MAINTENANCE

Outboard Care

To keep your outboard in the best operating condition, it is important that your outboard receive the periodic inspections and maintenance listed in the **Inspection and Maintenance Schedule**. We urge you to keep it maintained properly to ensure the safety of you and your passengers, and retain its dependability.

⚠ WARNING

Neglected inspection and maintenance service of your outboard or attempting to perform maintenance or repair on your outboard if you are not familiar with the correct service and safety procedures could cause personal injury, death, or product failure.

Record maintenance performed in the **Maintenance Log** at the back of this book. Save all maintenance work orders and receipts.

SELECTING REPLACEMENT PARTS FOR YOUR OUTBOARD

We recommend using original Mercury Precision or Quicksilver replacement parts and Genuine Lubricants.

⚠ WARNING

Using a replacement part that is inferior to the original part could result in personal injury, death, or product failure.

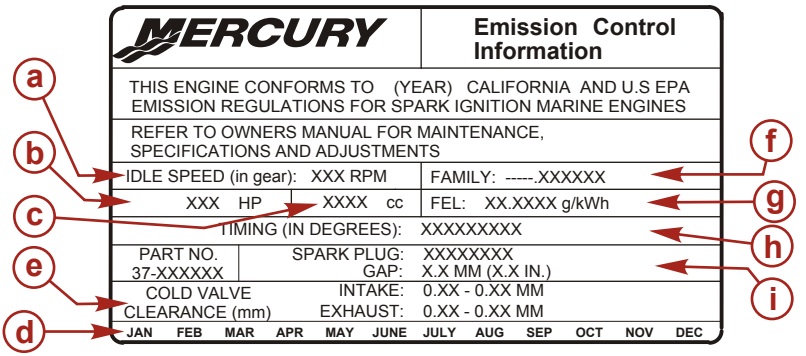
EPA Emissions Regulations

All new outboards manufactured by Mercury Marine are certified to the United States Environmental Protection Agency, as conforming to the requirements of the regulations for the control of air pollution from new outboard motors. This certification is contingent on certain adjustments set to factory standards. For this reason, the factory procedure for servicing the product must be strictly followed and, wherever practicable, returned to the original intent of the design. **Maintenance, replacement, or repair of the emission control devices and systems may be performed by any marine spark ignition (SI) engine repair establishment or individual.**

MAINTENANCE

EMISSION CERTIFICATION LABEL

An emission certification label, showing emission levels and engine specifications directly related to emissions, is placed on the engine at time of manufacture.



21096

- **a -** Idle speed
- **b -** Engine horsepower
- **c -** Piston displacement
- **d -** Date of manufacture
- **e -** Valve clearance (if applicable)
- **f -** Family number
- **g -** Maximum emission output for the engine family
- **h -** Timing specification
- **i -** Recommended spark plug and gap

OWNER RESPONSIBILITY

The owner/operator is required to have routine engine maintenance performed to maintain emission levels within prescribed certification standards.

The owner/operator is not to modify the engine in any manner that would alter the horsepower or allow emissions levels to exceed their predetermined factory specifications.

Inspection And Maintenance Schedule

BEFORE EACH USE

- Check the engine oil level. See **Fuel & Oil - Checking and Adding Engine Oil**.
- Visually inspect the fuel system for deterioration or leaks.
- Check outboard for tightness on transom.

- Check propeller blades for damage.

AFTER EACH USE

- Flush out the outboard cooling system if operating in salt or polluted water. See **Flushing the Cooling System**.

EVERY 100 HOURS OF USE OR ONCE YEARLY, WHICHEVER OCCURS FIRST

- Lubricate all lubrication points. Lubricate more frequently when used in salt water. See **Lubrication Points**.
- Change engine oil. The oil should be changed more often when the engine is operated under adverse conditions such as extended trolling. See **Changing Engine Oil**.
- Replace spark plug at first 100 hours or first year. After that, inspect the spark plug every 100 hours or once yearly. Replace the spark plug as needed. See **Spark Plug Inspection and Replacement**.
- Drain and replace gearcase lubricant. See **Gearcase Lubrication**.
- Check corrosion control anode. Check more frequently when used in salt water. See **Corrosion Control Anodes**.
- Check and adjust valve clearance, if necessary.[1.]
- Lubricate splines on the driveshaft.[2.]
- Replace water pump impeller.[1.]
- Check tightness of bolts, nuts, and other fasteners.

BEFORE PERIODS OF STORAGE

- Refer to Storage procedure. See **Storage** section.

