World Leader in Marine Propulsion
Leader mondial dans le domaine de la propulsion nautique
Verdensførende Indenfor marin fremdrivning
Leader mondiale nella propulsione marina
Líder Mundial en Propulsión Marina
Weltführend in Schiffsantrieben
Wereldleider op het gebied van scheepsvoortstuwing
Líder Mundial em Propulsão Marinha
Johtava yritys merikäyttöisen propulsion alalla
Världens ledande företag inom marinpropulsion
Leder på verdensmarkedet av maritime drivaggregater
Thank You . . .

for your purchase of one of the finest outboards available. You have made a sound investment in boating pleasure. Your outboard has been manufactured by Mercury Marine, a world leader in marine technology and outboard manufacturing since 1939. These years of experience have been committed to the goal of producing the finest quality products. This led to Mercury Marine's reputation for strict quality control, excellence, durability, lasting performance and being the best at providing after-the-sale support.

Please read this manual carefully before operating your outboard. This manual has been prepared to assist you in the operation, safe use and care of your outboard.

All of us at Mercury Marine took pride in building your outboard and wish you many years of happy and safe boating.

Again, thank you for your confidence in Mercury Marine.

Mercury Marine, W6250 W. Pioneer Road
P.O. Box 1939, Fond du Lac, WI 54936-1939
This outboard motor manufactured by Mercury Marine, Fond du Lac, Wisconsin, USA or Marine Power Europe Inc. Park Industriel, de Petit-Rechain, Belgium complies with the requirements of the following directives and standards, as amended: Machinery Directive: 89/392/EEC
- IEC601-2 (1991), ±8kV AD
- IEC601-3 (1984), 3V/m

Power Output: ISO8865

George W. Buckley President, Mercury Marine, Fond du Lac, USA

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GENERAL INFORMATION

Owner Registration and Identification

Upon purchasing this product, be sure your dealer fills out the WARRANTY CARD correctly and mails it to the distributor, completely filled in. This card identifies you as the legal owner of the product and serves as your warranty registration of the same. If this procedure is not followed, your outboard will not be covered by warranty.

Pre-delivery Check

Be sure that the product has been checked by an authorized Mercury Marine dealer before the delivery.

Limited Warranty

This Mercury Marine product is fully guaranteed against defective materials and workmanship for the period from the date of purchase, provided that the purchase has been registered in accordance with the above.

The warranty will not apply to normal worn parts, adjustments, tune-ups or to any damage caused by:

1) Uses or operations NOT conforming to the instructions described in this owners manual;
2) Participating in or preparing for racing or other competitive activity; 3) Water entering the engine or the engine room;
4) Any other thoughtless use or operation

The warranty will become void if the product has been altered, modified or repaired by any other than a company or a service firm authorized by Mercury Marine

The warranty will cover only your Mercury Marine product and will not cover the boat mounted with the product, trailer, equipment or accessories associated to the product.

Serial Number

Please record the serial number of the engine (indicated on the lower engine cover and cylinder block) in the space below. This number will come in handy in the event of theft or to quickly help identify the product type.

Serial Number: ________________________________
Notice

HEED ALL WARNINGS AND CAUTIONS AS SET FORTH HEREIN. THEY HAVE BEEN INCLUDED FOR YOUR SAFETY AND MUST BE READ CAREFULLY. NEGLIGENCE IN OBSERVING SUCH WARNINGS AND CAUTIONS COULD RESULT IN SEVERE INJURY OR DEATH.

Emergency Stop Switch

The stop switch will cut off the engine when the stop switch line is pulled out. This line connects to the wrist of the operator, effectively preventing injuries from the propeller in case he falls overboard. We highly recommend use of the stop switch line, since it can save the life of the operator if bad things come to worse. However, we would also like to point out the drawbacks of the switch to the operator. Accidental activation of the switch (such as the line being pulled in heavy seas), could cause passengers to lose their balance, fall overboard, and could result in loss of power in heavy seas, strong currents or high winds. Loss of control while mooring is another potential hazard.

To prevent such hazardous situation, the line is curled and will extend to a full 1,300mm.

WARNING

As the operator/driver of the boat, you are responsible for the safety of those aboard, other crafts around you and that local boating regulations are followed. As such you should possess thorough knowledge of correct operation of the boat, its accessories and the engine. Thus, to learn about correct operation and maintenance of the engine, please read through this manual carefully.

WARNING

It is very difficult for a person standing or floating in the water to take evasive action should he see a power boat heading in his direction, even at a slow speed. Therefore, it is strongly recommended that when your boat is in the immediate vicinity of people in the water, the engine be shifted to neutral and shut off.

SERIOUS INJURY IS LIKELY IF CONTACT IS MADE WITH A PERSON IN THE WATER BY A MOVING BOAT, GEAR HOUSING, PROPELLER, OR ANY SOLID DEVICE RIGIDLY ATTACHED TO A BOAT OR GEARHOUSING.

It is the operator's responsibility to perform all safety checks and to ensure that all lubrication and maintenance instructions are complied with for safe operation. It is also the operator's responsibility to return the unit to the local dealer for periodic inspection.

Correct periodic maintenance and good care of this outboard engine will lessen the chance for problems and keep overall operating expenses at a minimum.

Servicing, Replacement Parts & Lubricants

Only let an authorized Mercury Marine service shop perform servicing or maintenance on this product. Be sure to use genuine parts, and genuine lubricants or recommended lubricants.

Maintenance

As the owner of this outboard engine, you should have acquainted yourself with the correct maintenance of the same. Please comply with all instructions on lubrication and maintenance, and return the engine to the dealer for periodic inspection at the prescribed intervals.

Trouble-free operation cannot be expected unless the engine receive correct periodic maintenance and is taken good care of. Moreover, if such maintenance is performed periodically, it is not likely that a costly overhaul would ever be required.

Use Of Service Shop

When subjecting your Mercury Marine product to a check or a repair, please be sure to use a Mercury Marine dealer authorized by the Mercury Marine or a Mercury Marine agent.
### SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>40 Lightning XR</th>
</tr>
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<tbody>
<tr>
<td>Overall Length, mm (in.)</td>
<td>630 (24.80)</td>
</tr>
<tr>
<td>Overall Width, mm (in.)</td>
<td>355 (13.98)</td>
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<tr>
<td>Overall Height, mm (in.)</td>
<td>1,319 (51.93)</td>
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<tr>
<td>Weight, Kg (lbs.)</td>
<td>73.5 (162.04)</td>
</tr>
<tr>
<td>Transom Height, mm (in.)</td>
<td>L:530 (20.87)</td>
</tr>
<tr>
<td>Max. Output, KW (PS)</td>
<td>29.8 (40 PS)</td>
</tr>
<tr>
<td>Full Throttle Speed Range</td>
<td>4,500-5,500</td>
</tr>
<tr>
<td>Number of Cylinders</td>
<td>3</td>
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<tr>
<td>Piston Displacement, CC (in.³)</td>
<td>697 (42.53)</td>
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<tr>
<td>Bore x Stroke, mm (in.)</td>
<td>68 x 64 (2.68 x 2.52)</td>
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<tr>
<td>Exhaust System</td>
<td>Through Propeller Hub Exhaust</td>
</tr>
<tr>
<td>Lubrication</td>
<td>Auto-Mixing System</td>
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<td>Fuel Mixing Ratio</td>
<td></td>
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<td>Cooling System</td>
<td>Forced Water Cooling</td>
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<td>Starting System</td>
<td>Electric Starter</td>
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<td>Break Pointless C.D. Ignition</td>
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<tr>
<td>Spark Plugs</td>
<td>NGK B7HS-10/NGK BR7HS-10 or Champion L-82 (1.0 mm gap)</td>
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<td>Engine Oil</td>
<td>Genuine or Recommended Engine Oil</td>
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<tr>
<td>Gear Oil</td>
<td>Genuine or Recommended Gear Oil (API GL5, SAE#80 to #90)</td>
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<tr>
<td>Fuel Tank Capacity</td>
<td>Plastic Tank: 25 liters (6.6 U.S. gal.)</td>
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<tr>
<td>Engine Oil Tank Capacity</td>
<td>2 liters (0.528 U.S. gal.)</td>
</tr>
<tr>
<td>Gear Reduction Ratio</td>
<td>13 : 24</td>
</tr>
</tbody>
</table>

### NOMENCLATURE

1. Tilt Handle
2. Upper Motor Cover
3. Hook Lever
4. Water Check Port
5. Tilt Stopper
6. Water Plug
7. Anti Cavitation Plate
8. Trim Tab
9. Propeller
10. Oil Plug (lower)
11. Water Strainer
12. Oil Plug (upper)
13. Stern Bracket
14. Tilt pin
15. Clamp Screw
16. Choke Knob
17. Filler Lid
18. Fuel Connector
19. Power Trim & Switch
20. Battery Cables
21. Power Trim & Tilt
22. Anode
ENGINE INSTALLATION ON BOAT

**WARNING**

Most boats are rated and certified in terms of their maximum horsepower limit, and this is shown on the boat’s certification plate. Do not equip your boat with an outboard that exceeds this limit. If in doubt, contact your dealer.

**WARNING**

Do not operate the engine until it has been securely mounted on the boat in accordance with the instruction below.

**Installation**

1. Single-Engine Installation
   - Position the outboard engine at the exact center of the stem, and mount it using a cushioning pad or plate.

2. Twin-Engine Installation
   - Position the outboard engines 470-660 mm (18.5-26.0 in.) apart, measured from an imagined center line of each engine, in the exact center of the stem.

**CAUTION**

Overheating may occur if the Anti-cavitation Plate is at a level higher than the bottom of the boat, as a result of air sucking.

- If the height difference exceeds 0-30 mm (0-1.2 in.) engine power performance is likely to be reduced as a result of increased water resistance to the gear case assembly.

3. Transom Height
   - Install the engine with the Anti-cavitation Plate at a level 0-30 mm (0-1.18 in.) below the bottom of the boat.

