Johnson

OWNER'S MANUAL

Sea-Horse "30"

MODELS RD • RDE

Introduction

Your new Johnson motor is designed and built to give you the utmost in service and performance — take full advantage of the quality and engineering brought to you in your motor, by fully understanding its care and operation.

Read this instruction book over thoroughly. As you read, take a little time to familiarize yourself with the controls and their function.

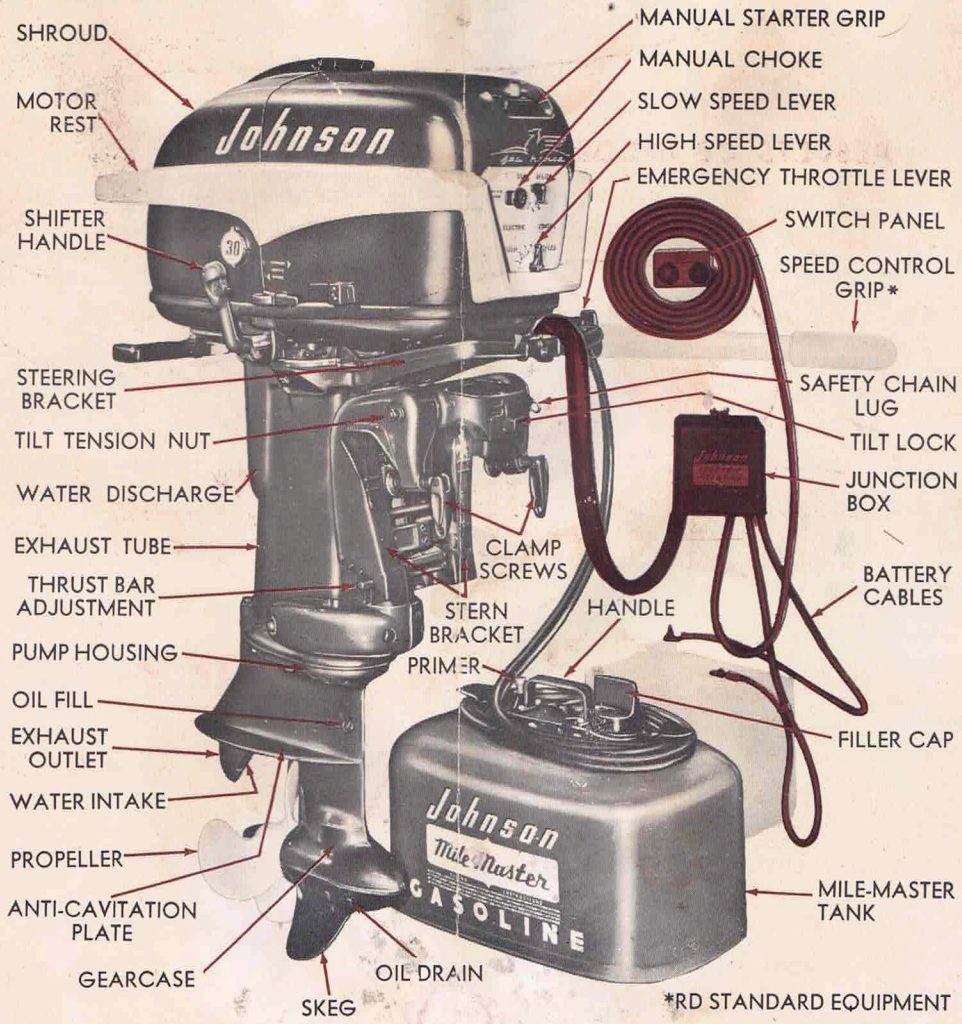
Your motor has the power you need and, in addition, you will enjoy its smooth acceleration and consistent slow speed.

Give your Johnson motor the best of care and you will be rewarded by dependable service.

JOHNSON SERVICE POLICY

It has always been the opinion of Johnson Motors that service to you does not stop when you purchase a motor. It establishes, rather, a new obligation — an obligation whereby Johnson Motors agrees to assist you in obtaining utmost service from your Johnson Outboard Motor.

With this steadfast policy always *a first*, we have built up an organization that comprises a nationwide network of Johnson Service Stations to assist us to give prompt and efficient service to owners of Johnson Outboard Motors.



*RD STANDARD EQUIPMENT

RDE OPTIONAL EQUIPMENT AVAILABLE IN KIT. SEE YOUR JOHNSON DEALER.

Installing Your Motor

BOAT DIMENSIONS

Your Johnson motor has been designed to mount in conformance with transom standards adopted by the boat building industry and the Outboard Boating Club of America. The proper transom (stern) vertical height for the models RD and RDE motors is 15 inches, and for the models RDL and RDEL motors is 20 inches.

