AVS SERVICE INSTRUCTIONS

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

STEP FAILURE IN STOWED POSITION

Test 1: With side door open / hand brake on/ ignition on/ step switch on:

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 2:
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.

If pins OK - re try operating step with plug still disconnected - 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 within the step 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 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 2: Do a visual check on all wire connections to the rocker switch, (fail safe) multi plug connectors to the control unit, power switch (fully auto) and also check the door switch is earthing when the door is opened / hand brake is earthing when applied. Also check the main power lead and earth leads from the control unit are connected properly. If these all appear to be correct proceed to Test 3.

Test 3: With someone listening close to the step underneath the vehicle - check for any sound coming from the step motor when the rocker switch is pressed / door is opened to deploy the step. (make sure door is open / handbrake applied / ignition on / step power switch is on (fully auto only) . (Note if the step is wired up as fully auto - close the door for 5 mins before carrying out this test to allow the thermal switch on the step motor to cool and reconnect if the motor has been trying to deploy the step for some time but has been prevented by some obstruction. It will have switched off automatically and will not re-connect until the thermal switch has cooled down.)

If step motor is making a noise and continues to make a noise for as long as rocker switch is held down or door open (fully auto) - check that there is no obstruction in the step unit preventing it deploying 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 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.

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If step motor starts then cuts out with a small movement of the tread - Check that the door / handbrake lead is connected properly to the switches and these are earthing when the door is open / handbrake applied. (make sure ignition is also switched on). - If these are correct then the control unit is faulty and will need replacing.

If step motor is silent - unplug the step loom plug at the rear of the step unit and apply a separate 12v supply across the two power pins in the step loom plug (see diag below).

If the step motor remains silent - the motor has failed and will have to be replaced.

If step motor makes a noise but the step does not move - reverse the polarity and check that the step deploys. If the step does not deploy but the motor still makes a noise go back to stage above to check for objects that may be trapped in the step mechanism above.

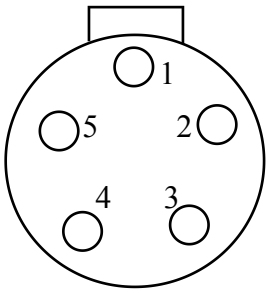
If step can be deployed and stowed by applying a direct 12v supply to the step power pins but ceases to operate when the plug is reconnected and operated by normal methods - deploy step using the direst power supply to the pins then reconnect the plug and see if the step will close. - If the step will close but does not deploy - the deployed micro-switch may have failed. (this is the micro switch that is activated by the motor arm when the step is fully deployed).

With the step in any position other than fully deployed - use a circuit tester and check for a circuit across the deployed microswitch pin and common return pin - see diag below. If there is a circuit - the micro-switch is operating correctly and there is a fault in the step control box. This will have to be replaced.

If there is no circuit - the deployed micro-switch has failed and will have to be replaced.

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

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