

# Installation Guide

## REAR DIFFERENTIAL BUSHINGS

PAGE 1

(Always refer to the current catalogue for complete application listings)

**N.B:** This installation guide should be used in conjunction with the workshop manual.

### Removal

#### Tools required:

- ✎ Jack & chassis stands
- ✎ Sockets & Wrench set 8mm, 10mm, 13mm, 14mm, 15mm, 18mm, 19mm, 21mm, 32mm
- ✎ Air saw or alternatively Sawzall power saw with steel cutting blade
- ✎ Hammer
- ✎ Lever bar
- ✎ Marker pen
- ✎ Thread Lock Compound

#### Removal Procedure:

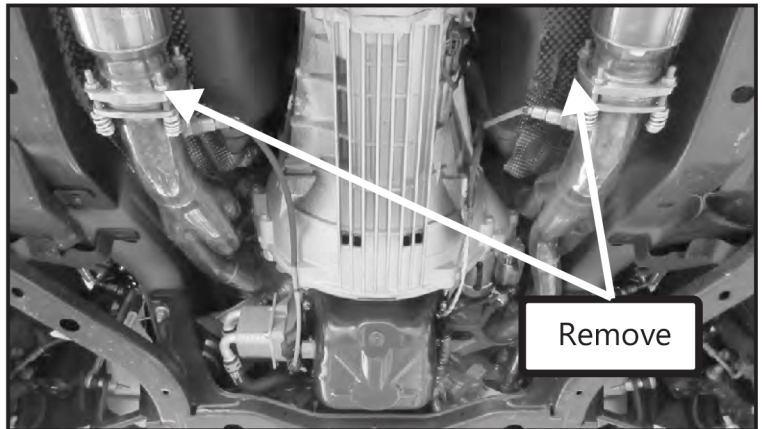
Raise the vehicle and support on suitable chassis stands.

- Remove the two rear road wheels.
- Using a 15mm wrench loosen the exhaust bolts at the bottom of the header pipes alongside the transmission. (Fig 1).

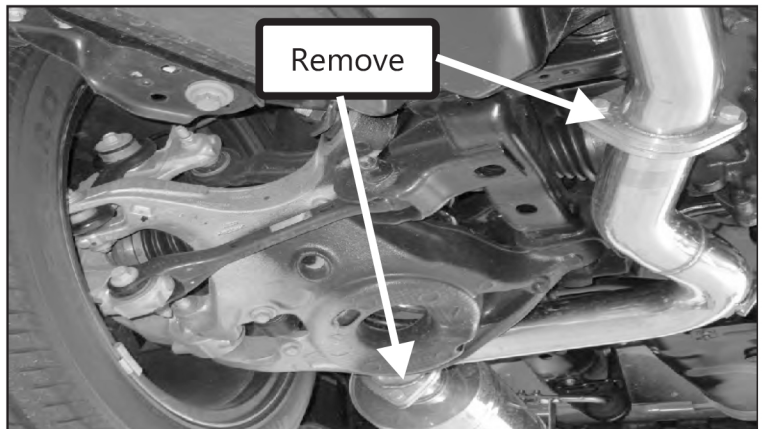
*Note: The image shown has an after market performance exhaust fitted.*

- Remove the rear exhaust hanger mounting bolts. (Fig 2).
- Using a suitable marking pen, place a witness mark on the prop shaft which will enable the shaft to be properly phased to the differential pinion during re-installation.
- Remove the 6 X prop shaft bolts using a 10 mm socket. (Fig 3).

