PROPELLER SHAFT/DRIVE SHAFTS
SUMMARY

4

I - PROPELLER SHAFT

II - DRIVE SHAFTS

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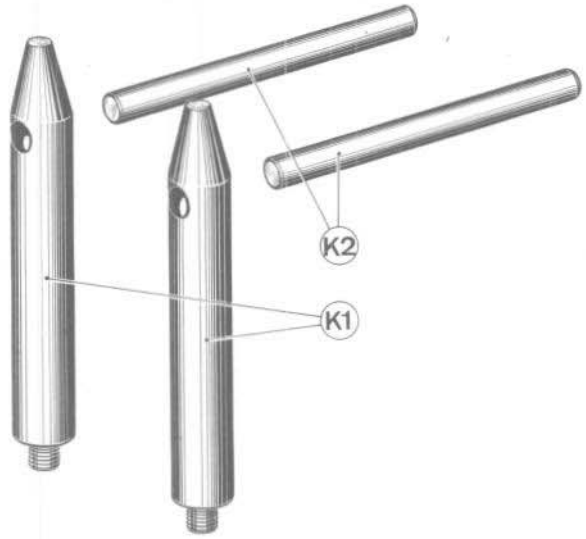
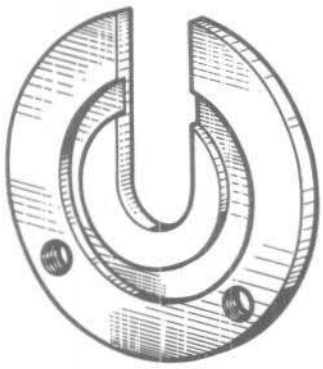


TOOLS TO BE USED

8.0906

Tool chest for front and rear suspension

- **K1** set of two rear cross member guide rods
- **K2** set of two bars

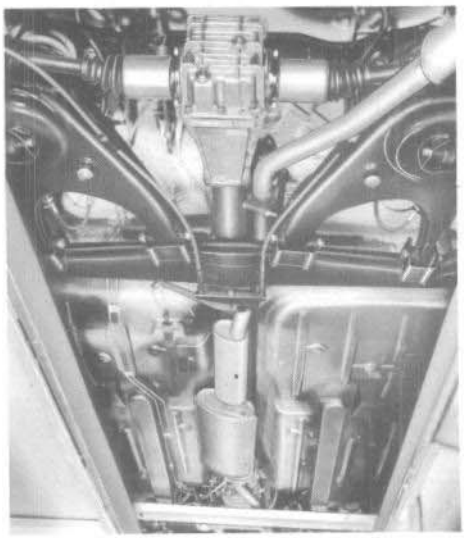


8.0403 S

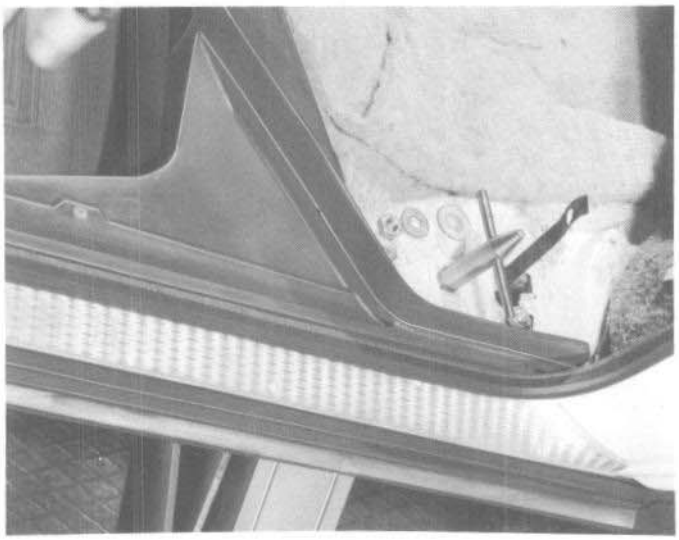
- Propeller shaft holding plate

PROPELLER SHAFT

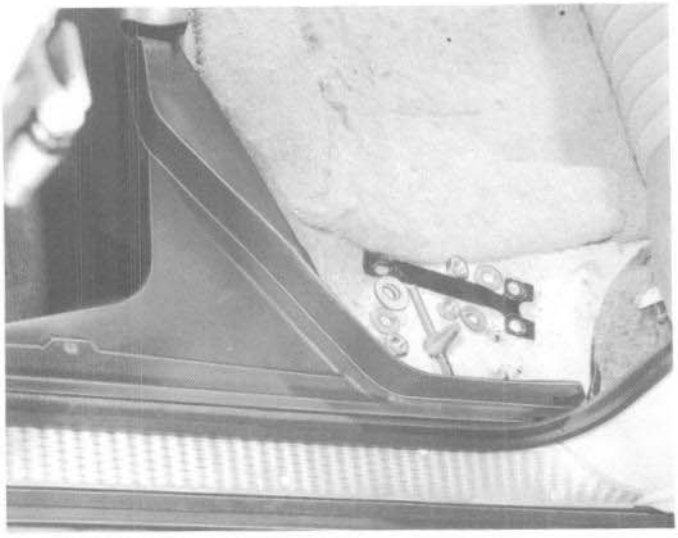
REMOVAL



- Place car on a car lift or a pit.
- Remove the exhaust pipe assembly and let it rest on :
  - the rear cross member, at the rear,
  - and at the front on a support transversally positioned.
- Remove the heat dissipation plate.
- Remove both Allen screws securing the rear axle. Rest the rear part of the connecting tube on the rear cross member.
- Place a jack under the cross member left hand support.



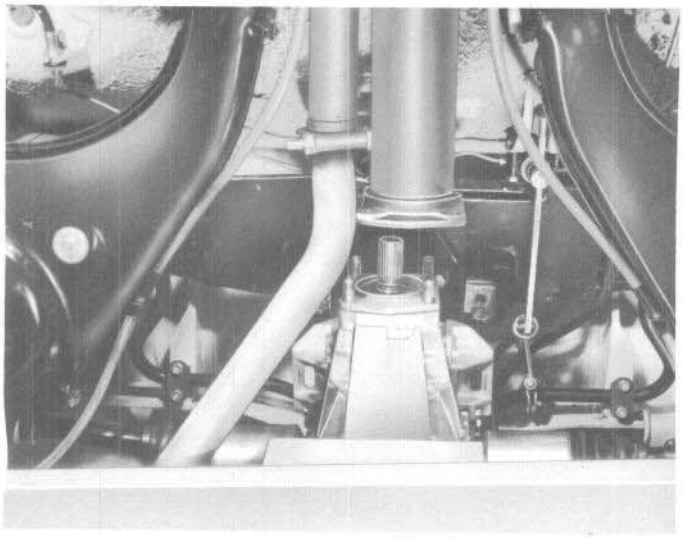
- Remove the rear seat cushion.
- Unlock all three securing nuts of the cross member.
- Remove the front securing nut.
- Raise the tab lock or locking washer.
- Remove the plastic plug from the guide hole.
- Firmly tighten guide rod **8.0906 K1** into this hole. Lock using bar **K2.**



- LEAVE THE ROD IN THE GUIDE HOLE
- Remove the cross member rear securing nuts and the thrust washers.
- Lower the cross member until the bar bears against the floor.
- **The same operations should be carried out on the right hand side.**

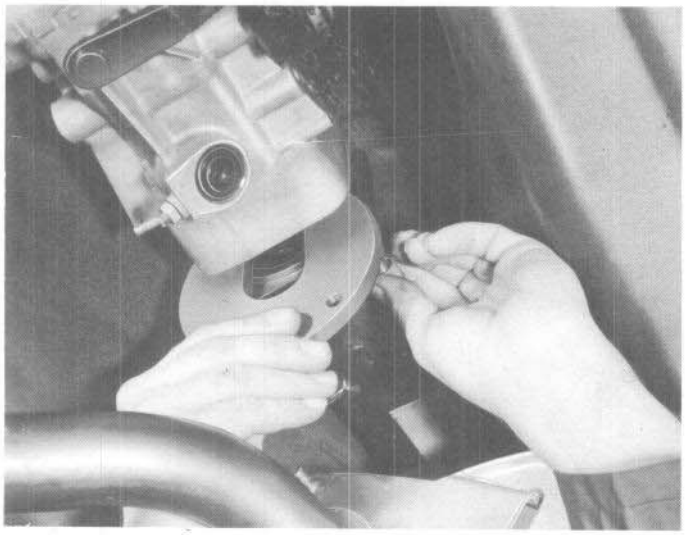
PROPELLER SHAFT

REMOVAL

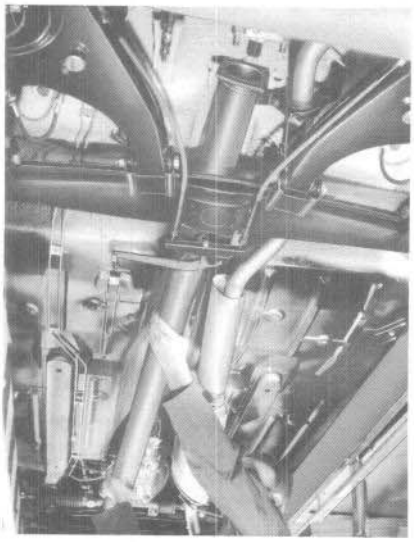


- Separate the differential from the connecting tube.
- Move the differential rearwards and rest it on a wooden block.
- Remove the spring located inside the propeller shaft.

N.B. - *In order to be able to move the car freely, the differential can be secured to the suspension crossmember using two 204 cylinder head bolts.*



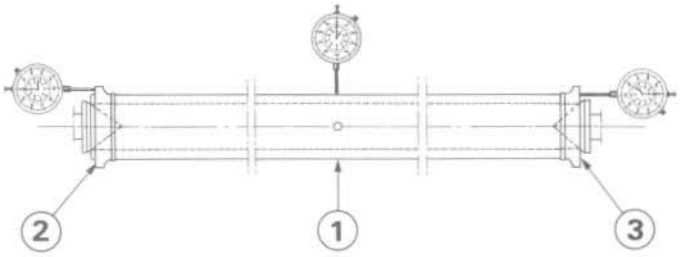
- Remove the four Allen screws securing the connecting rod to the gearbox.
- Separate the tube from the gearbox by approx. 20 mm.
- Insert the propeller shaft holding plate **8.0403 S** between them.
- Using two Allen screws M 10 × 150 secure this plate to the tube lower part.



- Lower the exhaust pipe downwards at the front.
- Separate the propeller shaft from the gearbox.
- Bring the assembly connecting tube propeller shaft forward to withdraw it.

