

V.A.G Service.

V·A·G

Workshop Manual Typ 3 and 4.

Maintenance

August 1981 edition.

Workshop Manual Typ 3 and Typ 4.

Maintenance
August 1981 edition.

Supersedes the August 1978 edition.

This booklet is valid for the above vehicles from
Model Year 1968 (August 1967).

Layout of booklet

The maintenance booklet begins with a list of engines with engine code letters which enables the engine in a particular vehicle to be quickly identified and tightening torques as are required for daily use in the workshop: repairs to individual units are, however, not covered.

This is in turn followed by instructions for the various services, laid out in a rational working sequence.

All operations which require special instructions to ensure satisfactory work are described.

Workshop bulletins

Workshop bulletins will be allocated to the individual booklets and should be filed at the back of the booklet concerned. To remind you that bulletins have been published, the manual pages should be marked by hand with the bulletin number as given in the bulletin heading.

Fault finding

General fault finding instructions are given in the workshop manual.

Additionally, fault finding instructions are given in the following fault finding guides:

Carburetor engines

D-Jetronic

Automatic gearbox

Further instructions on the elimination of current defects are to be found in the "Fault Finding Handbook".

Technical information should always be made available to all foremen and mechanics because compliance with the instructions given is essential to ensure vehicle roadworthiness and safety. In addition, the normal safety precautions to be observed when working on motor vehicles are also applicable.

ATF level checking	24	Idling test	20
ATF changing	24	Identification plate	32
Air cleaner (Oil bath type)	16	Ignition timing	19
Auxiliary heater	30		
		Lifting vehicle	33
Brakes, adjusting	27	List of engines	1
Brake linings, checking	27		
Brake fluid level	28	Oil filter	16
Brake fluid, changing	29		
Brake lines and hoses	28	Road test	31
Brake warning device	29		
Brake pressure regulator	28	Service guide to first, standard and lubrication services	12
		First service	12
Clutch play	20	Standard service	14
CV joint boots	26	Lubrication service	13
Contact breaker points	18	Maintenance operations	16
Chassis number	32	Spark plugs	4
		Steering	25
Dwell angle	18	Steering ball joints	25
Emission test	20	Tread wear pattern	26
Engine number	33	Tie rod ends	25
Engine oil, changing	16	Technical data/settings	2
		Tyres	26
Fuel filter	17	Towing	34
Final drive	24	Tightening torques	9
Front axle greasing	26		
		Underseal	29
Gearbox	24		
		Valve clearance	17
Handbrake	27	V belts	19
Headlights	30		

Note:
Wherever factory settings are to be used for the maintenance operations starting on page 16, numbers are given which refer to the Technical Data/settings and Tightening Torques sections.

Example:
Extract from operation on page 18.

Extract from Technical data on page 2.

DWELL ANGLE

Checking
Always check dwell angle with engine running using the dwell angle tester/revcounter.
Refer to setting (wear limit) **5**.

5 Dwell angel

Setting: 47 ± 3° (53 ± 3%)
Wear limit: 42...58° (47...64 %)

TYPE 3

The following chart is based on the engine code letters and contains informations on all engines* installed in Type 3 vehicles up to the date production ceased.

Code letters	K	M	P	T	U
Engine data					
Manufactured from to	8.67 7.73	8.67 7.73	8.67 7.73	8.67 7.73	8.67 7.73
Capacity l	1,5	1,5	1,6	1,6	1,6
Output kW at rpm	33/3800	30/3800	37/4000	40/4000	40/4000
Torque Nm at rpm	108/2000	101/1800	106/2200	112/2200	112/2200
Bore mm Ø	83	83	85,5	85,5	85,5
Stroke mm	69	69	69	69	69
Compression	7,5	6,6	6,6	7,5	7,3
Valve timing at 1 mm valve lift					
Intake opens before TDC	7°30'	7°30'	7°30'	7°30'	7°30'
Inlet closes after BDC	37°	37°	37°	37°	37°
Exhaust opens before BDC	44°30'	44°30'	44°30'	44°30'	44°30'
Exhaust closes after TDC	4°	4°	4°	4°	4°
RON min.	90	80	78	90	91
Carburetor/fuel injection	32 PHN	32 PHN	2x32 PDSIT	2x32 PDSIT	D-Jetronic
Firing order	1-4-3-2	1-4-3-2	1-4-3-2	1-4-3-2	1-4-3-2
Engine is specially tuned for:		Countries with low octane fuel (M 240)	Countries with low octane fuel (M 240)		

TYPE 4

The following chart is based on the engine code letters and contains informations on all engines* installed in Type 4 vehicles up to the date production ceased.

Code letters	V	W	Z	AN	AT
Engine data					
Manufactured from to	8.68 7.69	8.69 7.73	8.69 7.74	8.73 7.74	8.73 7.74
Capacity l	1,7	1,7	1,7	1,8 (1792)	1,8
Output kW at rpm	50/4500	59/4900	50/4500	63/5000	55/5000
Torque Nm at rpm	127/2800	135/2700	127/2800	138/3400	132/3400
Bore mm Ø	90	90	90	93	93
Stroke mm	66	66	66	66	66
Compression	7,8	8,2	7,8	8,6	7,3
Valve timing at 1 mm valve lift					
Intake opens before TDC	4°	12°	9°	9°	12°
Inlet closes after BDC	39°	42°	42°	41°	41°
Exhaust opens before BDC	40°	43°	43°	43°	43°
Exhaust closes after TDC	3°	4°	4°	4°	4°
RON min.	90	98	90	98	91
Carburetor/fuel injection	2x34 PDSIT	D-Jetronic	2x34 PDSIT	2x40 PDSIT	2x40 PDSIT
Firing order	1-4-3-2	1-4-3-2	1-4-3-2	1-4-3-2	1-4-3-2

* except for USA models

Engine

1 Changing engine oil

– Capacities:

Type	with filter	without change
Type 3	–	2,5 l
Type 4	3,5 l	3,0 l

– Tightening torques:

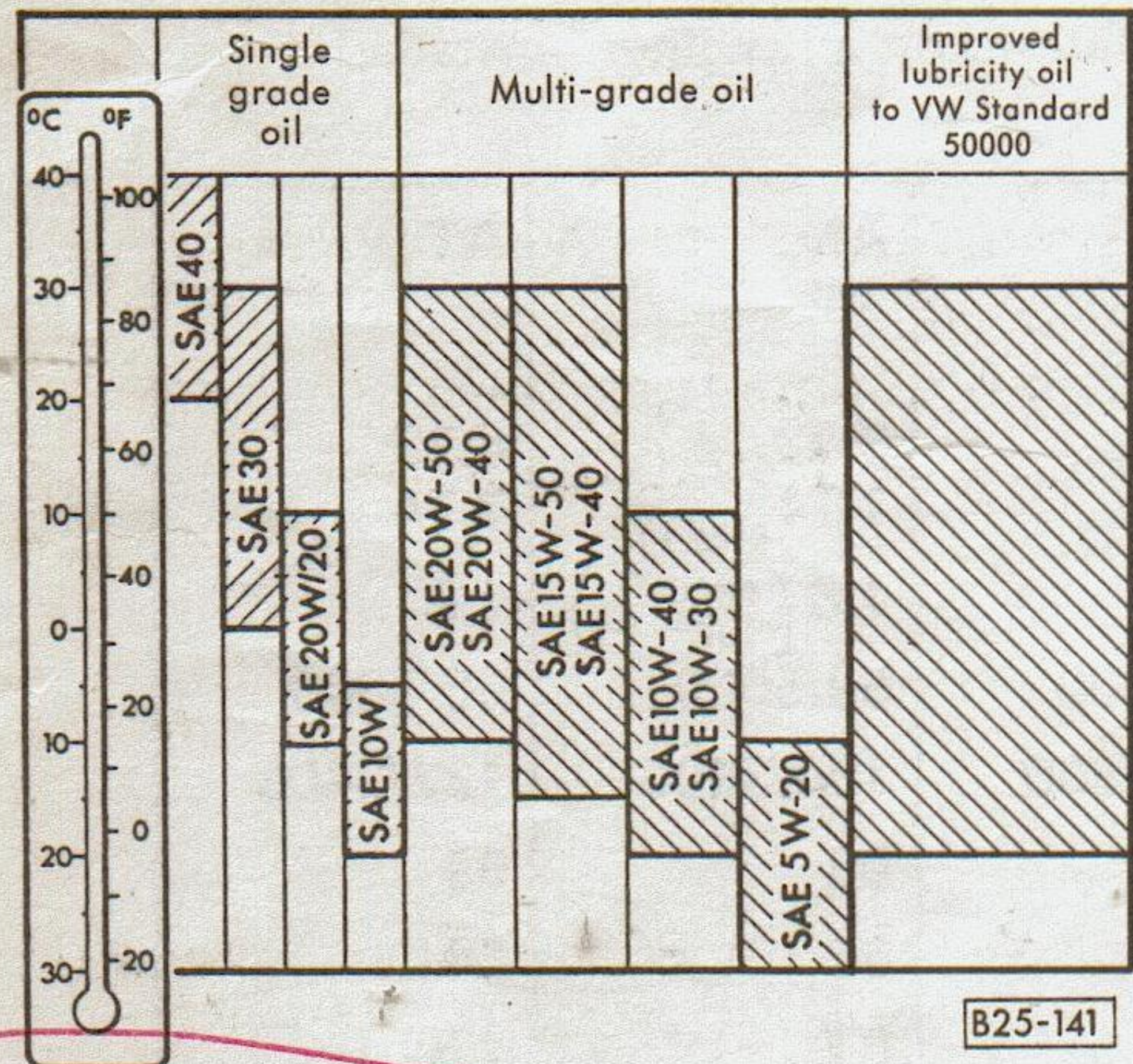
Type 3	
Oil drain plug	35 Nm
Cap nuts	8 Nm

Type 4	
Oil drain plug	25 Nm
Nut in oil strainer cover	13 Nm

– Engine oil specifications:

Use only branded HD oils marked „SE“ or „SF“ according to die API system.

Increased-lubricity oils to VW Standard 500 00 may be used at ambient temperatures of – 20 to + 30° C.



2 Oil pressure

- Minimum pressure 2.0 bar
Engine oil temperature approx. 70° C
Engine speed approx. 2500 rpm
- Oil pressure switch opens at 0.15...0.45 bar

3 Valve clearance

Engine cold (ambient temperature)

Intake	0.15 mm
Exhaust	0.15 mm

4 CO content in exhaust gas at idling speed

(Settings)

See setting conditions.

