Chapter 11
Suspension and steering

Contents

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 

Specifications

Suspension

Front type	Independent, with upper and lower arms and steering knuckle, hydropneumatic suspension cylinders supplied with fluid from main hydraulic system via front height corrector, anti-roll bar, bump and rebound stops
Rear type	Independent, with trailing arms, hydropneumatic suspension cylinders supplied with fluid from main hydraulic system via rear height corrector, anti-roll bar, bump and rebound stops
Height - normal driving position (engine idling):	
Front	166 $^{+\ 10\ mm}_{-\ 7\ mm}$
Rear	223 $^{+\ 10\ mm}_{-\ 7\ mm}$
Anti-roll bar diameter:	
Front:	
BX 19 GTi, BX 19 GTi 16v and Estate	23.0 mm
All other models	22.5 mm
Rear:	
BX and BX 14	16.5 mm
BX 16 and BX 19 (not Estate)	17.0 mm
BX 16 and BX 19 (Estate)	18.0 mm
BX 19 GTi and BX 19 GTi 16v (pre March 1989)	19.0 mm
BX 19 GTi 16v (from March 1989)	21.0 mm

Steering

Type	Rack-and-pinion with optional power steering, steering column with universal joint and coupling
Turns (lock to lock):	
Manual steering	3.76
Power steering	2.83
Shaft length:	
Manual steering	384.5 mm
Power steering	329.5 mm

Wheel alignment

Front:	
Toe-out	0 to 3 mm
Camber angle	0º ± 30’
Castor angle	2º ± 35’
Wheel offset	- 7.9 mm
Rear:	
Toe-in	1.6 to 5 mm
Camber angle	- 1 ± 20’

Wheel hub bearings

Type	Twin track ball-bearings

Wheels

Type	Pressed steel or alloy
Size	
Steel:	
BX and BX 14	4.50 B 14 FH 4.30 or 120 TR 365 FH 4.30
BX 14 Estate	4.50 B 14 FH 4.30
BX 16	120 TR 365 FH 4.30
BX 19	5.00 B 14 FH 4.25
BX 16 and BX 19 Estates	5.00 B 14 FH 4.25
Alloy:	
BX 14 RE and BX 16	120 TR 365 FH 4.30
BX 16 RE	5.00 B 14 FH 4.25
BX 19	5.00 B 14 CH 4.25
BX 19 GTi	5 1/2 J 14 FH 4.18
BX 19 GTi 16v	6 J 14 CH 4.15

Tyres

Type	Radial ply, tubeless
Pressures	See end of *“Weekly checks”*

Torque wrench settings

	Nm	lbf ft
Front suspension		
Suspension strut unit upper mounting	20	14
Suspension strut to steering swivel	70	51
Suspension arm to steering swivel balljoint	30	22
Track rod balljoint	38	27
Suspension arm pivot (spindle) nut	160	116
Anti-roll bar connecting link	45	33
Anti-roll bar to subframe	27	20
Subframe bolts:		
BX and BX 14 (front, centre and rear)	57	41
BX 16 and BX 19 (front and centre)	57	41
BX 16 and BX 19 (rear)	95	69
Rear axle		
Suspension arm shaft	130	94
Anti-roll bar bearing flange	65	47
Axle mountings:		
Front	50	36
Rear	28	20
Steering		
Column upper mounting	12	9
Column upper joint clamp	20	14
Column lower flange joint	25	18
Rack mountings	57	41
Track rod inner to outer locknut	38	27
Track rod balljoint nut (outer)	38	27
Track rod balljoint nut (inner)	50	36
Roadwheels		
Bolts:		
Steel wheels	80	58
Alloy wheels	90	65
Hub nut (front and rear)	270	195
Lower suspension arm/hub carrier balljoint nut	30	22

1 General information

The suspension is of independent hydropneumatic type. At the front, it comprises a vertically mounted hydraulic suspension strut unit, a lower suspension arm and an anti-roll bar. The suspension cylinders are supplied with hydraulic fluid from the main hydraulic system via the front height corrector which is actuated by the front anti-roll bar. The anti-roll bar is attached to the suspension arms with two links.

A trailing arm rear suspension system is used. The rear suspension cylinders are supplied with hydraulic fluid from the main system via the rear height corrector. As with the front, the height corrector is actuated by the rear anti-roll bar.

Ground height clearance is adjusted with a lever mounted inside the vehicle, the lever being connected by operating rods to the front and rear height correctors. Automatic damping is incorporated in the suspension cylinders.

Steering is of rack-and-pinion type, mounted on a crossmember attached to the front subframe. The steering column incorporates a universal joint and a coupling.

Power steering is fitted to some models and this system incorporates a self-centring action which varies according to the speed of the vehicle. Power assistance is derived from a power-operated hydraulic ram cylinder mounted on the steering rack. The hydraulic pressure to the ram is supplied by the main suspension and braking system hydraulic circuit, the pressure being controlled by a flow distributor unit and a control valve.

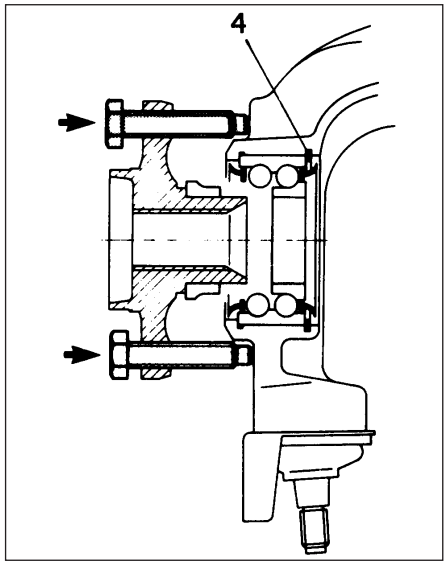
2 Front wheel hub bearings - removal and refitting

Removal

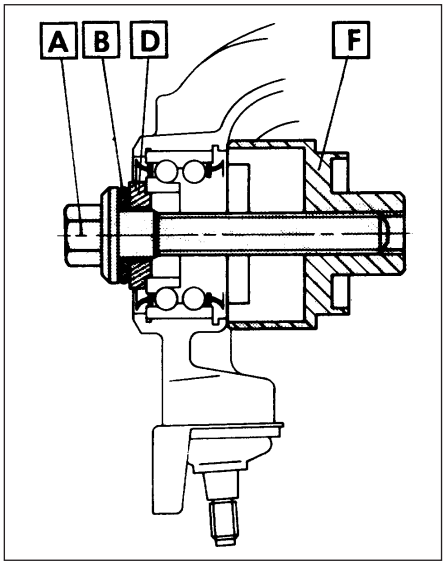
1 Disconnect the relevant driveshaft from the outer hub. Unless necessary, do not withdraw the driveshaft from the differential housing but leave it in position and supported so that the inner joint is not strained.
2 Set the height control to the “low” position.
3 Remove the brake disc.
4 Insert two bolts into the threaded holes in the flange face of the hub and tighten them evenly in a progressive sequence to withdraw the hub from the hub carrier (swivel unit) **(see illustration)**.
5 Remove the bearing inner race from the hub using Citroën tool 2405-T or a similar puller. Take care not to damage the hub.
6 Extract the bearing retaining circlip from the inboard side of the hub carrier.
7 To remove the bearing from the hub carrier, Citroën tool OUT 30 71 04-T should be used **(see illustration)**. Apply grease to the tool friction washer (B). Tighten the centre bolt to push the bearing inwards.
8 If no special tool is available, fabricate a similar tool to that shown, or try removing the bearing by using a suitable tube drift to drive the bearing from the hub. The drift must locate on the outboard end of the bearing outer race and the bearing drifted inwards to remove it. Support the inboard side of the hub carrier during removal.
9 Clean and inspect the hub, hub carrier and bearings for signs of excessive wear or damage and renew as necessary. The inner and outer seals are integral with the bearing and cannot be renewed individually.
10 If the circlip was damaged or distorted during removal then it must be renewed.

Refitting

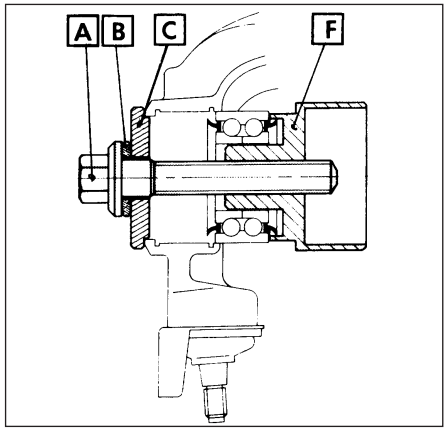
11 Refitting is a reversal of the removal procedure **(see illustrations)**.



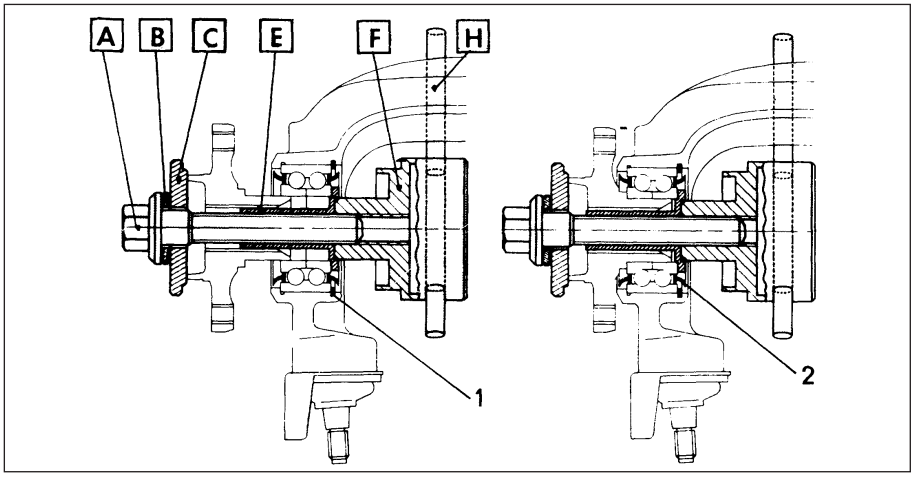
2.4 Front hub removal using bolts (arrowed). Note circlip location (4)



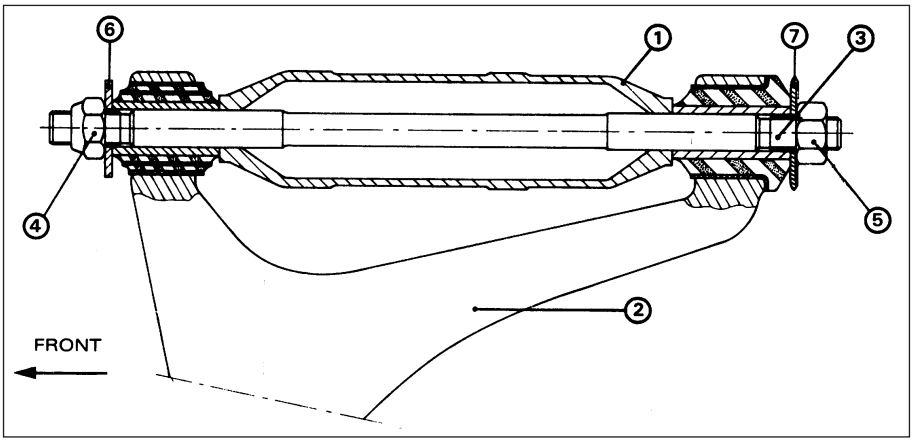
2.7 Citroën tool OUT 30 7104-T (A, B, D and F) assembled for bearing removal from hub carrier. Tighten centre bolt (A)



2.11a Reverse the position of tool item F to pull bearing into position in hub carrier. Note support plate C



2.11b Hub refitting method using items shown from Citroën tool kit



3.1a Sectional view of modified front suspension arm and associated components

1 Subframe
2 Suspension arm
3 Pivot shaft
4 Front nut
5 Rear nut
6 Front washer
7 Rear washer

12 Take care when fitting the circlip not to damage the inboard seal and ensure that the circlip is fully engaged in its groove in the hub carrier.
13 Lubricate the hub with grease prior to fitting. Also lubricate the seal lips with grease.
14 Refit the driveshaft.
15 Refit the brake disc, taking care not to get grease onto the disc.
16 With the roadwheel refitted, spin it to ensure that the bearings run freely without excessive play or drag.

