Chapter 7

OIL SYSTEM

LIST OF CONTENTS

LIST OF ILLUSTRATIONS

CAUTION: CONTAMINATION OF USED SYNTHETIC OIL OX-38 WITH OTHER P.O.L. PRODUCTS MAKES THE OIL UNSUITABLE FOR RECLAMATION. THE EQUIPMENT USED IN HANDLING OIL OX-38 MUST BE KEPT CLEAN AND USED EXCLUSIVELY FOR THIS PURPOSE (A.M.O.230/63).

OIL COOLER

Removal

1. Release the clips securing the b.p.c. air pipe and the burner feed pipe to the cooler. Disconnect the two fuel pipes from the cooler by removing the setscrews from the face joint, and uncouple the drain pipe.

2. Unscrew the four setscrews securing the oil by-pass valve housing to the body of the cooler and part the joint.

3. Remove the four retaining setscrews and withdraw the cooler.

4. If the existing cooler is not to be refitted, transfer the drain banjo connection to the replacement unit and remove the by-pass valve housing from the oil transfer tubes. Fit new sealing rings to both ends of the transfer tubes and refit them to the engine.

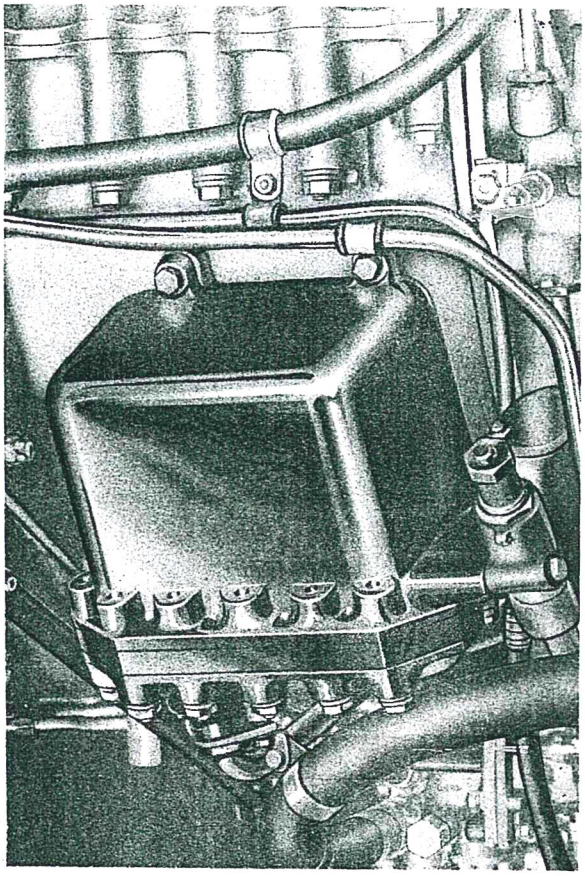

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Fig.1 Oil cooler

Inhibiting

5. Before returning the cooler to stores, inhibit in accordance with the instructions given in A.P.102C-1512 to 1517-7.

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Replacement

6. Fit the oil by-pass valve housing to the transfer tubes. Mount the cooler on the compressor casing, secure the by-pass valve housing and connect the fuel and drain pipes; refer to Chap.6, para.30 for recommended fitting procedure for pipe between F.C.O.C. and metering block. Fill the sump with the oil specified in the Leading Particulars and replenish after the first engine run - a further 1 1/2 to 2 pints should be sufficient. Every precaution should be taken not to spill any oil when filling the sump.

Serviceability check

7. Run the engine and examine the pipes and joints for fuel and oil leaks.

OIL PRESSURE TRANSMITTER

8. The renewal of the transmitter on the oil sump is straightforward. Clean the mounting face on the oil sump before fitting the new jointing and make sure that the oil passage is free from obstruction.

Serviceability check

9. Run the engine at various rev/min and check that the oil pressure is indicated correctly and consistently in agreement with a master instrument.

OIL RELIEF VALVES

10. Both the oil pressure relief valve and the oil cooler by-pass valve are removed by unscrewing the two nuts securing the two covers, illustrated in fig.2, and withdrawing the relief valve assemblies complete.

11. Clean the assembly and the valve seatings with clean kerosine; if necessary they should be lapped in with a fine abrasive and polished to a mirror finish. Care must be taken to remove all traces of the abrasive before re-assembling.

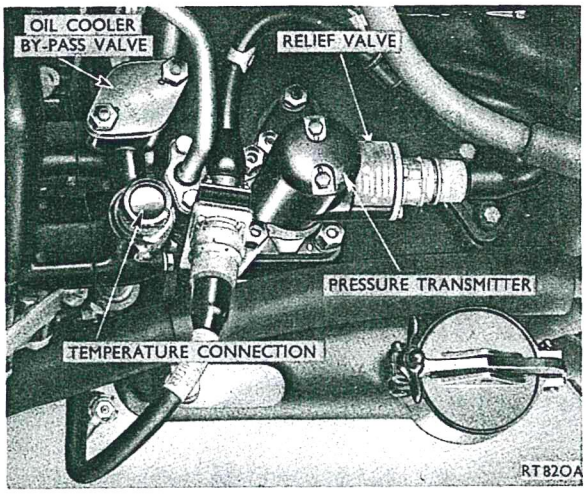

Fig.2 Oil pressure transmitter and oil relief valves

Mk.109 AUXILIARY GEARBOX DRIVE (STARBOARD - PRE-MOD.529 STANDARD)

Coupling shaft oil seal - removal

CAUTION: FAILURE TO APPLY THE CORRELATION MARKS INSTRUCTED IN PARA.12 MAY RESULT IN INCORRECT ASSEMBLY AND SUBSEQUENT LOSS OF OIL.

