Service Notice Number: 20190807-2   **Date:** August 7, 2019

To: Domestic and International Lincoln Electric Service Departments, District Sales Offices
Domestic Lincoln Authorized Service Facilities, Cleveland Quality Assurance, Marketing,
Engineering, Manufacturing

Low Idle Hesitation in Ranger 330 MPX
"Vapor Lock"

Product(s) Covered:

Machine	Code #	Serial Range
Ranger 330 MPX	12649	U1181106502 - U1190703018

Issue:

This problem is commonly called "Vapor Lock".   More accurately, it is caused by excess vapor
pressure building in the fuel tank.   EPA restrictions on vapor venting have required closed loop
controls to route the excess vapor to the engine where it is fed into the carburetor and burned.
In hot conditions and/or high altitudes, more vapor is produced than is required to run the
engine at low idle and the engine runs too rich.

Symptom:

When "Vapor Lock" occurs, the machine may experience one or more of the following symptoms:

- The machine shuts off after a period of running, frequently 30 minutes to 2 hours
- The idle speed drops and the engine begins to stumble
- The machine has a "weak arc" and difficulty transitioning from idle speed to weld load
- The display goes blank and the engine continues to run
- Normal operation resumes after momentarily loosening the gas cap.

Recommended Action:

If the machine is covered by the applicable Lincoln Electric Limited Warranty, submit a machine
warranty claim on lincolnelectric.com for parts 9SM27150 Programming cable and 9SS32896-5
Programmed Display with reference to Service Notice 20190807-2, and follow the repair
procedure below. The programming cable only needs ordered for the first repair and the cable
may be reused for future repairs.

If the machine is operated outside of the United States and Canada and is in a jurisdiction where regulations permit vapor venting through a vented gas cap, you may instead install a vented gas cap on the machine. Please order Lincoln Electric Part 9SS19568.
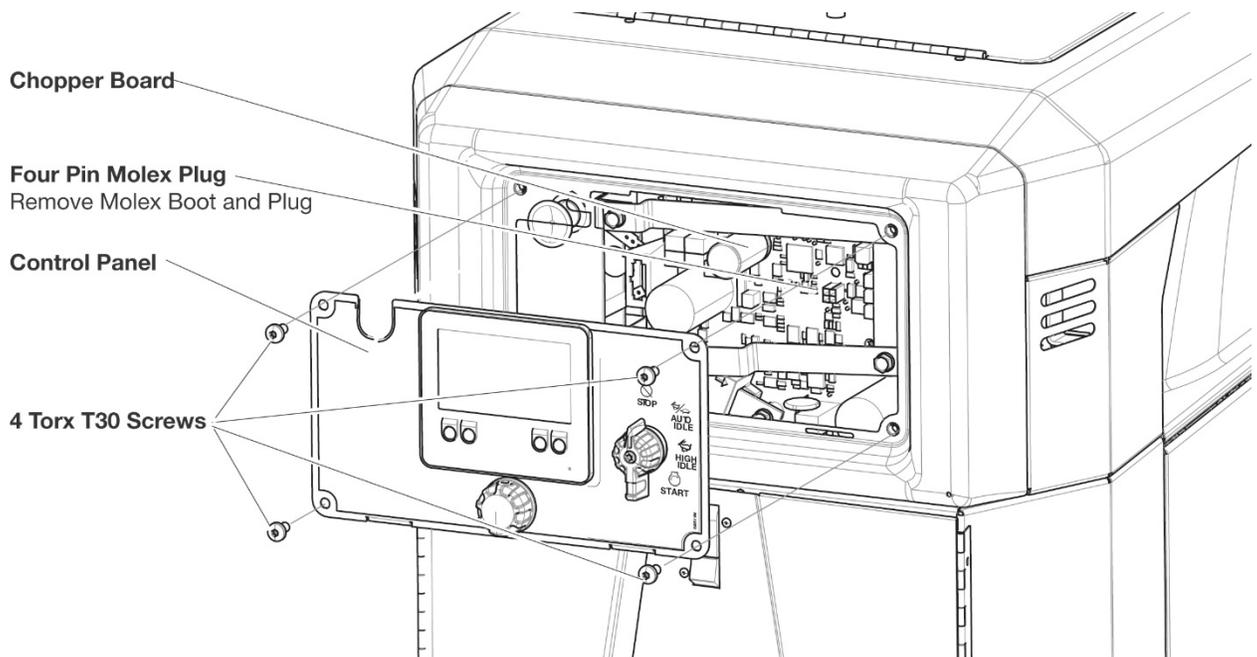
⚠ **WARNING:**

Unauthorized repairs performed on this equipment may result in danger to the technician and machine operator and will invalidate your factory warranty.

