 <b>MANUFACTURING SPECIFICATION</b>		<b>NO. MFG-372</b>	<b>REV. A</b>				
<b>MODEL(S):</b> – ALL LMF AND LMWS LEC-2 INSTALLATIONS			SHT 1 OF 7				
<b>DESCRIPTION:</b> LEC-2 PCB REMOVAL							
<b>PREPARED</b>	<b>DATE</b>	<b>ENGR APPROVAL</b>	<b>DATE</b>	<b>PROD APPROVAL</b>	<b>DATE</b>	<b>RELEASE EO</b>	<b>DATE</b>
K. Breland	7/13/18	S. Campbell	7/13/18	T. Houy	7/13/18	44929	7/13/18

**Purpose:** Provide information on how to remove and replace an LEC-2 Controller Card in an LMF Laser Marker or LMWS Marking System. In general the firmware in the LEC-2 Controller card is not updated in the field.

*Note:* This procedure is not for the LEC-1 card. Please contact your service representative for the LEC-1 update procedure if required.

- Equipment Required:**
1. Compatible LEC-2 (Basic, Standard, Advanced) P7 Control Card
  2. #2 Philips Screwdriver
  3. 1" Open-ended Wrench
  4. 7mm Nut Driver
  5. 3/16" or 4.5mm driver
  6. Grounding wrist strap

- Procedure:**
1. Remove the 16 screws used to secure the chassis cover. If you are removing or replacing the LEC-2 controller card in an LMWS, separate the workstation from the Marker chassis.



REVISIONS				
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A	07/13/18	44929	K. Breland	T. Houy

- Using a 1" wrench, loosen the fiber optic cable support harness. If the inside nut begins to rotate, it may be necessary to counter torque with an adjustable wrench.

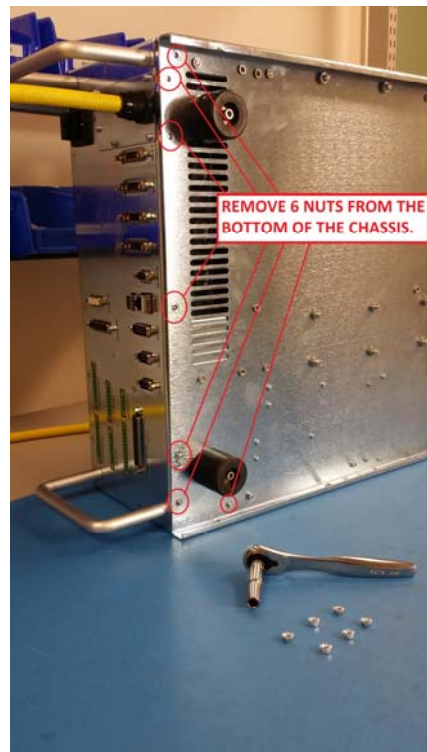


**WARNING:** BE SURE NOT TO BEND THE CABLE FURTHER THAN THE MAXIMUM RADIUS AS THIS WILL DAMAGE THE GLASS FIBER IN THE CABLE AND IS EXPENSIVE TO REPLACE.

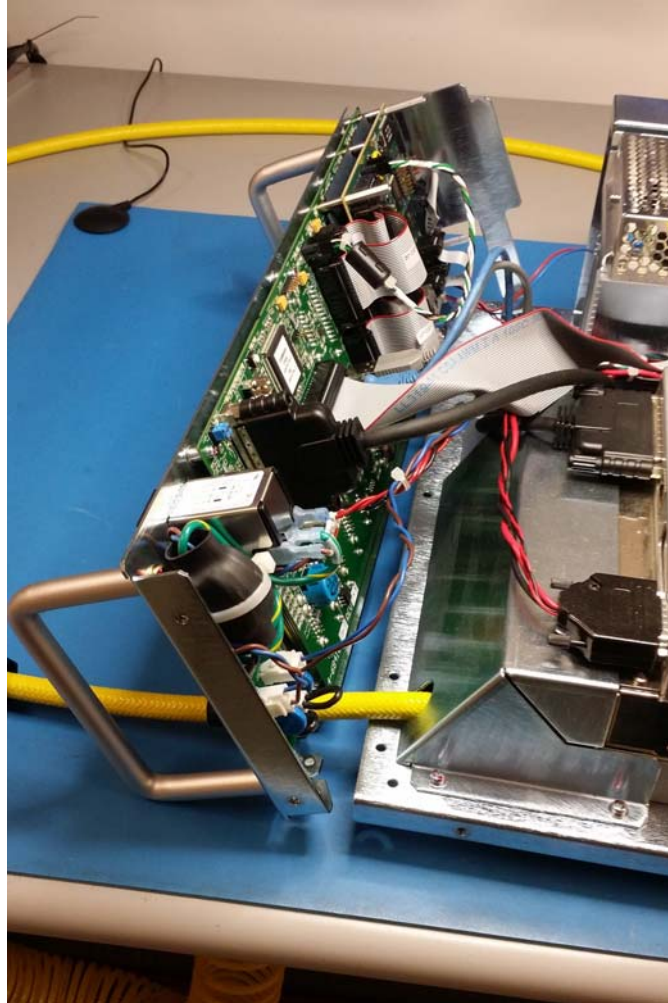
3. Pull back the support harness a couple of inches.