PROPELLER SHAFT

REFITTING



CHECKING

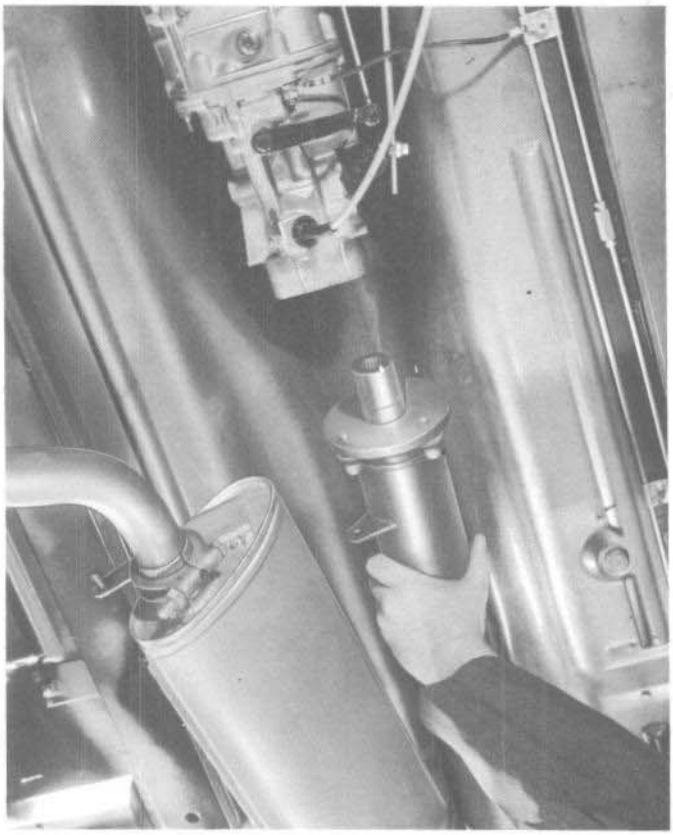
- **Connecting tube**
- Place the tube between two centering pins.
- Using a dial indicator check :
  - the out of true 1 on the grease nipple right hand side.

    Maximum out of true : 2 mm
  - the warping of the bearing surfaces 2 and 3.

    Maximum warping : 0.05 mm

- **Propeller shaft**
- Place propeller shaft between two centering pins.
- Using a dial indicator check the maximum out of true on the central bearing surface.

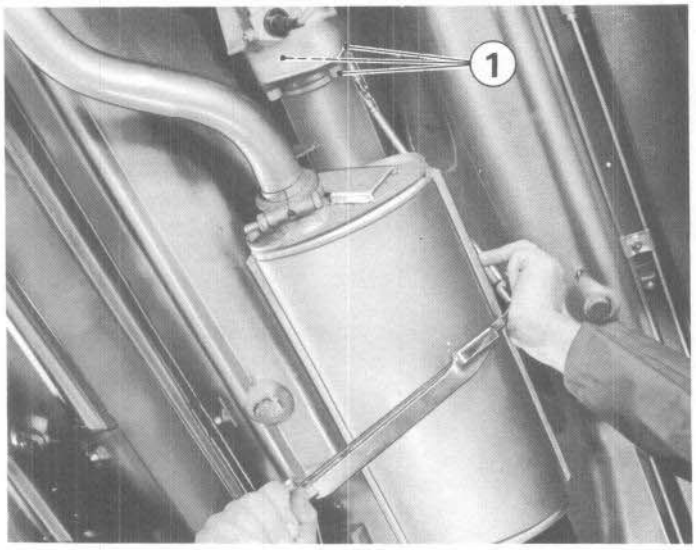
  Maximum out of true : 0.2 mm



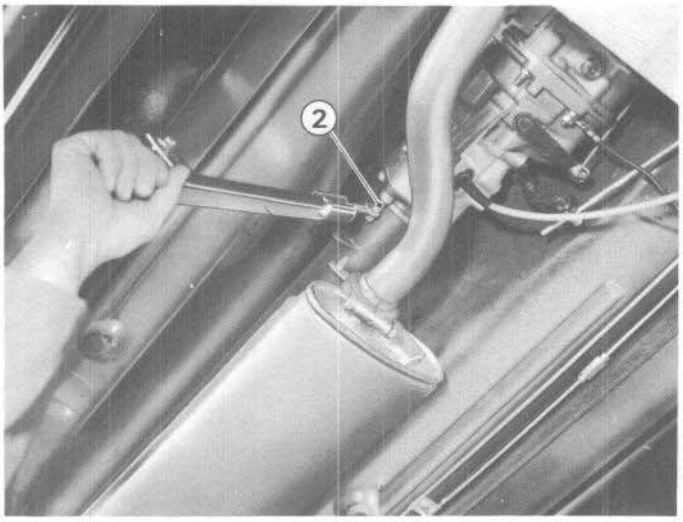
REFITTING

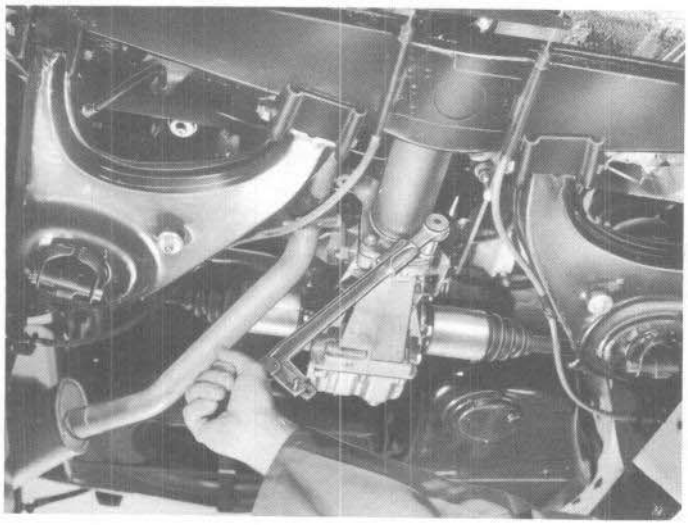
- Ensure that the tube, the gearbox and differential bearing surfaces are perfectly clean.
- Press the propeller shaft front part against the tube using holding plate **8.0403 S.**
- Smear MULTIPURPOSE GREASE H on the front part of the propeller shaft splines.

PROPELLER SHAFT
REFITTING



- Rest the connecting tube on the crossmember at the rear.
- Engage the propeller shaft sleeve with the gearbox output shaft.
- Remove plate **8.0403 S.**
- Fit all four Allen assembling screws equipped with **new** Blocfor washers.
- Tighten the three Allen screws 1 to **43.5 ft.lbs (6 m.kg).**
- The fourth one 2 should also be tightened to **43.5 ft.lbs (6 m.kg)** using the 8 mm male hex head socket and the Facom torque wrench equipped with a fork extension.

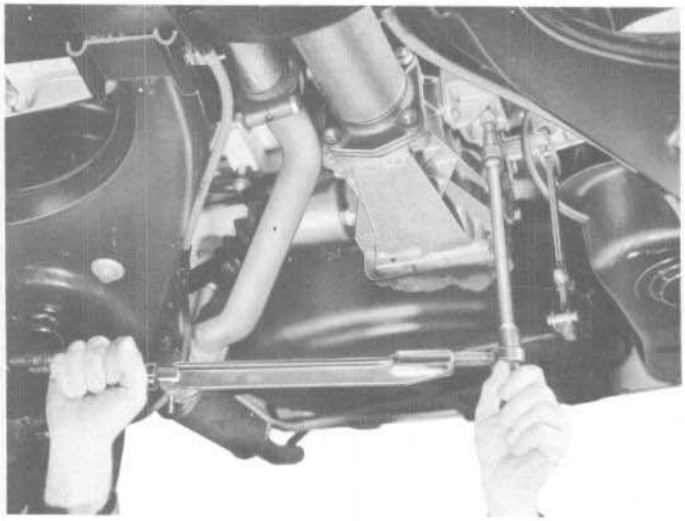




- Smear the propeller shaft splines with grease.
- Fit the spring inside the propeller shaft.
- Couple the differential with the propeller shaft.
- Fit four **new** Blocfor washers onto the assembling studs.
- Tighten the nuts to **43.5 ft.lbs (6 m.kg).**

PEUGEOT

PROPELLER SHAFT
REFITTING



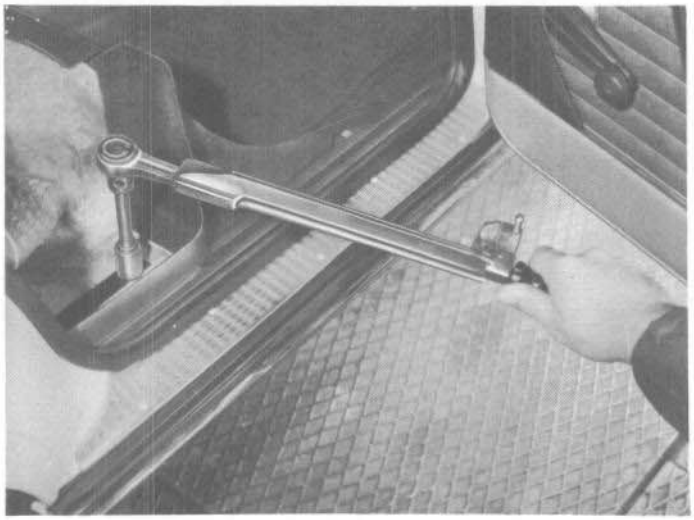
- Using two Allen screws equipped with **new** Blocfor washers, equipped with counter plates, secure the differential to the suspension cross-member.

- Tighten the screws to **27 ft.lbs (3.75 m.kg).**

- Refit the heat dissipation plate.

- Refit the exhaust pipe assembly and install a **new** clamp gasket.

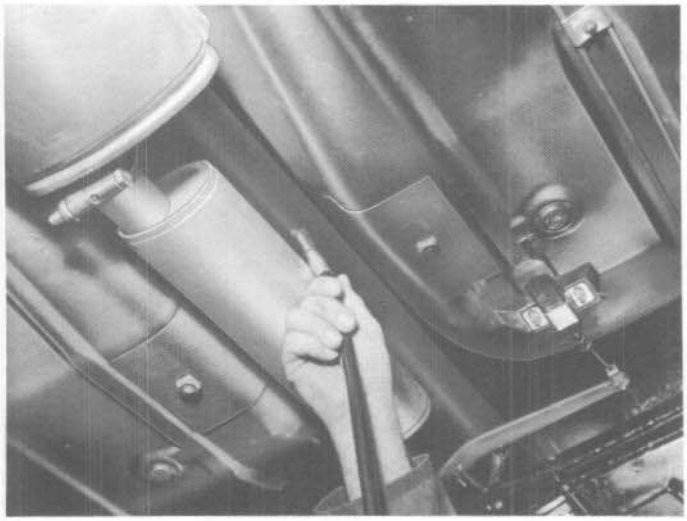
- Properly centre the assembly to avoid contact with the connecting tube, the rear crossmember and the floor.



- Place a jack under the right hand lateral support and raise the crossmember until it comes into contact with the floor.
- Remove guide **K1.**
- Close the guide hole using the plastic plug.
- Following the order given below, install the following parts on the studs :
  - the flat washers
  - a **new** tab lock
  - the securing 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.
- **To secure the rear crossmember in position carry out the same operations on the left hand side.**



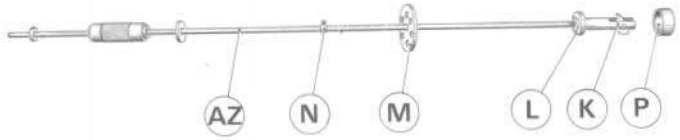
- Refit the rear seat cushion.

