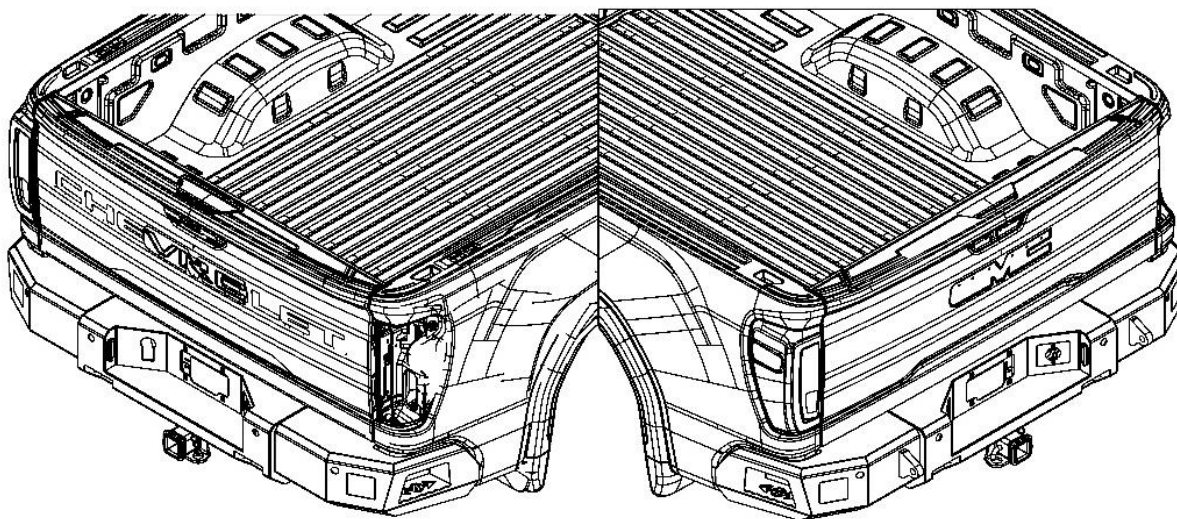




Bravo Series Rear Bumper Installation Manual

- 2020 GM 2500 HD – 3500 HD

Kelderman Bravo Series Rear Bumper



Smooth

Hooks

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Kit Numbers

- This installation manual covers the following rear bumpers.

Kit Number	Description
KLM-400002020-101030000	Chevrolet Silverado 2500HD – Bravo – Sensors
KLM-400003020-101030000	Chevrolet Silverado 3500HD – Bravo – Sensors
KLM-404011020-101030000	GMC Sierra 2500HD – Bravo – Sensors
KLM-404012020-101030000	GMC Sierra 3500HD – Bravo – Sensors
KLM-400002020-101030001	Chevrolet Silverado 2500HD – Bravo – Sensors – Clevis Ears
KLM-400003020-101030001	Chevrolet Silverado 3500HD – Bravo – Sensors – Clevis Ears
KLM-404011020-101030001	GMC Sierra 2500HD – Bravo – Sensors – Clevis Ears
KLM-404012020-101030001	GMC Sierra 3500HD – Bravo – Sensors – Clevis Ears

Introduction

- **Important**

It is important that the entire installation instructions be read thoroughly before proceeding with bumper installation.

- **Product Installer Responsibilities**

Installer is responsible for installing this product in accordance with Kelderman Mfg. Inc. specifications and installation instructions.

Installer is responsible for providing proper installation of vehicle components and attachments as well as required or necessary clearance for suspension components, axles, wheels, tires, and other vehicle components to ensure a safe and sound installation and operation of this product.

- **Product Owner Responsibilities**

Owner is solely responsible for pre-operation inspection, periodic inspections, maintenance, and use of the product as specified by Kelderman Mfg. Inc. Of particular importance is the re-torque of fasteners. This re-torque must be performed within 90 days or 1000 miles of this product being put into service.

- **Definition of Terms**

- **Warning:** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
- **Caution:** A potential hazardous situation may result in property damage.
- **Note:** Provide information or suggestions that help correctly perform a task.
- **Torque:** When italicized "*torque*" alerts the installer to tighten fasteners to a specified value.

Safety

- **Your Safety and the Safety of Others is Very Important.**
Read and understand all safety precautions and instructions before installing this product.

