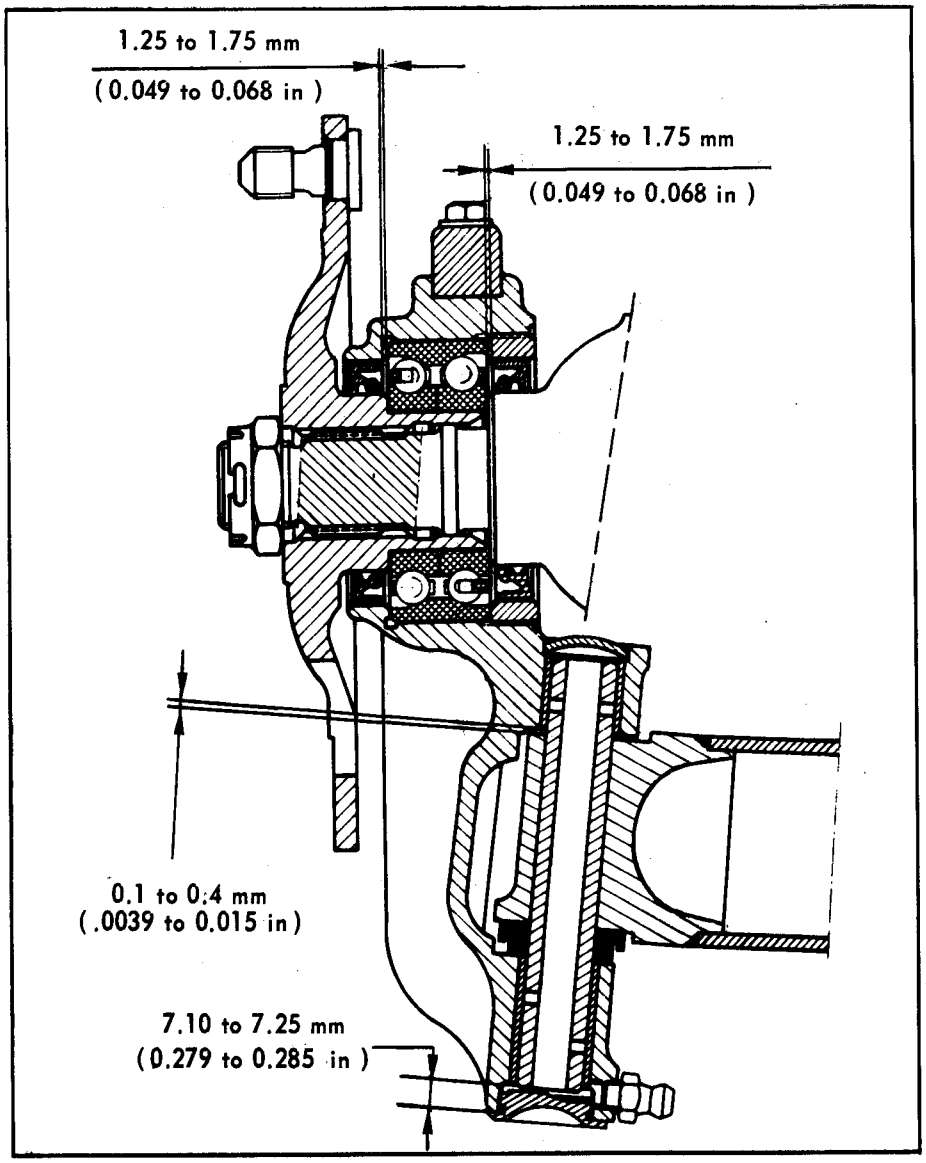
OPERATION No. A. 410-00 : *Characteristics and special features of the front axle.* **Op. A. 410-00** 1

I. SWIVEL

A. 41-6



CHARACTERISTICS

- Camber
  - Wheels straight ahead : ..... $1^{\circ}\ ^{+\ 45'}_{-\ 25'}$
  - Wheels at full lock : ..... $9^{\circ}\ 30' \pm 1^{\circ}\ 20'$
- Caster angle (not adjustable) : ..... 15°
- Wheel alignment : toe out : ..... 0 to 3 mm (0 to 0.11 in)

SPECIAL FEATURES

Adjustments :

- Inset of sealing ring in hub ring nut : ..... 1.25 to 1.75 mm (0.049 to 0.068 in)
- Inset of sealing ring in relation to bearing thrust face : ..... 1.25 to 1.75 mm (0.049 to 0.068 in)
- Clearance between swivel and arm : ..... 0.1 to 0.4 mm (.0039 to 0.015 in)
- Inset of lower part of pin in relation to swivel : ..... 7.10 to 7.25 mm (0.279 to 0.285 in)

Tightening torques :

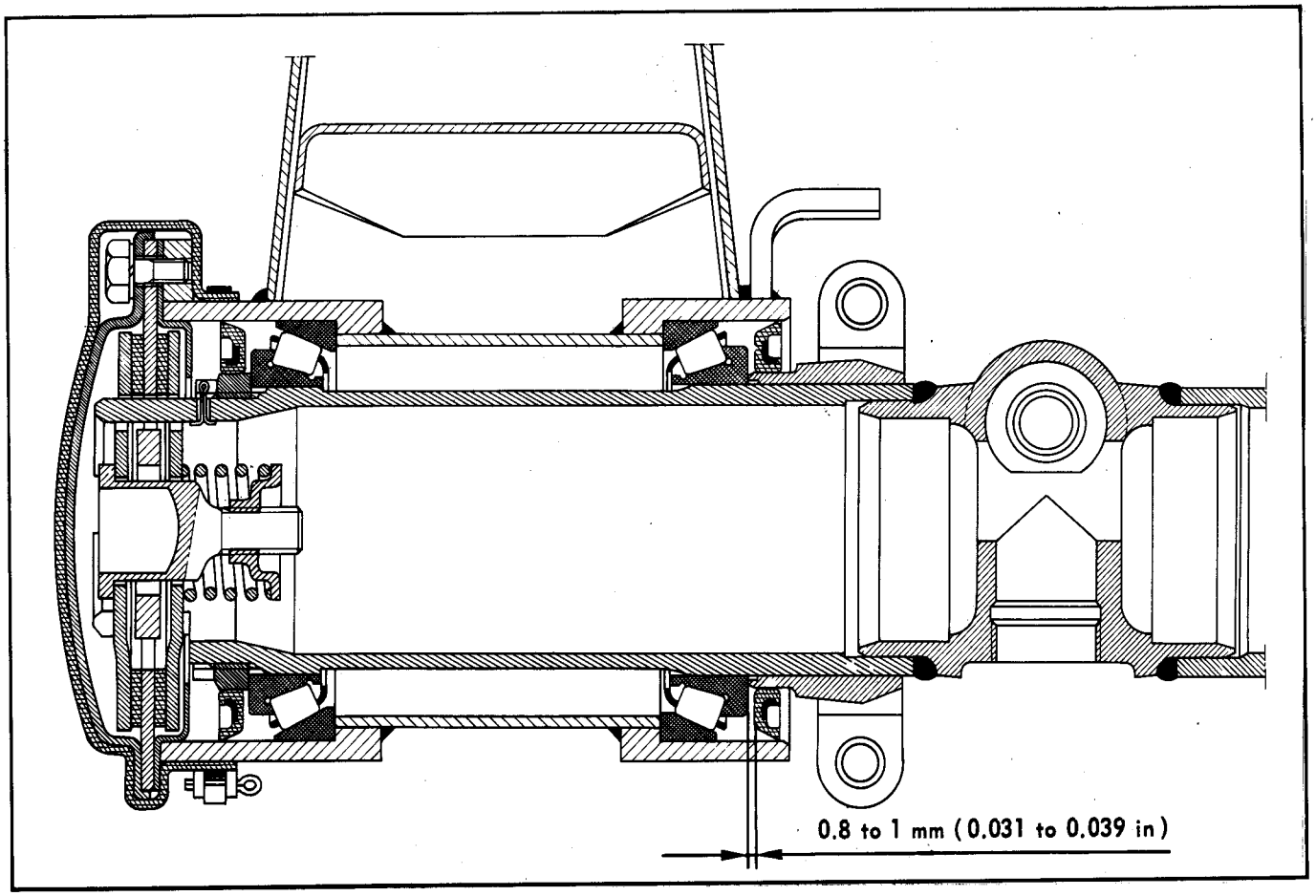
- Ring nut on hub bearing (face and threads greased) : ..... 35 to 40 da Nm (252 to 288 ft.lbs)
- Screw for swivel coupling lever : ..... 1.5 to 2 da Nm (10.83 to 14.44 ft.lbs)
- Nut locking drive shaft to hub (face and threads greased) : ..... 35 to 40 da Nm (252 to 288 ft.lbs)
- Nuts holding inertia dampers : ..... 6 da Nm (43.32 ft.lbs)
- Lower plug on swivel pin : ..... 2 da Nm (14.22 ft.lbs)

Lubrication :

- Swivel pin : ..... TOTAL MULTIS MS grease

II. ATTACHMENT OF ARMS TO CROSSMEMBER.

A. 41-3



SPECIAL FEATURES

- Inset of sealing ring in relation to bearing thrust face : ..... 0.8 to 1 mm (0.031 to 0.039 in)

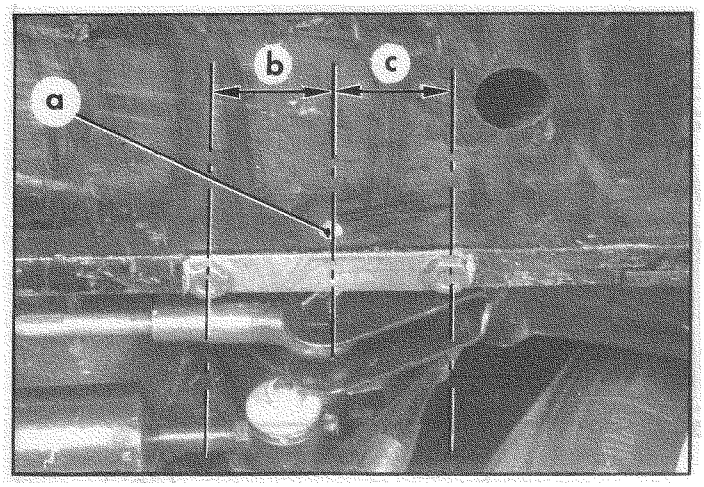
Tightening torques :

- Securing screws for crossmember : ..... 5 da Nm (36.10 ft.lbs)
- Castellated nuts holding suspension arms on crossmember : ..... 5 da Nm (36.10 ft.lbs)
- Wheel nuts : ..... 4 to 6 da Nm (28.88 to 43.32 ft.lbs)

The friction dampers have been eliminated on vehicles fitted with front shock absorbers

I. CHECKING THE CAMBER.

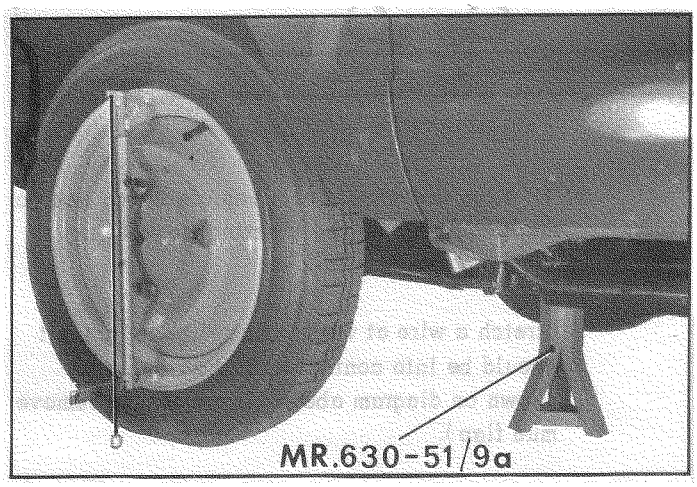
5249



This operation should be carried out after an impact affecting the suspension arms.
However, if there is excessive play in the swivel pin, no measurement can be made.

1. Check that the front wheel (on impact side) is not out of true.

4861

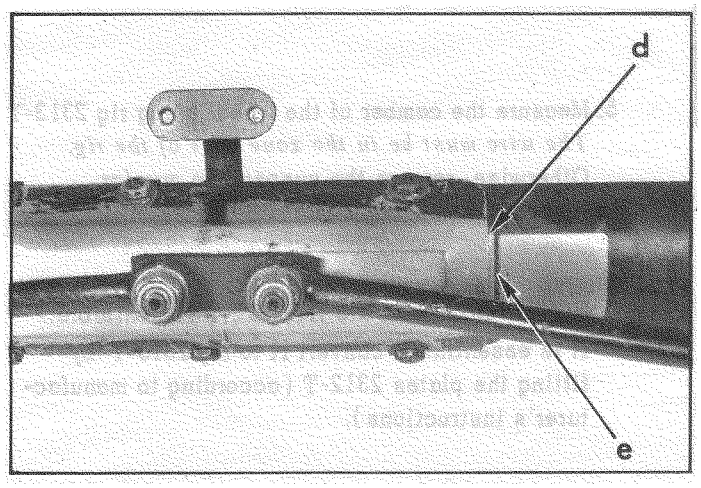


2. Put the vehicle on a flat horizontal ground.

The vehicle height is measured at the front and at the rear between the ground and the platform, at a point « a » equidistant from the two screws holding the crossmember (b = c) and near the stop plate.

