

Detonation Sensor and Module – 1993 200 Magnum EFI/XRi

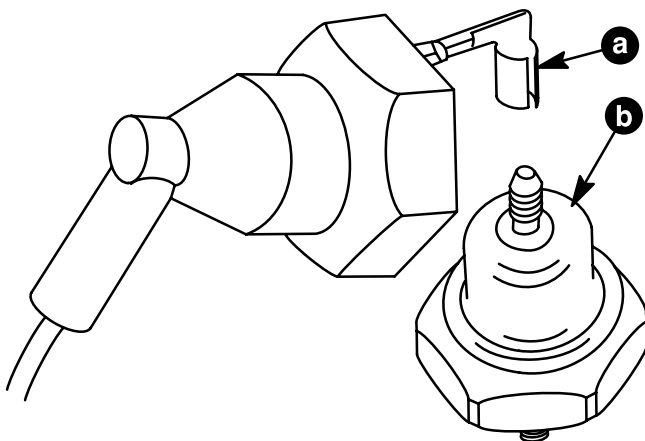
1993 Mariner 200 Magnum EFI
1993 Mercury 200 XRi
S/N 0D239648 thru 0D270353

Mariner and Mercury
200 and 220 EFI Models
S/N 0D239647 and below
with Replacement Gray Detonation Sensor Installed.

Models listed require installation of an improved detonation module p/n 14856A11 (stamped 14856A10). Beginning with serial number 0D239648 a detonation sensor with a gray dome was installed on 200 Magnum EFI and XRi models. The previous detonation sensor with a black dome is no longer available. We have found that some outboards with the new gray sensor and the 14856A5 or the A8 detonation module may be operating in the “detonation” mode at engine speeds above 5500 RPM. The result of operating in this false detonation mode is a varying degree of reduced performance and possible high fuel consumption.

The improved detonation module eliminates the false “detonation” signal and is compatible with either the previous black or the new gray detonation sensor.

Outboards listed beginning with s/n 0D270354 and above have the new detonation module installed.



28176

a - Push-on Wire Terminal.
b - Dome.

Figure 1. Detonation Sensor

SYMPTOM:

In the detonation mode, first the timing is retarded and then the fuel system delivers more fuel to the engine. The amount the timing is retarded and the amount of extra fuel delivered depends upon how much “detonation” is sensed.

Operation in the detonation mode can be verified by:

- ignition timing retarding 2 to 8 degrees at wide open throttle.
- measuring more than 1 volt DC at the Gray/White wire between the detonation module and the ECU.

FACTORY REWORK:

Outboards with serial numbers 0D239648 thru 0D270353 that were in Mercury Marine’s possession were corrected. The new detonation module was installed and an orange dot was placed next to the serial number on the outside of the shipping carton.

OWNER NOTIFICATION (US AND CANADA):

A combination letter/warranty claim will be sent to every registered owner of a 1993 Mariner 200 Magnum EFI and Mercury 200 XRi model with serial numbers 0D239648 thru 0D270353. The letter will advise the owner to return the outboard to the selling dealer or an authorized dealer for warranty replacement of the detonation module. A copy of the letter is printed on the last page of this service bulletin.

CORRECTION:

On models listed, remove the detonation module stamped 14856A5 or 14856A8 and install a service replacement detonation module p/n 14856A11 (stamped 14856A10).

Previous	New
Black Sensor	Gray Sensor
P/N 13192	P/N 825164
Use Detonation Module	Use Detonation Module
P/N 14856A3 (stamped 14856A5 or 14856A8)	P/N 14856A11 (stamped 14856A10)
or	
P/N 14856A11 (stamped 14856A10)	

PARTS SUPERSESSION:

Detonation Sensor The previous detonation sensor p/n 13192 is not available from our supplier and is superseded to p/n 825164A-1 detonation sensor kit.

