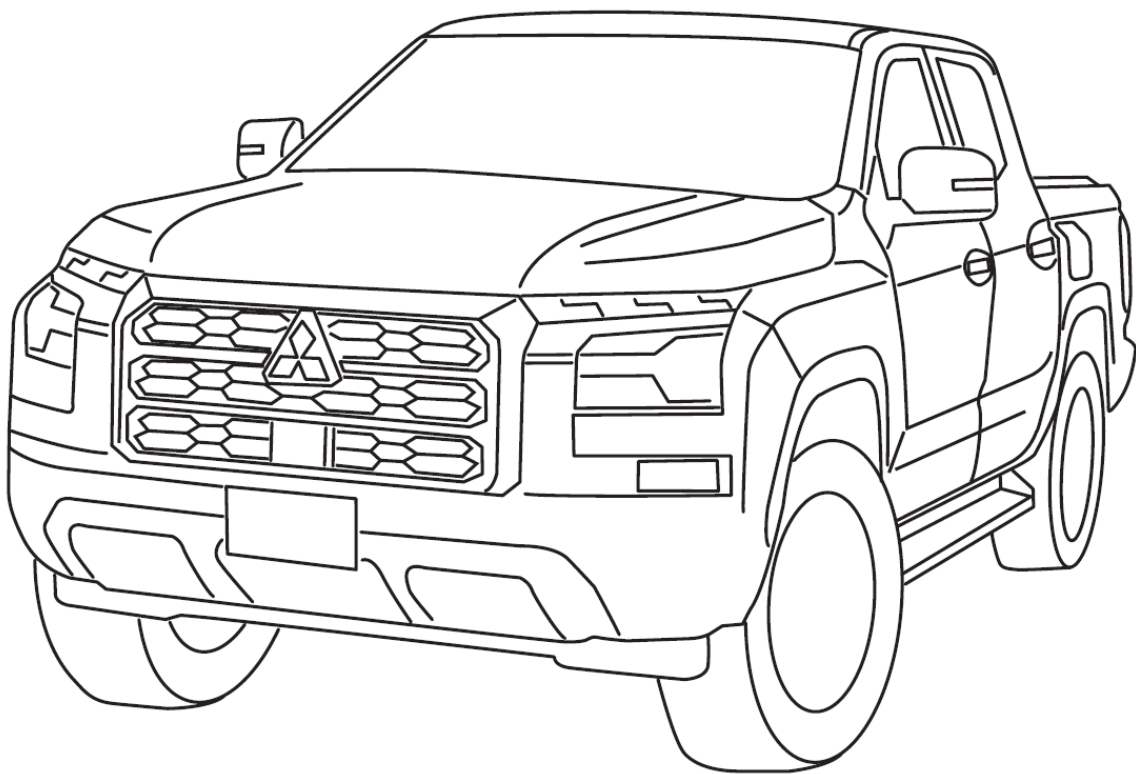










## Nudge Bar

## Installation and Owner's manual

LA0 Parts No. MZ350762 / MZ350763

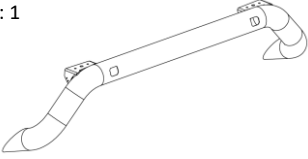
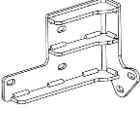
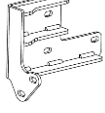
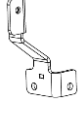
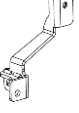
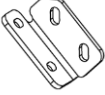

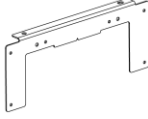



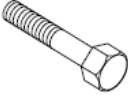







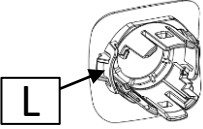
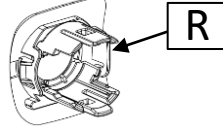
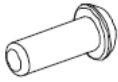



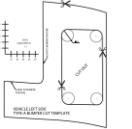
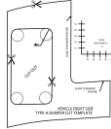
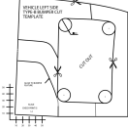
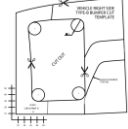
- Thank you for purchasing the Mitsubishi Motors genuine accessory.
- The initial installation quality determines the level of performance, durability and trouble occurrence in the future.
- Make sure to read this manual carefully before installation of the product, and install it correctly after understanding an overall operation flow. Do not attempt installation other than instructed in this manual. We shall not be responsible for any failures occurred by not following the instructions in this manual.
- We recommend you to have the installation performed at an authorized Mitsubishi Motors dealer to ensure the reliability.



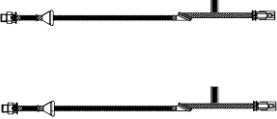

								
MZ350762	✓	✗	✓	✓	✓	✓	✓	<b>POLISHED</b>
MZ350763	✓	✗	✓	✓	✓	✓	✓	<b>POWDERCOAT</b>

## — Components Supplied —

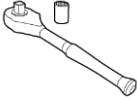


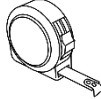
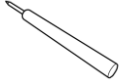
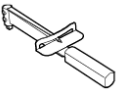




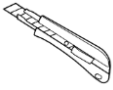
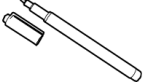
### Nudge Bar

1) Nudge bar: 1 		2) Frame Mount Assy LH: 1 		3) Frame Mount Assy RH: 1 		4) Frame Support Bracket Assy. LH: 1 		5) Frame Support Bracket Assy. RH: 1 			
6) Lower Mounting Brkt LH: 1 		7) Lower Mounting Brkt RH: 1 		8) License plate Bracket :1 		9) M10 Washer: 22 		10) M8 Flat Washer: 2 		11) M10 Nut: 4 	
12) M10x70 Bolt: 6 		13) M10x25 Screw: 4 		14) M10x30 Screw: 8 		15) M8x25 Screw: 2 		16) O-Ring 9mm ID x 2mm CS: 6 		17) Spacer ø23 x 39mm: 6 	
18) Nut Plate M10: 4 		19) Spacer M8 x 30: 2 		20) Sensor Bezel LH: 1 		21) Sensor Bezel RH: 1 		22) M8x25 Screw Button Head: 2 		23) M5x12 Screw Button Head: 2 	
24) M5 Flat Washer: 2 		25) M5 Nut: 2 		26) Cut Template Type A LH:1 		27) Cut Template Type A RH:1 		28) Cut Template Type B LH:1 		29) Cut Template Type B RH:1 	





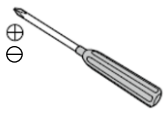
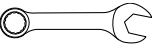
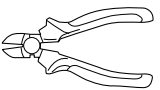
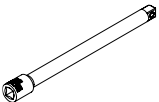
### Extension Harness Kit

30) Extension Harness: 2 		31) Cable Tie: 8 	
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• **TOOLS** (Make the following tools ready for use.)

Socket Set (10, 12, 13, 14, 17mm) 	Drill 	Hole Saw (ø20mm) 	Tape Measure 	Gimlet 	Torque Wrench 
Round File 	Step Drill Bit (ø30mm) 	Allen Key Set (4, 5mm) 	Oscillating / Reciprocating Saw 	Utility Knife 	Marker Pen 

• **TOOLS** (Make the following tools ready for use.)

Plastic Scraper 	Vinyl Tape 	Scissors 	Safety Glasses 	Screwdriver Set 	Spanner (8mm) 
Side Cutter 	Extension Bar 				

## Symbol meaning



**Warning**

This symbol indicates a particularly important safety instruction. Read and follow it carefully for safety. Failure to heed the caution may result in death or serious human injuries.



**Caution**

This symbol indicates a particularly important safety instruction. Read and follow it carefully for safety. Failure to heed the caution may result in human injuries or accidents.



**Note**

This symbol indicates an advisory instruction to follow during installation and handling.

## Precautions for installation

### Warning



Perform the installation indoors that is large enough without worrying about the rain and wind. Make sure the work area is well ventilated and take special care for the fullness of exhaust gas.

- Do not install to the vehicles except for the applicable types.
- Do not install with remodeling. Failure to heed this caution may result in serious accidents.

### Caution



Work carefully using a protective cover to prevent the vehicle from scratches and dirt.



Wipe off the dirt of the product using a sponge with a neutral detergent. Do not use organic solvents such as thinner, acids and alkalis.



When removing and reinstalling the vehicle body parts, refer to the vehicle's workshop manual.



When installing the parts and reinstalling the removed vehicle body parts, be careful not to let vehicle harnesses be caught and pinched between parts.



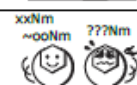
Be careful not to make a mistake when reinstalling the clips, screws, etc. removed from the vehicle.



When jacking up the vehicle, make sure to use wheel chocks and work on a flat place.



Remove dirt and oil on the surface where the parts are installed with a tape or double-sided tape completely.



Tighten securely parts which the tightening torque is indicated according to the specified torque.



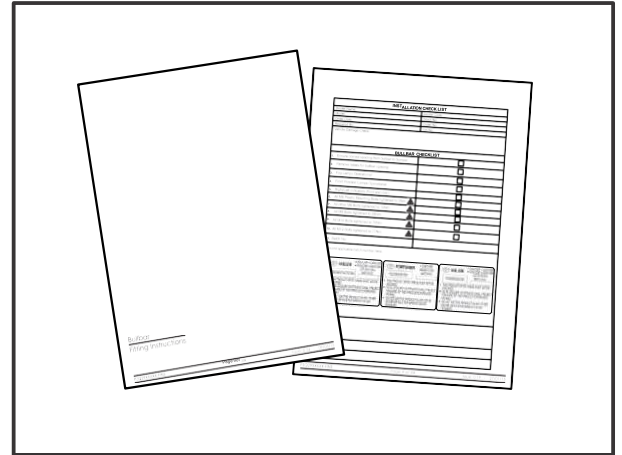
When removing connectors, hold the connector bodies and unlock without pulling on harnesses. Do not destroy the connector lock by prying with a screw driver. Keep the harnesses away



Do not pull on wiring harnesses strongly.

