

## 8.2. RAM SWITCH TEST AND REPLACEMENT

Test and (if necessary) replace the ram switch as follows:

### Tools Needed:

- 5/64" hex wrench (Allen wrench)
- 5/32" hex wrench (Allen wrench)
- 3/16" hex wrench (Allen wrench)
- 3/8" open-end wrench.
- crank tool #83-0010 (see Section 11.3)
- medium flat-tip screwdriver
- needle-nose pliers
- volt/ohm meter



1. Turn disconnect switch to "OFF" position. See Section 3.1.5 for location of disconnect switch.

### Note

Use the Illustrated Parts List in Chapter 11 of this manual as an aid in testing and replacing the ram switch. When you see something like "Remove back panel (202, Fig. 4)" in the following procedure, the number (202) refers to a picture of the back panel (and how the back panel is attached to the press) in Figure 4 of the Illustrated Parts List.

2. Remove back panel screws (201, Fig. 4.) with 5/64" hex wrench and remove back panel (202).
3. Check very carefully for broken or loose wires in the motor starter box, especially around TB1 terminals 6 and 7 and TB2 terminal 5. See Figure 8.2 A. If any broken or loose wires are found, repair them and then see if the press works.
4. Turn disconnect switch on.

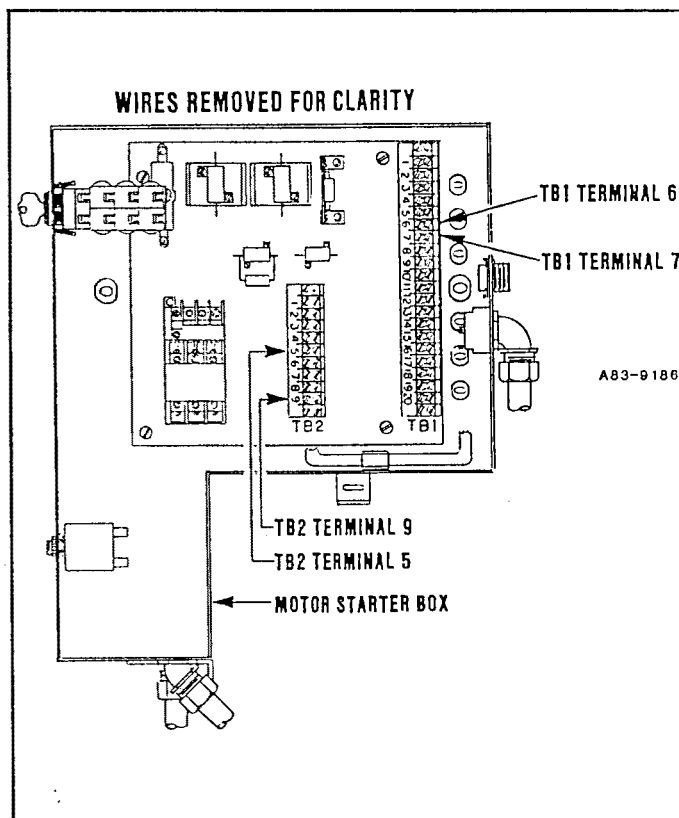
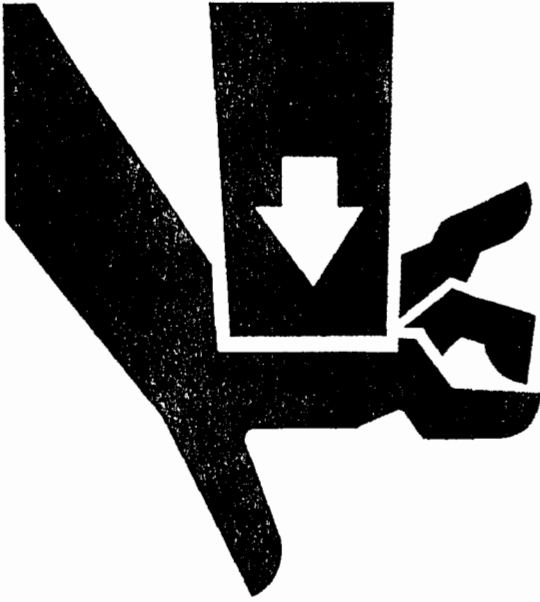


Figure 8.2 A

## 8.2. RAM SWITCH TEST AND REPLACEMENT

- Turn set up switch to "SET UP" position. See Section 3.1.2 for location of set up switch.

! WARNING



Make sure you turn set up switch to "SET UP" position before doing the following steps. You can get hurt if you do not.

- Press "ON" button on control panel.
- Pop up crankshaft cover button by pulling on button with needle-nose pliers. The cover should flip up after the button is pulled. See Figure 8.2 B.
- Place crank tool over crankshaft as shown in Figure 8.2 B.
- Using crank tool, turn crankshaft so that punch assembly is in its highest position.

