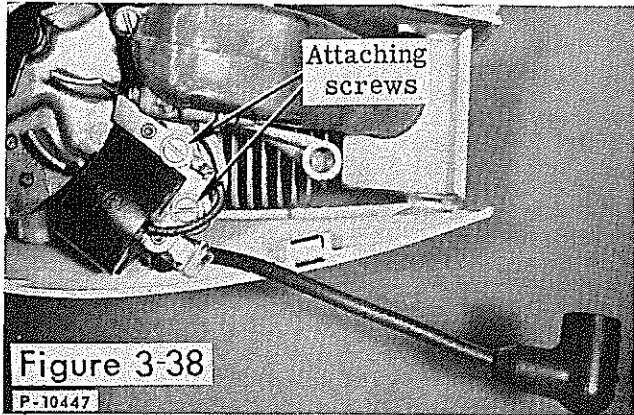


2. Cut a standard replacement spark plug wire so that with the coil end inserted into the socket on the side of the coil, the center of the spark plug connector is 5-1/2 to 5-3/4 inches from the surface edge of the socket (Figure 3-39).



3. Apply any standard epoxy according to the manufacturer's directions in a band around the coil end of the new wire and push the new wire into the coil socket so that the metal prong in the socket penetrates into the core of the wire. Make sure the wire is inserted so that when the wire is bent in the direction of the outer leg of the lamination, the open end of the connector points in the same direction as the outer leg of the lamination (Figure 3-40). After the epoxy has dried, test the wire to make sure that it is securely fastened into the socket. Make sure the connector is securely fastened to the spark plug wire.

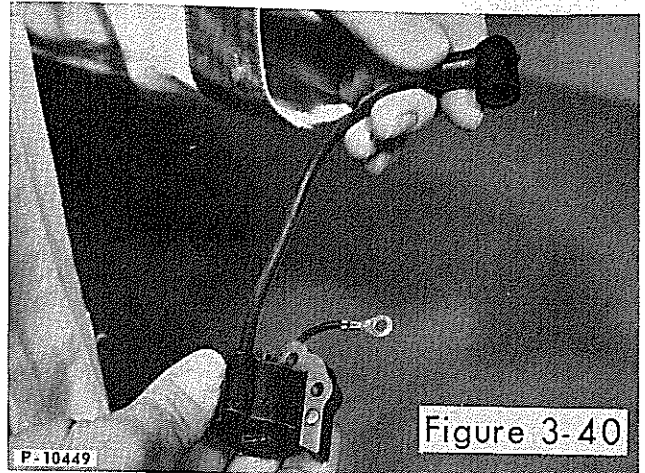
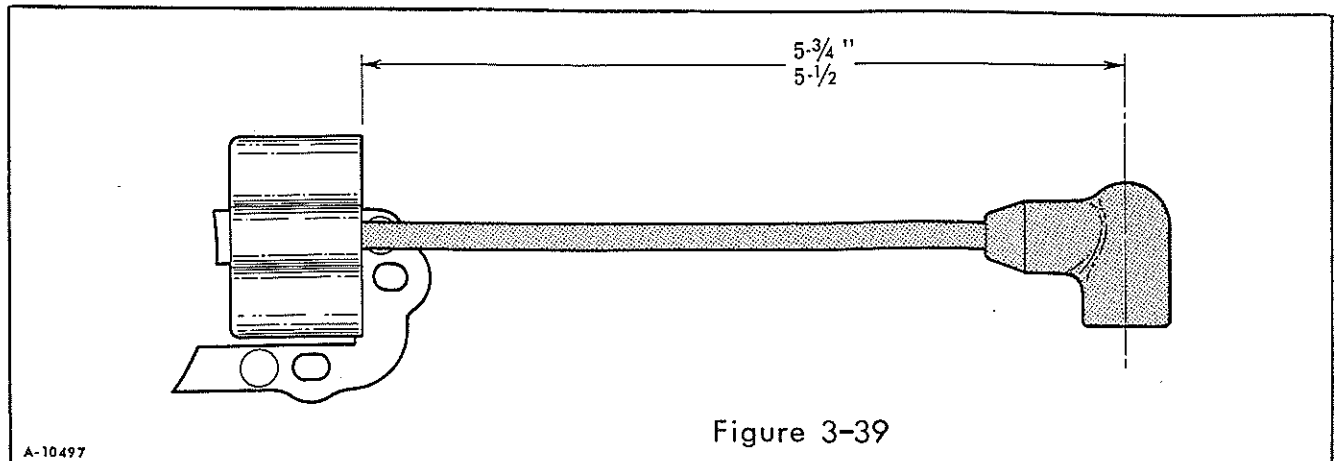
4. Check the condition of the ground wire and terminal.

b. Servicing the Coil and Lamination Assembly

If the coil will not pass the coil power test (on page 19) or is damaged in any way, install a new coil and lamination assembly.

