



# Maserati Technical Bulletin

Date: July 12th, 2016  
Bulletin No. MAS000883 – Service Campaign  
#268 Dome Reinforcement Plates Installation  
Supersedes: NA  
Section: Suspension

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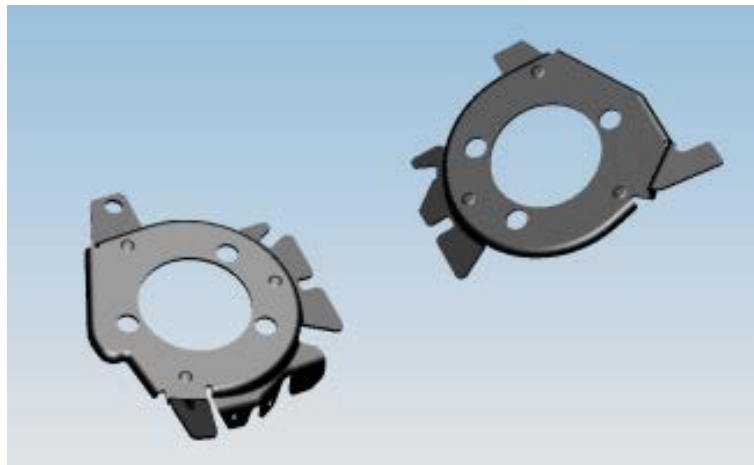
**MODEL: Maserati Quattroporte (M156) and Ghibli (M157)**

**MODEL YEAR: 2014-2015**

**SUBJECT: Dome Reinforcement Plates Installation (Service Campaign 268)**

## DESCRIPTION

Some Maserati Quattroporte (M156) and Ghibli (M157) vehicles are involved in a Service Campaign to install Dome (strut tower) Reinforcement Plates (see figure below) because of possible deformation to the dome. Aggressive and extreme driving on rough roads, pot holes and speed bumps can lead to a degree of fatigue on the strut towers. This may cause the front end wheel alignment to shift out of the desired specification. Continued driving under these conditions may cause the strut towers to deform.



Reinforcement Plates

To view the vehicles involved in this campaign, check in ModisCS+.

## PARTS NEEDED FOR THE REPAIR

The parts kit needed to complete this campaign must be ordered from the Maserati Parts Dept. 1 kit per vehicle which includes:



- Kit - P/N: 673005734 for vehicles without Skyhook
- Kit - P/N: 673005735 for vehicles with Skyhook
- P/N: 2018290 - “Betamate 2098” adhesive (1 tube for every 2 vehicles)
- Front Springs – Please Reference EPC for the Specific VIN

**NOTE:** Please check your inventory prior to ordering any parts. Each dealer was shipped an allocation of parts based on the number of vehicles impacted by this Campaign.

## TOOLS NEEDED FOR THE REPAIR

- Dome reshaping tool P/N: 900084505 (Includes 900084504 and 900084503) (Sent to each Dealer automatically)
- 90 degree angle drill
- A 4.5 mm drill bit and a 6.5 mm drill bit (Sent to each Dealer automatically)
- Riveting tool – Minimum specs are: 16,000 N (3,600 pounds) of force to handle ¼” by 6.4 mm break stem rivets. (i.e. GlobalJig RAC171 Riveter)
- Coil Spring compressor
- Straight Edge (8 inch minimum) and a metric depth gauge / ruler

## OPERATING PROCEDURE

1. Check if the vehicle is involved in the campaign and if the repairs have not been previously performed (check vehicle service history).
  - If the reinforcement plates, shock absorber end-stops and new springs were previously installed in the vehicle, there is no need to perform this campaign.
  - If the reinforcement plates and shock absorber end-stops were previously installed in the vehicle, but not the new springs, please refer to MAS000903

- Front Suspension Spring Replacement Service Campaign - 306. – Procedure “C” below.

- If new springs were previously installed in the vehicle, but not the reinforcement plates, please continue with the inspection procedure and perform either Procedure “A”, “B1” or “B2” below as per instructions, with special attention to step 12 in Procedure “A”.

