



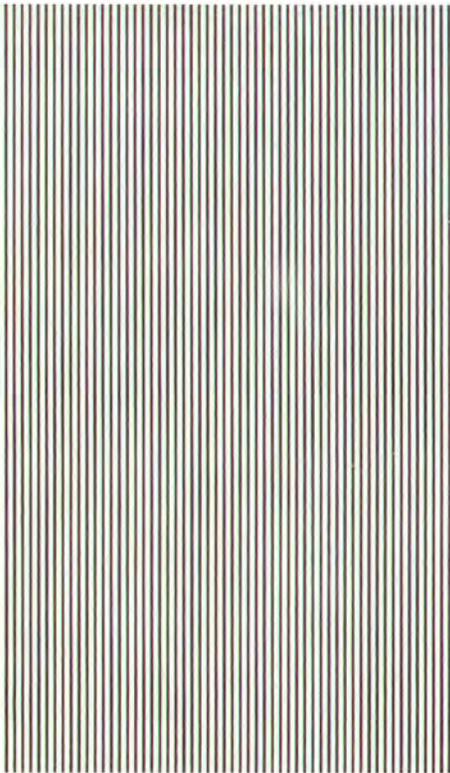
Johnson

OWNER'S MANUAL

1963

MODELS QD-QDL





Welcome Aboard

Welcome into the family of Johnson Sea Horse owners – we are glad you chose a Johnson.

Your new Johnson Sea Horse is designed and constructed to give you a maximum in service and performance. Please study this instruction book for your motor in order to have a complete understanding of its operation and take full advantage of its many built in features.

Your Johnson Sea Horse is produced under the finest quality controlled methods and built to give many hours of dependable service. It has always been the belief of Johnson Motors that a sale does not complete the transaction between the manufacturer and the buyer. It establishes, rather, a new obligation – an obligation whereby Johnson Motors agrees to assist the buyer in obtaining utmost service from a Johnson Sea Horse motor.

With this policy uppermost in our minds, it has been our endeavor to place a Johnson Service Station within easy reach of every Johnson Sea Horse owner.

Dependably yours,

Johnson MOTORS

ATTENTION!

VOUS POUVEZ OBTENIR UNE VERSION FRANCAISE DU
MANUEL DU PROPRIETAIRE RELATIF A CE MODELE,
EN ECRIVANT A LA DIVISION DU SERVICE DE L' USINE.



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Specifications 10 H.P. (Models QD and QDL)

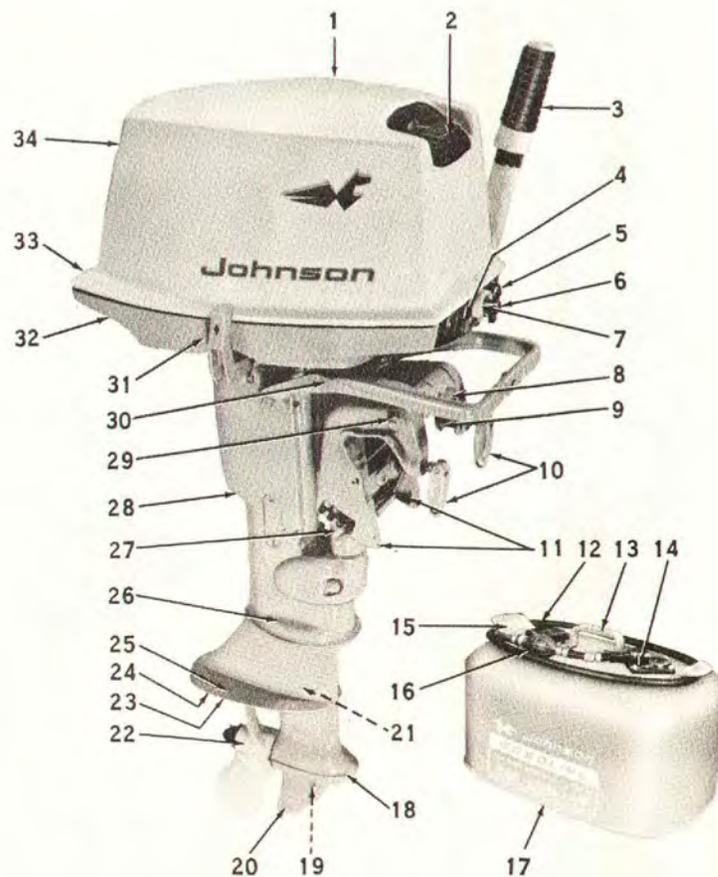
POWER HEAD Two Cycle - Alternate Firing
 Two Port - Automatic Intake
 Bore and Stroke 2-3/8" x 1-7/8"
 Number of Cylinders 2
 Piston Displacement 16.6 Cubic Inches
 OBC Certified H.P. at 4500 R.P.M. 10.0

FULL SPEED OPERATING

RANGE 4000 to 5000 R.P.M.
 GEAR RATIO 13:23
 IGNITION Magneto - Johnson
 MAGNETO BREAKER POINT GAP020"
 SPARK PLUG GAP030"
 CARBURETOR Johnson
 GEAR SHIFT CONTROL - Neutral, Forward, Reverse
 THROTTLE CONTROL Twist Grip Control -
 Ship-Master Remote Controls (Optional)
 PROPELLER . . 3 Blade 8-1/4" Dia. by 8-1/2" Pitch
 FUEL TANK CAPACITY . 5 gals. Mile-Master Tank
 SPEED RANGE Slow Trolling to Over 20 MPH
 COOLING Thermostat and Vari-Volume
 Water Pump

	10 H.P. (Model QD)	10 H.P. (Model QDL)
Weight (Motor less Mile-Master Tank)	67 lbs.	68 lbs.
Weight of Mile-Master Fuel Tank (Empty)	12 lbs.	12 lbs.
Stern Height	15"	20"

JOHNSON MOTORS reserves the right to change weight, construction materials or specifications without notice and without obligation.



