

# *Johnson*

OWNER'S MANUAL



*Sea-Horse "7 1/2"*

MODELS AD • ADL

# 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 Owner's Manual 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.

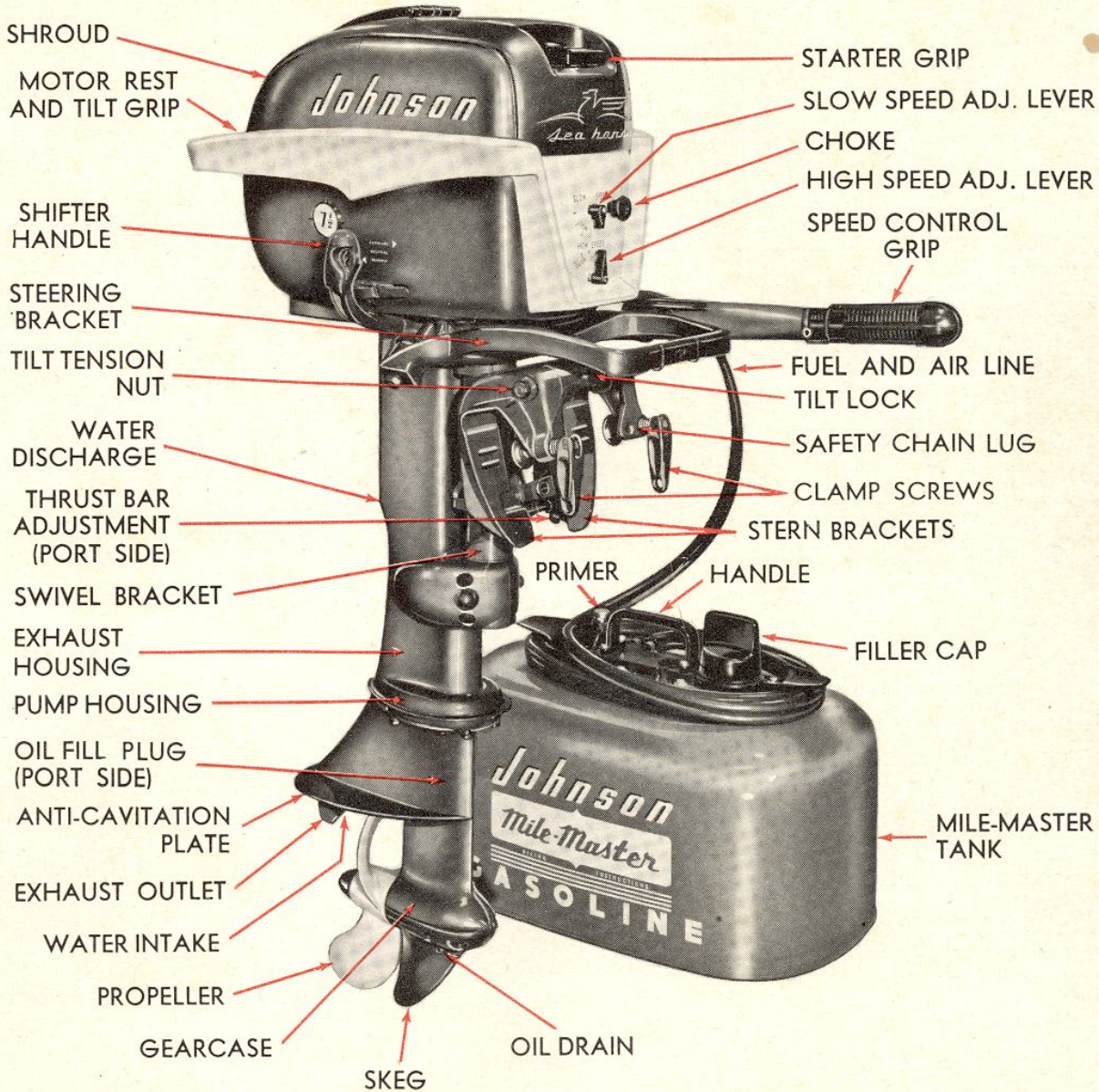
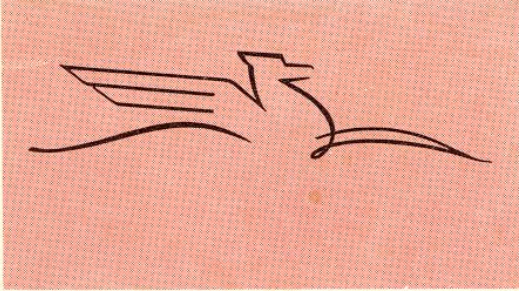
## JOHNSON SERVICE POLICY

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.



