COLT 2310, 2510, AND 2712 COMPACT TRACTORS

CHAPTER 2

AIR CLEANERS – CARBURETION – GOVERNOR

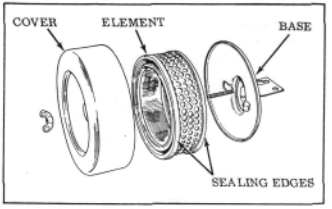

Figure 2-A-1

2-A-1 Dry type air cleaners are treated paper elements with rubber-like sealing edges. It is important that the edges of these elements seat properly to prevent dirt leakage. Compressed air may be used to clean the element. Compressed air should be directed from the inside of the element blowing toward the outside to dislodge the accumulated dirt. Tapping the element on a block of wood will also dislodge accumulated dirt. Do not clean with liquid solvents or gasoline. Clean frequently to assure full engine power and performance. Never operate the engine without the air cleaner properly assembled. Do not puncture element. Carefully inspect element for cracks and holes.

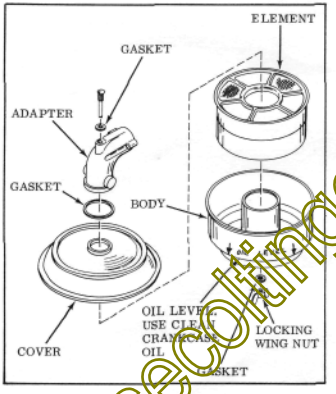

Figure 2-A-2

2-A-2 Frequent service of the oil bath air cleaner will assure adequate engine protection. Clean all parts in solvent and dry thoroughly. Fill with oil and assemble in the sequence shown, Figure 2-A-2, or as instructed in the owners manual. Gaskets must be used at the points indicated in Figure 2-A-2. Replace the gaskets if damaged.

2-A-3 Maintain the oil level at the point indicated on the air cleaner body. Use the same grade of oil for the air cleaner as used in the engine crankcase.

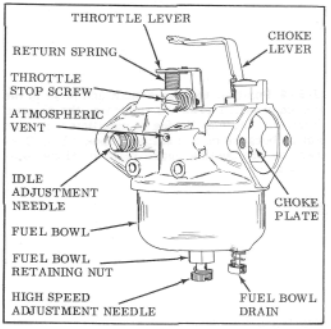

Figure 2-B-1

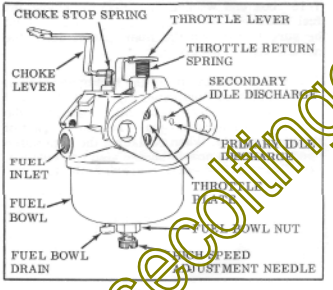

Figure 2-B-2

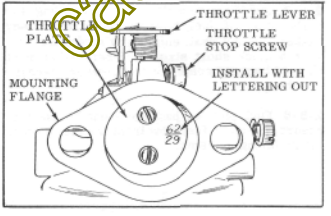

Figure 2-B-3

2-B-1 Following are initial carburetor adjustments to be used to start the engine. After the engine has reached operating temperature make final adjustments.

Idle Adjustment: 1-1/4 turn off seat
High Speed Adjustment: 1-1/2 turn off seat
Throttle Stop Screw: 1 turn after contacting throttle lever
Recommended Speeds: Idle 1700 to 2000, High Speed 3400 to 3600

For proper carburetion the atmospheric vent MUST be open. Examine and clean if necessary.

Sluggish engine speed control may at times be caused by dirt or paint on the throttle return spring. Clean if required.

The fuel bowl drain is a convenient way of clearing the carburetor of foreign matter and gasoline for storage.

2-B-2 Choke lever positioning is maintained by a stop spring, replace if damaged.

The fuel inlet fitting should be checked if leakage is detected in the carburetor area. Do not screw in too tight, this may crack the carburetor body. The fuel bowl drain should also be examined in event fuel leakage is detected. It may be necessary at times to replace the internal rubber seat. Examine the throttle return spring if slow engine response is noted during operation. Correct by cleaning the throttle return spring or realigning the throttle plate.

2-B-3 Install the throttle plate with the lettering (if present) facing out when closed. Move the throttle shaft to the closed position, place the throttle plate on the shaft and secure with the retaining screws. The throttle should move freely. If binding is present, correct by loosening screws and repositioning throttle plate.

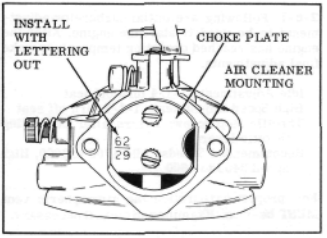

Figure 2-B-4

2-B-4 Position the choke shaft and plate in the closed position prior to tightening the screws. Hard starting may be due to insufficient choking action because of a misaligned choke plate. Correct by readjusting choke plate to close completely.

