

Olympus 200/300 Series
Section 5.
Oil System

The engine embodies the complete oil system, including the oil tank and the fuel cooled oil cooler.

1. OIL TANK (200 SERIES)

Located in the nose fairing with a capacity of 6 gallons, 4 gallons of which is oil. Oil contents are indicated by a float mechanism connected to a gauge on the air intake casing. The tank is pressurised by air passing back with the scavenge oil. This pressure by a vent valve on the end of No. 6. vane of the air intake casing.

2. OIL TANK (300 SERIES)

Located on the port front side of the engine, forward of the front bulkhead. Capacity 5 gallons 3 gallons 7 pints of oil 2 gallons 2 pints of which is usable. A sight glass for oil contents is located on the front face of the oil tank. Both tanks are pressure filled from an avery connection on the suction filter casing

3. OIL CIRCULATION (Pressure)

Oil from the tank passes through No 3. vane of the intake casing (200 series) via an external pipe to the suction filter and pressure pump. From the pump through a check valve and pressure filter the oil enters the intermediate casing from which it flows in four paths.

(i) Within the intermediate casing diaphragms to lubricate the L.P.C. rear and the H.P.C. front bearing. Tappings are also taken from this source to lubricate the ancillary drives. The oil pressure transmitter is fitted on the combined drive unit.

(ii) 200series only.

By external pipe from No. 3. vane of the intermediate casing to No. 2. vane of the air intake casing, to lubricate the L.P.C. front bearing.

(iii) 300 series only

By external pipe to No. 9 vane of the air intake casing to lubricate the L.P.C. front bearing.

(iv) By external pipe to a two way connection on vane No.4. of the delivery casing.

(a) Through vane 4. of the delivery casing to lubricate the H.P.C. rear bearing and the H.P. turbine bearing.

(b) By external pipe to vane 4. of the exhaust annulus to the centre jet. This centre jet has two nozzles. One radial to lubricate the L.P. turbine bearing and the other an axial jet to lubricate the NO.5. or interstage bearing.(Improved by mod. 1561.)

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4. Oil Circulation (Scavenge)

Five scavenge pumps, one integral with the pressure pump and four auxiliary are provided. These pumps scavenge oil from the following:-

- (a) L.P. Compressor front bearing
- (b) L.P. Turbine rear bearing
- (c) H.P. Compressor and interstage bearing.
- (d) H.P. Turbine bearing
- (e) L.P. Compressor rear, H.P. Compressor front and the intermediate casing.

Before passing through the scavenge pumps the oil passes through an individual filter.

The filters are fitted in the bottom face of the oil sump and are fitted with a magnetic plug in the centre of the filter cap.