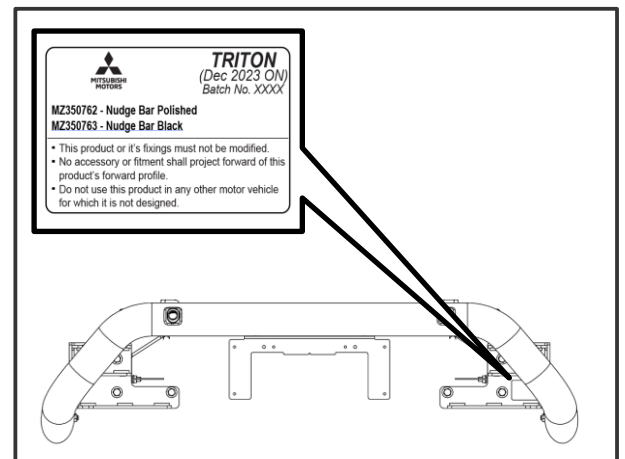
## – Step 1

- Open the carton and identify all components from the parts supplied sheet.



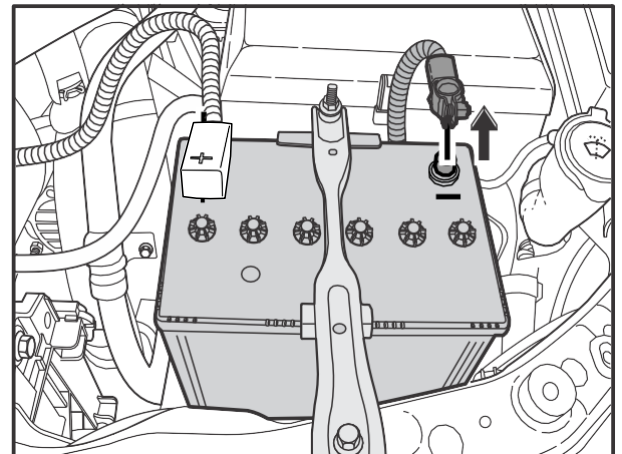
## – Step 2


- Note nudge bar part & batch number is detailed on label positioned on LH frame mount assembly.



## – Step 3

- Note down all the clock and radio settings.
- After stopping the vehicle, wait 60 seconds and disconnect the negative terminal from the battery cable.
- Cover the negative terminal with tape to prevent accidental contact.



**Tools Required:**   
10mm spanner

## — Step 4

Remove and retain the following parts:

### Note

- Refer to vehicle's workshop manual for how to removed vehicle parts.

- Front bumper grille cover (1)
- Radiator grille (2)
- Fog lamp cover LH/RH (3)
- Front Bumper assembly (4)

### Tools Required:



Flat blade screwdriver  
Trim removal tool  
Phillips head screwdriver  
Ratchet  
10mm socket

## — Step 5

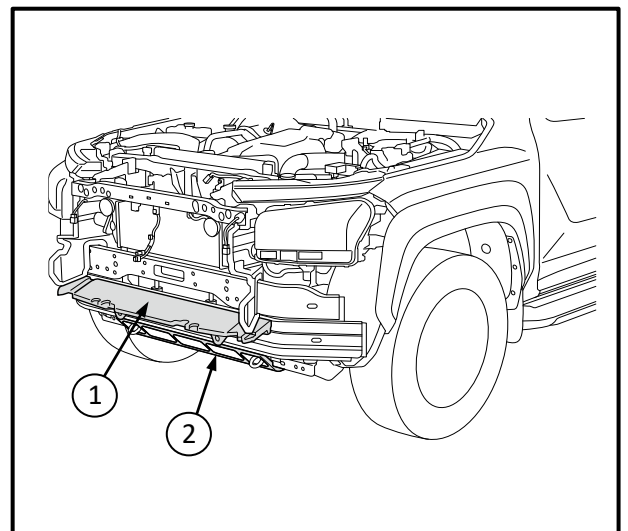
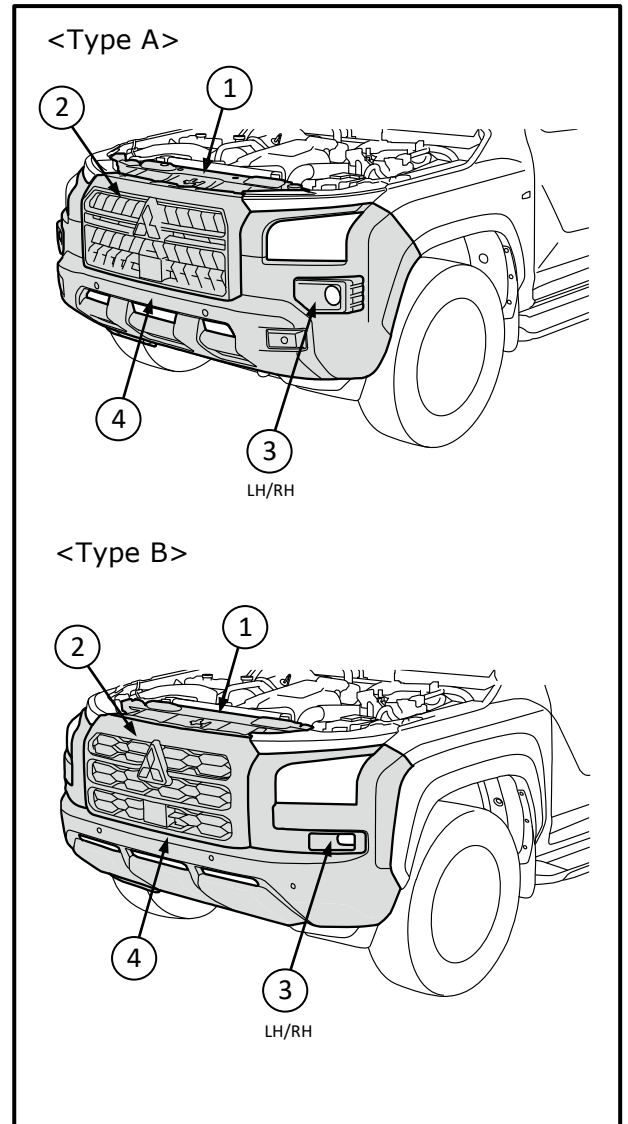
Remove and retain the following parts:

- Front bumper core centre (1)
- Under skid plate (2)

### Tools Required:



Trim removal tool  
Philips screwdriver  
Ratchet  
12mm socket



## — Step 6 —

- Install LH frame reinforcement bracket (1) using 2 x M10x30 bolt, washer (2).
- Nut plate (3) to be inserted through existing hole in frame and front cross member.

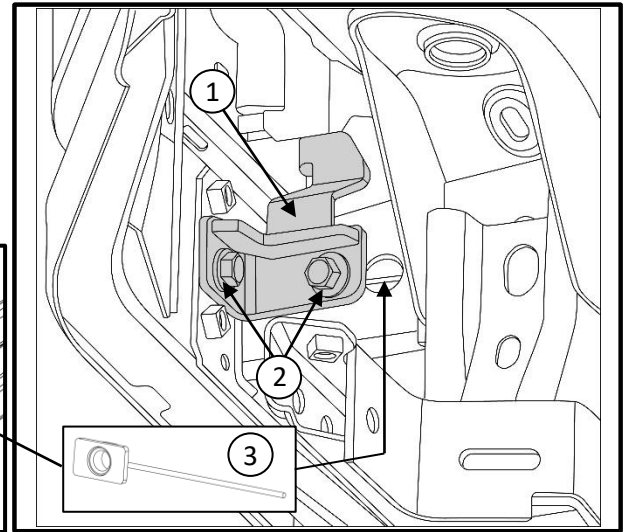
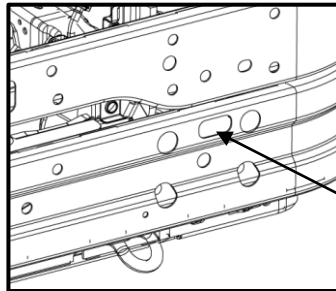
**Tools Required:** 

Ratchet

Torque wrench

17mm socket

17mm spanner



## — Step 7 —

- Install spacer (1) and M8x25 screw (2) through existing hole in front cross member to secure upper frame reinforcement.
- Once screw is installed, bend the end of spacer through hole in cross member to avoid rattle (3).
- Repeat Steps 6 & 7 to install RH frame reinforcement bracket.

