DIFFERENTIAL - REAR AXLE

5

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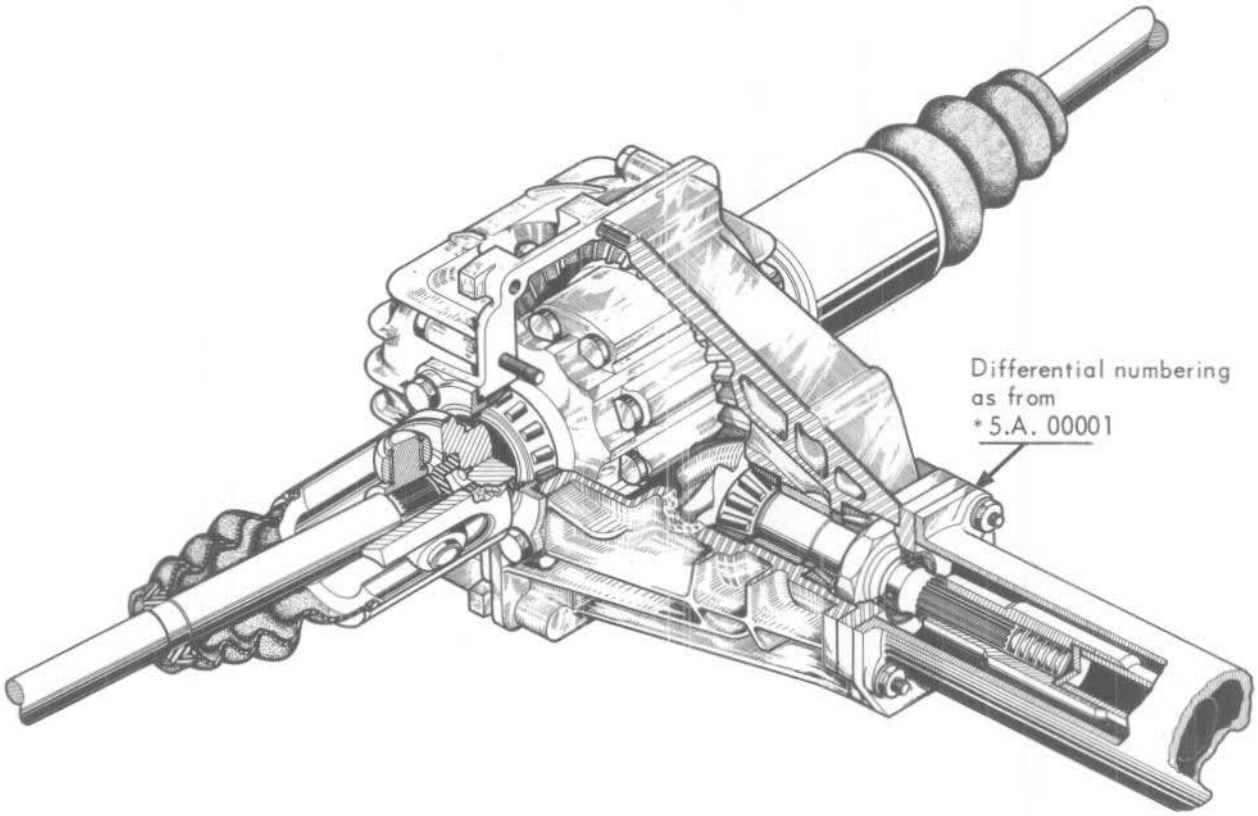
DIFFERENTIAL
IDENTIFICATION - CHARACTERISTICS

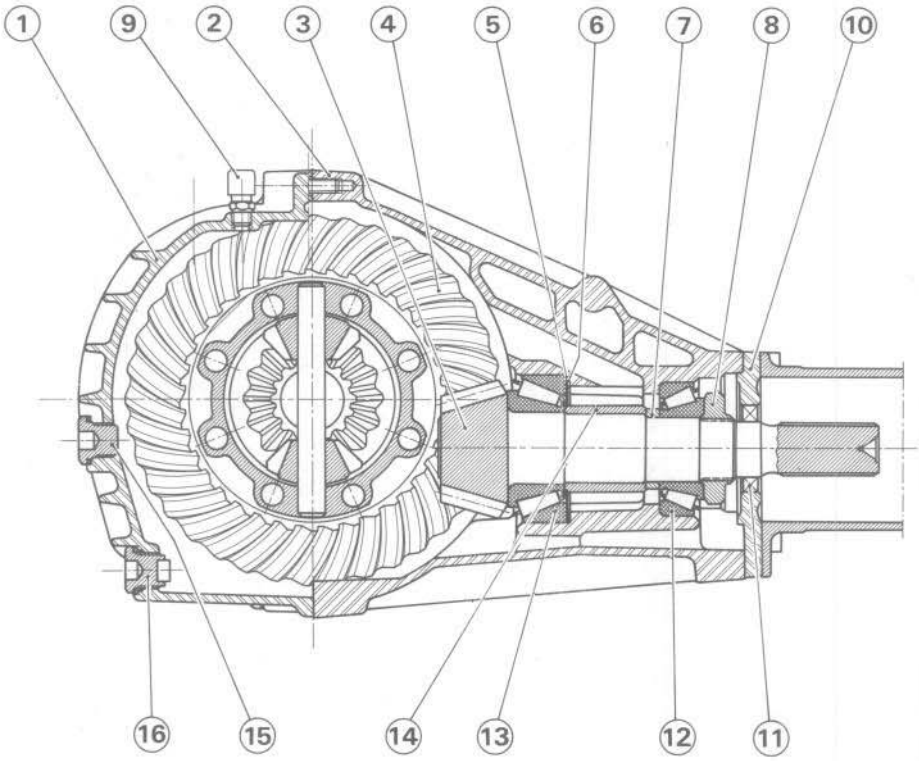


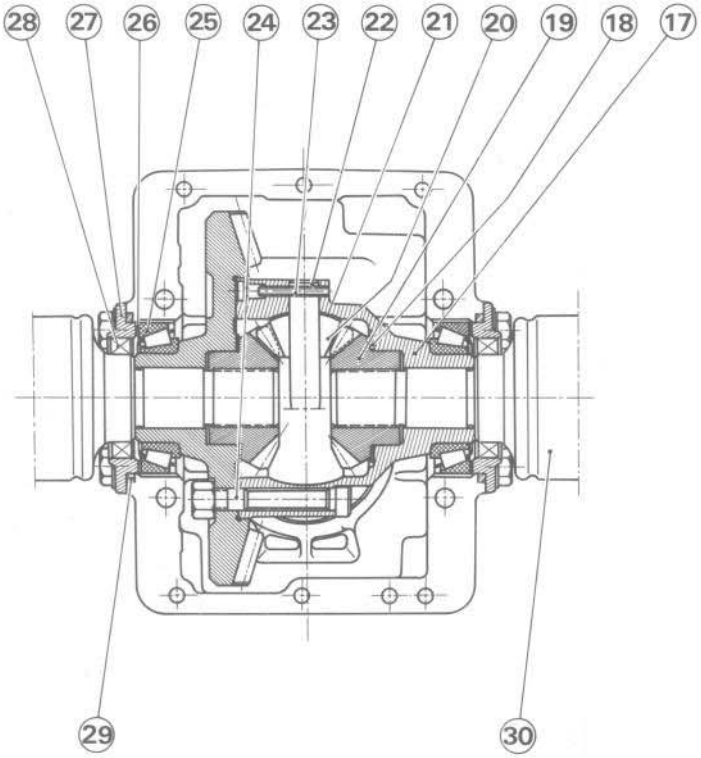
CHARACTERISTICS			
Type	504 A01 504 A03	504 A02	504 B02 504 C02
Gear set	9 × 35	9 × 34	10 × 37
Ratio	0.257	0.264	0.270
Lubricant	ESSO GEAR OIL GP 90		
Capacity	2.10 pints (1.2 dm^3)		

* Identification : 5 for gear set 9 × 35 «504 A01 - A03»
4 for gear set 9 × 34 «504 A02»
7 for gear set 10 × 37 «504 B02 - C02»

DIFFERENTIAL

IDENTIFICATION - CHARACTERISTICS





1 & 2 - Rear axle housing and cover

3 & 4 - Gear set (drive pinion and crown wheel) { (9 × 35 (Carburettor) / (9 × 34 (Injection)

5 - Meshing distance adjustment washers
6 - Drive pinion rear bearing thrust washer
7 - Washers for the drive pinion bearings pre-load setting thickness : from 3/100 ths to 3 /100 ths of mm and from 6.04 to 7.33 mm
8 - Tightening nut
9 - Pressure release valve
10 - Front oil seal support
11 - Front oil seal
12 - Pinion front bearing
13 - Pinion rear bearing
14 - Spacer
15 - Filler plug
16 - Drain plug
17 - Differential case
18 - Sun gear thrust washer
19 - Sun gear
20 - Planet pinion
21 - Planet pinion thrust washer
22 - Planet shaft
23 - "Mecanindus" pin
24 - Differential bolt
25 - Differential bearing
26 - Differential adjusting shim
27 - Differential bearing thrust plate
28 - Oil seal
29 - Thrust plate "0" ring
30 - Half-shaft or drive shaft

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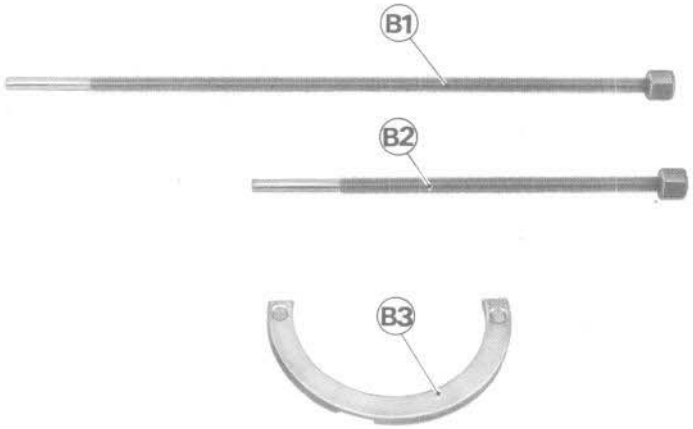
DIFFERENTIAL
REMOVAL - REFITTING



504 SALOONS

TOOLS TO BE USED

8.0521 Z

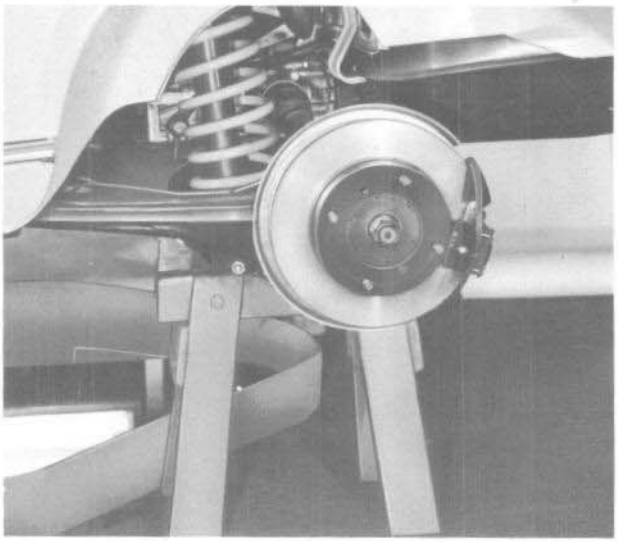
Tool kit for rear hub bearings

B - Hub carrier extractor including :

B1 - Long bolt
B2 - Short bolt
B3 - Thrust plate.

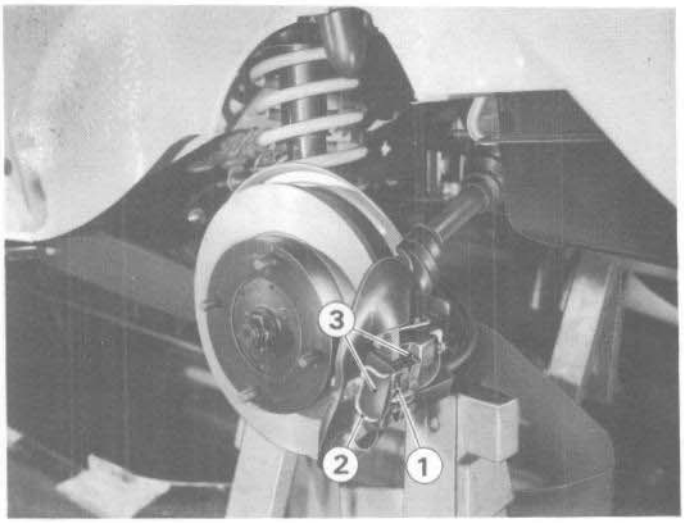
DIFFERENTIAL

REMOVAL

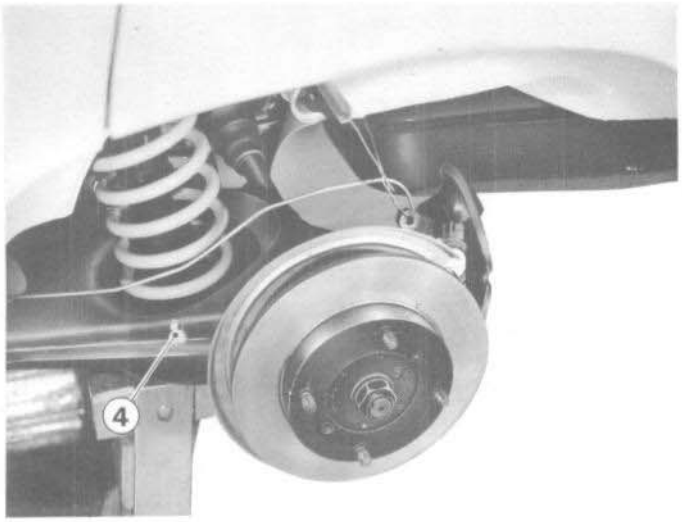


N.B. - To remove the differential, it is necessary to withdraw the L.H. drive shaft, however this operation is also possible after having removed the R.H. drive shaft.

- Place the car either over a pit or on a car lift.
- Raise the rear of the car and support from under the rear arms as indicated opposite.
- Remove the left hand rear wheel.



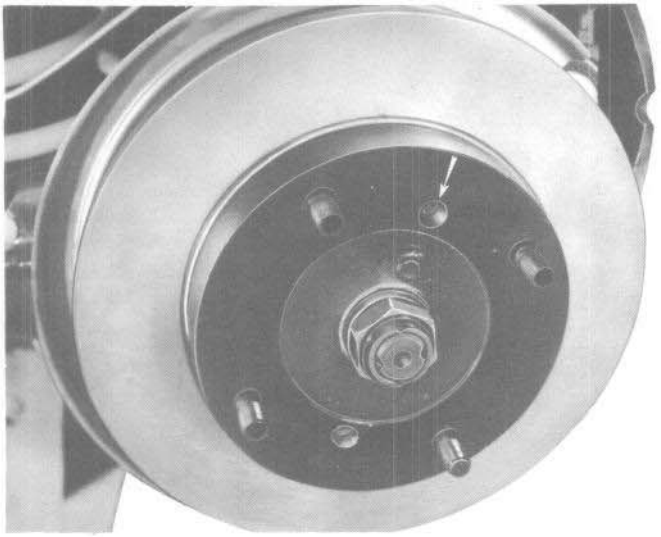
- Remove :
  - the brake pad anti-squeal spring 1
  - the retaining fork 2
  - the brake pads 3



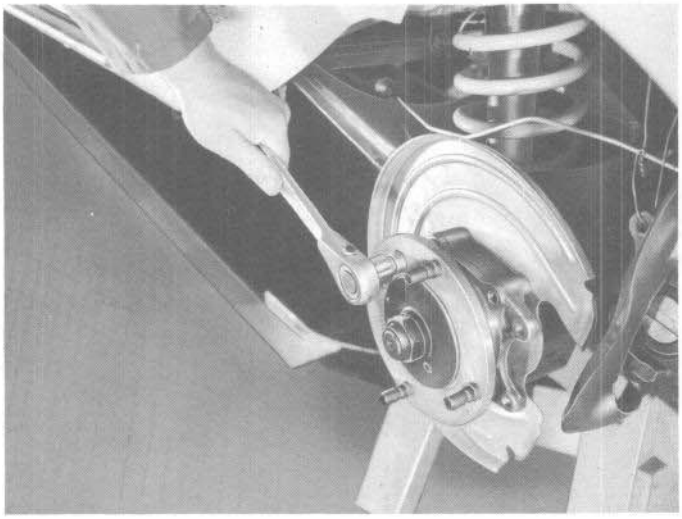
- Open the brake hose retaining clip 4, on the rear arm.
- Remove the brake caliper retaining bolts using an 8 mm Allen socket.
- Withdraw the brake caliper, bending the hose as little as possible and suspend it from the bodywork.

DIFFERENTIAL

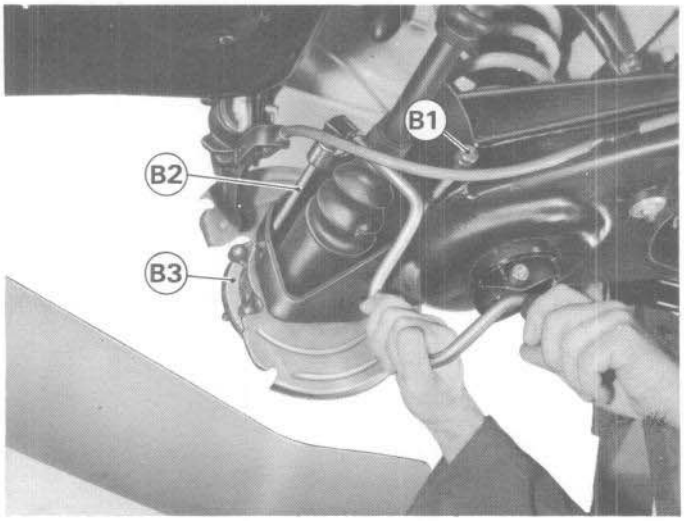
REMOVAL



- Remove the cross head screws securing the brake disc to the hub.
- Mark the position of the screw on the disc.
- Remove the disc.



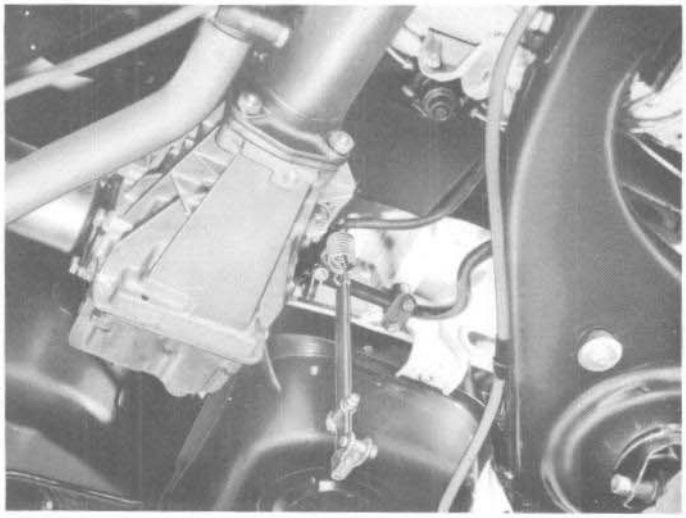
- Remove the 4 Allen screws securing the hub carrier to the rear arm.
- Use a socket spanner inserted in the hole provided in the hub for this purpose.



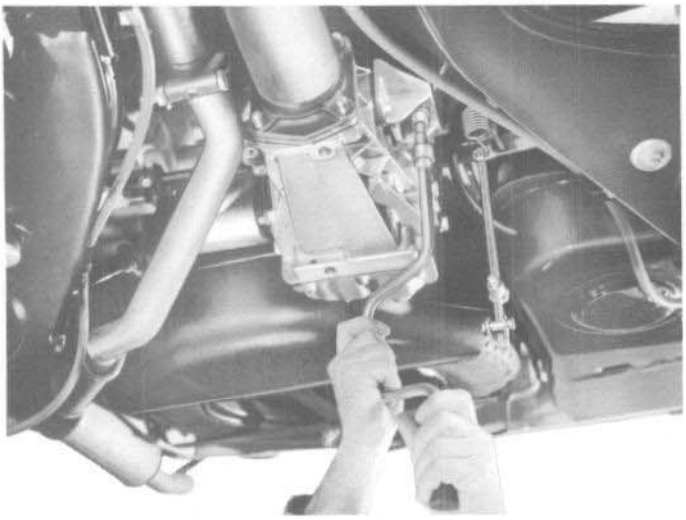
- Withdraw the hub-carrier-drive shaft assembly, using the bolts **B1** and **B2**, of the tool chest **8.0521 Z**, positioned diagonally and the thrust plate **B3** which is placed on the hub.
- Tighten alternately the 2 bolts **B1** and **B2** which come into contact with the plate **B3** removing the carrier from the rear arm.
- Remove the thrust plate and the bolts.

DIFFERENTIAL

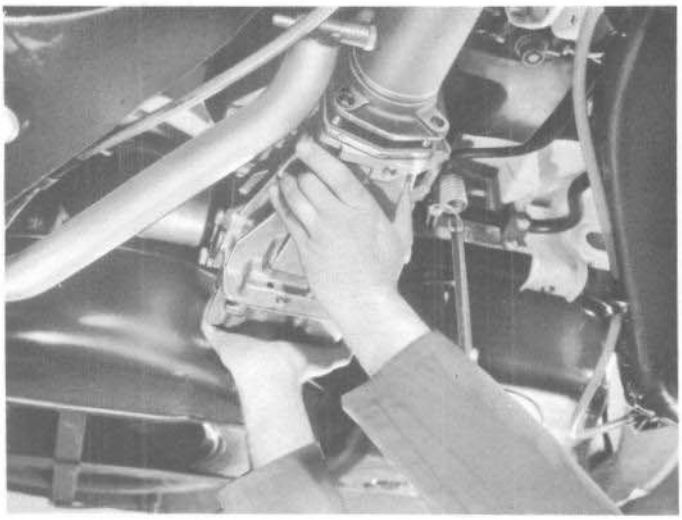
REMOVAL



- Drain the differential housing.
- Remove the brake compensator lever pivot from the bodywork (leave the lever suspended by its spring).



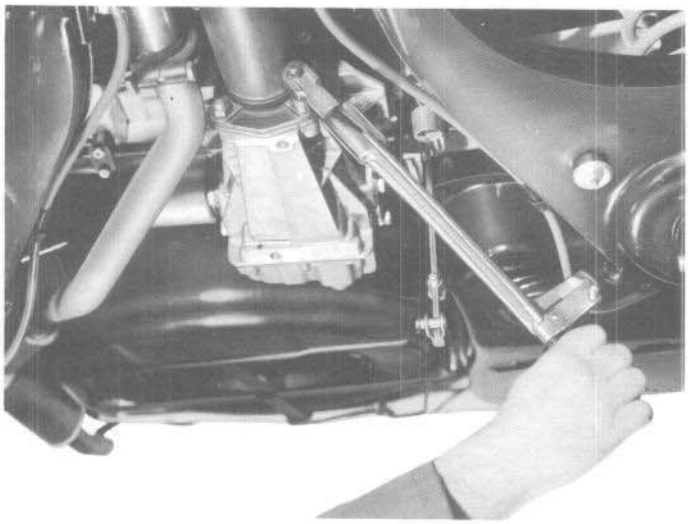
- Remove the 4 nuts securing the connecting tube to the differential housing.
- Remove the 2 Allen screws securing the differential housing to the suspension cross member using the 10 mm Allen socket.



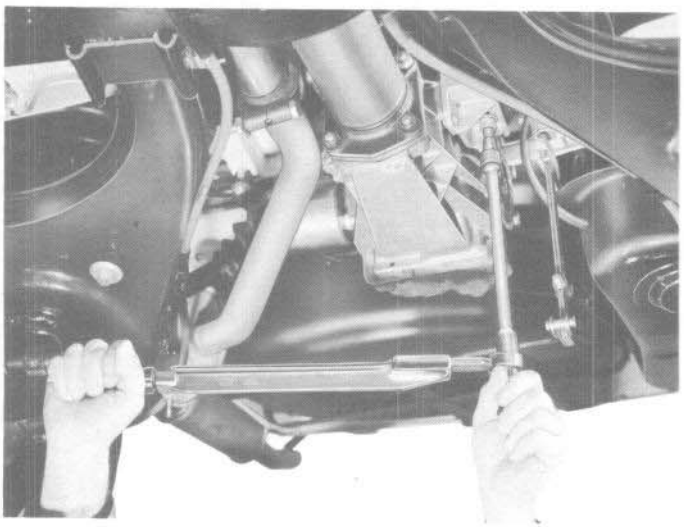
- Disengage the differential housing by pulling it first to the rear and then to the left.
- Recover the spring placed inside the rear end of the propeller shaft.

DIFFERENTIAL

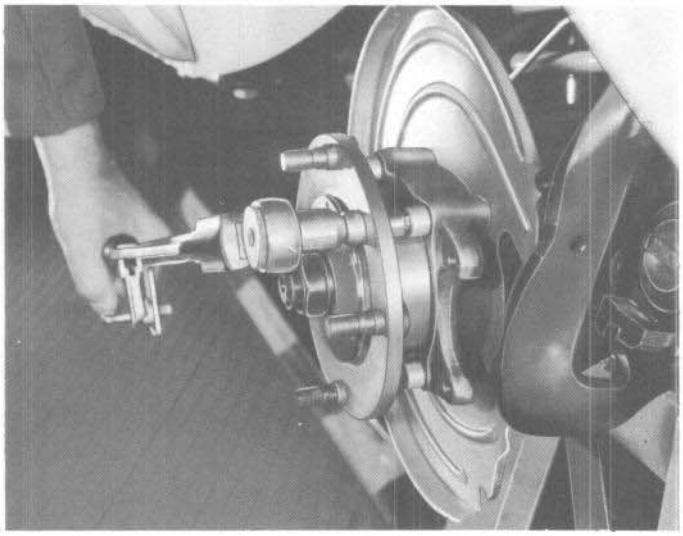
RE-FITTING



- Check the condition of the oil seals mounted in the differential housing.
- Coat with tallow or bearing grease the space between the two lips of each seal.
- Grease the half shaft splines
- Insert the spring into the rear end of the propeller shaft.
- Couple the differential housing, first of all to the right hand half shaft then to the propeller shaft.
- Secure the connecting tube to the differential housing, using new Blocfor washers.
- Tighten the nuts to **43.5 ft.lbs** (6 m.kg).

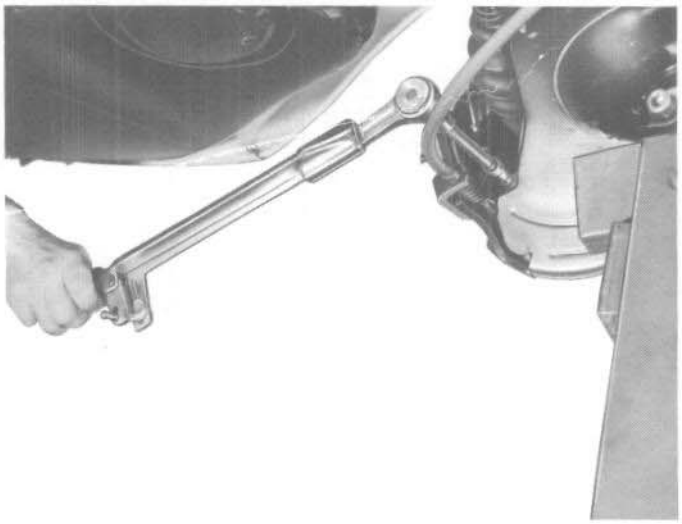


- Secure the differential housing to the suspension cross member using new Onduflex washers
- Tighten the Allen screws to **27.1 ft.lbs.** (3.75 m.kg).

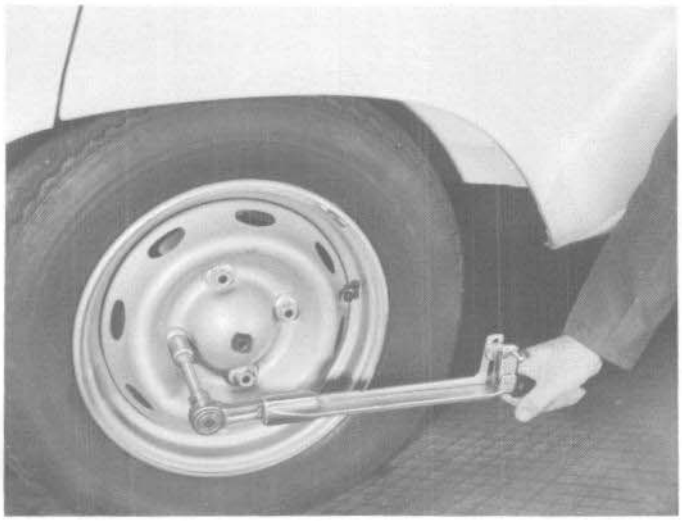


- Mount the hub-knuckle-half shaft in its housing on the rear arm.
- Engage the splined end of the half shaft carefully in the differential housing.
- Secure the knuckle to the rear arm using new Blocfor washers.
- Tighten the Allen screws to **29.0 ft.lbs** (4 m.kg).

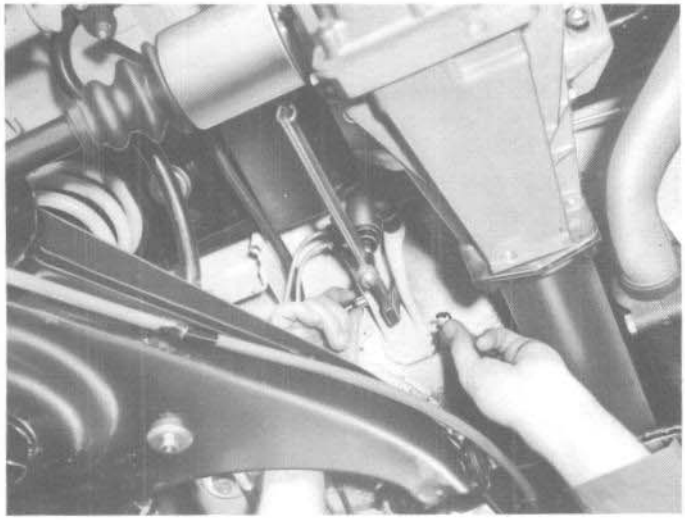
DIFFERENTIAL
RE-FITTING



- Refit :
  - the brake disc, in the position marked during removal.
  - the brake caliper, using new Blocfor washers.
- Tighten the Allen screws to **31.0 ft.lbs** (4.25 m.kg).
- Then fit the brake pads and the retaining fork and tighten the bolt to **13.0 ft.lbs** (1.75 m.kg).
- Reposition the anti-squeal spring (arrow pointing in direction of rotation of the disc).



