

EO 05-1-3/21

ROYAL CANADIAN AIR FORCE



FLOAT AND HULL REPAIR

(This EO replaces Part 21 of EO 05-1-3)

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LIST OF RCAF REVISIONS

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FLOAT AND HULL REPAIRS

FLOAT AND HULL REPAIR

General

1 Repairs to floats and hulls must be performed as soon as damage is found so as to decrease the corrosive action of liquid inside the damaged component. Instructions for making hull repairs are generally applicable to floats. The following instructions apply to all types of repairs:

(a) All sheet replacement must be of the same or one higher gauge and of the same material and heat treated condition as the original. Refer to relevant Parts List or Structural Repair Manual for material specifications.

(b) Joints must be sealed using approved sealer as instructed in Paragraphs 12 and 13, following.

(c) Mark off or lay out rivet patterns with a soft pencil, never with a scribe or scratch awl.

(d) Use rivets of the same type as those being replaced, using the original spacing pattern. For enlarged or deformed rivet holes, use the next larger size rivet. Refer to EO 05-1-3/5, for rivetting instructions.

(e) After repair, observe anti-corrosion precautions detailed in EO 05-1-3/23 for the type of material.

(f) Surface finish procedure must conform to instructions issued in the relevant Description and Maintenance Instructions Manual for the aircraft.

(g) Perform a leakage test after each repair, (refer to Paragraph 22, following).

Nomenclature Used

2 See Figure 1 for terminology used in repairs to floats and hulls.

Corrosion Protection

3 After repair, the surface must be refinished to conform to the original finish scheme for the aircraft. Refer to the relevant Structural Repair Manual for the aircraft for the proper finishing procedure. For suitable aerodynamically smooth finish for use on aluminum surfaces proceed as follows:

(a) Apply primer (Item 1) not to exceed .0007 inch thickness.

(b) Apply two coats of surfacer (Item 2), wet-sanded smooth, using No. 360 sandpaper (Item 3).

(c) Apply one wet two-way coat of glossy lacquer (Item 4) and wet-sand with No. 400 sandpaper (Item 5).

(d) Use rubbing compound (Item 6) to remove scratches, orange peel and other lacquer defects.

(e) Apply polishing wax (Item 7) and polish by hand or with a mechanical buffer.

Primer

4 Zinc chromate primer (Item 1), is used because it combines low specific gravity with excellent corrosion-inhibitive qualities, and may be used on a wide variety of materials. It is yellow-green in colour and dries within five minutes when properly applied. Single coat thickness must be .00025 to .00035 inch. The total dry film thickness of primer on surfaces to be topcoated must not exceed .0007 inch. Apply by brush or spray.

Surfacer

5 Sanding surfacer (Item 2) is applied over primed surfaces prior to glossy lacquer or enamel topcoats in order to obtain aerodynamically smooth surfaces. The surfacer is thinned as specified on the container, using thinner (Item 8), applied in thin coats and

sanded to a total thickness of approximately .006 inch.

Topcoats

6 Topcoating materials to be used depend on the previous finish scheme for the aircraft. Lacquer (Item 4) is recommended for flying boat hull bottoms where fouling does not occur. Where fouling occurs, use anti-fouling paint (Item 9).

Protective Coatings after Repair

7 Treat aluminum alloy, from which the anodic film has been removed, with chromic acid (Item 10), then prime and paint with one coat of aluminized lacquer (Item 4) and one additional coat of lacquer to match the adjacent parts. Treat steel parts, from which the cadmium plating has been removed and which cannot be readily replated, with two coats of primer, one coat of aluminized lacquer (Item 4), and one coat to match the adjacent parts.

Finish of Repaired Areas

8 Finish replaced or repaired portions

strictly in accordance with the detailed finish specification given in the relevant Description and Maintenance Instruction Manual.

Treatment of Slight Corrosion

9 Slight corrosion is not sufficient to threaten the structural strength of the particular member. Recommended procedure for dealing with cases of slight corrosion is as follows:

- (a) Remove paint from an area sufficiently large to determine the full extent of corrosion and destruction of the anodic film.
- (b) Scrape away corrosion with rough canvas or carpet material soaked in toluene (Item 11) or equivalent solvent. Exercise care to minimize marring of adjacent anodic film. It is important that corrosive matter be completely eliminated, as remaining traces will spread after repainting.
- (c) If surface is pitted, level out indentations by application of aluminum metal spray. (Refer to EO 05-1-3/23.)

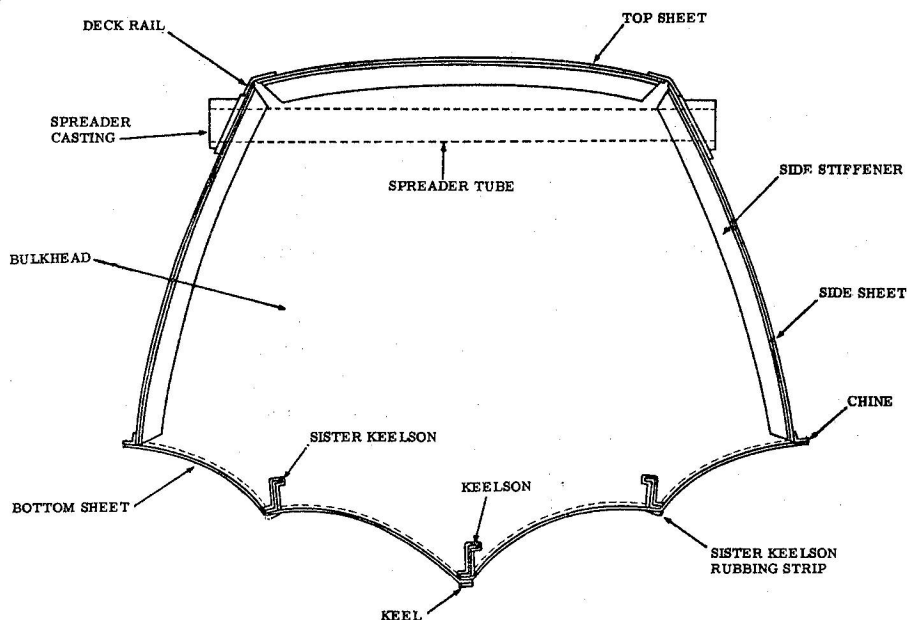


Figure 1 Location of Major Structural Members

(d) Brush or wipe the cleaned area with a 10% solution of chromic acid (Item 10).

(e) Apply a light coat of zinc chromate primer (Item 1) and an appropriate finish in accordance with the detailed finish specification given in the relevant Description and Maintenance Instructions Manual.

Treatment of Severe Corrosion

10 Where corrosion is so far advanced that the structural strength of the member is impaired, the following general procedure is recommended:

(a) Remove sufficient paint to ascertain the full extent of corrosion.

(b) Support the surrounding structure (refer to Paragraph 11, following), and cut out corroded area.

(c) Apply patch as required following instructions given in Paragraph 28, following. Refer to EO 05-1-3/5 for rivetting procedure.

(d) Finish according to detailed finish instructions found in relevant Description and Maintenance Instructions for the aircraft.

Support of Structure During Repair

11 The structure must be suitably supported to prevent distortion during repair when any member is removed. Use a jury strut so that damaged member may be removed without disturbing the rigidity of the surrounding structure, or to relieve the load on the damaged member if the repair is to be made in place. Extensive damage to the keelson will necessitate the ends of the hull or float being adequately supported when aircraft is on either beaching gear or cradle.

Sealing Materials

12 The following approved sealing materials are used in making watertight joints in aluminum alloy. These tapes are not affected by primers, lacquers or other protective coatings, and need not be removed along contact surfaces before jointing.

(a) Neoprene tape (Item 12), made of lightweight cotton fabric impregnated and coated

on both sides with neoprene, or plain neoprene tape (Item 13) without the fabric base.

(b) P.A.W. sealing tape (Item 14), a plain neoprene tape coated with a dry type rubber cement containing a corrosion inhibitor.

Application

13 The method of applying P.A.W. tape is as follows:

(a) Moisten one surface of the tape with gasoline (Item 15) or kerosene (Item 16) to the point where the adhesive becomes quite soft.

(b) Allow the solvent to evaporate until the adhesive becomes tacky.

(c) Apply the tape to one contact surface and allow to set.

(d) Soften the adhesive on the remaining surface of the tape as above and apply the second metal surface.

(e) Complete the joint.

14 If, after softening the adhesive, the joint is not completed, it may be re-softened by application of solvent as often as necessary without detrimental effect. After completing the joint, excessive adhesive is removed with kerosene or gasoline. Where it is necessary to pie-cut or butt the tape, or in corners etc., where it is difficult to ensure a seal by the use of tape alone, neoprene cement (Item 17) must be used as an added precaution.

CAUTION

Do not expose P.A.W. sealing tape to light, as this tends to form a film on surface preventing thorough softening. The adhesive is soluble in gasoline and must not be used for joints which come into contact with gasoline or oil.

15 Kerosene as a solvent gives a slower set than gasoline and a still slower set may be obtained by the use of a mixture of kerosene and lubricating oil.

16 The application of plain neoprene tape (Item 13) is similar except that neoprene cement (Item 17) must be applied to the tape as it is used, when necessary.

Approved Substitute Tapes

17 Cotton or canvas tape soaked in marine glue (Item 18) is approved as a seal. Rubber cement may be used but marine glue is preferable. Contact surfaces should be coated with bitumastic where possible before jointing. Friction tape must not be used for jointing purposes as it is not thick enough.