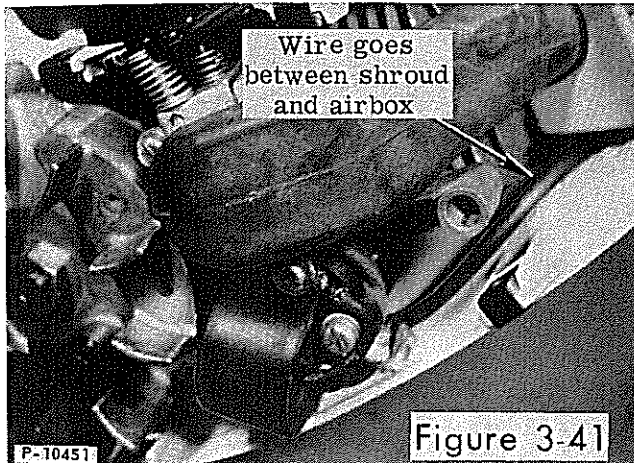
INSTALLATION

1. Slide the primary wire clip onto the mounting post



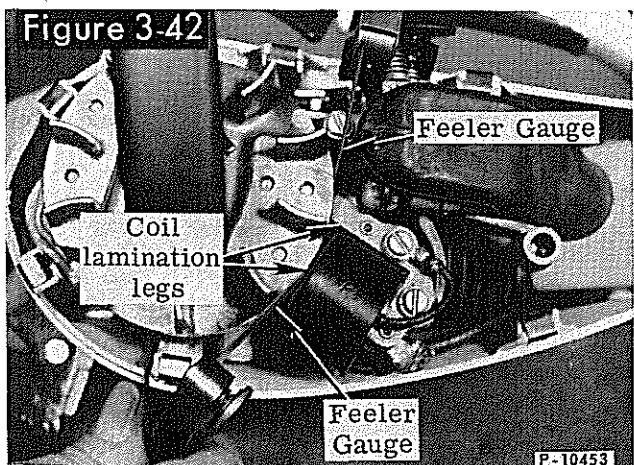
on the coil. Feed the connector end of the spark plug wire around between the air filter housing and the bottom of the shroud.

2. Turn the flywheel so the magnet laminations in the outer rim of the flywheel are away from the coil and lamination mounting position.
3. Place the coil and lamination assembly on the plastic insulating tubes. Put a drop of Loctite on the two mounting screws and install the screws. The plastic washers go next to the lamination and the metal washers go next to the screw heads. Connect the coil ground wire under the upper lamination screw head. Tighten the screws just enough to hold the coil and lamination assembly.
4. Connect the spark plug wire to the spark plug. Make sure the wire is not pinched between the bottom shroud and the cooling fins, but passes behind the fins (Figure 3-41). Install the screw, washer and the special nut which attaches the bottom shroud to the air filter housing. Use only the special nut; not a substitute. Torque the nut to a value of 35 to 40 inch pounds. Install the air filter and air filter cover. Make sure the two screws attaching the front of the bottom shroud to the crankcase are securely tightened. Before reinstalling the fan housing, adjust the lamination gap.



LAMINATION GAP ADJUSTMENT

1. Loosen the mounting screws and push the lamination away from the flywheel. Tighten the screws to hold the lamination away.
2. Turn the flywheel so the magnet laminations are directly beneath the coil lamination legs. Place a 0.010 inch flat feeler gauge between each leg of the coil lamination and magnet laminations in the flywheel (Flywheel 3-42). Loosen the mounting screws so the magnets can draw the coil lamination against the feeler gauges. Tighten the mounting screws and withdraw the gauges.
3. Turn the flywheel to make sure the flywheel doesn't