- Replace the brake hose on the rear arm.
- Refit the wheel.
- Tighten the wheel nuts to **43.5 ft.lbs** (6 m.kg).
- Refit the wheel trim.



- Replace the compensator lever using a new circlip.
- Refill the differential housing with oil (**ESSO GEAR OIL GP 90**).
- Tighten the plugs to **20.0 ft.lbs** (2.75 m.kg).
- Check the assembly for oil tightness after road testing.

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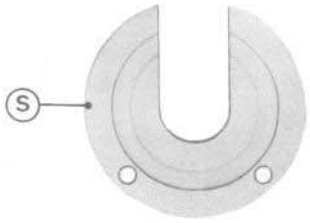
TOOLS TO BE USED

8.0906 Z

Tool chest for front and rear suspension

J - Set of two bent rods for positioning the rear suspension arms on the cross-member.

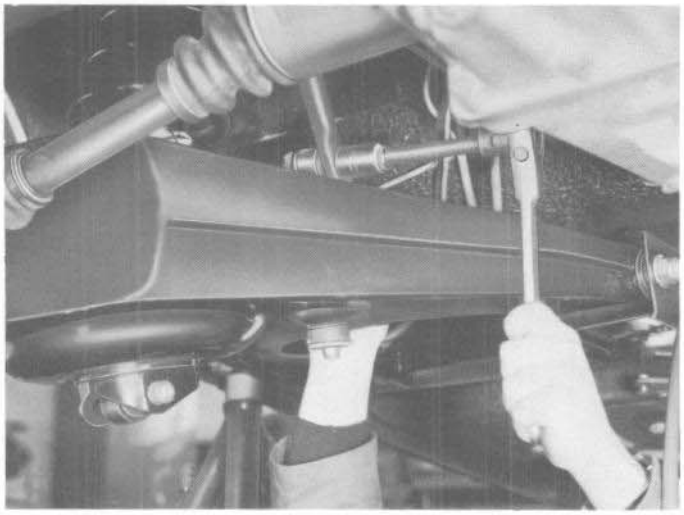


8.0403 S

Propeller shaft retaining plate.

DIFFERENTIAL

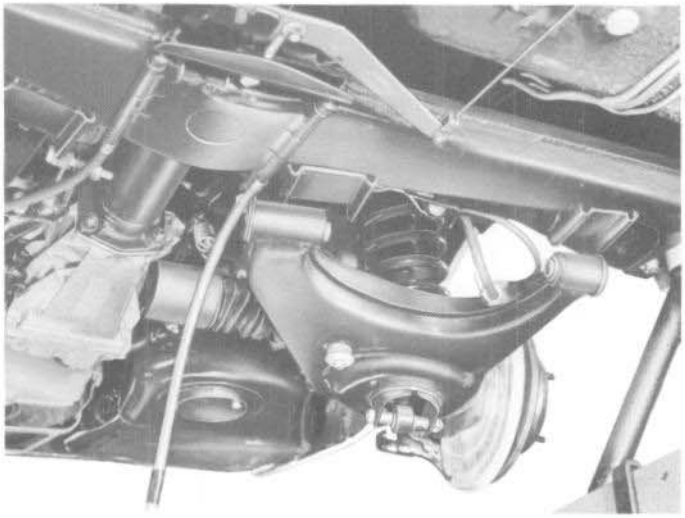
REMOVAL



NOTE :

To remove the differential, one of the drive shafts must be removed.

- Place the car over a pit or on a car lift
- Drain the differential
- Raise the rear of the car and chock under the crossmember
- Remove the rear R.H. or L.H. wheel
- Unhook the handbrake cable from the rear arm and disconnect the cable from the brake
- Remove the antiroll bar link pivot.



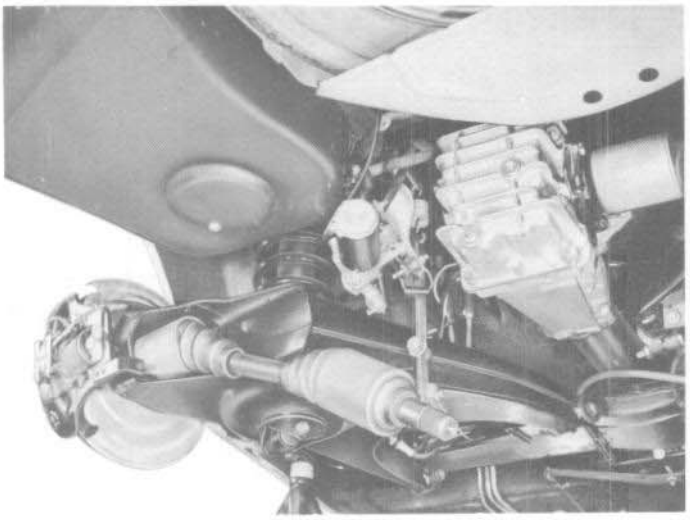
- Remove the suspension arm pivots
- Disengage the arm from the crossmember using a lever
- Pull the arm/drive shaft assembly to disengage the half shaft from the differential
- **Take care not to damage the oil seal with the splined end of the shaft**
- **The shock absorber should remain secured.**

- The half shaft/arm assembly remains suspended while removing and refitting the differential.

DIFFERENTIAL

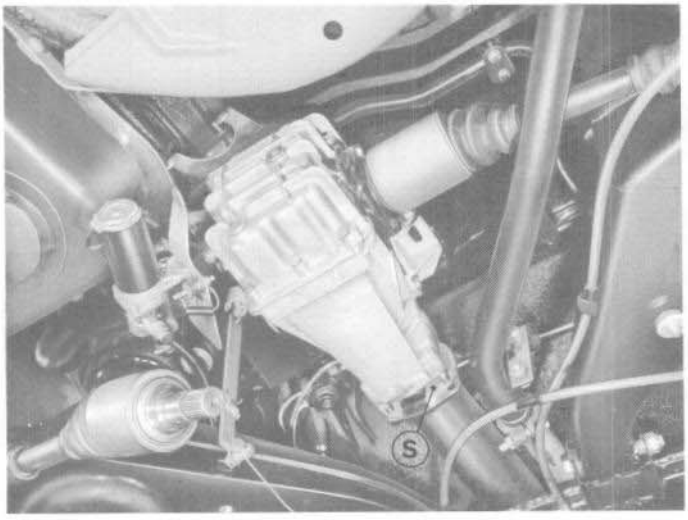
REMOVAL

5 0213



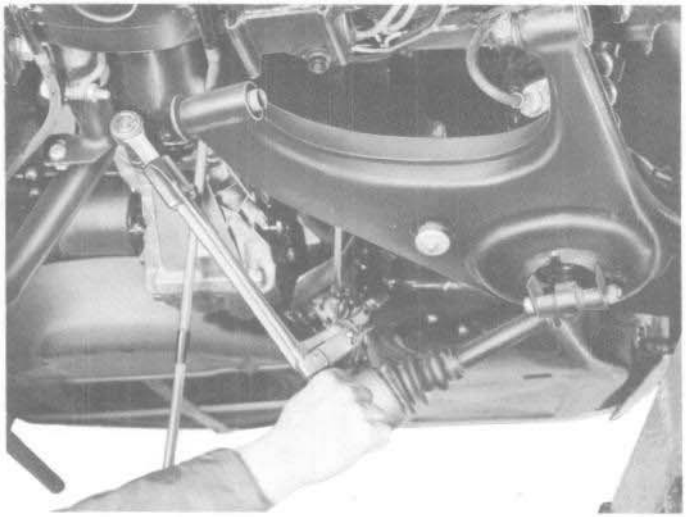
- Remove the brake compensator lever pivot (leave the lever hanging from the spring)
- Remove the electric feed pump without disconnecting it.

- Remove the 4 nuts securing the connecting tube to the differential
- Remove the two Allen screws securing the differential to the crossmember using a 10 mm Allen socket.
- Separate the differential from the connecting tube and withdraw the unit until the studs are approximately 15 mm from the flange.

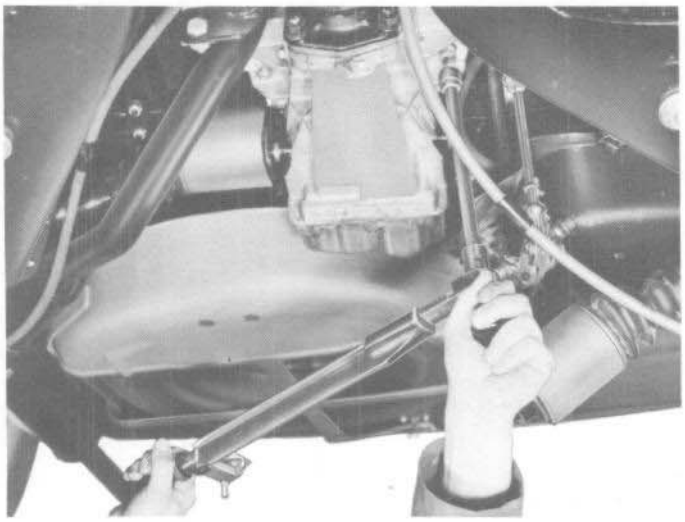


- Insert the propeller shaft retaining plate S between the differential and the tube
- Secure it to the tube using a 10 × 20 bolt screwed into the top left hand hole
- Tighten the bolt
- Withdraw the differential unit.

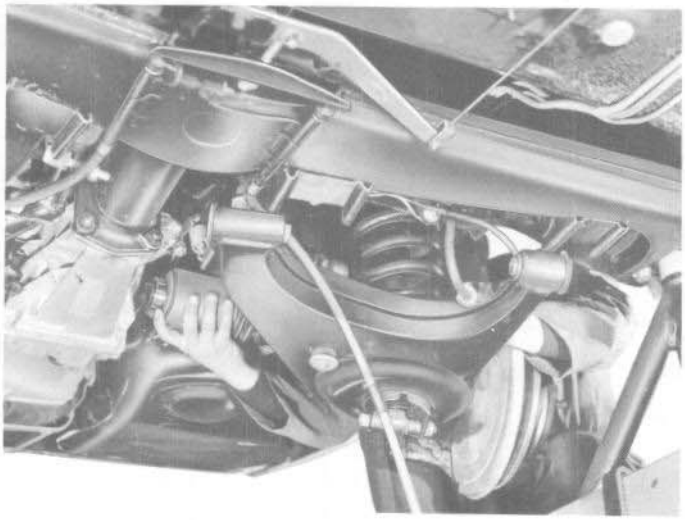
DIFFERENTIAL
REFITTING



- Make sure that the differential oil seals are in perfect condition
- Smear tallow or bearing grease inside the lips of each seal
- Grease the drive shaft splines
- Remove the plate **8.0403 S**
- Make sure that the spring is in place in the rear of the propeller shaft and grease the splines
- Insert the R.H. drive shaft in the differential then the propeller shaft
- Secure the connecting tube to the differential, placing new Blocfor washers under the nuts.
- Tighten to the nuts to 435 ft.lbs (6mkg).

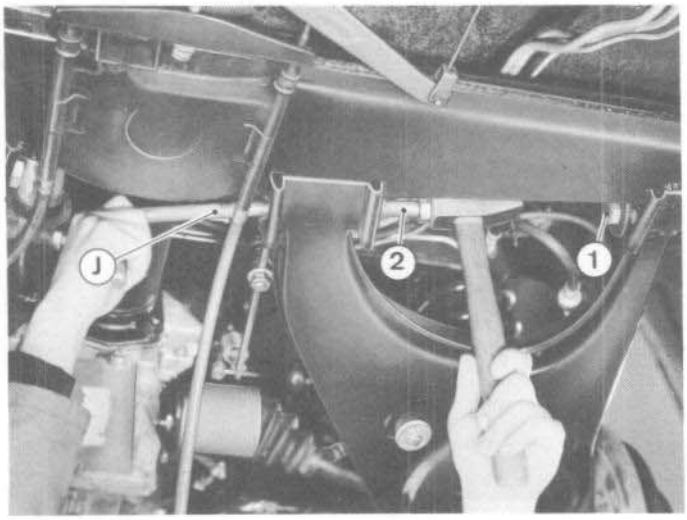


- Secure the differential to the crossmember using new counter plates and Blocfor washers
- Tighten the Allen screws to **27 ft.lbs** (3.75m.kg)
- Position the lips of the counterplates on the edges of the angle supports
- Refit the feed pump
- Refit the brake compensator lever using a new circlip.

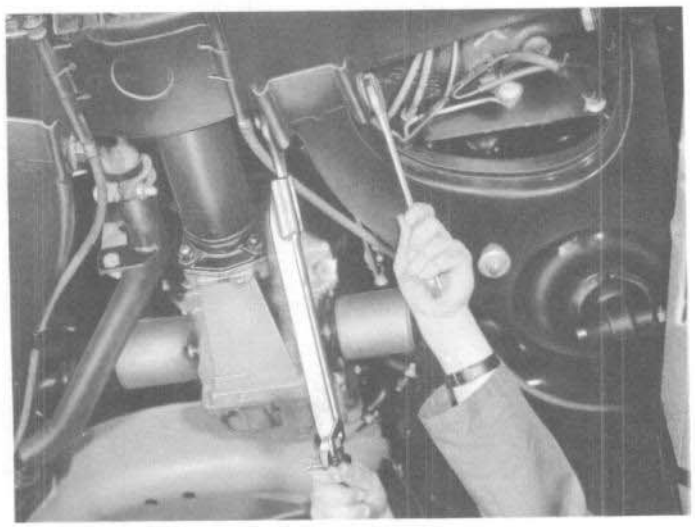


- Pull the drive shaft/arm assembly outwards compressing the sliding joints at the same time
- Engage the splined end of the shaft in the differential housing
- Reposition the arm in the yokes on the cross-member.

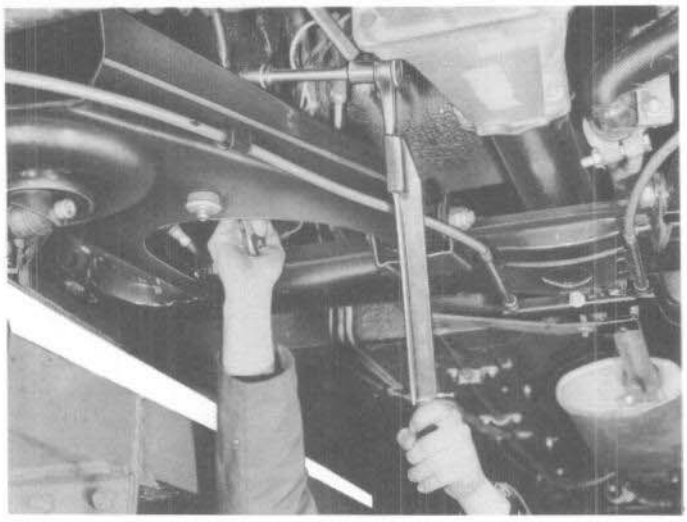
DIFFERENTIAL
REFITTING



- Hold the inner joint using the rod **J** and insert the outer pivot **1**
- Then fit the inner pivot **2** as shown opposite
- Fit the flat washers and the **new** Nylstop nuts without tightening them.



- Connect the antiroll bar to its link. Fit a **new** Nylstop nut without tightening it.
- Refit the wheel and tighten the nuts to **43.5 ft.lbs** (6 m.kg)
- Fit the wheel trim
- Raise the rear of the car and remove the chocks
- Lower the car and have two people sit in the rear seats to position the flexible bushes neutrally
- **Tighten the pivot nuts to 47 ft.lbs (6.5 m.kg)**



- **Tighten the antiroll bar link nut to 33 ft.lbs (4.5 m.kg)**
- Refill the differential with 2.1 pts (1.2 l) of oil **(Esso gear Oil GP 90)**
- Tighten the plugs tc **20 ft.lbs** (2.75 m.kg)
- Check the sealing after road testing the car.

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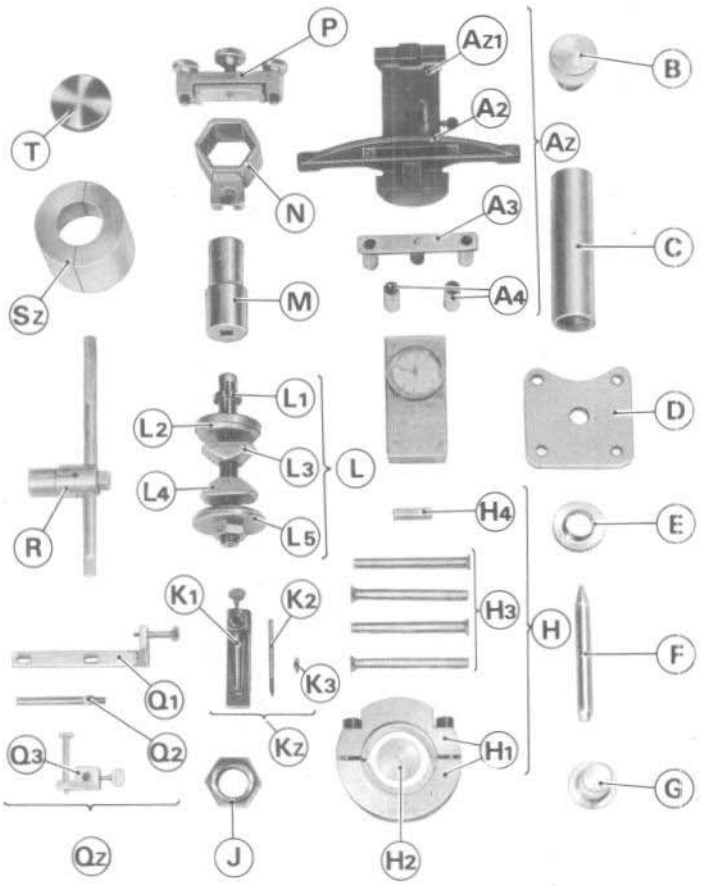

TOOLS TO BE USED

8.0520 Y - Tool chest for adjusting the differential

AZ - Apparatus for measuring the meshing distance, including :
- AZ1 - bridge
- A2 - feeler
- A3 - bridge clamp
- A4 - spacers

B - Differential bearing fitting tool
C - Drive pinion rear bearing fitting tool
D - Support plate
E - Drive pinion oil seal protector sleeve
F - Punch
G - Drive pinion oil seal fitting tool.
H - Differential bearing extractor consisting of
- H1 - Extractor clamps
- H2 - Press pad
- H3 - Extractor support rods
- H4 - Adapto- for tightening clamp screws

J - Measuring nut
KZ - Micrometer consisting of :
- K1 - Dial indicator holder
- K2 - Dial indicator extension rod
- K3 - Long feeler

L - Apparatus for removing and refitting the drive pinion bearing outer races including :
- L1 - bolt
- L2 - thrust plate, front
- L3 - extractor, front
- L4 - extractor, rear
- L5 - thrust plate, rear

M - Drive pinion holding socket
N - Drive pinion nut box spanner
P - Differential bearing thrust clamp
QZ - Dial indicator mounting including :
- Q1 - Dial indicator support
- Q2 - Support rod
- Q3 - Dial indicator holder

R - Backlash measuring tool
SZ - Drive pinion rear bearing extractor clamps
T - Lateral oil seal inserting drift
- Dial indicator.

N.B. - The dial indicator is not delivered with this tool chest, but a space is provided for storing it and it can be ordered separately.

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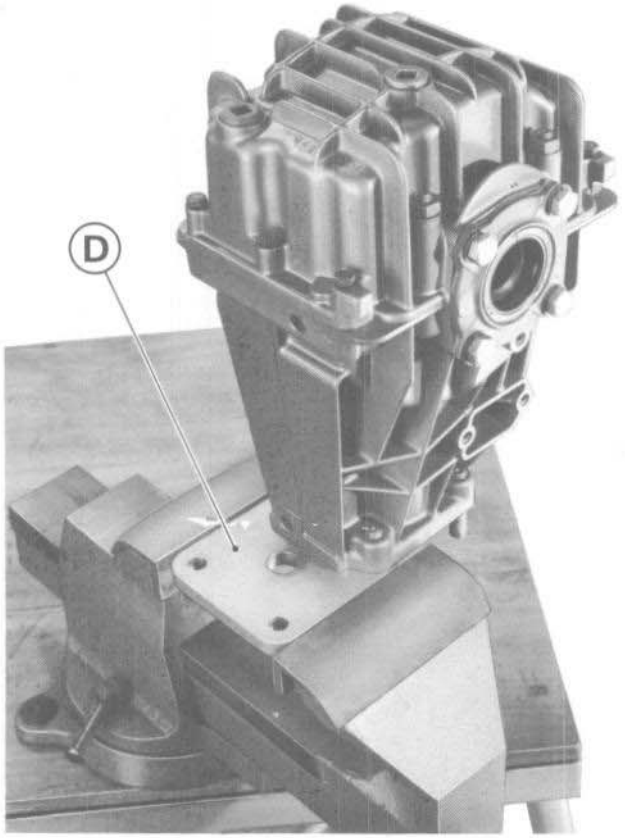
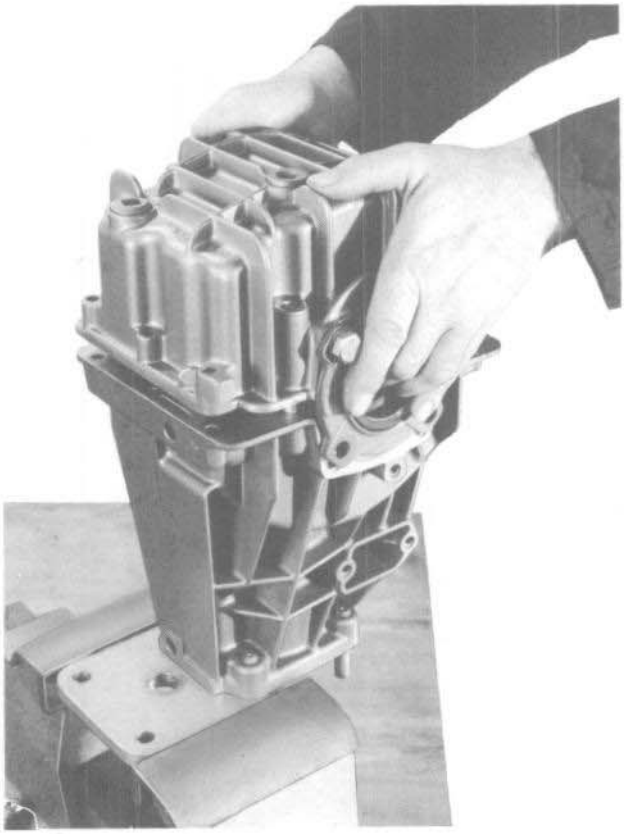
DIFFERENTIAL
DISMANTLING



- Drain rear axle oil
- Clean the housing
- Remove the drive oil seal support plate
- Install support plate **D** on front housing by means of the 2 lower attachments studs of the connecting tube using 2 nuts.
- Clamp assembly vertically in vice fitted with lead jaws.



- Slacken all bolts and assembling nuts of the 2 half housings.
- Remove :
  - the front attachment screws of the differential bearing side plates.
  - the 6 assembling screws of the half housings.
  - the 4 nuts of the rear housing.
- Remove the rear housing differential assembly and place same, reverse side up, on the work bench. (Should the need arise, use a mallet to separate both half housings).

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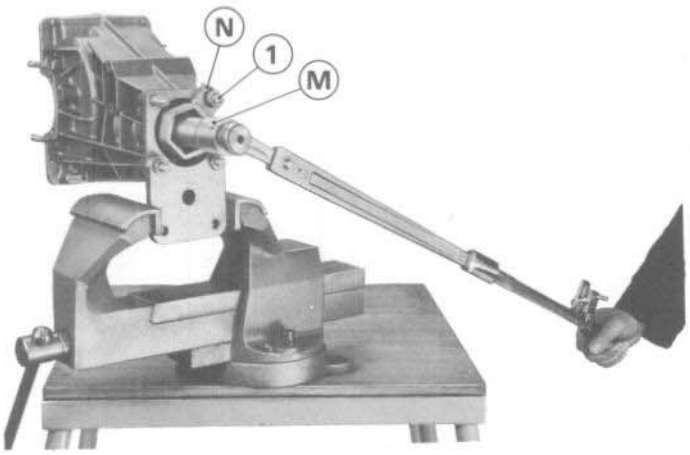
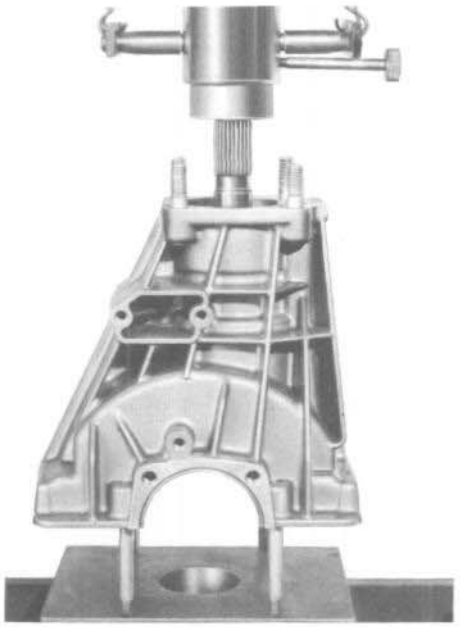
DIFFERENTIAL

DISMANTLING



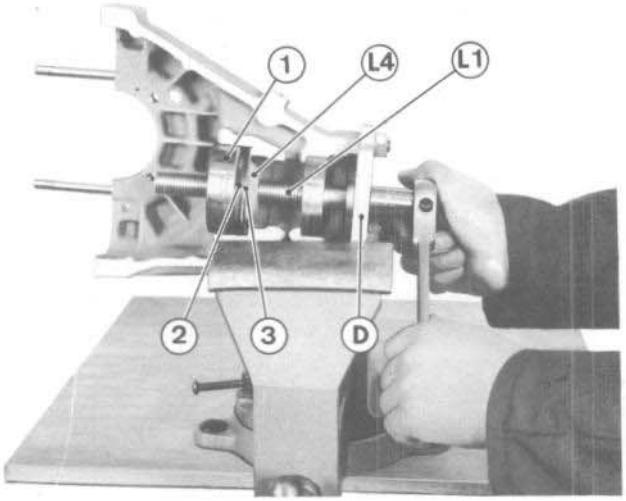
- Clamp front housing horizontally in vice.
- Install pinion nut box spanner **N** on drive pinion nut and secure to stud **1** by means of a nut.
- Using drive pinion holding socket **M**, slacken nut. (Turn wrench clockwise).

N.B. - There is no need to unlock the nut.