Use of Bostik Cement

18 To seal smaller patches secured with Parker-Kalon screws, bolts or rivets, use Bostik Cement (Item 19). This material is satisfactory for joints in float plating which have stiff reinforcing and where no local buckling takes place. It must not be used on continuous joints which are required to be consistently watertight and which require periodic assembly, or for joints that have no stiff reinforcing.

CAUTION

Never use Bostik Cement where the joint may be subject to gasoline or oil.

Application of Bostik Cement

19 The method of application is as follows:

(a) Thoroughly clean the metal in way of the joints and apply a thin coating of Bostik Cement (Item 20) to each surface.

(b) Allow this coat to become tacky (about 10 minutes) and then apply a coat of Bostik Cement (Item 19).

(c) Complete the joint immediately following the second application.

(d) Bolts, rivets or Parker-Kalon screws used to fasten joints are to be dipped in Bostik Cement (Item 19) before driving.

(e) The cement requires from 24 to 48 hours to dry thoroughly when it has the consistency of heavy rubber. It is removable with gasoline.

(f) With very light gauge sheet, larger quantities of Bostik Cement (Item 19) are necessary to fill all spaces due to slight bulges.

CAUTION

Do not weld any part of the floats, since it destroys the strength of the heat-treated metal as well as the Alclad finish.

Stopping Leaks in Floats

20 Inspect for and repair leaks as follows:

(a) Slight seepage of water from one compartment to another is ordinarily permissible unless the float plane must be left out at moorings unattended for long periods. An appreciable trickle of water between bulkheads, such as a cupful in ten minutes, should be stopped, as should any leak whatever through the outside skin. Correct minor seam leaks by the application of sealing compound, (see Paragraphs 18 and 19, preceding), after the excess of old seam filler has been removed.

(b) Correct major leaks by tightening the rivets locally, or, if this is not sufficient, remove the rivets, clean out the seam, seal with new sealing compound and put in new rivets. Tighten existing rivets by backing up the rivet with a heavy piece of iron against the inside and hammering on the outside.

Hand-hole Covers

21 A frequent source of leakage is found in the hand-hole covers, particularly if the aircraft is carelessly nosed up on a steep beach so that the rear deck is under water. To prevent seepage, the vent hole drilled in the covers to prevent the floats from blowing out during a rapid climb must be kept plugged with heavy grease (Item 21). On floats without hand-hole covers, this hole is located in the access plates. The rubber gasket will also get worn in time and require replacement, and care must be taken to ensure it will retain proper fit. Sometimes the metal cover itself does not fit snugly down onto the deck. Test by removing the gasket and screwing down the cover to see that even contact is made. If it does not fit tightly, either the thread of the screw is at fault or else the flange in the deck is too wide and should be filed away so as to enlarge the hole.

NOTE

Do not tighten hand-hole cover knobs with wrenches; a cover which cannot be made

tight by hand is improperly fitted. The use of a wrench may force the spiders up under the deck with sufficient force to permanently deform it.

Leakage Test for Floats

22 After every overhaul a leakage test should be made with the aircraft on land. Block up the floats before filling with water to prevent undue strain caused by the weight of water inside. Properly fitted forms located under the bulkheads and spaced about four feet apart, with additional supports for the keel in between, are suggested as the best arrangement. If this is impractical, see that the keel forward of the step is flat on the floor. Place several supports under the keel at the bow and stern and block up at a number of points along the chine as well.

23 To test the floats, fill alternate compartments with water and, after noting any leaks between bulkheads, fill all compartments and inspect for outside leaks. Unless the floats are very well braced, it is advisable to fill all compartments only partly, gradually adding water to every compartment until all are filled to the top. Mark leaks with an indelible pencil. A special float pump is usually provided with each aircraft for pumping out the water. Follow similar procedure for hulls. Because of the large volume of water involved, careful and adequate blocking of the hull is essential.

Winter Storage

24 If floats have been used in salt water, wash them thoroughly with a hose, both inside and out, to remove all salt deposits. Store upside down on boxes or horses, clear of the floor in a dry, well ventilated room. Set the hand-hole covers off centre, to allow for ample ventilation and to prevent internal sweating. If floats are not equipped with hand-hole covers, the access plates must be opened. Protect all bare steel parts with grease, (refer to EO 05-1-3/23).

SKIN REPAIRS-HULLS

General

25 A careful inspection must be made to determine the classification of the damage according to one of the following definitions:

Negligible; repairable by patching or insertion; necessitating replacement.

Negligible Damage

26 Dents in the hull or float skins, located at least fifty times the plate thickness from structural members such as stringers, frames, or bulkheads, need not be repaired if they are free from sharply defined edges, scoring or abrasions. A smooth dent not exceeding a depth of 3/8 inches and extending over an area not including a structural member is regarded as negligible.

Bulkheads and Frames

27 Deformation of flanges, stiffeners, or beads is never considered negligible, and must be repaired. Dents in the web, if not exceeding a depth of 1/8 inch and free from sharply defined edges, scoring or abrasions, need not be repaired. Minor damage such as dented flanges, etc., must be straightened, and, if necessary, a reinforcement part added. Care must be taken on watertight bulkheads that all repairs are watertight. If plating is damaged near stringers, frames, or bulkheads, it is possible that rivets in the vicinity may be strained.

NOTE

In general, hammer repairs as little as possible and only where absolutely necessary, because cold working changes the molecular structure of aluminum alloy, weakening it and making it more subject to corrosion.

Partial Replacement of Skin by Patching

28 The distorted skin must first be restored to shape using a mallet and wooden back-up block. (See Figure 2.) Examine the structure in the vicinity, since straightening may have caused cracks to develop or rivets to be strained. Drill a 1/8 inch diameter hole at each extremity of cracks to prevent further extension.

29 The patch plate must be prepared from material of the same gauge and specification as the plate being repaired. Where possible, the repair patch plate should be fitted on the outside of the hull, especially when the plating

is badly cracked, since this will minimize possible corrosion.

NOTE

Do not patch a dented piece of metal until it has been hammered back into shape.

30 The damaged area may be cut out and patched as shown in Figure 3. When cutting out the damaged portion, remove only the minimum amount necessary for efficient repair. The proximity of frames or stringers must be considered and their lines of rivets picked up. In general, if the edge of the hole being patched is within 1-1/2 inches of an existing line of rivets, extend the patch to pick them up. Should a beltframe member or stringer cross the area to be covered by a patch, the joint with the plating must be included in the repair and the rivets removed and renewed.

31 After drilling at all new rivet positions, place the plate over the opening, drill through at opposite corners and bolt in place temp-

orarily. Drill the skin through the remaining holes in the patch. If patches are required on a part of the hull with a pronounced curve, preform to shape so that they lie in position without being forced by the rivets. Do all marking off or laying out of rivet holes with a soft pencil. Do not use a scribe or any other sharp pointed tool. Before rivetting, cover overlapping surfaces with fabric impregnated with neoprene or an equivalent waterseal to ensure watertightness. (Refer to Paragraphs 12 and 13, preceding.)

32 If the stringers and/or beltframes are damaged in the adjacent areas, always repair these members before proceeding to rivet the patch plate to the skin.

CAUTION

As irregularities in the bottom skin forward of the step are likely to affect planing characteristics, the use of several small patches in this region must be avoided. Under such circumstances, replace the entire panel.

