

Service Letter

FAA-DER APPROVED

Service Letter: No. 318

Subject: Section I: Inspection of Existing Air Conditioning System Condenser Assemblies.

Section II: Removal and Replacement Air Conditioning System Condenser Assembly If Required After Inspection.

Section III: Additional Instructions for Aircraft S/N 36064

Date: August 6, 1996

Applicability: Bell Model 412EP

Reference:

1. F.A.A./S.T.C. # SR00066DE, Bell 412 Air Conditioning System.
2. Drawing # : 412AC-700.

Compliance: Optional, at the discretion of the operator.

Introduction: It has come to our attention that on some condenser assemblies an interference may exist between shroud assembly screws, and the heat exchanger tubes.

This condition will result in the failure of the tube and subsequent loss of refrigerant.

Section I of this document provides condenser inspection procedures and appropriate corrective action to relieve areas of interference.

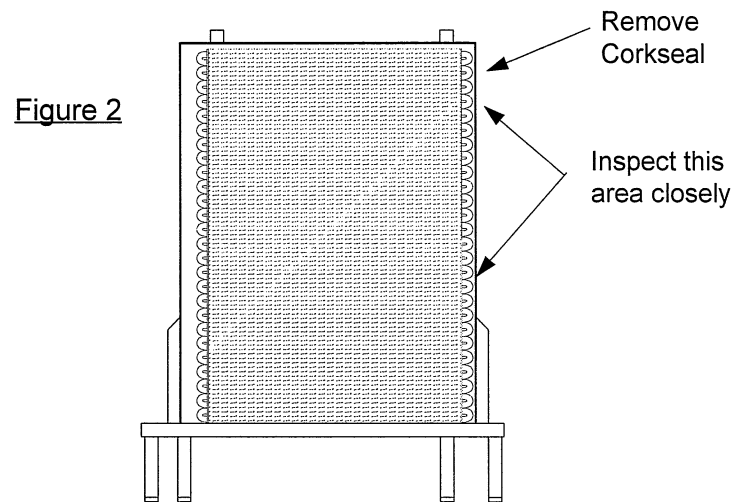
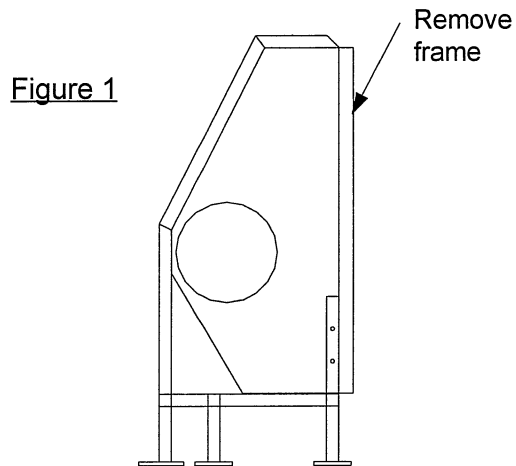
Section II provides removal and replacement procedures if inspection reveals a damaged condenser.

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SECTION I

Condenser Inspection :



1. Remove the transmission access cowling to allow inspection of the condenser assembly.
2. Remove the 21" x 16" frame on the condenser assembly, which holds the screen in place. The frame is located on the front of the condenser assembly. (see figure 1)
3. Remove the Cork seal (black sticky material) which is placed along the sides of the coil assembly, locally around the fasteners.
4. Inspect the coil tubes on each side for interference with rivets, nutplates or screws. Look for areas of rubbing, chafing or worn areas on the bends in the tubes. Small amounts of refrigerant oil on one of the tubes may indicate a leak and closer inspection of that tube is warranted. (see figure 2)
5. If an area of interference exists, use any of the following methods to resolve the problem
 - A. File the rivet, nutplate or screw as appropriate to provide additional clearance between the object and the tube.
 - B. If a screw is causing the interference, replace it with a shorter one if possible.
 - C. If required, remove the nutplate and screw then rivet a cover over the exposed hole and fill with RTV. The cover must be riveted to the inside of the assembly using flush rivets to allow the frame to fit as before. The frame is non-structural and is primarily provided to keep the protective screen in place. Removal of a small number of the frame mounting screws will not adversely affect the structural integrity of the condenser assembly.
6. Use an electronic leak detector to check for any potential small leaks in the coil assembly. If repair of the existing condenser coil is not possible, refer to section II for removal and replacement instructions for a new condenser coil.