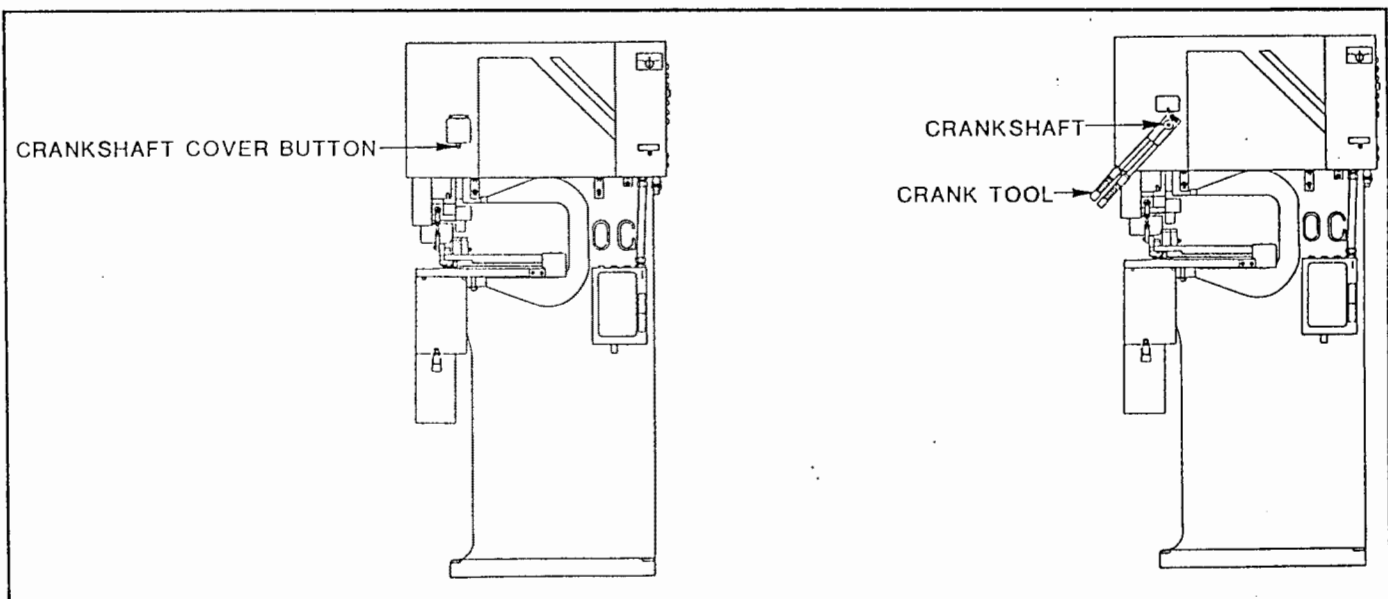


Figure 8.2 B

8.2 RAM SWITCH TEST AND REPLACEMENT

! WARNING



Never do live electrical tests on the press when you are alone. Always make sure someone is present to help you in case you get hurt.

10. Test for 0 volts DC across TB1 terminal 6 and TB2 terminal 9 (9 is ground) with volt/ohm meter. See Figure 8.2 A. If 0 volts are present, go to step 11. If more than 0 volts are present, replace ram switch according to steps 13-23 of this section.

11. Using crank tool, turn crankshaft so that punch assembly is in its lowest position.

12. Use the Table 8.2 A and Figure 8.2 A for this step. Then go to the next step.

TEST FOR:	IF:	THEN:
a. 40 to 55 volts DC across TB1 6 and TB2 9 (ground).	40 to 55 volts <i>are</i> present -	Continue to follow troubleshooting chart in Chapter 5.
	40 to 55 volts <i>aren't</i> present -	Go to step b.
b. 40 to 55 volts DC across TB2 5 and TB2 9 (ground).	40 to 55 volts <i>are</i> present -	Go to step c.
	40 to 55 volts <i>aren't</i> present -	Replace electronics package according to steps 7-14 in Section 8.1.4.
c. 40 to 55 volts DC across TB1 7 and TB2 9 (ground).	40 to 55 volts <i>are</i> present --	Replace the ram switch according to steps 13-23.
	40 to 55 volts <i>aren't</i> present -	Repair or replace wire between TB1 7 & TB2 9.

Table 8.2 A

**8.2 RAM SWITCH TEST AND REPLACEMENT**

13. Turn disconnect switch to "OFF" position.



Turn off and tag disconnect switch before doing the following steps. You can get fatally shocked if you do not. See Section 3.1.5 for location of disconnect switch.

14. Loosen TB1 terminal screws 6 and 7 with screwdriver. Pull wire lugs off of screws.

15. Unscrew top cover screws (126, Fig. 1.) with screwdriver and remove top cover (127).

16. Unscrew ram switch assembly mounting bolts (151, Fig. 2.) with 3/16 hex wrench. Remove flat washers (153) and lock washers (152).

17. Pull ram switch wire harness out of motor starter box and remove ram switch assembly (154) from press.

18. Unscrew ram switch bolts (294, Fig. 8.) and remove nuts (290) and washers (291) with 5/64" hex wrench and 3/8" open-end wrench.

19. Place new ram switch into position on switch mounting bracket (292) and secure in place with bolts, nuts, & washers.

20. If ram switch arm (297) is not installed on new switch, install arm using IPL Figure 8 as a guide.

21. Mount ram switch assembly (154, Fig. 2) on press with bolts and washers.

22. Feed ram switch wire harness into motor starter box.

23. Attach wire lugs to TB1 terminals 6 and 7. Tighten terminal screws. It does not matter which lug goes on which terminal.

24. Reattach top cover (127, Fig. 1) and back panel (202, Fig. 4).

25. Check ram switch timing and (if necessary) adjust ram switch according to Section 9.4.