



OMC Zephyr

SAIL DRIVE

owner's -
operator's
manual


WELCOME ABOARD

With an OMC Zephyr™ Sail Drive . . . at last . . . you're really in command.

Your new OMC Zephyr Sail Drive is designed and constructed to give you the maximum in service and performance. Please study this manual so that you will completely understand how the engine operates and be able to take full advantage of its many built-in features.

Your OMC Zephyr Sail Drive is the newest concept in boating power.

SAFETY SYMBOLS

EVERYONE WHO USES THIS EQUIPMENT SHOULD READ THIS MANUAL AND BE FAMILIAR WITH THE SAFETY WARNINGS MARKED. 

THE PURPOSE OF THE SAFETY SYMBOLS IS TO ATTRACT THE OPERATOR'S ATTENTION TO POSSIBLE DANGERS. THE SYMBOLS, AND THE EXPLANATIONS WITH THEM, DESERVE THE OPERATOR'S CAREFUL

ATTENTION AND UNDERSTANDING. SAFETY WARNINGS DO NOT BY THEMSELVES ELIMINATE ANY DANGER. THE INSTRUCTIONS OR WARNINGS THEY GIVE ARE NOT SUBSTITUTES FOR PROPER ACCIDENT PREVENTION MEASURES.

OBSERVE ALL NOTES, CAUTIONS AND SAFETY WARNINGS CONTAINED IN THIS MANUAL. IT IS TO THE OPERATOR'S ADVANTAGE TO DO SO TO PROTECT HIM, HIS PASSENGERS, AND HIS INVESTMENT.



SAFETY WARNING

FAILURE TO OBEY A SAFETY WARNING MAY RESULT IN INJURY TO YOU OR TO OTHERS.



NOTE

Advises you of information specially useful to the operation of your motor or boat.

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This owner-operator manual is divided into three sections; operation, care and assistance. The operation section tells you about engine and lower unit starting, controlling and break-in procedures. The care section tells you about adjustment, lubrication, maintenance and storage procedures. The assistance section gives you information about our warranty and how to obtain warranty service should the need arise. Please read this manual thoroughly.

All photographs and illustrations used in this manual may not necessarily depict actual models or equipment, but are intended for reference only.

Also, all photographs, illustrations and specifications contained in this manual are based on the latest product information available at the time of publication.

FUEL

RECOMMENDED GASOLINE

Use gasoline with the following minimum octane numbers:

PUMP POSTED OCTANE NUMBER	86
Research Octane Number	91

(most commonly used in the past)

Automotive gasolines regular-leaded or lead-free meeting these minimum octane numbers may be used; however, best results will be obtained by using lead-free gasoline.



SAFETY WARNING

GASOLINE IS EXTREMELY FLAMMABLE AND HIGHLY EXPLOSIVE UNDER CERTAIN CONDITIONS. ALWAYS STOP ENGINE, AND DO NOT SMOKE OR ALLOW OPEN FLAMES OR SPARK NEAR THE BOAT WHEN REFUELING.

RECOMMENDED LUBRICANT

Use OMC two cycle motor oil that is BIA certified for service TC-W (Two Cycle-Water Cooled). It is formulated to give best engine performance with least combustion chamber deposits, least piston varnish, maximum spark plug life, and best lubrication.

Always keep an ample supply on hand. Do not settle for less than the BEST. Other "friction reducing compounds,"

etc. are unnecessary and should not be used in your engine, except as described in this manual.

If RECOMMENDED LUBRICANT is not available, another BIA certified TC-W or TC-2 lubricant (oil) may be used.

Avoid the use of the following, as they will contribute to deterioration of your engine and shorten spark plug life:

AVOID USE OF:

- Automotive oils
- Premix fuel of unknown oil quality
- Premix fuel richer than 50:1 ratio
- Synthetic lubricants

FUEL MIXTURE

1 part approved lubricant to 50 parts gasoline (see p. 5), 16 ozs. (.45 litres) (6 U.S. gallons) lubricant to 5 gallons (22.7 litres) of gasoline.



FUEL MIXING INSTRUCTIONS



SAFETY WARNING

GASOLINE IS HIGHLY FLAMMABLE - ALWAYS MIX IN WELL VENTILATED AREA.

This is a two cycle engine that requires lubricant to be mixed with gasoline. Follow these instructions.



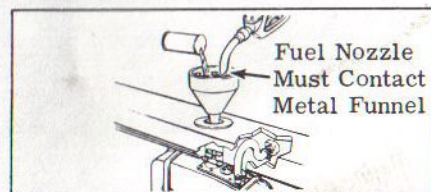
NOTE

Recommended lubricant and gasoline must be properly mixed or serious damage will result to the engine.

Always use fresh gasoline.

Filling Fuel Tank - Below 32°F (0°C) - In separate container, mix all lubricant needed with one gallon (4.5 litres) or more of gasoline. Use large metal funnel with a fine mesh strainer (100 mesh or finer). Pour this mixture slowly with gasoline as tank is filled.

Filling fuel tank above 32°F (0°C) - Use large metal funnel with a fine mesh strainer (100 mesh or finer). Pour lubricant slowly with the gasoline as tank is filled.



Mixing Fuel

BREAK - IN PROCEDURE

The 50:1 mixture is required during break-in. Use only **RECOMMENDED LUBRICANT** or other BIA certified TC-W lubricants.

OPERATION (FIRST HOUR): Do not operate engine at continuous full power for the first hour of operation. After 15 minutes of slow to half throttle operation, we recommend a short burst of full throttle operation every 5 to 10 minutes. Run at full throttle for about 90 seconds, then return to half throttle or less.

NOTE

Frequently check operation of cooling system during break-in. Water discharged from exhaust outlet indicates proper operation.

At intervals during the second hour, apply full power for periods of one or two minutes, reduce power to three-quarter throttle for a cooling period.

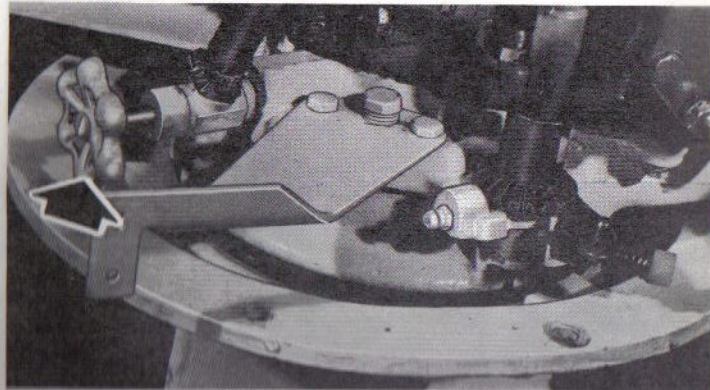
Avoid continuous full throttle operation for extended periods during the next three hours.

STARTING

SAFETY WARNING

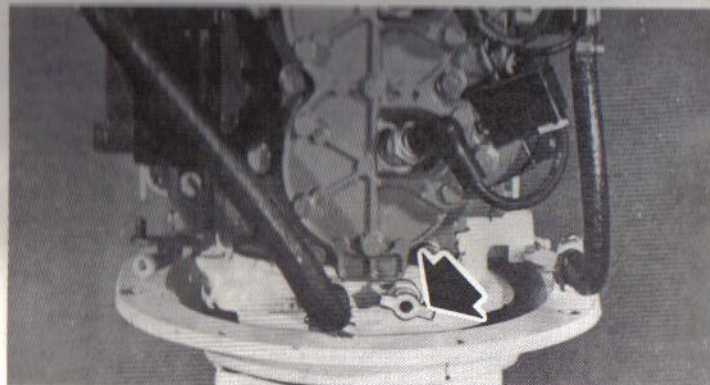
OPERATE THE BLOWER BEFORE STARTING ENGINE TO PREVENT A POSSIBLE EXPLOSION AS RECOMMENDED BY THE BOAT MANUFACTURER. IF THE BOAT IS NOT EQUIPPED WITH A BILGE BLOWER, OPEN ENGINE COVER OR HATCH PRIOR TO STARTING AND LEAVE OPEN UNTIL AFTER ENGINE IS RUNNING.

