

NUMBER: 80-15

DATE: 10/13/80

CIRCULATE TO:
SERVICE MANAGER
PARTS MANAGER
MECHANICS

- A. Thermostat Deletion - Merc 7.5 and 9.8
- B. Metric Tool Requirements - Merc 18 and 25
- C. Premature Drive Shaft Spline Wear - 1979 Merc 20 (Short Shaft)

A. THERMOSTAT DELETION - Merc 7.5 and 9.8

Australia : Serial No. 8069595 and Above
Belgium : Serial No. 9296551 and Above
Canada : Serial No. 7167528 and Above
United States: Serial No. 5811769 and Above

Merc 7.5/9.8 Outboard Motors, with Serial Numbers specified above, are no longer produced with a thermostat in the cooling system. The cooling system design remains unchanged, however, and a thermostat (and thermostat gasket) may be installed, as an accessory, if desired.

If the motor will be operated primarily in cold water areas [normal water temperature BELOW 50°F (10°C)] and/or areas where extreme day-to-day temperature variations of 20°F to 40°F (-6°C to 5°C) are common, we recommend installation of the thermostat.

A thermostat controlled cooling system maintains a constant, higher engine operating temperature, thus providing smoother engine operation, particularly at slower operating speeds.

A-75692	Thermostat
C-27-62386	Gasket, thermostat

B. METRIC TOOL REQUIREMENTS - Merc 18 and 25

The fasteners (screws and nuts) used in manufacture of the Merc 18 and 25 Outboard Motors are METRIC. A few exceptions are; the propeller shaft nut and spark plugs which are 13/16" and the tilt tube nuts which are 1-1/4"

Common METRIC tool sizes required for complete service of these motors are: 8mm, 10mm, 13mm, 15mm and 18mm (combination wrenches and 3/8" drive socket set recommended).

NOTE: Connecting rod cap screws require a 5mm hex wrench.

C. PREMATURE DRIVE SHAFT SPLINE WEAR - 1979 Merc 20 (Short Shaft)

Australia : Serial No. 8057145 thru 8065489
Belgium : Serial No. 9214456 thru 9259830
Canada : Serial No. 7124213 thru 7148237
United States: Serial No. 5183393 thru 5606491

We have received an occasional report of premature spline wear on the upper end of the drive shaft (in anywhere from 5 to 50 hours of operation) on some 1979 Merc 20 short shaft motors, within the above specified serial number ranges. In some instances, the crankshaft spline has also been damaged (depending upon the severity of wear incurred).

Inspection of these types of failures has revealed that the premature wear results from misalignment between the drive shaft and crankshaft, caused by improper machining on the bottom end of the drive shaft housing (A-1561-6007A2).

If this problem is encountered, the drive shaft housing alignment **MUST BE CHECKED** before installing any replacement components.

Drive Shaft Housing - Alignment Check

1. Remove powerhead assembly complete, bottom cowl and mounting plate assembly from lower unit.
2. Install gear housing assembly complete on drive shaft housing.
3. Viewing the drive shaft housing from **top** end, check the position of the top end of the drive shaft in relation to the drive shaft housing. (Figure 1)
4. The drive shaft **MUST BE CENTERED** laterally (port to starboard) between the drive shaft housing upper motor mount bosses, **WITHIN 1/8"** (3mm).

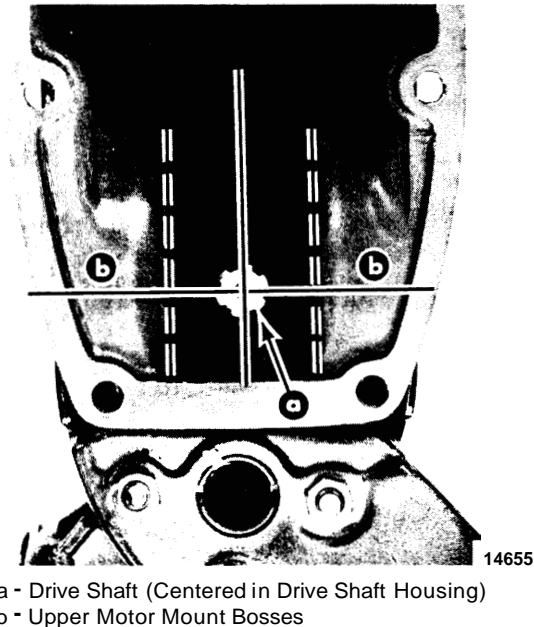


Figure 1. Top View of Drive Shaft Housing

Replacement Components

1. Drive shaft housing must be replaced if alignment does not check to specification (refer to "Drive Shaft Housing - Alignment Check", preceding).
2. Whenever spline wear is evident on the upper end of the drive shaft, the spline in the lower end of the crankshaft **MUST ALSO BE INSPECTED** for probable damage.
3. If both the drive shaft and crankshaft must be replaced, we recommend installation of 1980 components. The 1980 drive shaft [A-45-88094A] (short shaft) and crankshaft (A-415-7631A2) may be backfitted (as a pair, only) on Merc 20 motors, Serial No. 4403786 thru 5606491.

NOTE: By backfitting 1980 components in this application, the latest design in spline lubrication is also provided (continuous lubrication from engine residuals, thru a hole in the crankshaft).

4. When installing the 1980 drive shaft and crankshaft, spline lubrication (greasing) prior to installation **IS NOT REQUIRED**.

IMPORTANT: If original equipment (1979) replacement components [A-45-75036A] drive shaft (short shaft) and A-415-6099 crankshaft] are installed (either as a pair or individually) the spline **MUST BE LUBRICATED upon installation of components. Quicksilver 2-4-C Lubricant (C-92-86154) is recommended.**

A-45-88094A1	Drive Shaft Assembly (<u>Short Shaft</u>) (Assembly includes C-25-88198 "O" Ring, drive shaft)
A-415-7631A2	Crankshaft Assembly (Assembly includes C-12-88740 Washer, felt-carrier)
A-1561-6007A2	Drive Shaft Housing (<u>Short Shaft</u>)