

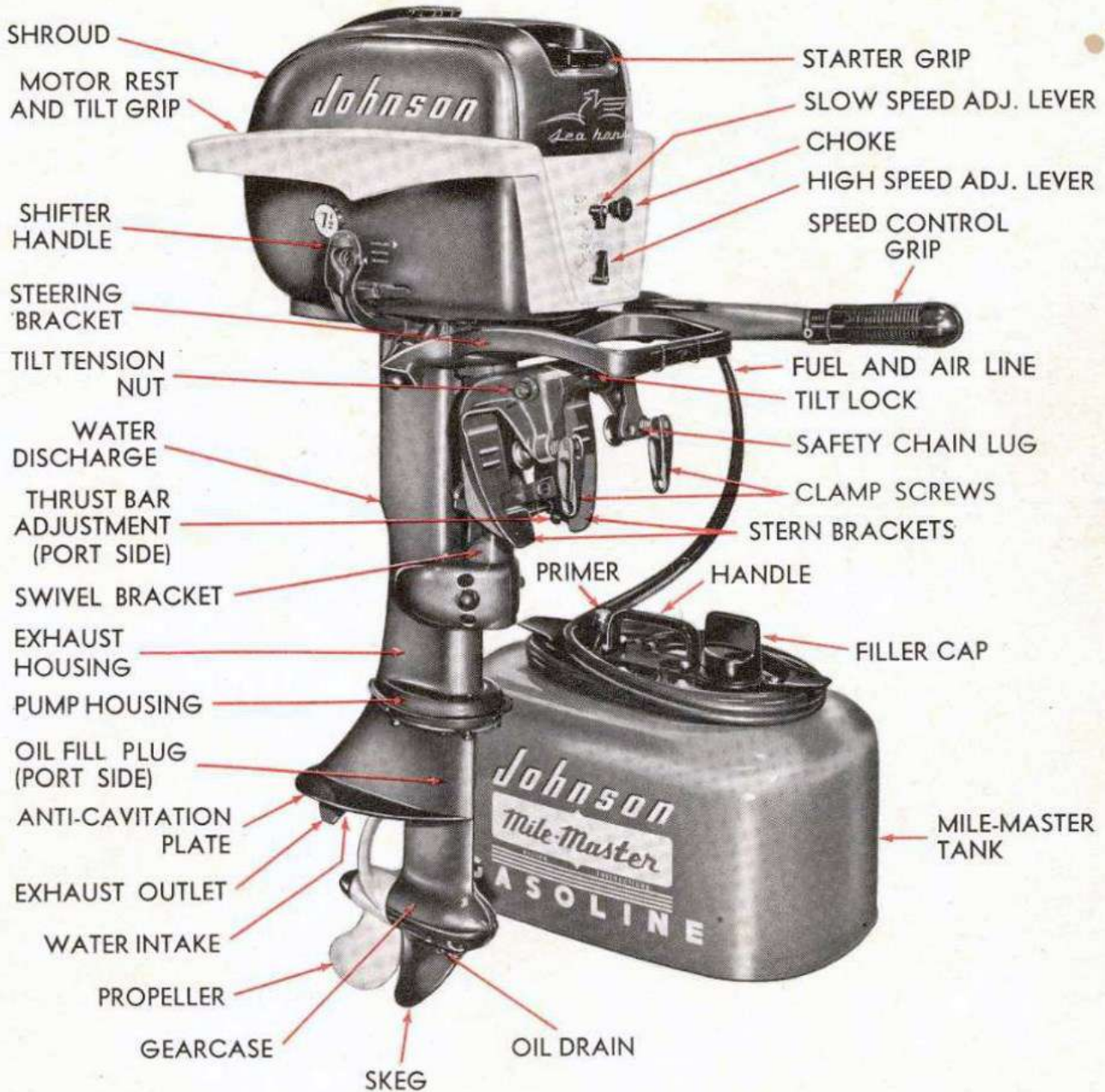
Johnson

OWNER'S MANUAL



Sea-Horse "7 1/2"