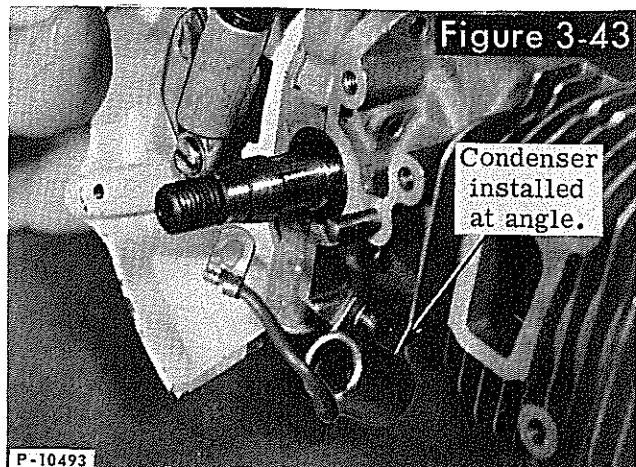
scrape on the laminations. If the flywheel scrapes, the gap can be increased up to 0.015 inch. If the gap must be greater than this, install a new flywheel. However, first make sure the lamination is not slipping toward the flywheel and that the screws are tight.

CONDENSER

The condenser is mounted underneath the crankcase. In order to remove it, the fan housing, air filter cover, air filter, bottom shroud, flywheel and breaker box cover must be removed.

REMOVAL

1. Remove the Allen head screw attaching the condenser to the lower left side of the crankcase (Figure 3-43).
2. Disconnect the condenser lead from the attaching screw on the bottom of the breaker box.



SERVICING THE CONDENSER

a. When to Install a New Condenser

Under normal operating conditions, the condenser will become mottled and discolored. This is not cause for installing a new condenser. Install a new condenser only when the old one has failed to pass one of the condenser electrical tests or if the condenser lead is broken. Do not attempt to solder the lead if a new condenser is available.

INSTALLATION

1. Connect the condenser lead along with the other leads to the attaching screw on the bottom of the breaker box. Tighten the attaching nut securely.
2. Coat the threads of the condenser mounting screw with a drop of Loctite and reinstall the condenser. The condenser should be at a forty-five degree angle to the bottom of the crankcase (Figure 3-43). Tighten the screw to a torque value of 35 to 40 inch pounds.

IGNITION SWITCH

The ignition switch is located on the underside of the top shroud. Remove the fan housing to test the ignition switch. To remove the switch, also remove the air filter cover, air filter, handle assembly and top shroud.

IGNITION SWITCH TEST

1. Remove the fan housing. Disconnect the primary ignition lead from the coil terminal.
2. Turn the Merc-O-Tronic tester selector switch to the number 3 position. Short the small red and black leads together and adjust the meter set knob for

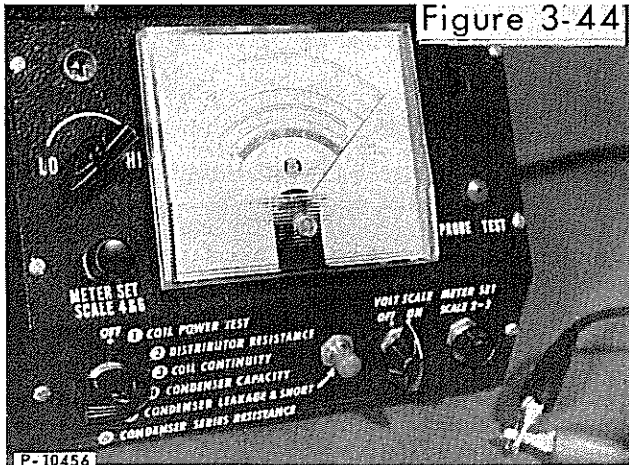


Figure 3-44

scale 2 and 3 so the pointer is on the SET line on the number 3 scale (Figure 3-44).

3. Connect the small red lead to the disconnected primary lead and the small black lead to ground on the engine (Figure 3-45). Remove the switch lead from the switch and turn the flywheel until the points are open. (The pointer on the Merc-O-Tronic will move to the left.) Reconnect the switch lead to the switch. When the ignition switch is OFF, the needle will move to the right to the SET line. When the ignition switch is ON, the needle will move to the left, indicating that there is no continuity through the switch. Should these movements be different, then the switch is not working properly. Check for broken insulation on the switch lead.
4. If the test is satisfactory, reinstall the primary lead on the coil and reinstall the fan housing.

