

Identification

MASCOTT		
Family	Variant	Unit
52 A / 54 A / 54 B		E 22 AB

MIDLUM		
Family	Variant	Unit
44 C1	168BW	E 42 BC
44 V	168CL	E 42 BD
42 B1 / B2 / B3 / B4	168BV	E 46 AB
43 C2	168CG	E 62 AD
44 C2 / 44 T / 44 V	168CG	E 62 AD
43 E1 / 43 E2 / 45 D2 / 45 E2	168BY	E 63 BC
45 D3	168CH	E 72 AB
47 XA	168CI	PA 610
47 XC	168CJ	PA 611

PREMIUM		
Family	Variant	Unit
22 C / AA / AB	168BM	E 81 NO
22 AA / AB / QQ	168BE	E 81 EO
22 C / CC	168BL	E 81 NQ
22 C / CC / AA / AB / JJ / RR	168BF	E 82 CN
22 AA / AB / EE / HA / HB / QQ	168BG	E 82 JN
22 AA / AB		E 86 LR
22 EE	168BS	E 81 NS
22 HA / HB	168CC	E 81 B
22 QQ	16906	AUSTERAS

MASCOTT

AXLE		WHEEL BASE	TYRE	ANGLE						
				A	B	C	D ¹	D ²	E ¹	E ²
-	E 22 AB	≤ 4700	-	1°	6° 45'	6° 20'	52°	52°	40°	40°

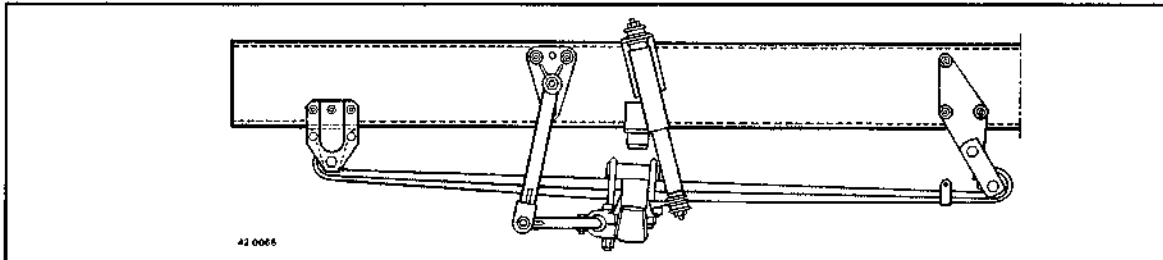
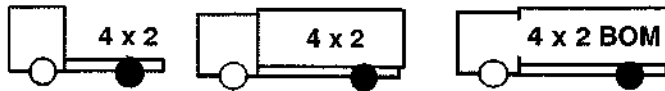
AXLE	WHEEL ALIGNMENT IN RELATION TO LOAD					
	1540	2200	-	-	-	-
E 22 AB	- 2.2	- 2.9	-	-	-	-

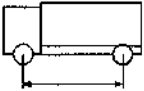









MIDLUM

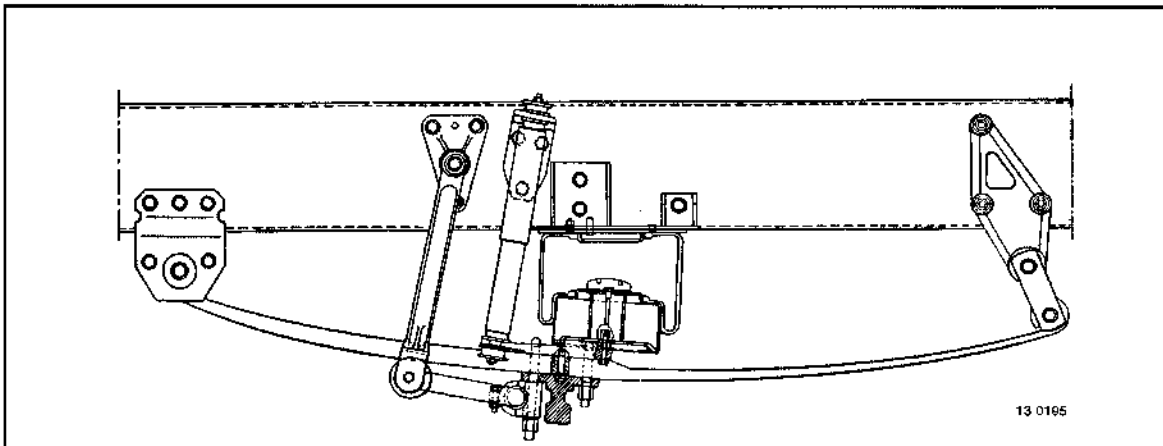
4x2

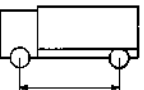









AXLE		WHEEL BASE	TYRE	ANGLE						
				A	B	C	D ¹	D ²	E ¹	E ²
-	E 42 BC	≤ 4700	-	1°	6° 45'	4° 30'	50°	50°	35° 20'	35° 20'
-	E 42 BD	≤ 4700	-	1°	6° 45'	4° 30'	50°	50°	35° 20'	35° 20'
-	E 46 AB	≤ 4700	-	1°	6° 45'	4° 30'	50°	50°	35° 20'	35° 20'
-	E 62 AD	≤ 4700	-	1°	6° 45'	4° 30'	50°	50°	35° 20'	35° 20'
-	E 63 BC	≤ 4700	-	1°	6° 45'	4° 30'	50°	50°	35° 20'	35° 20'
-	E 72 AB	≤ 4700	-	1°	6° 45'	4° 30'	44°	44°	36°	36°
-	E 72 AB	> 4700	-	1°	6° 45'	4° 30'	50°	50°	36°	36°

