

Supplemental Type Certificate

Number SA465AL

This certificate, issued to F. Atlee Dodge Aircraft Maintenance
P.O. Box 6409
Anchorage, Alaska 99502

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 4a of the Civil Regulations.

**REFERENCE
USE ONLY**

IS AUTHORIZED TO INSTALL STD ON A MODEL N S/N AUTHORIZED BY F. ATLEE DODGE SIGNATURE (SIGNATURE MUST BE SIGNED IN GREEN INK AND HAVE RAISED SEAL)

Original Product — Type Certificate Number: A-691
Make: Piper
Model: J3C-65 and J3C-65S

Description of Type Design Change: Installation of PA-18 boot cowl and windshield and F. A. Dodge skylite per F. Atlee Dodge Installation Instructions for "Installation of PA-18 Boot Cowl and Windshield" and "Skylite Installation" approved 15 December 1971 or later FAA approved revision.

Limitations and Conditions:

The approval of these changes in type design applies basically to Piper models J3C-65 and J3C-65S only. This approval should not be extended to other aircraft of these models on which other previously approved modifications are incorporated unless it is determined by the installer that the interrelationship between these changes and any of those other previously approved modifications will introduce no adverse effect on the airworthiness of that aircraft. This determination should include consideration of significant changes in weight distribution such as an increase in the fixed disposable weight in the fuselage.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: 9 July 1971

Date reissued:

Date of issuance: 15 December 1971

Date amended:



By direction of the Administrator
Robert W. Stephens

ROBERT W. STEPHENS, Chief
Engineering and Manufacturing Branch
Alaskan Region

(Title)

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.

This certificate may be transferred in accordance with FAR 21.47.

F.ATLEE DODGE
INSTALLATION INSTRUCTIONS
FOR

INSTALLATION OF PA-18 BOOT COWL AND WINDSHIELD in
PIPER J3C-65 and J3C-65S

Drawing reference-Piper Drawing 12446 and F. Atlee Dodge
Drawings 2078-6 and 2078-7.

1. The airframe has been stripped of all removable parts in the area where the boot cowl is to be installed, and also any 3/8" channeling previously installed for the original J3 boot cowl removed (from the firewall to 25 inches aft).
2. Fabricate the 3/8" channeling required or purchase by P/N from Piper. P/N's are listed below.
3. Weld the 3/8" channeling in position as shown in Drwg 12446.
4. All metal parts to be primed.
5. Install boot cowl P/N 10789-03 and fasten in position with the three 832 screws that are welded to tubing members and protrude through the firewall. Reference Piper Dwg. 12446. Note: The boot cowl is installed in the same manner as the original J3 boot cowl.
6. Do not install the two panels P/N 12818-00, 01 aft of the boot cowl until after the fabric has been replaced.
7. Modify the windshield P/N 12248-00 as shown in Drawing 2078-7 and "Windshield Modification & Installation Instructions",
8. Angles are added to the superstructure to install windshield and skylite. Refer to Drawing 2078-6. This addition will be covered under Skylite Installation., which is required.

NOTE: Piper Drawing required: 12446

REFERENCE
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15 December 1971

F. ATLEE DODGE

WINDSHIELD MODIFICATION AND INSTALLATION INSTRUCTIONS

FOR PIPER J3C-65 and J3C-65S

1. Place windshield P/N 12248-00 in position, insure proper fit in channel on boot cowl and upper attachment (cabin top). The windshield sides will not reach the side attach channels and must be modified to fit as follows:
2. With grease pencil draw a line on the windshield parallel to side attach channels starting at the lower end. The triangle described by this line and aft edge of the windshield will be removed.
3. Draw another line $1\frac{1}{2}$ " forward of and parallel to the line described in no. 2 above.
4. Measure the distance between the line in no. 3 above and the aft edge of the side attach channel. From $\frac{1}{8}$ " thick plexi-glass cut a rectangular piece to the width determined here and slightly longer than the aft edge of the windshield. (Any excess will be trimmed later.)
5. Chamfer and polish inside aft edge of windshield and fwd outside edge of the piece described in no. 4 above as shown in drawing 2078-7.
6. Mask off the overlap area of the windshield (outside) and the piece of plexiglas (inside) made in no. 4 above.
7. Devise a means of applying pressure to this area when glued. Two pieces of wood 1" thick $1\frac{1}{2}$ " wide and length equal to the length of the aft edge of the windshield clamped together with several "C" clamps to apply even pressure to the area will do.
8. Apply cement to the overlap areas and clamp per instructions in "Instructions and Procedures for Cementing Acrylic Plastic Windshield" Page 4 of 5 .
9. When the cement has dried thoroughly, refit the windshield and trim any excess material.
10. Secure the windshield in place as shown in drawings 2078-7