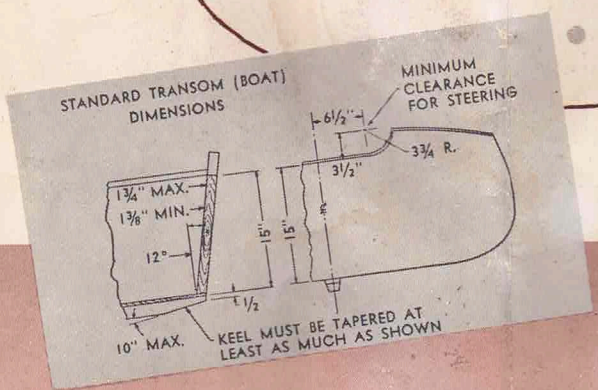
Proper transom height is essential to obtain maximum forward thrust from your motor.

RESULTS OF INCORRECT TRANSOM HEIGHT

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

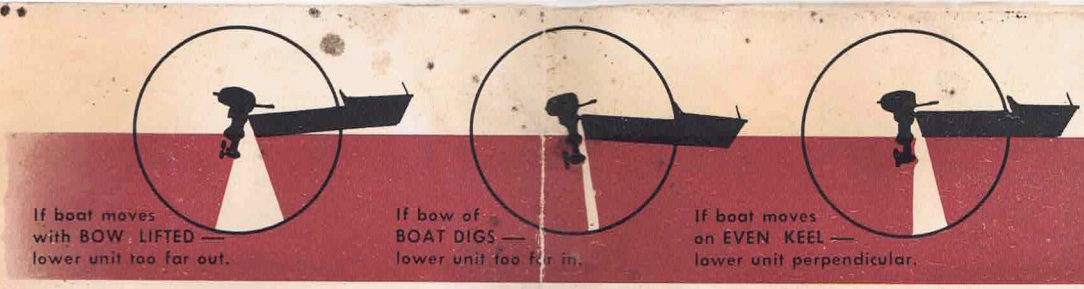
If transom is too low this will produce drag, resulting in some loss of speed and undesirable spray.

Interference from the keel is frequently the cause of propeller cavitation. By merely tapering the keel as illustrated, this can be eliminated.



SECURING MOTOR TO BOAT

Center your motor on transom and visually align power head with keel. Immediately tighten clamp screws to avoid the possibility of loss overboard. Tighten clamp screws by hand only — do not use tools. Retighten clamp screws after approximately 30 minutes of operation. NOTE — We recommend using a Johnson transom plate (available at your dealer) to protect your boat and prevent loss of motor. In addition, a lug is provided for attaching a safety chain or cable to the motor for anchoring to boat.

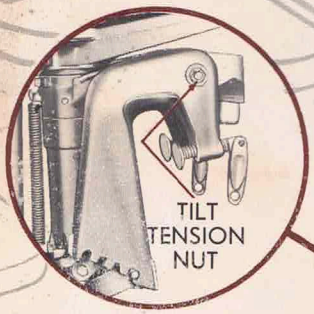


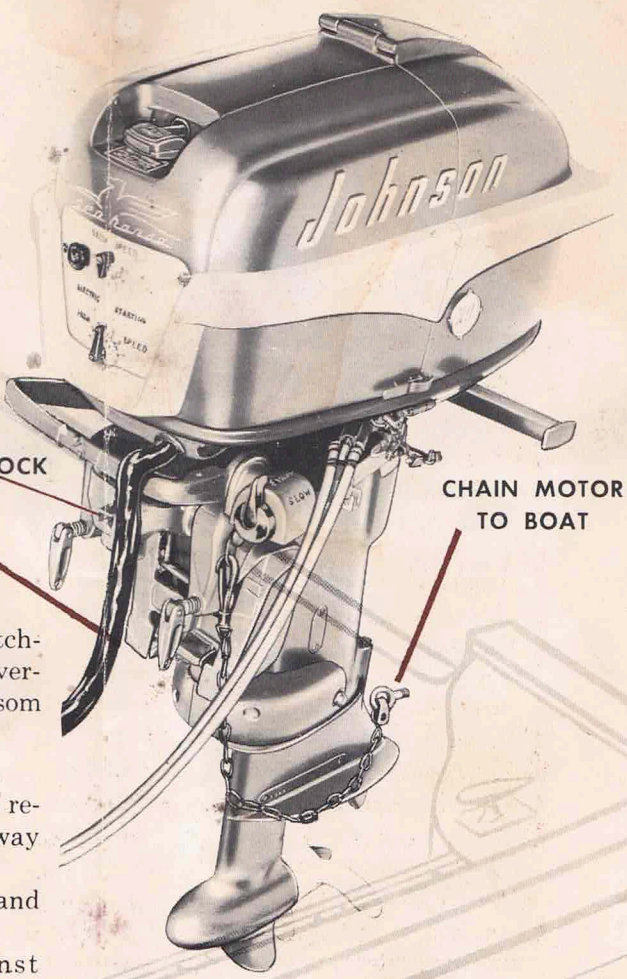
WHEN BOAT IS RUNNING AT FULL SPEED MOTOR MUST BE PERPENDICULAR TO WATER LINE

TILTING OF MOTOR

To tilt motor, disconnect fuel line and release "tilting lock". Grasp rear of shroud and pull motor toward you.

