
# ROCK TAMERS®
## MUDFLAP SYSTEM

**RT-RT108 | RT-RT110**

# INSTALLATION INSTRUCTIONS

# Contents

# Bolt Torque Conversion Table

| Inch-Pounds (in-lbs) | Foot-Pounds (ft-lbs) | Newton-Meters (N-m) | Kilogram-Centimeters (kg-cm) |
|---|---|---|---|
| 20 | 1.7 | 2.3 | 23 |
| 30 | 2.5 | 3.4 | 34 |
| 70 | 5.87 | 7.9 | 79 |
| 80 | 6.7 | 9.0 | 90 |
| 180 | 15 | 20 | 203 |
| 1500 | 125 | 169 | 1690 |

## Tools Required:

- Wrench/Ratchet Wrench and socket sizes:
  – 8mm, 10mm, 13mm, 17mm, & 27mm (or a wrench adjustable up to 27mm) –
Locking STAR PIN™ wrench (included in kit)
  – 5mm locking Allen wrench (included in kit)
- Utility knife
- Tape measure or yardstick.
- Straight edge for cutting guide at least 24” in length, or 61 cm long
- Hammer or mallet

**CAUTION** **WARNING**

- Read through the fitting instructions before installation of Clearview Accessories.
- Always install the accessory following the fitting instructions. Failure to do so may cause damage to the vehicle or the accessory and will void your warranty.
- Ensure all packaging materials are recycled and/or disposed of in accordance with local regulations.
- Safely store and protect any removed vehicle components.
- Remove all metal swarf and dust from all vehicle surfaces if the surface is used for accessory installation.
- Consumer assumes all risks associated with product performance after installation. Rock Tamers® will not protect everything and everyone from harm. Results may vary depending on road surface and conditions, vehicle types, weather conditions, installation, and driving input. Please apply common sense to your expectations relating to product performance.
- **Car Washes;** You must remove the mudflap system before entering any drive-through car wash.

**EXHAUSTS:**

Any modifications to the factory-installed exhaust system may void your manufacturer's warranty.

Adequate clearance must be maintained to prevent heat damage to the flaps. If this cannot be achieved we suggest fitting a 90degree dump or curved aluminum heat deflector to the tailpipe. This will divert hot gasses away from the flaps.

For vehicles with exhausts that cannot be diverted we suggest attaching an aluminum heat shield to the mud flap clamp bolts in the vicinity of the exhaust. This will deflect the heat while allowing the flap to move freely.

Common sense should prevail, if you feel your flaps are getting too hot because of the exhaust then have the modification done.

**PERFORMANCE:**
The static angle of the flaps can be increased up to 35 degrees from the vertical. This will enhance the performance of the flaps and help eliminate the chance of stones re-bounding back onto the tow vehicle. **When travelling, the flaps need to be sitting at about 45 degrees to be effective. Adjusting the static angle will help achieve this.**

Some Australian vehicles (for example the 200 series LandCruiser) require the center hub to be turned upside down which lowers the pivoting point of the support arms by about 35mm. Doing this lessens the angle required of the supporting arms, allowing the rear tailgate to be opened without damage.

If the center hub and supporting arms are mounted on a 200 series LandCruiser without this modification, you cannot open the rear tailgate. It is also important to increase the static angle of the flaps even more because the flaps sit further away from the vehicle.

Clearview Accessories provides a free Rock Screen with every set of Rock Tamers. This lightweight mesh insert is also available to be purchased separately for vehicles regularly travelling on gravel roads and off road driving. This insert, when fitted between the two flaps, will reduce the occurrence of stray stones, debris etc. rebounding off the A-frame of your tow vehicle. Available in two sizes: 750mm wide and 900mm wide.

