

4-105.1. Oil Contamination - Chip Detector.

- a. Remove chips from oil filter element and retain for analysis. Clean filter element and reinstall.
- b. Drain all oil from accessory drive gearbox, oil tank and oil cooler.
- c. Remove chips, if any from chip detector and retain for analysis. Clean chip detector and reinstall.
- d. Remove and inspect strainer for No. 2 bearing and strainer for No. 3 and 4 bearings for presence of metal chips. If chips are present remove and inspect three reduction gear oil transfer tube strainers and overspeed governor and tachometer drive oil throttle strainer. Forward engine to overhaul if metal chips have clogged more than one-third of flow area of any one of previously mentioned strainers. If amount of metal chips is not excessive, clean and reinstall strainers and proceed to step (5).
- e. Presence of chips in previously mentioned strainers indicates bypass of oil filter has occurred. Replace oil filter (TM 55-2840-229-23).
- f. Disconnect oil scavenge hose assembly for No. 2 bearing and for No. 3 and 4 bearings and determine whether residual oil in hose assemblies is contaminated with chips. If oil is contaminated, remove engine and forward to overhaul.
- g. Fill oil tank to capacity with new oil (paragraph 1-5).

CAUTION

Any oil pressure fluctuation in excess of plus or minus 5 psi, or any rapid rise in oil temperature at any preset power setting, is cause for immediate engine shutdown.

- h. Have qualified pilot start engine (refer to TM 55-1520-210-10) and run at flight idle until temperatures have stabilized. Check instruments for proper engine operation. Increase speed to **70 TO 80** percent N1 and maintain for **5** minutes.
- i. Shut down engine and again inspect oil filter elements, chip detector and strainers.
- j. If quantity of chips remains same after engine run, do not clean filter, strainers or chip detector.

Forward engine to depot for additional inspection. Flush all airframe mounted engine oil lines, and engine oil tank. Replace engine oil cooler.

NOTE

Chips in oil filter may come from oil tank; chips on chip detector come from engine.

k. If amount of carbon particles found on filter element is excessive proceed as follows:

- (1) Drain all oil from accessory drive gearbox, oil tank and oil cooler.
- (2) Remove and inspect oil strainers for No. 2 bearing and for No. 3 and 4 bearings. If carbon particles are present, oil filter has bypassed. Remove, clean, and reinstall reduction gear oil transfer tube strainers and overspeed governor and tachometer drive oil filter assembly (torquemeter). Clean and reinstall No. 2 and No. 3 and 4 bearing strainers.
- (3) Clean and reinstall engine oil filter assembly (Refer to TM 55-2840-229-23).
- (4) Replenish engine oil system (paragraph 1-1).
- (5) Have qualified pilot start engine and run at **70 TO 80** percent N1 RPM for **15** minutes.
- (6) Shut down engine. Remove, inspect, clean and reinstall oil filters and strainers.
- (7) If contamination is excessive, repeat procedure until filter is clean after run.

NOTE

If threads on chip detector port were repaired, refer to TM 55-2840-229-23.

4-106. Installation - Chip Detector.

- a. Place packing on chip detector. Install chip detector in accessory drive gearbox. Torque **90 TO 100** inch-pounds and lockwire (C155).

CAUTION

No more than 15 inch-pounds of torque shall be applied to the chip detector centerpost nut when installing the chip detector wire.