AXLE	WHEEL ALIGNMENT IN RELATION TO LOAD					
	3000	3170	4200	4500	6000	7100
E 46 AB	0.5	-	- 0.8	-	-	-
E 42 BC	0.5	-	-	- 1.2	-	-
E 42 BD	0.5	-	-	- 1.2	-	-
E 62 AD*	- 3.1	-	-	-	- 0.7	-
E 62 AD**	0.3	-	-	-	- 1.8	-
E 63 BC	- 0.9	-	-	-	- 2	-
E 72 AB	-	1.2	-	-	-	- 1.5



								
								
≤ 4700 mm	E 82 CN	+ 0,5	+ 0,2	0	- 0,3	- 0,6	- 0,9	
> 4700 mm	E 82 JN	+ 1,6	+ 1,2	+ 0,8	+ 0,4	0	- 0,5	- 0,9
	E 86 LR	+ 0,4	+ 0,2	0	- 0,2	- 0,5	- 0,7	



								
								
≤ 4700 mm	E 81 NO E 81 NQ	- 2,8	- 2,5	- 2,1	- 1,8	- 1,5	- 1,2	- 0,9
> 4700 mm	E 81 EO			- 2,2				

A - Flexible attachment

1 - Hexagon bolt M 14 x 150, class 10.9

2 - 2 plain washers 14 x 30 x 4

3 - 6 cone washers: ("Belleville" type)

i/d 14.5 mm

o/d 35 mm

thickness 1.8 mm

unit preload 400 kg

4 - Nut DAH M 14 class 10.9, or other locknut except nut with nylon ring (e.g. Nyloc)

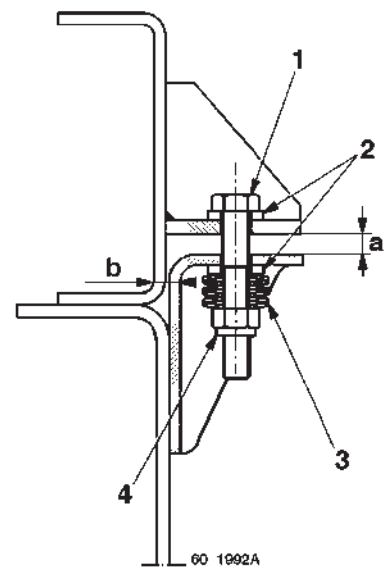
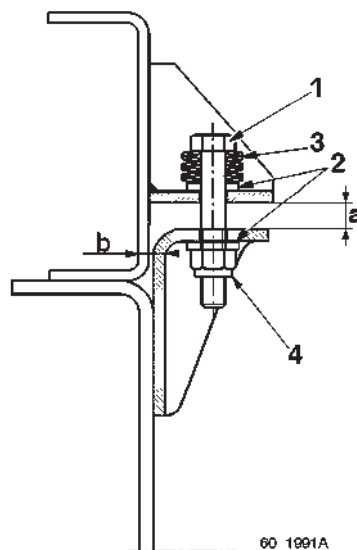
a - Clearance: 10 to 15 mm max.

b - Bracket / sub-frame clearance: 2 mm minimum (for raised bracket only)

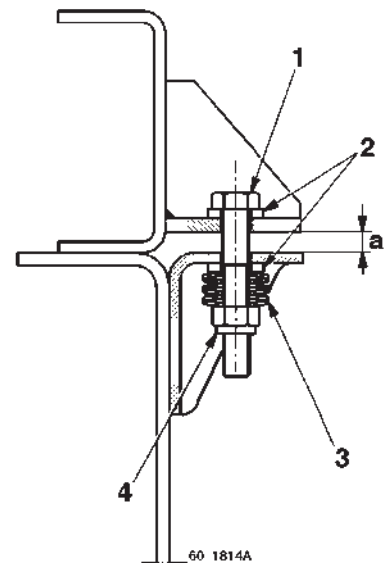
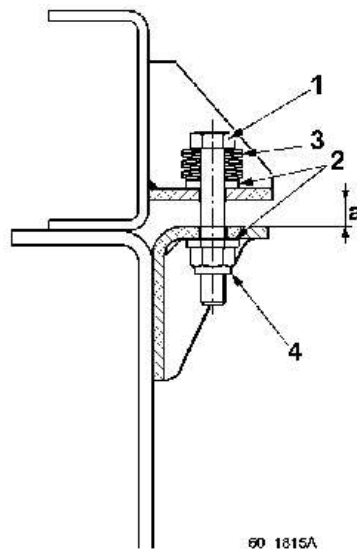
Tightening at 50% of the deflection:

$$\frac{6 \times 1.2 (\text{deflection})}{2} = 3.6 \text{ mm}$$

First raised bracket (works assembly)



First flush bracket (assembly reworked by bodybuilder)



Bodywork attachment kit

The bodywork attachment kit is supplied with level 1 and level 2 electrical pre-arrangements (see chapters B-4 and B-5).

Note

An equivalent fastening technique solution is permitted (e.g. rubber sandwich mounting), if it keeps the same preload.

5.2 Changing the position of the rear run-under guard

The rear run-under guard can be displaced horizontally owing to the presence of drillings in the sidemembers and vertically owing to drillings in its brackets (see drawings on following pages).

