

8.9 SENSING HEAD MAINTENANCE

The following sections deal with maintenance problems that the sensing heads may have.

8.9.1 SENSING HEAD MOUNTING INSPECTION

The sensing heads have to be mounted properly in order for the press to work properly. Inspect the sensing head mounting as follows:

NOTE

Check if the sensing heads' cables are connected to the electronics package as shown in Figure 8.9 E in Section 8.9.3 before checking the sensing head mounting. If cables are disconnected, reconnect them and recheck the press.

Tools Needed:

- > 3/16" hex wrench (Allen wrench)
- > clean rag



1. Press "OFF" button on control panel.
2. Unscrew left-right sensing head mounting screws and lift left-right sensing head off of bolster plate. See Figure 8.9 A.

8.9.1 SENSING HEAD MOUNTING INSPECTION

3. Remove any dirt or dust where the head was mounted, especially around the L-bracket (see Figure 8.9 A). Also, remove any dirt or dust under the head's base.
4. Place left-right sensing head back into position.
5. Very firmly press sensing head against L-bracket and then secure head in place with mounting screws. It is very important that the head is mounted firmly against the L-bracket-
5. (cont.) et or the press will not work properly.
6. Unscrew in-out sensing head mounting screws and lift in-out sensing head off of bolster plate. See Figure 8.9 B.
7. Remove any dirt or dust where the head was mounted, especially around the L-bracket (see Figure 8.9 B). Also, remove any dirt or dust under the head's base.

