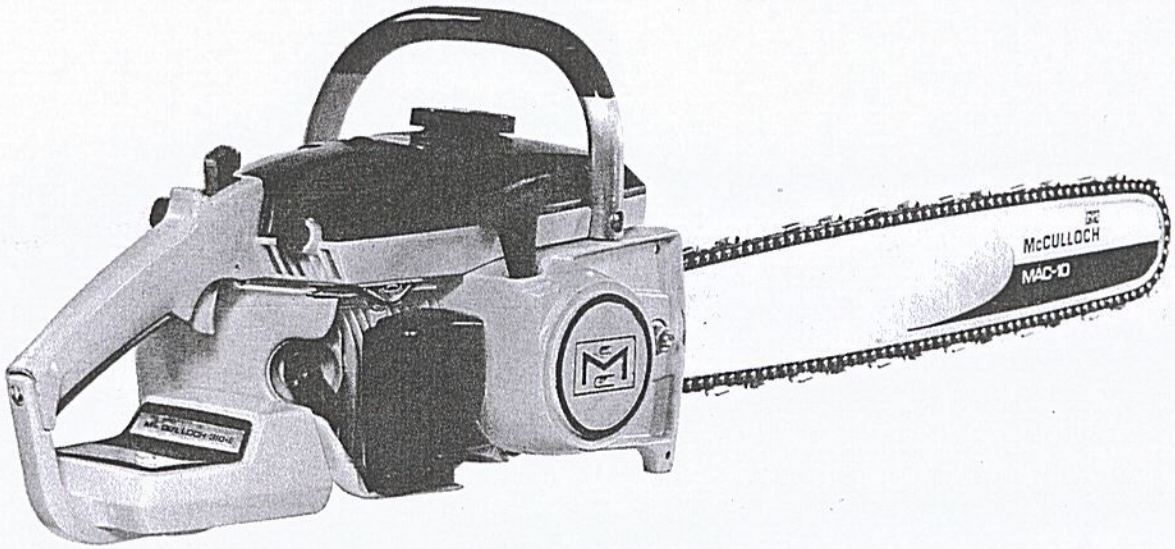


MAC 3-10E & MAC 3-10
CHAIN SAWS

#65372

McCULLOCH

INSTRUCTIONS
MAC 3-10E & MAC 3-10
CHAIN SAWS

MAC 3-10E

The MAC 3-10E is another addition to the family of MAC 10 saws, similar to the MAC 2-10 but incorporating an electric starter and a compression release valve (DSP). The operation of these elements are controlled by the ignition switch button serving as a normal on and off switch, compression release control, and as the starter switch. To simplify description, this three purpose switch will be termed a "control button."