When tilting lock is in lock position your motor is designed to tilt automatically, while boat is moving forward if it strikes an underwater object. Motor does not tilt when being operated in reverse.





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:

A. Place tilting lock lever in release position and tilt motor away from transom.

B. Press down on thrust bar and move bar in or out as necessary.

C. Move motor back against thrust bar and place tilting lock in lock position.

The motor may pull to one side or cavitate if lower unit is tilted out too far.

Starting Your Motor

FUEL MIXTURE

Mix one quart of SAE 30 outboard motor oil to each full tank of regular gasoline. For smaller quantities mix ½ pint of SAE 30 outboard motor oil per gallon of gasoline.

We recommend a reputable SAE 30 outboard motor oil or a regular SAE 30 grade automotive engine oil (not heavy duty). Avoid use of low price third grade (ML) oils.

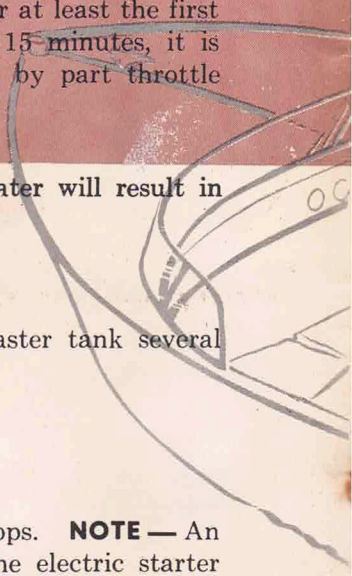
CONNECTING FUEL SUPPLY

Place the MILE-MASTER TANK in boat. Allow enough fuel line slack for steering.

Depress lever of connector on fuel line and slide connector onto coupling on motor.

BREAK-IN OF NEW MOTOR

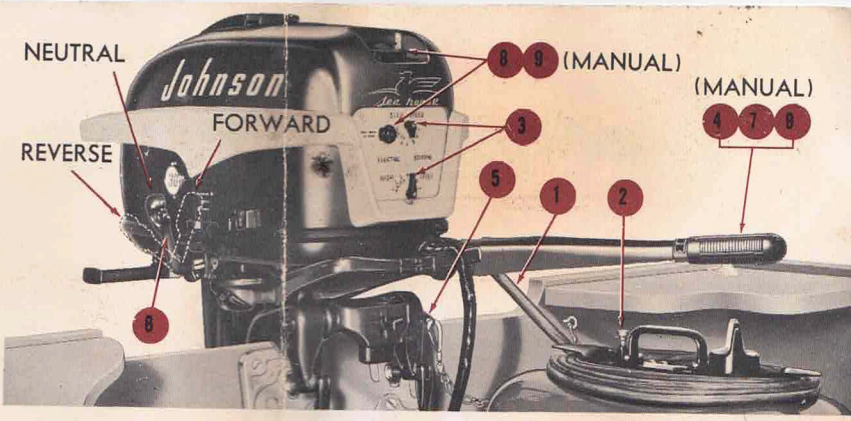
Do not operate motor at continuous full power for at least the first hour of operation. During break-in after the first 15 minutes, it is permissible to run full power at intervals, followed by part throttle operation.



CAUTION — Starting or operating motor out of water will result in damage to water pump.