REMOVAL OF THE IGNITION SWITCH

1. Remove the fan housing, air filter cover and air filter. Remove the screws attaching the handle assembly to the air filter housing and top shroud. Carefully lift off the handle assembly taking care not to disengage or bend the throttle rod. Slide the top shroud out from beneath the handle assembly.

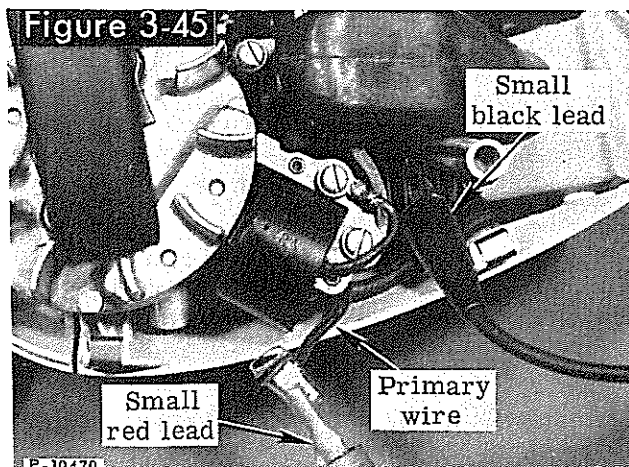


Figure 3-45

P-10470

2. Disconnect the switch lead (1, Figure 3-46). Remove the screw (2) which holds the switch together.
3. If the switch lead requires replacement, disconnect it from the bottom of the breaker box.

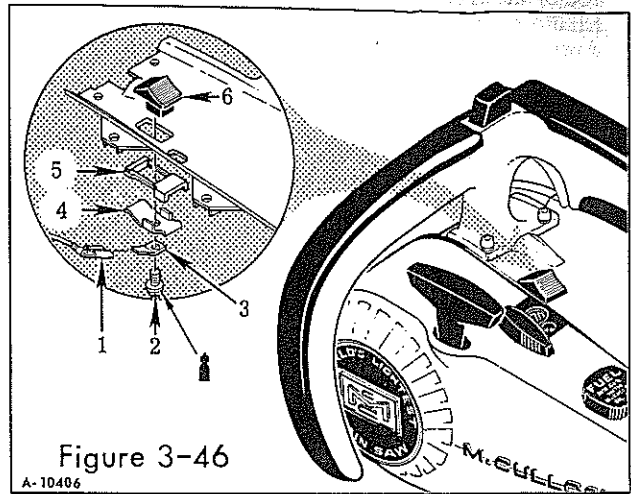


Figure 3-46

A-10406

SERVICING THE IGNITION SWITCH

Make sure plastic parts (5 and 6) and the contact arm (4) are undamaged. Examine the switch lead for frayed or worn insulation. Install new parts in place of any damaged ones.

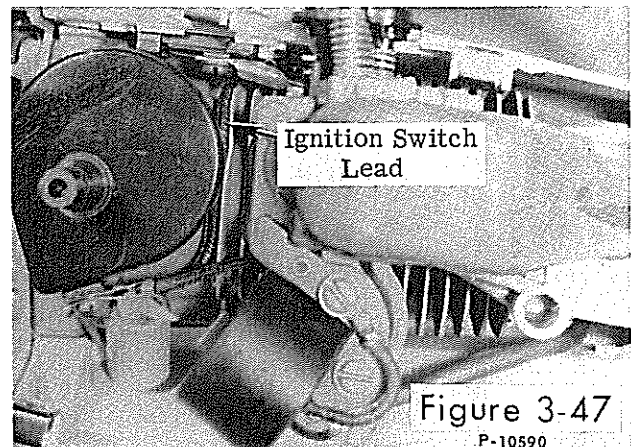


Figure 3-47

P-10590

INSTALLATION

1. Place a drop of Loctite on the screw (2). Put the button (6) on top of the shroud with the OFF arrow pointing to the rear. Hold the base (5) against the bottom of the button and against the underside of the shroud. Add the arm (4) with its incurved side toward the base, the wire lead connector (3) and screw (2). Turn the wire lead connector so it comes off the contact arm in the direction of the carburetor (Figure 3-47). Tighten the screw enough to hold the wire lead connector in position but not so tight that the button cannot be pushed back and forth.
2. Check for correct installation of the switch by re-

c. Choke

1. Remove the choke plate screw (5, Figure 3-51) and choke plate (6). Pull the choke shaft (7) out of the carburetor base and carefully bump the detent ball (8) and spring (9) out of the body.
2. Loosen the set screw in the choke handle (10) and remove the handle. Remove the plate (11) and spring (12).

d. Throttle

1. Remove the screw (13, Figure 3-51) holding the throttle shaft clip (14) on the carburetor body. Remove the clip. Remove the throttle plate screw (15) and the plate (16) and pull the throttle shaft (17) out of the body.

