



**AERO PLASTICS INC.**

Single Piece Extra Thick Windshield

Report No. 270/CON

Installation Drawing List

Applicable Aircraft Models

Beechcraft 35-C33	s/n CD-1007 thru CD-1118
35-C33A	s/n CE-1 thru CE-179
V35	s/n D-7977 thru D-8598
95-B55	s/n TC-955 thru TC-1042
D95A	s/n TD-638 thru TD-707
95-C55	s/n TE-1 thru TE-451
56TC	s/n TG-2 thru TG-83

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Revision Control Page

Revision	Date	Pages Affected	Remarks
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**INSTALLATION & REMOVAL INSTRUCTIONS FOR EXTRA THICK WINDSHIELD  
BEECHCRAFT 35-33, 35, 95-55, 56, 95 SERIES AIRCRAFT**

**ONE PIECE WINDSHIELD REPLACEMENT INSTALLATION - TWO OPTIONS**

1. Follow Beechcraft service manual for removal of the windshield and frame from the airframe. After the glareshield has been removed, cover this area with a cloth to prevent debris from dropping on the instruments.

**OPTION 1**

- 2A. After the windshield has been removed from the aircraft carefully cut the center of the frame at both the top and bottom. This will allow the frame to be removed from the windshield as a right and left half. Use a hack saw to make these cuts. See figure 1. When cutting, allow sufficient room to permit 4 diameters clearance between both the doubler rivet holes and the existing fasteners. See figure 2 & instruction 7.
- 3A. Two persons are required for this step. Utilizing a heat gun and at least two pairs of sheet metal type wide-billed vise grip pliers, grip the flat edge of the frame starting at the top cut. Space the pliers approximately 6" apart. Heat the metal frame on both the top and bottom to soften the sealant inside the frame. At this time one person must grip the windshield while the second pulls with the pliers, separating the windshield from the frame. Work the frame off in this manner all the way around. Heating one foot at a time. Care must be taken not to bend or stretch the aluminum frame during this removal process. You will be reinstalling it on the new windshield.
- 4A. Once both halves of the frame have been removed from the windshield, use MEK or any other solvent to clean the inside of the frame, removing all the old sealant. Some sealants are polysulfide based (Pro Seal, PRC, Chemseal, etc.) and can best be removed using a polysulfide sealant remover, such as Eldorado SR-125A manufactured by Eldorado Chemical Co., San Antonio, Tx.
- 5A. Check the fit of this frame to the new windshield by sliding both halves of the frame onto the edges. The windshield is trimmed and the edge of the inside surface is milled to fit the frame at our factory, however a sander or file may be used to remove any excess acrylic. The inner aluminum frame inside edge varies in size and may need to be trimmed, if when fitted to the windshield, a gap wider than the saw kerf is left between the halves of the frame. If the gap is too wide, inner frame is hitting the flange of the windshield. This trimming will allow the windshield to slide into the full engagement of the frame. With the frame in final position, apply masking tape to the windshield just to the edge of the frame

and also apply masking tape to the frame. This will protect both from the excess sealant. If a double layer of masking tape is used, the sealant may be smoothed with you fingers or a spatula while still wet, and the outer layer of tape can be removed leaving a clean layer to protect your surfaces during curing.

- 6A. Place sealant (GE RTV 108, Dow Corning RTV 732, or equivalent) in the channel of the frame. The new windshield should now be fitted into the frame, allowing the excess sealant to be squeezed onto the tape. Remove the masking tape with excess sealant.
  - 7A. Once the frame is in position on the new windshield, rivet (MS20426-AD4 or equivalent) a 1" x 7/16" x .040" nominal size, 6061 T3 aluminum (or equivalent) doubler to the inside of the frame joining both left and right halves on both the top and bottom joints using flush type rivets. This joint is non-structural.
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#### OPTION 2

As an alternate to cutting the frame at top and bottom, the frame can be separated into inner and outer sections.

- 2B. Drill through the center of each spot weld using a #40 drill bit. Mark each of these holes so that they can be flush riveted back together on the new windshield. After drilling, the welds may be broken with a thin, sharpened putty knife struck sharply with a mallet. See figure 3. Exercise care not to distort the frame. Countersink the outside of the holes that were drilled through the spot welds.
- 3B. Once the inner and outer sections are separated, remove all old sealer with MEK or other solvent. Some sealants are polysulfide based (Pro Seal, PRC, Chemseal, etc.) and can best be removed using a polysulfide sealant remover, such as Eldorado SR-125A manufactured by Eldorado Chemical Co., San Antonio, Tx.
- 4B. Fit the frame to the new windshield, trimming the windshield and inner edge of the frame (extra-thick windshields) as necessary. The windshield is trimmed and the edge of the inside surface is milled to fit the frame at our factory, however a sander or file may be used to remove any excess acrylic. The inner aluminum frame inside edge varies in size and may need to be trimmed, if when fitted to the windshield the frame hits a portion of the acrylic which has not been milled.
- 5B. Cleco the inner and outer frames together. With the frame in final position, apply masking tape to the windshield just to the edge of the frame and also apply masking tape to the frame. This will protect both from the excess sealant. If a double layer of masking tape is used, the sealant may be smoothed with you fingers or a spatula while still wet, and the outer layer of tape can be removed leaving a clean layer to protect your surfaces during curing.

