Coronado LBCU ICU replaced and failed...

 Kyle Siebert 4,010 posts since Nov 14, 2014

Coronado LBCU ICU replaced and failed again. Melted MOSSFET again Jan 18, 2019 3:48 PM
S/N BL4480

Coronado Glider with fitsgerald. Has about 12 gauges or more. All the gauges went dead. Replaced the LBCU and went about 400 miles and it melted again.

Wondering if anyone else had this issue before.

Thinking of replacing all gauges and daisy chain harnesses.

Is is it possible only the left side gauges need to be replaced because it looks like the mossfet on the left side of the circuit board melted.

- F463D216-8D92-4887-9B36-CF116DAA33E1.jpeg 852.8 KB
- 86941C07-3DC5-494D-AD0B-4BF30A14AD93.jpeg 501.1 KB
- 658BDA3C-3705-4F1C-B5EA-F534D4D17E19.jpeg 335.6 KB
- 0296BD51-A1BB-4E3B-A768-74BFCD1E02BA.jpeg 660.2 KB

Tags: icu, columbia, hot, lbcu, melted, overheated, circuit board

 Michael Palumbo *1,456 posts since Nov 13, 2014*

Re: Coronado LBCU ICU replaced and failed again. Melted MOSSFET again Jan 18, 2019 10:46 PM

I see your concern with only 400 miles on a new light bar. Troubleshooting in workshop manual is straight forward stuff.

Completely Non-Responsive: Test for battery power on pin D14, ignition power on pin D15, and the ground on pin D13. Troubleshoot and repair any fault with these circuits as necessary. If these circuits are all working, replace the LBCU. *Should probably load test those three circuits, if you have not already done so. Wiggle test whilst loaded.

Gauges Only: Troubleshoot for a fault with the daisy chain wiring or for a defective gauge as follows. Disconnect the left or the right gauge databus daisy chain circuits from the back of the LBCU one at a time to check if the one that is connected begins working. If one gauge only is not working, check the daisy chain wiring and try substituting a test gauge. A short in any of the gauges can take down all the gauges on the daisy chain. An open circuit in the daisy chain will affect those gauges from that point on.

* Shorts between daisy chain jumper wires or a miss-pinned jumper. **A06-41592-007.**

Did both light bars melt the same chip on the inside?

 Michael Palumbo *1,456 posts since Nov 13, 2014*

Re: Coronado LBCU ICU replaced and failed again. Melted MOSSFET again Jan 18, 2019 10:51 PM

I meant same left side chip?

 Kyle Siebert *4,010 posts since Nov 14, 2014*

Re: Coronado LBCU ICU replaced and failed again. Melted MOSSFET again Jan 18, 2019 11:11 PM

Yes. From what I'm told they both failed in the same area.

 Michael Palumbo *1,456 posts since Nov 13, 2014*

Re: Coronado LBCU ICU replaced and failed again. Melted MOSSFET again Jan 18, 2019 11:23 PM

I'm looking for my notes from FCCC school, seem to remember something about 7v circuit you can't apply 12v to or LBCU will fail.

I attached the ICU4M TS guide written by Joe Youngblutt , lots of good info in it.

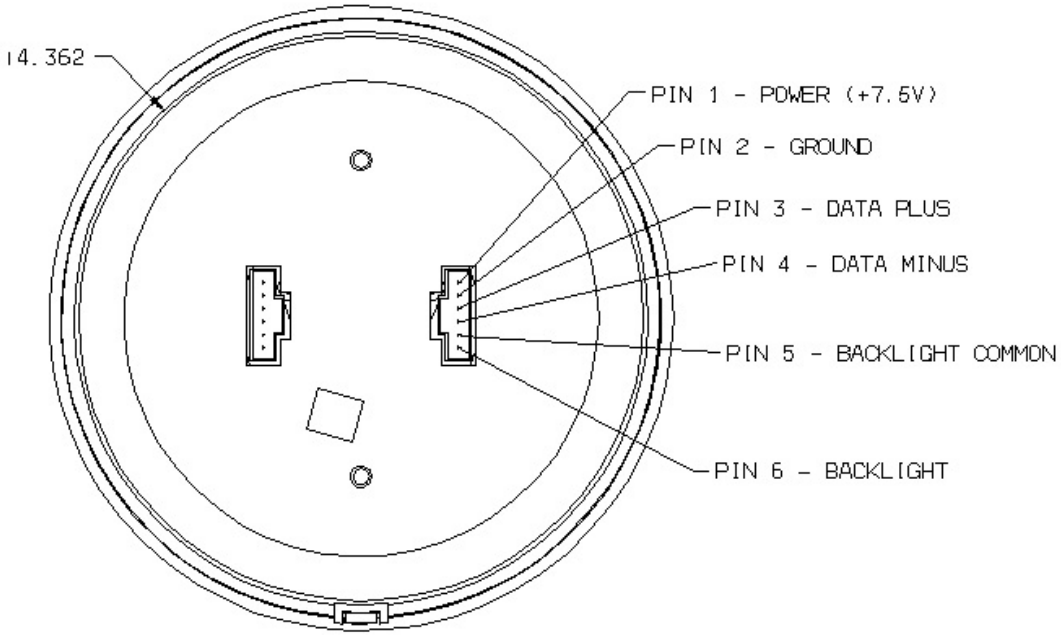
- 524_icu4M Troubleshooting.pdf 392.2 KB Preview

