

## SECTION 4

# SERVICING

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**Note.**—*A list of contents appears at the beginning of each chapter*

### 1 Routine servicing



## Chapter 1

### ROUTINE SERVICING

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## Introduction

1. This chapter describes the procedures required to carry out the servicing and adjusting operations called for in the aircraft servicing schedule (A.P. 4745A, Vol. 4). Instructions for the rectification or renewal of unserviceable components are given in Sect. 5.

## General

2. Never use mutton cloth, cotton waste or any other type of fluffy rag for cleaning purposes as these materials leave a hair or fluff deposit. Ensure that neither tools nor rags are left within the nacelle after servicing has been completed.

3. To obviate any risk of the engine being started unintentionally while work is in progress, ensure that the a.a.p.p. master switch and the l.p. fuel cock switch are in the OFF position, except when they are required to be ON for specific checks.

## Electrical harness

4. Examine the harness runs for security, kinking and signs of chafing, and ensure that the protective lacquer is intact.

5. The cables should also be examined to ensure that they have not been shortened during any previous repair, and to make quite certain that the identification labels have not been damaged or removed.

## Pipe and harness clips

6. All pipe and harness clips should be examined for security and distortion. Particular care should be taken to ensure that the clips are properly retained. Damaged clips must always be renewed.

## Nacelle

### *Removing and refitting the front end cover*

7. The front end cover is secured by eight Dzus fasteners, to the power plant central beam. To remove the cover, insert a screwdriver into the slotted head of each fastener, push and turn in an anti-clockwise direction. The cover can then be withdrawn in a forward direction.

8. There should be no necessity to remove the rear end cover during routine maintenance operations; if, however, removal is necessary, refer to Sect. 5, Chap. 7.

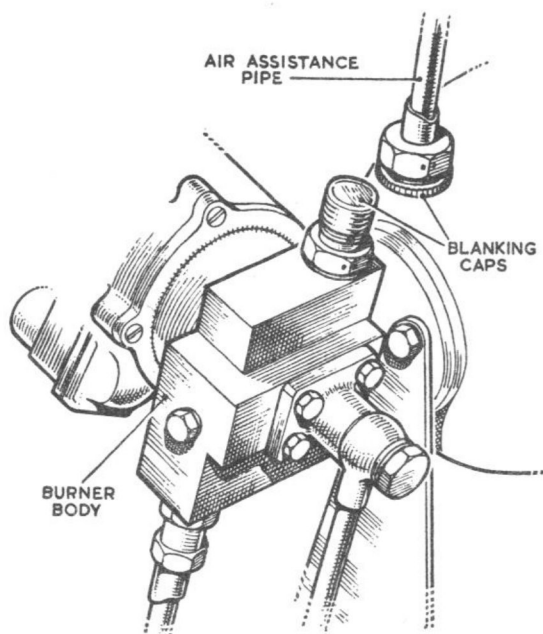
## Engine

### *Washing the compressor rotor*

9. At the times stated in the servicing schedule, the engine compressor and diffuser must be washed as follows:—

### **Note . . .**

*Before attempting to wash the compressor and diffuser, allow the engine to cool to within 50°C of the temperature of the cleaning fluid, otherwise thermal cracking may occur.*



**Fig. 1. Blanking the air assistance pipe**

(1) Sever the wire locking and disconnect the air assistance pipe at the union of the burner body; then blank the open pipe and the union on the burner body with blanking caps.

(2) Using the special tool No. 422095, remove the fuel drain valve (Sect. 5, Chap. 3).

(3) Connect the fuel drain pipe (special tool No. 422107) to the fuel drain valve union and place the lower end of the pipe in a suitable container.

(4) Remove the split pin, nut and nipple from the compressor washing connection on the starboard side of the central beam (Chap. 7, Sect. 1).