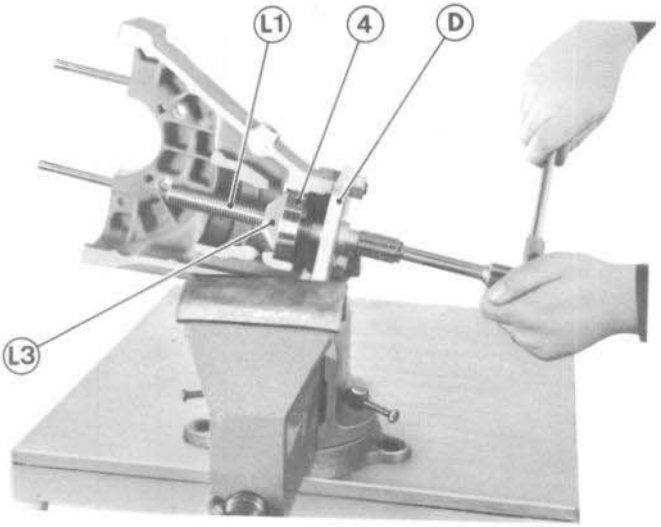


- Remove :
  - drive pinion holding socket **M** and pinion nut box spanner **N.**
  - drive pinion nut.
  - support plate **D.**
- Drive the drive pinion out through the interior of the housing using a press if necessary. **(Do not hammer)**
- Recover :
  - the front bearing **1**
  - the adjusting spacer **2**
  - long spacer **3**
  - drive pinion and rear bearing **4.**

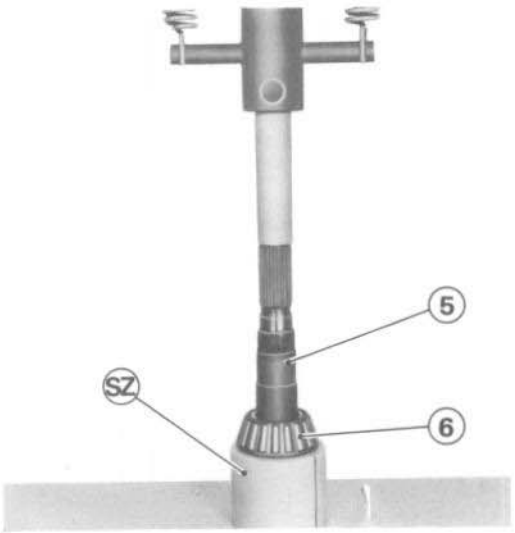
DIFFERENTIAL
DISMANTLING



- Remove drive pinion bearing outer race 1 using:
  - Bolt **L1**
  - Extractor **L4**
  - Support plate **D**
- Turn bolt anti-clockwise
- Recover :
  - adjustment shims 2
  - thrust washer 3



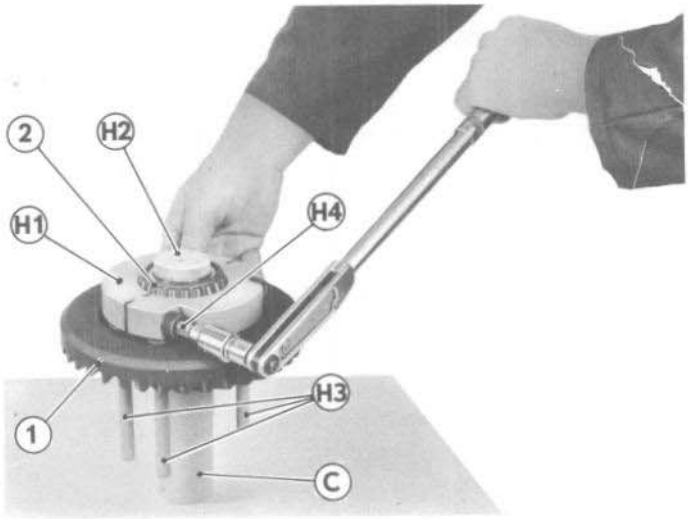
- Remove drive pinion front bearing outer race 4 using :
  - Bolt **L1**
  - Extractor **L3**
  - Support plate **D**
- Turn bolt clockwise



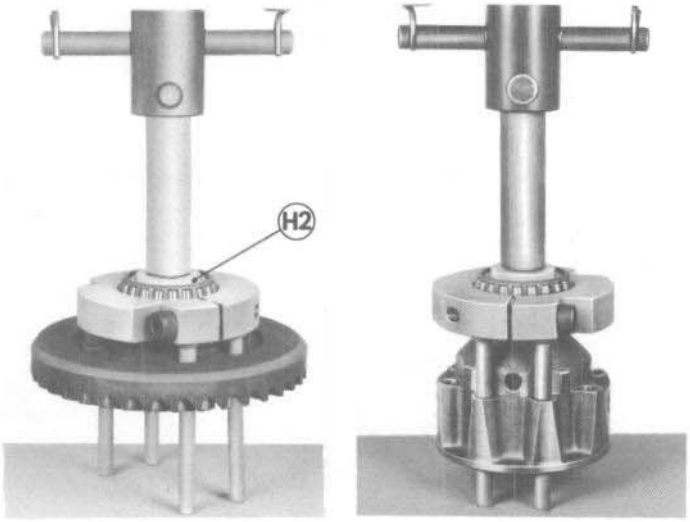
- Remove rear bearing **6** of drive pinion **5** using :
  - two half clamps **SZ**
  - a press

DIFFERENTIAL

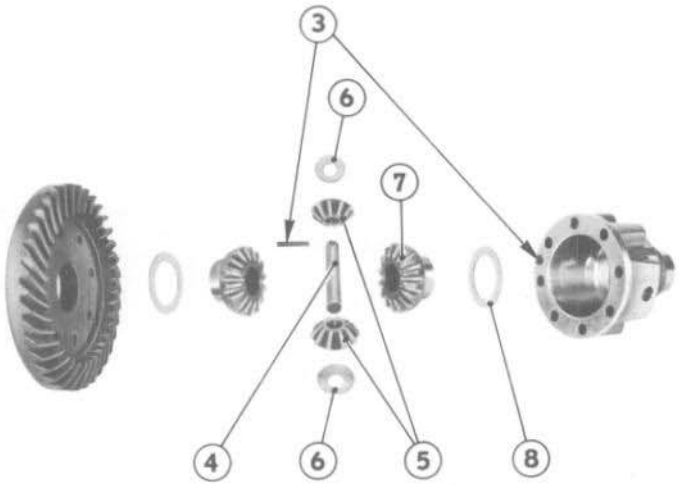
DISMANTLING



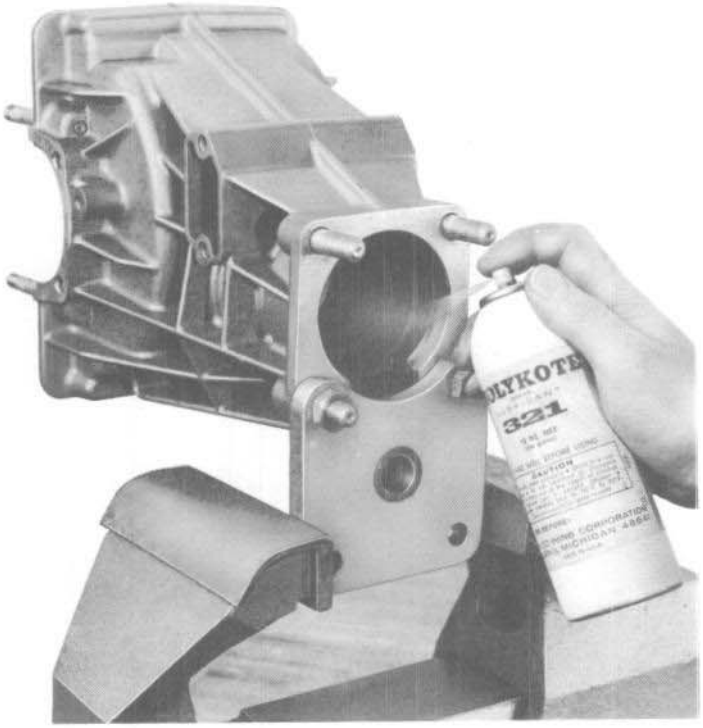
- Remove the 8 assembling bolts of the differential.
- Remove the differential from the crown wheel 1.
- Recover the left hand side sun gear and its thrust washer.
- Place crown wheel on tool **C.**
- Insert the 4 extractor clamp support rods **H3** into four diametrally opposed holes of the crown wheel.
- Fit the extractor clamps **H1** around the bearing **2.**
- Tighten the "Allen" screws to **14.5 ft.lbs** (2 m.kg) using adaptor **H4.**



- Place press pad **H2** on the crown wheel in the centre of the bearing.
- Using a press, remove the crown wheel.
- Use the same procedure to remove right hand side bearing of the differential case.



- Remove planet shaft lock pin **3** using a drift of 5 mm.
- Then remove :
  - planet gear shaft **4**
  - planet gears **5**
  - spherical washers **6**
  - sun gear right hand side **7**
  - thrust washer **8**



PREPARATION

- Clean and blow dry all parts of the rear axle assembly mechanism.

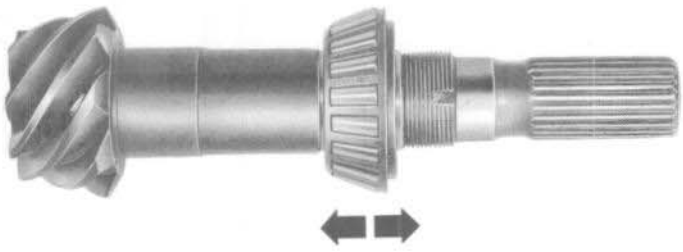
UNDER NO CIRCUMSTANCES SHOULD EMERY CLOTH OR SHARP TOOLS BE USED TO CLEAN THE HOUSINGS.

- Spray Molykote 321 into the housings of the drive pinion bearings.

- **Do not heat the housing.**

Every time the gear set (crown wheel and drive pinion) is replaced it is mandatory that the following parts are also renewed.

- differential bearings
- drive pinion bearings
- "Onduflex" washers
- drive pinion nut
- differential assembling bolts
- drive pinion oil seal
- O rings and oil seals of the differential bearing thrust plates.



- Ensure that the front bearing slides freely onto the drive pinion shaft.

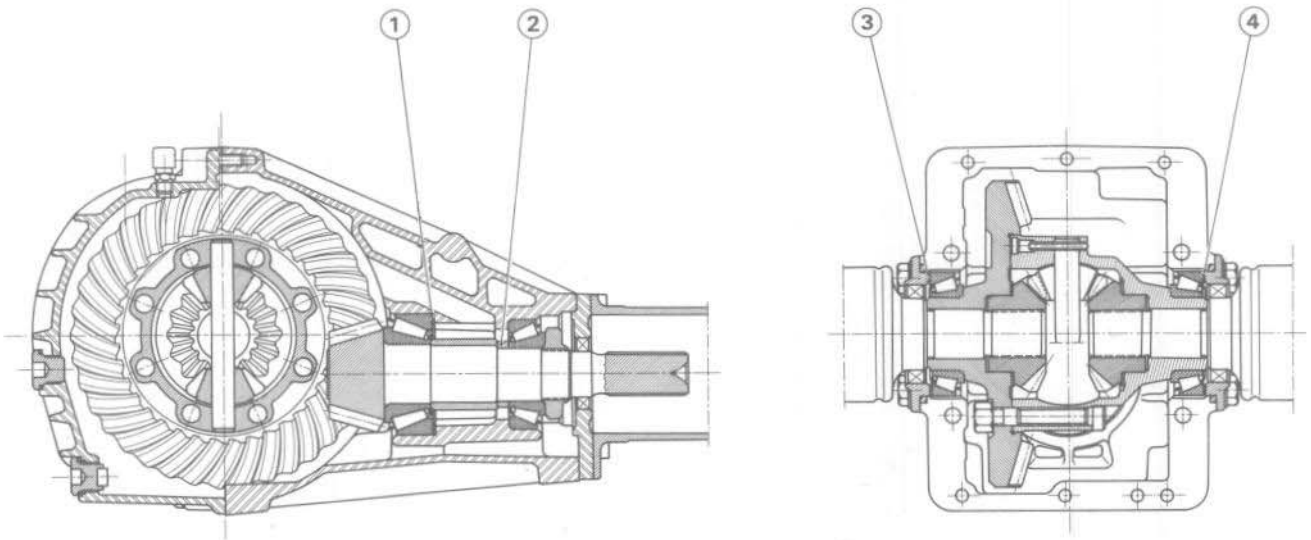
- If difficulty is experienced in fitting the bearing onto the drive pinion, polish the shaft bearing surface using a fine abrasive, until the bearing just slides as a free fit onto the shaft.

- Smooth the front end of pinion shaft with a fine stone to remove any burrs.

The front end of the pinion shaft will serve as contact point during the various adjustments to be carried out.

DIFFERENTIAL
RE-ASSEMBLY - ADJUSTMENT

DIFFERENT ADJUSTMENTS TO BE CARRIED OUT



1 - Meshing distance adjustment
2 - Drive pinion bearings pre-load adjustment
3 - Backlash adjustment
4 - Differential bearings pre-load adjustment

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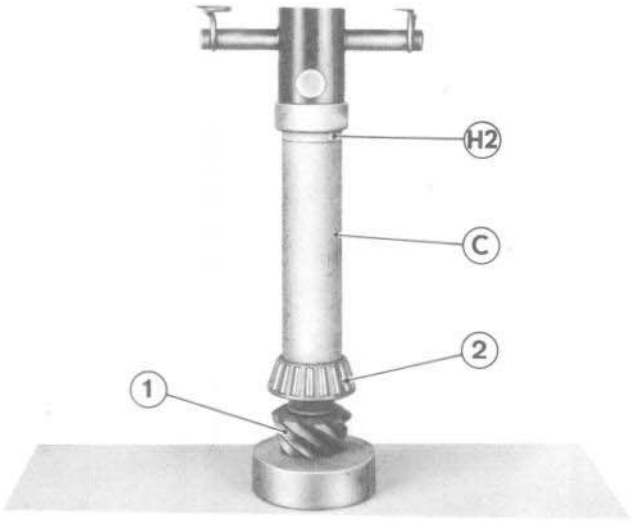
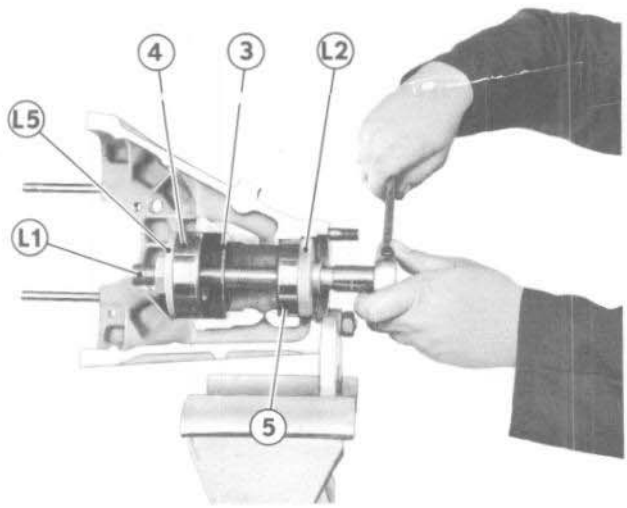
DIFFERENTIAL

RE-ASSEMBLY - ADJUSTMENT



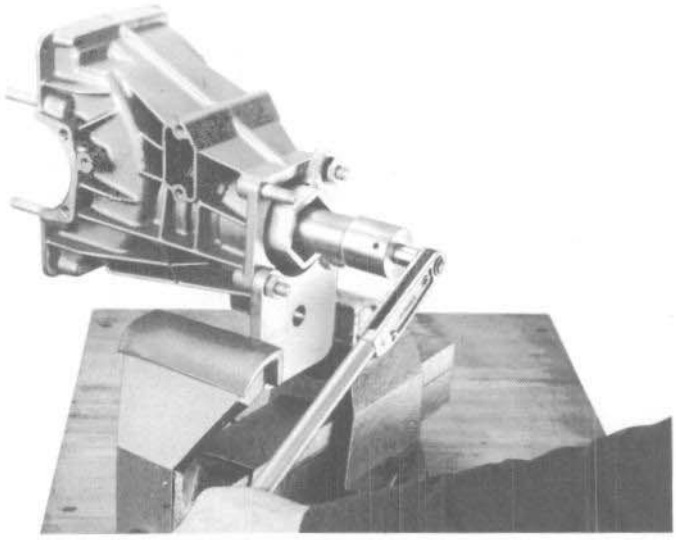
Mounting of the rear bearing on the pinion

- Assemble the following parts on the press bench as follows :
  - a lead base
  - drive pinion **1**
  - Rear bearing **2**
  - drive pinion bearing fitting tool **C**
  - end pad **H2**
- Using the press, drive bearing down until it abuts.



- Hold rear axle housing in the vice
- Install thrust washer **3** in the housing.
- Install the outer bearing races **4** and **5** back to back into the housing using the bolt **L1**, thrust plate **L2** and the nut **L5.**
- Tighten and apply firmly the prescribed torque.

  Tightening torque 101 ft.lbs (14 m.kg)
- Oil the bearings with ESSO EXTRA MOTOR OIL 20 W 30/40 with the exclusion of any other lubricant.



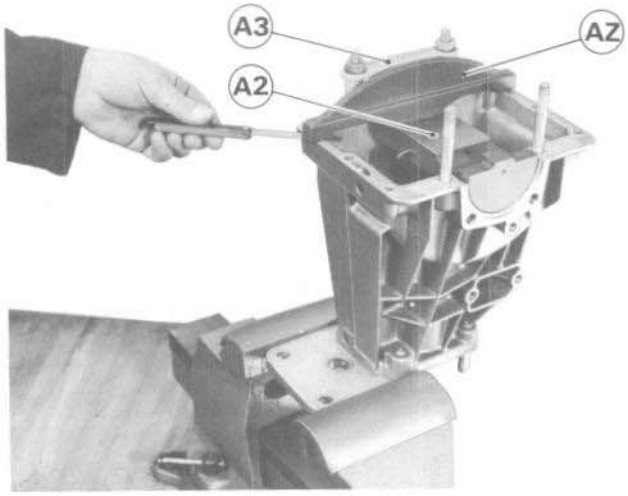
ADJUSTMENT OF THE DRIVE PINION

- MESHING DISTANCE
- BEARINGS PRE-LOAD
- Install drive pinion fitted with the following into the housing :
  - Rear bearing
  - Long spacer
  - Front bearing (hand fitting)
  - Nut **J**

  Tightening torque 7.2 ft.lbs (1 m.kg)
- Rotate drive pinion ten turns in both directions of rotation.
- Repeat operation until nut **J** can no longer be tightened under **7.2 ft.lbs** (1 m.kg).

DIFFERENTIAL

RE-ASSEMBLY - ADJUSTMENT

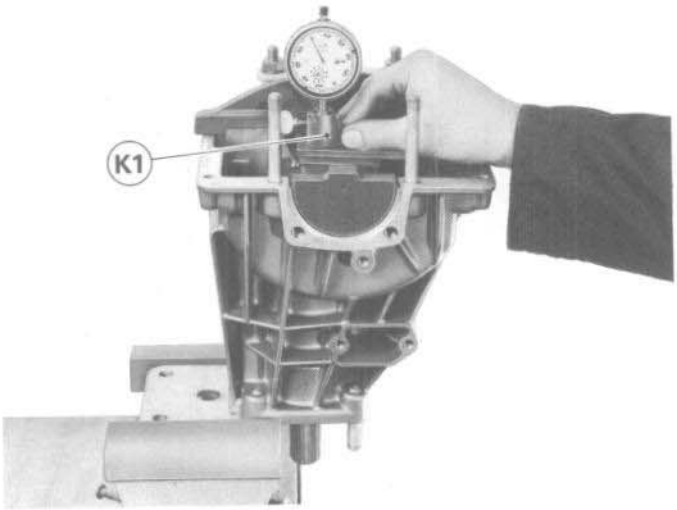


- Install apparatus **AZ** for measuring meshing distance into the housing and hold the same in position by means of bridge clamp **A3**, and two nuts.

  Tightening torque 7.2 ft.lbs (1 m.kg)

- Equalize play between bridge pads and housing face on both sides using feeler gauges.

- Free feeler **A2** and ensure that it is in contact with the rear face of the drive pinion.

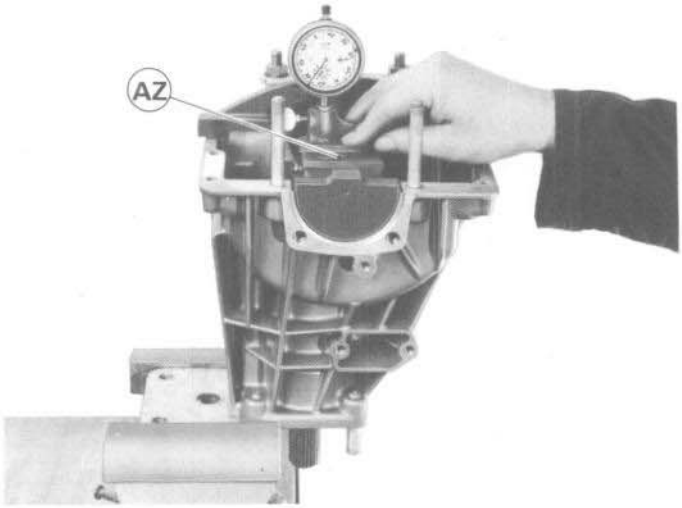


- Place dial indicator in holder **K1.**

- Position the latter so as dial indicator feeler guide rests on upper surface of feeler **A2.**

- Adjust height of dial indicator in the holder so that the small hand is set to "3" for example.

- Turn dial face to bring "0" in front of the big hand.



- Slide support **K1** to bring dial indicator feeler into contact with the machined surface of the apparatus **AZ.**

- The displacement as shown by dial indicator hands indicates the depth of feeler **A2.** Write down the value obtained.

DIFFERENTIAL
RE-ASSEMBLY - ADJUSTMENT

Two reference marks are to be found on the drive pinion rear face.

The first one indicates the MESHING DISTANCE **1** and comprises :

a number from 0 to 20 and, up to 10, this number can bear the sign - (minus).

The other reference number to be found on the pinion is for the MESH SET **2.**

this number is preceded by a letter and the same reference mark also appears on the crown wheel.

ADJUSTMENT TABLE WITH TOOL 8.0520 AZ

Reference marked on pinion	Corresponding guide N°
- 10	20
- 9	21
- 8	22
- 7	23
- 6	24
- 5	25
- 4	**26**
- 3	27
- 2	28
- 1	29
0	30
1	31
2	32
3	33
4	34
5	35
6	36
7	37
8	38
9	39
10	40
11	41
12	42
13	43
14	44
15	45
16	46
17	47
18	48
19	49
20	50

- Write down reference marked on drive pinion.
- Refer to table opposite to find the corresponding guide number.
- Compare dial indicator reading with guide number.
- The difference represents, in hundredths of a millimetre, brought to the nearest figure of 0.05, the thickness of the shim to be installed between the rear bearing outer race and the thrust washer (1st adjustment).

ex :

- Dial indicator figure obtained **67** — 67
- Reference mark on pinion **- 4** : corresponding guide number **26** — 26

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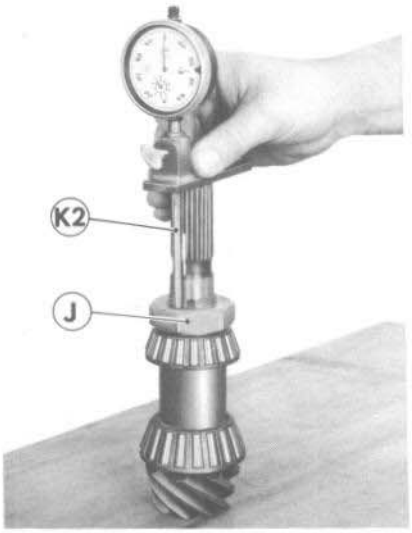
In this instance the thickness of the shim to be fitted is **0.40 mm.**

- Remove device **AZ** and pinion.

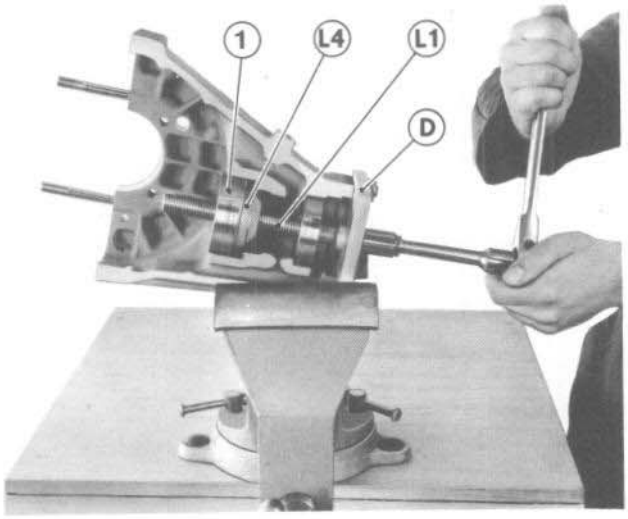
DIFFERENTIAL
RE-ASSEMBLY - ADJUSTMENT

- Place drive pinion vertically on the work bench
- Draw a coloured mark on all the length of one spline of the drive pinion.
- Install the following on drive pinion :
  - the long spacer
  - the front bearing, fitted backwards
  - nut **J**

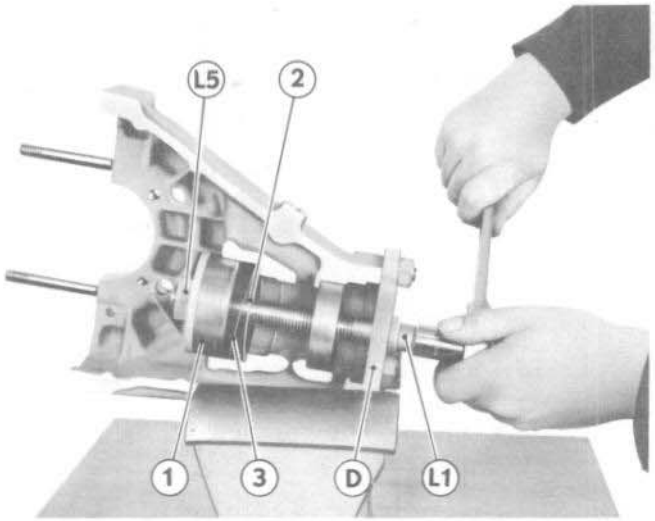
  Tightening torque 203 ft.lbs (28 m.kg)



- Screw dial indicator feeler end onto extension **K2**, which in turn should be secured to dial indicator.
- Place dial indicator **K1** on front face of drive pinion **and make sure that extension tool K2 faces the marked spline** and that extension rests on the machined surface of nut **J.**
- Move dial indicator into its support to bring small hand to 1 and big hand to 0, for example.
- Remove micrometer and to avoid change of reading keep micrometer in a safe place.



- Remove rear bearing outer race, using :
  - bolt **L1,**
  - Extractor **L4,**
  - Support plate **D.**

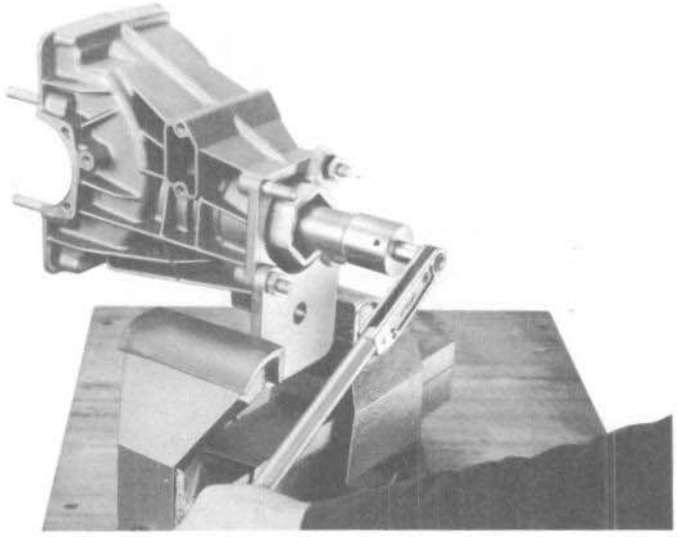


- Install the following in bottom of bearing housing :
  - Thrust washer **2**
  - Adjustment shims **3** previously selected (1 st adjustment, page 03 11).

- Re-install the outer bearing race **1** using :
  - bolt **L1**
  - thrust plate **L5,**
  - support plate **D**

- Apply final torque firmly.

  Tightening torque 101 ft.lbs (14 m.kg).



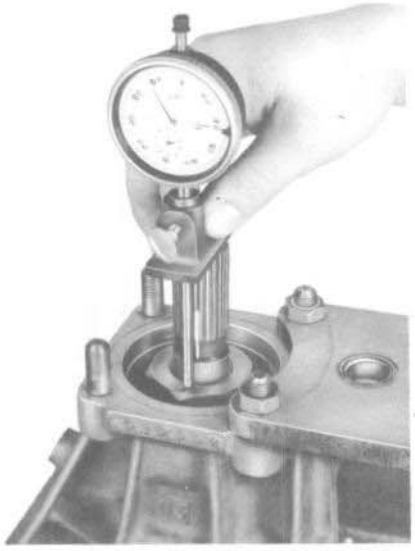
- Remove nut **J** and the front bearing.

- Re-install drive pinion in the housing, with :
  - long spacer,
  - front bearing,
  - nut **J**

  Tightening torque 7.2 ft.lbs (1 m.kg)

- Rotate drive pinion 10 turns anti-clockwise.

- Repeat above operation several times until nut can no longer be tightened **under 7.2 ft.lbs** (1 m.kg).



- With the same spline **(coloured mark)** as **reference** mark take another reading between end of shaft and nut **J** using the micrometer previously set to 1 and 0 (class 5 page 03 12).

- Note the reading on the dial indicator.

- Find the difference between both figures.

- Substract 0.06 mm.

- The number thus obtained corresponds to the thickness of the shim to be installed between the front bearing and the long spacer (2nd adjustment).

DIFFERENTIAL

RE-ASSEMBLY - ADJUSTMENT

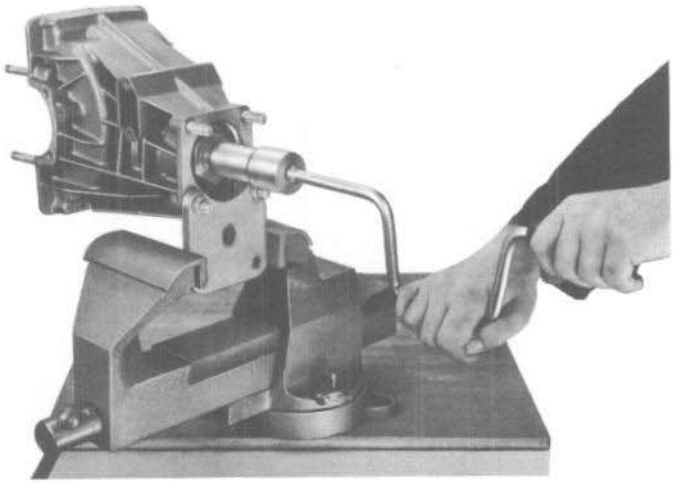
Thickness			
6.04	6.37	6.70	7.03
6.07	6.40	6.73	7.06
6.10	6.43	6.76	7.09
6.13	6.46	6.79	7.12
6.16	6.49	6.82	7.15
6.19	6.52	6.85	7.18
6.22	6.55	6.88	7.21
6.25	6.58	6.91	7.24
6.28	6.61	6.94	7.27
6.31	6.64	6.97	7.30
6.34	6.67	7.00	7.33

- Take from the shims available (from 0.03 to 0.03 mm increments), the one of which the thickness is nearest to the thickness obtained by the measurements.

Ex : Measurement taken outside the housing : 1.0
Measurement taken inside the housing : 7.86
Difference : 6.86
- 0.06
Thickness of shim 6.80

- The shim to be installed in this instance must have a thickness of 6.80 mm

- As a shim of this thickness is not available use the 6.79 one.



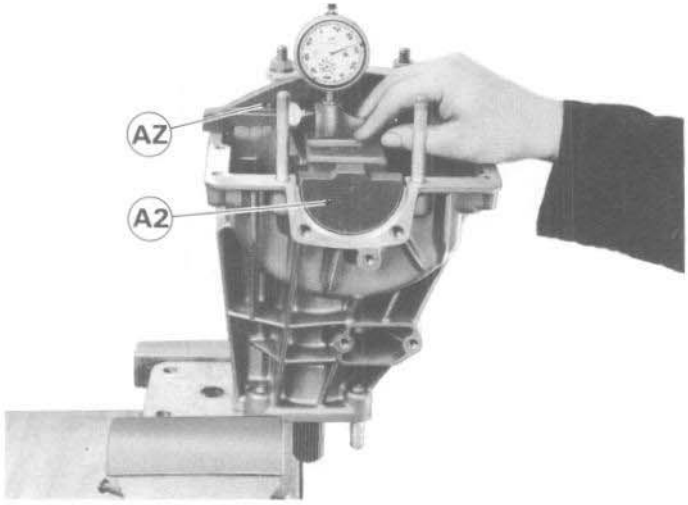
- Install pinion into the housing (final installating), using :

- the long spacer,
- the adjustment spacer previously determined
- a new nut.

Tightening torque 203 ft.lbs (28 m.kg)

- Using a hand crank turn pinion fast to ensure proper settlement of bearings.

(From now on it is difficult to turn the pinion by hand).



CHECK :

- Place rear axle vertically in vice.

- Install apparatus **AZ** as indicated (class 5 page 03 10).

