

Fig. 1 - Blower and Drive Assembly and Accessories Including Mechanical Governor Attached to Blower (Series 71)

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| 2. Housing-Blower | 27. Oil Seal-End Plate | 99. Pump-Fresh Water |
| 3. Rotor-Blower-Upper R.H. Helix | 28. Cover-End Plate-Front | 100. Governor |
| 4. Rotor-Blower-Lower L.H. Helix | 29. Cover-End Plate-Rear | 101. Pump-Fuel |
| 5. Bearing (Roller)-Front | 33. Cover-Blower Drive Shaft | 102. Elbow (90°)-Oil Line to Blower Drive |
| 9. Bearing (Ball)-Rear-Double Row Thrust | 37. Seal-Drive Shaft Cover | 103. End Plate-Cylinder Block-Rear |
| 13. Gear-Rotor-Upper R.H. Helix | 38. Shaft-Blower Drive | 104. Housing-Flywheel |
| 14. Gear-Rotor-Lower L.H. Helix | 40. Shaft Coupling and Slinger Assy.-Intermediate Drive | 105. Fork-Fuel Pump Drive |
| 20. Hub-Rotor Drive Gear | 41. Bolt-Allen Head-Shaft and Coupling Assy. | 106. Cover-Water Pump Inlet |
| 21. Bolt-Plate to Gear | 42. Gear-Blower Drive | 114. Clamp-Drive Cover Seal |
| 22. Bolt-Plate to Hub | 48. Support-Blower Drive Gear Hub | 115. Plate-Blower Rotor Drive Hub |
| 23. End Plate-Front | 53. Coupling Assy.-Blower Drive | 116. Spacer-Plate to Gear |
| 24. End Plate-Rear | | |

plates to lubricate the bearings, governor and water pump drives at the front end, and bearings and gears at the rear end of the blower. A slinger attached to the front end of the lower rotor shaft throws oil onto the front roller bearings and governor weights of engines equipped with mechanical governors. A dam in the blower rear end cover maintains oil at a level adequate to submerge the lower rotor and driven gears.

Surplus oil overflows the dams in the end covers and returns through two drilled holes in the cylinder block to the engine crankcase.

Inspection of Blower

The blower may be inspected for any of the following conditions without being removed from the engine. However, the air silencer or air inlet housing must be removed.

CAUTION: When inspecting a blower on an engine with the engine running, keep fingers and clothing away from moving parts of blower and run engine at low speeds only.

1. Dirt or chips, drawn through the blower, will make deep scratches in the rotors and housing and throw up burrs around such abrasions. If burrs cause interference between rotors or between rotors and housing, the blower should be removed from the engine and parts dressed down to eliminate interference, or the rotors should be replaced if they are too badly scored.
2. Leaky oil seals are usually manifest by the presence of oil on the blower rotors or inside surfaces of the housing. This condition may be checked by running the engine at low speed and directing a light into the rotor compartment at the end plates and the oil seals. A thin film of oil radiating away from the seals is indicative

of an oil leak.

3. Worn blower drive, resulting in a rattling noise inside the blower, may be detected by grasping the top rotor firmly and attempting to rotate it. Rotors may move from 3/8" to 5/8", measured at the lobe crown, with a springing action. When released, the rotors should move back at least 1/4". If the rotors cannot be moved as directed above, or if the rotors move too freely, the flexible blower drive coupling should be inspected and replaced if necessary.

If a check shows the drive coupling to be worn, the blower drive gear assembly may be removed from the cylinder block end plate after the blower has been removed from the engine and the drive gear hub bearing support to cylinder block end plate bolts are removed, see section 1.7.6.

4. Loose rotor shafts or damaged bearings will cause rubbing and scoring between the crowns of rotor lobes and the mating rotor roots, between rotors and end plates, or between rotors and housing. Generally, a combination of these conditions exists. A loose shaft usually causes rubbing between rotors and end plates. Worn or damaged bearings will cause rubbing between mating rotor lobes at some point or perhaps allow the rotor assemblies to rub the blower housing. This condition will usually show up at the end where the bearings have failed.
5. Excessive back-lash in blower timing gears usually results in rotor lobes rubbing throughout their entire length.
6. The blower inlet screen should be inspected periodically for accumulation of dirt which, after prolonged operation, may affect the air flow. Servicing of the screen consists of thoroughly washing in fuel oil and cleaning with a stiff