



SERVICE BULLETIN 303

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Date: 30 Mar 09

Revision: 00

SUBJECT: X-axis Harness Conversion Kit Installation

Number of
People
Required



MODELS: RVV NG

KIT NUMBER	KIT DESCRIPTION
355089	X-axis Harness Conversion Kit

TOOLS REQUIRED: Phillips screwdriver; 1/4" (7 mm) and 5/16" (8 mm) sockets, snips, pliers, binder clip

ESTIMATED INSTALLATION TIME: 50 minutes

REASON FOR BULLETIN: The original one-piece X-axis harness assembly, leading from the DMC board to the product cup on the RVV NG, has been replaced by a newer three-piece harness system. The original harness is still available as a service part; however, it can be converted to the newer-style harnessing. This bulletin explains the procedure for updating to the three-piece X-axis harnessing system.



The following areas of this vender contain voltage which can cause serious injury or even death: the main power cord, supplying 115-230 VAC to the evaporator, EMI filter, and refrigeration system; the power line from the EMI filter to the ballast and transformer; and the ballast, which can produce upwards of 600 volts. Remove all power from the vender before working in any of these areas.

INSTALLATION INSTRUCTIONS:

1. Remove power by unplugging the vender's power cord from the AC voltage source (wall outlet). **WARNING: ELECTROCUTION HAZARD!!! Do not remove power by pulling out the fuse. Disconnect the vender's power cord.**
2. Using a Phillips screwdriver, remove the screws that secure the control board covers. Then, remove the covers.
3. Disconnect the X-axis harnesses from the DMC board at positions P2 and P3. (See Figure 1.)
4. Remove the seven screws that secure the harness retainer. Then, remove the harness retainer. (See Figure 2.)
5. Carefully cut the wire ties that secure the harnesses in the harness trough. Take care to not cut any of the harnesses.
6. Remove the two screws that secure the ballast tray in the vender. Then, pull the ballast tray straight out. (See Figure 3.)
7. Remove the black gum from the hole around the X-axis harness where it goes into the cold section of the door. (See Figure 4.)
8. Pull the X-axis harness up through the hole.
9. Remove the right-side fluorescent bulb.
10. Carefully cut the wire ties that secure the X-axis harnessing to the ballast harnessing. Also, cut the wire tie that secures the harnessing to the top of the chain guard.
11. Remove the harnessing from the slot at the top of the chain guard. (See Figure 5.)
12. Remove the two nuts that secure the harness chain to the chain guard. (See Figure 6.) **Note:** These two nuts may not be visible without separating the wires.
13. Remove the encoder cap from the X-axis motor assembly. (See Figure 7.)
14. Unplug both harness connections to the X-axis motor assembly.
15. Cut the wire tie that secures the harnessing below the X-axis motor assembly.
16. Remove the two screws that secure the larger harness chain below the X-axis motor. Next, remove the screw that secures the smaller harness chain below the X-axis motor. (See Figure 8.) **Note:** When removing the larger harness chain, the wire tie cable clamp will also come out. This part will no longer be needed and can be discarded.
17. Using pliers, bend down the tab that secures the harness on the bottom of the cup. (See Figure 9.) **Note:** Only bend this tab just enough to allow the harness to be removed. If the tab is bent too far, it will be difficult to properly bend it back in place later, causing the tab to create an obstruction in the product cup's left and right travel.
18. Remove the screw that secures the harness chain to the bottom of the cup. (See Figure 9.) **Note:** Do not remove the screw that secures the metal bracket to the bottom of the cup.