 Michael Palumbo *1,456 posts since Nov 13, 2014*

Re: Coronado LBCU ICU replaced and failed again. Melted MOSSFET again Jan 18, 2019 11:55 PM

Edited:

Here is zoomed in EZ-wiring image for your Tach A22-59204-101. Possibly 7.5v is shorting with backlight 12v . Any gauge on the one side or one of the jumpers. Hopefully that gives you something to work with.



 Chaz Trimble *1,358 posts since Feb 2, 2015*

Re: Coronado LBCU ICU replaced and failed again. Melted MOSSFET again Jan 19, 2019 2:05 PM

I have seen a repeat lightbar failure but the connector actually started to melt. Found rear axle gauge circuits shorted to power.

 Kyle Siebert *4,010 posts since Nov 14, 2014*

Re: Coronado LBCU ICU replaced and failed again. Melted MOSSFET again Jan 21, 2019 8:37 PM

I think we need to get ahold of the vendor to find out what that burnt component is exactly and what It's for.

 Justin Johnson *981 posts since May 12, 2017*

Re: Coronado LBCU ICU replaced and failed again. Melted MOSSFET again Feb 1, 2019 6:19 PM

Nice thread guys. Kyle, please let us know what you end up figuring.

 Kyle Siebert *4,010 posts since Nov 14, 2014*

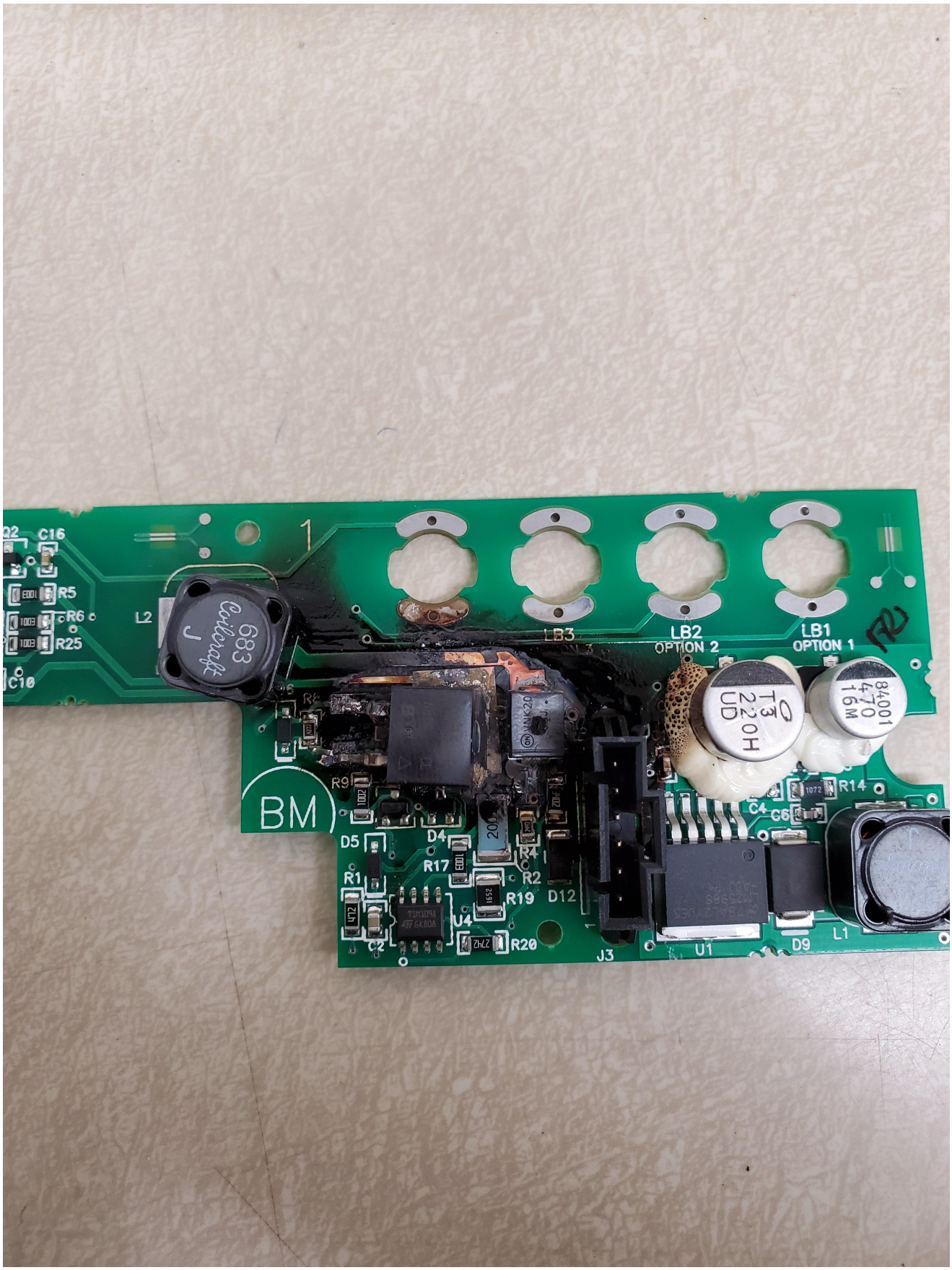
Re: Coronado LBCU ICU replaced and failed again. Melted MOSSFET again Feb 1, 2019 7:49 PM

