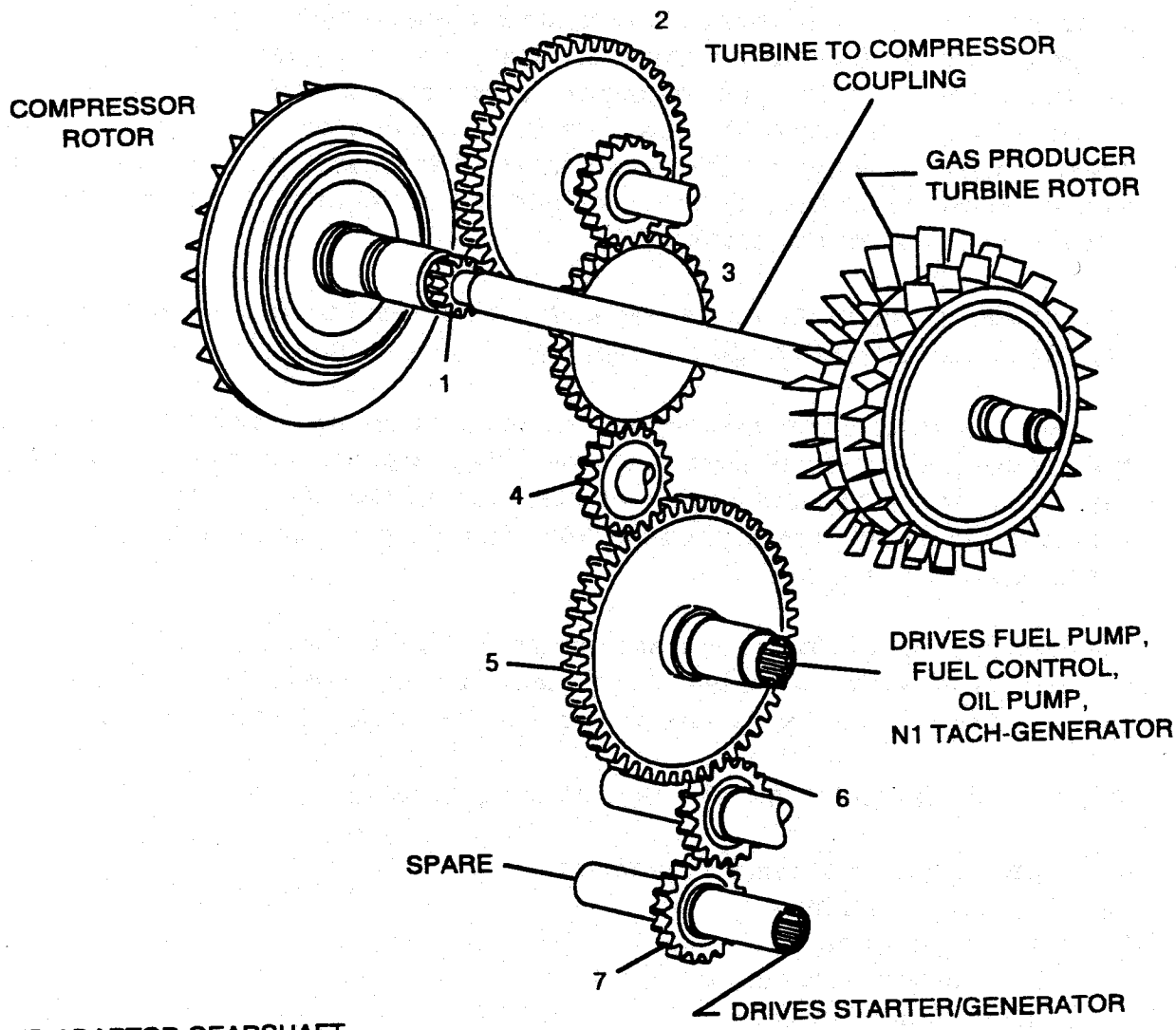
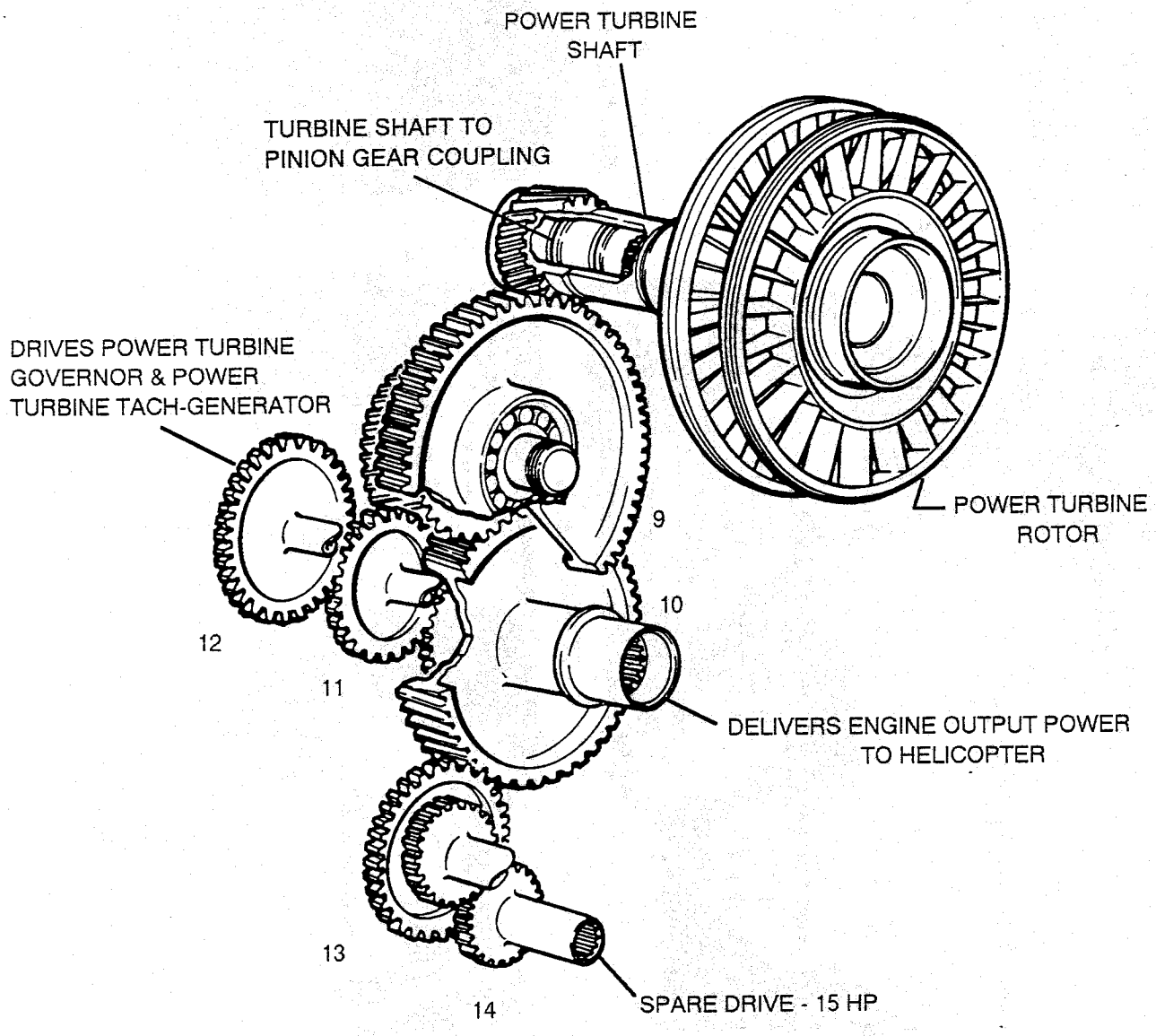


