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Yanmar 3YM30/3YM20/2YM15

Yanmar Marine Diesel Engine Service Manual

Models: 3YM30, 3YM20, 2YM15

Brand: Yanmar

1. INTRODUCTION

This manual provides comprehensive service and workshop instructions for the Yanmar Marine Diesel Engines models 3YM30, 3YM20, and 2YM15. It is intended for qualified personnel performing maintenance, repair, and overhaul procedures. Adherence to the guidelines within this manual is crucial for ensuring the safe, efficient, and long-term operation of your engine.

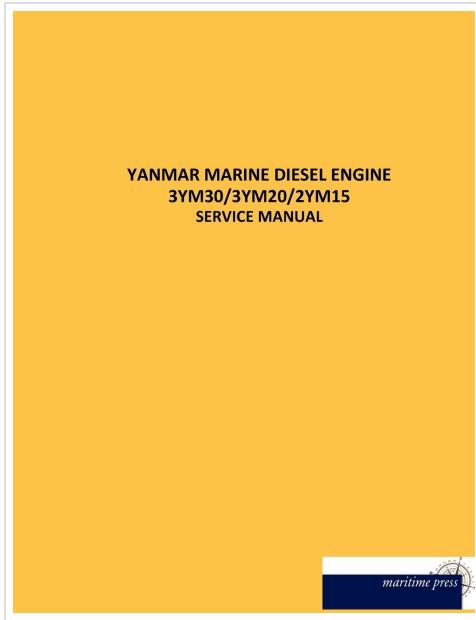


Image: Front cover of the service manual, displaying 'YANMAR MARINE DIESEL ENGINE 3YM30/3YM20/2YM15 SERVICE MANUAL' and 'maritime press' logo.

2. INITIAL SETUP AND PRE-OPERATION CHECKS

Before operating the engine after any service, repair, or initial installation, it is imperative to perform a series of pre-operation checks to ensure all systems are functioning correctly and safely. This section outlines critical steps.

2.1. Fluid Level Verification

- Engine Oil:** Check the engine oil level using the dipstick. Ensure it is between the 'MIN' and 'MAX' marks. Add recommended oil if necessary.
- Coolant:** Verify the coolant level in the expansion tank. It should be at the specified level. Top up with appropriate coolant mixture if low.
- Fuel:** Confirm sufficient fuel in the tank and check for any air in the fuel lines, bleeding if required.

2.2. System Integrity Check

- Hoses and Clamps:** Inspect all hoses for cracks, wear, or leaks. Ensure all clamps are tight and secure.
- Belts:** Verify the tension and condition of all drive belts (e.g., alternator, raw water pump).
- Electrical Connections:** Check battery terminals and all electrical connections for corrosion and tightness.

3. OPERATING GUIDELINES

While this manual primarily focuses on service, understanding proper operating procedures is vital for engine health and longevity. Always refer to the engine's dedicated operator's manual for detailed instructions.

3.1. Starting the Engine

- Ensure the transmission is in neutral.
- Turn the ignition key to the 'ON' position and wait for pre-heat indicators (if applicable) to extinguish.
- Turn the key to 'START' and release once the engine fires. Do not crank for more than 10 seconds at a time.

3.2. Engine Monitoring During Operation

- Continuously monitor engine temperature, oil pressure, and charging voltage.
- Listen for unusual noises or vibrations.
- Observe exhaust for abnormal smoke color.

4. MAINTENANCE PROCEDURES

Regular and timely maintenance is critical for the optimal performance and extended lifespan of your Yanmar marine diesel engine. This section outlines key maintenance tasks.

4.1. Routine Checks (Daily/Before Operation)

- Check engine oil level.
- Inspect coolant level.
- Check raw water strainer for debris.
- Inspect drive belts for tension and condition.
- Look for any signs of fuel, oil, or coolant leaks.

4.2. Scheduled Maintenance Intervals

The following table provides a general guide for scheduled maintenance. Always refer to the specific service schedule provided by Yanmar for your engine model.

Interval	Task	Notes
Every 50 Hours / Annually	Change engine oil and filter	Use recommended oil type.

Interval	Task	Notes
Every 100 Hours / Annually	Inspect fuel filter / water separator	Drain water/sediment. Replace if necessary.
Every 250 Hours / Annually	Replace fuel filter element	Ensure proper bleeding after replacement.
Every 500 Hours / Bi-annually	Inspect/Adjust valve clearances	Requires specialized tools and knowledge.
Every 1000 Hours / 5 Years	Replace coolant	Flush system thoroughly.

5. TROUBLESHOOTING COMMON ISSUES

This section provides a guide to diagnosing and resolving common operational issues with your Yanmar marine diesel engine. For complex problems, consult an authorized service technician.

Problem	Possible Cause	Solution
Engine Fails to Start	Low battery voltage No fuel Air in fuel system Faulty starter motor	Charge battery Check fuel level Bleed fuel system Inspect/replace starter
Engine Overheats	Low coolant level Clogged raw water strainer Faulty thermostat Impeller wear	Top up coolant Clean strainer Test/replace thermostat Replace raw water pump impeller
Excessive Smoke	Black Smoke: Overloading, dirty injectors Blue Smoke: Burning oil White Smoke: Unburnt fuel, water in combustion	Reduce load, clean injectors Check oil level, engine wear Check fuel quality, head gasket
Loss of Power	Clogged fuel filter Air intake restriction Injector issues	Replace fuel filter Check air filter, intake Inspect/service injectors

6. TECHNICAL SPECIFICATIONS

The following table provides key technical specifications for the Yanmar Marine Diesel Engines covered by this manual. Note that specific details may vary slightly between models (3YM30, 3YM20, 2YM15).

