

Laser Sight

Safety, Operation, Maintenance & Parts Manual

LS for LT40 & LT70 Sawmills



Safety is our #1 concern! Read and understand all safety information and instructions before operating, setting up or maintaining this machine.

Form #899

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SECTION 1 SAFETY



This symbol calls your attention to instructions concerning your personal safety. Be sure to observe and follow these instructions. This symbol accompanies a signal word. The word **DANGER** indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. **WARNING** suggests a potentially hazardous situation which, if not avoided, could result in death or serious injury. **CAUTION** refers to potentially hazardous situations which, if not avoided, may result in minor or moderate injury to persons or equipment. Read all safety instructions before operating this equipment and observe all safety warnings!



DANGER! Visible and/or invisible laser radiation. Avoid eye or skin exposure to direct or scattered radiation.



CAUTION! Avoid hitting the eyes by a direct or reflected beam. Never look directly into the switched-on laser optics! Danger of permanent eye damage!



CAUTION! Never observe the beam through an optical system. To observe the beam e.g. through binoculars is very dangerous and inadmissible.



CAUTION! Secure the working place against the entering of unauthorized persons.

SECTION 2 LASER INSTALLATION

Before installing the laser option, be aware that the laser beam can not be seen in direct sunlight. The laser option is best for indoor cutting applications.

2.1 Laser Installation - LT40

1. Remove the four lower slide pad mounting nuts (inside of mast post). Install the laser assembly to the slide pad mounting bolts as shown. Use the provided 5/16" flat washers and 5/16-18 nylon locking jam nuts to secure in place.

See Figure 2-1.

2. Install the point tip ground screw to either one of the small holes in the laser assembly mounting brackets. Turn the screw in far enough so that it contacts the slide pad bracket. **IMPORTANT!** Contact with the sawmill slide pad bracket is necessary to provide proper grounding for the laser. If proper contact is not made, the laser will not operate.

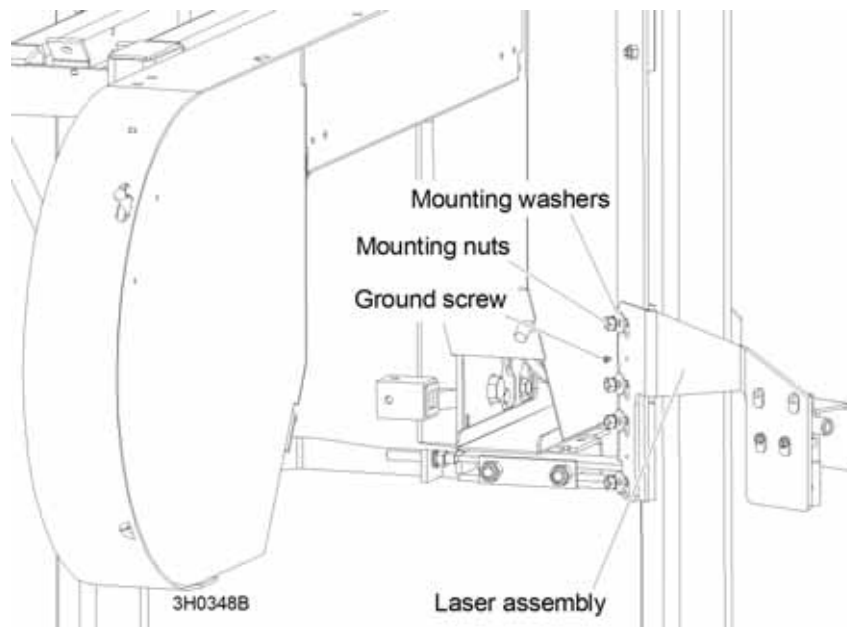


FIG. 2-1

3. Remove the drive pulley guard.

See Figure 2-2.

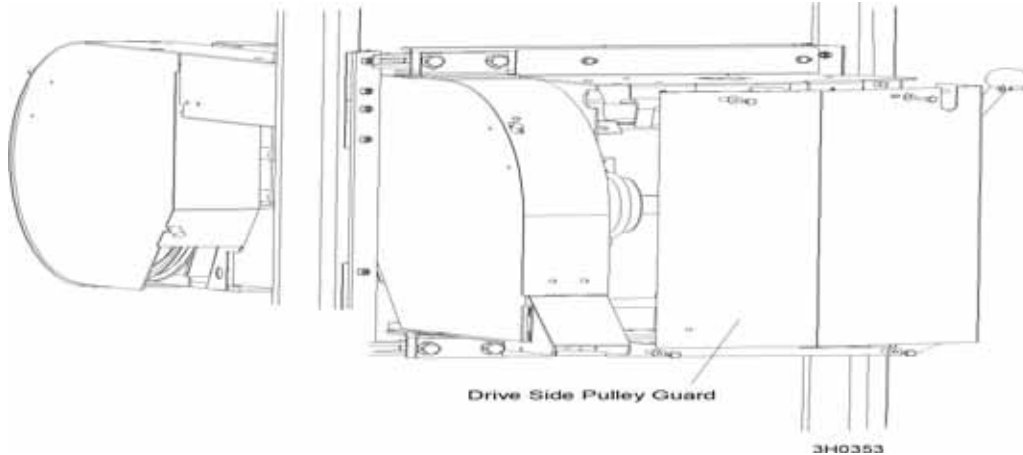


FIG. 2-2

4. Route the wire from the laser assembly as shown:

See Figure 2-3.

- Install one of the provided hose clamps to the laser assembly wire. Remove the third slide pad nut from the bottom, install the hose clamp as shown and reinstall the slide pad nut.
- Continue to route the wire downward, through the sawmill v-brace.
- Next, route the wire upward, along the side mounting plate. Secure with a wire tie to the outside of the side mounting plate brace.
- Continue to route the wire upward and secure with a wire tie to the fuel line EMT clamp.
- Connect to existing laser option wire.

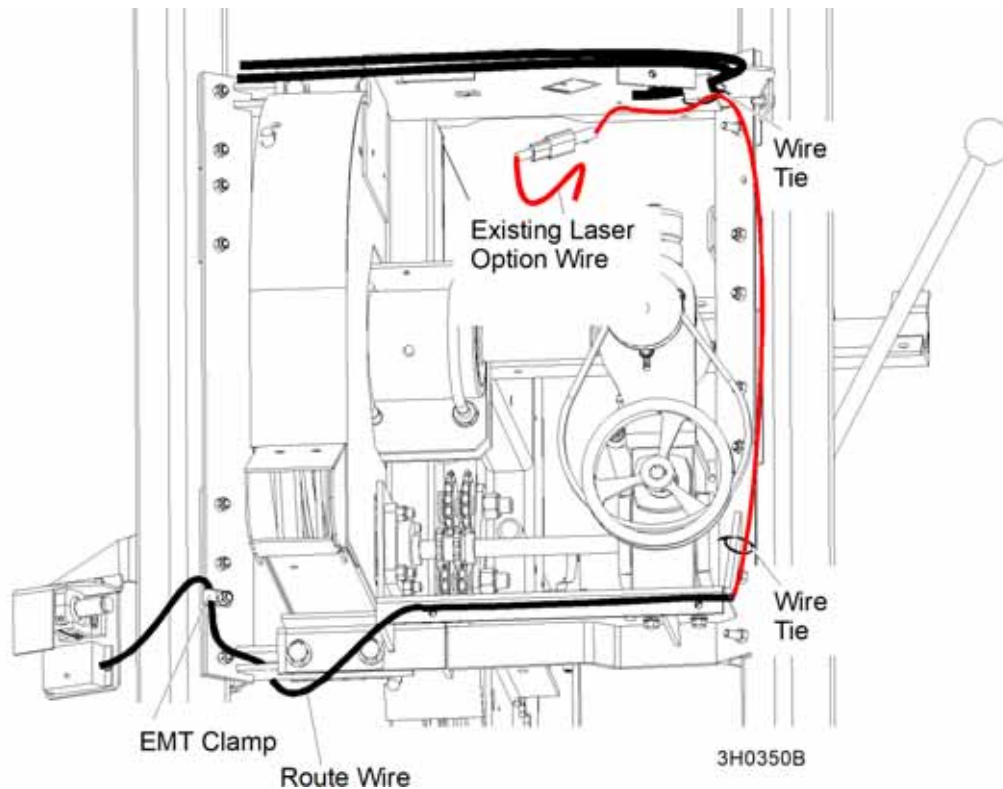


FIG. 2-3

5. Reinstall the drive side pulley guard, keeping the lower part of the laser assembly wire outside the guard as shown. Make sure the wire routes inside the guard at the lower right hand corner.