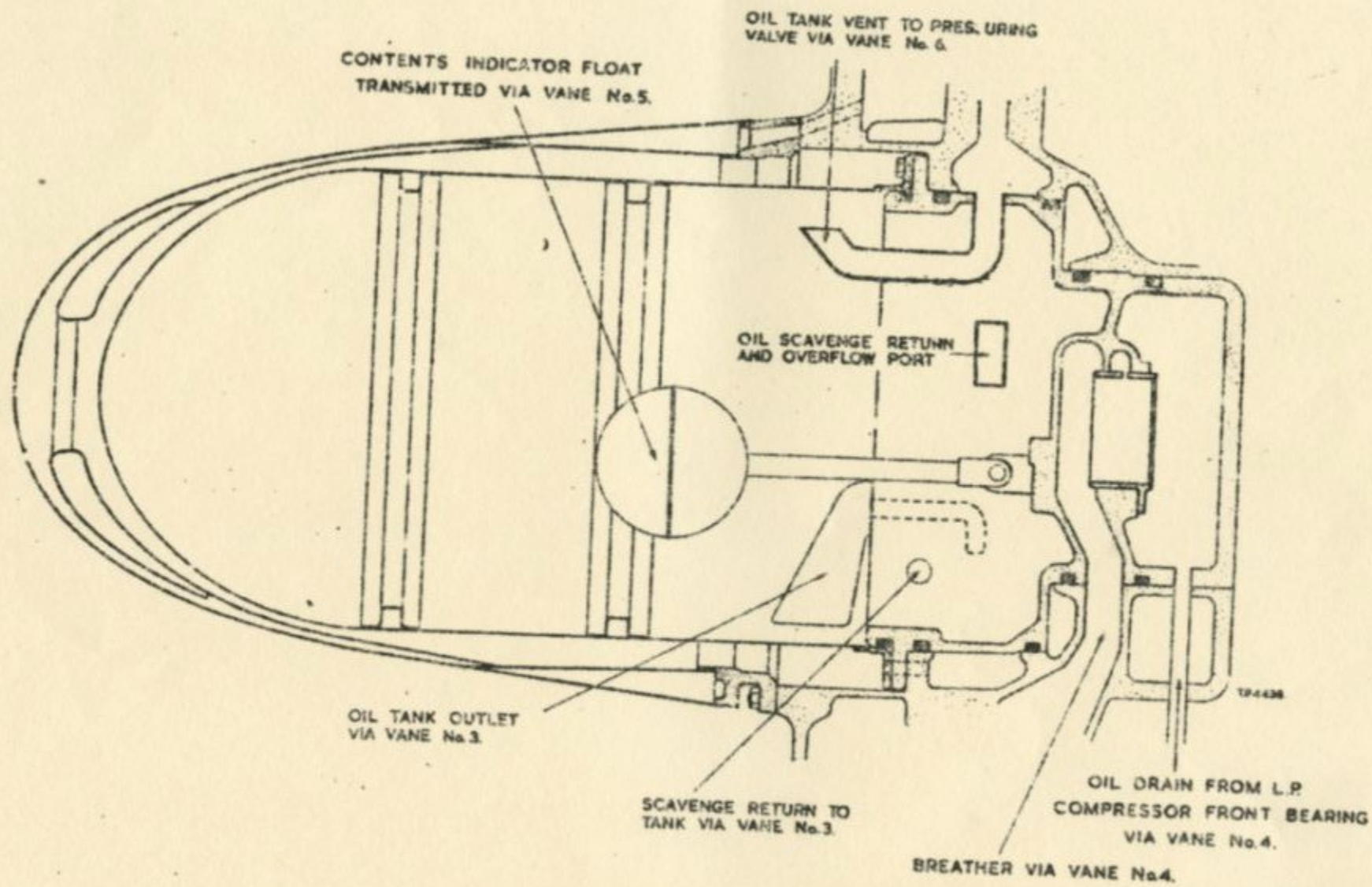
(Mod. 1618. Pt. 1. and 2.) These are used to give an early warning of bearing failure.

After the scavenge pumps the oil is returned via an external pipe to the Fuel Cooled Oil Cooler and then back to the oil tank. The 200 series has a check valve fitted in the scavenge return line to prevent the oil seeping back to the ~~ixxx~~ sump when the engine is stationary.