- Using micrometer as indicated (class 5 page 03 10) measure the travel of feeler **A2**. This travel should correspond to the guide number :

Tolerance $^{+\ 0.05}_{-\ 0.03}$ mm

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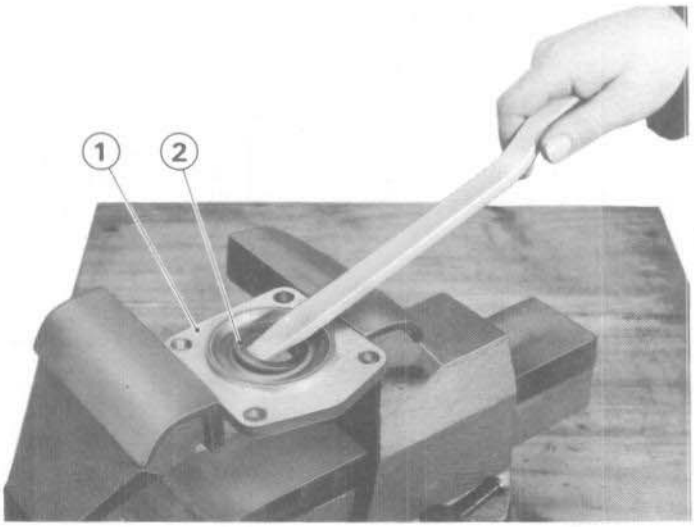
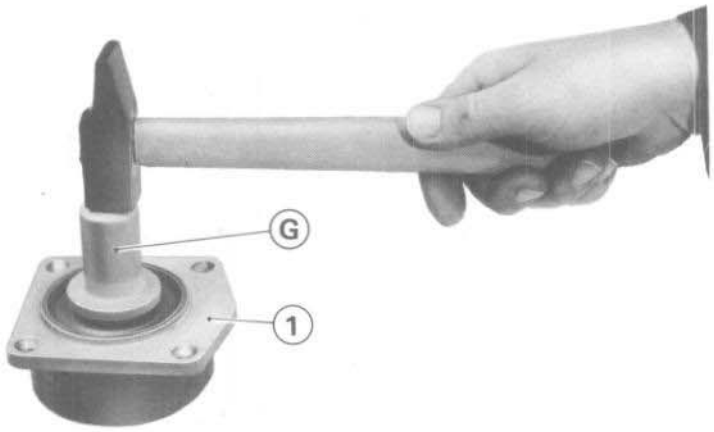
DIFFERENTIAL

RE-ASSEMBLY - ADJUSTMENT



- Remove the apparatus **AZ.**
- Lock the pinion nut, using the punch **F,** in the 4 notches provided.
- Remove the support plate **D.**
- Clean thoroughly, the front oil seal housing **1.**
- Remove the oil seal **2,** using a tyre lever, taking care not to damage the inset deflector.
- Ensure that its insertion is perfect. If it is not, rectify this with 3 punch marks set 120° apart.

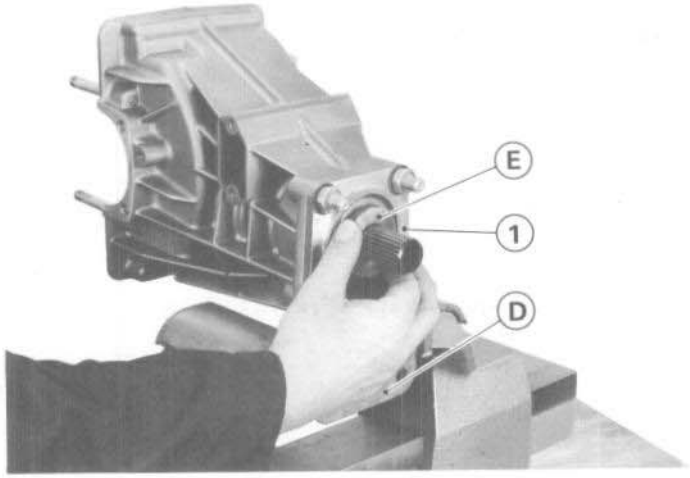


- Any deterioration of the deflector necessitates the replacement of the complete oil seal housing.

Fitting a new seal :

- Fit a new oil seal in the housing using tool **G.**
- Tap the tool until it abuts on the housing **1.**

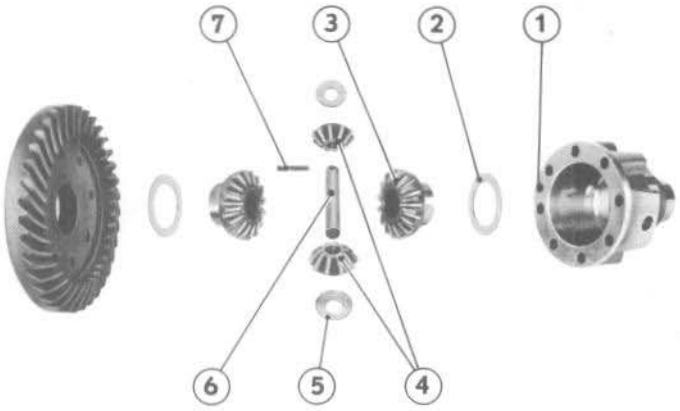
N.B. Dip the oil seal in engine oil before refitting the support.



- Place the protector sleeve **E** in the bore of the oil seal **2.**
- Coat the front face of the differential housing with Perfect Seal.
- Fit the oil seal housing **1.**
- Refit the support plate **D,** in its previously occupied position.
- Tighten the 4 nuts, together with new Onduflex washers to **7.2 ft.lbs** (1 m.kg)
- Remove the protector sleeve **E** whilst turning it carefully.

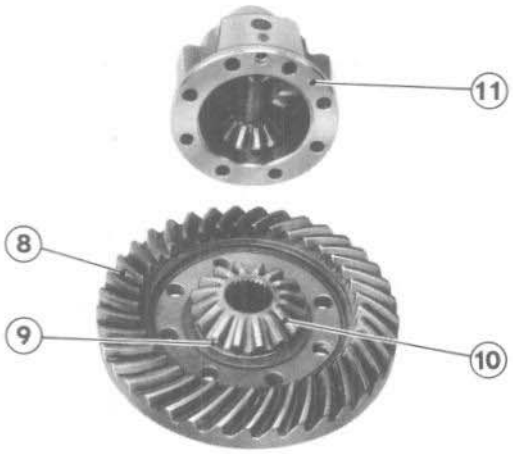
DIFFERENTIAL

RE-ASSEMBLY - ADJUSTMENT



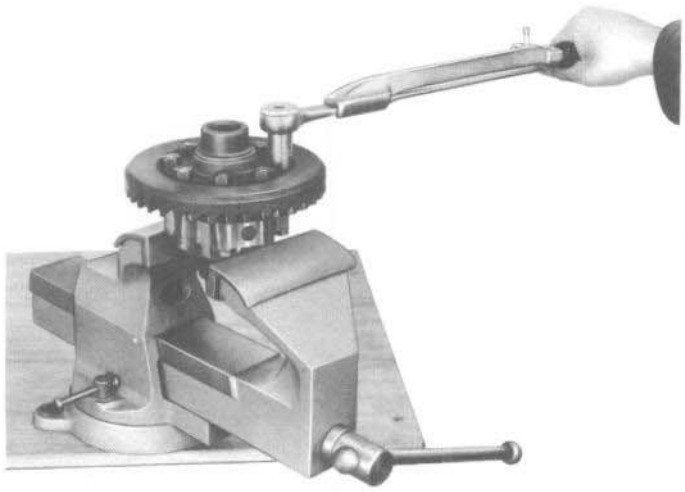
DIFFERENTIAL ASSEMBLY

- Apply oil on all parts before installation.
- Install in the differential planetary gear housing **1** a new dimpled washer **2**.
  The dimples should be directed towards the sun gear 3.
- Install right hand side sun gear **3**.
- Install :
  - planet gears **4** with their spherical dimpled washers **5**.
  - planet gear shaft **6** with pin holes aligned.
  - fit a new Mecanindus pin **7** flush with surface of differential gear housing.



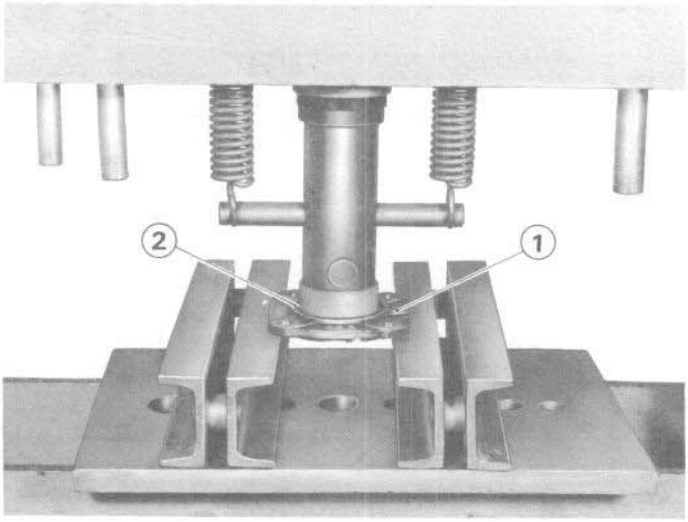
- Lay crown wheel **8** flat on the work bench.
- Install in the following order :
  - the dimpled washer **9**,
  - the sun gear **10** and the differential planerary gear housing assembled **11**.
  - the 8 assembling bolts,
  - install the nuts and hand tighten same.

N.B. - Do not use washers



- Clamp differential gear assembly in a vice fitted with lead jaws.
- Cross tighten all 8 nuts.

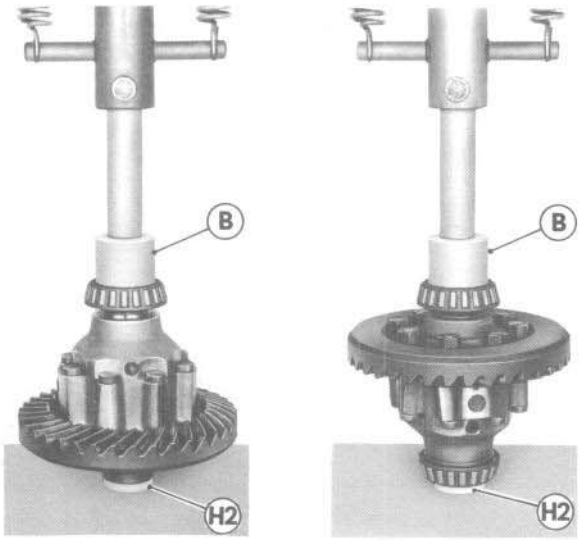
Tightening torque 51 ft.lbs (7 m.kg).



- Remove the two differential bearing thrust plates **1**.

- Remove the two oil seals **2** using a press.

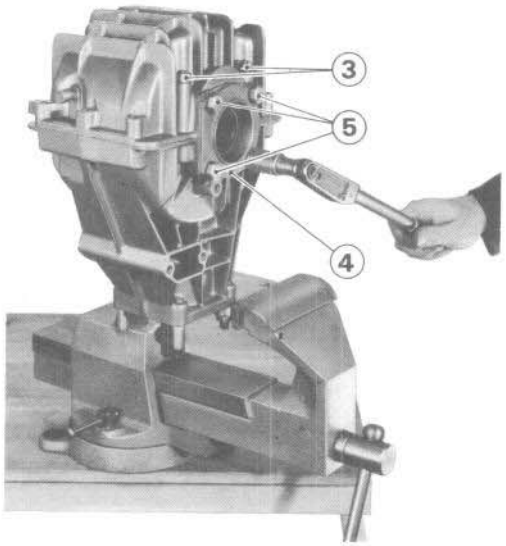
N.B. - It is possible to effect this operation, with the differential mounted on the car, using a tyre lever.



- Remove grease from new bearings and install same using :

  - a press,
  - fitting tool **B**,
  - press pad **H2**

- Oil bearings with plenty of ESSO EXTRA MOTOR OIL 20 W 30/40. No other lubricant should be used.



Assembling the differential mechanism

- Place housing vertically in vice.

- Apply Perfect Seal on machined surface of housing.

- Apply oil on housing bearing recesses

- Install crown gear differential assembly

- Install rear cover by means of 4 nuts **3** equipped with new Onduflex washers and tighten to **5.8 ft.lbs** (0.8 m.kg).

- Install bearing side plate **4** (left hand side) without shims. Fit the 4 bolts **5** with new Onduflex washers.

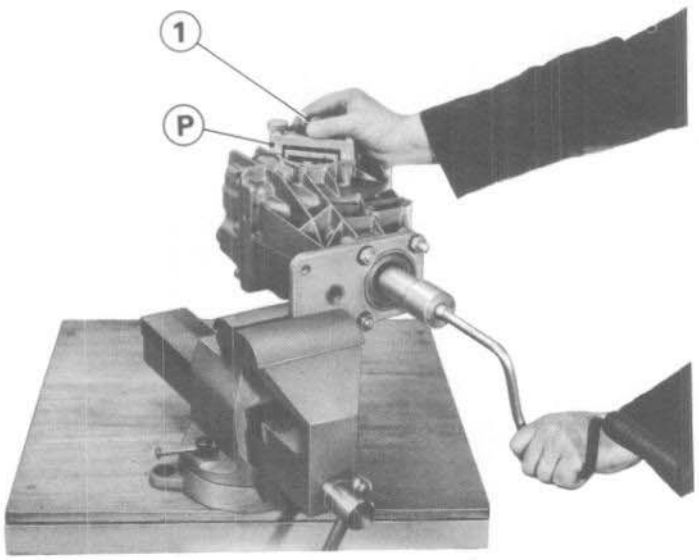
  Tightening torque 5.8 ft.lbs (0.8 m.kg)

- Slacken nuts 3 and tighten them by hand.

PEUGEOT

DIFFERENTIAL

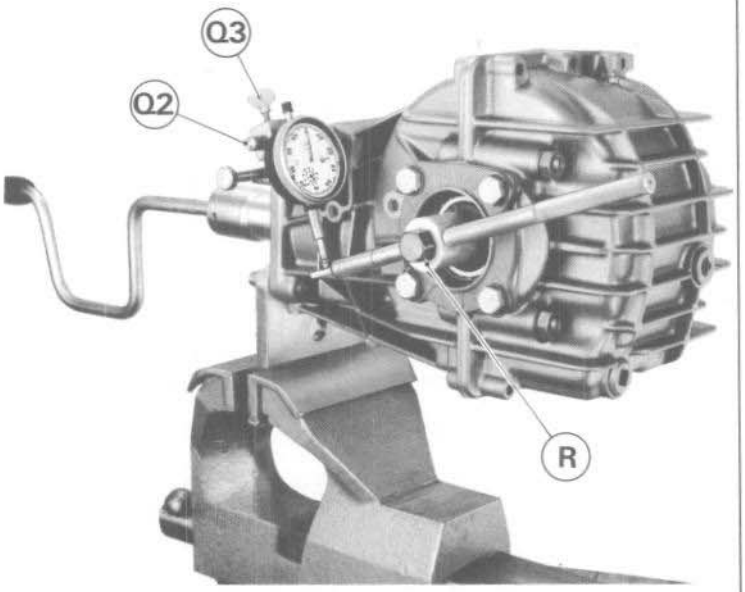
RE-ASSEMBLY - ADJUSTMENT



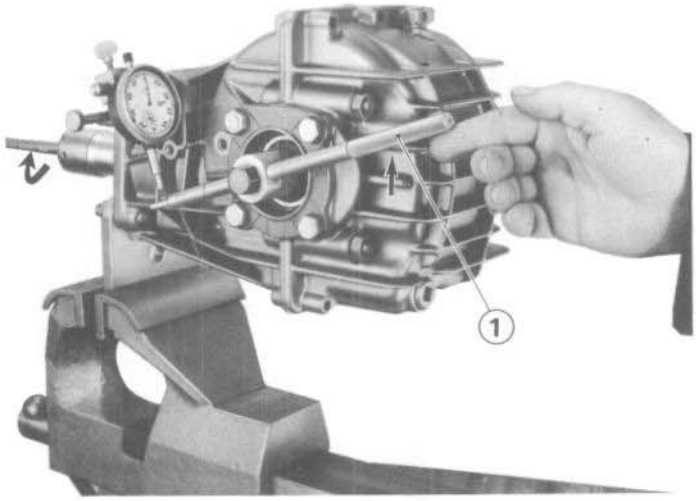
BACKLASH ADJUSTMENT

- Clamp housing **horizontally** in vice with right hand side facing upwards.
- Install clamp **P**.
- Tighten clamp **P** by means of control screw **1** to bring the differential as far down as possible, **hand tighten (Do not use an auxiliary tool and do not apply much force).**
- Rotate differential 5 turns in both directions.
- Tap on housing with a mallet for proper settlement of assembly.
- Re-check tightness of clamp **P**.
- Tighten rear cover nuts.

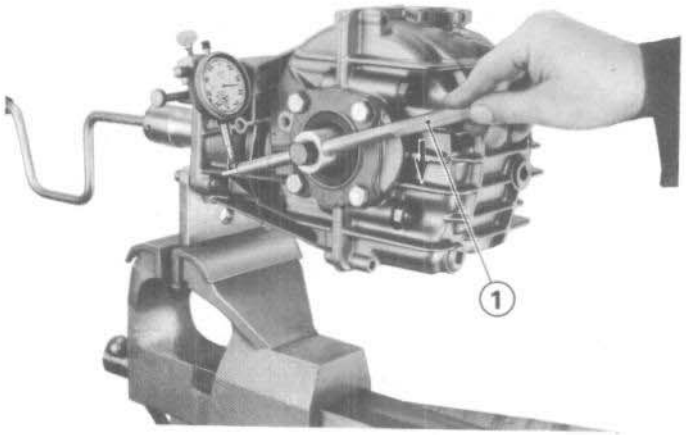
  Tightening torque **5.8 ft.lbs** (0.8 m.kg)



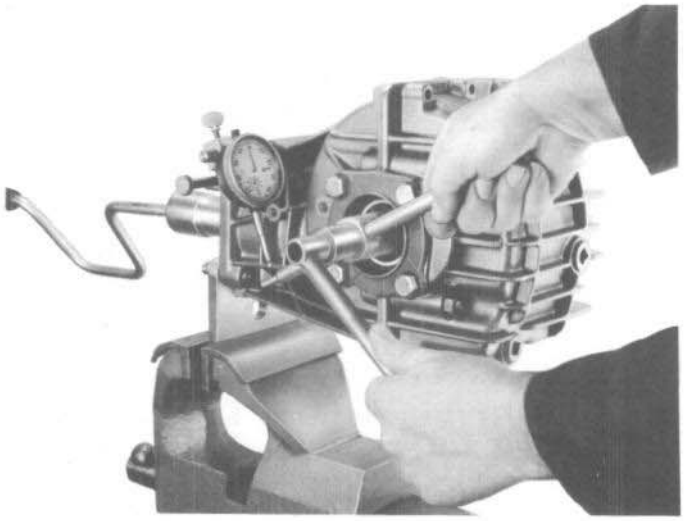
- Refit the differential in the vice in its normal position.
- Install backlash measuring tool **R** horizontally making sure that one of the radial grooves of the crown wheel end face is in line with position " " of the device.
- Lock central screw.
- Install support rod **Q2** in the front upper housing.
- Mount the dial indicator, using the holder **Q3**, so that the dial indicator feeler rests between the two marks which can be found on the flat part of the left hand side of the tool **R** and so that the feeler and the tool R form a right angle.



- Turn drive pinion with care, anti-clockwise, to set dial indicator small hand to "5".
- Adjust dial indicator face to 0 holding the knurled arm 1 upwards.



- Press down lever 1 gently just enough to make it abut clockwise.
- In this position the dial indicator indicates the backlash between drive pinion and crown gear.
- Note this reading.



- Repeat this operation at three different points, using the other three gaps in the tool R lined up with the groove in the crown wheel used for the first reading.
- Note each reading, making sure that each time dial indicator has been set to 0.
- Turn tool anti-clockwise for each adjustment position.

DIFFERENTIAL

RE-ASSEMBLY - ADJUSTMENT

BACKLASH READINGS	
Positions	Readings
1	
2	
3	
4	

- WRITE DOWN THE TWO EXTREME READINGS OBTAINED
- IF THE DIFFERENCE BETWEEN MAXIMUM AND MINIMUM READINGS EXCEEDS 0.10 mm CHECK FOR DIRT OR BURRS ON TEETH.
- ELIMINATE THE FAULT and recheck the measurements.

DIFFERENTIAL ADJUSTMENT SHIMS

Thicknesses available

0.05 mm
0.10 mm
0.20 mm
0.40 mm
0.50 mm
1. mm

DETERMINATION OF ADJUSTMENT SHIMS

Subtract from the minimum backlash reading :

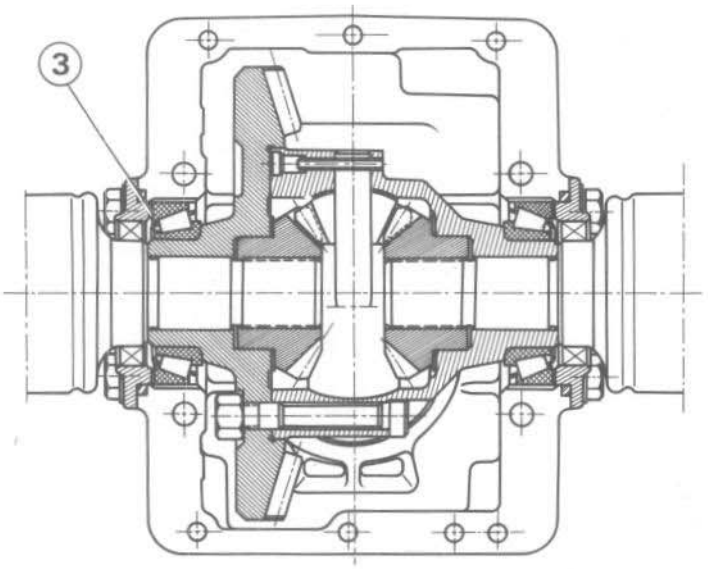
0.10 mm

THE NUMBER THUS OBTAINED ROUNDED TO THE NEAREST 0.05 mm CORRESPONDS TO THE THICKNESS OF THE SHIMS TO BE INSTALLED ON THE LEFT HAND SIDE (3rd adjustment). Ex. :

Mini backlash : 0.38

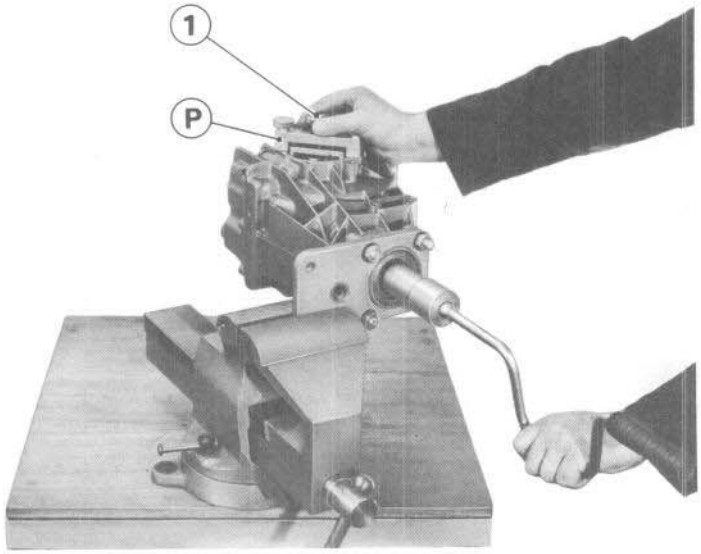
Thickness of shim : 0.38 - 0.10 = 0.28

Which is : 0.30



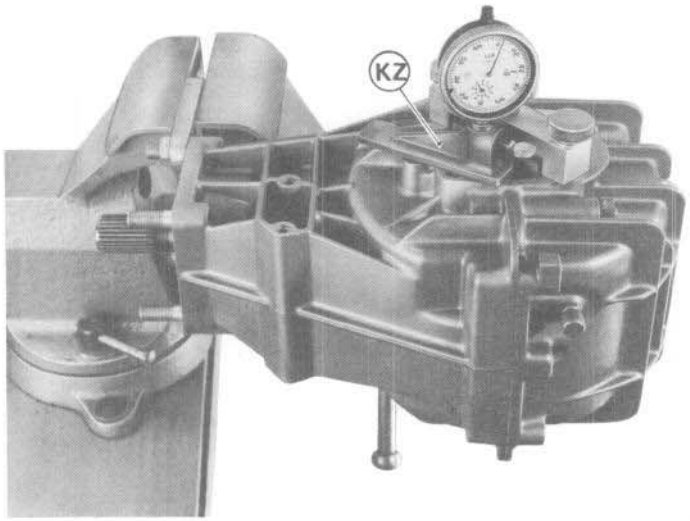
- Remove backlash measuring tool **R** the dial indicator and the left hand thrust plate.
- Slacken the central screw of the clamp **P**
- Dip the new oil seal in engine oil.
- Fit the oil seal using the inserting drift **T** in left hand thrust plate (see class 5, page 03 23)
- Tap the drift until it abuts on the plate.
- Place the shims (after checking thickness with a Palmer gauge) on the outer race of the left hand bearing.
- Insert a new 0 ring, after coating with **tallow** between the thrust plate and the housing.
- Secure this plate to the housing with 4 bolts, fitted with new "Onduflex" washers, tightened to **5.8 ft.lbs** (0.8 m.kg).

DIFFERENTIAL
RE-ASSEMBLY - ADJUSTMENT

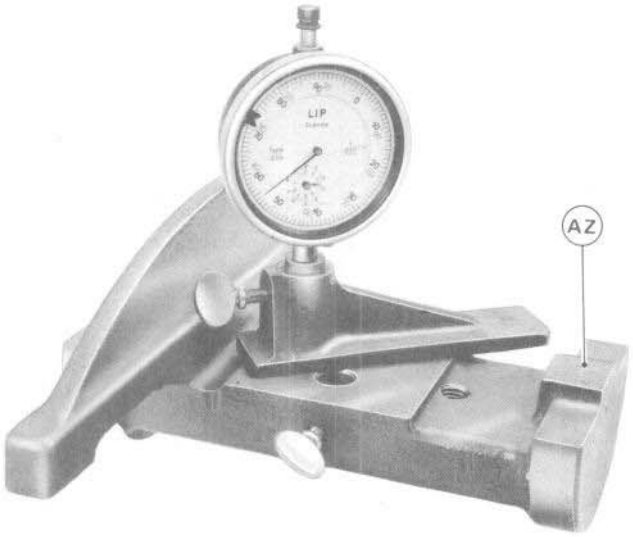


BEARINGS PRE-LOAD ADJUSTMENT

- Re-install **housing horizontally** in vice (as per drawing opposite).
- HAND TIGHTEN firmly central screw (1) of clamp **P** while turning drive pinion.



- Place micrometer **KZ** on a flat surface of front differential housing (right hand side) with dial indicator long feeler **K3** resting on outer bearing race.
- Make sure that micrometer does not rest on both housings (Only on the front or the rear)
- Adjust dial indicator setting so as to obtain "1" and "0", for example.



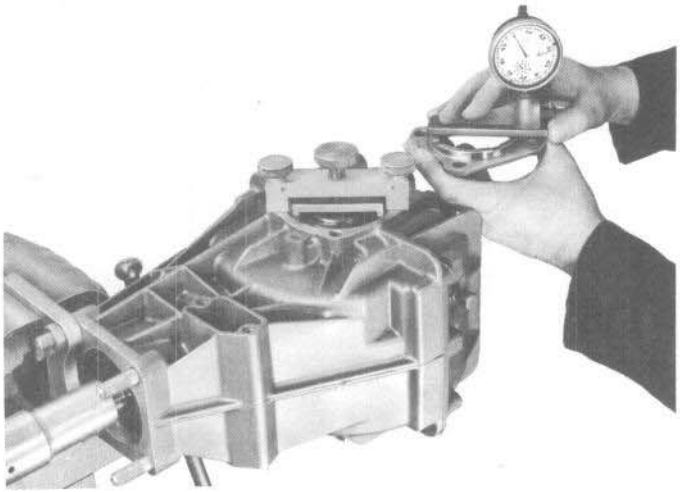
- Place micrometer on machined surface of tool **AZ** used as measuring surface.
- The displacement of the dial indicator needles represents the depth of the bearing in the housing and 0.25 mm should be added.
- Note down the reading obtained.

Ex. :

Measurement in the housing	1.00
Measurement on machined surface	7.15
Difference	6.15
	+ 0.25
Number to be noted	6.40

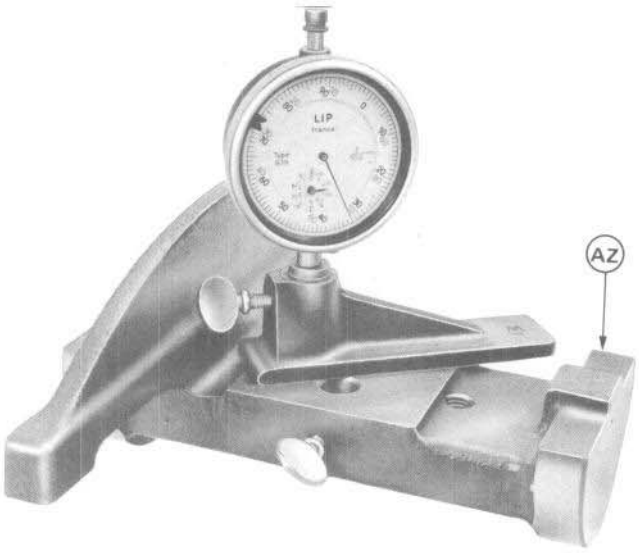
DIFFERENTIAL

RE-ASSEMBLY - ADJUSTMENT



- Place micrometer on right-hand side plate with dial indicator feeler on outside machined surface of plate.

- Adjust dial indicator height so as to obtain a reading of "1" and "0" for example.

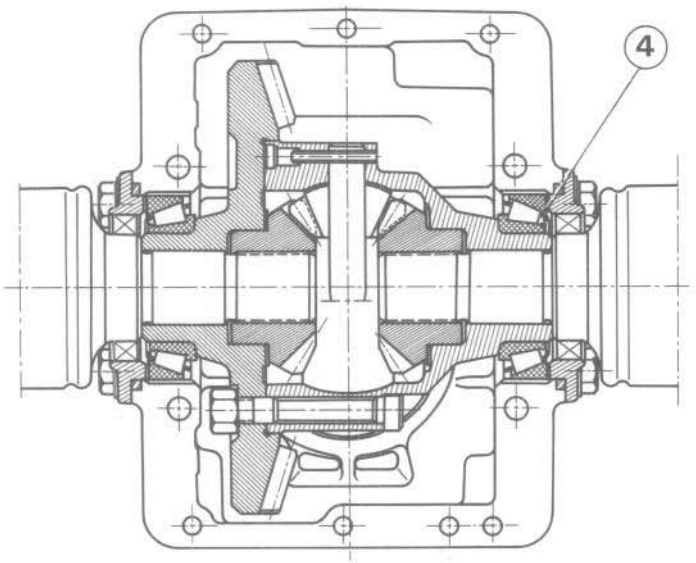


- Place micrometer on machined surface of tool **AZ** used as measuring surface.