—Supersedes to—>	
P/N 13192 Black Detonation Sensor	P/N 825164A-1 Detonation Sensor Kit

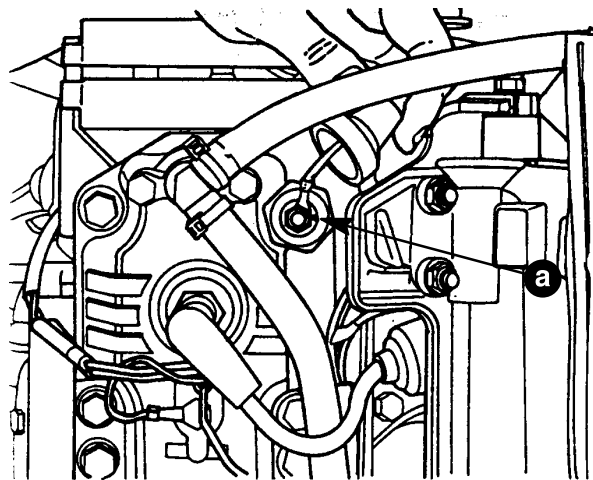
825164A1 Detonation Sensor Kit consists of:

Qty. 1 p/n 825164 Gray Detonation Sensor.

Qty. 1 p/n 14856A11 Detonation Module (stamped 14856A10).

The detonation sensor requires:

- careful handling. The sensing element is fragile. A hard blow or dropping on a hard surface can destroy the sensing element.
- a proper torque when installing it in the cylinder head bolt. Sensor torque is 144 in. lb. (16.2 N-m). Over torque can destroy the sensing element.
- a secure wire connection to sensor terminal. The push-on split wire connector (Figure 1) may spread open when removing the connector from the sensor. It may be necessary to squeeze the split end of the connector to ensure a secure connection.

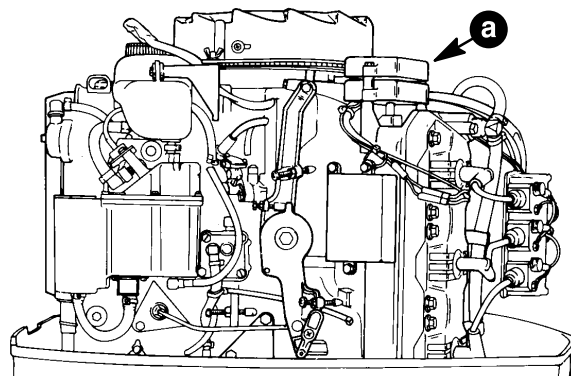


a - Detonation Sensor.

Figure 2. Detonation Sensor Location

Detonation Module The previous detonation module service replacement p/n 14856A3 supersedes to p/n 14856A11.

—Supersedes to—>	
P/N 14856A-3 Detonation Module Stamped 14856A5 or 14856A8	P/N 14856A11 Detonation Module Stamped 14856A10



a - Detonation Module.

Figure 3. Detonation Module Location

WARRANTY:

Complete a warranty claim listing:

Qty.1 p/n 14856A11 Detonation Module.

Three tenths (0.3) hour labor.

Warranty Labor Rate Code OI11

Failure Code 737 40

US & Canada – return detonation module with claim.

International – Hold the detonation module for inspection/disposal by a Marine Power International technical representative.

April, 1993

Dear Customer:

Our records indicate that you are the owner of an outboard motor that requires replacement of an electronic detonation module. The improved detonation module will eliminate the potential for reduced performance at high engine speeds.

WHAT YOU SHOULD DO

Contact your authorized dealer, preferably the one who sold you the engine. Make an appointment to have the detonation module replaced. If necessary you may make reference to Service Bulletin 93-12. Then, deliver your boat and this letter to your dealer at the appointed time. The reverse side of this letter is a pre-printed warranty claim form that the dealer needs to send to us for reimbursement.

WHAT WE WILL DO

We will reimburse the dealer for replacing the detonation module. You will not be charged for either the part or labor.

We apologize for inconveniencing you. We are notifying you so your boating will be an enjoyable experience. Please take care of this matter as soon as possible.

Sincerely,
Mercury Marine

Bob Kachelek

Bob Kachelek
Director, Outboard Service