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19. Remove the three screws that secure the cup floor on the product cup assembly. Then, carefully remove the cup floor by lifting straight up.
20. Disconnect the harness from position P1 on the product cup logic board. Remove the harness from the cup through the hole in the bottom.
21. Reinstall the cup floor on the product cup assembly. Push it all the way down onto the cup. **Note:** *At this point, it is not necessary to secure the cup floor with the screws. This step is done to prevent the small parts inside the cup from falling out. These parts will fall out in the event the cup is tilted, turned over, or dropped.*
22. Completely remove the X-axis harness assembly from the door.
23. Attach the end of the elevator cup assembly harness to the chain adapter bracket as shown in Figure 10.
24. Install the chain adapter bracket and the large cable chain harness below the X-axis motor assembly. (See Figure 11.) Secure these with the two screws that were removed in Step 16.
25. Attach the cup end of the elevator cup assembly harness to the bottom of the product cup, using the screw that was removed in Step 18.
26. Route the harness through the metal bracket, above the tab that was bent in Step 17. Then, bend the tab up completely to secure the harness in place.
27. Carefully lift the cup floor off the product cup.
28. Route the X-axis harness into the product cup. Loop it around the post in the cup, as shown in Figure 12. Plug the harness in to position P1 on the product cup logic boards.
29. Reinstall the cup floor on the product cup assembly. Secure it with the three screws that were removed in Step 19.
30. Plug in the large cable chain harness connections to the X-motor and the encoder. Also, plug in the connection for the elevator cup assembly harness. (See Figure 13.)
31. Adjust the cables in the large cable chain harness so that it appears as shown in Figure 14.
32. Secure the harnessing below the X-axis motor with wire ties.
33. Attach the other end of the chain to the chain guard, using the two nuts that were removed in Step 12.
34. Route the harnessing through the slot at the top of the chain guard.
35. Route the harnessing down behind the chain guard to the bottom of the door.
36. Firmly pull the harnessing down so that it is not slack behind the chain guard. Secure the X-axis harnessing to the ballast harnessing below the end of the chain guard with two wire ties spaced 3" to 4" (8 to 10 cm) apart.
37. Plug the DMC – X-axis Motor Harness and the DMC – Cup Harness to the DMC board at positions P2 and P3, respectively. (See Figure 1.)
38. Route the two harnesses from the DMC board into the top of the harness trough, then down the side of the door to the bottom of the trough.
39. Reinstall the harness retainer, using the seven screws that were removed in Step 4.
40. Route the two harnesses from the bottom of the trough to the hole in the bottom of the cold section near the Y-axis motor assembly, then up into the cold section of the door.
41. Plug the two harnesses from the DMC board to the harnessing from the cable chain.
42. Reinstall the ballast tray, and secure it with the two screws that were removed in Step 6.
43. Dress up the X-axis harnessing and tie it together using wire ties from the kit. (See Figure 15.)
44. Reseal the hole near the Y-axis motor assembly with the black gum that was removed in Step 7 or with Permagum®.
45. Restore power by plugging the vender's power cord into the AC voltage source (wall outlet).
46. Test vend multiple selections for product reliability.

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Figure 1.

DMC X-axis harness connections at positions P2 and P3

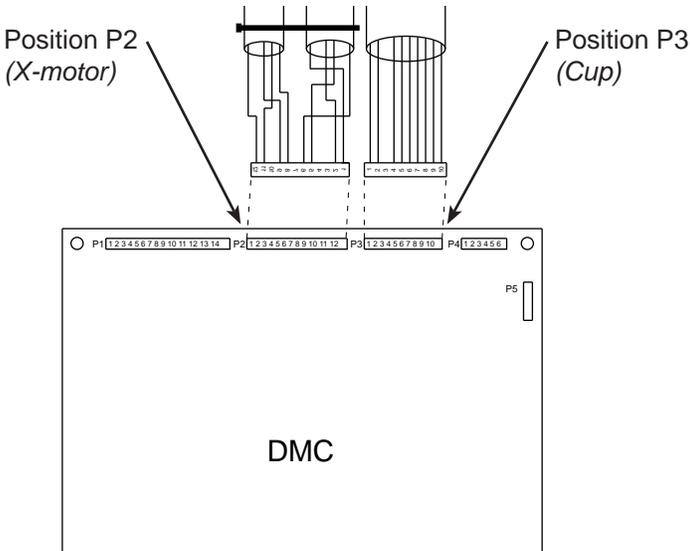


Figure 2.