- The displacement of the dial indicator needles represents the height of the collar on plate.

Ex. :

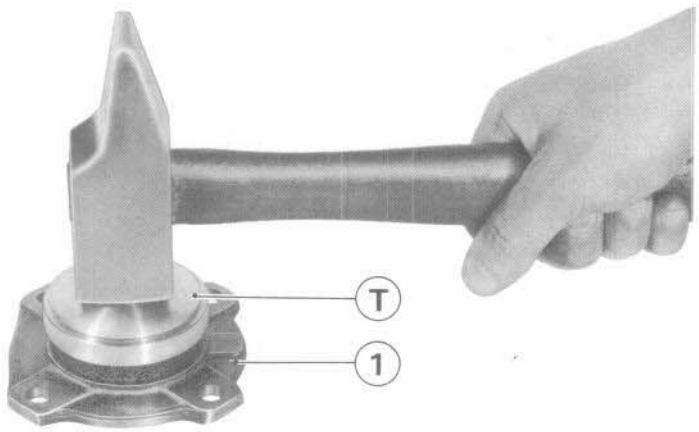
Measurement on plate	1.00
Measurement on measuring surface	7.29
Height of collar	6.29



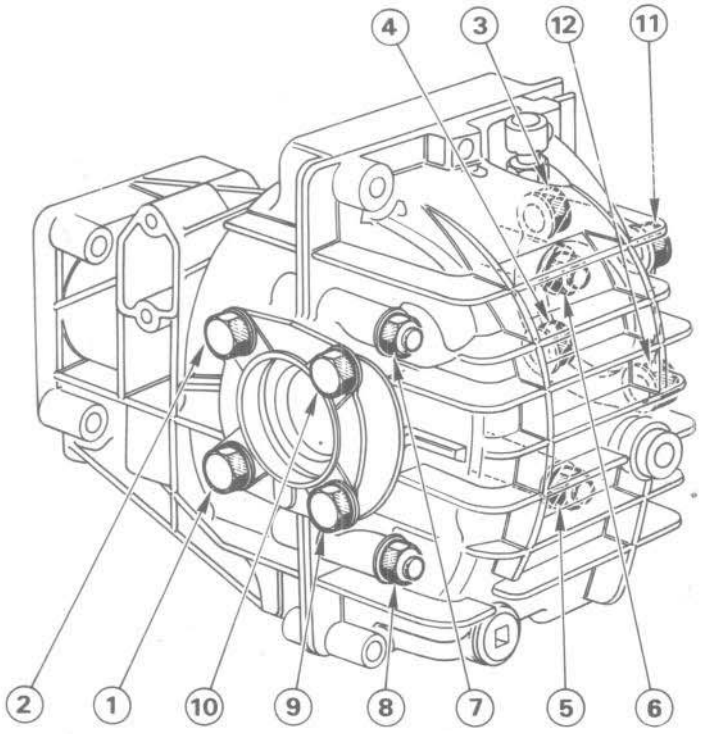
Compare :
- number obtained when measurement on housing was carried out.
- the height of the collar.
- THE DIFFERENCE ROUNDED TO THE NEAREST 0.05 mm REPRESENTS THE THICKNESS OF THE SHIMS TO BE INSTALLED BETWEEN BEARING AND THRUST PLATE (4th adjustment).

Ex. :

Number obtained with first measurement	6.40
Height of collar	6.29
Thickness of shims to be used	0.11
which means	0.10



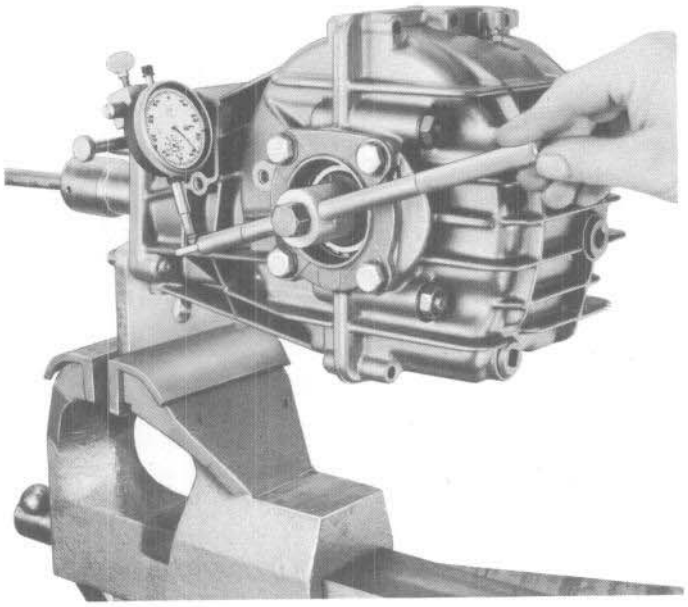
- Dip the new oil seal in engine oil.
- Fit this into the thrust plate **1** using the drift **T**.
- Tap the drift until it abuts on the plate.
- Place the shims (after checking with a Palmer gauge) on the outer race of the right hand bearing.
- Insert a new 0 ring, coated with **tallow** between the thrust plate and the housing.
- Secure this housing with 4 bolts fitted with new Onduflex washers tighten to **5.8 ft.lbs** (0.8 m.kg).



- Proceed with final tightening of the eight bolts and four nuts in the sequence indicated below to **25.37 ft.lbs** (3.5 m.kg).
- Slacken the 4 assembling nuts **5, 6, 7, and 8.**
- Tap with a mallet on the rear housing to obtain a perfect mating between front and rear housings.
- Re-tighten the four assembling nuts in the same sequence as before **(5, 6, 7, 8).**
  Tightening torque : **39.87 ft.lbs** (5.5 m.kg).
- Rotate drive pinion several times in both directions.

DIFFERENTIAL

RE-ASSEMBLY - ADJUSTMENT

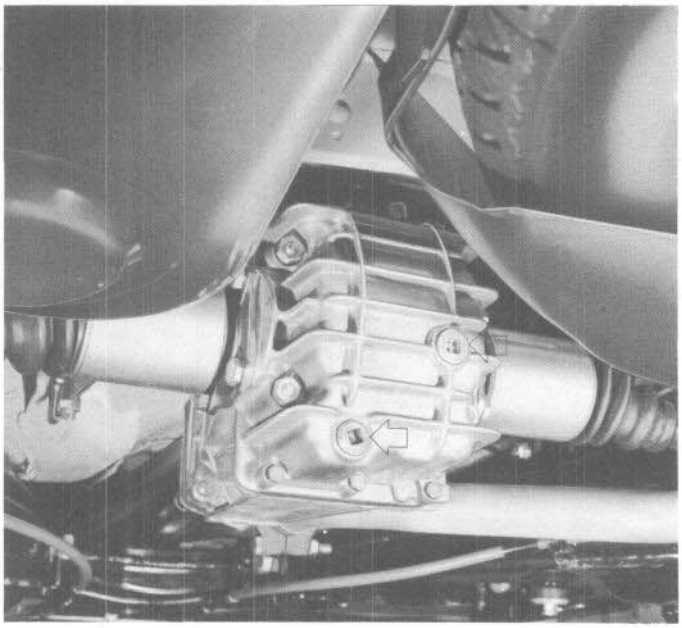


CHECKING THE BACKLASH

Check in the 4 positions, following the process indicated in class 5, page 03 18 and 03 19. The minimum amount of backlash must be equal to :

$$0.20 \begin{matrix} +\ 0.05 \\ -\ 0.02 \end{matrix}$$

- Fit the 6 assembly bolts, fitted with new "Onduflex" washers, and tighten them to **7.2 ft.lbs** (1 m.kg).



- Refit the differential on the car following the instructions given in class 5, page 02 05 and 02 06.

LUBRICANT

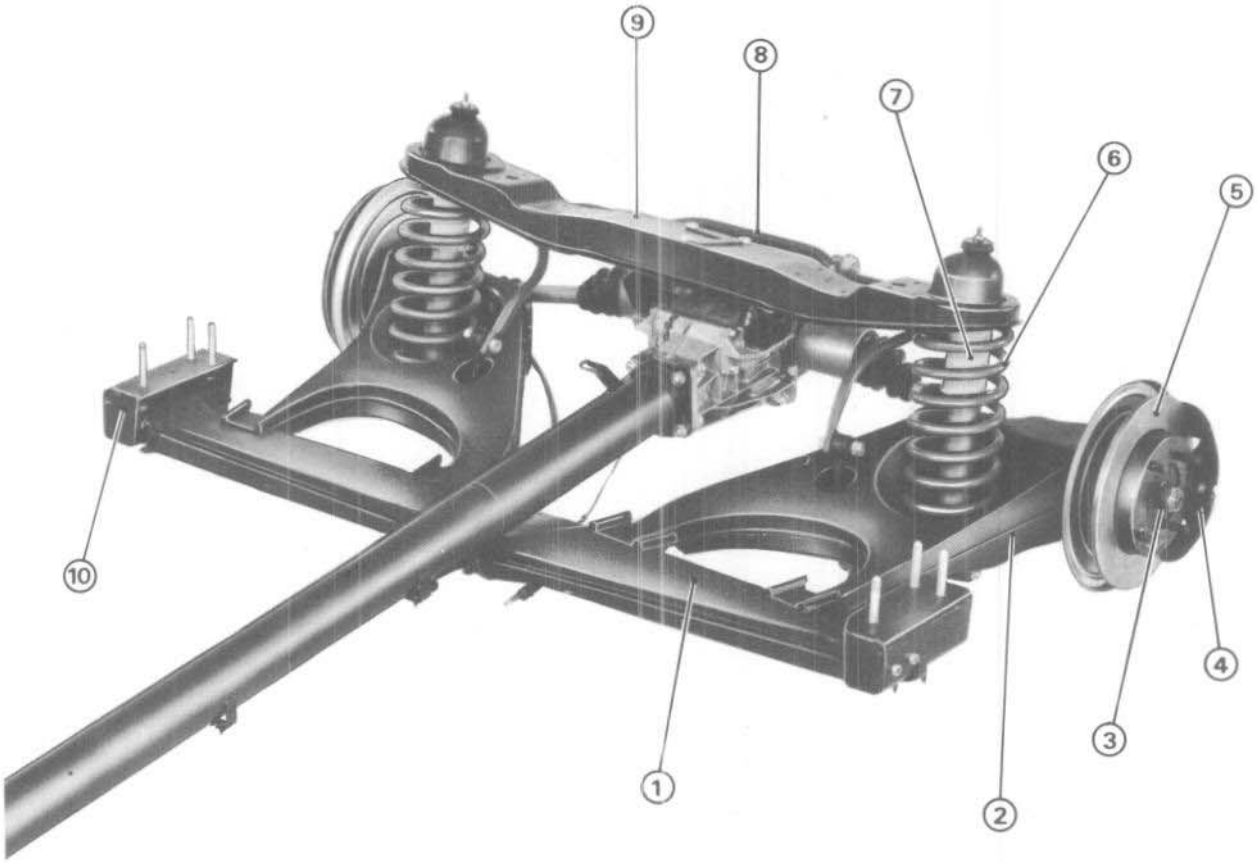
- Use ESSO GEAR OIL GP 90

Capacity : 2.1 pints (1.2 l)

Drain and refill :
After the first 600 miles (1,000 km) then every 9,000 miles (15,000 km).

Check the level : every 3,000 miles (5,000 km).

REAR AXLE
IDENTIFICATION AND CHARACTERISTICS



1 - Rear cross member
2 - Rear arm
3 - Rear hub
4 - Brake caliper
5 - Brake disc
6 - Suspension spring
7 - Rear shock absorber
8 - Anti-roll bar
9 - Rear suspension cross member
10 - Rear cross member support

REAR AXLE CHARACTERISTICS	
	In working order
Toe in	4.5 mm $^{+1}_{-2}$
Camber angle	1° + 0° 40' - 0° 20'

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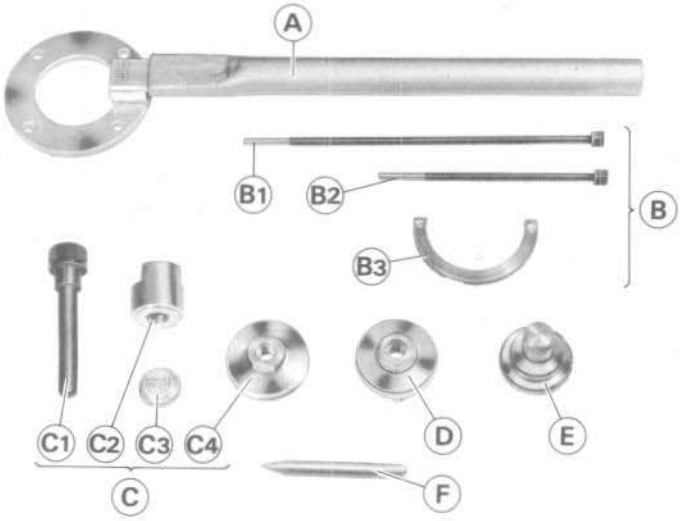
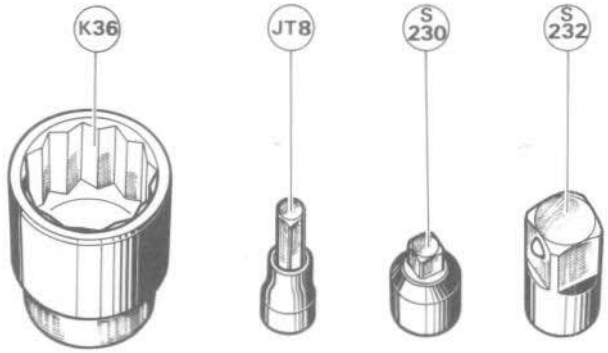


TOOLS TO BE USED

8.0521 Z

Tool chest for rear wheel bearings including :

A - Apparatus for holding the hub (2 parts)
B - Hub carrier extractor including
  B1 - Long bolt
  B2 - Short bolt
  B3 - Thrust plate
C - Apparatus for dismantling and re-assembling the hub and the bearing including :
  C1 - Bolt
  C2 - Nut
  C3 - Thrust pad
  C4 - Extractor
D - Spanner head for the carrier nut.
E - Hub seal fitting drift.
F - Punch.



RECOMMENDED TOOLS

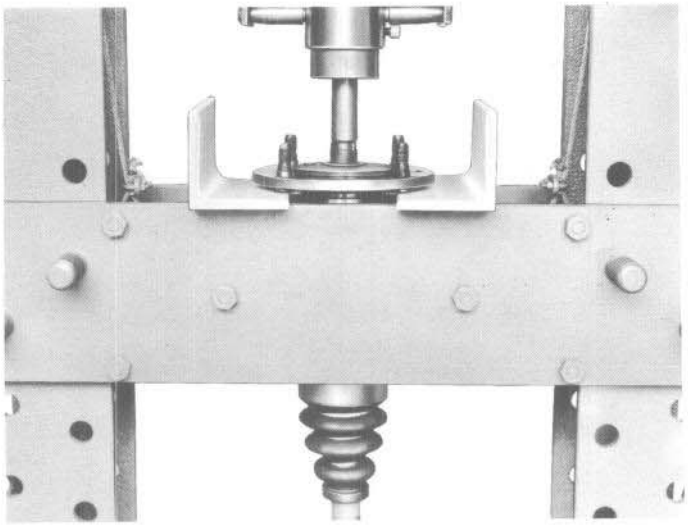
- Standard **FACOM** tools

- Socket K36
- Socket JT8
- Adaptor S230
- Adaptor S232

N.B. - These tools are not supplied in the tool chest, but a space is provided for them.

REAR AXLE

REAR HUBS - REAR HUB CARRIERS

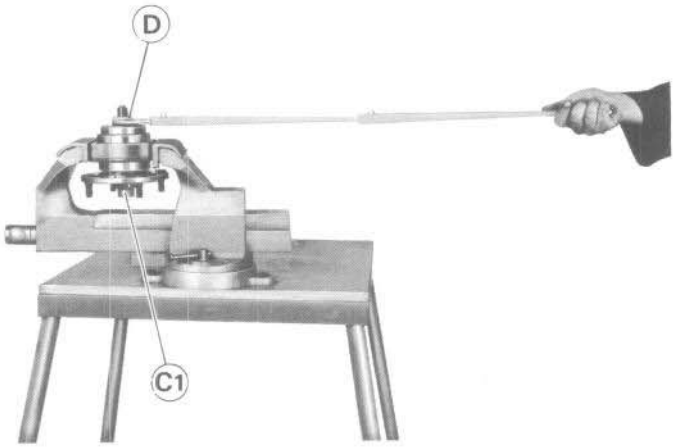


REMOVAL - REFITTING

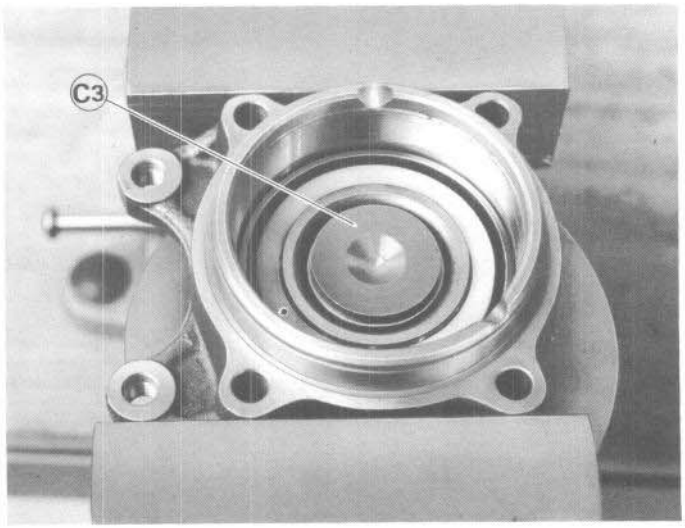
The method of removal and refitting of the hub carrier is identical to that for the drive shafts (see class 4, page 1201 and the continuation).

DISMANTLING

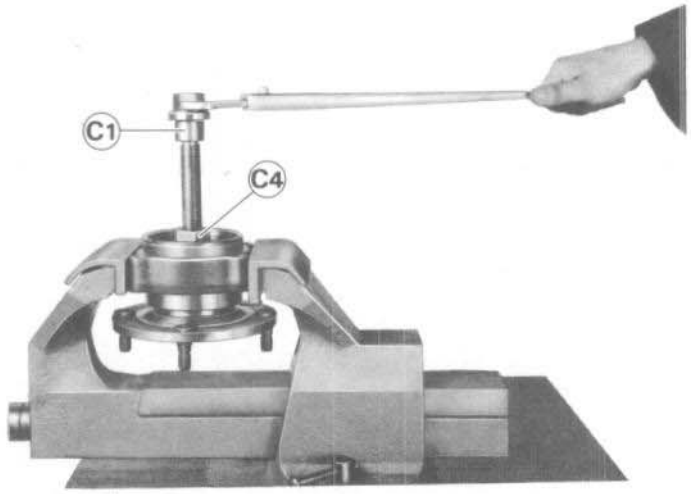
- Remove the hub nut.
- Set aside the washer.
- Disengage the drive shaft from the hub-carrier using a press if necessary.



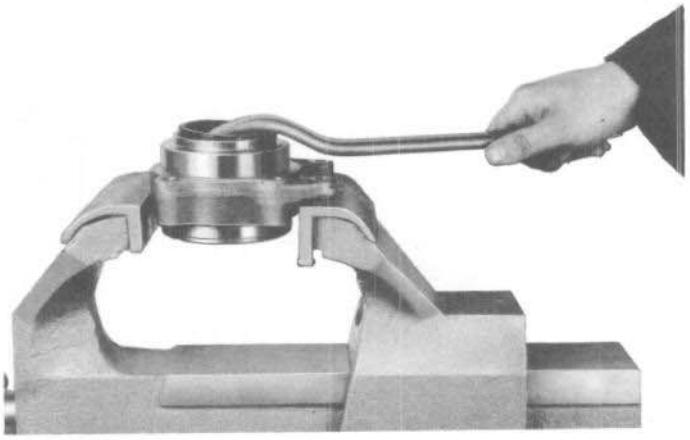
- Clamp the hub-carrier assembly in a vice fitted with soft jaws.
- Unlock the carrier nut.
- Place the spanner head **D** on the nut.
- Lock the spanner head **D** with the bolt **C1**.
- Use an open end spanner and the Facom extension to unscrew the carrier nut.



- Place the thrust pad **C3** inside the hub.



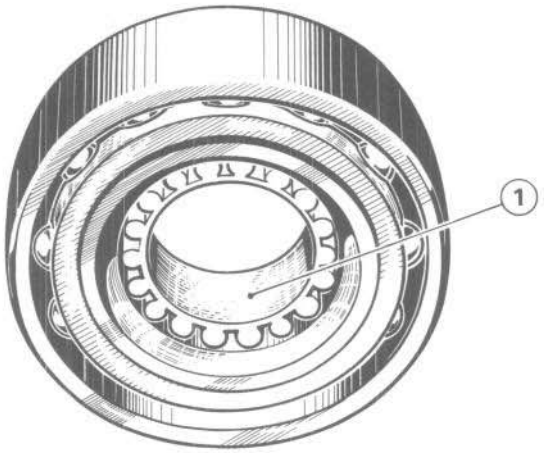
- Screw :
  - the extractor **C4**, into the knuckle body
  - the bolt **C1** into the extractor **C4**.
- Tighten the bolt **C1** until the hub is completely withdrawn.



- Remove the extractor **C4**
- Set aside the thrust pad **C3**.
- Remove the double bearing using nut **C2** and the press if necessary.
- Turn the knuckle over in the vice.
- Remove the outer oil seal using a tyre lever.

REAR AXLE

REAR HUBS - REAR KNUCKLES



REFITTING

- Use only clean and fautless parts

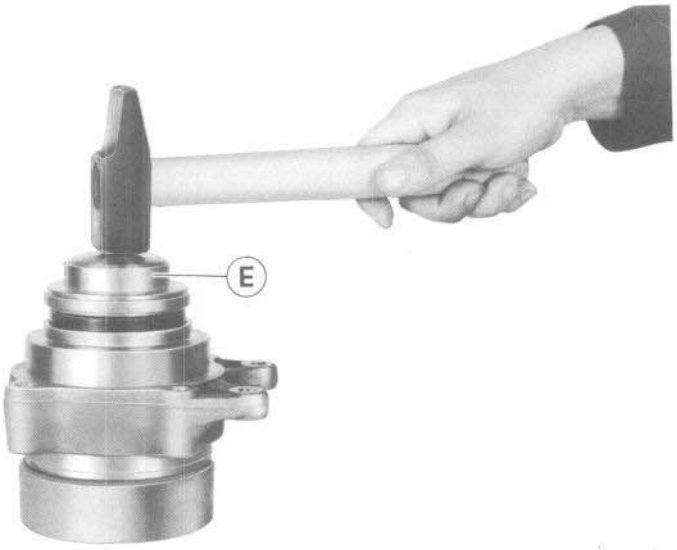
- Replace at each dismantling ;
  - the knuckle nut with its two lipped oil seal,
  - the outer oil seal.

- Check the bearing surface of both inner and outer races.

- Grease the bearing with ESSO MULTIPURPOSE GREASE H.

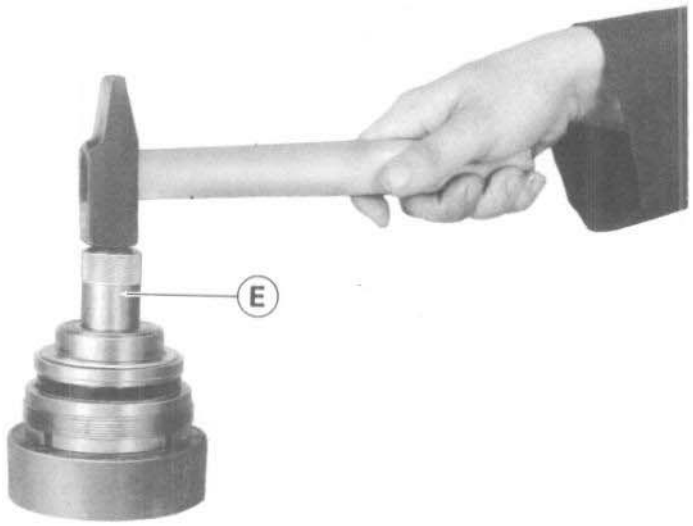
N.B. - All new bearings are delivered by the Spare Parts Departement with a nylon ring 1 inserted to maintain the two parts of the bearing in one piece for handling purposes.

This ring must be removed before assembly of the hub-knuckle.



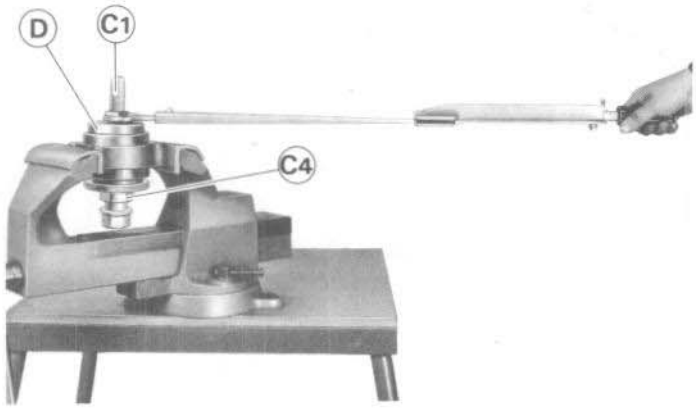
- Fit the outer oil seal of the knuckle using the drift **E**.

- Tap the drift until it abuts on the knuckle.



- Insert the oil seal in the knuckle nut using the drift **E**.
- Tap the drift until it abuts on the knuckle nut.

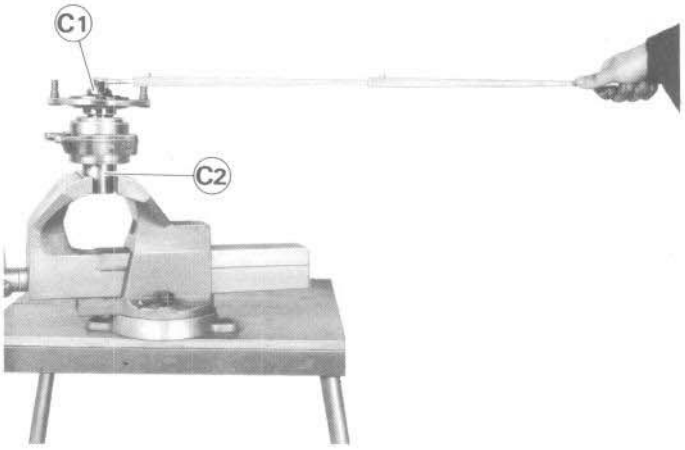
- Insert the bearing, fitted with its inner races in the knuckle.



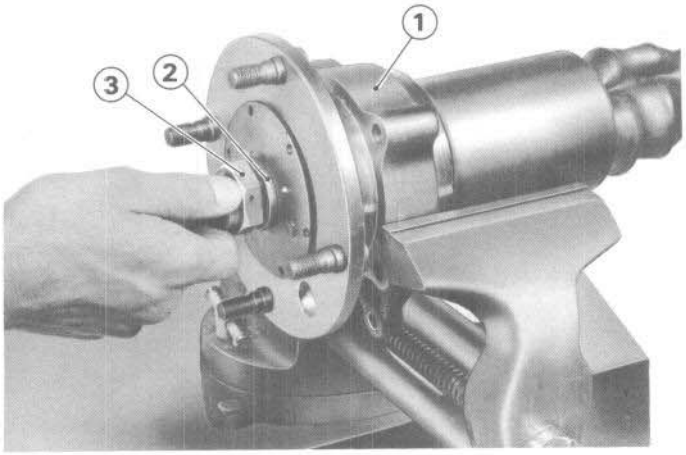
- Tighten the knuckle nut until it comes into contact with the bearing.
- Thread the extractor **C4** onto the bolt **C1**.
- Place the spanner head **D** on the knuckle nut.
- Insert the bolt **C1** fitted with the extractor **C4** into the knuckle and screw this assembly into the spanner head **D**.
- Tighten the knuckle nut to **181 ft.lbs** (25 m.kg).
- Remove the bolt-extractor-spanner head assembly.
- Lock the knuckle nut, using the punch **F**, in the notches provided.

REAR AXLE

REAR HUBS - REAR KNUCKLES

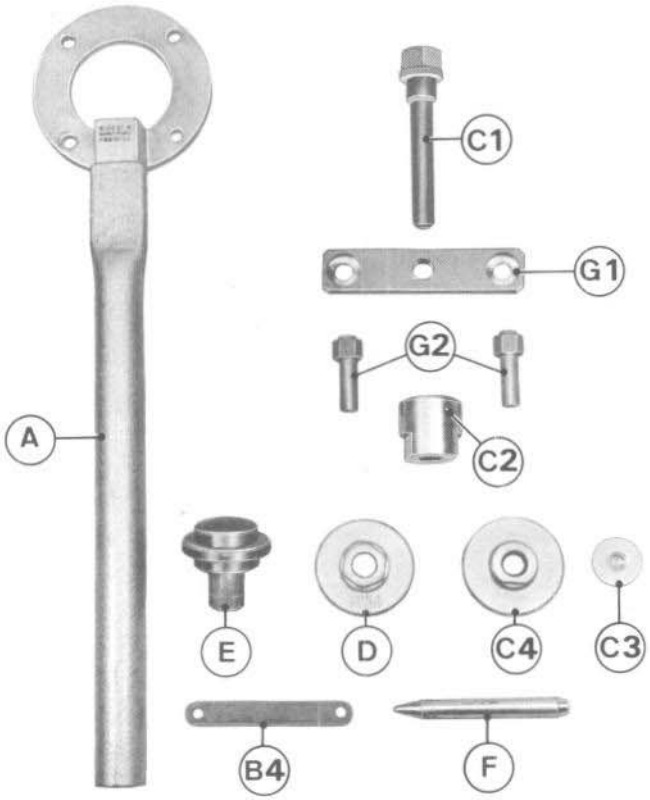


- Clamp the nut C2 in the vice on its two flat surfaces.
- Place the knuckle on this nut.
- Insert the hub in the knuckle using the bolt C1 and screw this down until the hub abuts on the bearing.



- Coat the splines of the half shaft with molykote 321.
- Insert the half shaft in the hub-knuckle assembly 1.
- Fit the washer 2.
- Hand tighten the **new** hub nut 3.
- Proceed with the refitting of this assembly to the car.

(see class 4, page 1205).



