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**KIT PART NUMBER 4320016 & 4320017**  
**INSTRUCTIONS FOR INSTALLING OPTICAL STOP PIN SOLENOID**

CHECK THE PARTS RECEIVED IN THE KIT WITH THE PARTS LIST IN THESE INSTRUCTIONS. IF ANY PARTS ARE MISSING, CONTACT THE NATIONAL VENDORS PARTS DEPARTMENT IMMEDIATELY.

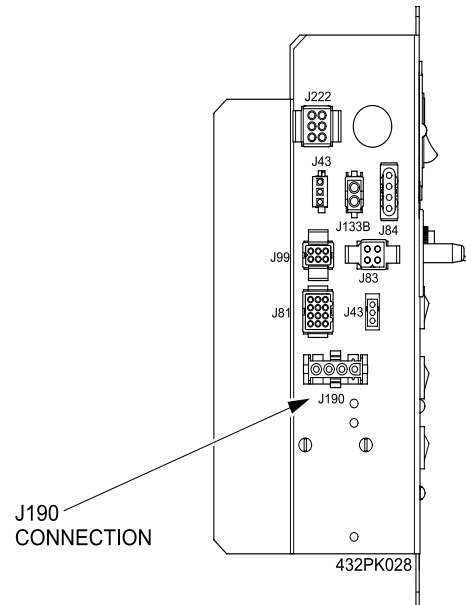
Read these instructions carefully before installing the kit.  
Keep these instructions for part numbers and for future reference.

**Table 1: This kit contains the following :**

<b>PART NUMBER</b>	<b>DESCRIPTION</b>	<b>QUANTITY</b>
4321195	STOP PIN ASSY-DOMESTIC-115V (KIT 4320016 ONLY)	1
4321196	STOP PIN ASSY-FOREIGN-230V (KIT 4320017 ONLY)	1
4327070	BRACKET-STOP PIN ASSY	1
4326021	PCB ASSY-INTERFACE	1
4329027	HARNESS-CABINET DC	1
4326044	IC ASSY-VERSION 432.07	1
4329028	ASSY-MOTION DETECTOR	1
WD 432006	W.D.SHOPPER-230V (KIT 4320017 ONLY)	1
WD 432007	W.D.SHOPPER-115V (KIT 4320016 ONLY)	1
1451097	SCREW-#8-32X.31 HEX HD.TF-BLK.	10
3157060	SCREW-#8-32 X .31 HEX W/ HD. S	4
4271062	SCREW-#4-24 X .375 PH Z-P S.T.	2
4321231	INSTRUCTIONS-KIT	1

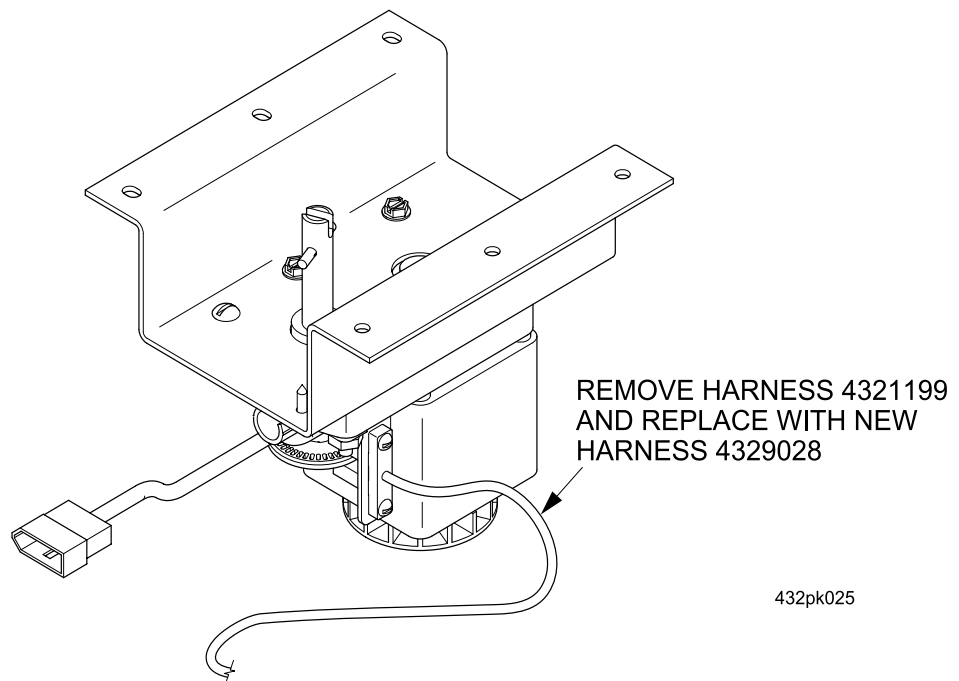
1. Turn the machine power switch OFF and disconnect the machine from electrical source.
2. Remove cover from interface interface board.
3. Remove all connector's off the interface board

