

Inspection of McNeilus Command Center Module Nodes and Installation of a Jumper Harness to the Module on Affected Mixers

Update Date: June 9, 2016
Original Release: December 18, 2015
Bulletin Name: MXR-TSIB-028-A*
Model: Standard Mixer and Bridgemaster V Mixer
Units Affected: Mixers with McNeilus Command Center Module

*Update includes one updated part number

Purpose:

If you completed bulletin MXR-TSIB-025 (adding dielectric grease to connectors), and corrosion on the connector nodes still exists and/or you are still having issues with the module, perform the procedures in this bulletin. Some McNeilus Command Center modules on Standard Mixers and Bridgemaster V Mixers may have corrosion on the connectors. Corrosion on the connectors will result in possible loss of power to the McNeilus Command Center module and to mixer functions; chassis vehicle function is not affected.

Notice:

- This bulletin should be read and understood in its entirety before performing this procedure.
- All procedures outlined in the bulletin must be performed by skilled service personnel.

Tools and Equipment Required (Customer to supply own):

- 1/4" socket wrench or short socket
- Dielectric grease such as Loctite® #30536 or equivalent
- Torque wrench
- Wire cutter
- Wire stripper
- Deutsch crimper (HDT-48-00)
- Deutsch pin removal tool (light blue) (0411-310-1605)
- Zip ties (variety of lengths)
- Black heat resistant harness cover

SAFETY NOTICE

Before entering the Mixer drum or performing any maintenance to the Mixer, read and follow OSHA Regulations concerning entry and working in "CONFINED SPACE" OSHA 1910.146 and "LOCKOUT/TAGOUT" OSHA 1910.147.

Follow OSHA Regulations while performing any work to the Mixer.

Follow all safety instructions in your McNeilus Mixer Manual.

Shut off truck engine, lock cab doors, and keep keys in your pocket before entering drum, or performing any work to the Mixer.

Place magnetic "DANGER" signs on both cab doors. Failure to do so can result in serious personal injury or death.

If you have any questions regarding this notice or require further assistance, call McNeilus at 888-686-7278.

Parts Required (order from McNeilus):

Item	Part Number	Description	Qty.
1	1531965	WIRE HARN, CINCH TO DEUTSCH, MIXER	1
2	1188080	ROUND DEUTSCH CONNECTOR 1	1
3	1486304	ROUND DEUTSCH CONNECTOR 2	1
4	8KP226	GOLD DEUTSCH SOCKET #16	60
5	1104121	CAVITY PIN PLUGS	12
6	1164814	P-CLAMP, 1-1/2" GAL VINYL	6
7	1243674	SCR, FLG, HEX .38-16X1.00 G8 ZY	6
8	0120200	NUT, FLG, LKDT .38-16	6

Procedure:

1. Place unit on a flat surface, block truck tires, and observe all conditions of the Safety Notice concerning Lockout/Tagout posted in the Notice section of this bulletin.
2. Locate connectors MC21 and MC22 on the McNeilus Command Center node (Figure 1).

NOTE: The McNeilus Command Center node will be located between the chassis cab and the front pedestal. It could be on a bracket on the pump mount or on the inside of the chassis rail.

3. Disconnect both of the connectors from the controller node by removing the bolt that holds the connector to the node with a 1/4" socket wrench (Figure 1).