MODELS AD • ADL

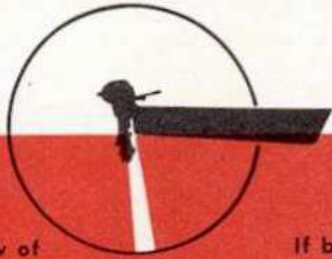


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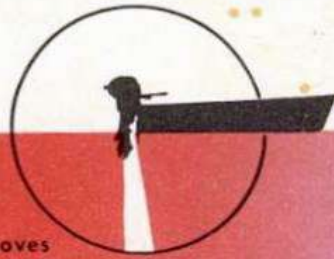




If boat moves
with BOW LIFTED —
lower unit too far out.



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



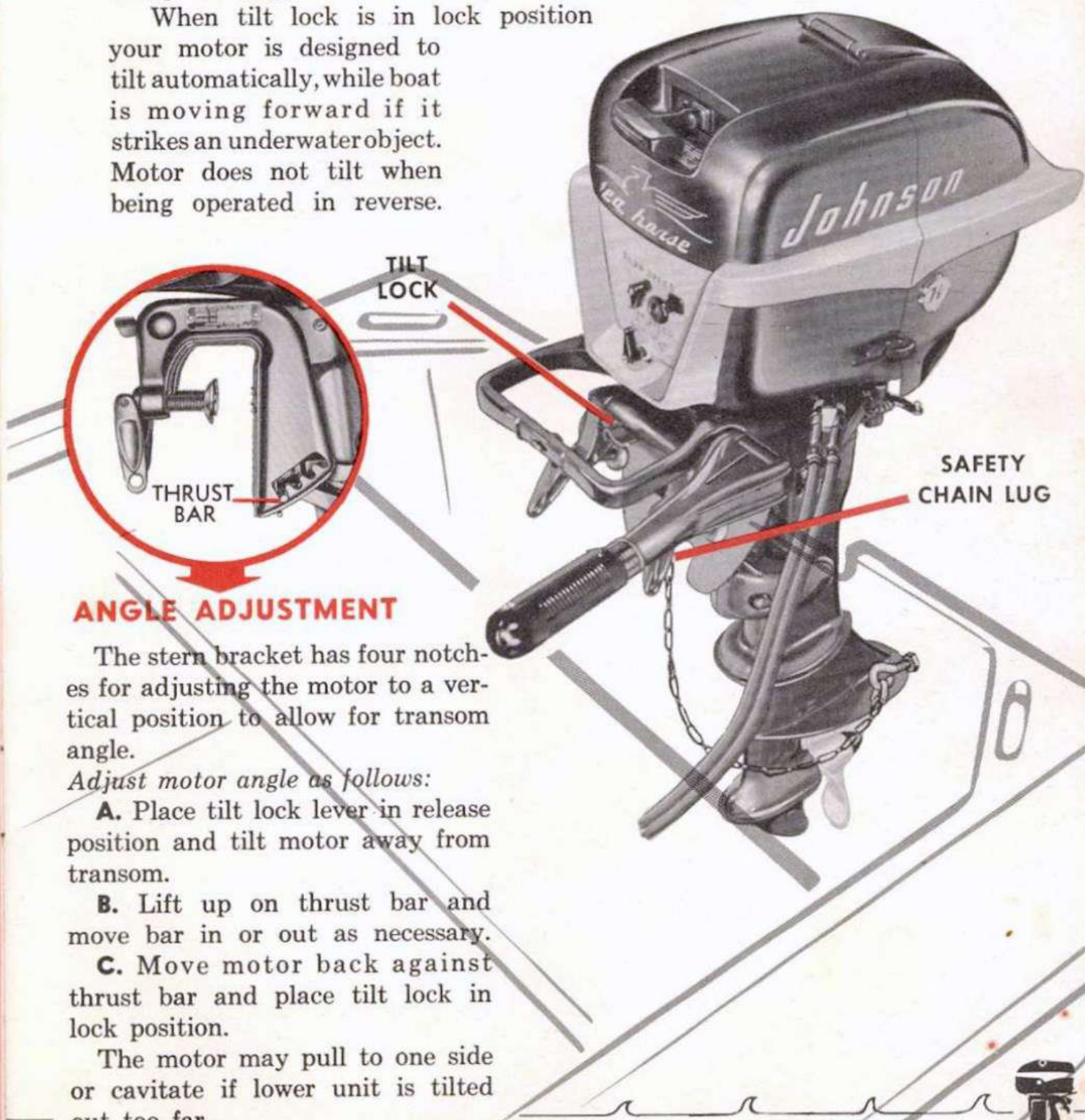
If boat moves
on EVEN KEEL —
lower unit perpendicular.

