Trailer Brake Controller Install 2007+ GMT 900 Silverado/Sierra

Created by R. Schuerman "SinisterSS" & "StealthV" 03 October 2007 Version 1.1 – Updated alternate mounting methods 30 September 2007 Version 1.0 – Originally published

There is no longer a trailer brake controller plug under the dash in the GMT900s

Document ID# 1866253 2007 Chevrolet Silverado - 4WD

Subject: Information on Electric Trailer Brake Controller Wiring - Towing, Tow #06-08-45-008 - (10/10/2006) Models: 2007 Cadillac Escalade, Escalade ESV, Escalade EXT 2007 Chevrolet Avalanche, Silverado, Suburban, Tahoe 2007 GMC Sierra, Yukon, Yukon Denali, Yukon XL, Yukon Denali XL

Some customers may have questions on how to connect an electric trailer brake controller or where the brake controller pigtail harness is located.

Starting with the new 2007 GMT900 full size utilities and pickups, there is no longer an electric trailer brake controller pigtail harness. The trailer brake controller wiring is now part of the Instrument panel wiring harness and the blunt cut wires are located under the left instrument panel, behind the data link connector. There are four blunt cut wires in this harness as described below.

1. The install referenced in the photos is for a 2006 vintage Tekonsha Prodigy Brake Controller in a 2008 GMC Sierra Denali built in late August 2007. Your controller, mounts, wiring and pickup may be different – do your research!

2. The factory supplied brake controller pigtail harness is taped to a bigger wire harness under the dash.



3. Remove the tape securing the pigtail and unravel the wires.



4. This is a 2006 vintage Tekonsha Prodigy brake controller harness. ***See Step 1 above!***



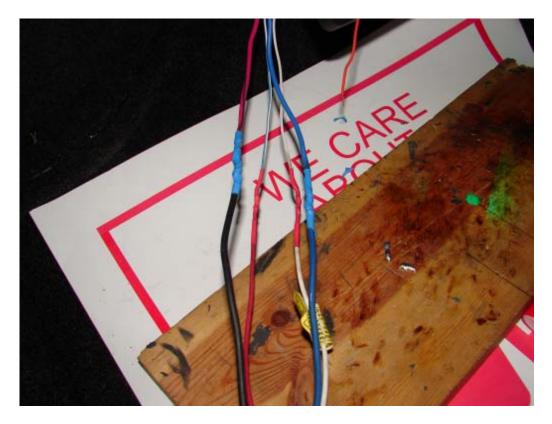
5. Map out the wire connections between the factory harness and the controller harness.

Wire Connections for GM to Tekonsha Prodigy

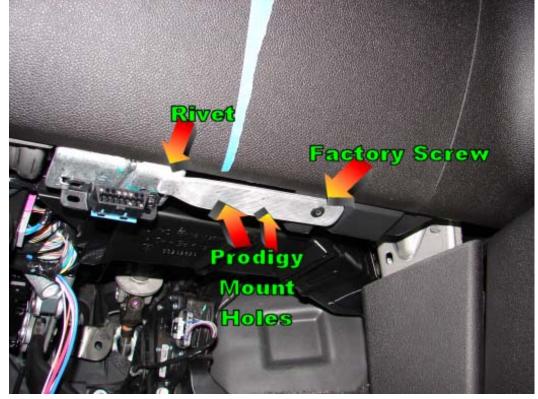
Circuit Function	GM Factory Harness Pigtail	Tekonsha Prodigy Harness
Trailer Brake Voltage Output Circuit 47	Dark Blue	Blue
Controller Power Input Circuit 242	Red/Black	Black
Brake Light Input Circuit 6311	Light Blue/White	Red
Ground Circuit 22	White	White
CHMSL (center high mounted stop lamp) Output	Orange	Not Used

- 6. Strip the wires of both the factory and controller harnesses.
- 7. Place heat shrink tubing on the wires.
- 8. Twist the wires together.
- 9. Solder the wires.*
- **10.** Use a heat* to reduce the size of the heat shrink tubing.

**Obvious safety issues* –You are the sole responsible person to insure your vehicle, controller, harness, people, dogs, cats, small animals, leaves, grass, trees, fleas, etc. are not hurt, damaged, injured or incur a loss of life.