4. Transom Matching
   - Be sure that the anti-cavitation plate of the outboard is below the water surface when running with wide open throttle.
   - In case the above condition cannot be met due to a bottom shape of your boat, please consult your Mercury Marine dealer.

5. Attaching the Stern Bracket
   - After positioning the Stern Bracket, fix it with clamp screws then drill four holes in the transom board, matching the holes in the Stern Bracket. Secure the engine with the supplied bolts (M12 x 105 mm) and nuts. Be sure to use the washers. The larger diameter washers are used inside of the transom board and small diameter washers are used outside of the stern bracket.
   - The mounting holes may be drilled beforehand be referring to the dimensional drawing.
ENGINE INSTALLATION ON BOAT

Stern Bracket Dimensional Drawing

NOTE: We recommend that the bolt head of the upper bolts face inward while the nuts are kept on the outside of the boat to prevent injury to the passengers.

NOTE: Apply sealing agent, such as silicon sealer, between the bolts and the transom board holes when tightening the bolt.

NOTE: Be sure to fix the engine securely with the bolts.

Propeller Selection

A propeller must be selected so that the engine RPM measured at wide open throttle while cruising is within the recommended range:

40 Lightning XR – 4500 to 5500 RPM

For genuine Mercury Marine propellers, refer to page 72 of this manual.
Installing the Remote Control Box

1. Position the Remote Control Box in a place that will not interfere with handling of controls, levers and switches. Confirm that there are no obstacles in the passage of remote control cables.

2. Determining the Remote Control cable length:

   - Use distances “A” and “B”, as depicted in the illustrations, as guide lines for the Remote Control cable length, and add an additional 300 mm (one foot). Cable length = “A” + “B” + 300 mm (one foot).

   *NOTE:* Do not sharply bend the remote control cable to a radius of 203 mm (8 in.) or less as this will interfere with cable operation.

**CAUTION**

To prevent accidental running of the engine, which could result in an injury, DO NOT connect the battery until the installation of the Remote Control Box and the engine is complete.

Connecting the Remote Control Cable to the Remote Control Box

1. Remove the back plate by loosening two screws.

2. Thread at least 11 mm (0.43 in.) of the Remote Control cables through the terminal eyes. Securely lock the terminal eyes with lock nuts.

3. Engage the outer groove of the shift cable on the Remote Control side with the clamp groove of the housing. Insert a grommet, supplied with the Remote Control Box, into the clamp groove.
Connecting the Remote Control Cable to the Engine

1 Detach the upper engine cover by turning the lever.

2 Detach the bracket and set Cable harness B and Remote Control Cables. Having fixed the Remote Control Cables to the bracket, tie them to the lower engine cover.

3 Detach the throttle and shift cable joints by removing the R-shaped pins.

---

a - Bracket
b - Screw
c - Throttle Cable
d - Shift Cable
e - Cord Harness B
f - Grommet
g - Clutch Cable
h - Cord Assembly B
i - Battery Cord
j - Throttle Cable Joint
k - R-Shaped Pin
l - Washer
m - Shift Cable Joint

---

1 - Throttle Arm
2 - Shift Arm
3 - Grommet
4 - Shift Arm Pin
5 - E-Ring
6 - Back Plate
7 - Remote Control Box
8 - Spacer
9 - Screw
10 - Washer
11 - Nut
12 - Shift Arm Pin
13 - Terminal Eye
14 - Shift Cable
Thread at least 15 mm (0.59 in.) of the Remote Control Cables through the terminal eyes. Securely lock the terminal eyes with lock nuts.

Move the Remote Control lever Forward, to Neutral and to Reverse to confirm the shift is working, and then set the lever to Neutral.

Double-check that the Remote Control Cables, the throttle cable and shift cable have been connected correctly. Move the Remote Control Lever Forward until the first engaging point (approx. 32°), the cable switch is moved the first when the lever is turned, is a shift cable. Check that the shift lever is in Neutral and the fast - idle lever is fully closed when the remote control cables have been connected.

6 The advancer arm on the engine should have contact with the stopper of the carburetor throttle valve to enable it to be fully closed.

7 Adjust cable joint until the hole meets with the Advancer Arm pin. After adjustment, lock a cable joint with a nut and secure with R-shaped pin.
REMOTE CONTROL BOX

a - Cable Harness A
b - Cable Harness B
c - Lead Wires
d - Fitting Plate
e - Dash Board
f - 50° - 70°

Connecting Cords and Cable
1 Connect cable harness B to cable harness A.
2 Connect pink and light blue leads from cable harness A and B to each other.

⚠️ DANGER
Do not disconnect the electric couplers while the engine is running, as this will damage the C.D. unit and could result in a serious electric shock.

REMOTE CONTROL BOX

a - Selector
b - Tachometer
c - Trim Meter

Installing the Meters
3 Install the meters securely in the dashboard where they can be easily read and are not exposed to water splashes. The recommended dashboard thickness is 2-11 mm (0.08-0.4 in.). For dashboards thicker than 11 mm (0.4 in.), the fitting plate would be cut accordingly. Be sure to tighten the fitting nuts on the fitting plate evenly.

The dashboard inclination should be 50° - 70°.
4 All models of the 40 Lightning XR series have six electric poles. Set the tachometer selector knob to "6P".
5 Cut holes with 85 mm (3.346 in.) diameter for the tachometer and 52.5 mm (2.067 in.) for the trim meter.
Installing the Drag Link Assembly

Incorrect installation of the Drag Link Assembly can result in accidents while riding the boat or breakage of the hull.

Installation of the Drag Link Assembly by a Mercury Marine dealer is highly recommended.

**NOTE:** Depending on the steering cable manufacturer, spacers (optional) may be required.

1. Connect the Drag Link Rod to the tip of the steering cable. Tighten the rod using self-locking nut, making sure the rod can swing freely.

2. Connect the other tip of the rod to the steering bracket with a bolt, applying a collar and washer. The bolt head must face downward. Secure with a split pin to the bolt.

**NOTE:** Apply Quicksilver grease in required places.

**NOTE:** Apply Quicksilver grease inside the bracketed bolt.
Battery

1. Keep the battery in the designated battery space of the boat. Secure it tightly and make sure it cannot be reached by water.

2. Connect the positive (+) cable connector (with red tube) to the positive (+) terminal first. Then connect the negative (−) cable connector to the negative (−) terminal. When disconnecting the battery, always disconnect the negative (−) cable first.

3. A 12V battery with a recommended capacity of 70 AH or over is recommended.

NOTE: Battery cables would be of sufficient length to allow free movement of the engine.

NOTE: Keep battery cables in a tidy arrangement, and protect them from damage (from steering, etc.).

NOTE: The engine will not start if cable connectors are loosely connected.

NOTE: The battery charging system will be damaged if the polarity (+ and −) is reversed.

NOTE: Be sure the battery is fully charged prior to starting the engine.

DANGER
Hydrogen gas is generated when charging a battery. Thus, keep the battery well ventilated during charging.

Remove from boat, this will protect your hull interior from damage.

Electric sparks, cigarette smoking and other sources of fire must be avoided in the charging area to prevent explosion of the battery.

DANGER
The battery fluid (electrolyte) contains sulfuric acid.

If electrolyte is spilled on the skin, clothes, etc. wash with plentiful amounts of water and consult a medical doctor. Always use safety glasses and rubber gloves when handling the battery.
Gasoline

Premium (super) gasoline is highly recommended for Mercury Marine Outboard motors.

Gasoline should be a minimum pump posted octane rating of 87 (91 be research octane rating).

Gasoline containing alcohol, methanol (methyl), or ethanol (ethyl), may cause:
- Wear and damage on bearings, piston, piston rings and cylinder liners.
- Corrosion on metal parts.
- Deterioration of rubber parts and plastic parts.

Oil Recommendation

Use Quicksilver NMMA Certified TC-W3 or TC-WII 2-Cycle Outboard Oil.
- Quicksilver Certified TC-W3 Outboard Oil is a higher grade oil that provides increased lubrication and extra resistance to carbon buildup when used with good or varying grades of gasoline.
- Quicksilver Certified TC-WII Outboard Oil is an industry-leading oil that provides superior outboard lubrication and resistance to carbon buildup when used with good grades of gasoline.

Periodically consult with your dealer to get the latest gasoline and oil recommendations. If Quicksilver 2-Cycle Outboard Oil is not available, substitute a 2-Cycle outboard manufacturers oil that is NMMA Certified TC-W3 or TC-WII, or another brand of 2-Cycle outboard oil that is NMMA Certified TC-W3 or TC-WII. The use of an inferior 2-Cycle outboard oil can reduce engine durability. Damage from use of inferior oil may not be covered under the limited warranty.

Auto-mixing Model

The required amount of engine oil is automatically supplied from the oil tank, through the oil pump, according to the engine running conditions. Gasoline is fed over a separate feeding line.

⚠ CAUTION

During break-in of the engine, engine oil must be added to the fuel gasoline in addition to the oil which is automatically supplied from the oil tank.

MIXING RATIO (during break-in on auto-mixing models)

<table>
<thead>
<tr>
<th></th>
<th>Engine Oil</th>
<th>Gasoline</th>
</tr>
</thead>
<tbody>
<tr>
<td>During Break-In</td>
<td>1</td>
<td>50</td>
</tr>
<tr>
<td>After Break-In</td>
<td>Automatic</td>
<td>Fill up engine oil tank regularly.</td>
</tr>
</tbody>
</table>
**FUEL & ENGINE OIL**

a - Pilot Lamp in Tachometer

**Alarm for Low Engine Oil Level**

If the level in the oil tank falls below 0.4 liters (0.105 U.S. gallons) the Low Engine Oil alarm will be triggered.

The engine oil tank capacity is 2 liters (0.52 U.S. gallons).

40 LIGHTNING XR

The pilot lamp in the tachometer lights and the buzzer in the Remote Control Box sounds if the engine oil level falls below 0.4 liters (0.105 U.S. gallons).

**RESETTING THE LOW OIL LEVEL ALARM**

Reduce engine speed to trolling RPM and steer towards a safe area with calm water. Set the Remote Control Lever to neutral (buzzer will stop). Turn off the ignition switch, and fill up the oil tank with recommended engine oil.

