

NUMBER: 83-11

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

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A. VOLTAGE REGULATOR DAMAGE - MCM/MIE 470 and MCM 485/488

Excessive resistance in the Ammeter Circuit can cause Voltage Regulator damage on MerCruiser 470/485/488 engines. To prevent this possibility, engine wiring harnesses had the Ammeter Circuit eliminated. On these engines, a Voltmeter has to be used. The starting serial numbers for the engines equipped with the Voltmeter Circuit are listed below:

MIE 470	All had ammeter circuit
MCM 470	5847335 and above
MCM 484	5813434 and above
MCM 488	All engines

If recurring Voltage Regulator failures are experienced on engines equipped with an Ammeter Circuit, order Voltage Regulator Kit (99502A8). This kit contains the necessary parts and instruction sheet to convert to a Voltmeter Circuit. The Voltmeter gauge in the dash would have to be purchased separately.

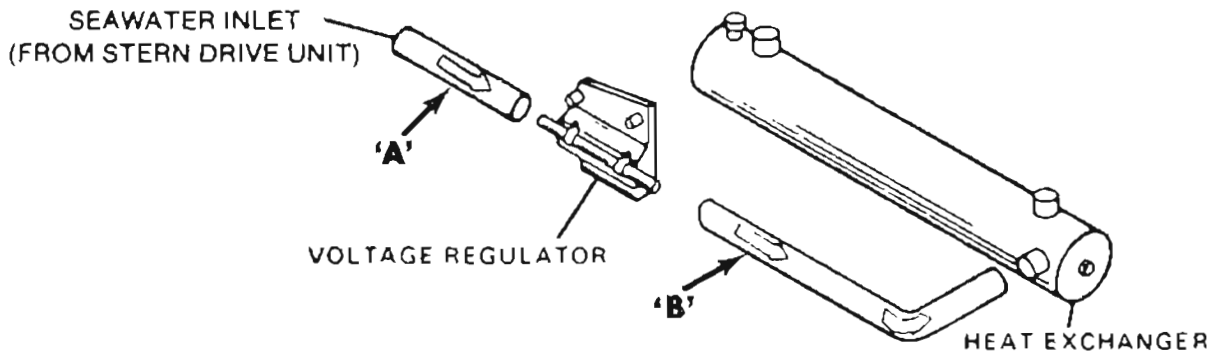
Voltage Regulator Kit 99502A8

B. PROCEDURE FOR FILLING CLOSED COOLING SYSTEM. (TO REMOVE TRAPPED AIR) - ALL MODELS

1. Make sure front of engine is slightly higher than rear of engine.
2. Fill closed cooling section with coolant until level remains at bottom of fill neck.
3. Leave fill cap off. Start engine and run at 1500-1800 RPM. Add coolant as necessary to keep level at fill neck.
4. Run engine at 1500-1800 RPM until engine is at operating temperature AND thermostat has opened.
5. Shut engine off. Add coolant until it is even with the filler neck. Fill coolant recovery bottle to approximately half full.
6. Install cap and water test at higher RPM.
7. Let engine cool down, remove cap and add coolant if necessary.

C. WATER COOLED VOLTAGE REGULATOR WATER HOSE REPLACEMENT - MCM/MIE 470, MCM 485/488

Voltage Regulators 86255A2 and A3 had a 5/8" dia. water tube. These two regulators supersede to 99502A8. The 99502A8 regulator has a 3/4" dia. water tube. This kit has the necessary water hoses to connect the 3/4" dia. regulator to the 5/8" dia. heat exchanger and gimbal housing water inlet tube. Chart below shows the replacement hose part numbers for the various heat exchanger/regulator/water inlet tube combinations.

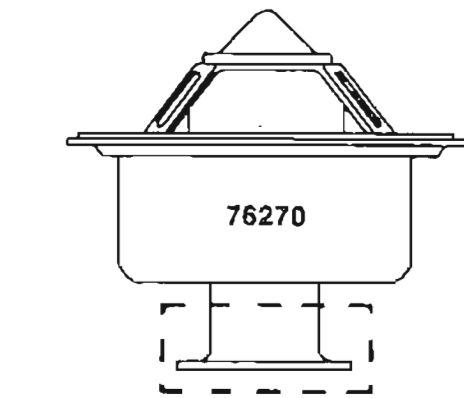


HOSE 'A'		
Water Inlet Tube O.D.	Regulator Tube O.D.	Hose Part Number
5/8" (15.9mm)	5/8" (15.9mm)	32-47642
5/8" (15.9mm)	3/4" (19mm)	32-99519

