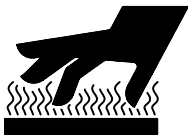




Econothrottle Kits PA-228580 (4MM) & PA-228581 (6MM/CM)

The Econothrottle Kit reduces fuel consumption, engine noise, and wear by lowering engine speeds to idle as loads are decreased to 40 watts or less. The econothrottle ON/OFF switch allows bypassing of the econothrottle circuit. If the econothrottle option is not desired, turn the switch to OFF.

⚠ **WARNING**

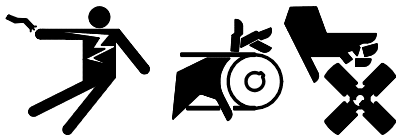


**Hot engine and exhaust system.
Can cause severe injury or death.**

Do not work on generator set until unit is allowed to cool.

Hot parts can cause severe injury or death. Do not touch hot engine parts. An engine gets hot while running and exhaust system components get extremely hot.

⚠ **WARNING**



**Accidental starting.
Can cause severe injury or death.**

Disconnect battery cables before working on generator set (negative lead first and reconnect it last).

Accidental starting can cause severe injury or death. Disconnect the spark plug wire(s), remove battery cables (remove negative lead first and reconnect it last) and disconnect power to battery charger (if equipped) to disable generator set before working on any equipment connected to generator.

Installation

1. Remove the air cleaner cover to gain access to the carburetor. Do not remove the air cleaner element at this time.
2. Start the generator set. With the set running and no load applied, push the governor arm to place the throttle as far as possible in the idle direction, then turn the carburetor idle speed screw until a voltmeter connected to the 120 Volt outlet reads from 77 to 87 Volts. See Figure 1. This positions the governor at the no-load speed of about 1600 rpm, which can be verified with a tachometer. Stop the engine.

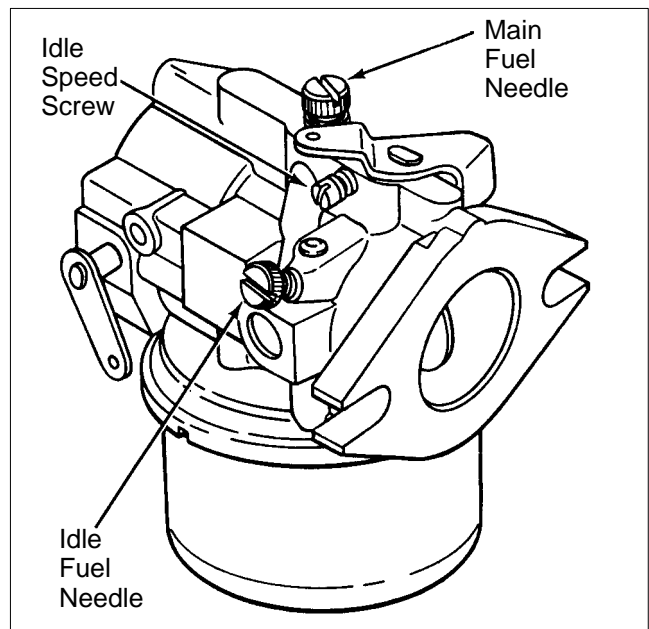


Figure 1. Idle Speed Screw (typical).