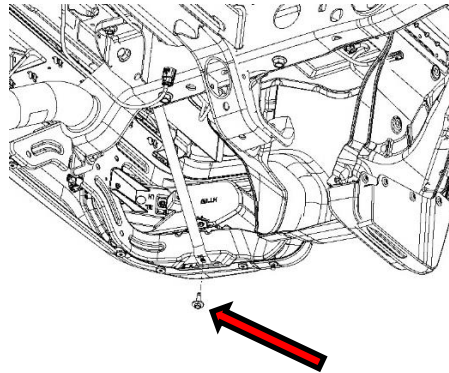
- **CAUTION: Trucks Equipped with Parking Sensors or Other Like Devices.**
Relocation of these devices will alter the field of view. It is the responsibility of the owner to understand how these changes affect the operation of these systems.

- **This Product is Intended for Off-Road Use**
All liability for installation and use rests with the owner.

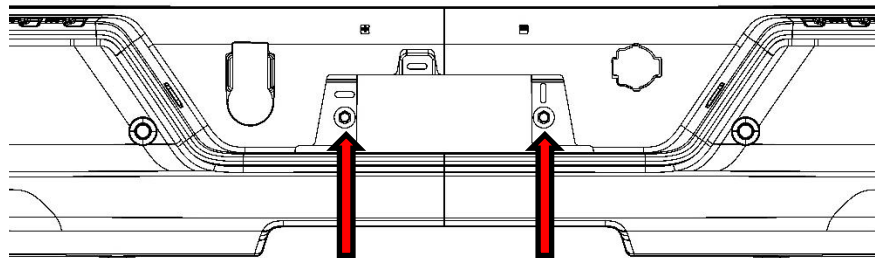
- **WARNING: Careless Installation Can Result in Serious Injury or Property Damage**
 - Wear eye protection.
 - Disconnect the battery before doing any work on the vehicle.
 - Work on flat level ground.
 - Ensure truck is properly supported by jack stands. Never work under a vehicle supported only by hydraulic jacks.
 - Take precautions when lifting product. Due to the size and weight of this product three people are recommended for installation.
 - Never work directly under the product until it has been securely fastened to the vehicle.
 - Avoid sharp, hot, and moving components when routing electrical cables.
 - If drilling inspect both sides of the surface and remove/relocate any objects located in the way.
 - Ensure all bolts are properly tightened before driving.

Bumper Removal

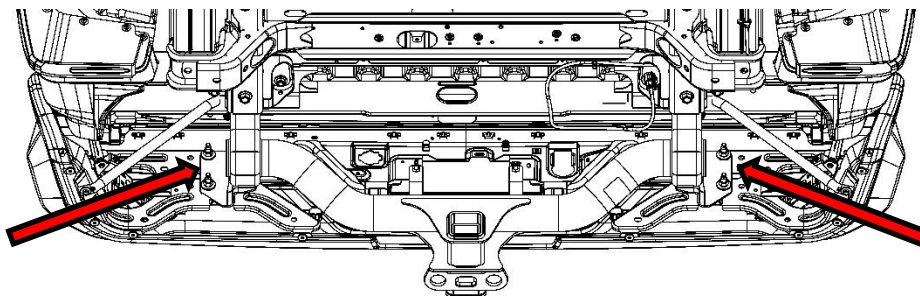
- 1:** Disconnect the wiring to any lights, sensors, or other accessories mounted to the stock bumper. **NOTE:** Lower the spare tire to make accessing electrical connectors easier.
- 2:** Remove the bolt from each side that attaches the corner brace to the underside of the bumper step.



- 3:** Remove the two bolts found under the license plate, set these bolts aside they will be reused.

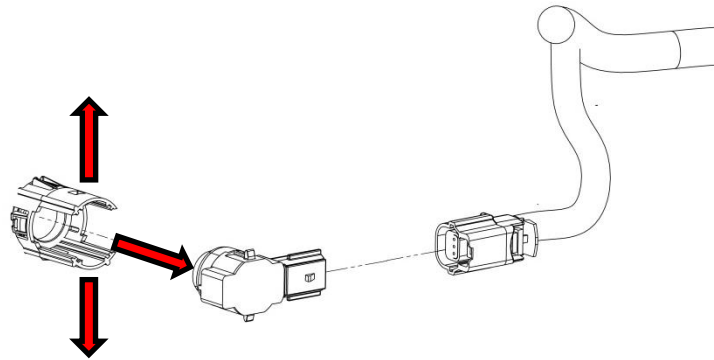


- 4:** With the bumper supported, remove the remaining two bolts from each side that fasten the bumper bracket to the receiver hitch. The bumper can now be removed.