1. Check to see that engine water supply valve is open before starting engine.



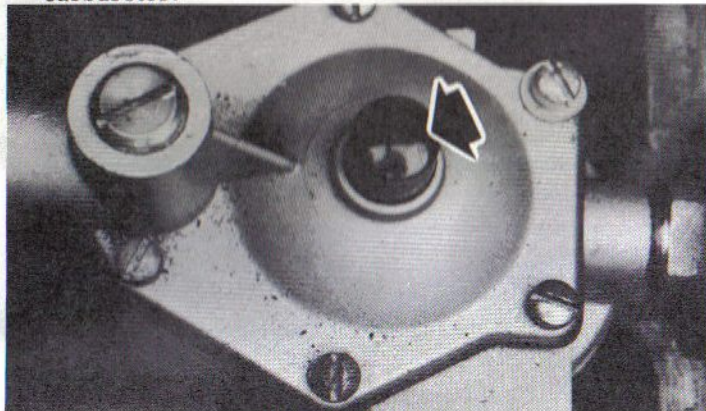
Water Supply Valve

2. Check to see that cylinder block petcock is closed.

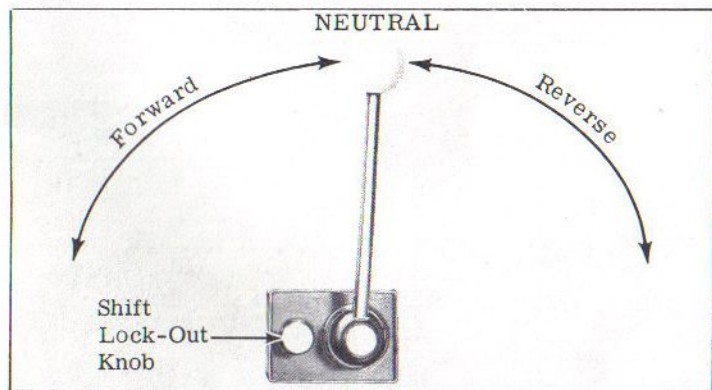


Cylinder Block Petcock

3. Open fuel supply valve if boat is so equipped.
4. Press primer button to prime fuel pump. Depressing the primer button supplies filtered fuel to the engine carburetor.



Primer Button



Typical Remote Control



NOTE

Engine will start in any control lever position. This unit can be started in gear.

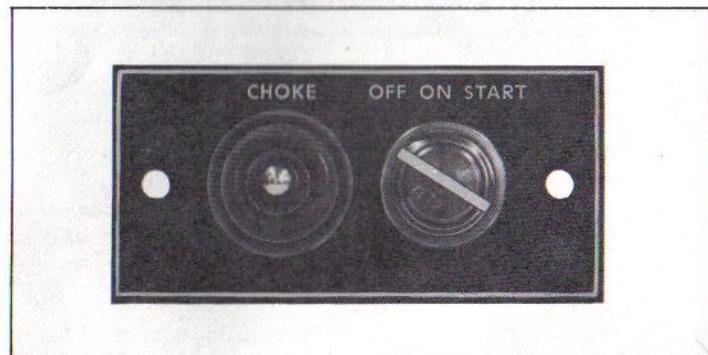


NOTE

Do not advance the control lever to its full travel position (wide open throttle) in neutral. Excessive engine RPM could lead to engine failure.

5. Place control lever in neutral position.
6. Cold Engine - Lift up choke toggle and turn starter key to the right simultaneously. If engine does not start, do not hold starter on for over 10 seconds. Let go momentarily and then try again. After starting, allow engine to run approximately 2 minutes (warm up).

Warm Engine - Do not choke. If engine fails to start after a few turns of starter, then use choke.



Choke and Ignition Switches

7. As soon as engine starts, retard control lever to adjust engine speed for a fast idle (1,000 - 1,500 RPM).



NOTE

Never turn starter key to start position when engine is running.

Full throttle can be attained in either forward or reverse gear.

Check that water is coming out of the exhaust outlet to assure proper water pump operation. A WARNING HORN will sound should engine overheat.

When warm up is completed, return the control lever to neutral position (550 - 650 RPM).

TO GO FORWARD



SAFETY WARNING

WE RECOMMEND A SINGLE LEVER REMOTE CONTROL BE USED TO PREVENT SHIFTING AT ELEVATED ENGINE SPEEDS. IF A TWO-LEVER CONTROL MUST BE USED, INSURE THAT ALL SHIFTING IS DONE BETWEEN IDLE SPEED AND 1000 RPM. SHIFTING AT ELEVATED ENGINE SPEEDS CAN CAUSE DAMAGE TO THE SHIFTING MECHANISM WHICH MAY RESULT IN SUDDEN LOSS OF CONTROL.

Push shift lock out knob completely in and move control lever forward. Further advance of control lever will increase speed.

Backing off throttle slightly from full throttle position while under way will save fuel without noticeable loss of boat speed.

TO GO IN REVERSE

With control lever in neutral position, move control lever to reverse position, and pull back control lever to desired engine speed.



NOTE

When shifting from forward to reverse or reverse to forward, always allow engine to return to idle.

STOPPING ENGINE

Move control lever to neutral position, and turn ignition key to off position.

EMERGENCY STARTING

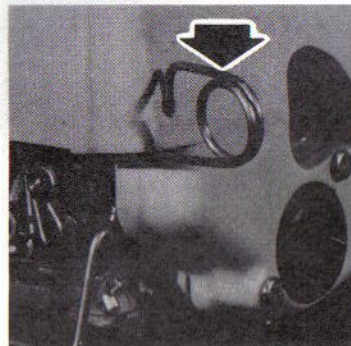
If electric starter will not crank engine, engine can be started manually.



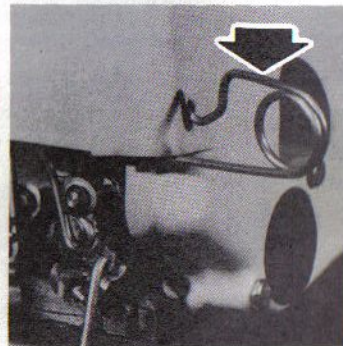
SAFETY WARNING

DO NOT DISCONNECT BATTERY CABLES WHEN STARTING OR OPERATING ENGINE. A LOOSE BATTERY CABLE WHICH GROUNDS OUT CAN EMIT A SPARK WHICH MAY IGNITE ANY FUEL VAPORS IN THE ENGINE COMPARTMENT.

1. Place control lever in NEUTRAL position.
2. Pull out manual choke if engine is cold.



Manual Choke Off Position



Manual Choke On Position

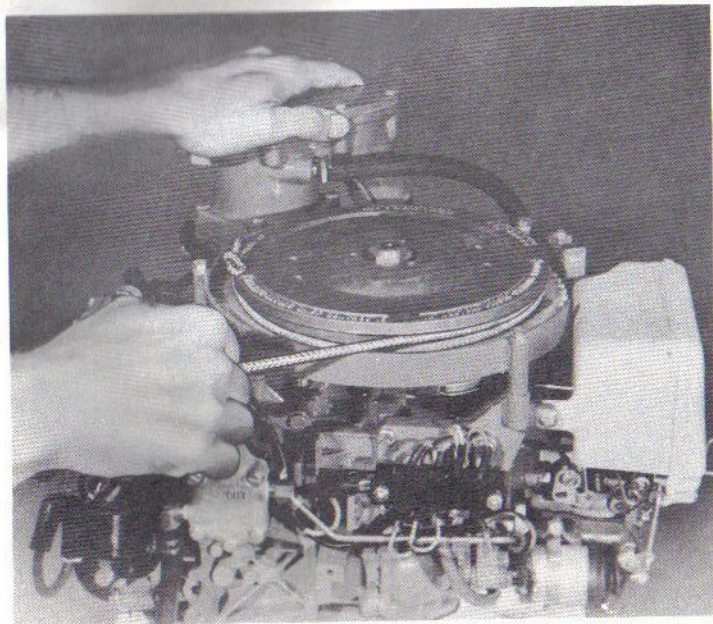
3. Turn ignition key to the ON position.



SAFETY WARNING

BEFORE ATTEMPTING TO MANUALLY START ENGINE, BE SURE LOOSE CLOTHING OR HAIR IS CLEAR OF MOVING PARTS OR BODILY INJURY WILL RESULT.

4. Wind emergency starter cord clockwise around outside groove in flywheel. Pull rope forcibly, repeating until



Emergency Starting Rope

engine starts. When motor starts, push manual choke in gradually until engine is running smoothly, see TROUBLE CHECK CHART.

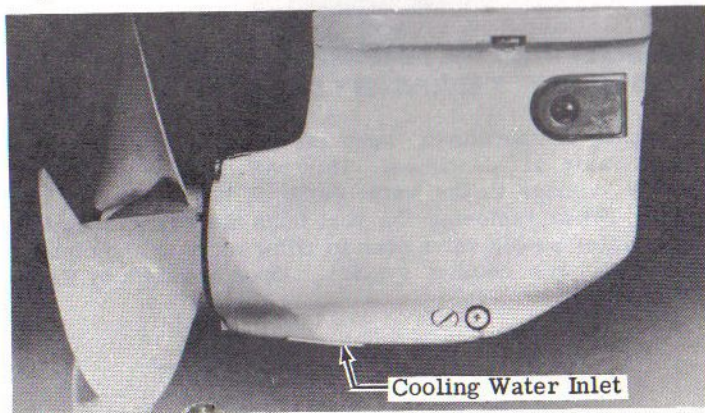


NOTE

Optional alternator kit drive belt may be removed to facilitate emergency starting.