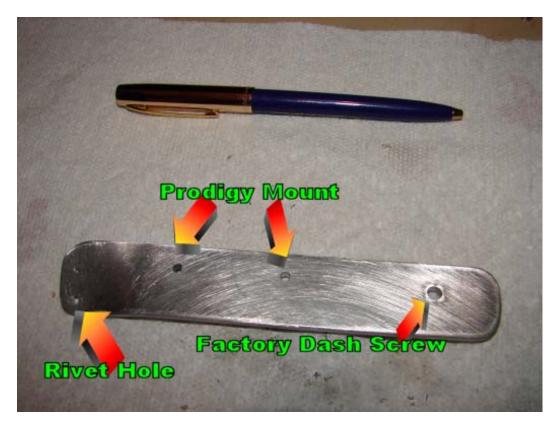
11. In my previous 2003 Silverado, the controller was centered under the steering wheel. Liking that mounting position, the following aluminum bracket was fabricated from 1/8" thick x 1" wide x 5-3/4" long aluminum. ***Additional mounting options are shown at the end of the instructions (# 35 & 36).



12. To add the twist to the bracket, the aluminum was clamped in a vise with approximately 1" exposed. A Crescent adjustable wrench was then tightened down on the exposed aluminum and given approximately 30 degrees of twist.



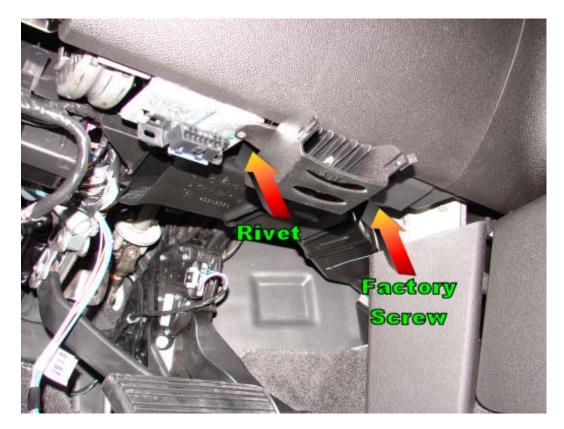
13. The bracket has four holes – a 11/64" for the factory dash screw and three 1/8" holes (two for the brake controller and one for a rivet).



14. Another view showing the twist at the left end of the bracket.



15. The plastic mounting bracket of the Prodigy was riveted to the aluminum bracket with two 1/8" aluminum pop rivets. This new assembly was then attached under the dash with the factory screw on the right side and a 1/8" aluminum pop rivet through the factory steel bracket on the left side.



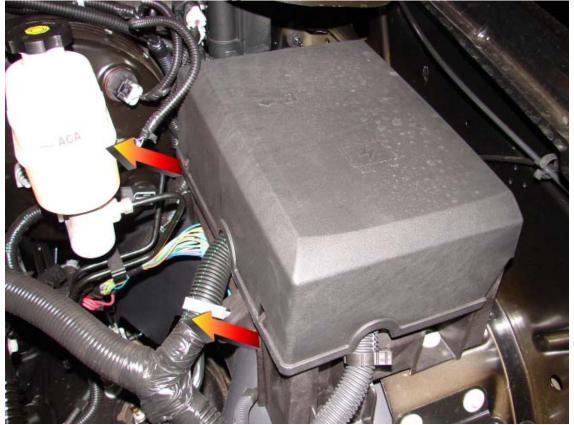
16. Before installing, both the controller bracket and aluminum bracket (and Prodigy) were painted with DupliColor textured dark gray metallic paint for a nice match of the factory interior.



17. String the wire harness through the controller bracket, make the connection to the controller and secure the controller into the bracket. Additionally, tuck and secure the harness up under the dash. The ventilation duct under the dash makes a good retention location with tie-wraps.



18. Remove the UBEC (Underhood Bussed Electrical Center) cover by pulling out to release the side catches. There are also two catches on the opposite side of the cover towards the fender.



19. At the front of the UBEC are Studs 1 and 2.

Stud 1 = Black, 40A, Fuse 68, Circuit 742, +12VDC to Trailer Battery, Always hot Stud 2 = Silver, 30A, Fuse 63, Circuit 242, +12VDC to Brake Controller in cab, Always hot



20. Locate the red/black wire for the Trailer Battery that is taped to the harness below the master cylinder.



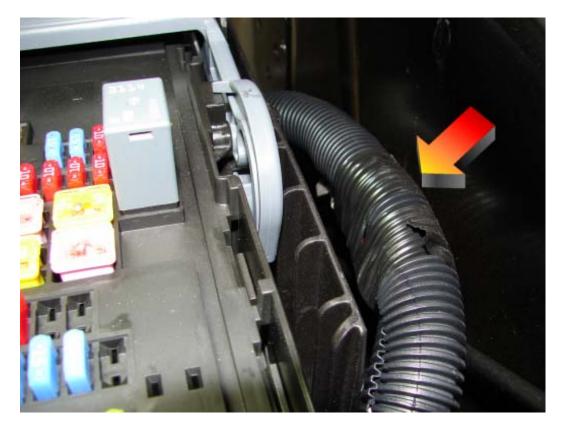
21. Remove the black electrical tape retaining the wire and string it up towards the front of the UBEC.