Torque M8 fastener to 22Nm +/-2Nm

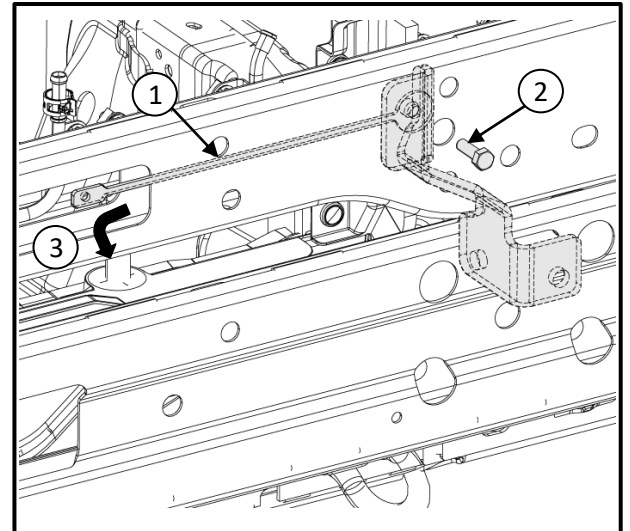
Torque M10 fasteners to 44Nm +/-2Nm

**Tools Required:** 

Ratchet

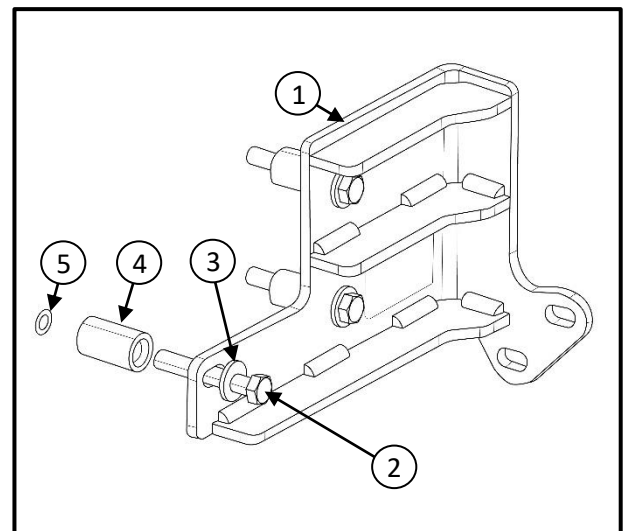
Torque wrench

13mm socket



## — Step 8 —

- Assemble LH Frame Mount Assembly (1) with M10x70 bolt (2), M10 Washer (3), Spacer (4) and O-Ring (5) to retain spacer during assembly to vehicle.
- Repeat for all 3 fasteners
- Repeat for RH Frame Mount Assembly.



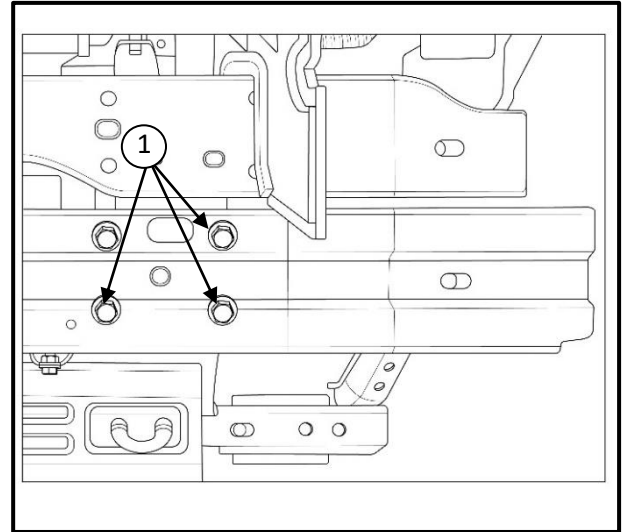
## – Step 9

- Remove and discard 3 x OE bolts (1) fastening front cross member to LH frame rails.

**Tools Required:** 

Ratchet

14mm socket



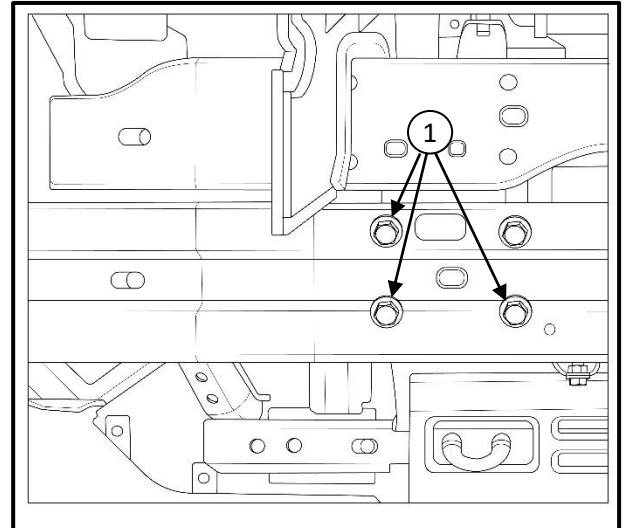
## – Step 10

- Remove and discard 3 x OE bolts (1) fastening front cross member to RH frame rails.

**Tools Required:** 

Ratchet

14mm socket



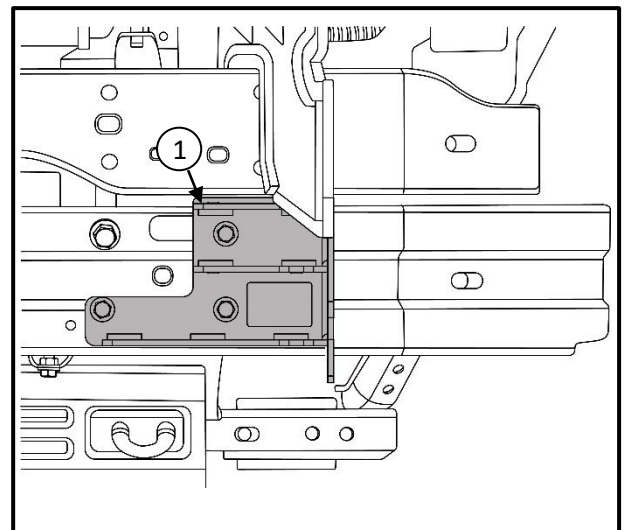
## – Step 11

- Assemble the LH Frame Assembly bracket using fasteners and spacers provided, loosely tighten fasteners.

**Tools Required:** 

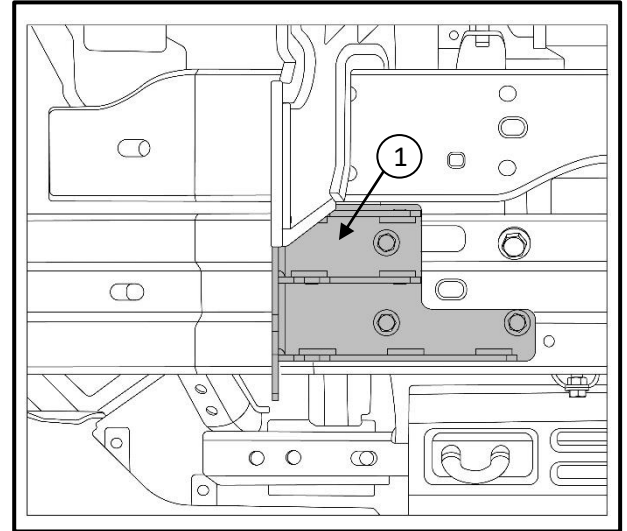
Ratchet

14mm socket



## – Step 12

- Assemble the RH Frame Assembly bracket (1) using fasteners and spacers provided, loosely tighten fasteners.



**Tools Required:** 

Ratchet

14mm Socket

## – Step 13

- Assemble license plate bracket (1) to Nudge Bar assembly using M8x25 button head screws & washers.
- Assemble LH & RH brackets (2) with 4 x M10 x 25mm Bolt and washer.
- Do not torque M10 fasteners as holes are slotted to allow for alignment on vehicle.

Torque M8 fasteners to 22Nm +/-2Nm

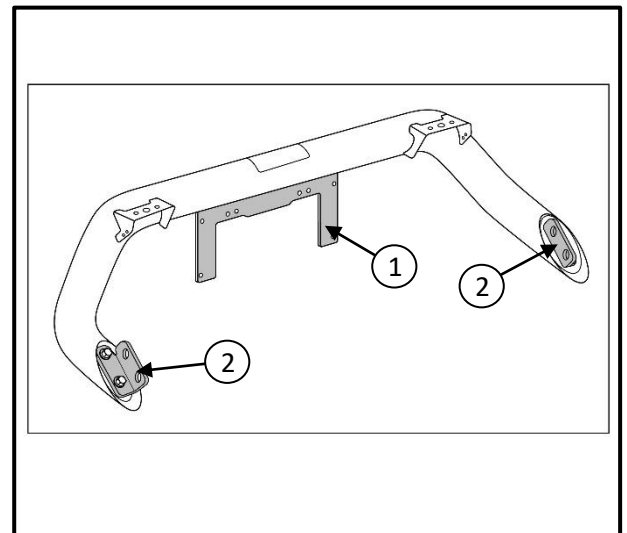
**Tools Required:** 

Hex key 5mm

Ratchet

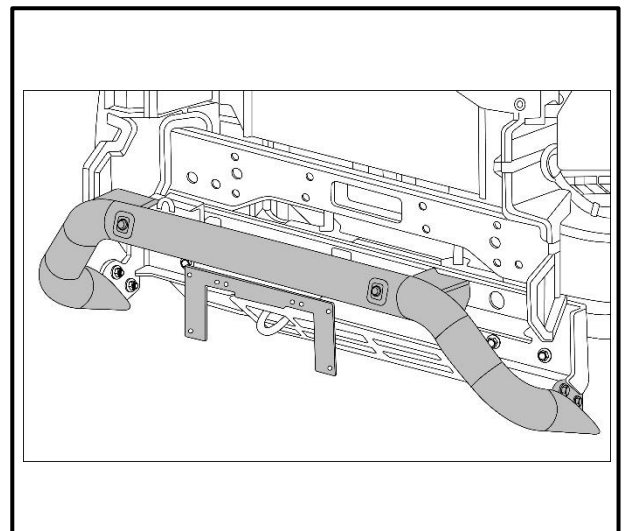
Torque wrench

17mm socket



## – Step 14

- Temporarily assemble Nudge Bar to frame mounting brackets to check horizontal alignment.





## – Step 15

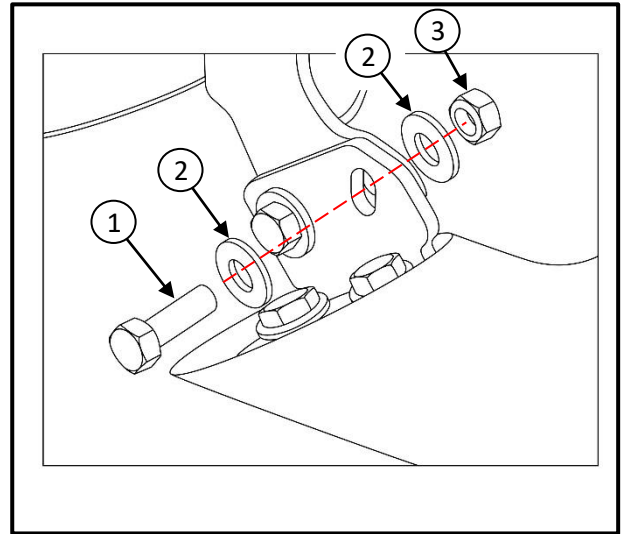
- Fasten LH & RH bracket with M10 x 30mm bolt (1), washer (2) & M10 nut (3).
- Loosely assemble all fasteners to ensure correct Nudge Bar alignment in next step.

**Tools Required:** 

Ratchet

17mm socket

17mm spanner

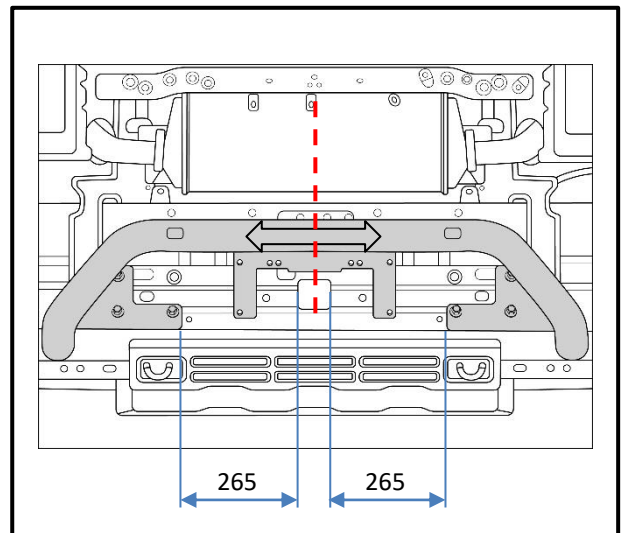


## – Step 16

- Check horizontal position of Nudge Bar is centred on vehicle, using tape measure check dimension as shown.

**Tools Required:** 

Tape measure



## – Step 17

- Once position is confirmed torque all 6 fasteners (1) to vehicle frame.

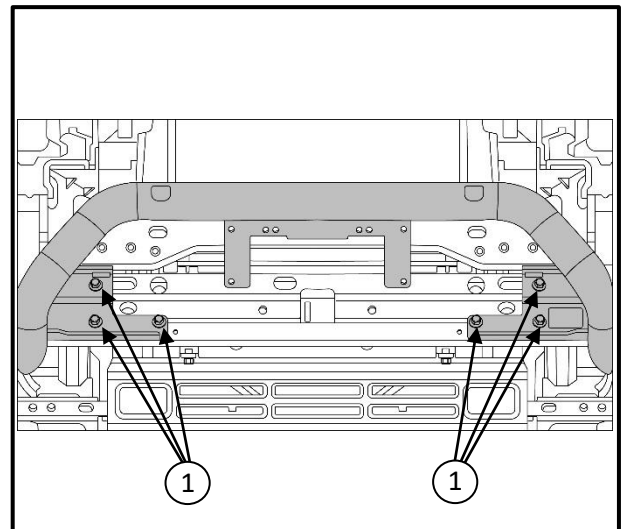
Torque M10 fasteners to 44Nm +/-2Nm

**Tools Required:** 

Ratchet

Torque wrench

14mm socket

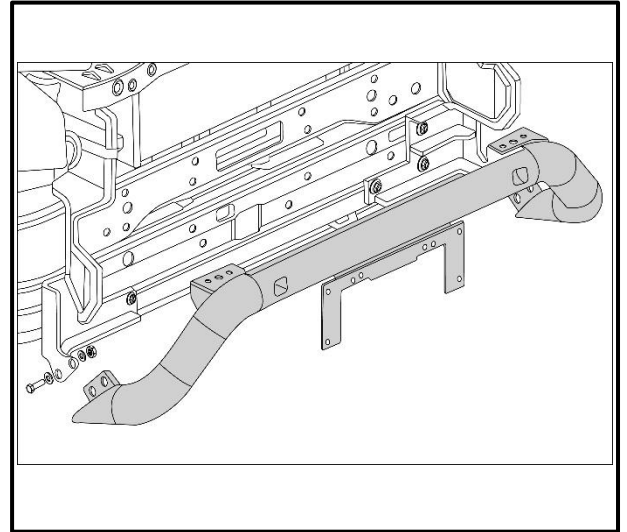


## – Step 18

- Remove Nudge Bar and retain fasteners for fitment after bumper installation.

**Tools Required:** 

Ratchet  
17mm socket  
17mm spanner

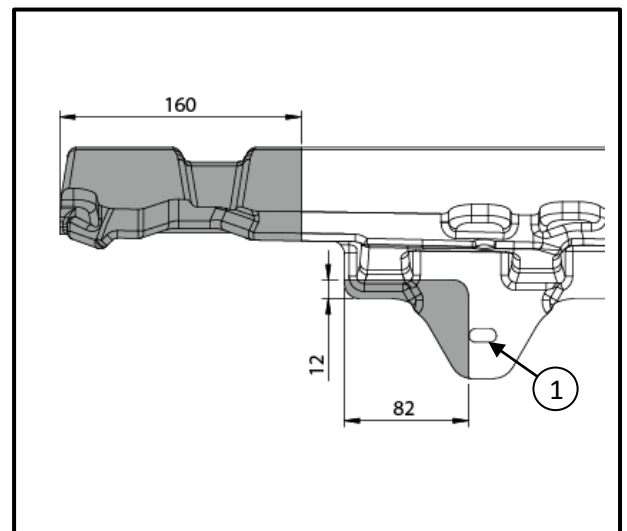


## – Step 19

- Trim bumper absorber (removed at Step 5), ensure fixing hole (1) for push scrivet is retained.

**Tools Required:** 

Marker pen, tape, oscillating tool, tape measure

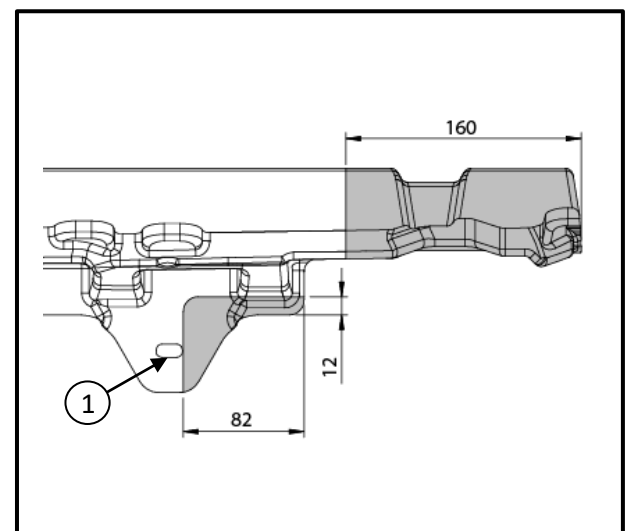


## – Step 20

- Trim bumper absorber (removed at Step 5), ensure fixing hole (1) for push scrivet is retained.

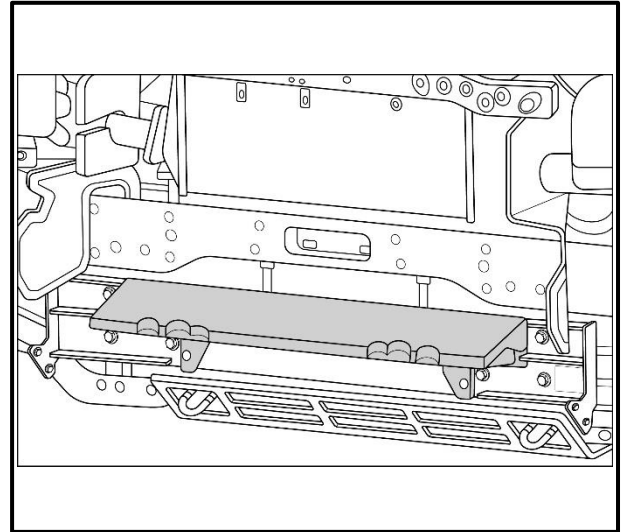
**Tools Required:** 

Marker pen, tape measure, oscillating tool, tape measure



## – Step 21

- Re-install trimmed bumper absorber using 2 x scrivenets retained at Step 5.



## – Step 22

**If fitting Driving lights & Driving lamp harness, continue with this Step, otherwise proceed to next Step**

- Fit the Driving lights by following the accessory fitting instructions

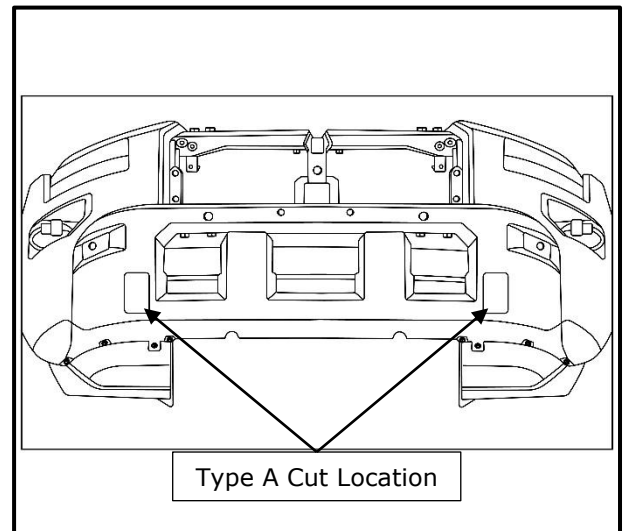


## – Step 23

- Bumper Cut – Type A. Cut using the template provided.
- Deburr all cut edges.

**Tools Required:** 

Marker pen, tape, gimlet, hole saw Ø20mm, oscillating tool, round file

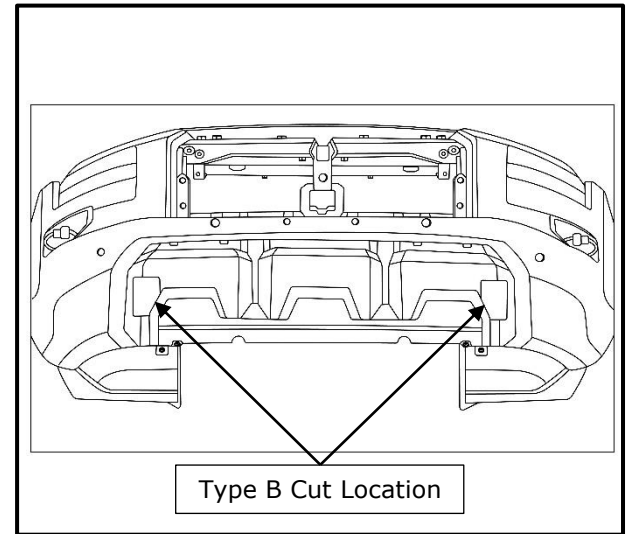


## – Step 24

- Bumper Cut – Type B. Cut using the template provided.
- Deburr all cut edges.

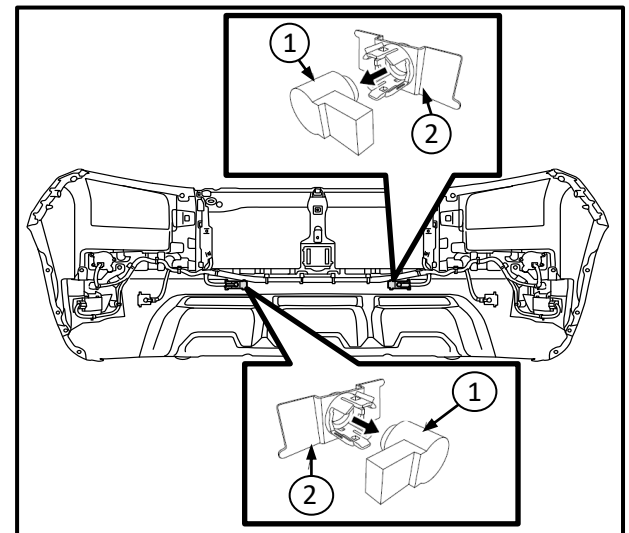
**Tools Required:** 

Marker pen, tape, gimlet, hole saw Ø20mm, oscillating tool, round file



## – Step 25

- Remove 2 x inner **parking sensors** (1) from bracket (2) on bumper.

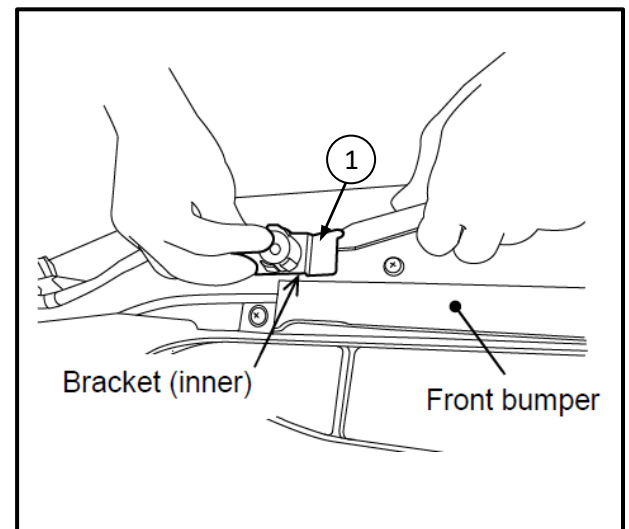


## – Step 26

- Remove 2 x inner parking sensor **bracket** (1) from bumper.

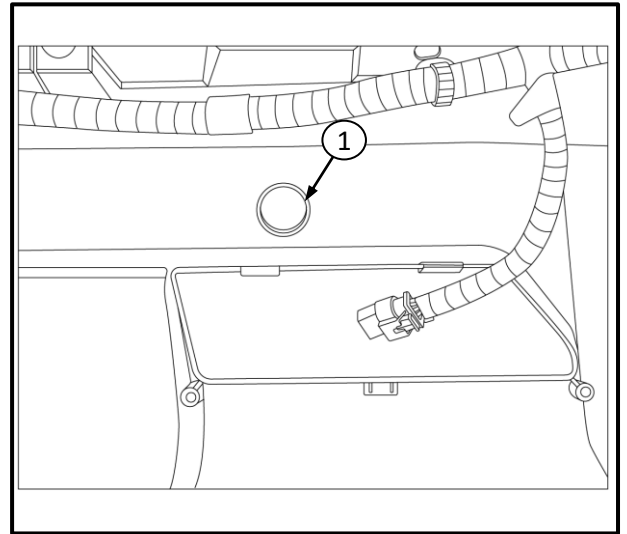
**Tools Required:** 

Plastic scraper or  
Trim removal tool



## – Step 27

- Use step drill  $\varnothing 30\text{mm}$  to increase 2 x inner sensor holes (1) in bumper to accommodate patch harness grommet.

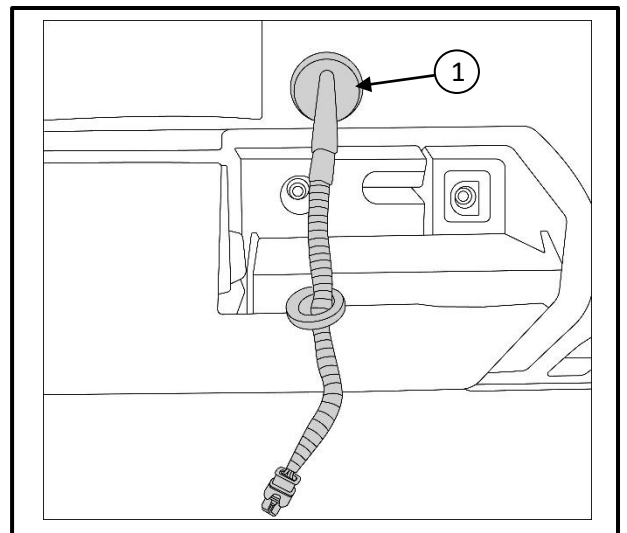


Tools Required: 

Step drill  $\varnothing 30\text{mm}$

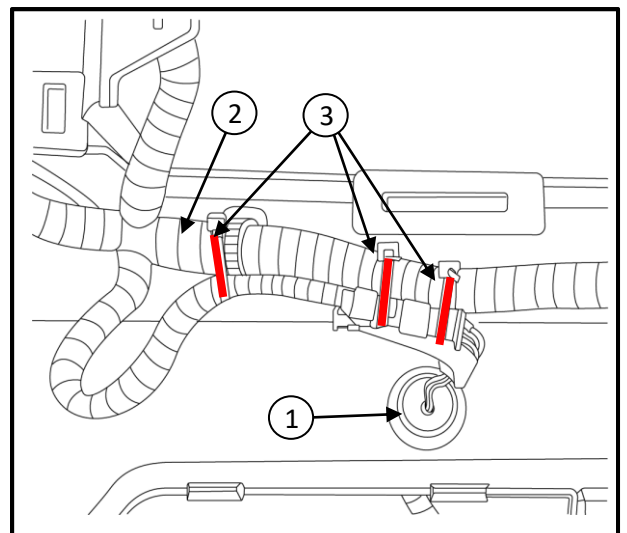
## – Step 28

- Install 2 x inner sensor patch harness (1) from outside of bumper, ensure harness grommet is seated into  $\varnothing 30\text{mm}$  hole.



## – Step 29

- Fasten LH sensor patch harness (1) to bumper harness (2) using supplied cable tie (3) in 3 places as shown.
- Trim excess cable tie length.



Tools Required: 

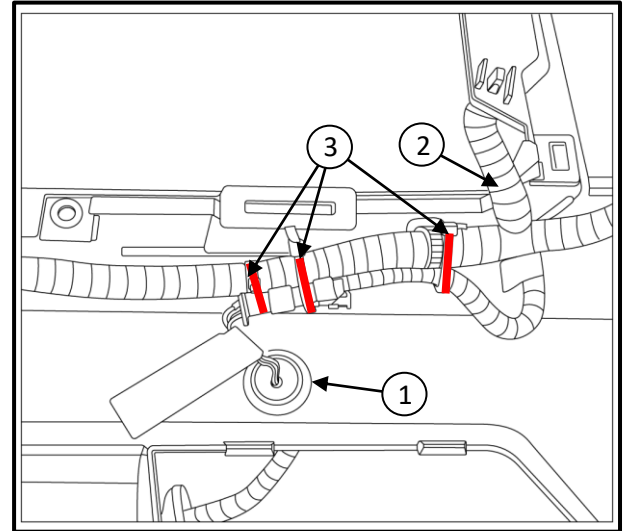
Side cutter

## – Step 30

- Fasten RH sensor patch harness (1) to bumper harness (2) using supplied cable tie (3) in 3 places as shown.
- Trim excess cable tie lengths.

