Olympus 201 Series

Section 5

Oil System.

1. Oil Tank.

Located within the nose fairing, having a capacity of 6 galls, 4½ of which is oil. The oil contents is indicated by a float type mechanism. The tank is pressure filled through an Avery coupling. The tank is vented through a pressurising valve and an oil separator.

2. Oil Circulation (Pressure)

Oil from the tank is conveyed through Vane 3 of the Air Intake Casing, then by external pipe to the suction filter and pressure pump. From the pump via the pressure filter the oil enters duct in the intermediate casing. The oil now flows in four-paths namely.

(i) Within the intermediate casing from diaphragm to lubricate the L.P. Compressor rear bearing.

(ii) Within the intermediate casing rear diaphragm to lubricate the H.P. Compressor front bearing.

(iii) By an external pipe from No. 3 Vane Intermediate casing to Vane 2 off the Air Intake casing to lubricate the L.P. Compressor front bearing and the Oil Separator front bearing.

(iv) By an external pipe from the Intermediate casing connects to a two-way union on Vane 4 of the Delivery Casing dividing into two paths namely.

(a) Through Vane 4 to lubricate the H.P. compresser rear bearing and the H.P. Turbine rear bearing.

(b) By external pipe to Vane 4 of the exhaust annulus and through this vane. The centre jet comprises two discharges, one radial for the L.P. Turbine rear bearing. Theother is an axial jet directing the oil through the centre tube to lubricate the intershaft bearing.

3. Oil Circulation (Scavenge)

Five scavenge pumps, one integral with the pressure pump and four auxiliary are provided. The auxiliary scavenge pumps drain oil from the following.

(a) L.P. Compressor and oil separator front bearings.

(b) L.P. Turbine rear bearings.

(c) The coupling chamber (Interstage and H.P. compressor rear).

(d) H.P. Turbine rear bearing.

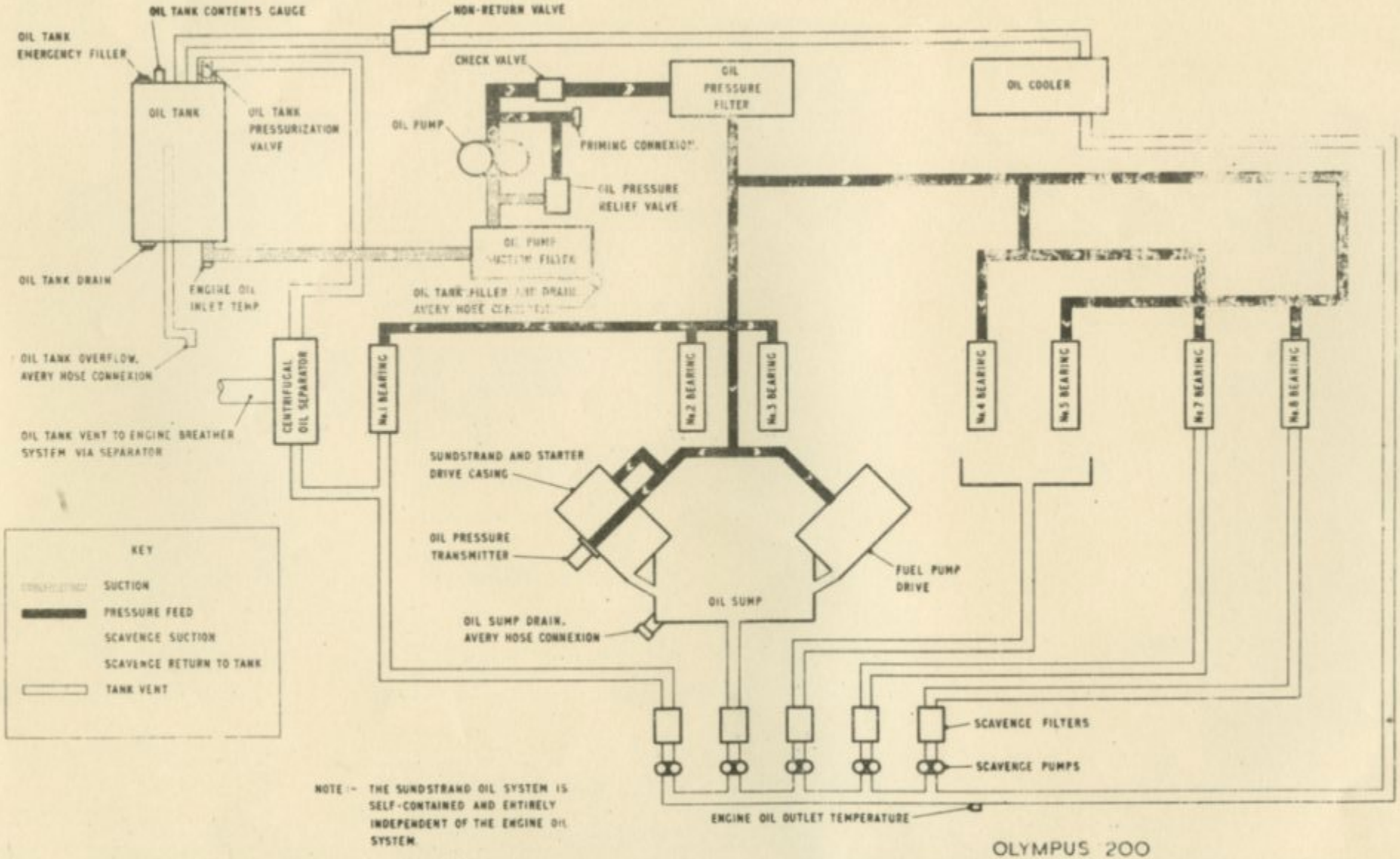
The fifth scavenge pump draws oil out of the sump. All pumps join to a common outlet via the fuel cooled oil cooler to the oil tank. The oil cooler incorporates a by-pass valve to allow the thick cold oil to warm-up quickly and the pressure pump has a check valve fitted which should prevent oil flow from tank to sump when the engine is stationary. Therefore it is essential when checking the oil tank content to know when the engine was last run. To prevent oil flow back through the oil cooler a non-return valve isfitted in the line actually on the front bulkhead.

