

Service Notice N°: ESN0087 Rev.0
Date: 10 January 2024

Improvement machine reliability and Inverter failure rate

Product	K Number	Code Number	Serial Numbers
QUICKMIG 250&300	K14379-1, K14380-1	50605, 50606	All machine having serial number below P12401xxxxx
FILCORD i250 & i300	W100000315, W100000316	50621, 50622	
CITOLINE i250 & i300	W100000317, W100000318	50623, 50624	



WARNING

Be sure that only qualified individuals perform all installation, operation, maintenance and repair procedures. Lincoln Electric is not responsible for damages caused by improper installation, improper care or abnormal operation.

Before opening or disassembling any parts of the product, the power must be turned OFF and the product must be disconnected from the input power source. Only Lincoln trained service technicians are authorized to perform these modifications.

Symptom/s

Faulty inverter board (shorted IGBTs)

Cause of the Problem

- The transformer saturation is too high and could cause damages of IGBT's (main reason of the failure)
- Inconsistent quality of components (IGBT) and protection against environmental conditions not sufficient

Correction of the Problem

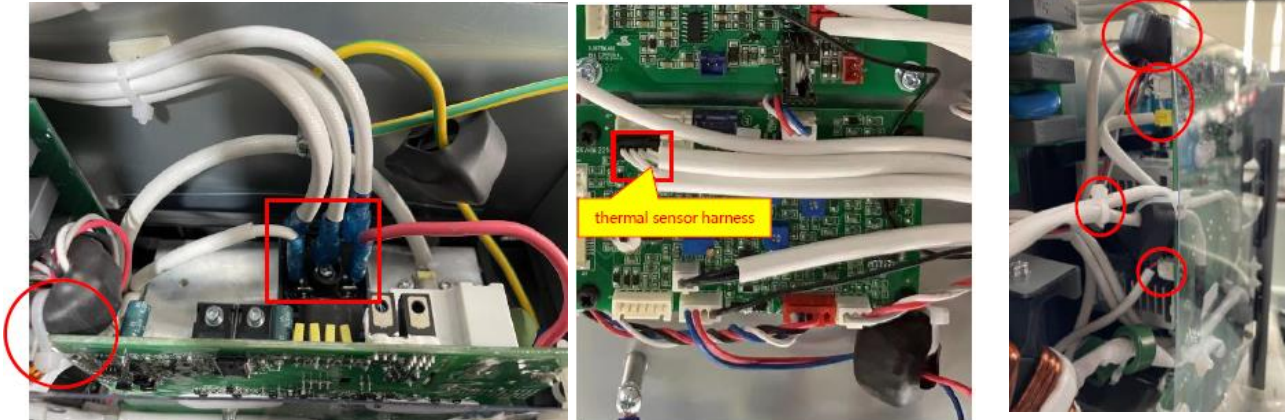
Replace the inverter board (S33572-17) and simultaneously the main transformer (S33572-14). The above two spare parts are updated to the latest revised version which includes all corrective actions.

IMPORTANT: when installing new transformer, a jumper (that should be delivered with the transformer) must be plugged into connector J17 on the control board (where the thermal sensor of the old transformer was connected).

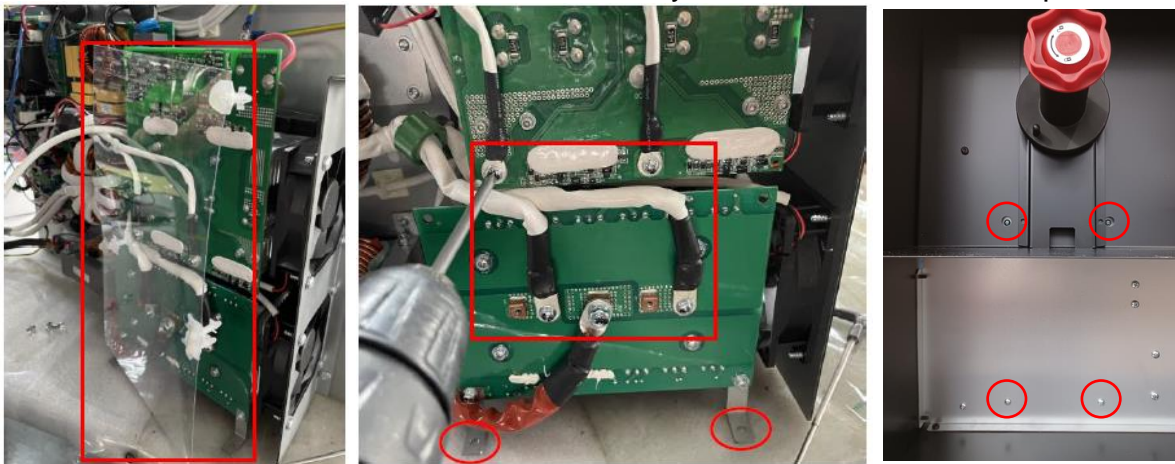
Details are available into the following removal and replacement procedure:

