



**AGILE
OFFROAD**
SMARTER THAN DIRT

**TELLURIDE BUMPER
FERRATA LIGHT BAR
FOR VS30 SPRINTER (2019+)**

GENERAL INFORMATION

The AO Telluride Winch Bumper and the Ferrata Light Bar are designed to be installed on the VS30 MB Sprinter (2019+). The installation process requires trimming of the bumper cover, relocating the parking sensors and extending the parking sensor wiring harness. It is recommended to read all the instructions before starting the installation.

PARTS INCLUDED

1 x AO Telluride Winch Bumper	4 x M10-1.5x35mm Bolt	6 x 3/8" Allen Bolt
1 x AO Ferrata Light bar	2 x 1/4" Bolt	6 x 3/8" Washer
1 x AO Winch Plate Top Cover	2 x 3/8-16x1.25	6 x 3/8 Spacer
1 x AO Bumper Brace Plate	2 x 10-24x.75" Bolt	
5 x 26" Wire Harness Extension (w/ Butt Connectors and Heat Shrinks)	6 x Locating Pin	
	3 x 10mm Bolt	
1 x AO DISTRONIC Sensor Housing		
1 x Rubber Edge Trim		

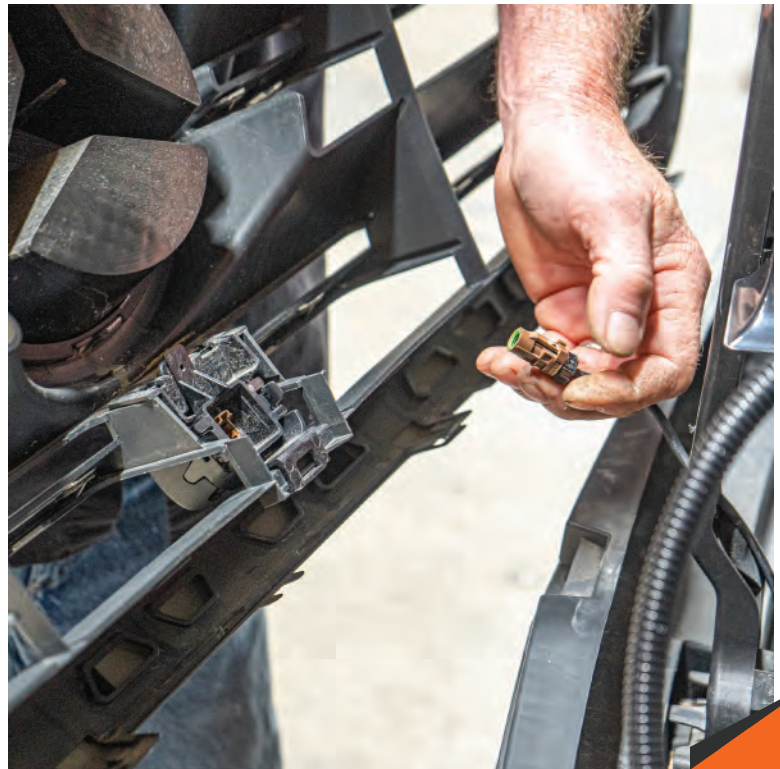
TOOLS NEEDED

Torx Driver (T-25, T-30, T-45)	Cutting Tool
Allen Driver 3/8"	Sander
Wrench and Socket Set (10mm, 13mm, 18mm)	Painters Tape
Drill Bit (1-1/8", 3/16", 7/8")	File
Panel Clip Removing Tool	Wire Cutters
Mallet	Wire Strippers
Red Thread Locking Compound	Mini Torch

1. Use a T-25 torx to remove the 3 bolts attaching the top of the grill.



2. Pull firmly along the lower portion of the grill to remove it. Unplug the front camera by pushing in on the clip and gently pulling the cable from the back of the camera.



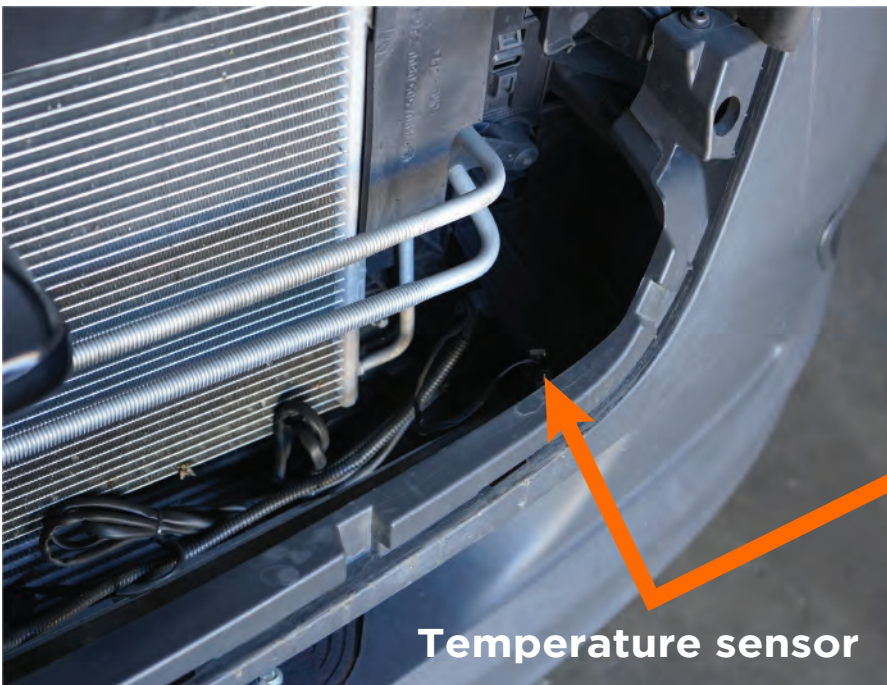
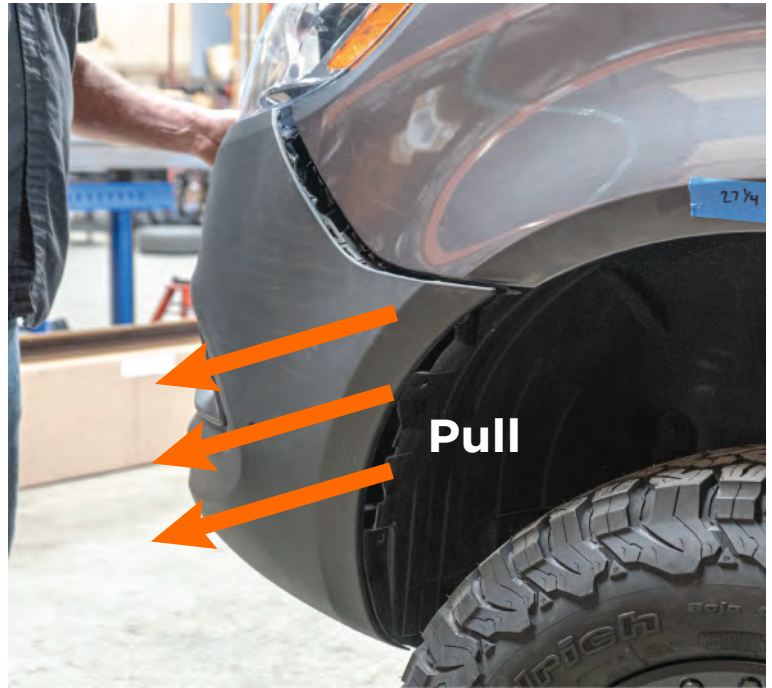
3. Use a panel clip removing tool to remove the 6 push pins attaching the driver's side forward facing front inner fender liner. Repeat this step on the passenger's side of the vehicle.