Olympus 201 Series

Section 5

4. Filters.

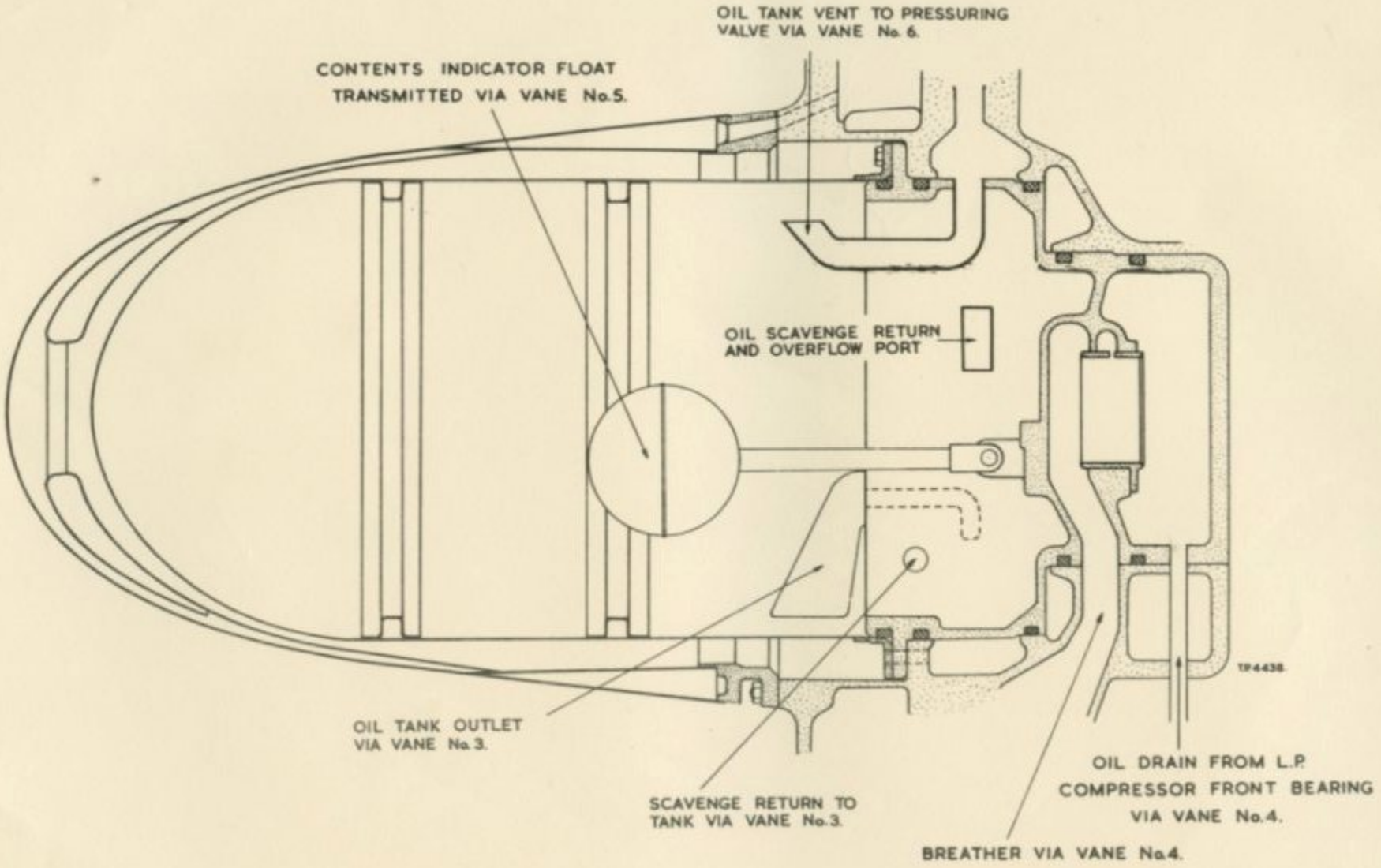
There are seven oil filters in the system. Five are in the scavenge system, one filter before each scavenge pump. The pressure system has two filters, a suction filter before the pump and a pressure filter after. It is essential, that where filters are found to contain any particles, and the engine is rejected, that the filter is NOT CLEANED BUT RETURNED TO ITS ORIGINAL POSITION.