See Figure 2-4.

6. Install the provided two EMT clamps to the section of laser assembly wire which routes along the side mounting plate (underneath the pulley guard). Use the guard's mounting

washers and bolts to secure the EMT clamps in place as shown.

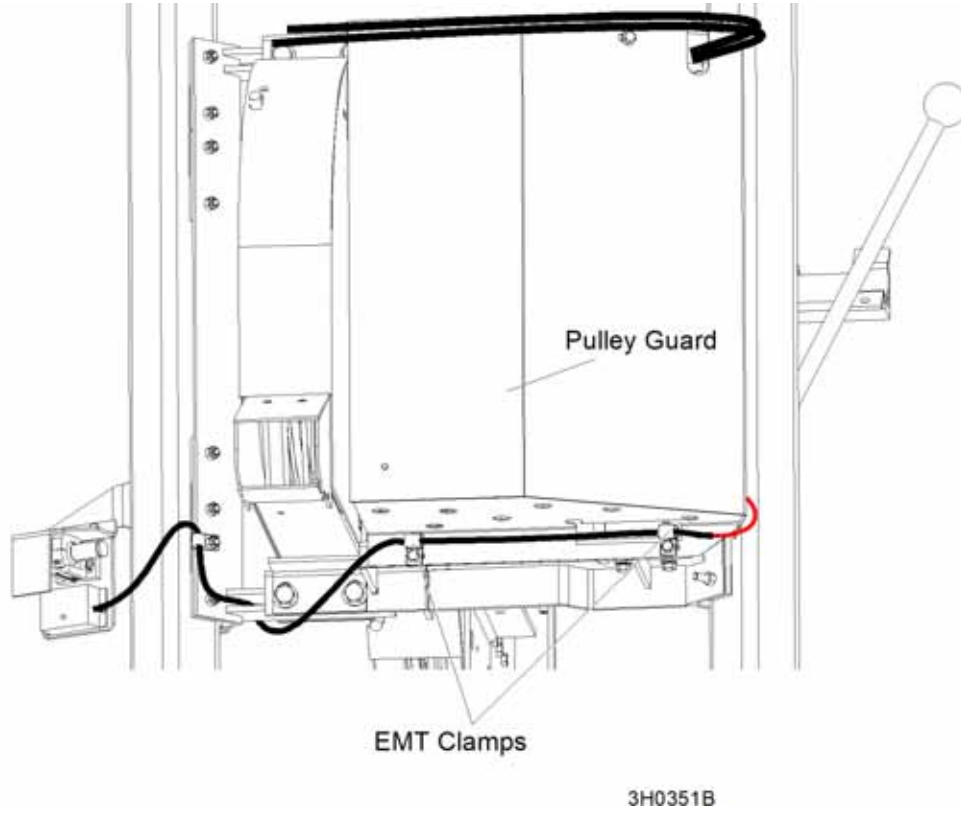


FIG. 2-4

2.2 Laser Installation - LT70

1. Locate the four square mounting holes on the saw head near the bottom of the drive-side blade housing. Mount the laser/bracket assembly to the saw head using the four carriage head bolts, flat washers and lock nuts. Place the star lock washers between the laser bracket and the saw head to ensure proper grounding of the unit.

See Figure 2-5.

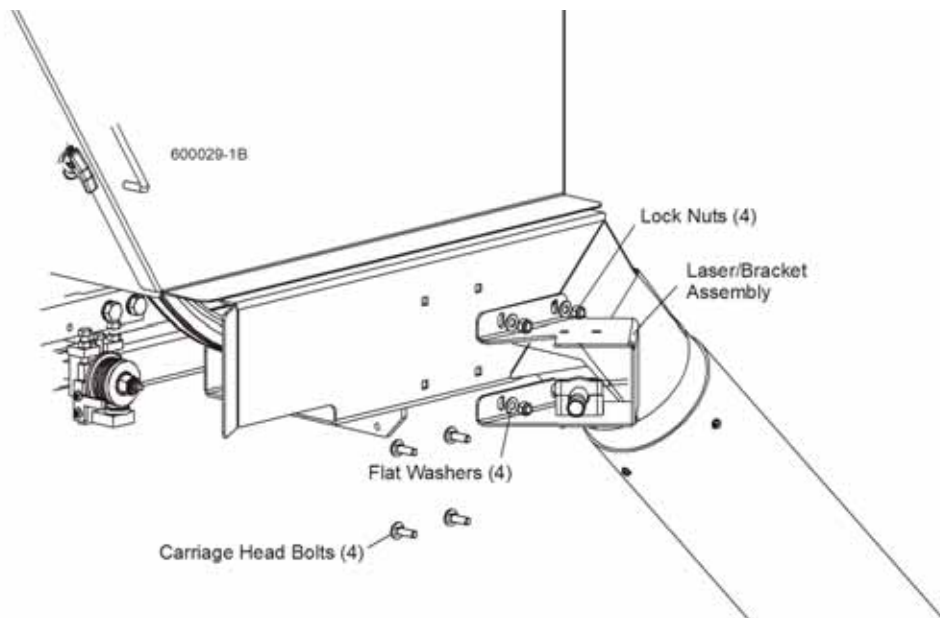


FIG. 2-5

2. Remove the drive belt guard.
3. Route the cable from the laser assembly as shown:

See Figure 2-6.

- Route the laser cable under the saw head along the brace plate and secure the cable with the three provided wire clamps. Bolt the wire clamps to the brace plate with the three M4x16 screws, flat washers and nuts provided.
- Connect the red laser cable wire to red accessory wire #25. Connect the black laser cable wire to the black -12 V DC wire.
- Use the two provided wire ties to secure the laser cable.