COOLING

Water for cooling is supplied by a water pump located above the gearcase. The pump operates as a displacement pump at low speeds and as a centrifugal pump at high speeds. Water is taken in through an inlet located on the bottom of the gearcase. After engine is warmed up, the water is expelled through the exhaust discharge. The thermostat maintains consistent operating temperatures throughout the entire range of operation, increasing engine life and efficiency. A warning horn mounted behind the control panel will sound if the engine should overheat. If engine overheats, see your DEALER for service as soon as possible.



OPERATING IN WEEDY WATER

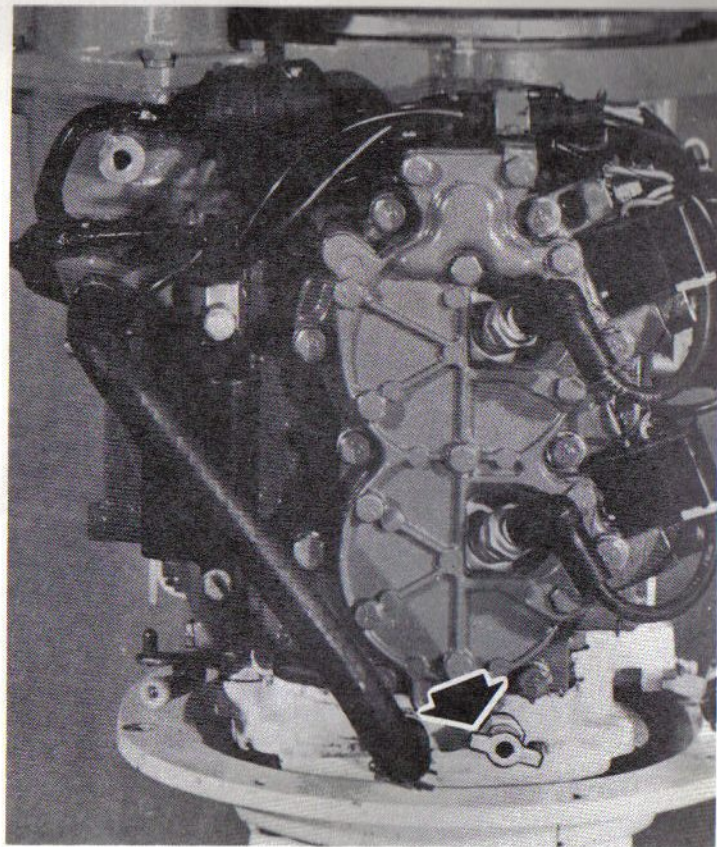
Weeds on the propeller will cause engine to vibrate and lose speed. Run at reduced speed when weeds are thick. Stop and shift into reverse to clear propeller completely of weeds as often as necessary before resuming speed in clear water.

OPERATING IN SALT WATER

Your engine is built for operation in either fresh or salt water. When removing boat from water, allow cooling system to drain thoroughly. Internal flushing is unnecessary. We recommend that gearcase exterior be rinsed with fresh water and wiped off with a lightly oiled rag. If your boat hull requires coating with an anti-fouling paint, do not use a metallic base paint as it could cause harmful galvanic corrosion to your engine.

OPERATING IN FREEZING WEATHER OR SHORT TERM STORAGE

In freezing temperatures, keep the lower unit submerged in the water at all times. This will avoid freezing and possible damage to the water pump or other parts of the engine. When removing the boat from the water, keep the engine water supply valve open to allow water to completely drain from the cooling system. Open petcock to drain engine block.



Cylinder Block Petcock

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SPECIFICATIONS

POWERHEAD Two cycle - two cylinder alternate firing

Bore and Stroke 3.000 x 2.250 (76.20 x 57.15 mm)

Piston displacement 31.8 cubic inches (521 cm³)

Power 15 HP at 3300 RPM

Operating Range (Maximum) 3300 to 3700 RPM

Cruising Range 1500 to 2500 RPM

Idle Range 550 to 650 RPM

IGNITION Breakerless capacitor discharge system

STARTING . 12 volt electric (can also be manually started)

SPARK PLUGS

Type Champion QL77J4

Gap030" (0.8 mm)

ALTERNATOR 5 AMP

FUSE 20 AMP Littlefuse 1 A.G. or BUSS A.G.A.

FUEL Regular gasoline (leaded or unleaded two cycle 50:1 mix

CARBURETOR . . . Fixed high speed, adjustable low speed jet, remote electric and manual choke

COOLING SYSTEM . . . Water pump - positive centrifugal, thermostat controlled

CONTROL Remote

Gear Ratio 14:27 (1.92:1 reduction)

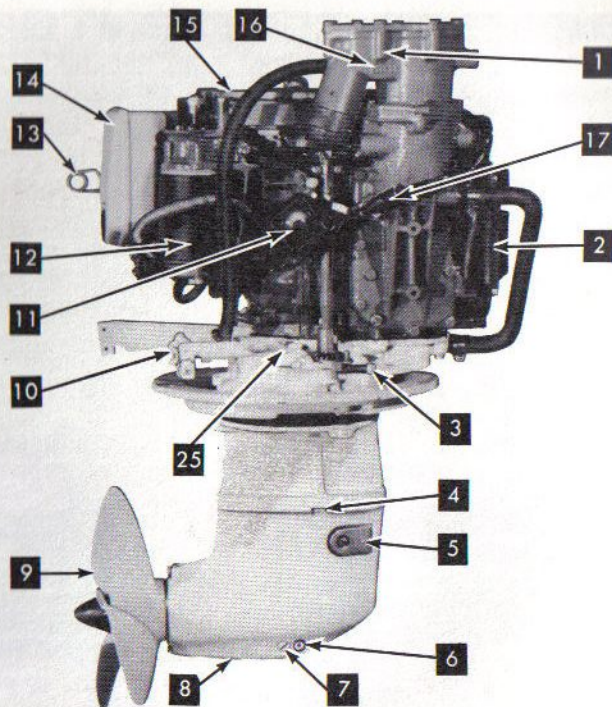
LOW GEAR CASE CAPACITY 20 ozs.

(570 millilitre)

PROPELLER 3 blade 11" dia. x 9" pitch

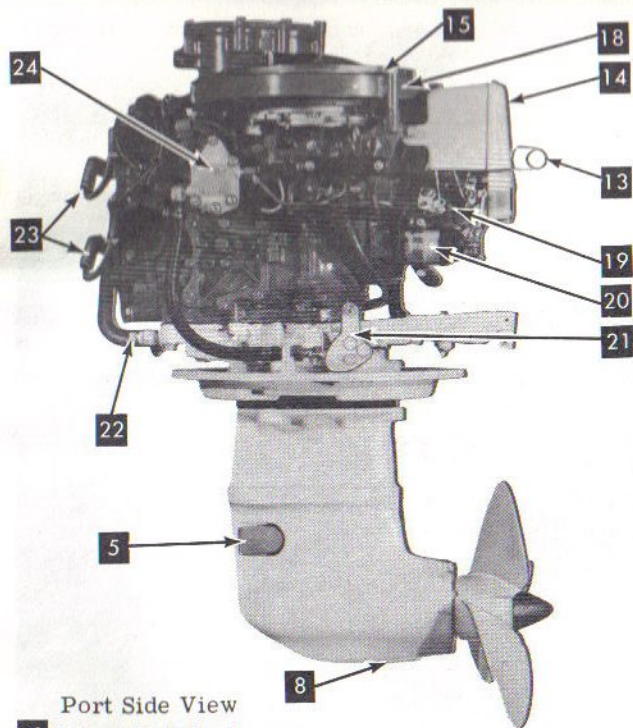
MOUNTING Iso-Ring neoprene built into boat mounting ring

WEIGHT 95 lbs (43.1 kg)



Starboard View

- | | |
|-----------------------------|---------------------------|
| 1 High rise exhaust elbow | 7 Oil drain and fill plug |
| 2 Power pack | 8 Water intake |
| 3 Idle speed screw | 9 Propeller |
| 4 Oil level plug | 10 Water supply valve |
| 5 Anti-corrosion anode | 11 Starter solenoid |
| 6 Pivot pin (Do Not Remove) | 12 Starter motor |



Port Side View

- | | |
|--|----------------------------------|
| 13 Manual choke lever | 20 Choke solenoid |
| 14 Air silencer | 21 Shift lever |
| 15 Flywheel | 22 Cylinder block petcock |
| 16 Model and serial number location | 23 Spark plugs |
| 17 20 Amp fuse holder | 24 Fuel pump |
| 18 Ring gear guard | 25 Water pump anode |
| 19 Carburetor | |

ACCESSORIES

35 Ampere Alternator
 Hi-Mount
 Front Mount
 OMC Sail Drive Muffler
 Tachometer

REPLACEMENT PARTS

Never use inferior parts on your OMC Sail Drive. Insist on only genuine OMC replacement parts. See your local AUTHORIZED OMC STERN DRIVE, JOHNSON OR EVINRUDE SERVICE DEALER. He can be depended upon to furnish expert service and OMC approved parts.



