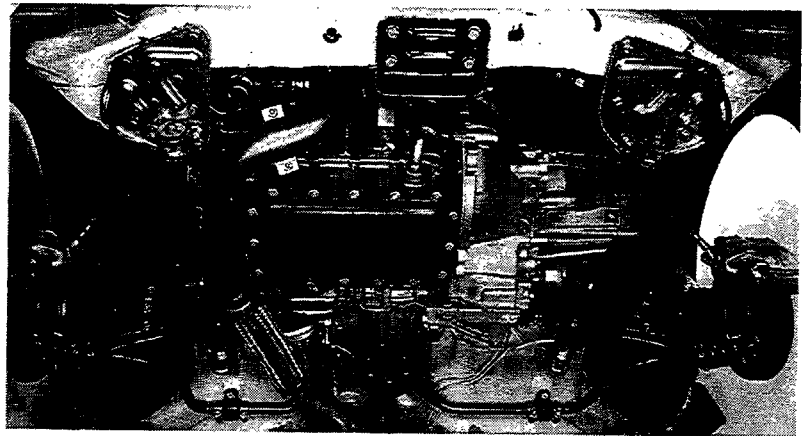


	page
FRONT SUSPENSION	
– Removing-refitting	1
– Dismantling-Reassembly	6
– Wheel hub	9
– Coil spring and shock absorber assembly	13
– Stabilizer bar	14
REAR SUSPENSION	
– Removing-refitting	15
– Dismantling-Reassembly	20
– Wheel hub	21
– Coil spring and shock absorber assembly	25
WHEEL GEOMETRY	
– Front wheel geometry	26
– Rear wheel geometry	27
SPECIAL TOOLS	28

REMOVING-REFITTING

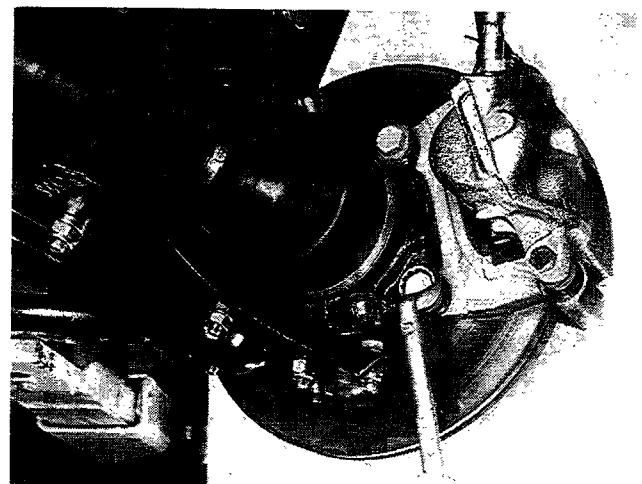
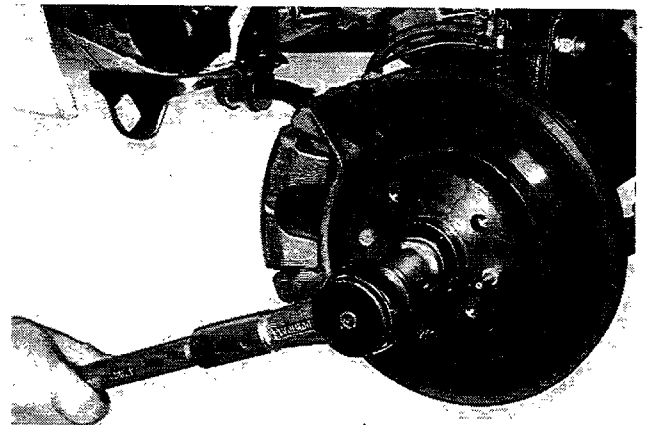
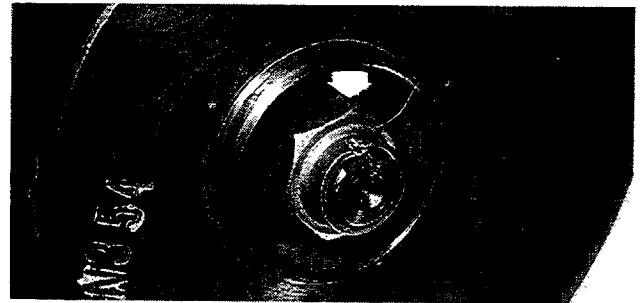
Front suspension assembly

In order to remove and refit the front suspension, position the vehicle on a lift and after having removed the front wheels, proceed as illustrated below.



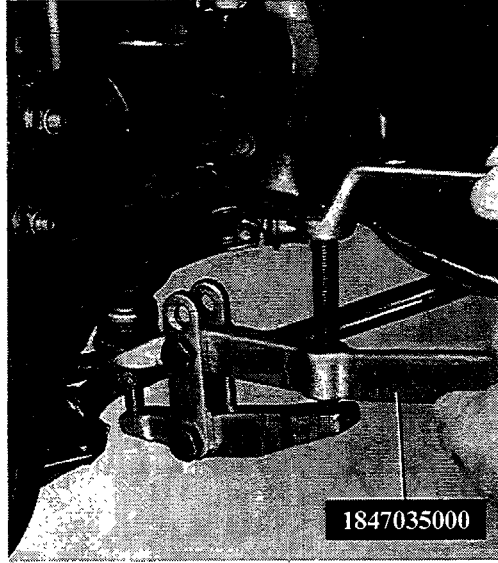
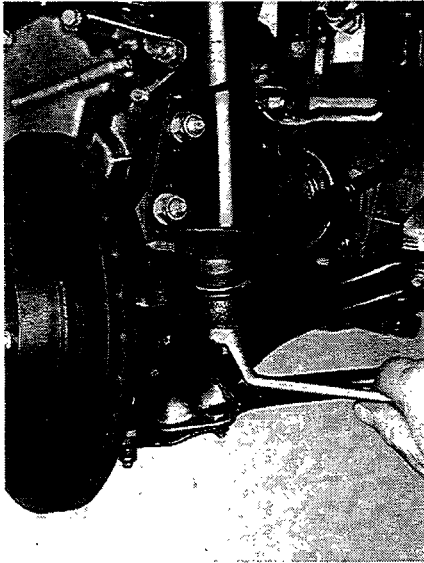
Removing nuts fixing constant velocity joints

Before removing the nuts fixing the constant velocity joints, remove the staking as illustrated in the photo.

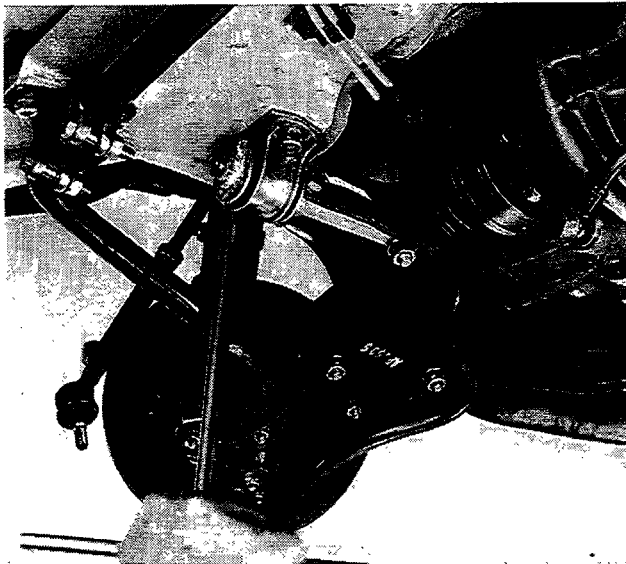


Removing brake caliper assembly from steering knuckle

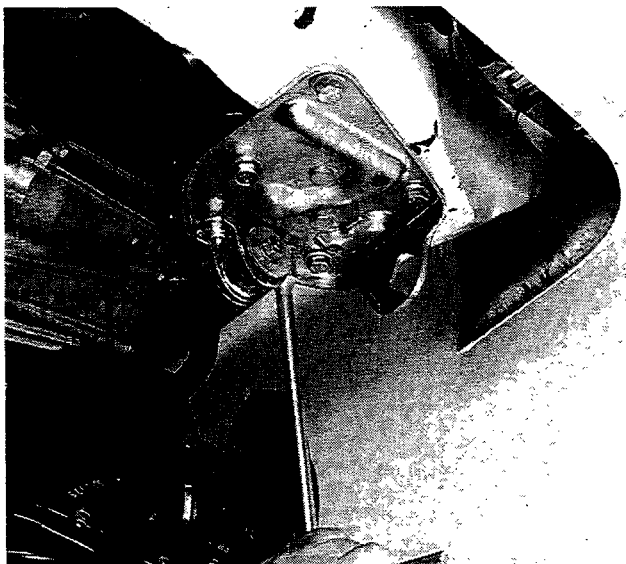
44.



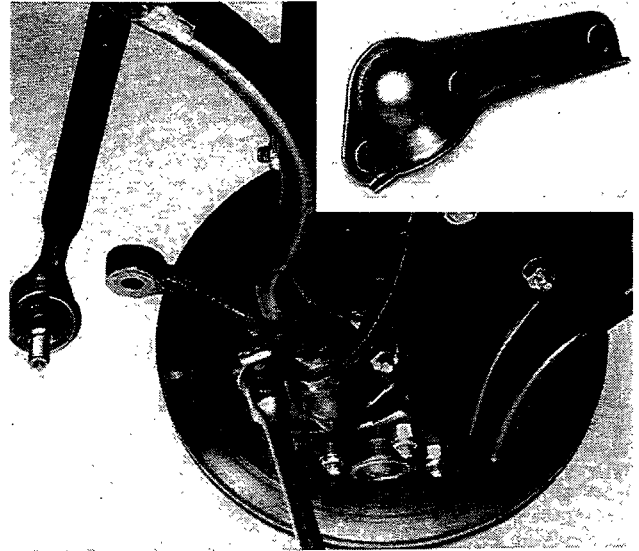
Removing ball joint pin for side steering rod



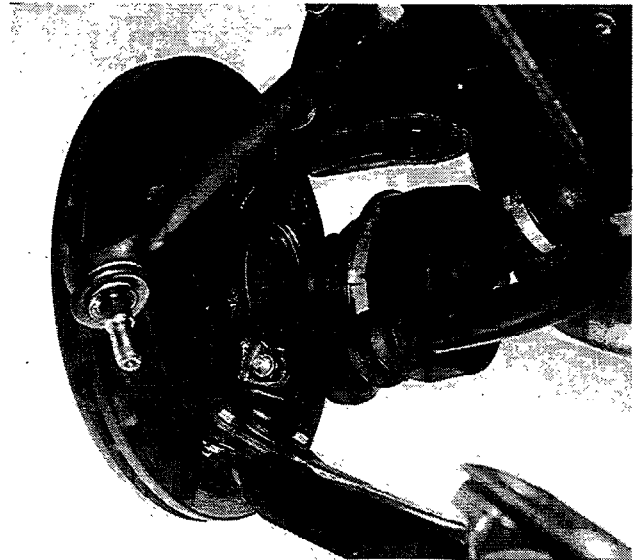
Removing track control arm from bodyshell



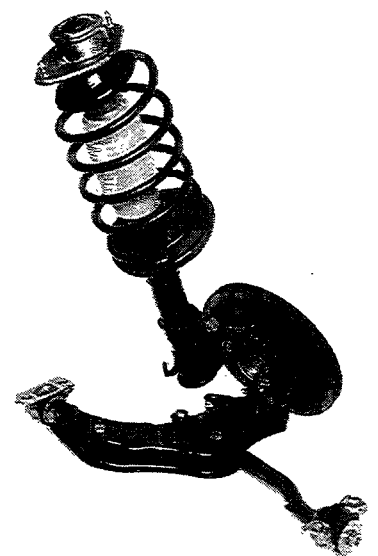
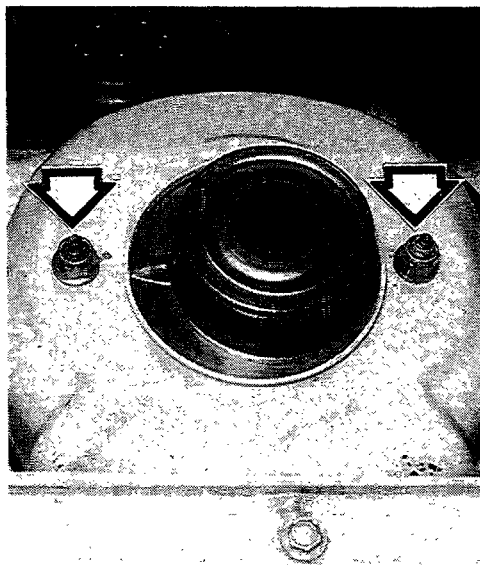
Removing strut (rod) from bodyshell



Removing stabilizer bar from track control arm



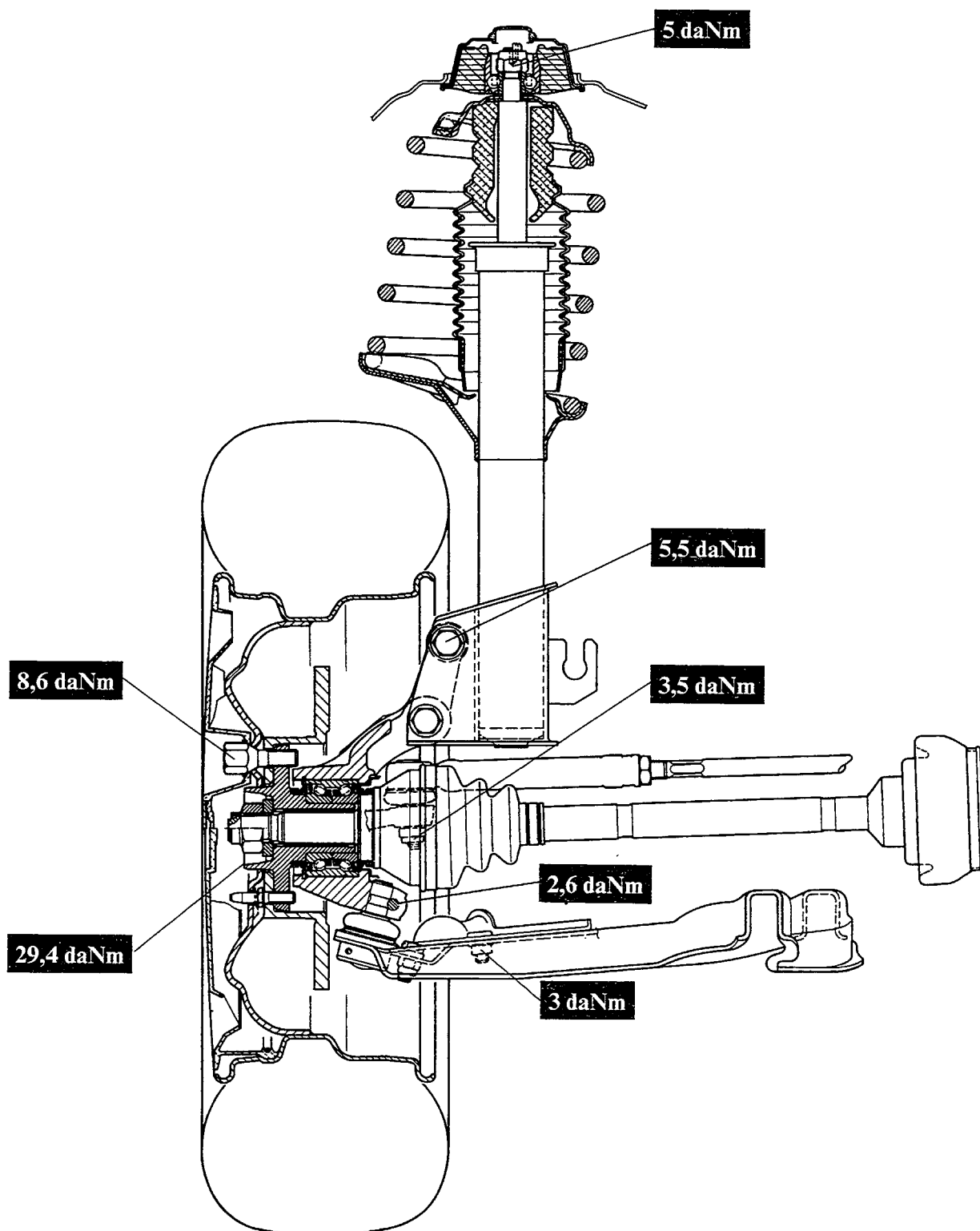
Removing drive shaft from wheel hub



Removing shock absorber assembly from turret (engine compartment) and removing suspension unit

44.

