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**RESTRUCTURING IN THE  
NORTH AMERICAN AUTOMOTIVE INDUSTRY**

**July 1989**

**Canada** 

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NORTH AMERICAN AUTOMOTIVE INDUSTRY**

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# RESTRUCTURING IN THE NORTH AMERICAN AUTOMOTIVE INDUSTRY

## 1. Introduction

The following background study is an update of an earlier report which attempted to assess the rapidly changing North American capacity situation. This update again provides a general analysis, as well as an examination of the supply/demand factors affecting each Canadian assembly plant. Underlying the study are the latest available sales estimates (second quarter 1989) and certain assumptions which are made about import and export levels. Since any one of these factors can change in the future, and could lead to different conclusions, it is recognized that the study paints a picture at one point in time only. It should consequently be taken as an indicator, rather than a definitive forecast of the future of any Canadian plant.

A number of other studies have assessed the factors described above, including the report of the Automotive Industry Human Resources Task Force to Employment and Immigration Canada entitled Why People Count, the DRI-J.D. Power North American Automotive Outlook, and Excess Automotive Capacity by Autofacts Inc. The first two studies were completed prior to 1987 and do not include the impact of several subsequent plant closures. The 1988 Autofacts paper recognizes these capacity adjustments, but like the earlier papers, does not include capacity reductions which result from annual plant shutdowns for model and product changes, or make adjustments for changes in production capacity in the short term (see Section 3 for a discussion of methodology). The following analysis takes these factors into account, and consequently presents a more moderate view of future adjustment which may occur within the industry.

## 2. Industry Adjustment

Continuing slow growth in total North American demand for light vehicles (passenger cars and light trucks), combined with expansion of production capacity, indicates that the restructuring experienced by the industry during the past decade will continue over the medium term. In addition to these factors, overcapacity in foreign assemblers' own countries will continue to promote exports to the relatively open North American market.

The industry has already undergone major restructuring; of the 50 passenger car assembly plants operated by G.M., Ford, Chrysler and American Motors in 1980 14, have been closed, four automotive assembly plants were converted to production of light trucks and six new plants were opened. Volkswagen also closed its plant at Westmoreland, Pennsylvania in 1988 (see Table I, p.2). The majority of the remaining passenger car assembly plants have been refurbished to accommodate new models which has substantially improved their productivity. All Big Three light truck plants, which now total 27, have remained in production.

Although Canadian plants comprise 16 percent of total North American Big Three capacity, no Canadian operations have yet been closed. Canadian capacity has actually

Motor's facilities in Oshawa.

Another facet of the North American market's current situation is the sharp distinction between the performance of the passenger car and light truck (including vans) segments. Between 1983 and 1988 light truck production in North America increased by 81 percent while passenger car production expanded significantly more slowly with 27 percent production growth. This situation is reflected in the plant conversions described above, and the very high rates of capacity utilization at light truck assembly plants (see Appendix IV). In spite of these conversions, there has been a generally lower level of investment in this segment by the Big Three than has been the case with passenger car plants, probably because of a relatively low level of import competition. Where off-shore competition has been a factor the industry has responded with new product offerings which have been very successful.

TABLE 1

BIG THREE RESTRUCTURING 1980-1988  
Passenger Car Assembly Plants

Assembler	G.M.	FORD	CHRYSLER	TOTAL
Plants in 1980	29	14	7	50
Openings	3	0	3	6
Acquisitions			2	2
Closures	(8)	(3)	(3)	(14)
Conversions*	(1)	(1)	(2)	(4)
-----				
Plants in 1989	23	10	7	40
-----				

\* Conversion from passenger car to truck assembly

## 2. Company Adjustment - Passenger Car Assembly Plants

There have been significant differences in the timing and degree of each of the Big Three's responses to overcapacity and changing demand. In reaction to severe financial pressure Ford and Chrysler closed six of their total 21 plants between 1980 and 1983; these assemblers operated their North American car assembly plants at 117 percent and 82 percent of capacity in model year 1988. During this period Chrysler was attempting to fully integrate the assets of American Motors into its operations, which it purchased in 1987. The company made a major step toward rationalizing its capacity with the closure of two former American Motors production lines at Kenosha, Wisconsin in 1988. Although some Ford and Chrysler plants are now operating at less than full capacity, both companies are currently scheduling significant amounts of overtime at many others in order to meet demand.

In contrast, General Motors did not reduce its total production capacity until 1987-88 when it closed five of its 31 assembly plants, all in the U.S. (two plants had been added to total capacity after 1980). The company operated its passenger car assembly plants at only 80 percent of capacity in 1988, and its market share has declined from 45 percent to 36 percent of the total North American new vehicle market. General Motors also finds it necessary to schedule overtime at specific plants which are producing fast selling models. Overall, however, the company is under the greatest pressure of the Big Three to either increase sales substantially or rationalize its product lines and make further reductions in capacity.

### 3. Future Adjustment

In attempting to assess the potential for further adjustment in the North American automotive assembly industry it is necessary to define more precisely what is meant by capacity. While the engineering concept of capacity refers to the maximum volume that can be derived from a given facility when all appropriate inputs are used, it ignores constraints that are placed on production in the short run by the specifics of any particular production line set-up. Any set-up is designed to minimize costs at the desired rate of production, and in so doing, imposes restrictions on the potential range output. Once the line has been set for a particular model year, increases or decreases in production can be achieved through overtime, or conversely, through temporary plant shutdowns. Significant changes in line rate, or removal of production bottlenecks, usually occur only at model or model year change-over. The announced line rate times the number of daily shifts and the number of hours worked (year-round straight time excluding vacation and holidays (1920)), is consequently used in this study as an approximation of capacity.

$$\text{Capacity} = \text{Line rate} \times \text{Shifts} \times 1920$$

The North American capacity for light vehicle assembly has been estimated as the sum of the capacities of production facilities in the United States and Canada; production from three assembly lines which have been established by the Big Three in Mexico with the intention of exporting most of their production to the U.S. have also been included.

Although this economic definition of capacity conveys constraints facing manufacturers in adjusting production, it does not take into consideration the extensive down-time which will result from future model and model year change-overs. Information on such temporary production stoppages is conjectural in the medium term and has not been included in this analysis. This factor is particularly relevant for passenger car production which experiences more frequent model changes, as well as more substantial annual

model year changes than is the case for light truck production. In 1988, for example, Canadian plants were down approximately 9 percent of available production weeks for model changeover or related reasons. This is significantly less than in 1987 when all three Canadian G.M. passenger car plants, as well as the Ford Oakville plant, were down for extended periods. As a result of down-time for plant closures not being included in this study, aggregate capacity totals, particularly for passenger car production, should be regarded as being inflated by approximately 10 percent.

#### 4.1 Current Capacity

Total North American light vehicle assembly capacity for the 1988 model year was estimated to be 13.6 million units and is expected to increase to 15.6 million units (15 percent) by 1992 as the transplant operations move toward full capacity utilization (see Appendix II). These plants now comprise nine percent of total production capacity in North America, a proportion that is expected to grow to 16 percent when these plants are producing at full capacity.

Table II

#### NORTH AMERICAN ASSEMBLY CAPACITY (000's)

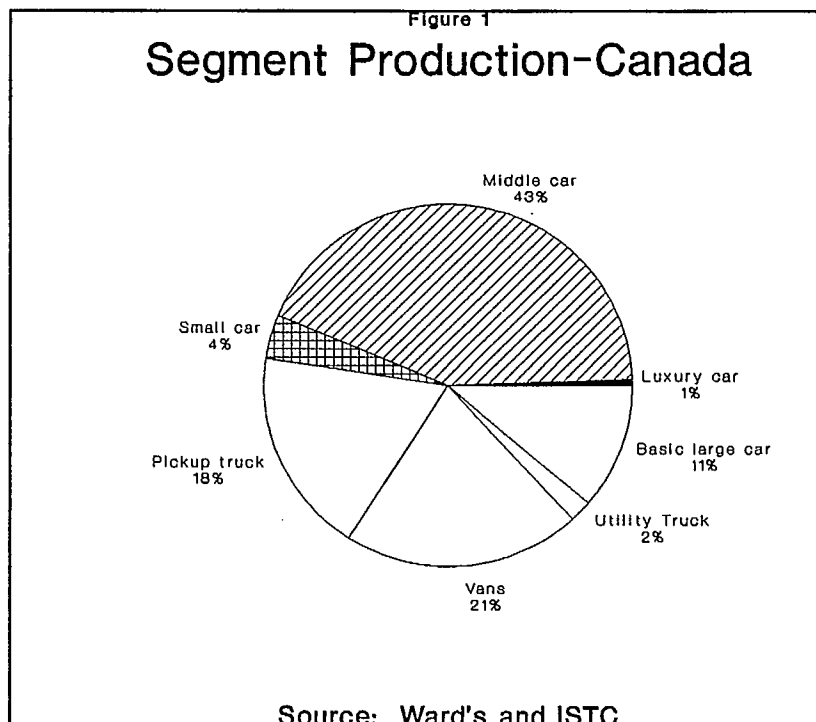
	1988		1993	
UNITED STATES	(000)	%	(000)	%
G.M.	5566	48.4%	5595	43.1%
Ford	2846	24.7%	3226	23.8%
Chrysler	1979	17.2%	2072	15.9%
Transplants	1106	9.6%	2100	16.2%
Total U.S.	11497	100%	12993	100%
CANADA				
G.M.	919	45.3%	1015	38.8%
Ford	607	29.9%	607	23.2%
Chrysler	439	21.6%	528	20.4%
Transplants	63	3.1%	441	17.6%
Total Canada	2028	100%	2519	100%
Total N.A.	13593		15584	

#### 4.2 Capacity by Country

Canadian plants represented almost 15 percent of North American production capacity in 1988 with 2.03 million units. Although 4 of the 11 (36 percent) North American transplant operation are located in Canada, they constitute only 17 percent of North American transplant capacity because the Toyota, Honda and Hyundai plants are smaller than industry average. This additional capacity will be responsible for raising Canada's share of total North American capacity to 17 percent by 1992.

#### 4.3 Capacity by Segment

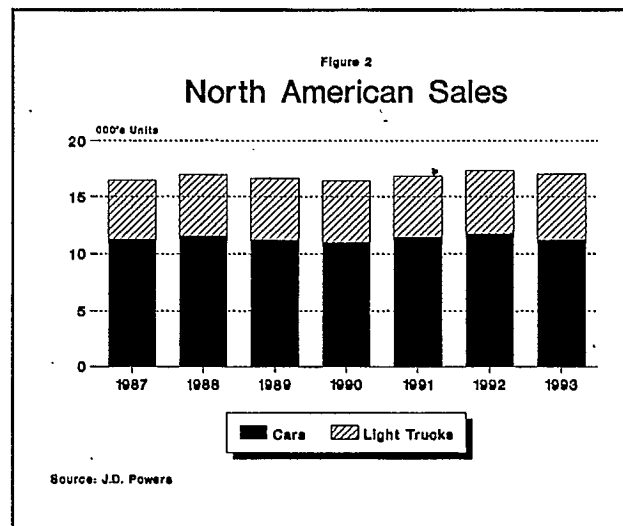
Middle sized cars comprise the largest single segment of light vehicle production in North America, followed by pickup trucks; there was approximately a 70/30 split in car versus truck capacity in North America during 1988. The Canadian assembly plants produce a significantly different product mix than the American industry as a whole, however. Canada's automotive plants have been more oriented toward production of light trucks and large cars than have those in the United States, which has been an important advantage due to the weak or non-existent offshore competition in these market segments. Light trucks comprised 41 percent of total light vehicles assembled in Canada during 1988 while the Basic Large car segment made up 11 percent; in comparison, these segments represent only 33 percent and 4 percent, respectively, of American production capacity.



This situation will change somewhat as Canadian transplant capacity comes on stream (Appendix I). Additional capacity in the Middle car (Hyundai), Small car (Honda, Toyota) and Mini car segments (CAMI) will result in passenger car assembly increasing its share of total Canadian production by almost 5 percentage points. G.M. Oshawa (Plants 1 and 2) will also be at their full capacity of 522,000 units. Increased production at Brampton, as well as the Sidekick/Tracker at CAMI will be responsible for sport utility vehicles growing to 6 percent of total Canadian production.

## 5. Sales Outlook

Current sales forecasts (second quarter 1989) call for declining sales in 1989 and 1990 followed by a rebound in 1991 and subsequent years. This predicted sales slowdown is not indicative of a recession, but is merely a cyclical downturn following five years of strong sales. The light truck market, continuing to display its underlying strength, will remain stable in spite of the overall market slowdown.



## 6.1 Import Penetration and Potential Overcapacity

Given the sales forecasts for light vehicles in North America over the medium term, it is possible to determine potential overcapacity among North American assemblers by subtracting an assumed level of light vehicle imports and adding an assumed level of exports. (There were exports of 125,000 light vehicles from North America in 1988, which are assumed to increase in equal increments to reach 200,000 units in 1993). If the further assumption is made that transplant operations will utilize 100 percent of their capacity, any shortfall in demand will result in unused capacity at Big Three assembly plants (see Table III for the resulting overcapacity estimates).



## 6.2 Passenger Car Overcapacity

Offshore imports of passenger cars comprised 30 percent of the North American market in 1988, down 2 percentage points from 1987, primarily due to the appreciation of the Japanese and European currencies, and a resulting rise in vehicle prices. While continued fluctuations in relative currency values will have an important influence on imports, another key determinant will be the extent to which new North American transplant production replaces current imports. The Japanese assemblers' production strategy appears focused on sourcing high volume models from North America to take advantage of the lower dollar. Smaller quantities of increasingly upscale models, such as the new Lexus and Infiniti lines, will continue to be sourced from Japan.

As only part of any foreign assemblers' product line is made in North America, however, the drop in penetration by offshore imports is unlikely to be dramatic. In combination with foreign currency appreciation, substitution of transplant for foreign production should result in penetration levels moderating to between 25 and 30 percent in the medium term.

A range of possible import penetration scenarios, and resulting levels of overcapacity is illustrated in Table III. As noted above, capacity estimates for North American assembly plants included in this paper do not make allowances for potential down-time due to product or model change-over. The table consequently provides overcapacity estimates for both 90 and 100 percent capacity utilization.

$$\text{TOTAL SALES} - \text{IMPORTS} + \text{EXPORTS} = \text{REMAINING DEMAND}$$

$$\text{CAPACITY} - \text{REMAINING DEMAND} = \text{OVERCAPACITY}$$

TABLE III

		NORTH AMERICAN CAR OVERCAPACITY*					
		1988	1989	1990	1991	1992	1993
Import Penetration		90% Capacity Utilization					
SCENARIO 1:25%	-0.35	0.12	0.46	0.28	0.09	0.16	
SCENARIO 2:30%	0.40	0.68	1.00	0.85	0.68	0.76	
SCENARIO 3:35%	0.98	1.24	1.54	1.41	1.27	1.37	
		100% Capacity Utilization					
SCENARIO 1:25%	0.78	1.13	1.65	1.48	1.43	1.20	
SCENARIO 2:30%	1.36	1.69	2.19	2.05	2.02	1.80	
SCENARIO 3:35%	1.94	2.25	2.73	2.62	2.61	2.41	

\* millions of units

The table indicates that at the current rate of import penetration (30 percent), there will be between 1.0 and 2.19 million units of excess passenger car production capacity in model year 1990 as increasing North American capacity meets slowing sales. The situation for light truck production is described below and suggests that there will continue to be undercapacity in the medium term. Again, the existence of extensive down-time to facilitate product and model changeovers, and the potential for offshore import penetration rates below 30 percent indicate that the true extent of overcapacity is probably closer to the smaller of these estimates. The extent of overcapacity under these assumptions will diminish as sales recover from a downturn in 1989 and 1990.

