6. Bilge Strainer

6-1 Construction

Water collected in the bilge is sucked up and discharged to the outside of the vessel by the bilge pump. The bilge strainer serves to filter slagged oil, iron particles and other dirt mixed in the bilge. If the bilge strainer becomes clogged, the bilge pump will operate dry, reducing the durability of the impeller.

6-2 Inspection

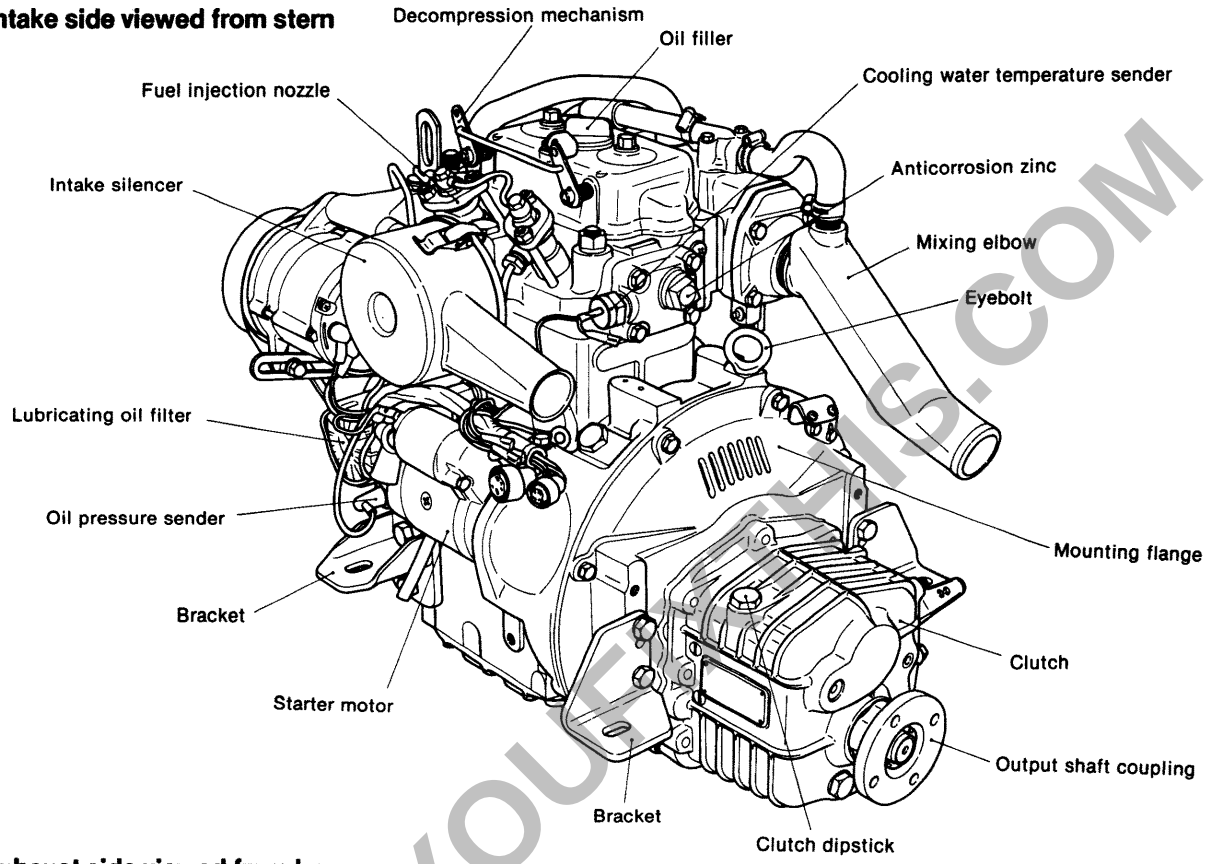
Since the bilge strainer moves around the bilge and frequently becomes clogged with dirt and other foreign matter, periodically pull it from the bilge and wash it with clean water.