Table of possible vertical positionings

Vehicle	Number of position	Maximum movement (mm)	Pitch (mm)
MIDLUM B	2	25	25
MIDLUM C'/C	3	50	
MIDLUM D			
MIDLUM Construction			

The rear run-under guard must be fastened with threaded hardware with dimensions and quality identical to the original. Tighten to torque.

5.3 Changing the position of rear lighting bar lamps

The position of rear lighting bar lamps can be moved horizontally owing to the presence of drillings in the side-members.

The rear lighting bar lamps must be fastened with threaded hardware with dimensions and quality identical to the original. Tighten to torque.

Note:

For vehicles MIDLUM C'/C/D/HD/Construction vehicles, the rear lighting bar lamps can be fastened to the rear spring hangers (tractor version assembly). This assembly requires the use of appropriate parts (see chapter B-5.5).

5.4 Changing the position of the towing crossmember

The position of the towing crossmember can be moved horizontally owing to the presence of drillings in the sidemembers.

The towing crossmember must be fastened with threaded hardware with dimensions and quality identical to the original.

Tighten to torque.

Table of possible horizontal positionings

Vehicle	E	A	D	Z
MIDLUM B 2-door cab	2700	35	630	1515
	2950	35	770	1675
	3250	35	980	1870
	3850	35	1330	2260
	4450	35	1680	2665
	5050	35	1820	3040
MIDLUM B 4-door cab	3250	35	840	1870
	3850	35	1190	2260
	4450	35	1610	2665
	5050	35	1750	3040
MIDLUM Fire Tender 10 tonnes 4-door cab	3250	35	840	1870

Key to diagrams on following pages:

a - High position

b - Low position

W - Maximum vertical displacement

X - Rear axle centre-line

Z - Maximum overhang

1 - Run-under guard

2 - Lighting bar lamps

3 - Towing crossmember

7. TANKER VEHICLE

- 16 tonnes GVW available in three wheelbases 3350, 3650, 3950 on RENAULT MIDLUM C base,
- 15.7 tonnes GVW (single tyre fitment at rear) available in three wheelbases 3350, 3650, 3950 on RENAULT MIDLUM C base,
- 18 tonnes GVW available in four wheelbases 3650, 3950, 4250, 4450 on RENAULT MIDLUM D base.

Day cab only.

Tanker special features

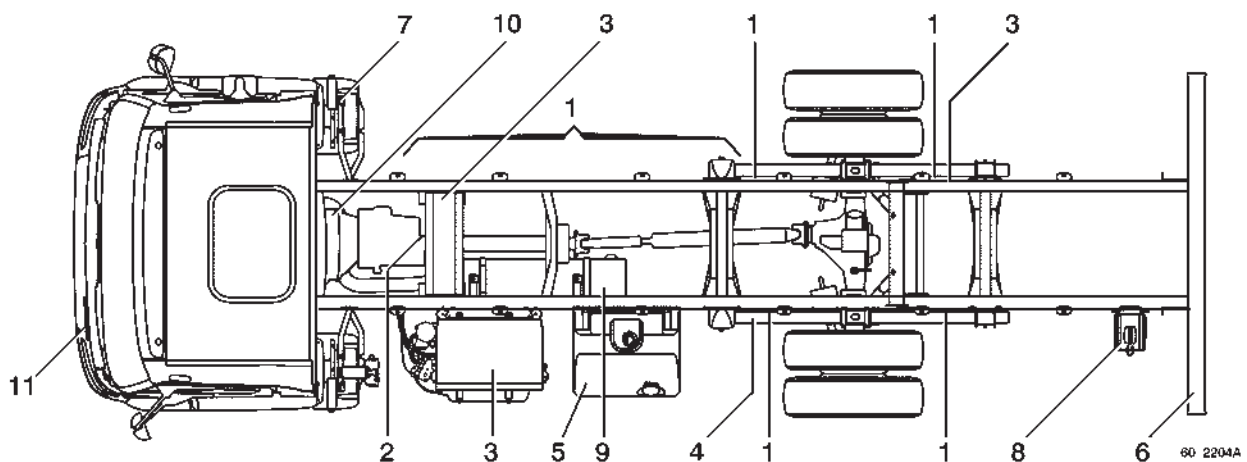
- RH sidemember **(1)** cleared, without lateral accessories for the installation of specific accessories,
- punchings on chassis for fastening accessories and wing brackets **(1)**,
- gearbox-mounted PTO **(2)** type 2264 B with flange output, speed 950 or 100 rpm,
- adjustable fast idling,
- remote controlled clutch release operating ram,
- level 2 bodybuilder electrical pre-arrangement (see chapter B-5),
- reinforced front and rear parabolic leaf spring suspensions **(4)**,
- tachograph,
- tanker lateral signalling installation kit,
- fuel tank on left side **(5)**.

ADR equipment

- rear run-under guard for tanker overall width 2350 mm, **(6)**
- chassis-mounted "palm switch" stop control **(7)**,
- 2 kg fire extinguisher in cab,
- portable orange wander lamps in cab,
- wheel chock **(8)**,
- exhaust silencer shield **(9)**,
- behind-cab shield **(10)**,
- ABS,
- pre-arrangement for fixing ADR plate **(11)**,
- battery isolation switch with pneumatic control.

Options

- spare wheel,
- gearbox-mounted PTO with splined shaft output,
- without "ADR" ("transport of dangerous materials") equipment,
- towing cross-member capacity > 3.5 tonnes,
- engine hourmeter in cab.