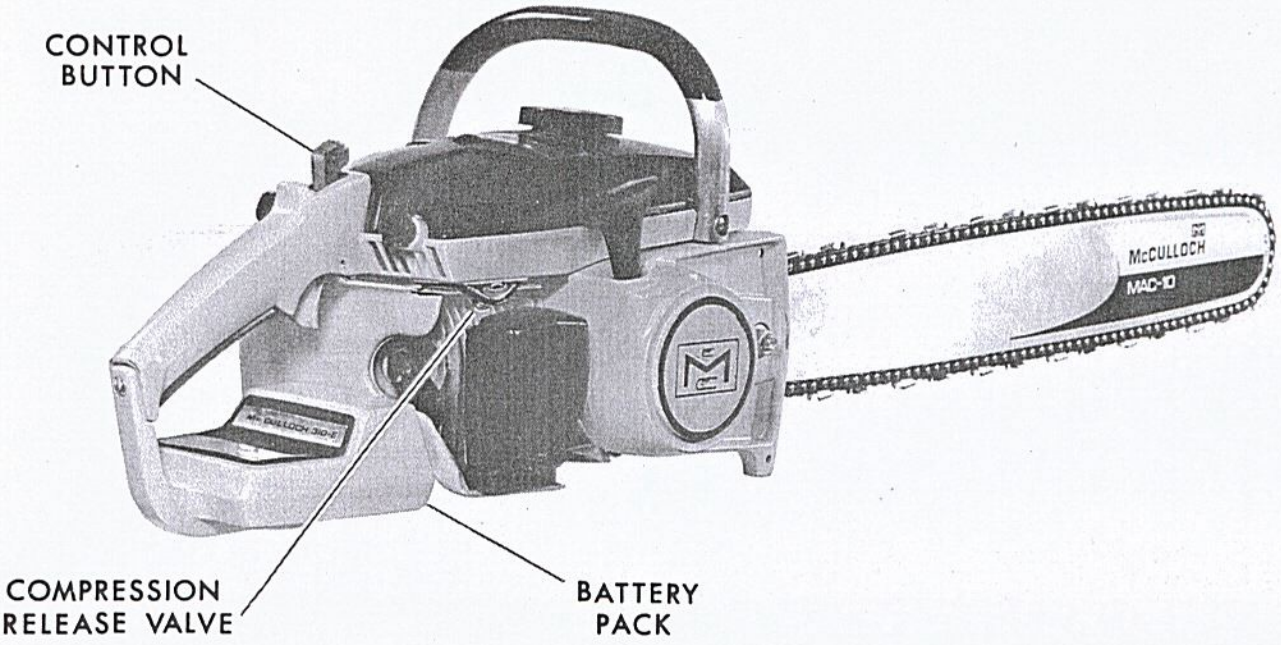
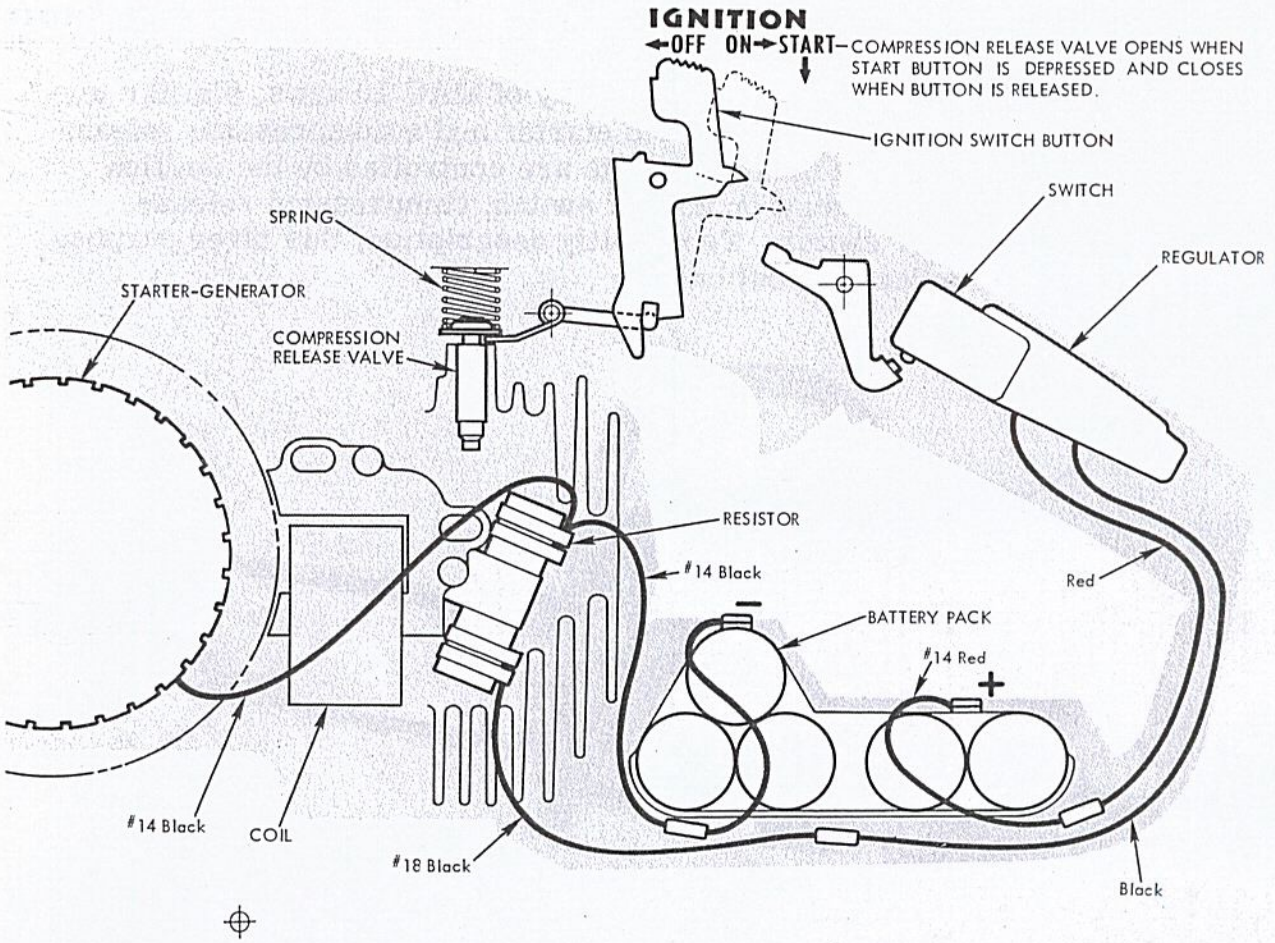


Figure 1

To start the MAC 3-10E, pull the control button back to the "On" position (See Figure 2) and then press it down into the handle. This automatically raises the compression release valve from its seat in the cylinder and permits most of the compression to bleed out through the spark arrester. The starting switch is not actuated until the valve is fully open and the button is at the bottom of its travel.

Except for the use of the control button, the MAC 3-10E is operated exactly the same as the MAC 1-10, 2-10 and 4-10 saws. The starting procedure for the MAC 3-10E is described on page 3.



WIRING

STARTER-GENERATOR	to	RESISTOR TERMINAL	-	#14 BLACK
RESISTOR TERMINAL	to	BATTERY TERMINAL (Neg.)	-	#14 BLACK
RESISTOR TERMINAL	to	REGULATOR	-	#18 BLACK
BATTERY TERMINAL (Pos.)	to	SWITCH	-	#14 RED

Figure 2.

1. Prime the engine.

2. Press down on the control button slightly to disengage the detent, and pull the button back to the "On" position.

3. Press the button down into the handle, at the same time holding the throttle open with the trigger. The button will go down about half an inch and the compression release valve will open automatically with travel of the button before switch contact.

4. As soon as the engine starts, release the control button, allowing it to rise (under spring pressure) and close the valve. This returns the engine to normal compression.

5. Keep the engine running with primer and throttle action in the usual manner.

6. To stop the engine, push the control button down slightly, (about 1/16 inch) and then forward to the "Off" position.

When the control button is pressed down into the handle, it closes a micro-switch and energizes a starter generator located behind the flywheel (See Figure 3) to crank the engine.