Remove the inverter PCB

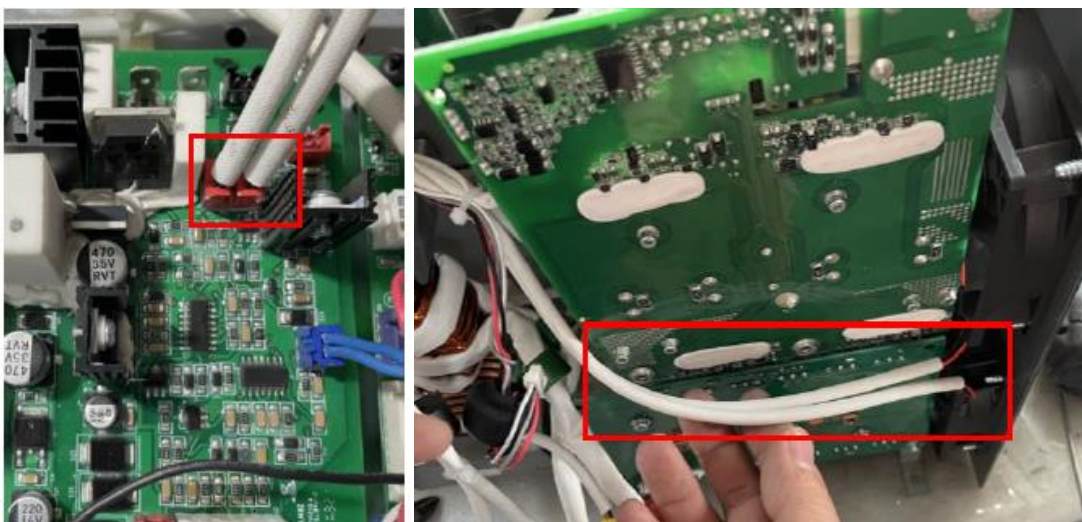
1. Disconnect the harness on input bridge.
2. Disconnect the thermal sensor harness plug on control PCB; Disconnect all harness plug on Inverter & Output rectifier PCB assembly.
3. Cut the cable tie which fix the ferrite core and harness



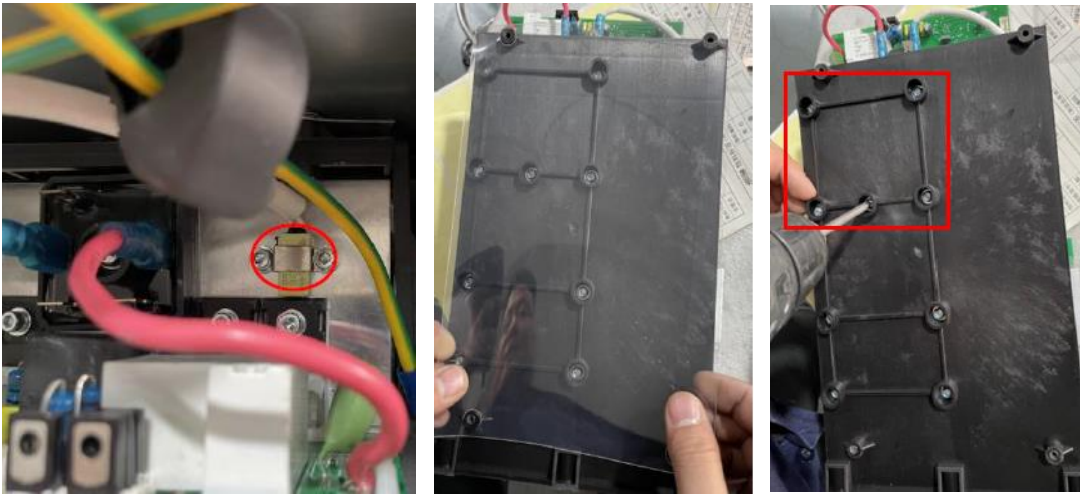
4. Removed the plastic insulation sheet.
5. Remove the leads of main transformer and output choke from Inverter & Rectifier PCB assembly
6. Remove all Inverter & Rectifier PCB assembly install screws on divider panel and base panel.