4. Reinstall the drive belt guard.

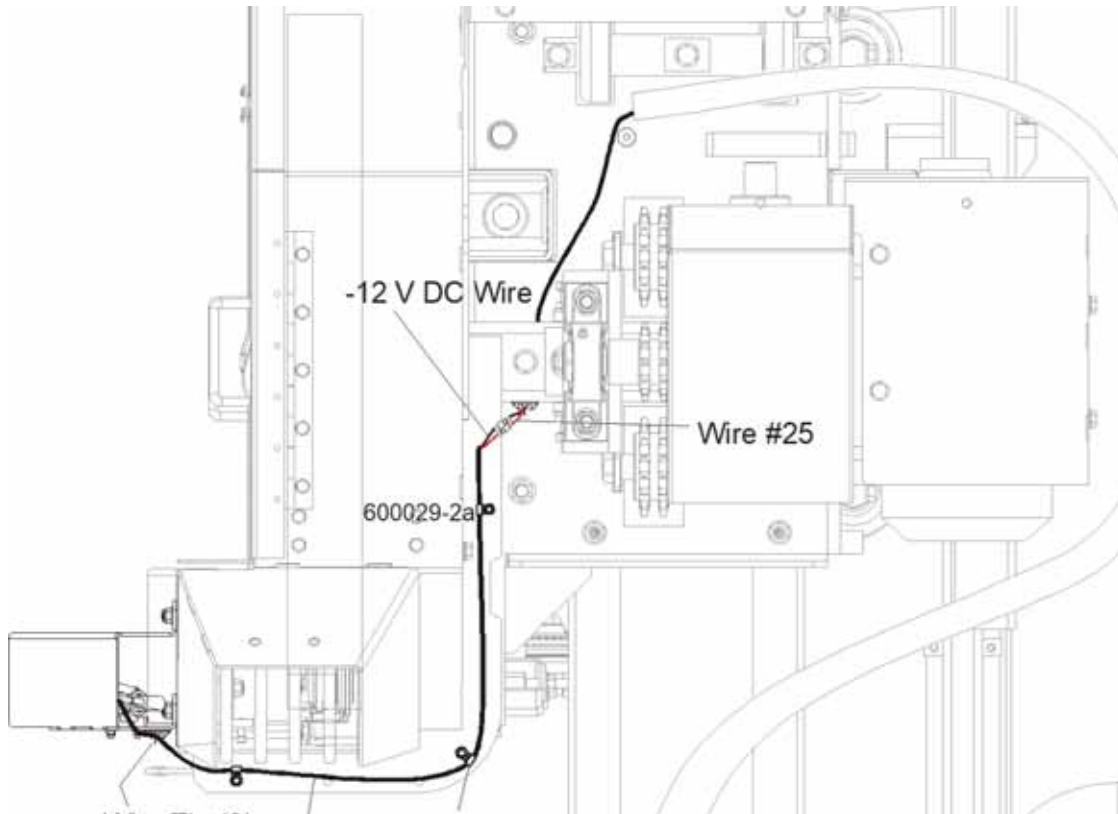


FIG. 2-6

SECTION 3 SWITCH INSTALLATION

3.1. Switch Installation - LT40

See Figure 3-1. LT40 AC Panel

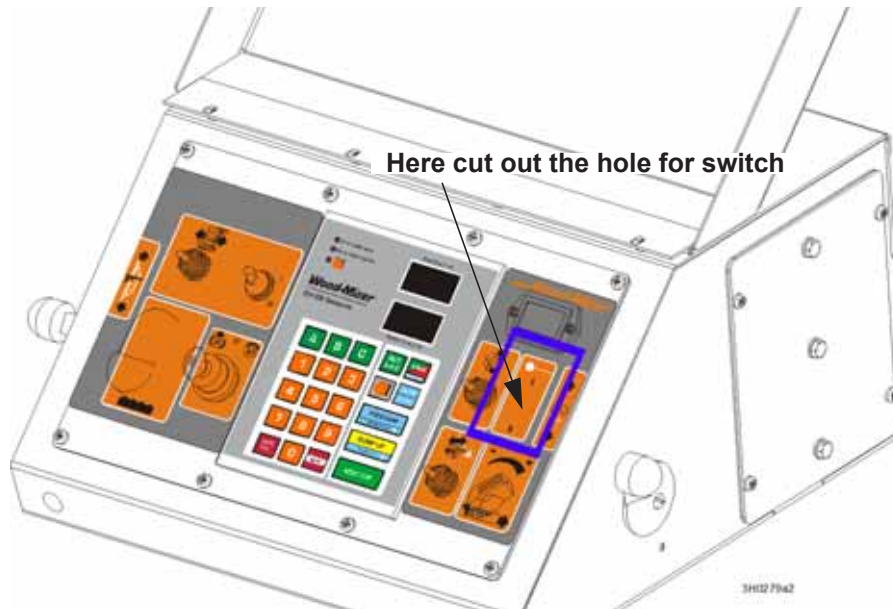


FIG. 3-1

See Figure 3-2. LT40 DC Panel

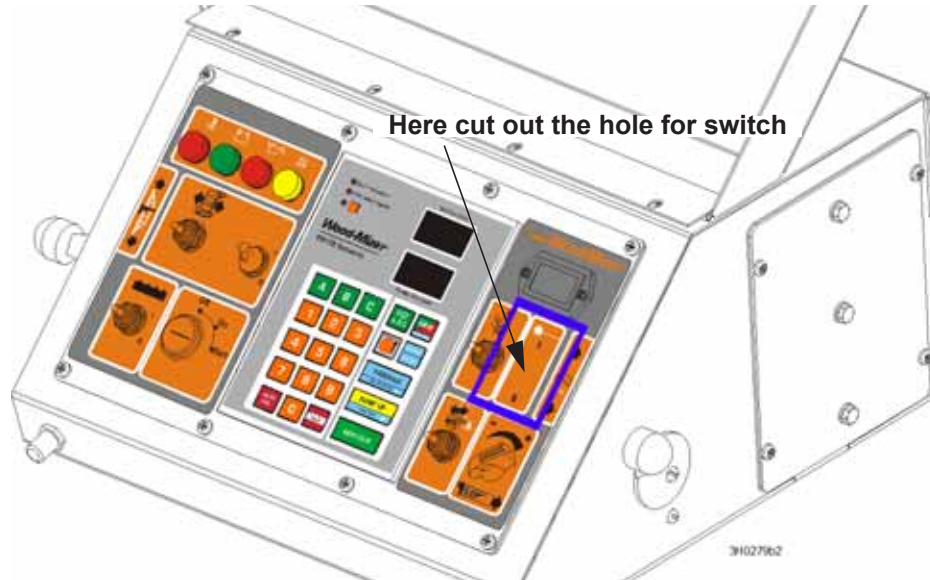


FIG. 3-2

5. Install the toggle switch, nylon washer, and rubber boot to the front panel as shown.
 - Connect the quick connect terminal on the existing laser option wire (labeled #25) to the bottom tab on the toggle switch.
 - Connect the quick connect terminal on the provided fuse assembly to the side tab on the toggle switch
 - Install the ring terminal on the fuse assembly to the ACC post on the key switch.

3 Switch Installation

Switch Installation - LT40

See Figure 3-3.

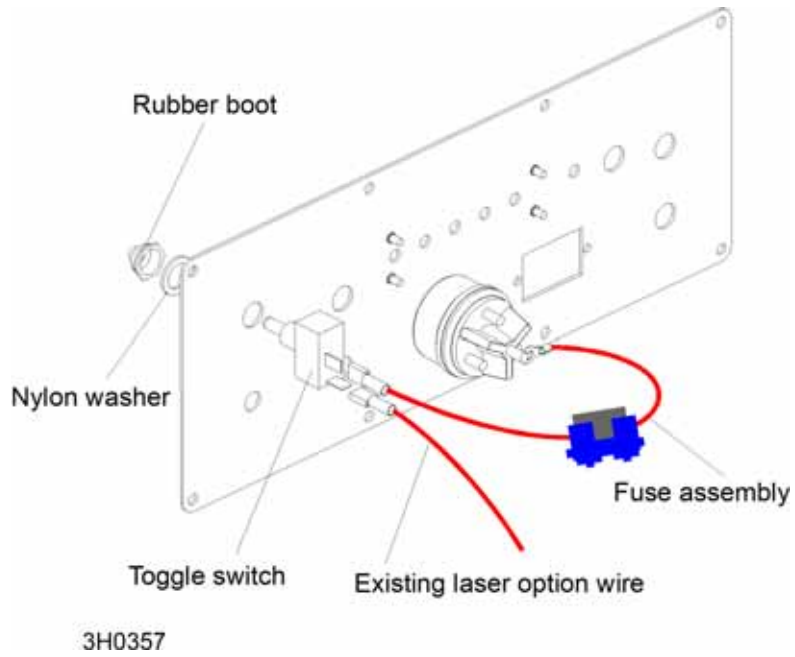


FIG. 3-3

3.2. Switch Installation - LT70

1. Unbolt the front panel from the control box. Use the hole in the front panel as a template to cut out a hole in the decal for the laser option switch. **NOTE:** The cut hole will be slightly smaller than indicated by the dotted line on the decal.