PREVIEW - YOUFIXTHIS.COM

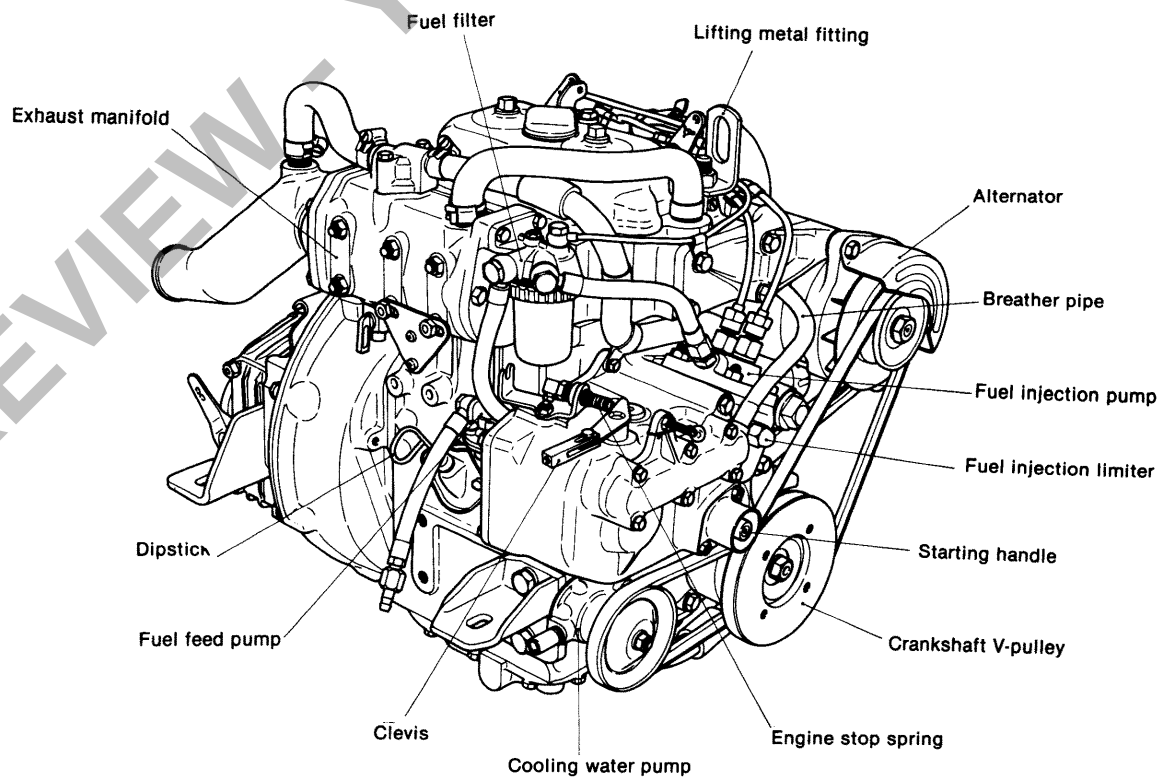
Download full manual at youfixthis.com

1. Exterior Views

1-1 Intake side viewed from stern



1-2 Exhaust side viewed from bow



Printed in Japan
2F015A

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

8. System Diagrams

8-1 Cooling system



Blurred on purpose. The manual you buy has this page in full quality.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

2. Specifications

Model		2QM15	2QM15G
Type		Vertical 4-cycle water-cooled diesel engine	
Combustion chamber		Precombustion type	
Number of cylinders		2	
Bore × stroke	mm	75 × 75	
Displacement	ℓ	0.662	

PREVIEW - YOUFIXTHIS.COM
Blurred on purpose. The manual you buy has this page in full quality.
Download full manual at youfixthis.com

Model 2QM15

CHAPTER 1 GENERAL
1. Exterior Views 1-1
2. Specifications 1-2
3. Principal Construction 1-3
4. Performance Curves 1-4
5. Features 1-5
6. Sectional Views 1-6
7. Exterior Views 1-7
8. System Diagrams 1-8
9. Standard Accessories 1-15
10. Optional Accessories 1-16

CHAPTER 2 BASIC ENGINE
1. Cylinder Block 2-1
2. Cylinder Liner 2-2
3. Cylinder Head 2-5
4. Piston 2-15
5. Connecting Rod 2-19
6. Crankshaft 2-22
7. Camshaft 2-26
8. Timing Gear 2-29

CHAPTER 3 FUEL SYSTEM
1. Construction 3-1
2. Injection Pump 3-2
3. Injection Nozzle 3-11
4. Fuel Filter 3-14
5. Fuel feed pump 3-15
6. Fuel Tank 3-16

CHAPTER 4 GOVERNOR
1. Governor 4-1
2. Injection Limiter 4-6
3. No-Load Maximum Speed Limiter 4-7
4. Engine Stop Spring 4-8

CHAPTER 5 INTAKE AND EXHAUST SYSTEMS
1. Intake and Exhaust Systems 5-1
2. Intake Silencer 5-2
3. Exhaust System 5-3
4. Breather Pipe 5-4

CHAPTER 6 LUBRICATION SYSTEM
1. Lubrication System 6-1
2. Oil Pump 6-3
3. Oil Filter 6-5
4. Oil Pressure Regulator Valve 6-6
5. Oil Pressure Measurement 6-7

