

Global MX-5 Cup Car Electrical Grounding

Service Update:



Purpose: To improve vehicle startup by cleaning the grounding points for the wiring harness that may have become corroded or dirty over time, installing an additional ground cable from the battery to a factory grounding point, adjusting the contacts in the clutch switch and ensuring the battery is properly maintained.

Maintaining your Lithium Ion Battery:

It is **EXTREMELY** important to properly maintain your lithium ion battery. Discharging the battery below 8 volts and using improper charging methods can cause damage to the battery which will cause weak starts. New Batteries are shipped charged at 70% capacity, so they must be fully charged before use. New batteries will show 13.4 volts on a volt meter despite only being at 70% capacity.

Review the Usage and Charging sections of the Battery Tender Lithium Ion Battery User Manual here: <http://products.batterytender.com/BTL35A480C-man.pdf>

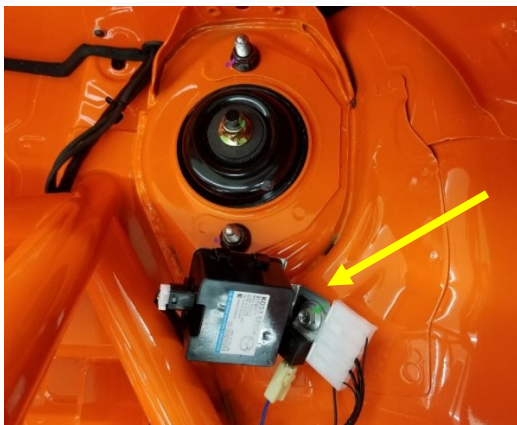
To Service Ground Connections:

1. Remove the nut or bolt and ensure it is clean and free of any loc-tite, dirt or corrosion.
2. With the bolt removed, using scotch brite or a medium grit sand paper, clean ALL of the mating surfaces at the grounding point. This includes the chassis, ensuring there is NO paint or corrosion of the bare metal, as well as the grounding tab on the wiring harness itself. All of these pieces need to be clean bare metal to provide adequate contact.
3. With all of the mating surfaces and the bolt clean, re-install and tighten appropriately. DO NOT use any form of thread locker, as this will hinder continuity.

Ground Locations:

There are seven ground locations that need to be serviced: Five grounding points on the factory wiring harness in the interior of the vehicle, the left front strut tower ground in the engine bay, and the main grounding stud on the power distribution panel in the trunk.