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# 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 model AD is 15 inches, and for the model ADL 20 inches.

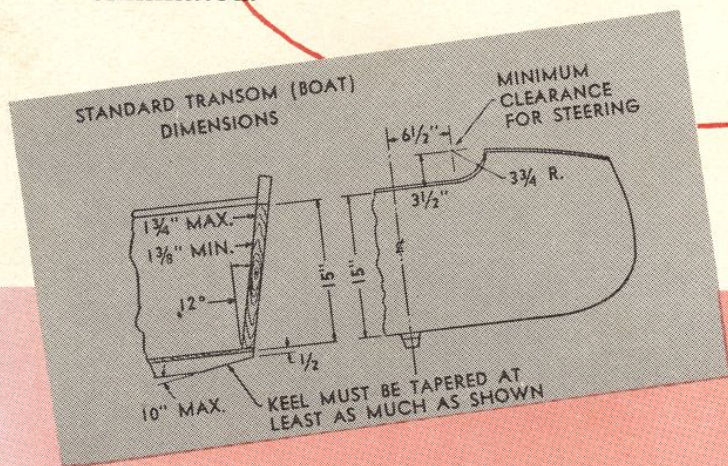
Proper transom height is essential to obtain maximum forward thrust from your motor.

## 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.



If boat moves with BOW LIFTED — lower unit too far out.



If bow of BOAT DIGS — lower unit too far in.



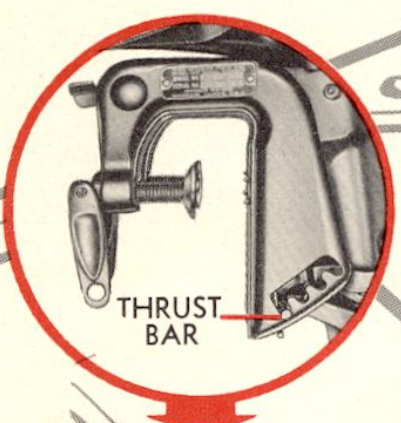
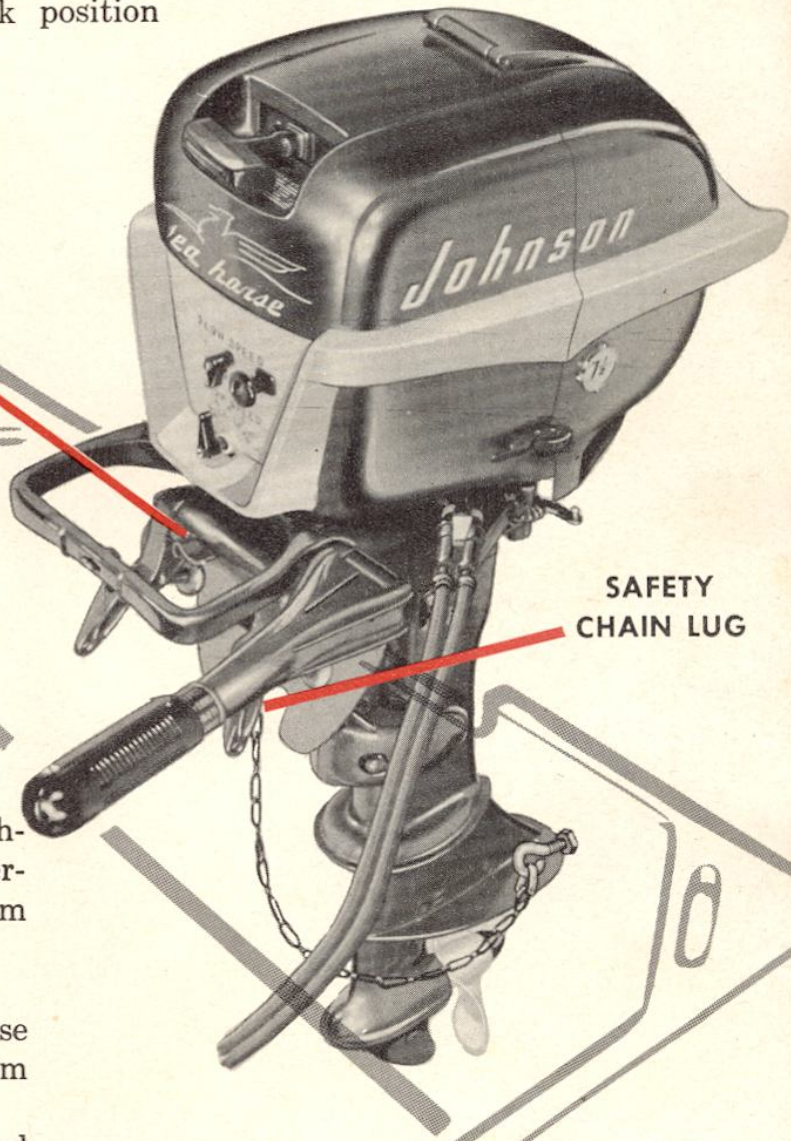
If boat moves on EVEN KEEL — lower unit perpendicular.