3. Chock up the vehicle at the front under the platform, so as to obtain a distance of 207 mm (8.14 in) between the ground and the point « a » on each side of the vehicle. Use stands MR. 630-51/ 9 a (height : 207 mm, 8.14 in).

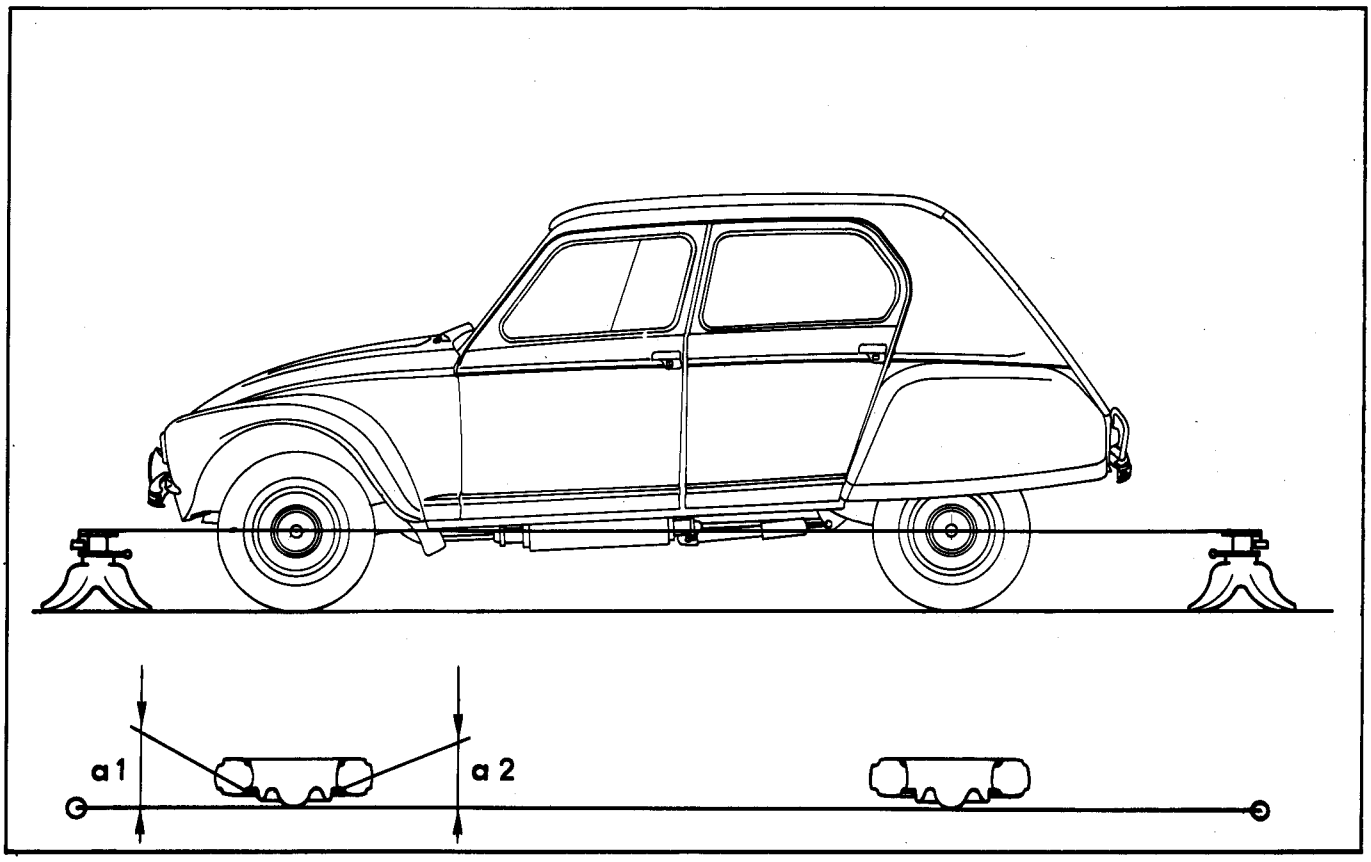
4863



4. Align the front wheels :

a) Bring the mark « e » engraved on the steering movable cover plate up to the ball pin guide, left-hand side, at point « d ».

A. 41-8

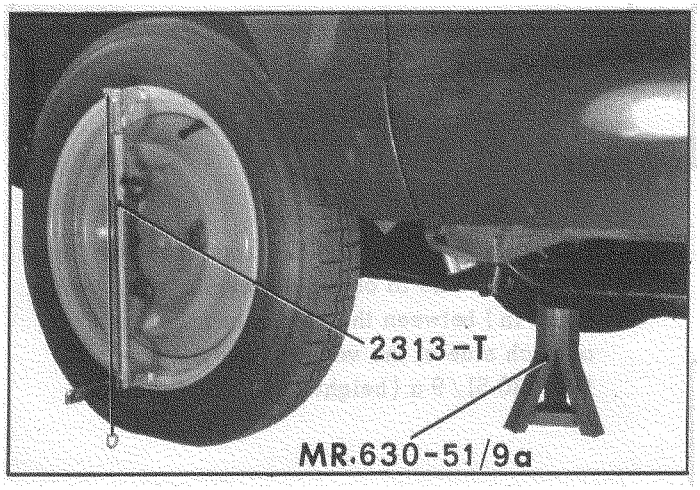


b) To align the wheels of a vehicle which has no mark engraved on the steering movable cover plate, proceed as follows :

Stretch a wire at wheel centreline height ; it should be into contact with the wheels as shown on diagram above (if necessary, remove mud flap).

Put the front wheel parallel to the wire by turning the steering wheel until the distances « a1 » and « a2 » are equal.

4861



5. Measure the camber of the wheel using rig 2313-T. *The wire must be in the zone « 1 » of the rig.* Otherwise, remove the suspension arm for inspection.

NOTE : If only an old rig 2315-T is available, it is essential to convert it to rig 2313-T by fitting the plates 2312-T (according to manufacturer's instructions).

4862

6. Raise the vehicle until the front wheels leave the ground.

Turn the wheel to full lock ; the swivel must be in contact with the lock screw. When working on the right-hand wheel, lock fully to the right, and vice-versa.

Replace the vehicle on stands MR. 630-51/9 a (height : 207 mm, 8.14 in) or on chocks.

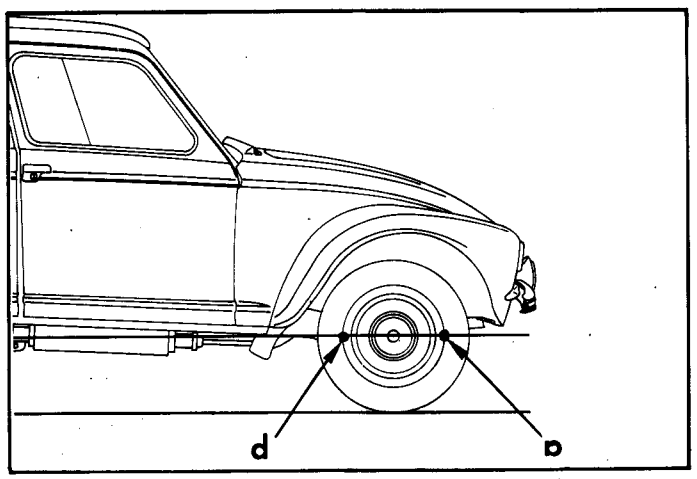
7. Measure the camber of the wheels using rig 2313-T. *The wire must be in zone « 2 » of the rig.*

Otherwise, remove suspension arm for inspection.

Manual 816-1

II. CHECKING AND ADJUSTING THE FRONT WHEEL PARALLELISM.

A. 41-8

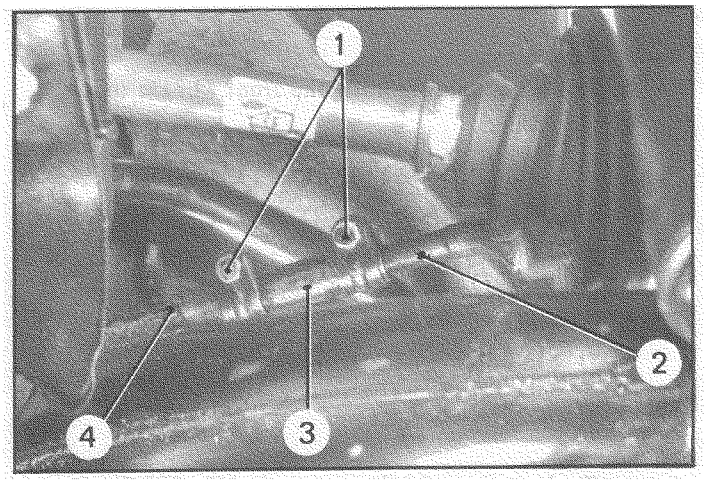


The wheels must toe-out. The difference between the front and the rear must be between 0 and 3 mm (0 and 0.11 in). To carry out this check, *the chassis heights at the front and at the rear must have been correctly adjusted.*

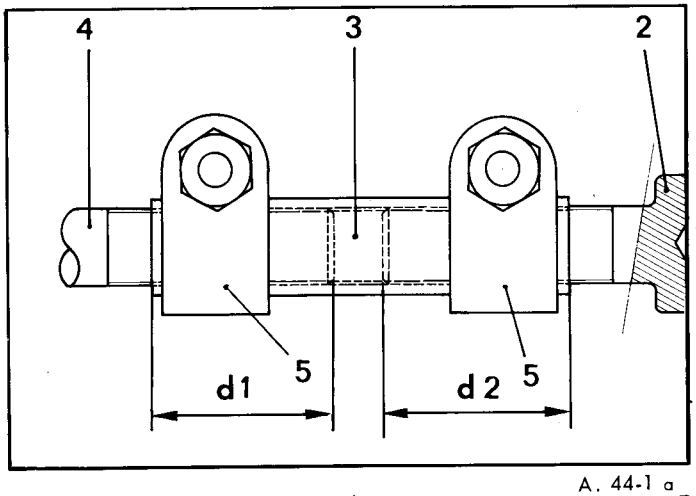
1. Place the wheels in straight ahead position (see chapter I, same operation).

2. Checking the front wheel toe-out :
Use a gauge existing in several models on the market.
Proceed as follows :
At point « a », level with wheel centreline, measure the distance between the front outer edges of the rims. Mark the measured points with chalk. Move the car forward until the wheels have rotated through half a turn, so that the marks are once again level with the wheel centreline, in « b ». Measure the distance between these marks (now behind the wheel centre). If it is smaller by 0 to 3 mm (0 to 0.11 in), the setting is correct. Otherwise, adjust the toe-out.

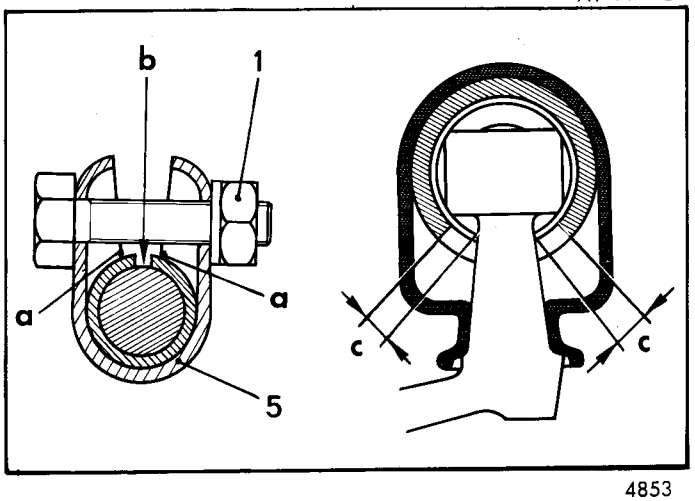
4855



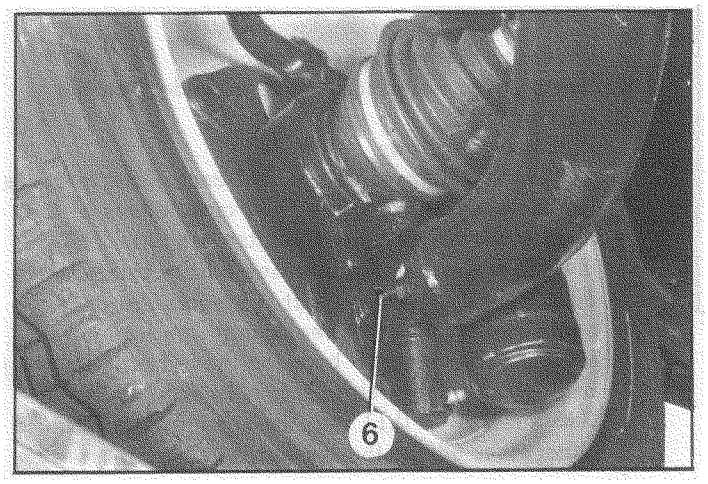
A. 44-1 a



A. 44-1 a



4853



3. Adjusting the front wheel toe-out :

Without removing the wings, slacken the nuts (1) on the bolts holding the right-hand and left-hand sleeves (3). Rotate each sleeve by the same amount to obtain the correct setting.

