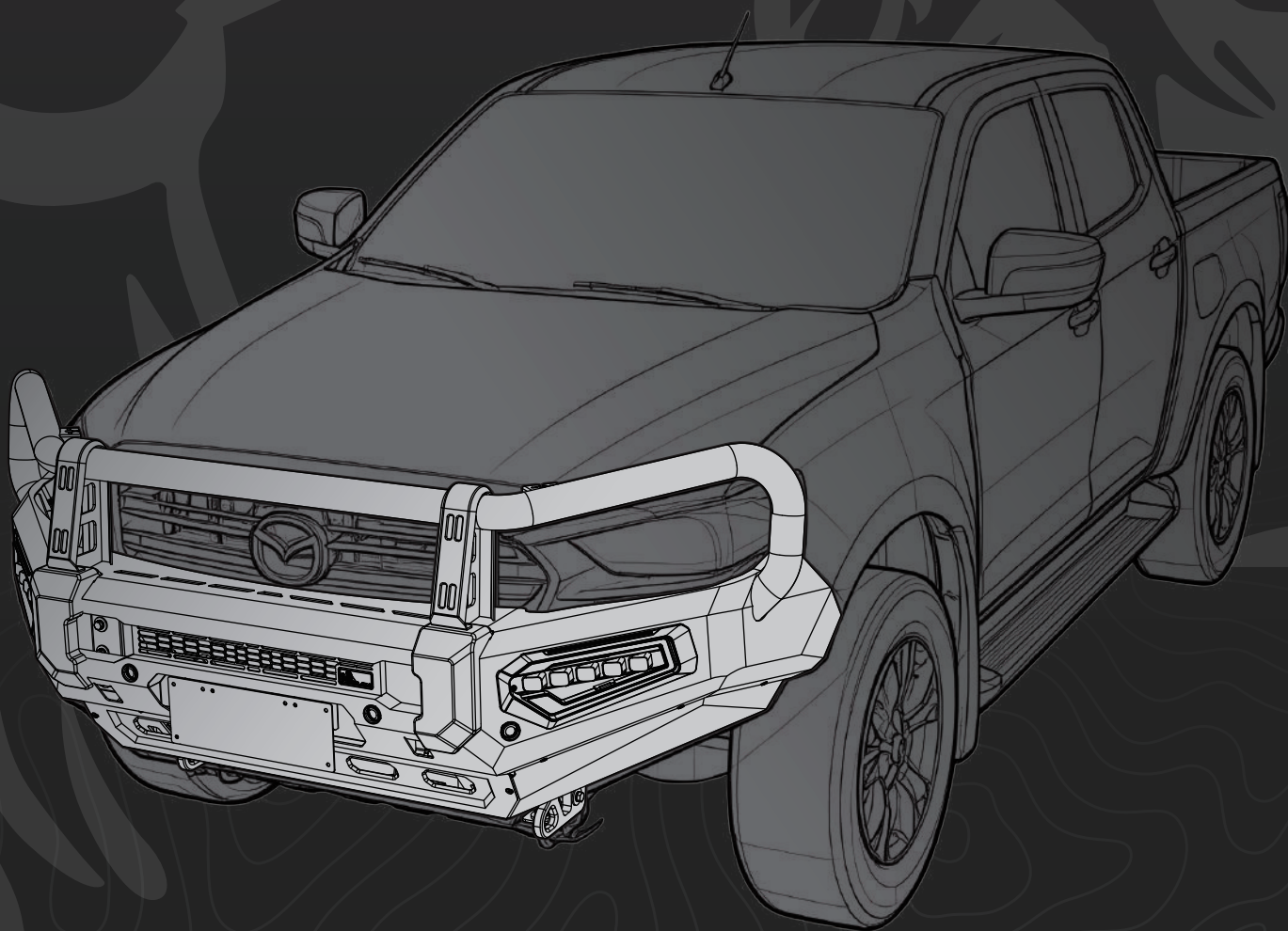




FRONT BULLBAR FOR MAZDA BT-50

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

01	INSTALLATION & SAFETY PRECAUTIONS	01
02	INSTALLATION TOOLS	02
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06	INSPECTION AND MAINTENANCE	30
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■ 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

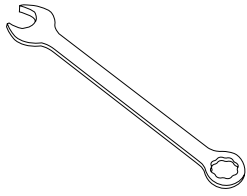
- All fasteners must be tightened using a calibrated torque wrench to the torque value specified in the manual, ensuring tightening accuracy.
- The final tightening process must not be performed using impact drills or power tools to prevent over-tightening and damage to components.
- Over-tightening 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

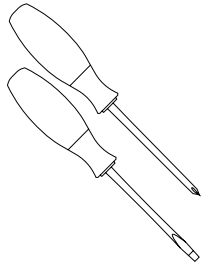
- Verify that all fasteners are tightened to the specified torque, with no loosening or stripping. Pay special attention to critical connections for M6 and M8 fasteners.
- Inspect all seals to ensure they are intact, continuous, without warping, and with tight gaps.
- Functional retest: Reconnect power, 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

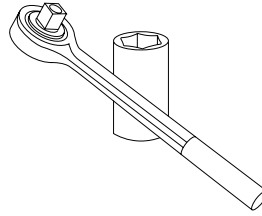
- The manufacturer accepts no liability for damage, injury, or loss resulting from installation, use, or maintenance not carried out in accordance with this manual.



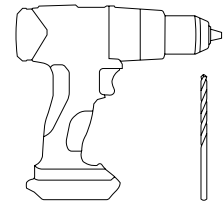
Metric wrench set



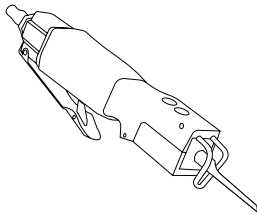
Screwdriver set



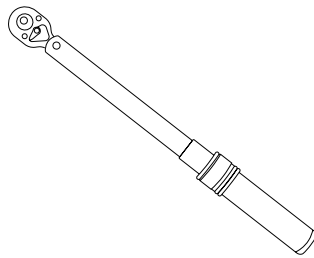
Metric sleeve assembly



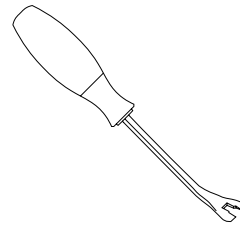
Drill and Drill Bits



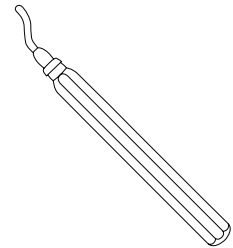
Air Hacksaw



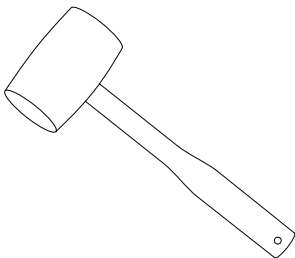
Torque Wrench



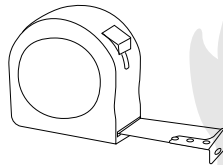
Clip Remover



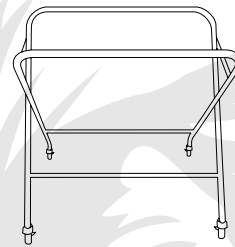
Deburring Tool



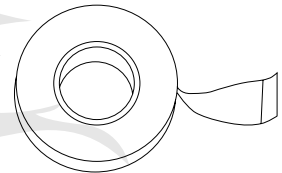
Rubber Mallet



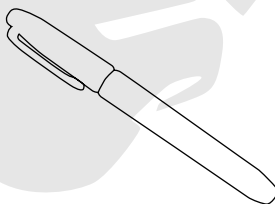
Tape Measure



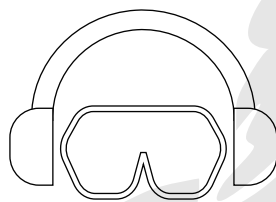
Bullbar Support Stand



Masking Tape

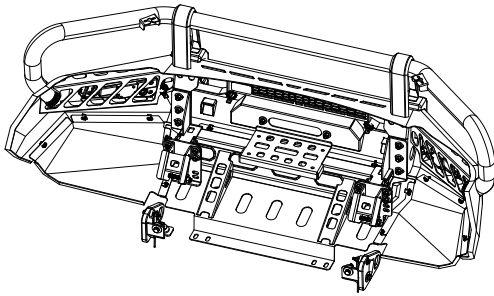


Marker and Paint Pens

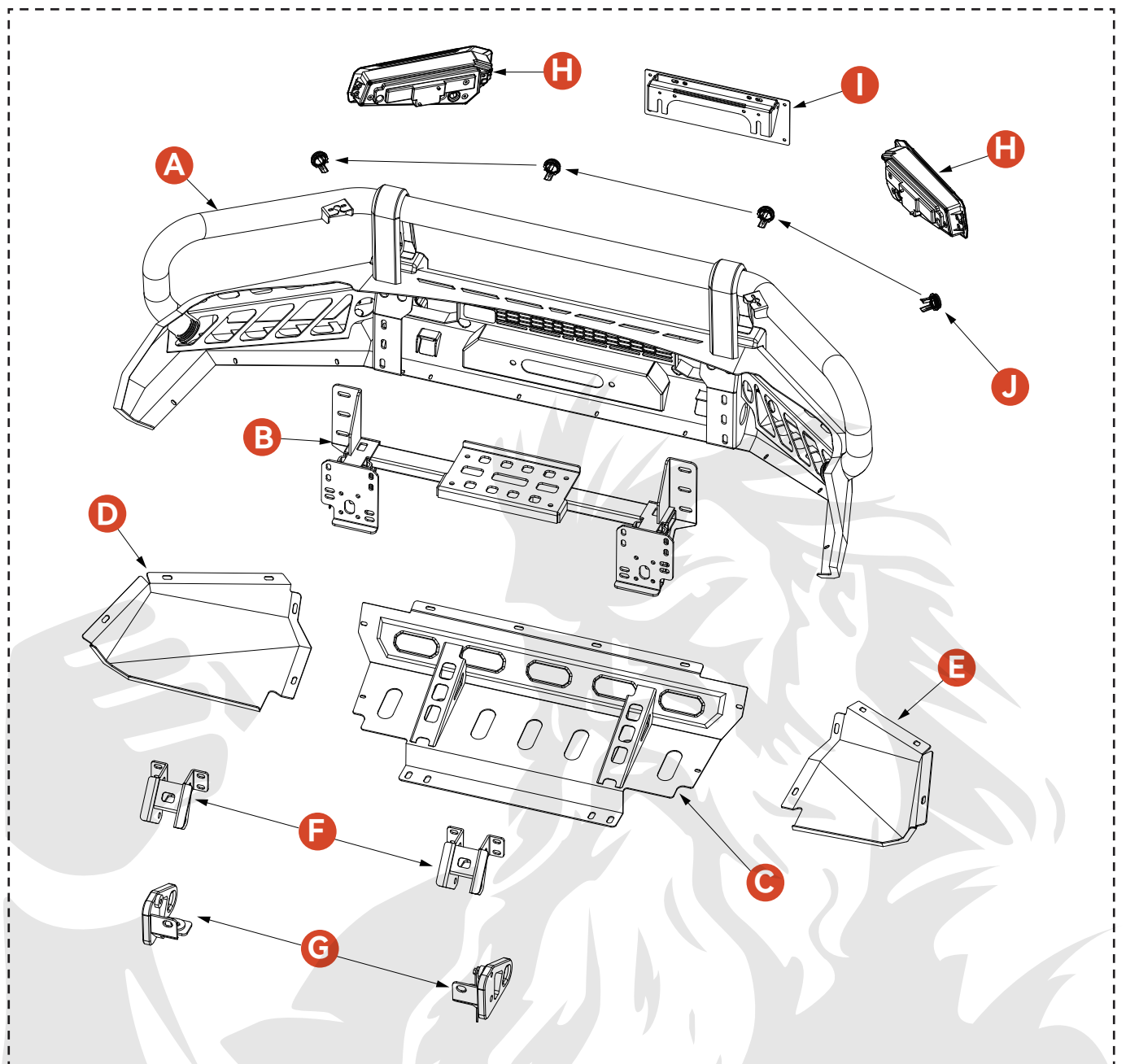


Personal Protective Equipment

■ PARTS 1



NO.	Part name	NO.	Part name
A.	Front bullbar main welded assembly	F.	Beam head reinforcement
B.	Winch bracket	G.	Tow hook
C.	Guard Plate - Middle	H.	Lighting modules
D.	Guard Plate - Right Side	I.	License plate base
E.	Guard Plate - Left Side	J.	Radar bracket



