

VDC 5W Solar Battery-Minder

As fitted to 2003 S-Type

<http://www.batteryminders.com/batterycharger/catalog/BatteryMINDER-Solar-Charger-Controller-Desulfator-12-Volt-with--p-16139.html>

But shop around, I didn't pay this much

Possible Bullwinkle “OR” Titles

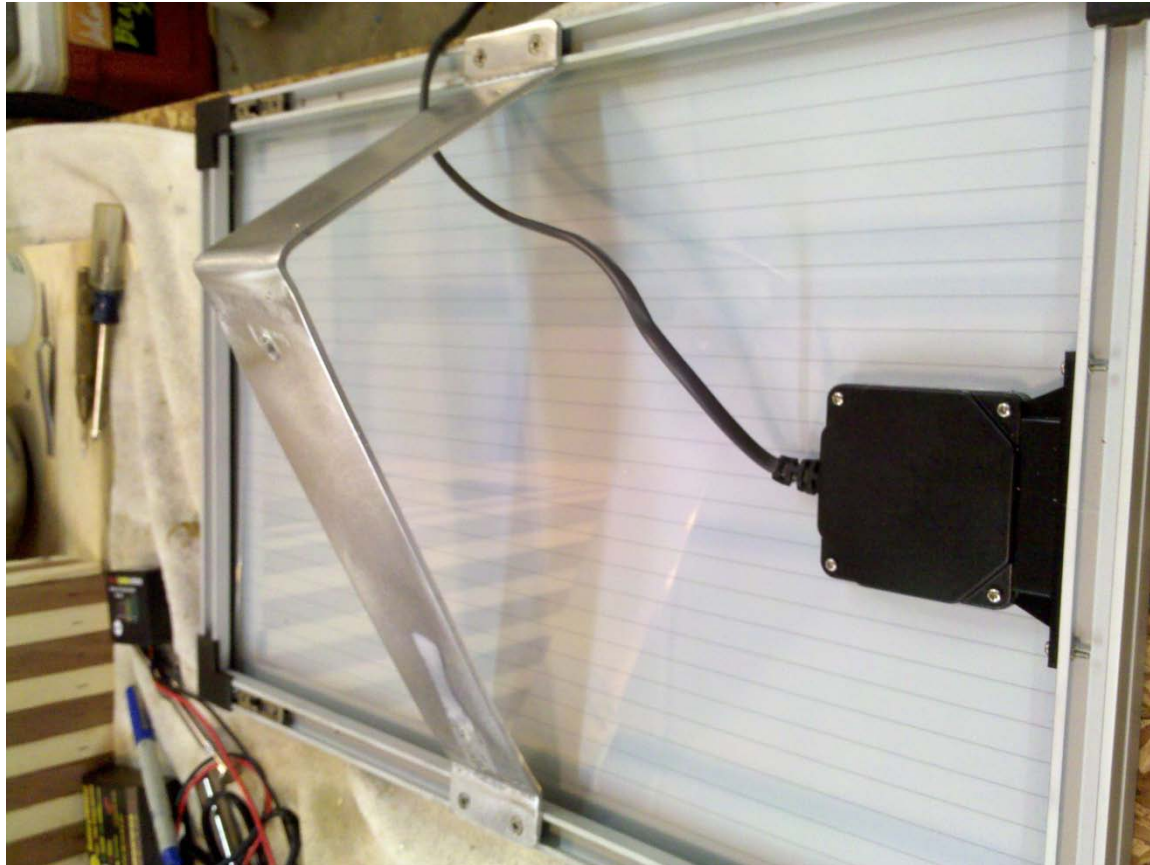
- Another attempt to daughter-proof a car
- If it’s a sunny day, my car will start tonight
- I can “go green” without the stupid-looking 40 mi. range car
- Treat the symptoms, who cares about the root cause?
- VDC “really” should make a wiring disconnect at the solar panel



Tools

Perhaps short of those needed, but available for metalworking: Mallet, vise, copper-sweating propane torch, and files. Used but not pictured: Drill press and hacksaw.

Stock is length of 1/8" aluminum flat sheet found in corner, obtained from friend whose wife was "helping" him clean out his garage.



Form the Bracket

Clamp, heat, beat.

Quench, test-fit, guess, repeat.