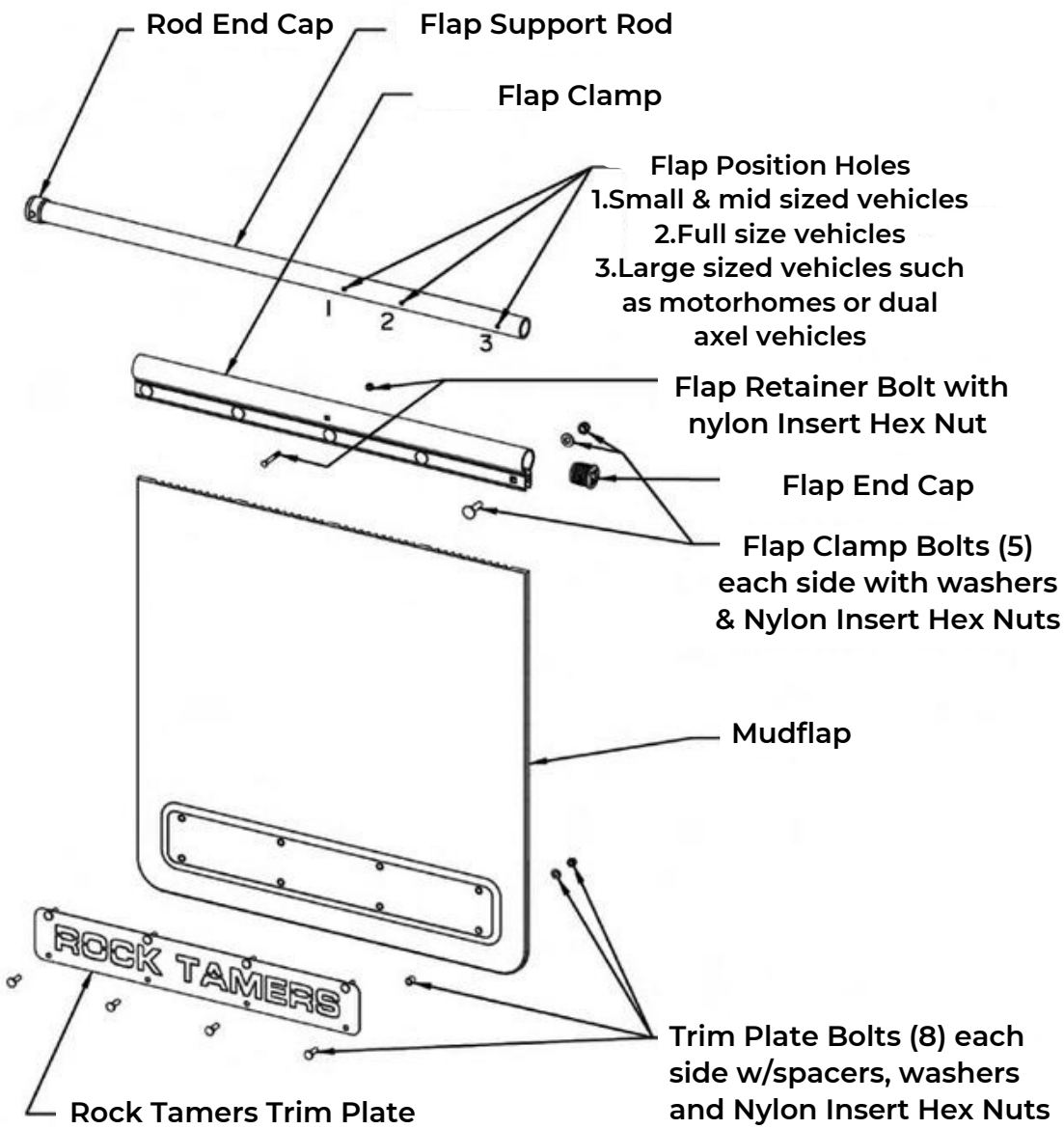
**MAINTENANCE:**

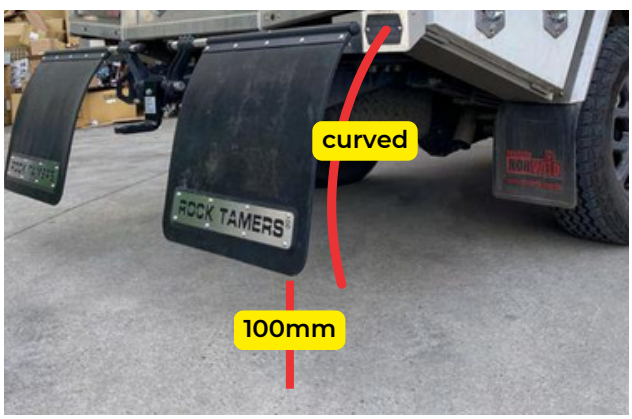
**Car Washes:** You must remove the mudflap system before entering any drive-through car wash.

**Extend the life of your Rock Tamers:** When not in use, spray the hub and fittings with a lanolin-based spray and wipe off excess. This will protect against corrosion etc. particularly when used salty conditions.

Before travelling, check all bolts to ensure that they are tight. For optimum service and life, check components and the torque on all bolts prior to each use.

**Rock Tamers will not protect everything from harm. Results may vary depending on road surface and conditions, vehicle types, weather conditions, installation and driving input (particularly speed). Please apply common sense to your expectations relating to the product's performance.**

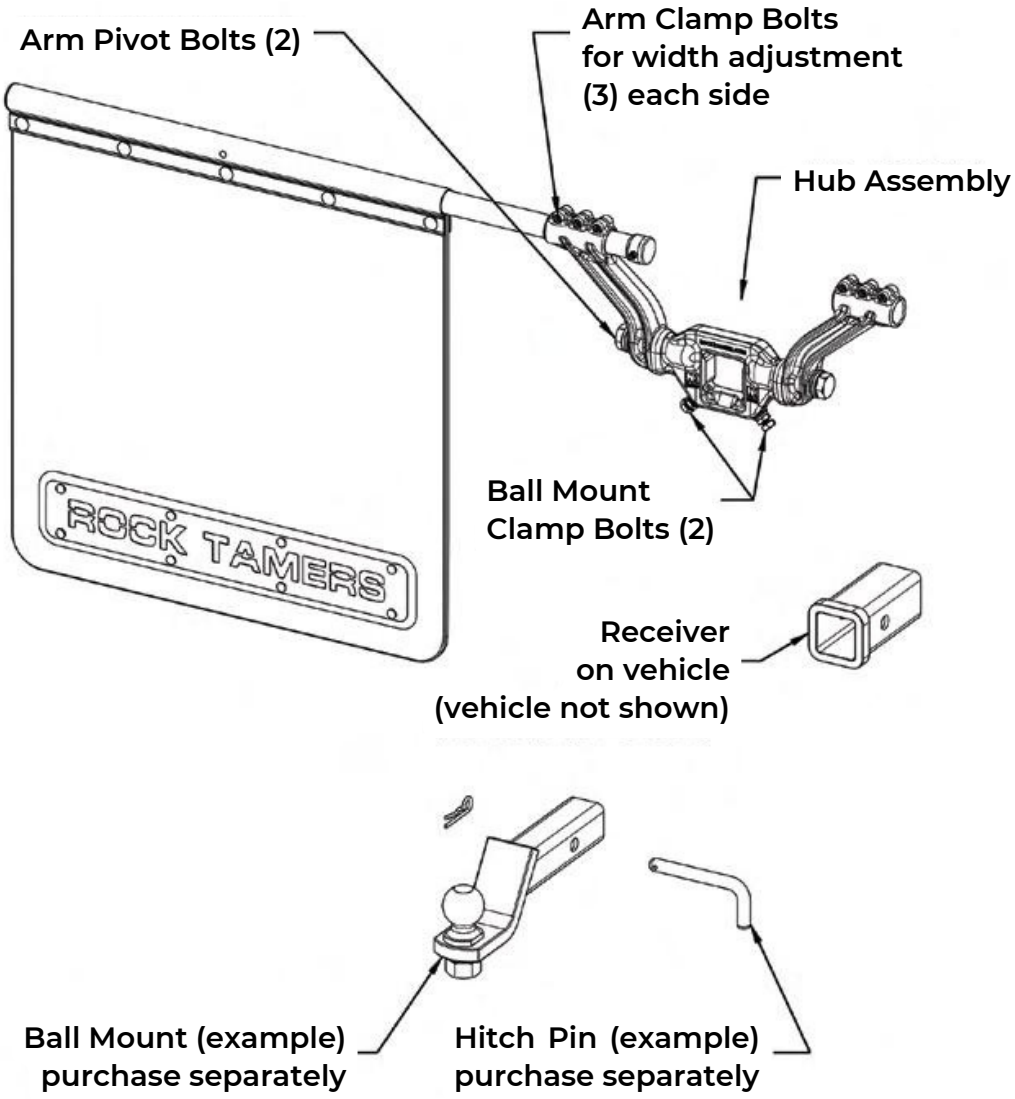



## IMPORTANT

The lowest point of the mud flaps need to be a minimum of 100mm off the ground when hitched or fully loaded. Ensure the mudflaps are installed with a slight curve at the top so there is tension on the rubber, this will help provide maximum protection from rocks and debris etc. (See page 7)

IMAGE 1




## Assembly Hints

Refer **Image 1** for component names and general definitions. Names in ALL CAPITALS refer to parts named in the illustrations.

