

Superior Engineering PART LISTING

Superior
ENGINEERING.COM.AU
PREMIUM 4X4 ACCESSORIES
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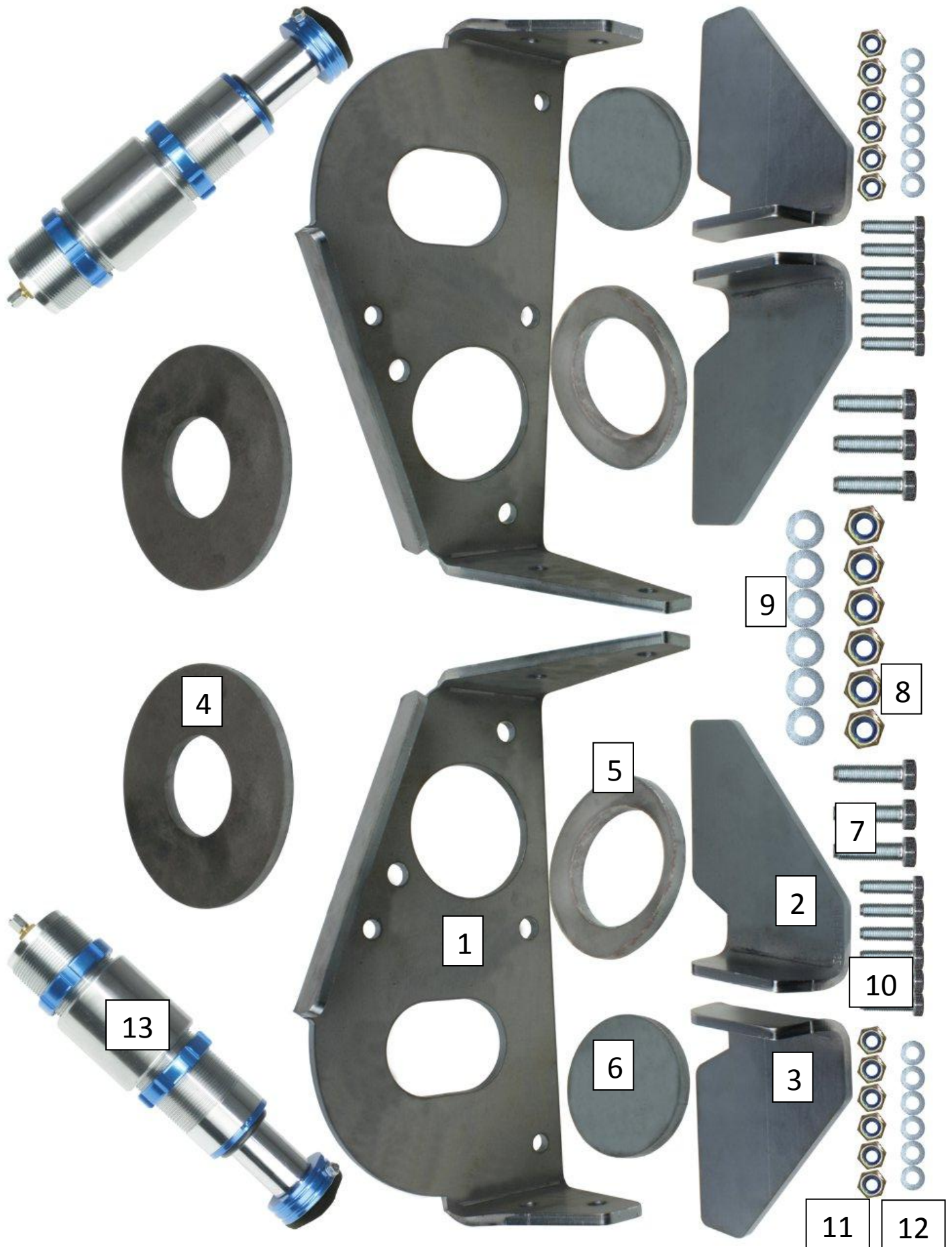
| ITEM# | PART# | QUANTITY | DESCRIPTION |
|-------|-------|----------|--------------------------------|
| 1 | 27385 | 2 | MAIN PLATES (DS / PS) |
| 2 | 27389 | 2 | FRONT GUSSETS (DS / PS) |
| 3 | 27388 | 2 | REAR GUSSETS (DS / PS) |
| 4 | 27387 | 2 | ROUND TOP BRACE |
| 5 | 27386 | 2 | OFFSET BRACE RING |
| 6 | 27390 | 2 | STRIKER PAD |
| 7 | | 6 | M12 X 40mm BOLTS |
| 8 | | 6 | M12 NYLOCK / CONELOCK NUT |
| 9 | | 6 | M12FLAT WASHER |
| 10 | | 12 | M10 X 35mm BOLT |
| 11 | | 12 | M10 NYLOCK / CONELOCK NUT |
| 12 | | 12 | M10 FLAT WASHER |
| 13 | | 2 | ADJUSTABLE HYDRAULIC BUMP STOP |

NOTES:

- Approximate installation time: 6 to 8 HOURS
- Ensure all parts have been received correctly.
- Ensure parts are suitable for the vehicle prior to undertaking the insulation.

