



# REAR BUMPER FOR GM LD/HD TRUCKS

## NEW PRODUCT

Please visit [www.aev-conversions.com](http://www.aev-conversions.com) to view the most current installation guide for this product.

This is a new product, and we want to make sure that you receive the latest and most accurate information based on customer feedback, product revisions, and/or model year updates. We value customer feedback, so we encourage you to contact our Technical Support department if you have any suggestions on how to make the installation of this product easier or if you have any questions regarding the installation of this product. AEV's Technical Support can be reached by email at [tech@aev-conversions.com](mailto:tech@aev-conversions.com) or by giving us a call at (248)-926-0256.

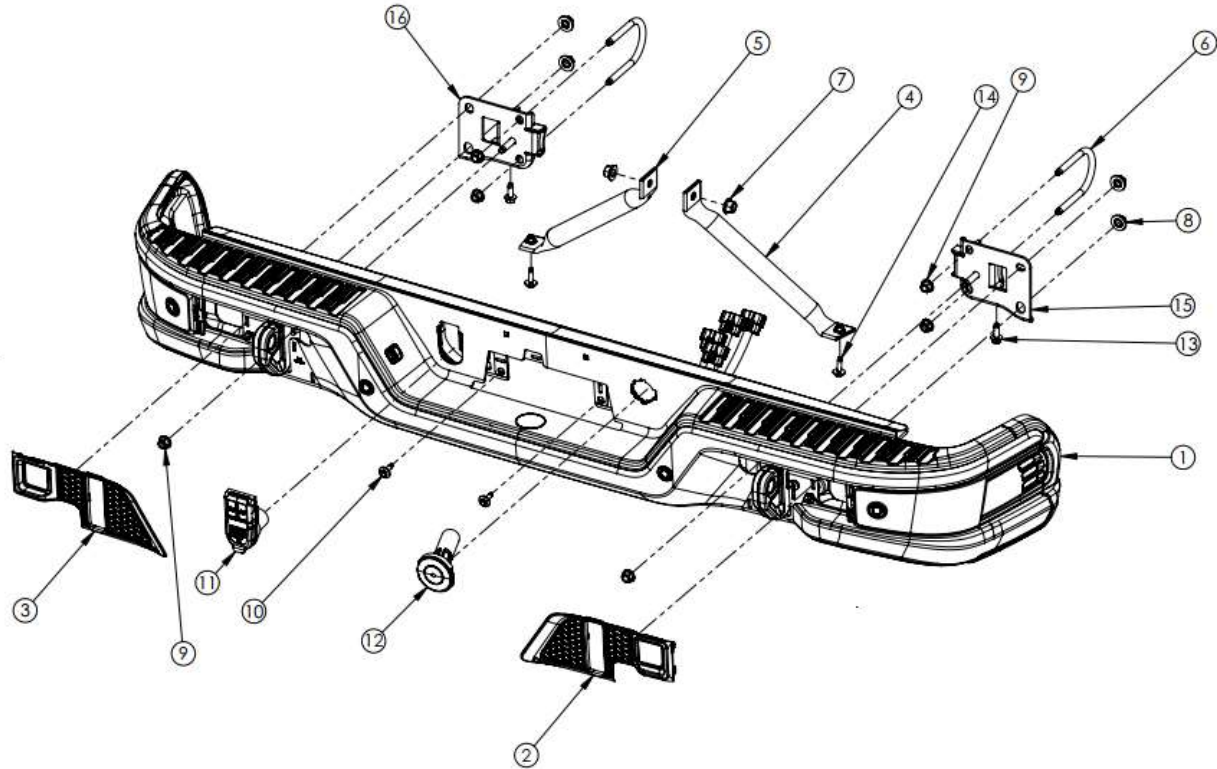


PLEASE READ BEFORE YOU START

To guarantee a quality installation, we recommend reading these instructions thoroughly before beginning any work. These instructions assume a certain amount of mechanical ability and are not written nor intended for someone not familiar with auto repair.