## 6.2 Light Truck Undercapacity

Estimates provided in Table IV below suggest that there will be insufficient capacity in light truck production throughout the medium term. Import penetration in the light truck market was 17 percent and 12 percent in 1987 and 1988, respectively, and is expected to remain within these levels throughout the forecast period. The resulting undercapacity was approximately 600,000 units in 1988, or 13 percent of current capacity. This situation has been reflected in high rates of capacity utilization at light truck plants (see Appendix IV) and consistent overtime production.

TABLE IV

	NORTH AMERICAN LIGHT TRUCK OVERCAPACITY (millions)					
	1988	1989	1990	1991	1992	1993
	-----					
	100% Capacity Utilization					
SCENARIO 1:11%	(0.62)	(0.58)	(0.35)	(0.24)	(0.22)	(0.21)
SCENARIO 2:13%	(0.51)	(0.47)	(0.24)	(0.13)	(0.11)	(0.09)
SCENARIO 3:15%	(0.41)	(0.36)	(0.13)	0.02	0.00	(0.02)
SCENARIO 4:17%	(0.25)	(0.19)	0.02	0.09	0.12	0.14
	-----					

Light truck production capacity will increase through 1993 with the opening of three new light truck assembly plants. If the import penetration rate in the light truck segment remains at relatively low levels, another Big Three passenger car assembly plants could be converted to truck production to meet demand.

Future sales growth in the light truck market for the Big Three may be limited somewhat, however, by new product offerings from Japanese assemblers as well as a recent U.S. Treasury Department ruling changing, for duty purposes, the definition of what constitutes a truck. The implication of the ruling is that some compact vans and sport utility vehicles, which had paid the 2.5 percent duty applicable to automobiles, will

now be subject to the 25% tariff on trucks. Passenger vans and 4-door sport utility vehicles will continue to be covered by the 2.5% tariff.

### **7.1 Implications for the North American Industry**

The overcapacity estimates outlined above indicate that the industry will experience lower rates of capacity utilization than it has through the latter half of this decade. A small number of plant closures may also be required in response to the performance of particular models, production facilities or assemblers. At the same time, however, three new plants producing light trucks will go into production, in addition to the new transplant capacity announced prior to 1989: Chrysler at Detroit, Toyota at Fremont, California, and a Ford/Nissan joint venture at Avon Lake, Ohio.

Decisions to be made about plant closures will be based on sales of individual models, as well as the relative costs and quality of production. Canadian Big Three assemblers have demonstrated an ability to compete with U.S. plants within a traditional, rationalized North American production scheme.<sup>1</sup> Overall, production systems, material and production costs and levels of applied technology in Canada compare favourably with those of equivalent assembly facilities in the United States. Canadian plant productivity, measured on the basis of vehicles produced per worker, is also comparable with U.S. levels. On the basis of data collected over the last 10 years, the U.S. Bureau of Labour Statistics estimated Canadian hourly compensation rates to have represented 70 percent of comparable U.S. costs on average. The Canadian advantage is largely a reflection of favourable exchange rates and, to a lesser extent, the lower contributions to the benefits and pensions portion of the payroll. From an operational perspective, most Canadian plants are well placed for future investments within the parent corporation.

### **7.2 Plant Competitiveness Analysis**

The following sections of this study evaluate the competitiveness of Canadian automotive assembly plants using publicly available information. Descriptions of the models produced at these plant utilize J.D. Power and Associates' classification system, which is provided as Appendix V. These sections also refer to assembly plants located in the United States, which are listed with estimates of their future capacities by model year in Appendix VI.

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<sup>1</sup> Light Motor Vehicles Industry Profile (Ottawa: Industry Science and Technology Canada, 1988)

**AUTOPLEX - LINES 1 AND 2 - GENERAL MOTORS**  
**Oshawa, Ontario**

	Model Year Production (000's)					Other Sources
	1984	1985	1986	1987	1988	
Pontiac (B)	45					
Chevrolet (B)	180	37				
Pontiac 6000 (A)	143	149	129	87		
Celebrity (A)	52	119	200	131	56	
Ciera (A)		30	91	3	150	
Regal (W)					130	W-cars Fairfax, KA Doraville, GA
Total	420	335	394	277	323	
	Capacity Utilization (%)					
	1984	1985	1986	1987	1988	
	105	177	68	60	77	

General Motor's Autoplex is the largest automotive production facility in North America and consists of Plants 1 and 2 described below, as well as a third line producing light trucks (see page 28). A total of \$3.5 billion has been spent on these facilities throughout the 1980's; GM indicates that Autoplex is one of the most advanced manufacturing facility in the world.

**Products**

The W-body models include, in addition to the Chevrolet Lumina and Buick Regal, the Pontiac Grand Prix and the Oldsmobile Supreme. These models are intended to replace the A-body series which is gradually being phased out of production. The W-body coupes compete in the Middle Specialty market segment against the Chrysler LeBaron coupe and the Ford Thunderbird/Cougar; the sedans produced from this platform are included in the Upper Middle market segment with the Ford Taurus and Mazda 626, among many others.

Sales of these models have not been up to J.D. Power's and Associates early forecasts (Chart 1). Beginning with the introduction of the Regal coupe in 1987, and followed by the Grand Prix and Supreme coupes, slow sales have been responsible for consistently high inventory levels, and have contributed to the heavy use of sales incentives by GM.

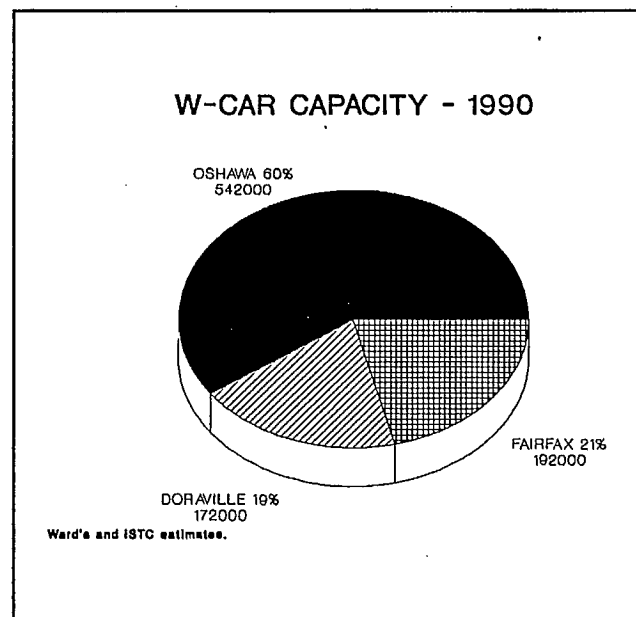
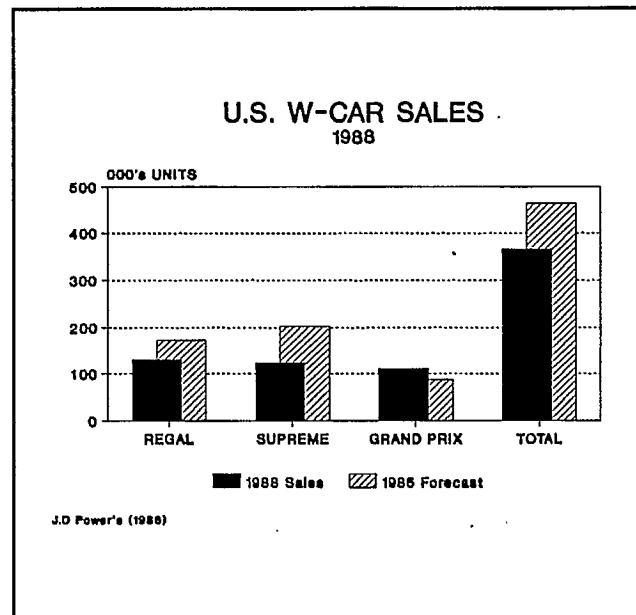
Industry analysts have forecast that these models will gain greater market acceptance as 4-door models. Current forecasts show the W-cars taking 44 percent and 26 percent of the Middle Specialty and Upper Middle market segments, respectively, at full production in 1990, with total production volume approaching 1 million units annually.

### Plant

Plants 1 and 2 produced a total of 323,000 vehicles in calendar year 1988, significantly below their estimated capacity of 420,000, due to the changeover of Plant 1 from A-body production and the addition of the Lumina 4-door to Plant 2. Production was again reduced by model changeovers with the addition of the Lumina 2-door during 1989.

Production was also reduced at the Doraville, Ga. and Fairfax, Ks. plants during 1988 by slowing line rates in response to sluggish sales, as the models produced at these plants have had more inventory build-up problems than the Oshawa-built Regal. In general, however, GM's strategy has been to maintain high levels of production, and to stimulate sales through incentives, if necessary, in order to maintain market share. As GM's highest volume product line the W-cars are crucial to this strategy.

The Oshawa facility is the first in North America to use new production technology based on automated guided vehicles, which have largely replaced assembly lines. The result has been greater manufacturing flexibility, which has led to increased employee decision-making in production and has assisted in improving product quality.





### Future

The future viability of the Oshawa passenger car lines appears to be ensured by the W-car mandate, which extends through the forecast horizon until at least 1995. Minor model changes are expected, along with a major remodelling in 1994.

The level of capacity utilization of the plant will vary, however, with the success of the Lumina and Regal models. The impact of potentially reduced levels of capacity utilization is magnified by the fact that two production lines implies double the employment of most assembly plants, as well as double the level of parts procurement. In addition, the advent of just-in-time delivery has increased the level of parts procurement which the Oshawa plant undertakes in Canada.

**STE. THÉRÈSE**  
Ste. Thérèse, Québec

	Model Year Production (000's)					Other Sources
	1984	1985	1986	1987	1988	
Bonneville (G)	53	64	46			
Grand Prix (G)	60	66	43	17		
Cutlass Coupe (G)	43	28	31	29		
Cutlass						
Supreme (G)	16	4	28	27		
Celebrity (A)				14	46	A-cars
Ciera (A)					108	Oklahoma City, OK
						Framingham, MA
						(Closing Aug. 1989)
						Ramos, Mexico
Total	172	162	148	87	148	
		Capacity Utilization (%)				
	1984	1985	1986	1987	1988	
	99	98	90	49	91	

## Product

The A-body models have been GM's high volume entry in the Upper Middle market segment through most of the decade. They include, in addition to the Ciera and Celebrity, the Buick Century and the Pontiac 6000. The A-bodies compete against almost 40 other models in this market segment, including their successors, the W-cars.

GM will be phasing out the A-bodies over the next several years, beginning with the Celebrity 2 and 4-door models in model year 1990. Current production plans show the Celebrity station wagon and Pontiac 6000 models ending production in 1992, and the Ciera and Century continuing through until at least 1994. Sales of these latter two models should benefit from remodelling scheduled for 1992. J.D Power's and Associates forecast that in spite of the planned changes, the A-bodies' sales will slide from an estimated 41 percent of the Upper Middle market segment in 1988 to just 7 percent in 1993. Some analysts, including J.D. Power and Autofacts Inc., have forecast the closure

of this plant because of declining A-body sales. GM's own plans, however, show production dramatically higher in 1990 than the Power's estimate.

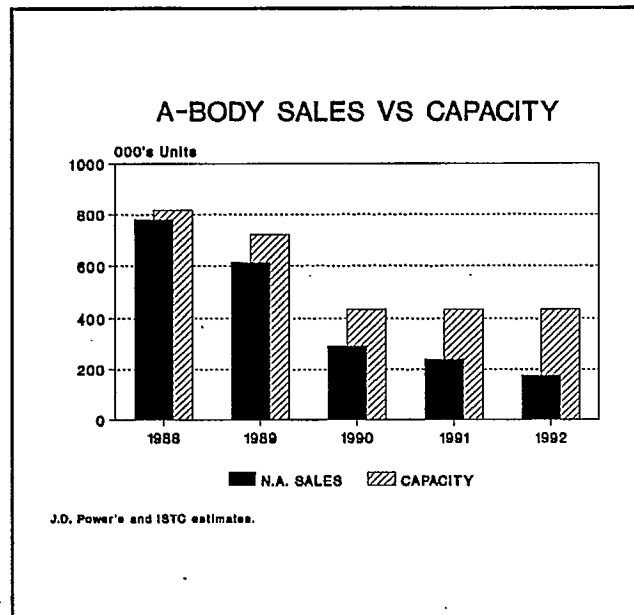
### Plant

Ste. Thérèse has had the A-body mandate since 1987 when production of the Ciera and Celebrity was transferred from Oshawa to make room for the W-body models, which resulted in an extended shutdown of Line 2 in Oshawa during 1987. This shift was part of the continuing reduction of A-body production, which at its peak involved seven plants. Ste. Thérèse had shared the mandate for the Ciera and Celebrity models with the Framingham, MA and Ramos, Mexico plants. The idling of the Framingham, MA plant in August, 1989 resulted the transfer of its remaining Ciera production to the Oklahoma City, OK plant which is now producing all four A-body models. The overwhelming majority of production at Ste. Thérèse will be of the Ciera model.

Ste. Thérèse has undergone significant changes since receiving its current mandate in 1987. GM has undertaken a \$450 million investment in the plant, including construction of a new paint line, with the assistance of federal and provincial loans. In addition, the plant has improved its productivity/quality record to the point where GM now rates it as one of its top plants. Finally, both union and management report that the labour relations environment at the plant has improved significantly.

### Future

The future of Ste. Thérèse's production mandate will depend, of course, whether or not the A-body models, and in particular the Ciera can maintain their currently strong sales pace. If GM decides to maintain Ste. Thérèse as an A-body plant, other A-body models not currently produced could easily be transferred there. Although the possibility exists that slowing A-body production will mean the end of Ste. Thérèse's current production mandate, the plant is in a strong position to compete for a new one with its competitiveness enhanced by the changes described above.



**OAKVILLE - FORD**  
**Oakville, Ontario**

	Model Year Production (000's)					Other Sources
	1984	1985	1986	1987	1988	
Tempo (Topaz)	142	119	133	105	150	
Topaz (Topaz)	52	35	39	44	54	
Escort (Erika)		64	71	69		Kansas City, MO
Lynx (Erika)		13	15	6		
Total	194	232	257	225	204	
	Capacity Utilization (%)					
	1984	1985	1986	1987	1988	
	84	100	112	89	89	

**Product**

These models compete in the Lower Middle market segment against approximately 30 other models including the Dodge Spirit, Honda Accord and Nissan Stanza. They continued a record of strong sales in 1988 with total North American sales of 464,000, which slightly exceeded expectations. Accounting for approximately 18% of sales in this market segment, the Tempo/Topaz is forecast to experience slightly reduced sales volumes through the early 1990's.