Service and repair should only be performed by Lincoln Electric Factory Trained Personnel. If for any reason you do not understand the test procedures or are unable to perform the test/repairs safely, contact the Lincoln Electric Service Department for electrical troubleshooting assistance before you proceed. Call 1-888-935-3877 or email service@lincolnelectric.com

Repair Procedure:

1. Turn the machine to auto idle to confirm the 12V battery is connected. Turn the machine to stop prior to starting the repair.

2. Remove the (4) screws securing the control panel using a Torx T30 bit.

Chopper Board

Four Pin Molex Plug
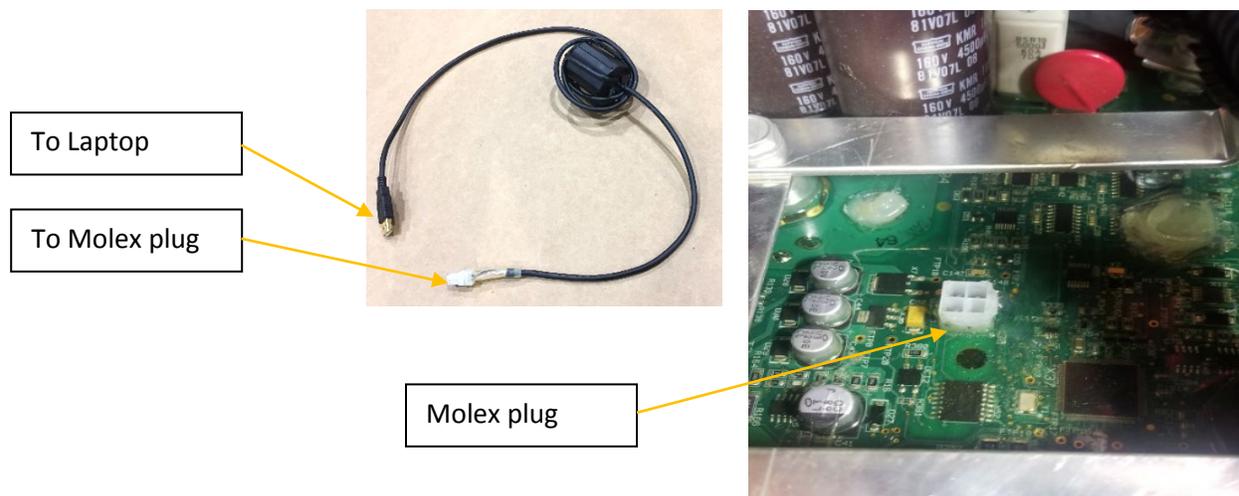Remove Molex Boot and Plug

Control Panel

4 Torx T30 Screws

3. Remove Molex boot and four-pin connector from chopper board.   A small screwdriver may be necessary to pry out the white four-pin connector.

Molex boot and 4 pin connector

4. Connect the USB end of the cable to a laptop, and the harness with four pin Molex to the Molex plug to update software. Ensure the the tab on the four pin Molex is aligned with tab on the Molex plug.
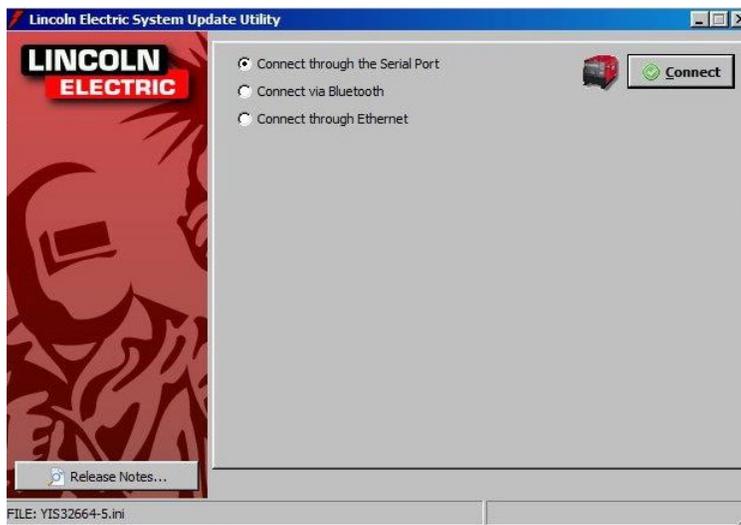

To Laptop

To Molex plug

Molex plug

5. Click this link SN20190807-2.zip and save the zip file to your computer. Open the zip file and click the extract all files button.