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.

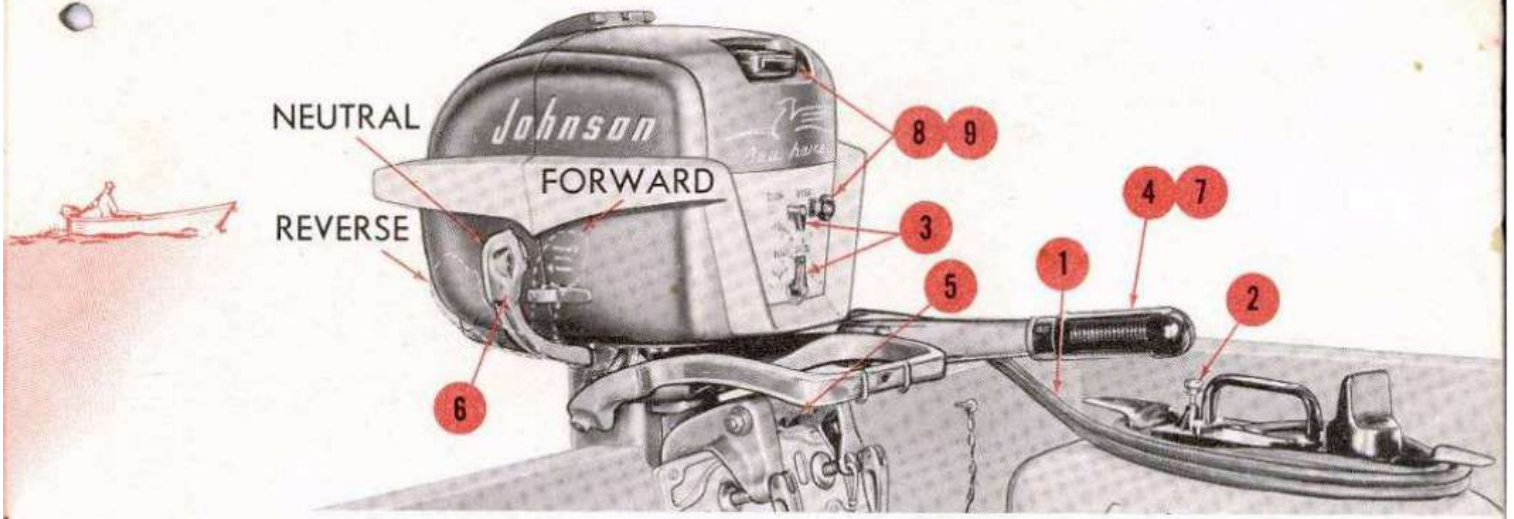
CAUTION — Starting or operating motor out of water will result in damage to water pump.

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.