The Lower Middle market segment is expected to grow moderately through this period as models such as the Toyota Camry and Honda Accord move increasingly upscale and claim sales from the Upper Middle market segment. The combination of reduced Tempo/Topaz volumes and growth in this market segment will result in a 2 to 3 percentage point loss in the Tempo/Topaz market share by 1993.

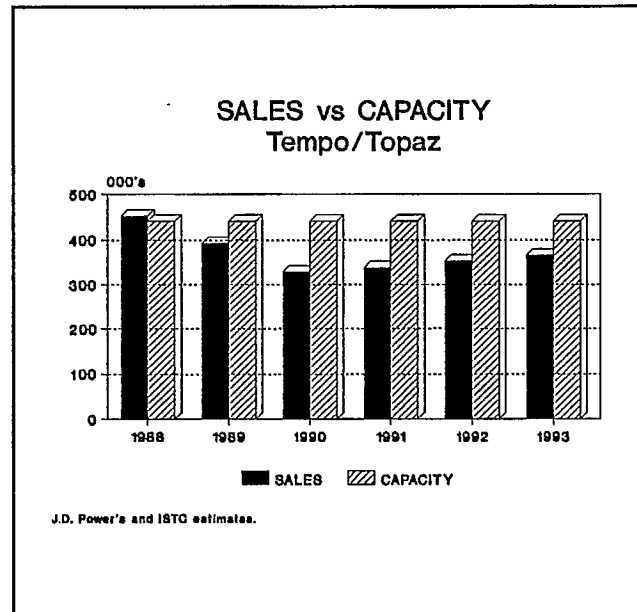
Current production plans call for the Tempo/Topaz to undergo minor restyling in 1991, and be replaced in 1993 by a new generation of this model, code-named the CDW/27.

### Plant

The Oakville plant now makes only one body type after a major renovation in 1987 which eliminated production of the Erika platform. Moving from two to one platforms has streamlined operations and substantially improved the plant's productivity. Oakville began the 1988 model year at lower rates of production following renovations and model changeover, but is now running at high rates of capacity utilization. The Tempo/Topaz models are also produced at Ford's Kansas City, MO plant at high rates of capacity utilization.

### Future

The long-term outlook for the Tempo/Topaz models and their planned replacement indicates that the Oakville plant probably faces a secure future. Ford's continuing need for production capacity means that if Oakville does not receive the mandate for the Tempo/Topaz replacement, it will be in a good position to obtain another of Ford's new models.





**ST. THOMAS - FORD**  
**St. Thomas, Ontario**

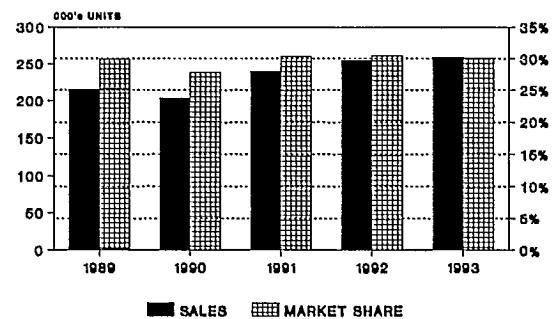
	Model Year Production (000's)					Other Sources
	1984	1985	1986	1987	1988	
Crown Victoria (Panther)		135	138	129	129	
Mercury Marquis (Panther)		108	120	131	127	
Ford (L)	87					
Escort (Erika)	40					
Lynx (Erika)	9					
Mercury (L)	58					
<b>Total</b>	<b>195</b>	<b>243</b>	<b>258</b>	<b>260</b>	<b>256</b>	
	Capacity Utilization (%)					
	1984	1985	1986	1987	1988	
	88	115	114	112	111	

**Product**

These large, rear-wheel drive models are produced on the Panther platform and are included in the Basic Large model segment. The competition consists of only four GM models. Although sales of the Grand Marquis and Crown Victoria models have fallen slightly since 1985-1986, along with the sales of this market segment as a whole, they continue to outperform expectations and remain a major profit centre for Ford.

The Grand Marquis and Crown Victoria, like their competition, will benefit from minor restyling and the addition of newer technology, such as fully independent rear suspension, in the next two years. These changes are expected to increase their market

**N.A. SALES AND SEGMENT SHARE**  
**Crown Victoria and Grand Marquis**



J.D. Power's and ISTO estimates.

share from 27 to 30% in 1993; the market segment as a whole is forecast to maintain between 7 and 8% of the total passenger car market.

### Plant

The continuing sales strength of these models resulted in St. Thomas running at 111% of capacity during model year 1988. If current sales forecasts are realized, they will result in the plant continuing to run at very high rates of capacity utilization.

In order to produce the next generation of these models Ford recently announced that it will be investing \$225 million in the facility by 1991. Improvements will be centred on increasing the level of automation at the plant as well as doubling the capacity of its clearcoat paint line.

### Future

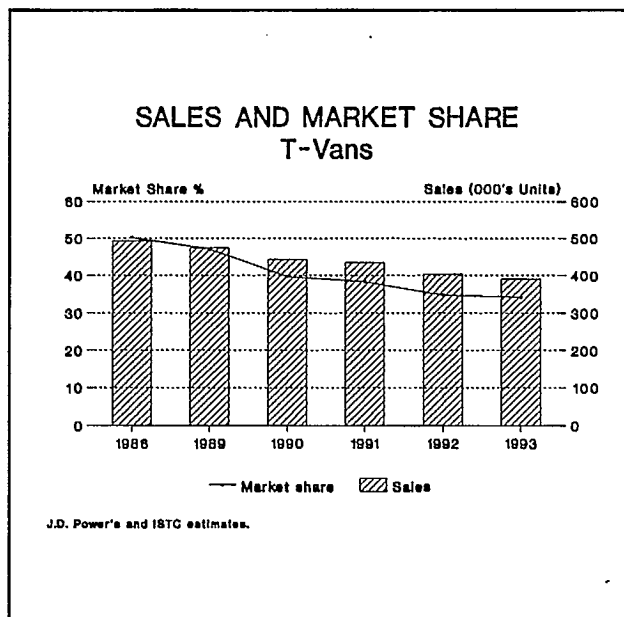
The product mandate for these Panther models will continue as long as there remains a strong demand for large, rear-wheel drive passenger cars. Continuing demand from large families, and those needing towing capacity as well as police and government fleets underlies the popularity of these models.

**WINDSOR - CHRYSLER**  
**Windsor, Ontario**

	Model Year Production (000's)					Other Sources
	1984	1985	1986	1987	1988	
Dodge Caravan		124	126	136	137	
Voyager		128	121	130	122	
Dodge Mini Ram Van (T-Vans)		32	18	17	12	
						St. Louis, MO (stretched T-Van)
Total	147	284	264	283	270	
Capacity Utilization (%)						
	1984	1985	1986	1987	1988	
	N/A	102	87	115	110	

**Products**

Chrysler's T-vans pioneered the rapidly expanding compact van segment in 1983, and at present they continue to dominate this market. Although the T-vans are forecast to have consistent sales through the forecast period, forecast growth of 16% in compact van sales in Canada and the United States will erode Chrysler's market share of the segment significantly. Compact van sales are expected to be spurred by a new generation of T-van competitors including the GM APV, the Nissan Axxess, and the Mazda MPV, as well as a continued shift of large car buyers to this versatile product.



Although no major styling changes are planned for the T-vans, new engine options will be added in 1990-91 and all-wheel drive is expected to be introduced by 1992

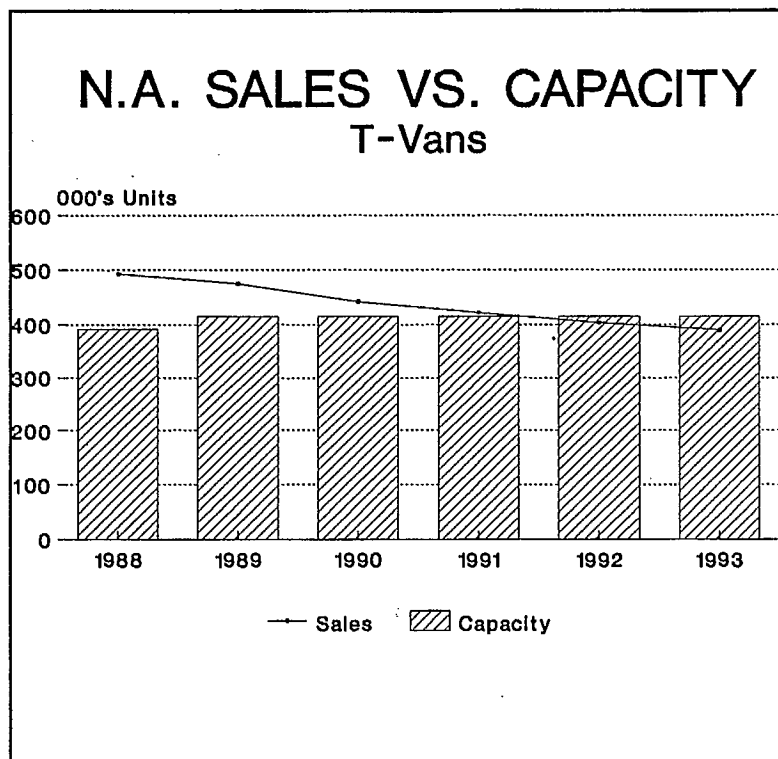
### Plant

The Windsor plant operated at 110 percent of rated capacity in model year 1988 necessitating consistent overtime. A second Chrysler plant, located in St. Louis MO, was converted to mini-vans production in 1987 in order to meet demand for these products. It also ran at high levels of capacity utilization during 1988.

### Future

The loss of market share to new entrants in the compact van market will leave the Windsor plant with sufficient volume to run at very high rates of capacity utilization for the foreseeable future.

Although the plant may not be producing at the levels experienced during past five years, it should remain among the more highly utilized assembly plants in North America. The future of this plant has been further ensured by Chrysler's recent announcement that it will not convert a third plant to mini van production.



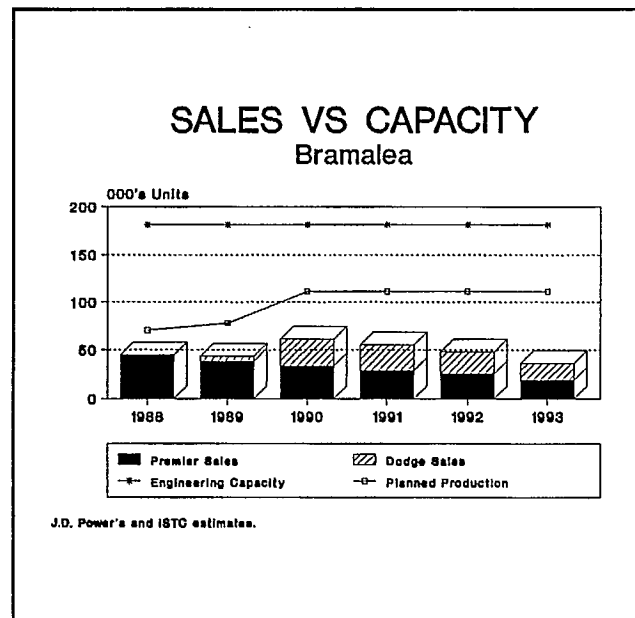
**BRAMALEA - CHRYSLER**  
**Bramalea, Ontario**

	Model Year Production (000's)					Other Sources
	1984	1985	1986	1987	1988	
Premier (L-58)					47	
Total					47	
Capacity Utilization (%)						
	1984	1985	1986	1987	1988	
					76	

### Products

Bramalea is currently the sole supplier of the Eagle Premier sedan which is classified in the Upper Middle market segment. Sales of this model have increased since its introduction in the 1988 model year and it now is selling at a seasonally adjusted rate of 60,000 units per year. In spite of this growth this model is estimated to hold only 2% of the competitive Upper Middle market. Previous plans to also produce the Premier as a coupe have been cancelled by Chrysler.

Another sedan based on the L-58 platform will be produced, however, and will be sold through Chrysler's Dodge Division. The Dodge model should be available for the 1990 model year.





Plant

The Bramalea plant, which was built by AMC, was sold to Chrysler in 1987 and began production the same year. Designed to produce up to 180,000 units annually, the plant has been substantially under-utilized while Chrysler has examined the possibility of producing a variety of different models in the Bramalea facility. Although the addition of the Dodge L58 will increase production at the plant up to 110,000 units annually, it will still leave considerable excess capacity.

Future

Bramalea is still considered to be a state-of-the-art facility, and accordingly its viability appears to be assured. Its level of capacity utilization with the current product mandate, however, will remain considerably below optimal, with corresponding effects on employment and Canadian parts production.

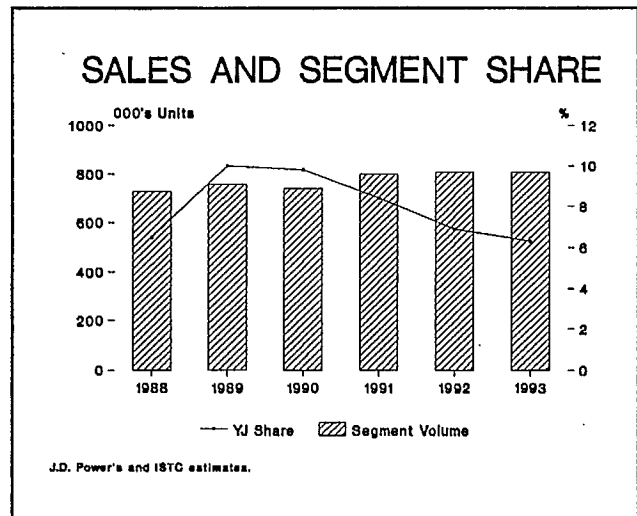
**BRAMPTON - CHRYSLER**  
**Brampton, Ontario**

	Model Year Production (000's)					Other Sources
	1984	1985	1986	1987	1988	
Jeep YJ 4X4					32	
Jeep YJ			15	33	14	
Eagle	25	16	8	2	2	
<b>Total</b>	<b>25</b>	<b>16</b>	<b>23</b>	<b>35</b>	<b>48</b>	
	Capacity Utilization (%)					
	1984	1985	1986	1987	1988	
	88.7	56.2	56.3	121	117	

**Product**

The Jeep YJ, known as the Wrangler in the United States, is a compact sport utility vehicle which competes against 15 other models produced by a variety of domestic and foreign manufacturers. These include other models in the Jeep line, which was part of the sale of American Motors Corporation to Chrysler in 1987. The popularity of the Jeep products was a key reason for Chrysler's interest in AMC, and Jeep sales, including the YJ, continue to be strong.

This strength is forecast to continue in 1990 although sales of compact sport utility vehicles are forecast to be hurt by the rapid sales growth of mini sport utility vehicles, which include the Tracker/Sidekick produced by CAMI (see page xx). Slowing sales of the YJ early in the decade, combined with renewed strength in overall segment will result in declining market share for this model from 1991 until 1993.



Plant

The Brampton facility had operated on one shift during 1988, but doubled its line rate from 21 to 42 units per hour during January 1989 in response to increased demand. This is a significant increase from the 15 units per hour on which it ran as recently as 1986.