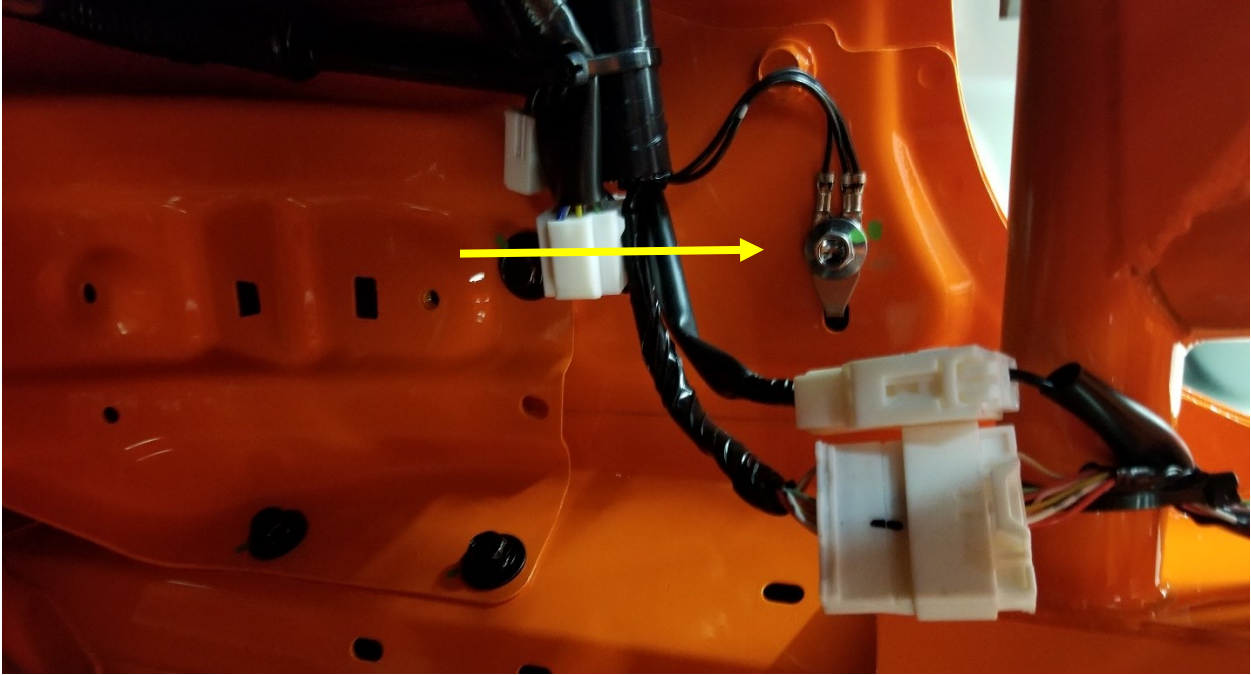
1. Left Rear Strut Tower Ground



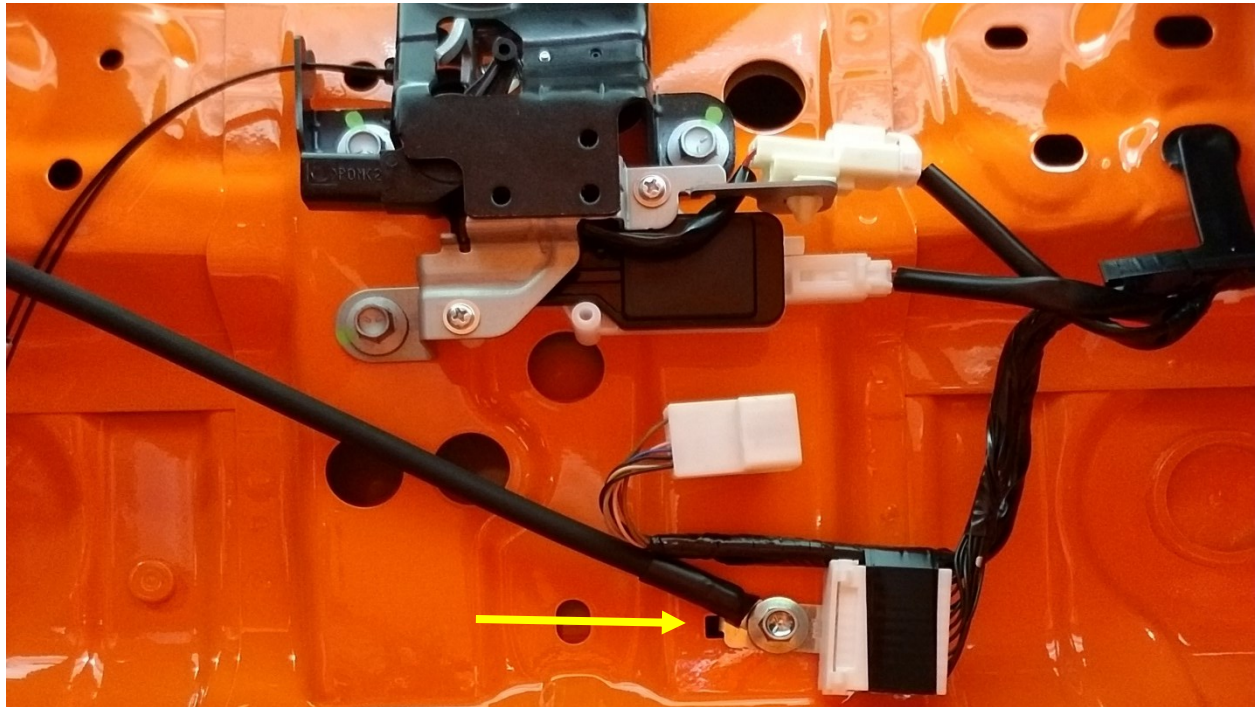