SAFETY WARNING

WHEN REPLACING ANY BOLT, SCREW OR OTHER FASTENER USE ONLY GENUINE OMC PARTS OR PARTS OF EQUIVALENT STRENGTH AND MATERIAL.

CARBURETOR ADJUSTMENT

High Speed

High speed fuel ratio calibration is maintained through use of a fixed high speed jet. No adjustment is required.

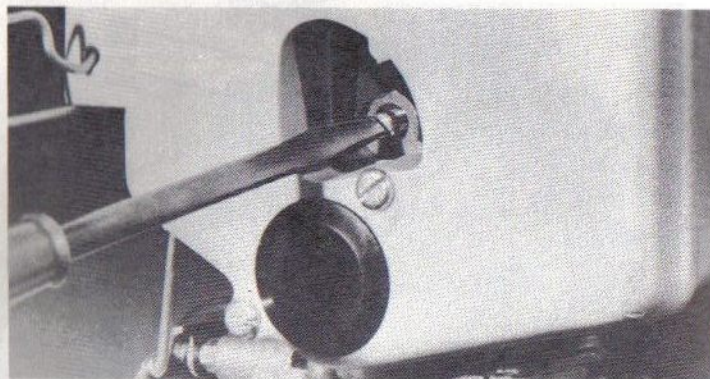
Low Speed

The carburetor low speed mixture adjustment is preset at the factory with provisions made for normal adjustment to compensate for changes in fuel, altitude and climate.

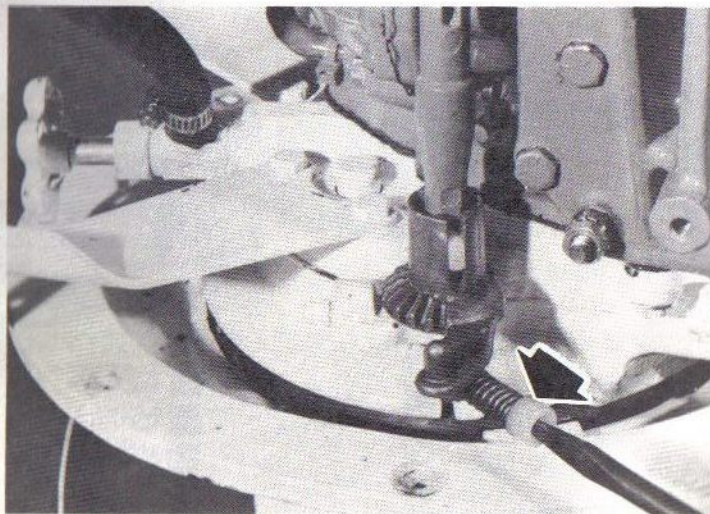


SAFETY WARNING

KEEP HANDS, HAIR, AND CLOTHING AWAY FROM FLYWHEEL, STARTER AND AIR INTAKE WHILE ENGINE IS RUNNING OR BODILY INJURY WILL RESULT.



Low Speed Mixture Adjustment



Idle Speed Adjustment Screw

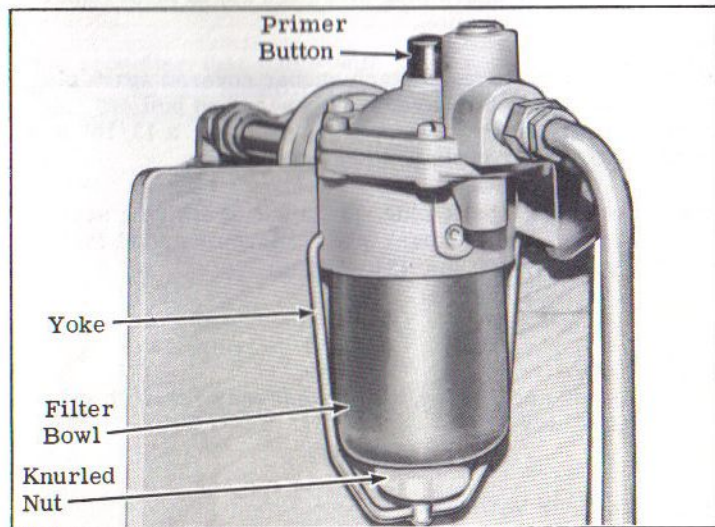
Adjust the "low speed" needle valve until engine idles smoothly. Turning clockwise will lean out the fuel mixture. Turning counterclockwise will enrich the fuel mixture. To adjust, proceed as follows:

1. Stop engine.
2. Use a screwdriver to turn needle valve clockwise until it gently seats. DO NOT FORCE.
3. Turn needle valve counterclockwise 1-5/8 turn.
4. Start engine and run until warm (approximately 2 minutes).
5. Back off idle speed adjusting screw by turning counterclockwise.
6. Retard throttle to normal idle rpm (550 - 650 rpm) and adjust needle valve until best performance is obtained.
7. Reset idle speed adjusting screw for desired idle rpm.
8. Stop engine.

After the carburetor has been properly adjusted, it should not require frequent readjustment.

FUEL FILTERS

See your authorized dealer for service on the fuel pump and filter. Recommended service is required on the primer filter at beginning of boating season, and every 60 days thereafter. Filter bowl and element can be removed for draining and cleaning by loosening knurled nut and swinging yoke aside. The use of OMC 2-4 Fuel Conditioner in the gasoline is recommended (see page 21).



Primer Filter



SAFETY WARNING

TO PREVENT ACCIDENTAL STARTING, REMOVE THE IGNITION KEY WHILE PERFORMING ALL SERVICE OPERATIONS.

SPARK PLUG INSPECTION AND REPLACEMENT

Using the correct spark plug (see page 12) is most important for efficient operation.

To remove spark plugs, detach rubber covered spark plug terminal (twist slightly counterclockwise and pull off). Do not pull on wire. Remove spark plug using a 13/16" hex wrench. Inspect or replace as necessary.

When reinstalling spark plug, clean the spark plug seat in cylinder head. Install spark plug. Recommended torque is 17-1/2 to 20-1/2 ft. lbs. (24-27 N·m).



NOTE

Do not overtighten, or damage may result to cylinder head.



SAFETY WARNING

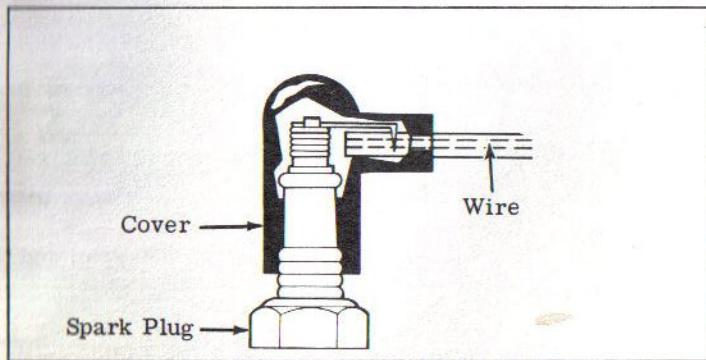
AVOID ABUSIVE HANDLING WHICH COULD CRACK THE SPARK PLUGS' CERAMIC BODY. DAMAGED SPARK PLUGS CAN EMIT EXTERNAL SPARKS WHICH COULD IGNITE ANY FUEL VAPORS IN THE ENGINE COMPARTMENT.

The spring inside rubber terminal lead cover must be positioned to fit properly over spark plug terminal. Press on with thumb.



SAFETY WARNING

DO NOT OPERATE ENGINE IF SPARK PLUG COVERS ARE TORN OR CRACKED. THIS CONDITION CAN CAUSE EXTERNAL SPARKS WHICH COULD IGNITE ANY FUEL VAPORS IN THE ENGINE COMPARTMENT. SEE YOUR AUTHORIZED SERVICE DEALER IF REPLACEMENT IS NECESSARY.



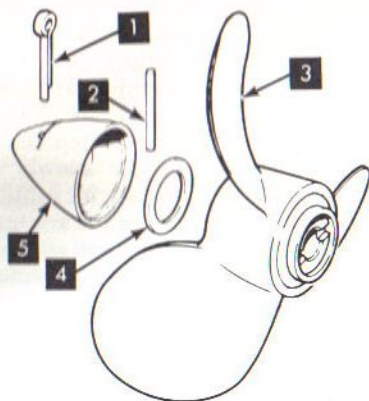
Correct Spark Plug Lead Installation

DRIVE PIN REPLACEMENT

A shock absorber in the propeller hub minimizes the chances of breaking the drive pin. However, if it should break, it can be easily replaced.