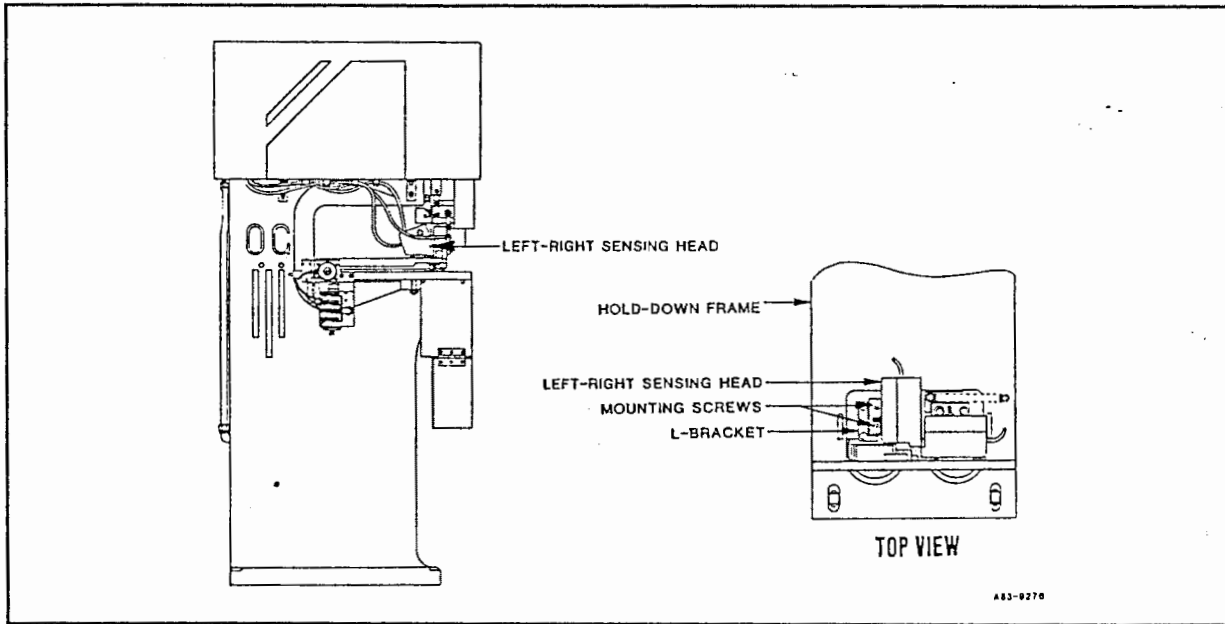


Figure 8.9 A

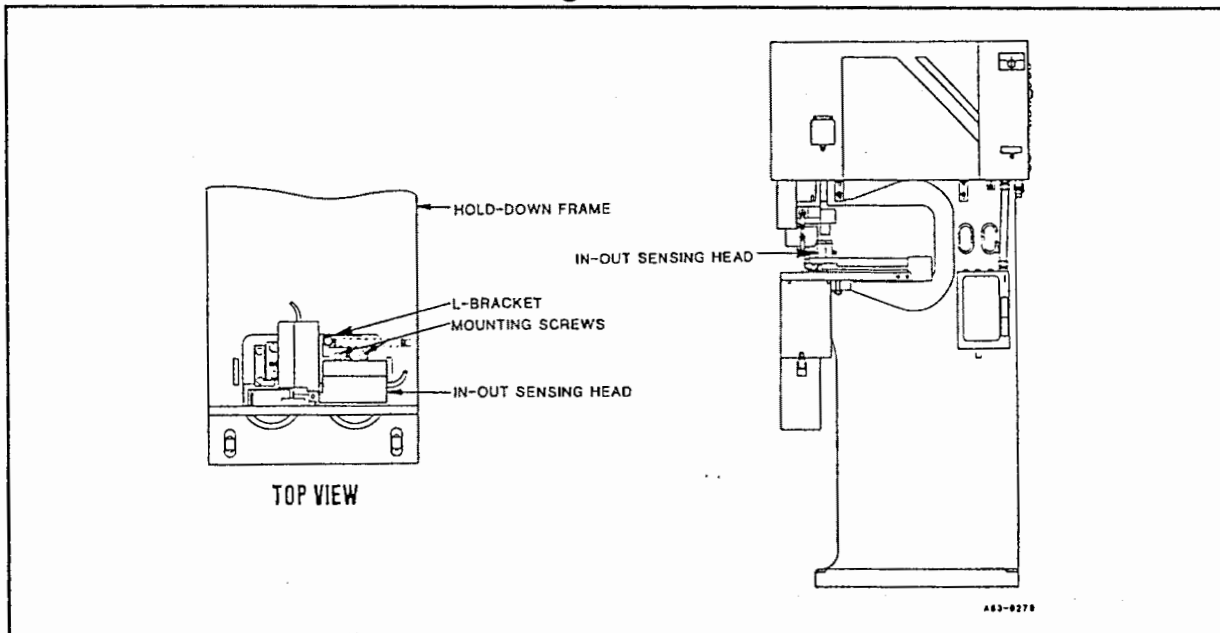


Figure 8.9 B

8.9.1 SENSING HEAD MOUNTING INSPECTION

- 8. Place in-out sensing head back into position.
- 9. Very firmly press sensing head against L-bracket and then secure head in place with

9. (cont.)
mounting screws. It is very important that the head is mounted firmly against the L-bracket or the press will not work properly.

8.9.2 METHODS FOR SOLVING SENSING HEAD RELATED PROBLEMS

The three following sections give three different methods for solving sensing head related problems. The method that you should use

depends on the factors listed in Table 8.9 A. Use the table as a guide on which method you should use to solve sensing head related problems.

IF	THEN
There are no other working M-83 or M-38 presses in your shop that are equipped with the same model* sensing heads as the faulty press and you are not equipped with special test fixture #38-730**.	Go to METHOD #1
There are other working M-83 or M-38 presses in your shop that are equipped with the same model* sensing heads as the faulty press and you are not equipped with special test fixture #38-730**.	Go to METHOD #2
You are equipped with special test fixture #38-730**.	Go to METHOD #3

Table 8.9 A

***NOTE:** The model number of a sensing head is stamped on a plate on the side of the sensing head. See Figures 8.9 G and 8.9 H in Section 8.9 for location of sensing heads.

****NOTE:** There is a picture of the special test fixture in Figure 8.9 D on the next page.

METHOD #1

Solve sensing head related problems as follows:

- 1. Order a set of loaner sensing heads and a loaner electronics package from Spartanics or your service representative according to Chapter 10.
- 2. Replace press's sensing heads with loaner sensing heads according to Section 8.9.3.
- 3. Replace press's electronics package with loaner electronics package according to steps 7-14 in Section 8.1.4.
- 4. Ship press's electronics package and both sensing heads to Spartanics or your service representative according to Chapter 14.
- 5. Reinstall sensing heads and electronics package after they are repaired and sent back to you.
- 6. Ship loaner sensing heads and electronics package back to Spartanics or your service representative.