CHAPTER 7 COOLING SYSTEM
1. Cooling System 7-1
2. Water Pump 7-3
3. Thermostat 7-7
4. Anticorrosion Zinc 7-8
5. Kingston Cock 7-9
6. Bilge Strainer 7-10

CHAPTER 8 REDUCTION AND REVERSING GEAR
1. Construction 8-1
2. Installation 8-5
3. Operation and Maintenance 8-6
4. Inspection and Servicing 8-7
5. Disassembly 8-12
6. Reassembly 8-16

CHAPTER 9 REMOTE CONTROL SYSTEM
1. Construction 9-1
2. Clutch Regulator One-handle Remote Control 9-2
3. Decompression Remote Control 9-4
4. Engine Stop Remote Control 9-5

CHAPTER 10 ELECTRICAL SYSTEM
1. Composition 10-1
2. Battery 10-3
3. Starter Motor 10-6
4. Alternator 10-13
5. Alarm Circuit 10-23

CHAPTER 11 INSTALLATION AND FITTING OUT
1. Propeller Selection 11-1
2. Engine Installation 11-2
3. Stern Equipment 11-6
4. Interior Piping and Wiring 11-10
5. Front Power Take-Off 11-15

CHAPTER 12 OPERATING INSTRUCTIONS
1. Fuel Oil And Labricating Oil 12-1
2. Engine Operating Instructions 12-8
3. Troubleshooting And Repair 12-12

CHAPTER 13 DISASSEMBLY AND REASSEMBLY
1. Disassembly And Reassembly Precautions 13-1
2. Disassembly And Reassembly Tools 13-2
3. Other 13-6
4. Disassembly 13-7
5. Reassembly 13-15
6. Tightening Torque 13-24
7. Packing Supplement and Adhesines 13-26

CHAPTER 14 INSPECTION AND SERVICING
1. Periodic Inspection and Servicing 14-1

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

CHAPTER 1

GENERAL



Blurred on purpose. The manual you buy has this page in full quality.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

3-6.2 Valve rocker arm and valve head contact and wear
Check the valve rocker arm and valve head contact, and replace when there is any abnormal wear or peeling.

3-6.3 Valve clearance adjusting screw
Inspect the valve clearance adjusting screw and push rod contact, and replace when there is any abnormal wear or peeling.

3-6.4 Classification of the intake and exhaust valve rocker arms
Since the intake and exhaust valve rocker arms have different shapes, care must be exercised in service and assembly.

3-7 Adjusting intake and exhaust valve head clearance
Adjustment of the intake and exhaust valve head clearance governs the performance of the engine, and must be performed accurately. The intake and exhaust valve head clearance must always be checked and readjusted, as required, when the engine is disassembled and reassembled, and after every 300 hours of operation. Adjust the valve head clearance as described below.

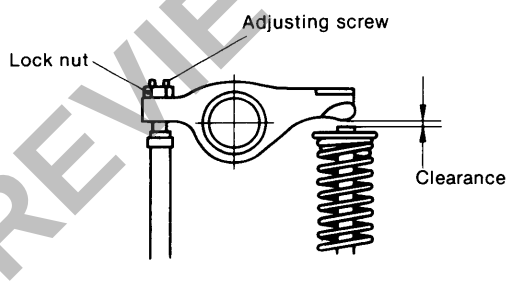
3-7.1 Adjustment
Make this adjustment when the engine is cold.

(1) Remove the valve rocker arm cover.

(2) Crank the engine and set the No. 1 (flywheel side) piston to top dead center (TDC) on the compression stroke.

NOTE: Set to the position at which the valve rocker arm shaft does not move even when the crankshaft is turned to the left and right, centered around the TD mark.

(3) Check and adjust the intake and exhaust valve head clearances of the No. 1 piston.
Loosen the valve clearance adjusting screw lock nut, adjust the clearance to the maintenance standard with a feeler gauge, and retighten the lock nut.



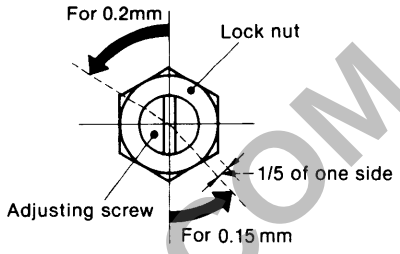
mm (in.)

