

YAMAHA

Marine

Outboards

**50G, 60F, 70B,
75C, 90A**

**SERVICE
MANUAL**

6H2-28197-Z9-11

NOTICE

This manual has been prepared by the Yamaha Motor Company Ltd. primarily for use by Yamaha dealers and their trained mechanics when performing maintenance procedures and repairs to Yamaha equipment. It has been written to suit the needs of persons who have a basic understanding of the mechanical and electrical concepts and procedures inherent in the work, for without such knowledge attempted repairs or service to the equipment could render it unsafe or unfit for use.

Because the Yamaha Motor Company Ltd. has a policy of continuously improving its products, models may differ in detail from the descriptions and illustrations given in this publication. Use only the latest edition of this manual. Authorized Yamaha dealers are notified periodically of modifications and significant changes in specifications and procedures, and these are incorporated in successive editions of this manual.

A10001-0*

**50G, 60F, 70B, 75C, 90A
SERVICE MANUAL**

**©1999 Yamaha Motor Co., Ltd.
1st Edition, February 1999**

No part of this publication may be reproduced or transmitted in any form or by any means including photocopying and recording without the written permission of the copyright holder. Such written permission must also be obtained before any part of this publication is stored in a retrieval system of any nature.

HOW TO USE THIS MANUAL

MANUAL FORMAT

This manual provides the mechanic with descriptions of the operations of disassembly, repair, assembly, adjustment and inspection, each of which is presented in a sequential, step-by-step procedure.

To assist you to find your way about this manual, the Section Title and Major Heading is given at the head of every page.

An Index to contents is provided on the first page of each section.

MODEL INDICATION

Multiple models are shown in this manual. These indications are noted as follows.

Model name	50GETO	60FEHTO	60FED	60FEDO	60FET	60FETO	70BEDO	70BETO
USA and Canada name	—	P60TH	C60ER	—	C60TR	—	—	70TR
Indication	50GETO	60FEHTO	60FED	60FEDO	60FET	60FETO	70BEDO	70BETO
Model name	75CET	75CETO	75CEHTO	80AETO	90AEHD	90AED	90AET	90AETO
USA and Canada name	C75TR	75TR	P75TH	—	—	—	C90TR	90TR B90TR
Indication	75CET	75CETO	75CEHTO	80AETO	90AEHD	90AED	90AET	90AETO

THE ILLUSTRATIONS

Some illustrations in this manual may differ from the model you have. This is because the procedure described may relate to several models, though only one may be illustrated. (The name of the model described will be mentioned in the description.)

To help you identify components and understand the correct procedures of disassembly and assembly, exploded diagrams are provided. Steps in the procedures are numbered thus: 1), 2), 3). Parts shown in the illustrations are identified thus: ①, ②, ③.

REFERENCES

These have been kept to a minimum, however, when you are referred to another section of the manual, you are told the page number to go to.

SPECIFICATIONS


These are given in bold type at each procedure. It is not necessary to leave the section dealing with the procedure in order to look up the specifications.

It is important to note the differences in specifications of models. Where a procedure relates to more than one model, the main differences in specifications will be shown in the following table.

Model name	50GETO	60FEHTO	60FED	60FEDO	60FET	60FETO	70BEDO	70BETO
USA and Canada name	—	P60TH	C60ER	—	C60TR	—	—	70TR
Control system	Remote control	Manual control	Remote control					
Tilt system	Power trim and tilt		Manual tilt		Power trim and tilt		Manual tilt	Power trim and tilt
Lubrication system	Oil injection		Pre-mixed	Oil injection	Pre-mixed	Oil injection		
Model name	75CET	75CETO	75CEHTO	80AETO	90AEHD	90AED	90AET	90AETO
USA and Canada name	C75TR	75TR	P75H	—	—	—	C90TR	90TR B90TR
Control system	Remote control		Manual control	Remote control	Manual control	Remote control		
Tilt system	Power trim and tilt				Manual tilt		Power trim and tilt	
Lubrication system	Pre-mixed	Oil injection			Pre-mixed			Oil injection

WARNINGS, CAUTIONS AND NOTES

Attention is drawn to the various Warnings, Cautions and Notes which distinguish important information in this manual in the following ways.

 The Safety Alert Symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

WARNING

Failure to follow WARNING instructions could result in severe injury or death to the machine operator, a bystander, or a person inspecting or repairing the outboard motor.

CAUTION:

A CAUTION indicates special precautions that must be taken to avoid damage to the outboard motor.