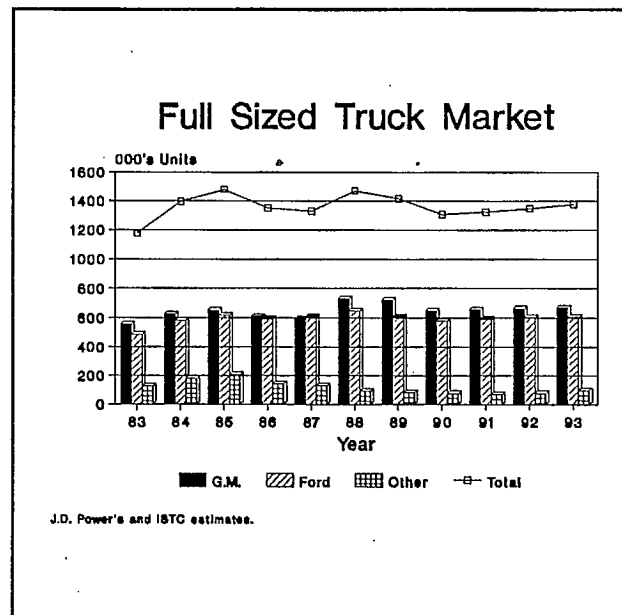
The Brampton plant consists of two assembly lines and as a result has excellent potential to run as a swing plant. It also has a third facility, which is currently being used for warehouse space, which was evaluated and prepared by Chrysler shortly after its purchase to house an upgraded paint line.

Future

The continuing strength of YJ sales, and the need for a plant in which to produce low volume products profitably appears to offer Brampton a secure future. The Jeep line has achieved exceptionally distinctive image and brand recognition, which will be a key advantage in an increasingly homogeneous market.

### FULL SIZED PICKUP PLANTS

Two assembly plants in Canada, General Motors at Oshawa and Ford at Oakville, produce full sized pickups: in comparison, there are eight North American plants in total producing these products. This market segment accounts for 1/4 of all light truck sales and almost 1/2 of pickup sales in North America with 1.37 million units sold in 1988. The Big Three are the only manufacturers of this class of vehicle and in 1988 they produced seven different models; three of these models, the Chevrolet El Camino, the GMC Caballero and Jeep J20 ended production in 1988, however, leaving only the Chevrolet/GMC C-series, the Ford F-series and the Dodge D-series in production.



This market segment, like the other portions of the truck market, has enjoyed strong growth since 1983, as illustrated above. It had lost market share, however, to the growing compact truck segment prior to 1988. During that year rising prices of Japanese models and upgraded features offered by the GM C/K series were responsible for increasing the full sized trucks share of the total pickup market by 4 percent. Sales are forecast to remain stable over the next five years with approximately 1,350,000 units sold.

**ONTARIO TRUCK - FORD**  
**Oakville, Ontario**

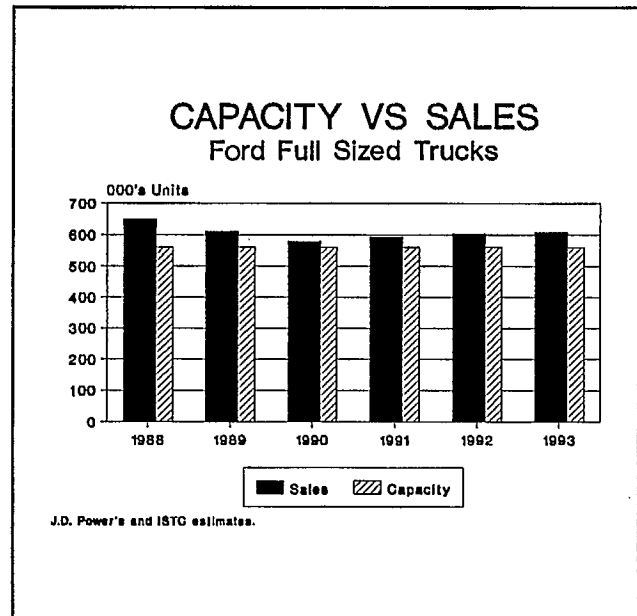
	Model Year Production (000's)					Other Sources
	1984	1985	1986	1987	1988	
F-Series Truck	134	166	166	142	159	Kansas City, Mo Norfolk, VA Twin Cities, MN Wayne, MI

Total

Capacity Utilization (%)				
1984	1985	1986	1987	1988
110	114	110	97	109

**Product**

The F-series has been produced for more than 10 years and was the best-selling line in the full sized pickup market in 1988, with its best annual sales in this decade. Total North American sales of F-series pickups are expected to slide from 649,000 to 610,000 units during 1989 in response to increased competition from GM/GMC and a slower economy. Sales are expected to remain at approximately 600,000 units annually until 1993, which will maintain its market share at 45 percent of the total full sized pickup market segment. Ford plans to begin producing the F-series on a new platform in that year.





Plant

The Oakville plant, known as the Ontario Truck plant, is one of five producing the F-series. All five are older plants operating at relatively low line rates (in comparison to GM's newer Oshawa truck facility), but are consistently operated on overtime resulting in exceptionally high rates of capacity utilization. Ontario Truck is currently running at 38 units per hour on two shifts, but produced 17,000 units more than its capacity of 146,000, for a capacity utilization rate of 109 percent during 1988.

Future

Although total F-series production volume will probably decline in response to slowing sales over the next four years, the impact on Ontario Truck will simply be a reduction in overtime hours; the plant will still be operating at high rates of capacity utilization. The long term strength of F-series sales leaves this plant with a secure product mandate.

**OSHAWA TRUCK PLANT - GENERAL MOTORS**  
**Oshawa, Ontario**

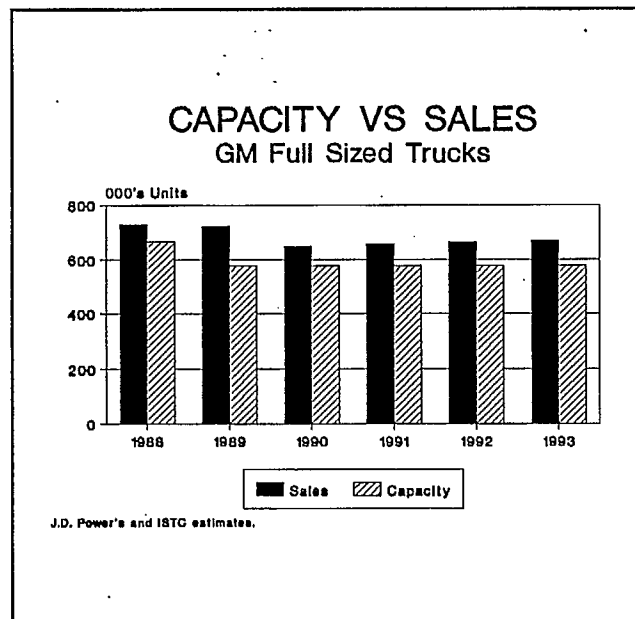
	Model Year Production (000's)					Other Sources
	1984	1985	1986	1987	1988	
GMT 400 Trucks	N/A	170	167	90	211	Pontiac, MI Fort Wayne, IN
Total	N/A	170	167	90	211	
	Capacity Utilization (%)					
	1984	1985	1986	1987	1988	
	N/A	100	100	39	90	

**Product**

These models are marketed under both the Chevrolet and GMC nameplates, and are offered with a range of cargo capacities, engines and transmissions. The GMT400 series is produced on a new production platform and replaces the earlier version of the C/K truck. It has since captured a bigger share of the full sized truck segment, increasing from approximately 44 percent to 52 percent of North American sales in this market. The strong sales of these new models is thought to be in response to its more car-like handling and comfort features.

Few changes are expected in these models over the medium term, although anti-lock braking system will be offered as an option beginning with the 1990 model year. Total North American sales of this series are expected to remain above 650,000 units annually, resulting in an approximate 50 percent market share.

**Plant**



### Plant

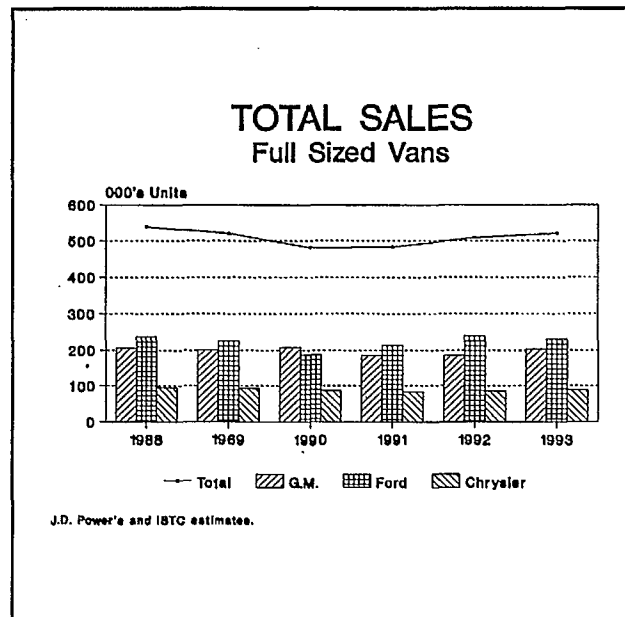
This plant was completely refurbished in 1987 before it began production of the GMT400 models as the first step in the creation of the Autoplex facility. The Autoplex is the first operation to use new production technology based on automated guided vehicles, which have largely replaced assembly lines. The result has been greater employee involvement and decision-making, and improved product quality. The GMT400 pickups are also produced at GM plants in Pontiac MI (East Plant) and Fort Wayne IN: all three of these plants operated at or above full capacity in 1988.

### Future

The popularity of the GMT400 models indicates that the Oshawa truck plant has a secure product mandate. As truck models may last a decade or more, Oshawa's current mandate will probably extend well into the 1990's.

### FULL SIZED VAN PLANTS

Two plants in Canada, located at Scarborough (GM) and Windsor (Pillette Road - Chrysler), produce full sized vans. Like the full sized truck market, only the Big Three are involved, producing a total of seven competing models from four plants. Full sized vans currently comprise 10 percent of the total light truck market, and approximately 1/3 of the van market in North America with total 1988 sales of 540,000 units.



Full sized van sales are expected to remain relatively stable at approximately 500,000 units annually until 1993. Up to 50 percent of full sized vans are shipped to converters who customize them for recreational use; a key to the popularity of full sized vans as recreational vehicles is rear wheel drive with its superior towing capability. The other half of full sized van production is divided between cargo and high seating capacity uses.

Full sized van sales will be limited by growth of the compact van segment and its potential to divert sales with extended versions of existing compact models. The continued growth of compact van and total light truck sales, combined with slightly reduced volume in full sized van sales is forecast to result in a thirteen percent loss in total van market share for full sized vans by 1993.

**SCARBOROUGH - GM**  
**Scarborough, Ontario**

	Model Year Production (000's)					Other Sources
	1984	1985	1986	1987	1988	
Chev Van	N/A	71	68	51	61	
GMC Vandura	N/A	28	28	24	67	
						Lordstown, OH
Total	N/A	99	96	76	88	
Capacity Utilization (%)						
	1984	1985	1986	1987	1988	
	N/A	98	96	82	97	

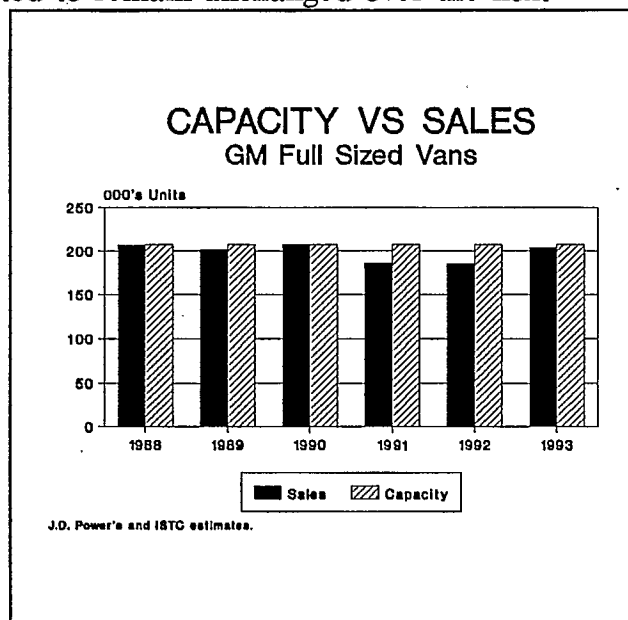
**Product**

The G-body vans currently account for a 39 percent share of the North American full sized van market, a situation which is expected to remain unchanged over the next several years. There is some potential for sales of GM's full sized vans to be diminished by its smaller Astro/Safari van which is also rear wheel drive and will be offered in an extended version in the 1990 model year. G-body sales are expected to be bolstered by a minor re-styling of these models in 1990, as well as the introduction of a new extended version, which will be a 14-seater passenger van.

**Plant**

Scarborough is an older facility with a relatively low level of automation. The plant operated on one shift during part of 1987, but has more recently been back on two shifts producing 24 units per hour.

With capacity at Scarborough and Lordstown to produce 207,000 units annually, and



expected sales for most years until 1993 approaching 200,000 units these plants should operate at high rates of capacity utilization.

#### Future

At forecast levels of production and sales the Scarborough plant will continue to be a viable, but like the Lordstown plant, low volume facility. The security of the plant's mandate was enhanced by the decision to produce the extended version of the G-body van at Scarborough, which is marketed as a 14-seater passenger van.

**PILLETTE ROAD - CHRYSLER**  
Windsor, Ontario

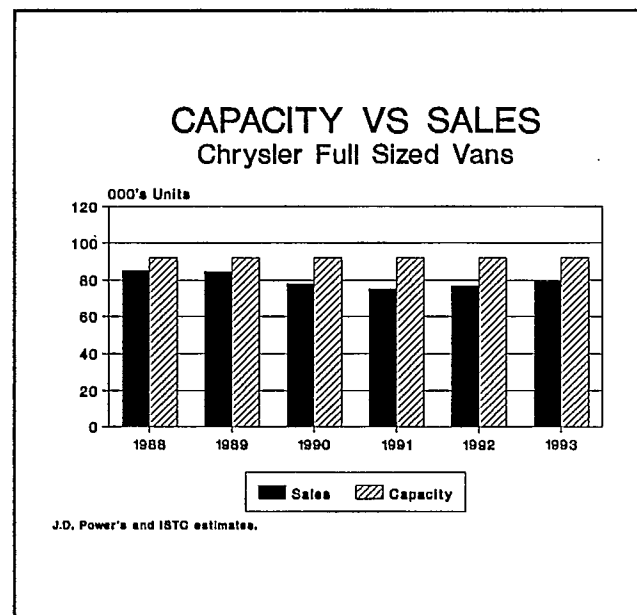
	Model Year Production (000's)					Other Sources
	1984	1985	1986	1987	1988	
Dodge Ram Van	N/A	78	73	73	63	
Dodge Ram Wagon	N/A	46	40	37	24	
<b>Total</b>	<b>120</b>	<b>124</b>	<b>113</b>	<b>110</b>	<b>87</b>	
	Capacity Utilization (%)					
	1984	1985	1986	1987	1988	
	N/A	102	87	128	95	

### Product

The Chrysler full sized vans hold the smallest share of the full sized van segment with 1988 sales of 95,000 units. This situation is forecast to remain basically unchanged through the early 1990's as Ram Van and Wagon sales decline to 85,000 units and a 17% market share in 1993. Chrysler's sales of these large rear-wheel models are not thought to have been very much affected by the success of the smaller mini vans, as they occupy significantly different market niches.