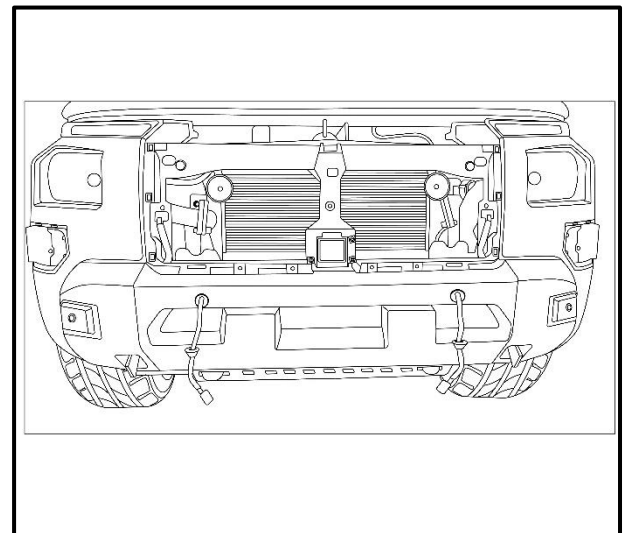
**Tools Required:** 

Side cutter



## – Step 31

- Re-install bumper onto vehicle.



## – Step 32

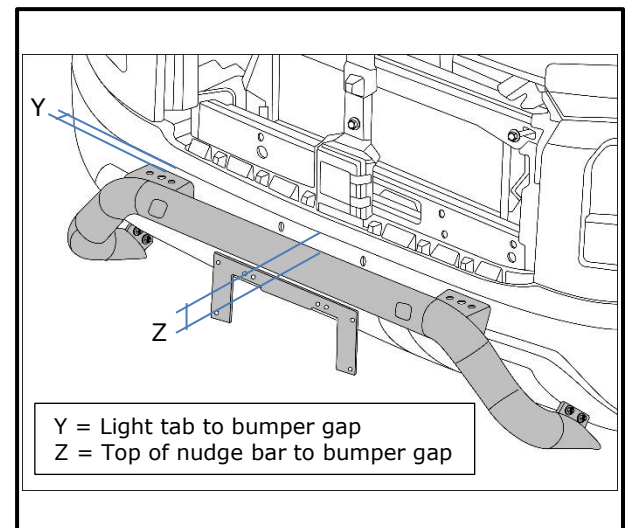
- Install Nudge Bar with 4 x M10 x 30mm bolts , 8 x M10 washers & 4 x M10 nuts (as detailed at Step 15).
- Loosely assemble all fasteners and ensure correct Nudge Bar gap/clearance before torquing the bolts.

Bumper	Y (mm)	Z (mm)
Type A	24 +/-5	24 +/-5
Type B	24 +/-5	7 +/-5

Torque all M10 fasteners to 44Nm +/-2Nm (8 places).

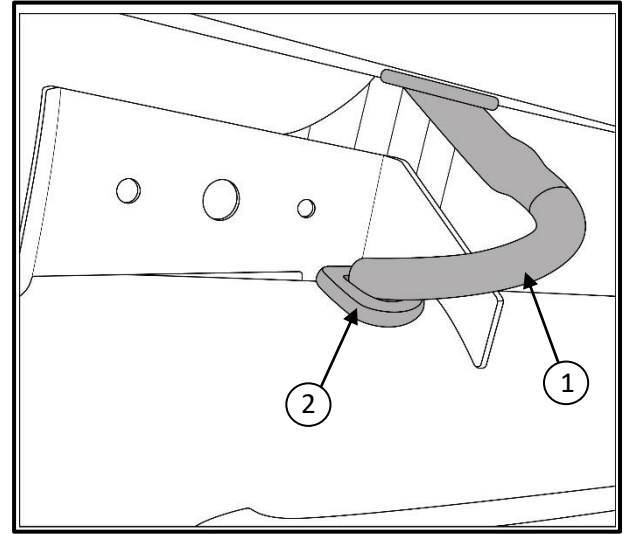
**Tools Required:** 

Ratchet  
Torque wrench  
17mm socket  
17mm spanner  
Tape measure



## – Step 33

- Insert LH & RH sensor patch harness (1) into Nudge Bar hole positioned under driving lamp fixing brackets, ensure grommet (2) is seated into the rear of Nudge bar tube.

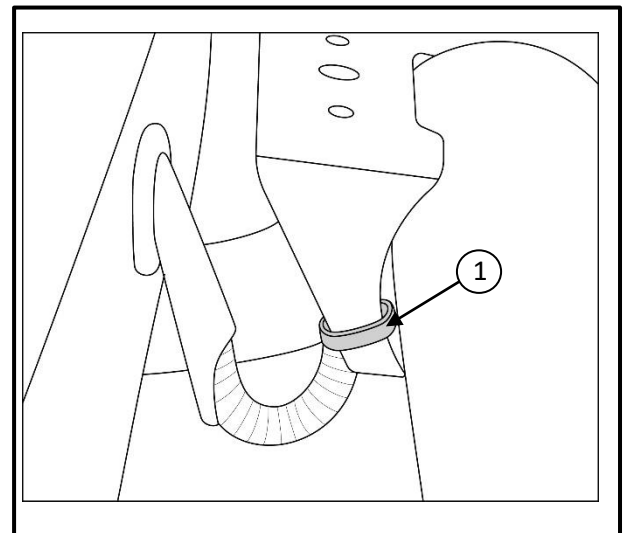


## – Step 34

- Cable tie (1) sensor patch harness as shown.
- Trim excess cable tie lengths.

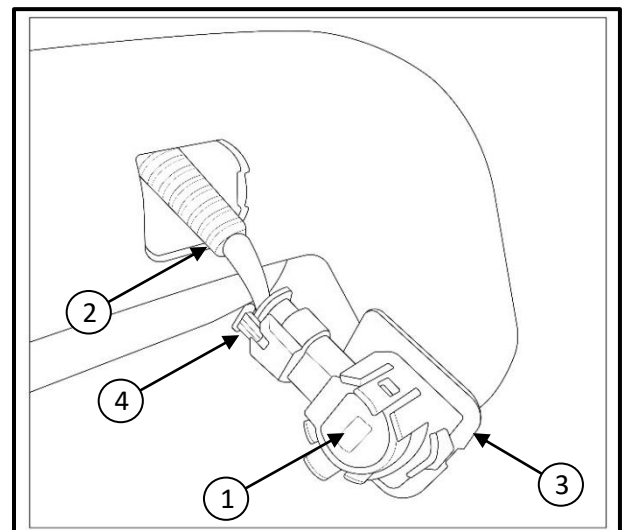
Tools Required: 

Side cutter



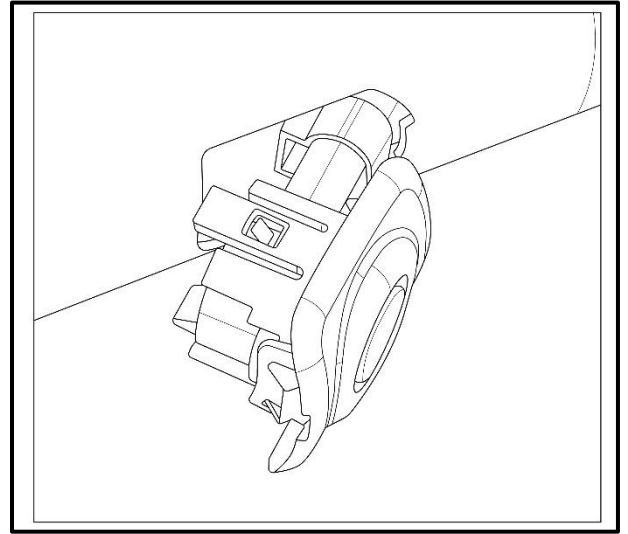
## – Step 35

- Install LH & RH sensor (1) onto patch harness (2) with the appropriate sensor bezel (3).
- Note: sensor bezels can be identified by marked "R" & "L".
- Ensure locking pin (4) is engaged.



## – Step 36

- Insert LH & RH sensor & sensor bezel into Nudge Bar tube and ensure clips are properly engaged once installed.



## – Step 37

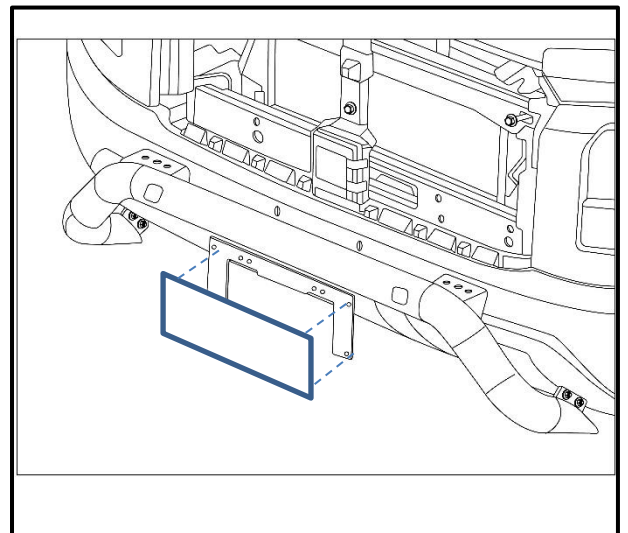
- Install licence plate using 2 x M5 button head screws and nuts provided.

**Tools Required:** 

Hex key 4mm

Ratchet

Spanner 8mm





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## Reinstallation of vehicle parts:

- Make sure each harness is securely connected.
- Reinstall the removed vehicle parts.
- Connect the negative battery terminal.