Specification	Detail
ASIN	3954275082
Publisher	Europaischer Hochschulverlag GmbH & Co. Kg
Publication Date	May 29, 2012
Language	German (Original Edition)
Print Length	248 pages
ISBN-10	9783954275083

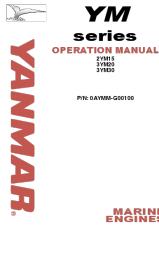
Specification	Detail
ISBN-13	978-3954275083
Item Weight	15.8 ounces
Dimensions	7.44 x 0.52 x 9.69 inches
Best Sellers Rank (Ships)	5477

7. WARRANTY AND SUPPORT

This service manual focuses on technical procedures and does not contain specific warranty information for Yanmar marine diesel engines. For details regarding your engine's warranty coverage, please refer to the original purchase documentation or contact an authorized Yanmar dealer or service center.

For technical support, parts inquiries, or to locate an authorized service provider, please visit the official Yanmar Marine website or consult your local dealer. Always provide your engine's model and serial number when seeking support.

Related Documents - 3YM30/3YM20/2YM15

	<p><u>YANMAR Marine Diesel Engine Service Manual 3YM30/3YM20/2YM15</u> Comprehensive service manual for YANMAR 3YM30, 3YM20, and 2YM15 marine diesel engines, covering specifications, maintenance, troubleshooting, disassembly, and safety precautions.</p>
	<p><u>Yanmar YM Series Operation Manual: 2YM15, 3YM20, 3YM30 Marine Engines</u> Comprehensive operation manual for Yanmar YM series marine diesel engines (2YM15, 3YM20, 3YM30), covering operation, maintenance, safety, and specifications for optimal performance and longevity.</p>
	<p><u>YANMAR 6EY17W Marine Propulsion Engine Operation Manual</u> Comprehensive operation manual for the YANMAR 6EY17W marine propulsion engine, detailing safe operation, maintenance, troubleshooting, and technical specifications.</p>
	<p><u>Yanmar 3TNV/4TNV Series Industrial Diesel Engine Service Manual</u> Comprehensive service manual for Yanmar 3TNV and 4TNV series industrial diesel engines, covering disassembly, inspection, reassembly, troubleshooting, and maintenance procedures. Includes safety precautions and specifications.</p>

<p>Yankee Industrial Diesel Engine Scheduled Maintenance Program</p> <p>Stages</p> <ol style="list-style-type: none"> 1 300 Hours or 12 months 2 600 Hours or 24 months 3 1200 Hours or 36 months <p>ROUTINE SERVICE PROGRAM</p> <p>Every 300 Hours</p> <ul style="list-style-type: none"> (a) Change Lubricating Oil (b) Check Oil Filter (c) Check Fuel Filter (d) Check Fuel Pump (e) Check Air Filter (f) Check Air Intake Condition (g) Check Air Intake Section (h) Check Fuel Filter Section (i) Check Fuel Pump (j) Check Engine Coolant (k) Check Engine Coolant Filter (l) Check Engine Coolant Block and Heater (m) Check Fuel Pump <p>Every 600 Hours</p> <p>Every 1200 Hours</p> <ul style="list-style-type: none"> (a) Change Lubricating Oil (b) Change Oil Filter (c) Check Fuel Filter (d) Check Fuel Pump (e) Check Air Filter (f) Check Air Intake Condition (g) Check Air Intake Section (h) Check Fuel Filter Section (i) Check Fuel Pump (j) Check Engine Coolant (k) Check Engine Coolant Filter (l) Check Engine Coolant Block and Heater (m) Check Fuel Pump <p>* Using Lubricating oil meeting requirements with Int. Specification ICS-A.</p> <p>1200-12000 Hours</p>	<p><u>Yanmar Industrial Diesel Engines Scheduled Maintenance Program</u></p> <p>Comprehensive scheduled maintenance program for Yanmar Industrial Diesel Engines, detailing service intervals and tasks for optimal performance and longevity.</p>
<p>PARTS LIST/パーツリスト YANMAR DIESEL ENGINE L70V6 - VEMKJYI FOR MIKASA PRODUCTS 三重県桑名市 〒513-1201</p> <p>FOR MODEL: MVH-308DSC MVH-308DSC-FA3 MVH-308DSC-FAS</p> <p>SPEC NO. L70V6-VEMKJYI (Y5L009) Ver.1.0 2018/02/26-PM</p> <p>MIKASA MFG CO., LTD. 三重県桑名市 〒513-1201</p>	<p><u>Yanmar L70V6-VEMKJYI Diesel Engine Parts List for Mikasa Products</u></p> <p>Comprehensive parts list and diagrams for the Yanmar L70V6-VEMKJYI diesel engine, designed for use with Mikasa Products like the MVH-308DSC hydraulic reversible compactor. Includes detailed part numbers, descriptions, and assembly information.</p>