YANMAR

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SERIVICE MANUAL

MARINE DIESEL ENGINE

GM Series

1GM(10L)
2GM(F)(L)
3GM(D)(F)(L)
3HM(F)(L)

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YANMAR
SERVICE MANUAL
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MODELS

1GM (10L)
2GM (F)(L)
3GM (D)(F)(L)
3HM (F)(L)

FOREWORD

This service manual has been compiled for engineers engaged in sales, service, inspection and maintenance. Accordingly, descriptions of the construction and functions of the engine are emphasized in this manual while items which should already be common knowledge are omitted.

One characteristic of a marine diesel engine is that its performance in a vessel is governed by its applicability to the vessel's hull construction and its steering system.

Engine installation, fitting out and propeller selection have a substantial effect on the performance of the engine and the vessel. Moreover, when the engine runs unevenly or when trouble occurs, it is essential to check a wide range of operating conditions—such as installation on the hull and suitability of the ship's piping and propelier—and not just the engine itself. To get maximum performance from this engine, you should completely understand its functions, construction and capabilities, as well as proper use and servicing.

Use this manual as a handy reference in daily inspection and maintenance, and as a text for engineering guidance.

Models 1GM·2GM(F)·3GM(D)(F)·3HM(F)

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A. Engine Model (3GM, 3GMD)

The difference between the engine models 3GM and 3GMD is that a different model of marine gear box is fitted to the same engine body, namely, KBW10-D to 3GM and KM3-A to 3GMD.

Therefore, the items described as 3GM(D) in this service manual are identical for both 3GM and 3GMD engines.
When the items are separately described as 3GM as 3GMD, the description applies specifically to either 3GM or 3GMD.

B. Engine Model Name Plate and Clutch Model Name Plate

To every engine model described in this manual, an engine model name plate and clutch model name plate are fitted as shown in the following figures. In addition, the engine serial number is stamped on the cylinder body.
Specifications of engine and clutch to be shipped are recorded and filed using the numbers marked on the engine model name plate and clutch model name plate.

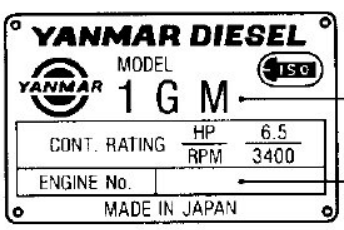
The specifications or components of the engine or clutch may be partially altered to improve performance, and the components involved may not necessarily be interchangeable.
Therefore, when parts are ordered, please furnish the item description in the blank spaces shown in the figures, using the descriptions given on these plates.

B-1 Item descriptions on the model name plates and information to be forwarded to us

[Item descriptions on Model name plates]

[Information to be forwarded to us]