### Plant

Pillette Road is the sole source for the Ram Van and Wagon. Although this is a low volume product mandate, Pillette Rd. an older facility with less automation than is found in more modern plants. This situation has allowed Pillette Road to remain a



viable operation at 24 units per hour on two shifts for a total capacity of 92,160 units annually.

Future

As the sole supplier of a low volume product, Pillette Road's production mandate appears secure for as long as Chrysler continues to produce full sized vans. Since foreign competition is not expected to become a factor in this market, this mandate will probably continue well into the next decade.



**CAMI**  
**Ingersoll, Ontario**

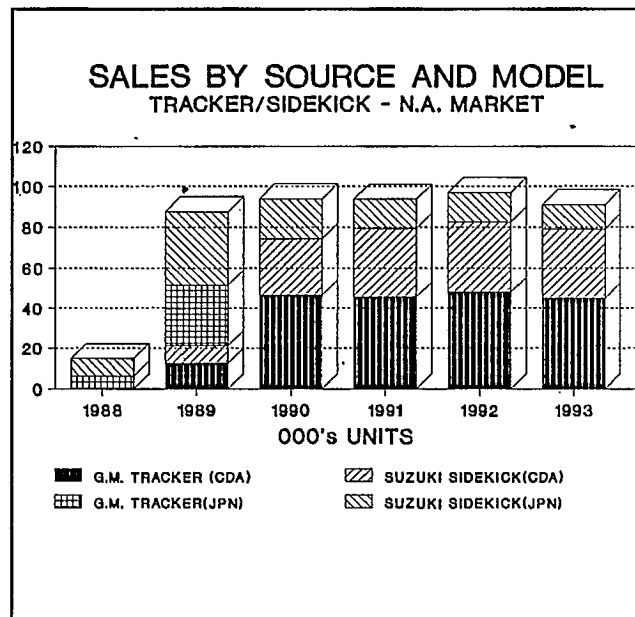
Products	Production Start	Other Sources
GM Tracker/Suzuki Sidekick	April 1989	Japan
Geo Metro/Suzuki Swift/	November 1989	
Pontiac Firefly		

### Products

The CAMI products will compete in the mini car and the mini sport utility markets, which are expected to grow by 21 percent and 29 percent, respectively, by 1993.

### Mini Cars

The mini car market segment is forecast to grow rapidly with the introduction of several new models; virtually all of the Japanese and Korean auto manufacturers will be competing in this segment by 1990. In spite of steady sales until 1993, the CAMI produced models' market share is forecast to decline from 41 percent to 32 percent of the total mini car market with the overall growth of mini car sales.



### Mini Sport Utility Vehicles

This market segment, which was pioneered by the Suzuki Samurai, will experience growth with the introduction of the even smaller Tracker/Sidekick. CAMI's production will dominate the segment with the withdrawal of the Samurai from the market after 1991. The Tracker/Sidekick will not experience significant competition in the mini sport utility segment until 1992 with the introduction of the Jeep Jeepster.

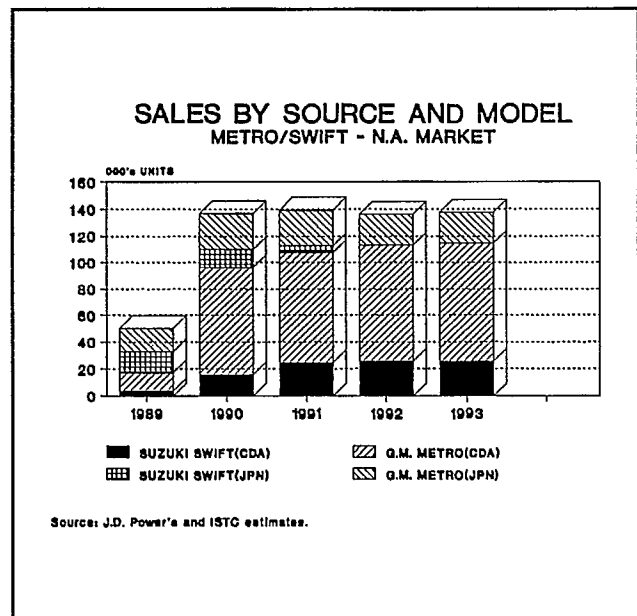
### Plant

This joint venture between GM and Suzuki is the largest transplant operation in Canada with planned production of 200,000 units annually. After it went into production in April 1989 with the Tracker/Sidekick, CAMI will follow with the Metro/Swift in November 1989. At full production CAMI will produce 80,000 mini sport utility vehicles and 120,000 mini cars annually.

Although visibly the same, the Metro and Swift will be powered by different engines and offer different trim and accessory packages; the Tracker and Sidekick will be sold with identical engine and body style choices.

### Future

As the sole carrier of these product mandates, CAMI's level of capacity utilization will depend directly on the sales of these new models. The forecast growth in both the market segments' and sales of the individual models appears to secure the future of this plant.



**TOYOTA**  
**Cambridge, Ontario**

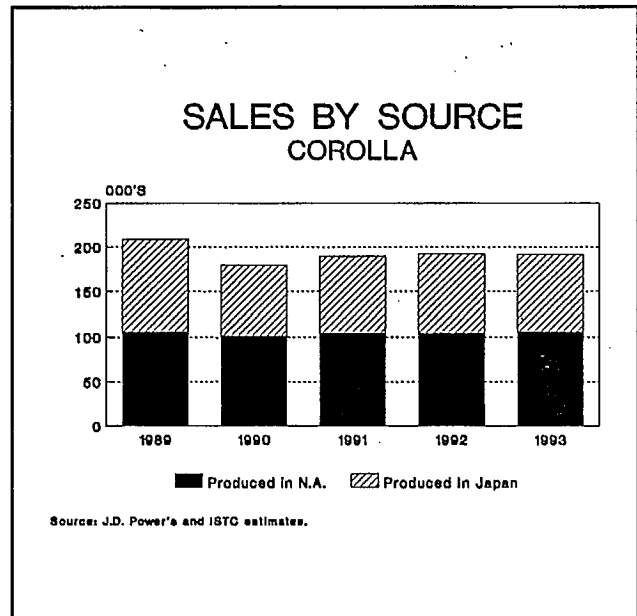
Product	Production Start	Other Sources
Corolla	November 1988	Fremont, CA Japan

**Product**

The Corolla is included in the Basic Small car market segment which is dominated by imports, captives (cars imported by the traditional North American assemblers and marketed by their organizations), and models produced by joint ventures. These include the Honda Civic, Nissan Sentra and Geo Prizm.

The Corolla is also being produced by New United Motor Manufacturing Inc. (NUMMI) in Fremont, California, which is a joint venture between GM and Toyota. This model will also continue to be sourced from Japan. The relative shares of total production sourced from NUMMI and Japan may vary, depending upon Toyota's future production plans.

The Corolla has been a highly successful model for Toyota and is expected to continue to sell in excess of 150,000 units annually, and maintain between eight and nine percent share of the Basic Small segment in the United States. Minor styling changes are expected in 1990 and a completely new replacement is planned for 1992, which will be slightly larger than the current Corolla.



Plant

With an annual capacity of 50,000 units the Cambridge plant is the smallest of the four Canadian transplants. After starting production in November, 1988 the plant is expected to produce 18,000 units in 1989 with a second shift to be added later in the year. The line rate will be increased to reach full production capacity in 1990.

Outlook

The Cambridge plant is part of Toyota's expansion plans in North America, which include a new assembly plant at Georgetown, Kentucky, expansion of the NUMMI facility to include truck production, and production of engines and steering components at other locations. The multiple sourcing of the Corolla will allow Toyota to maintain a high rate of capacity utilization at its North American facilities by varying import levels to match demand.

**HONDA**  
**Alliston, Ontario**

	Model Year Production (000's)					Other Sources
	1984	1985	1986	1987	1988	
Accord/Civic				16		
Civic					50	
						Marysville, OH. Japan
Total				16	50	

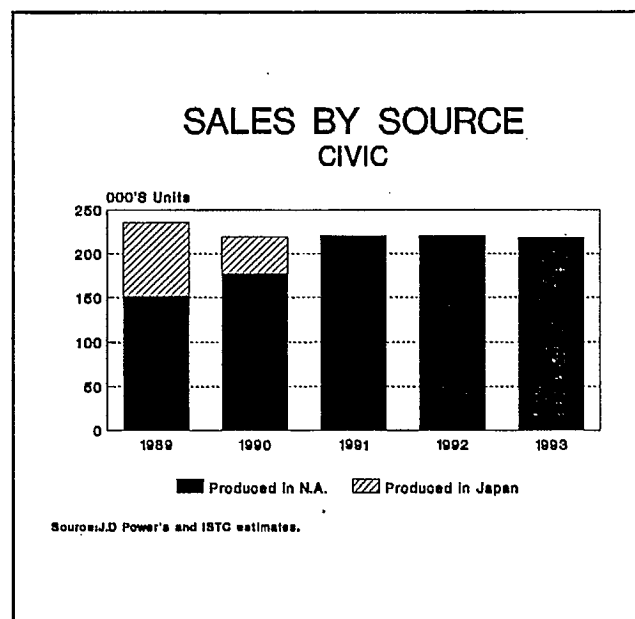
  

	Capacity Utilization (%)				
	1984	1985	1986	1987	1988
				31	63

**Product**

Alliston produces the Civic 3-door hatchback which is included, along with other Civic models, in the Basic Small market segment. These products compete against approximately 30 models in this market segment, the overwhelming majority of which are imports, captives (models imported by the traditional North American assemblers and marketed by their organizations) and joint ventures.

The Civic is one of the leading models in this competitive market segment with 1988 North American sales of 204,000 and a market share of 8%. The Civic has undergone several substantial model changes since it was first introduced, a process which will continue with the introduction of a larger model in the 1991 model year. Civic sales (3 door and 4 door models) are expected to remain consistently above 200,000 units through the forecast period: as the Basic Small segment as a whole is expected to experience declining sales



in response competition from mini cars, however, the Civic's market share is expected to increase to approximately 10 percent.

### Plant

The Alliston plant represents Honda's third assembly line in North America, and the first transplant assembly operation in Canada. After beginning production in November, 1986 the Alliston plant moved from production of both the Accord and Civic to the latter model only, in 1988. Production plans indicate that Honda's North American production of Civics will completely replace imports from Japan in the 1991 model year.

Although the plant has yet to attain its rated capacity of 80,000 units annually, published reports state that the Alliston facility will be capable of producing 100,000 units annually at full production. Honda's North American expansion plans include the establishment of a third production facility at Liberty, Ohio and the supply of the majority of its North American production with American-made engines. Honda plans to export up to 50,000 units to Europe and 20,000 units to Japan by 1990, although specific models to be exported have not been identified.

### Future

Honda's general strength, and particularly in the Civic line, as well as its commitment to production here indicates that the Alliston facility will expand and probably operate at high rates of capacity utilization.

**HYUNDAI**  
**Bromont, Quebec**

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Product	Production Start	Other Sources
Sonata	December, 1988	Korea

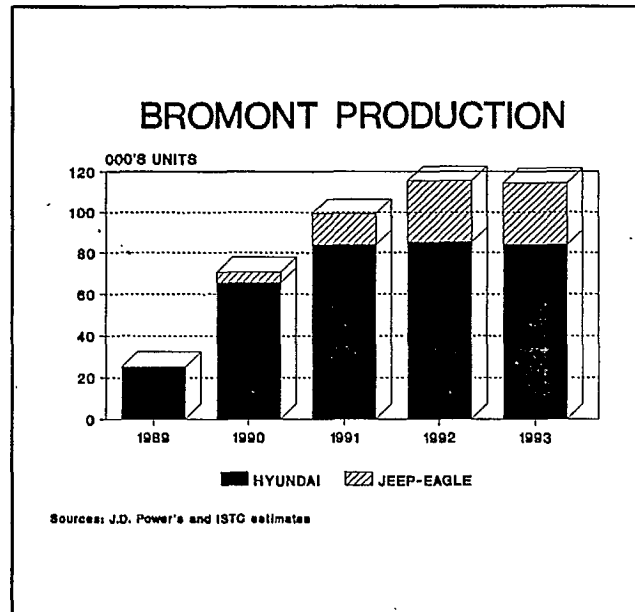
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**Product**

The Sonata is a sedan classified in the Lower Middle car segment, and represents Hyundai's most up-scale entry to date in the North American market. It is intended to compete directly against the Honda Accord and Toyota Camry by offering a similar level of features and comfort but is priced about \$2,350 less. J.D. Power's forecasts suggest that this strategy will allow the Sonata to claim between six percent and seven percent of this market segment in North America through the early 1990's.

**Plant**

Hyundai's plant at Bromont, Quebec, is the company's first outside Korea. It began assembling Sonatas in December 1988 and is expected to produce about 25,000 in calendar year 1989, or 1/4 of its total 100,000 unit capacity. In addition, Hyundai and Chrysler recently announced plans for the Bromont plant to produce 30,000 units annually for Chrysler's Jeep-Eagle division. Production of this model, which is expected to be similar to the Sonata, will begin in the second quarter of 1990.



**Future**

Hyundai's ability to operate the Bromont plant at high rates of capacity utilization was questioned by some analysts for several reasons: this is the company's first assembly operation outside of Korea, its North American sales have swung erratically, and its distribution network is limited. The production arrangement with Chrysler, however, appears to ensure the plant's viability for the foreseeable future (see graph). Combining the production for Chrysler with previously expected Sonata output may actually put the plant in an under-capacity situation, which could result in higher than expected levels of North American Sonata imports.



