



## Model S-34 Gearcase Leakage Tester (Pressure) Operating Instructions

The S-34 was designed to check gearcases for leaks around seals, O-rings, etc. It consists of:

- A hand pump for placing pressure in the gearcase.
- A bleeder valve to adjust the amount of pressure and to release pressure when the test is completed.
- A 0 to 30 pound gauge to establish a known amount of air pressure in the gearcase.
  - *Note: Some older units have a compound gauge which was also used on the V-34. The vacuum side of the gauge serves no function on the S-34 and can be ignored.*
- Hose and fitting to connect the unit to a gearcase. This fitting is made of relatively soft aluminum so the gearcase threads cannot be easily damaged.

### TO CHECK GEARCASE

Refer to the engine service manual. If a service manual is not available, the following procedures can be used; however, engine manufacturer's instructions may differ and are preferred.

1. The S-34 can be used when the gearcase is filled to the proper level with lube, but slow leaks are more readily detected with an empty gearcase.
2. Remove upper screw (vent plug) and seal washed.
3. Thread fitting at end of tester hose into the upper hole.
4. Tighten bleeder valve screw located in brass "T" just behind gauge.
5. Pump up to pressure designated in service manuals. Outboard gearcases are normally checked at 3-6 pounds and again at 16-18 pounds. Observe gauge to determine if gearcase is holding pressure.
6. Allow unit to stand for a couple of minutes and check again. If pressure remains constant, turn engine over by hand and work gearshift several times. Check pressure again; if constant, the gearcase and seals are in good condition.
7. Should pressure drop, visual inspection of the seals may indicate point of leakage. Immersion of the gearcase in water (tester hose only, **NOT** tester) may help pinpoint the leaking area.

NOTE: Field replaceable parts, as well as metric adaptors, can be found at [www.stevensinstrument.com](http://www.stevensinstrument.com).

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