12. Using an approved marking medium, (Sect.2, Chap.1) apply correlation marks to the external wheelcase and auxiliary gearbox drive housing assembly.

13. Remove 8 off hex.head screws and washers, and withdraw the auxiliary gearbox drive housing and coupling shaft assembly from the external wheelcase.

14. Remove 8 off 2BA. nuts and washers securing the oil seal housing to the auxiliary gearbox drive housing.

15. Mount the assembly in the vice block, (Sect.1) or vice fitted with fibre clamps then, unlock the cupwasher.

16. Using the extension socket and handwrench (Sect.1), remove the slotted nut.

17. Using the extractor (Sect.1), withdraw the coupling shaft from the assembly.

18. Remove the oil seal and housing from the 2BA studs on the auxiliary gearbox drive housing then, using the extractor (Sect.1), remove the defective oil seal from the housing.

Coupling shaft oil seal - replacement

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19. Fit the new oil seal, lip foremost, into the seal housing.

20. Fit a new jointing between the oil seal housing and the auxiliary gearbox drive housing and secure with 8 off spring washers and 2BA nuts.

21. Press the coupling shaft into its working position in the bearing then, mount the assembly in the vice block.

22. Fit the cupwasher then, using the extension socket and torque wrench (Sect.1) torque tighten the slotted nut to the load specified in Chap.1.

23. Apply the approved jointing compound to the mating faces of the auxiliary gearbox drive housing assembly and the external wheelcase. When fitting the housing to the wheelcase, engage the splines of the coupling shaft with those of the wheelcase driving shaft.

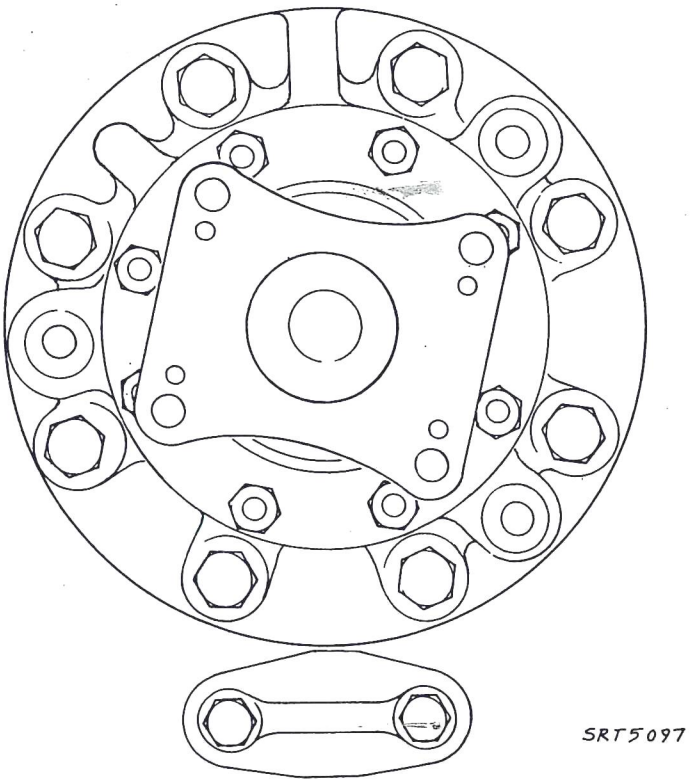

Fig.3 Mk.109 Auxiliary gearbox drive

24. Align the correlation marks on the auxiliary gearbox drive housing assembly and the external wheelcase then, secure with 8 off spring washers and screws (fig.3).

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25. Remove the correlation marks.

OIL PRESSURE TRANSMITTER

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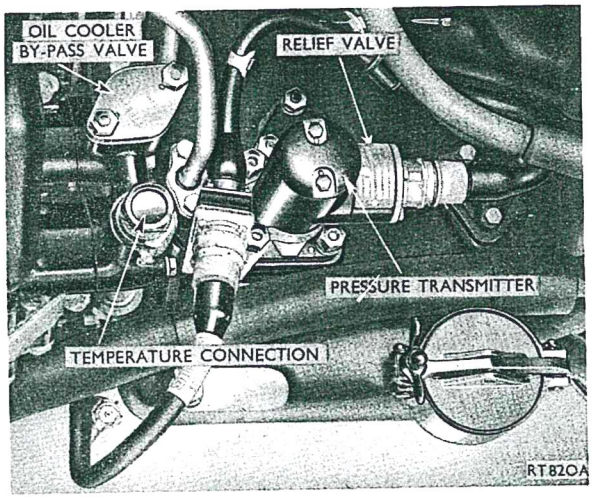

Fig.2 Oil pressure transmitter and oil relief valves