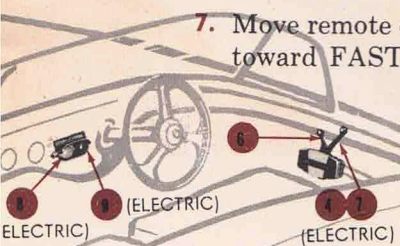
ELECTRIC STARTING — MODEL RDE

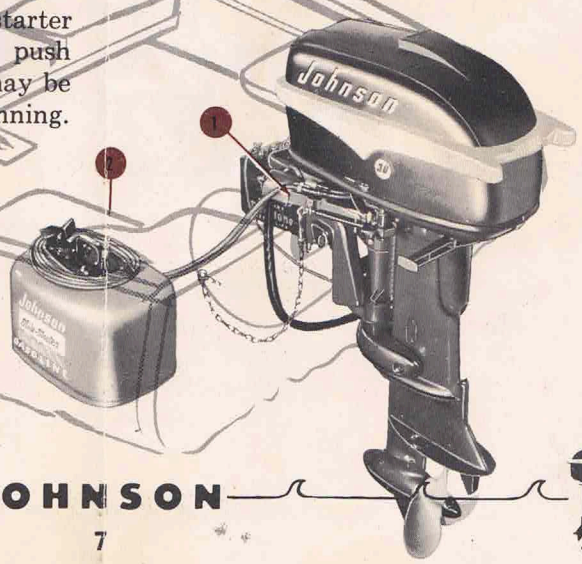
1. Attach fuel line from Mile-Master tank to motor.
2. Depress, by hand, the pump button on Mile-Master tank several times until pressure is felt on button.
3. Set HIGH and SLOW Speed levers to No. 4.
4. Move throttle lever to SLOW position.
5. Be sure tilting lock lever is in locked position.
6. Move gear shift lever to NEUTRAL position.
7. Advance throttle lever toward FAST until it stops. **NOTE** — An electric cut-out switch is provided to shut off the electric starter mechanism when Throttle is set beyond safe speed for starting.
8. Press choke and starter buttons simultaneously to start motor. After starting, additional choking may be necessary to keep cold motor running. Reduce motor speed after starting.
9. To stop motor move throttle to slow position and press choke button. **CAUTION** — Never press starter button when motor is running.



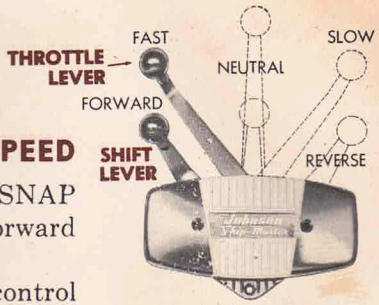
MANUAL STARTING — MODEL RD

1. Attach fuel line from Mile-Master tank to motor.
2. Depress, by hand, the pump button on Mile-Master tank several times until pressure is felt on button.
3. Set HIGH and SLOW Speed levers to No. 4.
4. Move remote control throttle lever to SLOW position, or turn speed control grip to position marked START on steering handle.
5. Be sure tilting lock lever is in locked position.
6. Move gear shift lever to NEUTRAL position.
7. Move remote control throttle lever, or control grip on steering handle, toward FAST until it stops. **NOTE** — An arrangement is provided to lock starter mechanism when throttle is set beyond safe speeds for starting.
8. Pull out choke. Pull starter handle slowly until starter engages, then pull rapidly. Allow starter cord to rewind before releasing starter handle to prevent damage to starter assembly. After starting motor push choke in. Additional choking may be necessary to keep cold motor running. Reduce motor speed after starting.
9. To stop motor move throttle to slow position and pull choke. **PRECAUTIONS** — Do not attempt shifting to forward or reverse when motor is not running. Do not start in gear.





Care and Operation



HOW TO SHIFT AND CONTROL SPEED

Reduce motor speed before shifting and SNAP shift control lever with QUICK ACTION to forward or reverse position as desired.

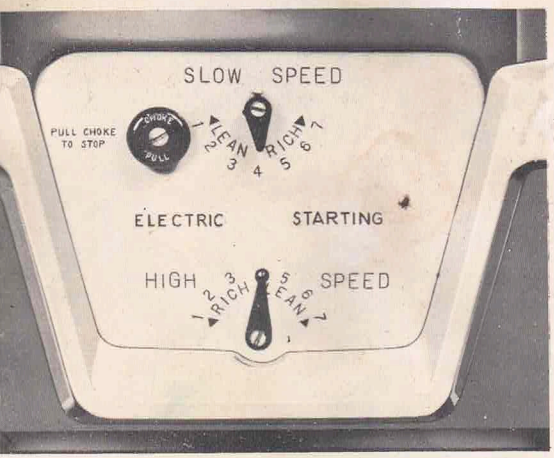
To control motor speed, move throttle control toward FAST or SLOW position.

REVERSE OPERATION

Watch for submerged objects when operating in reverse as motor will not tilt.

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 lever until motor runs smoothly at highest speed.
2. Move throttle control to slow position. Then adjust SLOW Speed lever until motor idles smoothly.

STOPPING

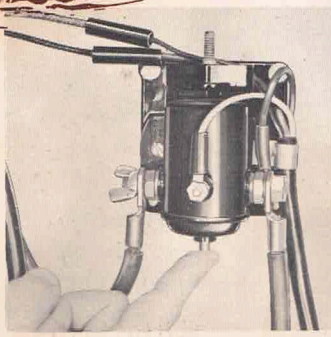
For manual operation, move speed control to slow position and pull out choke.

For electric remote operation, move throttle control lever back until it stops against SLOW position and push choke button.

