



CCI Notes

10/15

Paintings: Considerations Prior to Travel

Introduction

Paintings in transit are exposed to conditions that may promote cracking, cleaving, and flaking of paint and ground layers. Common hazards include vibration, shock, improper handling, and fluctuations in relative humidity and temperature (Note: A painting is more easily stressed in cool temperatures, and should not travel in an unheated vehicle in the winter). Paintings that have already shown signs of weakness are particularly vulnerable. It is important to remember that damage can develop gradually and may not be immediately apparent.

A painting's suitability for travel will depend upon its materials, its construction, and its past and present condition. The criteria for assessing its stability in relation to travel are more stringent than those used for display. For example, a canvas support that is strong enough to allow a painting to be displayed may be too weak for travel.

To identify potential problems associated with the transportation of a painting, a careful examination is necessary. The following text identifies potential problem areas according to components of a painting.

Paint and Ground Layers

These layers must be closely inspected for signs of instability.^{1,2,3}

Previous condition and treatment records will indicate if the work has a recurring problem of cleavage, flaking paint, or ground. If so, the painting will require careful monitoring and perhaps periodic treatment, and may not be suitable for travel.

Paint surfaces that show the following signs of instability should not travel unless prior conservation treatment can be carried out:

- cracking, with associated cleavage (elevated or curling edges)
- flaking (lifting paint or paint loss)
- powdery paint

Fabric Support

Strength

Aged and embrittled fabric has lost much of its strength, and can tear when subjected to the shocks and vibration of travel. Tacking margins and turn-over edges are the most stressed parts of a fabric support, and must be checked carefully for adequate strength. Examine the tacking margins for tears or holes, especially around the tacks or staples, and examine the turn-over edges for small splits. If a loose thread can be found along the tacking margin, remove it carefully from the edge. Gently pull the thread apart. If it breaks easily or appears to powder or crumble, the canvas may not be strong enough to travel. If this is the case, seek advice from a conservator.

Tension

If a painting is too loose on its auxiliary support, damage such as stretcher/strainer marks is likely to result. To evaluate tension, hold the painting vertically with the bottom edge resting on a padded surface. Slowly and gently move the top edge back and forth. The centre of the canvas should move only slightly and should not "flop". Uneven tension of the canvas can sometimes result in ripples or draws. Examine the tacking margins to determine if the tacks or staples are effectively anchoring the canvas. Tears or holes around the tacks or along the turn-over edges may also result in a loss of tension.

If the auxiliary support is a stretcher, the solution (under the right circumstances) may be to key out the painting.⁴ If the canvas is on a strainer or if the tacking margins are damaged, modifications to improve the canvas tension will be more difficult and must be made by a professional conservator.

Deformations

Deformations in the canvas may place a painting in jeopardy during transit. Major deformations should be treated by a conservator before travel, particularly if there is associated cracking and cleavage. Small deformations, ripples, or draws without cracking may not pose a problem during travel.

Bulges along the bottom edge of a painting are often caused by dirt and debris that have fallen between the canvas and stretcher/strainer bars. Debris such as wooden keys, nails, or plaster will need to be removed. Advice and assistance should be obtained from a conservator.

Damages

Problems associated with tears and holes can become more severe with handling. Usually, the paint and ground surrounding the damage are unstable and prone to flaking. A painting with such damage should not travel. Store the painting horizontally until it can be treated.

Auxiliary Support (Stretcher/Strainer)

Corner Construction

Weak or loose corner joints may allow twisting of the stretcher/strainer, which can cause rippling of the support and promote damage to the ground and paint. For paintings without frames, weak joints should be reinforced before travel. A corner plate of appropriate size secured over the joint may suffice. Take care not to screw into a mortise or tenon because the wood may split; ensure that the screw will not protrude to the canvas. Securing reinforcing battens to the stretcher bars is another possible solution. Other modifications will require the advice of a professional conservator.

Keys (Stretcher)

Wooden keys in the slots of the stretcher that are not otherwise attached or secured may work loose and become lodged between the canvas and a stretcher bar. This will result in deformation of the canvas, and can lead to damage of the canvas, ground, and paint. An open corner joint without keys may close, causing the canvas to buckle and the paint and ground to crack.

Before travel, all keys must be present and secured to the stretcher. A simple method, which requires only minimal manipulation of the painting, involves the use of silicone caulking. To protect the back of the canvas from the silicone, carefully lay a piece of card directly behind the keys. Make sure the surfaces to be treated are dust free. Using a small tube of silicone caulking, apply a line of caulking neatly along the side of each key where it touches the stretcher (Figure 1). Remove the card. Allow the silicone to cure for at least 24 hours (a few days if possible, to allow volatiles to escape) before attaching a backing board.