FRONT SUSPENSION CROSS SECTION



NOTE *In order to refit the front suspension simply reverse the order of the operations carried out for its removal.*



The final tightening of the front suspension components should be carried out with the vehicle on a lift with 3 persons on board (2 in the front seats and 1 in the rear seats) + 20kg of luggage on the rear seat. (1 person = 70kg). The design load conditions are recreated in this way which guarantees the correct operation of the suspension components.

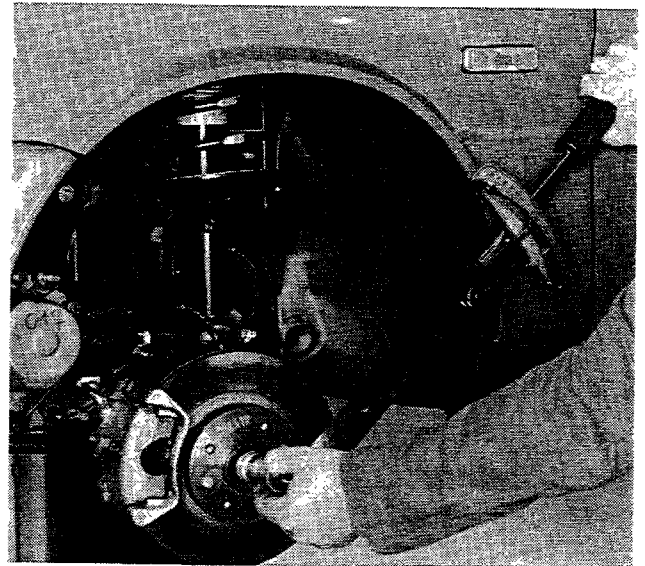
29,4 daNm



Fitting wheel hub retaining nut and tightening to torque

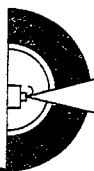


The nuts fixing the constant velocity joints to the hubs should always be replaced.

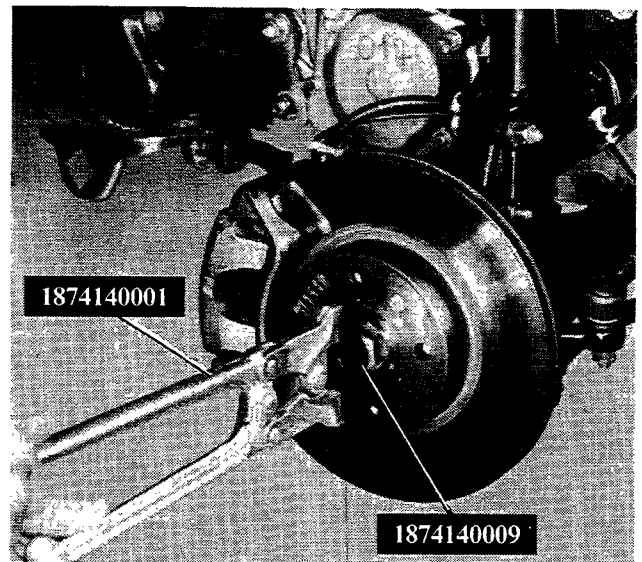


Staking constant velocity joint fixing nut

In addition check the:

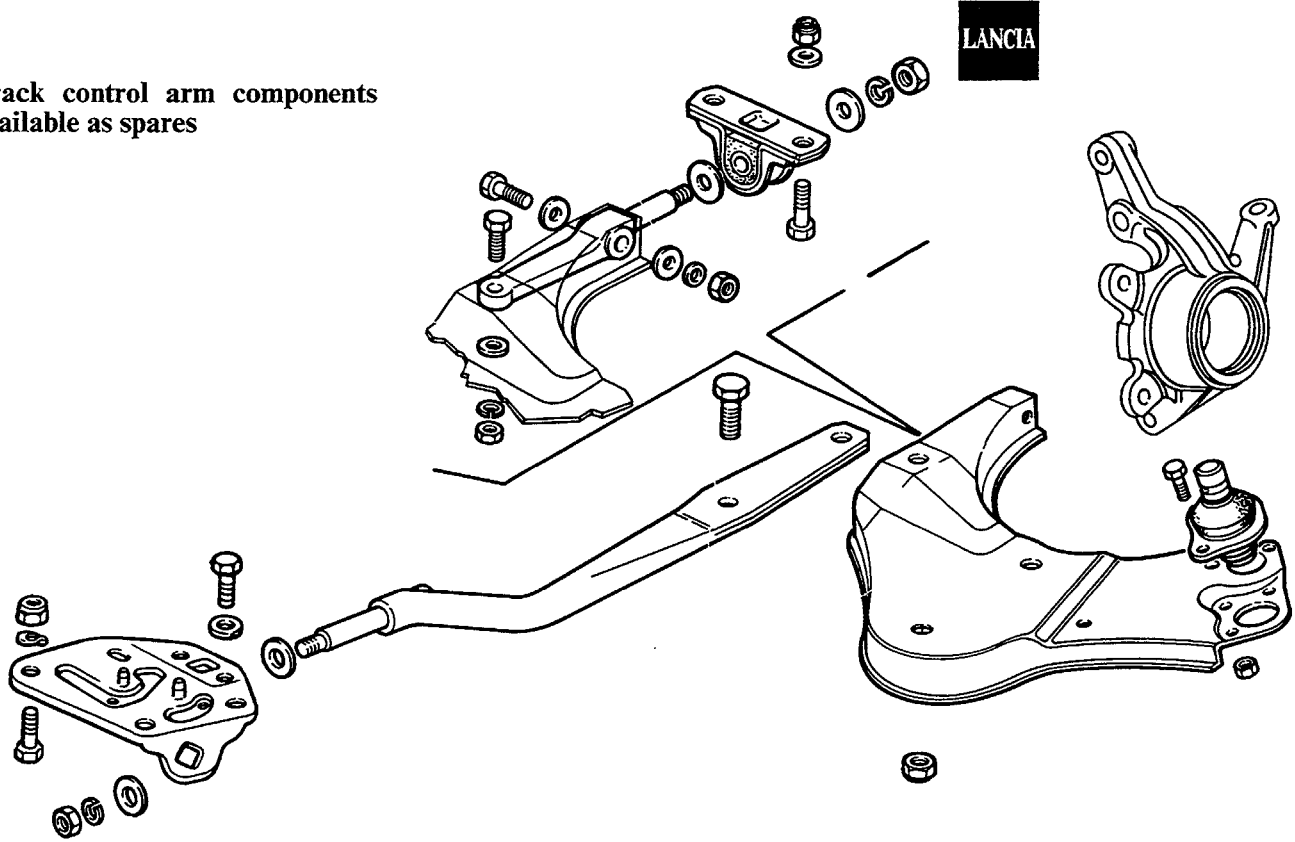


Front wheel geometry

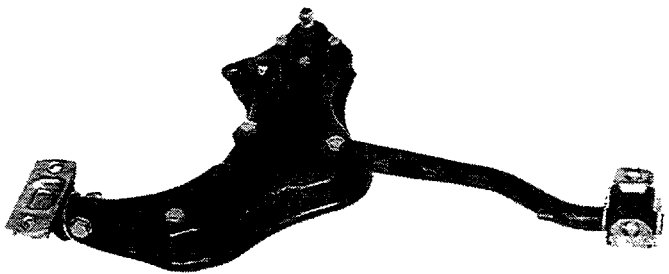
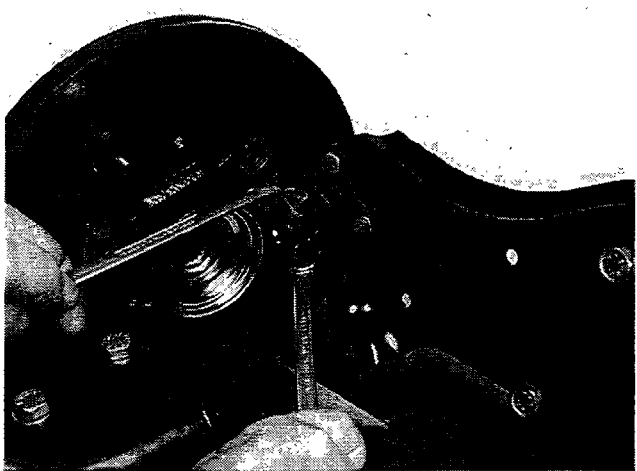


44.

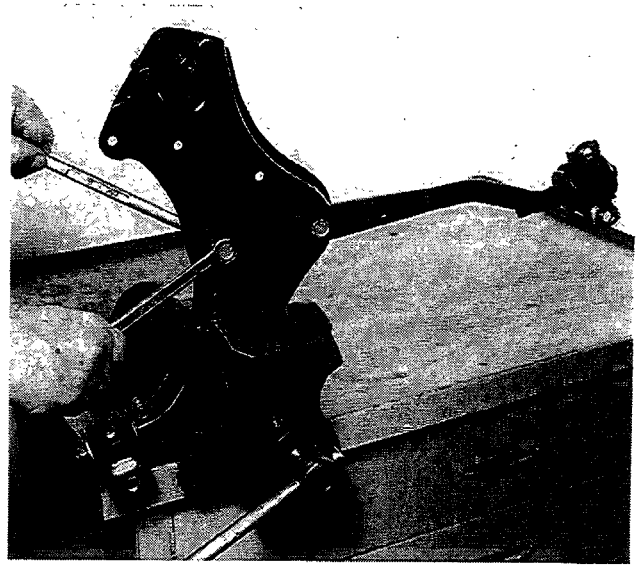
Track control arm components
available as spares



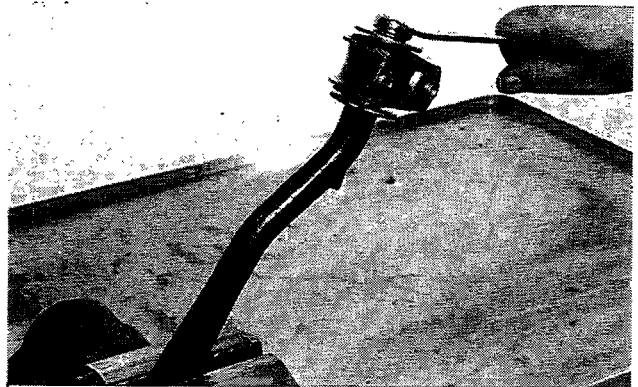
DISMANTLING-REASSEMBLY



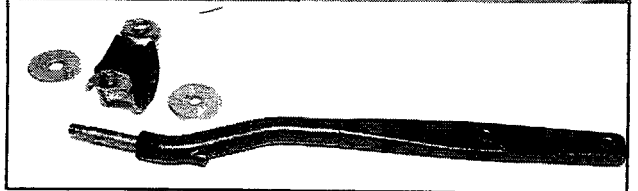
Removing-refitting track control arm from steering knuckle



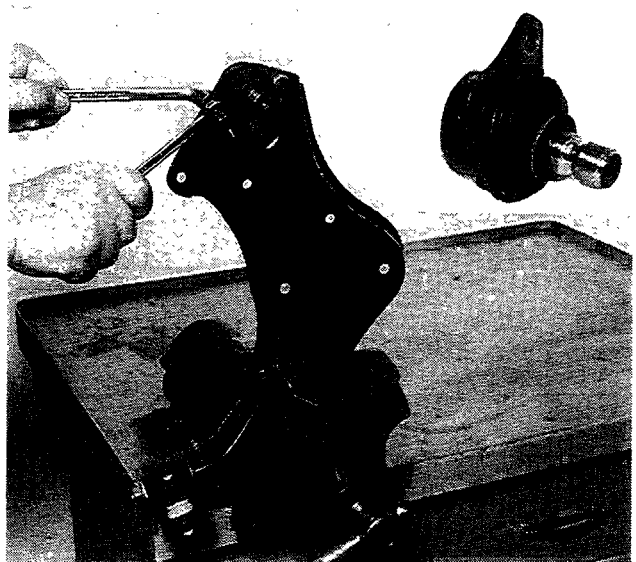
Removing-refitting strut from track control arm



Removing-refitting flexible mounting from strut



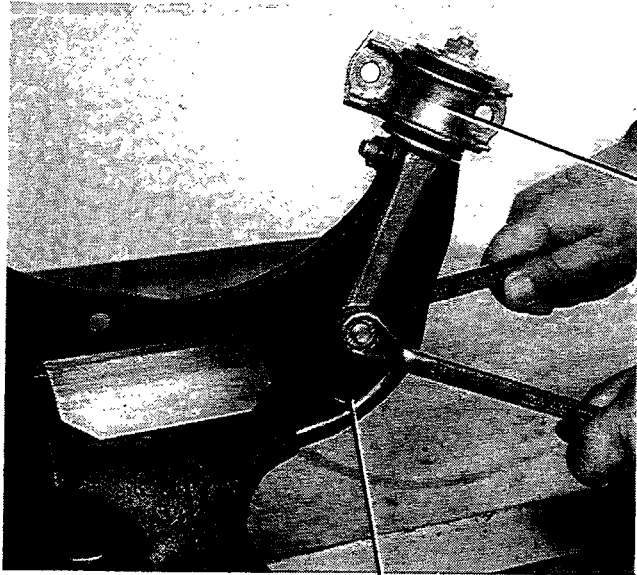
Check that the strut is not distorted and that the flexible mounting is not worn.