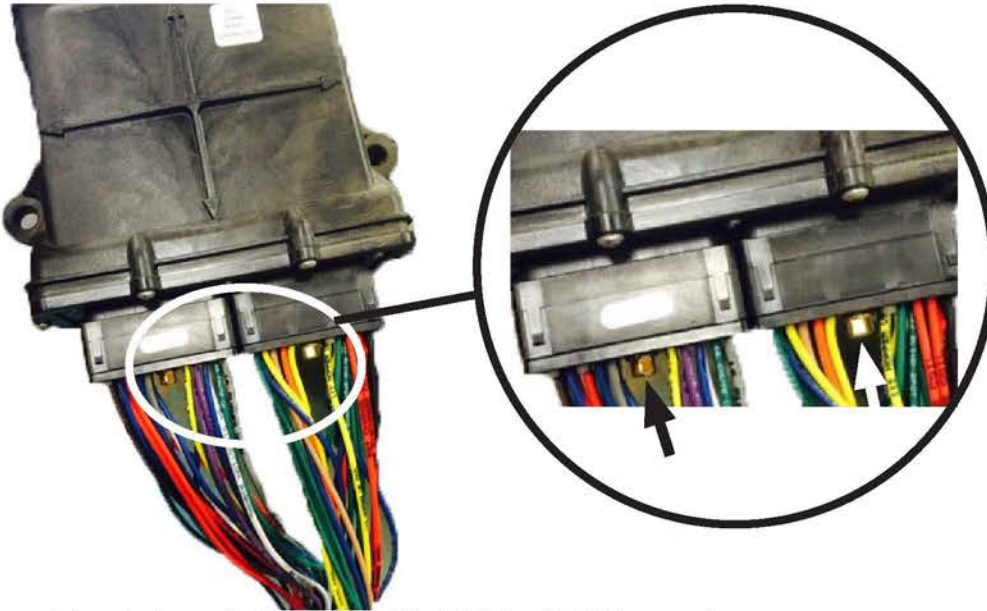


Figure 1: Locate the controller node and the MC21 and MC22 connectors. Disconnect the connectors by the bolt that secures the connectors to the node.

4. Perform an inspection of the connector pins on both the node and harness side of the connectors looking for signs of corrosion (Figure 2).

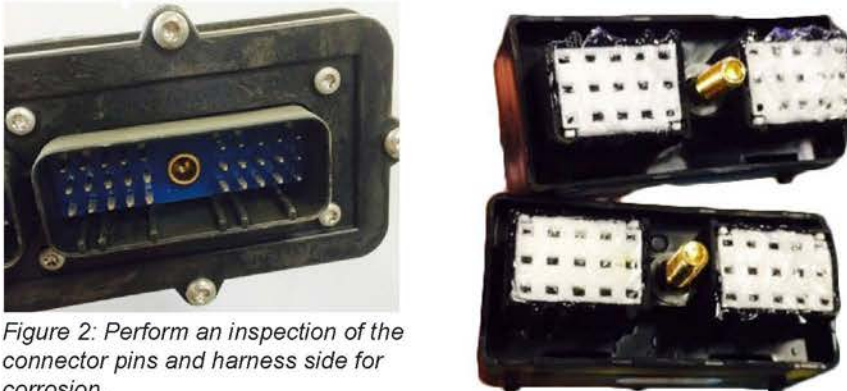


Figure 2: Perform an inspection of the connector pins and harness side for corrosion.

5. Install a jumper harness (P/N 1531965). To install the jumper harness, follow Steps 7-13 on one connector at a time, **starting with MC21A connector**.

NOTE: Remove one of the zip ties on the chassis harness if more slack is needed to access the harness.

NOTE: On MC21A connector, start at pin A1 and, going in order, make your way around the connector in a circle going clockwise, ending at pin K3. Use the pin out information Pin Out for the new Deutsch Connectors MC21A and MC22A on page 9.

6. Use a wire cutter to cut the wire off as close as possible to the connector (Figure 3).

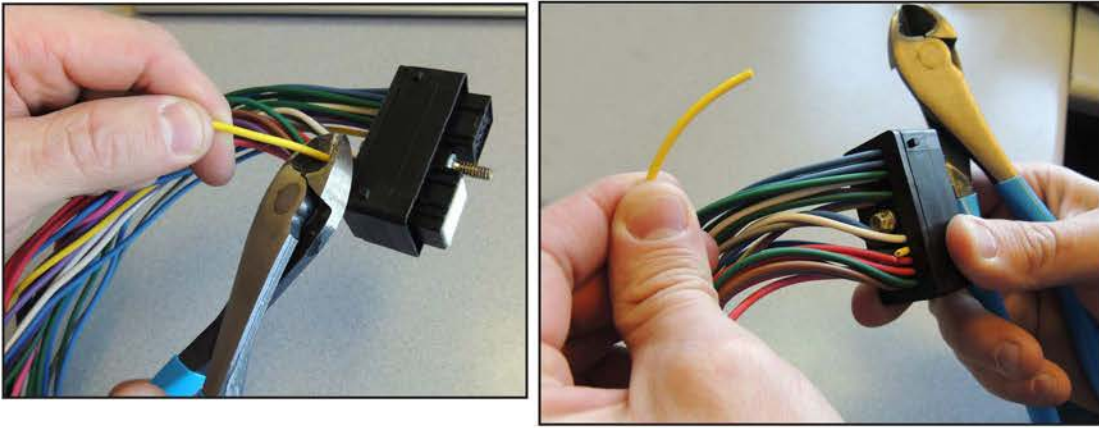


Figure 3: Cut the wire off the connector as close to the connector as possible.