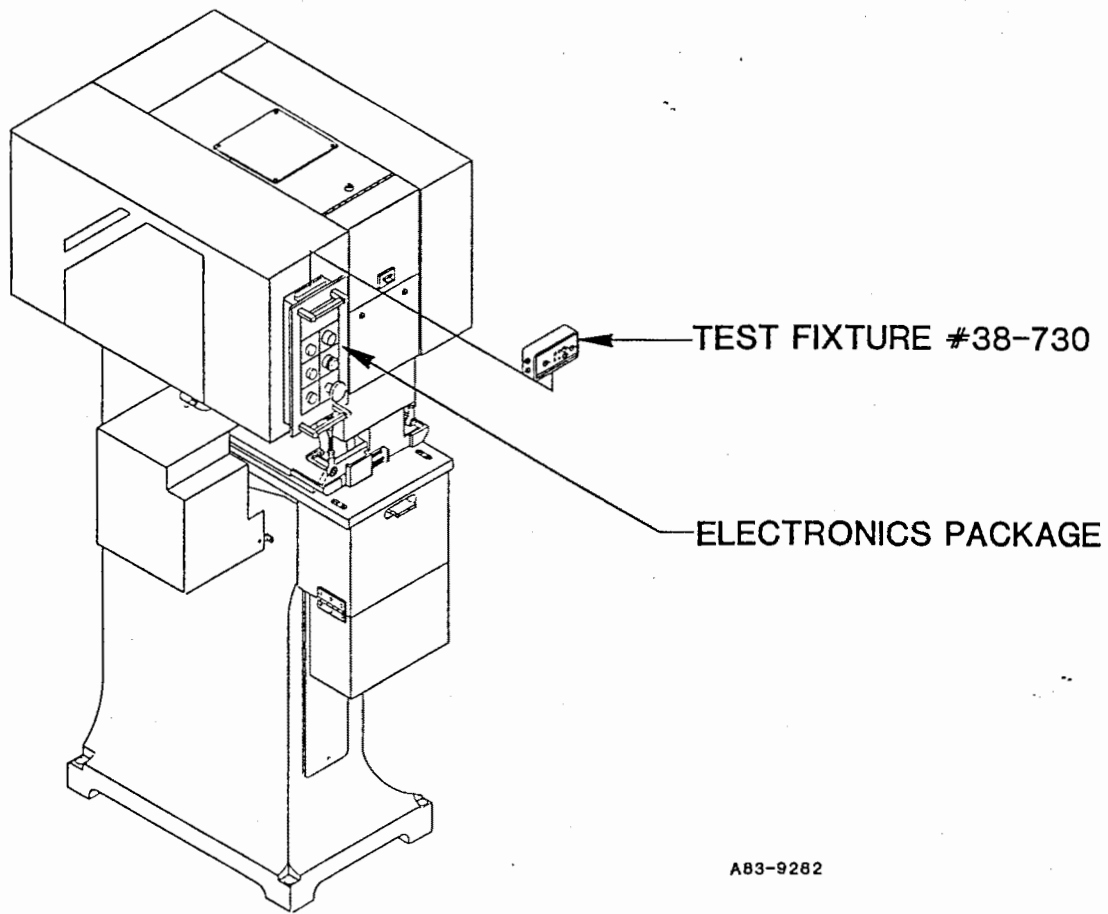


Figure 8.9 C

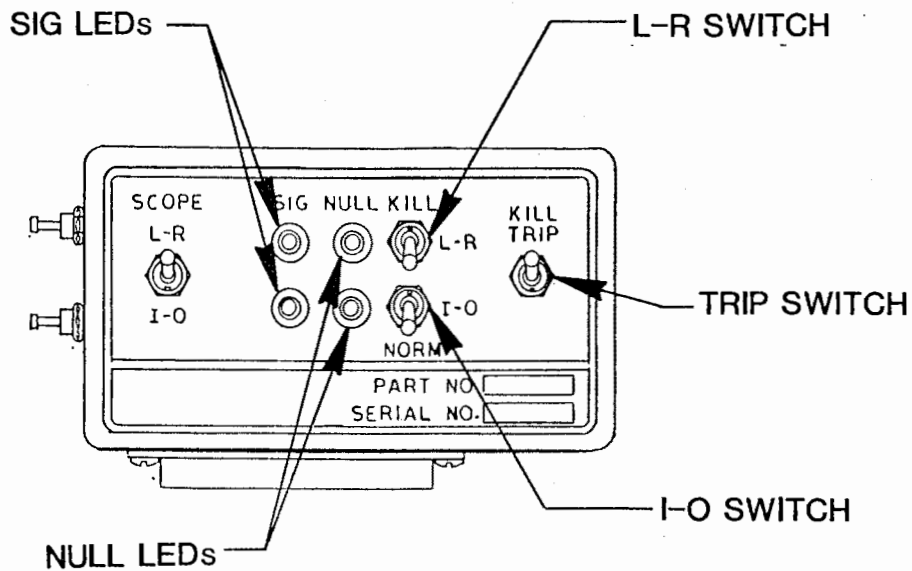


Figure 8.9 D

8.9.2 METHODS FOR SOLVING SENSING HEAD RELATED PROBLEMS**METHOD #2**

Solve sensing head related problems as follows:

1. Remove a set of sensing heads from an M-83 or M-38 press that works properly according to Section 8.9.3.
2. Replace sensing heads on faulty press with sensing heads removed in step 1 according to Section 8.9.3. Make sure that all the sensing heads have the same model number.
3. See if press works with new sensing heads. If press works, the original sensing heads are faulty and they should be shipped to Spartanics or your service representative according to Chapter 14. If press does not work with new sensing heads, the electronics package is bad and should be replaced according to steps 7-14 in Section 8.1.4.
4. Order a set of loaner sensing heads or a loaner electronics package (whichever is faulty) from Spartanics or your service representative according to Chapter 10.
5. Install the loaner sensing heads or loaner electronics package on the press. It is OK to install the loaner sensing heads on the press that was worked on in step 1.
6. Reinstall sensing heads or electronics package after they are repaired and sent back to you.
7. Ship loaner sensing heads or electronics package back to Spartanics or your service representative.

METHOD #3

Solve sensing head related problems as follows:

Tools Needed:

- 3/16" hex wrench (Allen wrench)
- special test fixture #38-730 (see Figure 8.9 D.)

1. Press "OFF" button on control panel.
2. Unscrew electronics package screws with 3/16" hex wrench. See Figure 8.1 G in Section 8.1.4.
3. Slide electronics package a few inches out of brake guard. See Figure 8.9 C.
4. Plug special test fixture #38-730 into electronics package as shown in Figure 8.9 C.
5. Set trip switch on test fixture to "KILL TRIP" (up) position. See Figure 8.9 D.
6. Set L-R and I-O switches on test fixture to "NORM" (down) positions. See Figure 8.9 D.
7. Make sure that set up switch is turned to "RUN" position.
8. Press "ON" button on control panel to turn press on.
9. Check if both SIG LEDs on test fixture are lit up. See Figure 8.9 D. If both LEDs are lit up, go to step 10. Otherwise, replace both sensing heads according to Section 8.9.3.
10. Place target under punch as if it were going to be punched.
11. Press and hold foot switch and check if both "NULL" LEDs are lit up. See Figure 8.9 D. If both LEDs are lit up, replace the electronics package according to steps 7-14 in Section 8.1.4. Otherwise, replace both sensing heads according to Section 8.9.3.

IMPORTANT!

YOU MUST READ THIS SAFETY NOTICE

The test box shown below is an optional feature that is used to troubleshoot certain problems with the press. There is an unmodified and modified version of this test box. A modified test box has an "M" marked next to its serial number as shown below.