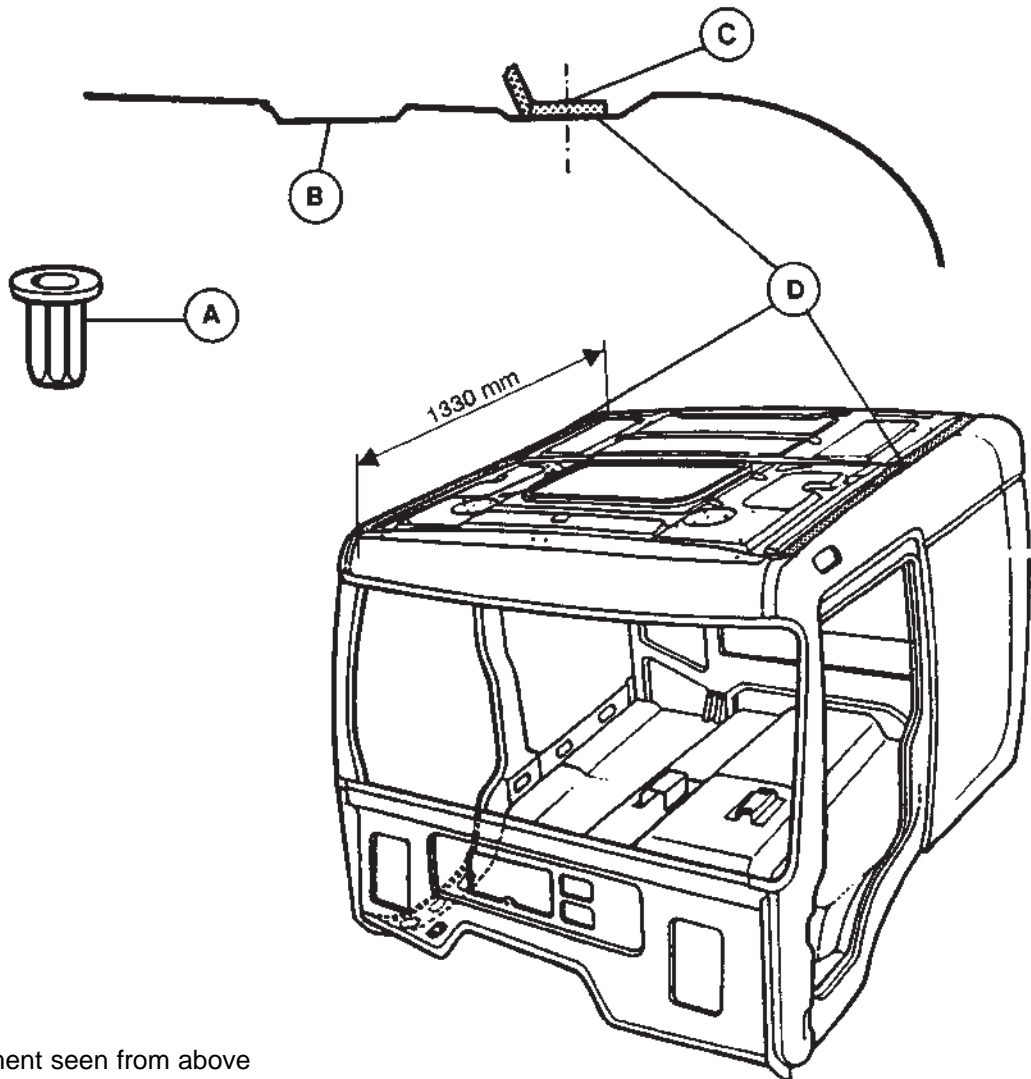
7.1.2 Attachment of catwalk to sleeper cab

Catwalk attachment characteristics

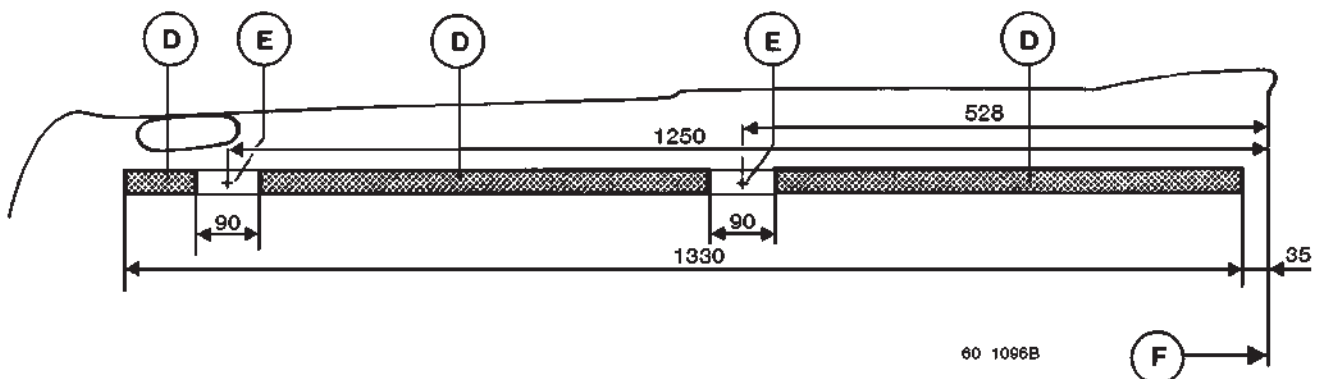
- Catwalk bracket (C) must have a minimum thickness of 3 mm and a minimum span of 30 x 30 mm.
- In fixing zone (D), use sealed crimping nuts dia. 6 mm.