One complete turn of the sleeve alters the wheel position by 6 to 7 mm (0.23 to 0.27 in).

Make sure that the amounts by which the track (4) and the end-piece (2) are screwed into the sleeve (3) are equal (d1 = d2 ± 2 mm, 0 078 in).

The locking collars (5) holding the sleeves (3) should be arranged vertically, the bolts being located at the top. The position of slot « b » is not important, so long as it is not opposite to points « a ».
The clearance « c » for steering ball pin movement should be evenly distributed. Tighten the nuts (1) on the bolts holding the sleeves to a torque of 1 da Nm (7.22 ft.lbs).

III. ADJUSTING THE STEERING ANGLE.

To carry out this operation , the chassis heights at the front and at the rear must have been correctly set (see relevant operation).

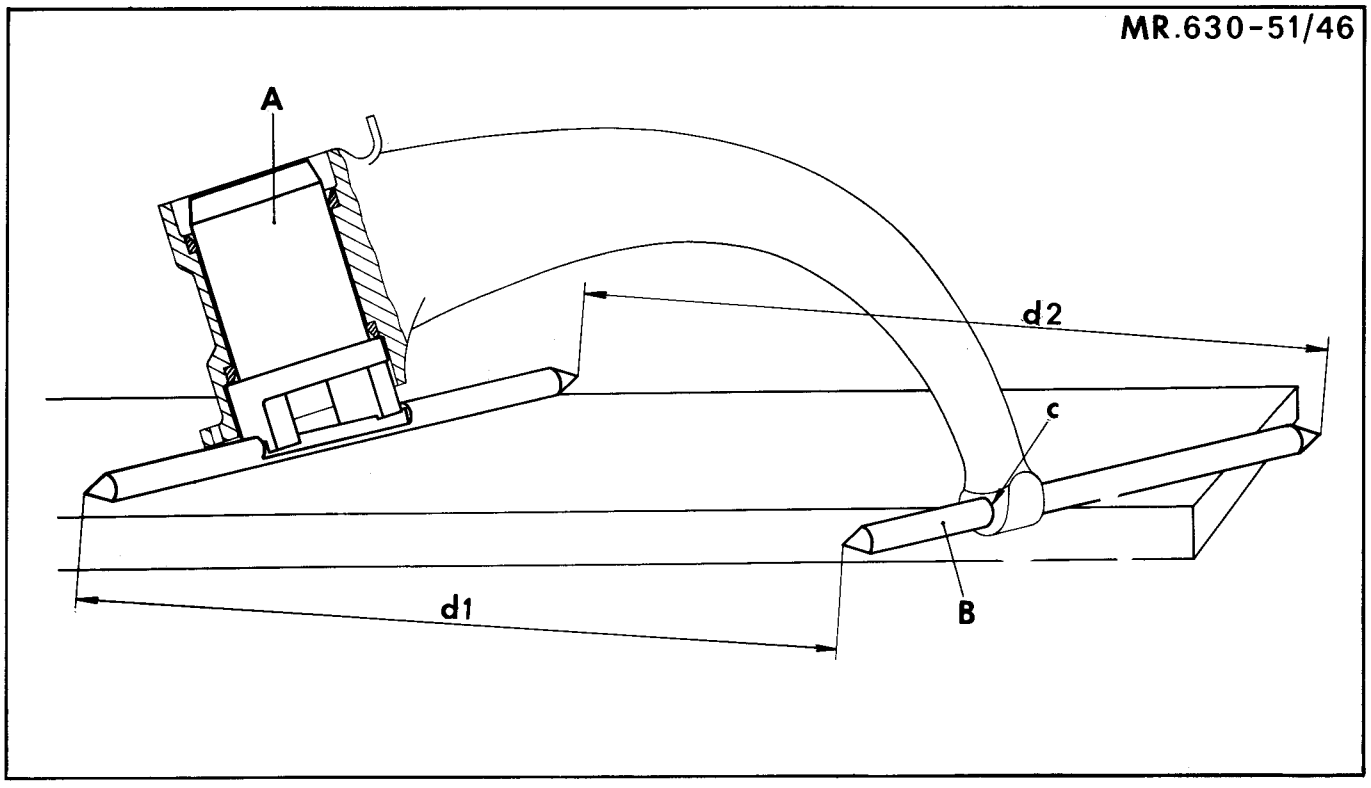
1. Put the vehicle on a flat and horizontal ground.

2. Turn the steering wheel to full lock. Make sure that the clearance between the tyre and the arm is approximately 5 mm (0.19 in) and that the clearance between the inertia damper and the arm, on opposite side, is 1 mm (0.039 in) at least.
Otherwise, adjust the lock stop screw (6), located on the arm.

3. Check the steering lock of the other wheel.

IV. CHECKING A DISMANTLED FRONT SUSPENSION ARM.

A.41.5



Manual 816-1

1. Remove the suspension arm and strip it down :
(See relevant operation).

2. Check the arm :

Place the arm on an inspection rig, (MR. 630-51/46).

Insert peg B in the bore « c » of the swivel pin.

Insert mandrel A in the hub bore

Rotate mandrel A until both pegs *rest squarely on the surface plate.*

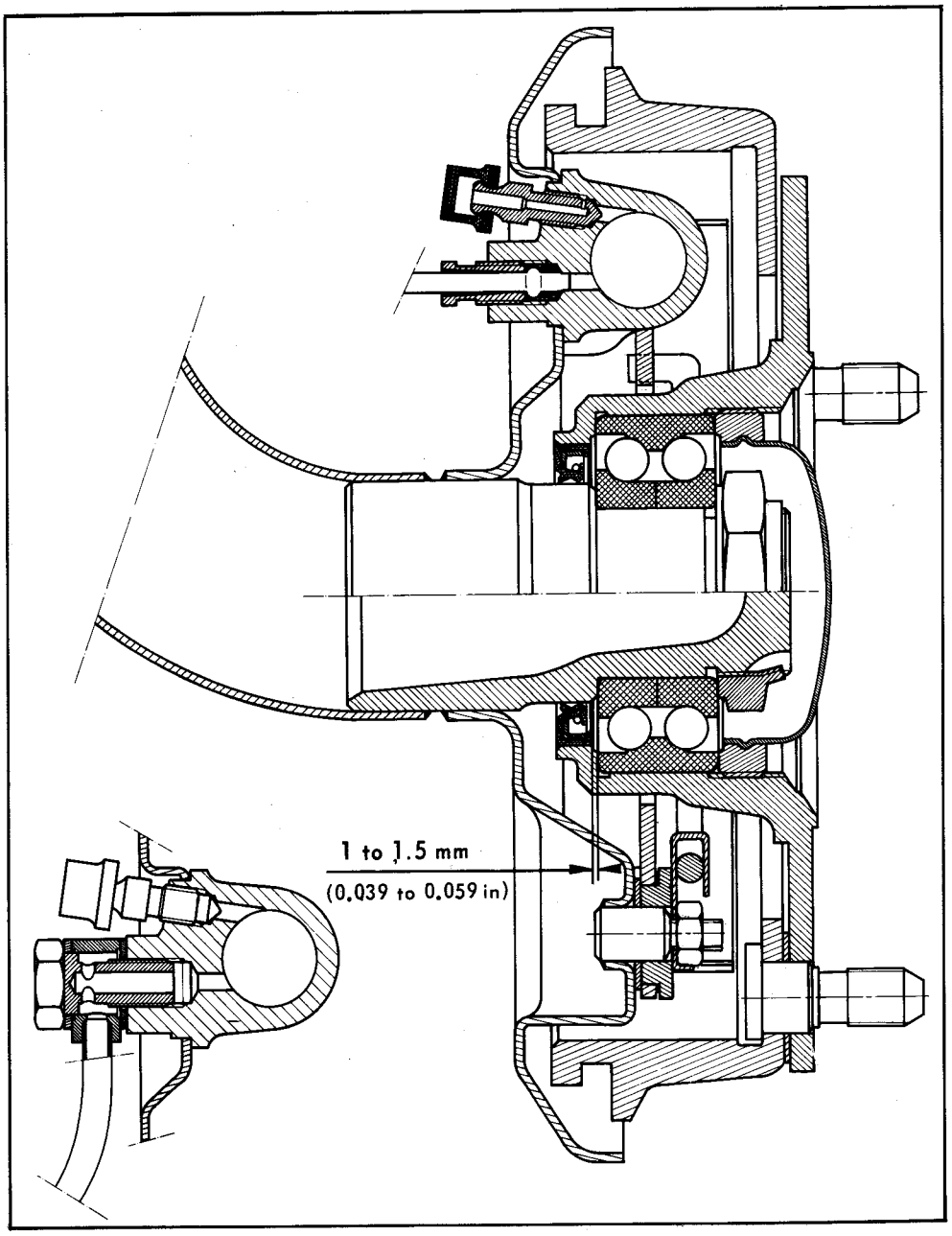
Measure the distance « d1 » between the points at one end and then the distance « d2 » at the other end.

These distances should be the same to within 10 mm (0.39 in). Otherwise replace the arm.

3. Refit the accessories and re-install the arm :
(See relevant operation).

REAR HUB

A.45.50 a



Manual 816-1

CHARACTERISTICS

Wheel alignment (not adjustable) :

- *Vehicles produced before March 1969* (toe-in) : ..... 0 to 8 mm (0 to 0.31 in)
- *Vehicles produced since March 1969* (toe-in or toe-out) : ..... 0 ± 4 mm (0 ± 0.15 mm)

- Camber (not adjustable) : ..... 0° to 0°30'

SPECIAL FEATURES

Adjustment :

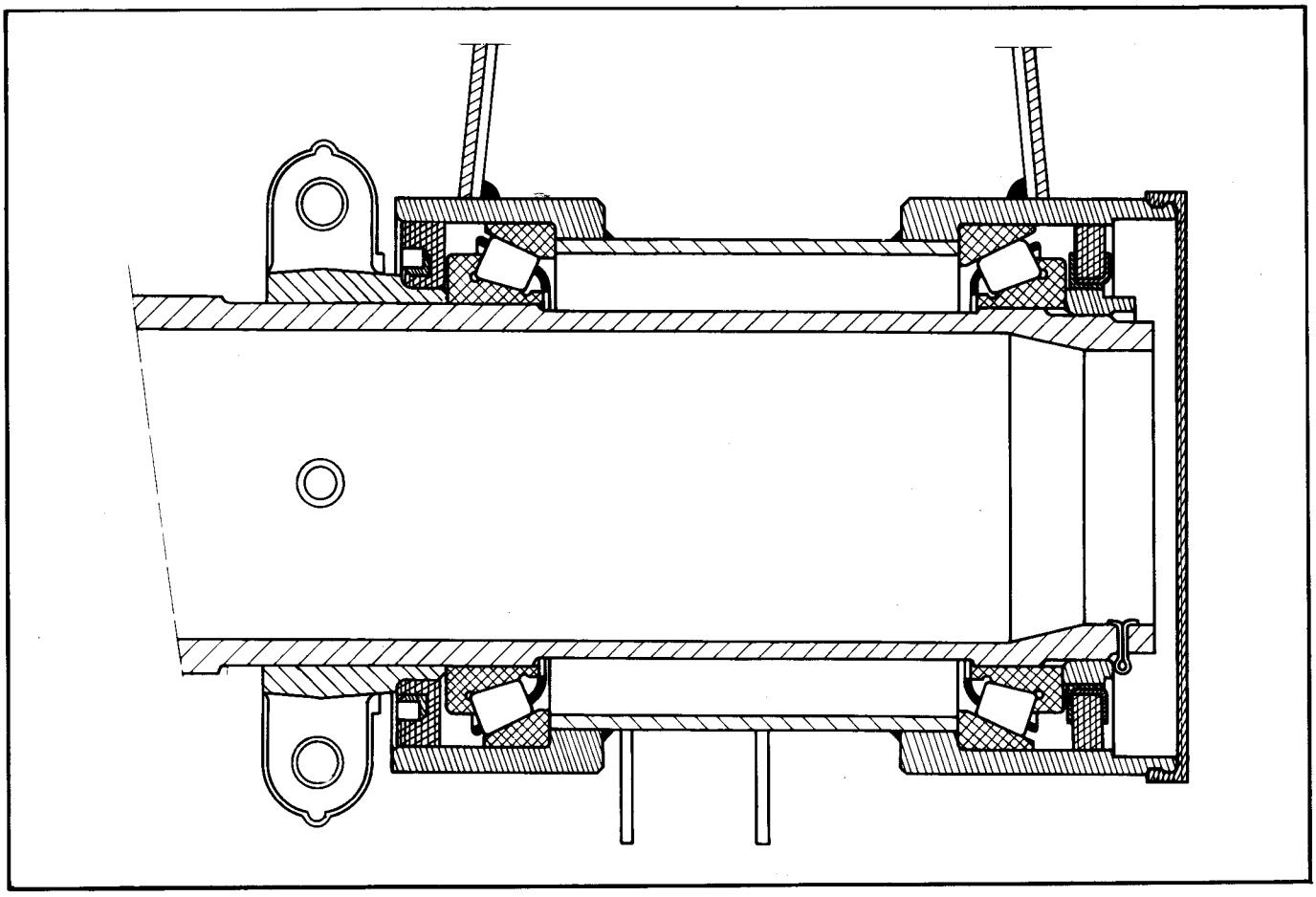
- Inset of hub sealing joint in relation to the bearing thrust collar : ..... $1^{+\,0.5}_{\ 0}$ mm ($.039^{+.019}_{\ 0}$ in)