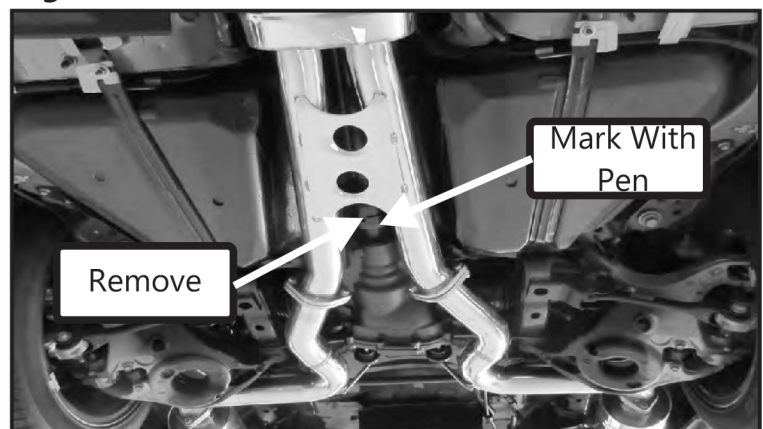
**Figure 1**



**Figure 2**



**Figure 3**



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### PAGE 2

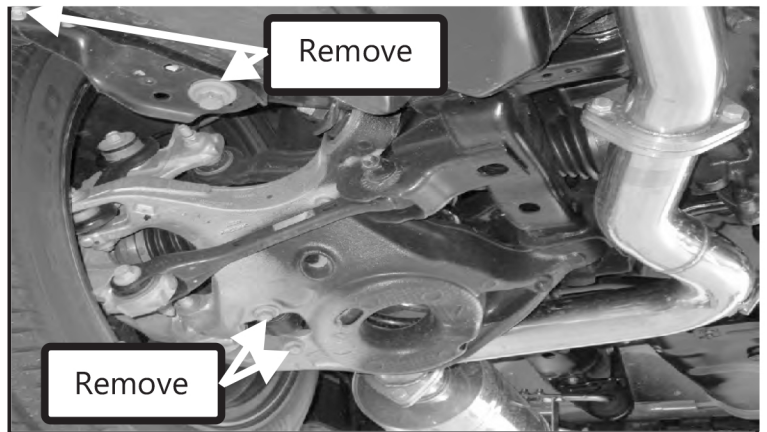
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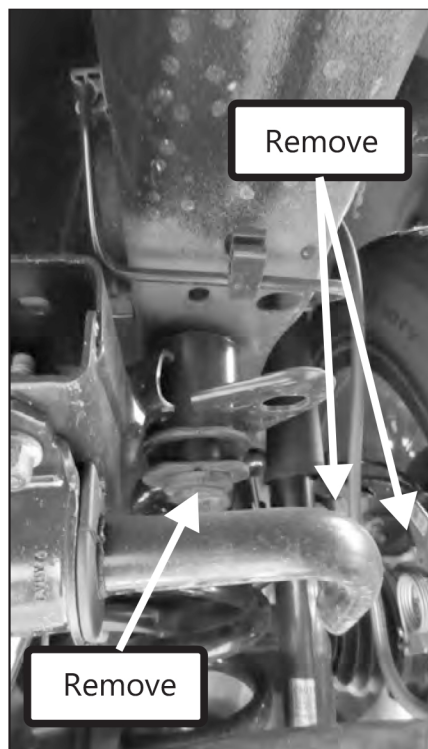
#### **Continuation**

- Using a 15mm socket, remove the 2 lower bolts on each damper as indicated. (Fig 4).
- Disconnect the differential breather tube from the inlet pipe on the differential rear cover.
- Using a 8mm and 10mm socket loosen and remove the two bolts that retain the wheel speed sensor and the emergency park brake cables to the rear wheel hub assembly.
- Remove the two brake caliper bolts from each side of the caliper and wire the calipers up under the wheel hub to prevent them from hanging on the brake hose. (Fig 5).
- Support the sub frame with a jack or transmission stand and using a 13mm socket remove the front sub frame 13mm bolts. There will be 4 in total to remove from both sides.
- Using the 21mm socket remove the four sub frame support bolts ensuring that the frame is correctly supported.
- Lower the frame onto the floor.

