



# Front Bumper Installation Instructions

## P/N 210621: 2019+ Mercedes Sprinter BAJA Front Bumper

## Before you begin:

- This product is compatible with the Sprinter 1500, 2500, and 3500. However, 3500s may require specialized tooling and/or additional hardware.
- This installation requires two or more people
- Unless otherwise specified, refer to the general torque value at the end of the instructions for specified torque values.



## **Required Tools:**

- Standard and metric wrench set
- Standard and metric socket set
- Flat head screwdriver
- Hammer
- Putty knife
- Razor blade or box cutter
- Dremel or Cutoff Wheel
- Painter's masking tape

#### **Included Hardware:**

Description	Quantity
M8-1.25 x 40mm, Fully Threaded, Zinc, Hex Head Bolt	8
M8-1.25 Nut	8
5/16" SS washer	8
5/16" split locking washer	16
½"-13 x 1- ½" grade 8 bolt	6
½" washer	6
1/2" split washer	6
	DescriptionM8-1.25 x 40mm, Fully Threaded, Zinc, Hex Head BoltM8-1.25 Nut5/16" SS washer5/16" split locking washer½"-13 x 1- ½" grade 8 bolt½" washer½" split washer

#### **Additional Parts:**

PN	Description	Quantity	Picture
301289	Steel Winch Tray		





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301292	Aluminum BAJA Front Bumper
350671	Fairlead cover (pre-installed)
350739	Sensor Window (pre-installed)
301303	Sensor Carriage



## Stock Bumper Removal:

- 1. Open and secure the hood.
- 2. Remove the three (3) torx screws across the top of the grille; reference Figure 1.



Figure 1: Grille Screws

3. Pull the grille slightly away from the vehicle and unclip the grille in the six (6) indicated locations

(see Figure 2 & 3). Once all tabs have been released, the grille can be removed.



Figure 2: Grille Tab Locations





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Figure 3: Grille Tab Close Up

- 4. Unclip front camera from grille if applicable.
- Remove the torx bolt near the top of the stock bumper on both sides seen with the grille removed. \*Some Sprinter models may have additional hex bolt in recessed hole that will also need to be removed. Reference Figure 4.



Figure 4: Torx Bolts Near Top of Stock Bumper

 Remove the six (6) plastic rivets on the inside of each fender well. Gently pull the center of the rivet out, then remove entire rivet. Reference Figures 5-7.

PRO TIP: Access to the rivets is much easier by turning the vehicle's wheels.



Figure 5: (4X) Plastic Rivets on the Inside of the Wheel Well



Figure 6: (2X) Plastic Rivets on Underside of Bumper



Figure 7: Example of the Plastic Rivet

 Pull gently on the corner of the plastic bumper directly away from the vehicle. Start in the corner nearest the wheel well working towards the center. Repeat for other side of vehicle. Reference Figure 8.



Figure 8: Removing Plastic Bumper

 Remove the two (2) plastic caps on the front bumper step to reveal two (2) torx bolts (reference Figure 9 & 10). Remove bolts.



Figure 9: Plastic Cap Location



Figure 10: Front Bumper Step with Plastic Cap Removed

- Remove stock front bumper by pulling directly away from vehicle being sure to disconnect any sensors that are attached (parking, air temperature, and/or fog lights as applicable).
- Remove the collision prevention sensor from the plastic bracket. Release tab on the top of the sensor and rotate the sensor forward to remove. Disconnect sensor from wiring harness.
- 11. Remove the plastic sensor bracket by unscrewing the two (2) torx bolts near the top

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of the radiator and pulling loose from stock steel bumper.

12. Remove the eight (8) bolts holding the stock steel bumper in place using a 13mm wrench as shown in Figure 11.

CAUTION: Once all the bolts are removed, the bumper may fall if not properly supported.



Figure 11: Four (4) Frame Bolts per Side Holding the Stock Steel Bumper to the Vehicle.

 Remove the stock steel bumper using a putty knife and a hammer if the bumper does not come loose after removing the bolts in the previous step. The frame sealant may cause the steel bumper to stick to the frame. See Figure 12.

CAUTION: once the seal is broken, the bumper may fall if not properly supported.



Figure 12: Releasing the Stock Steel Bumper from the Vehicle Using a Putty Knife and Hammer





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14. Remove the air flow skirt by unclipping each side and away from the van as shown in Figure 13-15. The rubber gasketing will need to be cut around the hose lines to remove – be careful not to cut the hoses!





a.) Front

b.) Underneath

Figure 13: Air Flow Skirt Clip Locations from Front (a) and from Underneath (b)



Figure 14: Air Flow Skirt Pulled Out



Figure 15: Air Flow Skirt Cut for Removal

 Loosen <u>only the bottom</u> most bolts holding on each of the black steel crossmember underneath the radiator (see Figure 16). Retain factory bolt for re-installation.



Figure 16: Engine Crossmember Bracket Factory Bolts (Driver Side Shown)

NOTE: Sprinter 3500 may or may not have these factory bolts and/or threaded inserts. Additional tapping and hardware *may be required*.

## Winch Tray Installation:

 Install the eight (8) provided M8 bolts with eight (8) split washers through the frame, from back to front, creating studs to mount the winch tray onto (Reference Figure 17).



Figure 17: M8 Bolts Installed

 Install the steel winch tray bracket onto the M8 'studs' and **over** the factory crossmember brackets. See Figure 18.



Figure 18: Winch tray Installed

- Center the winch tray onto frame. Use remaining 5/16" washer, split washers, and M8 nuts to tighten tray into position.
- 19. From the bottom, reinstall the factory hardware through the winch tray and through the factory crossmember brackets. Reference Figure 19.