## Appendix I

## TRANSPLANT OPERATIONS IN NORTH AMERICA

Manufacturer	Location	Announced Capacity (000's)	Date Open
TOYOTA	California-Car (NUMMI)	250	1984
	Truck	100	1991
	Kentucky	220	1988
	Cambridge, Ontario	50	1988
Total Toyota		620	
NISSAN	Tennessee	440	1983
MITSUBISHI	Illinois	240	1988
MAZDA /FORD	Michigan	240	1987
HONDA	Ohio	360	1982
	Ohio	150	1991
	Alliston, Ontario	80	1986
Total Honda		590	
FUJI/ISUZU	Indiana	120	1989
SUZUKI/GM	Ingersoll, Ontario	200	1989
HYUNDAI	Bromont, Quebec	100	1989
VOLVO	Halifax, Nova Scotia	12	1963
TOTAL U.S.		2120	82.7%
TOTAL CANADA		442	17.3%
TOTAL N.A.		2562	

## Appendix II

## CANADIAN ASSEMBLY CAPACITY (000's)

Segment	1993		1988		%
Luxury car	11	0.1%	11	0.1%	
Basic large car	230	8.9%	230	11.4%	
Middle car	1133	43.8%	888	43.8%	
Small	130	5.0%	51	2.5%	
Mini	120	4.6%	0	0.0%	
Total Car	1624	62.6%	1181	57.7%	
Pickup Truck	376	15.1%	376	18.5%	
Utility Truck	161	6.4%	40	2.0%	
Vans	430	17.2%	430	21.2%	
Total Truck	967	31.4%	847	41.8%	
Total Capacity	2591	100.0%	2028	100.0%	

## VEHICLE PRODUCTION BY MODEL/PLANT IN CANADA

PLANT	MODEL	MODEL YEAR		(UNITS)		
		1984	1985	1986	1987	1988
-----	-----	-----	-----	-----	-----	-----
BRAMPTON	JEEP YJ 4X4					31,945
	JEEP YJ			15,222	33,248	13,701
	EAGLE	25,535	16,200	8,130	1,587	1,589
TOTAL BRAMPTON		25,535	16,200	23,352	34,835	47,235
BRAMALEA	PREMIER(L-58)					46,507
WINDSOR	DODGE CARAVAN(T-VAN)		124,410	126,274	135,512	136,957
WINDSOR	VOYAGER(T-VAN)		128,077	120,686	130,080	121,593
WINDSOR	DODGE MINI RAM VAN(T-VAN)		31,812	18,832	17,430	11,878
TOTAL WINDSOR		147,476	284,299	265,792	283,022	270,428
WINDSOR (PILLETTE RD.)	DODGE RAM VAN		77,708	73,756	72,850	63,267
	DODGE RAM WAGDN		46,399	40,095	37,479	24,161
TOTAL PILLETTE RD.		120,440	124,107	113,851	110,329	87,428
	TOTAL CHRYSLER/GMC	293,451	424,606	402,995	428,186	451,598
OAKVILLE	FORD TEMPO(TOPAZ)	142,206	119,881	132,659	105,506	149,853
	MERCURY TOPAZ(TOPAZ)	51,869	34,756	38,851	44,285	54,304
	FORD ESCORT(ERIKA)		63,888	70,593	68,983	
	MERCURY LYNX(ERIKA)		13,254	15,222	5,771	
TOTAL OAKVILLE		194,075	231,779	257,325	224,545	204,157
ST. THOMAS	CROWN VICTORIA(PANTHER)		135,320	138,404	129,189	129,118
	MERCURY MARQUIS(PANTHER)		107,965	120,176	130,745	126,987
	FORD (L)	87,045				
	ESCORT(ERIKA)	40,721				
	LYNX(ERIKA)	9,384				
	MERCURY(L)	58,476				
TOTAL ST. THOMAS		195,626	243,285	258,580	259,934	256,105
DAKVILLE (TRUCK)	FORD LIGHT DUTY TRUCKS (F-SERIES)	134,400	165,636	165,996	141,990	159,325
	TOTAL FORD	524,101	640,700	681,901	626,469	619,587
STE THERESE	BONNEVILLE(G)	53,091	60,353	51,147		
	GRAND PRIX(G)	59,484	62,394	46,707	17,609	
	CUTLASS COUPE(G)		27,664	31,162		
	CUTLASS SUPREME(G)	59,617	3,767	27,747	54,430	
	CELEBRITY(A)				82,501	46,948
	CIERA(A)				7	103,577
TOTAL STE. THERESE		172,192	154,178	156,763	154,547	150,525

PLANT -----	MODEL -----	1984 ----	1985 ----	1986 ----	1987 ----	1988 ----
OSHAWA	PONTIAC(B)	44,743				
	CHEVROLET(B)	179,767	36,616			
	PONTIAC 6000(A)	142,744	145,226	128,557	87,119	56,352
	CELEBRITY(A)	51,853	112,393	200,001		
	CIERA(A)		25,482	90,525	130,926	149,880
	REGAL(W)				2,684	129,721
	LUMINA(W)					
TOTAL OSHAWA		419,107	319,717	419,083	220,729	335,953
OSHAWA (TRUCK)	CHEV LIGHT TRUCKS		124,071	126,335	65,713	140,684
	GMC LIGHT TRUCKS		48,175	46,848	24,193	66,567
TOTAL OSHAWA (TRUCK)	C/K SERIES	N/A	172,246	173,183	89,906	207,251
SCARBOROUGH	CHEV VAN		69,852	73,461	51,274	69,188
	GMC VANDURA		26,946	30,610	24,166	64,074
TOTAL SCARBOROUGH		N/A	96,798	104,071	75,440	133,262
	TOTAL G.M.	N/A	588,761	696,337	386,075	676,466
HALIFAX	VOLVO 240	10,710	10,417	10,227	10,594	
	740					5,595
ALLISTON	HONDA ACCORD/CIVIC				15,679	
	HONDA ACCORD/CIVIC					49,968

SOURCE: MOTOR VEHICLE MANUFACTURERS' ASSOCIATION

CAPACITY UTILIZATION BY PLANT IN CANADA

PLANT -----	MODEL -----	<u>MODEL YEAR</u> (%)				
		1984 ----	1985 ----	1986 ----	1987 ----	1988 ----
BRAMPTON	JEEP YJ 4X4 JEEP YJ EAGLE	88.7	56.2	56.3	121.0	117.1
BRAMALEA	PREMIER					75.7
WINDSOR	DODGE CARAVAN VOYAGER DODGE MINI RAM VAN	N/A	121.2	108.1	115.2	110.0
WINDSOR (PILLETTE RD.)	DODGE RAM VAN DODGE RAM WAGON	N/A	101.9	87.2	128.3	94.9
OAKVILLE	FORD TEMPO MERCURY TOPAZ FORD ESCORT MERCURY LYNX	84.2	100.5	111.7	88.6	88.6
ST. THOMAS	CROWN VICTORIA MERCURY MARQUIS FORD (L) ESCORT LYNX MERCURY	88	115.2	114.1	112.3	111.2
OAKVILLE (TRUCK)	FORD LIGHT DUTY TRUCKS	109.5	113.5	110.2	97.3	109.1
STE THERESE	BONNEVILLE GRAND PRIX CUTLASS COUPE CUTLASS SUPREME CELEBRITY CIERA	99.6	98	90	49	91
OSHAWA	PONTIAC B CHEVROLET B PONTIAC 6000 CELEBRITY CIERA REGAL	105.0	177	68	60	77
OSHAWA (TRUCK)	CHEV LIGHT TRUCKS GMC LIGHT TRUCKS	N/A	99.7	100.2	39.0	89.9
SCARBOROUGH	CHEV VAN GM VANDURA	N/A	98	96	82.4	97.1
HALIFAX	VOLVO 240/740 SERIES			90.4	92.0	55.6
ALLISTON	HONDA ACCORD					44.2

SOURCE: MOTOR VEHICLE MANUFACTURERS' ASSOCIATION  
ISTC

**CAR SEGMENTATION**

<b><u>MINI</u></b>	<b><u>BASIC SMALL</u></b>	<b><u>SPORTS</u></b>	<b><u>SMALL SPORTY</u></b>
CHEVROLET SPRINT Daihatsu Charade Ford Festiva GEO METRO Honda Mini Hyundai Mini Mazda 121 Mitsubishi Mini Nissan Micra Plymouth Small Car Subaru Justy SUZUKI SWIFT Toyota Starlet Volkswagen Fox Zastava Yugo	Chevrolet Chevette Chevrolet Nova Shevrolet Spectrum Dodge Colt Dodge Omni Dodge Shadow Eagle Summit Ford Escort/EXP Geo Prizm Geo Spectrum/Storm HONDA CIVIC Hyundai Excel Isuzu I-Mark Mazda 323 Mercury Lynx Mercury Tracer Mitsubishi Mirage	Mitsubishi Precis Nissan Sentra Plymouth Colt Plymouth Horizon Plymouth Sundance Pontiac LeMans Pontiac 1000 Proton Saga Renault Alliance Subaru DL/GL TOYOTA COROLLA Toyota Tercel Volkswagen Golf/ Cabriolet Yugo Florida	Alfa Romeo GTV-6 Alfa Romeo Spider Chrysler Conquest Mazda RX-7 Mitsubishi Starion Nissan 300ZX Pontiac Fiero Porsche 924S Porsche 944 Saturn Mid-Engine Suzuki R/S-1 Toyota MR2 Toyota Supra
			Acura Integra Chevrolet Beretta Chevrolet Camaro Chrysler Laser Citroen DX Dodge Charger Dodge Daytona Eagle X25 Ford Mustang Ford Probe Honda Civic CRX Honda Prelude Isuzu Impulse Mazda MX6 Mazda SA30
			Mercury Capri (SA30) Mercury Capri (Fox) Mitsubishi Cordia Mitsubishi Tigr Nissan Pulsar NX Nissan 200/240SX Plymouth Laser Plymouth Turismo Pontica Firebird Saturn 2 + 2 Subaru XT Toyota Celica Volkswagen Scirocco/ Corrado

<b><u>LOWER MIDDLE</u></b>	<b><u>UPPER MIDDLE</u></b>	<b><u>MIDDLE SPECIALTY</u></b>
AMC Eagle Buick Skyhawk Buick Skylark Chevrolet Cavalier Chevrolet Corsica Chrysler LeBaron GTS Dodge Aries Dodge Colt Vista Dodge Lancer Dodge Spirit Eagle Medallion FORD TEMPO Honda Accord Honda Tall Wagon HYUNDAI SANATA Lancia Prisma Sonata Mazda 626 Sedan	MERCURY TOPAZ Mitsubishi Tredia/Galant Nissan Stanza Oldsmobile Cutlass Calais Oldsmobile Firenza Peugeot 405 Plymouth Acclaim Plymouth Colt Vista Plymouth Reliant Pontiac Grand Am Pontiac Sunbird Saturn Sedan Toyota Camry Volkswagen Jetta Volkswagen Quantum Yue Loong Feeling X101 Yugo 104	Alpha Romero Milano Audi coupe Audi 80/90 BMW 325 Buick Century BUICK REGAL SEDAN (GM10) CHEVROLET CELEBRITY CHEVROLET LUMINA SEDAN (GM10) Chrysler A Special Chrysler New Yorker/Landau Chrysler LeBaron K Dodge Diplomat Dodge Dynasty Dodge 600 Dodge L58 EAGLE PREMIER
		Ford Taurus Infiniti Near Luxury Sedan Lexus Near Luxury Sedan Mazda 929 Mercury Sable Mitsubishi Galant Sigma Nissan Maxima OLDSMOBILE CUTLASS CIERA Oldsmobile Cutlass Sedan (GM10) Saab 900 Subaru 44B Toyota Cressida
		BUICK REGAL Chevrolet Monte Carlo CHEVROLET LUMINA COUPE (GM10) Chrysler LeBaron Coupe Ford Thunderbird Mercury Cougar Oldsmobile Cutlass Supreme Pontiac Grand Prix

<b><u>BASIC LARGE</u></b>	<b><u>LUXURY</u></b>		
Buick LeSabre Buick Roadmaster Chevrolet Caprice FORD CROWN VICTORIA MERCURY GRAND MARQUIS Oldsmobile Delta 88 Pontiac Bonneville	Acura Legend Acura Model U Alfa Romero 164 Audi 100/200 Audi V-8 BMW 528e/535i BMW 735i/750iL Buick Electra Buick Riviera Cadillac Cimarron Cadillac Deville/ Fleetwood	Cadillac Eldorado Cadillac Brougham Cadillac Pinninfarina Sedan Cadillac Seville Chrysler Fifth Avenue Chrysler Fifth Avenue Y Chrysler Imperial Y Chrysler New Yorker E Chrysler Q41 Infiniti Sedan Infiniti Coupe	Jaguar XJ6 Lancia Thema 8.32 Lexus Coupe Lexus Sedan Lincoln Mark VII Lincoln Continental Lincoln Town Car Maserati Biturbo Mercedes-Benz 190 Series Mercedes-Benz 300 Series Mercedes-Benz S Class
			Scorpio Oldsmobile Ninety-Eight Oldsmobile Toronado Oldsmobile O Car Rolls Royce Saab 9000 Sterling 825/827S/SL/SE VOLVO 740 Volvo 760 Volvo 780

**LUXURY SPORTS**

Accura Sports Car BMW 635CSi Buick Reatta	Cadillac Allante Chevrolet Corvette Chrysler TC	Ferrari Jaguar XJ41 Jaguar XJS	Mercedes-Benz SL Porsche 911 Porsche 928S
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Source: The Power Forecast

NOTE: Model name in capitals indicates MADE IN CANADA.

**LIGHT TRUCK SEGMENTATION****PICKUP TRUCK SEGMENT****COMPACT**

Chevrolet S-10  
 Dodge Dakota  
 Dodge Ram 50  
 Ford Ranger  
 Ford Mid Size  
 GMC S-15  
 Isuzu Pickup

Jeep Comanche  
 Mazda B/2000/220/2600 Series  
 Mitsubishi Pickup  
 Nissan Pickup  
 Subaru Brat  
 Toyota Pickup  
 Toyota Mid Size

**FULL SIZE**

CHEVROLET C/K SERIES  
 Dodge D Series  
 FORD F SERIES  
 GMC C/K SERIES

**SPORT UTILITY SEGMENT****COMPACT/MINI**

Chevrolet S-10 Blazer  
 Dodge 2D  
 Daihatsu Rocky II  
 Ford Bronco II  
 Geo Tracker  
 GMC S-15 Jimmy  
 Isuzu Trooper II  
 Isuzu Amigo  
 Jeep Cherokee  
 Jeep Jeepster

JEEP YJ  
 Jeep Wagoneer  
 Mazda UN46  
 Mitsubishi Montero  
 Nissan Pathfinder  
 Suzuki Samurai  
 SUZUKI SIDEKICK  
 Toyota LandCruiser  
 Toyota 4-Runner  
 Yugo TCX

**FULL SIZE**

Chevrolet Blazer  
 Chevrolet/GMC Suburban  
 Dodge Ramcharger  
 Ford Bronco  
 GMC Jimmy  
 Jeep Grand Wagoneer  
 Range Rover  
 La Forza

**VAN SEGMENT****COMPACT**

Chevrolet Astro  
 Chevrolet Lumina Van (GM200)  
 DODGE CARAVAN  
 DODGE MINI RAM VAN  
 Ford Aerostar  
 GMC Safari  
 Isuzu NVT-2 Van  
 Mazda Van

Mercury VX54 Van  
 Mitsubishi Van  
 Nissan Van  
 Nissan VX54 Van  
 PLYMOUTH VOYAGER  
 Pontiac Trans Sport Van (GM200)  
 Toyota Van  
 Volkswagen Vanagon

**FULL SIZE**

CHEVROLET SPORTVAN  
 CHEVROLET VAN  
 DODGE RAM WAGON  
 DODGE RAM VAN  
 Ford Club Wagon  
 Ford Econoline  
 GMC RALLY/VANDURA

Source: The Power Forecast

NOTE: Model name in capitals indicates MADE IN CANADA.