6. If the computer being used is running the **Windows 10** operating system proceed to step 7 on page 4.

   If the computer being used is running the **Windows 7** operating system proceed to step 7a on page 6. Please note that the user must have administrative rights on any computer running Windows 7 in order to install the needed drivers.
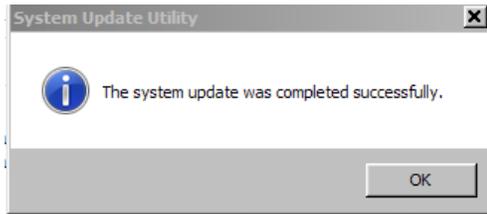
Windows 10 Repair Procedure:

7. Turn the display on to auto idle. Due to the battery timeout the display may turn off during installation. If this happens, turn the machine to stop and then back to auto idle and restart the installation.

8. Open the folder and double click the **Ranger330MPX_SysUpdate_2019-08-05.exe** file.

9. Select the "connect through serial port" option and then click connect.
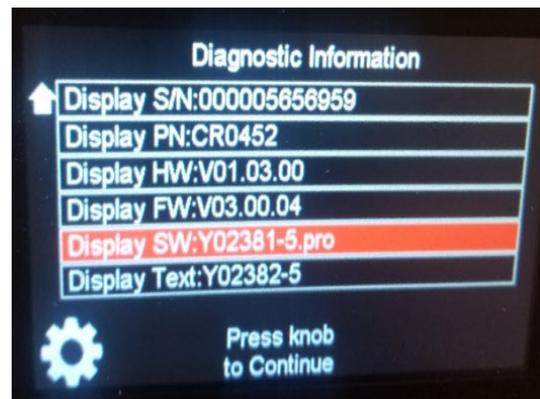

10. The below begin update screen comes up, and click the begin update button.

11. After the chopper software update is complete, the below dialog box with come up stating that the update was successful.

System Update Utility

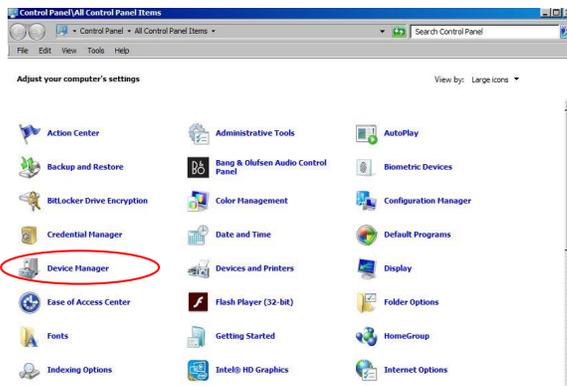The system update was completed successfully.

OK

12. Click the close button and turn the machine to stop. Then disconnect the programming cable. Keep the programming cable for future repairs.

13. Place the Molex boot and four-pin connector back on the Molex plug.

14. In order to replace the User Interface board, login to Mylincoln and go to the service navigator using the drop down menu in the top right corner. Search code 12649 to find the Ranger 330 MPX machine service information. The procedure can be found by clicking service manual, followed by Removal and Replacment Procedures, and then LCD DISPLAY REMOVAL AND REPLACEMENT PROCEDURE.