Model/Engine	Speed rpm	CO Vol. %
Type 3/1.5/1.6 l		
Carburetor engine		
Manual gearbox	850 ± 50	3 ± 1
Automatic gearbox	950 ± 50	3 ± 1
Fuel injection engine		
Manual gearbox	850 ± 50	–
Automatic gearbox	950 ± 50	–
Type 4/1.7 l		
Carburetor engine		
Manual gearbox	850 ± 50	3 ± 1
Automatic gearbox	925 ± 25	3 ± 1
Fuel injection engine	875 ± 75	*
Type 4/1.8 l		
Carburetor engine		
Manual gearbox	875 ± 75	2 ± 0,5
Automatic gearbox	950 ± 50	2 ± 0,5

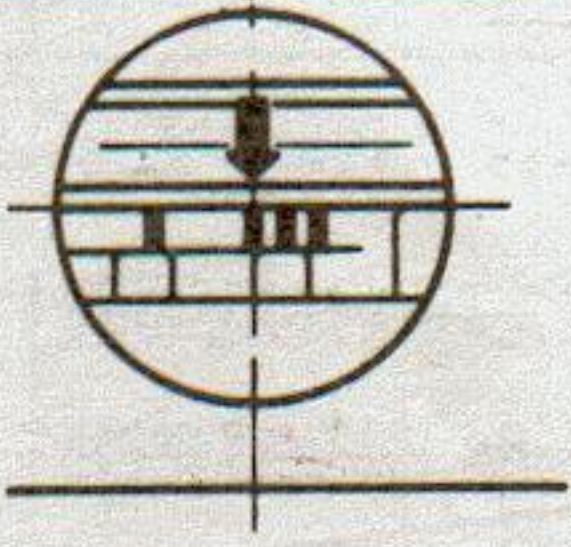
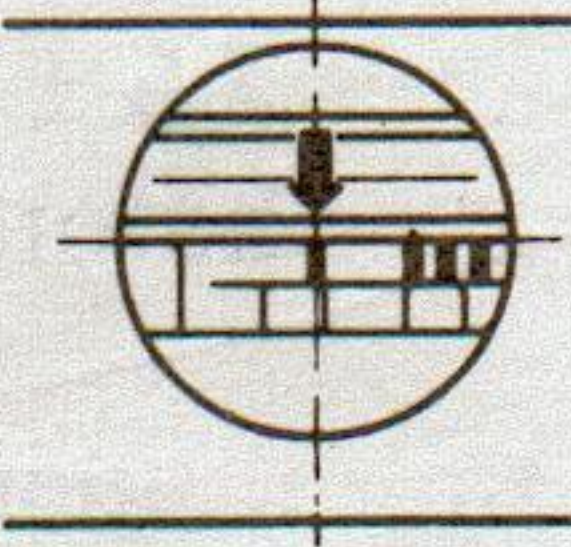
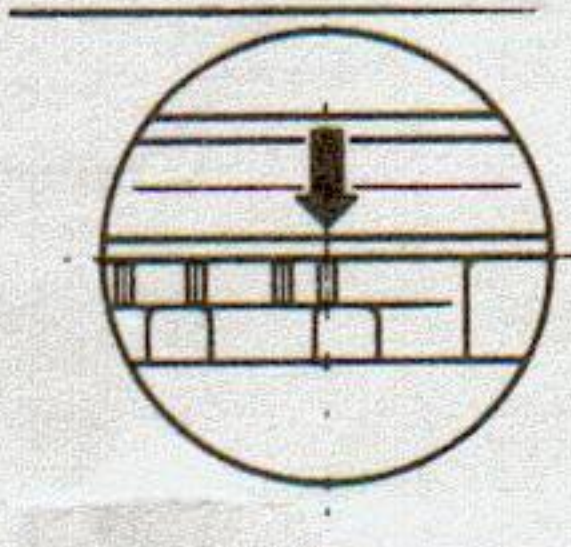
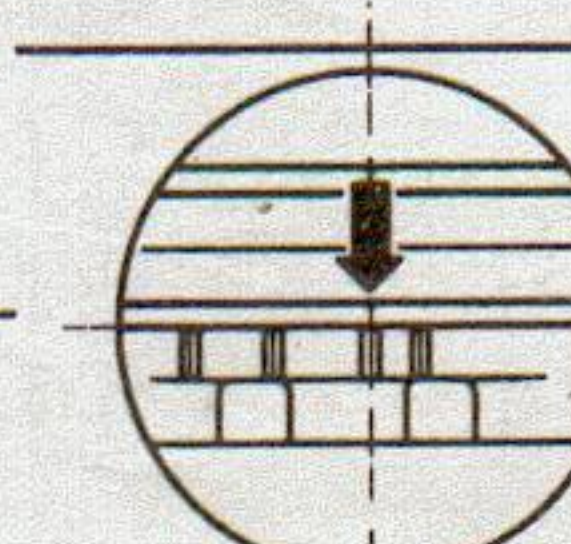
* Control unit without adjusting potentiometer CO not adjustable.
Control unit with adjusting potentiometer CO = 0.7 vol. %.

5 Dwell angle

Setting:	47 ± 3° (53 ± 3 %)
Wear limit:	42...58° (47...64 %)

6 Ignition timing (min. engine oil temperature 30° C)

Type 3

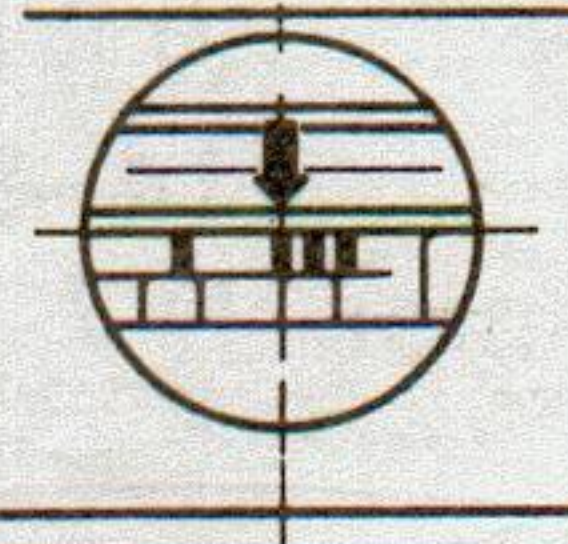
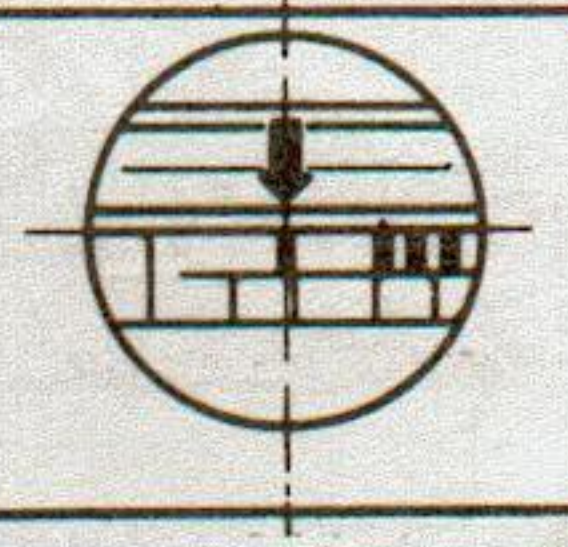
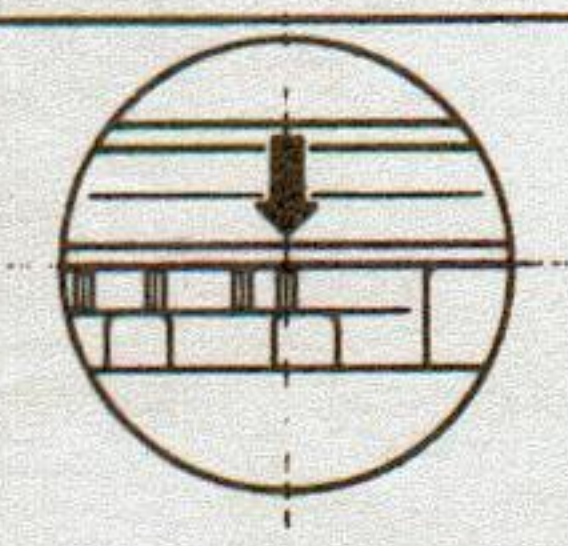
Model/ Engine	Engine Numer from to	Ignition timing	Marking	Speed rpm	Remarks
1,5 l 1,6 l	K 005 9861 – 0 000 001 – T 0 690 000	7,5 ± 1° before TDC		850 ± 50	Vacuum hose off
1,6 l	T 0 690 001 – T 1 009 829	0 ± 1°		850 ± 50	Vacuum hoses on
1,6 l E	U 0 000 001 – U 0 502 000				Vacuum hose off
1,6 l	T 1 009 830 –	7,5 ± 1° before TDC		850 ± 50	Vacuum hose off
1,6 l E*	U 0 502 001 – U 0 507 000	5 ± 1° before TDC		850 ± 50	Vacuum hoses off
1,6 l E	U 0 507 001 –	5 ± 1° before TDC		850 ± 50	Vacuum hose off

* Note:

On Type 3/1.6 l fuel injection engine with dual vacuum unit on distributor, the idling speed changes when the vacuum hoses are pulled off. Set speed to 850 ± 50/min after pulling hoses off.

After checking timing connect hoses again and set idling speed to
850 ± 50 rpm (Manual gearbox)
950 ± 50 rpm (Automatic gearbox)

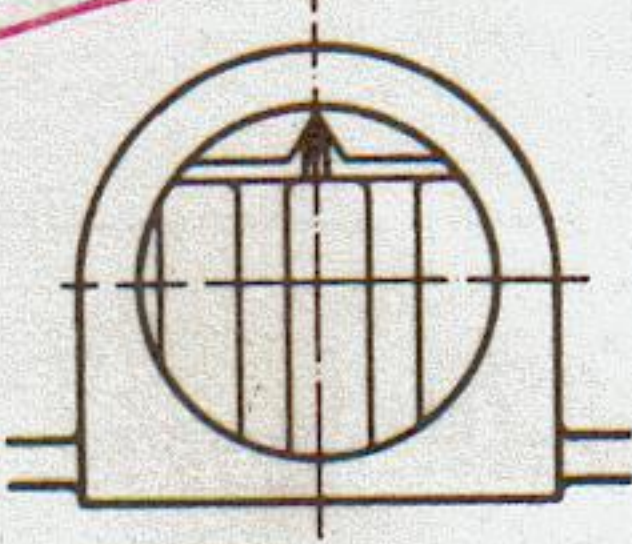
Type 3 M 240 (Recessed crown pistons)

1,5 l	M 0 000 502 – P 0 000 001 – P 0 005 281	7,5 ± 1° before TDC		850 ± 50	Vacuum hose off
1,6 l	P 0 005 282 – P 0 007 140	0 ± 1°		850 ± 50	Vacuum hoses on
1,6 l	P 0 007 141 –	7,5 ± 1° before TDC		850 ± 50	Vacuum hose off

E = Fuel injection engine

Technical data/settings

Type 4

Model/ Engine	Engine Number from to	Ignition timing	Marking	Speed rpm	Remarks
1,7 l	V/Z 0 000 001 –	$32 \pm 1^{\circ}$ before TDC		3500	vacuum hose or hoses off
1,7 l E	W 0 000 001 –	$27 \pm 1^{\circ}$ before TDC			
1,8 l Manual gearbox	AN 000 001 – AT 000 001 –	$7,5 \pm 1^{\circ}$ before TDC		875 ± 75	Vacuum hose off
1,8 l Automatic gearbox	AN 000 001 – AT 000 001 –			950 ± 50	

E = Fuel injection engine

7 Spark plugs

Electrode gap 0.6...0.7 mm

Model Engine	Plugs for areas	
	with average temperatures up to 25°C	with average temperatures above 25°C
3/1,5 l/1,6 l	Bosch W 8 A Beru 14–8 A Champion L 88 A	Bosch W 7 A Beru 14–7 A –
4/1,7 l Carburetor engine	Bosch W 8 C Beru 14–8 C Champion N 7	Bosch W 7 C Beru 14–7 C
4/1,7 l Fuel injection 4/1,8 l Carburetor	Bosch W 7 C Beru 14–7 C Champion N 7	Beru 14–5 C

8 Compression pressure

(Throttle open, engine oil temperature at least 30° C)

Model Engine	Code letter	Compression pressures in bar	
		new	Wear limit
3/1.5 l	K	8,0...10,0	7,0
3/1.5 l with recessed crown pistons	M	6,0... 8,0	5,0
3/1.6 l	T, U	8,0...10,0	7,0
3/1,6 l with recessed crown pistons	P	6,0... 8,0	5,0
4/1,7 l	V, Z	8,0...10,0	7,0
4/1,7 l	W	9,0...11,0	7,0
4/1,8 l	AN	9,0...12,0	7,0
4/1,8 l	AT	6,0... 9,5	5,0

Max. permissible pressure difference:

1.5 l/1.6 l engine 2 bar

1.7 l/1.8 l engine 3 bar

9 V belt tension

(thumb pressure test)

Deflection approx. 15 mm

10 Clutch pedal play

Type 3 10...25 mm at pedal

Type 4 3... 4 mm at pedal

Manual gearbox

11 Gear oil specification

GL 4 (MIL-L-2105)

SAE 80 or SAE 80 W-90

Oil should be up to edge of filler hole

Automatic gearbox

12 Gear oil specifications (final drive)

GL 5 (MIL-L-2105 B)

SAE 90

Oil should be up to edge of filler hole.

13 Topping up ATF DEXRON

Difference between min. and max. marks 0.4 l.

14 Changing ATF DEXRON

— Amount required approx. 3.0 l

— Oil pan to gearbox tightening torque: 10 Nm

Tighten in diagonal sequence and retighten twice at intervals of 5 minutes.