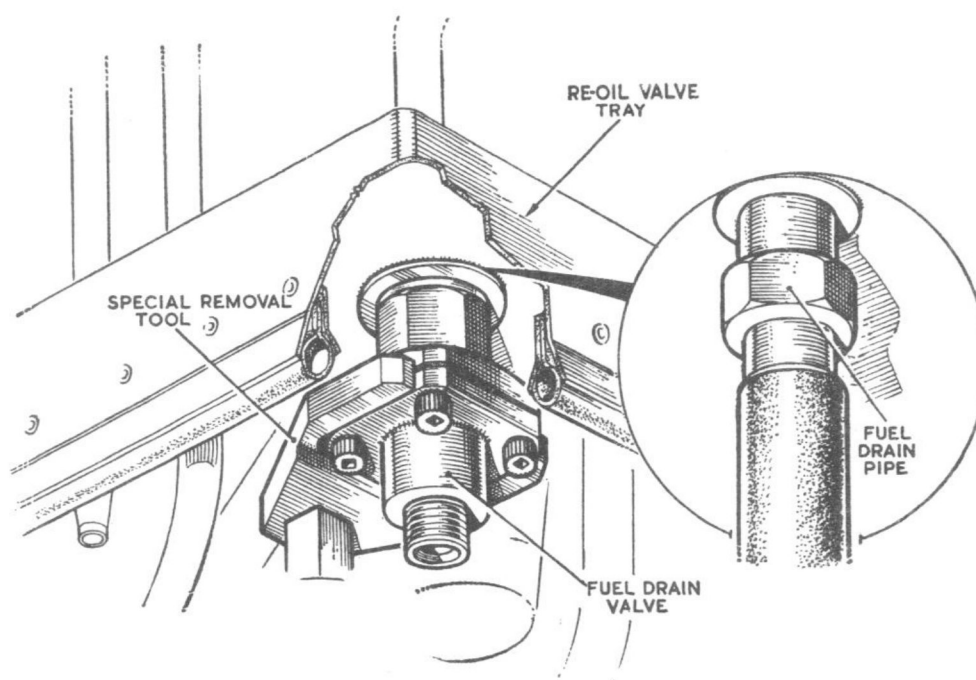
(5) Prepare six and a quarter pints of cleaning fluid, in a pressurised replenishing can (Ref. No. 4G/5358), in the following proportions:—

Aviation Kerosine	3 pints
Turbex (SQ25)	$\frac{1}{4}$ pint
Distilled water	3 pints

