

# GROUP FOUR

## REAR SUSPENSION

### Assemblies included In this group: -

4:1	K3601259AA	REAR DISC AXLE
4:2	K3601003AC	REAR SUSPENSION

### Tools required for assembly of this group: -

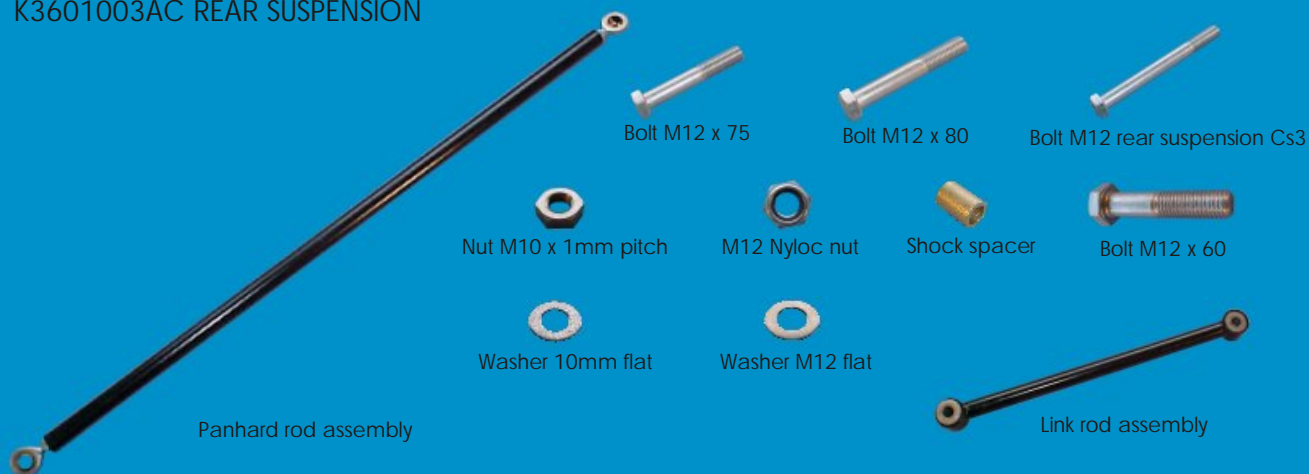
Tools required for assembly of this group: -	Qty
17mm Spanner	2
13mm Spanner	1
19mm Spanner	1
Torque wrench with range 30 -150 Nm	1
19mm Socket to fit torque wrench	1

K3601259AA REAR DISC AXLE



Rear disc axle assembly

K3601003AC REAR SUSPENSION



Panhard rod assembly

Link rod assembly

## 4:1

## REAR DISC AXLE - K3601259AA

Components in this assembly		Qty	Part Number
I	Rear disc axle assembly	1	M3551055AC

## Procedure



Ensure the chassis members upon which the rear axle will rest are protected.

1. Using two people, slide the axle into position by passing it through the chassis and onto the chassis members.



The pinion and panhard rod mounting point must face towards the front of the chassis with the later on the left hand side.



Panhard rod mounting point

Pinion

## 4:2

## REAR SUSPENSION - K3601003AC

Components in this assembly		Qty	Part Number
i	Bolt M12 x 75	3	B5358013AA
ii	Bolt M12 x 80	3	B5358053AA
iii	Bolt M12 x 60	2	B5358055AA
iv	Nut M12 Nyloc	10	B5358060AA
v	Washer 12mm Flat	26	B5358061AA
vi	Washer 10mm Flat	1	B5358132AA
vii	Bolt M12 rear suspension	2	M3101375AA
viii	Panhard rod assembly	1	M3551005AA
ix	Link rod assembly	4	M3551016AA
x	Shock spacer	2	M3851006AA
xi	Nut M10 x 1 pitch	1	B5358034AA



It is advisable to fit the rear shocks while fitting the rear suspension. Birkin recommends that OE (original equipment) shocks and springs are fitted. Engine type and desired setup will determine the spring rate.

For information on spring rates and setup, please contact your Birkin agent.