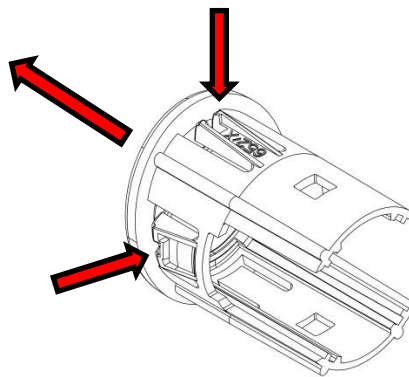


5: If equipped remove the parking sensors from the stock bumper, these sensors will be reinstalled in the Kelderman bumper. **NOTE:** Keep track of each sensors location.

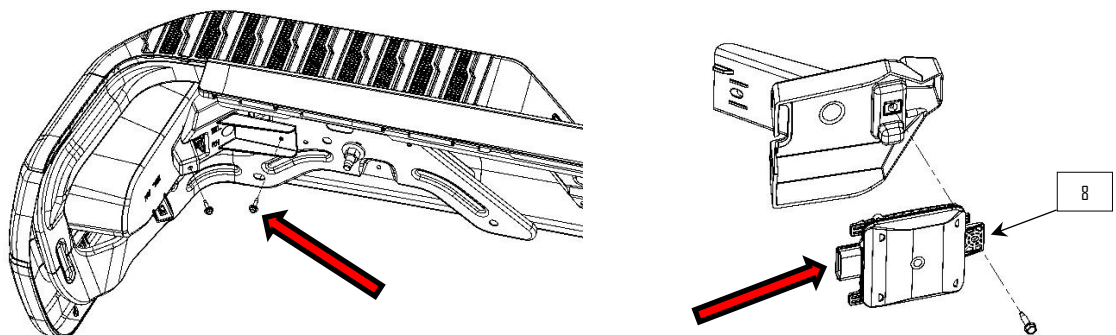
6: To remove, spread the ears on the sensor bezel and push the sensor thru the back of the bumper.



7: Depress the tabs on the sensor bezel and push it thru the front of bumper.

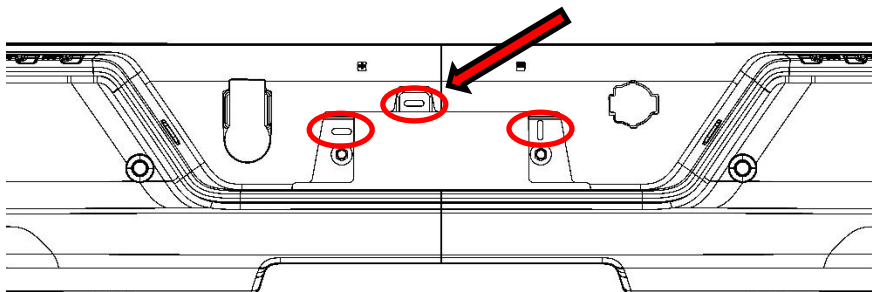


8: If equipped remove the blind spot sensors (8) from the bumper, these sensors will be reinstalled in the Kelderman bumper.



9: Remove the trailer light plug. The spare tire lock will not be reused.

10 : Unclip the electrical components from behind the license plate. Do not remove the individual components from the bracket. This assembly along with the clips will be reinstalled in the Kelderman bumper.



Bumper Preparation

- Before painting open every box and locate all parts. There are several smaller bushing pieces, screens, and bolt tabs that are packaged separately inside the main box.

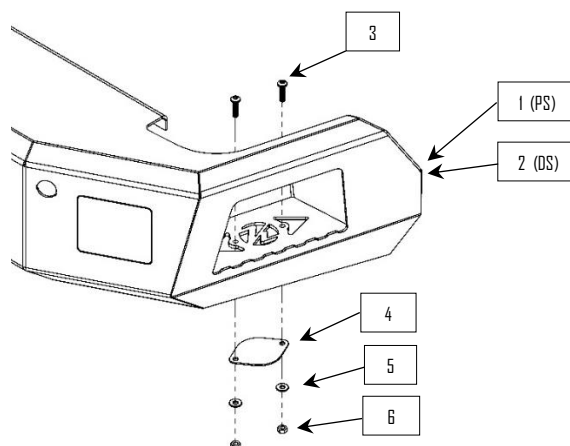
- **CAUTION:** This bumper has been designed to utilize a standard receiver pin. If you are using a locking pin or some other aftermarket pin check clearance with the bumper and make any necessary modifications before painting.