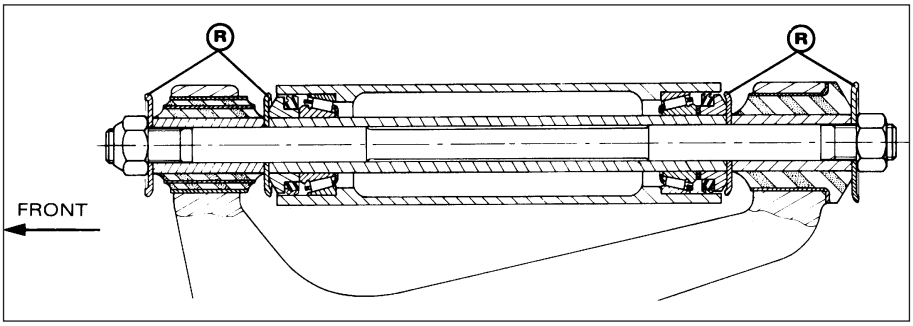
3 Front suspension arm - removal, overhaul and refitting

Modifications from September 1985

1 From the above date, all models are fitted with a modified front suspension arm which has a revised type of flexible pivot bush fitted **(see illustration)**. In addition to the suspension arm, the following associated items are also modified.

*a) Subframe - of modified design and no longer fitted with taper roller bearings **(see illustration)**.*
b) Suspension arm bushes - redesigned bushes are fitted to suit the new subframe.
c) Spindle (pivot) shaft - increased in diameter from 14 mm to 16 mm.
d) Suspension spheres - the capacity of the spheres is 500 cc on BX 16 and BX 19 after January 1988.

2 Spheres on all models are colour-coded for identification after January 1988.
3 The geometry of the subframe remains the same as the type fitted to earlier models.
4 Subframes for the earlier models are no longer being produced. If renewal of the earlier type is necessary, it may be necessary to renew the lower arms and their respective associated fittings in accordance with the model type. Your Citroën dealer will advise accordingly.
5 When renewing a suspension arm on early models fitted with the original-type subframe, a special replacement arm is necessary. This has the 14 mm spindle (pivot) shaft rubber bushes and washers **(see illustration)**.
6 When fitting the later-type suspension arms and subframe assemblies to early models, the suspension geometry remains the same and the original suspension spheres can be used.
7 Renewal of the suspension arm bushes on the later types is identical to that described for early types, as follows:



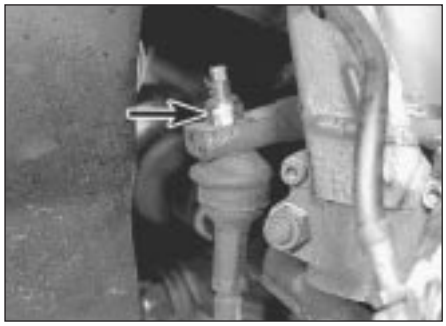
3.5 Special replacement suspension arm with 14 mm diameter pivot shaft
R Washers

3.1b Later type of front suspension arm and subframe

Removal

8 Position chocks against the rear wheels, loosen the front roadwheel bolts then raise and support the vehicle at the front end on safety stands (see "*Jacking and vehicle support*"). Remove the front roadwheel(s).
9 Move the height control lever to the "low" position.
10 Loosen the lower arm-to-steering swivel balljoint nut, locate a balljoint separator and detach the arm from the balljoint. Take care not to damage the balljoint rubber gaiter. When the joint is separated, remove the separator tool, unscrew the nut and detach the lower arm **(see illustration)**.
11 Unscrew the retaining nut and detach the anti-roll bar connector track rod from the anti-roll bar **(see illustration)**.
12 Unscrew and remove the suspension arm spindle nut at the rear end. Remove the cup washer **(see illustration)**.

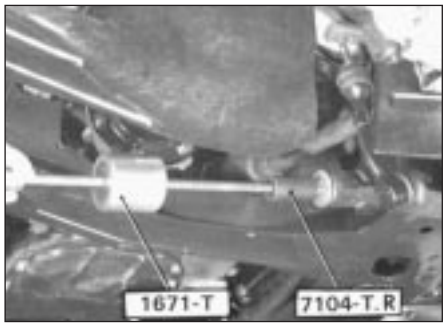
3.10 Separate swivel balljoint from suspension arm



3.11 Anti-roll bar and connecting rod. Remove retaining nut (arrowed)

3.12 Remove suspension arm retaining nut at rear (arrowed)

3.13a Remove suspension arm retaining nut at front (arrowed)



3.13b Front suspension arm spindle removal method using Citroën special tools

13 Unscrew and remove the suspension arm spindle nut at the front end **(see illustration)**. Support the suspension arm and withdraw the spindle to the front. It may be necessary to attach a slide hammer to remove the spindle **(see illustration)**. As the spindle is withdrawn from the suspension arm and subframe, make a note of the location of the cup washers and any shims or spacers used.

Overhaul

14 If the pivot bushes in the suspension arm are worn and in need of replacement, then it is also probable that the pivot bearings in the subframe are also in need of renewal.

15 To remove the bushes from the suspension arm, first mount the arm in a soft jaw vice.

16 If possible, use Citroën tool 7104-T to remove the bushes and subsequently refit them. If this tool is not available, you will need to fabricate a similar tool which comprises a length of threaded rod (14 mm diameter), some tube spacers, nuts and washers. The threaded rod should be of suitable length to pass through both suspension arm eyes and protrude enough at each end to enable the spacers and nuts to be fitted so that the bushes can be withdrawn.

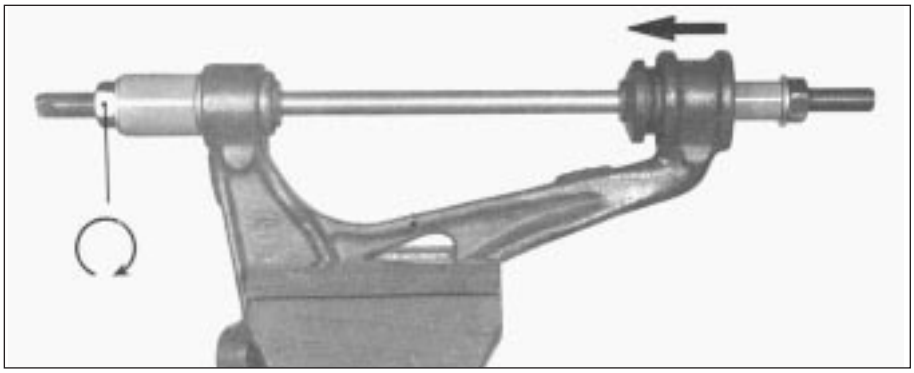
17 Remove the rear bush first. Fit the tool through the arm and tighten the nut as indicated (at the front end of the rod) to draw the rear bush from its housing **(see illustration)**.

18 Reverse the procedure to withdraw the front bush **(see illustration)**. Care must be taken during the removal and refitting of the bushes not to distort the suspension arm by applying excessive force.

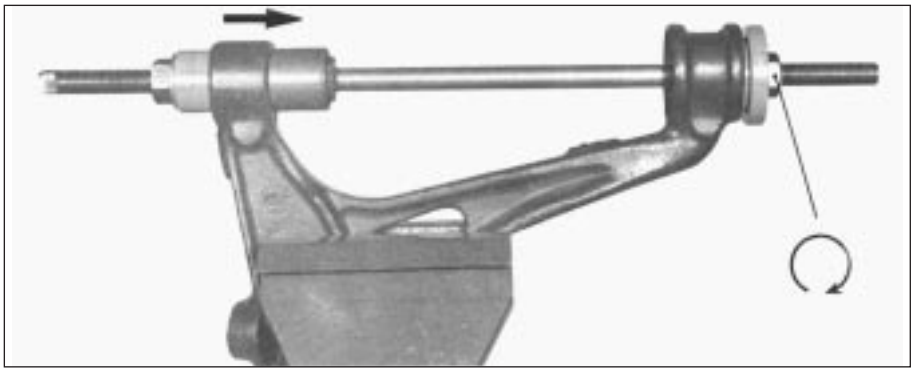
19 Clean out the bush bores in the suspension arm.

20 Draw the front bush into position by reversing the withdrawal procedure. When fitted, the bush must be positioned as shown **(see illustration)**.

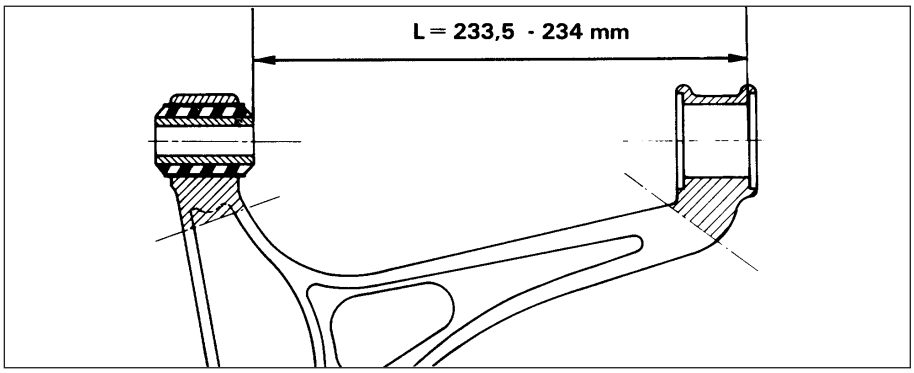
21 Lubricate the rear bush before drawing it into position with a rubber lubricant or liquid soap. Check that the bush is correctly aligned when fitting and locate the index mark on the outer face to the rear **(see illustrations)**.



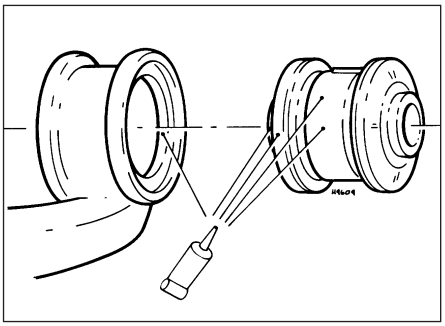
3.17 Suspension arm rear bush removal using Citroën special tool. Note direction of removal (arrowed)



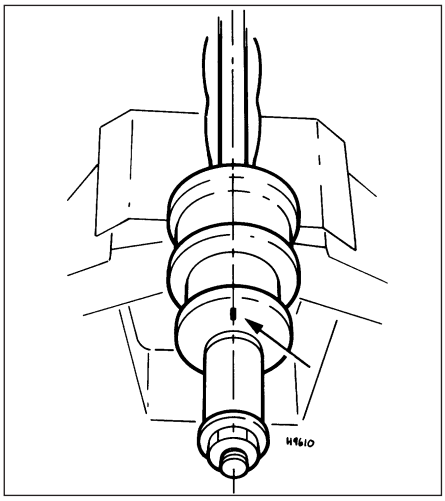
3.18 Suspension arm front bush removal using Citroën special tool. Note direction of removal (arrowed)



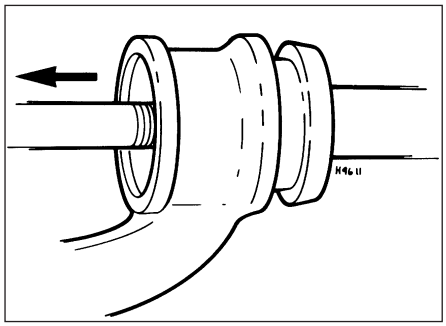
3.20 Suspension arm front bush position



3.21a Lubricate suspension arm rear bush prior to fitting



3.21b Position rear bush with alignment mark as shown



3.21c Draw rear bush into suspension arm eye in direction indicated

22 Check the spindle for signs of excessive wear or damage before refitting and renew it if necessary.

23 Fit a new Nylstop nut onto the front end of the spindle and position it so that there is 7 mm of thread exposed beyond the nut. Lubricate the spindle with grease. Slide a cup washer into position against the inner face of the nut, with the cupped side towards the nut.