4. Use a T-30 torx to remove the 2 bumper bolts located next to the radiator.

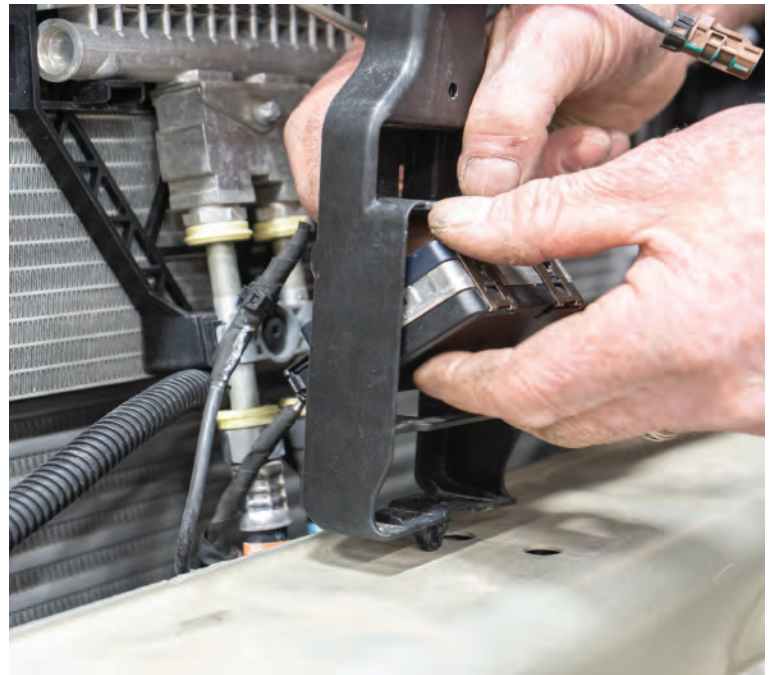
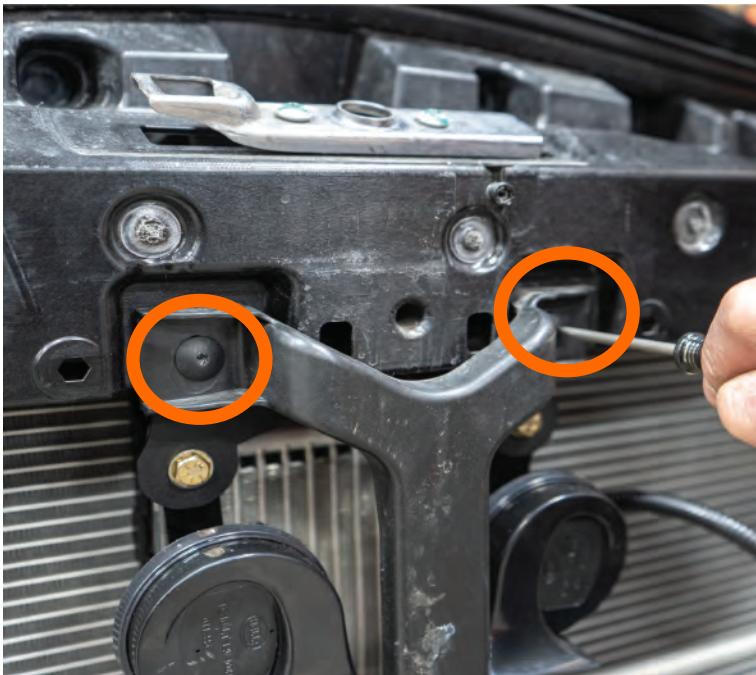


5. Use a T-45 torx to remove the 2 bolts in front step. Pull out along the edges of the bumper cover to remove it from the vehicle. If equipped, disconnect fog lights and parking sensors before removing the bumper. Remove the temperature sensor found on top of the driver's side corner of grill from the bumper cover. Set bumper cover aside.





6. Remove the 2 T-25 Torx screws holding the “t-shaped” Distronic cruise control sensor bracket. Rotate the Distronic sensor in the bracket to remove it. Disconnect the sensor wiring and discard the bracket.