SECTION II

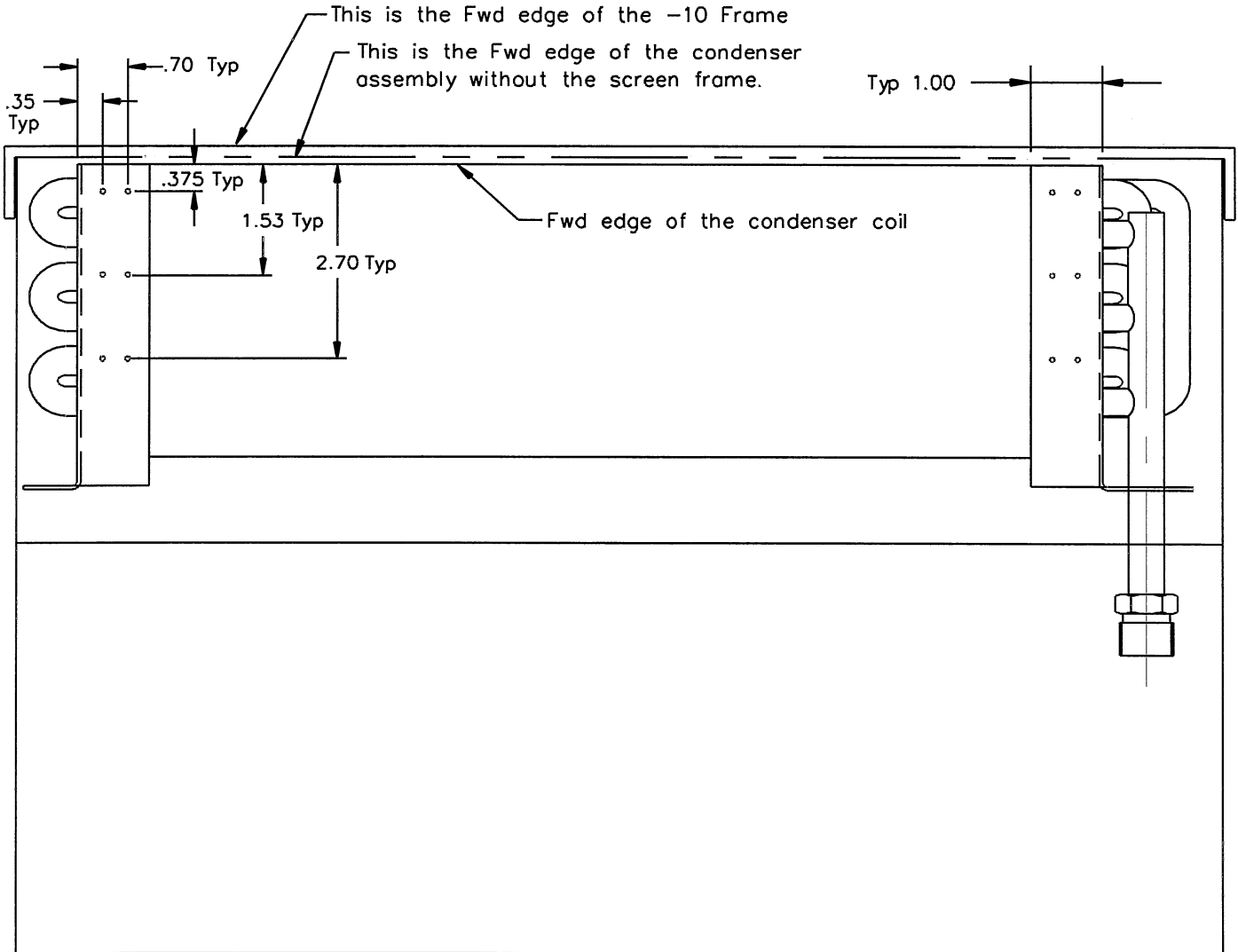
Condenser Field Retrofit Instructions:

1. Reclaim all refrigerant that is currently in the system by using an appropriate refrigerant recovery / recycle machine.
2. Disconnect all hoses and bleed lines to the condenser assembly by loosening the appropriate B-Nuts. Remove the existing condenser enclosure by unscrewing the stainless steel mounting frame from the cabin top.
3. Install a new 412AC-7000-1 condenser assembly using the existing attachment hardware.
4. If new condenser frame is incompatible with the original condenser mounting holes, it then is necessary to install the shroud/heat exchanger assembly in the original frame. If this condition exists proceed with the following steps.
5. Remove the new shroud assembly from the new frame.
6. Install CR3242-4-3 rivets in top and bottom of condenser enclosure. This is required to hold the condenser coil in place since the screws will not be used. Reference page 4 for rivet locations. When drilling holes, the drill bit must not penetrate the enclosure more than .4 inch or condenser tubes may be damaged.
7. Position shroud assembly in original frame.
8. Install two angle brackets at the top of the condenser assembly. Place in appropriate position, mark and drill six holes for Cherrymax rivets. Rivet angle brackets in place then match drill to stainless steel frame.
9. Install two AN3 bolts on each side of the frame through the condenser shroud enclosure, aft of the heat exchanger. Mark position for holes in the enclosure, then drill and replace enclosure in frame. Mark hole locations on frame then remove enclosure and drill frame.
10. Install 4 screws through frame and enclosure assembly as shown.
11. Match drill sides of condenser assembly to existing holes in the stainless steel frame. Install screws, washers and nuts using needle nose pliers if required. Add shims as required to adjust space between frame supports and condenser enclosure.
12. Reassemble Jetfan hardware and attach refrigerant hoses.
13. leak check and service system in accordance with system service manual.

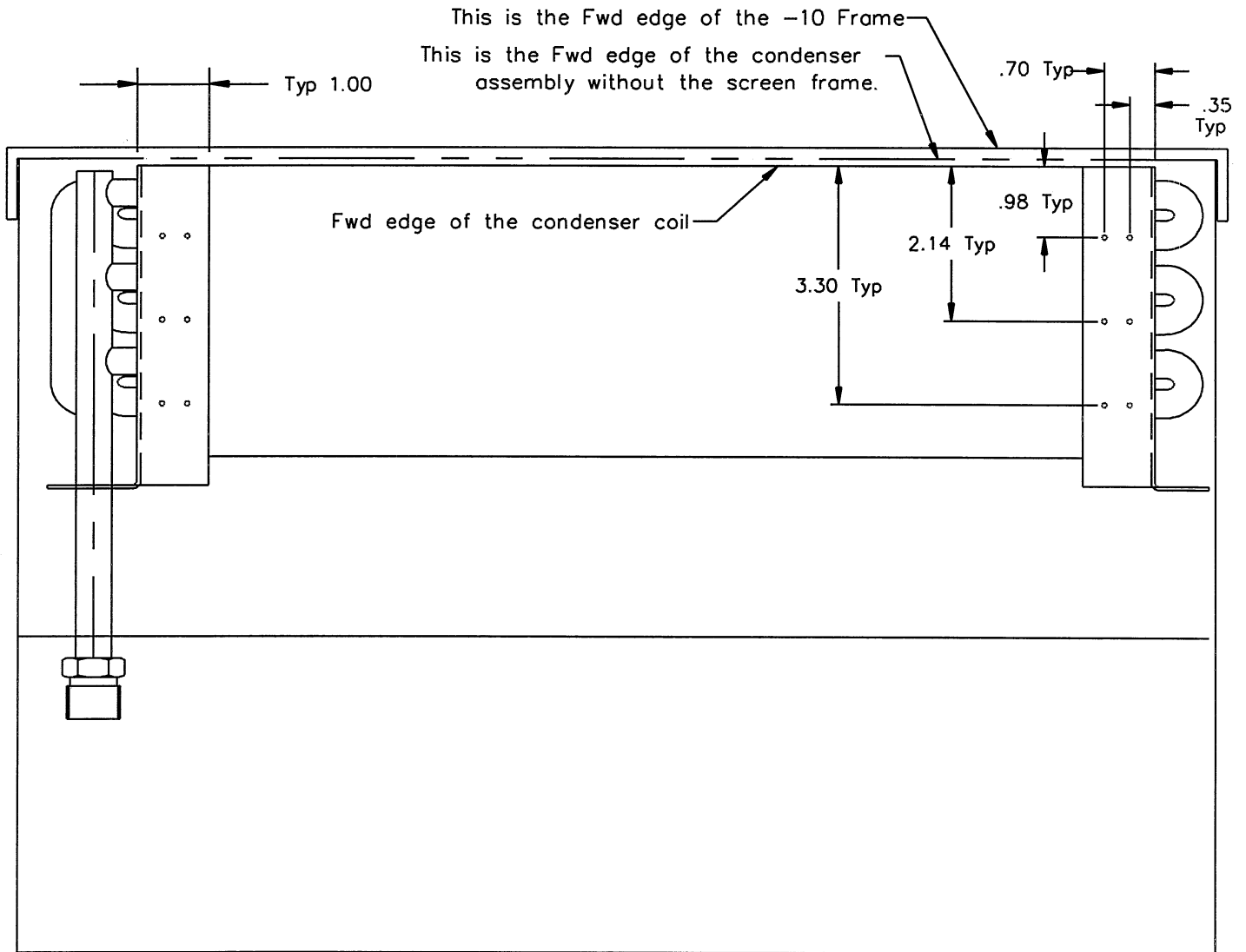
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Enclosure TOP view
Looking down