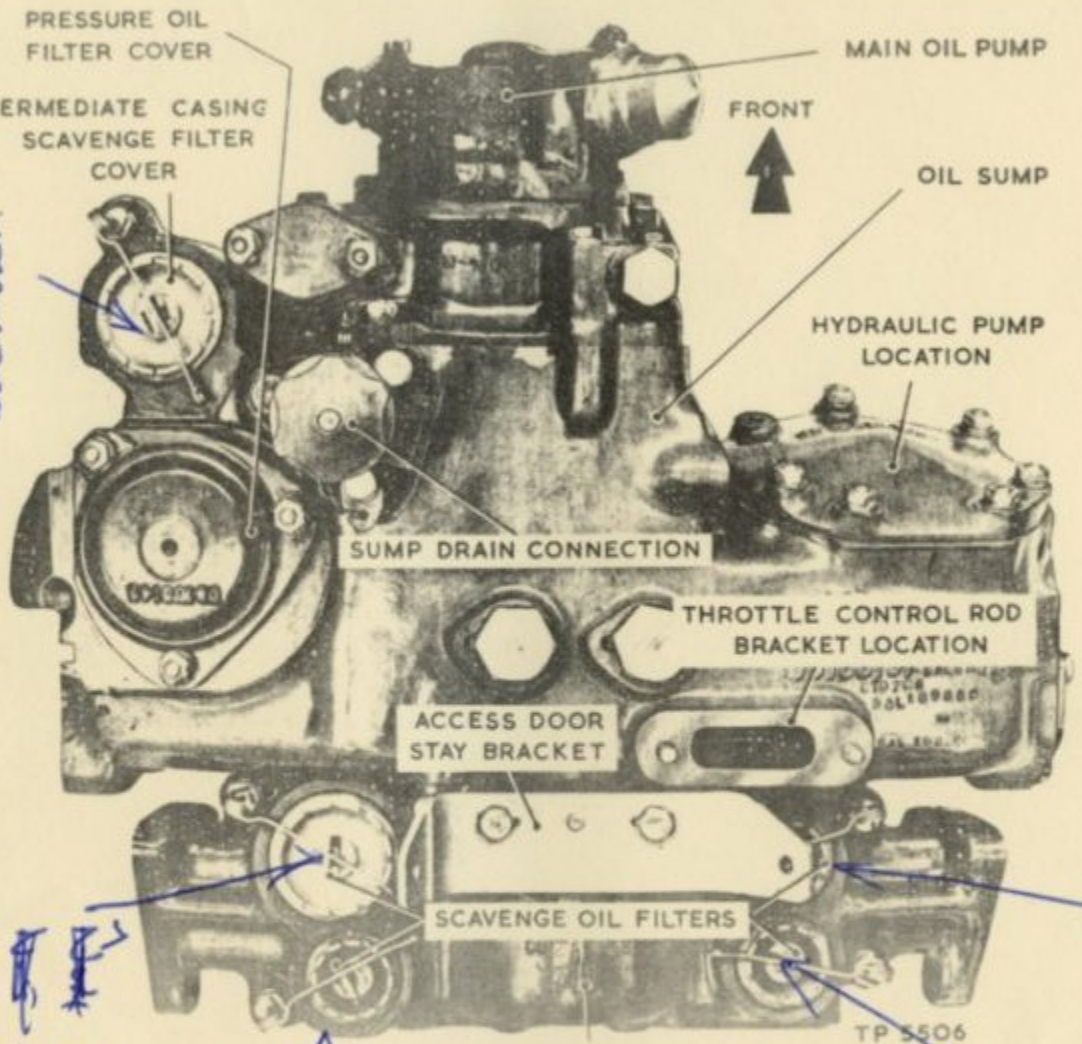
NOTE :- THE SUNDSTRAND OIL SYSTEM IS SELF-CONTAINED AND ENTIRELY INDEPENDENT OF THE ENGINE OIL SYSTEM.

OLYMPUS 200

DIAGRAMMATIC LAYOUT OF ENGINE OIL SYSTEM


OIL TANK VENT TO PRESSURING VALVE VIA VANE No. 6.
CONTENTS INDICATOR FLOAT TRANSMITTED VIA VANE No.5.
OIL SCAVENGE RETURN AND OVERFLOW PORT
TP4438.
OIL TANK OUTLET VIA VANE No.3.
SCAVENGE RETURN TO TANK VIA VANE No.3.
OIL DRAIN FROM L.P. COMPRESSOR FRONT BEARING VIA VANE No.4.
BREATHER VIA VANE No.4.

OIL TANK.



OIL PUMP DRIVE OUTER CASING
(UNDERSIDE VIEW)

MAIN OIL PUMP