Start the engine, and move the Remote Control Lever Forward carefully. Confirm that the indicator lamp goes out and the buzzer does not sound.

---

**WARNING**

Be sure to stop the engine before oil replenishment. If the engine is not stopped, your clothes may become caught in the flywheel or a fire could result from spilled oil. Wipe off any spilled oil afterward with a rag.

**CAUTION**

In the unlikely event that gasoline by mistake is filled into the oil tank, drain the oil tank completely, and consult an authorized Mercury Marine service shop for advice.

**CAUTION**

Check the amount of oil in the oil tank visually before starting the engine. Running out of oil at sea is a cause for potential disaster.
Oil Pump Air Vent

Visually check whether there is air in the oil through the vinyl pipe connecting the oil tank with the oil pump. If present, purge the air as follows:

- Loosen the air vent screw on the oil pump to purge the air, and tighten it when all air, as seen through the vinyl pipe on the oil pump side, has been purged.

**NOTE:** Wipe off any spilled oil with a rag, and dispose of it.
PREPARATIONS

1. Loosen the air vent screw on the fuel tank cap.
2. Connect the fuel connector to the engine.
3. Feed fuel to the carburetor by squeezing the primer bulb until firm.

CAUTION

NEVER fill up portable tanks on board to avoid fire or explosion.

WARNING

DAILY CHECK – Before moving out with the boat, confirm if the stop switch works normally by repeating the engine start and stop in several times.

CAUTION

Be sure to connect the emergency stop line to your wrist. The engine is shut down if the stop line switch is disconnected. This is a safety measure, designed to protect the driver from propeller injury if he is thrown overboard. The engine will not start unless this switch has been properly connected and locked beforehand.
RUNNING

a - Neutral (N)
b - Fully Opened
c - Fully Closed
d - Fast -- Idle Lever
e - Ignition Key
f - Stop Switch
g - Off
h - On
i - Start
j - Push to Choke

1 Insert the key into the ignition.
2 Set the Remote Control lever to Neutral (N), and move the accelerator lever to Open.
3 Turn the main switch key to ON, and push on it for choke operation. (The key need not be pushed if the engine is warm.)

NOTE: The free accelerator lever is inoperative unless the Remote Control lever is set to Neutral.

4 While keeping the key pressed, turn it to START.

NOTE: If the engine is warm, there is no need to press the key for choking when turning it to START.

5 When the engine starts, release the key and allow it to return to ON.

IMPORTANT: Extended operation of the starter motor will run the battery down. Operate the starter motor for maximum 5 seconds. If the engine does not start, wait for 10 seconds before operating the starter motor again or starter will be damaged.

IMPORTANT: NEVER operate the starter motor once the engine has started.

IMPORTANT: If the starter motor won't turn over, check that the battery terminal connections are tight and the battery is fully charged.
**Manual Start (in Case of Trouble with the Recoil Starter of the Electric Starter Motor)**

1. Set the Remote Control Lever to Neutral.
2. Remove the Upper Engine Cover. Then, take off the Flywheel Cover.
3. Pull the choke knob.
4. Lift up the free accelerator lever 1/3 to 1/2 of its stroke.
5. Turn the main switch key to "ON".
RUNNING

6 Wind the starter rope around the flywheel a few turns. Give it a sharp tug to start the engine. Use a socket wrench or similar to get a firm grip on the end of the rope.

**CAUTION**

Be careful that your clothes or other items do not get caught in the rope or other engine parts. To prevent your clothes and other items from getting caught in the engine, do not install the flywheel cover nor the Upper Engine Cover after the engine is started with the starter rope. In this case be sure nobody sits in the vicinity of the engine, and run carefully. Immediately contact an authorized Mercury marine dealer when reaching shore.

Warm-Up

Before driving the boat, let the engine run at low speed for approximately three minutes to let it warm and allow the oil to circulate through the machine. If the engine is not warmed up beforehand, the engine life will shorten greatly. During the warm-up operation, confirm that cooling water is discharged from the check port and idle port.

**CAUTION**

If cooling water is not discharged and engine operation is continued, the engine will overheat and damage occur.

ENGINE SPEED

Proper idle speed for warm-up operation.

<table>
<thead>
<tr>
<th>Clutch engaged</th>
<th>Clutch disengaged (reference)</th>
</tr>
</thead>
<tbody>
<tr>
<td>650-700 rpm</td>
<td>850-900 rpm</td>
</tr>
</tbody>
</table>

Do not exceed the full-throttle engine speed.

**Full-throttle engine speed**

| 40 Lightning XR 4500-5500 |

Overheat Buzzer and Sensor

**STANDARD EQUIPMENT**

The overheat buzzer will sound if the engine temperature exceeds the preset level. The engine speed will drop automatically.

If the buzzer sounds, indicating overheating, immediately move the Remote Control Lever to Neutral. Confirm that cooling water is discharged from the check port, and then stop the engine. Turn the main switch key to OFF.

Remove dirt and other foreign matter clogging the water inlets on the gearcase.

**NOTE:** If the buzzer sounds frequently after restarting the engine, please contact an authorized Mercury Marine service shop.
1 While pressing the lock button on the Remote Control lever upward, swiftly move the Lever to Forward (F) or Reverse (R) to the engaging point (approx. 32 forward or backward from Neutral). If the lever is moved further forward or backward, the throttle will open.

Shallow Water Running

⚠️ CAUTION
When in shallow water running, take care that the water strainer is submerged at all times and that water is continuously running out of the cooling water check port.

⚠️ CAUTION
Be sure to run slowly when using the shallow water drive. Running at higher speeds will result in lack of control and may cause damage to the gear case.

⚠️ CAUTION
Make sure that the motor does not strike the bottom, especially when running in REVERSE. If the motor strikes the bottom while reversing, the impact is transmitted to the transom, risking damage to both the motor and the boat.

Tilt up the engine using the Power Trim & Tilt system.


OPERATION

1 - Neutral (N)
2 - Off
3 - On
4 - Stop Switch Lock Plate

Stopping the Engine

⚠️ CAUTION ⚠️
NEVER stop the engine immediately after a full throttle run. Keep it running for two or three minutes at idling speed (Shift Lever set to Neutral) to allow it to cool down.

1. Move the Remote Control lever to Neutral and let the engine idle for 2 – 3 minutes to allow it to cool down.

2. Turn the main switch key counter-clockwise or pull out the stop switch. The engine stops. The engine can also be stopped by pressing on the stop switch.

**NOTE:** When the engine stopped, close the air vent screw on the fuel tank.

**NOTE:** Disconnect the fuel connector from the engine.

**NOTE:** Disconnect the cables from the battery if the engine will not be used for an extended period of time.

3. Disconnect the fuel connector from the engine.
4. Close the air vent screw on the fuel tank cap.
TRIM ADJUSTMENT

The provided Power Trim & Tilt can be adjusted to set the desired trim angle of the engine in relation to the transom shape, planning speeds and load. It is imperative that the trim angle is adjusted correctly. Incorrect adjustment will cause the boat to sway, deteriorate engine performance and may cause unsafe steering conditions.

⚠️ CAUTION

The Power Trim & Tilt can be set to any trim angle, however, avoid cruising with the engine tilted in the tilt range. Operating the boat in this manner, the engine may suck air into the water cooling system, resulting in engine overheating.

HOW TO USE THE TRIM METER:

1. When the trim angle is set as desired, take a reading off the trim meter, and record it for future reference.

IMPROPER TRIM ANGLE (BOW RISES TOO HIGH)

2. If the trim angle is excessive, the bow will rise down out of the water and the speed will decrease. Furthermore, the bow may sway or the bottom may slam the water while cruising.

3. In this case, decrease the trim angle by flicking the switch on the Remote Control Level to “DN”.

a - Trim Angle Adjustable Range
b - Down (DN)
TRIM ADJUSTMENT

IMPROPER TRIM ANGLE (BOW DIPS INTO THE WATER)

4 If the trim angle is too small, the bow will dip into the water, the speed will decrease, and water may enter the boat.

5 In this case, the trim angle should be increased by flicking the switch on the Remote Control Lever to “UP”.

PROPER TRIM ANGLE

6 The trim angle is optimum when the boat is parallel to the water surface while running.

MOORING WITH THE ENGINE TILTED UP

When the engine has been stopped and it will not be used for a long time or when mooring in shallow water, tilt the engine up to prevent damage on the propeller and gear case.

1 Disconnect the fuel connector from the engine.

2 Operate the Power Trim & Tilt switch on the Remote Control Lever and tilt the engine up. (The Main Switch must be “ON”.)

3 The engine can also be tilted up using the switch provided under the Lower Engine Cover. (The Main Switch need not be turned “ON” in this case.)
MOORING WITH THE ENGINE TILTED UP

4 Lock the tilt with the Tilt stopper after the engine has been tilted up.

5 If the battery is dead, and the Power Trim & Tilt Switch thus inoperative, turn the manual valve a few turns in the Manual direction. This will allow manual tilting of the engine.

MANUAL TILTING

a - Tilt Stopper
b - Manual
c - Power

DISMOUNTING THE ENGINE FROM THE BOAT

1 Stop the engine, disconnect the fuel connector and loosen the drain screws on the carburetors to discharge fuel from them.

⚠️ CAUTION

Beware of explosion danger. Spilled and vaporized gasoline may easily catch fire and explode. Be sure to fully discharge gasoline from the carburetors when transporting the engine. Wipe off spilled gasoline with a rag.

2 Disconnect the Steering Cable, the Remote Control Cables, the electrical cables and the battery cables.

3 Remove the engine from the boat. Keep the engine in an upright position until water stops dripping from the gear case. Always carry the engine at a higher position than the propeller when carrying the unit.

⚠️ CAUTION

Screw the manual valve fully (20–30 kg·cm 17.4–26 lb. in). Pressurized oil in the reservoir tank may spurt out.
DISMOUNTING THE ENGINE FROM THE BOAT

4 When carrying or putting the engine up for storage, make sure the side with the electric pump of the Power Trim and Tilt down otherwise air will enter the pump system for the Power Trim and Tilt operation.