Refitting

24 Relocate the suspension arm and engage the spindle. As the spindle is pushed through (from the front), fit the cup washers so that they are facing the subframe **(see illustration)**. If it was removed, ensure that the adjustment shim for the subframe bearings is refitted.

25 Fit the rear cup washer and the plain nut onto the rear end of the spindle. Tighten the nuts hand tight.

26 Reconnect the balljoints, ensuring that the joints are clean but do not lubricate them. New Nylstop nuts must be used and tightened to the specified torque settings.

27 Final tightening of the spindle (pivot) nuts to the specified torque must be carried out with the weight of the vehicle on its wheels and the suspension in the normal driving position.

4 Subframe/front suspension arm bearings - removal and refitting

Removal

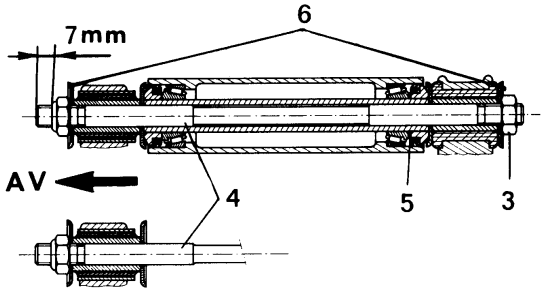
1 Remove the front suspension arm.

2 If the subframe unit or spacers are being renewed, then the bearing free play will need to be adjusted. As this necessitates the use of special Citroën tools, bearing renewal should be entrusted to your dealer.

3 Withdraw the spacer tube, washer, spacer and seal and the bearing inner race from the front end **(see illustration)**. Take note of the fitted position of the seal.

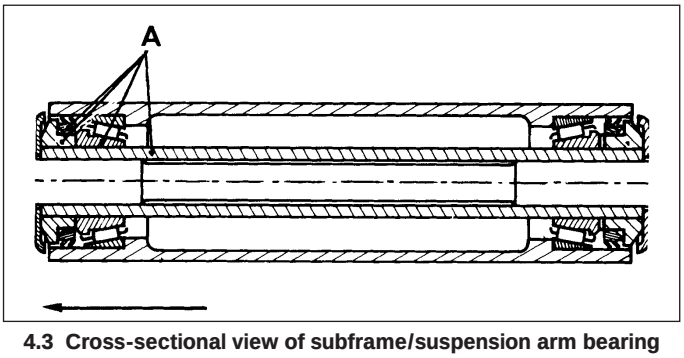
4 To remove the front bearing track, Citroën tool 1671-T will be required. This tool has an expanding end piece fitted which can be passed through the bearing track and expanded beyond the inside diameter of the bearing track. The tool can then be used as a slide hammer to withdraw the bearing track **(see illustration)**.

5 The rear bearing assembly is removed in a similar manner to that described for the front bearing. Note that an adjustment shim is located between the bearing and spacer. When removing the rear outer bearing track, Citroën recommend that the bearing be driven out from the front end rearwards. This will entail fitting Citroën tool 6308-T onto the end of the special tool 1671 -T **(see illustration)**.

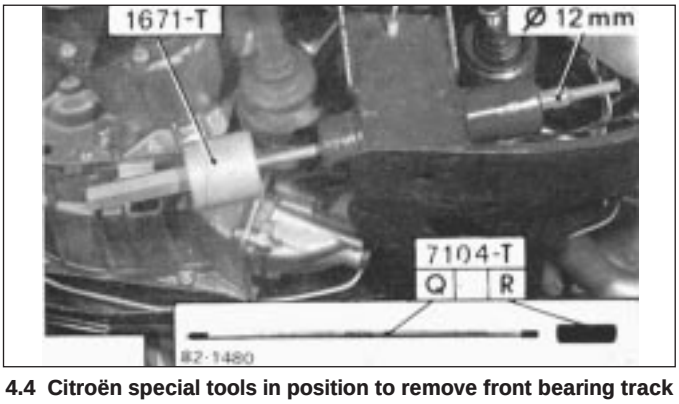


3.24 Cross-section view of suspension arm, spindle and subframe. Arrow indicates front

3 Retaining nut - rear
4 Spindle
5 Adjustment shim
6 Cup washers

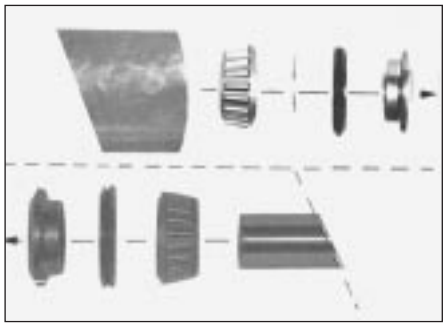


4.3 Cross-sectional view of subframe/suspension arm bearing
Remove items A for access to remove front bearing track
Arrow indicates front



4.4 Citroën special tools in position to remove front bearing track

4.5 Citroën special tools in position to remove rear bearing track



4.7 Bearing, seal and spacer assemblies, rear (top) and front (lower). Note shim location for rear bearing

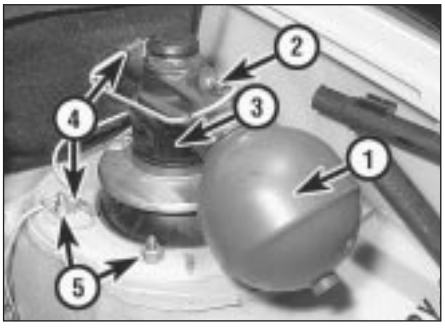
Refitting

6 Refitting is a reversal of the removal procedures. Drive the new bearing tracks into position and ensure that they are fully fitted and flush against the inner shoulder.
7 Lubricate the new bearing races before fitting. Ensure that the adjustment shim is located between the rear bearing and the spacer **(see illustration)**.
8 Fit new seals onto the spacer washers, ensuring that they face the correct way, as noted during removal.
9 Refit the suspension arm on completion and check that it pivots freely but without excessive play before reconnecting it to the steering swivel hub.

5 Front hydraulic suspension unit - removal and refitting

Removal

1 Loosen the front roadwheel bolts, chock the rear roadwheels and then raise and support the vehicle at the front end on safety stands (see "*Jacking and vehicle support*"). Remove the front roadwheel(s).
2 Undo the pressure release screw on the pressure regulator by 1 to 1.5 turns and move the height control lever to the "low" position.
3 If a suitable spare jack is available, position it under the suspension unit on the side concerned and raise it to disperse as much oil as possible from the suspension unit being removed. This procedure is recommended rather than essential.
4 Unscrew and remove the sphere from the suspension unit at the top end (within the engine compartment). Grip the sphere with a chain or strap wrench to loosen it, then unscrew it by hand. It is important to note at this stage that the sphere support should not be removed **(see illustration)**.
5 Unscrew and detach the rigid feed pipe union from the sphere support. Plug the union and port.
6 Undo the three top mounting nuts and unbolt and detach the rigid feed pipe location clips.
7 Working under the wheel arch, detach the hydraulic overflow and vent pipes **(see illustration)**.
8 Unscrew and remove the swivel hub-to-suspension unit clamp bolt and nut **(see illustration)**. Prise open the clamp using a suitable lever and separate the suspension unit from the hub. The suspension unit can then be withdrawn.



5.4 Front hydraulic suspension unit

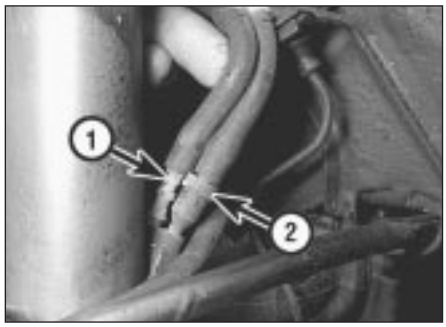
1 Sphere
2 Rigid feed pipe union
3 Sphere support
4 Pipe clamps
5 Top mounting nuts (inboard side)

Refitting

9 Refitting is a direct reversal of the removal procedure, but note the following:

a) Tighten the retaining nuts and bolts to the specified torque settings
b) Ensure that the hydraulic pipe and hose connections are unplugged and clean before reconnecting them. When reconnecting the feed pipe union use a new seal
c) Ensure that the overflow return and vent pipe connections are correctly made
d) When refitting the sphere to the support, grease the mating face of the support

10 On completion, tighten the release screw on the pressure regulator unit, top-up the fluid level as required and check that the height control system operates correctly.

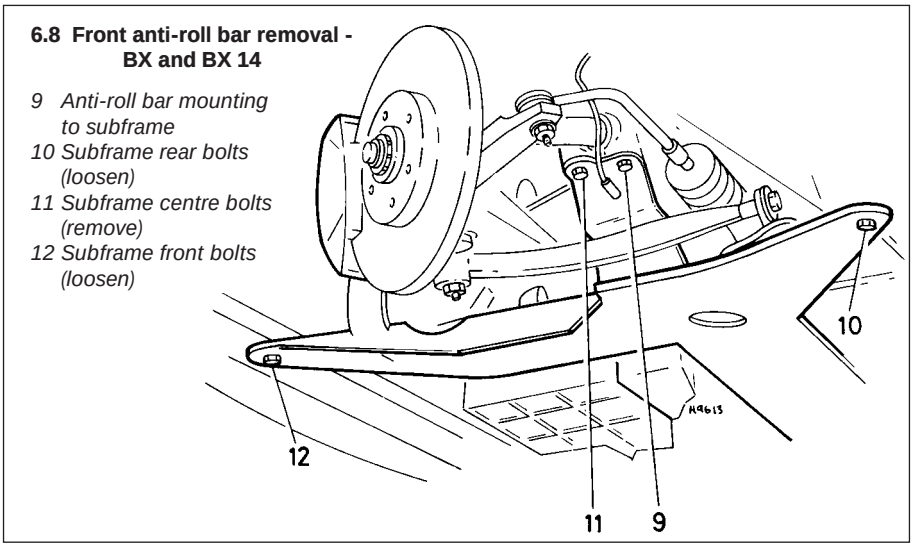


5.7 Hydraulic overflow (1) and vent (2) pipe connections under the wheel arch

6 Front anti-roll bar - removal and refitting

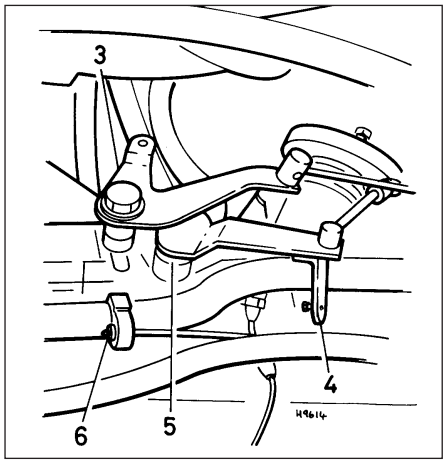
Modification: *From 1987, the front anti-roll bar bearings incorporate a rubber bush instead of the earlier plastic half-shells. This bush may be fitted to earlier bars but both bushes must be renewed. When fitting, make sure both bush and bar are dry. Centre the bar within the subframe and only tighten the bush fixing bolts when the vehicle is at normal driving height, with its roadwheels on the ground.*
1 Jack-up the front of the vehicle and support it on axle stands (see "*Jacking and vehicle support*"). Chock the rear wheels then remove the front wheels.
2 Move the ground clearance lever fully to the minimum height position.

5.8 Swivel hub-to-suspension unit clamp bolt (arrowed)



6.8 Front anti-roll bar removal - BX and BX 14

9 Anti-roll bar mounting to subframe
10 Subframe rear bolts (loosen)
11 Subframe centre bolts (remove)
12 Subframe front bolts (loosen)



6.9 Front anti-roll bar removal - BX 16 and BX 19

3 Relay
4 Relay
5 Balljoint
6 Height control linkage collar

3 Loosen the hydraulic system pressure regulator bleed screw 1 to 1.5 turns.
4 Undo the retaining nut and detach the anti-roll bar link rod on each side.
5 Raise and support the steering swivels as high as possible then move the height control lever to the “normal” height position.
6 Mark the anti-roll bar and height corrector clamp in relation to each other, then unscrew the clamp bolt and remove the clamp.
7 The procedures now differ according to model.