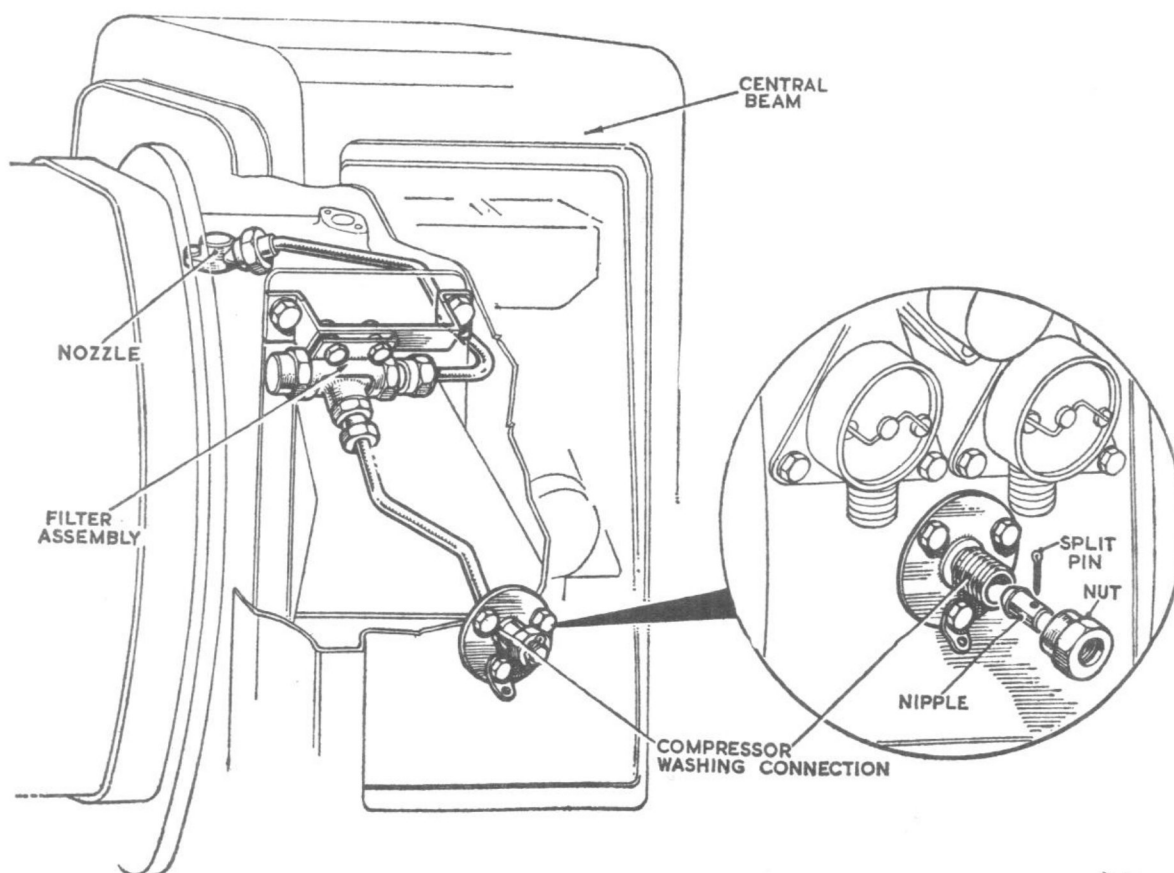
The Turbex must first be mixed with the kerosine and the water added to the resulting emulsion.

(6) Shake the can thoroughly to ensure that the solution is well-mixed and then pressurise the container to 30 lb/in<sup>2</sup>.

(7) Connect the delivery pipe to the compressor washing connection on the central beam; then select the dry-cycling sequence and inject the cleansing solution. Continue spraying the fluid until the engine ceases to revolve.



**Fig. 2. Removing the fuel drain valve**



**Fig. 3. Compressor washing connection**

(8) Allow an interval of not less than 15 minutes to elapse, then drain the fluid container and replenish with six pints of distilled water. Re-pressurise the container to 30 lb/in<sup>2</sup> and repeat the foregoing operation.

(9) Replenish the can with a further six pints of distilled water, re-pressurise to 30 lb/in<sup>2</sup> and again repeat the operation detailed in subpara. (8).

(10) Disconnect the delivery hose at the compressor washing connection, and wait approximately five minutes to allow the accumulated water to drain away; then select the appropriate controls to initiate a dry cycle and complete the drying out process.

**Note . . .**

*After three consecutive starts, dry or wet cycles, a period of not less than 30 minutes must elapse before attempting to re-energise the starter, otherwise the starter/generator may be seriously overheated.*

(11) Remove the drain pipe, then fit and wirelock the fuel drain valve.

(12) Remove the blanking parts, then reconnect and securely wirelock the air assistance pipe at the burner body.

(13) Fit the blanking parts on the compressor washing connection, and finally wipe away any surplus fluid that may have drained into the intake scoop.

**Oil system**

*Checking and replenishing the oil sump level*

**10.** At the times stated in the servicing schedule, the oil sump level must be checked and replenished. For a description of the correct procedure, refer to Sect. 3, Chap. 1.

**Air assistance equipment**

*Checking the motorised air pump*

**11.** The motorised air pump must periodically be given a functional check to ensure that it is giving the required output. For details of the correct procedure, refer to Sect. 3, Chap. 1.

**Fire prevention system**

**12.** The fire prevention system requires no servicing other than security and continuity checks at the periods specified.