■ PARTS 2

● Trailer hook and winch bracket

1

Large Washer
8mm



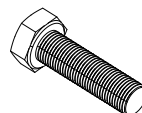
2

Spring Washer
8mm



3

Hex head bolts
M8X60-S



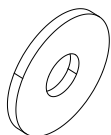
4

Hex nuts
M8-N



5

Large Washer
12X30mm



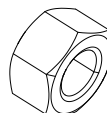
6

Spring Washer
12mm



7

Hex nuts
M12-N



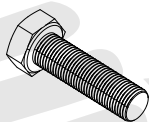
8

Hex nuts
M10-N



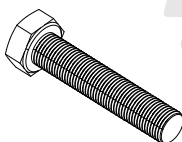
9

Hex head bolts
M12X40-S



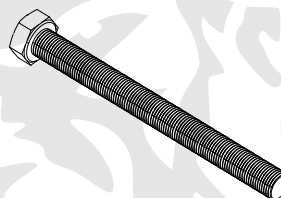
10

Hex head bolts
M12X60-S



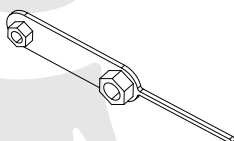
11

Hex head bolts
M12X100



12

Nut plate



■ PARTS 2

● Front bumper body fixed

13

Large Washer
10mm



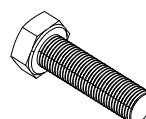
14

Spring Washer
10mm



15

六角头螺栓全螺纹
M10X35-S



● Lighting installation

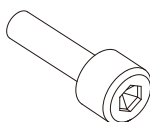
16

Hexagonal flange nut
M5-N



17

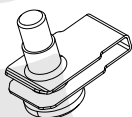
Hex socket head cap screws
M5X25-S



● Protective plate installation

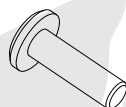
18

Protective plate screws,
nuts and fasteners
M6



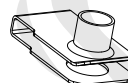
19

Pan head socket screws
M6X20



20

M6 Standard Quick Clip Nut
M6



21

Flat washers, Class A
8mm



STEP 1

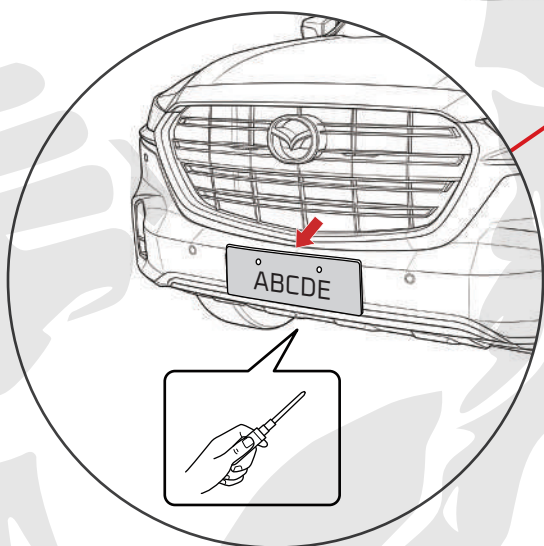
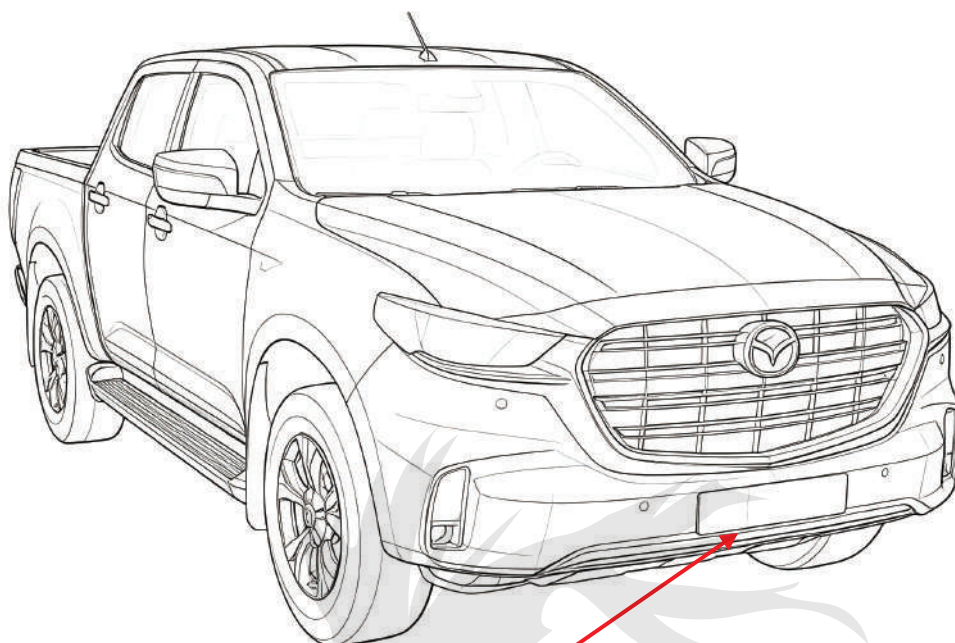
⚠ WARNING:

Do not attempt to turn on and move the vehicle while the radars, sensors and camera are disconnected. Do not drop or impact any of these parts. Failure to do so may cause sensor malfunction that can only be rectified by Mazda.

HIGH VOLTAGE WARNING:

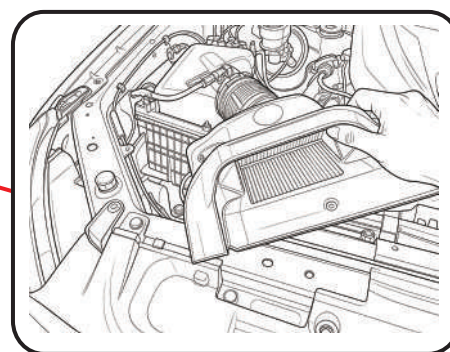
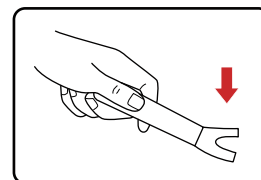
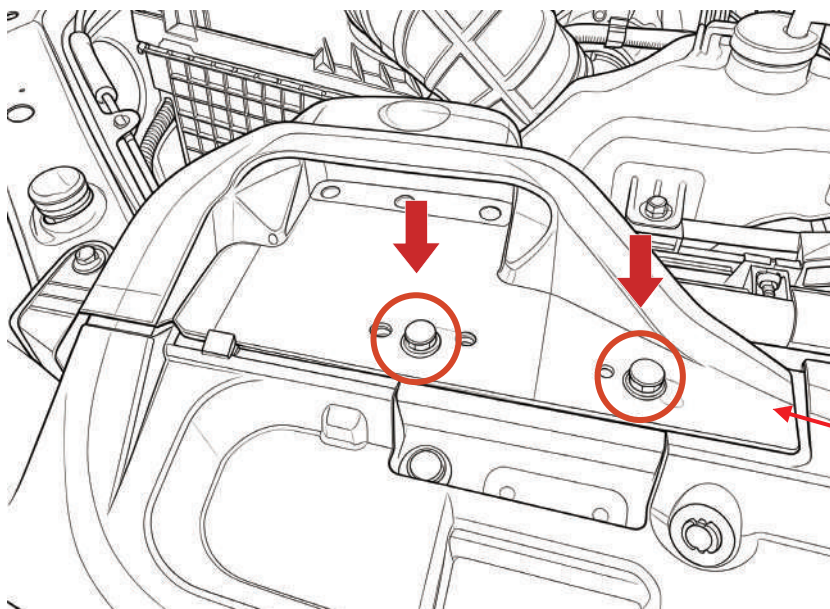
This vehicle has a high voltage (HV) system. When working in the engine bay for installing accessories, do not touch any of the orange coloured HV components or cabling. Electric shock may cause serious or even life threatening injuries.

- 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.



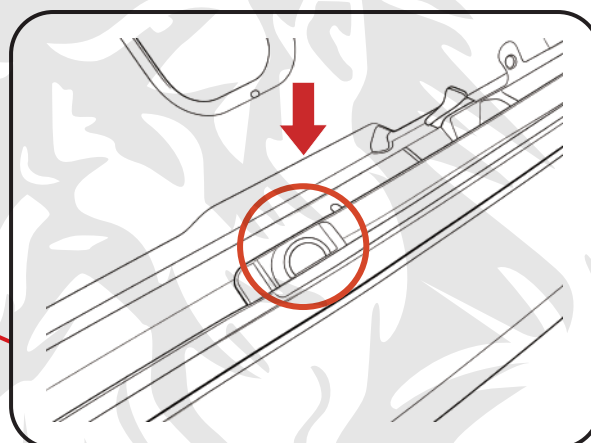
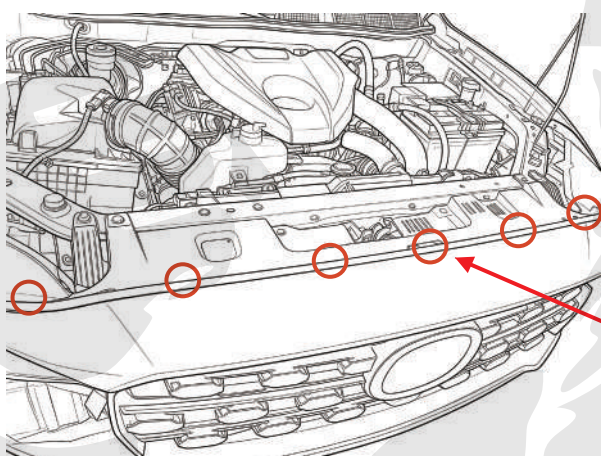
STEP 2

- 1. Open the bonnet.
- 2. Remove 2x plastic push clips holding the factory air intake scoop. To remove each push clip, lever the centre section upwards using a flat blade screwdriver or trim tool, as shown. Retain these clips.
- 3. Remove the factory air intake scoop and set aside. Take care not to drop anything into the intake.



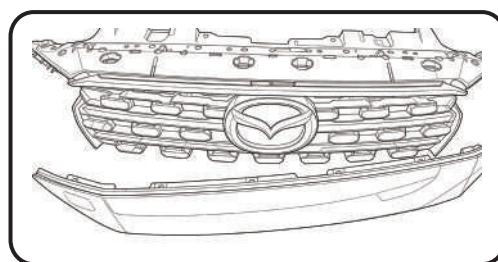
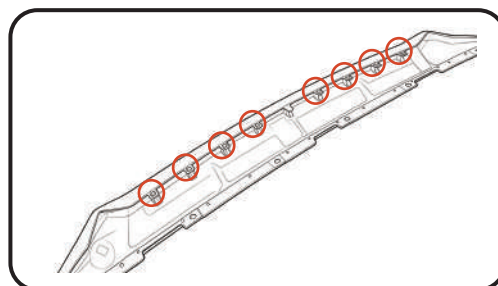
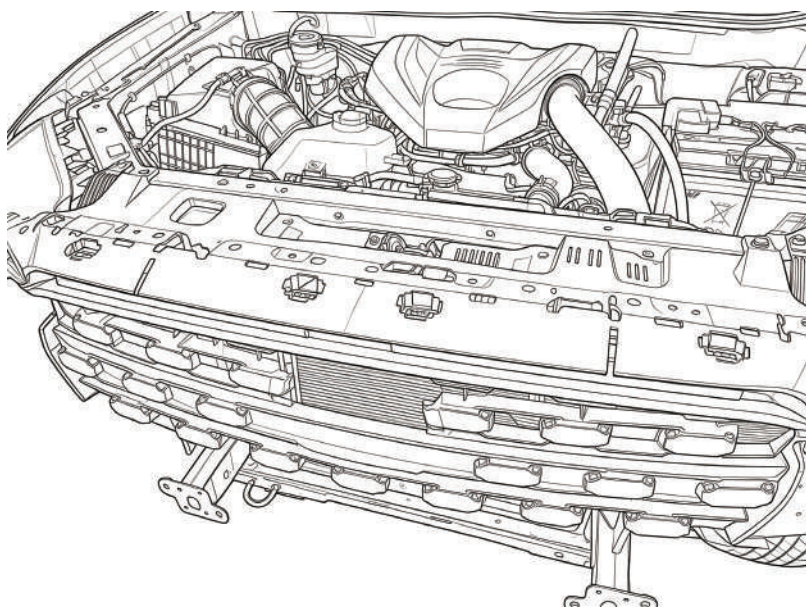
STEP 3

- Remove 6x plastic push clips holding the upper grille lip. Move rubber seal aside to access.



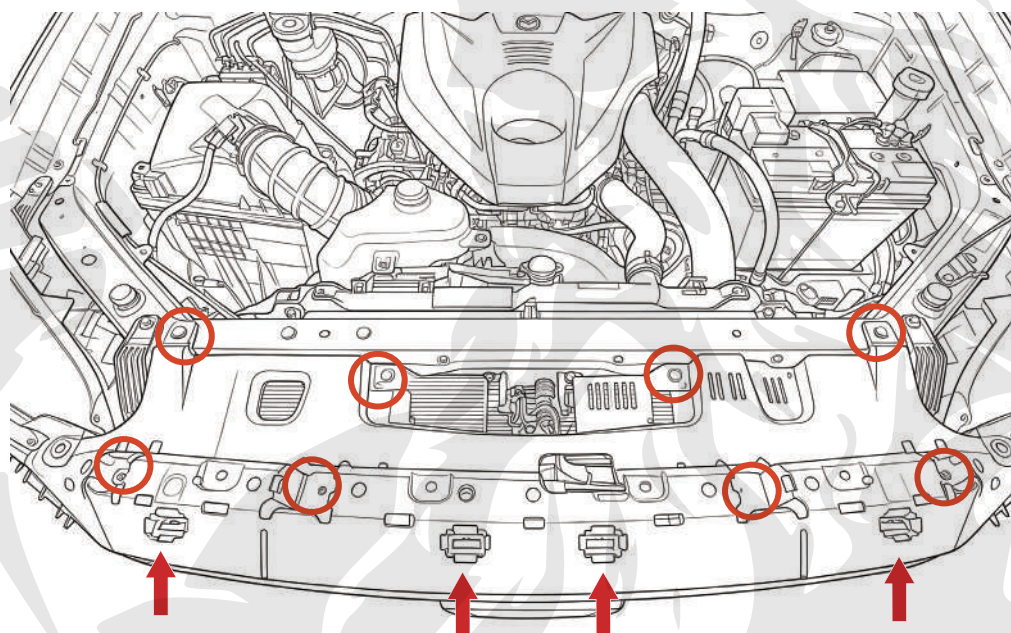
STEP 4

- Pull forwards and release 8x tabs holding grille lip to grille. Set grille lip aside.



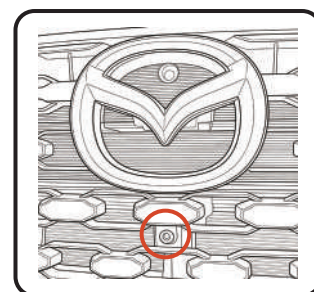
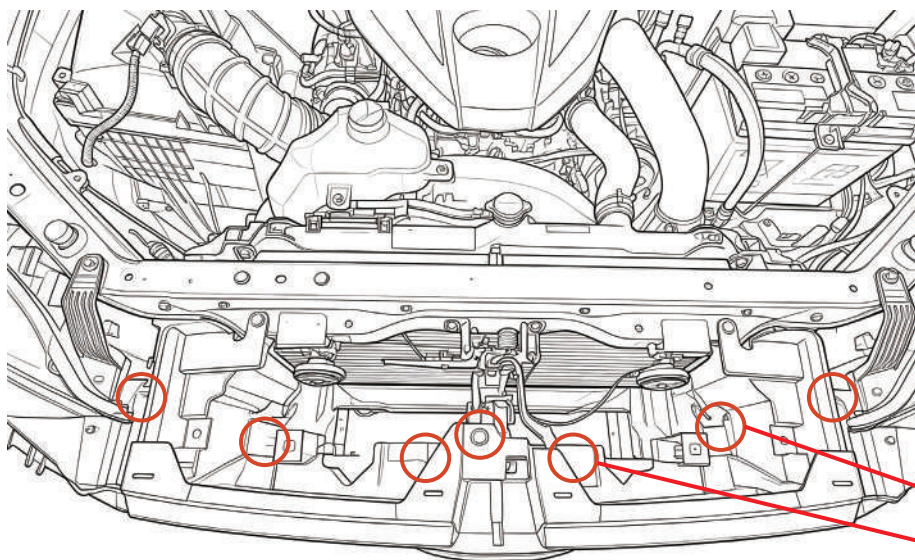
STEP 5

- 1. Remove 4x plastic push clips holding the rear of the radiator grille cover. Retain these clips.
- 2. Remove 4x Phillips head screws holding the front of the radiator grille cover. Retain these screws.
- 3. Use a flat blade screwdriver to release the 4x tabs (see arrows) holding the radiator grille cover down.
- 4. Pull upwards and remove the radiator grille cover. Set aside for later.