Figure 19: Installed Factory Crossmember Bolt Thru Winch Tray

20. Install winch onto winch tray if desired.

#### Front Radar Sensor Installation:

21. Install the front radar sensor into the sensor carriage by locating the two (2) protrusions on each side (Figure 20a) and rotating the sensor into the carriage (Figure 20b). Use Figure 21 as a guide to depress the tab on top to secure the sensor into place at the correct position.



Figure 20: Sensor Installation



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Figure 21: Sensor Alignment from -2.5 degrees to +10 degrees

NOTE: It is **essential** that the sensor is level left-toright  $(\pm 1^{\circ})$  and as perpendicular to the road as possible  $(\pm 1^{\circ})$ . Set the sensor to forward-most position (-2.5 degrees) to start, but verify level while installing into the vehicle. This will make recalibrating the front sensor much easier.

NOTE: Adjustment can be made after installation is complete by removing the front two ¼"-20 bolts, adjust the sensor, and reinstalling (Figure 22).



Figure 22: Sensor Window Removal

22. Install parking sensor retainers (sold separately; PN 210560.1) if applicable.

#### **Factory Plastic Preparation:**

23. Mark out the location to be cut on the factory plastic front bumper using painter's tape. The width of the cutout should be ~32" (16" from centerline). Start at the bottom of the license plate and mark up to the air flow relief. Use Figure 23 as a dimensional guide.



Figure 23: Marking Front Bumper Cutout

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Adventure
Using a Dremel or cutoff wheel, cut the mesh from the air flow relief (Figure 24). Then use the marked out line to cut the remaining plastic off (Figure 25).



Figure 24: Cutout Grille Mesh from Air Flow Relief



Figure 25: Completed Front Bumper Cutout

PRO TIP: A razor blade or metal deburr tool can be used to clean up the rough plastic edges left from using the cutoff wheel.

NOTE: Do **NOT** cutout air temperature sensor mount on driver's side of bumper. This is necessary for reinstallation (See Figure 26).



Figure 26: Air Temperature Sensor Mounting Location

25. Next, cut two small rectangular holes to provide access to the bottom bolts for installation/service. The rectangle should be 1-1/2" x 3". The rectangle should be 1-1/4" from the bottom body line and 30" from inside to inside (15" from centerline). Reference Figures 27-28.



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Figure 27: Lower Bolt Access Holes



Figure 28: Access Hole Cutout

## Front Bumper Installation:

- 26. Reinstall <u>only</u> the two driver's side parking sensors into the plastic factory bumper if applicable. Leave the remaining parking sensors uninstalled for the time being.
- Reinstall the factory plastic bumper back onto the vehicle using <u>only</u> the top two torx bolts shown in Figure 4. Leave both outer wings loose for the time being (Reference Figure 29).



Figure 29: Loosely Installed Factory Front Bumper

28. Partially install the aluminum front bumper onto the steel winch tray (Figure 30). Route the parking sensor wiring harness from behind the





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factory plastic bumper (Figure 30), through the two relief cuts in the aluminum front bumper (Figure 31), and back behind the other side of the factory plastic front bumper (Figure 30).



Figure 30: Partially Installed BAJA Bumper



Figure 31: Parking Sensor Wiring Harness Routing

- Ensuring the wiring harness won't get pinched, slide the aluminum front bumper into place aligning the six (6) mounting holes of the bumper to the winch tray (3 per side).
- 30. Install the 1/2" hardware through each mounting location, three (3) per side. Access may be gained from inside the bumper, and the ½" bolt [70036], washer [70035], and split washer [70106] can be threaded into the weld nuts on the outside of the steel winch tray.



Figure 32: Access Holes for Mounting Bolts

- 31. Adjust bumper into desired position ensuring all rubber trim is properly seated.
- 32. Tighten all ½" hardware.
- 33. Connect front radar sensor through the back of the bumper if applicable.
- Reinstall the air temperature sensor back into position on the factory plastic front bumper (Figure 26).
- 35. Reinstall all the parking sensor back into factory position or into the aluminum front bumper if not done so already and as applicable.
- 36. Reinstall the fog lights as applicable.
- 37. Reinstall the factory plastic front bumper wings onto the vehicle. Reference Figure 8.
- Reinstall the plastic fenders into the plastic front bumper using the factory plastic rivets. Reference Figures 5-7.
- 39. Re-install the grille onto vehicle. Reference Figures 2-3. Ensure all tabs are fully engaged upon reinstallation.

NOTE: The grille may be tight against the bull bar. Carefully work it into position. Painter's tape can be used to protect the grille if necessary.

- 40. Re-install the final three (3) torx bolts to secure the grille shown in Figure 1.
- 41. Ensure all the sensors are working correctly (as applicable) by driving around 15-30 mins. Adjust as needed. Keep in mind the notes listed along with Figures 20-21.
- 42. Complete fairlead installation as applicable for your winch.
- 43. Enjoy your new Aluminess bumper!





General Torque Values					
Size	Stainless Steel	Zinc	Grade 8		
#6-32	10 lb-ft				
#8-32	18.4 lb-ft				
#10-32	26.6 lb-ft				
1/4"-20	5.3 lb-ft	7.8 lb-ft	9 lb-ft		
5/16"-18	10.9 lb-ft	16 lb-ft	18 lb-ft		
3/8"-16	19.4 lb-ft	28.3 lb-ft	33 lb-ft		
7/16"-14	31 lb-ft	45 lb-ft	52 lb-ft		
1/2"-13	47 lb-ft	69 lb-ft	80 lb-ft		
M6	4.7 lb-ft	5.8 lb-ft			
M8	11.3 lb-ft	14.1 lb-ft			
M10	22.3 lb-ft	27.9 lb-ft			
M12	38.9 lb-ft	48.7 lb-ft			





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