5. Fuel Cooled Oil Cooler

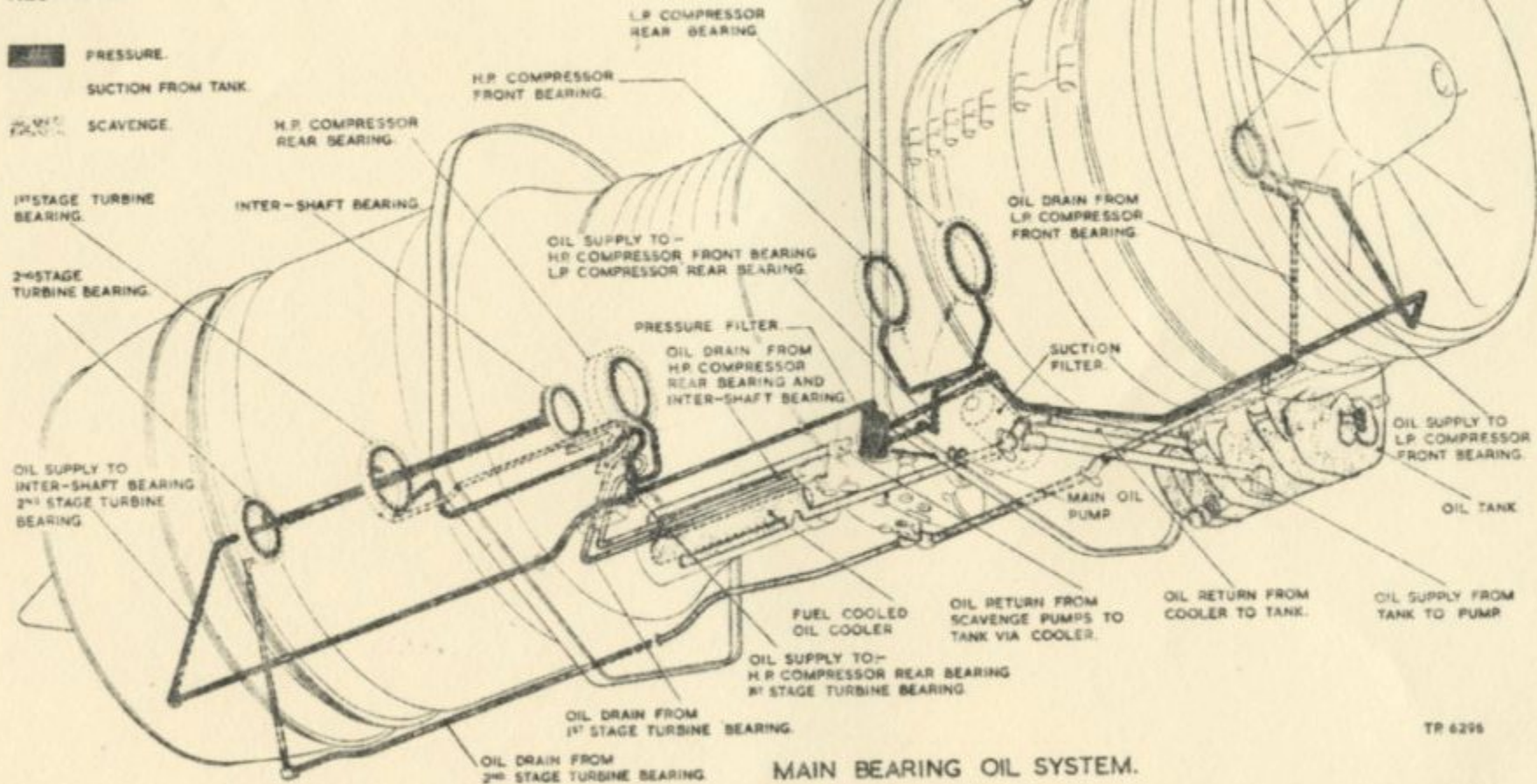
cools the oil before it is returned to the tank. It embodies a spring loaded relief valve to prevent damage to it when starting from cold conditions.

The pressure pump check valve prevents the oil seeping back through the engine when the engine is stationary.



OIL TANK.

RESTRICTED.