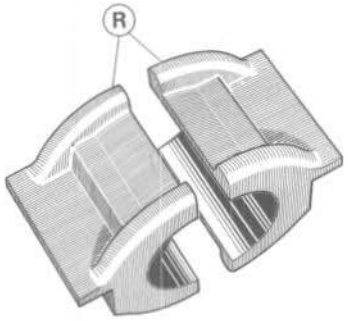
- Grease the propeller shaft centre bearing.

- Check gearbox oil level : top up if necessary using ESSO EXTRA MOTOR OIL 20 W 30/40.

PROPELLER SHAFT

REMOVAL-REFITTING OF CENTRE BEARING





TOOLS TO BE USED

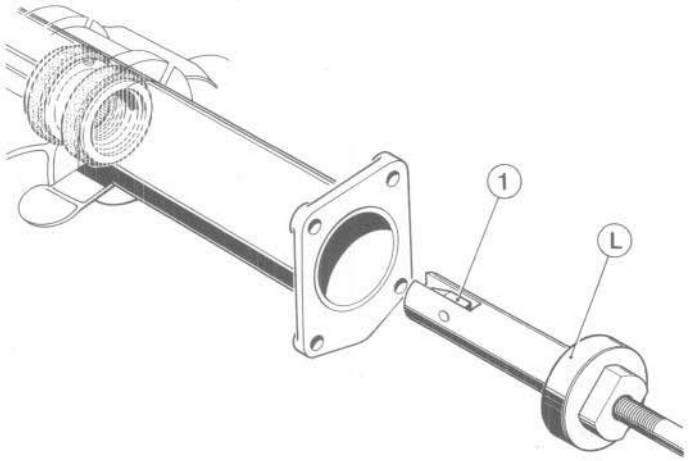
8.0403 U

- Tool for fitting the centre bearing into the connecting tube comprising of :

AZ - Impact puller
K - Puller assembly
L - Installing stop
M - Plate
N - Adjustment sliding ring
P - Guiding ring.

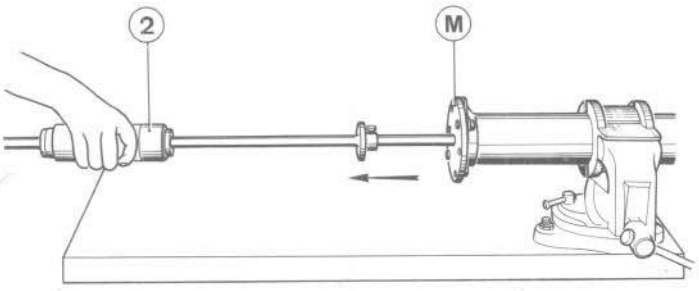
R - Connecting tube support.

PROPELLER SHAFT
CENTRE BEARING REMOVAL



- Hold connecting tube equipped with support **R** in a vice.
- Remove grease nipple.
- Engage tool **8.0403 U** inside tube (ensuring correct positioning in order that the rocking lever **1** remains horizontal) until stop **L** touches the bearing.
- Secure plate **M** on tube.
- Using the impact puller tap on the tool so that the bearing can be pushed by a few centimetres thereby releasing same.

***NOTE** - The above operation is of great importance because due to the relatively small contact surface of the rocking lever on the bearing race, there is some risk of breaking the race during removal.*



- Turn the tool half a turn in order that the rocking lever lies vertically.

  Remove the bearing using impact puller **2** until it abuts on plate **M.**
- Then remove plate **M** and afterwards the bearing
- Clean, examine and replace all defective parts.

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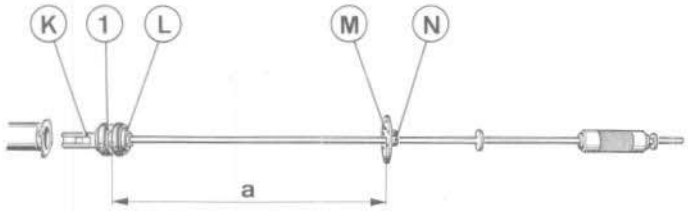
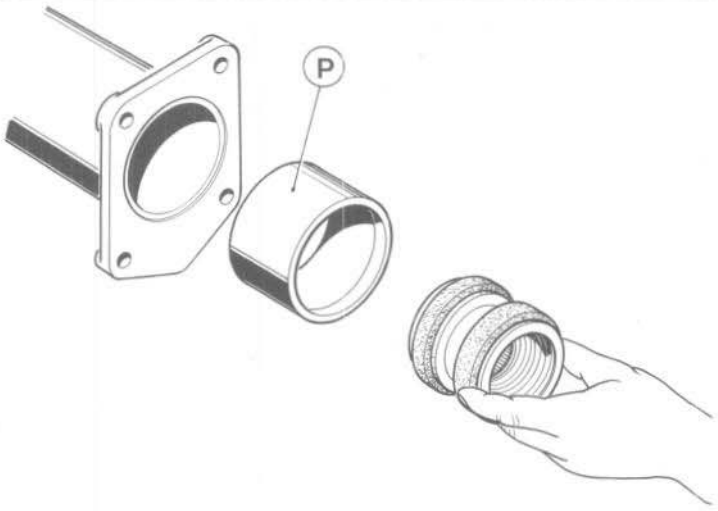
PROPELLER SHAFT
CENTRE BEARING REMOVAL

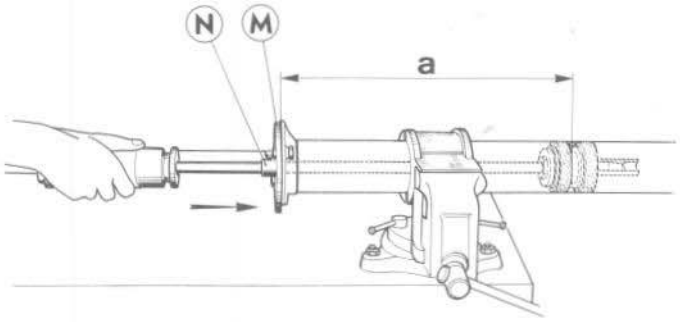
4 0303



- Hold connecting tube equipped with support **R** in a vice.
- Prepare tool n° **8.0403 U**
  - screw puller **K** until threaded rod touches the thick part of the rocking lever so that same be immobilized.
- Lock tightly installing stop **L** against puller **K**.
- Place bearing **1** on puller **K**.
- Measure on connecting tube dimension **a** between grease nipple and attachment clamp.
- Apply this dimension **a** on the tool between centre bearing lubrication grrove **1** and plate **M**.
- Bring sliding ring **N** against plate **M** and tighten its attachment screw.



- Using engine oil lubricate inside of connecting tube.
- Dip complete bearing in oil, then insert bearing in torque tube using guiding ring **P** or if necessary a mallet.



- Engage tool in the bearing.
- Secure plate **M** on connecting tube.
- Using impact puller tap on the tool until sliding ring **N** touches plate **M**.
- **Through grease nipple hole ensure correct positioning of bearing lubrication groove.**
- Fit grease nipple.

PEUGEOT

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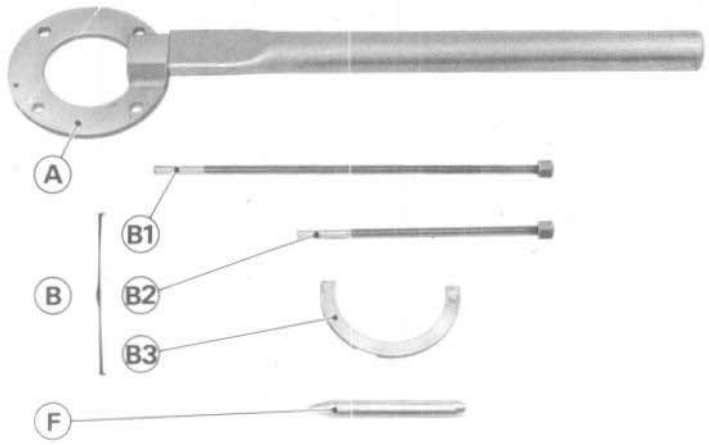


504 SALOONS

TOOLS TO BE USED

8.0521 Z

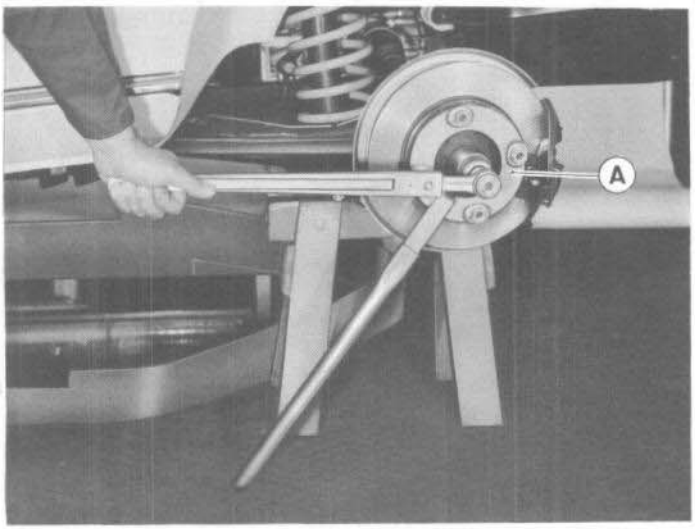
Tool chest for rear hub bearings

A - Hub retaining tool
B - Hub carrier extractor consisting of :
B1 - long bolt
B2 - short bolt
B3 - thrust plate

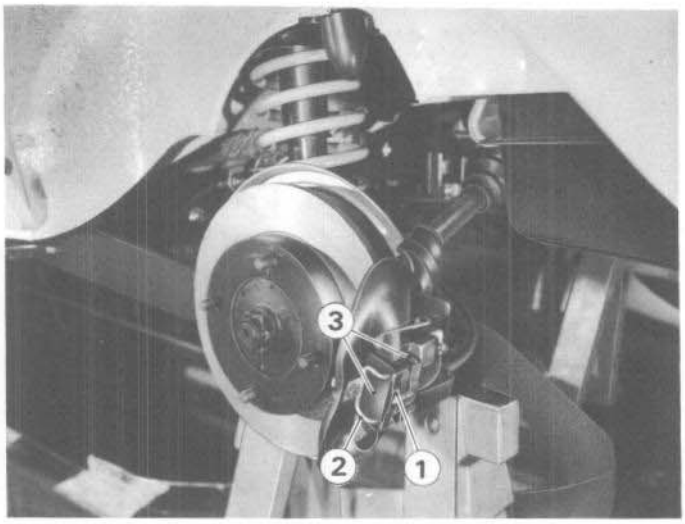
F - Locking punch

DRIVE SHAFTS

REMOVAL

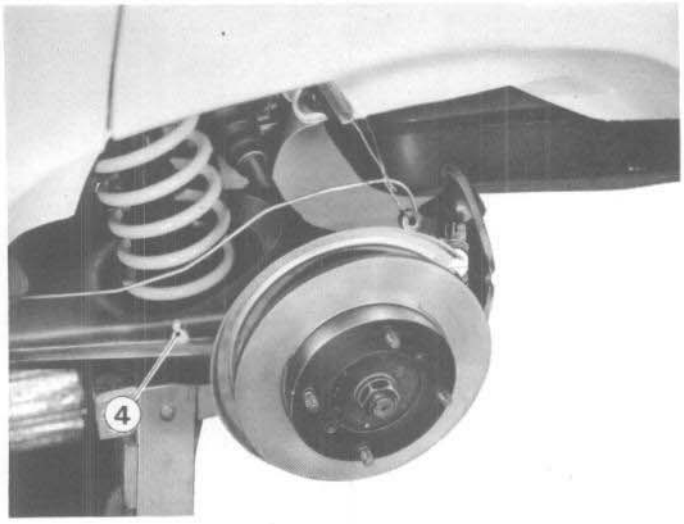


- Raise the rear of the car and chock it under the suspension arm as shown opposite.
- Remove the wheel
- Fit the hub holding tool **8.0521 A** on the hub.
- Slacken the hub nut without removing it.
- Remove the holding tool.