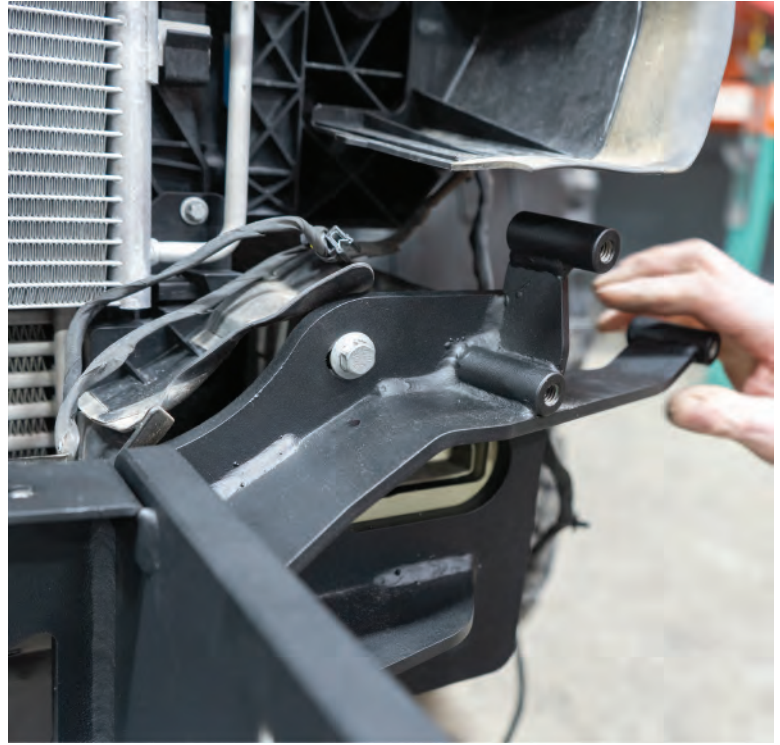
7. Use a 13mm socket to remove the 4 bolts holding the crash bumper on the passenger's side. Repeat on the driver's side of the vehicle. Be aware of the parking sensor wiring harness clipped to the crash bumper. Unclip the parking sensor wiring harness before removing the crash bumper entirely. Discard the crash bumper. Make sure to save the factory hardware for later use.



8. Use a 18mm wrench to remove the bolts on the underside of each frame horn.

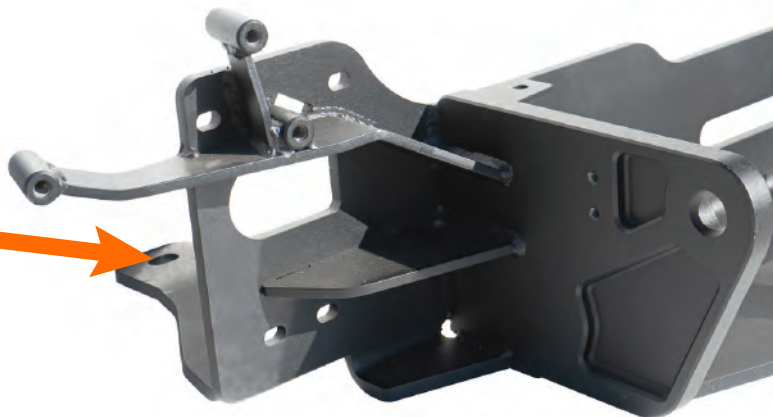


9. Grab someone who owes you a favor. Hold the AO Telluride Winch Bumper up to the vehicle. Align the mounting holes with crash bumper holes and mount it using the 8 8mm bolts removed earlier. Use red thread locking compound when installing the bolts. Do not fully tighten them yet. Use the picture on the next page for guidance.



**Mounting holes for the 8 8mm factory bolts in the Telluride Winch Bumper.*

10. Use the 2 14mm factory bolts removed from the frame horns to mount the lower portion of the Telluride Bumper to the vehicle. Use red thread locking compound when installing the bolts. Do not fully tighten them yet.



**Mounting hole for the 14mm factory bolts in the Telluride Winch Bumper.*

11. Fully tighten the 8 8mm bolts, torque to 25 ft lbs. Next, fully tighten the 2 14mm bolts, torque to 125 ft lbs.



12. At this point fully install the winch according to manufacturer's instructions.

**Note: Only install the 2 rear most winch mount bolts using the supplied M10-1.5x35mm bolts. Do not install the 2 front bolts on the bottom of the winch.

***Note: Route the Distronic sensor and winch wiring through the circled hole in the winch cradle.



13. With the winch installed, use the 2 supplied 1/4in. bolts to install the winch plate top cover. Do not fully tighten them yet.



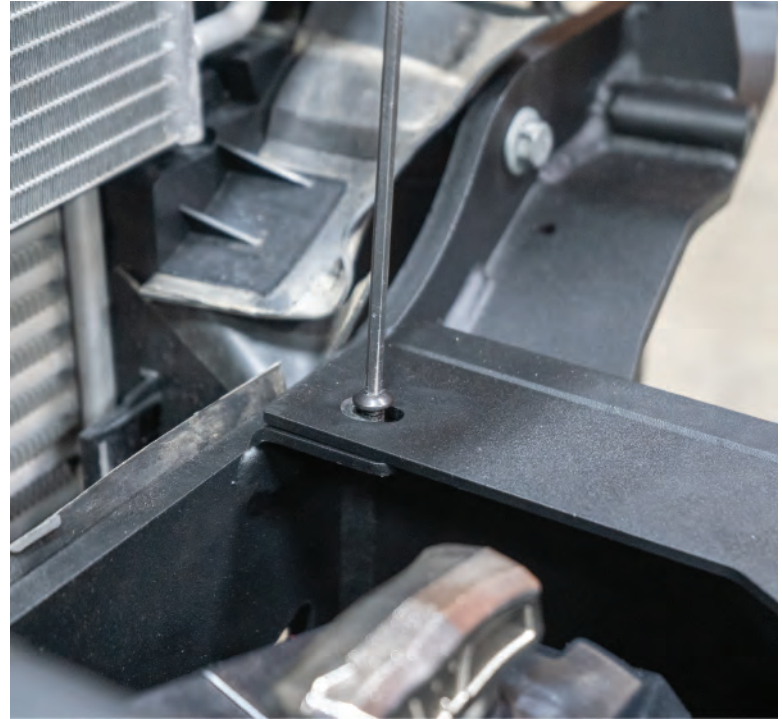
14. Use the 2 remaining supplied M10-1.5x35mm bolts to secure the bottom part of the winch cover to the Telluride Bumper and the winch. Do not fully tighten them yet.



15. Use the 2 supplied 3/8-16 x 1.25" bolts to install the fairlead on the winch bumper cover and winch. Use red thread locking compound when installing the bolts. Fully tighten the fairlead bolts and torque to 33 ft lbs.