4. Unplug the four pin connector found on the side of the power panel. This connector should be the one that is closest to the bottom of the power panel. ("See Figure 1"Page 2)
5. Remove cover from stop pin assembly.
6. Unplug harness from stop pin switch.
7. Unplug harness to motion sensor on the drive motor assembly.
8. Completely remove harness from machine.



**Figure 1**

9. Remove motion sensor mounted to the motor assembly and replace it with part #4329028. ("See Figure 2"Page 2)
10. Unplug two pin connector to the stop pin solenoid.

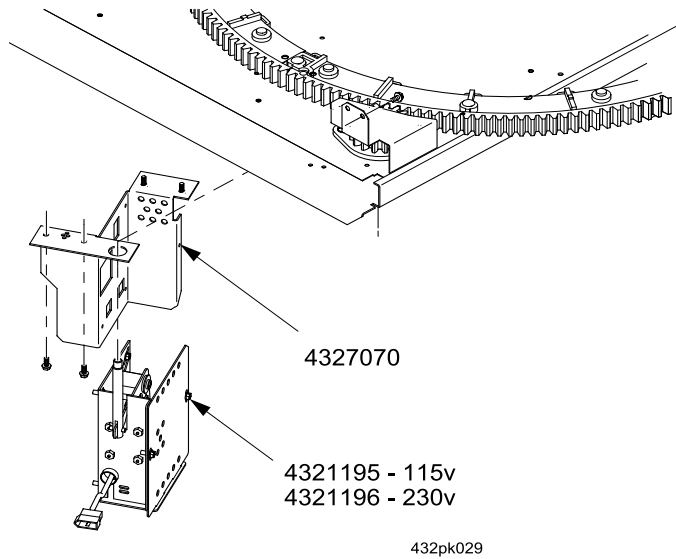


**Figure 2**

11. Remove four screws securing the stop pin assembly to the machine. Retain screws for use later.
12. Remove stop pin assembly.

