MERCURY MerCruiser service bulletin

No. 99-3

☐ WARRANTY INFORMATION ☑ SERVICE INFORMATION

▲ = Revised June 2000

MEFI-3 Diagnostic Trouble Codes and Audio Warning System

Models

MCM/MIE Sterndrive, Ski and Inboard EFI and MPI Models with MEFI-3.

MEFI-3 Diagnostic Trouble Codes (DTC)

The version 2.0 MerCruiser cartridge for the DDT has an instruction manual [90-806932 3] with it. On page 62 of this manual, an MEFI-3 Diagnostic Trouble Codes [99 GM ECM] chart is shown. MerCruiser does not use all the codes listed on that chart.

The six codes that MerCruiser does not use.

1. Code 13 Oxygen Sensor.
2. Code 24 Vessel Speed Sensor.
3. Code 31 Governor Not Tracking.
4. Code 32 EGR Valve
5. Code 54 Oxygen Sensor.
6. Code 55 Oxygen Sensor.

The following two codes are used only on the V8 454/502 cid MPI engines.

1. Code 41 EST/Bypass Failure Type 1.
2. Code 42 EST/Bypass Failure Type 2.

The following three codes are used only on V6 and 305/350 cid EFI and MPI engines.

1. Code 45 Coil Driver Fault.
2. Code 61 Fuel Pressure Sensor [High].
3. Code 62 Fuel Pressure Sensor [Low].

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MEFI-3 and Audio Warning

The MEFI-3 engine's Audio Warning system will sound the alarm differently and it has more items that will cause it to sound.

There is what is called a 'soft' and a 'hard' alarm.

1. Soft Alarm = Below 3000 rpm. Horn on for 1 second, off for 3 seconds, on for 1 second, off for 3 seconds, etc.
2. Hard Alarm = Above 3000 rpm. Horn sounds all the time.

Audio alarm sounds for the same malfunctions as MEFI-1 and -2;

1. ▲MCM - Low lube level in Gear Lube Bottle. [General 1] or MIE - High Transmission fluid temperature [General 2].
2. MCM/MIE - Low engine oil pressure.
3. MCM/MIE - Too high engine coolant temperature.

▲Early production and service ECMs had the following items that will sound the alarm;

1. MCM/MIE – Horn will sound if there is an active engine Diagnostic Trouble Code [DTC] that is occurring while the engine is running. The horn will not sound a stored DTC. Correcting the DTC malfunction will stop the horn.
2. MCM/MIE – Horn will sound if the battery voltage to the ECM is low, [less than 9v for at least 5 seconds]. Using the throttle lever to increase engine rpm to get the alternator to put out more voltage will correct most low voltage problems.
3. MCM/MIE – V6 and V8 305/350 cid engines only. Horn will sound if there is low fuel pressure [for at least 5 seconds]. These engines have a fuel pressure sensor. The EFI engines have the sensor in the throttle body unit and the MPI engines have the sensor located in the port fuel rail toward the rear of the engine. Correcting the cause of the low fuel pressure will stop the horn.

▲The ECM checksums listed below have these additional alarms turned ON in them.

NOTE: *Later production and service replacement ECMs have these extra alarms turned off. If the ECM checksum is different from the ones listed below, the extra alarms in that ECM is turned OFF.*

MCM 4.3L EFI: ECM never had these extra alarms turned on.

MCM 5.0L EFI: With D04B or D074 checksum.

MCM 5.7L EFI: With D7ED or D798 checksum.

MCM 350 MPI, MCM 350 MPI Horizon, MIE 350 MPI Ski, MIE 350 MPI Inboard or MIE 350 MPI Horizon Inboard: With E60D or EAED checksum.

MIE Black Scorpion: With BB98 or BB42 checksum.

MCM 7.4L MPI or MIE 7.4L MPI Inboard: With FE28.checksum.

MCM 454 MPI, MCM 454 MPI Horizon or MIE 454 MPI Horizon Inboard: With EBC4 checksum.

MCM 502 MPI or MIE 8.2L MPI Inboard: With F02D checksum.

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