

Authorized Field Change

AFC G-06920

Date: March, 2007

Subject File: Electrical

Subject: Transmission Clean Power and Ground Rewire

Vendor: Eaton

Model: 4300

Start Date: 12/01/2005 End Date: 08/24/2006

Model: 4400

Start Date: 12/01/2005 End Date: 08/24/2006

Model: 7300

Start Date: 12/01/2005 End Date: 08/24/2006

DESCRIPTION

This AFC applies to 4300, 4400, and 7300 models with the Eaton Ultra Shift transmission.

Deterioration of the current power feed to the transmission ECU can experience low voltage that can ultimately cause a No Start condition. Supplying power and ground directly from the batteries to the transmission ECU will eliminate the voltage losses being experienced through the frame rail ground and various chassis connectors. The circuit schematic on the last page illustrates the final wiring after the modifications are completed.

PARTS INFORMATION

Table 1

Part Number	Description	Quantity
8000888R91	Repair Kit	1

SERVICE PROCEDURE



WARNING – To avoid personal injury or death, shift transmission to park or neutral, set parking brake, and block wheels before doing diagnostic or service procedures.



WARNING – To prevent personal injury or death, remove ground cable from negative terminal of main battery before disconnecting electrical components. Always connect ground cable last.

1. Disconnect the negative battery cable(s) at the battery box.

SERVICE PROCEDURE (CONT.)

2. Unplug the 3-way connector from the positive clean power harness and the 2-way clean power ground connector in the battery box. See Figure 1.

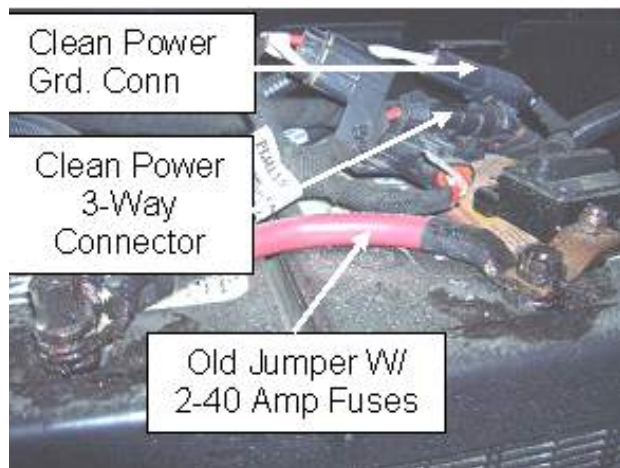


Figure 1



Figure 2

3. Remove the clean power jumper cable from the positive battery terminal(s). See Figure 1.
4. Install the new 3-way clean power harness and jumper (8000888R91) shown in Figure 2 to the battery positive terminals. Make sure the new jumper cable/harness has two 40 amp fuses and the TRANS ECU FEED CONN has a 30 amp fuse.
5. Locate the transmission 24-way 4705 connector located between the engine valve cover and the steering column as shown in Figure 3. The correct connector half will have Circuit J14AW (red) in cavity 13.

SERVICE PROCEDURE (CONT.)