Flushing The Cooling System

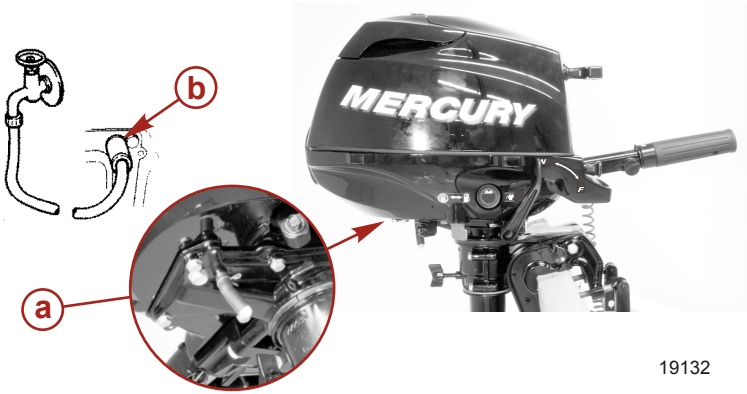
Flush the internal water passages of the outboard with fresh water after each use in salt, polluted, or muddy water. This will help prevent a buildup of deposits from clogging the internal water passages.

Use a Mercury Precision or Quicksilver accessory (or equivalent) flushing attachment.

1. These items should be serviced by an authorized dealer.
2. These items should be serviced by an authorized dealer.

NOTE: *Do not run the engine while flushing the cooling system.*

1. Remove the plug and gasket.
2. Attach the hose coupling to the engine.
3. Attach a water hose to the hose coupling. Turn on the water gently and flush the cooling system for 3 to 5 minutes.
4. Turn the water off. Remove the hose coupling and reinstall the plug and gasket.



19132

a - Plug and gasket **b -** Hose coupling

Top Cowl Removal And Installation

REMOVAL

1. Release the rear cowl latch.

19048

2. Lift up the rear of the cowl and push it towards the front of the engine to clear the front hook.

19043

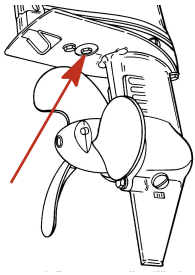
INSTALLATION

1. Engage the front hook and position the cowl over the engine.
2. Lock the rear cowl latch.

Corrosion Control Anode

Your outboard has a corrosion control anode installed on the gearcase. An anode helps protect the outboard against galvanic corrosion by sacrificing its metal to be slowly corroded instead of the outboard metals.

The anode requires periodic inspection especially in salt water which will accelerate the erosion. To maintain this corrosion protection, always replace the anode before it is completely eroded. Never paint or apply a protective coating on the anode as this will reduce effectiveness of the anode.


ob01221

Exterior Care

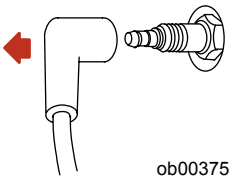
Your outboard is protected with a durable baked enamel finish. Clean and wax often using marine cleaners and waxes.

Propeller Replacement

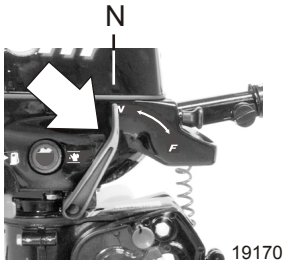
⚠ WARNING

If the propeller shaft is rotated while the engine is in gear, there is the possibility that the engine will crank over and start. To prevent this type of accidental engine starting and possible serious injury caused from being struck by a rotating propeller, always shift outboard to neutral position and remove spark plug leads when you are servicing the propeller.

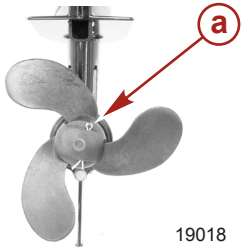
1. Remove the spark plug lead to prevent the engine from starting.



2. Move the gear shift lever into neutral.

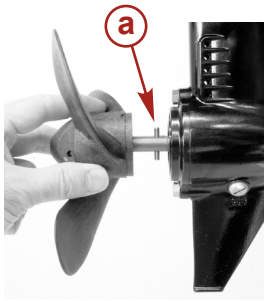


3. Straighten and remove the cotter pin.



a - Cotter pin

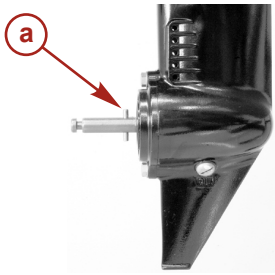
4. Pull the propeller straight off the shaft. Retain the drive pin. If the propeller is seized to the shaft and cannot be removed, have the propeller removed by an authorized dealer.