13. Remove four screws that secure stop pin assembly to the bracket. Retain screws for use later.

14. Mount stop pin bracket part #4327070 to the machine using the four screws that were saved. ("See Figure 3"Page 3)

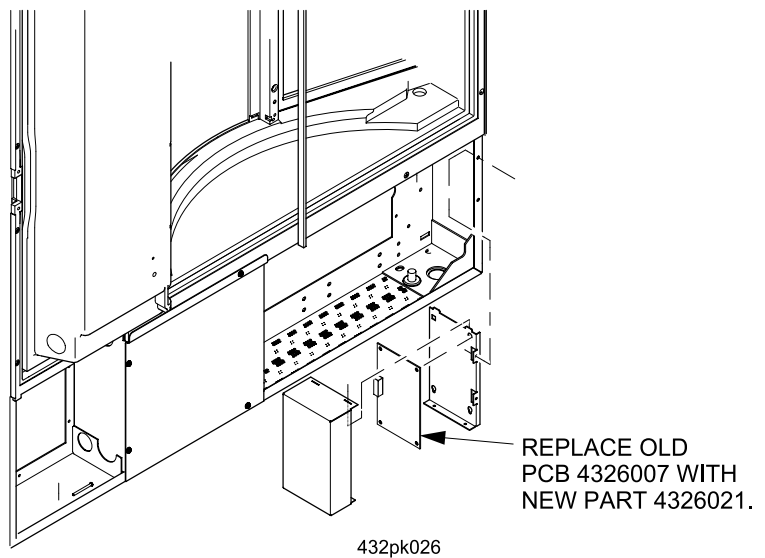


**Figure 3**

15. Mount stop pin assembly part #4321195 to the bracket assembly using the four screws that were saved.

16. Adjust stop pin assembly.  
(See "Adjust Stop Pin Assembly" on page 7.)

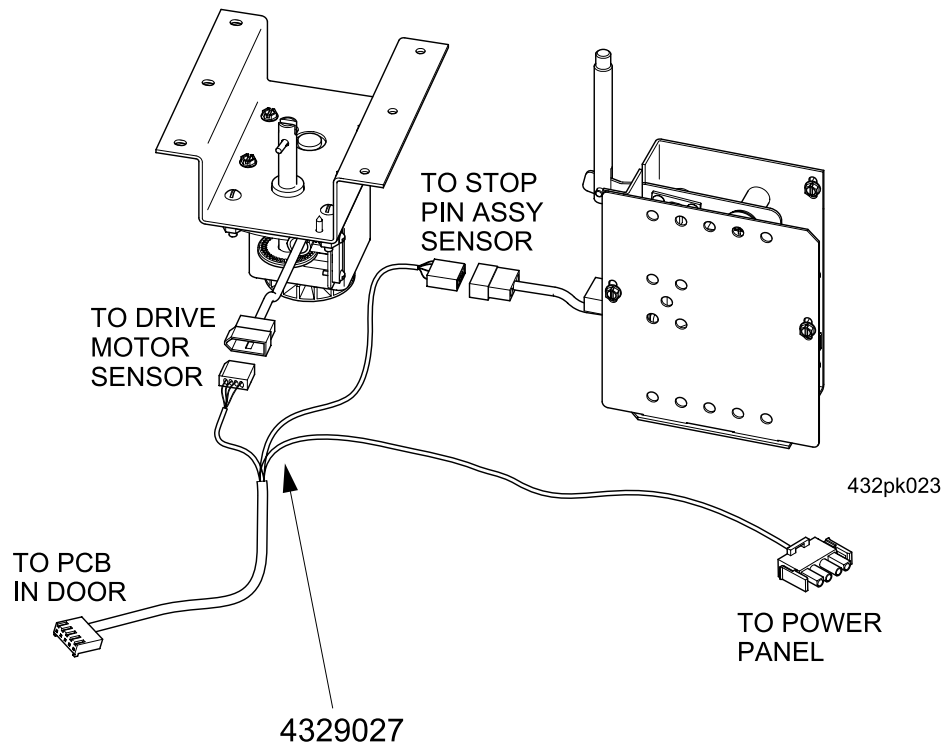
17. Remove interface board and replace it with part #4326021. ("See Figure 4"Page 3)



**Figure 4**

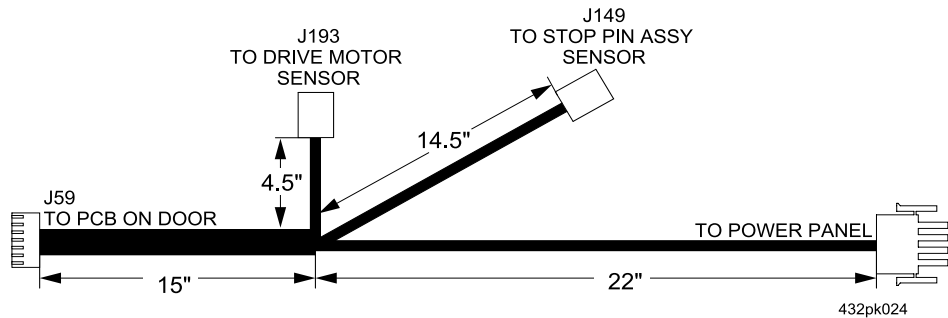
18. Connect harness part #4329027 to the motion sensor, stop pin solenoid switch, J-59 on the interface board, and to the bottom side of the power panel. Make sure harness is routed through clamps found in machine. ("See Figure 5"Page 4) ("See Figure 6"Page 4)

19. Connect the two pin connector to the stop pin solenoid.
20. Connect all connectors back to interface board according to wiring diagram.
21. Re-attach cover to interface board and mount back in machine.



**Figure 5**

22. Remove cover from control board.



**Figure 6**

23. Wearing electrostatic discharge protection, carefully remove the current EPROM and replace with the new EPROM per the instructions beginning on the next page.
24. Replace control board cover.
25. Replace stop pin assembly cover.
26. Restore power to machine.

