



5 Rear Suspension & Differential

Unlike the front suspension, for the rear there is no track width option, as all rear wishbones are wide track as standard. However there is a choice of differentials, either the 7" or 7 1/2" type-B differential, both differentials utilise the same driveshafts, but there mounting procedure within the chassis is slightly different.

Tools Required

Spanner Set 3/8" to 2/4"
Spanner Set 10mm to 19mm
Torque Wrench
Thread-Lock
Copper Slip
6mm, 8mm & 10mm Allen Key

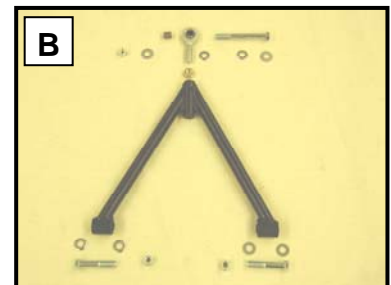
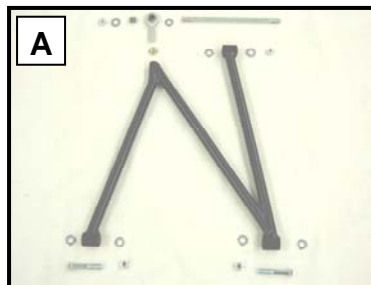
In certain Westfield kits or if Nylon updated bushes are requested. The wishbones are supplied bare without bushes fitted, the type and size of bush used is the same for all wishbones. If fitting suspension bushes, please turn to the start of Chapter-4 for a guide on how to fit the standard and upgrade nylon bushes.

Rear Suspension Components

Firstly identify the correct rear suspension parts and fixings.

A – Rear lower wishbone

B – Rear upper wishbone



On each rear wishbone there is a rose-joint that mounts to the upright and allows adjustment for setting up the rear suspension. These rose-joints require a reducing bush to be pressed into the spherical bearing; we recommend you follow this procedure.

1. Using your hands, try to press the reducing bush into the bearing.
2. If the bush will not go in, use a bench vice to gently push the bush in. Be careful not to damage the bush or push it in skewed.



When fitting the rear suspension we recommend you follow the steps outlined



Fitting The Wishbones

1. Position the rear lower wishbone onto the chassis mounts. So that the single arm with the bush in is at the front. Attach using

- 2 x 2 ½" long x 7/16" UNF bolt
- 4 x 7/16" plain washer
- 2 x 7/16" nyloc nut

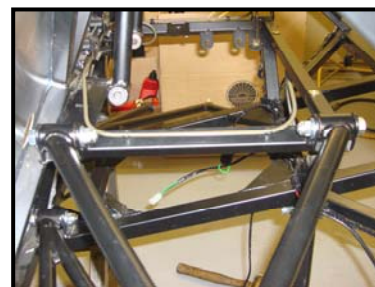
The bolts should be put through the bushes so the nylocs are on the inside. Lightly tighten the bolts, do not torque until the vehicle is on its wheels.

2. Wind a rose-joint complete with locking nut and reducing bush into the lower wishbone. Screw in until four threads are left showing.

3. Position the rear upper wishbone onto the chassis mounts. So that. Attach using

- 2 x 2 ½" long x 7/16" UNF bolt
- 4 x 7/16" plain washer
- 2 x 7/16" nyloc nut

The bolts should be put through the bushes so the nylocs are on the inside. Lightly tighten the bolts, do not torque until the vehicle is on its wheels.



Fitting The Shock Absorbers

Firstly identify the correct rear suspension shocks and springs. Front shocks come in a box with **part number 1105** on the side, rear shocks have a **part number 1106**. **Rear shocks are longer** than the fronts and **Rear springs are also longer** than the front springs.

1. Place the rear shock in its top mount, with the ride-height adjusting thread at the bottom and the damping adjuster on the inside.



If using the Nitron upgrade shocks, they mount upside down with the height adjusting threads at the top. They also only require two plain washers instead of four as they do not require washes on the inside of the chassis mount.

Mount at the top only using the following; lightly tighten at this stage.