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 tilt lock . Grasp tilt grip, rear of shroud, and pull motor toward you.

When tilt 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 tilt lock lever in release position and tilt motor away from transom.

**B.** Lift up on thrust bar and move bar in or out as necessary.

**C.** Move motor back against thrust bar and place tilt 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  $\frac{1}{2}$  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.

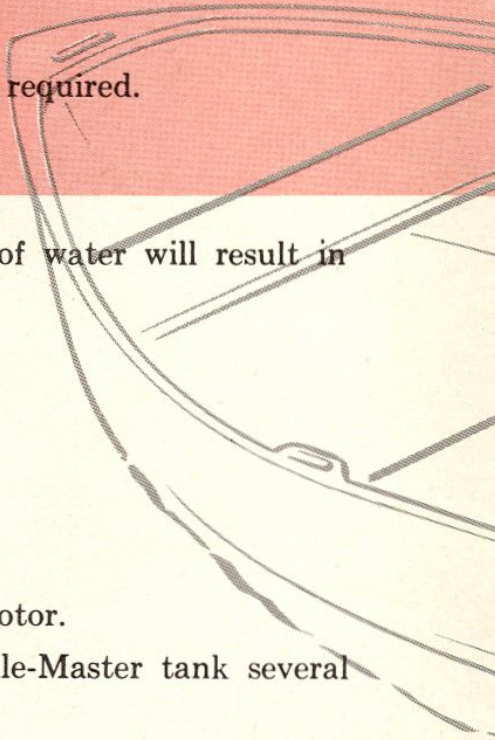
## BREAK-IN OF NEW MOTOR

No breaking-in required. No extra lubrication required.

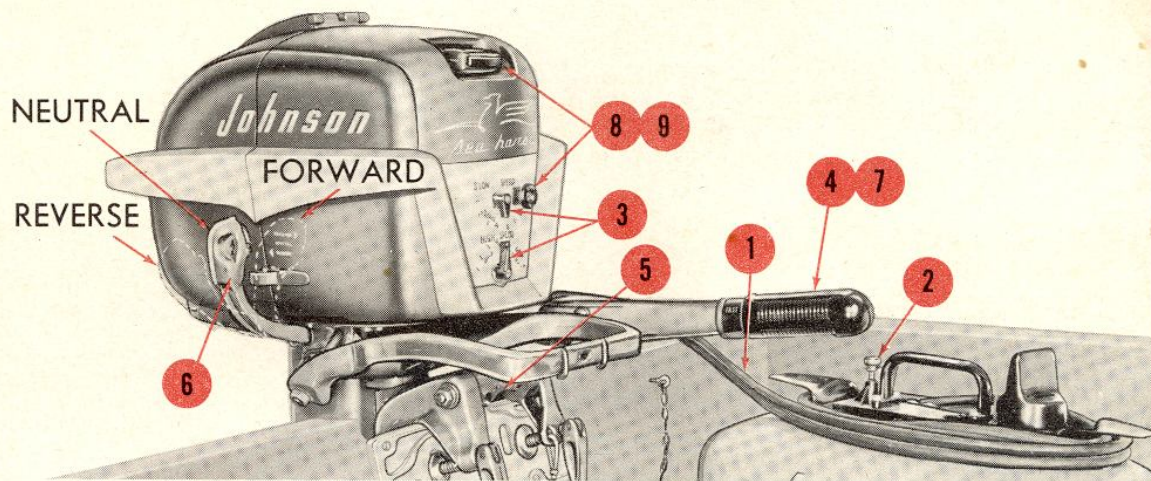
**CAUTION** — Starting or operating motor out of water will result in damage to water pump.