INCLUDED PARTS	QTY	REQUIRED TOOLS
Rear Bumper Assembly	1	Common Hand Tools
Left Inner Bezel	1	½" drill bit (LD trucks)
Right Inner Bezel	1	13mm drill bit (HD trucks)
Left Pencil Brace	1	18mm drill bit (HD trucks)
Right Pencil Brace	1	
Left Hitch Bracket	1	
Right Hitch Bracket	1	
Hitch Bracket U-Bolt	2	
Hardware Pack	1	

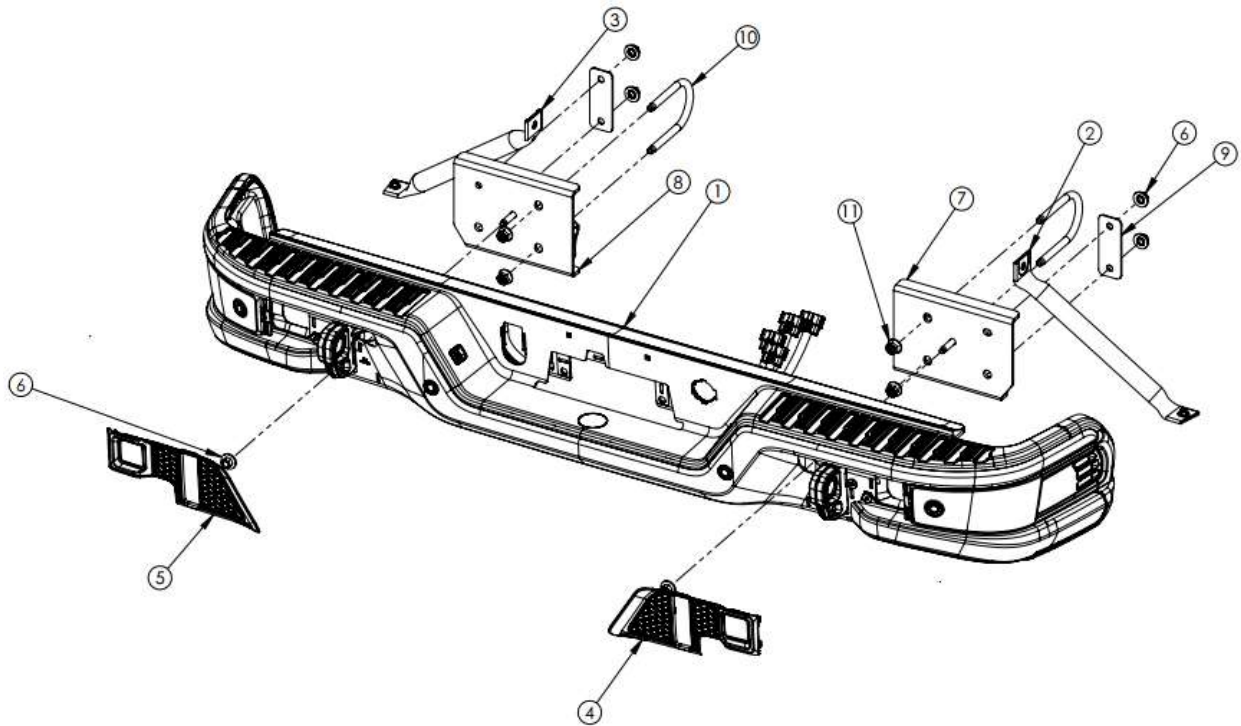
## Light Duty Exploded View and Content List



ITEM NO.	Part Number	DESCRIPTION	QTY.
1	AT1B0041AM	LD Rear Bumper Assembly	1
2	AT1B0042AC	INNER BEZEL (Right Hand)	1
3	AT1B0043AC	INNER BEZEL (Left Hand)	1
4	AT1B0404AA	PENCIL BRACE (Right Hand)	1
5	AT1B0405AA	PENCIL BRACE (Left Hand)	1
6	AT1B4062AA	M12 X 1.75 U-BOLT	2
7	11546463	M12 X 1.75 HEX NUT AND WASHER	4
8	11546379	M12 X 1.75 HEX FLANGE NUT	6
9	11588738	M10 X 1.5 X 25 HEX FLANGE BOLT	2
10	AT1B0412AB	U-BOLT Bracket (Right Hand)	1
11	AT1B0413AC	U-BOLT Bracket (Left Hand)	1