Tightening torques :

- Nut locking hub bearing (face and threads greased) : ..... 35 to 40 da Nm (252.7 to 288.8 ft.lbs)
- Cap nut for hub (face and threads greased) : ..... 35 to 40 da Nm (252.7 to 288.8 ft.lbs)

ATTACHMENT OF ARMS TO CROSSMEMBER

A. 42-50



SPECIAL FEATURES

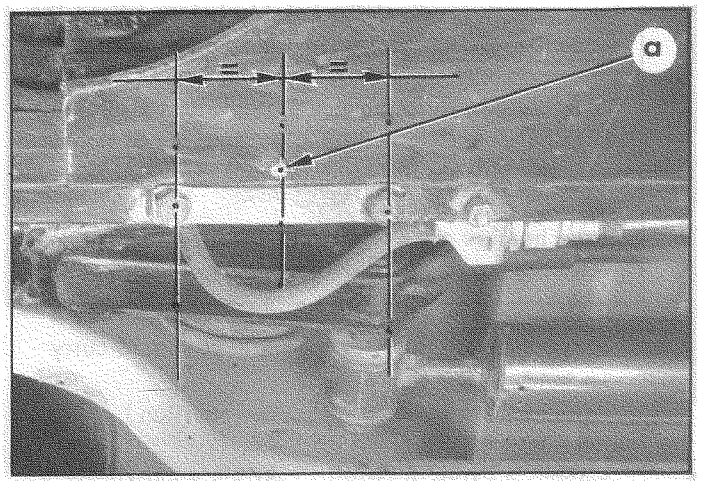
Tightening torques :

- Securing screws for crossmember : ..... 4 to 5 da Nm (28.88 to 36.10 ft.lbs)
- Castellated nuts holding arms on crossmember : ..... 5 da Nm (36.10 ft.lbs)
- Wheel nuts : ..... 4 to 5 da Nm (28.88 to 43.32 ft.lbs)

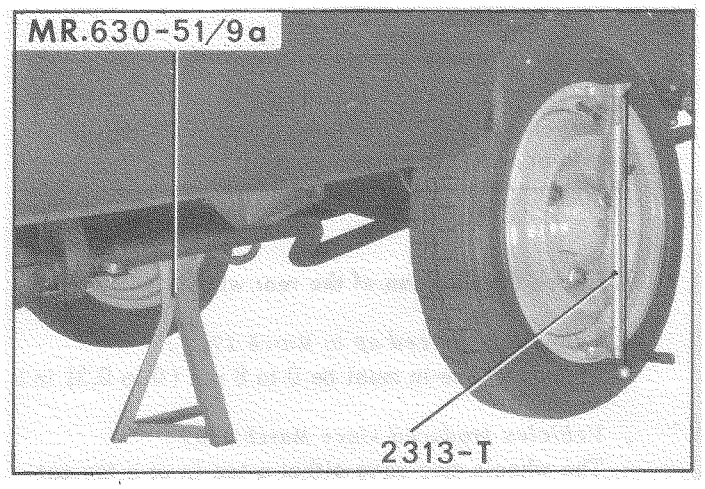
I. CHECKING THE REAR ARMS ON THE VEHICLE

These tests must be carried out if, after an impact, the vehicle behaves abnormally on the road or shows unusual tyre wear.

4949



4938



Manual 816-1

1. Check the position of the rear wheels :

Vehicles produced up to March 1969 :
The wheel toe-in must be 0 to 8 mm (0 to 0.31 in).

Vehicles produced since March 1969 :
The wheels may have either a toe-in or a toe-out between 0 and 4 mm (0 to 0.15 in).

The front and rear heights must have been correctly set before carrying out this check (see relevant operation).

At the level of the wheel centreline, measure the distance between the front outer edges of the rims. Mark the measured points with chalk. Move the car forward until the wheels have rotated through half a turn so that the marks are once again level with the wheel centreline. Measure the distance between these marks (now behind the wheel centre). Use a gauge available in several models on the market.

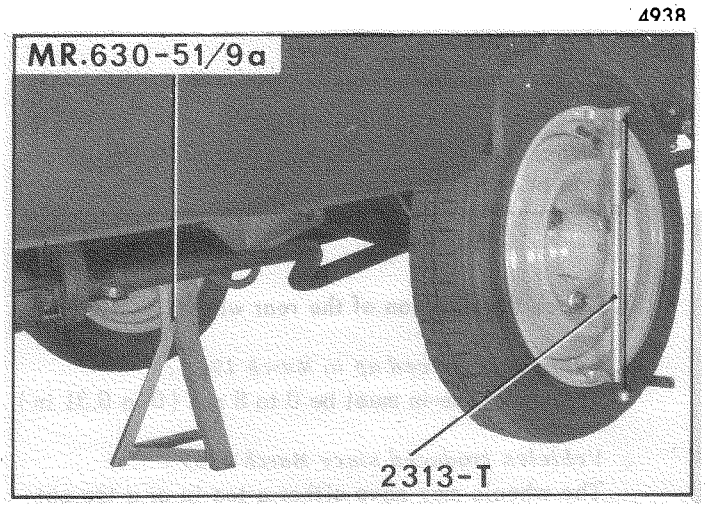
If the toe-in or toe-out is not within tolerance :
One arm or both arms are out of true. In this case :
- either check the position of the rear arms on the vehicle (see paragraphs 3 to 7 in this same operation)
- or remove the arm and check it on a surface plate (see chapter II, same operation).

If the toe-in or the toe-out is within tolerance :
It is necessary to check the camber.

2. Check the camber of the rear wheels :

a) Check the tyre pressure and correct it if necessary.
Put the vehicle on a flat horizontal ground.

b) Raise the vehicle until the point « a » is 295 mm (11.61 in) off the ground.
This point is halfway between the two bolts holding the crossmember, and near the stop plate.
To carry out this operation, use stands MR. MR. 630-51/9 a (height : 285 mm, 11.22 in) fitted with packing pieces 10 mm (0.39 in) thick.



c) Remove the rear wing, on the side to be checked (if necessary).

d) Check the camber using rig 2313-T. *The wire should be in the zone « 3 » of the rig.*
Otherwise, remove the arm for inspection (see relevant operation).

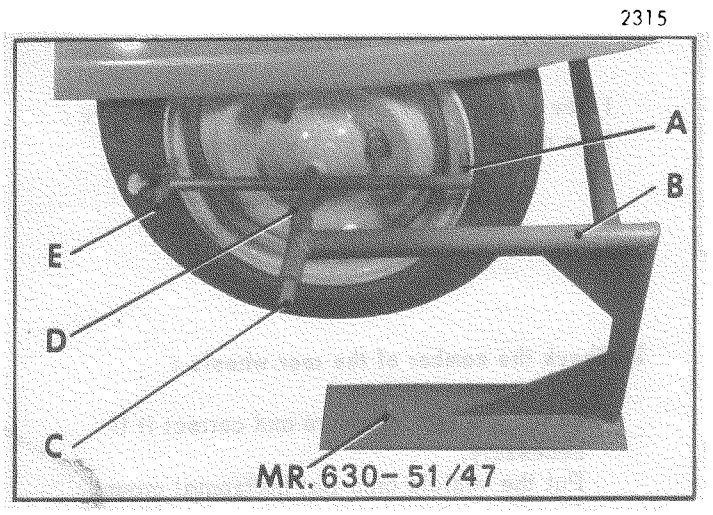
NOTE : A rig 2315-T can be converted into a rig 2313-T by fitting plates 2312-T. Follow the manufacturer's instructions.

Checking the position of rear arms.

NOTE : In case a tyre shows unsual wear, it may be necessary to check the toe-in of each rear wheel.

3. Put the vehicle on a flat horizontal ground : The front and rear heights must be correctly adjusted (see relevant operation).

4. Arrange rig MR. 630-51/47 as indicated on the picture.



Slacken movable gauge E and move it away from the rim. Bring the pointer A into contact with the rim at the height of the stub axle centreline by sliding the fork C in the support B.
Lock the fork by tightening screw D.

Repeat this operation on the other wheel with the other side of the rig.

At each side, bring the movable gauge E into contact with the rim. On each scale, read the number opposite the mark « a » (see diagram on following page).

This figure will be noted as :
- either O1, for a toe-out,
- or P1, for a toe-in.

5. Release forks C and move the vehicle forward until the wheels have rotated through half a turn.

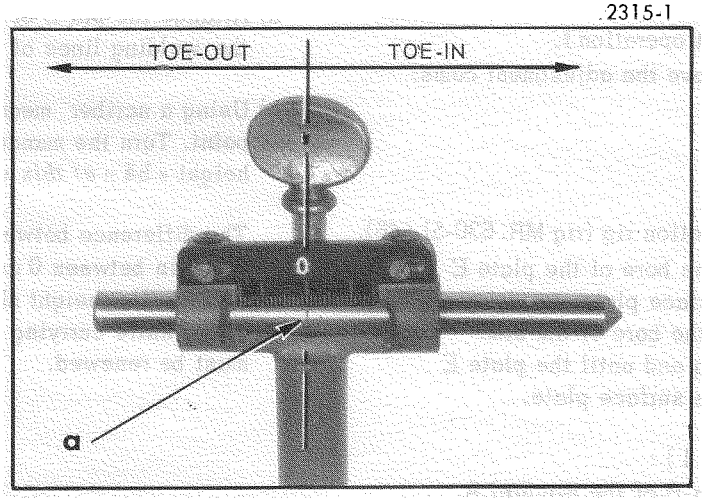
6. Repeat the operations described in paragraph 4. Note again the figures shown on the scales :
- either O2, for a toe-out,
- or P2, for a toe-in.

7. Measure the parallelism for each wheel :

Several cases may arise :

a) Both measurements indicate toe-out :
Take the average of the two readings :

$$\frac{O1 + O2}{2}$$



Both measurements indicate toe-in :
Take the average of the two readings :

$$\frac{P1 + P2}{2}$$

b) One of the measurements indicates toe-out and the other toe-in :

Two cases may arise :

O is greater than P :

The position of the arm will be

$$\frac{O - P}{2}$$

P is greater than O :

The position of the arm will be :

$$\frac{P - O}{2}$$

Manual 816-1

On vehicles produced *up to March 1969*, each wheel must have a *toe-in* lying between O and 4 mm (O and 0.15 in).
On vehicles produced *since March 1969*, each wheel must have a *toe-out* or a *toe-in* lying between O and 2 mm (O and 0.078 in).

The arms must be replaced if the average :

$$\frac{O1 + O2}{2} \quad \text{or} \quad \frac{P1 + P2}{2} \quad \text{or} \quad \frac{O - P}{2} \quad \text{or} \quad \frac{P - O}{2}$$

does not lie between : 0 and 4 mm (0 and 0.15 in) *(Vehicles produced up to March 1969)*
or between : 0 and 2 mm (0 and 0.078 in) *(Vehicles produced since March 1969)*

NOTE :

The differences between the measurements : 01 and 02 or O and P, taken in paragraph 7, *arise only from wheel run-out.*

The difference in values red on the scale is double the actual run-out of the rim at the points taken. If it is greater than 4 mm (0.15 in) (which corresponds to a measured run-out of $\frac{4}{2}$ = 2 mm (0.078 in) the wheel must be checked, provided that the actual run-out of a rim must not exceed 2 mm (0.078 in).

II. CHECKING A REAR AXLE ARM, REMOVED.

1. **Remove the arm** (see relevant operation).

2. **Strip the arm** (see relevant operation).
It is not necessary to remove the adjustment cams.

3. **Check the arm :**

Place the arm on an inspection rig (rig MR. 630-51/46).
Insert the stub axle into the bore of the plate E and rest the plate on a surface plate.
Insert the mandrel A into the bore of the arm.
Chock up the arm mounting end until the plate E is fully in contact with the surface plate.

Check the toe-in (see fig. 1) :
a) Arrange the inclined pin B of the mandrel A *parallel to* the welding lines of the arm.
b) Using a scriber, measure the height « h1 » at one point. Turn the mandrel half a turn and read the height « h2 » *at this same point :*
The difference between the two measurements must lie between 0 and 1.2 mm (0 and 0.047 in).
The smaller of these two heights can correspond to either end of the arm.

Check the camber (see fig. 2).:

a) Arrange the pin B of mandrel A *perpendicular* to the welding lines of the arm.

