

TELEDYNE CONTINENTAL[®] AIRCRAFT ENGINE
CRITICAL SERVICE BULLETIN
 Compliance Necessary To Maintain Safety

CATEGORY 2
CSB96-2
 FAA APPROVED

SUBJECT: CRANKCASE OIL PASSAGE INSPECTION

PURPOSE: TCM has verified a restricted crankcase oil passage on certain GTSIO-520 model engines. The following instructions are provided to determine if the oil passage to the front propeller shaft bearing is restricted. Only those engines and crankcases identified below are affected by this service bulletin.

COMPLIANCE: Prior to further flight.

WARNING


OPERATION OF AN ENGINE WITH A RESTRICTED OIL PASSAGE CAN CAUSE LOSS OF LUBRICATION AND SUBSEQUENT ENGINE FAILURE.

MODELS AFFECTED: GIO-550-A.
 GTSIO-520-C, D, F, G, H, K, L, M, N.

NOTE: Compliance with this service bulletin is not required if previously accomplished by the instructions set forth in TCM "Special Service Instruction" SSI 1-96.

A. The following engines must be inspected in accordance with the "INSPECTION INSTRUCTIONS" set forth in this service bulletin:

ENGINE MODEL	SERIAL NUMBER
GIO-550-A	6X, 7X, 8X, 9X, 10X, 11X, 12X.
GTSIO-520-H	267299-R thru 267304-R, 267306-R.
GTSIO-520-L	272489-R thru 272491-R, 272494-R, 292002-R, 292003-R, 292007-R thru 292009-R, 292019-R, 608754, 608756, 608758.
GTSIO-520-M	276352-R, 276357-R, 276364-R, 276369-R, 276370-R, 276378-R, 276380-R thru 276385-R, 613074.
GTSIO-520-N	277163-R, 277166-R, 277171-R, 277172-R, 277176-R.

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- B. New service crankcases purchased from TCM on or after July 1, 1993 that are identified with the serial numbers listed below must be inspected in accordance with the "INSPECTION INSTRUCTIONS" set forth in this service bulletin:

CRANKCASE SERIAL NUMBERS

D289302RS	A139405RS
J119310RS	A159404RS
J129307RS	A189407RS
A139401RS	A189409RS

NOTE: Crankcase serial numbers are stamped on the front of each crankcase half, just above the oil sump mount flange.

- C. If you have determined that your engine is affected by this service bulletin, contact your local TCM Field Service Representative or Teledyne Continental Motors (334-438-3411 ext. 299) to obtain special fittings required to perform the inspection and confirm compliance with this Service Bulletin.

INSPECTION INSTRUCTIONS

WARNING

VERIFY MASTER SWITCH IS IN THE "OFF" POSITION AND MAGNETO SWITCHES ARE CONNECTED TO THE MAGNETOS, THAT THEY ARE IN THE "OFF" POSITION AND "P" LEADS ARE GROUNDED WHILE WORKING IN CLOSE PROXIMITY TO THE PROPELLER.


1. Remove engine cowling to allow access to the front and left (2-4-6) side of the crankcase.
2. Using a 5/32" allen wrench, remove the oil passage plug located in the front of the LEFT crankcase half between the propeller shaft and the reduction gear cover. See Figure 1.

NOTE: If difficulty is experienced in the removal of the oil passage plug, contact your TCM Field Representative for further instructions.

3. Install and tighten the fitting and tube assembly (supplied by TCM for use in connection with this service bulletin) to the crankcase as shown in Figures 2 and 3. Attach a sufficient length of hose to the tubing assembly to allow personnel to be positioned well clear of the propeller arc. Connect a calibrated 0 - 100 P.S.I. gage to the hose.
4. Disconnect the aircraft oil pressure gage reference line and connect a length of hose and a calibrated 0 - 100 P.S.I. gage to the tee fitting. See Figure 4. The aircraft oil pressure gage CANNOT be used to record this reading.

NOTE: This instruction (paragraph 4.) is provided specifically for the Cessna 421 aircraft. Other installations may vary. The important concern here is to reference the oil pressure at the 2-4-6 crankcase half oil passage.

5. Isolate and secure oil gage hoses to prevent damage to the hoses and adjacent components. It will be required to have one person to isolate and monitor the gages and one person to operate the aircraft.