15 Vacuum unit for automatic gearbox

Type/engine	Gearbox code letters	Vacuum unit Part No.	Setting pressure bar
3/1,6 l V	EA	003 325 391	3,0
3/1,6 l E	EB	003 325 391 A	3,0
3/1,6 l E*	EJ	003 325 391 C	3,2
4/1,7 l V	EC, EE, EF	003 325 391	3,2
4/1,7 l E*	EG, EH, EK	003 325 391 C	3,2
4/1,8 l V	EL, EP	003 325 391	3,4

V = Carburetor engine

E = Fuel injection engine

* = with double vacuum connection
faster idling = 1000...1200 rpm

Running gear

16 Steering play

Type	Play *
3	Max. 15 mm
4	no play

* measured on steering wheel rim

17 Steering gear — Oil level

Type 3 (oil filled boxes only)

Hypoid SAE 90 oil up to lower edge of filler hole.

Technical data/settings

18 Play at tie rod ends

no play

19 Steering ball joints — Axial play

Type 3

Wear limit:

Upper joint 2.5 mm*

Lower joint 2.0 mm

* This figure is valid only when using
Lever VW 281 a.

20 Tyre pressures (bar)

Model	Front	Rear	Spare
Type 3 Saloon	1,3	2,0	3
Variant I (axle load 940 kg)	1,3	2,5	4
Variant II (axle load 1030 kg)	1,3	3,2	4
Type 4 Saloon	1,6	2,2	3
Variant	1,3	2,5	4

21 Min. tyre tread depth

1.0 mm

This figure may vary in accordance with
local regulations in other countries.

22 Brake pedal free travel

Max. 1/3 of total pedal travel

23 Handbrake free travel

Type 3

from Ch.No. 3 122 082 085
to Ch.No. 3 122 166 115

4 notches

6 notches

Type 4

from Ch.No. 4 122 040 790
to Ch.No. 4 122 064 917

4 notches

6 notches

24 Brake fluid level

At mark on brake fluid reservoir

25 Front brake linings

Wear limit: 2.0 mm (given by gauge VW 136)

26 Rear brake linings

Wear limit: 2.5 mm

(measured without shoe)

27 Brake pressure regulator

Type 4

	bar	
	1st test	2nd test
front	52	100
rear	42...46	63...69

28 Changing brake fluid

Fluid to US Standard FMVSS 116 DOT 3
or 116 DOT 4.

Brake system	Bleeder screw sequence	Amount of fluid
1 bleeder screw per caliper	rear right	500 cm ³
	rear left	500 cm ³
	front right	500 cm ³
	front left	500 cm ³
2 bleeder screws per caliper	rear right	500 cm ³
	rear left	500 cm ³
	front right lower	500 cm ³
	front right upper	100 cm ³
	front left lower	500 cm ³
	front left upper	100 cm ³

29 Wheel bolt tightening torque

130 Nm (4 hole wheel)

30 Total toe and camber: Front wheels

Toe:

Type 3 + 40' ± 15' (+ 25'... + 55')
equals + 3... + 6.6 mm

Type 4 + 20' ± 15' (+ 5' ... + 35')
equals + 0.6 ... + 4.2 mm

Camber:

Type 3 + 1°20' ± 20' (+ 1° ... + 1° 40')

Type 4 + 1°10' + 25' (+ 40' ... + 1°35')
- 30'

Camber difference between left and right:

Type 3 20' ; Type 4 30'

Electrical system

31 Battery — Acid level

5 mm above separators or at acid level mark

32 Battery acid — Specific gravity

discharged	1.12 kg/dm ³
half-charged	1.20 kg/dm ³
charged	1.28 kg/dm ³

33 Minimum battery voltage (under load)

9.6 Volts at 110 Amperes

34 Starter

Minimum voltage at solenoid terminal 50 : 8 Volts

35 Alternator — Load test

Type 4

Alter-nator	Load current amps	Engine speed rpm
35 A	25	3000
55 A	35	3000

Regulator voltage 12.5...14.5 volts

36 Alternator — Carbon brushes

Type 4

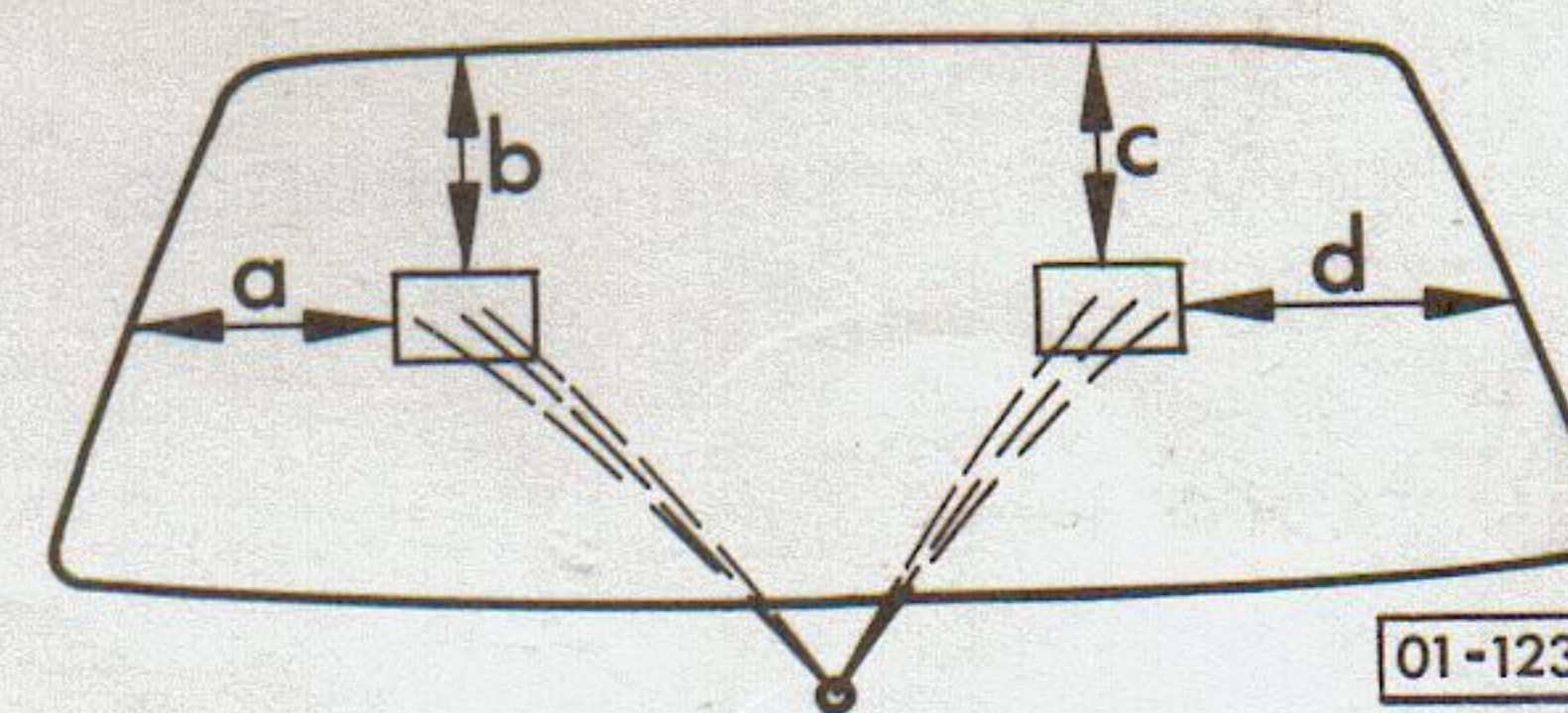
Manufac-turer	new mm	Wear limit mm
Bosch	10	5

37 Windscreen washer — Jet settings

Type 3

Jet of water should strike upper third of wiped area.

Type 4



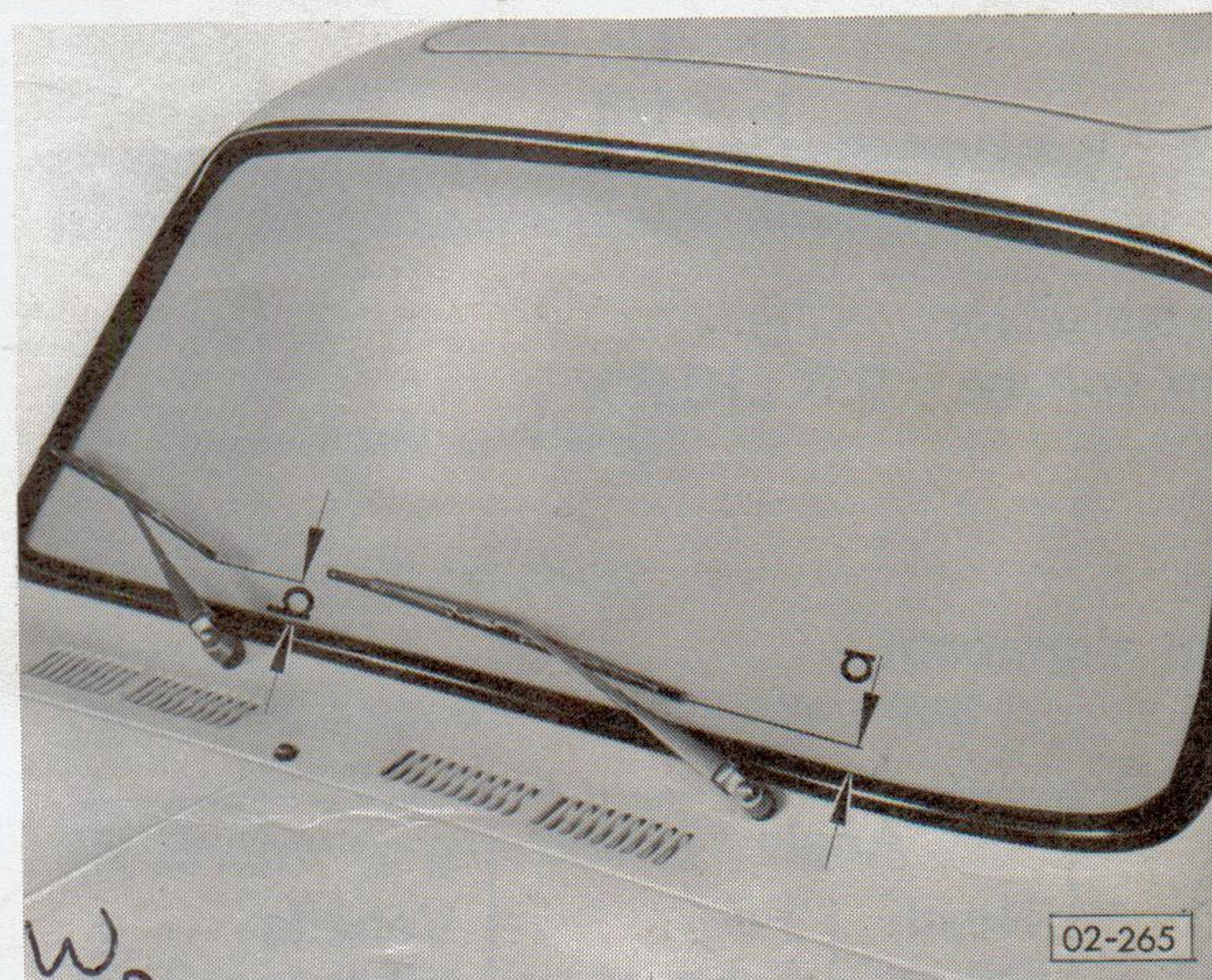
a and d = 380...480 mm
b and c = 150...200 mm

38 Headlight washer — Jet settings

Type 4

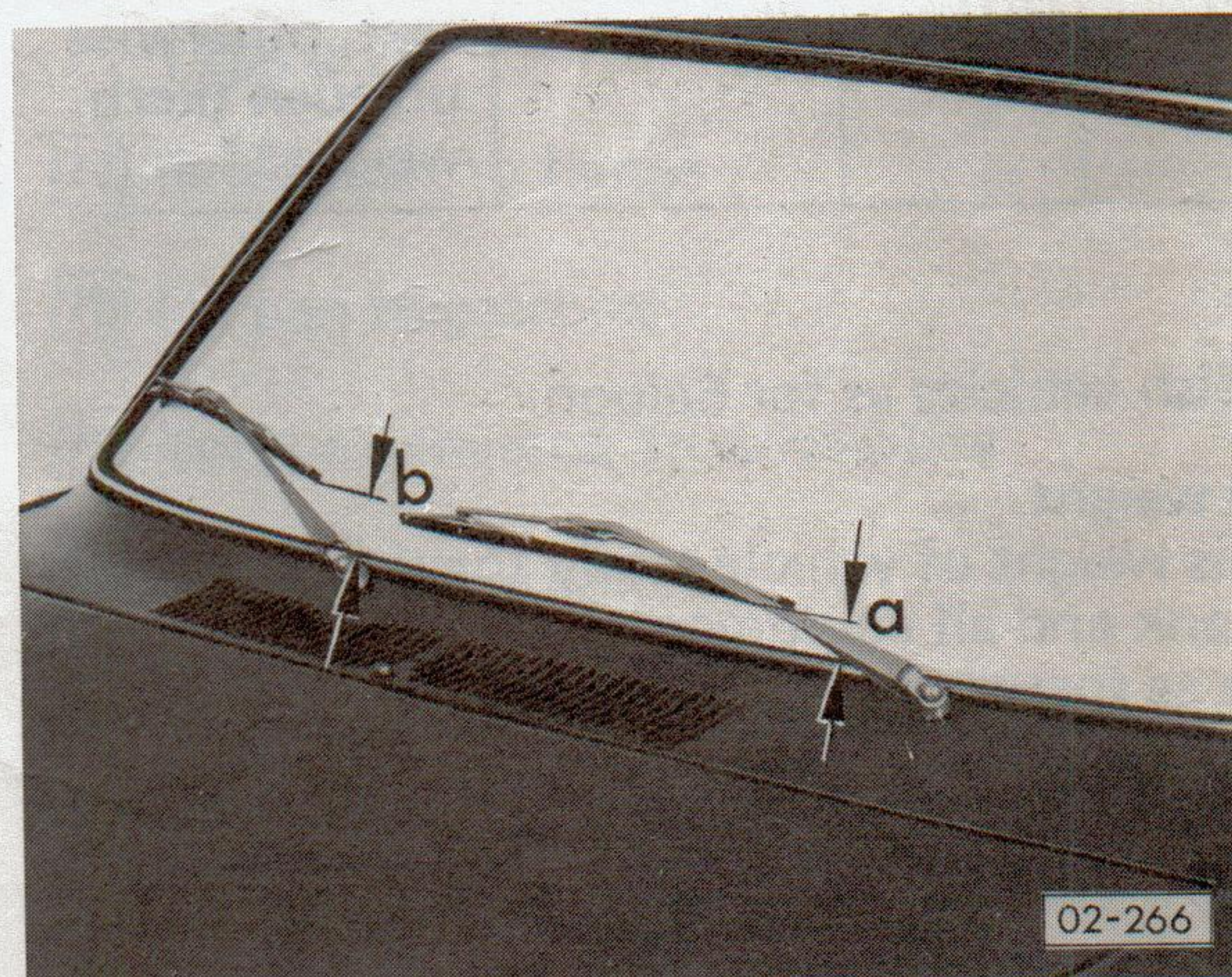
Set jet to centre of lens with tool VW 819.

39 Wiper blades — Park position



Type 3

a = 22 mm
b = 40 mm



Type 4

a = 35 mm
b = 55 mm

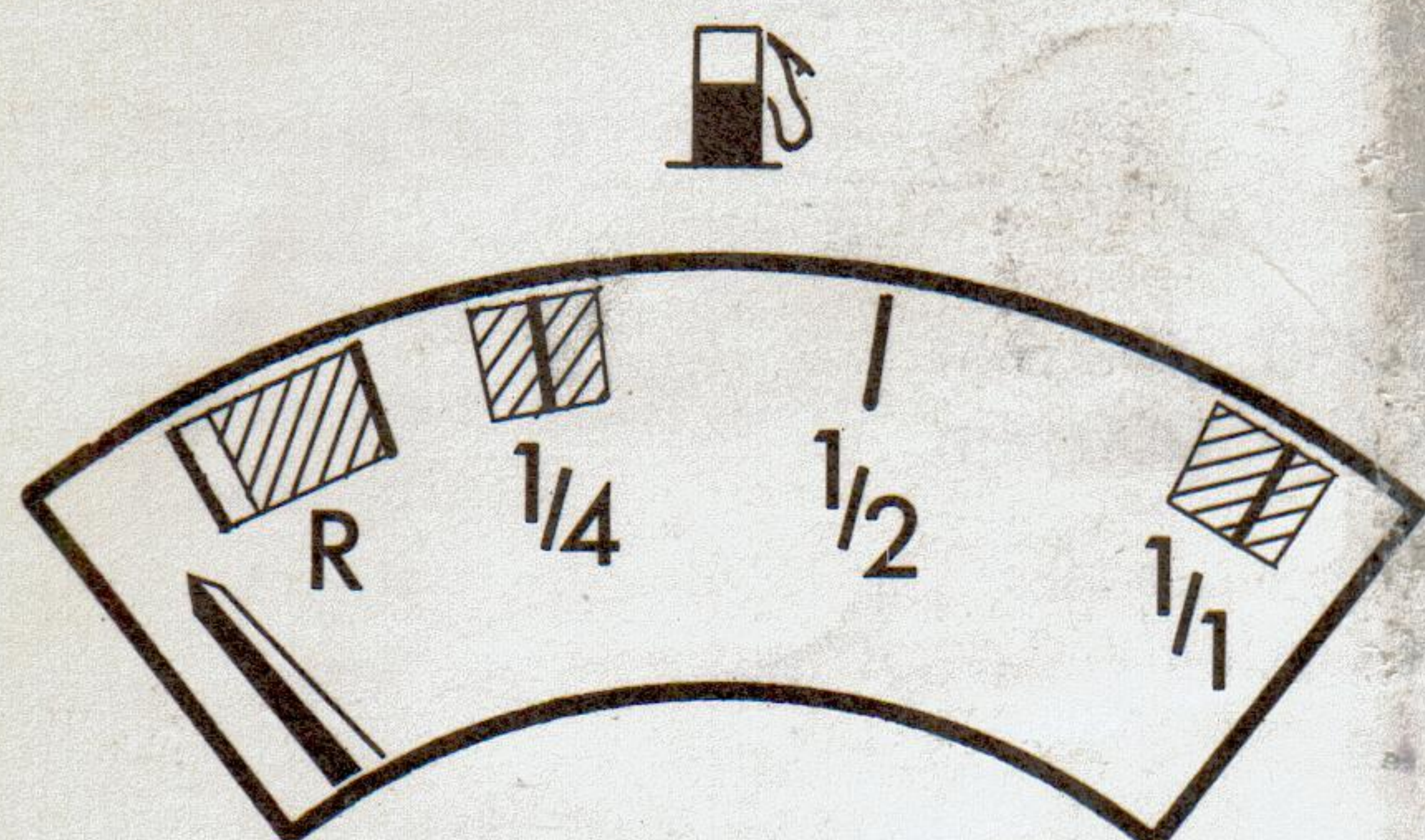
Wiper arm tightening torques

- Clamping screw 4 Nm
- Cap and hexagon nut 4...6 Nm

Technical data/settings

40 Fuel gauge/tolerance ranges

Type 4



90-069

Specified value for VW 1301	Tolerance ranges (hatched areas)
0	1/1 (full)
46	1/4
70	R (empty)

Voltage stabilizer:
Constant voltage = 9,5...10,5 V

41 Headlight alignment

	Angle *)		Vehicle loading
	Head- light	Fog- light	
Saloon	10	20	One person or 70 kg on rear seat, otherwise unladen (kerb weight**
Variant*	30	40	

* Swedish vehicles as for Saloon

** Kerb weight

This is weight of vehicle ready for the road with full tank and all equipment carried normally (such as spare wheel, tools, jack, fire extinguisher etc.)

42 Steering column switch

Gap — Switch to wheel
approx. 3 mm

Tightening torques

Engine

Type 3

43	Spark plug in cylinder head	Nm	30
44	Oil drain plug in crankcase	35	
45	Oil strainer cover to crankcase	8	
46	Oil pressure switch to crankcase (use sealing compound)	10	
47	Belt pulley to alternator	60	
48	Belt pulley to crankshaft	140	
49	Engine to gearbox	30	
50	Engine carrier to body	25	

Type 4

51	Spark plug in head	30	
52	Oil drain plug in crankcase	25	
53	Oil strainer cover to crankcase	13	
54	Oil pressure switch to crankcase (use sealing compound)	10	
55	Oil filter bracket to crankcase	20	
56	Belt pulley to alternator	60	
57	Fan to hub	20	
58	Fan hub to crankshaft	30	
59	Engine to gearbox	30	
60	Engine carrier to body	25	

Manual gearbox

Type 3

61	Drive shaft to flange	45	
62	Engine to gearbox	30	
63	Gearbox carrier to sub-frame	230	

64	Bonded rubber mounting to gearbox carrier	Nm	20
65	Bonded rubber mounting front to sub-frame and gearbox		35

Type 4

66	Drive shaft to flange	45	
67	Engine to gearbox	30	
68	Bonded rubber mounting to gearbox carrier	25	
69	Gearbox cross member to mounting	40	
70	Gearbox to cross member	40	
71	Front limiting flange to gearbox	30	

Automatic gearbox

Type 3

72	Drive shaft to flange	45	
73	Oil pan to gearbox	10*	
74	Torque converter to drive plate	30	
75	Engine to gearbox	30	
76	Front mounting to sub-frame and gearbox	35	

Type 4

77	Drive shaft to flange	45	
78	Oil pan to gearbox	10*	
79	Torque converter to drive plate	30	
80	Engine to gearbox	30	
81	Mounting to gearbox carrier	25	
82	Mounting to bracket	40	
83	Bracket to gearbox	40	
84	Front limiting flange to gearbox	40	

* Tighten diagonally, retighten twice at intervals of approx. 5 minutes.

Tightening torques

		Nm
Running gear		
Front axle Type 3		
85 Axle retainer to frame upper and lower	30	
86 Axle retainer to frame centre	40	
87 Shock absorber to side plate	35	
88 Shock absorber to suspension arm	35	
89 Torsion bar to suspension arm (grub screw)	30	
90 Anti-roll bar to suspension arm (grub screw)	50	
91 Lock nut for grub screw	40	
92 Torsion bar to axle beam	40	
93 Pinch bolt for anti-roll bar	40	
94 Adjusting screw for anti-roll bar	10	
95 Steering ball joints to suspension arm	110	
96 Steering ball joints to steering knuckle	55	
97 Steering arm to knuckle	55	
98 Socket head screw for clamping nut (wheel bearing nut)	15	
99 Caliper to steering knuckle M 10 bolt M 12 x 1.5 bolt	40 80	
Front axle Type 4		
100 Front axle carrier to body (front and rear)	60	
101 Track arm to front axle carrier	80	
102 Anti-roll bar to track arm	30	
103 Suspension strut to track arm	45	
104 Suspension strut to body	20	
105 Strut mounting to strut	60	
106 Steering knuckle and ball joint to suspension strut	40	
107 Splash plate to steering knuckle	10	
108 Socket head screw to clamping nut (wheel bearing nut)		15
109 Caliper to steering knuckle		75
Steering Type 3		
110 Cover to steering box		25
111 Steering box to front axle beam		35
112 Drop arm to shaft		70
113 Tie rod to drop and tie rod levers		30*
114 Lock nut on tie rod		25
115 Clip on tie rod		20
116 Steering damper to front axle		45
117 Steering damper to steering lever		25
118 Flange to disc		15
119 Steering coupling to spindle		25
120 Steering column to coupling		30
121 Mounting plate for column tube to dash		15
122 Steering wheel to column		50
Steering Type 4		
123 Steering box to body		45
124 Drop arm to steering box		10
125 Bracket for idler arm to body		30
126 Idler arm to bracket		30
127 Steering damper to front axle carrier and tie rod		40
128 Centre tie rod to drop arm and idler		30*
129 Side tie rods to centre tie rods and steering knuckle		30*
* then turn on to align split pin hole		

