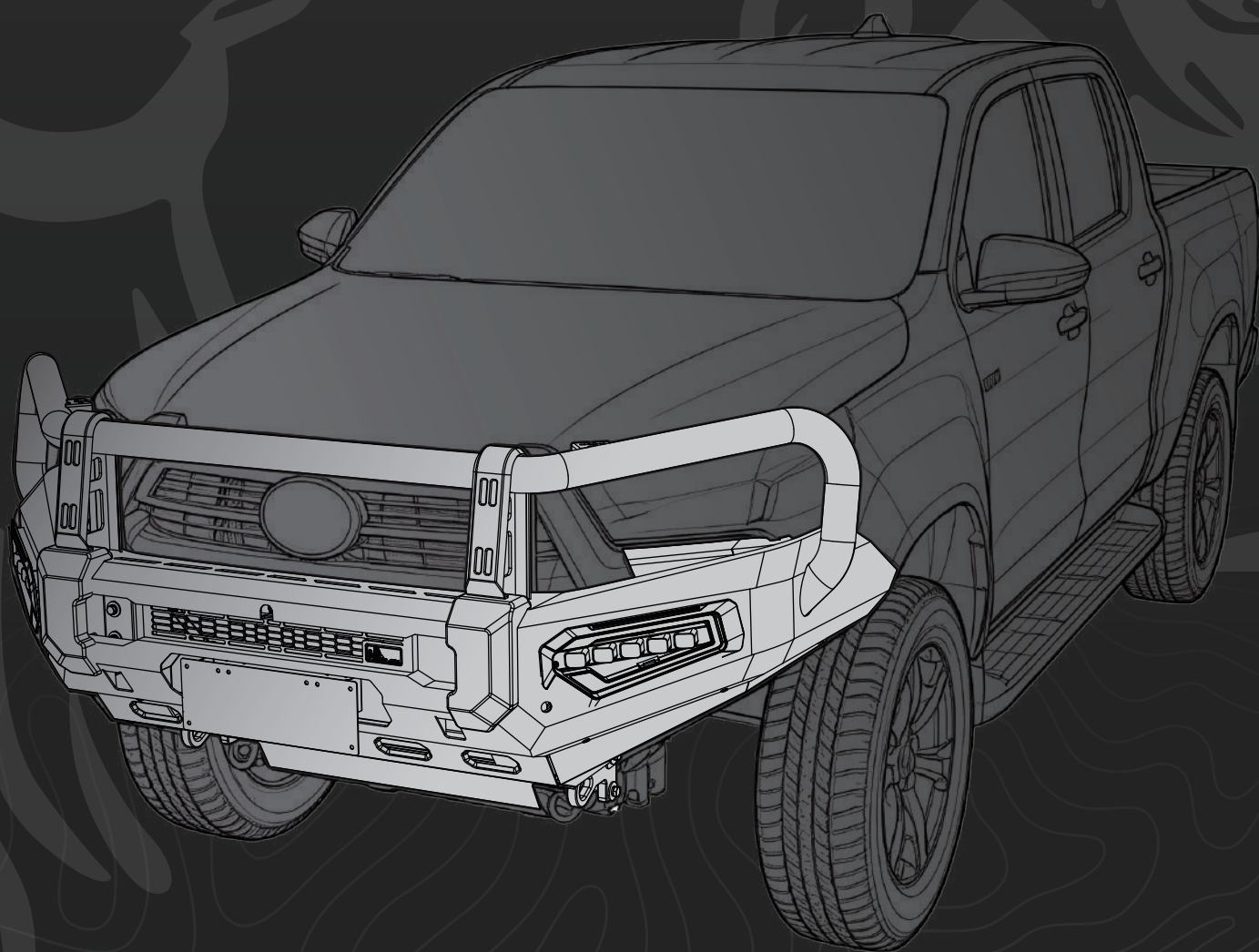




# FRONT BULLBAR FOR TOYOTA HILUX HYBRID

**INSTRUCTION GUIDE** ▶▶





- Prepare a clean work area.
- We recommend a minimum of 2 people for assembly and 4 people for installation.
- Ensure the required tools are present and all hardware contents are accounted for.
- Never use acetone or thinners on painted parts.
- Read through the entire instruction guide before starting this procedure and follow.
- The steps carefully to avoid any damage to the components or the vehicle.

## DIRECTORY

---

|           |                                   |    |
|-----------|-----------------------------------|----|
| <b>01</b> | INSTALLATION & SAFETY PRECAUTIONS | 01 |
| <b>02</b> | INSTALLATION TOOLS                | 02 |
| <b>03</b> | ACCESSORIES                       | 02 |
| <b>04</b> | DISASSEMBLY STEPS                 | 06 |
| <b>05</b> | INSTALLATION STEPS                | 17 |
| <b>06</b> | INSPECTION AND MAINTENANCE        | 25 |
| <b>07</b> | INSTALLATION OF REAR ASSEMBLY     | 26 |

## ■ BEFORE INSTALLATION

- This product is a heavy-duty off-road modification component and must be installed by a professional with relevant vehicle modification experience.
- Before installation, be sure to read this manual carefully to ensure that all components, fasteners, and tools are complete and undamaged. Missing or damaged parts must be replaced immediately.
- Installation must be performed on a flat, stable surface, and the vehicle must be reliably supported to prevent displacement during installation.
- It is recommended to wear protective gloves to avoid cuts from metal parts and screws; disposable gloves should be worn when handling sealant to prevent skin irritation from chemicals.

## ■ DURING INSTALLATION

- Strictly follow the installation steps specified in the manual. Do not modify the process or skip key steps without authorization.
  - Original Parts Removal: Carefully remove the original bullbar and sensors, retaining the original clip screws. Do not use excessive force to remove them, as this may break the clips.
  - Beam Connection: The bullbar must be fixed to the pre-drilled holes in the original vehicle's longitudinal beams. Do not attempt to connect only to the body panels or adjust the original energy-absorbing box base structure. This must be done by two people to avoid damage to components or injury.
  - Original Radar and Camera: The original radar and camera must be moved to the new bullbar in their original positions without changing their angle to avoid false alarms or image distortion.
  - Lighting Wiring Harness: Wiring harnesses for the added lights must be run through corrugated conduit away from the exhaust pipe. After installation, check that the gap between the bullbar and the exhaust pipe, electric pedal, and license plate frame is no less than 10mm.
- Before installing any electrical components, disconnect the vehicle's power supply to avoid short circuits that could damage the electrical system or create safety hazards.

## ■ FASTENING & TORQUE SAFETY

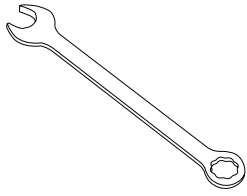
- All fasteners must be tightened using a calibrated torque wrench to the torque value specified in the manual, ensuring tightening accuracy.
- The final tightening process must not be performed using impact drills or power tools to prevent over-tightening and damage to components.
- Over-tightening may cause deformation of aluminum alloy components and damage to threads, thereby affecting structural stability and sealing performance; under-tightening may easily lead to loosening of components, posing a safety risk.

## ■ SEALING & WATERPROOFING

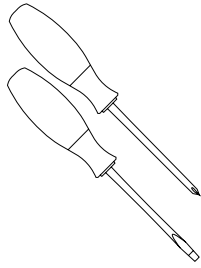
- Verify that all fasteners are tightened to the specified torque, with no loosening or stripping. Pay special attention to critical connections for M6 and M8 fasteners.
  - Inspect all seals to ensure they are intact, continuous, without warping, and with tight gaps.
  - Functional retest: Reconnect power, clear fault codes, and test the reversing radar, 360-degree camera, and blind spot monitoring for proper function and no persistent false alarms.
- Perform a low-speed test drive with the steering wheel fully turned to the left and right, over speed bumps or uneven surfaces, confirming no metallic friction or collision noises.
- Regulatory compliance: Ensure that the original headlights, turn signals, license plate, and license plate light are not obstructed. Otherwise, the license plate must be relocated and the lighting must be compliant to avoid penalty points.
  - Post-driving retightening: Retighten all connecting bolts after driving 50-100 kilometers. Afterward, check the torque markings every 5000 kilometers or after each off-road trip.

## ■ DISCLAIMER

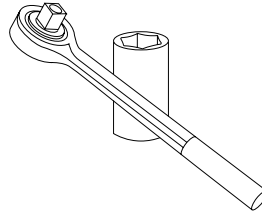
- The manufacturer accepts no liability for damage, injury, or loss resulting from installation, use, or maintenance not carried out in accordance with this manual.



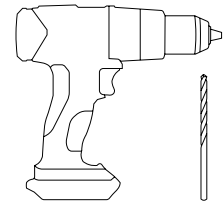
**Metric wrench set**



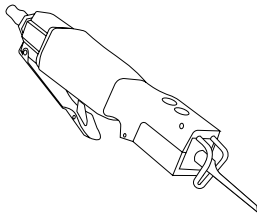
**Screwdriver set**



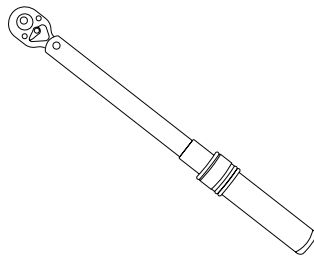
**Metric sleeve assembly**



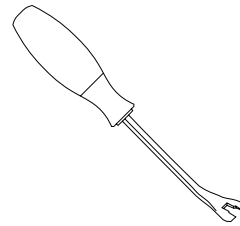
**Drill and Drill Bits**



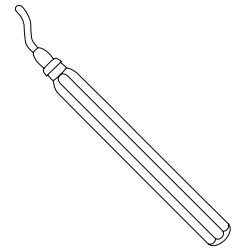
**Air Hacksaw**



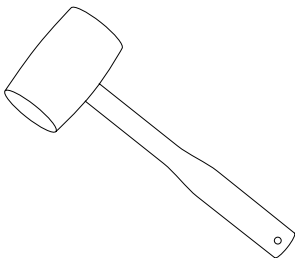
**Torque Wrench**



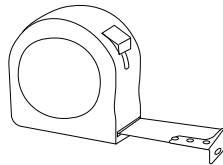
**Clip Remover**



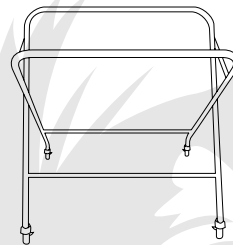
**Deburring Tool**



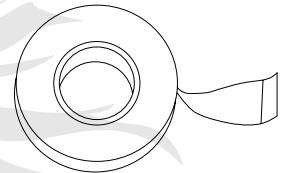
**Rubber Mallet**



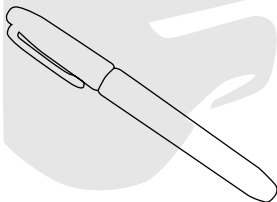
**Tape Measure**



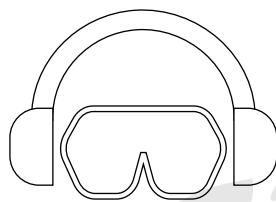
**Bullbarr Support Stand**



**Masking Tape**

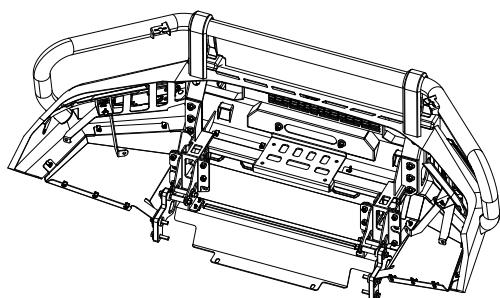


**Marker and Paint Pens**

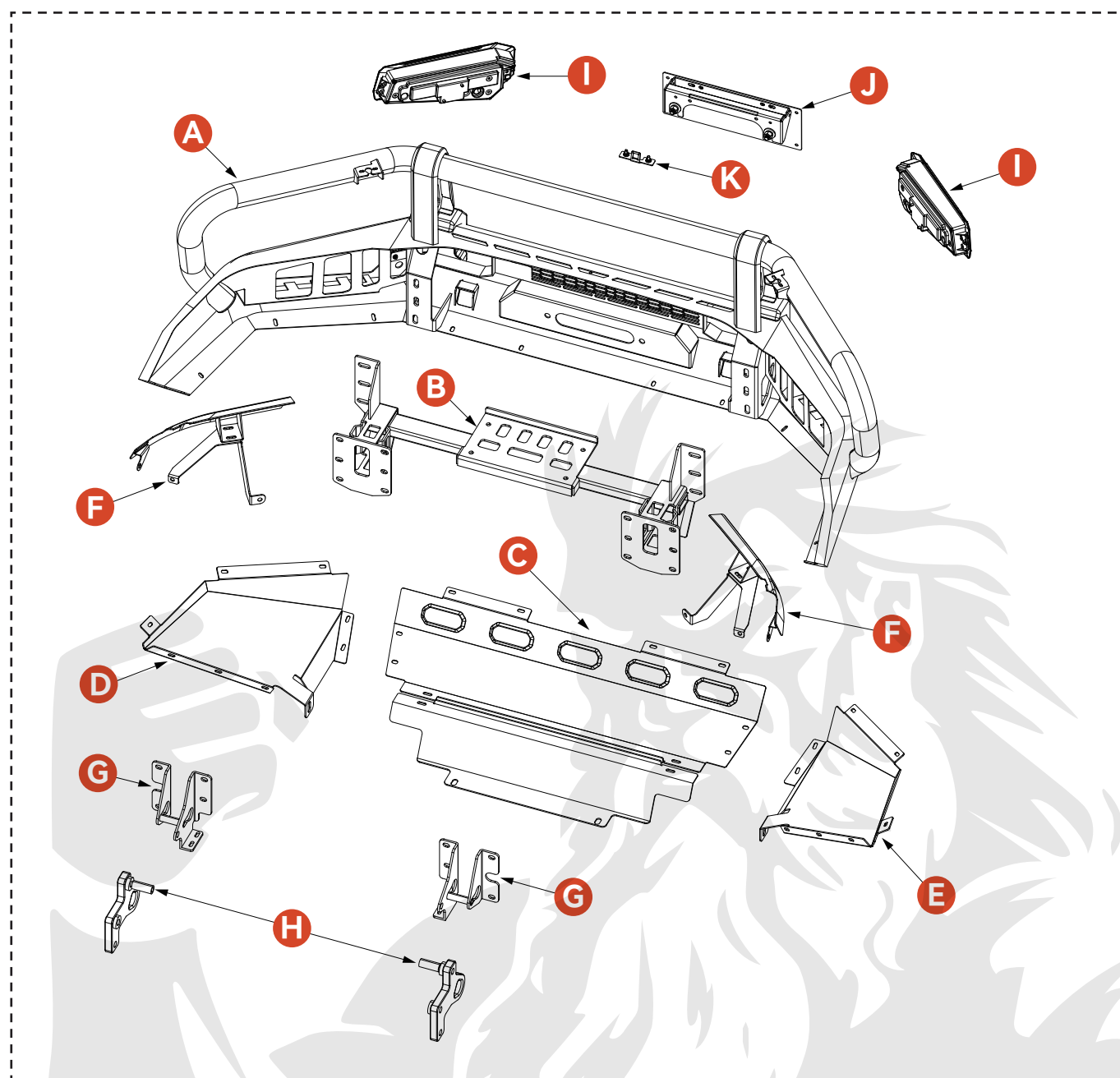


**Personal Protective Equipment**

## ■ PARTS 1



| NO.       | Part name                          | NO.       | Part name               |
|-----------|------------------------------------|-----------|-------------------------|
| <b>A.</b> | Front bullbar main welded assembly | <b>G.</b> | Beam head reinforcement |
| <b>B.</b> | Winch bracket                      | <b>H.</b> | Tow hook                |
| <b>C.</b> | Guard Plate - Middle               | <b>I.</b> | Lighting modules        |
| <b>D.</b> | Guard Plate - Right Side           | <b>J.</b> | License plate base      |
| <b>E.</b> | Guard Plate - Left Side            | <b>K.</b> | Camera bracket          |
| <b>F.</b> | Front bumper replacement parts     | <b>L.</b> | Radar bracket           |



## ■ PARTS 2

### ● Front bumper and winch bracket connection + winch bracket fixing

**1**

Large washers,  
Class A and C  
**10X30mm**



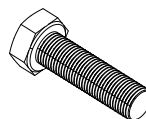
**2**

Heavy-duty spring washers  
**10mm**



**3**

Hex head bolts  
**M10X35-S**



**4**

Hex nuts  
**M10-N**



### ● Front rubber block installation

**5**

Flat washer with  
chamfered edge  
**8X12mm**



**6**

Lightweight spring washers  
**8mm**



**7**

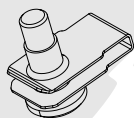
Hex nuts  
**M8-N**



### ● Protective plate installation

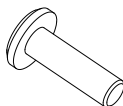
**8**

Protective plate screws,  
nuts and fasteners  
**M6**



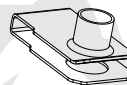
**9**

Pan head socket screws  
**M6X20**



**10**

M6 Standard Quick Clip Nut  
**M6**



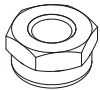
## ■ PARTS 2

### ● Lighting installation

**11**

Hexagonal flange nut

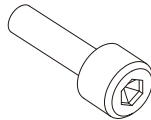
**M5-N**



**12**

Hex socket head cap screws

**M5X25-S**



### ● Trailer hook installation

**13**

Large washers,  
Class A and C

**12X12mm**



**14**

Standard spring washers

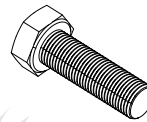
**12mm**



**15**

Hex head bolts

**M12X1.25X60-N**



**16**

Hex nuts

**M8-N**



**17**

Flat washers, Class A

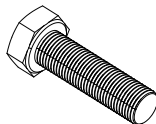
**8X12mm**



**18**

Hex head bolts

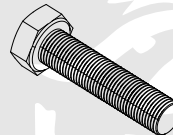
**M12X100-N**



**19**

Hex head bolts

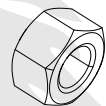
**M12X120-N**



**20**

Hex nuts

**M12-N**

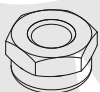


### ● Camera bracket installation

**21**

Hexagonal flange nut

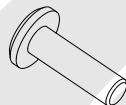
**M6-N**



**22**

Pan head socket screws

**M6X20**



## STEP 1

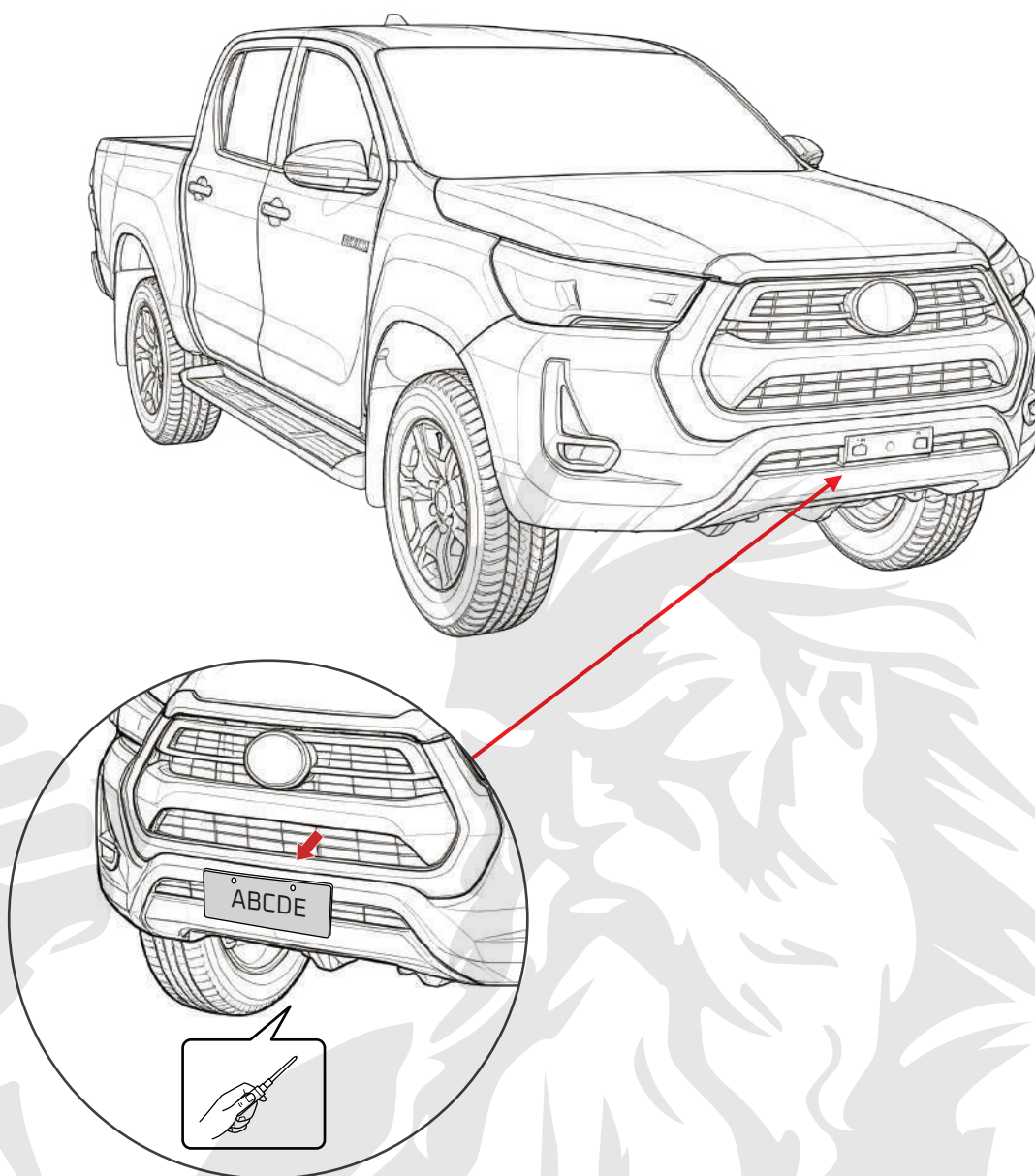
### ⚠ WARNING:

Note Most of these images show 2021-2023 model. 2015-2020 & 2024+ Models are similar. Where specific differences / extra steps exist, they will be pointed out.

### HIGH VOLTAGE WARNING:

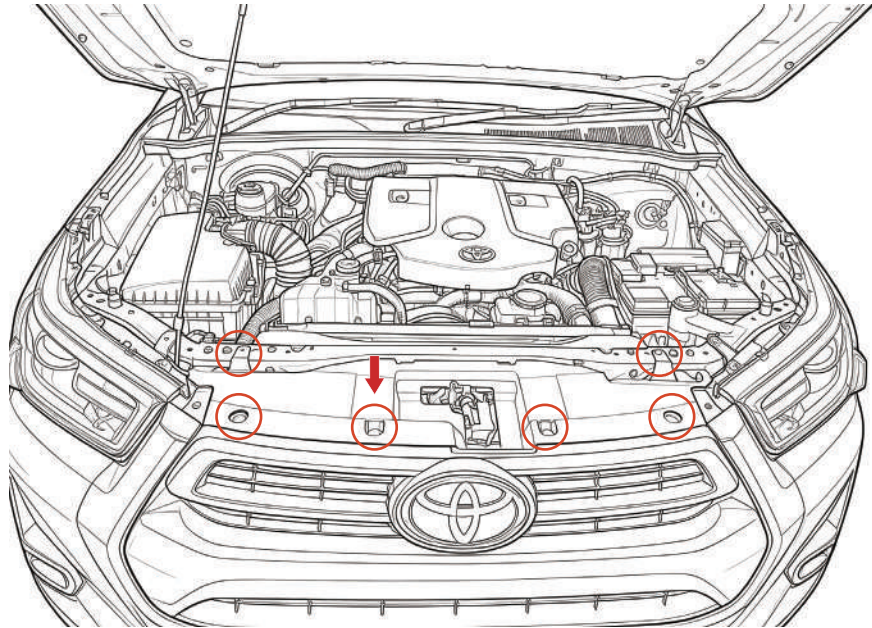
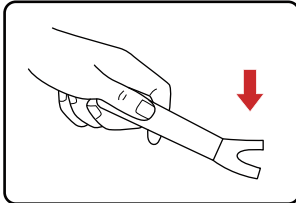
This vehicle has a high voltage (HV) system. When working in the engine bay for installing accessories, do not touch any of the orange coloured HV components or cabling. Electric shock may cause serious or even life threatening injuries.

- 1. Remove number plate from bumper and set aside.
- 2. Open the bonnet by pulling twice on the lever under the steering wheel on the driver's side.



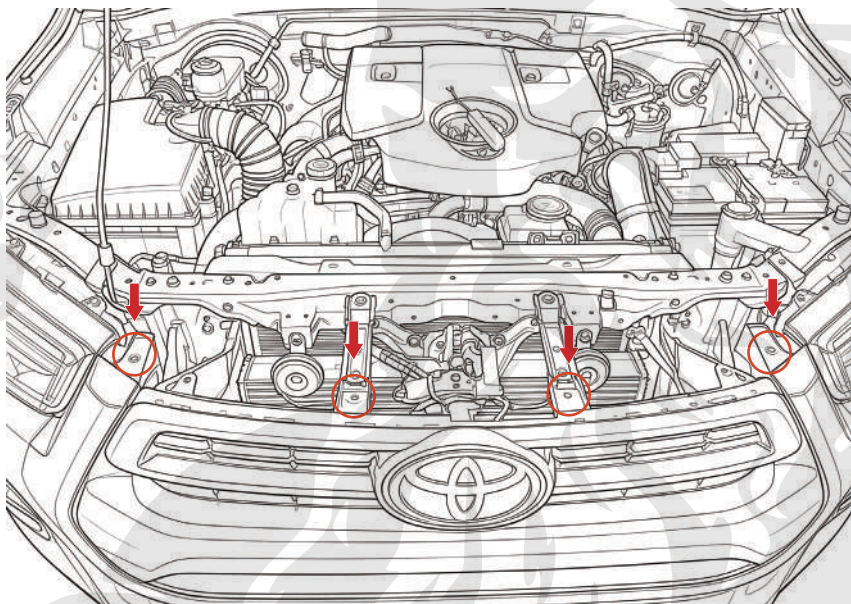
### STEP 2

- 1. Remove the Radiator shroud by removing the 6x clips securing it to the grille and cross member.
- 2. Push down on the center of the clips to release then remove with trim tool.



### STEP 3

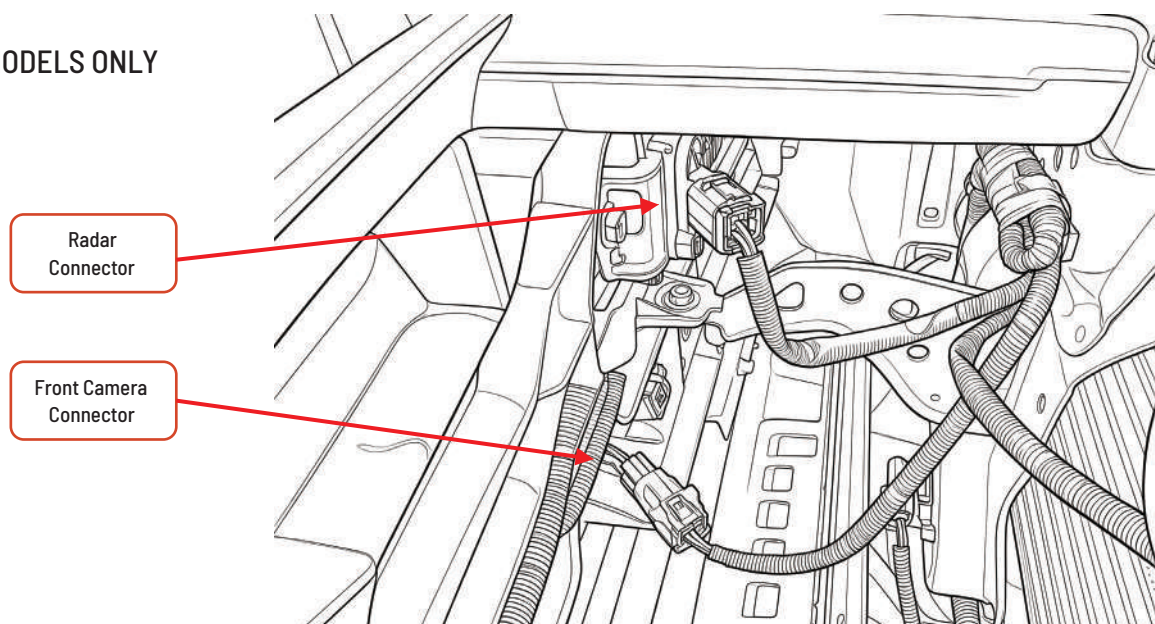
- 1. Remove the 4x 10mm Head screws securing the top of the grille
- 2. Retain fasteners for re fitment.



## STEP 4

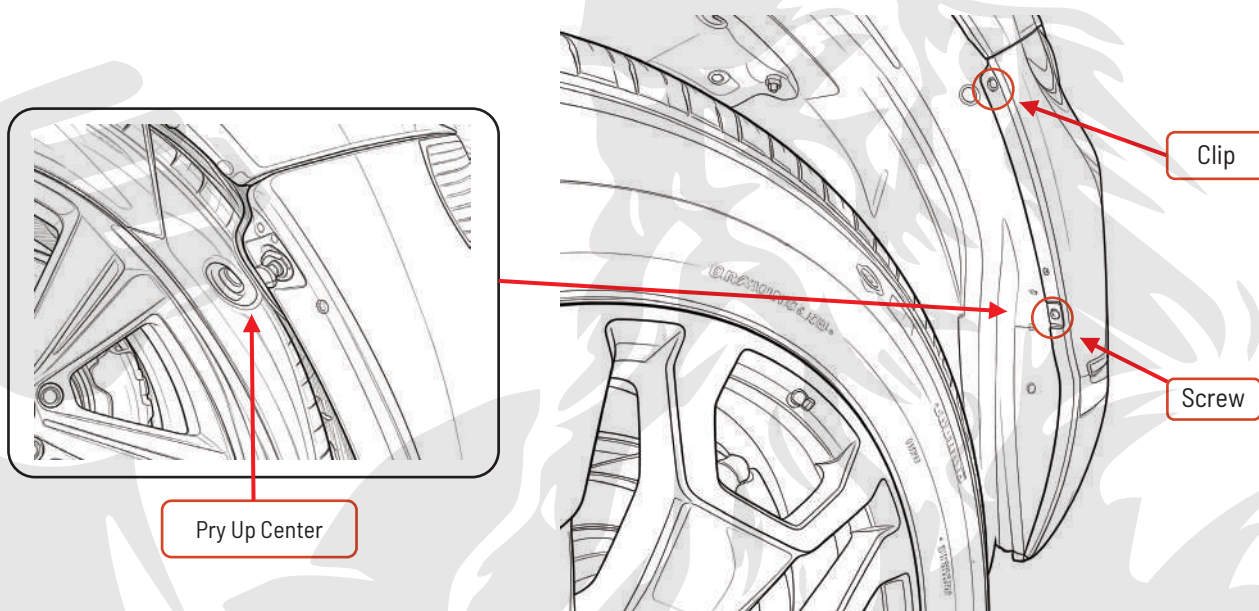
- 1. Unplug the radar sensor module wiring connector, located on the back of the Toyota Badge / sensor.
- 2. If Equipped unplug the front camera wiring connector.

2021+ MODELS ONLY



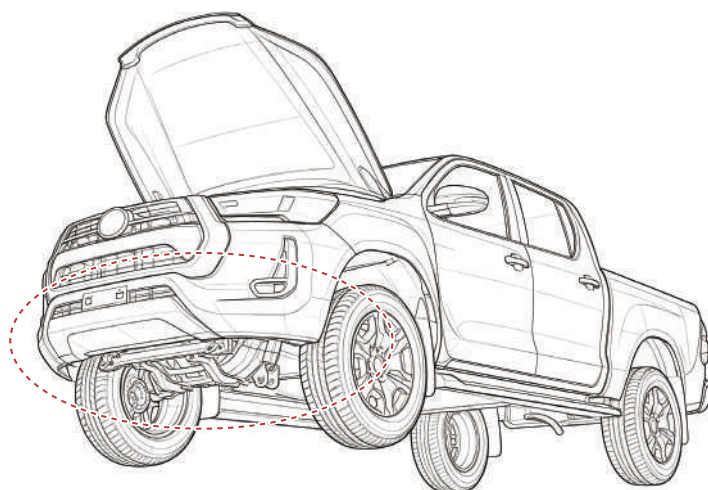
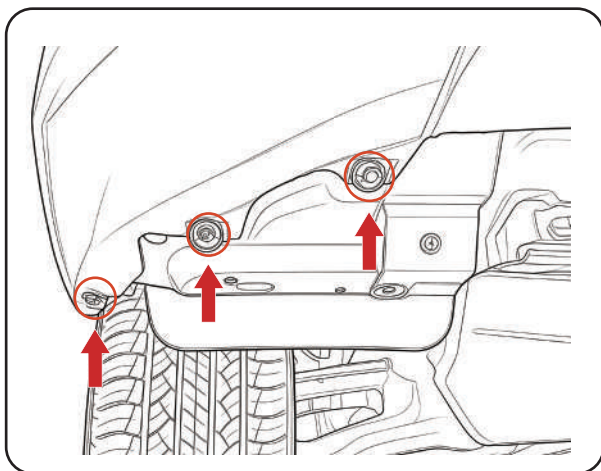
## STEP 5

- 1. Remove the small screw and clip securing the bumper to the inner wheel arch liner.
- 2. Clip is a center release type. Pry up the center section to unlock then remove.



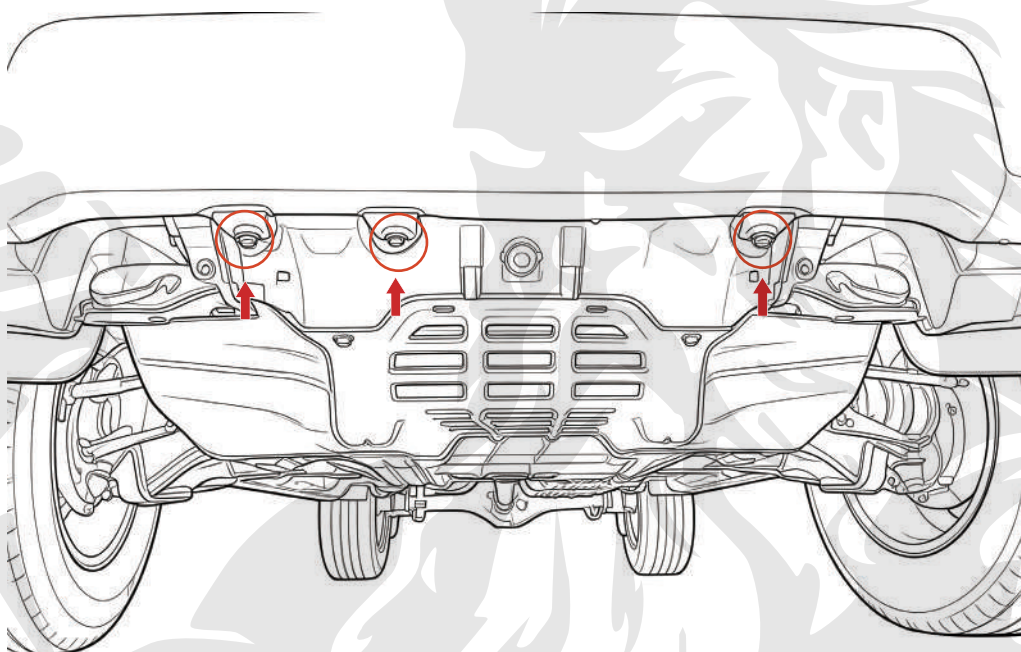
## STEP 6

- 1. Remove the 3x 10mm head Screws securing bottom corner of bumper to inner wheel arch liner.
- 2. Complete on both sides of Vehicle.



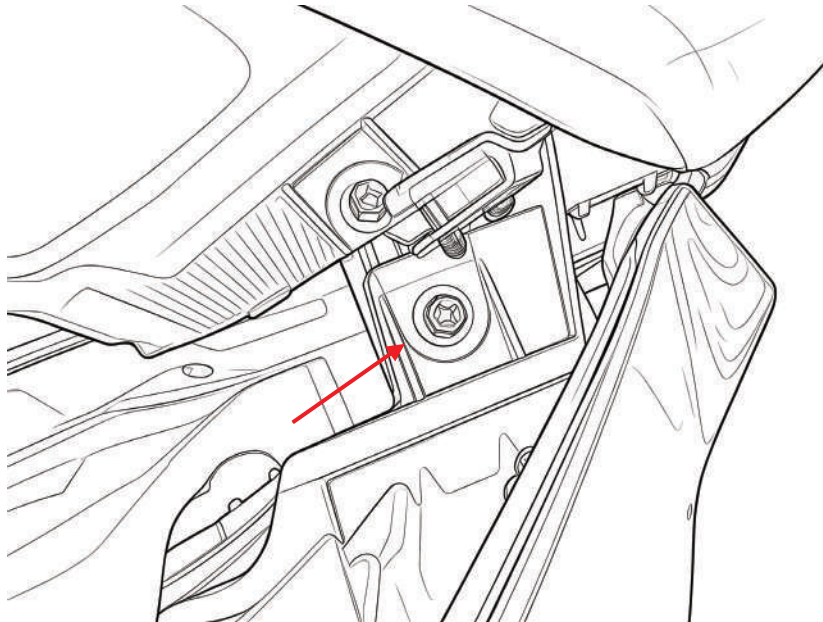
## STEP 7

- Remove the 3x 10mm head Screws securing bottom center section of bumper to inner wheel arch liner.



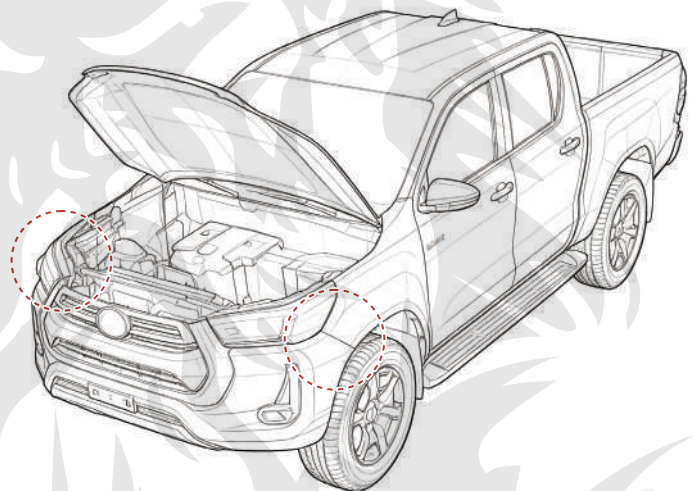
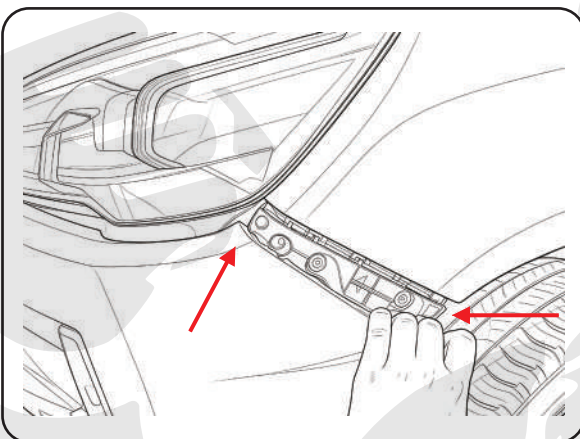
### STEP 8

- 1. Remove the 2x 10mm Head/Phillips screws securing the bumper to crossmember.
- 2. These screws are located on the edge near the headlights behind the grille.



### STEP 9

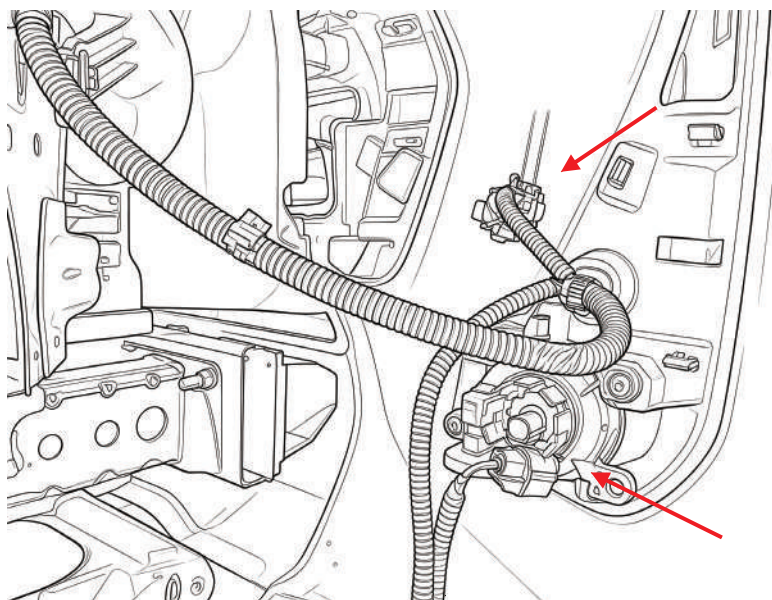
- Remove the bumper. Start by pulling from the outside where the bumper meets the wheel arch and work towards the center from both sides.



### STEP 10

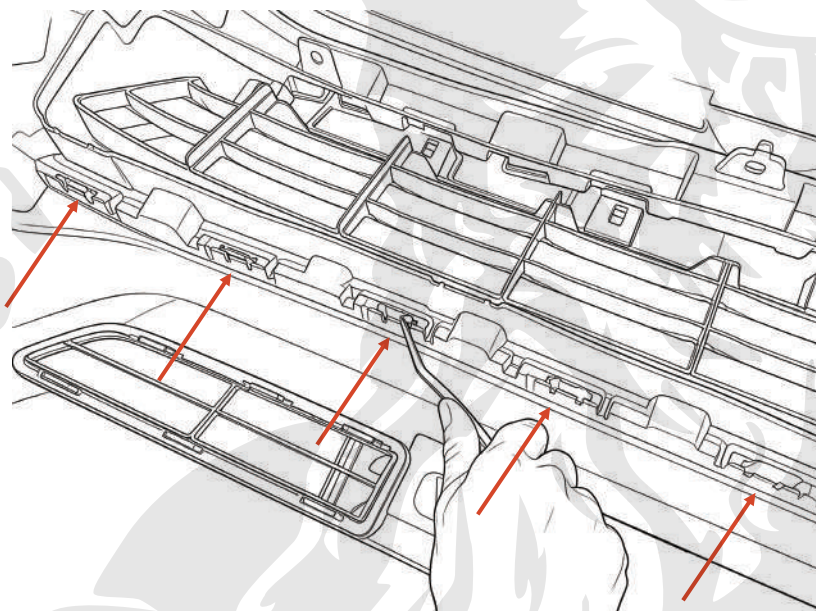
- 1. With assistance once the bumper is loose, unplug and release the parking sensor and fog light harnesses.
- 2. It is easiest to remove the sensor from the bumper by releasing the clips on back side then pushing sensor through the bumper, leaving it hanging on the cable.
- 3. This needs to be done on both sides of the vehicle.

2021+ MODELS ONLY



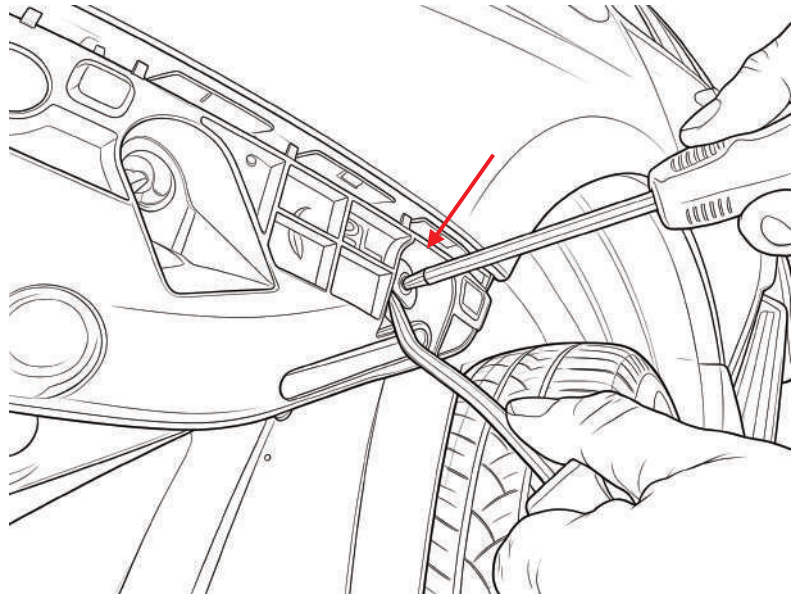
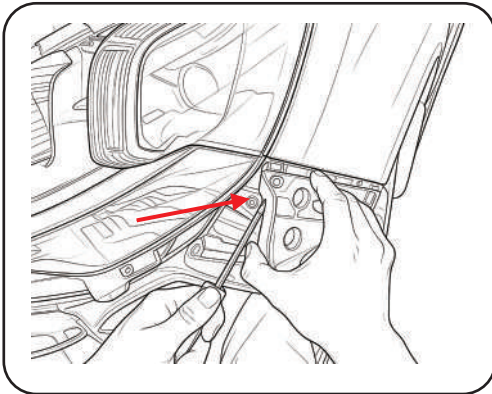
### STEP 11

- 1. Once bumper is removed set aside on soft non marking surface or panel stand.
- 2. Release the bumper from the grille by releasing all the clips along the bottom of grille with a trim tool.



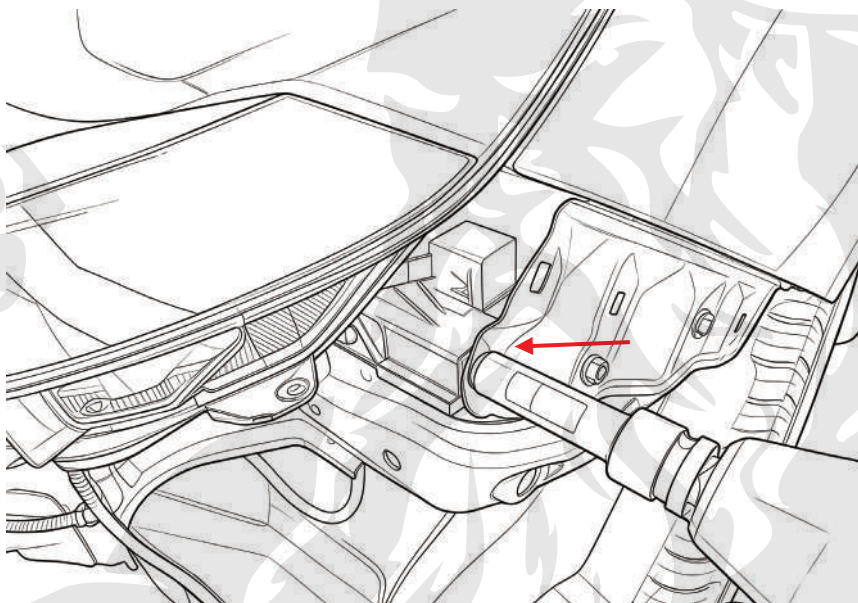
### STEP 12

- 1. Remove the front bumper support plastic fasteners using trim tool and Philips screwdriver to pry whilst loosening as shown.
- 2. Remove the forward bolt using 10mm socket.
- 3. Remove the bumper support using a trim tool.
- 4. Complete on both sides of the vehicle.



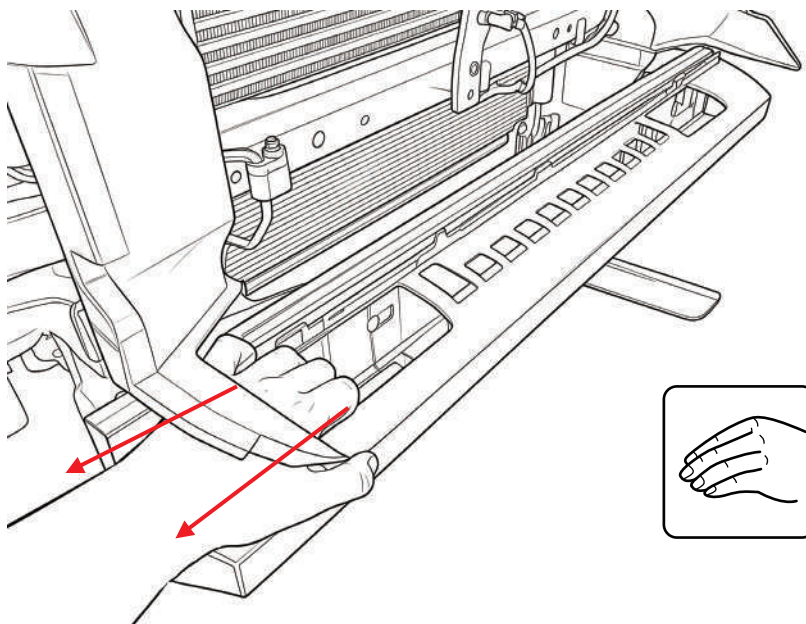
### STEP 13

- 1. Replace the forward bolt to re-secure the headlight to the wing.
- 2. Complete on both sides of the vehicle.



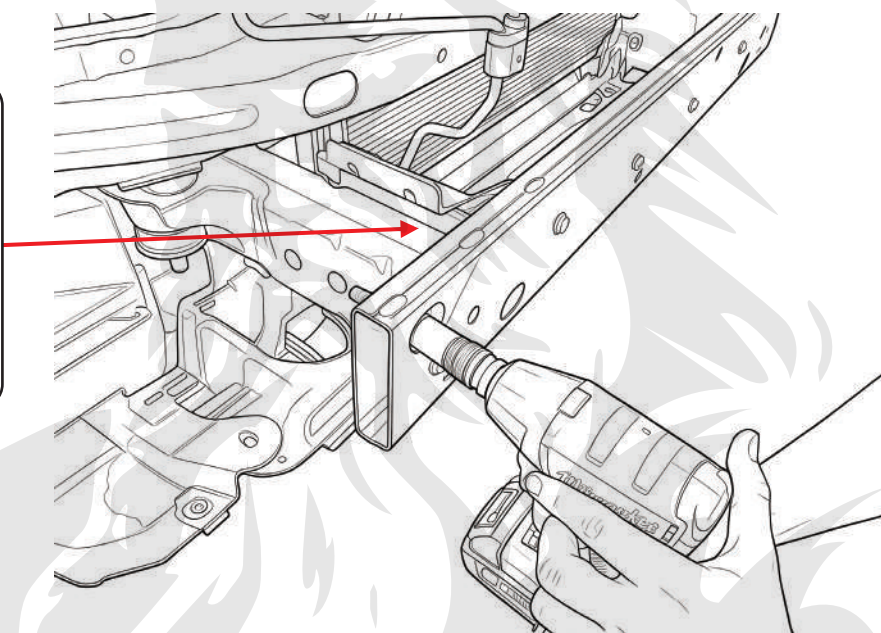
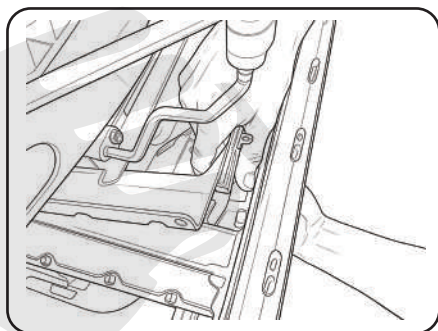
### STEP 14

- Remove the plastic cover from the impact beam by strongly pulling in the direction shown to release it from the clips.



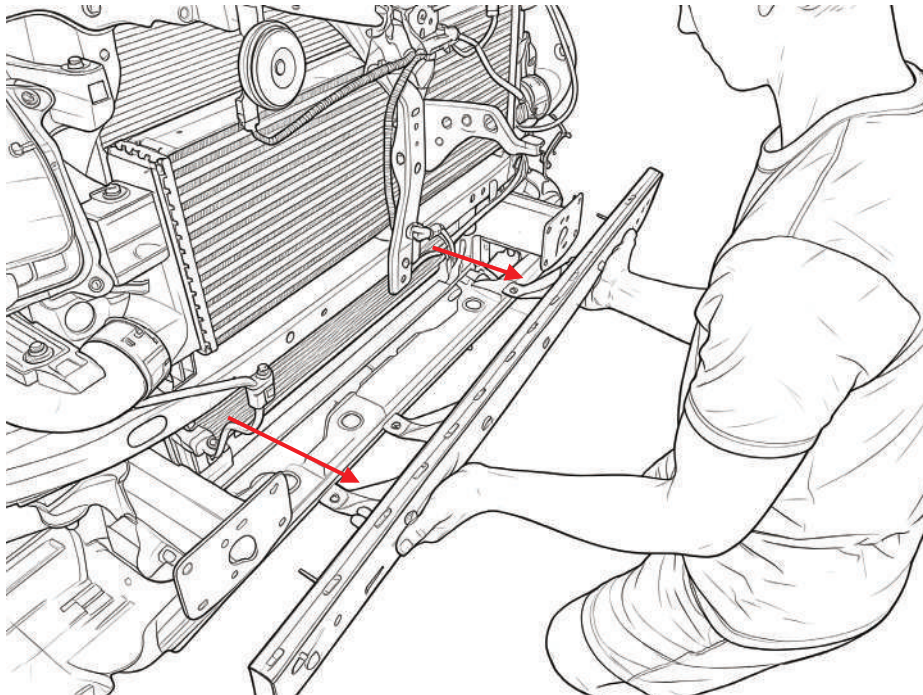
### STEP 15

- 1. Remove the impact beam by removing the 4x Factory flange bolts securing it to the chassis rail.  
2. Release plastic clips on behind the impact beam in the air guides.



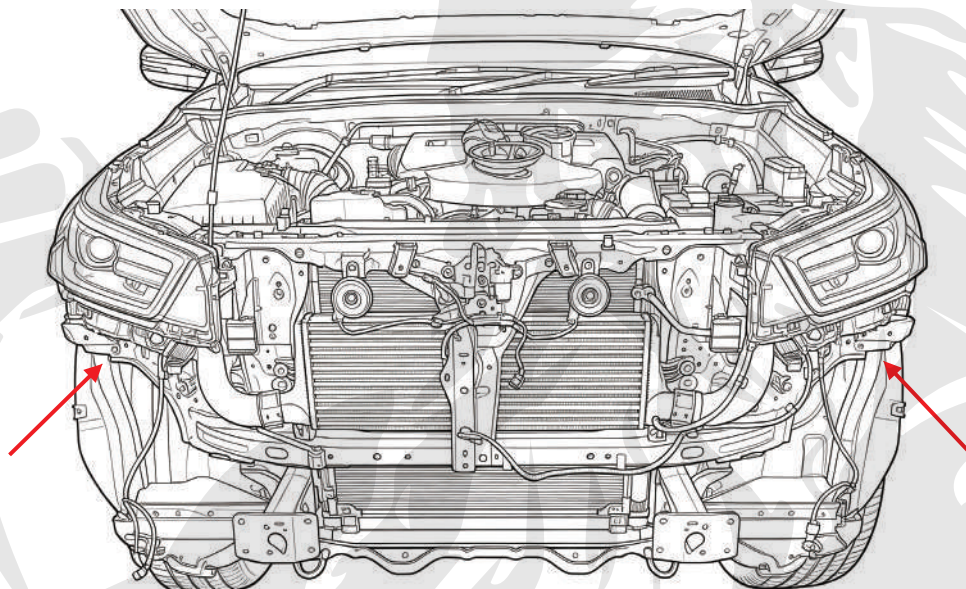
### STEP 16

- Take impact beam off car and discard.



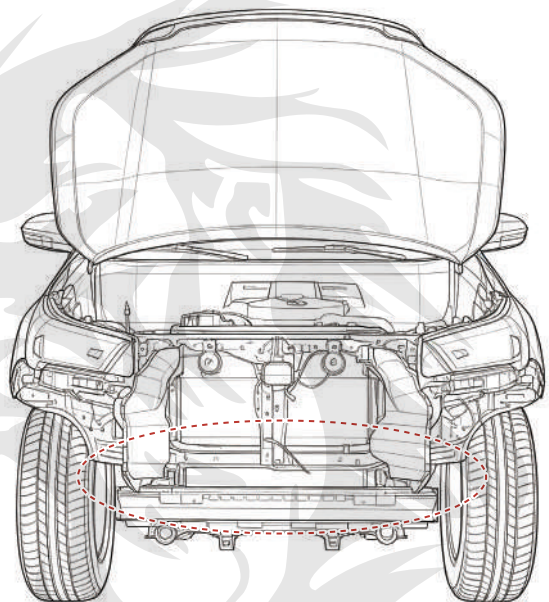
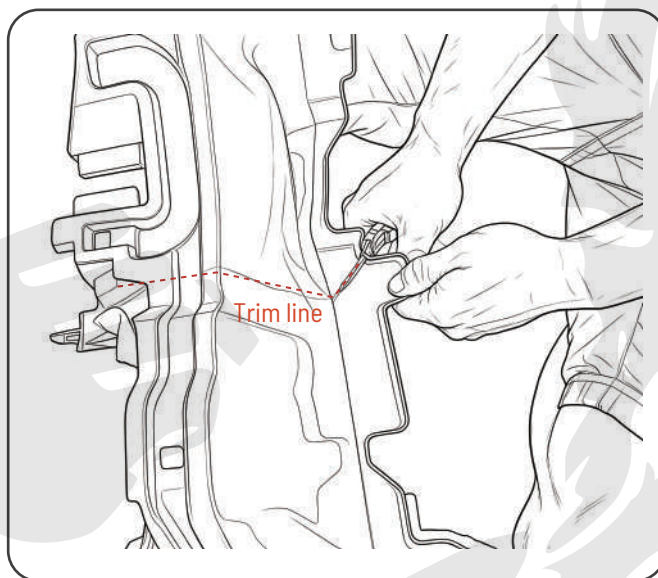
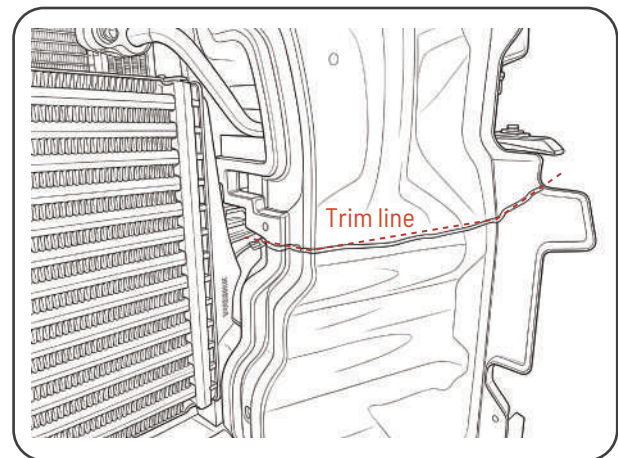
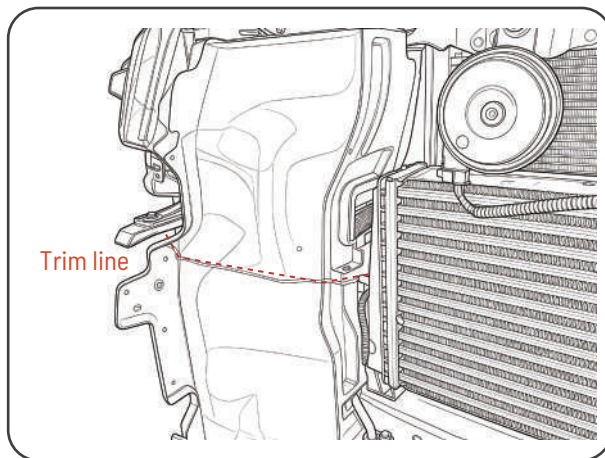
### STEP 17

- 1. Vehicle chassis rails should now be totally exposed as shown.  
2. For light colored vehicles it is a good idea to paint the exposed panels beneath the headlight black, to ensure neat appearance once bar is fitted.



## STEP 18

- 1. Mark air guide on Right hand side of vehicle as shown in the above image.
- 2. Remove air guide from vehicle by releasing the 3x clips holding it to the chassis.
- 3. Mark air guide on Left hand side of vehicle as shown in the above image.
- 4. Remove air guide from vehicle by releasing the 3x clips holding it to the chassis.
- 5. Trim the air guides along the lines marked, using a sharp utility knife or air hacksaw.
- 6. Re-Fit the top half of the air guides trimmed to the vehicle.

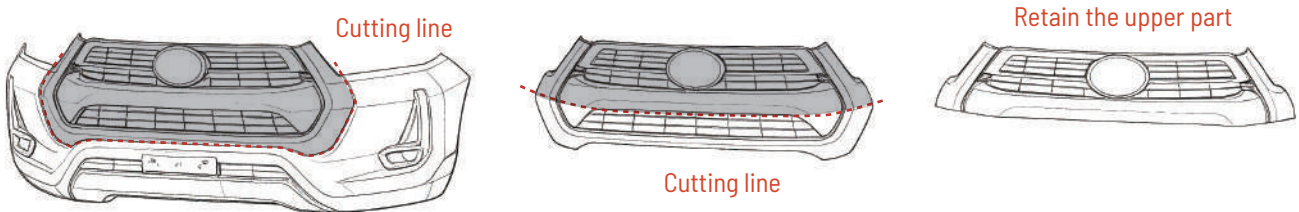


## 04 **DISASSEMBLY STEPS**

### STEP 19

- The grille and upper part of the original bumper are required and need trimming. Cut the middle section along the line directly below the main grille, removing the lower groove (see image). Use a pneumatic saw or similar tool to carefully trim the highlighted areas and discard the lower part. Remove and clean any burrs from the upper edges that need to be retained.

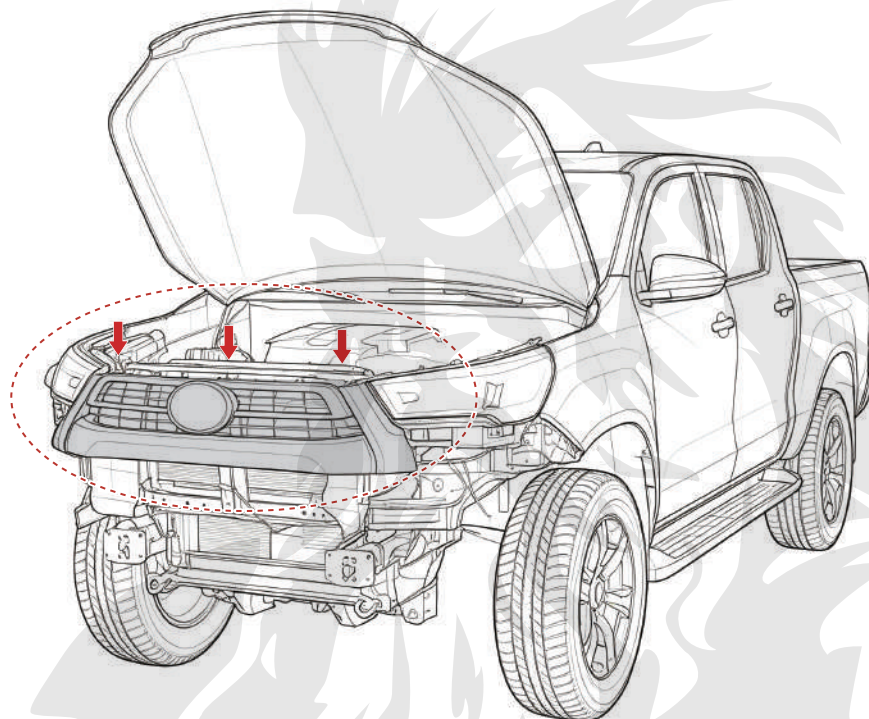
**Note:** Secure the center bracket in place as a reference for trimming. The strip cut may vary depending on the vehicle model.



### STEP 20



- The repaired bumper was reinstalled, the masking tape was removed, and the repaired sides and fenders were welded together.





## IMPORTANT NOTE:

To ensure the parking sensors function correctly, these instructions must be strictly followed.

- Before removing the sensors from the original bumper, note the position and orientation of each one so that their original placement can be replicated when installing the new bumper.
- Do not paint the parking sensors. These sensors are precision components of the vehicle's safety system; the central "eye" of the sensor is responsible for detecting objects within a specific range.
- While painting the sensors will not damage them, it can impair their ability to detect surrounding objects, leading to malfunctions or premature detection alerts. Parking sensors should ideally be painted only once, by the original equipment manufacturer (OEM).
- We strongly recommend against color-coding the parking sensors when installing the bumper, as an excessively thick layer of paint can interfere with the proper operation of the parking aid system.

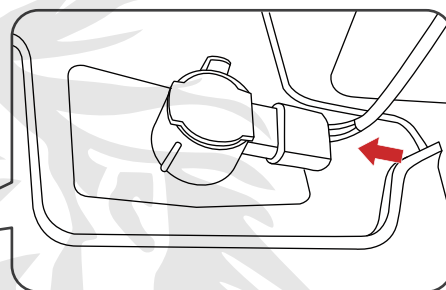
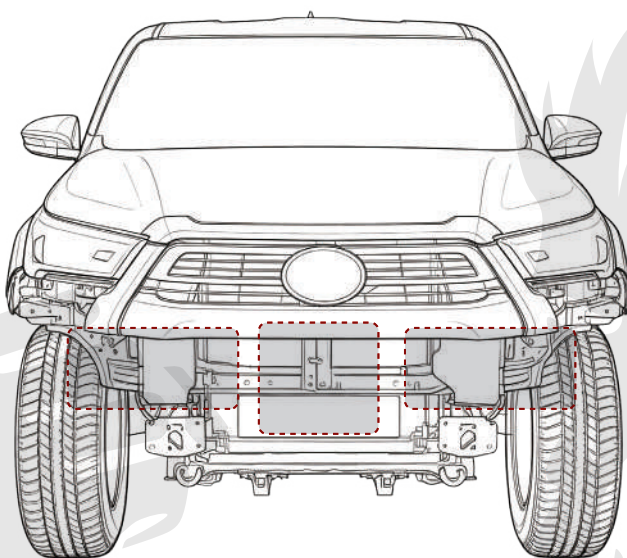
## STEP 1

- Disconnect the parking sensors from the previously removed original bumper, release the retaining clips, and carefully set the sensors aside for transfer to the impact bar.

1. Mark the position and orientation on the back of each front-side radar sensor.
2. Disconnect the wiring and carefully remove the three screws securing each sensor, then detach them from the factory bumper.
3. Carefully remove the radar sensors and set them aside for transfer to the new bumper.

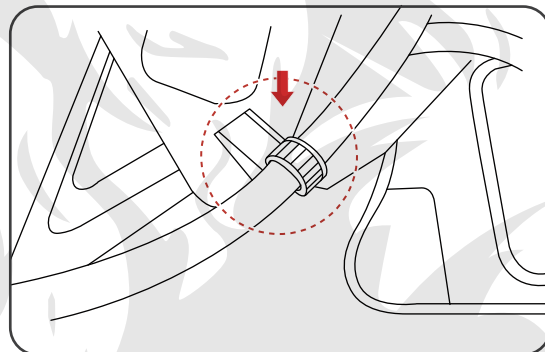
**Note:** Pay attention to the positional sequence and orientation of each sensor to ensure they are reinstalled in the bumper using the same configuration.

**Note:** Ensure the radar unit is not dropped, as this could cause damage or malfunction.



- 
1. Carefully remove the clips securing the original sensor and radar wiring harness to the lower part of the bumper, detaching the clips from the harness as you proceed.
  2. There is no need to detach or remove the wiring harness from the grille section; leave it attached and in place.

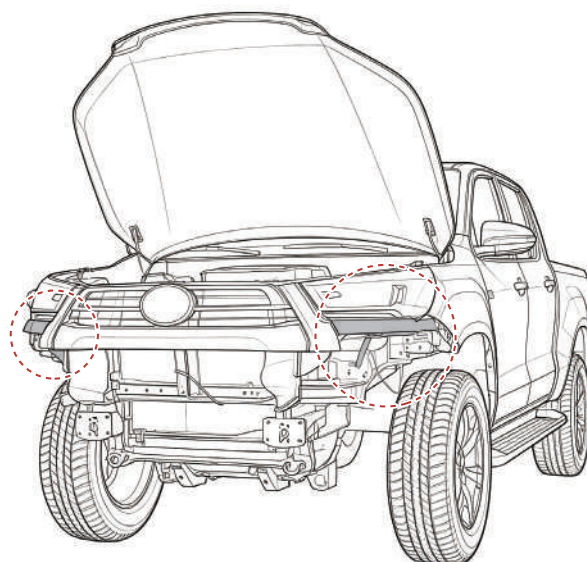
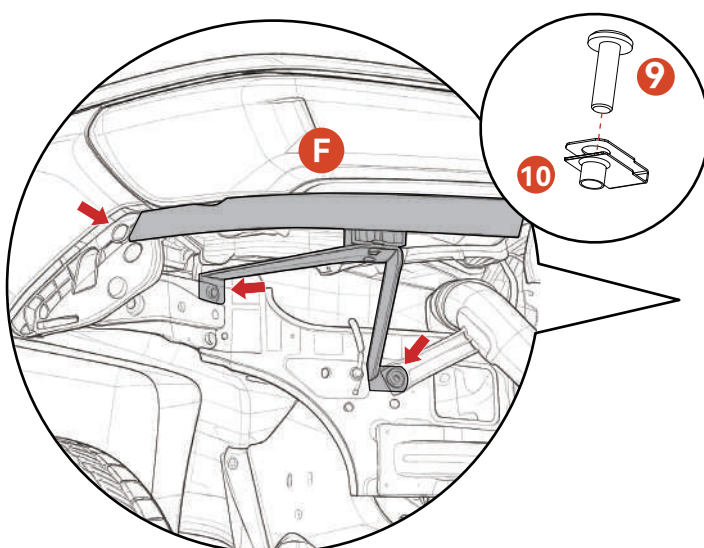
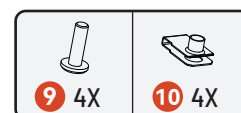
**Note:** Do not use force or pull, to avoid damaging the wiring harness.



# 05 INSTALLATION STEPS

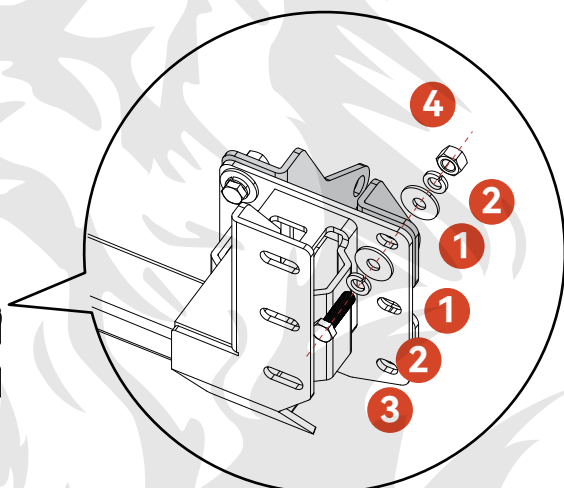
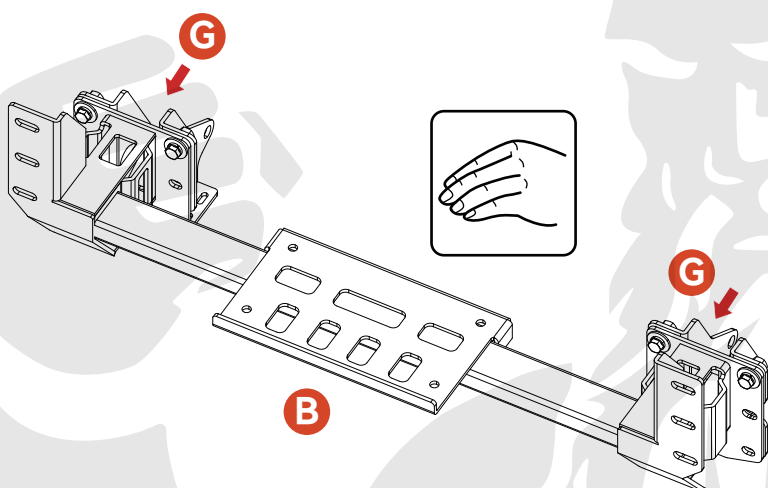
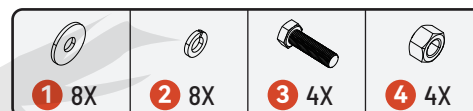
## STEP 2

- 1. First, use quick-release clips and nuts to connect the front bumper replacement parts, then install the entire assembly below the headlights.
2. Align the holes at the connection points and tighten them using the original car bolts.



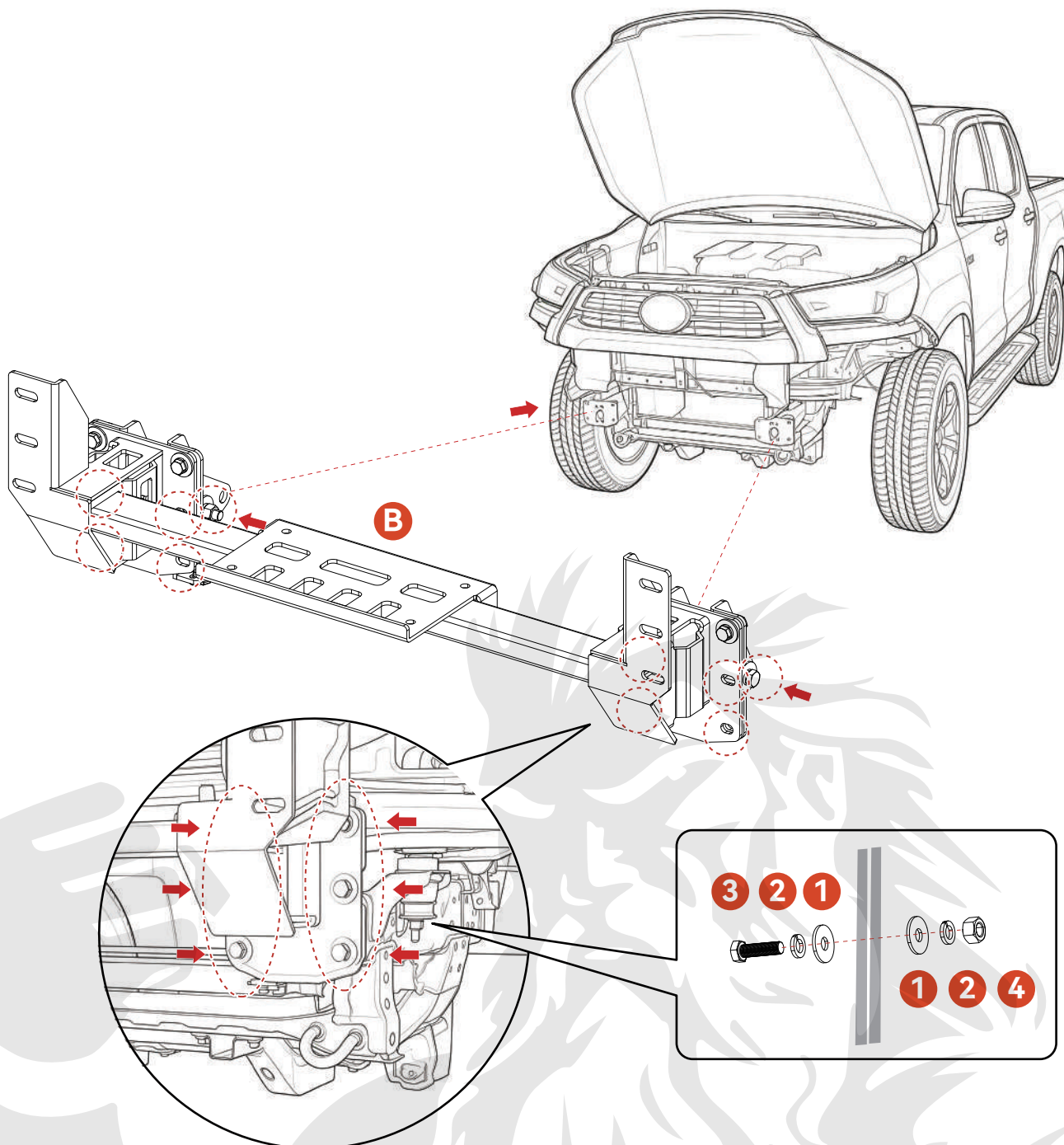
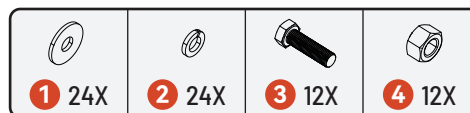
## STEP 3

- 1. First, install the beam head fixing bracket.
2. Align the holes at the connection points and secure them with M10x35mm hex bolts.



## STEP 4

- 1. Install the winch bracket, aligning it with the holes at the connection point to the frame.
2. Use M10x35mm hex head bolts to secure it in the lower corner holes.



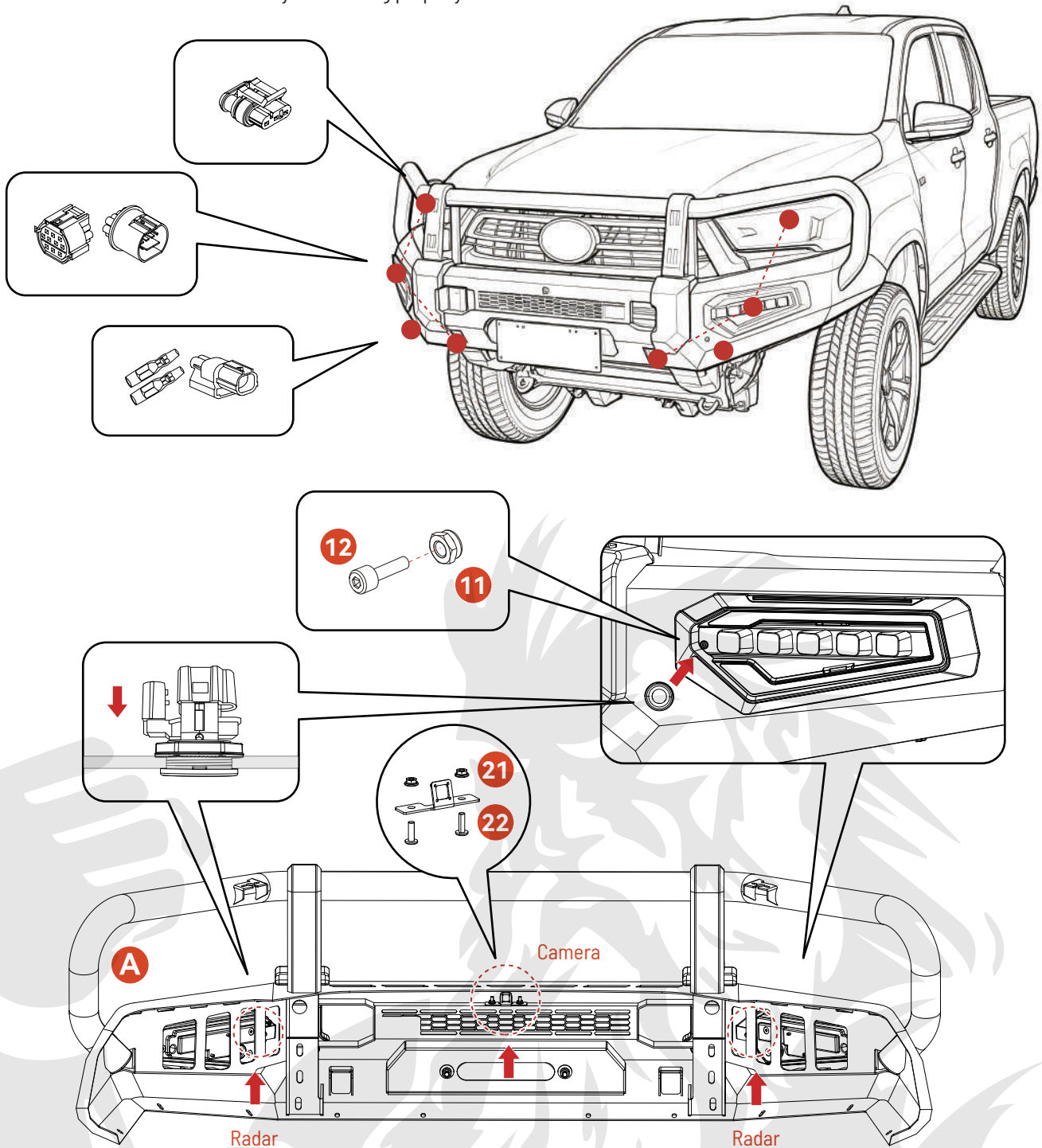
## 05 INSTALLATION STEPS



### STEP 5

|                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |
| 11 2X                                                                               | 12 2X                                                                               | 21 2X                                                                               | 22 2X                                                                               |

1. Install and secure the lights and wiring.
2. Install the camera bracket and tighten the screws.
3. The radar bracket is secured with nuts.
4. Use cable ties to secure all wiring and cables to the clips.
5. Test all functions to ensure they are working properly.



# 05 INSTALLATION STEPS

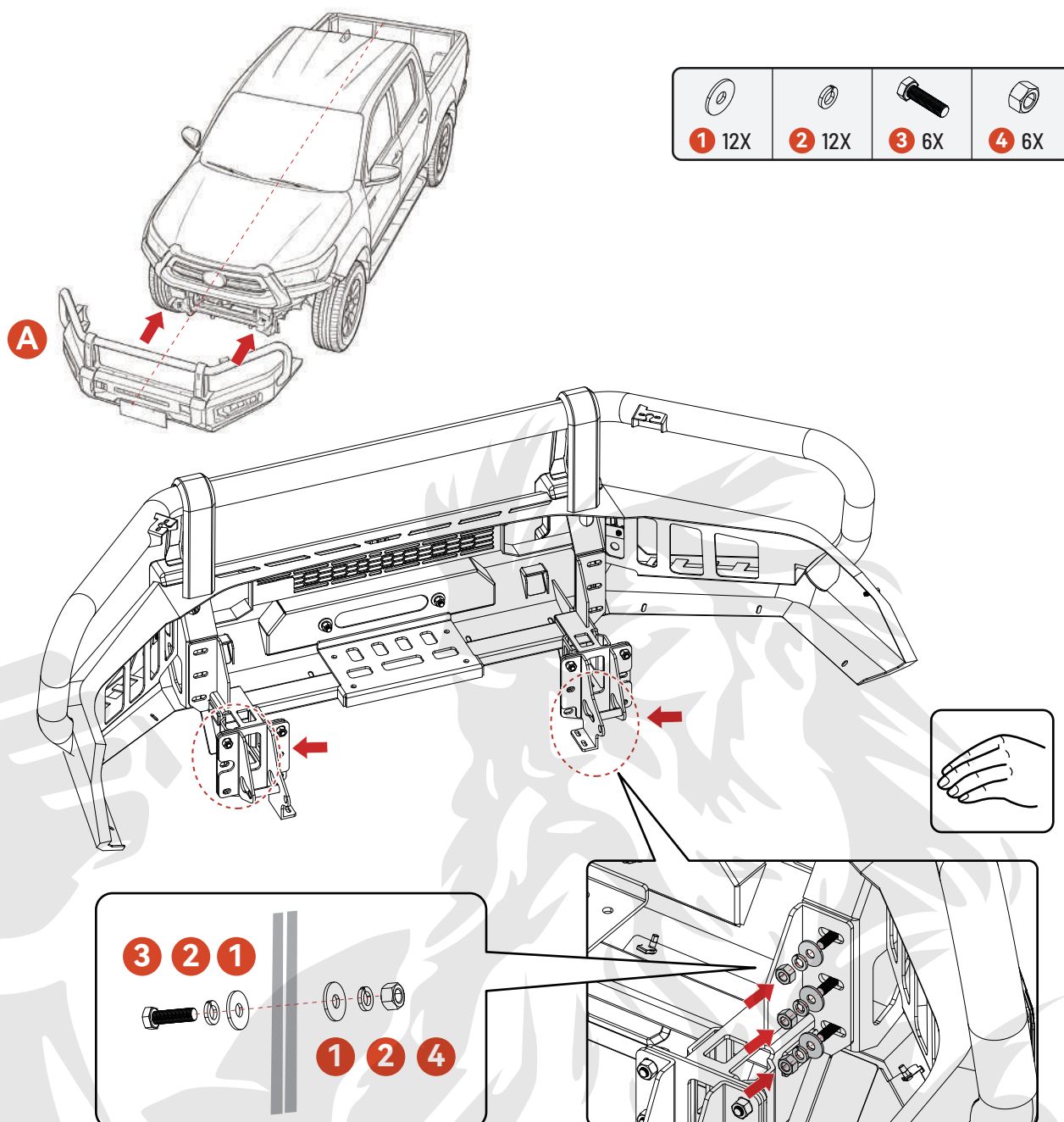
## STEP 6



- 1. Position the vehicle on the ground or a four-post crane. Raise the bumper to the correct position and align the side wing protection plates with the chassis mounting holes.
2. Use M10x35mm hex head bolts with full thread to secure the front bumper main weld assembly to the fenders and brackets.
3. Repeat the same steps on the other side.
4. Center the bumper to the vehicle body and lift the lower bolts on both sides to adjust it to the correct position.

**Note:** Leave approximately 25 mm of clearance between the bumper and the bumper wing. This is to allow for chassis flexibility and prevent the body panels from contacting the bumper.

**Warning:** Unless a bumper lift is used, it is recommended that two people work together to avoid personal injury or damage to the vehicle and/or its components.

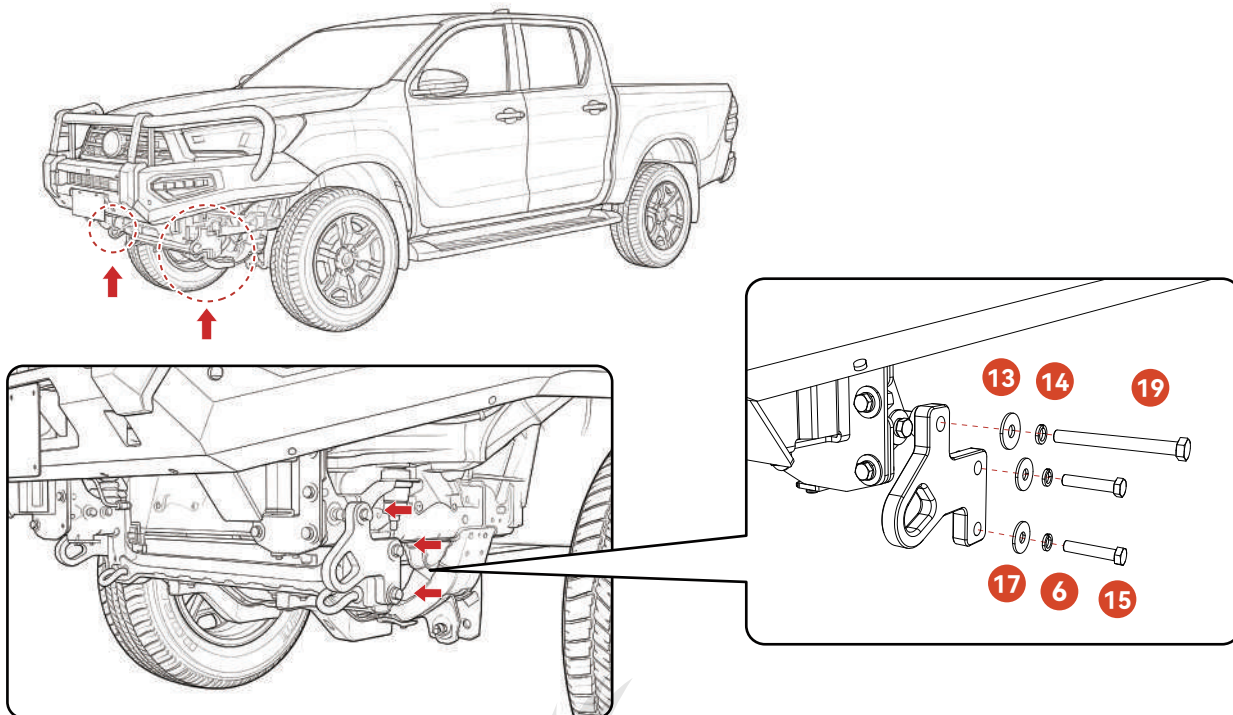


# 05 INSTALLATION STEPS

## STEP 7

|                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |  |  |
| <b>6</b> 4X                                                                       | <b>13</b> 2X                                                                      | <b>14</b> 4X                                                                        | <b>17</b> 2X                                                                        | <b>15</b> 4X                                                                        | <b>19</b> 2X                                                                        |

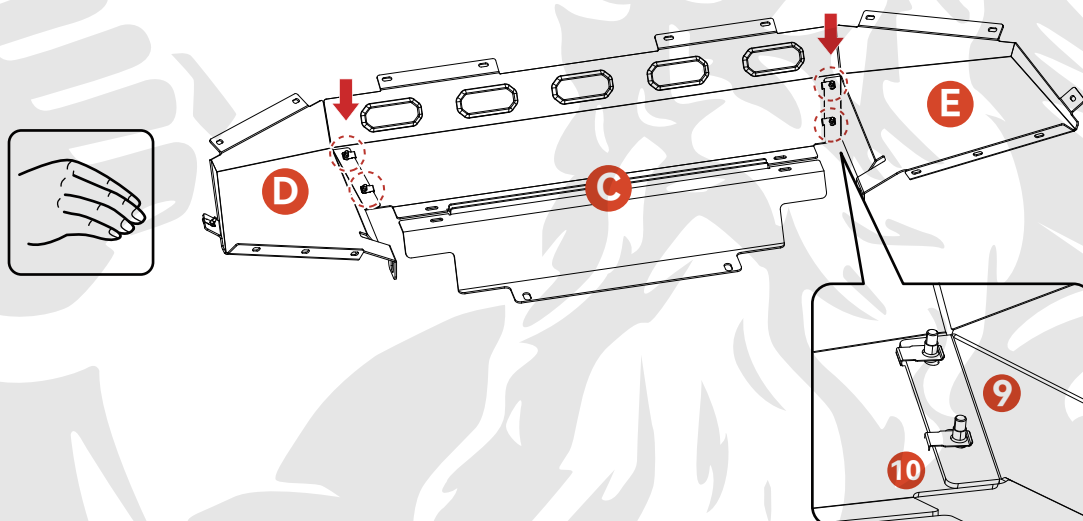
- 1. Install the trailer hitch, aligning the holes at the connection point.
- 2. Secure the bottom with washers and bolts.
- 3. Secure the side of the trailer hitch with M6x60mm and M12x120mm bolts and washers.