7. Disconnect the fan harness from Aux. PCB, then the Inverter & Output rectifier PCB assembly can be removed from the machine.

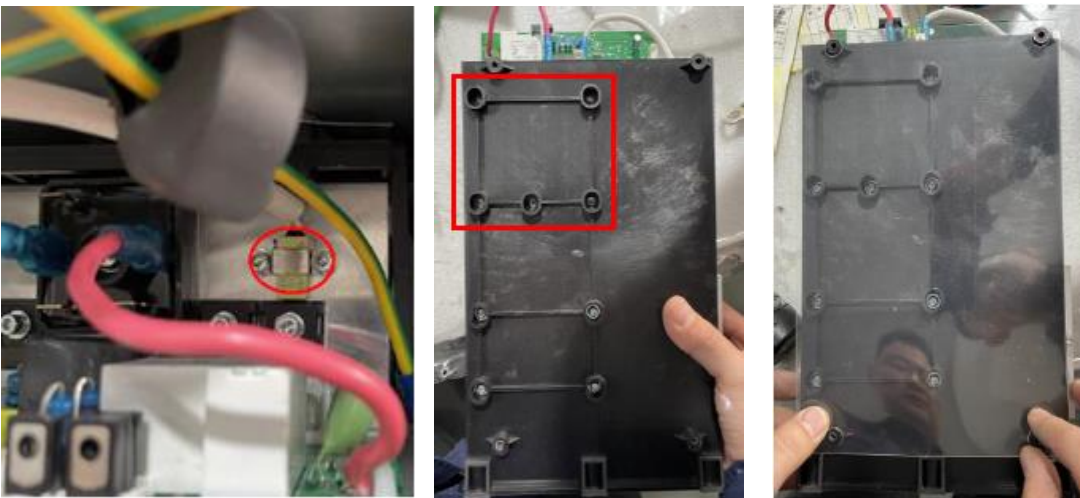


8. Take off the heat sensor from Inverter PCB heatsink.
9. Take off the plastic insulation sheet. And then remove the 5 screws in red square to take off the Inverter PCB.

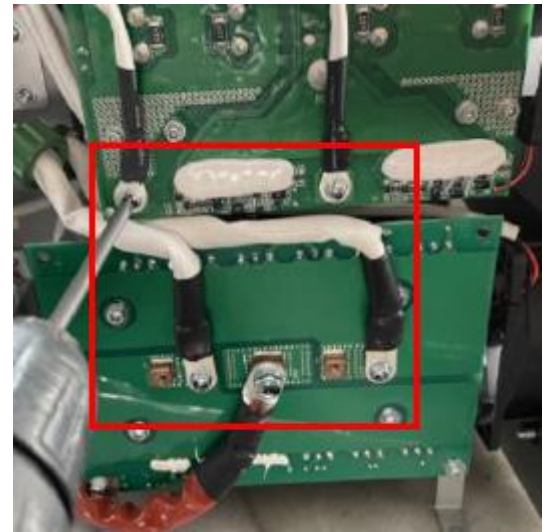
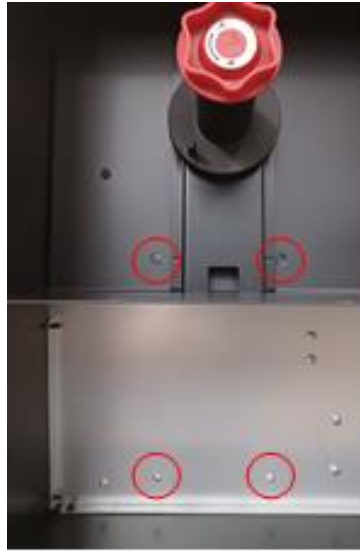