22. Between the UBEC and the fender, locate the wire that supplies power to the brake controller



23. Remove the tape.



24. Unstring the brake controller power wire and route it towards the front of the UBEC.



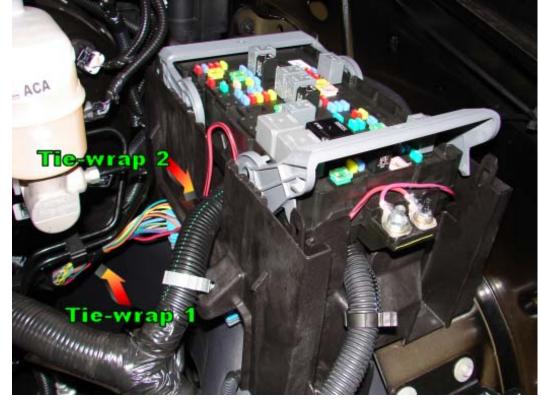
25. Swing open the big gray handle by pressing sideways on #1 and 2 below and then lift up (#3).



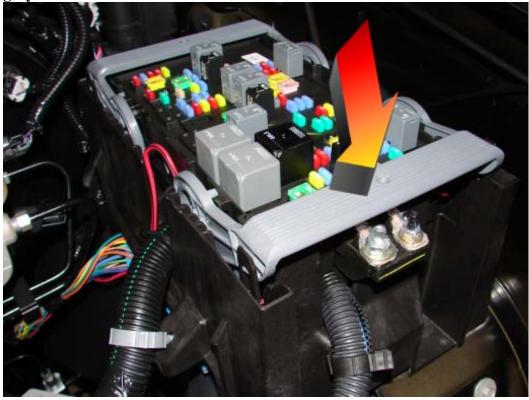
26. For a clean looking install, route the two red wires under the pivot axle of the gray handle. *Note: The factory ring terminals on the two red wires have different size holes.* Attach the fender wire to Stud 2 and the master cylinder wire to Stud 1. An 8-mm nut is needed for Stud 2 and a 6-mm nut is needed for Stud 1. One will need a 13-mm and 10-mm wrench respectively. For a little extra corrosion protection, coat the studs and wire terminals with silicone grease. *Note – Why did GM make us cross the wires? I don't know either...*



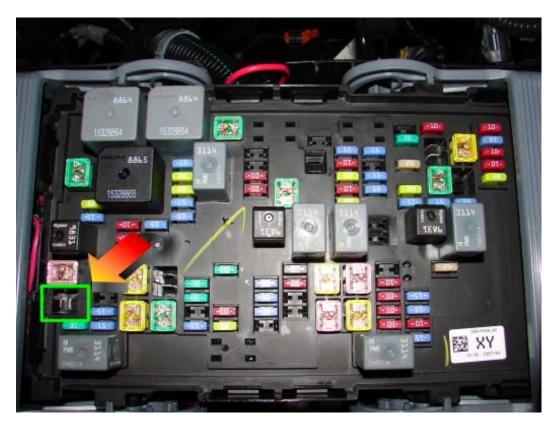
27. Secure the master cylinder wire with tie-wraps in the two places shown.