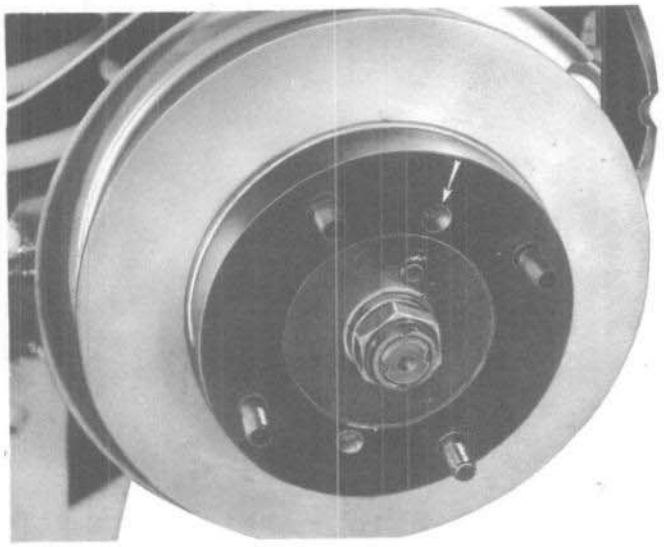


. Remove :

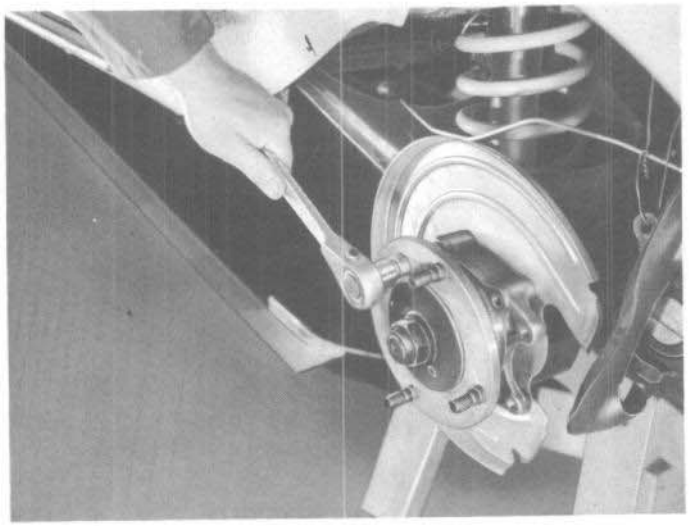
- the thrust spring **1**,
- the retaining fork **2**,
- the brake pads **3**.



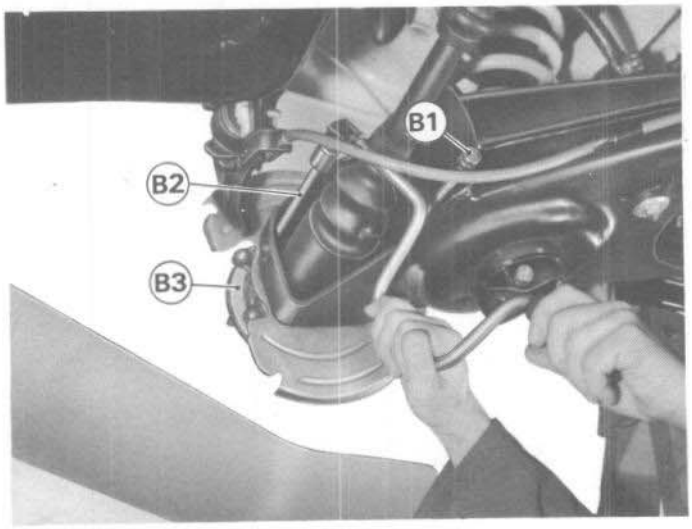
- Open the brake line retaining clamp **4** on the rear arm.
- Remove the Allen screw securing the caliper using an 8 mm Allen socket.
- Remove the caliper, without distorting the brake line, and suspend it from the bodywork.



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



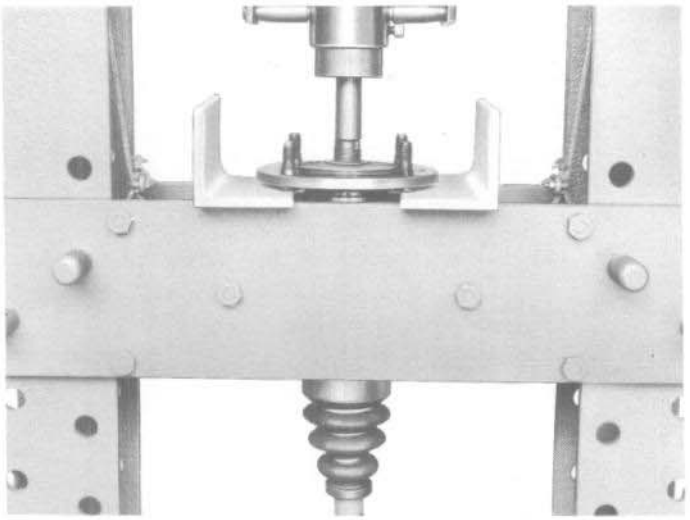
- Remove the four Allen screws securing the knuckle to the suspension arm.
- Use an extension for this operation and insert it in the hub hole provided for this purpose.



- Remove hub/steering knuckle/drive shaft assembly using screws **B1 and B2** (tool chest **8.0521**) positioned diagonally and fit thrust plate **B3** onto the hub.
- To remove rear arm knuckle alternately tighten screws **B1 and B2** which will bear against plate **B3.**
- Remove backing plate and screws.

DRIVE SHAFTS

REMOVAL

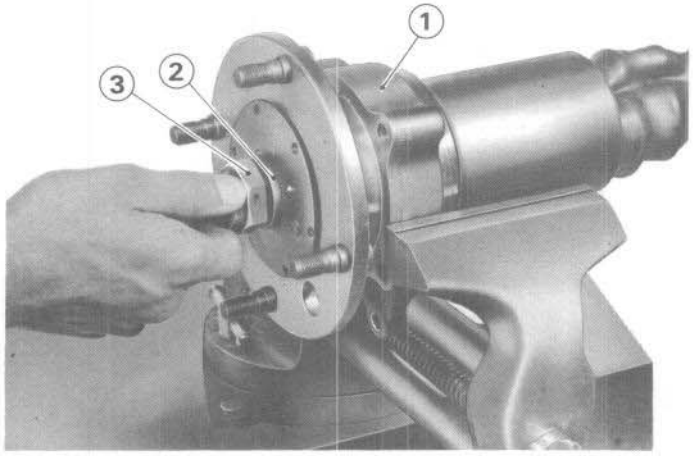


- Remove the hub nut.

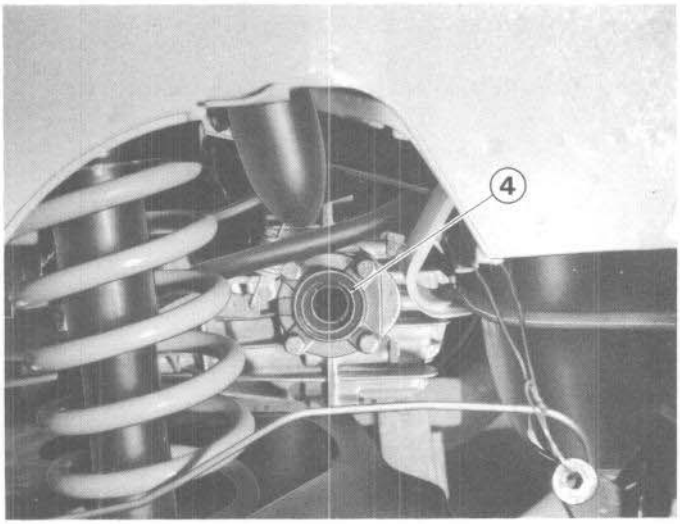
- Set aside the washer.

- Remove the drive shaft from the hub knuckle using a press if necessary.

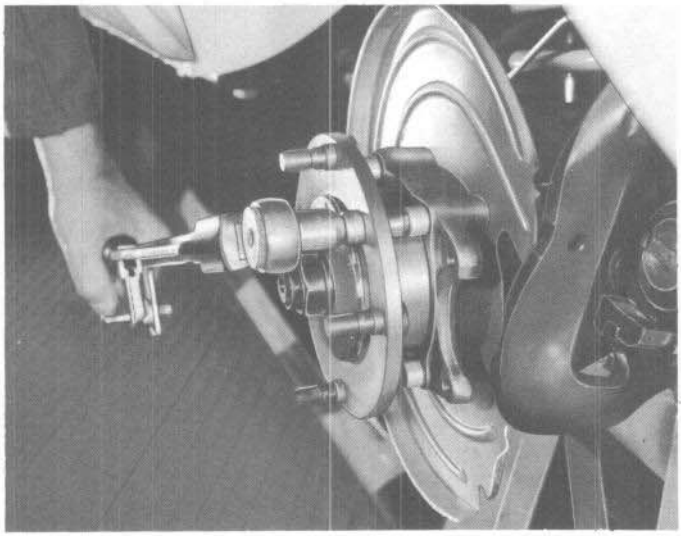
DRIVE SHAFT
REFITTING



- The parts should be throughly clean and free from any defect.
- Hold hub/knuckle **1** in a vice.
- Smear the drive shaft splines, wheel side, with Molykote 321.
- Engage the drive shaft into the hub.
- Fit washer **2.**
- Hand tighten a **new** hub nut **3.**



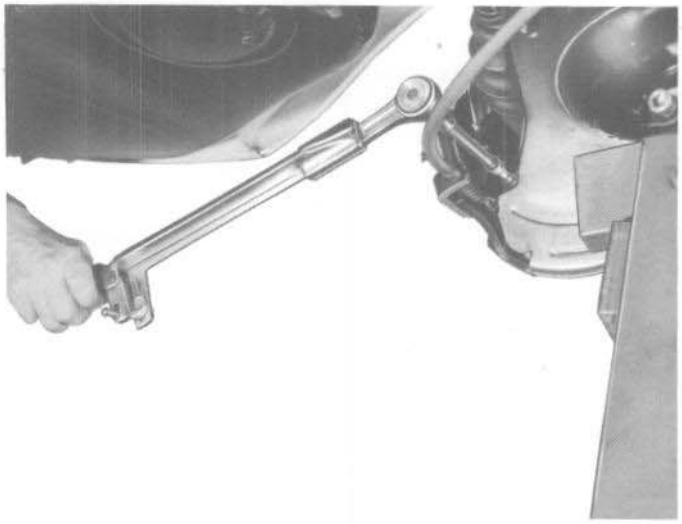
- Ensure perfect condition of lateral seal ring 4 on the differential housing.
- Smear the gap between the seal lips with tallow or grease.
- Grease the drive shaft splines.