2. Right Rear Strut Tower Ground



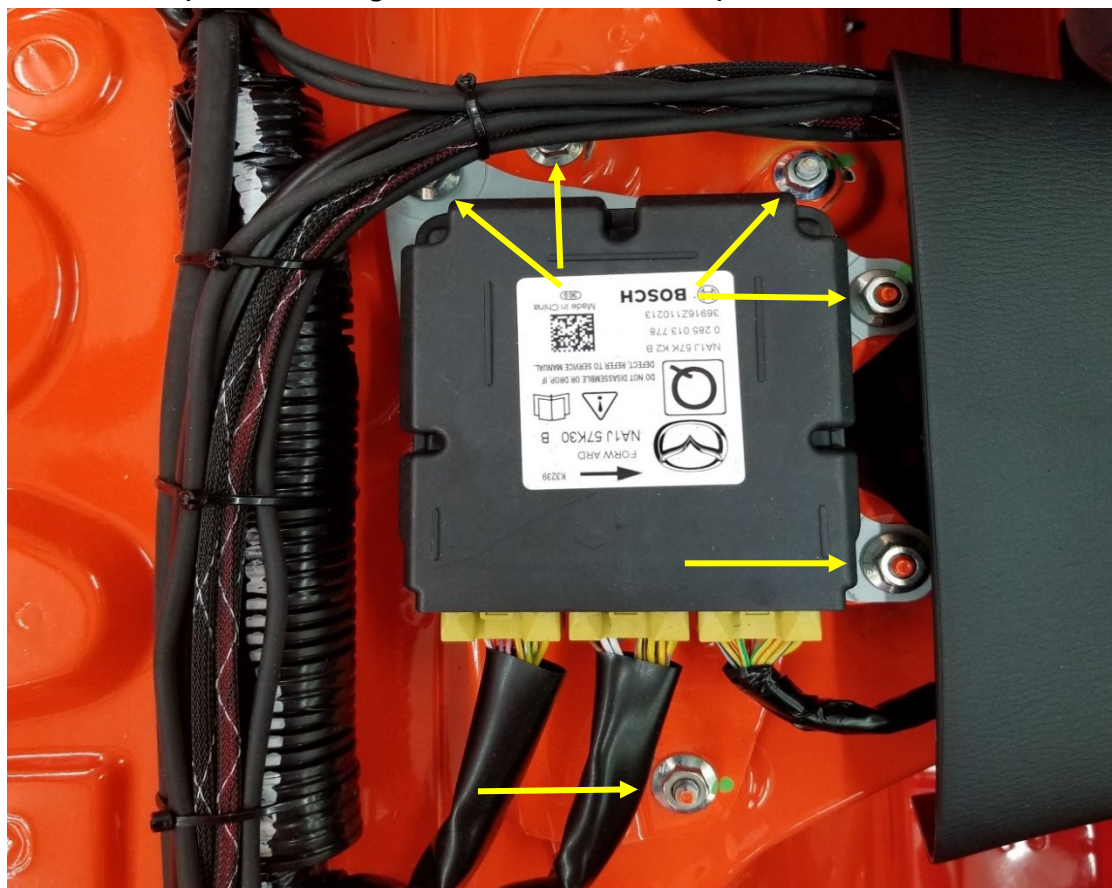
3. Right Front Footwell Ground