3. Disconnect the spark plug lead. If the unit is battery-equipped, disconnect the battery, negative lead first.

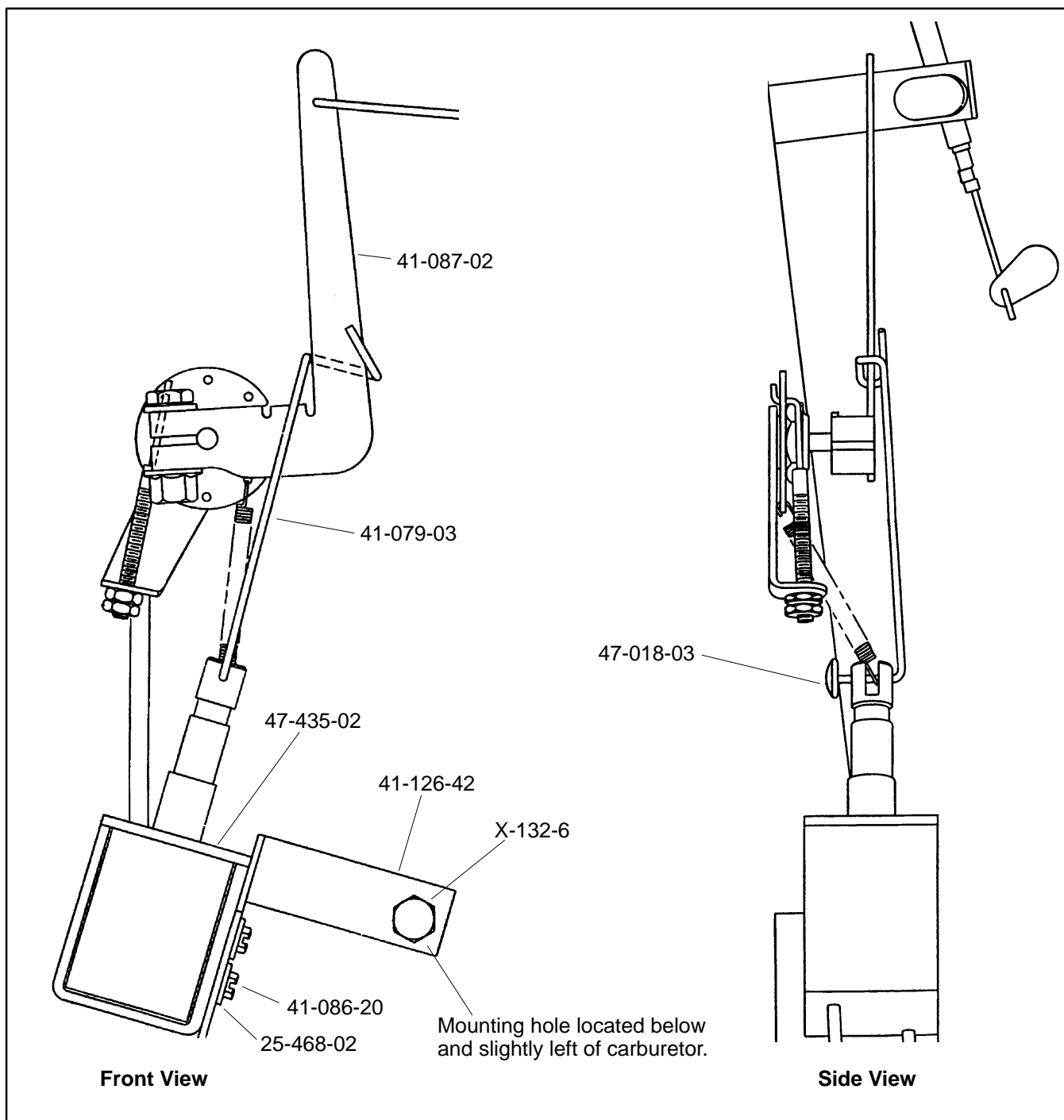


Figure 2. Econothrottle Assembly 228652 (4MM).

4. Remove the air cleaner element and its mounting plate to completely expose the carburetor.
5. Remove the muffler.
6. Remove the three stator cover screws and lift off the stator cover. The voltage regulator is now exposed.
7. Each Econothrottle Kit contains an Econothrottle Assembly. Install the Econothrottle Assembly for your model: 228652 (4MM), or 228653 (6MM/CM). See Figure 2 or Figure 3, respectively. Also see the Parts List on page 6.