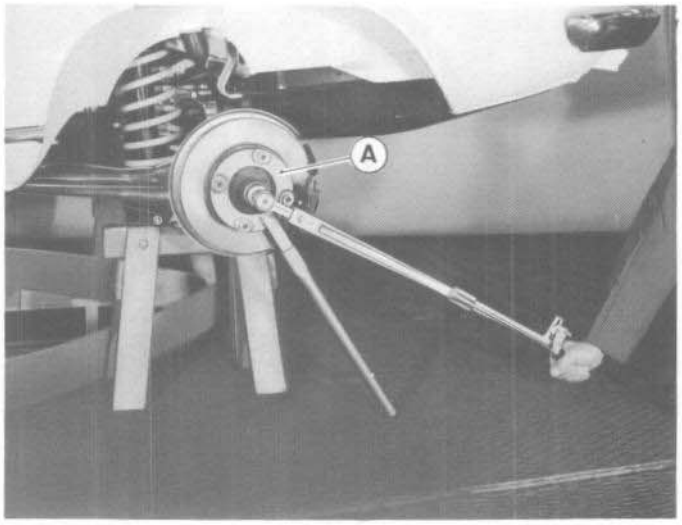
- Engage hub/knuckle/drive shaft assembly in its housing on suspension arm.
- Carefully introduce the drive-shaft splined end into the differential housing.
- Using new Blocfor washers secure the knuckle to the suspension arm.
- Tighten the Allen screws to **29 ft.lbs** (4 m.kg).

DRIVE SHAFTS

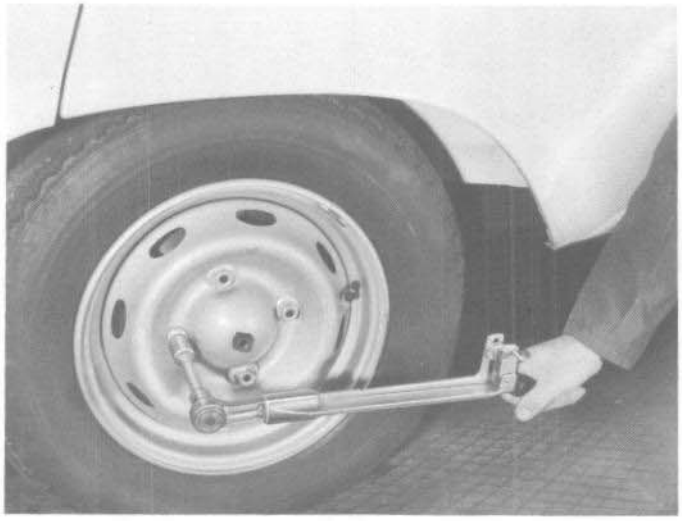
REFITTING



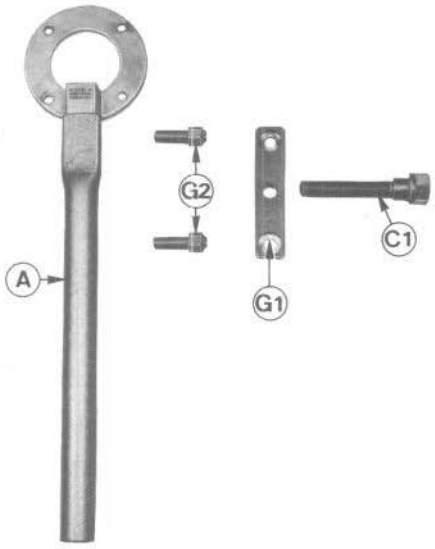
- Refit:
  - brake disc in the position noted at removal
  - brake caliper using **new** Blocfor washers.
- Tighten the screws to **31 ft.lbs** (4.25 m.kg).
- Fit the brake pads, the holding fork and tighten the bolt to **13 ft.lbs** (1.75 m.kg).
- Observing the correct direction of fitment install the thrust spring in the brake pads (arrow facing normal rotation direction of the disc).



- Refit the brake pipe to the suspension arm.
- Install holding tool **A** onto the rear hub.
- **Tighten the drive shaft nut to 189 ft.lbs** (25 m.kg).
- **Punch this nut** using tool **F.**
- Remove the holding tool.



- Refit the wheel and tighten the nuts to **43.5 ft. lbs** (6 m.kg).
- Fit the wheel trim.
- Check oil level in the rear axle. Top up if necessary using **ESSO GEAR OIL GP 90.**



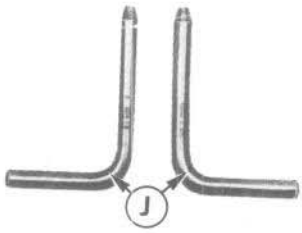
504 CONVERTIBLES AND COUPES

TOOLS TO BE USED

8.0521 Z

Tool chest for rear hubs

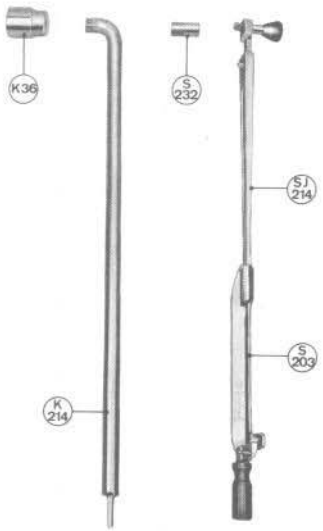
A - Hub holding tool
C1 - Extractor bolt
G1 - Extractor plate
G2 - Reversible plate nuts



8.0906 Z

Tool chest for front and rear suspension .

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



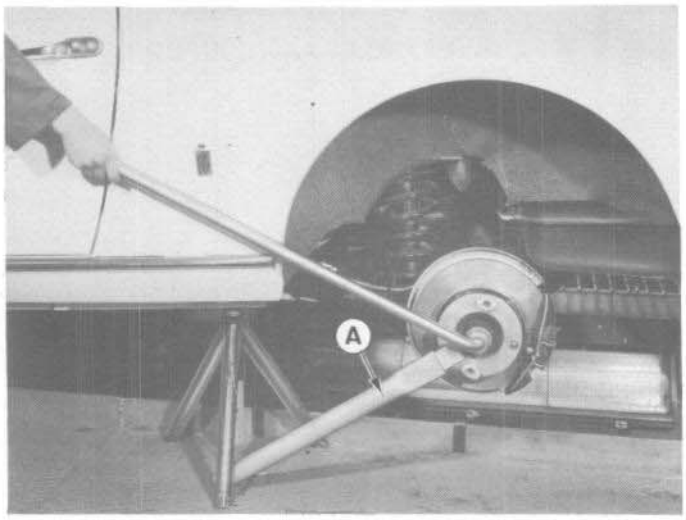
RECOMMENDED TOOLS

Standard Facom tools :

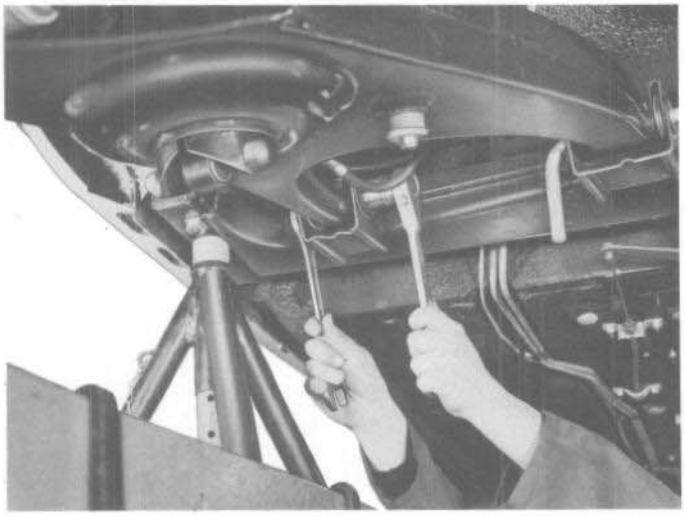
- Socket - K 36
- Adaptor - S 232
- Torque wrench - S 203
- Extension SJ 214
- Extension K 214

DRIVE SHAFTS

REMOVAL



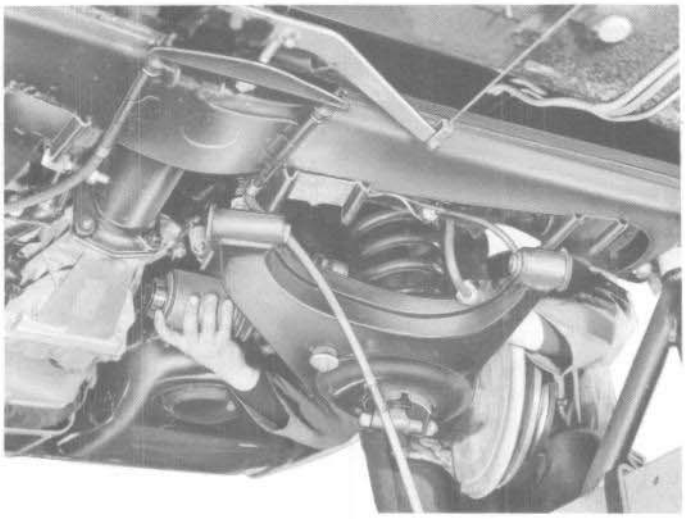
- Place the car over a pit or on a car lift
- Raise the rear of the car and chock it under the rear crossmember
- Remove the wheel
- Fit the hub holding tool **8.0521 A** to the hub
- Slacken the hub nut, using the extension K 214 and the socket K 36, without removing it.
- Remove the holding tool **A**



- Unclip the hand brake cable from the rear arm
- Disconnect the cable from the rear brake end
- Remove :
  - the antiroll bar link pivot
  - the nuts from the suspension arm pivots
- Drive the inner pivot out fitting the rod **8.0906 J** in its place
- Remove the outer pivot.