LEGEND

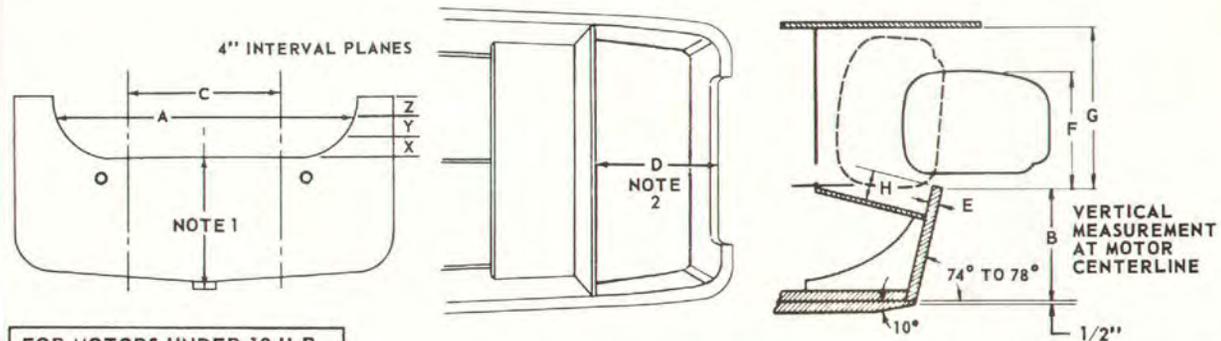
- . Motor Cover
- . Starter Grip
- . Speed Control Grip
- . Choke
- . Stop Button
- . High Speed Adjusting Knob
- . Low Speed Adjusting Knob
- . Reverse Lock
- . Safety Chain Lug
- . Clamp Screws
- . Stern Brackets
- . Fuel Line
- . Handle
- . Drain Screw
- . Filler Cap
- . Priming Bulb
- . Mile-Master Tank (Non-Pressurized)
- . Gear Case
- . Oil Drain (Opposite Side)
- . Skeg
- . Oil Level (Opposite Side)
- . Propeller
- . Water Intake
- . Exhaust Outlet
- . Anti-Cavitation Plate
- . Water Pump (Under HSG.)
- . Tilt Adjusting Bar
- . Water Discharge
- . Tilt Tension Nut
- . Steering Bracket
- . Shift Lever
- . Latch (Motor Cover)
- . Motor Rest
- . Tilt Grip

Transom and Motor Cutout Dimensions

Cutout dimensions are given at three 4" interval planes (X, Y, and Z) above the transom top.

NOTE 1

Where boats having transoms cut for twin motors will be used with only a single motor, and the bottom at the transom has considerable vee or dead-rise, provision should be made for readily reducing the transom height at the centerline to provide a standard height for the single motor.



FOR MOTORS UNDER 12 H.P.

NO. OF MOTORS	CUTOUT WIDTH A			TRANSOM HEIGHT B	SPACING C	CLEARANCE LENGTH D	THICKNESS E		MOTOR CLEARANCE F	COVER HT. G	DRAIN WELL H
	X HT.	Y HT.	Z HT.				MIN.	MAX.			
1	21"	23"	27"	15 ± 1/2"*	-	21"	1-3/8"	1-3/4"	17"	22-1/2"	5-1/2" MIN.
2	43"	45"	49"	20 ± 1/2"	22"	SEE NOTE 2					

NOTE 2

As a safety measure, when the inboard section of the motor cutout is formed by the back of a seat, and it is possible that a passenger's arm may be caught between it and the motor in the event of a sudden tilt-up of the motor, add 3" to dimension D.

*The 20" transom height should be used as a minimum on any boat using 28 H. P. or over unless the boat is fitted with a self-bailing well having adequate drainage.

DIMENSIONS SHOWN ON THIS PAGE ARE RECOMMENDED BY THE OUTBOARD BOATING CLUB OF AMERICA

Here's How to Install Your Motor

PROPER TRANSOM HEIGHT IS IMPORTANT

Your Johnson motor is designed to fit transoms which conform to standards shown on page 5. Proper transom height is essential to obtain maximum forward thrust from your motor.

If transom is too high propeller slippage (cavitation) may result, affecting general performance and proper cooling of the motor.

If transom is too low this will produce drag, resulting in some loss of speed and undesirable spray.

Keel interference is frequently the cause of cavitation. Correct by tapering the keel (see page 5).

SECURING MOTOR TO BOAT

Locate center of transom and install motor. Immediately tighten clamp screws to avoid the possibility of loss overboard. Tighten clamp screws by hand only - DO NOT use tools. Retighten after 30 minutes of operation. Attach a safety chain or cable to motor and boat to prevent possible overboard loss. NOTE - We recommend using a Johnson transom plate to protect your boat and prevent loss of motor.

REVERSE LOCK

During normal operation the reverse lock should be in "LOCK" position. This retains the motor in a vertical position and permits reverse operation

by overcoming engine thrust. The "RELEASE" position is only recommended when operating in shallow or obstructed waters.



In a forward direction the reverse lock utilizes an automatic tilt feature which is designed to release upon striking an underwater object, thus allowing the motor to tilt. **CAUTION** When operating in reverse, additional care should be exercised as the motor obviously has no automatic tilt protection.

To tilt the motor, move reverse lock to "RELEASE" position, grasp the tilt grip at rear of motor cover and pull motor toward you. As a safety precaution always disconnect fuel line from motor when trailing or when motor is tilted on boat.

ANGLE ADJUSTMENT

The stern bracket has four notches for adjusting the motor to a vertical position to allow for transom angle. Adjust motor angle as follows:

1. Place reverse lock lever in "RELEASE" position and tilt motor away from transom.
2. Lift up on tilt adjusting bar and move bar in or out as necessary.

3. Move motor back against bar and place reverse lock in "LOCK" position so motor is perpendicular to water.

STEERING

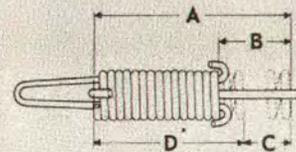
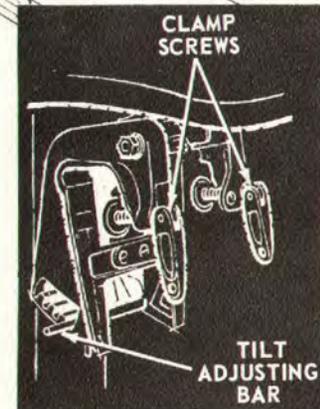
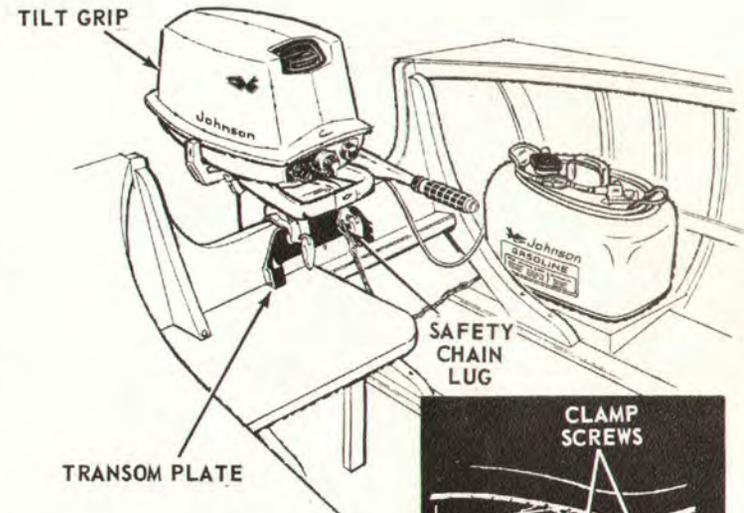
There are two basic steering systems generally being used: the new "push-pull" cable system, patterned after remote controls, and the more common cable and pulley system. Proper installation will insure safe, easy steering.