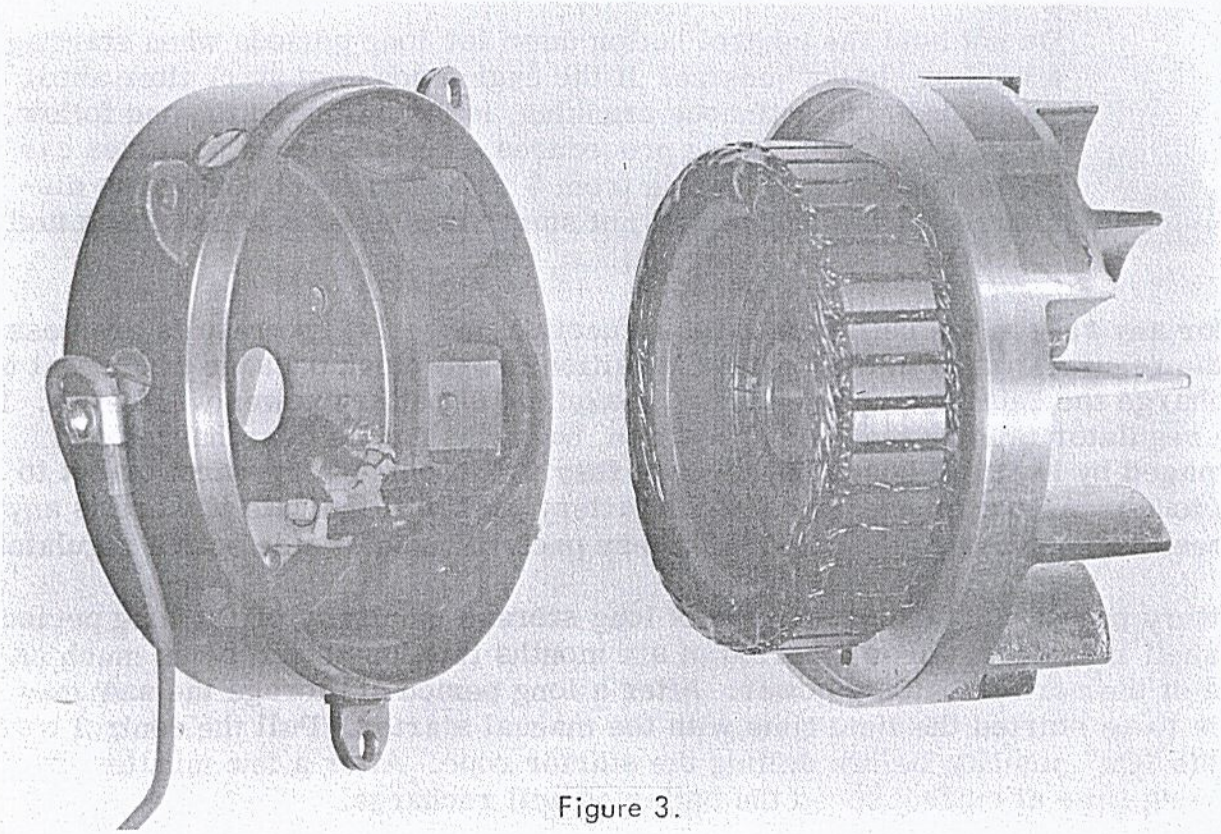


Figure 3.

Current is supplied by a battery pack carried on the handle brace under the handle and grip. When the engine reaches approximate clutch engagement speed, current from the starter generator recharges the batteries. A voltage regulator (enclosed within the handle) regulates the current and controls the rate of battery recharge. This rate is set to obtain a very quick recharge and maintain maximum battery power in normal operation.

At rated engine speed, the batteries will recharge in approximately three times the period they are discharged through the use of the starter. For example, if the starter is used for 5 seconds to start the engine, it takes only about 15 seconds of running (above clutch engagement speed) to recharge the batteries.

There are no operational differences between the MAC 3-10E and other of the MAC 10 saws. Electrical components including the battery pack, regulator, switch and starter generator are replaceable, but are not subject to maintenance problems to a greater extent than similar components in any electrical system. There are however, certain precautions to be observed during operation to avoid unnecessary troubles.

CAUTION - Do not press the control button to engage the starter when the engine is running at rated speed (wide open throttle). The effect of this action would be to cause rapid heat build-up and possible damage to the electrical system.

Do not hold the control button down for long periods when starting a cold or "balky" engine. If the engine does not start after about 15 seconds of continuous cranking, let up on the button and follow regular troubleshooting procedures. Fully charged batteries can be completely run down in from 2 to 3 minutes of continuous discharge. If the engine will not start after several tries, check fuel, carburetor adjustment, ignition, etc.

If for any reason the regulator fails to function properly, two results are possible. If the regulator fails in the "closed" position it will block passage of current to recharge the batteries and a gradual weakening of battery power will result. If the regulator fails in the "open" position, batteries can be overcharged and damaged by heat build-up. In this case they will become very warm or hot to the touch. An occasional touch of the battery pack will indicate if there is any excessive heat being generated in battery pack because of a defective regulator.

Battery power can fall off because of long storage inactivity or for long periods in shelf inventory. Over a period of six months this loss could be as much as half of the normal battery power. After a long period of storage the saw may have to be started the first time with the manual starter. Pull the control button to the "On" position before pulling the starter rope. After a few minutes of running time at cutting speed the batteries will recharge.

MAC 3-10

The MAC 3-10 chain saw has a manual starter and is also similar to the MAC 2-10 but it has a compression release valve to provide quick starts with minimum effort. The valve is operated by a four-position control button in the same manner as the control button for the MAC 3-10E, except that the button may be latched to hold the valve in the open position while the engine is being cranked.

Use of the control button in its four positions is as follows:

1. Up and forward - ignition off

2. Up and pulled back - ignition on

3. Pressed down into the handle - compression release valve open

4. Pressed down and then forward - valve open and latched

The compression release valve closes under spring pressure as soon as the control button is released from its down position in the handle. Always release the button and allow the valve to close as soon as the engine starts.

Except for these starting differences, operation and maintenance of the MAC 3-10 is the same as other MAC 10 saws.