NOTE:

A NOTE provides key information to make procedures easier or clearer.

A50001-1-4

SYMBOLS

Symbols ① to ⑨ are designed as thumb-tabs to indicate the content of a chapter.

- ① General Information
- ② Specifications
- ③ Periodic Inspection and Adjustment
- ④ Fuel System
- ⑤ Power Unit
- ⑥ Lower Unit
- ⑦ Bracket Unit
- ⑧ Electrical Systems
- ⑨ Trouble Analysis

Symbols ⑩ to ⑰ indicates specific data:

- ⑩ Special service tool
- ⑪ Specified liquid
- ⑫ Specified grease
- ⑬ Specified engine speed
- ⑭ Specified torque
- ⑮ Specified measurement
- ⑯ Specified electrical value
[Resistance (Ω), Voltage (V),
Electric current (A)]

Symbol ⑰ to ⑳ in an exploded diagram indicate grade of lubricant and location of lubrication point:

- ⑰ Apply engine oil
- ⑱ Apply gear oil
- ⑲ Apply molybdenum disulfide oil
- ⑳ Apply water resistant grease (Yamaha marine grease A, Yamaha marine grease)

Symbols ㉑ to ㉔ in an exploded diagram indicate grade of sealing or locking agent, and location of application point:










- ㉑ Apply Gasket Maker[®]
- ㉒ Apply LOCTITE[®] No. 271 (Red LOCTITE)
- ㉓ Apply LOCTITE[®] No. 242 (Blue LOCTITE)
- ㉔ Apply LOCTITE[®] No. 572

NOTE: _____

In this manual, the above symbols may not be used in every case.

①	②
③	④
⑤	⑥
⑦	⑧
⑨	⑩
⑪	⑫
⑬	⑭
⑮	⑯
⑰	⑱
⑲	⑳
㉑	㉒
㉓	㉔

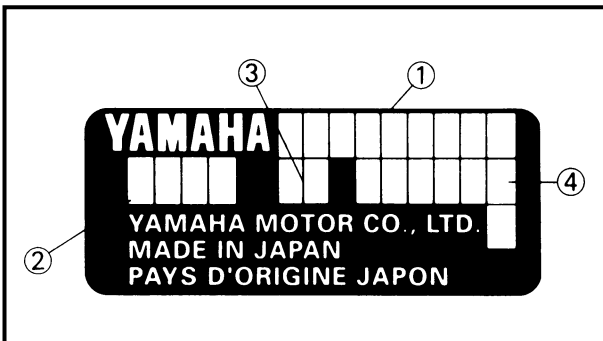
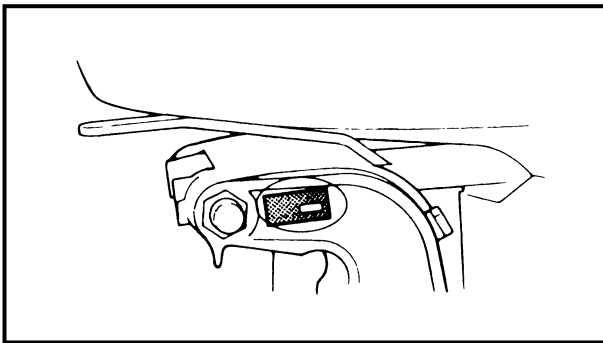
INDEX

GENERAL INFORMATION	 GEN INFO	1
SPECIFICATIONS	 SPEC	2
PERIODIC INSPECTION AND ADJUSTMENT	 INSP ADJ	3
FUEL SYSTEM	 FUEL	4
POWER UNIT	 POWR	5
LOWER UNIT	 LOWR	6
BRACKET UNIT	 BRKT	7
ELECTRICAL SYSTEMS	 ELEC	8
TROUBLE ANALYSIS	 TRBL ANLS	9

CHAPTER 1 GENERAL INFORMATION

IDENTIFICATION	1-1
SERIAL NUMBER	1-1
STARTING SERIAL NUMBERS	1-1
SAFETY WHILE WORKING	1-2
FIRE PREVENTION	1-2
VENTILATION.....	1-2
SELF-PROTECTION.....	1-2
OILS, GREASES AND SEALING FLUIDS.....	1-2
GOOD WORKING PRACTICES	1-3
DISASSEMBLY AND ASSEMBLY	1-4
SPECIAL TOOLS	1-5
MEASURING	1-6
REMOVAL AND INSTALLATION	1-8





A60000-1*

**IDENTIFICATION
SERIAL NUMBER**

The serial number of the outboard motor is stamped on a plate attached to the port side of the clamp bracket.