PUSH-PULL CABLE: Be sure cable is adequately anchored, properly lubricated, and that there are NO SHARP BENDS.

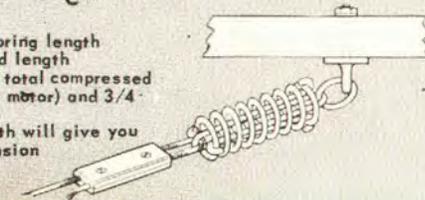
CABLE AND PULLEY SYSTEM: Complete illustrated information is given in the instruction book furnished with remote control units. In addition, to eliminate backlash caused by dimensional changes in your boat, (due to moisture or dryness) we advise installing a spring in the system where the cable end is attached to the transom. With a single motor, use a 60 lb. spring, tightening the steering cable so that the spring is compressed approximately two thirds of its total compressed length. This will put a 40 lb. load on the spring. For twin engines, also use only ONE spring, but double the load. You can use a 100 lb. spring, compressed approximately three-quarters of its total compressed length, giving a 75-80 lb. load.

ALWAYS REMEMBER:

1. Use only ONE spring in any installation. Two springs can permit hazardous fishtailing at high speed.
2. Do not use the spring to compensate for improper pulley or cable anchor positioning.
3. Always use through bolts for attaching cable anchors and pulleys. Wood screws can pull loose under high load.



- A - Uncompressed spring length
- B - Total compressed length
- C - Approximate 2/3 total compressed length for (single motor) and 3/4 for (twin motors)
- D - This spring length will give you correct cable tension



How to Get Started

BREAKING IN

No additional oil is required during break-in period. Do not operate engine at continuous full power for the first hour of operation. After 15 minutes of slow to half throttle operation (2500 rpm approx.) we recommend a short burst of full throttle operation every five or ten minutes. Run at full throttle for about 90 seconds, then return to half throttle or less.

Check operation of cooling system frequently during break-in.

CAUTION - Do not start or operate motor out of water as it will result in damage to water pump, overheating and too high r.p.m.

WHAT GASOLINE AND OIL TO USE

Use regular automotive gasoline or White Marine gasoline. Higher octane fuels may be used but generally offer no advantages.

We recommend using a reputable outboard motor oil or a regular SAE 30 Grade automotive engine oil. **AVOID USE** of low price third grade (ML light duty) oils or multiple viscosity oils such as 10W-20 or 10W-30.

The use of additive compounds such as "break-in" oils, "tune-up" compounds, "tonics," friction reduc-

ing" compounds, etc. are entirely unnecessary and are not recommended for use in your motor.

FUEL MIXTURE

The correct fuel mixture is 1/3 pint of oil to one gallon of gasoline or a ratio of 1 part of oil to 24 parts of gasoline.

When filling an empty Mile-Master Tank, pour one gallon of gasoline into tank (5 Imp. gallon capacity). Add required oil and fill tank with gasoline. Be sure that oil and gasoline are always thoroughly mixed and filler cap is secured.

Use only the recommended oil-to-gasoline mixture ratios, regardless of the claims made for some lubricants.

FUEL CONNECTION

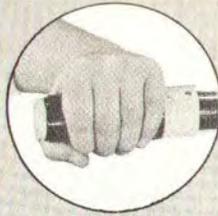
Place Mile-Master tank in boat so tank will not shift around. Be sure fuel line is not wedged under tank and allow fuel line slack to permit steering.

Slide fuel line connector onto motor coupling until locking lever snaps into position.

To disconnect fuel line depress locking lever on fuel line connector and pull off at motor or Mile-Master tank.

STARTING

1. Turn speed control grip to position marked **SHIFT** on steering handle. **NOTE**—It is possible to shift only when the throttle is set at a safe speed for starting.



2. Do not start in gear. Move shift lever to **NEUTRAL** position.

3. Turn speed control grip to position marked **START**.



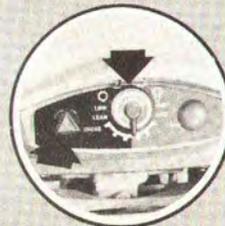
4. Be sure reverse lock is in "**LOCK**" position.

5. Attach fuel line from Mile-Master tank to motor.



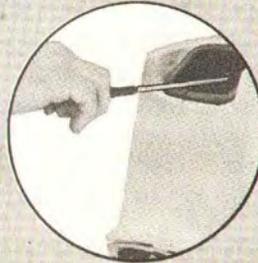
6. Squeeze the primer bulb in Mile-Master tank fuel line several times until definite pressure is felt in bulb.

7. Set **LOW SPEED** adjusting knob and **HIGH SPEED** adjusting knob to center position. In cold temperatures turn high speed lever toward **RICH**. Re-adjust to center position after motor is started and warmed up. See **CARBURETOR ADJUSTMENT**.

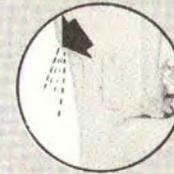
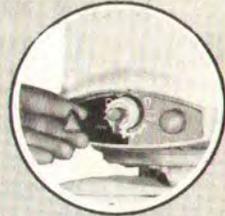


8. Pull out choke.

9. Slowly pull starter grip until starter engages, then pull rapidly. Allow starter cord to rewind before releasing starter grip to prevent damage to starter assembly.



10. After starting motor, push choke in. Additional choking may be necessary to keep cold motor running. Reduce motor speed after starting.



11. Check to be sure that a spray of water is coming out of the water discharge when operating motor (See page 4).

STOPPING

12. Turn speed control to **STOP** position, press and hold stop button until motor stops.



HOW TO SHIFT AND CONTROL SPEED

Reduce throttle to slow speed range before shifting and **SNAP** shift lever with **QUICK ACTION** to forward, neutral or reverse position, as desired. To control motor speed, move throttle control toward **FAST** or **SLOW** position.

PRECAUTION: To avoid damage to shifting mechanism, do not attempt shifting to forward or reverse when motor is not running.

REVERSE OPERATION

Place reverse lock in "**LOCK**" position. Motor will not tilt when operating in reverse. Avoid striking underwater obstructions to prevent damage to motor and boat.

Simple Adjustments

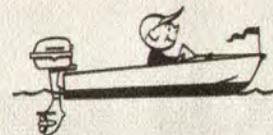
PROPER ANGLE ADJUSTMENT



If boat moves with bow lifted - lower unit too far out.



If bow of boat digs - lower unit too far in.



If direction of propeller thrust is parallel to line of boat travel - motor is correctly adjusted.

The vertical angle of the motor on the boat must be adjusted properly to obtain best performance from the motor and boat. The correct angle can only be determined by observing how the boat operates at full speed. (See "How to Get Peak Performance.") The angle adjustment should be made when trim and load distribution change. Planing type hull should ride with bow slightly out of water at full throttle.

REMOTE CONTROLS

Ship-Master Remote Control and Adapter Kits are available from your Johnson dealer as an accessory. Complete installation instructions are furnished with each control unit and your dealer is always ready to provide assistance. Select correct cable lengths to assure free flowing curves. AVOID SHARP BENDS. Anchor cables to boat for neat appearance and minimum backlash. Lubricate the control head when assembled and lubricate linkage at engine. Check for free movement. Lubricate periodically to insure control freedom. Check engine through its steering arc to be sure cables will not catch on any projection.

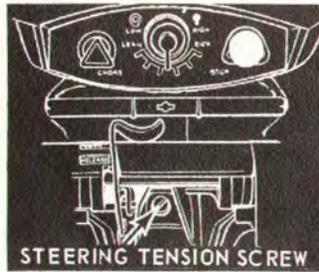
TILT TENSION ADJUSTMENT

Tighten tilt tension nut only enough to hold motor in any position of tilt. Do not adjust too tight as this will increase pressure required to release the reverse lock if lower unit strikes obstruction.



STEERING TENSION ADJUSTMENT

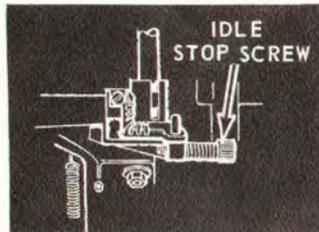
Adjust steering tension with motor mounted to boat by simply loosening or tightening screw in swivel bracket. Steering tension should be adjusted so you can feel a slight drag when turning. This will facilitate smooth steering.



If steering wheel is used the steering tension screw should be adjusted so that no drag can be felt when turning motor from side to side. No tension is required when steering wheel is used.

IDLE STOP ADJUSTMENT

After motor is thoroughly warmed up and carburetor adjusted, set idle stop screw for desired idling speed.



EMERGENCY STARTING

If Ready Pull starter fails, remove motor cover (see page 12). Remove three screws attaching starter and lift it off. If the pull cord on the starter is broken it may be long enough to use as an emergency cord. If it is not long enough, use a 1/4 inch cord with a knot tied in one end, place knot in pulley

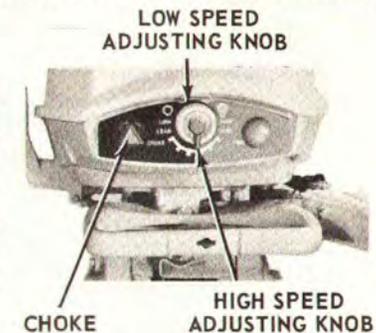
notch and wrap cord around clockwise. Start motor as described on page 9. **CAUTION** - Be sure shift lever is in neutral position when starting motor.



CARBURETOR ADJUSTMENT

Changes in fuel, altitude and climate may make it necessary to readjust the carburetor to obtain the best performance. Do it as follows when underway and motor is warm.

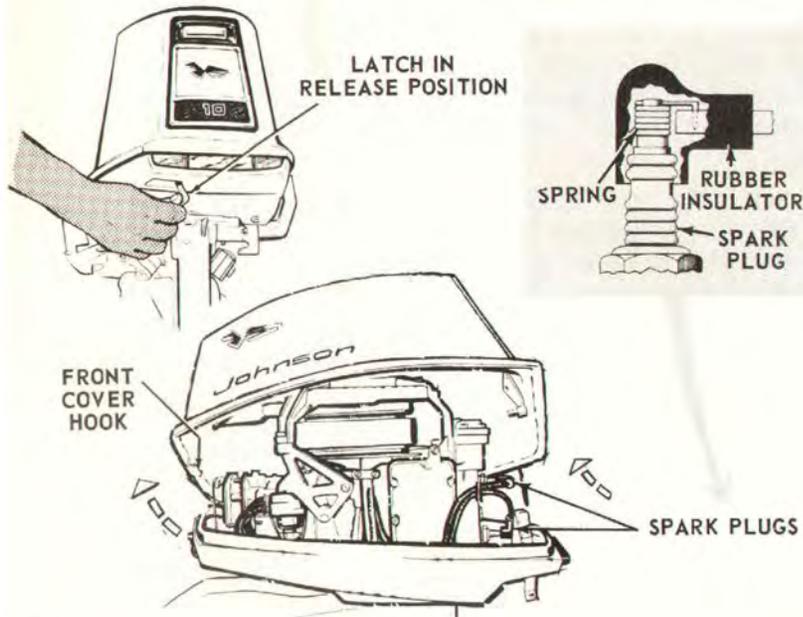
1. Move throttle control to FAST and adjust HIGH SPEED adjusting knob (turn left or right) until motor runs smoothly at highest speed.
2. Move throttle control to SLOW position. Then adjust LOW SPEED knob (turn left or right) until motor idles smoothly.
3. Recheck HIGH SPEED knob adjustment.



Taking Care of Your Motor

REMOVING MOTOR COVER

Release the latch (pull down). Lift the rear of cover a little and move entire assembly slightly forward to release front cover hook from the lower pan. Lift entire cover assembly from motor. Reinstall cover assembly in reverse order, making certain rubber seal fits properly between cover and lower pan before securing the latch (push up).



SPARK PLUG RECOMMENDATION AND REPLACEMENT

Using the correct spark plug is most important for efficient operation. The recommended spark plug for your motor is Champion J4J, AC-M42K or Auto-Lite A21X. The proper spark plug gap is .030".

Detach rubber covered spark plug terminal (twist slightly counterclockwise and pull off). Remove spark plugs for inspection or replacement as necessary.

When reinstalling spark plug, clean the spark plug seat in cylinder head. Be sure spark plug gasket is in place and tighten plug securely. (Recommended Torque, 20-20-1/2 ft. lbs.). The spring inside rubber terminal lead cover must be positioned to fit properly over spark plug terminal (see illustration).

FREEZING TEMPERATURES

When operating in freezing temperatures, keep the lower unit submerged in the water at all times to avoid freezing and possible damage to the water pump. Be sure to completely drain water from cooling system when removing motor from boat. (See - "Removing Motor from Boat" page 13).

