

FLIGHT DECK WINDOWS

The AMP set is designed from the 1,160 page document, *Shuttle Crew Operations Manual*. Small adjustments were made for scale and kit limitations.

The Shuttle six forward windows ("windshield") were made from three separate panes each. The glass was the thickest optical quality ever produced until the International Space Station's WORF and Cupola modules were put in service. (These are four panes, totalling about 17mm more than the Shuttle).

The **outer pane** was 16mm (0.625") thick and mounted to the fuselage. The exterior face could withstand 426C (800F). Its interior face had an anti-reflective coating.

The **center pane** was 33mm (1.3") thick, made of fused silica glass. It was mounted to the crew compartment.

The **inner pane** was 16mm (0.625") thick, mounted to the crew compartment. It could withstand 59,295kpa (8,600 PSI) at over 93C (200F). The exterior face had an infrared reflective coating.

Each pane had redundant seals, but no sealing or bonding compounds.



NOTE: The AMP set is TWO PANE. Scale limitations make a third unnecessary. The Cargo windows are supplied two, but one works just as well. Top and Cargo assembly follow the same principles as the windshield.

PARTS

PORT (SHIP'S LEFT SIDE) (DUPLICATED FOR STARBOARD)

F1 - FRAME
(NARROW MULLIONS)
PAINT BLACK



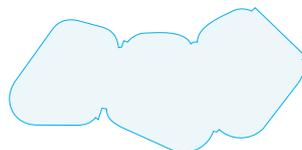
M1 - MASK 1
(NOTE "L" IN FRONT)
PAINT LT/MED GRAY,
WITH "L" IN BLACK



NOTE: Enterprise and Columbia had partial RED masks. See photos.

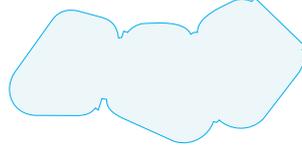


M2 - MASK 2
(WIDE MULLIONS)
PAINT BLACK



C1 - CLEAR 1

IDENTICAL



C2 - CLEAR 2

CAREFULLY remove pieces from the Fret. Use your fingernail to work them back and forth. Be careful not to snap or tear. Knock out the interior bits the same way. With patience and care, the pieces will come out easily.

TF1 - TOP FRAME
(NARROW MULLIONS)
PAINT BLACK



TM1 - TOP MASK 1
PAINT LT/MED GRAY



IDENTICAL

TM2 - TOP MASK 2
PAINT BLACK



CAR1 - CARGO FRAME
(NARROW MULLIONS) - PAINT BLACK



CAR2 - CARGO MASK 1
PAINT LT/MED GRAY



CT1 - CLEAR TOP 1

IDENTICAL



CT2 - CLEAR TOP 2



CC1 - CLEAR CARGO

IDENTICAL



CC2 - CLEAR CARGO



Accurate
Model
Parts

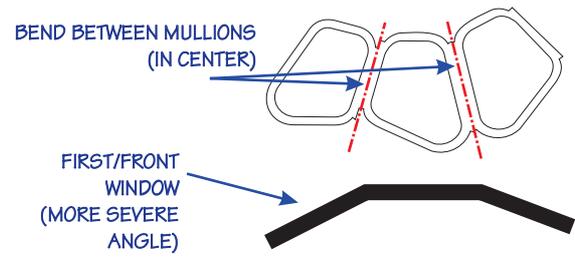
SPACE SHUTTLE STS Flight Deck Windows 1:72
SP-STSWIN-072

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WINDSHIELD

1 BEND FRAMES & MASKS

BEND each of the 6 frames and masks **separately**. (Preferably with flat photo etch pliers or a bending brake - you can also use a ruler/straight edge.) Put the first smaller window at a semi-severe angle, and the last window at a shallow angle. Use the kit window and cockpit as a guide. NOTE: *to avoid scratching the clear, place it between soft tissue paper or similar.*



2 PAINT

Lightly sand and paint. Use the Parts List as a guide. You may want to apply clear Future Floor Wax onto the clear parts to make them sparkle.