Caution: Do not damage the putty bead on the roof.

- A - Sealed crimping nut dia. 6 mm
- B - Roof
- C - Catwalk bracket
- D - Fixing zone
- E - Drilling permitted only in the longitudinal axis
- F - Rear end



Catwalk attachment seen from above



TESTING THE BRAKES

Generalities

Braking circuits must be tested not only systematically when there is trouble with the braking system but also periodically to make sure that the safety functions of each circuit are in order.

Recommendation: test whenever replacing brake linings.

Preliminary checks :

Before testing a compressed air circuit, proceed as follows:

- Make a quick mechanical check of the following :

- Brake pedal clearance,
- Adjustment and operation of brake levers,
- Brakes operating clearance,
- Absence of seizure,
- Conformity to original assembly.

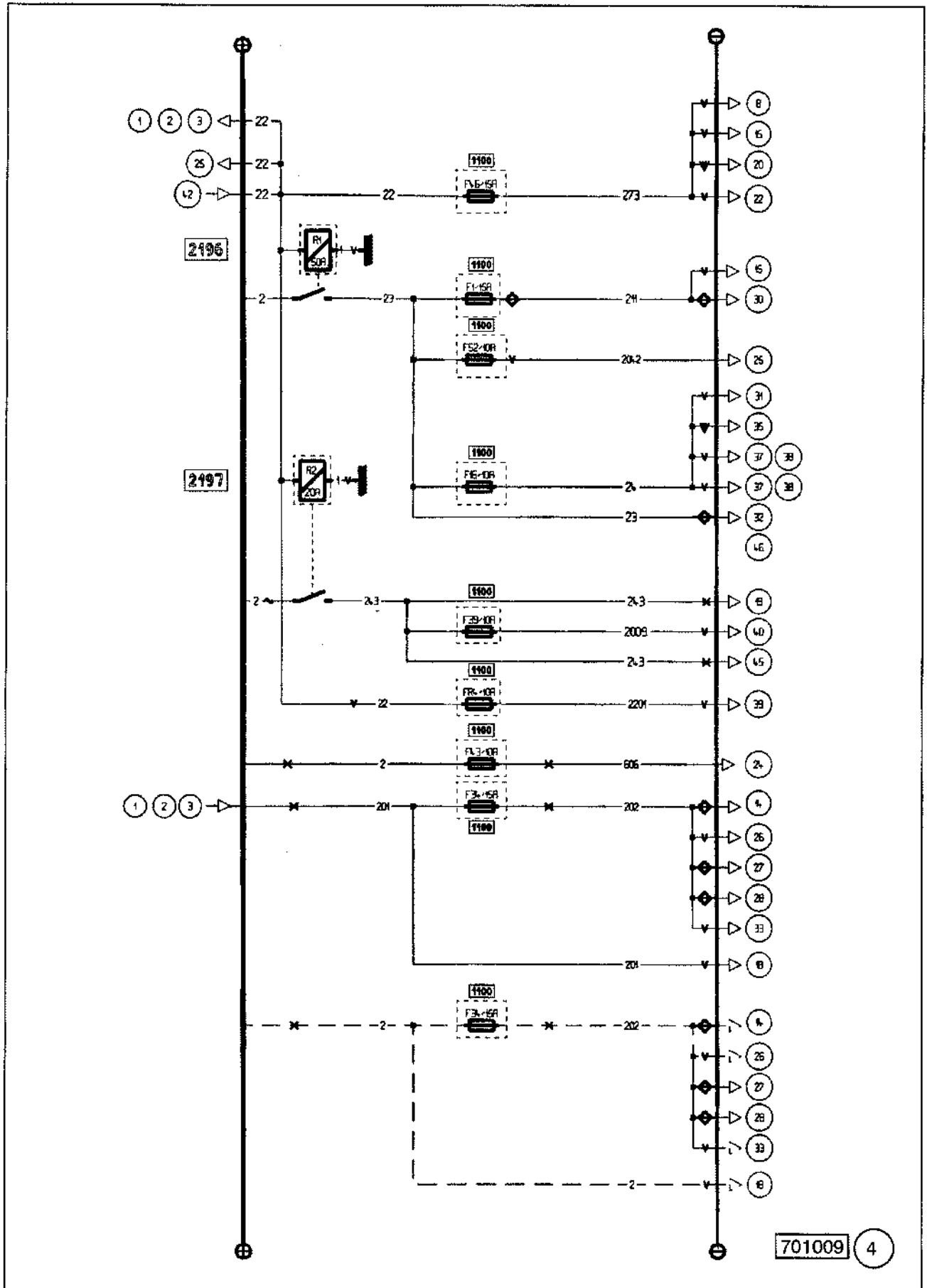
- Test circuits for leaks :

- This can be done with soapy water, foam sprayed from an aerosol canister, or using an ultrasonic detector.



