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**CB1A**

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**AUGUST 2000**

**EDITION ANGLAISE**

"The repair methods given by the manufacturer in this document are based on the technical specifications current when it was prepared.

The methods may be modified as a result of changes introduced by the manufacturer in the production of the various component units and accessories from which his vehicles are constructed."

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# General

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The **CLIO** Workshop Repair Manual has been prepared by experts in repair methods and fault finding.

The document covers the methods and fault finding operations required in order to carry out high quality repairs on this vehicle.

However, if a removal - refitting operation involves no special features, difficulties or special tools, the method is not described in this manual, as it is considered very simple for a vehicle repair specialist.

The labour times are the result of time and motion studies carried out in our workshops, even though some methods are not described in the Workshop Repair Manual.

## UNITS OF MEASUREMENT

- All dimensions are expressed in millimetres (**mm**) unless stated otherwise.
- Tightening torques are expressed in decaNewtonmetres (**daNm**).
- Pressures are expressed in bar (reminder: **1 bar = 100 000 Pa**).
- Electrical resistances are expressed in ohms (**W**).
- Voltages are expressed in volts (**V**).

## TOLERANCES

Tightening torques given without a tolerance must be accurate to within:

- In **degrees**:  $\pm 3^\circ$ .
- In **daNm**:  $\pm 10\%$ .

## EQUIPMENT AND TOOLS

The repair methods described for the vehicles in the **RENAULT** range require special materials and tools in certain cases. There is a wide choice in the special materials and tools catalogues.

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SPECIFICATIONS

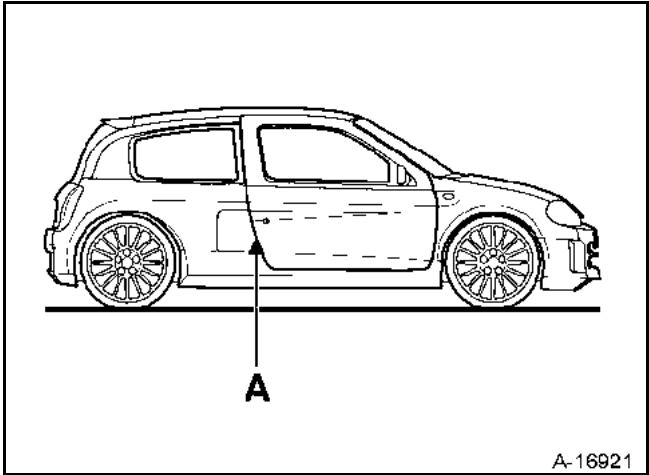
Engine- Clutch - Gearbox

Vehicle type	Engine		Clutch type	Manual gearbox type
	Type	Capacity (cm <sup>3</sup> )		
CB1A	L7X 760	2946	Self-adjusting	PK6

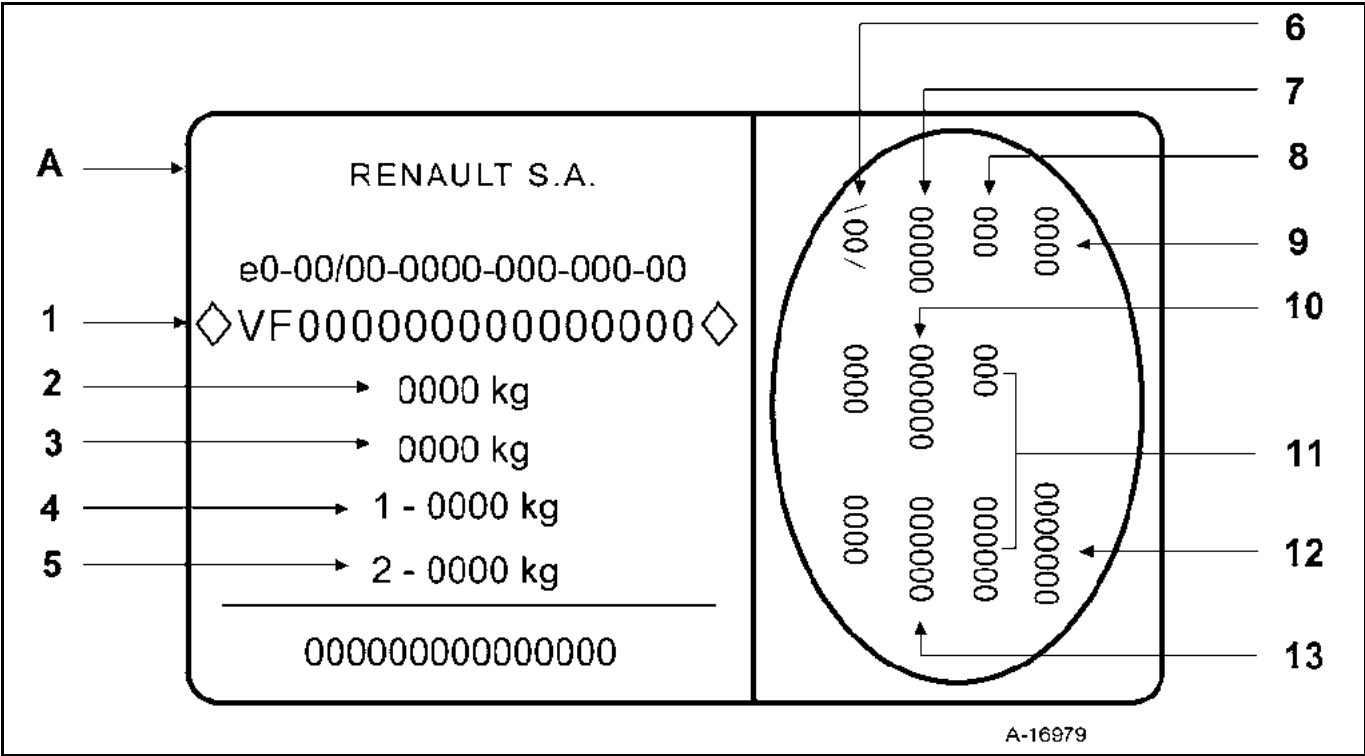
MANUFACTURER'S PLATE

Example: CB1A  
C:    Bodywork type (3-door)  
B:    Project code  
1A:   Engine suffix

**LOCATION OF VEHICLE IDENTIFICATION PLATE**



A-16921



- 1 1 Vehicle type and chassis number
- 2 2 MGVW (maximum gross vehicle weight )
- 3 3 GTW (gross train weight - loaded vehicle with trailer)
- 4 4 Front axle MGVW
- 5 5 Rear axle MGVW
- 6 6 Technical specifications of the vehicle

- 7 7 Vehicle paint reference
- 8 8 Equipment level
- 9 9 Vehicle type
- 10 10 Trim code
- 11 11 Additional equipment details
- 12 12 Fabrication number
- 13 13 Interior trim code

# LIFTING

## Trolley jack - Axle stands

02



Safety symbol (special precautions to be taken when carrying out operations).

If a trolley jack is used, appropriate axle stands must always be used.