- ① Serial number

NOTE: _____

For USA model:

As an anti-theft measure, a special label on which the outboard motor serial number is stamped is bonded to the port side of the clamp bracket. The label is specially treated so that peeling it off causes cracks across the serial number.

- ① Model name
- ② Approved model No.
- ③ Transom height
- ④ Serial number

STARTING SERIAL NUMBERS

The starting serial number blocks are as follows:

Model			Approved model No.	Serial number	Model			Approved model No.	Serial number
World-wide	USA	Canada			World-wide	USA	Canada		
50GETO	—	—	62F	L: 400805 ~	70BEDO	—	—	6H3	L: 402029 ~
60FEHTO	P60TH	P60TH		L: 551924 ~	70BETO	70TR	70TR		L: 491824 ~
				X: 750186 ~					X: 731262 ~
60FED	—	C60ER		S: 001118 ~	75CET	C75TR	C75TR	6H0	L: 001251 ~
				L: 305624 ~	75CETO	—	75TR		L: 951540 ~
60FEDO	—	—		S: 100850 ~	75CEHTO	P75TH	—		L: 900371 ~
				L: 407212 ~	80AETO	—	—		L: 457543 ~
60FET	C60TR	C60TR		S: 050474 ~	90AETO	—	—		X: 851331 ~
				L: 357665 ~	90AEHD	—	—		L: 320132 ~
				X: 710231 ~	90AED	—	—	L: 401108 ~	
			S: 150756 ~	90AET	C90TR	C90TR	6H1	L: 354053 ~	
60FETO	—	—	L: 472180 ~	90AETO	90TR	90TR		L: 498690 ~	
			X: 732000 ~		B90TR			X: 856313 ~	

**Thank you very much
for your reading.**

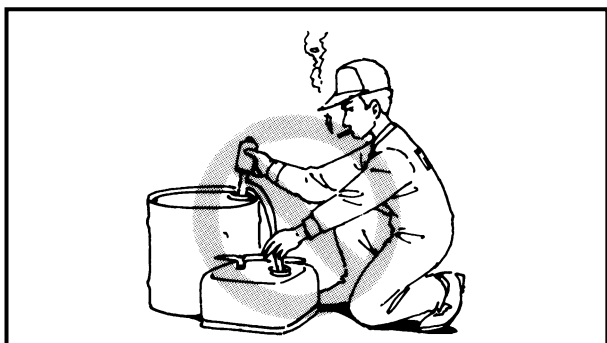
**Please click here and go
back to the website.**

**Then, you can
download the complete
manual instantly.**

No waiting.

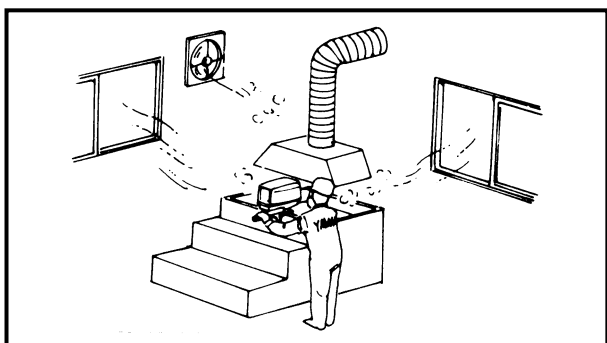
SAFETY WHILE WORKING

The procedures given in this manual are those recommended by Yamaha to be followed by Yamaha dealers and their mechanics.



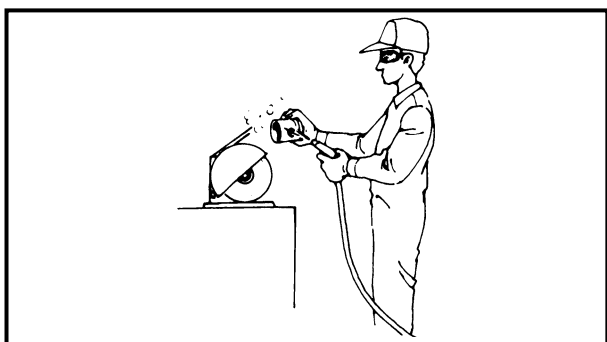
FIRE PREVENTION

Gasoline (petrol) is highly flammable. Petroleum vapor is explosive if ignited. Do not smoke while handling and keep it away from heat, sparks, and open flames.