ADJUSTMENT

a - Lighter
b - Heavier
c - Throttle Friction Adjustment Screw
d - Trim tab
e - Turning Left
f - Turning Right

Remote Control Lever Load
1 (Throttle friction adjustment screw) To adjust the load of the Remote Control Lever, turn the throttle friction adjustment screw on the front of the Remote Control Box. Turn clockwise to increase the load and counter-clockwise to decrease it.

Trim Tab Adjustment
2 If straight-line cruising cannot be achieved, adjust the trim tab located under the anti-cavitation plate.

A If the boat veers towards the right, direct the trim tab towards A.
B If the boat veers towards the left, direct the trim tab towards B.

NOTE: The trim tab also acts as an anode to prevent electrolytic corrosion. Thus do not paint or grease this part.

NOTE: After adjustment securely tighten the trim tab fixing bolt.

NOTE: Check for looseness of the bolt and the trim tab at regular intervals. Due to corrosion, the trim tab will over time wear down.
### Daily Inspection Checklist

Perform the following checks and inspection before and after use.

<table>
<thead>
<tr>
<th>Item</th>
<th>Points to Check</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fuel System</strong></td>
<td>• Check the amount of fuel in the tank.</td>
<td>Replenish</td>
</tr>
<tr>
<td></td>
<td>• Check for dust or water in the fuel filter.</td>
<td>Clean</td>
</tr>
<tr>
<td></td>
<td>• Check rubber pipes for oil leakage.</td>
<td>Replace</td>
</tr>
<tr>
<td><strong>Lubrication System</strong></td>
<td>• Check the amount of engine oil in the oil tank.</td>
<td>Replenish</td>
</tr>
<tr>
<td></td>
<td>• Check for dust or water in the oil filter.</td>
<td>Clean</td>
</tr>
<tr>
<td><strong>Electrical Equipment</strong></td>
<td>• Check the spark plugs for dirt, wear and carbon build-up.</td>
<td>Clean or replace</td>
</tr>
<tr>
<td></td>
<td>Spark plugs 40 Lightning XR: NGK B-7HS-10/NGK BR7HS-10 or Champion L-82C (1.0 mm gap)</td>
<td>Remedy or replace</td>
</tr>
<tr>
<td></td>
<td>• Check if the main switch functions normally.</td>
<td>Remedies or recharge</td>
</tr>
<tr>
<td></td>
<td>• Check if the battery electrolyte level and specific gravity are normal.</td>
<td>Retighten</td>
</tr>
<tr>
<td></td>
<td>• Check for loose connections on battery terminal.</td>
<td>Remedy or replace</td>
</tr>
<tr>
<td></td>
<td>• Check if the emergency stop switch functions normally and make sure the lock plate is present.</td>
<td>Correct or replace</td>
</tr>
<tr>
<td></td>
<td>• Check cables for loose connections and damage.</td>
<td></td>
</tr>
<tr>
<td><strong>Throttle System</strong></td>
<td>• Check if the choke solenoid and valve for the carburetor works normally.</td>
<td>Replace</td>
</tr>
<tr>
<td></td>
<td>• Check if the carburetor and magneto work normally when turning the throttle grip, and also check links for looseness.</td>
<td>Correct</td>
</tr>
</tbody>
</table>
### INSPECTION AND MAINTENANCE

<table>
<thead>
<tr>
<th>Item</th>
<th>Points to Check</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recoil Starter</td>
<td>• Check ropes for wear and damage.</td>
<td>Replace</td>
</tr>
<tr>
<td>Clutch and Propeller System</td>
<td>• Check if the clutch engages correctly when operating the Remote Control.</td>
<td>Adjust Correct or replace</td>
</tr>
<tr>
<td></td>
<td>• Check the propeller for bent or damaged blades.</td>
<td>Replace Correct</td>
</tr>
<tr>
<td></td>
<td>• Check if the propeller nut is tightened and the split pin is present.</td>
<td></td>
</tr>
<tr>
<td>Installation of Motor</td>
<td>• Check all the motor installation bolts with the boat.</td>
<td>Tighten</td>
</tr>
<tr>
<td></td>
<td>• Check the tilt pin installation.</td>
<td></td>
</tr>
<tr>
<td>Power Trim &amp; Tilt</td>
<td>• Check working of the tilt up and down of the motor.</td>
<td>Tighten</td>
</tr>
<tr>
<td>Cooling Water</td>
<td>• Check that cooling water is discharged from the cooling water check port after the engine has started.</td>
<td></td>
</tr>
<tr>
<td>Tools and Spares</td>
<td>• To be ready tools and spare parts for replacing spark plugs, propeller, etc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Check if the spare rope is provided.</td>
<td></td>
</tr>
<tr>
<td>Steering Devices</td>
<td>• Check working of steering handle and remote control.</td>
<td></td>
</tr>
<tr>
<td>Other Parts</td>
<td>• Check if the anode and trim tab are securely installed.</td>
<td>Repair if necessary Replace</td>
</tr>
<tr>
<td></td>
<td>• Check the anode and trim tab for corrosion and deformation.</td>
<td></td>
</tr>
</tbody>
</table>

### Washing with Fresh Water

1. When the engine has been used in salt water or polluted water, wash the exterior and flush the cooling passage with fresh water using the flushing plug.

2. Screw the included flushing plug (hose adapter) into the wash hole on the gear case. Connect a water hose to the flushing plug and flush out with water. (Be sure to secure the water strainer and sub-water strainer on the gear case beforehand.)

3. Wash the engine before long-term storage. Run the engine at low speed with the Remote Control lever set to Neutral to flush out fresh water from the cooling system and in the process remove salt, mud and other foreign particles.

**NOTE:** Run the engine at low speed when flushing the cooling system.

---

**WARNING**

To prevent rotation of the propeller, remove it before flushing the passage.
Replacing the Propeller

A worn or bent propeller will affect engine performance and may cause engine trouble.

1. Pull out the split pin and remove the propeller nut and washer.
2. Remove the propeller by pulling toward you.
3. Apply genuine Quicksilver grease to the propeller shaft before mounting the new propeller.
4. Fit the washer, securely tighten the nut and insert the split pin.

⚠️ CAUTION

Before removing the propeller, remove the spark plug caps from the spark plugs for your safety.

---

Replacing the Spark Plugs

1. Remove the upper engine cover.
2. Remove the spark plugs by turning counter-clockwise with the socket wrench (21mm) fitted with the handle. Tap lightly on the spark plugs if they are hard to turn.

⚠️ CAUTION

Do not touch the high tension cords running from the ignition coil to the spark plugs while the engine is running or it is turned by the electric starter motor, not even for testing the high tension cords or the spark plugs. The high tension cords and the spark plugs generate very high electric voltage, which can cause a serious electric shock if touched.

Use genuine Quicksilver spark plugs

40 Lightning XR: NGK B7HS-10/BR7H-10 or recommended ones (CHAMPION L82C gap 1.0)
## Periodic Inspection Checklist

It is important to inspect and maintain your outboard motor regularly. At each interval on the chart below, be sure to perform the indicated servicing. Maintenance intervals should be determined according to the number of hours or number of months, whichever comes first.

### Fuel System

<table>
<thead>
<tr>
<th>Item</th>
<th>10 hrs. or 1 month</th>
<th>50 hrs. or 3 months</th>
<th>Every 100 hrs. or 6 months</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Carburetor</em></td>
<td>o</td>
<td>o</td>
<td></td>
<td>Disassemble, clean and adjust. Adjust idling.</td>
</tr>
<tr>
<td>Fuel Filter</td>
<td>o</td>
<td>o</td>
<td></td>
<td>Check and clean.</td>
</tr>
<tr>
<td>Piping</td>
<td></td>
<td>o</td>
<td></td>
<td>Check and clean.</td>
</tr>
<tr>
<td>Fuel Tank</td>
<td>o</td>
<td>o</td>
<td></td>
<td>Clean.</td>
</tr>
</tbody>
</table>

### Ignition

<table>
<thead>
<tr>
<th>Item</th>
<th>10 hrs. or 1 month</th>
<th>50 hrs. or 3 months</th>
<th>Every 100 hrs. or 6 months</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spark Plugs</td>
<td>o</td>
<td>o</td>
<td></td>
<td>Check gaps. Remove carbon deposits.</td>
</tr>
<tr>
<td><em>Ignition Timing</em></td>
<td></td>
<td>o</td>
<td></td>
<td>Adjust timing.</td>
</tr>
</tbody>
</table>

### Starting System

<table>
<thead>
<tr>
<th>Item</th>
<th>10 hrs. or 1 month</th>
<th>50 hrs. or 3 months</th>
<th>Every 100 hrs. or 6 months</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Starter Motor</em></td>
<td></td>
<td></td>
<td></td>
<td>Check for salt deposits and battery cable condition.</td>
</tr>
<tr>
<td>Battery</td>
<td>o</td>
<td>o</td>
<td></td>
<td>Inspect and test.</td>
</tr>
<tr>
<td>Starter Rope</td>
<td>o</td>
<td>o</td>
<td></td>
<td>Check for wear or damage.</td>
</tr>
</tbody>
</table>

### Lower Unit (Replace impeller every 12 months)

<table>
<thead>
<tr>
<th>Item</th>
<th>10 hrs. or 1 month</th>
<th>50 hrs. or 3 months</th>
<th>Every 100 hrs. or 6 months</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propeller</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>Check for damage and wear</td>
</tr>
<tr>
<td>Gear Oil</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>Change oil and check for water contaminants</td>
</tr>
<tr>
<td>Water Pump</td>
<td></td>
<td>o</td>
<td>o</td>
<td>Check for wear or damage.</td>
</tr>
</tbody>
</table>

### *Engine Oil System*

<table>
<thead>
<tr>
<th>Item</th>
<th>10 hrs. or 1 month</th>
<th>50 hrs. or 3 months</th>
<th>Every 100 hrs. or 6 months</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil Tank</td>
<td></td>
<td>o</td>
<td>o</td>
<td>Check for leakage, damage, position of clips, and filter conditions. Repair or consult your dealer.</td>
</tr>
<tr>
<td>Oil Pipe</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td></td>
</tr>
<tr>
<td>Oil Filter</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Miscellaneous