Tightening torques

	Nm		Nm
10] Clamp to tie rod	20	149] Body to sub-frame	40
11] Lock nut for ring on tie rod	25	150] Cover for torsion arm bearing to sub-frame	40
12] Steering column to two arm flange/ steering coupling	20	151] Diagonal arm to sub-frame	120
13] Two arm flange to disc	20	152] Diagonal arm to trailing arm	110
14] Steering column switch to bracket/ pedal cluster	10	153] Drive shaft to rear wheel shaft	45
15] Support ring for column tube on bracket/ pedal cluster	10	154] Brake drum/wheel hub to rear wheel shaft	350
16] Steering column switch to column	10		
17] Steering wheel to column	50		
		Rear axle Type 4	
Rear axle Type 3		155] Rear axle carrier to body	40
Swing axle		156] Bracket to rear axle carrier	85
18] Shock absorber to sub-frame and rear axle	60	157] Trailing arm to bracket	85
19] Front sub-frame to frame M 8 bolts M 10 bolts	20 45	158] Shock absorber to body	30
20] Body to sub-frame	40	159] Shock absorber to trailing arm	60
21] Cover for torsion rod bearing to sub-frame	40	160] Cover for wheel bearing to trailing arm	60
22] Axle tube to trailing arm	110	161] Rear axle shaft to flange	150
23] Lever to auxiliary spring rod	20	162] Shaft to flange	45
24] Push rod to bracket	50		
25] Push rod to rear axle	10	Brakes, wheels	
26] Brake drum to axle shaft	350	163] Wheel fasteners (4 hole wheel)	130
		164] Caliper to steering knuckle Type 3 M 10 bolt M 12 x 1.5 bolt	40 80
Diagonal arm axle		Type 4	80
27] Shock absorber to sub-frame and rear axle	60	165] Backplate to rear axle or wheel bearing housing	60
28] Sub-frame front to frame M 8 bolts M 10 bolts	20 45	166] Wheel cylinder to backplate	20
		167] Brake drum/wheel hub to shaft or rear wheel shaft (Type 3)	350
		168] Rear wheel shaft to drive flange (Type 4)	150
		169] Brake disc to steering knuckle (socket head screw to clamp nut)	15

First/Standard/Lubrication Service

GUIDE TO FIRST, STANDARD AND LUBRICATION SERVICES

- When new or exchange assemblies are installed, a first service should be carried out after 1000 km/miles running. This also applies when a short engine has been installed, or extensive repairs carried out on the power train.
- A standard service should be carried out every 5000 km (3000 miles), and no more than 6 months after the last lubrication service; for operations, see page 13.
- The lubrication service should be carried out every 10 000 km (6000 miles), and at least every 12 months; for operations, see page 14.
- The brake fluid should be changed every 2 years; for the operations involved, see page 15.

STANDARD SERVICE

every 5000 km

Operation	Setting/Notes	See page
— Clutch play: adjust if necessary	Clutch play: Type 3 10...25 mm at pedal Type 4 3... 4 mm at pedal	20
— Engine	Check for leaks	20
— Gearbox/final drive	Check for leaks	24
— Oil strainer (only Type 3)	Clean	16
— Oil filter	Renew	16
— Valve clearance: adjust if necessary	Valve clearance: inlet valve 0.15 mm exhaust valve 0.15 mm	17
— Engine oil: renew	Capacity: Type 3 2.5 litres Type 4 3.5 litres See page 1 for engine oil specification Tightening torques: Type 3 cap nuts 8 Nm Type 4 oil drain plugs 25 Nm	16
— Road test: Foot and handbrake Clutch, Steering Cylinder head cover Oil filter Idling speed, adjust if necessary	Check travel and operation Check operation Check for leaks See setting 4	31

LUBRICATION SERVICE

every 10 000 km

Operation	Settings/Notes	See page
– Engine oil: renew	Capacities: Type 3 2.5 litres Type 4 3.5 litres Engine oil specifications see setting 1	16
– Oil strainer: clean (only Type 3)	Tightening torques: Type 3 cap nuts 8 Nm Type 4 oil drain plug 25 Nm	16
– Door check straps: lubricate	Type 3 multi-purpose grease Type 4 engine oil SAE 30	
– Door hinges: lubricate	Engine oil SAE 30	
– Brake pads: check thickness (disc brakes)	Wear limit: 2.0 mm (as given by gauge VW 136)	27
– Brake fluid level: check	must be up to max. mark: before adding fluid, check hydraulic system for leakage.	28
– Battery: add distilled water if necessary	Watch acid level marks	

First/Standard/Lubrication Service

STANDARD SERVICE

See book

Operations	Set- tings □	See page	Operations	Set- tings □	See page
See additional operations on page 15.			— Cooling air ducts: check water drain flaps and bellows for damage		
— Steering: check play	16	25	— Steering ball joints: check axial play (Type 3) and boots	19	25
— Steering: adjust if necessary (Type 3)	16	25	— Tie rod ends: check play, mounting and boots	18	25
— Battery: top up distilled water if necessary			— Steering box: check for leaks (Type 3)		25
— Engine: check for leaks			— Engine oil: put in	1	
— V-belt: check condition and tension, adjust if necessary	9	19	— Dwell angle and ignition timing: adjust if necessary	5/6	18/19
— Brake pipes, hoses and connections: check for leaks and damage		28	— Emission test and idling including adjustment	4	20
— Engine oil: drain	1	16	— Automatic gearbox: top up ATF if necessary	13	24
— Oil strainer: clean (Type 3)	1	16	— Handbrake: adjust if necessary	23	27
— Oil filter: renew		16	— Brake fluid: add if necessary	24	28
— Oil pan for automatic gearbox: tighten screw if necessary	78		— Steering box: add oil if necessary (Type 3)	17	25
— CV joint boots: check for leak and damage		30	— Underseal: visual check for damage		29
— Final drive/gearbox: check for leaks and hypoid oil if necessary	11/12	24	— Door hinges/check straps: lubricate		
— Exhaust system: check			— Headlights: adjust if necessary	41	30
— Brake pressure regulator: check operation (Type 4) if applicable		28	— Wheel bolts: tighten to correct torque	29	
— Brake linings: check thickness, adjust brake shoes if necessary	25/26	27	— Road test		
— Clutch play: adjust if necessary (Type 3)	10	20	Hand and foot brakes: check travel and efficiency	22/23	
— Valve clearance: adjust if necessary check gaskets for cylinder head cover, renew if necessary	3	17	Check brake servo (Type 4)		
— Tyres including spare: check tread depth and wear pattern	21	26	Check clutch		
			Check steering		
			Check kickdown device		
			Check cylinder head cover and oil filter for leaks		

First/Standard/Lubrication Service

Additional operations for Standard services at 20 000 km (12 000 miles) – 40 000 km (24 000 miles) – etc.

Operation	Setting <input type="checkbox"/>	See page
Breaker contacts: renew	5/6	18
Spark plugs: renew	7	
Fuel filter: renew (fuel injection engine)		17
Auxiliary heater: clean strainer for air blower if necessary (Type 4)		30
Oil-bath air cleaner: clean and fill (Type 3 and 4)		16
Dry air cleaner: renew element, clean housing (Type 4)		
Front axle: lubricate (Type 3)		26
Engine: Clean oil strainer (Type 4)	1	16

Additional operations for Standard Services at 50 000 km (30 000 miles) – 100 000 km (60 000 miles) – etc.

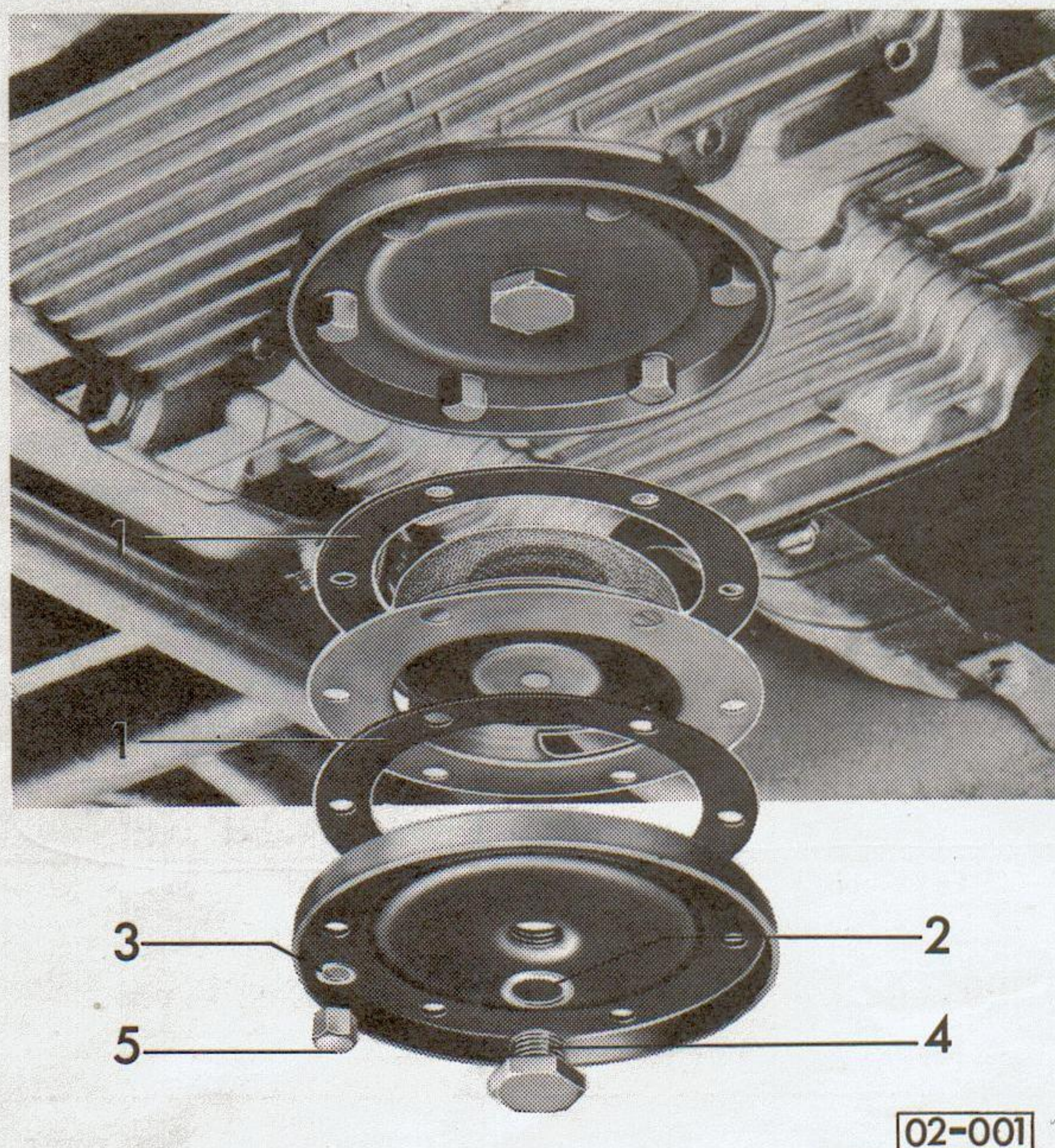
Operation	Setting <input type="checkbox"/>	See page
37 02 55 50 Automatic gearbox: renew ATF, clean oil pan and oil strainer, renew oil pan gasket	14	24

Additional operations for Standard service every 2 years

Operation	Setting <input type="checkbox"/>	See page
47 08 55 00 Vehicles without brake pressure regulator (Type 3 and 4): renew brake fluid, check operation of brake system warning device (if applicable)	28	29
47 08 55 06 Vehicles with brake pressure regulator (Type 4): renew brake fluid, check operation of the brake system warning device (if applicable)	28	29
Pressure test and adjust the brake pressure regulator	27	28

CHANGING ENGINE OIL CLEANING OIL STRAINER

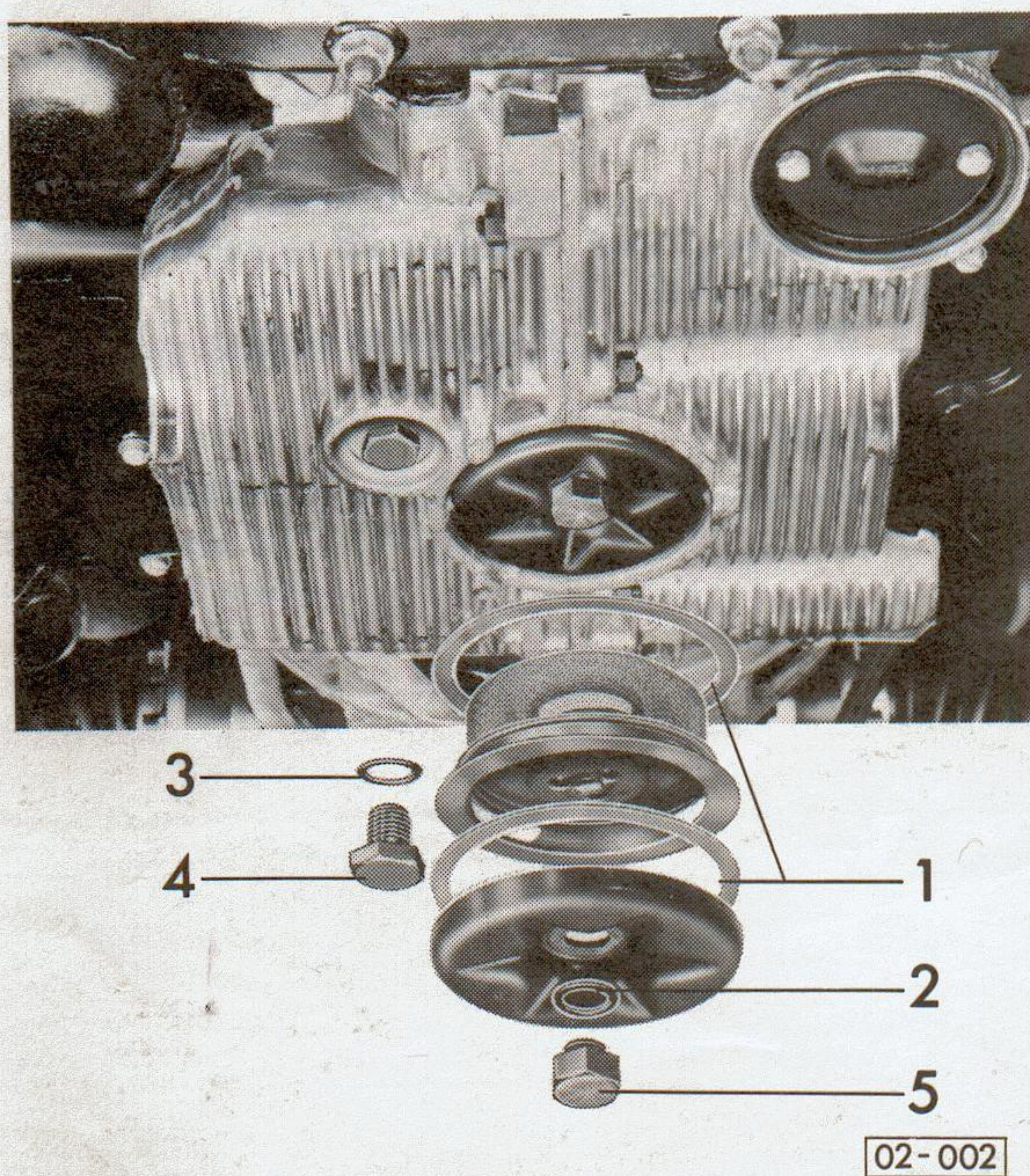
Type 3



- 1 — Renew gaskets
- 2 — Renew washer (if fitted)
- 3 — Renew washers
- 4 — Oil drain plug tightening torque 35 Nm (if fitted)
- 5 — Cap nut tightening torque 8 Nm

Remove and clean oil strainer **every time** the engine oil is changed.

Type 4



- 1 — Renew gaskets
- 2 — Renew washer
- 3 — Renew washer

- 4 — Oil drain plug tightening torque 25 Nm
- 5 — Plug 13 Nm

Do not remove oil strainer at every oil change (see Standard Service Operations on page 14).

Note setting **1**.

OIL FILTER



- Remove oil filter with special wrench.
- Clean sealing surface on engine.
- Lightly oil rubber seal. Screw new oil filter in and tighten by hand.

Note:

Do not attempt to clean and reuse the oil filter.

OIL BATH AIR CLEANER

- Remove air cleaner.
- Release clips and take top part of cleaner off.

Note:

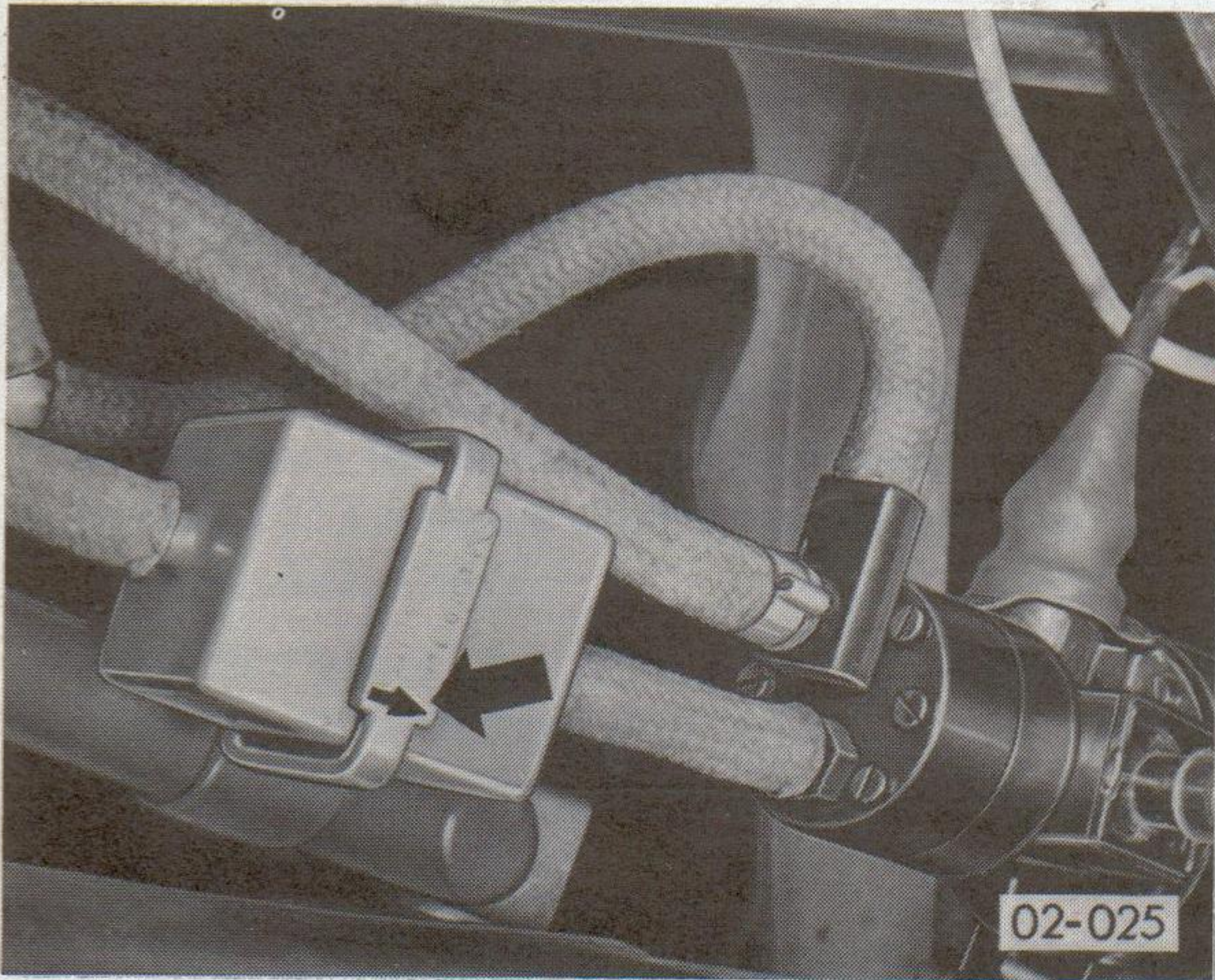
The top part of cleaner must always be put down with the opening downwards. It must not be cleaned with petrol or similar solvents. Encrusted dirt should be removed with a cloth.

- Clean lower part of cleaner carefully and fill to mark with SAE 30 engine oil (SAE 10 W in arctic regions).

FUEL FILTER

Install in correct position.

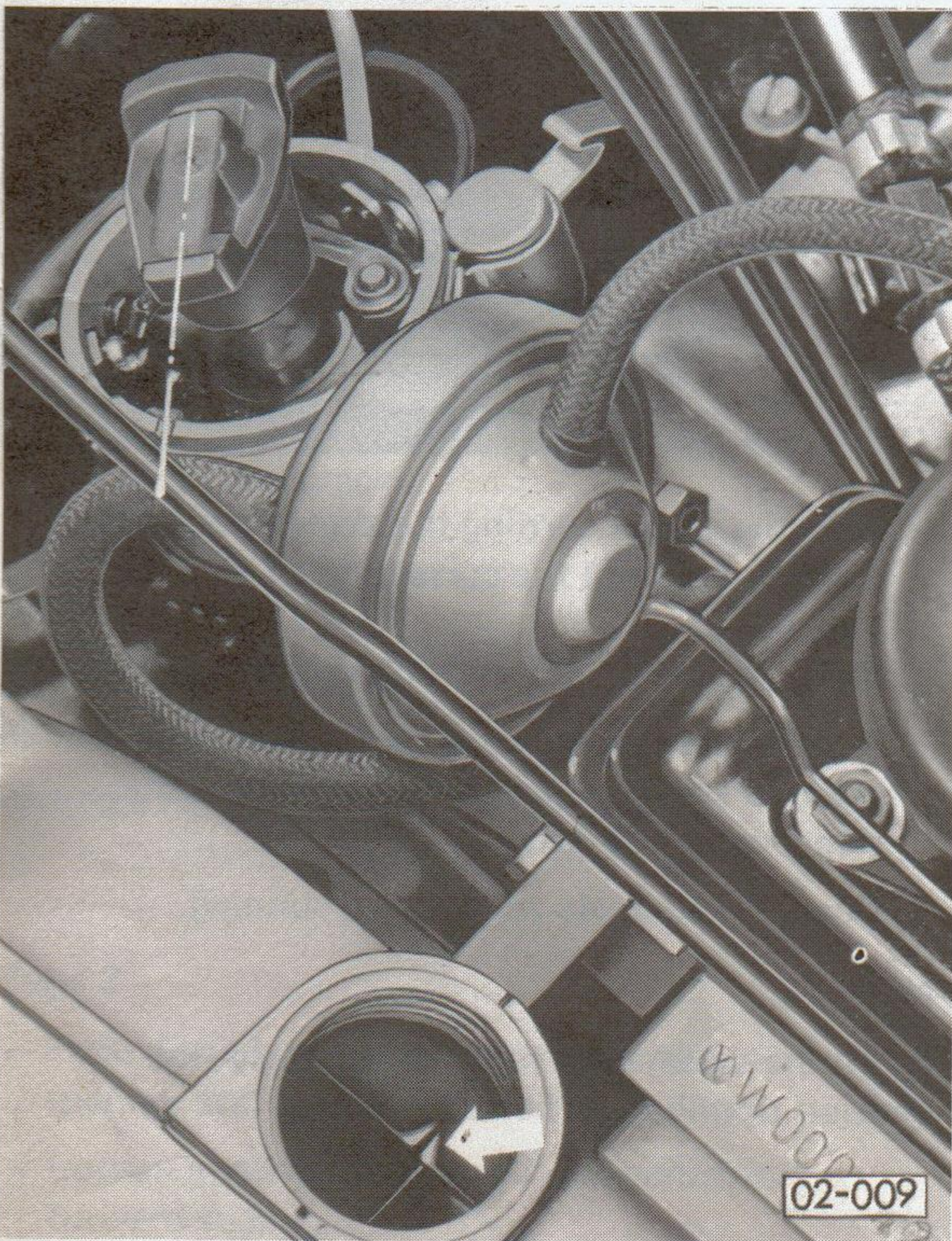
The arrow on fuel filter indicates direction of flow.



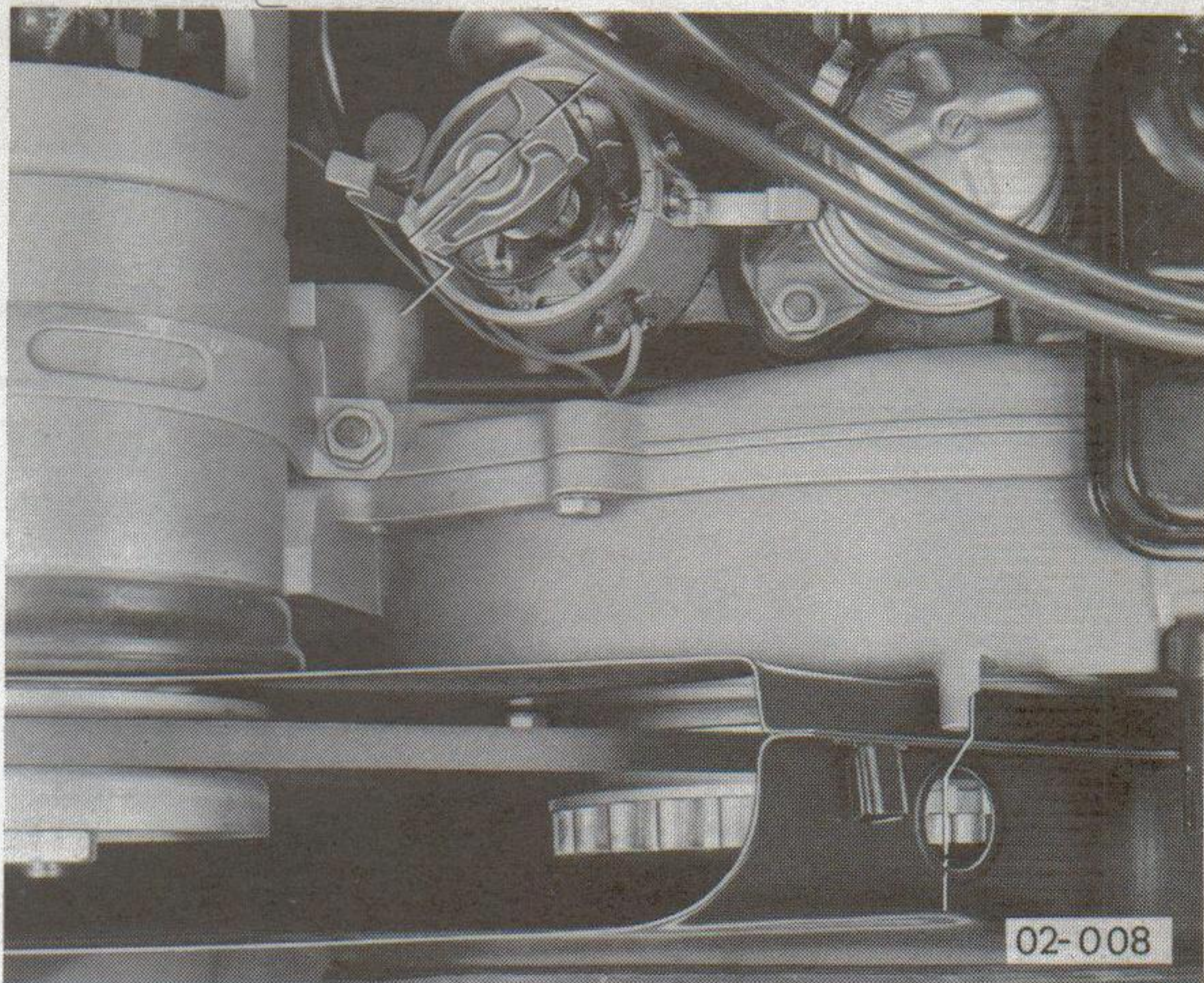
VALVE CLEARANCE

- Setting sequence: cylinders 1-2-3-4
- Set No. 1 cylinder to firing point:

Typ 4



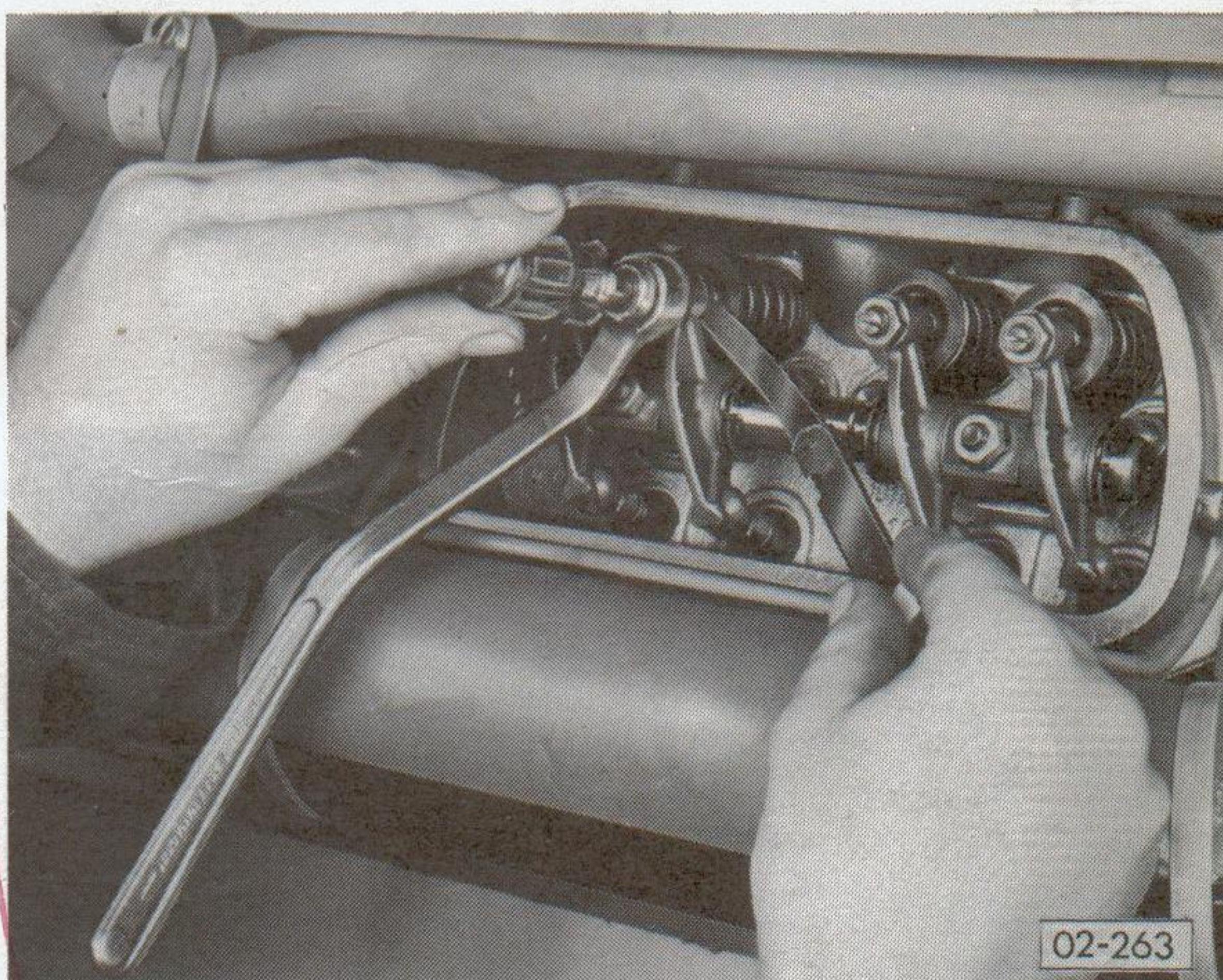
Typ 3



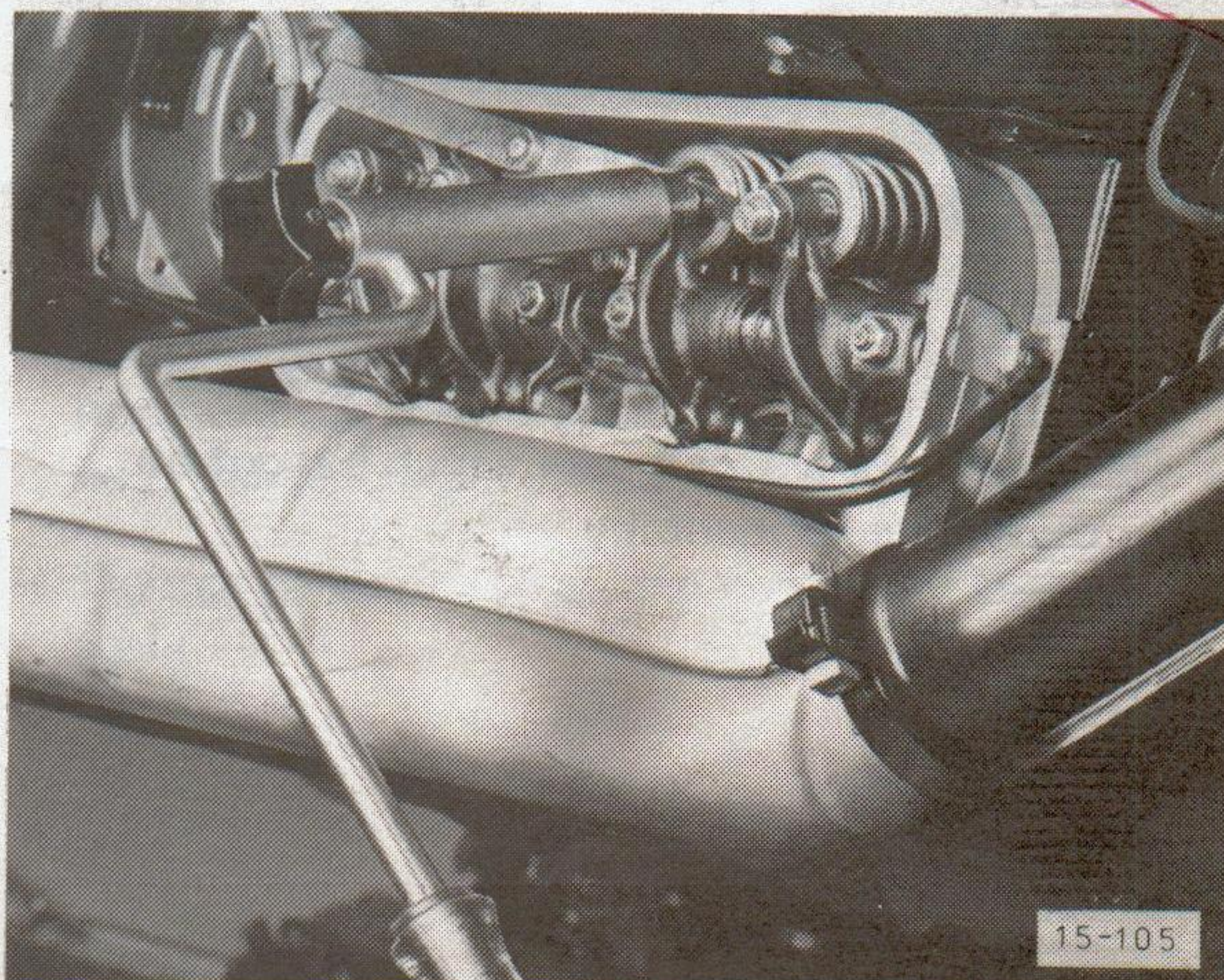
- Check clearance with feeler gauge and adjust if necessary using special wrench. Check clearance again after tightening lock nut.