- 1 x 2 ½" long x 7/16" bolt
- 4 x 7/16" plain washer (**both sides of the chassis mount**)
- 1 x 7/16" nyloc nut





Fitting The Rear Upright

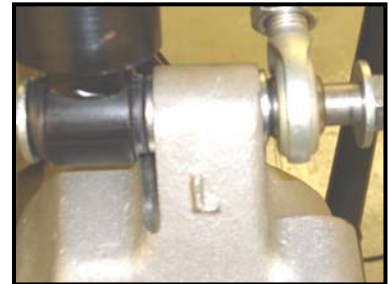
The Westfield front uprights are supplied as an assembly, with the hub fitted. To identify between the two uprights, use the following points.

A – Right Hand Side

“R” cast onto the outside top part of upright

B – Left Hand Side

“L” cast onto the outside top part of upright



1. The upright is attached to the lower wishbone first. Lightly tighten the bolts, torque when the vehicle is on its wheels.

1 x 9 ½” long by 7/16” UNF stud

2 x 7/16” large plain washers

2 x 7/16” small plain washers

2 x 7/16” nyloc nuts

The small washers go next to the upright, between the wishbone and the large washers behind the nuts.



2. The upright is attached to the top wishbone. The bolt goes through the upright so that the nut is towards the rear. Lightly tighten the bolts, torque when the vehicle is on its wheels.

1 x 4” long 7/16” UNF bolt

2 x 7/16” large plain washers

2 x 7/16” small plain washers

1 x 7/16” nyloc nut



The top upright mount bolt also forms the bottom shock absorber mount. The small washer goes next to the upright, between the wishbone and shock. The large washers go next to the bolt head and behind the nut.

If using the Nitron upgrade shocks, they mount upside down with the height adjusting threads at the top. They also don't require washers either side when mounting, so the bolt head fits against the shock and through the upright with no washers. A small washer is then placed the other side of the upright between the rose-joint and a large washer before the nut goes on.



Rear Brakes

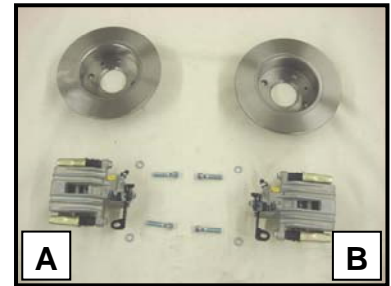
Firstly identify the correct brake calliper for each side, the discs are universal and can be fitted either side.

A – Left Hand Side

Bleed nipple and brake pipe connection at top

B – Right Hand Side

Bleed nipple and brake pipe connection at top



The rear brake discs have a protective coating that must be removed with a solvent cleaner, such as white spirit before assembly. While cleaning the discs do not allow the brake pad to become contaminated with solvent and make sure that the discs are dry before assembly.

1. Position the brake disc over the wheel studs and against the hub



2. Select the correct rear calliper and secure it to the upright and torque to 47n/m (35 ft/lbs)

2 x 45mm long x 10mm Capscrew

2 x 10mm spring washer

Apply a thread-locking adhesive to the capscrews when fitting



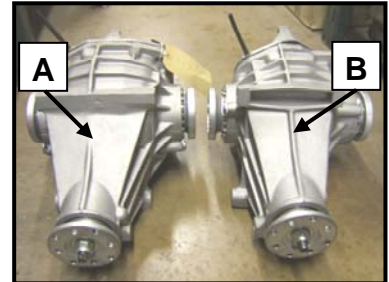
The Differential Housing

The differential unit is fitted to the chassis via four metalastic bushes that are pre-fitted to the chassis and a stabilising bracket that has a bush pressed in the end.

It is worth knowing that there are two different types of differential casing, the Type-B with either a 7" or 7 ½" casing.

A – 7 ½" casing, solid top mount

B – 7" casing, cut out in top mount for stud to pass through



The fitting procedure for both differential casings has a slightly difference. Also if fitting the 7 ½" casing some alterations need to be made to the casing before it will fit. This requires the back bottom left hand corner of the casing to the ground away for the chassis rails to clear. This does not have to be done if fitting the 7" casing.



Fitting The Differential Housing

The fitting difference is that the 7" casing requires a long stud top and bottom to mount with 16mm spacers on the left hand side. Whereas the 7 ½" casing mounts at the bottom with a long stud and at the top via two bolts with no spacers.