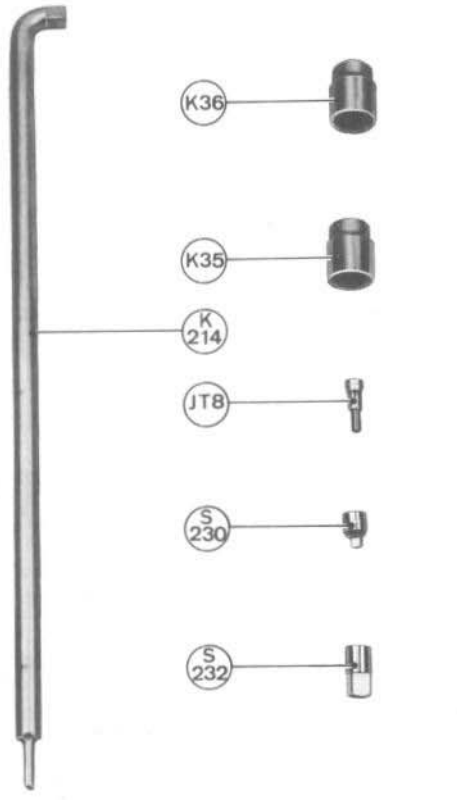
504 CONVERTIBLES - COUPES

TOOLS TO BE USED

8. 0521 Z

Tool chest for the rear hubs

A - Hub holding tool
B4 - Hub carrier extractor plate
C - Apparatus for dismantling and reassembling the hubs consisting of :
  C1 - bolt
  C2 - nut
  C3 - thrust pad
  C4 - extractor
D - Hub carrier nut spanner head
E - Drift for fitting the hub oil seals
F - Locking punch
G1 - Extractor plate
G2 - Reversible nuts



RECOMMENDED TOOLS

Standard Facom tools

Sockets K36 - K35

Socket JT8

Adaptor S230

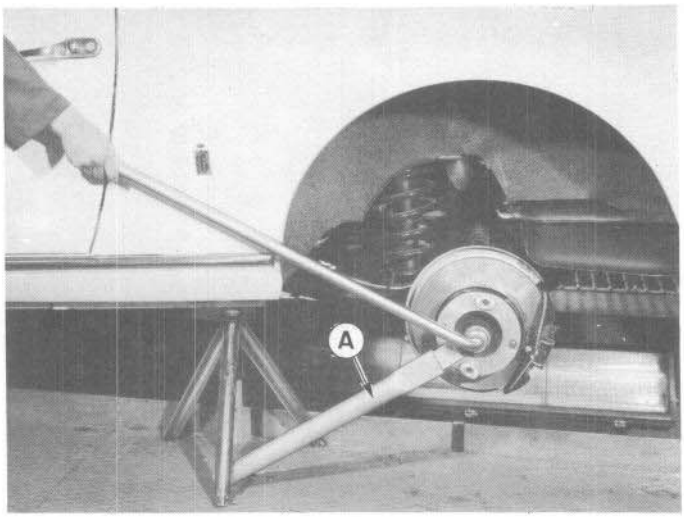
Adaptor S232

Torque wrench extension K214

NOTE :

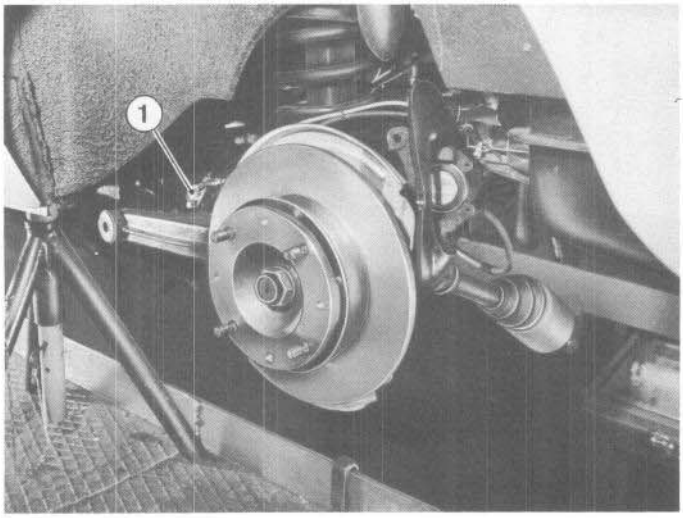
The tools : K36 - JT8 - S230 and S232 are not supplied with the chest but space is provided for them.

REAR AXLE
HUBS - HUB CARRIERS

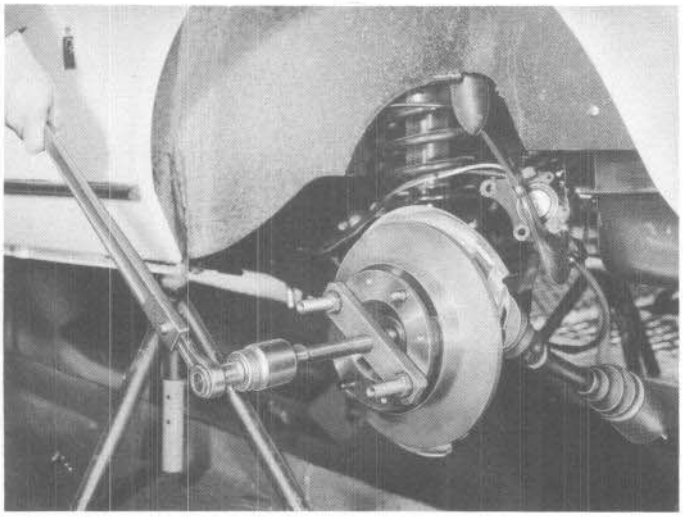


REMOVAL

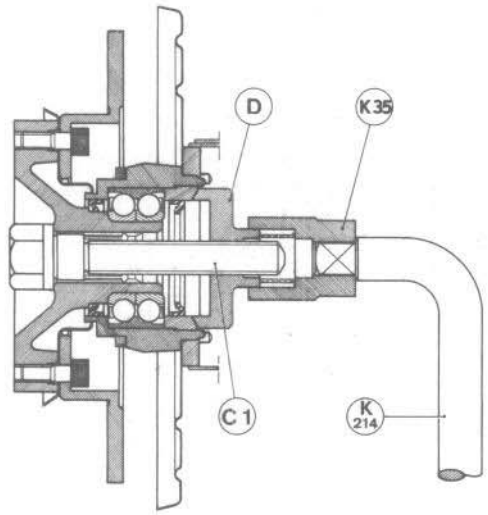
- Place the car over a pit or on a car lift
- Raise the rear of the car and chock under the crossmember
- Remove the wheel
- Fit the hub holding tool **A** on the hub
- Slacken the hub nut, using the socket **K36** and the extension **K214,** but do not remove it
- Remove the holding tool **A.**



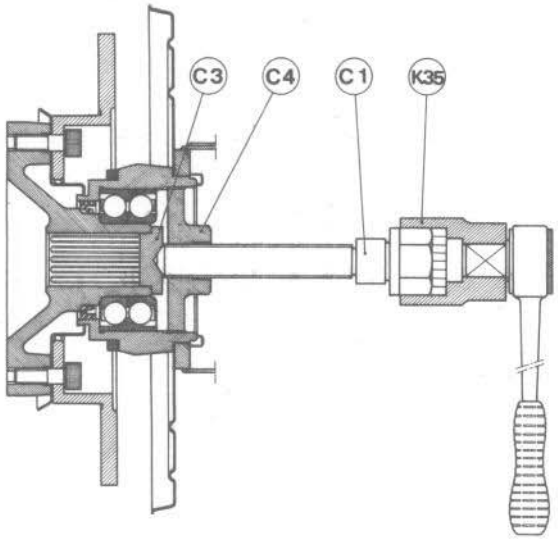
- Slacken the brake hose nut **1** and disengage the hose from the support lug
- Open the clamp retaining the hose on the arm
- Disconnect the hand brake cable from the rear arm
- Remove :
  - the anti-squeal spring
  - the retaining fork
  - the brake pads
- Remove the caliper securing Allen screws
- Withdraw the caliper and, without distorting the hose, suspend it from the bodywork.



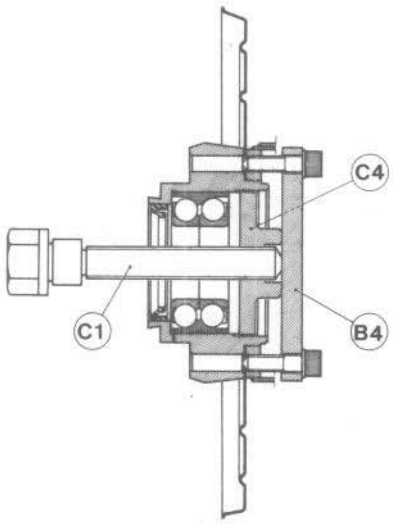
- Remove the drive shaft (class 4 page 12 12 and 12 13).
- Connect the arm to the crossmember temporarily using the rods **J.**



- Remove the hub carrier nut using the spanner **D**, held in place with the bolt **C1** and the socket **K35** fitted on the extension **K214**.



- Extract the hub using tools as shown opposite :
- Recover :
  - the hub/disc assembly
  - the thrust pad **C3**
  - the bolt **C1**
- Leave the extractor **C4** in place.



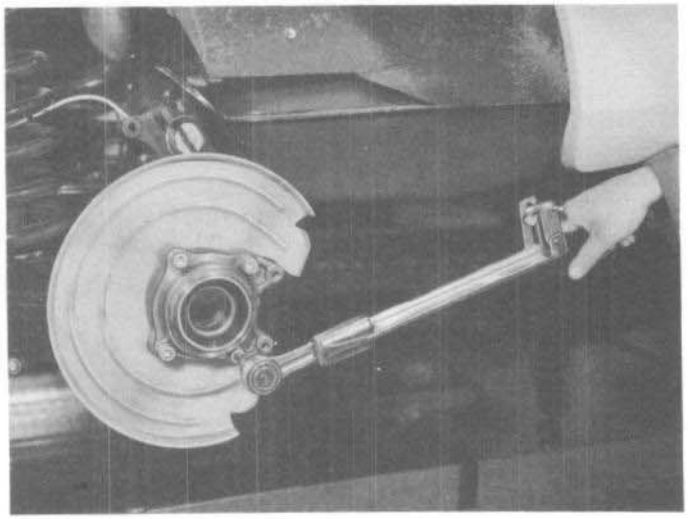
- Remove the 4 Allen screws securing the hub carrier to the arm
- Place the extractor plate **B4** on the arm using two of the carrier securing screws.
- Extract the hub carrier using the bolt **C1.**

IMPORTANT

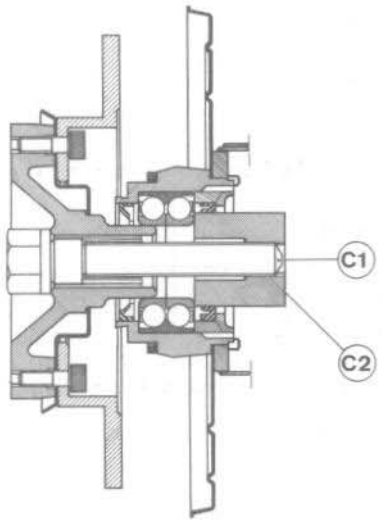
- *For dismantling and reassembly of the rear hub, the hub carrier nut and the oil seals, see class 5, page 14 03 to 14 05.*

REAR AXLE

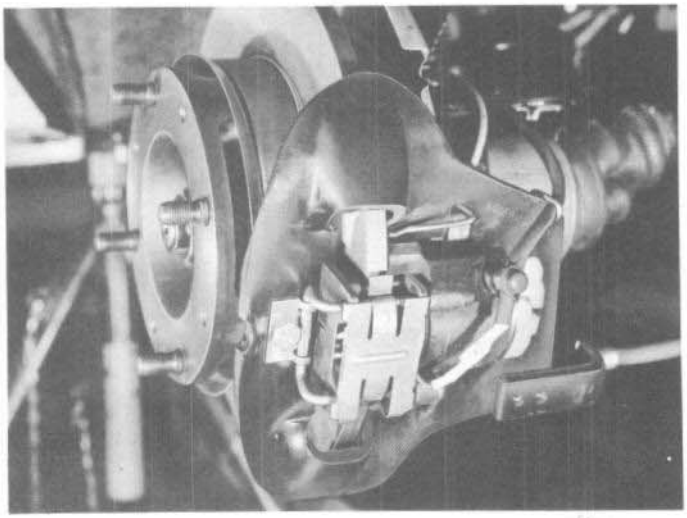
HUBS - HUB CARRIERS



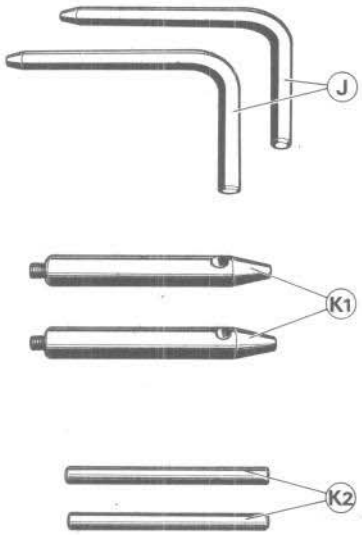
- Engage the hub carrier in its housing on the arm after positioning the disc protector
- Secure it after fitting **new** Blocfor washers
- Tighten the Allen screws to **29 ft.lbs** (4 m.kg).



- Assemble the hub and hub carrier using the bolt **C1** and the nut **C2** as shown opposite
- Hold the nut **C2** using a 40 mm open end spanner
- Tighten the bolt **C1** until the hub abuts against the bearing.
- Remove the nut **C2** and the bolt **C1**.



- Refit the drive shaft (class 4, page 12 14 to 12 16)
- Refit the brake caliper, using **new** Blocfor washers and tighten the bolts to **31 ft.lbs** (4.25 m.kg).
- Fit the brake pads, the retaining fork and tighten the bolt to **13 ft.lbs** (1.75 m.kg).
- Refit the antisqueal spring with the arrow pointing upwards.



TOOLS TO BE USED

8.0906

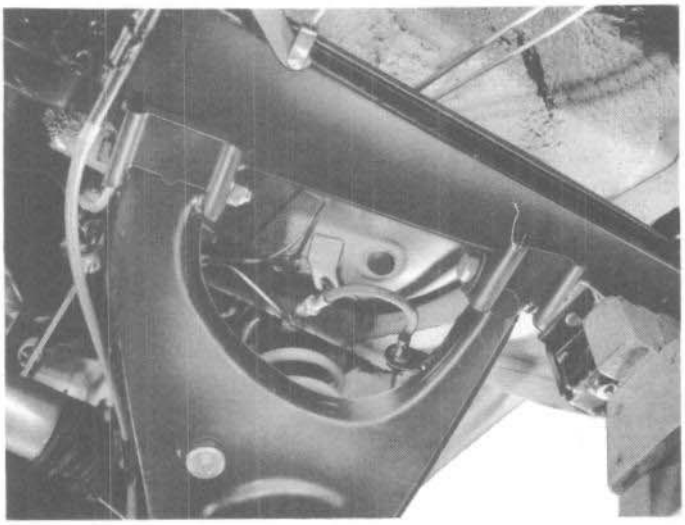
Tool chest for front and rear suspension.

J - Set of 2 bent bars for positioning rear arms on the cross member.

K1 - Set of 2 guide rods for the rear cross member

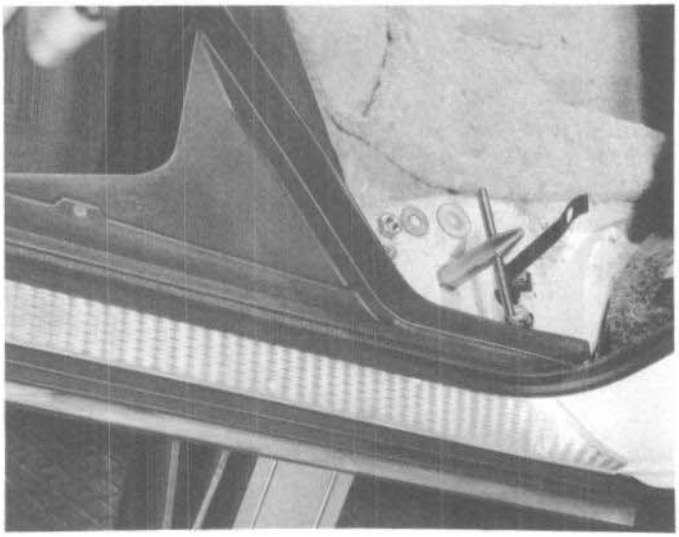
K2 - Set of 2 bars.

REAR AXLE
REAR CROSS MEMBER

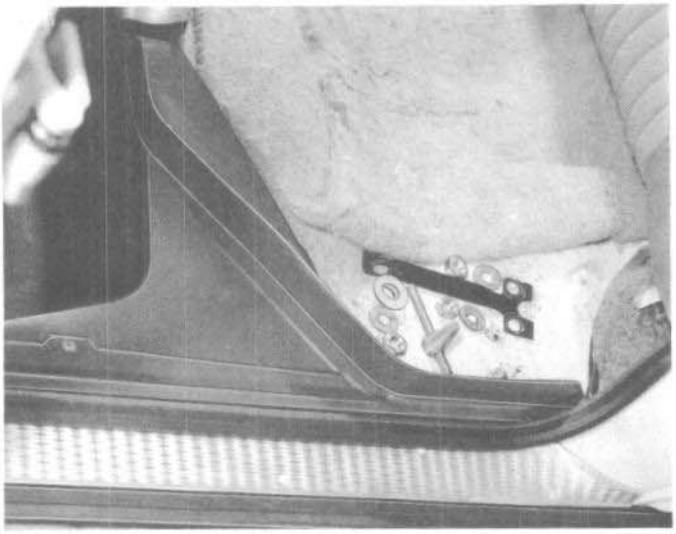


REMOVAL

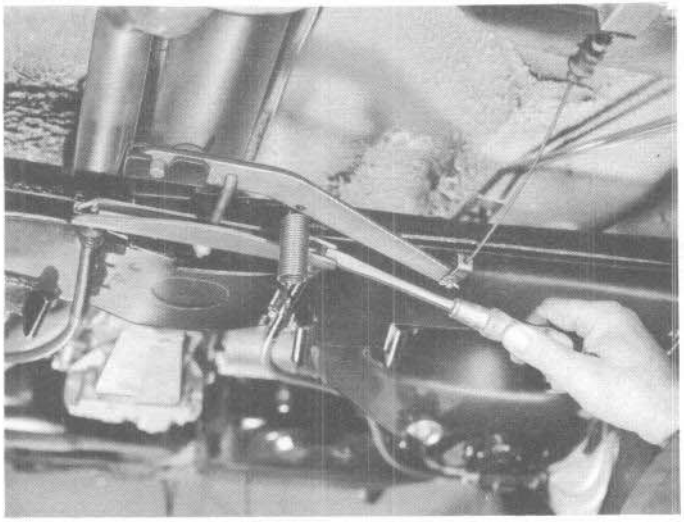
- Place the car over a pit or on a car lift.
- Unscrew the nuts securing the flexible hoses of the rear brakes to the supports on the rear floor.
- Remove the brake lines from their supports.
- Place a jack under the left hand lateral cross member support in contact with it.



- Remove the rear seat cushion.
- Unlock the three nuts securing the cross member.
- Remove the front securing nut.
- Raise the tab lock and remove the plastic plug from the guide hole.
- Screw into the hole the guide **K1** and tighten it using the bar **K2.**

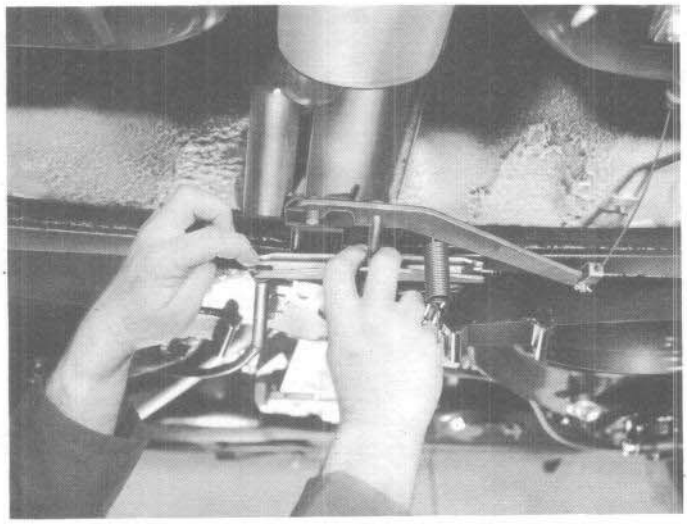


- **Leave the bar K2 in the guide hole.**
- Remove the rear cross member securing nuts and thrust washers.
- Lower gently the cross member until the bar is resting on the floor.
- **Carry out the same operation on the right hand side.**



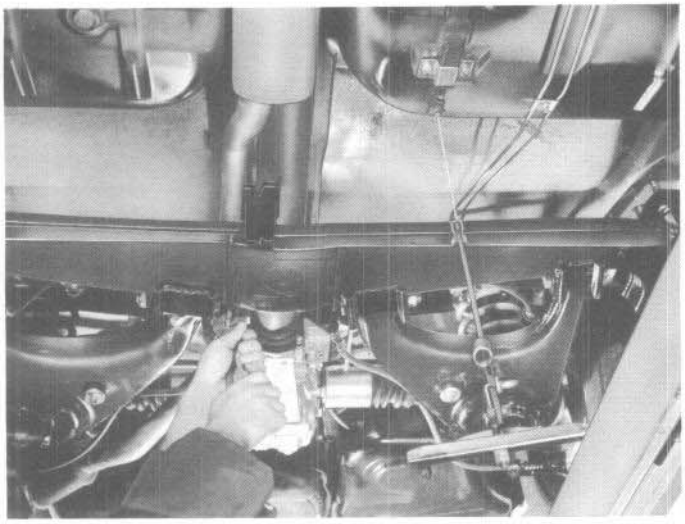
- Unhook the hand brake control lever return spring.

- Straighten the hand brake cable stop tongues on the relay arm.



- Slide the cable sideways out of the arm.

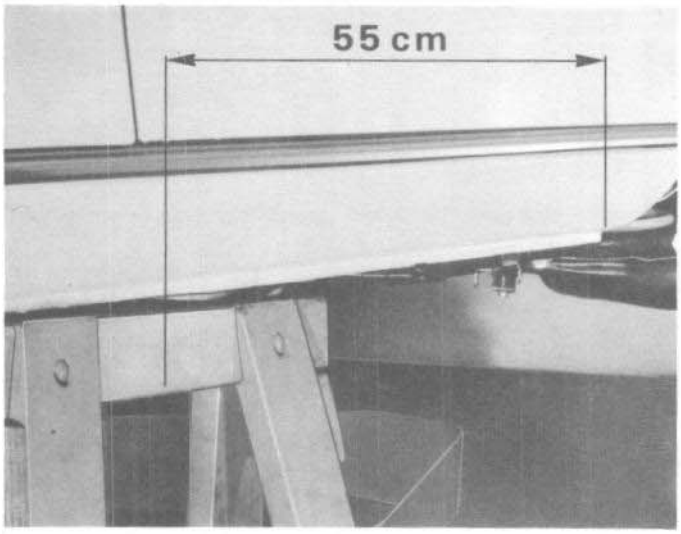
- Remove the lever-arm assembly.



- Remove protector covers and withdraw the brake cables from their respective guides on the cross member.

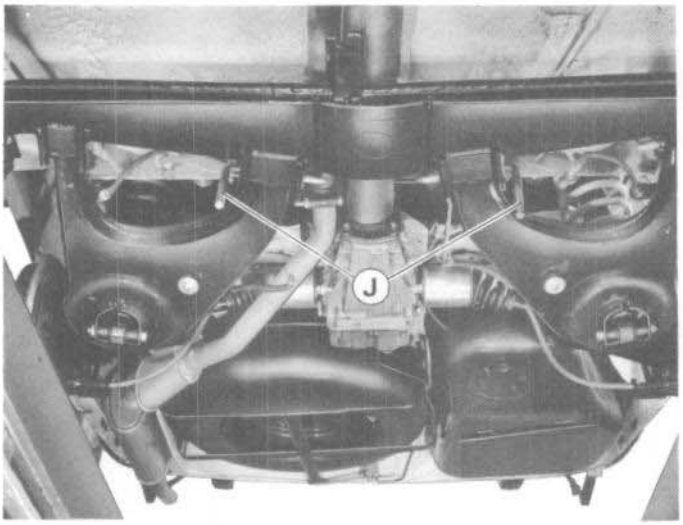
REAR AXLE

REAR CROSS MEMBER



- Chock the car, from under the outer sidemembers, 55 cm in front of the wheel arches.

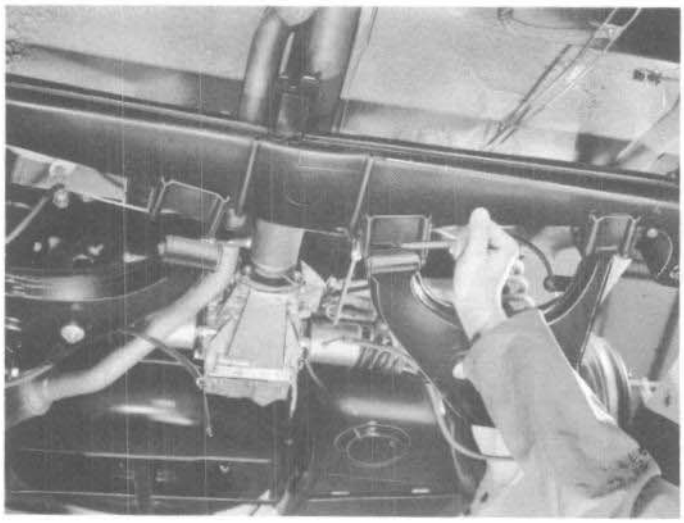
- **Remove the rear wheels.**



- Remove the inner rear arm articulation pivots.

- Insert in their place the 2 bars **8.0906 J.**

- Then remove the outer articulation pivots of the rear arms.

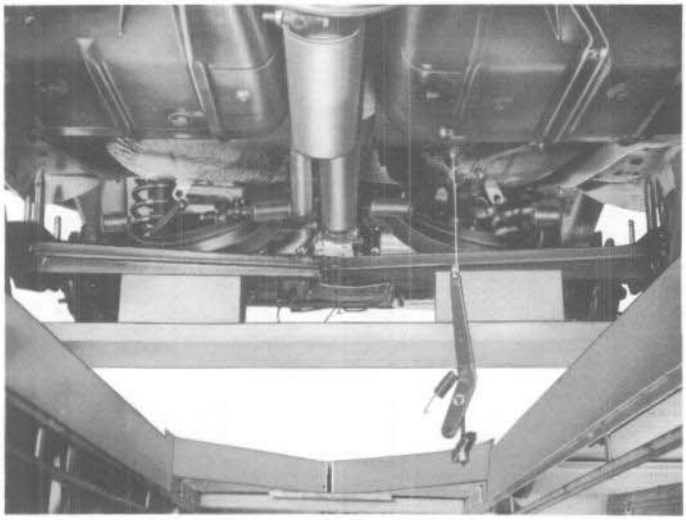


- Remove the bars **8.0906 J.**

- Disengage, using a lever, the left hand rear arm articulations.

- Then remove in the same manner the right hand rear arm articulations.

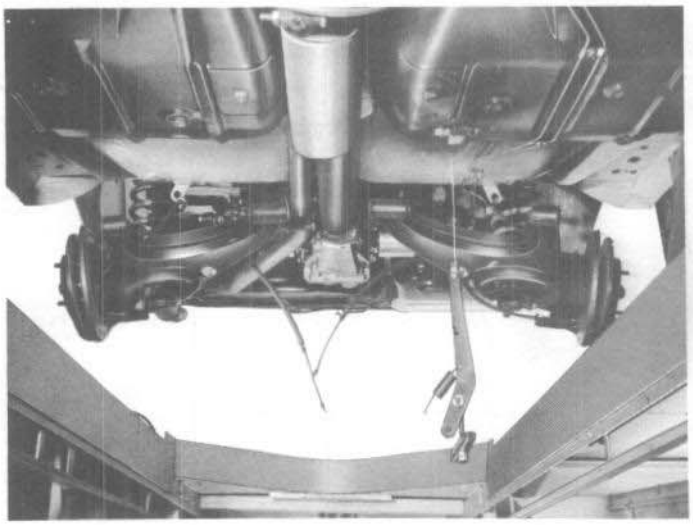
REAR AXLE
REAR CROSS MEMBER



- Chock the cross member so as to release the bars **K2** maintaining the cross member suspended from the floor of the car.
- Remove the bars **K2** and the guides **K1**.
- Raise the bodywork until the guides **K1** disengage completely.
- Remove the rear cross member.

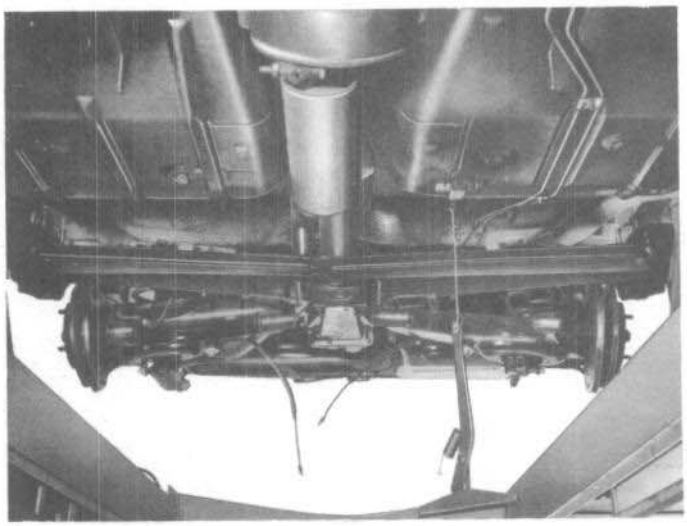
REAR AXLE

REAR CROSS MEMBER

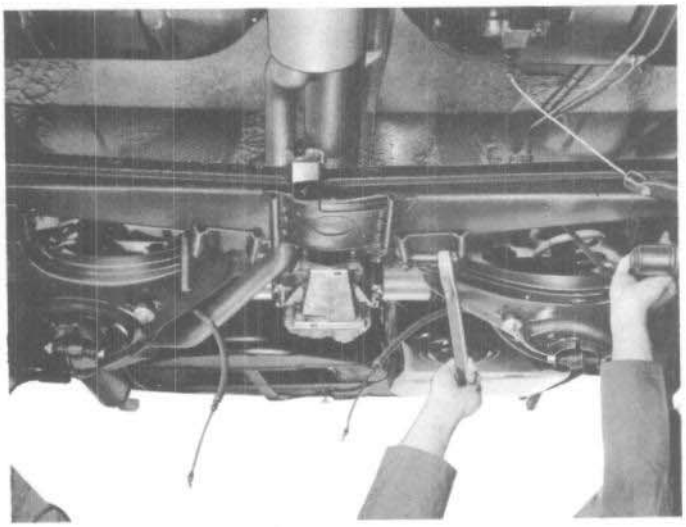


REFITTING

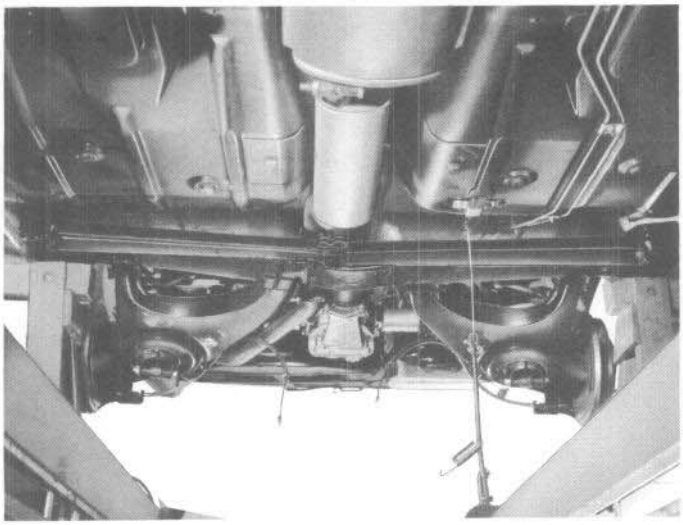
- Ensure that all parts are clean and free from all defect.
- If necessary assemble the cross member and the lateral supports as indicated in class 5, page 15 13.
- Thread the guides **K1** into the cross member supports.