VENTILATION

Petroleum vapor is heavier than air and if inhaled in large quantities will not support life. Engine exhaust gases are harmful to breathe. When test-running an engine indoors, maintain good ventilation.



SELF-PROTECTION

Protect your eyes with suitable safety glasses or safety goggles when using compressed air, when grinding or when doing any operation which may cause particles to fly off. Protect hands and feet by wearing safety gloves or protective shoes if appropriate to the work you are doing.



OILS, GREASES AND SEALING FLUIDS

Use only genuine Yamaha oils, grease and sealing fluids or those recommended by Yamaha.

Under normal conditions of use, there should be no hazards from the use of the lubricants mentioned in this manual. However, safety is all-important and by adopting good safety practices, any risk is minimized.

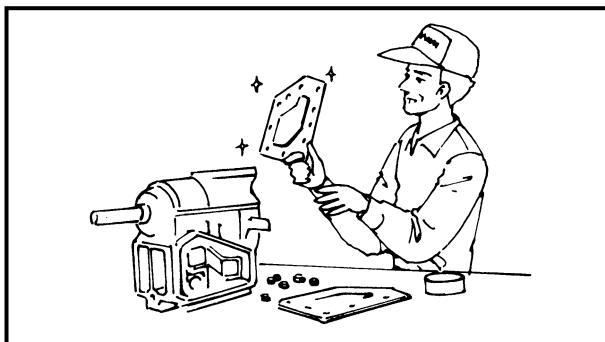
A summary of the most important precautions is as follows:

1. While working, maintain good standards of personal and industrial hygiene.
2. Clothing which has become contaminated with lubricants should be changed as soon as practicable, and laundered before further use.
3. Avoid skin contact with lubricants; do not, for example, place a soiled wiping-rag in one's pocket.
4. Hands, and any other part of the body which have been in contact with lubricants or lubricant-contaminated clothing, should be thoroughly washed with hot water and soap as soon as practicable.
5. To protect the skin, the application of a suitable barrier cream to the hands before working is recommended.
6. A supply of clean, lint-free cloths should be available for wiping purposes.



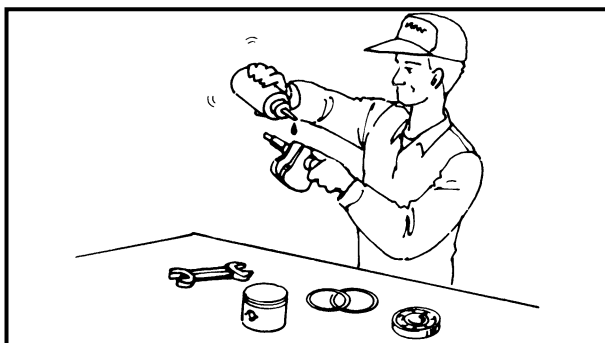
GOOD WORKING PRACTICES

1. **The right tools**
Use the special tools that are advised to protect parts from damage. Use the right tool in the right manner - don't improvise.
2. **Tightening torque**
Follow the torque tightening instructions. When tightening bolts, nuts and screws, tighten the larger sizes first, and tighten inner-positioned fixings before outer-positioned ones.



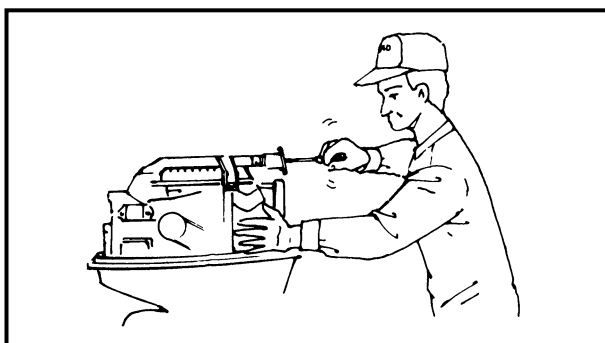
3. Non-reusable items

When reassembling, always use new gaskets, packing, O-rings, oil seals, split-pins and circlips, etc.



DISASSEMBLY AND ASSEMBLY

1. Clean parts with compressed-air when disassembling them.
2. Oil the contact surfaces of moving parts before assembly.



3. After assembly, check that moving parts operate normally.

4. Install bearings with the manufacturer's markings on the side exposed to view and liberally oil the bearings.
5. When installing oil seals, apply a light coating of water-resistant grease to the outside circumference.