

AVS SERVICE INSTRUCTIONS

STEP TYPE	Electric K, T, G, I and E	Last Updated	19/6/06
TITLE	Step Failure Diagnostics	Revision	1

AVS STEP FAILURE IN OPEN POSITION

Test 1: With side door **open** / hand brake **on**/ ignition **on**/ step switch **on** (fully auto):

Listen close to step underneath vehicle when someone tries to close it by operating the rocker switch (fail safe) or closing the side door (fully auto). (For fully auto steps make sure the side door is open for at least five minutes first to allow the motor thermal switch to cool if the step is jammed in any way and the motor has been trying to close the step. The switch will automatically switch off the motor and needs to cool before it will reconnect.)

If no noise from the step – go to test 2

If step makes a noise but does not move – go to test 3

Test 2: Check 10 amp fuse in power lead to / in control box.

If blown - replace and recheck step operation.

If fuse does not blow again immediately or has not failed proceed to test 4:

If fuse blows immediately on attempted operation of the step:

Pull apart the loom connection plug at back of step unit and check state of the internal pin connectors.

If pins show signs of water contamination clean and re-connect plug and retest step operation. (BA type steps do not have a 5 pin plug but a six way plug inside the vehicle which will have to be located – first part of this test does not apply)

If pins OK - retry operating step with 5 pin plug still disconnected (disconnect 6 way plug on BA steps) – if fuse still blows there is a short in the loom from the step plug back to the control box - check loom wires back to control box have not been trapped or become frayed anywhere obvious.

If fuse does not blow with plug disconnected – the short is between the step plug and the step motor unit. - test with a circuit tester earthed to step case and the other lead to each of the power pins in the step loom plug in turn as shown in diagram below:

If there is a circuit from either pin to the step case – there is a short in one of the step motor wires probably within the step unit – remove lower cover of step and check the wires from the motor have not been trapped or become frayed and are shorting out on the case.

Test 3: If step motor is making a noise and continues to make a noise for as long as rocker switch is held down or door closed (fully auto) – check that there is no obstruction in the step unit preventing it closing such as a piece of gravel trapped in the slides / gear mesh of twin arm types. – remove lower cover and disconnect the link arm/s from the tread. Check that the tread can slide in and out easily and check gear meshing point of gear arms on twin arm units are free of any particles that could be jamming them. - If it is clear that there is no external contamination preventing the step moving then the gearbox of the motor has failed and a new motor unit will be required.

Test 4: Unplug step from body loom at plug at rear of step unit. (On BA type steps the plug is inside the vehicle and is 6 way) With a circuit tester and step unit still deployed, check that there is no circuit between the stowed micro-switch pin and the micro-switches common return pin in the step loom plug. (see diag below).

If there is a circuit – the stowed micro-switch has stuck closed or has failed closed. Remove bottom cover of step and check the stowed micro-switch (the one that would be activated when the step is closed) does not have its lever jammed up with mud or debris. If it cannot be freed off or has failed internally it will require replacing.

If there is no circuit – go to Test 5



Test 5: At the unplugged step loom plug at the back of the step unit or inside vehicle on BA type steps apply a 12v supply across the two power pins (see diag below).

If the step remains dead - it is likely that the motor has failed. Check first that the leads from the plug to the motor are OK particularly within the step unit – if OK then the motor has failed and will require replacing.

If the motor starts to buzz but the step does not move – reverse the polarity across the power pins and see if the step then closes. If the step can be deployed and stowed by applying the direct 12v supply across the power pins (reversing it to change the step direction) – the fault lies either in the control unit, rocker switch (fail safe), or in the vehicle loom. Go to test 6.

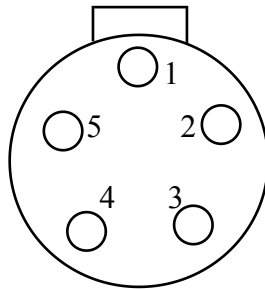
Test 6: (Fail safe only) First check the wire terminal connections of the blue wires to the rocker switch. If they appear to be OK, unplug the two blue wires or blue and blue/white wires from the rocker switch and with a piece of wire connect them together.

If the step closes - then there is a fault with the switch and it will have to be replaced.

If the step still does not close - Do a thorough check on the multi-plug connectors to the control unit – if these are in order it is likely that the control unit has failed.

Diag 1

View of pins in
plug from step



No	Function
1	Power to motor
2	Stow m/switch
3	Deploy m/switch
4	Power to motor
5	M/switch common return