CHECK PROCEDURE FOR WET SUMPING

'Wet sumping' or a lack of scavenge is a condition which can occur due to a number of causes. The symptoms of this condition are:—

(1) Excessive oil emitting from crankcase breather tube and resulting high oil consumption.
(2) Smoking exhaust.

To verify that a wet-sumping condition exists, run the engine until it is thoroughly warm. Within five minutes after engine shutoff drain the sump. Measure the amount of oil that drains out. An amount of oil over 100 c.c. indicates a wet-sumping condition and corrective measures should be taken.

POSSIBLE CAUSES OF WET-SUMPING ARE

(1) Foreign material preventing ball valve from seating in the scavenge side of oil pump (most common cause).
(2) Poor check valve ball seat.
(3) Air leak in crankcase oil scavenge pipe.
(4) Air leak in oil pump to crankcase joint.
(5) Porous crankcase casting.
(6) Air leak at E9336 plug bottom of engine.
(7) Oil pressure release valve piston in full bypass position due to a stuck piston or broken or missing spring.
(8) Restriction in oil reservoir vent pipe.

SCAVENGE SUCTION TEST (for checking above causes numbers 1 to 6)

Obtain a vacuum gauge calibrated in inches of mercury. Attach a length of standard Triumph oil pipe to it and proceed as follows:

(1) Run engine until it is thoroughly warm.
(2) Remove the oil sump cap and screen.
(3) Connect hose from vacuum gauge to oil scavenge pipe.
(4) Run engine at a fast idle—gauge should read a vacuum of 18-26 inches of mercury.
(5) Stop engine and observe gauge. The needle should gradually—not immediately—drop to zero.

IF THE SCAVENGE SUCTION TEST IS SATISFACTORY

(1) Check oil pressure relief valve assembly and also check oil pressure.

(2) Check the return system from the pump to the oil reservoir and also the reservoir vent.

TO CHECK FOR A BLOCKED OR RESTRICTED OIL RETURN TO THE RESERVOIR

(1) On the oil reservoir using a hand brace or and $\frac{7}{64}$" and $\frac{11}{64}$" drill bits, run the drill bits into the return tube and rocker feed tube at the top of the reservoir to see that both tubes are free from internal burrs and restrictions that can occur at their welded joints.

(2) After doing the above, blow out the return oil line and the return tube in the oil reservoir with compressed air.

IF THE ABOVE TEST IS NOT SATISFACTORY

(1) Remove oil pump—clean thoroughly and see that ball seats are concentric and free from pits or grooves. Re-assemble pump, tighten check valve caps securely and re-install pump with a new gasket.

To check for crankcase scavenge tube leakage or case porosity, fill a good "pumper" type oil can with light oil and squirt through a folded rag into pickup tube. Back pressure could prevent pumping oil out of the can in a few pumps. If the oil can still be pumped with no evidence of substantial back pressure, obviously there is a leak in the the crankcase tube or crankcase scavenge oil passageways.

To be sure that the oil can is satisfactory for this test, fill it with light oil and block the outlet tube. After one or two pumps the can should "liquid lock". If the can can stil be pumped, the pump mechanism is suffering from excessive blow-by and the can will not suffice for this test.