## STARTING

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. Turn speed control grip to position marked START on steering handle.
5. Be sure tilt lock lever is in locked position.
6. Move gear shifting lever to NEUTRAL position.

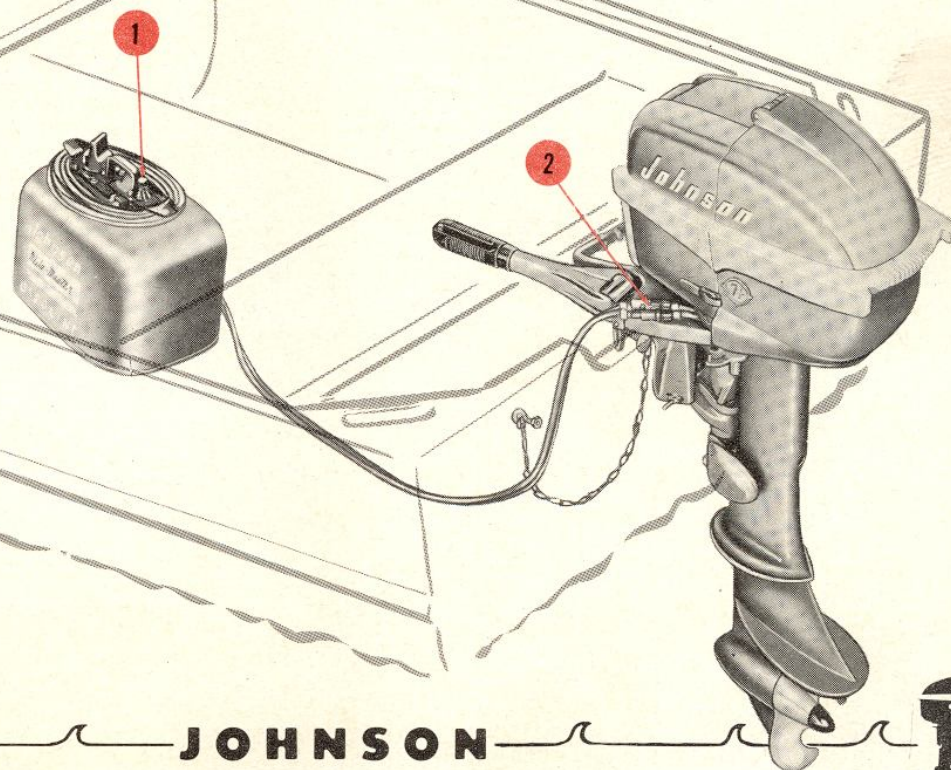


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7. Pull out choke. Pull starter handle slowly until starter engages, then pull rapidly. Allow starter cord to rewind before releasing starter handle to prevent damage to starter assembly. After starting motor push choke in. Additional choking may be necessary to keep cold motor running. Reduce motor speed after starting.

**PRECAUTIONS** — Do not attempt shifting to forward or reverse when motor is not running. Do not start in gear.



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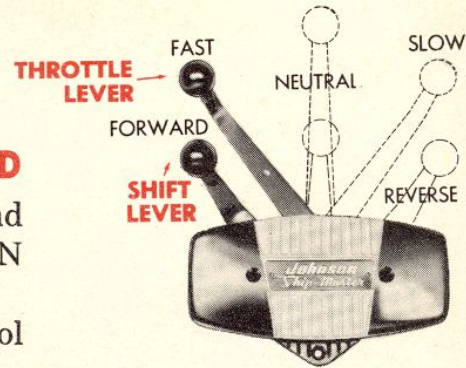


