



# Upgrade 32A Wall Connector to 40A

<b>Classification</b>	Repair Bulletin	<b>Section/Group</b>	50 - External Charging Connectors	<b>Country/Region</b>	China
<b>Year</b>	2014-2015	<b>Model</b>	Model S	<b>Version</b>	Single Charger

**Bulletin Classification:** This repair bulletin provides instructions and guidelines for a noted condition or a customer concern. The information provided can address a broad range of known or perceived issues with the operation of Tesla vehicles. This bulletin might not be VIN-specific. These instructions assume knowledge of motor vehicle and high voltage electrical component repairs, and should only be executed by trained professionals. Tesla Motors assumes no liability for injury or property damage due to a failure to properly follow these instructions or repairs attempted by unqualified individuals.

This Service Bulletin supersedes SI-14-50-001, dated 1-Dec-14. Each content change is marked by a vertical line in the left margin. Discard the previous version and replace it with this one.

## Condition

Some Model S owners in China received Wall Connectors that are only capable of charging at 32A.

## Correction

Perform this procedure to upgrade the 32A Wall Connector to charge at up to 40A.

**NOTE:** This 40A upgrade procedure is intended for existing customers in China who have already installed 40A capable circuit breakers and wiring and currently have a Wall Connector with the part number 1038866-02-A. The Wall Connector cannot charge at a higher rate than can be supported by the building wiring and circuit breaker.

Required Part(s):	Part Number	Description	Quantity
	1042448-00-C	ASY,CABLE,CHARGE,EU,1PH,40A	1
	1037629-00-A	CLAMP,HOSE,PINCH,12.6-14.5,7.1,STL,ZN	1
	1041425-00-B	LBL,EU,1PH,40A,WC	1

### If necessary:

1038514-00-A	ASY,BASE,STRAIN RELIEF,40A,PRC,MPC	1
1039045-00-A	O-RING,2,24,BUNA-N	1
1009857-00-C	GROMMET,EPDM, ID-14MM,OD-21MM	1
1009858-00-D	CLAMP,STRAIN RELIEF,M4 HOLES,28MM,PLSTC	1

### Shop supplies:

Silicone lubricant  
 Alcohol wipes  
 Paint pen

These part numbers were current at the time of publication. Use the revisions listed or later, unless otherwise specified in the Parts Manual.

<b>Special Tool(s):</b>	1063276-01-A	HPWC field programmer 40A
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Correction Description	Correction	Time
Inspection Only; Wall Connector Upgrade Not Required	S011550002	0.05
Upgrade Wall Connector To Allow Charging At 40A	S021550002	0.50
Upgrade Wall Connector To Allow Charging At 40A And Install Upgraded Strain Relief Base	S031550002	0.65

## Procedure

**⚠ WARNING:** Only licensed electricians or technicians who have been trained in High Voltage Awareness are permitted to perform this procedure. Proper personal protective equipment (PPE) and insulating HV gloves with a minimum rating of class 00 (500V) must be worn any time a high voltage cable is handled. Refer to service bulletin SB-13-92-003, "High Voltage Awareness Care Points" for additional safety information.

**NOTE:** Service Manual procedure 50024002 is required to perform this upgrade. If this procedure is to be performed by a third-party licensed electrician, provide the electrician with a printed copy of Service Manual procedure 50024002.

1. Turn off the electricity to the Wall Connector at the circuit breaker.

**⚠ WARNING:** Electricity must be turned off at the circuit breaker before continuing this procedure. Failure to follow this requirement might result in serious injury or death due to exposure to high voltage.

2. Remove the 2 screws and washers that secure the front cover of the Wall Connector (Figure 1).



Figure 1

3. Remove the front cover of the Wall Connector.

**⚠ CAUTION:** Do not damage the white ribbon cable when removing the front cover.

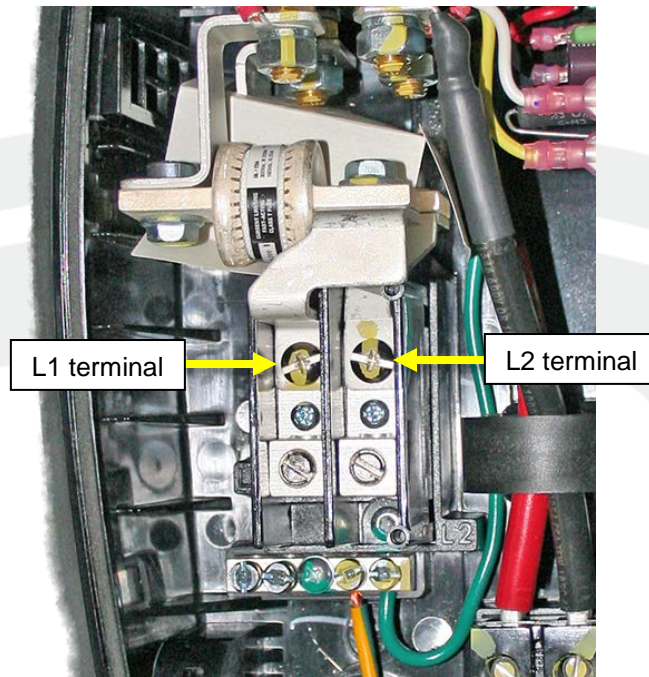
4. Check the inside of the front cover:

- If "SI-14-50-001 applied" or "SB-15-50-002 applied" is written on the inside of the front cover, the Wall Connector has already been upgraded. Reassemble the Wall Connector and discontinue this procedure.
- If there is no writing on the inside of the front cover, continue to the next step of this procedure.

**⚠ WARNING:** Proper personal protective equipment (PPE) and insulating HV gloves with a minimum rating of class 00 (500V) must be worn while performing the next step.

5. Use a properly rated voltmeter or multimeter to check for voltage between the L1 and L2 terminals (Figure 2).

**⚠ WARNING:** Due to the risk of electrocution, do not continue this procedure if any voltage reading is more than 10V.



**Figure 2**

6. Remove the Wall Connector handle and cable assembly (refer to Service Manual procedure 50024002).

7. Cut the wires that secure the 32A handle to the cable assembly as shown (Figure 3).

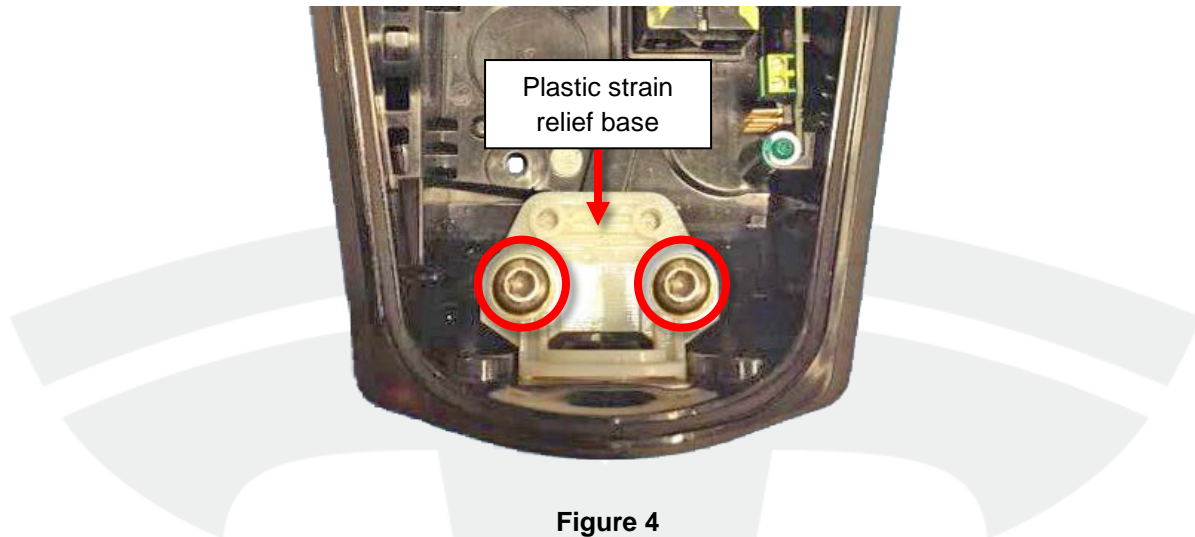
**NOTE:** Cutting the wires ensures that no one uses the assembly in the future.



**Figure 3**

8. Discard the 32A handle and cable assembly.

9. Inspect the plastic strain relief base at the bottom of the Wall Connector:
  - If the strain relief base is black, skip to step 11 of this procedure.
  - If the strain relief base is white, then it is a prototype part. Remove the 2 screws that secure it to the Wall Connector housing (Figure 4).



**Figure 4**

10. Remove the plastic strain relief base from the housing by pushing it towards the top of the Wall Connector. Discard the plastic strain relief base.
11. Plug the power cable into the 40A programmer.
12. Plug the adapter and power supply assembly into a wall outlet.
13. Locate the pin header on the printed circuit board assembly (PCBA) along the right hand side of the Wall Connector housing (Figure 5).