It may be easier to assemble the system while attached to a BALL MOUNT on the vehicle. However, it may also be assembled on a floor or workbench.

The MUDFLAP length may require cutting to fit your specific vehicle. Be sure of the required length (minimum 100mm off the ground to bottom of mudflap) by measuring with full tongue weight attached.

Account for all parts listed in the Parts List.

**1.** Slide HUB ASSEMBLY onto BALL MOUNT and insert into vehicle RECEIVER HITCH.
*Refer Images 2 & 3.*

**2.** Secure the BALL MOUNT with HITCH PIN.
- Adjust HUB ASSEMBLY to desired position.

**3.** Tighten the two M10 BALL MOUNT CLAMP BOLTS to hold CENTER HUB in place.
(For assembly only)
*Refer Image 3.*

**4.** Loosen or Remove all three M6 ARM CLAMP BOLTS from each HUB ARM. Carefully insert the two FLAP SUPPORT RODS thru HUB ARMS. Place ROD END CAP over the end of rods, hex side facing away from the vehicle, insert END CAP BOLT through END CAP BOLT HOLE, tighten securely with M5 NYLON INSERT HEX NUT.
*Refer Image 4.*

IMAGE 2

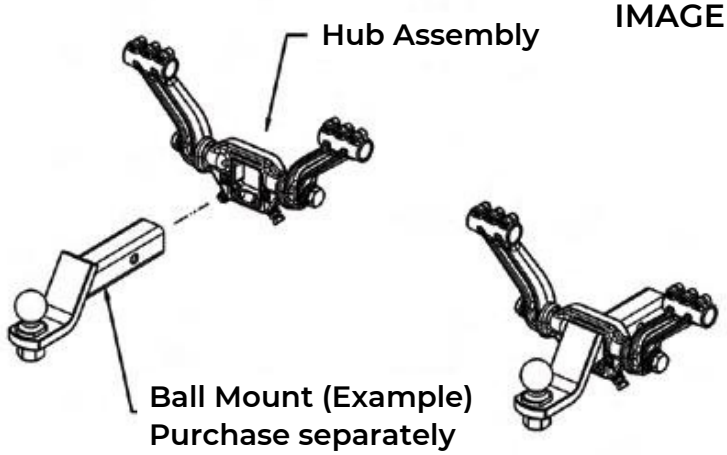



IMAGE 3

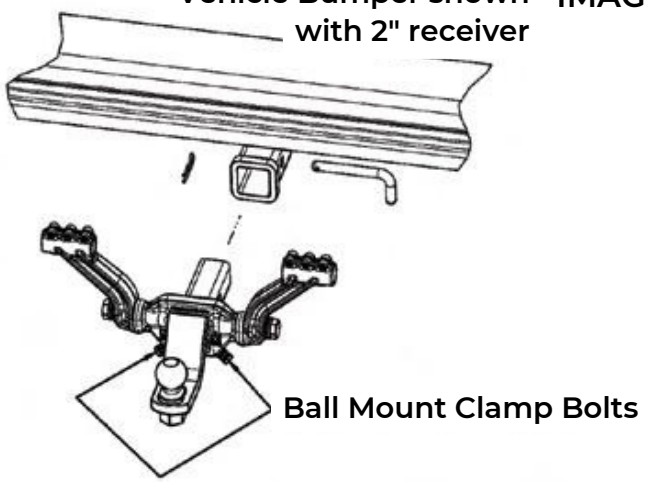



IMAGE 4

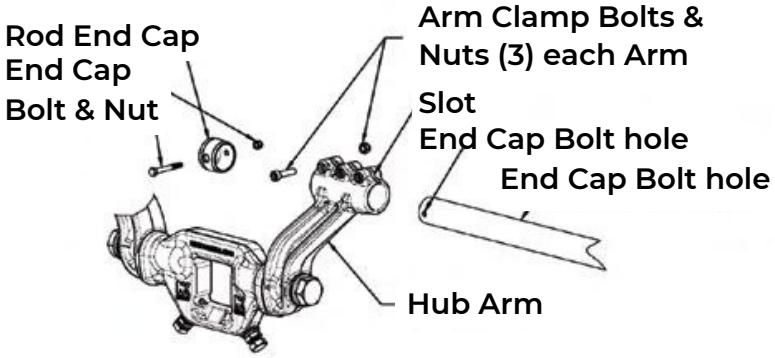
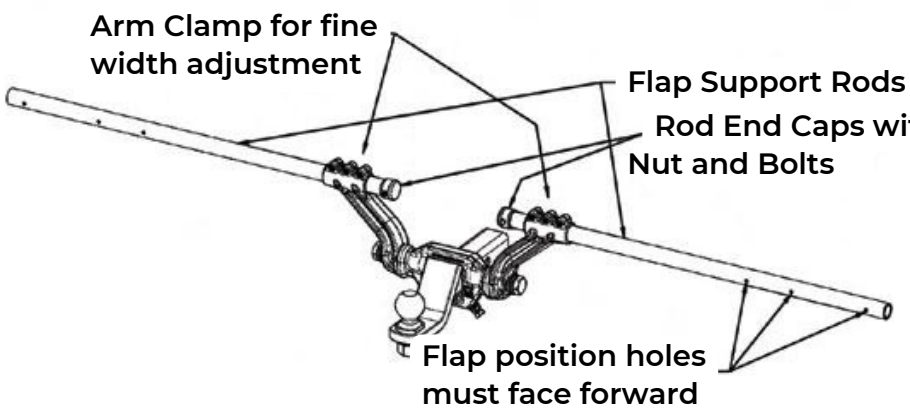