# Care and Operation

## 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, turn speed control grip toward FAST or SLOW position.



SHIP MASTER  
REMOTE CONTROL  
(Optional Equipment)

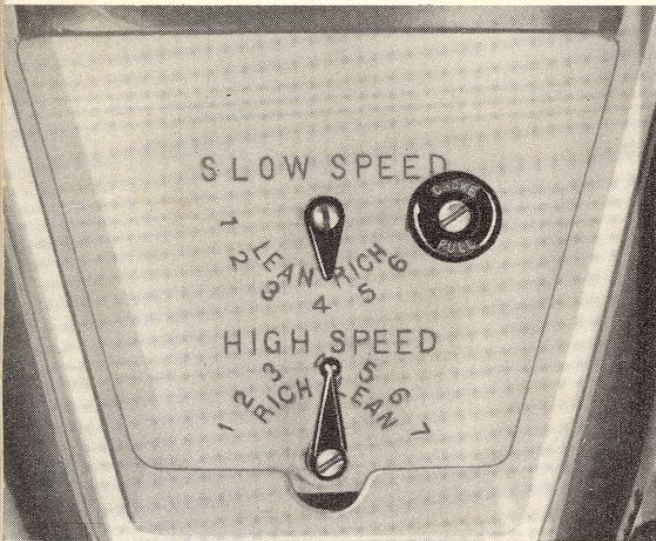
## REVERSE OPERATION

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. Turn speed control grip to fast and adjust HIGH speed lever (turn left or right) until motor runs smoothly at highest speed.
2. Turn speed control grip to slow position and adjust SLOW speed lever (turn left or right) until motor idles smoothly.



## STOP MOTOR

Turn speed control grip to position marked STOP on steering handle.

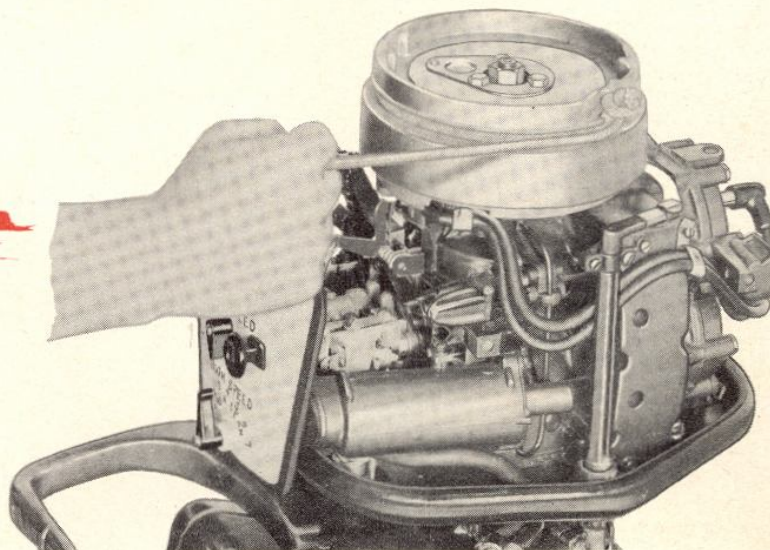


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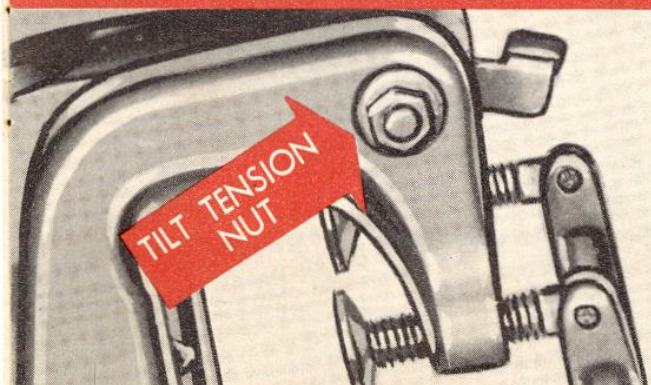
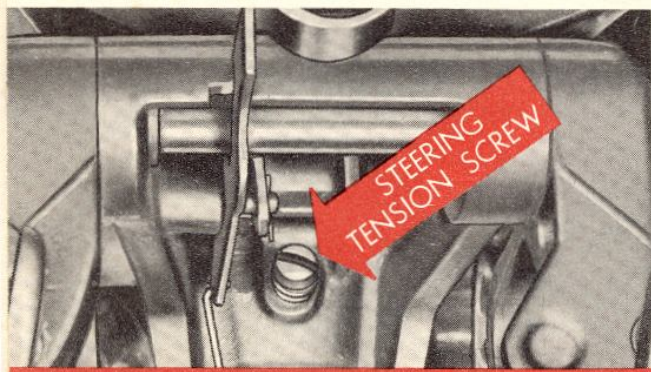
## EMERGENCY STARTING

