CANADA'S AEROSPACE INDUSTRY:

A CAPABILITY GUIDE

1989 1990

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CANADA'S AEROSPACE INDUSTRY:

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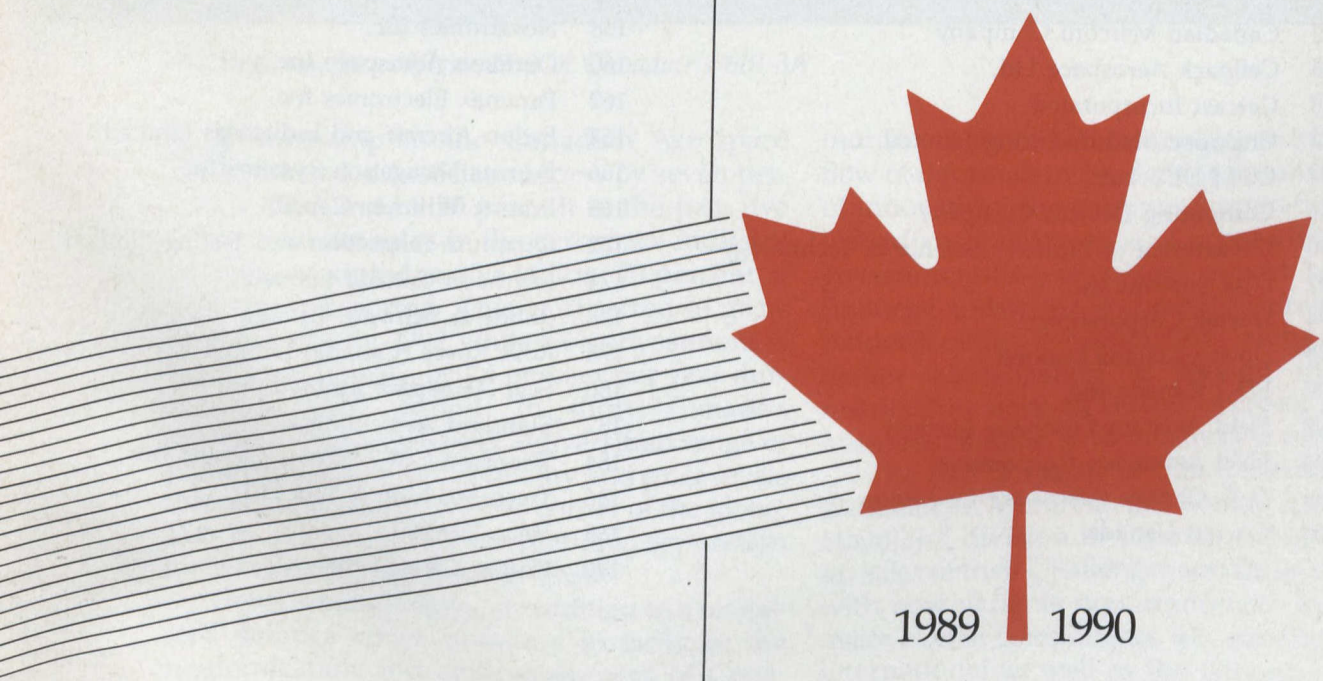


1989 1990

Index

3 Index
6 Sources of Supply
24 Aerospace Industry Association of Canada
32 The Aerospace Consortium Inc.
36 Aerotech Advertising
38 Aircraft Appliances & Equipment Limited
40 Andrew Canada Inc.
42 Atlantis Aerospace Corporation
44 Atlas Alloys
46 Aviation Planning Services Limited (APS)
48 Bendix Avelex Inc.
50 Boeing Canada Technology Ltd., Arnprior Division
52 Boeing Canada, de Havilland Division
54 Boeing Canada Technology Ltd., Winnipeg Division
56 Bristol Aerospace Limited
58 CAE Industries Ltd.
60 Calian Technology Ltd.
62 Cametoid Limited
64 Canadair
68 Canadian Astronautics Limited
70 Canadian Helicopters
72 Canadian Marconi Company
76 Cellpack Aerospace Ltd.
78 Cercast Incorporated
82 Chicopee Manufacturing Limited
84 COM DEV Ltd.
86 Computing Devices Company
90 Department of Industry Science & Technology
92 DY-4 Systems Inc.
94 Devtek Corporation
98 Dowty Canada Limited
100 EDO Canada Inc.
102 Field Aviation Company Limited
104 Fleet Aerospace Corporation
106 G.E. Canada Aerospace Operation
108 Garrett Canada
112 Godfrey Aerospace Inc.
114 Haley Industries Limited
116 Halifax AeroTech Business Park
118 Havlik Technologies Incorporated
120 Hawker Siddeley Canada Inc., Orenda Division
122 Héroux Inc.
124 I.M.P. Group Ltd., Aerospace Divisions
126 Indal Technologies Inc.
128 International Fasteners
130 Irvin Industries Canada Limited
132 Istec Incorporated
134 LNS Systems Inc.
136 Lansdowne Integrated Systems Inc.
138 Leigh Instruments Limited/Micronav
140 Linamar Machine Limited
142 Litton Systems Canada Limited
144 Lockheed Canada Inc.
146 MBB Helicopter Canada Limited
148 MPR (Microtel Pacific Research Limited)
150 McDonald Pettwiler
152 McDonnell Douglas Canada Ltd.
154 Menasco Aerospace Ltd.
156 Moldcraft Plastics Ltd.
158 Novatronics Inc.
160 Oerlikon Aerospace Inc.
162 Paramax Electronics Inc.
164 Patlon Aircraft and Industries Limited
166 Pelorus Navigation Systems Inc.
168 Pratt & Whitney Canada
172 Quantum Inspection and Testing Limited
174 Raytheon Canada Limited
176 Rohde & Schwarz Canada
178 Rolls Royce (Canada) Limited
180 Scar Aerospace Limited
182 Standard Aero Limited
184 Thomson-CSF Systems Canada Inc.
186 Treco Machine & Tool Ltd.
188 Valco Limited
190 Walbar Canada Inc.

Specialists for the World

The Regional Jet configuration of Canadair's 601-3A

Membership in the Canadian Aerospace Industries Association grew by seven percent in 1988 and by 50 percent in the past five years. Total net sales in the aerospace industry for 1988 amounted to $5.5 billion, 70 percent of which was exported. This is expected to grow to 76 percent by 1992 while new investment is forecast to increase by 7.4 percent per year during that same period. In short, Canada's aerospace industries offer a diversified range of products and services at quality and price levels that are competitive in every corner of the globe. Year by year Canada's international reputation for excellence continues to grow.

Government policies, in addition to a revitalized defence effort, continue to facilitate the modernization and competitiveness of Canadian companies. The free-trade agreement with the United States, creation of agencies for the diversification of business into new geographic regions, the establishment of a department of industry, science and technology to improve the flow of information needed for the advancement of innovation, the continued operations of the Canadian Commercial Corporation to aid government-to-government export sales, and financial assistance at competitive rates for the modernization of production, along with the earlier liberalization of foreign investment restrictions, have all served to create a healthy business climate. And business is responding.

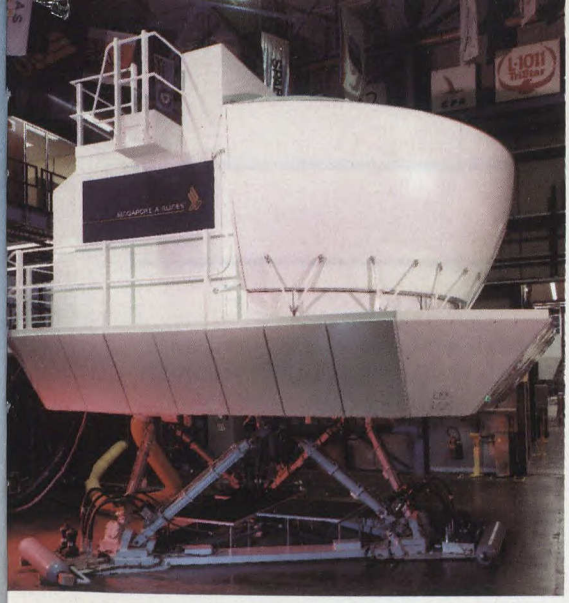
The two domestic airframe manufacturers, Canadair in Montreal and Boeing Canada's de Havilland division in Toronto, continue to roll up sales of their Challenger and Dash 8 products with new variants now underway. Builders of major aircraft components, too, participate in the international as well as the domestic arena — Dowty Canada provides landing gear assemblies for the Osprey as well as the Challenger, Pratt & Whitney Canada provides engines for 70 percent of the world's

A Canadian Forces' dual CF-18 firing CRV-7 high velocity rockets from Bristol Aerospace.

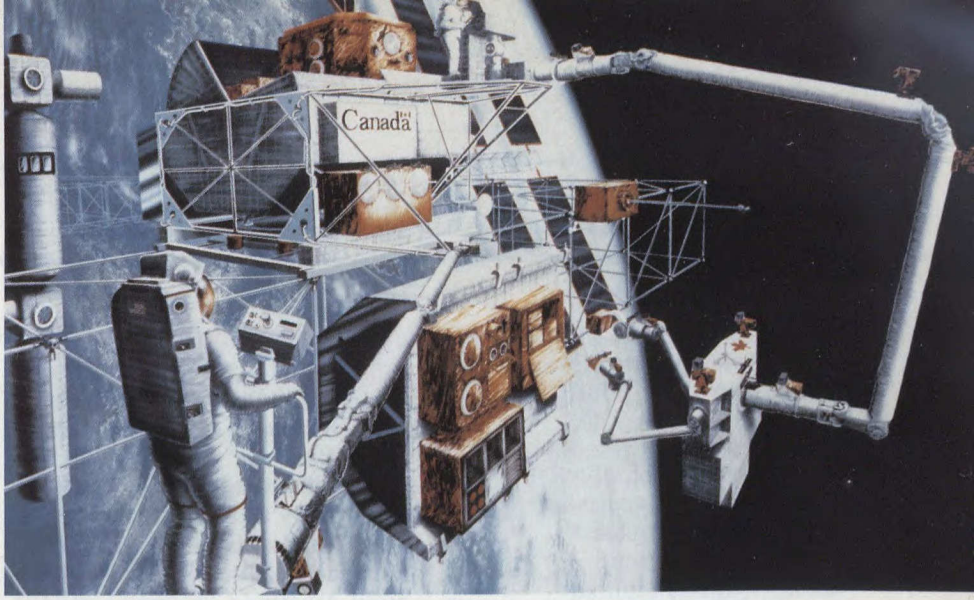
turboprop aircraft including the Dash 8, and Canadair and McDonnell Douglas Canada provide major subassemblies for the MD-80, MD-11, MD-90 and Airbus A330/340 series aircraft. In the world of flight simulation, CAE Industries has become a global player, moving into the helicopter sphere, in addition to their well established multi-engine and fighter business, through the purchase of the Link Flight Simulation Division of Singer.

Defence business now accounts for over a third of the aerospace industry and as a result of the 1987 government white paper on national defence the communications, surveillance, command and control and other defence-related industries anticipate a large expansion in the coming decade. Indeed, over $50 billion was projected for capital expenditures in the fifteen year period covered by the government's policy paper.

Major military projects — shipbuilding, air defence, communications, surveillance, repair, overhaul and upgrade — have expanded the Canadian aerospace and defence industries, opening new doors for established companies and creating opportunities for additional entries. Expertise in systems management, engineering and integration as well as research, design, development and construction are being applied by such companies as Litton Systems Canada, Paramax Electronics, Oerlikon Aerospace, Devtek Corporation, Andrew Antenna, Bendix Avelex, Bristol Aerospace, Canadian Marconi, Computing Devices, DY-4 Systems, Garrett Canada and many others. Current and pending projects have invited mergers, such as the purchase of Leigh Instruments and its subsidiary Micronav by Plessey plc, formal ties between other companies have been strengthened such as with Bendix Avelex and Garrett Canada, now Allied Signal Aerospace Canada, and teaming arrangements with offshore companies have strengthened domestic capabilities. There have



One of the many simulators produced for the world market by CAE Industries.



An artist's conception of the Mobile Servicing Centre, Canada's contribution to the international space station.

even been signs of Canadian companies moving agressively into the U.S. markets as with CAE Industries' buy out of the Link Flight Simulation Division of Singer and Canadian Marconi's swallowing Cincinnati Radio.

On other fronts, the signing of an agreement to participate in the international space station continues Canada's tradition as a space pioneer. The efforts of Spar Aerospace, Canadian Astronautics, MacDonald Dettwiler, SED Systems and others ensure that Canadian industry will continue to be represented not just in all corners of the globe but, beyond.

The 1989-1990 edition of Canada's Aerospace Industry: A Capability Guide highlights the activities of Canada's innovative industries. Companies profiled in succeeding pages are representative of the diverse products and services available to customers around the world.

Two Dash 8 transports from Boeing Canada de Havilland Division are in service with the Canadian Forces in Europe.

SOURCES OF SUPPLY

ABRASIVE PRODUCTS
Cincinnati Milacron-Canada Limited*

ACTUATORS
Aero Machining Limited*
Bendix Avelex Incorporated*
Canadian Helicopters*
Devtek Corporation*
Dowty Canada Limited*
Lucas Industries Canada Ltd - Aerospace Division*
MHD International Aviation Parts Incorporated*
Menasco Aerospace Limited*
Novatronics Incorporated*
Robin Aerospace Products Limited*
Standard Aero Limited*

ADHESIVES (CHEMICAL)
Ciba-Geigy Canada Limited*
Leavens Aviation Incorporated*

ADHESIVES (COMPOSITE)
Ciba-Geigy Canada Limited*

AERIAL APPLICATION EQUIPMENT
Thomson-CSF Canada Limited*

AERIAL DELIVERY SYSTEMS
Canadian Helicopters*
Field Aviation Company Limited*
Irvin Industries Canada Limited*
Lockheed Canada Incorporated*

AERIAL FIRE FIGHTING
Canadair - Division of Bombardier Corporation*
Field Aviation Company Limited*

AERIAL MAPPING
Canadian Astronautics Limited*

AERIAL SECURITY & SURVEILLANCE SYSTEMS
COM DEV Limited*
Canadian Astronautics Limited*
Computing Devices Company*
MPB Technologies Incorporated*

AERIAL SURVEYING EQUIPMENT
Canadian Astronautics Limited*
Field Aviation Company Limited*
Frontec Logistics Corporation*
Innotech Aviation (1986) Limited*
Istec Incorporated
MacDonald Dettwiler*

AIRCRAFT COMPLETIONS AND INTERIOR
Abercorn Aero (1983) Limited*
Airtech Canada - 371892 Ontario Limited*
Bell Helicopter Textron Canada*
Ciba-Geigy Canada Limied*
Edo Canada Limited*
Fell-Fab Products*
Field Aviation Company Limited*
Godfrey Howden*
IMP Group Limited - Aerospace Division*
Innotech Aviation (1986) Limited*
Lockheed Canada Incorporated*

AIRCRAFT CONVERSIONS
Airtech Canada - 371892 Ontario Limited*
Airworthiness Specialty Consultants*
Canadair - Division of Bombardier Incorporated*
Canadian Helicopters*
Field Aviation Company Limited*
IMP Group Limited - Aerospace Division*
Innotech Aviation (1986) Limited*

AIRCRAFT ENVIRONMENTAL CONTROLS
Garrett Canada*
Godfrey Howden*

AIRCRAFT INSTRUMENTS
Aircraft Appliances and Equipment Limited*
Canadian Marconi Company*
GE Canada - Aerospace Operation*
Litton Systems Canada Limited*
MacDonald Dettwiler
Spar Aerospace Limited*

AIRCRAFT LIGHTING EQUIPMENT
Abercorn Aero (1983) Limited*
Bendix Avelex Incorporated*
Patlon Aircraft & Industries Limited*
Robin Aerospace Products Limited*

AIRCRAFT MANUFACTURERS
Boeing Canada Technology Ltd - de Havilland Div*
Bell Helicopter Textron Canada*
Canadair - A Division of Bombardier Incorporated*
Lockheed Canada Incorporated*
MBB Helicopter Canada Limited*
E.H. Industries Canada Incorporated*
MHD International Aviation Parts Inc*
McDonnell Douglas Canada Limited*
Short Brothers PLC*

AIRCRAFT OVERHAUL-FIXED WING
Airtech Canada - 371892 Ontario Limited*
Canadair - Division of Bombardier Incorporated*
Field Aviation Company Limited*
IMP Group Limited - Aerospace Divison*
Innotech Aviation (1986) Limited*
Rolls-Royce Industries Canada Incorporated*
Spar Aerospace Limited*
Western Aerospace Technology Limited*

AIRCRAFT OVERHAUL-ROTARY WING
Canadian Helicopters*
Field Aviation Company Limited*
IMP Group Limited - Aerospace Division*
Innotech Aviation (1986) Limited*
Rolls-Royce Industries Canada Incorporated*
Spar Aerospace Limited*

AIRCRAFT SALES
Canadair - A Division of Bombardier Incorporated*
Field Aviation Company Limited*
Lockheed Canada Incorporated*
MBB Helicopter Canada Limited*

AIRCRAFT SECURITY SYSTEMS
Robin Aerospace Products Limited*

AIRCRAFT SUPPLIES AND ACCESSORIES
Aircraft Appliance & Equipment Limited*
Cametoid Limited*
Edo Canada Limited*
Field Aviation Company Limited*
Garrett Canada*
Intrecair Sales Incorporated*
Linamar Machine Limited
Lockheed Canada Incorporated*

MBB Helicopter Canada Limited*
Patlon Aircraft & Industries Limited*
The Aerospace Incorporated

AIR DATA SYSTEMS
Bendix Avelex Incorporated*
DY-4 Systems Incorporated*
Rockwell Int'l of Canada Ltd, Collins Canada Div*

AIRFRAME COMPONENTS
Boeing Canada Technology Ltd - Arnprior Division*
Boeing Canada Technology Ltd - Winnipeg Division*
Bristol Aerospace Limited
Canadair - A Division of Bombardier Incorporated*
Cellpack Aerospace Limited*
Chicopee Manufacturing Limited*
Devtek Corporation*
Edo Canada Limited*
Fleet Aerospace Corporation*
Godfrey Howden*
Havlik Technologies Incorporated*
Heroux Incorporated*
IMP Group Limited-Aerospace Divisions*
International Fasteners*
Linamar Machine Limited
Lockheed Canada Incorporated*
McDonnell Douglas Canada Limited*
MBB Helicopter Canada Limited*
Patlon Aircraft & Industries Limited*
Price & Knott Manufacturing Company Limited*
The Aerospace Consortium

AIRFRAME REPAIR AND OVERHAUL, MODIFICATIONS AND ENGINEERING
Boeing Canada Technology Limited-Arnprior Division*
Bristol Aerospace Limited
Canadair - A Division of Bombardier Incorporated*
Cametoid Limited*
Field Aviation Company Limited*
IMP Group Limited-Aerospace Divisions*
Lockheed Canada Incorporated*
MBB Helicopter Canada Limited*
Northwest Industries Limited*

AIRPORT INFORMATION SYSTEMS
Bendix Avelex Incorporated*
Raytheon Canada Limited*
The SNC Group*
Thomson-CSF Canada Limited*
Transtec Corporation*

AIRPORT METEROLOGICAL INSTRUMENTS
Bendix Avelex Incorporated*
Frontec Logistics Corporation*

AIRPORT RAMP EQUIPMENT
Bendix Avelex Incorporated*
Genaire Limited*
Godfrey Howden*
Leavens Aviation Incorporated*
Robin Aerospace Products Limited*

AIRSHIPS
Airworthiness Specialty Consultants*

AIRSPEED INDICATORS
Bendix Avelex Incorporated*
Canadian Helicopters*
GE Canada - Aerospace Operation*
Innotech Aviation (1986) Limited*
Leavens Aviation Incorporated*
Robin Aerospace Products Limited*
Thomson-CSF Canada Limited*

AIR TRAFFIC CONTROL SYSTEMS/EQUIPMENT
Andrew Canada Incorporated*
AIT Corporation
Bendix Avelex Incorporated*
CAE Electronics Limited*
COM DEV Limited*
Canadian Astronautics Limited*
Canadian Marconi Company*
DY-4 Systems Incorporated*
Garrett Canada*
Howland Russell Consultants Limited*
Leigh Instruments Limited*
Lockheed Canada Incorporated*
MacDonald Dettwiler
Paramax Electronics Incorporated*
Raytheon Canada Limited*
Rockwell Int'l of Canada Ltd, Collins Canada Div*
Rohde & Schwarz Canada Incorporated*
Thompson-Hickling Aviation Incorporated*
Thomson-CSF Canada Limited*
Thomson-CSF Systems Canada Incorporated*
Unisys Canada Incorporated - Defence Systems*

ALTERNATORS
Bendix Avelex Incorporated*
Canadian Helicopters*
GE Canada - Aerospace Operation*
Leavens Aviation Incorporated*
Patlon Aircraft & Industries Limited*
Robin Aerospace Products Limited*
Spar Aerospace Limited*

ALTIMETERS-BAROMETRIC
Bendix Avelex Incorporated*
Canadian Helicopters*
Innotech Aviation (1986) Limited*
Leavens Aviation Incorporated*
Spar Aerospace Limited*
Thomson-CSF Canada Limited*

ALTIMETERS-ENCODING
Innotech Aviation (1986) Limited*
Leavens Aviation Incorporated*
Spar Aerospace Limited*
Thompson-CSF Canada Limited*

ALTIMETERS-RADIO/RADAR
Bendix Avelex Incorporated*
Canadian Helicopters*
Innotech Aviation (1986) Limited*
Leigh Instruments Limited*
Spar Aerospace Limited*
Thomson-CSF Canada Limited*

ALTITUDE ALERTING SYSTEMS
Bendix Avelex Incorporated*
Innotech Aviation (1986) Limited*
Thomson-CSF Canada Limited*

AMMETERS
Leavens Aviation Incorporated*

ANGLE OF ATTACK INDICATORS
Aircraft Appliances & Equipment Limited*
Bendix Avelex Incorporated*
Innotech Aviation (1986) Limited*

ANTENNAS-ALTIMETER

ANTENNAS-COMMUNICATION
Andrew Canada Incorporated*
COM DEV Limited*
Canadian Astronautics Limited*
Canadian Marconi Company*
I.F.R. Associates Incorporated*
Innotech Aviation (1986) Limited*
Leavens Aviation Incorporated*
Rockwell Int'l of Canada Ltd, Collins Canada Div*
Spar Aerospace Limited*
Spiroll Kipp Kelly (1984) Incorporated*
Thomson-CSF Canada Limited*
Tube-Fab Limited*
Valcom Limited*

ANTENNAS-DME
Canadian Marconi Company*
Innotech Aviation (1986) Limited*
Raytheon Canada Limited*
Rockwell Int'l of Canada Ltd, Collins Canada Div*
Spiroll Kipp Kelly (1984) Incorporated*
Thomson-CSF Canada Limited*

ANTENNAS-GROUND STATION
Andrew Canada Incorporated*
COM DEV Limited*
Canadian Astronautics Limited*
Cellpack Aerospace Limited*
Innotech Aviation (1986) Limited*
MPR Limited*
Rockwell Int'l of Canada Ltd, Collins Canada Div*
Spiroll Kipp Kelly (1984) Incorporated*
Thomson-CSF Canada Limited*
Valcom Limited*

ANTENNAS-MARKER BEACON
Canadian Marconi Company*
Innotech Aviation (1986) Limited*
Thomson-CSF Canada Limited*

ANTENNAS-NAVIGATION
Andrew Canada Incorporated*
COM DEV Limited*
Canadian Marconi Company*
Extec Precision Manufacturing*
Innotech Aviation (1986) Limited*
Raytheon Canada Limited*
Spiroll Kipp Kelly (1984) Incorporated*
Thomson-CSF Canada Limited*

ANTENNAS-TRANSPONDER
Canadian Astronautics Limited*
Innotech Aviation (1986) Limited*
MPB Technologies Incorporated*
Raytheon Canada Limited*
Rockwell Int'l of Canada Ltd, Collins Canada Div*
Thomson-CSF Canada Limited*

ANTI-CORROSION COMPOUNDS
Patlon Aircraft & Industries Limited*

ANTI-SKID SYSTEMS-LANDING GEAR
Bendix Avelex Incorporated*
Innotech Aviation (1986) Limited*
MHD International Aviation Parts Inc*

ANODOZING
Cametoid Limited*
Havlik Technologies Incorporated*
Heroux Incorporated*
IMP Group Limited-Aerospace Divisions*
McDonnell Douglas Canada Limited*
Price & Knott Manufacturing Company Limited*

AREA NAVIGATION SYSTEMS
Bendix Avelex Incorporated*
Canadian Marconi Company*
Howland Russell Consultants Limited*
Innotech Aviation (1986) Limited*
Litton Systems Canada Limited*
Rockwell Int'l of Canada Ltd, Collins Canada Div*
The SNC Group*
Thomson-CSF Canada Limited*
Thomson-CSF Systems Canada Incorporated*

AUDIO CONTROL PANELS
TEAM*

AUDIO MANAGEMENT SYSTEMS
TEAM*

AUTOMATIC DIRECTION FINDERS
Andrew Canada Incorporated*
Bendix Avelex Incorporated*
Innotech Aviation (1986) Limited*
Rockwell Int'l of Canada Ltd, Collins Canada Div*
Rohde & Schwarz Canada Incorporated*
Thomson-CSF Canada Limited*

AUTOPILOTS-FIXED WING
Aircraft Appliances & Equipment Limited*
Bendix Avelex Incorporated*
Innotech Aviation (1986) Limited*
Rockwell Int'l of Canada Ltd, Collins Canada Div*
Thomson-CSF Canada Limited*

AUTOPILOTS-ROTARY WING
Rockwell Int'l of Canada Ltd, Collins Canada Div*
Thomson-CSF Canada Limited*

AUXILIARY POWER UNITS
Godfrey Howden*
Innotech Aviation (1986) Limited*
Leavens Aviation Incorporated*
Pratt & Whitney Canada Incorporated*
Standard Aero Limited*

AVIONICS MANUFACTURE, REPAIR AND OVERHAUL
Aircraft Appliances and Equipment Limited*
Canadian Marconi Company*
Computing Devices Company
Field Aviation Company Limited*
GE Canada - Aerospace Operation*
IMP Group Limited- Aerospace Divisions*
Leigh Instruments Limited*
Litton Systems Canada Limited*
Lockheed Canada Incorporated*
Northwest Industries Limited*
Spar Aerospace Limited*
The Aerospace Consortium

AVIONICS TEST EQUIPMENT
CAE Electronics Limited*
Canadian Astronautics Limited*
Canadian Marconi Company*
DY-4 Systems Incorporated*
Field Aviation Company Limied*
Innotech Aviation (1986) Limited*
Litton Systems Canada Limited*
Robin Aerospace Products Limited*
Thomson-CSF Canada Limited*
Unisys Canada Incorporated - Defence Systems*

AVIONICS TESTING
CAE Electronics Limited*
Canadian Helicopters*
Field Aviation Company Limited*
Innotech Aviation (1986) Limited*
Leigh Instruments Limited*
Rolls-Royce Industries Canada Incorporated*
Spar Aerospace Limited*
Unisys Canada Incorporated - Defence Systems*

BATTERIES-ENGINE
Canadian Helicopters*
Field Aviation Company Limited*
Innotech Aviation (1986) Limited*
Leavens Aviation Incorporated*
Patlon Aircraft & Industries Limited*

BATTERY CHARGING EQUIPMENT
Canadian Helicopters*
Innotech Aviation (1986) Limited*
Leavens Aviation Incorporated*
Patlon Aircraft & Industries Limited*

BATTERY TEMPERATURE SENSING EQUIPMENT
Patlon Aircraft & Industries Limited*
Robin Aerospace Products Limited*

BONDING-COMPOSITES
Bell Helicopter Textron Canada*
Ciba-Geigy Canada Limited*
Rolls-Royce Industries Canada Incorporated*

BONDING-METAL
Bell Helicopter Textron Canada*
Ciba-Geigy Canada Limited*
Devtek Corporation*
General Systems Research Incorporated*

BORESCOPES
Canadian Helicopters*
Leavens Aviation Incorporated*
Robin Aerospace Products Limited*

BRAKEASSEMBLIES-PROPELLER
Bendix Avelex Incorporated*
MHD International Aviation Parts Inc*
Standard Aero Limited*

BRAKE TEST METERS

BRAKES-WHEEL
Bendix Avelex Incorporated*
Innotech Aviation (1986) Limited*
Leavens Aviation Incorporated*
MHD International Aviation Parts Inc*
Patlon Aircraft & Industries Limited*
Standard Aero Limited*

BRUSHES-ELECTRICAL
Leavens Aviation Incorporated*
Robin Aerospace Products Limited*

BULKHEADS-AIRCRAFT INTERIOR
General Systems Research Incorporated*

BUSSES-AC/DC
Thomson-CSF Canada Limited*

CABIN DISPLAYS-AVIONICS
Bendix Avelex Incorporated*
Graphico Electronics Group*
I.F.R. Associates Incorporated*
Innotech Aviation (1986) Limited*

CABIN SERVICE CARTS
Abercorn Aero (1983) Limited*
Godfrey Howden*

CABLE ASSEMBLIES
Andrew Canada Incorporated*
Bell Helicopter Textron Canada*
Bendix Avelex Incorporated*
IMP Group Limited - Aerospace Division*
Indal Technologies Incorporated*
Patlon Aircraft & Industries Limited*
Raytheon Canada Limited*
Robin Aerospace Products Limited*
Unisys Canada Incorporated - Defence Systems*
Valcom Limited*

CABLE-FIBRE OPTICS
MPB Technologies Incorporated*

CABLE-IGNITION
Bendix Avelex Incorporated*
Leavens Aviation Incorporated*
MHD International Aviation Parts Inc*
Patlon Aircraft & Industries Limited*
Standard Aero Limited*

CADMIUM PLATING
Cametoid Limited*
Havlik Technologies Incorporated*
Heroux Incorporated*
IMP Group Limited-Aerospace Divisions*

CANOPIES-AIRFRAME
MHD International Aviation Parts Incorporated*

CANOPIES-PARACHUTE
Abercorn Aero (1983) Limited*

CAPACITORS
Leavens Aviation Incorporated*
Robin Aerospace Products Limited*

CARBURETORS
Bendix Avelex Incorporated*
Leavens Aviation Incorporated*
MHD International Aviation Parts Incorporated*
Standard Aero Limited*

CARGO HANDLING EQUIPMENT-AIRBORNE
Genaire Limited*
Leavens Aviation Incorporated*
Standard Aero Limited*

CARGO HANDLING EQUIPMENT-GROUND
Aerotech International Incorporated*
Field Aviation Company Limited*
Genaire Limited*
Standard Aero Limited*

CARGO LINERS

CASTINGS-METAL
Abercorn Aero (1983) Limited*
Bendix Avelex Incorporated*
D.S. Adams & Associates Incorporated*
Extec Precision Manufacturing*
Hanson Materials Engineering*
Timminco Metals*

CASTINGS-NON-FERROUS
Bendix Avelex Incorporated*
D.S. Adams & Associates Incorporated*
Haley Industries Limited*
Hanson Materials Engineering*
Timminco Metals*

CASTINGS-REPAIR/UPGRADING
Vis-U-Ray Testing Limited*

CASTINGS, FORGINGS, PRECISION MACHINED COMPONENTS
Aircraft Appliances and Equipment Limited*
Canadian Marconi Company*
Cercast, A Division of Howmet Cercast (Canada) Incorporated
Devtek Corporation*
Dowty Canada Limited*
Haley Industries Limited*
Havlik Technologies Incorporated*
Heroux Incorporated*
Linamar Machine Limited
McDonnell Douglas Canada Limited*
Price & Knott Manufacturing Company Limited*
The Aerospace Consortium
Treco Machine & Tool Limited

CIRCUIT BREAKERS
Leavens Aviation Incorporated*

CLAMPS-AIRCRAFT
Leavens Aviation Incorporated*
Patlon Aircraft & Industries Limited*

CLOCKS/CHRONOMETERS
Bendix Avelex Incorporated*
Innotech Aviation (1986) Limited*
Leavens Aviation Incorporated*
Robin Aerospace Products Limited*

CLOTHING/FLYING

CLOTHING/PRESSURIZED

COATINGS/EPOXY
General Systems Research Incorporated*
Leavens Aviation Incorporated*
Sermatech Canada Incorporated*
Standard Aero Limited*

COMMUNICATIONS EQUIPMENT
Andrew Canada Incorporated*
Bendix Avelex Incorporated*
Calian Technology Limited*
Cametoid Limited*
Canadian Astronautics Limited*
Canadian Marconi Company*
COM DEV Limited*
Computing Devices Company*
DY-4 Systems Incorporated*
Field Aviation Company Limited*
Garrett Canada*
GE Canada- Aerospace Operation*
Innotech Aviation (1986) Limited*
Leigh Instruments Limited*
MPB Technologies Incorporated*
MPR Limited*
Raytheon Canada Limited*
Rockwell Int'l of Canada Ltd, Collins Canada Div*
Rohde & Schwarz Canada Incorporated*
Spar Aerospace Limited*
The Aerospace Consortium
Thomson-CSF Canada Limited*
Thomson-CSF Systems Canada Incorporated*
Valcom Limited*
Varian Canada - Microwave Division*

COMMUNICATIONS EQUIPMENT-MOBILE
Andrew Canada Incorporated*
Bendix Avelex Incorporated*
COM DEV Limited*
Canadian Astronautics Limited*
Canadian Marconi Company*
GE Canada - Aerospace Operation*
Leigh Instruments Limited*
MPR Limited*
Rockwell In'l of Canada Ltd, Collins Canada Div*
Spar Aerospace Limited*
Thomson-CSF Canada Limited*

COMMUNICATIONS PROCESSORS
Calian Technology Limited*
Canadian Astronautics Limited*
DY-4 Systems Incorporated*
MPR Limited*
Paramax Electronics Incorporated*
Rohde & Schwarz Canada Incorporated*
The Aerospace Consortium

COMPASSES-FLIGHT
Bendix Avelex Incorporated*
Innotech Aviation (1986) Limited*
Leavens Aviation Incorporated*
Robin Aerospace Products Limited*

COMPOSITE COMPONENTS
Boeing Canada Technology Ltd - Winnipeg Division*
Bristol Aerospace Limited
Canadair - A Division of Bombardier Inc*
Cellpak Aerospace Limited*
Edo Canada Limited*
Fleet Aerospace Corporation*
International Fasteners*
MBB Helicopter Canada Limited*
McDonnell Douglas Canada Limited*

COMPOSITE FABRICATION
Airtech Canada - 371892 Ontario Limited*
Bell Helicopter Textron Canada*
Canadair - Division of Bombardier Incorporated*
Cellpack Aerospace Limited*
Ciba-Geigy Canada Limited*
Cincinnati Milacron-Canada Limited*
FRE Composites*
Innotech Aviation (1986) Limited*
Thomson-CSF Canada Limited*

COMPUTER-AIDED DESIGN
Aastra Aerospace Incorporated*
Andrew Canada Incorporated*
Bell Helicopter Textron Canada*
Bendix Avelex Incorporated*
Canadair - Division of Bombardier Incorporated*
Canadian Astronautics Limited*
Computing Devices Company*
Dowty Canada Limited*
DY-4 Systems Incorporated*
Ebco Industries Limited*
FRE Composites*
Field Aviation Company Limited*
GasTops Limited*
GE Canada - Aerospace Division*
Indal Technologies Incorporated*
Innotech Aviation (1986) Limited*
LSI Logic Corporation of Canada Incorporated*
MIL Group*
MPB Technologies Incorporated*
MPR Limited*
Raytheon Canada Limited*
Rolls-Royce Industries Canada Incorporated*
Spiroll Kipp Kelly (1984) Incorporated*
Unisys Canada Incorporated - Defence Systems*
Valcom Limited*

Wardrop Engineering Incorporated*

COMPUTER-AIDED MANUFACTURING
Andrew Canada Incorporated*
Bell Helicopter Textron Canada*
Bendix Avelex Incorporated*
Canadair - Division of Bombardier Incorporated*
Chicopee Manufacturing Limited*
Computing Devices Company*
Dowty Canada Limited*
Ebco Industries Limited*
GE Canada - Aerospace Operation*
Hawker Siddeley Canada Inc - Orenda Division*
Litton Systems Canada Limited*
MIL Group*
Raytheon Canada Limited*
Rolls-Royce Industries Canada Incorporated*
Spiroll Kipp Kelly (1984) Incorporated*
U.D.T. Industries Incorporated*
Unisys Canada Incorporated - Defence Systems*
Valcom Limited*

COMPUTER-AIDED TRAINING
Aastra Aerospace Incorporated*
Bendix Avelex Incorporated*
CAE Electronics Limited*
Canadair - Division of Bombardier Incorporated*
Canadian Astronautics Limited*
Computing Devices Company*
GasTops Limited*
GE Canada - Aerospace Operation*
Howland Russell Consultants Limited*
Raytheon Canada Limited*
Transtec Corporation*
Valcom Limited*

COMPUTER FUEL MANAGEMENT
Bendix Avelex Incorporated*
Canadian Marconi Company*
Computing Devices Company*

COMPUTER SOFTWARE
Aastra Aerospace Incorporated*
Bendix Avelex Incorporated*
CAE Electronics Limited*
Canadian Astronautics Limited*
Canadian Helicopters*
Computing Devices Company*
DY-4 Systems Incorporated*
Ebco Industries Limited*
GasTops Limited*
Leigh Instruments Limited*
MPR Limited*
Raytheon Canada Limited*
Thomson-CSF Canada Limited*
Thomson-CSF Systems Canada Incorporated*
Transtec Corporation*
Unisys Canada Incorporated - Defence Systems*
Valcom Limited*
Wardrop Engineering Incorporated*

COMPUTER SYSTEMS, COMPUTER GRAPHICS DISPLAY PRODUCTS
AIT Corporation
Computing Devices Company*
DY-4 Systems Incorporated*
Dipix Technologies Incorporated
Lockheed Canada Incorporated*
MacDonald Dettwiler
Paramax Electronics Incorporated*
The Aerospace Consortium
Thomson-CSF Canada Limited*

COMPUTERIZED MAINTENANCE PROGRAMS
Bendix Avelex Incorporated*
Canadian Helicopters*
GasTops Limited*
MIL Group*
Wardrop Engineering Incorporated*

CONNECTORS
AMP of Canada Limited*
MHD International Aviation Parts Incorporated*
Patlon Aircraft & Industries Limited*

CONSULTANTS-AIRPORT PLANNING
Aviation Planning Services Limited*
Howland Russell Consultants Limited*
Ian S. MacDonald Consultants Incorporated*
Sypher: Mueller International*
The SNC Group*

CONSULTANTS-COMPUTER SYSTEMS
Aviation Planning Services Limited*
Carr-Sawyer Incorporated*
Computing Devices Company*
Foottit-Mitchell and Associates*
Frontec Logistics Corporation*
Telesat Canada*
The SNC Group*
Thomson-CSF Systems Canada Incorporated*
Valcom Limited*

CONSULTANTS-ECONOMIC
Aviation Planning Services Limited*
B.P.A.K. - Business Promotion Agency Kauling*
Foottit-Mitchell and Associates*
Harrison Aeronautical Development Services*
Sypher: Mueller International*
The SNC Group*
Thom Malcolm & Associates Incorporated*
Thompson-Hickling Aviation Incorporated*

CONSULTANTS-ENGINEERING
Aastra Aerospace Incorporated*
Airworthiness Specialty Consultants*
Aviation Planning Services Limited*
Bendix Avelex Incorporated*
CFN Consultants*
COM DEV Limited*
Canadian Astronautics Limited*
Carr-Sawyer Incorporated*
Computing Devices Company*
DSMA International Incorporated*
Field Aviation Company Limited*
Foottit-Mitchell and Associates*
Frontec Logistics Corporation*
GasTops Limited*
IMP Group Limited - Aerospace Division*
Ian S. MacDonald Consultants Incorporated*
Indal Technologies Incorporated*
MIL Group*
Rockwell Int'l of Canada Ltd, Collins Canada Div*
Sypher: Mueller International*
Telesat Canada*
The SNC Group*
Thompson-Hickling Aviation Incorporated*

Thomson-CSF Systems Canada Incorporated*
Unisys Canada Incorporated - Defence Systems*
Valcom Limited*
Wardrop Engineering Incorporated*

CONSULTANTS-MANAGEMENT
Aviation Planning Services Limited*
B.P.A.K. - Business Promotion Agency Kauling*
CFN Consultants*
D.S. Adams & Associates Incorporated*
Foottit-Mitchell and Associates*
Frontec Logistics Corporation*
Howland Russell Consultants Limited*
Ian S. MacDonald Consultants Incorporated*
PAI*
Sypher: Mueller International*
Telesat Canada*
The SNC Group*
Thompson-Hickling Aviation Incorporated*
Thomson-CSF Systems Canada Incorporated*

CONSULTANTS-OPERATIONS
Aviation Planning Services Limited*
Foottit-Mitchell and Associates*
Frontec Logistics Corporation*
GasTops Limited*
Howland Russell Consultants Limited*
Ian S. MacDonald Consultants Incorporated*
Innotech Aviation (1986) Limited*
Sypher: Mueller International*
Telesat Canada*
The SNC Group*
Thomson-CSF Systems Canada Incorporated*

CONSULTANTS-RELIABILITY ANALYSIS
Aviation Planning Services Limited*
Bendix Avelex Incorporated*
IMP Group Limited - Aerospace Division*
Ian S. MacDonald Consultants Incorporated*
MIL Group*
Sypher: Mueller International*
Telesat Canada*
Thomson-CSF Systems Canada Incorporated*
Unisys Canada Incorporated - Defence Systems*

CONSULTING SERVICES
Aviation Planning Services Limited
Aerotech Advertising
AIT Corporation
Calian Technology Limited*
Canadian Astronautics Limited*
Field Aviation Company Limited*
Lansdowne Integrated Systems Incorporated*
MPR Limited*
Pelorus Navigation Systems Incorporated*
Spar Aerospce Limited*
Thomson-CSF Canada Limited*

CONSULTANTS-TELECOMMUNICATIONS
Aviation Planning Service Limited*
CFN Consultants*
COM DEV Limited*
Canadian Astronautics Limited*
Foottit-Mitchell and Associates*
Ian S. MacDonald Consultants Incorporated*
MPR Limited*
Rockwell Int'l of Canada Ltd, Collins Canada Div*
Telesat Canada*
The SNC Group*
Thomson-CSF Systems Canada Incorporated*

CONTRACT BATCH MANUFACTURING
Computing Devices Company*
Devtek Corporation*
Dowty Canada Limited*
Edo Canada Limited*
Fleet Aerospace Corporation*
Linamar Machine Limited
Rohde & Schwarz Canada Incorporated*
The Aerospace Consortium

CONTROLS-ELECTRONIC
Abercorn Aero (1983) Limited*
Bendix Avelex Incorporated*
CAE Electronics Limited*
Dowty Canada Limited*
MPB Technologies Incorporated*
Novatronics Incorporated*
Patlon Aircraft & Industries Limited*
Robin Aerospace Products Limited*
Unisys Canada Incorporated - Defence Systems*
Valcom Limited*

CONTROLS-ENGINE
Abercorn Aero (1983) Limited*
Bendix Avelex Incorporated*
CAE Electronics Limited*
GasTops Limited*
GE Canada - Aerospace Division*
Innotech Aviation (1986) Limited*
Lucas Industries Canada Ltd - Aerospace Division*
MHD International Aviation Parts Incorporated*
Patlon Aircraft & Industries Limited*
Standard Aero Limited*

CONTROLS-FEATHERING
Bendix Avelex Incorporated*
Patlon Aircraft & Industries Limited*
Standard Aero Limited*

CONTROLS-TEMPERATURE
Bendix Avelex Incorporated*
Patlon Aircraft & Industries Limited*
Robin Aerospace Products Limited*
Standard Aero Limited*

COUPLINGS
Leavens Aviation Incorporated*
Patlon Aircraft & Industries Limited*
Valcom Limited*

CRASH POSITION INDICATORS, ELT'S
Bendix Avelex Incorporated*
Field Aviation Company Limited*
Garrett Canada*
Innotech Aviation (1986) Limited*
Leigh Instruments Limited*
MPR Limited*
Treco Machine & Tool Limited*

CRIMPING TOOLS
Abercorn Aero (1983) Limited*
Leavens Aviation Incorporated*
Patlon Aircraft & Industries Limited*

DATA HANDLING EQUIPMENT
Bendix Avelex Incorporated*
CAE Electronics Limited*
DY-4 Systems Incorporated*
Ebco Industries LImited*
GasTops Limited*
MPB Technologies Incorporated*
Thomson-CSF Canada Limited*
Thomson-CSF Systems Canada Incorporated*
Transtec Corporation*
Unisys Canada Incorporated - Defence Systems*
Valcom Limited*

DATA PROCESSING EQUIPMENT
Bendix Avelex Incorporated*
CAE Electronics Limited*
Computing Devices Company*
DY-4 Systems Incorporated*
Ebco Industries Limited*
GasTops Limited*
Thomson-CSF Canada Limited*
Thomson-CSF Systems Canada Incorporated*
Unisys Canada Incorporated - Defence Systems*
Valcom Limited*

DATA RECORDING EQUIPMENT
Bendix Avelex Incorporated*
Ebco Industries Limited*
GasTops Limited*
Leigh Instruments Limited*
Thomson-CSF Canada Limited*
Unisys Canada Incorporated - Defence Systems*
Valcom Limited*

DE-ICERS, CONTROL SURFACES
Bendix Avelex Incorporated*
Leavens Aviation Incorporated*
Lucas Industries Canada Ltd - Aerospace Division*
MHD International Aviation Parts Incorporated*
Patlon Aircraft & Industries Limited*

DETECTORS-FIRE
Abercorn Aero (1983) Limited*
Innotech Aviation (1986) Limited*

DETECTORS-ICE
Bendix Avelex Incorporated*
Leigh Instruments Limited*

DIRECTION FINDERS(DF)
Andrew Canada Incorporated*
Bendix Avelex Incorporated*
Rockwell Int'l of Canada Ltd, Collins Canada Div*
Thomson-CSF Canada Limited*
Valcom Limited*

DIRECTIONAL GYROS
Aircraft Appliances & Equipment Limited*
Bendix Avelex Incorporated*
Canadian Helicopters*
Innotech Aviation (1986) Limited*
Leavens Aviation Incorporated*
Treco Machine & Tool Limited*

DISTANCE MEASURING EQUIPMENT
Canadian Marconi Company*
Innotech Aviation (1986) Limited*
Leigh Instruments Limited*
Pelorus Navigation Systems Incorporated*
Raytheon Canada Limited*
Rockwell Int'l of Canada Ltd, Collins Canada Div*
Thomson-CSF Canada Limited*

DOORS-AIRFRAME
General Systems Research Incorporated*
IMP Group Limited - Aerospace Division*

DOPPLER NAVIGATION SYSTEMS
Andrew Canada Incorporated*
Canadian Marconi Company*
Innotech Aviation (1986) Limited*
Thomson-CSF Canada Limited*

DRIFT INDICATORS
Bendix Avelex Incorporated*
Canadian Marconi Company*

DRY FILM LUBRICANTS
Cametoid Limited*
Field Aviation Company Limited*
Havlik Technologies Incorporated*
Heroux Incorporated*

ELECTRONIC CONTROLS
Bendix Avelex Incorporated*
CAE Electronics Limited*
Dowty Canada Limited*
GasTops Limited*
I.F.R. Associates Incorporated*
Novatronics Incorporated*
Patlon Aircraft & Industries Limited*
Robin Aerospace Products Limited*
Standard Aero Limited*
Thomson-CSF Canada Limited*
Valcom Limited*

ELECTRONIC EQUIPMENT/COMPONENTS
Aircraft Appliances and Equipment Limited*
Bendix Avelex Inc*
CAE Electronics Limited*
Calian Technology Limited*
Cametoid Limited*
Canadian Astronautics Limited*
Canadian Marconi Company*
Computing Devices Company*
Dipix Technologies Incorporated
Dowty Canada Limited*
DY-4 Systems Incorporated*
Field Aviation Company Limited*
Garrett Canada*
GE Canada - Aerospace Operation*
International Fasteners*
Innotech Aviation (1986) Limited*
I.F.R. Associates Incorporated*
Leigh Instruments Limited*
Litton Systems
LSI Logic Corporation of Canada Incorporated*
Lockheed Canada Incorporated*
MPB Technologies Incorporated*
MacDonald Dettwiler
M.E.L. Defence Systems Limited*
MPR Limited*
Patlon Aircraft & Industries Limited*
Raytheon Canada Limited*
Robin Aerospace Products Limited*
Rohde & Schwarz Canada Incorporated*
Spar Aerospace Limited*
Spiroll Kipp Kelly (1984) Incorporated*
Standard Aero Limited*
The Aerospace Consortium
Thomson-CSF Canada Limited*
Unisys Canada Incorporated*

ELECTRONIC SYSTEM INTEGRATION
AIT Corporation
Calian Technology Limited*
Canadian Astronautics Limited*

Computing Devices Company
DY-4 Systems Incorporated*
Dipix Technologies Incorporated
Garrett Canada*
GE Canada - Aerospace Operation*
Lockheed Canada Incorporated*
MacDonald Dettwiler
MPR Limited*
Paramax Electronics Incorporated*
Raytheon Canada Limited*
Rohde & Schwarz Canada Incorporated*
Thomson-CSF Canada Limited*

ELECTRONIC TEST EQUIPMENT
Bendix Avelex Incorporated*
CAE Electronics Limited*
Dowty Canada Limited*
Field Aviation Company Limited*
Litton Systems Canada Limited*
Patlon Aircraft & Industries Limited*
Raytheon Canada Limited*
Robin Aerospace Products Limited*
Rohde & Schwarz Canada Incorporated*
Spiroll Kipp Kelly (1984) Incorporated*
Standard Aero Limited*
Tecrad Incorporated*
Thomson-CSF Canada Limited*
Unisys Canada Incorporated - Defence Systems*
Valcom Limited*

EMERGENCY ESCAPE SYSTEMS
Abercorn Aero (1983) Limited*
Genaire Limited*

EMERGENCY LOCATOR TRANSMITTERS
Bendix Avelex Incorporated*
Innotech Aviation (1986) Limited*
MPR Limited*

ENERGIZERS-AIRCRAFT STARTING
Leavens Aviation Incorporated*
Robin Aerospace Products Limited*

ELECTROPLATING
Cametoid Limited*
Canadian Marconi Company*
Havlik Technologies Incorporated*
Heroux Incorporated*
McDonnell Douglas Canada Limited*

ENGINE COMPONENTS
Aero Maching Limited*
Aircraft Appliances and Equipment Limited*
Bendix Avelex Incorporated*
Bristol Aerospace Limited
Canadian Helicopters*
Devtek Corporation*
Donlee Precision*
Edo Canada Limited*
Field Aviation Company Limited*
Fleet Aerospace Corporation*
GE Canada - Aerospace Operation*
Godfrey Howden*
Hawker Siddeley Canada Inc (Orenda Division)*
Innotech Aviation (1986) Limited*
International Fasteners*
Leavens Aviation Incorporated*
MHD International Aviation Parts Incorporated*
Patlon Aircraft & Industries Limited*
Pratt & Whitney Canada*
Rolls-Royce Industries Canada Incorporated*
Specialized Welding & Fabrications Limited*
Spiroll Kipp Kelly (1984) Incorporated*
Standard Aero Limited*
Treco Machine & Tool Limited
Tube-Fab Limited*
Walbar Canada Incorporated*

ENGINE INSTRUMENTS
Bendix Avelex Incorporated*
Canadian Helicopters*
Canadian Marconi Company*
Field Aviation Company Limited*
GE Canada - Aerospace Operation*
Innotech Canada (1986) Limited*
Leavens Aviation Incorporated*
Patlon Aircraft & Industries Limited*
Robin Aerospace Products Limited*
Standard Aero Limited*

ENGINE MANUFACTURE
GE Canada - Aerospace Operation*
Pratt & Whitney Canada*

ENGINES-PISTON
Airtech Canada - 371892 Ontario Limited*
Leavens Aviation Incorporated*
MHD International Aviation Parts Incorporated*
Patlon Aircraft & Industries Limited*
Rolls-Royce Industries Canada Incorporated*

ENGINES-TURBINE
Canadian Helicopters*
GE Canada - Aerospace Operation*
Hawker Siddeley Canada Inc - Orenda Division*
Innotech Aviation (1986) Limited*
MHD International Aviation Parts Incorporated*
Pratt & Whitney Canada Incorporated*
Rolls-Royce Industries Canada Incorporated*
Standard Aero Limited*
Walbar Canada Incorporated*

ENGINE REPAIR AND OVERHAUL/SERVICE
Bendix Avelex Incorporated*
Cametoid Limited*
Canadian Helicopters*
Field Aviation Company Limited*
Fleet Aerospace Corporation*
Garrett Canada*
GE Canada - Aerospace Operation*
Hawker Siddeley Canada Inc (Orenda Division)*
Pratt & Whitney Canada*
Rolls-Royce (Canada) Limited*

ENVIRONMENTAL TEST FACILITIES
Bendix Avelex Incorporated*
Canadian Astronautics Limited*
Computing Devices Company*
DSMA International Incorporated*
Hawker Siddeley Canada Inc - Orenda Division*
Indal Technologies Incorporated*
Unisys Canada Incorporated - Defence Systems*
Wardrop Engineering Incorporated*

EXHAUST SYSTEMS
GasTops Limited*
Leavens Aviation Incorporated*

FABRICS-CABIN
Fell-Fab Products*
IMP Group Limited - Aerospace Division*
Innotech Aviation (1986) Limited*

FABRICS-RECOVERING
Fell-Fab Products*
IMP Group Limited - Aerospace Division*
Innotech Aviation (1986) Limited*
Leavens Aviation Incorporated*
Patlon Aircraft & Industries Limited*

FABRICATION-FIBERGLASS
Bell Helicopter Textron Canada*
Cellpack Aerospace Limited*
Ciba-Geigy Canada Limited*
Fell-Fab Products*

FASTENERS
Abercorn Aero (1983) Limited*
Devtek Corporation*
Esna Fasteners Incorporated*
Leavens Aviation Incorporated*
Mecaero Canada Incorporated*
Patlon Aircraft & Industries Limited*

FLAP POSITION INDICATORS
Bendix Avelex Incorporated*
MHD International Aviation Parts Incorporated*
Novatronics Incorporated*
Robin Aerospace Products Limited*

FLIGHT CONTROLS
Bendix Avelex Incorporated*
Canadian Helicopters*
Devtek Corporation*
Dowty Canada Limited*
GE Canada - Aerospace Operation*
MHD International Aviation Parts Incorporated*
Menasco Aerospace Limited*
Novatronics Incorporated*
Rockwell Int'l of Canada Ltd, Collins Canada Div*

FLIGHT DIRECTOR SYSTEMS
Bendix Avelex Incorporated*
Innotech Aviation (1986) Limited*
Rockwell Int'l of Canada Ltd, Collins Canada Div*

FLIGHT PLANNING SYSTEMS
Raytheon Canada Limited*
Unisys Canada Incorporated - Defence Systems*

FLIGHT SIMULATORS
CAE Electronics Limited*
GE Canada - Aerospace Operation*
Spar Aerospace Limited*
Standard Aero Limited*
Thomson-CSF Canada Limited*
Treco Machine & Tool Limited*

FLOATS
Patlon Aircraft & Industries Limited*

FUEL CONTROL SYSTEMS
Bendix Avelex Incorporated*
GasTops Limited*
Innotech Aviation (1986) Limited*
Lucas Industries Canada Ltd - Aerospace Division*
MHD International Aviation Parts Incorporated*
Standard Aero Limited*

FUEL FLOW INDICATORS
Bendix Avelex Incorporated*
MHD International Aviation Parts Incorporated*
Robin Aerospace Products Limited*
Standard Aero Limited*

FUEL FLOW TRANSMITTERS
Bendix Avelex Incorporated*
Innotech Aviation (1986) Limited*
MHD International Aviation Parts Incorporated*
Robin Aerospace Products Limited*
Standard Aero Limited*

FUEL INJECTION NOZZLES
GE Canada - Aerospace Operation*
Leavens Aviation Incorporated*
MHD International Aviation Parts Incorporated*
Standard Aero Limited*

FUEL PUMPS-ELECTRIC
Aircraft Appliances & Equipment Limited*
Innotech Aviation (1986) Limited*
Leavens Aviation Incorporated*
MHD International Aviation Parts Incorporated*
Patlon Aircraft & Industries Limited*
Standard Aero Limited*

FUEL PUMPS-ENGINE DRIVEN
Aircraft Appliances & Equipment Limited*
GE Canada - Aerospace Operation*
Innotech Aviation (1986) Limited*
Leavens Aviation Incorporated*
MHD International Aviaiton Parts Incorporated*
Patlon Aircraft & Industries Limited*
Standard Aero Limited*

FUEL PUMPS-HYDRAULIC
Innotech Aviation (1986) Limited*
MHD International Aviation Parts Incorporated*
Patlon Aircraft & Industries Limited*
Standard Aero Limited*

FUEL PUMPS-INJECTION
Innotech Aviation (1986) Limited*
MHD International Aviation Parts Incorporated*
Patlon Aircraft & Industries Limited*
Standard Aero Limited*

FUEL QUANTITY INDICATORS
Innotech Aviation (1986) Limited*
Leavens Aviation Incorporated*
MHD International Aviation Parts Incorporated*
Robin Aerospace Products Limited*
Standard Aero Limited*

FUSES-AIRCRAFT ELECTRIC
Leavens Aviation Incorporated*
Patlon Aircraft & Industries Limited*

GEARS AND TRANSMISSIONS
Spar Aerospace Limited*

GENERATORS-AIRCRAFT
Aircraft Appliances & Equipment Limited*
Canadian Helicopters*
GE Canada - Aerospace Operation*
Innotech Aviation (1986) Limited*
Leavens Aviation Incorporated*
MHD International Aviation Parts Incorporated*

Robin Aerospace Products Limited*
Standard Aero Limited*

GLASS PRODUCTS

GLOBAL POSITIONING SYSTEMS-AIRCRAFT
Canadian Marconi Company*
Howland Russell Consultants Limited*
Innotech Aviation (1986) Limited*
Leigh Instruments Limited*
Rockwell Int'l of Canada Ltd, Collins Canada Div*

GOVERNORS-PROPELLER
Leavens Aviation Incorporated*
MHD International Aviation Parts Incorporated*
Standard Aero Limited*

GOVERNORS-TURBINE
Leavens Aviation Incorporated*
MHD International Aviation Parts Incorporated*
Standard Aero Limited*

GOVERNMENTS
Halifax Aerotech Business Park
MacDonald Dettwiler
Patlon Aircraft & Industries Limited*

GROUND HEATERS-PORTABLE
Genaire Limited*
GE Canada - Aerospace Operation*
Godfrey Howden*
Leavens Aviation Incorporated*

GROUND POWER UNITS
Aerotech International Incorporated*
Genaire Limited*
Godfrey Howden*
Leavens Aviation Incorporated*
Pratt & Whitney Canada Incorporated*
Robin Aerospace Products Limited*
Standard Aero Limited*

GROUND SUPPORT EQUIPMENT
Abercorn Aero (1983) Limited*
Aero Machining Limited*
Aerotech International Incorporated*
Aircraft Appliances and Equipment Limited*
Canadian Marconi Company*
Computing Devices Company*
DEW Engineering and Development Limited*
Ebco Industries Limted*
Genaire Limited*
GE Canada - Aerospace Operation*
Godfrey Howden*
Havlik Technologies Incorporated*
International Fasteners*
Leavens Aviation Incorporated*
Litton Systems Canada Limited*
Lockheed Canada Incorporated*
Patlon Aircraft & Industries Limited*
Robin Aerospace Products Limited*
Standard Aero Limited*
Wardrop Engineering Incorporated*

GUIDANCE SYSTEM COMPONENTS
Devtek Corporation*
I.F.R. Associates Incorporated*
Treco Machine & Tool Limited*
Vac-Aero International Incorporated*
Varian Canada - Microwave Divsion*

GUIDANCE SYSTEMS-INERTIAL
Litton Systems Canada Limited*

GYRO INSTRUMENTS
Aircraft Appliances & Equipment Limited*
Canadian Helicopters*
Thomson-CSF Canada Limited*

HARNESS-WIRE
Bell Helicopter Textron Canada*
GE Canada - Aerospace Operation*
IMP Group Limited - Aerospace Division*
Innotech Aviation (1986) Limited*
Leavens Aviation Limited*
MHD International Aviation Parts Incorporated*
Menasco Aerospace Limited*
Standard Aero Limited*
Valcom Limited*

HEAD-UP DISPLAY SYSTEMS
Litton Systems Canada Limited*

HEAT SHIELDS
The H.I. Thompson Company*

HEAT SHRINKING TUBING
Leavens Aviation Incorporated*
Patlon Aircraft & Industries Limited*

HEAT TREATING
General Systems Research Incorporated*
Hanson Materials Engineering*
Havlik Technologies Incorporated*
Hawker Siddeley Canada Inc (Orenda Division)*
IMP Group Limited-Aerospace Divisions*
McDonnell Douglas Canada Limited*
Rolls-Royce (Canada) Limited*
Vac-Aero International Incorporated*

HEATERS-AIRCRAFT
Canadian Helicopters*
Leavens Aviation Incorporated*
MHD International Aviation Parts Incorporated*

HEATERS-GROUND
Aerotech International Incorporated*
Genaire Limited*
Godfrey Howden*
Leavens Aviation Incorporated*

HELICOPTER LANDING SYSTEMS/COMPONENTS
Aircraft Appliances and Equipment Limited*
Chicopee Manufacturing Limited*
Devtek Corporation*
Dowty Canada Limited*
Indal Technologies Incorporated*
International Fasteners*
Leigh Instruments Limited*
Price & Knott Manufacturing Company Limited*

HELICOPTER MAINTENANCE
Bristol Aerospace Limited
Canadian Helicopters*
Field Aviation Company Limited*
IMP Group Limited - Aerospace Divisions*

HOSES-AIRCRAFT
Abercorn Aero (1983) Limited*
Innotech Aviation (1986) Limited*
Leavens Aviation Incorporated*
MHD International Aviation Parts Incorporated*
Patlon Aircraft & Industries Limited*
Standard Aero Limited*

HYDRAULIC GROUND POWER UNITS
Dowty Canada Limited*
Genaire Limited*
Godfrey Howden*
Leavens Aviation Incorporated*
Standard Aero Limited*

HYDRAULIC MOTORS
Godfrey Howden*
Leavens Aviation Incorporated*
MHD International Aviation Parts Incorporated*
Standard Aero Limited*

HYDRAULIC PLUMBING
Godfrey Howden*
Standard Aero Limited*
Tube-Fab Limited*

HYDRAULIC PUMPS AND ACTUATORS
Aircraft Appliances and Equipment Limited*
Chicopee Manufacturing Limited*
Dowty Canada Limited*
Field Aviation Company Limited*
Godfrey Howden*
Heroux Incorporated*
Innotech Aviation (1986) Limited*
MHD International Aviation Parts Incorporated*
Patlon Aircraft & Industries Limited*
Spar Aerospace Limited*
Standard Aero Limited*
The Aerospace Consortium

HYDRAULIC SYSTEMS
CAE Electronics Limited*
Canadian Helicopters*
Dowty Canada Limited*
Godfrey Howden*
Indal Technologies Incorporated*
Innotech Aviation (1986) Limited*
Lucas Industries Canada Ltd - Aerospace Division*
MHD International Aviation Parts Incorporated*
Menasco Aerospace Limited*
Standard Aero Limited*

IGNITERS-GAS TURBINE
GE Canada - Aerospace Operation*
Leavens Aviation Incorporated*
MHD International Aviation Parts Incorporated*
Patlon Aircraft & Industries Limited*
Standard Aero Limited*

IGNITION ANALYZERS

IGNITION EQUIPMENT
Leavens Aviation Incorporated*
MHD International Aviation Parts Incorporated*
Standard Aero Limited*

IGNITION SYSTEMS-PISTON
Leavens Aviation Incorporated*

IGNITION SYSTEMS-TURBINE
GE Canada - Aerospace Operation*
Innotech Aviation (1986) Limited*
Standard Aero Limited*

INDICATORS-AIRCRAFT
Innotech Aviation (1986) Limited*
Novatronics Incorporated*
Robin Aerospace Products Limited*

INERTIAL NAVIGATION SYSTEMS
Field Aviation Company Limited*
Litton Systems Canada Limited*
Thomson-CSF Canada Limited*

INSTRUMENT LANDING SYSTEMS-AIRBORNE
Field Aviation Company Limited*
Rockwell Int'l of Canada Ltd, Collins Canada Div*
Thomson-CSF Canada Limited*

INSTRUMENT LANDING SYSTEMS-GROUND
Canadian Marconi Company*
I.F.R. Associates Incorporated*
Thomson-CSF Canada Limited*

INSURANCE-AVIATION

INTEGRATED LOGISTICS SYSTEMS
Canadian Helicopters*
Frontec Logistics Corporation*
IMP Group Limited - Aerospace Division*
Indal Technologies Incorporated*
Leigh Instruments Limited*
MIL Group*
Raytheon Canada Limited*
Rockwell Int'l of Canada Ltd, Collins Canada Div*
The SNC Group*
Thomson-CSF Canada Limited*
Thomson-CSF Systems Canada Incorporated*
Transtec Corporation*
Unisys Canada Incorporated - Defence Systems*
Valcom Limited*

INTERACTIVE TRAINING SYSTEMS
CAE Electronics Limited*
Computing Devices Company*
Thomson-CSF Systems Canada Incorporated*

INTERCOMMUNICATION SYSTEMS
TEAM*

INTERIOR FINISHING
Abercorn Aero (1983) Limited*
Airtech Canada - 371892 Ontario Limited*
Field Aviation Company Limited*
IMP Group Limited - Aerospace Division*

LANDING GEAR/COMPONENTS
Chicopee Manufacturing Limited*
Devtek Corporation*
Dowty Canada Limited*
Field Aviation Company Limited*
Fleet Aerospace Corporation*
Heroux Incorporated*
International Fasteners*
Menasco Aerospace Ltd.*
MHD International Aviation Parts Incorporated*
Patlon Aircraft & Industries Limited*
Price & Knott Manufacturing Company Limited*
Standard Aero Limited*
Treco Machine & Tool Limited*

LANDING GEAR POSITION INDICATORS
Dowty Canada Limited*
Menasco Aerospace Limited*
Novatronics Incorporated*

LTA HEAVY LIFT SYSTEMS

LORAN C NAVIGATION SYSTEMS-AIRBORNE
Thomson-CSF Canada Limited*

LORAN C NAVIGATION SYTEMS-GROUND
Thomson-CSF Canada Limited*

MACHINED METALS
Abercorn Aero (1983) Limited*
Aero Machining Limited*
Canadair - Division of Bombardier Incorporated*
Canadian Marconi Company*
Chicopee Manufacturing Limited*
D.S. Adams & Associates Incorporated*
Devtek Corporation*
Donlee Precision*
Dowty Canada Limited*
Ebco Industries Limited*
GE Canada - Aerospace Operation*
General Systems Research Incorporated*
Havlik Technoligies Incorporated*
Hawker Siddeley Canada Inc - Orenda Division*
IMP Group Limited - Aerospace Division*
Invar Manufacturing Limited*
Leavens Aviation Incorporated*
MHD International Aviation Parts Incorporated*
Menasco Aerospace Limited*
Rolls-Royce Industries Canada Incorporated*
Spiroll Kipp Kelly (1984) Incorporated*
Timminco Metals*
Treco Machine & Tool Limited*
Tube-Fab Limited*
Vac-Aero International Incorporated*

MAINTENANCE STANDS
Aerotech International Incorporated*
Ebco Industries Limited*
GasTops Limited*
Genaire Limited*
Godfrey Howden*
Leavens Aviation Incorporated*
Patlon Aircraft & Industries Limited*
Robin Aerospace Products Limited*

METAL DISTRIBUTION
Atlas Alloys - Division of Rio Algom Limited*

METAL FABRICATION
Airtech Canada - 371892 Ontario Limited*
Andrew Canada Incorporated*
Canadair - Division of Bombardier Incorporated*
D.S. Adams & Associates Incorporated*
Devtek Corporation*
Ebco Industries Limited*
Genaire Limited*
General Systems Research Incorporated*
Hawker Sidddeley Canada Inc - Orenda Divison*
IMP Group Limited - Aerospace Division*
Indal Technologies Incorporated*
Invar Manufacturing Limited*
Leavens Aviation Incorporated*
McDonnell Douglas Canada Limited*
Menasco Aerospace Limited*
Price & Knott Manufacturing Company Limited*
Tube-Fab Limited*
Vac-Aero International Incorporated*

METAL PROCESSING
Vis-U-Ray Testing Limited*

METALLIZING
D.S. Adams & Associates Incorporated*
Standard Aero Limited*
Vac-Aero International Incorporated*

METEOROLOGICAL EQUIPMENT
MPB Technologies Incorporated*
Pelorus Navigation Systems Incorporation*
Valcom Limited*

MICROWAVE LANDING SYSTEMS-AIRBORNE
Canadian Marconi Company*
I.F.R. Associates Incorporated*
MPR Limited*
Pelorus Navigation Systems Incorporated*

MICROWAVE LANDING SYTEMS-GROUND
Andrew Canada Incorporated*
Canadian Astronautics Limited*
Canadian Marconi Company*
Leigh Instruments Limited*
Thomson-CSF Canada Limited*

MOTORS-ELECTRIC
MHD International Aviation Parts Incorporated*
Novatronics Incorporated*
Robin Aerospace Products Limited*
Standard Aero Limited*

NAVIGATIONS SYSTEMS/EQUIPMENT
Aircraft Appliances and Equipment Limited*
Andrew Canada Incorporated*
Canadian Marconi Company*
COM DEV Limited*
Computing Devices Company
DY-4 Systems Incorporated*
Field Aviation Company LImited*
GE Canada - Aerospace Operation*
Howland Russell Consultants Limited*
Litton Systems Canada Limited*
Leigh Instruments Limited*
MPR Limited*
Pelorus Navigation Systems Incorporated*
Raytheon Canada Limited*
Spar Aerospace Limited*
The Aerospace Consortium
Thompson-Hickling Aviation Incorporated*
Thomson-CSF Canada Limited*

NON-DESTRUCTIVE TESTING
Canadian Astronautics Limited*
Canadian Helicopters*
Chicopee Manufacturing Limited*
Ebco Industries Limited*
Genaire Limited*
General Systems Research Incorporated*
Havlik Technologies

Incorporated*
Hawker Siddeley Canada Inc - Orenda Division*
IMP Group Limited - Aerospace Division*
Leavens Aviation Incorporated*
Menasco Aerospace Limited*
Optimus N.D.E. Limited*
Price & Knott Manufacturing Company Limited*
Standard Aero Limited*
Tecrad Incorporated*
Vis-U-Ray Testing Limited*

OMEGA/VLF SYSTEMS
Canadian Marconi Company*
Thomson-CSF Canada Limited*

OPTICAL COATINGS AND SYSTEMS
Cametoid Limited*
Canadian Astronautics Limited*

PAINTING
Cametoid Limited*
Chicopee Manufacturing Limited*
Field Aviation Company Limited*
Fleet Aerospace Corporation*
Havlik Technologies Incorporated*
IMP Group Limited-Aerospace Divisions*
MBB Helicopter Canada Limited*
McDonnell Douglas Canada Limited*
Northwest Industries Limited*
Vis-U-Ray Testing Limited*

PANELS-AIRCRAFT
Canadian Marconi Company*
Ebco Industries Limited*
Graphico Electronics Group*
IMP Group Limited - Aerospace Division*
MHD International Aviation Parts Incorporated*

PARACHUTES-BREAKING DRAG

PARACHUTE SYSTEMS AND EQUIPMENT
Irvin Industries Canada Limited*

PASSENGER AMPLIFIER TEAM*

PASSENGER LOADING BRIDGES

PASSENGER LOADING VEHICLES

PHOTOGRAMMETRIC EQUIPMENT
Leigh Instruments Limited*

PLASTIC COMPONENTS
Canadian Marconi Company*
Cellpack Aerospace Limited*
Ciba-Geigy Canada Limited*
Graphico Electronics Group*
IMP Group Limited - Aerospace Division*

PLATING-AIRCRAFT PARTS
Cadorath Plating Company Limited*
Canadair - Division of Bombardier Incorporated*
Canadian Marconi Company*
Havlik Technologies Incorporated*
Hawker Siddeley Canada Inc - Orenda Division*
IMP Group Limited - Aerospace Division*
McDonnell Douglas Canada Incorporated*
Menasco Aerospace Limited*
Standard Aero Limited*

PNEUMATIC POWER UNITS
Godfrey Howden*
MHD International Aviation Parts Incorporated*
Menasco Aerospace Limited*

POWER SUPPLIES
Canadian Astronautics Limited*
Canadian Marconi Company*
Godfrey Howden*
Leavens Aviation Incorporated*
Raytheon Canada Limited*
Robin Aerospace Products Limited*
Unisys Canada Incorporated - Defence Systems*
Valcom Limited*
Varian Canada - Microwave Division*

POWER UNITS
Canadian Marconi Company*
Godfrey Howden*
Menasco Aerospace Limited*
Pratt & Whitney Canada Incorporated*
Robin Aerospace Products Limited*
Varian Canada - Microwave Division*

PRECISION MACHINING
Abercorn Aero (1983) Limited*
Aero Machining Limited*
COM DEV Limited*
Canadair - Division of Bombardier Incorporated*
Canadian Helicopters*
Canadian Marconi Company*
Chicopee Manufacturing Limited*
Cincinnati Milacron-Canada Limited*
Computing Devices Company*
D.S. Adams & Associates Incorporated*
Devtek Corporation*
Donlee Precision*
Dowty Canada Limited*
Ebco Industries Limited*
Extec Precision Manufacturing*
GE Canada - Aerospace Operation*
General Systems Research Incorporated*
Hawker Siddeley Canada Inc - Orenda Division*
IMP Group Limited - Aerospace Division*
Leavens Aviation Incorporated*
Mecaero Canada Incorporated*
Menasco Aerospace Limited*
Price & Knott Manufacturing Company Limited*
Raytheon Canada Limited*
Reil Ind Ent Limited*
Rolls-Royce Industries Canada Incorporated*
Standard Aero Limited*
Treco Machine & Tool Limited*
Tube-Fab Limited*
U.D.T. Industries Incorporated*
Vac-Aero International Incorporated*

PRECISION SHEET METAL WORK
Canadian Marconi Company*
Devtek Corporation*
Field Aviation Company Limited*
Fleet Aerospace Corporation*
Hawker Siddeley Canada Inc (Orenda Division)*
IMP Group Limited-Aerospace Divisions*
McDonnell Douglas Canada Limited*
Price & Knott Manufacturing Company Limited*
Rolls-Royce (Canada) Limited*
The Aerospace Consortium

PRESSURIZATION EQUIPMENT
Godfrey Howden*

PRINTED CIRCUIT BOARDS
Graphico Electronics Group*

PROPELLERS
Dowty Canada Limited*
Leavens Aviation Incorporated*
MHD International Aviation Parts Incorporated*
Pratt & Whitney Canada Incorporaated*

PUBLICATIONS
Aviation Planning Services Limited
Garrett Canada*
Hawker Siddeley Canada Inc - Orenda Division*
IMP Group Limited - Aerospace Divisions*

QUALITY CONTROL SERVICES
Andrew Canada Incorporated*
CAE Electronics Limited*
General Systems Research Incorporated*
Menasco Aerospace Limited*
Quantum Inspection & Testing Limited*
Standard Aero Limited*
Unisys Canada Incorporated - Defence Systems*

RADAR-AIRBORNE WEATHER
Canadian Astronautics Limited*
Canadian Helicopters*
Genaire Limited*
GE Canada - Aerospace Operation*
Rockwell Int'l of Canada Ltd, Collins Canada Div*

RADAR-GROUND
Andrew Canada Incorporated*
COM DEV Limited*
Canadian Marconi Company*
Frontec Logistics Corporation*
GE Canada - Aerospace Operation*
Howland Russell Consultants Limited*
Leigh Instruments Limited*
MPB Technologies Incorporated*
Raytheon Canada Limited*
Thomson-CSF Canada Limited*
Varian Canada - Microwave Division*

RADAR SYSTEMS AND EQUIPMENT
AIT Corporation
Andrew Canada Inc*
Canadian Astronautics Limited*
Canadian Marconi Company*
COM DEV Limited*
DY-4 Systems Incorporated*
Field Aviation Company Limited*
Fleet Aerospace Corporation*
GE Canada - Aerospace Operation*
Litton Systems Canada Limited*
Lockheed Canada Incorporated*
MacDonald Dettwiler
MPR Limited*
Raytheon Canada Limited*
Spar Aerospace Limited*
The Aerospace Consortium

RADAR-WARNING RECEIVER SUB-SYSTEMS
COM DEV Limited*

RADIO BEACONS
COM DEV Limited*
Canadian Marconi Company*
Frontec Logistics Corporation*
Leigh Instruments Limited*
Thomson-CSF Canada Limited*

RADIO MAGNETIC INDICATORS
Rockwell Int'l of Canada Ltd, Collins Canada Div*
Thomson-CSF Canada Limited*

RADOMES
Andrew Canada Incorporated*
Cellpack Aerospace Limited*
Genaire Limited*
Raytheon Canada Limited*

RATE OF CLIMB INDICATORS
Leavens Aviation Incorporated*
Robin Aerospace Products Limited*

RECORDERS-COCKPIT INDICATORS

RECORDERS-COCKPIT VOICE
Aircraft Appliances & Equipment Limited*
Leigh Instruments Limited*

RECORDERS-FLIGHT DATA
Airworthiness Specialty Consultants*
Leigh Instruments Limited*
Varian Canada - Microwave Division*

RECTIFIERS-POWER

REMOTE SENSING EQUIPMENT AND SERVICES
CAE Electronics Limited*
Calian Technology Limited*
Cametoid Limited*
Canadian Astronautics Limited*
COM DEV Limited*
Dipix Technologies Incorporated
Field Aviation Company Limited*
Istec Incorporated
MPB Technologies Incorporated*
MacDonald Dettwiler
Spar Aerospace Limited*
The Aerospace Consortium
Valcom Limited*

RESISTORS
Robin Aerospace Products Limited*

RIVETS
Abercorn Aero (1983) Limited*

R&D FACILITIES
AIT Corporation
Bendix Avelex Inc*
Calian Technology Ltd*
Cametoid Limited*
Canadian Astronautics Ltd*
Canadian Marconi Company*
COM DEV Limited*
Computing Devices Company
Dowty Canada Limited*
Garrett Canada*
GE Canada - Aerospace Operation*
Hawker Siddeley Canada Inc (Orenda Division)*
Heroux Incorporated*
Lockheed Canada Incorporated*
MacDonald Dettwiler
MPR Limited*
Pratt & Whitney Canada*
Rohde & Schwarz Canada Incorporated*
Spar Aerospace Limited*

ROCKETS
Bristol Aerospace Limited
Cellpack Aerospace Limited*
Lockheed Canada Incorporated*

SATELLITES AND SATELLITE SUBSYSTEMS/COMPONENTS
AIT Corporation
Bristol Aerospace Limited
Calian Technology Limited*
Canadian Astronautics Limited*
Cellpack Aerospace Limited*
COM DEV Limited*
Devtek Corporation*
Edo Canada Limited*
Fleet Aerospace Corporation*
International Fasteners*
Lockheed Canada Incorporated*
Microtel Pacific Research Limited*
Spar Aerospace Limited*

SELECTIVE CALLING SYSTEMS
TEAM*

SHOT PEENING
Havlik Technologies Incorporated*
Hawker Siddeley Canada Inc (Orenda Division)

SIMULATORS
Aastra Aerospace Incorporated*
Atlantis Aerospace Corporation*
CAE Electronics Limited*
Canadian Astronautics Limited*
Thomson-CSF Canada Limited*

SPACE-GROUND TERMINAL SUB-SYSTEMS
COM DEV Limited*

SPACE-SATELLITE SUB-SYSTEMS
COM DEV Limited*

STARTERS-ELECTRIC
Aircraft Appliances & Equipment Limited*
Canadian Helicopters*
GE Canada - Aerospace Operation*
MHD International Aviation Parts Incorporated*
Robin Aerospace Products Limited*
Standard Aero Limited*

STARTERS-HYDRAULIC
GE Canada - Aerospace Operation*
MHD International Aviation Parts Incorporated*
Standard Aero Limited*

STARTERS-PNEUMATIC
Godfrey Howden*
MHD International Aviation Parts Incorporated*
Standard Aero Limited*

STATIC TEST FACILITIES
Canadian Helicopters*
DSMA International Incorporated*
Menasco Aerospace Limited*

STATUS DISPLAY SYSTEMS
Canadian Marconi Company*
Raytheon Canada Limited*

SURVEILLANCE-DRONES
Aircraft Appliances and Equipment Limited*
Atlantis Aerospace Corporation*
Boeing Canada Technology Limited-Winnipeg Division*
Canadair - A Division of Bombardier Inc*
Computing Devices Company
Lockheed Canada Incorporated*
The Aerospace Consortium

SURVEILLANCE-ELECTRONIC SUB-SYSTEMS
COM DEV Limited*

SURVIVAL SYSTEMS
Canadian Astronautics Limited*
Irvin Industries Canada Limited*

TACAN-AVIONICS
Thomson-CSF Canada Limited*

TACAN-GROUND
Leigh Instruments Limited*
Thomson-CSF Canada Limited*

TANKS-FUEL
Aircraft Appliances & Equipment Limited*
Airtech Canada - 371892 Ontario Limited*
Genaire Limited*

TANKS-OIL
Standard Aero Limited*

TELEMETERING EQUIPMENT
Frontec Logistics Corporation*
MPR Limited*

TELEMETERING SYSTEM DESIGN
Frontec Logistics Corporation*
MPR Limited*
Menasco Aerospace Limited*
Telesat Canada*

TEST EQUIPMENT
Aircraft Appliances and Equipment Limited*
Airtech Canada - 371892 Ontario Limited*
Atlantis Aerospace Corporation*
CAE Electronics Limited*
Calian Technology Limited*
Canadian Astronautics Limited*
Canadian Marconi Company*
Carr-Sawyer Incorporated*
DSMA International Incorporated*
Dowty Canada Limited*
Field Aviation Company Limited*
GasTops Limited*
GE Canada - Aerospace Operation*
Godfrey Howden*
IMP Group Limited-Aerospace Divisions*
Indal Technologies Incorporated*
Litton Systems Canada Limited*
Lockheed Canada Incorporated*
Menasco Aerospace Limited*
Raytheon Canada Limited*
Robin Aerospace Products Limited*
Rohde & Schwarz Canada Incorporated*
Standard Aero Limited*
Tech-Rep Electronics Limited*
Thomson-CSF Canada Limited*
Unisys Canada Incorporated - Defence Systems*
Wardrop Engineering Incorporated*

TEST RIGS
Aastra Aerospace Incorporated*
DSMA International Incorporated*
Dowty Canada Limited*
GasTops Limited*
GE Canada - Aerospace Operation*
Hawker Siddeley Canada Inc - Orenda Division*
Indal Technologies Incorporated*
Menasco Aerospace Limited*
Robin Aerospace Products Limited*

Tech-Rep Electronics Limited*
Wardrop Engineering Incorporated*

TEST STAND EQUIPMENT
Aastra Aerospace Incorporated*
Aircraft Appliances & Equipment Limited*
Dowty Canada Limited*
Ebco Industries Limited*
GasTops Limited*
Godfrey Howden*
Menasco Aerospace Limited*
Rohde & Schwarz Canada Incorporated*
Standard Aero Limited*
Wardrop Engineering Incorporated*

TESTING SERVICES
Calian Technology Limited*
Cametoid Limited*
Field Aviation Company Limited*
Garrett Canada*
GE Canada - Aerospace Operation*
Havlik Technologies Incorporated*
Hawker Siddeley Canada Inc - Orenda Division*
MPR Limited*
Pratt & Whitney Canada*
Quantum Inspection & Testing Limited*
Spar Aerospace Limited*

THERMOSTATS

TOOLING, PRECISION MACHINING
Canadair - A Division of Bombardier Inc*
Canadian Marconi Company*
Dowty Canada Limited*
Fleet Aerospace Corporation*
GE Canada - Aerospace Operation*
Havlik Technologies Incorporated*
IMP Group Limited-Aerospace Divisions*
International Fasteners*
Linamar Machine Limited
McDonnell Douglas Canada Limited*
Pratt & Whitney Canada*
Price & Knott Manufacturing Company Limited*
Rolls-Royce (Canada) Limited*
The Aerospace Consortium
Treco Machine & Tool Limited

TOWERS-ANTENNA
Andrew Canada Incorporated*
Carr-Sawyer Company*
Indal Technologies Incorporated*

TOWERS-BEACON
Indal Technologies Incorporated*

TRANSFORMERS
Robin Aerospace Products Limited*
Varian Canada - Microwave Division*

TRANSMISSION ASSEMBLIES
Canadian Helicopters*

TRANSMISSIONS
Canadian Helicopters*

TRANSPARENCIES

TRANSPONDERS-AVIONICS
Field Aviation Company Limited*
Rockwell Int'l of Canada Ltd, Collins Canada Div*
Thomson-CSF Canada Limited*
Varian Canada - Microwave Division*

TURBINE BLADES
GE Canada - Aerospace Operation*
MHD International Aviation Parts Incorporated*
Standard Aero Limited*
Walbar Canada Incorporated*

TURN-KEY AVIONICS SYSTEMS
Canadian Helicopters*
Thomson-CSF Canada Limited*
Unisys Canada Incorporated - Defence Systems*

UPHOLSTERY-CABIN

VALVES
MHD International Aviation Parts Incorporated*
Menasco Aerospace Limited*
Patlon Aircraft & Industries Limited*
Treco Machine & Tool Limited*

VOR/ILS INDICATORS
Thomson-CSF Canada Limited*

VACUUM COATINGS
Cametoid Limited*

VACUUM PUMPS
Godfrey Howden*
MHD International Aviation Parts Incorporated*
Patlon Aircraft & Industries Limited*
Robin Aerospace Products Limited*

VACUUM REGULATORS
Godfrey Howden*
MHD International Aviation Parts Incorporated*

VACUUM VALVES
Godfrey Howden*
MHD International Aviation Parts Incorporated*
Vac-Aero International Incorporated*
Varian Canada - Microwave Division*

VALVE FABRICATION-HIGH PRESSURE
Vis-U-Ray Testing Limited*

VIBRATION MONITORING EQUIPMENT
Computing Devices Company*
Patlon Aircraft & Industries Limited*

VISUAL INSPECTION EQUIPMENT
Quantum Inspection and Testing Limited*
Robin Aerospace Products Limited*

VOLTAGE REGULATORS
Aircraft Appliances & Equipment Limited*
Robin Aerospace Products Limited*

WELDING, METAL FINISHING
Cametoid Limited*
Canadian Marconi Company*
Devtek Corporation*
Field Aviation Company Limited*
Havlik Technologies Incorporated*
Hawker Siddeley Canada Inc - Orenda Division*
Linamar Machine Limited

McDonnell Douglas Canada Limited*
Price & Knott Manufacturing Company Limited*
Rolls-Royce (Canada) Limited*
The Aerospace Consortium

WELDING SERVICES
Airtech Canada - 371892 Ontario Limited*
Canadian Helicopters*
Havlik Technologies Incorporated*
Indal Technologies Incorporated*
Price & Knott Manufacturing Company Limited*
Specialized Welding & Fabrications Limited*
Vac-Aero International Incorporated*
Vis-U-Ray Testing Limited*

WHEELS-LANDING GEAR
Canadian Helicopters*
MHD International Aviation Parts Incorporated*
Patlon Aircraft & Industries Limited*

WIND TUNNEL TEST FACILITIES
DSMA International Incorporated*

WINDOWS-AIRCRAFT
MHD International Aviation Parts Incorporated*

WIRE AND CABLE
Abercorn Aero (1983) Limited*
IMP Group Limited - Aerospace Division*

*Denotes member Aerospace Industries Association of Canada

Aerospace Industries Association of Canada

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PRESIDENT: K.E. Lewis
VICE PRESIDENT, OPERATIONS: C.B. Smith
VICE PRESIDENT, ADMINISTRATION: W.C. Weston
DIRECTOR OF COMMUNICATIONS: G.L. Lalonde

The Aerospace Industries Association of Canada is the national trade association for the aerospace manufacturing industries of Canada. Formed in 1962, the AIAC provides a voice for the aerospace industry as a whole so that government agencies, press, and public are kept aware of its accomplishments, capabilities, and ability to contribute to the national economy.