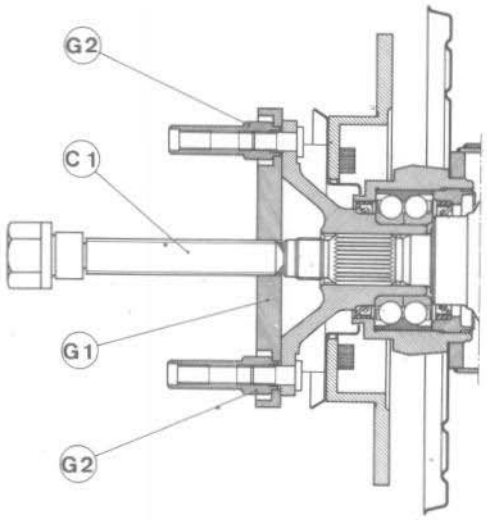
N.B. -

The shock absorber should remain fixed.



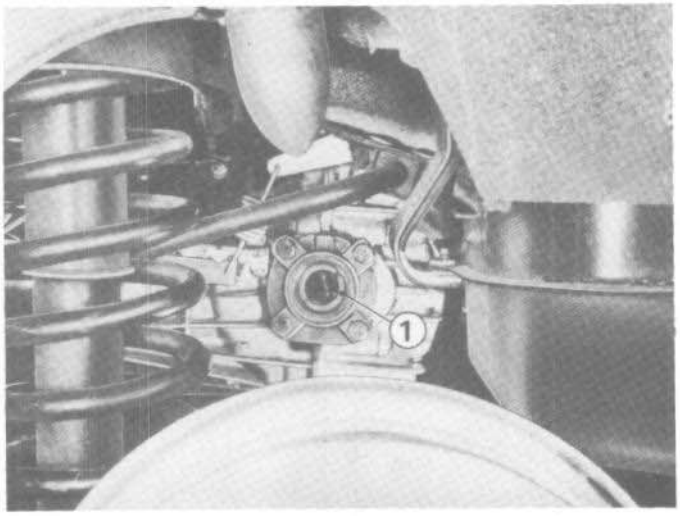
- Remove the rod **J**
- Disengage the arm using a lever
- Compress the universal joints on the drive shaft and pull the assembly to disengage the splined end of the shaft from the differential housing.
- **Take care not to damage the differential oil seal with the end of the shaft.**

DRIVE SHAFTS
REFITTING

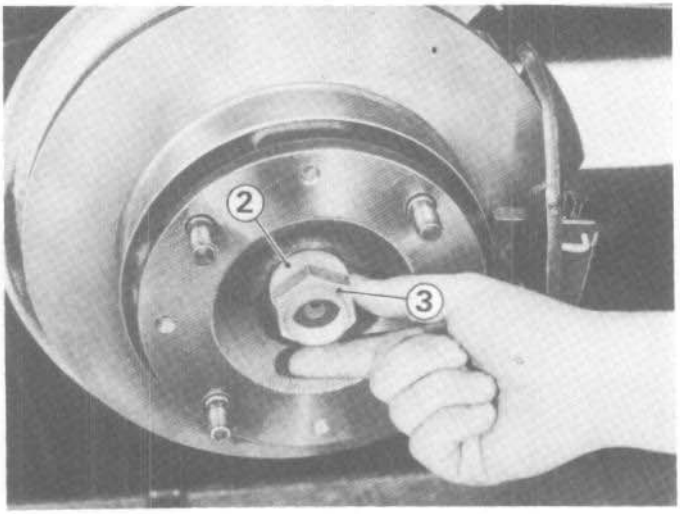


- Remove the hub nut
- Withdraw the drive shaft, using the extractor plate **G1** secured to the wheel studs with the nuts **G2** and the extractor bolt **C1** as shown opposite, if necessary.

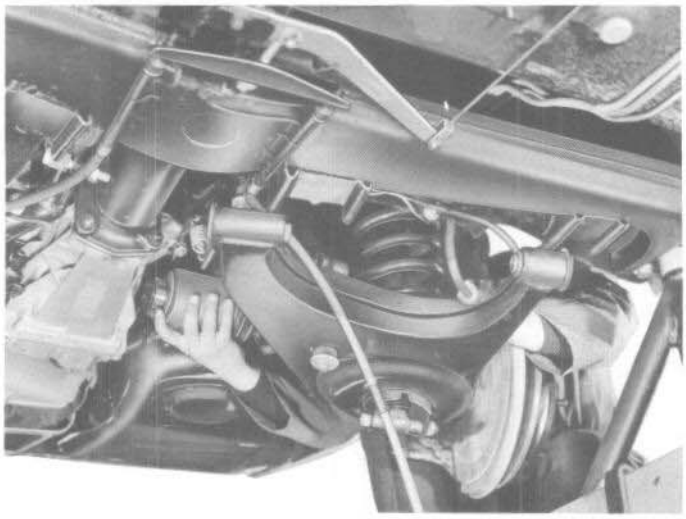
DRIVE SHAFTS
REFITTING



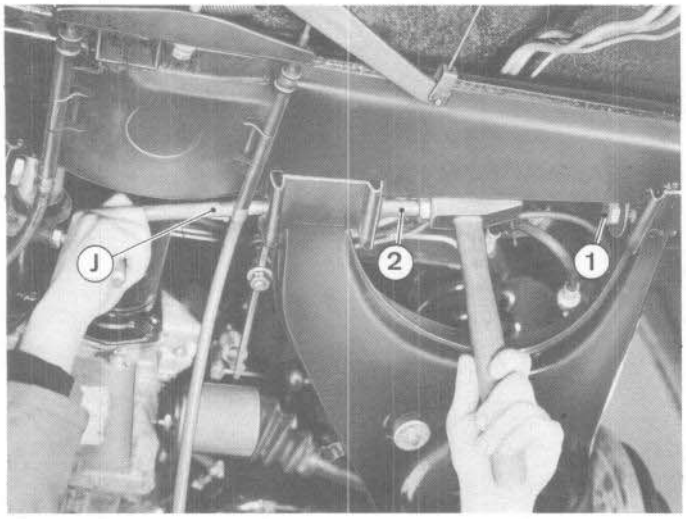
- All the components must be perfectly clean and free from defect
- Check the differential oil seal 1 and replace if necessary
- Smear the space between the oil seal lips with grease or tallow



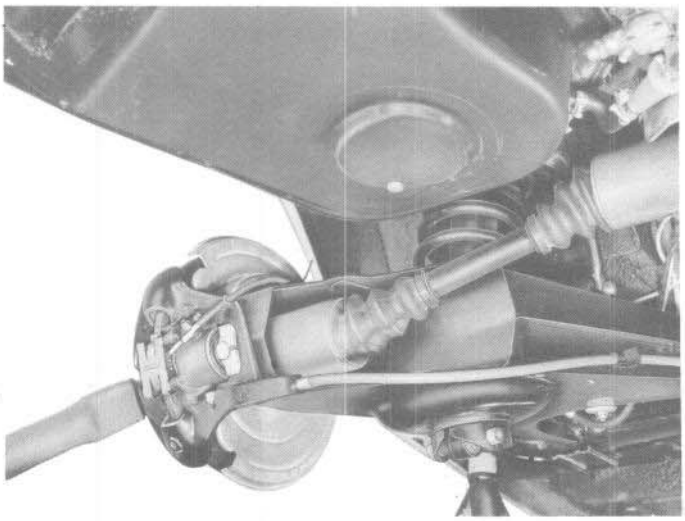
- Coat the splines on the wheel end of the shaft with Molykote 321
- Engage the shaft in the hub
- Fit the washer 2 and a new nut 3
- Grease the splines on the differential end of the shaft lightly



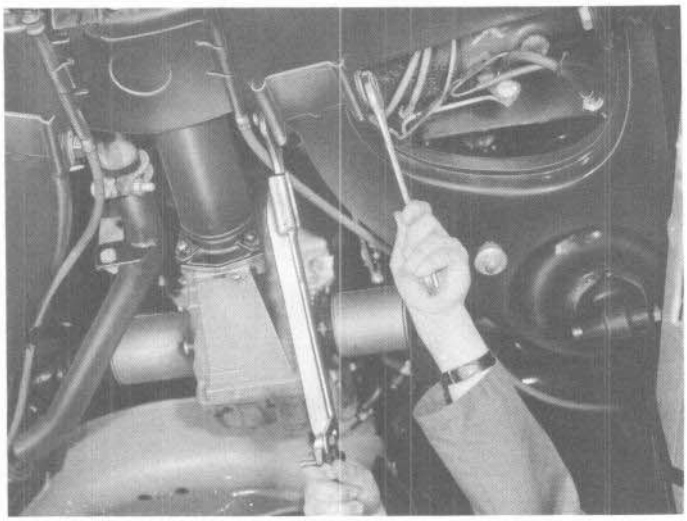
- Disengage the suspension arm as much as possible
- Compress the drive shaft universal joints
- Carefully engage the splined end in the differential housing.
- Reposition the suspension arm in the yokes on the crossmember using a lever.



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



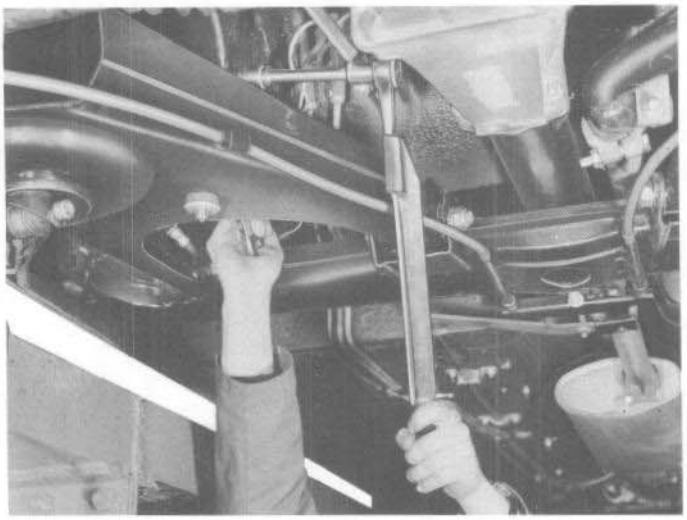
- Reconnect the handbrake cable and secure it on the suspension arm
- Reconnect the anti-roll bar link, using a new Nylstop nut without tightening it
- Fit the holding tool **A** on the hub
- Tighten the hub nut to **181.25 ft.lbs** (25 m.kg.)
- Lock the nut using tool **F**
- Remove the tool **A.**



- 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 stands
- Lower the rear and have two people sit in the back seats in order that the rubber bushes adopt their "neutral" position
- **Tighten the suspension arm pivot nuts to 47 ft.lbs (6.5 m.kg).**