If Ready Pull starter fails, remove motor shroud as described on page 11. Remove three screws attaching starter and lift up and off. Using a  $\frac{1}{4}$  inch cord with a knot tied in one end, place knot in pulley notch and wrap cord around clockwise. Start motor as described under Starting page 6. **CAUTION** — Be sure shift lever is in neutral position when starting motor.



## 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.



## TILT TENSION ADJUSTMENT

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



## LUBRICATION OF GEARCASE

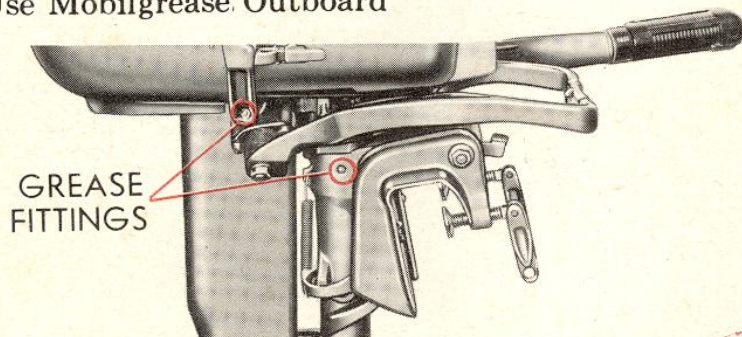
Gearcase lubricant should be replaced every season. Remove the fill and drain plugs. Drain out all the oil, water or residue and replace drain plug after thoroughly draining. Using a pump type oil can, fill the gearcase through the vent plug to a level even with vent hole and replace gasket and screw. If gearcase has been completely drained, capacity is 9 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 Mobilgrease Outboard