BX and BX 14

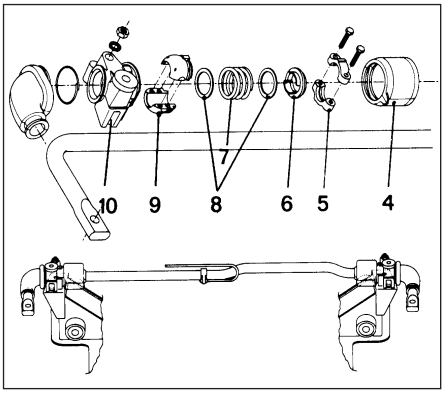
8 Loosen the front subframe securing bolts at the front and rear by approximately 10 mm and leave them set at this position. Now unscrew and remove the subframe centre securing bolts **(see illustration)**.

BX 16 and BX 19

9 Disconnect the gear control linkage rods and position the relay (3) to detach the balljoint and locate the relay (4) at the rear of the anti-roll bar **(see illustration)**.
10 Move the protector back out of the way then loosen the collar securing bolts on the left-hand end of the anti-roll bar **(see illustration)**.
11 Follow the procedure described in paragraph 8.

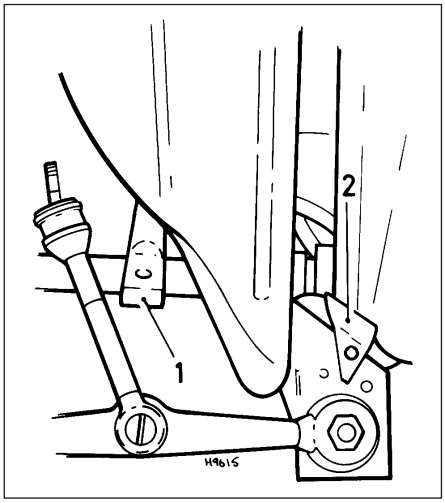
All models

12 Unscrew and remove the anti-roll bar-to-subframe mounting bolt and nut on each side. Remove the anti-roll bar components but leave collar and protector in position on the right-hand side.
13 Slacken the flange from the hydraulic return pipes **(see illustration)**.
14 Detach the hydraulic return pipes from the left-hand suspension cylinder **(see illustration)**.
15 To remove the anti-roll bar, move it towards the right-hand side, underneath the left-hand driveshaft, then back towards the left. Move the right-hand side of the bar towards the inner body. Now locate the left-hand end of the bar between left-hand lower suspension arm and the steering arm and remove it.
16 Before refitting the anti-roll bar, relocate the protector and collar so that they are in a straight position **(see illustration)**.
17 Refitting is mostly a reversal of the removal procedure but note the following.

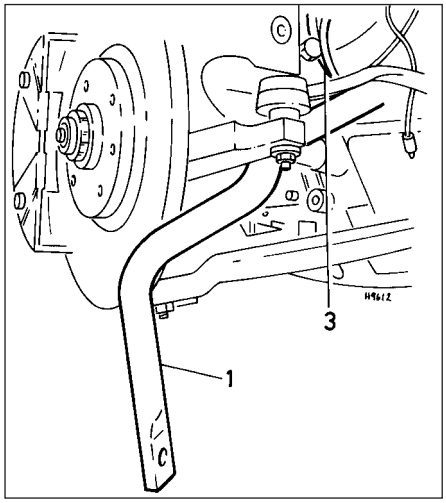


6.10 Anti-roll bar and associated components

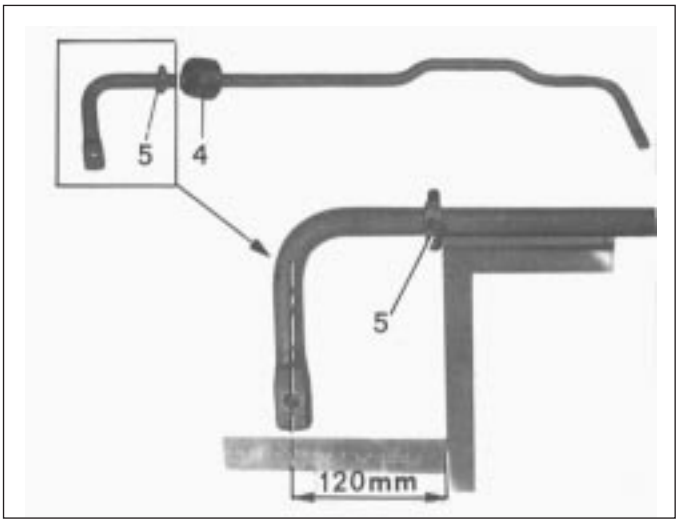
4 Protector
5 Collar
6 Thrust cap
7 Spring
8 Washer
9 Balljoint
10 Bearing



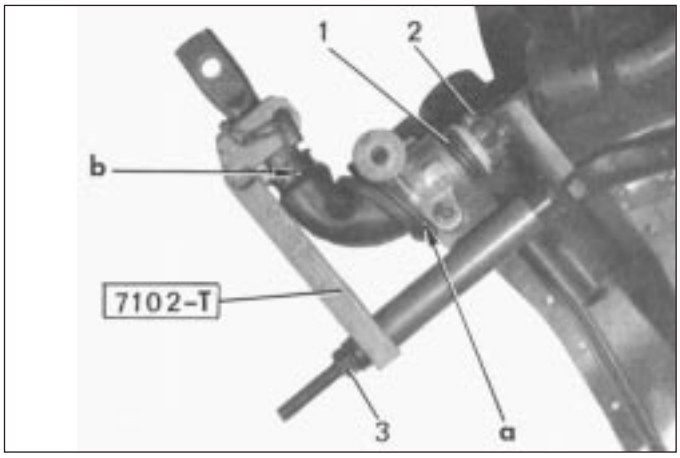
6.13 Anti-roll bar (1) and hydraulic circuit return pipe flange (2)



6.14 Anti-roll bar (1) and hydraulic return pipes (3) on left-hand side



6.16 Location for protector (4) and collar (5) on anti-roll bar



6.20 Front anti-roll bar adjustment using Citroën tool 710 2-T

1 Spring
2 Collar
3 Nut
a Protector clip
b Collar clip

18 Lubricate the respective parts with grease prior to assembling them onto the anti-roll bar. Tighten the anti-roll bar bearing to sub-frame to the specified torque setting.
19 Refit the central subframe retaining screw then tighten the front, centre and rear subframe retaining bolts (in that order) to their specified torque settings.
20 The anti-roll bar will now need to be adjusted and to do this Citroën tool 7102-T is necessary. Locate the tool so that it rests behind the collar, and tighten the nut so that the spring coils are touching **(see illustration)**. Loosen the nut 1 full turn and then tighten the collar.
21 Lubricate the anti-roil bar bearings with Total Multis MS grease (about 30 grams), then refit the protectors and their circlips.
22 Reconnect the anti-roll bar to the link rods and tighten the nuts to the specified torque setting.
23 On completion, check the vehicle height settings.

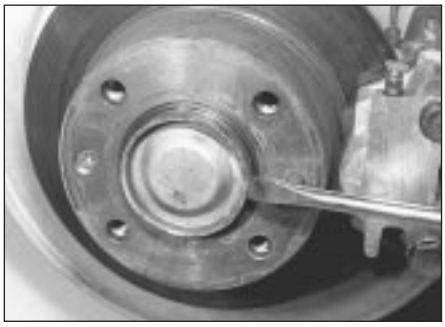
7 Rear wheel hub bearings - removal and refitting

Removal

1 Remove the rear wheel trim, prise free the hub cap, being careful not to distort it, then loosen (but do not remove at this stage) the hub nut and the roadwheel bolts **(see illustrations)**.
2 Raise and support the rear of the vehicle so that the rear roadwheels are clear of the ground (see "*Jacking and vehicle support*"). Remove the roadwheel from the side concerned.
3 Remove the rear brake pads and the brake caliper unit.
4 Undo the retaining screw and remove the brake disc.
5 Unscrew and remove the hub nut and the washer.
6 Withdraw the hub using a suitable puller or slide hammer **(see illustration)**.
7 Remove the bearing inner race using a suitable puller.
8 Remove the hub seal thrust cup.
9 Clean the components and inspect for excessive wear or damage. Renew as necessary.

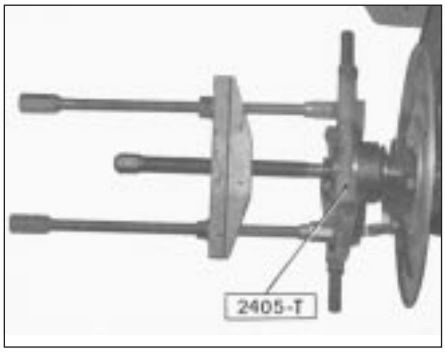
Refitting

10 Using a suitable tube drift, tap the thrust cup into position **(see illustration)**.
11 Refit the hub inner race by driving it home using the hub nut and a suitable bush. Clean and lubricate the race with grease.
12 Engage the hub onto the stub axle and drive it partially into position so that the thread of the stub axle protrudes a sufficient amount to allow the hub nut to be fitted onto it. Complete the refitting of the hub by tightening the hub nut. Prevent the stub axle from turning by holding it with an Allen key from the rear **(see illustration)**.
13 With the hub fitted, remove the nut. Clean and lubricate the hub/stub axle and bearing outer face with grease then locate the hub

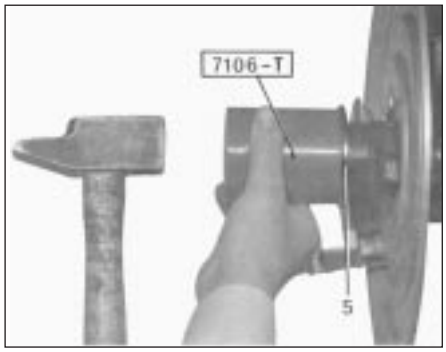


7.1a Prise free the hub cap . . .

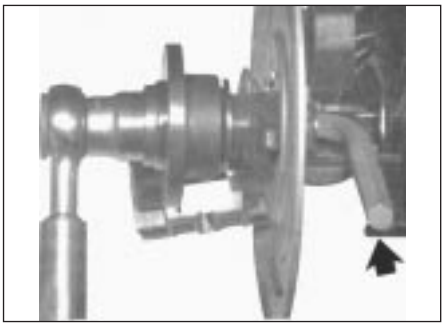
7.1b . . . and loosen the hub nut



7.6 Rear hub removal using Citroën tool 2405-T

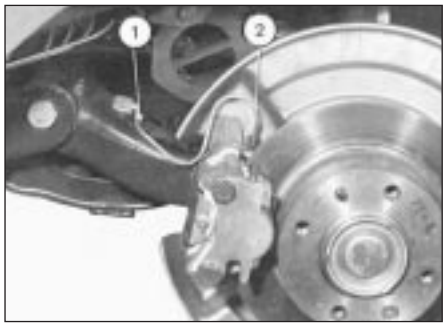


7.10 Rear hub thrust cup (5) - fitting method with Citroën tool



7.12 Allen key location (arrowed) when tightening rear hub nut

7.13 Stake lock the new hub nut to secure it



8.4 Disconnect brake line at caliper (2) and suspension arm (1)

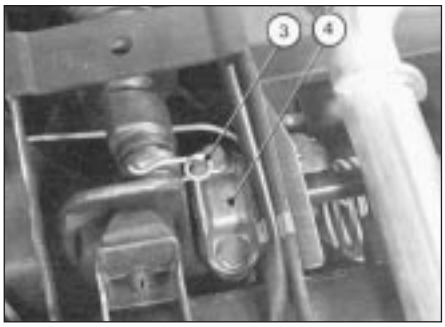
washer and fit a new hub nut. Tighten the nut to the specified torque and stake lock the nut to secure it **(see illustration)**. Remove the Allen key used to hold the stub axle then check that the hub spins freely.