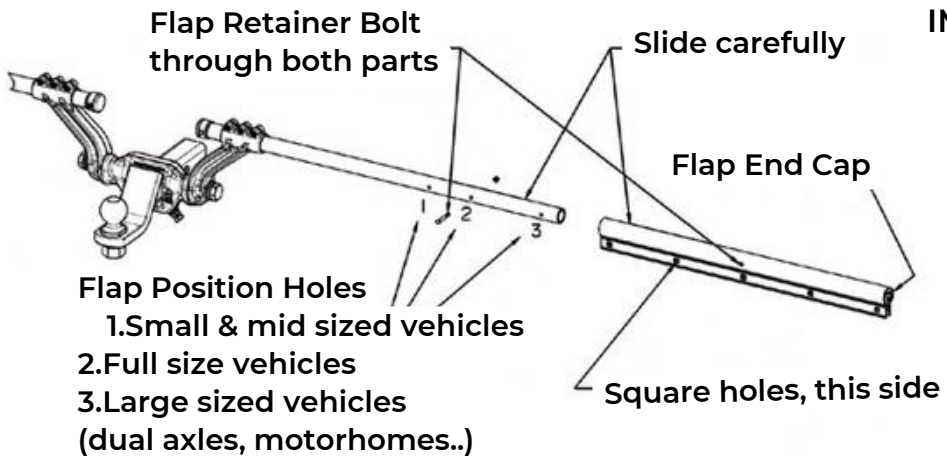
IMAGE 5




**5.** Re-install M6 ARM CLAMP BOLTS and M6 NYLON INSERT HEX NUTS back into HUB ARMS after the SUPPORT ROD is inserted. *(Do not tighten yet.)*

**6.** Position the left and right FLAP SUPPORT RODS so the width adjustment holes face forward horizontally. *Refer Image 5.*

IMAGE 6

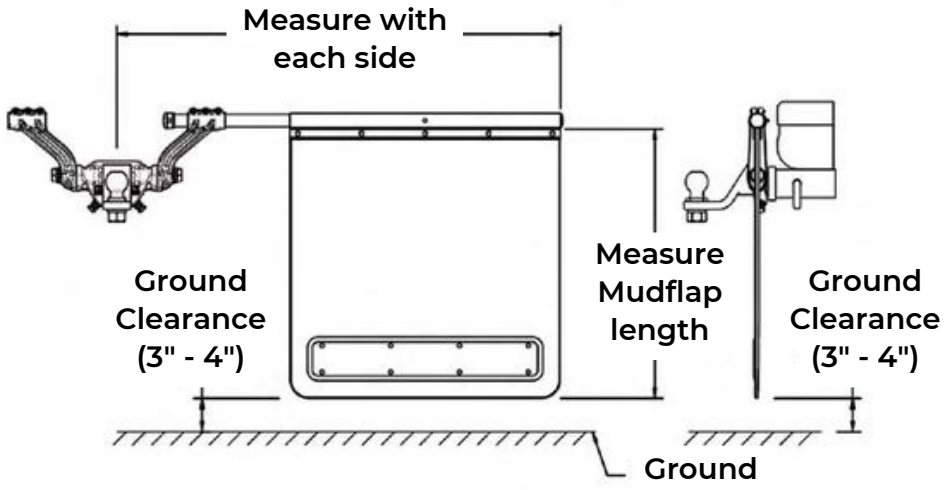



**7.** Slide FLAP CLAMPS over the FLAP SUPPORT RODS with square holes facing away from vehicle. Do not secure with FLAP RETAINER BOLTS yet.
*Refer Image 6 for orientation of flap retainer bolt hole and flap support rod positioning holes.*
*NB: MUDFLAP not yet attached in Image 6.*

IMPORTANT: This next step is critical in ensuring that the MUDFLAP SYSTEM is properly installed. All measurements should be made while tow vehicle has full tongue weight. (Mudflap to be a minimum of 100mm off the ground)


**8.** Make sure SUPPORT RODS are level on both sides and measure the distance from the bottom of FLAP SUPPORT ROD to the ground. Subtract the desired **ground clearance (3"- 4" recommended or 75 mm – 100 mm).**
*Refer Image 7.*

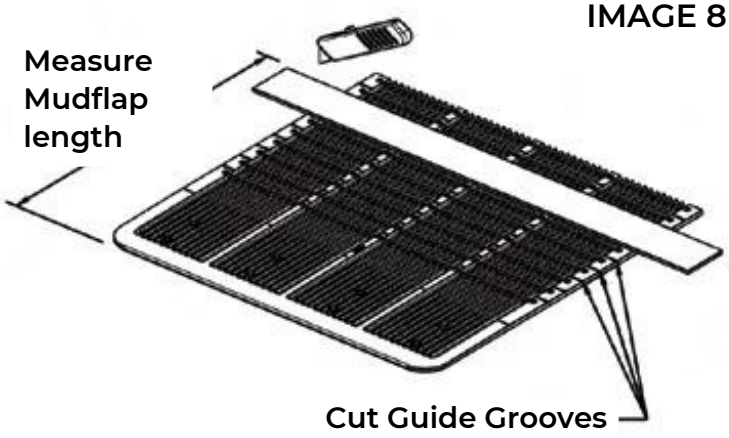
**IMAGE 7**




**9.** Lay MUDFLAP down with grooved side up on flat surface. Measure desired MUDFLAP length from the bottom up. Find the nearest pre-molded CUT LINE GROOVE and mark.
*Refer Image 8.*

IMPORTANT:
Before cutting and drilling/punching holes, make sure to place either a scrap piece of wood or thick cardboard underneath MUDFLAP to avoid any surface damage.