Propeller Attaching Components

1. Cotter Pin
2. Drive Pin
3. Propeller
4. Thrust Washer
5. Retainer



Drive Pin Replacement



SAFETY WARNING

TO PREVENT ACCIDENTAL STARTING, BE SURE REMOTE CONTROL IS IN NEUTRAL POSITION AND REMOVE IGNITION SWITCH KEY. THE PROPELLER IS FREE WHEELING WHEN CONTROL LEVER IS IN NEUTRAL.

To replace drive pin, pull out cotter pin and remove propeller retainer. Retainer is not threaded - DO NOT TURN. The damaged drive pin can be driven out with a new pin if necessary. Remove thrust washer and propeller.

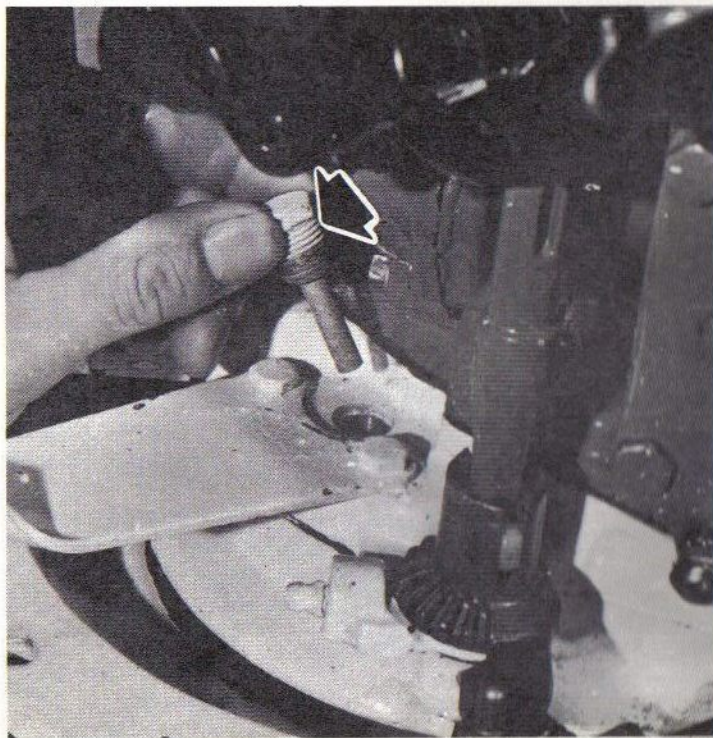
Coat propeller shaft with OMC Sea-Lube™ Anti-Corrosion Lube and install propeller. Replace the propeller retainer and install new cotter pin (a new one is recommended),

bending ends over against retainer. Be sure that thrust washer is in position between drive pin and propeller hub.

PROPELLER CARE

Unusual or excessive vibration may indicate a bent or unbalanced propeller. Avoid or limit operation under these conditions. Carry a spare propeller and replace the damaged propeller as soon as practical. See your DEALER.

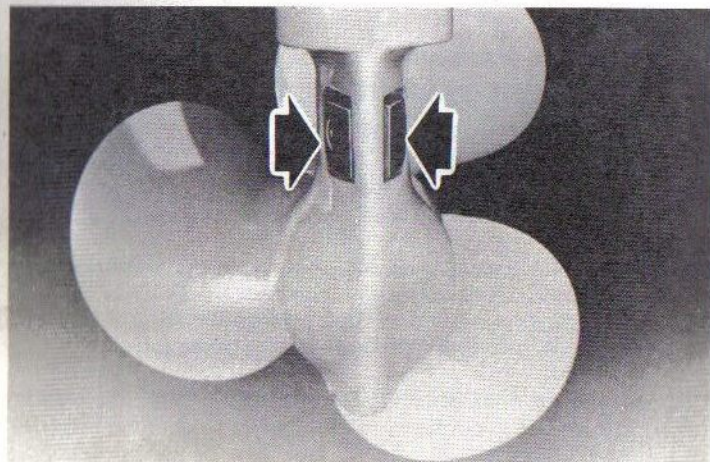
The propeller that came with your unit is especially designed. Do not substitute other types or pitches. Do not use bronze or collapsible propellers.



Water Pump Anode

ANODE PROTECTION

It is important, especially in salt water areas, to protect the lower unit, propeller and water pump from galvanic corrosion. Anti-corrosion anodes, mounted to each side of the gearcase and internally near the water pump housing, serve to dissipate accumulated charges of static electricity. They are designed to be slowly eaten away by galvanic action. If they show considerable erosion, they should be replaced in order to maintain protection for the drive unit. The two lower anodes should be inspected annually. The internal anode should be removed and inspected every 6 to 8 weeks. If additional electronic or electrical equipment, other than OMC accessories are installed, each should have an individual anode or grounding device. All grounding devices should be inter-connected. Follow equipment manufacturer's recommendations.

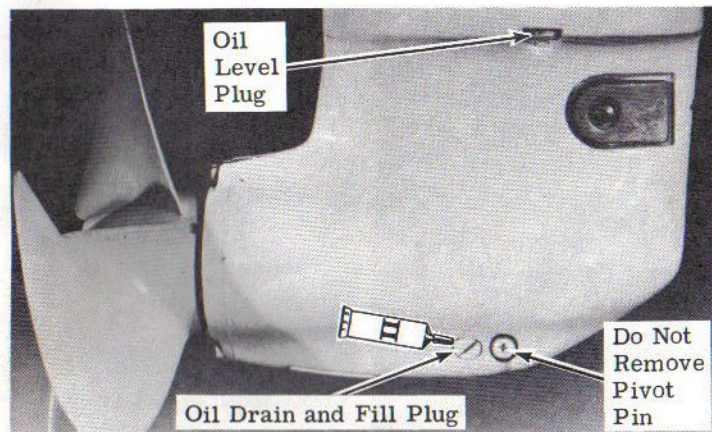


Anti-Corrosion Anodes

GEARCASE LUBRICATION

Remove oil drain/fill and oil level plugs from side of gearcase. With engine in normal running position (boat level), allow oil to drain completely.

To refill, place tube of OMC HI-VIS Gearcase Lubricant in drain/fill hole. If OMC HI-VIS Gearcase Lubricant is not available, OMC Sea Lube™ Premium Blend Gearcase Lube can be used as an alternate. With engine in normal running position, fill until lubricant appears at oil level hole. Complete refill is 20 ozs. (570 millilitres).



Gearcase Oil Plugs



NOTE

Recommended lubricants which have been formulated to protect against damage to bearings and gears must be used, as extensive damage can result from improper lubrication.

Install oil level plug before removing lubricant tube from oil drain/fill hole. Drain/fill plug can then be securely installed without oil loss.

If the proper tube or filler type can is not available, install drain/fill plug. Slowly fill gearcase through oil level hole allowing trapped air to escape. Recheck level after a few minutes and add more lubricant if necessary. Install plug.

Change after first 20 hours of operation and check after 50 hours of operation.

Add lubricant if necessary.

Drain and refill every 100 hours of operation or once each season whichever occurs first.

ENGINE LUBRICATION POINTS



OMC
Sea-Lube™
Anti-
Corrosion
Lube



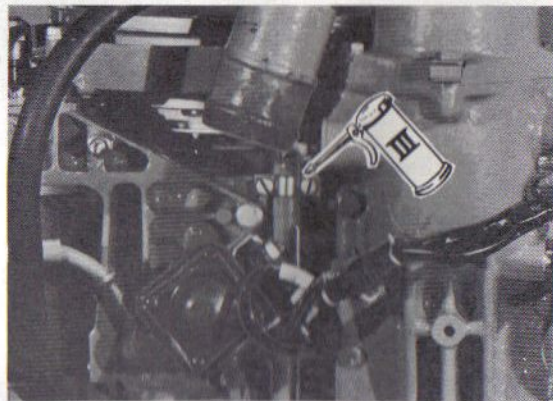
Grease
Gun OMC
Sea-Lube™
Anti-
Corrosion lube