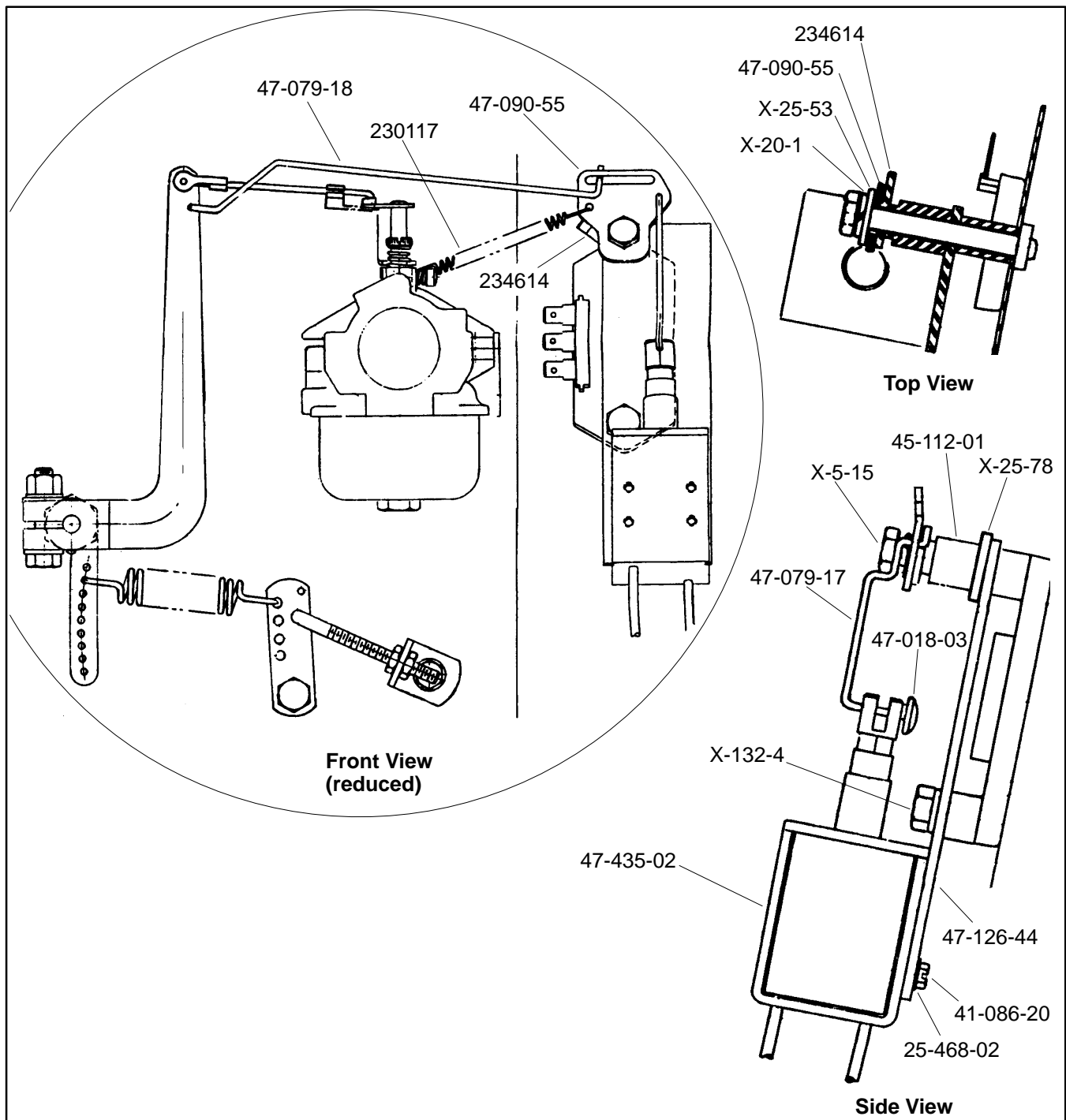


Figure 3. Econothrottle Assembly 228653 (6MM/CM).

8. Remove the four screws from the power panel. Pull the power panel out and disconnect the stator leads and the green hazard ground lead in order to remove the power panel from the unit. Take note of where the leads are connected so they can be properly connected when installation is complete.