14 Tap the hub cap into position.

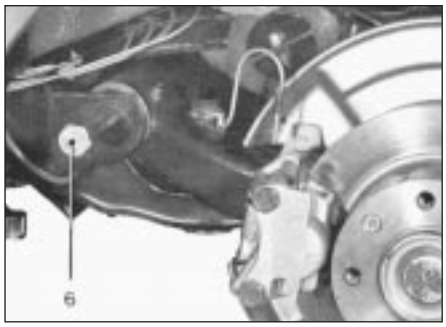
15 Refit the brake disc and brake unit.

16 Refit the roadwheel and lower the vehicle to the ground.

8 Rear suspension arm - removal, overhaul and refitting



8.5 Remove pin (3) and clamp (4) from anti-roll bar



8.6 Remove the suspension arm pivot bolt (6)

Removal

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

2 Move the ground clearance lever fully forward to the minimum height position.

3 Loosen the hydraulic system pressure regulator bleed screw 1 to 1.5 turns.

4 Unscrew the rear brake line union nut from the caliper and disconnect the brake line from the clip on the suspension arm top face **(see illustration)**.

5 Working underneath the vehicle, extract the pin and remove the anti-roll bar clamp on the side concerned **(see illustration)**.

6 Support the suspension arm with a jack then unscrew and remove the pivot shaft nut, withdraw the shaft then allow the suspension arm to drop to the vertical for removal **(see illustration)**.

Overhaul

7 Remove the brake caliper and disc.

8 Remove the wheel hub and bearings from the stub axle.

9 The brake backplate can be removed by undoing the three retaining bolts.

10 To remove the pivot bearings from the suspension arm, first mount the arm in a vice fitted with soft jaws but do not grip the arm by the brake caliper lug.

11 To remove the bearings you will need Citroën tools 1671 -T and 7104-T, also expanding mandrels 12 mm and 35 mm in diameter.

12 Pass tool 1671-T through the pivot bore and locate the 12 mm diameter mandrel onto the tool. If this particular Citroën tool is not available, a proprietary slide hammer and mandrel of suitable dimensions will do the job **(see illustration)**.

13 Withdraw the bearing tube, bearing cone, seal and spacer.

14 Use a suitable tube drift to pass through the suspension arm and butt against the opposing bearing cone inner race. Drive out the spacer, seal, shim and bearing.

15 Insert the 35 mm diameter mandrel into the bearing cone within the suspension arm and attach the mandrel to a slide hammer and draw the bearing out. Repeat the procedure on the opposing bearing cone and, if re-using the bearings, keep them with their respective assemblies.

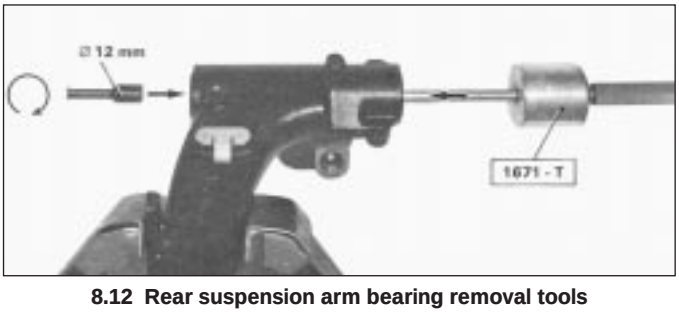
16 If the suspension arm is being renewed, then the bearing free play will need to be adjusted. As this necessitates the use of specialised tools, this task should be entrusted to your Citroën dealer.

17 Reassembly of the bearings is a reversal of the removal procedure. Ensure that the bearing housings in the suspension arm are cleaned out thoroughly **(see illustration)**.

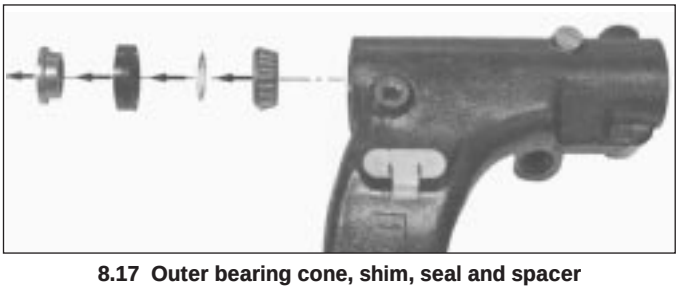
18 Drive the outer races (cups) into position so that they are flush against the inner shoulder.

19 Lubricate the bearing cones with bearing grease when refitting them.

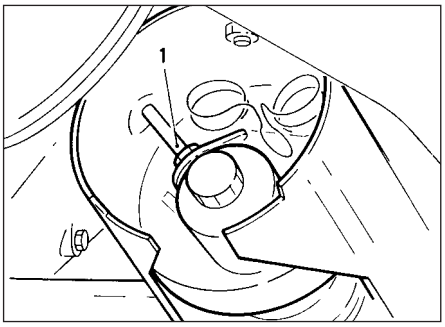
20 Ensure that the adjustment shim is fitted between the bearing cone and the seal when reassembling the outer (wheel hub side) bearing assembly.



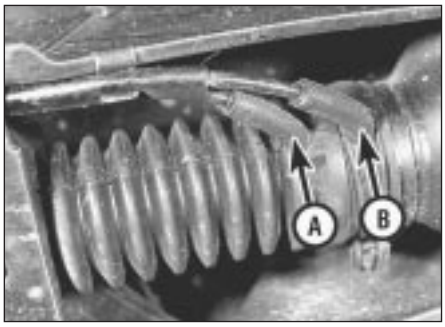
8.12 Rear suspension arm bearing removal tools



8.17 Outer bearing cone, shim, seal and spacer fitted to rear suspension arm



9.5 Disconnect supply pipe (1) at rear suspension unit (shown with sphere removed)



9.6 Rear suspension unit vent pipe (A) and return pipe (B)

9.7 Rear suspension unit rod clip

21 Refit the brake backplate, caliper unit and wheel hub assemblies to the suspension arm.

Refitting

22 When refitting the suspension arm to the vehicle, grease the pivot shaft along its entire length before inserting it. Ensure that the brake hose is positioned towards the rear of the arm. Use a new Nylstop nut to secure the pivot shaft and tighten it to the specified torque.
23 Check that the suspension arm pivots freely without excessive binding or free play then reconnect the anti-roll bar and tighten the mounting clamp bolts to the specified torque. Relocate the suspension cylinder rod pin.
24 Use a new seal when reconnecting the brake hose to the caliper and engage the brake line in the location clip on the location arm.
25 Bleed the brakes and refit the roadwheel to complete.

9 Rear hydraulic suspension unit - removal and refitting

Removal

1 Loosen the rear roadwheel bolts, check that the handbrake is fully applied and check the front roadwheels. Raise the vehicle at the rear and support on safety stands (see "*Jacking and vehicle support*"). Remove the rear roadwheel(s).
2 Undo the pressure release screw on the pressure regulator by 1 to 1.5 turns and move the height control lever to the "low" position.
3 If a suitable spare jack is available, position it under the suspension unit and raise the rear suspension arm. This will disperse most of the fluid from the suspension cylinder.
4 Unscrew and remove the pneumatic sphere using a chain or strap wrench.
5 Unscrew and detach the rigid supply pipe at the union to the cylinder unit **(see illustration)**.
6 Disconnect the vent pipe and overflow return pipe from the cylinder **(see illustration)**.
7 Withdraw the suspension rod clip **(see illustration)**.
8 Allow the arm to hang free and pass the suspension rod between the subframe rear section and the stop. The suspension cylinder unit can then be withdrawn.

Refitting

9 Refitting is a reversal of the removal procedure. Note the following:

a) When refitting the cylinder into position, engage the suspension rod and locate the spring end part to the rear of the cylinder union
b) Ensure that the supply pipe union is perfectly clean and use a new seal when reconnecting
c) When refitting the pneumatic sphere, use a new seal and grease the support face of the cylinder

10 On completion, tighten the release screw on the pressure regulator unit, top-up the fluid level as required and check that the height control system operates correctly.

10 Rear anti-roll bar - removal and refitting

Modification: *From March 1989, with the increase in bar diameter, the ends of the bar fitted to BX 19 GTi 16v models are located by splines instead of flats. The following procedures are unaffected.*

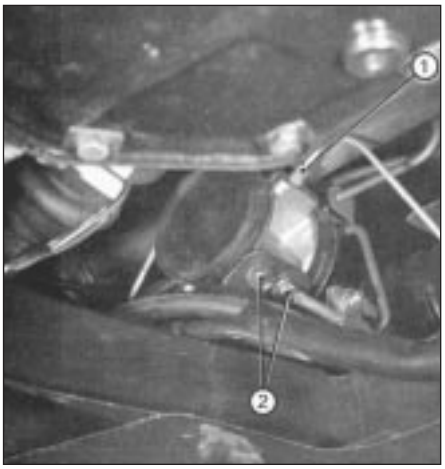
Removal

1 Check that the handbrake is fully applied and chock the front roadwheels. Loosen the rear roadwheel bolts.
2 Start the engine, allow it to idle and move the ground clearance lever to the fully raised position. Once fully raised, switch off the engine.
3 Jack up the rear of the vehicle so that the rear wheels are clear of the ground and support with safety stands (see "*Jacking and vehicle support*"). Remove the rear roadwheels.
4 Move the ground clearance lever back to the "normal" height setting.
5 Mark the anti-roll bar and height corrector clamp in relation to each other, then unscrew and remove the clamp bolt **(see illustration)**.
6 Unscrew and remove the anti-roll bar mounting flange each side, at the same time noting the location of the bearing flange blocks and thrust plates.
7 Move the anti-roll bar towards the right-hand side then withdraw it from the left-hand side.

Refitting

8 To refit the anti-roll bar, reverse the removal procedure.
9 Locate the thrust plate between the bar and the arm before refitting the bearing flange block each side. Tighten the bearing flange block bolts to the specified torque.
10 Re-engage the height corrector automatic control with the manual control setting still in the "normal" position. Align the clamp-to-anti-roll bar marks made during removal, semi-tighten the clamp bolt and check that the control articulation point free play is between 1.5 to 2.0 mm. Adjust the clearance if necessary and then tighten the clamp bolt.
11 Refit the rear roadwheels and lower the vehicle to the ground.
12 Check and if necessary adjust the vehicle height.

10.5 Rear anti-roll bar and height corrector clamp



11.5 Front height corrector location, showing feed pipe (1) and retaining bolts (2)

11 Suspension height correctors - removal and refitting

Removal

1 Jack-up the front or rear of the vehicle and support it on axle stands (see "*Jacking and vehicle support*").
2 Move the ground clearance lever to the minimum height position. Unscrew the pressure regulator bleed screw 1 to 1.5 turns.
3 Remove the right-hand side roadwheel.
4 Remove the plastic height corrector cover (where fitted).
5 Identify all the hydraulic pipes for location then disconnect them from the corrector **(see illustration)**.
6 Unscrew the mounting bolts, disconnect the balljoint from the control lever and withdraw the height corrector from the vehicle **(see illustration)**.
7 It is not possible to repair the height correctors. If faulty, they must be renewed.

Refitting

8 Refitting is a reversal of removal. The balljoint should be lubricated with multi-purpose grease. Tighten the hydraulic pipe union screws to the specified torque. Check and adjust the suspension height after tightening the pressure regulator bleed screw.

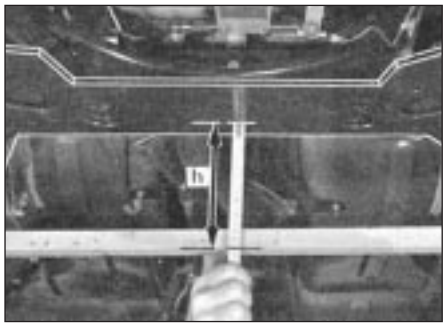
12 Suspension height - adjustment

1 Check that the tyre pressures are correct. Ideally the vehicle should be parked over an inspection pit as access underneath the vehicle is required with it standing level and at its normal height.