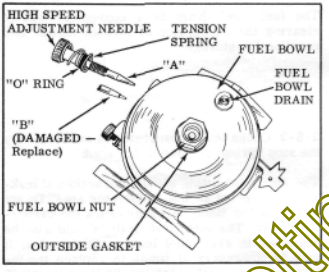

Figure 2-B-5

2-B-5 Prior to removing the fuel bowl nut, remove the high speed adjusting needle. Use a 7/16" box end wrench or socket to remove the fuel bowl nut. When replacing the fuel bowl nut be sure to position the fiber gasket under the nut and tighten securely.

2-B-6 Examine the tip of the high speed needle, if it appears as illustrated replace. If the tip of the high speed adjusting needle is damaged, the seat is probably damaged. The seat is part of the main nozzle. When replacing the high speed needle the main nozzle should also be replaced. See Figure 2-B-8 and paragraph 2-B-11.

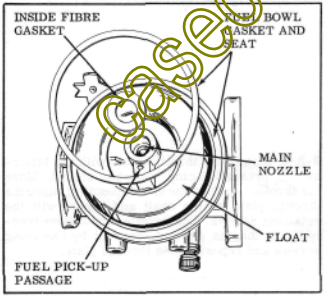

Figure 2-B-6

2-B-7 Use new gaskets when rebuilding the carburetor. If fuel bowl to carburetor body gasket does not seat, enlarge by stretching with 4 or 5 quick short strokes. Fiber gasket must be used between center of fuel bowl and carburetor body.

2-B-8 Fuel pick up passage must be clean to assure adequate fuel flow from the fuel bowl to the metering systems.

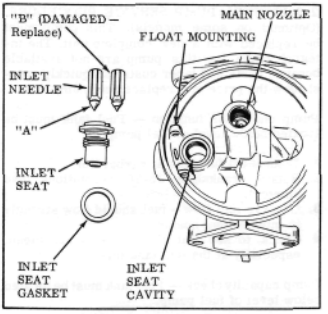

Figure 2-B-7

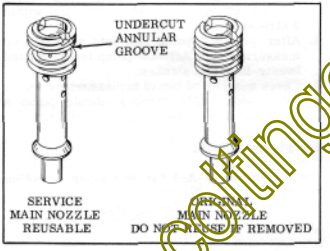

Figure 2-B-8

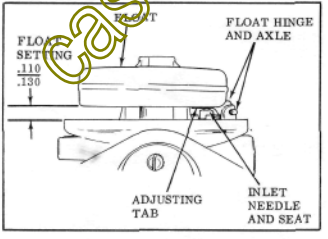

Figure 2-B-9

2-B-9 Examine the inlet needle. "A" is a needle that is serviceable, if the tip appears damaged as "B", replace needle and seat assembly. Tighten the inlet seat to 40 to 50 inch pounds. Always use a new gasket. Clean all dirt from inlet seat cavity.

2-B-10 Normally the main nozzle should not be removed. It is possible to clean the carburetor with solvent and compressed air. Remove and replace the main nozzle only if the high speed needle seat is damaged or because of excessive dirt. See Figure 2-B-7, paragraph 2-B-11.

2-B-11 Do not remove the main nozzle. (Figure 2-B-4, 2-B-6). If it is necessary to remove the main nozzle to aid in cleaning, discard the main nozzle and use a service replacement nozzle with an under cut in the thread area. If the nozzle removed is under cut it can be reused. This procedure must be followed to assure delivery of fuel to the idle system.

2-B-12 Float Setting .110-.130 measured opposite the float hinge. Remove float by pulling out float axle. Bend adjusting tab to correct setting. Always remove the float to make adjustments.

Examine the float hinge and axle for wear. If evident replace the parts.

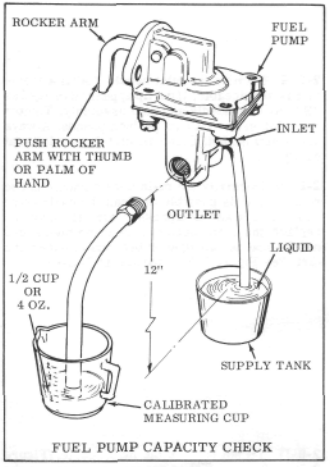

Figure 2-B-10

2-B-13 FUEL PUMP SERVICE PROCEDURE. (Optional on some models). This pump must be replaced with a new complete unit. The integral parts for this pump are not available because parts and labor costs can quickly overshadow the price of a replacement pump.

Pump check for function — Fuel tank must be located below level of fuel pump.

1. Disconnect fuel line at carburetor.
2. Rotate crankshaft 15-20 revolutions (use starter).
3. Observe fuel flow — fuel should flow strongly in intermittent spurts.
4. Check to see that all fuel lines are clean, especially at the fuel tank inlet.

Pump capacity check — Fuel tank must be located below level of fuel pump.

1. Remove fuel pump from engine.
2. Hold pump about 12" above fuel level.
3. Actuate rocker arm by hand. Pump should prime itself or pump fuel out of outlet within 5 strokes.
4. After priming, pump fuel into a calibrated measuring cup. Activate pump lever by hand twenty-four (24) strokes.
5. Check quantity of liquid in measuring cup. Twenty-four (24) strokes should pump a minimum of 4 ounces or 1/2 cup of liquid.