## Heavy Duty Exploded View and Content List



ITEM NO.	Part Number	DESCRIPTION	QTY.
1	ATHB0041AM	HD Rear Bumper Assembly	1
2	ATHB0402AB	PENCIL BRACE (Right Hand)	1
3	ATHB0403AB	PENCIL BRACE (Left Hand)	1
4	AT1B0042AC	INNER BEZEL (Right Hand)	1
5	AT1B0043AC	INNER BEZEL (Left Hand)	1
6	11546463	M12 X 1.75 HEX NUT AND WASHER	6
7	ATHB0404AA	U-BOLT Bracket (Right Hand)	1
8	ATHB0405AA	U-BOLT Bracket (Left Hand)	1
9	ATHB4025AA	BACKING PLATE	2
10	ATHB4010AA	M14 X 2.0 U-BOLT	2
11	AEV93009AB	M14 X 2.0 Nut	4

## I. VEHICLE PREPARATION

1. Remove and disconnect the factory trailer plug
  - a. Disconnect and push the wires through the bumper to ensure they do not snag during removal



Photo 1: Removal of trailer plug

2. Remove the license plate to be able to remove the passive entry sensor
  - a. Press the tabs from behind the bumper to ease removal
  - b. Once removed, push it behind the bumper to ensure it does not get snagged during removal



Photo 2: Passive entry sensor behind license plate



Photo 3: Passive entry sensor removed

3. Remove the spare tire tube
  - a. To remove, pinch the clips from the side and pull outwards. The spare tire lock must be removed to do so.
  - b. Set this aside as it will be re-used



Photo 4: Spare tire tube

4. Disconnect the wiring harness
  - a. This is located behind the bumper



Photo 5: Main wiring harness

5. Remove the M8 bolt on each corner of the rear bumper holding the factory pencil brace
  - a. Set these bolts aside as they will be reused



Photo 6: Pencil brace removal

6. Remove the two M8 bolts behind the license plate



- a. Set these bolts aside as they will be reused



Photo 7: Bolts behind the license plate

7. Remove the 4 M12 nuts, 2 on either side, that are attaching the bumper to the trailer hitch
  - a. NOTE: once these are removed there will be nothing attaching the bumper to the truck
  - b. The rear bumper can now be removed from the vehicle

**NOTE: The lower bolt will not be installed on a factory vehicle. Your vehicle will have a hole or no hole depending on model year.**



Photo 8: M12 nuts securing bumper

8. Remove the M14 securing the factory pencil brace and remove the pencil brace
  - a. Save the M14 nut for installation



Photo 9: Upper pencil brace mounting location

9. On the rear inside corners of the factory bumper, remove the two hex head bolts retaining the side blind zone assist (will be referred to as SBZA) bracket



Photo 10: SBZA bracket removal

10. Disconnect the SBZA sensor and remove it from the bracket
  - a. Keep the SBZA sensor as it will be reused
  - b. Repeat on the other side
  - c. These sensors are handed, ensure to note which came from which side