<table>
<thead>
<tr>
<th>Item</th>
<th>10 hrs. or 1 month</th>
<th>50 hrs. or 3 months</th>
<th>Every 100 hrs. or 6 months</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bolts and Nuts</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>Retighten.</td>
</tr>
<tr>
<td>Sliding and Rotating</td>
<td></td>
<td></td>
<td>o</td>
<td>Apply and pump in grease.</td>
</tr>
<tr>
<td>Parts, Grease Nipples</td>
<td></td>
<td></td>
<td>o</td>
<td></td>
</tr>
<tr>
<td><em>Power Trim and Tilt</em></td>
<td></td>
<td></td>
<td>o</td>
<td>Check power unit oil level and refill. Check function of manual release valve.</td>
</tr>
<tr>
<td>Outer Equipment</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>Check corrosion.</td>
</tr>
<tr>
<td>Anode and Trim Tab</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>Check corrosion and deformation. Replace.</td>
</tr>
</tbody>
</table>

For checking the items marked with *, consult with the dealer.
INSPECTION AND MAINTENANCE

**Changing Gear Oil**

1. Remove oil plugs (upper and lower), and drain the gear oil completely.
2. Insert the oil tube nozzle into the lower oil plug hole, and squeeze the tube until the oil flows out of the upper plug hole.
3. Install the upper oil plug. Then remove the oil tube nozzle and install the lower oil plug.

**NOTE:** Use only genuine or recommended gear oil or, if not available, an API (American Petroleum Institute) oil grade of GL5 SAE #80 – SAE #90. Required volume: approx. 500cc (16.89 U.S. fluid oz.)

**Cleaning Tanks and Filters**

1. Fuel filters are provided inside the fuel tank and on the engine.
   
   **A** Steel tank
   
   Remove the fuel tank housing by loosening the four screws. Then clean the fuel filter.
   
   **B** Plastic tank
   
   Loosen a Fuel Pick-up Elbow and remove it. Then cleaning a Fuel Filter

**CLEANING FUEL TANK**

Water or dirt in the fuel tank may cause engine trouble. Clean the tank at specified times or after long time storage (over three months).

2. Clean the filters on the engine after removing the fuel filter cases.
INSPECTION AND MAINTENANCE

3 Oil filter and oil tank. Check the oil tank and/or filter for entrapped water and dust.
A Disconnect all pipes between the oil tank and oil pump of the outboard engine.
B Clean out foreign matter.
C Refit the pipes to the oil tank and pumps, and then fill up with new engine oil.
D For air purging, refer to page 28.

Checking and Refilling Oil in the Power Trim & Tilt
1 Check the oil level of the reservoir tank as shown on the right while the tank is kept in a vertical position. Tilt the engine up to check the oil level in the tank. Remove the oil plug by turning counter-clockwise, then check if the oil level reaches the bottom line of the plug hole.

WARNING
Do not fully unscrew the oil plug with the engine tilted down. Pressurized oil in the oil tank may spurt out.

RECOMMENDED OIL
Use an automatic transmission fluid approved by GM.
Recommended oils are as shown below.
- MOBIL: MOBIL DTE #22, MOBIL ATF 220
- SHELL: SHELL DEXTRON-II, SHELL OIL #22 K22
- ESSO: ESSO AUTOMATIC TRANSMISSION OIL
INSPECTION AND MAINTENANCE

3 Oil filter and oil tank. Check the oil tank and/or filter for entrapped water and dust.
   A Disconnect all pipes between the oil tank and oil pump of the outboard engine.
   B Clean out foreign matter.
   C Refit the pipes to the oil tank and pumps, and then fill up with new engine oil.
   D For air purging, refer to page 28.

Checking and Refilling Oil in the Power Trim & Tilt

1 Check the oil level of the reservoir tank as shown on the right while the tank is kept in a vertical position. Tilt the engine up to check the oil level in the tank. Remove the oil plug by turning counter-clockwise, then check if the oil level reaches the bottom line of the plug hole.

⚠️ CAUTION
Do not fully unscrew the oil plug with the engine tilted down. Pressurized oil in the oil tank may spurt out.

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- ESSO: ESSO AUTOMATIC TRANSMISSION OIL
WINTER STORAGE

⚠️ WARNING

When the motor is out of the water, being transported, or in storage, always remove the positive (+) battery cable to prevent accidental starting of the engine. Accidental starting when the motor is out of the water will cause water pump failure, overheating and damage to the engine due to a lack of cooling water.

⚠️ WARNING

DO NOT disconnect the electrical harness when operating the motor. This model will continue to run and can be started with the electrical harness disconnected. Remove all spark plug connectors from the spark plugs when servicing the engine or propeller.

When your outboard motor is in storage, this is a good opportunity to have it serviced and overhauled by your Mercury Marine dealer.

Engine

1. Wash the engine exterior and flush the cooling water system thoroughly with fresh water. Let the water drain completely. Wipe off any surface water with an oily rag.

2. Drain all fuel from the fuel pipes, fuel pump and carburetor, and clean these parts. To prevent corrosion of the fuel tank, fill it up with engine oil-rich gasoline. Keep in mind that if gasoline is kept in the carburetor for a long time, gum and varnish will be generated, causing the float valve to stick.

3. Remove the spark plugs and feed genuine Engine Oil or storage fogging oil through the spark plug holes. The oil will be fed into the crank case and the air silencer attached to the carburetors. Turn the engine over several times while feeding the oil into it and make sure it is evenly distributed.

4. Apply grease to the propeller shaft.

5. Change the gear oil in the gear case.

6. Apply grease to all sliding parts, joints, nuts and bolts.

7. Use a dry cloth to completely wipe off water and salt from the electrical components.

8. Remove the fuel connector from the engine.

9. Stand the engine vertically in a dry place.

Battery

1. Disconnect the battery cables.

2. Clean the exterior of the battery with fresh water or compressed air. Wipe off any chemical deposits, dirt and grease from the battery.

3. Apply grease or Vaseline to the battery terminals.

4. Charge the battery completely before storing it for the winter.

5. Recharge the battery once a month to prevent it from discharging and the electrolyte from deteriorating.

6. Store the battery in a dry place with its cover attached.

⚠️ CAUTION

Do not allow the battery to discharge, since it can be damaged by freezing.

⚠️ CAUTION

When storing your outboard for the winter, open up all the water drain holes in the gear case to permit any remaining water to drain out. If a speedometer is installed, disconnect the pickup tube and allow it to drain, then reconnect it after draining. Trapped water may crack the gear case or water pump case as a result of expansion when frozen. Check and replenish the gear case with case specified Gear Oil before storing the motor, to avoid water leakage into the gear case due to a loose lubricant vent plug or grease fill plug. Inspect the gaskets under the lubricant vent and grease plugs, replace them if necessary, and reinstall the plugs.

Electric Starter Motor

Coat the pinion gear and shaft of the electric starter motor with grease.
PRE-SEASON CHECK

Have your Mercury Marine dealer check the engine before the season starts, or if you prefer, be sure to check the following items yourself:

1. Check the electrolyte level, and measure the voltage and specific gravity of the battery.

<table>
<thead>
<tr>
<th>Specific Gravity at 20° C</th>
<th>Terminal Voltage (V)</th>
<th>Charge Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.120</td>
<td>10.5</td>
<td>Fully Discharged</td>
</tr>
<tr>
<td>1.160</td>
<td>11.1</td>
<td>1/4 Charged</td>
</tr>
<tr>
<td>1.210</td>
<td>11.7</td>
<td>1/2 Charged</td>
</tr>
<tr>
<td>1.250</td>
<td>12.0</td>
<td>3/4 Charged</td>
</tr>
<tr>
<td>1.280</td>
<td>13.2</td>
<td>Fully Charged</td>
</tr>
</tbody>
</table>

2. Check that the battery is secure and the battery cables installed properly.
3. Clean the engine oil filter.
4. Purge air in the vinyl pipe connecting the oil tank to the oil pump.
5. Check that the shift and throttle function properly.

(Be sure to turn the propeller shaft when checking the shift function or else the shift linkage may be damaged.)

PRE-SEASON CHECK

⚠️ CAUTION

The following steps must be taken when first using the engine after winter storage.

1. In addition to the oil in the oil tank, mix engine oil with the fuel in the following mixing ratio and fill up the fuel tank completely with 22.7 liters (6 U.S. gal.):
   - Mixing ratio: Gasoline 50:1 Engine oil
   - Use premium (super) gasoline and genuine Quicksilver Outboard Motor Oil. If this oil is not available, use another NMMA TC-W3 certified outboard motor oil from another manufacturer.

2. Purge any air from the oil filter assembly.
3. Warm up the engine for 3 minutes with the remote control lever in "NEUTRAL" position.
4. Run the engine for 5 minutes at the slowest speed.
5. Run the engine for 10 minutes at half speed.
   - In steps 2 and 3 above, the oil used for winter storage inside the engine will be cleaned out, and optimum performance will be assured.
6. When the full volume, 22.7 liters (6 U.S. gal.), of gasoline mixed with oil has been used, fill up the tank with pure gasoline only.
   - (For the auto-mixing types)
CHECKING AFTER STRIKING UNDERWATER OBJECT

Striking sea bottom or underwater object may severely damage the outboard. Immediately bring the outboard to the Mercury Marine dealer and ask for the following checks.

1. Looseness or damage of power unit installation bolts, gear case bolts, propeller shaft housing bolts, upper and lower mount rubber bolts and nuts, power trim and tilt bolts, and mount rubber cap bolts. Ask to tighten loose bolts and nuts, and to replace damaged parts.

2. Deformation and damage of mount rubber, tilt stopper, tilt pin, gears and clutch, and propeller. Ask to replace damaged or deformed parts.

IF THE ENGINE BECOMES SUBMERGED IN WATER

After picking up, immediately bring the outboard to your Mercury Marine dealer. Following are the emergency measures to be taken on the submerged outboard.