7. Use a wire stripper to strip off 0.25" of the wire covering to expose the copper wires (Figure 4).

IMPORTANT: Do not cut the copper wires when using the wire stripper.

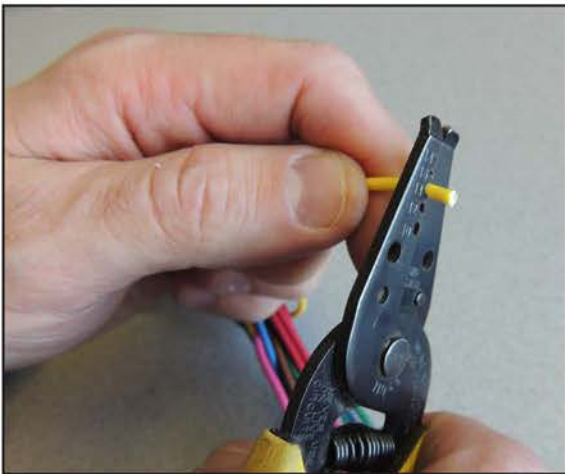


Figure 4: Use a wire stripper to remove 0.25" of the wire cover to expose the copper wires.

8. Install a gold Deutsch socket #16 on the end of the wire (P/N 8KP226) (Figure 5). (Silver Deutsch socket shown for illustrative purposes only.)

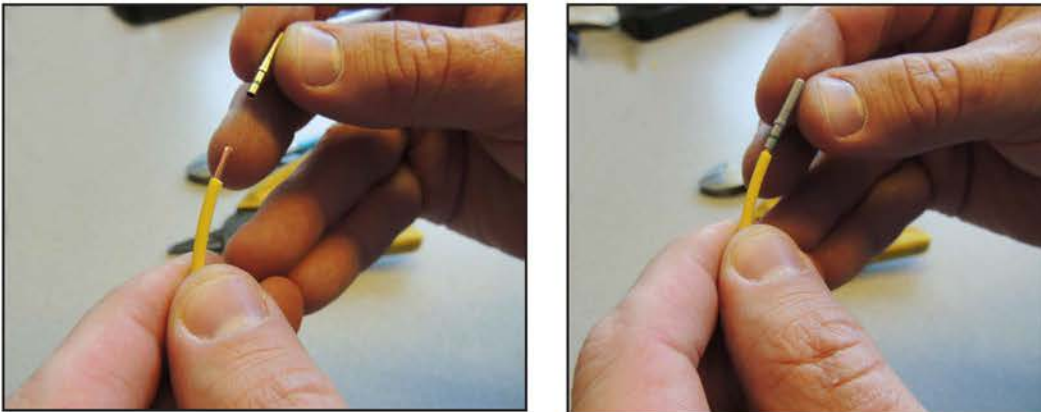


Figure 5: Install gold Deutsch socket onto wire. (Silver Deutsch socket shown for illustrative purposes only.)