This Bulletin is composed of 5 sections:

- 1) Inspection Procedure
- 2) Procedure “A” – Reinforcement Plate Installation
- 3) Procedure “B1” – Shape Recovery of one Dome
- 4) Procedure “B2” – Shape Recovery of two Domes
- 5) Procedure “C” – Front Springs Installation (Service Campaign 306)

**Before beginning any work, please read each section carefully and completely.**

## INSPECTION PROCEDURE

1. Drive the vehicle onto a lift and remove the front wheels and inner fender liners.



Fig.1

**Important: For all of the following operations, use fender covers and do not use air (impact) tools.**

2. Open the hood and visually inspect the strut tower (dome) on both sides of the car for any cracks or denting. If no cracks or denting is found, continue with step 3. If any cracks or denting of the strut tower dome is found (Fig's. 2, 3, 4 and 5 as examples) open a BOL, attach clear pictures then follow the instructions you will receive in response to the BOL.

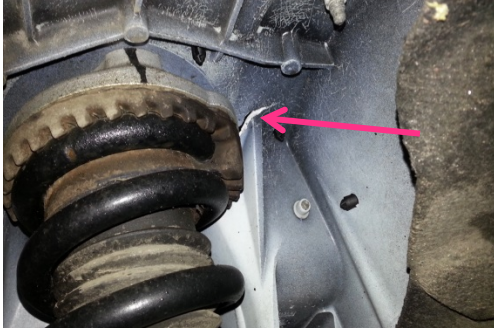


Fig.2

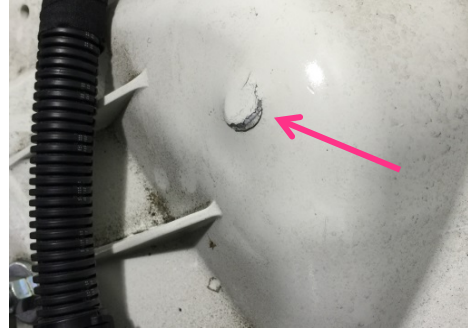


Fig.3



Fig.4



Fig.5

3. Inspect the strut tower dome to see if it's deformed by placing a straight edge across the top as shown in Figs. 6 tru 9.



Fig.6



Fig.7



Fig.8



Fig.9

4. If any deformation of the dome can be seen using the straight edge, measure it by checking the gap on the outer portion of the dome as shown in Fig.6 and Fig.7.
5. Check for the gap at several different points along the radius of both domes.
  - If no gap is present or it is less than 1mm, proceed with the reinforcement plate installation Procedure "A".
  - If a gap is more than 1mm but less than 5 mm's is measured, proceed with re-shaping of the dome Procedure "B1" if only one dome is affected or "B2" if both domes are affected.
  - If at any point a gap of 5 mm's or larger is measured in any dome, open a BOL, attach clear pictures then follow the instructions you will receive in response to the BOL.

## PROCEDURE "A" (Reinforcement Plate Installation)

1. Remove both front struts as shown in the workshop manual sections 6.11.001 - 02 and 6.11.002 - 02.

**NOTE: When removing the struts, do not loosen or remove the control arms or any other suspension components. This will prevent the need for a wheel alignment.**

2. Using medium grade sandpaper (e.g. 250), lightly sand the lower inside area of the dome to remove paint and debris as shown in Fig.10.



Fig.10

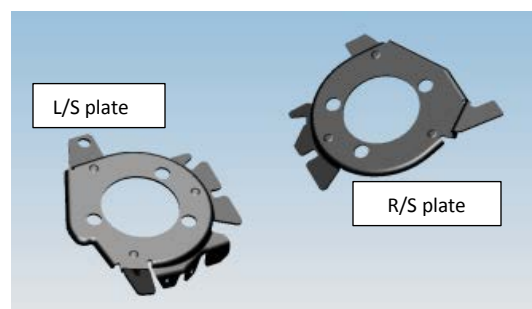


Fig.11

3. Clean the sanded area of the domes and the new reinforcement plates (Fig.11) with isopropyl alcohol.
4. Starting with the L/S reinforcement plate insert the alignment tool p/n: 900084504 (Fig.12) in to the bottom of the plate as shown in Fig.13.