### TROLLEY JACK

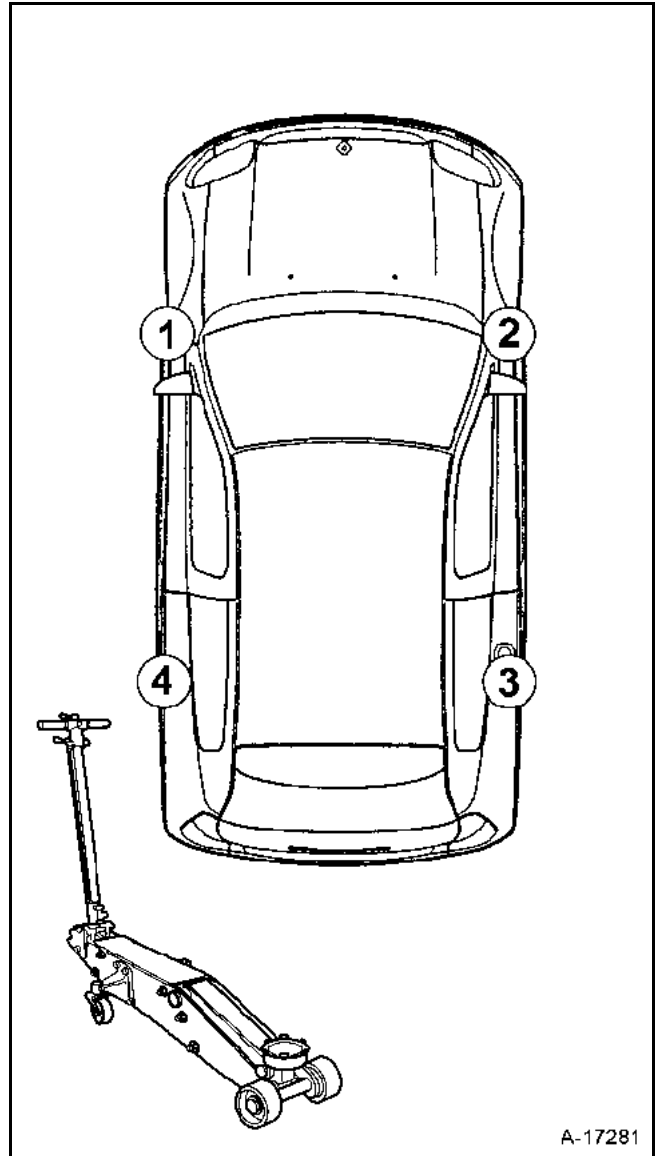
The vehicle **must not** be raised by placing the jack beneath the front suspension arm or under the rear axle.

To raise the front or rear of the vehicle, place the weight on the tool kit jack points (1), (2), (3) and (4).

### AXLE STANDS

The axle stands must be placed under the contacts located beneath the reinforcements before being used to support the vehicle.

Axle stands are positioned at the rear by raising the vehicle at the sides.



### SAFETY INSTRUCTIONS



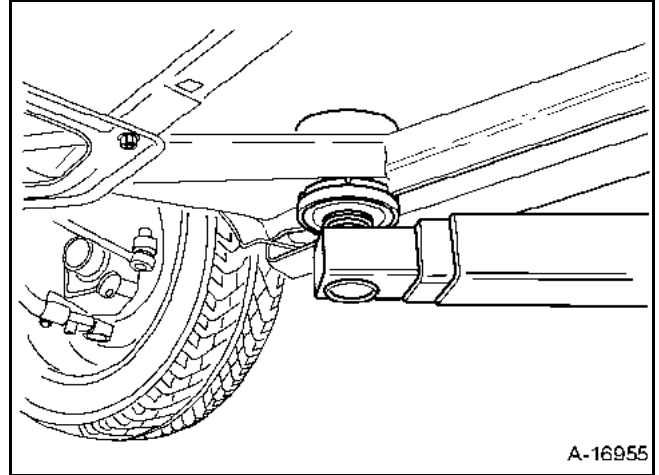
Various cases have to be considered:

#### 1 - REMOVING COMPONENTS

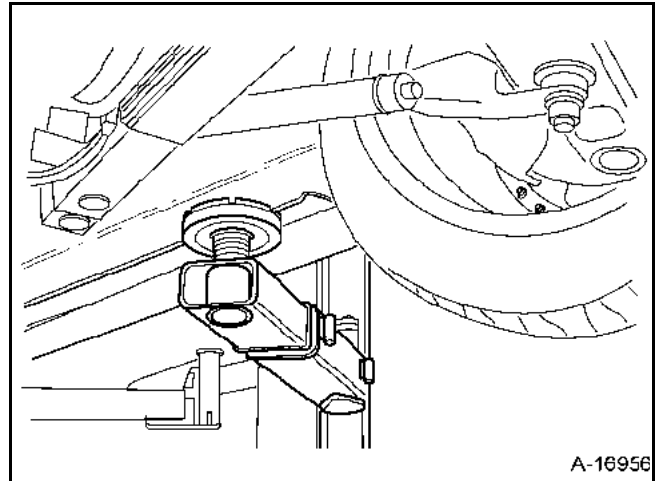
As a general rule, **never use a two-post lift** whenever a four-post lift can be used.

If this is not possible, place the lifting pads beneath the underbody flange by the tool kit jack supports.

FRONT



REAR



These must be positioned level with the tool kit jack points. They must slot into the openings in the underbody flanges.

### 2 - REMOVING AND REFITTING HEAVY COMPONENTS

**WARNING:** always use a safety harness if using a two-post lift to remove heavy components.

For your safety, take care to ensure that the vehicle is balanced when placed on a two-post lift.

This is because removing heavy components (such as the engine and transmission assembly, rear axle or fuel tank, etc.), depending on:

- the vehicle load,
- its length,
- the position of the lifting pads,

may cause the vehicle to become unbalanced.

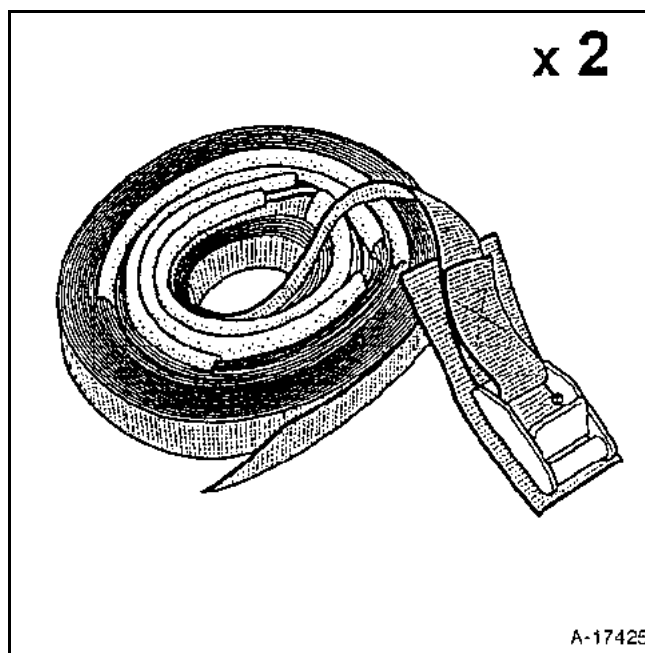
It is therefore essential to put a strap around or inside the bodywork and fix it to the arms of the lift between the pads.

### TOOLING REQUIRED

Straps:

- **10 metres** long,
- **25 mm** wide.

Straps are available from SODICAM,  
Part No.: 77 11 172 554.



This type of strap should only be used to immobilise a vehicle on a two-post lift (for safety reasons, they should not be used for any other purpose).

Use straps that are in good condition and clean (so as not to dirty the interior or the bodywork). Avoid damaging the vehicle by pulling the strap too tight (the sill panels can be protected at the point where the strap passes over them).



### FITTING THE SAFETY STRAPS

This device allows you to carry out work under the vehicle without being hindered.

The strap must be placed at the front and/or rear of the vehicle during any operation involving the transfer of weight.

Always check the strap before use.

The lift pads are placed under the vehicle by the tool kit jack support.

