

# Commodore

ALWAYS GIVE MODEL AND SERIAL NUMBER OF ENGINE WHEN ORDERING PARTS

## INSTRUCTIONS

### for Starting and Operating

#### NEW MOTOR

During the first ten hours of operation, run your motor at a moderate speed (not over half throttle) and allow the internal moving parts to break in properly. By observing this precaution, you will improve the performance of your motor and you will also increase its life expectancy.

#### INSTALLING MOTOR

Mount the motor at the center of the transom and tighten the clamp screws alternately by hand—do not use a wrench or lever. Secure the motor to the boat with a chain, cable, or rope. This will prevent accidental loss during operation.

#### ADJUSTING MOTOR ANGLE

The motor leg can be adjusted to compensate for variations in the transom angle. The motor leg should be adjusted so that it is perpendicular to the surface of the water when the boat is operating at full speed. If the motor leg is tilted too close to the transom, the thrust from the propeller will be delivered in a downward direction causing the bow of the boat to "dig" or "plow" through the water. If the leg is tilted too far away from the transom, the propeller thrust will be in an upward direction, and it will cause the boat to jump or "porpoise." To adjust, remove the lock-bar from the lock-bar hole in the lower end of the stern brackets. Note that there are five holes in each bracket. By moving the lock-bar to a hole further from the transom you will lift the bow of the boat out of the water, and by moving the lock-bar to a hole closer to the transom you will bring the bow of the boat down.

If motor races or overspeeds on sharp turn, lower the adjustment one notch.

#### FUEL

Use fresh gasoline of good quality, either marine white or regular grade. Mix 1/2 pint of outboard motor oil with each gallon of gasoline. Do not use

a detergent oil as it is of no value in a two (2) cycle engine.

Strain gasoline and oil before putting into fuel tank. This will prevent dirt from entering the motor through the fuel system.

**CAUTION:** Wipe excess fuel from tank after filling. Always remove the tank from the boat during refueling.

#### TO START MOTOR

- A. Connect the remote fuel tank to the motor by engaging the fuel line coupling with the at-engine bushing.
- B. Open air-vent on fuel tank cap.
- C. Squeeze the prime bulb several times to pump fuel from the tank to the motor. Continue to squeeze until prime bulb becomes firm.
- D. Push in shift rod to neutral position.
- E. Pull out choke.
- F. Turn engine over with starter. When engine starts push choke slowly until motor is fully warmed up.

#### TO START A WARM MOTOR

Follow normal starting procedure but do not choke as it is not necessary for a warm motor. Choking will only tend to flood the motor and prevent it from starting.

#### CAUTION

When removing motor from boat be sure to hold in an upright position until all water drains from the motor leg. At no time stand motor with the motor leg higher than the power head as this may allow water to enter the cylinder block and cause corrosion.

**NOTE:** Always store motor in an upright position.

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## EMERGENCY CHART

The Following Information is Furnished to Aid You in Locating and Correcting Any Trouble Which May Occur.

### MOTOR DOES NOT START

1. Empty fuel tank.
  - (A) Fill tank with fuel mixture as prescribed in FUEL section.
2. Motor not primed.
  - (A) Prime motor as prescribed under STARTING PROCEDURE.
3. Fuel tank air vent closed.
  - (A) Open vent. Gasket should adhere to vent screw so that small air vent hole is open.
4. Carburetor adjustment incorrect.
  - (A) The carburetor adjustment needles are located on the front of the control panel. To adjust, turn both needles in a clockwise direction until they are finger-tight. CAUTION: Do not tighten with a screw driver or pliers as the needle seats will be damaged from over-tightening. Back up the high speed needle located at the bottom of the carburetor from 3/4 to 1 full turn. The idle adjustment needle located at the top of the carburetor should be open from 3/4 to one full turn. It may be necessary to readjust needles once motor has warmed up. If adjustment is too lean, needles closed too far, motor will pop and cough and probably stop. If too rich, open too far, motor will not run at full speed and will lope or run uneven at low speeds.
5. Ignition failure.
  - (A) Spark plugs fouled.
    1. Remove spark plugs and check for excess carbon, oil or moisture. Either of these will cause fouling. Clean spark plugs if possible, or replace. Proper spark plug gap is .030 inch.
  - (B) Coil, condenser or breaker points defective.
    1. Remove spark plug and reattach spark plug lead. Turn the motor over while holding spark plug to support plate or cylinder and observe spark.

NO SPARK—Check breaker points for proper adjustment and carbon or moisture deposits. Replace if necessary. Proper point setting is .020 inch. Coil or condenser may be defective.

WEAK SPARK—Check for weak condenser or defective coil.

If both the carburetor and ignition systems are in order the motor should start by following the instructions given under "STARTING MOTOR." Often repeated attempts to start the motor will result in flooding of the crankcase with an excess amount of unvaporized fuel making it difficult to start. To clear the crankcase, turn the motor over several times with the shift rod in "NEUTRAL," the magneto control rod pushed all the way in and the choke open.

### MOTOR LOSES POWER

1. Carburetor adjustment incorrect.
  - (A) Follow instructions given under step 4 of "MOTOR DOES NOT START" section.

### MOTOR DOES NOT IDLE

1. Carburetor adjustment incorrect.
  - (A) Follow instructions given under step 4 of "MOTOR DOES NOT START" section.
2. Carburetor synchronization incorrect.
  - (A) Adjust the point of throttle opening. Set the position of the throttle cam follower arm, Ill. 38, Page 11, in relation to the throttle cam follower, Ill. 41, Page 11, so that the throttle shutter in the carburetor begins to open when the throttle cam follower is on the adjusting mark, located on the top surface of the throttle cam plate, Ill. 6, Page 9.

### MOTOR OVERHEATS

1. Insufficient oil in fuel mixture.
  - (A) Check proper fuel mixture given under "FUEL" section.
2. Water pump inoperative.
  - (A) When the water pump is operating properly a small stream of water will pour from the lower port side of the power head.

CAUTION: If the water pump is not operating properly, stop motor immediately as overheating will cause extensive damage to the internal parts of the motor.