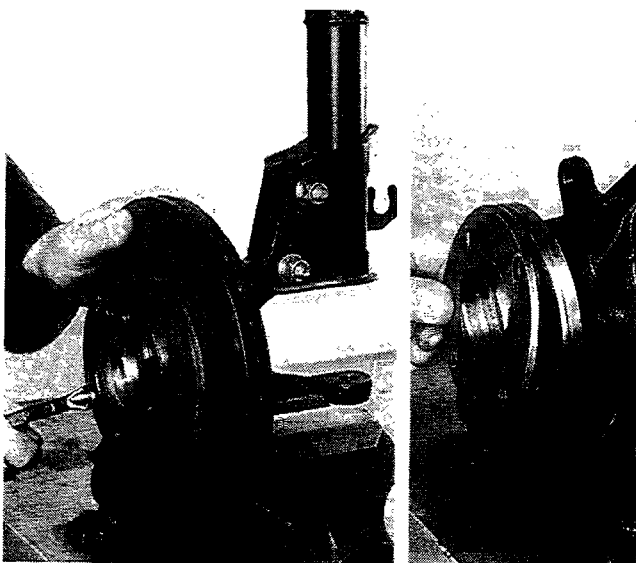
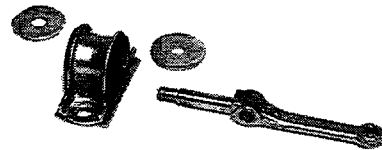
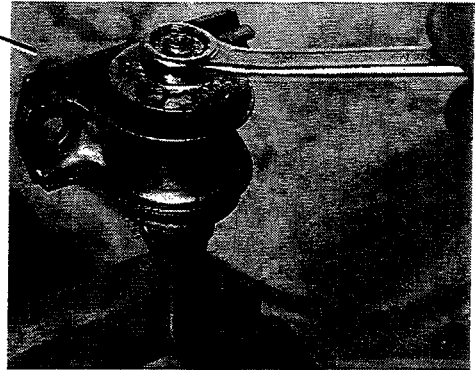
Removing-refitting ball joint from track control arm

Check that the ball joint shows no signs of grooves and that the rubber part is intact.

44.

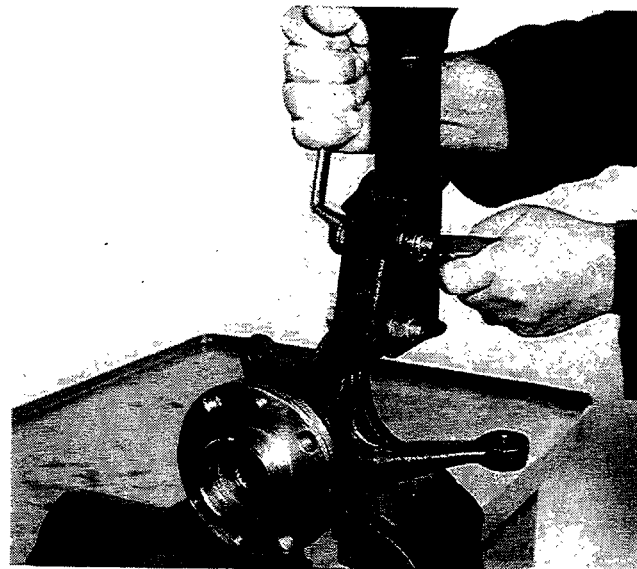


Removing-refitting flexible mounting from track control arm and dismantling at the bench

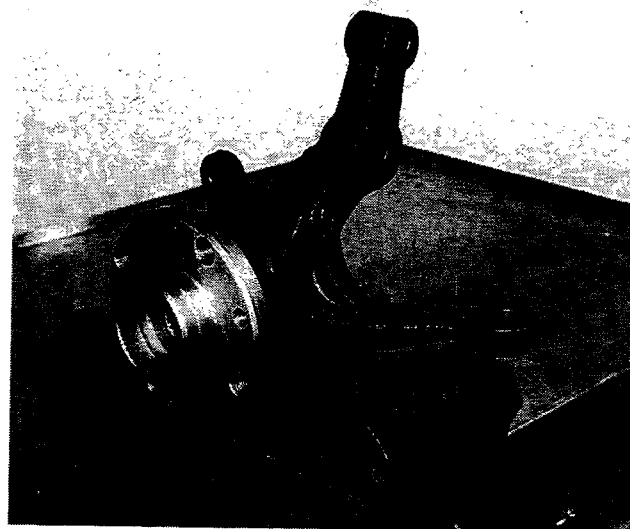


Removing-refitting brake disc and spacer

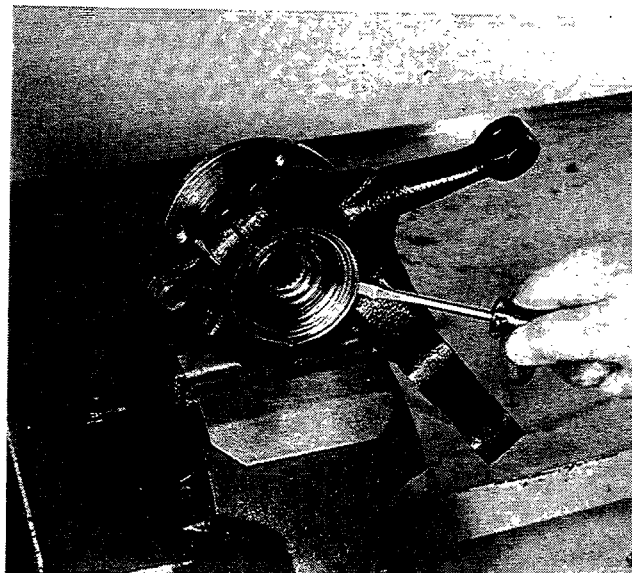
WHEEL HUB



Removing-refitting shock absorber and spring from steering knuckle

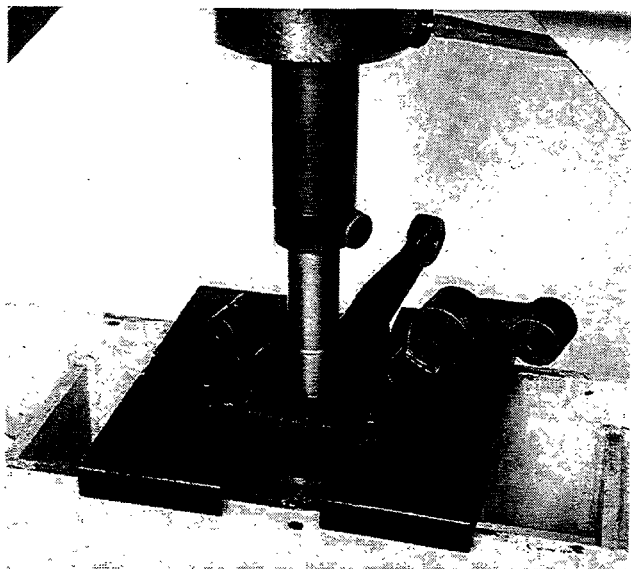


View of steering knuckle assembly



Removing dust cover cap

44.



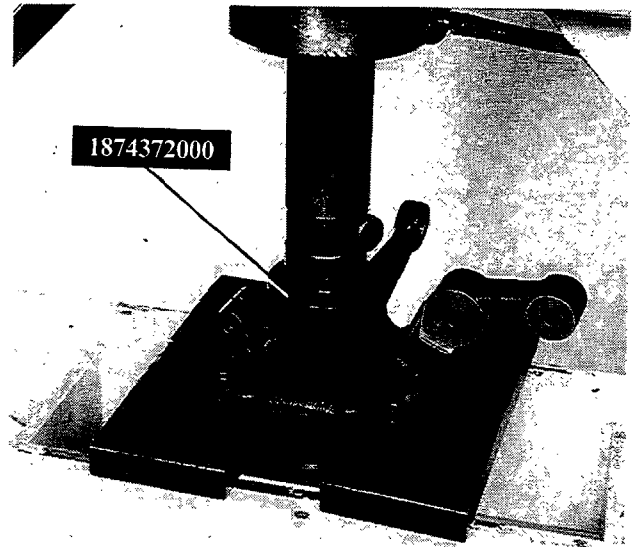
Removing hub from steering knuckle using hydraulic press



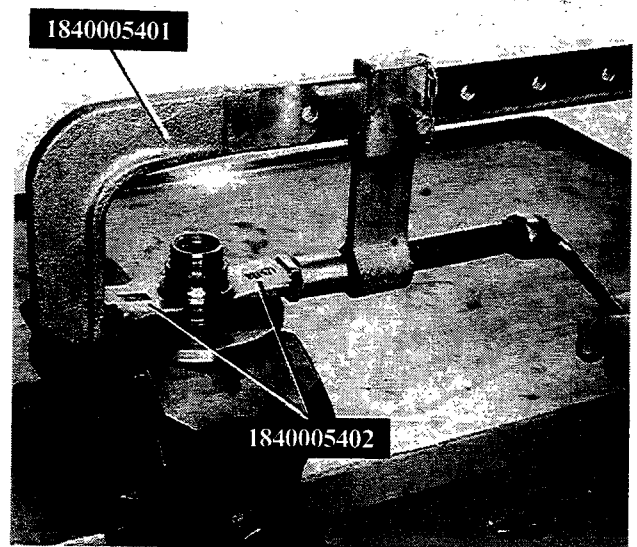
Removing-refitting dust cover cap, seal and bearing inner race from steering knuckle



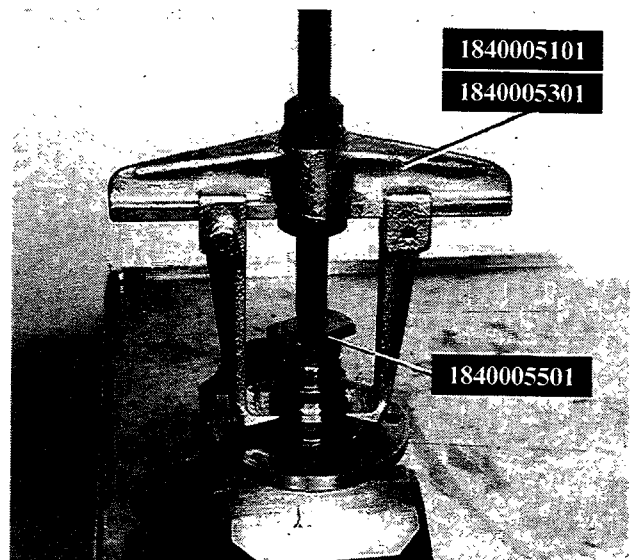
Removing-refitting bearing circlip



Removing outer race from steering knuckle using the hydraulic press

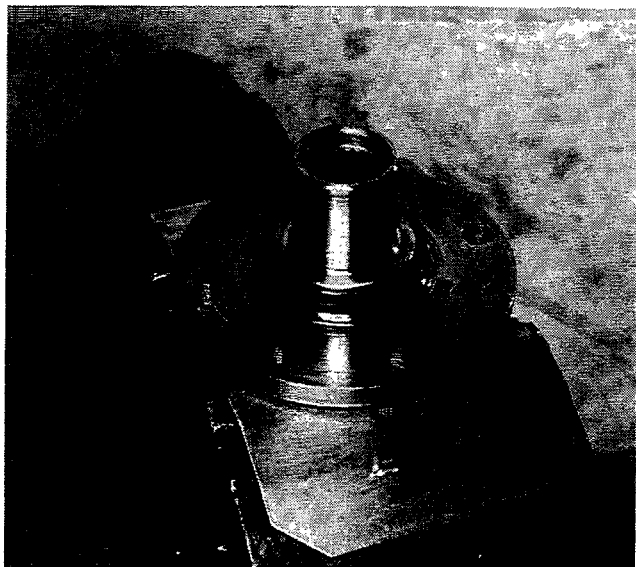


Initial removal of bearing inner race from hub



Removing bearing inner race from hub

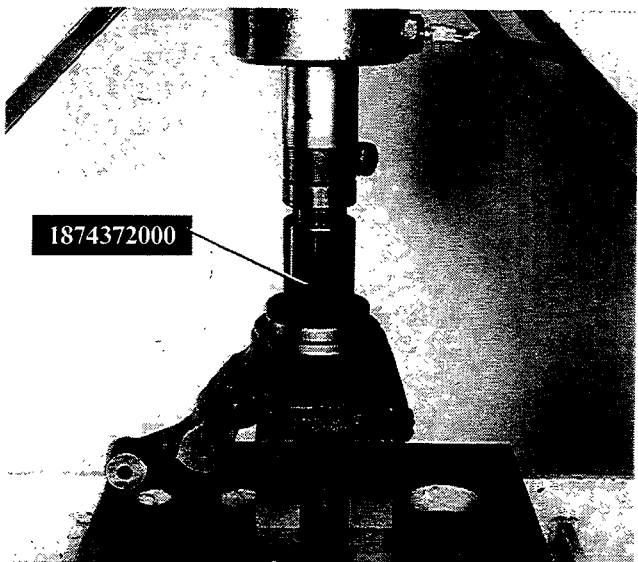
44.



Fitting rubber seal on hub

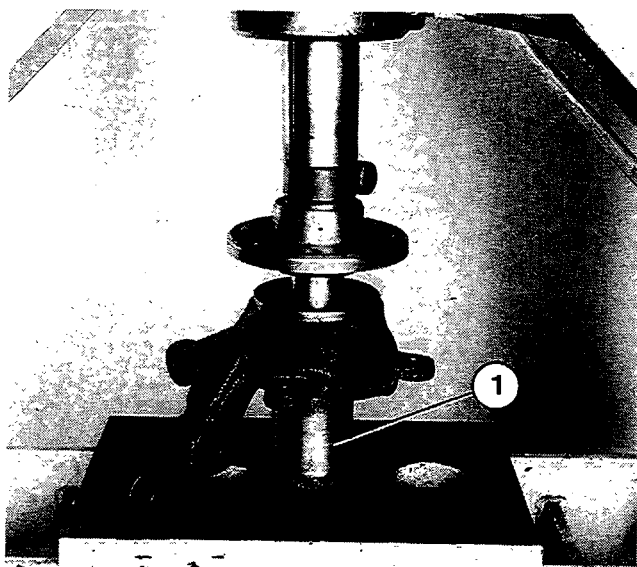


*The seal generously with
TUTELA MR 3.*



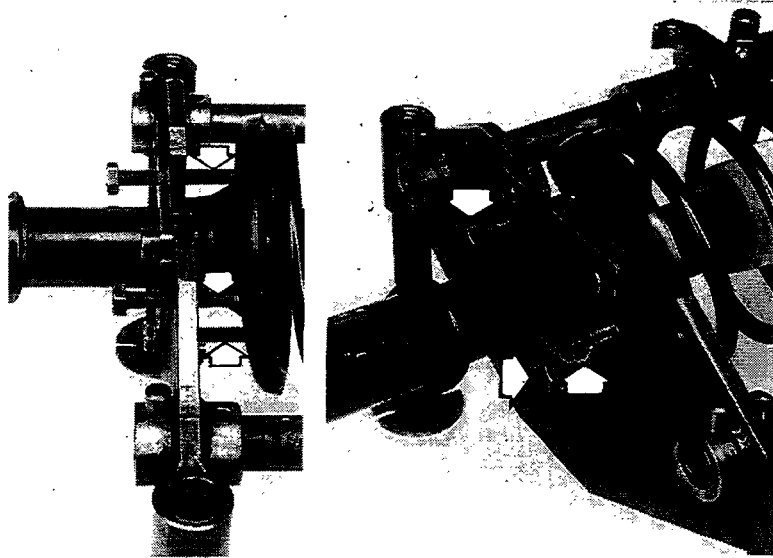
Fitting bearing in steering knuckle on the press

Fit the bearing circlip and the dust cover cap using tool 1874372000.