16. Fully tighten all 4 winch bolts. Torque to 40 ft lbs. Then, fully tighten the 2 1/4 in. bolts on the top of the winch plate cover. Torque to 10 ft lbs.



17. Install the Distronic sensor into the new supplied sensor housing (as shown below). Use the top mounting tab to adjust the Distronic sensor. Set up the sensor so that it's perpendicular to the ground when the vehicle is level on flat ground.

1.



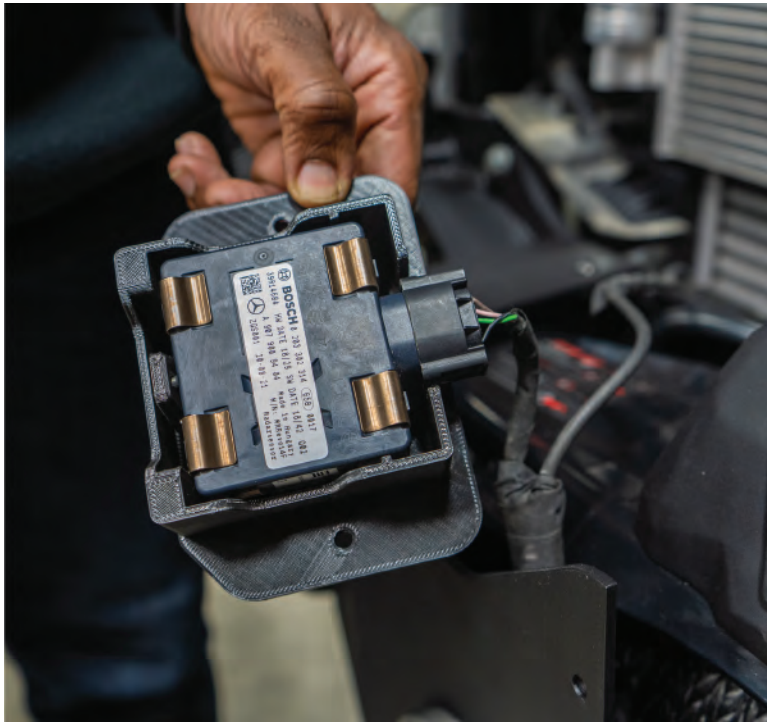
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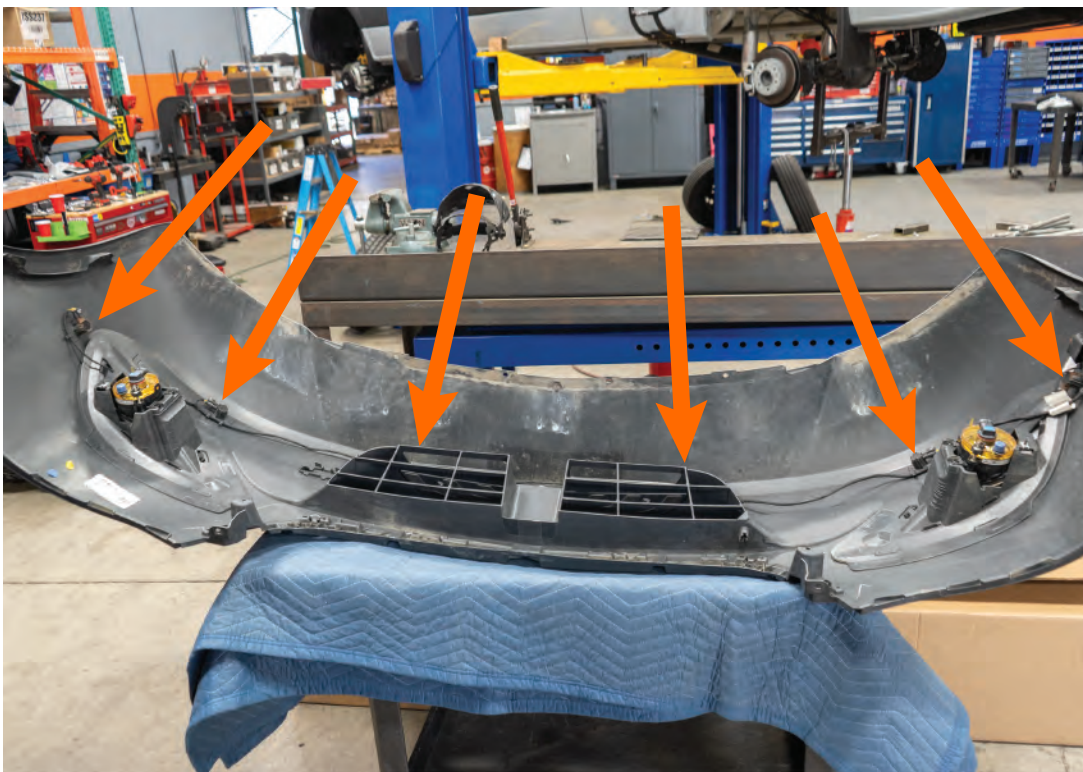
3.



18. Plug in the DISTRONIC sensor into the factory harness. Use the 2 supplied 10-24 x .75 button head bolts to install the sensor housing onto the winch plate.



19. Pull the gray tab back and away from each sensor connector, then push it down to disconnect it from the sensor. Completely remove the harness from the bumper and set the harness aside.



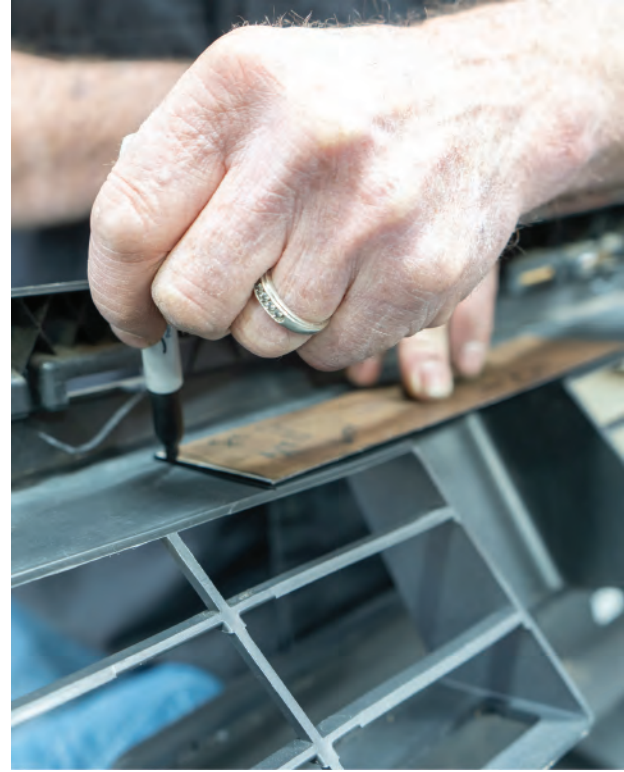
20. Remove the 2 center parking sensors from the bumper cover by spreading the tabs, holding the sensor, and pulling the sensor out. These 2 sensors will be relocated after the bumper is cut.