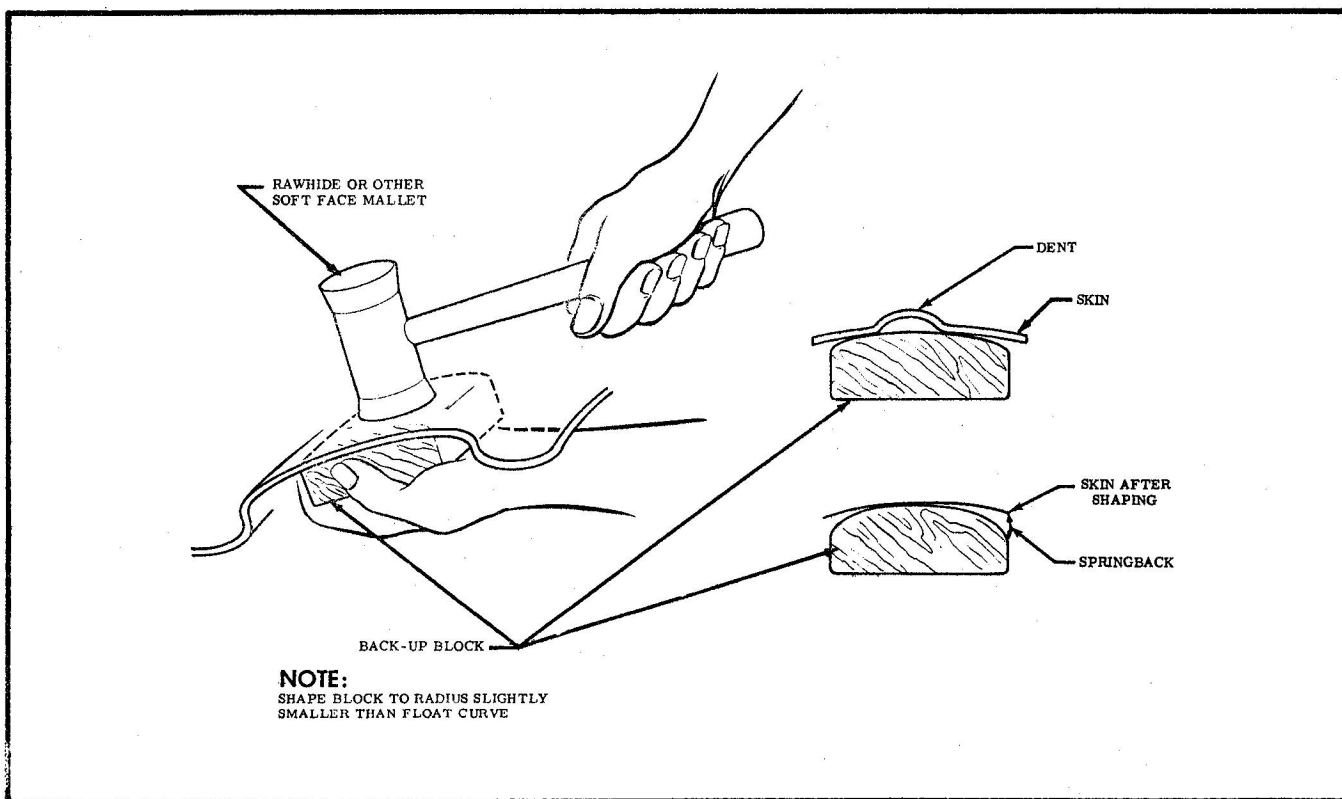


Figure 2 Method of Removing Dents

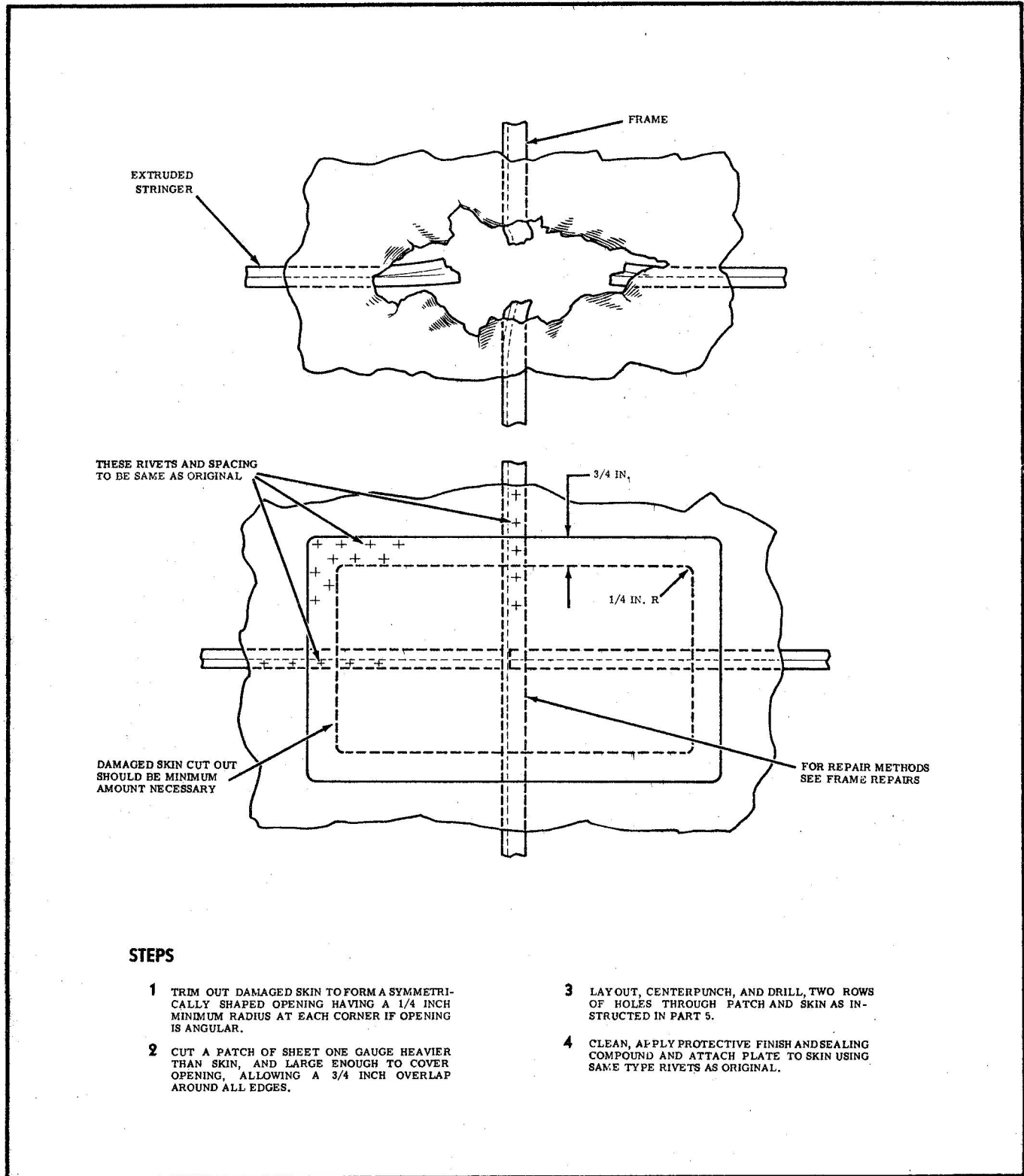
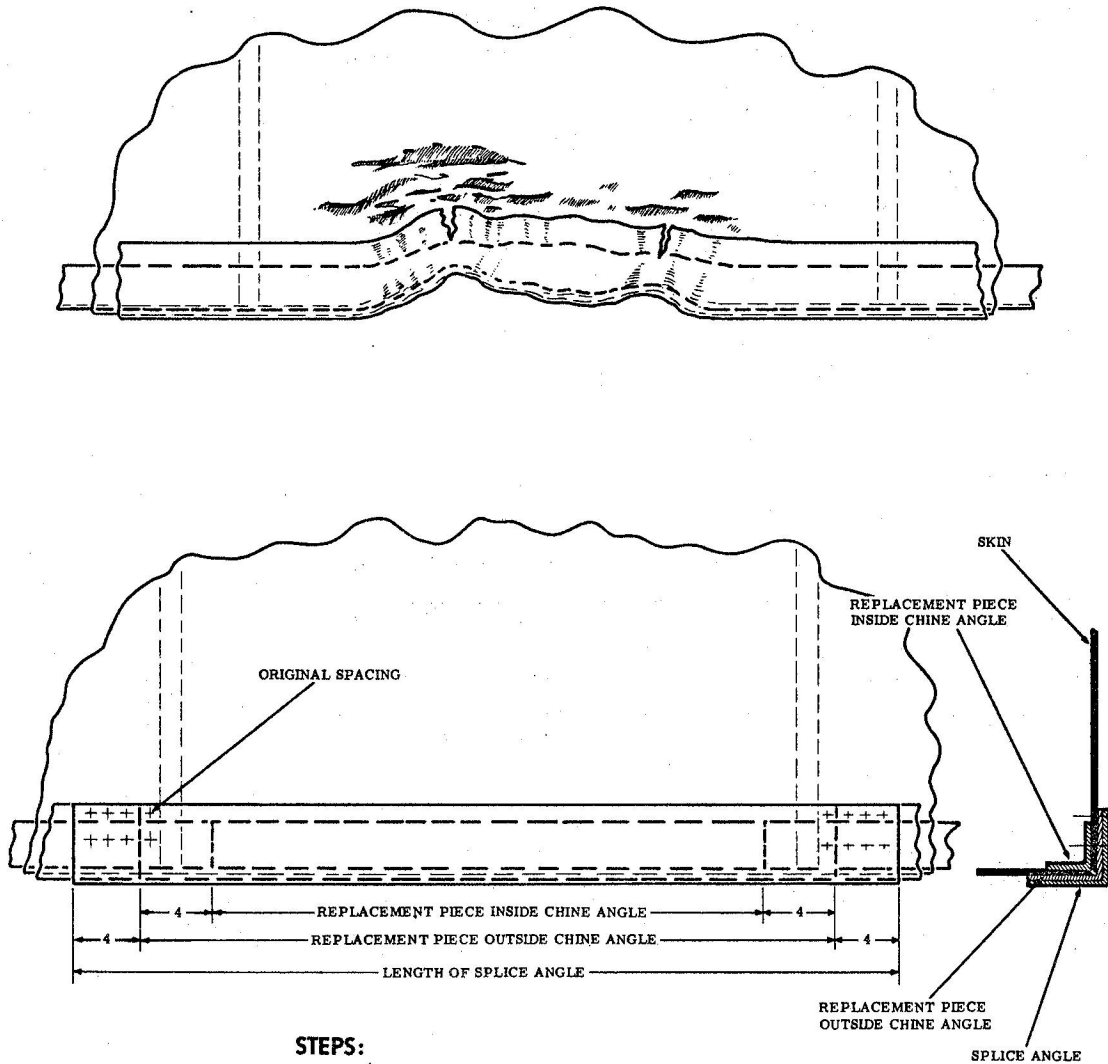


Figure 3 Partial Replacement of Skin

**STEPS:**

- 1 DRESS SKIN TO ORIGINAL SHAPE. REPLACE IF NECESSARY.
- 2 TRIM OUT DAMAGED INSIDE AND OUTSIDE CHINE ANGLES AND CUT REPLACEMENTS TO LENGTH SHOWN.
- 3 TACK RIVET INSIDE CHINE IN PLACE. PICK UP ORIGINAL SKIN RIVET HOLES. TACK RIVET OUTSIDE CHINE.
- 4 CUT SPLICE TO LENGTH SHOWN AND TACK RIVET OVER OUTSIDE CHINE. JOGGLE IF NECESSARY. PICK UP RIVET HOLES.
- 5 DISMANTLE AND REMOVE SWarf. BURR AS REQUIRED.
- 6 APPLY PROTECTIVE FINISH AND SEALING COMPOUND, TAKING CARE TO FILL CREVICES. ASSEMBLE WITH RIVETS OF SAME DIAMETER AND MATERIAL AS ORIGINAL INSTALLATION.