Intake and exhaust valve head clearance:	0.20 (0.00787)

(4) Adjust the valve head clearance of the No. 2 cylinder in the same manner. (After turn the crankshaft 180°)

NOTE: If you adjust the valve head clearance of the No. 2 cylinder first, turn the crankshaft 540°. Adjust the clearance of the No. 1 cylinder in the same manner.

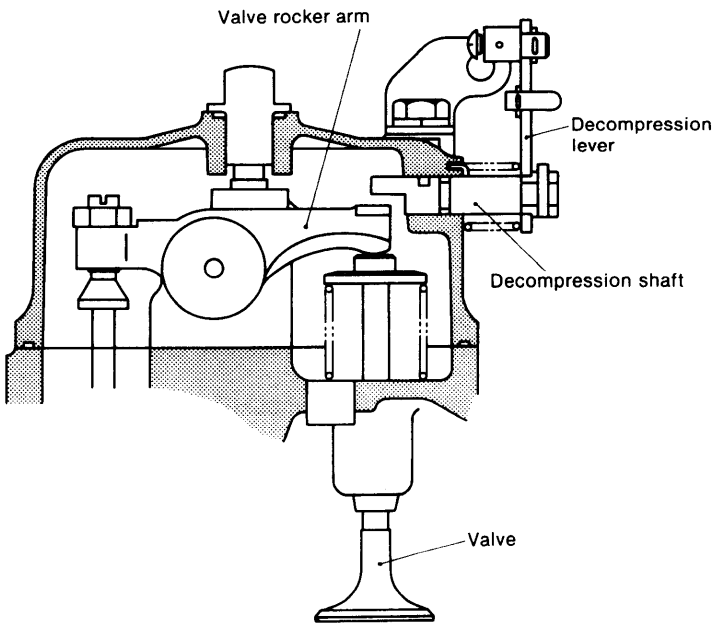
3-7.2 Adjusting without a feeler gauge
Set the head clearance to zero by tightening the adjusting screw, being careful not to tighten the screw too tight.
Then adjust the valve clearance to the maintenance standard by backing off the adjusting screw by the angle given below.



Valve clearance adjusting screw	M8 × 1.25
Adjusting screw backoff angle	Approx 58°

NOTE: Calculating the backoff angle.
Calculate the 0.2mm advance angle from 1.25mm advance at one turn = 360°
0.2/1.25 × 360° = 57.6° ≒ 58°
One side (60°) of the hexagonal nut should be used to measure.

3-8 Decompression mechanism
The decompression mechanism is used when the starter motor fails to rotate sufficiently because the battery is weak, and to facilitate starting in cold weather.
When the decompression lever is operated, the valve is pushed down, the engine is decompressed, the engine turns over easily and the flywheel inertia increases, thus making starting easy.



PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

3-3 Nozzle operation

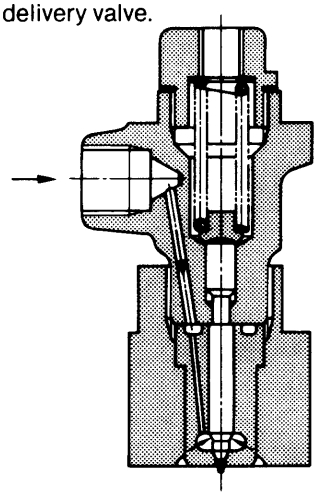
The nozzle is pushed down to its lowest position by the pressure-adjusting nozzle spring and contacts the valve seat of the nozzle body.

Under high pressure, fuel from the fuel pump passes through the hole drilled in the nozzle holder, enters the circular groove at the end of the nozzle body and then enters the pressure chamber at the bottom of the nozzle body.

When the force acting in the axial direction on the differential area of the nozzle at the pressure chamber overcomes the force of the spring, the nozzle is pushed up and the fuel is injected into the precombustion chamber through the throttle hole.

The nozzle is closed again when the pressure in the nozzle body's pressure chamber drops below the force of the spring.

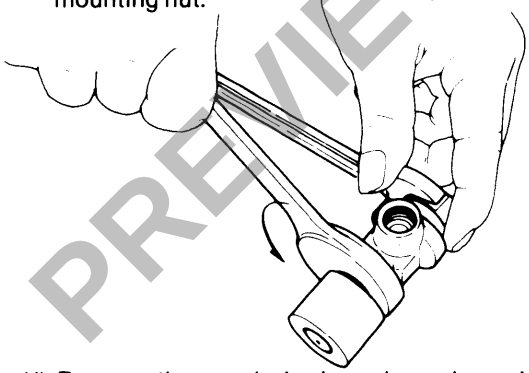
This cycle is repeated at each opening and closing of the injection pump delivery valve.