Fitting hub in bearing on the steering knuckle

Support the bearing inner race using a cylinder (1) of the appropriate diameter.



COIL SPRING AND SHOCK ABSORBER ASSEMBLY



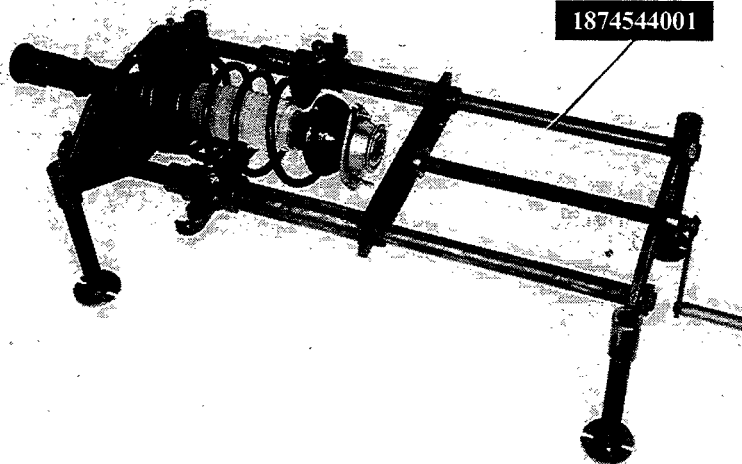
Adjusting support adjustment screws



NOTE Before compressing the spring, make sure that the position of the assembly corresponds to the illustration and that the shock absorber stem is perpendicular to the support plate. This can be achieved by regulating the adjustment screws shown by the arrows.

Shock absorber

If any anomalies which can be attributed to the shock absorber are found, the stem is always replaced in one piece.



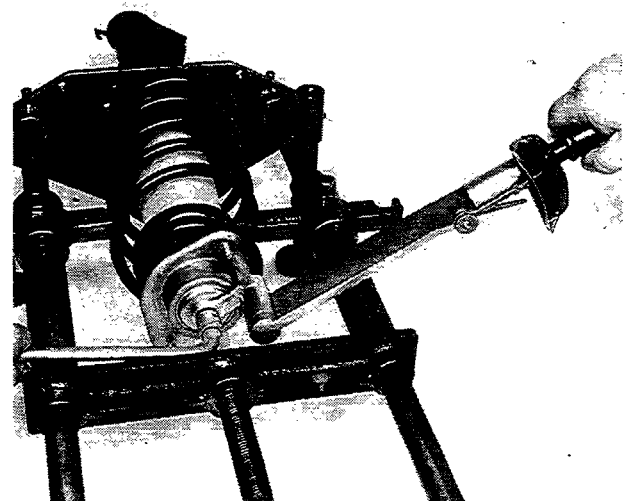
Coil spring

NOTE The coil springs are subdivided into two categories identifiable by a stripe of either yellow or green paint. Springs of the same category must be fitted.

Removing-refitting coil spring - shock absorber assembly



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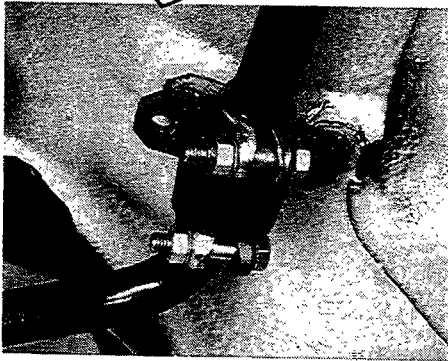
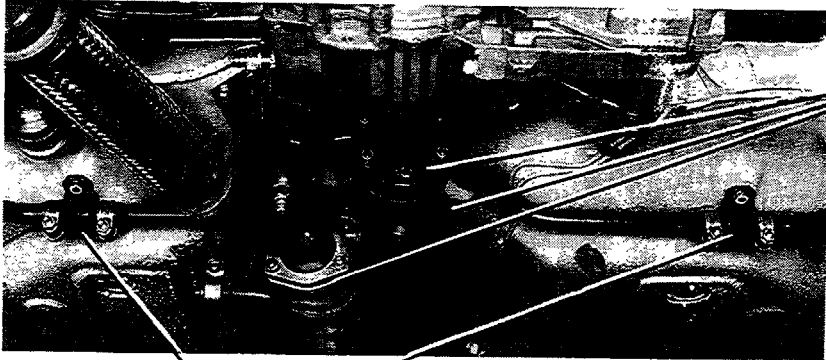


Removing-refitting nut fixing shock absorber stem and tightening to torque

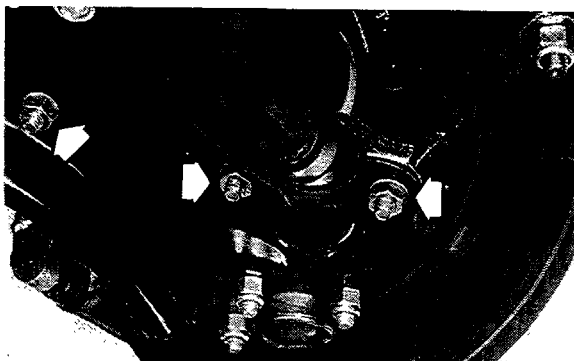
44.

STABILIZER BAR

Removing - refitting



In order to remove the stabilizer bar, the drive shaft has to be removed from the front differential unit joint and the shaft support bracket and the exhaust pipe also have to be removed.

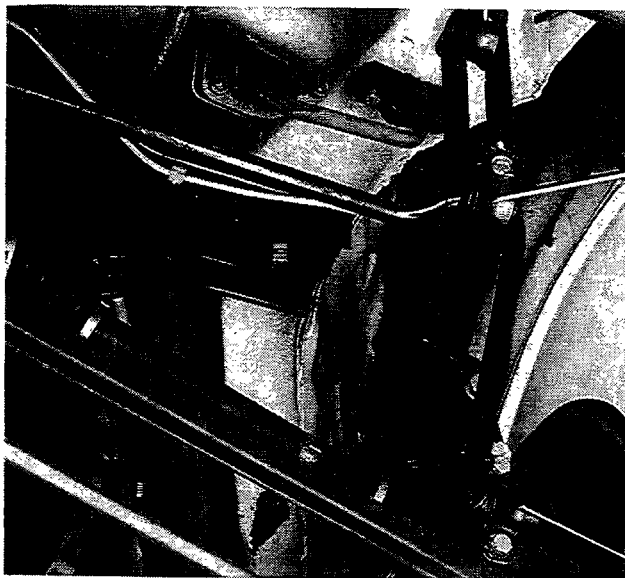
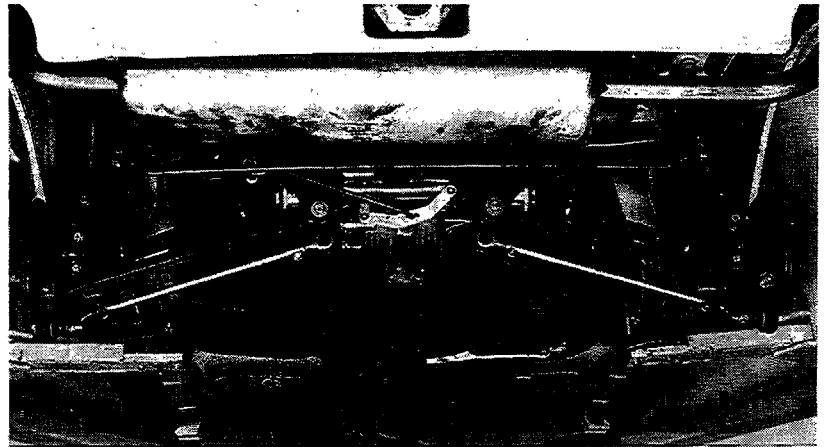


NOTE *To refit the stabilizer bar simply reverse the order of the operations carried out for its removal.*

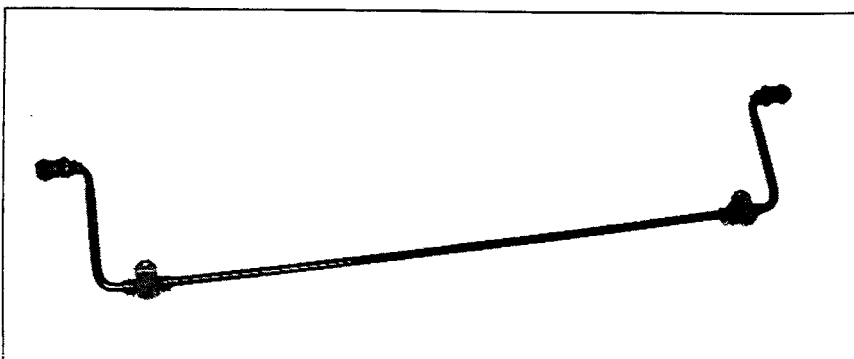
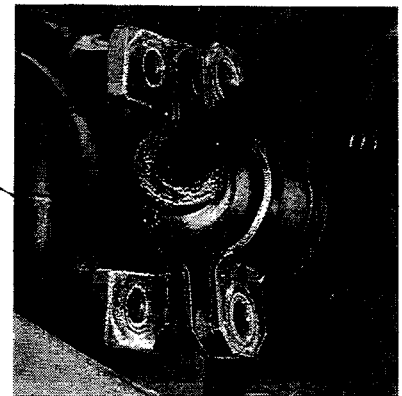
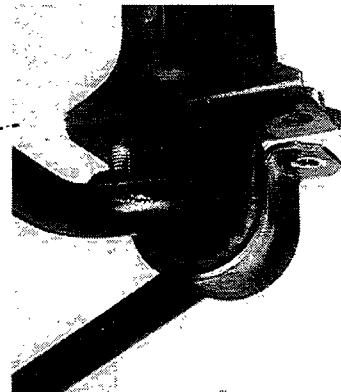
REMOVING-REFITTING

View of rear suspension assembly on vehicle

In order to remove and refit the rear suspension, position the vehicle on a lift, remove the rear wheels and then proceed as illustrated below.

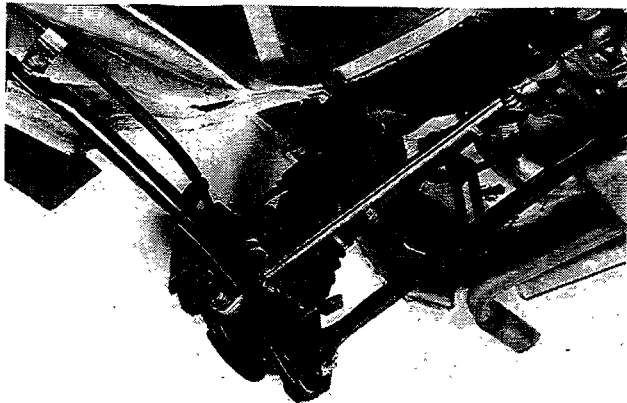


Removing stabilizer bar

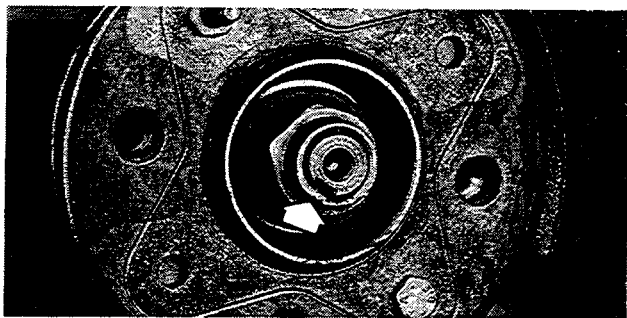


View of stabilizer bar

44.

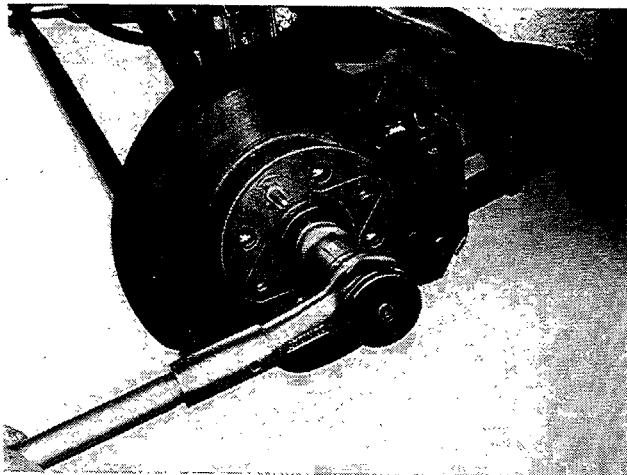


Right rear suspension unit fitted on vehicle

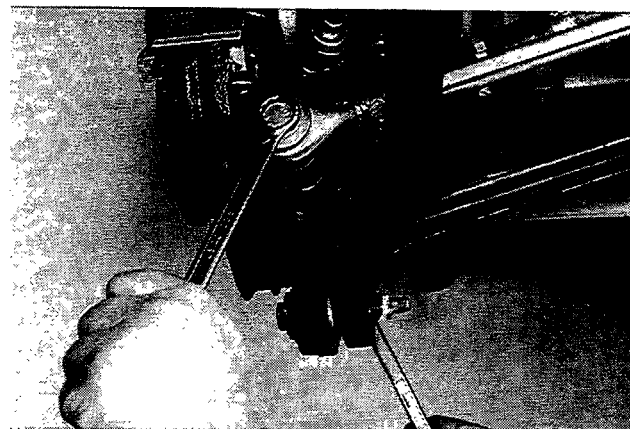


Removing nuts fixing constant velocity joints

Before removing the nuts fixing the constant velocity joints, remove the staking from them as illustrated in the photo.