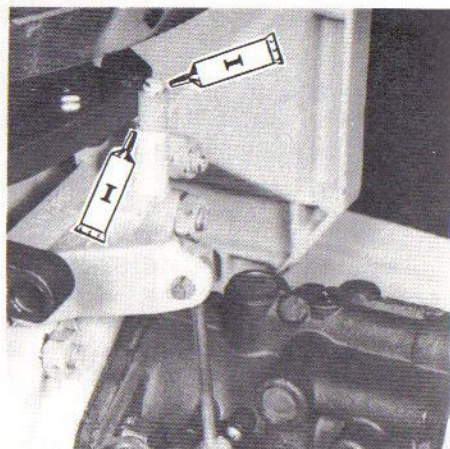
OMC
HI-VIS
Gearcase
Lube



Oil
Can
SAE 90



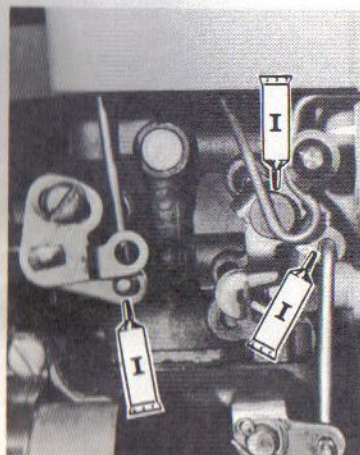
Vertical Throttle Shaft Bearing



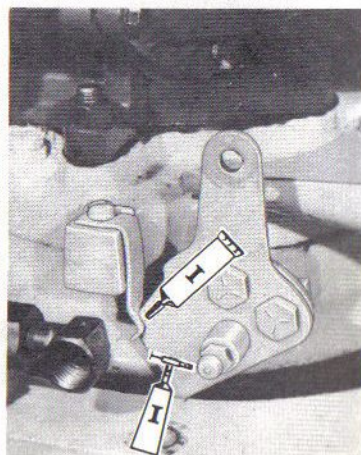
Throttle Cam Follower Roller



Vertical Throttle Shaft Bushing



Throttle and Choke Linkage



Shift Lever Shaft

FREQUENCY OF LUBRICATION

Fresh Water - 60 Days

Salt Water - 30 Days (Some areas may require more frequent lubrication)

OFF SEASON STORAGE

Your warranty does not cover engine failures caused by neglect. It is important that you protect your engine with a well planned storage procedure. The off season storage is important to its long life and trouble free operation. Temperature and humidity changes while in storage can cause corrosion of piston rings, cylinder walls, and bearing surfaces that are not properly protected. It is to your advantage to protect your engine as soon as possible before storage. We recommend that your DEALER prepare your engine for off season storage. Fuel and electrical systems require periodic cleaning and adjustment to maintain top performance. This is the best time to have your DEALER perform an engine tune-up.

If you desire to prepare your own engine for storage, proceed as follows:

Before removing boat from water, see your DEALER for OMC 2+4 Fuel Conditioner and OMC Rust Preventative oil.

1. The use of OMC 2+4 Fuel Conditioner in your fuel mixture to stabilize the gasoline is recommended. Follow directions on can. Operate engine for a few minutes to allow fuel mixed with OMC 2+4 to enter carburetor.



SAFETY WARNING

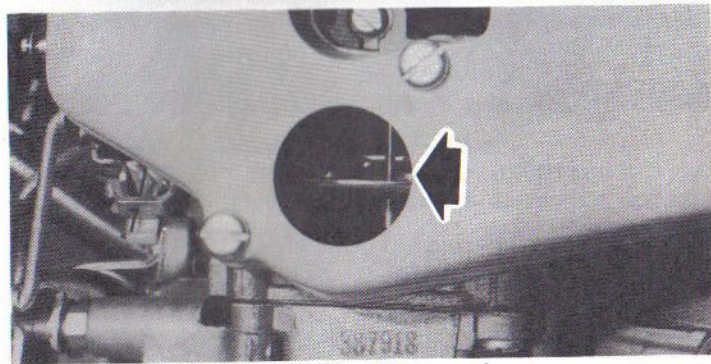
DO NOT OPERATE ENGINE OUT OF WATER, BECAUSE IT WILL RESULT IN DAMAGE TO WATER PUMP, OVERHEATING, TOO HIGH RPM, AND POSSIBLE EXPLOSION OF ENGINE PARTS.

2. Remove fogging plug. Start engine. With engine running at one-half throttle, close fuel shut-off valve and rapidly inject OMC Rust Preventative Oil into fogging hole until engine stops. This will lubricate and protect internal parts of the powerhead while boat is in storage. Replace fogging plug.



SAFETY WARNING

THE CARBURETOR AIR SILENCER ALSO ACTS AS A CONTAINMENT DEVICE IN THE EVENT OF FUEL OVERFLOW FROM A MALFUNCTIONING CARBURETOR. THE FOGGING PLUG MUST BE IN PLACE TO COMPLETE THIS CONTAINMENT SYSTEM.



Fogging Plug Removed

3. Remove battery.
4. Remove boat from water.
5. With a rope, manually turn engine over several times to drain water from the water pump. Open petcock at engine mounting flange and leave open.
6. If OMC 2+4 Fuel Conditioner has not been used in fuel mix, drain fuel tank thoroughly.
7. Remove propeller and have it checked by your DEALER. A damaged propeller blade may not be noticed on casual observation but will affect the performance of your engine. Clean and lubricate the propeller shaft with OMC Sea-Lube™ Anti-Corrosion Lube. See page 17.
8. Inspect anit-corrosion anodes for wear. See page 18.
9. Drain and refill gearcase. Lubricate motor. See LUBRICATION.
10. Remove and check spark plugs. Spark pluggapis .030" (0.8 mm). Clean or replace if necessary. Torque to 17-1/2 to 20-1/2 ft. lbs. (24-27 N.m). See page 16. Leave spark plug leads disconnected.
11. Touch up paint. See your DEALER.
12. Give motor thorough visual check for loose screws, damaged or worn parts.

AFTER STORING - BEFORE USING

If you have properly stored your motor p as follows:

1. Check lower unit lubrication. If leakage is evident, see your Authorized Service Dealer.
2. Check fuel system components for signs of leakage. Check flexible fuel lines for signs of deterioration (cracks, splits, etc). Check hose clamps for tightness. If leakage, deterioration or other. need for service is evident, see your Authorized Service Dealer.
3. Insure all electrical connections are tight to prevent unwanted electrical sparking.
4. Install and connect battery terminals, red lead to positive (+) terminal, black lead to negative (-) terminal. If these connections are reversed, the transistorized regulating unit may be immediately damaged.
5. Check engine coolant hoses for signs of deterioration which may result in leakage. If replacement is necessary, see your authorized Service Dealer.
6. Close seacocks or bilge drains.
7. Launch boat.
8. Start engine.
9. After starting, check to see that water is coming out of the exhaust outlet. This indicates proper water pump operation.
10. Check engine exhaust system for leaks at gasket surfaces (increase in engine noise or signs of cooling water leakage). Check flexible exhaust hose for signs of deterioration (cracks, splits, soft spots). If leakage or deterioration is evident, see your Authorized Service Dealer.



SAFETY WARNING

ANY LEAKAGE IN THE EXHAUST SYSTEM MAY ALLOW CARBON MONOXIDE TO ENTER THE LIVING SPACES OF BOAT. CARBON MONOXIDE IS A COLORLESS, ODERLESS GAS WHICH CAN BE HARMFUL OR FATAL IF INHALED.



SAFETY WARNING

KEEP HANDS, HAIR, AND CLOTHING AWAY FROM MOVING PARTS AND AIR INTAKE WHILE ENGINE IS RUNNING.

SUBMERGED ENGINE (NOT RUNNING)

If engine well is flooded and engine is removed from water immediately, it must be serviced within 3 hours after recovery. See your DEALER. (See PROLONGED SUBMERSSION.)

Since this engine is provided with needle bearings, it must be serviced within 3 hours after recovery to avoid costly repairs. Both fresh and salt water characteristically will start etching the highly machined bearing surfaces of the crankshaft and connecting rods as well as the bearings once exposed to the surrounding atmosphere.

If service is not readily available, proceed as follows:

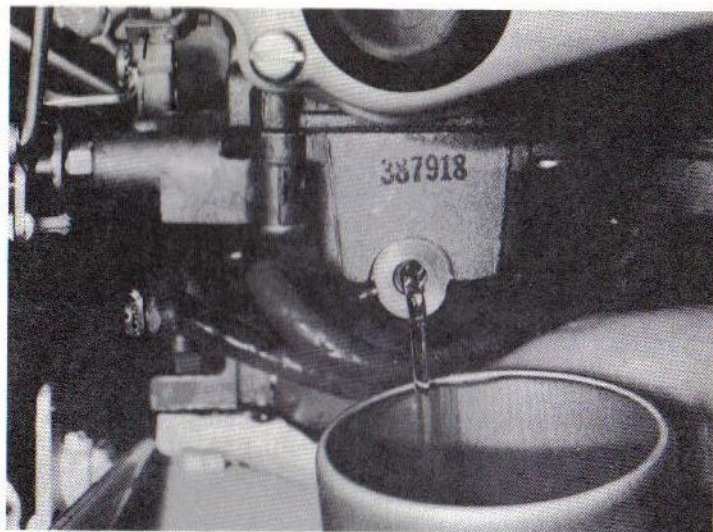
1. Rinse motor with fresh water.
2. DISCONNECT SPARK PLUG LEADS and remove spark plugs. Reattach leads and ground plugs on motor block.