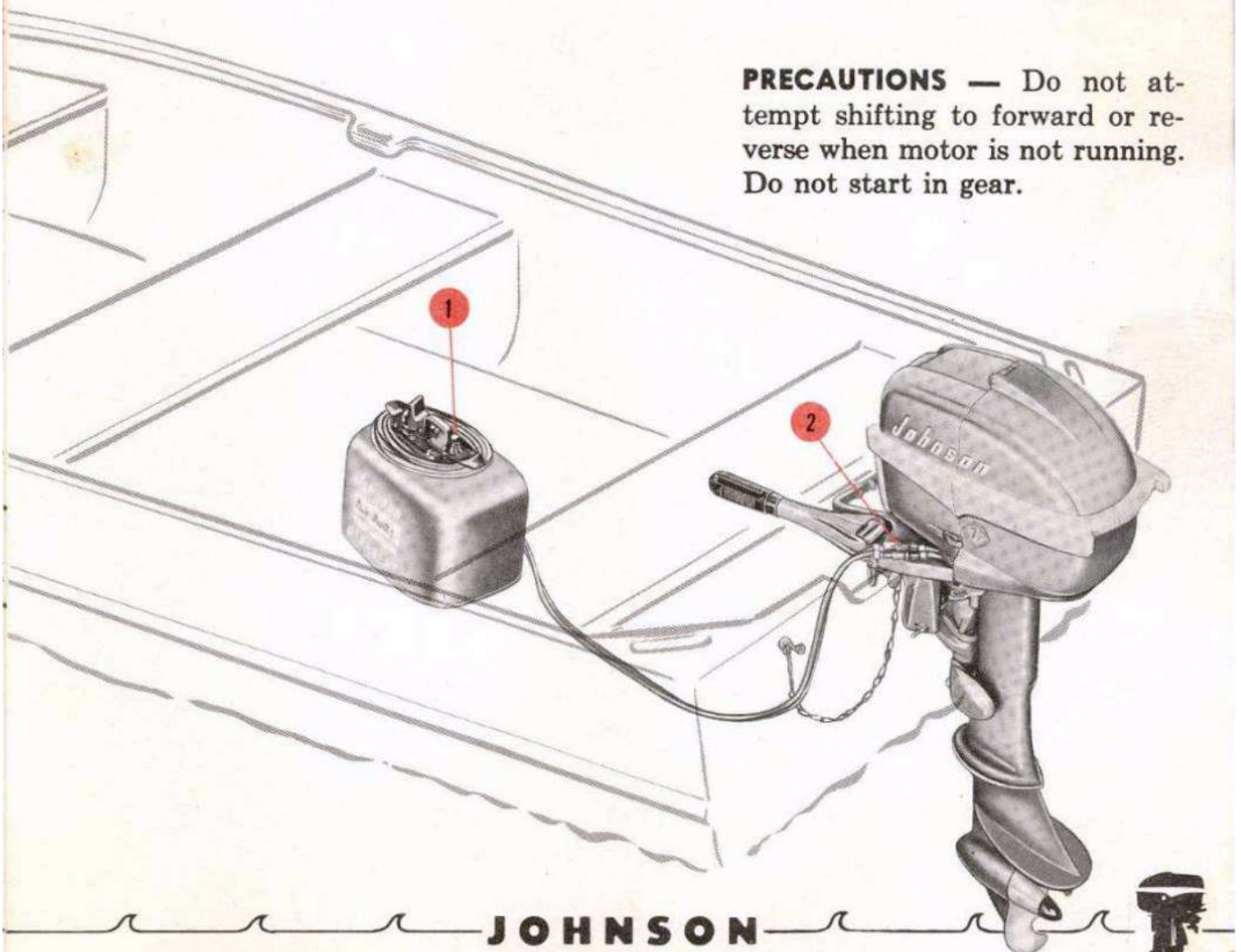


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7. Pull out choke. Pull starter handle slowly until starter engages, then pull rapidly. Allow starter cord to rewind before releasing starter handle to prevent damage to starter assembly. After starting motor push choke in. Additional choking may be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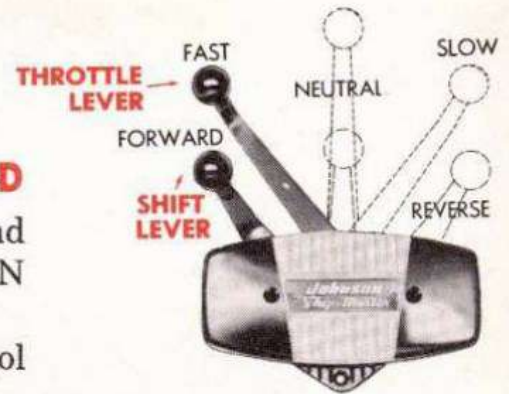


Care and Operation

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.