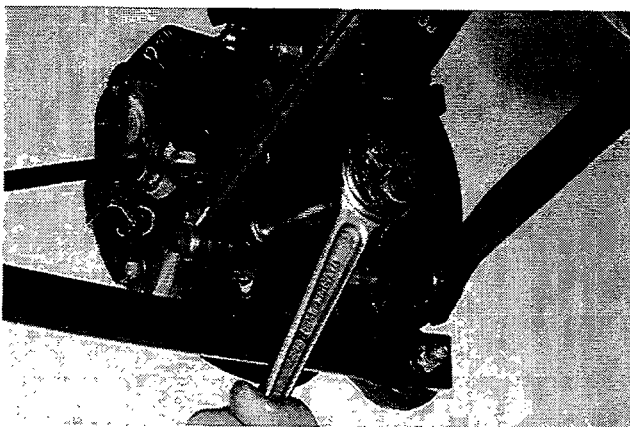
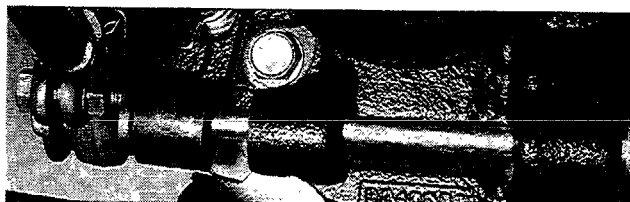


Removing longitudinal rod from the vehicle



Removing-refitting side rod fixing nut

In order to gain access to the bolts fixing the caliper support bracket, the nut fixing the transverse rod has to be removed and moved away from the stub axle.

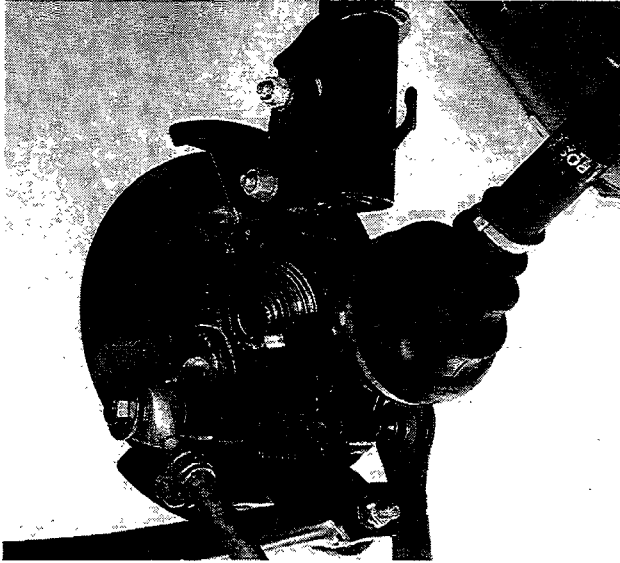


Removing-refitting brake caliper support bracket

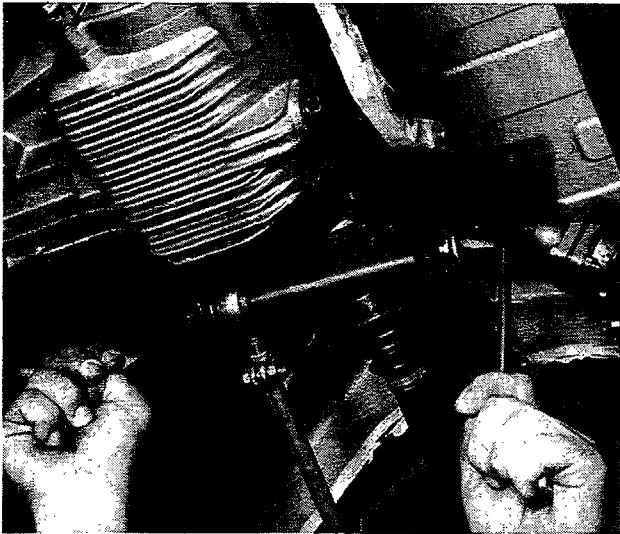


Removing-refitting handbrake cable from caliper device

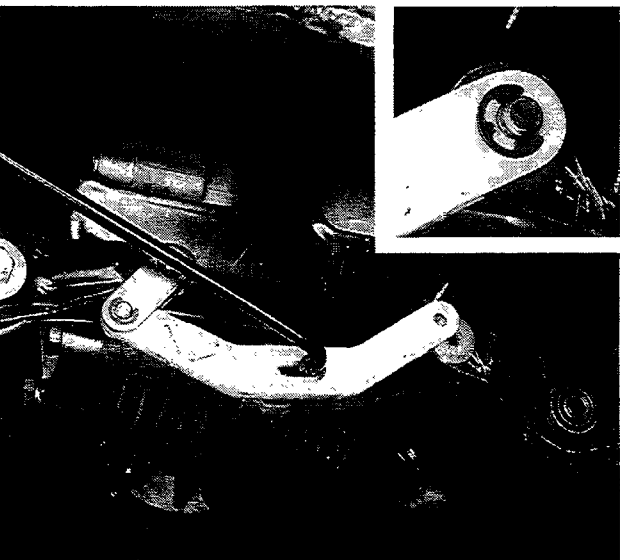
44.



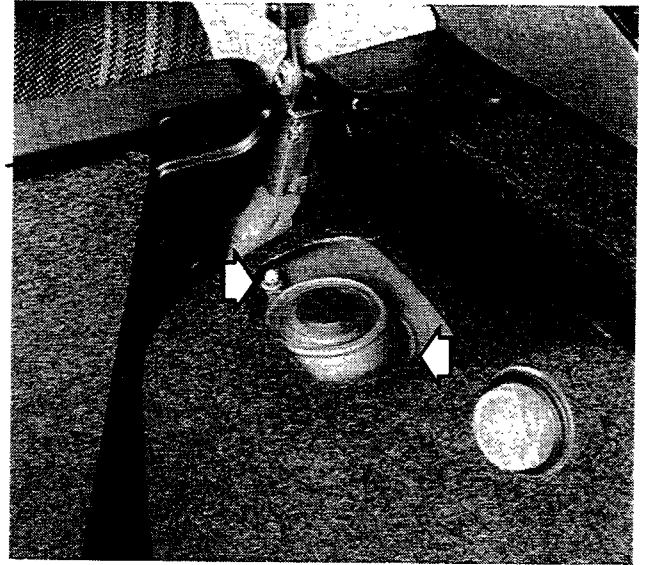
Removing drive shaft from wheel hub



Removing-refitting transverse rods from cross member



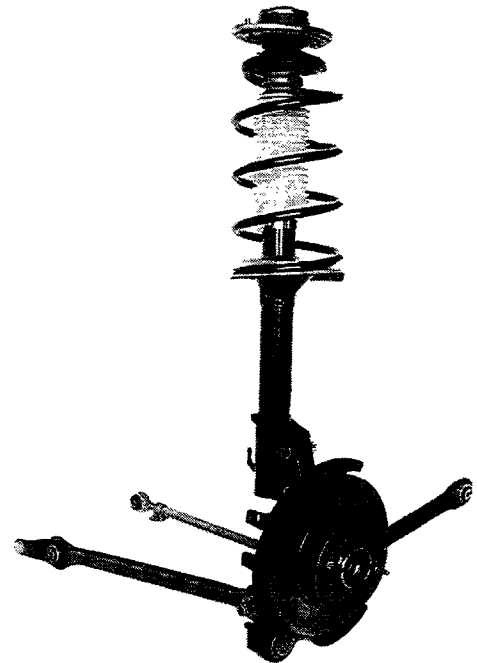
Removing-refitting load proportioning valve bar from mounting after removing clip



Removing-refitting shock absorber assembly from turret (luggage compartment)

Right rear suspension unit

NOTE *In order to refit the right rear suspension simply reverse the order of the operations carried out for its removal.*

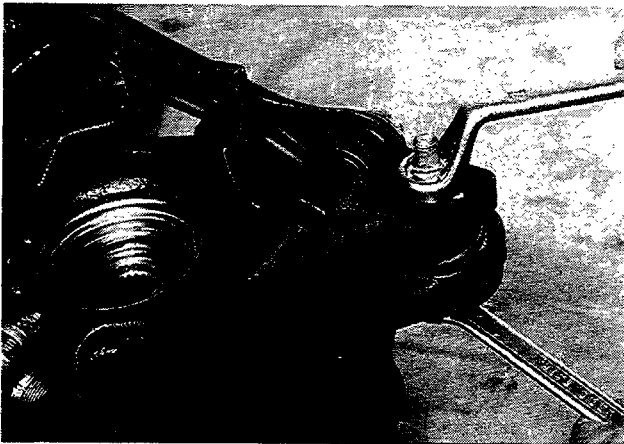


The final tightening of the rear suspension components should be carried out with the vehicle on a lift, with 3 persons on board (2 in the front seats and 1 in the rear seats) + 20 kg of luggage on the rear seat. (1 person = 70kg). This recreates the design load conditions and guarantees the correct operation of the suspension components.

44.

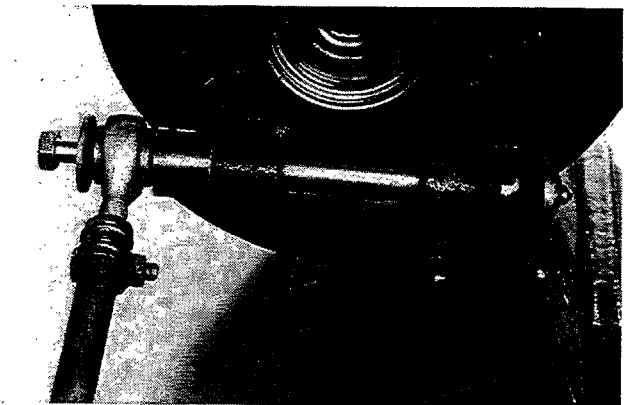
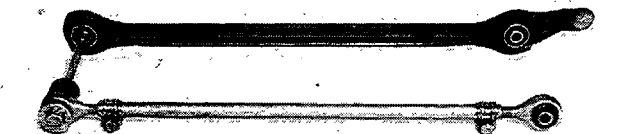


REMOVING-REFITTING



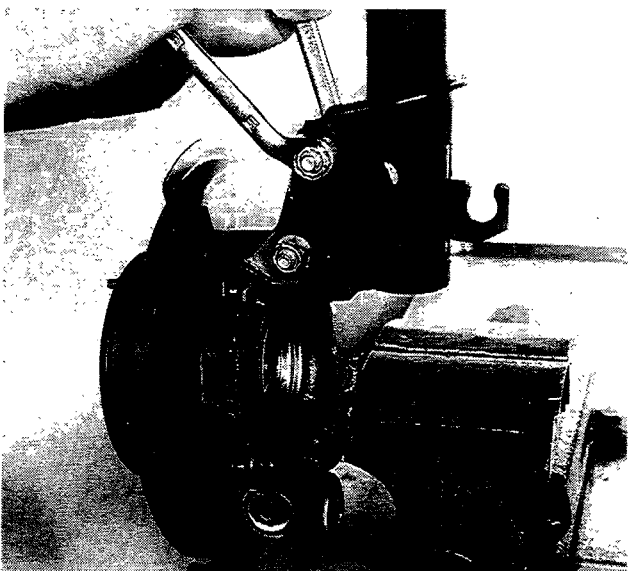
Removing-refitting side rod

Check that the side rod is not distorted and that the flexible bush is also not distorted; if this is not the case, replace the complete rod.

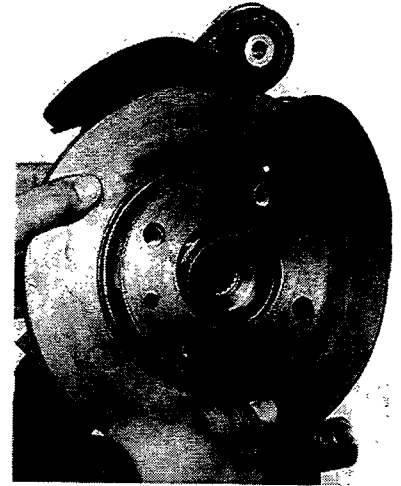
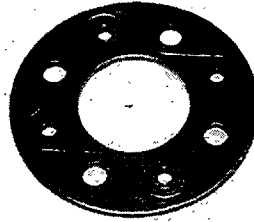
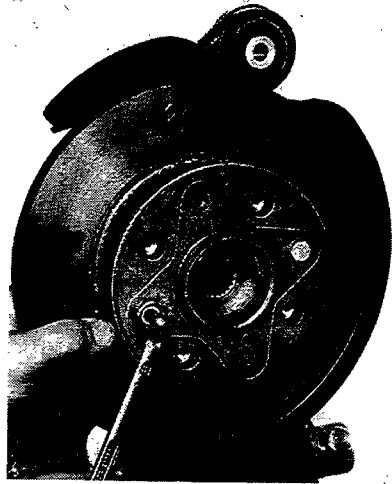


Removing-refitting longitudinal rods

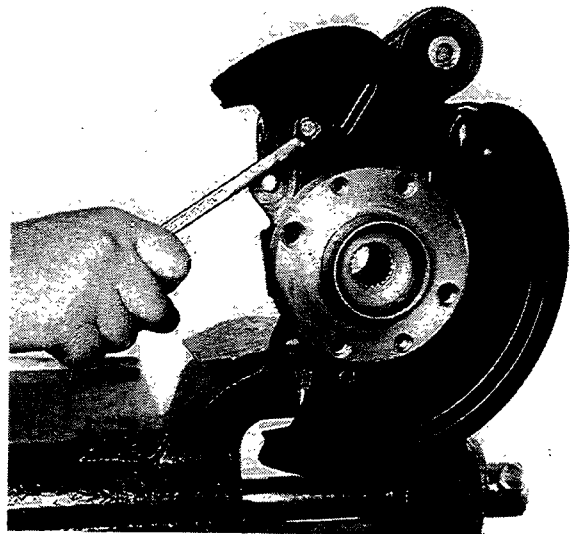
Check that the longitudinal rods are not distorted and that the flexible bushes are not worn; if this is not the case, replace the complete rods.



