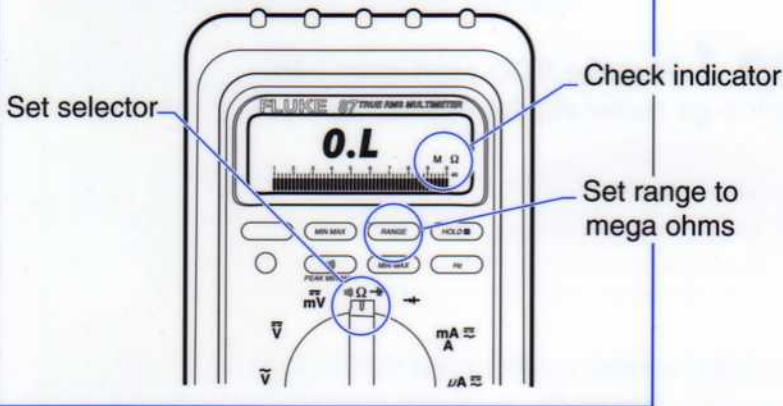
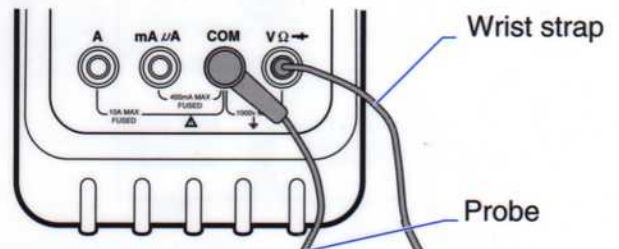


# ESD wrist strap testing using a multimeter

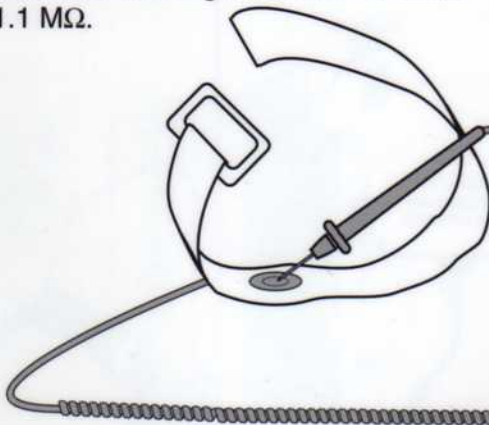
**Step 1** Set the range of the multimeter to megohms (MΩ).



**Step 2** Plug the wrist strap's banana jack into the voltage/ohm (VΩ) port on the multimeter. Connect a probe to the COM port on the multimeter.



**Step 3** Test the conductive metal button inside the wrist strap to verify that the resistance reading is between 0.9 MΩ and 1.1 MΩ.



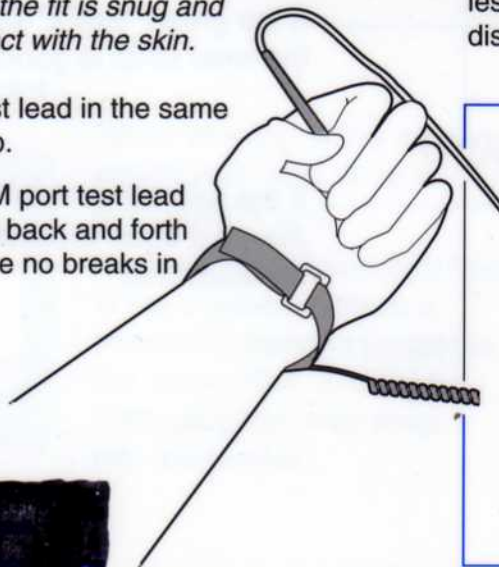
If the resistance is outside this range, discard the wrist strap.



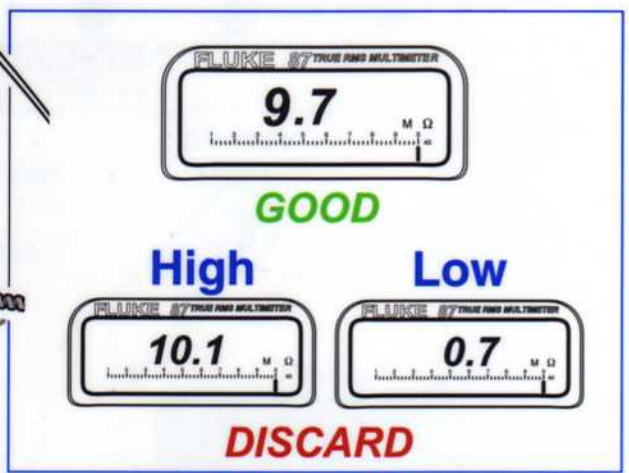
**Step 4** Connect the ESD strap to your wrist. Make sure the fit is snug and the band makes contact with the skin.