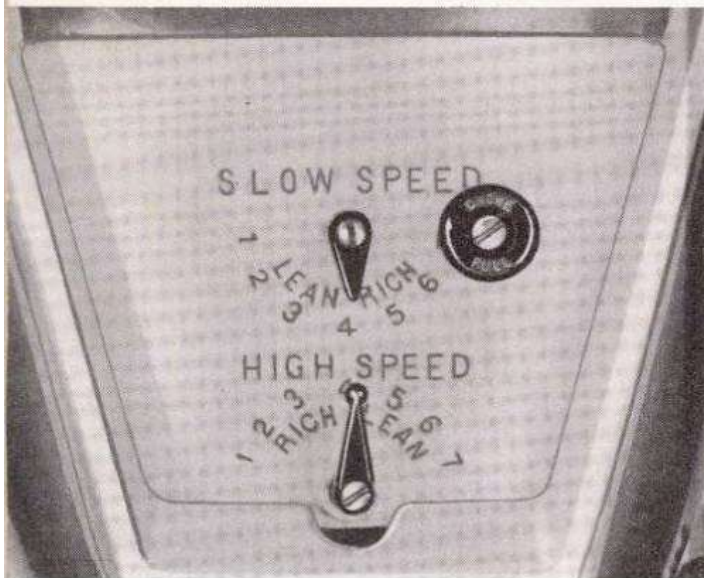
SHIP MASTER
REMOTE CONTROL
(Optional Equipment)

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

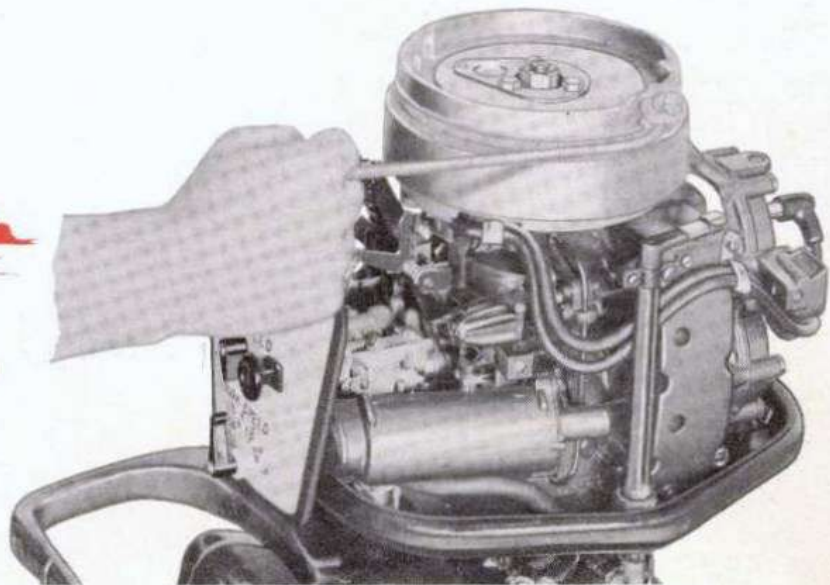
Turn speed control grip to position marked STOP on steering handle.



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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

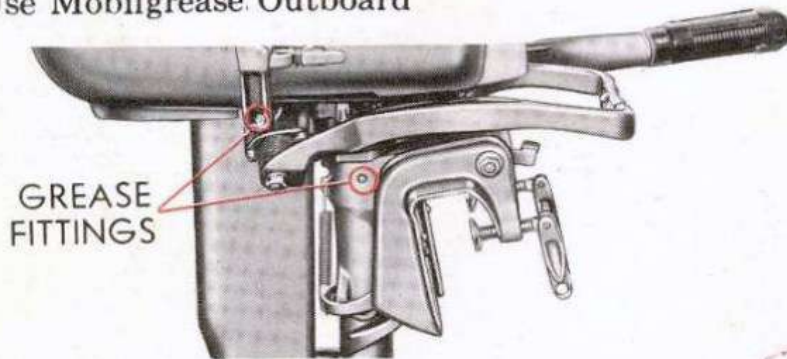
Gearcase lubricant should be replaced every season. Remove the fill and drain plugs. Drain out all the oil, water or residue and replace drain plug after thoroughly draining. Using a pump type oil can, fill the gearcase through the vent plug to a level even with vent hole and replace gasket and screw.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