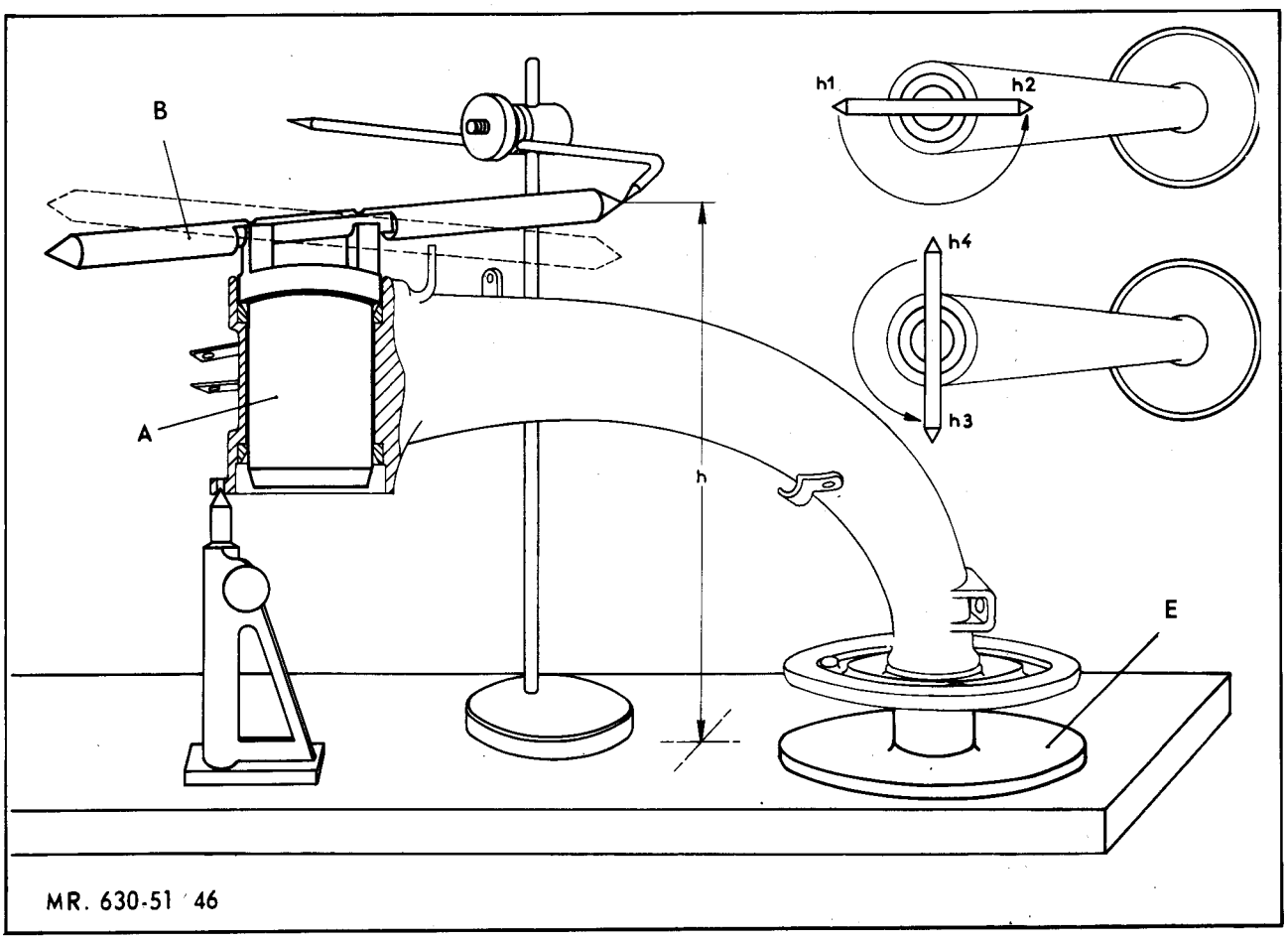
b) Using a scriber, measure height « h3 » at one point. Turn the mandrel half a turn and read the height « h4 » *at this same point.*

The difference between the two measurements must lie between 0 and 3.5 mm (0 and 0.13 in).
The smaller height should always be on the side of the knife carrying plate. Otherwise the arm must be renewed.

4. **Replace accessories on the arm :**
(see relevant operation).

5. **Refit the arm :**
(see relevant operation).

A. 42-3



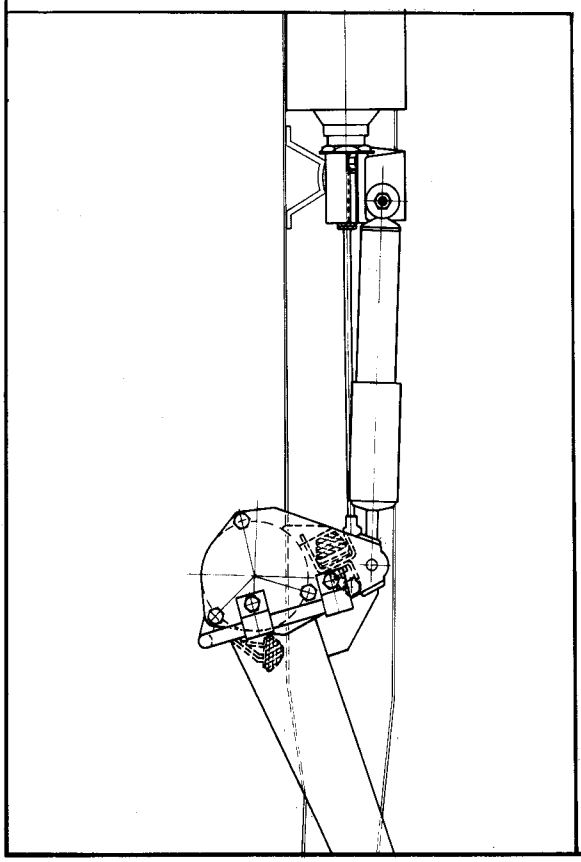
Supplement No. 1 to Manual 816-1 (CORR)

DIAGRAM OF THE SUSPENSION SYSTEM

A. 43-55

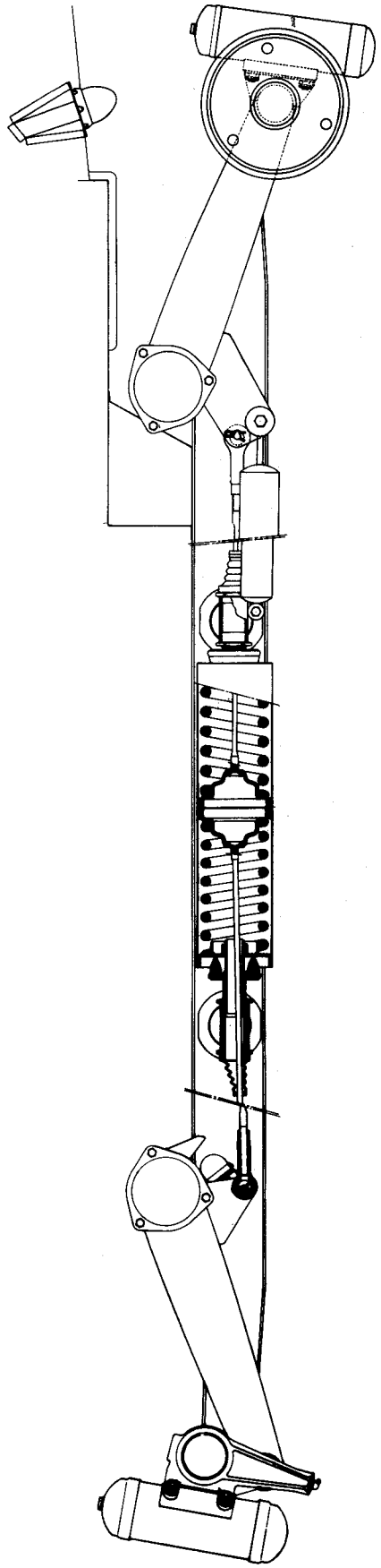
SUSPENSION SYSTEM ON : AM Véhicles ⟵ *September 1969*
Shock absorbers at the front and at the rear

SUSPENSION SYSTEM ON : AM Vehicles *September 1969* ⟶
Shock absorbers at the front and at the rear
Anti-roll bar at the front



A. 43-57

SUSPENSION SYSTEM ON : AZ - AY - Mehari - AZU - AK vehicles



CHARACTERISTICS

Suspension : All A vehicles ⟶ *7/1976*
Interacting type (on each side of the vehicle, the suspension arms are connected through the suspension unit).
- AM 3 - AMF 3 - AMC 3 - AK : *7/1976* ⟶ *9/1978* } elimination of the interaction
- AY (series CD : *2/1978* ⟶ }
- AK (series AK : *7/1976* ⟶ *2/1978*

Shock absorbers :
- Hydraulic on all four wheels for all A vehicles *(9/1975* ⟶ *)*
- Hydraulic on rear wheels only for the following vehicles AZ - AY - AZU and AY - CA (MEHARI) ⟶ *9/1975.*

Friction dampers :
- Friction dampers on the front wheels of all vehicles which are not fitted with hydraulic shock absorbers.

Inertia dampers :
- On all four wheels for all vehicles produced *up to November 1970.*
- On the front wheels for 2 CV 4, DYANE 4 and AZU vans produced *between November 1970 and September 1975.*
- On the front wheels for 2 CV 6 and DYANE 6 produced *between May 1971 and September 1975.*
- On the front wheels for AY - CA (MEHARI) vehicles and for AK vans produced *between September 1971 and September 1975.*
- On the front wheels for AM vehicles produced *between September 1971 and November 1973.*

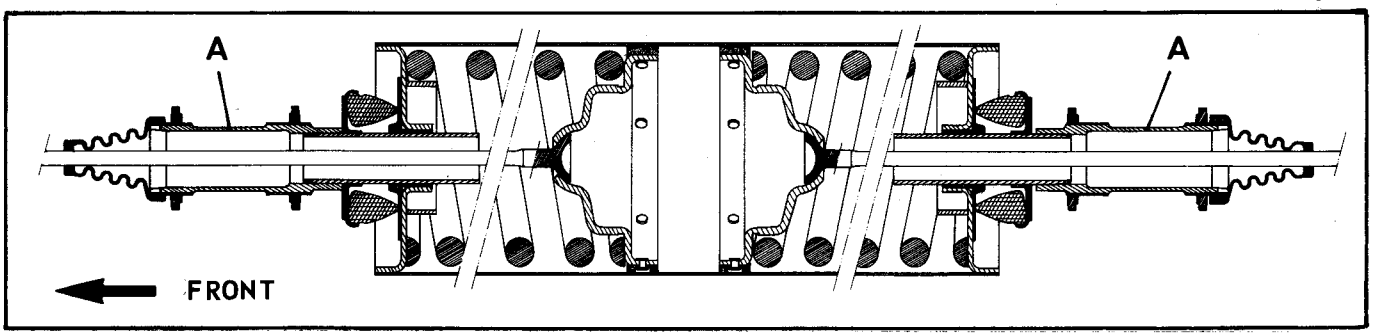
Since September 1975, all A vehicles have been fitted with hydraulic dampers on all four wheels. This has entailed the elimination of inertia dampers.

Anti-roll bars :
- Anti-roll bars have been fitted at the front on the following vehicles :
  AM *3/1969* ⟶ *9/1978*
  AMB *9/1969* ⟶ *9/1978*

Heights :
CAUTION : The vehicle heights are measured on both L.H. and R.H. sides, at the front and at the rear, between the ground and the vehicle platform, at a point equidistant from the two screws holding the crossmember and near the stop plate.

Type of vehicles	Tyres	Front heights in mm (in)	Rear heights in mm (in)
AZ ⟶ *7/1969*	125 - 380 X	195 ± 2.5 (7.67 ± 0.09)	280 ± 2.5 (11.02 ± 0.09)
	135 - 380 X	208 ± 2.5 (8.18 ± 0.09)	291 ± 2.5 (11.45 ± 0.09)
AZ (2 CV 4 and 2 CV 6)	125 - 380 X	195 ± 2.5 (7.67 ± 0.09)	280 ± 2.5 (11.02 ± 0.09)
AY (Dyane)	125 - 380 X	195 ± 2.5 (7.67 ± 0.09)	280 ± 2.5 (11.02 ± 0.09)
AY - CA (Méhari)	135 - 380 X 135 - 380 XM + S	236 ± 5 (9.29 ± 0.19)	346 ± 5 (13.62 ± 0.19)
AZU	125 - 380 X	205 ± 2.5 (8.07 ± 0.09)	335 ± 2.5 (13.18 ± 0.09)
AK	135 - 380 X	212 ± 2.5 (8.34 ± 0.09)	347 ± 2.5 (13.66 ± 0.09)
AY (series CD)	135 SR 15 ZX	212 ± 5 (7.48 ± 0.19)	317 ± 5 (12.48 ± 0.19)
AM	125 - 380 X	190 ± 2.5 (7.48 ± 0.09)	280 ± 2.5 (11.02 ± 0.09)
AMB	135 - 380 X	195 ± 2.5 (7.67 ± 0.09)	290 ± 2.5 (11.41 ± 0.09)

A.43-50



Suspension units fitted on AZ and AZU vehicles :

TYPE OF VEHICLE	Free length of springs and dia. of wire in mm (in)		Length of tie-rods in mm (in)		Length of end pieces in mm (in)	
	FRONT	REAR	FRONT	REAR	FRONT	REAR
AZ 9/1962 → 3/1963 AZU 6/1955 → 3/1963	185 (7.28) 14.35 (0.56)	170 (6.69) 15.25 (0.6)	623 (24.52)	644 (25.35)	191 (7.51)	173 (6.81)
AZ AZU } 3/1963 → 9/1965	185 (7.28) 14.8 (0.58)	170 (6.69) 15.25 (0.6)	600 (23.62)	644 (25.35)	173 (6.81)	173 (6.81)
AZ 9/1965 → 2/1970 AZU 9/1965 → 9/1972 AZ (2 CV 4) AZ (2 CV 6) } 2/1970 → 10/1971	18.5 (7.28) 14.8 (0.58)	170 (6.69) 15.25 (0.6)	600 (23.62)	642 (25.27)	173 (6.81)	182 (7.16)
AZ (2 CV 4) AZ (2 CV 6) } 10/1971 → 9/1972	193 (7.59) 15.25 (0.6)	170 (6.69) 15.25 (0.6)	600 (23.62)	642 (25.27)	173 (6.81)	182 (7.16)
AZU 9/1972 → 2/1978	193 (7.59) 15.25 (0.6)	170 (6.69) 15.25 (0.6)	593 (23.34)	611 (24.05)	173 (6.81)	182 (7.16)
AZ (2 CV 4) AZ (2 CV 6) } 9/1972 →	193 (7.59) 15.25 (0.6)	170 (6.69) 15.25 (0.6)	593 (23.34)	632 (24.88)	173 (6.81)	182 (7.16)