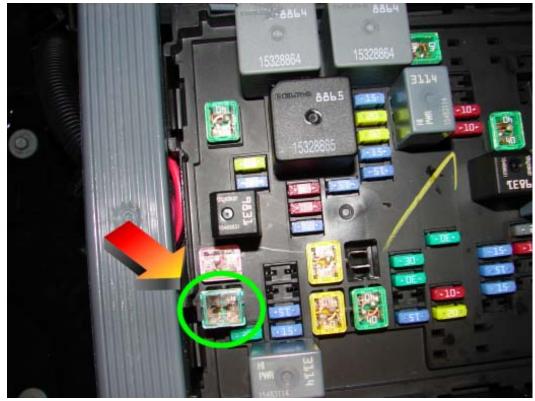


28. Latch the gray handle.



29. Install a 40-amp fuse (green) for Stud 1 in the position shown by the green outline.

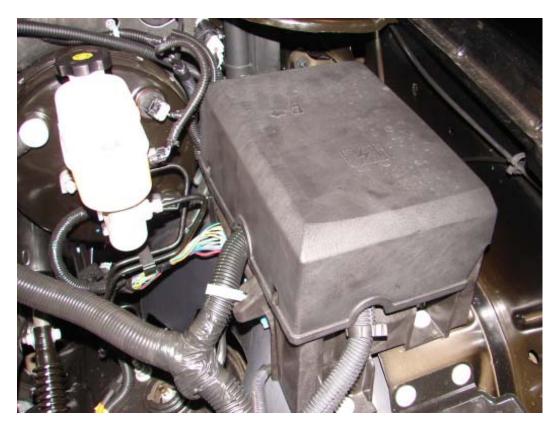




30. As learned from my last pickup, the UBEC makes a great place to store spare big and little fuses.



31. Place the cover on the UBEC and make sure all four catches are properly engaged.



32. Driver's eye view of the Prodigy controller.



33. View from center console area.



34. Vehicle approach view.



35. Alternative Prodigy mounting location using the u-shaped steel bracket that comes with the controller.



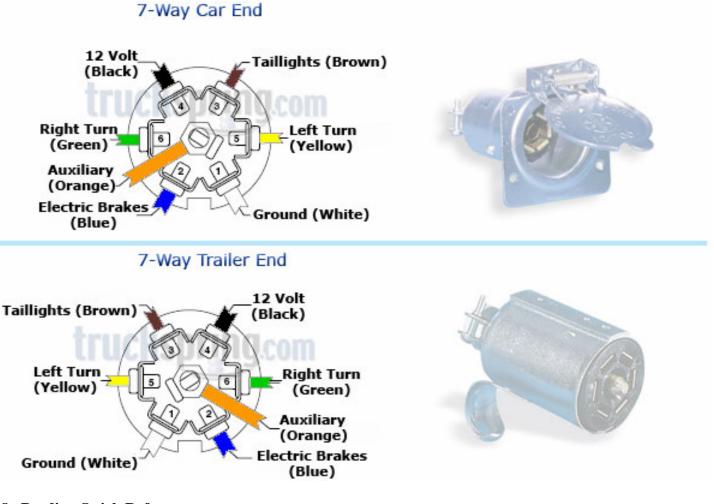
Another view of the above mounting method.





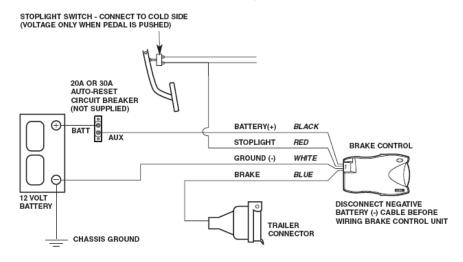
36. One owner mounted the bracket with 3M Command adhesive strips and 7 months later it's held fine. <u>http://solutions.3m.com/wps/portal/3M/en_US/Command/home/us_en/products/mounting_strips/</u>





38. Prodigy Quick Reference

Generic Wiring Diagram



Wiring Legend

BLACK Wire (Positive Battery)

WHITE Wire (Negative Battery)

RED Wire (cold side of stoplight switch)

BLUE Wire (brake output to trailer)

Typical Boost Settings For Optimal Performance (with properly adjusted trailer brakes*)					
TRAILER WEIGHT compared to VEHICLE WEIGHT	.C BOOST "OFF"		b.2	6.3	
Trailer weighs LESS than Vehicle	X	X			
Trailer weighs APPROXIMATELY SAME as Vehicle	X	X	X		
Trailer weighs UP TO 25% MORE than Vehicle		X	X	X	
Trailer weighs UP TO 40% MORE than Vehicle			X	X	
Trailer weighs OVER 40% MORE than Vehicle	WARNING Do not exceed Gross Combined Weight Rating (GCWR)			X	

Troubleshooting Chart

Display	Situation	Probable Cause
0.9	Flashes 2 times a second or a steady display.	Trailer is connected and Prodigy loses connection to battery ground.
<u> . </u>	Flashes 2 times per second.	Prodigy "sees" an overload condition during operation.
<u>5</u> .H	Flashes 2 times per second.	 Brake wire sees short during idle condition. Use of some test lights or non-Tekonsha testers can cause this problem.
	The lower two bars flash	Prodigy is mounted at too low an angle.
	The upper two bars flash	Prodigy is mounted at too high an angle.
n.c.	Flashes for 15 seconds	 Trailer not connected to tow vehicle. Trailer connected with open circuit on brake line. Trailer connector disconnected or corroded. Loss of trailer brake magnet ground.
(Blank Display)	No display with manual or pedal activation.	 Loss of power to Prodigy. Loss of ground to Prodigy.
	No display until activation	Prodigy is in power-saving mode due to no motion for fifteen minutes.
0.0	No braking	Power control set to 0.
P.L.	Power interruption while brake pedal is depressed.	