REMOVING MOTOR FROM BOAT

Disconnect remote control, if used, and fuel line from motor. Loosen the clamp screws and lift motor vertically from boat. Hold motor in upright position to allow water to drain out. Do not place motor in a position where the lower unit will be higher than the power head - any water remaining in the exhaust tube may run into the cylinders and cause serious damage.

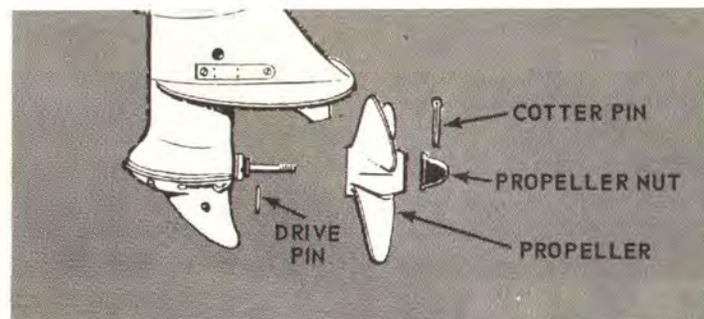
CARE OF MOTOR WHEN OPERATED IN SALT WATER

Never leave gear case in water when not in use for long periods of time. It is not necessary to flush cooling system after salt water operation. Rinse off exposed parts with fresh water and wipe with oily cloth. Lubricate all external linkages with OMC Type "A" Lubricant (See - "Lubrication Chart" pages 14 and 15). Move throttle to STOP position. Slowly pull manual starter grip several times to insure complete draining of the water pump.

CAUTION - Be extremely careful not to accidentally start the motor. Shift lever should be in neutral.

DRIVE PIN REPLACEMENT

The propeller has a shock absorber to minimize propeller damage and reduce the possibility of shearing the drive pin when the propeller strikes an object.



If drive pin does shear, it can be easily replaced.
CAUTION - To prevent accidental starting of the motor do not rotate the propeller when the motor is in gear. BE SURE SHIFT LEVER IS IN NEUTRAL POSITION.

To replace drive pin, pull out cotter pin, remove propeller nut and propeller. The damaged drive pin can be driven out with a new pin when it is installed. When replacing propeller nut always tighten nut to align cotter pin hole, do not back up nut. (If propeller nut is not drawn up tight enough, excessive drive pin and propeller hub wear will result.) Install cotter pin (use new pin if necessary) bending ends over against nut. Use genuine Johnson drive pin for maximum protection.

If propeller strikes an object, it may be bent and can cause excessive motor vibration and/or damage to the motor. Your Johnson Dealer will check the propeller and service it if necessary.

Taking Care of Your Motor

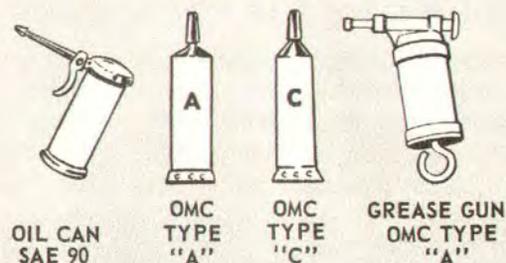
GEAR LUBRICATION

When a complete change of lubricant is required, place motor in vertical position and remove lower plug and gasket assembly, marked "OIL DRAIN" on side of gearcase. Then remove the upper plug and gasket assembly, marked "OIL LEVEL". Permit oil to drain completely.

We recommend refilling gearcase as follows: Place a tube of OMC Type "C" Lubricant in lower hole marked "OIL DRAIN". Fill gearcase until lubricant appears at upper hole marked "OIL LEVEL". Replace upper plug and gasket assembly securely before removing the tube from the lower hole. This will create an air lock and hold the oil in gearcase until lower plug and gasket assembly can be secured.

In the event that OMC Type "C" Lubricant is not available, proceed as follows: Drain gearcase as described above. With an appropriate pressure type oil can fill the gearcase with outboard motor oil or SAE 30 Service MM engine oil, through the top hole marked "OIL LEVEL". Air bubbles at fill hole may give impression that gearcase is full. Wait for a few minutes to permit air in gearcase to escape, then add more oil to fill. Replace oil level plug and gasket assembly securely. **IMPORTANT** - Use of outboard motor oil or engine oil in the gearcase is for **EMERGENCY USE ONLY** - Replace with OMC Type "C" Lubricant as soon as possible.

TYPES OF LUBRICANT



LUBRICATION INTERVALS

GEARCASE-Fresh water or salt water operation - First 10 hours of operation. Check oil level and add if necessary. Check oil level at least every 50 hours of operation.

Drain and refill gearcase with recommended lubricant every 100 hours of operation or each season, whichever occurs first.

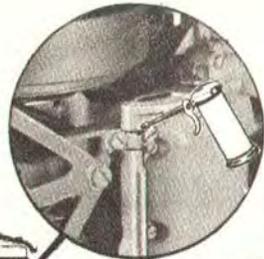
ALL OTHER LUBRICATING POINTS.

Every 60 days of operation in fresh water.

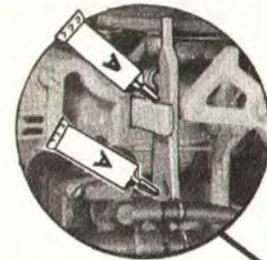
Every 30 days of operation in salt water. Lubricate more often if required.



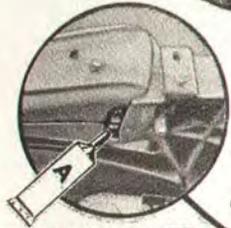
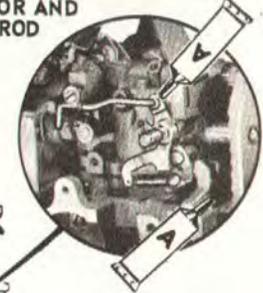
TOP END OF ROLLER ON CAM FOLLOWER



