MERCRUISER STERN DRIVES

SERVICE BULLETIN

Section : 10 (Bulletins)
Number: ~~73-4~~ 72-13
Date : 12/1/72

A. Model 1973 MerCruiser Instrumentation
B. Tachometer Replacement
C. MCM 888 Engines with Fresh Water Cooling
D. V-Drive Installation and Propeller Rotation

A. MODEL 1973 MERCRUISER INSTRUMENTATION

(Attach Bulletin Reference Sticker to Sec. 3D Index Page of Your Service Manual.)

New MerCruiser instrumentation includes a vacuum gauge which expresses engine intake manifold vacuum to indicate engine performance and fuel economy. The vacuum gauge has a colored scale to denote proper running range. The yellow area is solid from 0 to 2½" of mercury and tapers off diagonally to solid green at 5" of mercury. The green area extends to the full scale reading of 30" of mercury. This green area encompasses idle, off-plane and normal cruising RPM range of the boat.

Purpose of the vacuum gauge is to prevent the boat operator from unknowingly abusing his engine and as an aid to the boat builder or dealer in properly "propping-out" the boat. Operation of the engine with the needle in the green zone indicates engine is operating in its most economical fuel consumption range. Solid yellow and yellow-green zones indicate maximum and near-maximum engine loading, respectively. Continuous operation with needle in the solid yellow zone will reduce engine life.

The "Operation and Maintenance Manual" states:

A. Operation at full throttle with needle in solid yellow zone but below recommended minimum operating RPM indicates one or a combination of the following:
   1. Boat is "over-propped" (propeller pitch is too great).
   2. Boat hull is causing excessive drag (bottom fouled by marine growth, boat bottom deformed, trim planes [tabs] are trimmed down too far, etc.).
   3. Tachometer may be giving an inaccurate reading (requires replacement of tachometer).
   4. Engine power output could be low (may require engine service).

B. Operation at full throttle, with needle in solid yellow zone and tachometer indicating RPM's above the maximum recommended RPM level, indicates one or a combination of the following:
   1. Boat may be "under-propped" (propeller pitch is too low).
   2. Tachometer may be giving an inaccurate reading (requires replacement of tachometer).

Failure to correct any of the preceding problems will result in reduced engine life and will cause continuous excessive fuel consumption. These failures are not defects in material or workmanship and, therefore, are not covered under the terms of our warranty.

(OVER)

B. TACHOMETER REPLACEMENT

(Attach Bulletin Reference Sticker to Sec. 3D Index Page of Your Service Manual.)

A number of new style tachometers (Figure 1) have been returned for warranty replacement because the tachometer needle is not at the "O" RPM position when received. This new tachometer, however, has a balanced needle which will not return to the "O" position until electrical current is applied. When installed in the boat, and the ignition key is in the "Off" position, the tachometer needle will not, necessarily, return to the "O" position. This does not indicate a defective tachometer.

If pointer does not return to "O" when ignition key is turned to "On" position, and battery is fully charged, then the tachometer may be defective. If, upon starting the engine, the tachometer does not function properly, it should be replaced.

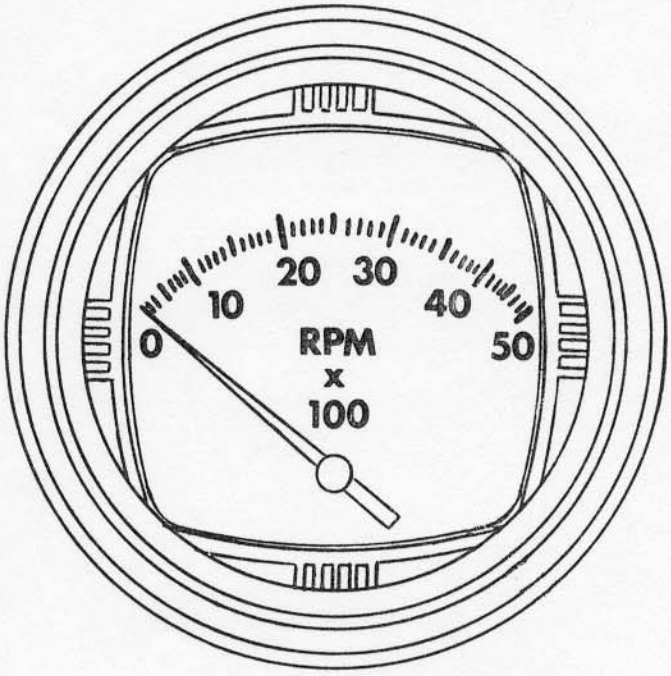

Figure 1. New Style Tachometer

C. MCM 888 ENGINES with FRESH WATER COOLING

(Attach Bulletin Reference Sticker to P. 2H-1 of Your Service Manual.)

When test running out-of-water, cooling water must be supplied to both seawater pump (located on the engine) and lower unit water pump in the gear housing on MerCruiser 888 Engines equipped with fresh water cooling. If cooling water is not supplied to both the lower unit and engine water pumps, impeller failure will result, with subsequent damage to the pumps, lower unit and engine.

To test run MCM 888 Engines equipped with fresh water cooling, attach a Flush Test Device (C-55585) to the lower unit to supply cooling water. Remove water inlet hose from seawater pump. Connect length of hose from cooling water supply to pump inlet.

CAUTION: Always drain engine completely to prevent damage from freezing water during shipment and/or storage.