4. Carefully flip the system on its side.
5. Remove the 6 nuts (AMYA # 465-217) from the rear side of the base.



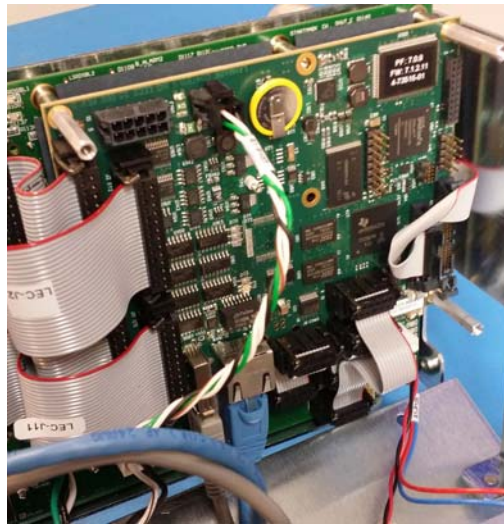
6. Carefully place the system back down in its normal position.
7. The rear panel assembly should slide back along the stationary fiber cable. It can only go back a couple of inches, but that is that you will need.



8. Before continuing with the procedure, put on a grounded wrist strap to avoid ESD damage.



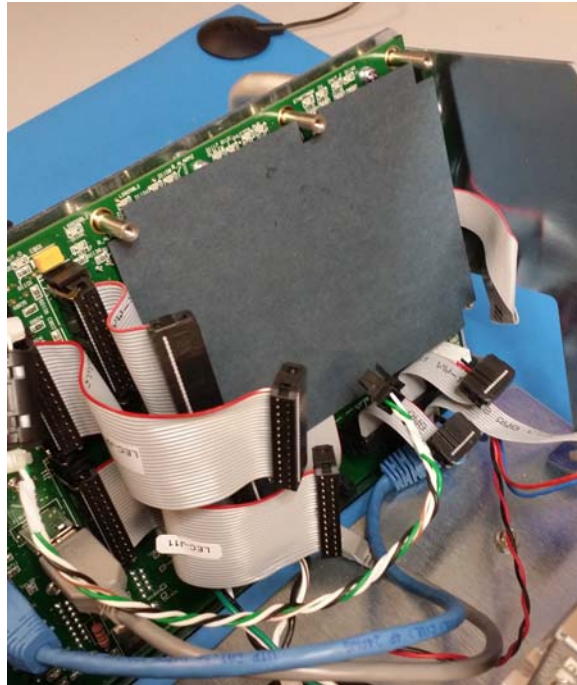
9. Remove all connectors from the LEC-2 card:
  - a. 4x 25-Pin Ribbon Cables (J2, J3, J11, J12)
  - b. 3x 10-Pin Ribbon Cables (J4, J5, J6)
  - c. 1x 26-Pin Ribbon Cable (J29)
  - d. 1x 4-Pin Molex Power Cable
  - e. 1x Cat 5 Ethernet Cable
  - f. 1x USB Cable



10. Loosen the 4 corner stand-offs with either a 3/16" or 4.5mm driver, just a little, then remove by hand.



11. Remove the LEC-2 card from the rear panel. Leave the ESD shield in place.



12. (Optional) Take the new LEC-2 card out of the anti-static bag. It is sometimes useful to write down the serial number and MAC address on a piece of tape and attaching it to the rear panel. WinLase recognizes these numbers and is a nice reference when verifying an installation.



 AMADA MIYACHI AMERICA	<b>MANUFACTURING SPECIFICATION</b>	<b>NO. MFG-372</b>	<b>REV. A</b>
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13. It is recommended that the USB and Ethernet cables are connected first as these are the most difficult to replace when installed.
14. Position the LEC-2 card on the posts and secure with the spacers.
15. Reattach the remaining ribbon cables and power cable.
16. Gently slide the panel back into position.
17. Turn the system back on its side and secure tighten the 6 nuts.
18. Replace the top cover and tighten with the 16 screws

## **CARD REPLACEMENT COMPLETE**