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WARNING

USE EXTREME CAUTION IN THE AREA OF THE PROPELLER ARC WHEN PERFORMING THE FOLLOWING STEPS TO PREVENT SERIOUS INJURY OR DEATH TO PERSONNEL AND/OR DAMAGE TO EQUIPMENT.

6. Start the engine and allow the oil to warm-up to operating (green arc) temperature. With the engine operating at idle R.P.M., loosen the hose fitting at each gage only enough to bleed the air from the hose. Tighten each connection after all air has been bled from the lines.
7. With the propeller control in the "HIGH R.P.M." position and the mixture control in the "FULL RICH" position, increase the throttle control until an indication of 1900 R.P.M. is reached.
8. Allow the R.P.M. to stabilize for one minute and record the indicated oil pressure on the front and 2-4-6 oil passage gages.
9. Reduce the R.P.M. to 700 and repeat Step 8. Shut down the engine.
10. If the pressure DIFFERENTIAL between the two gage readings is greater than 10 P.S.I. at either the 1900 R.P.M. or 700 R.P.M. settings, contact TCM Customer Service at 334-438-3411 or your local TCM Field Service Representative for instructions.
11. If the pressure differential is LOWER than 10 P.S.I., proceed as follows:
12. Remove the oil pressure gages, hoses, tube assembly and fitting. Install the aircraft oil pressure gage reference line and torque in accordance with the aircraft manufacturer's instructions. Apply a thin film of Loctite PST pipe sealant to the threads of the 1/16-27 plug and install in the front crankcase oil passage. Torque plug to 40 inch pounds.
13. Perform a leak check run and verify that no oil leaks exist at the front oil passage plug and the aircraft oil pressure gage reference line. Repair ANY fluid leaks prior to further engine operation. Install engine cowling.
14. Record compliance with this Service Bulletin in the engine log book.

WARRANTY

TCM will allow a maximum of 2 hours labor at the posted shop rate to perform the instructions set forth in this service bulletin. Warranty claims must be filed with a TCM Distributor.

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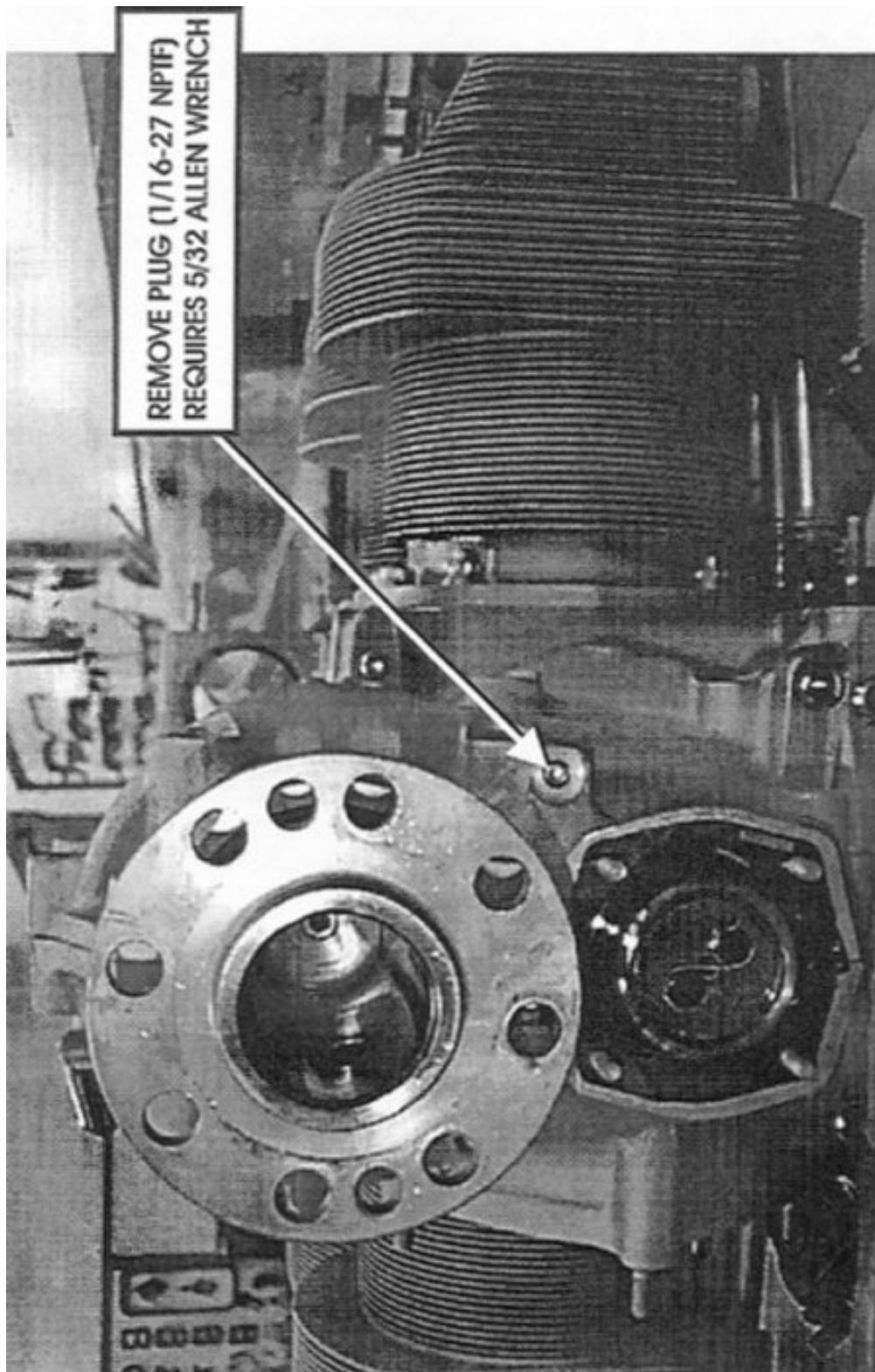