**Figure 5**

14. Install the adapter at the end of the ribbon cable onto the pin header (Figure 6).

**NOTE:** Ensure that the 40A programmer (1063276-01-A) is being used. The correct programmer has “40A” imprinted at the top of the casing.

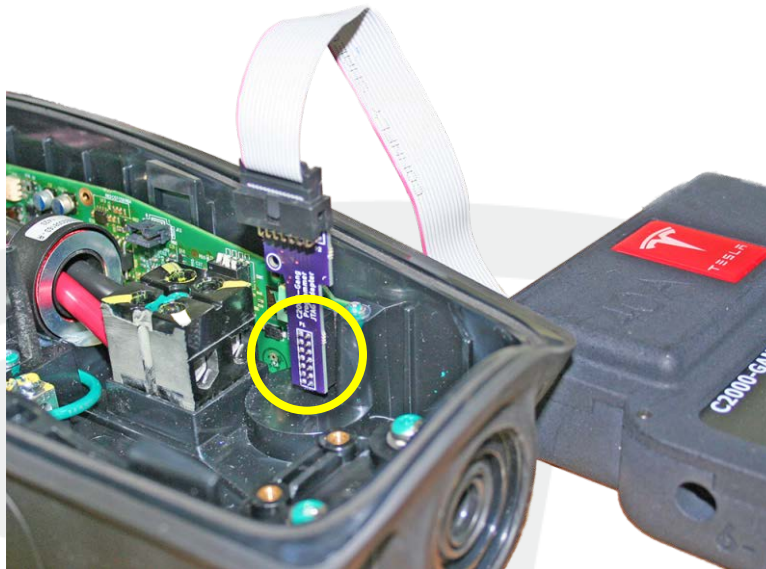


Figure 6

15. Once the display screen on the programmer is lit, press the “Go” button on the bottom right (Figure 7).

**NOTE:** The programmer automatically updates the firmware on the Wall Connector. The screen displays: *Start, Download, Erase, Write, then Finished.*



Figure 7

16. When the display screen displays “Finished”, ensure that the display has a check mark under the “1” on the left side (Figure 8).

**NOTE:** A check mark under the “1” indicates that the firmware update was successful. Disregard all numbers other than “1”.

**NOTE:** If the firmware update was unsuccessful (an “X” is displayed under “1”), disconnect the power cord from the programmer for 30 seconds, ensure all connections are tight, re-connect the power cord, then perform step 15 again.



✓ Figure 8

17. Disconnect the adapter from the pin header on the PCBA.

18. Unplug the power cable from the programmer and the wall outlet.

19. Use a pointed non-conductive object such as a plastic pen to adjust the DIP switches to set the operating current based on the capacity of the circuit breaker being used (Figure 9).