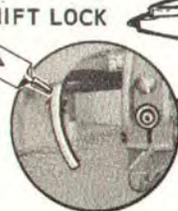
VERTICAL THROTTLE SHAFT BEARING AND LINKAGE



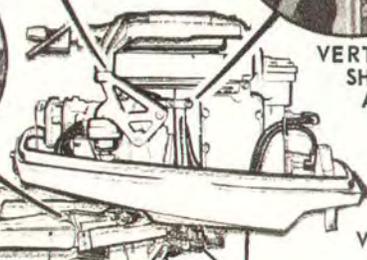
CARBURETOR AND CHOKE ROD



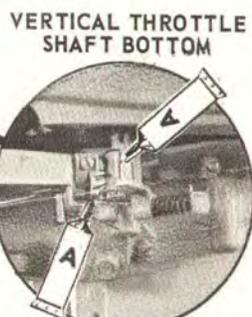
THROTTLE SHAFT GEARS



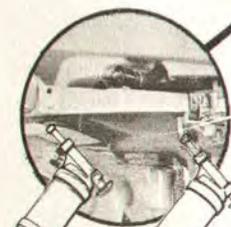
SHIFT LOCK



PORT SIDE



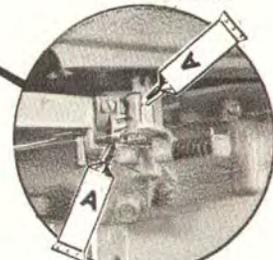
VERTICAL THROTTLE SHAFT BOTTOM



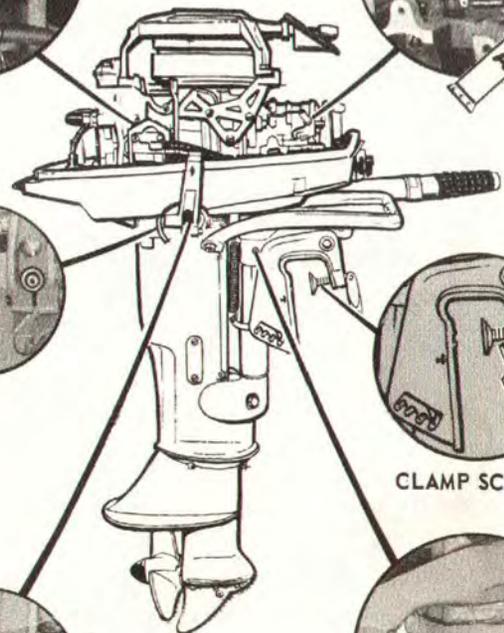
THROTTLE SHAFT BUSHINGS

UPPER PLUG

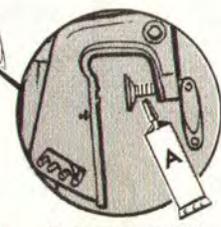
LOWER PLUG



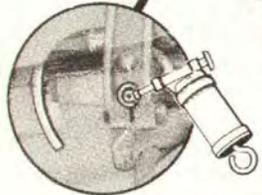
THROTTLE GEARS



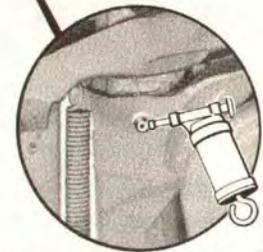
STARBOARD SIDE



CLAMP SCREWS



SHIFT LEVER



SWIVEL BRACKET

Taking Care of Your Motor

MOTORS DROPPED OVERBOARD (NOT RUNNING)

If motor is recovered from water immediately, have it serviced at once. See your Johnson Dealer. If service is not immediately available, proceed as follows.

1. Remove motor cover, SLOW and HIGH SPEED adjusting knobs.
2. Disconnect spark plug leads and remove spark plugs. Re-attach leads and ground plugs on motor block. NOTE - To remove or attach leads, pull off or push on with a slight counterclockwise twist.
3. Work out all of the water by pulling the manual starter grip approximately 25 times with motor in upright and inverted positions. Pour a small amount of oil through the spark plug hole into each cylinder and pull the manual starter grip several times to distribute the oil.
4. Remove starter housing and flywheel inspection port cover.
5. Blow air through the inspection port to remove water from magneto. Wipe magneto dry with a clean cloth, being sure no water stays between contact points.
6. Remove high speed needle to drain carburetor bowl. **CAUTION** - Loosen needle packing nut before removing needle.
7. Reassemble parts you removed and follow start-

ing instructions. After starting, permit motor to run at least 1/2 hour or longer.

8. If motor 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 ones. If the motor still fails to start HAVE IT SERVICED IMMEDIATELY. (When away from home, refer to your Service Station Listing.) Motors which have been submerged must be started or disassembled as soon as possible or expensive repairs will be necessary. To minimize damage, motor must be started or serviced within approximately 3 hours after recovering.

MOTORS DROPPED OVERBOARD (RUNNING)

Follow the same procedure as Motors Dropped Overboard (Not Running). However, if there is any binding when flywheel is rotated (by pulling manual starter grip) it indicates a bent connecting rod and no attempt should be made to start the motor. HAVE IT SERVICED IMMEDIATELY.

MOTORS DROPPED OVERBOARD (IN SALT WATER)

Follow same procedure as Motors Dropped Overboard (Not Running) and (Running) but take the motor to your Johnson dealer as soon as possible, even if it can be started, as salt water can cause excessive corrosion of magneto and internal parts.

MAGNETO POINTS ADJUSTMENT

After extended use it may be necessary to adjust the magneto breaker points. The gap between the

points should be set to .020 inches using the feeler gauge provided. Proceed as follows:

1. Remove the motor cover (page 12).
2. Remove the three screws attaching starter assembly and lift it off.
3. Remove the inspection port cover from flywheel.
4. Turn flywheel until one set of points can be seen through inspection port in flywheel.
5. Loosen the anchor screw. Turn adjusting screw left or right until feeler gauge binds slightly between the points. Retighten the anchor screw.
6. Follow same procedure to adjust the other set of points.

CLEANING MAGNETO POINTS

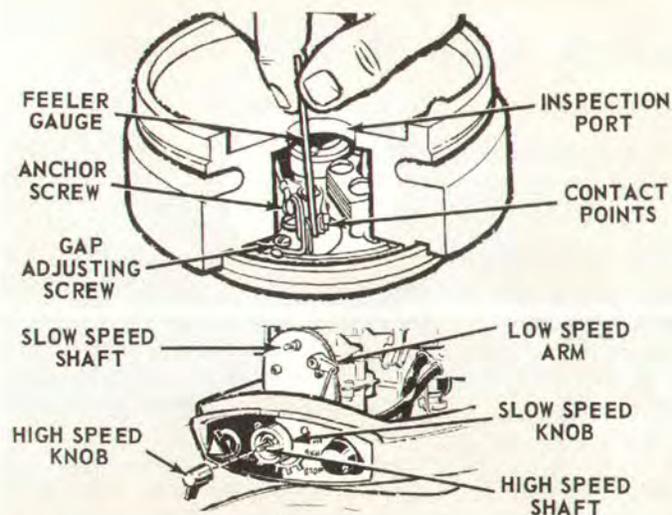
1. Follow steps 1 to 4 inclusive under "Magneto Points Adjustment."
2. Wash each set of contact points with carbon tetrachloride.

CAUTION: When cleaning with carbon tetrachloride be sure you are in a well ventilated room or preferably outdoors, as this is a volatile solvent and releases a harmful vapor, and repeated breathing of this vapor or contact with the skin may have harmful effects.