**IMAGE 8**

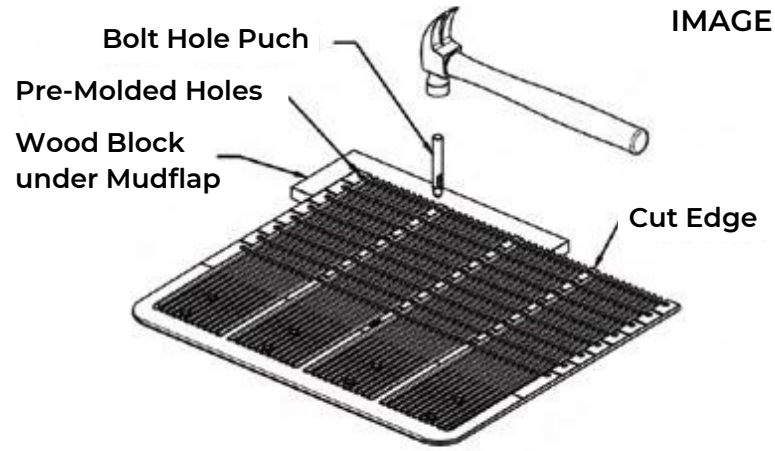


**10.** Use a sharp utility knife to cut through MUDFLAP using the groove and a straight edge as a guide. This may take several passes to completely cut through MUDFLAP. ***Refer Image 8.*** Repeat procedure for 2nd MUDFLAP.

IMPORTANT: Place a scrap piece of wood under the MUD FLAPS when punching or drilling holes, as the punch will dull and may damage the surface underneath.

**11.** Punch the top row of pre-moulded holes in the MUDFLAP using the included BOLT HOLE PUNCH.
***Refer Image 9.***

**IMAGE 9**




**12.** Assemble the cut end of the MUDFLAP into FLAP CLAMP by either sliding or pushing it down onto the top of the MUDFLAP with the square holes on the smooth side.

*Note: Should it be difficult to slide MUDFLAP into FLAP CLAMP, lubricate the cut end of the MUDFLAP surface before inserting - i.e. a dry lubricant, such as WD40 Dry PTFE Lubricant may be used to help with Installation.*

**Insert the five M8 FLAP CLAMP BOLTS through the square holes. Loosely attach the M8 FLAT WASHER and M8 NYLON INSERT HEX NUT to the back as shown. (Do not tighten yet.) Refer Image 10. Repeat for 2nd MUDFLAP.**

**13.** Slide the FLAP CLAMP with the attached MUDFLAP over the FLAP SUPPORT ROD with the NYLON INSERT HEX NUTS facing your vehicle. Position the MUDFLAPS and FLAP SUPPORT RODS (left and right) as desired for your vehicle. Line up a small hole in FLAP CLAMP with one of the three flap adjustment holes in SUPPORT ROD depending on vehicle size.
Inner Hole - for small and mid-sized vehicles

Center Hole - for full-size vehicles
Outer Hole - for large vehicles, such as dually trucks and small motor homes

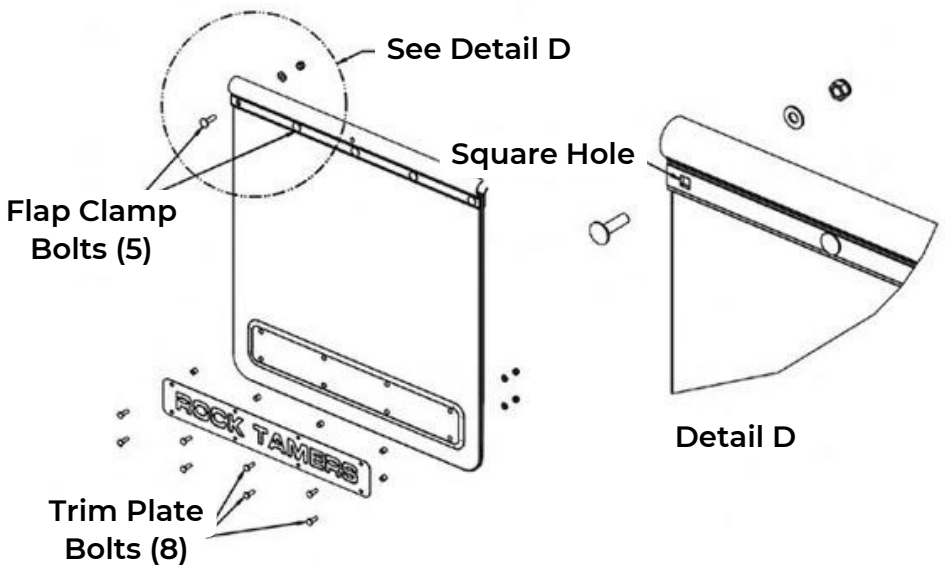
Finally, insert the small M5 FLAP RETAINER BOLT through the FLAP CLAMP and SUPPORT ROD and attach the M5 NYLON INSERT HEX NUT.
***Refer Images 1 & 6.*** Repeat for 2nd MUDFLAP.

**14.** Assemble TRIM PLATES. Insert M6 TRIM PLATE SPACERS into holes in raised bottom portion of MUDFLAP. Attach the ROCK TAMERS TRIM PLATE with the eight M6 TRIM PLATE BOLTS (Locking STAR PIN™ [STAR PIN™ wrench included]), M6 FLAT WASHERS, and M6 NYLON INSERT HEX NUTS as shown in ***Image 10***. (20 in-lbs torque [10 mm socket or wrench]).

Repeat for 2nd MUDFLAP.

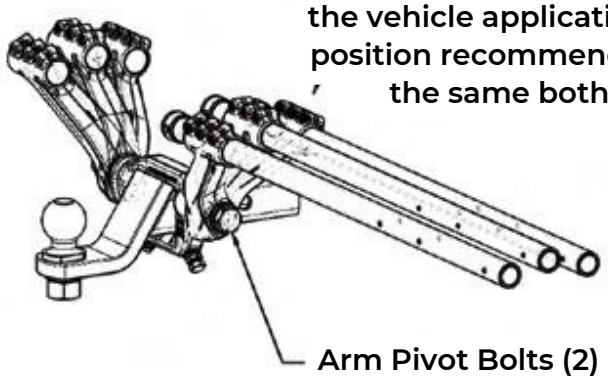
*Note: DO NOT over-tighten, as it will damage the TRIM PLATE.*