NOTE

To remove or attach leads, pull off or push on with slight counterclockwise twist.

3. Work out all of the water by rotating flywheel with starter cord approximately 25 times.
4. Remove screw plug and washer to drain carburetor.



Draining Float Chamber

5. Starters and electrical equipment on engine that has been submerged should be completely disassembled, cleaned, flushed with fresh water if exposed to salt, and thoroughly dried before assembly.
6. Reassemble parts you removed and follow starting instructions. After starting, permit engine to run 1/2 hour or longer.

7. If engine fails to start, remove spark plugs again to see if water is present between electrodes. Blow out any water from between electrodes and reinstall or replace with new spark plugs. If the engine still fails to start, **HAVE IT SERVICED IMMEDIATELY.** Engines that have been submerged must be started or disassembled as soon as possible or expensive repairs will be necessary. To minimize damage, engine must be started or serviced within approximately 3 HOURS after recovery.

NOTE

If engine cannot be started and if service is not readily available, leave it submerged to avoid exposure to the atmosphere. Make arrangements to have it serviced with the least possible delay.

SUBMERGED ENGINE (RUNNING)

Follow the same procedure as SUBMERGED ENGINE (NOT RUNNING). However, if there is any binding when flywheel is rotated it indicates a bent connecting rod and no attempt should be made to start the engine. **HAVE IT SERVICED IMMEDIATELY.**

PROLONGED SUBMERSION (FRESH OR SALT WATER)

If engine has been submerged and not removed from the water immediately, then the engine must be serviced within 3 hours after recovery. See your DEALER.

If sand has entered the engine, no attempt at starting should be made. Return engine to your DEALER for disassembly and cleaning.

TROUBLE CHECK CHART



SAFETY WARNING

KEEP HANDS, HAIR, AND CLOTHING AWAY FROM FLYWHEEL, STARTER AND AIR INTAKE WHILE ENGINE IS RUNNING.

MOTOR WILL NOT START

Check for:

1. Fuel in tank
2. Fuel line shut-off valve open
3. Fuel line clear and not kinked



SAFETY WARNING

BE CAREFUL OF GAS VAPOR BUILD UP. GAS VAPOR IS EXPLOSIVE.

4. Cold engine: Engine not choked sufficiently
5. Warm engine: Engine overchoked or flooded (correct by opening choke, advance throttle in neutral position, and cranking until cleared)
6. Fuel pump filter obstructed
7. Check battery and electrical connections
8. Check fuse on starboard side of engine. Always carry spare fuses. See specifications page 12

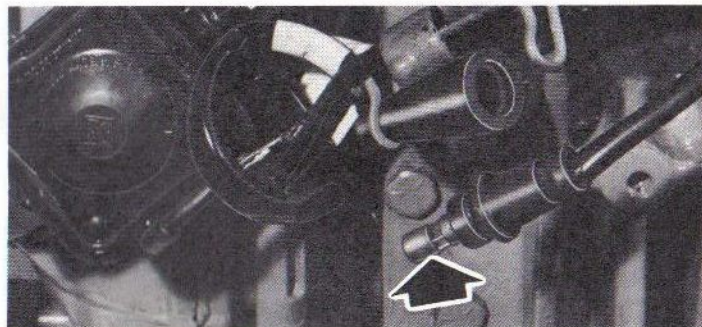


SAFETY WARNING

BATTERY ELECTROLYTE IS A CORROSIVE ACID AND SHOULD BE HANDLED WITH CARE. IF ELECTROLYTE IS SPILLED OR SPLASHED ON ANY PART OF THE BODY, IMMEDIATELY FLUSH THE EXPOSED AREA WITH LIBERAL AMOUNTS OF WATER AND OBTAIN MEDICAL AID AS SOON AS POSSIBLE.

DO NOT USE JUMPER CABLES AND A BOOSTER BATTERY TO START ENGINE. REMOVE BATTERY FROM BOAT AND RECHARGE. DO NOT CHARGE BATTERY IN BOAT. FUMES VENTED DURING BATTERY CHARGING CAN LEAD TO AN EXPLOSION.

DO NOT OPERATE ENGINE WITH BATTERY CABLES DISCONNECTED. A LOOSE BATTERY CABLE WHICH GROUNDS OUT CAN EMIT A SPARK WHICH MAY IGNITE ANY FUEL VAPORS IN THE ENGINE COMPARTMENT.



20 Amp Fuse

9. Water in fuel system
10. Loose spark plug leads
11. Spark plugs carboned, burned or wet

12. Incorrect spark plug gap. Correct gap is .030" (0.8 mm)
13. Loose spark plugs, causing poor compression. Recommended torque is 17-1/2 to 20-1/2 ft.-lbs. (24-27 N·m)
14. Recheck starting instructions

MOTOR WILL NOT IDLE PROPERLY

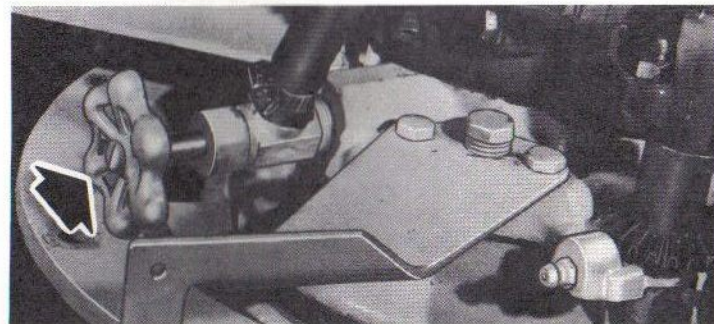
Check for:

1. Contaminated or wrong fuel
2. Improper fuel mixture
3. Defective spark plugs

MOTOR LOSES POWER

Check for:

1. Fuel pump filter partially restricted or fuel contaminated
2. Obstruction at water intake. Cooling system not operating properly
3. Defective spark plugs
4. Engine water supply shut-off valve closed



Water Supply Valve

MOTOR VIBRATES EXCESSIVELY

Check for:

1. Weeds on propeller
2. Bent or broken propeller

MOTOR RUNS, BUT MAKES LITTLE OR NO PROGRESS

Check for:

1. Weeds on propeller
2. Broken propeller drive pin
3. Bent or broken propeller

If above steps do not solve problem, then contact your
DEALER.

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OWNER ASSISTANCE	30
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ENGINE AND BOAT MODEL AND SERIAL NUMBER	Inside Back Cover
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OMC WARRANTY SERVICE AND OWNER'S OBLIGATIONS

To make a claim under warranty, contact the OMC dealer from whom the OMC Product was originally purchased, or the nearest authorized OMC service dealer. It is recommended that warranty service on your OMC Product be performed by the OMC dealer from whom the unit was purchased because of his personal interest in you. Remember, your OMC Product must be delivered to an OMC dealer within the warranty period. Proof of purchase will be required by the OMC dealer to substantiate any warranty claim. Use your OMC Owner Identification card to establish proof of purchase.

EXAMPLES OF ITEMS NOT COVERED BY WARRANTY

Provisions of the Warranty Will Not Apply To:

Normal service requirements arising during the warranty period, such as carburetor or ignition adjustment or repair, or normal wear of a piston ring, cylinder or water pump.

Normal service work over and above the repair and replacement of defective parts including such items as water entering the engine from the fuel tank or through the carburetor, damage to the upper and lower gearcase or propeller blades of a stern drive or sail drive, damage to the impeller or rudder of a jet drive, or damage to the OMC Product due to submersion.

OMC Products subject to misuse, neglect, negligence, accident, or used for racing purposes.

Improper winterizing resulting in freezing and breaking of the engine block, cylinder heads or exhaust manifold.

OMC Products that have been altered or modified so as to adversely affect their operation, performance or durability or to change their intended use.

Repairs made necessary by normal wear, rust or corrosion, or by the use of parts or accessories which are either incompatible with the OMC Product or adversely affect its operation, performance or durability.

OMC Products not operated or maintained in accordance with the instructions in the OMC Owner's-Operator's Manual for the product.

Failure or damage due to overheating as a result of lack of maintenance or by operation of the OMC Product after the "not" light or temperature gauge has indicated overheating.

Service check-ups, tune-ups or diagnosis.

Normal cleaning, adjusting or replacing of spark plugs in the OMC Product.

Periodic checking or adding of lubricant such as motor oil, grease or gearcase lubricant to various parts of the OMC Product.

Expense of returning the OMC Product to the dealer for warranty service and expense of returning it back to the owner after repair or replacement, removal of the OMC Product or any part thereof from a boat and reinstallation, mechanic's travel time, and in-and-out-of-water charges.

