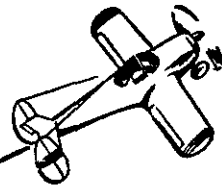


Ercoupe MEMORANDUM

ERCOUPE
SERVICE
MEMORANDUM

No. **50**

**SUBJECT: Replacement Aluminum Wing
Tanks—Installation of**



1. This memorandum is applicable to Ercoupe Serial Nos. 813 to 2622 inclusive.

2. The C.A.A. recently approved an aluminum fuel tank as a replacement for the template wing fuel tanks.

3. This memorandum is provided to give information and instructions on the installation of the replacement tanks. All necessary lines and fittings needed for the installation of the aluminum tanks will be supplied with the tanks.

4. Removal of the template tanks and installation of the aluminum tanks can be accomplished in the following manner:

5. Remove template wing tanks in accordance with Service Memorandum No. 39.

6. Installation of aluminum tanks:

a. While complying with this memorandum, use Parker Sealube (6PE) or its equivalent, on all fittings; do not tighten fittings until all lines have been installed. Tape and shellac lines at any point where they may rub.

b. Install aluminum wing tanks (415-48197 L/R).

(1) Secure the tanks to the spar, using the original screws. It will be necessary to redrill pilot holes in the tanks to No. 9 (.196) diameter after fitting the tank to the contour of the wing.

(2) A minimum clearance of 1/16" is required between the rear of the tank and the landing gear attaching bolts. Should this clearance be less than 1/16" place washers or a spacer under the head of the bolt.

7. Installation of fuel system lines:

a. Install fuel system; tank interconnecting lines.

(1) Loosely assemble finger strainer to each tank, using the finger strainer (415-48055) removed from the right template tank for the right aluminum tank and strainer (415-48193) supplied with the left tank.

(2) Attach a nipple (AFF 811 FT-6D) to the strainer in the right tank.

(3) Connect the long leg of fuel line (415-48192) to the nipple, aligning the other end of the line with the entrance hole in the fuselage.

(4) Combine the tee (Parker 811 ROT-6D), coupling (AN910-2D), and nipple (AFF 811 FT-6D) into an assembly and connect to the fuel line by placing the tee on the inside of the fuselage and allowing the nipple and coupling to extend through the hole in the fuselage. Enlarge the hole for at least a 1/4" clearance around the fittings.

(5) Couple the flared end of the interconnecting fuel line (415-48059) to the tee and clamp in place with the original clamps. If the installation is being made on an Ercoupe that has the interconnecting line 415-48060 it will be necessary to cut off the flared left end of the fuel line 10" from the center of the line and make a horizontal 10° forward bend 8" from the center line.

(6) Slip one end of the 3/8" I.D. x 12-1/4" Flex-O-Tubing on the interconnecting fuel line and extend the other end through the hole in the left side of the fuselage and connect to the finger strainer in the left fuel tank.

b. Install fuel system overflow line:

(1) Attach the 45° elbow (AN823-4D) to the right tank upper fitting.

(2) Attach fuel line (415-48191) to this elbow, allowing the short leg of the line to extend through the hole in the fuselage. It may be necessary to enlarge this hole to obtain the desired 1/4" clearance.

(3) Connect union AN815-4D to the short end of the fuel line and secure the overflow line to this union.

c. Install fuel system pump supply line:

- (1) Secure the shut off valve to the tee in the interconnecting line and attach the fuel pump supply line to the shut off valve as original installation.

d. Tighten all fittings and unions to a good snug fit.

8. Preparation and installation of leading edge fillets:

a. Cover the two original drain plug holes in the fillets:

- (1) Cut two round pieces of aluminum 1/2" larger than the original drain plug holes.
- (2) Mark six holes around each piece 1/4" from the edge.
- (3) Match each piece with drain plug holes and drill six No. 40 holes through piece and fillet.
- (4) Rivet each piece to fillet with six AN456AD3-4 rivets.

b. Reinstall the fillets, making the following changes:

- (1) Determine the location of holes in the bottom of each fillet through which the new tank drain plugs will extend.
- (2) Cut holes 5/8" in diameter at these determined locations burr and smooth edges.
- (3) Drill a 1/16" hole 1/4" from the edge of these holes so that the drain plugs may be safetied to the fillet.
- (4) If there is a gap between the edge of the fillet and the tank after the bolts have been installed, remove it by placing a soft wood or fiber block against the edge of the fillet and strike with a mallet. This will shrink the metal changing the shape of the fillet and drawing it closer to the tank. Continue until a satisfactory fit is obtained.

9. Install the outer panel connecting fairings and the assemblies removed from the interior of the fuselage.

10. A new computation of the aircraft's weight and balance is required and a standard C.A.A. Repair and Alteration Form must be filed.