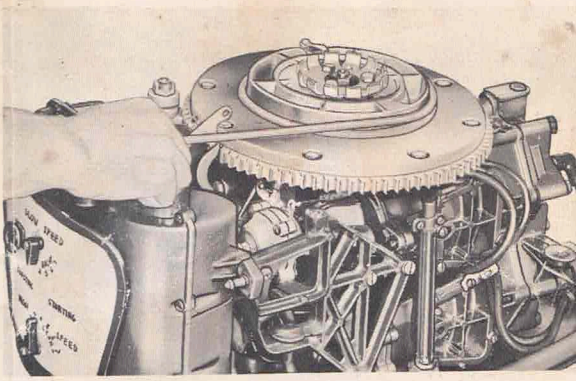
EMERGENCY STARTING

In case of electric starting failure, an emergency starting arrangement is provided in the junction box. Remove junction box cover and remove the knurled cap at the base of the solenoid. Push plunger up. This by-passes starter switch and makes contact between battery and starter motor.

If starter failure persists, follow starting instructions under Manual Starting page 7.



If Ready Pull starter fails, remove motor shroud as described on page 11. Remove screw and spring holding starter locking lever to starter housing. Remove three screws attaching starter and turn it slightly to remove. Using a ¼ inch cord with a knot tied in one end, place knot in pulley notch and wrap cord around clockwise. Start motor as described under Manual Starting page 7. **CAUTION** — Be sure shift lever is in neutral position.



STEERING TENSION ADJUSTMENT

Adjust steering tension with motor mounted to boat by simply loosening or tightening screw in swivel bracket. Steering tension will only be effective when driveshaft casing is adjusted perpendicular to line of boat travel.

IDLE STOP ADJUSTMENT

After motor is thoroughly warmed up, adjust idle stop screw in or out for best idling speed as shown.

LUBRICATION OF GEARCASE

Gearcase lubricant should be replaced every season. Remove the fill and drain plugs. Drain out all the oil, water or residue and replace drain plug after thoroughly draining. Using a pump type oil can, fill the gearcase through the vent plug to a level even with vent hole and replace screw. If gearcase has been completely drained, capacity is 11 fluid ounces. Consult your Johnson Dealer for filling if in doubt. We recommend a good grade of SAE 90 automotive **hypoid** gear lubricant. IN AN EMERGENCY ONLY use outboard motor oil or another SAE 30 engine oil, but only until you can obtain **hypoid** gear lubricant.

IMPORTANT — After refilling gearcase, remove vent plug and check gearcase oil level after the first five hours of operation to be sure it is filled. Then check periodically at least every 50 hours.

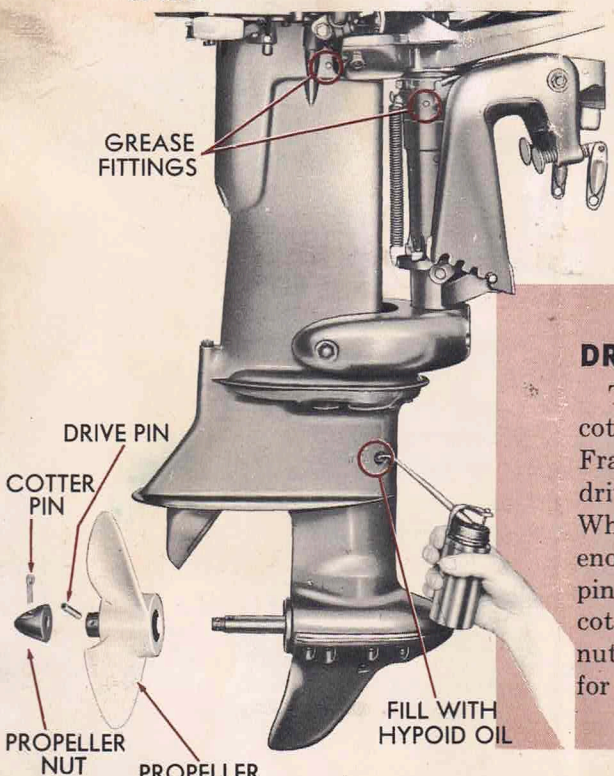
GREASING

Frequently grease the gear shifter lever and swivel bracket (especially in salt water areas) using a pressure gun on fitting.

Use Mobil Outboard grease.