Stretcher/Strainer Bars

Movement of the canvas against the inner edges of the stretcher/strainer bars will result in lines of cracks referred to as "stretcher marks". The canvas will contact these edges if the stretcher/strainer bars are not bevelled or if the tension of the canvas is not adequate. Measure the depth of the outer and inner edges of the stretcher/strainer bars. If the inner depth is the same as the outer depth, there is no bevel.

Preventing contact between the canvas and the inner edges of non-bevelled stretcher/strainer bars can be

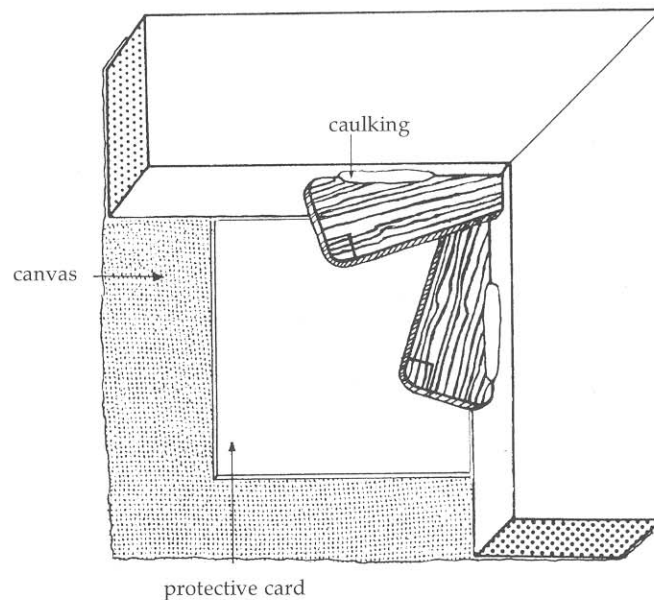


Figure 1
Using silicone caulking to secure keys.

accomplished in various ways. Modification of the stretcher/strainer is the best long-term solution. This delicate job requires removing the painting from its auxiliary support, and must be done by a conservator. Other methods have been devised to restrict movement of the canvas during travel or travelling exhibitions. For information on these methods, consult a conservator at a major institution that deals with travelling exhibitions.

Rigid Support

Some rigid materials used as painting supports (e.g., ivory, wood, hard-board) may expand, contract, warp, or crack in response to fluctuations in relative humidity. Other supports are easily damaged in handling (e.g., glass). Special care must be taken to anticipate problems associated with each support material.

To allow for expansion as the material swells in high humidity, and to avoid warping, adequate space must be provided in the frame's rabbet.⁵

One way to minimize dimensional changes is to place the painting in a sealed frame or display box that contains a hygroscopic buffering material such as silica gel. The silica gel will regulate the relative humidity in the painting's immediate environment. (Consult CCI for construction details or for information on alternatives.) If this type of protection cannot be provided, the work may be able to withstand moderate changes in conditions if wrapped and crated carefully using a large amount of cellulosic buffer material (e.g., cardboard, fibre-board). A vehicle with temperature controls for the cargo compartment will provide additional protection. Heated trucks are recommended for paintings travelling in winter, since paint becomes more brittle in low temperatures.

All paintings are vulnerable to vibration and shock. Paintings on glass, however, are particularly vulnerable due to the generally poor adhesion

of paint to glass. For this reason, paintings on glass may not be stable enough to travel. If travel is unavoidable, ensure that the frame offers sturdy support and that the rabbet is padded. Special care must be taken when wrapping and packing these paintings.^{5,6,7} The correct use of foam cushioning will help reduce vibration and shock.

Supports made of several pieces, such as wooden panels, are prone to damage during travel. Vibration and shock can cause joints to loosen or parts to detach. Differential movements of the components of the support in response to fluctuating relative humidity can have the same effect. If such works must travel, special attention and thought must be given to their wrapping, crating, and travel conditions.⁷

Large and Multimedia Paintings

In addition to following the recommendations previously mentioned concerning paintings on fabric, large paintings and paintings with high impasto or a thick, stable paint layer should be provided with additional support during travel. A conservator can advise on the use of foam inserts or loose linings, which can minimize movement of the canvas and provide this necessary support. Large paintings also require special precautions during handling.⁸

Multimedia pieces can pose various problems. Often, they are unframed and their surfaces are unprotected. The various materials used in these paintings will have different responses to fluctuations in relative humidity. The resulting poor adhesion will become worse with the shock and vibration of travel. If such paintings must travel, they will require special care in wrapping and packing.

Preparation for Travel

If a painting is found to be suitable for travel, the following preparations are recommended.