15. Rotate the knob to verify the encoder is functioning properly.

16. On the display, verify the software update by navigating to the settings menu and scrolling down to diagnostic information. Review the chopper and display software versions. The updated display software version= **Y02381-5.pro**. Updated Chopper software= **S32664-5.**
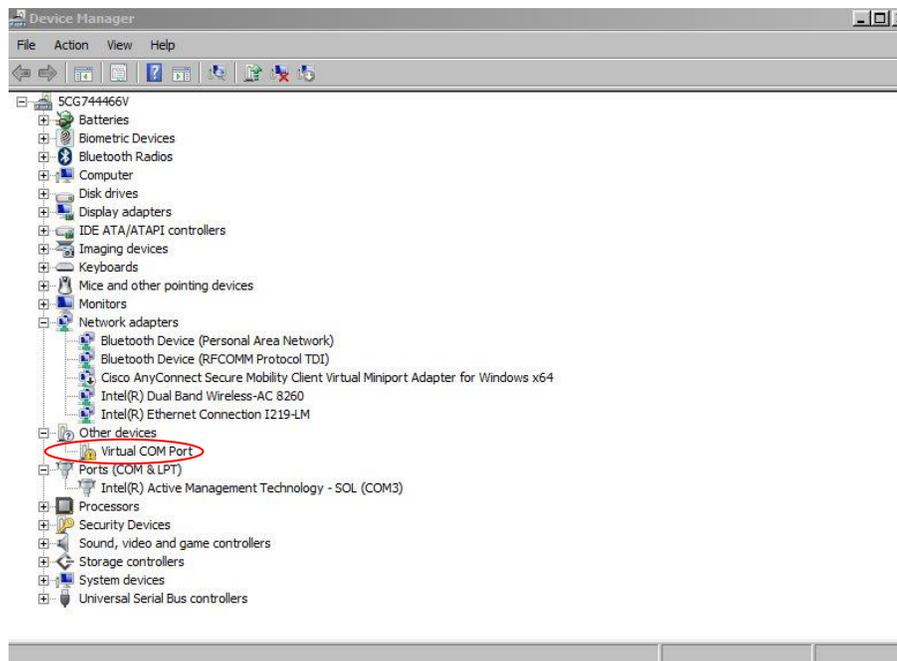

Diagnostic Information
Engine #:
Chopper HW: G8855-1H0
Chopper SW:S32664-5
Chopper S/N:100002018302024
Machine K#:K3459-1
Maint Kit #:K3494-1
Press knob to Continue

Diagnostic Information
Display S/N:000005656959
Display PN:CR0452
Display HW:V01.03.00
Display FW:V03.00.04
Display SW:Y02381-5.pro
Display Text:Y02382-5
Press knob to Continue

17. Please contact Lincoln Electric at Service@LincolnElectric.com with the subject line "Ranger 330 MPX Vapor Lock" if you have any questions or need assistance.
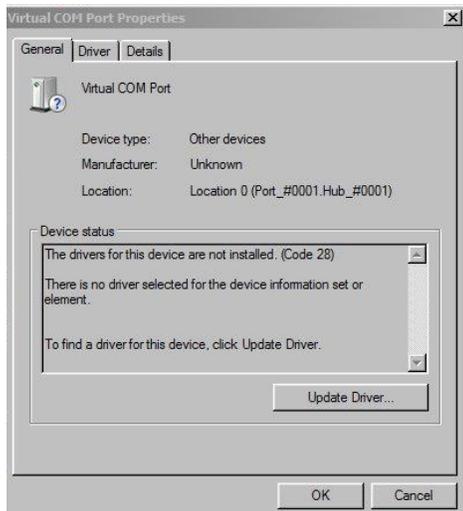
Windows 7 Repair Procedure:

7a. Prior to starting, verify whoever is performing the update has Administrative rights to install a driver to the computer. If the computer does not have the correct Administrative rights contact your company's IT department.

8a. Turn the display on to auto idle. Due to the battery timeout, the display may turn off during installation of the driver. If this happens, the driver install will continue until it is completed with the machine off as long as it is started with the machine on.

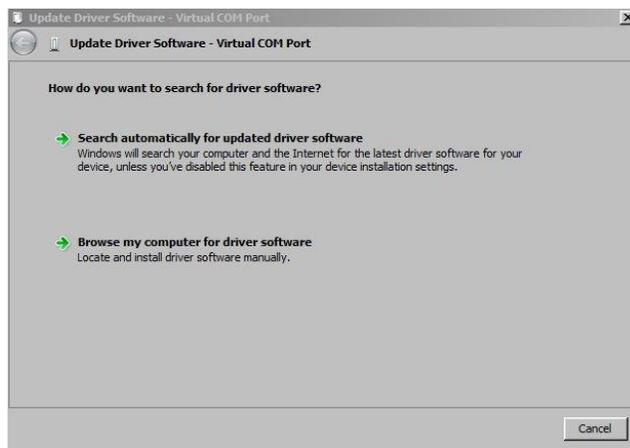9a. Open the control panel and double click the device manager.

10a. Double click the Virtual COM port.

11a. Click the update driver button.

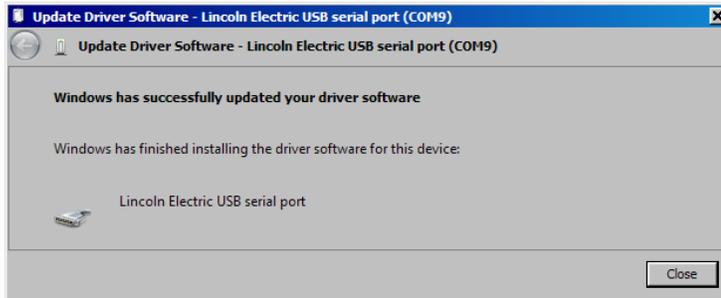12a. Click browse my computer for driver software.