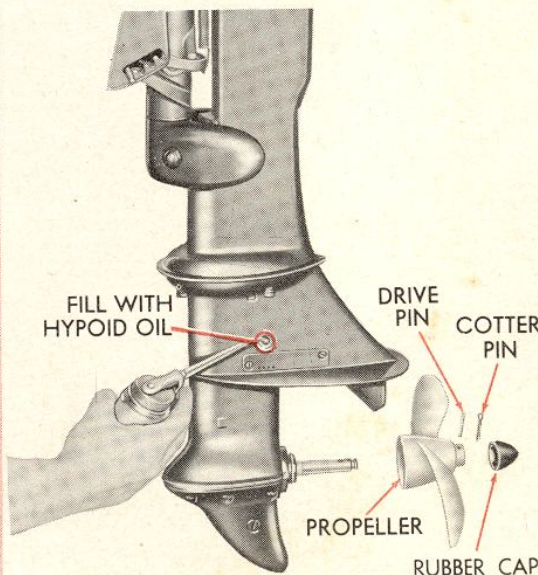


## DRIVE PIN REPLACEMENT

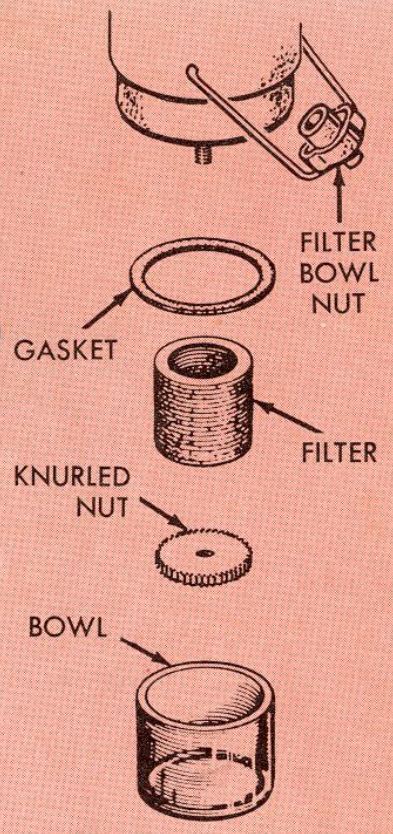
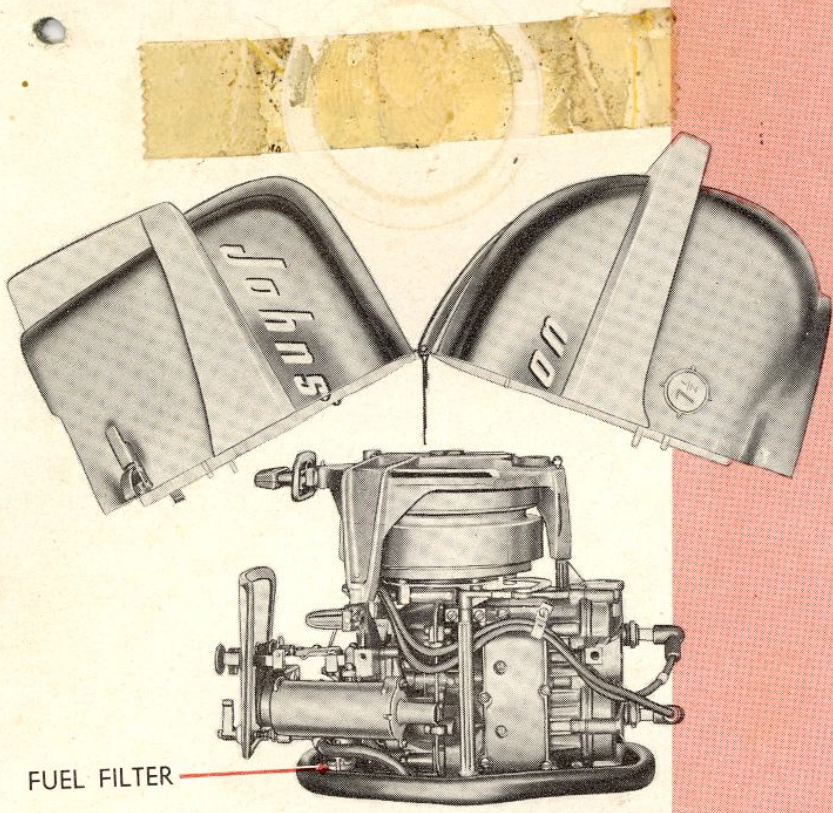
If required to replace the drive pin, remove the rubber cap and fragments of broken drive pin from shaft. The new drive pin may be used to drive out the broken pin. Replace the rubber cap after inserting new drive pin. Note — make certain the cap properly engages grooved end of the propeller shaft and is correctly "seated" to insure its holding fast.

## REMOVING PROPELLER

Remove rubber cap, cotter pin and drive pin. Propeller is now free and may be removed from the shaft. Reassemble in reverse order, using new cotter pin if necessary.



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FUEL FILTER

**REMOVING MOTOR SHROUD**

Move shifter lever, without forcing it, to reverse position (out of the way). If lever cannot be moved, pull slightly on the starter cord which will allow you to shift. Release latches on both sides of the shroud. Lift rear half of shroud up and disconnect the hold-down strap. Move entire shroud forward to clear lugs holding front shroud and lift off. When reinstalling shroud assembly, make certain rubber seal fits properly before securing latches.

**CLEANING FUEL FILTER**

Remove glass bowl and filter element if inspection shows sediment accumulation in glass bowl. To remove the bowl, loosen the filter bowl nut. Remove bowl and gasket. Remove filter element by unscrewing knurled nut. 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 can be obtained. Tighten filter bowl nut securely.