**IMAGE 10**



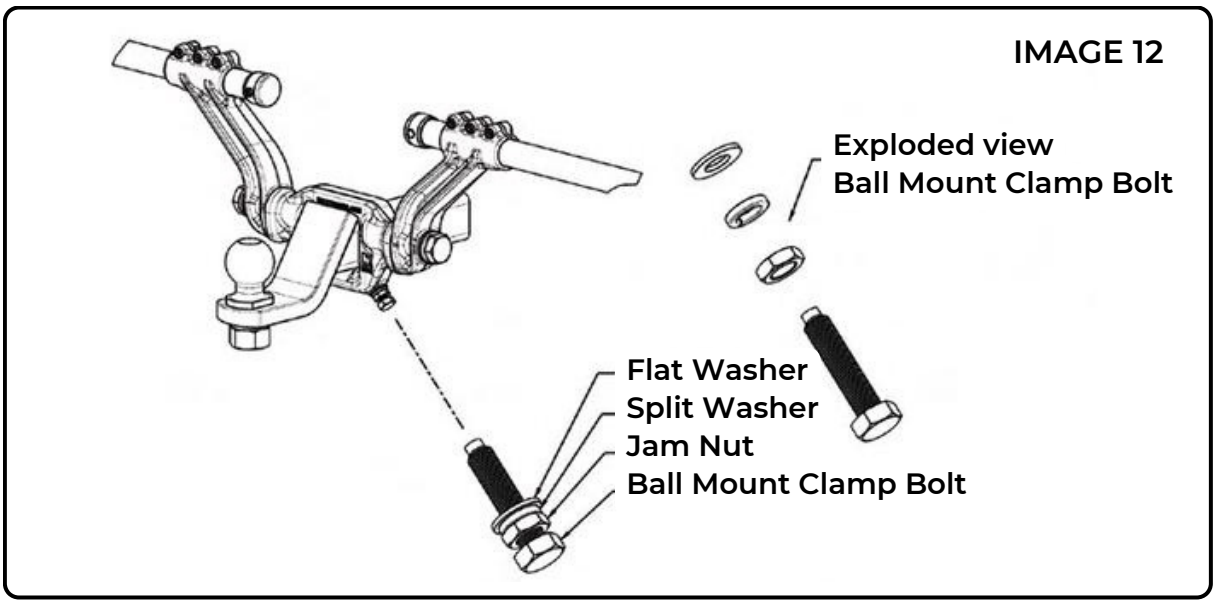

**15.** The ARMS of the HUB ASSEMBLY may be loosened and rotated to fit your vehicle application. The FLAP SUPPORT RODS must also be rotated slightly so the MUDFLAPS hang vertical.
*Refer Image 11.*

**IMAGE 11**



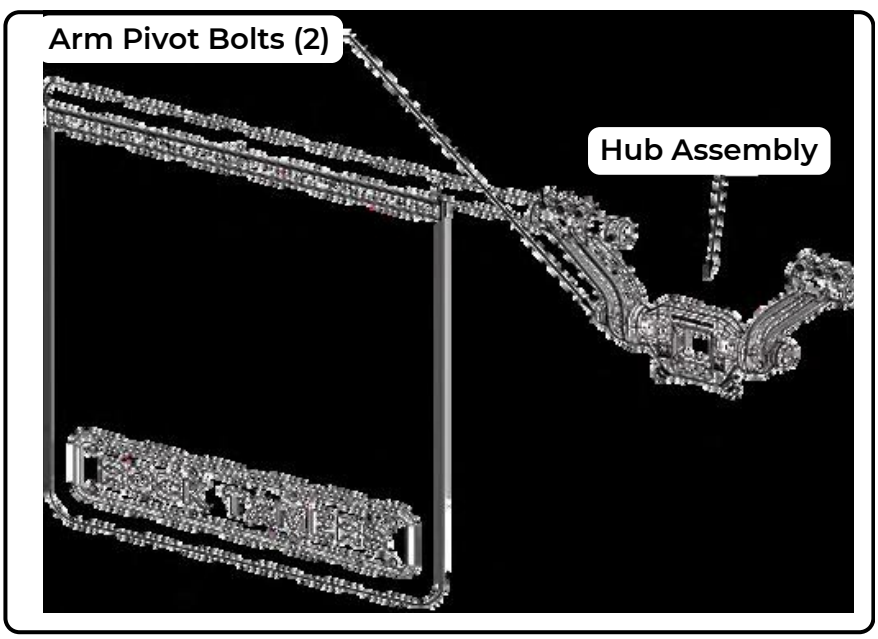
**16.** Finalise all positioning and adjustments. For all conversions see Torque conversion table on *Page 6*.

**17.** Make sure the M10 SPLIT WASHERS and M10 JAM NUTS remain loose on the M10 BALL MOUNT CLAMP BOLTS and finish tightening the M10 CLAMP BOLTS evenly onto BALL MOUNT. (120-180 in-lbs torque [17 mm socket or wrench]). Once the M10 BALL MOUNT CLAMP BOLTS are tight, tighten the M10 WASHERS AND JAM NUTS securely.
*Refer Image 12.*

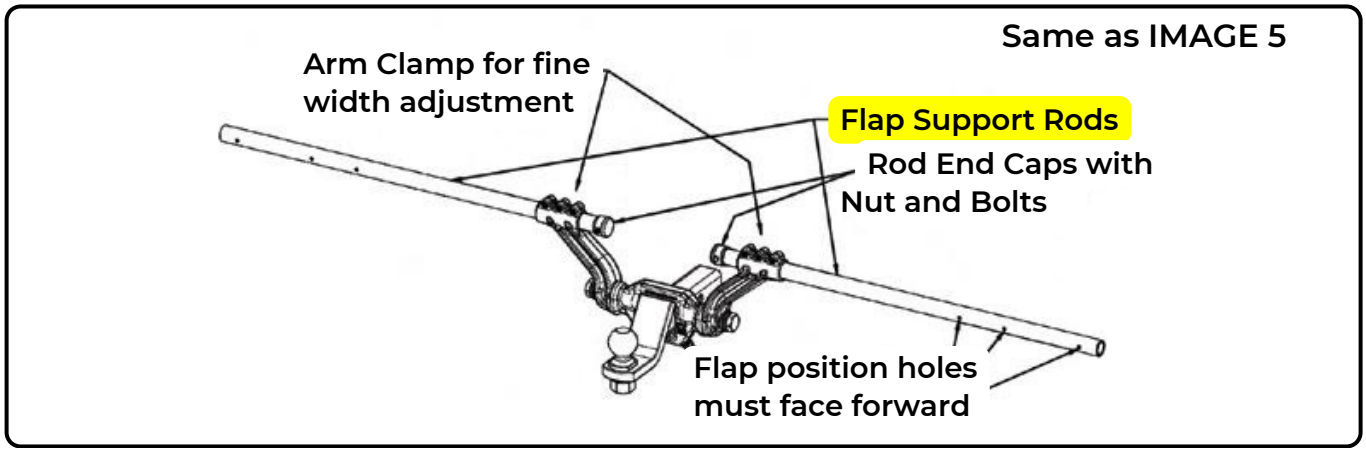



**18.** Tighten the large CENTER HUB M18 ARM PIVOT BOLTS. (1500 in-lbs torque [27mm socket or wrench]).
*Refer Image 13.*