See Figure 3-4. LT70 AC Panel

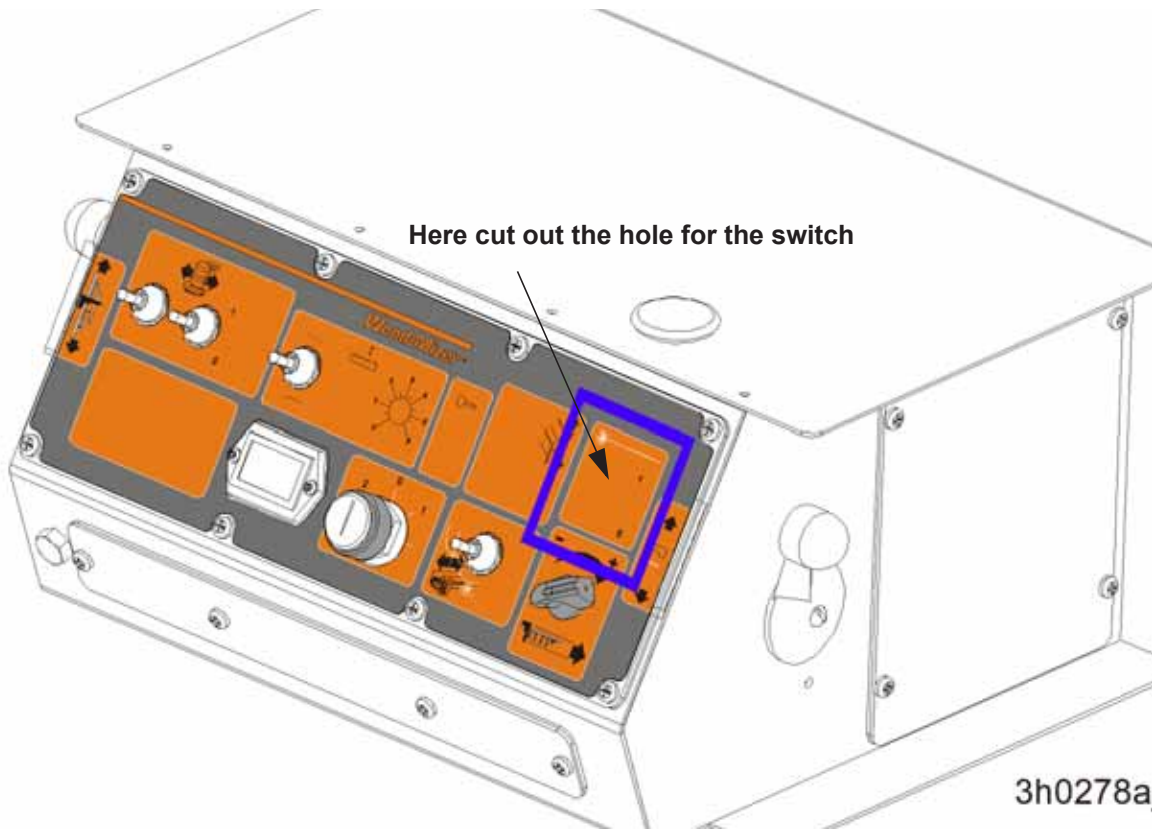


FIG. 3-4

3

Switch Installation

Switch Installation - LT70

See Figure 3-5. LT70 DC Panel

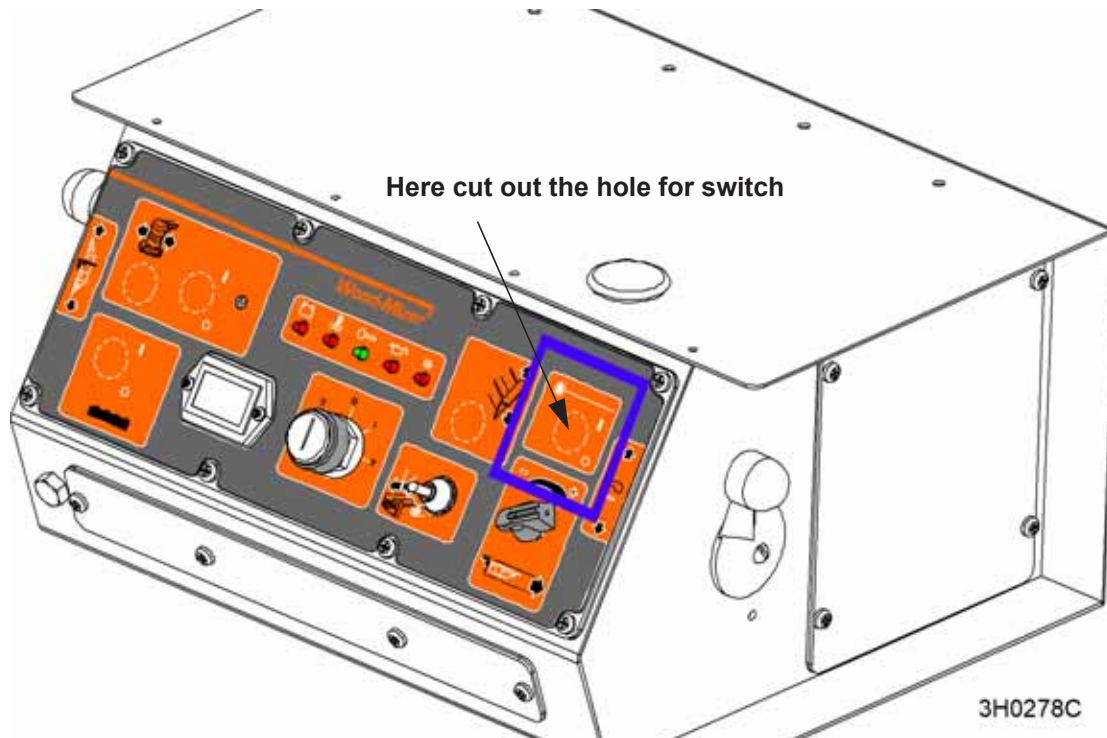


FIG. 3-5

2. install the toggle switch, nylon washer, and rubber boot to the front panel as shown.
3. **DC Only:** Connect the quick connect terminal on the existing laser option wire (labeled #25) to the bottom tab on the toggle switch.

AC Only: Connect the quick connect terminals on the provided capacitor assembly to the bottom tab on the toggle switch and the existing laser option wire (labeled #25). Connect the capacitor assembly wire with ring terminal to the ground stud located at the bottom of the sawmill control box.

4. Connect the quick connect terminal on the provided fuse assembly to the side tab on the toggle switch.
5. Connect the ring terminal on the fuse assembly to the 'BAT' terminal of the unused circuit breaker in the control box (CB7 on non-remote mills; CB6 on remote mills).
6. **DC Only:** Connect the ring terminal on the fuse assembly to the 'BAT' terminal of the circuit breaker in the control box (CB7 on non-remote mills; CB6 on remote mills).