WARNING

- The following steps are the installer's responsibility.
- Read and completely understand these Installation Instructions before beginning the installation process.
- Retain these installation Instructions for future reference.
- It is highly recommended that this item is installed by a Qualified Person.
- This product must be installed as per these instructions, only using the hardware supplied by Superior Engineering unless given prior written consent from Superior Engineering.
- This product is not to be fitted differently or modified in anyway other than specified by Superior Engineering.
- This product is not to be used on any other vehicle than those specified by Superior Engineering.



Superior Engineering Installation Instructions

**Part Description: Nissan GQ/GU HYDRAULIC BUMP
STOP KIT**

Part Nos: SUP-GQGUHYRDBUMP

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NOTE: Read and understand these Installation Instructions before beginning the installation process. Retain these installation Instructions for future reference.

It is highly recommended that this item is installed by a Qualified Person with a good understanding of suspension geometry.

NOTE

Working on one side at a time can make installation easier. This should be done by a qualified person.

CAUTION

Please ensure all bolts are tightened to correct torque setting with 263 Loctite.

| Size | Torque (Nm) | Torque (ft-lb) |
|------|-------------|----------------|
| M10 | 49 | 36 |
| M12 | 85 | 64 |

1. Start with the vehicle on level even ground, then measure the Panhard and make sure it is at the desired adjustment or length for the lift height.

NOTE: If Panhard length is not correct it must be corrected before continuing.

2. Measure the bump stop height at ride height record for future reference.
3. Lift vehicle and properly secure on a hoist and support the diff with a suitable lifting aid.
4. Remove the front coils and shocks as per vehicle service manual.
5. Remove the factory Bumpstop, cover plate and shock tower as per vehicle service manual.
6. Check to make sure coil hats aren't bent or damaged. If damaged do not proceed with installation until hats have been repaired.

7. Mark out the area to cut on the top hat. The area to remove is 1mm inside of the radius edge of the top hat. (marked in white in Figure 1)

8. Cut out the center of the lower section of coil hat. Clean up any sharp edges.

CAUTION

Caution should be taken to not remove too much of the coil hat, as this will weaken the assembly.

9. Hold the gussets and Striker plate in place and trace around them. This will be where to clean up for welding.(Refer to figure 1 and 2 for placement)

NOTE

There will be a part number etched on each part. The gusset with the part number PHBSPBLG2 goes towards the rear of the car and PHBSPBLG goes towards the front.

10. Fully weld gussets and striker plate into place.
11. Using an ultra-thin grinding disc, cut the top of the 3 captive bolts on the bottom of each shock tower being sure to cut through the welds, and then tap out the remainder of the bolt with a drift or punch.

12. Loosely fit the bump stop main plate to the coil tower, on some chassis there may be factory gusset plate in the way of fitting the main plate these gussets may need to be modified, if cutting the gusset make sure to re weld the gusset for strength. (Gusset seen in figure 2).
13. line up all the holes on top and bolt the shock tower back into factory position on top of the main bump stop plate using the 3 Supplied M12 x 40mm bolt Nylock/cone lock nuts and Flat washers.

NOTE

The cut out for the shock on the hydraulic main plate is larger than the factory shock hole in the coil hat. This is for large diameter shocks, if needed cut the standard coil hat to the same size as the hydraulic main plate.

NOTE

On the driver side the brake line protector plate may need to be trimmed to clear bump stop main plate.

NOTE

For extra strength the bump stop main plate can be welded to the coil tower. But this will make it a permanent fixture to the chassis.

NOTE

For extra strength, drill out the two cover plate mounting holes on top of the coil hat and secure with 2 of supplied M10 x 30mm bolts, flat washers and Nylock/Conelock nuts

14. On the front and rear sides of the bump stop main plate there are two holes that need to be drilled out with a M10.5 drill bit(as per Figure 3). This may require the use of a right angle drill. **(NOTE: Make sure the main plate is hard up against the coil tower before**

drilling. This might be done with the use of a clamp or two.)