3 PRE-ASSEMBLE

Sandwich frames and clear pieces together as separate sub-assemblies:

SUB1 - Glue F1 (FRAME 1) to C2 (CLEAR 1). The easiest technique is to clamp with thin strips of masking tape, and to apply glue to the outside edges **ONLY**.

SUB2 - Repeat with M1 to C2.

GLUE NOTE: We suggest PVA/White glue as it dries clear. Gator Glue dries even more clear. You can also use Future Liquid Floor Wax. **DO NOT** use CA/Superglue, it will craze and haze the clear.

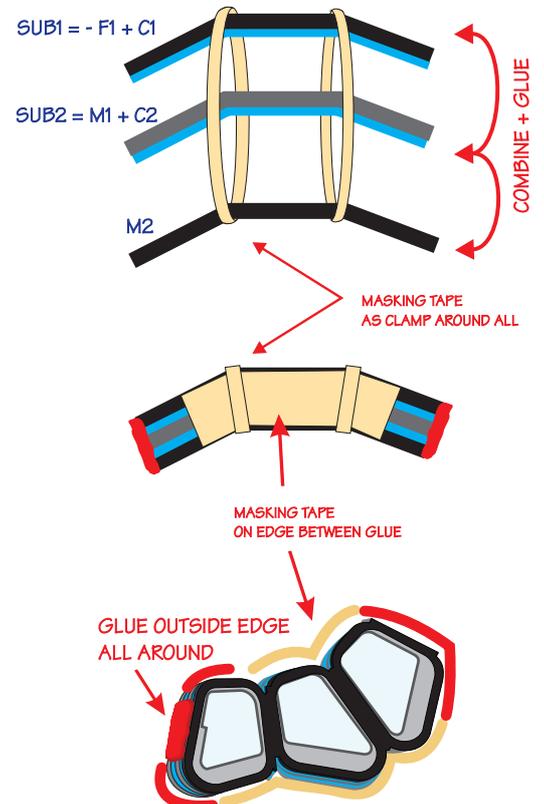
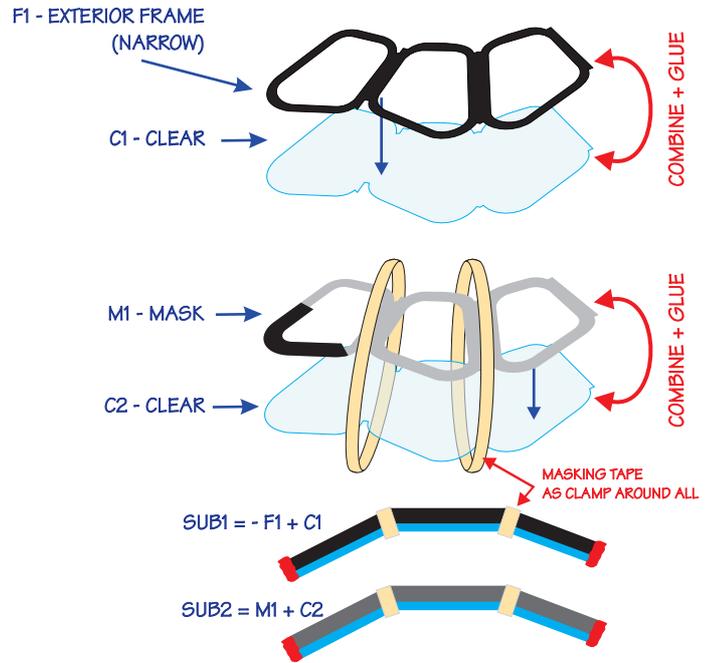
ONLY SMALL DOTS OF GLUE ARE NEEDED AT THIS POINT.

4 FINAL ASSEMBLY

COMBINE SUB1 + SUB2 + M2.