**Figure 4**



**Figure 5**



**Figure 6**



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### PAGE 3

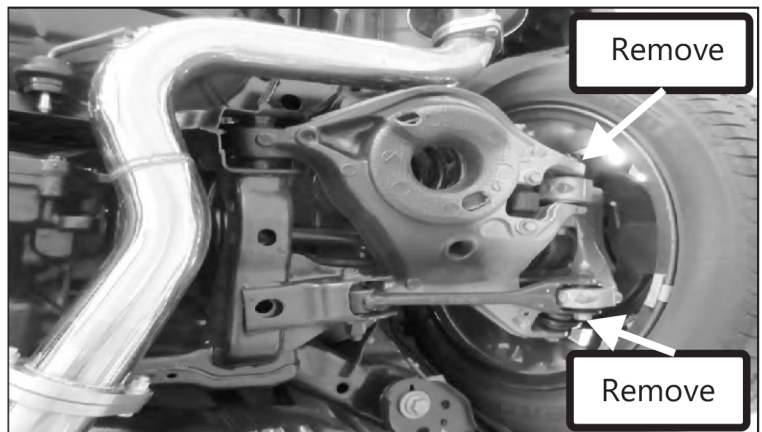
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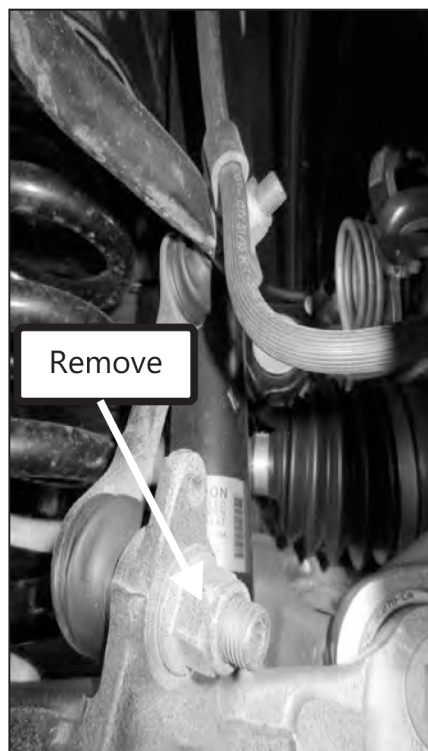
#### **Differential removal**

- Start by removing the rear differential CV shafts. To achieve this the suspension arms will need to be removed from the wheel hub.
- Start with removing the integral link bolt with the 18mm wrench. (Fig 6).
- Locate the lower control arm bolt and remove using the 21mm wrench. (Fig 7).
- Using a 18mm wrench and 6mm Allen key wrench remove the lower 18mm nut. (Fig 8).
- Using the 18mm wrench remove the lower arm outer bolt from the hub.
- Remove the main CV nut connecting the shaft to the spindle.
- Pull the entire and CV assembly out of the rear end.
- Repeat the process for both sides of the frame.
- The differential assembly will now be ready to be removed from the sub frame.
- Remove the front 18mm bolts from differential. (Fig 9).
- Remove the rear differential bolts with a 18mm wrench ensuring the differential is supported. (Fig 10).
- Once the differential is removed from the frame you can then proceed to remove the OEM rubber bushings.

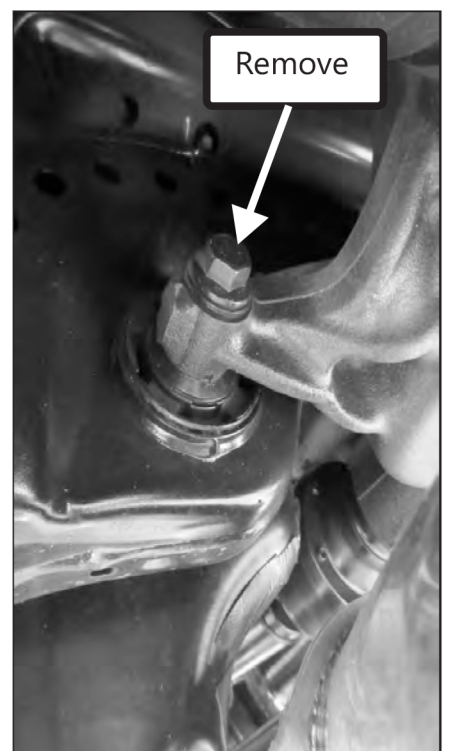
**Figure 7**



**Figure 8**



**Figure 9**



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- The factory rubber OEM bushings are held in place with a steel shell and need to be removed from the vehicle to enable the synthetic elastomer bushings to be fitted. The best way to achieve removal of these bushings is to either run a drill through the rubber voiding first then push the Sawzall through the void and proceed to cut through the steel shell. This will allow the shell to collapse and shrink enough to tap the back face and relief it from the sub frame. (Fig 11).

- Do this for all four bushings.