### **Caution**

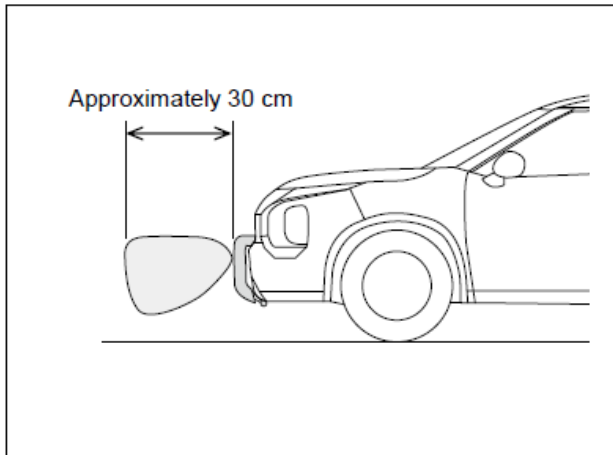
- During restoration, exercise enough care to prevent the vehicle harness and the accessory harness from getting caught and the vehicle parts from being damaged.
- Refer to vehicle's workshop manual for details of reinstallation of the vehicle parts.

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## ■ CONFIRMATION AFTER INSTALLATION

- FCM-ECU ALIGNMENT (refer to Vehicle's workshop manual)
- 1) Confirm that all check boxes have been checked when installation is complete.
  - 2) Make sure that the relocated parking sensors heights are the same.
  - 3) Make sure that the relocated parking sensor operates correctly follow "FUNCTION CHECK TEST".
  - 4) Make sure the FCM system OFF warning light in the meter is not light on.  
If it is light on, the nudge bar is not installed at the correct height. Adjust by lowering the height of the Nudge bar.
  - 5) Make sure that there is no rattle when shaking the Nudge bar.
  - 6) Restore the memory of the radio, audio, clock, etc.
  - 7) Perform operational check of each vehicle equipment.
  - 8) Please place the Installation Manual in the glove box after the Nudge bar installation completed.

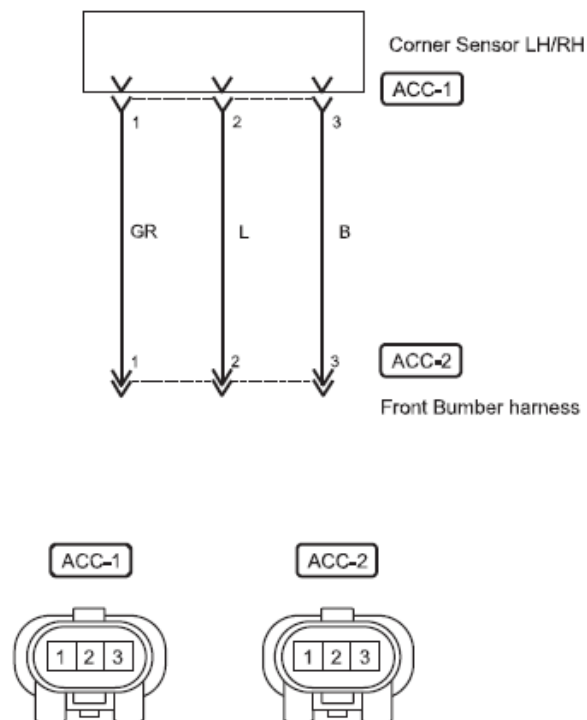
## FUNCTION CHECK TEST



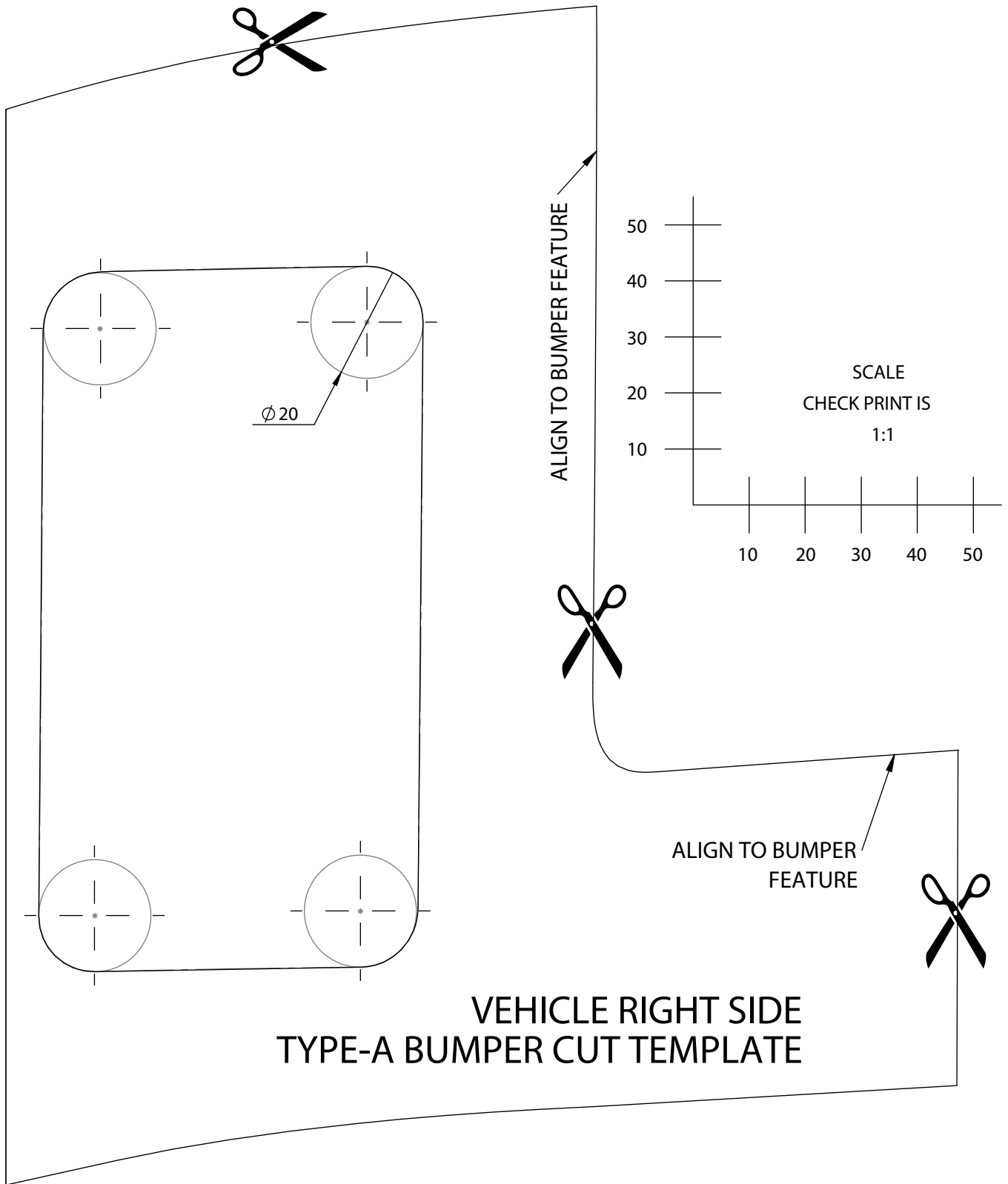
- 1) Start the engine.
  - 2) Using the box, etc. which packed the nudge bar, make sure that a continuous buzzer sounds approximately 30 cm from the sensor.
- Note: the functionality of the parking sensors may vary slightly in their new position.

## CIRCUIT DIAGRAM

※Also refer to the Workshop manual (Wiring diagram) for the vehicle.