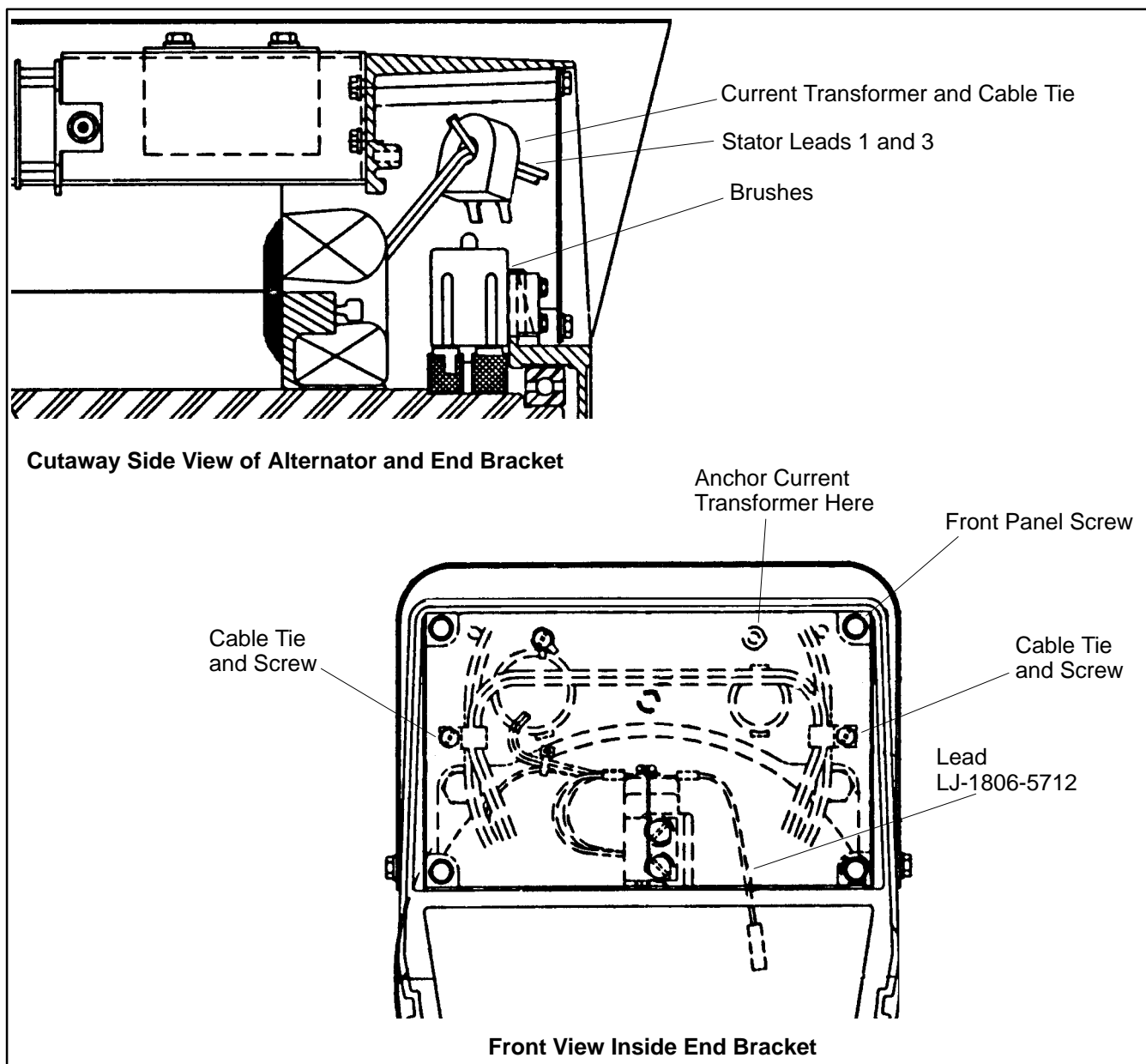


Figure 4. End Bracket Views and Contents.