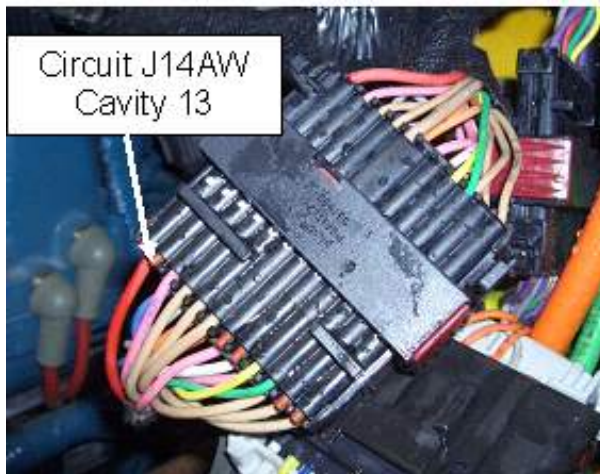


Figure 3

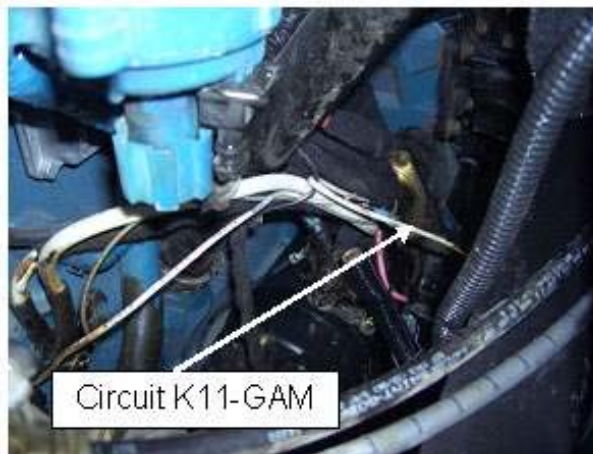


Figure 4

6. Separate the two connector halves by sliding the red lock tab out.
7. Remove the secondary terminal lock from the backside of the connector 4705 and remove Circuit J14AW from Cavity 13 using a 2592689C91 Terminal Extractor. The correct connector half does not contain the red slide lock mechanism.
8. Remove the terminal from circuit J14AW using a 2592689C91 Terminal Extractors and tape the wire back to the harness.
9. Insert red 12 gauge wire that comes in the kit into cavity 13, reinstall the secondary terminal lock and reassemble the two halves of the connector 4705.
10. Insert the other red 12 gauge wire into cavity A of the new 2-way connector (3512967C1) and install terminal 1661708C1 (pull to seat) provided.
11. Route the connector down beside transmission harness.

SERVICE PROCEDURE (CONT.)

12. Locate circuit K11– GAM (white) on the engine block ground stud opposite the starter motor. See Figure 4.
13. Cut the ring terminal from K11–GAM and route the wire to the 2–way connector on the end of the red 12 gauge wire.
14. Strip the end of K11–GAM, insert it into cavity B of the new 2–way connector and install terminal 1661708C1 (pull to seat).
15. Feed the new harness 2–way connector (circuits N92A and N92–G) from the bottom of the engine compartment up and connect to the newly installed 2–way connector.
16. Remove the original 3–way clean power harness and the 2–way ground from the battery box and from the 3–way clean power and ground connection at the starter. Discard the old harness. See Figure 5.



Figure 5

17. Route the new harness 3–way connector (circuits N97AA, N97–G, and N97B) to the starter area and connect to the original trans/engine 3–way clean power and ground connector.

SERVICE PROCEDURE (CONT.)



Figure 6 Spot Face



Figure 7 Clean Cable Terminal

SERVICE PROCEDURE (CONT.)



Figure 8 Starter Ground Cable

Remove the ground cable at the starter. Grind the frame rail at the point where the ground cable is attached until bare metal is showing on the frame rail. Clean the ground cable terminal so that bare metal shows (this is called spot facing). Re-install the ground cable to the frame. Apply protective grease or Fluid Film 2593148C1 to cable terminal and frame rail.

18. Continue routing the new harness into the battery box and connect the 3-way connector to the new jumper cable 3-way connector installed in Step 4 and the ground 2-way connector.
19. Remove the 30A Eaton Autoshift fuse from the power distribution panel. Figure 6 shows the product graphic of the panel.

SERVICE PROCEDURE (CONT.)



Figure 9

20. Tie strap the new harness to the transmission harness and battery cables. tie strap any excess harness length inside the battery box to a ground cable. Place tie straps approximately every 6" to prevent rubbing or chafing of the harness against sharp or metal edges.
21. Grind the frame rail at the point where the negative battery cable from the battery box attaches to the frame until bare metal is showing on the frame. Clean the negative battery cable end until bare metal is showing and reattach it to the frame. Update software by going to Eaton Service Ranger. The software upgrade needed is number 844. Start truck to make sure no start condition was corrected.

SERVICE PROCEDURE (CONT.)

