service bulletin

mercruiser

STERN DRIVES/INBOARD ENGINES

NUMBER: 80-6
DATE: 3/12/80

CIRCULATE TO:
SERVICE MANAGER
PARTS MANAGER
MECHANICS

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B. MCM 470 Heat Exchanger Mounting Bracket
C. Temperature Gauge Resistor B-82-88645A3 for MCM 470/485 and MIE 470 Engines
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A. MCM 470 CYLINDER HEAD GASKET

(Attach Bulletin Reference Sticker to P. 5D-4 of Your Service Manual.)

A new, "heavy-duty" cylinder head gasket (B-27-92166) with improved service life now can be ordered as a service replacement part for MCM 470 engines.

B-27-92166 Cylinder Head Gasket

B. MCM 470 HEAT EXCHANGER MOUNTING BRACKET

(Attach Bulletin Reference Sticker to P. 7D-38 of Your Service Manual.)

A new heat exchanger mounting bracket (B-86296A1) has been released for MCM 470 engines. It incorporates rubber vibration isolation mounts, which are designed to absorb engine vibration, and thereby improves heat exchanger life. The new mounting bracket assembly can be used to replace mounting bracket B-77226 on MCM 470 engines with Serial No. 4625580 and above.

The new style mount should be installed in applications in which recurring heat exchanger internal leaking problems have been experienced. In addition to the B-86296A1 mounting bracket assembly, 3 flat washers (C-12-27025) and 3 locknuts (C-11-49253) are required to replace the 3 lockwashers and 3 nuts used with the old style mounting bracket. Torque new nuts to 60 in. lbs. (69kg-cm).

B-86296A1 Heat Exchanger Mounting Bracket

C. TEMPERATURE GAUGE RESISTOR B-82-88645A3 for MCM 470/485 and MIE 470 ENGINES

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

MerCruiser 470/485 Stern Drive Engines and 470 Inboard Engines are equipped with 160°F thermostats. Normal cooling system operating temperature with this thermostat installed is approximately 160°F - 185°F.

Quicksilver Temperature Gauges are color-coded yellow, green and red. The division point between green and red represents 180°F. Because of this, and because of gauge and sender tolerances, the gauge sometimes will read slightly into the red, even though the engine is not overheating. To eliminate this condition, a Temperature Gauge Resistor (B-82-88645A3), which will adjust the reading back into the green zone, can be installed. The resistor attaches directly to the "Send" terminal on the gauge. Order from your Factory Branch or Distributor.

B-82-88645A3 Temperature Gauge Resistor 10 Ohm 1 Watt

D. ALTERNATOR ROTOR REMOVER

(Attach Bulletin Reference Sticker to P. 5D-1 of Your Service Manual.)

A new Alternator Rotor Remover (J-6978-E) is available for the MCM 470/485 and MIE 470 models from Kent-Moore Tools, Inc., 28635 Mound Road, Warren, Michigan 48089. The new

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tool replaces J-6978-04 and has a longer screw to permit removal of the alternator rotor without using a spacer between the screw and crankshaft.
The longer screw (J-22214-4) also is available separately and can be ordered to update tool J-6978-04. Order directly from Kent-Moore Tools, Inc.

J-6978-E Alternator Rotor Remover

E. MCM 470 POWER STEERING PUMP INSTALLATION

(Attach Bulletin Reference Sticker to P. 2A-9 of Your Service Manual.)

When installing Power Steering Kit B-76742A1 or B-76742A3 on MCM 470 Engines, BE SURE to torque the screws, which attach the pump mounting bracket to the cylinder head, to 25 ft. lbs. (3.4mkg). The torque also MUST BE rechecked after 20 hours of operation.

F. MERCRUISER INBOARD TRANSMISSION FLUID

(Attach Bulletin Reference Sticker to Section 9A Index Page of Your Service Manual.)

Inquiries have been received concerning the color of the transmission fluid in MIE transmissions. The transmission fluid appears green rather than the normal red shade of automatic transmission fluid. This is caused by dye that is added to the transmission fluid during final testing at the factory. The dye enables the tester to detect any transmission fluid leaks with the use of a "black light".
Transmission fluid recommendations have not changed. Use only Automatic Transmission Fluid Type A-Suffix A, Ford Type F or Dexron. (If one kind is already in the transmission, the same kind or one of the other two may be added.)

G. MIE 228/255/330 CYLINDER BLOCK REPLACEMENT

(Attach Bulletin Reference Sticker to P. 5C-1 of Your Service Manual.)

The subject blocks have been changed in the area of the remote oil filter adaptor. Prior to the change, the remote oil filter adaptor was secured to the block with one ½"-13 screw. New blocks are designed for remote oil filter adaptors which are secured with two 5/16"-18 screws. The remote oil filter adaptors are not interchangeable; therefore, when replacing an older style block with a later style block, Remote Oil Filter Adaptor Kit B-86029A1 also must be installed. The kit includes a new adaptor and all necessary attaching parts.
When replacing a cylinder block on a MIE 228/255/330 model, BE SURE to check the block to determine if the remote oil filter adaptor kit is required.