In the very end, saw off excess and smooth the corners

End Details



Didn't have a special counter-sink bit so used a normal bit approximately same diameter as the screw-head about halfway through the stock so flat-head screws would be flush, then finished the hole with a clearance bit. Filed the corners into a radius to preclude hurting myself going forward.



Anti-Rattle

Jam the pre-existing rattle nuts against the corner stops by repositioning the two unused pre-installed bracket anchors



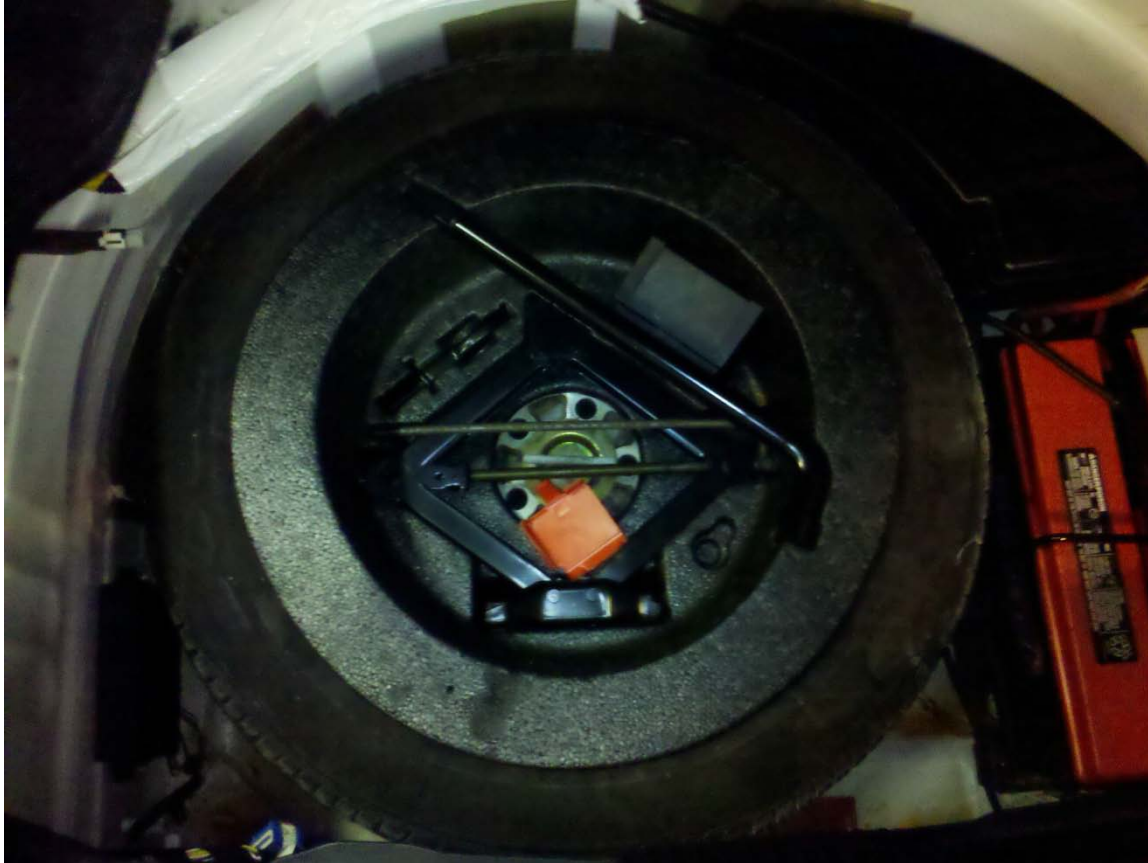
Proper orientation

(as-will-be fitted to back shelf)



Wire-Routing – Controller to Battery

Didn't snap a pic, but the wire-harness was a bit floppy out in the spare tire space. Being fresh out of click-studs to mount clips to, I opted for a bit of white duct-tape I had on-hand to secure it. Had to extend the 2' long wire-harness supplied in order to get cross-car.