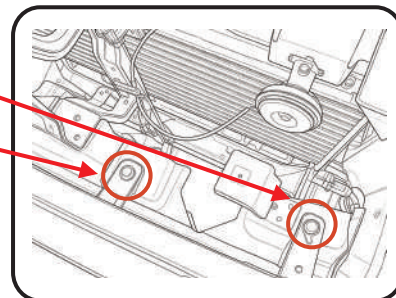


STEP 6

- 1. Remove 7x plastic push clips holding the grille. There are 3x clips on the top edge, and 4x clips on the cross member on the inside of the grille (see insert photo).
- 2. If a front 360 degree camera is equipped, reach behind the grille from above and unplug it.

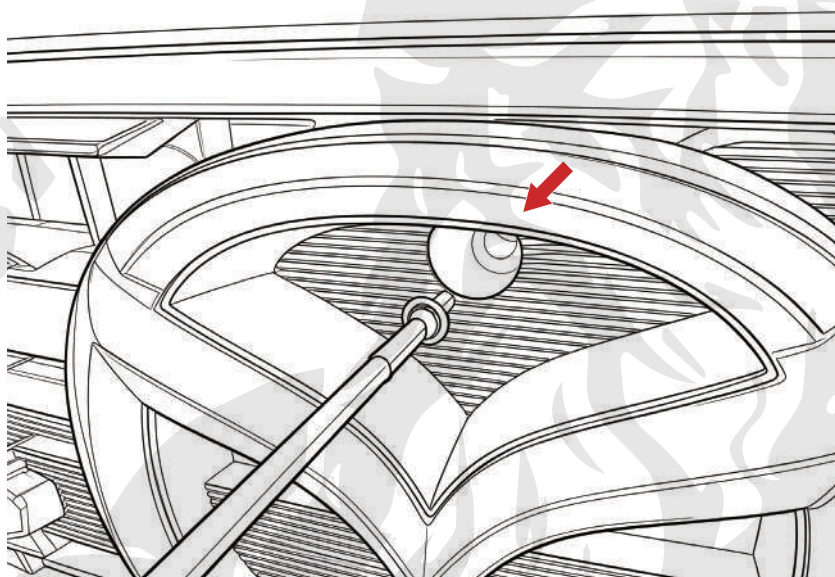


If camera is equipped, unplug it



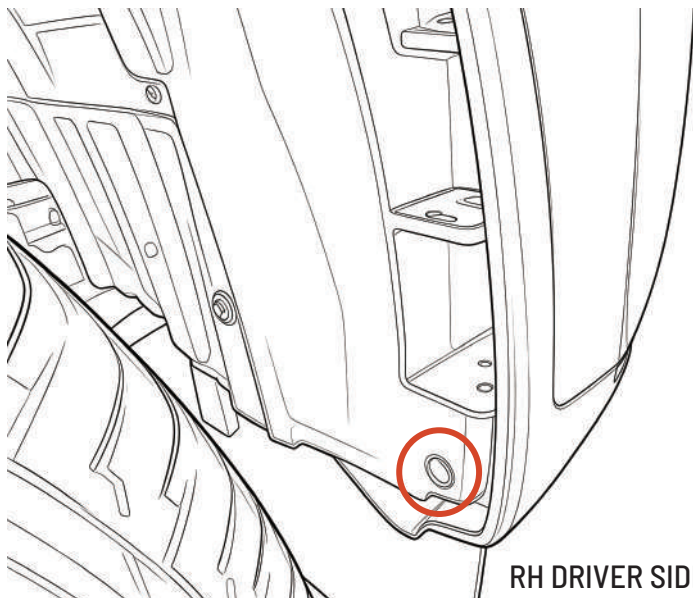
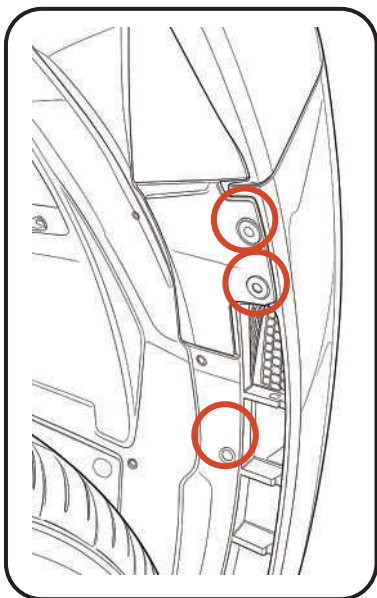
STEP 7

- Remove 1x Phillips head screw above the Mazda badge in the grille.



STEP 8

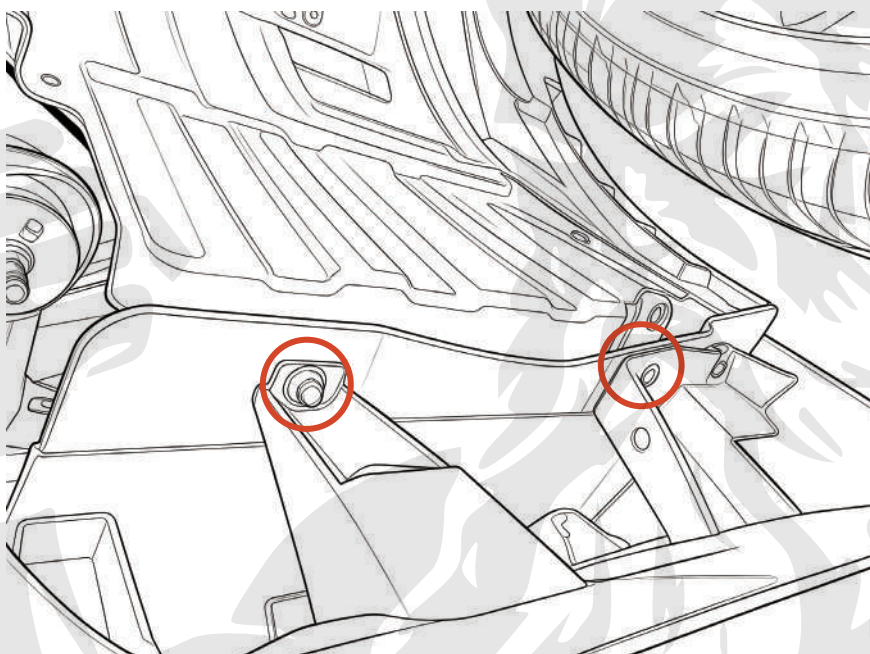
- Remove 4x plastic push clips holding the wheel arch liner to the bumper, per side.



RH DRIVER SIDE SHOWN

STEP 9

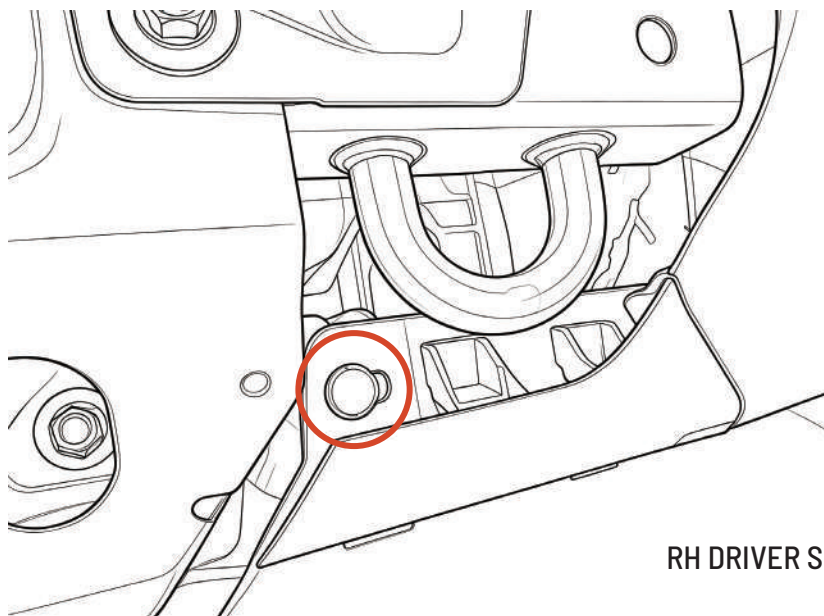
- From below, remove 1x 10mm hex nut and 1x plastic push clip holding the bottom of the bumper to the wheel arch liner and outer bumper support bracket. Do this on both sides.



RH DRIVER SIDE SHOWN

STEP 10

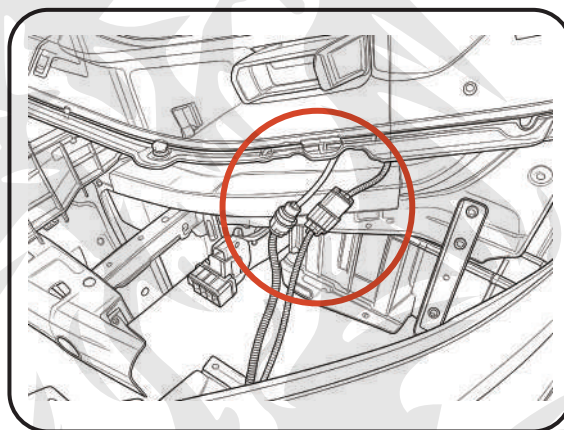
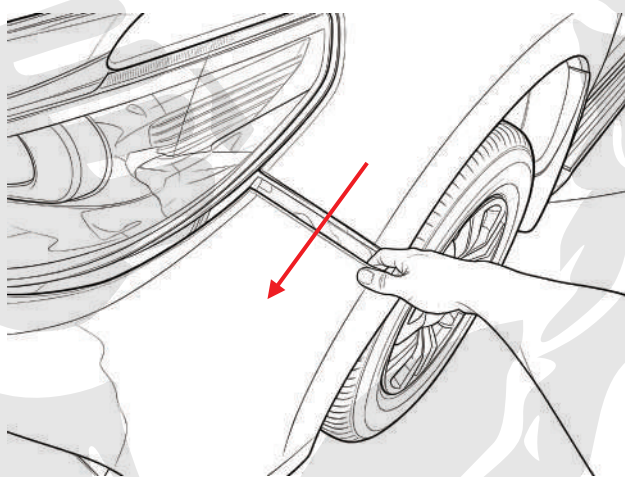
- On the underside of the bumper, remove 2x plastic push clips holding the bumper to the inner bumper support brackets. These are located near where the factory tie down hooks are.



RH DRIVER SIDE SHOWN

STEP 11

-
1. Release the bumper clips by pulling the bumper away and outwards from outer corners, starting from the outside and working in.
 2. When bumper is loose, reach in and disconnect the bumper harness connectors (either 1x or 2x) located under the left-hand headlight.
 3. Fully remove the bumper/grille from the car and set aside.

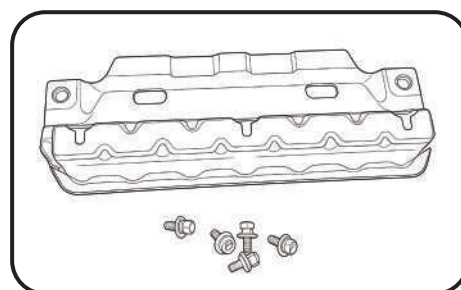
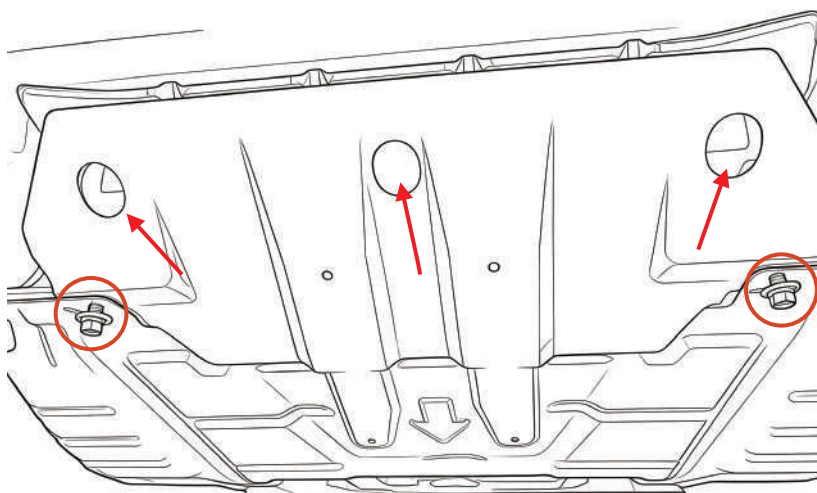


04 DISASSEMBLY STEPS

STEP 12

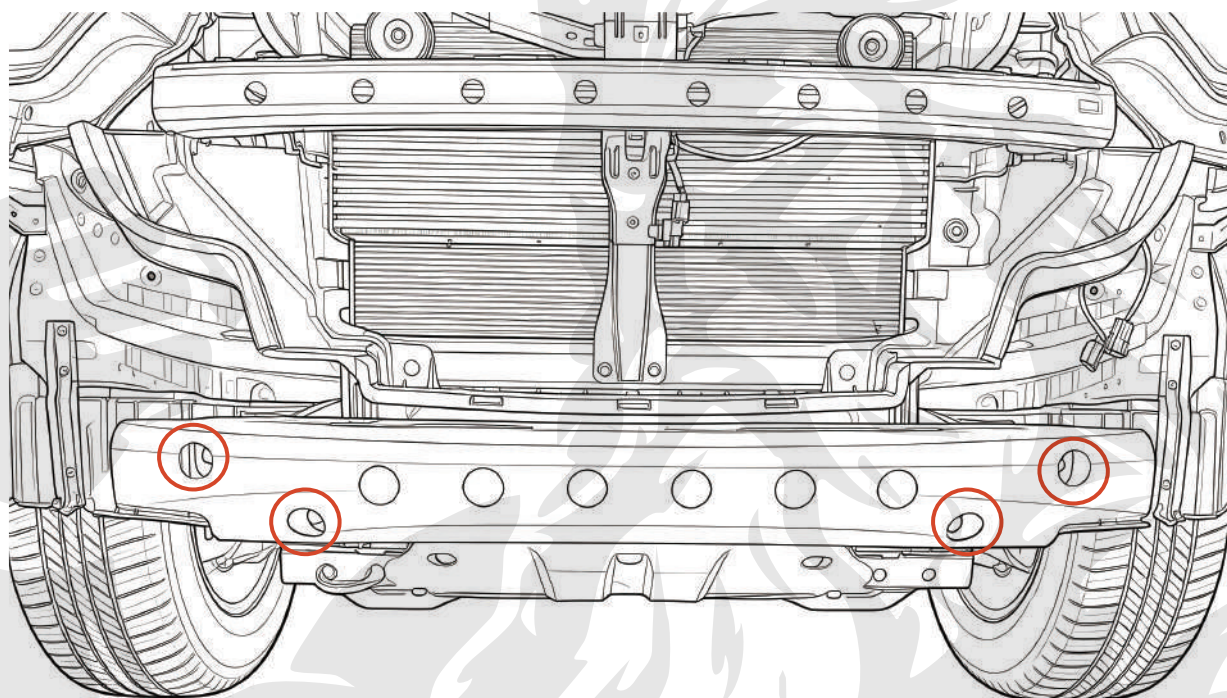
- Remove the front skid plate by removing the 5x 14mm hex bolts securing it to the chassis. Retain the bolts for use later.