H. MERCRUISER CRANKCASE OIL RECOMMENDATIONS

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

A single-viscosity, petroleum-based oil, that meets A.P.I. (American Petroleum Institute) classification "SE", is recommended for use in all MerCruiser Engines. Viscosity should be selected from the following chart:

Prevailing Daytime Temperature During Which Oil Will Remain In Crankcase	Recommended Viscosity	Oil and Oil Filter Change Intervals
0°F (-18°C) to 32°F (0°C)	SAE 20W	50 Hours of Operation or 30 Days, Whichever Occurs First
32°F (0°C) to 90°F (32°C)	SAE 30	100 Hours of Operation or 60 Days, Whichever Occurs First
90°F (32°C) and Above	SAE 40	

Multi-viscosity oils (synthetic-based as well as petroleum-based) ARE NOT RECOMMENDED for use in MerCruiser Engines. Multi-viscosity oils are satisfactory for automotive engines which operate at lower continuous duty RPM settings than do marine engines. Under continuous duty high output operating conditions encountered in marine applications, a permanent loss of viscosity may result if multi-viscosity oils are used. This, of course, can lead to dangerously low oil pressure.

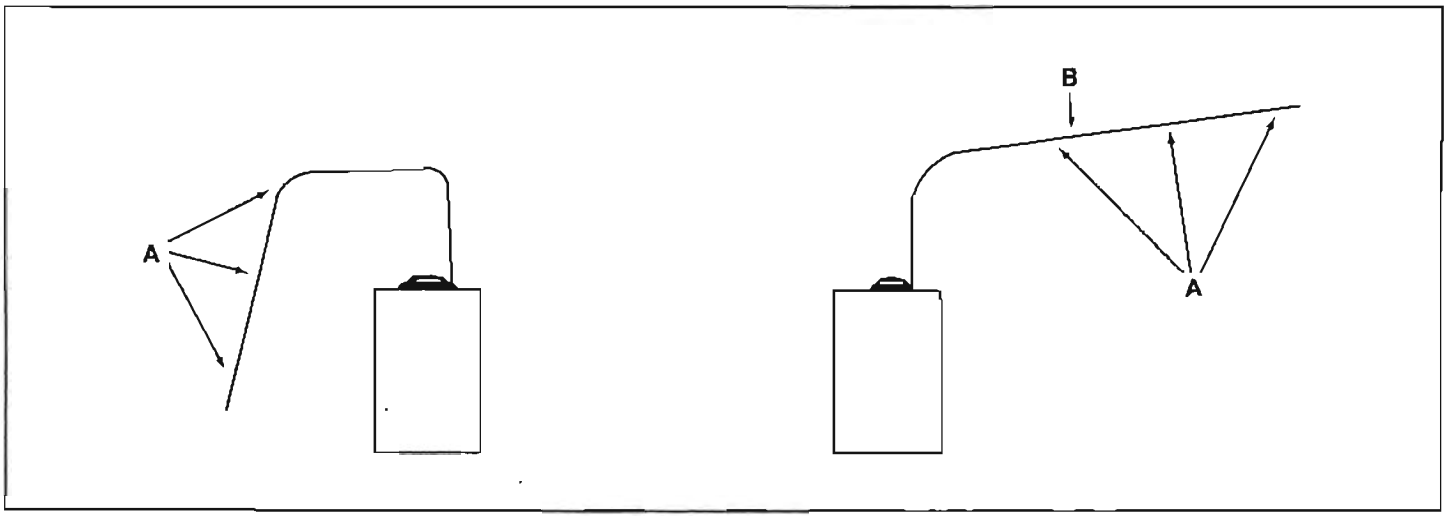
Oils, which contain "solid" additives, such as colloidal graphite and molybdenum disulfide, ARE NOT RECOMMENDED for MerCruiser Engines. When used in high RPM applications, such as marine engines, these "solid" additives can centrifuge out. This then can reduce or eliminate crankpin bearing radial clearance and can plug crankshaft oil passages.

Any failure, that is caused by the use of multi-viscosity oils or oils containing "solid" additives, will not be covered by MerCruiser warranty.

I. CONDENSER (B-392-6324) SHORTING PROBLEM

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

Condenser B-392-6324 (Figure 1) is used in Prestolite distributors on MCM 888, MCM 233 and MIE 233. The condenser has a copper strap with 3 mounting holes. When installing a replacement condenser, it is necessary to bend the strap in the opposite direction (180°) and to cut the strap off at the hole next to the condenser. (Figure 2) If this procedure is not followed, the copper strap will short out to the distributor housing.



a - Mounting Holes in Copper Strap
b - Location to Cut Off Copper Strap

Figure 1. Condenser

Figure 2. Strap Bent 180°