Hold the COM port test lead in the same hand as the wrist strap.

While holding the COM port test lead firmly, stretch the cord back and forth to ensure that there are no breaks in continuity.



If the resulting resistance of the strap is less than 0.9 MΩ or greater than 10 MΩ, discard the wrist strap.



# ESD wrist strap testing using a go/no-go tester

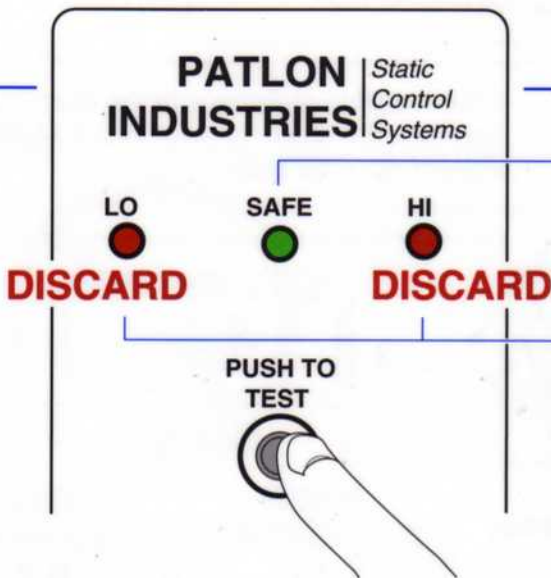
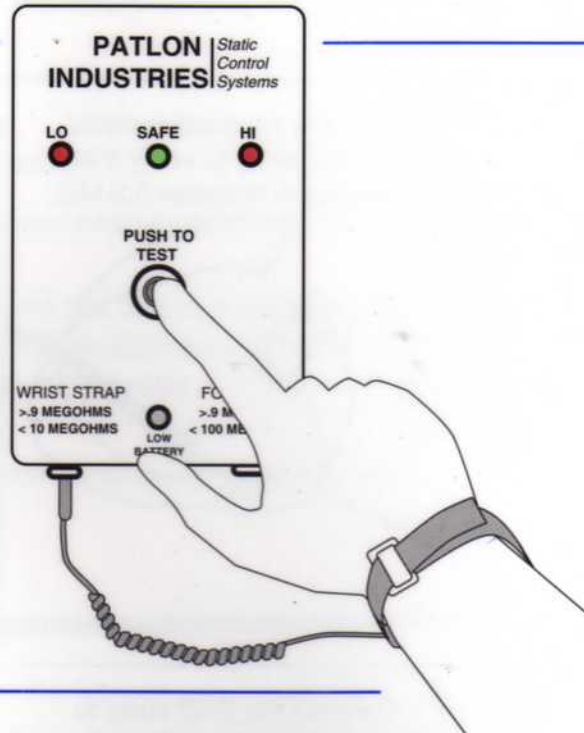


**Step 1** Plug the ESD wrist strap into the go/no-go tester via the wrist strap jack.

Wrist strap

**Step 2** Secure the ESD strap to your wrist. Make sure the fit is snug and the band makes contact with the skin.

Using the hand which the wrist strap has been placed upon, press the test button. While holding the button, stretch the cord back and forth to ensure there are no breaks in continuity.



If the green "SAFE" LED illuminates, the wrist strap is good.

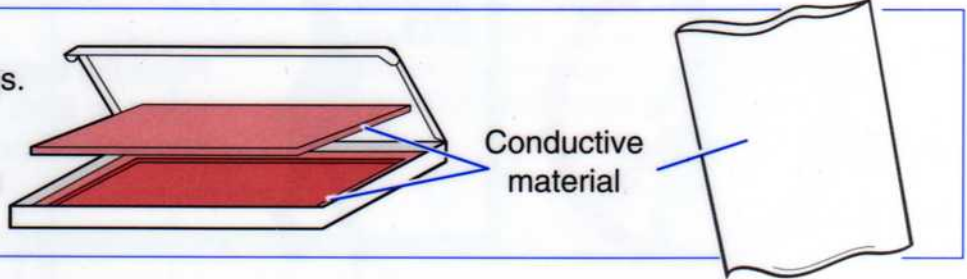
If the red "HI" or "LO" LEDs illuminate, the wrist strap is defective and should be discarded.

# Proper handling of circuit packs to avoid ESD

The following is a list of standard ESD precautions for handling and storing circuit packs. This simple set of guidelines will help avoid ESD, a major cause of recent outages.