3-4 Disassembly and reassembly

3-4.1 Disassembly sequence

(1) Remove the carbon from the nozzle end.
(2) Loosen the nozzle spring holder.
(3) Remove the nozzle holder body from the nozzle mounting nut.

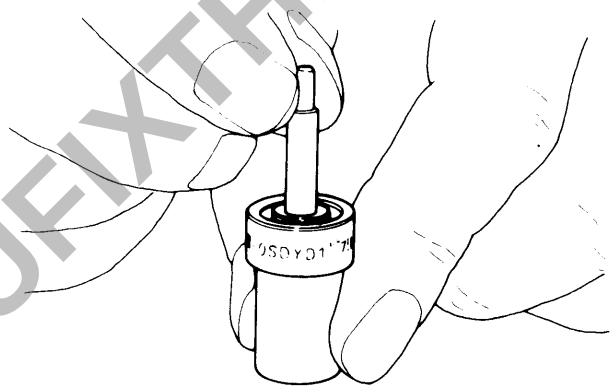


(4) Remove the nozzle body and nozzle ass'y from the nozzle mounting nut.
(5) Remove the nozzle spring retainer from the nozzle holder body, and remove the nozzle spring retainer, inter-spindle etc.

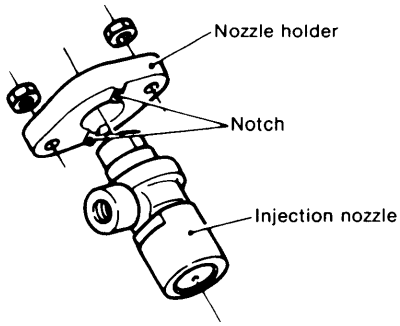
Reassemble in the reverse order of disassembly, paying special attention to the following items.

3-4.2 Disassembly and reassembly precautions

(1) The disassembled parts must be washed in fuel oil, and carbon must be completely removed from the end of the nozzle body, the nozzle body and the nozzle mounting nut fitting section.
If reassembled with any carbon remaining, the nozle will not tighten evenly, causing faulty injection.
(2) Parts for, No. 1 cylinder and No. 2 cylinder must be kept separate.
The nozzle body and nozzle must always be handled as a pair.
(3) Precautions when using a new nozzle.
First immerse the new nozzle in rust-preventive oil, and then seal it on the outside with seal peel. After removing the seal peel, immerse the nozzle in diesel oil and remove the rust-preventive oil from both the inside and outside of the nozzle.
Stand the nozzle holder upright, lift the nozzle about 1/3 of its length: it should drop smoothly by it own weight when released.



(4) The nozzle must be assembled to the nozzle holder with the nozzle spring retainer loosened.
If the nozzle is installed with the nozzle spring tightened, the nozzle mounting nut will be tightened unevenly and oil will leak from between the end of the nozzle holder body and the end of the nozzle mounting nut, causing faulty injection.
(5) When installing the injection nozzle on the cylinder head, tighten the nozzle holder nuts alternately, being careful to tighten them evenly. Tightening torque: 2 kg-m (14.5 ft-lb)
Moreover, the nozzle holder must be installed with the notch side on the nozzle side.



PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

2. Water Pump

2-1 Construction and operation

The water pump is a rubber impeller type pump driven from the crankshaft by a V-belt.

The rubber impeller, which has ample elasticity, is deformed by the offset plate inside the casing, causing the water to be discharged. This pump is ideal for small, high-speed engines.



PREVIEW - YOUFIXTHIS.COM

Blurred on purpose. The manual you buy has this page in full quality.

Download full manual at youfixthis.com

1. Construction

This engine is designed primarily for remote control operation. A remote control cable bracket can be installed by merely adding a remote control lever and link to the engine. Engine stop control and decompression remote control may also be installed, in addition to one-handle remote control, which permits engine speed adjustment and one-handle forward-astern switching.
For this engine, two-handle control cannot be used to replace one-handle control.



Clutch regulator remote control stand

PREVIEW - YOUFIXTHIS.COM

Blurred on purpose. The manual you buy has this page in full quality.

Download full manual at youfixthis.com

CHAPTER 11

INSTALLATION AND FITTING

1. Propeller Selection 11-1
2. Engine Installation 11-2
3. Stern Equipment 11-6
4. Interior Piping and Wiring 11-10
5. Front Power Take-Off 11-15

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

CHAPTER 13

DISASSEMBLY AND REASSEMBLY

Blurred on purpose. The manual you buy has this page in full quality.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 12 of 221 pages

The full manual includes:

- All 221 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

Yanmar 2QM15 Service Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual