



BORNE OFF-ROAD
by **M** | MISHIMOTO

INSTALLATION GUIDE

**2017+ FORD RAPTOR 3.5L ECOBOOST BORNE OFF-ROAD SNORKEL
SKU: MMAI-RPTR-17N**



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IMPORTANT SAFETY INFORMATION

- Mishimoto recommends you use safety glasses and protective gloves during the installation of our products
- Raise vehicle only on jack stands or on a vehicle lift
- Allow vehicle to cool completely prior to attempting installation
- Do not run the engine or drive the vehicle while overheating; serious damage can occur
- Please dispose of any liquids properly
- Mishimoto is not responsible for any vehicle damage or personal injury due to installation errors, misuse, or removal of Mishimoto products

INSTALLATION TIME 4-6 HOURS

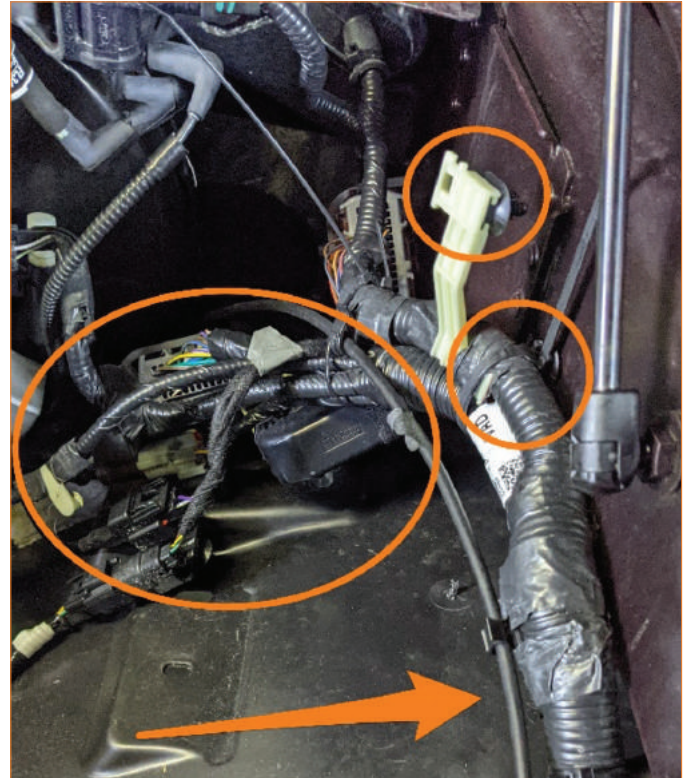
INSTALLATION DIFFICULTY 🔧 🔧 🔧 🔧 🔧

INSTALLATION INSTRUCTIONS

01. Remove air intake assembly from the vehicle.



02. Release all harness clips from wheel well liner, push them toward the firewall and secure with provided zip ties. Area indicated by the arrow must be free of wire harnesses. Release the thick main harness wire loom that runs along the fender frame, lift it up and secure with provided tree clip zip tie.



03. Remove the fender flare. Remove the 5x screws securing the flare to the wheel well liner, then pull the flare away from the fender to release the clips. Disconnect the marker harness before completely removing the flare.



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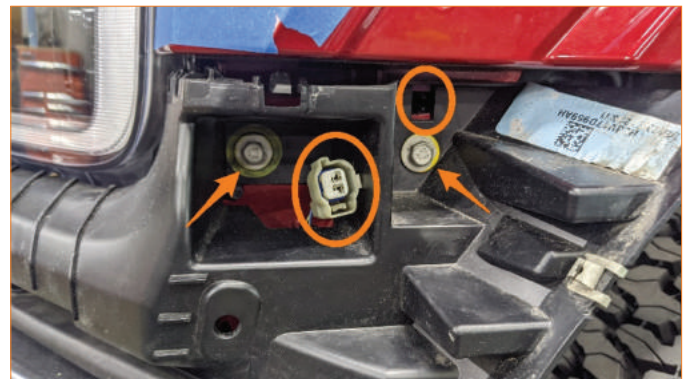
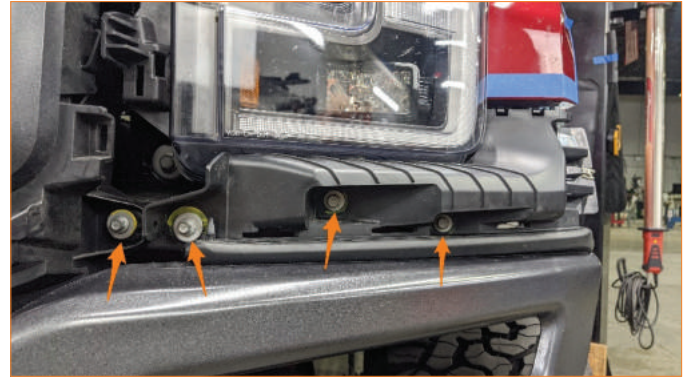
04. Remove the wheel well liner. Remove the 5x screws securing the liner to the fender first, then remove 3x tree clips and 1x pop clip securing the liner to the body. Then remove the wheel well liner.