Figure 4 Chine Insertion Repair

Chines

33 Repair a damaged chine angle or plate by cutting out the damaged portion and inserting a new piece of the same size, gauge and specification as the damaged part. Restore the adjacent shell plating to shape and repair any damage to stringers, frames and bulkheads. Use the existing rivet holes in the plate. Enlarge distorted rivet holes for the next larger size rivet. (Refer to EO 05-1-3/5.) Cut insertion pieces from similar material, shaped and trimmed to a good fit between the ends to form a butt joint. In order to ensure

watertightness insert fabric impregnated with neoprene or an equivalent water seal between insertion pieces, butt-straps, and hull plating before rivetting. A typical example of an insertion repair is shown in Figure 4.

Pressed Frames

34 Remove minor deformation of flanges or beads which did not result in rupture of the metal, using a mallet and wooden backing block. Take special care in straightening a member to avoid fracture, and examine for cracks which may have developed during the straightening

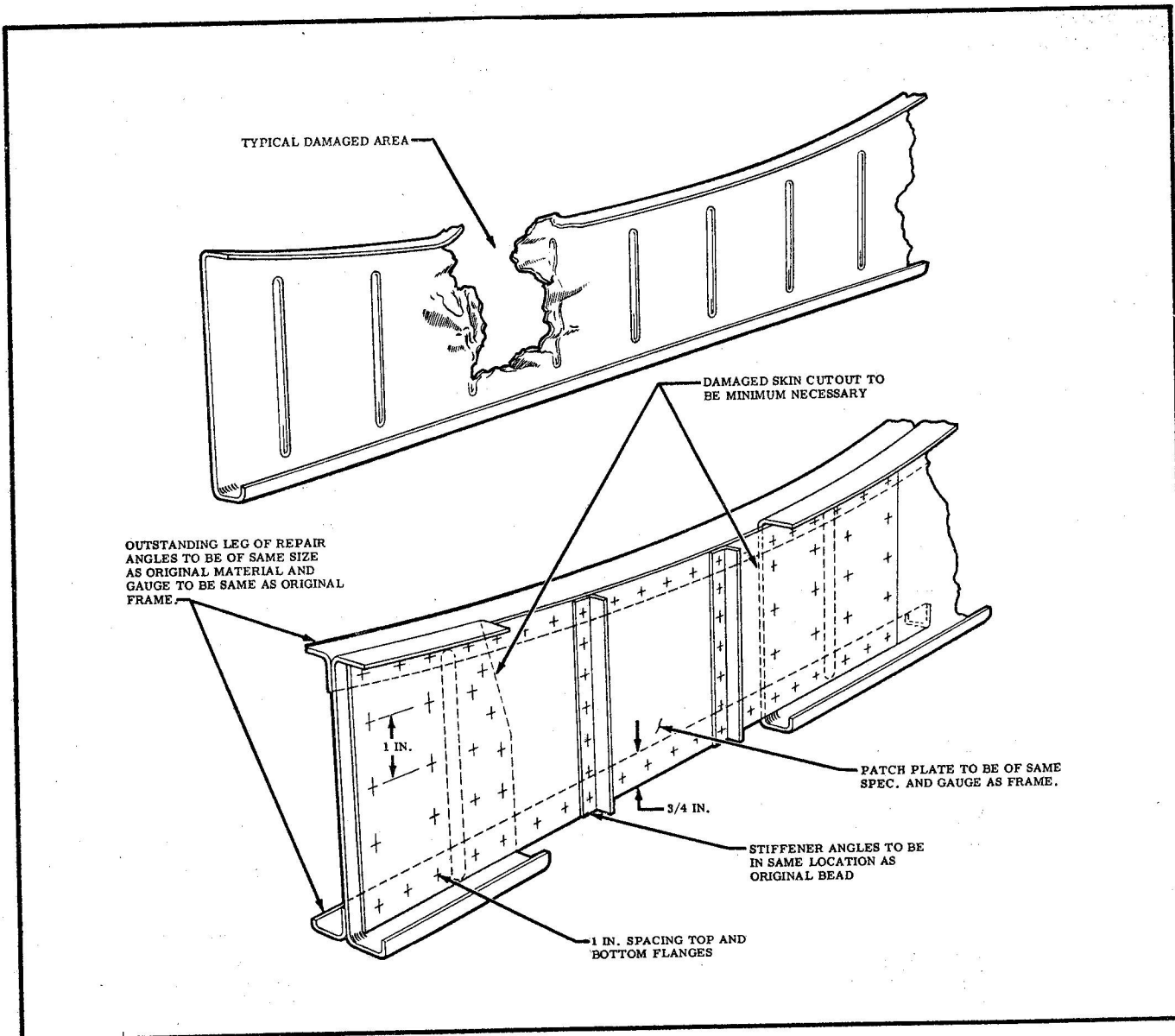


Figure 5 Pressed Frame Repair

operation. Damage resulting in rupture of the metal, severe deformation, or both, may be repaired by patching or replacement, as shown in Figure 5.

Built-up Frames

35 Repair damage to webs in the same manner as damage to skins. (See Figure 6.) Repair extensive damage to frames involving the top and bottom flange angles, stiffeners and web as shown in Figure 7. Note that web is lapped at both ends of the repair. Where the thickness of the lapping web does not exceed .040 inch, it is not necessary to joggle the adjacent members. The method shown here for splicing of large members is typical and should be followed where this type of repair is needed.

Keel Truss

36 Repair of the keel is similar to that of built-up frames, (see Figure 6). In splicing top flange members, ensure that the total area of the splice members is equal to the area of the members being spliced.

Lower Keelson Extrusion

37 Splice the lower keelson extrusion by the method shown in Figure 8. Refer to the applicable Structural Repair Manual for the aircraft for diagram showing location of permissible repairs to lower keelson. Do not splice rubbing strips within 20 inches of the splice in the main keelson extrusion.

Stringer Repair

38 Where stringer has a small perforation or buckle in the web or flange, restore to shape as nearly as possible and stop any cracks by drilling a 1/8 inch hole. If the hole in the stringer is ragged, drill out or file as smooth as possible. Cut a cover plate of the same section and gauge (a thicker but not thinner gauge would also be suitable) as the damaged stringer from a spare length for patching. Make this piece at least 4 inches longer than the length of the damage, the exact dimension being governed by the position of the skin rivets through the damaged stringer, 3 inches being allowed beyond each end rivet. The skin rivets covered by the plate must be