AC Only: Connect the ring terminal on the fuse assembly to the 'ACC' post on the key switch.

See Figure 3-6.

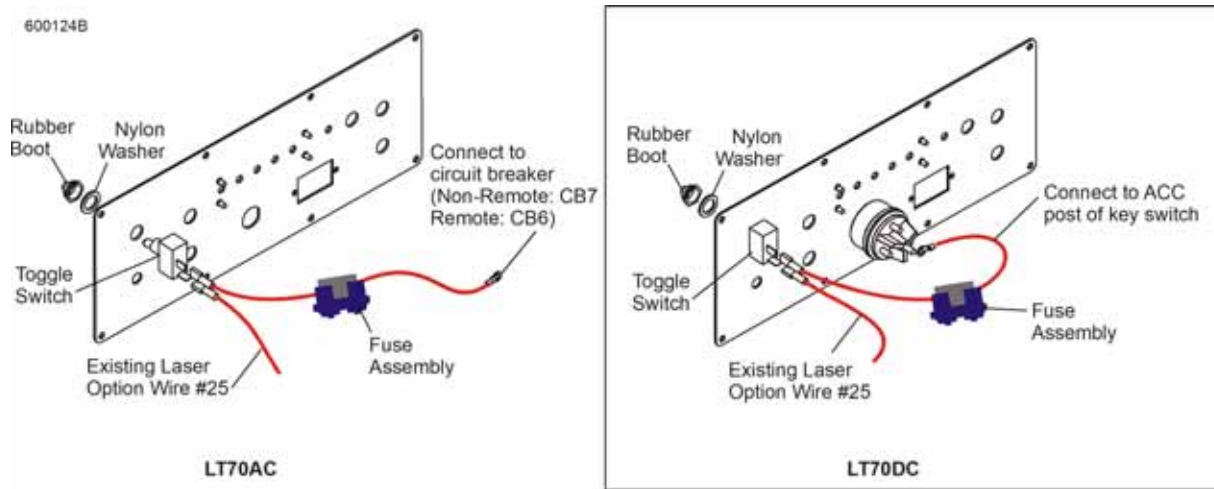


FIG. 3-6

SECTION 4 LASER OPERATION

When properly installed, the laser option will guide you in making cuts.

To turn on the laser, raise the laser toggle switch to the ON^I (1) position.

To turn off the laser, lower the laser toggle switch to the OFF[°] (0) position.

4.1 Laser Operation - LT40

See Figure 4-1. LT40 AC Panel



FIG. 4-1

See Figure 4-2. LT70 DC Panel

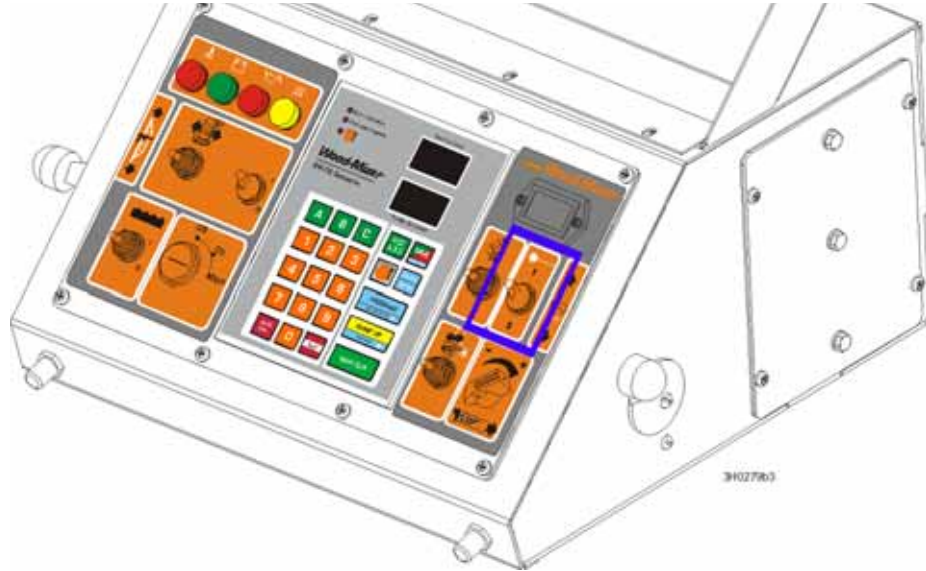


FIG. 4-2

4 LASER OPERATION

Laser Operation - LT70

4.2 Laser Operation - LT70

See Figure 4-3. LT70 AC Panel

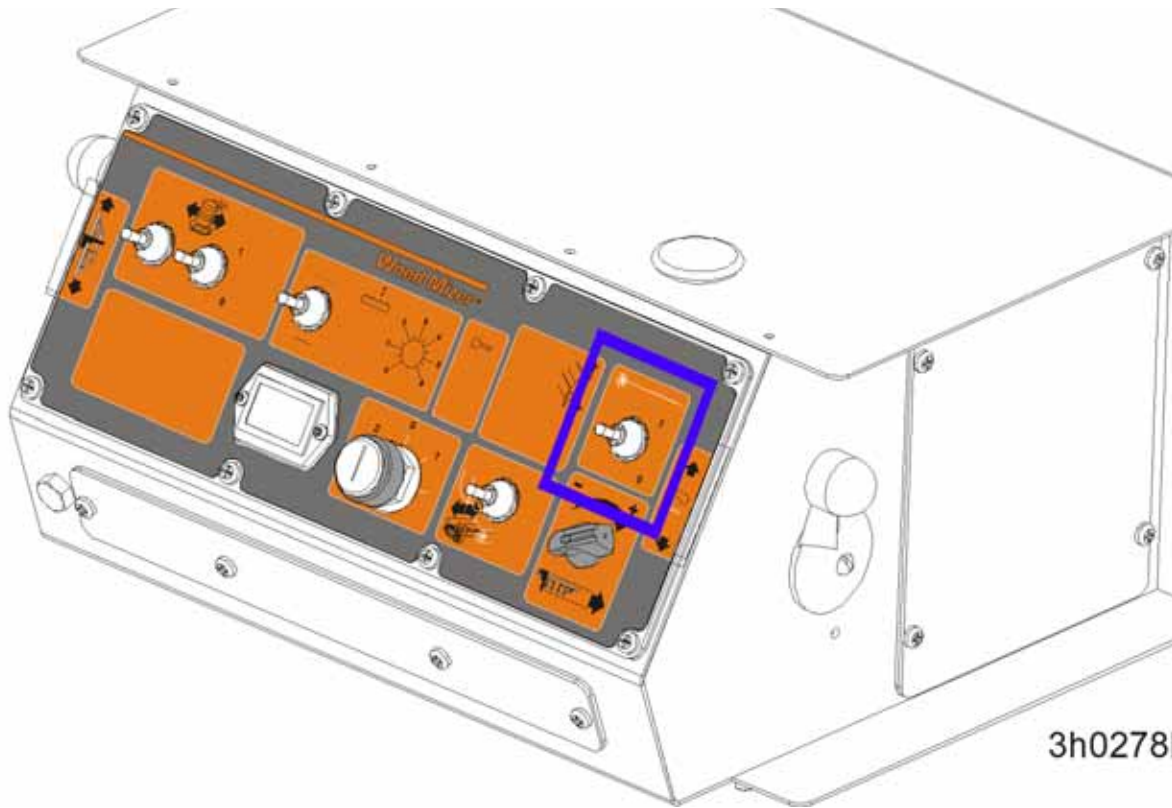
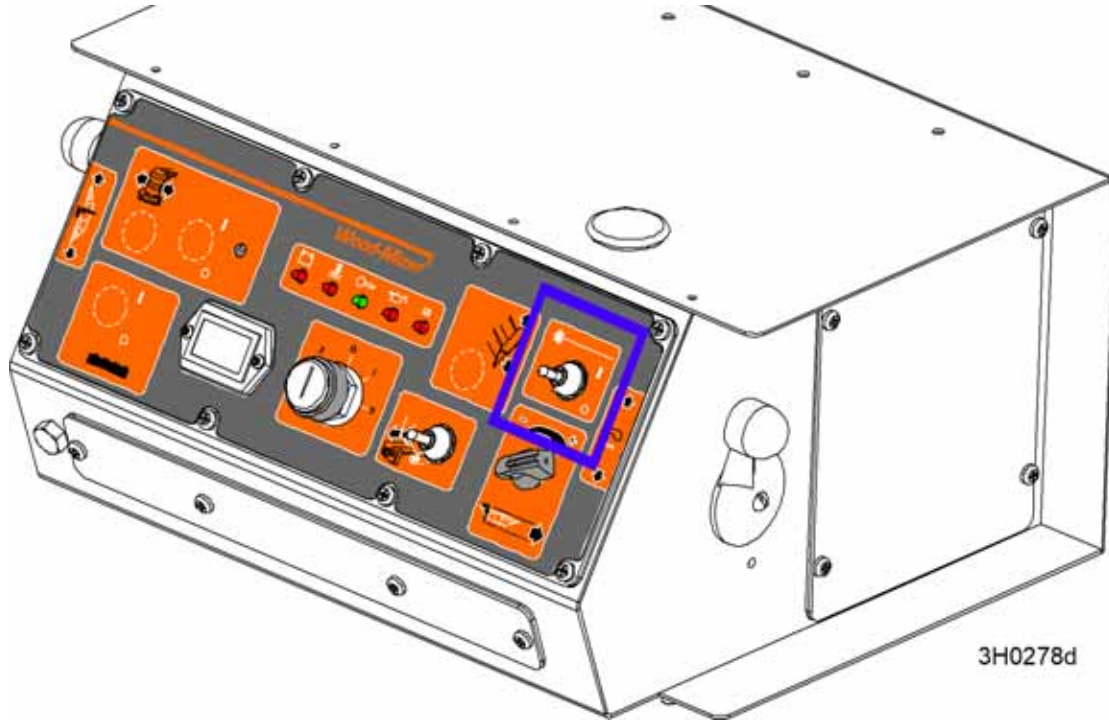