Location of the harness retainer

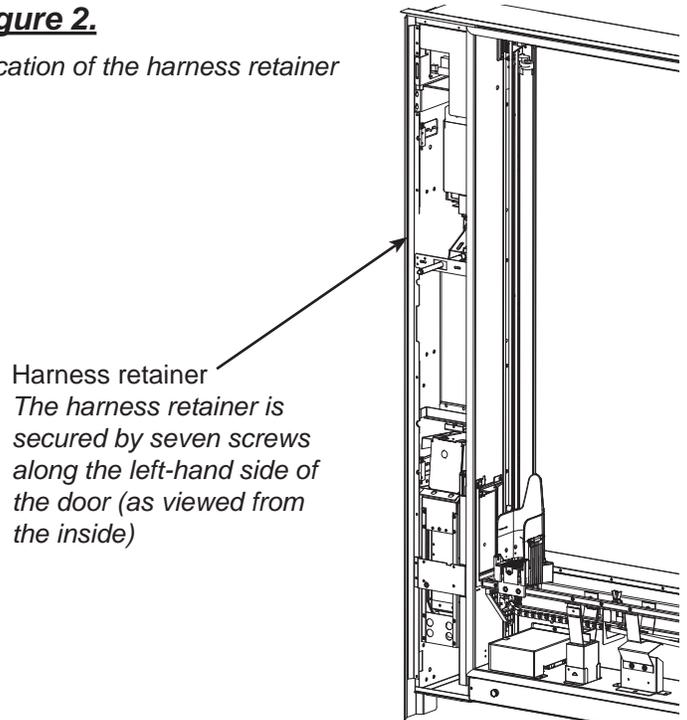


Figure 3.

Ballast tray

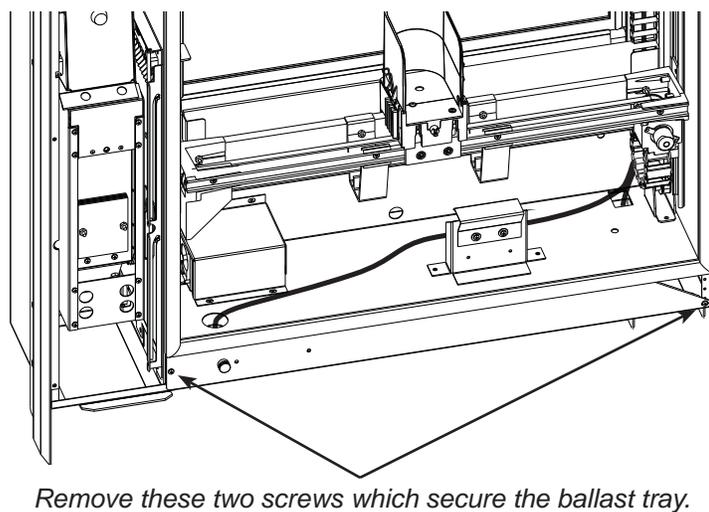
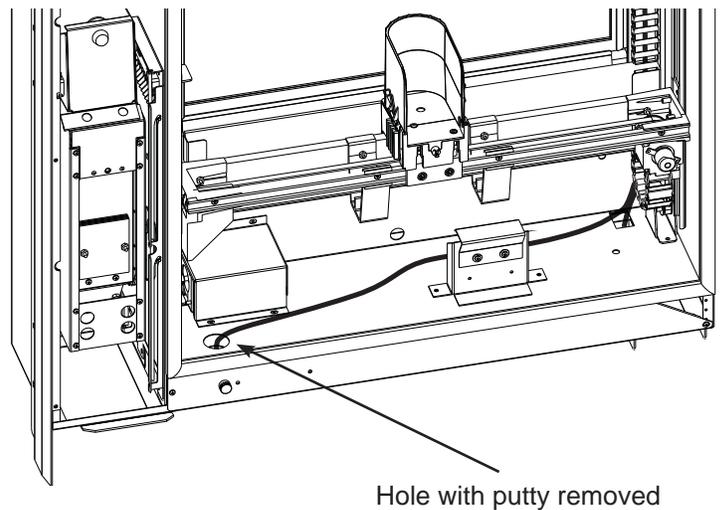


Figure 4.

Remove the putty from around the X-axis harness where it goes into the cold section of the door.



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Figure 5.

After cutting the wire tie that secures the X-axis harness to the top of the chain guard, remove the harnessing from this slot.