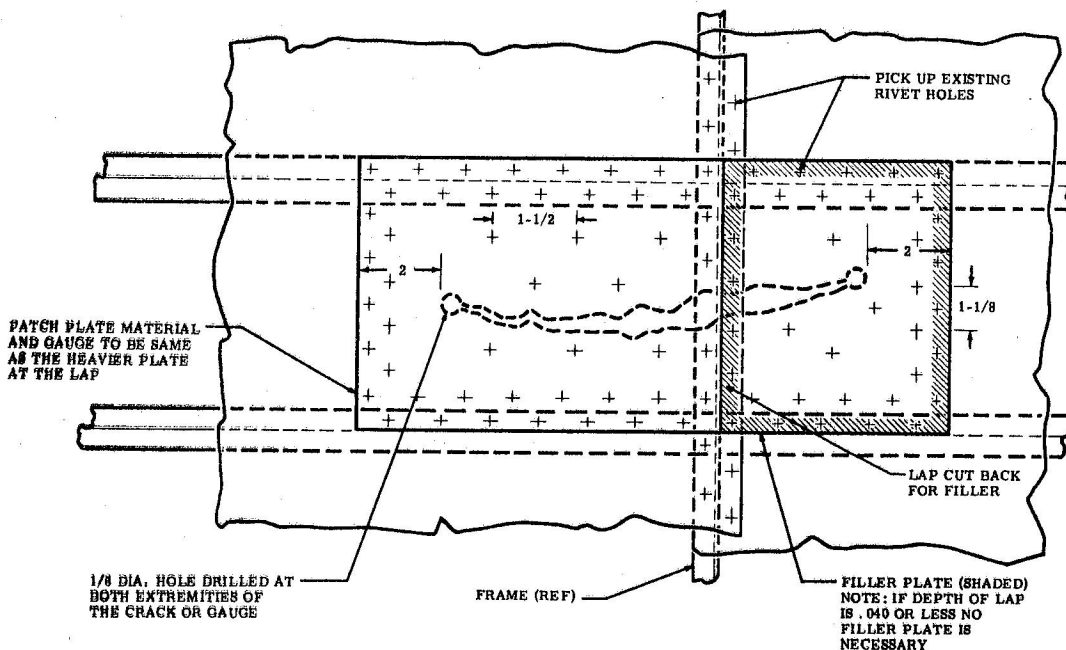


Figure 6 Patch Repair

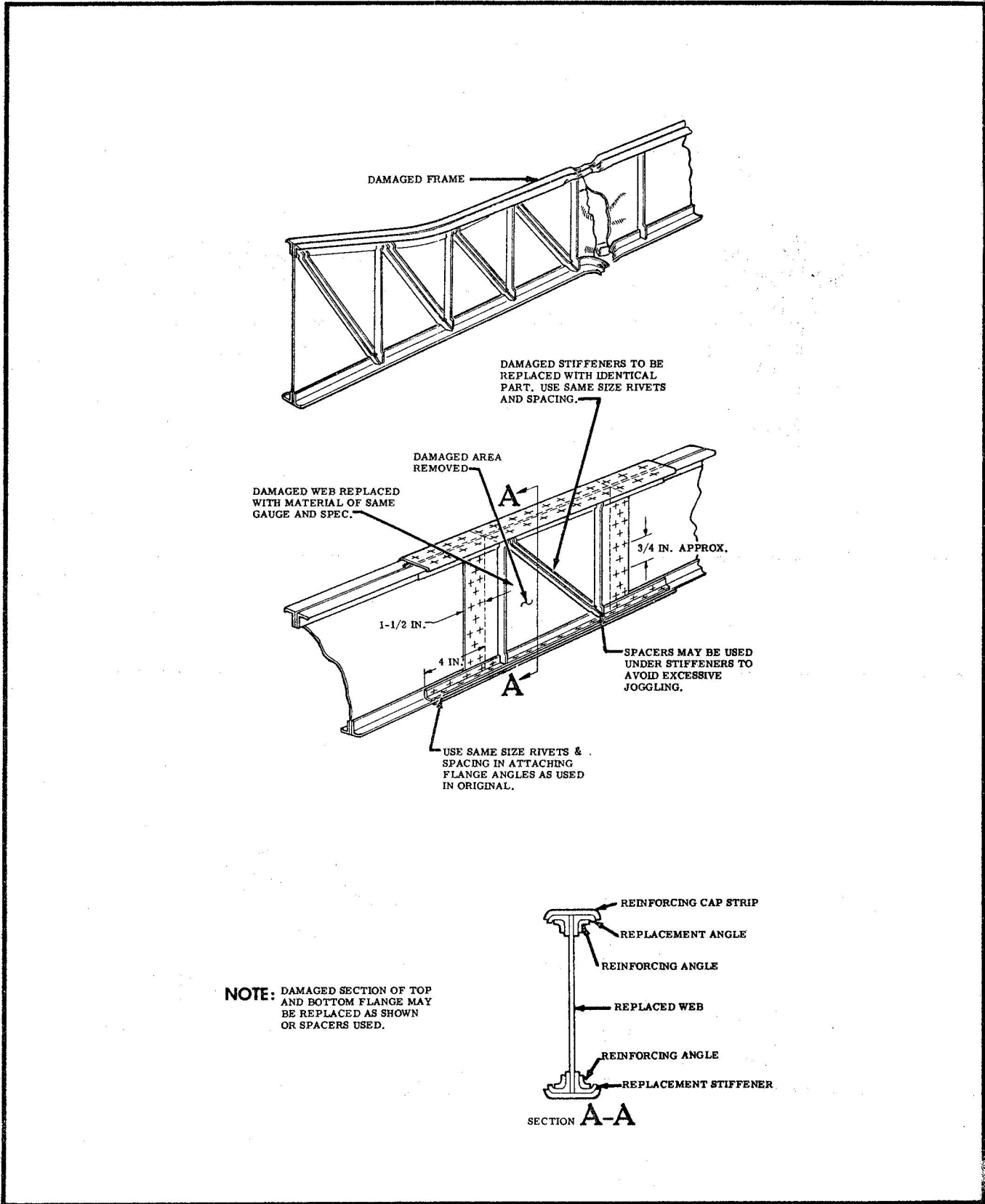


Figure 7 Built-up Frame Repair

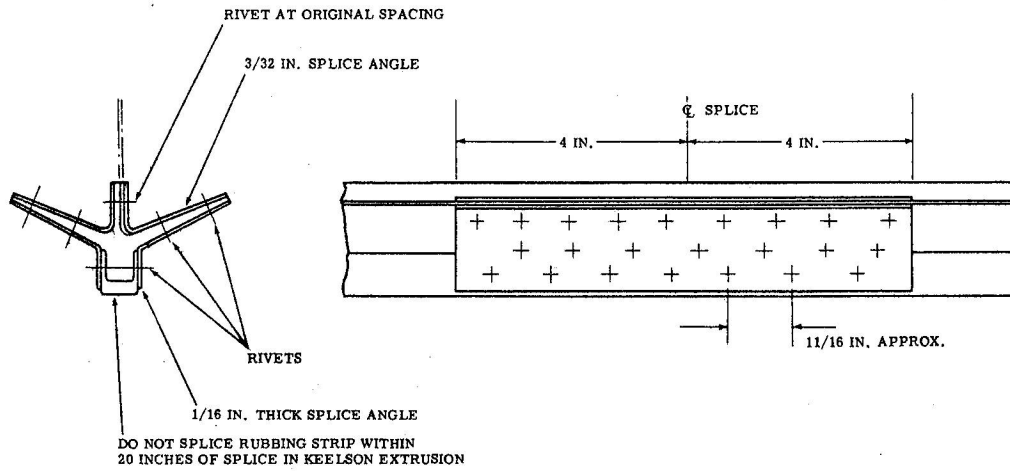


Figure 8 Keelson Repair

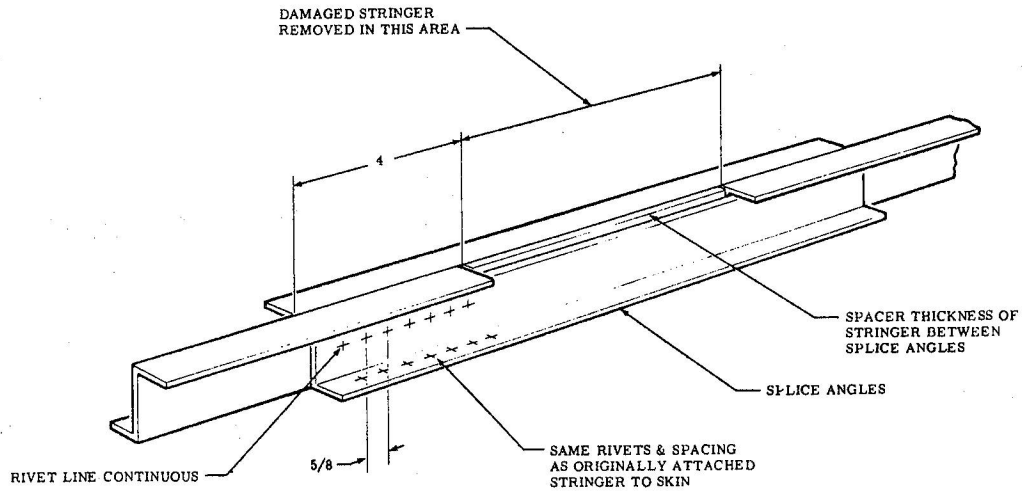


Figure 9 Z-angle Repair

carefully drilled and punched out as described in EO 05-1-3/5.

39 Place the cover plate stringer section in position, drill from the outside of the hull through the existing holes and rivet in place. Drill the additional holes for rivetting and drive the rivets.

40 If the damage is excessive, cut out the damaged portion of the stringer entirely and insert a new piece. Arrange the joints in a suitable position for accessibility using the lap or butt joint. Drill and rivet as previously described. For stringer repair, see Figures 7 and 9.

Skin Replacement

41 Replacement must be of the same gauge and specification as the original and must be attached with the same size rivets at the same spacing. In case rivet holes have been deformed or elongated, the next larger size rivet may be used. All joints must be waterproofed with

fabric impregnated with neoprene or its equivalent.

42 Do not replace a complete skin panel unless the whole, or that particular portion of the airplane affected, is jacked up so that all strains are eliminated.

43 If the damage does not necessitate complete replacement of the panel but is too serious for a repair by patching, repair that portion of the skin as follows:

(a) Cut away the damaged area so that the cutting line runs along the side of a stringer at a distance of 1/4 inch minimum from the inside row of rivets. Vertically, the cut-away should follow down the inside of a frame in a similar manner, or if more convenient, be made down an unriveted portion of the sheet.

(b) Make up a new skin section or cut from the appropriate spare sheet. Make the overlap along the stringers similar to that of the damaged plate. Make vertical overlaps where the cut is at an unriveted portion. Install following normal repair procedure. (See Figure 10.)