1. SPUR ADAPTOR GEARSHAFT
2. SPUR CENTRIFUGAL BREATHER GEARSHAFT
3. SPUR IDLER GEARSHAFT
4. SPUR IDLER GEARSHAFT
5. SPUR FUEL PUMP, FUEL CONTROL, & OIL PUMP GEARSHAFT
6. GENERATOR IDLER GEAR
7. STARTER GENERATOR GEARSHAFT

Figure 5-3. N1 Gas Producer Gearing



8. HELICAL POWER TRAIN DRIVE GEAR

9. HELICAL TORQUEMETER GEARSHAFT

10. HELICAL POWER TAKEOFF GEARSHAFT

11. SPUR POWER TRAIN IDLER GEAR

12. SPUR POWER TRAIN TACHOMETER & GOVERNOR GEARSHAFT

13. SPARE DRIVE IDLER HELICAL - SPUR GEARSHAFT

14. SPARE SPUR DRIVE GEARSHAFT

Figure 5-4. N2 Power Turbine Gearing

Section 8

TRANSMISSION & DRIVETRAIN

The transmission system provides a means of transmitting power from the engine to the main and tail rotor assemblies. The powertrain includes the freewheeling assembly, main drive shaft, transmission, tail rotor drive shaft, oil cooler blower, tail rotor gearbox, and mast.