The Association's role is to coordinate and develop aerospace industry views as well as advise governments in developing and improving programs to meet the technological, industrial development and manpower needs of the aerospace industry; and resolve problems relating to the formulation and implementation of policies and programs designed to enhance the industry's competitive position in international markets.

The Association studies and initiates proposals to government to enhance the future of the industry and which are consistent with Canadian socio-economic objectives. In addition, the Association promotes the role of the industry as a major exporter of civil and defence products.

The AIAC is charged with participating in short and long term planning with governments and to promote a harmonious relationship with government through mutual respect and understanding of the roles of each of the respective parties. This is encouraged through discussion of problems within the aerospace industry to ensure that it will continue to progress and prosper.

The Association and its more than 200 member companies carry out much of their work through a system of standing committees charged with specific roles and responsibilities; reflecting the major areas of activity for the industry. These committees are:

Airworthiness

The Airworthiness Committee provides an effective medium by which the Canadian aerospace industry can participate constructively in the formulation of policy, regulatory and interpretive material relative to the development and approval of aerospace products, for domestic and/or international markets. The scope of this committee involves both Transport Canada and international agencies or organizations concerned with airworthiness.

Electronics Systems

The Electronics Systems Committee has as its primary objective the fostering of communication and cooperation among member companies in the development of a viable and progressive electronics and electromechanical sub-sector in Canada. Its membership represents a broad base of specialized firms in both military and commercial fields;

Contracts and Finance

The Contracts and Finance Committee is responsible for formulating views of this function-oriented sector of the aerospace industry. It is called upon to deal with problems associated with the financial policies and the contracting practices of the government;

Customs and Traffic

The Customs and Traffic Committee maintains a close liaison with government departments such as Revenue Canada with respect to customs, traffic and excise legislation as it relates to the Canadian aerospace industry;

Human Resources

The Human Resources Committee is formed to devise means to facilitate the exchange of information pertaining to all aspect of manpower utilization, its development among members, the workplace environment and to maintain close liaison in these respects with government agencies and educational institutions;

International Exhibitions

The International Exhibitions Committee is responsible for coordinating the participation of the Canadian aerospace industry at various aerospace trade and air shows around the world. The committee works towards putting forward a cooperative Canadian exhibit that reflects the Canadian aerospace industry's high standards;

International Trade

The International Trade Committee monitors and evaluates legislative and regulatory matters involving international trade which could have significant effect on the Canadian aerospace industry as well as advise

on pending foreign legislation or foreign political trends which could impact on the industry. The committee also analyses the effectiveness of the operation of the Canada/U.S. defence developments and production sharing arrangements, and liaises with foreign aerospace associations on matters of foreign trade and regulatory affairs;

Product Support

The Product Support Committee establishes the principles by which all repair and overhaul contractors or contractors anticipating participation in repair and overhaul contracts can further business interests with Canadian and foreign governments or private agencies;

Productivity

The Productivity Committee's objective is to provide leadership towards improving productivity in order to maintain world competitive levels in the Canadian aerospace industry, through the development of a continuing program of action for the association and its committees;

Research

The Research Committee is charged with determining and recommending policies that the government should implement with respect to research and development in the aerospace field, especially as they affect expenditure of public funds;

Small Business

The Small Business Committee is responsible for making sure that small business interests are given full consideration within the industry; that small and medium sized companies are well represented on committees, task forces, working groups and the Board of Directors;

Space

The Space Committee is responsible for fostering, developing and promoting the growth of a space-related industry in Canada that can serve, analyse and play an active role in advising the government on its Space Policy and related activities, recommending and assisting in the formulation and implementation of space programs in Canada;

Technical Standards

The Technical Standards Committee is formed for the purpose of discussion of problems related to materials and processes, international standards, engineering and quality assurance specifications and to coordinate these activities with, and assist, government agencies and AIAC member companies;

Sub-committees within the Technical Standards Committee are: Materials & Processes Sub-Committee and the International Standards Group.

MEMBERS

A.R. TECHNOLOGIES INC.
Suite #10, 3071 No. 5 Road
Richmond, B.C. V6X 2T4
Contact: Mr. C. Trsek, Director
Tel: (604) 273-1717
Fax: (604) 222-5555

AMP OF CANADA LTD.
20 Esna Park Dr.
Markham, Ont. L3R 1E1
Contact: Mr. Wm. E. Briggs, Manager
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Tel: (416) 475-6222
Fax: (416) 474-5520
Telex: 06986815

ATG AEROSPACE INC.
224 Merton Street
Toronto, Ont. M4S 1A1
Contact: Dr. Ady Tzidon, President
Tel: (416) 487-6455
Fax: (416) 487-4363

AASTRA AEROSPACE INC.
1685 Flint Road
Downsview, Ont. M3J 2W8
Contact: Hugh Scholaert, Director, Business Development
Tel: (416) 736-7070
Fax: (416) 736-7178
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ABERCORN AERO (1983) LTD.
70-F Brunswick Blvd.
Dollard Des Ormeaux,
Que. H9B 2C5
Contact: Mr. L. Leclerc,
VP Sales & Marketing
Tel: (514) 683-8424
Fax: (514) 683-9034
Telex: 05-822669

ADGA GROUP
116 Albert Street, Suite 400
Ottawa, Ont. K1P 5G3
Contact: Mr. R. Allan,
President & CEO
Tel: (613) 237-3022
Telex: 053-4568

AERO MACHINING LTD.
5411 Industrial Blvd.
Montreal, Que. H1G 3H7
Contact: Mr. Bruno Julien,
Marketing Director
Tel: (514) 324-4260
Fax: (514) 324-9997

AERODEVCO CONSULTANTS LTD.
130 Slater Street, Suite 1025
Ottawa, Ont. K1P 6E2
Contact: Mr. W.M. McLeish, President
Tel: (613) 234-3315
Fax: (613) 236-4850

AEROQUIP (CANADA) INC.
287 Bridgeland Avenue
Toronto, Ont. M6A 1Z7
Contact: Mr. G. Harrison, President
Tel: (416) 781-5261
Fax: (416) 781-5878
Telex: 06-969533

AEROSPATIALE CANADA (ACI) INC.
50 O'Connor Street, Suite 914
Ottawa, Ont. K1P 6L2
Tel: (613) 230-3902

AEROTECH INTERNATIONAL INC.
100 Eagle Drive
Winnipeg, Man. R2R 1V5
Contact: Paul R. Sigurdson, President
Tel: (204) 633-1999
Fax: (204) 694-1612
Telex: 07-55272

AIRCRAFT APPLIANCES & EQUIPMENT LIMITED
150 East Drive
Bramalea, Ont. L6T 1C1
Contact: W.J. White, President & General Manager
Tel: (416) 791-1666
Fax: (416) 791-7218
Telex: 06-97510

AIRTECH CANADA - 371892 ONTARIO LIMITED
P.O. Box 415, Peterborough
Municipal Airport
Peterborough, Ont. K9J 6Z3
Contact: Alison Mewett, Org. Manager
Tel: (705) 743-9483
Fax: (705) 749-0841
Telex: 06-962912

AIRWORTHINESS SPECIALTY CONSULTANTS
35 Abingdon Drive
Nepean, Ont. K2H 7M5
Contact: K.D.J. Owen, Proprietor
Tel: (613) 828-9763

AMHERST AEROSPACE INC.
10 Lusby Street, P.O. Box 10
Amherst, N.S. B4H 3Y5
Contact: Mr. S. Rankin, President
Tel: (902) 667-3315
Fax: (902) 667-1047
Telex: 019-22841

AMTEK MANAGEMENT INC.
9 Slack Road
Nepean, Ont. K2G 0B7
Contact: Mr. R.R. Nash, President & General Manager
Tel: (613) 727-5040
Fax: (613) 727-1262
Telex: 053-3298

ANDREW CANADA INC.
606 Beech Street West
Whitby, Ont. L1N 5S2
Contact: Dr. George Tong, Manager, Marketing
Tel: (416) 668-3348
Fax: (416) 668-8590
Telex: 06-981269

ATLANTIS AEROSPACE CORPORATION
1 Kenview Boulevard
Brampton, Ont. L6T 5E6
Contact: Mr. D.E. Simmons, Managing Director
Tel: (416) 792-1981
Fax: (416) 792-7251
Telex: 06-986766

ATLAS ALLOYS - DIVISION OF RIO ALGOM LTD.
161 The West Mall
Toronto, Ont. M9C 4V8
Contact: Mr. Wayne D. Phillips, Manager, Aerospace & Defence
Tel: (416) 622-3100

AVCORP INDUSTRIES INC.
4999 St. Catherine St. W.
Suite 300 Westmount
Montreal, Que. H3Z 1T3
Contact: Mr. S. Kearns, Vice President & Corporate Sec.
Tel: (514) 485-6508
Fax: (514) 485-6521

AVIATION PLANNING SERVICES LTD.
Suite 1420, 800 Rene-Levesque Blvd. W.
Montreal, Que. H3B 1X9
Contact: R.S. Fisher, Executive Vice President
Tel: (514) 878-4388
Fax: (514) 861-6310
Telex: 05-24371

AVSTAR AEROSPACE CORPORATION
Suite 520, 20 York Mills Road
North York, Ont. M2P 2C2
Contact: Mr. B. Feeney, President
Tel: (416) 225-6606
Fax: (416) 225-8876

B.P.A.K. - BUSINESS PROMOTION AGENCY KAULING
R.R. 1, P.O. Box 243
Chelsea, Que. J0X 1N0
Contact: Louis Kauling, President
Tel: (819) 827-4388

BATE SYSTEMS INC.
10519-115 Street
Edmonton, Alb. T5H 3K5
Contact: Mr. P.S. Isber, President
Tel: (403) 426-7812

BELL HELICOPTER TEXTRON CANADA
12800 rue de l'Avenir
St. Janvier, Que. J0N 1L0
Contact: Fred N. Hubbard, President
Tel: (514) 437-3400
Fax: (514) 437-6010

BENDIX AVELEX INC.
200 Laurentian Blvd.
Montreal, Que. H4M 2L5
Contact: Mr. R.M. Egery, Vice President, Marketing
Tel: (514) 744-7461
Fax: (514) 342-3795
Telex: 05-826688

BOEING OF CANADA LTD. - DE HAVILLAND DIVISION
Garratt Blvd. Downsview, North York
Ont. M3K 1Y5
Contact: Mr. R.B. Woodard, President
Tel: (416) 633-7310
Fax: (416) 633-5038
Telex: 06-22128

BOFORS CANADA LTD.
416 - 130 Albert Street
Ottawa, Ont. K1P 5G4
Contact: W.S. Kendall
Tel: (613) 238-8784
Fax: (613) 238-1949
Telex: 053-3764

BRISTOL AEROSPACE LIMITED
P.O. Box 874
Winnipeg, Man. R3C 2S4
Contact: Mr. H.R. Beattie, President & CEO
Tel: (204) 775-8331
Fax: (204) 783-2091
Telex: 07-57774

BRITISH AEROSPACE (CANADA) LTD.
14 Colonnade Road
Nepean, Ont. K2E 7M6
Contact: Mr. J.M. Beresford, Canadian Representative
Tel: (613) 723-3387
Fax: (613) 723-2752

CAE ELECTRONICS LTD.
8585 Cote de Liesse
St. Laurent, Que. H4L 4X4
Contact: G. Weintraub, Vice President Gov't. Relations
Tel: (514) 341-6780
Fax: (514) 341-7699
Telex: 05-824856

CFN CONSULTANTS
Suite 400, 100 Sparks Street
Ottawa, Ont. K1P 5B7
Contact: S.B. Roach, Senior Partner
Tel: (613) 238-1538
Fax: (613) 238-5519
Telex: 05-33887

COM DEV LTD.
155 Sheldon Drive
Cambridge, Ont. N1R 7H6
Contact: Mr. M.V. O'Donovan, President
Tel: (519) 622-2300
Fax: (519) 622-1691
Telex: 06-959333

CADORATH PLATING CO. LTD.
2150 Logan Avenue
Winnipeg, Man. R2R 0J2
Contact: Gerry Cadorath, President
Tel: (204) 633-9420
Fax: (204) 632-0323

CALIAN TECHNOLOGY LTD.
300 Legget Dr., North Kanata Business Park
Kanata, Ont. K2K 1Y5
Contact: BGen. B. Casley, Chairman
Tel: (613) 592-8600
Fax: (613) 592-3378

CAMETOID LTD.
1449 Hopkins Street
Whitby, Ont. L1N 2C2
Contact: Mr. D.G. Newman, President
Tel: (416) 666-3400
Fax: (416) 666-3413
Telex: 06-871421

CAMPAGNA ENGINEERING INC.
2783 Fenton Road
Ottawa, Ont. K1G 3N3
Contact: Mr. O. Campagna, Vice President & Marketing Dir.
Tel: (613) 822-1921
Fax: (613) 822-2874
Telex: 05-33230

CANADA FORGINGS INC.
130 Hagar Street, P.O. Box 308
Welland, Ont. L3B 5P8
Contact: J.E. Mires, Manager - Sales & Marketing
Tel: (416) 735-1220
Fax: (416) 735-6992
Telex: 06-15195

CANADAIR - DIVISION OF BOMBARDIER INC.
P.O. Box 6087, Station 'A'
Montreal, Que. H3C 3G9
Contact: J.P. MacKenzie, V.P. Business Planning
Tel: (514) 744-1511
Fax: (514) 744-6586
Telex: 05-826747

CANADIAN ASTRONAUTICS LIMITED
1050 Morrison Drive
Ottawa, Ont. K2H 8K7
Contact: James Pocklington, V.P. Business Development
Tel: (613) 820-8280
Fax: (613) 820-8314
Telex: 053-3937

CANADIAN HELICOPTERS LIMITED
3531 Viking Way
Richmond, B.C. V6V 1W1
Contact: Ken Rogers, General Manager
Tel: (604) 276-7563
Fax: (604) 270-6822
Telex: 04-355727

CANADIAN MARCONI COMPANY
2442 Trenton Avenue
Montreal, Que. H3P 1Y9
Contact: John H. Simons, Executive Vice President
Tel: (514) 341-7630
Fax: (514) 340-3100
Telex: 05-827822

CARR-SAWYER INCORPORATED
2201 Finch Avenue West
Weston, Ont. K1P 5Y7
Contact: Alan C. Carr, President
Tel: (416) 741-4733
Fax: (416) 741-8872

CAYUGA AUTOMATIC MACHINING (1985) LTD.
P.O. Box 339
Cayuga, Ont. N0A 1E0
Contact: Mr. B. Thomson, President
Tel: (416) 772-5700
Fax: (416) 772-3233

CELLPACK AEROSPACE LIMITED
P.O. Box 1150, 71 Hall St.
Lunenburg, N.S. R0J 2C0
Contact: Mr. T. Squires, Sales & Marketing Manager
Tel: (902) 634-8448
Fax: (902) 634-3993

CHICOPEE MANUFACTURING LIMITED
975 Wilson Avenue
Kitchener, Ont. N2C 1J1
Contact: Mrs. E.B. Sims, President & General Manager
Tel: (519) 893-7575
Fax: (519) 893-5952

CIBA-GEIGY CANADA LTD.
6860 Century Avenue
Mississauga, Ont. L5N 2W5
Contact: Neils M. Nielsen, Ind. Specialist - Composite
Tel: (416) 821-4420
Fax: (416) 821-8466
Telex: 06-217752

CINCINNATI MILACRON-CANADA LIMITED
122 North Queen Street
Toronto, Ont. M8Z 2E4
Contact: Peter J. Ryall, Vice President
Tel: (416) 233-3216
Fax: (416) 232-1158
Telex: 06-98-4616

COMPUTING DEVICES COMPANY
P.O. Box 8508
Ottawa, Ont. K1G 3M9
Contact: G.M. Mount, Senior Vice President
Tel: (613) 596-7105
Fax: (613) 820-5081
Telex: 053-4139

COMTEST INSTRUMENTS LIMITED
80 Colonnade Road
Nepean, Ont. K2E 7L2
Contact: Mr. R. Brand, Executive Vice President
Tel: (613) 226-2301
Telex: 05-34466

CONAIR AVIATION LTD.
P.O. Box 220, Hangar #1
Abbotsford Int. Airp't
Abbotsford, B.C. V2S 4N9
Contact: Mr. K.B. Marsden, Vice President & G. Manager
Tel: (604) 853-1171
Fax: (604) 853-9017
Telex: 04-363529

D.A.S. METAL PRODUCTS INC.
16 Trothen Circle
Markham, Ont. L3P 4H5
Contact: Mr. D. Street, President
Tel: (416) 471-6050
Fax: (416) 471-0141
Telex: 06-526129

D.S. ADAMS & ASSOCIATES INC.
Suite 10, 37 E. Huntington Drive
Arcadia, Calif 91006
Contact: Donald S. Adams, President
Tel: (818) 447-7392
Fax: (818) 447-7396

DEW ENGINEERING AND DEVELOPMENT LTD.
3429 Hawthorne Road
Ottawa, Ont. K1G 4G2
Contact: Timothy A. Dear, P.Eng., Vice President
Tel: (613) 523-8150
Fax: (613) 523-3228
Telex: 053-3167

DMR GROUP INC.
360 Albert Street, Suite 600
Ottawa, Ont. K1R 7X7
Contact: Mr. B. Hull, President
Tel: (613) 238-2697
Fax: (613) 238-2802

DSMA INTERNATIONAL INC.
6655 Airport Road
Mississauga, Ont. L4V 1V8
Contact: S. Roy Swanson, Director, Business Development
Tel: (416) 672-3800
Fax: (416) 672-3507
Telex: 06-968534

DEANE & CO.
190 Oneida
Pointe Claire, Que. H9R 1A8
Contact: Mr. P. Decaire, President
Tel: (514) 697-3730
Telex: 05-821703

DESIGNED PRECISION CASTINGS INC.
75 Eastern Avenue
Brampton, Ont. L6W 1X9
Contact: Mr. D. Rewolt, Operations Manager
Tel: (416) 453-0421
Telex: 06-97778

DEVTEK CORPORATION
2900 John Street
Markham, Ont. L3R 5G3
Contact: David Maxwell, Assistant to the Chairman
Tel: (416) 477-6861
Fax: (416) 477-0481

DIEMASTER TOOL INC.
160 Watline Avenue East
Mississauga, Ont. L4Z 1R1
Contact: Mr. G.M. Yui, President
Tel: (416) 890-1144
Fax: (416) 890-1950
Telex: 06-961274

DIGITAL DYNAMICS LIMITED
P.O. Box 784, 677 Erie Street
Stratford, Ont. N4Z 1A1
Contact: Mr. S. Spacklan, Vice President
Tel: (519) 273-3061
Fax: (519) 271-9781

DOCUMENTUM ASSOCIATES
218 Corot
Nun's Island, Que. H3E 1C3
Contact: Mrs. J. White, President
Tel: (514) 769-2104
Fax: (514) 761-5953

DONLEE PRECISION
9 Fenmar Drive
Toronto, Ont. M9L 1L5
Contact: J. Michael Campbell, President
Tel: (416) 743-4417
Fax: (416) 746-8998
Telex: 065-27257

DOWTY CANADA LIMITED
574 Monarch Avenue
Ajax, Ont. L1S 2G8
Contact: John A. Jones, Regional Marketing Manager
Tel: (416) 683-3100
Fax: (416) 686-2914
Telex: 06-981295

DY-4 SYSTEMS INC.
21 Credit Union Way
Nepean, Ont. K2H 9J4
Contact: Brian Wattie, Canadian Sales Manager
Tel: (613) 596-9911
Fax: (613) 596-0574
Telex: 05-34111

DYNACON ENTERPRISES LTD.
Suite 2107
465 Richmond Road
Ottawa, Ont. K2A 1Z1
Contact: Mr. S.P. Altman, Marketing Director
Tel: (613) 722-4405

E.H. INDUSTRIES (CANADA) INC.
Suite 700, 275 Slater Street
Ottawa, Ont. K1P 5H9
Contact: D.P. Wightman, Senior Vice President
Tel: (613) 563-2180
Fax: (613) 233-0399

EDO (CANADA) LIMITED
6320-11 Street S.E., Unit 8
Calgary, Alta. T2H 2L7
Contact: Mr. D.J. Moore, President
Tel: (403) 255-6667
Telex: 03-825895

EBCO INDUSTRIES LTD.
7851 Alderbridge Way
Richmond, B.C. V6X 2A4
Contact: Helmut Eppich, Chairman & CEO
Tel: (604) 278-5578
Fax: (604) 278-7230
Telex: 04-355619

ESNA FASTENERS INC.
2214-46th Avenue
Lachine, Que. H8T 2P3
Contact: Mr. J.A. Campbell, President
Tel: (514) 631-9013
Fax: (514) 631-5641

EXTEC PRECISION MANUFACTURING
21 State Crown Blvd.
Scarborough, Ont. M1V 4B1
Contact: Mr. Leo Doroniuk, Project Manager
Tel: (416) 297-1621
Fax: (416) 297-1885

FRE COMPOSITES
1223 Michael Street North
Suite 350
Ottawa, Ont. K1J 7T1
Contact: Terry Sutherland, President
Tel: (613) 745-4464
Fax: (613) 745-1598

FELL-FAB PRODUCTS
2343 Barton St. E.
P.O. Box 3303, Station C
Hamilton, Ont. L8H 7L6
Contact: Mr. D.R. Fell, President
Tel: (416) 560-9230
Fax: (416) 560-9846
Telex: 061-8673

FIELD AVIATION COMPANY LIMITED
4230 Sherwoodtowne Blvd.
Suite 300
Mississauga, Ont. L4Z 2G6
Contact: Mr. Talbot Boggs, Manager, Advert. & Public. Rel.
Tel: (416) 566-5400
Fax: (416) 566-5411

FLEET INDUSTRIES
P.O. Box 400, Gilmore Road
Fort Erie, Ont. L2A 5N3
Contact: Mr. J. Butyniec, President & General Manager
Tel: (416) 871-2100
Fax: (416) 871-2722
Telex: 0615165

FOOTTIT-MITCHELL AND ASSOCIATES
Suite 807, 77 Metcalfe Street
Ottawa, Ont. K1P 5L6
Contact: C.D. Quarterman, President
Tel: (613) 563-0236
Fax: (613) 594-8985

FRONTEC LOGISTICS CORPORATION
10035 - 105 Street
Edmonton, Alta. T5J 2V6
Contact: Ian D. Hargrave, V.P. Market Development
Tel: (403) 420-8084
Fax: (403) 420-7400

GARRETT CANADA - A DIVISION OF ALLIED SIGNAL
255 Attwell Drive
Rexdale, Ont. M9W 6L7
Contact: Mr. W.C. Tate, Chairman
Tel: (416) 675-1411
Fax: (416) 675-4021
Telex: 06-989142

GASTOPS LTD.
1011 Polytek Street
Gloucester, Ont. K1J 9J3
Contact: Don Murray, Vice President, Marketing
Tel: (613) 744-3530
Fax: (613) 744-8846

GEHRING RESEARCH CORP.
Suite 201, 1200 Bay Street
Toronto, Ont. M5R 2A5
Contact: Bo Gehring, Chairman
Tel: (416) 966-3139
Fax: (416) 966-3551

GENAIRE LIMITED
P.O. Box 84, Niagara District Airport
St. Catharines, Ont. L2R 6R4
Contact: G.R. Wooll, President
Tel: (416) 684-1165
Telex: 061-5145

GENERAL ELECTRIC CANADA INC.
2300 Meadowvale Blvd.
Mississauga, Ont. L5N 5P9
Contact: G.F. Miller, General Manager
Tel: (416) 858-5466
Fax: (416) 858-5612
Telex: 06-22023

GENERAL SYSTEMS RESEARCH INC.
12345 - 121 Street
Edmonton, Alta. T5G 2Z4
Contact: G. Lavold, V.P. Aerospace
Tel: (403) 451-9000
Fax: (403) 451-1975

GODFREY HOWDEN
480 Montreal-Toronto Blvd.
Lachine, Que. H8S 1B8
Contact: A. Dale Hunt, Executive V.P.
Tel: (514) 637-1122
Fax: (514) 636-0273
Telex: 05-821568

GRAPHICO ELECTRONICS GROUP
1100 Bellamy Road N.
Scarborough, Ont. M1H 1H2
Contact: Mr. Curtis S. Bossi, President

Tel: (416) 438-6076
Fax: (416) 438-5961

GRUMMAN CORPORATION
Box 14, Site 8
Enfield, N.S. B0N 1N0
Contact: Mr. D.W. Howell, Director, Canadian Reg. Officer
Tel: (902) 861-1679
Telex: 01931483

HALEY INDUSTRIES LIMITED
Haley, Ont. K0J 1Y0
Contact: Mr. John Schattmann, Director of Finance
Tel: (613) 432-8841
Fax: (613) 432-9456
Telex: 053-3920

HANSON MATERIALS ENGINEERING
7450 - 18 Street
Edmonton, Alta. T6P 1N8
Contact: Sidney H. Hanson, President
Tel: (403) 440-2916
Fax: (403) 440-4175

HARRISON AERONAUTICAL DEVELOPMENT SERVICES
Suite 1025, 130 Slater St.
Ottawa, Ont. K1P 6E2
Contact: J.L. Harrison, President
Tel: (613) 233-8062
Fax: (613) 236-4850

HAVLIK TECHNOLOGIES INC.
Box 3430, 695 Bishop Street
Cambridge, Ont. N3H 4V2
Contact: David M. Gee, President
Tel: (519) 653-5774
Fax: (519) 653-5774

HAWKER SIDDELEY CANADA INC. - ORENDA DIVISION
3160 Derry Road East
Mississauga, Ont. L4T 1A9
Contact: C.M. Hinds, Director of Marketing
Tel: (416) 673-4040
Fax: (416) 678-1538
Telex: 06-968727

HELI-FAB LTD.
250 Cree Crescent
Winnipeg, Man. R3J 2W1
Contact: Mr. R. Haydaman, President
Tel: (204) 889-0942

HERCULES CANADA INC.
4 Robert Speck Parkway
Mississauga, Ont. L4Z 1S1
Contact: Mr. J.S. Cowan, Vice President
Tel: (416) 848-1800
Fax: (416) 848-8128
Telex: 06-960107

HEROUX INC.
755 Thurber Avenue
Longueuil, Que. J4H 3N2
Contact: Mr. E. Desnoyers, Vice President, Marketing
Tel: (514) 679-5450
Fax: (514) 679-4554
Telex: 055-60630

HONEYWELL LIMITED
The Honeywell Centre,
155 Gordon Baker Road
North York, Ont. M2H 3N7
Contact: Mr. D.W. Weind, Defence & Automation Systems
Tel: (416) 499-6111
Fax: (416) 490-3005
Telex: 06-986262

HOWLAND RUSSELL CONSULTANTS LTD.
Suite 910, 200 La Fontaine Avenue
Vanier, Ont. K1L 8K8
Contact: Howdy Russell, President
Tel: (613) 749-0290
Fax: (613) 749-2498

HUGHES AIRCRAFT INTERNATIONAL
#1510 - 55 Metcalfe Street
Ottawa, Ont. K1P 6L5
Contact: Mr. R.N. Casale, Director, Canadian Operations
Tel: (613) 236-2322

I.F.R. ASSOCIATES INC.
Suite 502 - 100 Sparks Street
Ottawa, Ont. K1P 5B7
Contact: Ian F. Rankin, President
Tel: (613) 594-2993
Fax: (613) 594-2996

IMP GROUP LTD. - AEROSPACE DIVISION.
Suite 400
2651 Dutch Village Road
Halifax, N.S. B3L 4T1
Contact: Arch Conner, Director, Marketing
Tel: (613) 729-5210
Fax: (613) 729-1268

IAN S. MacDONALD CONSULTANTS INC.
6 - 67 Linwell Road
St. Catharines, Ont. L2N 1R6
Contact: Ian MacDonald, President
Tel: (416) 646-7991
Fax: (416) 646-3619

INDAL TECHNOLOGIES INC.
3570 Hawkestone Road
Mississauga, Ont. L5C 2V8
Contact: Garry R. Rutledge, President and CEO
Tel: (416) 275-5300
Fax: (416) 273-7004
Telex: 06-961482

INDUSTRIAL MEASUREMENTS LIMITED
3160 Steeles Avenue East
Markham, Ont. L3R 4G9
Contact: Mr. R. Hughes, Division Manager
Tel: (416) 474-1246
Fax: (416) 474-1294
Telex: 06-981421

INNOTECH AVIATION (1986) LIMITED
P.O. Box 130, Cargo Road 'C'
Montreal Int. A/P
Dorval, Que. H4Y 1A6
Contact: Mr. V.R. Bennett, Chairman & Chief Exec. Officer
Tel: (514) 636-8484
Fax: (514) 636-8887
Telex: 05-821856

INTERCON CONSULTANTS
705-275 Slater St.
Ottawa, Ont. K1P 5H9
Contact: F.R. Sharp/Ross Campbell, Partner
Tel: (613) 236-4451
Fax: (613) 230-8707
Telex: 053-3293

INTERFAST INC.
21 Constellation Court
Rexdale, Ont. M9W 1K4
Contact: Mr. S.D. Woollings, President & General Manager
Tel: (416) 674-0770
Fax: (416) 574-5804
Telex: 069-89595

INTERNATIONAL CUTTING TOOLS INC.
10833 Place Moisan
Montreal, Que. H1G 4N6
Contact: Mr. A. Minicozzi, President
Tel: (514) 324-3720
Telex: 05-828658

INTRECAIR SALES INC.
P.O. Box 154 N.D.G.
Montreal, Que. H4A 3P5
Contact: Mr. Alexander Lavendel, President
Tel: (514) 488-3692
Fax: (514) 849-8548

INVAR MANUFACTURING LTD.
1 Parry Drive
Batawa, Ont. K0K 1E0
Contact: Cam Nardocchio, Regional Sales Manager
Tel: (613) 398-6106
Fax: (613) 966-7932
Telex: 06-62255

IRVIN INDUSTRIES CANADA LTD.
479 Central Avenue
Fort Erie, Ont. L2A 5M9
Contact: Mr. J. Swanigan, President
Tel: (416) 871-6510
Fax: (416) 871-6534
Telex: 061-5169

JGW SYSTEMS LIMITED
56 Sparks Street, Suite 100
Ottawa, Ont. K1P 5A9
Contact: Mr. J.G. Wright, President
Tel: (613) 238-5071
Fax: (613) 238-1018
Telex: 053-3314

JOHNSON & HIGGINS WILLIS FABER (AVIATION) LTD.
200 Granville Street
Suite 1700
Vancouver, B.C. V6C 2S2
Contact: Mr. J. Sorel, Vice President
Tel: (604) 681-6141
Fax: (604) 681-9846

K.K. PRECISION PARTS LTD.
119 Oakdale Road
Downsview, Ont. M3N 1W2
Contact: Mr. E. Shahinian, President
Tel: (416) 742-5911
Fax: (416) 742-5166
Telex: 065-27436

LNS SYSTEMS INC.
7 Bovis Avenue
Pointe Claire, Que. H9R 4W3
Contact: Mr. F. Wilton, President
Tel: (514) 695-8130
Fax: (514) 695-8130
Telex: 05821529

LSI LOGIC CORPORATION OF CANADA INC.
Suite 3410
150 - 6th Avenue S.W.
Calgary, Alta. T2P 3Y7
Contact: Brian Mackie, Vice President, Marketing
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Fax: (403) 262-9494

LANSDOWNE INTEGRATED SYSTEMS INC.
72 Chamberlain Avenue
Suite 200
Ottawa, Ont. K1S 1V9
Contact: Mr. M.B. Darch, President
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Fax: (613) 236-4440

LEAVENS AVIATION INC.
2555 Derry Road E.
Mississauga, Ont. L4T 1A1
Contact: C.D. Leavens, President
Tel: (416) 678-1234
Fax: (416) 678-7028

LEIGH INSTRUMENTS LTD.
3001 Solandt Road
Kanata, Ont. K2K 2M8
Contact: Michael A. Rowlands, V.P. Marketing
Tel: (613) 591-3220
Fax: (613) 591-0945
Telex: 053-3554

LHOTELLIER CANADA INDUSTRIES INC.
700 Mont Richard, Box 87
Iberville, Que. J2X 4J5
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Fax: (514) 346-2369

LITTON SYSTEMS CANADA LIMITED
25 City View Drive
Etobicoke, Ont. M9W 5A7

Contact: H. Sievert, Vice-President, Marketing
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Fax: (416) 246-5488
Telex: 06-989406

LOCKHEED CANADA INC.
2421 Lancaster Road
Ottawa, Ont. K1B 4L5
Contact: Mr. E.J. Laurent, Director
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Fax: (613) 738-4510
Telex: 053-4243

LUCAS INDUSTRIES CANADA LTD. - AEROSPACE DIVISION
5595 Royalmount Avenue
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Contact: Mr. N.D. Jackson, Manager, Marketing
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Fax: (514) 342-2047
Telex: 055-61115

M.E.L. DEFENCE SYSTEMS LTD.
1 Iber Road, P.O. Box 90
Stittsville, Ont. K0A 3G0
Contact: E. Derbyshire, Director, Corporate Development
Tel: (613) 836-6860
Fax: (613) 836-6566
Telex: 053-3944

MBB HELICOPTER CANADA LIMITED
P.O. Box 250
1100 Gilmore Road
Fort Erie, Ont. L2A 5M9
Contact: Mr. R.W. Harwood, Vice President & Gen. Manager
Tel: (416) 871-7772
Fax: (416) 871-3320
Telex: 061-5250

MDS AERO SUPPORT CORPORATION
1351 Newton Street
Boucherville, Que. J4B 5H2
Contact: Mr. H. Odoefer, President
Tel: (514) 655-8295
Telex: 05-25154

MHD INTERNATIONAL AVIATION PARTS INC.
737 Meloche Avenue
Dorval, Que. H9P 2S4
Contact: Charles B. Dollimore, President
Tel: (514) 631-1870
Fax: (514) 631-8502
Telex: 05-823562

MIL GROUP
7th Floor, 1600 Carling Avenue
Ottawa, Ont. K1Z 8R7
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Fax: (613) 722-3505
Telex: 05-34924

MPB TECHNOLOGIES INC.
1725 North Service Road
Trans-Canada Hwy.
Dorval, Que. H9P 1J1
Contact: Dr. Morrel P. Bachynski, President
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Fax: (514) 683-1727
Telex: 05-823509

MPR LIMITED
8999 Nelson Way
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Telex: 04356628

MacDONALD DETTWILER AND ASSOCIATES
13800 Commerce Parkway
Richmond, B.C. V6V 2J3
Contact: Dr. J.S. MacDonald, Chairman
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Fax: (604) 273-9830
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MAGNUS AEROSPACE CORPORATION
628 Walkley Road
Ottawa, Ont. K1V 6R9
Contact: Mr. P. Stockton, Chief Executive Officer
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MANUFACTURING SYSTEMS DESIGN INC.
74 Alex Avenue
Woodbridge, Ont. L4L 4K6
Contact: Mr. D. Christensen, Vice President, Marketing
Tel: (416) 851-7751
Fax: (416) 851-7515
Telex: 06-964805

MARTIN MARIETTA CANADA LTD.
Suite 1450
50 O'Connor Street
Ottawa, Ont. K1P 6L2
Contact: Mr. W.E. Griffin, President
Tel: (613) 232-6430
Fax: (613) 232-6698
Telex: 053-3399

McDONCO MACHINE LIMITED
981 Helena Street
Fort Erie, Ont. L2A 4K2
Contact: Mr. A. Doneff, President & General Manager
Tel: (416) 871-3219
Fax: (416) 871-2380

McDONNELL DOUGLAS CANADA LTD.
P.O. Box 6013
Toronto AMF, Ont. L5P 1B7
Contact: A.B. Bennett, Secretary
Tel: (416) 677-4341
Fax: (416) 673-4328
Telex: 06-968825

MECAERO CANADA INCORPORATED
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Fax: (514) 745-7694

MENASCO AEROSPACE LTD.
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Fax: (416) 825-1583
Telex: 06-982244

METRO MACHINING CORPORATION
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Montreal, Que. H1Z 3N6
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Telex: 05-25575

NOVATRONICS INC.
677 Erie Street, P.O. Box 610
Stratford, Ont. N4Z 1A1
Contact: Rodney I. Jones, Exec. V.P. & General Manager
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Fax: (519) 271-9781
Telex: 06-955394

NYAB VICOM
675 Development Drive
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OERLIKON AEROSPACE INC.
1902-130 Albert Street
Ottawa, Ont. K1P 5G4
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1300 St. Patrick
Montreal, Que. H3K 1A4
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Tel: (514) 931-6061
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Valdilocchi 15, Italy 270368
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Tel: (018) 753-0111

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Rexdale, Ont. M9W 4Y8
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Ottawa, Ont. K1P 6L5
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6111 Royalmount Avenue
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Contact: Mr. B.J. Van Fleet, Director of Marketing
Tel: (514) 340-8310
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PATLON AIRCRAFT & INDUSTRIES LIMITED
5502 Timberlea Blvd.
Mississauga, Ont. L4W 2T7
Contact: Patrick Mann, President
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PELORUS NAVIGATION SYSTEMS INC.
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Telex: 069-81352

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Kanata, Ont. K2M 1P6
Contact: Mr. J. Prior, President
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Telex: 05-33356

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Contact: Scott Brown, Marketing Manager
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Woodbridge, Ont. L4L 4A3
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ROBIN AEROSPACE PRODUCTS LTD.
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Fax: (416) 673-6350
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Telex: 06-963573

ROHDE AND SCHWARZ CANADA INC.
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Fax: (613) 592-8009
Telex: 053-3662

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ROTO PRECISION INC.
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Fax: (613) 727-1750

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Fax: (416) 847-7299

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Telex: 053-4981

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Telex: 053-4184

THE H.I. THOMPSON COMPANY
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Guelph, Ont. N1H 6M6
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Fax: (519) 822-7806
Telex: 06-956665

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Montreal, Que. H2Z 1Z3
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Fax: (514) 866-0795
Telex: 055-60042

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Fax: (613) 594-8985

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Ottawa, Ont. K1R 7S8
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Fax: (613) 237-7347
Telex: 053-4238

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Contact: J.A. Belanger, Vice President
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Tel: (416) 364-5171
Fax: (416) 364-3451
Telex: 06-218677

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Arlington, VA. 22202
Contact: Mr. P. Underwood, President
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Fax: (703) 860-9600

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Telex: 058-39598

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200 Saulteaux Crescent
Winnipeg, Man. R3J 3W3
Contact: Glenn E. Johnson, Director, Canadian Operations
Tel: (204) 888-4222
Fax: (204) 885-4334

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47 Racine Road, Unit 10
Rexdale, Ont. M9W 6B2
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Telex: 06-989437

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Guelph, Ont. N1H 6L3
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WALBAR CANADA INC.
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Contact: Richard A. Neill, President & General Manager
Tel: (416) 625-2880
Fax: (416) 625-6030

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600 - 6725 Airport Road
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Contact: Mr. E.C. Card, Vice President, Toronto Office
Tel: (416) 673-3788
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Tel: (519) 727-6666
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AIT Corp.

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AIT Advanced Information Technologies Corporation is a privately-owned Canadian company, founded in 1973. Corporate headquarters are located in a 30,000 sq.ft. secure facility in Nepean, Ontario that also houses the R & D centre and the manufacturing plant. U.S. sales and service are provided by a subsidiary headquartered in Chantilly, Virginia; International sales through a network of representatives worldwide.

WINDII (Wind Imaging Interferometer)

WINDII is designed to measure atmospheric winds, temperatures and airglow intensities in the 75 to 320 km altitude region from low-earth orbit using a precision Michelson interferometer. A fully qualified flight instrument is to be delivered to NRCC for installation and launch aboard NASA's Upper Atmospheric Research Satellite (UARS).

In parallel, AIT is producing a Remote Analysis Computer for use by the Primary Investigator's team in commanding WINDII operations, providing health and quick-look data and processing down-linked raw data.

NATSIM (Networked Air Traffic Simulator)

NATSIM is an advanced menu-driven radar display simulator used for Air Traffic Control training.

The software allows maximum flexibility for each user's training needs. Multi-position/multi-sector or independent/single-position exercises can simulate the environment of an ATC Centre. Aircraft radar tracks on the student's workstation are generated from remote pilot positions which also have direct verbal contact with the student. The software can be tailored to each individual site or training requirement for civilian or military applications and encompasses a 'playing area' of up to 1000 x 1000 nmi. with provision for 100 active aircraft per exercise.

Airport and navigation aid parameters and performance data for over 150 aircraft types can be stored in the data base. The map files and data base are easily modified to investigate alternate routing or air space boundaries for traffic scheduling.

Radar Technology

AIT specializes in the modelling and simulation of sophisticated radars to determine their performance in a variety of operational and climatic scenarios. Current activities include modelling of empirical clutter data by landform, optimization of multi-function radar parameters for the NATO Anti-Air Warfare System, extensive software development for radar tracking of low flying objects, and validation of tracking software for civilian air space surveillance radars.

Computer Security

A general purpose expert system shell is being prepared to assess threat and assist in risk management. The prime thrust is for enchanced computer security, but the model may be applied to other situations.

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Expert system technology is being applied to the scanning of correspondence to automatically determine key data such as originator, addressee, subject, file number, sender, etc. Forms also are being scanned and examined automatically for completeness and correctness.

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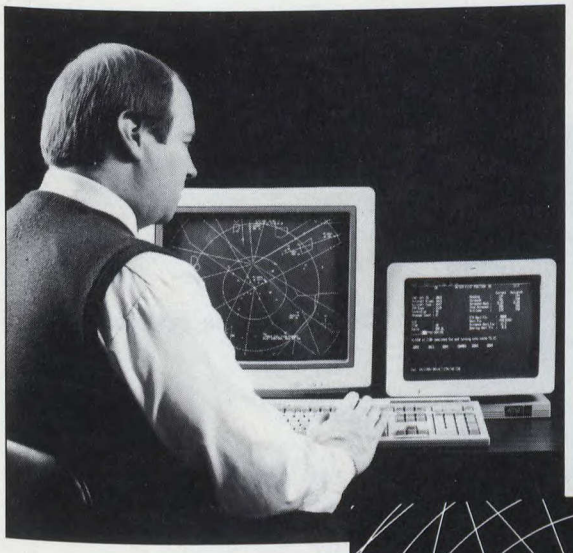
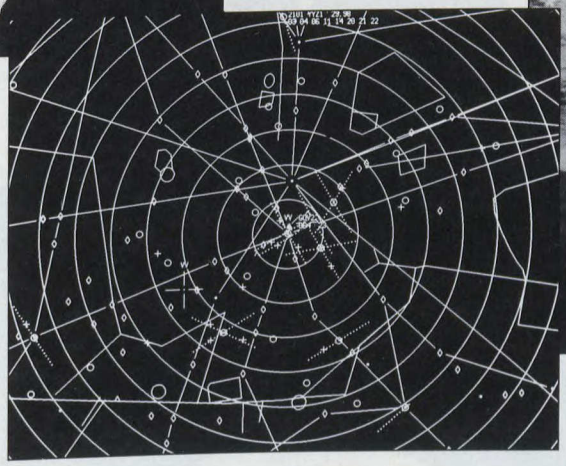
In addition, AIT is the world leader in issuance and inspection (control) systems for Machine Readable Documents such as Passports, Visas and Identity Cards.



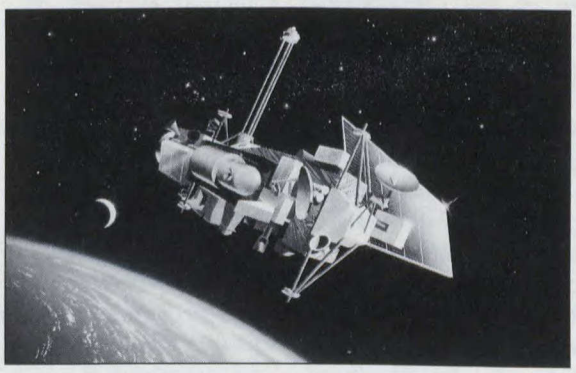
NATSIM simulates real airspace maps and aircraft in flight to support terminal or enroute training.



NATSIM
Site data bases represent any combination of airspace sectors associated with given airports or control centres. The system hardware and software can be tailored to any individual site or training requirement for civilian or military applications. It encompasses an unlimited playing area with provision for several hundred aircraft per exercise.

Radar performance evaluation by simulation is provided to a variety of clients.
Photo courtesy of DND.

AIT is proud to participate in UARS (Upper Atmospheric Research Satellite).
Illustration courtesy of NASA.



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AIT
CORPORATION

The Aerospace Consortium Inc.

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Mississauga, Ontario
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TELEPHONE: (416) 670-1070
FAX: (416) 670-1695

Principal Contact:
W.H. Reil - PRESIDENT

The Aerospace Consortium is a group of Canadian aerospace companies who together possess an extensive array of engineering and manufacturing capabilities which are collectively offered to potential customers through a single source.

Consortium members can provide a range of subcontract services which in combination enable the group to furnish competitively priced, complete assemblies or subassemblies from one responsible source.

Member companies can provide any or all of the following services from their combined resources:

- Precision machining of conventional and exotic materials
- Mechanical assembly work
- Electronic system assembly
- Communications systems design and manufacture
- Repair and overhaul of electronic/communications systems
- Specialty light metal fabrication
- Fibreglass filament winding
- Hydraulic components and subsystems
- Pneumatic components and subsystems
- Program management
- ILS services and software development

One of the consortium's principal avenues of business development is to establish working relationships with overseas companies who wish to enter into technology transfer agreements or other joint venture/development arrangements with Canadian firms. The multi-talented consortium members can undertake the total manufacture and support of complex systems and products for both domestic and export markets.

The single point contact with the consortium provides customers with a link to several business concerns thus enabling prime contractors to discharge industrial benefit (IB) obligations efficiently and effectively.

Typical of the products and systems that the consortium is capable of manufacturing include elements of the following:

- Military and Commercial Aircraft
- Navigational Systems
- Communications Systems
- Radar Systems
- Air, ground and shipboard antenna systems
- Control systems
- Guidance systems
- Electronic processing systems
- Surveillance Systems

Member companies of the consortium have established Quality Assurance programs which meet the following specifications:

- AQAP-1
- AQAP-4
- MIL-Q-9858A
- MIL-I-45208A
- plus numerous customer invoked "house" standards.

Shock vibration, environmental and functional testing is undertaken in special facilities owned by member companies.

Member companies of the consortium are export oriented and are fully conversant with the intricacies of working on major programs and the management of large contracts.

Detailed information on member companies of the consortium and their respective capabilities is available on request.

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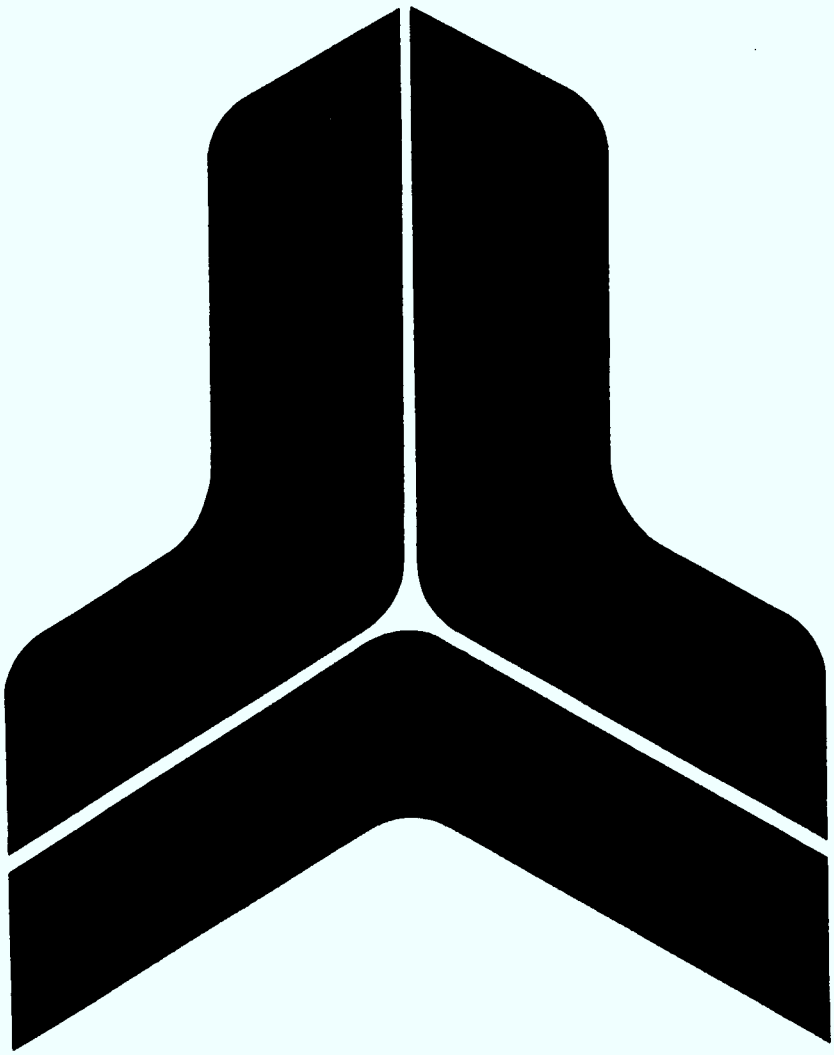

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Aerotech Advertising provides strategic programs in marketing communications, advertising, public relations, corporate affairs and a variety of support services:

- trade show support,
- audio-visual and video production,
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- communication planning

for Canadian and international firms in the aerospace, defence and high technology industries.

Among the 'products' Aerotech provides are advertisements, news releases, news conferences and media information programs, sales kits, product and capability brochures, direct marketing programs, briefing documents, special events, trade show exhibits and displays.

Aerotech has gained considerable experience supporting companies competing for large Canadian government capital programs, including those for civil air traffic control radar and data processing systems, low-level air defence, tactical communications, command and control systems, and electronic warfare simulation and training systems, among others.

Current assignments include assisting the marketing efforts of a manufacturer of shipborne helicopter handling and support systems, a major Canadian airframe manufacturer, a leading computer manufacturer and a high technology aviation engineering, services and management company. For the Canadian federal government's Department of External Affairs foreign trade section Aerotech has managed promotional activities for the 40-company Canadian contingent at the Paris Air Shows in 1985, 1987 and 1989. The Company also performed promotional and media relations services for the official Canadian contingent at the Farnborough International Air Show in 1988.

Aerotech Advertising's senior staff members have amassed over 50 years of aerospace experience and have occupied responsible positions in the Canadian industry.

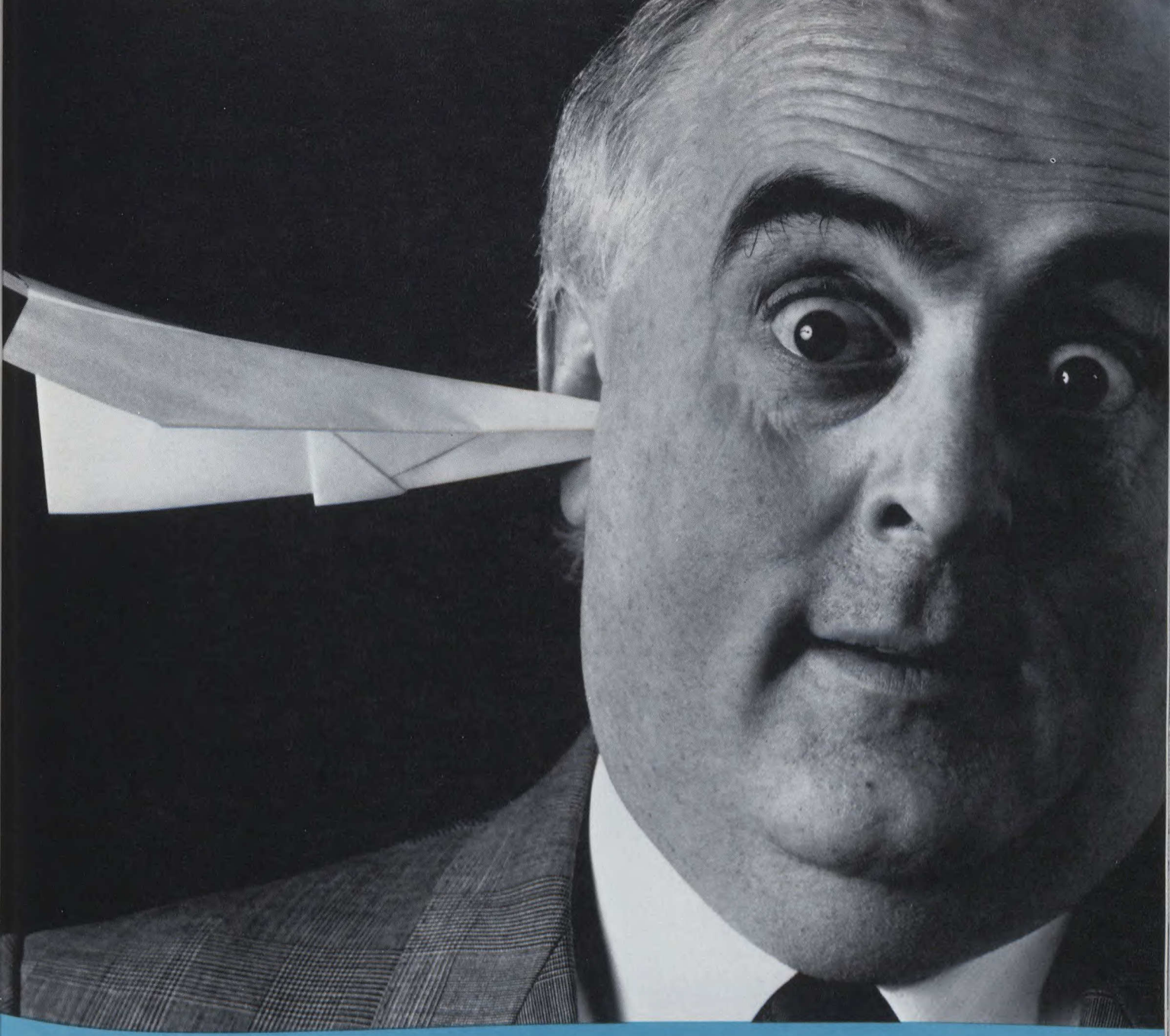
Company personnel have frequently been called upon to assist clients' strategic marketing efforts in other countries. As a result, Aerotech has built up numerous contacts in both the media and communications communities in a number of countries, working either through a local contact, or directly on the client's behalf. Outside Canada, company personnel have worked in, or provided communications services into the U.K., Sweden, France, Italy, the U.S., and Australia.

Aerotech Advertising offers a wide range of support services, including a fully-equipped art department, media research, planning and buying services, news and special event photography, audio-visual and video production facilities and expertise, exhibit design and construction, computer database research, and opinion and attitude research. Where required, Aerotech Advertising can assist in retaining expertise in government consulting.

Aerotech Advertising is a member of the Solcom Group, a wholly Canadian-owned communication company whose other divisions specialize in: consumer advertising (Ian Roberts Advertising); public relations (Tempus Communications); recruitment advertising (CV Advertising); and, sales promotion (Motif Communications).

Aerotech Advertising has offices in Toronto, Montreal and Saint John, New Brunswick, and affiliates in Ottawa and Vancouver.

Montreal office:
1255 rue Université
Montréal, Québec H3P 3X3
TELEPHONE: (514) 393-1080
FAX: (514) 874-1900



Aerotech helps make your point.

Getting your message across, that's the whole point.

Unfortunately, life isn't as simple as plugging your story into the customer's waiting ear.

That's where Aerotech comes in. We help aerospace, defence and high technology companies deliver their often-complex messages to carefully targeted audiences in industry, government and media.

We can help identify and locate your audience.

We can shape and focus your message to make it memorable.

And we help deliver your message – on-time, on-target and on-budget.

We are capable, committed, cost-effective, and not afraid to take a new approach.

We believe that our experience and enjoying what we do make a real contribution to the success of our clients' work.

Aerotech • Advertising • Public Relations • Marketing Support • Audio-Visual

We'll make your point.

Aerotech Advertising
One Eglinton Avenue East
Toronto, Ontario M4P 3A1
Tel: (416) 480-1689
FAX: (416) 481-6407

Aerotech Advertising
1255 rue University
Montreal, Quebec H3B 3X3
Tel: (514) 393-1080
FAX: (514) 874-1900

Offices in Toronto, Montreal, Saint John.
Affiliates in Ottawa and Vancouver.

AEROTECH
ADVERTISING

Aircraft Appliances and Equipment Limited

150 East Drive
Bramalea, Ontario L6T 1C1
TELEPHONE: (416) 791-1666
TELEX: 069-7510
FAX: 416-791-7218

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PRESIDENT & GENERAL MANAGER: W.J. White
EXECUTIVE VICE-PRESIDENT: B.T. Dawson
DIRECTOR Q.C. OPERATIONS: C.J. Stanislow
VICE PRESIDENT, OPERATIONS: J.D. Young

Aircraft Appliances and Equipment Limited (AAE) is located at 150 East Drive in Brampton. The company manufactures, repairs, overhauls, and distributes equipment for aircraft and ships. Firms with which it deals include such commercial accounts as de Havilland Aircraft of Canada Limited, Canadair Limited, Strong Electric, Lealand, 3M, GE, Teledyne, and the contractors for the Departments of National Defence in Canada and the United States.

AAE, a privately owned Canadian company, was founded and incorporated under an Ontario charter in 1949 by L.V. Myslivec, the present chairman of the board. Initially its principal operation was the repair and overhaul of aircraft accessories and the distribution of aircraft electrical product accessories to Canadian owners and users of aircraft built by U.S. companies.

In 1959 the firm designed and began the manufacture of fuel filters and also pioneered the development of coalescers for the separation of water and solid contaminants from lubricating and fuel systems for marine gas turbine power plants. The design and manufacture of aircraft tachometer generators commenced in 1966. These generators meet all the requirements of MS 25038-1, -2, -4, and GEU-7/A. They are primarily designed to provide power for speed-indication systems in aircraft, including helicopters for both military and commercial application. AAE has also designed and manufactured voltage regulators again for both military and commercial use. They have been used in helicopters for over-voltage sensing and for Ground Power Units.

The Repair and Overhaul Division is a Department of National Defence and Ministry of Transport-approved facility for the repair and overhaul of commercial and military aircraft equipment, ground support equipment, power supplies, generator test stands, and test equipment of all kinds. The division services automatic flight controls, sensing devices, electrical power system components, pumping systems components, ground power units, motor generators, and fuel test stands.

In the field of avionics testing equipment, the company offers a Universal Avionic Component Tester, a self-contained manual tester with flexible capability, power control, signal service, and measuring devices. It also repairs, overhauls, and rewinds stators, armatures, and rotors for aircraft rotating equipment. Among the items produced for the Department of National Defence are three conversions of existing DND test stands to enable testing of the VSCF generator system on the Canadian Forces fighter-aircraft, the CF-18.

More than 30 years' experience in research and development by the Fluid Power Division has resulted in the installation of AAE equipment on many U.S. and Canadian naval ships. Installations range from simple in-line filters to duplex coalescers that automatically change over from clogged filter elements to clean ones. They come complete with service indicators, pressure and temperature gauges, heaters, automatic level controls, safety locks, and other features. The equipment can accommodate flow rates from 0.1 g.p.m. to 200 g.p.m., and many designs meet rigid military standards for shock and vibration.

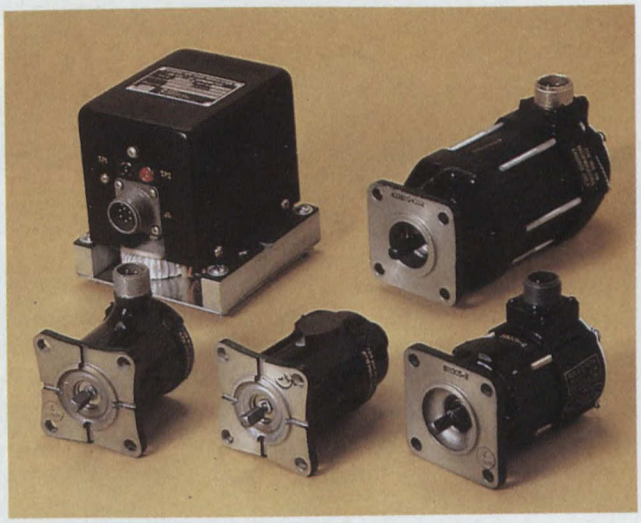
Several patented designs are available in different alloys to cope with the most demanding shocks — from arctic vessels to the high-frequency vibrations of hydrofoils and surface-effect ships. Micronic filters and pipeline strainers have been produced for the most advanced navies in the world. Major filtration systems are being supplied to all U.S.-built frigates and destroyers and to Canadian frigates.

The Technical Sales and Service Division functions as a stocking distributor for products manufactured by others. Selling equipment to the Canadian aerospace industry, this division has distribution rights for aircraft electrical, avionics, and fuel accessories produced by divisions of leading component manufacturers.

Items include AC/DC generating systems, pitch trim actuators, controllers, heading reference units, land navigation, muzzle velocity radar, radar antennae, display and transceiver units, fuel booster, and lube and scavenge pumps. In addition, a line of RFI/EMI filters are available, and, for industrial applications, the division handles self-lubricating bearings and air-conditioning systems for commercial and military aircraft.

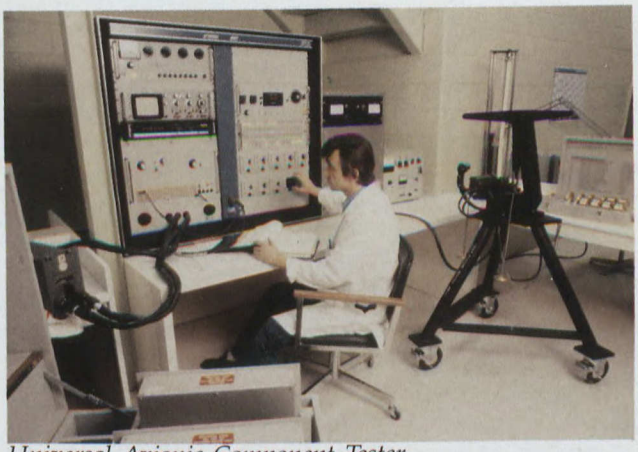
Products and Services

Duplex prefilters.

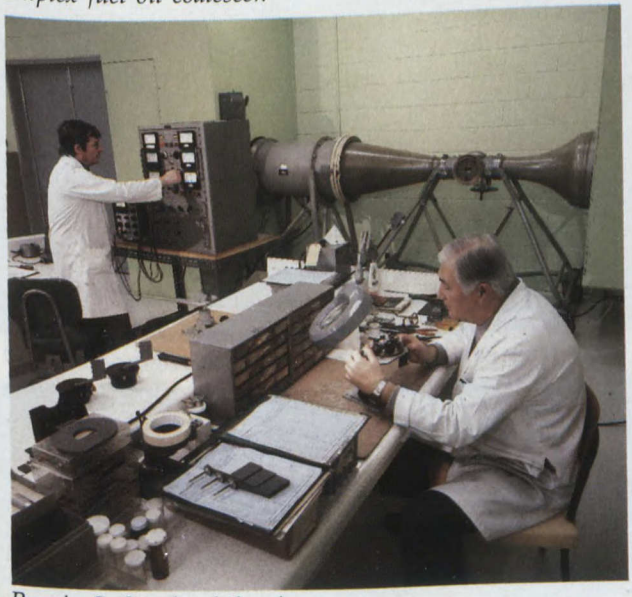


Tachometer Generators & Voltage Regulators.

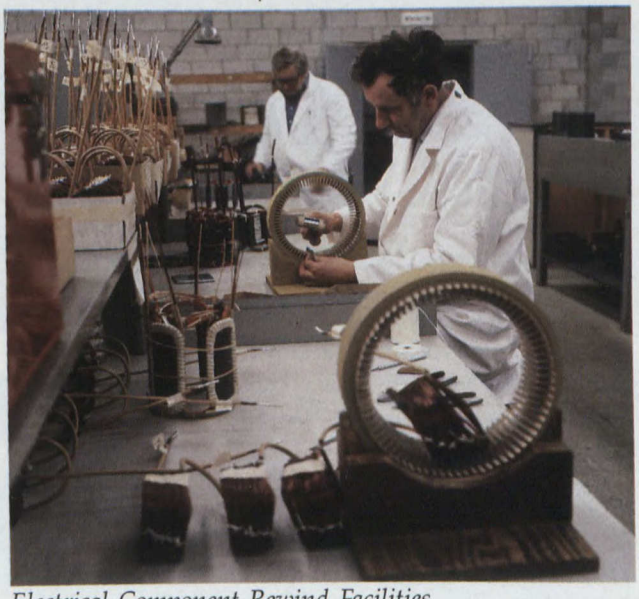
Duplex fuel oil coalescer.



Universal Avionic Component Tester.



Repair & Overhaul Services.



Electrical Component Rewind Facilities.

Andrew Canada Inc.

606 Beech Street West
Whitby, Ontario L1N 5S2
TELEPHONE: (416) 668-3348
TELEX: 06-981269
TWX: (610) 384-2754
FAX: (416) 668-8590

PRESIDENT: Hugh J. Swain
BUSINESS DEVELOPMENT MANAGER, COMMERCIAL PRODUCTS: Alex R. Mackenzie
BUSINESS MANAGER, GOVERNMENT PRODUCTS: Kevin M. Psutka
MANAGER, MARKETING: George Tong

Andrew Canada Inc., established in Canada in 1953, is a supplier of antennas and ancillary components for military and government needs; as well as terrestrial microwave and earth station antenna systems, transmission lines and related equipment such as towers and shelters, for the communications industry. Applications include both fixed and transportable tactical military satellite communications systems, radar systems and defence communication systems, including HF and naval systems.

Andrew Canada is a subsidiary of Andrew Corporation of Orland Park, Illinois, U.S.A., a multinational firm with 50 years of antenna engineering and manufacturing experience. From its first directional broadcast arrays to the current state-of-the-art satellite earth station and radar/navaid antenna systems, Andrew has grown in physical size and technical capability.