19022

a - Drive pin

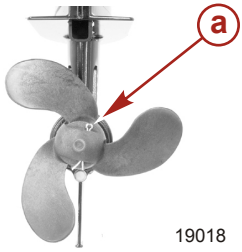
5. Insert the drive pin into the propeller shaft.



19023

a - Drive pin

6. Slide the propeller onto the shaft, making sure the slot in the propeller engages with the drive pin.
7. Install the cotter pin through the hole in the propeller and bend the cotter pin ends.



19018

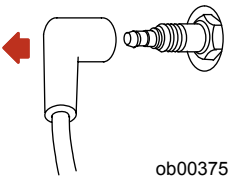
a - Cotter pin

Spark Plug Inspection And Replacement

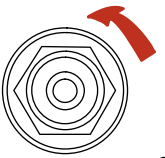
⚠ WARNING

Avoid serious injury or death from fire or explosion caused by damaged spark plug boots. Damaged spark plug boots can emit sparks. Sparks can ignite fuel vapors under the engine cowl. To avoid damaging spark plug boots, do not use any sharp object or metal tool such as pliers, screwdriver, etc. to remove spark plug boots.

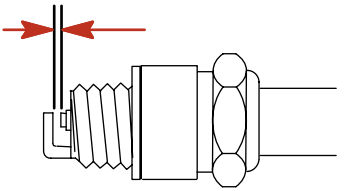
1. Remove the spark plug boot. Twist the rubber boot slightly and pull off.



2. Remove the spark plug to inspect. Replace spark plug if electrode is worn or the insulator is rough, cracked, broken, blistered or fouled.



3. Set the spark plug gap to specification.



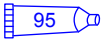
Spark Plug	
Spark plug gap	0.9 mm (0.035 in.)

4. Before installing spark plug, clean off any dirt on the spark plug seat. Install plug finger tight, and then tighten 1/4 turn or torque to specifications.

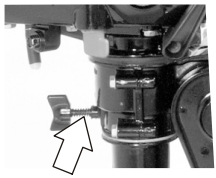
Description	Nm	lb. in.	lb. ft.
Spark plug	27		20

Lubrication Points

1. Lubricate the following with Quicksilver or Mercury Precision Lubricants 2-4-C or Special Lubricant 101.

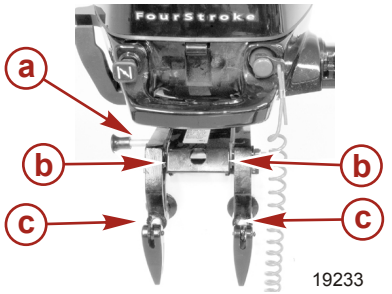
Tube Ref No.	Description	Where Used	Part No.
	2-4-C	Steering friction knob threads, swivel bracket bushing, tilt support pin, transom clamp screws	92-802859A1
	Special Lubricant 101	Steering friction knob threads, swivel bracket bushing, tilt support pin, transom clamp screws	92-802865A1

- Steering friction knob - Lubricate threads.


19231

- Tilt support pin - lubricate pin
- Transom clamp screws - lubricate threads

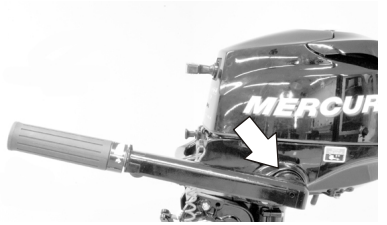
- Tilt pivot point - lubricate with light weight oil



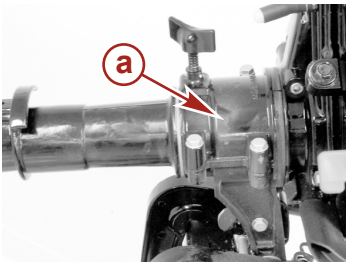
19233

a - Tilt support pin
b - Tilt pivot point
c - Transom clamp screws

- Tiller handle rubber bushing - Lubricate internal diameter with light weight oil.


19234

- Swivel bracket - Remove four bolts and rear cover and lubricate the inner nylon bushing.