1. Take it out of water immediately and wash it with fresh water to remove all traces of salt and dirt.

2. Remove the spark plugs, and drain the engine completely of water. Turn the flywheel several times, using the starter rope.

3. Inject a liberal amount of Mercury Marine genuine engine oil or storage fogging oil into the engine through the spark plug holes and the air silencer. Turn the flywheel several times with the starter rope while injecting the oil to make sure the oil is evenly distributed.

4. After the above steps, it is still possible for the internal engine parts to be damaged. The electrical components and carburetors will soon deteriorate and become inoperative. Therefore, be sure to have the engine completely overhauled by a Mercury Marine service shop immediately.

PRECAUTIONS IN COLD WEATHER

When mooring in cold weather at sub-zero temperatures the water in the cooling water pump may freeze and severely damage the pump, impeller, and associated parts. To avoid this, submerge the lower half of the engine into the water, or tilt the engine and operate the electric starter motor for 5 seconds with the stop switch lock plate taken away to allow the water to drain completely.
## TROUBLESHOOTING

If you encounter a problem with the engine, check the list below and locate the problem you are experiencing. Then follow the suggested remedies. Do not hesitate to contact your local Mercury Marine dealer, as professional advice and assistance is the best way to keep the engine in optimum condition.

<table>
<thead>
<tr>
<th>Possible Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empty fuel tank.</td>
</tr>
<tr>
<td>Incorrect connection of fuel system.</td>
</tr>
<tr>
<td>Air entering in fuel line.</td>
</tr>
<tr>
<td>Deformed or damaged fuel pipe.</td>
</tr>
<tr>
<td>Closed air vent on fuel tank.</td>
</tr>
<tr>
<td>Clogged fuel filter, fuel pump or carburetor.</td>
</tr>
<tr>
<td>Use of improper engine oil.</td>
</tr>
<tr>
<td>Use of improper gasoline.</td>
</tr>
<tr>
<td>Excessive supply of gasoline.</td>
</tr>
<tr>
<td>Poor carburetor adjustment.</td>
</tr>
<tr>
<td>Recirculation pipe broken.</td>
</tr>
<tr>
<td>Use of non-specified spark plugs.</td>
</tr>
<tr>
<td>Dirt or carbon deposits on spark plugs.</td>
</tr>
<tr>
<td>No sparks or weak sparks.</td>
</tr>
<tr>
<td>Insufficient cooling water flow.</td>
</tr>
<tr>
<td>Faulty thermostat.</td>
</tr>
<tr>
<td>Propeller cavitation.</td>
</tr>
<tr>
<td>Incorrect propeller selection.</td>
</tr>
<tr>
<td>Damaged or bent propeller.</td>
</tr>
<tr>
<td>Unbalanced load in boat.</td>
</tr>
<tr>
<td>Transom too high.</td>
</tr>
<tr>
<td>Transom too low.</td>
</tr>
<tr>
<td>Incorrect adjustment of throttle link.</td>
</tr>
<tr>
<td>Incorrect adjustment of ignition timing.</td>
</tr>
<tr>
<td>Insufficient battery capacity, loose terminals, corrosion.</td>
</tr>
<tr>
<td>Faulty ignition switch or Power Trim &amp; tilt switch.</td>
</tr>
<tr>
<td>Remote Control lever not set to Neutral.</td>
</tr>
<tr>
<td>Safely switch lock plate not fitted.</td>
</tr>
<tr>
<td>Incorrect wiring disconnected or broken wire.</td>
</tr>
<tr>
<td>Starter motor failure.</td>
</tr>
<tr>
<td>Air in power trim &amp; tilt unit.</td>
</tr>
</tbody>
</table>
### ACCESSORIES

#### Servicing Tools

<table>
<thead>
<tr>
<th>Name</th>
<th>Qty.</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tool Bag</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Socket Wrench (21 mm)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Socket Wrench (10 x 13)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Socket Wrench handle</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Pliers</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Screwdriver (Phillip-type and flat head)</td>
<td>1</td>
<td>Adaptor type</td>
</tr>
</tbody>
</table>

#### Spare Parts

<table>
<thead>
<tr>
<th>Name</th>
<th>Qty.</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Starter Rope 1,6000 mm</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Spark Plug</td>
<td>2</td>
<td>NGK B7HS-10</td>
</tr>
<tr>
<td>Split Pin</td>
<td>1</td>
<td>Diameter x length (3 x 25 mm)</td>
</tr>
</tbody>
</table>

### ACCESSORIES

#### Parts Packaged with Engine*

<table>
<thead>
<tr>
<th>Name</th>
<th>Qty.</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bracket Fixing Bolts</td>
<td>4</td>
<td>12 mm</td>
</tr>
<tr>
<td>Bracket Fixing Nuts</td>
<td>4</td>
<td>12 mm</td>
</tr>
<tr>
<td>Washers A, B</td>
<td>4 each</td>
<td>A (Large), B (Small)</td>
</tr>
<tr>
<td>Fuel Tank (with Primer Bulb)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Flushing Plug</td>
<td>1</td>
<td>For flushing cooling water passage</td>
</tr>
<tr>
<td>Remote Control Box</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Drag Link</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Trim Meter</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Lead Wire for Meter</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

*Not included as standard accessories in some markets.
PROPELLER SELECTION

To ensure optimum performance, the propeller should match the boat type and its load.

<table>
<thead>
<tr>
<th>Mark</th>
<th>Standard Propeller on the Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>D7</td>
<td></td>
</tr>
<tr>
<td>8.5</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>C12.5 40 Lightning XR L&quot; Transom</td>
</tr>
<tr>
<td>13</td>
<td>C13.5</td>
</tr>
<tr>
<td>14</td>
<td>C14.5</td>
</tr>
<tr>
<td>C16</td>
<td></td>
</tr>
</tbody>
</table>

Shows propeller with four blades.

Propeller Selection

For best all around performance from your outboard/boat combination, select a propeller that allows the engine to operate in the upper half of the recommended full throttle RPM range with the boat normally loaded (refer to Specifications). This RPM range allows for better acceleration while maintaining maximum boat speed.

If changing conditions cause the RPM to drop below the recommended range (such as warmer, more humid weather, operation at higher elevations, increased boat load, or a dirty boat bottom/gear case) a propeller change or cleaning may be required to maintain performance and ensure the outboards durability.

Check full-throttle RPM using an accurate tachometer with the engine trimmed out to a balanced-steering condition (steering effort equal in both directions) without causing the propeller to “break loose.”

WIRING DIAGRAM

1 - Pulser Coll Assembly 26 - Solenoid Switch Cord C
2 - Alternator 27 - Battery
3 - Exciter Coll 28 - Main Switch
4 - C.D. Unit 29 - Stop Switch
5 - Ignition Coll 30 - Overheat Buzzer
6 - Rectifier Complete 31 - Neutral Switch
7 - Starter Motor 32 - Power Trim & Tilt Switch
8 - Starter Solenoid 33 - Tachometer
9 - Power Trim & Tilt 34 - Trim Meter
10 - Power Trim & Tilt Solenoid Switch A 35 - Meter Lead
11 - Power Trim & Tilt Solenoid Switch B 36 - Oil Lamp
12 - Trim Sender 37 - Pilot Lamp
13 - Fuse 38 - Speedometer
14 - Choke Solenoid 39 - Water Pressure Meter
15 - Oil Level Sensor 40 - Hour Meter
16 - Over Heat Sensor 41 - Volt Meter
17 - Water Temperature Sensor 42 - Water Temperature Meter
18 - Battery Cord 43 - Fuel Meter
19 - Cord Assembly 44 - Fuel Gauge Sensor Unit
20 - Cord Assembly B 45 - Fuel Meter Cord
21 - Cord Assembly C 46 - Water Temperature Lead
22 - Power Trim & Tilt Switch B 47 - Meter Lamp Switch
23 - Starter Cord 48 - Assist Cord (Black)
24 - Solenoid Switch Cord A 49 - Assist Cord (Red)
25 - Solenoid Switch Cord B 50 - Assist Cord (Blue)

Abbreviation of Color Lead

B : Black  Br : Brown
G : Green   Lg : Light Green
Or : Orange P : Pink
R : Red   Sb : Sky Blue
W : White Y : Yellow
L : Blue

NOTE: () shows striped color.
WARRANTY REGISTRATION

United States And Canada

1. It is important that your selling dealer fills out the Warranty Registration Card completely and mails it to the factory immediately upon sale of the new product.

2. It identifies name and address of the original purchaser, product model and serial number(s), date of sale, type of use and selling dealer's code, name and address. The dealer also certifies that you are the original purchaser and user of the product.

3. Upon receipt of the Warranty Registration Card at the factory, you will be issued a plastic Owner Warranty Registration Card which is your only valid registration identification. It must be presented to the servicing dealer should warranty service be required. Warranty claims will not be accepted without presentation of this card.

4. A temporary Owner Warranty Registration Card will be presented to you when you purchase the product. It is valid only for 30 days from date of sale while your plastic Owner Warranty Registration Card is being processed. Should your product need service during this period, present the temporary registration card to the dealer. He will attach it to your warranty claim form.

5. Because of your selling dealer's continuing personal interest in your satisfaction, the product should be returned to him for warranty service.

6. If your plastic card is not received within 30 days from date of new product sale, please contact your selling dealer.

7. The product warranty is not effective until the product is registered at the factory.

NOTE: Registration lists must be maintained by factory and dealer on marine products sold in the United States, should notification under the Federal Boat Safety Act be required.
Outside the United States And Canada

1. It is important that your selling dealer fills out the Warranty Registration Card completely and mails it to the distributor or Marine Power Service Center responsible for administering the warranty registration/claim program for your area.

2. The Warranty Registration Card identifies your name and address, product model and serial number(s), date of sale, type of use and the selling distributor’s/dealer’s code number, name and address. The distributor/dealer also certifies that you are the original purchaser and user of the product.