See Figure 2-B-10.

See paragraph 4-A-4 for fuel pump mounting procedure.

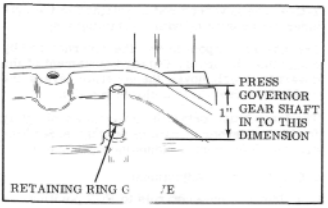

Figure 2-C-1

2-C-1 Position the governor gear shaft over the opening in the cylinder block and tap lightly with a hammer to start. Use a press to position. Press into the cylinder block until 1" of the shaft protrudes from the machined surface. Measure from the top of the governor gear shaft to the machined surface on the cylinder block.

Remove the governor gear shaft by threading the shaft with 1/4-28 die. Place a number of washers on the shaft and turn on a nut. By tightening the nut against the washers the shaft will be pulled from the cylinder.

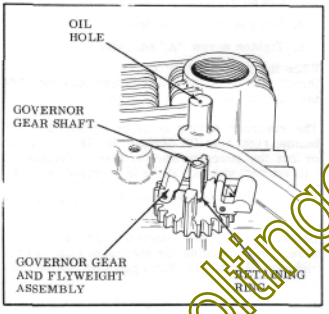

Figure 2-C-2

2-C-2 Position the governor gear and flyweight assembly on the governor gear shaft. Secure with a retaining ring. Place the governor spool on the governor gear shaft.

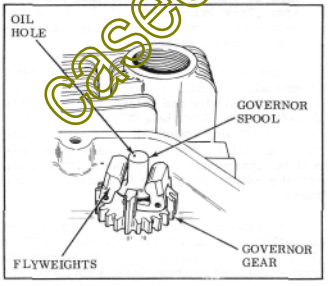

Figure 2-C-3

2-C-3 The spool is positioned on the governor gear shaft with the fingers of the flyweight under the rim of the spool.

The hole in the closed end of the spool is for lubrication. CAUTION - Hole must be kept clean.

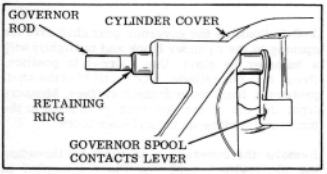

Figure 2-C-4

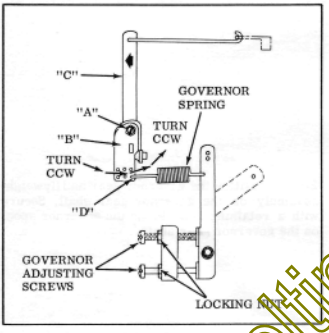

Figure 2-C-5

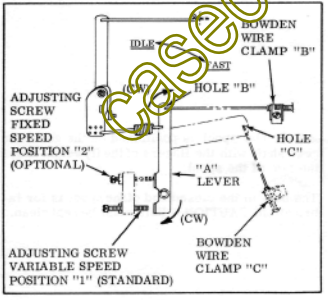

Figure 2-C-6

2-C-4 The governor rod is retained in the cylinder cover bushing with a retaining ring.

The governor spool moves the governor rod by contacting the lever. Outward movement of the governor spool moves the governor levers and carburetor throttle to a closed position.

The lever must contact the governor spool tightly for best governor control of the engine. See Figure 2-C-5 for correct adjustment procedure.

2-C-5 Governor Adjustment

a. Move remote controls to RUN position.

b. Loosen Screw "A".

c. Turn plate "B" Counter clockwise (ccw) and hold.

d. Move lever "C", to left.

e. Tighten screw "A" securely.

When the governor is properly set the carburetor throttle lever will be in a wide open position when the controls are set for starting.

The governor spring is to be anchored in the bottom point hole (D) of plate "B". Do not stretch or cut the governor spring. Above adjustments will correct any variations in governor control.

2-C-6 Setting variable speed adjusting screw to maximum rpm.

Before attaching the remote speed control (boden wire) set the engine for maximum rpm. Set the high speed (3400 to 3600 rpm) with engine running.

1. Move lever "A" clockwise until lower end strikes the adjusting screw "1".
2. Loosen lock nut on adjusting screw "1" and turn in (clockwise) to decrease maximum rpm. Turn out (counter-clockwise) to increase maximum rpm. CAUTION - Tachometer should not exceed 3600 rpm.

With engine stopped, set remote speed control (boden wire) on RUN (high speed) position. Attach the boden wire and to lever "A" (See figure 2-C-6) in hole "B" or hole "C" if present. Move lever "A" to stop against speed adjusting screw "1" and hold it. Secure the boden wire cable with the appropriate clamp; clamp "B" or clamp "C" if present. Clamps are located on the engine blower housing.

2-C-7 Adjusting fixed speed. The fixed speed adjusting screw is the optional position "2" in Figure 2-C-6. Adjust it merely by starting the engine and after loosening the lock nut turn screw in (clockwise) to increase rpm and out (counter-clockwise) to decrease rpm.