9. Remove the cable tie screws and cable ties on each side of the end bracket to gain access to the leads. Take note of which leads are secured. See Figure 4.
10. Remove the power panel button plug and discard it. Mount toggle switch 268015 to the power panel using lock ring 151511 in the smaller hole. Place the lock ring on the inside of the panel and mount it with the switch threads flush with the outside nut. Connect lead LJ-1804-5712 to one switch terminal. Attach decal 239349 directly below the switch on the front of the power panel.
11. Locate stator leads 1 and 3. Place the leads through current transformer 269197 so that the leads enter the transformer from the side without the terminals and exit on the side with the terminals. See Figure 4. Connect leads 1 and 2 of wiring harness 239263 to the current transformer and coat the terminals with RTV compound.
12. Run the solenoid assembly leads through the right-hand grommet and into the end bracket area. Connect the solenoid leads to the remaining holes of the wiring harness plug (pins 3 and 5).

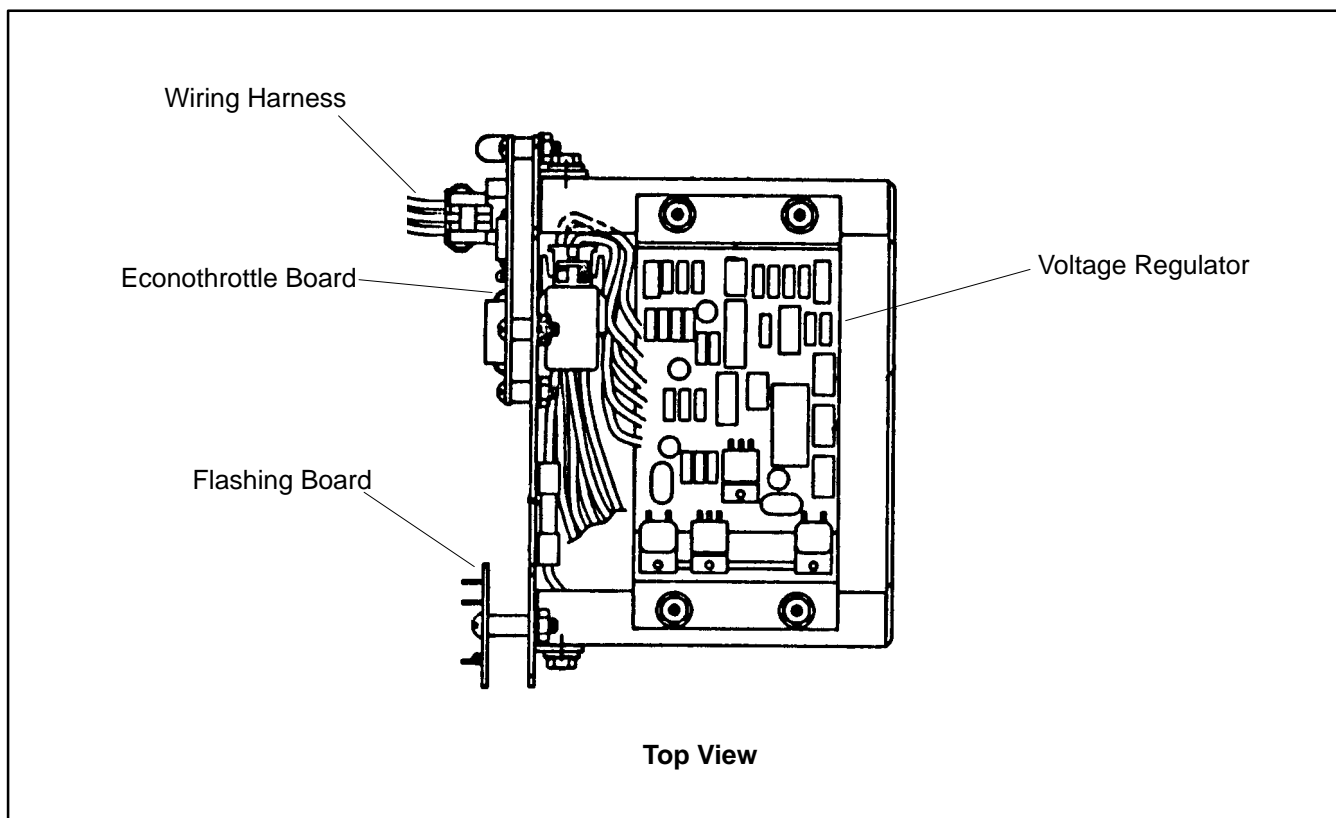


Figure 5. Voltage Regulator, Econothrottle Board, and Flashing Board.