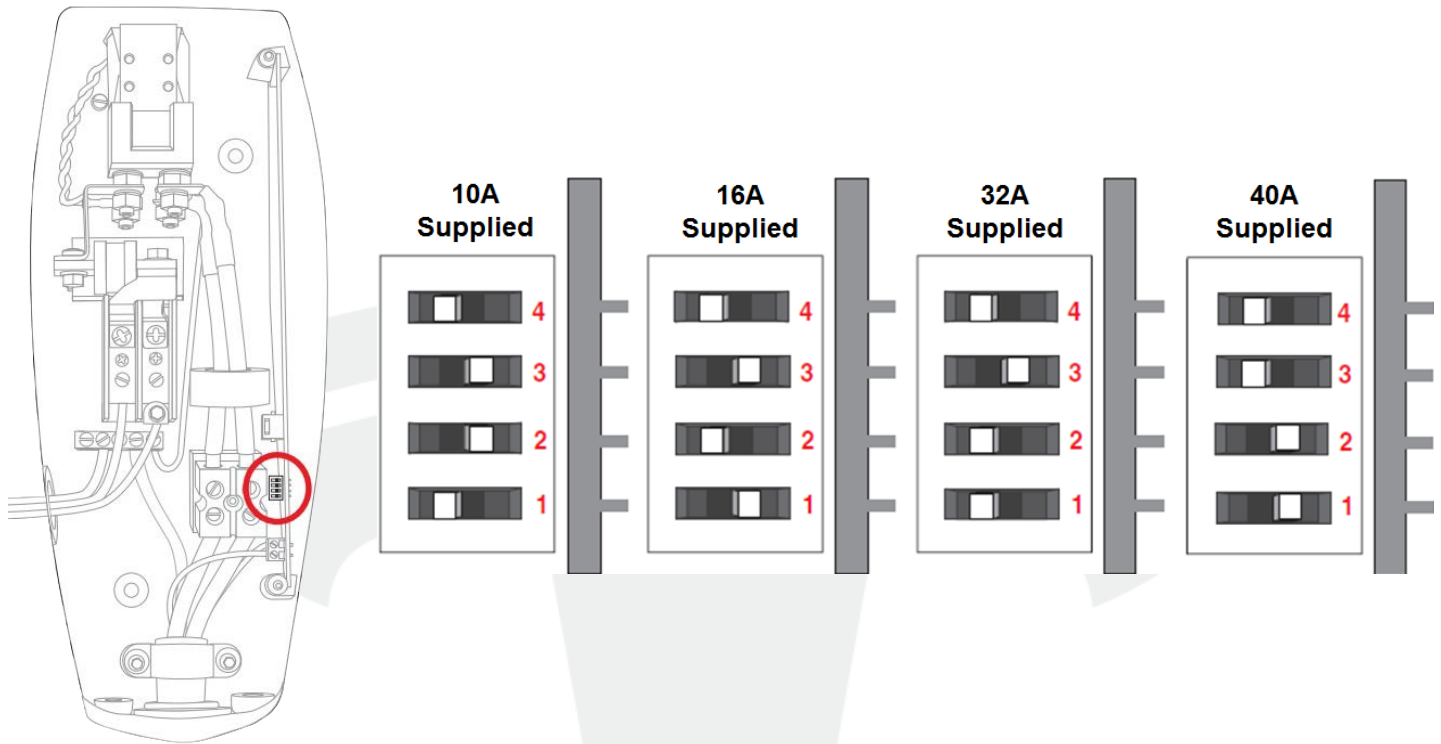


Figure 9

20. Use a paint pen to write on the inside of the Wall Connector's front cover:

*SB-15-50-002 applied <today's date>*

21. On the right hand side of the casing, apply the 40A label over the 32A label (Figure 10).

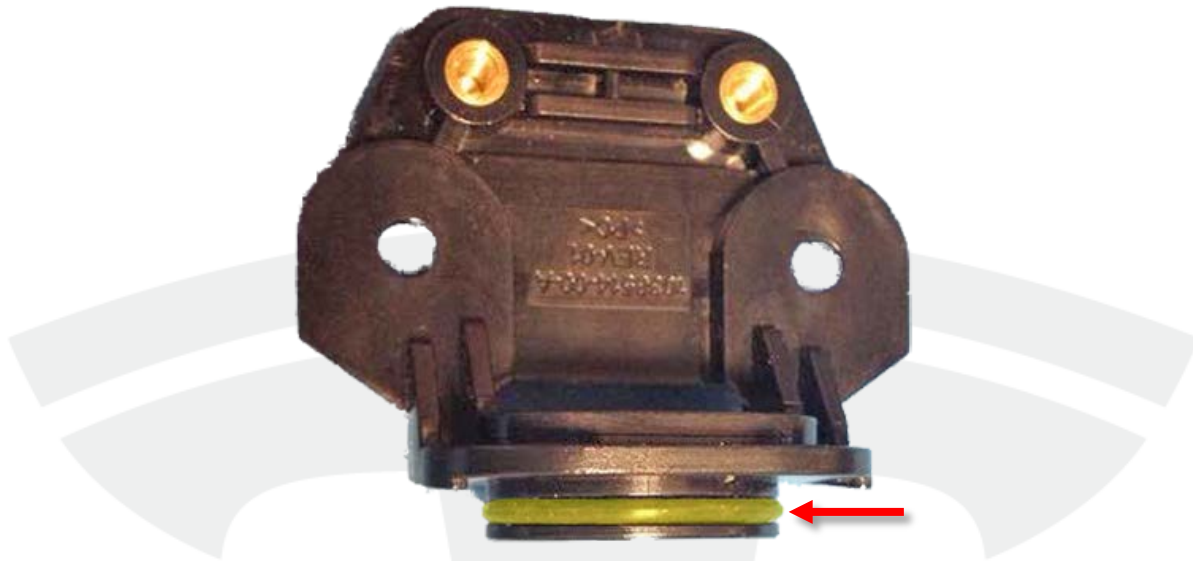


Figure 10

22. If the plastic strain relief base on the bottom of the Wall Connector was discarded in step 10, perform the steps in "Upgrading the Plastic Strain Relief Base" portion of this document before continuing to step 23.
23. Install the new 40A Wall Connector handle and cable assembly and front cover (refer to Service Manual procedure 50024002).
24. Turn on the electricity to the Wall Connector at the circuit breaker.
25. Ensure that the vehicle is able to charge at the selected current setting.