15. Once drilled, bolt the main plate to the car's chassis with 4 of the supplied M10x35mm bolts, flat washers and Nylock/Conelock nuts per a side.
16. Lift the diff until it has reached the desired full compression height; keep in mind the shock compressed length.
17. Release the gas from the supplied hydraulic bump stop by depressing the schrader valve with a small screwdriver or similar, being careful not to lose any of the oil in the bump stop.
18. Fully compress the bump stop, and then position it in the main bump stop plate. Then place the round top brace over threaded sleeve.
19. Position the bump stop so there is about 8mm of the threaded sleeve protruding above the top of the round top brace and as close to center as possible of the striker plate while keeping the bump stop perpendicular with main plate. Use clamps to secure the bump stop in this location.
20. Cycle the diff through a range full range of movement, making sure all componentry clears (E.G. Diff Guards. Panhard and Engine Sumps). Also check the bump stop contacts the striker plate through the full compression stroke of the bump stop.
21. Place offset brace ring over the bump stop from underneath (inside the coil hat). Turn until in the desired position, clamp securely in place on the bump stop main plate.
22. Carefully remove the bump stop from threaded sleeve making sure not to move the position of the threaded sleeve.
23. Tacks weld all components in place and refit bump stop.

WARNING

Welders can cause serious injury and death if used incorrectly. Seek assistance of a qualified person

24. Recheck bump stop location as per step 19, and if need be make adjustments that are required.
25. Once in desired position remove the bump stop and fully weld all braces and threaded sleeve.
26. Once fully welded paint, zinc or powder coat the bump stop mounting assembly. Make sure to paint the gussets and striker plates that are on the vehicle to prevent rust.
27. Refit the mounting assembly to the coil hat, including the shock tower. Fit and tighten all fasteners to the correct torque settings using Loctite.
28. Fit the hydraulic bump stop back in to the threaded sleeve and adjust to the desired position.
29. Refit shocks and coils to vehicle as per vehicle service manual.
30. Recharge the bump stop to the desired pressure with nitrogen gas a good starting point is at 150psi. (This should be done by a qualified person.)
31. Check all bolts and nuts are tighten to correct torque settings and have been Loctited.

32. Test drive vehicle. Recheck all bolts and locking rings are tight.

WARNING

Recheck all vehicle components clear through the full range of suspension travel, paying particular attention to diff guards, panhard, braces and engine sump. If components fowl, readjust bump stop height to allow clearance.



Figure 1: Correctly Cut Out Coil Hat



Figure 2: Factory Gusset Modification



Figure 3: Tacked On Bump Stop Plat



Figure 4: Drilling Of The Main Plate Holes



Figure 5: Correctly Fitted Bump Stop

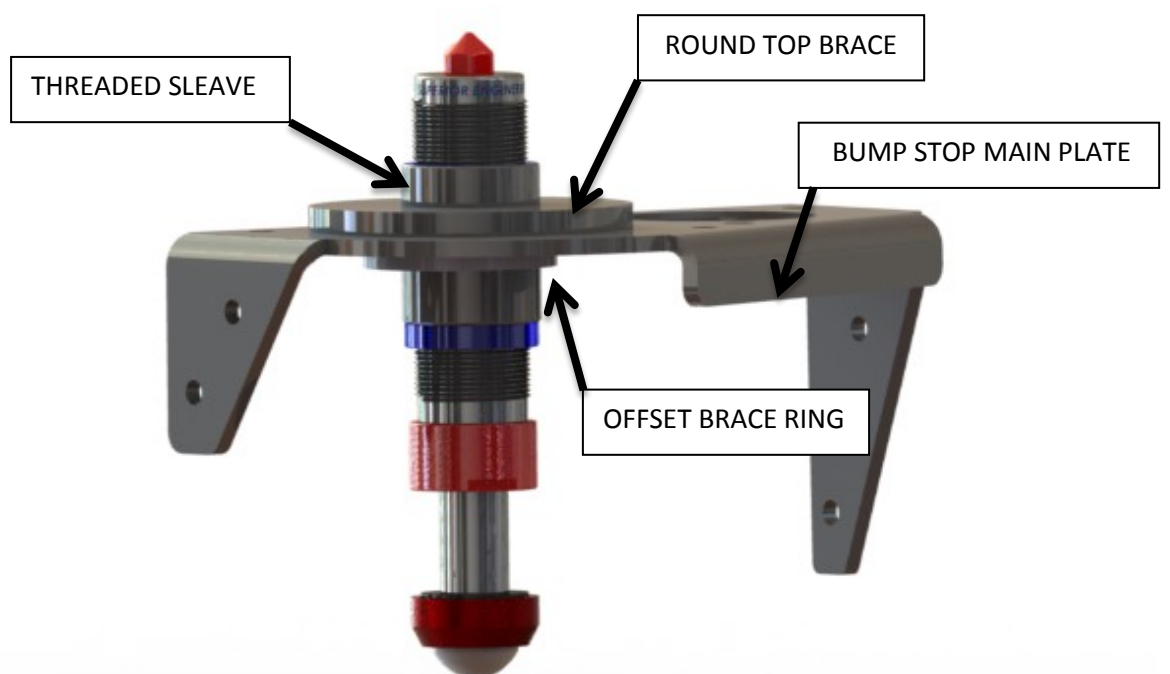


Figure 6: Fully Assembled Bump Stop Assembly