- **CAUTION:** Kelderman Mfg. Inc. cannot guarantee correct out of the box fitment across all light brands and sizes. The installer is responsible for test fitting all lights into the bumper and making any required modifications before the bumper is sent to paint. This bumper has been designed to utilize the following lights.
 - Rigid Industries E-Series 4 Inch Light
 - Hella 2KA-001-378-041 12V Incandescent License Plate Light
 - Hella 2KA-010-278-311 12V LED License Plate Light

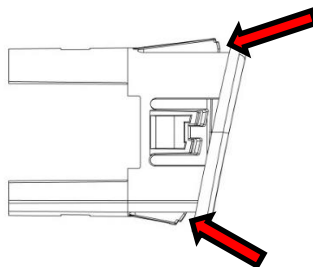
- **Painting**
 - If a heavily textured thick coating is being applied, take note that buildup does not hinder the installation of the spare tire access plates and blind spot sensor inserts.

Bumper Assembly

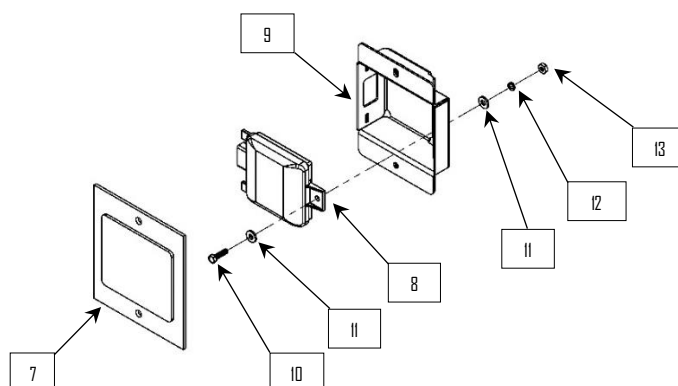
- On a clean flat non-scratching surface place the bumper end caps (1) and (2) face down.
- Use the ¼" pan head torx bolts (3) and ¼" nuts (6) to attach the step accent plate (4) to the underside of the corner step opening.



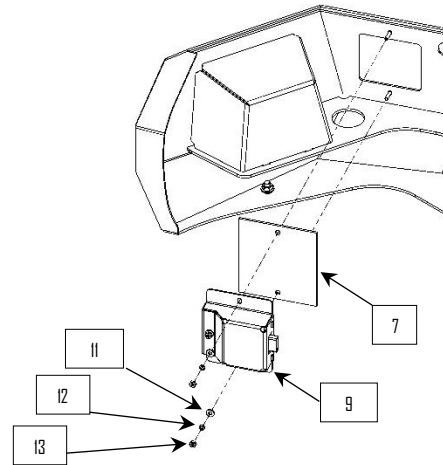
- If equipped install the sensors into the end caps by reversing the process from *step five*. Be sure to install them back in the correct location. **NOTE:** If bezels will not snap into place file the tabs down a little at a time until they will catch.



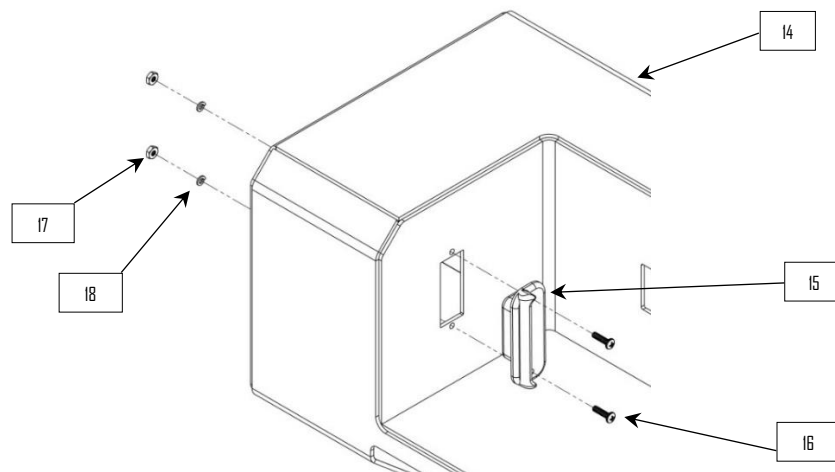
- Install the blind spot sensor (8) removed in *step eight* into the mounting bracket (9) using #10 hardware. **NOTE:** The wiring harness connector should point toward the center of the truck.