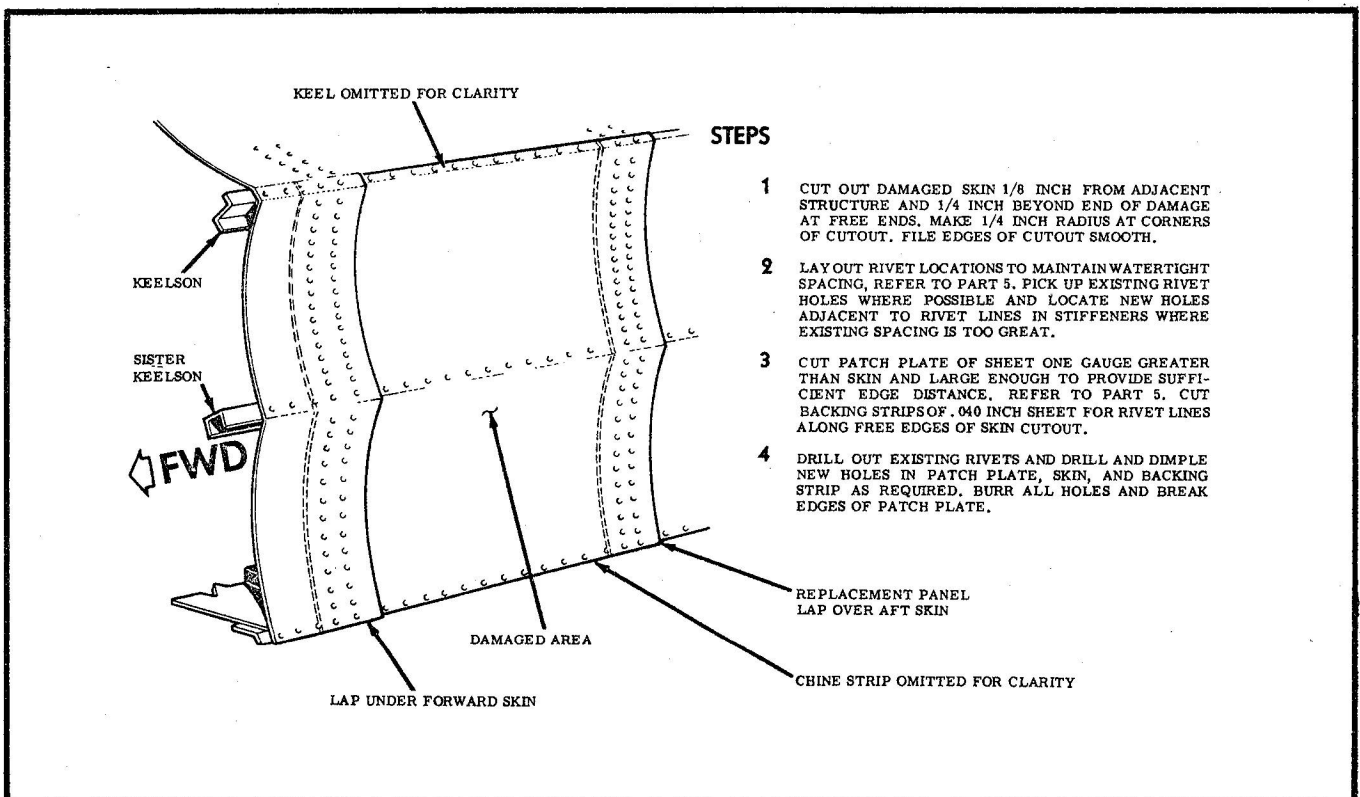
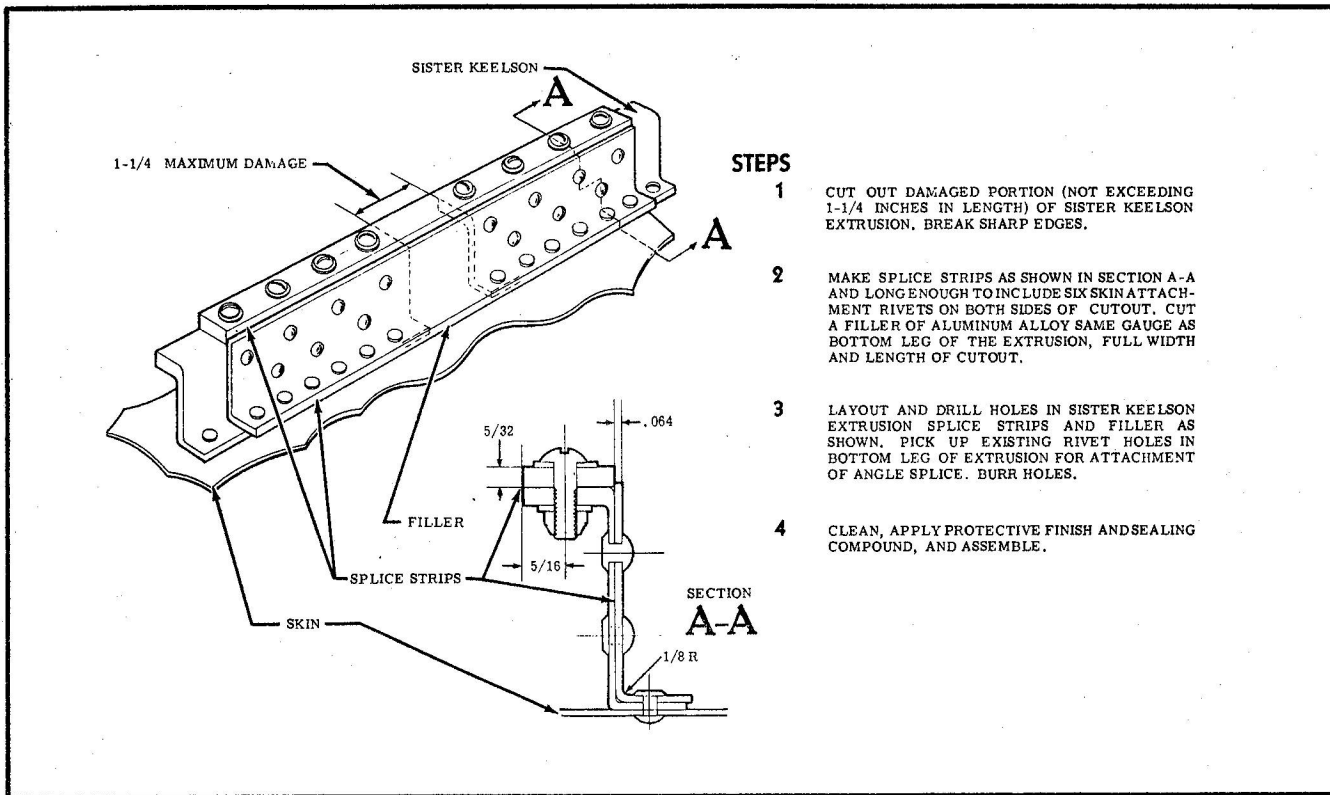


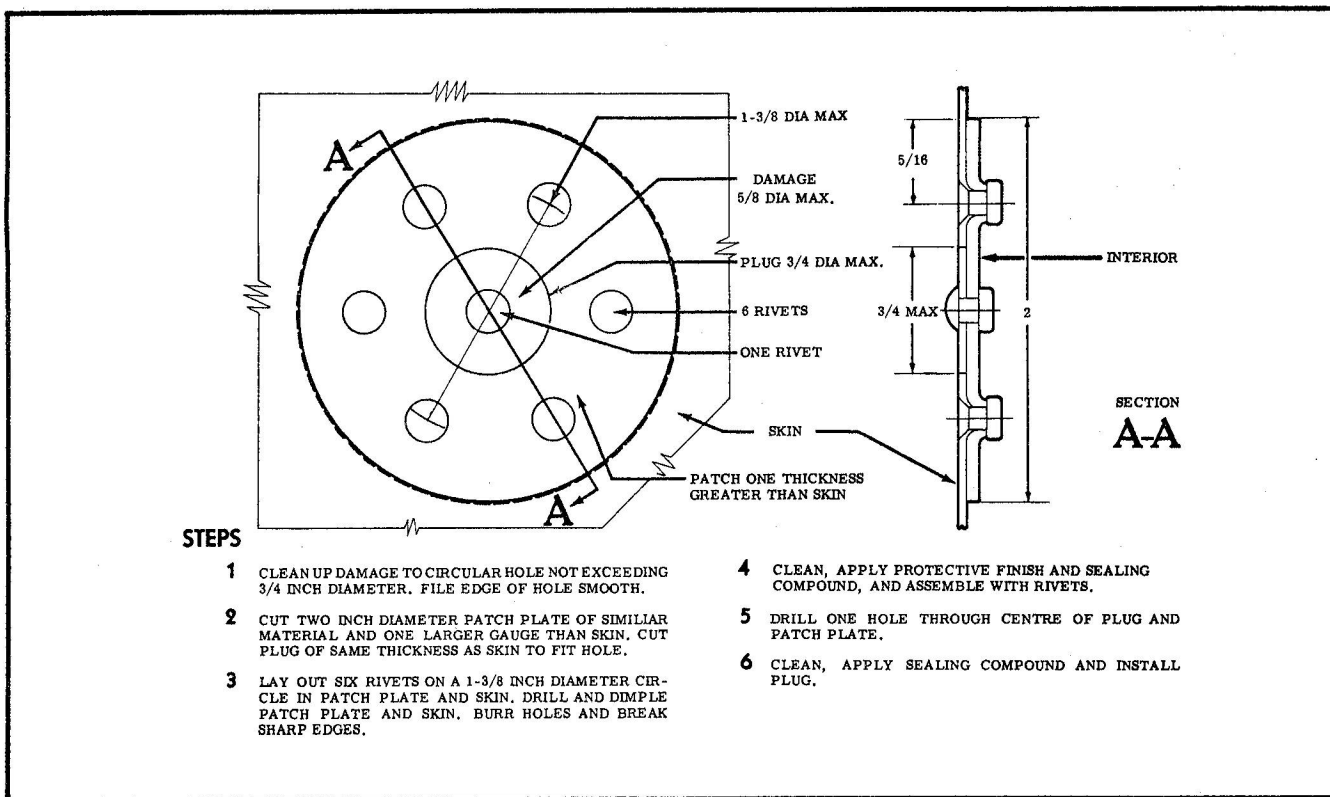
Figure 10 Repair for Skin Damage Requiring Replacement



STEPS

- 1 CUT OUT DAMAGED PORTION (NOT EXCEEDING 1-1/4 INCHES IN LENGTH) OF SISTER KEELSON EXTRUSION. BREAK SHARP EDGES.
- 2 MAKE SPLICE STRIPS AS SHOWN IN SECTION A-A AND LONG ENOUGH TO INCLUDE SIX SKIN ATTACHMENT RIVETS ON BOTH SIDES OF CUTOUT. CUT A FILLER OF ALUMINUM ALLOY SAME GAUGE AS BOTTOM LEG OF THE EXTRUSION, FULL WIDTH AND LENGTH OF CUTOUT.
- 3 LAYOUT AND DRILL HOLES IN SISTER KEELSON EXTRUSION SPLICE STRIPS AND FILLER AS SHOWN. PICK UP EXISTING RIVET HOLES IN BOTTOM LEG OF EXTRUSION FOR ATTACHMENT OF ANGLE SPLICE. BURR HOLES.
- 4 CLEAN, APPLY PROTECTIVE FINISH AND SEALING COMPOUND, AND ASSEMBLE.