FIGURE 1

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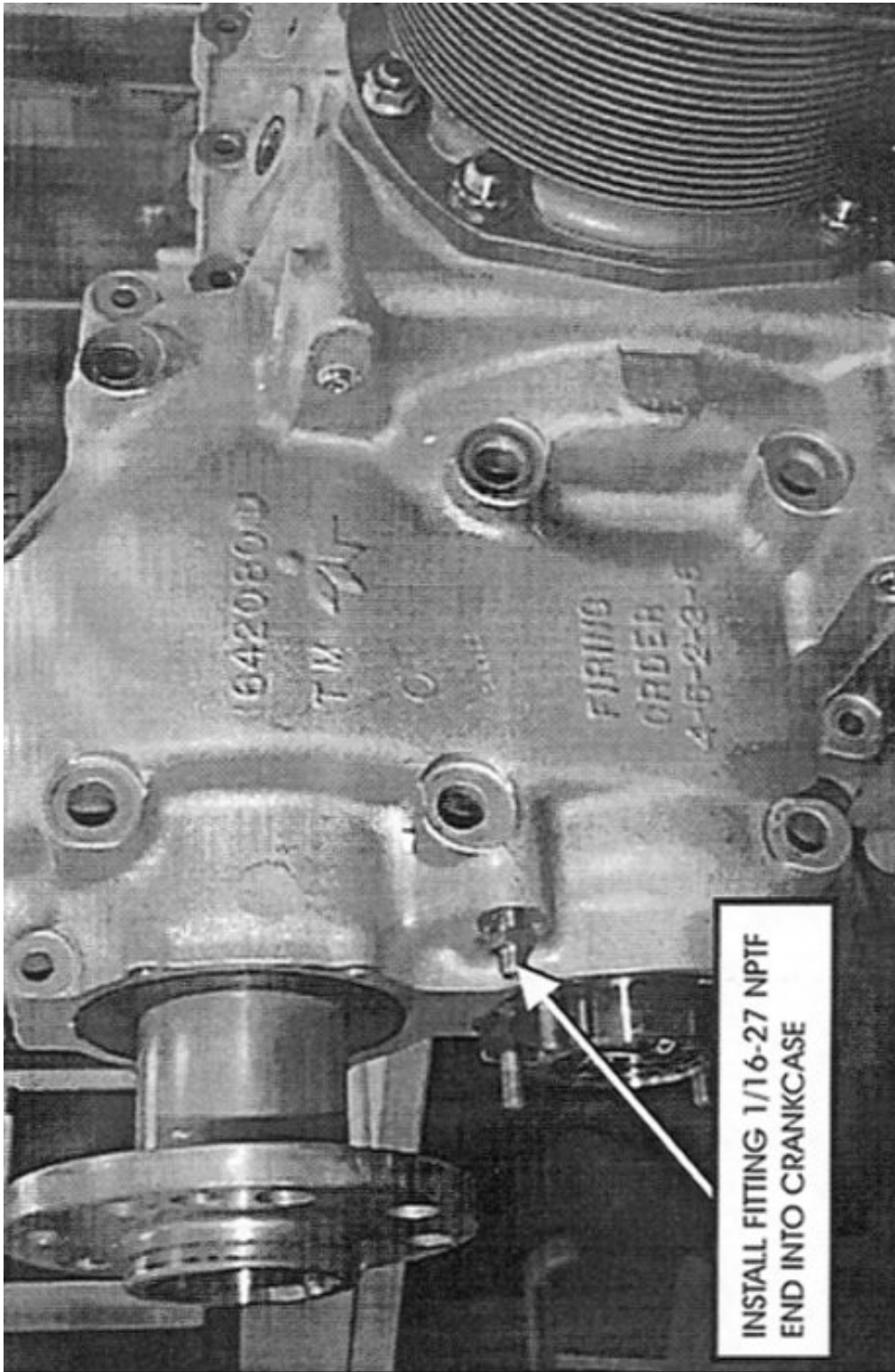