Install the new inverter PCB

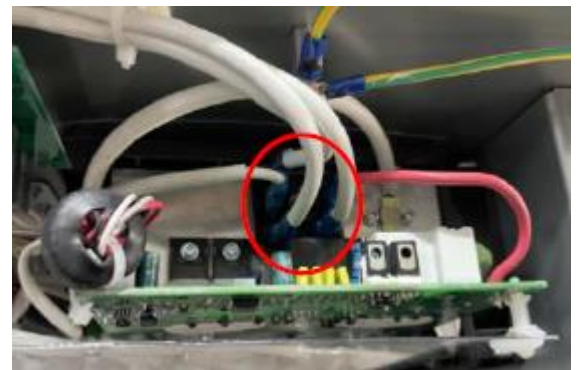
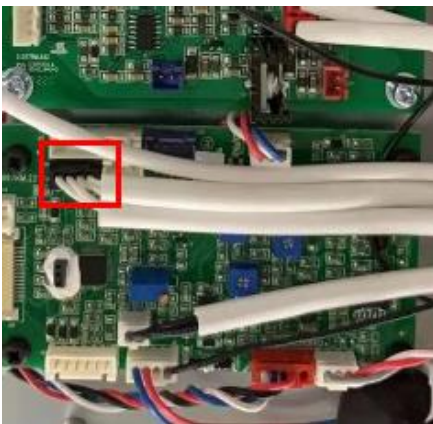
1. Install the thermal sensor on the new Inverter PCB heat sink, same as it on original PCB.
2. Install the new Inverter PCB on bracket by the 5 screws in red square.
3. Put on the plastic insulation sheet, the new Inverter & Output rectifier PCB finished.



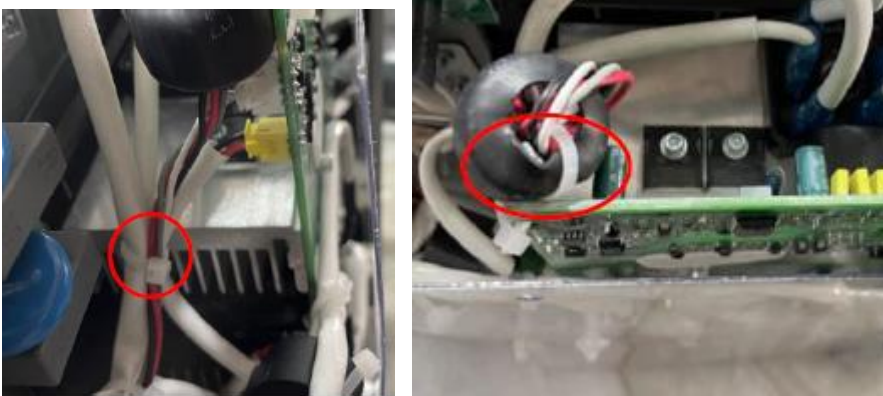
4. Put the new Inverter and output rectifier PCB Assembly into machine.
5. Install the assembly by the screws on divider panel and base panel.
6. Reconnect the leads of main transformer and output choke.



7. Reconnect the fan harness to Aux. PCB.
8. Reconnect the thermal sensors harness to control PCB.
9. Reconnect all the harness to Inverter & output rectifier PCB and connect the harness to input bridge.