## STEP 8

|                                                                                       |                                                                                       |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |
| <b>9</b> 4X                                                                           | <b>10</b> 4X                                                                          |

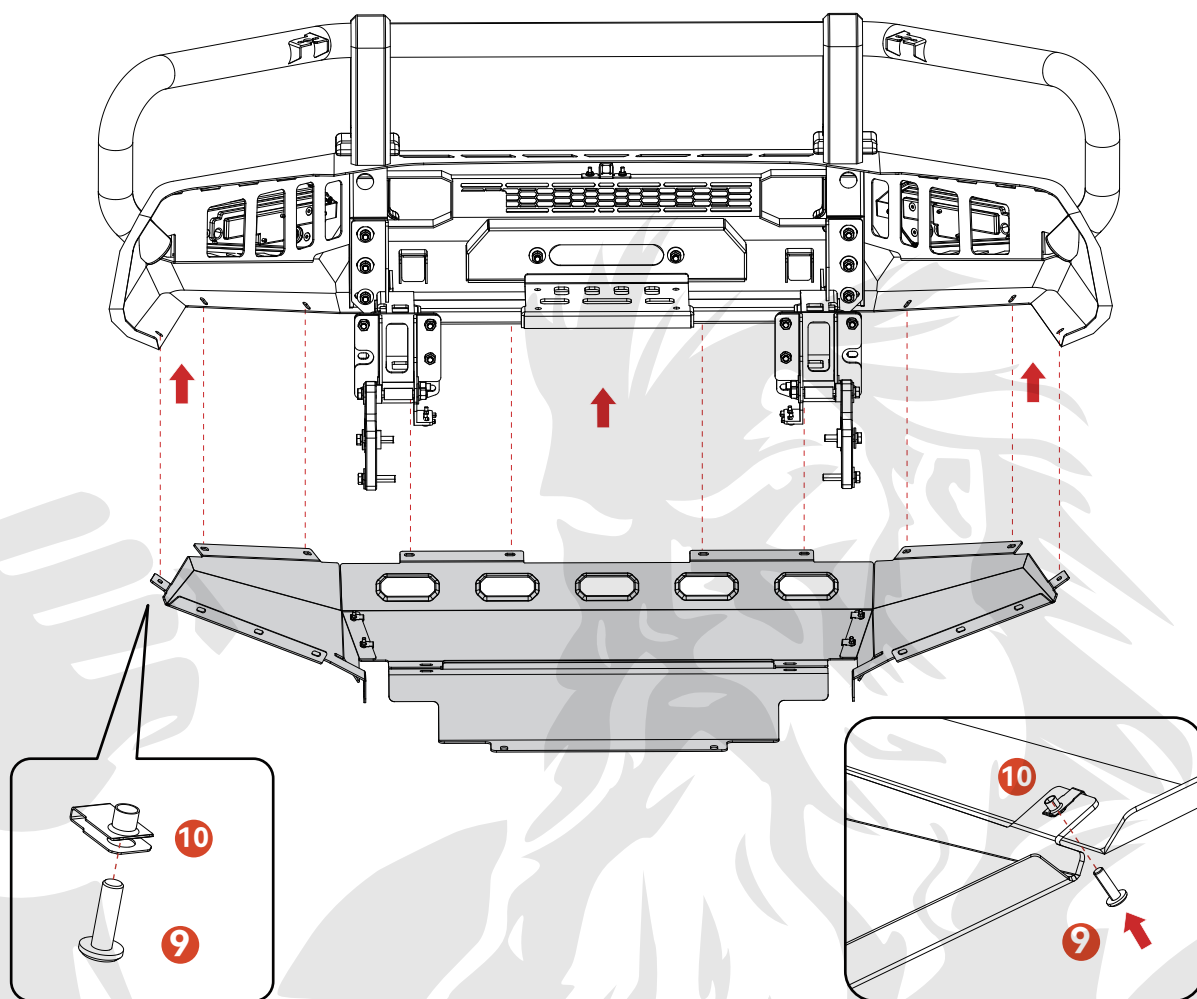
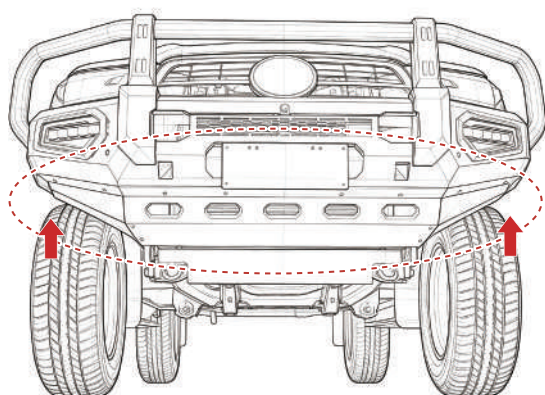
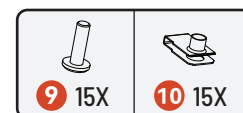
- 1. Install the protective plate, aligning the holes at the joints.
- 2. Secure the protective plate using M6x20mm bolts and clip nuts.



# 05 INSTALLATION STEPS

## STEP 9

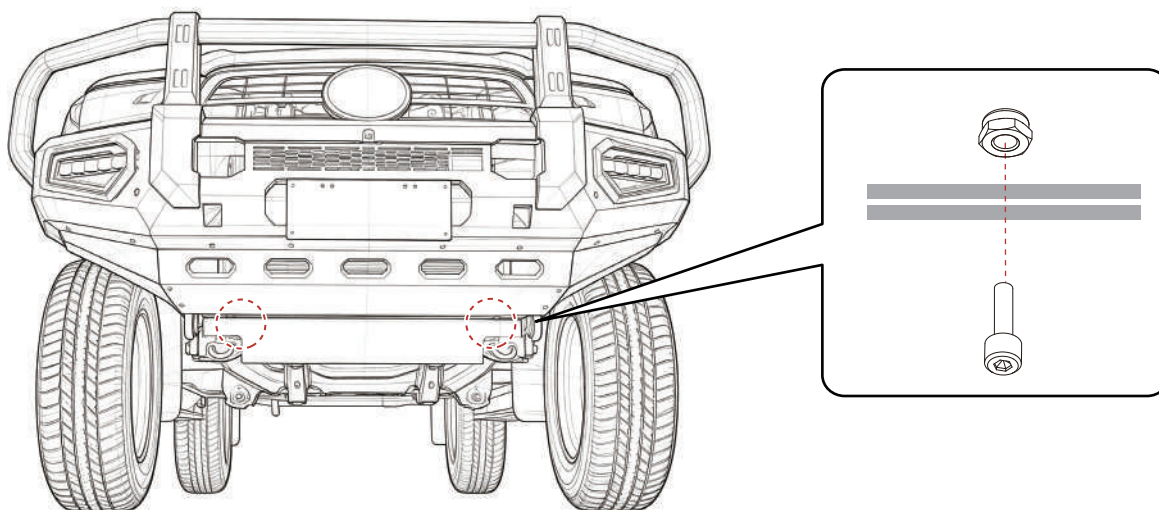
- 1. Install the skid plate, connect it to the bottom of the front bumper main assembly, and align the holes at the connection point.
- 2. Secure the skid plate using M6x20mm bolts and clip nuts.



## 05 INSTALLATION STEPS

### STEP 10

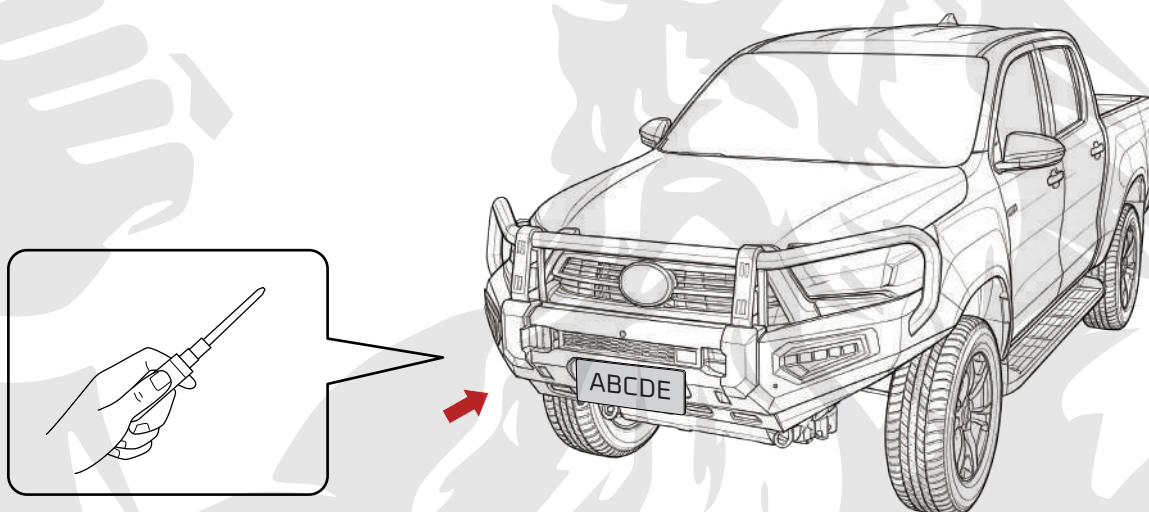
- 1. Align the mounting holes on the bottom of the skid plate and bumper.
- 2. Secure the bottom using the original vehicle's screws.



### STEP 11

- 1. Apply safety warning stickers to the left and right edges of the rescue point.
- 2. Apply safety warning stickers to the left and right edges of the rescue point.
- 3. Clean the recessed area for the badge.
- 4. Carefully attach the adhesive badge to the front of the crash bar.
- 5. Reinstall the license plate onto the flip bracket using the original bolts.

**Note:** Branding is important. Ensure the brand badge is placed straight and firmly attached to the surface of the bumper.



## ■ POST-ASSEMBLY INSPECTION



**Structural fastening inspection:** Confirm that the crash bar has been securely installed in the reserved holes on the main beam using the matching bolts, without any shaking or displacement.



**Bolt torque verification:** Use a torque wrench to verify that all bolts have reached the specified torque value (M12: 100-120 N.m, M14: 140-160 N.m) and that thread-locking adhesive has been applied.



**Wiring harness securely secured:** Check that all added wires are not exposed, do not come into contact with sharp edges, and are reliably secured with flame-retardant cable ties, and keep them away from high-temperature components such as exhaust pipes.



**Safety warning stickers:** Ensure that the ACC adaptive cruise control calibration reminder and rescue towing point marking stickers have been affixed as required to prevent damage caused by accidental operation by others.



**Lighting function test:** Check in sequence whether the turn signals, brake lights, side marker lights, and added fog lights/strip lights illuminate normally without flickering or error messages.



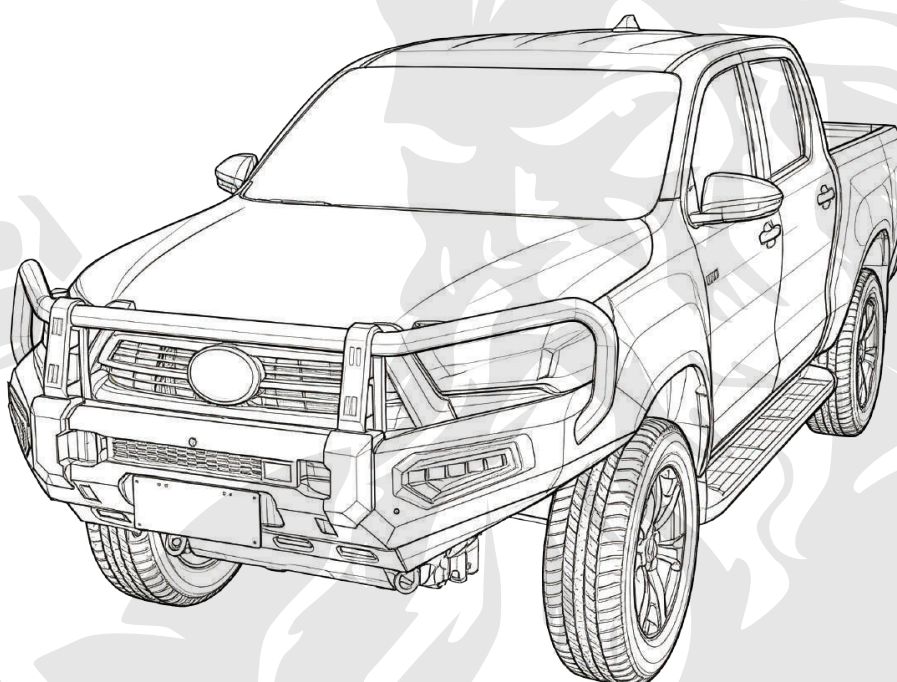
**Sensor function verification:** Test the working status of the reversing radar, parking sensor, and 360-degree panoramic front camera (if any) to confirm that there are no continuous false alarms and that the images are not obstructed or distorted.

## ■ MAINTENANCE RECOMMENDATIONS

- **Pre-departure inspection routine:** Before each long-distance or off-road trip, visually inspect the bullbar for any obvious deformation or cracks, and check if the bolt markings are misaligned.
- **Regular tightening and maintenance:** It is recommended to perform a full inspection every 10,000 kilometers (approximately 6,200 miles) and tighten all connecting bolts with a torque wrench.
- **Post-off-road inspection:** After heavy off-roading or a collision, immediately check whether the connection between the bar and the frame is deformed, whether the bolts are loose, and whether the sensors have shifted.
- **Rust prevention and cleaning:** Regularly clean the mud, sand and salt accumulated inside the bar body (especially in the de-icing agent area in winter), check the welds and bolts for rust, and spray rust inhibitor if necessary.



| SYMPTOM                                                                                        | POSSIBLE CAUSE                                                                                                                   | SOLUTION                                                                                                                                                 |
|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| ACC adaptive cruise control unavailable or forward collision warning error                     | The front bullbar may have obstructed the millimeter-wave radar, or the radar bracket may have deformed, causing an angle shift. | Inspect and remove any obstructions; replace any deformed brackets; and take the radar to an automotive service center for recalibration.                |
| The front parking radar continues to issue false alarms (alarms even when there is no object). | The gap between the radar probe and the bullbar is too small (less than 15mm), or the probe is installed at an off-center angle. | Increase the gap between the probe and the bullbar, and adjust the probe angle to the original vehicle orientation.                                      |
| The active grille cannot open or close properly.                                               | The grille linkage mechanism was squeezed or bumped during installation, or the wiring harness was compressed by the bracket.    | Check if the grid blades move freely, restore the wiring harness connection, and adjust the bracket to avoid interference.                               |
| Front fog lights or added strip lights not working, flashing, or displaying error messages     | Power supply and wiring issues or compatibility problems.                                                                        | The battery was used to draw power independently, and a relay and fuse were added. The grounding point was re-polished, and a decoding harness was used. |
| metallic noises or resonance from the front of the vehicle while driving                       | The connecting bolts are loose, or the bar body interferes with the chassis guard plate and water tank frame.                    | Use a torque wrench to tighten all bolts, check for interference points and grind or add buffer shims.                                                   |



# BUMPERS



THANKS FOR YOUR PURCHASE

PLEASE LET US KNOW IF YOU HAVE ANY QUESTIONS