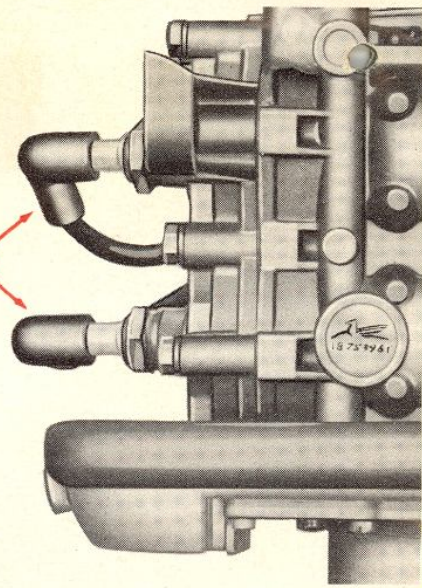


## SPARK PLUG RECOMMENDATION AND REPLACEMENT

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 for inspection or replacement as necessary.

SPARK PLUGS



## 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

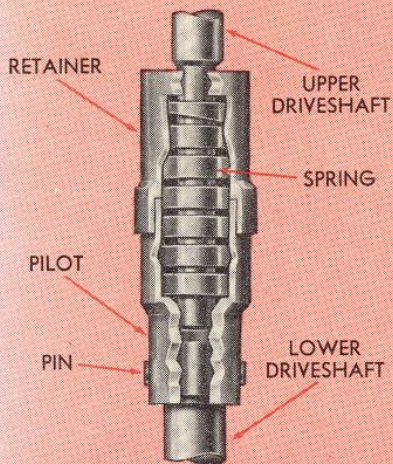
It is not necessary to flush cooling system after salt water operation. Rinse off exposed parts with fresh water and wipe with oily cloth.

## FREEZING TEMPERATURES

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

## SHOCK ABSORBER DRIVE

Action of the shock absorber assembly is such that when the propeller strikes an underwater obstruction the spring is caused to coil slightly in either the retainer or pilot — or in both, to release its grip, thereby absorbing shock of sudden impact.



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## GENERAL CARE

For maximum service and performance give your motor 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.



### 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.

### 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 (hold motor in upright position to drain) to prevent possible freezing and store motor in upright position. Contact your Johnson Dealer for information regarding off-season storage.



# 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	

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



# Specifications

## MODELS AD AND ADL

POWER HEAD .....	Two Cycle — Alternate Firing Two Port — Automatic Intake
Bore and Stroke .....	2 1/8 x 1 3/4"
Number of Cylinders .....	2
Piston Displacement .....	12.4 Cubic Inches
OBC Brake H.P. at 4000 R.P.M. ....	7 1/2
GEAR RATIO .....	.578
IGNITION .....	Magneto — Johnson
BREAKER POINT GAP .....	.020 to .022
SPARK PLUG GAP .....	.030
CARBURETOR .....	Johnson
GEAR SHIFT CONTROL .....	Neutral, Forward, Reverse
THROTTLE CONTROL .....	Twist Grip Control—(Optional Ship-Master Remote Control)
PROPELLER .....	2 Blade 8" Dia. by 8 1/2" Pitch
FUEL TANK CAPACITY .....	4 1/4 Gals. Mile-Master Tank
SPEED RANGE .....	Slow Trolling to Over 15 MPH
COOLING SYSTEM .....	Vari-Volume Water Pump

	AD	ADL
Weight .....		
Motor only .....	56 lbs.	57 lbs.
Milemaster Tank (empty) .....	10 lbs.	10 lbs.
Length .....	41"	46"
Width .....	10 3/4"	10 3/4"
Stern Height .....	15"	20"

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



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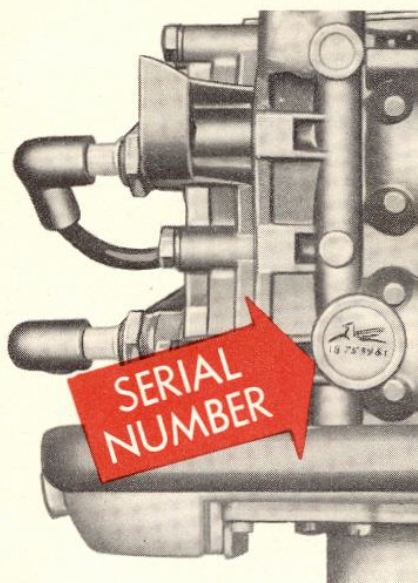
# Registration and Insurance

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 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.



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.**



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