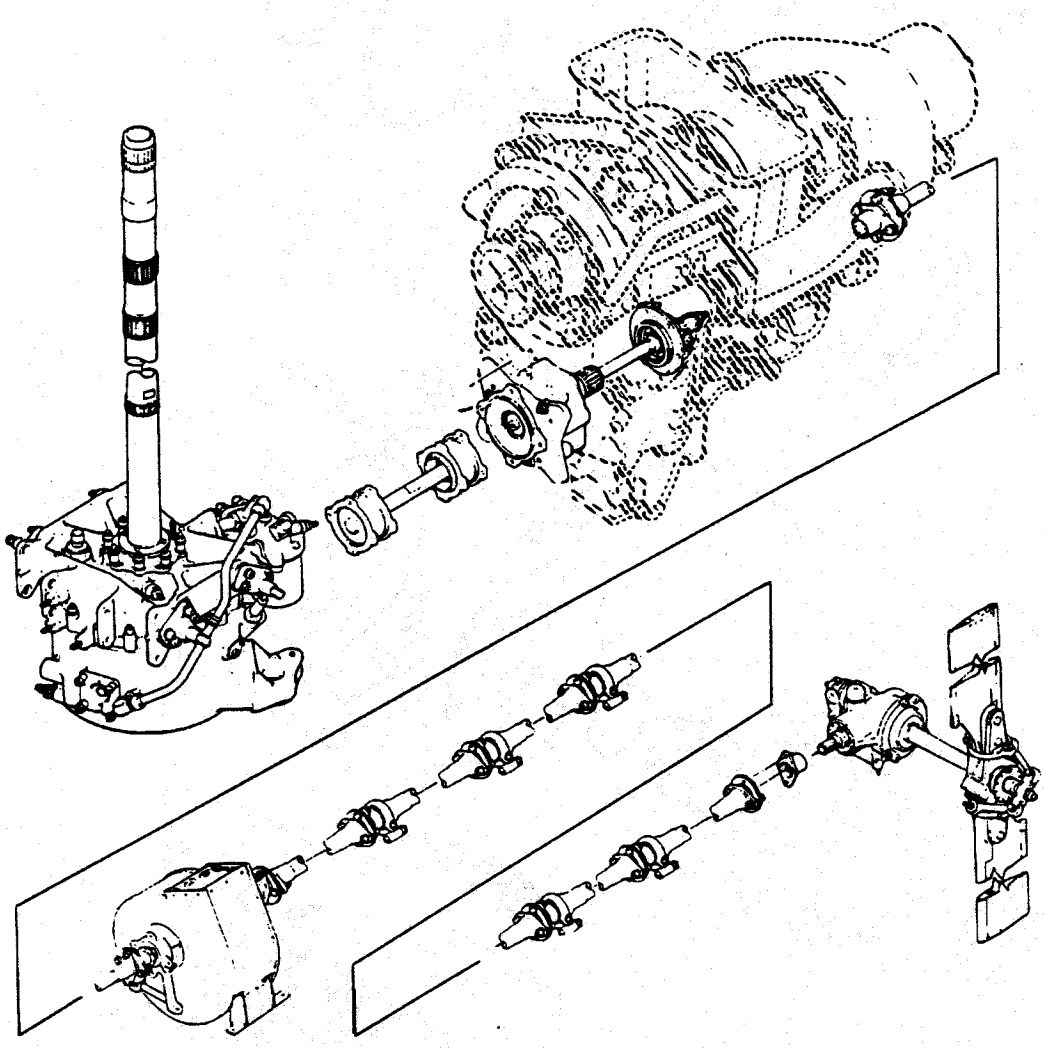


Figure 8-1. Powertrain

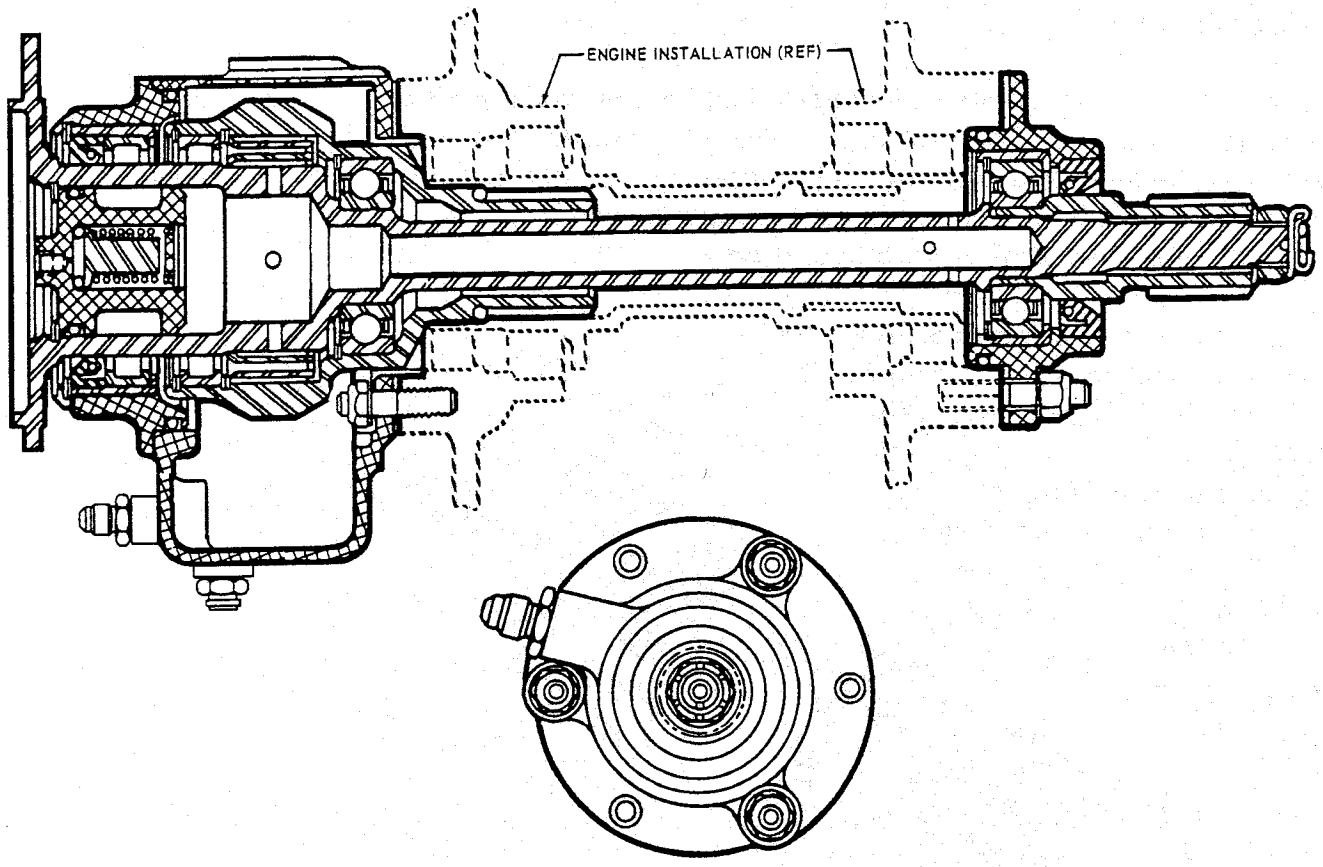


Figure 8.2 Freewheeling Unit (cont)

FREEWHEELING ASSEMBLY

A shaft from the power turbine drives the engine power takeoff gear shaft through the engine reduction gearbox. The freewheeling unit is mounted on the engine gearbox, and its shaft is splined directly to the power takeoff gear shaft. Engine power is transmitted to the outer race of the freewheeling unit, then through the sprag elements of the unit which couple the engine power to the transmission drive shaft. The forward short shaft of the tail rotor drive system connects through a flexible coupling to a splined adapter on the aft end of the freewheeling shaft that passes through the engine reduction gearbox. During autorotation, the main rotor drives the power input shaft. Under this condition, the freewheeling unit provides a disconnect from the engine so that the rotational forces of the main rotor are free to drive the transmission, tail rotor, and all transmission mounted accessories.