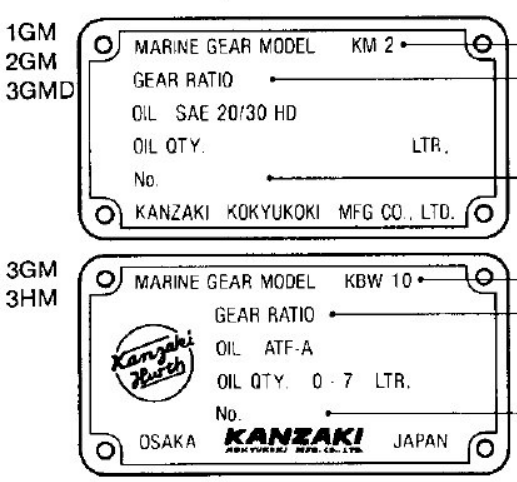
Engine model name plate



Your engine model

Your engine number

Clutch model name plate



Your clutch model

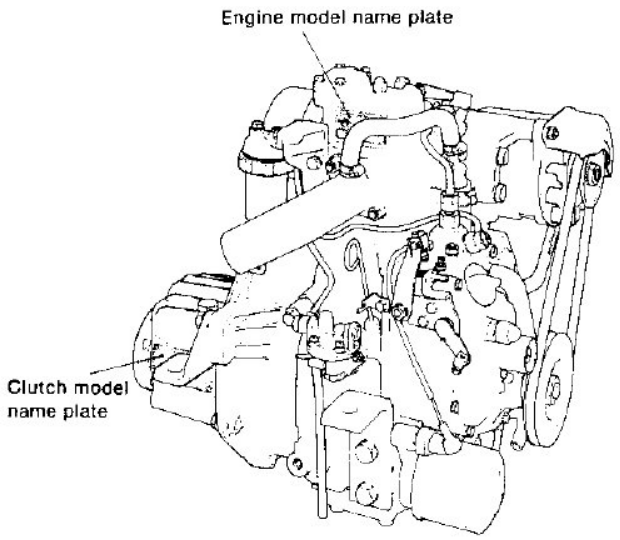
Your clutch gear ratio

Your clutch number

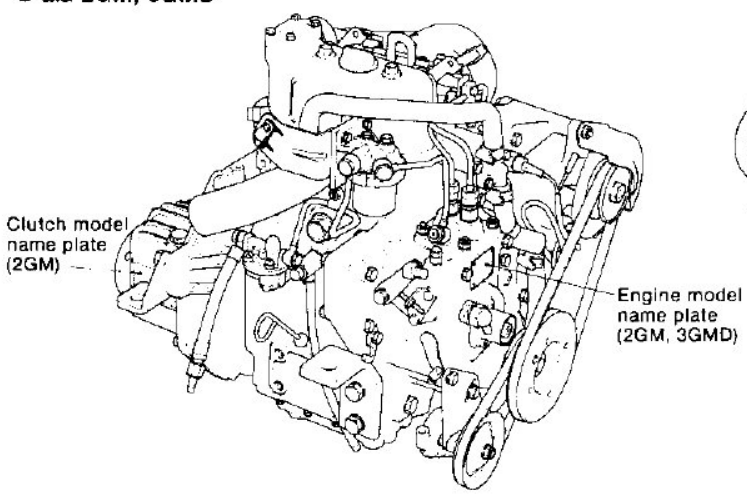
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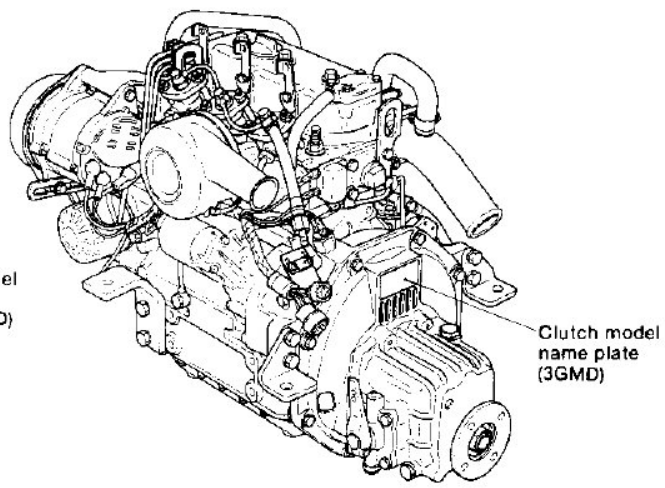
B-2 Location of engine model name plate and clutch model name plate