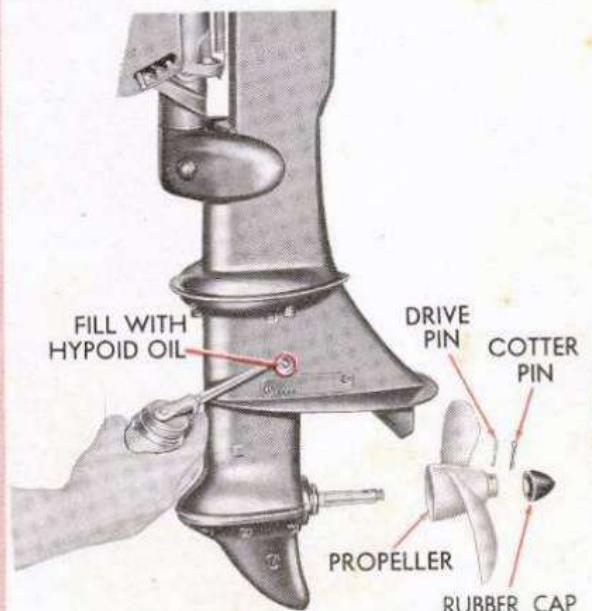


DRIVE PIN REPLACEMENT

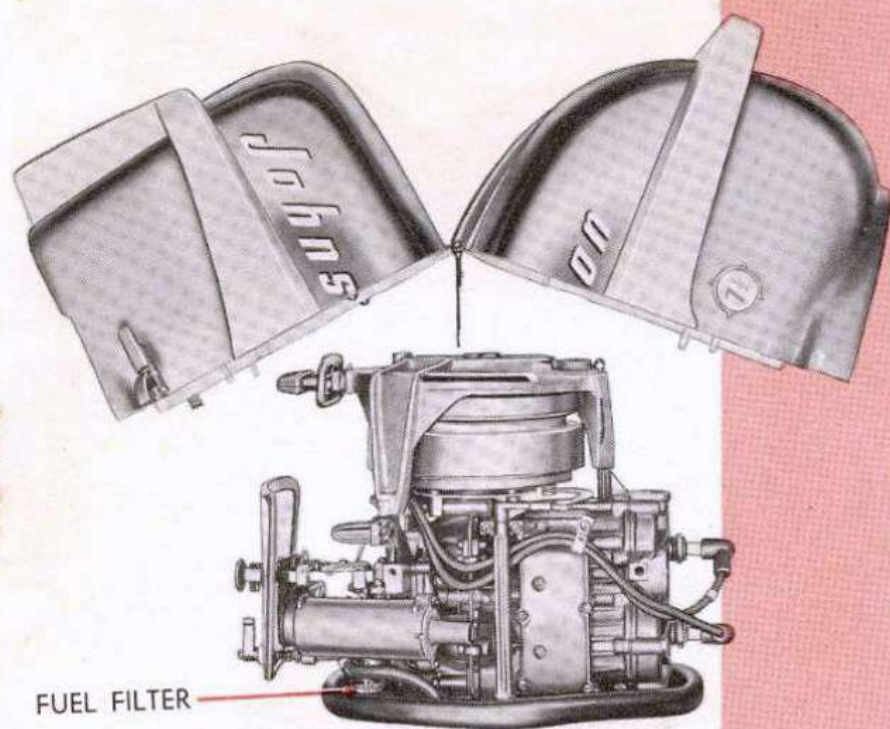
If required to replace the drive pin, remove the rubber cap and fragments of broken drive pin from shaft. The new drive pin may be used to drive out the broken pin. Replace the rubber cap after inserting new drive pin. Note — make certain the cap properly engages grooved end of the propeller shaft and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