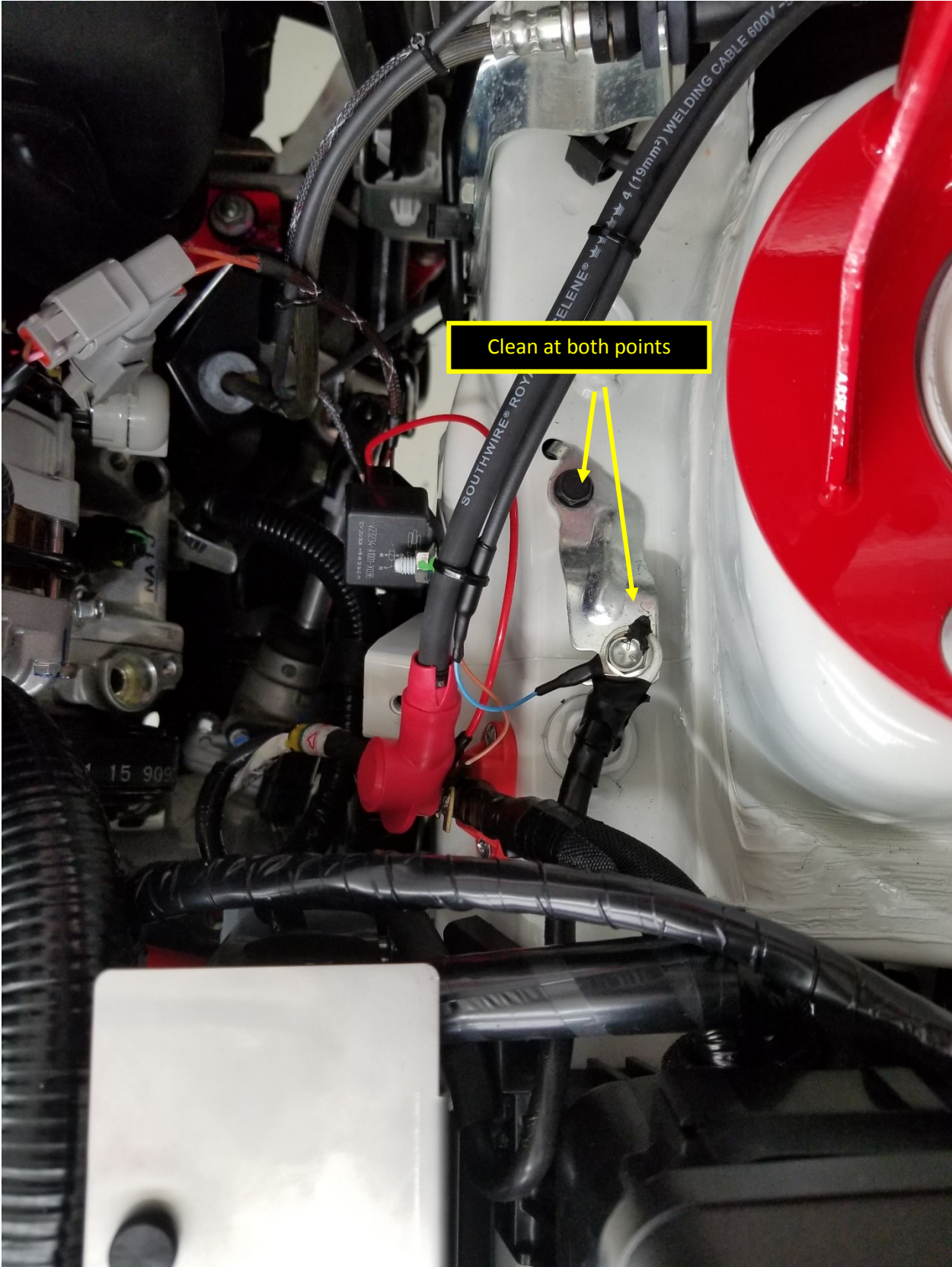
4. Trunk Latch Gang Ground (With additional ground cable installed)