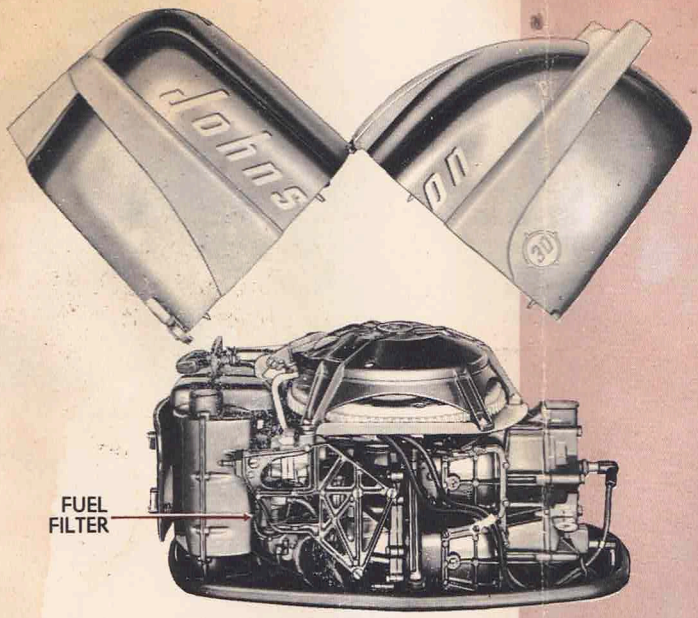
TILT TENSION ADJUSTMENT

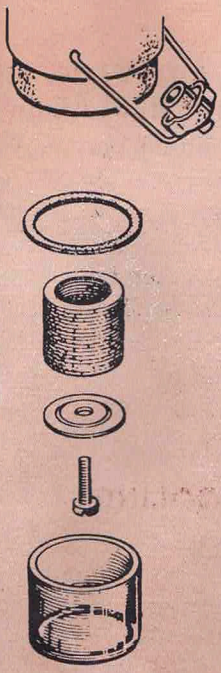
Tighten tilt tension nut only enough to maintain motor in any position of tilt.



DRIVE PIN REPLACEMENT

To remove a sheared pin, pull out cotter pin and remove propeller nut. Fragments of sheared pin can be driven out when new pin is installed. When replacing nut, draw up just enough to secure position of propeller pin and align cotter pin holes. Install cotter pin, bending ends over against nut. Use genuine Johnson drive pin for maximum protection.





GASOLINE FILTER

REMOVING MOTOR SHROUD

Move shifter lever to reverse position (out of the way) and release latches on both sides of the shroud. Lift rear half of shroud up and move entire shroud forward, to clear lugs holding front shroud, and lift off. When reinstalling shroud assembly, make certain rubber seal fits between upper and lower shroud properly before securing latches.

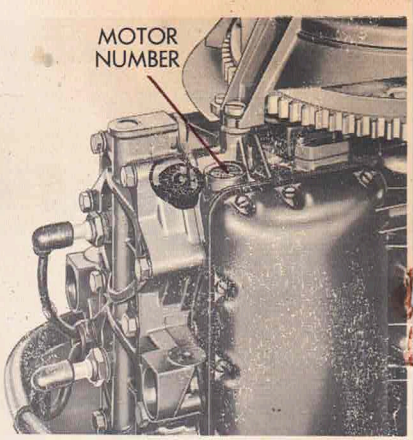
CLEANING FUEL FILTER

Remove glass bowl and filter element if inspection shows sediment accumulation in glass bowl. To remove, loosen the small wing nut below bowl to free assembly and remove bowl and gasket. Remove filter element by loosening screw on the bottom end. Wash filter element and bowl thoroughly in clean gasoline. Assemble in the reverse order as described above. A new bowl gasket should be used; however, if new gasket is not available, use old gasket until new one may be obtained. Tighten wing nut securely.

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 J6J or Auto-Lite A3X. Adjust spark plug gap to .030".

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



COOLING

The motor is cooled by water taken into the water inlet and expelled through the underwater exhaust and water discharge. To be sure that water pump is operating, look for spray of water coming out of water discharge. If pump is not operating, stop the motor. Have it checked by your Johnson Dealer.

CARE OF MOTOR WHEN OPERATED IN SALT WATER

It is not necessary to flush cooling system after salt water operation. Rinse off exposed parts with fresh water and wipe with oily cloth.

FREEZING TEMPERATURES

When operating in freezing temperatures, keep the lower unit in the water at all times to avoid freezing and possible damage to the water pump.

GENERAL CARE

For maximum service and performance, give your motor a little care and attention.

Occasionally remove sediment bowl from fuel filter assembly to remove and clean any accumulated foreign substance. Replace with new filter bowl gasket.

Check propeller condition occasionally for maximum performance.

Inspect spark plugs occasionally. Clean and adjust gap to .030".

Before storing motor at the end of the season, take it to your Johnson Dealer for checking and proper conditioning.

Check gearcase for **hypoid** oil occasionally to be sure it is filled. Drain and refill at the end of the season.

Do not neglect to grease fittings on swivel bracket and shift lever as described on page 10.

The starter gear worm (electric starter motor) should be lubricated occasionally with a few drops of SAE No. 10W oil.

If starter gear does not engage flywheel gear because of sticking, wash starter worm with kerosene and relubricate with No. 10W oil.

BATTERY CARE

During the season occasionally check the condition of the battery and never allow it to fall below 1150 hydrometer reading. In general, check after every 200 starts or every 30 days to insure dependability.