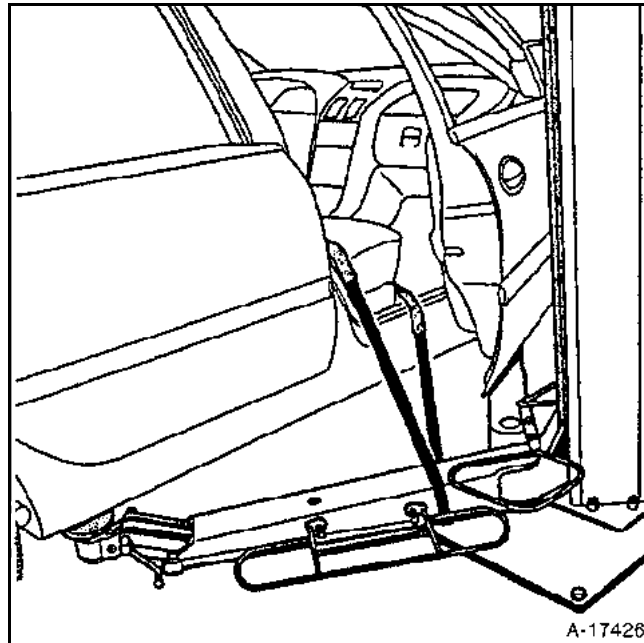
Lift the vehicle a few centimetres.

Protect the vehicle interior (seats, etc....).

Place the strap through under the arms of the lift and pass twice around the vehicle, placing the strap protectors correctly so as not to damage the bodywork or upholstery.

Do not pull too tight.

The following example shows a vehicle secured at the front.

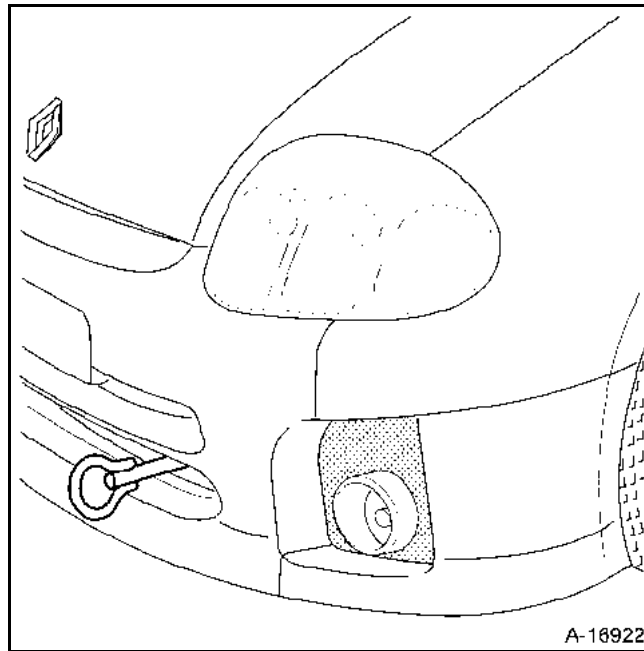


**OBSERVE THE TOWING REQUIREMENTS OF THE COUNTRY YOU ARE IN.**

**NEVER USE THE DRIVESHAFTS AS ATTACHMENT POINTS.**

The front towing point can only be used to tow the vehicle along a road. Never use it to lift the vehicle out of a ditch or to carry out operations of a similar nature, or for lifting the vehicle (directly or indirectly).

The vehicle is not fitted with a rear towing point.



# LUBRICANT CONSUMABLES

## Packaging

04

DESCRIPTION	PACKAGING	PART NUMBER
GREASES		
● <b>MOLYKOTE "BR2"</b> for main bearing journal faces, thrust pad guide tubes, clutch fork pads, lower suspension arm bearings, torsion bar splines, steering box, driveshaft splines.	1 kg tin	77 01 421 145
● <b>MOLYKOTE "33 Medium"</b> bushes on tubular rear axle, anti-roll bar rings.	100 g tube	77 01 028 179
● <b>ANTI-SEIZE</b> (high temperature grease) turbocharger etc.	80 ml tube	77 01 422 307
● <b>"MOBIL CVJ" 825 Black star or MOBIL EXF57C</b> for driveshaft seals	180 g sachet	77 01 366 100
● <b>MULTI-PURPOSE GREASE</b> wheel sensors.	Aerosol	77 01 422 308
MECHANICAL SEALANTS		
● <b>Perfect-seal "LOWAC"</b> coating fluid for seals	100 g tube	77 01 417 404
● <b>Mastic</b> for sealing exhaust pipe unions.	1.5 kg tin	77 01 421 161
● <b>RHODORSEAL 5661</b>	100 g tube	77 01 421 042 77 01 404 452
● <b>HARDENER KIT (RHODORSEAL 5661)</b> for bearing cap lateral seals	Kit	77 01 421 080
● <b>AUTO blue seal</b> sealing paste	100 g tube	77 01 396 227

DESCRIPTION	PACKAGING	PART NUMBER
MECHANICAL SEALANTS		
● <b>AUTO grey seal</b> sealing paste	100 g tube	77 01 422 750
● <b>LOCTITE 518</b> for sealing the gearbox housing	24 ml syringe	77 01 421 162
● <b>Leak detector</b>	Aerosol	77 11 143 071
ADHESIVES		
● <b>"LOCTITE-FRENETANCH"</b> stops bolts loosening and allows them to be released	24 cc bottle	77 01 394 070
● <b>"LOCTITE - FRENBLOC"</b> locks bolts	24 cc bottle	77 01 394 071
● <b>"LOCTITE SCELBLOC"</b> for bonding bearings	24 cc bottle	77 01 394 072
● <b>"LOCTITE AUTOFORM"</b> for bonding the flywheel to the crankshaft	50 cc bottle	77 01 400 309
LUBRICANT CLEANING AGENTS		
● <b>"NETELEC"</b> unseizes, lubricates	150 g aerosol	77 01 408 464
● Carburettor cleaner	300 ml can	77 11 171 437
● Injector cleaner	355 ml can	77 01 423 189
● Super-concentrated unseizing agent	500 ml aerosol	77 01 408 466
● <b>"DECAPJOINT" (FRAMET)</b> for cleaning the gasket faces of aluminium cylinder heads	Aerosol	77 01 405 952
● Brake cleaner	400 ml aerosol	77 11 170 801

DESCRIPTION	PACKAGING	PART NUMBER
VARNISHES		
● "CIRCUIT PLUS" varnish for repairing heated screens	Bottle	77 01 421 135
● "CONTACT PLUS" varnish for repairing rear screen supply terminals	Kit	77 01 422 752
BRAKES		
● Brake fluid	0.5 litre bottle DOT 4	77 01 421 940