- Position the cross member under the car floor.
- Engage the guides in their respective holes in the outer sidemembers of the car.
- Raise the cross member in such a way as to enable the insertion of the 2 bars **K2** in the guides **K1** from inside the car.

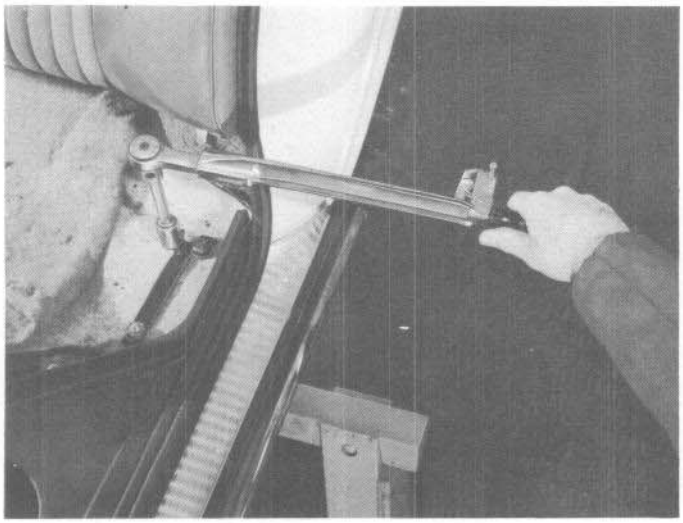


- Leave the cross member suspended from the two guides.
- Reposition the rear arm articulations in the yokes of the cross member using a tyre lever.
- Use the bars **J**, to position the pivots as indicated (class 5, page 16 04).
- Fit new Nylstop nuts on the pivots without tightening them.



- Raise the car at the rear and chock it under the lateral crossmember supports.

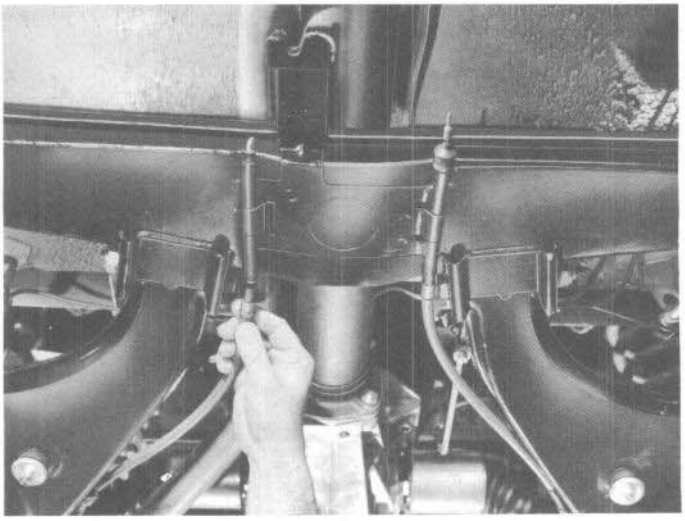
- Lower the rear of the car until the securing studs on the crossmember are positioned.



- Remove the two guides K 1 and fit in order :
  - the plastic guide hole plugs.
  - the six flat washers.
  - the two tab locks.
  - the six nuts **must be tightened either at - 29 ft.lbs** (4 m.kg) up to the serial numbers mentioned below
    or - **47 ft.lbs** (6.5 m.kg) as from the same serial numbers :

    504 A01 - 1 005 546
    504 A02 - 1 003 649
    504 A03 - beginning of series
    504 B02 - 1 032 357
    504 C02 - 1 009 769

- Lock the nuts by turning the tabs up around the nuts.



- Coat the rubber stop rings with pure Teepol.

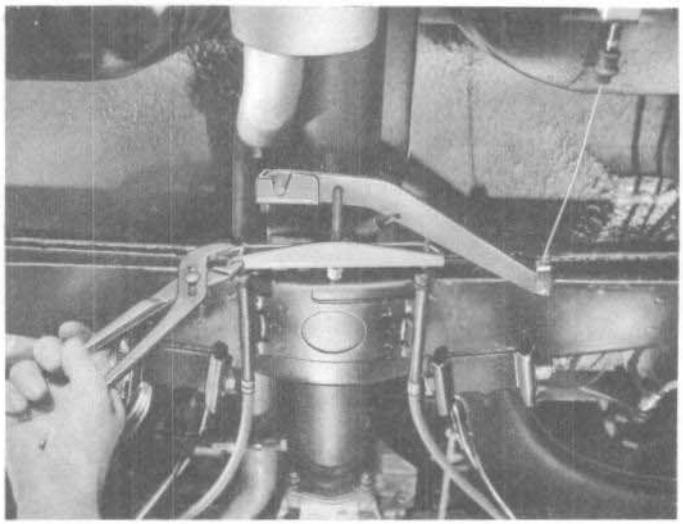
- Introduce the outer cable ends in their respective guides.

- Replace the protector covers.

- Refit the handbrake control equipped with a **new** relay arm.

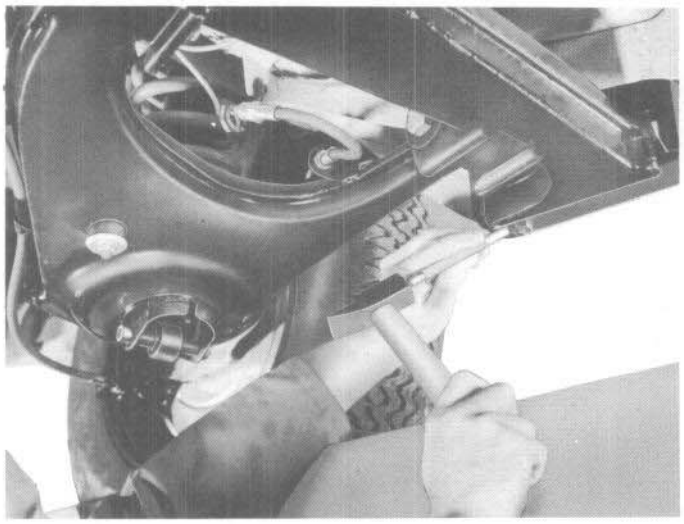
REAR AXLE

REAR CROSSMEMBER



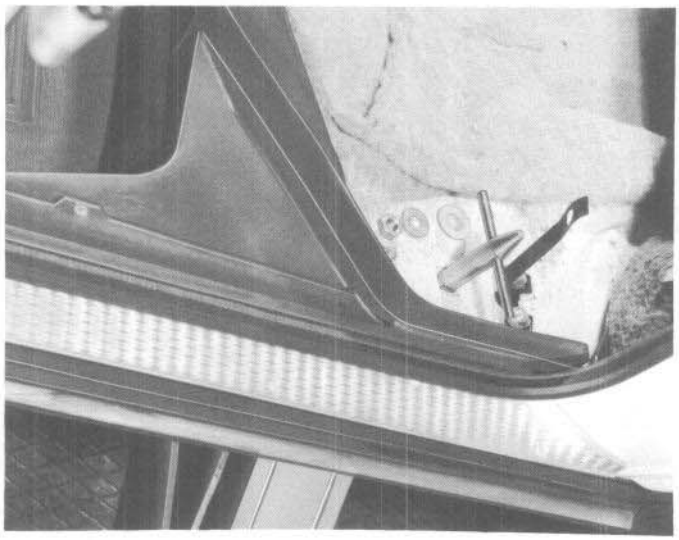
- Bend over the cable retaining tongues on the relay arm.
- Then adjust the handbrake as described in class 8.
- Reconnect the flexible hoses to the supports on the rear floor.

- Refit the rear wheels.
- Raise the rear of the car and withdraw the chocks.
- Tighten the rear wheel nuts to **43.5 ft.lbs** (6 m.kg).
- Seat two people in the rear of the car to bring the flexible bushings in the rear arms to their neutral position.
- Tighten the nuts of the rear arm pivots to **47 ft.lbs** (6.5 m.kg).

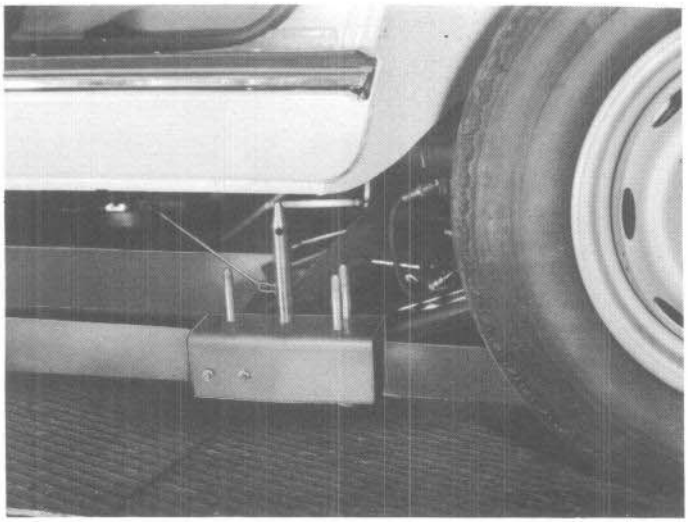


REMOVAL OF A REAR CROSS MEMBER SUPPORT

- Place the car over a pit or on a car lift.
- Unscrew the nut securing the rear brake hose to the support on the rear floor.
- Remove the hose from the support.
- Unlock the rear support shouldered nut on the rear block.
- Position a jack under the rear cross member support in contact with it.

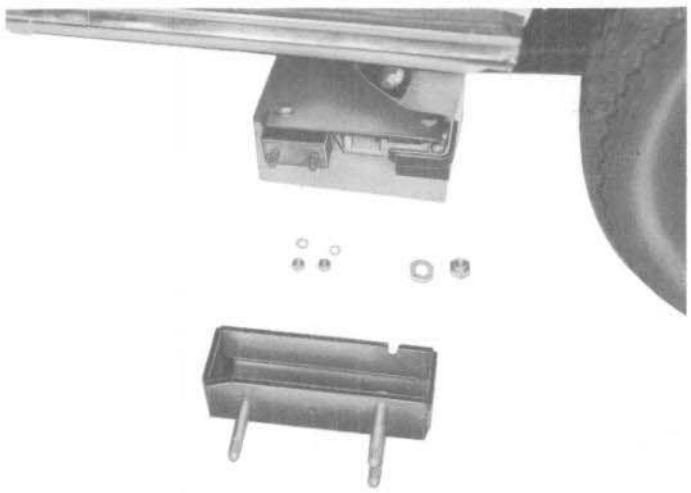


- Remove the rear seat cushion.
- Unlock the three cross member securing bolts.
- Remove the front securing nut.
- Raise the tab lock and remove the plastic plug from the guide hole.
- Screw into this hole the guide **K1** and tighten it using the bar **K2.**
- Remove the bar **K2.**

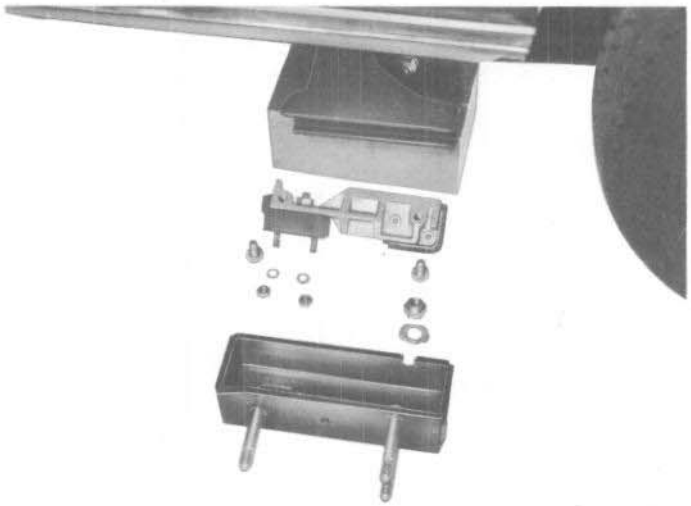


- Remove the rear securing nuts of the cross member and the thrust washers.
- Lower the cross member until the guide is disengaged from the bodywork.

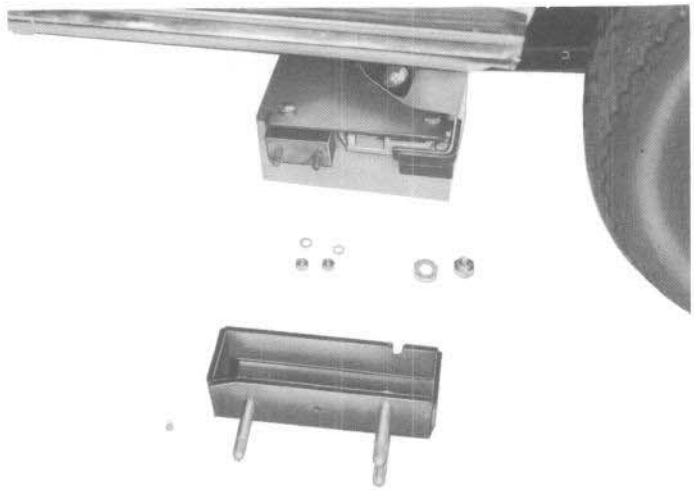
REAR AXLE
REAR CROSS MEMBER



- Place a wooden block approximately 10 cm thick under the end of the rear cross member.
- Remove the guide **K1**.
- Then remove the cross member support.

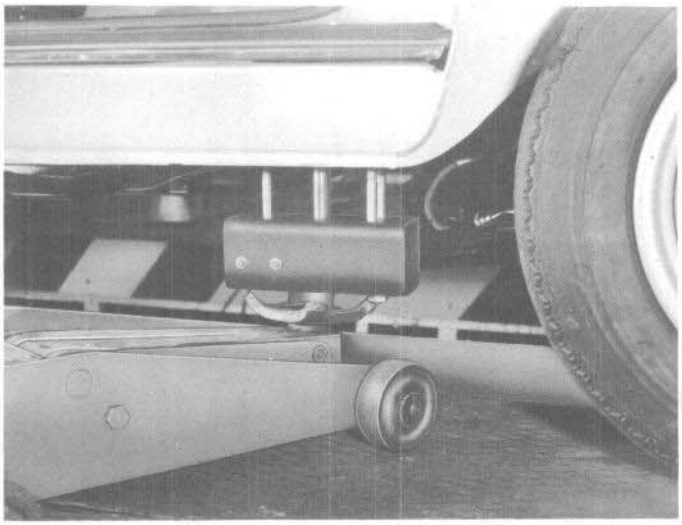


- Remove the intermediate support, in light alloy, together with its rubber blocks.
- If necessary replace the rubber blocks using new "Onduflex" washers.
- Tighten the nuts to :
  - **23.5 ft.lbs** (3.25 m.kg) front block.
  - **9 ft.lbs** (1.25 m.kg) rear block.

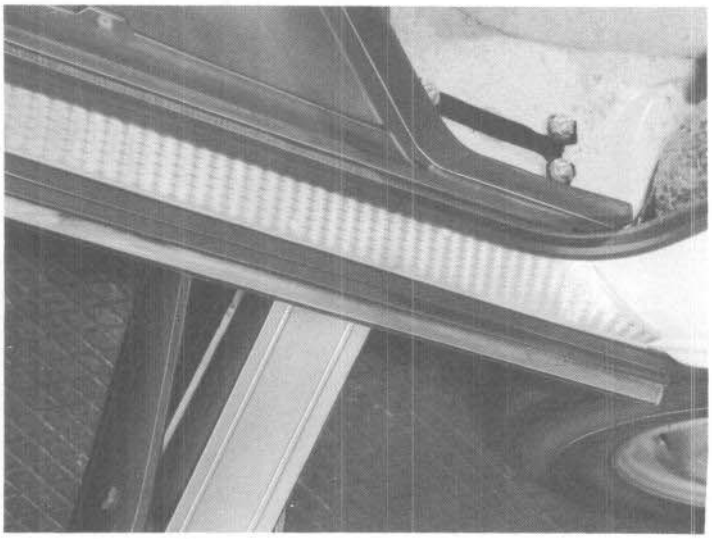


REFITTING OF A REAR CROSSMEMBER

- Secure the intermediate support to the cross member using new star washers.
- Tighten the bolts to **23.5 ft.lbs** (3.25 m.kg).
- Then fit the crossmember support to the rubber blocks using new star washers and a new locking washer.
- Tighten the two front nuts to **13 ft.lbs** (1.75 m.kg) and the rear nut to **23.5 ft.lbs** (3.25 m.kg) and lock by bending the tab tongues over the nut.



- Fit the guide **K1** to the crossmember support.
- Place a jack under this support and raise it until the three crossmember studs are completely engaged.



- Remove the guide **K1** and fit in order :
  - the plastic guide hole plug.
  - the three flat washers.
  - the tab lock.
  - the three nuts must be tightened either at : **29 ft.lbs** (4 m.kg) up to the serial numbers mentioned below, or : **47 ft.lbs** (6.5 m.kg) as from the same serial numbers.

    504 A01 - 1 005 546
    504 A02 - 1 003 649
    504 A03 - beginning of series
    504 B02 - 1 032 357
    504 C02 - 1 009 769

- Lock by bending the tab tongues over the nuts.

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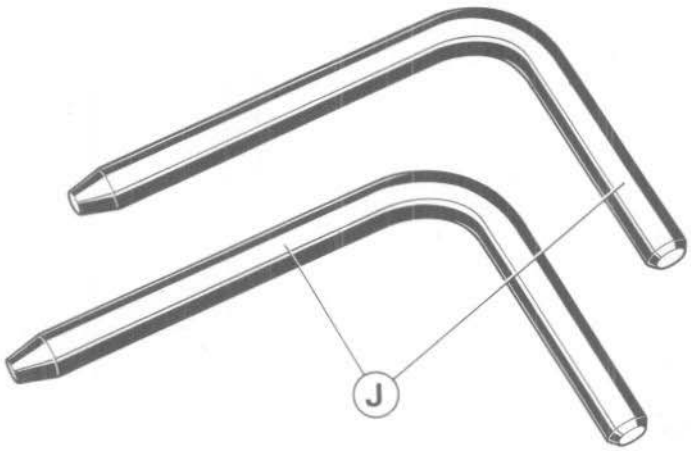


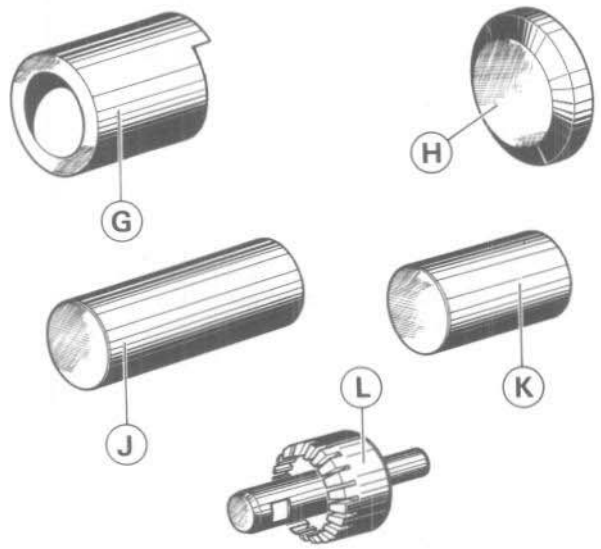
504 SALOONS

TOOLS TO BE USED

8.0906 Z

Tool chest for front and rear suspension.

J - Set of two bent rods for positioning the rear arms on the crossmember.



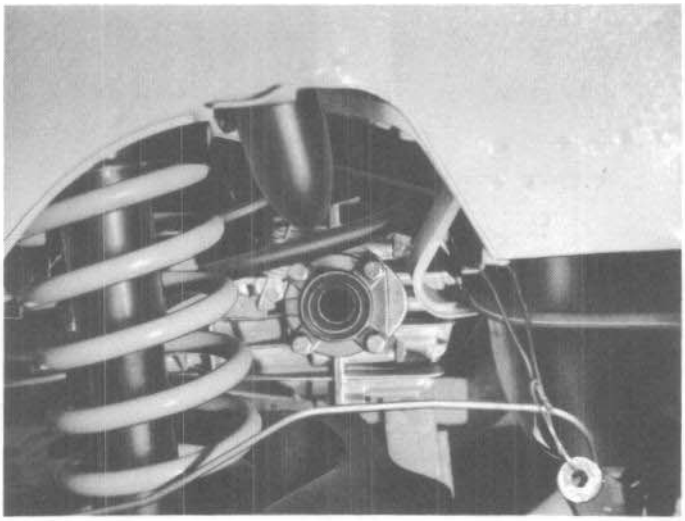
8.0907

Tool chest for front and rear rubber bushes.

G - Fitting and removing support for rear arm bushes
H - Fitting cup for rear arm bushes
J - Drift for removing rear arm inner bushes
K - Drift for removing rear arm outer bushes
L - Cutter for removing rear arm blocks.

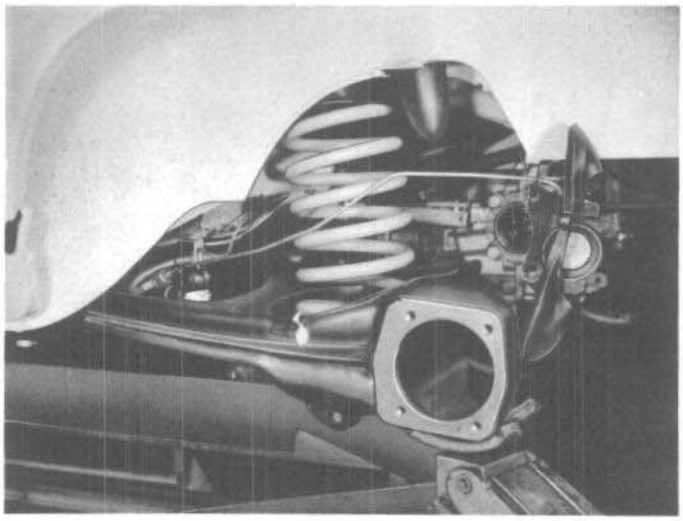
REAR AXLE

REAR ARMS

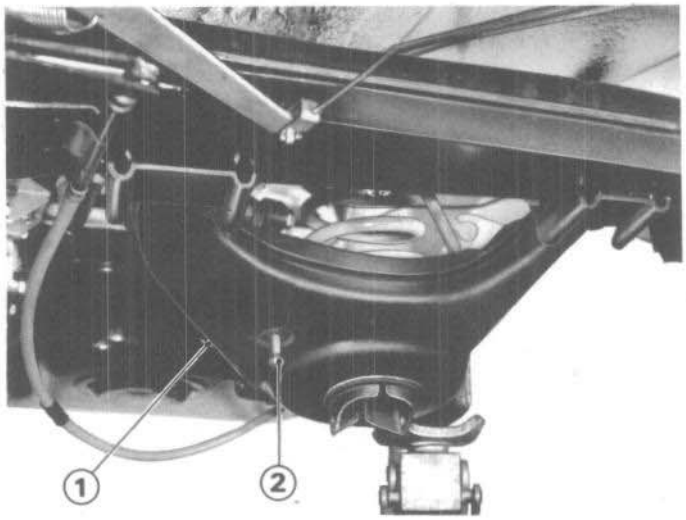


REMOVAL

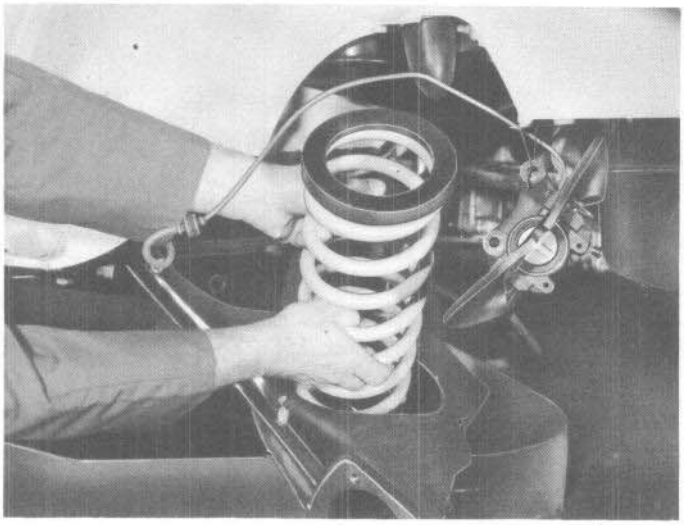
- Remove the drive shaft following the method indicated (Class 5, page 02 03 and 03).
- Raise the rear of the car and chock it under each cross member support
- Position a jack under the rear arm.
- Raise the rear arm so that the shock absorber is not fully extended.
- Remove the shock absorber.



- Remove the flexible hose from the lug on the rear arm by slackening the nut on the hose.



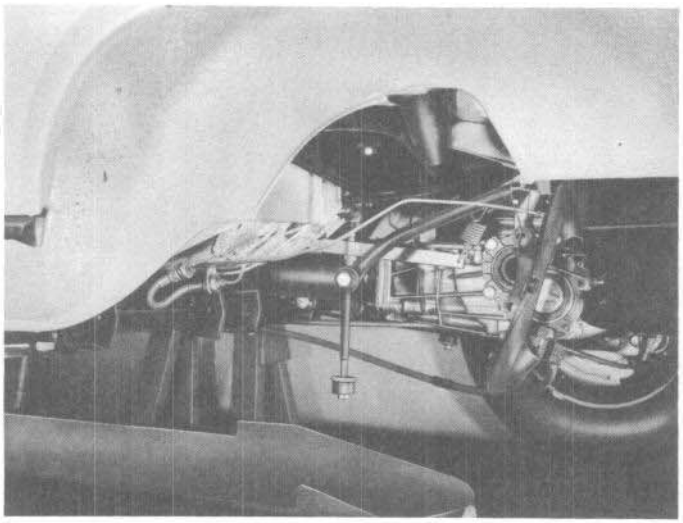
- Unclip the mounting 1 of the handbrake cable on the rear arm.
- Remove the nut 2 securing the anti-roll bar link under the rear arm.
- Withdraw the metal cup and the rubber washer and **refit the nut 2 immediately** to prevent the upper parts from falling inside the rear arm.



- Unscrew the rear arm pivot nuts.
- Lower the jack carefully until the suspension spring is fully extended.
- Remove the spring and its upper rubber cup.
- Withdraw the rear arm pivots.
- Remove the rear arm.

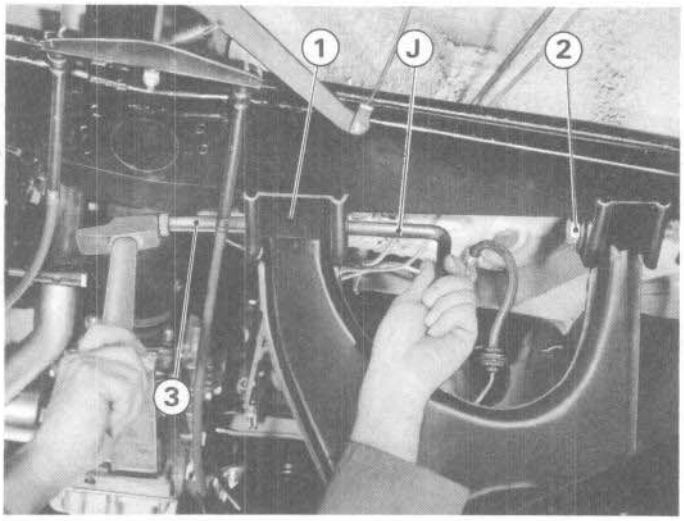
REAR AXLE

REAR ARMS

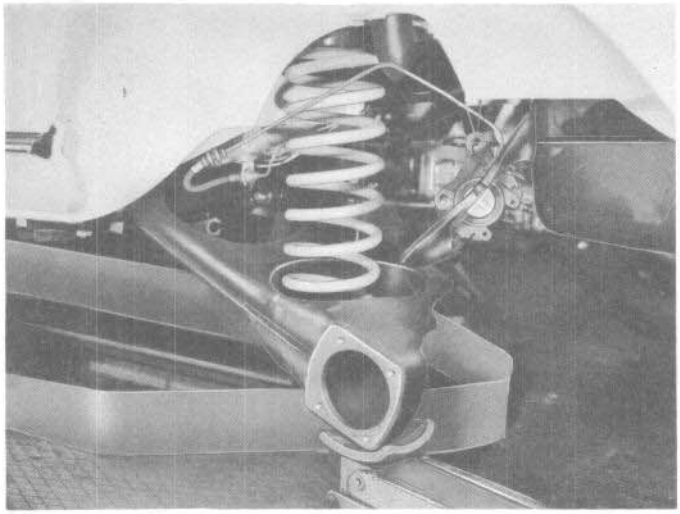


REFITTING

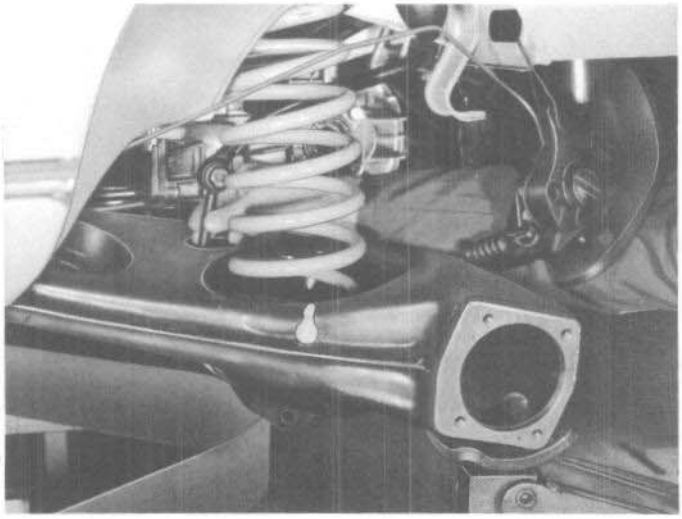
- Only fit parts which are clean and free from all defect.
- Check particularly the condition of the flexible bushings. In case of doubt, replace them following the method indicated (Class 5, page 16 11).
- Use new "Nylstop" nuts and **new** "Blocfor" and "Onduflex" washers.