Removing-refitting shock absorber assembly from stub axle

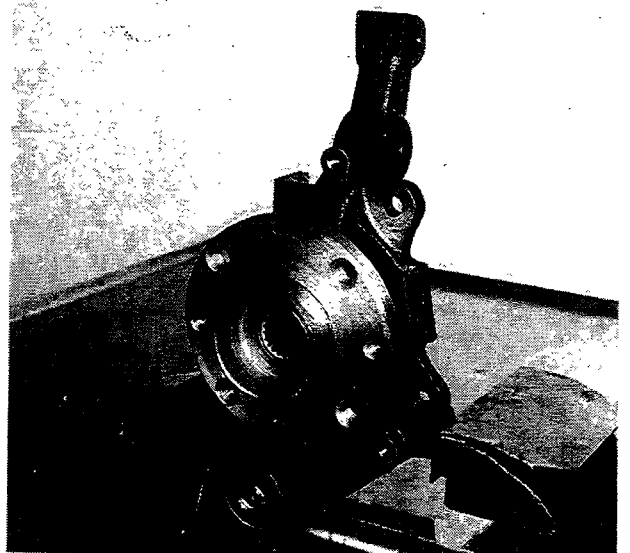


Removing-refitting spacer and brake disc



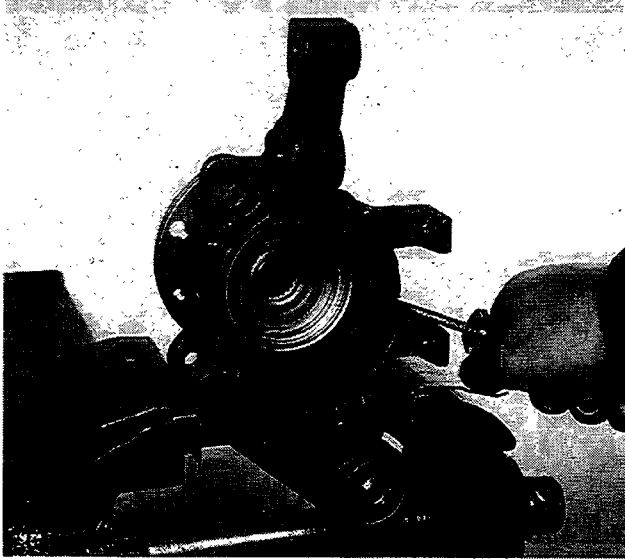
Removing-refitting dust cover disc from stub axle

WHEEL HUB

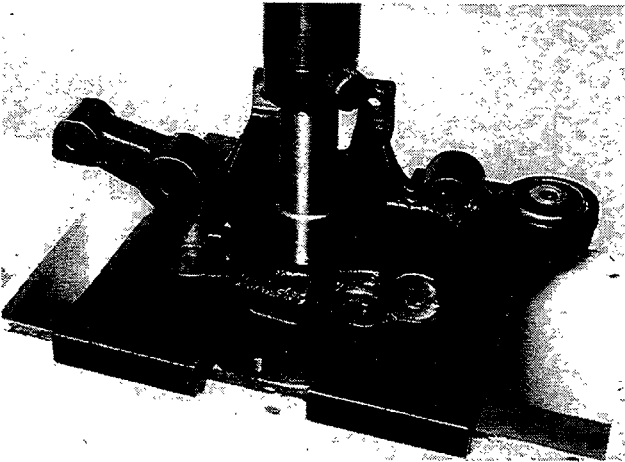


View of stub axle assembly

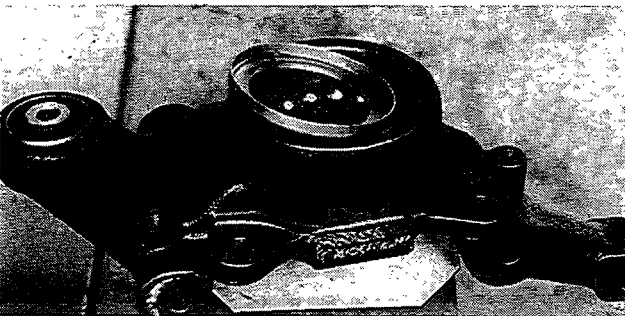
44.



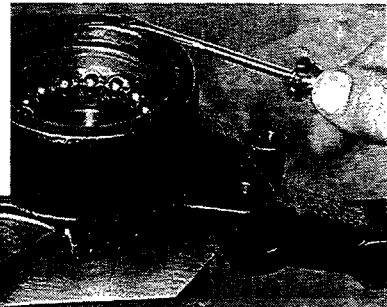
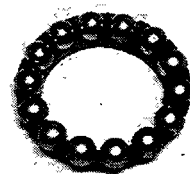
Removing dust cover cap

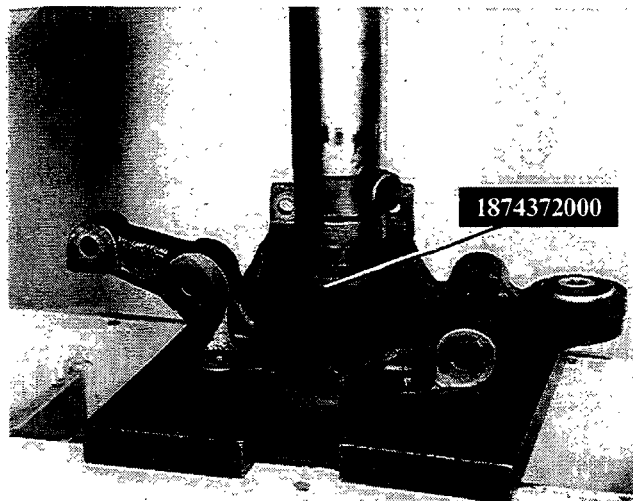


Removing hub from stub axle using the hydraulic press

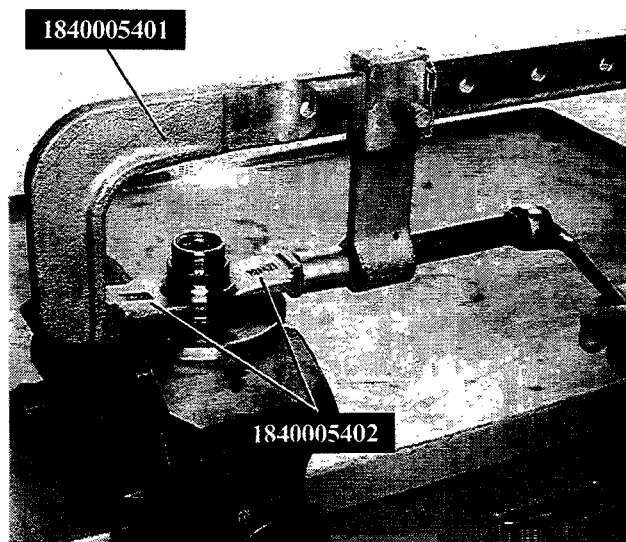


Removing-refitting dust cover cap, seal, circlip and bearing inner race from the stub axle

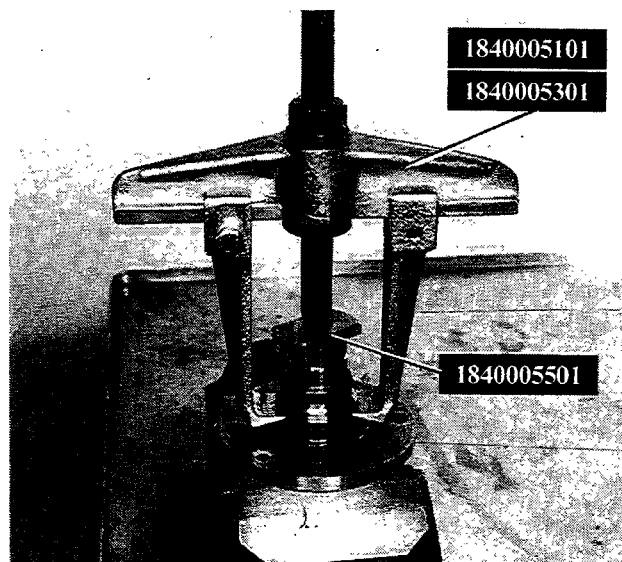




Removing bearing outer race from stub axle using hydraulic press

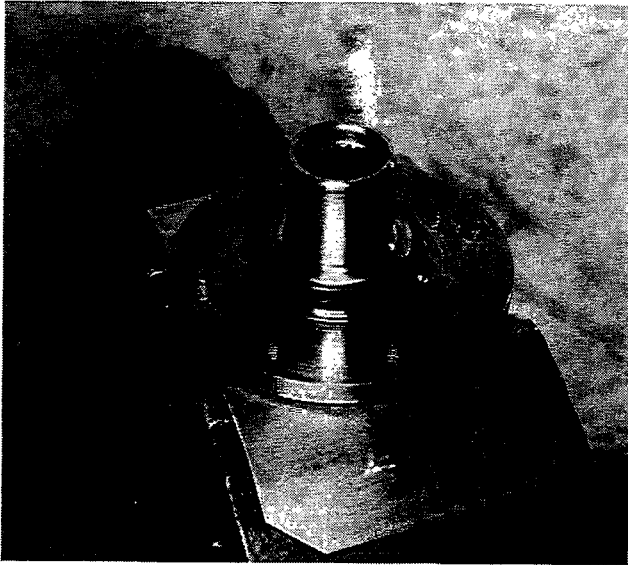


Initial removal of bearing inner race from hub



Removing bearing inner race from hub.

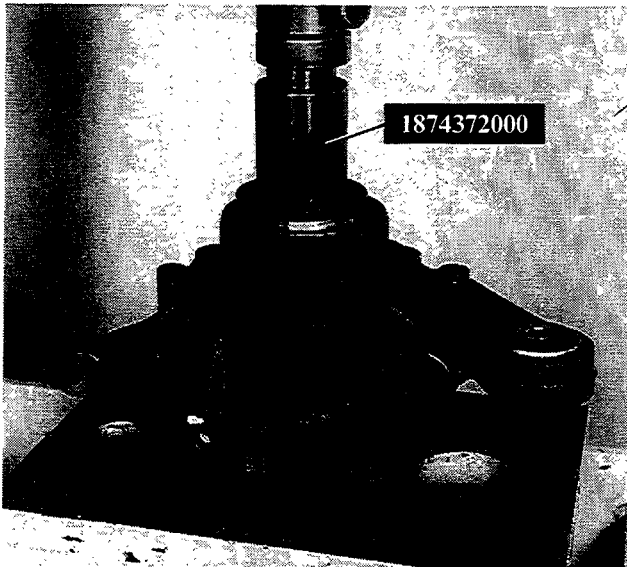
44.



Fitting rubber seal on hub

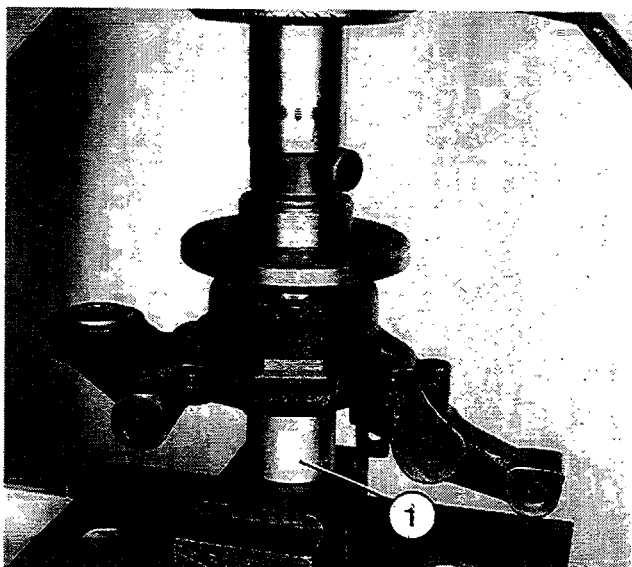


*The seal generously with
TUTELA MR3.*



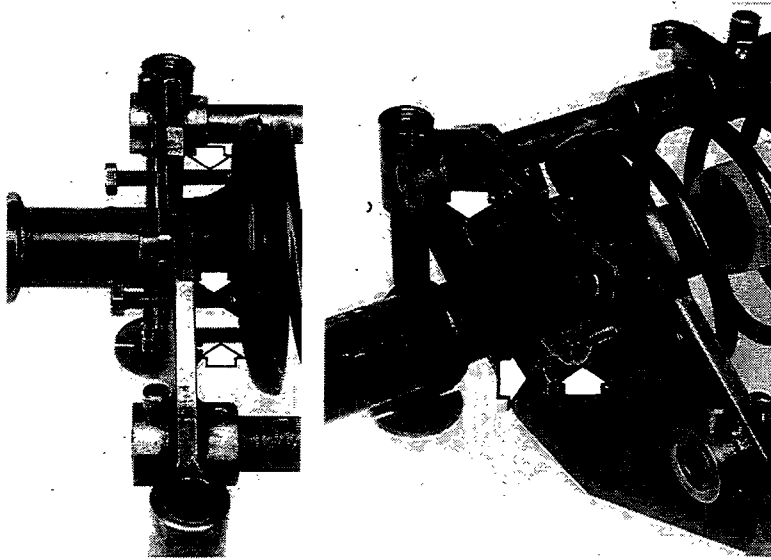
Fitting bearing in stub axle on the press

Fit the bearing circlip and the dust cover cap using tool 1874372000.



Fitting hub in bearing on stub axle

Support the bearing inner race using a cylinder (1) of the appropriate diameter.



COIL SPRING AND SHOCK ABSORBER ASSEMBLY



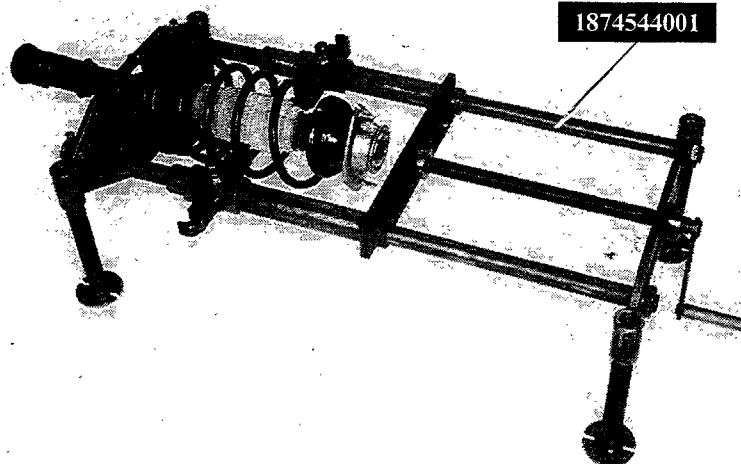
Adjusting support adjustment screws



NOTE Before compressing the spring, make sure that the position of the assembly corresponds to that shown in the photo and that the shock absorber stem is perpendicular to the support plate. This is achieved by regulating the adjustment screws shown by the arrows.

Shock absorber

If any anomalies are found in the shock absorber, the stem is always replaced in one piece.



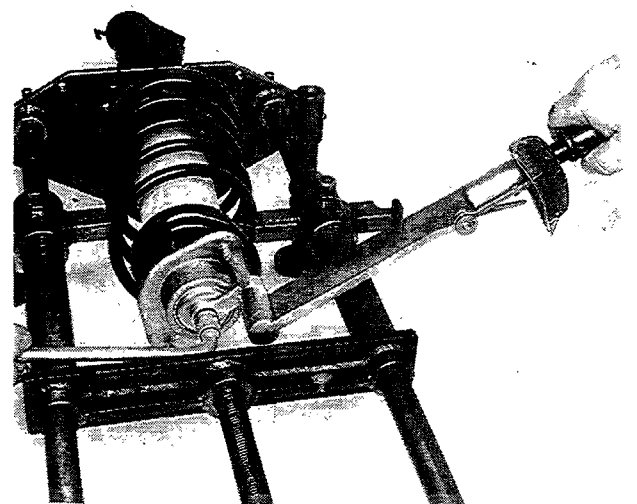
Coil spring

NOTE The coil springs are subdivided into two categories identifiable by a stripe of either yellow or green paint. Springs of the same category must be fitted.