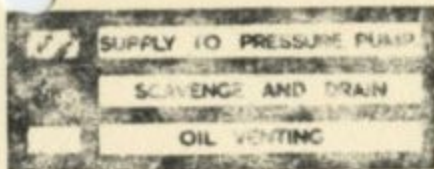
TR 6295

OIL RETURN PIPE

OIL DELIVERY PIPE

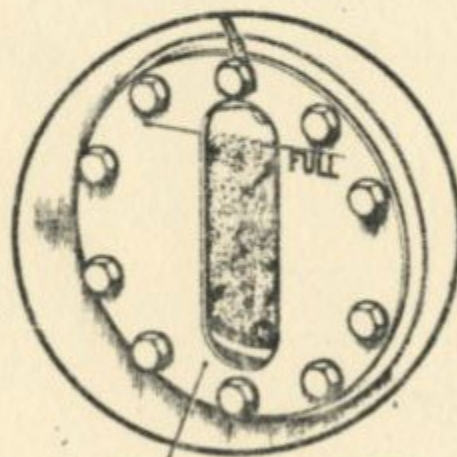
OIL TANK DRAIN CONNECTION

VIEW IN DIRECTION OF ARROW



DE-AERATION TRAYS

VENT PIPE



OIL TANK CONTENTS INDICATOR

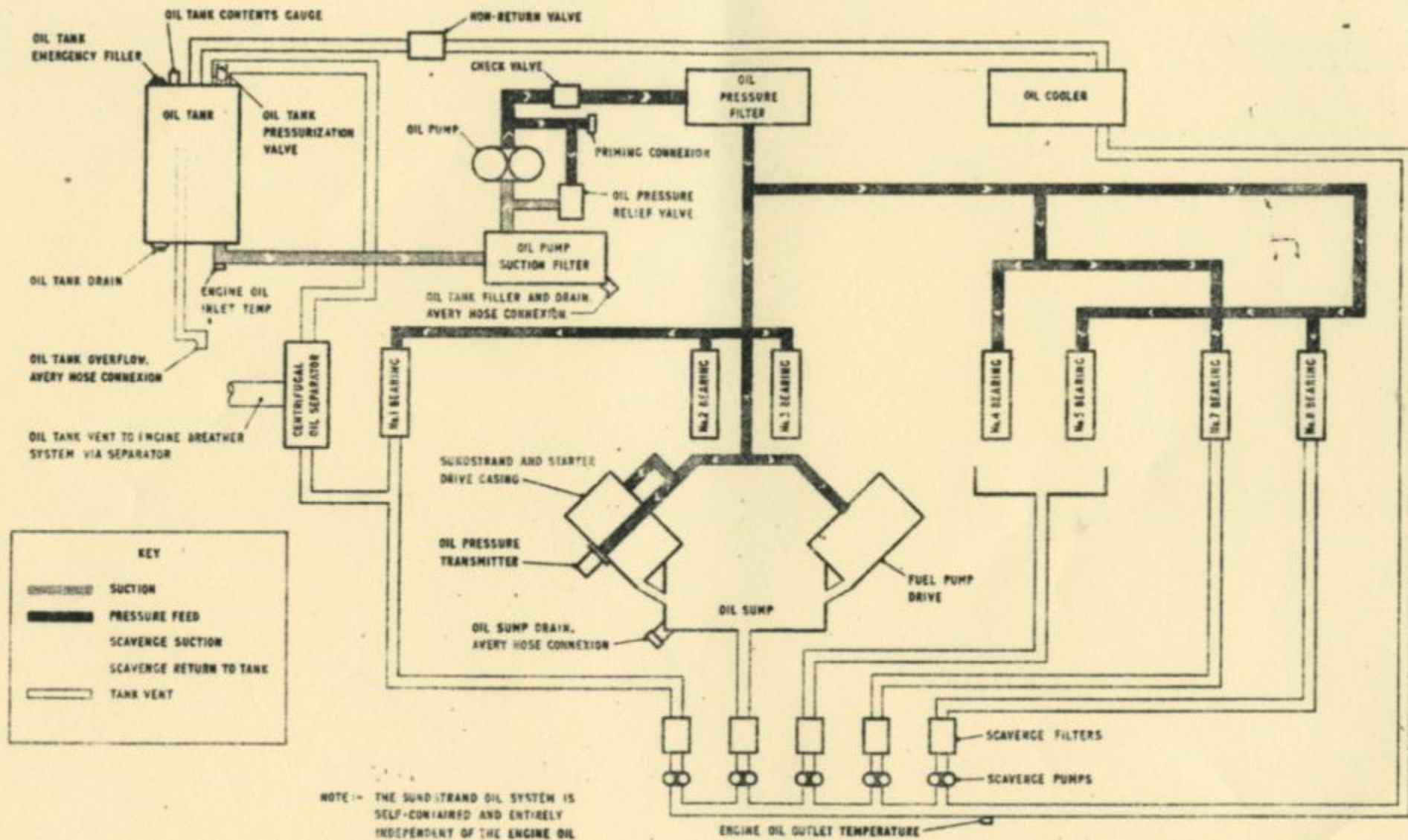
OIL TANK OVERFLOW CONNECTION