# OIL CHANGE

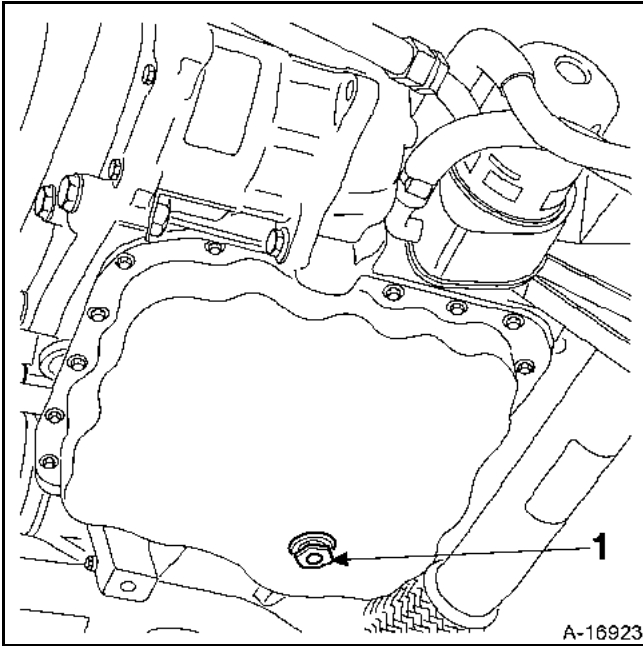
## Engine

05

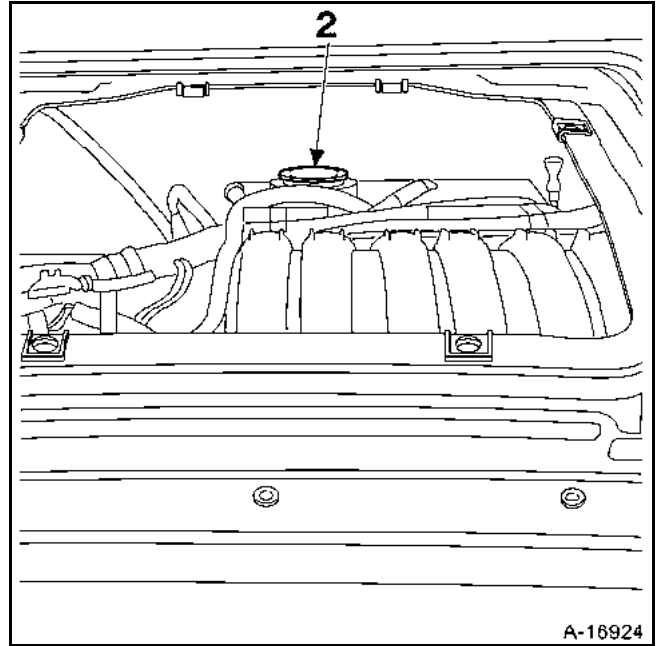
### ESSENTIAL TOOLING REQUIRED

Engine drain plug spanner

**DRAINING:** cap (1)



**FILLING:** cap (2)



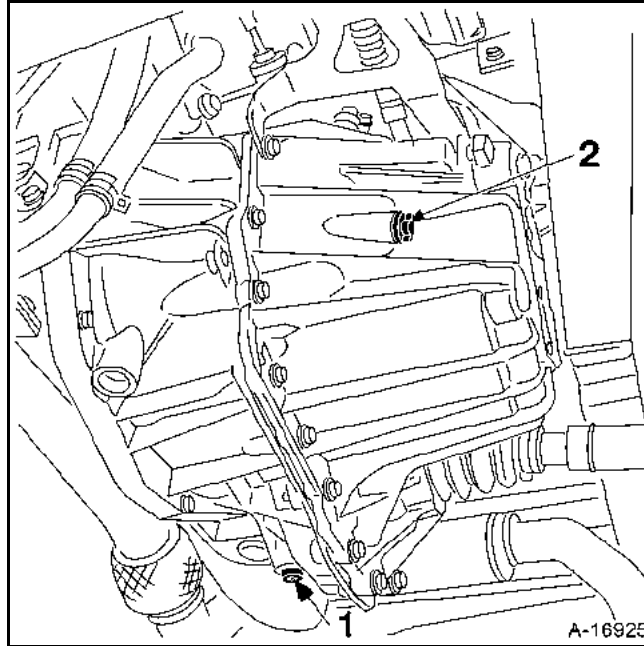
# OIL CHANGE

## Gearbox

05

**DRAINING:** cap (1)

**FILLING:** cap (2)

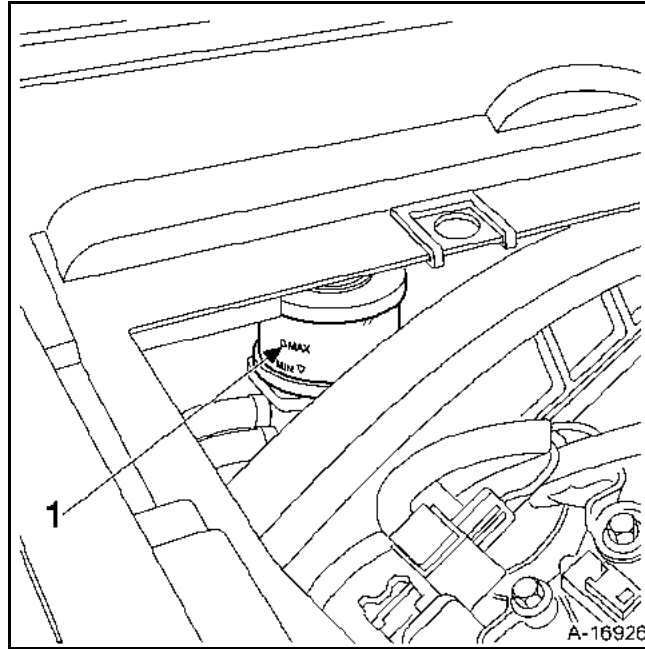


### CHECKING THE LEVEL

#### POWER ASSISTED STEERING PUMP LEVEL

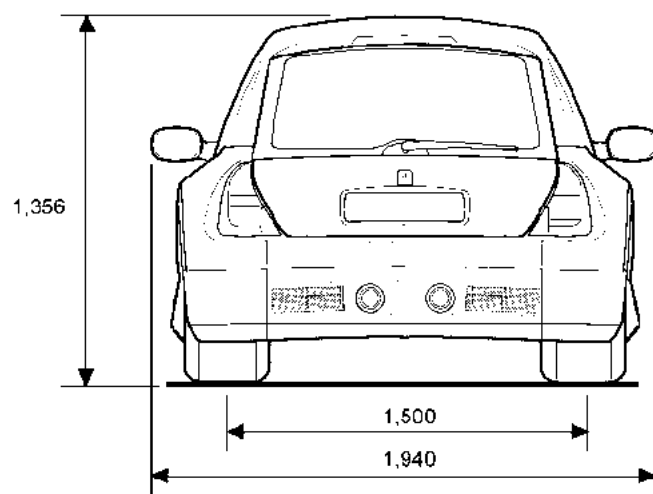
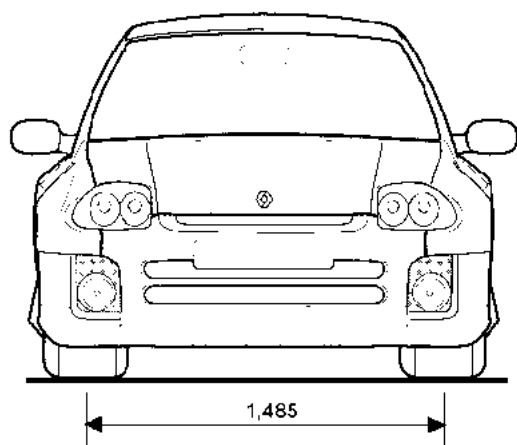
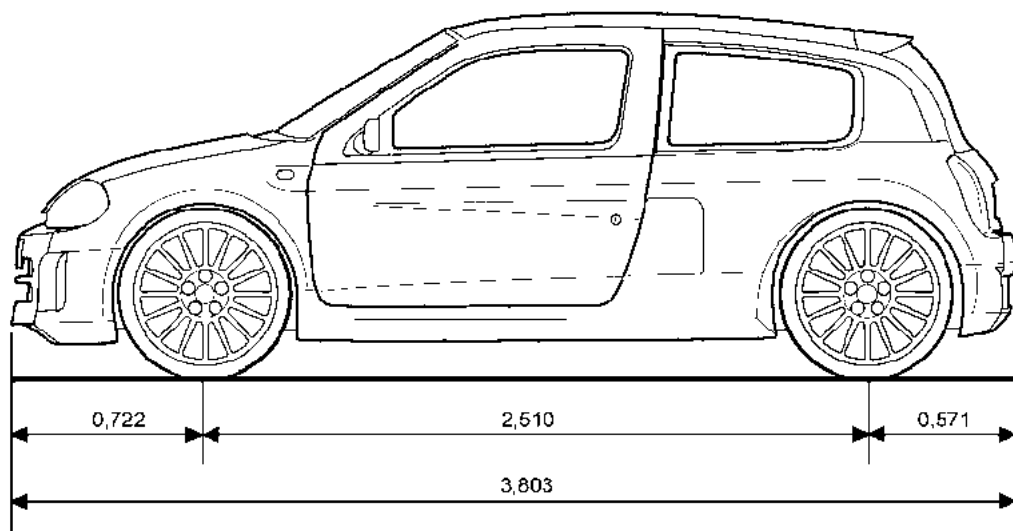
For topping up or filling, use **ELF RENAULTMATIC D2** or **MOBIL ATF 220** oils.