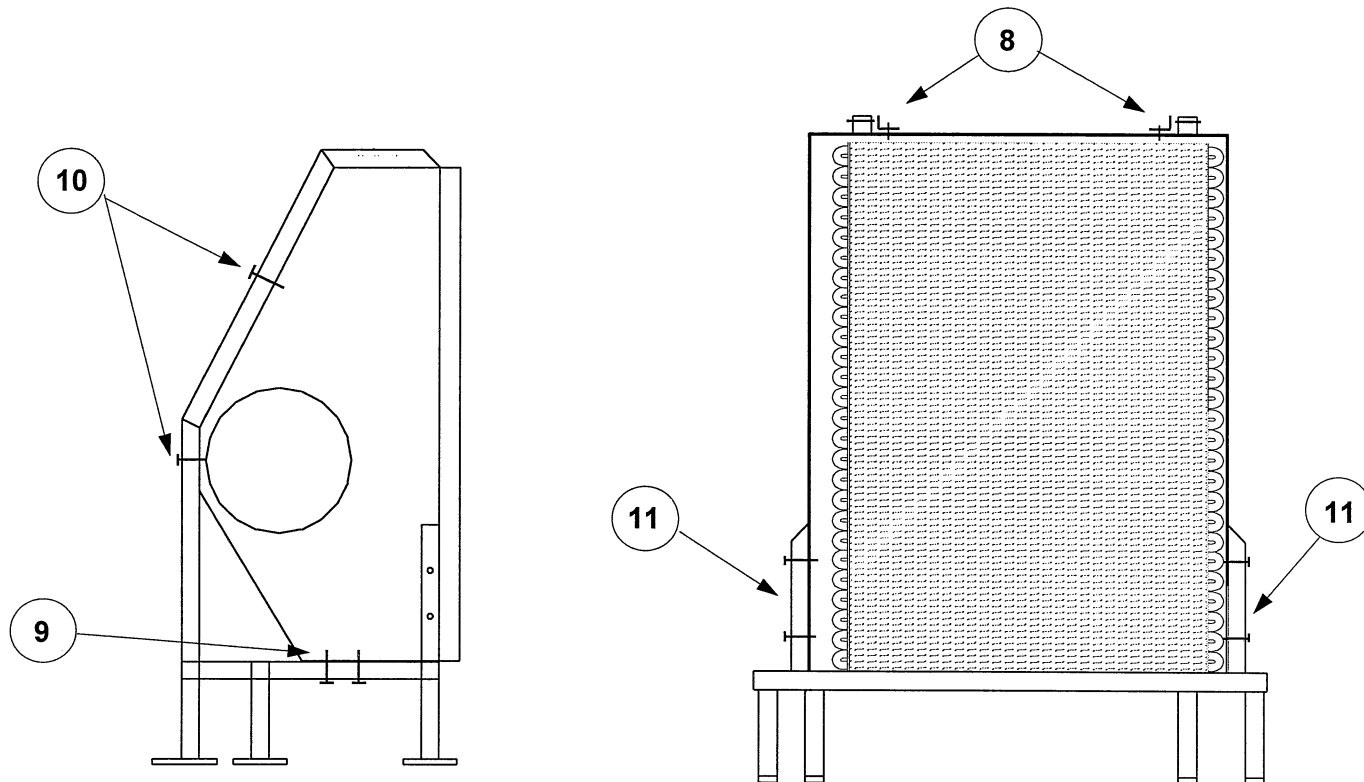


**Enclosure BOTTOM view
Looking down**



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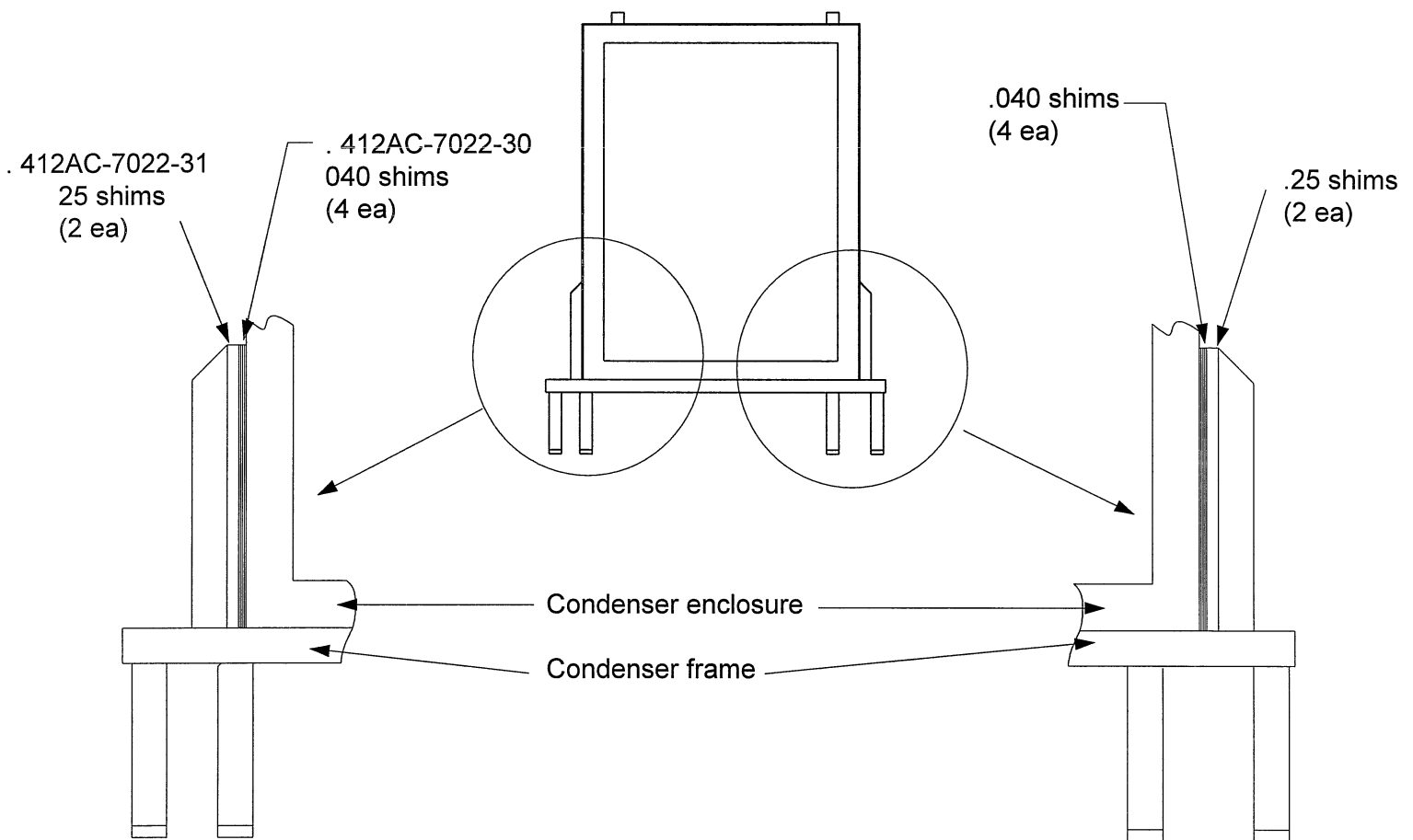


Section II: Condenser Retrofit Instructions (cont)

SECTION III

Condenser Field Retrofit Instructions: for aircraft S/N 36064

1. All instructions contained in section II are applicable with the following additions.
2. When accomplishing step 7 of section II, Additional shims are required to adjust space between frame supports and new condenser enclosure. (See diagram below)
Shim combination can be adjusted to provide best fit.



Weight & Balance: there is negligible change to the aircraft weight and balance for the condenser retrofit.

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