Note: Note 3x bolts are recessed into the skid plate, as shown with arrows.



STEP 13

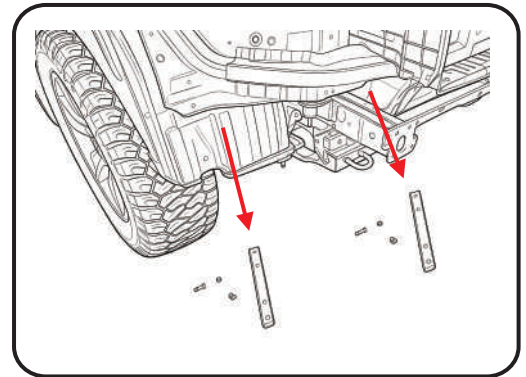
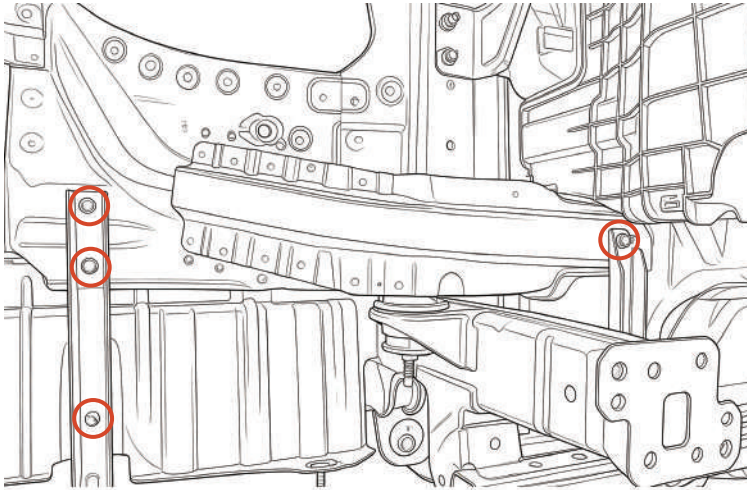
- 1. Remove the 4x 14mm hex bolts securing the impact beam to the chassis.
2. Remove and discard the impact beam. Retain bolts for fitting of mounts.



04 **DISASSEMBLY STEPS**

STEP 14

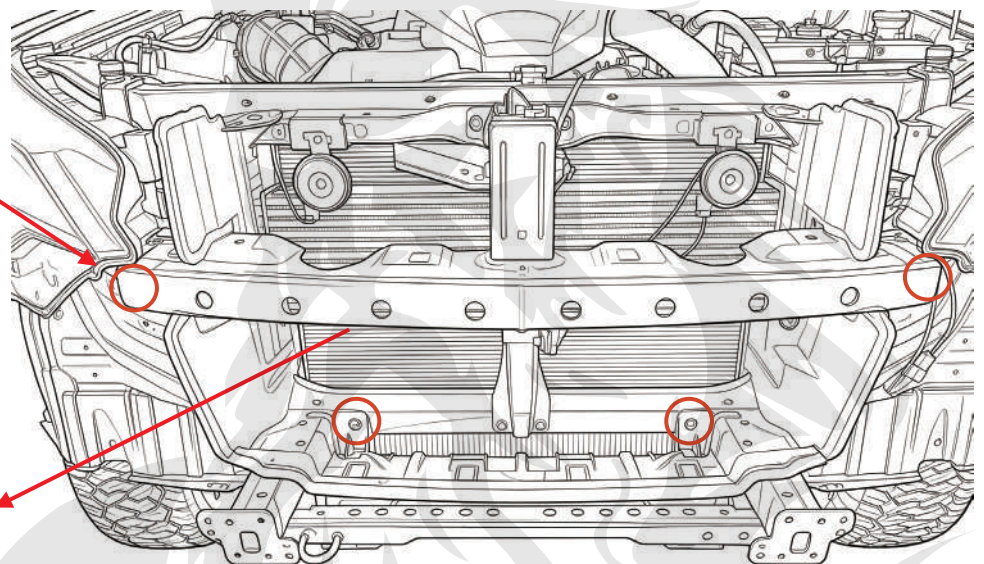
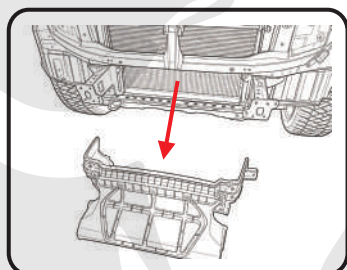
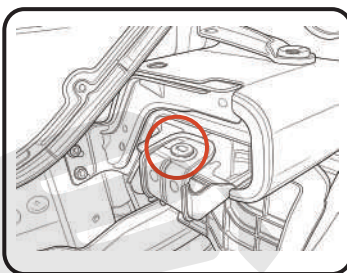
- 1. Remove the 3x 10mm hex bolts securing each outer bumper support bracket.
- 2. Remove the 1x 10mm hex bolt securing each inner bumper support bracket.
- 3. Remove and discard the bumper supports.



RH DRIVER SIDE SHOWN

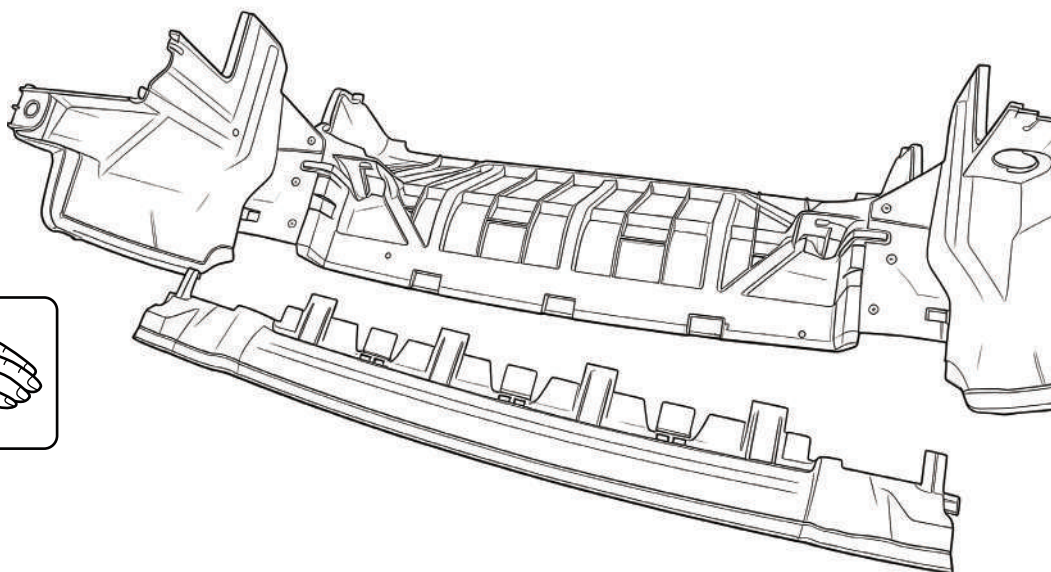
STEP 15

- Remove the 4x plastic push clips holding the lower plastic air guide.



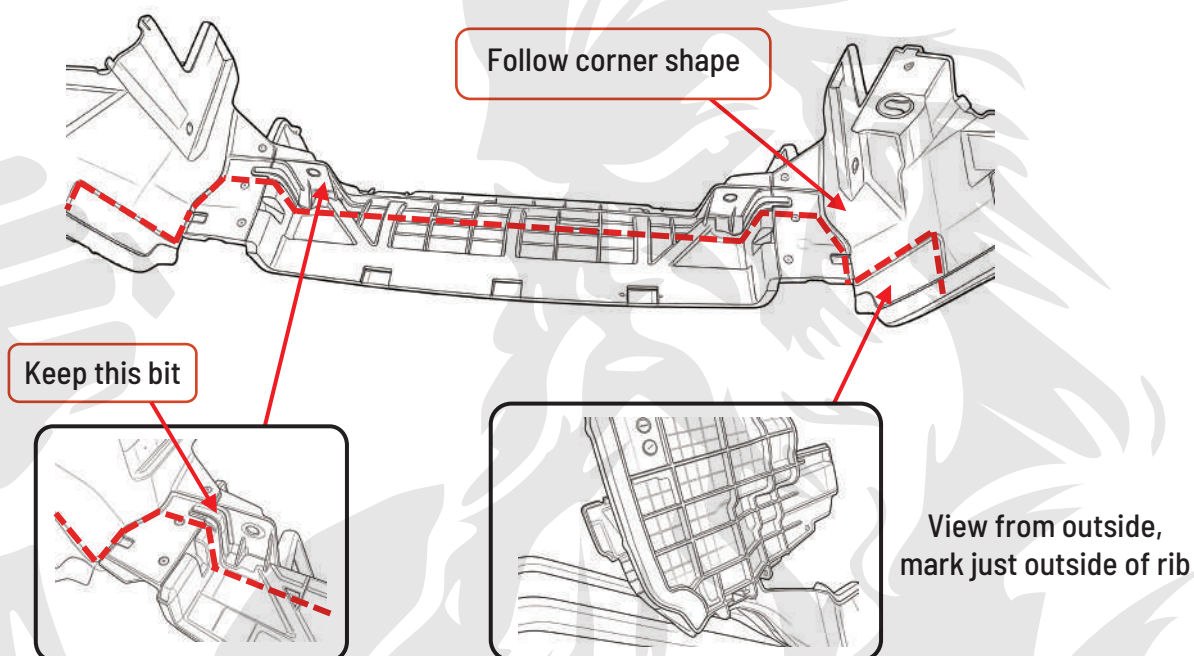
STEP 16

- Unclip the front plastic lip from the air guide and discard.



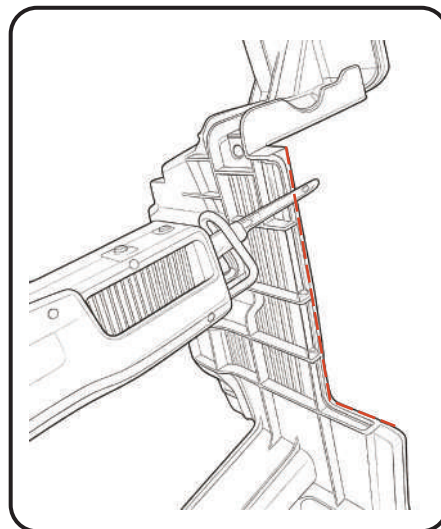
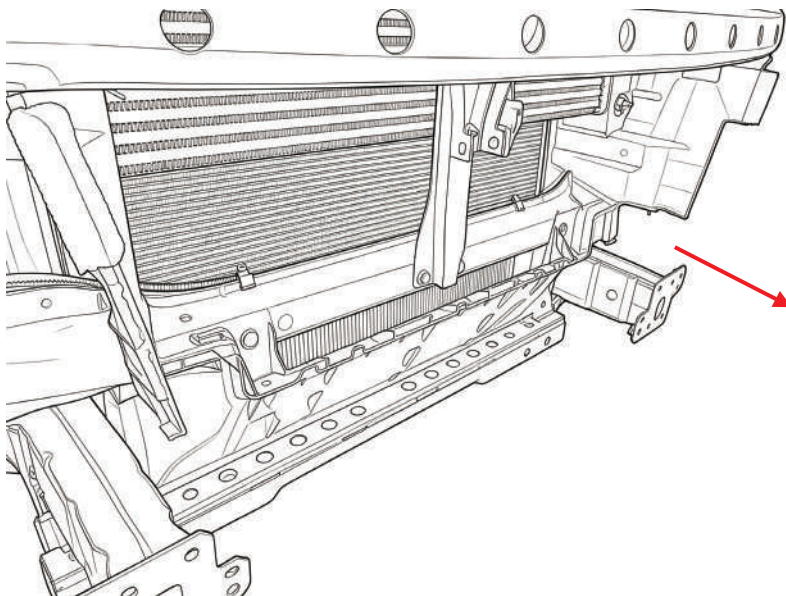
STEP 17

- Use a marker pen and mark a cut line on the air guide, as shown.



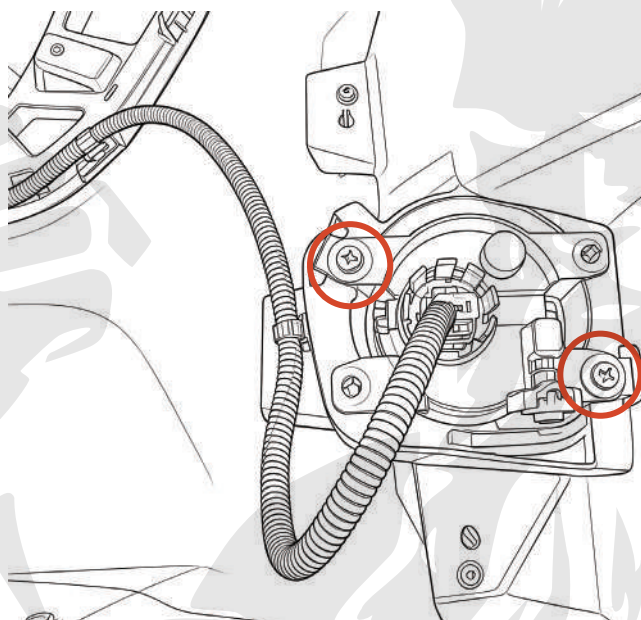
STEP 18

- 1. Trim the plastic air guide along the marking.
- 2. Discard the front section, then refit the trimmed air guide back onto the vehicle with the same 4x push clips.