FIG. 4-1

See Figure 4-4. LT70 DC Panel



3H0278d

FIG. 4-2

SECTION 5 LASER ALIGNMENT

5.1 Laser Alignment - LT40

1. Stationary sawmills should be setup on firm, level ground before proceeding with alignment. Shim the feet so the weight of the sawmill is evenly supported.
2. Make sure the sawmill is properly aligned (see the Alignment Section of your Sawmill Operator's Manual.)
3. Load a cant onto the bed of the sawmill.
4. Make a cut. Without raising the carriage head, return it to the front of the sawmill so that blade remains level with the top of the cant and the carriage head is 1' behind the front of the cant.
5. Align the laser. When the laser is properly aligned, approximately 10" of beam will show across the front of the cant.

See Figure 5-1. To adjust the laser vertically, loosen the assembly mounting fasteners. Move the entire laser assembly up or down as necessary. Retighten the fasteners to secure the assembly in position. To fine tune vertical alignment, the laser diode mounting bracket may be moved up or down as necessary. The diode mounting screws should be retightened to secure the laser in place if any adjustments are made.

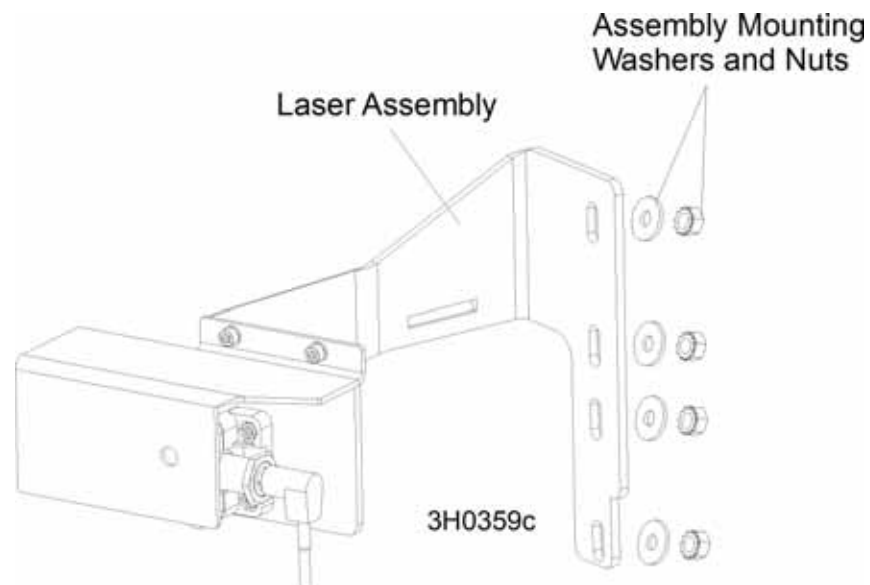


FIG. 5-1

See Figure 5-2. If the laser beam is adjusted too low, it will show against the side of the cant. But, in order to see a beam that is adjusted too high, it may be necessary to extend the edge of the cant upward. To do this, fold pieces of paper in half and position them so that the folds align with the outside edge of the cant as shown. Use a thumbtack to secure the bottom half of the papers to the cant.

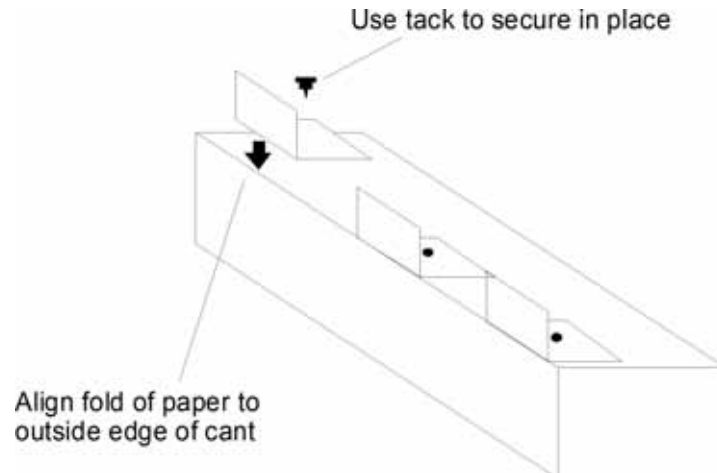


FIG. 5-2

See Figure 5-3. To adjust the laser horizontally, loosen the laser pivot screws. Pivot the laser diode side to side, or up and down, as necessary. Retighten the pivot screws to secure the diode in place.

