

RETROFIT KIT	HEAVY DUTY HYDRAULIC PUMP
59907-7	69120-1 69120-2
1-59907-5	
2-59907-1	
2-59907-8	

RETROFIT KIT	HEAVY DUTY HYDRAULIC PUMP
1901775-1	1804700-1 1804700-2
1901776-1	
1901777-1	

Figure 1

## 1. INTRODUCTION

These instructions cover the procedure for installing the replacement parts contained in the retrofit kits onto the hydraulic handle control assemblies used with the heavy duty hydraulic pumps listed in Figure 1. The retrofit kit is designed to replace the existing trigger and micro-switches on the handle control assembly as well as the mounting hardware.

Reasons for reissue of this instruction sheet are provided in Section 4, REVISION SUMMARY.

## 2. DESCRIPTION

The following replacement parts are included in each retrofit kit.

- two of Slotted Head Screw 5-21016-6 (10-32 x .38-in. long screws)
- Guard 311759-1
- Switch Cover 311761-1
- Green Switch 986290-1

- Red Switch 986290-2
- Yellow Switch 986290-3

## 3. RETROFIT PROCEDURE

The retrofit procedure requires an understanding of electrical wiring and soldering technique. It is recommended that this retrofit be made by a skilled technician in an environment that allows it to be completed on a workbench.

### 3.1. Disassemble the Handle Control (See Figure 1)

1. Clean the handle control with a soft cloth and a suitable solvent or cleaning fluid which will not harm paint or plastic material.
2. Remove the quick-coupler (part number 311470-1 or 311471-1) and lay aside.
3. Remove the strain relief from the wire as it enters the handle tube by carefully grasping it with a pair of needle-nose pliers and pulling it out of the opening. Take care not to pinch or cut the wire insulation.

4. Slide the grip sleeve approximately one-third of the way down the handle tube. The sleeve is a snug fit and may require some pressure to move it down the tube.

5. Remove the two button head screws securing the faceplate and switch assembly to the handle tube and lay aside (they are required for re-assembly).

6. Remove two screws securing the faceplate and discard.

7. Remove the faceplate and switch base (retain one of the 4-40 x .312 screws and the washer).

8. Solder the leads to the micro-switches and remove the micro-switches, switch mounting plate, trigger, and switch cover.

9. Discard the switch cover, trigger, switch mounting plate, micro-switches, switch base, and faceplate.

### 3.2. Assemble the Retrofit Kit (Figures 2 and 3)

Prior to installing the retrofit kit, the replacement parts should be identified as well as the colors of the leads to be soldered to the replacement switches. Use the standard procedure for preparing leads for soldering then proceed as follows:

1. Place the conductors through the circular opening of the switch cover.

2. Pull the **WHITE** conductor through the opening marked **RUN**.

3. Pull the **BLUE** and **ORANGE** conductors through the opening marked **DUMP**.

4. Pull the **RED** and **BLACK** conductors through the opening marked **RESET**.

5. Pull one end of the **BROWN** wire through the opening marked **RUN** and its other end through the opening marked **RESET**.

6. Retain the **GREEN** wire (with the crimped ring terminal) inside the switch cover to attach later to the handle tube (this is a ground wire).

#### NOTE



*It is best if the leads are desoldered; however, they may be cut if they are cut as closely to the solder joint as possible. Re-assembly requires as much lead length as possible. Otherwise, the wrap around the hydraulic hose has to be all removed and then replaced to slide the cable up to the handle control to gain more working length.*