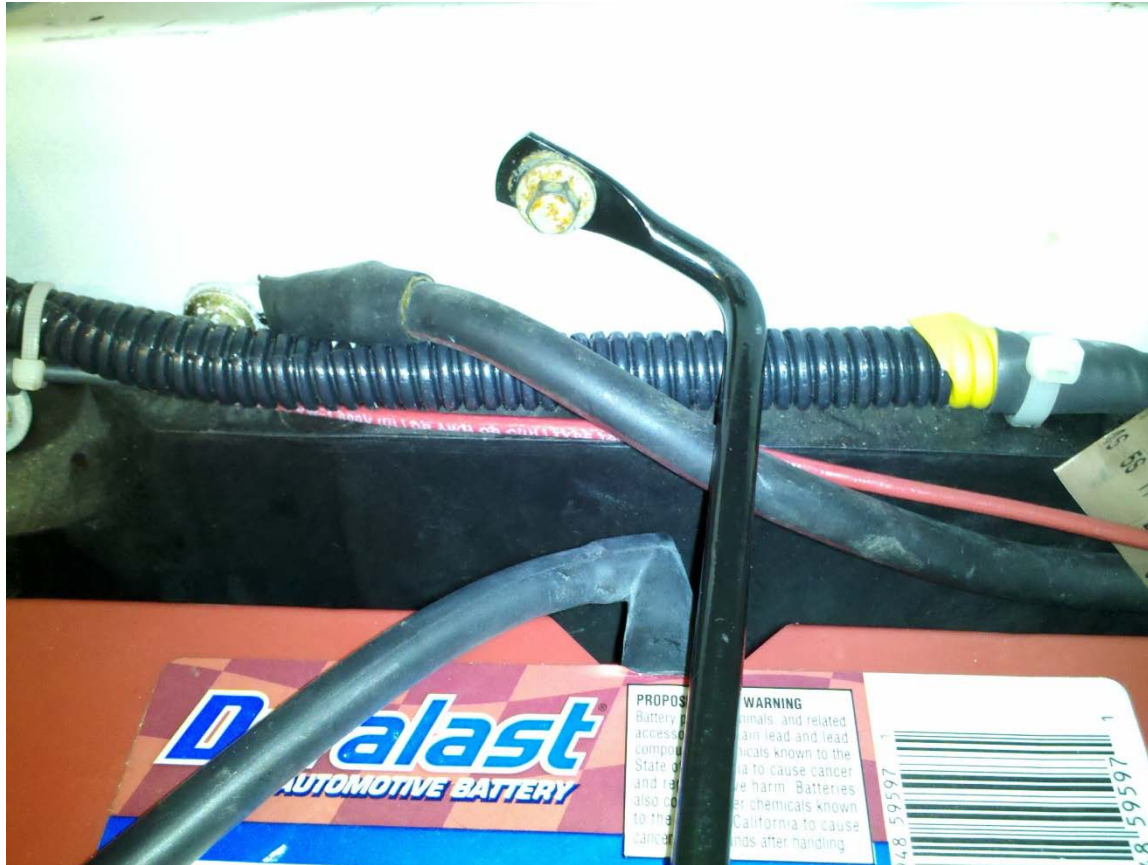
Wire-Routing – Controller to Battery

With spare and tools re-installed



Wire-Routing – Controller to Battery

At the battery – Probably should buy a longer hose to route out the vent grommet that would allow going all the way around the battery and picking up all the fixing clips. Had to skip the lower fwd clip or the upper one at the corner. The junction between the Auto-zone hose supplied with the battery and OEM hose can be seen just under the battery handle



Wire-Routing – Controller to Battery

Vent hose is not “kinked” but has a molded right-angle end. Corrugated wiring loom running beneath ground point has been added. Red wire exits loom at end and doubles back to go to + terminal



(-) Post Detail

I extended the VDC harness by cutting off the ring terminals a few inches back and butt-splicing 12-ga extensions in. After cutting, I concluded the VDC harness was probably 14 ga with really thick insulation...but I'd already bought my black and red wires.



(+) Post Detail

VDC harness included an in-line fuse. I made the splice behind it as I didn't want to have to fish around behind panels for a fuse-check. A little hard to see, but there is a ring-terminal attaching to the + terminal clamping bolt.



Wire-Routing – Solar Collector to Controller

I secured the excess cable here to the rear shelf underside after getting through the shelf at the Left-hand upper child-seat anchor fixing.