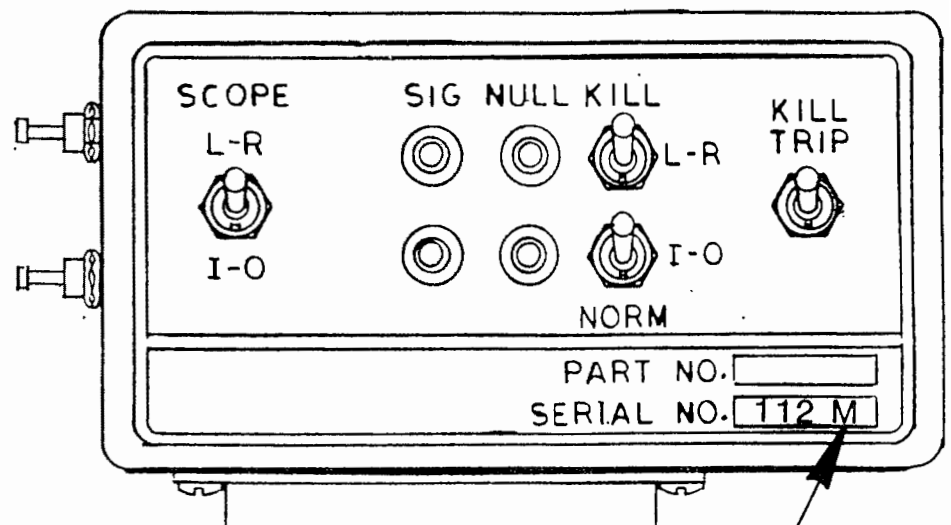
YOU MUST USE A MODIFIED TEST BOX TO TROUBLESHOOT A PRESS IF THE PRESS HAS A SERIAL NUMBER OF 184 OR HIGHER. YOU MAY BE INJURED OR THE PRESS MAY BE DAMAGED IF YOU DO NOT FOLLOW THIS RULE.

Using an unmodified test box on a press with a serial number of 184 or higher may cause the press to fire unexpectedly.

The serial number on press is located on the nameplate on the front of the press.

You may use either a modified or unmodified test box to troubleshoot a press if the press has a serial number of 183 or lower.

Unmodified test boxes will be modified at Spartanics at no charge.



"M" SHOWS THAT TEST BOX HAS BEEN MODIFIED

8.9.3 SENSING HEAD REPLACEMENT

Tools Needed:

- > 3/16" hex wrench (Allen wrench)

1. Press "OFF" button on control panel.



2. Disconnect sensing head cables from electronics package. See Figure 8.9 E.
3. Unscrew left-right sensing head mounting screws and remove left-right sensing head. See Figure 8.9 F.
4. Remove any dirt or dust where the head was mounted, especially around the L-bracket. See Figure 8.9 F.
5. Place loaner or repaired left-right sensing head into position.
6. Very firmly press sensing head against L-bracket and then secure head in place with mounting screws. It is very important that the sensing head be mounted firmly against the L-bracket or the press will not work properly.