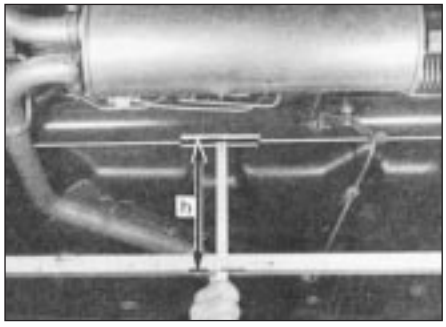
Automatic height control

2 Set the ground clearance lever to the "normal" position and start the engine. Allow the engine to run at idle speed.
3 Before making the height check, raise the vehicle by lifting it by hand as much as possible then release the weight and allow the vehicle to drop and rise, then stabilise. Before measuring the front height, move the vehicle back and forth slightly to relieve any stress in the suspension.
4 Check that the front and rear suspension heights are as given in *Specifications* **(see illustrations)**. Measure the suspension height at each end twice and take the mean of the two as the height reading.
5 If adjustment is necessary, it is made by rotating the automatic height control collar around the anti-roll bar **(see illustrations)**. When set, a clearance of 1.5 to 2.0 mm must exist between the balljoint and the bottom of its recess.

11.6 Rear height corrector



12.4a Front suspension height check
h = ground to axle unit rear crossmember

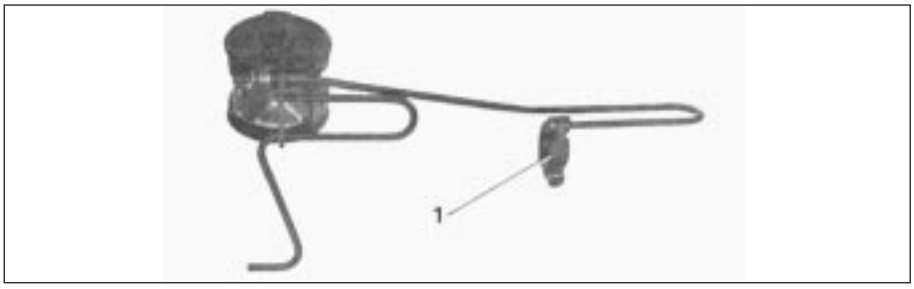


12.4b Rear suspension height check
h = ground to axle crossmember tube

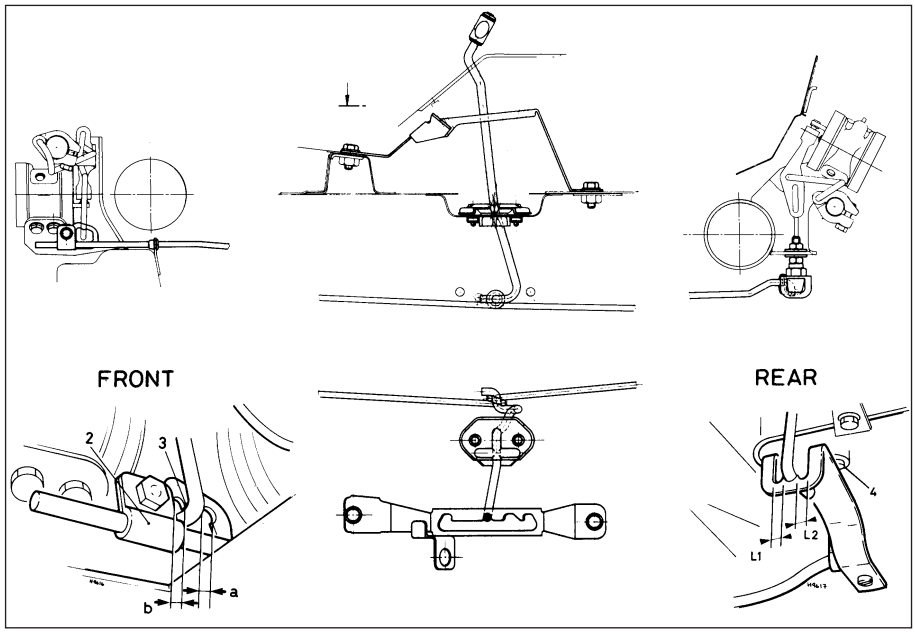
Manual height control

6 Set the automatic height control.
7 For adjustment at the front, loosen the bracket clamp bolt then move the bracket along the control rod to position the corrector control under the bracket pointer and meet the dimensions (a and b) shown **(see illustration)**. Tighten the clamp bolt.
8 For adjustment at the rear, set the reversing lever axis of rotation so that the corrector control is central in the reversing lever hole **(L1 and L2 in illustration 12.7)**.
9 With the engine still idling and the ground clearance lever still in the "normal" position, check the front and rear suspension heights as follows. Lift the vehicle by hand as far as possible, then release it and let it stabilise. Note the suspension height. Press the vehicle

12.5a Front height corrector adjustment - move collar (1) as required around anti-roll bar



12.5b Rear height corrector adjustment - move collar (1) as required around anti-roll bar



12.7 Automatic height control levers and adjustment points

Front
2 Bracket
3 Bracket pointer
a = 7 to 7.5 mm
b = 4 to 4.5 mm

Rear
4 Reversing lever
L1 to equal L2

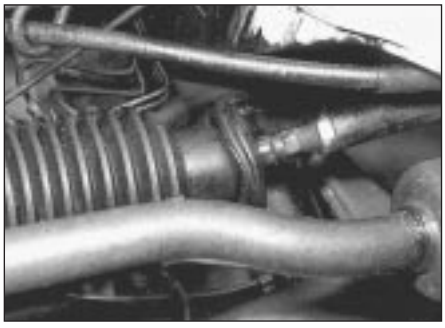
down as far as possible, then release it and let it stabilise. Note the suspension height again. The average of the two measurements should be within the specified limits.

13 Track rod/balljoint - renewal

1 Set the steering wheel and the front roadwheels in the straight ahead position. Loosen the front roadwheel bolts then raise the vehicle at the front and support it on axle stands (see "*Jacking and vehicle support*"). Remove the roadwheel.
2 Loosen the track rod end balljoint nut then, using a suitable balljoint separator, detach the track rod from the steering arm on the swivel hub **(see illustrations)**.
3 At the inner end of the track rod, measure the amount of exposed thread and make a note of it. This will act as an adjustment guide when refitting the track rod **(see illustration)**.
4 Grip the inboard end of the track rod hexagonal section and unscrew the outer rod from it after loosening the locknut a quarter of a turn.
5 Screw on the new track rod to the same position as the old one and tighten the locknut one quarter of a turn. The section of exposed thread should measure the same as that noted during removal.
6 Ensure that the balljoint taper pin is clean and unlubricated, then insert it into the swivel arm and tighten the retaining nut to the specified torque.
7 Refit the roadwheel and lower the vehicle to the ground.
8 Check the front wheel alignment.

13.2a Loosen the balljoint nut . . .

13.2b . . . and use a separator to detach the joint

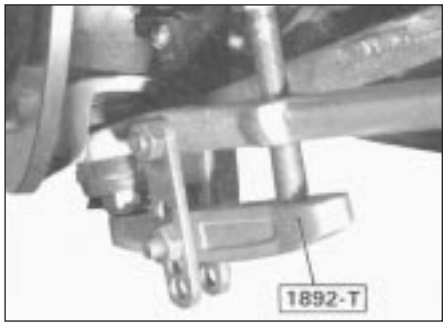


13.3 Track rod inner end showing the exposed thread

14 Steering swivel (knuckle) - removal and refitting

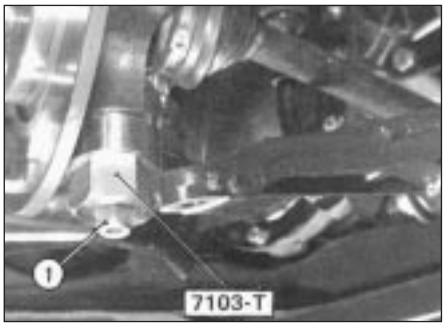
Removal

1 Remove the roadwheel trim, extract the split pin from the driveshaft and withdraw the lockplate from the nut.
2 Have an assistant depress the footbrake (with the engine running), then loosen the nut. An extension bar will be necessary as the nut is very tight.
3 Jack-up the front of the vehicle and support it on axle stands (see "*Jacking and vehicle support*"). Chock the rear wheels.
4 Remove the roadwheel and release the handbrake.
5 Move the ground clearance lever fully to the minimum height position.
6 Loosen the hydraulic system pressure regulator bleed screw 1 to 1.5 turns.
7 Undo the brake hose bracket bolts, the deflector retaining bolts and the two caliper securing bolts. Remove the caliper and suspend it from a suitable point so that the hydraulic lines are not distorted or stretched.
8 Disconnect the track rod balljoint.
9 Loosen the suspension arm-to-swivel balljoint and separate the joint using a balljoint separator, then remove the nut and disconnect the joint **(see illustration)**.
10 Unscrew and remove the hub nut, then pull the hub outwards and disengage the driveshaft from it.
11 Unscrew and remove the suspension

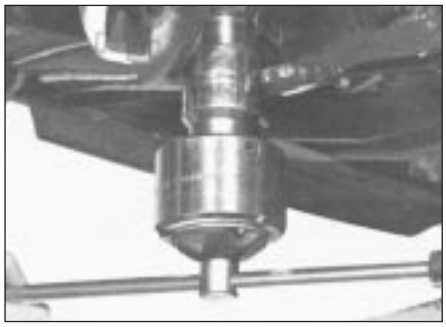


14.9 Detaching steering swivel/suspension arm balljoint using Citroën separator

15.5 Prise free the protector plate



15.6 Citroën tool 7103-T in position on lower balljoint
1 Nut



15.7 Balljoint unit removal using recommended impact wrench

strut-to-swivel clamp bolt and nut. Prise apart the clamp and separate the swivel unit from the strut.

Refitting

12 Refitting is a reversal of removal. Note the following:

a) Lubricate the hub seals with grease prior to refitting the driveshaft
b) The bottom balljoint stem must be wiped clean and be assembled dry. Use a new Nylstop nut
c) When reconnecting the suspension strut to the swivel, engage the centre tenon with the slot in the swivel. Use a new Nylstop nut to fasten the clamp bolt
d) The track rod-to-steering arm balljoint must be assembled dry and a new Nylstop nut used to secure
e) Wipe the driveshaft nut and threads with grease then tighten and secure

13 On completion, check the steering and brakes for satisfactory operation and check the wheel alignment.

15 Steering swivel (knuckle) bottom balljoint - renewal

1 Although the bottom balljoint can be removed with the swivel unit in position, it will be necessary to use Citroën tool 7103-T and a manual impact wrench (Dynapact, Facom type - the manufacturers specify that no other type should be used).

2 Raise the front of the vehicle and allow the front roadwheels to hang clear of the ground (see "*Jacking and vehicle support*"). Remove the roadwheel on the side concerned.

3 Move the height control lever to the low setting position.

4 Loosen the balljoint locknut, fit a balljoint separator to the joint and separate the lower suspension arm from the taper pin. Remove the separator and nut then detach the suspension arm from the balljoint.

5 Prise the protector plate from the balljoint rubber **(see illustration)**.

6 Locate special tool 7103-T into position on the balljoint and fasten with a nut **(see illustration)**.

7 Unscrew the balljoint unit from the swivel hub unit using the recommended impact wrench **(see illustration)**.

8 Refit in the reverse order to removal noting the following special points.

a) When refitting the balljoint, use the special tools recommended and take care not to damage the rubber gaiter
*b) When tightening the balljoint, stop the swivel from rotating. Bolt Citroën tool 6310-T into position on the hub using the wheel bolts as shown **(see illustration)**. Tighten the joint to the specified torque setting, then lock in position by peening into the notches at the points shown **(see illustration)***
*c) Relocate the protector plate over the joint before refitting the suspension arm to it **(see illustration)**. Assemble the joint to arm dry and use a new Nylstop nut. Tighten it to the specified torque setting*

16 Steering wheel - removal and refitting

Early models

Removal

1 The steering wheel and upper column shaft are removed together. First disconnect the battery earth leads.

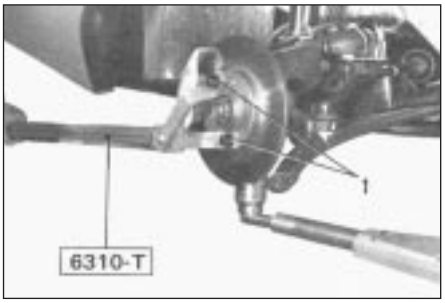
2 Remove the steering column lower shroud and facia by unscrewing the screws indicated **(see illustration)**.