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# CAUTION



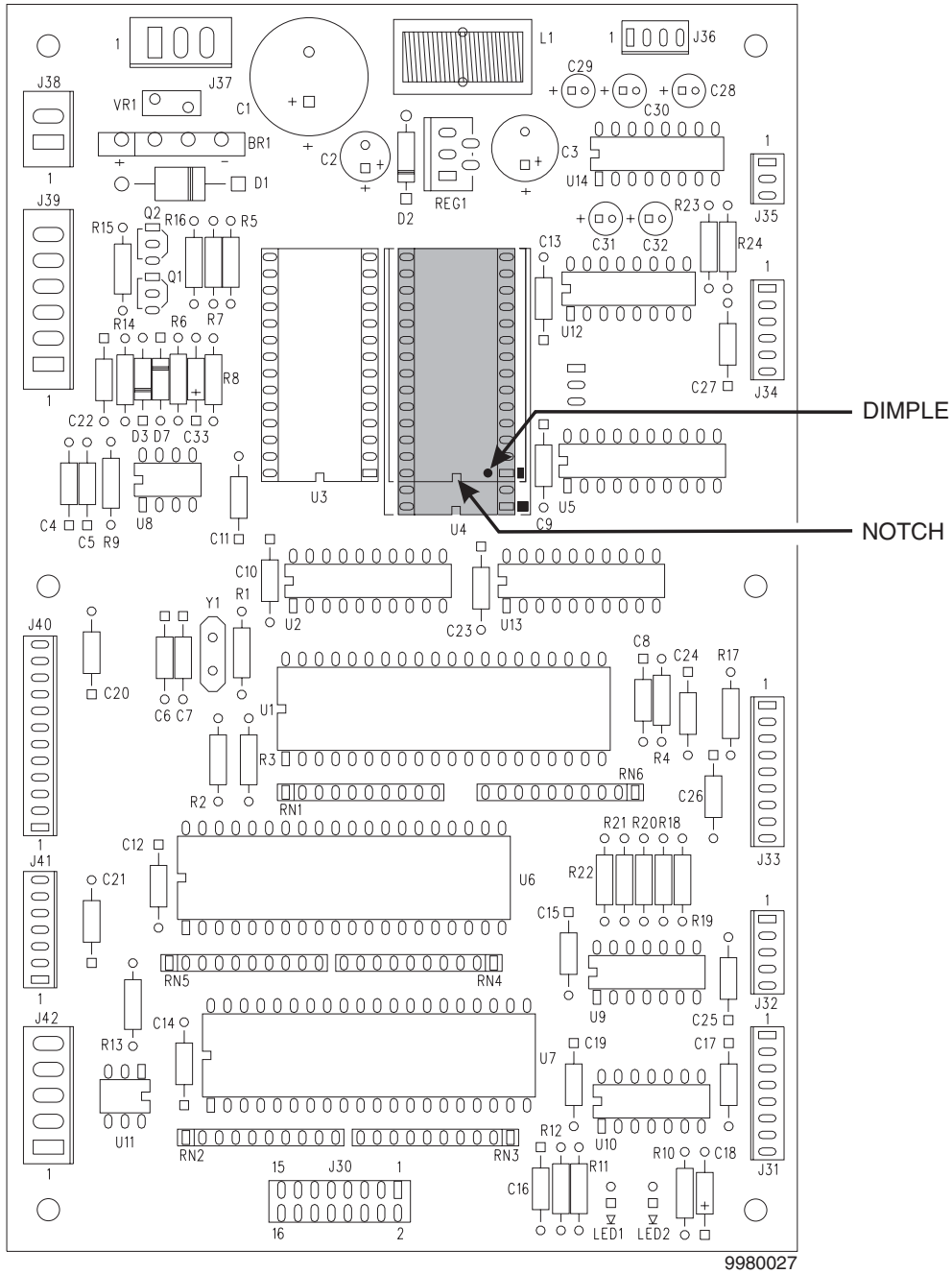
## PREVENTING CIRCUIT DAMAGE FROM ELECTROSTATIC DISCHARGE

Electronic printed circuit board assemblies are susceptible to physical damage, for example, broken components due to rough handling. In addition, printed circuit board assemblies (and their components, such as EPROMs) are subject to damage by various types of static electricity. Damage of this type is called **ELECTROSTATIC DISCHARGE (ESD)**. ESD can cause immediate damage to components on a circuit board assembly, or it can weaken them to the point where the damage will show up days, weeks, or months later.