Check battery water level and refill according to manufacturers recommendations.

Keep battery terminals free of all corrosion by washing with water. Apply vaseline to terminal posts to prevent corrosion.

When battery is stored for long periods, it should be charged periodically to keep it in full charged condition. Consult your Johnson Dealer.

MOTORS DROPPED OVERBOARD

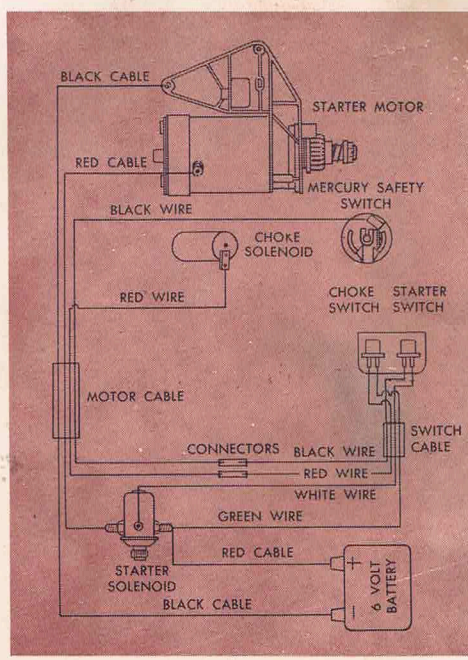
IMPORTANT — A submerged motor should be recovered immediately if possible. Take it **immediately** to a Johnson Dealer for service to avoid serious damage.

ELECTRIC STARTING INSTALLATION AND WIRING

Although complete instructions and wiring diagram are furnished with electric equipment, additional instructions and the schematic wiring diagram are reproduced here for your use.

All of the electric equipment, except the battery, is included with the electrical equipment.

A 6 volt, 100 ampere-hour capacity storage battery is recommended and is obtainable through your Johnson Dealer. **IMPORTANT** — Be sure to install battery connections to the proper terminals. Most battery terminals are stamped positive (+) and negative (−). The red cable of junction box connects to positive (+) battery terminal, and the black cable of junction box connects to negative (−) battery terminal.



Trouble Chart

TROUBLE	CAUSE	REMEDY
Hard Starting	Gas tank empty	Refill; see fuel mixture
	Failure to pull choke	See starting
	Clogged fuel line and/or gas tank screen	Consult Johnson dealer
	Water in gasoline	Replace with fresh fuel
	Carburetor needles not properly adjusted	Consult Johnson dealer
	Fouled or defective spark plugs	Clean or replace
	Loose fuel line connector	Secure to motor
	Improperly mixed fuel	See fuel mixture
	Loose spark plug leads	Check connections
	Loose battery terminals	Check connections

See your Johnson dealer if motor is still inoperative after making above checks.

PREPARATION FOR STORAGE

Prior to storing motor for any long period, run motor in neutral and choke motor to stop. By doing this, power head will be lubricated with oil in fuel mixture to prevent possible internal rusting.

Drain all the water from the cooling system to prevent possible freezing and store motor in upright position. Contact your Johnson dealer for information regarding off-season storage.

Keep battery in charged condition.

Your Boat Equipment

If you intend to operate on navigable waterways, consult your local U. S. Coast Guard Office regarding current regulations governing your craft. If there is any doubt concerning regulations in your locality, write to U. S. Coast Guard Headquarters, Washington 25, D. C.

You are required by law to have the following equipment aboard:

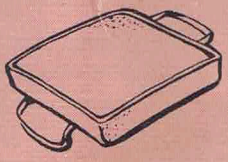
1. A U. S. Coast Guard approved life jacket or "approved" buoyant cushion for each person aboard.

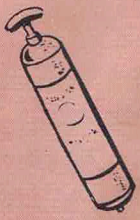
2. If over 16 ft. long, a warning device (mouth operated horn or whistle).

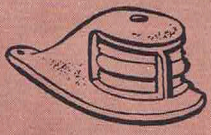
3. An approved type fire extinguisher.

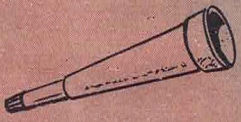
4. To be exhibited from sunset to sunrise — A bright white light aft to show all around the horizon.

   A combined lantern in the fore part of the vessel and lower than the white light aft, showing green to starboard and red to port, so fixed as to throw the light from right ahead as to 2 points abaft the beam on their respective sides.