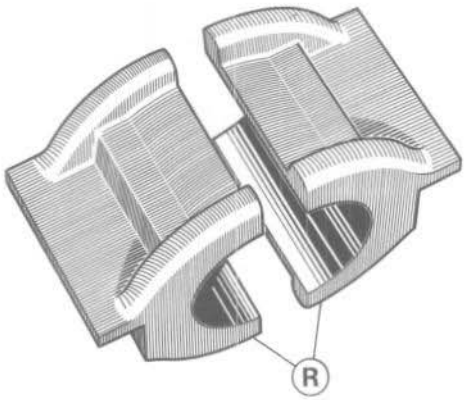
DRIVE SHAFTS

REFITTING



- **Tighten the antiroll bar link pivot to 33 ft.lbs (4.5 m.kg).**

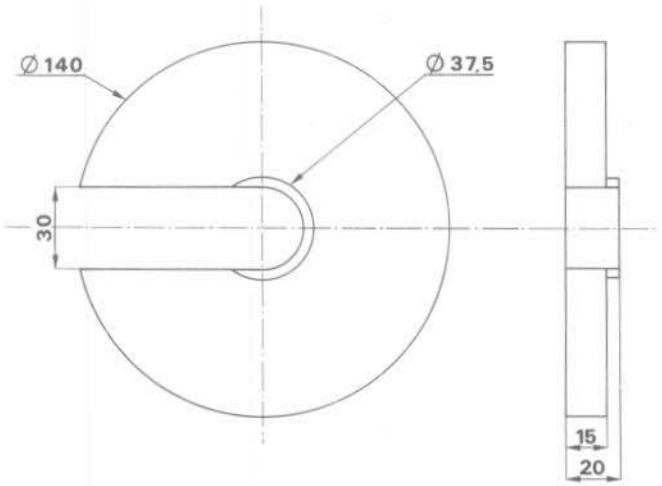
- Check the oil level in the differential housing and if necessary top up using **Esso Gear oil GP 90.**



TOOLS TO BE USED

8.0403 U

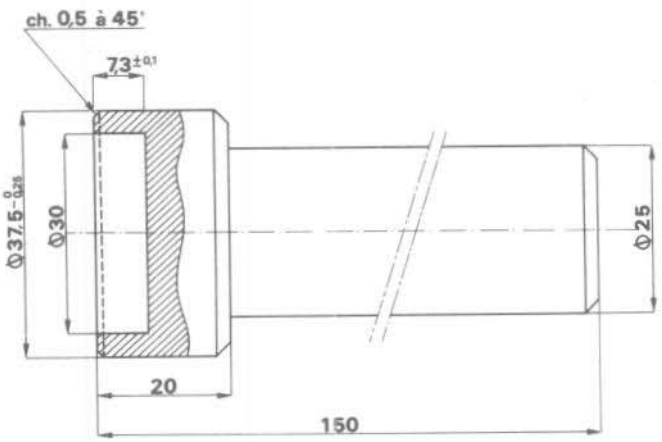
R - Propeller shaft tube support



Tools to be made up in the workshop

0.0403

Spacer for removing the journal and bearing packs.

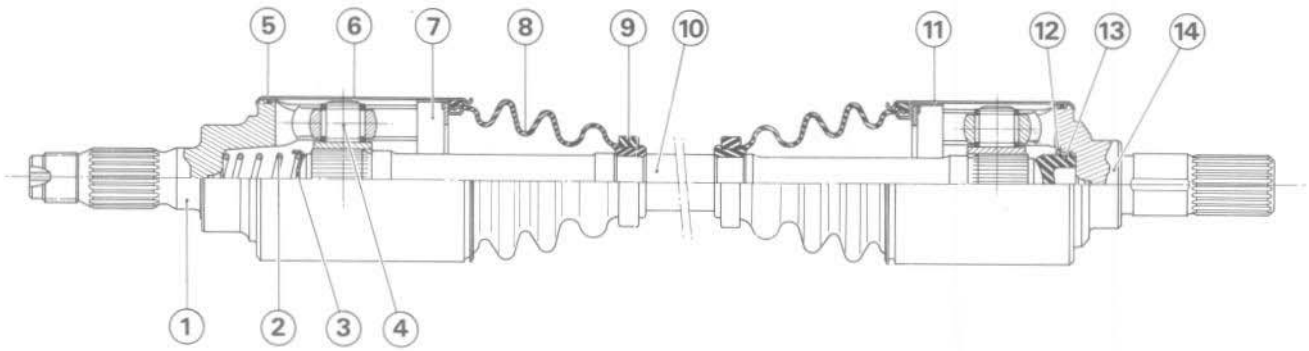


0.0404

Drift for positioning the journal and bearing packs.

DRIVE SHAFTS

DISMANTLING-REASSEMBLY



Wheel side

1 - Tulip
2 - Spring
3 - Cup
4 - Journal and bearing pack
5 - O - ring
6 - Cover . length 113 mm
7 - Spacer
8 - Gaiter
9 - Retaining ring
10 - Shaft

Differential side

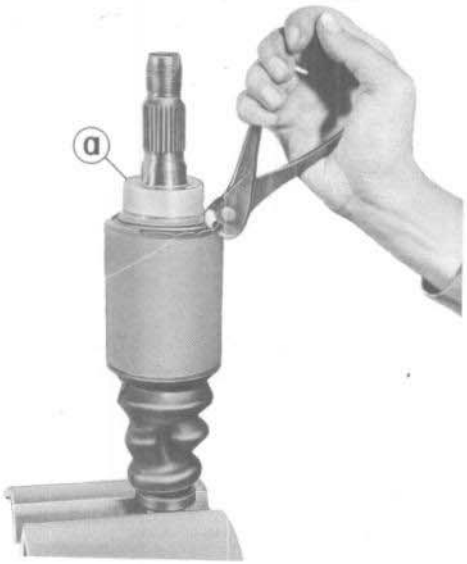
11 - Cover : Length 99 mm
12 - Thrust washer
13 - Stop
14 - Tulip

Only the replacement of the protector assemblies 5 and 9 can be envisaged, after checking the condition of the tulip 1 or 14 and the journal and bearing packs 4.

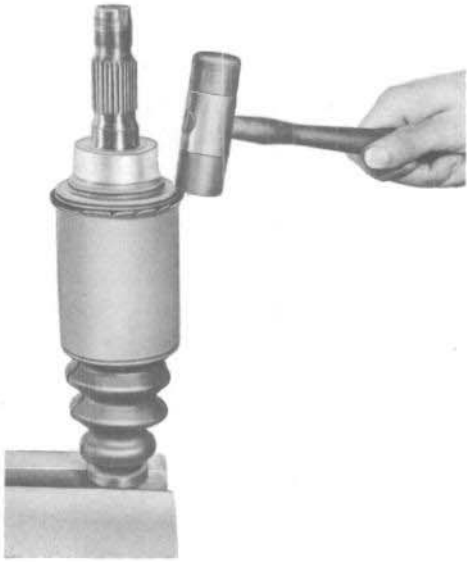
In effect, these can be damaged by the entry of water or dust due to splitting of the gaiter and the replacement of these assemblies does not render the part satisfactory for guarantee application.

IMPORTANT

The journal and bearing pack 4 is made up of a tripod, rollers and needle bearings which must never be separated.



- Clamp the drive shaft vertically in a vice equipped with aluminium jaws.
- Place adhesive tape (a) on the oil seal bearing face of the tulip to protect it from knocks.
- Bend back the cover carefully using a pair of end cutters.

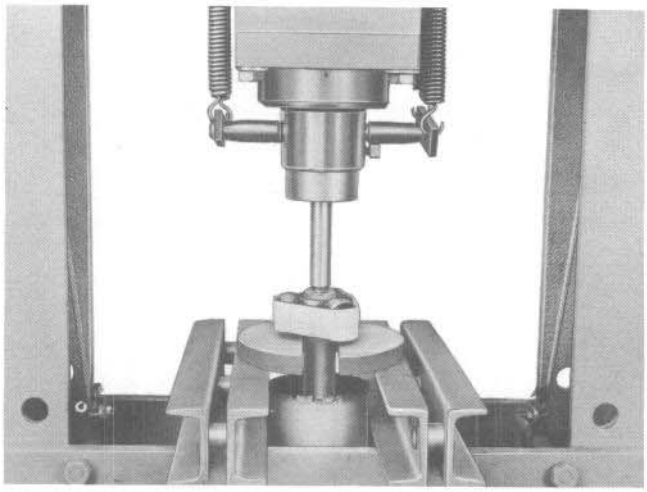


- Disengage the cover by tapping lightly with a hammer.
- Remove the tulip by raising it vertically
- Wheel side joint :
  -Recover the spring and the thrust cup.
- Lower the gaiter as far as possible on the shaft.

- **Stick a strip of adhesive tape around the bearing pack. This is a paired component and must not be separated.**
- Remove as much of the grease as possible from the assembly.
- **Never dip it in a degreasing product.**

DRIVE SHAFTS

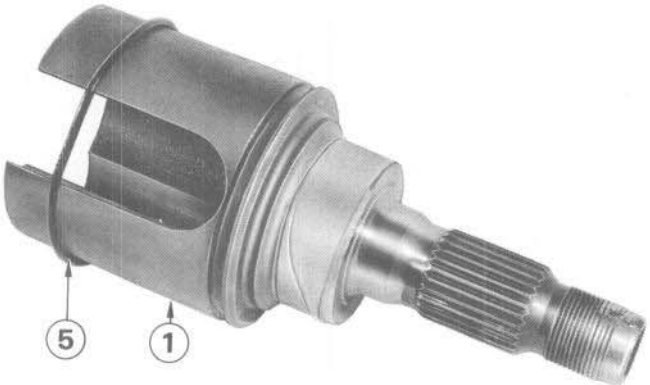
DISMANTLING



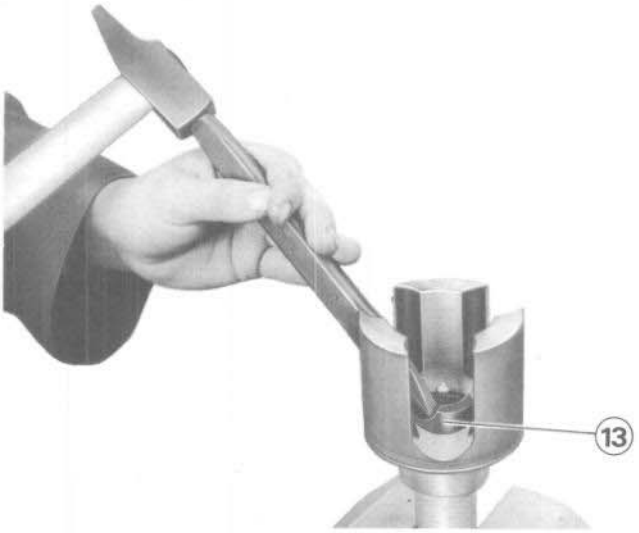
- Extract the bearing pack using a press
- -place the spacer **0.0403** between the press plate and the bearing pack.
  -hold the drive shaft during dismantling

NOTE - There is no need to remove the three punch marks on the shaft as they will disappear during removal.