**NOTE: Only the l/s plate has to be riveted in place.**



Fig.12

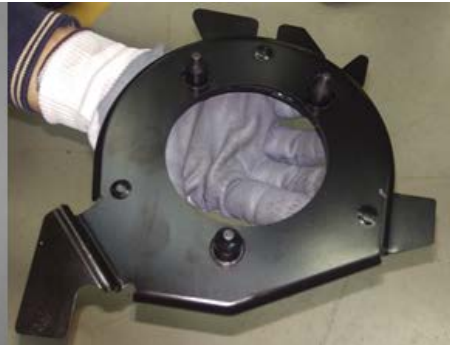


Fig.13

5. Apply the Betamate 2098 adhesive to the left reinforcement plate the way it's shown in Fig's 14 and 15.

**NOTE: When using the Betamate 2098 adhesive, wear protective gloves and clothing. One tube of adhesive is to be used on 2 vehicles (4 reinforcement plates) so after each use be sure to seal the tube. For easier flow of the adhesive, it's recommended to warm the tube up in warm water to about 40 – 50 degrees C (104 to 110 F) for approx. 5 – 10 mins. Maximum working time with the adhesive is 30 minutes.**



Fig.14



Fig.15

6. Install the plate in the underside of the fender well using the shock absorber bolt holes for the correct positioning of the alignment tool p/n: 900084504 as shown in Fig.16.



Fig.16

7. Press the tool against the dome for few seconds. Push the reinforcement toward the side to put winglets in contact with wall of the dome and ensure there is no free play, as shown in Fig.17.

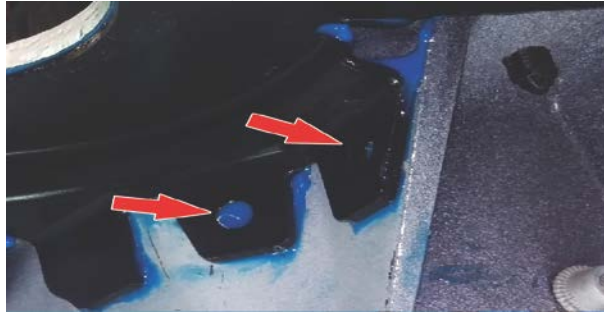


Fig.17

8. Remove the tool and use 3 M8 bolts and nuts to secure the reinforcement plate to the dome. Tighten to 30Nm to seat the plate and squeeze out the excess adhesive. Fig.18



Fig.18

9. Remove the excess adhesive around the opening and also from the M8 bolt holes Fig's.19 and 20. Remove one bolt at a time, clean the excess adhesive, re-install the bolt and re-torque to 30Nm. Repeat this step for all bolts.



Fig.19



Fig. 20

10. Using a 90 degree angled drill and a 4.5 mm drill bit, drill through the predrilled Winglet holes and into the side of the dome as shown in Fig. 21. After the 4.5mm drilling, use the 6.5mm drill bit as a final drilling. (Fig. 22)

**NOTE:** The holes must be perpendicular to the dome surface.



Fig.21



Fig.22

11. Using the rivet gun, install the two rivets P/N 670032695 with washer P/N 10519527 in the two holes. (Fig.23) Use the washers included in the kit with each rivet as shown in Fig.24. (Washers included in the kit may be different from the ones shown in the pictures below.)



Fig.23



Fig.24

12. Replace the shock absorber end-stops (Fig.25) and install **new front springs as per MAS000903 - Front Suspension Spring Replacement Service Campaign - 306**. Follow instructions in sections 6.11.027 – 00 and 6.11.028 – 00 of the workshop manual. **If new springs were previously installed in the vehicle, just replace the shock absorber end stops.**

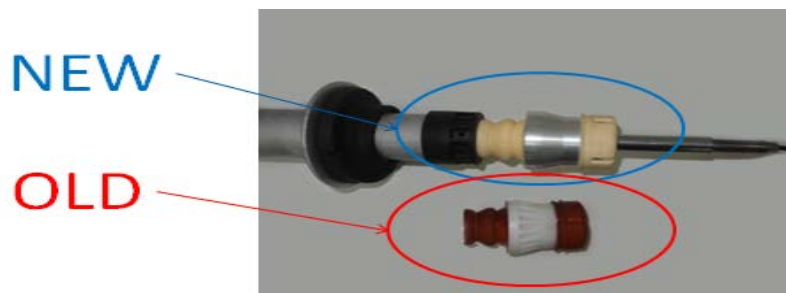


Fig.25



13. About 10 mm from the bottom of the M8 mounting stud (Fig.26), wrap with 4 turns of Teflon tape. This will help to avoid residual adhesive from bonding the threads and making the strut difficult to remove in the future.