3 Unscrew and remove the column universal joint upper bolt and loosen the lower bolt.

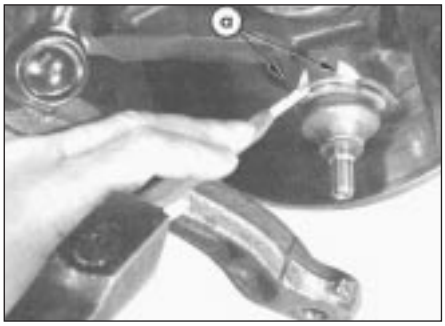
4 The universal joint can now be slid downwards to free the shaft splines.

5 Use a suitable pair of circlip pliers and release the circlip retaining the cup washer and spring, then withdraw the steering wheel and upper shaft.

6 If required, the ball-bearing units at the top and bottom ends of the column housing can

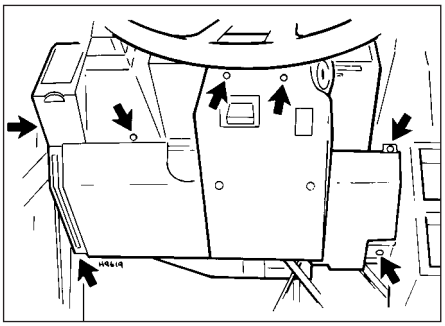


15.8a Type of tool used to prevent swivel hub from turning
1 Wheel bolts



15.8b Lock lower joint by stake punching at points indicated (a)

15.8c Carefully drive protector plate into position



16.2 Steering column lower shroud/ finishing panel retaining screw positions - left-hand drive shown

now be withdrawn. Use a suitable puller if necessary.

7 Two distinct upper steering column and wheel/shaft assembly types have been used **(see illustration)**.

Refitting

8 To refit the first type, locate the bearings into the column housing and insert the steering wheel/shaft. The centring cup must face towards the upper bearing. At the lower end, engage the spring, cup washer and circlip over the shaft.

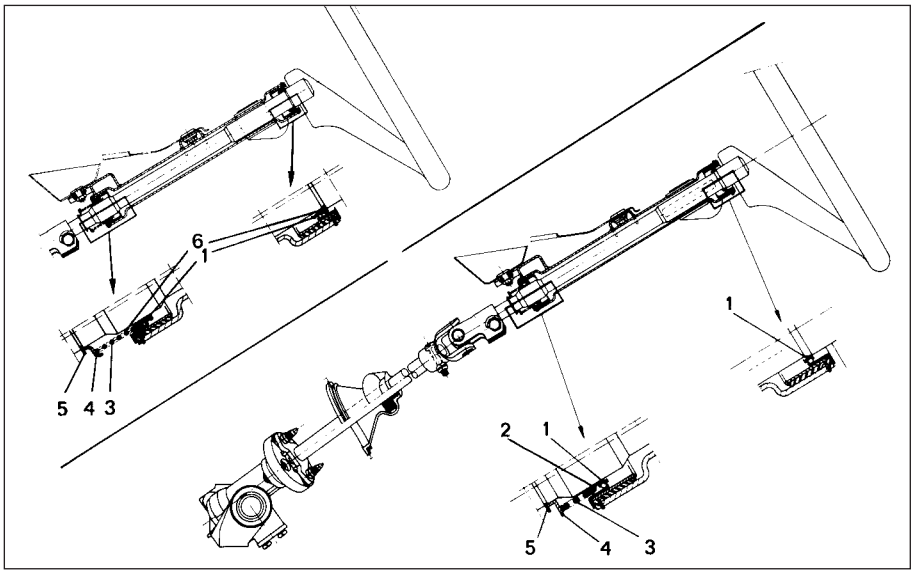
9 To refit the second type, the bearings must be in position in the column. Fit the upper split ring to the steering wheel then insert the upper shaft and steering wheel. Locate the second split ring at the base of the lower bearing then engage the coil springs, cup washer and circlip over the shaft lower end.

10 To engage the circlip in the shaft groove, you will need to compress the coil spring and cup washer. In the workshop we engaged an open jaw spanner over the shaft and pulled the spanner upwards against the cup washer and spring so that the spanner cleared the spring. An assistant simultaneously moved the circlip into position in its groove and once engaged, the spanner was withdrawn **(see illustrations)**.

11 Align the upper steering shaft and refit it to the universal joint. With the front roadwheels in the straight-ahead position, the steering wheel spoke should point vertically down and the pinion flange be parallel to the steering rack housing.

12 Refit the upper retaining bolt and tighten it and the lower bolt.

13 Refit the column lower shroud to complete.



16.7 The first (lower) and second (top) steering column types

1 Ball-bearings
2 Centre cup - first type (chamfer to bearing)
3 Spring
4 Thrust cup
5 Circlip
6 Split rings

16.10a Use a spanner to compress the spring and washer . . .

16.10b . . . then locate the circlip in its groove

Later models

Removal

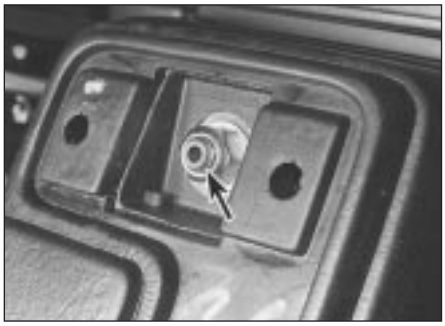
14 Set the front wheels in the straight-ahead position.

15 Prise out the centre pad, then use a socket to unscrew the retaining nut **(see illustrations)**.

16 Mark the hub in relation to the inner column, then pull off the steering wheel. If it is tight, a rocking action may release it from the splines.

17 If required, the upper column oil seal can be prised free for renewal. Note the seal fitting position and orientation **(see illustration)**.

16.15a Remove the centre pad from the steering wheel . . .



16.15b . . . to expose wheel retaining nut (arrowed)

16.17 Upper steering column oil seal (arrowed)

17.5 Bonnet release cable securing tabs (arrowed)

18.4 Remove the bolt (arrowed) . . .

18.5 . . . and press pin to withdraw the lock/switch unit

Refitting

18 Refitting is a reversal of removal. Check that the steering wheel is correctly centred with the front wheel straight-ahead. Tighten the nut while holding the steering wheel rim.

17 Steering column housing (early models) - removal and refitting

Removal

1 Remove the steering wheel and upper shaft.
2 Disconnect the steering lock/ignition switch wiring harness at the connector.
3 Raise and support the bonnet. Remove the air deflector grille in front of the radiator then detach the bonnet release cable from the lock unit. Retain the cable clamp and sheath stop.
4 Unscrew the four column housing mounting nuts and lower the column.
5 To remove the bonnet opening cable, squeeze the two tabs together behind the mounting bracket and withdraw the cable through the bracket **(see illustration)**.

Refitting

6 Refitting is a reversal of the removal procedure. Ensure that the steering lock/ignition switch wiring harness passes over the steering column. Tighten the housing mounting nuts.

18 Steering lock/ignition switch (early models) - removal and refitting

Removal

1 Disconnect the battery earth lead.
2 Undo the retaining screws and remove the steering column lower shroud.
3 Detach the ignition switch wiring from the multi-connector.
4 Unscrew the small bolt with shakeproof washer from the switch unit housing **(see illustration)**.
5 Set the ignition switch so that the key slot aligns with the arrow mark between the "A" and "S" positions then press in the pin and withdraw the lock/switch unit **(see illustration)**.

Refitting

6 Refitting is a reversal of the removal procedure. Check the operation of the steering lock and ignition switch functions to ensure that they are satisfactory on completion.

19 Steering column and lock (later models) - removal and refitting

Removal

1 Disconnect the battery earth lead, then undo the retaining screws and remove the lower steering column cover. As the cover is removed, detach the wiring connector from the dimmer switch and relay unit.
2 Remove the upper column cover and if required, the steering wheel.
3 Unscrew and remove the column clamp bolt from the intermediate shaft universal joint **(see illustration)**.
4 Undo the upper column retaining bolts/nuts **(see illustration)** and carefully lower the column from its mountings. To fully withdraw the column, it will be necessary to detach the column switch wiring harness connectors.
5 If necessary, the intermediate shaft can be removed after prising out the grommet and unscrewing the bottom clamp bolt.
6 To remove the steering lock, unscrew the retaining bolt then, with the ignition key turned to position A (first position), depress the plunger in the housing.

Refitting

7 Refitting is a reversal of removal.

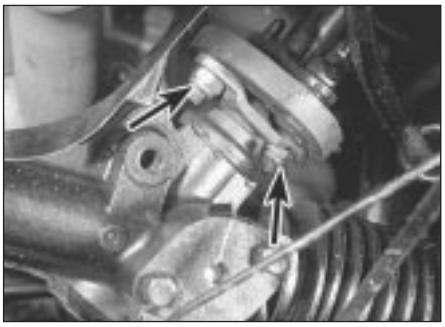
20 Manual steering gear unit - removal and refitting

Removal

1 Chock the rear roadwheels and loosen the front roadwheel bolts. Raise the vehicle at the front and support on safety stands (see "*Jacking and vehicle support*"). Remove the front roadwheels.
2 Remove the lower steering column shroud, then loosen the column universal joint bolt on the lower left side.
3 Loosen the track rod outer balljoint nut then, using a balljoint separator, detach the joint. Remove the separator and nut then repeat the procedure on the opposing side track rod outer joint. Take care not to damage the balljoint rubber during separation.
4 Unscrew and remove the lower column flexible coupling retaining nuts **(see illustration)**.
5 Detach and remove the heat shield from the

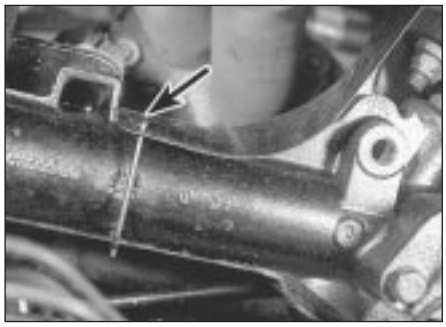
19.3 Steering intermediate shaft universal joint (arrowed)

19.4 Steering column upper retaining nut (arrowed)



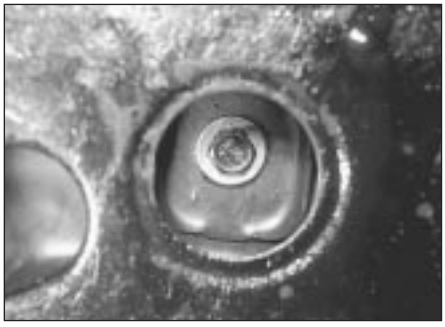
20.4 Flexible coupling retaining nuts (arrowed)

20.5a Undo heat shield retaining screw (arrowed) . . .



20.5b . . . and release retaining clip on underside (arrowed)

20.7 Gearchange control pivot bolt and cover - BX 16 and BX 19



20.8 Steering gear retaining bolt location through subframe (all later models)

steering gear unit. It is secured by a screw on the topside and a wire clip underneath **(see illustrations)**.

6 On BX and BX 14 models, loosen the bolt retaining the speedometer cable support and rotate the support towards the rack housing to disengage the speedometer cable.

7 On BX 16 and 19 models, undo the bolt and disconnect the gearchange control pivot from its balljoint **(see illustration)**.

