



merCruiser
SERVICE
MANUAL

Number 13

MARINE ENGINES

GM 4 Cylinder

Notice

Throughout this publication, “Dangers,” “Warnings” and “Cautions” are used to alert the mechanic to special instructions concerning a particular service or operation that may be hazardous if performed incorrectly or carelessly. Observe them carefully!

These “Safety Alerts” alone cannot eliminate the hazards that they signal. Strict compliance to these special instructions when performing the service, plus “common sense” operation, are major accident prevention measures.

DANGER

DANGER - Immediate hazards which will result in severe personal injury or death.

WARNING

WARNING - Hazards or unsafe practices which could result in severe personal injury or death.

CAUTION

CAUTION - Hazards or unsafe practices which could result in minor personal injury or product or property damage.

Notice to Users of This Manual

This service manual has been written and published by the service department of Mercury Marine to aid our dealers, mechanics and company service personnel when servicing the products described herein.

It is assumed that these personnel are familiar with the servicing procedures of these products, of like or similar products manufactured and marketed by Mercury Marine, and that they have been trained in the recommended servicing procedures for these products which include the use of mechanic's common hand tools and the special Mercury Marine or recommended tools from other suppliers.

We could not possibly know of and advise the service trade of all conceivable procedures by which a service might be performed and of the possible hazards and/or results of each method. We have not undertaken any such wide evaluation. Therefore, anyone who uses a service procedure and/or tool, which is not recommended by the manufacturer, first must completely satisfy himself that neither his nor the product's safety will be endangered by the service procedure selected.

All information, illustrations and specifications contained in this manual are based on the latest product information available at time of publication.

It should be kept in mind, while working on the product, that the electrical system and ignition system are capable of violent and damaging short circuits or severe electrical shocks. When performing any work where electrical terminals could possibly be grounded or touched by the mechanic, the battery cables should be disconnected at the battery.

Any time the intake or exhaust openings are exposed during service they should be covered to protect against accidental entrance of foreign material which could enter the cylinders and cause extensive internal damage when the engine is started.

It is important to note that, during any maintenance procedure, replacement fasteners must have the same measurements and strength as those removed, whether metric or customary. Numbers on the heads of the metric bolts and on surfaces of metric nuts indicate their strength. Customary bolts use radial lines for this purpose, while most customary nuts do not have strength markings. Mismatched or incorrect fasteners can result in damage or malfunction, or possible personal injury. Therefore, fasteners removed should be saved for re-use in the same locations whenever possible. Where the fasteners are not satisfactory for re-use, care should be taken to select a replacement that meets the same specifications as the original.

Engine Mechanical Components

Many of the engine mechanical components are designed for marine applications. Unlike automotive engines, marine engines are subjected to extended periods of heavy load and wide-open-throttle operation and, therefore, require heavy-duty components. Special marine engine parts have design and manufacturing specifications which are required to provide long life and dependable performance. Marine engine parts also must be able to resist the corrosive action of salt or brackish water that will rust or corrode standard automotive parts within a short period of time.

Failure to use recommended Quicksilver service replacement parts can result in poor engine performance and/or durability, rapid corrosion of parts subjected to salt water and possibly complete failure of the engine.

Use of parts other than recommended service replacement parts, will void the warranty on those parts which are damaged as a result of the use of other than recommended replacement parts.

Replacement Parts

⚠ WARNING

Electrical, ignition and fuel system components on MerCruiser Engines and Stern Drives are designed and manufactured to comply with U.S. Coast Guard Rules and Regulations to minimize risks of fire or explosion.

Use of replacement electrical, ignition or fuel system components, which do not comply to these rules and regulations, could result in a fire or explosion hazard and should be avoided.

When servicing the electrical, ignition and fuel systems, it is extremely important that all components are properly installed and tightened. If not, any electrical or ignition component opening would permit sparks to ignite fuel vapors from fuel system leaks, if they existed.

Models Covered In This Manual

MODEL	SERIAL NUMBER
MCM 3.0L	OC856451 And Above
MCM 3.0L /3.0LX	OC868143 And Above

IMPORTANT: Refer To "Engine Identification", Page 3A-7

NOTICE
Refer To Appropriate Stern Drive Manual for
transom assembly and stern drive unit repair.

Service Manual Outline

SECTION 1 - Important Information

A - General Information

B - Maintenance

C - Troubleshooting

SECTION 2 - Removal and Installation

A - 4 Cylinder 3.0L / 3.0 LX (181 C.I.D.)

SECTION 3 - Engine

A - G.M. In-Line

SECTION 4 - Electrical Systems

A - Starting System

B - Ignition System

C - Charging System

D - Instrumentation

E - Wiring Diagrams

SECTION 5 - Fuel System

A -Fuel Pump

B - MerCarb 2-Barrel

SECTION 6 - Cooling and Exhaust

A - Seawater Cooled Models

B - Closed Cooled Models

C - Exhaust Manifolds / Elbows

SECTION 7 - Power Steering

A - Power Steering