REMOVING PROPELLER

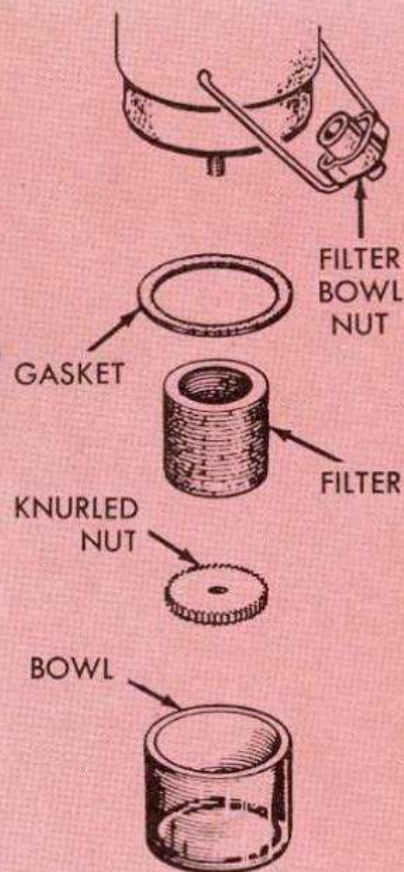
Remove rubber cap, cotter pin and drive pin. Propeller is now free and may be removed from the shaft. Reassemble in reverse order, using new cotter pin if necessary.



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FUEL FILTER



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.

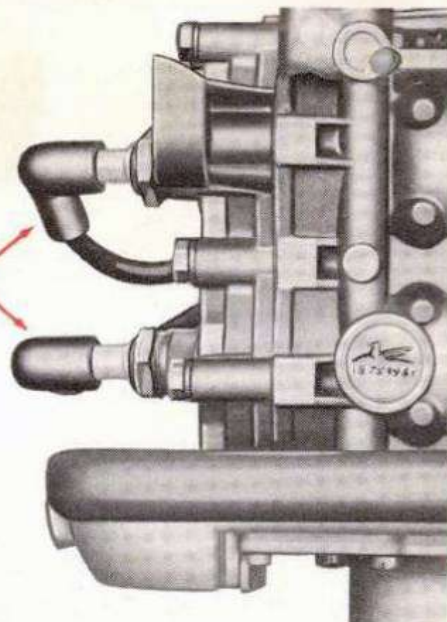


SPARK PLUG RECOMMENDATION AND REPLACEMENT

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

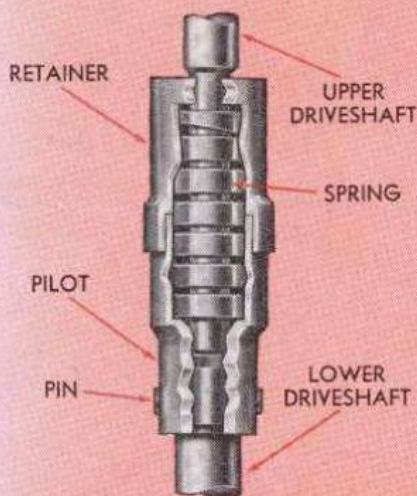


COOLING

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.



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 RATIO578
IGNITION	Magneto — Johnson
BREAKER POINT GAP020 to .022
SPARK PLUG GAP030
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.



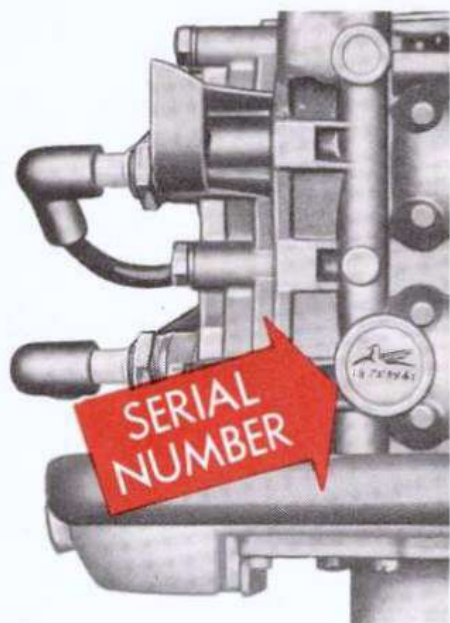
Registration and Insurance

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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