05. Remove the headlight trim piece. Remove 1x pop clip then pull the trim piece forward along the edges to release the clips.

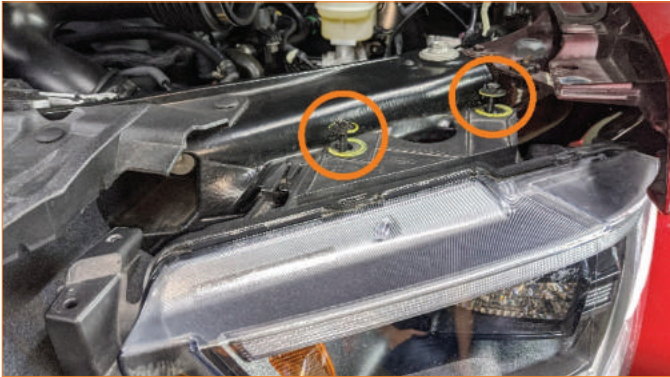


06. Remove the headlight bracket. Remove 6x fasteners from the front and side of the bracket, then release the marker harness from the bracket. Pinch the clip circled just above the bolt to release it and remove the bracket.



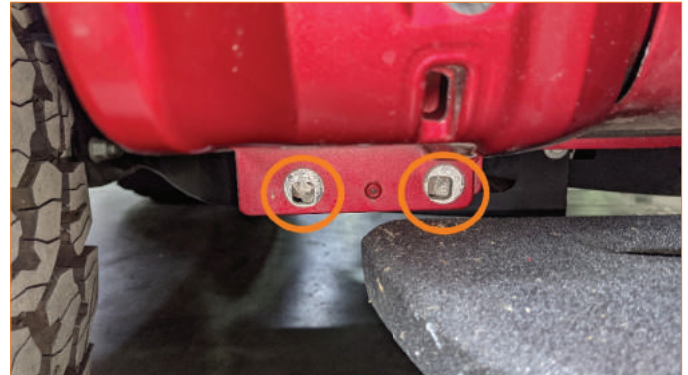
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07. Remove the headlight screws and unplug the headlight.



08. Remove all bolts securing the fender.

› Start from bottom of the fender.



› Pull out the black foam located inside the fender and toward the door to expose the bolt underneath.



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- › Open the driver side door fully to expose the bolt inside near bottom of the A-pillar.



- › Lift the corner of the cowl to expose the bolt underneath.



- › Remove 3x bolts along the top of the fender.



- › Remove the one bolt under the headlight.



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09. Remove the fender and the headlight at the same time with help of another person. Pull the fender straight away from the vehicle, while another person lifts the headlight up to unclip it from the top bracket, then pull it toward the front of the vehicle to disengage the headlight pin from the fender.



10. Modify the fender to install the Borne Off-Road snorkel fender tube. Follow the instructions on the template and reference the full install video on Mishimoto YouTube channel for more details.
11. Modify the lower stock air box if using the snorkel with stock intake. Line up the Borne Off-road stock intake adapter on the stock lower air box as shown, trace the cutout profile and mark the hole locations. Cut out the traced area and drill 3x 5-6mm diameter holes in the marked locations. Secure the adapter to the stock air box with 3x sets of M5 hardware (1 set = 1x bolt, 1x flat washer and 1x locking nut) as shown.

Mishimoto air intake has the snorkel adapter built into the design and does not require any modification.

Note that all drain holes on the stock or Mishimoto air box and the seams between the adapter and air box must be sealed with RTV, silicone caulk or butyl tape if intend to use for water fording.



- › Reassemble the air intake. Remove the stock fresh air duct and seal the port with provided rubber plug. Note that the plug must be sealed with RTV, silicone caulk or butyl tape if intend to use for water fording. Reinstall the air intake back on the vehicle.



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12. Assemble the Borne Off-road snorkel fender tube. Install the CNC peg onto the sheet metal bracket, then install the bracket on the fender tube as shown. Fasten the assembly with 3 sets of M6 hardware (1 set = 1x bolt, 1x lock washer and 1x flat washer). Use the large M6 flat washer on the peg.



13. Install the provided rubber grommet on the fender frame as shown, then install the rubber duct onto the stock intake adapter port or the Mishimoto intake side inlet port. Install the Borne Off-road snorkel fender tube assembly by engaging the peg with the grommet and connect the fender tube port with the rubber duct. Note that the rubber duct connections should be secured with zip ties if intend to use for water fording.



14. Reverse steps 5-9 and reinstall the headlight, fender headlight bracket and trim piece. Check to make sure the drilled holes on the fender line up with the threaded holes on the Borne Off-road snorkel fender tube.



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15. Install the A-pillar bracket. Fully open the driver side door, temporarily install the Borne Off-road snorkel body with the fender tube to locate A-pillar bracket rivet nuts. Use the two sets of long flat head bolts and countersunk washers to secure until snug. Install the A-pillar bracket onto the snorkel body as shown with 2x sets of M6 hardware. Bolts should be tightened down in the center of the slot. Use the two empty slots on the other side of the bracket to locate rivet nut location on the door-side face of the A-pillar. Drill two 6mm holes in the marked locations and install the provided rivet nuts.