FIGURE 2

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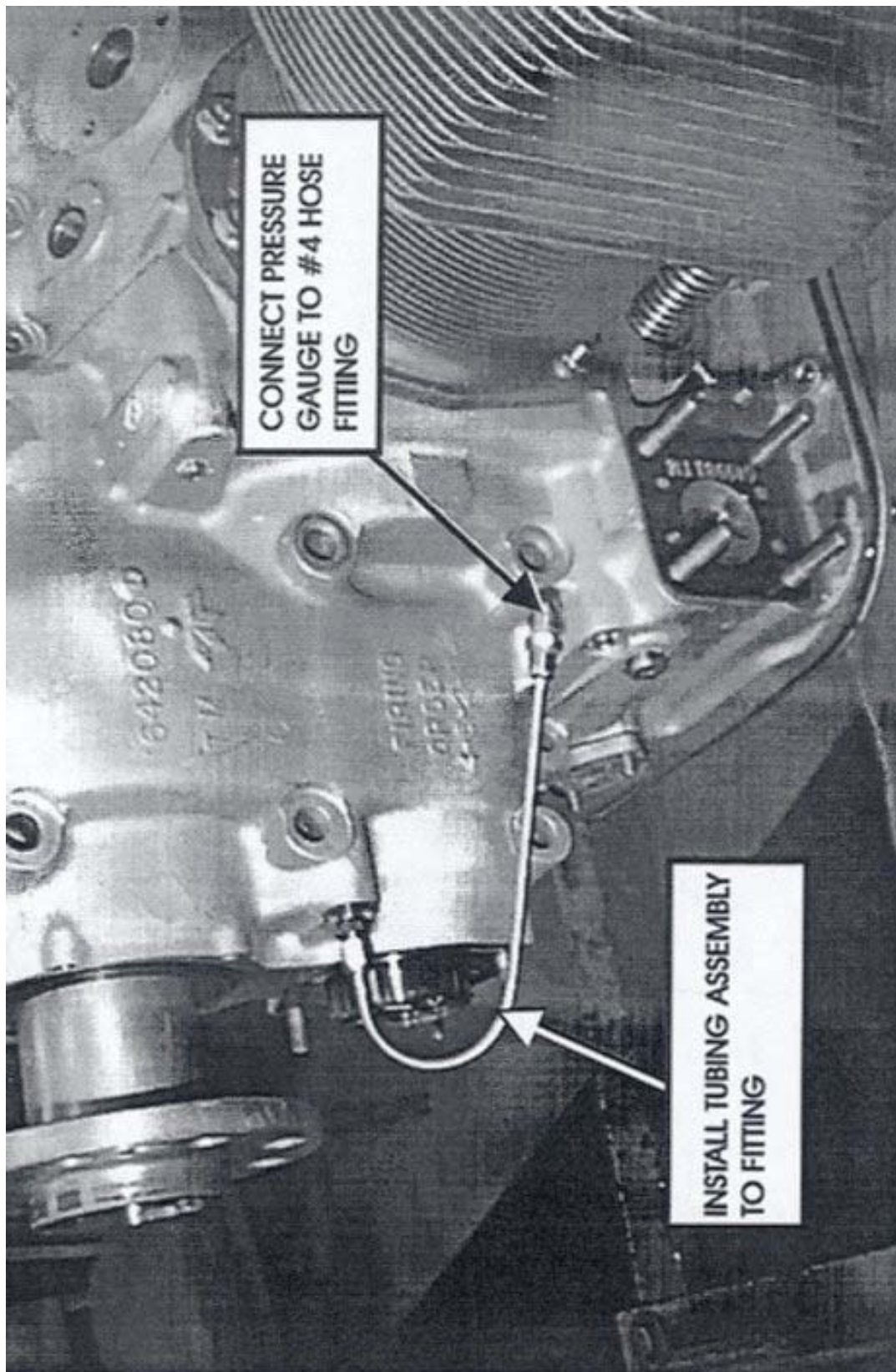