CLEANING

Carburetor parts can be cleaned with petroleum solvent, gasoline or with commercial carburetor cleaner. Acetone will loosen gummy deposits. Soak the parts in acetone and then use low (three to five pounds) pressure air to blow out interior passages in the body and to air dry the parts. Do not blow out interior passages unless the carburetor is disassembled.

SERVICING THE CARBURETOR

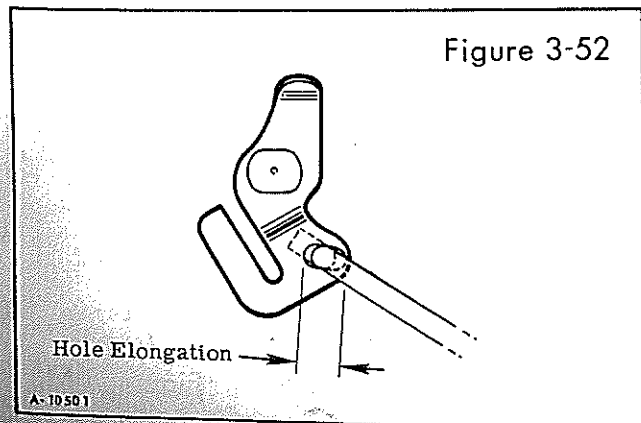
Discard all gaskets and install new ones. Any parts that are cracked, broken or otherwise damaged must be replaced. Make sure the choke plate stop in the top of the air passage is undamaged.

a. Little or Poor Flow of Fuel

Little or poor fuel flow can be caused by holes, tears and punctures or damaged flapper valves in the fuel pump diaphragm. Poor fuel flow can also be caused by dirt in the interior passages of the carburetor or a stretched inlet control valve spring.

b. Fuel Leaks From Vent Screen

Fuel will leak out through the vent screen if the carburetor diaphragm is punctured.



c. Carburetor Floods

The carburetor will flood if the metal plate on the carburetor diaphragm prevents the inlet control valve from operating correctly.

The carburetor will flood if the seating surfaces of the fuel inlet control needle are damaged, if the tip of the needle is broken or grooved, or if the spring is compressed. The spring should be approximately 7/16 to 1/2 inch long. A new spring must be installed if the free length of the spring does not fall into these dimensions.

d. Carburetor Hard to Adjust

Damaged fuel mixture needles make carburetor adjustments extremely difficult. If the tips of the adjustment needles are grooved, broken or worn they must be replaced with new needles. If the needles are seriously damaged, probably the seats are damaged and a new carburetor body should be installed.

e. Poor Throttle Control

Poor throttle control can be caused by wear and elongation of the throttle rod hole in the link on the end of the throttle shaft (Figure 3-52). Install a new shaft if the hole in the link is damaged.

f. Leaking Welsh Plugs

Leaking welsh plugs can be cured by applying finger nail polish. If this doesn't do the trick, install new plugs.

g. Difficulty in Restarting a Hot Engine

A warm engine usually does not require the use of a choke. However, when restarting a very hot engine or one just refueled, it may be necessary to use the choke to clear out the vapors in the carburetor.

h. Difficulty in Adjusting Idle Speed

Difficulty in adjusting idle speed may be caused by a bent link on the end of the throttle shaft. After reassembly and installation of the carburetor, bend the link as necessary to make proper contact with the idle speed screw.

ASSEMBLY

a. Fuel Pump, Inlet Valve and Fuel Check Valve

1. Place the check valve and seat assembly (17 and 18), Figure 3-50) in the carburetor body. Press the seat assembly flush with the floor of the welsh plug recess (Figure 3-53). Insert the welsh plugs and seat them firmly with a light hammer or press.
2. Place the inlet needle (15) in the inlet valve. Place the spring (14) in its socket in the carburetor body. Place the dimple in the inlet control lever (13) over the spring and hold the lever down while inserting