REFERENCE
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PA-18 BOOT COWL & WINDSHIELD INSTALLATION PARTS LIST

<u>P/N</u>	<u>NOMENCLATURE</u>	<u>NO. REQUIRED</u>
10789-03	Cowling Assembly	1
12818-00	Panel Assembly	1
12818-01	Panel Assembly	1
12248-00	Windshield	1
12590-6	Channel	3
12590-8	Channel	1
22762-31	Channel	1
22762-82	Channel	1
22222-13	Channel	1
22222-26	Channel	2
22222-42	Channel	1
22762-83	Channel	1
22762-84	Channel	2
10614	Channel	1
10613	Channel	2
22222-74	Channel	1
12590-7	Channel	1
14802	Channel	1
22762-23	Channel	1
22222-11	Channel	2
10997	Channel	1
22762-36	Channel	1

*
*

REFERENCE
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* Or parts may be fabricated from ~~3/8"~~ channel Piper part.

750 283 Channel (5' lengths) 2

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INSTRUCTIONS AND PROCEDURES
FOR CEMENTING

ACRILIC PLASTIC " WINDSHIELDS "

FOR PIPER J3C-65 and J3C-65S

After removing masking tape from glass, glass should be cleaned with naphtha then soap and water prior to cementing. Protect the surface along the edge to be cemented with cement resistant tape, leaving a clear space of 1/16" (scotch brand cellophane-fibre tape #670).

Cementing should be done at room temperature of 70°F to 75°F. Do not attempt to cement below 65°F.

Solvent cementing is accomplished by the intermingling of the two surfaces to be joined. Both surfaces must be attached and softened by cement or solvent to create a cushion. Only light pressure is needed to intermingle both cushions and to force out trapped air. Although in most cases cement or solvent is applied to one surface only, the solvent will soften the other surface and create the necessary second cushion. This occurs within 20-30 seconds after the two pieces have been brought together. It is important that no pressure be applied during this 20-30 second period.

It is recommended that the capillary method of cementing the windshield be used. (See note Sheet 5 of 5) The capillary cementing method is based on the ability of a solvent-type cement to spread through the joint-area by capillary action. It can be used only if the parts fit perfectly.

PROCEDURE FOR CEMENTING SPLICE
TO
WINDSHIELD

**REFERENCE
USE ONLY**

Temporarily install windshield.

Mark a line parallel to the vertical window post to be cut, both sides. Remove windshield, cut off where marked, bevel and polish edges. Fit pieces to be spliced on to windshield, bevel and polish. See Drwg 2078-7.

Locate splices on windshield and protect the surface of the windshield from the cement with a cement-resisting masking tape along the edge leaving a clear space of approx. 1/16 inch.

With splice held in position apply solvent (cement) to corners with a small brush, eye dropper or hypodermic needle. Lift edge slightly to allow solvent to completely flow between layers of plastic glass. Apply cement to both sides of joint. Hold in position for 30 seconds so the solvent will soak in and create a cushion. Clamp together with an even pressure only sufficient to force out the air bubbles. Be careful not to force out too much cement, as this will leave dry spots in the joint.

Clamp together for 10 to 30 minutes. The first 5 minutes are most critical. (If there is any slippage, the bond will break)

The cemented assembly can be moved carefully after 30 minutes. 24 hours are required to thoroughly harden cemented joints.

After 24 hours the excess material may be removed, holes drilled and edges cleaned up and windshield installed. (Min. hole Dia. 1/8")

It will be necessary to refer to drawing 2078-7 for dimensions and information not contained in the above instructions and procedures.

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F. ATLEE DODGE
INSTRUCTIONS AND PROCEDURES
FOR CEMENTING
ACRILIC PLASTIC " WINDSHIELDS "
FOR PIPER J3C-65 and J3C-65S
SOURCE OF SUPPLY

Cement resisting masking tape scotch brand cellophane-fibre tape
670.

Minn. Mining & Mfg, Co. - St. Paul, Minn. 55101

Cement for acrylite cd cement No. 94.