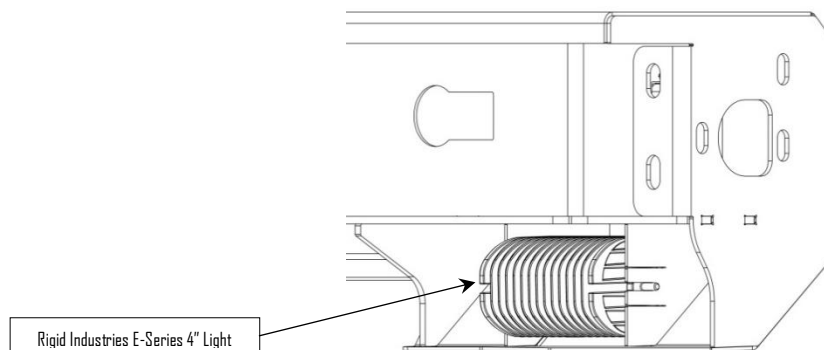
- Fasten the blind spot cover (7) and the mounting bracket (9) into the end cap using #10 hardware. **NOTE:** The raised portion of the blind spot cover should face outward and sit flush with the face of the end cap.



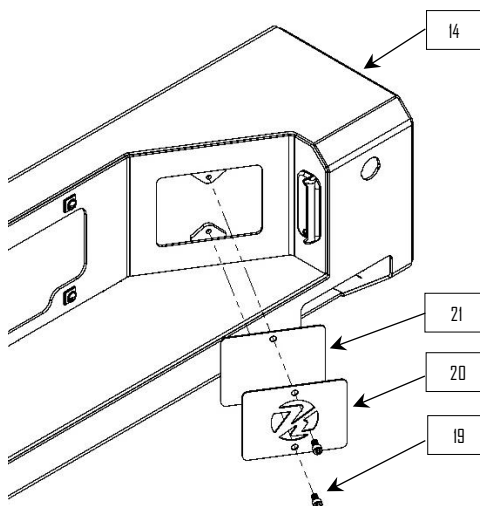
- On a clean flat non-scratching surface place the bumper center section (14) face down.
- Install the Hella license plate lights (15) using the provided #8 hardware.



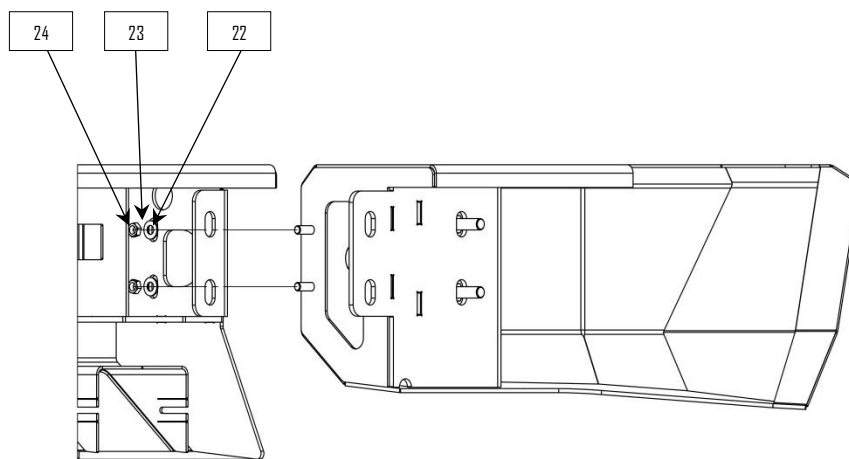
- If optional, install the reverse lights into the center section.



- Install two Rigid Industries 4 inch E-Series light (or similar light) using the hardware supplied with the light.
 - **NOTE:** The light mounting ears will deform and draw up tight to the light as they are tightened.
- Use the 1/4" socket head screws (19) to fasten the spare tire access cover plates (20 & 21) to the center section (14).