Documentation

The condition of a painting should be carefully documented by written report and photographs before travel. In the case of travelling exhibitions, consider the number of times a painting will be unpacked, handled, and repacked. A *cumulative condition report form* should be prepared by the lending institution so that a series of condition reports for each painting will be completed upon arrival and departure at every location. This practice ensures that the condition of each painting is monitored, and damage is reported when and where it occurs.

Framing for Travel

When a painting is in transit, the framing system plays an important part in its protection. A sturdy frame helps protect against damage related to handling. A padded rabbet prevents abrasion to the edges of a painting.⁵

Any painting not framed, or that may suffer from torsion during handling or travel, should be provided with a well-fitted travel frame (Figure 2).⁷ The condition and type of paint surface dictates how the painting is wrapped. For details on considerations for proper travel-frame construction, consult a conservator.

Backing and Glazing

Sealing the reverse of a painting with a backing board⁹ helps to buffer harmful fluctuations in relative humidity and wards off blows or scrapes to the back of the painting. Glazing with an acrylic sheet (e.g., Plexiglas) or glass provides additional protection and also helps to minimize vibration of the canvas during travel.

For paintings glazed with glass, the danger exists that the glass will shatter and damage the painting beneath, especially if the glass is thin. Masking tape can be applied in a grid pattern to the outside glass surface before packing the work of art. This should keep shards of glass in position in case of breakage. (N.B.: Masking tape may damage the surface of coated glass such as Denglas.) Acrylic glazing is

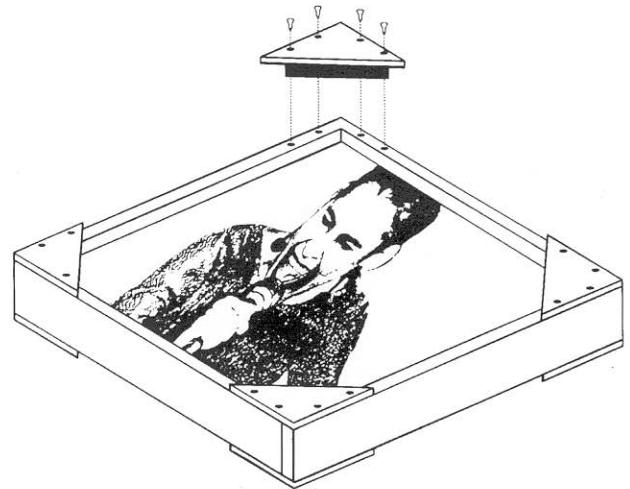
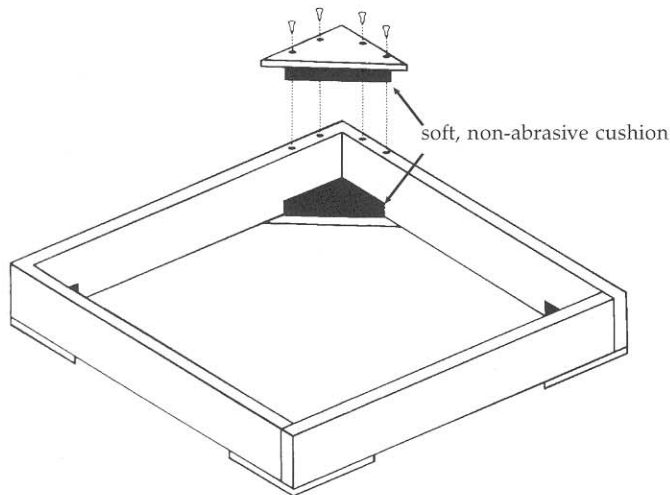


Figure 2
a) One type of travel frame into which a painting will fit.

b) Corner plates should hold the painting secure without exercising undue pressure.

preferred to glass because it provides protection without the danger of breakage. Because of the electrostatic property of acrylic, however, glass is still recommended for powdery media such as pastel and charcoal.

Damaged Paintings

A damaged painting being sent to a conservator for treatment will, in all likelihood, meet few of the standards that have been defined as necessary for safe travel. In such cases, preparation for travel may involve temporary strengthening or stabilization, which must be done by or on the advice of a conservator.

Conclusion

If after careful consideration a painting is judged fit for travel, safe wrapping, crating, and travel arrangements will be necessary. In addition, knowledge of the environmental conditions during travel and exhibition is required in order to provide additional protection if necessary and to advise on particular display or handling needs. Although many companies profess to be experts in

moving fine art, it is best to consult with a major institution or gallery for the names of reputable firms before selecting a carrier. It is advisable to observe the packing procedures of the selected firm in advance to ensure that they are acceptable.

For additional information and advice on travel requirements, consult CCI or conservators in institutions that are actively involved in preparing travelling exhibits.

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Texte également publié en version
française.

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Cat. No.: NM 95-57/10-15-1993E
ISSN 0714-6221