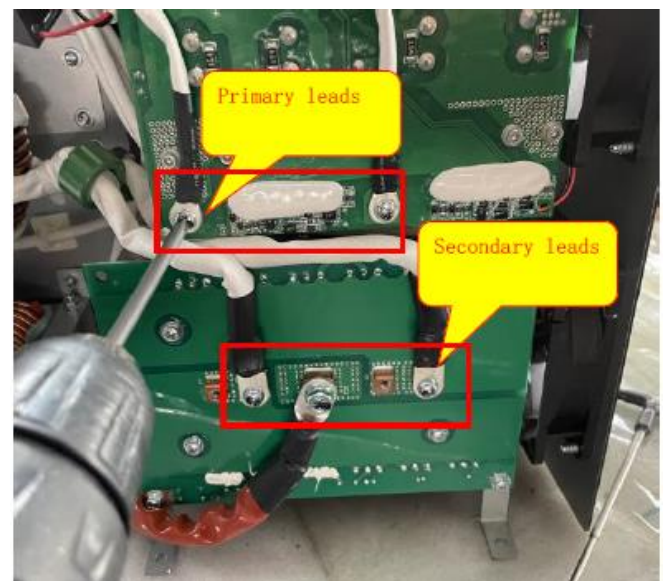
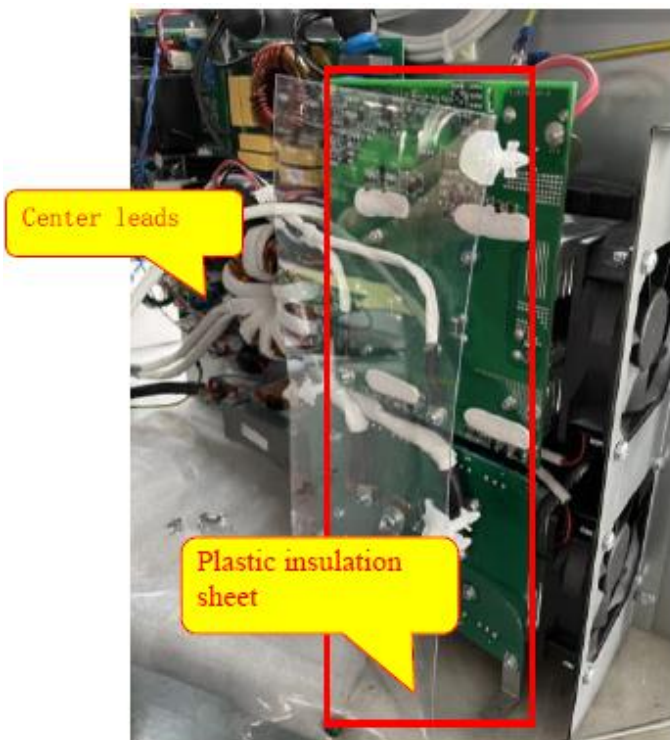


10. Add all the cable tie which have been cut during the disassembly steps.

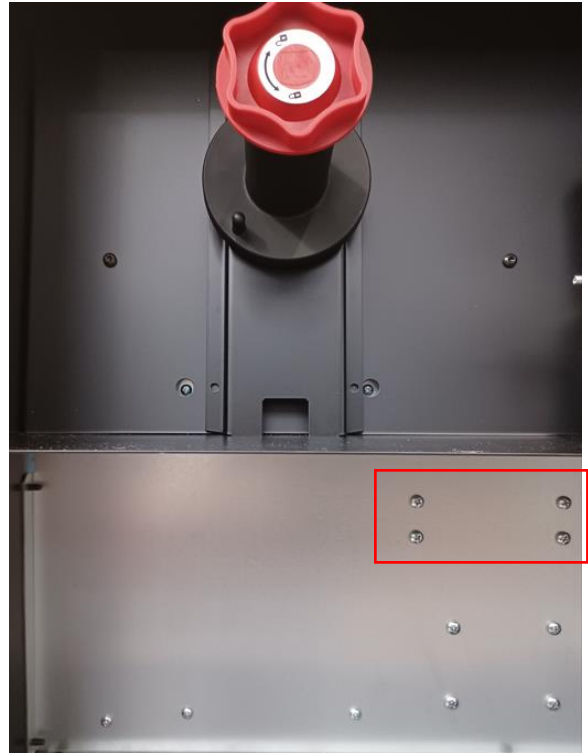
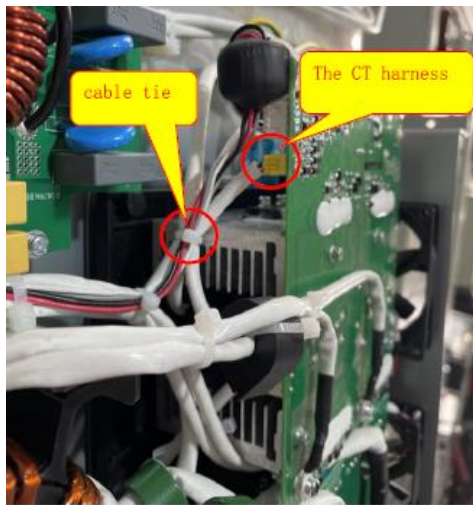


Main Transformer Removal

1. Remove the plastic insulation sheet on Inverter & Output rectifier PCB assembly.
2. Disconnect the primary/secondary leads from PCB and disconnect the center lead from output stud.