Chemical Development Corp. - Danvers, Mass. 01923

Rez-N-Bond cement

Schwartz Chemical Co. - 50-01 Second St., Long Island, N.Y.
11101

Cadco cement PS-30 (viscous type)

Cadillac Plastic & Chemical Co. -15111 Second Ave.
Detroit, Michigan 48203

Note: Cements suitable for capillary method have the consistency
of water, thicker cements (viscous) must use other methods.
Follow the cement manufacturers instructions, relative to
application of cement to joint.

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F. ATLEE DODGE
INSTALLATION INSTRUCTIONS
FOR
SKYLITE INSTALLATION

Reference Dwgs. 10561 and 2078-6.

1. Remove the old skylite channeling between the two sides.
2. Install angles -51, 52 and 53 and weld in at both ends to existing structure. -51 will be tack welded three places to the tube 10562-11 as well as to the existing channel at either side.
3. Install 3/8 channeling -56 through -59 per Dwg. 2078-6.
4. Install skylite and strip -55.
5. Reshape the L.E. tubing to conform to the new windshield (per PA-18).
6. Install windshield and -54 strip.

NOTE: Piper drawing required: 10561

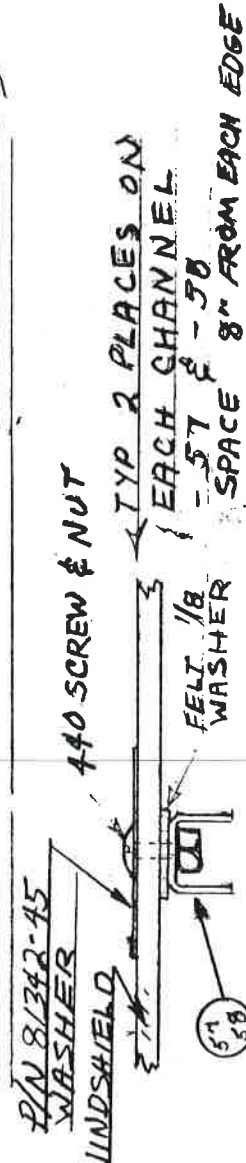
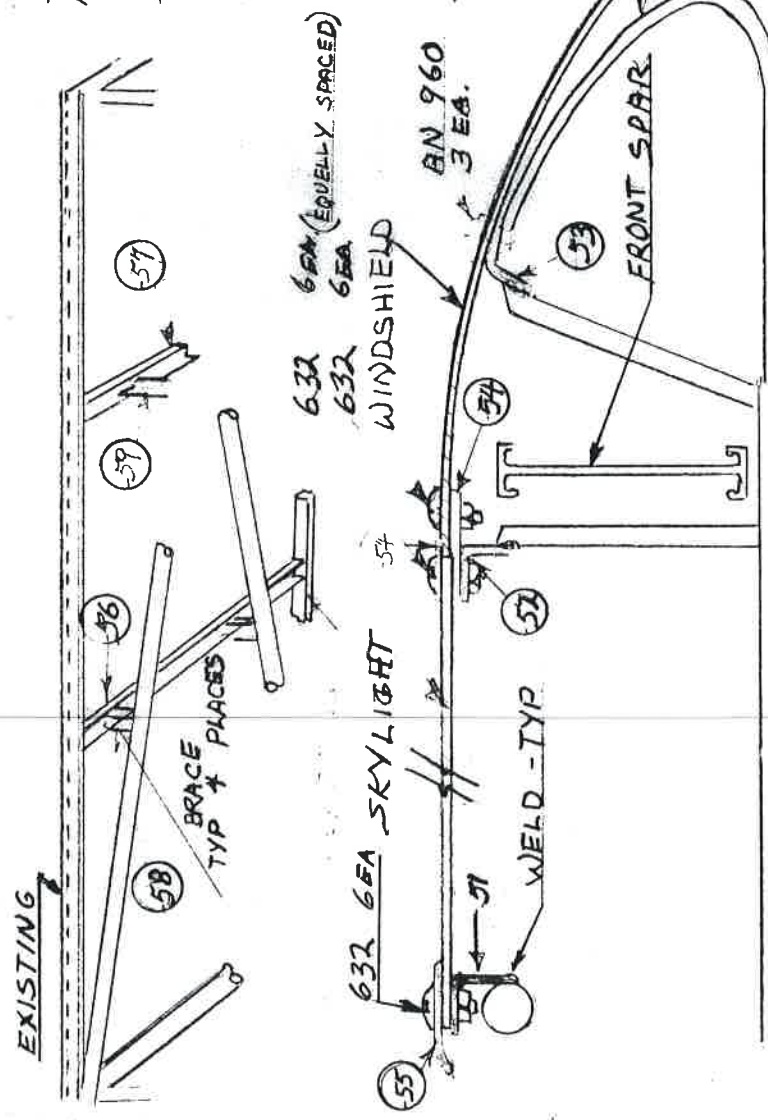
REFERENCE
USE ONLY