Suspension units fitted on DYANE - DYANE 4 and DYANE 6 :

AYA 8/1967 → 3/1968 AYA 2 3/1968 → 10/1968 AYA 3 1/1968 → 10/1968 AYB 10/1968 → 12/1968	193 (7.59) 14.8 (0.58)	170 (6.69) 15.25 (0.6)	600 (23.62)	642 (25.27)	173 (6.81)	182 (7.16)
AYA 2 10/1968 → 9/1975 AYB 12/1968 → 9/1972	193 (7.59) 15.25 (0.6)	170 (6.69) 15.25 (0.6)	600 (23.62)	642 (25.27)	173 (6.81)	182 (7.16)
AYA AYB } 9/1972 →	193 (7.59) 15.25 (0.6)	170 (6.69) 15.25 (0.6)	593 (23.34)	632 (22.88)	173 (6.81)	182 (7.16)

Suspension units fitted on AK vehicles :

AK All Types 9/1962 → 5/1968 ..... 5/1968 → 7/1976	225 (8.85) 192 (7.55) 17.15 (0.67)	238 (9.37) 17.95 (0.7)	642 (25.27)	618 600 (23.62)	197 (7.75)	197 (7.75)

Suspension units fitted on AM vehicles :

AM → 3/1969	192 (7.55) 17.15 (0.67)	205 (8.07) 17.95 (0.7)	623 (24.52)	623 (24.52)	197 (7.75)	197 (7.75)
AMB → 6/1972	195 (7.67) 18.2 (0.71)	243 (9.50) 19 (0.74)	623 (24.52)	644 (25.35)	197 (7.75)	197 (7.75)
AM 3/1969 → 6/1972	160 (6.29) 18.2 (0.71)	222 (8.7) 18.65 (0.73)	605 (23.81)	623 (24.52)	197 (7.75)	197 (7.75)
AM 6/1972 → 7/1976	160 (6.29) 18.2 (0.71)	222 (8.7) 18.65 (0.73)	575 (22.63)	611 (24.05)	197 (7.75)	197 (7.75)
AMB 6/1972 → 7/1976	160 (6.29) 18.2 (0.71)	222 (8.7) 18.65 (0.73)	611 (24.05)	632 (24.88)	197 (7.75)	197 (7.75)

Supplement No. 1 to Manual 816-1 (CORR)

SPECIAL FEATURES

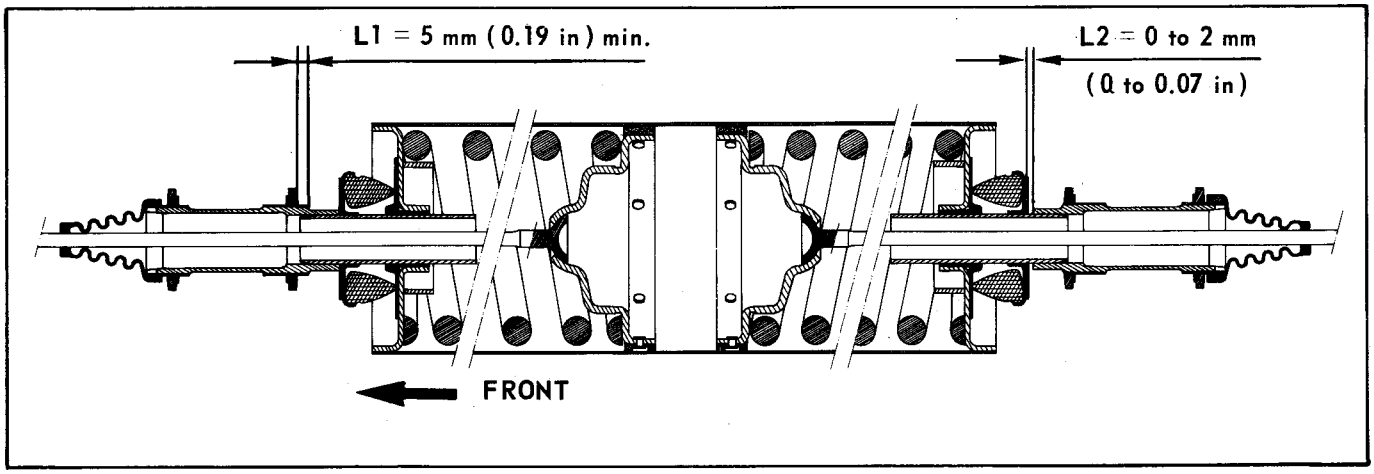
Shock absorbers :

- Fitting : **BOGE** shock absorbers : shock absorber body towards suspension unit, ball imprint directed upwards and drain holes downwards.
  ALLINQUANT or **LIPMESA** : shock absorber body towards suspension arm, mark directed upwards.
- Length (between mounting points) of a compressed rear shock absorber :
  - *AZ - AY - AY-CA (MEHARI) - AZU vehicles :* ..... 450 mm (17.71 in)
  - *AK vehicles :* ..... 349 mm (13.74 in)
  - *AM vehicles :* ..... 375 mm (14.76 in)
  - *AY (ACADIANE) vehicles :* ..... 526 mm (20.7 in)
- Length (between mounting points) of a compressed front shock absorber :
  - *All A vehicles (ACADIANE excepted) :* ..... 349 mm (13.74 in)
  - *AY (ACADIANE) vehicles :* ..... 354 mm (13.93 in)

Suspension units :

- Fitting : The marking « AV » on the casing must be directed towards the front.

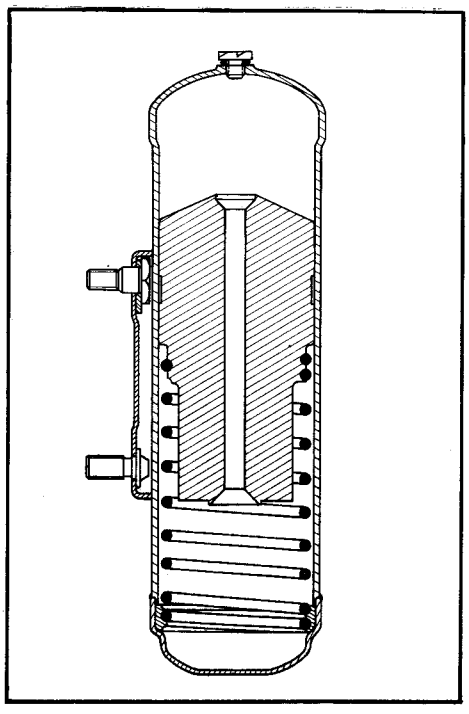
A. 43-50



- Adjustment : The vehicle must be unladen, in running order, placed on a flat, horizontal ground with tyres correctly inflated (see relevant Technical Bulletin for correct pressures).
- Position of the suspension unit front end-piece : ..... L 1 = 5 mm (0.19 in) min.
- Position of the suspension unit rear end-piece : Adjust it so as to obtain a clearance : L 2 = 0 to 2 mm (0 to 0.07 in) between the end-piece and the anti-pitch stop.
- Clearance between the bump stop and the suspension arm : ..... 3 to 6 mm (0.11 to 0.23 in)

Anti-roll bars : Clearance between anti-roll bar and arm : ..... 6 mm (0.23 in)
Endfloat of the anti-roll bar before tightening the collars : ..... 0 ± 0.5 mm (0 ± 0.019 in).

INERTIA DAMPER



A. 43-53

Friction damper :

- Calibration : ..... 2.3 to 2.7 da Nm (16.6 to 19.49 ftlbs)

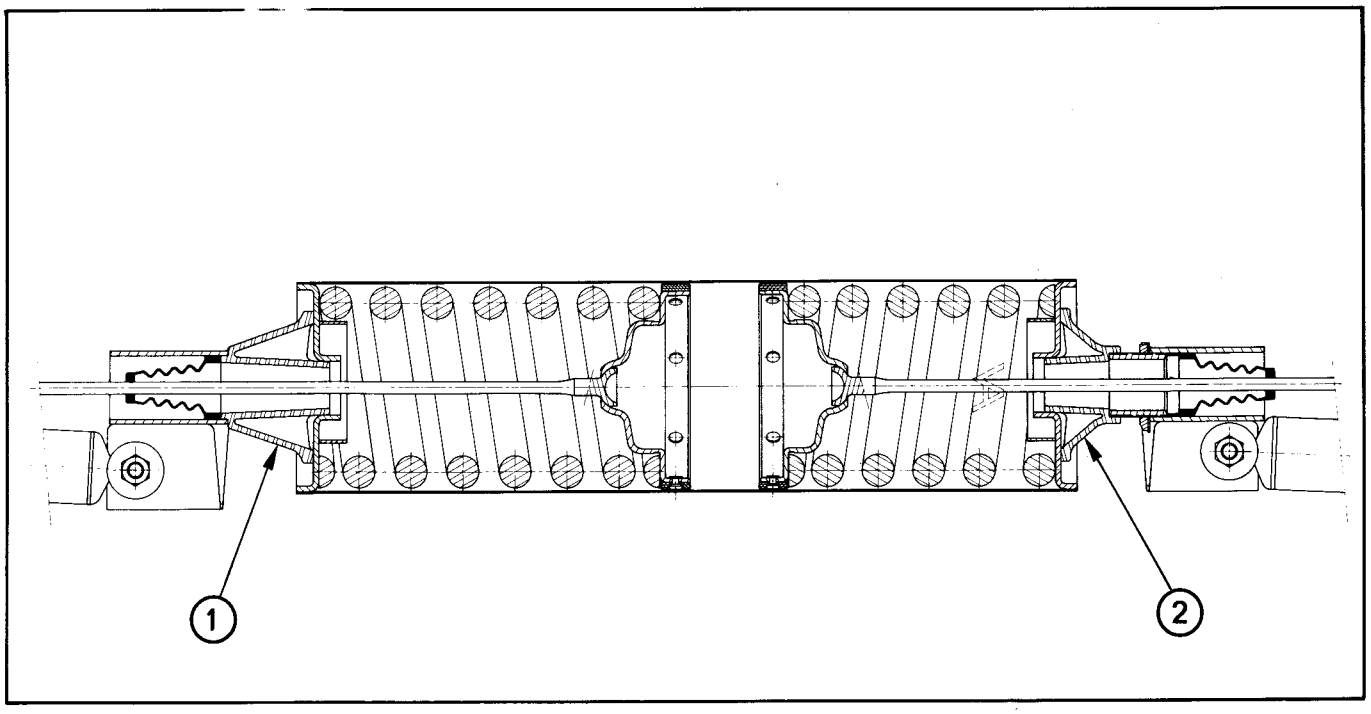
Tightening torques :

- Nuts holding inertia dampers : 6 da Nm (43.32 ft.lbs)
- Nuts holding front bump stops : 4 to 5 da Nm (28.88 to 36.10 ft.lbs)
- Nuts securing front shock absorber supports : 4 da Nm (28.88 ft.lbs)
- Shock absorber spindles : 20 da Nm (144.4 ft.lbs)
- Shock absorber securing nuts : 3.5 to 4 da Nm (25.27 to 28.88 ft.lbs)
- Nuts holding suspension units : 17.5 to 21.5 da Nm (126.35 to 155.23 ft.lbs)
- Screws securing anti-roll bar collars : 6 da Nm (43.32 ft.lbs)

Suspension without interaction :

TYPE OF VEHICLE	Free length of springs and dia. of wire in mm (in) FRONT	REAR	Length of tie-rods in mm (in) FRONT	REAR
Suspension units fitted on AM vehicle				
AM 3 *7/1976 ⟶ 9/1978*	172 (6.77) 18 (0.7)	210.45 (8.86) 17.95 (0.7)	590 (23.22)	608 (23.93)
AMF 3 AMC 3 *7/1976 ⟶ 9/1978*	172 (6.77) 18 (0.7)	239.7 (94.36) 18.65 (0.73)	575 (22.63)	629 (24.76
Suspension units fitted on AK vehicle				
AK *7/1976 ⟶ 2/1978*	168 (6.61) 17.15 (0.67)	260 (10.23) 17.15 (0.67)	575 (22.63)	608 (23.93)
Suspension units fitted on AY - CD (ACADIANE) vehicle				
AY (series CD) *2/1978 ⟶*	168 (6.61) 17.15 (0.67)	260 (10.23) 17.15 (0.67)	520 (20.47)	792 (31.18)

A. 43-56

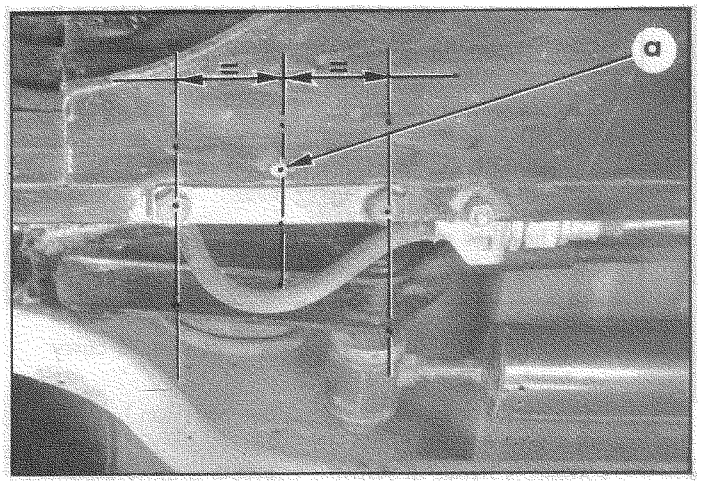


The suspension unit is now fixed : two spacers (1) and (2) have been added between the suspension unit itself and the sidemember supports.

Supplement No. 1 to Manual 816-1 (CORR.)

I. CHECKING THE HEIGHTS.

4949

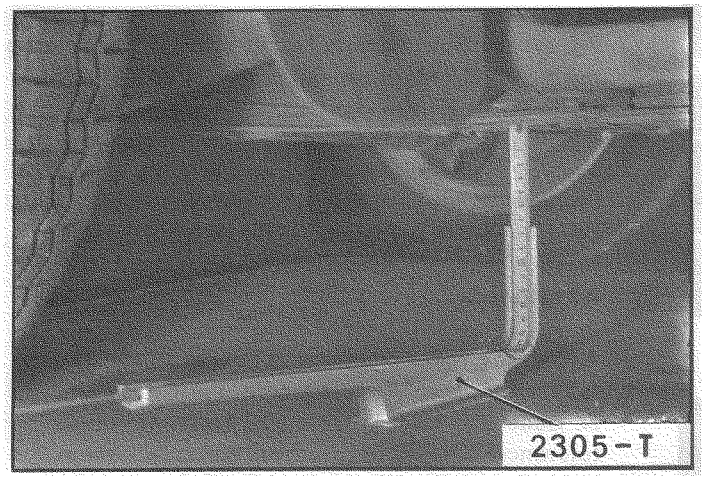


The vehicle heights must be measured at the front and at the rear, between the ground and the underside of the platform, at a point « a », equidistant from the two screws holding the crossmember, and near the stop plate.

1. Prepare the vehicle for the road. It should carry no load except :
- the spare wheel (in its proper position),
- the tool kit,
- about 5 litres (1 gallon) of petrol in the tank.

FRONT

12124



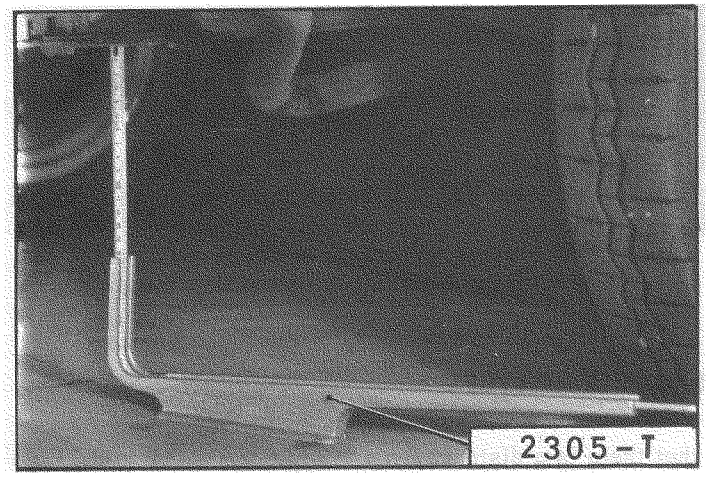
2. Check the tyre pressures and correct them if necessary (see relevant Technical Bulletins).

Place the vehicle on flat, horizontal ground with the wheels in straight ahead position.

3. Move the vehicle up and down by pressing the bumpers and then let it stabilize.

REAR

12123



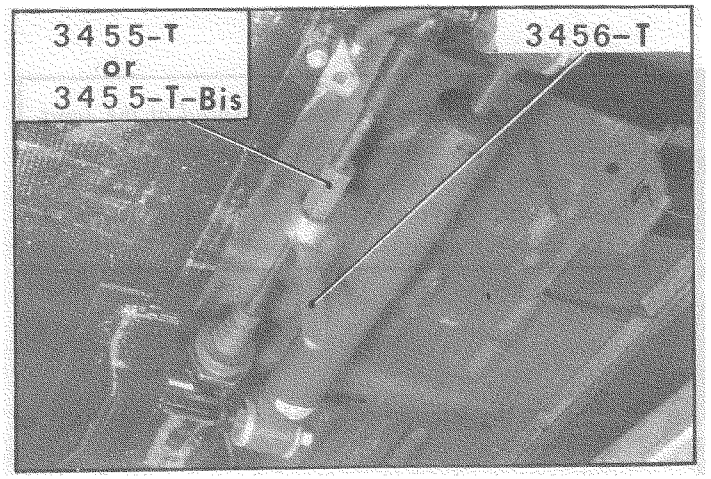
4. Measure the heights :

Measure the heights at the front and at the rear, between the ground and the underside of the platform, at a point « a », equidistant from the two screws holding the crossmember, and near the stop plate.

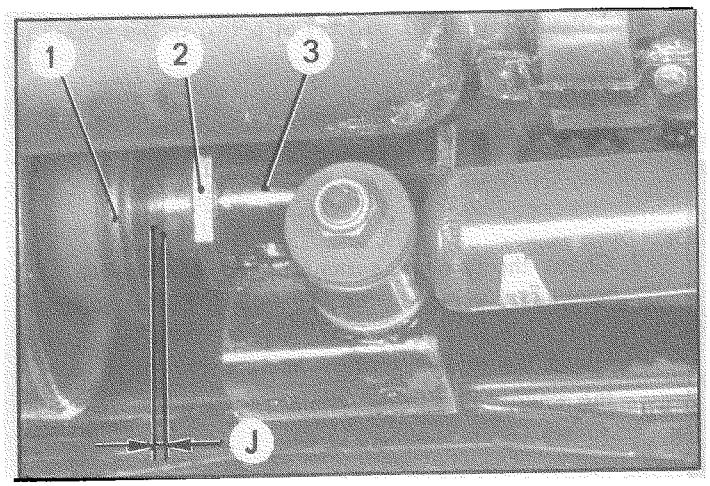
Use the gage 2305-T, as shown on the figures opposite.

II. ADJUSTING THE HEIGHTS

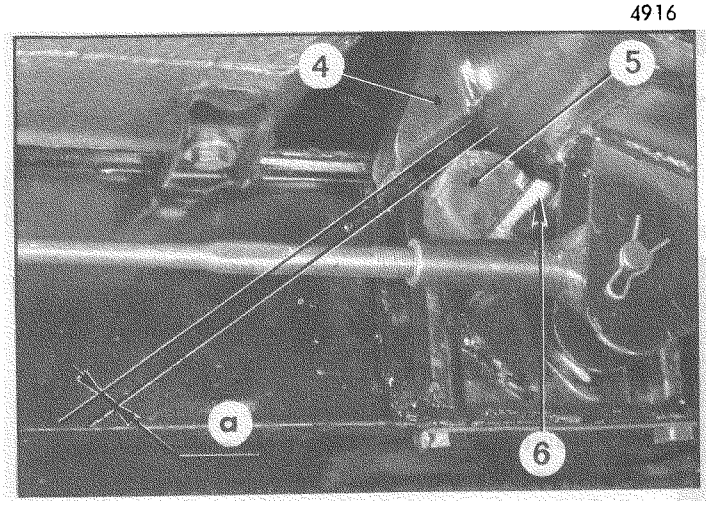
4939



4857



4916



If the friction dampers or the shock absorbers have been removed, adjust the heights before fitting the screws securing the friction damper protective covers or installing the shock absorbers.
To avoid deteriorating the « silentblocs », the nuts on the shock absorber spindles must not be tightened until the heights are adjusted and the vehicle is resting on the ground.
If the heights are adjusted as indicated below, the weight distribution is correct.

1. Prepare the vehicle for the road. It should carry no load except :
   - the spare wheel (in its proper position),
   - the tool kit,
   - about 5 litres of petrol (1 gallon approximately) in the tank.

2. Check the tyre pressures and adjust them if necessary (see relevant Technical Bulletins).

3. **Adjust the front heights** by screwing or unscrewing the front tie-rods. Use end-piece 3455-T or 3455-T bis (both fit on tie-rod flat) and spanner 3456-T.
   Avoid using any other tool, specially claw spanners which scratch surfaces and create a tendency to rupture.
   Hold the suspension unit with the hand for its rotation may interfere with the adjustment of the rear tie-rods.

4. **Adjust the rear heights** by screwing or unscrewing the rear tie-rods. If substancial correction has to be made, the front heights will be outside their tolerance. Therefore, the front tie-rods must be readjusted before the setting procedure is over.
   Use end-piece 3455-T or 3455-T bis and spanner 3456-T.
   Hold the suspension unit with the hand for its rotation may interfere with the adjustment of the front tie-rods.

5. Check the front and rear heights after each adjustment.

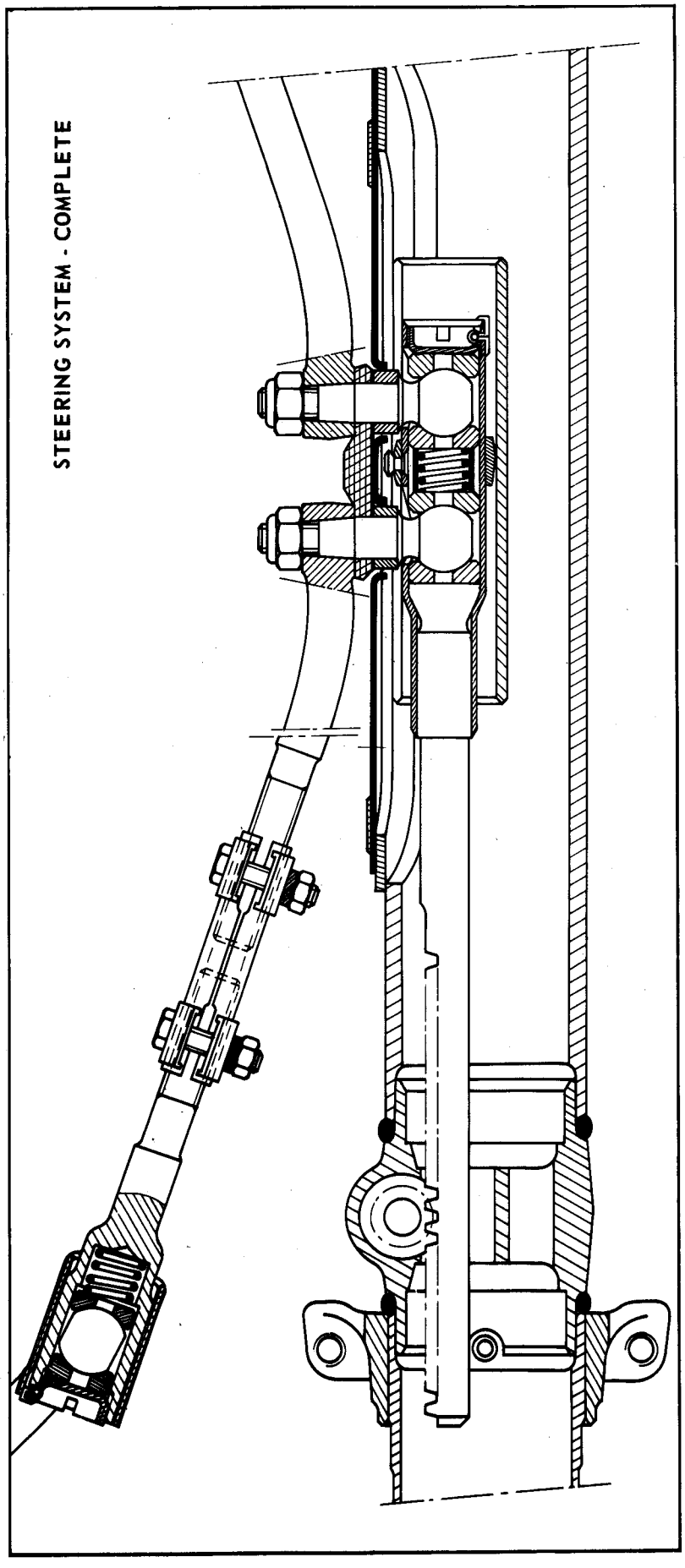
6. Check the clearance « j » between the adjusting end-piece (3) and the rear flexible stop (1) which should be : 0 to 2 mm (0 to 0.07 in).
   If necessary, adjust the position of end-piece (3) by means of nuts (2) to obtain this clearance.

III. ADJUSTING THE FRONT BUMP STOPS.

7. Once the platform heights have been adjusted, check that there is a distance « a » = 3 to 6 mm (0.11 to 0.23 in) between the rubber stops (5) and arm bump stops (4).
   This condition can be met by adding shims (6) of suitable thickness between the rubber stop and the bracket on chassis.