3. A copy of the Warranty Registration Card, designated as the “Purchaser’s Copy”, MUST be given to you immediately after the card has been completely filled out by the selling distributor/dealer. This card represents your factory registration identification, and should be retained by you for future use when required. Should you ever require warranty service on this product, your dealer may ask you for the Warranty Registration Card to verify date of purchase and to use the information on the card to prepare the warranty claim form(s).

4. In some countries, the Marine Power Service Center will issue you a permanent (plastic) Warranty Registration Card within 30 days after receiving the “Factory Copy” of the Warranty Registration Card from your distributor/dealer. If you receive a plastic Warranty Registration Card, you may discard the “Purchaser’s Copy” that you received from the distributor/dealer when you purchased the product. Ask your distributor/dealer if this plastic card program applies to you.

5. For further information concerning the Warranty Registration Card and its relationship to Warranty Claim processing, refer to the “International Warranty”.

IMPORTANT: Registration lists must be maintained by the factory and dealer in some countries by law. It is our desire to have ALL products registered at the factory should it ever be necessary to contact you. Make sure your dealer/distributor fills out the warranty registration card immediately and sends the factory copy to the Marine Power International Service Center for your area.

LIMITED OUTBOARD WARRANTY

United States And Canada

1. We warrant each new production (not those made for high performance purposes) Mercury or Mariner Outboard Motor and accessories attached thereto, (hereinafter referred to as “Product”) to be free from defects in material and workmanship, but only when the customer purchases or obtains predelivery service from a Dealer authorized by us to distribute Mercury or Mariner Outboards, as the case may be, in the country in which the sale or predelivery service occurred.

2. This warranty shall become effective only upon our receipt of a completed Warranty Registration Card which shall identify the Product so registered by serial number. This warranty shall remain in effect for a period of one (1) year from date of purchase.

3. Since this warranty applies to defects in material and workmanship, it does not apply to normal worn parts, adjustments, tune-ups or to damage caused by: 1) Neglect, lack of maintenance, accident, abnormal operation or improper installation or service; 2) Use of an accessory or part not manufactured or sold by us; 3) Operation with fuels, oils or lubricants which are not suitable for use with the Product; 4) Participating in or preparing for racing or other competitive activities or operating with racing type lower unit; 5) Alteration or removal of parts; or 6) Water entering engine through the fuel intake, air intake or exhaust system.

4. Reasonable access must be provided to the product for warranty service. This warranty will not apply to: 1) Haul-out, launch, towing and storage charges, telephone or rental charges of any type, inconvenience, or loss of time or income, or other consequential damages; or 2) Removal and/or replacement of boat partitions or material because of boat design for necessary access to the Product.

5. Claim shall be made under this warranty by delivering the Product for inspection to a Mercury Marine dealer authorized to service the Purchaser’s Product. If purchaser cannot deliver Product to such authorized dealer, he may give notice in writing to the company. We shall then arrange for the inspection and repair, provided such service is covered under this warranty. Purchaser shall pay for all related transportation charges and/or travel time. If the service is not covered by this warranty, purchaser shall pay for all related labor and material, and any other expenses associated with that service. Any Product or parts shipped by purchaser for inspection or repair must be shipped with transportation charges prepaid. The Warranty Registration Card is the only valid registration identification and must be presented at the time warranty service is required. Warranty claims will not be accepted without presentation of the Warranty Registration Card.
LIMITED OUTBOARD WARRANTY

United States And Canada

6. Our obligation under this Warranty shall be limited to repairing a defective part, or at our option, refunding the purchase price or replacing such part or parts as shall be necessary to remedy any malfunction resulting from defects in material or workmanship as covered by this Warranty. The repair or replacement of parts, or the performance of service, under this warranty, does not extend the period of this warranty beyond its original expiration date. We reserve the right to improve the design of any Product without assuming any obligation to modify any Product previously manufactured.

7. ALL INCIDENTAL AND/OR CONSEQUENTIAL DAMAGES ARE EXCLUDED FROM THIS WARRANTY. WARRANTIES OF MERCHANTABILITY AND FITNESS ARE EXCLUDED FROM THIS WARRANTY. IMPLIED WARRANTIES ARE LIMITED TO THE LIFE OF THIS WARRANTY. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS OR THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSIONS MAY NOT APPLY TO YOU.

8. This warranty gives you specific legal rights, and you may also have other legal rights which vary from state to state.

LIMITED OUTBOARD WARRANTY

International Warranty (Outside The United States And Canada)

1. We warrant each new production (not those made for high performance purposes) Mercury or Mariner Outboard Motor and accessories attached thereto, (hereinafter referred to as “Product”) to be free from defects in material and workmanship, but only when the customer purchases or obtains predelivery service from a Dealer authorized by us to distribute Mercury or Mariner Outboards, as the case may be, in the country in which the sale or predelivery service occurred. This warranty shall remain in effect for a period of one (1) year from date of purchase.

2. Since this warranty applies to defects in material and workmanship, it does not apply to normal worn parts, adjustments, tune-ups or to damage caused by: 1) Neglect, lack of maintenance, accident, abnormal operation or improper installation or service; 2) Use of an accessory or part not manufactured or sold by us; 3) Operation with fuels, oils or lubricants which are not suitable for use with the Product; 4) Participating in or preparing for racing or other competitive activity or operating with a racing type lower unit; 5) Alteration or removal of parts; or 6) Water entering engine through the fuel intake, air intake or exhaust system.

For additional information regarding events and circumstances covered by warranty, and those that are not, see the Warranty Coverage section in the pages following this warranty. The terms and provisions of the Warranty Coverage section are incorporated by reference into this warranty.

3. Reasonable access must be provided to the product for warranty service. This warranty will not apply to: 1) Haul-out, launch, towing and storage charges, telephone or rental charges of any type, inconvenience, or loss of time or income, or other consequential damages; or 2) Removal and/or replacement of boat partitions or material because of boat design for necessary access to the Product.

4. Claim shall be made under this warranty by delivering the Product for inspection to a Mercury Outboard Dealer or Mariner Outboard Dealer authorized to service the Product. If purchaser cannot deliver Product to such authorized Dealer, he may give notice in writing to the nearest Marine Power Service Office or Distributor. The Marine Power Service Office or Distributor shall then arrange for the inspection and repair, provided such service is covered under this warranty. Purchaser shall pay for all related transportation charges and/or travel time. If the service is not covered by this warranty, purchaser shall pay for all related labor and material and any other expenses associated with that service. Any Product or parts shipped by purchaser for inspection or repair must be shipped with transportation charges prepaid.
LIMITED OUTBOARD WARRANTY

International Warranty (Outside the United States And Canada)

5. Purchaser must provide "proof of purchase" and substantiate "date of purchase" by presenting the "Purchaser's Copy" of the "Warranty Registration Card" or the plastic "Warranty Registration Card" to the dealer authorized to service the Product. If either of these items is not available, purchaser must provide a copy of the original "Bill of Sale" (Sales Contract) for the product to be serviced. Warranty Claims will not be accepted until adequate "proof of purchase" is presented by purchaser and the "date of purchase" has been substantiated.

6. Our obligation under this Warranty shall be limited to repairing a defective part, or at our option, refunding the purchase price or replacing such part or parts as shall be necessary to remedy any malfunction resulting from defects in material or workmanship as covered by this Warranty. The repair or replacement of parts, or the performance of service, under this warranty, does not extend the period of this warranty beyond its original expiration date. We reserve the right to improve the design of any Product without assuming any obligation to modify any Product previously manufactured.

7. ALL INCIDENTAL AND/OR CONSEQUENTIAL DAMAGES ARE EXCLUDED FROM THIS WARRANTY. WARRANTIES OF MERCHANTABILITY AND FITNESS ARE EXCLUDED FROM THIS WARRANTY. IMPLIED WARRANTIES ARE LIMITED TO THE LIFE OF THIS WARRANTY. SOME COUNTRIES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS OR THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSIONS MAY NOT APPLY TO YOU.

8. This warranty gives you specific legal rights, and you may also have other legal rights which vary from country to country.

3 Year Limited Warranty Against Corrosion Failure
(Applicable To The United States, Canada And Australia)

1. We warrant parts and assemblies of each 1988 and newer production Mercury and Mariner outboard (Product) sold with a one year limited Product warranty rendered inoperative as a direct result of corrosion, provided the following simple precautionary steps which are specified in Owner’s Manuals have been taken:
   a. Specified maintenance procedures (such as replacement of sacrificial anodes, specified lubrication and touch-up of nicks and scratches) have been implemented on a timely basis.
   b. Recommended corrosion prevention devices have been employed (details below).

2. This warranty shall become effective upon receipt of a completed standard Product warranty registration card and shall remain effective for a period of three years from the date of purchase.

3. This warranty does not cover:
   a. Electrical system corrosion;
   b. Corrosion resulting from damage, abuse or improper service;
   c. Corrosion to accessories, instruments, steering systems;
   d. Corrosion to factory installed jet drive unit;
   e. Damage due to marine growth;
   f. Product sold with less than a one year limited Product warranty; nor
   g. 1995 Model Year and Earlier product used in commercial application.

4. ALL INCIDENTAL AND/OR CONSEQUENTIAL DAMAGES ARE EXCLUDED FROM THIS WARRANTY. WARRANTIES OF MERCHANTABILITY AND FITNESS ARE EXCLUDED FROM THIS WARRANTY. IMPLIED WARRANTIES ARE LIMITED TO THE LIFE OF THIS WARRANTY. SOME COUNTRIES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS OR THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.
LIMITED OUTBOARD WARRANTY

3 Year Limited Warranty Against Corrosion Failure
(Applicable To The United States, Canada And
Australia)

5. This warranty gives you specific legal rights, and you may also have other legal rights
which vary from state to state (or country to country).

6. Other details of this warranty are contained in paragraphs 4, 5 and 6 of the (United
States and Canada) Product Warranty, and paragraphs 3, 4, 5 and 6 of the
(International) Product Warranty, contained in this manual, which paragraphs are
incorporated herein by reference.

7. For additional information regarding events and circumstances covered by warranty,
and those that are not, see the Warranty Coverage section on the page following this
warranty. The terms and provisions of the Warranty Coverage section are
incorporated by reference into this warranty.