Andrew's main manufacturing facility and headquarters are located in the town of Whitby, Ontario, 25 km east of Toronto. A second property at Ashburn, 20 km north of Whitby, has a radar antenna assembly building and a modern antenna pattern range. Currently 230 people staff the Canadian operation. The company is organized into six major departments: research and development, manufacturing, sales and marketing, materials management, field service and quality control.

The company's manufacturing facilities include metal spinning, stretch forming, welding, machining, silver brazing, soldering, metal finishing and painting. There are assembly and electrical test departments and packing and crating facilities. Andrew has a full complement of CNC machines, including a 30 tonne CNC punching machine. Facilities also exist for the assembly of coaxial cables and elliptical waveguide. All purchasing and manufacturing operations are monitored and controlled through the use of an on-line Manufacturing and Production Information Control System.

The company's main plant consists of factory and office space totalling 8,035 square metres, with about 4,900 square metres being devoted to manufacturing operations. The company has the capability to construct any antenna up to 10 metres in diameter. In addition, high bay areas are available at the main manufacturing facility and in the 540 square metre Ashburn radar assembly building for the manufacture of antennas requiring large specialized tooling, such as the 14 metre L-band radar antennas.

Andrew Canada has developed extensive engineering and test resources for the design and testing of specialized antenna systems to meet specific customer requirements. Research and development facilities include a near field anechoic chamber, a model shop and a fully equipped far field antenna test range with a computerized 3-axis positioner and data collection system. Research is currently being conducted from 4 MHz for HF antennas up to 44 GHz for military satellite communications.

Andrew's quality assurance program meets AQAP-1 and AQAP-4 military specifications and equivalent international standards to comply with Canadian, U.S. and other government agency requirements.

The field service department offers a comprehensive customer service package, including program management, delivery, site civil works, tower erection and antenna assembly and installation, system testing and guarantees.

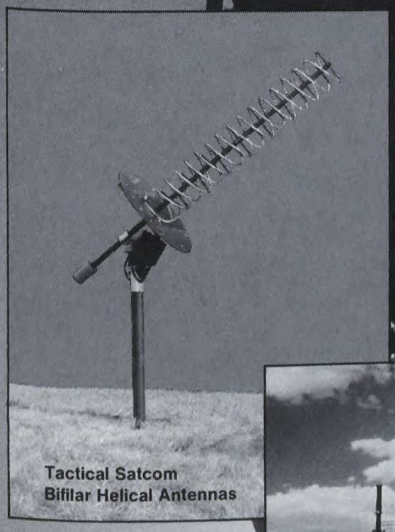
Current programs include participation in the Next Generation Weather Radar Program (NEXRAD), communications for the North Warning System (NWS), the Canadian Radar Modernization Project (RAMP), the Canadian Tribal Class Update and Modernization Project (TRUMP), the Canadian Patrol Frigate Program (CPF), the AN/TRC-170 (V2) Troposcatter System and the AEGIS Program.

Andrew Canada Inc. has the capability to provide complete program management and turnkey installations from systems concept, through engineering and manufacturing, to installation and commissioning.

ANDREW

We've broadened our horizons and changed our name...

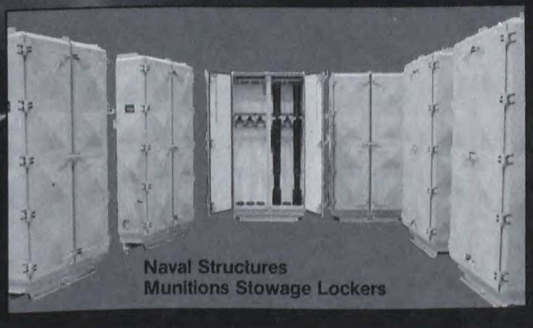
but we are still committed to
Quality
Reliability
Performance



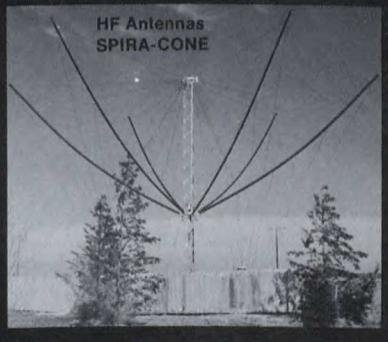
Tactical Satcom
Bifilar Helical Antennas

Tactical Antennas
AN/TRC-170 (V2)
Troposcatter System

Naval Structures
SHIELD II Decoy Missile Launchers



Naval Structures
Munitions Stowage Lockers



HF Antennas
SPIRA-CONE

ANDREW CANADA INC.

606 Beech Street West, Whitby, Ontario, Canada, L1N 5S2
Phone: (416) 668-3348 Toronto (416) 364-4336
FAX: (416) 668-8590 Telex: 06-981269 TWX: 610-384-2754

Atlantis Aerospace Corporation

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Brampton, Ontario
L6T 5E6
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FAX: (416) 792-7251
TELEX: 06-986766

MANAGING DIRECTOR: Dale Simmons
SIMULATION SYSTEMS, LAND & SEA: Carl Byers
SIMULATION SYSTEMS, AIR: Chris Lehman
TEST EQUIPMENT: Doyle Stinnett

Atlantis has earned an excellent reputation for quality and performance in the international aerospace community. The company has emerged as a leader in the application of leading edge technologies to demanding aerospace environments.

Training Systems Group

The Training Systems Group develops maintenance and operational simulation systems for air, land, and sea applications. The Group has produced training technology as diverse as a Cockpit Procedures Simulator for the Canadair Challenger and a Live Fire Video Based Training System for Armoured Vehicles.

An extensive background in maintenance simulator development includes trainers for the Canadian Forces CF-18, Royal Australian Air Force F/A-18, Boeing Vertol H-46 helicopter, and Boeing E-6 aircraft. Atlantis maintenance training systems are in use by the U.S. Navy and Marine Corps, Royal Australian Air Force, and the Canadian Armed Forces.

In the near future, the U.S. Air Force will be employing Atlantis-designed Integrated Aircraft Maintenance Training Systems for troubleshooting and fault diagnostics training on the F-15E aircraft. Developed by Atlantis under contract to McDonnell Douglas, these training systems will incorporate interactive laser video disk technology, mathematically modelled test equipment, and instructor selected system faults.

Atlantis has also designed HELIOS, a state of the art operational procedures simulator built around the OH58/Bell Jet Ranger III for instrument flight training, operational procedures training, and emergency procedures training. HELIOS is designed to be easily tailored to a variety of helicopter and light aircraft airframes and avionics suites.

The Canadian Navy is providing submarine weapon system training using an Atlantis designed submarine Fire Control System Trainer which incorporates MK37 and MK48 torpedo simulations. A live fire Video Training System, currently in use by the Canadian Army, has been designed to be used with a variety of weapon systems, including the Leopard 1 and 2 MBTs, M1 and M1A1 MBTs, M2/M3 Fighting Vehicle, and TOW II missile system. Additional applications are also feasible for this system incorporating real time thru-sight video monitoring and range observation.

Test Equipment Group

The Test Equipment Group has developed technology ranging from avionics interface panels to sophisticated digital test equipment.

MIL-STD-1553 A/B Bus testing capability is represented with the DCM-1553, designed as a user friendly interface for performance evaluation and troubleshooting of LRU's on -1553 Bus aircraft. The DCM-1553 is presently in use with the airforces of Australia, Canada, and the United States.

The Group's DRA-707 and ARA-552 digital and analog radio altimeter Ramp Simulators can interface to virtually all commercial altimeters in service, and are in use with major international airlines. Boeing Seattle has purchased several of these units for its mobile test vans, used to perform pre-delivery aircraft system checks.

A complete line of dedicated ARINC 429 test equipment is also offered, designed to support the new digital commercial aircraft such as the Boeing 757/767. All applications from the bench to the flight line are covered, including ATE configurations.

Instrumentation/Control Group

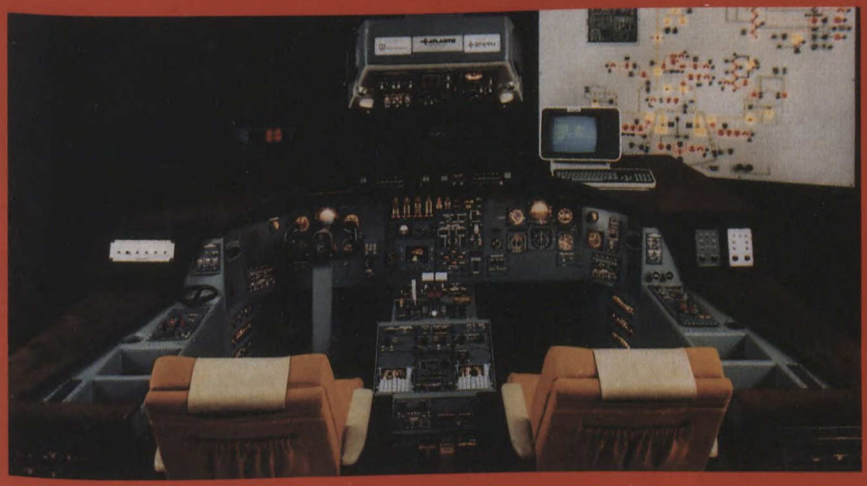
The Instrumentation/Control Group at Atlantis has been responsible for the development of a complete line of guidance and control systems for use in a large variety of Remotely Piloted Vehicles (RPV) and target drones. These include the ROBOT-X target drone produced in cooperation with DRES and Boeing of Canada, Winnipeg.

This group has also produced the electronics portion of the Muzzle Reference System (MRS) for the Leopard 1 MBT. This system provides the Fire Control Computer with electronic compensation for thermal gradients along the gun barrel.

Products and Services

INSTRUMENTATION & CONTROL SYSTEMS

Atlantis produces a complete line of guidance and control systems for RPVs and targets, including the ROBOT-X target drone.

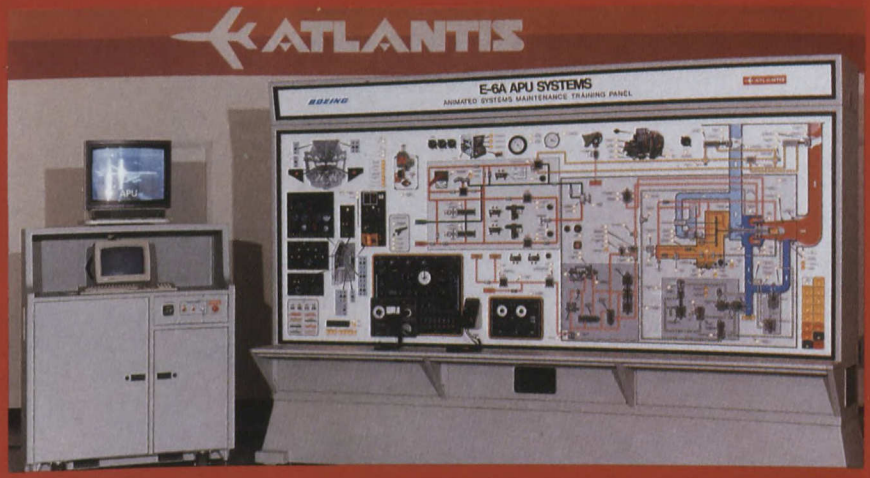


OPERATIONAL & PROCEDURES SIMULATORS

The Canadair Challenger Cockpit Procedures Simulator is one of a variety of simulator types manufactured by Atlantis for air, land and sea elements.

MAINTENANCE TRAINING SYSTEMS

Atlantis is an industry leader in the production of state-of-the-art, free-play simulators designed specifically to enhance transfer-of-training for maintenance technicians.



DCM-1553 DIGITAL BUS COMMUNICATOR

The DCM-1553 is one element of a complete line of commercial and military digital test equipment, supporting all applications from the bench to the flight line.

Atlas Alloys

161 The West Mall
Etobicoke, Ontario M9C 4V8
TELEPHONE: (416) 622-3100
FAX: (416) 622-8732

AEROSPACE & DEFENCE GROUP
MANAGER: Wayne D. Phillips
SALES CO-ORDINATOR: Timothy J. Hardman

A distributor of special metals for more than 50 years, Atlas Alloys is a Division of Rio Algom Limited and a member of the international RTZ Corporation PLC group of companies.

The company generates 13 metal centres across Canada which combine more than 500,000 sq.ft. of warehousing, pre-processing and office space . . . and store close to 40 million pounds of metals in more than 35,000 inventory items.

Dependable service to Canada's aerospace community has been a top priority at Atlas Alloys ever since the company became a major distributor of aircraft-quality aluminum in the early 1950s.

Today, this function is carried out by the aerospace and Defence Group — a team of inside and outside sales specialists who provide coast-to-coast service from 13 locations.

Special People Serving Special Needs

Atlas Alloys' Aerospace and Defence Group offers you:

- Prompt deliveries from Canada's largest and most diversified stocks of aerospace alloys for commercial and military applications
- Many grades and sizes in aluminum, stainless steel, high nickel alloys and alloy steels to aerospace and federal specifications
- Products of assured quality. Stringent standards of inspection by Atlas Alloys' Quality Control Department, a separate operation staffed by qualified inspectors, ensure that materials conform fully to specifications and any special customer requirement.
- Full traceability of metals. Complete test report coverage for every shipment of specification materials
- Production-ready materials. In-plant services include:
  CNC plate sawing to size
  Do-ALL shape sawing
  Sheet shearing
  Precision bar cutting
  Machine-applied protective coatings
  Special packaging of materials to meet military or other specification requirements

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T6E 4N7
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Fax (514) 695-5990

Saint John
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Fax (506) 635-8142

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N7V 4G5
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Fax (519) 336-0797

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Fax (306) 931-3474

Sudbury
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Fax (705) 692-3970

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Thunder Bay, Ont.
P7C 5V8
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Fax (807) 623-6794

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161 The West Mall
Etobicoke, Ont.
M9C 4V8
Tel. (416) 622-3100
Fax (416) 622-8732

Vancouver
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Vancouver, B.C.
V5R 5B2
Tel. (604) 437-3731
Fax (604) 434-3191

Windsor
3282 St. Etienne Blvd.
Windsor, Ont.
N8W 5E1
Tel. (519) 974-9868
Fax (519) 974-6529

Winnipeg
1424 Willson Place
Winnipeg, Man.
R3T 0Y3
Tel. (204) 284-4480
Fax (204) 284-9910

Products and Services

Technical consultation with engineers at customer's plant.

Precision sawing of aluminum plate.

Hem saw cuts disc from alloy steel bar.

Protective coating of aircraft sheet.

Aviation Planning Services Limited (APS)

800 René-Lévesque Blvd., West
Suite 1420
Montreal, Quebec H3B 1X9
TELEPHONE: (514) 878-4388
TELEX: 05-24371
FAX: (514) 861-6310

VICE PRESIDENT OPERATIONS AND MARKETING:
K. R. Singh
VICE PRESIDENT FACILITIES AND AIRPORT PLANNING:
R. Drabinsky

Aviation Planning Services (APS) was formed in 1967 to provide professional consulting services to all sectors of the aviation industry. Since its inception, the company has performed approximately 360 projects for over 100 clients in 27 countries outside of Canada and the United States. Major activities are directed toward commercial air transportation, airport planning, training, aviation system planning and development programs for industry and government.

The multi-disciplinary staff consists of specialists in engineering, flight operations, airline economics, computer science, aircraft maintenance, information systems, aircraft noise impact, and aviation products marketing. APS project supervisors average more than 25 years of aviation experience, both in industry and consulting services. The firm is dedicated to keeping pace with the latest developments in all facets of the industry and maintains an up-to-date library of research reports and aviation statistics.

Among its many successful endeavours, APS developed a technique for the use of aircraft flight simulators equipped with computer generated imagery for the evaluation of prospective airports.

As consultants to the airline industry, the firm has also developed a number of procedures in the sizing of new maintenance and overhaul facilities, which have been utilized on both domestic and overseas projects.

The firm is currently providing marketing and engineering assistance to Canadair for the Regional Jet, a 50 seat derivative of the corporate aircraft. The firm has recently completed two major training studies, one to determine the worldwide market for training of Airport and Airline managers, and the other to determine the feasibility of providing a new pilot training school in the South Pacific.

The clientele of APS consist of international airlines, business aircraft operators, foreign, federal, provincial and local governments, financial and industrial organizations, aircraft manufacturers, and dedicated Research and Development organizations. The high ratio of repeat business is an indication of the confidence these diverse groups have in the capabilities of the company. Following is a brief sample of some of the clients for whom APS has, either directly or indirectly, provided service:

AIR CARRIERS
- Air Afrique
- Air Canada
- Air France
- Air Pacific
- Alisarda
- American Airlines
- Ansett
- Continental Airlines
- CP Air
- Eastern Provincial Airlines
- Garuda Indonesian Airways
- Icelandic Airlines
- Lufthansa (German Airlines)
- Malaysian Airline System
- Nigeria Airways
- Nordair
- Northwest Airlines
- Pacific Western Airlines
- Skywest
- Texas Air
- Thai Airways
- QuebecAir

GOVERNMENTS AND AGENCIES
- Economic community of West African States
- International Civil Aviation Organization (ICAO)
- African Civil Aviation Commission (AFCAC)
- Air Transport Association of Canada
- Association of Southeast Asian Nations (ASEAN)
- Association of South Pacific Airlines
- International Aviation Management Training Institute

Government of:
- Brazil
- Canada
- Dominican Republic
- Guinea-Bissau
- Indonesia
- Malaysia
- Pakistan
- Peru
- Portugal
- Thailand
- Trinidad and Tobago
- United Arab Emirates

AEROSPACE MANUFACTURING, SALES AND SERVICE ORGANIZATIONS
- CAE Industries Ltd.
- Canadair Inc.
- Canadian Business Aircraft Association
- Canadian Marconi Company
- The de Havilland Aircraft of Canada Ltd.
- Pan Ayer S.A.
- Rockwell International of Canada Ltd.
- Innotech Aviation Ltd.
- McDonnell Douglas Corporation Ltd.
- Lockheed Aircraft Corp.

FINANCIAL AND BUSINESS ORGANIZATIONS
- Alcan International Ltd.
- Canada Development Investment Corp.
- Canadian National Railways
- Churchill Falls Labrador Corp.
- Cineplex Odeon Theatres
- Shell Canada Ltd.

In addition, APS provides project management and coordination services involving other specialized engineering, architectural or defence oriented firms.

Products and Services

SERVICES PROVIDED

APS provides a wide spectrum of services tc the aviation industry; a number of which are outlined below:

COMMERCIAL AIR SERVICES

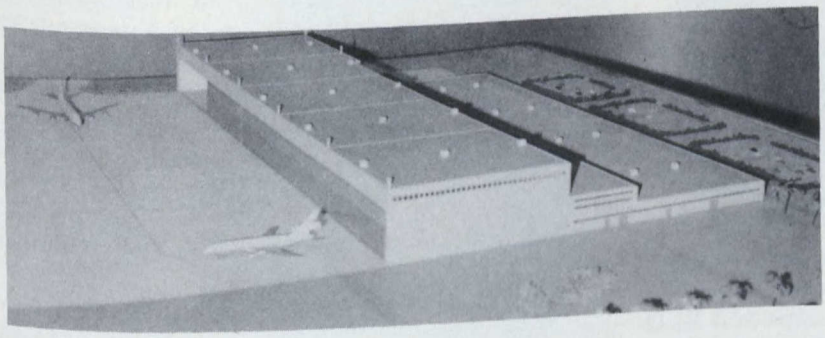
- Demand forecasts
- Route Analysis
- Aircraft Selection
- Economic Analysis
- Marketing Programs
- Operational Studies
- Management Services
- In-Flight Surveys
- Maintenance & Overhaul Facility Planning

GENERAL AVIATION

- Personnel transport cost organization
- Corporate Aircraft Selection
- Evaluation of Current Usage
- Technical Audits
- Market Surveys for Manufacturers
- Marketing Programs

RESEARCH AND DEVELOPMENT

- Design and/or evaluation of specialized equipment
- Technical Specifications Formulation
- Computer application
- Expert Systems and Artificial Intelligence



AIRPORT PLANNING

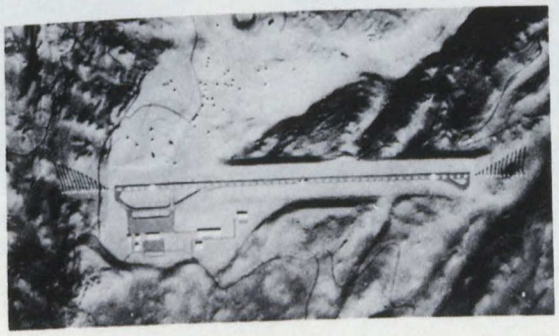
- Master Plans
- Regional Airport Systems
- National Aviation Systems
- Facility Planning
- A.T.C. Analysis
- Traffic Forecasts
- Economic Feasibility Analysis
- Ecological & Environmental Analysis
- Equipment Procurement Programs
- STOLport Planning
- Navigational Aid Systems
- New airport Site Selection

EQUIPMENT PROCUREMENT

- Navigational Aids
- Communications
- Maintenance and Test Equipment
- Ground support Equipment

TRAINING

- Market Surveys
- Training requirements
- Feasibility Study
- Facility Design



Bendix Avelex Inc.

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TELEX: 05-826688
FAX: (514) 342-3795

PRESIDENT: E. Segev
VICE PRESIDENT, MARKETING: R. Egery
VICE PRESIDENT, ENGINEERING: A. Smith
DIRECTOR, SUPPORT SERVICES DIVISION: M. Côte
DIRECTOR, PROGRAMS: D. Habberjam

As a recognized leader in technological innovation and advanced engineering design, Bendix Avelex Inc. is a major international supplier of aerospace and defence electronic products. With a dedicated and experienced team, Bendix Avelex provides the aerospace and defence industry with a wide range of products including: Night Vision Systems, Radar Test Systems, Vehicle Navigation Systems, Gun Alignment and Control Systems, Simulators and Training Systems, proximity sensors, flow monitors, and Aircraft Engine Controls and Accessories. Product Support services include: integrated logistic support, reliability improvement programs, technical publications, comprehensive aftermarket sales service, and repair and overhaul.

In addition to the products manufactured by Bendix Avelex, the Company actively markets several product lines on behalf of other high technology companies from around the world. These include: radars, meteorological systems and a full range of electronic products for air, land and sea applications.

The main plant and headquarters are located in Montreal, Quebec, Canada in a modern 220,000 square foot complex. Housed in this complex are the engineering design offices, electronic, electro-optic and R&D laboratories, extensive CAD/CAM facilities, precision machining centres, and a repair and overhaul facility recognized as one of the largest and most versatile in Canada.

In Cornwall, Ontario, our electronic production facility manufactures sophisticated electronic systems and sub-systems for aerospace and defence applications. In Vancouver, British Columbia, the Aero/Marine Division specializes in aircraft and marine products as well as related repair and overhaul.

Bendix Avelex has developed world class expertise in a wide range of engineering disciplines which include electro-optics, lasers, simulation, geo-magnetics, pneumatics, fluid dynamics and hydro-mechanics, electronics and software generation.

Avelex R&D programs play a vital role in maintaining a leading edge in critical technologies. In excess of 10 per cent of sales is invested yearly in research and product development in applications as diverse as fluid flow measurement, night vision, tactical training, and vehicle navigation.

The electronic production facility is equipped with the latest in continuous flow soldering and conformal coating equipment and an environmental test capability which includes sinusoidal and quasi-random vibration systems, burn-in chambers, and automatic test equipment for PCB diagnostics and repair. The Machine Shop includes precision CNC and DNC machine tools reflecting the latest advances in metal removal technology capable of achieving tolerances of 50 millionths of an inch.

Bendix Avelex' total quality concept ensures that reliability and dependability are designed into the product. This philosophy is an integral aspect of the Avelex management approach. This quality control system meets the requirements of DND 1015/NATO AQAP-1, Transport Canada, and many international prime contractors.

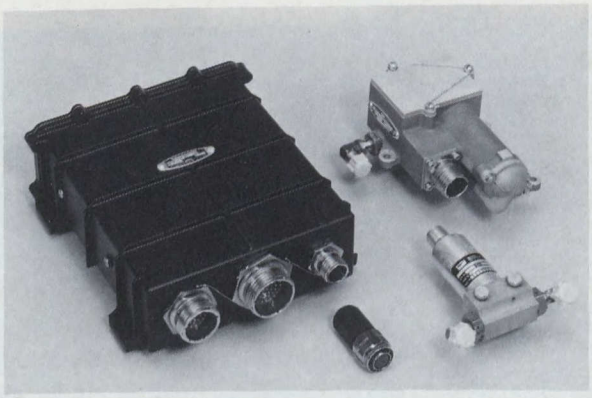
The Product Support program at Bendix Avelex also starts at the design stage. Avelex seeks out and incorporates the most cost-effective technologies to further improve a program that gives our clients cost-effective product support around the clock and around the world.

Repair and overhaul is a crucial aspect of product support. Bendix Avelex maintains one of the most diversified repair and overhaul facilities in Canada. In addition to all Avelex products, the company repairs products from 250 original equipment manufacturers.

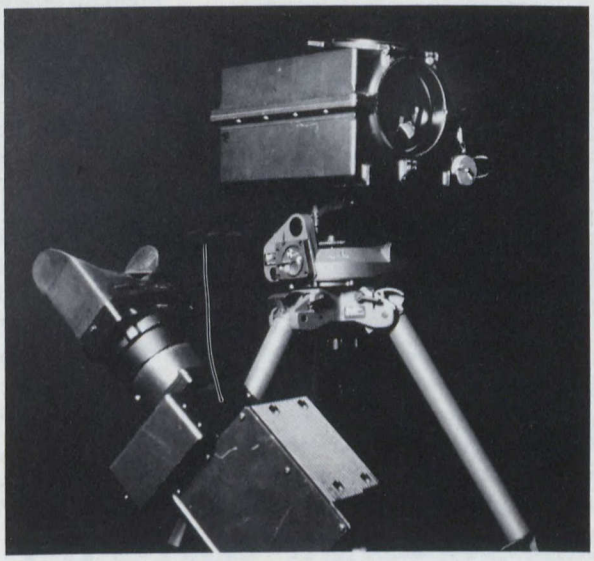
Bendix Avelex is a unit of Allied-Signal Aerospace Canada, a unit of Allied Signal Canada Inc., which has businesses in aerospace, automotive products, and engineered materials. Allied Signal Canada Inc. has 4,000 Canadian employees at 15 facilities with total sales in Canada of about 500 million per year.

Products and Services

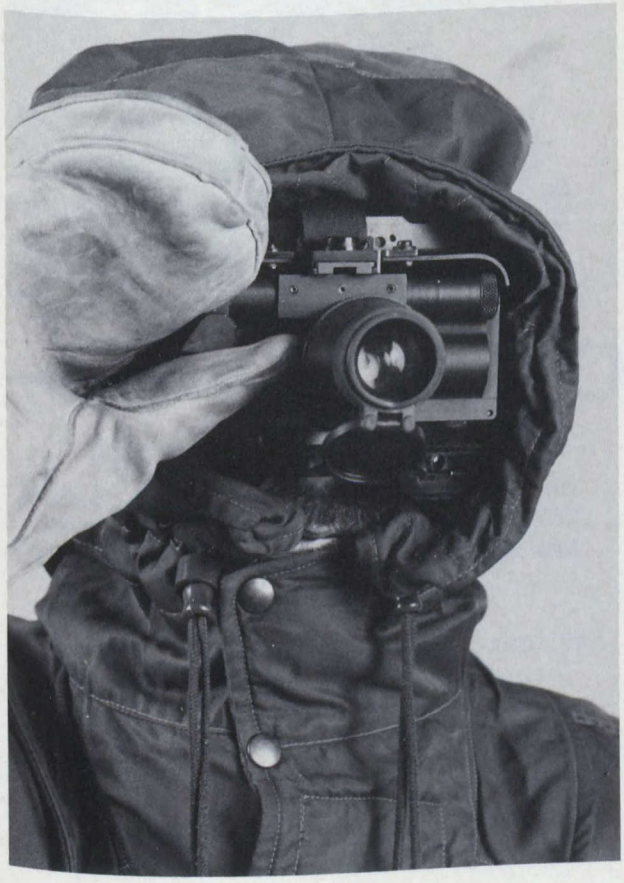
Vehicle Navigation System



Electronic Limiting Unit



Infrared Imaging System (IRIS)



Night Vision Goggle

Gun Alignment and Control System

Boeing Canada Technology Ltd.
Arnprior Division

Baskin Drive East
Arnprior, Ontario K7S 3M1
TELEPHONE: (613) 623-4267
TELEX: 05-34110

PRESIDENT: G.B. Sampson
VICE-PRESIDENT/GENERAL MANAGER: J.E. Sawyer
DIRECTOR OF BUSINESS: R.L. McDonald

Boeing of Canada Ltd., Arnprior Division, is extensively involved in the repair, overhaul and modification of tandem rotor helicopters and their components, produced by Boeing Helicopters and operated by the Canadian Armed Forces. Logistic support, technical investigations and engineering services are also part of the services provided.

From 1980 through early 1986, Arnprior conducted a major modification and modernization program for the Canadian Forces Search and Rescue CH 113 helicopter fleet.

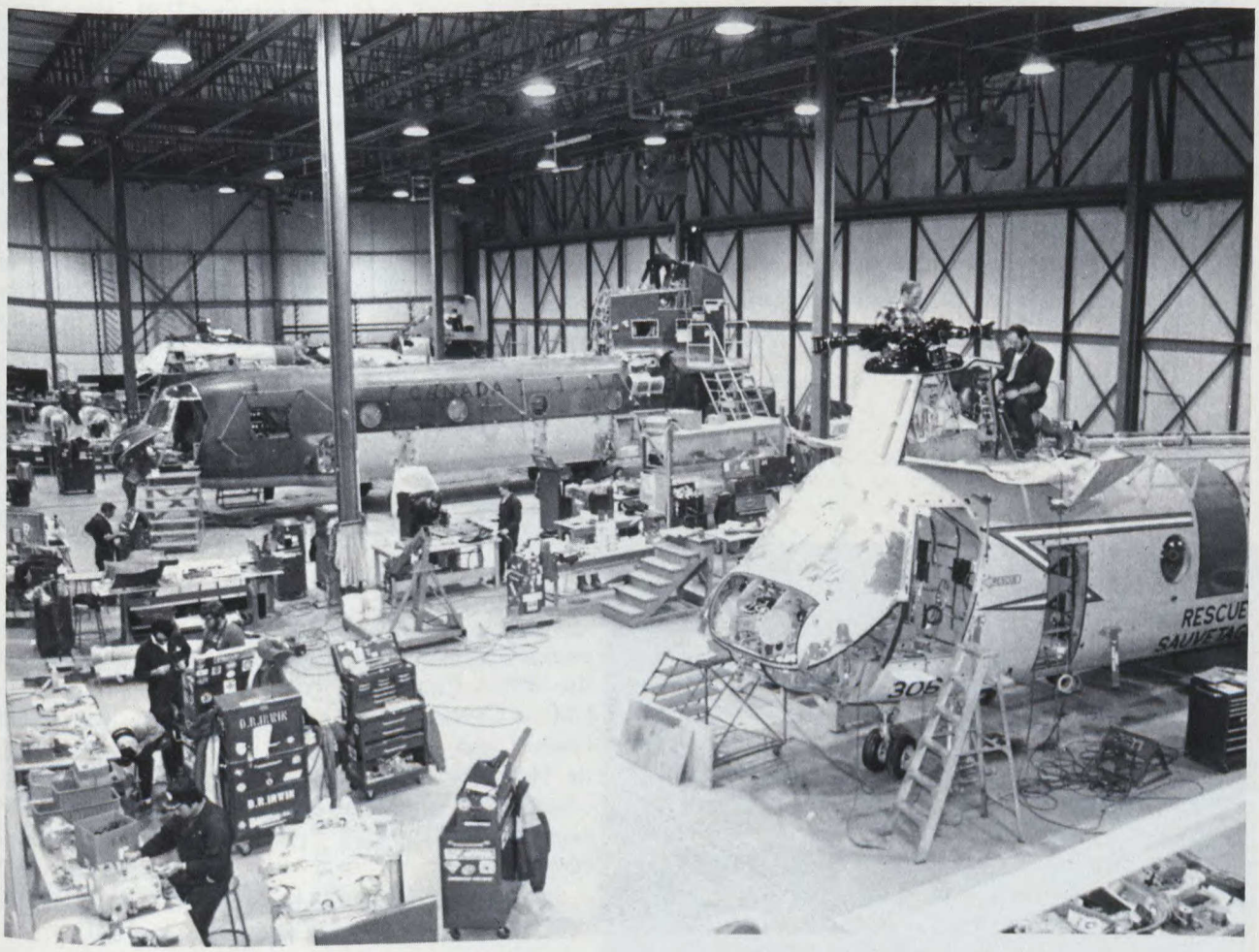
The Arnprior Division is the principal manufacturer, under license, of the 107 type helicopter lag damper. The lag damper is a sophisticated hydraulic component which forms part of the helicopter rotor hub assembly. This product is distributed worldwide, although the primary market is the U.S. Military.

The Arnprior Division has the manufacturing mandate for selected machine shop and sheet metal shop detail parts and assemblies required in support of the Boeing Company's various commercial airplane programs. It is the sole supplier of the electrical/electronic trays and shelves for the 747-400, 757 and 767 aircraft.

In order to support its expanding workload, the Arnprior Division constructed a 25,000 square foot aircraft overhaul and paint facility in 1978 and has recently concluded the construction of a new 60,000 square foot facility dedicated to manufacturing. The acquisition of CNC machine and turning centres, new heat treat, NDT process and paint equipment, have all added to the production capability. In addition, CAE/CAD/CAM capabilities are being installed to support rapidly growing engineering and publication staff.

The Arnprior Division's quality control program conforms to FAA MIL-Q-9858, DND AQAP-1, and Boeing standards.

The Arnprior Division has consistently pursued the objectives of growth and diversification to remain competitive in metal fabrication, repair and overhaul.



ARNPRIOR DIVISION

PRODUCTS AND SERVICES

1) Sheet metal fabrication, machining and assembly of components for Model 737, 747, 757, 767 commercial airplanes and CH 113 and 147 helicopters.

2) Repair and overhaul for CH 113 and 147 helicopter airframes and components.

3) Manufacture and overhaul of 107 type helicopter lag damper.

4) Engineering, publications, logistics support, and field service for tandem rotor helicopters.

MAJOR EQUIPMENT

- CNC Machine Centres
- Heat Treat Ovens
- Helicopter Paint Spray Booth
- CNC Turning Centre
- Process Line, Alodize, Anodize and Cadmium Plate Inspection Equipment Coordinate Measuring Machine (Computerized)
- NDT Equipment

Boeing Canada, de Havilland Division

Downsview, Ontario M3K 1Y5
TELEPHONE: (416) 633-7310
TELEX: 06-22128

PRESIDENT: R.B. Woodard
VICE PRESIDENT, MARKETING & SALES: T.E. Appleton
VICE PRESIDENT, ENGINEERING: J. Thompson
VICE PRESIDENT, PROGRAM MANAGEMENT: R.L. Wheeler
VICE PRESIDENT, PRODUCT DEVELOPMENT: G.R. Jackson
VICE PRESIDENT, FINANCE: R.W. Butler
VICE PRESIDENT, OPERATIONS: N. Kingsmore
VICE PRESIDENTS, MANUFACTURING: C. Nelson, K. Laver
VICE PRESIDENT, CUSTOMER SUPPORT: D. Kalotay
VICE PRESIDENT, MATERIAL: W. Applegate
VICE PRESIDENT, CONTRACTS: J. Sturgeon
VICE PRESIDENT, HUMAN RESOURCES: E.G. Anderson
VICE PRESIDENT, BUSINESS DEVELOPMENT: G. Capern

The de Havilland Division of Boeing Canada is a major catalyst in the Canadian aerospace industry, stimulating jobs, research and development, engineering and manufacturing across the country.

With the Dash 8 family of regional airliners, the company has staked a solid claim in the worldwide expansion of this market sector, meaning increased business for the many Canadian suppliers to the program. Currently (March 31, 1989), the 37/40-passenger Series 100 and stretched 50/56-passenger Series 300 are in service or on order with 36 operators in 13 countries worldwide, with 297 aircraft ordered or optioned by the end of the first quarter in 1989.

A further addition to the Dash 8 family is under study — a high-speed 70-passenger version designated the Dash 8 Series 400. With a 350-knot cruise speed, this aircraft would be aimed directly at the jet replacement market on routes up to 500 nautical miles.

More than 70 per cent of the Dash 8 is made in Canada, representing substantial purchases from throughout the Canadian aerospace industry. In all, about 37,000 Canadians earn their living directly or indirectly from the Boeing presence in Canada. The company's three operating divisions (de Havilland, Winnipeg and Arnprior) account for nearly $200-million worth of purchases for manufacturing, design and engineering work with more than 225 suppliers across the country.

The de Havilland marque has become firmly established around the world through such designs as the DHC-1 Chipmunk, DHC-2 Beaver, DHC-3 Otter, DHC-4 Caribou, DHC-5 Buffalo, DHC-6 Twin Otter, Dash 7 and, more recently, the Dash 8. Currently, de Havilland products are flying in more than 90 countries, supported by spares depots in all three IATA regions (Amsterdam, Downsview, Atlanta and Singapore).

de Havilland was purchased by Boeing in January, 1986, and currently has a workforce of 6,200.

Products and Services

Dash 8 Series 100

Passenger Seats	37/40
Pressurization (p.s.i.)	5.5
Maximum Cruise Speed ISA	271 KTAS @ 15,000'
Powerplant	2 x PW120A or PW121 turboprop
Range (ISA, S.L., IFR Reserves)	980 NM 37 passengers @ 190 lb
Takeoff field length (ft.)	2950
Landing field length (ft.)	2980

Dash 8 Series 300

Passenger Seats	50/56
Pressurization (p.s.i.)	5.5
Maximum Cruise Speed ISA	286 KTAS @ 15,000'
Powerplant	2 x PW123 turboprop
Range (ISA, S.L., IFR Reserves)	1325 NM 50 passengers @ 190 lb
Takeoff field length (ft.)	3675
Landing field length (ft.)	3660

Dash 8 Series 400

Passenger Seats	66/70
Pressurization (p.s.i.)	T.B.D.
Maximum Cruise Speed ISA	350 KTAS @ 20,000'
Powerplant	2 GLC38 or Allison T406 turboprop
Range (ISA, S.L., IFR Reserves)	1140 NM 68 passengers @ 190 lb
Takeoff field length (ft.)	4200
Landing field length (ft.)	4200

Boeing Canada Technology Ltd.
Winnipeg Division

99 Murray Park Road
Winnipeg, Manitoba R3J 3M6
TELEPHONE: (204) 888-2300
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FAX: (204) 888-2951

PRESIDENT: G.B. Sampson
DIRECTOR OF MARKETING/CONTRACTS: E.M. Sloane
TECHNICAL SALES MANAGER: R.D. Palmer

The Winnipeg Division, a wholly owned subsidiary of Boeing Commercial Airplanes in Seattle, was established in 1971 in facilities adjacent to the Winnipeg Airport. The facilities currently comprise 340,000 sq. ft. of manufacturing and office space. Principal manufacturing equipment includes four autoclaves (the largest 15' dia. x 35' long & rated at 200 psi, 600 degrees F.), two air heated ovens with 800 degree capability, three 4-axis NC filament winding machines & a fully automated multi-channel through transmission ultrasonic data acquisition and analysis test system.

Products & Services

The advanced composite aerospace components designed and fabricated at the Winnipeg facility are composed of a number of materials, including Nomex honeycomb core, pre-impregnated fiberglass, Kevlar, graphite and hybrids of Kevlar and graphite fabrics in phenolic, epoxy and BMI resin systems. Production processes meet the quality assurance requirements of DND AQAP-1, MIL-Q-9858A, FAA, MOT and Boeing Standards.

Boeing Canada, Winnipeg Division, designs, manufactures and supplies aerial and surface target systems for Canadian and foreign military requirements. The target family consists of rocket boosted, towed, propeller driven, helicopter vehicles, as well as mobile land and sea surface targets, which provide cost-effective defence training and weapon systems evaluation. In addition, a complete line of services such as operation, training and logistics support is available to assist the user in satisfying his operational requirements.

The Company maintains an aggressive R & D program to ensure their target family is compatible with the latest state-of-the-art weapon systems and changing training scenarios.

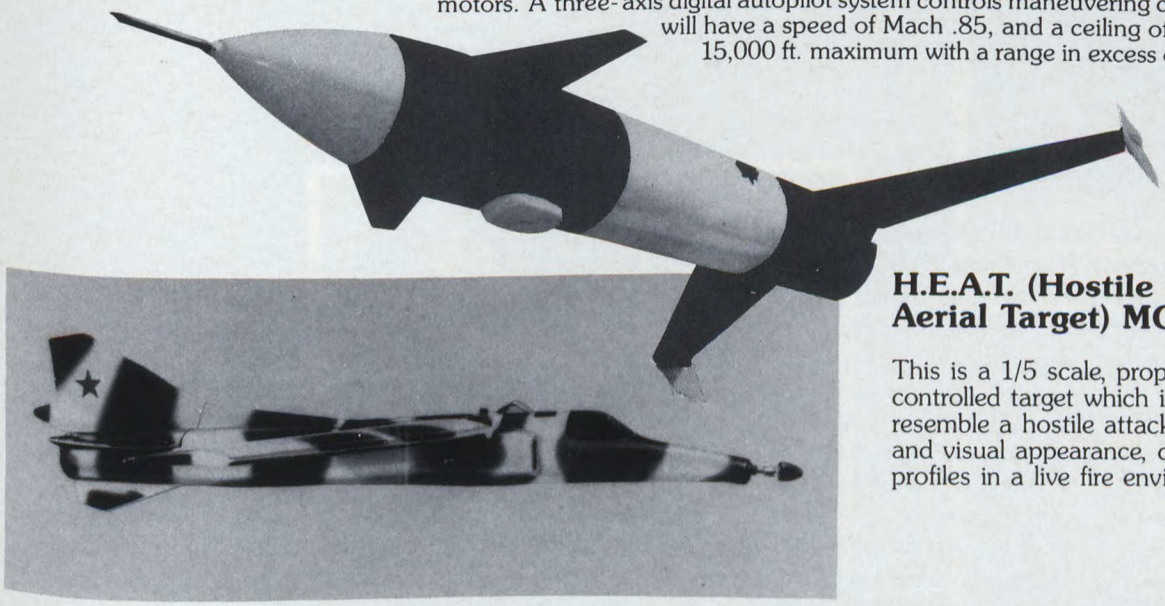
Personnel (01/09/89)

Factory/Manufacturing	883
Inspection	76
Design Engineering	53
Office/Administration	220
	1,232

Products and Services

Robot-X

Is designed as a low cost, low-altitude sea skimming or cruise missile target for low level air defence requirements. This new rocket boosted target provides "over the horizon" radar range with the sequential firing of the nineteen 2.75" rocket motors. A three-axis digital autopilot system controls maneuvering capabilities. Robot-X will have a speed of Mach .85, and a ceiling of 50 ft. minimum to 15,000 ft. maximum with a range in excess of 20 nautical miles.

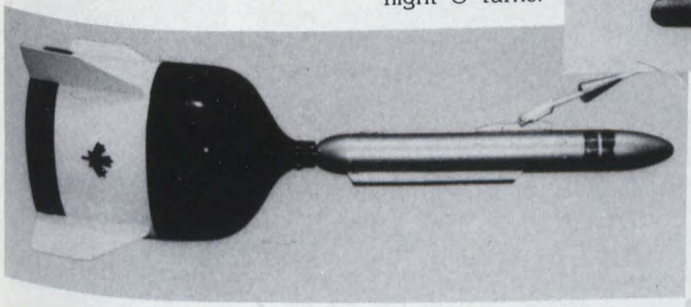


H.E.A.T. (Hostile Expendable Aerial Target) MG 27

This is a 1/5 scale, propeller driven, radio controlled target which is constructed to resemble a hostile attack aircraft in speed and visual appearance, during attack profiles in a live fire environment.

Hind-D

This is a 1/5 size target drone developed to simulate the attack and evasion maneuvers of the latest attack helicopters. This low cost yet sophisticated target can facilitate a number of training scenarios. Remote flight operations include jinking, hovering maneuvers, plus slow forward flight 'S' turns.



Milkcan

This vehicle is a towed target with a lightweight towline to facilitate use of a lower performance, lower cost aircraft. The target has a complete scoring system and passive radar augmentation. Stores clearance has been completed on the T33 aircraft utilizing a Delmar winch.

Vindicator

Vindicator is a cost effective, recoverable, remotely piloted basic training vehicle designed to simulate the threat of missiles and aircraft for missile and cannon systems. The Vindicator is capable of speeds up to 200 mph for 1 hour duration. Control is maintained thru an autopilot and mobile ground control station. The Target is radar tracked and preprogrammed or manual commands can be keyed in to fly the target and monitor performance without the need for visual acquisition. The target can therefore be flown out to a range of 20 km or greater.

Numerous payloads are available including tow banners, IR Pods and radar enhancement.

Bristol Aerospace Limited

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FAX: (204) 885-3195

PRESIDENT: H.R. Beattie
VICE-PRESIDENT, MARKETING: K.F. Burrows
MARKETING MANAGER: W.S. Porter

Bristol Aerospace Limited is Western Canada's largest aerospace company. Employing 1,700 people, about 175 of whom are professional engineers and technologists, the company offers complete design, development, and manufacture of a diverse range of products and services.

Located in Winnipeg, Canada, Bristol owns and operates its main facility comprising over 620,000 square feet of floor space, and has direct taxiway access to the Winnipeg International Airport.

The nucleus of Bristol's operation is manufacturing. Manufacturing is carried out to meet the stringent quality requirements of MOT and FAA commercially, and the Department of National Defence. Bristol operates under a single Quality Control System that conforms to the NATO standard AQAP-1.

Skilled technicians supported by a dedicated engineering staff and a quality assurance group form a team that produces this sophisticated range of products:

Fixed and Rotary Wing Aircraft Repair and Overhaul; Afterburner Restoration; Engine Component Manufacture; Airframe Sub-assembly Manufacture including metal and composite material structures, design, development and manufacture of Proprietary Aircraft Accessories; Electronics for military defence and space applications; Solid Propellant Research Rockets and Space Science programs; Defence Rockets and Missiles; and Research and Development.

The Company's growing involvement in engine component manufacture is linked with its adoption of advanced welding and forming techniques and its experience with exotic new alloys. Its expertise, particularly with sheet metal hot section components has been valued by leading Original Equipment Manufacturers. Manufacturing operations at Bristol embrace a complete spectrum of technology. In addition to conventional machining, Bristol's machine shops are equipped with advanced numerically controlled machines used in the fabrication of a new generation of complex components for gas turbine engines. Bristol's 75,000 square foot machining center centralizes and adds to the Company's CNC machining capability, further enhancing its status as a Canadian leader in manufacturing technology. Bristol also has a growing expertise in manufacturing with composite materials.

Bristol maintains extensive facilities for the overhaul, modification and repair of military and civilian aircraft and turbine hot section components, as well as an extensive afterburner restoration facility.

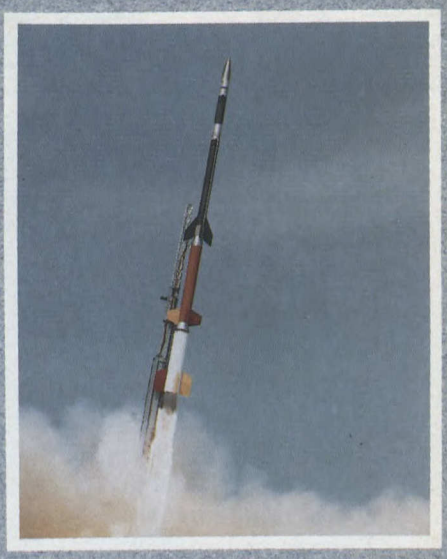
CAD/CAM facilities enable Bristol's engineers to perform all of the functions ranging from product design to the programming of the various numerically controlled machines.

Bristol's capabilities include manufacturing of airframe structures such as ailerons, flaps and leading edges for the Lockheed P3C/CP140 aircraft, composite wing to fuselage fairings and dorsal fairing for the de Havilland Dash 8, heat pan assemblies for the Boeing 767, and the control surface assembly and other structural parts for both the Standard Missile II and Phoenix missiles built by Raytheon.

Another example of Bristol research and development capability is the Wire Strike Protection System for helicopters. The WSPS was designed and developed initially for the Canadian Forces and is now manufactured and marketed worldwide.

The CRV7 rocket weapon system developed by Bristol Aerospace in conjunction with the Canadian Department of National Defence is the chosen 2.75 inch rocket weapon system of more than ten airforces around the world. The system is cost effective and boasts greater velocity, better accuracy and longer range with greater impact energy than any other 2.75 inch rocket weapon system.

Bristol Aerospace has been designated as the support center for the CF-5 Freedom Fighter. In this role, Bristol will upgrade and extend the life of the F-5 into the 21st century, ensuring provision of state-of-the-art capabilities in an operational role and as the lead-in trainer for the CF18.



BLACK BRANT

CRV7

COMPONENT MANUFACTURE

WSPS

REPAIR & OVERHAUL

bristol aerospace limited

CAE Industries Ltd.

Suite 3060
P.O. Box 30
Royal Bank Plaza
Toronto, Ontario M5J 2J1
TELEPHONE: (416) 865-0070
FAX: (416) 865-0337

PRESIDENT AND CEO: D.H. Race
VICE-PRESIDENT, OPERATIONS: J.G. MacKay
VICE-PRESIDENT, FINANCE AND SECRETARY: J.E. Caldwell
VICE-PRESIDENT, CORPORATE RELATIONS: F.C. Fraser

The company is the world leader in commercial and military simulation and training. It is also one of Canada's premier high-technology companies, with two of its six Canadian operating divisions engaged in the aerospace industry, serving customers throughout Canada and around the world.

CAE Electronics Ltd.
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Saint-Laurent, Quebec
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TELEX: 05-824856 CAE MTL
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PRESIDENT: N.B. Cavadias
SENIOR VICE-PRESIDENT, BUSINESS DEVELOPMENT: D.R. Tait
VICE-PRESIDENT INTERNATIONAL AFFAIRS: R.F. Kemerer

CAE Electronics Ltd. designs and manufactures civil and military flight simulators. The company holds about two-thirds of the world's commercial jet aircraft flight simulator market.

Commercial jet aircraft types to date include Boeing 727, 737, 747, 757 and 767; McDonnell Douglas DC-8, DC-9, DC-10, MD-11, MD-80, MD-81, MD-82, MD-87 and MD-88; Lockheed L-1011 TriStar; Aeritalia Aerospatiale ATR 42; Fokker F28, Fokker 50 and Fokker 100; Airbus Industrie A300, A310 and A320; the Canadair Challenger and Cessna Citation 500.

Military aircraft flight simulators include the Lockheed C-130 Hercules, CP-140 Aurora and C-5B Galaxy; Panavia Tornado; McDonnell Douglas CF-18 and A-4S; Northrop F-5E; Dassault-Breguet/Dornier Alpha Jet; P-3C Orion and the Boeing E-3A (NATO AWACS).

Helicopter simulators include the Boeing Vertol CH-47C; Bell UH-1; Sikorsky CH-53; Westland Sea King and Sea Lynx; Agusta Bell 205, the Agusta Bell 212 and the Aerospatiale Super Puma.

Airborne magnetic anomaly detection (MAD) and magnetic compensation equipment are manufactured for the defence forces of Canada, the United States, Great Britain, Australia, Japan and the Netherlands.

The company is currently producing the ADATS training systems for Canada's Low Level Air Defence (LLAD) and is involved in software engineering support for the Canadian Armed Forces CF-18 aircraft.

CAE has developed and manufactured Canada's JETS (Joint Enroute/Terminal System) air traffic control system installed at seven major airports.

The company designed and manufactured the hand controllers and display panel used to manipulate the CANADARM aboard NASA's space shuttles.

CAE Electronics employs approximately 3,000 persons, over 50 percent of whom are engineers, scientists, or technicians.

CAE's plant is a fully integrated design, manufacturing and test facility occupying 46,449 m^2 (500,000 $feet^2$) of floor area.

Northwest Industries Limited
Edmonton International Airport
P.O. Box 9864
Edmonton, Alberta
T5J 2T2
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TELEX: 037-41574 NORTHWEST EDM
FAX: (403) 955-2181

PRESIDENT: L.H. Prokop
VICE-PRESIDENT & GENERAL MANAGER: F.A. Maybee
VICE-PRESIDENT FINANCE & ADMINISTRATION: C.H. Fraser

Northwest Industries Limited (NWI) is one of Canada's largest and most experienced maintenance, repair, overhaul and modification centres for military and commercial aircraft. Included in current operations are the Canadian Armed Forces fleets of T-33, CT-114 (Tutor) and C-130 aircraft in addition to commercial Hercules transports. The company's large and modern hangars at the Edmonton International Airport provide a total working space of 17,300 m^2 (190,000 $feet^2$).

NWI provides a comprehensive aircraft maintenance service from minor inspection to major overhaul, including non-destructive testing, airframe and electrical systems life extension and corrosion control, airframe components manufacture and special processing, hydraulic component overhaul, lines and cables manufacture, electrical wire harness fabrications, instrument repair design and installation, and the production of technical publications.

Last year Northwest Industries Limited became the first Canadian company to carry out structural work on the CF-18's and it is a sub-contractor to Canadair on the recently announced maintenance program for the CF-18.

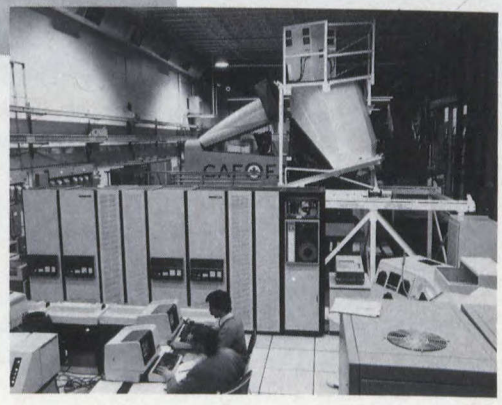
The company's operations are approved by the Canadian Department of National Defence to AQAP-1 level, and a similar level of approval is held with Transport Canada.

Products and Services

Three Boeing 747-400 flight simulators on test at CAE Electronics Ltd., for Lufthansa, KLM and Singapore Airlines.

EDMONTON - Repairing damaged Canadian Armed Forces C-130 Hercules transport at Northwest Industries Limited.

EDMONTON - Interior view of the #1 Northwest Industries Limited maintenance hangar at Edmonton International Airport, with a Falcon jet and Hercules C-130 turbo prop transport on the floor.



One of three CF-18 flight, tactics and mission simulators manufactured by CAE Electronics Ltd.

Calian Technology Ltd.

300 Legget Drive
Kanata, Ontario K2K 1Y5
TELEPHONE: (613) 592-8600
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TELEX: 053-4164

PRESIDENT: Larry O'Brien
VICE-PRESIDENT: Ed Lambert
DIRECTOR OF QUALITY SERVICES: Hal Rivington
DIRECTOR OF TECHNOLOGY AND BUSINESS DEVELOPMENT: Brian Mazur
DIRECTOR OF INTERNATIONAL PROGRAMS: T. David Young

Calian Technology Ltd. is engaged in providing advanced technology services to the defence, aerospace and communications sectors. Calian was founded in 1982 and has enjoyed an average growth rate of 90% per year since its start-up. Presently Calian employs over 80 highly qualified technicians, technologists and engineers. The company is employee-owned and currently provides advanced technology services in the following areas:

Space & Aerospace Technical Services Divisions

The Space Services Division of Calian operates and maintains aerospace facilities for the Canadian government. Calian is a service partner on projects such as the Department of National Defence sponsored Search and Rescue Satellite (SARSAT). In remote sensing, Calian works with specialists in the Canadian Centre for Remote Sensing (CCRS) and operates the Prince Albert Satellite Station as well as the Gatineau Satellite Station. Both of these earth stations collect and process strategic topographical data such as that pertaining to mining and ice flow conditions. Calian provides technical support to David Florida Laboratory scientists by operating and maintaining a wide range of sophisticated electronics and testing equipment.

Located in Washington D.C., the Calian Aerospace Services Division provides engineering support to the Canadian and Australian Governments for F-18 fighter plane procurement. These liaison services cover a variety of engineering activities from logistics through to repair services and trend analysis. The Washington facility was established in June of 1988. Both the Washington and Kanata facilities have full security clearance.

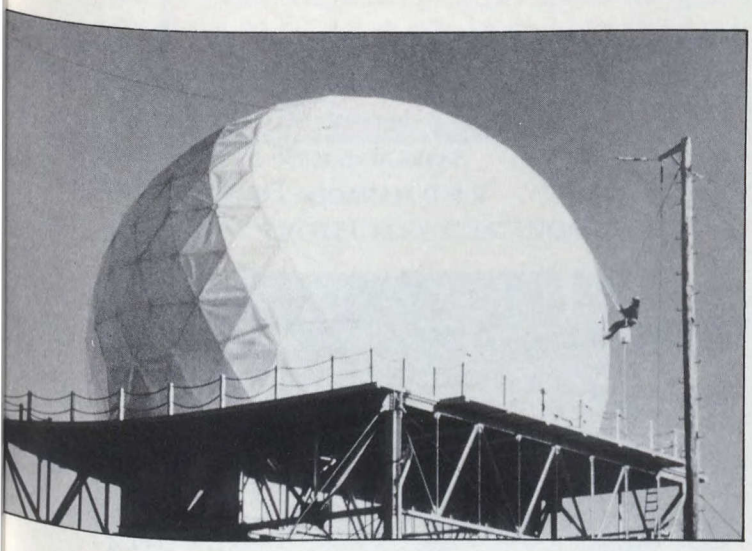
Miller Communications Systems Division

The MCS Division provides highly specialized instrumentation and control solutions to satellite communications and other advanced communications problems. Part of the ground segment solutions offered by this division include the Satellite Carrier Monitoring System to analyze the quality of RF downlinks from satellites, the Mobile Spectrum Monitoring System for VHF and UHF spectrum surveillance and Telemetry Communication links for applications such as the Canadian Ice Reconnaissance Program.

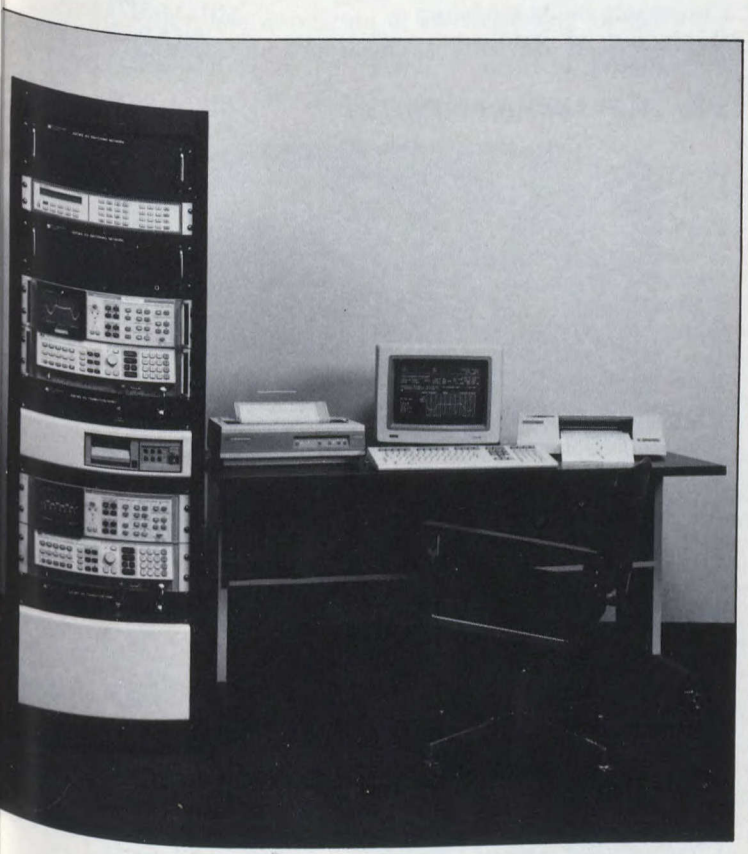
The MCS Division conducts business all over the world and has an international reputation for excellence in engineering. Calian has a fully equipped lab with the latest in RF test equipment for systems integration and evaluation. MCS was purchased by Calian in early 1988.

Quality Assurance Services Division

This division of Calian has enjoyed equal success by supporting defence contractors in the areas of government quality assurance (QA). Calian is now Canada's largest quality assurance contractor and has helped numerous companies comply with government QA requirements by providing consultants, training and testing support. The Calian AQAP-1 recognition support team is the most experienced in the country and we have a complete AQAP-1 recognition program for contractors.



1



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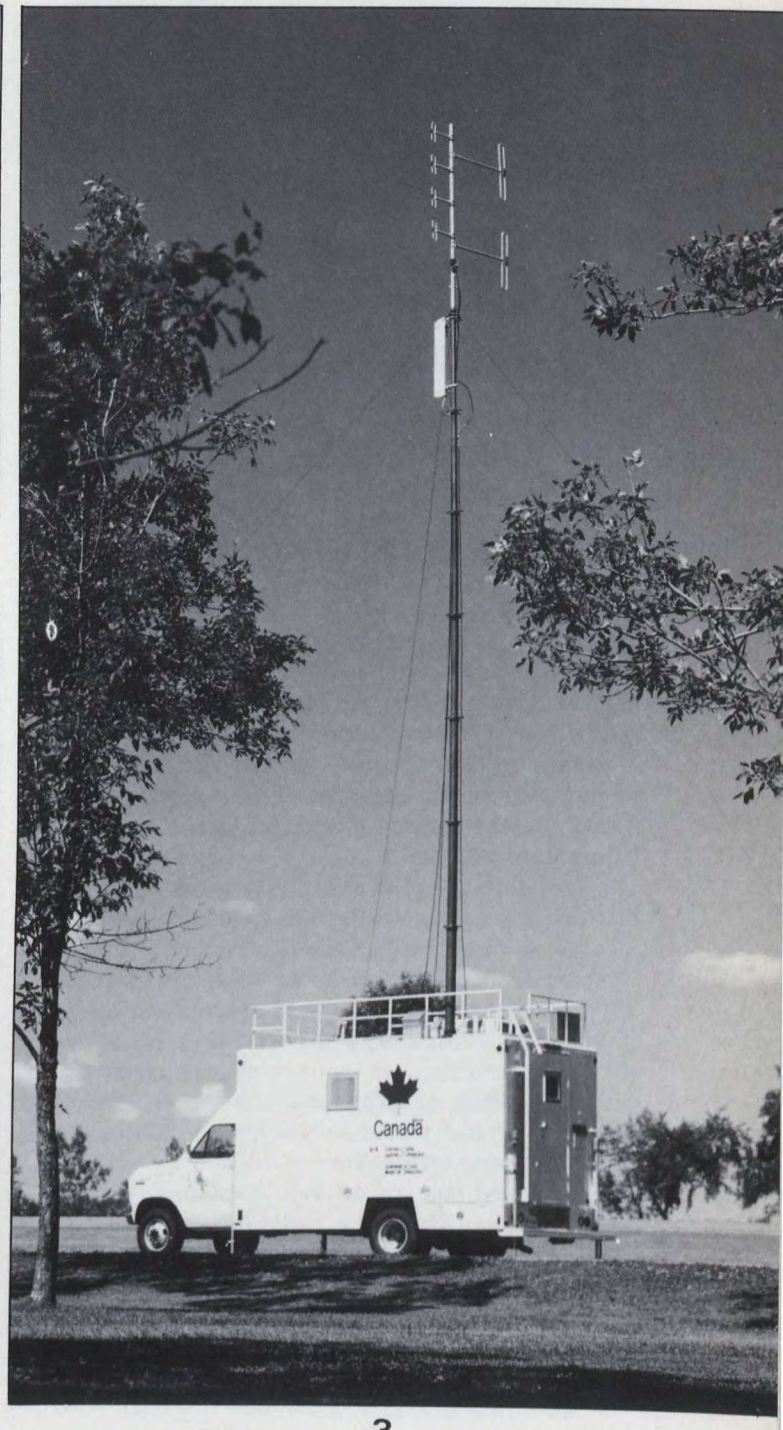


3

1) NWS Radome, containing an FPS-117 Radar. Calian Technology Ltd. was sub-contracted by Frontec to provide quality assurance services for the entire North Warning System.
2) The MCS Satellite Carrier Monitoring System detects and reports deviations from nominal of satellite signals.
3) The MCS Mobile Spectrum Monitoring System performs VHF and UHF spectrum surveillance, monitoring and occupancy measurement. (Photograph compliments of the Dept. of Communications, Communications Research Center, Shirley, Bay, Ottawa, Ontario).

Cametoid Limited

1449 Hopkins Street
Whitby, Ontario L1N 2C2
TELEPHONE: (416) 666-3400
FAX: (416) 666-3413

PRESIDENT & CEO: D.G. Newman
TECHNICAL DIRECTOR: R.W. Bertram
SALES MANAGER: K.H. Bond
R & D MANAGER: Dr. K.L. Yan

Cametoid Limited is a special process facility for the application of high technology coatings, primarily for the aerospace and defence industries.

Cametoid was originally incorporated in 1950 to provide high quality anodizing for aircraft landing gear components.

In 1967, the company was purchased from Dowty Canada by the Newman family of Whitby, Ontario and is a wholly owned subsidiary of Newman Aerospace Incorporated, a privately owned Canadian company.

The company operates two plants of 35,000 square feet at Whitby, Ontario, Canada, conveniently located just east of Metro Toronto. One plant is dedicated to conventional coatings and IVD aluminum vacuum coatings to military specifications. The second plant houses the research and development group, advanced optical coating fabrication, and the electronics manufacturing group (IML).

The continued growth of the company has seen the formation of Cametoid Technologies Inc., strategically located in the North Eastern United States. This Manchester, Connecticut facility operates in a plant of 15,000 square feet and brings an organic and inorganic paint finish capability to the company. Additionally, protective coatings on aircraft engine components, extended IVD capacity and chemical conversion coatings enhance Cametoid's ability to provide quality services to our customers.

Cametoid has consistently implemented a structured Quality Assurance Program to AQAP 4, and maintains a quality level consistent with CSA-Z-299.2.

A commitment to leading edge technologies firmly establishes Cametoid as the Canadian source for IVD vacuum coatings, precise multi-layer optical coatings, and conventional protective coatings.

COATINGS FOR AEROSPACE USE

ANODIZING:	
Chromic	MIL-A-8625 Type 1
Sulphuric	MIL-A-8625 Type 2
Hard Coat	MIL-A-8625 Type 3
CHEMICAL FILMS:	
Black Oxide	MIL-C-13924
Chromates on Aluminum	MIL-C-5541
Chromates on Magnesium	MIL-M-3171
Passivation of Stainless	QQ-P-35
Phosphating of Steel	DOD-P-16232
DRY FILM LUBRICANTS:	MIL-L-8937 MIL-L-46010
PLATING:	
Cadmium	QQ-P-416
Copper	MIL-C-14550
Nickel-Cadmium (Diffused)	AMS-2416
Nickel (Electroless)	MIL-C-26074
Nickel (Sulfamate)	QQ-N-290
Silver	QQ-S-365
Tin	MIL-T-10727
Zinc	ASTM-B633
VACUUM COATINGS:	
Aluminum (Ivadizing™)	MIL-C-83488

OPTICAL COATINGS:
An optical coating capability is available, where coatings are designed, produced, tested and certified to customer requirements.

RECOGNIZED AS A SPECIAL PROCESS FACILITY BY:

Air Canada	Grumman
Bell Aerospace	Indal
Bell Helicopter	Kaman
Boeing	Leigh
Bristol Aerospace	Litton
CAE	Lockheed
Canadair	McDonnell Douglas
Cleveland Pneumatic	Martin Marietta
Computing Devices	Menasco
Dept. of National Defence	Oerlikon
Dept. of Transport	Pratt & Whitney
Devtek	Rockwell
Dowty	Rolls Royce
Fleet	Sikorsky
Garrett	Spar
General Electric	Unisys

cametoid LIMITED

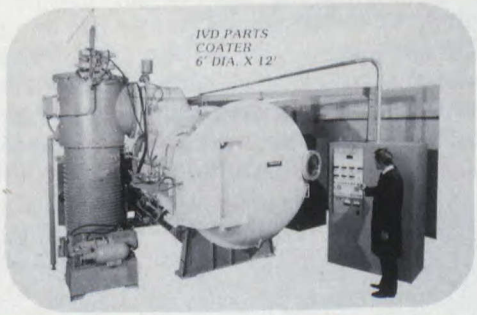
PROTECTIVE COATINGS

Complete anodizing & electroplating facilities are available for processing to MIL-Spec requirements.

OPTICAL COATINGS

An optical coating capability is available, where coatings are designed, produced, tested and certified to customer requirements.

VACUUM COATINGS



Five vacuum coaters are available for the Ion Vapour Deposition (IVD) of aluminum on critical components. The process is called IVADIZING™ and can be used equally on large structural components and small connectors and fasteners.

CAMETOID LIMITED, CANADA

Sales Manager: Ken H. Bond
(416) 666-3400

- Automated large scale anodizing line.
- Electroplating and chemical films.
- Dry film lubricants.
- Aluminum IVD coatings.

CAMETOID TECHNOLOGIES INC., U.S.A.

Division Manager: Kenneth M. New
(203) 646-4667

- Paint applications — organic and inorganic.
- Chemical conversion coatings — aluminum.
- Protective coatings — aircraft engine components.
- Aluminum IVD coatings.

CAMETOID OPTICS, CANADA

R & D Manager: Dr. Kam L. Yan
(416) 666-3400

- Design, produce and test multi-layer optical coatings.
- Development of new coatings and applications.
- Physical vapour deposition processes (PVD).

CAMETOID ELECTRONICS, CANADA

Industrial Measurements Limited
Division Manager: Richard Hughes
(416) 666-3400

- Industrial alarms.
- Monitoring and controlling equipment for telecommunications, energy, and water treatment plants.
- Digisponder®.

THE NEWMAN GROUP OF COMPANIES

1449 HOPKINS STREET, WHITBY, ONTARIO L1N 2C2 (416) 666-3400 FAX (416) 666-3413

Canadair

a Division of Bombardier Inc.

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PRESIDENT & CHIEF EXECUTIVE OFFICER: Donald C. Lowe
PRESIDENT, AEROSPACE GROUP: L. Antony Edwards
PRESIDENT, CANADAIR CHALLENGER INC.: Bryan Moss
PRESIDENT, REGIONAL JET DIVISION: Robert A. Wohl
PRESIDENT, MANUFACTURING DIVISION: Vincent Ambrico
VICE PRESIDENT & GENERAL MANAGER, CL-215 DIVISION: Andreas Throner
VICE PRESIDENT & GENERAL MANAGER, SURVEILLANCE SYSTEMS DIVISION: Yvon Lafortune
VICE PRESIDENT & GENERAL MANAGER, MILITARY AIRCRAFT DIVISION: Walter Niemy
VICE PRESIDENT & GENERAL MANAGER, LOGISTICS DIVISION: Fernand Boyer

Founded in 1944 and now a division of Bombardier Inc., Canadair has produced more than 4,100 civil and military aircraft, 580 of which were supersonic; unmanned surveillance systems and numerous other products.

Canadair currently produces the Challenger 601-3A widebody intercontinental business jet aircraft; the CL-215 multi-purpose amphibian designed for use in the forest protection role; and a family of unmanned airborne surveillance systems.

Canadair also produces components for other manufacturers' aircraft including major structural assemblies for the Airbus A330/A340 medium-to-long-range airliner, Boeing 767 airliner, Lockheed P-3C long-range patrol aircraft, McDonnell Douglas F/A-18A Hornet, as well as machined components for the McDonnell Douglas F-15 Eagle. Canadair also provides engineering and technical support for various military aircraft including the Canadian Forces' CF-18s.

The largest diversified manufacturer in the Canadian aerospace industry, Canadair has one of the best equipped machine shops in the world. It operates four plants in the Montréal area, with a total covered area of 2.8 million square feet (262,000 sq m). A new facility to house the CF-18 program and other military aircraft services will add another 218,000 square feet (20,252 sq m) at Mirabel International Airport in late 1989.

Manufacturing facilities include 39 numerically controlled spindles for machining aluminum alloy, steel, titanium and other aerospace metals. The largest machines are two numerical control five-axis milling machines, each having three triple-spindled gantries and a working table surface of 214.8 by 13.5 feet (65.5 x 4.1 m). Designed and built to Canadair specifications, these machines are capable of repeatable part accuracy within 0.005 inches (0.127 mm). There is also a computer-controlled three-axis profiler with a surface table measuring 98 by 66 feet (30 x 20 m).

Fuselage skins for Challenger and Boeing 767 aircraft are formed in a heat/stretch forming facility consisting of a suspended oven, three quench tanks and a 1,000-ton capacity longitudinal stretch former capable of handling aluminum sheets 40 by eight feet (12.2 by 2.4 m).

Canadair makes extensive use of sophisticated computer technology throughout the plant from design through manufacturing, with CADAM programs applied directly to numerically controlled machines and to the computer-controlled inspection of machined parts.

Continued research and development projects play an important role in the study of high technology materials and aerospace techniques.

Manpower as of Feb. 14, 1989:

Total Canadair employees:	5,765
(Salaried):	2,888
(Hourly):	2,877

Bombardier Inc. has two aerospace subsidiaries: Canadair Challenger Inc., with offices in Windsor, Connecticut, and Canadair Aviation Service GmbH, Oberpfaffenhofen, near Munich, West Germany.

Canadair Challenger Inc. is responsible for worldwide marketing and sales activities of Challenger aircraft and maintains offices in major cities around the globe. The company is in charge of all Challenger service centers including Montréal, Québec; Hartford, Connecticut; Long Beach, California; and in conjunction with Dornier, Oberpfaffenhofen, West Germany.

Challenger 601

CHALLENGER JET AIRCRAFT

The widebody intercontinental Challenger aircraft is designed for the business and utility jet markets of the 1980s and 90s.

This new generation business jet incorporates advanced airfoil design, high bypass ratio turbofan engines, latest technology systems and highly sophisticated avionics.

The current model, the Challenger 601-3A, is powered by two military-proven GE CF34-3A turbofan engines which are flat-rated to maintain their 3,824 kg (8,650 lb.) thrust up to 70°F, for improved hot-day and high field elevation takeoff performance. Climb performance is also significantly improved over the earlier CF34-1A-powered Challenger 601.

The advanced airfoil is more efficient than traditional wing shapes, reducing drag in cruise and permitting a lighter structure. Challenger systems are designed to the most stringent certification standards for reliability and maintainability.

The widebody provides stretch-out walk-around room and comfort consistent with the aircraft's 4,100-sm range and endurance, while its low exterior noise levels permit unrestricted operation at airfields with stringent noise curfews.

Although designed as a business jet, the Challenger aircraft is highly suited to many other applications. It is in service as an air ambulance, performing flight inspection and calibration duties with the Canadian Department of Transport, and electronic support and training with the Canadian Forces. It is also suited to special passenger and cargo, maritime surveillance, search and rescue, mapping and reconnaissance roles.

By early March 1989, 185 Challenger aircraft had been delivered to customers in North America, Europe, the Middle and Far East, Africa and Australia. In addition to those purchased by corporate clients, Challengers have been sold to a number of Government agencies: West Germany (7), the People's Republic of China (5), Malaysia (2), Canada (18), Québec (1) and British Columbia (1).

In March 1989, the company approved the development and production of the Canadair Regional Jet, a 50-passenger airliner derived from the Challenger, but with a 20-foot fuselage stretch and enhanced systems and aerodynamics. First flight is expected in 1991.

canadair

Aerospecialist for the Eighties

CL-215/CL-215T MULTI-PURPOSE AMPHIBIAN

For 20 years, this rugged, twin-engine amphibian aircraft has proven itself as the most efficient firefighting aircraft in the world. It scoops 5,350 litres (1,176 Imp. gal.) of water in 10 seconds as it skims over the surface of a body of water at 130 km/hr (80 mph) and drops this load with accuracy on a fire.

It has demonstrated its ability to spray insecticides and oil dispersants and to fight oil fires with the on-board injection of foaming agents into its load.

The CI-215 is used for maritime surveillance and as a utility transport. It can carry up to 26 passengers or 2,805 kg (6,200 lb.) of freight, and is suitable for search and rescue and a variety of military roles.

Now offered with turboprop engines, the CL-215T will have increased productivity, with higher speed and greater payload capability. First flight of the CL-215T is expected in May 1989.

By January 1989, 112 CL-215s had been delivered to eight countries and six Canadian provinces.

UNMANNED AIRBORNE SURVEILLANCE SYSTEMS

Thirty years experience in the field of unmanned airborne surveillance systems has made Canadair a world leader in this technology.

These systems play an important role for technically advanced military forces, by providing accurate and timely intelligence gathering capabilities.