Figure 11 Aft Sister Keelson Repair



STEPS

- 1 CLEAN UP DAMAGE TO CIRCULAR HOLE NOT EXCEEDING 3/4 INCH DIAMETER. FILE EDGE OF HOLE SMOOTH.
- 2 CUT TWO INCH DIAMETER PATCH PLATE OF SIMILAR MATERIAL AND ONE LARGER GAUGE THAN SKIN. CUT PLUG OF SAME THICKNESS AS SKIN TO FIT HOLE.
- 3 LAY OUT SIX RIVETS ON A 1-3/8 INCH DIAMETER CIRCLE IN PATCH PLATE AND SKIN. DRILL AND DIMPLE PATCH PLATE AND SKIN. BURR HOLES AND BREAK SHARP EDGES.
- 4 CLEAN, APPLY PROTECTIVE FINISH AND SEALING COMPOUND, AND ASSEMBLE WITH RIVETS.
- 5 DRILL ONE HOLE THROUGH CENTRE OF PLUG AND PATCH PLATE.
- 6 CLEAN, APPLY SEALING COMPOUND AND INSTALL PLUG.

Figure 12 Repair Instructions for Bottom Skin Damage up to 3/4 Inch

TYPICAL FLOAT REPAIRS

Aft Sister Keelson

44 To repair damaged aft sister keelson, proceed as follows:

(a) To repair cleaned-up damage not exceeding 1-1/4 inch in length, see method illustrated in Figure 11.

(b) Cleaned-up damage between 1-1/4 inches and 8 inches in length may be repaired in a similar manner if a piece of the original extrusion is used as filler for the length of the cutout.

NOTE

If a piece of the original extrusion is not available, duplicate the section dimensions by welding together plates of similar material, provided that the fabricated piece is used as a splice filler and is thus not depended upon to duplicate the strength of the damaged member.

Repair to Skins

45 To repair bottom skins, proceed as follows:

(a) To repair tears up to 3/4 inch, apply a flush plug patch to inside of skin. (See Figure 12.)

(b) To repair tears from 3/4 inch up to 6 inches, apply a flush plug patch as shown in Figure 13.

(c) Bottom skins and side skins below the waterline must be repaired either by a surface patch or by replacement. When damage is excessive or when several small patches would be required, replace the panel as shown in Figure 10. Skin repair by means of a surface patch is shown in Figure 3. The patch plate is attached by new lines of rivets adjacent to the structural members. This is necessary to provide the rivet spacing required for watertightness for repairs below the waterline. For rivetting procedure, refer to EO 05-1-3/5.

(d) A typical repair for side skins above the waterline and top skins is illustrated in

