

R. 151A-2A

RESTRICTED.

AIR FORCE HEAD-QUARTERS.

MUSTANG INSTRUCTION NO. 4.

TECHNICAL ORDER.

APPLICATION: F51K and P51D  
Aircraft.

S.C.R. 695-A AND FUSELAGE FUEL TANK - ALTERNATIVE INSTALLATION.

1. This instruction provides for the alternative fitment of the S.C.R. 695 or the fuselage tank.
2. The S.C.R. 695 (I.F.F.) is installed in accordance with Mustang Order No. 2 during erection.
3. In order to install the fuselage fuel tank, it is necessary to remove the S.C.R. 695-A by operations in the following sequence :-
  - (a) Ascertain that all control switches in the cockpit are turned "off".
  - (b) Drain the fuel, oil and coolant systems.
  - (c) Jack up the aircraft at the centre fuselage and the two wing jacking points.
  - (d) Remove the cockpit enclosure to facilitate the removal of the fuel tank.
  - (e) Remove the battery, dynamotor and radio.
  - (f) Take out the radio shelf.
  - (g) Detach the wing fillet fairing adjacent to the scoop area.
  - (h) Remove the coolant radiator as follows :-
    - (i) Remove the fairing surrounding the radiator.
    - (ii) At upper port and starboard sides of the radiator, disconnect the four coolant line connections.
    - (iii) Disconnect the two lower oil line connections and bonding strips.
    - (iv) Remove the top of the thermostat by removing the nuts from the eight studs.
    - (v) Holding the radiator firmly, remove the bolts attaching the two straps at the bottom of the radiator, and lift the radiator from under the fuselage.
  - (1) Remove the Receiver Type B.C.-996A and the following parts :-
    - (i) Receiver Mounting Type FT-247-A and associated screws.
    - (ii) Impact Switch Bracket (complete with impact switch and indicator lamp box attached) and associated screws.
    - (iii) Aerial rod.
4. Remove the ballast weight from the vertical stabilizer rear spar.
5. Install the fuselage tank as follows :-  
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- (a) Ascertain the fuel cell compartment is clean and that the balsa wood, cellulose sponge liners and fillers are correctly installed.
  - (b) Place the fuel cell in the compartment and line up properly.
  - (c) Secure the bottom of the cell to the shelf with the bolts at the three tie down points.
  - (d) Install the booster pump and attaching parts as follows :-
    - (i) Fit the bridging plate over the hole provided for the pump between the shelf and the cell. Install the pump with a gasket between the pump and the plate and secure with the ten bolts. Safety the bolts with locking wire.
    - (ii) Install the bar assembly by placing the two bolts in the bar with the two spacers on the other side, and then attaching the unit to the bottom of the pump. Secure the two bolts with locking wire.
  - (e) Fit the drain fitting adjacent to the booster pump. Wire lock the six securing bolts.
  - (f) Install the filler neck assembly.
  - (g) At the top left hand side of the cell, install the vent elbow.
  - (h) Install the fuel gauge.
  - (i) Ascertain that no foreign matter remains inside the cell and install stiffener on the interior baffle and fuel cell door. Wire lock the 34 securing bolts.
  - (j) Install the vent and drain lines. Disconnect the carburettor vapour return line from the left tank and re-install to the fuselage tank.
  - (k) Connect the main feed fuel line which runs from the booster pump to the selector valve.
6. Re-install the coolant radiator as follows :-
- (a) Lift the radiator in position and attach the two straps at the bottom.
  - (b) Attach the top of the thermostat.
  - (c) Connect the coolant and oil lines.
  - (d) Connect the bonding strips on the lower left and right hand sides.
  - (e) Replace the wing fillet fairing adjacent to the scoop area.
7. Re-install the radio shelf, radio, dynamotor and battery.
8. Lower the aircraft from the jacks.
9. Run the engine and check the oil and coolant systems for leaks.
10. For the alternative fitment of the S.C.R. 695-A, the fuselage tank is removed by operations in the following sequence :-
- (a) Proceed as described in paragraphs 3(a) to 3(h) inclusive.
  - (b) Detach the main fuel line to the fuselage tank at the booster pump by loosening the attaching hose clamp.

- (c) Remove all the attaching clips of the feed line between the booster pump and the wing skin fitting. Detach the line at the fitting and plug up the fitting with a suitable cap or plug.
- (d) Detach the small booster pump, drain line at the booster pump by loosening the attaching clamp. Remove the line routed to the outlet on the right hand side, together with its attaching clips.
- (e) Disconnect the drain line from the fitting adjacent to the booster pump location.
- (f) Remove the drain line by lifting out from the clip inside the drain access door.
- (g) Remove the booster pump.
- (h) Remove the fuel gauge bracket from the adaptor by detaching the four screws and nuts. Remove the adaptor and fuel gauge by detaching the eight bolts and lockwire.
- (i) Detach the filler assembly from the attachment to the port fuselage skin.
- (j) Disconnect and remove the vent elbow at forward end of the cell and remove the first section of the vent line, that is routed to upper starboard frame.
- (k) Remove the two remaining sections of the vent line from the side frames to the vent cup on the lower starboard side of the fuselage.
- (l) Remove the three fuel cell tie-down bolts at the bottom of the shelf.
- (m) Detach the access door on the top of the fuel cell and remove the baffle stiffeners. Collapse the cell taking care not to injure the baffle and remove the fuel cell.
- (n) Ensure that the main fuel line to the fuselage cell is plugged and any loose fittings are securely tied down.

Note. - The vapour return line from the carburettor is led back to the fuselage tank. This must be disconnected from the carburettor and replaced with a vent line to the port main tank. The original vent line to the fuselage tank is to be plugged and lashed securely to a convenient fitting.

11. Install the 50 lb. ballast weight to the vertical stabilizer rear spar.
12. In conjunction with the Radar mechanics, fix the receiver mounting to the floor of the fuselage fuel cell compartment with eight 5/16 inch screws.
13. Secure the bracket, complete with impact switch, and indicator lamp box attached, to the lower cross member at the forward end of the fuselage fuel cell compartment and make the necessary electrical connections.
14. Install a receiver type B.C.-996-A to the mounting and plug in the interconnecting cables.
15. Re-install the radiator and connect all the oil and coolant lines. Refill the systems.

16. Replace the wing fillet fairing.
17. Re-install the radio shelf, radio, dynamotor and battery.
18. Lower the aircraft from the jacks.
19. Run the engine and check the oil and coolant systems for possible leaks.

Note. - Fuselage tanks are to be flushed with oil specification K2/144 before storage.

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References:-

Files R.A.A.F. 201/19/182, 9/60/56 and 150/4/6217.

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