STEP 19

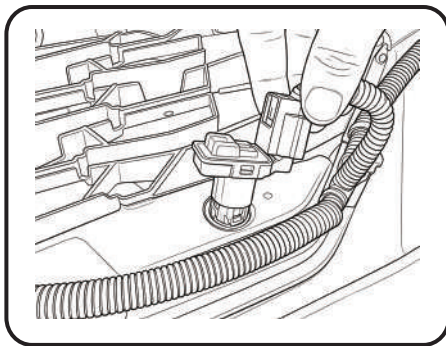
- Time to strip the bumper. If equipped, remove 2x 10mm hex head screws securing each fog light on the back of the bumper.



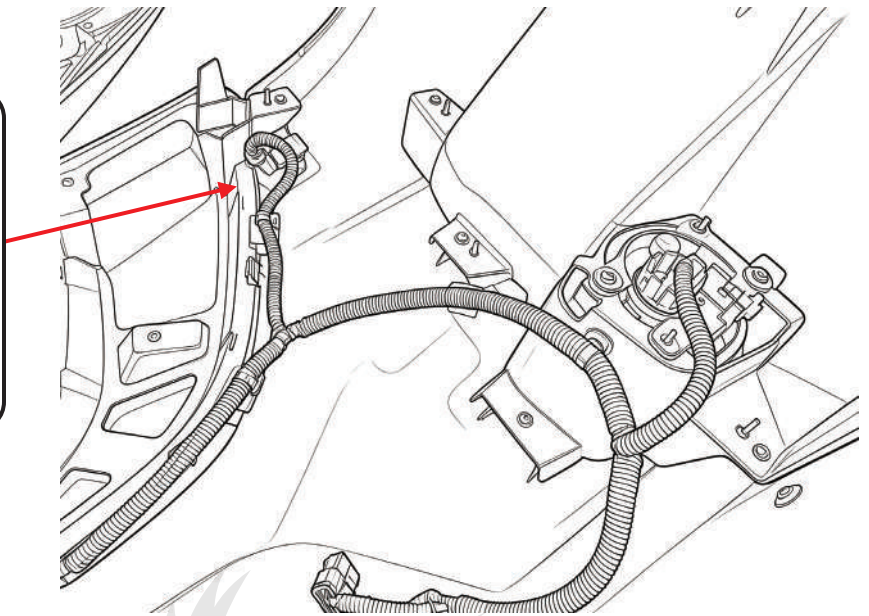
RH DRIVER SIDE SHOWN

STEP 20

- 1. If equipped, take note of the orientation of all 4x parking sensors. The plugs should all be pointing outwards to the side of the vehicle.
- 2. Spread open the tabs on the plastic sensor holder and unclip each parking sensor.
- 3. Press down on the tabs on the sensor holders and remove them from the bumper. Keep track of the sensor holder orientation.
- 4. Re-fit the sensor holders back onto the parking sensors in the same original orientation.



RH DRIVER SIDE SHOWN



STEP 21

- Unclip and strip the entire harness from the bumper and set aside.



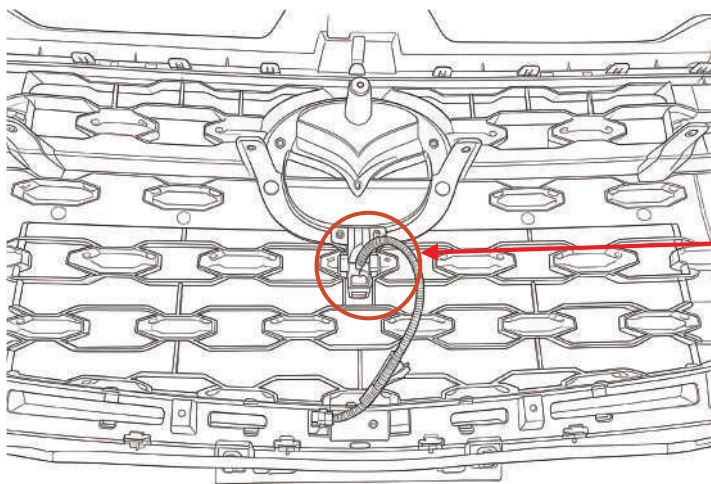
STEP 22

- If equipped, remove 2x Phillips head screws holding the front 360 degree camera assembly. Set the camera aside in a safe place.

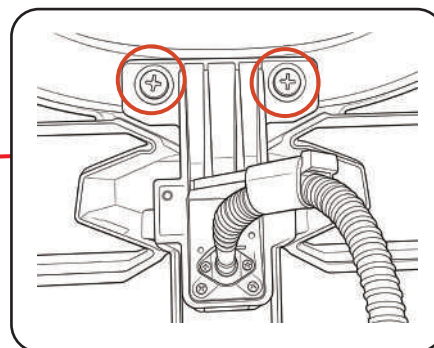
IMPORTANT:

Check now if baCheck now if bar already has mounting holes for camera relocation.

If no mounting holes are present, they will need to be drilled by following the retro-fit instructions.

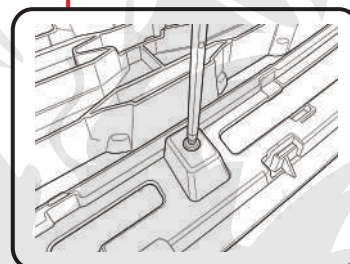
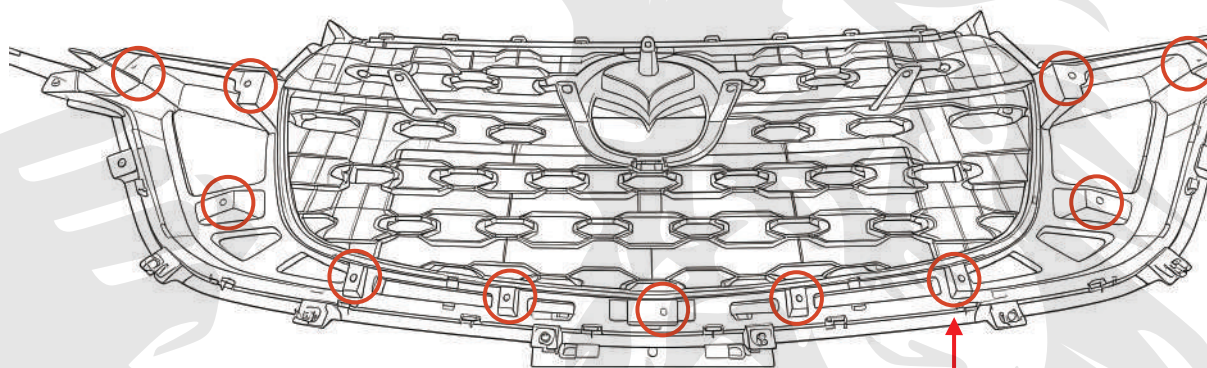


VEHICLES WITH CAMERA ONLY



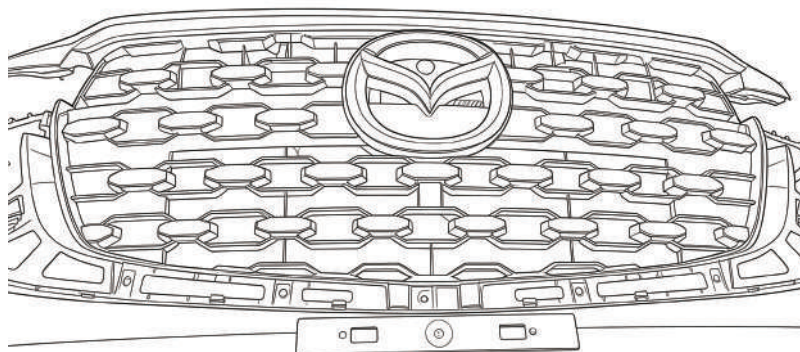
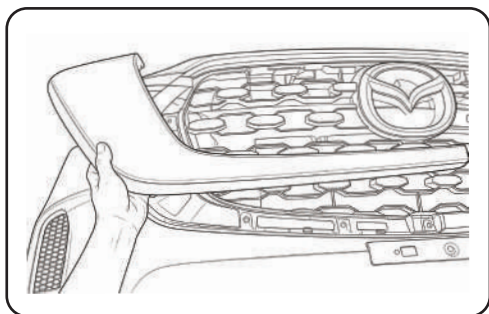
STEP 23

- From the inside of the bumper, remove 11x Phillips head screws securing the black plastic grille inserts, as highlighted.



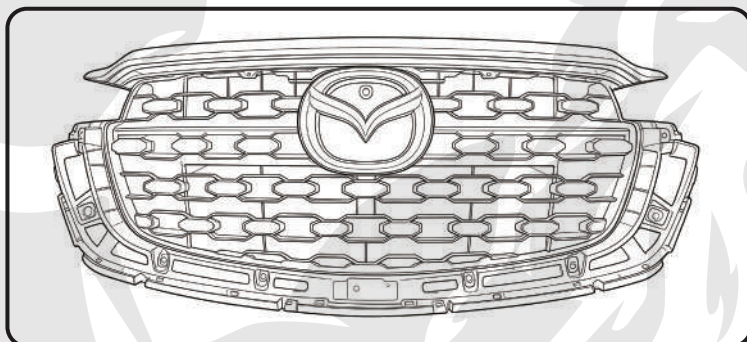
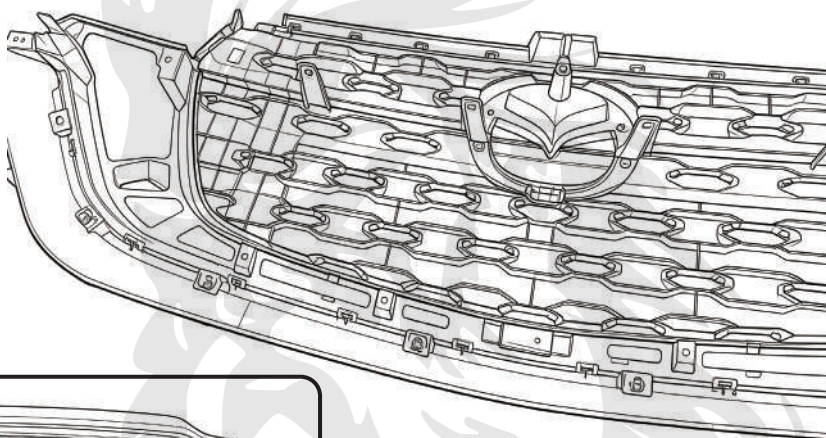
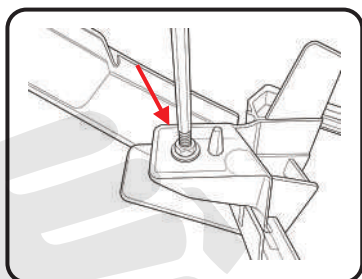
STEP 24

- From the outside, pull outwards and remove the black plastic grille inserts (left and right). These can be discarded.



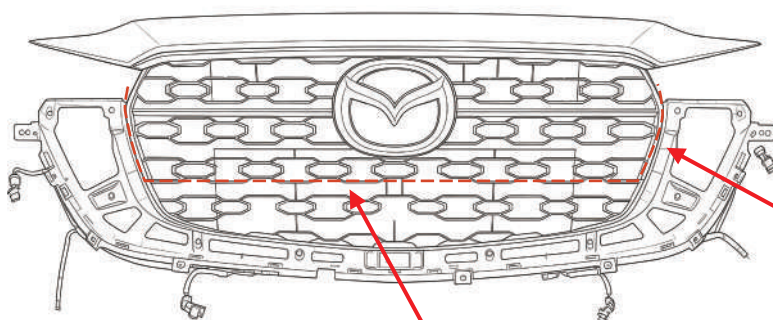
STEP 25

- 1. Remove 2x Phillips head screws (1x per side) holding the outer corners of the grille to the bumper.
2. Separate the grille from the bumper by releasing 10x plastic tabs. Use a flat blade screwdriver to assist. The bumper can be discarded.



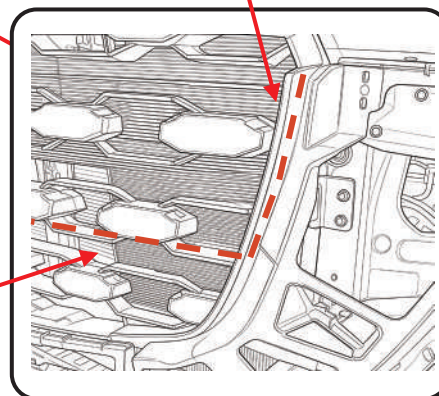
STEP 26

➤ The grille will need to be cut as shown.



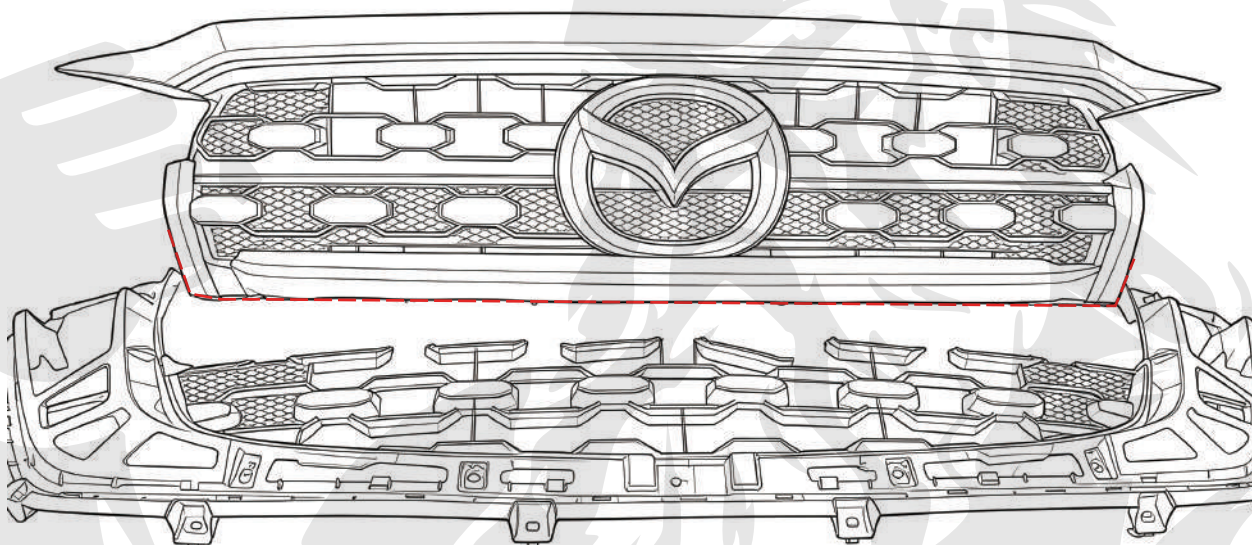
Trim along the creased edge
Keep the raised section.

Trim just below the first
row of hex shapes below
the Mazda badge



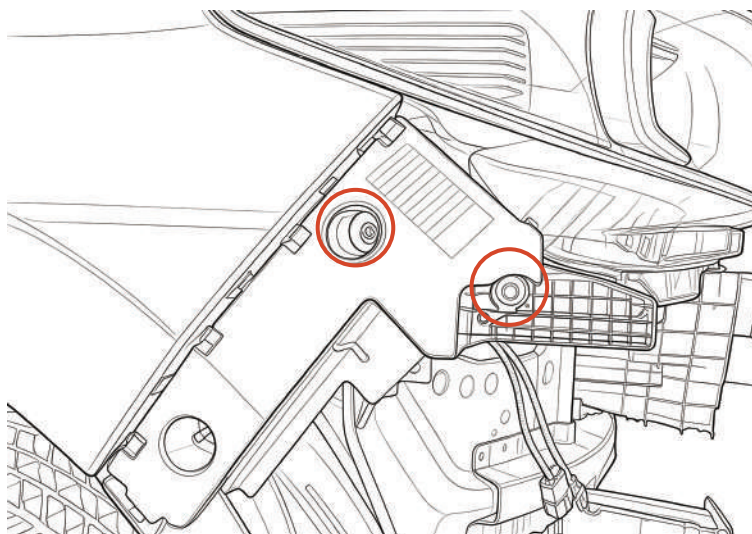
STEP 27

-
1. Apply masking tape surround areas to be trimmed, to prevent scratches to the grille.
 2. Trim the grille as detailed on the previous page.
 3. Discard the lower section of the grille.
 4. Clean up the trimmed edges with a deburring tool or utility knife.

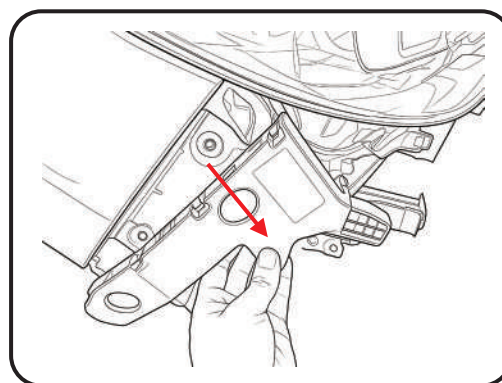


STEP 28

- 1. Remove 1x 10mm hex bolt and 1x Phillips head screw holding the bumper retaining clip to the vehicle. Retain the hex bolt.
- 2. Pull outwards to unclip the bumper clip.
- 3. Discard bumper clip and repeat for other side.

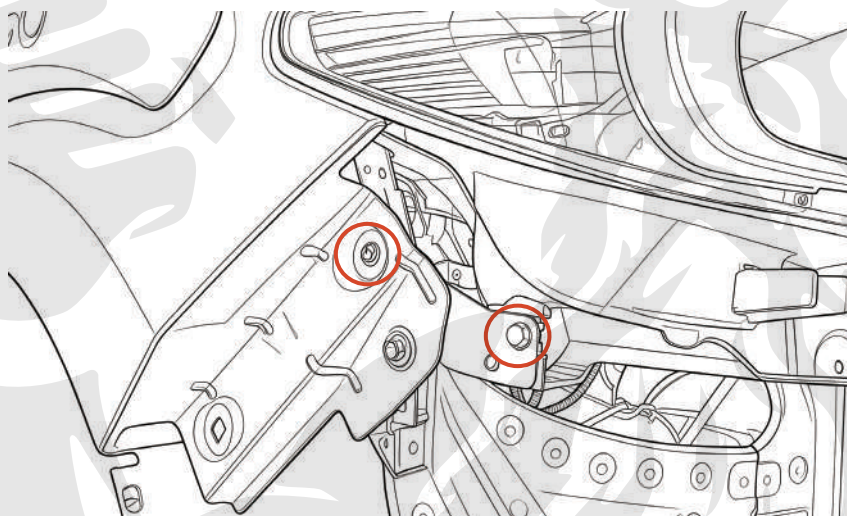


RH DRIVER SIDE SHOWN



STEP 29

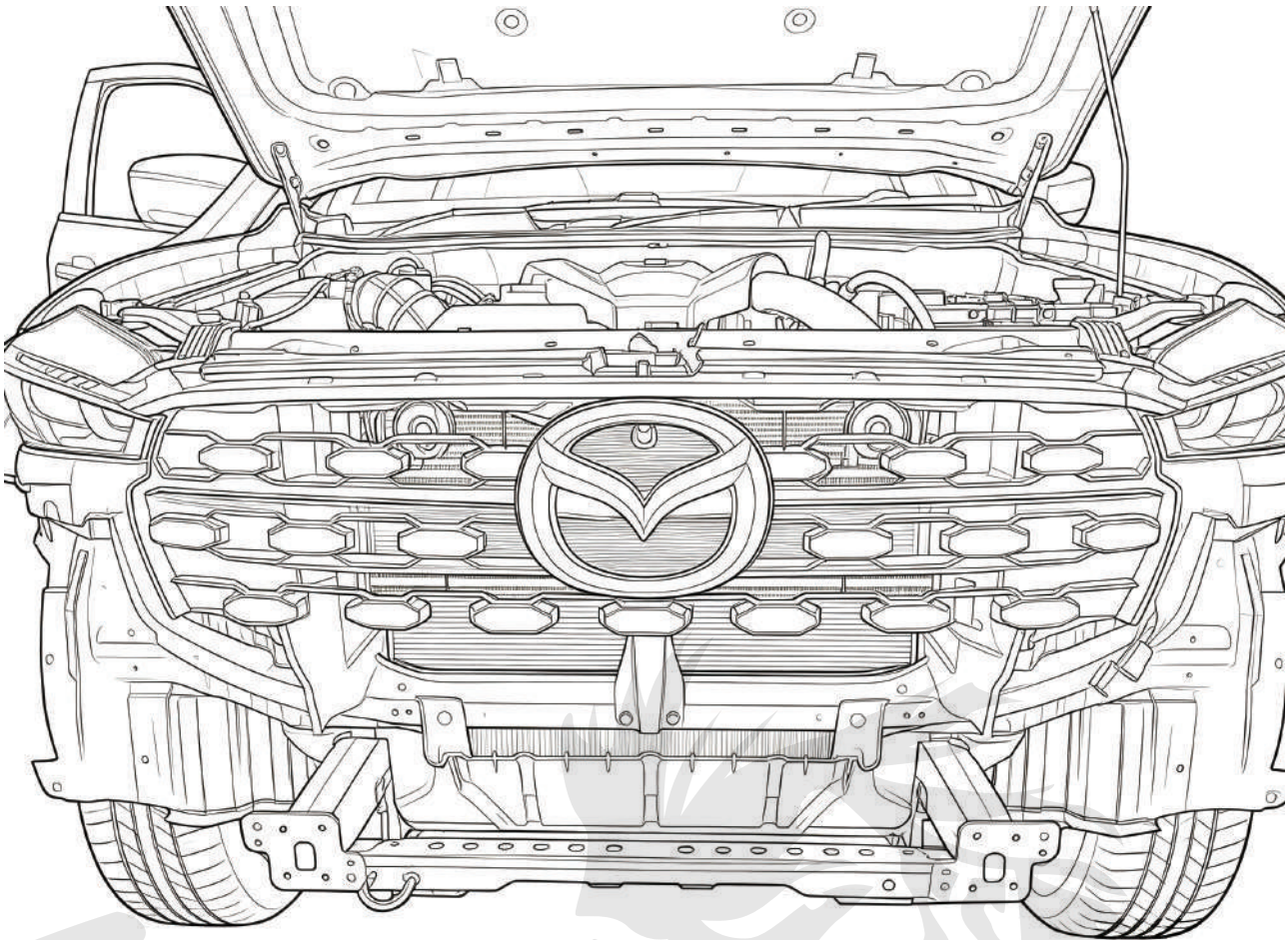
- 1. Optional. The metal guard underneath the headlight and quarter panel can be painted black. This is recommended on light-coloured vehicles, as there will be a gap between bull bar and headlight once fitted. Apply masking tape beforehand to prevent overspray.
- 2. Once the paint is dry, or if not painting, fit the supplied B-1489 headlight brackets where the bumper clip was.
- 3. Secure to the headlight with the same 10mm hex bolt removed previously, and secure to the guard with 1x M6x16 black button head bolt and black flat washer.
- 4. Repeat for other side.



RH DRIVER SIDE SHOWN

STEP 30

- Re-fit the grille to the vehicle. Secure with the 7x plastic push clips and 1x Phillips head screw in Mazda badge removed previously.



**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.

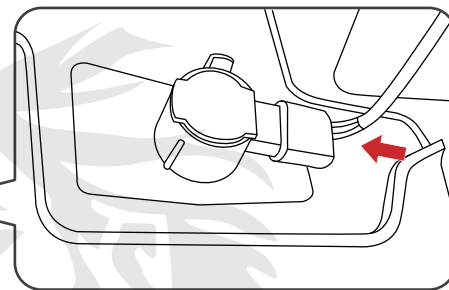
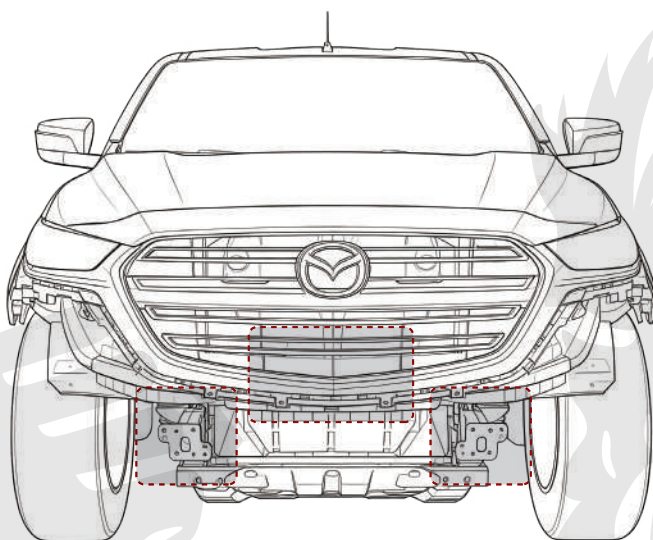
STEP 1

- 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.

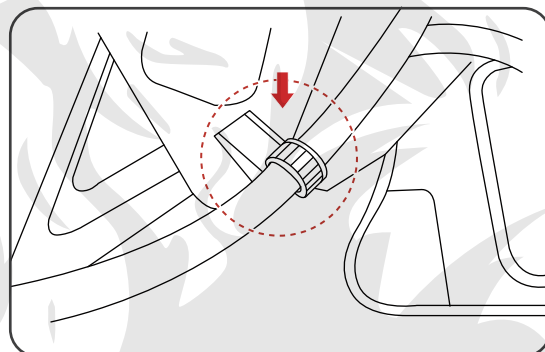
Note: Pay attention to the positional sequence and orientation of each sensor to ensure they are reinstalled in the bumper using the same configuration.

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.

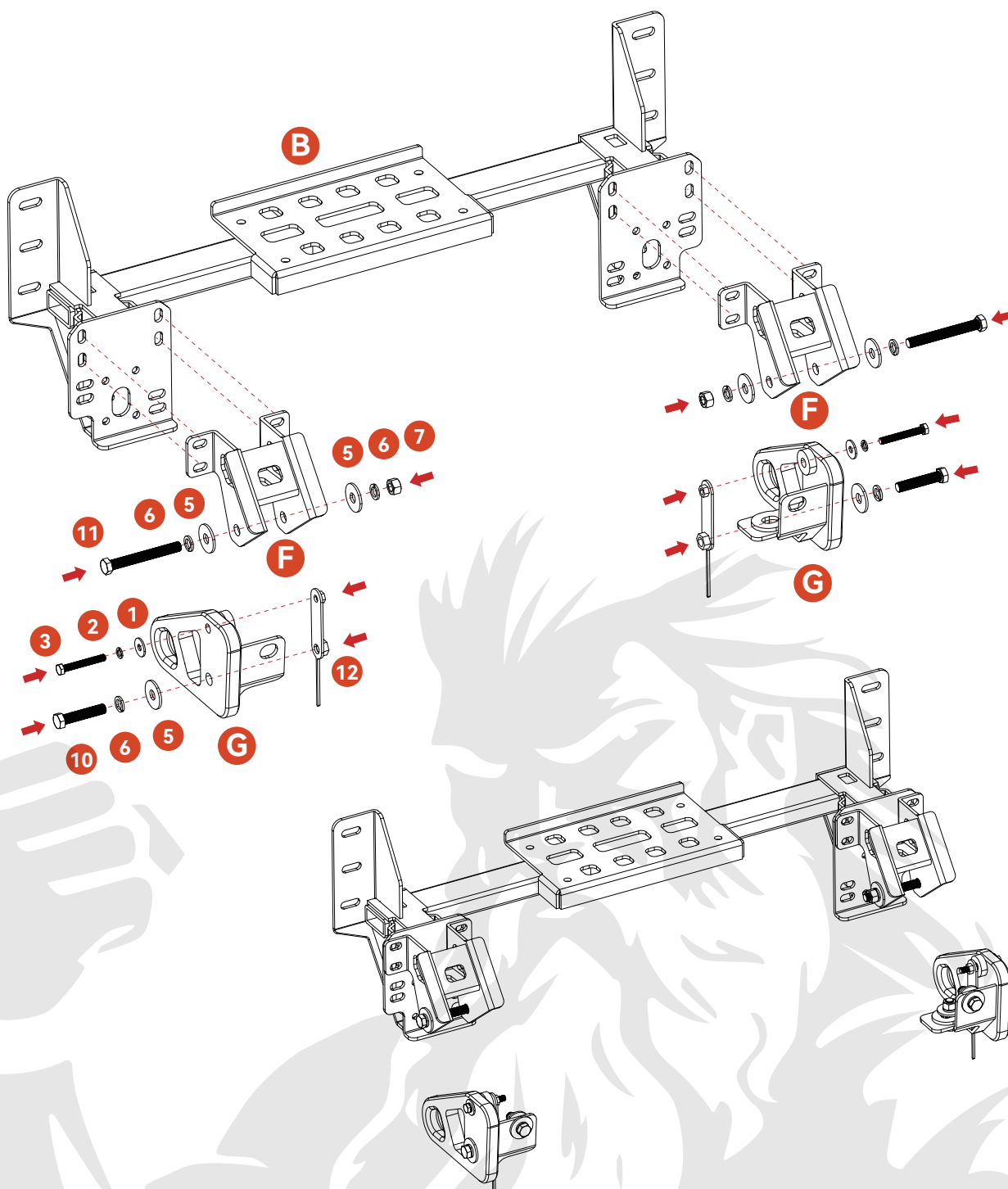


05 INSTALLATION STEPS

STEP 2

- 1. Prepare and install the beam head fixing bracket.
2. Install the tow hook, aligning the holes at the connection points.
3. Secure the bottom with washers and bolts.
4. Fasten the tow hook guard on the side using M12×120 mm bolts and washers.