19240

a - Rear cover

Changing Engine Oil

ENGINE OIL CAPACITY

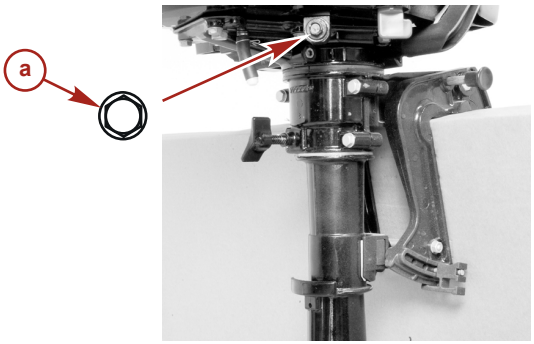
Engine oil capacity is approximately 300 ml (10 fl. oz.).

MAINTENANCE

OIL CHANGING PROCEDURE

1. Place outboard in an upright (not tilted) position.
2. Turn the outboard to gain access to the drain plug. Remove drain plug and drain engine oil into an appropriate container. Lubricate the seal on the drain plug with oil and reinstall.

IMPORTANT: Inspect oil for signs of contamination. Oil contaminated with water will have a milky color to it; oil contaminated with fuel will have a strong fuel smell. If contaminated oil is noticed, have the engine checked by your dealer.



19128

a - Drain plug

OIL FILLING

IMPORTANT: Do not overfill. Be sure that the outboard is upright (not tilted) when checking oil.

Remove the oil fill cap and refill with 300 ml (10 fl. oz.) of oil. Reinstall the oil fill cap.

Idle engine for five minutes and check for leaks. Stop engine and check oil level. Add oil if necessary.

Gearcase Lubrication

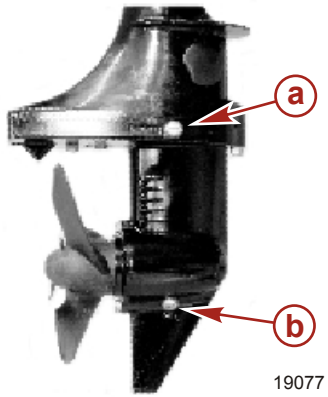
When adding or changing gearcase lubricant, visually check for the presence of water in the lubricant. If water is present, it may have settled to the bottom and will drain out prior to the lubricant, or it may be mixed with the lubricant, giving it a milky colored appearance. If water is noticed, have the gearcase checked by your dealer. Water in the lubricant may result in premature bearing failure or, in freezing temperatures, will turn to ice and damage the gearcase.

Examine the drained gearcase lubricant for metal particles. A small amount of metal particles indicates normal gear wear. An excessive amount of metal filings or larger particles (chips) may indicate abnormal gear wear and should be checked by an authorized dealer.

DRAINING GEARCASE

1. Place the outboard in a vertical operating position.
2. Place drain pan below outboard.
3. Remove vent plug and fill/drain plug and drain lubricant.

NOTE: *Replace the sealing washers with new washers.*



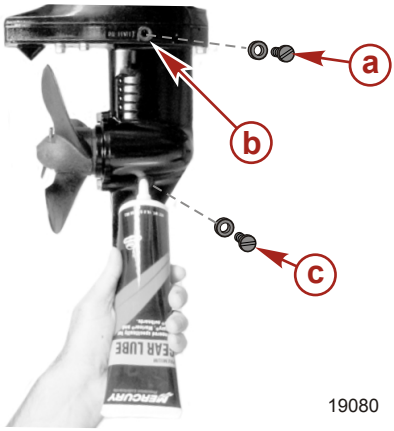
a - Vent plug **b -** Fill/drain plug

GEARCASE LUBRICANT CAPACITY

Gearcase lubricant capacity is approximately 180 ml (6.0 fl. oz.).

CHECKING LUBRICANT LEVEL AND REFILLING GEARCASE

1. Place the outboard in a vertical operating position.
2. Remove vent plug.
3. Remove fill/drain plug. Place lubricant tube into the fill hole and add lubricant until it appears at the vent hole.



a - Vent plug and new sealing washer

b - Vent hole

c - Fill/drain plug and new sealing washer

4. Stop adding lubricant. Use new sealing washer and Install the vent plug before removing the lubricant tube.
5. Remove lubricant tube and reinstall cleaned fill/drain plug and new sealing washer.

Submerged Outboard

A submerged outboard will require service within a few hours by an authorized dealer once the outboard is recovered from the water. This immediate attention by a servicing dealer is necessary once the engine is exposed to the atmosphere to minimize internal corrosion damage to the engine.