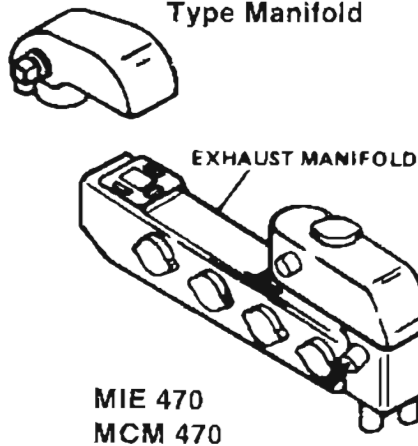
HOSE 'B'		
Regulator Tube O.D.	Heat Exchanger Tube O.D.	Hose Part Number
5/8" (15.9mm)	5/8" (15.9mm)	32-88132
5/8" (15.9mm)	3/4" (19mm)	32-41497
3/4" (19mm)	5/8" (15.9mm)	32-99521
3/4" (19mm)	3/4" (19mm)	32-99520

D. THERMOSTATS - MCM/MIE 470, MCM 485/488

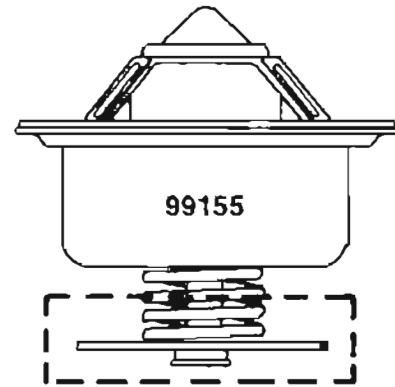
Because there is a difference in operation and design of the two thermostats offered, care must be taken when ordering replacement part. Refer to chart below for correct thermostat usage.



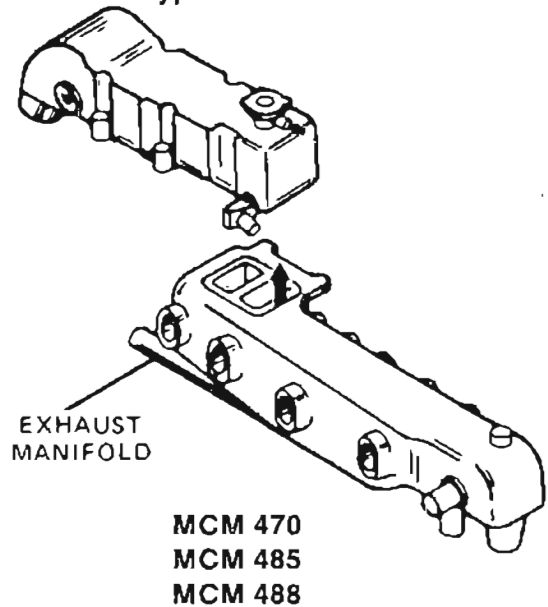
Use In This
Type Manifold



EXCEPTION: MCM 470 Models that have Heavy Duty Closed Cooling (4" dia. Heat Exchanger) Kit installed on engine. Thermostat housing (in kit) was machined to accept 99155 thermostat.



Use In This
Type Manifold



E. ELECTRICAL/IGNITION TROUBLESHOOTING - ALL MODELS

Many times, valuable man hours are wasted in troubleshooting an electrical/ignition problem only to find that a loose or corroded connection is at fault.

When servicing a MerCruiser, for any reason, make it a routine service practice to check ALL electrical connections (ignition components, charging system, battery terminals, power trim, etc.). Make certain that ALL connections are clean and tight and insulated with Quicksilver Liquid Neoprene (92-25711-1), where necessary.