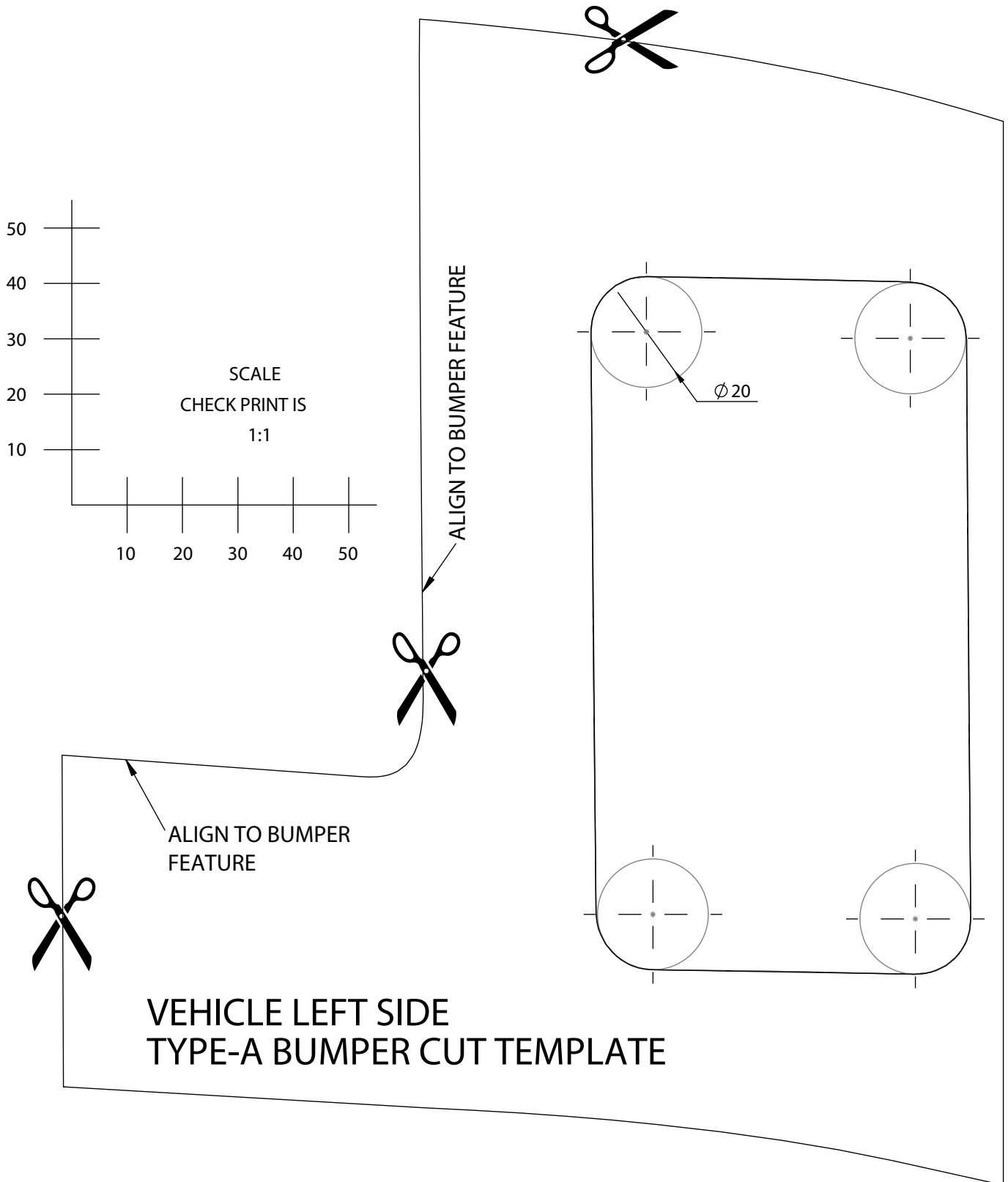


# Bumper cut template **Type A**



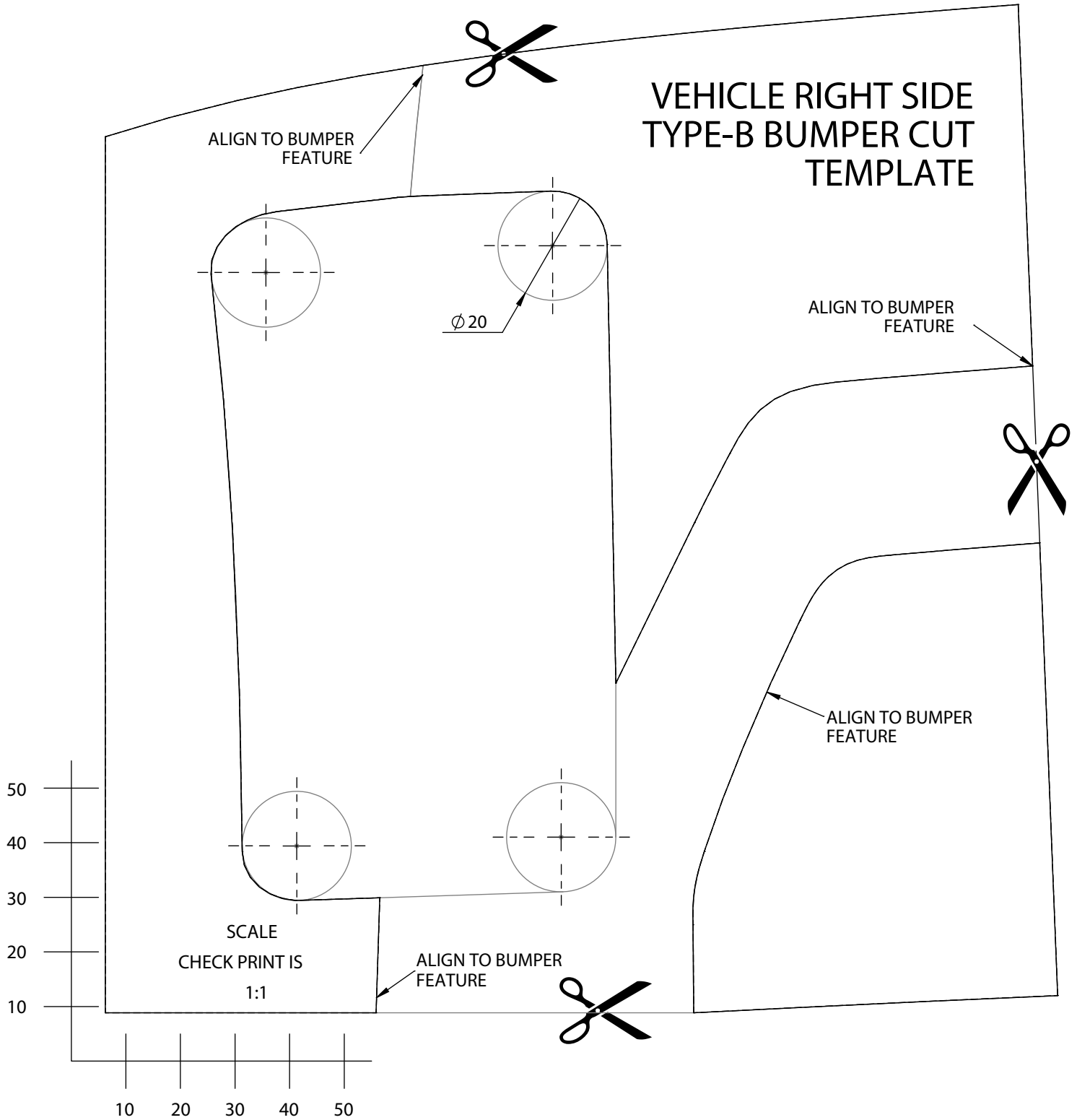
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# Bumper cut template **Type A**



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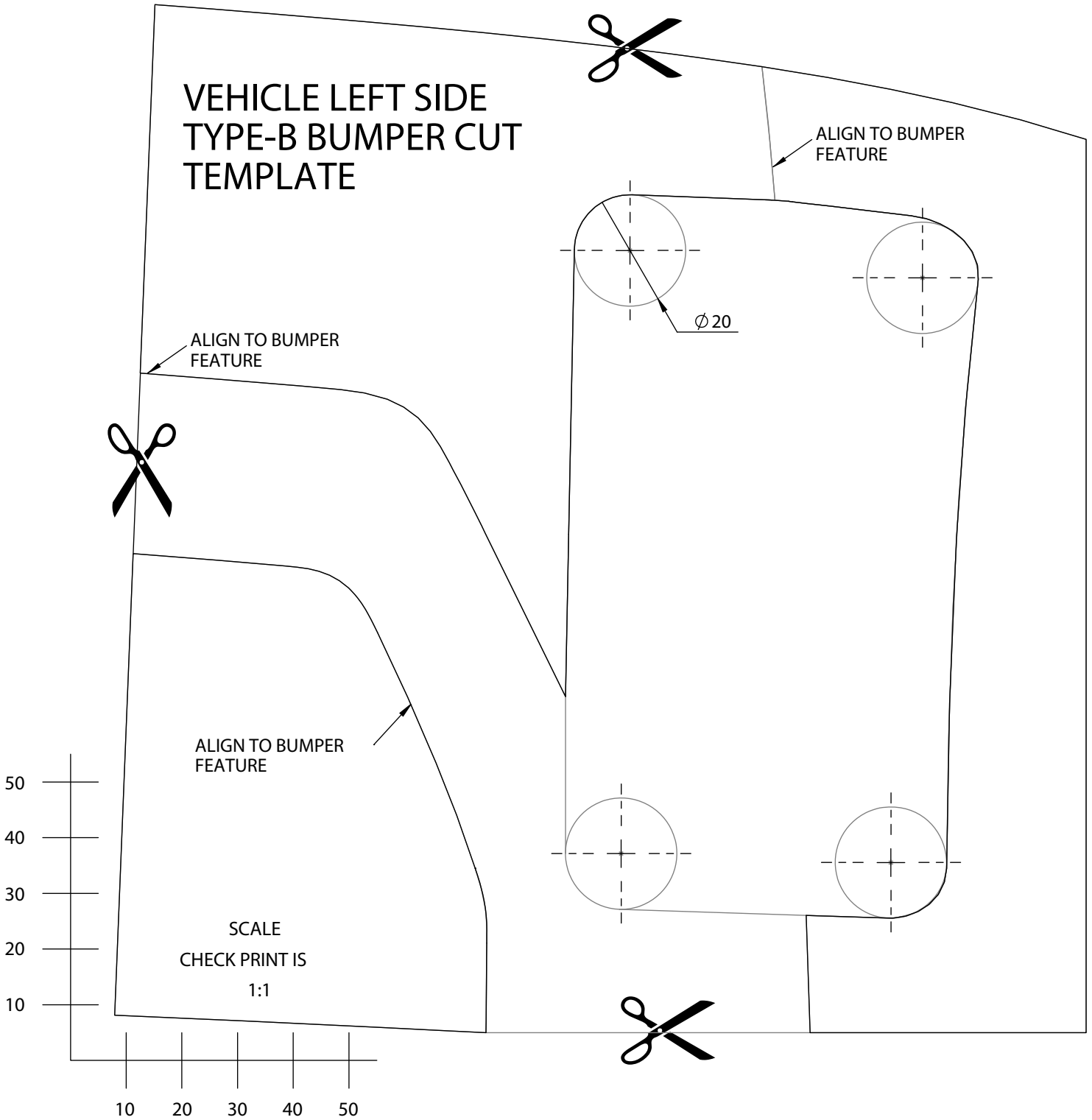
# Bumper cut template **Type B**



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# Bumper cut template **Type B**



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