K3601258AA - Shock Absorber Assembly. Zetec, available in Group 10 - Optional Extra's, have been used in this procedure.

Procedure follows next page

## Rear Suspension Procedure



Support the pinion flange with a stable block of wood to ensure it faces forward through the prop shaft cut out in the back panel.



The rear axle has 3 mounting areas for the rear suspension as follows: ① Left and right hand lower link rod mounting points, ② Left and right hand shock assembly and upper link rod mounting points and ③ Panhard rod mounting point.



Link rods have a slight angle offset which determines left or right hand.



A link rod has an axle mounting point and a chassis mounting point as illustrated below.



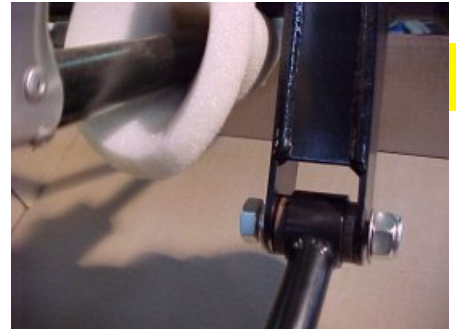
1. Using a M12x60 bolt, two washers and Nyloc nut, connect the axle mounting point of the link rod to the right hand lower link rod mounting as illustrated below.



Do not tighten bolts and nuts until after engine installation.



The bolt head must face the chassis as illustrated below.

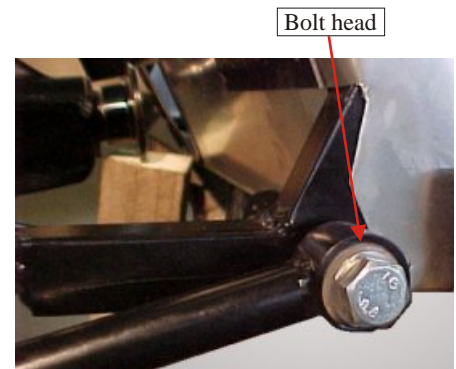
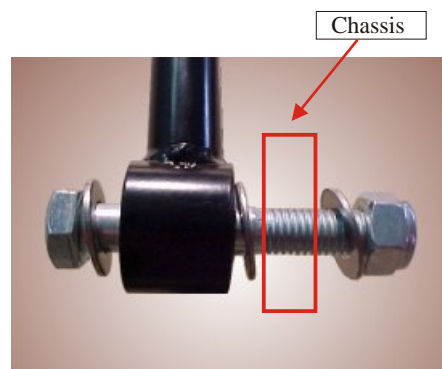


2. Repeat above process on left hand side.

3. Using a M12x75 bolt, 3 washers and Nyloc nut, connect the right hand chassis mounting point of the lower link rod to the chassis.



The bolt head must face the outside of the chassis.



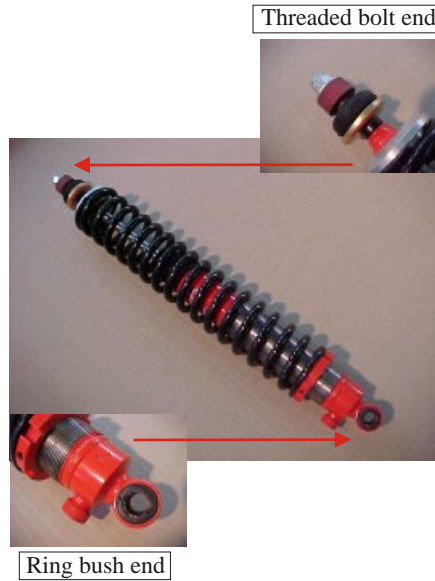


4. Repeat procedure for the left hand side.

**NB** The rear spring and shock assembly have an upper and a lower mounting point.

The threaded stud end is upper and the ring bush end is lower.

When installing shock assemblies, the adjustment must face towards the rear of the vehicle.



5. Remove the Nyloc / hex nut, top rubbers and washers from top mounting point of shocks. Then pass the top mounting point through the top chassis shock mounting.