The level, when correct, should be visible between the **MIN** and **MAX** marks on the reservoir (1).





Dimensions in metres



A-16927

# VALUES AND SETTINGS

## Capacity - Grades

07

Components	Capacity in litres (approx.)*	Grade
Petrol engine (oil)	For oil changes	European Union countries <div> </div>
		Other countries <div> </div>

L7X 760

5.5 (1)

A-16980

A-16981

\* Check with dipstick

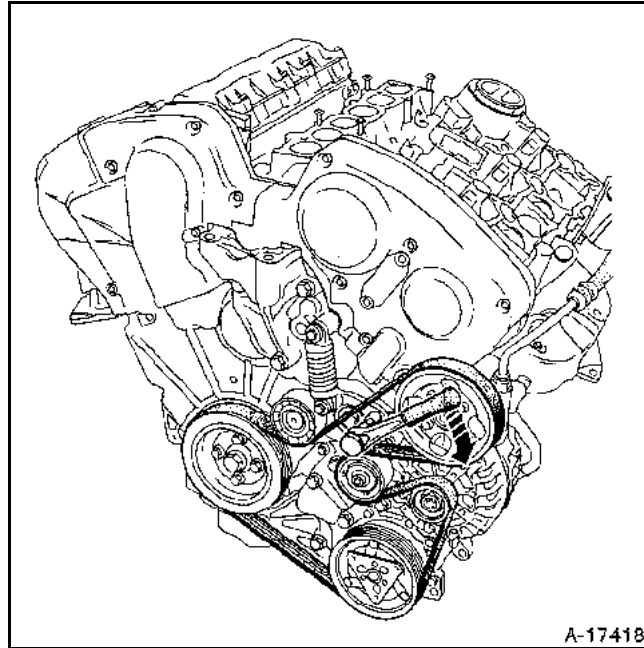
(1) After replacing the oil filter

**VALUES AND SETTINGS**  
**Capacity - Grades**

**07**

Components	Capacity in litres	Grade	Special notes
Manual gearbox PK6	2.2	All countries: <b>ETL 8275, 75 W 80 W</b> (Standards C or D <b>API GL5</b> or <b>MIL-L-2105</b> )	
Brake circuit	ABS: 1	<b>SAE J 1703</b> and <b>DOT 4</b>	Brake fluids must be approved by the Technical Department
Fuel tank	Approximately 61	Unleaded petrol	
Power assisted steering	Separate reservoir 1.1	<b>ELF RENAULT MATIC D2</b> or <b>MOBIL ATF 220</b>	
Coolant circuit L7X 760	15	<b>GLACÉOL RX (type D)</b> Only add coolant	Protects down to -20°C ± 2°C for hot, temperate and cold countries. Protects down to -37°C ± 2°C for extremely cold countries.

### SPECIAL NOTE FOR REMOVING THE ACCESSORIES BELT



### REMOVAL

Remove the necessary components to access the accessories belt.

Turn the tensioner clockwise with a **9.53 mm** square to free the accessories belt.

### REFITTING

When refitting, turn the tensioner anti-clockwise to tension the accessories belt.

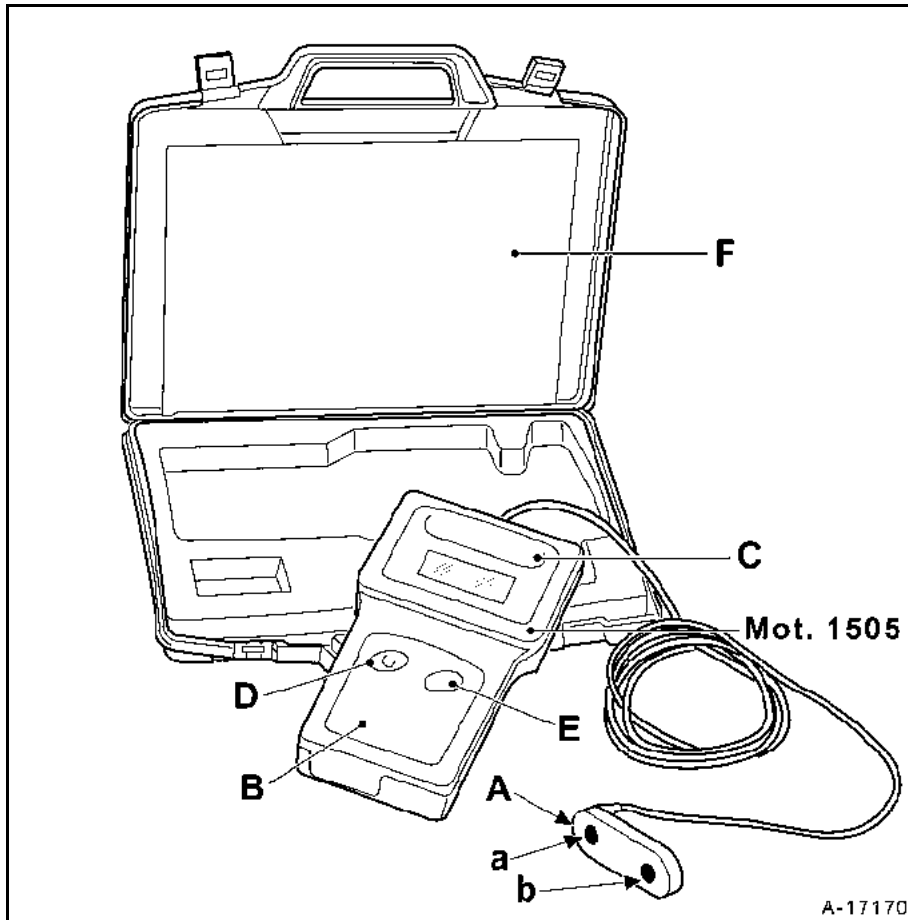
**NOTE:** do not refit a belt that has been removed; replace it.

### WARNING

Tensioning a belt is an important procedure, as it determines the service life of the belt.

It is therefore essential to use the belt setting tool Mot. 1505 to ensure that the tension is set according to the manufacturer's recommendations. Using the tool also prevents potential over or under tensioning as well as the noises and problems that this can cause.

If Mot. 1505 is not used as part of the tensioning procedure, the engine risks being damaged.



- A Reading head with two sensors (a) and (b)
- B Display unit
- C Frequency level generator ( $512 \pm 1$  Hertz) integrated in the display unit
- D On/off button
- E Button to check that the unit is set at the correct level
- F Device instructions

### OPERATING PRINCIPLE

This device measures the belt frequency.

Frequency is a physical value which, in this case, reflects the belt tension level with considerable accuracy.

The unit of measurement is **Hertz (Hz)**.