Photo 11: SBZA removal

## II. Installation

1. Begin by removing the 3 Torx screws that hold the SBZA bracket within the corner of the AEV bumper

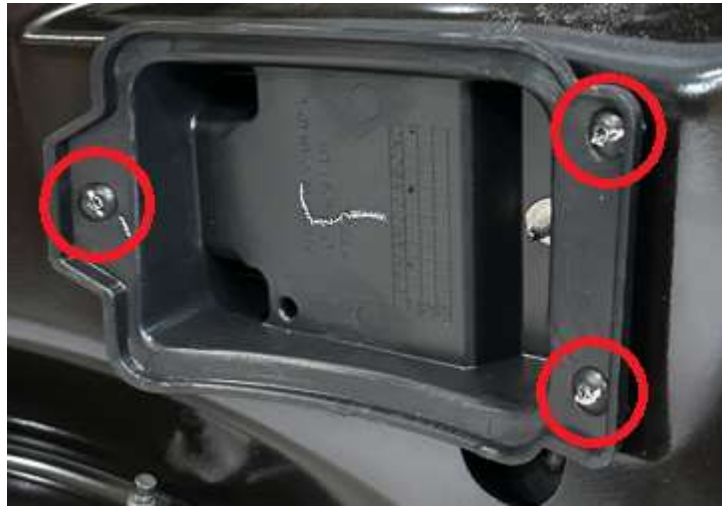


Photo 12: SBZA removal

2. Disconnect and remove the installed SBZA sensor
  - a. Unplug the wiring harness
  - b. Remove the single torx screw retaining the sensor
  - c. Reinstall the OEM sensor that was installed on your truck from the factory
  - d. Repeat these steps on the other side of the bumper



Photo 13: SBZA removal

### LD hitch bracket installation (Skip to step 5 if installing an HD bumper)

- a. Check to see if your truck has the hole for the lower M10 bolt seen in photo 17. If it does not, a  $\frac{1}{2}$ " hole must be drilled. Please see images 14 and 15 for hole location. This hole can be slightly enlarged to ease installation.
- b. Start by loosely attaching the U-Bolt around the trailer hitch using the M12 nuts provided
- c. Ensure that the U-Bolt is attached properly by making sure equal threads are visible while tightening