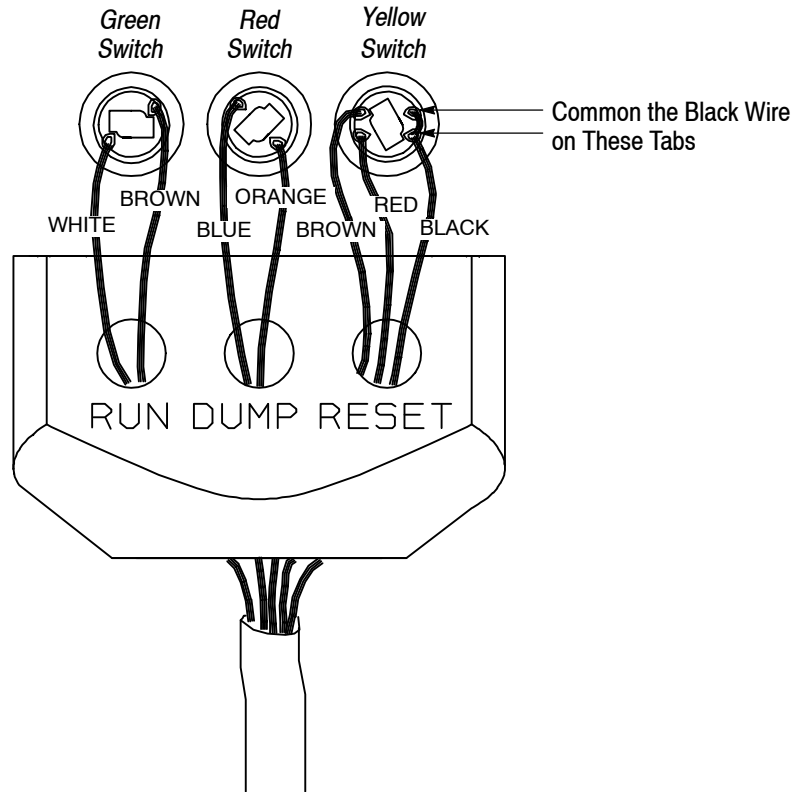


Figure 2

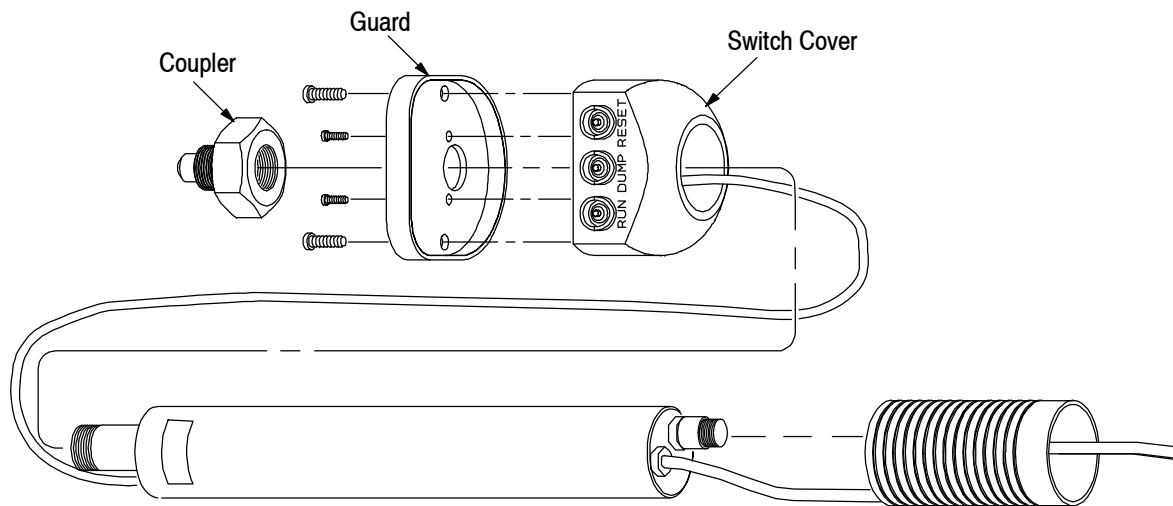


Figure 3

**NOTE**

The **BROWN** wire is a jumper between the **RUN** and **RESET** switches. If it is not long enough to be pulled through the two openings to allow easy soldering, substitute it with a length of 0.5mm<sup>2</sup> [20 AWG] stranded wire, preferably with brown insulation.

## 7. Solder the switches:

- a. Obtain the **GREEN** switch and solder the **WHITE** conductor to one of the solder tabs and the **BROWN** jumper to the other solder tab.
- b. Obtain the **RED** switch and solder the **BLUE** conductor to one of the solder tabs and the **ORANGE** conductor to the other solder tab.
- c. Obtain the **YELLOW** switch and solder the **BLACK** conductor to one of the **SQUARE** solder tabs and to one of the **ROUND** solder tabs. Solder the **BROWN** jumper to the other **SQUARE** solder tab. Then solder the **RED** conductor to one of the **ROUNDED** solder tabs.

**NOTE**

Soldering the **BLACK** conductor to the two tabs can be best accomplished by stripping enough insulation from the wire to thread the conductor through the holes in the two tabs (thereby commoning them on the conductor) and then soldering them.

8. Check the wiring connections for correct placement and solder joints.

9. Reconnect the green wire (with the ring terminal crimped on it) to the tube handle using the 4-40 screw and washer.

10. Place the switch cover on a solid surface and obtain a piece of  $\frac{3}{8}$ -in. tubing (or something of the

same approximate size that will not press upon the switch itself but will provide an even distribution of pressure on the switch housing) and press-fit the switches into their respective openings. Take care to align the beveled portion of each switch housing with its identifying marking on the switch cover.

**CAUTION**

Take care to ensure that there are no wires in contact with the housing.

11. Install the guard to the switch cover and secure it with the two slotted head screws provided with the retrofit kit.

12. Carefully slide the switch assembly back onto the handle tube and secure it with the two screws removed in Step 3 of Paragraph 3.1.

13. Apply pipe sealant to the threads of the handle tube and replace the quick-coupler.

14. Slide the grip sleeve up the handle tube until it is butted against the switch cover.

15. Carefully install the strain relief removed in Step 3 of Paragraph 3.1, Handle Control Disassembly by fitting it around the wire entering the handle tube and pushing it into the opening in the handle tube until it is seated.

**4. REVISION SUMMARY**

Revisions to this instruction sheet include:

- Added "Original Instructions" to page 1