Removing-refitting coil spring - shock absorber assembly



5 daNm



Removing-refitting nut fixing shock absorber stem and tightening to torque

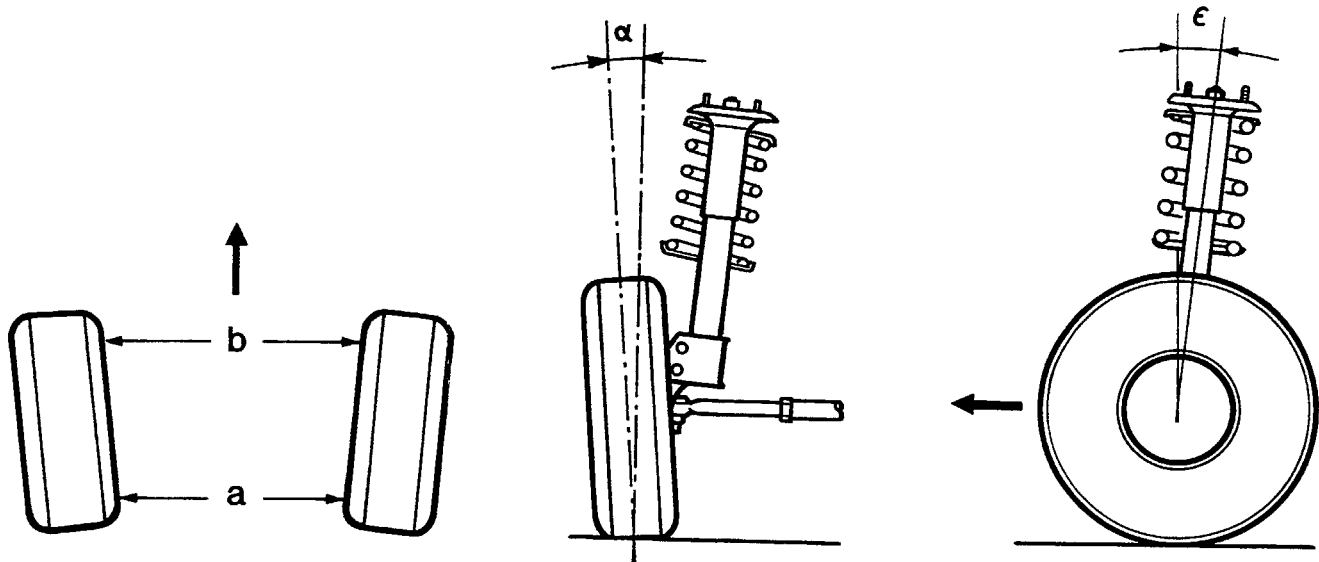
Wheel geometry

44.

FRONT WHEEL GEOMETRY

The front wheel geometry should be checked after subjecting the components affecting the wheel geometry to the following checks:

- tyre inflation pressure check;
- the eccentricity and squareness of the wheel rims should not exceed 3 mm;
- wheel bearing end float check;
- clearance between steering knuckle and track control arm ball joint;
- steering track rod end clearance.



TOE IN

$$a - b = 2 - 1.5 \text{ mm}$$

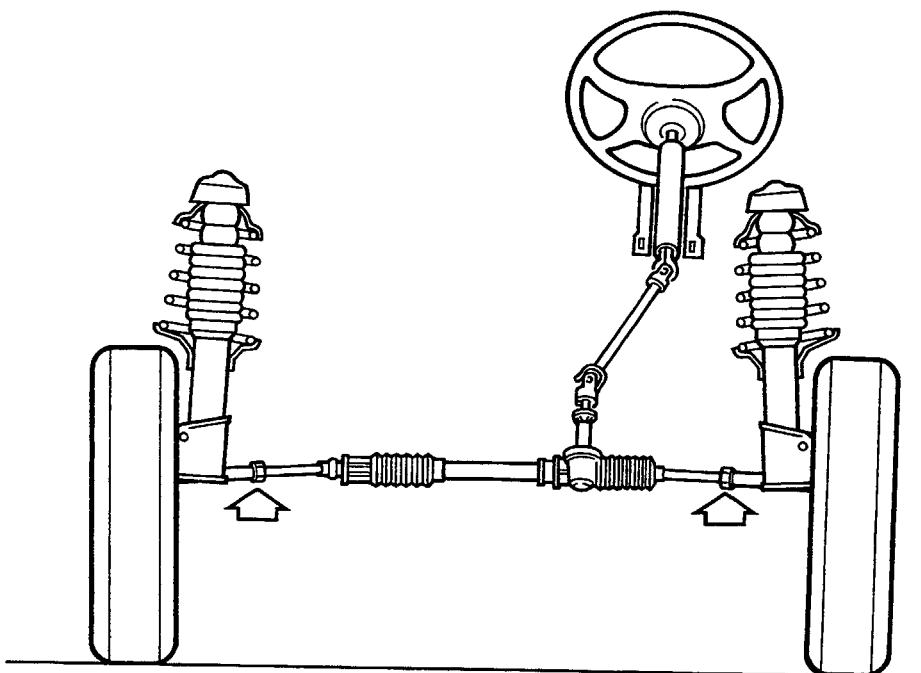
* Measured on the 360 mm diameter

CAMBER (cannot be adjusted)

$$\alpha = -40 \pm 30$$

CASTER (cannot be adjusted)

$$\epsilon = 3^{\circ} 10' \pm 30'$$

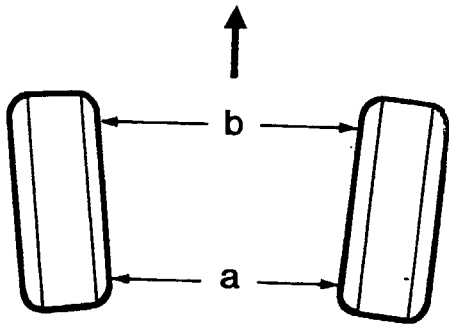


If, after checking the toe in, the values differ from the figures given, adjust the steering box rods after having loosened the fixing nuts.

REAR WHEEL GEOMETRY

The wheel geometry should be checked after the following checks have been carried out:

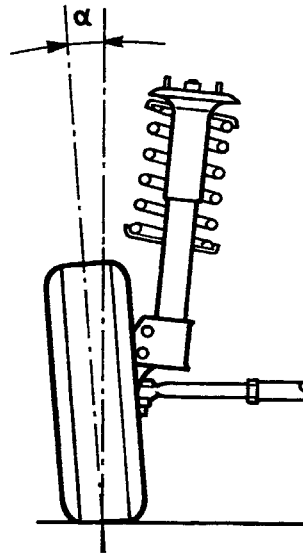
- tyre inflation pressure check;
- the eccentricity and the squareness of the wheel rims should not exceed 3 mm;
- wheel bearing end float check.



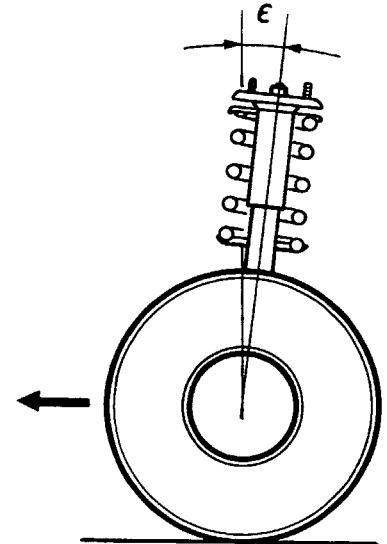
TOE IN



* Measured on the 360 mm diameter.



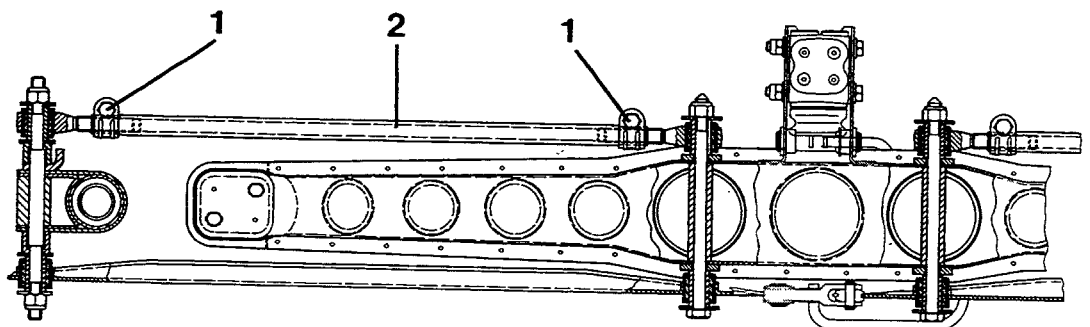
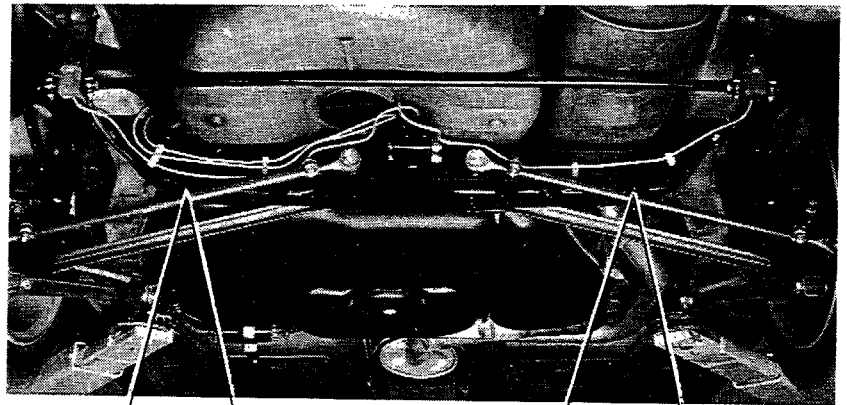
CAMBER (cannot be adjusted)



CASTER (cannot be adjusted)



If, after checking the toe in, the values differ from the figures given, loosen the nuts (1) and turn the rod (2) until the desired conditions are achieved. The adjustment should be carried out by regulating the rods for both wheels.



44.

DESCRIPTION	Thread size	Tightening torque
		daNm

FRONT SUSPENSION

Track rod end to ball joint fixing, bolt	M8 × 1,25	2,6
Track rod end to suspension arm fixing, bolt	M8 × 1,25	3
Ball joints to suspension arm fixing, bolt	M10 × 1,25	5,6
Ball joints to suspension arm fixing, bolt	M10 × 1,25	5,6
Flexible bushes to suspension arm fixing, nut	M10 × 1,25	4,5
Brackets (for suspension arm flexible bushes) to bodyshell fixing, bolt	M10 × 1,25	4
Left and right bracket to flexible bush bracket fixing, bolt	M10 × 1,25	4
Shock absorber to track rod end fixing, bolt	M10 × 1,25	5,5
Shock absorber stem to flexible mounting fixing, nut with polyammide ring	M12 × 1,25	5
Shock absorber stem flexible mounting to suspension turret fixing, nut	M8 × 1,25	1,8
Bracket (for stabilizer bar flexible mounting) to suspension arm fixing, nut	M8 × 1,25	1
Clamps to stabilizer bar fixing, bolt	M8 × 1,25	1,9
Flexible mounting to bodyshell fixing, bolt	M8 × 1,25	1,2
Rod to suspension track control arm fixing, bolt	M10 × 1,25	6
Wheel hub to constant velocity joints fixing, nut	M20 × 1,5	29,4
Wheel to hub fixing, bolt	M12 × 1,25	8,6

DESCRIPTION	Thread size	Tightening torque
		daNm

REAR SUSPENSION

Shock absorber to flexible mounting fixing, nut	M12X1,25	5
Shock absorber to stub axle fixing, bolt	M10X1,25	5,8
Flexible mounting to bodyshell turret fixing, nut	M8X1,25	1,8
Stabilizer bar joint to bodyshell fixing nut	M8X1,25	1,2
Stabilizer bar to joint mounting fixing, bolt	M6X1	1
Stabilizer bar to stub axle fixing, bolt	M8X1,25	2,3
Rear cross member to bodyshell fixing, bolt	M12X1,25	6
Longitudinal rod fixing, bolt	M10X1,25	6
Transverse rod fixing, bolt	M10X1,25	6
Wheel hub to constant velocity joint fixing, nut	M20X1,25	29,4
Wheel to rear hub fixing, bolt	M12X1,25	8,6

50.

Composition

The heating-ventilation unit consists of a plastic casing containing:

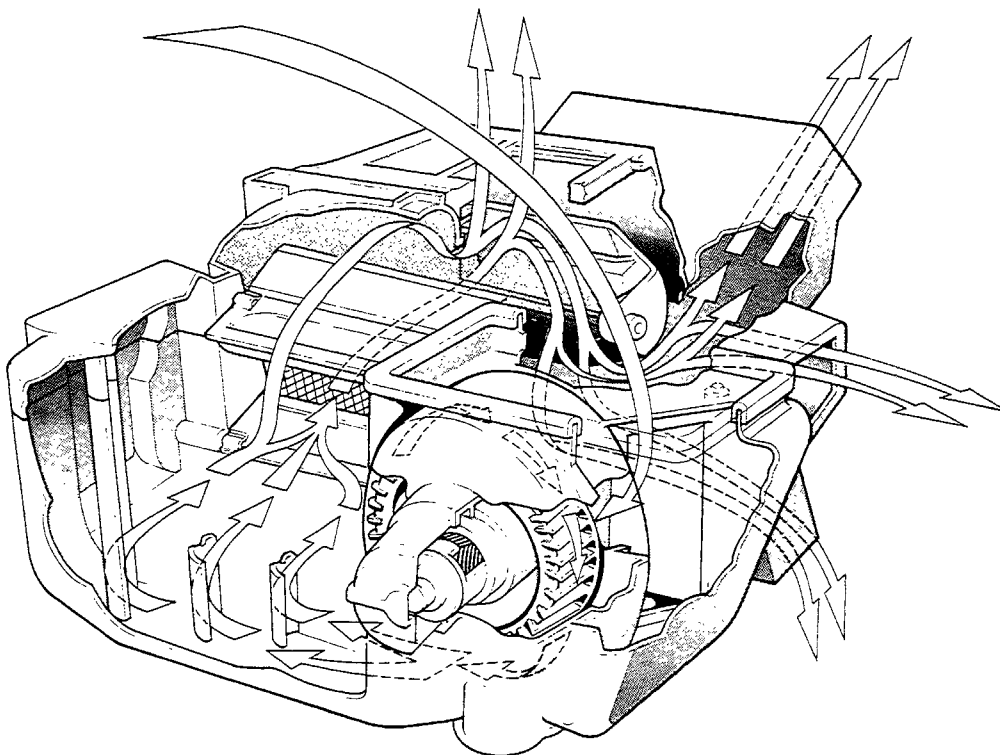
- 1) an electric fan for blowing the air through at different speeds.
- 2) a heater radiator connected to the engine cooling circuit and the relevant coolant inlet tap.
- 3) Three flaps for adjusting and distributing the flow of air inside the unit and the relevant control mechanisms.
- 4) In addition, at the exit point from the heating-ventilation unit, in a box section in the body shell under the windscreen, are located 2 flaps for distributing air inside the car, which are controlled by means of a shaft with a universal joint at either end.