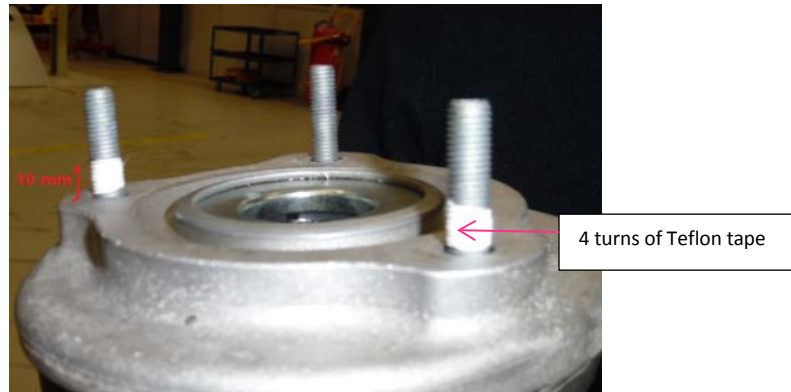


Fig.26

14. Remove the 3, M8 bolts and nuts from the dome and re-install the front L/S strut as shown in section 6.11.028 – 00 of the workshop manual. Use the new nuts (Fig.27) included in the kit.



Fig.27

15. Repeat the procedures starting at step 2 for the R/S (passengers side) reinforcement plate installation. (Skip steps 10 and 11, they only apply to the L/S plate installation.)

**NOTE:** Drilling and rivets are not used when installing the R/S reinforcement plate

16. Re-install the strut on the right side as shown in the workshop manual section 6.11.027 – 00. Use the new nuts included in the kit.
17. Reinstall all parts previously removed.
18. Due to the increased thickness of the domes, it may be necessary to apply silicone glue to the dust covers so they adhere to the top of the mounting studs.(Fig.28)



Fig.28

**IMPORTANT:** The vehicle must not be driven or delivered to the customer for at least 48 hours after repairs are completed. This is the curing time for the adhesive. The vehicle can rest on the floor, and be pushed for a short distance if necessary. The engine must not be started during the curing time and do not stress the front suspension during the curing time.

### PROCEDURE “B1” (Shape Recovery of one Dome when the other Dome has no gap or a gap less than 1 mm)

1. Install the lower the lock plate of the shape recovery tool P/N: 900084503 into the strut stud mounting holes on the affected dome as shown in Fig.1.



Fig.1



Fig.2

**NOTE:** Apply grease to the threads of the tool before each use.

2. While supporting the lower part of the tool, install the upper part then a washer, the bearing, a washer and the nut as shown in Fig.2.

3. Tighten the tool with a 46mm socket until the the flat shape of the dome is restored. Torque on the tool must not exceed 300 Nm's (Fig.3)



Fig.3



Fig.4

4. Check the bending height of the dome (Fig.4). The maximum should be **1mm** or less.
- If it's **1mm** or less, perform Procedure "A".
  - If the bending height is still more than 1mm, repeat step 3 above a maximum of 3 times. If the bending height is more than 1 mm after 3 attempts at step 3 above, open a BOL, attach clear pictures then follow the instructions you will receive in response to the BOL.

### PROCEDURE "B2" (Shape Recovery of both Domes)

1. Perform Procedure "B1" on one dome until the gap is 1mm or less
2. Perform Procedure "B1" on the other dome until the gap is 1mm or less
3. Perform Procedure "A"

### PROCEDURE "C" (Front Suspension Spring Installation)

If the reinforcement plates and shock absorber end-stops were previously installed in the vehicle, but not the new springs, please refer to MAS000903 - Front Suspension Spring Replacement Service Campaign - 306.

## ENTERING A WARRANTY CLAIM

Fill in the relative Warranty Claims as follows:

- Service Campaign Number 268
- Warranty Code 23
- Defect Code 063
- Component Code 9.03.082
- Operation Code – (Procedure A) 9.03.082.9 (3.5h)
- Operation Code – (Procedure B1) 9.03.082.8 (3.8h)
- Operation Code – (Procedure B2) 9.03.082.7 (4.1h)
- Operation Code – (Procedure C) See MAS000903 – Front Suspension Spring Replacement Service Campaign - 306.
  
- Component Part Number See Parts Section (Page, 1)

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