OIL TANK DRAIN CONNECTION

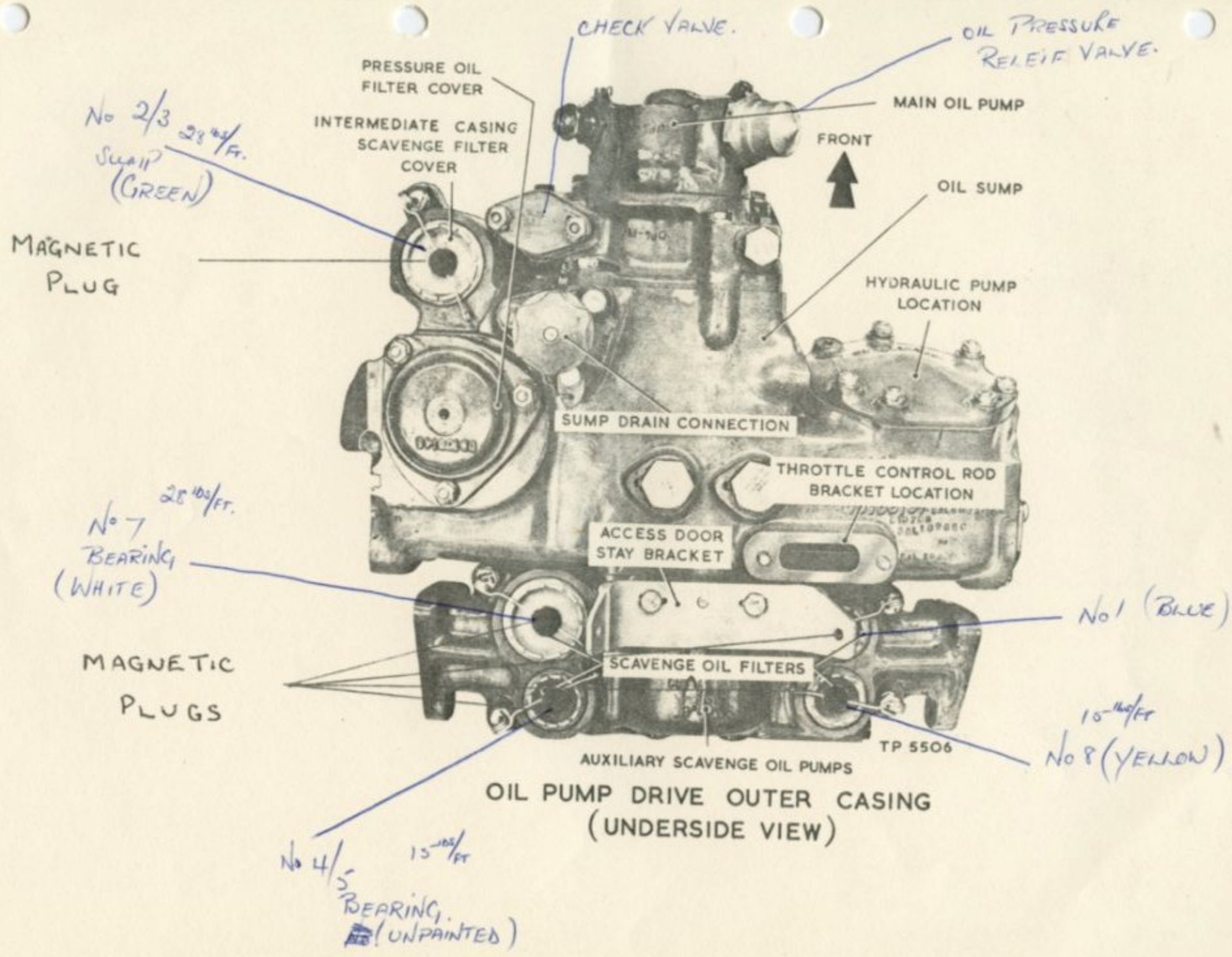
OIL TANK

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OLYMPUS 200
 DIAGRAMMATIC LAYOUT OF ENGINE OIL SYSTEM



OIL PUMP DRIVE OUTER CASING (UNDERSIDE VIEW)

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