
Service Manual Outline

SECTION 1 - Important Information

- A - General Information
- B - Maintenance
- C - Troubleshooting

SECTION 2 - Removal and Installation

- A - MCM (Sterndrive) Models

SECTION 3 - Engine

- A - D1.7L DTI Engine Mechanical

SECTION 4 - Electrical System

- A - Starting System
- B - Charging System
- C - Glow Plug System
- D - Instrumentation
- E - Wiring Diagrams

SECTION 5 - Fuel System

- A - Fuel Filter
- B - Fuel Injectors
- C - Injection Pump

SECTION 6 - Cooling System

- A - Closed Cooling

SECTION 7 - Intake and Exhaust System

- A - Intercooler
- B - Exhaust
- C - Turbocharger

SECTION 8

- A - Power Steering System

Important
Information

1

Removal and
Installation

2

Engine

3

Electrical System

4

Fuel System

5

Cooling System

6


Intake and Exhaust
System

7

Power Steering
System

8

Notice

Throughout this publication, Dangers, Warnings and Cautions (accompanied by the International HAZARD Symbol ) 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

Immediate hazards which WILL result in severe personal injury or death.

WARNING

Hazards or unsafe practices which COULD result in severe personal injury or death.

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 Mercury Marine to aid our dealers, mechanics and company service personnel when servicing the products described herein. We assume that these personnel have been trained in and are familiar with the recommended servicing procedures of these products or like or similar products manufactured and marketed by Mercury Marine. Training includes the use of mechanic's common hand tools and the special marine tools.

We could not possibly know of and advise the service trade of all conceivable service procedures 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 be completely satisfied that neither their own nor the product's safety will be endangered.

The electrical system is 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 they should be covered to prevent foreign material from entering the cylinders and damaging the engine.

Replacement fasteners must have the same measurements and strength as those removed. 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, 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.

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

We reserve the right to make changes to this manual without prior notification.

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 that 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.

Replacement Parts

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.

WARNING

Electrical and fuel system components on Mercury MerCruiser Engines and Sterndrives 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 or fuel system components that do not comply to these rules and regulations could result in a fire or explosion hazard and should be avoided.

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

Models Covered in This Manual

MCM Model	Serial Number
D1.7L DTI	OM055001 and Above

NOTICE

Refer to appropriate Sterndrive Service Manual for transom assembly and sterndrive unit repair.

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IMPORTANT INFORMATION

Section 1A - General Information



Table of Contents

Introduction	1A-3	Operation / Duty Cycle	1A-5
How to Use This Manual	1A-3	Engine Break-In	1A-5
Engine Serial Number Locations	1A-4		

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Introduction

This comprehensive overhaul and repair manual is designed as a service guide for the models previously listed. It provides specific information, including procedures for disassembly, inspection, assembly and adjustment to enable dealers and service mechanics to repair and tune these engines.

Before attempting repairs or tune-up, it is suggested that the procedure first be read through to gain knowledge of the methods and tools used and the cautions and warnings required for safety.

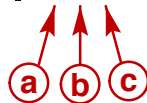
How to Use This Manual

This manual is divided into sections which represent major components and systems. Some sections are further divided into parts which more fully describe the component. Sections and section parts are listed on the Service Manual Outline page following the Models Covered in This Manual, page iv.