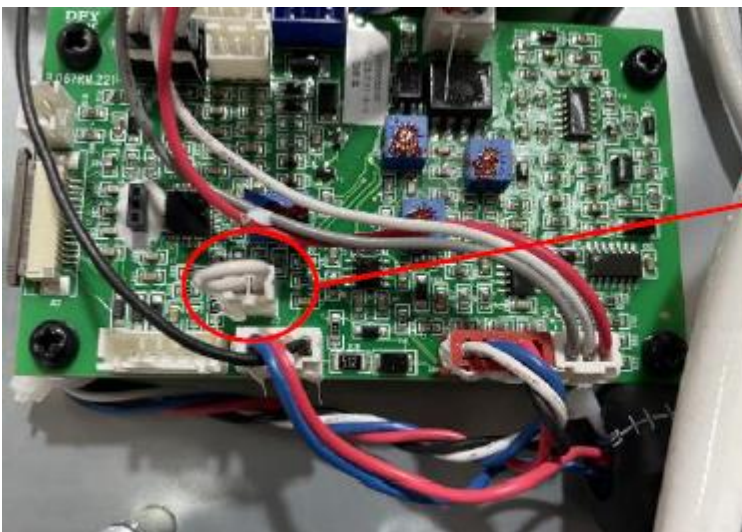


3. Disconnect the transformer thermal sensor from control PCB and disconnect the CT harness from Inverter PCB.
4. Cut the cable tie which on relate harness.
5. Take off the main transformer by remove the 4 screws on divider panel.



Install the new Transformer

1. Add a 2 Pin jumper on the control PCB, where before thermal sensor was plug on.



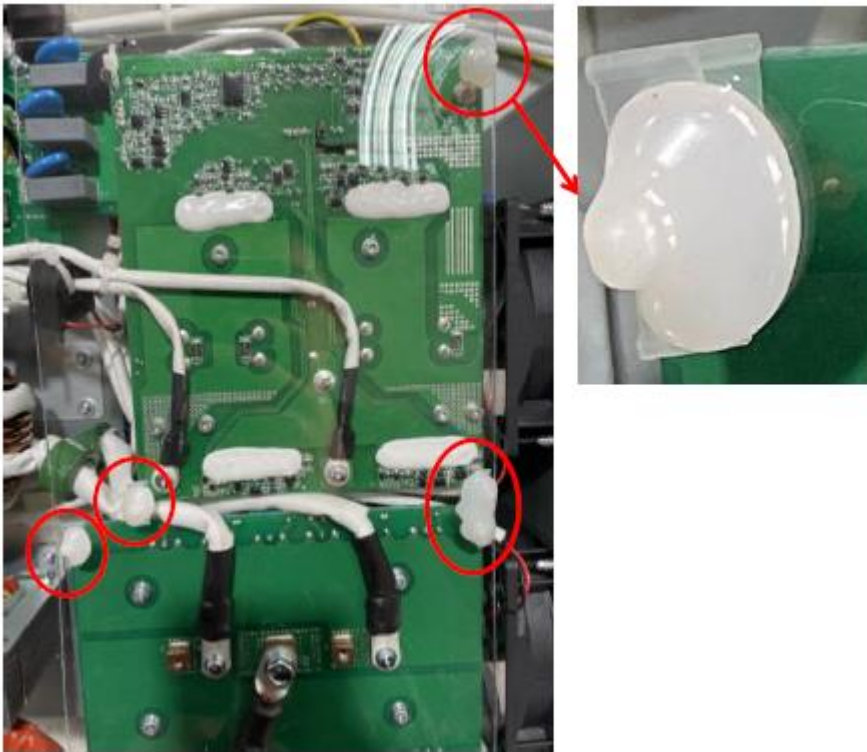
2. Install the new transformer at the same location, by 4 screws (M5*10, with plate and spring washer) on divider panel



3. Connect the primary, secondary and center leads of main transformer to PCB and output stud, same as original transformer.



4. Recover the insulation sheet on Inverter and Output PCB.



5. Connect the CT harness plug on Inverter PCB and recover the cable tie which were cut during transformer removal step.

6. Add 2 insulator on the bracket of main transformer, to fix harness like before.