13. Disconnect lead 66 from the flashing board. Connect tab adapter 287571 to terminal 66 on the flashing board. Then connect lead 6 of the wiring harness to the tab adapter, and connect lead 66 to the tab adapter. See Figure 5.
14. Mount econothrottle circuit board C-269195 to the voltage regulator bracket, as shown in Figure 5, using the X-49-36 screws, X-712-11 spacers, and X-101-22 nuts.
15. Connect the wiring harness plug to the econothrottle circuit board socket. Connect the remaining lead of the wiring harness to the switch in the front panel.
16. Connect the eyelet terminal end of LJ-1804-5712 (installed on the switch in step 10) to the positive (+) brush terminal. The positive (+) terminal is the one nearest the outside, away from the stator.
17. Reinstall the cable ties and screws which were removed in step 9.
18. Push the current transformer back as close to the stator as possible. Secure the transformer to the leads with cable tie X-468-3 and mount it above the right-hand grommet with screw X-67-60. The transformer leads must be facing outward, away from the stator.
19. Replace the stator cover.
20. Reconnect the stator leads and green hazard ground, using the appropriate wiring diagram if needed.

NOTE

Positively secure the leads in the end bracket with the X-468-2 cable ties in order to prevent damage to the leads during generator operation. Make sure all leads are positioned away from the rotor.

21. Mount the power panel back onto the end bracket.
22. Connect the spark plug wire and battery, if applicable (negative lead last).
23. Start the generator set and check for proper operation of the econothrottle.

Parts List

Qty.	Description	Common Parts	Unique Parts	
			PA-228580	PA-228581
1	Circuit Board Assembly, Econothrottle	C-269195		
1	Lead, 6 in.	LJ-1806-5712		
4	Nut, 6-32 elastic stop	X-101-22		
4	Tie, cable	X-468-2		
1	Tie, cable (with screw eyelet)	X-468-3		
4	Screw, 6-32 slotted pan head machine	X-49-36		
1	Screw, 8-32 self-tapping	X-67-60		
4	Spacer	X-712-11		
1	Ring, lock	151511		
1	Assembly, econothrottle		228652*	228653*
1	Harness, wiring	239263		
1	Decal, ON OFF	239349		
1	Switch, toggle	268015		
1	Transformer, current	269197		
1	Adapter, tab	287571		
* Econothrottle Assembly Parts			228652	228653
1	Washer		25-468-02	
1	Linkage, solenoid		41-079-03	
1	Screw, 8-32 x 1/4 in.		41-086-20	
1	Lever assembly, governor		41-087-02	
1	Bracket, solenoid		41-126-42	
1	Retainer, shaft	47-018-03		
1	Solenoid, idle 35 Volt	47-435-02		
1	Screw, 1/4-20 x 2 in.			X-5-15
1	Washer, 1/4 in. lock			X-20-1
1	Washer, 17/64 x 5/8 x 1/16 in. plain			X-25-53
1	Washer, 17/16 x 3/4 x 1/8 in. plain			X-25-78
1	Screw, 1/4-20 x 1 SEMS			X-132-4
1	Spring, linkage			230117
1	Stop, governor			234614
2	Screw, 8-32 x 1/4 in.			41-086-20
2	Washer			25-468-02
1	Spacer, 11/16 x 7/64 x 2 in.			45-112-01
1	Linkage, solenoid			47-079-17
1	Linkage, governor			47-079-18
1	Lever, speed control			47-090-55
1	Bracket, solenoid			47-126-44

Notes

Notes