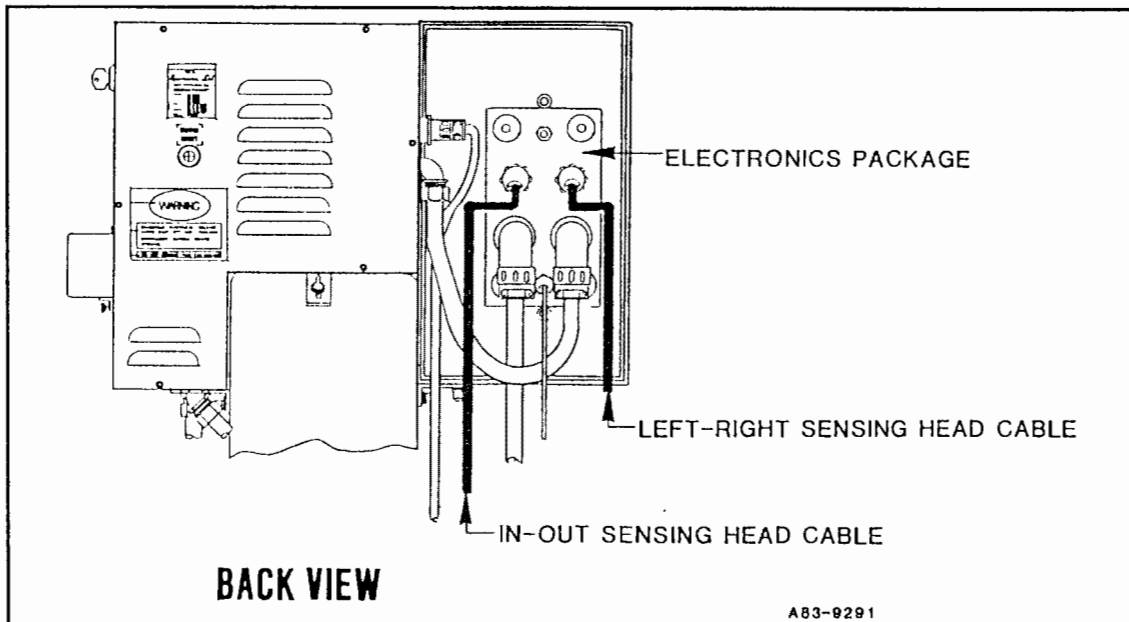


Figure 8.9 E

8.9.3 SENSING HEAD REPLACEMENT

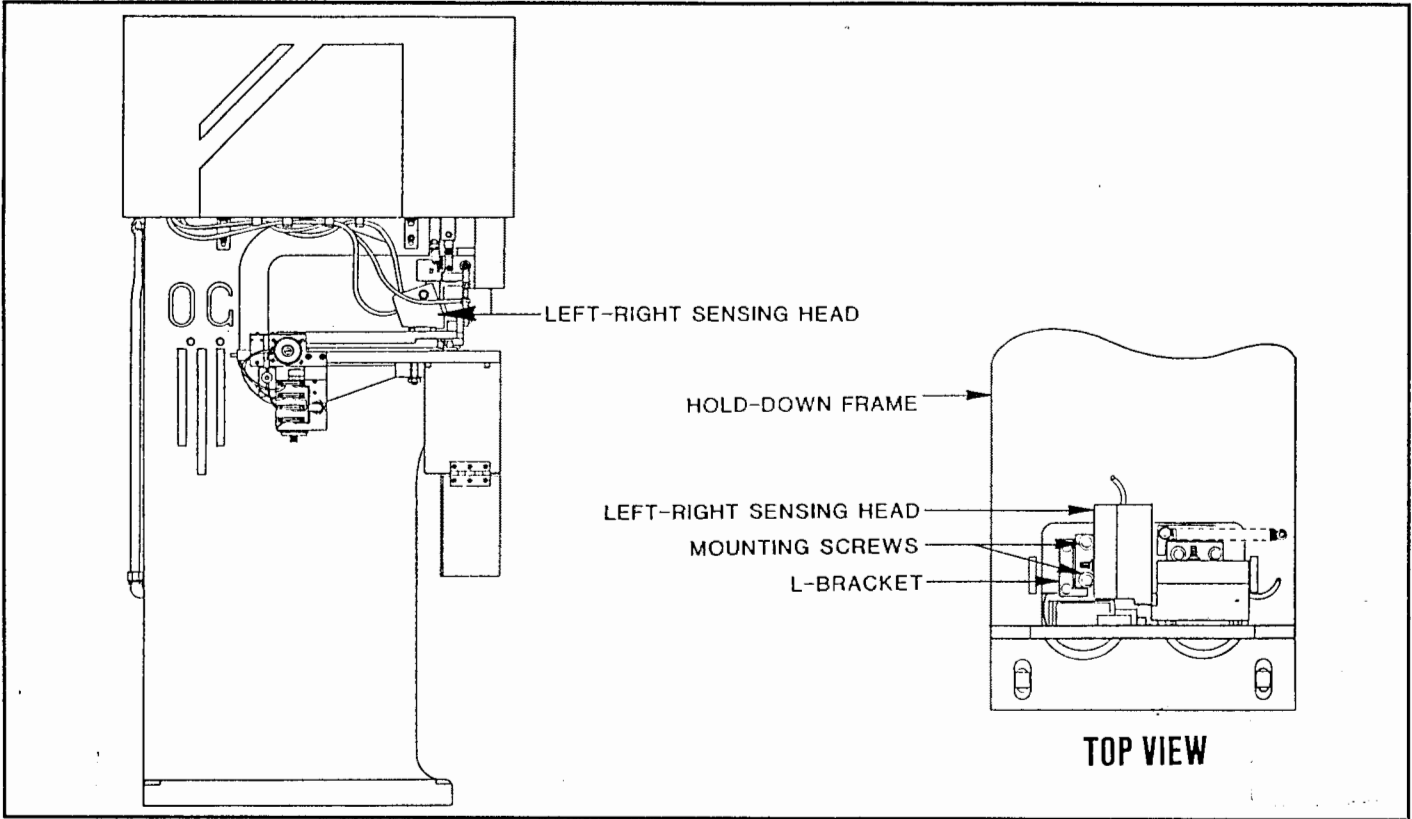


Figure 8.9 F

7. Unscrew in-out sensing head mounting screws and remove in-out sensing head. See Figure 8.9 G.

8. Remove any dirt or dust where the head was mounted, especially around the L-bracket. See Figure 8.9 G.

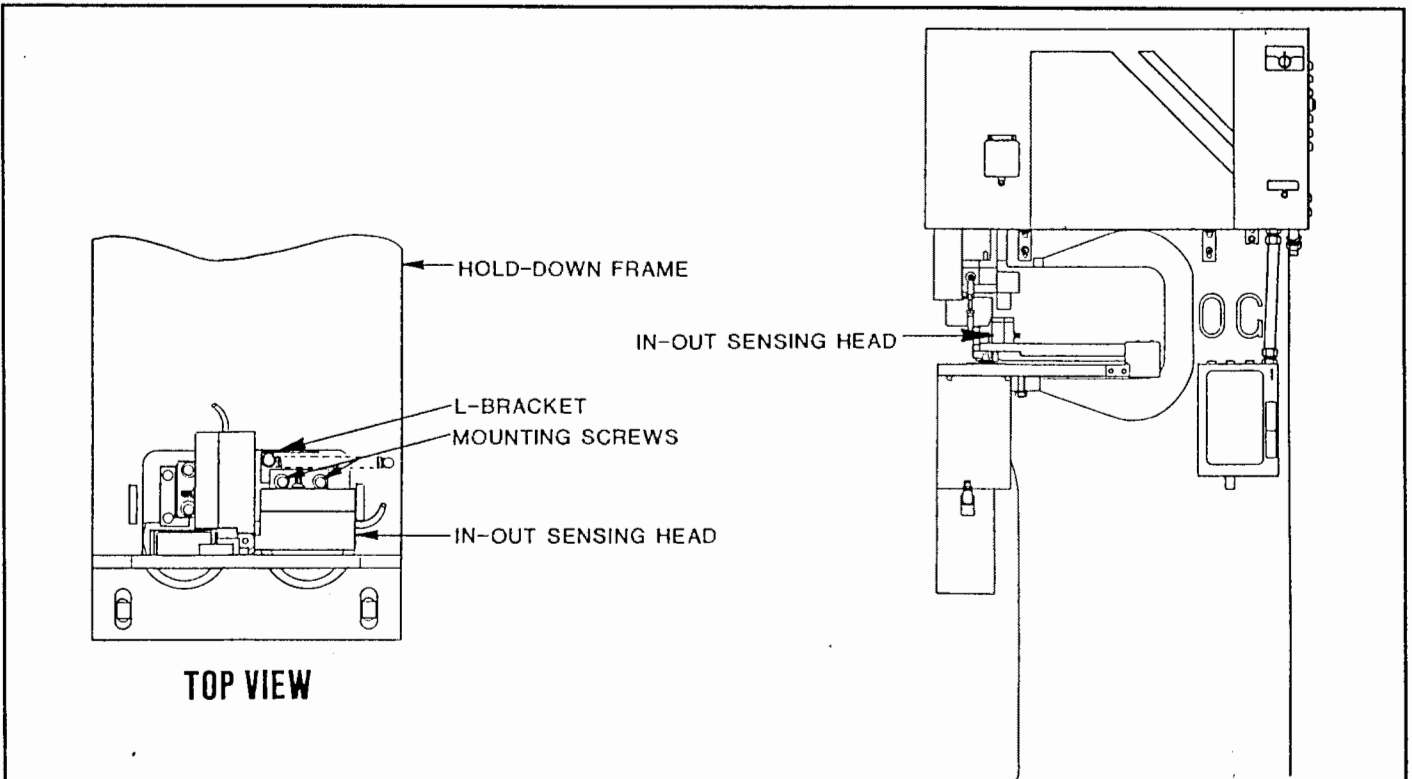


Figure 8.9 G

8.9.3 SENSING HEAD REPLACEMENT

9. Place loaner or repaired in-out sensing head back into position.
10. Very firmly press sensing head against L-bracket and then secure head in place with mounting screws. It is very important that the head is mounted firmly against the L-bracket or the press will not work properly.
11. Connect sensing head cables to electronics package as shown in Figure 8.9 E. Make sure that In-Out cable goes in In-Out socket and Left-Right cable goes in Left-Right socket.
12. Adjust sensing heads' dials according to Section 9.7.
13. Ship defective or loaner sensing heads to Spartanics or your service representative according to Chapter 14.