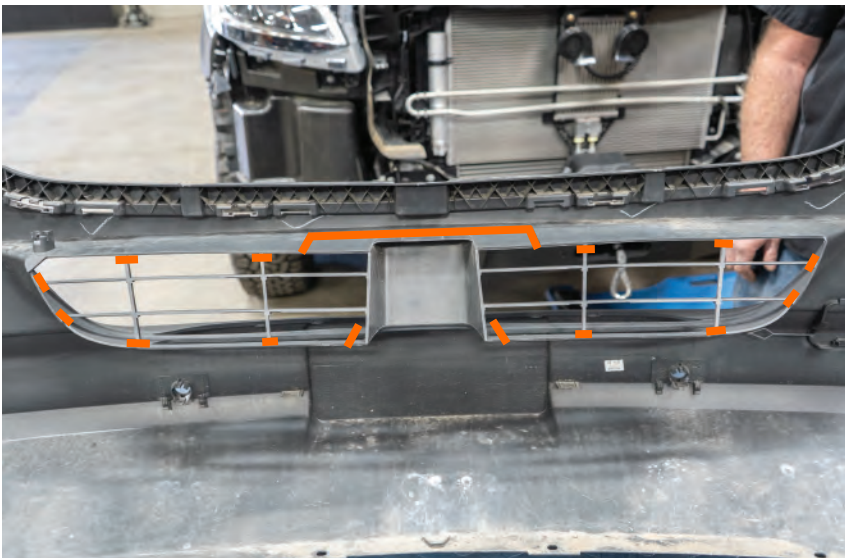
21. Remove the front bumper step by pushing down on it and popping it out. Discard the factory step.



22. Place the included 2.5 x 10 in. template in the center of the lower grill, as shown below, and trace its contours. Cutting out this section provides clearance for the upper body of the winch.

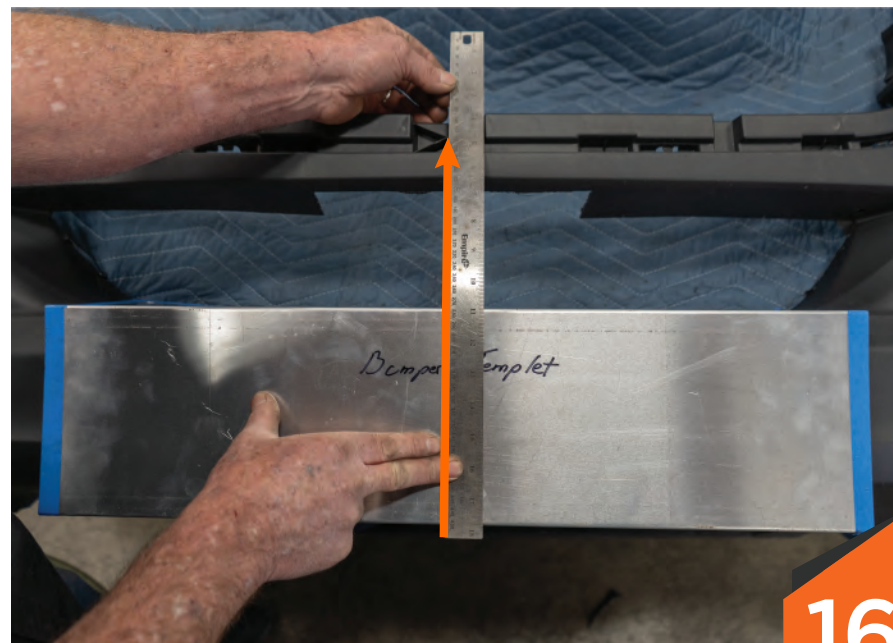


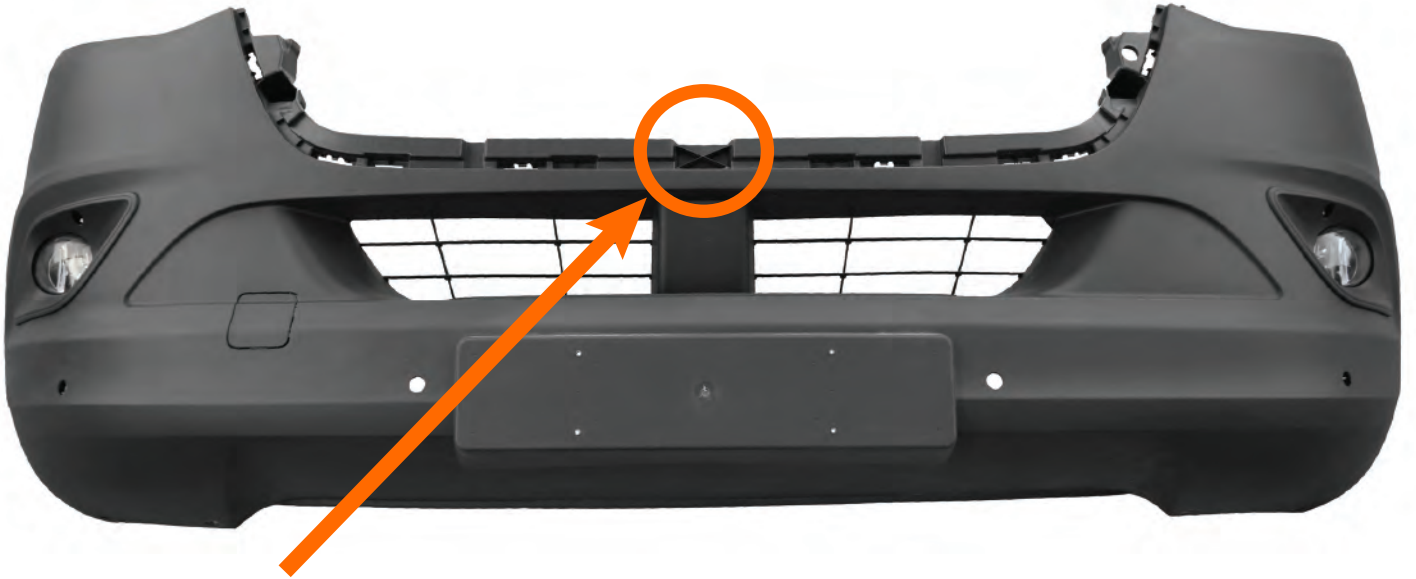
23. Use a cutting tool to cut out entire lower grill. Start by cutting along the lines you marked with the 2.5x10in template. Then cut out the grill by cutting along the highlighted orange lines. This will provide clearance for bumper cut template.