FIGURE 3

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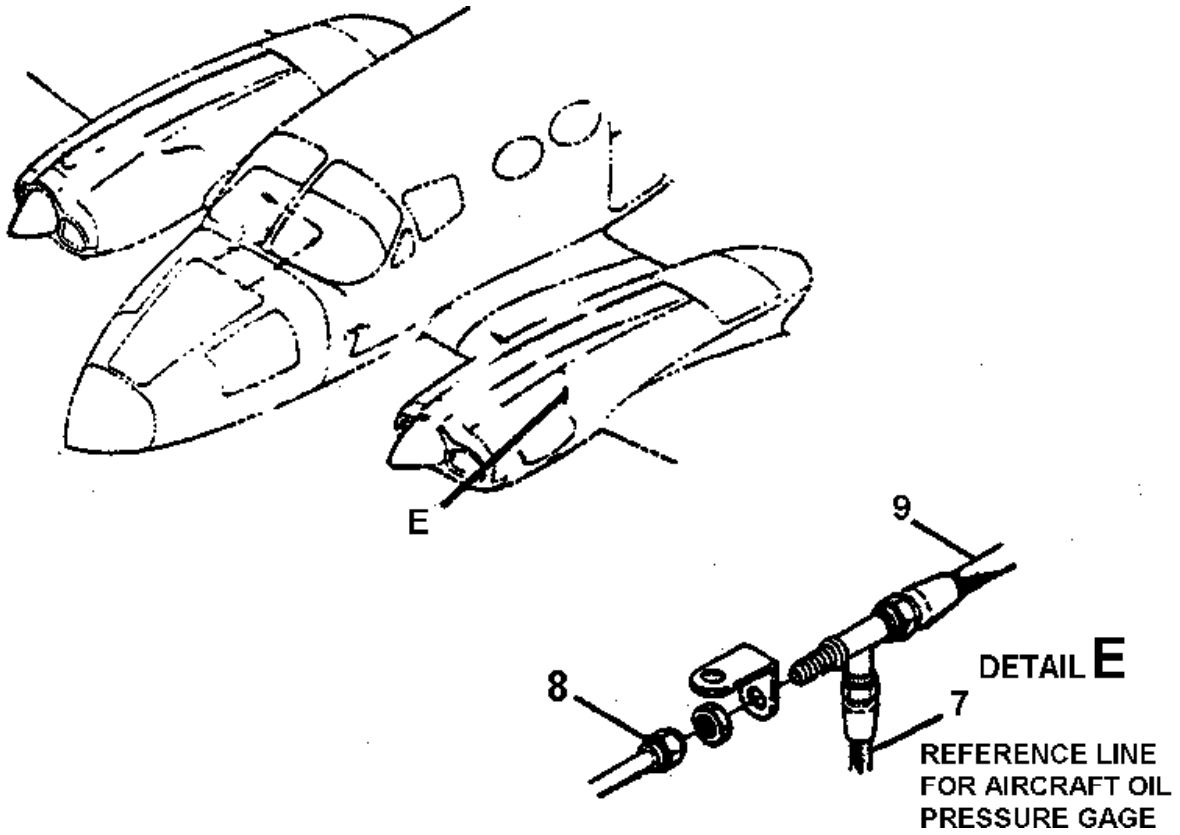



FIGURE 4

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