






Chapter 8

Suspension and steering

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Degrees of difficulty

Easy, suitable for novice with little experience 	Fairly easy, suitable for beginner with some experience 	Fairly difficult, suitable for competent DIY mechanic 	Difficult, suitable for experienced DIY mechanic 	Very difficult, suitable for expert DIY or professional 
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Specifications

Front suspension

Type:

Visa models	Independent, MacPherson strut and coil spring, with anti-roll bar. Front subframe carries track control arms, steering gear and anti-roll bar
BX models	Independent, with upper and lower arms, hydropneumatic cylinders

Wheel alignment:

	Visa	BX
Camber	0°16' ± 30'	0° ± 30'
Castor		
Pre August 1985 models	1°20' ± 30'	2° ± 35'
August 1985 on models	1°33' ± 30'	2° ± 35'
Steering axis inclination	9°16' ± 40'	12°

Toe setting:

Pre August 1985	2.0 ± 1 mm (toe-out)	0 to 3.0 mm (toe-out)
August 1985	0 to 2.0 mm (toe-in)	0 to 3.0 mm (toe-out)

Rear suspension

Type:

Visa models	Independent, trailing arms and hydraulic dampers with coil springs
BX models	Independent, trailing arms, hydropneumatic cylinders

Wheel alignment:

	Visa	BX
Camber	1°30'	0°09' ± 20'
Toe setting	1.0 to 4.0 mm (toe-in)	0 to 5.0 mm (toe-in)

Steering

Type

.....	Rack and pinion with safety column
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Turning circle (between kerbs):

Visa	10.06 m
BX:	
Manual steering	10.17 m
Power steering	10.37 m

Wheels

Type

.....	Pressed steel
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Size:

Visa	4.50 B 13 FH 4.35 or 4.30
BX	5.00 B 14 FH 4.25

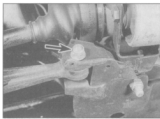
Tyres

Size:

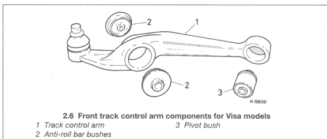
Visa	145 SR 13 or 155 SR 13
BX	165/70 R 14

Torque wrench settings (Visa models)

	Nm	lbf ft
Anti-roll bar to track control arm	75	55
Anti-roll bar mounting	35	26
Anti-roll guide bar to anti-roll bar	30	22
Anti-roll guide bar to subframe	25	18
Steering gear mounting	35	26
Steering shaft to pinion	15	11
Track control arm pivot bolt	35	26
Track rod end nut	35	26



2.2 Front track control arm inner pivot bolt (arrowed) on Visa models



2.6 Front track control arm components for Visa models
 1 Track control arm
 2 Anti-roll bar bushes
 3 Pivot bush

1 Description - general

On Visa models the front subframe differs from that fitted to petrol engine models in that it carries the track control arm inner pivots, the steering gear and the anti-roll bar that is mounted from the rear. In all other respects the components and work procedures are similar to those described for the GTI model in the main Visa manual.

The suspension and steering components fitted to BX models are identical to those on petrol engine models.

2 Front track control arm (Visa models) - removal, overhaul and refitting

Removal

1 Jack up the front of the vehicle and support on axle stands (see "Jacking and vehicle support"). Apply the handbrake and remove the roadwheel.

2 Unscrew the nut from the inner pivot bolt (see illustration).

3 Have an assistant hold the suspension strut pressed inwards then remove the bolt and release the strut. Note that the bolt head faces to the rear.

4 Unscrew the clamp bolt securing the lower balljoint to the hub carrier, then drive a wedge into the slot and release the lower suspension arm. Remove the balljoint protector where fitted.

5 Unscrew the nut from the end of the anti-roll bar, remove the washer, and withdraw the track control arm.

Overhaul

6 The rubber bushes may be renewed if necessary. Lever or drive out the anti-roll bar bushes. Ideally, the pivot bush should be pressed out using a bench press or flypress. However, it is possible to remove and insert the bush using a long bolt, nut and washers and a metal tube (see illustration).

Refitting

7 Refitting is a reversal of removal, but tighten the bolts to the specified torque with the weight of the vehicle on the front suspension. On completion check and if necessary adjust the steering angles and front wheel alignment.

3 Front anti-roll bar (Visa models) - removal and refitting

Removal

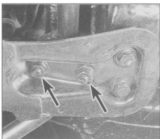
1 Jack up the front of the vehicle and support on axle stands (see "Jacking and vehicle support"). Apply the handbrake and remove both roadwheels.

2 Remove one track control arm, referring to Section 2.

3 Unscrew the nut securing the remaining end of the anti-roll bar to the other track control arm and recover the washer.

4 Unbolt the guide bar from the subframe.

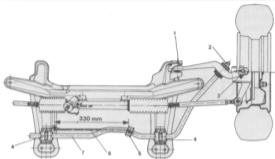
5 Unscrew the mounting clamp bolts (see illustration) and withdraw the anti-roll bar over the subframe. If necessary disconnect the gearchange rods to provide additional working room.



3.5 Anti-roll bar mounting clamp bolts (arrowed) on Visa models

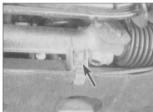


3.7A Guide bar adjustment clamp for the anti-roll bar on Visa models

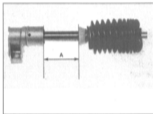


3.7B Diagram of anti-roll bar and steering gear for Visa models

- | | |
|--------------------------------------|------------------------------|
| 1 Track control arm inner pivot bolt | 5 Guide bar adjustment clamp |
| 2 Anti-roll bar front mounting nut | 6 Guide bar |
| 3 Lower balljoint pinch-bolt | 7 Anti-roll bar |
| 4 Rear mounting clamps | |



4.4 Steering gear mounting bolt (arrowed) on Visa models



4.5 Steering rack centralising dimension for Visa models
A = 72.5 mm (2.85 in)

Refitting

6 Examine the rubber bearings for damage and deterioration, and renew them if necessary.

7 Refitting is a reversal of removal, but delay fully tightening the clamp bolts until the full weight of the vehicle is on the suspension. The guide bar bolt (see illustration) should also remain loosened until after the bearing clamp bolts have been tightened and its length should be suitably adjusted (see illustration).

4 Steering gear (Visa models) - removal and refitting

Removal

1 Jack up the front of the vehicle and support on axle stands (see "Jacking and vehicle support"). Apply the handbrake. Remove the front roadwheels.

2 Unscrew the nuts from the track rod end balljoint studs and, with a balljoint splitter, disconnect the balljoints from the steering arms.

3 Unscrew and remove the pinch-bolt securing the bottom of the steering shaft to the steering gear pinion splines.

4 Unscrew the mounting bolts (see illustration), and withdraw the steering gear sideways from the subframe.

Refitting

5 Begin refitting by centralising the rack. To do this, disconnect the rubber bellows and set the rack to the dimension shown (see illustration).

6 With the steering wheel in the straight-ahead position, refit the steering gear and connect the steering shaft to the pinion splines.

7 Refit and tighten the mounting bolts to the specified torque.

8 Insert the steering shaft pinch-bolt and tighten it.

9 Reconnect the rubber bellows to the steering gear.

10 Reconnect the track rod ends to the steering arms and tighten the nuts.

11 Refit the front roadwheels and lower the vehicle to the ground. On completion check and if necessary adjust the front wheel alignment.