## NORTH AMERICAN PRODUCTION CAPACITY

## APPENDIX VI

ASSEMBLY PLANTS	BODY TYPE/ MODEL		1988 MODEL YEAR				*	1989 MODEL YEAR					1990 MODEL YEAR				
			LINE RATE	SHIFTS	CAPACITY	LINE RATE		SHIFTS	CAPACITY	LINE RATE	SHIFTS		CAPACITY				
UNITED STATES																	
G.M. CARS																	
ARLINGTON TX	D-Cadillac,B-Caprice	*	60	2	230400	*	44	2	170496	*	44.4	2	170496	*			
	H-Olds 88	*				*				*				*			
BOWLING GREEN KY	Y-Corvette	*	16	1	30720	*	14	1	26880	*	11.	1	21120	*			
DORAVILLE GA	W-Supreme	*	55	2	211200	*	45	2	172800	*	45	2	172800	*			
FAIRFAX KS	W-Grand Prix	*	70	2	268800	*	42	2	161280	*	50	2	192000	*			
FRAMINGHAM MA	A-Ciera	*	42	2	161280	*	49	1	94080	*	CLOSED PERMANENTLY 1989				*		
LAKEWOOD,GA	B-Caprice,H-LeSabre	*	43	2	165120	*	38	1	72960	*	38	1	72960	*			
		*				*				*				*			
LINDEN NJ	L-Beretta/Corsica	*	60	2	230400	*	64	2	245760	*	58.5	2	224640	*			
OKLAHOMA CITY OK	A-Celebrity,Century, 6000	*	75	2	288000	*	68	2	261120	*	67.8	2	260352	*			
		*				*				*				*			
VAN NUYS CA	F-Camaro/Firebird	*	60	2	230400	*	51	2	193920	*	50.5	2	193920	*			
WILMINGTON DE	L-Beretta/Corsica	*	60	2	230400	*	59	2	224640	*	58.5	2	224640	*			
TARRYTOWN NY	A-6000/Century	*	50	2	192000	*	50	2	193152	*	50.3	2	193152	*			
BUICK CITY,FLINT,MI.	H-LeSabre	*	60	1	115200	*	65	2	249600	*	65	1	124800	*			
HAMTRAMCK MI		*				*				*				*			
LINE 1	E-Eldorado,Toronado	*	54	1	103680	*	54	2	207360	*	54	2	207360	*			
	E-Riviera,K-Seville	*				*				*				*			
LINE 2	Allante	*	1.8	1	3456	*	1.8	1	3456	*	1.8	1	3456	*			
JANESVILLE WI	J-Cavalier,Skyhawk	*	52	2	199680	*	56	2	215040	*	56	2	215040	*			
LANSING MI A	J-Calais,Skyhawk	*	60	2	230400	*	60	2	230400	*	60	2	230400	*			
LANSING MI B	N-Grandam	*	60	2	230400	*	60	2	230400	*	60	2	230400	*			
LORDSTOWN OH	J-Cavalier,Sunbird	*	68	2	261120	*	65	2	249600	*	67.5	2	259200	*			
ORION MI	C-Olds 98,Cadillac	*	60	2	230400	*	68	2	261120	*	68	2	261120	*			
WENTZVILLE MO	C-Electra,Olds 98	*	60	1	115200	*	61	2	233856	*	60.9	2	233856	*			
	H-Delta 88	*				*				*				*			
WILLOW RUN MI	H-Olds 88,Bonneville	*	63	2	241920	*	65	2	248064	*	64.6	2	248064	*			
SATURN	Car	*				*				*	0	1		*			
RAMOS,MEX	A-Celebrity,Ciera				60000				120000				120000				
PONTIAC MI #8		*	CLOSED PERMANENTLY 1987				*	CLOSED PERMANENTLY 1987				*	CLOSED PERMANENTLY 1987				*
PONTIAC MI #1	P-Fiero	*	30	1	57600	*	CLOSED 8/16/88			0	*	CLOSED 8/16/88			0	*	

CLARK AVE.,DETROIT MI													
LEEDS MO													
NORWOOD OH													
G.M. CAR - TOTAL													
GM TRUCK													
BALTIMORE MA	Astro Van,Safari		44	2	168960		47	2	180480		47	2	180480
JANESVILLE WI	R/V Pickups		24	2	92160		16	2	61440		16	2	61440
LORDSTOWN OH	G-Full Sized Van		30	2	115200		30	2	114432		29.8	2	114432
SHREVEPORT LA	S-10 Pickup,Extended cab,Blazer		45	2	172800		45	2	172800		45	2	172800
DETROIT MI	rec. veh. chassis		24	1	46080		26	2	97920		25.5	2	97920
MORaine OH	Chev.S-10,GMC S-15		54	2	207360		54	2	207360		54	2	207360
FLINT MI	Suburban,Blazer,Jimmy		32	2	122880		33	2	125184		32.6	2	125184
PONTIAC MI													
EAST PLANT	Chev.GMC pickups		54	2	207360		60	1	115200		60	2	230400
WEST PLANT	S-10Blazer,S-15Jimmy		30	2	115200		30	2	115200		30	2	115200
FORT WAYNE IN	Chev,CK,GMC Sierra		60	2	230400		60	2	230400		60	2	230400
G.M. TRUCK - TOTAL					1478400				1420416				1535616
G. M. - TOTAL					5566176				5486400				5395392
FORD CARS													
LORAIN OH	Thunderbird/Cougar		70	2	268800		78	2	299520		70	2	268800
DEARBORN MI	Fox-Mustang		46	1	88320		54	2	207360		54	1	103680
WIXOM MI	Panther-Linc.,MarkVII Continental		46	2	176640		46	2	176640		46	2	176640
EDISON NJ	Erika-Escort		56	2	215040		56	1	107520		56	2	215040
WAYNE MI	Erika-Escort		66	2	253440		68.5	2	263040		66	2	253440
KANSAS CITY MO	Topaz		55	2	211200		55	2	211200		55	2	211200
ATLANTA GA	Taurus		64	1	122880		64	2	245760		64	1	122880
CHICAGO IL	Taurus		64	2	245760		64	2	245760		64	2	245760
HERMOSILLO,MEX	CT-18 - Tracer				60000				55000				120000
FORD CARS - TOTAL					1642080				1811800				1717440
FORD TRUCKS													
KANSAS CITY MO	F-pickups,Supercabs		37	2	142080		37.5	2	144000		37	2	142080
NORFOLK VA	F-pickups		40	2	153600		45	1	86400		40	2	153600
TWIN CITIES MN													
LINE 1	F-pickups		17.2	2	66048		17.2	2	66048		17.2	2	66048



LINE 2	Ranger Super Cab	*	25.9	2	99456	*	25.9	2	99456	*	25.9	2	99456	*
LORAIN	Econoline Van,Club Wa	*	51	2	195840	*	51	2	195840	*	51	2	195840	*
LOUISVILLE KY	BroncoII,Ranger	*	76	2	291840	*	76	2	291840	*	76	2	291840	*
ST.LOUIS MO	Aerostar	*	44	2	168960	*	50	2	192000	*	50	2	192000	*
WAYNE,MI	Bronco,F-pickups	*	45	1	86400	*	45	2	172800	*	45	2	172800	*
AVON LAKE	Mini van													
FORD TRUCKS - TOTAL		*			1204224	*			1248384	*			1313664	*
FORD - TOTAL		*			2846304	*			3060184	*			3031104	*
CHRYSLER CARS		*				*				*				*
BELVIDERE IL	C-New Yorker,Dynasty	*	50	1	96000	*	59	2	226560	*	59	2	226560	*
NEWARK DE	A-Acclaim,Spirit	*	60	2	230400	*	60	1	115200	*	60	2	230400	*
JEFFERSON AVE.	K-Reliant,Aires	*	59	2	226560	*	57	2	218880	*	59	2	226560	*
STERLING HEIGHTS MI	H-Lancer,LeBaron GTS	*	60	2	230400	*	60	2	230400	*	60	2	230400	*
	P-Sundance,Shadow	*				*				*				*
ST.LOUIS MO(PLANT 1)	G-Daytona,J-LeBaron	*	59	2	226560	*	54	2	207360	*	59	2	226560	*
KENOSHA WI		*				*	CLOSED			*	CLOSED			*
LINE 1	M-Diplomat.New Yorker	*	23	1	44160	*				*			0	*
LINE 2	L-Omni.Horizon	*	73	2	280320	*				*			0	*
MEXICO CITY,MEX	K-Reliant				50000				50000				50000	
CHRYSLER CARS - TOTAL		*			1384400	*			1048400	*			1190480	*
		*				*				*				*
CHRYSLER TRUCKS		*				*				*				*
ST.LOUIS MO	Extended T-Van	*	38	2	145920	*	44	2	168960	*	44	2	168960	*
WARREN MI	Dakota,Ram pickup	*	60	2	230400	*	56	2	215040	*	60	2	230400	*
TOLEDO OH	Comanche,Cherokee, Wagoneer	*	57	2	218880	*	63	2	241920	*	63	2	241920	*
JEFFERSON AVE, MI (NEW)														
CHRYSLER TRUCKS - TOTAL		*			595200	*			625920	*			641280	*
CHRYSLER - TOTAL		*			1979600	*			1674320	*			1831760	*
		*				*				*				*
TRANSPLANTS - U.S.		*				*				*				*
MAZDA	626-Probe,MX-6	*	39.1	2	150000	*	78.1	2	240000	*	78.1	2	240000	*
VOLKSWAGEN		*	50.0	1	96000	*	CLOSED			*	CLOSED			*
HONDA					360000				360000				360000	
MARYSVILLE	Accord/Civic	*	93.8	2	360000	*	93.8	2	360000	*	93.8	2	360000	*
EAST LIBERTY	Civic	*				*				*	60			*
NISSAN		*			220000	*			220000	*			220000	*
LINE 1	Sentra	*	28.6	2	110000	*	28.6	2	110000	*	28.6	2	110000	*

LINE 2	Truck	*	28.6	2	110000	*	28.6	2	110000	*	28.6	2	110000	*
LINE 3	Lower Middle													
TOYOTA		*	10.4	1	20000	*	52.1	2	150000	*	52.1	2	200000	*
NUMMI					250000									
LINE 1	Prism/Corolla	*	65.1	2	250000	*	65	2	250000	*	65	2	250000	*
LINE 2	Truck	*				*				*				*
DIAMOND STAR	Laser/Eclipse	*				*	52.1	1	100000	*	62.5	2	240000	*
FUJI/ISUZU	Subaru Sedan	*				*	15.6	1	30000	*	31.3	2	120000	*
U.S. TRANSPLANTS - CAR					986000				1240000				1520000	
U.S. TRANSPLANTS - TRUCK					110000				110000				110000	
U.S. TRANSPLANTS - TOTAL					1096000				1350000				1630000	
U.S. CARS - TOTAL		*			8100256	*			8166184	*			8287696	*
U.S. TRUCKS - TOTAL		*			3387824	*			3404720	*			3600560	*
U.S. - TOTAL		*			11488080	*			11570904	*			11888256	*
CANADA		*				*				*				*
-----		*				*				*				*
G.M. CANADA		*				*				*				*
OSHAWA ONT		*				*				*				*
(LINE 1)	W-Lumina	*	70	2	268800	*	68	2	261120	*	68	2	261120	*
(LINE 2)	W-Regal, Lumina	*	68	2	151000	*	68	2	261120	*	68	2	261120	*
OSHAWA TRUCK	GMT400	*	60	2	230400	*	60	2	230400	*	60	2	230400	*
ST. THERESE	A-Ciera, Celebr. St. W.	*	46	2	176640	*	46	2	176640	*	44.5	2	170880	*
SCARBOROUGH	G-Full Sized Van	*	24	2	92160	*	24	2	92160	*	24	2	92160	*
G.M. CAR - TOTAL		*			596440	*			698880	*			693120	*
G.M. TRUCK - TOTAL		*			322560	*			322560	*			322560	*
G.M. CANADA - TOTAL		*			919000	*			1021440	*			1015680	*
FORD CANADA		*				*				*				*
OAKVILLE ONT	Topaz-Tempo/Topaz	*	60	2	230400	*	60	2	230400	*	60	2	230400	*
ST. THOMAS ONT	Panther-Grand Marquis	*	60	2	230400	*	60	2	230400	*	60	2	230400	*
	Crown Victoria													
ONTARIO TRUCK	F-series	*	38	2	145920	*	38	2	145920	*	38	2	145920	*
FORD CAR - TOTAL		*			460800	*			460800	*			460800	*
FORD TRUCK - TOTAL		*			145920	*			145920	*			145920	*
FORD CANADA - TOTAL		*			606720	*			606720	*			606720	*
		*				*				*				*

CHRYSLER CANADA		*			*			*			*			
WINDSOR ONT	T-Voyager, Caravan,	*	64	2	245760	*	64	2	245760	*	64	2	245760	*
	Mini-Ram Van	*				*				*				*
PILETTE RD., WINDSOR	Ram Wagon, Ram Van	*	24	2	92160	*	24	2	92160	*	24	2	92160	*
BRAMPTON	Jeep YJ	*	21	1	40320	*	42	1	80640	*	42	1	80640	*
BRAMALEA	L58-Premier/D58	*	32	1	61440	*	32	1	61440	*	57	1	109440	*
CHRYSLER CAR - TOTAL		*			61440	*			61440	*			109440	*
CHRYSLER TRUCK - TOTAL		*			378240	*			418560	*			418560	*
CHRYSLER CANADA - TOTAL		*			439680	*			480000	*			528000	*
		*				*				*				*
CANADA - TRADITIONAL		*				*				*				*
CAR		*			1118680	*			1221120	*			1263360	*
TRUCK		*			846720	*			887040	*			887040	*
TOTAL		*			1965400	*			2108160	*			2150400	*
		*				*				*				*
CANADA - TRANSPLANTS		*				*				*				*
CAMI, INGERSOLL - CAR	Sprint/Metro	*				*				*			40000	*
- TRUCK	Tracker/Sidekick	*				*	9	1	30000	*	21	1	40000	*
TOYOTA, CAMBRIDGE	Corolla	*			150	*	21	1	18000	*	21	1	40000	*
HONDA, ALLISTON	Accord, Civic	*	13	2	50000	*	13	2	80000	*	26	2	80000	*
HYUNDAI, BROMONT	Sonata	*				*	6	1	25000	*	6	1	50000	*
VOLVO, HALIFAX	740	*	6	1	11520	*	6	1	11520	*	6	1	11520	*
CDN. TRANSPLANTS - CAR		*			61670	*			164520	*			221520	*
CDN. TRANSPLANTS - TRUCK		*			0	*			30000	*			40000	*
CDN. TRANSPLANTS - TOTAL		*			61670	*			194520	*			261520	*
		*				*				*				*
CANADA - CAR		*			1180350	*			1385640	*			1484880	*
CANADA - TRUCK		*			846720	*			917040	*			927040	*
CANADA - TOTAL		*			2027070	*			2302680	*			2411920	*
		*				*				*				*
N.A. - CAR TOTAL		*			9280606	*			9551824	*			9772576	*
N.A. - TRUCK TOTAL		*			4234544	*			4321760	*			4527600	*
N.A. - TOTAL		*			13515150	*			13873584	*			14300176	*