- Insert the Whiteline synthetic elastomer bushings into the cradle ensuring the faces are clean of sharp edges and burrs. (Fig 11).

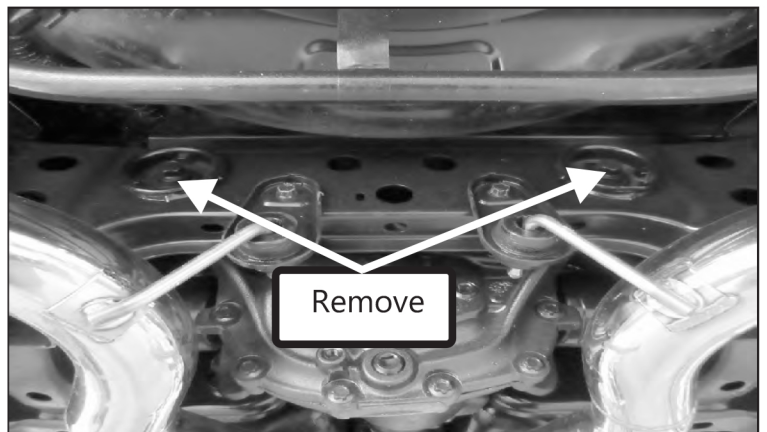
- Install the supplied crush control tubes

into the bushings ensuring they're well lubricated with the supplied grease. Also ensure that the washer faces are lubricated.

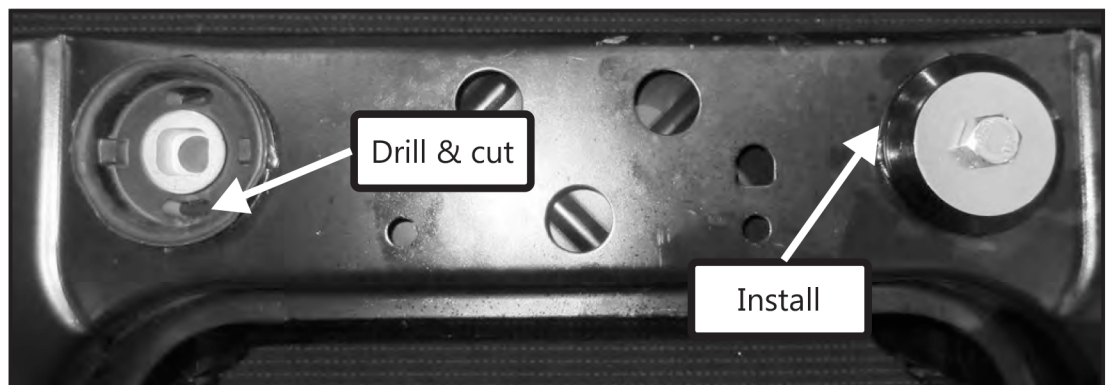
- Re-fit the differential back into the sub frame using the supplied nuts, bolts & washers. Use the supplied M14 X 120mm bolts for the front bushings and the M14 X 110 bolts for the rear (Fig 12).

- Torque all the differential bolts to 130 ft/lbs/

**Figure 10**



**Figure 11**



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**Figure 12**



- Re-fit the CV shafts into the hubs.
- Re-fit the Lower arm toe control rod bolt and torque to 130 ft/lbs.
- Re-fit the outside lower control arm bolt and tighten to 200 ft/lbs.
- Re-fit the anti roll bar link nut and tighten.
- Re-attach the integral link and tension to 130 ft/lbs .
- Re-fit the upper control arm bolt and tighten to 75ft/lbs.
- Raise the sub frame back up into the vehicle and install the four frame mount bolts enough to hold the frame in place. Re-install the four 13mm bolts into the cradle and tension all bolts, 21mm cradle bolts to 130 ft/lbs and the 13mm bolts to 39 ft/lbs.
- Re-attach the lower damper bolts and tension to 35ft/lbs.
- Re-attach the Wheel speed sensor and park brake line bolts.
- Re-fit the brake caliper bolts.
- re-Install the prop shaft bolts and torque to 41 ft/lbs.
- Re-fit the differential breather tube.
- Install road wheels and lower the vehicle.
- It is recommended once the vehicle is on the ground to re-loosen and re-tension on the suspension arms at ride height so no pre load is placed on the bushings.