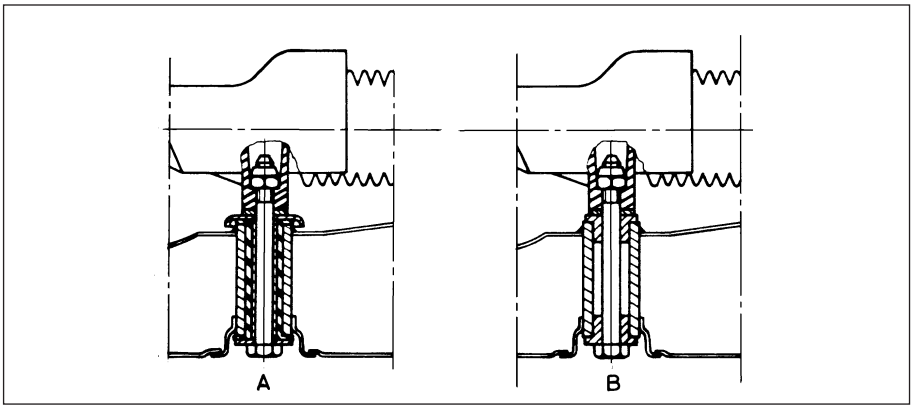
8 Unscrew the two steering gear retaining bolts and withdraw them from the underside of the subframe **(see illustration)**. The steering gear can now be withdrawn from the side of the vehicle. As it is withdrawn, collect the thrustwashers and shims from the mounting points and mark them for identification. Keep them separate, as they must be refitted to their original positions or the steering geometry will be upset.

Refitting

9 Refitting is a reverse of the removal procedure. Note the following;

*a) Locate the mounting thrustwashers and shims in their original positions **(see illustrations)***
b) Where fitted, always use new Nylstop nuts
c) Tighten all nuts and bolts to their specified torque settings
d) When reconnecting the steering column joints, ensure that alignment is correct

10 On completion, check the front wheel alignment.



20.9a Steering gear mountings on pre 1984 models
A BX and BX 14 B BX 16 and BX 17

21 Power steering gear unit - removal and refitting

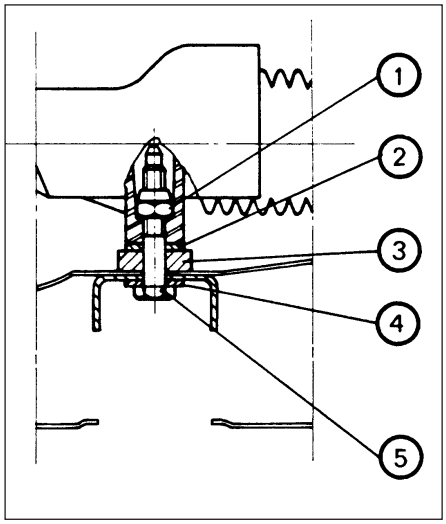
Removal

1 Chock the rear roadwheels and loosen the front roadwheel bolts. Raise the vehicle at the front and support on safety stands (see "*Jacking and vehicle support*"). Remove the front roadwheels.

2 Release the hydraulic system pressure by loosening the pressure regulator release screw 1 to 1.5 turns.

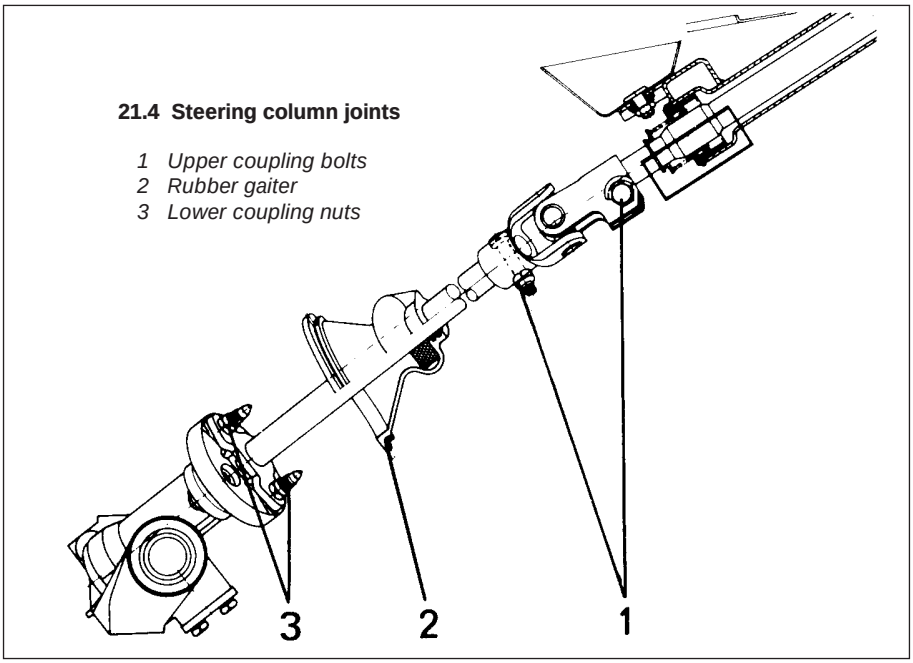
3 Rotate the steering wheel from lock to lock to remove as much hydraulic fluid as possible from the steering ram cylinder.

4 Working inside the vehicle, detach and remove the lower steering column shroud then loosen the upper steering column universal joint bolt and the joint-to-steering wheel shaft clamp bolt **(see illustration)**. Prise free the lower column-to-bulkhead gaiter.



20.9b Steering gear mountings on models from 1984

1 Locknut
2 Adjustment shim
3 Spacer (11 mm thick)
4 Flexible washer
5 Bolt



21.4 Steering column joints

1 Upper coupling bolts
2 Rubber gaiter
3 Lower coupling nuts

5 Undo the two lower column-to-flexible flange coupling nuts to disengage the coupling.

6 Loosen the track rod outer balljoint nut then, using a balljoint separator, detach the joint. Remove the separator and the nut and repeat the procedure on the opposite track rod outer balljoint. Take care not to damage the balljoint rubber during separation.

7 Unscrew the bolt and disconnect the gearchange control pivot from its balljoint.

8 Clean the hydraulic supply and return pipe unions at the steering ram connections, also the overflow pipe, then disconnect them from the ram. Plug them to prevent leakage and the ingress of dirt **(see illustrations)**.

9 Detach and remove the heat shield from the steering gear unit.

10 Undo the steering ram retaining bolt at each end and detach the ram from the steering gear unit.

11 Unscrew the two steering gear retaining bolts and withdraw them from the underside of the subframe.

12 The steering gear is now ready to be withdrawn. As it is withdrawn, collect the shims from each mounting, mark them for identification and keep them separate. The shims must be refitted to their original positions or the steering geometry will be upset. As the steering gear is removed, turn it fully on to the right-hand lock, engage the steering to the right and withdraw the steering gear from the underside of the vehicle.

Refitting

13 Refitting is a reversal of the removal procedure. Note the following:

a) Observe the special points outlined in Section 20, paragraphs 9 and 10
b) Use a new seal when reconnecting the high pressure supply pipe. The return pipe and the ram supply pipes do not have seals fitted
c) When reconnecting and securing the steering column universal joint, ensure that the steering is in the straight-ahead position and the steering wheel spoke is pointing downwards

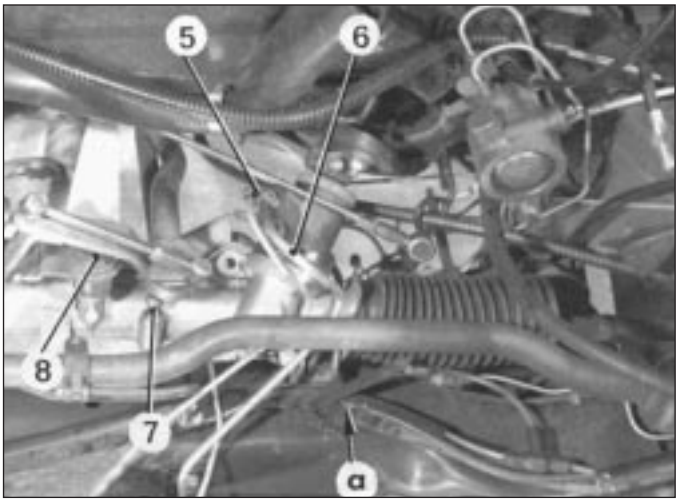
14 Check the front wheel alignment on completion and top-up the hydraulic fluid system. Turn the steering from lock-to-lock with the engine running to ensure satisfactory action. Road test the vehicle.

22 Wheel alignment - checking and adjustment

1 Accurate wheel alignment is essential for good steering and slow tyre wear. Before checking, make sure that the suspension heights are correct and that the tyres are correctly inflated.

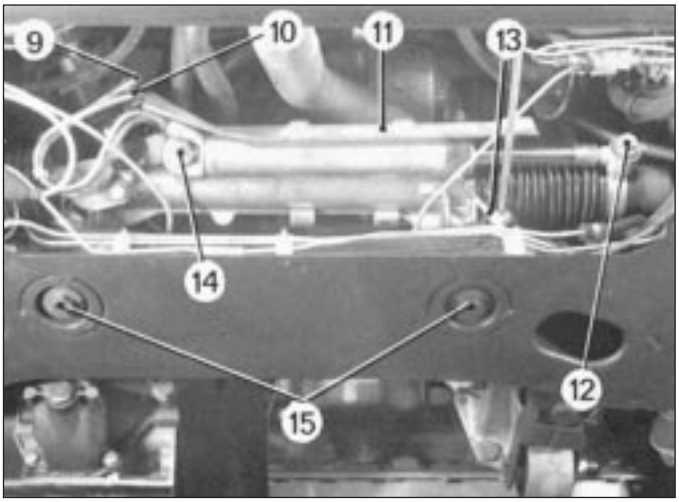
2 Place the vehicle on level ground with the wheels in the straight-ahead position.

3 With the ground clearance lever in the



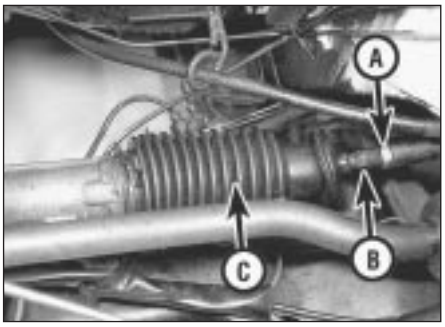
21.8a Power steering gear removal - LH drive shown

5 Supply pipe
6 Return pipe
7 Gearchange balljoint
8 Pivot bolt (gearchange)
a Return pipes retaining collar



21.8b Power steering gear unit attachments and mountings - LH drive shown

9 Hydraulic pipe union (feed)
10 Hydraulic pipe union (feed)
11 Heat shield
12 Hydraulic ram retaining bolt
13 Overflow return pipe
14 Hydraulic ram retaining bolt
15 Steering gear mounting bolts



22.5 Track rod locknut (A), inner end (B) and rack gaiter (C)

"normal" position and the engine idling, measure the toe of the front wheels using a wheel alignment gauge. The amount of toe must be as given in *Specifications*.

4 If adjustment is necessary, proceed as follows to adjust the front wheel alignment.

5 Hold the track rod inner end stationary by fitting a spanner onto its hexagonal section and loosen the outer rod locknut **(see illustration)**. Repeat this procedure on the opposing track rod.

6 Adjustment is now made by turning the track rod inner end each side by an equal amount. It may also be necessary to release the steering gaiters to prevent them from distorting as the inner track rods are turned. Turn the track rod inner ends by an equal amount each side until the alignment is correct, then retighten the locknut on each side.

7 A further steering geometry check can be made by checking for any variation of the wheel alignment each side, then set between the normal (intermediate) and high position. The variation per wheel should be between 0.5 mm toe-out and 1.0 mm toe-in.

8 Any adjustment necessary in this instance is made by fitting an alternative shim between the steering gear rack housing and the axle. Shims are available in thicknesses of 0.5, 1.0 and 1.5 mm. A 1.0 mm thick shim gives an equivalent toe-out variation.

9 Castor and camber angles can only be checked with special equipment and this work is best entrusted to a Citroën garage. These angles are set in production and cannot be adjusted. Any deviation from specification must therefore be due to damage or gross wear in the suspension components.