The reading head (A) has two sensors (a) and (b) which measure the vibrations when the belt moves.

One sensor measures the vibrations while the other acts as a reference. The reference sensor must be placed away from the measuring surface (see instructions).

Either sensor can be used for measuring or as the reference.

### SPECIAL NOTES

Measurement range: **30 to 520 Hz**

Accuracy:  **$\pm 1 \text{ Hz} < 100 \text{ Hz}$  and  $\pm 1\% > 100 \text{ Hz}$**

### CHECKING THE DEVICE

The frequency level generator (C) integrated in the display unit checks that the device is operating correctly.

Refer to the instructions for information on the checking procedure.

If the value read by the two sensors varies by more than  **$512 \pm 1 \text{ Hz}$** , change the device's unit of measurement to SEEM.

Consult the After-Sales service for more details.

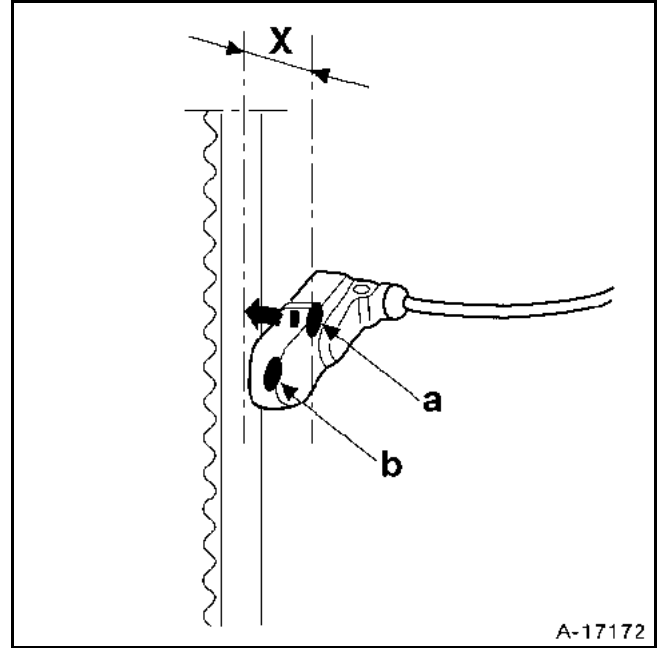
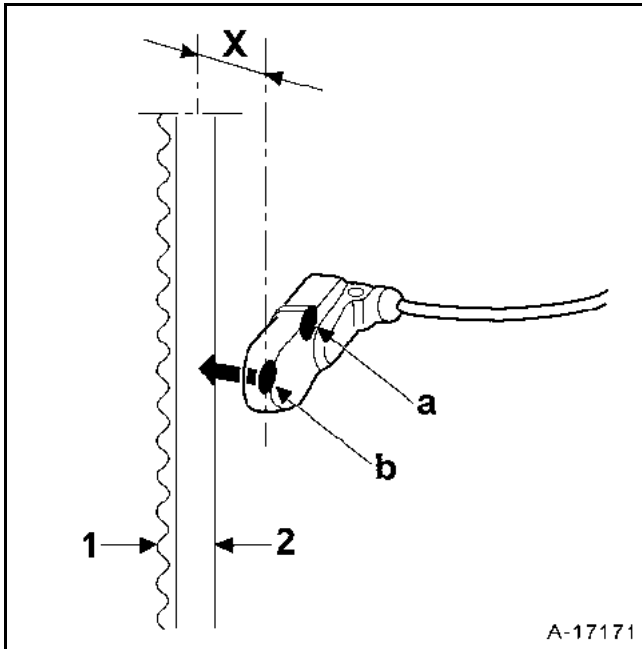
### USING THE DEVICE

Run a voltage supply to the device (button D) and bring the reading head (A) up to the section of the belt to be measured.

Hold the reading head between approximately **5** and **10 mm** from the belt (distance X).

The measurement can be taken at point (1) or (2), whichever is more easily accessible.

Either sensor, (a) or (b), may be used, provided that the sensor being used as reference is outside the field of measurement.

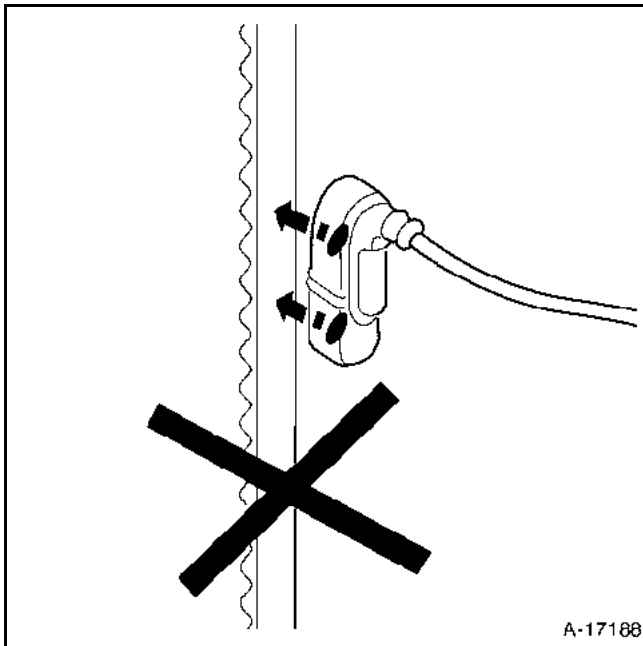
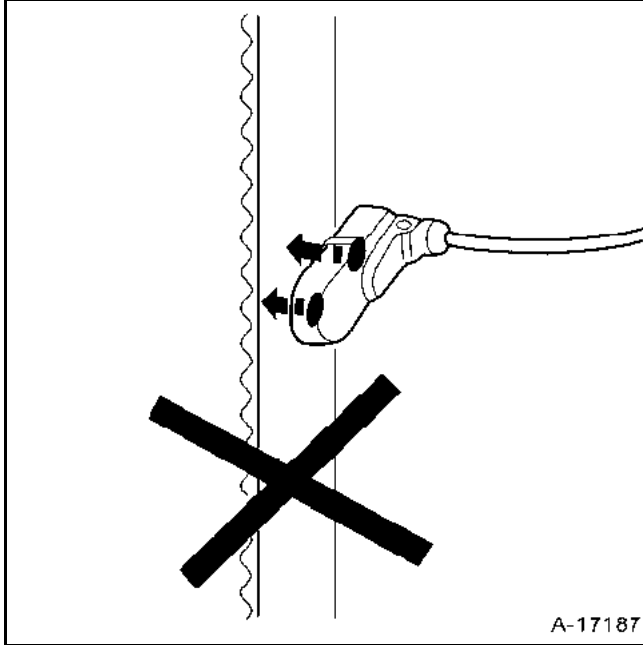