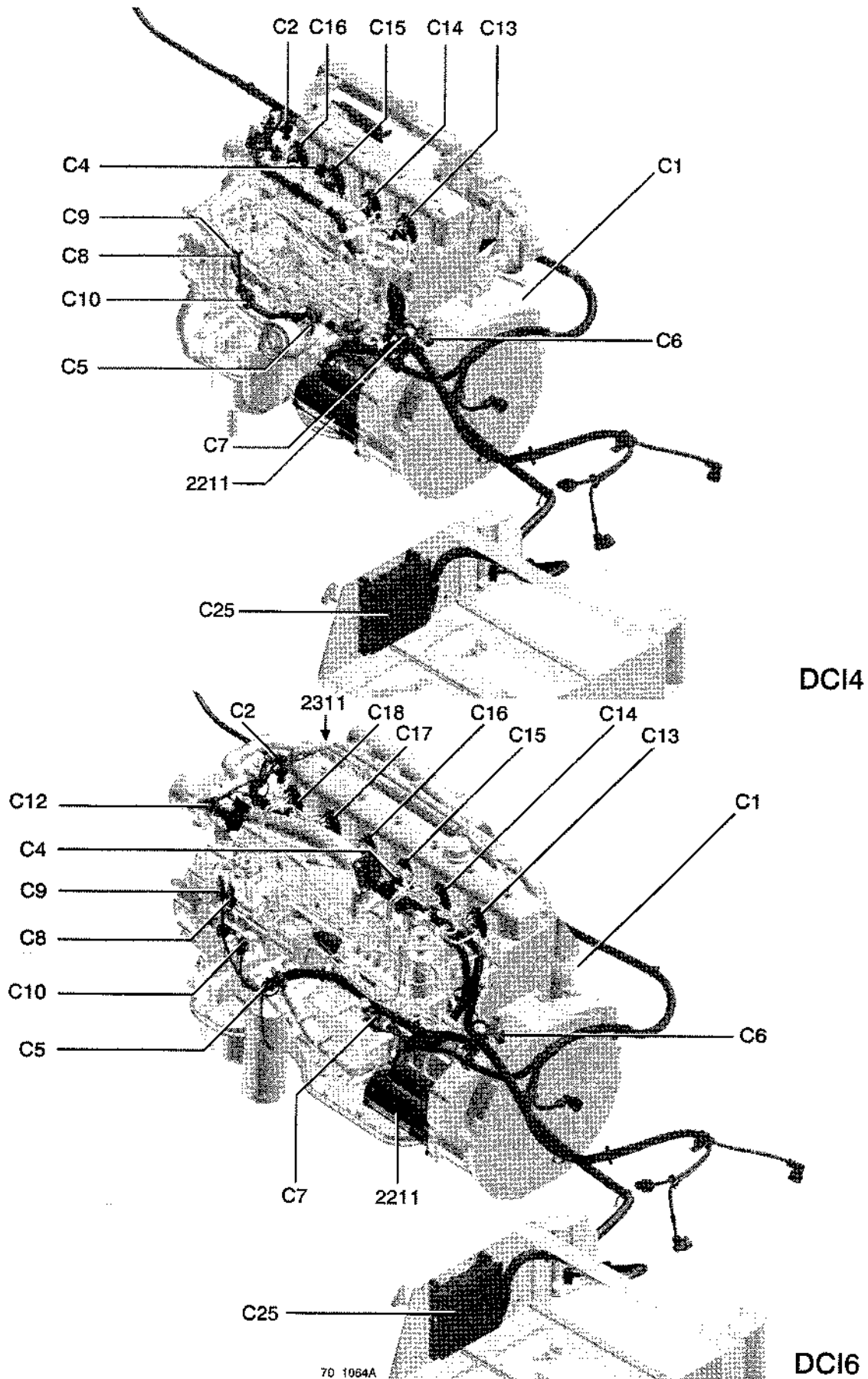
The vehicle compressed air system must be held at governing pressure for the whole duration of testing.