9. Use the Deutsch crimper, set at #16, to crimp the Deutsch socket onto the wire (Figure 6).

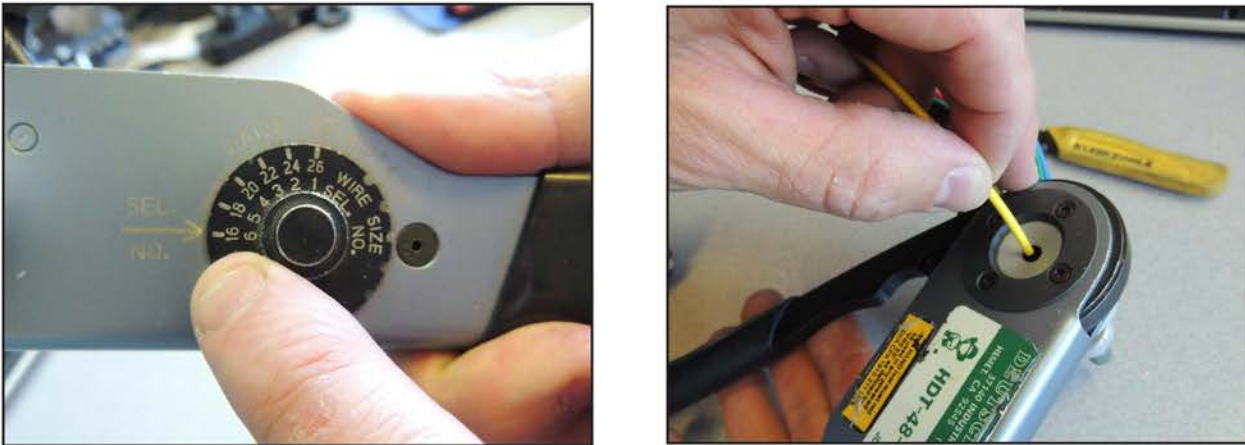


Figure 6: Use a Deutsch crimper to crimp the Deutsch socket onto the wire.

10. Double check the pin out location using the chart attached at the end of this bulletin (Page 9).

11. Insert the pin into the correct pin hole on the new Deutsch connector (Figure 7). Push the pin in until it clicks into place and cannot back out.

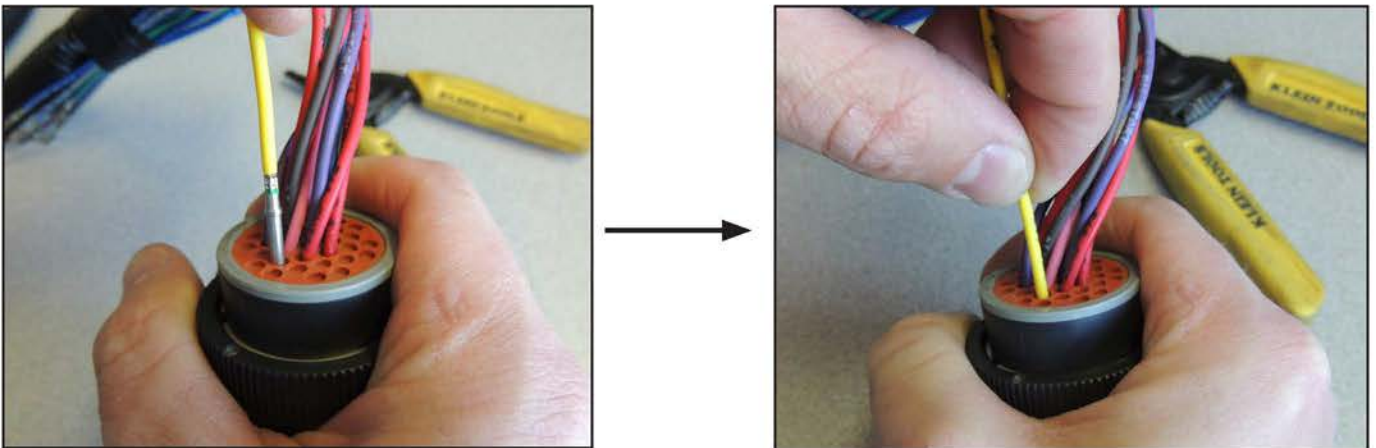


Figure 7: Insert the wire into the correct pin out on the new control. Push in until it clicks in place.

12. Repeat Steps 7-12 until all pins have been removed from the old connectors and pinned into the new connectors. Work the pins in numeric order.

13. Repeat Steps 7-12 to the MC22A connector.

NOTE: Start at pin L1 and, going in order, make your way around the MC22A connector in a circle going clockwise, ending at pin Y3. Use the pin out information Pin Out for the new Deutsch Connectors MC21A and MC22A on page 9.

14. On both connectors, insert the blank cavity pin plugs (P/N 114017) into any unused pin positions (Figure 8).



Figure 8: Insert blank pin plugs into unused pin positions.

15. Harness installation:

- If the bracket already utilizes a P-clamp, skip to Step 16.
- If the bracket is missing a hole for the P-clamp, drill a .375" (3/8") hole located 0.75" away from the front edge of the bracket in the direction of the harness when facing the bracket (Figure 9).