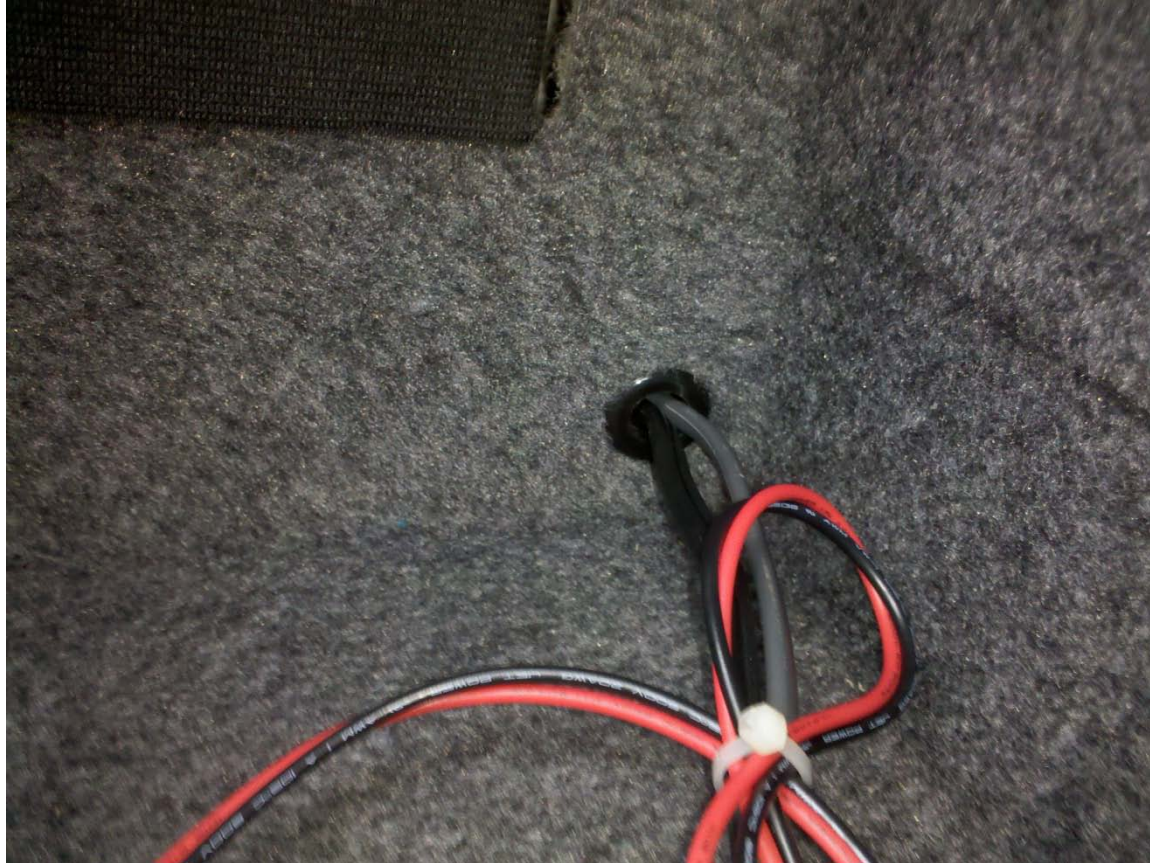
Wire-Routing – Solar Collector to Controller

I tied-off to structure just before routing behind a trim panel. This bit, and it's twin on the opposite side, each have an 1/8" plastic push-pin fixing that I found necessary to remove to facilitate removal of the trim panel covering the underside of the back shelf.

Back shelf Trim Panel



Remove 4 plastic anchors and then it is held only by being sandwiched behind the trim panels on either side. I removed one push-pin from each to alleviate need to bend the panel excessively for removal.



Controls Mounting

I got a box of various-size rubber grommets and used a wood-bit to drill through the trim in the cubby that earlier models mounted the cd changer in. If you give the wires a yank you can dislodge the grommet, but it looks “finished” this way.



Control/Monitor Central

Both components arrived pre-configured with the hook-side of hook-n-loop fastening adhesively bonded to the back side. It clings mightily to the inner cubby panel.