# VALUES AND SETTINGS

## Timing belt tensioning

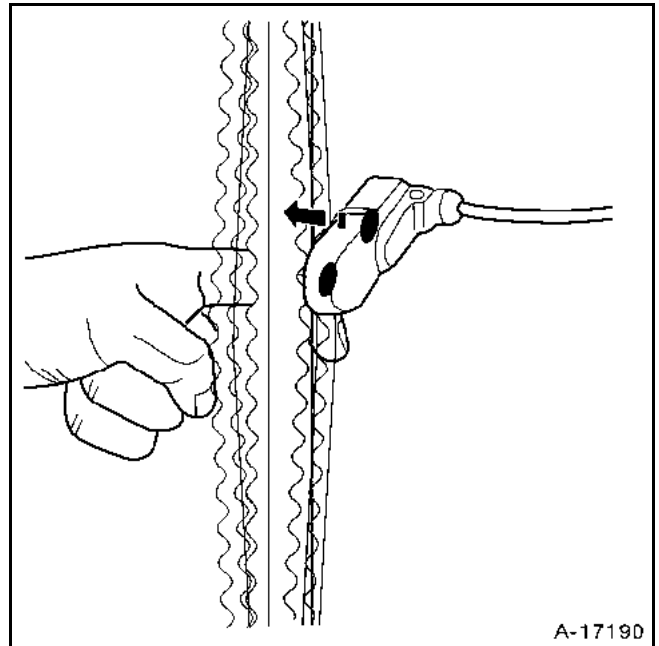
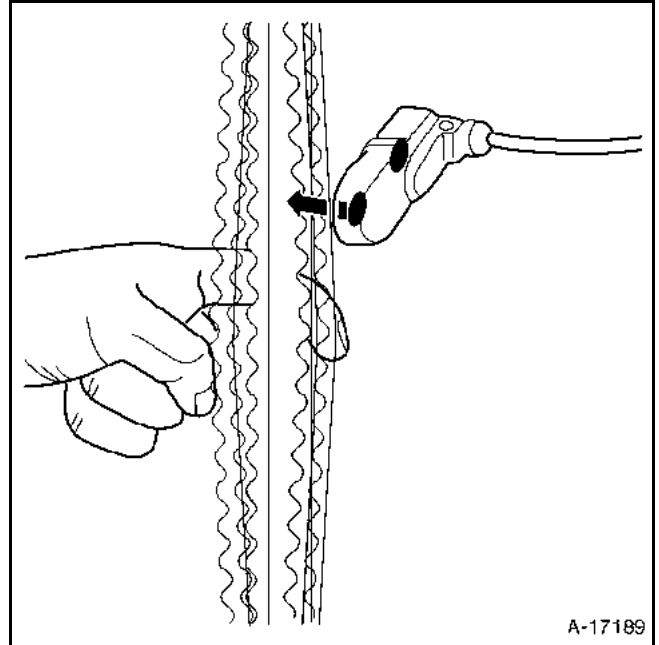
07

The two sensors must not be facing the belt when the measurement is taken.



Take the measurement by vibrating the belt with your finger.

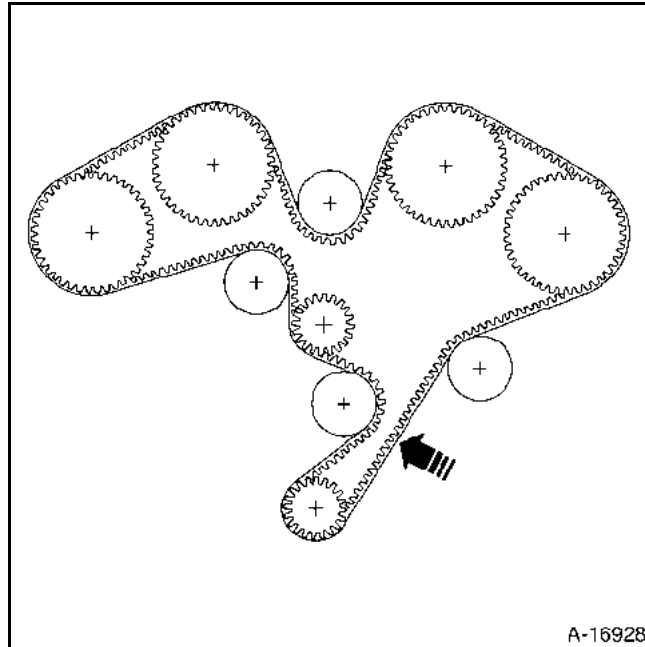
A beep sounds when measurement taking is complete.





### TENSIONING PROCEDURE

There is a special procedure for tensioning the timing belt (see the method described in **Section 11 - Timing belt**).



➡ Arrow indicates where to apply the pretensioning torque and/or check the belt tension.

Correct belt tension = **106 + 4 Hz (Hertz)**

### METHOD FOR TIGHTENING THE CYLINDER HEAD

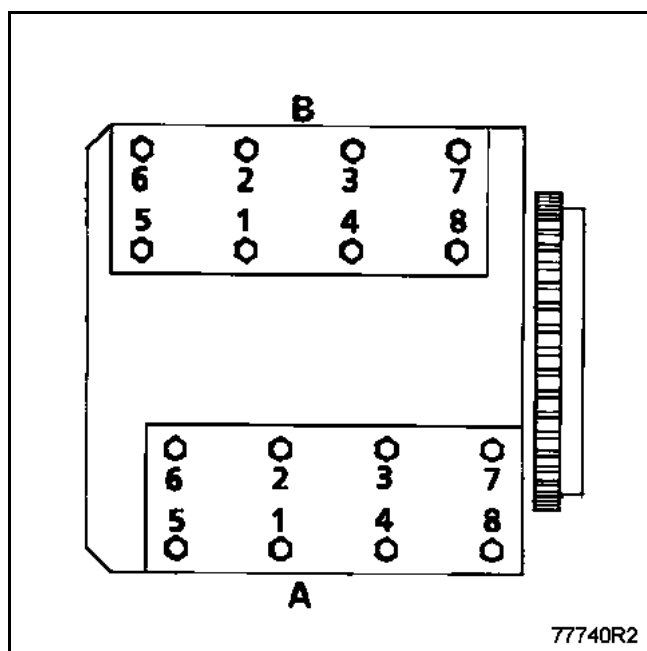
#### REMINDER:

In order to ensure that the bolts are correctly tightened, use a syringe to remove any oil which may be in the cylinder head mounting holes.

Lubricate the threads and under the bolt heads with engine oil.

#### Tightening the cylinder head:

- Tighten one bolt after the other to **2 daNm** in the recommended order.
- Loose all the bolts fully.
- Pretighten one bolt after the other to **1.5 daNm** and then angle tighten to **225°** in the following order:



VALUES AND SETTINGS

Tyres and wheels

Vehicle type	Rim		Tyres		Tyre pressure when cold (in bar) (1)	
CB1A	Front	7J 17	Front	205/50 ZR17	Front	1.6
	Rear	8.5J 17	Rear	235/45 ZR17	Rear	2.1

(1) Normal use.

Wheel nut tightening torque **10.8 daNm**

Rim run-out: **1.2 mm**

VALUES AND SETTINGS

Brakes

Vehicle type	Disc thickness (in mm)				Max. disc run-out (in mm)	
	Front		Rear			
	Normal	Min.	Normal	Min.	Front	Rear
CB1A	30	28	24	22	0.5	0.5

Vehicle type	Lining thicknesses (in mm) (including backing)				Brake fluid	
	Front		Rear			
	New	Min.	New	Min.	Front	Rear
CB1A	17.75	9	18	10	SAE J 1703 DOT 4	