## NORTH AMERICAN PRODUCTION CAPACITY

## APPENDIX VI

ASSEMBLY PLANTS	BODY TYPE/ MODEL		1991 MODEL YEAR			1992 MODEL YEAR			1993 MODEL YEAR					
			SHIFTS	CAPACITY		LINE RATE	SHIFTS	CAPACITY	LINE RATE	SHIFTS	CAPACITY			
UNITED STATES														
G.M. CARS														
ARLINGTON TX	D-Cadillac,B-Caprice	*	44.4	2	170496	*	44.4	2	170496	*	44.4	2	170496	*
	H-Olds 88	*				*				*				*
BOWLING GREEN KY	Y-Corvette	*	11	1	21120	*	11	1	21120	*	11	1	21120	*
DORAVILLE GA	W-Supreme	*	45	2	172800	*	45	2	172800	*	45	2	172800	*
FAIRFAX KS	W-Grand Prix	*	50	2	192000	*	50	2	192000	*	50	2	192000	*
FRAMINGHAM MA	A-Ciera	*	CLOSED PERMANENTLY 1989			*	CLOSED PERMANENTLY 1989			*	CLOSED PERMANENTLY 1989			*
LAKEWOOD,GA	B-Caprice,H-LeSabre	*	38	1	72960	*	38	1	72960	*	38	1	72960	*
		*				*				*				*
LINDEN NJ	L-Beretta/Corsica	*	58.5	2	224640	*	58.5	2	224640	*	58.5	2	224640	*
OKLAHOMA CITY OK	A-Celebrity,Century, 6000	*	67.8	2	260352	*	67.8	2	260352	*	67.8	2	260352	*
		*				*				*				*
VAN NUYS CA	F-Camaro/Firebird	*	50.5	2	193920	*	50.5	2	193920	*	50.5	2	193920	*
WILMINGTON DE	L-Beretta/Corsica	*	58.5	2	224640	*	58.5	2	224640	*	58.5	2	224640	*
TARRYTOWN NY	A-6000/Century	*	50.3	2	193152	*	50.3	2	193152	*	50.3	2	193152	*
BUICK CITY,FLINT,MI.	H-LeSabre	*	65	1	124800	*	65	1	124800	*	65	1	124800	*
HAMTRAMCK MI		*				*				*				*
LINE 1	E-Eldorado,Toronado	*	54	2	207360	*	54	2	207360	*	54	2	207360	*
	E-Riviera,K-Seville	*				*				*				*
LINE 2	Allante	*	1.8	1	3456	*	1.8	1	3456	*	1.8	1	3456	*
JANESVILLE WI	J-Cavalier,Skyhawk	*	56	2	215040	*	56	2	215040	*	56	2	215040	*
LANSING MI A	J-Calais,Skyhawk	*	60	2	230400	*	60	2	230400	*	60	2	230400	*
LANSING MI B	N-Grandam	*	60	2	230400	*	60	2	230400	*	60	2	230400	*
LORDSTOWN OH	J-Cavalier,Sunbird	*	67.5	2	259200	*	67.5	2	259200	*	67.5	2	259200	*
ORION MI	C-Olds 98,Cadillac	*	68	2	261120	*	68	2	261120	*	68	2	261120	*
WENTZVILLE MO	C-Electra,Olds 98	*	60.9	2	233856	*	60.9	2	233856	*	60.9	2	233856	*
	H-Delta 88	*				*				*				*
WILLOW RUN MI	H-Olds 88,Bonneville	*	64.6	2	248064	*	64.6	2	248064	*	64.6	2	248064	*
SATURN	Car	*	0	1		*	ERR	1	200000	*	ERR	1	200000	*
RAMOS,MEX	A-Celebrity,Ciera				120000				120000				120000	
PONTIAC MI #8		*	CLOSED PERMANENTLY 1987			*	CLOSED PERMANENTLY 1987			*	CLOSED PERMANENTLY 1987			*
PONTIAC MI #1	P-Fiero	*	CLOSED 8/16/88			*	CLOSED 8/16/88			*	CLOSED 8/16/88			*

				* CLOSED PERMANENTLY 1987	* CLOSED PERMANENTLY 1987	* CLOSED PERMANENTLY 1987	* CLOSED PERMANENTLY 1987
CLARK AVE.,DETROIT MI							
LEEDS MO							
NORWOOD OH							
G.M. CAR - TOTAL				3859776	4059776	4059776	
GM TRUCK							
BALTIMORE MA	Astro Van,Safari	47	2	180480	47	2	180480
JANESVILLE WI	R/V Pickups	16	2	61440	16	2	61440
LORDSTOWN OH	G-Full Sized Van	29.8	2	114432	29.8	2	114432
SHREVEPORT LA	S-10 Pickup,Extended cab,Blazer	45	2	172800	45	2	172800
DETROIT MI	rec. veh. chassis	25.5	2	97920	25.5	2	97920
MORaine OH	Chev.S-10,GMC S-15	54	2	207360	54	2	207360
FLINT MI	Suburban,Blazer,Jimmy	32.6	2	125184	32.6	2	125184
PONTIAC MI							
EAST PLANT	Chev.GMC pickups	60	2	230400	60	2	230400
WEST PLANT	S-10Blazer,S-15Jimmy	30	2	115200	30	2	115200
FORT WAYNE IN	Chev,CK,GMC Sierra	60	2	230400	60	2	230400
G.M. TRUCK - TOTAL				1535616	1535616		1535616
G. M. - TOTAL				5395392	5595392		5595392
FORD CARS							
LORAIN OH	Thunderbird/Cougar	70	2	268800	70	2	268800
DEARBORN MI	Fox-Mustang	54	1	103680	54	1	103680
WIXOM MI	Panther-Linc.,MarkVII	46	2	176640	46	2	176640
EDISON NJ	Continental	56	2	215040	56	2	215040
WAYNE MI	Erika-Escort	66	2	253440	66	2	253440
KANSAS CITY MO	Topaz	55	2	211200	55	2	211200
ATLANTA GA	Taurus	64	1	122880	64	1	122880
CHICAGO IL	Taurus	64	2	245760	64	2	245760
HERMOSILLO,MEX	CT-18 - Tracer			180000			180000
FORD CARS - TOTAL				1777440	1777440		1777440
FORD TRUCKS							
KANSAS CITY MO	F-pickups,Supercabs	37	2	142080	37	2	142080
NORFOLK VA	F-pickups	40	2	153600	40	2	153600
TWIN CITIES MN							
LINE 1	F-pickups	17.2	2	66048	17.2	2	66048

LINE 2	Ranger Super Cab	*	25.9	2	99456	*	25.9	2	99456	*	25.9	2	99456	*
LORAIN	Econoline Van, Club Wa	*	51	2	195840	*	51	2	195840	*	51	2	195840	*
LOUISVILLE KY	BroncoII, Ranger	*	76	2	291840	*	76	2	291840	*	76	2	291840	*
ST. LOUIS MO	Aerostar	*	50	2	192000	*	50	2	192000	*	50	2	192000	*
WAYNE, MI	Bronco, F-pickups	*	45	2	172800	*	45	2	172800	*	45	2	172800	*
AVON LAKE	Mini van						35.2	2	135000		35.2	2	135000	
FORD TRUCKS - TOTAL		*			1313664	*			1448664	*			1448664	*
FORD - TOTAL		*			3091104	*			3226104	*			3226104	*
CHRYSLER CARS		*				*				*				*
BELVIDERE IL	C-New Yorker, Dynasty	*	59	2	226560	*	59	2	226560	*	59	2	226560	*
NEWARK DE	A-Acclaim, Spirit	*	60	2	230400	*	60	2	230400	*	60	2	230400	*
JEFFERSON AVE.	K-Reliant, Aires	*	59	2	226560	*	59	2	226560	*	59	2	226560	*
STERLING HEIGHTS MI	H-Lancer, LeBaron GTS	*	60	2	230400	*	60	2	230400	*	60	2	230400	*
	P-Sundance, Shadow	*				*				*				*
ST. LOUIS MO (PLANT 1)	G-Daytona, J-LeBaron	*	59	2	226560	*	59	2	226560	*	59	2	226560	*
KENOSHA WI		*	CLOSED			*	CLOSED			*	CLOSED			*
LINE 1	M-Diplomat, New Yorker	*			0	*			0	*			0	*
LINE 2	L-Omni, Horizon	*			0	*			0	*			0	*
MEXICO CITY, MEX	K-Reliant				50000				50000				50000	
CHRYSLER CARS - TOTAL		*			1190480	*			1190480	*			1190480	*
		*				*				*				*
CHRYSLER TRUCKS		*				*				*				*
ST. LOUIS MO	Extended T-Van	*	44	2	168960	*	44	2	168960	*	44	2	168960	*
WARREN MI	Dakota, Ram pickup	*	60	2	230400	*	60	2	230400	*	60	2	230400	*
TOLEDO OH	Comanche, Cherokee, Wagoneer	*	63	2	241920	*	63	2	241920	*	63	2	241920	*
		*				*				*				*
JEFFERSON AVE, MI (NEW)									50000				240000	
CHRYSLER TRUCKS - TOTAL		*			641280	*			691280	*			881280	*
CHRYSLER - TOTAL		*			1831760	*			1881760	*			2071760	*
		*				*				*				*
TRANSPLANTS - U.S.		*				*				*				*
MAZDA	626-Probe, MX-6	*	78.1	2	240000	*	78.1	2	240000	*	78.1	2	240000	*
VOLKSWAGEN		*	CLOSED			*	CLOSED			*	CLOSED			*
HONDA					475000				510000				510000	
MARYSVILLE	Accord/Civic	*	93.8	2	360000	*	93.8	2	360000	*	93.8	2	360000	*
EAST LIBERTY	Civic	*	29.9	2	115000	*	39.1	2	150000	*	39.1	2	150000	*
NISSAN		*			220000	*			270000	*			440000	*
LINE 1	Sentra	*	28.6	2	110000	*	28.6	2	110000	*	28.6	2	110000	*

LINE 2	Truck	*	28.6	2	110000	*	28.6	2	110000	*	28.6	2	110000	*
LINE 3	Lower Middle								50000		57.3	2	220000	
TOYOTA		*	52.1	2	200000	*	52.1	2	200000	*	52.1	2	200000	*
NUMMI									350000				350000	
LINE 1	Prism/Corolla	*	65	2	250000	*	65	2	250000	*	65	2	250000	*
LINE 2	Truck	*				*			100000	*			100000	*
DIAMOND STAR	Laser/Eclipse	*	62.5	2	240000	*	62.5	2	240000	*	62.5	2	240000	*
FUJI/ISUZU	Subaru Sedan	*	31.3	2	120000	*	31.3	2	120000	*	31.3	2	120000	*
U.S. TRANSPLANTS -CAR					1635000		1720000						1890000	
U.S. TRANSPLANTS - TRUCK					110000		210000						210000	
U.S. TRANSPLANTS - TOTAL					1745000		1930000						2100000	
U.S. CARS - TOTAL					8462696	*	8747696					*	8917696	*
U.S. TRUCKS - TOTAL					3600560	*	3885560					*	4075560	*
U.S. - TOTAL					12063256	*	12633256					*	12993256	*
CANADA						*						*		*
-----						*						*		*
G.M. CANADA						*						*		*
OSHAWA ONT						*						*		*
(LINE 1)	W-Lumina	*	68	2	261120	*	68	2	261120	*	68	2	261120	*
(LINE 2)	W-Regal,Lumina	*	68	2	261120	*	68	2	261120	*	68	2	261120	*
OSHAWA TRUCK	GMT400	*	60	2	230400	*	60	2	230400	*	60	2	230400	*
ST. THERESE	A-Ciera,Celebr.St.W.	*	44.5	2	170880	*	44.5	2	170880	*	44.5	2	170880	*
SCARBOROUGH	G-Full Sized Van	*	24	2	92160	*	24	2	92160	*	24	2	92160	*
G.M. CAR - TOTAL					693120	*	693120					*	693120	*
G.M. TRUCK - TOTAL					322560	*	322560					*	322560	*
G.M. CANADA - TOTAL					1015680	*	1015680					*	1015680	*
						*						*		*
FORD CANADA						*						*		*
OAKVILLE ONT	Topaz-Tempo/Topaz	*	60	2	230400	*	60	2	230400	*	60	2	230400	*
ST.THOMAS ONT	Panther-Grand Marquis	*	60	2	230400	*	60	2	230400	*	60	2	230400	*
	Crown Victoria													
ONTARIO TRUCK	F-series	*	38	2	145920	*	38	2	145920	*	38	2	145920	*
FORD CAR - TOTAL					460800	*	460800					*	460800	*
FORD TRUCK - TOTAL					145920	*	145920					*	145920	*
FORD CANADA - TOTAL					606720	*	606720					*	606720	*
						*						*		*

CHRYSLER CANADA		*			*			*			*			
WINDSOR ONT	T-Voyager, Caravan,	*	64	2	245760	*	64	2	245760	*	64	2	245760	*
	Mini-Ram Van	*				*				*				*
PILETTE RD., WINDSOR	Ram Wagon, Ram Van	*	24	2	92160	*	24	2	92160	*	24	2	92160	*
BRAMPTON	Jeep YJ	*	42	2	161280	*	21	2	80640	*	21	2	80640	*
BRAMALEA	L58-Premier/D58	*	57	1	109440	*	60	1	109440	*	60	1	109440	*
CHRYSLER CAR - TOTAL		*			109440	*			109440	*			109440	*
CHRYSLER TRUCK - TOTAL		*			499200	*			418560	*			418560	*
CHRYSLER CANADA - TOTAL		*			608640	*			528000	*			528000	*
		*				*				*				*
CANADA - TRADITIONAL		*				*				*				*
CAR		*			1263360	*			1263360	*			1263360	*
TRUCK		*			967680	*			887040	*			887040	*
TOTAL		*			2231040	*			2150400	*			2150400	*
		*				*				*				*
CANADA - TRANSPLANTS		*				*				*				*
CAMI, INGERSOLL - CAR	Sprint/Metro	*	31	2	120000	*	31	2	120000	*	31	2	120000	*
- TRUCK	Tracker/Sidekick	*	21	2	80000	*	21	2	80000	*	21	2	80000	*
TOYOTA, CAMBRIDGE	Corolla	*	13	2	50000	*	13	2	50000	*	13	2	50000	*
HONDA, ALLISTON	Accord, Civic	*	21	2	80000	*	21	2	80000	*	21	2	80000	*
HYUNDAI, BROMONT	Sonata	*	26	2	100000	*	26	2	100000	*	26	2	100000	*
VOLVO, HALIFAX	740	*	6	1	11520	*	6	1	11520	*	6	1	11520	*
CDN. TRANSPLANTS - CAR		*			361520	*			361520	*			361520	*
CDN. TRANSPLANTS - TRUCK		*			80000	*			80000	*			80000	*
CDN. TRANSPLANTS - TOTAL		*			441520	*			441520	*			441520	*
		*				*				*				*
CANADA - CAR		*			1624880	*			1624880	*			1624880	*
CANADA - TRUCK		*			1047680	*			967040	*			967040	*
CANADA - TOTAL		*			2672560	*			2591920	*			2591920	*
		*				*				*				*
N.A. - CAR TOTAL		*			10087576	*			10372576	*			10542576	*
N.A. - TRUCK TOTAL		*			4648240	*			4852600	*			5042600	*
N.A. - TOTAL		*			14735816	*			15225176	*			15585176	*



**DATE DUE - DATE DE RETOUR**

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INDUSTRY CANADA/INDUSTRIE CANADA



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