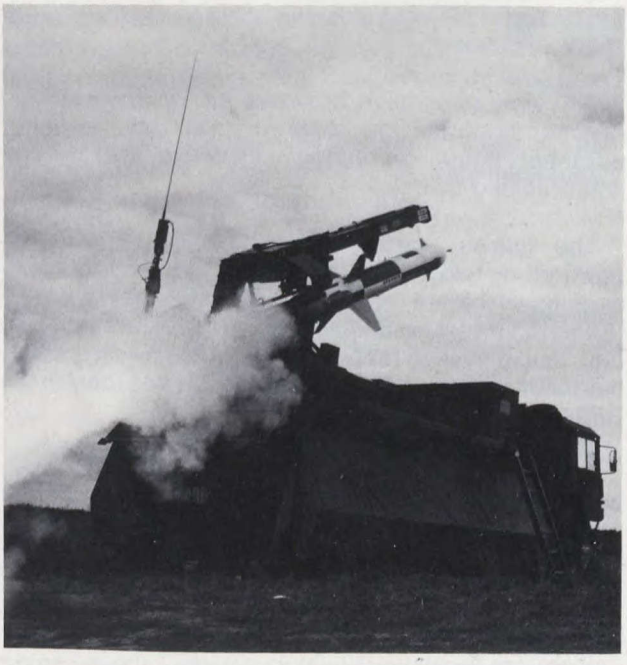
CL-289 (AN/USD-502) DRONE SYSTEM

The CL-289 is a technologically advanced system similar to the CL-89. It has been developed jointly by Canadair and Dornier GmbH of West Germany, with Société Anonyme de Télécommunications (SAT) of France providing the optronic system.

The CL-289 carries both a photographic and an infrared linescan sensor (IRLS). The IRLS information is transmitted to a ground station in real time through a data link.

The flight path of both the CL-89 and CL-289 is preprogrammed and cannot be interfered with from the ground, or from outside sources.

In late 1987, the governments of Canada, West Germany and France signed the first production contract for the CL-289 system. The contract will see a number of systems delivered to the armies of West Germany and France beginning in 1989.



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CL-89 (AN/USD 501) DRONE SYSTEM

Historically, the CL-89 was the first of the family.

The CL-89 system uses a reusable surveillance drone carrying either a photographic or infrared linescan sensor to gather battlefield intelligence. Launched from a mobile zero-length launcher, the drone flies a preprogrammed course during which it acquires intelligence information. For recovery it homes to a radio beacon, is recovered on a two-stage parachute system, employing inflatable air bags to absorb landing shocks.

The CL-89 is used in Europe by the armed forces of the United Kingdom, the Federal Republic of Germany, Italy and France.

To date, more than 3,500 missions have been flown using this system. Individual drones have made over 40 flights each.

CL-227 SENTINEL REMOTELY PILOTED VEHICLE SYSTEM

The CL-227 Sentinel system is based on the use of a small VTOL remotely piloted vehicle (RPV). The RPV can take off and land vertically, hover and cruise in level flight. It is launched from a small platform and does not require specialized launch or recovery systems. Only a six-man crew is required for system operation.

The air vehicle can remain airborne for up to four hours and is suitable for real-time TV and thermal-imaging surveillance, offset jamming, decoy, target acquisition, and many other roles, both on land and at sea.

Its small size, low noise levels and low radar and infrared signatures make it difficult to detect.

The full scale development phase is near completion; customer evaluation will be carried out during 1989. Production systems are expected to be available shortly thereafter.

MILITARY AIRCRAFT SERVICES

Canadair provides system engineering support and maintenance for the Canadian Forces fleet of CF-18 fighter aircraft, having in October 1988 replaced the manufacturer McDonnell Douglas as direct supporter for the CF-18 aircraft system.

As prime contractor Canadair is responsible for program management and for the airframe and associated systems. Its principal subcontractor, CAE Electronics of Montréal, is responsible for the computer-driven avionics and software and for the design and construction of simulators, while CAE subsidiary Northwest Industries of Edmonton provides mobile repair parties and repair and overhaul of structural components.

Canadair also provides engineering and logistic support for Department of National Defence aircraft such as the CF-5, CT114 Tutor, CT133 Silver Star and CC109 Cosmopolitan.

canadair

Aerospecialist for the Eighties

Canadian Astronautics Limited

1050 Morrison Drive
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TELEPHONE: (613) 820-8280
TELEX: 053-3937
FAX: (613) 820-8314

PRESIDENT: James D. Taylor
CHIEF OPERATING OFFICER: William E. Cox
EXEC. V.P. CORPORATE DEVELOP: Michael A. Stott
V.P. BUSINESS DEVELOPMENT: James H. Pocklington

Canadian Astronautics Limited (CAL) is a diversified company engaged in developing and manufacturing a wide range of high technology products and providing systems engineering services.

The range of products and services offered include: satellite ground stations, airborne synthetic aperture radar, spacecraft subsystems, instrumentation, radar simulators, signal processing and computer systems.

Founded in 1974, CAL's rapidly growing capability is supported by a 63,000-square foot (5,853 m^2) facility for offices and laboratories and a 30,000 square foot (2,787 m^2) production facility. The laboratories, including four separate environmentally controlled cleanrooms, are equipped to support analog and digital electronic development, antenna and RF development, and computer facilities for signal processing work. The nearby David Florida Laboratories provide Government facilities for large scale thermal, vibration, vacuum tests plus two antenna ranges.

Sales in 1987/1988 were $40 million with a staff of approximately 320 people — the majority of whom are scientists, engineers and technologists. A 25% increase in volume is planned for 1988/1989.

Canadian Astronautics Limited is at the forefront of mobile satellite communications technology as prime contractor for Telesat Mobile Inc. CAL is responsible for the design, development, test and manufacture of both the mobile earth terminals (METS), and the central hub facilities. The METS will allow mobile users to communicate with the Canadian Mobile Satellite (M-SAT) directly. The M-SAT will relay the messages to the ground based hub facilities. The hub interface and message facilities receive and relay these messages to various customers.

CAL's expertise in signal processing has made the company the leading supplier of SARSAT ground stations. The stations operate with the international search and rescue satellites for emergency location of distressed aircraft and vessels. The company has supplied thirteen ground stations known as Local User Terminals (LUTs) to Australia, Brazil, Canada, France, Pakistan, the United Kingdom and the United States.

In the radar field, CAL has developed an airborne synthetic aperture radar (SAR) and side looking airborne radar (SLAR) for mapping, ice reconnaissance, geophysical exploration and environmental monitoring applications. In addition, CAL has developed phased array antennas for microwave landing system applications, microstrip antennas for satellite communications and earth terminals.

For Space, CAL has designed and built innovative spacecraft equipment including scientific instruments, spacecraft antennas, spacecraft power subsystems, and processing facilities for microgravity research and manufacturing.

Examples of satellite based scientific instruments are the Wind Imaging Interferometer (WINDII), a scientific instrument designed for the Upper Atmosphere Research Satellite (UARS) which will investigate the dynamics of the earth's upper atmosphere by measuring wind velocity and temperature at higher altitudes.

Waves In Space Plasma (WISP) is another instrument designed and built by CAL for high frequency (100 kHz to 30 MHz) sounding of the ionosphere. OEDIPUS is a separate experiment similar to WISP for ionospheric sounding designed and flown as a rocket payload.

In cooperation with a Canadian science team and under contract from the NRCC, CAL designed, built and delivered a specialized vacuum ultra-violet imaging camera for Sweden's first satellite, VIKING, launched in February 1986.

The imager's high-gain detector used a multi-channel plate with variable gain coupled to an array CCD. The camera included CAL-designed read-out and control circuits plus a lightweight, low power, bit slice computer. The scientific purpose of the experiment was global imaging of the Aurora which was successfully completed with the return of 44,000 images. Today CAL is working on a new UV camera for the NRCC.

The lightweight UHF helical antenna in-orbit on the NATO SKYNET IV communications satellite is another CAL design. This antenna deploys to a length of 8 feet (2.4 M) after the satellite achieves orbit and functions as a transmit and receive antenna with excellent gain.

For the Canadian Mobile Servicing Centre (MSC), in support of the U.S. Space Station, CAL is

Products and Services

participating in the on-going system definition and is responsible for the power subsystem and components, the data management subsystem, and related software.

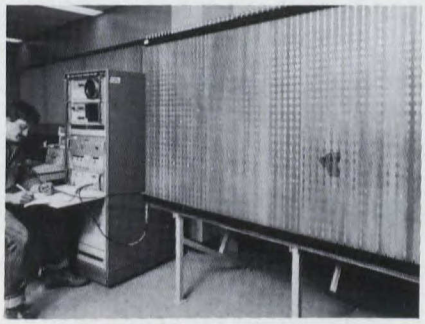
CAL is active in several Space Systems studies: Space Based Radar and EHF SATCOM for the Department of National Defence, Space Station system level definition, applications for manufacturing in Space, and several studies for long-range space applications.

CAL has been involved in a number of Electronic Warfare (EW) programs, of which the most successful has been the development of the radar signal simulator. Today, the Tactical Signal Simulator, or TASS, is a valuable tool for training Electronic Warfare Operators and evaluating different types of EW equipment. TASS is a computer-controlled, programmable signal generator, capable of being configured to generate, simultaneously, hundreds of complex radar signatures. Each radar signature is a highly realistic replica of an actual radar, simulating pulse-to-pulse frequency, pulse repetition frequency (PRF) and pulse width agility, complex scan pattern effects, and six axis motion effects relative to an ESM receiver. Both frequency and phase modulation-on-pulse rates are available. TASS will also provide multiple sets of synchronous emitters and synchronous-concurrent or dual frequency emitters. The TASS will realistically simulate all known threat signals. Many TASS systems in varying configurations are in service worldwide.

The Electronic Support Measures Receiver Accuracy Test System (ESM RATS) shown here is a TASS derivative. ESM RATS is the EW test system for NATO FORACS and operates in the frequency range of 1-18 GHz. These systems are currently installed and operating at two NATO sites. ESM RATS is programmed to replicate the radar emissions of weapons and weapons platforms that could prove hostile to naval forces.

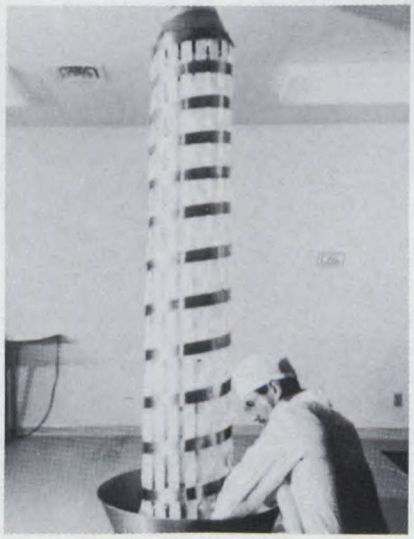
Accounting for a large part of CAL's significant growth and world-wide quality reputation is a first class manufacturing capability.

Electronic Support Measures (ESM) Receiver Accuracy Test System



Microwave Landing Systems (MLS) Microstrip Antenna

Advanced Technology Local User Terminal (ATLUT)



Skynet Deployable UHF Spaceborne Helical Antenna

Side Looking Airborne Radar (SLAR) Installed in DASH 7

CAL

OTTAWA, CANADA

Canadian Helicopters

(Formerly Okanagan Helicopters Limited, Engineering Support Division)

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Richmond, B.C. V6V 1W1
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GENERAL MANAGER: Ken Rogers
MANAGER, TECHNICAL SALES: Mike Druet

The Engineering Support Division of Canadian Helicopters is Canada's largest and most diversified helicopter support facility. The division provides full support services to Canadian's own large fleet, and to over 150 other helicopter owners and operators worldwide.

Okanagan Helicopters began operations in 1947 and over the past 42 years has established itself as a leader in all facets of helicopter operations and support services. Canadian is the largest helicopter operator in Canada and one of the three largest in the world. Its fleet of over 200 helicopters operate throughout Canada and around the world. Approximately 25% of the fleet operate outside of Canada with major emphasis in Southeast Asia, India, China, the Middle East, Africa, South America and Europe. All technical support services and logistics are handled through its Richmond facility. The company employs over 900 people in total with 170 in the Engineering Support Division.

The Engineering Support Division operates a modern 60,000 square foot facility that comprises an Engine Overhaul Shop, a Component Overhaul Shop, an Accessory Overhaul Shop, an Avionics Shop, a Materials Control department and an Engineering Design department. Additionally, a 16,000 square foot hangar and large Sheet Metal Shop are located at Canadian's nearby facility at Vancouver International Airport.

Canadian's support philosophy emphasizes quality, reliability and cost-efficiency. On the quality side the company maintains the highest in quality standards and workmanship in all of its shops. Quality Control meets or exceeds the exacting standards of aircraft manufacturers, Transport Canada, and the Department of National Defence.

Canadian enjoys a unique benefit from its dual role as an operator and a support facility. Access to operating data and reliability statistics from its own large fleet allows the company to better identify and monitor problem areas which facilitates the development of special repair schemes and overhaul procedures to increase unit reliability. Improvements in unit reliability minimizes operating costs and enhances safety. The company's own helicopter fleet enjoys one of the best safety records in the world, a reflection of its approach to helicopter support.

Canadian's extensive range of helicopter support services include the following:

Engine Repair and Overhaul
The company operates a large and modern engine overhaul shop with the state-of-the-art facilities.

Allison Engines
Canadian is approved by Allison as a Maintenance and Overhaul Centre for 250 Series engines. Over 125 Allison engines are processed through the shop annually. Of particular note are the special build procedures for Allison C28 and C30 engines, developed by Okanagan, and subsequently adopted by Allison, that have substantially increased the reliability, performance and safety of the engines.

General Electric CT58/T58 Engines
Canadian has been overhauling the CT58 for over 10 years and is endorsed by General Electric as a quality source for overhauls. Canadian is involved extensively in TBO life extension programs on the CT58/T58, including all of its own engines and can provide this service to its customers.

Pratt & Whitney PT6-T Engines
Canadian enjoys full factory support on its PT6 program and provides full repair and overhaul services on the power sections as well as the gearbox.

Airframe Repair and Overhaul
Canadian has extensive airframe capabilities including component, accessory and avionics overhaul, line maintenance, airframe repair, rewire, modification and aircraft rebuild on Bell 205, 206, 212, 412, 214B, 214ST, Sikorsky S61, S76 and Aerospatiale AS350, AS332C/L. These airframe capabilities are augmented by the company's highly experienced sheet metal shop.

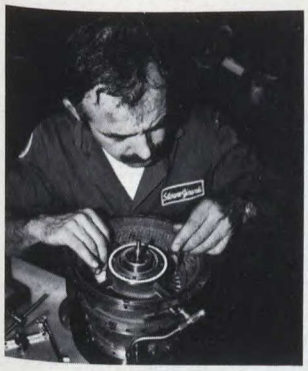
Design Engineering
Canadian's design engineering department is active in several areas of technical support including the design of operational equipment, aircraft modifications and shop repair schemes. Recently developed products include:

- E.M.S. Ambulance interior package for Sikorsky S76
- Fire-bombing belly tank for Bell 212
- Aerospatiale AS332 bubble door for improved vertical reference for heavy lift or search and rescue mission.
- Auxiliary fuel seat tank for Aerospatiale AS332.

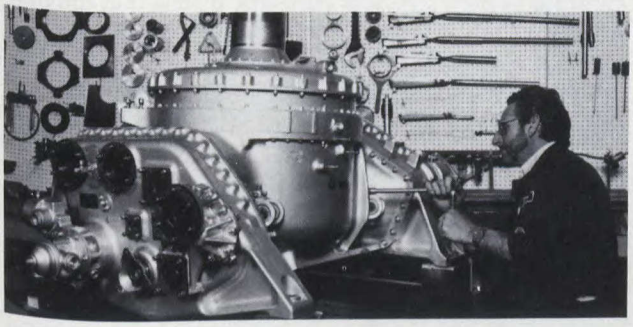
The Engineering Support Division's customers are spread throughout Canada, the United States and around the world. They include commercial and corporate helicopter operators, the Canadian government, the Canadian Department of National Defence and a number of foreign military establishments.

Products and Services

ENGINE SHOP - Canadian Helicopters' large and modern engine shop has full repair and overhaul capabilities on the Allison 250 series and the General Electric CT58/T58 series turbine engines.

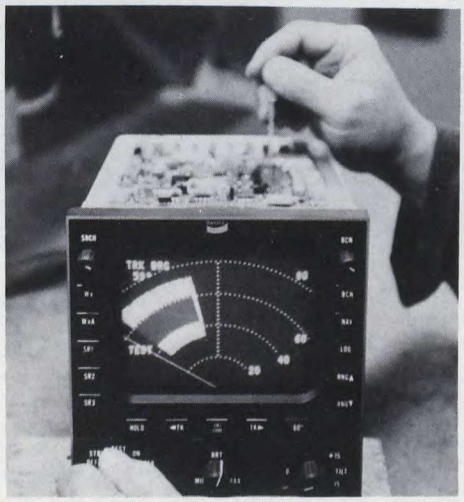


Technicians building a C30 turbine module (left) and balancing a CT58 rotor (right). Canadian builds its engines to very tight tolerances as part of its efforts to improve unit reliability.



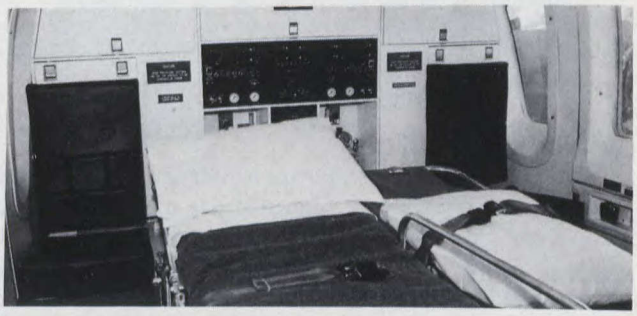
COMPONENT SHOP - Finishing touches on a Sikorsky S61 main transmission overhaul. Canadian overhauls all dynamic components on the Sikorsky S61, as well as the S76 and most all Bell helicopter models.

ACCESSORY SHOP - A hydraulic servo being tested after overhaul on Canadian's hydraulic test unit. The accessory shop overhauls a variety of hydraulic, electrical and electromechanical accessories.



AVIONICS SHOP - Repairing a Bendix weather radar unit. This shop has repair and overhaul capabilities on a wide range of avionics and instruments.

Airframe work ranges from major inspection and overhaul to complete rewire or rebuild.



Custom S76 Air Ambulance Interior - one of Canadian's many innovative designs.

Canadian Marconi Company

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EXECUTIVE VICE-PRESIDENT:
John H. Simons
DIVISIONAL GENERAL MANAGER, AVIONICS:
Ervin Spinner
DIVISIONAL GENERAL MANAGER, COMPONENTS:
Claude Bellefleur

Canadian Marconi Company (CMC) is Canada's foremost defence electronics company, with extensive expertise in avionics, specialized components, tactical communications, data communications and radar. Since incorporation in 1903, CMC has become internationally known for excellence and innovation in the design, manufacture, integration and support of complex high technology products. Sales in 1987-88 were $220.2 million. The General Electric Company, p.l.c. (GEC) of England holds 51 per cent of Canadian Marconi's common stock.

CMC's headquarters and main manufacturing plant are located in Montreal, as are 2500 of the company's 3200 employees. A second plant in Kanata, Ontario, houses selected Avionics Division programs, the DataComm Products Division, and the Naval and Ground Systems Division, which produces naval radar systems and a full line of ground-based navigational aids such as MLS, VOR, VOT, DME and RMMS. In 1988, a third facility was opened in Cornwall, Ontario for the manufacture of a line of tactical communications systems.

AVIONICS DIVISION

The Avionics Division has a staff of more than 600 engaged in the design, manufacture, production and support of a wide range of avionics and related products and services. Areas of expertise include navigation systems, display systems, monitoring and control systems, and systems engineering. The Division has extensive facilities in Montreal and Kanata in Canada, and at CMC Electronics locations in the United States, plus a comprehensive network of dealers and representatives throughout the world. Customers include military, para-military, and commercial organizations in over 40 countries, with installed systems on over 100 aircraft types. This breadth of experience and capability enables the Division to undertake a wide variety of specialized projects and product lines.

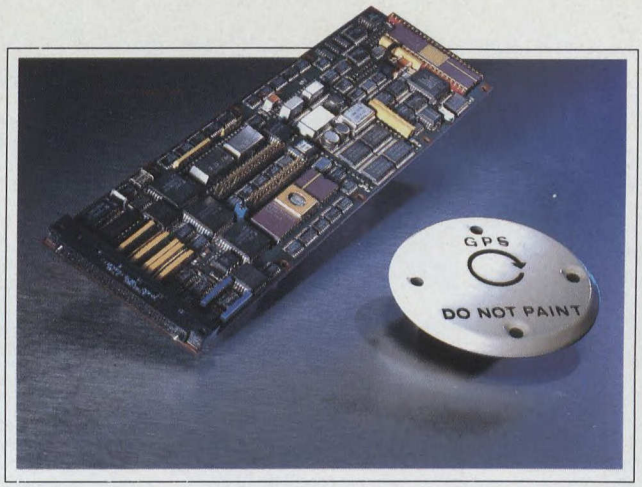
Since the late 1950's, the design and production of navigation systems has been a mainstay of the Avionics Division's business. First to implement the FM/CW Doppler technique for navigation, Canadian Marconi now manufactures the sixth generation of these systems, utilizing the latest techniques in electronics and software design. Omega/VLF navigation systems are also a leading product line, sold to airlines, business aircraft operators and military organizations around the world. The Avionics Division's range of navigation systems also includes receivers for the satellite-based Global Positioning System, which can give positional accuracy to within 16 metres, and CMA-2000 Microwave Landing System receivers currently installed in the new Air Force One aircraft and selected for the US Air Force CLMSA program.

Display systems are another important area of expertise in the Avionics Division. Canadian Marconi solid-state, vertical-scale engine instruments have long been famous as a standard for reliability and readability, particularly in the demanding environment of military helicopter installations. Other state-of-the-art techniques, including LCD, TFEL and colour CRT, are being utilized for the displays in both dedicated and multi-purpose systems, such as the CMA-2048 "Flat Panel" display, the CMA-882 Avionics Management System, and the CRT-based CMA-2014 and CMA-2050 Multifunction Display Systems.

A range of monitoring and control systems completes the airborne products of the Division. These systems include Helicopter Flight Advisory Computers and Structural Usage Monitors, both designed to decrease cockpit workload and enhance the safety of flying.

The Avionics Division is fully equipped for the internal manufacturing, test, repair and overhaul of all its products. It has extensive capabilities for automatic and semi-automatic assembly and test, and is continually upgrading these equipments to remain abreast

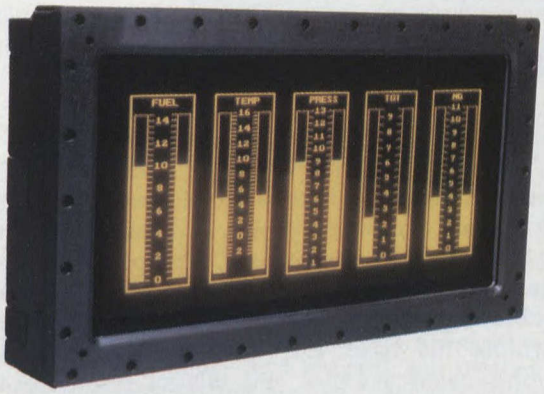
The CMA-2071 Structural Usage Monitor acquires, validates, processes, and stores aircraft engine and structural data and produces time histories, load diagrams, and usage information.



Canadian Marconi's CMA-2122 Single-Card GPS has been specifically designed to be integrated into other systems where size and cost are of prime importance.

The CMA-2014 Multi-Purpose Control/Display Unit features a colour CRT display, full graphics capability, and sunlight readability.

Thin-Film Electroluminescent display technology has been used in the CMA-2048 to produce a self-contained, multi-purpose display that is both NVG compatible and sunlight readable.



The CMA-2000 "Microlander" airborne MLS receiver system has been chosen for the new Air Force One aircraft and for the USAF CMLSA program.

CMC
CANADIAN MARCONI COMPANY

of current techniques. Other specialized departments ensure that customer needs for documentation and training are met in the most cost-effective manner. Quality assurance is also a major concern, and the Division is fully qualified to NATO Requirement AQAP-1 (equivalent to MIL-Q-9858A).

The Avionics Division's strength in the marketplace is the result of many advantages, including the fact that it can draw upon the expertise and production capabilities of other divisions of Canadian Marconi. One of the most important of these is the Components Division, which designs and manufactures many of the highly specialized components required for use in advanced avionics systems.

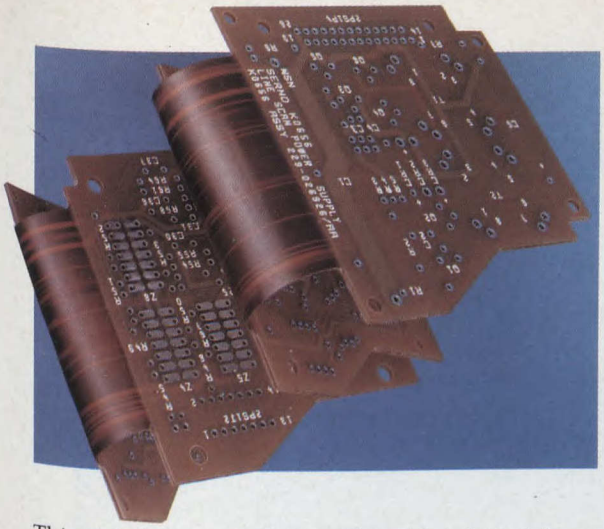
COMPONENTS DIVISION

Canadian Marconi is a world leader in the design and manufacture of specialized electronic components for military and high reliability aerospace, communications and radar applications. Components Division products are supplied to many leading North American and European defence and aerospace manufacturers, forming the basis for many of these companies' sophisticated avionics and tactical communications systems. The Division has formed technological partnerships with major international defence contractors.

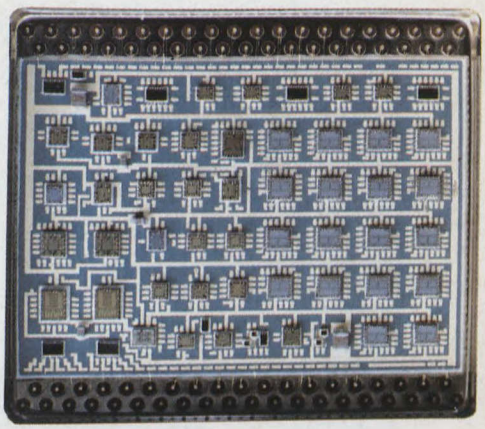
Areas of expertise include the design and manufacture of:

- printed circuit boards: multilayer (up to 24 layers), metal core boards, rigid flex boards
- hybrid microcircuits: thin- and thick-film, analog and digital
- specialized electronic components: power conversion products, magnetics, components and subassemblies
- Night Vision Goggle (NVG) compatible display products: edge-lit panels, tactile keyboards
- complex precision machined metal and plastic injection molded parts

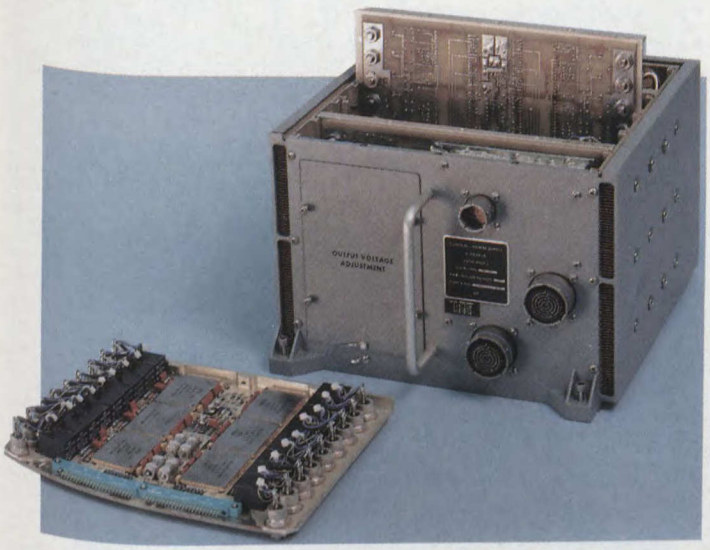
The Components Division relies on advanced technology and highly automated equipment to maintain its prestigious position in the defence electronics market. The Division's MIL-STD-1772 Class 10,000 clean room for hybrid microcircuit production meets stringent military criteria for environmental conditions and manufacturing, and is one of few such facilities in Canada. CMC's newly upgraded printed circuit board facility is one of the largest in the industry, with customers in military and other high reliability markets. CAD artwork generating systems with full digitizing and photoplotting capabilities (including a laser photoplotter) ensure state-of-the-art circuit design and packaging. The Division also has build-to-print and test capability for electronic subsystems and a wide variety of microwave components, including complete antennas.



This eight-layer printed circuit board has four rigid sections bonded to the interconnecting flex circuits. It is used on critical aerospace programs where high density and 3-D packaging are requirements.

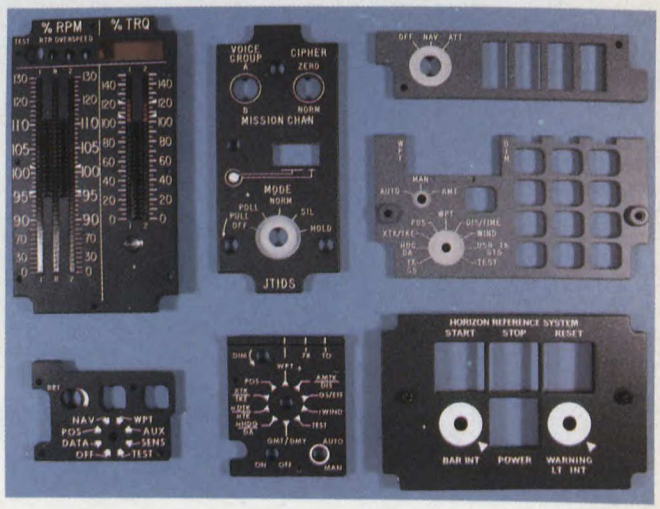


Thin- and thick-film hybrid microcircuits are produced in Canadian Marconi's MIL-STD-1772 Class 10,000 facility. The thick-film hybrid illustrated is typical of CMC's production for major U.S. military programs.



CMC produces panels and keyboards for military avionics and missile control applications. The panel group is an acknowledged international leader in the development and production of night vision goggle (NVG) compatible products, as well as displays and subsystems for a range of high reliability applications.

This power supply was developed by CMC for a strategic U.S. military helicopter program. CMC's expertise in the fields of circuit design and analysis, materials and electronic packaging, thermal design and analysis, and magnetics design uniquely qualifies this product group to respond to a complete range of aerospace industry needs.



CMC
CANADIAN MARCONI COMPANY

Cellpack Aerospace Limited

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EXECUTIVE VICE-PRESIDENT: J.D. Eisenhauer
GENERAL MANAGER: M.M. Guitton
SALES & MARKETING MANAGER: T.E. Squires

Cellpack Aerospace Limited is a Canadian company which was incorporated in November, 1987 for the development, production, and sale of advanced composite components and subassemblies for military and aerospace applications.

As a subsidiary of Cellpack Ltd., Wohlen Switzerland, Cellpack Aerospace was established to implement and develop upon the technologies and skills of the parent company's Advanced Composite Division, within the North American environment.

Construction was completed in 1988 on a new 42,000 square foot facility, located in Lunenburg Nova Scotia near Halifax. This fully flexible facility was designed to meet the rigorous requirements of aerospace manufacturing within a controlled environment.

Cellpack's emphasis on quality, cost competitive products, and strict adherance to schedules is well known throughout the international aerospace industry. Remaining on the leading edge of advanced composite technologies including materials, manufacturing processes, design and applications, is a mandate at Cellpack Aerospace.

Cellpack's capabilities in the winding and production of advanced composite components were developed over many years through concentrated research and development and extensive production.

Cellpack Aerospaces' Quality Assurance program complies with NATO specification AQAP-1 and U.S. military specification MIL-Q-9858A.

Cellpack has been involved in the following programs:

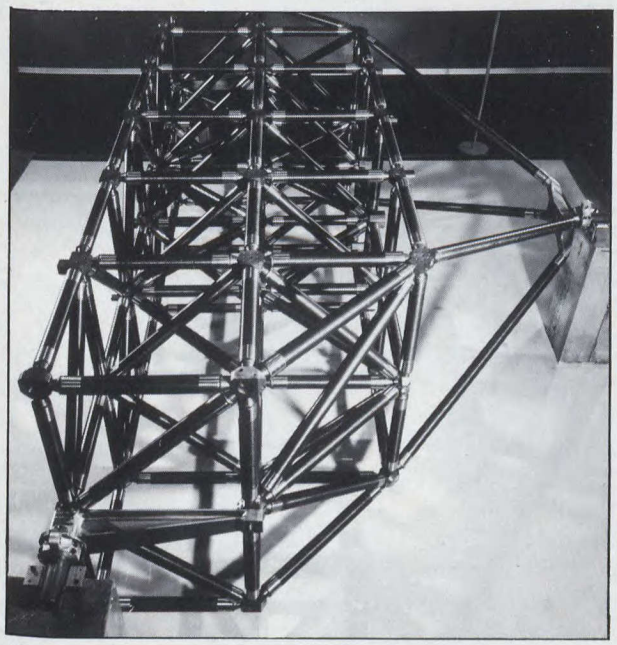
Defence Related
- Dragon Launch Tube
- TOW-2 Launch Tube
- ADATS Canister
- AT-4 Launch Tube
- Leopard Smoke Detractor
- Launch Tube-Shoulder Launch System
- Rocket Motor Cases

Space Related
- MPSS/EBA on FSLP (Modular Payload Support Structure for first SL-Mission)
- SPAS 01 (Shuttle Pallet Satellite)
- USS (Unique Support Structure for SL/D1-Mission
- ASTROSPAS
- EURECA (European Retrievable Carrier)
- ADRM (Antenna Deployment and Retraction Mechanism)
- Ariane Actuator Struts (2nd Stage Engine)
- ERS 1
- OLYMPUS
- DFS Lopernikus
- COLUMBUS Polar Platform
- IBSS
- ISO Sunshield Struts
- ISO SVM Struts
- Cryostate Cones
- Several Satellite Structures

CELLPACK
AEROSPACE

Products and Services

1.



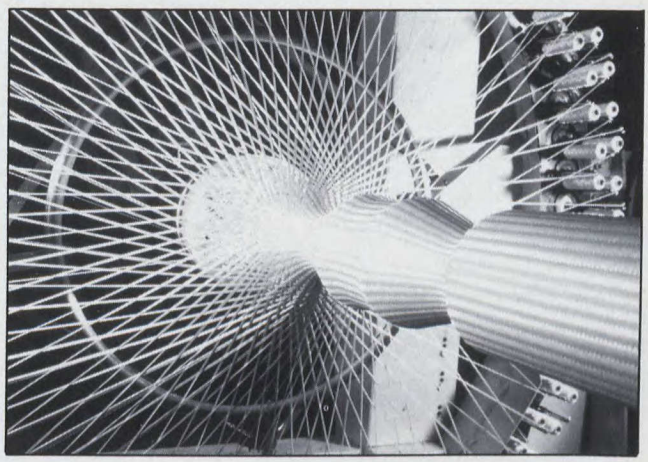
1. Eureka structure with carbon fibre tubes and integrally bonded metal fittings.

2. Braiding of a rocket motor case.

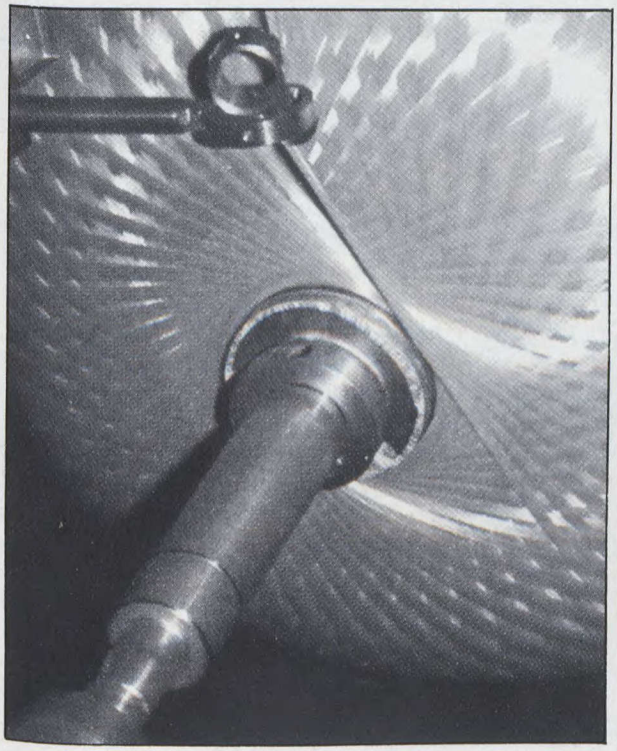
3. Aramid fibre reinforced fuel tank.

4. Cellpack produces the launch canisters for the ADATS System.

2.



3.



4.

LEADERS IN ADVANCED COMPOSITE TECHNOLOGIES

Cercast

a division of Howmet Cercast (Canada) Inc.

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TELEX: 05-829500

PRESIDENT: F. Valenta
EXECUTIVE VICE-PRESIDENT: E. Heimbach
V.P., GENERAL MANAGER: H. Stoll
SALES MANAGER: D. Rupp
QUALITY CONTROL MANAGER: B. Spagnol
ENGINEERING MANAGER: G. Wintgens

Incorporated in 1959, Cercast is known throughout North America and Europe as one of the leading producers of large aluminum investment castings, utilized mainly in the aerospace field. To service the various geographic areas of Canada, the USA and Europe, Cercast expanded to a total of 7 manufacturing facilities. Although these 7 plants are independent companies they have the same technology, offering greater flexibility and better service to customers.

The CERCAST group of companies was acquired by the HOWMET CORPORATION of Conn. in 1989. HOWMET CORPORATION is a world leader in the manufacture of precision superalloy and titanium investment castings, primarily for jet aircraft and other gas turbine engines.

Castings up to 48" (1.200 mm) are made in various Al.Si.Mg. alloys such as A356, A357, AS7G03 & 06, LM25 or L99, and are certified to MIL-A-21180 and other European specifications. All inspection is carried out in approved laboratories performing radiography, penetrant inspection and chemistry. Metallurgical laboratories are also available for continuous monitoring of the casting process.

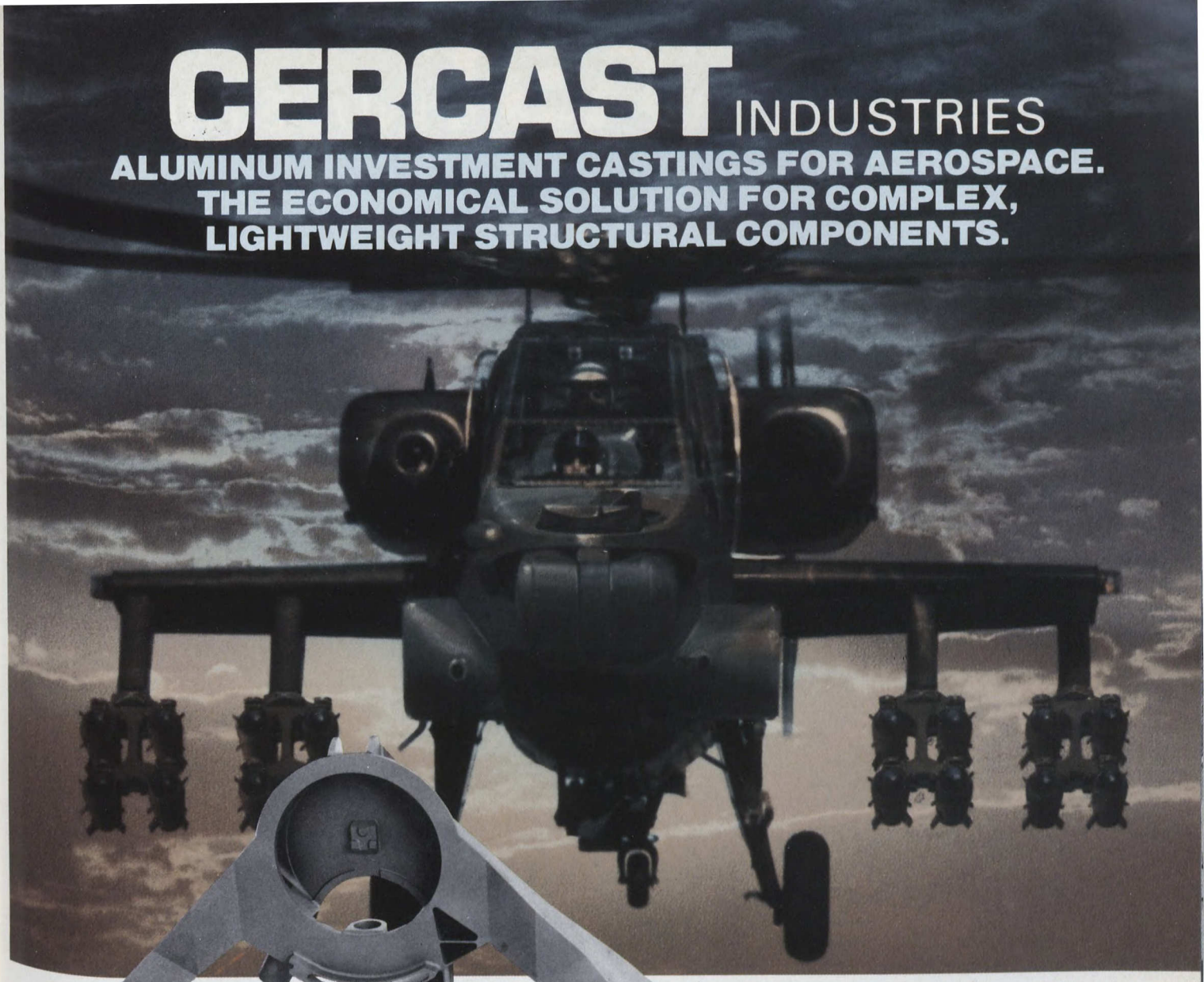
Economical casting designs are the combined efforts of the mechanical designer and the casting producibility engineers.

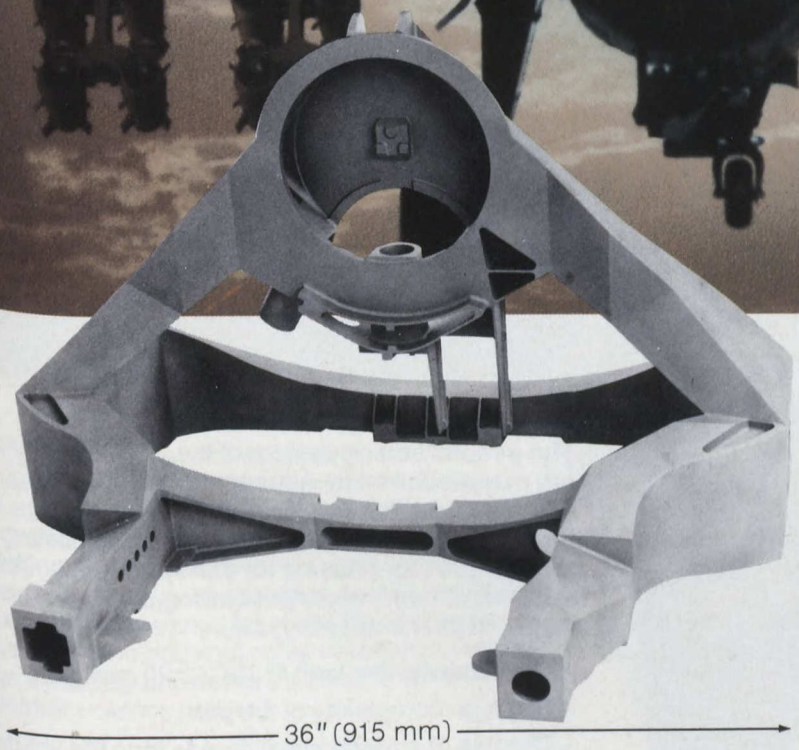
This company offers a broad spectrum of specialized capabilities in the investment casting fields. Their product, service and capability record includes all of the following features:

- Value engineering.
- Castability of configuration.
- Cold walls and double wall pin fin heat exchanges.
- Size limitations and relationship to wall thickness.
- Design features to improve capability. Wall thickness, ribbing, gussets, openings, card guides, corner and fillet radii, etc.
- Dimensioning of castings. Centerline dimensioning. Effects of dimensioning on machining targeting or machining start.
- Contact (tooling) points and datum reference planes.
- Linear and geometrical tolerances. Optimum dimensioning to minimize tolerances on functional features. True positioning.
- Process and manufacturing tolerances.
- Alloy selection.
- Mechanical properties of alloys, classification and selection.
- Proving of physical properties in castings.
- Pressure tightening of castings.
- Drawing notes and specifications.
- Non-destructive testing (NDT), Radiographic quality and inspection frequency, Penetrant inspection.
- Surface finish and machining allowances.
- Traceability, lot sizes, melt and heat treat lot definitions.
- Inspection plans, fixturing and gauging.
- Casting and tooling costs.
- Tooling modifications, cost relations.
- Lead times for tooling, samples and production.

CERCAST INDUSTRIES

ALUMINUM INVESTMENT CASTINGS FOR AEROSPACE. THE ECONOMICAL SOLUTION FOR COMPLEX, LIGHTWEIGHT STRUCTURAL COMPONENTS.





36" (915 mm)

The TADS/PNVS (Target Acquisition Designation Sight/Pilot Night Vision Sensor) systems are manufactured by Martin Marietta for the U.S. Army/Hughes Helicopters, Inc. AH-64 APACHE Advanced Attack Helicopter. The AH-64 uses a multitude of aluminum investment castings. The main support casting shown here holds the TADS/PNVS systems and is an excellent example of the flexibility, size, complexity and structural integrity of this investment casting application.

Please send your inquiry to one of the addresses listed below.

CERCAST
3905 INDUSTRIAL BLVD.
MONTREAL NORTH
QUEBEC, CANADA
H1H 2Z2
TEL.: (514) 322-2371
TELEX 05-829500
TELEFAX
(514) 322-1340

CERCOR
93 MOUNTAINVIEW
ROAD NORTH
GEORGETOWN,
ONTARIO, CANADA
L7G 4T1
TEL.: (416) 877-6936
TELEX 06-988558
TELEFAX
(416) 677-6396

CERAMET
2175 AVENUE C
BETHLEHEM, PA
18017 U.S.A.
TEL.: (215) 266-0270
TELEX 847324
TELEFAX
(215) 266-1990

CERCON
201 CONSOLIDATED DR.
HILLSBORO, TX 76645
U.S.A.
TEL.: (817) 582-3413
TWX: 910-890-5894
TELEFAX
(817) 582-2466

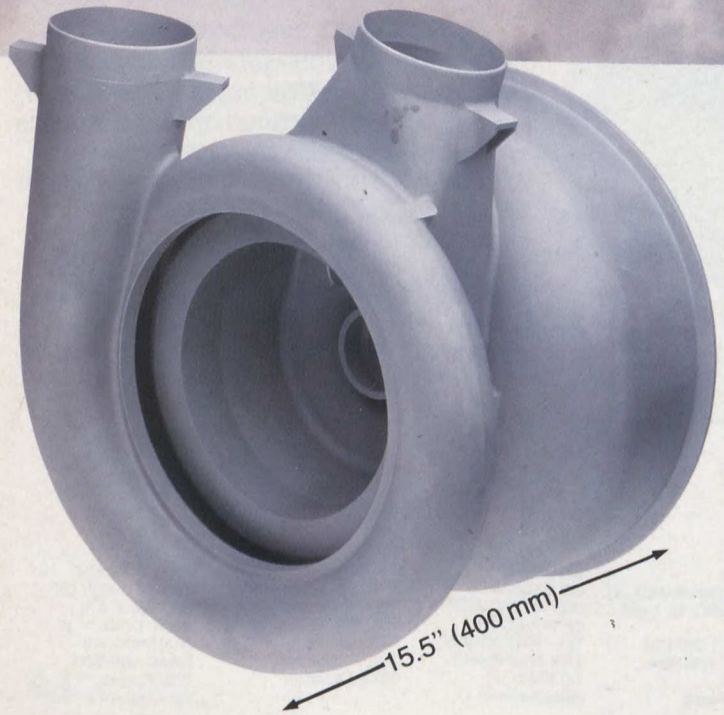
SIGMA
925 S. CHARLIE RD.
CITY OF INDUSTRY
CA 91748 U.S.A.
TEL.: (818) 965-2457
TWX 910-584-4682
TELEFAX
(818) 964-5440

CIRAL
2 RUE RACINE
7812 SAINT GERMAIN
EN LAYE
FRANCE
TEL.: 973-06-99
TELEX 698820

ALFA CERCAST
MICROFUSION DE
ALUMINIO, S.A.
AVDA. OTAOLA, 13
APARTADO 478
EIBAR - ESPANA
TELEF.: (943) 71 71 41
TELEFAX (943) 701874

CERCAST INDUSTRIES

ALUMINUM INVESTMENT CASTINGS FOR AEROSPACE.
RELIABILITY IN METAL FORMING.

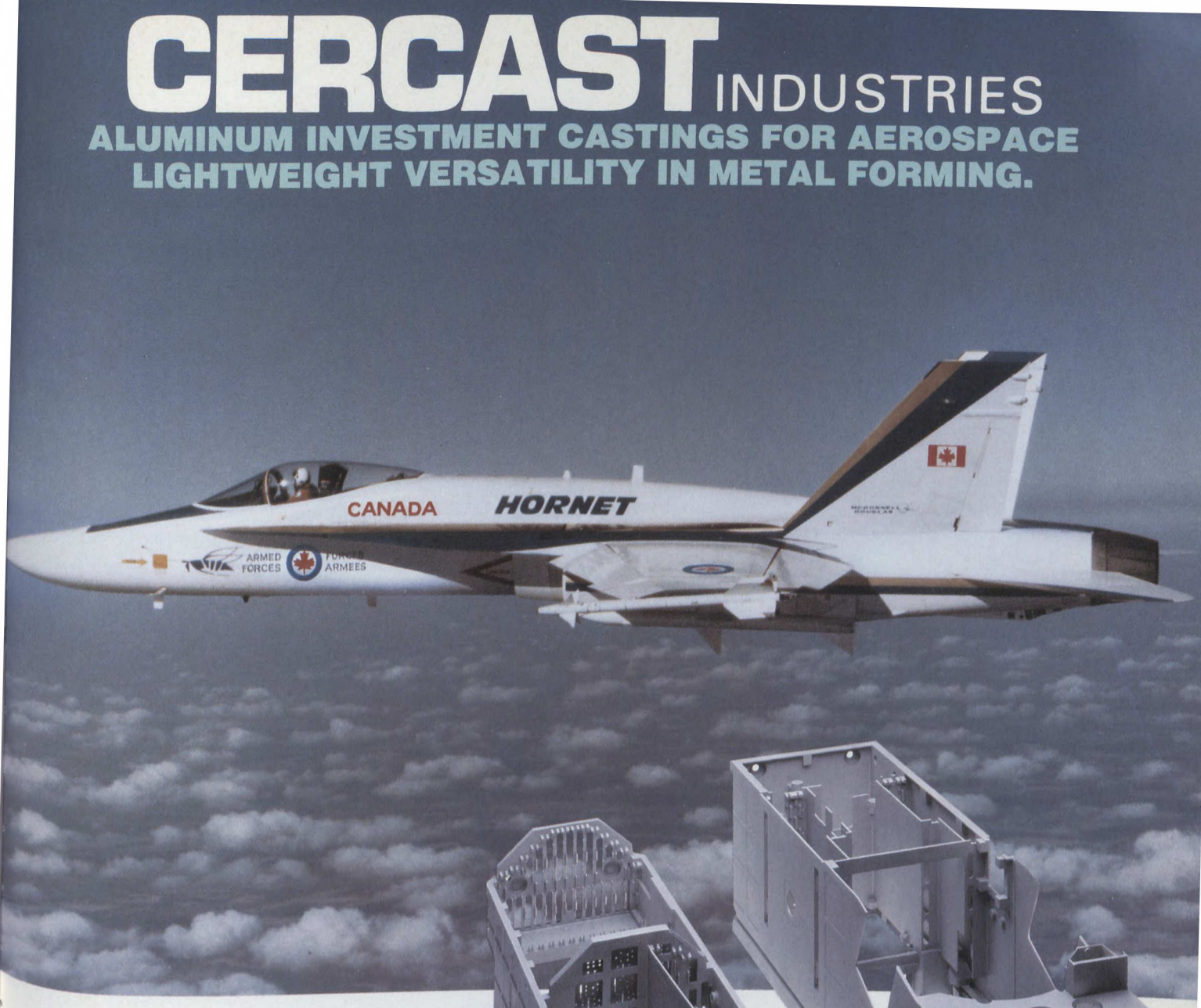


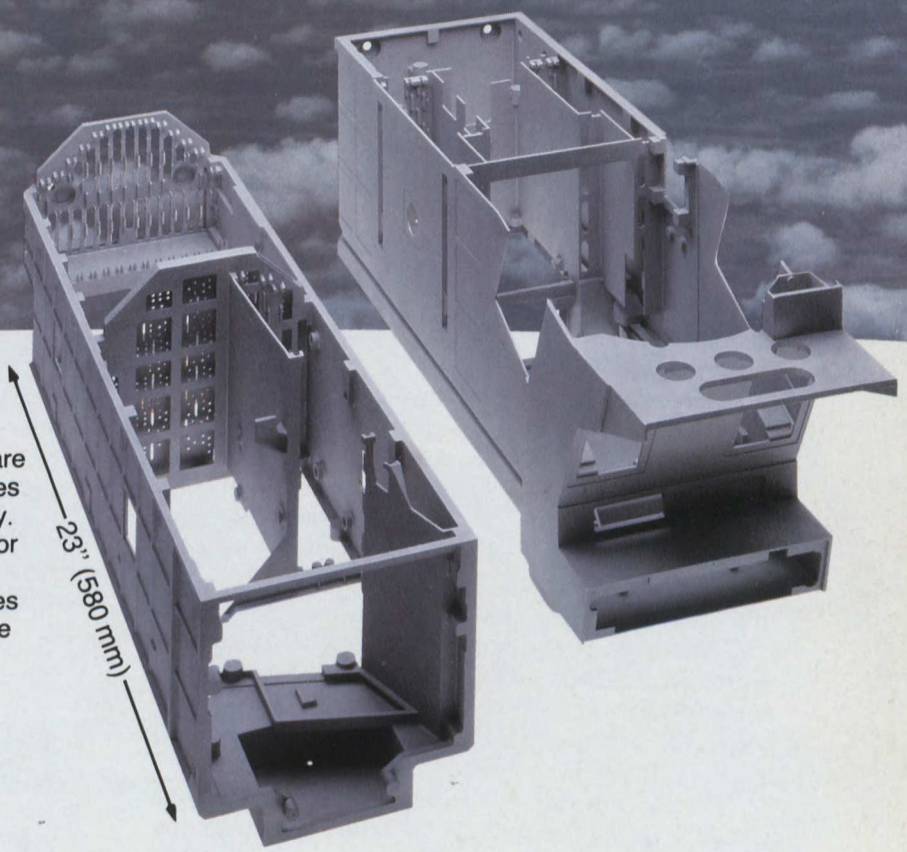
The airconditioning system of the 757/767 aircrafts are manufactured by Airesearch Manufacturing Company of Los Angeles, CA for the Boeing Company of Seattle, WA. The illustrated casting is the compressor housing for this system. Significant features of this investment casting, manufactured in A356 T6 aluminum alloy, are:

- The relativity thin wall of .09" (2.20 mm).
- The high complexity of the part.
- The use of a mechanical core to form the volute section resulting in better repeatibility of each casting.
- The fact that each casting is pressure tested at 120 PSI prior to shipping, shows the mechanical integrity of this design.
- The significant cost savings over other manufacturing methods.

CERCAST INDUSTRIES

ALUMINUM INVESTMENT CASTINGS FOR AEROSPACE LIGHTWEIGHT VERSATILITY IN METAL FORMING.





Tight specifications and weight limitations of all components are characteristic of the F18 fighter aircraft. The main HUD housing and MDI chassis are both cast in A356 alloy with typical wall thicknesses of .060" (1.5 mm) and 0.50" (1.2 mm) respectively. Other features such as cast card guides, connector openings and openings for air cooling passages make these two housings other excellent examples of the versatility and design freedom offered by the investment casting process.

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Chicopee Manufacturing Limited

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N2C 1J1
TELEPHONE: (519) 893-7575
FACSIMILE: (519) 893-5952

PRESIDENT & GENERAL MANAGER: Betty Sims
VICE-PRESIDENT, OPERATIONS & MARKETING: David Belanger

Chicopee Manufacturing Limited services the aerospace and related industries by providing custom precision machining of medium to large complex components. The firm's particular expertise is in machining titanium, high strength steels, and aluminum alloys to precise tolerances.

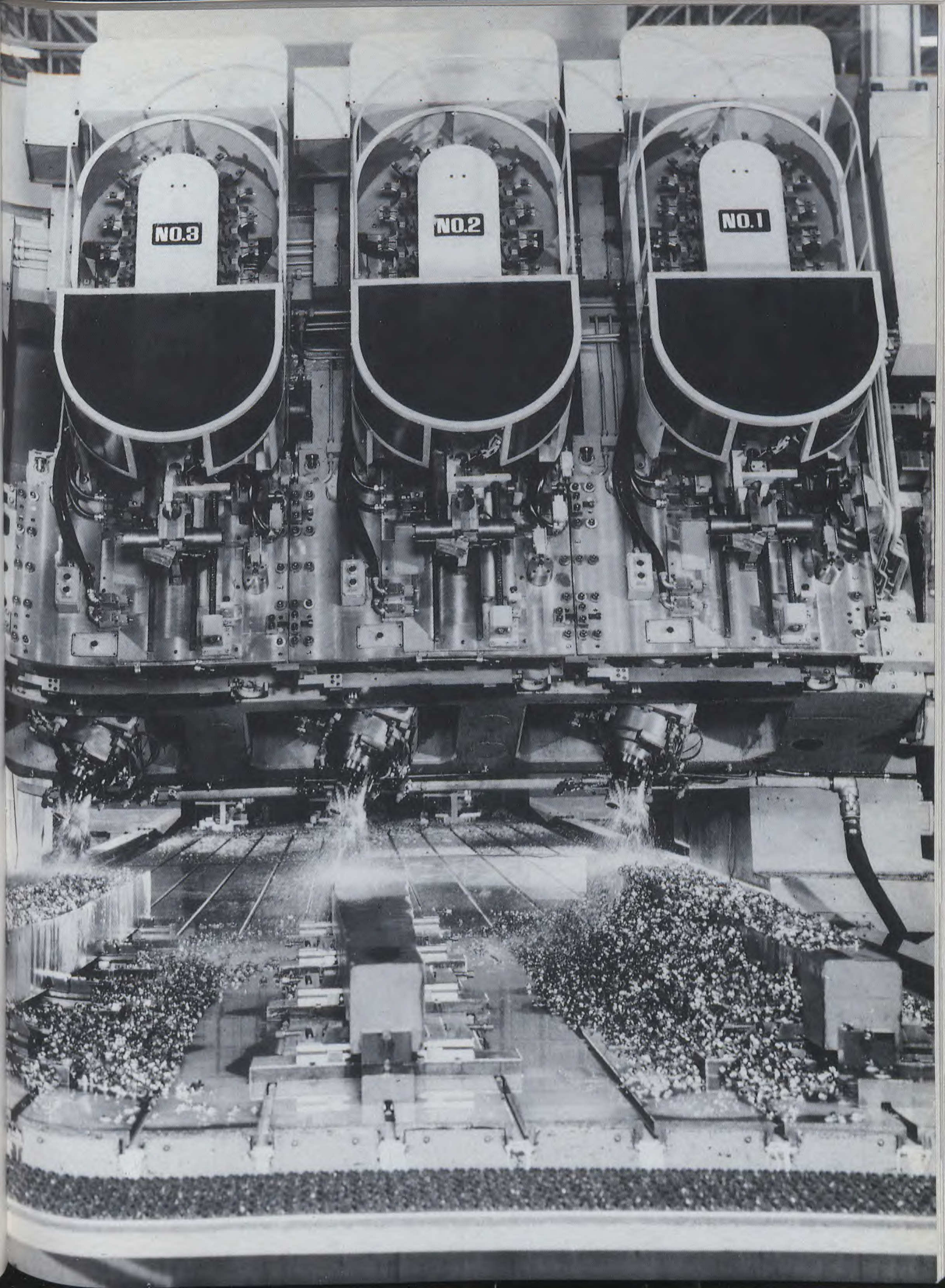
The company is located on Wilson Avenue in Kitchener's Industrial Basin one hour from Toronto and easily accessable from the MacDonald-Cartier Freeway (Highway 401). The company has been in business for 35 years and its current modern facility consists of over 100,000 square feet employing 250 people. Chicopee's customers include most of the leading manufacturers of commercial and military aircraft in North America, for which it machines a wide variety of components for inclusion in airframes, wings, landing gears, and helicopter rotor systems. Its expertise also includes assembly and testing of hydraulic actuators using Skydrol fluid and the machining of parts for other industries including pump impellers, radar tracking components and sophisticated RAST (Recovery Assist Secure Traverse) parts for shipboard landing in rough seas.

Chicopee's concept of state of the art machining is the blending of the most sophisticated machining and support equipment that is available with the skilled craftsmen who are required to achieve the high standards that the company demands be maintained. Computer Numerical Controlled (CNC) equipment includes two five axis gantry type profile milling machines, numerous three axis profile milling machines, three and four axis vertial machining centres, four axis horizontal machining centres, lathes and boring mills as well as a wide range of profile copy mills, standard lathes and boring mills, conventional mills, drills and other supporting equipment.

The machine shop is supported by a CAD/CAM system which provides our in-house staff with the capability of providing our wide range of CNC machines with timely part programs increasing flexibility, CNC cutter grinding for increased tool accuracy, and CNC Co-Ordinate Measuring equipment to insure the highest standard of quality control. The company complies to Defence and National Bureau of Standards specifications, including AQAP-1 (formerly D.N.D. 1015) and MIL-Q-9858A. Quality control procedures call for first-off inspection of every manufacturing operation, as well as 100% final inspection of all critical dimensions. Reverse traceability of all material, parts, and process is guaranteed. To provide greater in-house control of quality the company now provides the NDT capability of Magnetic Particle Inspection, Fluorescent Penetrant Inspection and Nital Etch, as well as the ability to apply some fuel resistant and impact resistant coatings.

The company is wholly Canadian and privately owned with years of experience in complying with the customs requirement of shipping across borders to foreign customers. Decisions are made locally and priorities can be rapidly adjusted to meet customer schedules and emergency stituations. Chicopee's team of professionals welcomes the challenges of intelligent problem solving and flexible manufacturing methods. The computerized manufacturing and administrative systems provide exact schedule positions, material inventories and machining procedures. The system is completely integrated to encompass manufacturing planning operation, job lot costing, financial records, procedures and reports.

Chicopee welcomes the opportunity of quoting on any need for custom precision machined products.


NO.3
NO.2
NO.1

COM DEV Ltd.

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N1R 7H6
TELEPHONE: (519) 622-2300
FAX: (519) 622-1691
TELEX: 06-959333

PRESIDENT: Val O'Donovan
VICE-PRESIDENT: Keith Ainsworth
DIRECTOR OF MARKETING: Ken Allstaff

COM DEV is Canada's source of strategic technology for communications, radar and electronic warfare. The company's products are deployed on satellite, airborne, surface, subsurface and terrestrial platforms within civil and military markets.

COM DEV's impressive product range encompasses the following:

Advanced Subsystems

- Millimeter-Wave Radiometer Systems
- Filter and Multiplexing Networks
- Specialized Antennas and Beamformers
- SAW Pulse Compression Subsystems
- SAW Microscan Receivers
- On-Board Signal Processors
- Digital Encoders — Decoders
- Waveguide and Coaxial Combiner Networks
- Millimeter-Wave Subsystems
- Switching Matrices

Advanced Components

- Filters, Terminations
- Specialized Circulators, Isolators, Phase Shifters, Ferrite Switches, Variable Power Dividers
- SAW Pulse Compression Devices and Bandpass Filters
- Waveguide and Coaxial Switches
- High Performance MMW Components

COM DEV was founded in 1971 and has grown to be a prestigious International trading company with a high proportion of its sales in American, European and Far-East markets.

The company is renowned for its multiplexer subsystems which have been installed on over 100 spacecraft in more than 30 International programs. COM DEV is a major supplier to key payload suppliers. The company has an unsurpassed track record in on-time delivery of products which satisfy the critical technical and quality requirements.

Since 1983, COM DEV has steadily increased its product and market bases and has supplied equipments into both Canadian and International space science programs. COM DEV's high power microwave switching circuits are used on the European ERS-1 satellite and many of the company's microwave and signal processing subsystems will contribute to the unique performance of the proposed Canadian RADARSAT Synthetic Aperture Radar (SAR). COM DEV's fast ferrite switching subsystem was selected for the American NSCAT program.

The Japanese EXOS-D program uses a mass spectrometer designed and supplied by COM DEV.

Many International defence equipments rely on COM DEV 's subsystems to give them state-of-the-art performance. These subsystems utilize COM DEV's indigenous technology which has been developed to give COM DEV security of supply of critical components and thereby to give the company the control it needs to meet critical timescales.

COM DEV's capability in digital and surface acoustic wave (SAW) signal-processing subsystems is used in the Canadian Department of Transport RAMP Air Traffic Control radar. The RAMP radar is supplied by Raytheon Canada Ltd. and is currently the most advanced Air Traffic Control radar in production. COM DEV has been selected as the Canadian contractor on the joint Canadian Forces/U.S. Army project MEDFLI (Miniaturized ESM Direction Finding Location and Identification). MEDFLI is a NATO sponsored system which will be deployed on ESM Payloads for a generic remotely piloted vehicle. COM DEV was selected because of its proven experience and track record in millimeter-wave technology. Work on this project is well advanced on the antenna, receiver and down-conversion components which utilized COM DEV's millimeter-wave microwave integrated circuits.

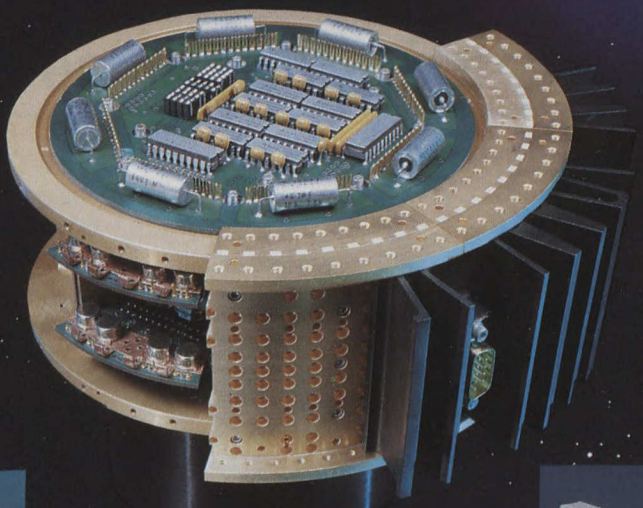
A significant proportion of COM DEV's revenues are invested in R & D programs which enable the company's products and technologies to be ahead-of-the-art.

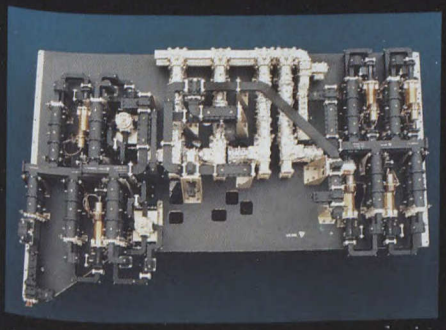
COM DEV is a 100% Canadian owned private company and comprises three major divisions, namely Satellite, Defence and Systems.

Out of the total workforce of 260, the breakdown of skills is as follows:

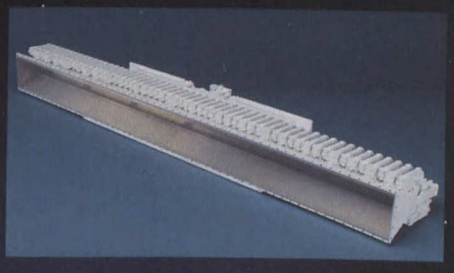
ENGINEERING:	50%
PRODUCTION:	25%
QUALITY ASSURANCE:	5%
ADMINISTRATION, PROGRAM AND CONTRACT MANAGEMENT:	20%

In 1985, COM DEV Europe was established to provide a European base for the design and manufacture of COM DEV's products for the European Space and Defence markets. COM DEV Europe is fully equipped with laboratories and workshops to provide many of COM DEV's products. COM DEV Europe, located in Tring, England is also the focus for sales activities within Europe.

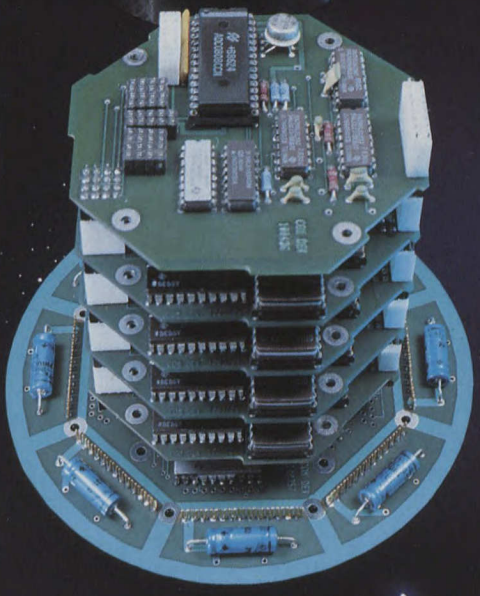


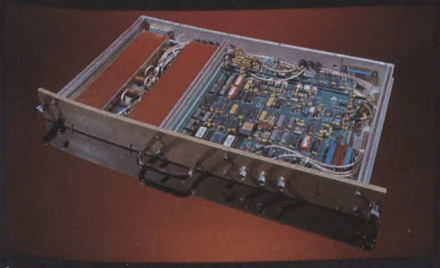


A Ku-Band input/output multiplexer for G-STAR communications satellite.



A Synthetic Aperture Radar Antenna for remote sensing application.





A Surface Accoustic Wave (SAW) enhanced pulse compression Radar Signal Processing Subsystem.

A tightly integrated Ka-Band Circular Phased Array Module.

An early prototype "FXR", MM-Wave Frequency Extension for radar warning receivers . . .

An Electrically Scanning Millimetre-wave Radiometer for ice detection.

COM DEV

Computing Devices Company

P.O. Box 8508
Ottawa, Ontario K1G 3M9
TELEPHONE: (613) 596-7000
TELEFAX: (613) 820-5081
TELEX: 053-4139

PRESIDENT: J.W. Fawcett
SENIOR VICE-PRESIDENT: G.M. Mount

Computing Devices Company, an established producer of sophisticated electronics for defence and industrial applications, has achieved a global reputation for excellence. The Company, a division of the Control Data Corporation, has supplied the armed forces of over twenty countries, from NATO to the Pacific Rim, with state-of-the-art technology.

Founded in 1948, Computing Devices is recognized today as an innovative industry leader. The Company's continuous investment in research and market-led development has resulted in a number of world firsts and significant technical breakthroughs.

The early 1950's saw the development of the Company's expertise in airborne tactical navigational systems, with the Position and Homing Indicator (PHI). Quick to gain worldwide acceptance, over 4,500 systems were produced for the air forces of 17 nations. Later, in the mid 60s, the highly successful Projected Map System (PMS) was installed in USAF and USN A-7 aircraft, Italian Air Force G-222s and USAF Pavelow III helicopters. The PMS led to more than $40 million in contracts, and over 2,000 delivered systems.

An outstanding success of the 70s was the Airborne Acoustic Processor, the AQS-901, an Anti-Submarine Warfare (ASW) processing system installed in the British Nimrod aircraft and the Australian P-3. In 1973 Computing Devices also began development of the world's first digital fire control computer, for the U.S. Army M1 main battle tank.

Exploiting these early achievements, the Company has developed unique expertise in a number of core technologies. These include digital signal processing, multi-sensor scan conversion, ballistics and high resolution digital displays.

Today, Computing Devices is organized into autonomous business areas, each utilizing these core technologies to meet specific customer requirements. The four main business areas are anti-submarine warfare acoustic signal processing, direct and indirect fire control, advanced display systems, perimeter security systems and ground/shipboard control systems for unmanned vehicles such as RPV's, drones and test targets. Computing Devices Company also offers a comprehensive contract manufacturing service in accordance with military standards and specifications. This business area has successfully completed a significant volume of build-to-print work for major defence contractors such as Hughes Aircraft Company.

Total plant size is 425,000 square feet, with approximately 1,200 employees. Revenue is currently $130 million, of which 75-80 percent is export.

Products and Services

ASW SYSTEMS

ASW on a sound basis

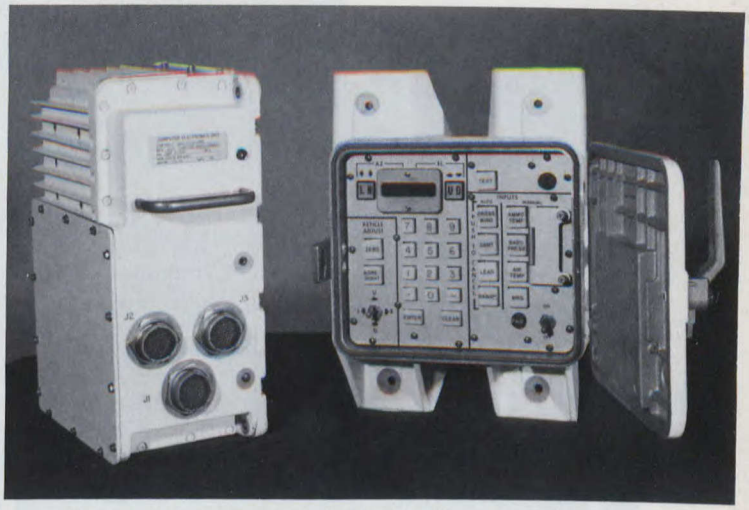
Computing Devices' ASW division specializes as a supplier of acoustic and mission systems for various ASW platforms.

Current products include the AN/SQS-510 Active Sonar, the AN/UYS-501 Array Processor and the AN/SQR-501 Canadian Towed Array Sonar System (CANTASS). The AN/UYS-503 Sonobuoy Processor has won four international competitions and is now being fitted in ASW ships, helicopters and fixed wing aircraft for Canada, Australia, Sweden and the U.S. Navy.

Computing Devices is the prime contractor in a three-company consortium to design and develop the integrated mission avionics system HINPADS for Canada's New Shipborne Aircraft (NSA).

As submarines become quieter and their torpedo and missile ranges increase, the detection problem becomes more and more acute. Computing Devices' ASW division combines the engineering know-how to provide increasingly more sensitive equipment to Western forces.

GROUND SYSTEMS



The world's first all digital ballistic computer system

Computing Devices Company, the world's foremost supplier of digital fire control systems for both direct and indirect applications, has worked on digital computer-based ballistic computing systems since the early 1960s.

The Company produced the original fire control computer for the U.S. Army M1 main battle tank — the world's first all digital system. Since then, over 6,000 ballistic computer systems have been fielded, and are currently in service on the U.S. Army's M1 and M1A1 tanks and the Korean Type 88. The system is also a major component of an M48A5 tank modernization program. Modified versions have also been developed for the M60, the Close Combat Vehicle Light (CCVL), and the UK Challenger 2 tank.

The Ground Systems division has recently developed a new Integrated Fire and Manoeuvre Control System (IFMCS) which provides the tank commander with the ability to monitor the operational capabilities of his vehicle and weapon systems, diagnose faults, receive and transmit tactical communications, mapping and navigation data, and conduct crew training.

Development work has also led to the production of the Military Portable Artillery Computer (MiliPAC) for the Canadian Forces. The unit has also been successfully exported.

The Ground Systems division is participating in a number of collaborative initiatives to pursue a variety of major programs including DND's Tactical Command, Control and Communications System (TCCCS), and such NATO programs as Autonomous Precision Guided Munitions (APGM), Multifunctional Information Distribution System (MIDS), and Area Defence Weapons (ADW).

Products and Services

DISPLAY SYSTEMS

EL flat panel display and MAGIC² display system

Exploiting the Company's expertise in signal management and scan conversion technology, the Display Systems division is actively involved in the design of advanced digital display systems.

The MAGIC² (Multimode Advanced Graphics and Imaging for Command and Control) display system is a multi-sensor display that accepts video input data from all ship-board sensor systems. MAGIC² combines digital scan conversion techniques and a real-time memory operating system to provide sensor information and complex graphical overlays on high resolution colour monitors. The system is provided as a complete work station or any combination of the modular blocks.

MAGIC² is a development of the AN/UYQ-501 SHINPADS Standard Display produced for the Canadian Navy and adopted as their standard. SHINPADS provides system integration encompassing the whole ship — this includes the combat systems equipment, propulsion and damage control systems and the administrative support hardware.

The Display Systems division has also developed a family of advanced militarized electroluminescent (EL) flat panel displays. Compact and lightweight, these high performance full Mil-spec displays are available as part of MAGIC², and are currently being integrated into systems for the U.S. Army, U.S. Navy and Canadian Government.

UNMANNED VEHICLE SYSTEMS

RPV Mission Planning and Control Station

In recent years Computing Devices has become a major participant in the rapidly evolving field of Unmanned Vehicle Systems (UVS), specializing in the Ground Control Stations (GCS) which are a significant part of a UVS.