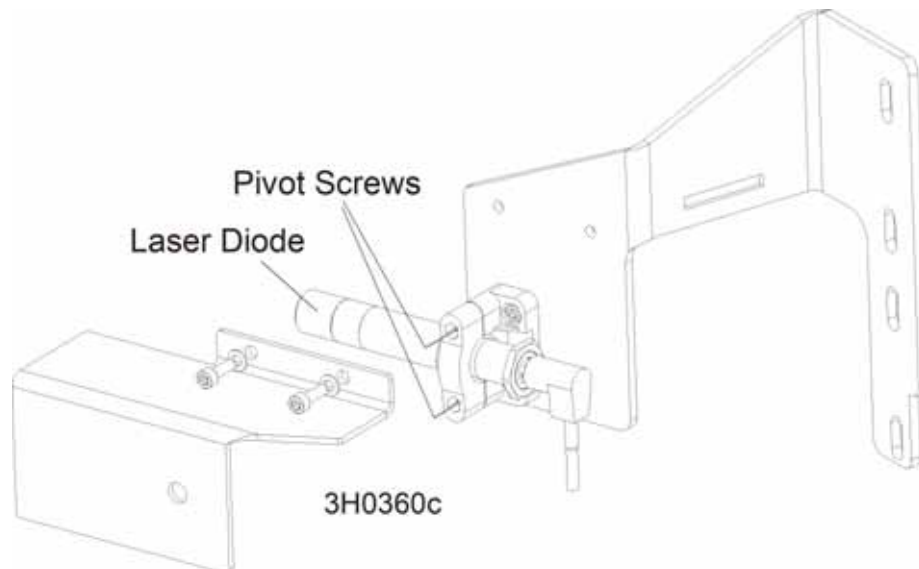


FIG. 5-3

5.2 Laser Alignment - LT70

1. Stationary sawmills should be setup on firm, level ground before proceeding with alignment. Shim the feet so the weight of the sawmill is evenly supported.
2. Make sure the sawmill is properly aligned (see the Alignment Section of your Sawmill Operator's Manual.)
3. Load a cant onto the bed of the sawmill.
4. Make a cut. Without raising the carriage head, return it to the front of the sawmill so that blade remains level with the top of the cant and the carriage head is 1' behind the front of the cant.
5. Align the laser. When the laser is properly aligned, approximately 10" of beam will show across the front of the cant.

See Figure 5-1. To adjust the laser vertically, loosen the assembly mounting fasteners . Move the entire laser assembly. To fine tune vertical alignment, the laser diode mounting bracket may be moved up or down as necessary. The diode mounting screws should be retightened to secure the laser in place if any adjustments are made.

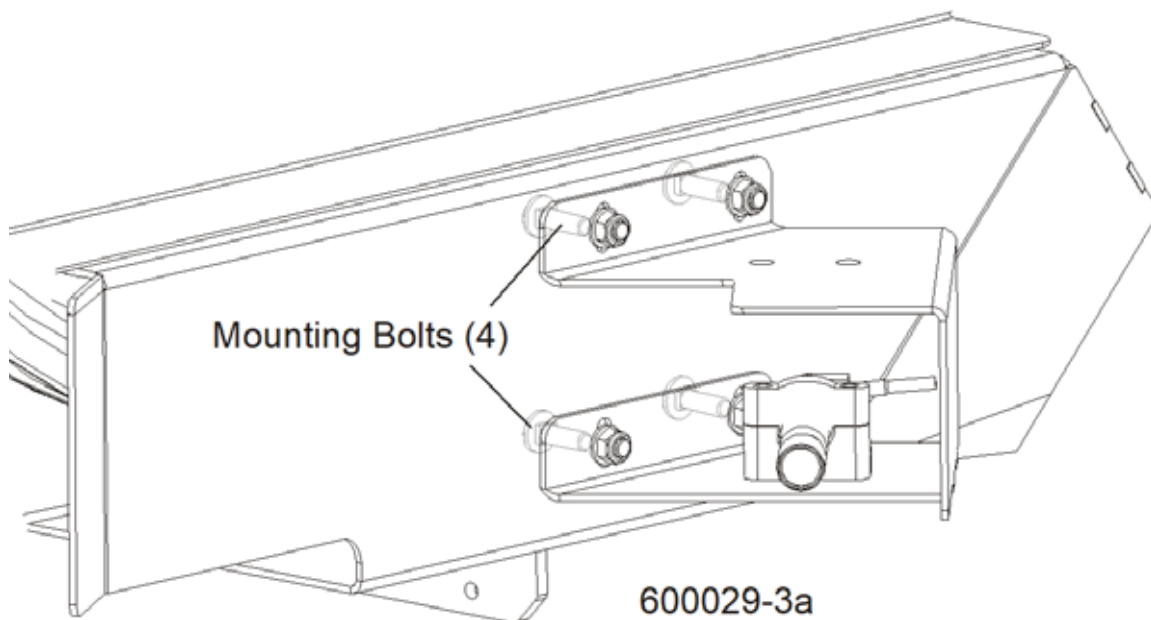


FIG. 5-1

See Figure 5-2. If the laser beam is adjusted too low, it will show against the side of the cant. But, in order to see a beam that is adjusted too high, it may be necessary to extend the edge of the cant upward. To do this, fold pieces of paper in half and position them so that the folds align with the outside edge of the cant as shown. Use a thumbtack to secure the bottom half of the papers to the cant.

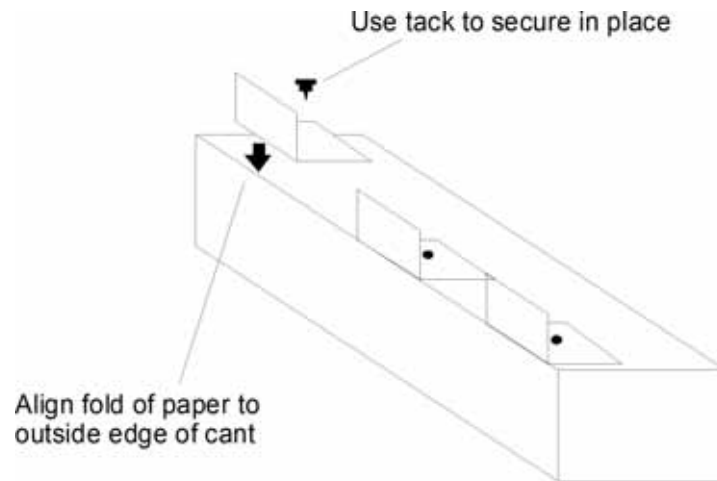


FIG. 5-2

See Figure 5-3. To adjust the laser horizontally, loosen the laser pivot screws. Pivot the laser diode side to side, or up and down, as necessary. Retighten the pivot screws to secure the diode in place.