The warranty applies only to the original retail purchaser. Used or second-hand OMC Products are not covered under the provisions of this warranty.

OWNER'S REGISTRATION INFORMATION

At the time your purchase your new boat equipped with an OMC SAIL DRIVE, you and your dealer should fill out all portions of the Registration Information Card. At the bottom of this card is a Temporary Identification Card and a Dealer Record Card. The Temporary Service Identification Card should be carried with you until you receive a permanent plastic card. The selling dealer will retain the Dealer Record Card for his reference.

The Registration Information Card will be sent by the dealer to OMC, who will issue your permanent plastic Owner Identification Card. Please allow a minimum of 3 weeks from date of purchase to receive your permanent Owner Identification Card. This card will provide proof of ownership should warranty service be necessary. The card should be carried with you at all times, and will assure prompt, courteous service.

REPAIR SERVICE

Should you be in need of service an OMC dealer is not far. He usually carries a complete stock of spare parts. Always take your Sail Drive to an authorized dealer, he has the knowledge, experience and special tools to take care of any problem that may arise. If you are away from your home waters, take your engine to the nearest authorized dealer. If you are in your home water, take your Sail Drive back to the selling dealer - he knows you and your equipment.

DEALER PHONE NO.

IN ORDER TO ASSURE RECEIVING PROPER SERVICE PARTS ALWAYS PROVIDE THE FULL MODEL & SERIAL NUMBERS OF YOUR SAIL DRIVE.

FIND YOUR NEAREST
OMC STERN DRIVE, EVINRUDE MOTORS
OR JOHNSON OUTBOARDS DEALER
IN THE YELLOW PAGES

10 HOUR CHECK

This is important. After the first 10 hours of operation, we recommend that you return your Sail Drive to your DEALER for minor inspection and adjustment.

The 10 hour check will be performed at local DEALER rates and paid for by the owner.

10 Hour Check Includes:

1. Drain, flush and refill gearcase. See LUBRICATION
2. Torque cylinder head and spark plugs
3. Adjust carburetor
4. Check propeller
5. Check timing and ignition
6. Adjust rev. control and linkage (where applicable)

This is an opportune time to discuss with your DEALER any questions on your Sail Drive which have arisen in the first 10 hours of operation, and establish a routine preventative maintenance schedule.

OWNER ASSISTANCE

The satisfaction and good will of OMC Product owners is of primary concern to us. Normally, any problems that arise in connection with the operation of your OMC Product will be handled by your dealer's service department. We know that despite the best intentions of everyone concerned, misunderstandings will sometimes occur. If you have a problem which has not been handled to your satisfaction through normal channels, it is suggested that you take the following steps:

STEP ONE - Discuss the problem with your dealer. Frequently, complaints are the result of a breakdown in communications and can quickly be resolved by the dealer. If the problem already has been reviewed with the service manager, talk to the dealership management.

STEP TWO - When it appears that your problem cannot be readily resolved by the dealership without additional assistance, the matter should be brought to our attention.

When contacting OMC, please supply the following information.

- Your name, address, telephone number
- Engine model and serial number

- Dealer's name and location
- Purchase date of the OMC product

STEP THREE - If after a review of all facts involved, we feel that further action can be taken, we will advise the dealer. In all cases we will answer your letter and indicate OMC's position in the matter.

When contacting us, understand that ultimately your problem likely will be resolved in the dealership, utilizing the dealer's facilities and personnel. It is suggested, therefore, that you follow the above steps.

OMC Service Department
Outboard Marine Corporation
910 Monaghan Road
Peterborough, Ontario
K9J 7B6

ENGINE AND BOAT MODEL AND SERIAL NUMBERS

The engine model and serial number are stamped on a nameplate attached to the starboard side of the high rise exhaust elbow.

Record your engine Model and Serial Numbers immediately after purchase. This will enable you to have them available for quick reference when ordering parts or literature.

Engine Model No. _____

Engine Serial No. _____

Boat Model No. _____

Boat Serial No. _____

Ignition Key No. _____

REPLACEMENT PARTS

Never use inferior parts on your OMC Sail Drive. Insist on only genuine OMC replacement parts. See your local AUTHORIZED SERVICE DEALER.

WARRANTY

Outboard Marine Corporation of Canada Ltd. (OMCOL) warrants each new OMC sail drive unit to the original retail purchaser for one (1) year according to the following terms.

Any part of the sail drive unit manufactured or supplied by OMCOL and found in the reasonable judgement of OMCOL to be defective in material or workmanship will be repaired or replaced by an authorized OMC Marine service dealer without charge for parts and labour.

The sail drive unit including any defective part must be returned to an authorized OMC Marine service dealer within the warranty period. The expense of returning the sail drive unit to the dealer for warranty work and the expense of returning the sail drive unit to the dealer for warranty work and the expense of returning the sail drive unit back to the owner after repair or replacement will be paid for by the owner. Proof of purchase will be required by the OMC Marine service dealer to substantiate any warranty claim.

If any sail drive unit is used for commercial purposes, such as rental or other income-producing activities, then this warranty is limited to six (6) months from the date of original retail purchase.

This warranty does not cover any sail drive unit that has been subject to misuse, neglect, negligence, or accident, or operated for racing purposes, or operated in any way contrary to the operating or maintenance instructions as specified in the OMC Sail Drive Owner's-Operator's Manual. The warranty does not apply to any damage to the sail drive unit that is the result of improper installation or maintenance. The warranty does not cover any sail drive unit that has been altered or modified so as to adversely affect the unit's operation performance or durability or that has been altered or modified so as to change the intended use of the sail drive unit. In addition, the warranty does not extend to repairs made necessary by normal wear, or by the use of parts or accessories which in the reasonable judgement of OMCOL are either incompatible with the sail drive unit or adversely affect its operation, performance or durability.

Repairs or replacements qualifying under this warranty will be performed by an authorized OMC Marine service dealer following delivery of the sail drive unit to the dealer's place of business.

OMCOL's responsibility in respect to claims is limited to making the required repairs or replacements, and no claim of breach of warranty shall be cause for cancellation of the contract of sale of any sail drive unit.

OMCOL assumes no responsibility for loss of use of the sail drive unit, loss of time, inconvenience, or other damage, consequential or otherwise, including, but not limited to, expense for gasoline, expense of returning the sail drive unit back to the owner, removal of the sail drive unit or any part thereof from a boat and re-installation, mechanic's travel time, in-and-out-of-water charges, telephone or telegram charges, trailering or towing charges, rental of a similar marine propulsion unit during the time warranty repairs are being performed, travel, lodging, loss or damage to personal property, or loss of revenue.

OMC reserves the right to change or improve the design of any sail drive unit without assuming any obligation to modify any sail drive unit previously manufactured.

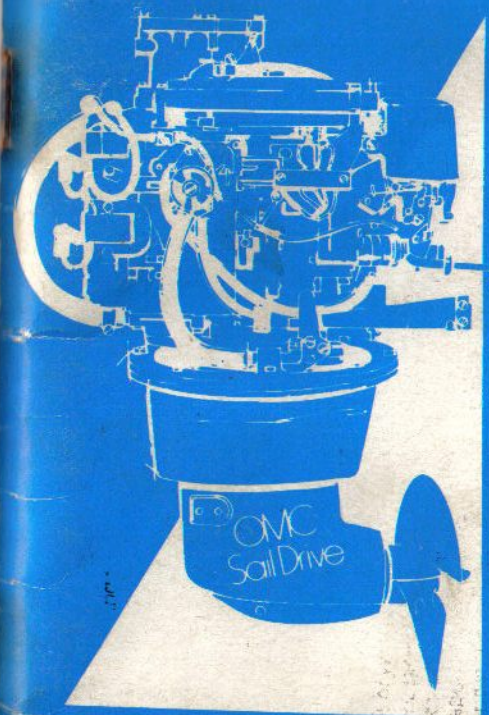
THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES OR CONDITIONS, EXPRESSED OR IMPLIED, INCLUDING MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE. OMCOL'S OBLIGATION UNDER THIS WARRANTY IS STRICTLY AND EXCLUSIVELY LIMITED TO THE REPAIR OR REPLACEMENT OF DEFECTIVE PARTS, AND OMCOL DOES NOT ASSUME OR AUTHORIZE ANYONE TO ASSUME FOR THEM ANY OTHER OBLIGATION.

This warranty applies to all sail drive units sold in Canada. Any sail drive units sold elsewhere are warranted by the affiliated marketing company.

Compliance with radio interference regulations certified.

OMC Sail Drive may be taken to any authorized OMC Stern Drive, Evinrude Motors or Johnson Outboards Dealer for warranty service.

OUTBOARD MARINE CORPORATION OF CANADA LTD.
910 Monaghan Road
Peterborough, Ontario



OMC Zephyr

SAIL DRIVE

manuel
du propriétaire
de l'opérateur