D. V-DRIVE INSTALLATION AND PROPELLER ROTATION

(Attach Bulletin Reference Sticker to P. 1A-3 of Your Service Manual.)

Output flange rotation of Warner close-coupled V-drives, installed by Mercury Marine on MerCruiser Engines, is the same as engine rotation. As an aid in obtaining desired propeller rotation for your boat, new production MerCruiser close-coupled V-drive engines will have a new decal on the V-drive. It will indicate output flange rotation and PROPER ROTATION PROPELLER to be used with that Power Package. (Figure 2)

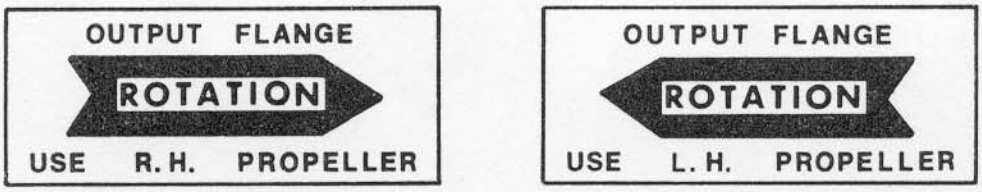

Figure 2. Propeller Rotation Decals

The following drawing (Figure 3) shows correct engine location for obtaining "outboard" propeller rotation and "inboard" propeller rotation.

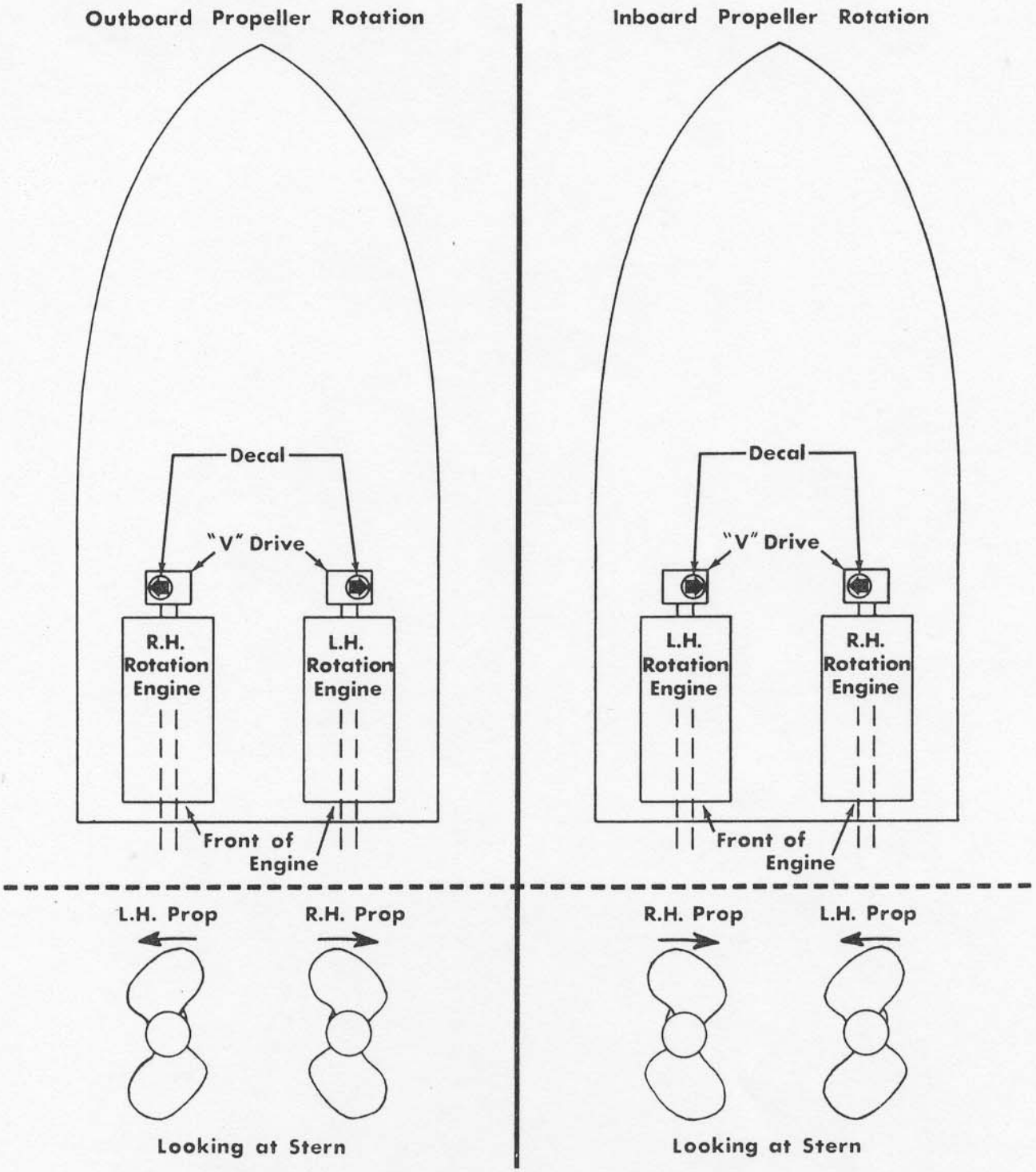

Figure 3. V-Drive Installation (Looking Down on Deck)