BASIC HIGH AND LOW SPEED SHAFT SETTINGS

Make the following adjustment if the high and/or low speed shaft is completely out of adjustment.

1. Pull off low speed arm and high and low speed knobs.



2. Use high speed knob to turn low speed shaft in, seat gently (not tight). Turn left 1-1/2 turns.
3. Replace low speed arm on shaft in horizontal position.
4. Use high speed knob to turn high speed shaft in, seat gently (not tight). Turn left 3/4 turn and remove knob.
5. Replace low and high speed knobs with pointers straight down.
6. Warm motor on tank or boat. Adjust knobs for maximum performance. Without disturbing shaft setting, pull low speed arm off and reset in horizontal position. Then reset knobs with pointers straight down without disturbing shaft settings.

Taking Care of Your Motor

COOLING

The motor has a thermostatically controlled water cooling system. Water temperature is accurately controlled for best performance and long motor life.

The vari-volume water pump operates as a centrifugal pump at high speeds and as a constant displacement pump at low speeds. Water is taken in through the water inlet located on the underside of the exhaust discharge, directly behind the propeller, and is expelled through the underwater exhaust and water discharge.

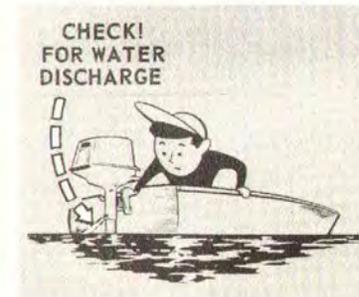
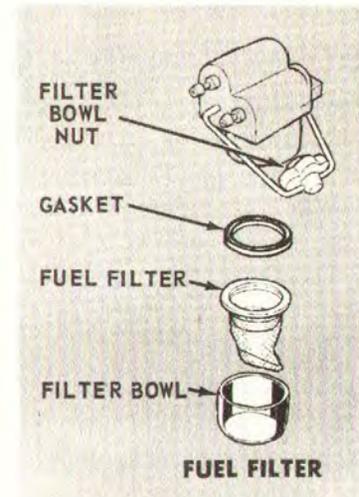
Check to be sure that a spray of water is coming out of water discharge when operating motor. If water is not being discharged, stop the motor and check the water inlet. Remove any weeds or debris and start the motor. **DO NOT OPERATE MOTOR IF SPRAY OF WATER IS NOT COMING OUT OF DISCHARGE** (see frontispiece). Take the motor to your Johnson dealer.

Do not operate the motor if lower unit drags on the bottom because sand and silt can be forced into pump causing damage and extensive repairs. See Johnson Accessory Book for Chrome Pump Housing.

CLEANING FUEL FILTER

If inspection shows sediment or water accumulation in glass bowl proceed as follows: (See Exploded View)

Before removing filter obtain a new filter bowl gasket from your Johnson dealer. Disconnect fuel supply line from motor.



1. Loosen the filter bowl nut and remove the glass bowl.
2. Remove filter element by pulling down with a twisting motion.
3. Wash filter element and bowl thoroughly in clean gasoline.
4. Assemble in the reverse order as described above. A new filter bowl gasket should be used; however, if new gasket is not available, use old gasket until new one can be obtained.
5. Tighten filter bowl nut securely.

BEFORE STORING YOUR MOTOR

It's best to have your Johnson dealer service your motor prior to off-season storage. However, if you want to do it yourself, proceed as follows. Operate your motor in a test tank or on the boat with shift lever in neutral at approximately 1/2 throttle, pull choke and leave it out until motor stops. This will lubricate and protect internal parts of the power head while motor is in storage. If the motor was last operated in salt water, we recommend it be run in fresh water before preparing it for storage.

1. Place motor on a stand in upright position. Remove the motor cover (page 12).
2. Retard throttle all the way and move shift lever to neutral position. Slowly pull the manual starter grip several times to drain water from the water pump. Do not accidentally start the motor.
3. Drain the filter bowl (page 18). Drain fuel tank through filler cap opening. Complete draining of the fuel tank may be accomplished by also removing the screw marked "DRAIN" on top of the tank assembly.
4. Remove the propeller. Clean and lubricate the shaft. Replace the drive pin if bent or worn.

5. Wipe over the entire external surface of the motor with a cloth soaked in light oil.
6. Store motor in an upright position in a dry and well ventilated room. To prevent accidental starting, retard throttle all the way.

AFTER STORING-BEFORE USING

If you have properly stored your motor follow these suggestions.

1. Remove and check spark plugs (see page 12). Clean or replace if necessary.
2. Check lower unit lubrication (see page 15).
3. Remove propeller and have it checked by your Johnson dealer. A slightly off-pitch propeller blade can rarely be distinguished on casual observation but will affect the performance of your motor.
4. Thoroughly clean any surfaces that need refinishing and touch up. Obtain paint from your Johnson dealer.
5. If possible, check motor in a test tank.

Trouble Check List

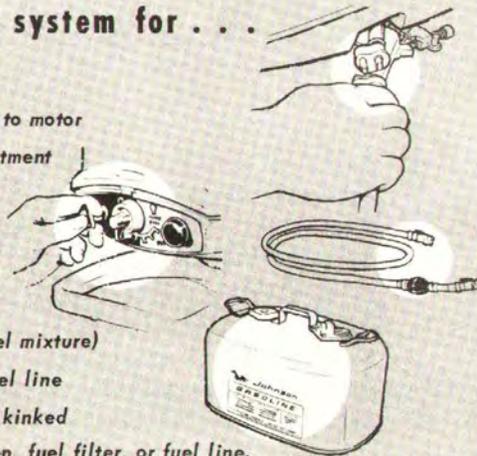


MOTOR TIRED TOO? BALKY? WONT START?

DON'T IMMEDIATELY ASSUME YOU HAVE MECHANICAL DIFFICULTIES BEFORE YOU

Check your fuel system for . . .

- Fuel in tank*
- Secure tank connection to motor*
- Proper carburetor adjustment*
- Carburetor primed*
- Choke pulled out*
- Proper fuel mixture*
- Water in the fuel (drain and refill with fresh fuel mixture)*
- Fuel tank resting on fuel line*
- Fuel line clear and not kinked*
- Clogged fuel tank screen, fuel filter, or fuel line.*
- Fuel connector properly attached*



Check your ignition system for

- Loose spark plug lead*
- Spark plugs carboned, burned, or wet*
- Incorrect gap in spark plugs*
- Worn, dirty, or improperly adjusted magneto points*
- Loose spark plugs, causing poor compression.*



MAKE SURE YOUR SPEED CONTROL IS IN PROPER POSITION.