Fitting The 7" Casing

1. Before fitting the differential, it is advised to place the studs into the end of the mounting bushes first, do this on the right hand side mounts.

1 x 317mm long x 12mm stud (**top mount**)

1 x 300mm long x 12mm stud (**bottom mount**)

2. The differential can then be lifted into place, before sliding the studs through the casing, a plain washer needs to go between the bushes and the casing. The studs can then be slid through, on the left hand side at the top of the casing, firstly the stud should go through the spacer, then a plain washer and finally through the bush.

1 x 16mm long spacers

4 x 12mm plain washer



3. With the studs and both spacers in place with a plain washer next to the bushes. Nuts can be fitted with a plain washer behind. Torque to 54n/m (40 ft/lbs)

4 x 12mm nyloc nut

4 x 12mm plain washer

Proceed to step 4 of fitting the 7 ½" casing

Fitting The 7 1/2" Casing

1. Before fitting the differential, it is advised to place the bolts into the end of the mounting bushes first.

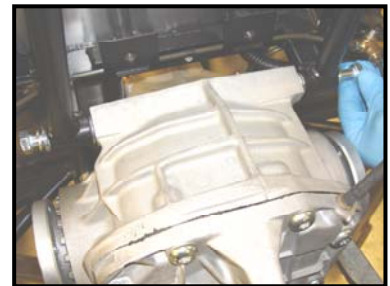
- 2 x 65mm long x 12mm bolt
- 2 x 12mm spring washer
- 2 x 12mm plain washer
- 1 x 300mm long x 12mm stud

The bolts go in the top mounts with the bolt heads on the outside; a spring washer is placed on first, then a flat washer against the bush. On the bottom mount, the stud can be placed into one of the bushes



2. The differential can then be lifted into place, before screwing the bolts in, a plain washer needs to be fitted between the diff casing and the bushes. This must be done on all four mountings, so take care when sliding the 300mm stud through

- 4 x 12mm plain washer



3. With the bottom stud through the casing and the plain washers in correctly between the diff casing and mounting bushes, the nuts can be fitted with a plain washer behind. Torque the studs to 54n/m (40 ft/lbs) and torque the top bolts to 40n/m (30 ft/lbs)

- 2 x 12mm nyloc nut
- 2 x 12mm plain washer

4. Take the stabilising bracket and attach it to the diff casing so that the bush is the lowest part and towards the rear of the car. Torque to 27n/m (20 ft/lbs)

- 2 x 25mm x 10mm bolt
- 2 x 10mm plain washer

Attach the bracket to the chassis, torque to 27n/m (20 ft/lbs)

- 1 x 2 1/2 " X 7/16" UNF bolt
- 2 x 7/16 plain washer
- 1 x 7/16 nyloc nut



5. Undo the oil fill plug with a 10mm Allen key and fill the differential with the correct oil.

- Standard open differential = EP 80/90
- Limited slip differential = special LSD oil

Re-fit the filler plug and torque to 13n/m (10 ft/lbs)



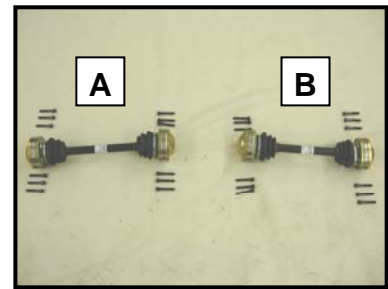


Fitting The Driveshafts

Regardless of whether the 7" or 7 ½" differential casing was fitted, the driveshafts utilised are the same. However the shafts are sided:

A – Right Hand Side, slightly longer and marker RH on shaft

B – Left Hand Side, shorter and marked LH on shaft



1. Identify which driveshaft is for the correct side. When fitting the shaft it may be necessary to undo the top upright bolt in order to tilt the upright away and fit the shaft. The shafts are not pre-stressed, so it does not matter which end mounts to the differential or hub.



2. Holding the driveshaft in place are twelve capscrews, these need to have Thread-lock applied before being tightened evenly into the differential and hub. There are no washers fitted.



12 x 50mm long x 8mm Capscrew

3. With the capscrews evenly tightened, they can be torqued. To do this the hub needs holding by placing a suitable bar between the wheel studs, take care not to damage the studs during this procedure. Torque to 34n/m (25 ft/lbs)





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