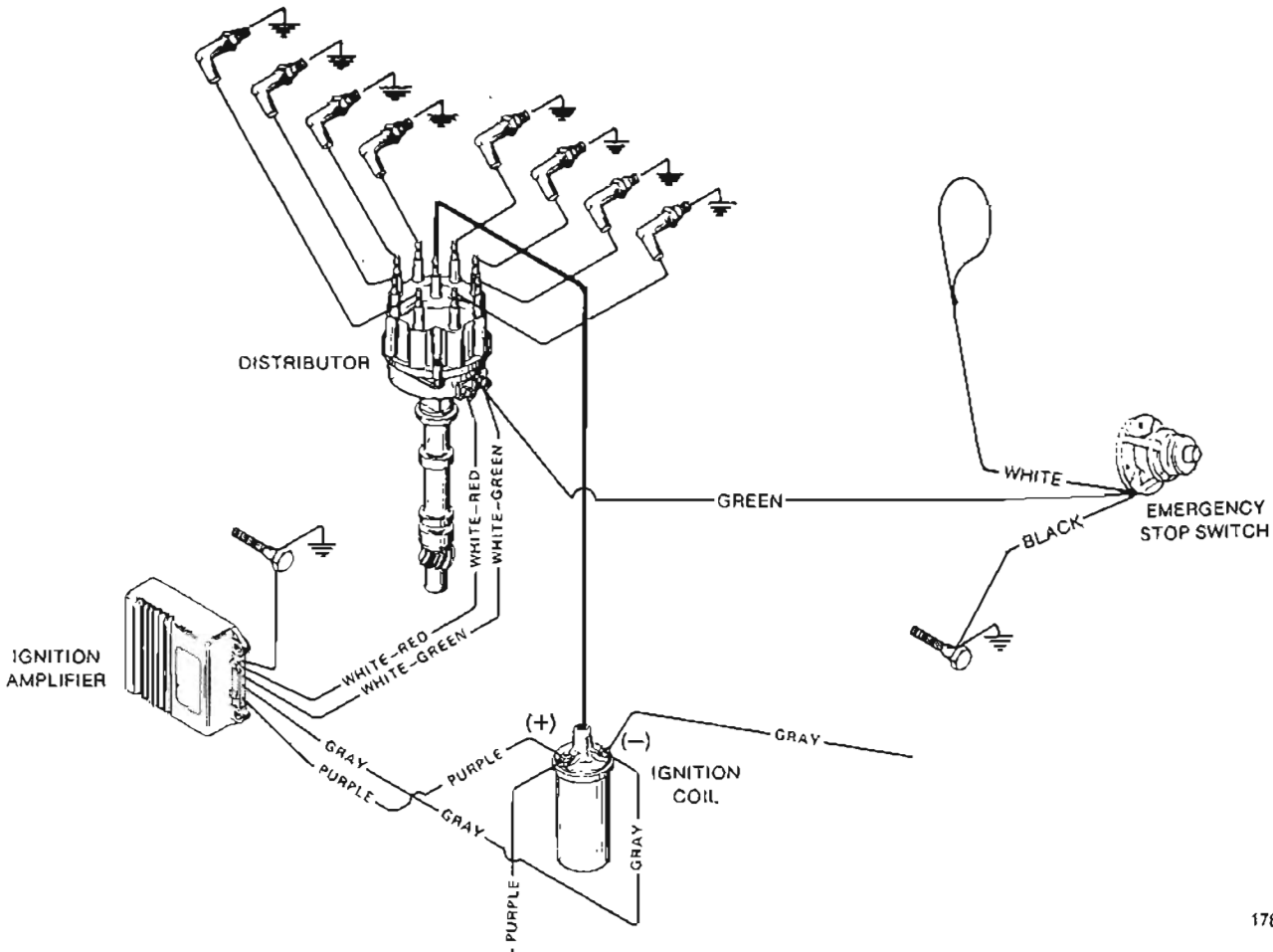
F. MAIN BEARING AND ROD BEARING CLEARANCE - MCM/MIE 470, MCM 485/488

Change specifications in MerCruiser Service Manual (90-71707), page 8B-1 and 8B-2 as follows:

Main Bearing Clearance	Production	.0009-.0031 (.0228-.0787mm)
	Service	.001-.003 (.0254-.0762mm)
Rod Bearing Clearance	Production	.0009-.0031 (.0228-.0787mm)
	Service	.001-.003 (.0254-.0762mm)

G. EMERGENCY STOP SWITCH (65503A2) WIRE CONNECTION - THUNDERBOLT IV (HEI) IGNITION SYSTEMS

1. Tape white stop switch harness lead to harness and insulate with at least two layers of electrical tape.
2. Connect green stop switch harness lead to distributor terminal which has white-green lead already connected to it.
3. Connect black stop switch harness lead to convenient engine ground.
4. Coat connections with Liquid Neoprene.



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