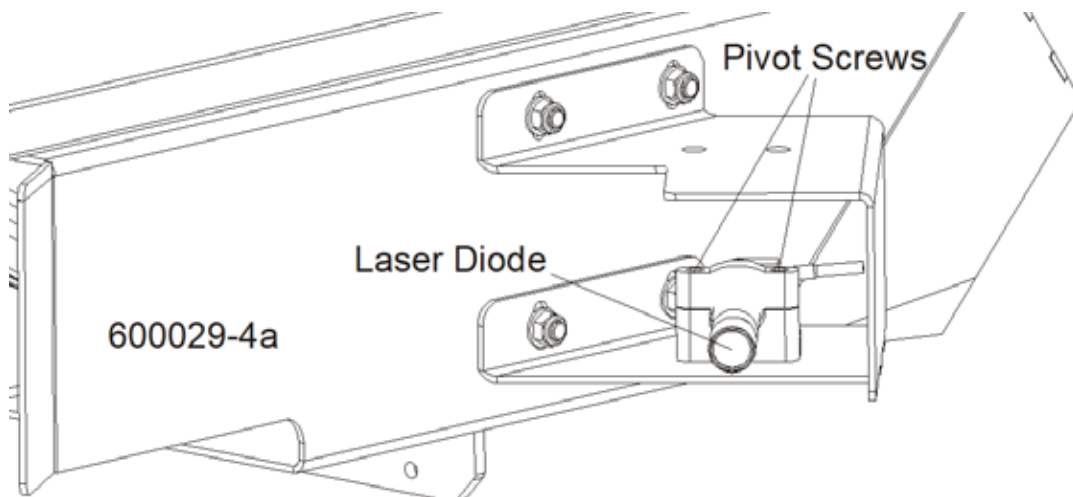
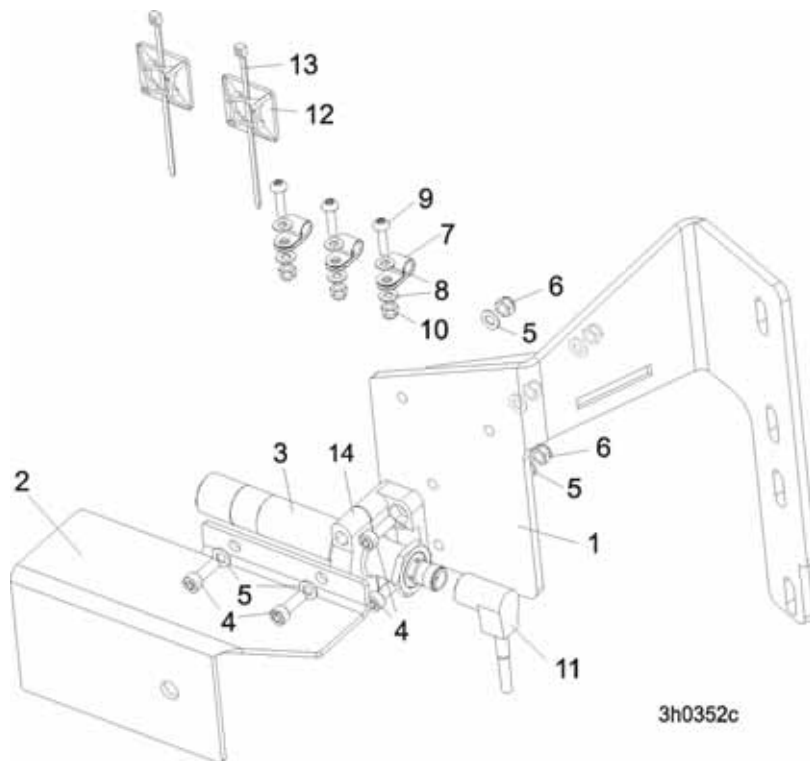


FIG. 5-3

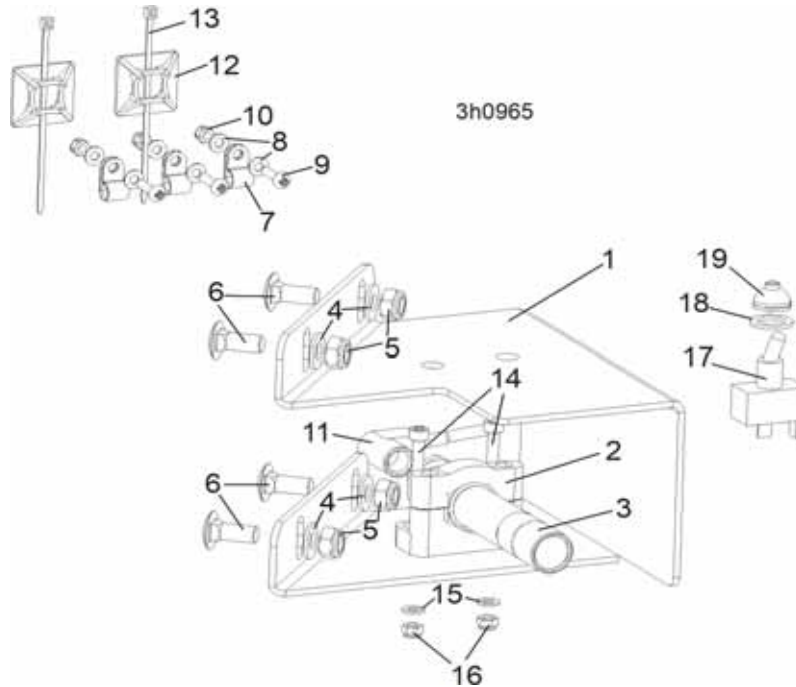
SECTION 6 REPLACEMENT PARTS

6.1 Laser Assembly LT40



REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.	
	LASER, CUTTING POINTER LT40 KIT	505712	1	
1	BRACKET, LASER LT40	505163-1	1	
2	COVER, LASER LT40	505162-1	1	
3	LASER, Z5M18B-F-532-IG90 LINEAR, GREEN	501025	1	
4	SCREW, M5x16-8.8 HEX SOCKET HEAD CAP ZINC	F81000-25	4	
5	WASHER, 5.3 FLAT ZINC	F81052-1	6	
6	NUT, M5-8-ZINC DIN985	F81030-2	4	
7	ELEMENT MOUNT EE63 (112-312000)	F81080-4	3	
8	WASHER 4,3 FLAT ZINC	F81051-2	6	
9	SCREW, M4x16 5,8-B CROSS RECESSED PAN HE	F81011-42	3	
10	NUT M4-B HEX NYLON ZINC LOCK	F81029-1	3	
11	CABLE, 5m SAFETY SWITCH	087652	1	
12	ELEMENT, SELF - ADHESIVE MOUNT E9S	087695	2	
13	CABLE TIE, PLASTIC	F81082-4	2	
14	BRACKET, LASER SMB18SF	503469	1	
15	CAPACITOR, 2200/63V ELECTROLYTIC	091167	1	
16	FITTING, FUSE, WITH WIRE CE PROTECTION	E85238	1	

6.2 Laser Assembly LT70



REF	DESCRIPTION (◆ Indicates Parts Available In Assemblies Only)	PART #	QTY.
	LASER, CUTTING POINTER LT70 KIT	505713	1
1	BRACKET, LASER LT70	505161-1	1
2	BRACKET, LASER SMB18SF	503469	1
3	LASER, Z5M18B-F-532-IG90 LINEAR, GREEN	501025	1
4	WASHER, 8.4 FLAT,ZINC	F81054-1	4
5	NUT,M8-8-B,HEX,NYLON LOCK ZINC	F81032-2	4
6	BOLT, M8 X 20 ZINC MUSHROOM HEAD SQUARE NECK	F81002-11	4
7	ELEMENT MOUNT EE63 (112-312000)	F81080-4	3
8	WASHER 4,3 FLAT ZINC	F81051-2	6
9	SCREW, M4x16 5,8-B CROSS RECESSED PAN HE	F81011-42	3
10	NUT M4-B HEX NYLON ZINC LOCK	F81029-1	3
11	CABLE, 5m SAFETY SWITCH	087652	1
12	ELEMENT, SELF - ADHESIVE MOUNT E9S	087695	2
13	CABLE TIE, PLASTIC	F81082-4	2
14	SCREW,M5x16-8.8 HEX SOCKET HEAD CAP ZINC	F81000-25	2
15	WASHER, 5.3 FLAT ZINC	F81052-1	2
16	NUT, M5-8-ZINC DIN985	F81030-2	2
17	SWITCH, SPST ON/OFF 15A .25 TABS TOGGLE	P03027	1
18	WASHER, 1/2X3/4X1/16 NYLON	P05251-1	1
19	BOOT, TOGGLE SWITCH	P02575	1
20	CAPACITOR, 2200/63V ELECTROLYTIC	091167	1
21	FITTING, FUSE, WITH WIRE CE PROTECTION	E85238	1