mercruiser STERN DRIVES & INBOARDS

service bulletin

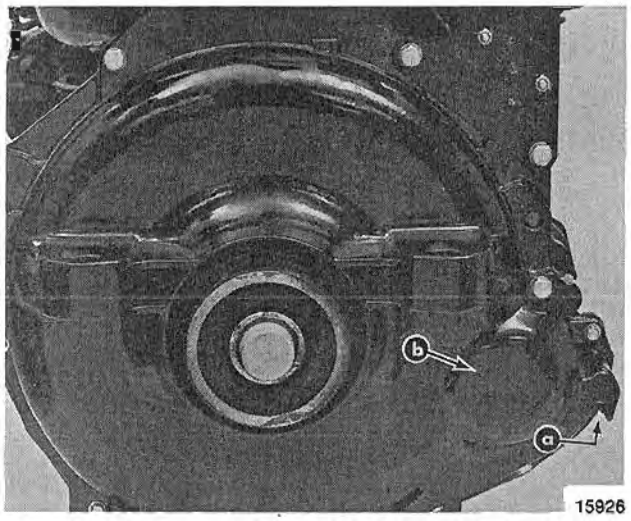
NUMBER: 83-17

A. Oil Leaks on MCM 120R/140R Engines
B. Transmission Fluid Venting Out of Tube - Borg-Warner Transmissions

CIRCULATE TO:
SERVICE MANAGER ☐
PARTS MANAGER ☐
MECHANICS ☐
"Place in a Service Bulletin Binder"

A. OIL LEAKS ON MCM 120R/140R ENGINES

We have received complaints about oil in the sealed flywheel housing on new MCM 120R/140R engines. When the engine is started, during the predelivery check, oil sprays out of the "water pump out vent". This vent is located on the starter motor side of the flywheel housing.



a - Water Pump Out Vent
b - Starter Motor

Figure 1. Flywheel Housing

This could be "normal" with the new, sealed flywheel housing under certain conditions. If the boat is shipped at an angle (bow high) from the O.E.M., oil may leak from the rear main crankshaft seal (Part No. 26-58203). This seal is not a static oil seal. The crankshaft has to be turning before the seal is "oil tight". This leaking oil, on 1982 and older engines, ran into the flywheel housing and then into the bilge of the boat. In the past, oil in the bilge was thought to have come from the power trim system during its installation, when in fact, it came from the rear main crankshaft seal. It is suggested that the engine be run until the oil stops spraying out of the vent hole. At that time, the oil can be wiped up. Do not confuse this type of oil leak with the following leaks.

Oil Pan Gasket (Part No. 27-52144):

This is the most common type of oil leak. The oil runs down the outside of the sealed flywheel housing when the engine is running. Usually the leak is on the starter motor side of the engine. Look for the pan gasket/seal being "squeezed" out (near the rear main bearing cap) from between the block and oil pan. This is caused by over-torquing the oil pan. In most cases, the seal that goes over the rear main cap, is split at the 5/16" bolt hole. In a few cases, the oil pan is "warped" because of the over-torquing. Use a straight edge on the gasket surface of the oil pan to determine if pan is warped. Replacement of necessary parts will correct the oil leak. Production is now checking all 120/140 engines for this problem. The starting serial numbers, of those checked, are as follows:

MCM 120R	**6318300 and above**
MCM 140R	**6319502 and above**

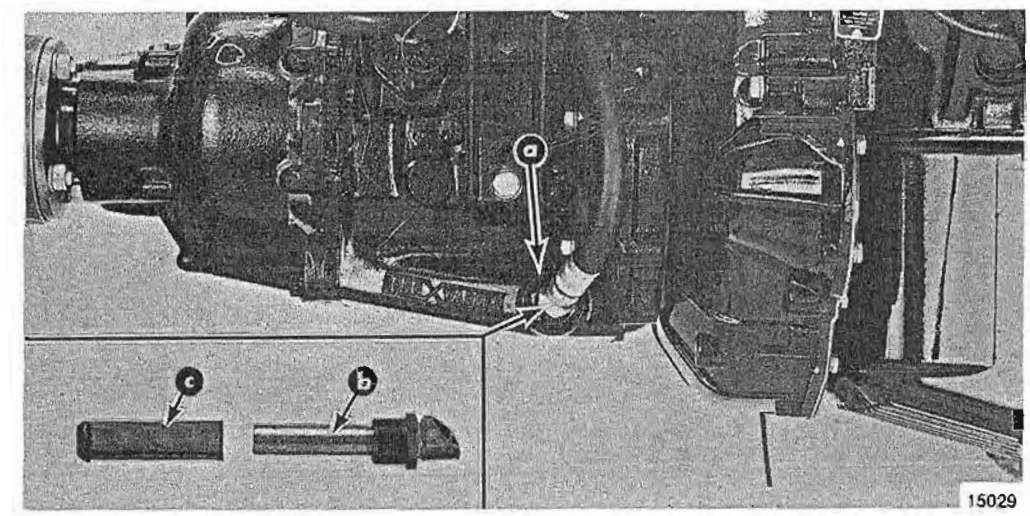
Crankshaft Rear Seal (Part No. 26-58203):

This type of oil leak will let oil run down the outside of the sealed flywheel housing while the engine is running. In some cases, there is a gap between the upper and lower seal halves allowing oil to leak out. Installing a new crankshaft seal corrects the problem.

B. TRANSMISSION FLUID VENTING OUT OF VENT TUBE - BORG-WARNER IN-LINE TRANSMISSIONS

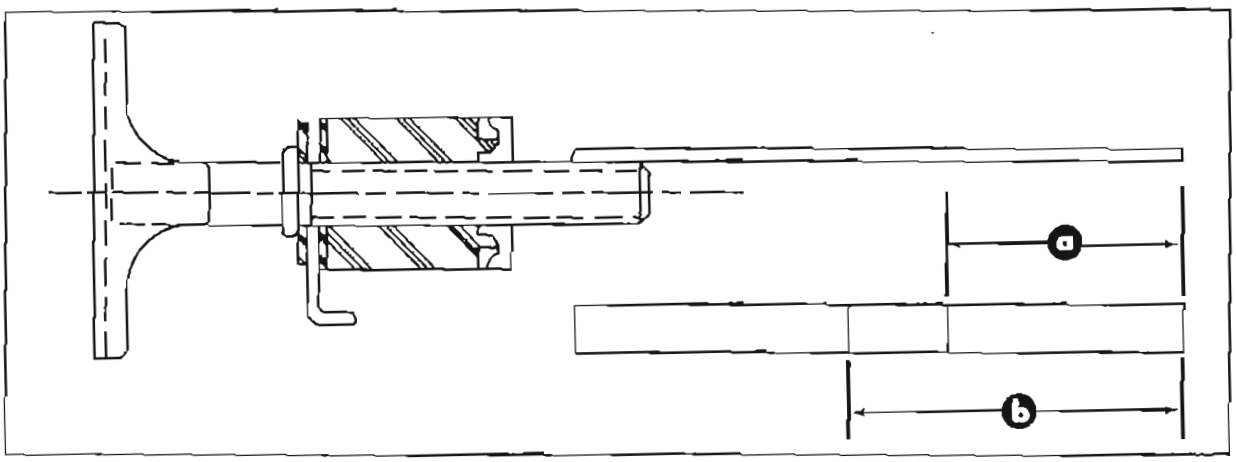
Under certain operating conditions such as, but not limited to; constant high RPM operation or high engine angle (while underway), can cause the transmission to vent fluid out of the vent tube. To help correct this condition, determine the model and gear ratio of the transmission that is having the venting problem. Refer to chart below and perform modifications as shown below.

Modification	Transmission Type and Ratio
A (Figure 2)	1:1 to 3.0:1 In-Line
B (Figure 3)	1:1 to 3.0:1 In-Line



a - Remove Cooler Return Hose Bushing from Transmission
b - Unscrew Charge Tube from Bushing and Discard Tube
c - Reinstall Strainer and Bushing and Refill Transmission

Figure 2. Removing Charge Tube



a - New Full Mark [Model 10-18 (All) and Model 10-17 (1.5:1 to 3.0:1 Only) 1-1/4"] or [Model 10-17 (1:1 Only) 1-1/8"]
b - Old Full Mark (1-3/4" from End)

Figure 3. Lower Fluid Level and Remark Transmission Dipstick