- 6B. Place sealant (GE RTV 108, Dow Corning RTV 732, or equivalent) in the channel of the frame. The new windshield should now be fitted into the frame, allowing the excess sealant to be squeezed onto the tape. Rivet the two halves together using MS20426-A4 rivets or equivalent.
  - 7B. Fit the windshield into the aircraft and cleco it into place, allowing the sealant to cure. Remove the masking tape with excess sealant.
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8. After curing, remove the windshield and apply sealant as recommended by the Beechcraft service manual. The windshield and frame assembly may now be reinstalled on the airframe and the installation completed using the Beechcraft recommended installation instructions in the Beechcraft service manual. See figure 2.
  9. Follow the guidelines on acceptable maintenance procedures in the FAA Advisory Circular AC 43.13-2A, or latest revision, in completing all phases of the installation. Complete 337 form. The weight of the original windshield in .150" thickness is approximately 9.7 lbs. and in .250" thickness 11.8 lbs. The weight of the replacement windshield is approximately 12.4 lbs in .250" thickness, 15.5 lbs. in .312" thickness, 18.6 lbs. in .375" thickness, and 24.8 lbs. in .500" thickness. Account for the additional weight for operation performance in the new weight and balance calculations.

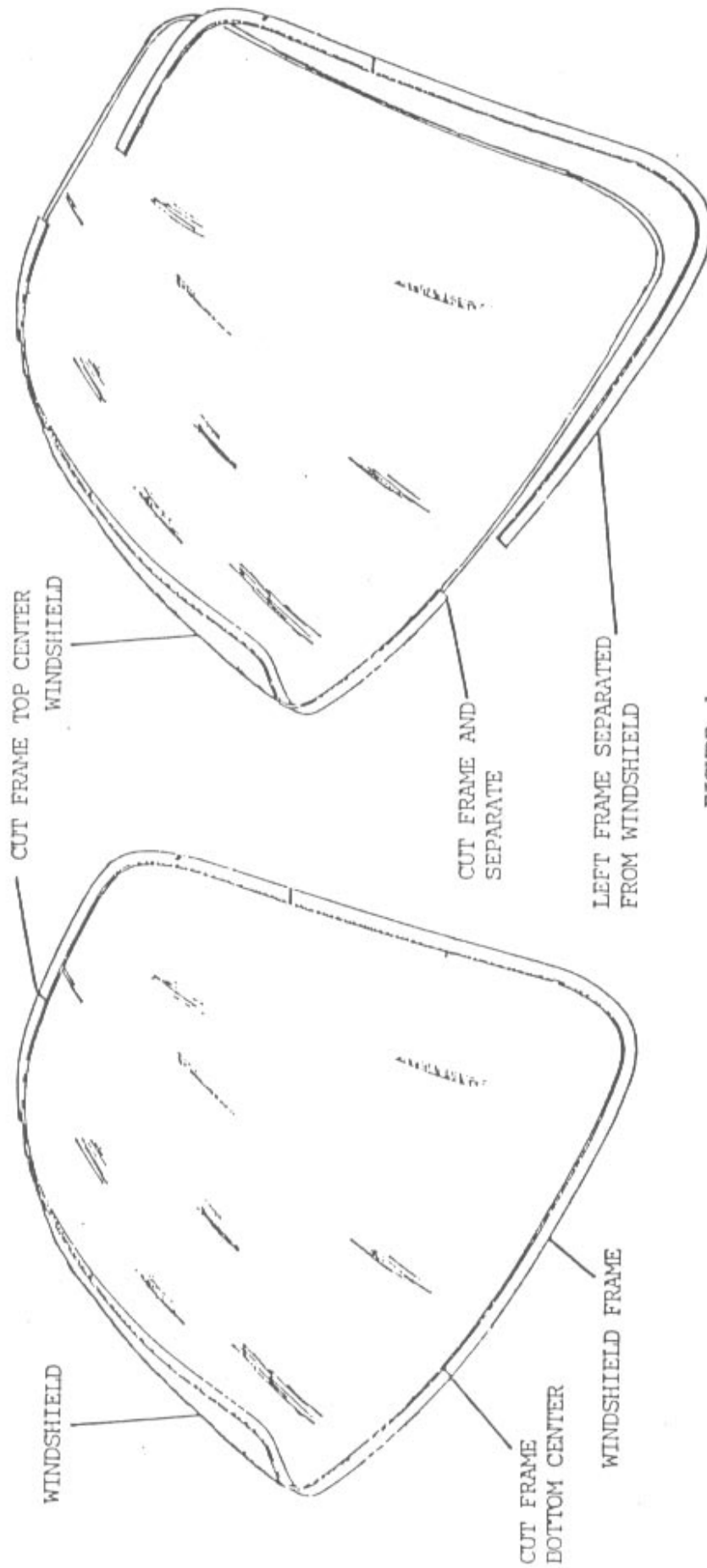


FIGURE 1

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SCALE - NONE  
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WINDSHIELD INSTALLATION

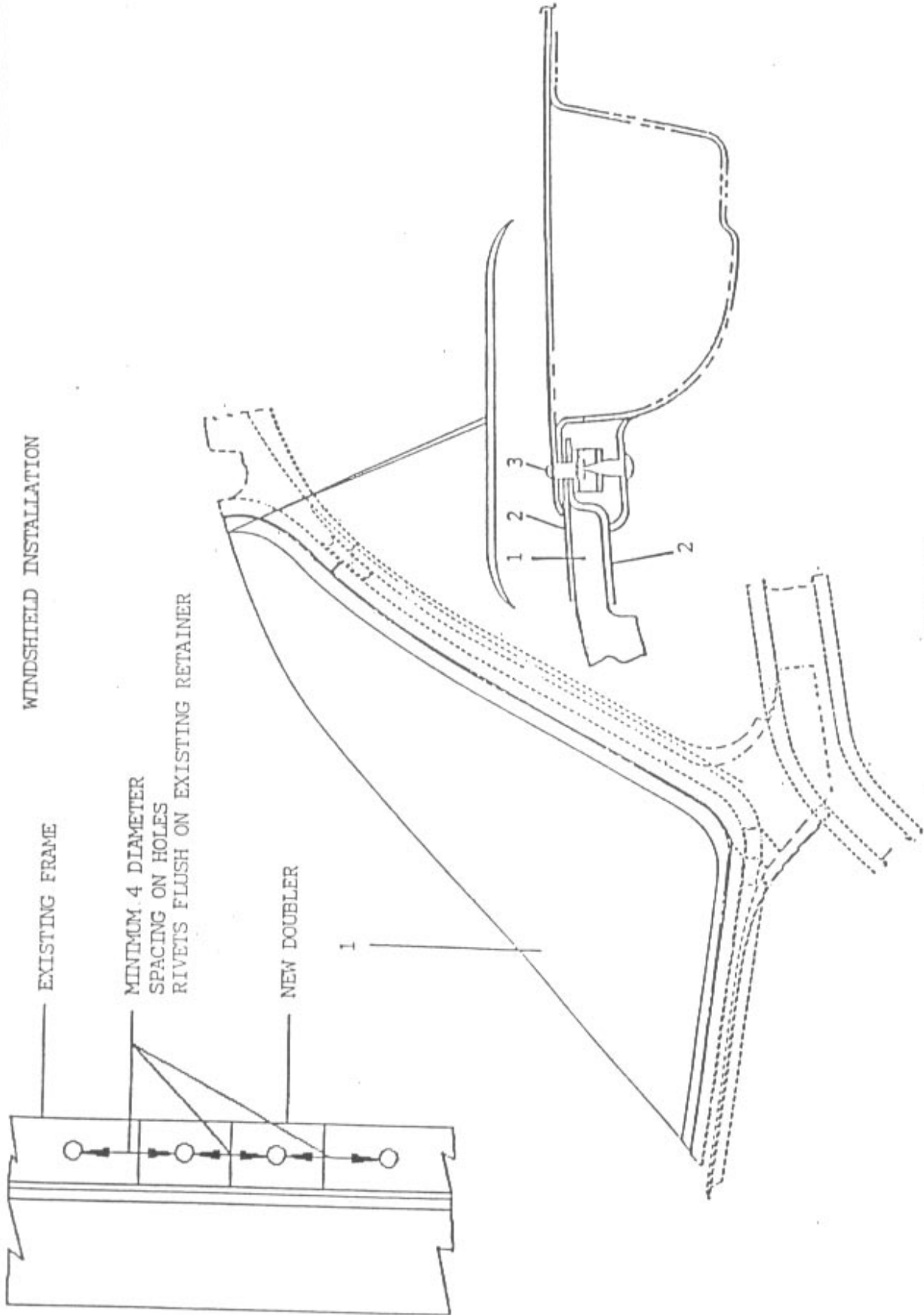


FIGURE 2

- #1 WINDSHIELD P/N  
270.312  
270.375  
270.500
- #2 ALUMINUM RETAINING WINDSHIELD FRAME
- #3 RIVETS ATTACHING FRAME TO FUSELAGE