24. Place the included bumper cut template on the bumper cover. Line the centerline of the template up with the “x” above the lower grill opening. Use a sharpie to mark the edges of the template.



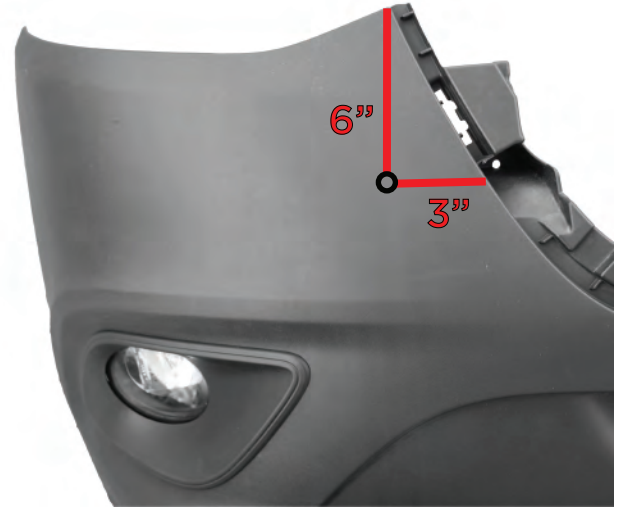
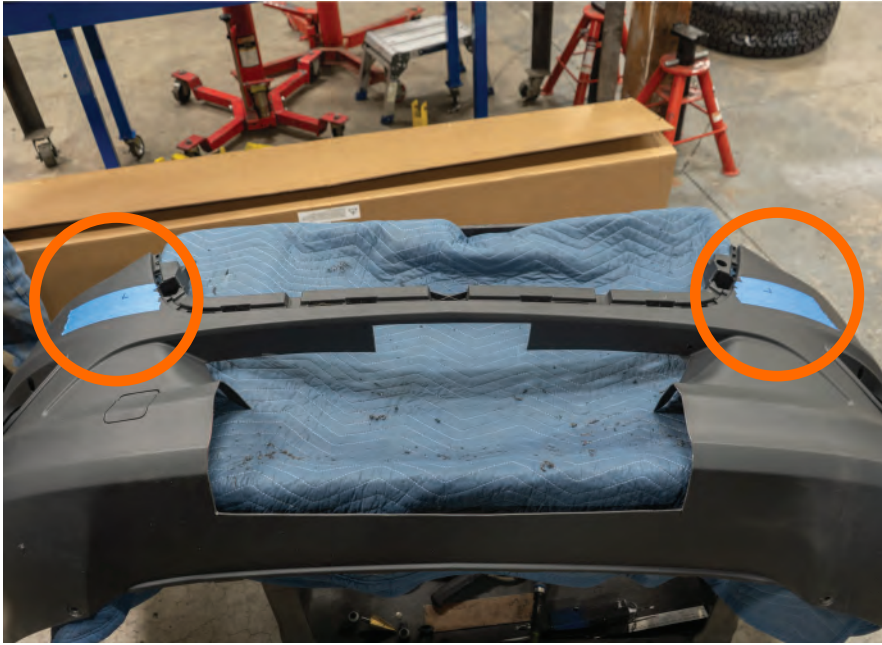


The "x" above the lower grill opening.

25. Use a cutting tool to cut out the marked section of the bumper cover. Use a sander to clean up the cut lines on the bumper.



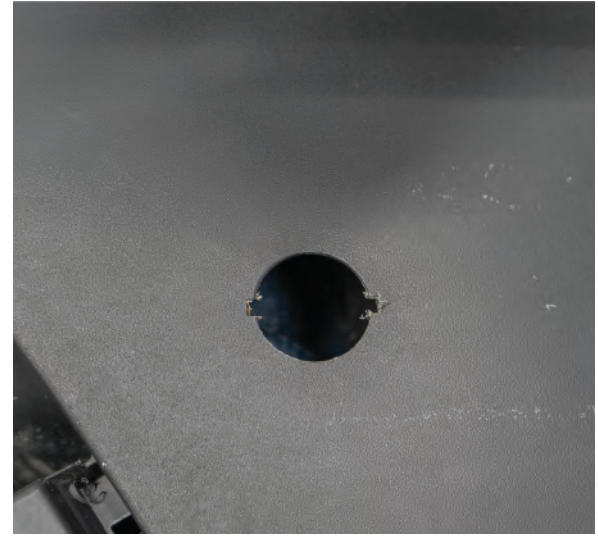
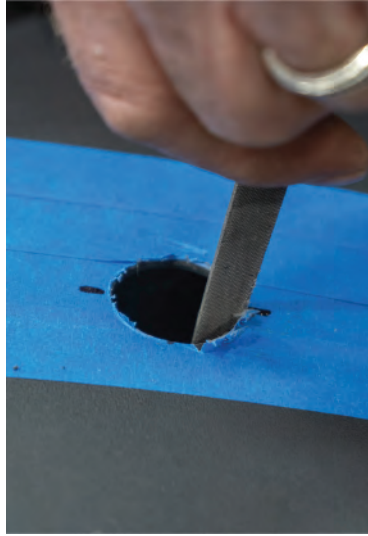
26. Use painters tape to mask along both sides of the grill, as shown. Use a sharpie to mark the location you will be relocating the 2 center parking sensors to. The relocated sensors will be installed 6 inches down from the inner top corner of the bumper cover and 3 inches away from the edge of the grill. See pictures for reference.