The Chief Engineer's (ChEng) Panel

You can monitor whether or not the solar collector is producing power and whether it is being used to charge the battery or desulphate it. Also an LED to tell you you're stupid and have hooked it up in reversed polarity. BCI has a white push-button to test the condition of your battery "After" 12 hrs at rest. Good luck complying with that gate



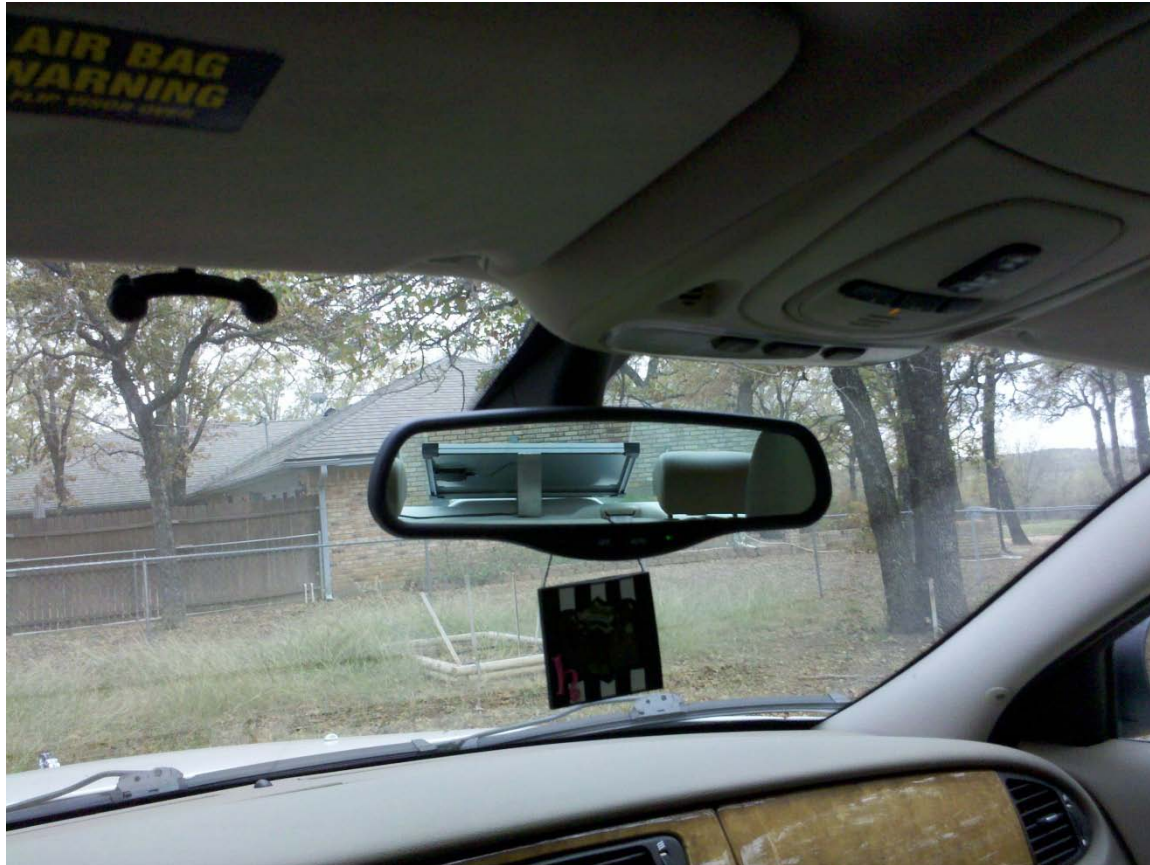
Finished Install – the Boot View

Negative impact to Jr's luggage-hauling capacity is minimized. Likewise the probability that she can take-out a component by jamming in an extra box of shoes and slamming the lid.



Finished Install – Cabin View

Like ALWAYS hauling a tall-person around in the middle seat.



Finished Install – Rear View



The Bad / The Ugly

Really wanted to take the wiring through the same center upper child-seat anchor point that the bracket is fixed to. Just too much wire-pinching when I tried it, so I came over to the LH anchor. Not proud of the appearance, but I was running out of time.



Opportunities

Car will be here for near 5 weeks over Christmas. Hopefully I'll find time and materials to produce a new bracket, with a much shorter upright, laying panel down more toward parallel to the back shelf. I need clearance to remove and install the fixing bolt, everything else is margin. Also plan to notch the fixing bolt hole and hopefully get the wiring through there without excessive pinching. Maybe get my artistic son to paint a leaper or growler on the front bracket face.