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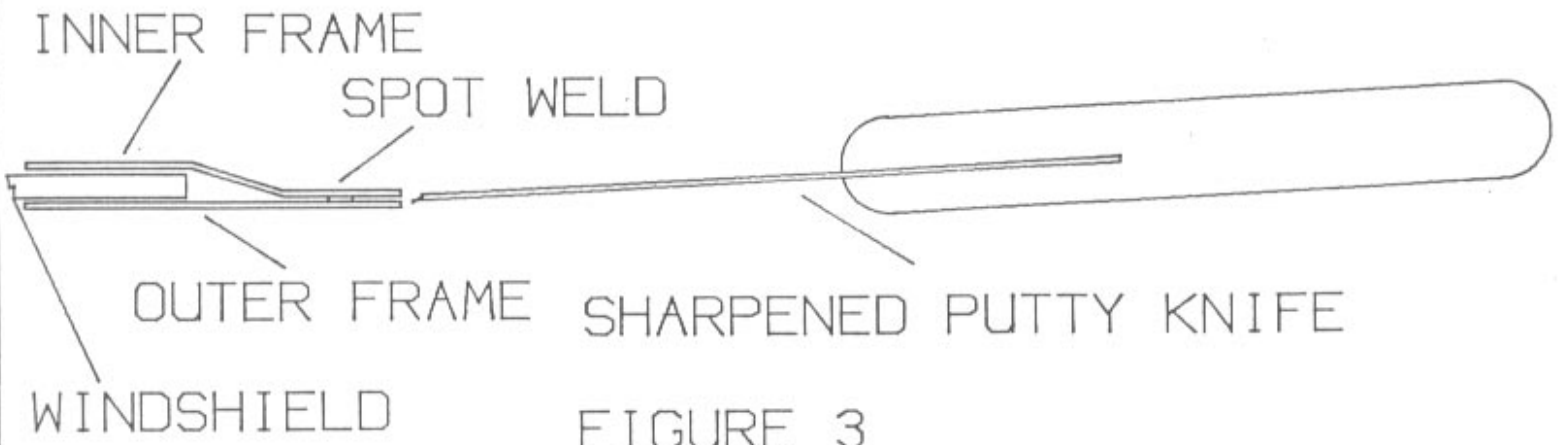


FIGURE 3

LP AERO PLASTICS, INC.	
JEANNETTE, PA	
WINDSHIELD FRAME REMOVAL	
DRAWN BY GAM	
CK BY JP	
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FOR INFORMATION ONLY

**BEECHCRAFT SERVICE MANUAL - WINDSHIELD REMOVAL AND INSTALLATION INSTRUCTIONS**

**WINDSHIELD REMOVAL (ONE OR TWO PIECE)**

- A. Remove the glareshield and outside air temperature gage (if installed in this area).
- B. Remove the attaching screws from the defroster duct and move the duct to clear the lower row of rivets on the windshield.
- C. Remove the screws and spacer from the glareshield angles.
- D. Remove the trim strips from around the inside of the windshield.
- E. To facilitate reinstallation, mark the location of the trim strip clips.
- F. Drill out the rivets from around the windshield.
- G. Remove the windshield.

**NOTE**

Because the window is sealed, considerable effort may be required to break the windshield loose from the canopy section.

**WINDSHIELD INSTALLATION (ONE OR TWO PIECE)**

- A. Remove any sealer around the canopy with toluol. Touch-up scratches or bare metal with zinc chromatic primer.
- B. Trim the tooling tabs from the windshield, place the windshield in position and mark the areas where material must be removed from the windshield to obtain a proper fit.
- C. Remove the windshield and trim off excess material as determined in Step "B."
- D. Place the windshield in position and cleco in place using the pilot holes provided.
- E. Back drill the windshield frame using the existing holes in the canopy section as a guide.
- F. Remove the windshield, burr all holes and apply Presstite #567 Sealer to the windshield frame where it makes contact with the canopy section.
- G. Place the windshield in position and cleco in place.
- H. Using AN47OAD4 rivets, secure the windshield to the canopy section.

**NOTES**

When riveting the windshield in place, install the trim strip clips in the same locations as marked in Step "E" of the "WINDSHIELD REMOVAL" procedure.