5. Yaw Sensor (Grounds through the bracket to the chassis)

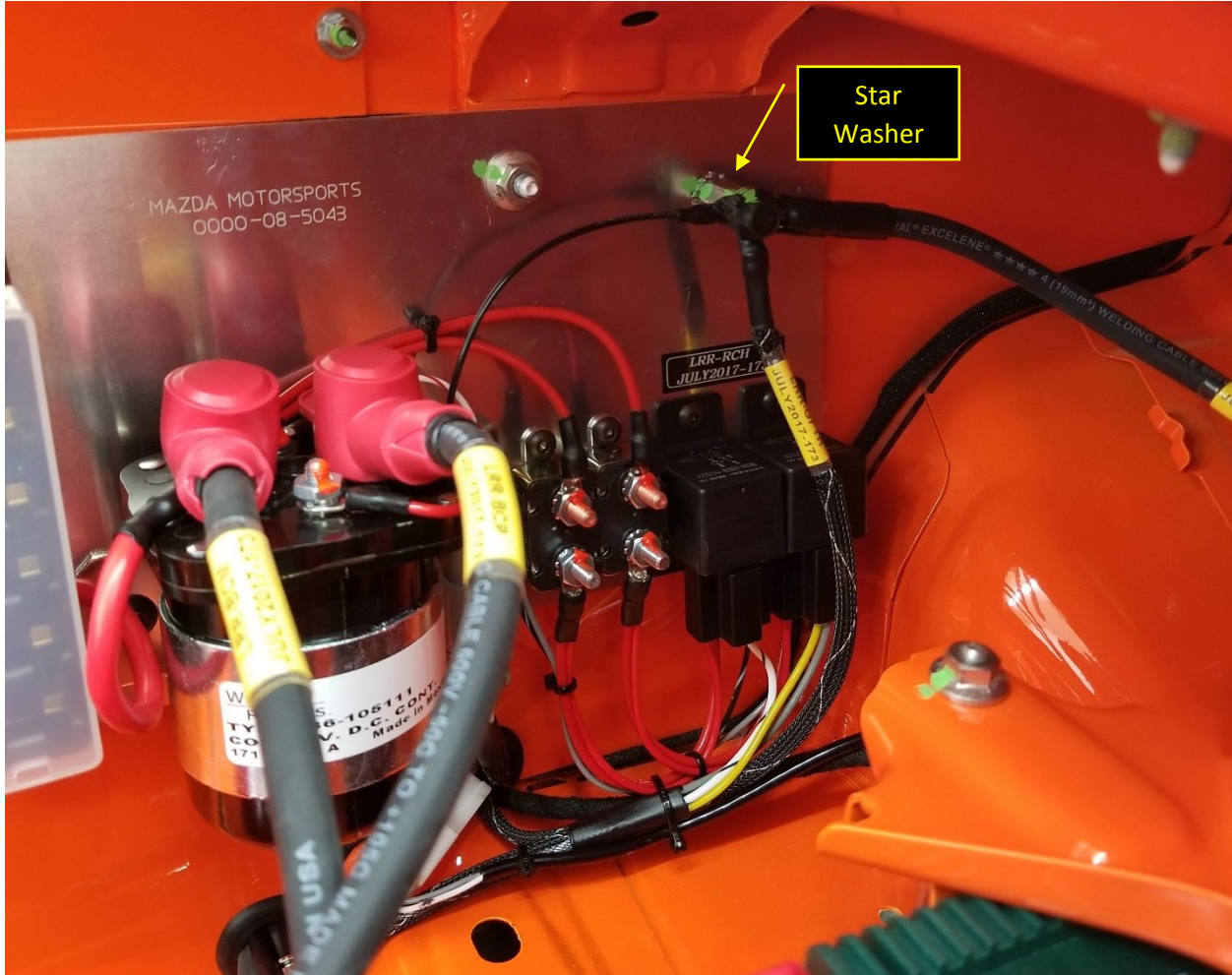


6. Left Front Strut Tower Ground (Located inside engine bay)



7. Main Grounding Stud on Power Distribution Panel:

You will need to remove the power panel as well as the firewall pieces that separate the trunk from the driver's compartment. With these pieces removed, follow the same process of scuffing and cleaning ALL of the mating surfaces of the firewall pieces and chassis in the area of the grounding stud, removing any corrosion, dirt or paint.



It is recommended that a star washer be used to aid continuity in the power panel grounding stud. Once the firewall pieces are back in place, the star washer should be placed over the stud to be sandwiched between the coupler nut and firewall panel.

