

Cheap Hummer Tricks

by Dave Breggin

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This month you will receive two Cheap Tricks for the price of one! Although the pictures are of parts of a Hummer H1, this article applies equally to all vehicles with side-terminal batteries.



Picture 1 – Battery Terminal with Cover First, a little background about battery terminals and Hummers. The stock Hummer battery has side terminals. The cables are designed to “piggyback” as necessary to connect to both batteries. The late-model Hummer winch wiring harness contains these same “piggy-back” cable connections. Low-current accessories for the Hummer should be wired to one of the convenient power junctions under the hood or under the dash. This includes anything under about 60 Amps. Low-current accessories should not be attached directly to the batteries. What accessories draw more than 60 Amps? Winches and power inverters, mostly. Such high-current accessories should be connected either to the battery terminals, or (if practical) to the large studs on the starter motor.

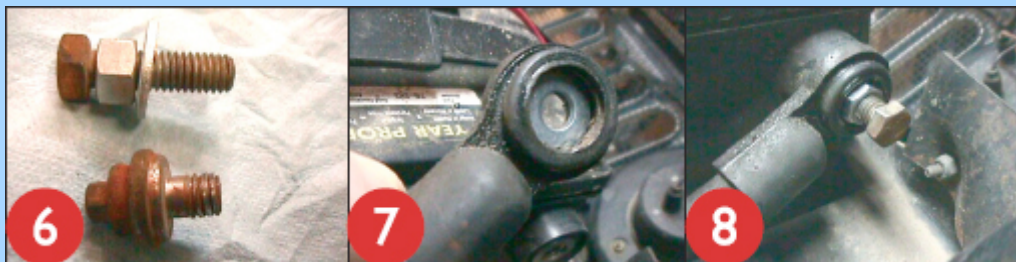
Picture 2 – Side Terminal Cable Battery power is transferred from the battery to the cable not through the screw, but through the flat surfaces of the battery terminal and the cable connection. These surfaces must be clean and tightly pressed together in order for full power to be conducted.

Picture 3 – Battery Terminal Picture 1 shows the Hummer / H1 battery terminal with the cover in place. This cover helps keep the connection clean and prevent corrosion. Picture 2 shows the connector with the cover removed. Picture 3 shows a close-up of the battery terminal.

Picture 4 – Terminal Bolt Picture 4 shows one of the cable bolts when removed from the cable connector. Note four characteristics of this bolt: • It has a small head to discourage over tightening • It has a wide shoulder to press the terminal evenly • It has a cone-shaped shoulder (or sometimes a groove) for use with jumper cables • It is designed to strip more easily than the battery terminal Note also that the threads on this bolt are stripped. Read about this in Cheap Trick #1.

Cheap Trick #1: Stripped bolt

Picture 5 – Cable Connector I was checking the batteries in a Hummer and noticed that one of the cables was a little loose. I tried to tighten it up a bit but it came loose completely. It turns out that the threads on the screw were damaged beyond reuse. So I improvised a fix to get the truck back on the road. First, I removed the screw from the battery cable connector. Picture 5 shows this connector without the bolt in place



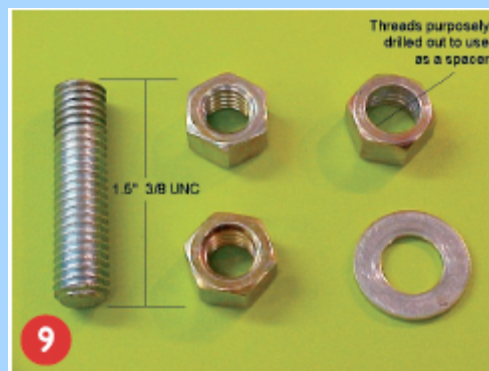
Picture 6 – Replacement Bolt, Original Bolt Next, I found a 3/8” coarse-thread bolt, nut, and washer in my spare parts box (Picture 6). I placed the washer inside the rubber hood on the cable connector to take the place of the shoulder of the original bolt (Picture 7). Although this may not be necessary, it was helpful in keeping enough of the nut showing that it could be tightened.

Picture 7 – Connector with Washer Next, I threaded the nut fully onto the bolt, placed the bolt through the hole in the cable connector, and threaded it into the battery. I threaded it by hand until it was fully inserted, then backed it out about 1 full turn. Finally, I tightened the nut against the cable connector to hold it against the battery terminal. I used one wrench to prevent the bolt from turning, and a second one to tighten the nut. Be careful not to over tighten – remember the undersized head on the original bolt! (Also remember that the standard bolt that I used is not designed to strip more easily than the battery terminals.)

Picture 8 – Finished repair Picture 8 shows the completed installation. This fix was temporary so it was not important that the rubber cap could not fit over the bolt. If it were important, I could have cut off the head of the bolt or I could have used a short length of threaded rod (all-thread) instead of the bolt.

Cheap Trick #2: Attaching a high-current accessory

Bob needed to connect the winch cables to the battery, and the provided cables did not have the “piggy-back” side-terminal connectors on them. Although it may have been possible to connect these cables to the studs on the starter motor, as was done with early-model Hummer winch wiring harnesses, there are often reasons why this could not or should not be done. Cable length or routing, temporary installation for the purposes of evaluating products, and those nasty blobs of caulk the factory uses come to mind.



Picture 9 – Parts for Temporary Install Picture 9 shows the parts that Bob used. Bob used a short piece of threaded rod (all-thread) as a stud to replace the bolt. He hand-threaded the stud into the battery, being careful not to over tighten it. Next he took a nut and drilled the threads out such that the nut would slip over the stud. A larger nut would also work, but it would have deformed the plastic cover on the cable terminal.



Picture 10 – Completed Installation Next, the winch cable terminal was placed over the stud. Finally, the washer and nut were put on the end of the stud and tightened. Picture 10 shows the completed

installation. Care should be used not to over tighten the stud in the battery. Before final tightening, back the stud out a couple turns. That way if the stud turns during final tightening it will not bottom out and strip the threads in the battery terminal. Since the rubber cover will not fit over the extra cables, this is not the recommend installation method. Still, it may be preferable to the alternatives.