If this doesn't solve your problem, then take your motor to the nearest JOHNSON DEALER

How to Get Peak Performance

Here's how to get improved performance and better gas consumption.

PROPELLER SELECTION

Your new engine comes equipped with a propeller that will give satisfactory performance on average boats. However, in some cases where the boat speed potential is quite high or low, it may be necessary to change this propeller in order to achieve maximum performance.

Selecting the correct propeller for your boat-load engine combination is actually very simple. Your objective is to find the propeller that will give you the maximum boat speed while maintaining the recommended engine RPM at full throttle.

Your dealer will be pleased to assist you in properly selecting the correct propeller.

TRANSOM HEIGHT

If the transom is too high the propeller will operate in turbulent water with lowered efficiency and poor cooling may result. If the transom is too low, excessive drag may result and your boat will not perform properly. Transom height should be as specified on page 5.

ANGLE ADJUSTMENT

The proper angle of tilt for the motor depends on the type of boat and load distribution. In the initial adjustment, if motor is mounted on boat which is

not in water, the cavitation plate of the motor should be parallel to the planing section of the bottom. If the lower unit is tilted too far forward the boat will plane on too much of its length and the bow will dig, which can be dangerous when in rough water with a following sea.

CARBURETOR ADJUSTMENT

How to make the carburetor adjustments is described on pages 11 and 17. The carburetor setting may have to be changed due to changes in temperature, altitude, humidity, gasoline and other factors.

GASOLINE

Always use fresh gasoline. Gasoline which has been in a tank for a long period of time (several weeks) may cause spark plug failure and give you carburetor trouble. If you are having spark plug trouble, use white Marine gasoline, or change to a different brand of regular gasoline.

REMOTE CONTROLS

When installing remote controls be sure the throttle can be opened completely.

CLEAN BOAT HULL

Marine growth, present in fresh water as well as salt water, will cut down on boat speed. For maximum performance occasionally check and clean boat hull. See your dealer for anti-fouling bottom paint suitable for your area.

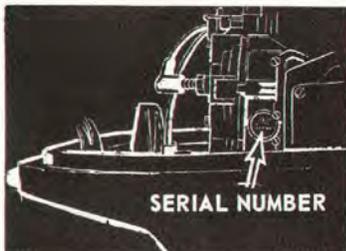
Spurious Parts



Never use spurious parts on your Johnson outboard motor. Insist on genuine Johnson parts; your Johnson Dealer can be depended upon to furnish nothing else.

YOU ARE THE SKIPPER

You are legally responsible for all occupants of your boat. Instruct at least one of your passengers in the basic fundamentals of handling your boat in case you should become disabled. Show all hands the location of emergency equipment and how to use it. Observe rules of road.



WHERE TO FIND MODEL AND SERIAL NUMBER

The model and serial number are stamped on a nameplate attached to the stern bracket as illustrated. The serial number is also stamped on a plug located on the starboard (left side facing front of motor) side of the cylinder.



Registration and Insurance

A registration and record card is to be filled out by your Johnson dealer at the time of purchase. Please supply him with the necessary information so he may properly register your motor.

Insurance on your outboard motor and/or boat should be procured as soon as practicable for protection against loss by fire, theft, etc. Consult your local insurance agent.

OWNER'S WARRANTY CERTIFICATE

In order to afford nationwide service to all customers, an "Owner's Warranty Certificate" is attached to the motor. THIS CERTIFICATE MUST BE FILLED OUT COMPLETELY BY THE DEALER AND CUSTOMER AT THE TIME THE SALE IS COMPLETED. The owner may present this certificate to a Johnson dealer when making claim for warranty.

1963 JOHNSON TWO YEAR WARRANTY

WE WARRANT, TO THE ORIGINAL PURCHASER, EACH NEW OUTBOARD MOTOR OF OUR MANUFACTURE TO BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP UNDER NORMAL USE AND SERVICE. OUR OBLIGATION UNDER THIS WARRANTY BEING LIMITED TO MAKING GOOD AT THE FACTORY ANY PART OR PARTS THEREOF WHICH SHALL, WITHIN TWO YEARS FROM DATE OF ORIGINAL PURCHASE, BE RETURNED TO US WITH TRANSPORTATION CHARGES PREPAID, AND WHICH OUR EXAMINATION SHALL DISCLOSE TO OUR SATISFACTION TO HAVE BEEN THUS DEFECTIVE; THIS WARRANTY BEING EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES AND REPRESENTATIONS EXPRESSED OR IMPLIED AND OF ALL OTHER LIABILITIES IN CONNECTION WITH THE SALE OR USE OF ANY MOTORS.

THIS WARRANTY SHALL NOT APPLY TO ANY MOTOR WHICH SHALL HAVE BEEN REPAIRED OR ALTERED OUTSIDE THE FACTORY IN ANY WAY SO AS TO AFFECT ITS STABILITY, NOR WHICH HAS BEEN SUBJECT TO MISUSE, NEGLIGENCE OR ACCIDENT, OR OPERATED FOR RACING PURPOSES OR OPERATED IN ANY OTHER WAY THAN IN ACCORDANCE WITH OUR OPERATING AND MAINTENANCE INSTRUCTIONS. NOR DOES THE WARRANTY EXTEND TO REPAIRS MADE NECESSARY BY THE USE OF INFERIOR PARTS

OR ACCESSORIES, OR BY THE USE OF TYPES OF ACCESSORIES NOT RECOMMENDED BY JOHNSON MOTORS. NOR DOES IT APPLY TO NORMAL WEAR AND TEAR.

WE MAKE NO WARRANTY IN RESPECT TO TRADE ACCESSORIES NOT OF OUR MANUFACTURE, INASMUCH AS THEY ARE USUALLY WARRANTED SEPARATELY BY THEIR RESPECTIVE MANUFACTURERS.

TO MAKE A CLAIM UNDER THIS WARRANTY, CONTACT THE AUTHORIZED JOHNSON DEALER FROM WHOM MOTOR WAS ORIGINALLY PURCHASED OR THE NEAREST AUTHORIZED JOHNSON DEALER. MOTORS OR PARTS THEREOF SHIPPED TO THE FACTORY FOR OUR INSPECTION MUST SHOW MODEL AND SERIAL NUMBERS, AND MUST BE SHIPPED TRANSPORTATION CHARGES PREPAID.

THIS WARRANTY APPLIES TO ALL MOTORS SOLD IN THE UNITED STATES, CANADA, BELGIUM AND AUSTRALIA.

MOTORS SOLD ELSEWHERE ARE WARRANTED BY OUTBOARD MARINE INTERNATIONAL, S.A., NASSAU, BAHAMAS.



JOHNSON MOTORS



Johnson MOTORS

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