- Remove the protector and the rubber ring
- Proceed in the same manner for the differential side joint,
- In the event of replacement of both protectors there is no need to remove both bearing packs.
  The protector of the second joint can be removed over the end of the first joint,

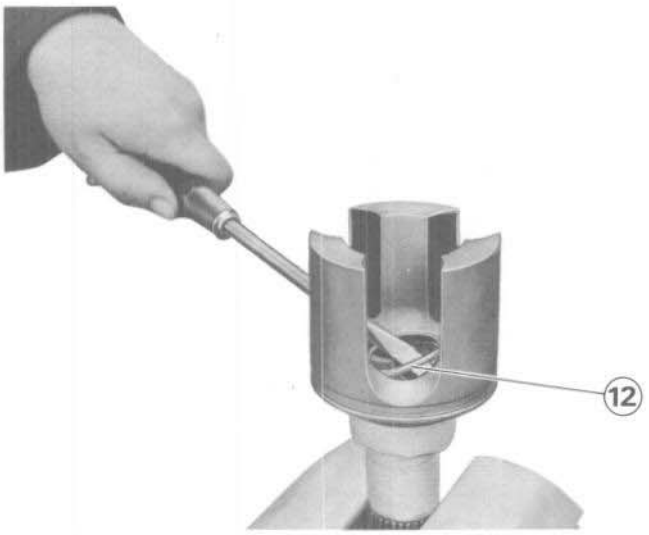


- Remove the O-ring **5** from tulip
- Remove the grease from inside the tulip.

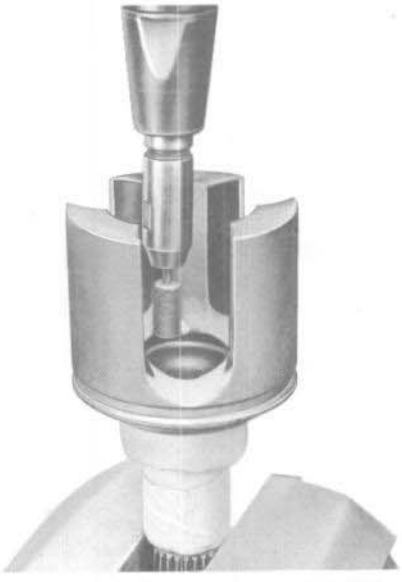


- **Differential side tulip**

  In the event of wear or damage to the nylon stop 13 cut this away with a chisel.



- Remove the retaining washer 12 through the cut in the nylon stop.



- Remove the punch marks from the washer using a small stone,
- Clean and blow dry, removing all traces of abrasive from the tulip.

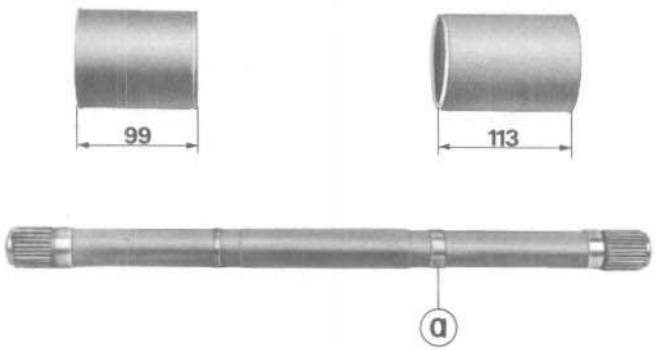
DRIVE SHAFTS
REASSEMBLY

For lubrication of the drive shaft joints, only use ESSO LADEX HP F2.

This grease is obtainable from the Spare Parts Department in tubes containing the exact amount for the joints.

Do not exceed the following quantities :

-Differential side joint : 130 g
-Wheel side joint : 130 g } P.N. 9.730.28



- **Direction of fitment**
  - Gaiter stop collar (a) of 10 mm width on the **wheel side.**
- **Joint covers**
  - Wheel side : length 113 mm
  - Differential side : length 99 mm

- All the parts must be thoroughly clean and free from defect.
- A **new** protector consisting of :
  - O-ring **5**
  - Cover **6**
  - Spacer **7**
  - Gaiter **8**
  - Retaining ring **9**

must be fitted.

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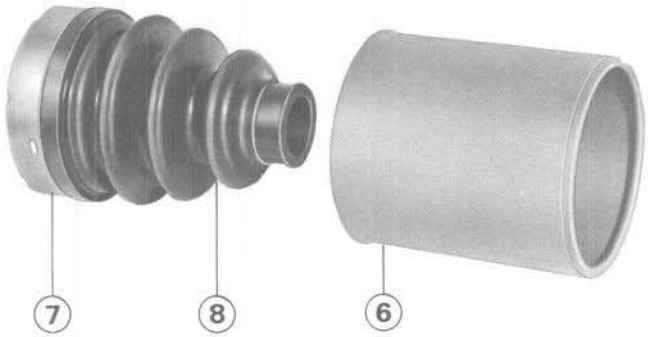
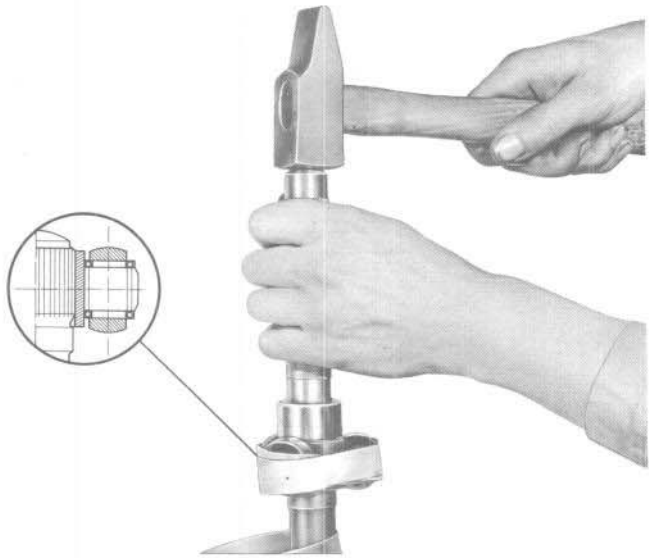
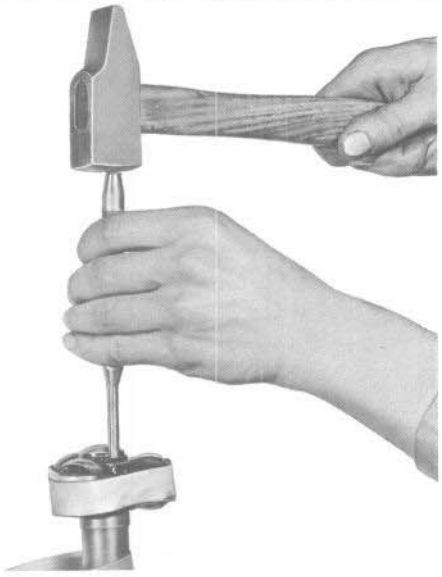


- Assemble the gaiter **8** and the spacer **7**
- Insert this assembly into the cover **6** after greasing it.
- Push the spacer in until it abuts.

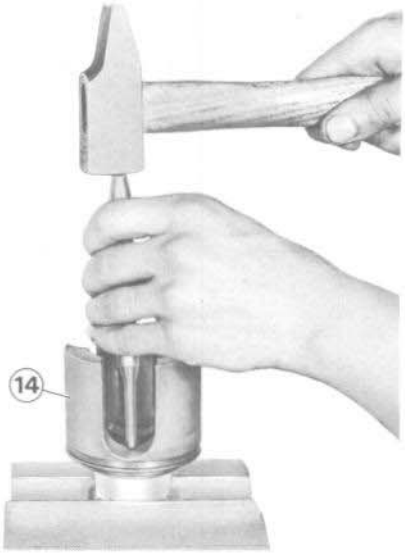


- Clamp the shaft vertically in a vice fitted with aluminium jaws.
- Slide over the shaft :
  - The retaining ring
  - The assembled protector
- Install the bearing pack on the shaft.
- Drive it down until it abuts using the drift n° **0.0404** and a hammer
- Check that the lower part of the bearing pack is flush with the bottom of the shaft groove.



- Make three equidistant punch marks, spreading the splines on the shaft towards the hub of the bearing pack, using a centre punch.

DRIVE SHAFTS
REASSEMBLY

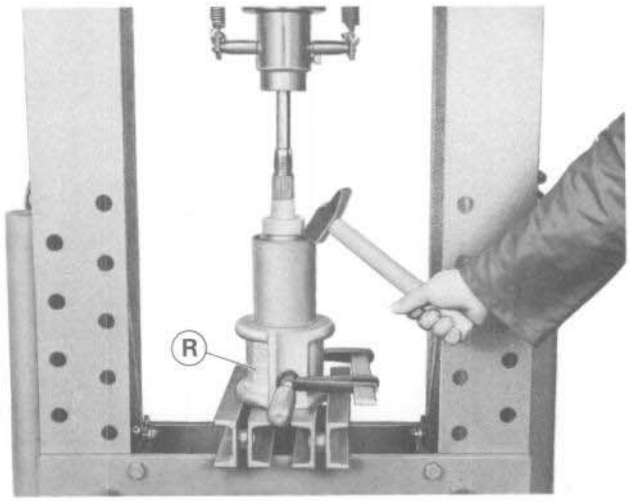


If the nylon stop has been removed refit it, in the interior of the tulip **14:**

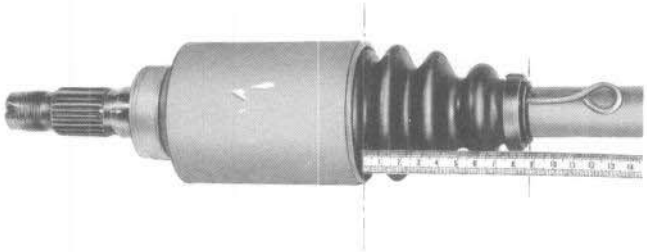
- **Insert the washer**
- Make three equidistant punch marks, spreading the splines on the shaft towards the hub of the bearing pack.

- Introduce the ESSO LADEX HP F2 grease
  - for the differential side joint : 130 gr.
  - for the wheel side joint : 130 gr.
- Spread the grease inside the tulip and the gaiter.
- Remove the adhesive tape from the bearing pack.
- On the wheel side, cup and the spring should then be placed on the end of the shaft.

Fit the tulip equipped with a **new** O-ring



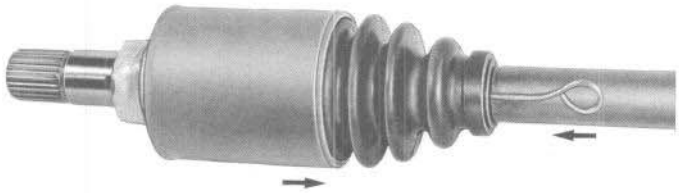
- Begin the crimping of the cover the tulip onto in the press.
- Use the propeller shaft tube support, **8.0403 R** held in a clamp, as a support.
- Bring the press onto the tulip to hold the spacer in place without crushing it (do not let the pressure increase).
- Finish the crimping with the drive shaft on a work bench.



- Fit the retaining ring to the gaiter.
- Slide a welding rod, with the end rounded, between the gaiter and the shaft to release the air.

Wheel side joint

- Insert the shaft, to obtain the dimension of **88 mm** as shown opposite.
- Remove the welding rod without altering this position.



Differential side joint

- **After having inserted the** rounded welding rod under the gaiter, insert the shaft into the tulip until it abuts, then remove the welding rod.
- Check the operation of the joints by hand. They must slide freely and no deformation of the gaiter must be present.

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