- Position the rear arm in the corresponding yokes on the crossmember.
- Retain the inner articulation **1** using the bar **8.0906 J** and insert the outer pivot **2** in its housing.
- Then insert the inner pivot **3** in the correct direction of fitment.
- Fit the new "Nylstop" nuts without tightening them.

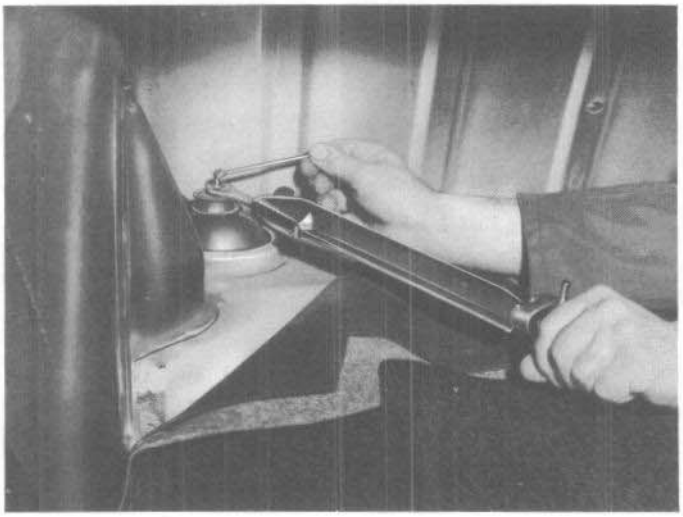


- Place a jack under the rear part of the arm.
- Coat the upper rubber spring cup with pure Teepol to facilitate its positioning.
- If this component needs replacing check for condition of interchangeability indicated in page 1103 class 9.
- Place the spring in between its upper and lower mountings.



- Raise the arm taking care that the spring centres correctly in their housings.

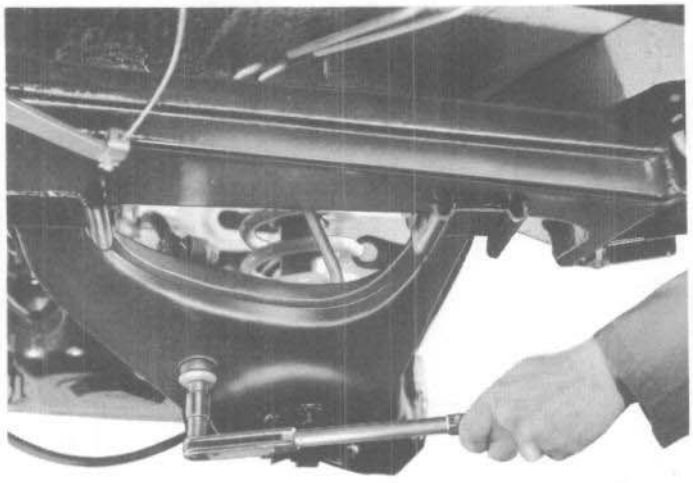
- At the same time guide the anti-roll bar connecting link into position in the rear arm.



- Replace the two rubber washers, the metal cup and the upper shock absorber securing nut.

- Fit the shock absorber without tightening the lower securing nut.

- Tighten the upper shock absorber nut to **9 ft.lbs** (1.25 m.kg).



- Lower and remove the jack.

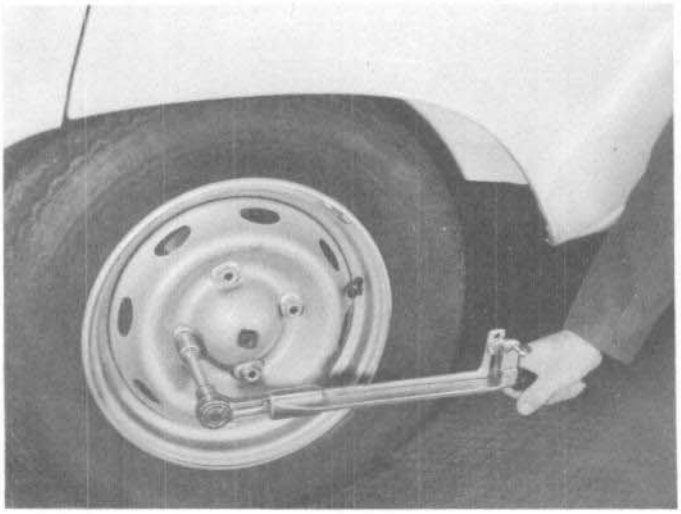
- Fit the rubber washer and metal cup on the anti-roll bar connecting link.

- Tighten the nut to **9 ft.lbs** (1.25 m.kg).

- Fit the rear arm :
  - the rear brake flexible hose
  - the hand brake cable

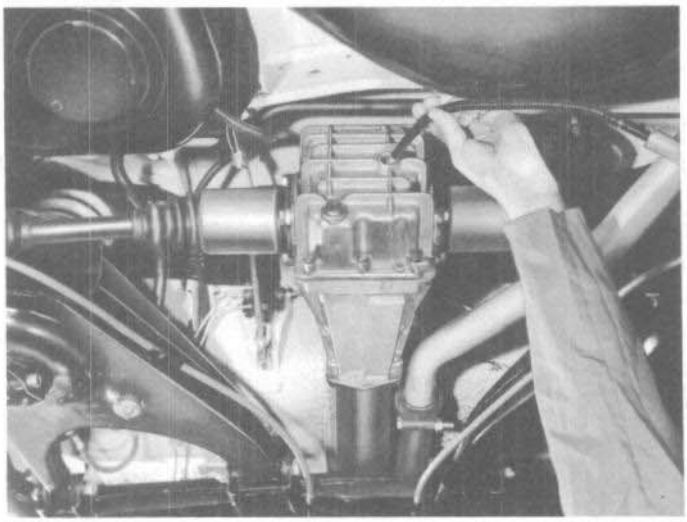
- Refit the half shaft following the method indicated (Class 5 page 02 05 and 06).

REAR AXLE
REAR ARMS

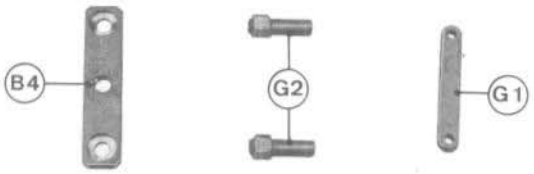


- Fit the wheel.
- Lower the car onto its wheels.
- Tighten the nuts to **43.5 ft.lbs** (6 m.kg).
- Fit the wheel trim.

- Seat two people in the rear of the car to neutralise the position of the flexible bushings.
- Tighten with a torque wrench :
  - the lower shock absorber nut to **33 ft.lbs** (4.5 m.kg).
  - the rear arm pivot nuts to **47 ft.lbs** (6.5 m.kg).



- Check the oil level in the differential and top if necessary using ESSO GEAR OIL GP 90.



504 CONVERTIBLES - COUPES

TOOLS TO BE USED

8.0521 Z

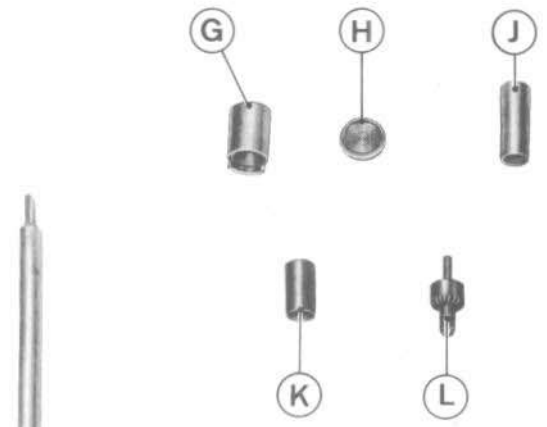
Tool chest for rear hubs

B4 - Hub carrier extractor plate
G1 - Extractor plate
G2 - Extractor plate nuts

8.0906 Z

Tool chest for front and rear suspension

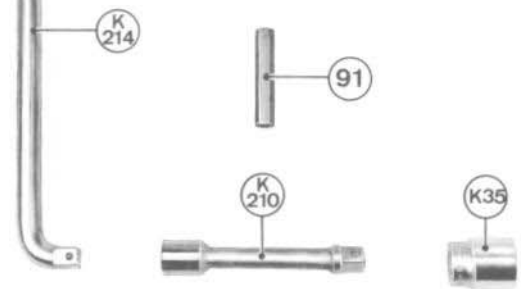
J - Set of 2 bent rods
R - Rear shock absorber rod holding tool



8.0907

Tool chest for front and rear rubber bushes

G - Thrust tube for rear arm rubber bushes
H - Cup for fitting the rear arm rubber bushes
J - Drift for removing the rear arm inner bush
K - Drift for removing the rear arm outer bush
L - Cutter for the rear arm bushes.



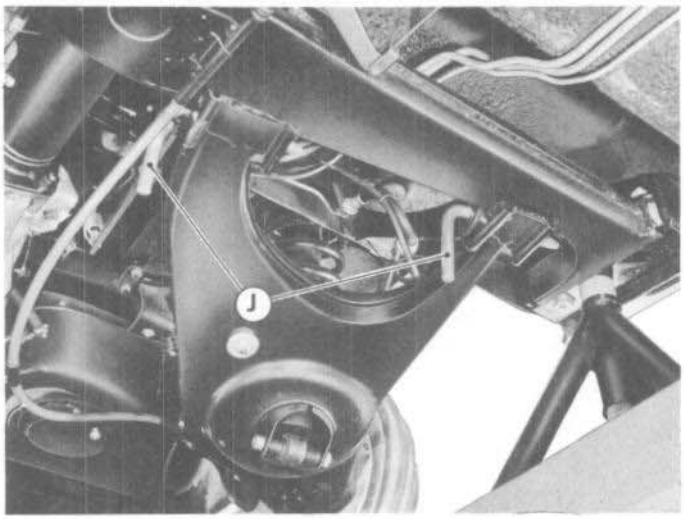
RECOMMENDED TOOLS

Standard Facom tools

K 214 - Torque wrench extension
K 210 - 200 mm extension
K 35 - 35 mm socket
91 * - Box spanner (12 × 13)

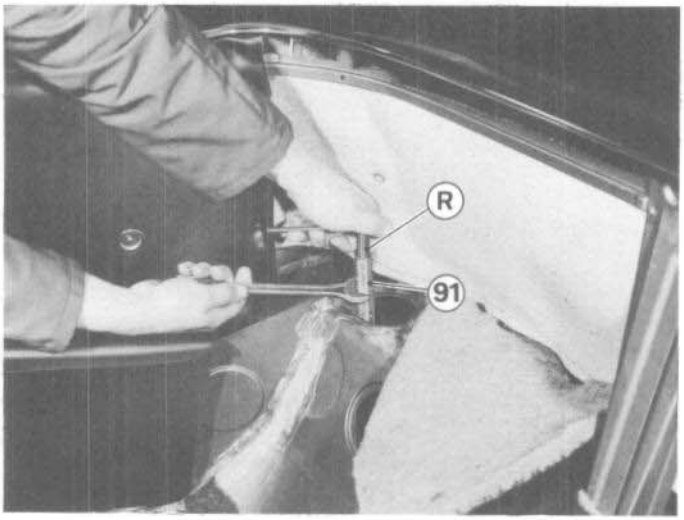
* for Convertible only

REAR AXLE
SUSPENSION ARMS

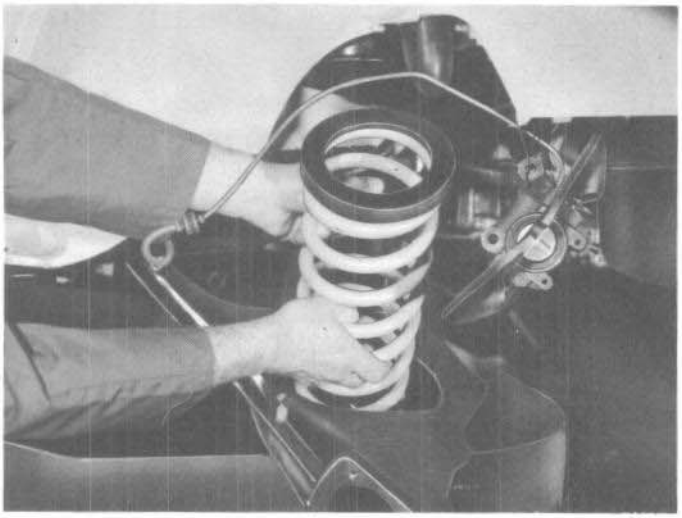


REMOVAL

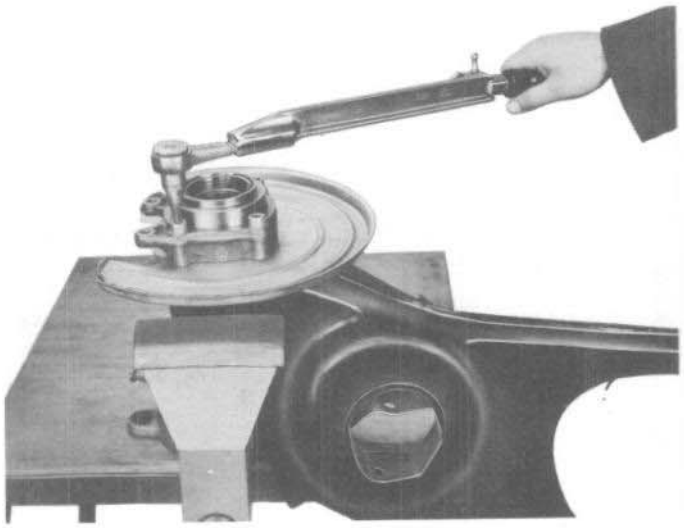
- Remove the drive shaft (class 4, page 12 12 and 12 13)
- The arm being temporarily joined to the cross-member with the rods **J**, remove the brake caliper, the rear hub and hub carrier (class 5, page 14 12 and 14 13).



- Place a jack under the arm and raise it until the shock absorber is no longer on maximum expansion
- Remove the shock absorber :
  - on **Convertibles,** use the box spanner **91** and the rod holding tool **R.**

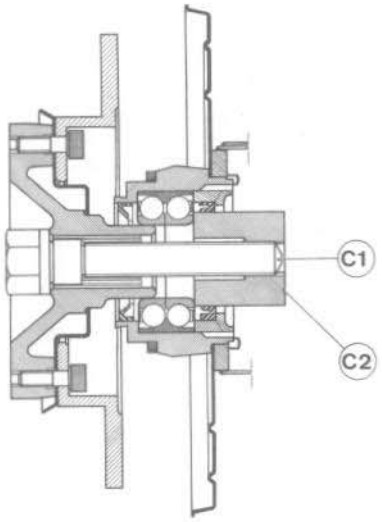


- Lower the jack until the suspension spring is completely freed
- Remove the spring and its upper rubber thrust cup
- Remove the rods **J**
- Remove the arm
- Remove from the arm :
  - the antiroll bar link.

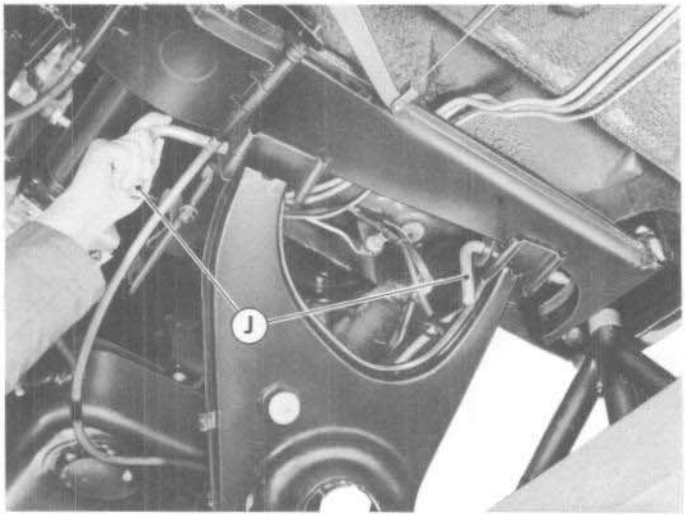


REFITTING

- All the parts must be perfectly clean and free from defect
- Check that the rubber bushes are in perfect condition and, if necessary replace them (class 5, page 16 21 and 16 22).
- Clamp the arm in a vice
- Secure the disc protector and the hub carrier, fitting **new** Blocfor washers.
- Tighten the Allen screws to 29 ft.lbs (4 m.kg)

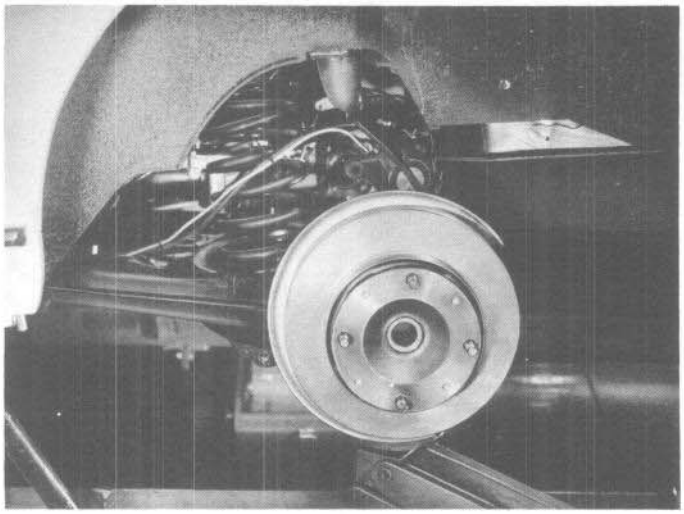


- Fit the hub in the carrier using the bolt **C1** and the nut **C2** as shown opposite
- Hold the nut **C2** with a 40 mm open end spanner
- Tighten the bolt **C1** until the hub abuts on the bearing.
- Remove the nut **C2** and the bolt **C1**.

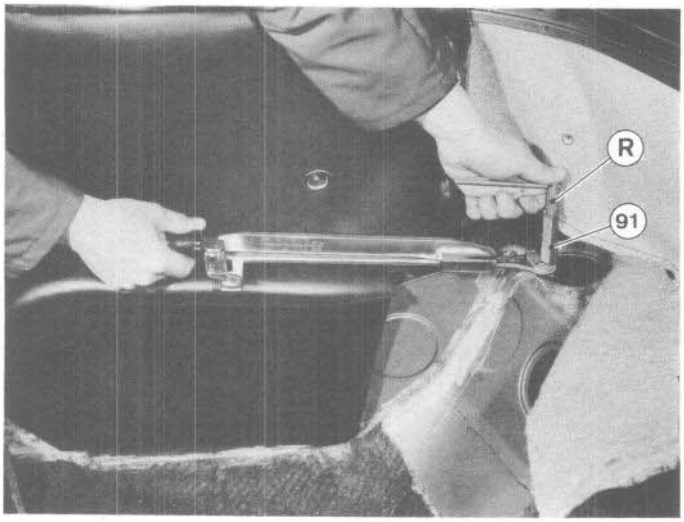


- Fit the antiroll bar link on the arm using a **new** Nylstop nut. Do not tighten yet.
- Place the arm in the yokes on the crossmember
- Insert the rods **J** to hold it in place temporarily

REAR AXLE
SUSPENSION ARMS

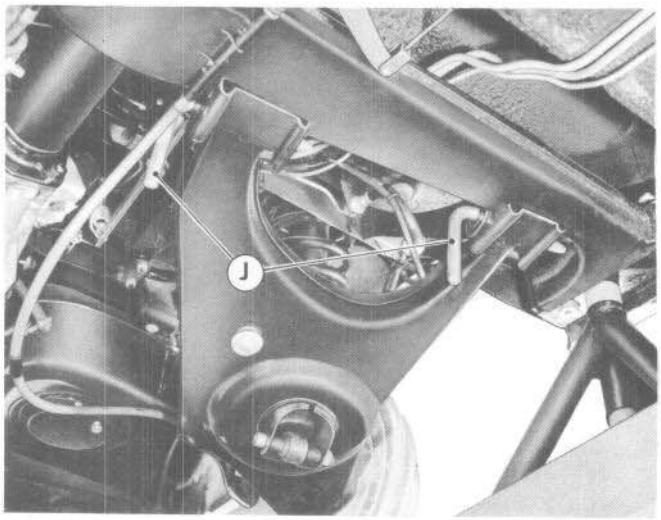


- Position a jack under the rear part of the arm
- Smear "Teepol" on the upper rubber thrust cup to facilitate its installing
- Place the spring between its supports and raise the arm making sure that the spring settles correctly

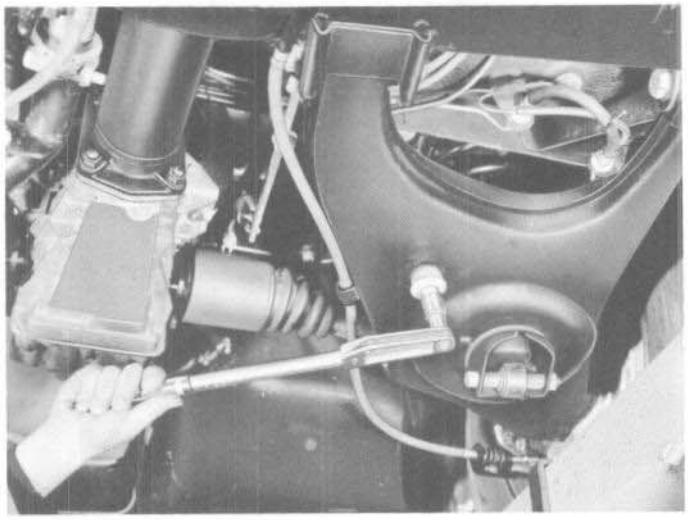


- Fit the shock absorber installing **new** rubber washers and a **new** metal cup and Nylstop nut.
- Tighten the upper nut to **9 ft.lbs** (1.25 m.kg)
- Fit the bottom pivot without tightening it
- **On Convertibles :**
  - use the box spanner **91** and the rod holding tool **R**

    Tighten the Nylstop nut, using the Facom torque wrench and a 16 mm open end head.



- Lower the jack and remove it
- Withdraw the two rods **J**
- Disengage the arms from the crossmember yokes



- Refit the drive shaft and rear brake (class 5, page 14 14)
- After fitting the wheel lower the car
- Have two people sit in the rear seats to position the bushes neutrally
- Using a torque wrench :
  - tighten :
    - the arm pivot nuts to **47 ft.lbs** (6.5 m.kg)
    - the antiroll bar link nut to **33 ft.lbs** (4.5 m.kg)
    - the shock absorber link pivot nut to **33 ft.lbs** (4.5 m.kg)
    - the nut securing the link to the rear arm to **9 ft.lbs** (1.25 m.kg).
- Check the oil level in the differential and top up if necessary (**Esso gear oil GP 90**).

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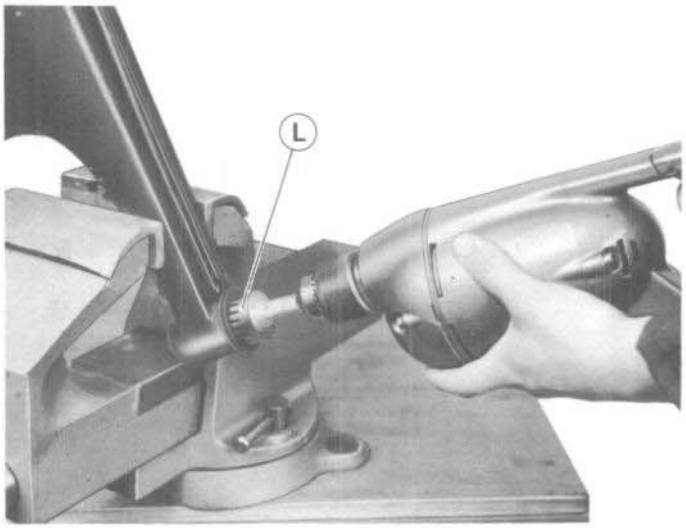


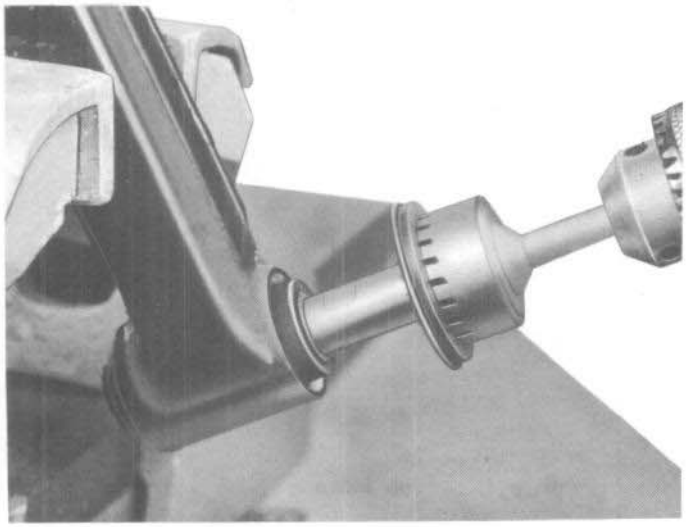
REPLACING THE RUBBER BUSHES

Important :

In order to prevent the rear arm from being damaged, thereby affecting the rear suspension adversely, it is essential to remove the shoulder of the bush with the cutter **L**.

Removal

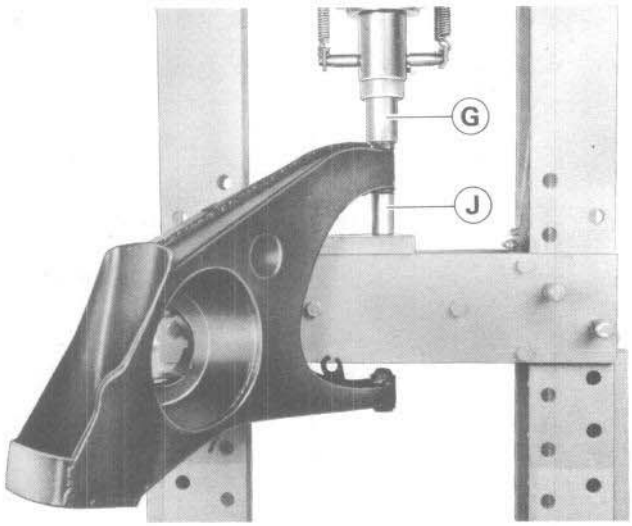
- Clamp the rear arm in a vice fitted with soft jaws.
- Use the cutter **L** in a drill with **a maximum speed of 600 r.p.m.**
- Cut the bush, either dry or using brake fluid, progressively to avoid overheating the cutter **L**.



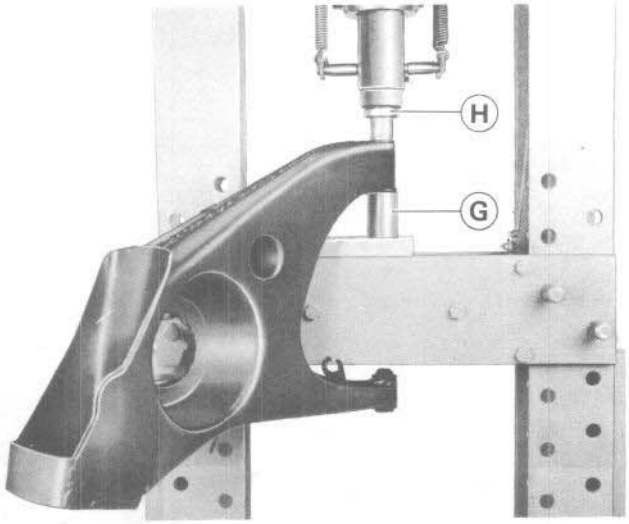
- Stop cutting as soon as the shoulder is released.
- **Do not continue cutting once the shoulder has been cut from the bush.**

REAR AXLE

REAR ARMS

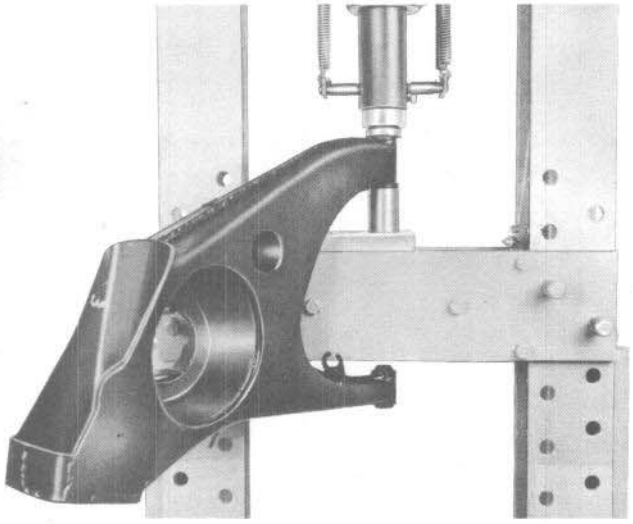


- Place in order on the press base :
  - the drift **J** for the inner bush or the drift **K** for the outer one.
  - the rear arm.
  - the fitting and removing support **G.**
- Lower the press piston to effect the complete disengagement of the bush, which should be found inside the support **G.**



REFITTING

- Smear the new bush and its housing with tallow.
- Place, in order, on the press base :
  - the support **G,** in the opposite position to that of removal.
  - the new bush, together with the cup **H.**
- Check the perfect alignment of this assembly.



- Lower the press piston until the bush shoulder is in contact with the arm.
- **Stop as soon as the pressure in the press hydraulic system begins to build up.**
- Never exceed a force of **three tons** when abutted.