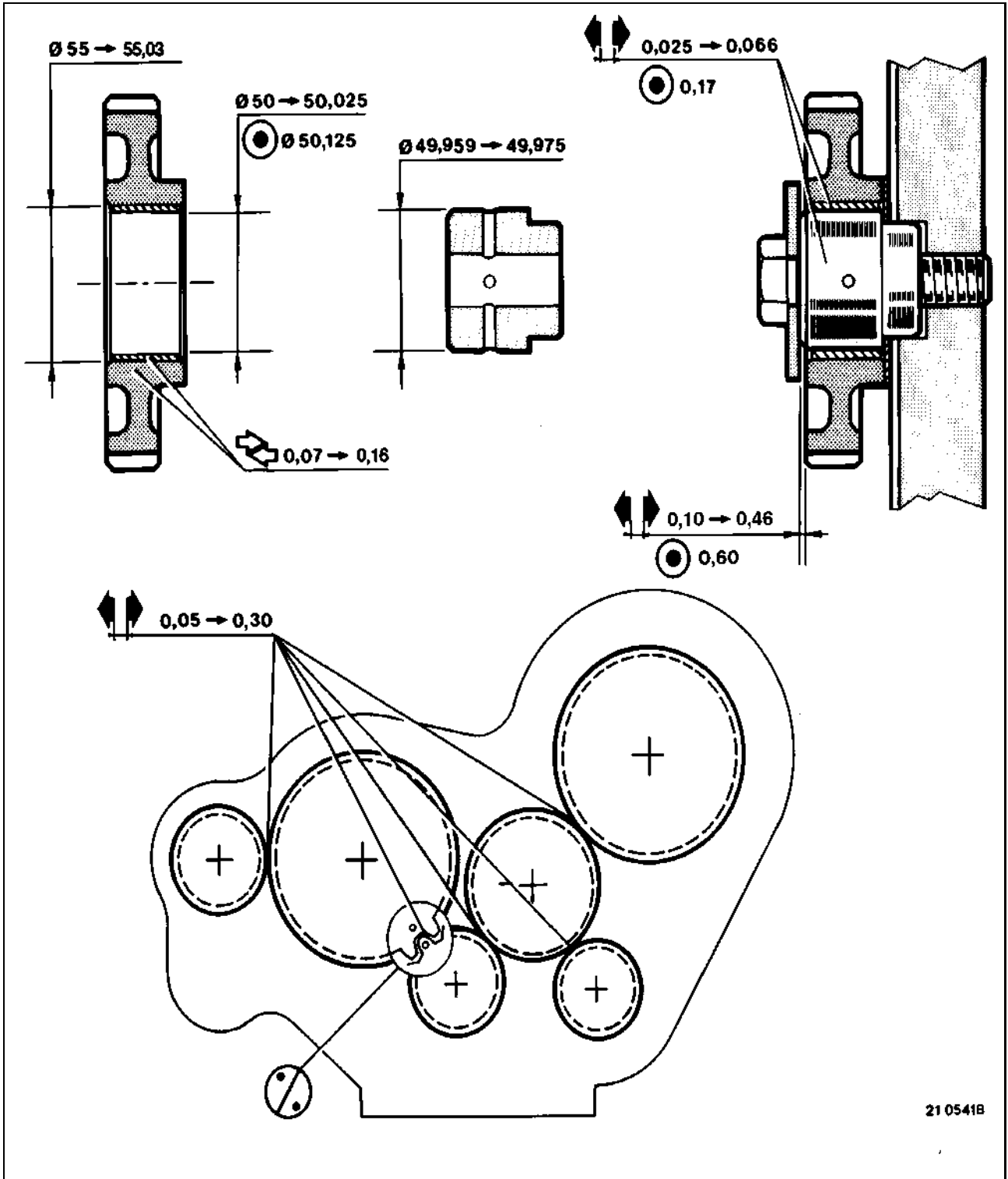
Since July 1992 (NF standard "EN286-2"), compressed air tanks have a validity period of **15 years** and are not to be re-used. After that period, **they must be replaced**.



701009 4

POWER SUPPLY

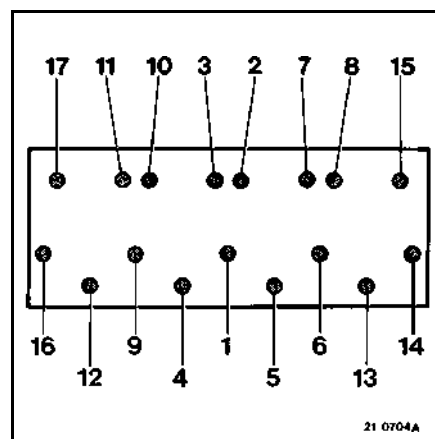




210541B

Cylinder head

Tighten the setbolts in a 1st phase at a torque of **125 Nm** in the specified sequence ; then tighten at an angle of **180°**.
Slacken the setbolts one-by-one and retighten at a torque of **125 Nm** then turn through an angle of **180°** always in the specified sequence.



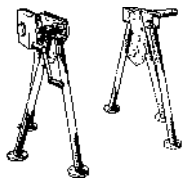
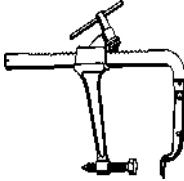

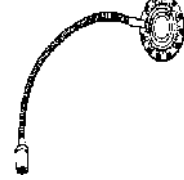

Intake manifold setscrew (see page F-7)	30 ± 3 Nm
Exhaust manifold setscrew (see page F-7)	55 ± 5.5 Nm
Cylinder head rear plate setscrew (see page F-7)	25 ± 5 Nm
Rocker shaft setscrew	80 ± 12 Nm
Rocker arm adjusting nut	15 + 5 Nm
Cylinder head cover setscrew (see page F-10)	

Reciprocating gear

Crankshaft bearing setbolts (see page H-13)	
- Ø 14 bolt	80 Nm + 180° (+10°)
- Ø 16 bolt	100 Nm + 90° (-10°)
Connecting rod cap setbolt (see page H-13)	35 Nm + 150° (-10°)
Flywheel housing setscrew (14 × 200)	130 ± 13 Nm
Flywheel housing setscrew (see page H-13)	
- with washers	250 ± 50 Nm
- without washers	60 Nm + 45° (+10°)
Pulley damper setscrew	50 ± 5 Nm
Crankshaft pulley setscrew (see page G-4)	100 Nm + 60° (±5°)