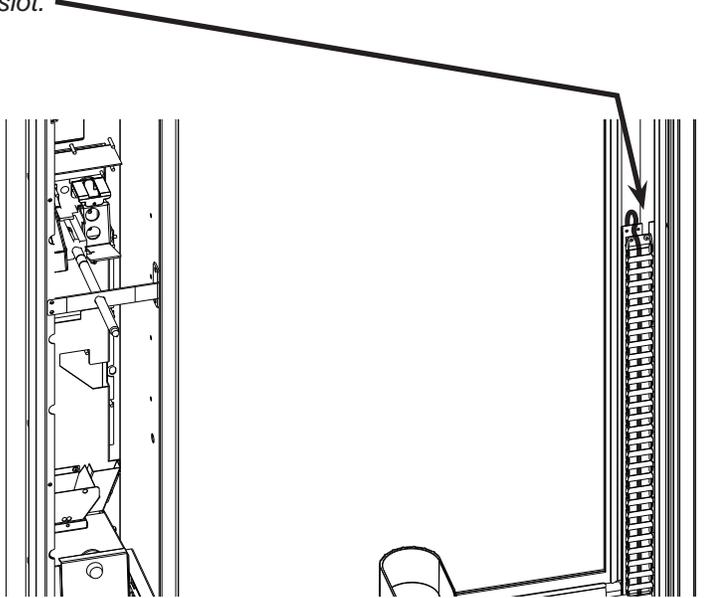


Figure 6.

Remove the two nuts that secure the harness chain to the chain guard. (Note: In this photograph, one of the nuts is already removed.)



Figure 7.

X-axis motor assembly with encoder cap removed. (Note: Some vendors may not have the metal X-motor cover shown here.)

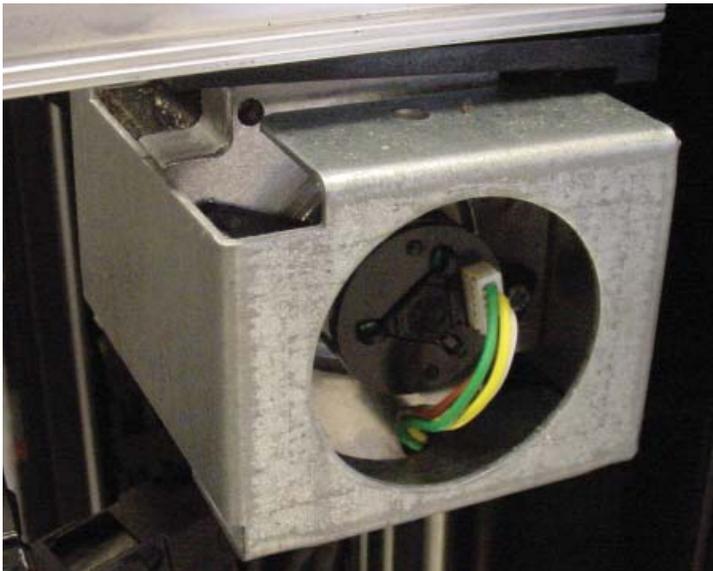
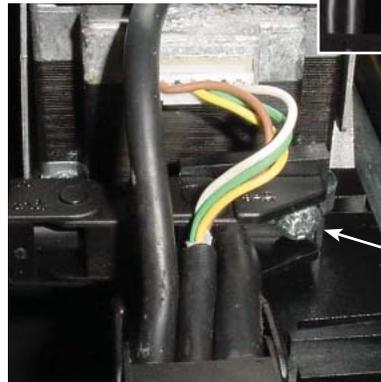


Figure 8.

Remove the screws that secure the harness chains below the X-axis motor assembly.



Remove the two screws that secure the larger harness chain.

Then, remove the screw that secures the smaller harness chain.

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Figure 9.

Bend down the metal tab that secures the harness to the bottom of the cup. Then, remove the screw that secures the harness chain to the bottom of the cup.

Screw (partially hidden by harness in this picture) Metal tab



Figure 10. Attach the end of the elevator cup assembly harness to the chain adapter bracket.

Secure the chain adapter bracket to the elevator cup assembly harness by inserting the screw through the back side of the bracket (as shown), with the lock nut to the front.