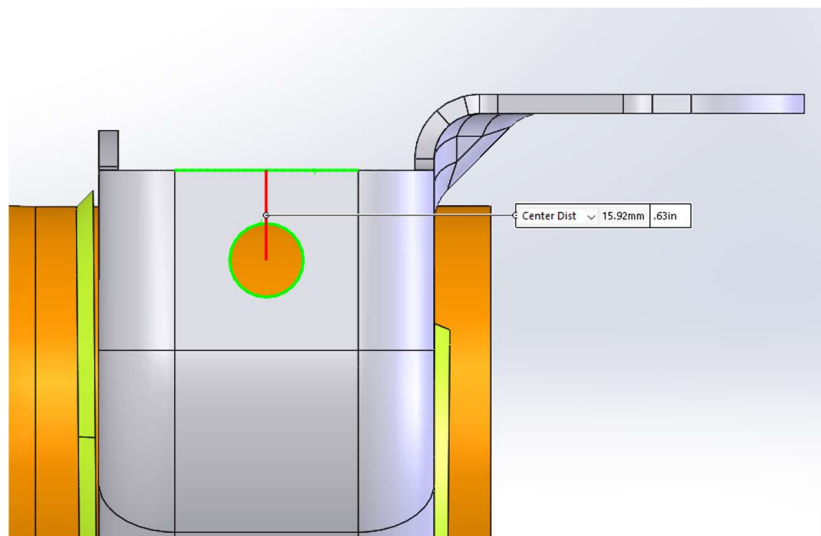


Photo 14: Bolt hole location

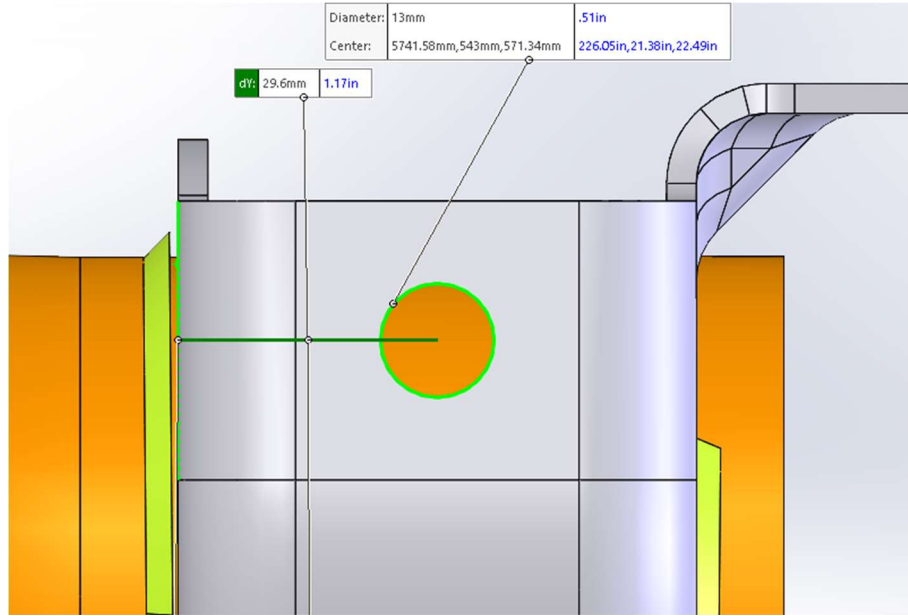


Photo 15: Bolt hole location

**NOTE: This bracket is what will set the alignment of the rear bumper. To ensure proper fitment, make sure that the OEM trailer hitch bracket is aligned properly with the hitch bracket. The upper slots must be aligned as well as the lower hole should not be winking and fully visible.**



Photo 16: Hitch bracket installation

3. Install the M10 flange bolt into the bottom of each hitch bracket
  - a. Repeat these steps for the other side
  - b. Torque to 30ft-lbs



Photo 17: M10 bolt into bottom of hitch bracket

## HD hitch bracket installation

5. Begin by loosely installing the U-Bolt around the hitch and through the hitch bracket with the provided M14 Nuts
  - a. Mark the two holes with a paint pen



Photo 18: U-Bolt loose install



Photo 19: Hole Marking

6. Remove the bracket and drill the holes
  - a. Driver side lower hole – 18mm
  - b. Driver side upper hole – 13mm
  - c. Passenger side lower hole – 18mm
  - d. Passenger side upper slot – 13mm x 18.5mm
    - i. To obtain the slot, it is recommended to use a grinding rasp
7. Secure the hitch bracket back onto the hitch with the U-bolt and M14 nuts
  - a. Torque to 30ft-lbs
  - b. Ensure that the U-bolt is evenly tightened



Photo 20: U-bolt bracket secured

8. Slide the rear bumper assembly onto the hitch brackets
  - a. Ensure not to pinch any of the wire harness while installing
  - b. Loosely secure the bumper with the 4 factory M12 nuts that were saved during the removal
  - c. **NOTE: IF INSTALLING THE HD BUMPER, A BACKING PLATE WILL BE INSTALLED OVER THE STUDS AND THEN SECURED. SEE PHOTO 22.**



Photo 21: M12 nuts securing bumper





Photo 22: backing plate

9. Install the provided M12 nut onto the stud coming through each tow hook, on the face of the bumper
  - a. Loosely install



Photo 19: M12 tow hook nut

10. Install the two M8 bolts that go behind the license plate that were saved during the removal of the OEM bumper
  - a. Loosely install
  - b. The bumper can now be attached securely in the following order:
    - i. First tighten the 4 M12 Nuts on the rear of the bumper to 75ft-lbs
    - ii. Second, the two M12 Nuts on the front of the tow hooks to 50ft-lbs
    - iii. Lastly, the two M8 Bolts behind the license plate to 16ft-lbs



Photo 20: Bolts behind the license plate

11. Slide the new pencil brace onto the top stud on the frame
  - a. Do not install the nut



Photo 21: Pencil brace installation

12. Swing the pencil brace forward to be able to come up and around the corner of the bumper so that the pencil brace can be set on the inner lip of the rear bumper