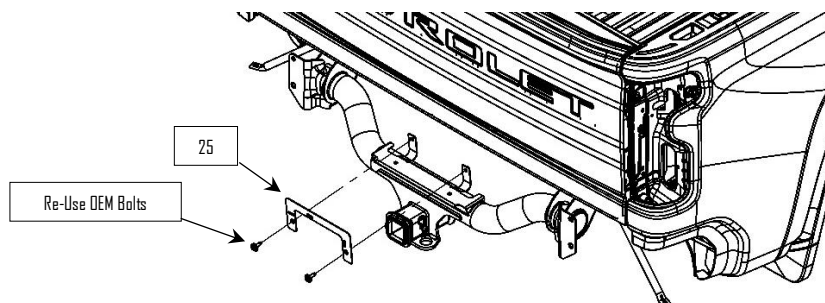
- Install trailer light plug from *step nine*.
- Bolt the end caps onto the center section using the supplied 3/8" hardware. Position the tops flush with the center section. **NOTE:** While positioning use masking tape to protect painted surfaces that come into contact.



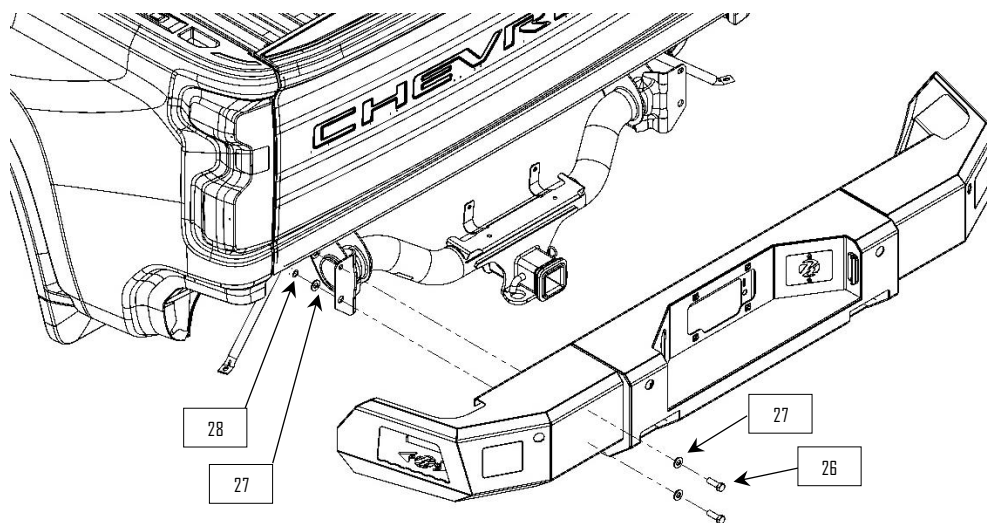
- Zip tie wiring to the tie downs welded inside the bumper.
- The Bumper is now ready for installation.

Bumper Installation

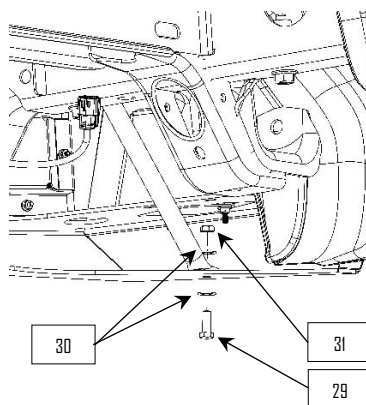
- 11:** Clip the electrical component assembly removed in *step ten* onto the new mounting bracket (25). Use the bolts removed in *step three* to fasten the mounting bracket (25) to the receiver hitch.