LIST OF TOOLS

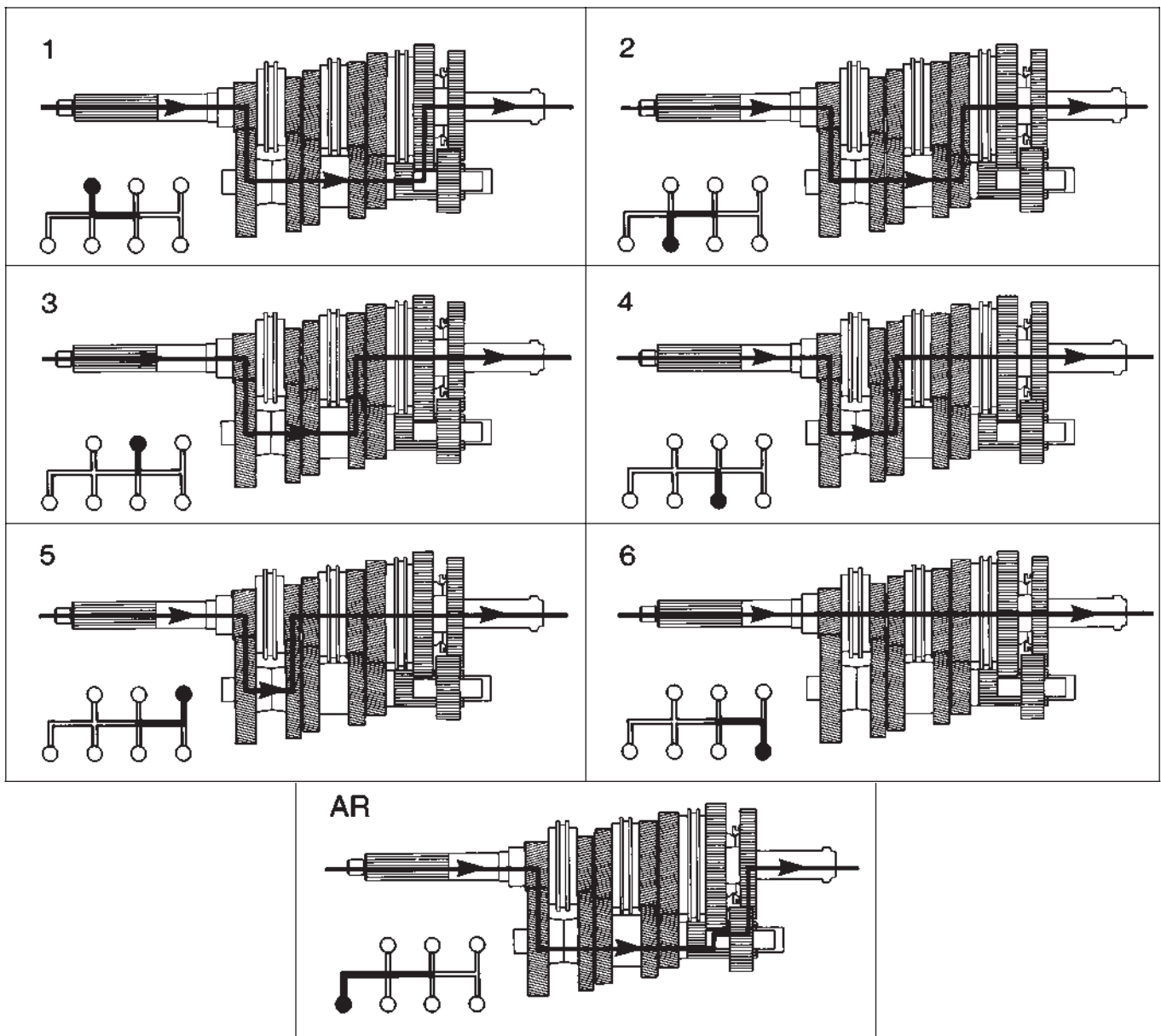
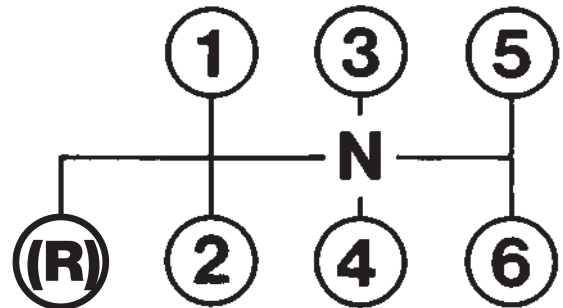
General-purpose tools

Illustration	RENAULT TRUCKS Ref.	Designation	Manufacturer reference	Manufacturer code	Level	Qty
	5000261000	UNIVERSAL STAND			1	1
	5000260846	COMPRESSING TOOL			1	1
	9732	BOX OF CUTTERS	CN 109 B	AF	1	1
	5000269776	ANGULAR DIAL			1	1
	5000260843	PULLER			1	1
	5000268251	BELT TENSION TESTER			1	1
	50 00 26 0934	PULLER			1	1

General description

Gear change pattern

Simple shift pattern with the mechanism biased in neutral between 3rd and 4th gears.



Power flow diagrams - direct drive top gear version

F9 servicing

ENGINE

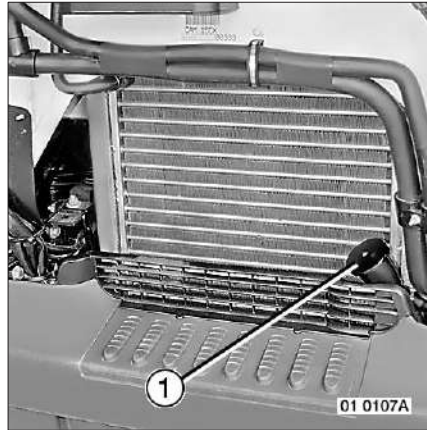
Type DCI 4

Check the oil level with dipstick (2).

If necessary, top up with oil through port (1).

To gain access to the underside of the engine, withdraw setscrews (3) and remove soundproofing screen (4).

After completing the work, refit the soundproofing screen in its correct position.



Depending on your vehicle's equipment

Soundproofing screens (4)

Any damage to the interior protective film of the screen requires replacement of the film.

See that no flammable products are applied to the screen protective films. The screens are to be cleaned using a cloth. If necessary, use soapy water (any other product is strictly forbidden). The application of any solvent or paint on the inner and outer faces of soundproofing screens is strictly forbidden.