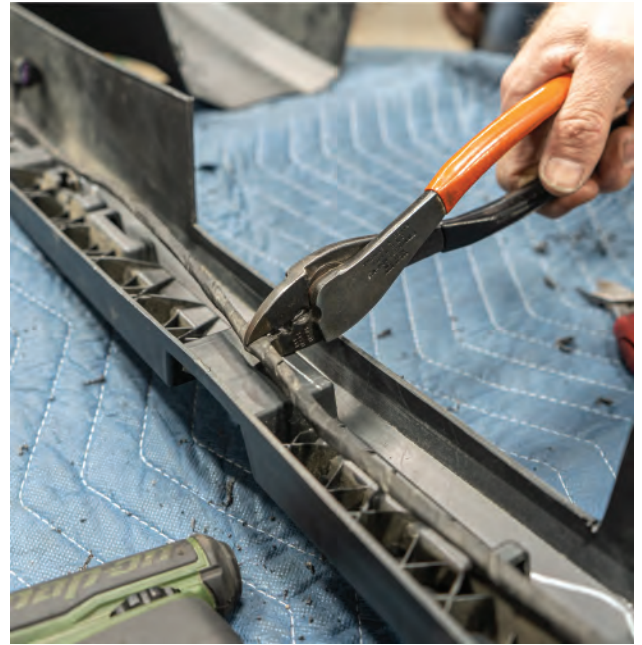
27. Use a step bit to drill through the 2 marked points and drill 1-1/8in. holes in the bumper. Next, test fit the new parking sensor housings into the bumper cover.



28. The parking sensor housings have 2 indexing tabs to prevent them from spinning in place. Once you've confirmed the holes are the right size, mark 2 horizontal indexing tabs on each hole. Use a file to make small slits in the bumper cover for the indexing tabs. Insert the sensors into the bumper cover.

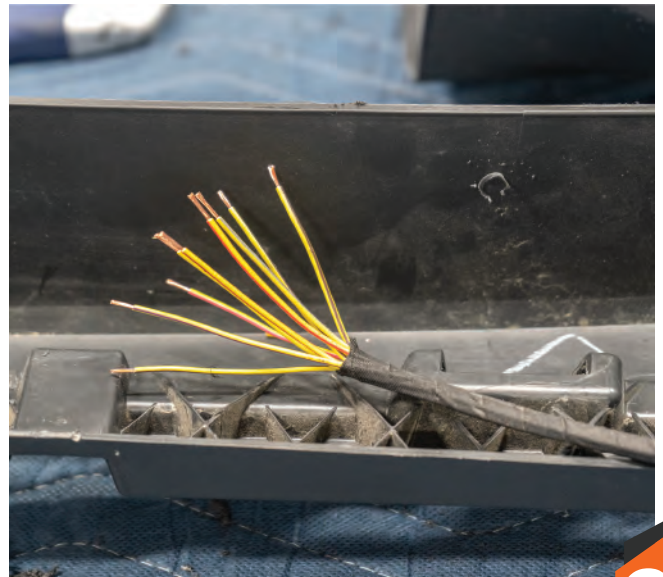
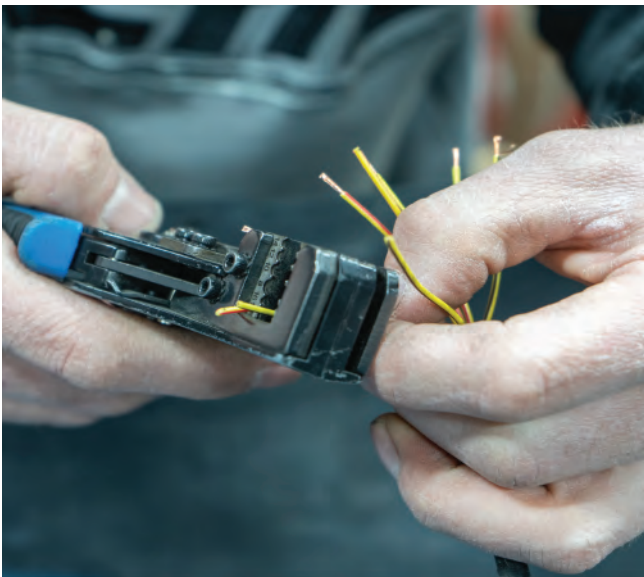


29. Plug the parking sensor wiring harness into the two outer most parking sensors. After the harness is plugged in, use wire cutters to cut the sensor harness in the middle.

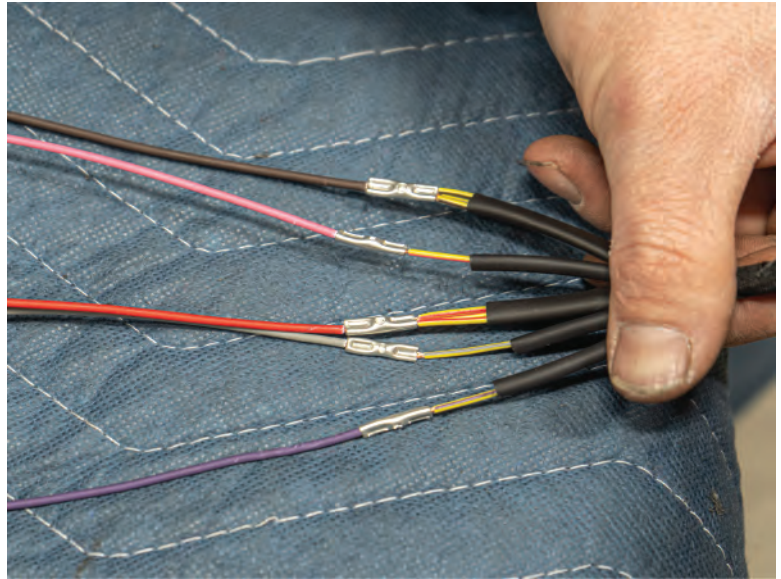


30. Remove approximate 3 inches of factory wire harness tape from each cut end to access the wires. Use wire strippers to strip approximately 1/4in of each parking sensor wire.