B-2.1 1GM

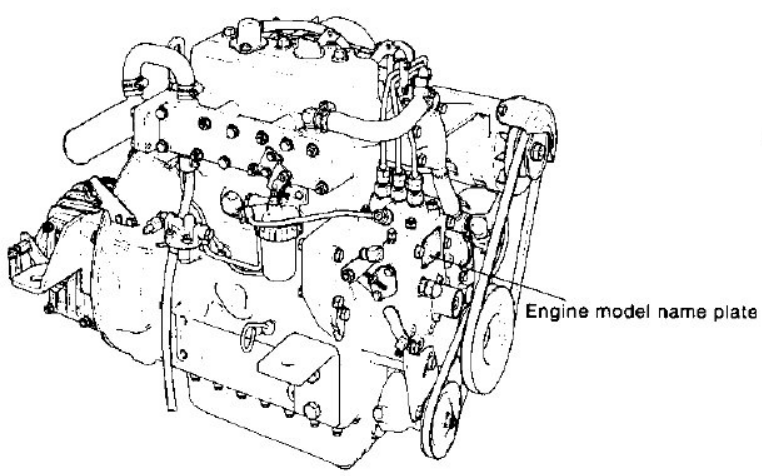


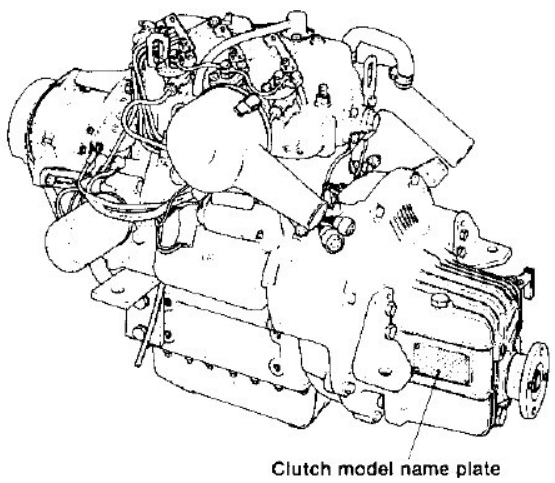
B-2.2 2GM, 3GMD





B-2.3 3GM, 3HM

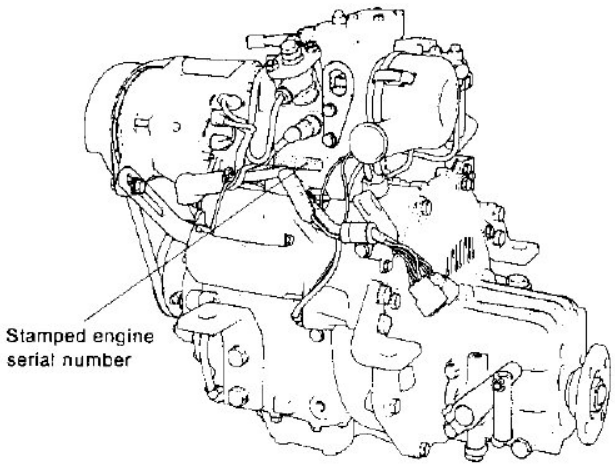




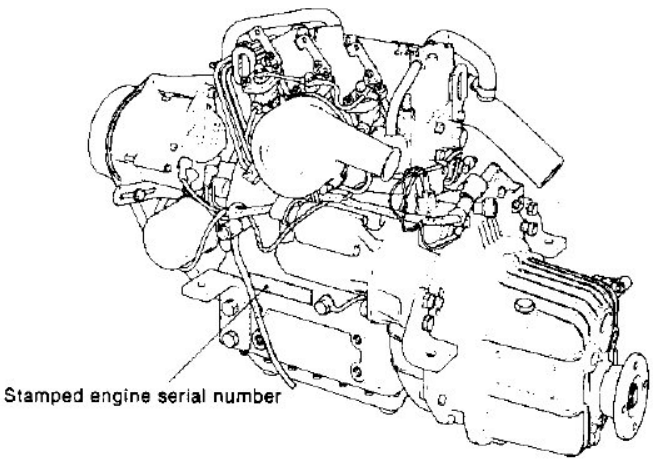
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B·3 Location of stamped engine serial number

B·3.1 1GM

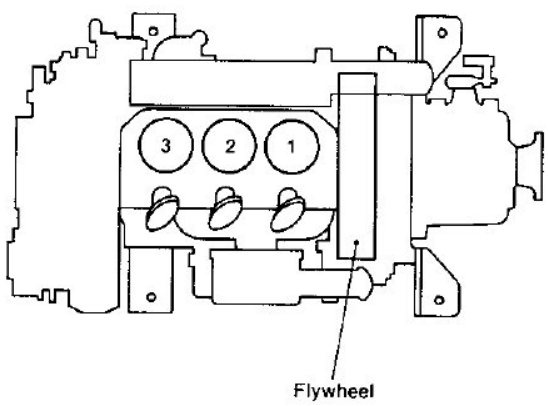


B·3.2 2GM, 3GM(D), 3HM



C. Cylinder Number

The cylinder numbers of the 2 cylinder engine (2GM) and 3 cylinder engine (3GMD, 3GM, 3HM) described in this manual are designated as follows.



(1) The sequence of cylinder numbers is given as No. 1, No. 2 and No. 3 starting from the flywheel side.
(2) These cylinder numbers are consistently used for devices and parts connected with the cylinder head and valve moving mechanism. However, please note that items related to the fuel injection pump do not correspond to the numbering of the cylinders.