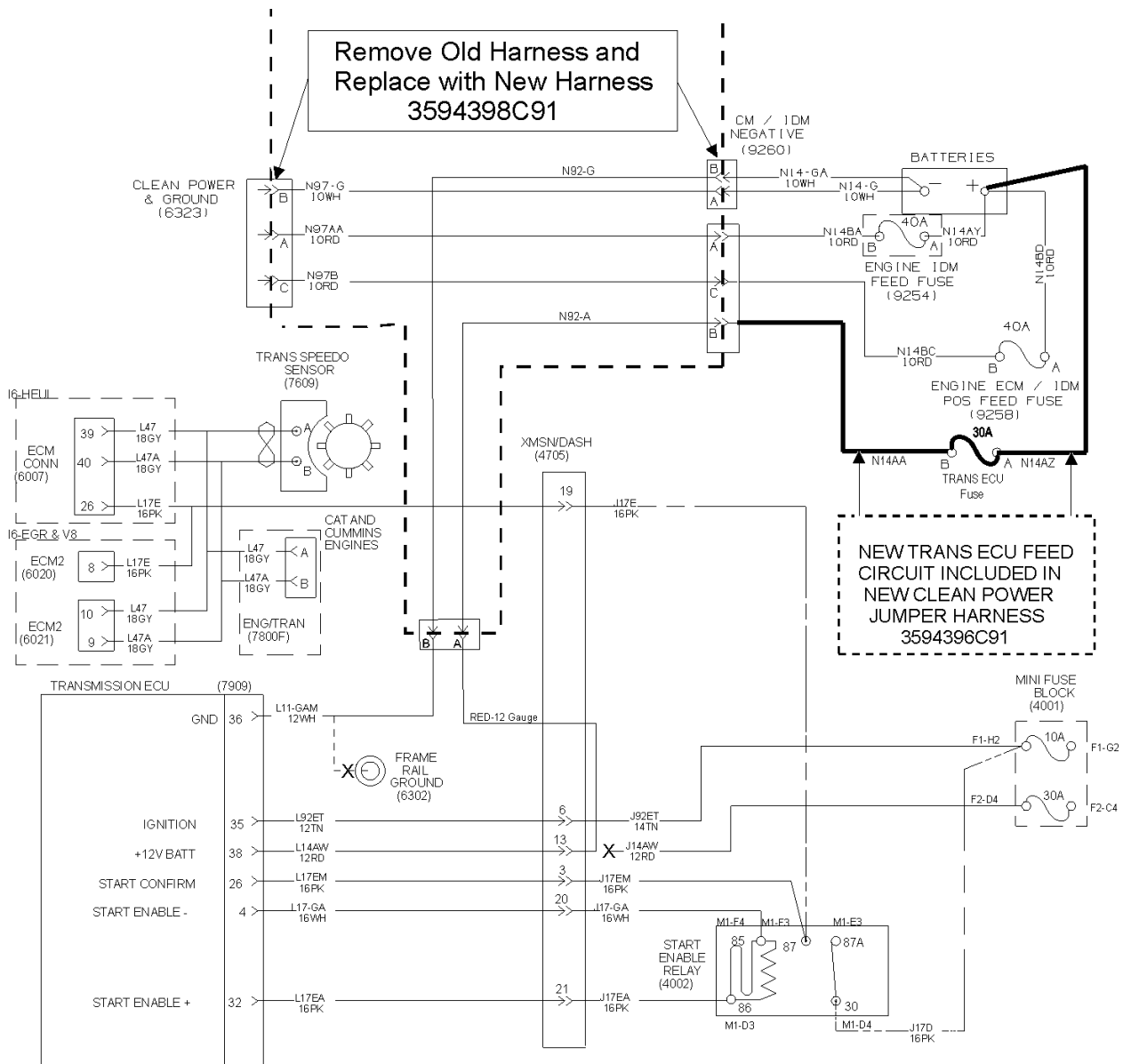


Figure 10

Operation number must appear on all claims.

Table 2 Labor Information

Operation No.	Description	Time
A40-06920-1	Cable Replacement	0.8
A40-06920-2	Eaton Software Upgrade	0.5
A40-06920-3	Spot Facing	0.2

Total Labor Time is 1.5 hours.

ADMINISTRATIVE PROCEDURE

Expense is to be charged to Warranty. Claims are to be submitted in the normal manner, making reference to Authorized Field Change Number G-06920

It is important that the coding be completed properly to assist in processing the warranty claim. Complete instructions will be found in the Warranty Manual, Section 7-1. Special attention should be given to Items 39 through 44.

To assure this important improvement is made in a timely manner, all claims for G-06920 activity must be submitted by January 31, 2008 or within the normal warranty period for the vehicle, if after January 31, 2008.

GROUP	NOUN	C	WARR.	TP	PAD
GROUP Enter number G—	NOUN Leave blank	C (CAUSE) Enter either 1, 2, 3. (see below)	WARRANTY (Warranty Code) Enter 40.	TYPE PART Enter P for type part causing failure.	PAD Enter 100
		1. Inspected (No repair required).			
		2. Inspected and repaired.			
		3. Defective part from parts stock.			

Distribution: All except J-81

Reproduction: Not required.