### CAUTION:

Observe electrostatic discharge precautions to protect the electronics from damage while they are being handled. Wear a grounded wrist strap connected to any unpainted metal part of the machine. If a wrist strap is not available, remove any electrostatic charge (static electricity) from yourself by touching any unpainted metal part of the machine before handling any electronic component. Do this often during the removal and installation process.

1. On Figure 7, see the shaded area representing EPROM U4. These devices have various means of showing how they are to be oriented on the circuit board. Some EPROMs will have a small notch which matches the notch printed on the controller board. Other EPROMs may have a small dimple as shown, others may have a painted stripe. Take note of where the locating mark is on the EPROM currently mounted on the controller board. Your new EPROM will be placed in that same orientation. Some EPROMs have 28 pins, so it does not use the entire socket. The shaded area on the figure is where the new EPROM will go, leaving the four holes at the bottom of the socket empty.
2. Carefully remove the old EPROM from the controller board. Use an EPROM removal tool or a thin tool such as a small screwdriver or knife blade to gently rock the EPROM from its socket.
3. Carefully insert the new EPROM in the controller board. **MAKE SURE THE LOCATING MARK (NOTCH, DIMPLE, STRIPE) ON THE EPROM IS FACING THE SAME WAY AS ON THE OLD EPROM!** Make sure each of the pins is in its respective hole in the socket before pushing the EPROM into place.
4. Carefully seat the EPROM into place using uniform pressure all around.
5. Replace all items you removed.
6. Turn the machine power ON.

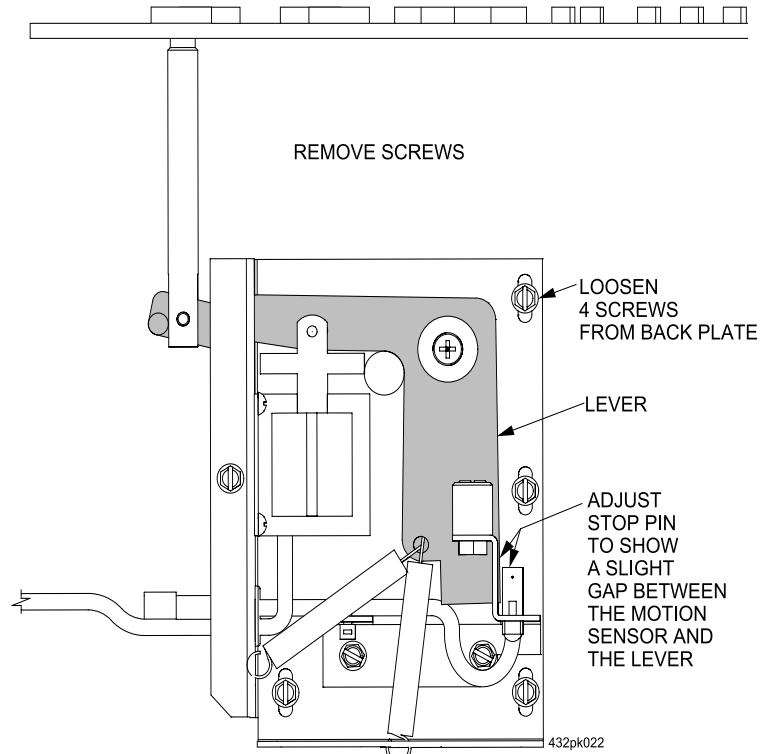


**Figure 7**

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## Adjust Stop Pin Assembly

1. Turn the machine power switch OFF. Disconnect the stop pin harness.
2. Remove stop pin assembly cover.
3. Loosen the four screws that locate the solenoid housing to the bracket.
4. Make sure the stop pin is seated in a hole in the drum plate.
5. Push up on the bottom of the housing to raise the assembly to the correct working position. There should be a small gap inbetween the motion sensor and lever as shown below. ("See Figure 8"Page 7)
6. Once proper position is found tighten screws that attach the plate to the stop pin housing. Check this adjustment all the way around the drum to ensure proper adjustment.
7. Replace stop pin assembly cover.



**Figure 8**