8. Mercury Marine products are built using the most advanced corrosion protection
process available. This manufacturing system, complemented by dealer and
customer participation in an anti-corrosion preventive maintenance program,
provides protection against repair costs incurred by the effects of marine corrosion.

OWNER'S RESPONSIBILITY

Protection against certain types of corrosion damage must be provided by using such
systems as the Quicksilver MerCathode System and/or Galvanic Isolator. These certain
types of corrosion damage are: damage due to stray electrical currents (on-shore power
connections, nearby boats, submerged metal), or improper application of copper base
anti-fouling paint.

If anti-fouling protection is required, Tri-Butyl-Tin-Adipate (TBTA) base anti-fouling paints
are recommended on Outboard boating applications. In areas where Tri-Butyl-Tin-Adipate
base paints are prohibited by law, copper base paints can be used on the boat hull and
transom. Do not apply paint to the outboard. In addition, care must be taken to avoid an
electrical Interconnection between the outboard and the paint. Corrosion damage that
results from the improper application of copper base paint will not be covered by this limited
warranty.

TRANSFER OF WARRANTY

This Limited Warranty is transferable to subsequent purchasers for the remainder of the
unused portion of the 3-year limited warranty.

WARRANTY COVERAGE

Warranty Coverage

The purpose of this section is to help eliminate some of the more common
misunderstandings regarding warranty coverage. The following information explains
some of the types of services that are not covered by warranty. The provisions set forth
following have been incorporated by reference into the Three-Year Limited Warranty
Against Corrosion Failure, the International Limited Outboard Warranty, and the United
States and Canada Limited Outboard Warranty.

Keep in mind that warranty covers repairs that are needed within the warranty period
because of defects in material and workmanship. Installation errors, accidents, normal
wear, and a variety of other causes that affect the product are not covered.

Warranty is limited to defects in material or workmanship, but only when the consumer sale
is made in the country to which distribution is authorized by us.

Should you have any questions concerning warranty coverage, contact your authorized
dealer. They will be pleased to answer any questions that you may have.

WARRANTY DOES NOT APPLY TO THE FOLLOWING

1. Minor adjustments and tune-ups, including checking, cleaning or adjusting spark
plugs, ignition components, carburetor settings, filters, belts, controls, and checking
lubrication made in connection with normal services.

2. Factory Installed Jet Drive units – Specific parts excluded from the warranty are: The
jet drive impeller and jet drive liner damaged by impact or wear, and water damaged
drive shaft bearings as a result of improper maintenance.

3. Damage caused by neglect, lack of maintenance, accident, abnormal operation or
improper installation or service.

4. Haul-out, launch, towing charges, removal and/or replacement of boat partitions or
material because of boat design for necessary access to the product, all related
transportation charges and/or travel time, etc. Reasonable access must be provided
to the product for warranty service. Customer must deliver product to an authorized
dealer.

5. Additional service work requested by customer other than that necessary to satisfy the
warranty obligation.

6. Labor performed by other than an authorized dealer may be covered only under
following circumstances: When performed on emergency basis (providing there are
no authorized dealers in the area who can perform the work required or have no
facilities to haul out, etc., and prior factory approval has been given to have the work
performed at this facility).

7. All incidental and/or consequential damages (storage charges, telephone or rental
charges of any type, inconvenience or loss of time or income) are the owner's
responsibility.
WARRANTY COVERAGE

Warranty Coverage

8. Use of other than Quicksilver replacement parts when making warranty repairs.

9. Oils, lubricants or fluids changed as a matter of normal maintenance is customer's responsibility unless loss or contamination of same is caused by product failure that would be eligible for warranty consideration.

10. Participating in or preparing for racing or other competitive activity or operating with a racing type lower unit.

11. Engine noise does not necessarily indicate a serious engine problem. If diagnosis indicates a serious internal engine condition which could result in a failure, condition responsible for noise should be corrected under the warranty.

12. Lower unit and/or propeller damage caused by striking a submerged object is considered a marine hazard.

13. Water entering engine through the fuel intake, air intake or exhaust system or submersion.

14. Failure of any parts caused by lack of cooling water, which results from starting motor out of water, foreign material blocking inlet holes, motor being mounted too high or trimmed too far out.

15. Use of fuels and lubricants which are not suitable for use with or on the product. Refer to the Maintenance Section.

16. Our limited warranty does not apply to any damage to our products caused by the installation or use of parts and accessories which are not manufactured or sold by us. Failures which are not related to the use of those parts or accessories are covered under warranty if they otherwise meet the terms of the limited warranty for that product.

TRANSFERRING WARRANTY

Transfer Of Warranty

The product warranty is transferable to a subsequent purchaser, but only for the remainder of the unused portion of the limited warranty. This will not apply to products used for commercial applications.

DIRECT SALE BY OWNER

The second owner can be registered as the new owner and retain the unused portion of the limited warranty by sending the former owner's plastic Owner Warranty Registration Card and a copy of the bill of sale to show proof of ownership. In the United States and Canada, mail to:

Mercury Marine
W6250 W. Pioneer Road
P.O. Box 1939
Fond du Lac, WI 54936-1939
Attn: Warranty Registration Department

A new Owner Warranty Registration Card will be issued with the new owner's name and address. Registration records will be changed on the factory computer registration file.

There is no charge for this service.

For products purchased outside the United States and Canada, contact the distributor in your country, or the Mercury Marine Service Office closest to you.
OWNER SERVICE ASSISTANCE

Local Repair Service

Always return your outboard to your local authorized dealer should the need for service arise. Only he has the factory-trained mechanics, knowledge, special tools and equipment and the genuine Quicksilver parts and accessories to properly service your engine should the need occur. He knows your engine best.

Service Away From Home

If you are away from your local dealer and the need arises for service, contact the nearest authorized dealer. Refer to the Yellow Pages of the telephone directory. If, for any reason, you cannot obtain service, contact the nearest Mercury Marine Service Office.

Parts And Accessories Inquiries

All inquiries concerning Quicksilver replacement parts and accessories should be directed to your local authorized dealer. The dealer has the necessary information to order parts and accessories for you should he not have them in stock. Only authorized dealers can purchase genuine Quicksilver parts and accessories from the factory. Mercury Marine does not sell to unauthorized dealers or retail customers. When inquiring on parts and accessories, the dealer requires the model and serial number to order the correct parts.

Service Assistance

Your satisfaction with your outboard product is very important to your dealer and to us. If you ever have a problem, question or concern about your outboard product, contact your dealer or any Authorized Mercury Marine Dealership. If additional assistance is required, take these steps.

1. Talk with the dealership’s sales manager or service manager. If this has already been done, then contact the owner of the dealership.

2. Should you have a question, concern or problem that cannot be resolved by your dealership, please contact Mercury Marine Service Office for assistance. Mercury Marine will work with you and your dealership to resolve all problems.

The following information will be needed by the service office:

- Your name and address
- Daytime telephone number
- Model and serial number of your outboard
- The name and address of your dealership
- Nature of problem

Mercury Marine Service Offices are listed on the next page.
# Owner Service Assistance

**Mercury Marine Service Offices**

For assistance, call, fax, or write. Please include your daytime telephone number with mail and fax correspondence.

<table>
<thead>
<tr>
<th>Region</th>
<th>Telephone</th>
<th>Fax</th>
<th>Mail</th>
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<tbody>
<tr>
<td>United States</td>
<td>(414) 929-5040</td>
<td>(414) 929-5893</td>
<td>Mercury Marine&lt;br&gt;W5250 W. Pioneer Road&lt;br&gt;P.O. Box 1939&lt;br&gt;Fond du Lac, WI 54936-1939</td>
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<tr>
<td>Canada</td>
<td>(905) 270-4481</td>
<td>(905) 270-4510</td>
<td>Mercury Marine Ltd.&lt;br&gt;1156 Dundas Hwy. E.&lt;br&gt;Mississauga, Ontario&lt;br&gt;Canada L4Y 2C2</td>
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<tr>
<td>Australia, Pacific</td>
<td>(61) (3) 9791-5822</td>
<td>(61) (3) 9793-5880</td>
<td>Mercury Marine Australia&lt;br&gt;132-140 Frankston Road&lt;br&gt;Dandenong, Victoria 3164&lt;br&gt;Australia</td>
</tr>
<tr>
<td>Europe, Middle East, Africa</td>
<td>(32) (87) 32 + 32 = 11</td>
<td>(32) (87) 31 + 19 + 65</td>
<td>Marine Power - Europe, Inc.&lt;br&gt;Parc Industriel de Petit-Rechain&lt;br&gt;B-4800 Verviers&lt;br&gt;Belgium</td>
</tr>
<tr>
<td>Mexico, Central America, South America, Caribbean</td>
<td>(305) 385-9585</td>
<td>(305) 385-5507</td>
<td>Mercury Marine - Latin America &amp; Caribbean&lt;br&gt;9010 S.W. 137th Ave.&lt;br&gt;Suite 226&lt;br&gt;Miami, FL 33186 U.S.A.</td>
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<tr>
<td>Japan</td>
<td>(81) 543/34-2500</td>
<td>(81) 543/34-2022</td>
<td>Mercury Marine - Japan&lt;br&gt;No. 27-2 Muramatsu Chisaki-Shinden&lt;br&gt;Shimizu City&lt;br&gt;Shizuoka Prefecture&lt;br&gt;Japan 424</td>
</tr>
<tr>
<td>Asia, Singapore</td>
<td>(65) 270-7680</td>
<td>(65) 270-7898</td>
<td>Marine Power International, Ltd.&lt;br&gt;Block 1002 Jalan Bukit Merah #07-08&lt;br&gt;Redhill Industrial Estate&lt;br&gt;JTC Flatted Factories&lt;br&gt;Singapore 0315</td>
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# Maintenance Log

**Maintenance Log**

Record here all maintenance performed on your outboard. Be sure to save all work orders and receipts.

<table>
<thead>
<tr>
<th>Date</th>
<th>Maintenance Performed</th>
<th>Engine Hours</th>
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