Specifications

MODELS RD AND RDE

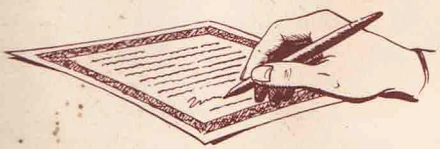
POWER HEAD	Two Cycle — Alternate Firing Two Port — Automatic Intake
Bore and Stroke	2⅞ x 2¾"
Number of Cylinders	2
Piston Displacement	35.7 Cubic Inches
OBC Brake H.P. at 4500 R.P.M.	30.0
GEAR RATIO	.572
IGNITION	Magneto — Johnson
BREAKER POINT GAP	.020 to .022
SPARK PLUG GAP	.030
CARBURETOR	Johnson
GEAR SHIFT CONTROL	Neutral, Forward, Reverse
THROTTLE CONTROL	Manual Starting — Twist Grip Control — Ship-Master Remote Control Electric Starting — Emergency Throttle Lever — Ship-Master Remote Control
PROPELLER	3 Blade 10⅜" Dia. by 12½" Pitch
FUEL TANK CAPACITY	5 Gals. Mile-Master Tank
SPEED RANGE	Slow Trolling to Over 30 MPH
COOLING SYSTEM	Vari-Volume Water Pump

	Electric Starting Model RDE	Manual Starting Model RD
Weight	RDE 126.5 lbs. RDEL 128.5 lbs.	RD 113 lbs. RDL 115 lbs.
Weight of Mile-Master Fuel Tank	13 lbs.	13 lbs.
Length	RDE 48" RDEL 53"	RD 48" RDL 53"
Width	13½"	13½"
Stern Height	RDE 15" RDEL 20"	RD 15" RDL 20"

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

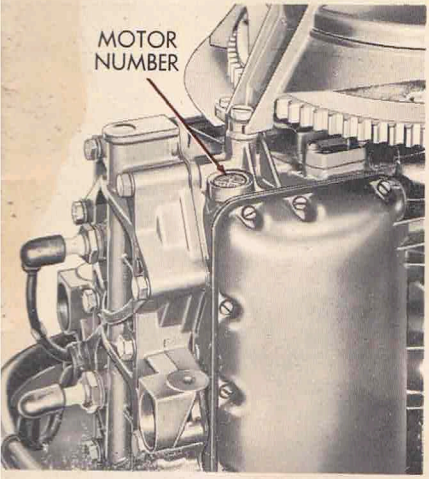
Registration and Insurance

A registration card is supplied with your motor which is to be filled out and returned to the factory as soon as possible. In returning this card to the factory (filled out) you are entitled to assistance in case of theft.

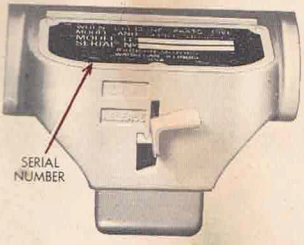


WHERE TO FIND MOTOR AND SERIAL NUMBER

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



Insurance on your outboard motor and/or boat should be procured as soon as practicable for protection against loss by fire, theft, etc. Write to Outboard Boating Club of America, 309 North Michigan Avenue, Chicago 1, Illinois for further details, or consult your local insurance agent.



JOHNSON SERVICE

Johnson Dealers are located wherever you go and are at your service, whatever your needs may be.

Johnson Service Stations, as listed in the booklet supplied with your motor, have adequate service and parts facilities to help you if in trouble away from home. Get acquainted with your local Johnson Dealer for service at home.

Johnson outboard motors should not be sent to the factory for repairs, unless authorized by Factory Service Department. Johnson Service Stations are properly equipped and trained to render first class, expert service.

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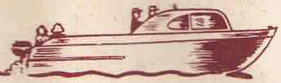
Warranty



We warrant 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 three months after initial use, or within one year from date of original purchase, whichever first occurs, 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 instructions.

We make no warranty in respect to trade accessories not of our manufacture, inasmuch as they are usually warranted separately by their respective manufacturers.

Because of the unusual strains and accidents to which such products may be subjected, we make no warranty of either material or workmanship in racing outboard motors or any of our products when used for racing.

Claims must be entered on motors or motor parts returned to the factory for inspection, repair or replacement. Request form No. SE-16 from local Johnson Dealer or Service Station. **This form should be filled in, signed by the motor owner and dealer or service station representatives and mailed to the factory with returned material. TRANSPORTATION CHARGES PREPAID.**


JOHNSON MOTORS
PETERBOROUGH CANADA

If you intend to operate on navigable waterways, you should be familiar with the regulations governing your craft as set forth in the Canada Shipping Act.

If there is any doubt concerning regulations in your locality, write to the Chairman, Board of Steamship Inspection, Ottawa, Ontario.

For safety afloat, the following equipment should be aboard:

One approved lifejacket or one approved life saving cushion for each person on board.

An approved type fire extinguisher.
A warning device (mouth operated horn or whistle).

A bright light aft to show all around the horizon.

A combined light forward, lower than the aft light, showing green to starboard and red to port.

All boats powered by motors of 10 horsepower or more must be registered. Application forms for boat registration may be obtained from your nearest Collector of Customs office.