# VALUES AND SETTINGS

## Underbody height

07

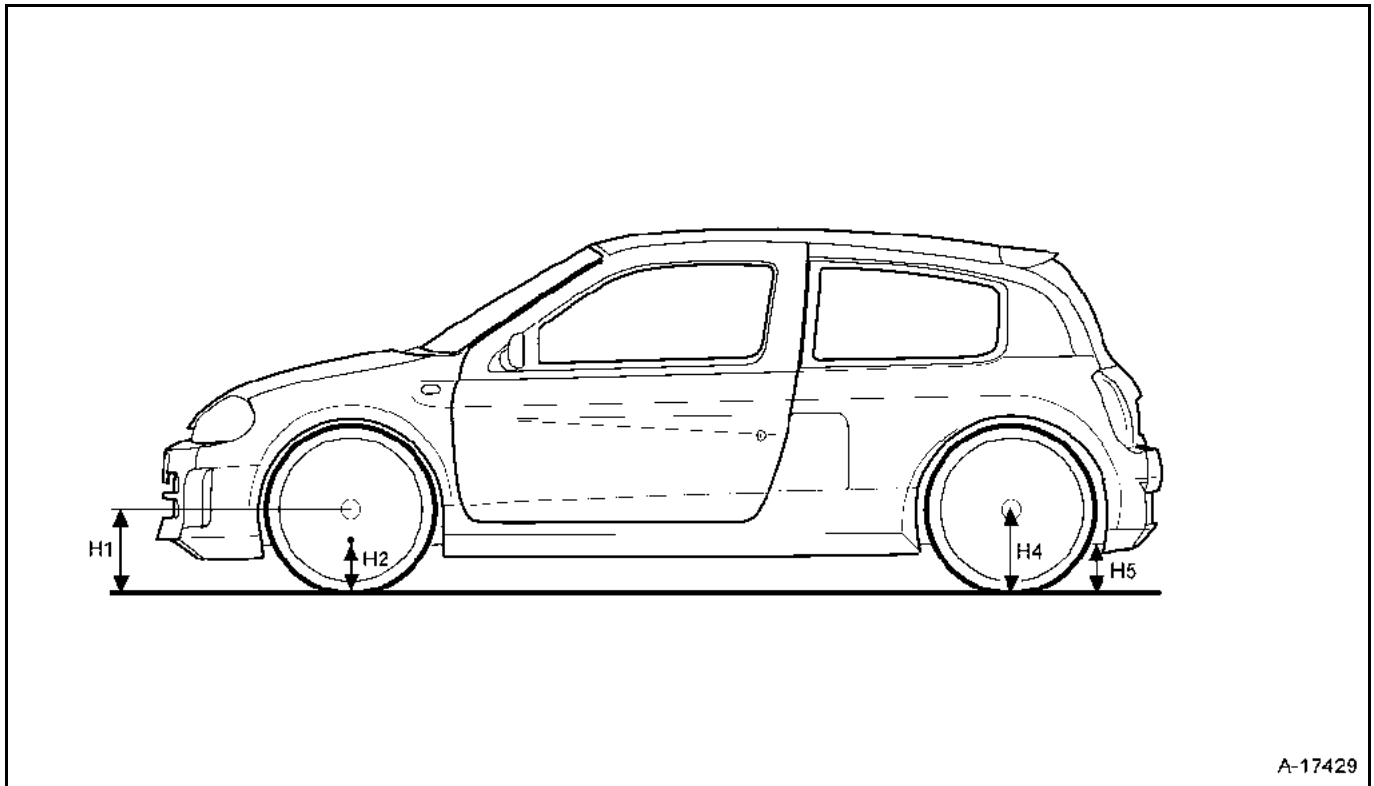
Vehicle type	At the front H1 - H2 = ... mm	At the rear H4 - H5 = ... mm
CB1A	173	158.3

Tolerance:  $\pm 3.0$  mm

The difference between the right-hand side and the left-hand side of the same axle of a vehicle must not exceed **5 mm**, the driver's side always being higher.

All underbody height operations involve adjusting the headlight beam height.

### MEASUREMENT POINTS



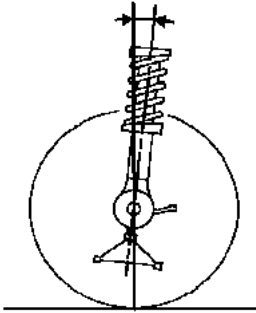
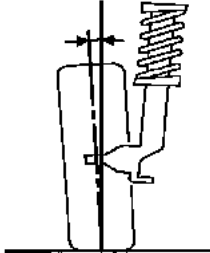
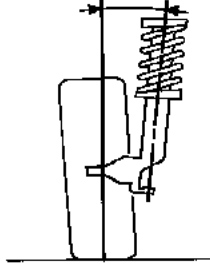
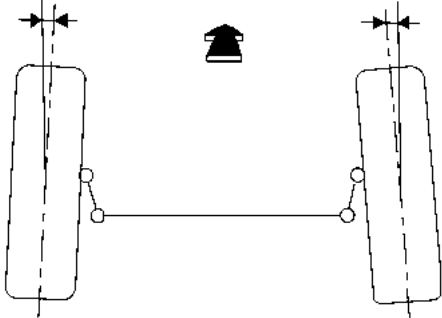
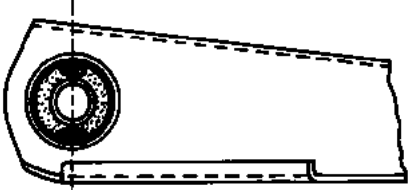
### NOTE:

- dimension **H2** is measured between the lower surface of the sub-frame (on the level wheel axis) and the ground,
- dimension **H5** is measured from the outer corner on the rear of the body.

# VALUES AND SETTINGS

## Front axle geometry checking values

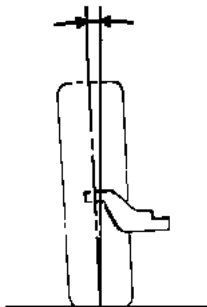
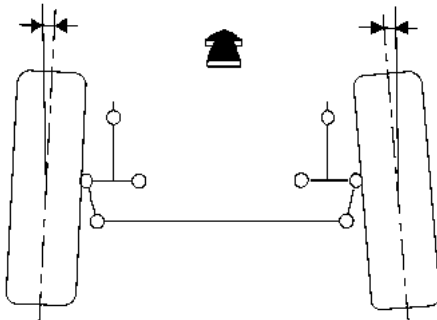
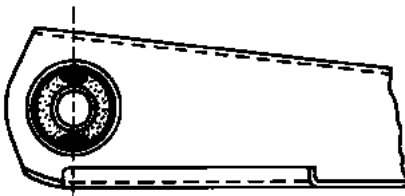
07

ANGLES	VALUES	POSITION OF FRONT AXLE	ADJUSTMENT
<b>CASTOR</b>  <p>93012-1S</p>	$+ 5^{\circ} \pm 30'$  Max. right/left difference = $1^{\circ}$	UNLADEN	NOT ADJUSTABLE
<b>CAMBER</b>  <p>93013-1S</p>	$- 0^{\circ} 45' \pm 20'$  Max. right/left difference = $1^{\circ}$	UNLADEN	NOT ADJUSTABLE
<b>PIVOT</b>  <p>93014-1S</p>	$13^{\circ} \pm 30'$  Max. right/left difference = $1^{\circ}$	UNLADEN	NOT ADJUSTABLE
<b>PARALLELISM</b>  <p>A-17279</p>	(For 2 wheels) toe-in  $+ 0^{\circ} 30' \pm 10'$	UNLADEN	Adjustable by rotating track rod sleeves  1 turn= $30'$ (3 mm)
<b>POSITION FOR TIGHTENING RUBBER BUSHES</b>  <p>81603S1</p>	-	UNLADEN	-

VALUES AND SETTINGS

Rear axle geometry checking values

07

ANGLES	VALUES	POSITION OF REAR AXLE	ADJUSTMENT
<div>CAMBER</div> <div><div>93013-2S</div></div>	<div>- 1° 30' ± 20'</div>	UNLADEN	NOT ADJUSTABLE
<div>PARALLELISM</div> <div><div>A-17280</div></div>	<div>(For 2 wheels) toe-in + 0° 45' ± 10'</div>	UNLADEN	Adjustable by turning the connecting bar sleeves 1 turn = 1° (6 mm)
<div>POSITION FOR TIGHTENING RUBBER BUSHES</div> <div><div>81603S1</div></div>	-	UNLADEN	-