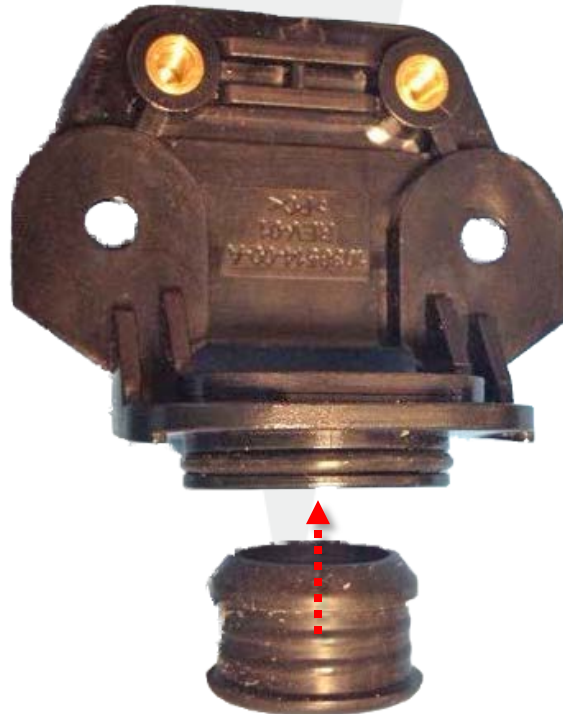
## Upgrading the Plastic Strain Relief Base

1. Fully insert the O-ring into the groove on the base of the new plastic strain relief base (Figure 11).



**Figure 11 (O-ring highlighted)**

2. Apply silicone lubricant to the entire outer surface of the O-ring.
3. Insert the rounded end of the grommet into the new plastic strain relief base (Figure 12).



**Figure 12**



4. Ensure that both ends of the grommet are flush with the plastic strain relief base (Figures 13 and 14).

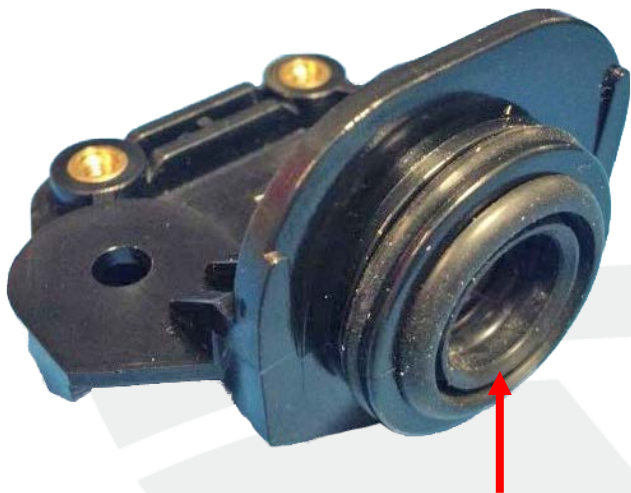


Figure 13

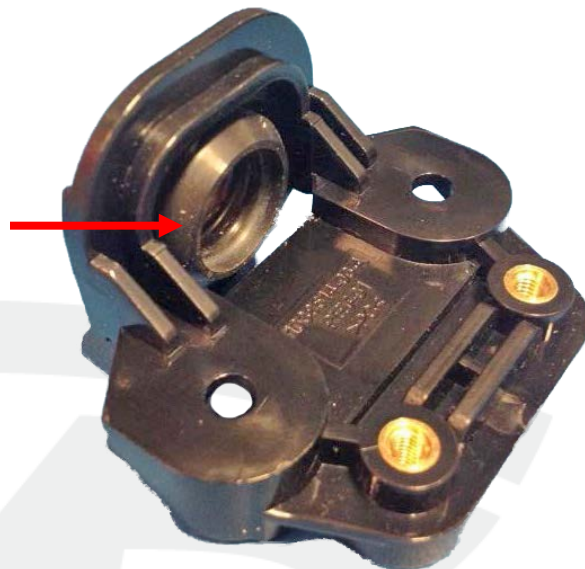


Figure 14

5. Use alcohol wipes to clean the bottom of the Wall Connector housing. Ensure that the housing is clean of dirt and debris before continuing this procedure.
6. Insert the plastic strain relief base into position inside the Wall Connector housing.
7. Gently push the plastic strain relief base towards the bottom of the Wall Connector housing until the O-ring is flush with the opening at the bottom of the Wall Connector.

**⚠ CAUTION:** Ensure that the O-ring is flush with the Wall Connector assembly to prevent dirt and water ingress (Figure 15).



Figure 15

8. Reinstall the 2 screws that secure the plastic strain relief base to the Wall Connector housing (torque 4 Nm) (Figure 16).



**Figure 16**

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