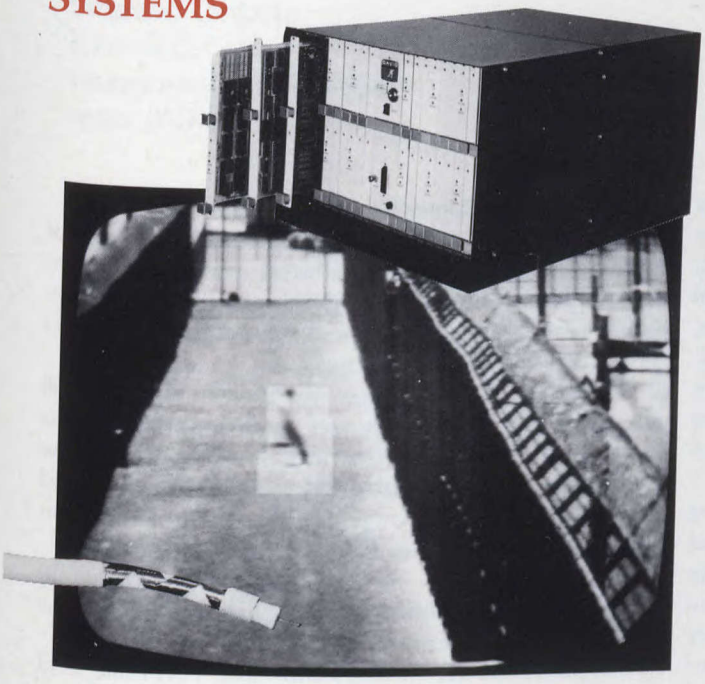
The Company has been involved with the Canadian Army's Unmanned Airborne Surveillance and Target Acquisition System (UASTAS) for several years. It has also completed a number of UVS projects for the Canadian Navy, and is currently developing a highly modular research GCS for the Defence Research Establishment Suffield. These projects, coupled with internal R&D, have led to the development of unique capabilities in the many technical aspects that make up UVS GCS.

The next generation GCS being developed by the Company is intended for use with the US military family of unmanned air vehicles. Pictured above is such a GCS designed for a single operator system installed in ships or mobile shelters.

By coordinating internal R&D and contracted work, the Company has developed state-of-the-art GCS, and is acknowledged as an international leader in the field of ground electronics associated with Unmanned Vehicle Systems.

Products and Services

SECURITY SYSTEMS



Guided radar technology and DAVID, proven outdoor intrusion detection systems

Computing Devices' extensive background in real-time, digital signal processing has provided a unique capability in solving physical security problems. Today Computing Devices is a world leader in high performance security sensors and systems for demanding outdoor applications.

The patented GUIDED RADAR technology pioneered by the Company has resulted in a family of perimeter intrusion detection sensors for protection of high-value resources. These sensors, which use ported coaxial cables as a distributed radar antenna system, are available for both long and short perimeter applications and to meet full military, ruggedized or industrial specifications. The family of sensors includes GUIDAR, SPIR and the AN/GSS-34(V), the DoD standard full-MIL sensor.

A second sensor product success is DAVID, a Digital Automatic Video Intrusion Detection sensor. Designed to operate with standard outdoor CCTV, DAVID analyses changes in the video image to detect intruders while rejecting changes caused by the outdoor environment.

Today, a new generation of sensors and system products are emerging from the Security System's R&D laboratories. These include TOPLINE, for large volume perimeter protection, REPELS for mobile, rapid deployment applications, PINTS for interior detection and TVSR or airborne threat detection.

In addition to sensor products, Computing Devices has utilized its extensive system integration skills to tackle complex integration problems such as Waterside Security.

CONTRACT MANUFACTURING

U.S.N. Fleet Exercise System-Exercise Electronic Assembly

The Company's Contract Manufacturing division has achieved a worldwide reputation for quality products, on time deliveries and excellent customer relations. The division operates as a distinct organization within Computing Devices, enjoying both dedicated facilities and large Company resources. Contract Manufacturing is included in the Company's Long Range Strategic Planning; ad hoc subcontract work is not required to stabilize workloads.

The manufacturing facility occupies 115,000 square feet of floor space and accommodates a wide range of metal fabrication, automatic assembly, inspection and test equipment. All manufacture is conducted under rigid Quality Assurance procedures, approved to AQAP-1. This provides an efficient, economic means for the prevention, early detection and correction of deficiencies.

Contract Manufacturing programs are directed by experienced program managers who report directly to the Vice-President of Manufacturing Operations. They command the resources to support production and ensure on-time delivery of products that meet our customer's requirements.

Government of Canada
Gouvernement du Canada

Department of Industry Science & Technology
235 Queen Street
Ottawa, Ontario
K1A 0H5
TELEPHONE: (613) 954-3406
TELEX: 053-4123

ASSISTANT DEPUTY MINISTER,
INDUSTRY AND TECHNOLOGY: J.C. Mackay

The Department of Industry, Science and Technology acts in full partnership with the private sector, the science community, federal government departments, and other levels of government to promote international competitiveness and industrial excellence in Canada; to renew and expand our scientific, technological, managerial and production base; and to bring together, in a concerted way, the talents of Canadians to guarantee our place in the first rank of industrial and commercial nations in the twenty-first century.

In the pursuit of these objectives, the Department will speak to, for, and about industry, science and technology within the Government of Canada. The Department develops productive relationships with the business and science communities, and with other governments. These mechanisms range from letters of intent and memoranda of understanding to formal agreements with governments. Services and programs evolve as part of this cooperative partnership.

In order to carry out its mandate, the Department is developing a high level and quality of intelligence on global and domestic markets, on the forces that determine business competitiveness, and on industrial, scientific and technological developments.

To this end, the Department implements a systematic, intelligence gathering and review process. This intelligence is linked to the Department's advocacy and policy-making functions and to its programs and services to meet changing circumstances.

The Department of Industry, Science and Technology adopts an integrated approach to the needs of Canada's industrial and scientific communities. Packages of policies, services and programs, carefully targeted to priority business needs, are being developed.

Aerospace and Defence related industries

The Canadian industry features a wide range of capabilities meeting international competitive standards. They include design, development, production, global marketing and after-sales support in select product areas and disciplines.

Yearly growth has been steady and sales for 1988 exceeded $6.3 billion with over 61,000 employees. This serves to rank Canada in fifth position behind the industries of the USA, United Kingdom, France and West Germany and alongside that of Italy, a position which it has sustained for a number of years.

In general, the industry seeks to specialize in market niche areas offering strong export potential. As described in subsequent pages, these include:

- complete aircraft in the commuter, corporate and utility fields, both fixed wing and helicopter;
- flight simulators and system trainers;
- gas turbines, engine overhaul and blade production;
- airborne and ground based avionics systems;
- satellites, earth stations and image processing;
- precision components and aerostructures;
- highly specialized defence systems;
- airport and traffic control systems;
- missiles, drones, targets; and
- marine and land vehicle systems.

Exports have varied between 65 and 80 per cent of total output over the years and components originating in Canada are to be found on most of the world's civil aircraft and many defence systems.

Aircraft made in Canada are in service in over ninety different countries.

Aerospace and Defence Industries Branch (ADIB)
235 Queen Street
Ottawa, Ontario
K1A 0H5
TELEPHONE: (613) 954-3340
TELEX: 053-4123

GENERAL DIRECTOR: T.F. Garrard

The mandate of this organization includes the development and implementation of industrial policies and strategies in close consultation with the industry.

It establishes and maintains appropriate statistical and information databases in support of this and acts as the industry advocate within government.

ADIB is responsible for the management and program delivery aspects of the Defence Industries Productivity Program (DIPP) one principal application of which is the funding of joint international development ventures.

Its four directorates are as follows:

- Defence Electronics and Space
  Director - R. Burns
  Tel: (613) 954-3415

  Consisting of:
  - Defence Electronics Division
  - Electronics Industrial Benefits Division
  - Space Systems Division

- Marine and Land Defence Systems
  Director - Y. Moisan
  Tel: (613) 954-3423

  Consisting of:
  - Marine Industrial Benefits Division
  - Defence System Development Division

- Aircraft, Propulsion and Missile Systems
  Director - R. Delvecchio
  Tel: (613) 954-3343

  Consisting of:
  - Defence Projects Division
  - Industrial Benefits Division
  - Airframe Systems Division
  - Propulsion Systems Division
  - Specialty Firms Division

- Planning and Analysis
  Director - T. Wright
  Tel: (613) 954-3749

  Consisting of:
  - Procurement, Planning and Analysis Division
  - Emergency Planning Division
  - Sector Analysis Division

Other Departments and agencies with a close working association with the aerospace and defence industries

- Export Development Corporation
- Department of National Defence
- Supply and Services Canada
- Transport Canada
- National Research Council
  - and, as described elsewhere
- Department of External Affairs
- Canadian Commercial Corporation

DY-4 Systems Inc.

21 Credit Union Way
Nepean, Ontario K2H 9J4
TELEPHONE: (613) 596-9911
FAX: (613) 596-0574
TELEX: 0534111

PRESIDENT AND CHIEF EXECUTIVE OFFICER:
Garry Dool
CHIEF OPERATING OFFICER:
Maurice Bougie
VICE PRESIDENT, TECHNOLOGY:
Kim Clohessy

With its technology based on VMEbus open-system architecture, DY-4 Systems is an established leader in MIL-Spec, field-proven system solutions. The company offers innovative, high-quality, supportable products and systems meeting current and future operational requirements.

DY-4's primary focus is the solution approach for programs with prime contractors.

DY-4 products are numerous - boards, chassis, system-level diagnostics, real-time operating systems and application software, all supported by program management, integrated logistics support, quality assurance, computer-integrated manufacturing, configuration management and proposal support. DY-4's software capabilities encompass database engines, RTOS kernels, communications protocol support, C and Ada development environments, drivers and servers.

The DY-4 product line is designed to provide cost-effective solutions for system integrators by offering commercial, ruggedized and MIL-Spec levels to meet a range of program requirements.

DY-4's product approach optimizes the use of off-the-shelf and non-development items (NDI) and modified commercial off-the-shelf products. Aside from reducing development costs, this approach reduces the overall schedule risk. All of DY-4's MIL-Spec NDIs are fully compliant with MIL-E-4158, 5400, and 16400 specifications.

Engineering development procedures are designed to comply with DY-4's configuration management practices, consistent with MIL-STD-482/483. Standard practices are used from the design specifications based on MIL-STD-490, through to reliability predictions based on MIL-HDBK-217.

DY-4 quality assurance program is equivalent to AQAP-1 or MIL-Q-9858A. Application has been made for AQAP-1 certification.

Due to their unique adaption to the military environment, DY-4's VME boards and chassis have been contracted for numerous military applications such as air-traffic control, C^3, naval surface and sub-surface, avionics, land-mobile and combat systems, short-range air defence systems and tactical X-ray units.

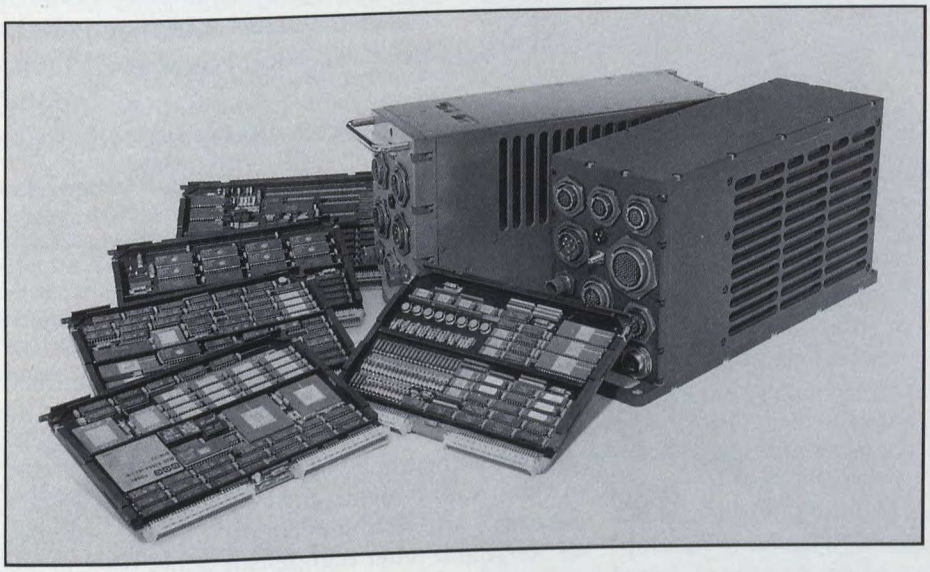
DY-4 has a proven track record of managing large development programs for major prime contractors. Many of these programs include civil and defence applications and projects emphasizing research and development.

Among the company's major programs are development of the Canadian Department of Defence's next generation naval computer based on the 680X0 and 32-bit VME architecture, the combat systems for six new Royal Australia Navy submarines under subcontract to Rockwell Ship Systems Australia, Transport Canada's Radar Modernization Program (RAMP) under subcontract to Raytheon and development of the black box computers for the Federal Republic of Germany's Panzer 2000 self-propelled howitzer mobile gun program under subcontract to Krauss-Maffei. For the Danish navy, DY-4 developed an intelligent display subsystem which displays map data, including latitude and longitude grids, target vessel and aircraft traffic bearing and range information.

DY-4 Systems has more than 280 employees, most of whom work at the company's Nepean head office. Marketing offices are located in Campbell and Los Angeles, California, Boston, Massachusetts, Denmark and Germany.

Products and Services

Mission Ready - Military VME from DY-4



DY-4 Systems Inc. offers a wide range of fully MIL-Spec VME boards and chassis. All military-grade, off-the-shelf boards have commercial equivalents to reduce system development costs. The MIL-Spec products are designed to meet MIL-E-4158, MIL-E-5400 and MIL-E-16400 specifications. Chassis products include fully sealed, conduction-cooled ATR style for both cold-plate and aircraft ARINC-404 mounting.

DY-4 Headquarters, Nepean, Ontario

Devtek Corporation

2900 John Street
Markham, Ontario
L3R 5G3
TELEPHONE: (416) 477-6861
TELEX: 065-26128
FAX: (416) 477-0481

PRESIDENT: H. Hofmann
EXEC. VICE PRESIDENT, FINANCE AND ADMINISTRATION: M. Kingsburgh
EXEC. VICE PRESIDENT, OPERATIONS AND STRATEGIC PLANNING: J. Renner
PRESIDENT, PRECISION COMPONENTS DIVISION: R. Woodgate
DIRECTOR OF MARKETING: H.T. Pawson

Devtek Corporation designs and manufactures systems, subsystems, and components for the aerospace, defence and electronics markets.

Devtek is a Canadian owned corporation employing more than 1,500 people throughout North America. Encompassing eleven manufacturing centres, Devtek's facilities are staffed with engineers and skilled craftsmen who employ the latest high technology to develop and manufacture high quality products to meet the increasingly sophisticated requirements of Devtek's customers.

By achieving excellence through specialization, Devtek has earned a reputation as a leader in developing innovative technologies and products for selected markets. Furthermore, the broad spectrum of Devtek's products, which range from outer-space satellite components to undersea detection devices, is evidence of the diversity of engineering skills and manufacturing capabilities.

DEVTEK CAPABILITIES

Systems Division — Electronic Systems

Antisubmarine Warfare Systems: totally integrated capability to research, develop and mass produce antisubmarine warfare detection devices and systems. Areas of expertise include sonobuoys, towed arrays and active sound source.

Communications: capability to design and manufacture specialized communications equipment. Areas of application include HF active broadband antenna arrays, ionospheric oblique sounding transmitters and receivers, and ARGOS transmitters.

Environmental Data Systems: used for the measurement, collection, recording and transmission of oceanographic, meteorological and environmental data.

Mechanical Systems

Military Weapon Systems and Components: developing, designing, engineering, manufacturing, testing, repair and overhaul of military weapons systems and components. Sole supplier of C-7 rifle and C-8 carbine to the Canadian Forces.

Stabilized Platform Systems: designing, engineering, manufacturing and testing of stabilized platforms utilized toward supporting electronic and optical systems in commercial and military guidance and tracking systems. World mandate on stabilized platform for the ADATS (Air Defence Anti-Tank System) electro-optical module.

PRECISION COMPONENTS DIVISION

Aerospace Group

Hydraulic Actuation Systems: design, engineering, manufacturing, testing, repair and overhaul of hydraulic actuation systems used in flight controls and other aircraft actuation systems. Subcontract match grinding and EDM machining for close tolerance production of hydraulic actuator valves.

Aircraft Components and Assemblies: manufacture, assembly and testing of critical tolerance components of 300M and other high tensile alloys used in aircraft structural components, aircraft landing gear, hydraulic assemblies and helicopter rotor hubs, for commercial and military aircraft.

Electronics and Communications Group

Ultra-precision Communication and Space System Components: applications include gyroscope components, phased array radar system power dividers, satellite/space shuttle components and components of exotic materials including pure beryllium, titanium, hastelloy and high nickel-based alloys. Sole supplier of grapple fixtures for the remote manipulation system of NASA's space shuttle.

Aircraft Heat Exchangers and Electronic Enclosures: design, engineering, manufacturing, and testing of complex aluminum chassis assemblies and heat exchangers. Fabrication technologies include dip-brazing, vacuum brazing, epoxy bonding, welding and mechanical fastening.

Electronic Cabinetry: precision sheet metal components and assemblies for use in electronic cabinets, weldments, consoles and chassis. Supplier of electronic cabinetry meeting NATO Navy standards for protection against shock, vibration and electronic interference.

Engine and Propulsion Group

Aircraft Engine Components and Assemblies: prototype and production manufacturing, fabrication and assembly of large complex rotating components such as disks, hubs, cases, seals and rings for high performance military and commercial aircraft engines.

All products and services are to the appropriate requirements of AQAP-1, AQAP-4, MIL-Q-9858A, MIL-I-45208.

Devtek Systems Division
PRODUCTS AND SERVICES

Weapons and stabilization systems

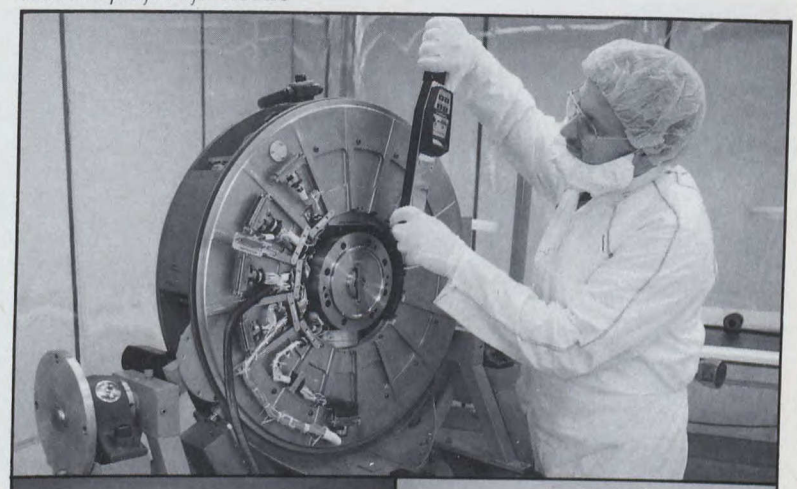
The Devtek Mechanical Systems Division is the prime contractor for Canada's Small Arms Replacement Program (SARP) and is the Centre of Excellence for Small Arms in Canada. The Division provides a complete capability for design, development and life cycle support. New projects include a .22 calibre training rifle and 5.56mm light machine gun. Recent efforts are directed toward larger-calibre weapons systems. The Division offers a design, development and production capability for stabilization systems. It produces the stabilized platforms for the Air Defence Anti-Tank System (ADATS) for Canada, United States and world markets. Other capabilities include the manufacture of high-precision machined and laser-welded components for weapons, platforms and missiles.

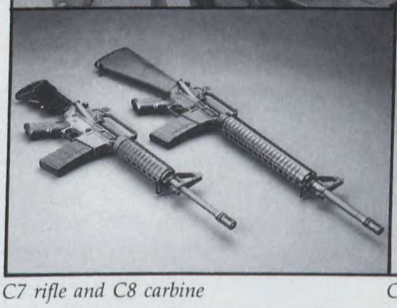
Mechanical Systems:
DIEMACO INC., 1036 Wilson Ave.,
Kitchener, Ontario, Canada N2C 1J3
(519) 893-6840 T1x: 069-55164 FAX:(519) 893-3144

GRANTECH MFG. 100 Hollinger Crescent,
Kitchener, Ontario, Canada N2K 2Z3
(519) 576-4270 FAX: (519) 576-4010

Marketing Manager: Maurice Clermont:

Stabilized platform for ADATS





C7 rifle and C8 carbine

C9 and C6 light machine guns

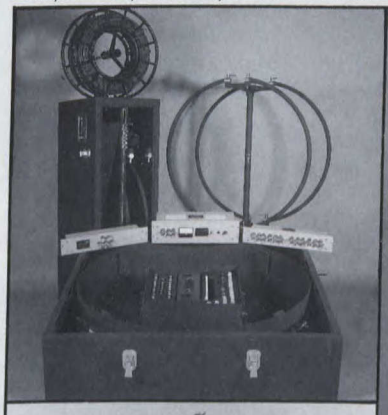
Acoustic sensors and HF communications systems

Hermes Electronics is the largest electronics systems developer and manufacturer in Atlantic Canada. The company is Canada's centre for development of high-technology hydro-acoustic sensors used in anti-submarine warfare. In operation for more than 40 years Hermes has specialized in anti-submarine warfare (ASW), HF communications and ocean data systems. Production and development include existing and future ASW sonobuoys, towed array sensors, active acoustic sound sources, unique broadband HF antenna arrays, ionospheric oblique sounding equipment and ocean environmental data systems for collecting, recording and transmitting measured parameters.

Electronics Systems:
HERMES ELECTRONICS LIMITED
40 Atlantic Street,
Dartmouth, Nova Scotia, Canada B2Y 4A1
(902) 466-7491 FAX: (902) 463-6098

Marketing Manager: J. Fortenberry.

Collapsible loop antenna for tactical communications



Air-deployable spheroid buoy

ASW sonobuoys

Devtek Precision Components Division

Aerospace Group

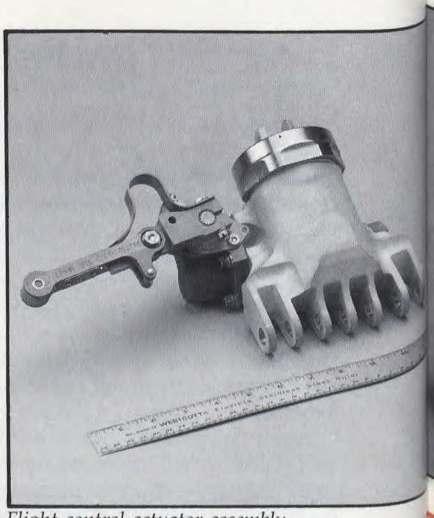
WEST HEIGHTS MFG.,
Kitchener, Ontario, Canada.

HOCHELAGA AEROSPACE INC.,
Montréal, Quebec, Canada.

Marketing Manager: Ross T. Pawson,
Devtek Precision Components Division,
Aerospace Group,
1665 Highland Road West,
Kitchener, Ontario, Canada N2G 3W7
(519) 576-8910 Telex: 06-955167
Fax: (519) 576-5119

The Aerospace Group manufactures landing gear components and hydraulic actuator assemblies for military and commercial aircraft.

The group's manufacturing capabilities are complemented by the Devtek Aerospace Engineering Department to design and support the manufacture of flight control actuators, servo controls and engine fuel control systems.



Flight control actuator assembly

Electronics and Communications Group

AEROBOND TECHNOLOGIES,
Scarborough, Ontario, Canada.

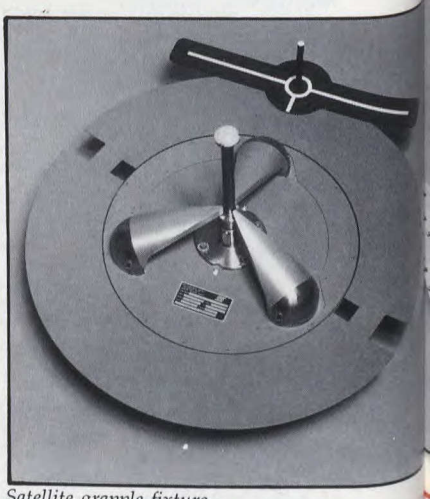
MAGTRON PRECISION,
Scarborough, Ontario, Canada.

VERRAL METAL FABRICATORS,
Scarborough, Ontario, Canada.

Group Manager: Michael J. Clarke,
Electronics and Communications Group,
Devtek Precision Components Division,
1410 Birchmount Road,
Scarborough, Ontario, Canada M1P 2E7
(416) 752-4006 Telex: 065-26128
FAX: (416) 752-4838

This group of Devtek companies offers a wide range of machining and fabrication services. It manufactures ultra-precision avionics, heat exchangers and enclosures and is recognized for its excellence in ultra-precision machining of space-age materials. Unique capabilities of the group are aluminum dip brazing and vacuum brazing, and metal-to-metal adhesive bonding for defence electronics application.

Precision sheet metal products include communications consoles, electronics enclosures and modular shipboard cabinetry.



Satellite grapple fixture

Engine and Propulsion Group

DEXTER TOOL CO.,
Palm Beach, Florida, U.S.A.

GMI PRECISION CORP.,
Okeechobee, Florida, U.S.A.

Marketing Manager: Jeffrey Graham,
Engine and Propulsion Group,
Devtek Precision Components Division,
1501 53rd Street West,
West Palm Beach,
Florida, U.S.A. 33407
(407) 842-5336 Fax: (407) 842-5402

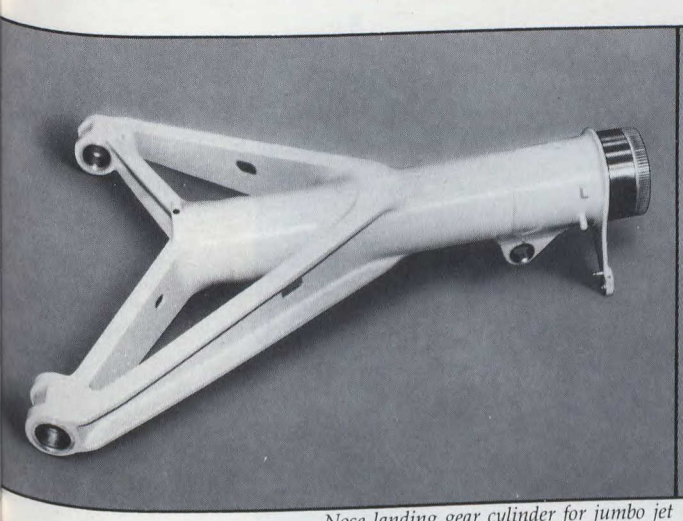
This group provides manufacturing engineering, fabrication and precision machining for the aircraft engine industry.

The companies in the group have many years of experience in the precision machining and welding of rotating components and other complex parts of turbine engines.

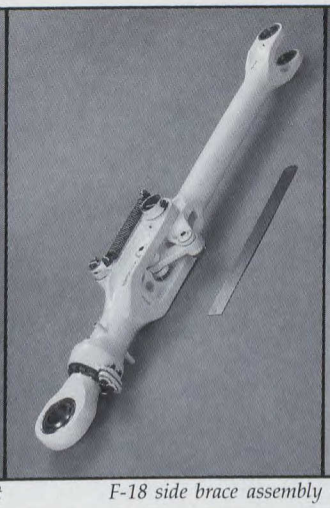
Many of these components are critical parts of the jet engines powering today's high-performance commercial and military aircraft.

PW 1120 bearing housing

PRODUCTS AND SERVICES

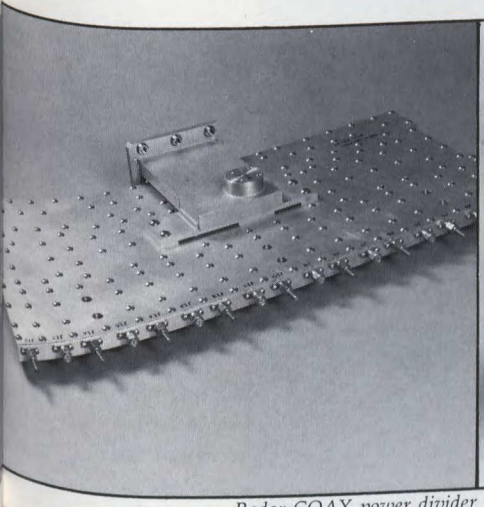


Nose landing gear cylinder for jumbo jet

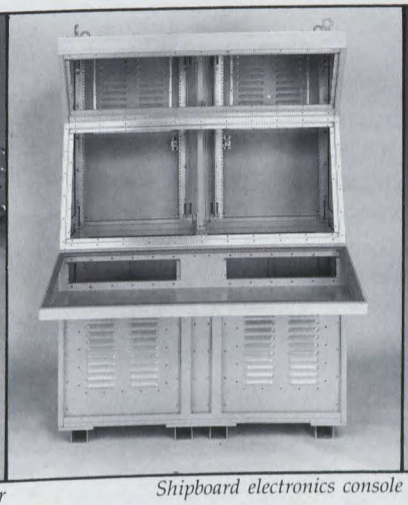


F-18 side brace assembly

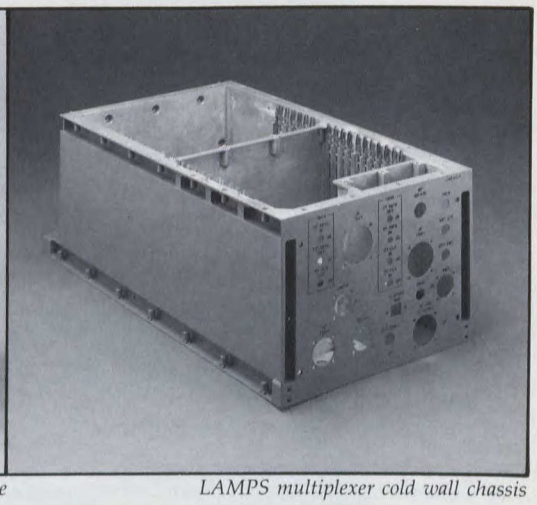
5-blade helicopter rotor hub



Radar COAX power divider



Shipboard electronics console



LAMPS multiplexer cold wall chassis

F100 titanium and waspalloy compressor air seals

TF 30 splined hub

PW 4000 machined and welded compressor case

Dowty Canada Limited

574 Monarch Avenue
Ajax, Ontario L1S 2G8
TELEPHONE: (416) 683-3100
TELEX: 06-981295
FAX: (416) 686-2914

CHIEF EXECUTIVE OFFICER: Mr. G.C. Kingston
PRESIDENT: Mr. R.C. Wright
V.P. AEROSPACE DIVISION: Mr. C.R. Holmes
REGIONAL MARKETING MANAGER: Mr. J.A. Jones

SUBSIDIARY
Dowty Canada Electronics Limited
2000 Fisher Drive, Box 4525
Peterborough, Ontario
K9J 7B1
TELEPHONE: (705) 743-6903
TELEX: 06-962820
FAX: (705) 745-1394

GENERAL MANAGER: Mr. D.J.C. Crook

Dowty Canada Limited is located just east of Metropolitan Toronto and has an Electronics subsidiary in Peterborough, Ontario. Both companies are established in well equipped, modern facilities having a combined floor space of 20,000 square meters approximately (220,000 square feet), housing a workforce of 400 people.

Dowty Canada has expanded from its long standing reputation as a designer and manufacturer of aircraft landing gears, marine, defence and industrial hydraulic equipment, and has developed a total capability to design and produce complete microprocessor controlled hybrid actuation systems.

A member company of Dowty Group PLC, Dowty Canada contributes to the international fame of Dowty as a world leader in aerospace and defence equipment.

LANDING GEAR

Designers and manufacturers of both military and commercial aircraft landing gears for fixed and rotary wing aircraft. Current major contracts include: Main and Nose Landing Gears with electronically controlled steering systems for Boeing de Havilland DASH 8 and Canadair CL-601, Centreline Landing Gear for Airbus A340, Main Landing Gear for Bell/Boeing V-22 Osprey, Outrigger Landing Gears for USMC AV-8B aircraft and Tail Bumpers for the MD-80.

HYDRAULICS/ACTUATION

Dowty Canada has developed and supplied high speed, self-locking 4,000 PSI hydraulic latch mechanisms for Weapons Pallets that will equip next generation defence aircraft. Production programs include Rudder Control Actuators and Dampers for the DASH 8, Flap Actuators for the MD-80, Hydraulic Power Pack and Constant Tension Winch used in the Helicopter Recovery Assist, Securing and Traversing System (RAST), Hydraulic Power Supply for Low Level Air Defence System (LLADS), and Lightweight Capstans for U.S. Navy Aircushion Landing Craft (LCAC).

ELECTRONIC CONTROLS

Dowty Canada Electronics Limited, in Peterborough, design and manufacture Microprocessor Based Control Units for Canadair CL-601, Boeing de Havilland DASH 8, Gulfstream G-IV ground Steering Systems, and Bell/Boeing V-22 Landing Gear Control Units. The Company also produces Brake Monitoring and Control Units for UTDC Rapid Transit Vehicles, and provides contract manufacturing services on several Canadian aerospace and defence programs. In-house test capabilities include Temperature, Vibration and Shock Testing. Operators are approved to WS 6536E.

PRODUCT SUPPORT

Local and international product support services are available to Dowty Canada's customers and equipment operators. Dowty Canada provides the landing gear support services for the Canadian Forces CF-18 aircraft.

QUALITY ASSURANCE

Dowty Canada operates in accordance with Canadian and U.S. military and commercial standards, meeting AQAP-1 and MIL-Q-9858A, plus Department of Transport and Civil Aviation Authority requirements.

Products and Services

DESIGN, DEVELOPMENT AND TEST

Dowty Canada Limited maintains an extensive design capability, complemented by up to date specialized, analytical modelling software. Development and qualification test facilities at Dowty Canada Limited are equipped with test management and data acquisition systems. Dowty Canada Limited maintains ongoing research and development programs to meet future aerospace technology needs.

MANUFACTURING

The Computer Integrated Manufacturing (CIM) operation at Dowty Canada supports the latest in manufacturing machine tools ensuring the cost effective production of Dowty designed products, and contract manufacturing of assemblies and components for such customers as Boeing, Bell, the United States Air Force and the Department of National Defence.

EDO Canada Ltd.

1940 Centre Avenue N.E.
Calgary, Alberta T2E 0A7
TELEPHONE: (403) 569-5400
FAX: (403) 569-5499
TELEX: 03-825895

PRESIDENT AND CEO: J. Douglas Moore
DIRECTOR, BUSINESS DEVELOPMENT: Fraser B. Rea

In less than a decade EDO Canada Ltd. has grown from a specialized producer of survey, satellite positioning and integrated navigation equipment to a multi-divisional company servicing a broad range of electronic and aerospace requirements. While the Defence Electronics Division is the cornerstone of EDO Canada Ltd., the newly formed Advanced Composites and Structural Ceramics Divisions have already identified niches for themselves in the space, aerospace, and commercial industries.

The Defence Electronics Division has a solid and successful background in positioning and navigation technology. Initially concerned with developing and manufacturing survey instrumentation utilizing the NNSS Navy Navigational Satellite System, the Division moved to the forefront of the industry in 1985 by introducing SatTrak, a fully portable receiver, capable of accurately positioning both stationary and moving objects using the Global Positioning Satellite System (GPS).

The development of the AN/SYN 501 MINS marked EDO Canada's successful move into marine navigation. This unit is a low-cost navigation system that combines the inputs of GPS, Transit, Omega, Loran-C, Speedlog, and Gyro sensors to provide optimum positions for surface vessels. In use by the Canadian Navy on its surface fleet the AN/SYN 501 is presently being promoted to other NATO countries and to the U.S. Navy. The Multi-Sensor Integrated Navigation System (MSINS) is an extension of MINS. An independent radio sensor sub-system, it provides a "stand alone" navigation system complete with sensor box, processor and an optional display.

The AN/URN 502 Automatic Position Correlator is another example of this NAVSTAR GPS technology also currently in use by the Canadian Armed Forces. It provides real-time navigation and positioning for electronic warfare vehicles using C/A code data transmitted on the L1 band of the GPS satellite constellation.

EDO Canada was receently awarded a contract to develop the Primary Land Arctic Navigation System (PLANS), an integrated navigation system for arctic defence land vehicles. PLANS integrates Transit, Global Positioning System (GPS), magnetometer, odometer, and gyro sensors to provide the vehicle operator with instantaneous azimuth and position, relative motion and true velocity.

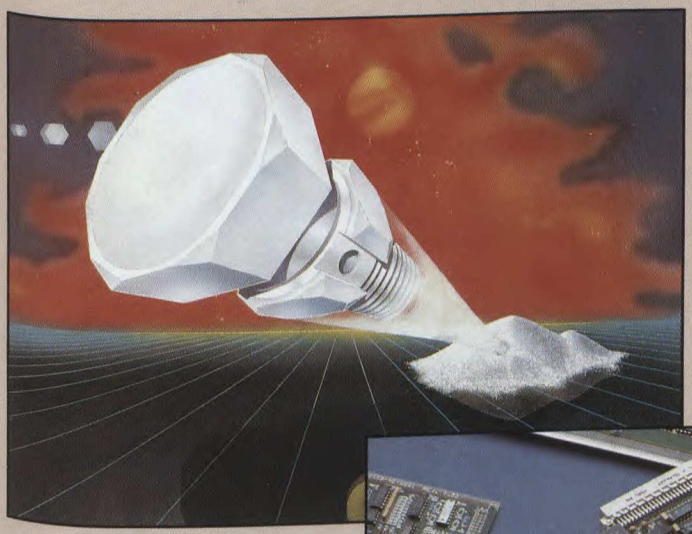
In 1987 EDO Canada Ltd. diversified into engineered materials. The formation of the Advanced Composites Division was a vital part of this growth. The Division uses high performance polymer resins and fibres to produce filament wound and hand lay-up components. This Division is supported by EDO Corporation — Fiber Sciences Division's two decades of experience in translating requirements into realities for companies such as Boeing, McDonnell Douglas, Lockheed, Westinghouse and the U.S. Armed Forces. EDO Canada's contracts to manufacture 480 gallon external fuel tanks for the CF-18 Fighter Aircraft, and to develop antenna reflectors for commercial communications satellites has established a complete range of in-house capabilities and reinforces our commitment to the highest manufacturing standards.

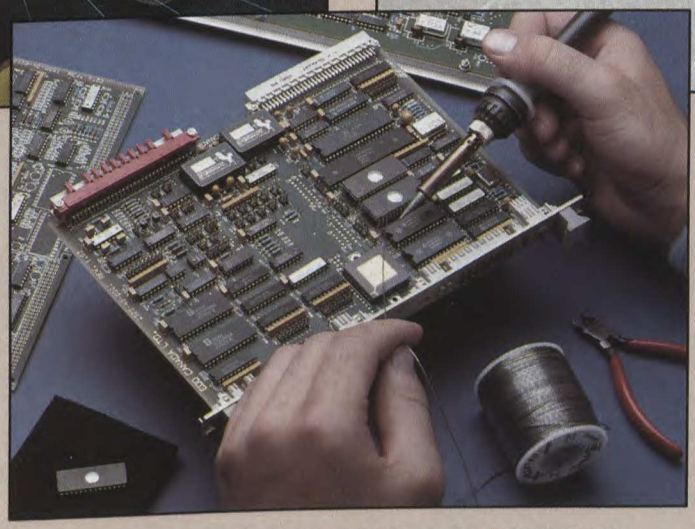
The Advanced Composites Division is equipped with two state-of-the-art computer controlled filament winding machines, computer-controlled ovens and large diameter autoclave, guaranteeing a high level of accuracy and production efficiency.

The Structural Ceramics Division utilizes injection molding technology to fabricate complex ceramic shapes that can be used as alternatives to a broad range of components traditionally manufactured from materials such as metal alloys. EDO Canada not only offers products with the improved properties of advanced ceramic materials, such as strength retention at elevated temperatures, high melting points, and extreme hardness, but through injection molding processes we have the ability to cost effectively produce final net shape components.

The innovative technology and commercial success of each Division is the result of an experienced team of engineers and technicians, in-house R & D facilities, complete design and manufacturing capabilities and a NATO-Standard quality assurance program.

EDO®





STRUCTURAL CERAMICS DIVISION

EDO Canada's newest Division is reshaping the needs of the space and aerospace industries. Net Shape Technology ensures that each injection molded ceramic component remains resistant to high temperatures, with strength retension at temperatures in excess of 1000°C, while maintaining hardness, wear and corrosion resistance. Using advanced forming technologies and alumina, zirconia and silicon carbide compounds, we have the capability to cost-effectively manufacture components with challenging geometric structures and rapidly changing cross sections.

DEFENCE ELECTRONICS DIVISION

After a decade of developing and manufacturing sophisticated integrated navigation, survey, and satellite geodesy instruments, Defence Electronics Division now offers its superior resources to ensure the success of your electronic-based projects. The innovative technology we used to develop our AN/SYN 501 Marine Integrated Navigation System and AN/URN 502 Automatic Position Correlator for the Canadian Armed Forces, will support a wide base of specialized electronic projects. Our NATO-standard quality assurance program, in-house R&D facilities and design and manufacturing capabilities, can take your projects from concept to completion.

ADVANCED COMPOSITES DIVISION

Our Advanced Composites Division is a dynamic part of the national space and aerospace industries and is seeking new challenges for its manufacturing and engineering design capabilities. We offer each project a specialized team of engineers, production to applicable military standards, and a commitment to quality - demonstrated by our current contract to manufacture Filament Wound External Fuel Tanks for the CF-18 Fighter Aircraft.

EDO CANADA LTD.

1940 Centre Avenue NE
Calgary, Alberta, Canada T2E 0A7
Telephone (403) 569-5400, FAX (403) 569-5499

Field Aviation Company Limited

Corporate Office:
4230 Sherwoodtowne Boulevard
Suite 300
Mississauga, Ontario L4Z 2G6
TELEPHONE: (416) 566-5400
FAX: (416) 566-5411

CHAIRMAN: W.B. Boggs
PRESIDENT: G.D. Teele
SR. VICE-PRESIDENT, MARKETING: J.B. Hayter
VICE-PRESIDENT, FINANCE: P.E. Tyrrell

Field Aviation Company Limited, a member of the Hunting Group of Companies, is a leading Canadian aviation sales, service and support company which offers a complete range of fully-integrated services to the general, commercial and military aviation communities in Canada and abroad. Established in 1947, Field Aviation's more than 500 employees are engaged in an extensive range of aviation sales, service and manufacturing activities, including the international sale and brokering of pre-owned business, commercial and military aircraft and helicopters; exclusive distribution of Beech aircraft in Canada; sale and distribution of aircraft and engine parts; Fixed Base Operations in Toronto and Calgary; airframe repair, overhaul and conversion; sale, support and installation of avionics systems, instrumentation and test equipment; specialized design of aeronautical systems and components; specialized airframe conversions and customized aircraft outfittings; and the provision of aircraft seats. Field Aviation's facilities are approved under Canadian Department of Transport and Department of National Defence criteria and meet NATO AQAP-1 requirements, U.S. Military Standard MIL-Q-9858A and U.S. Civil Standard FAR 43-17. The company has offices and branches in nine cities across Canada and consists of five subsidiary companies.

Field Aviation East Ltd., located at Pearson International Airport, Toronto, provides a broad range of fixed base services for general aviation, including aircraft service, maintenance, inspection, space leasing, and aircraft refueling. Field East owns and operates an award-winning Esso Avitat and has a contract with the Department of National Defence to provide aircraft maintenance technicians at the Canadian Forces Base in Trenton, Ontario. The company's engineering department, headquartered in Toronto, is recognized throughout the world for its work in the field of specialized aeronautical engineering designs and installations of aerial firebombing, surveillance, remote sensing and airway inspection systems.

Field Aviation West Ltd., located at Calgary International Airport, specializes in the repair, overhaul and modification of fixed-wing aircraft and helicopters. A modern refinishing centre includes an aircraft painting facility which can accommodate aircraft up to and including a Boeing 737. Field West also specializes in complete aircraft interior refurbishments and a separate facility is dedicated entirely to the production of aircraft seats. Field West, like Field East, operates a full-service Esso Avitat.

Field Aviation Sales Ltd., is the aircraft sales and marketing arm of the Company. Since 1954, Field has been the exclusive Canadian distributor of the complete line of aircraft manufactured by the Beech Aircraft Corporation of Wichita, Kansas — the Bonanza, Baron, King Air, model 1300 and 1900 airliners, Beechjet, and the latest and most advanced aircraft in business aviation today, the all-composite Beech Starship. Besides the sale of new aircraft, Field is involved in the sale and brokering of pre-owned business, commercial and military aircraft and helicopters in Canada and abroad.

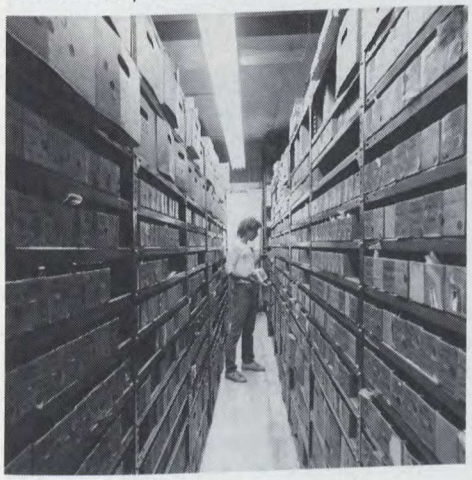
Field Aviation Parts Sales Ltd. is the company's parts sales and distribution network, which offers an extensive selection of aircraft and engine parts and accessories to the general, commercial and military aviation communities in Canada. The heart of the parts network is a distribution centre in Calgary which houses administrative offices and a warehouse containing tens of thousands of parts representing more than 75 manufacturers. Outlets in Vancouver, Calgary, Edmonton, Winnipeg, Toronto, Ottawa, Montreal and Halifax are linked through a computer system which is programmed with information on inventory so that each branch is fully stocked to meet customer requirements.

Navair Limited, Field Aviation's avionics subsidiary, is a leader in the aerospace and defence avionics industries, offering a wide range of services including military and commercial avionics engineering and installation; repair and overhaul; training programs in Canada and overseas; avionics workshops and support systems for foreign customers; and product distribution. Navair represents in Canada such major avionics manufacturers as Sperry, Collins, and Bendix King and is also the exclusive Canadian distributor of Instrument Flight Research (IFR) communications and avionics equipment. Navair's NATO AQAP-1 certification is complemented by its Canadian Department of Transport approval to undertake avionics overhaul and modification work on aircraft up to and including the Boeing 727.

Services and Capabilities

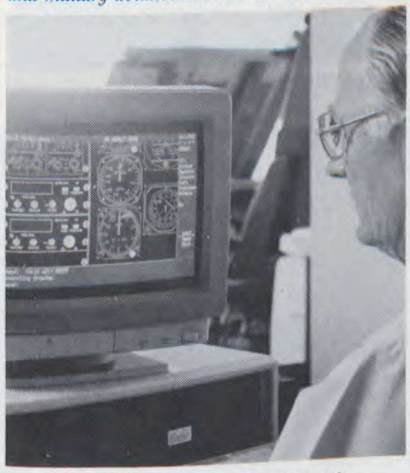
Field Aviation is a leader in fixed and rotary-wing aircraft maintenance, repair, overhaul, conversions, and modifications.

Field Aviation's Fixed Base Operations in Toronto and Calgary provide a complete range of aviation services to corporate, commercial and military aircraft operators from Canada, the United States and overseas.

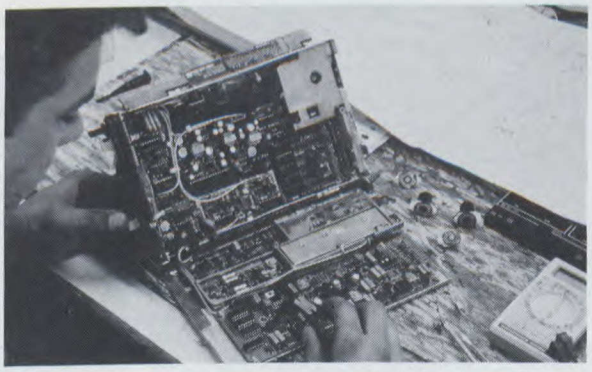


Through its national distribution network, Field Aviation offers an extensive selection of aircraft and engine parts and accessories to the general, commercial and military aviation communities in Canada.

Field Aviation is the exclusive distributor of Beech aircraft in Canada and is involved in the sale and brokering of pre-owned business, commercial and military aircraft and helicopters.



Field Aviation's Engineering department has earned a world-wide reputation for specialized aeronautical engineering designs and developments.



Field Aviation, through its subsidiary company Navair Limited, is involved in the sale, support and installation of avionics systems, instrumentation and test equipment, and product distribution.

Field Aviation East Limited
P.O. Box 6023, A.M.F.
Toronto, Ontario
L5P 1B9
Tel: 416-676-1540
Fax: 416-676-9951

Field Aviation West Limited
Calgary International Airport
P.O. Box 3186, Station B
Calgary, Alberta
T2N 4L7
Tel: 403-275-2111
Fax: 403-275-0366

Field Aviation Sales Limited
P.O. Box 6023, A.M.F.
Toronto, Ontario L5P 1B9
Tel: 416-676-1540
Fax: 416-676-9951

Field Aviation Parts Sales Limited
5-3500 19th Street N.E.
Calgary, Alberta
T2E 8B9
Tel: 403-291-3460
Fax: 403-250-1757

Navair Limited
P.O. Box 214
Malton, P.O.
Mississauga, Ontario
L4T 3B6
Tel: 416-676-4150
Fax: 416-676-9737

Fleet Aerospace Corporation

P.O. Box 1506
509 Glendale Avenue East
St. Catharines, Ontario L2R 7J9
TELEPHONE: (416) 684-9477
FAX: (416) 684-7030

PRESIDENT AND CHIEF EXECUTIVE OFFICER:
A.G. Dragone
PRESIDENT AND CHIEF OPERATING OFFICER:
J.M. Jarboe

Fleet Industries PRESIDENT AND G.M.: J.S. Butyniec
P.O. Box 400
Gilmore Road
Fort Erie, Ontario L2A 5N3
TELEPHONE: (416) 871-2100
FAX: (416) 871-2722

Fleet Industries is one of North America's leading manufacturers of complex structural components for commercial and military aircraft, radar and satellite systems.

Fleet was originally established as an aircraft manufacturer in 1930, and after delivering over 4,000 aircraft, began to specialize in production techniques. With proven abilities in metal fabrication and assembly, Fleet was able to concentrate development on an advanced bonding facility capable of metal, honeycomb and a variety of composite bonding processes.

The Quality Assurance program active at Fleet meets both the NATO Spec AQAP-1 and U.S. MIL-Q-9858A standards for control of manufacturing operations. Standard mechanical inspection techniques are complemented by state-of-the-art C-scan equipment, an NDT laboratory, liquid penetrant and magnetic particle inspection, radiography testing, and a three-axis coordinate measuring operation.

Aircraft Components:

Boeing	707 E3A/E6A Fin and Rudder
	Boeing E3A TF33 Engine Nacelles
	757 APU Doors
	A6 Flaperons
de Havilland	DHC-8 Bonded Wing and Fuselage Panels, Aft Engine Nacelles, Inboard/Outboard Flaps/ Spoilers
Grumman	A6 Inboard and Outboard Flaps
Lockheed	CP140/P3C Flight Stations
McDonnell Douglas	F-18A Graphite Avionics Doors
	DC-9 Flaps and Ailerons
	DC-10/MD-11 Flap Vanes; Spoilers; Main Landing Gear, Slat Actuator and Refuel Doors

Radar Equipment:

Hughes	F-18 Radar Rack Assemblies
ITT Gilfillan	Falcon Reflector
Lockheed Electronics	Gun Fire Control System Antennas and Cabinets
Raytheon	Phased Array Antennas "Pave Paws", Aegis Antennas

Satellite Structures:

Hughes	Solar Panel Substrates: Anik C, SBS, NASA, Anik D, GOES/GMS, Westar/Palapa B, Leasat, AT&T, Brasilsat
Spar Aerospace	Bonded Panels/Structures: Anik C, SBS, Anik D, Westar; Spun & Despun Structures for Brasilsat

Fathom Oceanology Limited VP AND GM: B.R. Tidd
6760 Campobello Road
Mississauga, Ontario L5N 2L8
TELEPHONE: (416) 821-8730
FAX: (416) 858-1249

Fathom Oceanology designs and manufactures sophisticated defence and commercial marine products. Their skills in hydrodynamics are utilized in underwater acoustic launch and recovery cable-handling systems for towed bodies, and motion-compensating systems for variable depth sonar (VDS).

Fathom has enhanced its reputation in sonar-handling equipment by developing an antisubmarine helicopter dipping sonar winch, accomplished in conjunction with Plessey Naval Systems, and will enter production in 1990.

H.I. Thompson Company VP AND GM: D.E. Roberts
P.O. Box 906
10 Kingsmill Avenue
Guelph, Ontario N1H 6M6
TELEPHONE: (519) 822-6630
FAX: (519) 822-7806

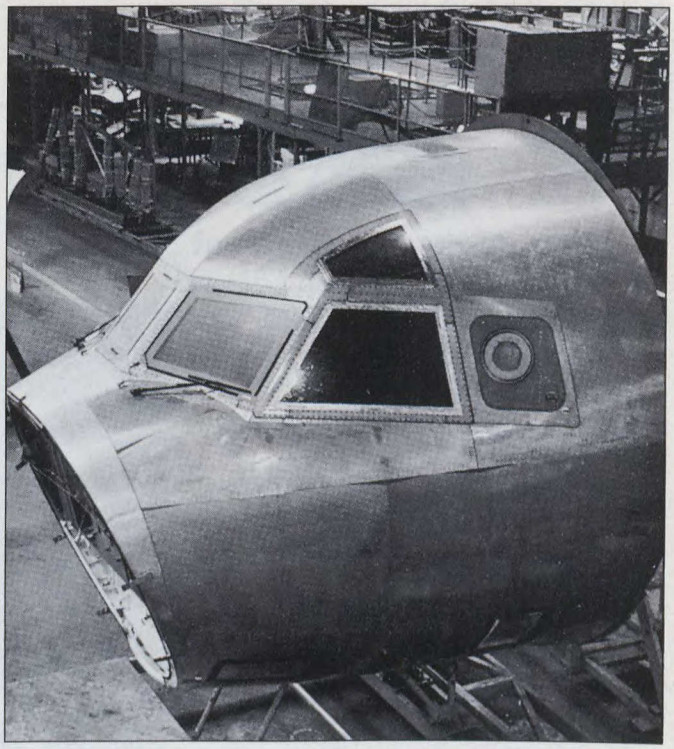
As a leading thermal insulation manufacturer for 37 years, H.I. Thompson produces heat shields used in gas turbine engines; insulation blankets used on aircraft exhausts and air-conditioning equipment; and sheet-metal weldment structures. They also design and develop cost-effective heat-transfer and noise-abatement systems for aircraft and gas turbine engines. Their customers include Pratt & Whitney, de Havilland, and the U.S. Air Force.

Lakefront Mfg. Inc. GM: W. Godbehere
925 Lakefront Promenade
Mississauga, Ontario L5E 2C3
TELEPHONE: (416) 278-8777
FAX: (416) 278-9780

Lakefront was formed by Fleet Aerospace in 1988 to provide robotic welding, machining and painting for the aerospace industry. The company operates numerical control and conventional machinery and is implementing an automated primer paint system.

FLEET AEROSPACE CORPORATION
ONTARIO GROUP OF COMPANIES : PRODUCTS

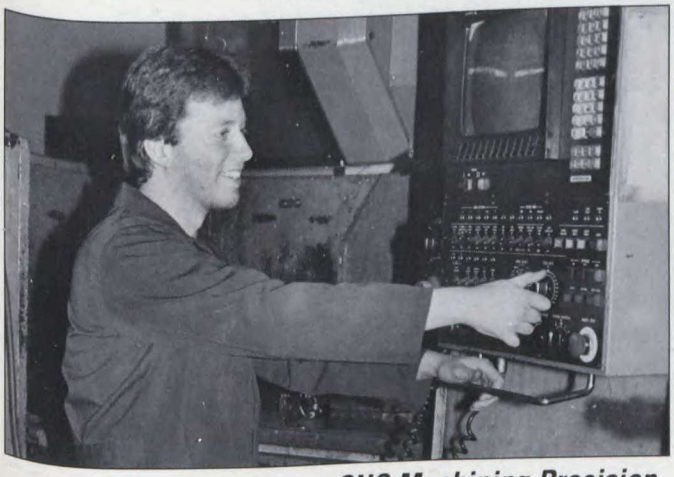
Engine Heat Protection



Lockheed P3C Flight Station

Metal-to-Metal Fuselage Panel

Hughes HS376 Satellite



CNC Machining Precision

Helicopter Dipping Sonar

GE Canada Aerospace Operation

2300 Meadowvale Boulevard
Mississauga, Ontario L5N 5P9
TELEPHONE: (416) 858-5466
TELEX: 0622023
FAX: (416) 858-5612

GENERAL MANAGER: Gary Miller

GE is a world leader in designing, developing and producing advanced equipment for the defence and aerospace sectors. GE Canada provides engineering, marketing, products and technological support to these industries in Canada.

Building on the legacy of having built the first jet engine in North America, GE has become the leader in aircraft engine technology.

GE engines fly the skies in virtually every major type of aircraft from Boeing 747s to Canada's CF-18 fighter aircraft. The Aircraft Engines Group currently supports the following GE aircraft engines operated by the Canadian Forces; F404 (CF-18), J85 (CF5 and Tutor), T64 (Buffalo), T58 (Sea King and Labrador) and CF34 (Challenger). At GE Canada's Bromont, Quebec manufacturing facility, jet engine compressor airfoils for GE engines are manufactured using leading edge technology and automation.

GE's leadership also extends to aircraft derivative marine and industrial gas turbine engines. In Montreal, GE Canada packages LM2500 marine propulsion units which are the primary engines used to power Canada's new naval frigates.

The Electronic Systems Group markets a broad range of aerospace, defence and communications electronic equipment for the GE system. Products range in scope from microelectronic devices to advanced air defence systems and are employed in all environments — sea, land, air and space.

The Electronic Systems Group provides Canadian Industry and Government with marketing support services and field service representation for many products, ranging from radars and sonars to communications and infrared/electro-optical systems.

GE Canada Aerospace provides Electronic Services through Genelcom Ltd., a wholly owned subsidiary. Genelcom specializes in the repair, overhaul, and technical support of military electronic equipment for domestic and international customers. Additional support activities include design and development, custom manufacture and modification and technical investigations and studies.

Additionally, Genelcom provides a wide range of technical services including field service representatives, complete technical data support, training, in-house test and calibration, as well as installation, operation and maintenance of radar equipment and facilities.

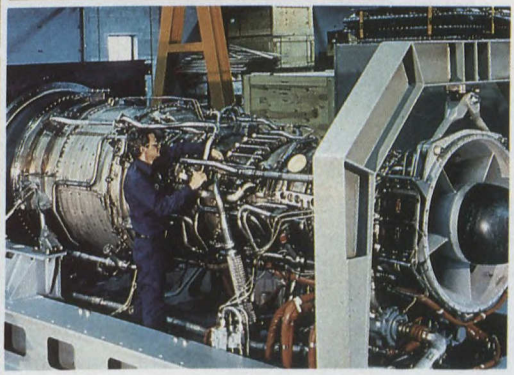
Quality assurance procedures used by Genelcom are approved by the Canadian Government to the requirements of NATO specification AQAP-1.

Created in 1978 to fulfill an industrial benefit commitment under Canada's New Fighter Aircraft Program, GE Canada's Industrial Benefit Programs Group has introduced hundreds of Canadian suppliers to GE's North American world of business. This group of specialists combines technical knowledge with financial expertise. Association with GE allows us to make the connection between buyers and suppliers throughout North America. Current programs such as the Canadian Patrol Frigate and others mean that GE Canada's Industrial Benefit Programs Group will be active for a long time to come.

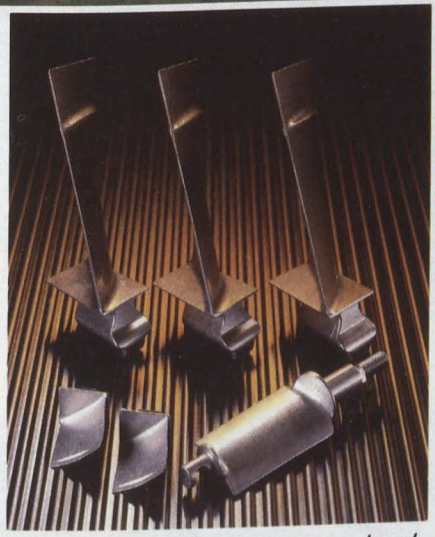
GE Canada

The CF-18, Canada's foremost fighter, is powered by GE's F404-400 Turbofan engine.

The Canadair Challenger is equipped with GE CF34 Turbofan engines shown here at Transport Canada's Ottawa hangar.



The GE LM2500 marine gas turbines used on the Canadian Patrol Frigate feature Canadian bases, enclosures, tooling, module assembly and test.



Aircraft engine blades and vanes produced at GE Canada's Bromont, Quebec facility are used in various commercial transport aircraft worldwide.

Garrett Canada

A unit of Allied-Signal Aerospace Canada
255 Attwell Drive
Rexdale, Ontario
M9W 6L7
TELEPHONE: (416) 675-1411
TELEX: 06-989142
FAX: 6754021

PRESIDENT: W.U. Tomlin
V.P., SALES & MARKETING: C.F. Fauquier

With its diverse range of products, and strong commitment to meet the challenges of a dynamic and progressive industry, Garrett Canada has established a technology base second to none. Backed up by one quarter of a million square feet of modern design, manufacturing, testing and support facilities, the company markets the following products and services:

- Electronic Environmental Control Systems
- Communications Systems
- Hybrid Microcircuits
- Peripheral Vision Display Systems
- Advanced Systems/Special Projects
- Subcontract Manufacturing Services
- Customer Support Service

Garrett Canada is a unit of Allied-Signal Aerospace Canada Inc. Garrett's marketing efforts are supported in the field by the Allied-Signal Aerospace Company's sales and service organization with offices in most major cities throughout the world. The company now has six plants in Rexdale, Ontario housing more than 1000 people, 30 per cent of which are engineering or engineering support staff.

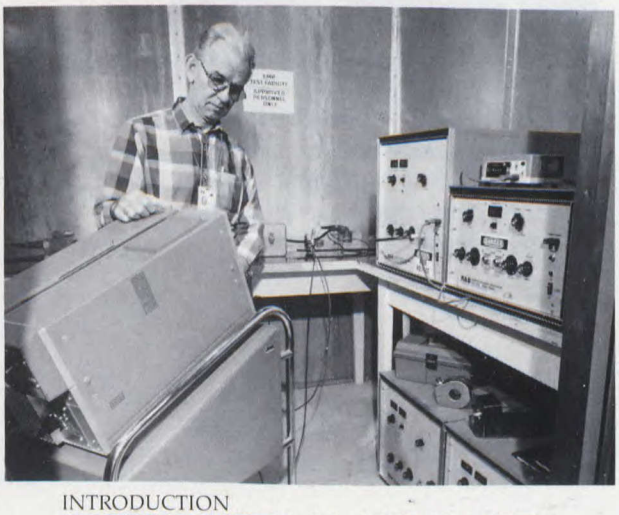
Recently, the engineering facilities have expanded significantly and marketing efforts have yielded important accomplishments in all of the company's product lines.

Garrett Canada:

- Garrett Canada offers a government approved "test house service" within the Canadian industrial TEMPEST program.
- First Canadian manufacturer of Hybrid Microcircuits on the Department of Defence's MIL-STD-1772 Qualified Manufacturer's List.
- Selected as the Canadian lead contractor for ASRAAM and several other NATO cooperative programs.
- Developed air traffic control radios, and a new, more portable Instrument Landing System test set now in use across Canada
- Developed an Electro Impulse De-Icing system for future aircraft
- Introduced a new concept in flight instrumentation. The Peripheral Vision Display (PVD) system is intended to reduce the loss of life and aircraft resulting from spatial disorientation suffered by pilots.
- Developing a new and innovative system which electronically controls the supply of aircraft engine bleed air.
- Developing an Integrated Closed-Loop Environmental Control System for improving the efficiency of future aircraft.
- The company is also a team leader addressing the Canadian Government's requirement for a combat net radio system of the future. Other members of the Garrett Canada team include; Plessey Defence Systems, Leigh Instruments and Bendix Avelex.

Garrett spends approximately 15-20% of annual sales in the research and development of control systems, RF communications, analog and digital circuit design and hybrid microcircuits.

Environmental, EMI and EMP qualification testing to military aerospace standards is performed in the company's government-approved test facility. A single standard quality control system approved to NATO AQAP-1 and MIL-Q-9858 is employed.



INTRODUCTION
ELECTRO MAGNETIC PULSE TESTING FACILITY

Products and Services

ELECTRONIC ENVIRONMENTAL CONTROL SYSTEMS

Most of today's commercial and military aircraft are equipped with Garrett Canada electronic environmental control systems.

Environmental controls are comprised of temperature, flow and pressure sensors, cabin cockpit, electronic and avionics bay and cargo bay air conditioning controls, flow monitoring and control systems and electronic bleed air and window heat control systems.

These electronic controls operate in conjunction with other Allied-Signal Aerospace environmental control equipment such as heat exchangers, actuators, valves and air cycle turbomachinery. The result is a comfortable cabin environment with minimum engine bleed air losses.

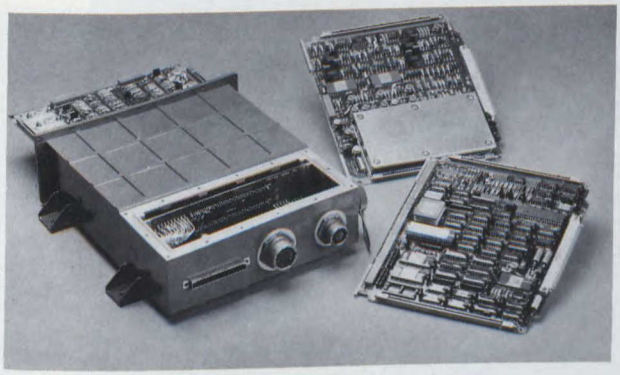
The newest hardware and software technology is being applied to the environmental controls now being produced for installation in the new generation of Boeing 737, 747 and 767 aircraft; McDonnell Douglas C-17A and MD-11 aircraft; and the Bell-Boeing V-22 aircraft.

Garrett Canada has developed a new and unique electronic system controlling the temperature and pressure of aircraft engine bleed air. Replacing present systems that operate pneumatically, Garrett Canada's electronic bleed air control system promises to increase reliability and fuel economy, while reducing weight and maintenance costs.

Powerful microprocessor and software technologies are being used to enhance the reliability of Garrett Canada's new generation of electronic bleed air and environmental controls. Electronics are able to reconfigure the system so as to "think" a way around a malfunctioning part and allow the system to continue operating. No single fault will shut down Garrett Canada's more reliable electronic control systems.

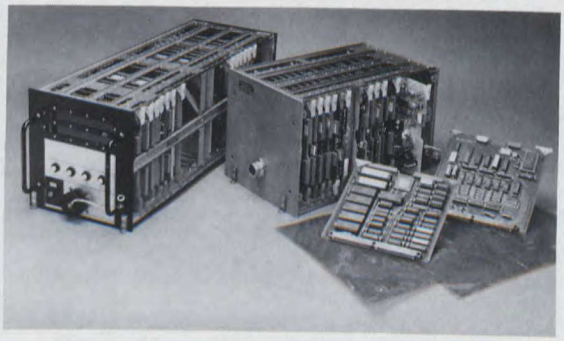
The company has also applied its expertise in environmental controls to non-airborne applications such as the environmental and NBC systems on-board the M1A1 main battle tank.

EECS
ELECTRONIC CONTROLS FOR PERSONAL COOLING VEST



V-22 ENVIRONMENTAL CONTROLS FEATURE NUCLEAR, BIOLOGICAL AND CHEMICAL (NBC) CONTAMINATION PROTECTION

INTRODUCTION
ELECTRO-IMPULSE DE-ICING SYSTEM PROMISES TO REDUCE ENGINE BLEED AIR LOSSES.



UNIQUE ELECTRONIC BLEED AIR CONTROL, PROMISED GREATER AIRCRAFT FUEL SAVINGS AND RELIABILITY

COMMUNICATIONS PRODUCTS
VHF RADIOS BASED ON PLESSEY'S "SYSTEM 4000" ARE BEING USED BY CANADIAN LLAD SYSTEM

COMMUNICATIONS
PRODUCTS
VOICE ENCODER

COMMUNICATIONS SYSTEMS

Garrett Canada's experience in radio communications for government and military applications has enabled the company to build a strong capability that is focused on tactical military communications and specialized applications in that field. The company has established a TEMPEST testing capability and has specialist skills in COMSEC, electromagnetic compatibility, and digital signal processing.

Garrett Canada is the contractor providing secure two-way voice and data communications equipment for Canada's low level air defence system. The company is responsible for program management, engineering support and total logistics support of the vehicular radio based upon Plessey Defence Systems, most modern "System 4000" VHF Combat Net Radio System.

Products and Services

COMMUNICATIONS SYSTEMS

Our VHF Air Traffic Control radios and instrument landing systems signal analyzers are being used exclusively by Department of Transport personnel at all airports across Canada.

For the international market, Garrett Canada has developed a new, more portable ILS signal analyzer, unique in the large number of functions it is capable of. This easy to operate system performs ILS checks in locations far from active runways without interrupting air traffic.

Garrett Canada's RESCU 99 emergency locator transmitter is currently being used on approximately 90% of commercial airliners making overseas flights. Personal Locator Beacons, which feature two-way voice communications are being used by Canadian and Swedish Air Forces.

The company has also acted as a consultant in regard to the electromagnetic interference requirements for buildings housing electronic controls and computers for most major airports across Canada.

COMMUNICATIONS PRODUCTS TURKISH AVIATION AUTHORITIES ARE NOW USING PORTABLE ILS SIGNAL ANALYZER.

ADVANCED SYSTEMS/SPECIAL PROJECTS

The Advanced Systems/Special Projects product line is a major growth business area expanding Garrett Canada's capabilities into the systems integration area. The capabilities offered by Garrett have been recognized and proven through the company's participation in a number of Canadian Government and NATO multi-national collaborative programs, such as Low Cost Powered Off-Boresight Dispenser, Modular Stand-Off Weapon, Short Range Anti-Radiation Missile, NATO Anti-Air Weapon and the NATO Area Defence Weapon.

Garrett Canada is the Canadian lead contractor for ASRAAM, the planned replacement for Sidewinder. The company is designing and developing the missile's control actuation system.

Garrett is also a member of a multi-national team developing the NATO 155mm Autonomous Precision Guided Munition. The company is responsible for power supplies and control electronics.

The company also supplies components and assemblies for numerous other defence projects which include; Rapier, GBU15, AMRAAM, Chaparral and other similar systems.

ADVANCED SYSTEMS/ SPECIAL PROJECTS FOUR CHANNEL TESTING ASRAAM CONTROL ACTUATION SYSTEM

PERIPHERAL VISION DISPLAY SYSTEM

The Peripheral Vision Display is a new and unique flight system designed to reduce the number of accidents due to spatial disorientation. It also improved pilot control when flying in adverse weather and under conditions of high cockpit workload. A laser produced line of light representing the earth's horizon and moving relative to the aircraft's altitude is projected across the instrument panel. This line keeps the pilot constantly aware of the aircraft's altitude through his peripheral vision.

The system has been manufactured for a fleet of classified USAF aircraft. It is undergoing evaluations by the U.S. Air Force and Navy, the Canadian Forces and the United Kingdom's military.

Current equipment consists of:

- Control Panel
- Processor
- Projector Head

ADVANCED SYSTEMS/SPECIAL PROJECTS STRESS ANALYSIS PERFORMED DURING ASRAAM CONTROL ACTUATION SYSTEM DEVELOPMENT PROGRAM

Products and Services

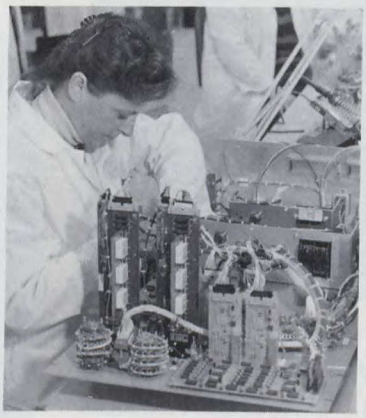
SUB-CONTRACT MANUFACTURING SERVICE

The manufacturing assembly facility has over 30 years experience in the manufacture of a wide range of aerospace and aerospace related products. The sub-contract manufacturing services include:

- Build to print
- Assembly and testing of sub-assemblies
- Assembly and testing of electronic systems

In addition to the PCB assembly areas, a chassis assembly area capable of assembling simple and complex units with up to 2,000 wire soldered points, is in place. A state of the art, computer controlled, automatic wave soldering facility is utilized. A conformal coating area is available, capable of applying various types of coatings such as Urethane, Epoxy, Urelane, etc. Various test areas are maintained, including manual, semi-automatic, fully automated and communications test capabilities.

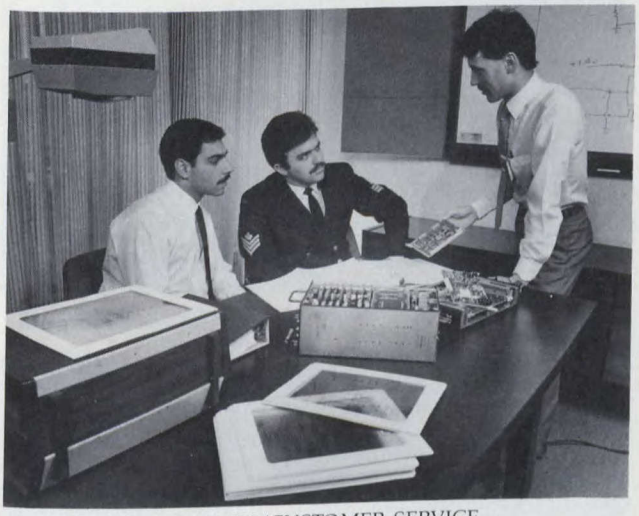
These services are backed by a team of high-technology experts employing computer-aided design and manufacturing techniques.



PRODUCTION WORKER ASSEMBLES COMPONENTS ON A MD11 CONTROLLER TEST PANEL.

SUB-CONTRACT MANUFACTURING COMPUTER AIDED ASSEMBLY TECHNIQUES CAUSED HIGHER PRODUCTIVITY AND QUALITY.

SUB-CONTRACT MANUFACTURING MAIN PRODUCTION FACILITY



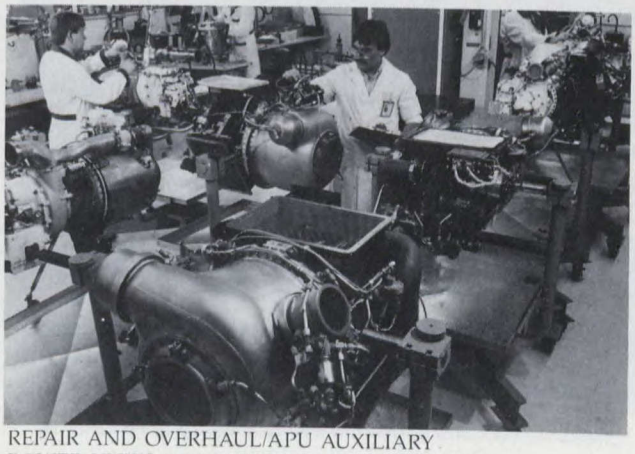
REPAIR AND OVERHAUL/CUSTOMER SERVICE TRAINING SERVICES ARE A PART OF GARRETT CANADA'S ILS SUPPORT PROGRAM.

REPAIR & OVERHAUL/CUSTOMER SUPPORT

In 1953, Garrett Canada became the Canadian customer support base for all Garrett's aerospace products. Since then, its customer support capabilities have grown steadily, in keeping with the increased sophistication and expanding sales of Garrett equipment. In 1977, Garrett Canada's customer support group moved into a new 34,000 square foot facility on Marmac Drive in Rexdale, Ontario.

The company's customer support/repair and overhaul facility is unique in Canada. It has the capability to simulate severe environmental conditions required to test airborne air conditioning rotating machinery and high temperature valves. These facilities are also equipped to overhaul gas turbine auxiliary power units, actuators, starters, central air data computers, and other aircraft systems. Garrett Canada provides Third Level Support for several high technology systems installed on the CF-18 fighter aircraft.

REPAIR AND OVERHAUL/CUSTOMER SUPPORT
FIELD SERVICE SUPPORT OF ALLIED-SIGNAL AEROSPACE PRODUCTS



REPAIR AND OVERHAUL/APU AUXILIARY POWER UNITS FOR INSPECTION BEFORE TEST

Godfrey Aerospace Inc.

480 Montreal-Toronto Blvd.
Lachine, Quebec H8S 1B8
TELEPHONE: (514) 637-1122
FAX: (514) 636-0273

PRESIDENT: W.S. Hodges
MARKETING: A.D. Hunt

331 Alden Road
Markham, Ontario L3R 3L4
TELEPHONE: (416) 470-7033
FAX: (416) 470-7029

PRESIDENT: B.G. Glew
MARKETING: R.W. Brookes

Godfrey Aerospace Inc. (GA) combines the resources of Godfrey in Montreal, and Carr-Tech in Toronto — two companies which can each boast more than 40 years' experience in the Aerospace and Defence industries. GA inherits their careful blend of knowledge and experience to become Canada's leader in its chosen field.