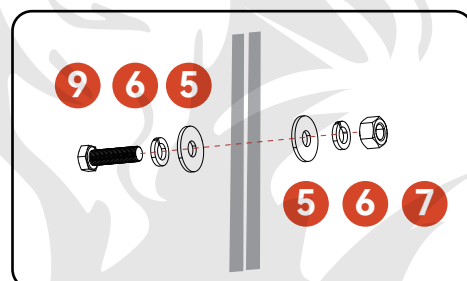
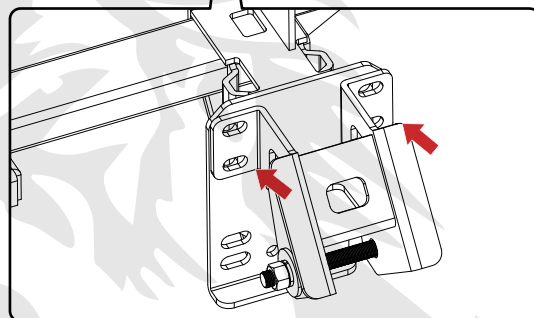
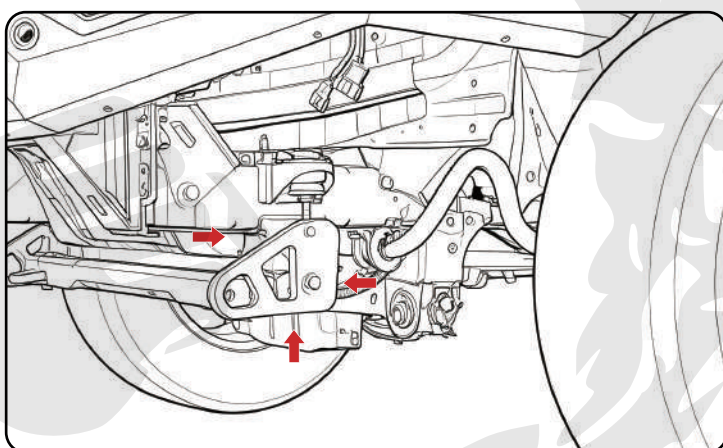
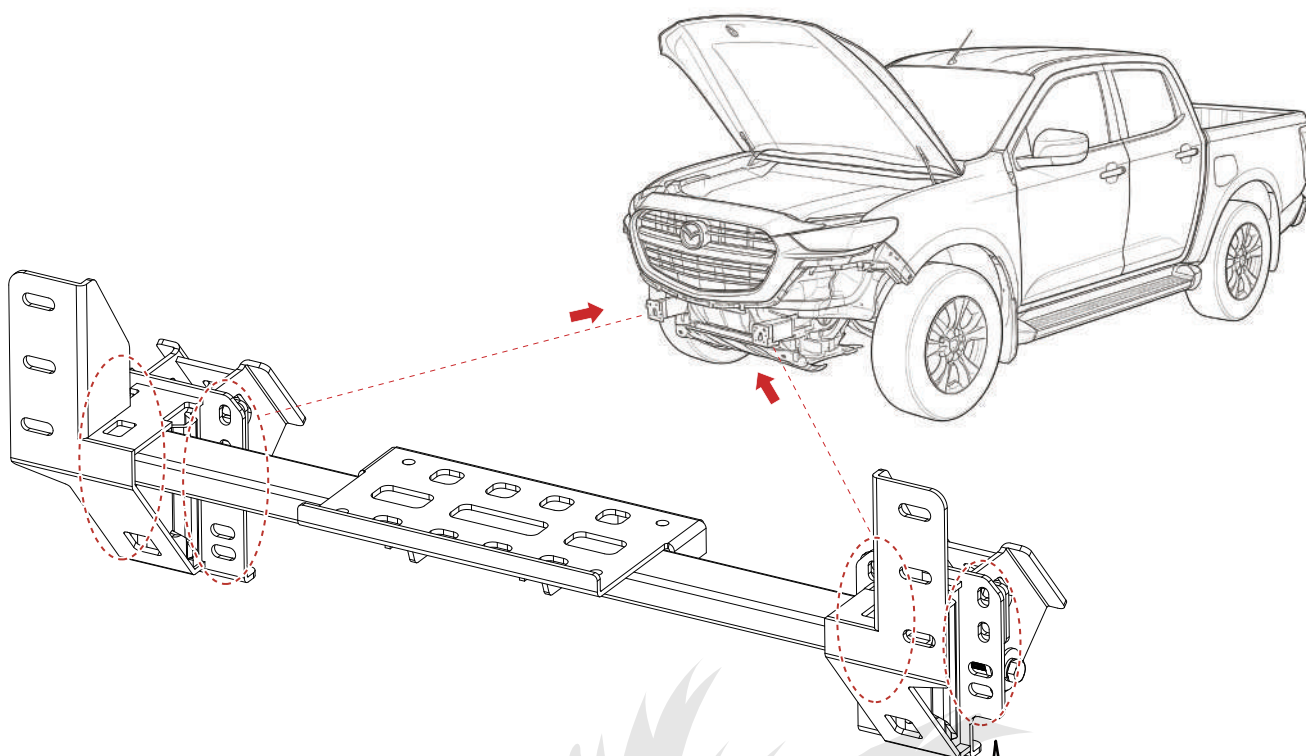
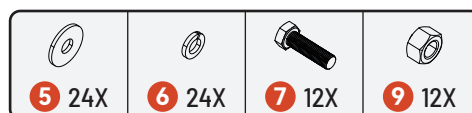
			
1 2X	2 2X	5 4X	6 4X
			
7 2X	10 2X	11 2X	12 2X



05 INSTALLATION STEPS

STEP 3

- 1. Install the winch bracket and align the holes at the connection points with the frame.
2. Secure the corner holes with M10×35 mm hex head bolts.

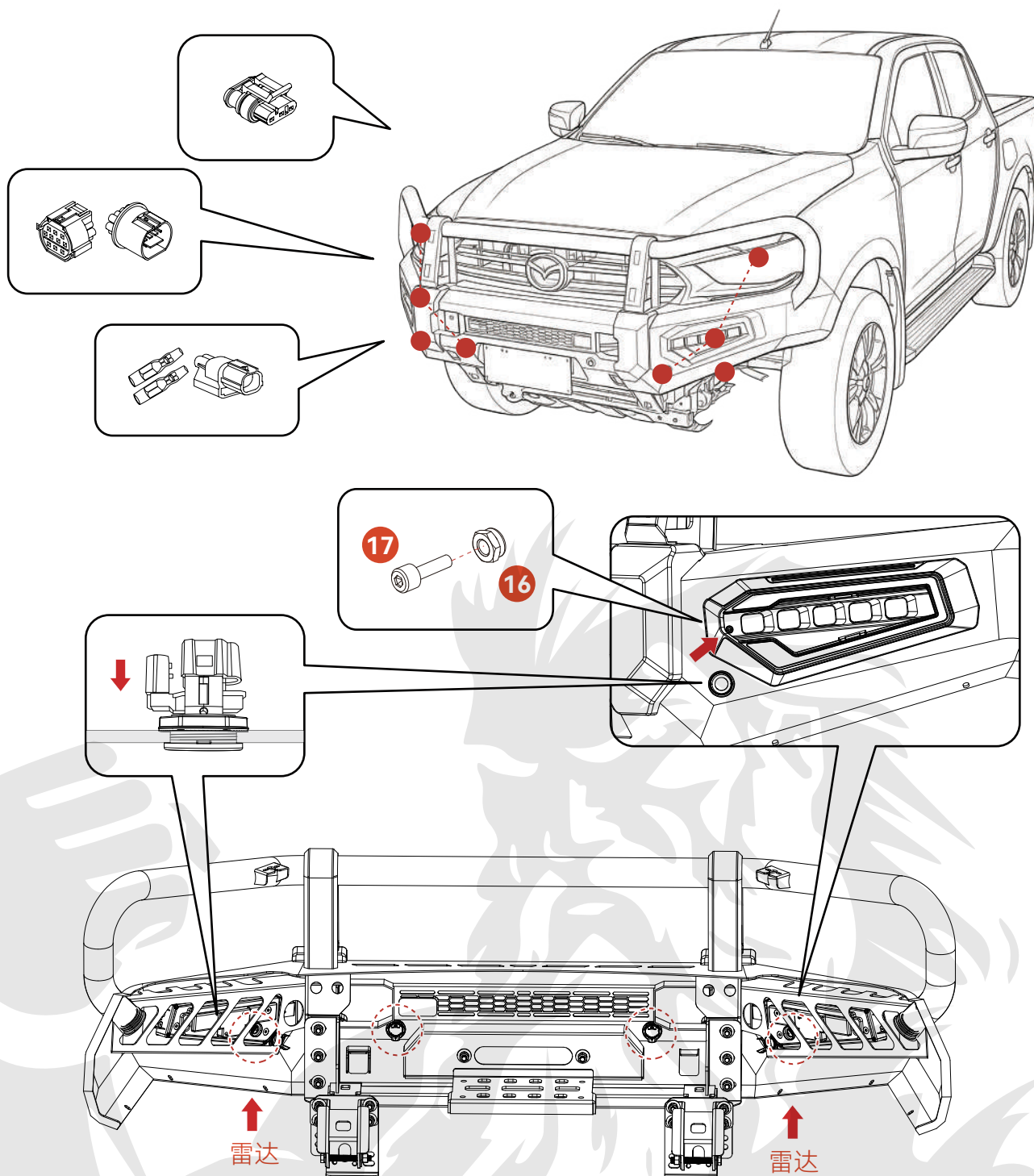


05 INSTALLATION STEPS

STEP 4



- 1. Install and secure the lights, then connect the wiring.
2. Mount the camera bracket and tighten the screws to secure it.
3. The radar bracket is clamped in place using nuts.
4. Secure all wiring and cables to the clips with cable ties.
5. Test all functions to confirm proper operation.



05 INSTALLATION STEPS

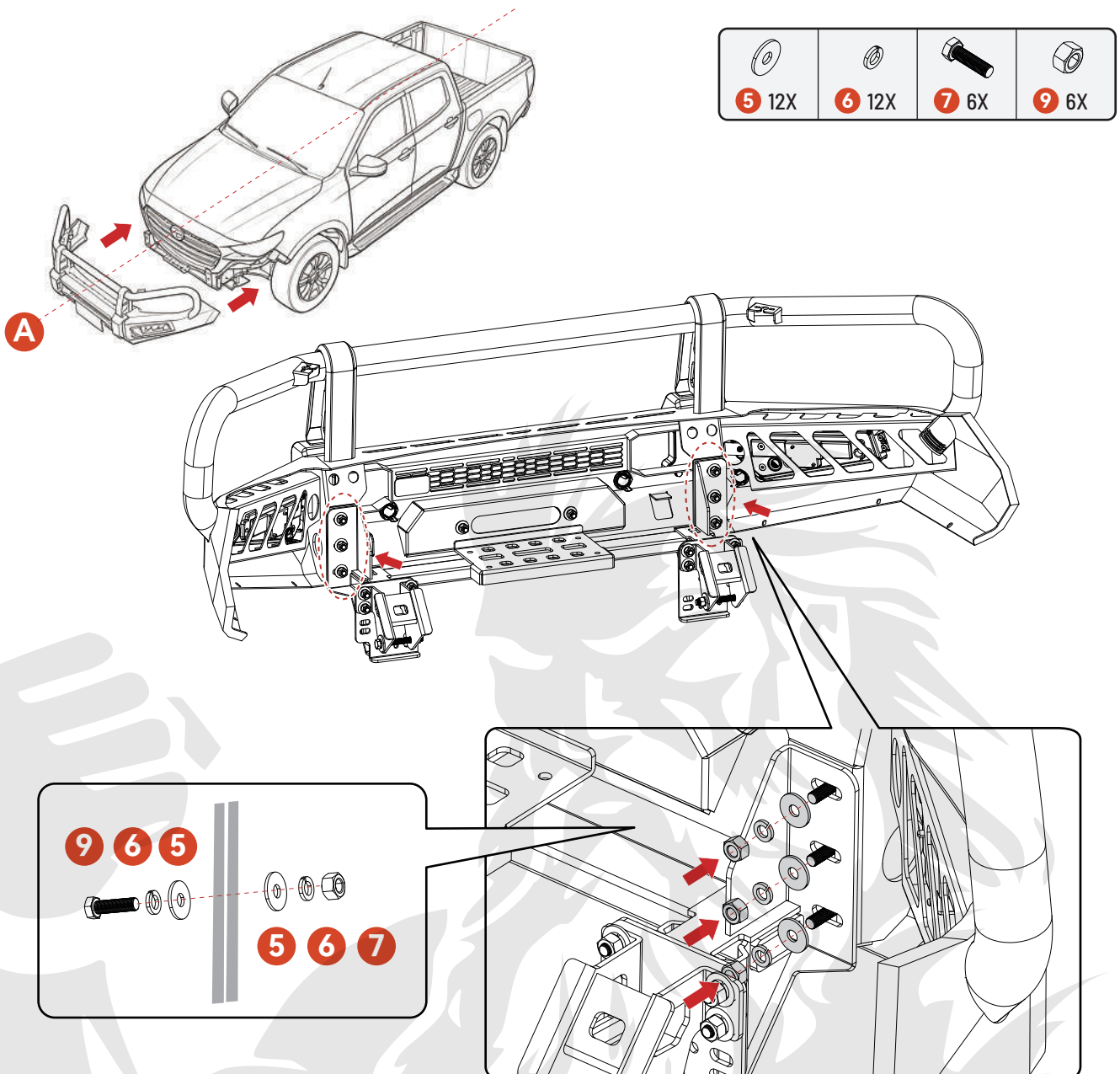
STEP 5



- 1. Place the vehicle on the ground or a four-post lift. Lift the bull bar into position, install the side protection plates on both sides and align them with the chassis mounting holes.
2. Secure the welded front bar assembly to the fenders and brackets using fully threaded M10×35 mm hex head bolts.
3. Repeat the same procedure on the other side.
4. Center the bull bar on the vehicle body and loosely fit the lower bolts on both sides for positional adjustment.