***Note: the factory wires are color coded (3 yellow with red stripe, 3 yellow with black stripe, 1 yellow with pink stripe, 1 yellow with gray stripe, 1 yellow with purple stripe).*



31. Use the supplied 26" wire extensions to extend the parking sensor harness. Use the included butt connectors to join yellow/pink to pink, yellow/gray to gray and yellow/purple to purple wires. Combine all 3 yellow/red wires then use a butt connector to join them with the supplied red wire. Combine all 3 yellow/black wires then use a butt connector to join them with the supplied black wire. Start by extending all of the wires on one half of the harness before moving on to the other. Remember to slide heat shrink over the wire extensions before making the final connections as you won't be able to after the circuit is complete.



32. Use a small torch or heat gun to activate heat shrink and seal all wire connections. Then, cover the wiring harness with the included 37" split loom.



33. Drill 2 3/16" holes in the bumper cover. Then secure the extended wire harness with zip-ties.



34. Hand thread the 6 supplied locating pins to the light bar brackets on each side of the winch bumper. Leave approximately 1/2" protruding from the bracket. Reinstall the front bumper cover. Use the 2 T-30 torx bolts in the upper grill to keep the bumper in place. Push the bumper cover clips back into place, starting under the headlights and working out to the sides of the vehicle. Then, use a mallet to strike the bumper where the locating pins are to mark their locations on the inside of the bumper. Repeat on the other side of the bumper.

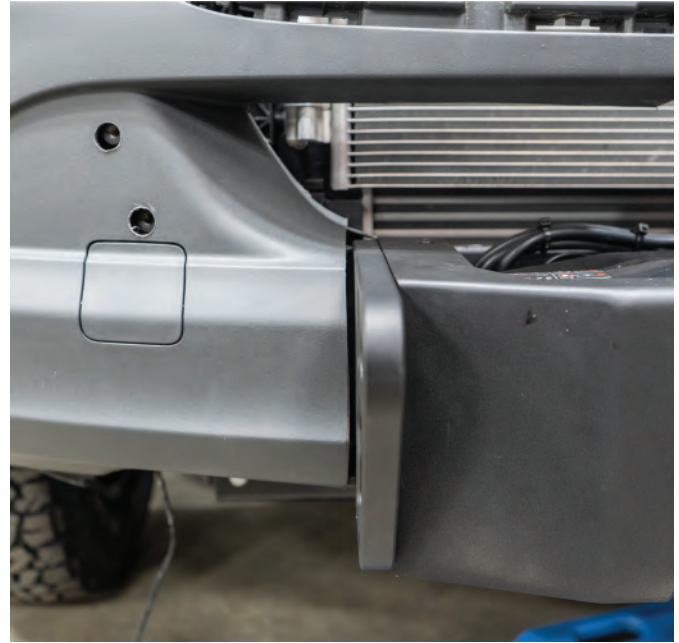


35. Remove the 2 T-30 torx bolts in the upper grill and detach the bumper cover. Locate the 6 marking points from the locating pins on the inside of the bumper and drill small pilot hole through each marked point. Then, use a step bit to drill 7/8-in holes for the Ferrata light bar.



36. TEST FIT THE BUMPER. Reinstall the bumper using the 2 factory T-30 Torx bolts and snap in the edge to the fender lip. Check both the winch cutout and the light bar mounting holes.

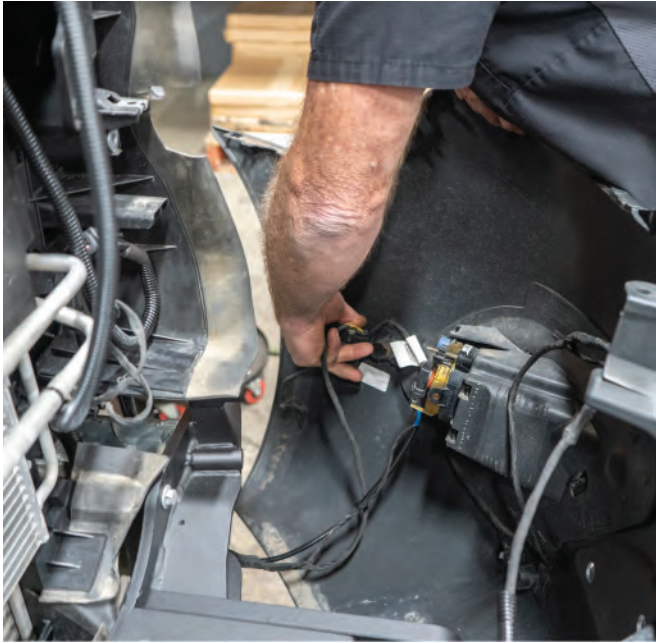
**Note: You're looking for approximately 1/4 inch gap between the plastic bumper cover and the winch plate to allow clearance for the finishing trim.



37. Once you are satisfied with the bumper cover fit and clearance, remove the bumper and install the supplied rubber trim.



38. Reconnect the parking sensor & fog lights harnesses to the vehicle before installing the bumper cover. Use the 2 T-30 torx bolts in the upper grill to keep the bumper in place. Do not fully tighten them yet. Push the bumper cover clips back into place, starting under the headlights and working out to the sides of the vehicle. Then fully tighten the 2 T-30 torx bolts in upper grill.



39. Re-install all of the push pins in fender wells and the bottom of the bumper cover.

40. Use the 3 supplied 10mm bolts to install the lower bumper brace on the bottom of the winch plate. Use red thread locking compound when installing the bolts.



41. Use the 6 supplied 3/8" allen bolts, washers and spacers to install the Ferrata light bar on to the bumper. Use red thread locking compound when installing the bolts.



42. Reconnect the factory temperature sensor. Then reconnect the front camera. Lastly, reinstall the front grill.



43. Congratulations Your installation is now complete.



The completed installation of the AO Telluride Winch Bumper and AO Ferrata Light Bar w/ the Baja Designs LP9 LED Lights (not included).