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BULLETIN #169

VORTEX DX13-1**REPAIR AND TROUBLESHOOTING GUIDE**

The attached Troubleshooting Guide on the following page lists causes and remedies for known DX13 problems.

Service Bulletin #149 also has some very useful advice on what and how to check this model.

When repairing a Vortex VRDX13-1, please also note the following:

1. Remove and check the condition of the base plate. These often end up bent upwards in the centre, reducing the clearance to components on the rectifier PCB. It should be flat or slightly dished down in the centre. Reshape it so there is good clearance to the components inside the unit.
Similarly check the base plate's mounting supports and reshape these to give more clearance to components inside the case.
2. Check that there is continuity from the earth to the chassis.
3. Have a good visual check inside the machine for damaged components.
4. Clean out dust from inside the machine with compressed air.



Hugh Stewart,
Technical Service Co-ordinator - Marketing

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SYMPTOMS	Possible Cause	Test	Repair
No output	Open circuit resistors in "soft start" circuit on FET Assembly PCB	Check 2 x 56 ohm 4 W resistors in series on FET Assembly PCB.	Replace resistors
		If resistors damaged, check operation of relay – it should "click in" approx. 1 second after power on.	Replace relay
	Poor connections	Check for good electrical connections	Clean and tighten connections
	Faulty Driver PCB	Test components on Driver PCB as per Service Bulletin #149	Replace Driver PCB. FET Assembly PCB may need to be replaced as well.
	Faulty Rectifier PCB	Test components on Rectifier PCB as per Service Bulletin #149	Replace Rectifier PCB
	Faulty FET Assembly PCB	Test components on FET Assembly PCB as per Service Bulletin #149	Replace FETs or FET Assembly PCB. Replace Driver PCB also.
	Faulty relay or contacts	Remove relay on FET PCB and check for burnt or damaged contacts on base.	Replace or repair.
Uncontrolled output	Faulty shunt	Check shunt for continuity	Repair connection to shunt or replace shunt
	Faulty Driver PCB	Test components on Driver PCB as per Service Bulletin #149.	Replace faulty components or replace Driver PCB.
	Faulty current control VR or Front Control Panel	Check operation of VR. Check for faulty connection/wiring on Control Panel.	Replace VR. Repair faulty connection/wiring
Noise	Loose primary cable connection	Is there a crackly sound present whenever the unit has power applied?	Tighten primary cable connections.
Fan does not run	Faulty fan or connections	Check continuity of fan and connections	Replace fan or repair connections.
		Faulty power supply Does power indicator on front panel light?	Yes – power supply good
		No – check power supply section of Control/Driver PCB as per Service Bulletin #149.	Repair or replace Control/Driver PCB
Burning smell, smoke, damaged components	Damaged components on Input Filter PCB.	Check for damage to other components	Replace Filter PCB Advise customer to check power supply, don't use on generator.