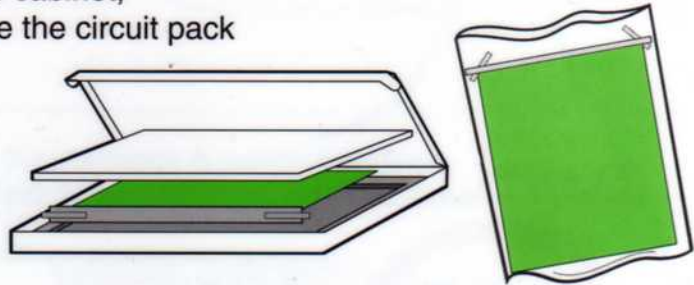
Always transport circuit packs in their ESD boxes or ESD bags.

Always leave a circuit pack in its closed ESD box or ESD bag when not in use.



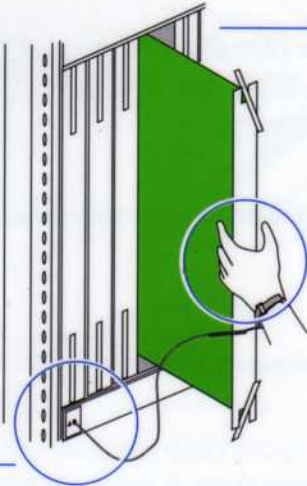
When moving a circuit pack from a spares cabinet, attach a wrist strap to the frame then place the circuit pack into an ESD box or ESD bag.

While moving a circuit pack to or from a spares cabinet, make sure that it is either in an ESD box or ESD bag.



## Step 1

Attach ESD wrist strap.

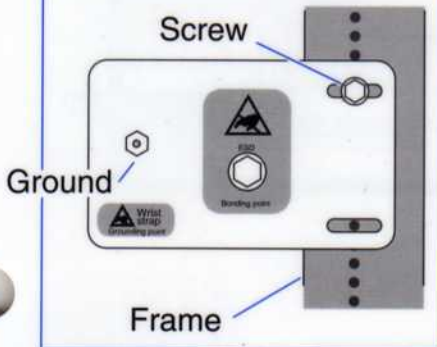


When inserting or removing circuit packs, always attach your ESD wrist strap to the frame *first*. Afterward, hold the circuit pack by its faceplate as you insert or remove it from the frame.

## Step 2

Grasp by face plate only.

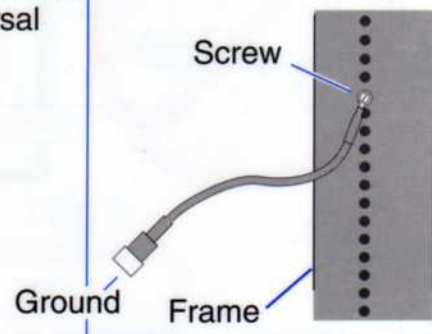
### Universal Grounding Point



When working at the rear of the frame, attach your wrist strap to a Universal Grounding Point.

If a Universal Grounding Point is not available, attach a temporary banana jumper to the frame (Det. 37, tool kit). Then plug the wrist strap into the jumper.

### Banana jumper



# Proper handling of circuit packs to avoid ESD

**Don't** walk around with an unprotected circuit pack.



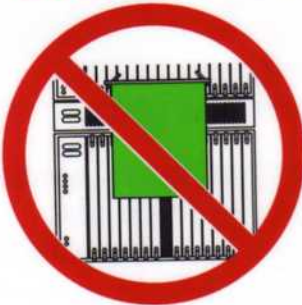
**Do**



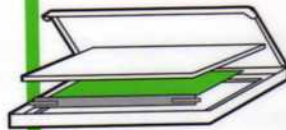
Place the circuit pack in either an ESD box or ESD bag for transport.



**Don't** leave circuit packs hanging on the frame.



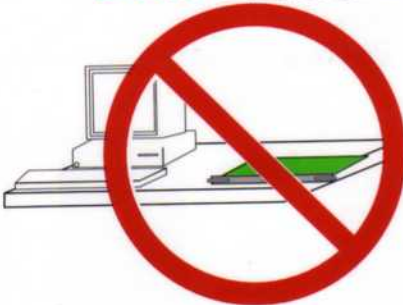
**Do**



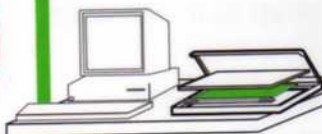
Place the circuit pack in either an ESD box or ESD bag for storage.



**Don't** leave an unprotected circuit pack on a table or other work surface.



**Do**



Place the circuit pack in either an ESD box or ESD bag for storage.