*Note: Make sure the ARM PIVOT BOLTS and SUPPORT RODS have sufficient clearance away from the bumper so that they do not rub up against it.*

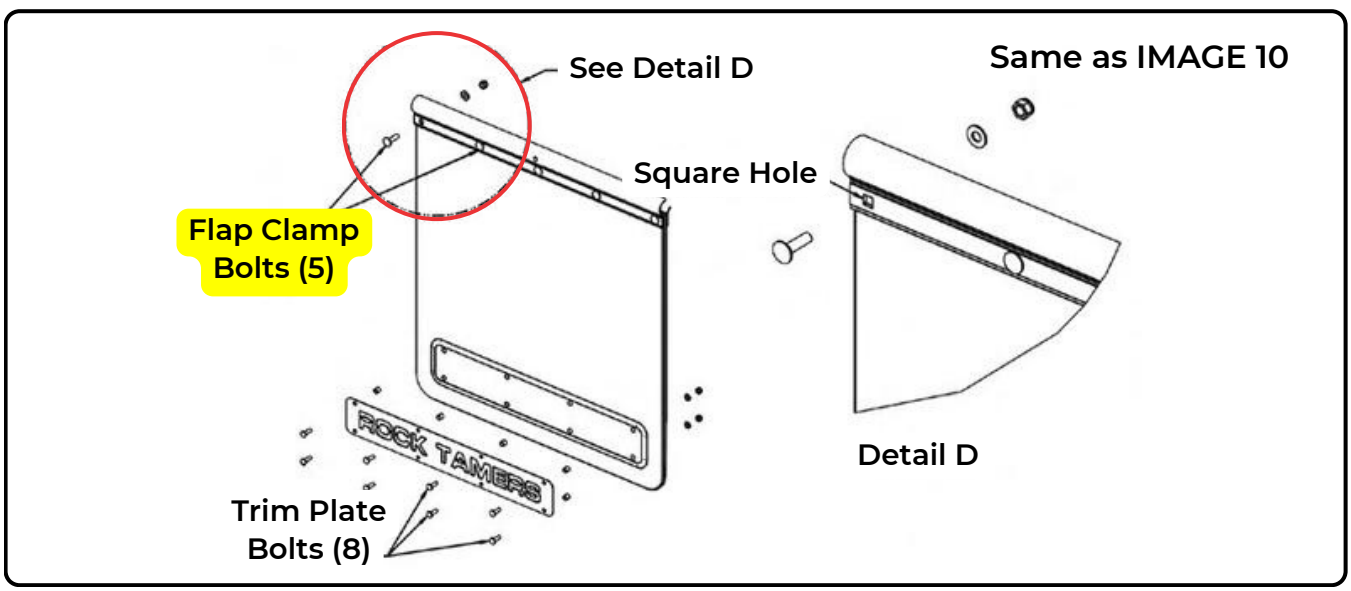


**19.** Finalise width adjustment of FLAP SUPPORT RODS by sliding them in or out of the HUB ARMS. *Refer Image 5.*



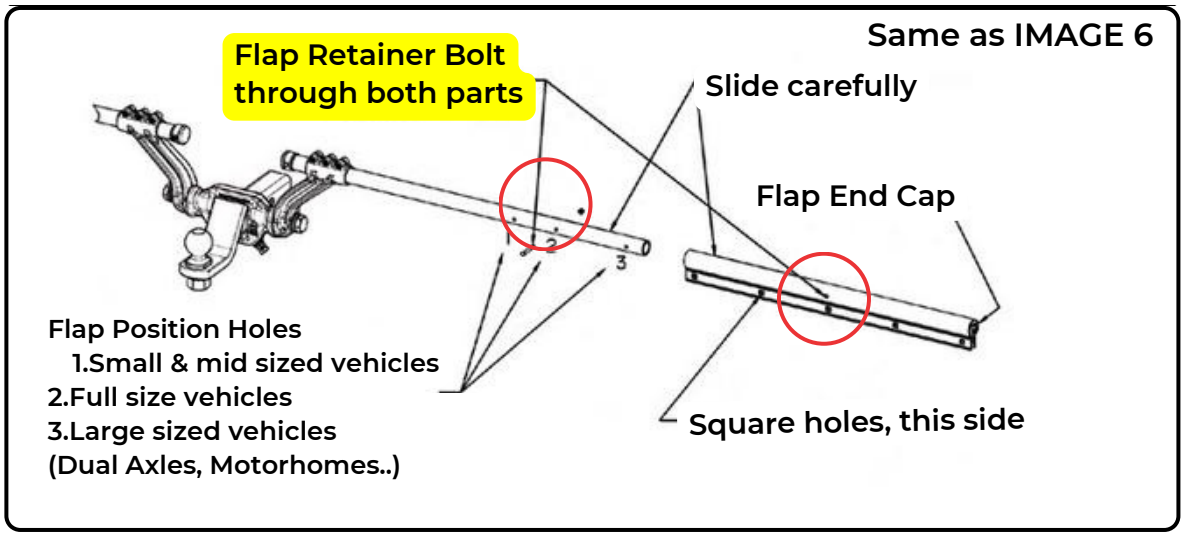

Note: It is recommended that the final MUDFLAP position extends a minimum of 2" from outer edge of tyre.