Will do, Justin.

Joe Youngblutt. That sounds great, thanks!

Jeremy Brown *3 posts since Nov 11, 2014*

Re: Coronado LBCU ICU replaced and failed again. Melted MOSSFET again Mar 13, 2020 7:05 PM


C16
R5
R6
R25
C10
L2
LB3
LB2
OPTION 2
LB1
OPTION 1
BM
R9
D5
D4
R17
R1
R4
R2
R19
D12
U4
R20
J3
U1
D9
L1
C4
C6
R14


683
Coilcraft
D
BM
D6
R8
R9
Q5
R1
D5
R17
D4
R19
R2
R3
D12
R20
J2
6
VNL08
U3J
IRF9640S
LB4
OPTION 4
LB3
OPTION 3
LB2
OPTION 2
LB1
OPTION
R25
R6
R5
1

did anyone ever figure out what causes this for sure? I have one that has burned two light bars up. the one that is burned worse, the customer had 20 amp fuses in both instrument cluster locations that should have been 10 amps. with 10 amp fuses in there, the less melted one still melted before blowing one of the fuses.

 Kyle Siebert *4,010 posts since Nov 14, 2014*

Re: Coronado LBCU ICU replaced and failed again. Melted MOSSFET again Mar 13, 2020 10:01 PM

Make a case with freightliner. Maybe mention Joe Youngblutt.

Off the top of my head, I would track down the icu grounds to make sure they don’t have any issues to the batteries.

Yours isn’t BL4480?

 Paul Mathers *112 posts since Feb 14, 2018*

Re: Coronado LBCU ICU replaced and failed again. Melted MOSSFET again Oct 27, 2020 6:18 PM

I have a unit in the shop currently doing the same thing. Michael Palumbo hit it on the head about it possibly being the gauge power supply and backlight power supply circuits shorted. Measuring the resistance between the circuits in the daisy chain showed a direct short in one of the gauges. Start unplugging the gauges and measuring until you find the gauge that is shorted. The mosfet in the board that is melting has to do with the backlight power circuit (which is PWM). If the circuits are shorted then the drain side of the mosfet is being backfed 7.5 vdc with the key on and lights off. I'm not too sure how it's causing the mosfet to burn up, since it shows the diode goes between the D and S pins. But, it seems to definitely have something to do with either a daisy chain or gauge shorting the backlight and gaugue power circuits.