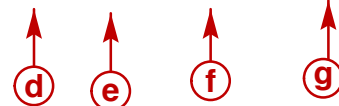
Page Numbering

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Page 1A-2

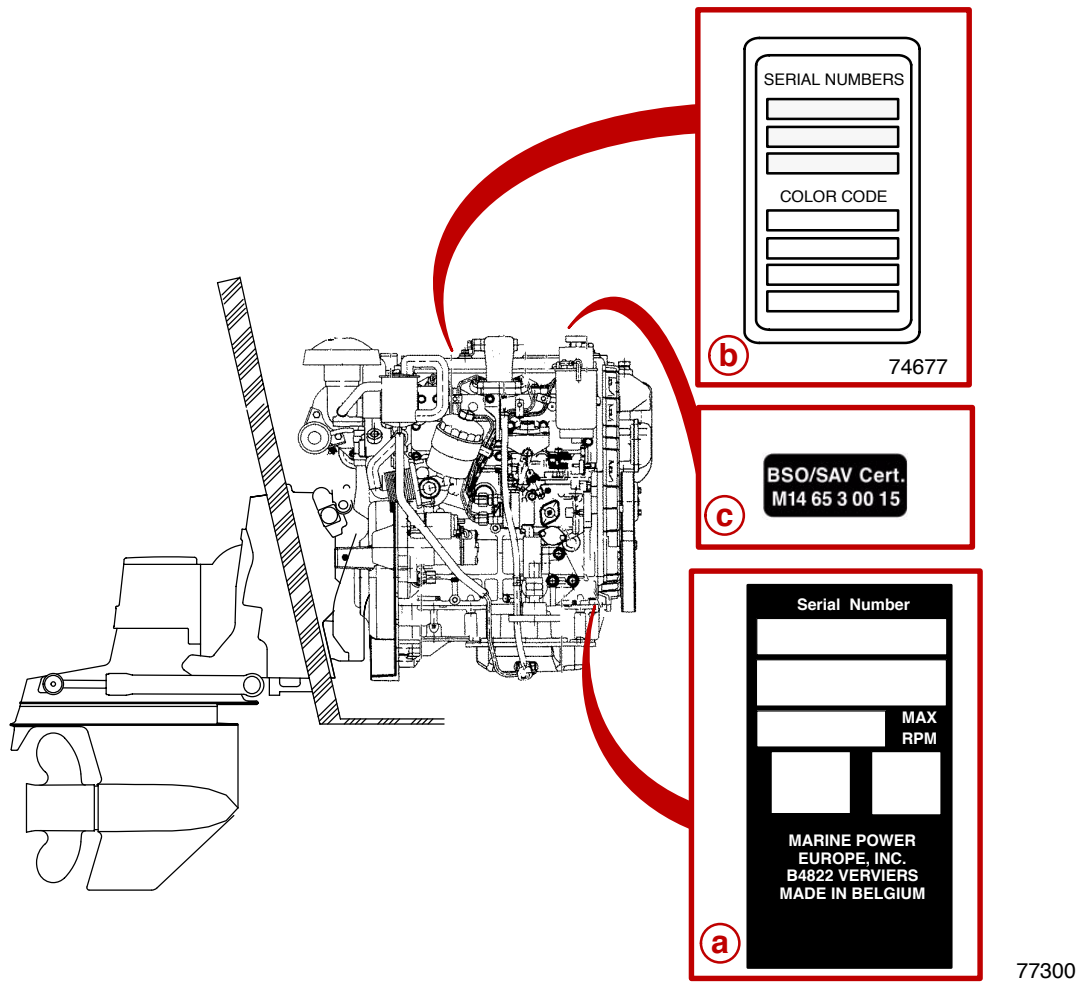


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- a** - Section Number
- b** - Section Part
- c** - Page Number
- d** - Manual Number
- e** - Revision Number 4
- f** - Month Printed
- g** - Year Printed

Engine Serial Number / Decal Locations



Sterndrive (MCM)

- a** - Serial Number Plate
- b** - Serialized Decal
- c** - Emission Certificate Decal

Operation / Duty Cycle

It is the operator's responsibility to operate within the following specified operational capability, or duty cycle, as applicable to engine and installation:

Pleasure Duty Rating / Duty Cycle - D1.7L DTI	
Specified Operating RPM Range	4000 - 4400
Wide Open Throttle (WOT) Operation	Limited to short periods of time.

NOTE: *Pleasure Duty Rating applies to recreational planing craft used exclusively for pleasure and recreation.*

IMPORTANT: **Damage caused by improper application or failure to operate within the operational capability, or duty cycle, will not be covered by the Mercury MerCruiser Diesel Limited Warranty.**

Engine Break-In

Initial Break-In Procedure

The following procedure must be used on new and rebuilt diesel engines. This break-in procedure allows the proper seating of the pistons and rings, which greatly reduces the likelihood of problems.

IMPORTANT: **It is recommended that the boat be accelerated gradually until this procedure has been completed.**

IMPORTANT: **Never operate the starter motor longer than 15 seconds at a time to avoid overheating the starter motor. If engine does not start, wait 1 minute to allow the starter motor to cool, then repeat starting procedure.**

1. Refer to the appropriate Mercury MerCruiser Operation, Maintenance and Warranty Manual - Starting, Shifting and Stopping section, and start engine. Allow engine to idle until it has reached normal operating temperature.
2. Run engine in gear for 3 minutes at each of the following: 1400 rpm, 2800 rpm and 3500 rpm.
3. Run engine in gear for 3 minutes at each of the following: 1700 rpm, 3500 rpm and 4000 rpm.
4. Run engine in gear for 3 minutes at each of the following: 2100 rpm, 3500 rpm and WOT.

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