MASKING TAPE: Apply tape bands as clamps, but also, put thin strips on the top and bottom outer edges of the whole assembly for extra strength. When dry, remove all tape and then add glue where the tape was. You may want to apply a second coat of glue for added strength.

If you choose Future as glue, once it dries and covers all edges, you may want to make your second top coat Gator Glue or PVA white glue.



WINDSHIELD (Cont'd)

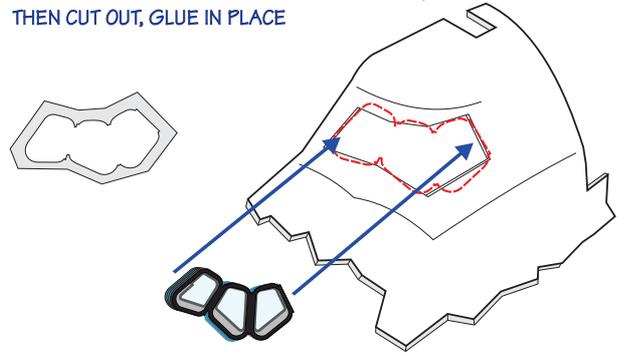
5 INSTALL

Use the STENCIL MASK to trace the windshield shape onto the cockpit windshield hole.

CUT OUT the edges to fit the window assembly.

GLUE the windows into the new enlarged and shaped hole. You will need to fill the gaps from the original hole with putty or pieces of the stencil mask.

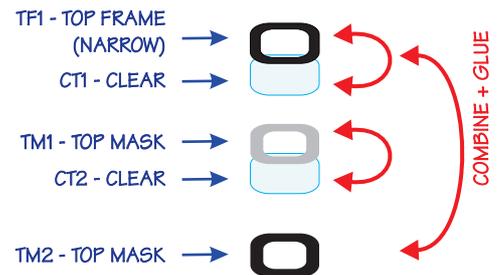
TRACE STENCIL MASK ONTO KIT HOLE EDGES, THEN CUT OUT, GLUE IN PLACE



TOP WINDOWS

The same sandwich principle applies: glue TF1 to CT1, and TM1 to CT2, then glue both sub-assemblies together with TM2.

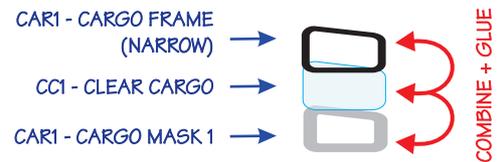
FIT into existing kit holes (you may have to enlarge hole slightly, and putty corners.)



CARGO WINDOWS

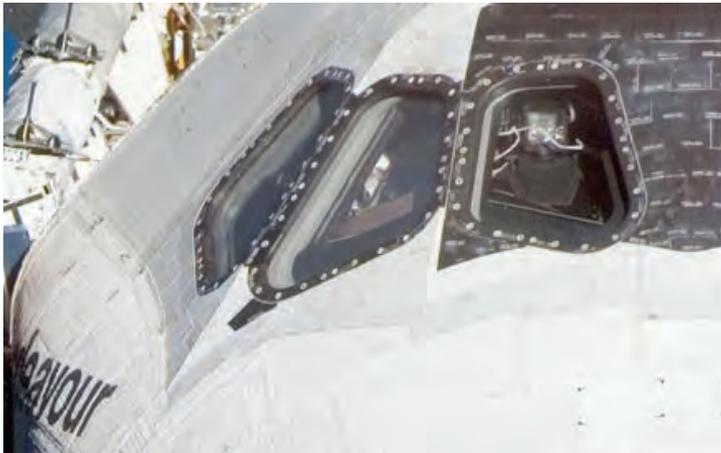
The same sandwich principle applies: glue CAR1 to CC1, and then add CAR2 on the bottom.

FIT into existing kit holes (you may have to enlarge hole slightly, and putty corners.)



OR USE OPTIONAL EXTRA PANE





Endeavour



Columbia (note old style red seal/masks)