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CHAPTER 1

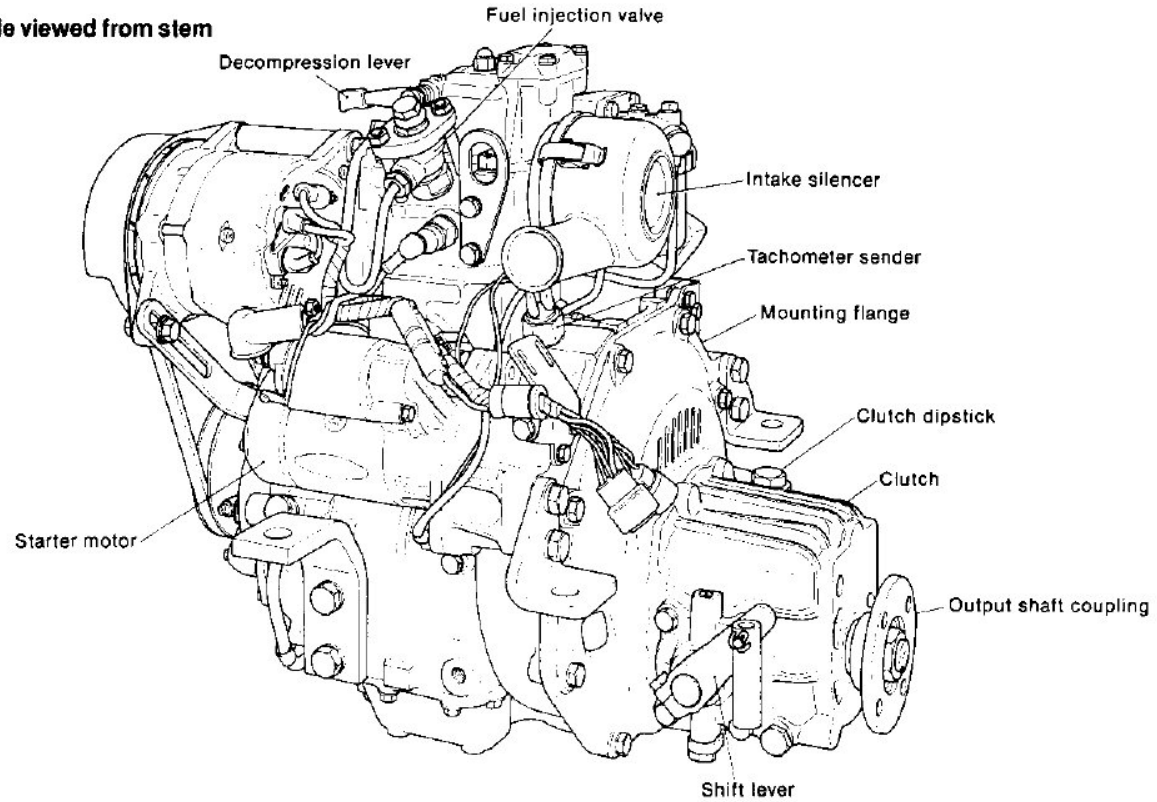
GENERAL

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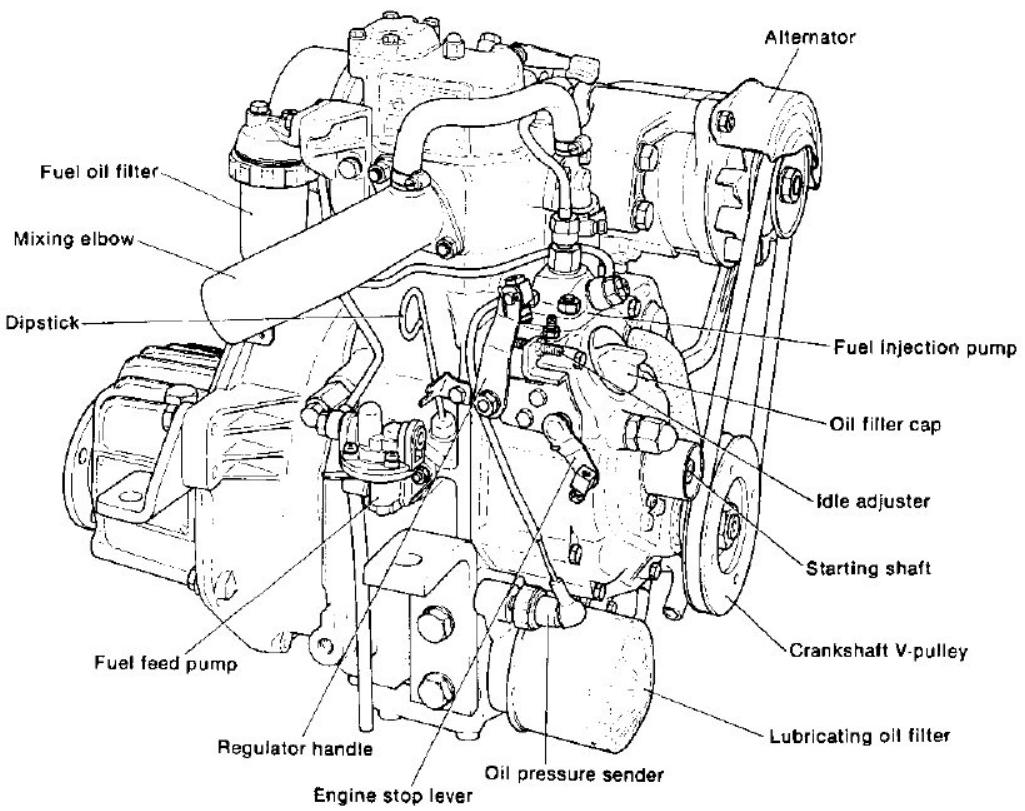
1. Exterior Views

1-1 1GM

1-1.1 Intake side viewed from stem



1-1.2 Exhaust side viewed from bow



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