Operation

By operating the inlet flap air gathered from outside the car – in the so-called “fish tank” area underneath the windscreen – is allowed into the heating-ventilation unit.

Operating the blend flaps causes the coolant inlet tap – by means of a special system of levers – to open simultaneously allowing heated coolant into the radiator. In this way varying amounts of air will pass through the radiator and will blend with the air coming directly from outside so as to heat masses of air to different temperatures.

Finally by operating the air distribution flaps by means of a shaft with a universal joint at either end (as well as the previously mentioned flaps) varying amounts of warm air will be distributed along ducts and out into the passenger compartment either through vents in the middle and at the sides of the instrument panel and beneath the windscreen, or in the foot well, thus heating the passenger compartment. To get the unit to act as a ventilator, on the other hand, all the driver (or passenger) need do is to refrain from operating the blend flaps and the relevant coolant inlet tap.

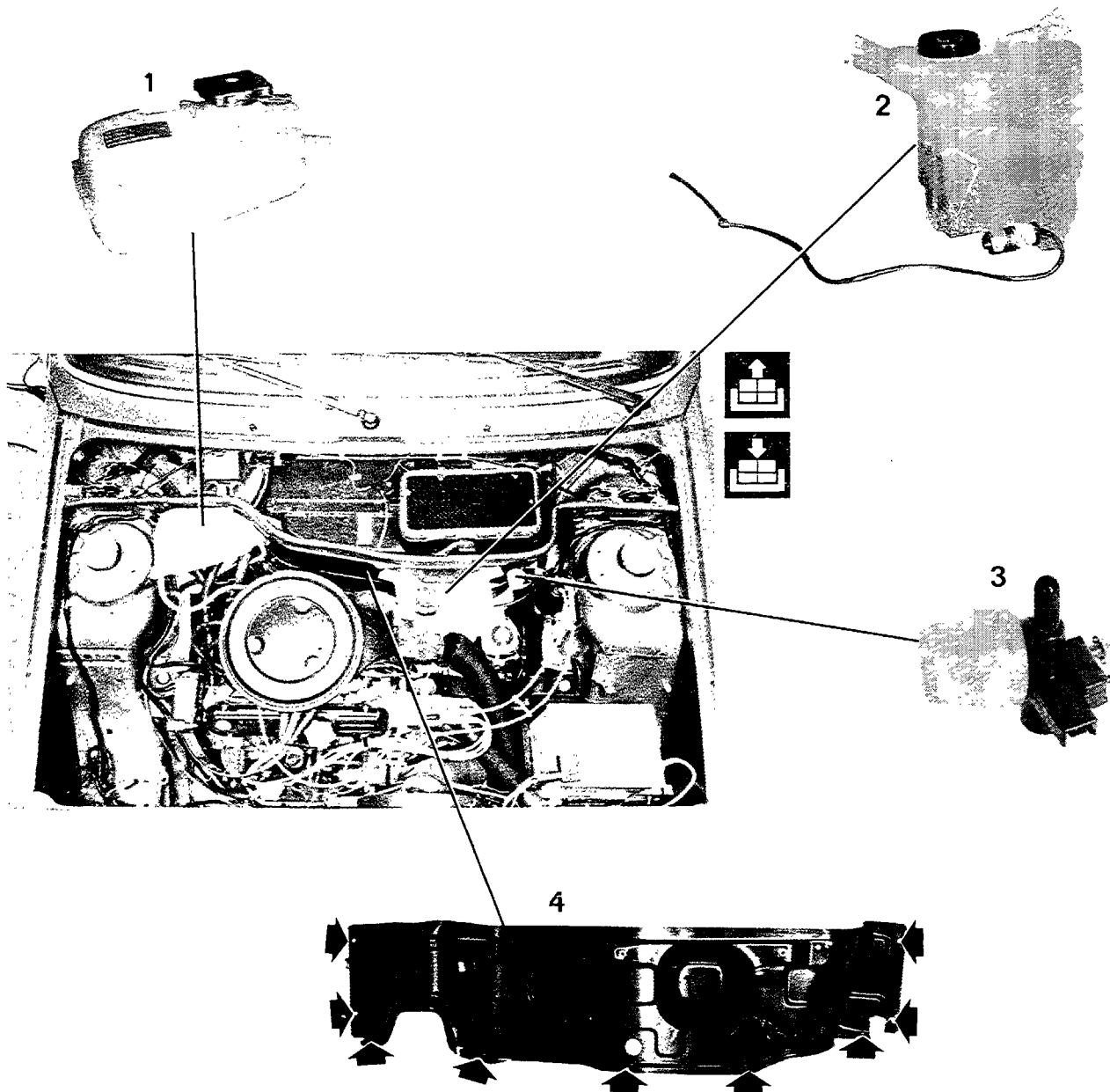


REMOVING – REFITTING

This is done from the engine compartment by releasing the bulkhead (4) from components (1) – (2) – (3) by unscrewing the bolts, respective securing nuts and the windscreen wiper pump connection. Then:

Remove the bulkhead (4) by unscrewing the bolts securing it to the body shell.

- Unscrew the 3 bolts securing the heating-ventilation unit to the rear of the dashboard.



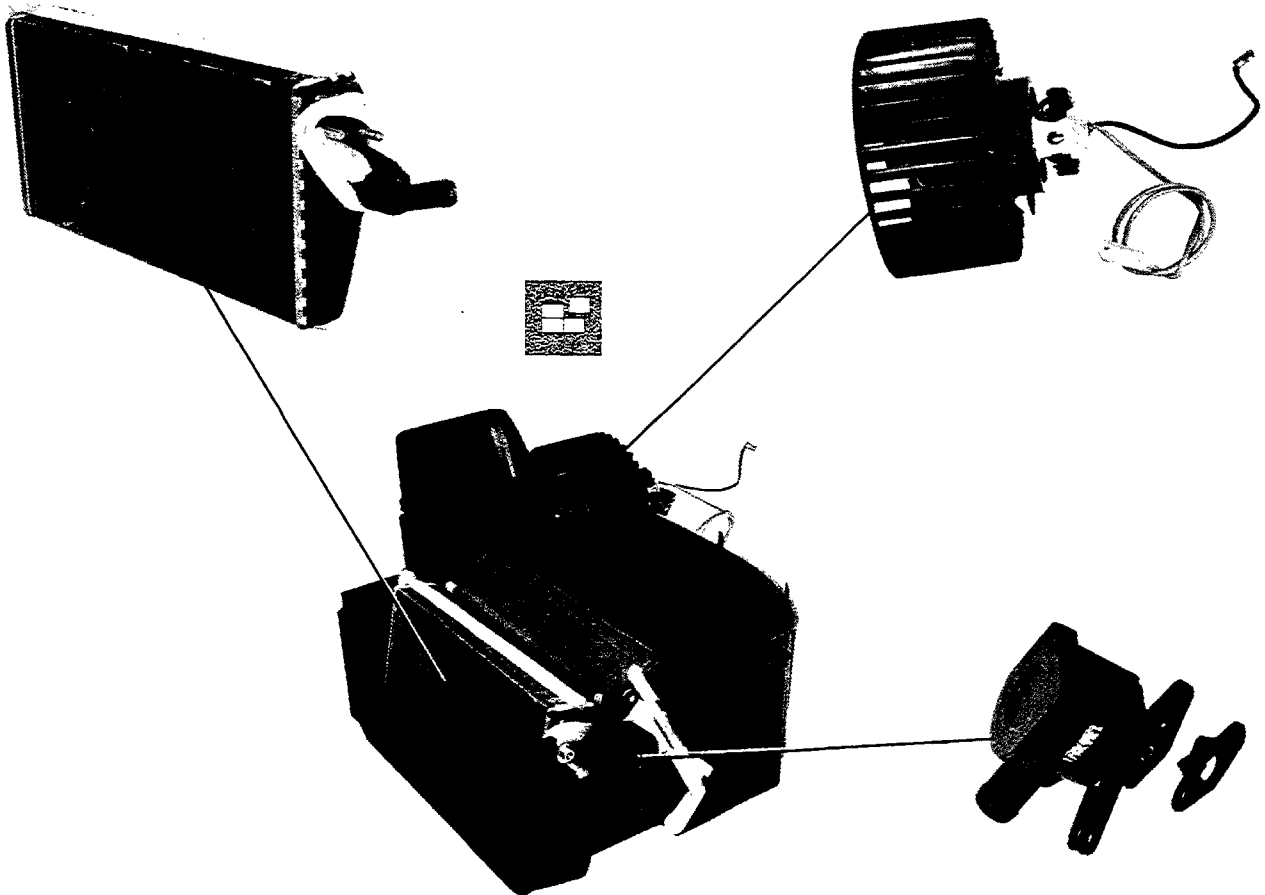
- Disconnect the 2 electric fan connectors.
 - Disconnect the 2 coolant pipes on the heater side.
- Remove the air filter in order to make it easier to get the complete heating-ventilation unit out.

NOTA When dismantling, collect the coolant contained in the radiator.
To refit the heating-ventilation unit, reverse the order of the operations described for its removal, as appropriate.

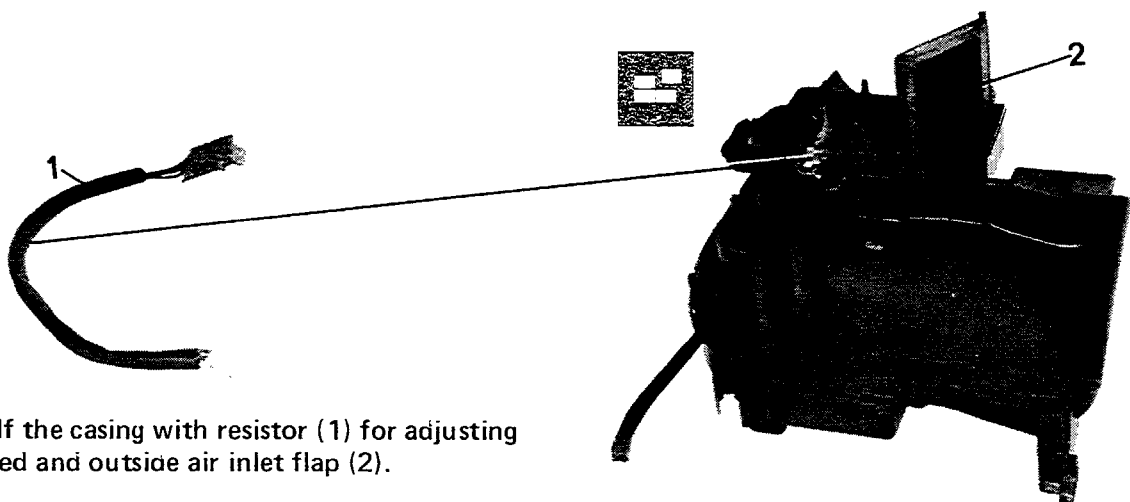
50.

DISMANTLING

- Remove the 5 clips and the bolt retaining the 2 covers.
- Using a screwdriver force the 2 covers, in the areas near the 7 retaining lugs, until they come appart.
- Remove the heater radiator, disconnecting the coolant inlet tap control rod.

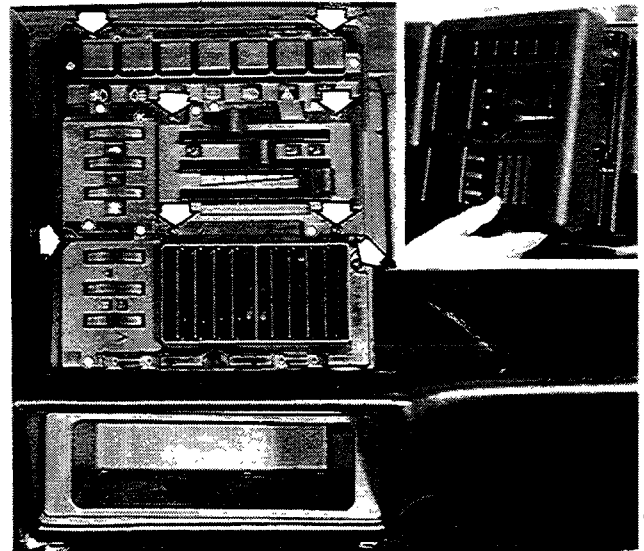


- Remove the electric fan unit by unscrewing the 2 bolts securing it to the bottom half of the casing.

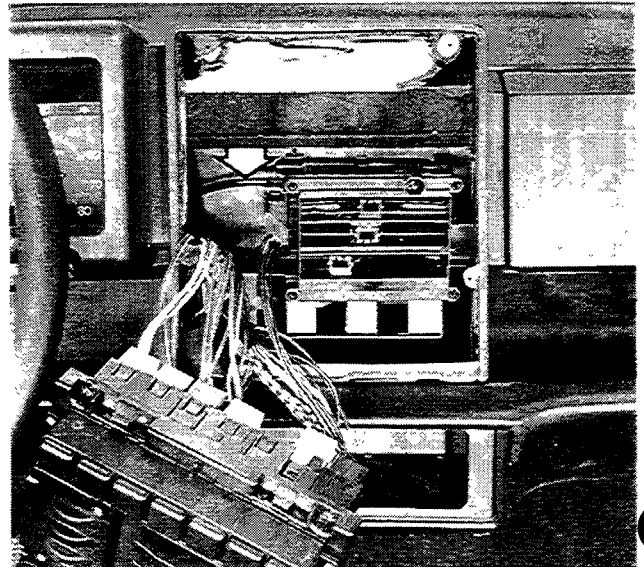


Bottom half the casing with resistor (1) for adjusting the fan speed and outside air inlet flap (2).

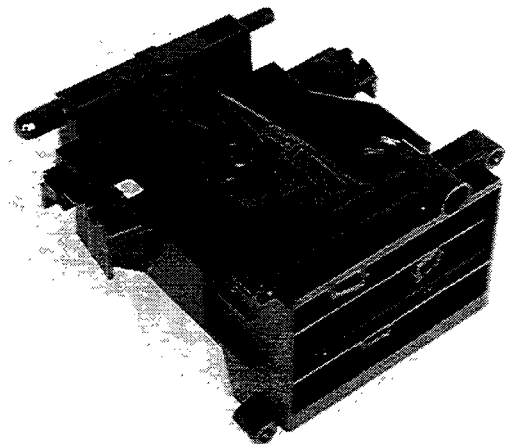
AUXILIARY SERVICES INSTRUMENT
PANEL



Removing - refitting binnacle cowl and auxi-
liary services instrument panel



Removing bowden cables controlling the air
conditioning system and relevant levers



View of the air conditioning system control
lever unit