A. 41-9

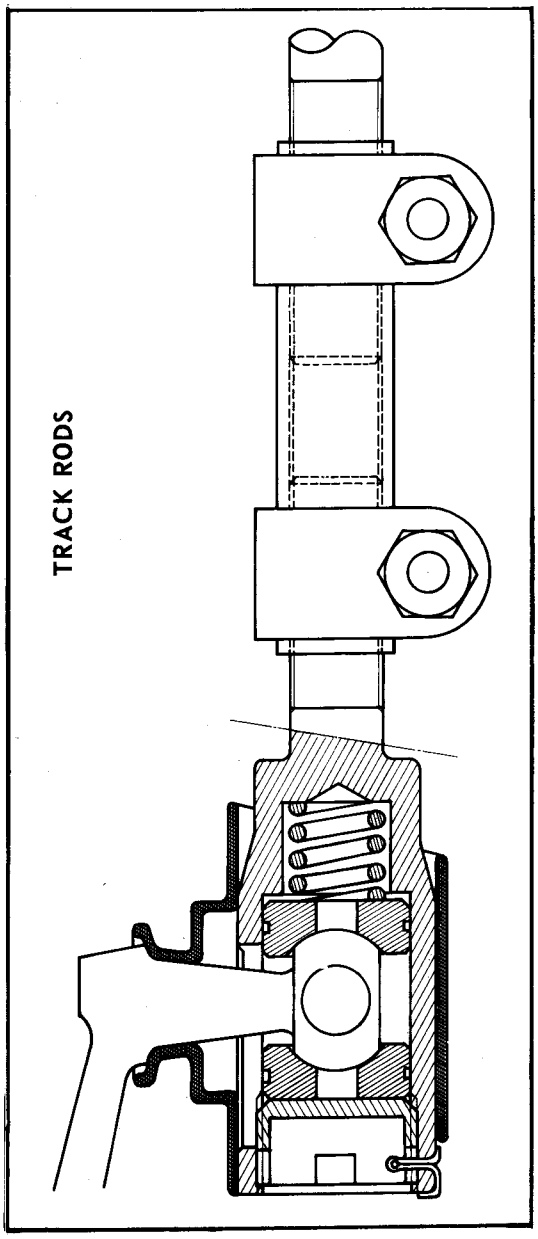
STEERING SYSTEM - COMPLETE



Manual 816-1

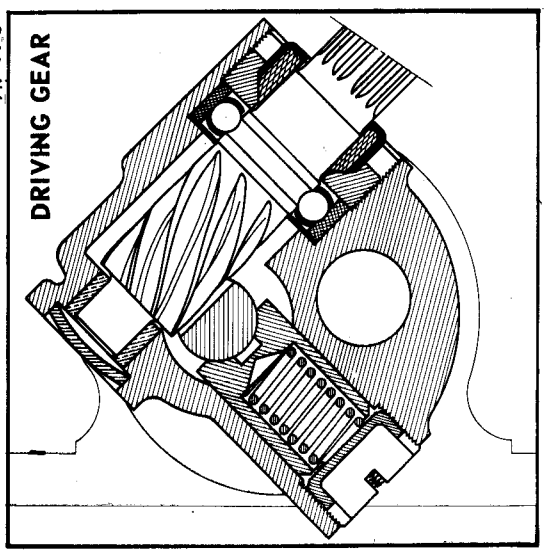
A. 44-1

TRACK RODS



A. 44-5

DRIVING GEAR



CHARACTERISTICS

Rack and pinion steering :

- Parallelism : Toe-out : ..... 0 to 3 mm (0 to 0.11 in)
- Lock angle (adjustable) : ..... 34° to 35°
- Clearance between tyre and arm (inner side of turn) : ..... 5 mm (0.19 in)
- Clearance between arm and inertia damper (outer side of turn) : ..... 1 mm (0.039 in)
- Turning circle between walls (approximately) : ..... 10.70 m (0.42 in)

- Steering ratios with a 430 mm (16.92 in) dia. steering wheel
  - 2 CV Saloon : ..... 1/13 ⟶ *2.1970* - 1/14 *2.1970* ⟶
  - 2 CV van : 1/13
  - All types of vehicles (except 2 CV van) : 1/14

- Steering ratio with a 390 mm (15.35 in) dia. steering wheel
  - 2 CV Saloon and all Dyane vehicles : .....
  - 2 CV and 3 CV vans : .....
  - All AM vehicles : .....

  } 1/17

Adjustments :

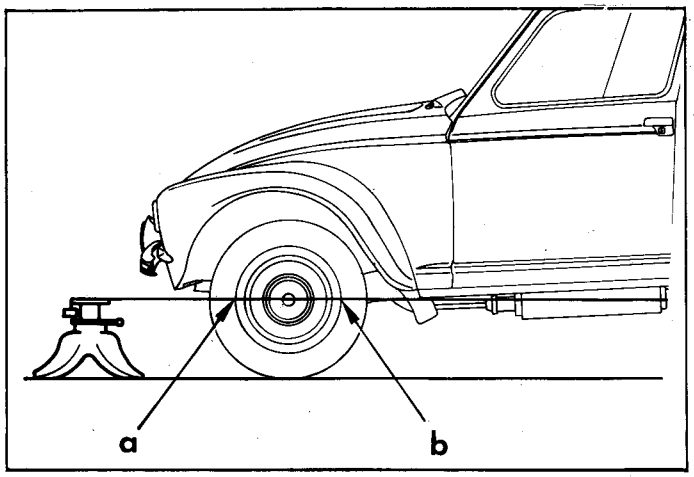
- Clearance at rack plunger (at hardest point) : ..... 0.1 to 0.25 mm (.0039 to .0098 in)
- Clearance at the level of the steering ball pins (lever side and rack side : screw the nut fully in, then slacken it by 1/6 of a turn and lock it with a split pin).

Tightening torques :

- Steering pinion nut : ..... 10 to 14 da Nm (72.2 to 101 ft.lbs)
- « Nylstop » nuts fixing the track rods to the ball pins : ..... 4 da Nm (28.88 ft.lbs)

I. CHECKING AND ADJUSTING THE FRONT WHEEL TOE-OUT.

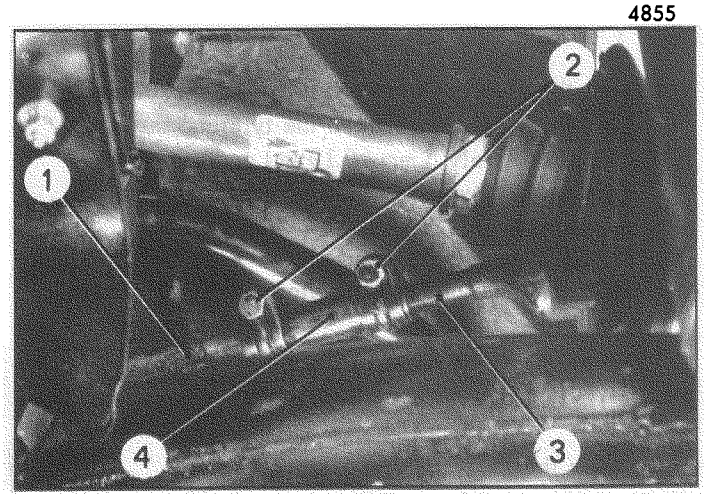
A. 41-8



The wheels should have a toe-out of 0 to 3 mm (0 to 0.11 in). *To carry out this check, the chassis heights at the front and at the rear must have been correctly set* (See relevant operation).

1. Place the vehicle in straight ahead position.

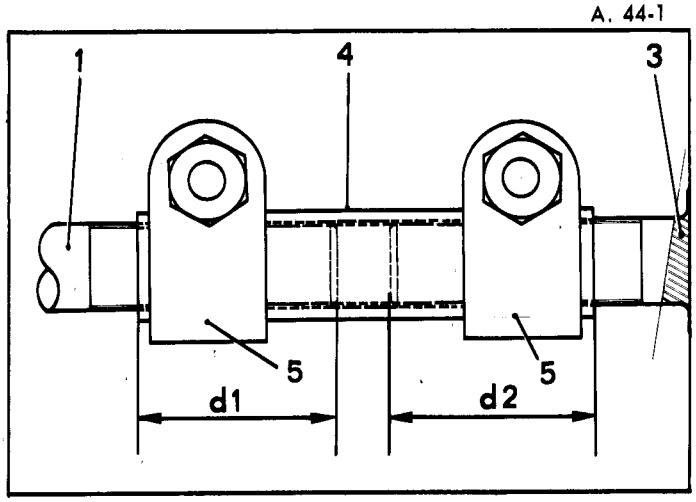
4855



2. Checking the front wheel toe-out :

This operation should be carried out using one of the gauge types available on the market.
Proceed as follows :
At point « a », corresponding to wheel centreline, measure the distance between the front outer edges of the rims. Mark the measured points with chalk. Move the vehicle forward until the wheels have rotated through half a turn, so that the marks are once again levelled with the wheel centreline. Measure between these marks (now behind the wheel centre) at « b ».
If this distance is smaller by 0 to 3 mm (0 to 0.11 in), the setting is correct. Otherwise, adjust the toe-out.

A. 44-1

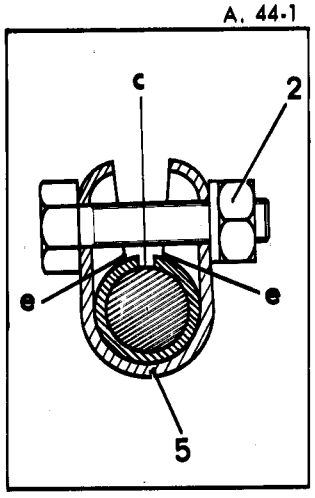


3. Adjusting the front wheel toe-out :

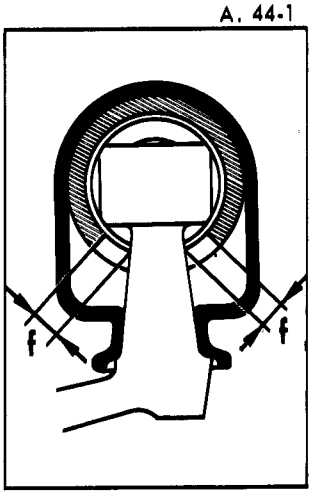
Without removing the wings, slacken the nuts (2) on the bolts holding the right-hand and left-hand sleeves (4). Rotate each sleeve by the same amount to obtain the correct setting.

NOTE : One complete turn of the sleeve alters the wheel position by 6 to 7 mm (0.23 to 0.27 in).

A. 44-1



A. 44-1

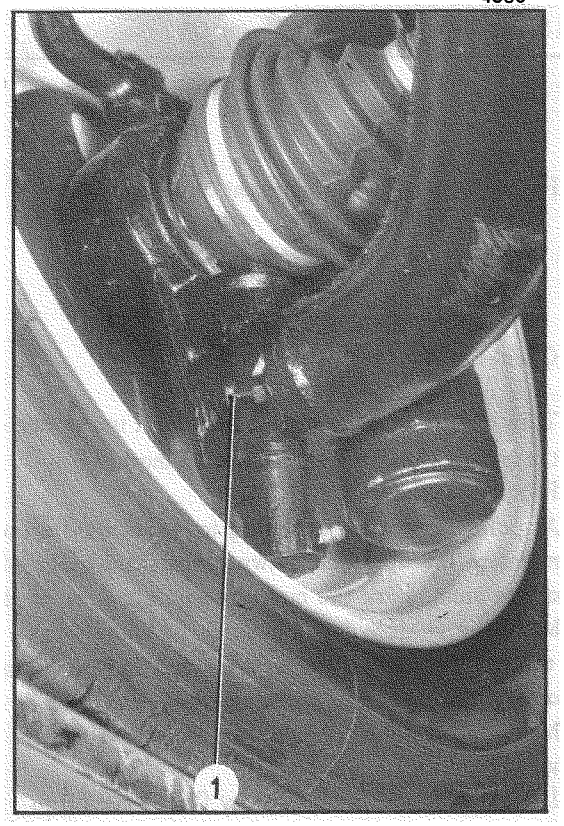


Make sure that the amounts by which the track rod (1) and the end-piece (3) are screwed into sleeve (4) are equal (d1 = d2 ± 2 mm, 0.07 in).

The locking collars (5) holding the sleeves (4), should be arranged vertically, the securing screws being located at the top.
The position of slot « c » is not important, so long as it is not opposite to points « e ». The clearance « f » for steering ball pin movement should be evenly distributed. Tighten the nuts (2) on the bolts securing the sleeves to a torque of 1 da Nm (7.22 ft.lbs).

Manual a16-1

II. ADJUSTING THE STEERING ANGLE.



NOTE : *To carry out this operation, the chassis heights at the front and at the rear must have been correctly set.*
(See relevant operation).

1. Put the vehicle on a flat horizontal ground.

2. Turn the steering wheel to full lock. Make sure that the clearance between the tyre and the arm is approximately 5 mm (0.19 in) and that the clearance between the inertia damper and the arm, on opposite side, is 1 mm (0.039 in) min.

   Otherwise, adjust the lock stop screw (1), located on the arm.

3. Check the lock angle of the other wheel.