Our repair & overhaul capability covers a diversified range of both military and civil land, sea and airborne equipment, as well as industrial products.

Our design & manufacturing know-how encompasses a variety of sophisticated, specialized equipment, including environmental control systems, aircraft maintenance support, and galley equipment.

REPAIR & OVERHAUL

Products serviced include:

- Airborne electrical, electronic, hydraulic, pneumatic, cooling and pressurization accessories.
- Gasoline and diesel engine driven electrical generator sets for all air, land and sea applications.
- Ground power units, high pressure breathing and service air compressors, hydraulic test stands, cabin pressure testers, mobile air conditioning and heating equipment.
- A wide range of industrial electrical, electronic and mechanical equipment.

DESIGN & MANUFACTURING

GA's technical team is equipped to evaluate your specific needs with production facilities geared to custom designs.

GROUND SUPPORT EQUIPMENT

- To verify the operation of the most modern landing gear and other flight-critical systems, **GA Mobile Hydraulic Test Stands** have become the selected standard for the Canadian Forces at home and abroad.
- Our **De-Icer/Maintenance Platforms,** used for aircraft de-icing and servicing, are examples of our aircraft maintenance support capability.
- A self-contained **Nitrogen Servicing Cart** offers a safe, convenient, reliable source of gaseous nitrogen.
- Our **Compressors** range up to 350 bar/5000 psig and are equipped with flow and pressure controls offering unsurpassed reliability.

GALLEY EQUIPMENT

- Our range of Beverage and Hot Water Dispensers has been selected by both military and civil aviation carriers, and by inter-city bus operators.

In addition to the above GA products, we supply and support a diversity of other defence related equipment, including:

- Munitions Handling Equipment — bomb/missile lift trucks.
- A range of versatile multi-role Vehicles and Carriers.
- Mobile Heaters and Air Conditioners.
- Microclimate Environmental Packages.
- Electrical Generator Sets.
- A wide range of parts for airborne and ground applications.

QUALITY CONTROL

Products and services offered by GA are exposed to an incisive quality control program which meets certified AQAP-1 specifications, similar to US MIL-Q-9858, and has DOT Company Approval for airborne accessories.

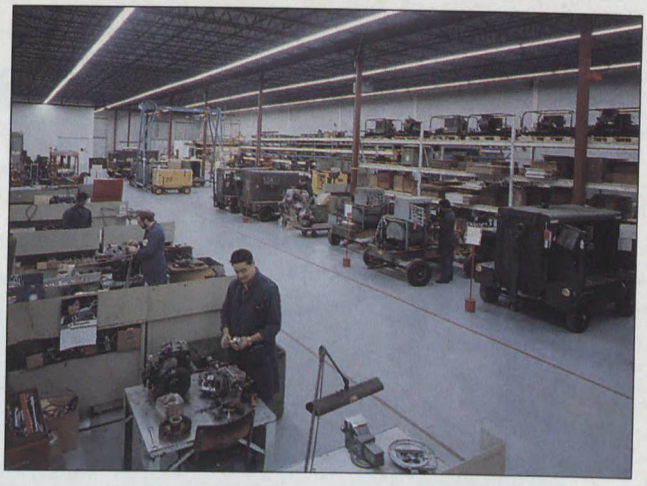
MANPOWER & FACILITIES

GA employs approximately 150 people in two locations. Our 50,000 sq. ft. facility in the Montreal area is located in Lachine, Quebec, close to both Dorval and Mirabel Airports while our home in the Toronto area is a new 43,500 sq. ft. building located in Markham, Ontario, with easy access to major highways and to Toronto's Pearson International Airport.

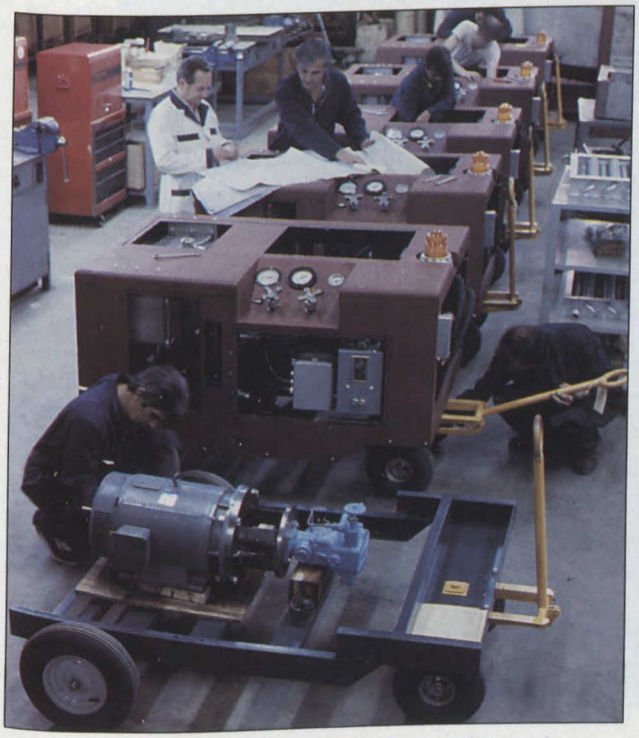
Both facilities are flexibly proportioned to accommodate the demands of various types of equipment in either the R & O or the manufacturing sector. Modern computer systems efficiently control materials, develop CAD projects and provide information.

GODFREY AEROSPACE

▲ In process inspection enhances product quality



▲▼ Proven R & O skills for both airborne & ground equipment



▲ Rugged equipment tailored to specific needs

▲ CAD techniques improve efficiency and design quality

Haley Industries Limited

Haley, Ontario
K0J 2Y0
TELEPHONE: (613) 432-8841
TELEX: 053-3920
TELECOPY: (613) 432-9456

Haley Industries Limited has specialized in the casting of complex aluminum and magnesium castings for aerospace markets since 1952. These castings include constant-speed drive housings and main propulsion engine gearbox housings for fixed wing aircraft, and main transmission and tail rotor gearbox housings for helicopters. Parts range in size from 5 lbs. to 190 lbs. and up to 5 ft. in diameter while maintaining strict aerospace specifications.

Each of the parts cast have some quantity of complex internal passage-ways cast into them by a special coring process developed at Haley. Unique processes such as this one, that facilitate casting of several metres of passages into a part while meeting high metallurgical standards, are the key to Haley's success. Over the years Haley has successfully developed a number of new processes through R & D which have helped to maintain its enviable position in the forefront of light metal foundry technology.

One of the major R and D efforts, an advanced system for pouring aluminum alloys, has successfully been in production since mid 1986. This microprocessor controlled bottom pouring process enables Haley to produce premium quality castings with superior mechanical properties, excellent radiographic quality and thinner wall sections. Such advancement has given the foundry an entrée into other areas of the aerospace industry, particularly for requirements of cast structural components, fuel and oil pump type castings. Present R and D projects include low pressure pouring of magnesium alloys, ultra-sonic dimensional inspection of sand mold assemblies, pouring of metal matrix alloys and bar-coded inventory systems.

The company completed a major expansion program October 1987, that substantially improved the foundry layout and its production capacity. State-of-the-art production equipment was installed, as well as microprocessors and mini-computers to upgrade production operations. The result of these changes was a foundry capable of approximately 50 percent more production capacity.

With an emphasis on communication and coordination between customers, sales, production and technical staff, Haley is currently studying the optimum implementation of a new computer Management Information System (MIS) to upgrade present systems.

Haley provides a complete service to its customers; from pattern making to dimensional inspection, destructive testing, non-destructive testing, chemical analysis and microscopic analysis of metal poured. Complimenting this service is an available range of premium and regular quality aluminum and magnesium alloys cast to international aerospace specifications.

In 1984 Haley acquired Presto Casting Company of Phoenix, Arizona. Presto, a smaller facility, produces castings similar to those produced by Haley but of a generally less complex design and therefore at a lower cost. Being able to take advantage of Haley manufacturing technology and production techniques permits Presto to be very aggressive in its marketing strategies.

In keeping with a reputation of being on the forefront of leading technology, Haley completed an agreement in November 1988 acquiring controlling shares of Advanced Composite Technologies (ACT) of Denver, Colorado. This company's area of expertise is in advanced filament winding on 5-axis computer assisted equipment and the unique bonding of various composite fibre products in normally unavailable shapes. ACT's composite production fabrication capabilities will be enhanced by its capacity to perform in-house computer-aided composite design, testing and analysis, as well as filament winding and placement equipment design.

A publicly-owned company, with shares traded on the Toronto Stock Exchange, Haley's consolidated sales figures for fiscal 1988 were $41 million. The Haley facility employs 408 people while Presto and ACT 120 and 35 people respectively.

HALEY

Halifax AeroTech Business Park

Halifax County Industrial Commission
2776 Dutch Village Road
P.O. Box 300, Armdale
Nova Scotia B3L 4K3
TELEPHONE: (902) 453-7777
FAX: (902) 477-7783

MARKETING DIRECTOR: Raymond L. Roberts

THE NATURAL LOCATION FOR STATE-OF-THE-ART TECHNOLOGY

The AeroTech Business Park is a 2,400 acre high technology research and manufacturing park located adjacent to the Halifax International Airport, Nova Scotia. AeroTech maintains a natural, campus-like setting away from the congestion of the city to provide companies an aesthetically pleasing, productive environment for employees. Internationally known high technology companies such as Pratt and Whitney and Litton Systems have located here.

TRANSPORTATION

AeroTech has direct access to the Halifax International Airport, allowing ease of movement of people and products to and from worldwide locations. Three major international and two commuter airlines provide frequent flights to a variety of domestic and international destinations.

The bustling seaport of Halifax is minutes away with superb container traffic connections to the world. In addition AeroTech has its own interchange onto a major highway providing ease of trucking to destinations in Nova Scotia, Canada and the United States.

SKILLED LABOUR/RESEARCH AND DEVELOPMENT SUPPORT

Five universities are located within a 25 minute drive of AeroTech. These universities provide technological support to companies as well as an excellent labour pool in a diversity of disciplines.

The Nova Scotia Institute of Technology graduates well qualified technologists in CAD/CAM and robotics from its automated manufacturing as well as other technical courses. In addition, world class research establishments such as the Bedford Institute of Oceanography, Nova Scotia Research Foundation, and the National Research Council are just minutes away. Halifax is the Eastern Canadian headquarters for defence establishments.

QUALITY OF LIFE

Halifax County, with a population in excess of 300,000 offers a unique, pleasant lifestyle with abundant recreational and cultural venues. The ocean location affords the opportunity of sailing, deep sea fishing, scuba diving or just lying on the beach. Ample lakes and wilderness provides for canoeing, camping, skiing and hunting, all within minutes of AeroTech. There is a good supply of reasonably priced homes and apartments relatively close to AeroTech.

Halifax has several first class restaurants, live theatre, symphony concerts, top entertainers, museums, art galleries, antique shops and much more.

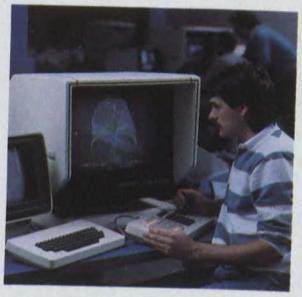
PRO BUSINESS ATTITUDE OF GOVERNMENT

All three levels of government have proven their sensitivity to companies' needs and their willingness to cooperate with industry. Government financed training programs ensure an ample labour supply with specific skills required by companies. Attractive financial incentives are also available.

INQUIRIES INVITED

For more information please contact the Halifax County Industrial Commission.

HIGH TECH TOP GUNS



A move to Halifax County's **AeroTech Business Park** puts the top guns of Canada's foremost automated manufacturing centre right at your doorstep. The Park is a high technology complex serving the aerospace and related industries. Located here is the most sophisticated computer integrated manufacturing facility in North America.

The Nova Scotia Department of Vocational and Technical Training has established an Automated Manufacturing Centre housed in the Nova Scotia Institute of Technology. Students are taught state of the art skills that will fill your labour requirements well into the 21st century.

To be the best in an age of automation, these people are trained to be highly responsive and perform maneuvers far exceeding present norms. Your search for a highly skilled workforce groomed to meet the needs of new technology, business and manufacturing are over. We've got it.

Dynamic Forward Motion

For specifics contact:
Raymond L. Roberts, Marketing Director
Halifax County Industrial Commission
2776 Dutch Village Rd., Box 300, Armdale,
Nova Scotia, Canada, B3L 4K3
Phone (902) 453-7777 Fax (902) 477-7783

AeroTech
business park

Havlik Technologies Incorporated

695 Bishop Street
Cambridge, Ontario
N3H 4V2
TELEPHONE: (519) 653-5774
(416) 364-6208 (Toronto line)
FAX: (519) 653-5774 ext. 269
(416) 364-6208 ext. 269
(519) 623-4960

PRESIDENT AND CEO: David M. Gee
VICE-PRESIDENT: B. Paul Astbury

Havlik Technologies Inc. provides machining, metal processing, assembly, and non-destructive testing services to the aerospace, defense, and precision engineering industries through its operating divisions and subsidiaries, **Williams Machines, Material Processing,** and **Vis-U-Ray Testing Limited.**

Williams Machines provides precision machining services for medium to large aluminum, titanium and high strength steel components. Williams is also a custom fabricator and assembler of ground support equipment, complex test apparatus and sub-assemblies. Large scale welding and metal forming facilities are in place, as well as the personnel and physical plant for the assembly, testing and trial of complex electrical, hydraulic and computer controls and sub-systems.

Material Processing offers a full range of metal processing and inspection services to military and commercial specifications. Services include: anodizing, heat treating, cadmium plating, abrasive blasting, shot peening, spray painting and non-destructive testing services. Material Processing has set industry standards for excellent quality, minimal reject rates, rapid product turnaround, and excellent pricing on short run processing.

Vis-U-Ray Testing Limited operates the largest non-destructive testing facility of its kind in Canada, providing full radiography, ultrasonic, penetrant, magnetic particle, and eddy current inspection services.

All three operations have fully independent quality assurance and inspection organizations and offer absolute material and process traceability. Quality assurance procedures comply with AQAP-4 and CSA-Z299.3, and the company's divisions hold National Defense Special Process recognition, MIL-1-45208A and DOT approvals. With one of the highest experience levels in the industry, senior staff can assist clients with problem solving in all areas of equipment capability, component fabrication and design, and metal processing. The integrated machinery, metal treatment, and non-destructive testing operations assure maximum product turnaround, part traceability and minimal transportation and handling costs.

Havlik Technologies is a member of the Derlan Industries' group of companies. Derlan is a publicly held Canadian corporation with interests in a wide range of industrial sectors. Utilizing its strong capital base, Derlan acquired Williams Machines and Material Processing in 1985, and Vis-U-Ray Testing in 1986, and is providing the necessary resources for expansion and modernization. Williams Machines has served the aerospace industry for 70 years, Material Processing for 25 years, and Vis-U-Ray Testing for 20 years.

Williams Machines Division
695 Bishop Street
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(519) 653-5774
(416) 364-6208
Divisional Manager:
Willi Gubler

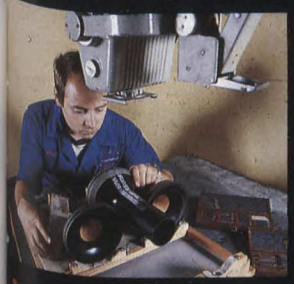
Material Processing Division
695 Bishop Street
P.O. Box 3430
Cambridge, Ontario
N3H 4V2
(519) 653-5774
(416) 364-6208
Divisional Manager:
Sandy Sykes

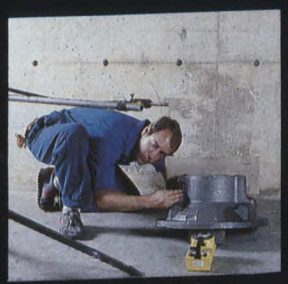
Vis-U-Ray Testing Limited
320 Sheldon Drive
Cambridge, Ontario
N1T 1A9
(519) 653-5774
(416) 364-6208
General Manager:
B. Paul Astbury

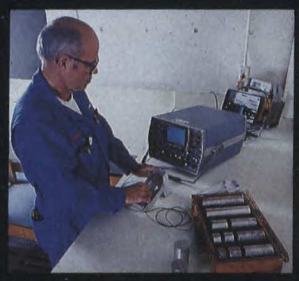
VIS-U-RAY

A SUBSIDIARY OF HAVLIK TECHNOLOGIES INC.

Vis-U-Ray provides non-destructive testing and research, and development facilities for the aerospace and defence production industries.







Specializing in radiography, ultrasonics, penetrant, magnetic particle and eddy current testing.

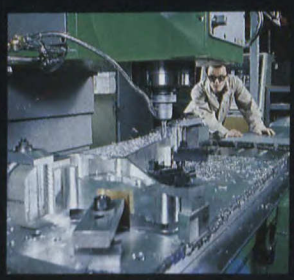
Vis-U-Ray operates the largest independent commercial non-destructive test facility of its kind in Canada with fully trained, and highly qualified technicians.

WILLIAMS MACHINES DIVISION

For more than 60 years, Williams has specialized in high tolerance machining of medium to large scale aluminum, titanium, and high strength steel components.

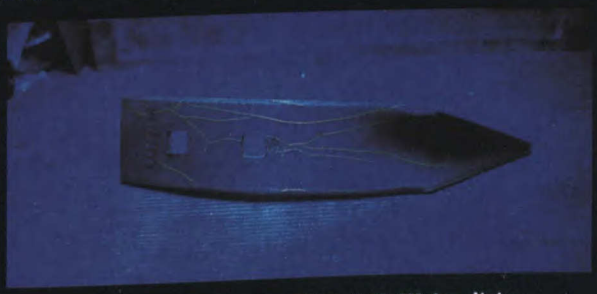
Williams holds numerous approvals including: Babcock & Wilcox, Canadair, de Havilland, Fleet Industries, Lockheed California, McDonnell Douglas; and Spar Aerospace.

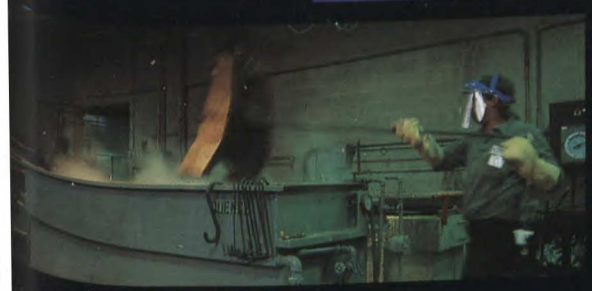
Williams Machines' equipment includes: profilers, precision drilling equipment, vertical and horizontal machining centres and boring mills, lathes, grinders, planer mills.



MATERIAL PROCESSING DIVISION

MATERIAL PROCESSING provides the final touch of quality, specializing in high technology coatings, heat treating and non-destructive testing services.





Type I, II, III Anodizing
Type I & II Cadmium Plating
Chemical Conversion
Manganese Phosphate Coating
Passivation of Stainless Steel

Nital Etch Inspection
Penetrant Inspection
Magnaflux Inspection

Aluminum Heat Treating
Shot Peening
Abrasive Blast
Spray Painting
Dry Film Lubrication

A DERIAN COMPANY

Hawker Siddeley Canada Inc. Orenda Division

3160 Derry Rd. East
Mississauga, Ontario L4T 1A9
TELEPHONE: (416) 677-3250
TELEX: 06-968727 CABLE: ORENDA
TELECOPIER: (416) 678-1538

VICE PRESIDENT & GENERAL MANAGER: R.J. Munro
DIRECTOR OF FINANCE: T. Crawley
DIRECTOR OF MARKETING: C.M. Hinds

Orenda Division has been the leading manufacturing and overhaul centre of Canadian Forces' high performance gas turbines since 1946. More recently, Orenda has built up a significant subcontract manufacturing activity producing high quality components for such customers as Pratt & Whitney Aircraft, General Electric, Pratt and Whitney Canada, Rolls-Royce, Textron-Lycoming, Lucas Aerospace, McDonnell-Douglas and others.

Orenda employs approximately 700 people at its modern, climate-controlled facility — located close to Toronto's International Airport — where it utilizes some 450,000 square feet (41,805 m^2). The comprehensive manufacturing and overhaul capabilities are complemented by extensive and experienced supporting activities such as design engineering, manufacturing and process engineering, government-qualified laboratories (materials, instruments, electronic, mechanical, accessories), computerized data processing and a modern graphics department.

Repair and overhaul activities currently encompass the J85 engines for the CT114 Tutor Trainer and CF-5 Freedom Fighter, and the F404-GE-400 for the CF-18 Hornet. Orenda provides not only engine overhaul but also extensive component repair, spare parts manufacture and supply, and comprehensive technical support both 'in-house' and in the field. All repair and overhaul activities are undertaken with strict compliance to Department of National Defence specifications and quality standards.

Orenda developed Canada's first jet engine, the "Chinook", which ran in March, 1948. The design of the engine was taken over by Orenda from Turbo-Research Ltd., a Canadian government-owned company.

The work done on the "Chinook" led to the 7,500-lb.-thrust "Orenda" jet engine of which more than 3,800 were built between 1952 and 1958 to power CF-100 and F-86 Sabre jet aircraft for the air forces of Canada, Belgium, Colombia, South Africa and West Germany.

Aero engine design at Orenda peaked in the mid-1950s with the development of the 26,000-lb.-thrust "Iroquois" for the Avro Arrow supersonic fighter.

With cancellation of the Arrow program in 1959, skills and facilities were channelled to the design and development of the Orenda "OT" series of industrial gas turbines and the manufacture of the General Electric J79 and J85 jet aircraft engines.

During a 13-year period from 1961 to 1974, Orenda built 478 J79s for the F-104 "Starfighter" aircraft and 840 J85s for the Canadian Forces "Tutor" and CF-5/NF-5 versions of the Northrop F-5 interceptor.

Component manufacture under subcontract involves a wide variety of machining and fabrication techniques encompassing small parts for engines such as the Pratt & Whitney PW100 Series to large parts for commercial engines such as the Rolls-Royce RB211 or Pratt & Whitney JT9D. An extensive range of equipment — from manually operated to fully NC machines to modern welding and heat-treatment facilities — provides capabilities to manufacture components in aluminum, magnesium, titanium, alloy steels and current generation high temperature metals. Orenda is a fully-qualified supplier to all major gas turbine manufacturers and is fully conversant with their stringent quality and process standards.

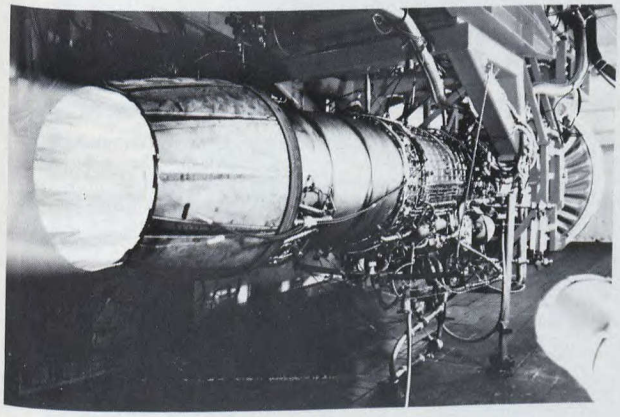
Orenda also undertakes commercial engineering programs for many customers with a diverse range of requirements. This includes such developments as highly-specialized gauging equipment for the in-reactor examination of tubes in nuclear plants, a special machine for welding reactor tubes in situ, the design of rigs for testing state-of-the-art gas turbine seals and bearings, environmental testing of equipment and the provision of a wide range of metallurgical and mechanical testing services.

Through the 1960s and into the current decade, Orenda's activities have included the design, development and production of: the Lance Missile Lightweight Launcher for the U.S. Army, a series of industrial gas turbines, specialized tubular components for CANDU nuclear reactors and the development of capabilities as a sub-contractor in the aerospace field.

Aircraft Gas Turbines

- Manufacture, assembly and test of complete engines. In excess of 5000 Orenda, J79 and J85 produced.

- Repair and overhaul of complete engines. Fully integrated capability including component overhaul, parts manufacture, laboratory services, engineering services. 31,000 square feet (2 900 square metres) of overhaul space and a 30,000 square foot (2 800 square metre) test cell complex capable of handling 30,000 lb. (13 600 Kg) thrust class engines.



F404 Engine on Test.

Sub-Contract Manufacturing

- A full range of machining and fabricating equipment, including CNC machines, and capacity up to 10 feet (3.0 metres) diameter. Typical parts manufactured include:
  - Compressor Stator Assemblies (F100, TF33, JT9D)
  - Gas Generators (PT6)
  - Turbine Nozzles (J85, T53, ALF502)
  - Exhaust Ducts, Cones and Cases (TF30, PT6, J52, JT8D)
  - Combustion Liners (JT15D, JT8D)
  - Compressor Cases (J79)
  - Front Frame (F404)
  - Turbine Cases (PW100, 570)
  - Compressor Discs, Spacers, Torque Rings (J85)
  - Turbine Wheels, Drive Shafts (J85)

Compressor Stator Assembly — TF33 Engine.

Combustion Liner — JT15D Engine.

Industrial Gas Turbines

- Repair and overhaul, and supply of spares for Orenda gas turbines.
- Assembly of G.E. LM1600 Gas Turbines.

Other

- Engineering Department to support manufacture, overhaul and customers.
- Quality Control Department approved to MIL-Q-9858A, AQAP-1 and D.O.T. (for aerospace).
- Graphics Department providing a comprehensive service to industry, specializing in technical manuals, full colour advertising brochures, and annual reports.

Customers

- include governments
  aerospace industry
  oil and gas industry
  utilities

Plant

- 450,000 square feet (41 805 square metres) with road, rail and air transport.

HAWKER SIDDELEY
ORENDA

Héroux Inc.

755 Thurber Street
Longueuil, Quebec
J4H 3N2
TELEPHONE: (514) 679-5450
FAX: (514) 679-4554

PRESIDENT: Gilles Labbé
VICE-PRESIDENT CORPORATE DEVELOPMENT: Jacques Bonaventure
VICE-PRESIDENT MARKETING: Emile L. Desnoyers
DIRECTOR OF ENGINEERING: Nagi Homsy

Every day, on all continents, many types of aircraft land safely on HÉROUX landing gear. Since 1942, HÉROUX has earned an enviable reputation for the quality of the landing gear, hydraulic systems and precision parts it manufactures at its facilities located in the Montréal area.

The reliability of the Company's products and the attention given to on-time delivery have made HÉROUX a recognized and valued name in the field of aerospace.

Because of the rigorous standards of quality and excellence that it has set for itself, HÉROUX has become an accredited supplier to the Canadian Forces, the U.S. Air Force and the U.S. Navy. Aircraft fitted with HÉROUX landing gear include the U.S. Air Force's KC-135 R, a Boeing 707 adapted for refuelling other aircraft in flight.

The Canadair CL-215 waterbombers, used on four continents for fighting forest fires and the Boeing de Havilland DHC-6 Twin Otter, are also fitted with HÉROUX landing gear. Indeed, these landing gear are HÉROUX-designed.

As a matter of fact, it was HÉROUX landing gear that brought the lunar module of the APOLLO spacecraft to rest on the Moon, thereby enabling man to walk for the first time on Earth's satellite.

In addition to designing and manufacturing landing gear, hydraulic systems and precision parts for various types of aircraft, both civilian and military, HÉROUX specializes in the repair and overhaul of landing gear. Since the company has its own plating facilities, HÉROUX provides high quality on time products and services. In the military field, HÉROUX is the largest independent company in North America to repair and overhaul landing gear.

At HÉROUX, quality assurance is an everyday concern; each employee, whether engineer or technician, is aware of the vital importance of the quality of his work. Using the best equipment available, the quality assurance department is involved at every stage of manufacturing and of repair and overhaul.

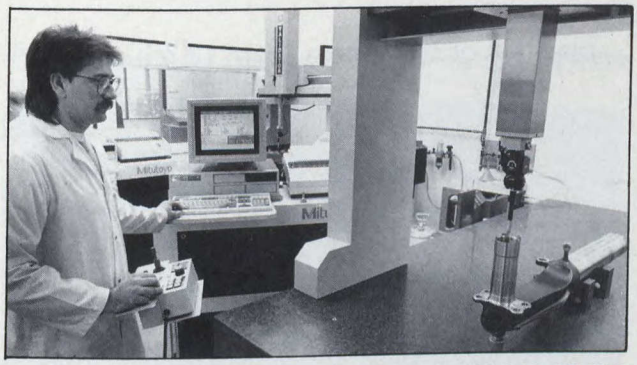
With such strict standards, HÉROUX has received the highest certifications from major North American aircraft manufactures as well as from the Canadian and American Departments of Transport, the Canadian Department of Defense, the U.S. Air Force and The U.S. Navy.

In November 1987, HÉROUX expanded in the United States through the acquisition of McSwain Manufacturing Corporation who manufacture small and medium-sized high precision machined parts for the defence, electronics and computer industries.

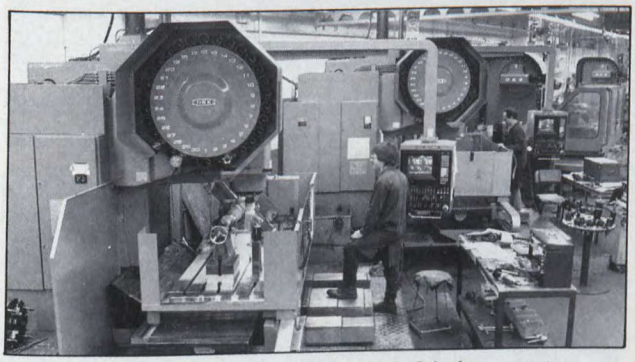
In 1989 the company consolidated its position in the United States by acquiring A.B.A. INDUSTRIES INC., a leading manufacturer of jet aircraft engine components.

HÉROUX, a publicly-owned company, is listed on the Montreal Stock Exchange. Company's sales for 1988 exceeded 63 millions. We employed 890 persons in four facilities occupying 300,000 square feet.

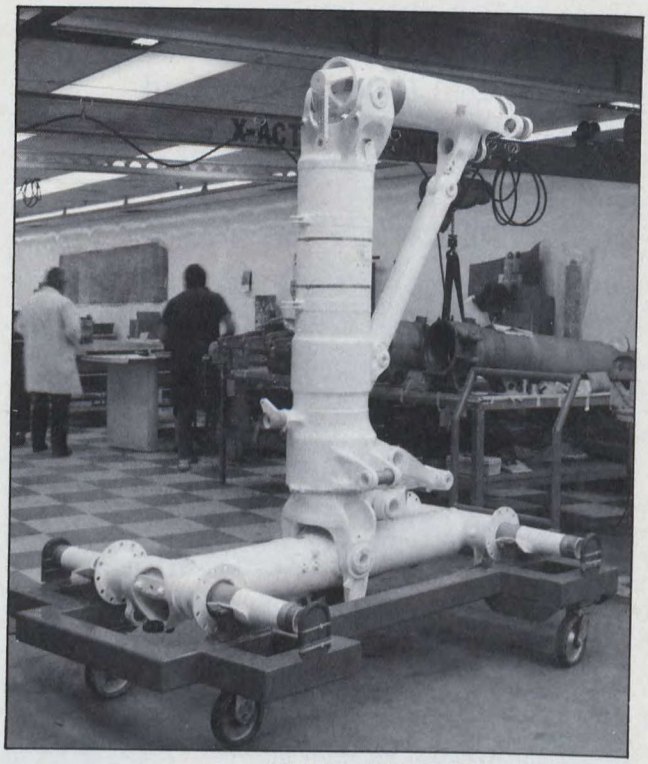
Products and Services



5760-10A – F-15 piston on a Mitutoyo BN1020 CMM



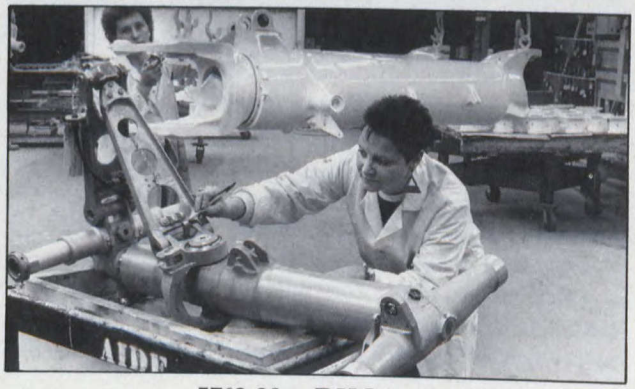
5761-29 – Three and four axis machining centers



5703-7 – KC-135R landing gear

5761-35 – Three spindle profilers

5779-22 – C-130 component displayed on a Sun 3/60 CAD/CAM station



5762-28 – DHC-5 nose landing gear

I.M.P. Group Ltd. - Aerospace Divisions

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Suite 400, 2651 Dutch Village Road
Halifax, Nova Scotia B3L 4T1
TELEPHONE: (902) 873-2250 Ext. 277
TELEX: 019-22504
FAX: (902) 873-2249

DIRECTOR OF MARKETING: H.L. (Arch) Conner
Suite 404
1545 Carling Avenue
Ottawa, Ontario, Canada K1Z 8P9
BUSINESS: (613) 729-5210
FAX: (613) 729-1268

History:
IMP Group Limited was formed in 1967 and purchased the assets of a group of Nova Scotia companies which had manufactured foundry and steel fabricated products since 1865. IMP interests diversified to include the merchandising and manufacturing of commercial fishing gear and related industrial marine products. In the early 1970's IMP acquired a major aircraft repair and overhaul company located in Halifax, Nova Scotia, and has diversified its Aerospace facilities and capabilities to include the following operating divisions:

- Aerospace Manufacturing
- Aerospace Engineering
- Aerospace Repair and Overhaul
- Aerospace Material
- General Aviation Services and FBO Network
- Foundry
- High Precision Machining and Steel Fabrication
- Tool and Plastics
- Marine
- Hotel Properties

Capability:
IMP Group's capabilities are described in the divisions listed:

AEROSPACE MANUFACTURING DIVISION — Manufactures electronic wiring assemblies for various aircraft and electronics industries. Aerospace metal components are also manufactured. Manufacture and design of automatic test equipment for electronic wiring assemblies as well as licenced helicopter airframe components for Sikorsky.

AEROSPACE ENGINEERING SERVICES DIVISION — Provides systems integration and software services including repair schemes, corrosion control, weight and balance, modification development, systems installation design, aeronautical engineering, aircraft maintenance, stress analyses, fatigue studies, structural design, electrical and avionics engineering, systems interface design, electromagnetic compatibility testing, systems ground and flight testing, configuration and modification program control, and maintenance of technical publications for military aircraft.

AIRCRAFT REPAIR AND OVERHAUL DIVISION — As the major fixed and rotary wing maintenance facility in eastern Canada, it offers repair and overhaul programs for military and commercial aircraft, as well as a full range of equipment modification and aircraft painting. IMP is presently designing and installing PT6 Turbine Engines in the Grumman S-2 Tracker aircraft for the export market.

GENERAL AVIATION SERVICES DIVISION — Offers aircraft servicing maintenance, hangerage, crew and passenger lounges for large and small commercial aircraft. This division supports a fleet of twin engine turbo prop and piston engine aircraft for charter anywhere in Canada and the U.S. IMP operates a network of 8 FBO's throughout eastern Canada, providing a full range of first class line services.

FOUNDRY DIVISION — Equipped to produce cast iron, steel and alloy castings up to 2 tons with both cupola and electric induction furnaces.

MACHINE SHOP DIVISION — A precision machining center utilizing state-of-the-art numerically controlled equipment capable of supporting the aerospace and other high technological industries.

TOOL AND PLASTICS DIVISION — Manufactures molded plastic parts using the injection molding technique. Product line ranges from medical products and oil field pipe thread protectors to fishing floats and childrens' toys.

RESEARCH AND DEVELOPMENT DIVISION — The primary function is to identify and develop new products and processes related to the continued expansion of the IMP Group and the technical excellence of its products.

Average Work Force: 1,400

Gross Sales:

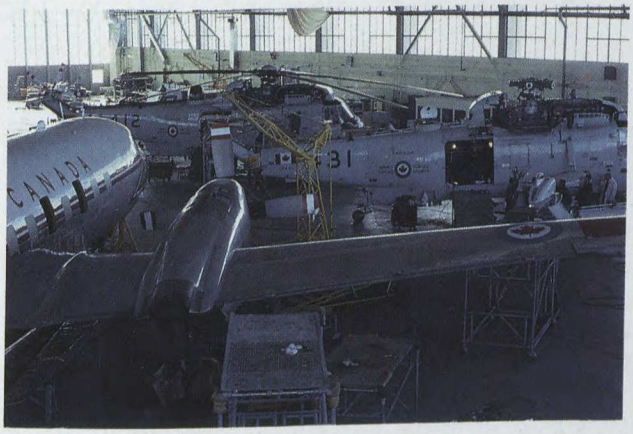
IMP Group Ltd.	over $100 M
Aerospace Manufacturing Division	$ 6 M
Aerospace Repair & Overhaul Division	$50 M

Plant Size:

Aerospace and Aviation (7 hangars)	150,000 sq. ft.
Steel Fabrication and Machining	15,000 sq. ft.

Experience: IMP Group's aerospace clients include the U.S. Navy (P3 aircraft), Canadian Department of National Defence — CH124, CP121, CP140, Canadair, USAF, and McDonnell Douglas Canada. IMP will have a significant role in the N.S.A. program.

Products and Services



Heavy Repair and Overhaul maintenance of CH124A Sea King Helicopter

IMP Aerospace Repair and Overhaul hangar 70,000 sq. ft. — Halifax International Airport

IMP Aerospace Manufacturing Plant and new generation automatic test equipment designed and manufactured by IMP for use on electronic wire assemblies and electronic systems

Depot level maintenance — CP121 Tracker Aircraft, Halifax, Nova Scotia

Indal Technologies Inc.

3570 Hawkestone Road
Mississauga, Ontario L5C 2V8
TELEPHONE: (416) 275-5300
FROM U.S. ONLY 1-800-263-7340
TELEX: 06-961482
FAX: (416) 273-7004

PRESIDENT AND CHIEF EXECUTIVE OFFICER:
G.R. Rutledge
VICE-PRESIDENT, BUSINESS DEVELOPMENT:
R.E. Marcille
VICE-PRESIDENT, MARKETING: R. Travis
DIRECTOR, MARKETING: L.T. Zbitnew
DIRECTOR, SALES: V.P. Lacey

Indal Technologies is a diversified Canadian company which designs and manufactures a wide variety of mechanical, electro-mechanical, hydraulic and structural systems. It is the world's leading supplier of specialized landing assist and protection systems for helicopters operating from ships and in heavy sea and poor weather conditions, day or night. Over 100 of its renowned recovery assist, securing and traversing (RAST) systems, based on a system developed for the Canadian Navy in the 1960s, have been sold to the U.S. Navy as a key element of the Light Airborne Multi-Purpose System (LAMPS) MK III program. RAST will also be installed on the Canadian Navy's six City class patrol frigates, and the six follow-on SRP II ships. Units have been also sold to other navies, including those of Australia, India, Japan and Spain. Indal Technologies also offers the latest in shipborne helicopter recovery systems called ASIST, Aircraft Ship Integrated Secure and Traverse. This system allows helicopter pilots to make free-deck landings in sea state five conditions and is expected to revolutionize shipborne helicopter operations in the 1990s.

The company also developed the telescopic hangar concept for the protection of helicopters operating from small ships with limited deck space. It also designs and builds specialized door systems for all types of hangars and other shipboard enclosed spaces. Indal Technologies has built almost 200 helicopter hangars and 400 doors. Along with the specially constructed lightweight flight decks, helicopter refueling system and aviation lighting packages also supplied by the company, the helicopter landing assist systems, helicopter hangars and hangar doors combine to create a fully-integrated system of total helicopter recovery, maintenance and protection that is unequalled in the world today.

Building on shipborne helicopter experience, Indal Technologies is developing a wide range of handling systems including those required for the launch, recovery and handling of Unmanned Air Vehicles, both fixed-wing and vertical takeoff and landing, and is applying results of research into IR vision systems to allow automation of these operations. The company is active in several forums in connection with UAV's including the NATO Vehicle Platform Interface Committee and the Industry Support Group to the United States UAV Joint Program Office.

Over thirty-five years' experience in designing and fabricating structural aluminum and stainless steel has also placed Indal Technologies at the forefront of this specialized field of technology. The company enjoys the reputation of being an acknowledged expert in this field and is fully certified by the Canadian Welding Bureau.

The company employs 300 highly-skilled people at its modern 15,000 sq. m. (162,000 sq. ft.) facility in Mississauga, Ontario. It maintains a large engineering department, staffed by professional engineers of many disciplines supported by design draftpersons who are proficient in related fields as well as by computer aided design facilities. A program management and cost and schedule control system has been developed and validated by the U.S. Navy, which, with the appropriate quality assurance programs up to AQAP-1 or equivalent, make Indal Technologies well placed to take on major contracts.

This impressive array of capabilities has provided the company with some interesting opportunities with foreign contractors undertaking work on Canadian government contracts. The company actively solicits offset contracts for work on major Canadian defence or other Government acquisition projects. This includes activities ranging from licensed or sub-contract manufacturing and system integration to assistance in meeting integrated logistics support (ILS) requirements and other indirect industrial benefit work.

Indal Technologies was originally incorporated in 1951, became a member of the Toronto-based Indal Group of companies in 1968, and changed its name to Indal Technologies Inc. in 1985. Its parent company, Indal Limited, is a diversified industrial organization with more than 30 operating subsidiaries and divisions in Canada and the United States. Founded in 1964, Indal Limited now employs more than 9,000 people at over 60 locations in North America. Indal Group sales in 1988 were more than one billion dollars.

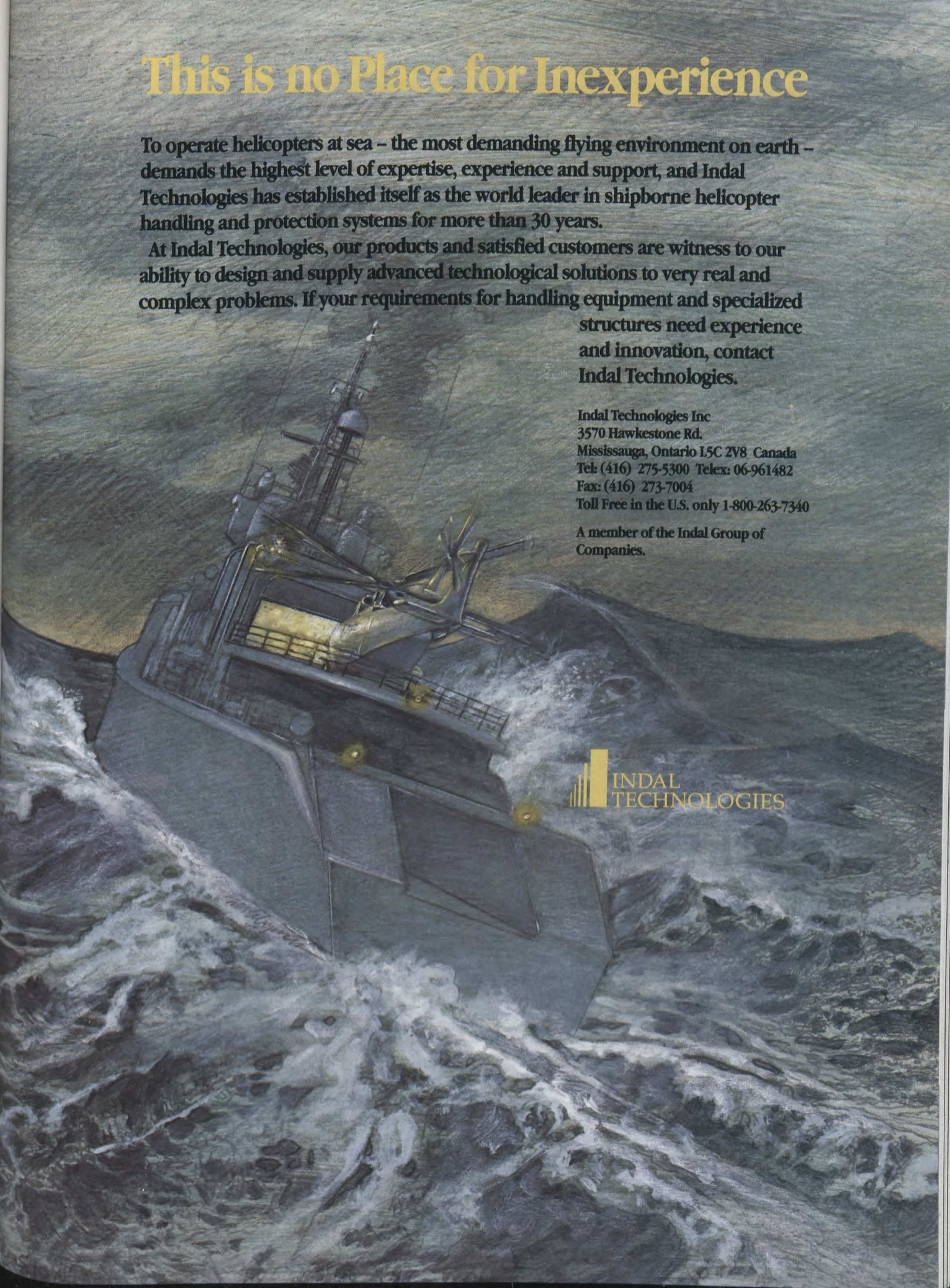
This is no Place for Inexperience

To operate helicopters at sea – the most demanding flying environment on earth – demands the highest level of expertise, experience and support, and Indal Technologies has established itself as the world leader in shipborne helicopter handling and protection systems for more than 30 years.

At Indal Technologies, our products and satisfied customers are witness to our ability to design and supply advanced technological solutions to very real and complex problems. If your requirements for handling equipment and specialized structures need experience and innovation, contact Indal Technologies.

Indal Technologies Inc
3570 Hawkestone Rd.
Mississauga, Ontario L5C 2V8 Canada
Tel: (416) 275-5300 Telex: 06-961482
Fax: (416) 273-7004
Toll Free in the U.S. only 1-800-263-7340

A member of the Indal Group of Companies.



INDAL TECHNOLOGIES

International Fasteners

Toronto (Head Office)
21 Constellation Court
Rexdale, Ontario, M9W 1K4
TELEPHONE: (416) 674-0770
TELEX: 06-989595
FAX: (416) 674-5804

PRESIDENT AND GENERAL MANAGER:
S.D. (Doug) Woollings
EXECUTIVE VICE PRESIDENT,
SALES AND MARKETING: N.D. (Norm) Whittaker

Interfast, (International Fasteners), since 1966 has been Canada's major stocking Distributor and Manufacturers' Representative serving the aerospace airframe, engine and electronic original equipment manufacturers in the following product categories.

- aerospace precision fasteners and fastener systems
- custom-engineered systems and products
- aerospace tooling, automated production line drilling and riveting equipment
- high tech wire and cable

Interfast is an engineering-oriented sales organization, that has steadily expanded its quality product lines. They have introduced and supported these products with personnel that are thoroughly familiar with the sensitive and stringent requirements in the application of aerospace products.

The Company has achieved sales excellence through specialization. Major accounts are serviced by experienced senior sales managers. Major product lines are developed under the expertise and guidance of individual Product Managers. These customer and product experts are supported by a team of Technical Sales Representatives strategically located to give complete and comprehensive field coverage. Internal senior management and a team of independent representatives service the International Marketplace.

The internal sales operation is an integrated system of Sales Order Desks, sourcing and expediting groups to provide products, communications and service satisfaction to more than 2,000 Canadian and International Customers.

Interfast has strategically-located Branch operations in Montreal and Vancouver to better serve Canada's Eastern and Western Regions. The Toronto Head Office facility, just five minutes from Pearson International Airport, services the Canadian Central Region and the International Marketplace. The Company's computer controls 50,000 line items, 40 million pieces of traceable inventory, which is presently being integrated with a computer network sourcing system to access the leading manufacturers and provide instant response. Bar coding capabilities and specialized quantity packaging to Military and commercial specifications, ensures accurate shipments in respectable turn-around times.

Interfast's Quality Assurance Program has been designed to meet the NATO requirements AQAP 4 and MIL-I-45208 specifications and is recognized by The Department of National Defence and major North American Prime Contractors.

Interfast has supplied fasteners, fastener systems and wire and cable to many aerospace and electronic related companies including McDonnell Douglas, Boeing Aircraft Company, Raytheon Canada Limited, Aerospatiale, Canadair, Boeing Canada de Havilland Division, Pratt & Whitney, Litton Systems Canada, I.B.M., Garrett Manufacturing, Swiss Federal Airforce, Australian Government and Commercial Airlines Worldwide and many others.

AEROSPACE PRECISION FASTENER SYSTEMS

CANADA'S LEADING SUPPLIER OF TRACEABLE HARDWARE FOR AIRCRAFT AND AEROSPACE APPLICATIONS

Interfast, representing leading manufacturers since 1966, has served the aviation and aerospace industry by supporting our customers' needs and major programs with 40 million pieces of traceable inventory. Our computerized inventory control system ensures accurate shipments in respectable turnaround time.

- Aerospace precision fasteners and fastening systems.
- Custom-engineered systems and products.
- Aerospace tooling, automated production lines, drilling and riveting equipment.
- High-tech wire and cable.

The Interfast Quality Assurance Program meets NATO requirements AQAP-4 and MIL-I-45208.

3 SALES/WAREHOUSE LOCATIONS

VANCOUVER
7-3691 Viking Way
Richmond, British Columbia V6V 1N6
(604) 273-0599 FAX: (604) 273-1090
Toll Free: B.C., Alta., Sask.
1-800-663-0938

TORONTO HEAD OFFICE
21 Constellation Court
Rexdale, Ontario M9W 1K4
(416) 674-0770 TELEX: 06-989595
TWX: 610-492-2358
FAX: (416) 674-5804

MONTREAL
728 Brunswick Boulevard
Dollard des Ormeaux, Quebec
H9B 2C5 (514) 683-9853
TELEX: 05-822742
FAX: (514) 683-1871

INTERFAST INC.
INTERNATIONAL FASTENERS

Irvin Industries Canada Limited

479 Central Avenue
Fort Erie, Ontario L2A 3T9
MAILING ADDRESS: P.O. Box 280
Fort Erie, Ontario L2A 5M9
TELEPHONE: (416) 871-6510
TELEX: 061-5169
FAX: (416) 871-6534

PRESIDENT AND GENERAL MANAGER:
John D. Swanigan
DIRECTOR OF SALES AND MARKETING:
John C. Simis

Since 1925, Irvin Industries Canada Limited has been actively engaged in the design, development, manufacture and export of military defence products; aerospace safety, rescue and life support equipment.

Irvin's 65,000 sq. ft. facility in Fort Erie, Ontario is comprised of approximately 200 skilled and professional employees in Engineering, Production, Quality Control and Support Operations.

As a government approved company, Irvin Canada's Quality Control Program is fully qualified to Canadian Forces Specification AQAP-1, DND 1015 and U.S. Specification Mil-Q-9858A. Annual quality audits, conducted by independently-assigned specialists, combined with a full-time, in-house Government Source Inspection office, further assures the quality of Irvin products throughout all phases of the manufacturing process, from the initial receipt of raw materials through to the final inspection, packaging and delivery of the finished product.

Irvin Canada is a prime supplier for the Canadian Forces; and the company's international customers include all branches of the U.S. military and the military organizations of over 60 nations throughout the Free World.

CAPABILITIES AND PRODUCTS

Irvin's **Parachute Production Department** is equipped with over 350 industrial sewing machines, cloth laying and cutting tables, grommet and eyelet machines, light tables and a variety of computerized inspection and test equipment — for both destructive and non-destructive testing of materials, components and finished products. The company's major product line includes an extensive range of parachute products and systems for military aerospace applications.

Irvin's **Mechanisms Department** is a dust free, environmentally controlled facility equipped with modern calibration and test equipment, ultrasonic cleaners, extreme temperature and vacuum chambers, centrifuges and vibration testers. This department is responsible for the manufacture and assembly of new Irvin instruments, and for the after sales servicing and routine inspections of instruments for Irvin's customers.

Irvin's **Inflatables Department** is equipped with ultra-modern, Frequency Stabilized Electronic Heat Sealing equipment and associated jigs and fixtures for the production of a wide range of inflatable products and life support equipment.

Personnel Parachutes:
- Steerable and non-steerable troop parachutes
- Emergency escape parachutes for pilots and crew
- Ejection seat parachutes (A.I.M.) for high speed jet aircraft (CF-18)
- Tactical Assault Personnel Parachute (T.A.P.P.) for low altitude troop delivery
- Tactical Gliding Parachute System (CT-3) for High Altitude, High Opening (H.A.H.O.) military standoff operations
- Para Rescue parachutes for Search and Rescue operations
- Loadmaster/Despatcher parachutes

Aerial Delivery Parachute Systems:
- Cargo Delivery systems for airdrop of bundles, containers, heavy platform loads and Low Altitude Parachute Extraction (LAPES)
- Bomb retardation parachutes
- Stabilizer/Delivery parachutes for torpedoes, sonobuoys, flares and air-droppable sea survival/rescue systems (Sea SKAD & L.W. SKAD)

Aerial Recovery Systems:
- Parachute recovery for the CL-89 reconnaissance drone
- Parachute recovery and landing bag system for the CL-289 reconnaissance drone
- Parachute recovery system for the Robot 'X' target drone
- Anti-spin and aircraft deceleration parachutes (V.P.C.R.) for the CF-5, F-5, F-104, F-105, Mirage V, Hawker-Hunter and F-16 aircraft.

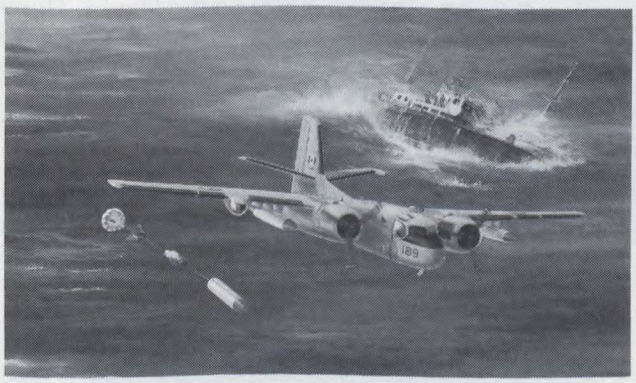
Precision Instruments:
- FF-2 Hitefinder Automatic Parachute Release mechanism for military freefall parachutes
- MK 10B & MK 10C Automatic Parachute Release mechanisms for emergency escape parachutes

Products and Services

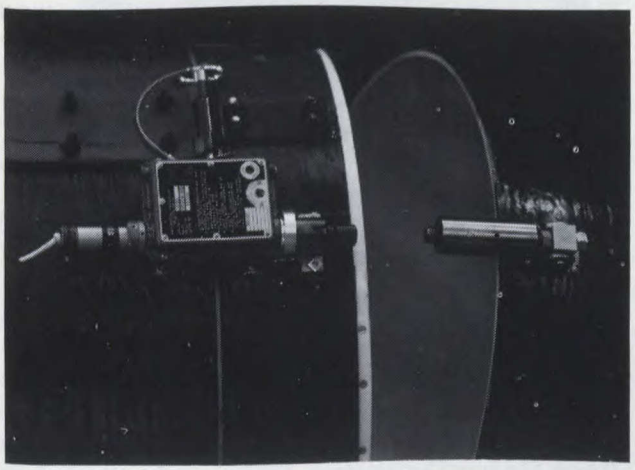
- DM-1 mechanical dereefing mechanism for cargo parachutes
- B-100 barometric cutter/staging device for cargo delivery applications
- PA-100 military parachutist altimeter
- Irvin Vacuum Test Chamber for field testing/ calibration of Irvin barometric devices.

Inflatable:

- Aircrew and military parachutists' life vests/jackets
- Anti-G suits and waistcoats for pilots and crew
- Impact attenuation, inflatable bags for shock absorption of delicate loads
- Inflatable decoy systems



Light Weight Survival Kit, Air Droppable (L.W. SKAD): a completely self-contained, wing-mounted sea rescue system that is automatically sequenced to deploy, deliver and inflate two 6-man life rafts, and accompanying survival equipment in close proximity to endangered personnel.



Irvin MK 10B barometric release mechanism, modified by Irvin's aeromechanical engineers to provide an accurate and reliable means of releasing the tail cone section of Irvin's Sea Survival Kit, Air Droppable (Sea SKAD) System, shortly after aircraft deployment.

Irvin Industries Canada Limited is a wholly-owned, independently operated subsidiary of Irvin Industries Incorporated of New York. The Irvin Corporation was originally founded in Buffalo, NY in 1919; and, in the 70 years since its inception, has grown to include North American aerospace divisions in Kentucky, North Carolina, California and Canada; and overseas aerospace facilities in England and Italy. Irvin also has manufacturing licensees in West Germany and Japan, plus a comprehensive network of sales agencies in 60 countries throughout the world.

Irvin Military Parachuting Equipment: FF-2 Hitefinder Automatic Parachute Release mechanism, PA-100 Military Parachutist Altimeter and CT-3 High Glide, Tactical Ram Air Parachute System for High Altitude, High Opening (H.A.H.O.) military standoff, parachuting operations.

Irvin Vacuum Test Chamber for the calibration/testing of Irvin barometric devices.

Istec Incorporated

1810 Highway 6 North
Hamilton, Ontario
CANADA L9J 1H2
TELEPHONE: (416) 529-5132
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PRESIDENT: Mark Chamberlain
EXECUTIVE VICE PRESIDENT: C. James Cooper
MARKETING: Michael G. Wlodek

The Stabilization System currently manufactured by ISTEC (Isolation Stabilization Technology) Incorporated was originally designed to isolate line-of-sight sensor systems for Military Airborne Surveillance applications in 1974.

ISTEC currently employs approximately 50 people. The distribution of personnel is evenly divided between development, engineering and production. The Engineering staff has extensive experience and expertise in the fields of Mechanical Design, Electronics, and Optical Engineering. This group is dedicated to developing and customizing ISTEC's various Stabilized Platforms and related Surveillance Systems for the specific applications our customers demand.

Markets

These Stabilized Mounts are being sold world wide for a variety of industries. These include Security, Surveillance, Military, Utility Inspection, Electronic News Gathering and Film. An established network of twenty-two (22) Agents, which represent ISTEC in over 30 countries around the world, are responsible for front line sales and marketing. Systems have been used by Police Forces, Military Departments, Hydro Line Inspection Companies, Film Companies and the Broadcast News Industry.

Airborne Surveillance Systems

ISTEC's Airborne Surveillance Systems are remotely controlled, vibration isolated, gyroscopically stabilized platforms. When attached to moving vehicle, the line-of-sight Sensor Package is isolated from the vibration and angular motion of the vehicle. Because of the high degree of stability provided by ISTEC's Stabilized Platforms (less than 5 microRadians line-of-sight jitter), image magnification of several hundred times may be achieved.

With the remote control, the sensor package line of sight can be steered by an operator from within the transporting vehicle. Steering is accomplished by using a stiff joystick through 360 degrees in pan, continuously in either direction. In tilt, the sensor package can be pointed 30 degrees above the horizon, and straight down at 90 degrees below the horizon. In addition to standard steering aids, sensor functions such as zoom, focus, iris, extenders and filters may be remotely controlled from the console.

Because of the modular design of the system and the different package sizes available, a wide variety of Sensor Packages can be installed on the Mount. These include long range, large aperture Zoom Lenses with high resolution Video Cameras as well as Thermal Imagers with varying fields of view.

The Product Line

With extensive experience configuring different sensor packages, ISTEC has selected three which form the basis of a complete product line. These systems are the 12DL, 24DL and 36DB Series.

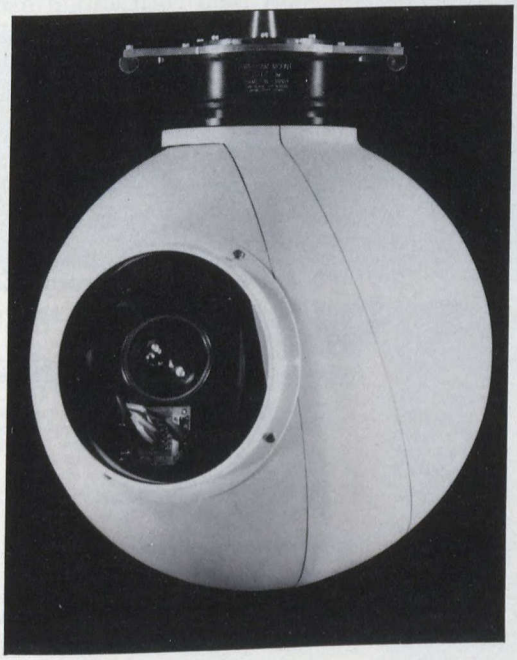
12DL-Series Mount

The 12DL- series of mounts are Gyrostabilized gimbal systems which offer excellent stability for smaller Sensor Packages. This 12" system provides stability in the order of 50 microradians which can support optical packages providing image magnification of 30 times. Typical Sensor packages include color or lowlight video cameras with zoom lenses or multiple field of view Thermal Imagers. This system is ideally suited for fixed wing and R.P.V. applications because of its low aerodynamic profile.

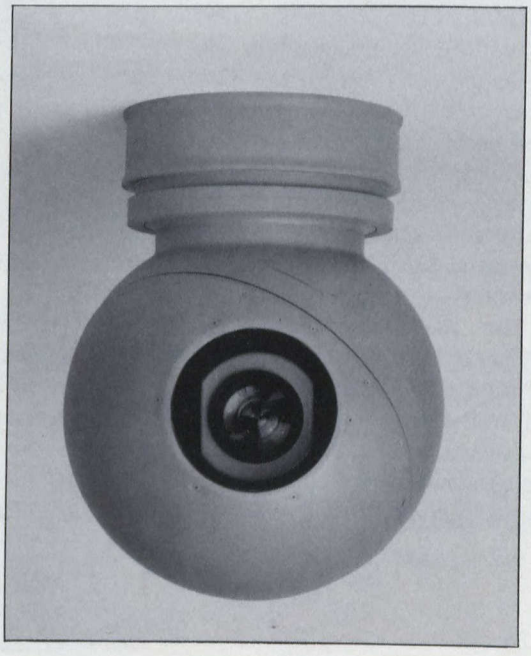
24DL- and 36DB Series Mounts

The 24 DL- and 36DB- series Mounts use Istec's patented stabilization concept differing only in size. These systems can support a wide variety of optical packages with image magnifications up to 180 times. Both Systems can accommodate very large aperture optical packages providing excellent viewing for long range, varied weather operation at undetectable stand-off ranges. The typical optical packages used with these systems include: long range zoom lens with video cameras, lowlight cameras, Thermal Imagers and Lasar Range Finders/Designators. These may be stand alone packages or multi-sensor arrangements.

Airborne Surveillance System



24DL1100



12DL300

ISTEC

LNS Systems Inc.

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Pointe Claire (Montreal)
Quebec, Canada H9R 4W3
TELEPHONE: (514) 695-8130
TELEX: 05-821-529 (LNS CANADA PCLR)
TELECOPIER: (514) 695-8135

PRESIDENT: Fred Welton
VICE-PRESIDENT: G. Sinoyannis

LNS Systems Inc. manufactures, integrates and installs Air Traffic Control Systems, Communications Systems and Radio Spectrum Monitoring Systems. The ATC Systems include both Mobile Air Traffic Control Systems and Fixed Air Traffic Control Tower Systems. In addition LNS manufactures the 909E Communications Switch Systems and LNS's most recent product is the RLS 2000 Mobile Runway Lighting Systems.

The ANT 57 is manufactured in three configurations:
(a) flat bed on truck
(b) hi-lift on truck
(c) hi-lift, trailerized with tractor truck

These mobile systems are manufactured to the specification of the customer and can accommodate 3 to 4 control positions.

The fixed control tower cabs are pentagon shaped and manufactured in 3 sizes. The CT 250, CT 350 and CT 450 are designed for low density (CT 250) to high density (CT 450) traffic. The CT 450 can accommodate up to eight air traffic control positions.

The 909E Switch System allows the Air Traffic Controller to monitor, control and select radio receivers and transmitters for ground-to-air or ground-to-ground communications. Also it controls intercom between controllers and hot lines to other agencies.

The Radio Spectrum Monitoring System is integrated in three configurations: RSM-200F Fixed Monitoring, RSM 200M Mobile Monitoring and RSM 200T Transportable Monitoring. RSM Systems are used by government communications agencies for the management of the national radio spectrum or by security agencies for surveillance of the radio spectrum.

The company was established in 1971 and is located in Pointe Claire, Quebec. In 1982 LNS developed and manufactured the first Radio Spectrum Monitoring System (RSM 200).

LNS Systems Inc. designs, manufactures, procures, integrates and installs all equipment into fully operational systems to meet the customer's requirements.

AUTOMATED AIR TRAFFIC/AIR DEFENSE CONTROL SYSTEMS

- Automated Flight Strip Systems (FIBS/GAMPS)
- Multi-purpose Information Display Systems (MIDS)
- Control/Management Display Systems (RSD/CMDS)
- Low Cost ATC Simulators (ATC-SIM)
- Autonomous Operational Scope (AOS)
- Message Distribution Systems
  High Speed/Low Cost Data Distribution using the Satellite Information Distribution System (SIDS)
- Aviation Message Switching (CIDIN GATEWAY)
- SCADA System

Each LNS system is assembled, tested and verified at its 40,000 square foot facility in Montreal, thereby removing system integration risks, ensuring a fully operational system and allowing the customer to take the equipment to site for operation with minimum system commissioning delays. The company's sales are primarily to the military, civil aviation and various government communications agencies.

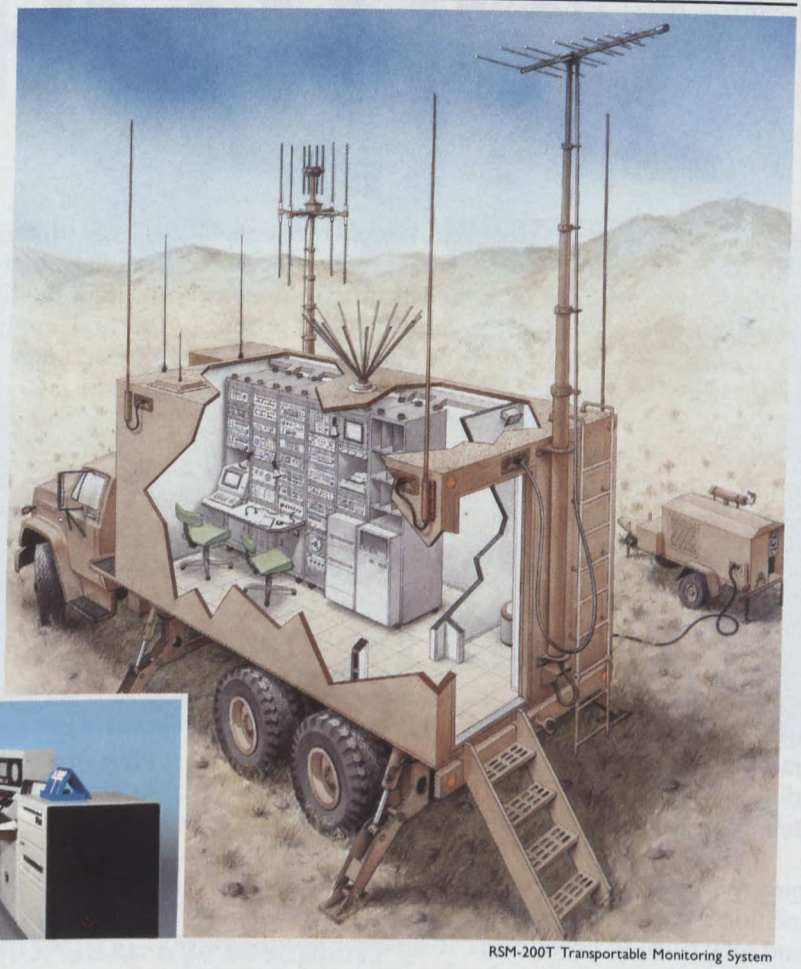
LNS

AIR TRAFFIC CONTROL SYSTEMS

ANT 57 High Lift Mobile ATC Tower System

CT 350 Fixed ATC Tower System

RADIO SPECTRUM MONITORING SYSTEMS



RSM-200T Transportable Monitoring System

RSM-200F Fixed Monitoring System

AIR TRAFFIC CONTROL AND COMMUNICATION SYSTEMS

AIR TRAFFIC CONTROL

LNS's family of Air Traffic Control Systems are used by Civil Aviation and Air Forces in operational areas around the world. LNS ATC products include:

- ANT 57 ATC Tower Systems
- ANT 57 RSU Runway Supervisory Units
- RLS 2000 Mobile Runway Lighting Systems
- CT 250, 350 and 450 Fixed Control Tower Systems
- TT070 Transportable Control Tower Systems
- Control Tower Support Structures
- ATC Tower Consoles and Communications Refurbishment
- 909E Communications Switch Systems

RADIO SPECTRUM MONITORING

Government Communication agencies are responsible for the management of the radio spectrum, which requires the ability to ensure that regulations are followed, that noncompliant users of the radio spectrum are identified, and that spectrum occupancy information is available for consideration during the licensing process.

Internal Security, Police and Military require surveillance of the radio spectrum to assist in protecting and policing borders; urban and rural centres; and uninhabited, remote and vast areas of land from guerrillas and hostile neighbours.

LNS RSM-200 Systems provide radio spectrum monitoring for these applications using state-of-the-art computer controlled electronic communications and test equipment with specialized software. LNS RSM-200 systems include:

- RSM-200F Fixed Monitoring Systems
- RSM-200T Transportable Monitoring Systems
- RSM-200M Mobile Monitoring Systems

GENERAL

LNS designs, manufactures, procures, integrates and installs all equipment in a fully operational facility to meet customer specifications.

Each LNS system is assembled, tested and operationally verified at LNS's 40,000 square foot facility in Montreal thereby removing system integration risks, ensuring a fully operational system and allowing the customer to take the equipment to the site for operation with minimum system commissioning delays.

LNS has over 60 systems installations in more than 20 countries worldwide.

LNS SYSTEMS INC.

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Telephone: (514) 695-8130 Télecopier: (514) 695-8135 Telex: 05-821529 LNS CANADAPCLR

Lansdowne Integrated Systems Inc.

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Ottawa, Ontario K1P 5H9
TELEPHONE: (613) 236-3333
FAX: (613) 236-4440

PRESIDENT: Michael Darch
DEFENCE PROJECTS MANAGER: Ron Davidson

Lansdowne Integrated Systems Inc. has offered services to the Defence sector since its incorporation in 1976. Solutions are provided in non-tactical requirements through the use of the latest computer based productivity tools. The client base extends throughout Canada to the United States and Europe.

Lansdowne has a highly motivated staff of professionals who bring together experience in the various aspects of information automation with experience in Defence procurement, engineering and maintenance. Specific areas of expertise include:

- Project management
- Proposal management
- ILS related activities
- Custom software development

In the project management area, Lansdowne offers total management services, augmentation staff, and training. Assistance is available in project initialization (development of WBS, etc.), project planning, and the definition of control and reporting systems.

Lansdowne has developed and managed proposals for major projects in Canada. Services include strategic analysis, management, development, and total turnkey production. In addition, courses are offered both in strategy development and proposal management.

Lansdowne and its subcontractors can perform a variety of ILS related activities. These include Logistics Support Analysis, Maintenance Plan development, Training System analysis and Configuration Management systems.

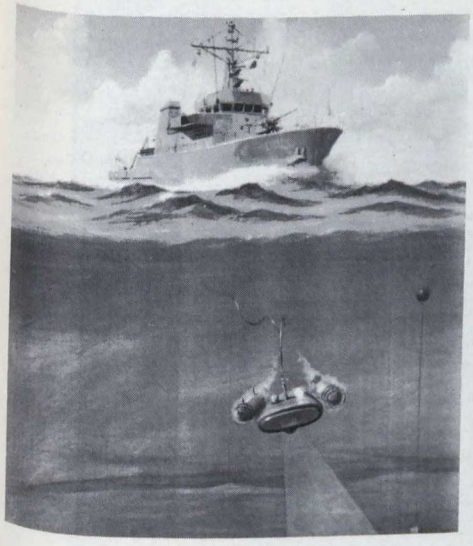
The company has developed a variety of software systems, handling functions from requirements definition through to application support. Lansdowne's expertise is in the area of relational database structures and fourth generation languages, including Oracle and Zim. Applications have ranged from logistics planning models to complex parts management systems.

Lansdowne has a commitment to the support of complex, high cost, technically innovative projects through the use of state-of-the-art-productivity tools. Practical, applications oriented experience offers clients a broad range of capabilities and the depth to address specific task requirements.

Lansdowne recently formed a new subsidiary, SIMETRA INC., to market and support ARTEMIS in Canada. ARTEMIS is a powerful project management software system available for hardware from PC's to IBM mainframes. ARTEMIS complies with government DOD and C/SCS reporting requirements. SIMETRA's team includes external and internal technical support personnel who provide cross-country services.

Lansdowne is part of the defence management group of Canadian Shipbuilding & Engineering (CSE). CSE is an internationally recognized leader in the shipping and marine technology fields with 1988 revenue in excess of $130 million.

PROVEN EXPERTISE



PROPOSAL MANAGEMENT
Helping you get the contract

PROJECT MANAGEMENT
Bringing it home on schedule
and within budget

Lansdowne
INTEGRATED SYSTEMS INC

Serving the needs of the Canadian defence market since 1976

Suite 1800, 275 Slater Street, Ottawa, Ontario K1P 5H9
Tel. (613) 236-3333 FAX (613) 236-4440

Leigh Instruments Limited/ Micronav

Leigh Instruments Limited
*3001 Solandt Road
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TELEPHONE: (613) 591-3220
FAX: 613-591-0945
PRESIDENT & CEO: Barry S. Flower
V.P. MARKETING: Michael A. Rowlands
*(as of July 1989)

Micronav Limited
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Sydport Industrial Park
Sydney, Nova Scotia B1P 6R7
TELEPHONE: (902) 564-8833
FAX: (902) 564-8764
PRESIDENT: Nicholas E. Coyle
MARKETING DIRECTOR: David Underwood

Leigh is a well-established supplier of high technology electronic products and systems for government and military markets. Produced to the latest military manufacturing and quality assurance standards, these systems meet the demanding requirements of armed forces at sea, on land and in the air.

Products include integrated digital switching for voice and data communications; fixed and mobile TACAN navigation aids; microwave landing systems and distance measuring equipment for civil and military aircraft landing guidance; data acquisition, storage and recovery for flight data recording and engine health monitoring; and positioning guidance systems for landing and take-off operations of helicopters and unmanned air vehicles, and for station-keeping between ships at sea.

The company offers project management, systems design, systems integration and the full spectrum of integrated logistics support. Fully capable of contract and second source manufacturing, Leigh continues to produce the latest variant of two major avionics systems for the F-18 aircraft.

In 1988, Leigh Instruments and its subsidiary Micronav became members of the U.K.-based Plessey Company, plc.

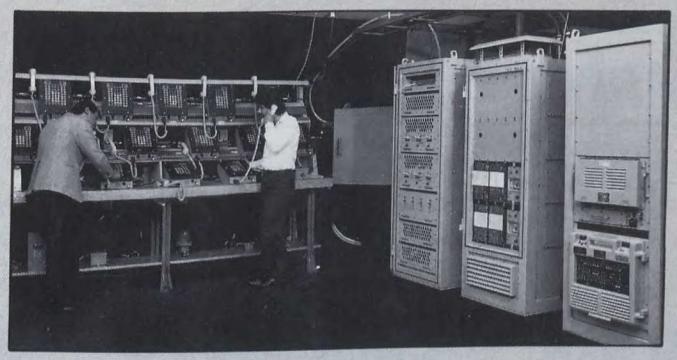
As the Plessey arm in Canada, Leigh can provide a wide range of advanced systems in command, control, communications and intelligence gathering; weapon control and electronic warfare; mine-countermeasures; sonar and radar; global satellite navigation receivers and airborne defence electronics.

Micronav is unique in being the only company in Canada to have designed, developed and built ground transmitting equipment for the new microwave landing system (MLS).

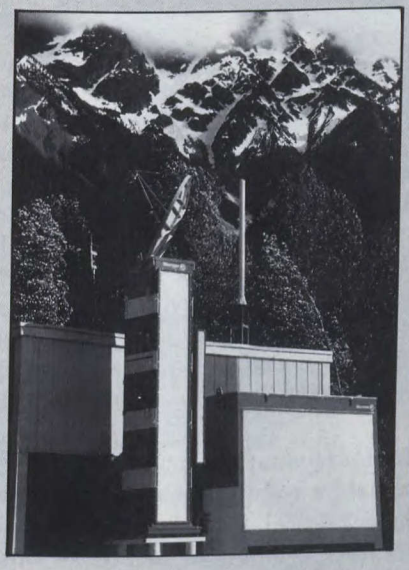
Adopted by the International Civil Aviation Organization as the upcoming replacement for today's instruments landing system, MLS is scheduled to be installed at all international airports by 1998. Micronav, supported by Leigh and Plessey, intends that its Canadian-developed system will be a major contender in the world marketplace.

The Micronav MLS has been designed to meet or exceed national and international specifications and incorporate a number of innovative features. The company's installation at Pemberton, in the mountains of British Columbia, is the world's most sophisticated MLS configuration and is designed to allow STOL airlines to fly safely into and out of a small valley airport serving a major ski resort. Micronav's upcoming installations at the Toronto Island commuter airport — Canada's third busiest, after Toronto's Pearson International — will also provide new capabilities not presently available at this small field.