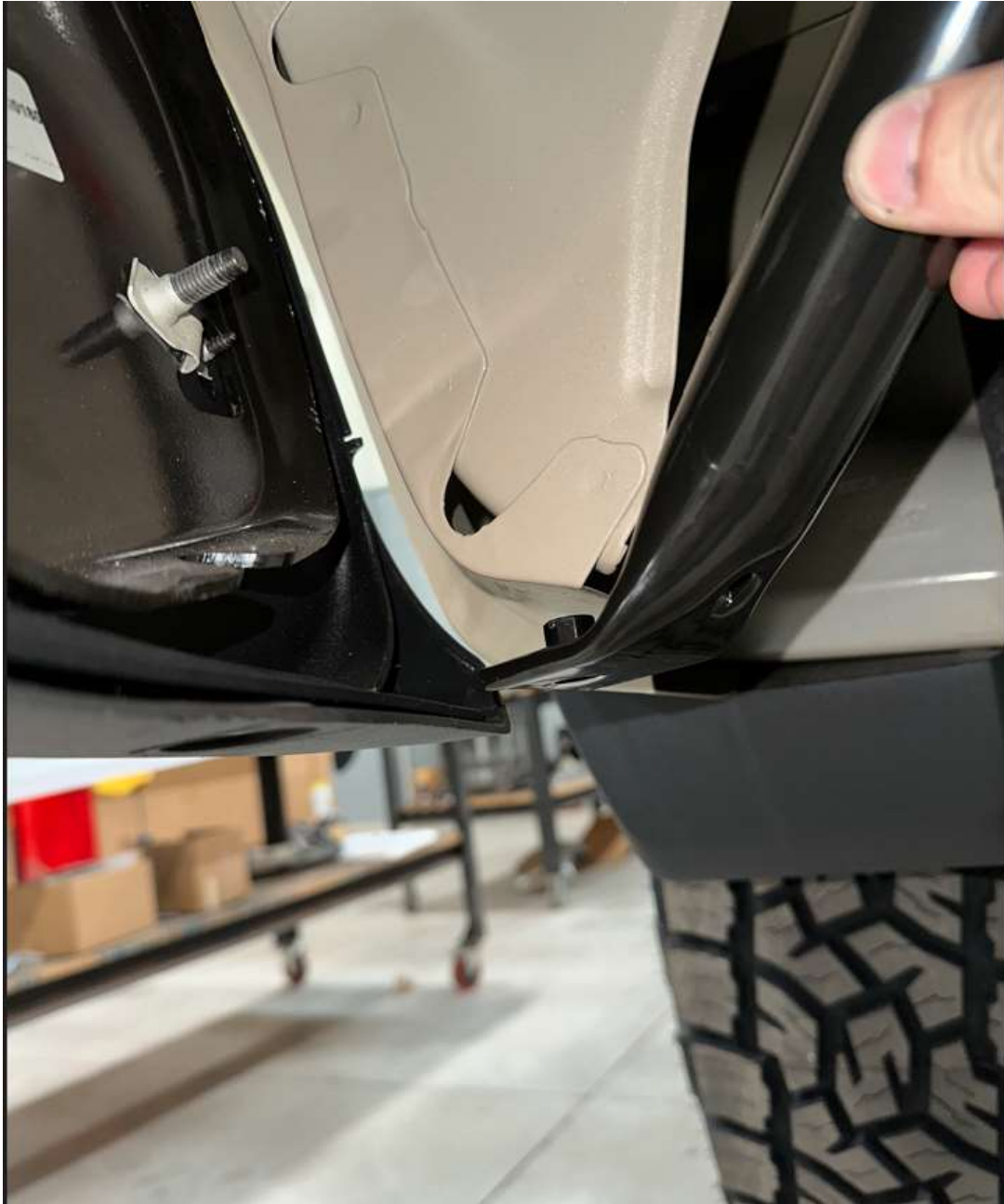


Photo 22: Pencil brace installation

13. Align the pencil brace with the rear bumper and reinstall the factory M8 bolt that was saved to 16ft-lbs



Photo 23: Pencil brace installation

14. Install the factory M14 nut that was saved to the stud to secure the pencil brace  
a. Torque to 120ft-lbs



Photo 24: Pencil brace installation

15. Reconnect Wiring

- a. Connect the main harness
- b. Connect the trailer plug
- c. Install the spare tire tube
  - i. Ensure the spare tire tube goes around the guide tube extending towards the bumper, refer to photo 25.
- d. Snap the passive entry sensor back in place behind the license plate
- e. Snap the left- and right-handed bezels onto the bumper
  - i. **NOTE: If you are also installing the rear aux light kit, refer to the instructions prior to installing the bezels**



Photo 25: Spare tire tube



Photo 26: Bezel installation