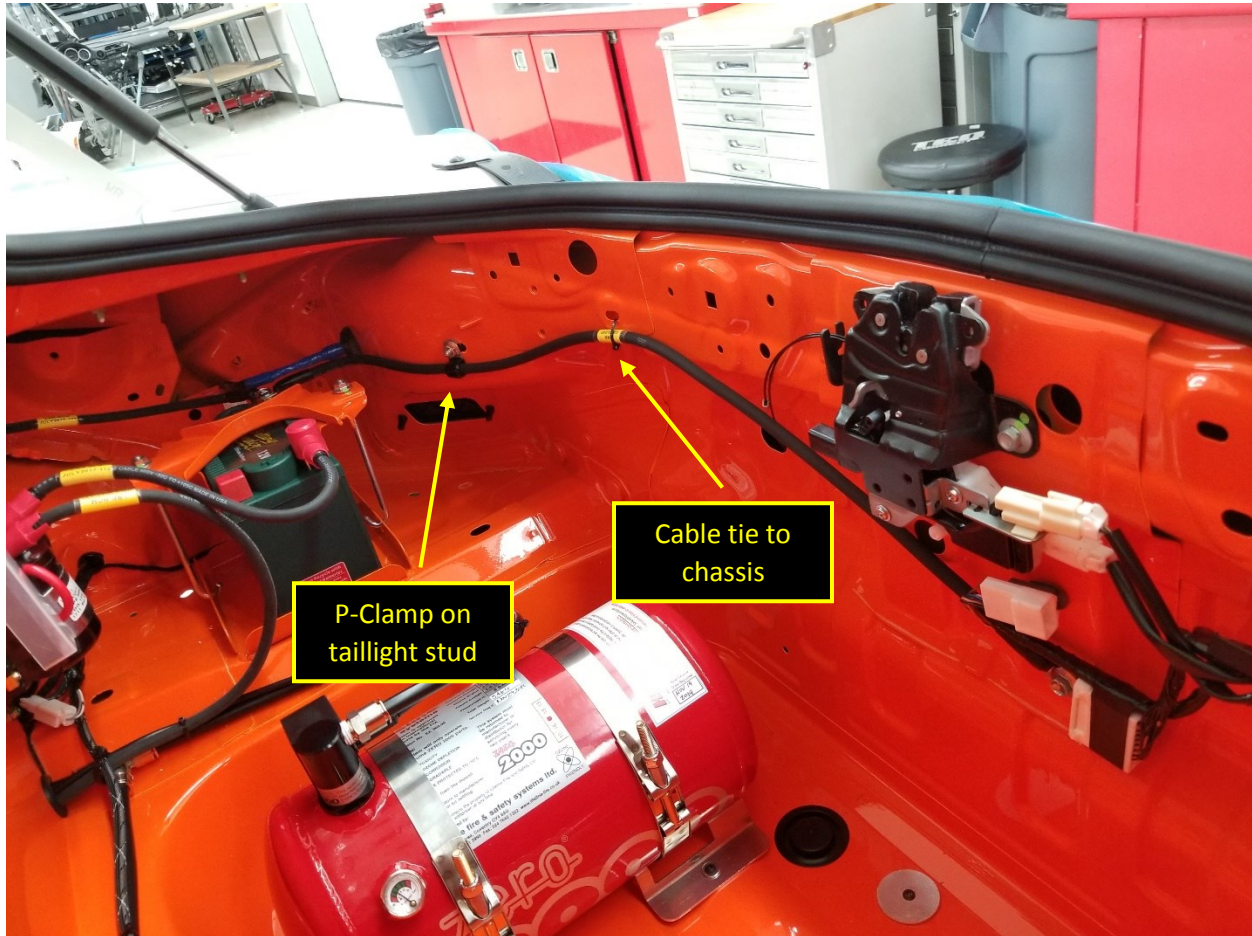
Do not use any form of thread locker on the grounding hardware during re-assembly. Once everything is re-installed and properly tightened, you may use a small dab of silicone to keep the bolt from backing out.

Installation of Additional Ground Cable:

Once all of the grounding points have been cleaned and serviced, you can install the additional ground cable. This cable ties the negative terminal of the battery directly to an OEM factory grounding point, greatly improving the grounding of the aftermarket wiring system.

To install:

1. 1. Locate and remove the bolt for the factory gang ground just below the trunk latch assembly.
2. 2. Re-install with the addition of the new grounding cable, as well as a star washer. It is recommend that the star washer be sandwiched between the chassis and factory gang ground, with the additional grounding cable on top.
3. 3. Attach the opposite end of the cable to the Negative terminal of the battery.
4. 4. Secure the cable to the right rear taillight stud with the provided P-clamp, and a cable tie to the chassis.



Adjusting the Contacts in the Clutch Switch:

1. Locate and remove clutch switch at top of clutch pedal to gain access to contacts.
2. Clean contacts, and then gently twist the contacts 10 to 15 degrees to ensure they are making a solid connection to the wiring harness connector.
3. Reinstall Clutch switch.