A key element in future airport MLS installations will be precision distance measuring equipment (DME/P). The Leigh DME/P is an advanced design transponder which will meet full international specifications, and also offer modular convertibility from the en-route DME/N mode to DME/P.



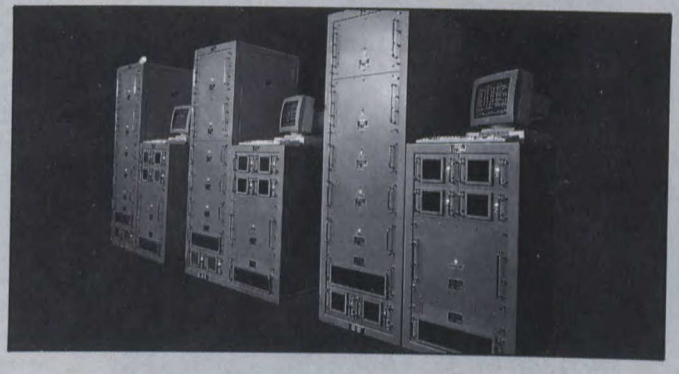
Naval Communications
The LDX system provides the essential communications network for effective command and control of warships. Using modern, digital switching techniques, it integrates all interior communications systems and provides access to external voice radios. The LDX system has built in survivability features to ensure reliable communications remain intact in the event of fire, flooding or battle damage. The system also offers significant savings in installation and life cycle costs.



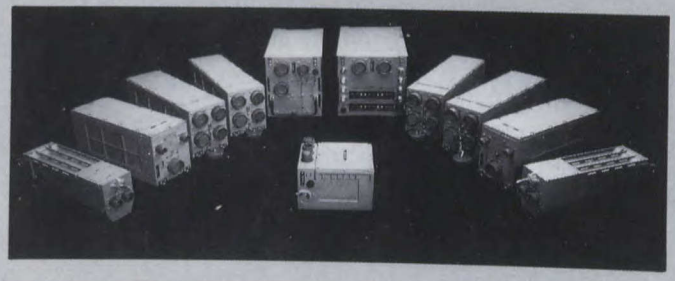
Microwave Landing Systems
Micronav's MLS Elevation (left) and Azimuth (right) transmitter units located near the Pemberton airport in the mountains of British Columbia. They are part of the most sophisticated MLS configuration in the world, which Micronav has installed to serve Dash-7 STOL airliners landing at and departing from this remote location.

Distance Measuring Equipment
Leigh's solid state, modular en-route DME offers superior performance, high reliability and low cost of ownership, and allows easy convertibility to DME/P for use with MLS installations.

TACAN Navigation
Available in a single or dual configuration, Leigh's solid state TACAN provides superior reliability and efficiency through its high power amplifier design. This allows component or module failure while maintaining optimum output power. A computerized maintenance and monitoring system provides quick and accurate status reports as well as identifying faults down to a replaceable circuit card or module.



F-18 Avionics
Leigh supplies the U.S. Navy with the Stores Management System and Communications System Control Set for the F-18 aircraft. The company was selected as the second source manufacturer to Smiths Industries SLI Aerospace Division for both the earlier variant and the pre-planned product improvement of these sophisticated avionics.



Linamar Machine Limited

301 Massey Road
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TELEPHONE: (519) 836-7550
FAX: (519) 824-8479

PRESIDENT AND CEO: Frank J. Hasenfratz
EXECUTIVE VICE PRESIDENT : Larry J. Pearson
DIRECTOR OF MARKETING: James E. Hacking
VICE-PRESIDENT & MANUFACTURING: Paul Brophy

Linamar Machine Limited was established in 1966 and since that time has become known for its highly innovative and entrepreneurial approach, and for its commitment to plans and management objectives for the long term.

Linamar Machine Limited and its group of companies is a major manufacturer of close tolerance metal parts, components & systems in aircraft/aerospace, defense, transportation and automotive. At present, the group has more than 1,300 employees with a product range which spans over 500 components & assemblies.

The Linamar group of companies is committed to constant expansion of its traditional market base to ensure sustained long term growth in all sectors, enabling us to accommodate any shifts in strength in any particular market segment. Through the diversity of our capabilities, product range and service, the Linamar group is also able to explore new technological frontiers.

By continuing to establish select corporations, we are able to amalgamate our extensive resources and joint strength for the benefit of our customers.

Hastech Inc.
Hastech Inc., was established for exceptionally high technology production for aircraft/aerospace, including transmission components for U.S. Military Land Vehicles.

Invar Manufacturing Ltd.
The largest single company within the Linamar group, Invar Manufacturing Ltd. is one of Canada's leading contract batch manufacturing operations, recognized for its precision machined products and systems.

The scope of the company's capabilities encompasses fabrication, machining and assembly — from the initial purchase and pre-fabrication of raw materials and components to the final assembly and testing of the manufactured parts & systems.

Invar production facilities accommodate an advanced CAD/CAM Applicon Equinox 7000 system together with a wide range of NC/CNC machining centres, some with DNC transfer capabilities. Accordingly, Invar can perform sophisticated multi-axis work involving design transferring and 3-D sculptured surfaces.

Invar Manufacturing Ltd. specialized in manufacturing an extensive line of components for wings, landing gears and jet engines as well as hydraulic components. Complementing its involvement in the aerospace industry, Invar Manufacturing Ltd. manufactures a wide array of complex components and hydraulic assemblies for the defense, commercial, transportation and nuclear energy markets. With manufacturing facilities in excess of 200,000 square feet (18,580 M) Invar Manufacturing Ltd. utilizes the most advanced NC/CNC machine tools available, including high concentration of four & five axis machining centres.

Testing facilities for Hydraulic applications include bench and special fixture testing units with pressure capacities of up to 10,000 P.S.I. Invar facilities are controlled to meet a level cleanliness of 200 — MIL-STD-1264A and all components undergo a regulated quality control inspection. Invar Manufacturing Ltd. has an established quality control program approved to AQAP1 and CSA Z299.2 standards; Canadian Government specification DND 1015; and U.S. Government specification MIL-Q-9858A.

Non-destructive testing (MPI and LPI) is carried out by CGSB certified operators to accepted Military, Aircraft and Nuclear Energy standards.

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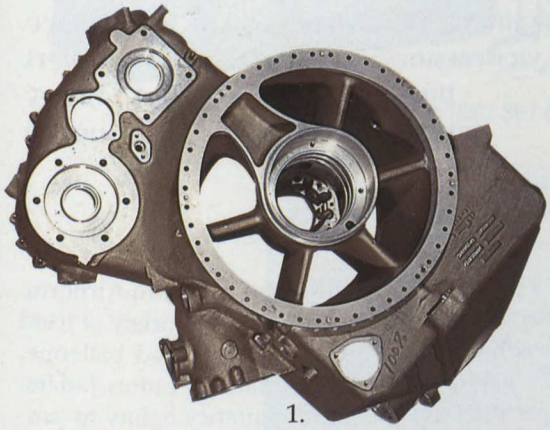
VICE PRESIDENT AND GENERAL MANAGER: Brian R. Riden
GENERAL SALES MANAGER: J. Maurice Mainville
REGIONAL SALES MANAGER: Cam E. Nardocchio

LINAMAR

invar



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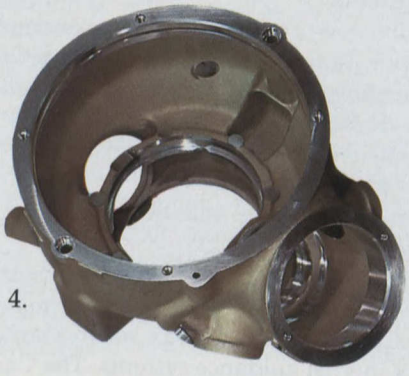

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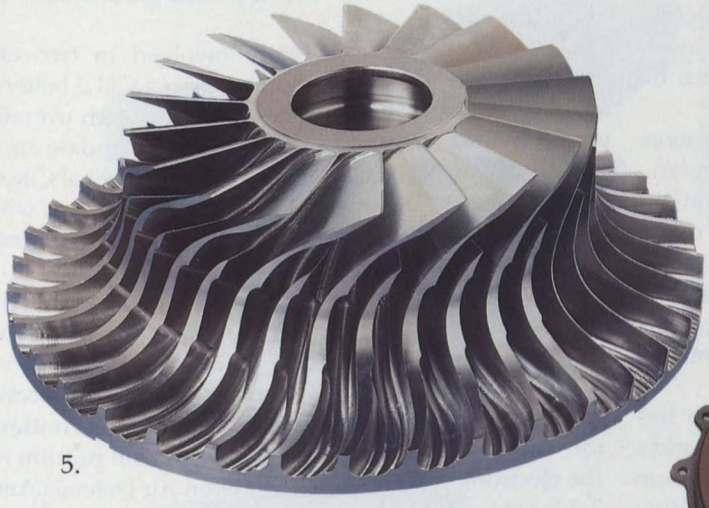

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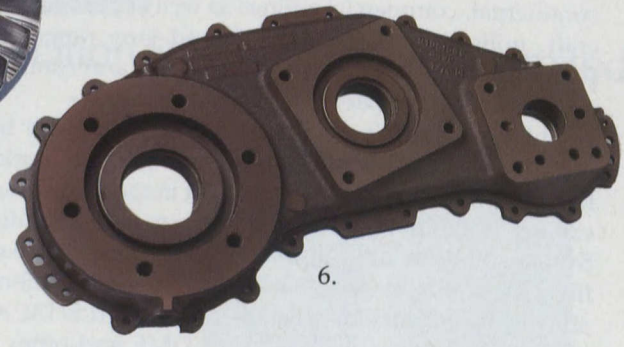

6.

1. Inlet housing for jet engine.
2. Various wing components programmed on our CAD/CAM system.
3. Flap fitting produced on a 5 axis machining centre.
4. Gear housing for helicopter.
5. Impeller for jet engine, produced on a 5 axis machine centre.
6. Cover for jet engine, produced on a 4 axis machining centre.

Litton Systems Canada Limited

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FAX: (416) 245-0324

PRESIDENT: T.J. McGuigan
VICE-PRESIDENT, ADVANCE PROGRAMS: W. Wallace
VICE-PRESIDENT, MARKETING: H.A. Sievert
DIRECTOR, MARKETING: B.A. Bisley
DIRECTOR, MARKETING: D.R. Hughes

Litton Systems Canada Limited is a Canadian company with an international reputation as a producer of highly sophisticated electronic equipment. The company is best known for its engineering and manufacturing capabilities in the demanding field of airborne and maritime electronics. In addition, however, Litton Canada has earned strong credentials in the application of its high technology to the design, manufacture and integration of large scale, ground based special purpose systems.

A division of the multinational organization Litton Industries, of California, U.S.A. Litton Canada is one of the leading members of the Canadian advanced electronics industry. It currently employs over 3,500 scientists, engineers, technologists and other highly skilled specialists who work in some of the most modern engineering and manufacturing facilities in Ontario and Nova Scotia.

The company's products include inertial navigation systems for both commercial and military aircraft. Litton Canada is the world's second largest manufacturer of inertial guidance systems. The Canadian made systems are used by more than half of the world's intercontinental, commercial airlines as well as scientific aircraft, military transport aircraft and long range corporate aircraft. More than 13,000 military and commercial systems have been produced to date.

Litton Canada's navigation system expertise has also been applied to the development of the world's first automatic, self-contained flight inspection system capable of calibrating Category III Instrument Landing Systems. Litton fully automatic and semi-automatic flight inspection systems have the capability to calibrate all existing navigation aids such as ILS/MLS/TACAN landing systems as well as VOR, DME and other en route navaids.

Litton Automated Test Equipment provides high speed, computer controlled testing of analog, digital, microwave and radio frequency avionic systems at Intermediate and Depot level for many air force customers. The advanced architecture of Litton ATE provides a cost effective solution to the problem of testing a high volume of modern, complex systems.

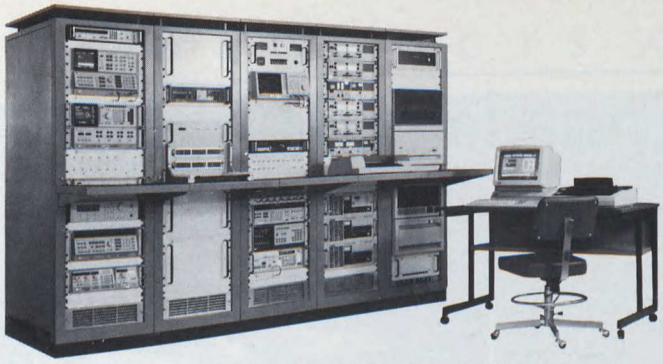
Airborne surveillance of the coastlines of many countries is significantly enhanced by Litton Airborne Search Radar that are installed aboard a variety of fixed wing maritime patrol aircraft and tethered balloons. The APS-504(V)5, the latest variant of Litton radars, uses pulse compression and frequency agility to provide optimal detection of small targets in high sea states and provide considerable immunity to ECM.

Over the past several years an extensive research and development program has created advanced solid-state, flat panel displays for both industrial and military applications. Using Light Emitting Diode (LED) and Liquid Crystal (LC) technology, Litton displays greatly enhance the presentation of critical data in aircraft cockpits, land vehicles, naval ships and ground-based control rooms.

Litton Canada is currently involved in two of Canada's largest defence projects. Under a C$1.2 billion contract the company is prime contractor with overall project management responsibility for the update and modernization of the Canadian Navy's four Tribal Class destroyers. In addition to modernization the ships will be converted from their present role of antisubmarine warfare to that of area air defence.

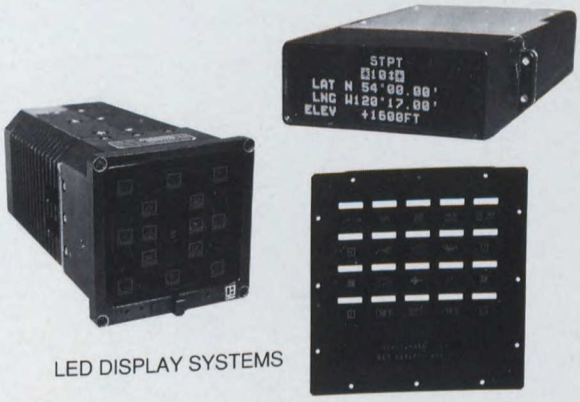
The second project is the Canadian Low Level Air Defence (LLAD) program. LLAD will be used to protect Canadian airfields and armoured brigades in Europe. Litton Canada is the major Canadian subcontractor to Oerlikon Aerospace Inc., the prime contractor. The company is producing a significant portion of the electronic system for the Oerlikon Air Defence Anti Tank System.

Litton



EXPANDED LITTON AUTOMATED TEST SET (ELATS)

AIRBORNE SEARCH RADAR



LED DISPLAY SYSTEMS

Litton advanced technology systems serve customers throughout the world.

Expanded Litton Automated Test Set (ELATS) is a general purpose, high-speed automated test system designed to meet the exacting test requirements of modern analog, digital, microwave and RF avionics.

Airborne Search Radar: Litton radars are designed to satisfy the demanding requirement of airborne tactical and maritime surveillance. These modern systems are currently installed aboard a wide variety of fixed wing maritime patrol aircraft as well as tethered balloons.

LED Display Systems: Litton high brightness, multipurpose LED display systems are designed to provide reliable solid-state systems for the presentation of alphanumerics and vectorgraphics in seaborne, airborne and landborne environments.

Inertial Navigation Systems (INS): The LTN-90 ring laser gyro series inertial reference and inertial navigation systems are configured for both all-digital or digital and analog aircraft requirements.

Flight Inspection Systems: Litton Flight Inspection systems are currently in use in the United Kingdom, the Netherlands, Canada and the People's Republic of China.

Litton
Litton Systems Canada Limited

INERTIAL NAVIGATION SYSTEMS (INS)

FLIGHT INSPECTION SYSTEMS

Lockheed Canada Inc.

2421 Lancaster Road
Ottawa, Ontario, Canada K1B 4L5
TELEPHONE: (613) 738-4500
FAX: (613) 738-4510

PRESIDENT: Jack L. Keaton
DIRECTOR, BUSINESS DEVELOPMENT: Fred Bertelmann

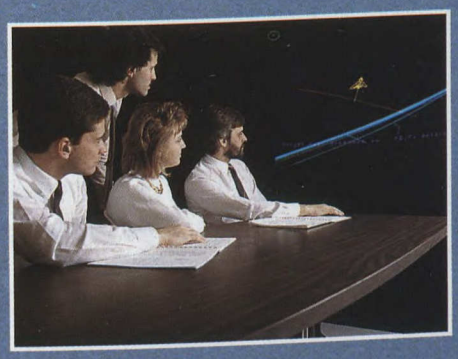
The new Lockheed Canada came into effect on the 25th of December 1988. The Company was formed through the amalgamation of the existing Lockheed Canada Inc., primarily a marketing office, with Sanders Canada (SCI), a subsidiary of Sanders Associates Inc. of Nashua, New Hampshire, which is a wholly owned Lockheed Company.

The core Company (SCI) was established in Ottawa in 1985 in response to the Industrial Benefits requirement of the Canadian Forces AN/ALQ-126B Defensive Electronic Countermeasures Program. The acquisition contract called for the provision of Canadian Electronic Warfare (EW) depot support and the capability to design, test and produce EW products. Within four years, SCI has grown to 160 employees and contracted business in excess of $15 million. The company has assembled an experienced dedicated group of engineers, technologists and support staff with state-of-the-art computer technology resources that will keep Lockheed Canada on the leading edge of high technology hardware and software product development. Modern engineering laboratories, CAD/CAM design capability, and a fully qualified 880 square foot TEMPEST facility that can be utilized for classified EW simulation and modelling are but a few of the resources available.

Lockheed Canada's capabilities and dedication to excellence, especially in the area of systems engineering and integration, have been recognized through the award of Phase I of the Electronic Support and Training (EST) Project. The entire project, worth $90 million, will provide airborne EW training assets to the Canadian Forces. A number of receiving and jamming subsystems will be integrated with a computer control system and installed on Challenger aircraft. The final product will provide the Department of National Defence with a highly sophisticated training system as well as a means to verify radar performance on various weapons platforms.

Lockheed Canada's success to date and in the future, is based on a commitment to excellence and customer satisfaction. Their past achievements provide ample assurance of an ability to master challenges of today and of the future.

PRODUCTS AND SERVICES



Engineering

- *EW Hardware Support to Canadian Forces*
- *Software Support and Enhancement*
- *Advanced EW Techniques*
- *Automated Test Equipment*
- *Systems Engineering*
- *EW Simulation/Modelling Lab*

Repair & Overhaul

- *CP-140 Acoustic Data Processor*
- *CF-18 ALQ-126B, ALR-67, ALQ-162*
- *AN/USM 406C(V) Test Set*

Manufacturing

- *System, sub-system and P.C. board assembly and test*
- *Wire harness, R.F. hard line manufacture and test*
- *High and low voltage power supply manufacture and test*
- *AQAP-1 (MIL-9858A), USN-WS-6536, DOD-STD-2000*

Lockheed Canada

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MBB Helicopter Canada Limited

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Branch Office:
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TELEPHONE: (613) 232-1557
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TELEX: 053-4109

VICE PRESIDENT & GENERAL MANAGER: Richard W. Harwood
DIRECTOR, GOVERNMENT PROGRAMS: Donald P. Chambers
DIRECTOR, OPERATIONS: Elwood Schmidt
DIRECTOR, ENGINEERING: Klaus Brunsch

MBB Helicopter Canada Limited is a subsidiary of Messerschmitt-Bölkow-Blohm GmbH of West Germany. On June 20, 1986, MBB officially opened its first North American helicopter manufacturing plant in Fort Erie, Ontario.

The primary purpose was to establish a helicopter industry in Canada and to achieve this, the BO 105 LS, the latest model in MBB's highly successful series of light twin-engine helicopters, was selected for manufacture. The BO 105 LS has been designed for areas of high altitudes and hot climates or for any application requiring demanding performance characteristics.

MBB, in Canada, has the world product mandate for the BO 105 LS, but also markets MBB's complete line of light twin-engine helicopters — the BO 105 CB, CBS and larger BK 117, which are completed to customer specifications. These helicopters have received worldwide acceptance in a variety of configurations and more recently have developed a niche in the Emergency Medical Service (EMS) and Airborne Law Enforcement markets, particularly in Europe and North America.

MBB Helicopter Canada Limited has the capability to perform customization of the aircraft, adaptation of optional equipment and development of new optional equipment in response to market demands. A complete flight test facility with associated research and development areas of product improvement and design of new helicopters is supplemented by a state-of-the-art three dimensional computer aided design system.

A Repair and Overhaul capability has been established together with a full product support capability which includes conversion training for pilots and technicians, provision to technical representatives and an Aircraft on Ground (AOG) service.

Government marketing is co-ordinated through the Ottawa office at the following address:

MBB Helicopter Canada Limited
130 Albert Street
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Ottawa, Ontario
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Canada
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Telex: 053-4109
Telefax: (613) 232-5454

High technology design, redundant systems and outstanding load capacity make the BO 105 and BK 117 ideal for military missions.

With twin-engine dependability and unparalleled manoeuvrability, MBB's military helicopters operate under the most extreme battlefield and environmental conditions.

Whether for transport of cargo and troops, anti-armour missions or medical evacuation, these helicopters can meet all your demands.

No matter what your operational requirements, MBB offers the solution for the future.

the solution for the future

MBB

For further information please contact:
MBB Helicopter Canada Limited
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Telephone: (613) 232-1557
Telex: 053-4109
Telefax: (613) 232-5454

MPR (Microtel Pacific Research Limited)

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FAX: (604) 293-5787
TELEX: 043-56628

PRESIDENT & CEO: Bruce G. Hartwick
DIRECTOR OF BUSINESS DEVELOPMENT: Alistair W. Taylor

Today's advanced telecommunications technologies have many applications in the aerospace field. Building on its world class capabilities in designing rugged, high quality satellite communications, microwave radio and switching systems, MPR is playing an ever-expanding role in international aerospace activities.

MPR offers the aerospace industry a wide range of design and fabrication services. These include: components such as application-specific integrated circuits (ASICs), thick-film hybrids, hybrid and monolithic microwave integrated circuits; complex sub-systems such as transmitters and receivers; and complete systems.

MPR is currently active in Microwave Landing Systems (both ground and airborne segments), civilian and military EHF satellite communications, Space-Based Radar and Search and Rescue satellite beacons. Other areas of expertise include commercial and military airborne radar, navigation and EW systems.

Background

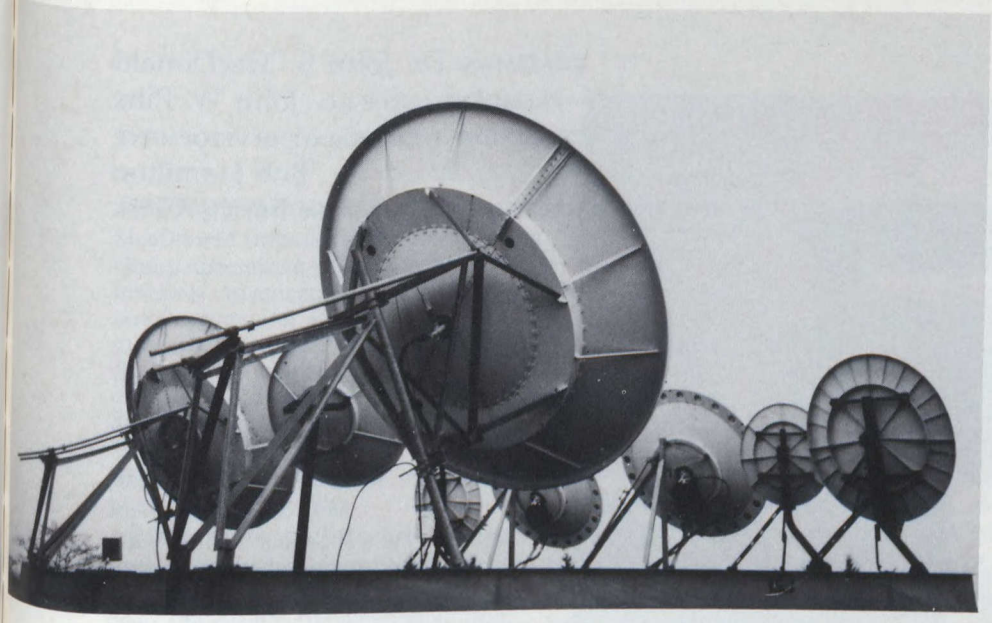
MPR, a subsidiary of B.C. Telephone Company, is the largest industrial research and development company in Western Canada. MPR's some 350 professional and support personnel are capable of planning, initiating and carrying through to completion all phases of system, sub-system or component development.

As Canada's largest design house for satellite earth station engineering. MPR is a recognized leader in advanced microwave, modem and associated signal-processing technologies. MPR-designed satellite communications systems have achieved an international reputation for their ruggedness when operating under severe environmental conditions. A notable example is NORAD's North Warning System. MPR was responsible for the system design, terminal design and development of the satellite communications system which provides the transmission backbone for the $268 million NWS contract awarded by National Defence in 1986.

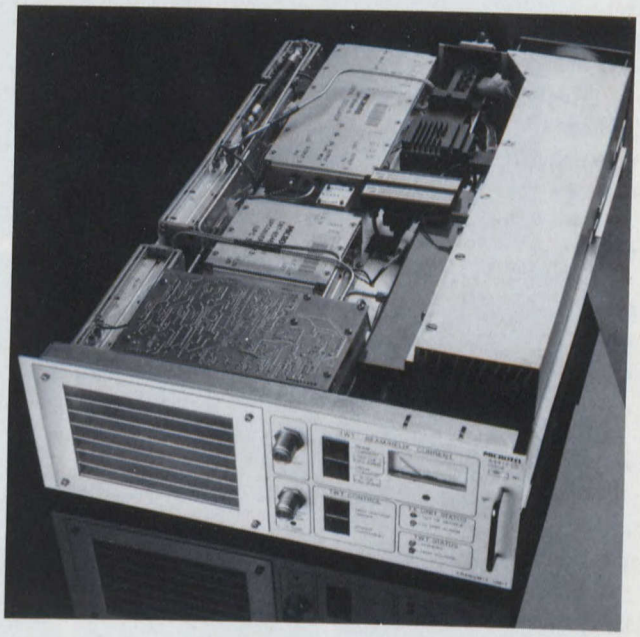
MPR's leading role in the ground segment of Canada's military satellite communications programs has been reinforced by the award of two contracts under the DND's EHF Satcom program: a Conceptual Design Study for a family of earth stations (airborne, shipborne, submarine, man-pack, transportable and fixed), and the System Definition phase for an advanced development model.

MPR has designed two major commercial satellite communications systems: the SPACETEL™ SCPC thin route voice/data system used extensively in remote locations of western and northern Canada, the U.S. and overseas, and a two-way VSAT system using TDM/TDMA technology for interactive data communications. These projects demonstrate MPR's ability to design and implement all aspects of complex, integrated hardware/software systems.

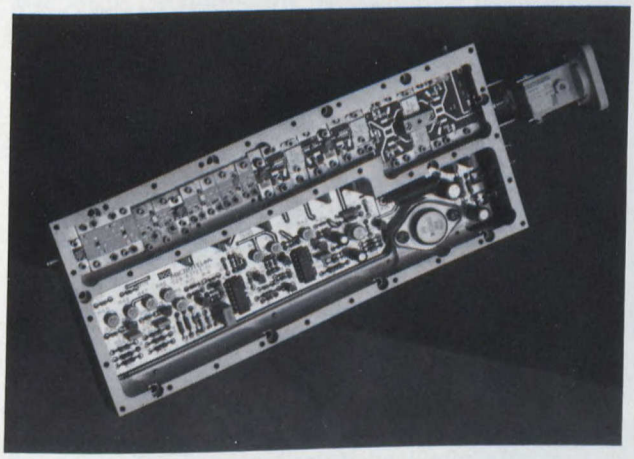
MPR is continuing to invest in advanced technology development. Significant successes to date include a variable data rate (up to 2 Mb/s), variable coding rate, k=7, Viterbi FEC codec. This device incorporates over 140,000 transistors on a single chip, 0.4 inches square. Recent technology development at MPR now permits integrating several silicon and/or gallium arsenide chips on a silicon carrier. The high-density interconnect system provides an extremely high level of integration of both analog and digital signal processing functions in a single, very compact, extremely light weight package. It is anticipated that this capability will have considerable utility in avionics applications.



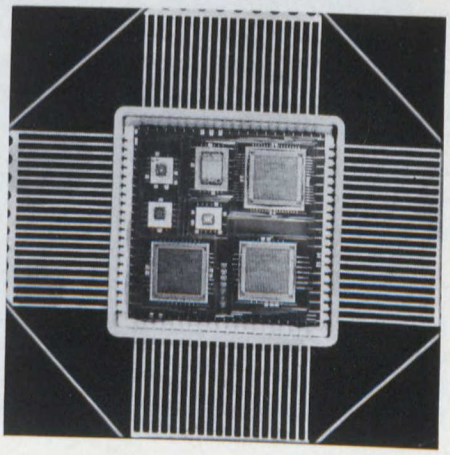
MPR's rooftop antenna farm provides satellite access for MPR's many system testbeds, such as Spacetel, VSAT and North Warning Systems.



This MPR-designed Ku-band transmitter subsystem includes a linearized 20 watt travelling-wave tube amplifier. Packaged for standard 19" rack mounting, this extremely compact, power-efficient unit can replace much larger 50 watt transmitters.



Providing 45dB gain and 5 W output power for Ku-band satcom transmitter applications, MPR's state-of-the-art solid state power amplifier is a highly efficient and compact unit.



This 1-1/2" square High Density Interconnnect module combines several analog and digital signal processing chips. Designed by MPR's Pacific Microelectronics Centre, the density of this module is 5 - 10 times greater than conventional circuit boards, and operation up to 6 GHz is possible.

MacDonald Dettwiler

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CHAIRMAN: Dr. John S. MacDonald
PRESIDENT AND C.E.O.: John W. Pitts
SENIOR VICE-PRESIDENT, CORPORATE DEVELOPMENT: Bob Hamilton
INTERNATIONAL ACCOUNT MANAGER: Bernie Clark

MacDonald Dettwiler is a world leader in computer-based systems for aerospace, resource management and electronics manufacturing applications. Using advanced software engineering techniques, it offers design, development, systems integration and logistics support in accordance with NASA, European Space Agency (ESA) or military standards. Among its clients are ESA, NASA, General Electric's Space Division, the U.S. Jet Propulsion Laboratory, the U.S. Air Force and the Canadian Government. The company exports 80 percent of its products, maintaining a network of sales and service offices throughout the world.

MacDonald Dettwiler's state-of-the-art product line includes:

- Turnkey remote-sensing satellite ground stations;
- Image mapping systems, for generating accurate maps from digital images;
- Optical and radar image analysis systems for both spaceborne and airborne sensor data;
- Meteorological data analysis systems;
- Air traffice control/flight operations systems;
- High-resolution, high speed laser imaging systems for the electronics manufacturing, graphics reproduction and remote sensing industries;
- Space-qualified systems.

MacDonald Dettwiler is a private, Canadian-controlled, corporation. In 1988, nineteen years after its founding, fiscal sales topped $65 million.

Today, the company is the world's leading supplier of ground receiving and processing systems for remote-sensing satellites. It has been prime contractor for some 11 turnkey satellite ground stations worldwide and major subcontractor for another 8. Building on that experience, it developed a satellite image analysis and correction system in the late 1970s, MERIDIAN. The current third-generaion provides both geometric and radiometric image correction for a host of terrain analysis and mapping applications.

MacDonald Dettwiler's Synthetic Aperture Radar (SAR) team was first to digitally process SAR data, and first to develop a commercial digital SAR processor. The Generalized SAR (or GSAR) software package now processes data from all commercial spaceborne and airborne SAR sensors. The airborne digital imaging system, IRIS, offers full onboard processing and data management for both high resolution and wide swath image products. Since its introduction in 1983, the system has set world standards by producing near photographic quality radar imagery, regardless of weather or light conditions.

MacDonald Dettwiler was prime contractor for AWDS, an automated weather forecasting system developed for the U.S. Air Force. AWDS will eventually provide a global weather information network, linking several thousand computers distributed over 166 sites worldwide.

Currently the Aviation Systems Group of MacDonald Dettwiler is responsible for aviation automation and meteorology in the Canadian Airspace Systems Plan (CASP) System Engineering Integration Project (SEIP). The design of Australia's National Aeronautical Information Processing System (NAIPS) has just been completed by the group.

The company's Electro-Optical Division developed the FIRE family of film image recorders. Originally created for high-quality satellite image recording, FIRE products are now also streamlining electronics manufacture, graphic art reproduction and printing processes. The FIRE 9000, for example, plots printed circuit board designs onto film, with a combined quality and speed unmatched by any other plotter in the electronics manufacturing industry.

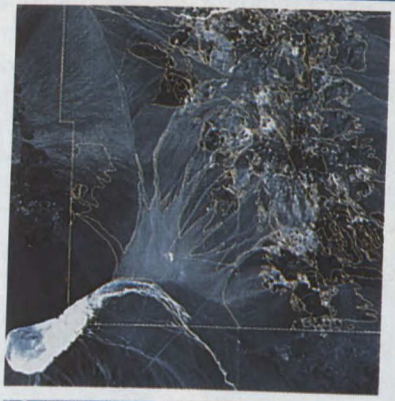
As a leading developer of space-qualified systems, MacDonald Dettwiler is a major partner in Canada's Mobile Servicing System for the international Space Station Program. It is contributing towards development of complex software, data processing subsystems and artificial intelligence applications for the program. MacDonald Dettwiler is also conducting research into advanced space-based surveillance systems, with emphasis on radar signal processing and control.

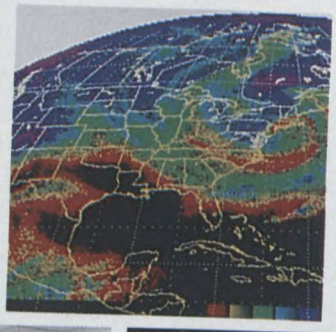
Since incorporation MacDonald Dettwiler has grown to over 600 employees, of whom about 70% are employed as engineers, with university degrees in electrical engineering, computer science or physics. Another 10% of employees are involved in production, and 3% in QA. The remainder are administrative and support staff.

Products and Services

AIR TRAFFIC CONTROL

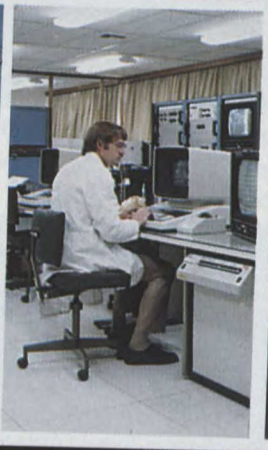
MacDonald Dettwiler's Aviation Systems Group specializes in developing high reliability, advanced technology computer systems for airspace management. Systems and services in air traffic control, flight planning and aircraft operations are supplied to governments and commercial airlines.





MERIDIAN SATELLITE MAPPING SYSTEM

MERIDIAN is the world's only satellite mapping system capable of producing topographic maps from satellite data only. The system combines input from conventional and digital data sources with an automatic digital terrain modelling capability. Geocoding and sophisticated image analysis functions allow the user to create maps for a variety of applications in environmental monitoring, land use, ice reconnaissance and disaster assessment.



GROUND STATIONS

MacDonald Dettwiler is the world's leading supplier of ground stations for earth resource satellites such as Landsat and SPOT. Over the past 12 years, MacDonald Dettwiler has built or helped build 15 of the 16 currently existing Landsat stations worldwide. Most of these ground stations were built and installed on a turnkey basis, including on-site training and maintenance. MacDonald Dettwiler's modular design approach allows regular upgrading for new satellite sensors. MacDonald Dettwiler continued research and development of remote sensing technology ensures that it will continue to lead the field in ground station design.

SPACE-BASED SURVEILLANCE

MacDonald Dettwiler is chosen by space and military agencies around the world to develop their digital radar signal and image processing systems. The company specializes in synthetic aperture radar imaging and moving target indication techniques, and is a major contributor to Canadian technology studies for a Space-Based Radar surveillance system.

McDonnell Douglas Canada Ltd.

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PRESIDENT & C.E.O.: Garret G. Ackerson
VICE-PRESIDENT, OPERATIONS SUPPORT: L. Gordon
VICE-PRESIDENT, MANUFACTURING: K.J. Palfery
VICE-PRESIDENT, OTTAWA: R.G. Slaunwhite

McDonnell Douglas Canada Ltd. (MDCAN) manufactures major components for commercial and military jet aircraft. It is one of the largest aerospace manufacturing facilities in Canada with an area of 1.8 million square feet (167,220 m^2). Capabilities include building close tolerance, high precision aircraft components for the international market.

McDonnell Douglas Canada has to date made capital investments of over a quarter of a billion dollars at the Toronto area facility. This has resulted in new manufacturing methods, high technology manufacturing equipment and operating systems all of which contribute to MDCAN's high productivity and competitive capability. On all major aircraft components, McDonnell Douglas Canada has total project management responsibility, including material and subcontract management, manufacturing concepts, design and fabrication of all tooling, as well as complete production.

Sales are currently around half a billion dollars annually, and since the inception of the company in 1965, exports have exceeded $4 billion. MDCAN presently employs around 5000 people including engineering, administration and production staff. MDCAN has recently developed a new position known as the Work Unit Technician (W.U.T.). Working in Strategic Business Units (S.B.U.'s), these W.U.T.'s are responsible for all operations needed to make a part, from fabrication through to checking conformance to specifications, tooling and rework. The W.U.T. position, with the job enrichment and increased responsibility that it provides, has been received favourably by the participants and has generated improved productivity and quality performance.

PRODUCTS

McDonnell Douglas commercial jetliners have by far the greatest Canadian content of any such aircraft in the world. In fact, the MD-80 family of planes has around 25 percent of the airframe content fabricated and assembled in Canada. MDCAN makes the wings, leading edges, flaps, and rear fuselage sections for this family of aircraft. The MD-80, in various configurations, currently seats 100 to 172 passengers and services routes up to 3,000 miles (4,827 km). Much of the world flies on Canadian wings.

Another major project is the new generation MD-11 tri-jet that is designed to fulfill airline needs in the 1990's and beyond. When comparing internationally competitive wide-body aircraft, the MD-11, as with the DC-10, has the highest Canadian content. McDonnell Douglas Canada participates in the fabrication and assembly of components for this airframe. The MD-11 wings manufactured at MDCAN will comprise almost 15% of each MD-11 airframe. The MD-11, in various configurations, can seat from 276 to 405 passengers and service routes up to 8,780 miles (14,274 km). The freighter version is capable of carrying payloads up to 102 tons. The "combi" model combines the best of passenger and freighter capabilities and can be modified to adapt to changing market requirements.

MDCAN also builds components for military fighters. The F/A-18 Hornet is a high performance, multi-mission strike fighter capable of air combat, fighter escort, close air support, day and night strike, fleet air defence and bad weather attack missions. The F/A-18 is one of the most sophisticated fighter aircraft in the world, requiring state-of-the-art technology manufacturing methods. MDCAN has developed into a world class leader in the use of leading edge technology and is responsible for manufacturing the wing pylons for this fighter. Customers include the Canadian Armed Forces, U.S. Marine Corps, U.S. Navy, Royal Australian Air Force, Spanish Air Force, Swiss Air Force and the Kuwaiti Air Force.

TECHNICAL CAPABILITY

- MDCAN quality assurance inspection program and laboratories meet the requirements of the Canadian Department of National Defense Specification 1015, the United States DOD Specification MIL-A-9858A, the Transport Canada Air Worthiness Manual Chs, 561, and 505 subsec.d, and the United States Federal Aviation Regulations Part 21.
- Extensive computer aided design and manufacturing (CAD/CAM) facilities with in-house programming specialists. Some of the tools available are CADD,

the Unigraphics II system, APT-Automated Program Tool language, Finite Element Analysis, and micro-computer based systems.

- Computer aided sheet metal router nesting system.
- PPS — the Process Planning System dramatically reduces the time used for planning the sequence and operations for new parts fabrications.
- NC — Numerically Controlled equipment. There are 88 NC machining centres, profilers, lathes, tube benders, drills and drivematic fastening machines. Among these are five axis machine centres and profilers.
- DNC — Direct Numerical Control further improves productivity in NC operations.
- Composites parts manufacturing experience. This includes honeycomb bonding and metal bonding.
- One of the largest spar mill facilities in the world with bed lengths up to 100 feet.

As a leader in complete project management and efficient automated and conventional manufacturing, McDonnell Douglas Canada Ltd. will continue to implement high technology production in Canada.

The MD-11 new generation tri-jet is designed to fulfill airline needs in the 1990's and beyond. McDonnell Douglas Canada builds the wings for this aircraft.

The MD-80, an advanced derivative of the DC-9, has about 25% of the airframe manufactured in Canada.

With the strength of teamwork and the latest advances in computer-aided manufacturing, MDCAN had shipped over 1600 DC-9/MD-80 shipsets through 1988.

McDonnell Douglas Canada Ltd. is located on 118 acres adjacent to Pearson International Airport.

MCDONNELL DOUGLAS CANADA LTD.

Menasco Aerospace Ltd.

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VICE PRESIDENT + GENERAL MANAGER: Alex Hogg
VICE-PRESIDENT, MARKETING & PROGRAM MANAGEMENT: Eric Eriksmoen
VICE PRESIDENT & GENERAL MANAGER, OVERHAUL DIVISION: Stephen M. Marshall

Menasco Aerospace Ltd., a wholly-owned subsidiary of Colt Industries, designs and manufactures the following:

- Landing gear systems
- Primary and secondary flight control actuation systems
- Fly-by-wire electrohydraulic systems
- Ground steering including steer-by-wire systems
- Variable wing sweep actuation systems
- Ramp and door actuators

The company's Engineering Department is supported by experienced engineers, technicians and state-of-the art CAD/CAM technology, enabling all phases of design, development, stress, dynamics and testing for electrohydraulic and hydromechanical applications employed in landing gear and flight control systems.

Numerically-controlled equipment, combined with a computer-aided production control system, allows Menasco Aerospace to deliver products that meet all military and commercial quality control requirements, on time and in the most cost-effective manner.

Menasco Aerospace maintains a complete physical and environmental testing laboratory for landing gears, flight controls and actuating devices. The facility has three drop test towers (two, 45 feet high), with the ability to check shimmy and steering characteristics. Other capabilities include vibration, structural, photostress survey, fatigue and environmental testing.

Menasco Aerospace operates a separate Overhaul Division which is staffed, equipped and committed to meet the stringent demands of aircraft operators. This department offers a thirty day turnaround service, worldwide. Exchange programs are available to operators of commercial and military transport aircraft, commuter aircraft and helicopters.

Menasco provides complete worldwide product support services, meeting all requirements of ATA specifications.

The company's technical expertise is recognized by all major airframe manufacturers including Airbus, Bell Boeing, Boeing Helicopters, Boeing Commercial Airplanes, Boeing of Canada (deHavilland Division), Canadair, Fairchild, Fokker, General Dynamics, Lockheed, McDonnell Douglas, Short Brothers and Sikorsky Aircraft. The company's products meet applicable FAA, Transport Canada, Mil-Q-9858A, and AQAP-1 quality control specifications.

Current programs include the design, development and manufacture of the nose landing gear and retract actuation for the Bell Boeing V-22 "Osprey"; primary and secondary flight control systems for the new Fokker 100; design assistance and development of the nose landing gear and ground steering for the McDonnell Douglas C-17 "Airlifter", together with design and development of the fly-by-wire flap actuation system for this aircraft.

Menasco's experience in the manufacture of landing gear systems extends to many types of aircraft:

- Main landing gears for the Boeing 737-300, -400, and -500 aircraft
- Main landing gear components for the Boeing 757
- Main landing gears for the McDonnell Douglas MD-80 family of jetliners
- Nose and centerline landing gears for the McDonnell Douglas DC-10 and KC-10 Transport
- Landing gear components for the Airbus A320

Menasco also designed, developed and manufactured main and nose landing gears for the Fairchild Republic A-10 Close Support Aircraft, Short Brothers SD3-30 Commuter Airplane, and the deHavilland Dash 7 Stol Aircraft.

Proprietary designs, development and manufacture of flight controls comprising the following:

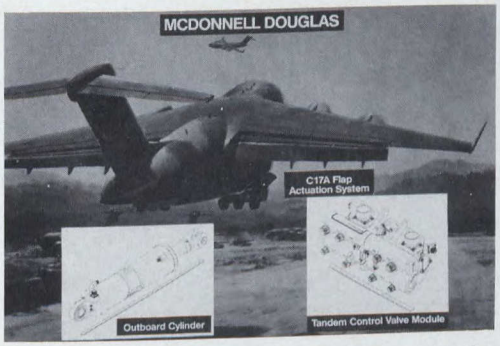
- Fokker 100 and F-28 ailerons, horizontal stabilizers, elevator controls, flap drives, lift dumpers and speedbrake actuation systems
- Fokker F-28 rudder actuation system
- deHavilland Dash 7 flap system

Menasco was also involved in Canada's FHE-400 Hydrofoil project.

Menasco Aerospace operates two facilities; a 270,000 square-foot plant located in Oakville, Ontario (halfway between Toronto and Hamilton and half an hour from Pearson International Airport), and a 50,000 square-foot repair and overhaul facility located in Burbank, California.

In recognition of Menasco's performance to support the 737 and 757 programs, Boeing awarded the company the prestigious "President's Award" for 1988.

Products and Services



The nose landing gear (with ground steering) and the flap flight control system for the new McDonnell Douglas C-17 is designed and manufactured by Menasco.

The main landing gear for the McDonnell Douglas MD-80 and all variants, is manufactured by Menasco Aerospace.

The Boeing 737-400 Series is the latest addition to the 737 family. Menasco is the sole supplier of main landing gear for this program.

Menasco designed and built the nose landing gear, retract actuators and drag brace systems on the new Bell Boeing V-22 Osprey; seen here on its maiden flight.

LANDING GEAR AND FLIGHT CONTROLS

Menasco Aerospace Ltd. designs and manufactures Landing Gear Systems, Primary and Secondary Flight Control Systems, including Fly-by-Wire Electrohydraulic Systems, Ground Steering/Steer-by-Wire, Variable Wing, Wing Sweep, and miscellaneous Ramp/Door Actuation Systems for major airframe manufacturers throughout the world:

Airbus A-320	Main Landing Gear Components
Bell YAH-63	Landing Gear
XV-15	Landing Gear
Bell Boeing V-22	Nose Landing Gear and Retract Actuation
Boeing 727	Main Landing Gear Side Strut
737-200/300	Main Landing Gear
737-400	Main Landing Gear
757-200	Main Landing Gear Side Strut
CH-47	Landing Gear, Steer-by-Wire Ground Steering
BV-360	Main Landing Gear
Boeing of Canada . DHC-4 (deHavilland Division) and DHC-5	Landing Gear Systems, Steering, Rudder and Spoiler Actuators
DHC-7-100 and 150	Landing Gear Systems, Steer-by-Wire and Flap Actuation System
Canadair CL-44	Landing Gear Systems, Steering
CL-84	Landing Gear Systems, Wing Tilt Actuation
Fairchild Republic A-10	Landing Gear, Retraction Actuators
Fokker ..... F-28 and 100	Rudder, Aileron, Horizontal Stabilizer, Elevator, Flap Drive, Leading Edge Slat, Lift Dumper, and Speed Brake Actuation Systems
General Dynamics ... F-111	Wing Sweep Actuator, Landing Gear Retraction Actuators
McDonnell Douglas DC-10	Nose and Centerline Landing Gear
KC-10	Nose and Centerline Landing Gear
C-17	Nose Landing Gear with Ground Steering and Flap Actuation System
MD-80	Main Landing Gear
Shorts SD3-30	Landing Gear
Sikorsky CH-53	Landing Gear

Fokker 100 horizontal stabilizer actuation system, designed and manufactured by Menasco in Oakville, Ontario.

Moldcraft Plastics Ltd.

362 Silvercreek Parkway, Box 1116
Guelph, Ontario N1H 1E7
TELEPHONE: 1-519-821-2340
FAX: 1-519-763-9690

PRESIDENT: K. Robert White
DIRECTOR OF ADMINISTRATION: Isabel Freeman
DIRECTOR OF MANUFACTURING: Elliott Currie
SALES MANAGER: David Muir
PRODUCTION ENGINEERS: Ron Vanderloo, B.Sc.
Thomas Wong, M.Eng.

For over twenty years, Moldcraft Plastics Ltd. has been manufacturing superior quality thermoset and thermoplastic structural foam molded plastic parts for clients in the telecommunications, electronic, computer, transportation, aerospace and defence industries.

In 1987, Moldcraft experienced a change in ownership and is now focussed squarely on the future. The company is committed to providing clients with highly-engineered, molded plastic products and a level of customer service unparalleled in the industry.

The technical staff at Moldcraft Plastics is recognized as one of the most knowledgeable and experienced in the thermoset and thermoplastic structural foam industry. Their hands-on approach and willingness to work with clients from the beginning allows them to foresee problems, simplify production and, in general, provide invaluable input toward finding the right solution.

Moldcraft Plastics is very versatile. If you require the heat-resistant, rigid strength and excellent electrical properties of thermoset molded materials, Moldcraft can help. The company also has the capacity to fully process and finish thermoset materials, including composites by compression, transfer and inline screw injection molding.

As well, Moldcraft is one of the few companies in Canada equipped to handle insert molding — the process whereby metal components are embedded into the plastic during the molding cycle.

In addition to compression and transfer presses, the company has fully-automated, inline screw injection machines for thermoset materials, four of them with state-of-the-art, closed-loop computer controls.

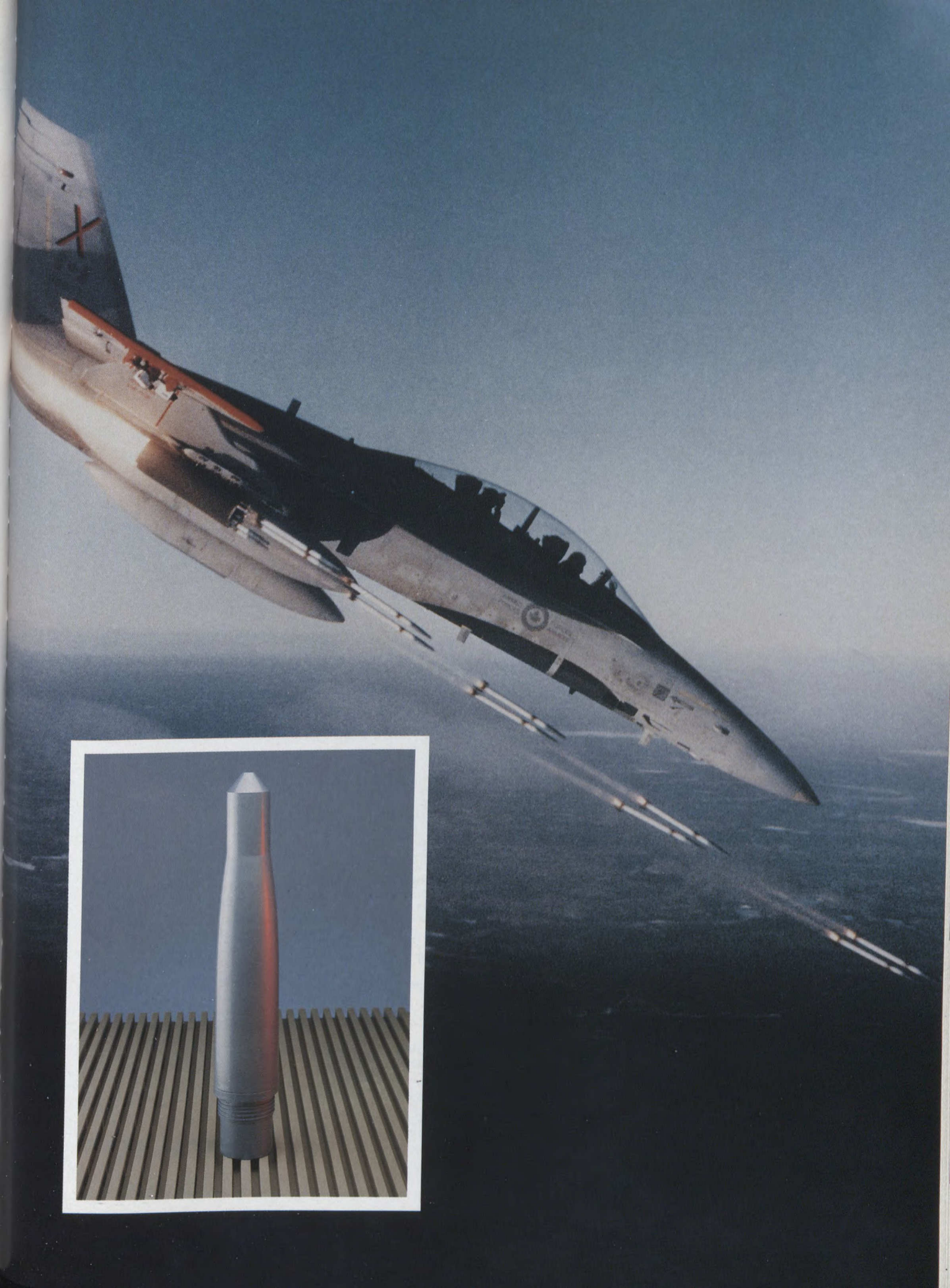
Using a low pressure chemical foam process, Moldcraft's structural foam molding system produces parts with all the inherent advantages of high-density flexibility, structural rigidity, light weight and lower molding costs.

Moldcraft Plastics is a company committed to quality control as a top priority. In keeping with this commitment, systems and facilities for inspection testing and statistical process control (SPC) are some of the most advanced in the industry. The company is certified by Boeing Aerospace Quality Control Systems to the requirements of Boeing Document D1-8000A. As well, Moldcraft works to the two highest military quality designations there are — the AQAP-1 and the MIL-Q-9858A specifications.

Moldcraft prides itself on being able to solve virtually any molding challenge a client may face.

Indeed, Moldcraft Plastics is one of the few molding companies in Canada to offer Research and Development capabilities including the development and production of prototypes. Strength in R&D coupled with acknowledged design and process engineer expertise put Moldcraft Plastics at the leading edge of the molded plastics industry.

From flights of fancy to guided missiles, Moldcraft Plastics is ready to work with you in meeting your challenges.



Novatronics Inc.

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677 Erie Street
Stratford, Ontario
N5A 6V6
TELEPHONE: (519) 271-3880
TELEX: 06-955394
FAX: (519) 271-9781

CHIEF EXECUTIVE OFFICER:
Donald J. McDougall, B. Com., M.B.A., LL.D.
EXECUTIVE VICE-PRESIDENT/GENERAL MANAGER:
Rodney I. Jones, P. Eng., M.B.A.
DIRECTOR OF ENGINEERING:
Bernard Dilliott, P. Eng.
DIRECTOR OF SALES:
Laraine A. Murray

BUSINESS MISSION

Novatronics Inc. is a privately-owned Canadian company focussing on the design, development and manufacture of custom precision electromagnetic/electromechanical systems and devices and related electronics for sensing, indication, actuation, and control of mechanical motion and positioning.

PRODUCTS

Sensors	Synchros, Resolvers, Tachometers, Rotary Linear Transducers (RLT, RVDT), Linear Variable Differencial Transducers (LVDT).
Indicators	Cockpit Indicators, Digital Indicators (electromechanical types).
Motors/ Actuators	Stepping Motors, Servo Motors, Brushless and Brush Type DC Motors, Rotary and Linear Actuators, Solenoids/Valves.
Electronic Circuitry	Related to Control Systems. e.g. Signal Conditioning/Interfaces, Logic Circuitry, Output Drivers, etc.
Systems	Systems incorporating the above components.

MARKETS

Novatronics primary markets are the North American commercial and military aircraft industries. The company also services the non aerospace military and commercial sectors in Canada, the U.S. and overseas. Major customers include Boeing Seattle, de Havilland, Canadair, Honeywell, IBM, Allied Signal – Avelex Division and Bendix King Division, Parker Hannifin – Gull Electronics Division and Fairchild Communications & Electronics.

DESIGN AND DEVELOPMENT

The engineering design and development capabilities at Novatronics have earned the company international recognition in its extremely specialized and competitive field. This highly innovative group is supported by CAE/CAD systems, extensive environmental test facilities and creative prototype departments.

MANUFACTURING

First established in Canada in 1955, Novatronics achieves high precision manufacturing through modern CNC and NC machining equipment, along with specialized winding and assembly units, and a dedicated team of skilled technicians.

Strict adherence to industry specifications is assured by the company's uncompromising quality control systems. These conform to the requirements of AQAP-4 and are progressing towards AQAP-1.

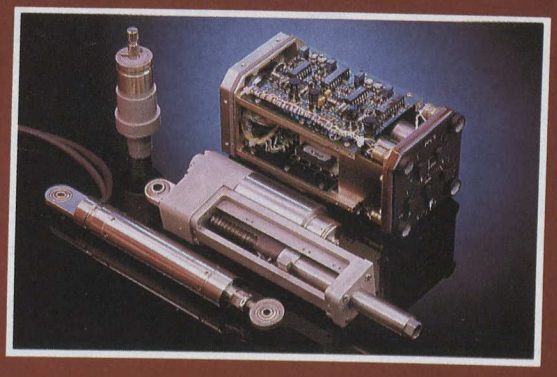
Effective management of Development and Production Start-up Programs is achieved through formal project planning and control methods, facilitated by computer-based Critical Path techniques.

REPRESENTATIVE CUSTOMER LIST AND APPLICATIONS

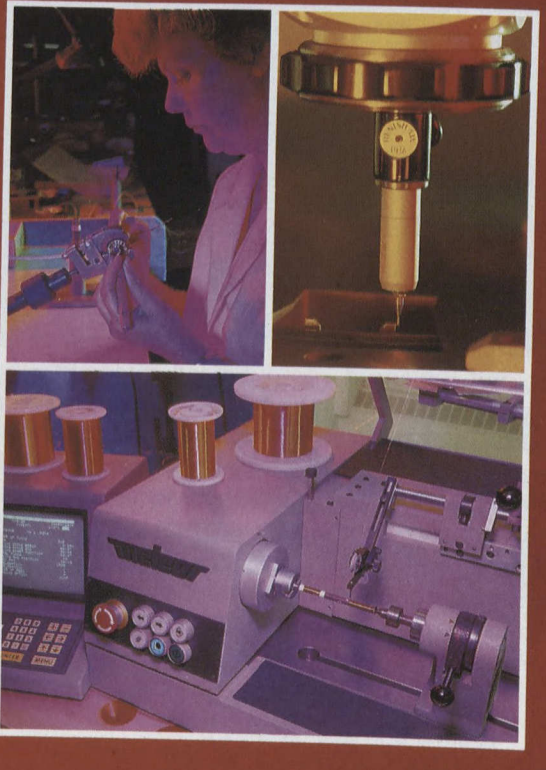
Boeing Seattle 737/747/757/ 767	Surface Control Transmitters single and tandem Spoiler, Linear Variable Differencial Transducer (LVDT), Rudder Ratio, Linear Variable Differencial Transducer-single and tandem (LVDT)
Boeing Canada de Havilland Division Dash 8	Surface Control Transmitter single and tandem Powered Flight Surface Control Indicator (cockpit).
Canadair Ltd. Challenger / Waterbomber CL215T	Surface Control Transmitter – single and tandem Nacelle Actuator – Complete with DC motor

SUB-CONTRACTORS FOR PRIME

Bendix Avelex Division	Fuel Control System (de Havilland and Cessna) Pratt & Whitney	Stepping Motor/Gear Head Idle Stop Solenoids Rotary Linear Transducer (RVDT)
Parker Hannifin (Gull Inc.)	DC10 (McDonnell-Douglas)	Digital Indicator Fuel Management Systems
M B B Helicopter Canada Ltd.	Collective Lever Feedback Indication (Pratt & Whitney)	Tandem Resolver Position Indicator
Fairchild Communications & Electronics	F-14 (Grumman)	Weapon Display Cockpit Readout
I B M	EA6 (Grumman)	Cockpit Applications



NOVAtronics



Reliability by Design

Oerlikon Aerospace Inc.

225 boul. du Séminaire Sud
Saint-Jean-sur-Richelieu
Quebec J3B 8E9
TELEPHONE: (514) 358-2000
TELEFAX: (514) 358-1744

PRESIDENT: Dr. Marco M. Genoni
EXECUTIVE VICE-PRESIDENT OF OPERATIONS: Lionel Léveillé
VICE-PRESIDENT OF CORPORATE AFFAIRS: Bing Peart
VICE-PRESIDENT OF BUSINESS DEVELOPMENT: Glen Decker
VICE-PRESIDENT OF CONTRACTS: R. Stuart Riley

Oerlikon Aerospace Inc. is a technology and systems engineering company that designs, engineers, integrates and tests advanced electronics, aerospace and defence systems. In addition, the company provides full life cycle support and project management services in areas such as: Integration and Test, Integrated Logistic Support, Program Management, Project Engineering, Industrial Benefits Management, Calibration Test, Operational Analysis and Configuration Management.

Oerlikon Aerospace Inc. has provided since 1986 overall international project management of the Canadian LLAD (Low Level Air Defense) contract which includes the assembly, integration, test as well as integrated logistic support of the centerpiece of the chosen system — the ADATS Missile System. In October 1988, the first ADATS Missile System was officially delivered to the Canadian Forces.

In 1987, the ADATS Missile System was selected as the winner of the United States Army air defence system competition for their Forward Area Air Defense Program (FAAD-LOS).

In the first half of 1989, Oerlikon Aerospace also delivered the first four production ADATS units for testing by the U.S. Army. Training of Army personnel has been underway since February 1988.

In order to fulfill these contracts, Oerlikon Aerospace has invested over C$100 million in its engineering and advanced computerized integration facility located near Montreal, Quebec. This has placed the company at the leading edge of high quality system engineering by providing a well structured research and development program to ensure incorporation of the most advanced technology into its systems. Oerlikon Aerospace can also respond efficiently to customer's requirements and specifications for projects requiring integrated logistic support for the entire life cycle of the systems.

Oerlikon Aerospace possesses and has demonstrated the skills and technology needed to successfully carry out large-scale military and civil projects. Recent achievements have taken it to the height of aerospace technology research and development. The company's 700 employees are highly-skilled professionals, engineers and technicians mostly in electromechanical, electronic and software.

Experience gained through years of research and development of new products, and expertise gained from the management and coordination of complex international project teams (involving European and North American companies), allow Oerlikon Aerospace to ensure that its products and capabilities meet the systems needs and quality standards of the Canadian Government, as well as NATO customers, for many years to come.

Looking for Harry

With a little time, anyone can find Harry. But it takes a special kind of sight to zero in on specific objects. It takes know-how and expertise to know what to look for. It takes international ingenuity to know where to look. And what the human eye cannot see, it takes the best hi-tech specialists there are to develop systems that can. Oerlikon Aerospace.
For problems as simple as Harry or as complex as searching the bottom of the sea and the outer limits of space, we have the vision. The solution.

Solutions in sight

Oerlikon Aerospace

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Paramax Electronics Inc.

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PRESIDENT (ACTING): Dr. W. Lee Shevel
VP - BUSINESS DEVELOPMENT
Donald L. Gillespie

The prime activity of Paramax Electronics is Systems Management — an intricate science involving the design, integration and testing of complex computer based electronic and combat systems. Paramax is performing this service for the Canadian Navy's twelve new patrol frigates — which have delivery dates ranging from 1989 to 1997 — under a $2.5 billion contract.

The Canadian Patrol Frigate is the first new fighting ship designed and being built in Canada in well over a decade. A fast and manoeuverable ship with a low profile and high combat capability, it will be patrolling Canadian territorial waters and will play an important anti-submarine warfare role with NATO defence forces in Atlantic sea lanes.

As prime subcontractor to Saint John Shipbuilding Limited, the prime contractor for the ships' construction, Paramax is responsible for the frigate's overall systems design and integration, the selection of electronic and combat equipment mix from an existing inventory within major defence industries. In addition, Paramax conducts rigorous testing of equipments and software which it has developed within a unique test facility named the CSTSF — Combat System Test and Support Facility. This 16,000 square foot metal clad building-within-a-building contains a super secure 10,000 square foot RF (Radio Frequency) shielded room. It is impervious to electronic eavesdropping on sensitive test procedures and contains over $150 million worth of sophisticated electronic equipment. In an adjacent 6,000 square foot grooming area, completed shipsets of equipment are tested and debugged, using a series of external radar towers at the rear of the Paramax building.

It is also within this CSTSF enclosure that Canadian Navy crews undergo intensive training designed by Paramax. They learn the operation and maintenance of complex communications and combat equipment. These range from sensor systems, including long and medium range radars, sonars, to defensive systems such as the Sea Sparrow and Harpoon missiles, Phalanx close-in weapons system, torpedoes and rapid-fire 57mm Bofors gun. Paramax is responsible for the training of over 600 navy personnel representing 21 different trades. They will be trained on 125 major new pieces of equipment. The program will total some 2,400 days of highly technical training and will see Paramax deliver over 150,000 pages of training documentation to the Navy.

In full size mock-ups of the frigate's bridge, operations room and other ship's spaces — authentic in detail down to the rivets — Navy crews practice responding to a variety of repeatable, realistic combat scenarios against simulated threats above and below the sea surface.

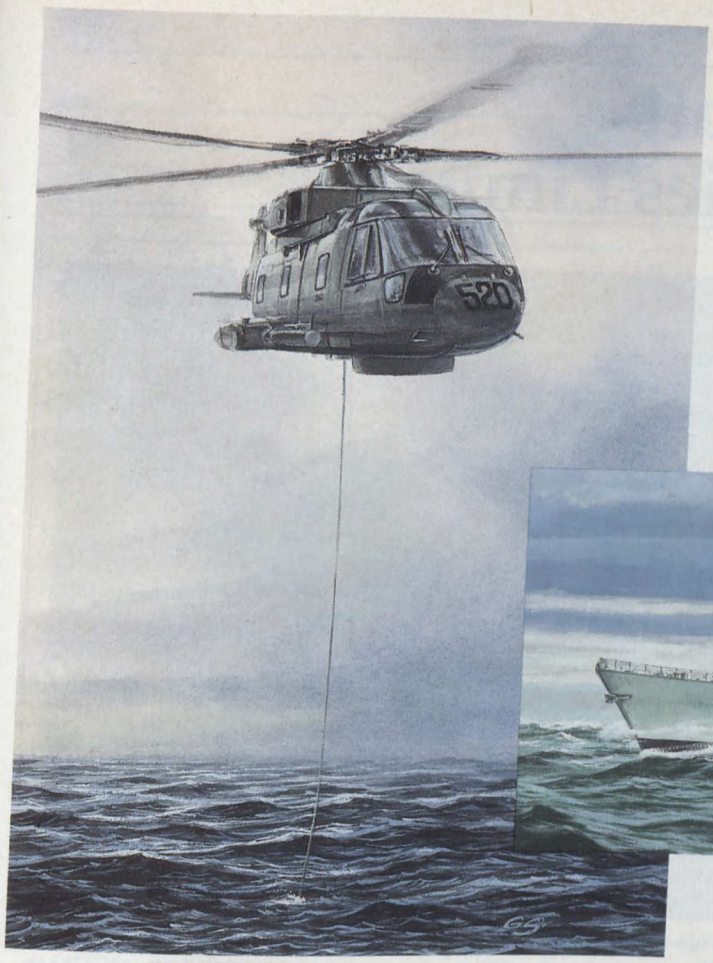
This type of expertise has been soundly built up at Paramax's Montreal headquarters facility staffed by some 700 people — probably the largest concentration of scientists, electronic engineers and software development talent of any comparable company in its field. This vast complement of technical staff has been achieved in part through the most unique in-house training program ever devised by a private firm.

Termed the SMART Program (Systems Management and Resource Training), this plan provides 35 university level courses which have been taken by well over 400 Paramax employees to date.

While the fulfillment of its major contract for the Patrol Frigate will keep Paramax intensively active well into the 1990's, the company — in cooperation with other major defence industries — is also working on contract definition regarding its role in the proposed new shipborne helicopter, the EH 101, to be acquired by the Department of National Defence. Paramax also expects to become a major contributor to Canada's new submarine acquisition program as an extension of its present naval expertise.

The company continues to pursue, as well, new opportunities in electronic systems management for allied navies and other armed forces and in potential contracts for major civilian and industrial projects which require its special expertise.

Managing complexity



Paramax is an enterprise with leading-edge expertise in computer based electronic and combat systems management – for surface ships, aircraft, submarines, land-based military forces and defence installations.

Prime personnel and facilities
With a scientific/technical workforce of over 700 people, Paramax possesses the most intense concentration of engineering front runners. It also has the largest and most advanced secure test facility in North America. This makes Paramax uniquely qualified to design, automate, integrate, acquire, test and install state-of-the-art surveillance, communications and weapons control equipment. With current contracts valued at some $2.5 billion, the company has been entrusted to provide these services for 12 of the new Canadian Patrol Frigates – the most effective fighting ships ever to patrol the high seas.

Projects on the Horizon
We are further involved as part of the EH-101 team, in a $2 billion program to replace the aging fleet of helicopters for Canada's Armed forces.

In addition, Paramax will be bidding on a contract for the design and integration of combat systems on up to 12 nuclear submarines for the Canadian Navy.

Uniquely prepared for the future, Paramax has the full potential to elaborate major military projects in Canada and around the world. We are committed to managing complexity.

PARAMAX
Paramax Electronics Inc.

Paramax Electronics Inc., 6111 Royalmount Ave., Montreal, Quebec, H4P 1K6 Tel: (514) 340-8310

Patlon Aircraft and Industries Limited

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TELEX: 06-960379
FAX: (416) 624-0975

OTTAWA OFFICE
311 Richmond Road, Suite 302
Ottawa, Ontario
K1Z 6X3
TELEPHONE: (613) 728-1500
FAX: (613) 728-5706

Patlon Aircraft & Industries Limited has three office locations: Mississauga, Ottawa and Miami. The company has been in business for over 35 years and continues to register record growth in sales. Patlon is manufacturing various static protective products through its U.S. operation and provides significant value added to many products it markets in Canada.

Patlon began its operations in 1953 around a capability of supplying logistic support for North American designed military, transport and fighter aircraft. This capability is still a very important part of the firm's business, and has grown to a point where Patlon maintains one of the largest computerized master reference libraries in Canada which includes all the military aircraft, vehicles and equipment operating in the free world. This enables Patlon to cross reference products replacing specified materials and equipment with qualified products from multiple sources usually at a lower cost. Patlon has been particularly successful in this area with the Canadian military and currently holds many Canadian government "blanket" contracts for the supply of airframe and engine spares, instruments, electronic equipment and other equipment. Patlon provides a similar capability to various armed forces around the world.

Patlon considers itself an Engineering Sales organization. With engineering sales capability and the products of many principals, Patlon has provided valuable service to the Canadian government, specifically the Department of National Defence. Patlon has, in conjunction with its Principals, designed and supplied mobile electronic weighing systems for the CF18, electrical connector crimping tool kits for the CP140 and CF18 maintenance facilities; and supplied static control materials and equipment for various avionics shops, naval facilities, army vehicles and supply depots. Patlon supplies noise/shock attentuation hardware to the Canadian navy, and this equipment is approved for use on the Canadian Patrol Frigate program. All Frigates will be equipped with Patlon outboard bearings. Patlon also designed and supplied aircraft and ground support equipment cleaning machines. These examples illustrate how Patlon has utilized its capabilities and expertise to help National Defence solve particular problems.

Although many of the products Patlon supplies are manufactured outside of Canada, the Company makes a very conscious effort to maximize Canadian content. All of the examples above, including the supply of aircraft spare parts, have a substantial amount of Canadian content. In fact solely through the efforts of Patlon, a Canadian manufacturer has designed and supplied a sophisticated lubrication pump to Canadair on the CL227 program.

Over the years Patlon's capabilities as an engineering sales organization have overlapped into non-government industries. A strong presence and a large customer base have been developed in the following industries: aerospace, avionics, electronics, telecommunications, shipbuilding, transportation, off-highway vehicle and farm equipment. Whether it be the Dash 8 at de Havilland, subway cars at Bombardier, military vehicles at UTDC, switching equipment at Northern Telecom, frigates at Saint John, various military programs or CL215 Water Bomber operators, Patlon's selling procedure is basically the same. Depending upon the product and customer requirements, meetings are held with the appropriate management, engineering, procurement, service and sometimes manufacturing personnel to identify the requirement and attempt to develop an appropriate solution. This procedure has been quite successful in having Patlon's equipment specified at the drawing board stage of the customers' program.

Patlon has more than doubled both the number of employees and sales in the past three years. The firm has recently completed a third expansion in its Mississauga head office facilities, and the Miami operation has moved to a larger, more modern facility. Engineering sales staff is completely supported by competent, factory-trained order desk personnel and a state-of-the-art office automation system. All facets of Patlon's operation have been automated to some degree to provide more effective, more efficient service for customers.

U.S. SUBSIDIARY
PATLON INDUSTRIES INC.
11981 S.W. 144th Street
Miami, FL 33186
TELEPHONE: (305) 232-8525
FAX: 305-233-7711

Products and Services

MANUFACTURERS AGENT In addition to our military activities, Patlon acts as Manufacturers Agent in the aerospace, avionics, electronics, telecommunications, shipbuilding, transportation, off-highway vehicle and farm equipment markets. Some of our product lines include aircraft switches, refuelling systems, batteries, couplings, bearings, hydraulic pumps and valves, mechanical seals, engine and crimping tools, static control equipment, shock and vibration hardware, aircraft tires, wheels and brakes, and line supports.

LOGISTIC SUPPORT For over thirty-five years, Patlon Aircraft & Industries Limited has been providing logistic support to a wide variety of military programs. The following diverse examples illustrate just a few of Patlon's solutions to meet the needs of the military.

CRIMPING TOOL KITS Custom crimping tool kits have been designed and supplied in support of the CF18, CP140 and other programs.

STATIC CONTROL EQUIPMENT Static control systems, including protective materials and equipment, have been supplied to practically every arm of the Canadian military.

FRIGATE All City-Class Frigates will go to sea with many of our products including outboard bearings, shock mounts and expansion joints.

ADEC ARRESTING GEAR All Forward Operating Locations as well as many Canadian Military Bases utilize our arresting gear.

SPARE PARTS SUPPORT Airframe and engine spare parts, components and rotables can be provided for virtually every North American manufactured aircraft.

CL215 SUPPORT Extensive support for the Water Bomber is provided including tires, wheels and brakes, instruments, engine and airframe components.

Pelorus Navigation Systems Inc.

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TELEX: 038-21557
FAX: (403) 291-9123

PRESIDENT & CEO: E. Fitzhenry
VICE PRESIDENT, MARKETING: D. Sinclair
DIRECTOR, ENGINEERING: J. Wesmann
VICE PRESIDENT, FINANCE: T. Lindquist

Pelorus Navigation Systems Inc. develops, manufactures, distributes and installs a wide range of high technology electronic navigation and meteorological systems. Advanced micro processor technology is used to produce affordable, highly accurate navigation systems to facilitate safe, reliable aircraft landings.

Pelorus, a Calgary based company, was incorporated in 1981 and was a distributor for a single product, which principally was used to navigate aircraft in the Canadian Arctic. During its seven year history, the company has evolved from a distributor to a manufacturer and developer of its own products. Pelorus has offices in Toronto, Halifax, Tucson, Arizona and Oslo, Norway and has established agents in the UK, Korea, Thailand and Indonesia. In June 1987, the company was listed on the Alberta Stock Exchange.

In 1983, Pelorus installed Canada's first Microwave Landing System (MLS) certified for commercial use. A total of five systems have now been installed and are being maintained and monitored by Pelorus.

Pelorus' Distance Measuring Equipment (DME) is the most technologically advanced and cost-effective ground system available. Our systems are installed at approximately 70 airports across Canada and internationally. The company pioneered the adoption of this equipment in support of helicopter landings at marine locations. The program resulted in use of the DME on board arctic ice breakers and offshore drilling rigs.

Canada's first fully Automated Weather Observation and Reporting System (AWOS) was produced and installed by Pelorus. The company also produced a remote monitoring and maintenance system for navigation equipment for use at unattended airports.

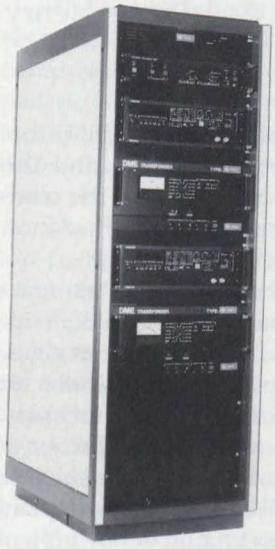
No product has a safe quality lead, since new entrants are constantly redefining for the customer what is possible. Research and development is a significant part of Pelorus' commitment to excellence in aviation. Our Microwave Landing System Receiver design which employs Very Large Scale Integration (VLSI) and Monolithic Microwave Integrated Circuit (MMIC) technologies, is in the prototype stage and represents potential worldwide for the general aviation aircraft industry.

In 1988, Pelorus was a winner of the "Canada Award of Business Excellence" in the Small Business Category from Industry, Science and Technology Canada, as well as a winner of an Award of Excellence in Transportation from the International Winter Cities Corporation. We are very proud of our employees and accomplishments and very excited about our future in the aerospace industry.