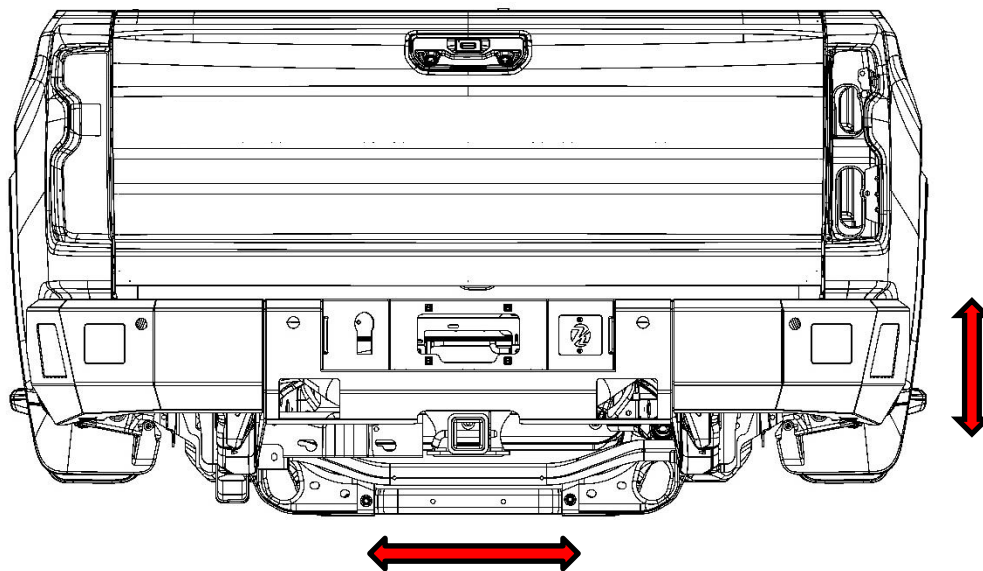
- 12:** Use ½" bolts (26), washers (27), and nuts (28) to fasten the bumper to the mounts.



- 13:** Use 3/8" hardware (29) to fasten the factory corner supports to the bumper.



14: Align the bumper on the truck and tighten the mounting hardware.

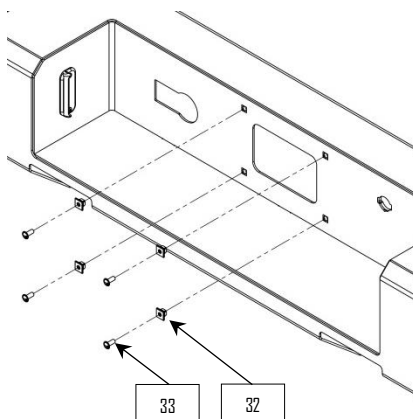


15: Torque all fasteners according to the chart below.

Bolt Size	Torque
1/4"-20	70 <i>in-lb</i>
3/8"-16	20 <i>ft-lb</i>
1/2"-20	50 <i>ft-lb</i>
9/16"-18	70 <i>ft-lb</i>
7/8"-9	250 <i>ft-lb</i>

16: Finish wiring accessories.

17: Press sq. nylon nuts (32) into bumper and install license plate using 1/4" screws (33).



Parts Key

Item Number	Part Number	Description
1	10005745	Weldment - Delta End Cap – With Sensor (PS)
2	10005726	Weldment - Delta End Cap – With Sensor (DS)
3	14023	Pan Head Torx Bolt” 1/4”-20 X 1”
4	32088	Step Accent Plate
5	13020	Flat Washer: 1/4”
6	13100	Lock Nut: 1/4”-20
7	10005724	Plastic – Blind Spot Sensor Cover Plate
8		OEM – Factory Blind Spot Sensor
9	10005722	Blind Spot Sensor Bracket
10	14096	Bolt: #10-24 X 3/4”
11	14062	Flat Washer: #10
12	14086	Split Lock Washer: #10
13	14070	Nut: #10-24
14	10005679	Weldment – Center Section w/Sensor
15	80042	Hella License Plate Light
16	14058	Phillips Screw: #8-32 X 5/8”
17	14052	Lock Nut: #8-32
18	14054	Flat Washer: #8
19	13503	Socket Head Cap Screw: 1/4”-20 X 1/2”
20	10005818	Spare Tire Access “K” Plate
21	10005817	Spare Tire Access Backing Plate
22	13002	Flat Washer: 3/8”
23	13046	Split Lock Washer: 3/8”
24	13142	Nut: 3/8”-16
25	10005682	Electrical Component Mounting Bracket
26	12007	Bolt: 1/2”-20 X 1-1/2”
27	13004	Flat Washer: 1/2”
28	13124	Lock Nut: 1/2”-20
29	12210	Bolt: 3/8”-16 X 1”
30	13002	Flat Washer: 3/8”
31	13102	Lock Nut: 3/8”-16
32	80054	Sq. Nylon Nut
33	14019	Slotted Screw: - 1/4”-20 X 5/8”

Notes

Notes

Contact Information

- Kelderman Manufacturing appreciates your business. We strive to meet the needs of our customers by providing the highest quality products. If you have any questions concerning our products please call or email us at the following:

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Oskaloosa, Iowa 52577**

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