TRANSMISSION

The transmission, located on the cabin roof, incorporates a nodal beam suspension and restraint. It is mounted on two nodes, and normal vibrations and vertical movement are absorbed by a flexure assembly. It reduces engine rpm, changes the angle of drive from the engine to the rotor, and serves as the structural member that links the mast to the airframe. It provides a two-stage reduction of 15.23 to 1.0 (6016 to 395 rpm). The first stage is a bevel gear arrangement with a 3.26 to 1.0 reduction; the second stage reduction is obtained through a planetary gear train that provides a 4.67 to 1.0 reduction.

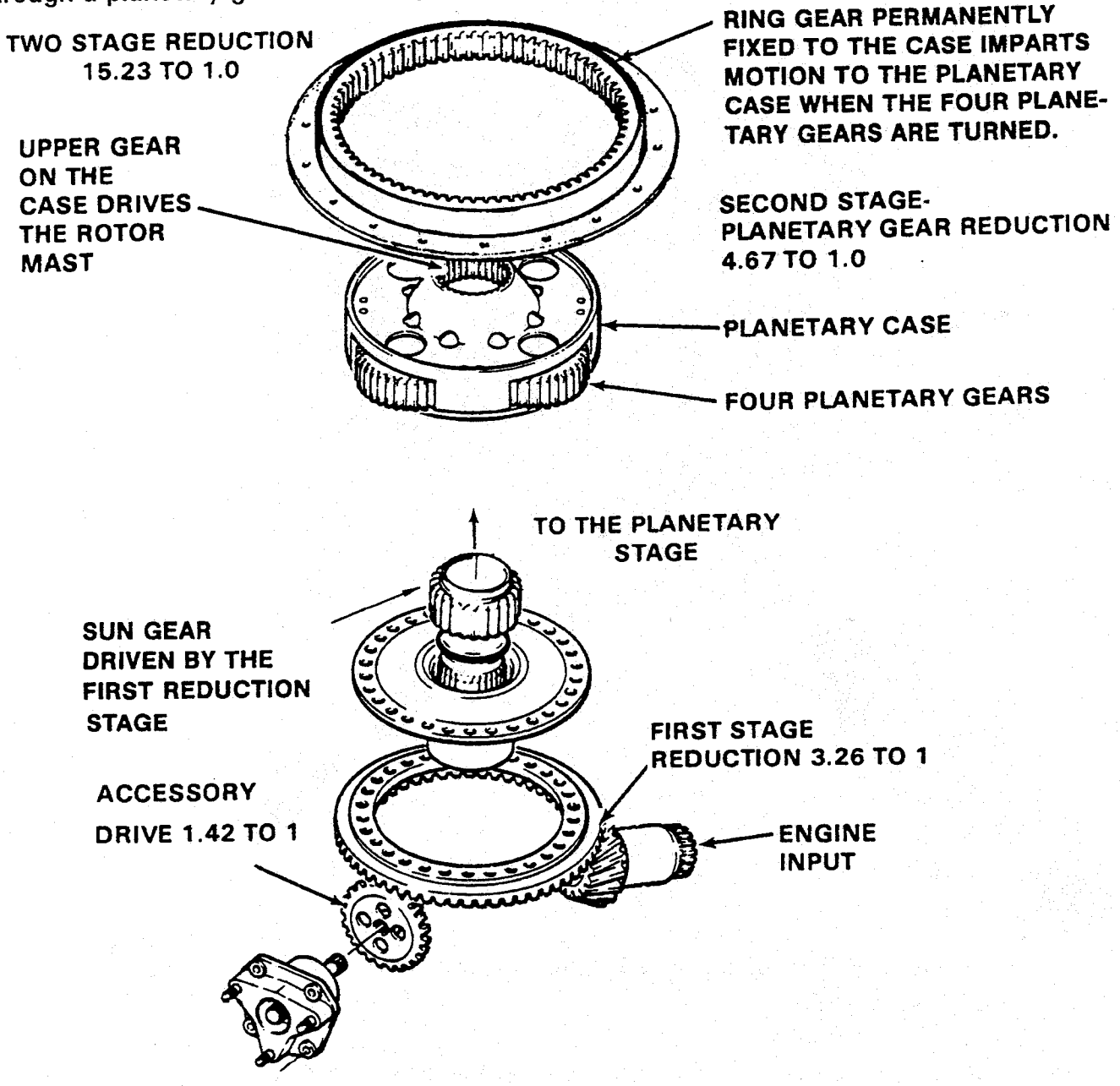


Figure 8-4. Transmission Gearing

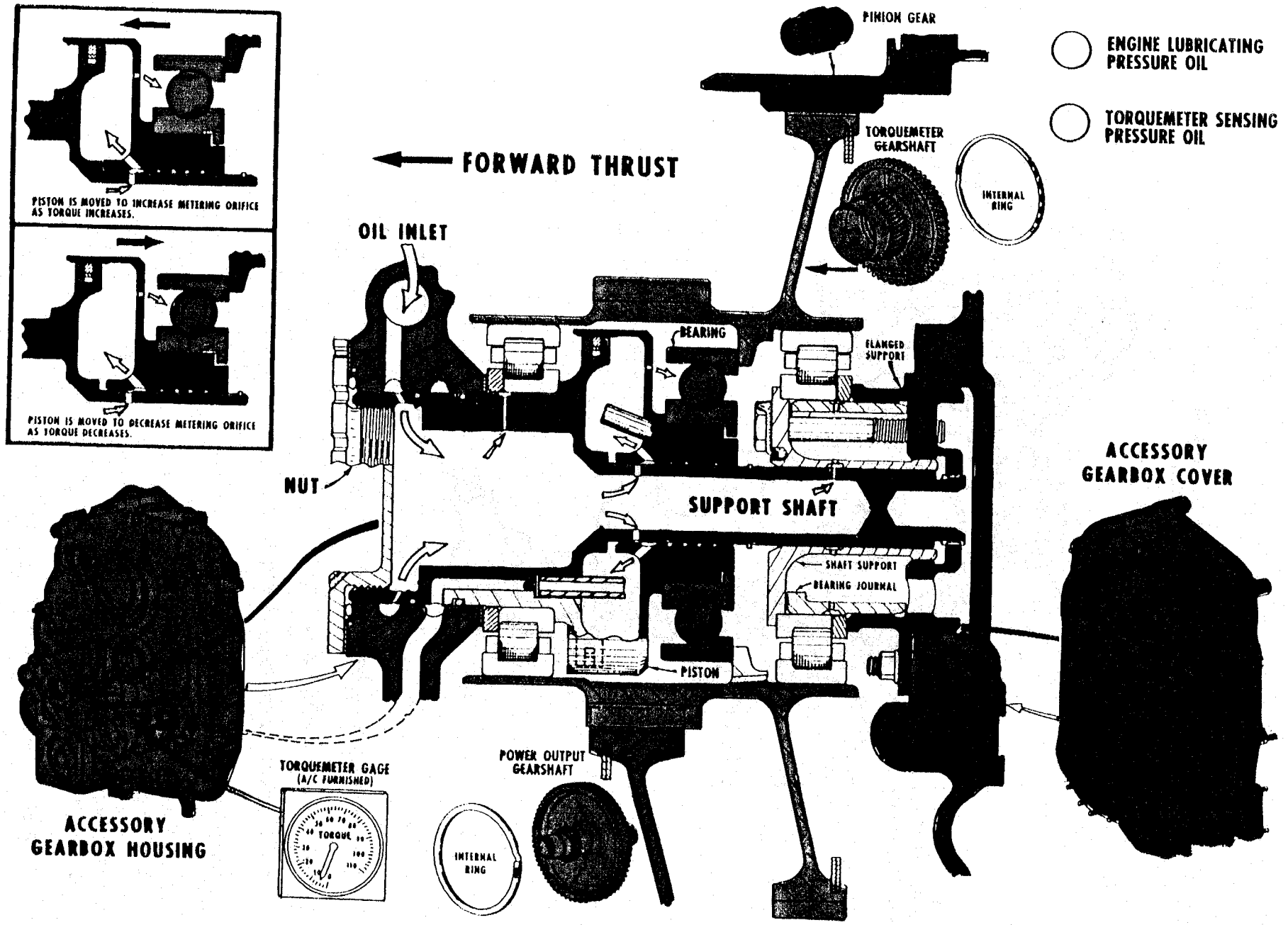


Figure 5-5. Torquemeter