Dedicated to Excellence In Aviation

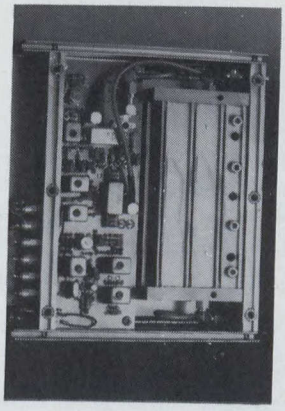
The Best Approach to Safe, Reliable Landings for the Nineties and Beyond

Distance Measuring Equipment (DME)



Pelorus DME meets ICAO Annex 10 and Eurocae specifications and is operating at over 70 airports in North America, Europe and South East Asia.

RF Manufacturing

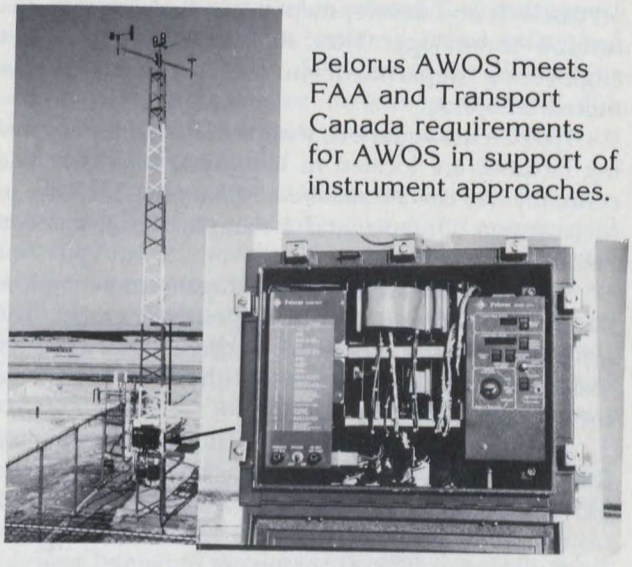


Pelorus manufactures to AQAP 4 standards with emphasis on radio frequency (RF) modules in the microwave frequencies.

Microwave Landing System Avionics

Pelorus MLS Avionics Receiver employs VLSI and MMIC technology to facilitate an affordable and cockpit compatible product for general aviation.

Automated Weather Observation Systems (AWOS)



Pelorus AWOS meets FAA and Transport Canada requirements for AWOS in support of instrument approaches.

Pelorus also distributes Direction Finders, Runway Visual Range Systems, Ice Detection Systems, MLS Ground Stations.

Pelorus - The Name
Pelorus n. Sighting device like ship's compass for taking bearings (perch f. Pelorus name of Hannibal's pilot).
— The Oxford Dictionary, Sixth Edition

Pelorus Navigation Systems Inc.

CANADA AWARDS FOR BUSINESS EXCELLENCE Winner 1988

575 PALMER ROAD N.E., CALGARY, ALBERTA T2E 7G4 (403) 250-9377 FAX (403) 291-9123

Pratt & Whitney Canada

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SR. VICE PRESIDENT, MARKETING & CUSTOMER SUPPORT:
G.P. Ouimet
VICE PRESIDENT, COMMUNICATIONS:
Pierre Henry

In 1988 sales of Pratt & Whitney Canada (P&WC) exceeded $1 billion, 75 per cent of that for export.

As of December 1988, some 32,000 gas turbine engines had been produced in P&WC plants. The company's engines power a wide variety of aircraft in 140 countries.

These statistics are part of the business record of an autonomous Canadian corporate unit totally responsible for the design, development, manufacture, international marketing and service of small gas turbine engines for air, sea and land applications.

Pratt & Whitney Canada employs some 9,000 people in its Quebec, Ontario and Nova Scotia-based facilities. Approximately 2,000 employees work full time on research and development projects to improve gas turbine technology. They form the second-largest engineering department in the Canadian private industrial sector.

P&WC's headquarters, main R&D and manufacturing facilities are located in Longueuil, Quebec. The company has also established engineering facilities in Mississauga, Ontario, and a manufacturing plant in Halifax, Nova Scotia.

P&WC's overhaul and service organization employs more than 1,500 people throughout the world. The company operates a network of three service centres and nine regional mini-centres that provide global coverage.

Pratt & Whitney Canada is a subsidiary of United Technologies Corporation — a diversified, multi-market industrial organization with headquarters in Hartford, Connecticut, U.S.A.

Founded in 1928, the company remained a service and sales organization up to the 1950s.

In 1957, P&WC began design work on its first homegrowned turbine engine. The resulting PT6 series of engines which were introduced to the world market in 1963, became a world standard.

The outstanding commercial success of the PT6 series, the subsequent development of the JT15D turbofan series, the PW100 turboprop series, and the PW901A auxiliary power unit have allowed the company to establish and maintain a leadership position in the international aviation industry.

In addition to its aero engine design and manufacturing capabilities, the company is involved in industrial and marine applications of gas turbine engines, such as power-generating units, pumping stations for gas and oil pipelines, and propulsion systems for ships.

Four engine families are currently in production at P&WC. The PT6 turboprop/turboshaft engine — the world's most popular and proven aircraft powerplant in its class. The JT15D turbofan engine, a powerplant designed for business jets. The PW100 which powers the majority of the new-generation 30-to 80-passenger commuters. P&WC's newest product is the PW901 auxiliary power unit (APU) selected for the Boeing 747-400 wide-body transport.

Since introduction into service in 1963, PT6 engines have been selected for more than 127 applications. More than 150 million flying hours have been recorded by the 27,000 PT6 engines already delivered.

The company also has two engine families in development: the PW200 turboshaft for light-to-medium helicopters and the PW300 for the next generation of medium-size transcontinental corporate jets.

Products and Services

PW100

The turboprop for the Eighties and Beyond

The PW100 is an advanced technology fuel-efficient turboprop. The engine has been selected to power the majority of regional transport aircraft introduced in the 1980s.

The engine reflects more than 20 years of intensive research in centrifugal compressors. The result is a compressor comprised of two rugged and efficient impellers. High component efficiency and state-of-the-art technology result in fuel consumption significantly below that of current gas turbine engines in the same class.

The PW100 operates on a twin-spool principle. The low-pressure spool (LP) consists of a single centrifugal stage and one axial turbine stage. The high-pressure spool (HP) consists of a single centrifugal stage and a single air-cooled turbine stage. The twin-spool principle allows each stage to operate at peak efficiency throughout the flight envelope.

A two-stage power turbine drives the propeller, through an offset gearbox, via a shaft which is concentric with the LP and HP spools.

The reduction gearbox features a twin-layshaft design which results in lower gear stresses and lighter weight.

The patented compressor pipe diffuser is similar to that used on the PT6 as is the reverse-flow annular combustion chamber. The engine is controlled by a mechanical fuel control with an electronic supervisory control. The electronic control automatically provides precise power setting data to the pilot.

The air inlet system employs a bypass separator duct which protects the engine against the ingestion of birds or other foreign objects.

The PW100 first ran in 1981 and first flew in 1982 in a Viscount flying test bed. Prototype engines were delivered in 1983, and production started in 1984.

PW100 engines power nine new commuters: the de Havilland Dash 8-100 and 300, the Embraer EMB-120 Brasilia and the Aérospatiale/Aeritalia ATR-42 and 72, the British Aerospace ATP, the Fokker F50, the Dornier 328 and the Chinese YT-200A.

The PW100 has also been selected to power the Canadair CL-215T aircraft water bomber.

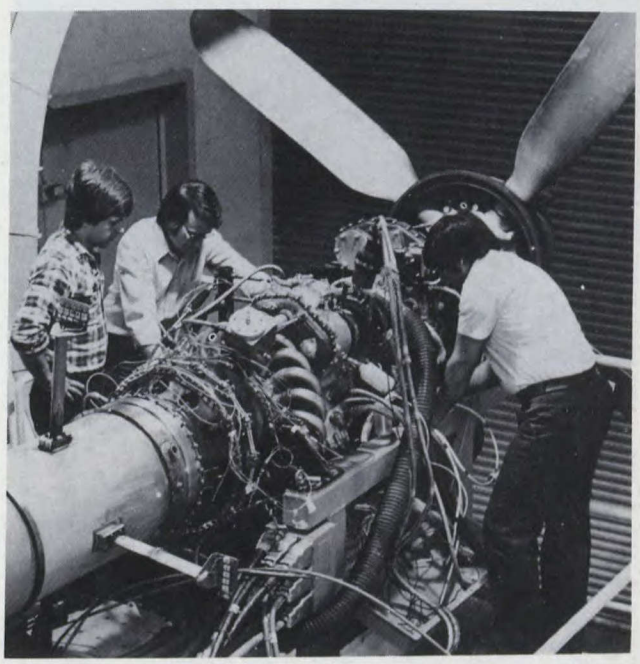
The engine is available at powers ranging from 1,600 to 2,653, SHP growth models to 20 per cent-plus SHP are being studied.

PT6

The Most Popular Small Gas Turbine Engine in its Class

The PT6 engine is currently offered in some **34** variants in turboprop or turboshaft versions and in single or Twin-Pac® configurations.

PW100



The engine is installed in some 127 aircraft types/models used for executive, business, airline, utility and agricultural applications. Versions of the PT6 power several high performance turboprop trainers. The trainer version features a special oil system with inverted flight capability.

The PT6 turboprop is a free turbine engine that consists basically of an annular intake, a three-stage axial and single-stage centrifugal compressor, an annular reverse-flow combustor and a single-stage compressor turbine. A counter-rotating free power turbine drives the propeller through a two-stage reduction gearbox. Fuel is provided by 14 simplex fuel nozzles connected to a dual manifold, and combustion is initiated by two igniter plugs.

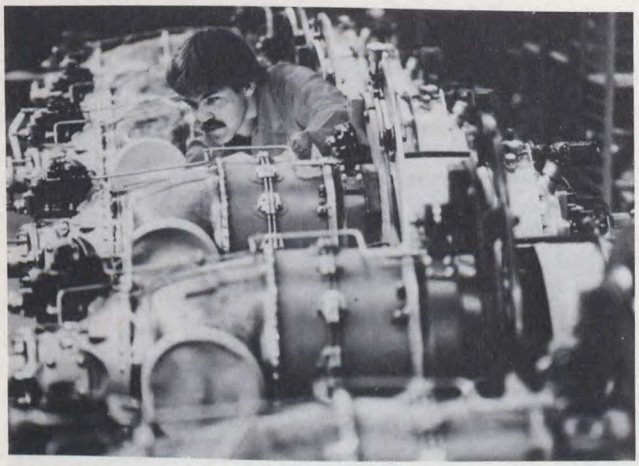
PT6 single engines are available at powers ranging from 475 to 1,424 SHP for turboprop and 750 to 981 SHP for turboshaft applications.

The Twin-Pac® version of the PT6 is widely used in medium size helicopters for utility, commercial and military applications. The PT6T Twin-Pac® is a twinned turboshaft engine that consists of two PT6 free turbine engines coupled to a common gearbox with a single output shaft. PT6 Twin-Pac® engines are available at powers ranging from 1,800 to 1,875 SHP.

The ST6 designation is used for industrial, commercial and marine applications of the PT6. These include auxiliary power units, pumping stations for gas and oil pipelines, marine propulsion systems, etc.

Products and Services

PT6



JT15D
The Quietest Turbofan

The JT15D turbofan engine is available in several versions, ranging in power from 2,200 to 2,900 lbs. of take-off thrust. The engine is noted for its low fuel consumption, low noise and high reliability. It has achieved significant popularity as a power plant for corporate aircraft.

The JT15D is a twin-spool, front-fan, jet propulsion engine with a full-length annular bypass duct. The JT15D low-pressure compressor is a single-stage fan. In the larger models (2,500-plus lbs. thrust) the single-stage fan is supplemented by a boost stage in the engine core. The low-pressure rotor is driven by a two-stage turbine. The compact rotor arrangement and reverse-flow combustor result in an engine configuration that combines simplicity, high reliability and ease of maintenance.

A version of the JT15D engine, developed for trainer aircraft, features a special lubrication system permitting inverted flight.

JT15D

PW901A
The Discret Challenger

P&WC has re-entered the commercial and military auxiliary power unit (APU) market as a prime supplier with the launch of the PW901A, selected for the Boeing 747-400 series. The first production engines were delivered in May 1988 and the first 747-400 equipped with the PW901A was delivered in January 1989.

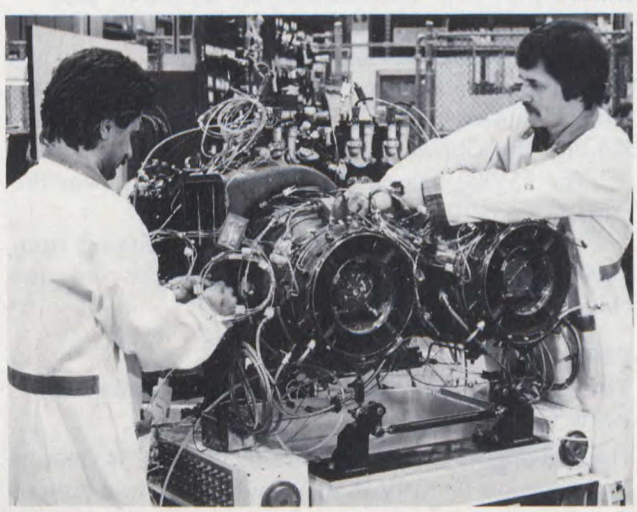
The PW901A is based on the proven JT15D turbofan which has accumulated some 10 million flight hours. The PW901A main features are the full authority digital control unit with built-in test capability, two-spool design for low fuel burn and reliable starting. The engine drives two 90 KVA generators.

Engines in Development
PW200

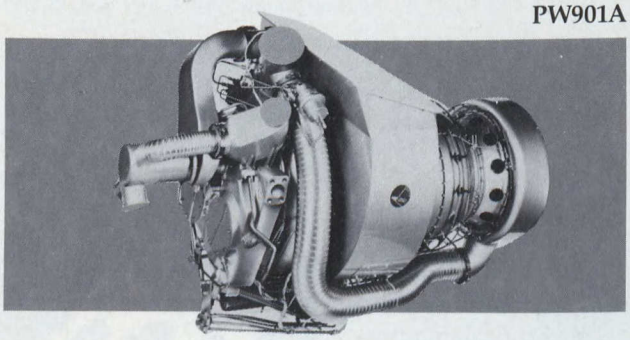
The PW200 series of engines has been designed to meet the power requirement of light and medium helicopters. The PW200 engine has approximately 46 per cent fewer parts than equivalent PT6 models. Use of proven technology has permitted the design of an engine with only three turbomachinery elements; a single-stage centrifugal compressor and single-stage centrifugal compressor and single-stage compressor and power turbines. Power management is through a Full Authority Digital Electronic Control (FADEC) which reduces pilot workload, prevents excursions outside safe and stable engine parameters (including the start sequence), and provides rapid response to power demand.

The first model of this series, the PW205B, successfully completed its first flight in October 1988, powering Messerschmitt-Bölkow-Blohm's BO 105 LS twin-engine helicopter.

PW200



PW901A



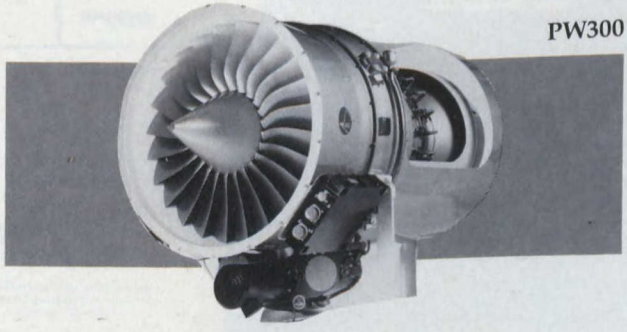
PW300

A new turbofan series, the PW300 was officially launched in 1988. The 4,500 to 6,500 lbs. thrust class engine is being developed by P&WC in collaboration with Motoren-und-Turbinen-Union-München (MTU) of West Germany. The PW300 is designed for the next generation of medium size transcontinental corporate jets. Its certification is scheduled for 1990.

Sized initially for an aircraft with 3,000 nm-plus range capability, the PW300 has excellent growth and down-rating potential to cover a wide range of aircraft design specifications.

The main characteristics of the engine are a by-pass ratio of 4.5, an unshrouded fan of 30.7 inches dia. driven by a three-stage low turbine. The high-compressor is a four-stage axial single centrifugal layout with the first two-axial-stages incorporating variable guide vanes. The compressor is driven by a two-stage high turbine with cooled first-stage vanes and blades. A Full Authority Digital Electronic Control (FADEC) will provide the necessary fuel response for optimum high altitude handling.

PW300



Summary of P&WC Powerplants

	T/O RATING (SHP or LB)	ESFC	SHAFT RPM	LGTH (IN)	DIA. (IN)	WT. (LB)
TURBOPROPS	SHP					
PT6A-110	475	.657	1900	62	19	327
PT6A-11	500	.647	2200	62	19	314
PT6A-11AG	500	.647	2200	62	19	321
PT6A-15AG	680	.602	2200	62	19	319
PT6A-20	550	.649	2200	62	19	286
PT6A-21	550	.630	2200	62	19	316
PT6A-25/25A	550	.630	2200	62	19	341/331
PT6A-25C/25D	750	.595	2200	62	19	335/347
PT6A-27/28	680	.602	2200	62	19	314
PT6A-34/34AG	750	.595	2200	62	19	320/317
PT6A-34B	750	.595	2200	62	19	330
PT6A-36	750	.590	2200	62	19	320
PT6A-41	850	.591	2000	67	19	391
PT6A-41AG	850	.591	2000	67	19	400
PT6A-42	850	.601	2000	67	19	391
PT6A-45A/B	1173	.554	1700	72	19	434/436
PT6A-45R	1197	.553	1700	72	19	436
PT6A-50	1120	.560	1313	84	19	607
PT6A-60/60A	1050	.548	1700	72.5	19	465
PT6A-61/61A	850	.591	2000	67.5	19	426
PT6A-62	950	.567	2000	70.5	19	454
PT6A-65B	1100	.536	1700	74	19	481
PT6A-65R	1376	.512	1700	75	19	481
PT6A-65AR	1424	.509	1700	75	19	486
PT6A-66	850	.620	2000	70	19	477
PT6A-67	1100	.553	1700	74	19	506
PT6A-67R	1424	.520	1700	76	19	515
PT6A-135/135A	750	.585	1900	62	19	330
PT6A-112	500	.637	1900	62	19	326
PT6A-114	600	.640	1900	62	19	345
PT6A-116	700	.596	1900	62	19	334
PW115	1600	.516	1300	81	25	861
PW118	1800	.498	1300	81	25	861
PW120	2000	.485	1200	84	25	921
PW120A	2000	.485	1200	84	25	933
PW123	2380	.470	1200	84	26	992
PW124	2400	.468	1200	84	26	1060
PW124A	2400	.468	1200	84	26	1060
PW125A	2570	.465	1200	84	26	1060
TURBOSHAFTS	SHP					
PT6B-34	750	.619	6000	58.6	22.5	298
PT6B-36	960	.594	6050	59.2	19.5	372
PT6T-3	1800	.595	6600	67	—	645
PT6T-3B	1800	.600	6600	66	—	657
PT6T-6	1875	.592	6600	67	—	657
ST6L-73	820	.585	33000	53	19	305
PW205B	590	.556	6000	—	—	220
PW209T	937	.580	6561	35.2	—	468
TURBOFANS	LB					
JT15D-1	2200	.540	—	56.6	27.3	514
JT15D-1A	2200	.540	—	59.3	27.3	519
JT15D-1B	2200	.540	—	59.3	27.3	519
JT15D-4	2500	.562	—	60.4	27.3	557
JT15D-4B	2500	.562	—	63.3	27.3	568
JT15D-4C	2500	.562	—	60.4	27.3	575
JT15D-4D	2500	.562	—	60.4	27.3	560
JT15D-5	2900	.551	—	60.4	27	632

Quantum Inspection and Testing Limited

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PRESIDENT: Wm. I. Marcovitch
VICE-PRESIDENT, OPERATIONS: Michael Dudley
MARKETING MANAGER: Scott Brown

Quantum's product is Contract Quality Services and Expertise — peoples, facilities and related capabilities which for a variety of reasons client-users may not have readily available in-house to meet specific requirements. The company's broadly based resources, experience and capabilities are geared to integrate on both complimentary and supplementary bases with the client's organization in an efficient and cost effective manner to fulfil those requirements.

Established in 1968 as a firm of consulting engineers, Quantum has evolved into Canada's largest specialist independent professional quality services/surveillance and laboratory testing/inspection organization dedicated to the aerospace, defence and precision manufacturing sectors.

Quantum's Test Centre and corporate headquarters are strategically located in a new 15,000 square-foot facility in the hub of Canada's manufacturing/industrial heartland which also provides convenient access to the East and Midwest regions of the United States market.

All Test Centre facilities are traceable to NRC Canada (equivalent of NBS Washington) and the operational capabilities operate under such validated governmental recognitions as The Department of National Defence, Canadian Standards Association, Department of Transportation and Communications and the Canadian Government Standards Board. Quantum is Canada's only Standards Council of Canada recognized facility for testing in Metrology and Non-destructive Examination.

Buyer approvals include such organizations as Pratt and Whitney, Boeing, McDonnell Douglas, Rockwell, Avco Lycoming, Menasco Aerospace, Lockheed Georgia, Bell Helicopter, and Spar Aerospace. Quantum is recognised by NASA as being the sole Canadian source approved for the non-destructive testing of fracture critical components for the Space Program.

Quantum's permanent staff resources and facilities base allows the aerospace sector optimal flexibility and economies in fulfilling its mandate for quality in confidence and security.

SERVICES OFFERED

Metrology and Measurement Services

- Calibration laboratory
- Three coordinate measurement
- Casting layout
- Dimensional verification
- Relapping and calibration of granite surface plates
- Site portable three coordinate laser theodolites for verification of large fixtures and components
- Robotic installation services

Non-destructive Testing

- Radiographic
- Ultrasonic
- Liquid penetrant
- Magnetic particle

Vendor Surveillance

- Capability and pre-award surveys
- Performance monitoring
- Sampling inspection
- Test witnessing
- Expediting
- Certification

Thermographic Inspection Services

- Field portable and laboratory

Quality Management Consulting

- Quality systems development
- Training
- Problem solving/troubleshooting

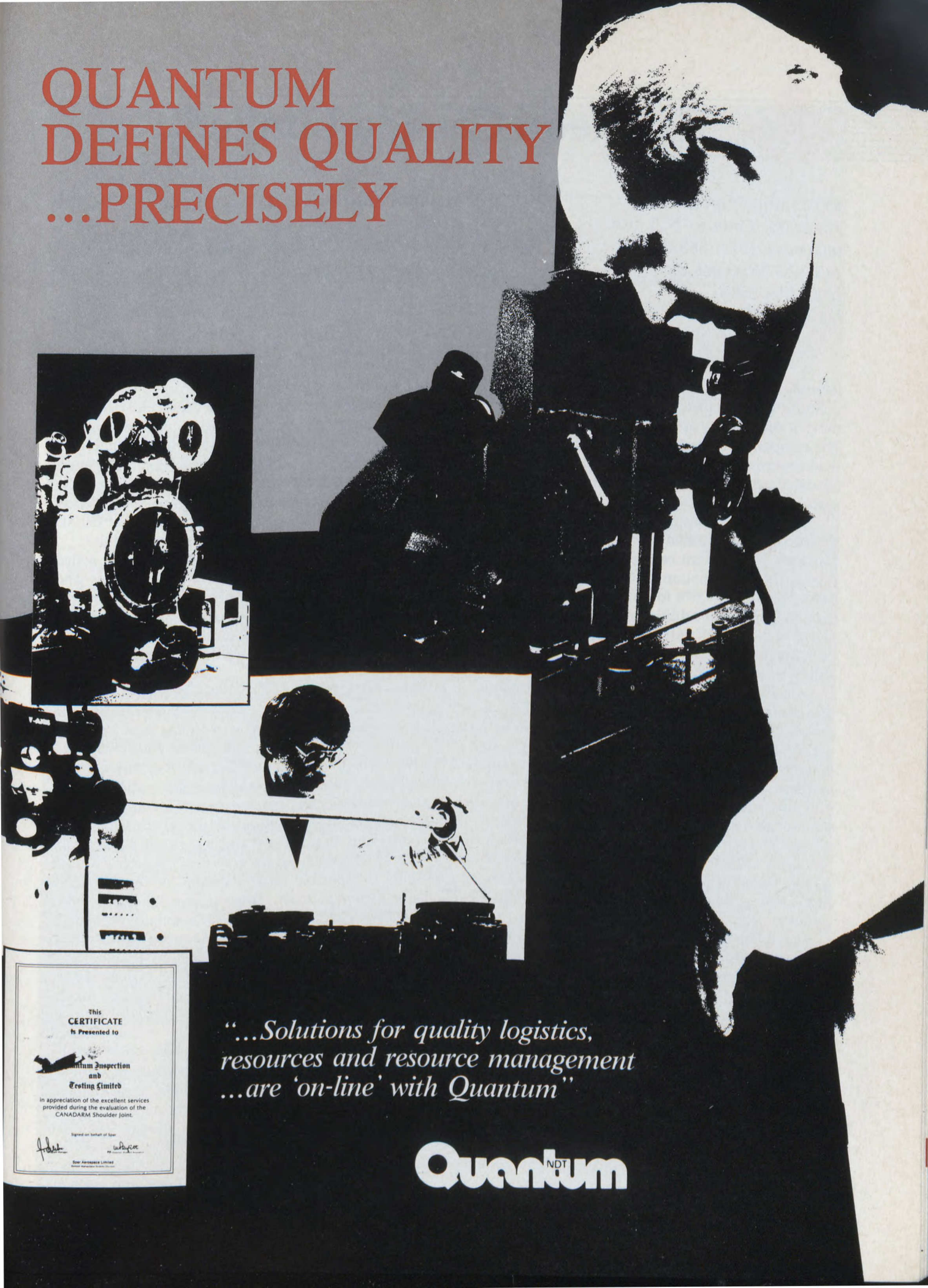
Welding/Fabrication/Consulting

- Procedures development/evaluation
- Specialized welding, machining and processing contract management and subcontracting
- Applications R & D
- Failure investigation

Product Development Services

Quantum participates in industry/government schemes for product development/improvement.

QUANTUM DEFINES QUALITY ...PRECISELY



This
CERTIFICATE
is Presented to
Quantum Inspection
and
Testing Limited
in appreciation of the excellent services provided during the evaluation of the CANADARM Shoulder Joint.
Signed on behalf of Spar
Spar Aerospace Limited

"...Solutions for quality logistics, resources and resource management ...are 'on-line' with Quantum"

Quantum NDT

Raytheon Canada Limited

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DIRECTOR OF MARKETING: Graham R. Beaumont
OTTAWA OFFICE/GOVERNMENT LIAISON: C. Gordon Kitchen

Raytheon Canada Limited designs, develops and manufactures complete air traffic control (ATC) systems, for civil and military applications, for the world market. The company is currently prime contractor to the Canadian government for radar site equipment in the Radar Modernization Project (RAMP), the largest ATC radar system update and expansion in the world.

The company was established in 1956 to undertake production and installation of AASR-1 ATC radars for Canada's Department of Transport in the creation of the world's first national civil ATC radar network. Between 1975 and 1978 four new ASR-803 radars were installed to provide additional coverage. The May, 1984 award of the RAMP radar contract again demonstrated the Canadian government's faith in Raytheon Canada's ability to implement large-scale programs.

As a complete ATC systems supplier, Raytheon Canada is equipped to take on assignments of national scope. The company's involvement can begin with the earliest technical evaluations and continue through to systems development and manufacture, integration of systems, installation, commissioning and complete support, including training, documentation, maintenance and spares supply.

In its role in the international marketplace, Raytheon Canada enjoys the full technical, managerial and financial support of its parent Raytheon Company, of Lexington, Massachusetts, U.S.A., a $7-billion corporation with more than 74,000 employees.

Raytheon Canada designs, develops and manufactures a broad range of ATC equipment, including: primary surveillance radars for terminal and enroute applications; ground controlled approach radar systems (mobile and fixed base); and, navigational aids including: VORs (VHF Omni-range) in conventional and Doppler configurations; and, DMEs (Distance Measuring Equipment).

In the field of ATC radars, Raytheon Canada's expertise has been recognized for the new RAMP solid-state radar for Canada which offers enhanced reliability and ease of maintenance, compared to previous generations of equipment, and is finding rapid acceptance in international markets.

The company's Waterloo, Ontario, location is a major advantage, giving it direct access to the University of Waterloo's Computer Sciences Department — one of the most highly regarded data processing schools in North America. The Waterloo region is also home base for centres of applied research in computer-aided design and computer-aided manufacturing, making the area a true high technology centre of excellence.

Raytheon Canada occupies approximately 130,000 square feet of office and manufacturing facilities.

The company employs more than 540 highly skilled engineers, program management professionals and manufacturing personnel. Current strategic plans call for Raytheon Canada to assume a major role in the world ATC systems market and to grow to more than 2,000 employees over the next eight years.

CAPABILITIES

With a total staff in excess of 500, Raytheon Canada's capabilities span the design, development and manufacture of a range of Primary and Precision Approach Radars, Communications equipment and related mil quality products. Current programs include: the design, manufacture and installation of 43 primary and secondary radar stations across Canada to upgrade the national Air Traffic Control system (the RAMP program). The manufacture and test of the Continuous Wave Illuminators and integration of the vertical launch NATO Seasparrow missile system for the Canadian Patrol Frigate program. Development of a fast-hopping frequency synthesizer, for secure satellite communications. The manufacture of RP16 microprocessors and a range of fixed and multi-volt power supplies for a number of Raytheon Defence contracts. Concept Study for an EHF Satellite Communications system for the Department of National Defence.

INTERESTS

The development and manufacture of Precision Approach Radars, Primary Radar equipment and integrated Air Traffic Control systems including Displays and Automation Systems. Digital signal processors for surveillance and fire control radars. Satellite Earth Stations and Communications equipment for military applications. Fast-hopping frequency synthesizers. Manufacturing of mil quality hardware and systems.

Rohde and Schwarz Canada Inc.

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GENERAL MANAGER: David Stephenson
DIR. GOVT. SYSTEMS: Lew Adkins

Rohde and Schwarz Canada, Inc. is a recognized Canadian leader in the fields of:

- Electronic Test and Measurement Instruments,
- Sound and TV Broadcast Systems,
- Radio Monitoring Systems,
- Radio Direction Finders, and
- Radio Communication Equipment.

Based in Kanata, Ontario in an 18,400 square foot plant, the Company is capable of undertaking engineering, design development, manufacturing and testing of products to satisfy customers' requirements. Particular emphasis is placed on systems solutions and customization of Rohde and Schwarz products to meet special purpose test equipment, and communications applications, as well as the capability to undertake engineering development and manufacturing of products related to direction finding and electronic support measures.

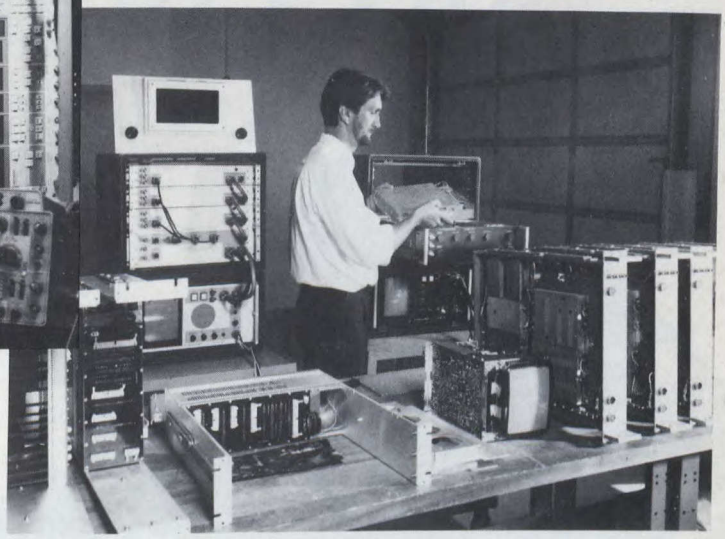
Rohde and Schwarz Canada is a member of the world-wide Rohde and Schwarz organization, giving it access to the technologies and marketing resources of all of the affiliated companies. Canadian offices are maintained in Kanata, Toronto (416-851-9508) and Montreal (514-689-7397) to provide sales and support of all Rohde and Schwarz products directed to the defence, communications, broadcasting and test and measurement markets.

In the field of direction finding systems, Rohde and Schwarz Canada has the world product mandate for the PA2000 Integrated Signal Intercept System. The PA2000 is a state-of-the-art signal interception and direction finding system which has been designed to detect and provide lines of bearing to frequency agile radios in the 2 — 512 MHZ range. Export orders have been received and the PA2000 will be marketed and supported by the world-wide Rohde and Schwarz marketing network.

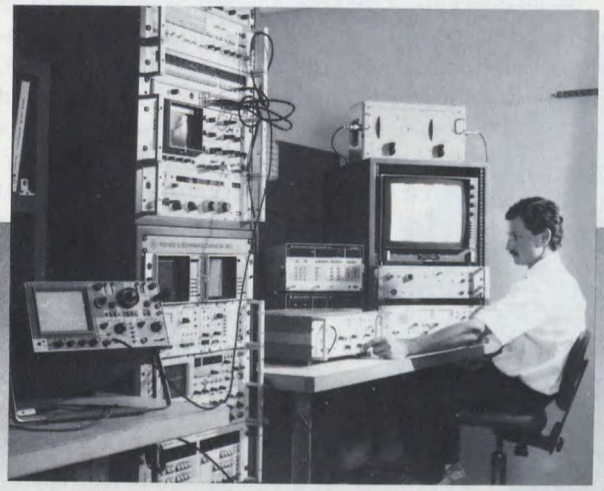
Rohde and Schwarz Canada also markets and supports the complete range of high quality Rohde and Schwarz radio communication equipment from large fixed station HF systems to mil standard UHF equipment for high performance aircraft. In the latter area, Rohde and Schwarz transceivers have been installed in such aircraft as the MRCA Tornado, Alpha Jet and some versions of the F4 Phantom. Recent upgrades for tactical aircraft have included retrofit of ECM resistant UHF radios with HAVE QUICK.

Rohde and Schwarz Canada can offer a comprehensive R&D capability in modern radio frequency intercept and direction finding processing. This R&D capability is backed up by a well-equipped production facility and by professional sales and service organizations.

◀ Service, repair and calibration are part of the Rohde & Schwarz quality assurance system. A senior technician conducts performance checks on an advanced communications test set.



▼ Sound and TV broadcast equipment are a major component in the worldwide Rohde & Schwarz organization. Here, a fully automated video monitoring system is put through its paces.



▲ Rohde & Schwarz Canada is charged with the world product mandate for the integrated PA2000 signal intercept and direction finding system which detects frequency agile radios in the 2 to 512 MHz range.

▲ These impressive engineering and production facilities of Rohde & Schwarz Canada are located in Kanata, Ontario. The company specializes in the design and manufacturing of electronic measuring, broadcast and communications equipment.

ROHDE&SCHWARZ

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VICE-PRESIDENT, MARKETING AND TECHNICAL SERVICES: T.D. Cribbes

Rolls-Royce (Canada) Limited is one of North America's most modern aero and industrial gas turbine engine repair and overhaul centres.

The company acquired its present location adjacent to Montreal's Dorval International Airport in 1952.

Rolls-Royce (Canada) employs more than 750 people. This team of dedicated specialists is engaged in engine and component manufacture, research and development, engine overhaul and component repair using advanced repair technologies and processes which required years of experience to develop and perfect.

Each year the company provides service for over 350 corporate, airline and military aero engines. It also offers support to operators of industrial engines used in oil pumping, gas transmission and electrical generation.

Since it was established, Rolls-Royce (Canada) has handled over 15,000 engines of all types.

Rolls-Royce (Canada) repairs and overhauls a wide variety of Rolls-Royce engines, including:
• Tay • Industrial RB211 • RB 211 • Industrial Spey • Dart • Industrial Avon • Spey • Nene • Viper

It also repairs and overhauls or completes component repair and manufacture for other makes of engines, including: General Electric CT64; Pratt and Whitney PT6; Wright R1820; Avco Lycoming AGT1500; TF41.

Rolls-Royce (Canada) offers many repair and overhaul packages, from full and partial engine overhauls to deep repair.

The repair of precision engine components is an integral part of the company's repair and overhaul services, but it is also offered as an independent service.

Comprehensive repair facilities enable Rolls-Royce (Canada) to rework and rejuvenate in-house 99 per cent of engine parts which need repairs. This ensures a high degree of quality control.

When an engine enters the plant, repair engineering teams thoroughly examine every part rejected during engine strip inspection. Instead of simply replacing a used part with a new one, they devise repair procedures which save customers money.

Rolls-Royce (Canada)'s engineers have developed over 5,000 repair applications. All these new ideas have been approved by the original equipment manufacturers and international airworthiness authorities.

Rolls-Royce (Canada) has a world product mandate for the design and manufacture of Rolls-Royce industrial engine fuel systems and lubrication consoles.

The Rolls-Royce (Canada) plant is complemented by a 65,000 square-foot warehouse which contains 80,000 parts for 14 different types of engines. To maintain a high degree of precision in parts management and to ensure that engine parts are returned to the same engine, Rolls-Royce (Canada) employs sophisticated in-plant management systems.

One such system, developed by Rolls-Royce (Canada), is Integrated Control, Production and Kitting (ICPAK). It's one of the most advanced systems of its kind in the world. This computer program contains all the repair schemes in the Rolls-Royce overhaul manuals as well as repair schemes developed by Rolls-Royce (Canada). Relative priorities are constantly adjusted for optimum queue dispatching at work stations to ensure a complete kit for engine rebuild on the scheduled date.

Rolls-Royce (Canada) is enhancing the system by introducing advanced computerized component tracking and identification using electronic bar coding for all engine components in its plant.

As part of its continuing efforts to offer customers the most up to date services available, the company has opened a fifth-test cell. This new $11-million test facility is capable of accommodating engines producing up to 100,000 pounds of thrust and engines with afterburner capability. It provides customers with the very latest engine diagnostic and trouble shooting technology.

The goal of Rolls-Royce (Canada) is to provide its customers with dependable engines which operate longer between overhauls. This approach, combined with outstanding customer support in the plant or in the field, decreases engine operating costs and has earned Rolls-Royce (Canada) a reputation in the industry for responsiveness to customer requirements.

The Leading Edge

Rolls-Royce (Canada) is recognized as an international leader in aero engine repair and overhaul. We provide customers with the leading edge in:

Service–Our goal is simply to provide customers with dependable engines. Engines which operate longer between overhauls. This commitment is backed by prompt customer support, in the field or at our plant.

Technology–Our plant is one of the most modern in North America. It includes a recently completed fifth test cell which can test engines producing up to 100,000 pounds of thrust. Facilities like these keep us out front in quality engine testing and superior diagnostic trouble shooting.

Experience–We've been in the business for 40 years. We've provided service for over 14,500 engines.

Quality–We're part of the worldwide Rolls-Royce group of companies. We offer top quality service for the Rolls-Royce Tay, Spey, Dart and RB211, and for many other types of engines.

Get the leading edge in engine repair and overhaul.

ROLLS-ROYCE (CANADA) LTD.
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Canada H4Y 1B7
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Telex: 05-821882

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CHAIRMAN & CEO: Larry D. Clarke
EXECUTIVE VICE-PRESIDENTS: John D. MacNaughton
Anthony L. Anderson

Spar Aerospace Limited is a Canadian shareholder-owned, advanced technology company. It employs more than 2,000 people, including approximately 600 engineers and technicians — one of the largest technological groups in the private sector in Canada. It serves the following aerospace markets:

SPACE

Satellites

The company is the principal supplier in Canada and a major international manufacturer of satellites and satellite subsystems for communications and surveillance markets.

Spar and its predecessor companies have contributed to the design and manufacture of over 80 satellites and subsystems, including the following Canadian and international satellites: Alouette I and II, ISIS-I and II, the CTS (Hermes), SBS, Palapa-B, Westar-IV, G-Star, Satcom, TDRSS, Inmarsat, Telecom II, and the Anik A, B and C series, as well as the prime contract for the Anik D1 and D2 satellites and the spacecraft level integration and test of the very large Olympus satellite in 1988 and 1989.

In 1986, Spar successfully completed a $160 million prime contract to provide two satellites and a related ground control system for EMBRATEL, the Brazilian government-owned telecommunications company. Brasilsat is similar to Anik D, the communications satellite currently serving Canada's needs, and has the capability to carry 22,000 two-way voice communications or 24 television channels. It is the first domestic communications satellite system in Latin America.

In 1986 the company signed a $200 million contract with Telesat Canada to supply two dual-band (24 C-band channels and 16 Ku-band channels) Anik E communications satellites, launch support services and associated equipment.

This next generation of Canadian-built satellites will be the most powerful in commercial service over North America when launched in 1990. The Anik E provides extended capacity and great versatility to meet the burgeoning demand of an increasingly deregulated telecommunications market.

Surveillance technology, on earth and in space, is emerging as an important new market. In 1984, Spar received a $14.4 million contract to design and develop radar-sensing technology for the new Radarsat satellite for the Department of Energy, Mines and Resources. This expertise will enable the company to penetrate markets in the 1990s for commercial and scientific surveillance systems capable of detecting and monitoring natural resources, shipping activities and environmental data.

Spar has completed the initial phase of a $14 million design and development contract from the Federal Government to meet the future requirements of a mobile communications satellite (MSAT) to improve voice and data transmission from vehicles, aircraft and ships in remote parts of Canada. This satellite system will be owned and operated by Telesat Mobile Inc., a subsidiary of Telesat Canada. In addition, Spar was awarded, in early 1987, a $10 million contract by the Department of National Defence (DND), to build transponders for the Search and Rescue Satellite-Allied Tracking (SARSAT) system. In another major project, Spar completed a $33 million contract from Hughes Aircraft Company of California to supply subsystems for five Intelsat VI satellites with options for 11 more.

Deployable Space Structures

Spar completed the development, integration and testing of the first set of solar arrays for the European Space Agency's powerful Olympus satellite in 1986. This $50 million program expanded the company's technical capability in large deployable space structures — a technology that will be needed for advanced space projects such as the U.S. Space Station.

Astro Aerospace Corporation, Spar's California-based subsidiary, is building the longest man-made structure ever to be erected in space — a 60-meter deployable, retractable tower which will be used aboard the shuttle to study the effects of vibrations and other stresses on large structures in orbit.

REMOTE MANIPULATION

Teleoperator Systems

Spar is a world leader in the design, development and manufacture of teleoperator systems, of which the

Remote Manipulator System (RMS) for NASA's space shuttle is the leading example.

In April, 1988 Spar was awarded a contract from NASA for the continuation of Shuttle Remote Manipulator System Program support up to December 1991 at a value of $6 million.

The next major step in Canadian participation in manned space flight was put in place in April, 1988 when the Canadian Government decided to proceed with the Canadian Space Station Program. Spar was designated the prime contractor and awarded a $31 million contract by the Department of Supply and Services on behalf of the National Research Council of Canada to complete the preliminary design of the Mobile Servicing System (MSS), Canada's contribution to the International Space Station. The MSS will play a significant role in the construction of the Space Station and will subsequently be used for servicing and maintenance work. The MSS design and definition work expands Spar's capabilities in robotics and artificial intelligence.

Under contract to TRW, Spar continues work on NASA's Orbital Maneuvering Vehicle (OMV). The OMV is an unmanned, remotely operated propulsion vehicle that extends the range of the space shuttle in positioning spacecraft.

Spar's expertise in space teleoperators, combined with the utilization of new technology, has allowed the company to broaden its product range and to develop new products and capabilities for space, nuclear and defence applications.

COMMUNICATIONS

Spar has completed more than 250 projects worldwide for satellite earth stations, subsystems and components.

Since 1984, the company has undertaken contracts valued at more than $35 million to provide earth stations and unassembled kits to the People's Republic of China for two major domestic satellite systems. These projects involve the training of Chinese engineers and technicians by Spar and the transfer of technology. Through these contracts Spar has become the leading supplier to the Chinese satellite communications industry.

During 1986-88, Spar supplied Intelsat standard A stations and upgrades to Zambia, Mozambique, Bangladesh and Liberia. The official inauguration ceremony for the $23.8 million Liberia A station is scheduled for 1989.

Spar is developing a family of low cost earth stations specially suited for rural telecommunications in developing countries. Most existing very small earth stations are designed to carry digital data, and a substantial increase in cost and complexity is incurred if voice is added. The Spar Low Cost Earth Terminal (LCET) is designed to carry both voice and data, resulting in considerable cost savings.

Spar's U.S. communications subsidiary COMTEL, completed shipment of Time Division Multiple Access (TDMA) systems to Indonesia and India. TDMA is a digital switching technology that improves the efficiency of private satellite networks by permitting several earth stations to share a common satellite channel. Data and voice signals are digitally separated within predetermined time slots.

Some of COMTEL's current customers include Dow Jones, Western Union, Italian National Railroads and NASA.

DEFENCE

Spar's Defence Systems Division is located in Toronto and Kanata. It is engaged in the field of tactical infrared surveillance from product development through manufacture to life cycle support for the Canadian and U.S. Armed Forces.

The Division develops and manufactures electro-optical products and provides its defence customers with comprehensive engineering and life cycle support.

In March 1986, the Toronto-based portion of the Division was moved into a custom electro-optical facility in Weston, Ontario. There it develops, assembles, tests and supports military electro-optical systems, primarily the Infrared Search and Target Designation system, which is under development for the U.S. and Canadian navies. The $135 million project is the largest defence-development sharing contract to be awarded between Canada and the U.S.

An infrared system for battlefield surveillance has been developed in the company's Kanata facility and is being produced under contract to DND.

The tactical infrared surveillance family of products has been broadened by the manufacture, under licence from Martin Marietta, of the Forward Looking Infrared (FLIR) system for the Air Defence Anti-Tank System (ADATS™). This is an element of a major contract to supply Low Level Air Defence (LLAD) systems to the Canadian Forces.

Also, a FLIR system developed by Spar has undergone flight trials on a Canadian Forces CP-140 Maritime Patrol aircraft.

AVIATION

Gear and Transmission Manufacturing

Located in Toronto, the Gears and Transmissions Division specializes in the manufacture, assembly and test of precision geared products and transmissions for the civilian and military aerospace industry.

Services

In 1986, Aviation Services Division began a new program worth up to $1 million annually for the repair and overhaul of a number of components for the NATO E3A AWACS, an aircraft that carries out long-range radar surveillance. The initial contract is for a period of five years and is expected to continue for up to 20 years.

The division is developing new business in Thailand and Singapore for the overhaul of fixed-wing aircraft and helicopter components, and has begun repair work on the CF-18 variable speed constant frequency generator.

SPAR

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DIRECTOR ENGINEERING: R.T. Davies

Standard Aero is a division of Avcorp Industries with head offices and overhaul facilities located adjacent to the Winnipeg International Airport. The company's 800 employees, repair and overhaul turbine aircraft engines and accessories.

A network of strategically located service centres is being developed in both the U.S. and Canada to provide engine servicing and field repairs between overhauls. Regional service centres are in operation at Vancouver, Winnipeg, Montreal, Charlotte, Dallas and Los Angeles.

In Europe, the company's London, U.K. facility has been appointed by Allison Gas Turbine Division as a European Distributor and Direct Service Dealer for the T56/501 series of gas turbine engines. This includes the T56-A15, -A15LFE, 501D22A and the 501K series of industrial and marine engines.

An international branch in Seattle exports parts and overhaul services to seven continents. Foreign commercial and military customers rely on Standard Aero to supply them with specialized parts from over 2,000 manufacturers.

Standard Aero entered the turbine engine field in 1960 with the overhaul of the Allison T56 engine in the Canadian Armed Forces C-130 Hercules aircraft. Since that time, Standard Aero has expanded its turbine engine overhaul capabilities to include:

- Allison T63/250 series — all models of turboshaft engines
- Allison T56/501 series turboprop engines
- Allison 501 series industrial engines
- Textron Lycoming T53/T55 series turboshaft engines
- General Electric T58 series turboshaft engines
- Pratt & Whitney Canada PT6A series turboprop engines
- Sunstrand/Turbomach APU's

Complete hot section work on PT6A series engines is provided at regional service centres in Dallas and Charlotte. Full overhauls up to the -41/42 series are done in Winnipeg.

The company also overhauls all related fuel, oil, pneumatic and electrical systems as well as a wide range of airframe components such as wheels, brakes, actuators, valves and hydraulic components. Most units are stocked for immediate delivery on an exchange basis.

A critical element in Standard Aero's policy of reducing customer costs is the ability to rework engine component parts. To facilitate this, a rework product line was established which encompasses a wide range of machinery, welding, coating, processing and metal spray capabilities. This centre is dedicated to the concept of cost reduction by repair and carries all internationally recognized approvals.

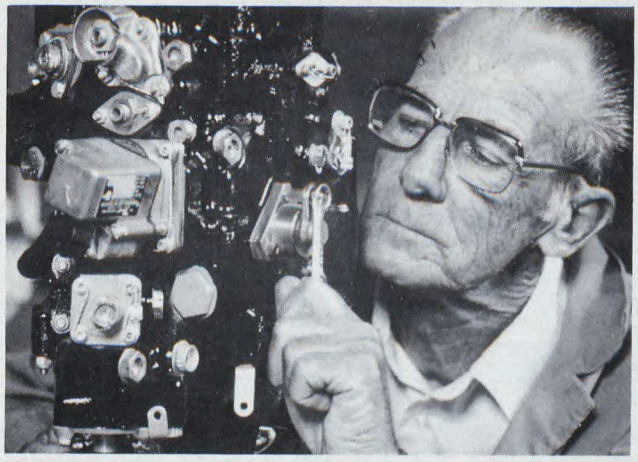
Field service engineers are on call, 24 hours a day, seven days a week, to provide trouble-shooting and maintenance service at any location. At Winnipeg, a "hospital shop" provides fast turnaround, field-type repairs at usually a lower cost than on-site service. To assist operators in avoiding costly downtime, a large inventory of turbine engines are available for exchange or rental.

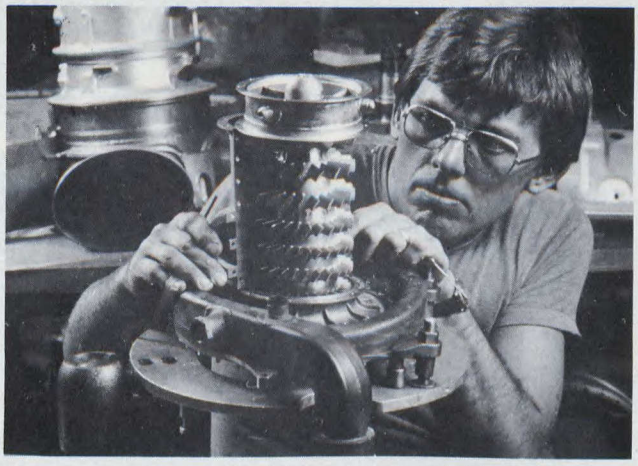
Standard Aero operates under Canadian Department of Transport approval no. 22-58. FAA approval is automatic because of Canadian/American bilateral agreement ETT-1583. They also hold NATO's highest standard of approval, AQAP-1, the equivalent of MIL-Q-9858.

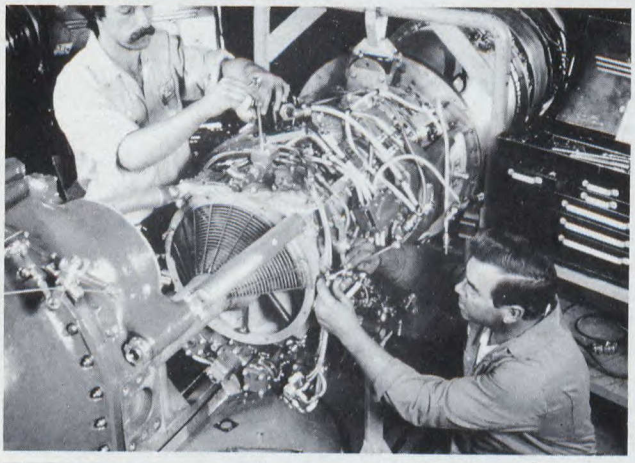
As part of a continuing effort of offer the best service available to their customers, Standard Aero has appointed a number of Authorized Service Centres throughout the world.

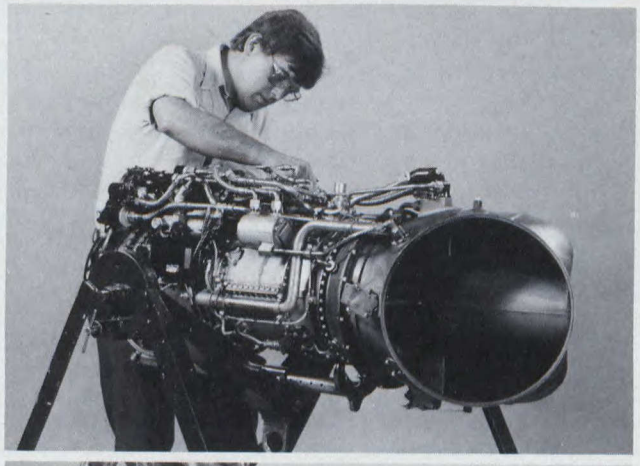
Locations:
Canada — Vancouver — Winnipeg — Montreal
U.S. — Charlotte — Dallas — Los Angeles
International — Seattle — London, U.K.

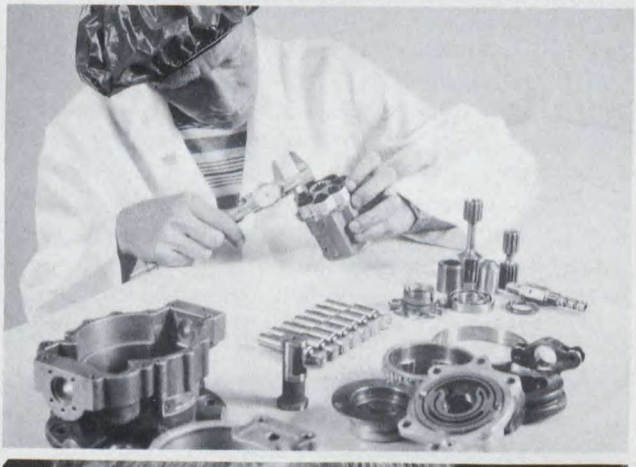
STANDARD AERO

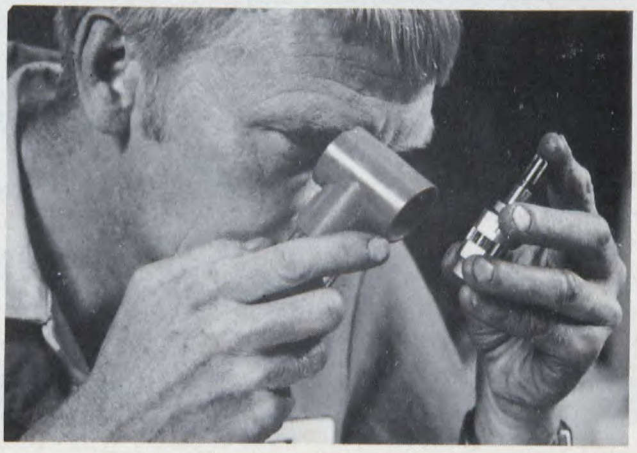












Thomson-CSF Systems Canada Inc.

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Glenn Allen
DIRECTOR, MARKETING AND SALES:
Frank T. Gilmore

Thomson-CSF Systems Canada Incorporated (TCSC) is a Systems Management company incorporated in 1984 with principal offices in Ottawa. It was established to meet the needs of Canadian, North American and world markets for the management of complex programs and the delivery of technologically sophisticated systems together with their integrated logistics support.

The company's primary area of expertise is focused in defence systems and programs. It is knowledge intensive, employing a multi-disciplinary team of systems engineers and managers with extensive know-how and experience in the analysis, design, life cycle optimization, integration and support of complex military systems and in the management of defence programs.

TCSC presently operates out of a 20,000 square foot secure facility and is equipped with an approved TEMPEST room housing equipment assigned to classified projects. Its operations are highly automated with a Micro-VAX Computer and Apollo and IBM work-stations to support the engineering, managerial and administrative work. The Company has extensive knowledge, experience and capabilities, and undertakes project work in the following areas:

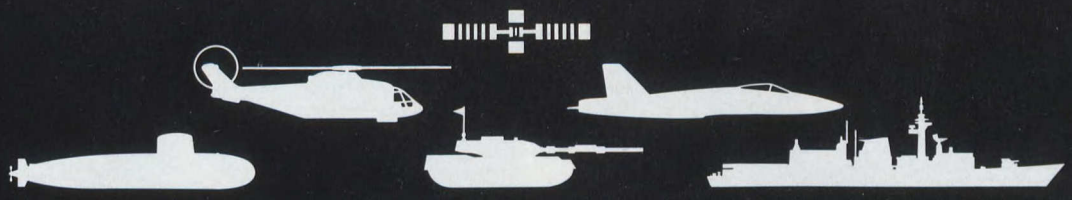
- Project Management
- System Analysis, Simulation and Modelling
- Systems Design and Optimization
- Systems Integration
- Software Development (Mission, Support & Tools)
- Integrated Logistics Support

The systems orientation of the company provides it with a unique ability to encompass the total scope in engineering a complete weapon system structure and in managing a complex defence project together with its management risks. TCSC has the sophisticated tools and engages in the development of the implementation plans (WBS, activity and milestone schedules, responsibility matrices, financial, contingency, support, training, etc.), in performance and progress measurement, risk and impact analysis, the establishment of project control structures and procedures, and the coordination and control of project activities.

The company also provides advanced computer simulations utilizing TACSIT (Tactical Situation Simulator), modelling tools and engineering analysis capabilities, to evaluated performance at the system or sub-system level.

TCSC's Integrated Logistics Support Division provides a full range of ILS services to support in-house programs and outside customers. These include ILS program management, LSA/LSAR, maintenance management, provisioning management, spares requirements, training and logistics consulting. The division uses a number of licensed and proprietary software tools including ILSA to conduct the LSAR process, CORIDA to optimize the replenishment and stockage requirement, and PPCM to define the maintenance requirements for personnel and support equipment. These tools enable the ILS engineering staff to provide professional logistics support within the framework of MIL-STD-1388 1A and 2A.

With a staff of about 45 people, of which 80% are professional systems engineers, the company is engaged in contract work with the Department of National Defence and other industries related to the combat systems of the Canadian Patrol Frigate, NAAWS, Canadian Submarine Acquisition Project, Space-Based Radar, TCCCS, and the NRMP. TCSC's assumption of contractual responsibilities in these and many other projects continues to add to the track record and reputation of this fast-growing systems company.



SYSTEMS MANAGEMENT
SYSTEMS DESIGN
SYSTEMS SIMULATION
SYSTEMS ENGINEERING
SYSTEMS INTEGRATION
SYSTEMS LOGISTICS PLANNING
SYSTEMS IMPLEMENTATION

Get the message?

From beginning to end we are systems specialists. We deliver systems meeting complex defence requirements. Consider this sampling of our current programs:

- TCCCS FDS Data Management System
- Battlefield Mine Breaching System
- NATO Anti-Air Warfare System
- Space Based Radar
- Threat Evaluation Weapons Assignment
- Aurora Equipment Update Program

Now consider what we can do for you.

TEL (613) 723-7000 TLX 053-3796 FAX (613) 723-5600

THOMSON-CSF SYSTEMS CANADA

Total Systems Management

Treco Machine & Tool Ltd.

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PRESIDENT: F. Treml
VICE PRESIDENT: L. Treml
ENGINEERING & SALES: B. Lodge
PLANT MANAGER: G. Alex

Founded in 1957, Treco Machine & Tool Ltd. has come to be recognized as a leading manufacturer of high precision components and assemblies.

Serving the aircraft/aerospace, computer, nuclear and communications industries, Treco specializes in contracts that demand an optimum level of precision with particular emphasis on small to medium size components. Climate-controlled production facilities in excess of 40,000 sq. ft. with approximately 150 machining stations enable Treco to manufacture a wide array of high precision components.

Comprehensive capabilities encompass CNC machining, production milling, drilling and tapping, turning, boring and grinding. With an extensive array of CNC machining centers Treco is able to produce a wide variety of high precision parts, including components that have intricate and complex geometric shapes. As well, Treco's turning capabilities are unsurpassed by any industry standard — even when working with difficult to machine aerospace alloys.

A large engineering staff of process planners, tooling engineers and CNC programmers provide the necessary support for complex machining procedures. Treco also has a metallurgical engineer on staff to oversee materials and special processes such as heat treating and plating. As well, sales personnel consisting solely of senior engineers enables Treco to respond to customers' technical inquiries knowledgeably and without loss of time.

As a manufacturer of precision components and assemblies, Treco devotes much of its efforts to grinding operations in order to achieve high surface finish requirements to close tolerances. They are well equipped to grind components of every shape — whether the surfaces are flat, cylindrical or in profile. Utilizing rotary diamond form rolls, their high volume production grinding features tolerances to within .0001".

Treco's in-house tooling facilities provide the necessary support for the entire operation. After they engineer the most efficient manufacturing method, they design and build the tools, dies, jigs, fixtures and gauges required.

Auxiliary operations include stamping, induction hardening, honing and ultrasonic welding and cleaning.

Treco is a Military Approved Vendor with an established quality control program approved to the following standards:
MIL-I-45208 (with intent to comply to MIL-Q-9858), DND 1016, AQAP 4, and CSA Z 299-3.

Treco carries out inspections throughout the manufacturing process and use SPC in all production areas. Their computerized SPC analyzers provide "objective evidence" that components are manufactured within tolerance limits — and this statistical data is available to customers for verification.

Located in Metropolitan Toronto, Treco has a broad customer base spanning Canada, the U.S.A. and Europe.

1.

2.

1. Computer Assisted Programming is performed in-house.
2. With particular expertise in small-to-medium size components, our facilities incorporate manual, automatic and CNC turning equipment.
3. Our involvement in the aerospace industry revolves around precision components for aircraft engines, landing gear and guidance systems.

Treco
Machine & Tool Ltd.

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Scarborough, Ontario
Canada M1R 3C1

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Fax (416) 751-8713

3.

High Precision Machining

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TELEX: 069-56593

PRESIDENT: Paul R. MacPherson
CHIEF ENGINEER: Donald E. Brandi
CONTRACTS MANAGER: William B. Burtenshaw

Valcom Ltd., a Canadian company founded in 1957, custom designs, manufactures and markets electronic communication systems and components. By attracting skilled radio frequency (RF), digital and software engineers, Valcom has developed the expertise to compete successfully in both the military and commercial segments of the international marketplace.

In 1972 Valcom extended its services to include a repair and overhaul facility to refurbish land tactical and shipboard communications equipment for the Canadian Department of National Defence (DND). This facility was expanded in 1980 with the signing of a contract with Atmospheric Environment Service of Canada (AES) to overhaul meteorological test equipment and sensors.

Valcom's diversification into areas which utilize the firm's assembly and engineering skills continued in 1982 when it became the Canadian licensee for Radiosonde Meteorological instruments.

Systems Engineering
Valcom's management believes that the firm's distinctive competence lies in its ability to design complex equipment that will withstand the rigors of military use for many years.

As an example, Valcom's engineers have designed one and 10-kilowatt HF coupler systems which, in combination with Valcom's whip antennas, interface efficiently with various transmitters. Valcom's 1 KW coupler system is fully automatic. It operates in the two to 30 MHz frequency range and features a non volatile amorphous memory. A military configuration of this system is now in service with the Canadian Navy. Valcom's 10 KW coupler is designed for high power transmission applications such as maritime control and ground to air stations. This system, when interfaced with a 10 KW transmitter and Valcom's 54 foot (16.5 m) whip antenna, can be controlled manually or automatically. This is the only HF automatic coupler designed to handle output power to 10 KW. Seven of these systems have been in operation in Canada since 1978, and four systems are in use in the United States and Indonesia.

Repair and Overhaul
Valcom's technicians have through ongoing training programs, developed the ability to service LF, MF, HF and VHF couplers, coupler control units, transmitter receivers and a variety of other military equipment.

Quality Control
Valcom's quality assurance plan meets the policies and procedures of AQAP-1 specifications and US military standard MIL-Q-9858A. To ensure that the high quality standards set by customers and management are consistently achieved the quality assurance staff and the engineering department determine product quality and design and implement inspection plans.

Manufacturing
Fibreglass Manufacturing Division
In 1964 Valcom's management recognized the demand from organizations throughout the world for durable, lightweight antennas for transmitting/receiving applications and developed a line of fibreglass whip antennas which ensure mechanical strength and electrical stability in even the most severe operating conditions.

Available in sizes ranging from 29 to 85 ft. (8.8 to 26 m) these antennas operate in the 100 KHz - 30 MHz range. Having produced over 5,000 whips, Valcom has become the world's leading manufacturer of high quality MF, HF, and VHF fibreglass whip antennas. The company's expertise in antenna design and manufacture has resulted in its 35 ft. (10.6 m) AS2537C/SR whip receiving MIL-A-24319B (EC) approval from the United States Navy. The U.S. Coast Guard, and the U.S., Spanish, Greek, Australian, South Korean, Italian, Belgian, British and Canadian Navies, and many commercial organizations specify Valcom's free standing antennas for ground-to-air, ship-to-shore, and ship-to-ship applications.

Electronics Assembly Division
Valcom's electronics assembly personnel built the company's one and 10 KW coupler systems and are skilled in building a wide range of electro-mechanical and avionics equipment to customer's print.

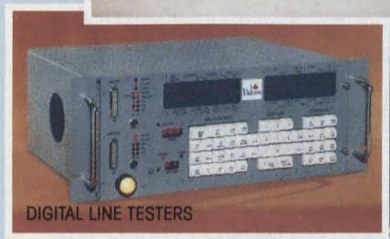
Metal Fabricating and Production Machine Shop Division
Valcom's machine shop staff produce metal subassemblies on a custom basis. With a fully equipped machine shop and knowledgeable personnel, Valcom services customers whose production requirements range from several units to thousands of pieces.

LAND SEA & AIR COMMUNICATIONS EQUIPMENT


DIRECTIONAL FINDING ANTENNAS

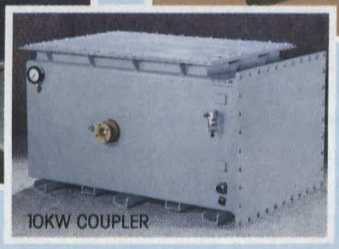

HF RECEIVERS


1-10KW COUPLER CONTROLLER


DIGITAL LINE TESTERS


V-GUARD VHF-FM RADIO SYSTEM

AS-2537C/SR 35-FOOT FIBREGLASS WHIP ANTENNAS
NATO STOCK NUMBER 5985-01-191-0217


10KW COUPLER

Valcom is a privately-owned Canadian company specializing in the engineering and production of communications equipment and systems, particularly fibreglass whip antennas, coupler systems and tactical radio sets.

With its experienced RF, digital and software engineers, Valcom has entered the MF and HF jamming field using its antenna coupler systems.

The company is recognized by the Canadian Department of National Defence and NATO countries both as a supplier of communications systems hardware and software and as a repair and overhaul facility.

LF, MF, HF and VHF fibreglass whip antennas, 1 to 10KW antenna coupler systems, HF and VHF radios, UHF antennas, wiring harnesses and digital line testers are Valcom's chief product lines. Services include the design, engineering and manufacturing of custom electronic and electromechanical communication equipment and systems, custom software design, and engineering studies for ground and sea communications equipment.

Valcom operates from its newly-equipped, 60,000 square foot, modern manufacturing and engineering facility. On-going research and development is conducted into developing 1 to 10KW high speed microprocessor-controlled antenna coupler systems, serial data line analyzers/generators and test equipment.

Valcom LTD

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© Valcom... leader in electronic communications systems

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PRESIDENT & G.M.: Richard A. Neill
DIRECTOR, SALES & MARKETING: David C. Hughes

Walbar Canada Inc. has been meeting the critical demands of the Jet Engine and Gas Turbine Industry since 1962 with precision machined compressor blades and vanes, turbine blades, vanes and nozzle segments.

Located in the heart of Industrial Canada, Walbar employs 720 people in its four state-of-the-art plants. Plant 1 and 3 manufacture Turbine Blades and Nozzle Segments from investment castings.

Plant 2 specializing in Electro Chemical Machining of Compressor Blades and Vanes.

The Turbo Tool Plant gives Walbar a unique in-house capability to custom engineer, design and manufacture the myriad of specialized tools, fixture and gauges needed to produce the wide array of precision Walbar products.

Walbar Canada has the capability to use exact Customer data in the CATIA CAD/CAM System along with Diffraction Laser Inspection to verify total conformance to customer specifications and ensure quality.

Walbar offers precision interface between design and delivery. The total capability supplier dedicated to delivering quality and customer satisfaction.

Walbar possesses the technical expertise in a variety of specialized machining and processing operations such as C.N.C. Five Axis Machining, C.N.C. Twin and Single Wheel reciprocating or creep feed grinding employing Cemented Diamond Particle (CDP) Dressers, Electro Chemical Machining (ECM) and Diffusion Coating and Electric Discharge Machining (EDM) to produce tiny airfoil cooling holes for the most advanced turbine cooling schemes.

These specialized machining and processing operations backed by a complete range of supporting equipment ensures precision manufacturing and vertification of components in this rapidly progressing industry.

Quality Assurance depends on quality consciousness every step of the way and Walbar's total Quality Assurance Program involves constant checking against customer specifications from design to final production. The Walbar developed Transducer inspection system checks up to 24 blade characteristics simultaneously. Each part is uniquely identified from raw material to completed product and subjected to a vast array of sophisticated inspection techniques — 50 in all — to absolutely ensure the integrity of every part that leaves their plants.

In 1985, Walbar was acquired by Colt Industries Inc. thus providing a solid financial and management foundation for confident growth into the future with the aerospace industries they serve.

As aircraft engines have become increasingly more sophisticated, Walbar has kept pace with technological innovations, unique tooling, processing and expanded facilities that have maintained the Company's position at the leading edge of a dynamic industry.

Walbar's unique teaming of highly qualified human resources and advanced technology places the Company at the forefront of a rapidly evolving industry. A policy of continuous investment in state-of-the-art equipment and systems ensures Walbar Canada will continue to provide the precision products so vital to the industry.

International Markets represent 67% of Walbar's total sales. Exporting compressor and turbine blades, vanes and nozzle segments for RB199, CFM56, GE36, Gnome, F404, AGT 1500, SSME, T64, TFE731, T58, TFE 1042, J85 and ATF 3 engine programs to Germany, France, Belgium, United Kingdom, Italy and the U.S.A.

Domestically, Walbar's compressor and turbine blades and vanes are supplied for the PT6, PW100 and JT15D engine programs.

CAPABILITIES

FACILITIES

PRODUCTS

CATIA CAD/CAM SYSTEM:

A capability to use exact customer data that governs every phase of the manufacturing process.

DIFFRACTO CMM:

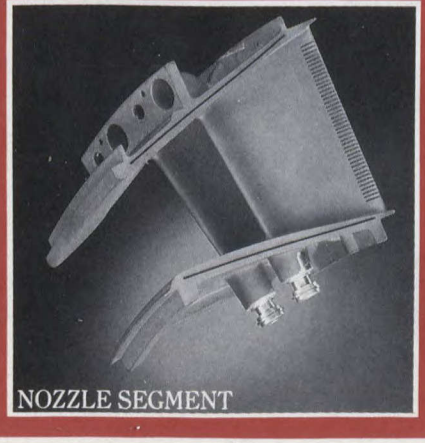
A diffraction laser inspection system that verifies total conformance to customer specifications.

LK CMM:

A 4 Axis Touch Probe Programmable Measuring System for checking airfoils as well as gauges, masters and fixtures.

CNC EX-CELL-O GRINDER:

Turbine Blade root form and side grinding.



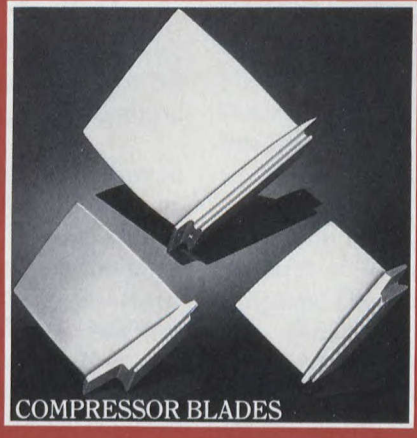
NOZZLE SEGMENT

ELECTRO CHEMICAL MACHINING: (ECM)

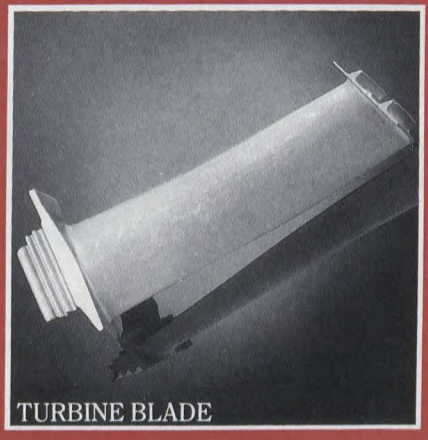
An ECM finished airfoil on compressor blades and vanes does not need further machining.

VERTICAL BROACH:

Machining root forms on blades and inner and outer shrouds on vanes.



COMPRESSOR BLADES



TURBINE BLADE

CNC ELECTRIC DISCHARGE MACHINING (EDM):

Produces tiny airfoil cooling holes for the most advanced turbine cooling schemes.

CNC 5 AXIS BOSTOMATIC:

Machining complex shapes and compound angles using five axes simultaneously on blisks and impellers.

CNC LATHE:

Machining radial inner and outer shrouds of vane sets.

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Canada's Aerospace Industry

Canada has the world's second largest fleet of civil aircraft, was the first country to develop a domestic satellite communications system, pioneered short take-off and landing (STOL) airplanes, and is an acknowledged leader in the design and production of long-range airborne navigation equipment and flight training simulators. Sixty-five percent of the world's turboprop general aviation aircraft are powered by Canadian designed, developed, and produced engines.

Canada's era of powered flight started in 1909 with the short distance covered by John McCurdy's 'Silver Dart'. Since that day the country's aerospace industry has grown to become one of the major such industries in the world, approaching $6 billion annually in sales.

Over the past twenty-five years aerospace sector sales alone have accounted for over forty percent of total defence trade exports.

Canada is an excellent source of supply for defence requirements because of its international reputation for high quality products and equipment, manufactured to exacting standards.

Defence Programs and Advanced Technology Bureau

The principal function of the Defence Programs and Advanced Technology Bureau of External Affairs is the promotion and expansion of exports of Canadian defence and other related high technology products, many of which are civilian items. The Bureau has four divisions: Aerospace, Marine and Defence Products Division (TDA); Information Technologies and Electronics Division (TDE); Defence Programs Division (TDP); and Science and Technology Division (TDS).

The Aerospace, Marine, and Defence Products Division (TDA) has the major responsibility to seek international marketing opportunities for major defence and civilian products. Information Technologies and Electronics Division (TDE) provides marketing advice and guidance for the informatics and telecommunications industries. Defence Programs Division (TDP) combines defence marketing activities related to the United States, and the management of formal government-to-government defence relationships. The Science and Technology Division (TDS) is responsible for all matters pertaining to Science and Technology including attracting new technologies to Canada, liaison with educational institutions, bilateral science and technology agreements, and formulating the department's policy on this important subject.

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The aerospace industry naturally has its strongest ties to the Aerospace, Marine and Defence Products Division of the department as well as the Defence Programs Division. These two divisions provide the most direct links for the Canadian producer and exporter to the international marketplace, offshore in the case of TDA and to the United States for which TDP has prime responsibility.

Specific objectives of these External Affairs marketing divisions are:

1. to identify defence and civilian high technology export opportunities and advise Canadian industry about the characteristics of the targeted markets, to suggest ways to exploit opportunities and to identify those special characteristics which can either enhance or harm a company's chances in the bureaucratic hurdles encountered.
2. to establish and manage Canadian participation in bilateral and multilateral cooperative defence and

defence related trading agreements, including the Canada/U.S. Defence Development and Production Sharing Arrangement.

3. to maintain access to foreign markets through liaison and negotiations to remove impediments to trade with these foreign governments, and,

4. to actively promote the export of Canadian defence related products by working with Canadian government posts abroad and conducting seminars and trade shows as well as by leading trade missions overseas, organizing and accompanying incoming buyers missions.

The Canadian aerospace community supplies to our own government a myriad number of products and services for defence, civil aviation, and other related sectors. In providing the government with its needs, many separate departments are involved. The Aerospace, Marine and Defence Products Division often is the External Affairs representative on these inter-departmental negotiations and meetings with Industry, Science and Technology Canada, Department of National Defence, Communications, and others. This division also provides input for marketing on the DIPP program, approves proposals under the PEMD program, and coordinates the loan of DND personnel and materiel for industry marketing plans.

Services Abroad

There are over 800 Trade Commissioners and locally-engaged Commercial Officers located in over 80 countries abroad. The primary responsibility of these individuals is to assist Canadian companies to start or expand export sales in their respective markets. For companies in the Aerospace sector, the main point of contact for government assistance in marketing is the Aerospace, Marine and Defence Products Division which is in constant contact with the trade posts.

External Affairs works in conjunction with the Aerospace sector to promote the common goal of increased Canadian exports.