IMPORTANT: Evenly tighten the three M6 ARM CLAMP BOLTS beginning with the center bolt and moving from one to another on each side until all are tight. The SLOT will NOT close. (70-80 in-lbs torque [5mm ALLEN WRENCH])




**20.** Tighten the five M8 FLAP CLAMP BOLTS on each of the FLAP CLAMPS. *Refer Image 10.* (30 in-lbs torque [13mm socket or wrench])

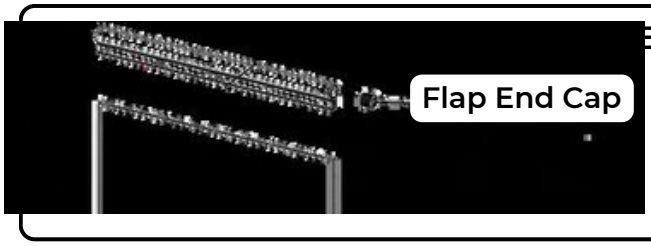
IMPORTANT: SUPPORTRODS MUST NOT BE ABLE TO ROTATE or MOVE IN HUB ARMS or FLAP CLAMPS.



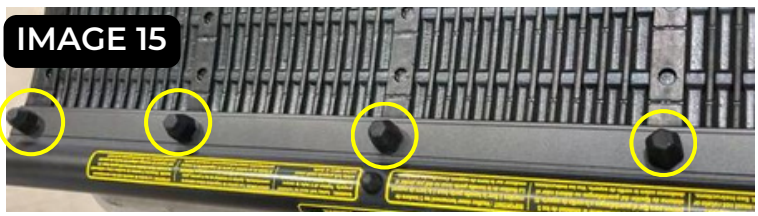

**21.** Tighten the M5 FLAP RETAINER BOLTS on each side. *Refer Image 6.*

IMPORTANT: FLAP RETAINER BOLTS are not intended to hold FLAP CLAMP on FLAP SUPPORT ROD. The RETAINER BOLTS must be used for proper positioning and safety.

**22.** Complete the assembly by inserting the FLAP END CAPS into the FLAP CLAMPS.
*Refer Image 14.*




Insert the Rock Tamers Bolt Bumpers into the bolts.
**Refer Image 15**




**23.** The ROCK TAMERS® Mudflap System is now ready to use. As a final safety procedure, check bolts to ensure that they are tight and properly assembled. For optimum service and life, check components and the torque on all bolts prior to each use.
*Refer Image 16.*

# HOW TO INSTALL ROCK TAMERS MESH INSERTS 33.5” (850mm)

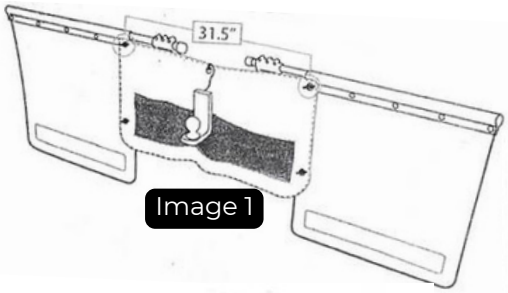


Image 1

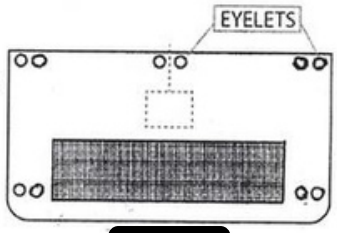


Image 2

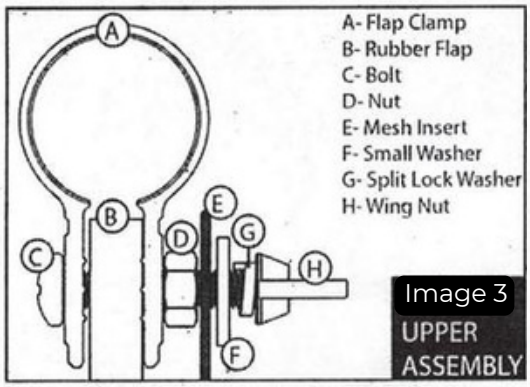


Image 3 UPPER ASSEMBLY

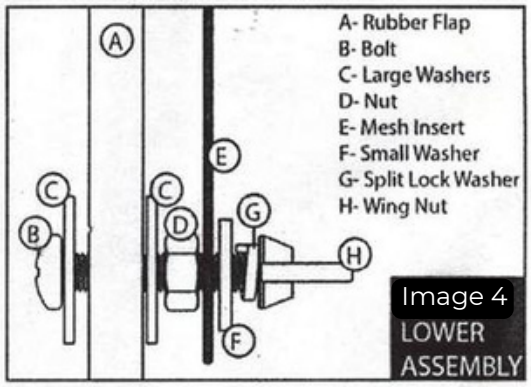


Image 4 LOWER ASSEMBLY

1.Set width of rubber flaps to approximately 31.5” (800mm) between the first Flap Clamp Bolts on each side *(see Image 1)*.

2.Remove the 2 Flap Clamp Bolts, replace them with 2 included bolts with thread facing away from vehicle. Lock bolts into position using a nut, tighten to 30 in-lbs *(see Image 3)*. *NOTE THAT HARDWARE SHOULD BE SAVED FOR FUTURE USE.

3.Place the Mesh Insert on these bolts, mark the location of the hole and slot that will be cut for the ball-mount on the Mesh Insert.

4.With the Mesh Insert still in place, mark the location of the lower 2 eyelets on the rubber flaps.

5.Place the Mesh Insert on a scrap piece of wood and cut the hole and slot using a sharp blade. *(see dotted line in Image 2)* *NOTE THAT THE SLOT, IF REQUIRED, SHOULD BE CUT BETWEEN THE 2 TOP CENTRE EYELETS.

6. Drill 1/4” (6mm) holes in the rubber flaps, corresponding with the markings from the lower eyelets. *NOTE THAT THE RUBBER FLAPS SHOULD BE PLACED ON A SCRAP PIECE OF WOOD, ON A SOLID SURFACE.

7. Insert a bolt, with 1 large washer, into the hole in the rubber flap with the thread facing away from the vehicle.

8.Place another large washer over the lower bolt, then lock the bolt into position using a nut (see Image 4).

9. Repeat steps 7 & 8 on the other rubber flap.

10. Place the Mesh Insert over the 4 bolts and secure in place using 4 small washers, 4 split lock washers and 4 wing nuts.

11. Lace the 2 top centre eyelets together using zip tie or string (not included).

NOTE

Additional access slots can be cut for power leads, chains, etc.

The Mesh Insert is a disposable item and available for purchase from Clearview Accessories.

The life of the Mesh Insert will vary depending on road conditions and speed.

A loose-fitting mesh will last longer than a tight-fitting mesh.