NOTE: The size of the hole and its position away from the edges will remain constant. The location of the hole, left or right side on the bracket, depends on the direction of the harness.

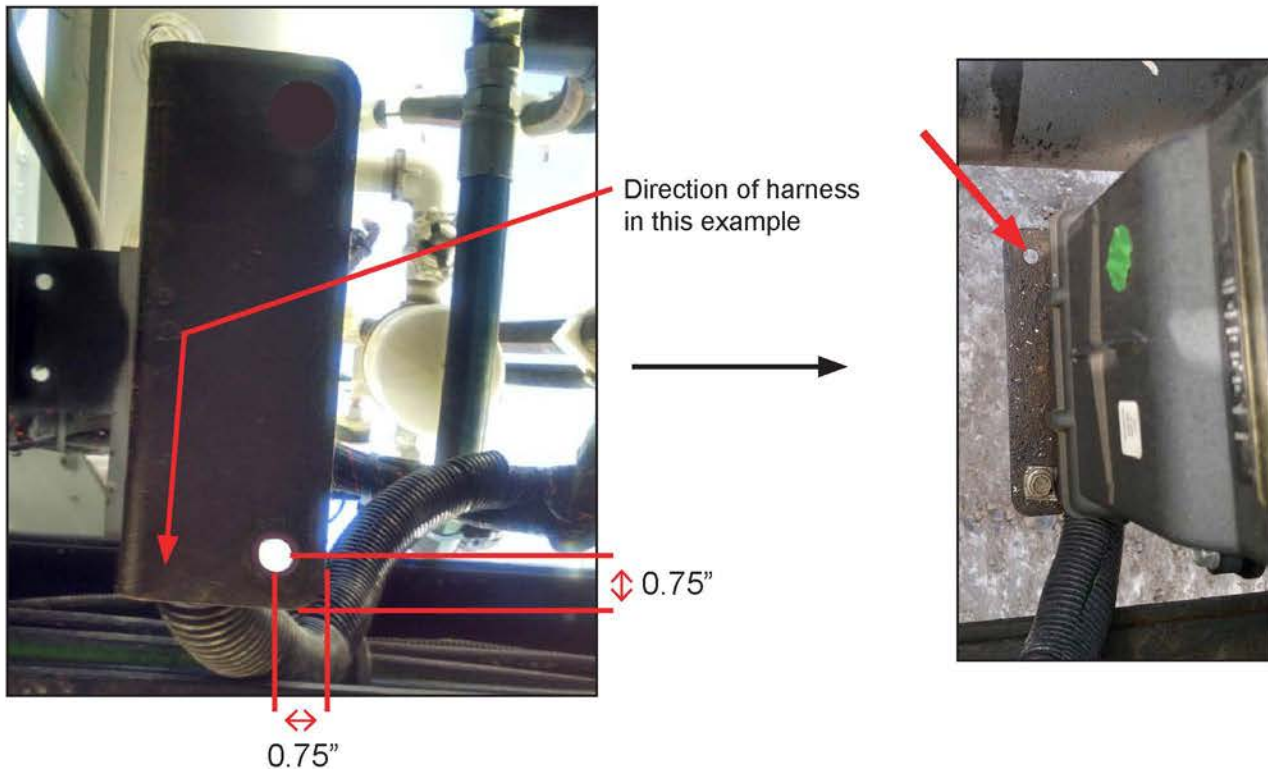


Figure 9: Location to drill hole for P-Clamp on control node bracket. Location varies depending on harness direction.

16. Connect the Deutsch connectors on the jumper harness to the chassis harness (Figure 10).



Figure 10: Connect the jumper harness Deutsch connectors to the chassis harness.

17. Apply the dielectric grease (Loctite® #30536 or equivalent) to the node connectors in an even 1/16" coat across the entire face of each connector. Read the dielectric grease package and follow instructions for application, taking particular care to observe all manufacturer's warnings and cautions.

18. Connect the jumper harness node connectors to the McNeilus Command Center node (Figure 11) using a 1/4" socket wrench to tighten the bolt of each connector.