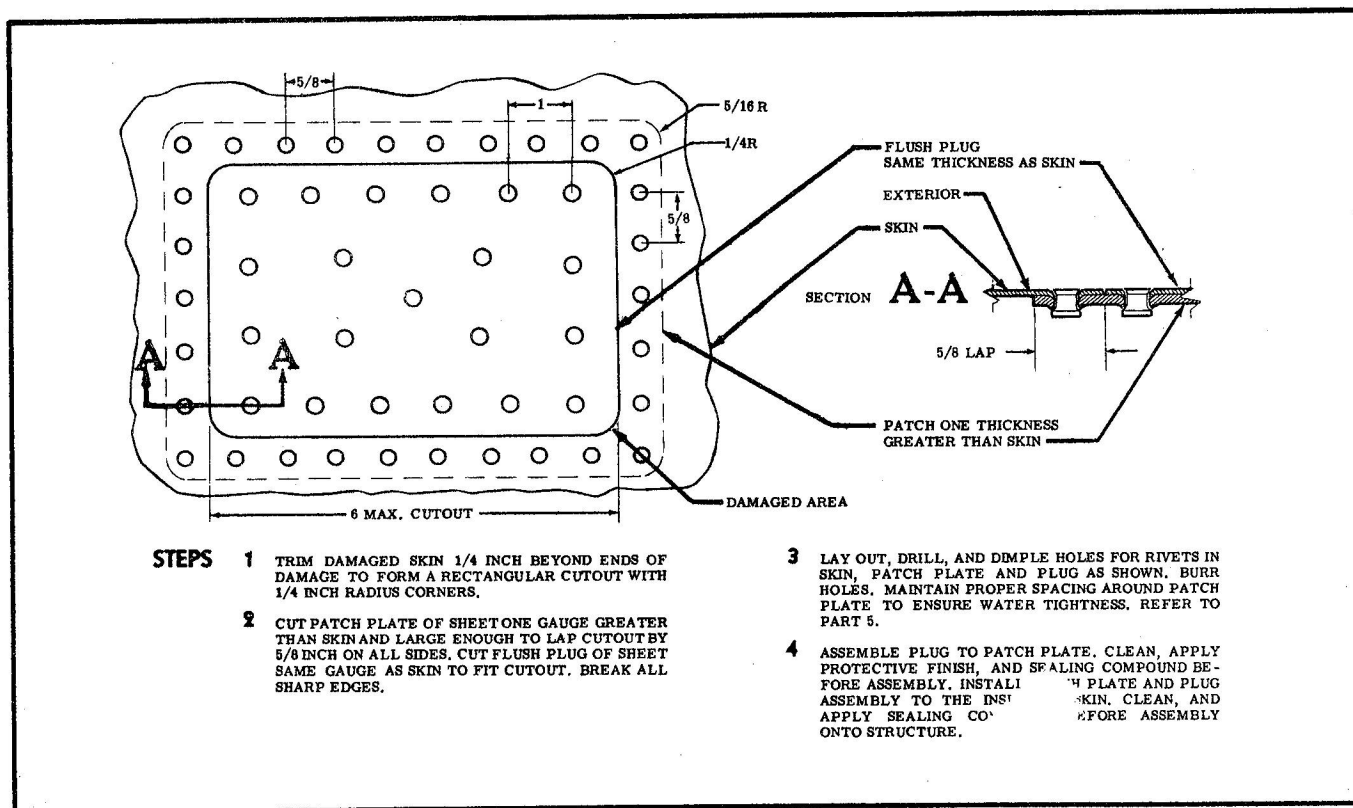


Figure 13 Repair Instructions for Bottom Skin Damage of 3 to 6 Inches

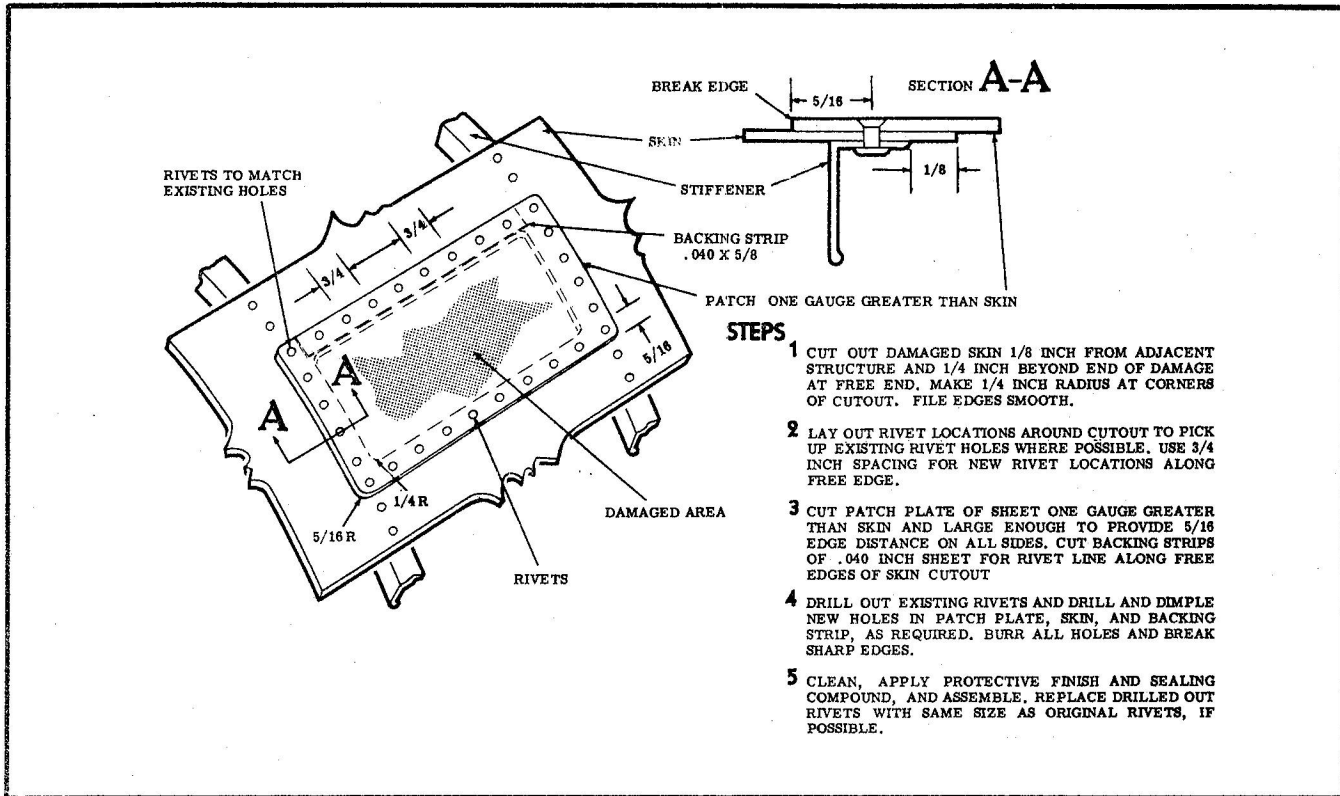


Figure 14 Skin Repair Involving Structure Above Waterline

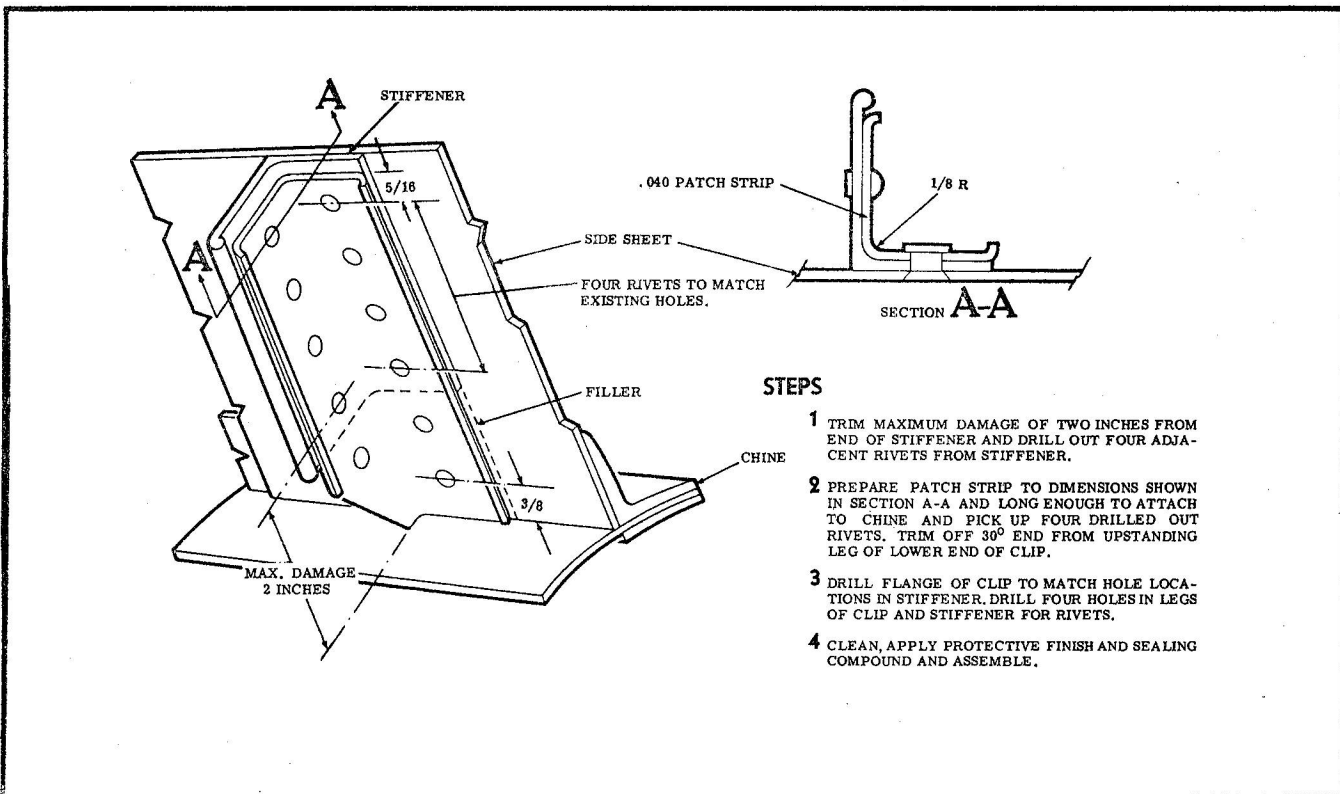


Figure 15 Repair for Lower End of Side Stiffeners

Figure 14. The repair shows an external patch plate attached to the adjacent structure.

(e) Repair damage to the lower end of side stiffeners by the use of the patch clip shown in Figure 15.

(f) Repair damage to the rivetted flange of the stiffener which does not extend into the

corner radius after clean-up as shown in Figure 16.

Material Specifications

46 For table showing item numbers, materials specifications and manufacturers, see Figure 17.

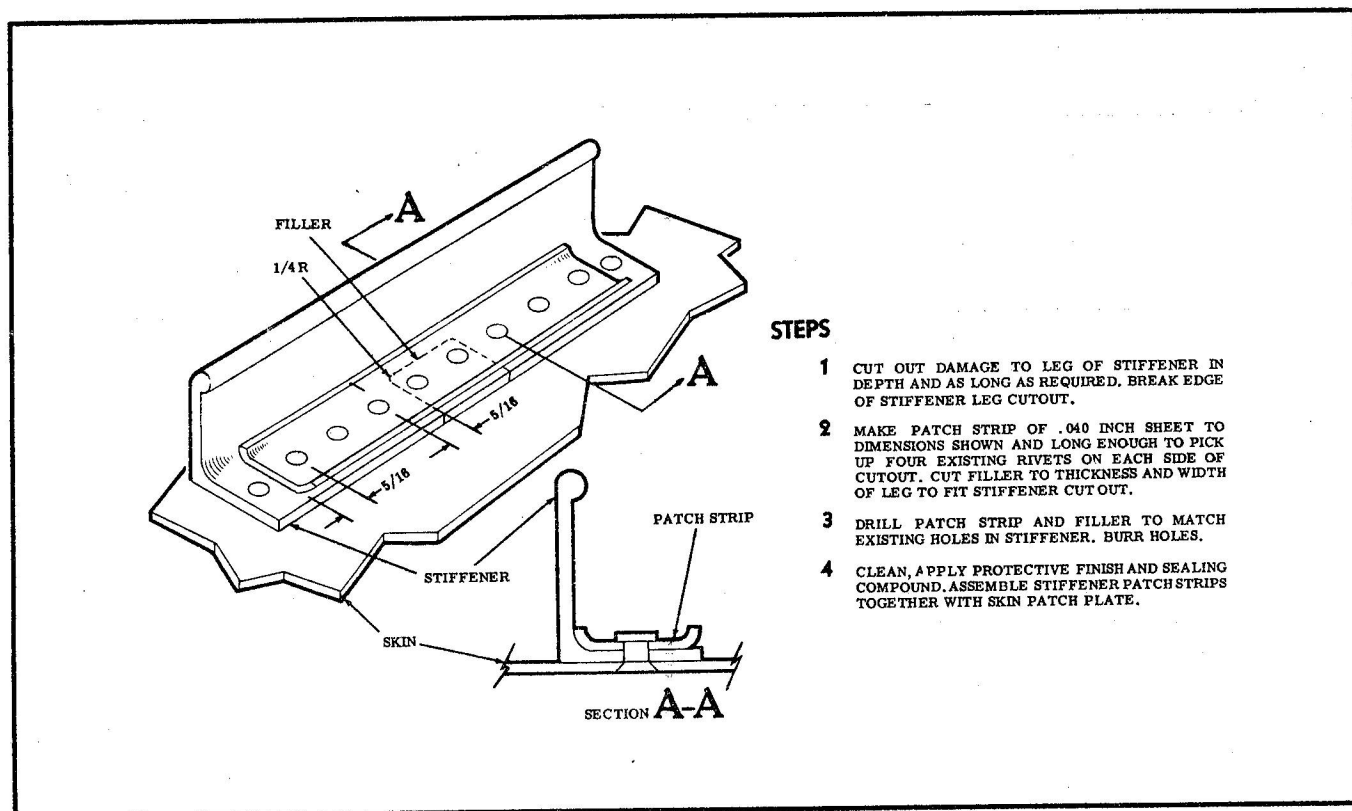


Figure 16 Stiffener Flange Repair.

Item No.	Material	RCAF Ref	Specification	Manufacturer
1	Primer, Zinc Chromate	33A/462	MIL-P-6889A	
2	Surfacer		MIL-S-794 (US)	
3	Paper Abrasive Water Type No. 360 Grit	29/1868		
4	Lacquer, Glossy	33A/	MIL-L-7178-1 (US)	
5	Paper Abrasive Water Type No. 400 Grit	29/1867		
6	Rubbing Compound		52-R-17 AER	

Figure 17 (Sheet 1 of 2) Table of Material Specifications

Item No.	Material	RCAF Ref	Specification	Manufacturer
7	Wax, Polishing, Wadding	33C/689	MIL-P-6888	Canadian Hanson & Van Winkle, 15 Morrow Ave., Toronto, Ontario.
8	Thinner	33A/	1-GP-50C	
9	Paint, Anti-fouling	34A/477	MIL-P-5051-1 (US)	
10	Acid, Chromic	33C/494	O-C-303	
11	Toluene	33A/467	TT-T-548A	
12	Tape, Neoprene, Coated	32E/or 33G/	AN-T-12	
13	Tape, Neoprene, Plain	32E/or 33G/	AN-T-12	
14	Tape Sealing, PAW	33G/ 5, 6, 7		E.I. Dupont de Nemours & Co., Wilmington, Delaware.
15	Gasoline	34A/52 34A/209	3-GP-25 3-GP-25	
16	Kerosene	34A/217	3-GP-3	
17	Adhesive Neoprene Cement No.1	33G/	MIL-C-5539	
18	Glue, Marine	33G/40	MIL-G-413A	
19	Cement, Bostik, Black No. 292	33G/8	MIL-C-4003	B.B. Chemical Co. of Canada Box 1447, Montreal, Que.
20	Cement, Bostik, White No, 421A	33G/27	421-A	B.B. Chemical Co. of Canada, Box 1447, Montreal, Que.
21	Grease, Heavy	34A/178	3-GP-682	

Figure 17 (Sheet 2 of 2) Table of Material Specifications