6. Replace the top rubber, washer and Nyloc / hex nut.

**NB** If using a Nyloc nut tighten the nut to end of thread, then tighten a further two full turns.

If using two locking hex nuts, follow with one and do as a Nyloc nut then place second locking hex nut and tighten onto first nut to lock.

Some lower rubbers may have a lip, if so, remove and fit to chassis mounting point first as illustrated below.



7. Using a M12x120 bolt, 3 washers, spacer and Nyloc nut, fit the lower shock mounting point to axle as illustrated below.

**NB** Upper link rod has two ends as with lower link rod.  
Bolt head points inwards of the chassis as illustrated below.

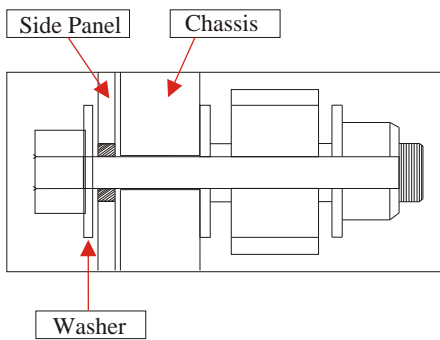
**NB** The side panels supplied in Group 1 need to be upholstered and replaced in position before upper link rods are attached. The washer needs to be on the outside of the upholstery. The hole in the upholstered panel must be big enough for the bobbin to pass through.

8. Repeat Steps 5 - 6 for the left hand side.





The side panel cannot be crushed against the chassis by the suspension bolt or it will come loose.



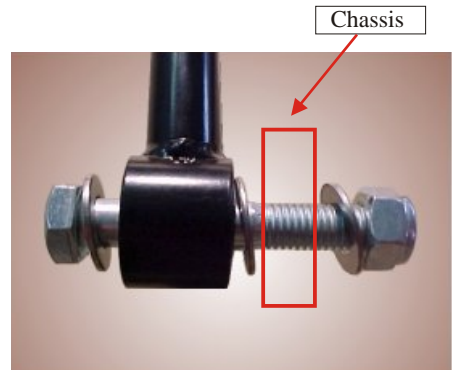
9. Fit Chassis mounting point of link rod to upper chassis mounting point using a M12x80 bolt, 3 washers and Nyloc nut.



Bolt head points inwards of the chassis as illustrated below.



10. Repeat steps 7 - 9 for the left hand side.



### Panhard Rod Installation



For the installation of the panhard rod, it is important that both its mounting points are placed in position before any bolts are attached.

The panhard rod length has been preset at the factory.

DO NOT adjust the ends.

1. Feed the panhard rod from the left hand side underneath the axle towards the chassis right hand side mounting point as illustrated below.

2. Let the rosejoint of the panhard rod slide above and past the chassis mounting point until it sits snug in the corner.



3. Pull the panhard rod back into the axle panhard rod mounting point until the bolt hole of the rose joint aligns with that of the mounting point.

The opposite end should automatically fall into position in the chassis mounting point as illustrated below.





4. Using a M12x80 bolt, 2 washers and Nyloc nut, fix the panhard rod to the chassis mounting point using illustrations Fig 1, Fig 2 and Fig 3 below as a guideline.



The bolt, washers and nut may only be tightened by hand.

Fig 1



Fig 2



Fig 3



5. Align the bolt hole of the panhard rod rosejoint with the axle mounting point and fix with a M12x75 bolt, 2 washers and a Nyloc nut as illustrated below.

Also refer to Fig 1 above.



To align the panhard rod you need to move the axle.

**DO NOT** adjust the panhard rod. Torque panhard rod bolts to 75Nm.



## Brake Pipe Installation

1. Feed the end of the flexible brake hose attached to the axle assembly through the mounting bracket located just above the prop shaft cut out on the rear panel. Place the 10mm washer followed by the M10x1 pitch nut and fully tighten using a 17mm spanner.

2. Align the brake pipe located next to the mounting bracket with the end of the hose.



You need to ensure that it fits snug onto the tip of the nozzle.

3. Move the brake pipe nut onto the thread and fully tighten.



It is essential that the brake pipe nut is correctly placed before it is tightened.

Should the two be cross threaded, it will lead to a leak of brake fluid at a later stage.

