

CDX *Using a DVOM to measure continuity*

Objective:

Use a DVOM to measure continuity.

This workshop procedure guide contains:

- Step-by-step instructions for completing the workshop procedure.

Personal safety:

Whenever you perform a task in the workshop you must use personal protective clothing and equipment that is appropriate for the task and which conforms to your local safety regulations and policies. Among other items, this may include:

- Work clothing - such as coveralls and steel-capped footwear.
- Eye protection - such as safety glasses and face masks.
- Ear protection - such as earmuffs and earplugs.
- Hand protection – such as rubber gloves and barrier cream.
- Respiratory equipment – such as face masks and valved respirators.

If you are not certain what is appropriate or required, ask your supervisor.

Safety check:

- Make sure the hood stay rod is secure.
- Always make sure that you wear the appropriate personal protection equipment before starting the job. It is very easy to hurt yourself even when the most exhaustive protection measures are taken.
- Always make sure that your work area/environment is as safe as you can make it. Do not use damaged, broken or worn out workshop equipment.
- Always follow any manufacturer's personal safety instructions to prevent damage to the vehicle you are servicing.
- Make sure that you understand and observe all legislative and personal safety procedures when carrying out the following tasks. If you are unsure of what these are, ask your supervisor.

Points to note:

- DVOM stands for Digital Volts Ohms Meter.
- DVOMs come in many forms. Always follow the specific manufacturer's instructions in the use of the meter, or serious damage either to the meter and/or to the electrical circuit could result.
- When checking continuity with a DVOM, the power supplied to the circuit during operation **MUST** be switched OFF.

1. Set up the meter for a continuity test



Make sure there is no power connected to any circuit that you test for continuity, then prepare the Digital Volt Ohm Meter or DVOM for testing voltage



by inserting the black probe lead into the "common" input port, and the red probe lead into the "Volt/ Ohms" input port.

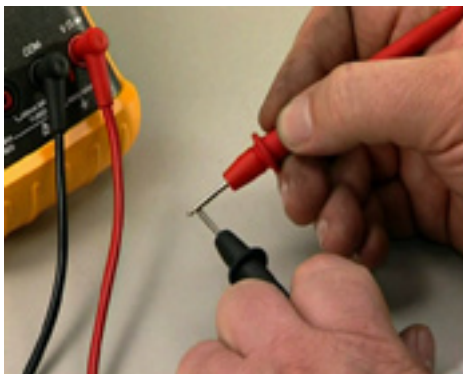
2. Check the meter function



Turn the rotary dial of the DVOM to the mode that includes the term "Continuity".



The Digital Display should now give you an 'Out of Limits' reading indicating that there is not a continuous circuit connection between the two probes.

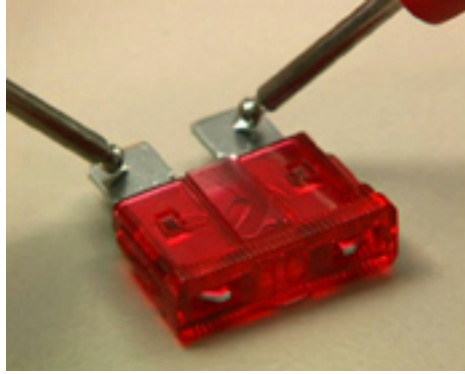


Touch the probe ends together.

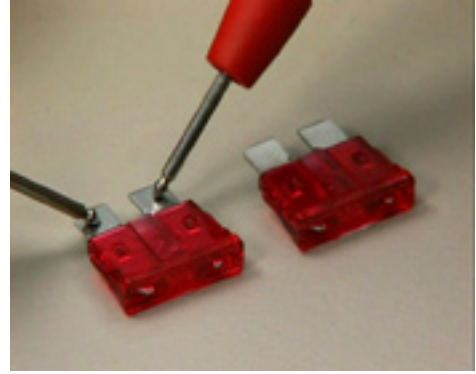


The display should now give a zero reading, which indicates no resistance. This means that there is a continuous circuit through the probes. Some meters also indicate continuity with an audible tone.

3. Check a fuse



One typical use of the test is to determine whether a fuse needs to be replaced. If the fuse has been overloaded and 'blown', then it will no longer complete a circuit when a DVOM is used to test it.



To check this, place the black probe on one end of the fuse and the red probe on the other.

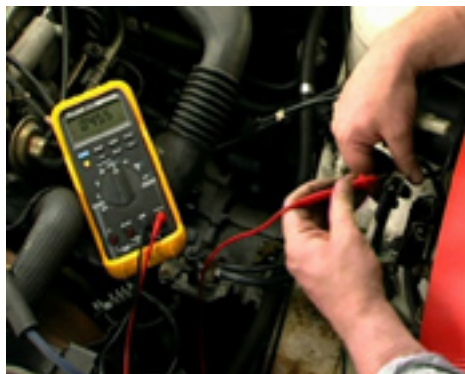


If the fuse is functioning correctly then the reading will be zero, indicating a complete, or closed, circuit.



If the fuse is open, then there will be no reading and no tone, indicating an incomplete, or open, circuit.

4. Test other components



A continuity test is used to check for a broken circuit caused by a break in a cable or lead, or caused by a component becoming disconnected.



The same test can also confirm whether there is continuity between components, which are not supposed to be connected. When this occurs, it is known as a 'short circuit'. This test can also be used to check circuits that are suspected to have a high resistance