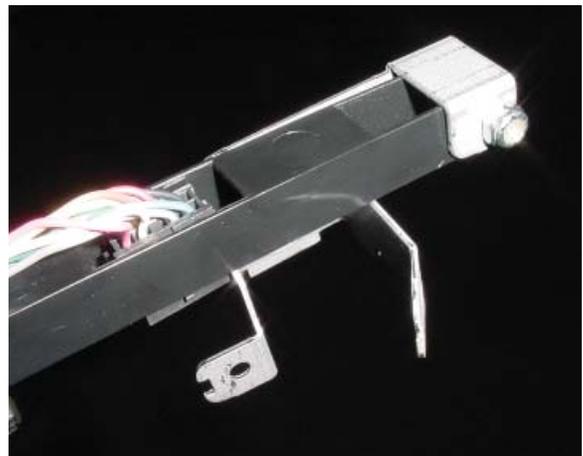


Figure 11.

Secure the chain adapter bracket and large cable chain with the two screws that previously secured the wire tie cable clamp and X-axis harness below the X-axis motor assembly.

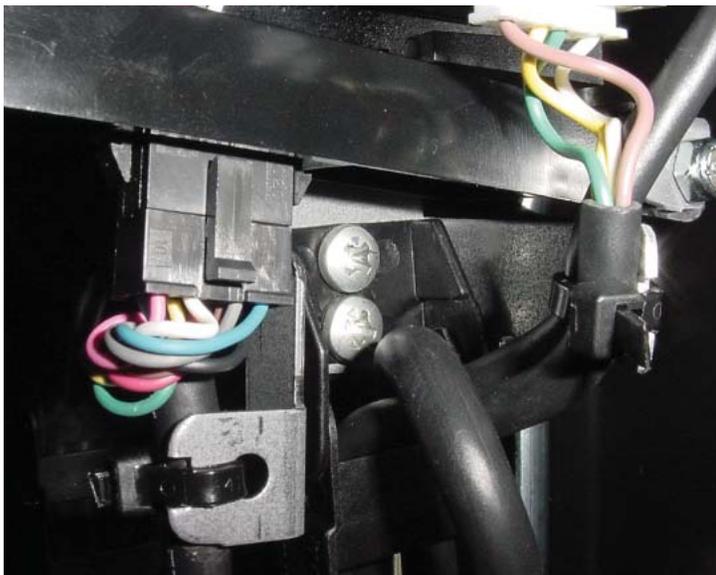
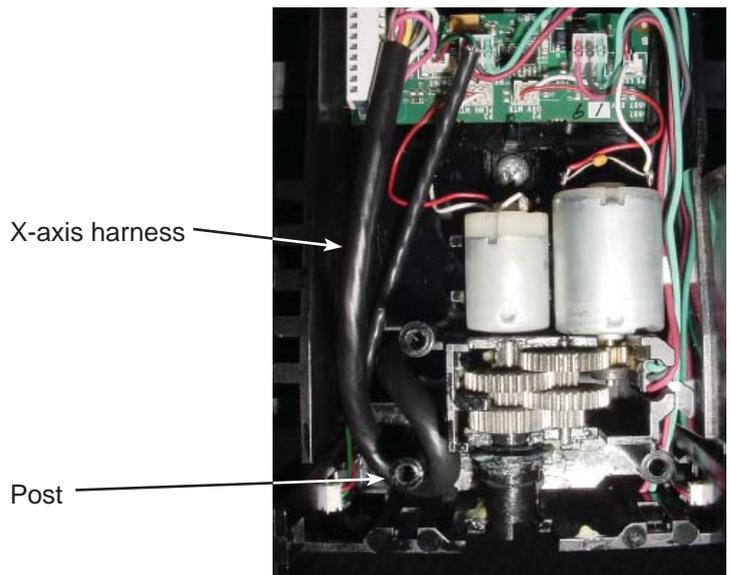


Figure 12.

Loop the X-axis harness around the post in the cup as shown.



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Figure 13.

Plug in the large cable chain harness connections to the X-axis motor and the encoder. Also, plug in the connection for the elevator cup assembly harness.