19. Use a torque wrench to torque each connector to the McNeilus Command Center node at 17 in-lbs. **Do NOT over-torque.**



Figure 11: Connect the jumper harness connectors to the McNeilus Command Center node.

20. Install the black heat resistant harness cover around the new harness (Figure 12).
21. Install one zip tie around the black harness cover at least 6" away from the controller node to attach the black harness cover to the harness (Figure 12). Install additional zip ties as needed to secure the cover to the harness.



Figure 12: Install the black harness cover with zip ties.

22. Straighten the wires from the node/connectors so that they are straight coming off the node and then bend at a 90° angle (Figure 13).



Figure 13: Straighten the harness wires from the connector node and then bend at a 90° angle on the bracket.

23. Install the P-Clamp so that the harness will be attached to the control node bracket (through the drilled hole on the bracket) (Figure 14).

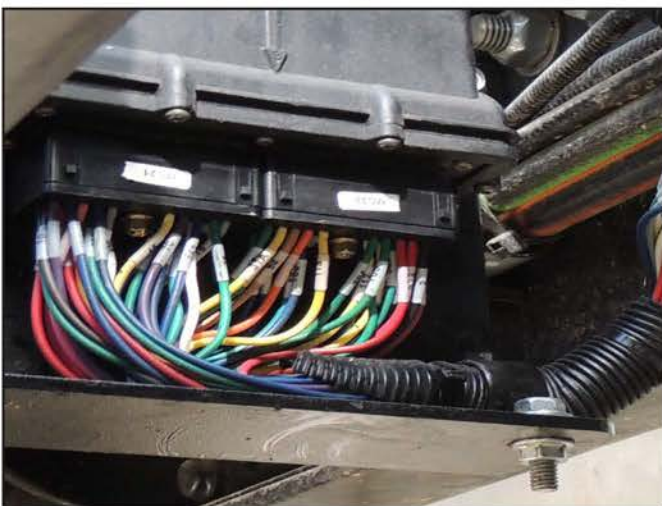


Figure 14: Secure the harness to the bracket using the P-Clamp.

24. Gather the remaining harness length, keep the connectors horizontal, and use zip ties to secure it up, away from the ground or moving parts. It is acceptable to secure the remaining harness to the chassis harness.
25. Test the mixer functions using the McNeilus Command Center touch screen and confirm functions appear on the screen and operate correctly.
 - If any function fails, determine which wire/pin the function is and make sure the Deutsch socket is crimped correctly and the wire is in place in the connector correctly.
 - Retest the mixer function(s) that failed.

Functions				
Chute Centered	Chute Not Centered	Chute Left	Chute Right	Chute Centered and Down
Chute Not Centered and Not Down	Chute Locked	Chute Unlocked	Drum Charge	Drum Discharge
Drum Stop	Slump High	High Oil Temperature	Low Oil	Hopper Up
Hopper Down	Joystick Enabled	Joystick Disabled	Keypad Enabled	Keypad Disabled
Lights On	Strobe Lights On	Bridgemaster Down (option)	Bridgemaster Up (option)	Bridgemaster In Motion (option)

26. The procedure is complete. Remove the conditions of Lockout/Tagout and return truck to service.

Pin Out for the new Deutsch Connectors MC21A and MC22A

MC21A

CHASS HARN

POS	WIRE
1	12
2	10
3	44
4	750
5	F12
6	F12
7	11
8	F12
9	F12
10	9
11	500
12	42A
13	26
14	751
15	61
16	45
17	71
18	4
19	70
20	707
21	709
22	752
23	84
24	702
25	25
26	—
27	44A
28	16
29	—
30	—
31	—

MC22A

CHASS HARN

POS	WIRE
1	15
2	753
3	501
4	31A
5	502
6	708
7	94
8	—
9	—
10	74
11	706
12	50
13	113
14	—
15	—
16	704
17	112
18	701
19	705
20	CANOH
21	CANOL
22	A27
23	503
24	504
25	A28
26	700
27	505
28	2
29	F11
30	2
31	—

Continuous Improvement:

The change included in this bulletin is part of the McNeilus® Continuous Improvement Process.

McNeilus® Company's quality policy is Providing Customer Satisfaction through Innovative Products, Dedicated Service, and a constant focus on Continuous Improvement.

"The Customer is our Boss!"



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