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A, B & C = SAME



THE SUPERSTRUCTURE ON EITHER SIDE IS ORIGINAL THE TWO CROSS CHANNELS -56 & -57 & THE 4 BRACES -58 (2 ea) & -59 (2 ea), -56 & -57 CHANNELS ARE WELDED TO EXISTING CHANNELS ON EACH SIDE. -58 & -59 CHANNEL BRACES ARE WELDED IN POSITION ANGLE -51 IS WELDED AT EACH END & TACK WELDED THREE PLACES TO TUBING. -52 ANGLE IS WELDED AT EACH END TO EXISTING CHANNEL. -53 WELDED TO EXISTING CHANNEL AT EACH END CHANNEL -56 THROUGH 59 FABRICATED FROM P/N 750 283

-51, -52 & -53 ARE FABRICATED FROM FLAT STOCK (1010) 1/2 X 24" X .025
 -55 & -54 ARE FABRICATED FROM 2024 T3 .032 X 24 X 1/2

REFERENCE

USE ONLY

NOTE: SKYLIGHT TO OVERLAP ON SIDES. WING FAIRING TO OVERLAP SKYLIGHT SKYLIGHT MAT. .125" PLEXIGLASS NOTE: ALL HOLES IN PLEXIGLASS MIN. DIA. 1/4".

DWG # 2078-6

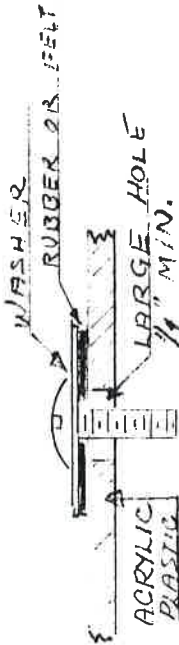
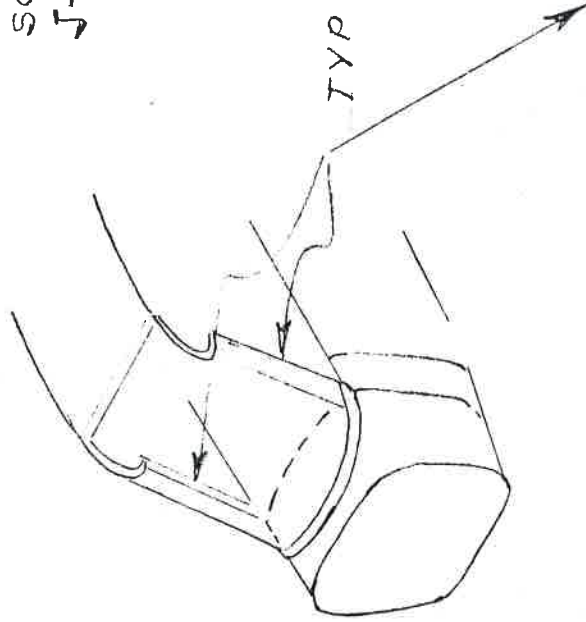
SCALE	APPROVED	SHEET
DESIGNED BY	STAKED	OF SHEETS
CHECKED	CONSTRUCTED	W.O. NO.

SUPERSTRUCTURE & SKYLIGHT INSTALLATION

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NOTE: MIN. HOLE DIA. IN
PLEXI-GLAS 1/4"

NOTE: USE SAME HOLE
PATTERN AND ATTACH
SCREWS AS ORIGINAL
J-3



TYPICAL UPPER AFT
EDGE ATTACHMENT

SUPPORT CHANNEL
FAIRING STRIP
CEMENT JOINT
LAP APPX. 1 1/2"
CHAMFER EDGE &
POLISH

REFERENCE
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15 Dec 71

DWG 2078-7

12-6-71

F. ATLEE DODGE
BOX 6409 ANCHORAGE

WINDSHIELD MOD.
INSTALLATION OF THE PA-18 WINDSHIELD
IN THE J3-C 65 & J3-C 65S

SCALE	APPROVED	SHEET
DESIGNED BY	STAMPED	OF SHEETS
CHECKED	CONSTRUCTED	W.O. NO.