13a. Find the folder SN20190807-2 and click the folder. Then click the folder Lincoln Welders - USB Driver and click okay.

14a. The below windows security prompt will come up and click install.
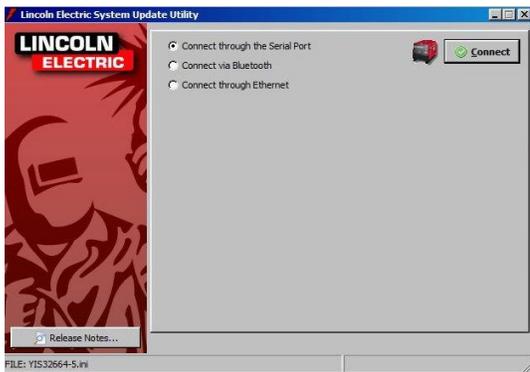
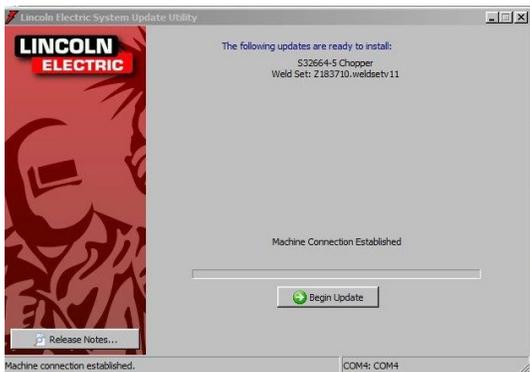15a. The below windows prompt will appear when the driver install is complete.

16a. Turn the display on to auto idle. Due to the battery timeout, the display may turn off during installation. If this happens, turn the machine to stop and then back to auto idle and restart the installation.

17a. Open the folder and double click the **Ranger330MPX_SysUpdate_2019-08-05.exe** file.
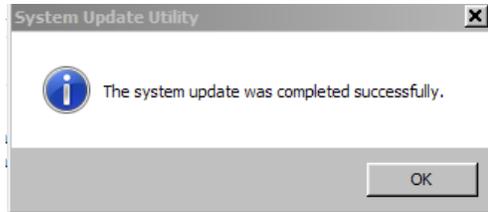
18a. Select the "connect through serial port" option and then click connect.

19a. The below begin update screen comes up, and click the begin update button.

20a. After the chopper software update is complete, the below dialog box with come up stating that the update was successful.
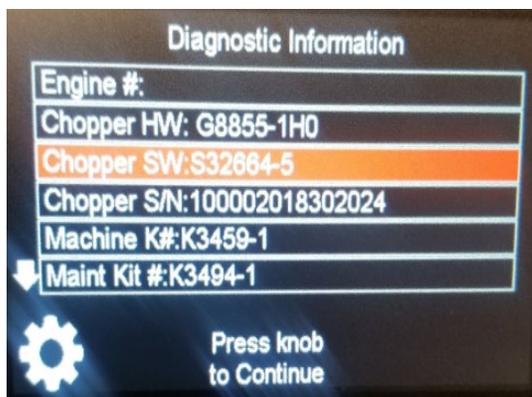

21a. Click the close button and turn the machine to stop. Then disconnect the programming cable. Keep the programming cable for future repairs.

22a. Place the Molex boot and four-pin connector back on the Molex plug.

23a. In order to replace the User Interface board, login to Mylincoln and go to the service navigator using the drop down menu in the top right corner. Search code 12649 to find the Ranger 330 MPX machine service information. The procedure can be found by clicking service manual, followed by Removal and Replacment Procedures, and then LCD DISPLAY REMOVAL AND REPLACEMENT PROCEDURE.

24a. Rotate the knob to verify the encoder is functioning properly.

25a. On the display, verify the software update by navigating to the settings menu and scrolling down to diagnostic information. Review the chopper and display software versions. The updated display software version= **Y02381-5.pro**. Updated Chopper software= **S32664-5.**

26a. Please contact Lincoln Electric at Service@LincolnElectric.com with the subject line "Ranger 330 MPX Vapor Lock" if you have any questions or need assistance.