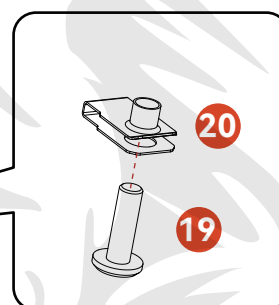
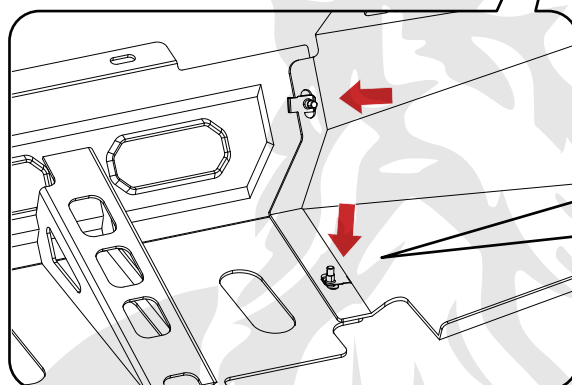
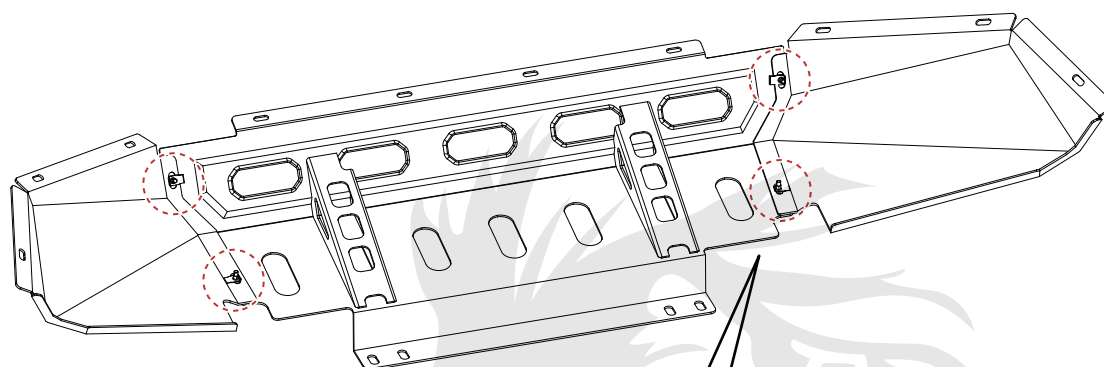
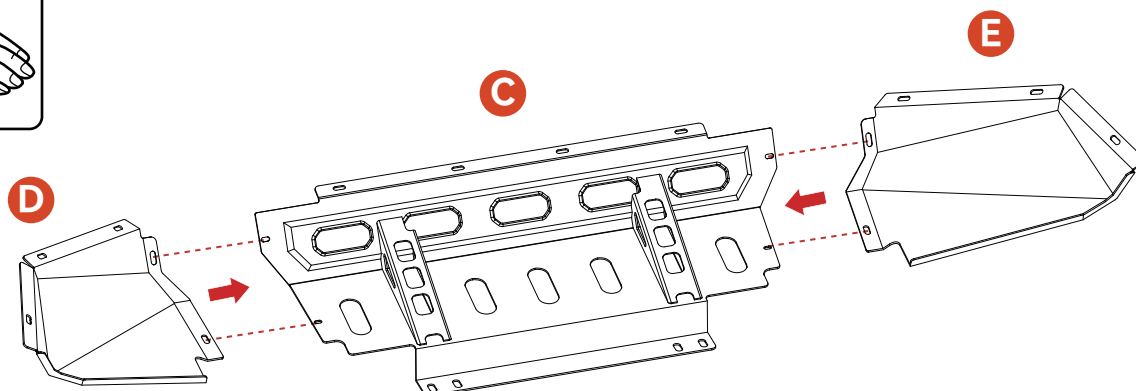
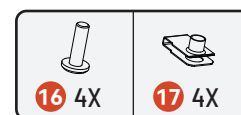
Note: Leave approximately 25 mm clearance between the bull bar and side protection wings. This allows chassis flexibility and prevents contact between the vehicle body panels and the bull bar.

Warning: Unless an auxiliary lift for the bull bar is used, this installation should be carried out by two people to avoid personal injury or damage to the vehicle and/or components.



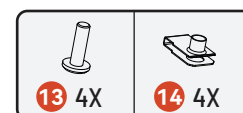
STEP 6

- 1. Install the skid plate and align the holes at the connection points.
2. Secure the skid plate with M6×20 mm bolts and clip nuts.

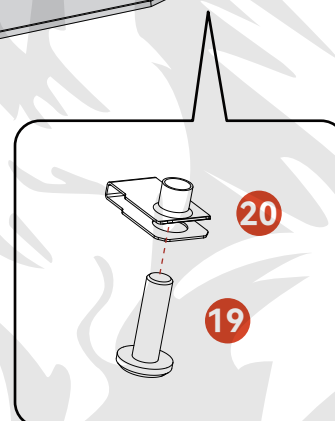
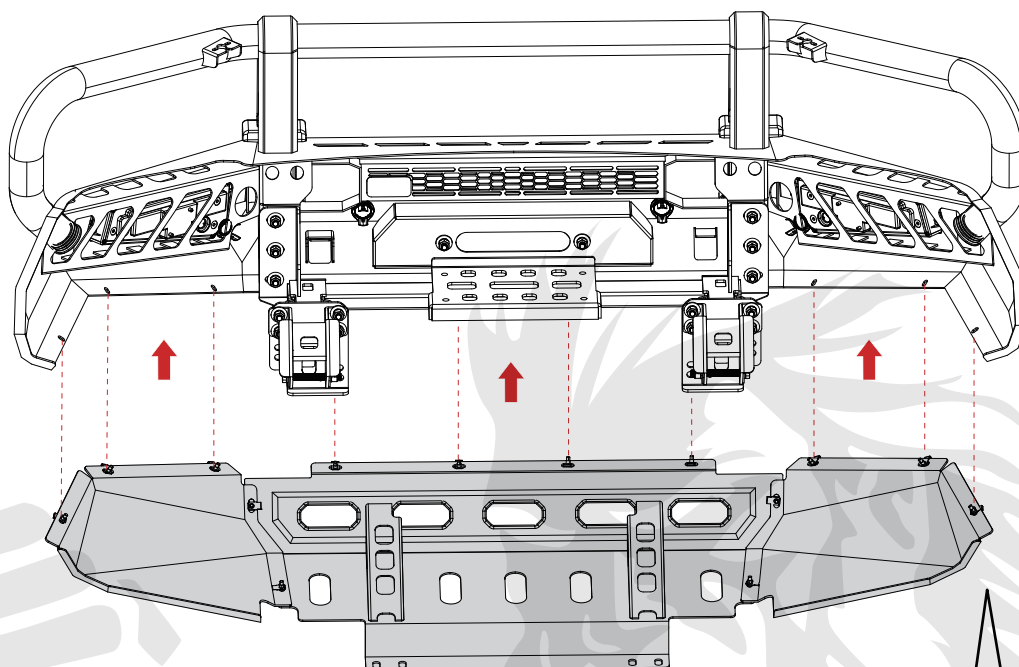
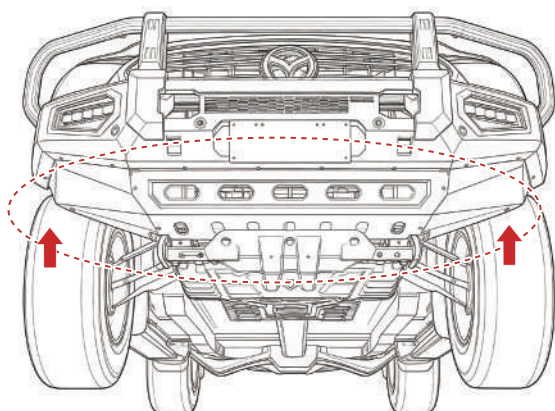


05 INSTALLATION STEPS

STEP 7



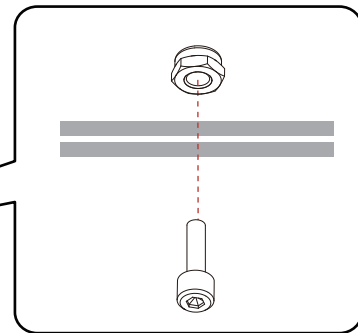
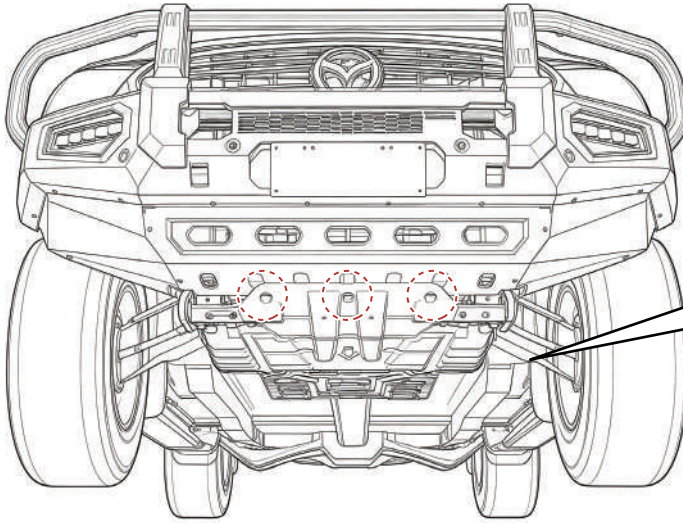
- 1. Install the skid plate and secure it to the bottom of the welded front bar main assembly.
Align the holes at the connection points.
2. Fasten the skid plate with M6×20 mm bolts and clip nuts.



05 INSTALLATION STEPS

STEP 8

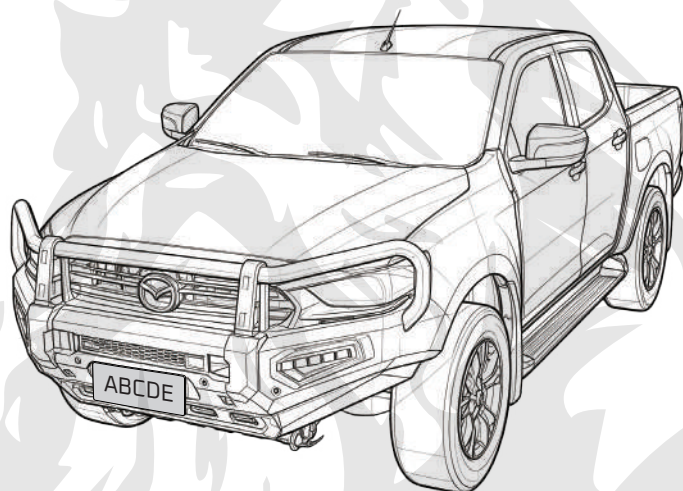
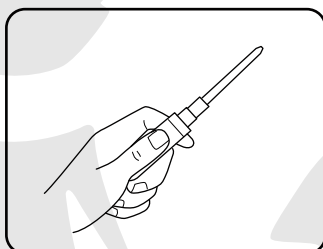
- 1. Align the mounting holes of the skid plate with the bottom of the bull bar.
- 2. Secure the bottom using the original vehicle screws.



STEP 9

- 1. Apply safety warning stickers to the left and right edges of the recovery points.
- 2. Clean the recessed area for the emblem badge.
- 3. Carefully attach the adhesive badge to the front face of the bull bar.
- 4. Refit the license plate onto the flip bracket using the original bolts.

Note: Proper alignment is critical. Ensure the brand emblem is affixed straight and adheres firmly to the surface of the bull bar.



■ 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.



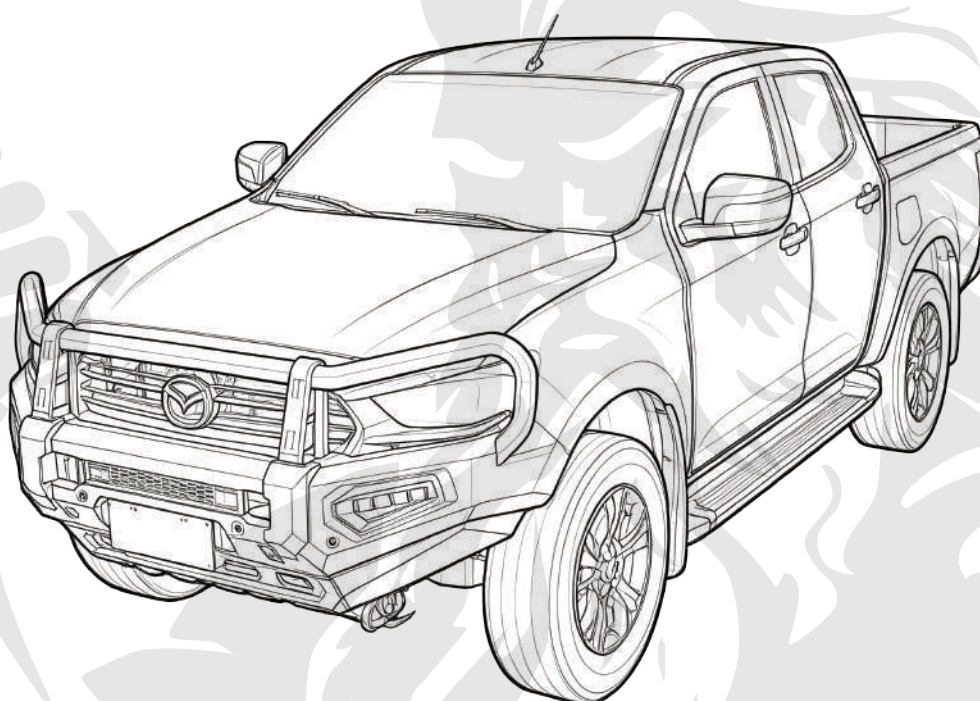
Sensor function verification: Test the working status of the reversing radar, parking sensor, and 360-degree panoramic front camera (if any) to confirm that there are no continuous false alarms and that the images are not obstructed or distorted.

■ 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