- › Secure the A-pillar bracket to the A-pillar rivet nuts with provided 2x M4 button head flange bolts. Remove the two long bolts securing the snorkel body to the fender tube, apply Loctite on the tip of the bolts then re-install them. Adjust and tighten all snorkel fasteners.



16. Reverse steps 3-4 to reinstall the wheel well liner and fender flare.
17. Install the metal screen on the Borne Off-road snorkel head with 4x sets of M4 hardware. Install the snorkel head to the snorkel body, adjust if need and secure with the provided T-bolt clamp. A rubber cap is provided to cover the exposed stud on the T-bolt clamp.



Congratulations! You have completed your installation.

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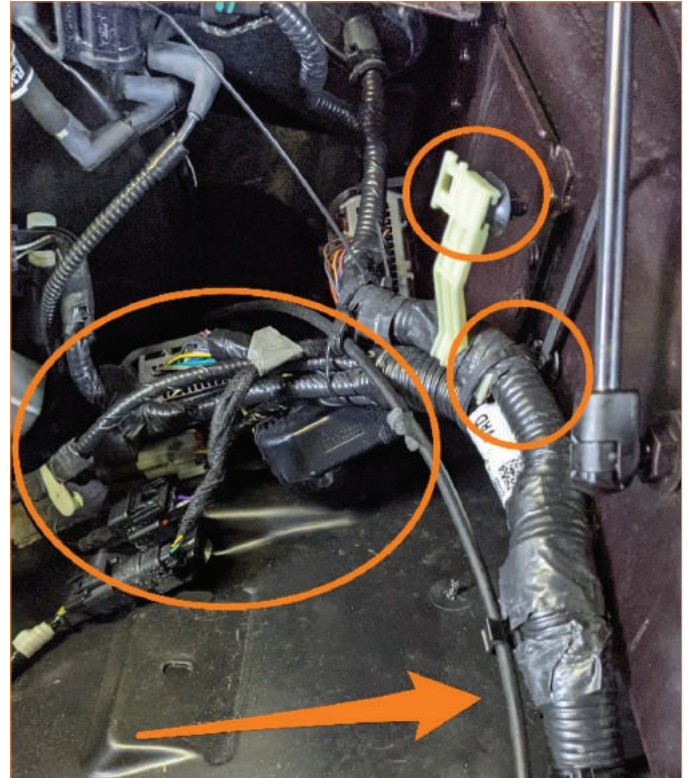
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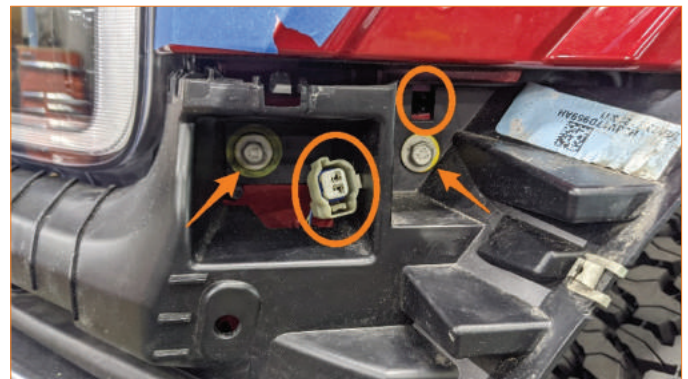
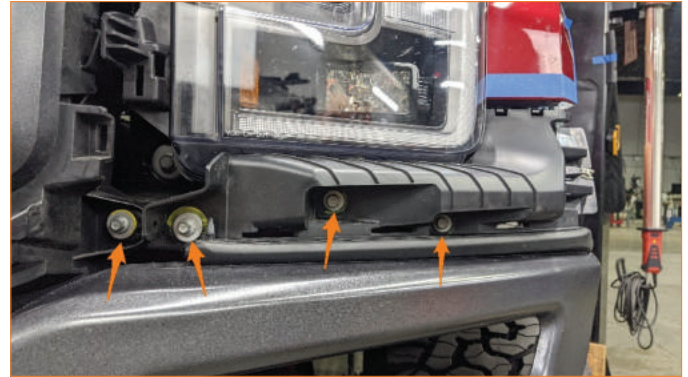
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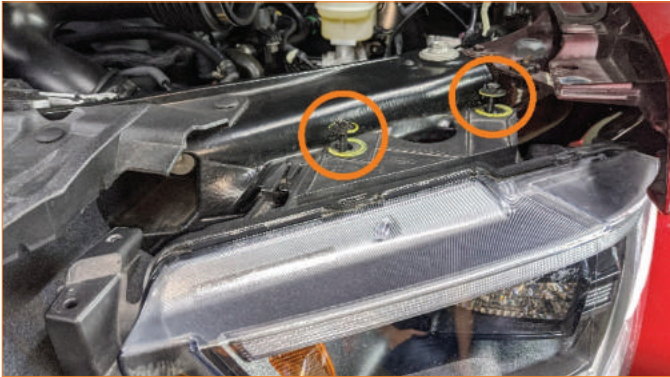


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