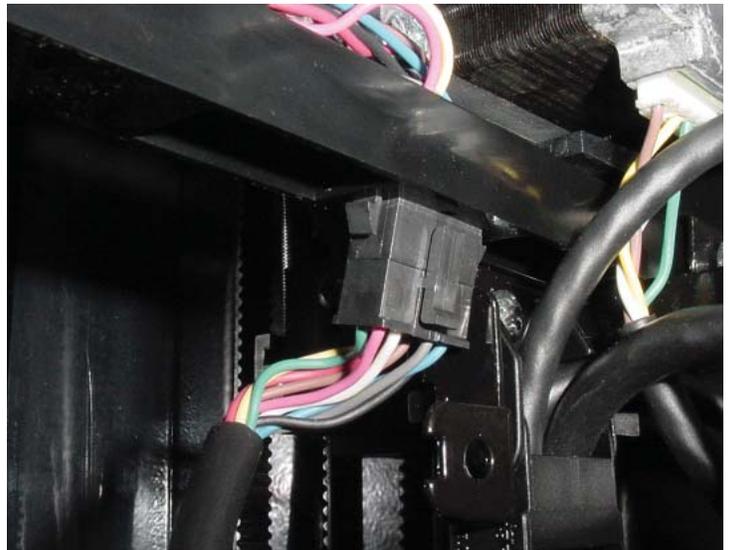
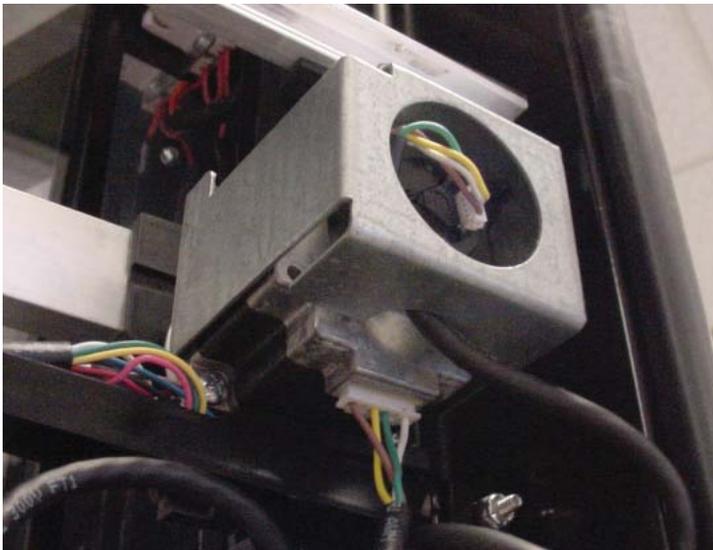


Figure 14.

Adjust the cables in the large cable chain harness so that it appears as shown here, then secure it with wire ties.

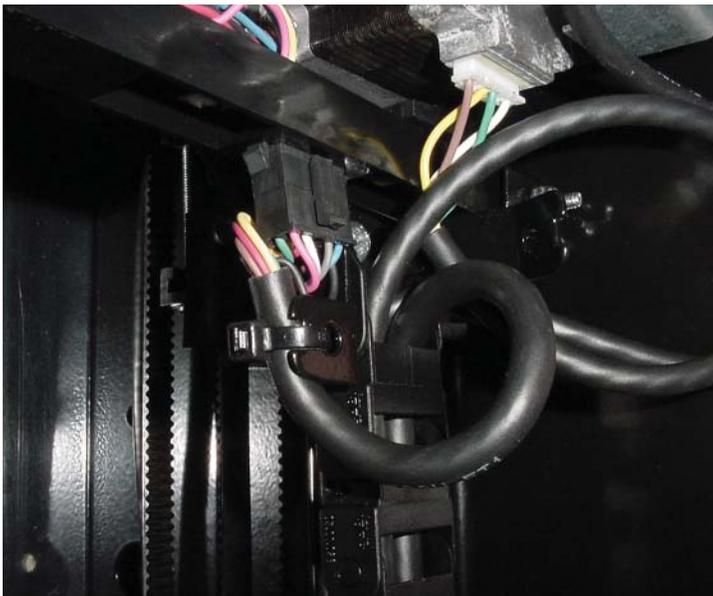


Figure 15.

Dress up the X-axis harnessing in the bottom of the door with wire ties.



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