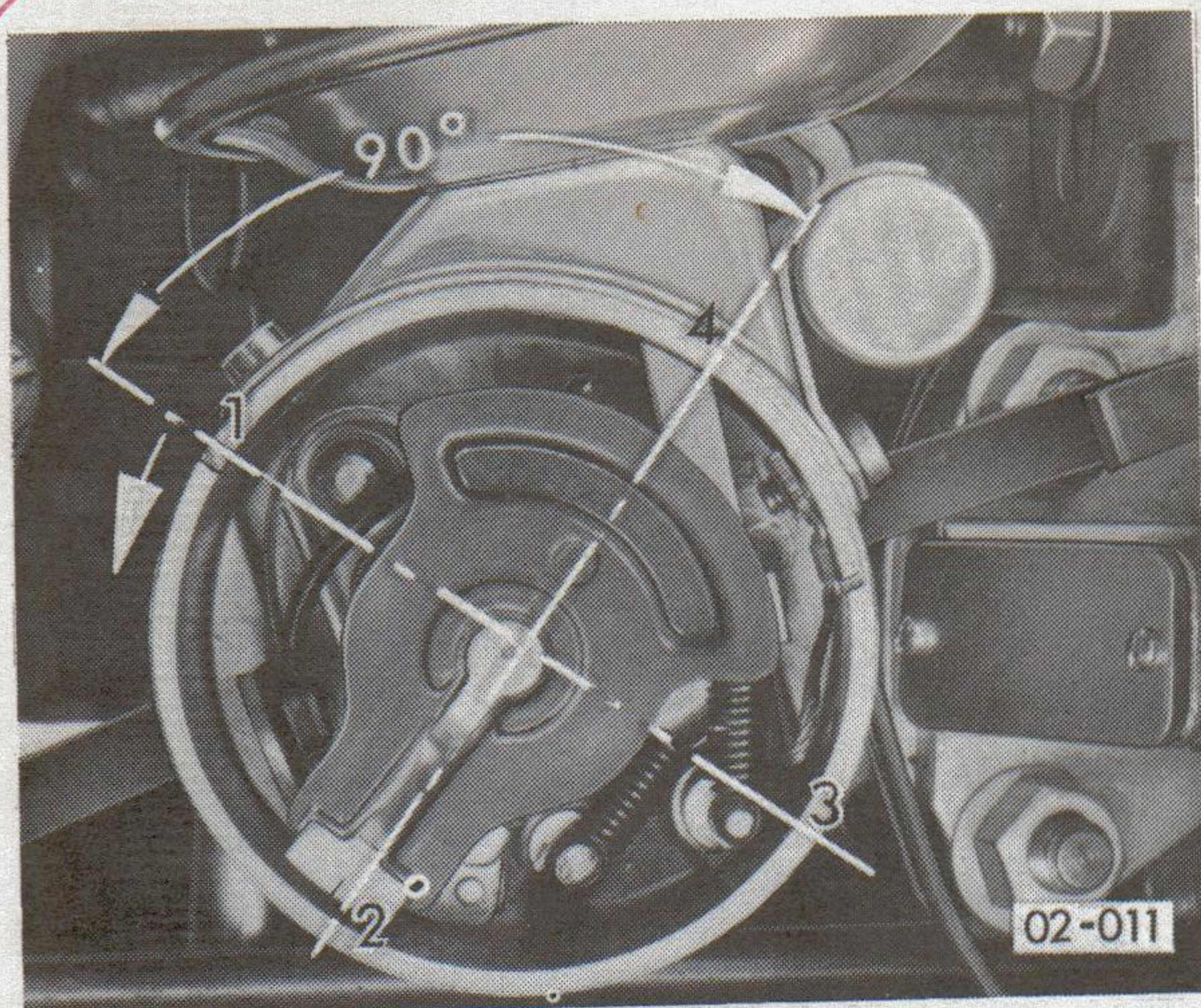
See setting **3**.

Type 3



Type 4

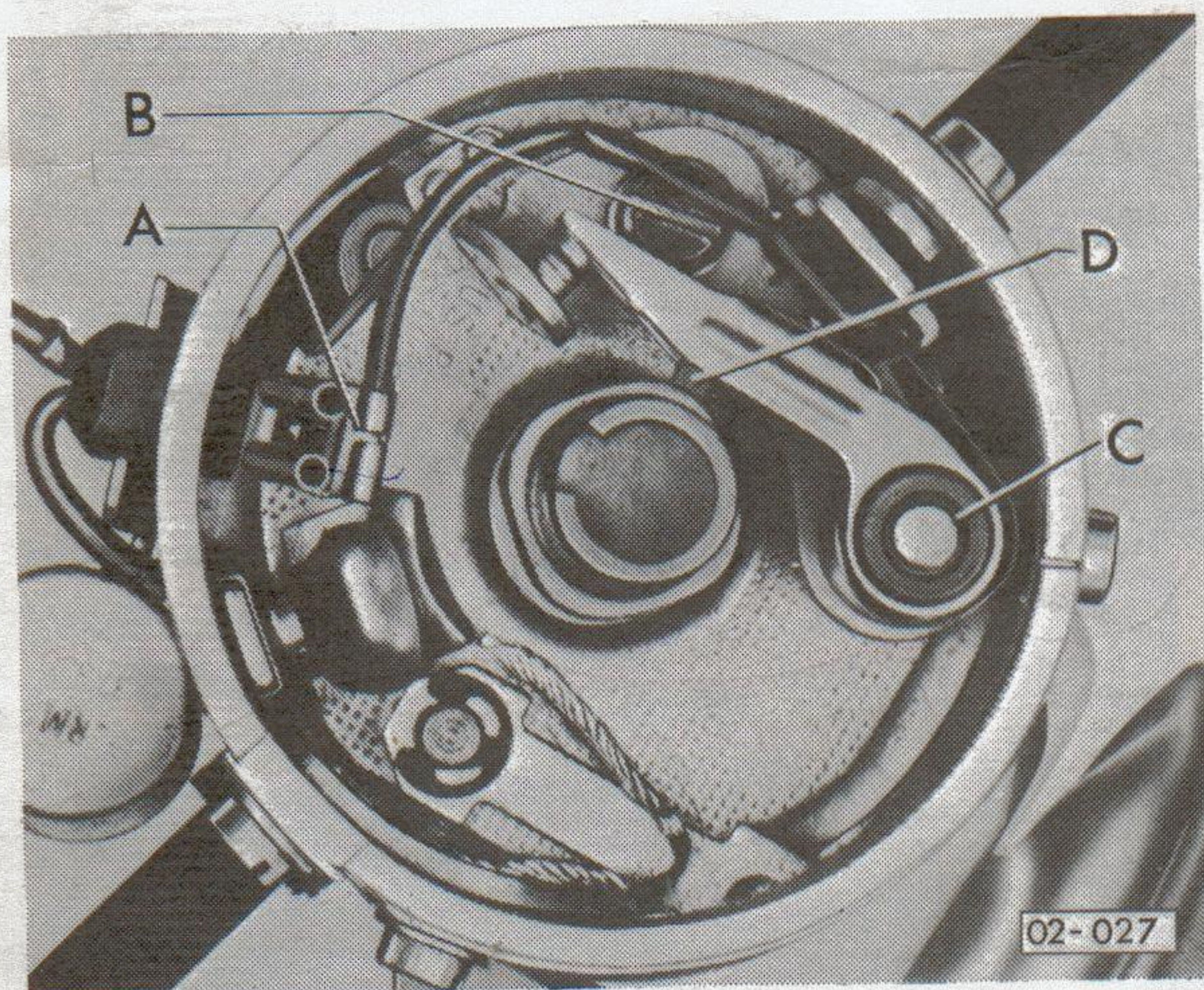




- To set the valves of cylinders 2, 3 and 4, turn crankshaft anticlockwise until rotor arm has moved 90° for each cylinder.
- Check cylinder head cover gasket and replace if necessary.

BREAKER CONTACTS

Renewing



- Lubricate arm bearing (C), cam surface and fibre block (D) with multi-purpose grease.
- Remove any trace of grease which has got on to the points accidentally.

- Ensure that the contact surfaces of fixed and moving contact are parallel to each other and align if necessary.
- Put a drop of oil on the felt pad in the distributor shaft (if fitted).

Adjusting:

Always adjust the dwell angle first and then the timing because altering the dwell angle alters the timing.

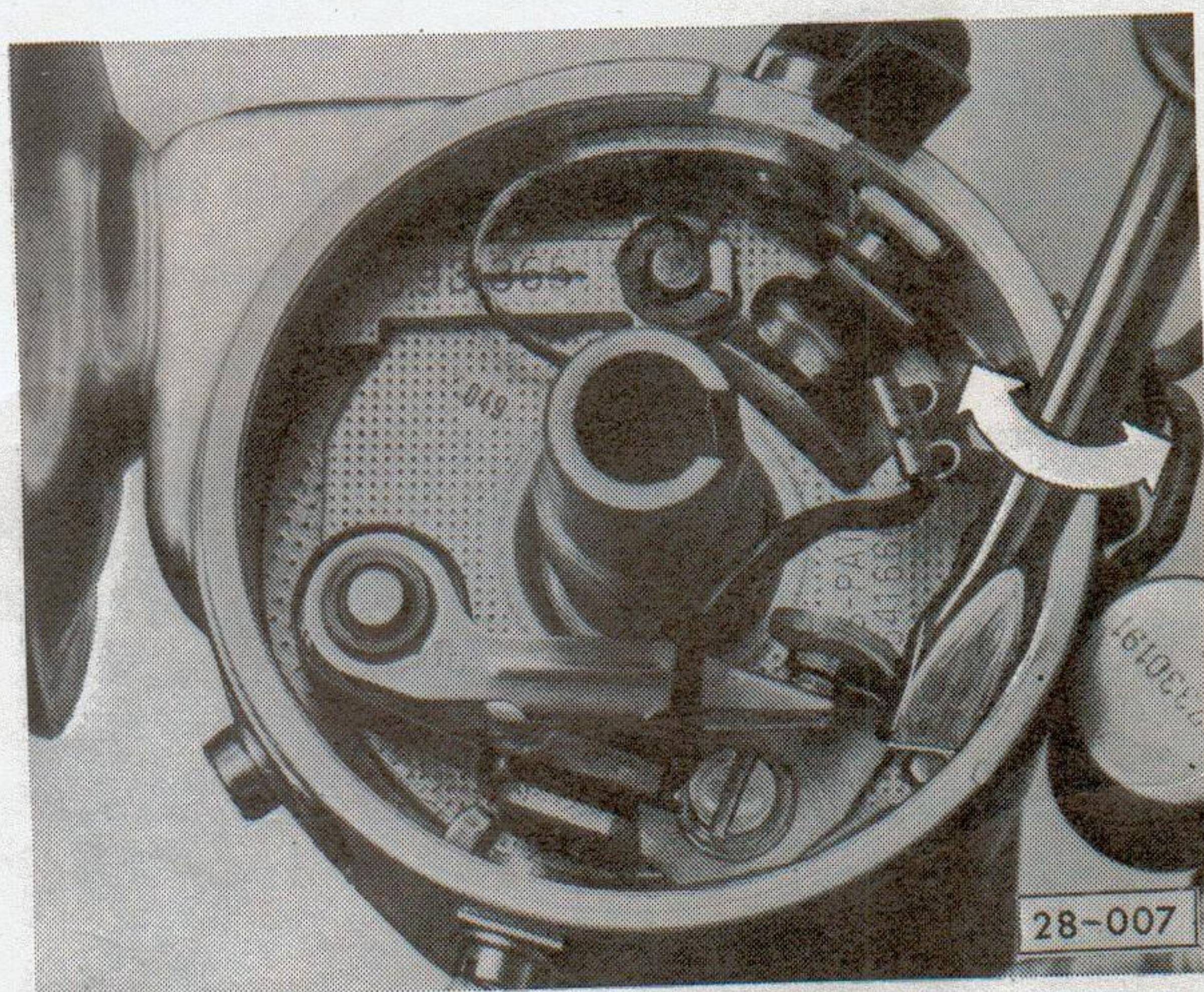
DWELL ANGLE

Checking

Always check dwell angle with the proper tester and engine running.

Note setting (wear limit) **5**.

Adjusting



- With the starter turning the engine over, alter the contact gap until the correct dwell angle is indicated.
Refer to setting **5** (setting value).
- Tighten contact securing screw and check again to see if the angle has changed as the screw was tightened.
- Check dwell angle with engine running.

Note:

When the dwell angle has been adjusted, the ignition timing must be reset.

IGNITION TIMING

Checking

- Flash timing mark with stroboscopic lamp or TDC sender unit if fitted.
- Measure ignition timing using VW 1313 advance angle tester or V.A.G. ignition tester 1367 with TDC sender unit.

Refer to setting **6**.

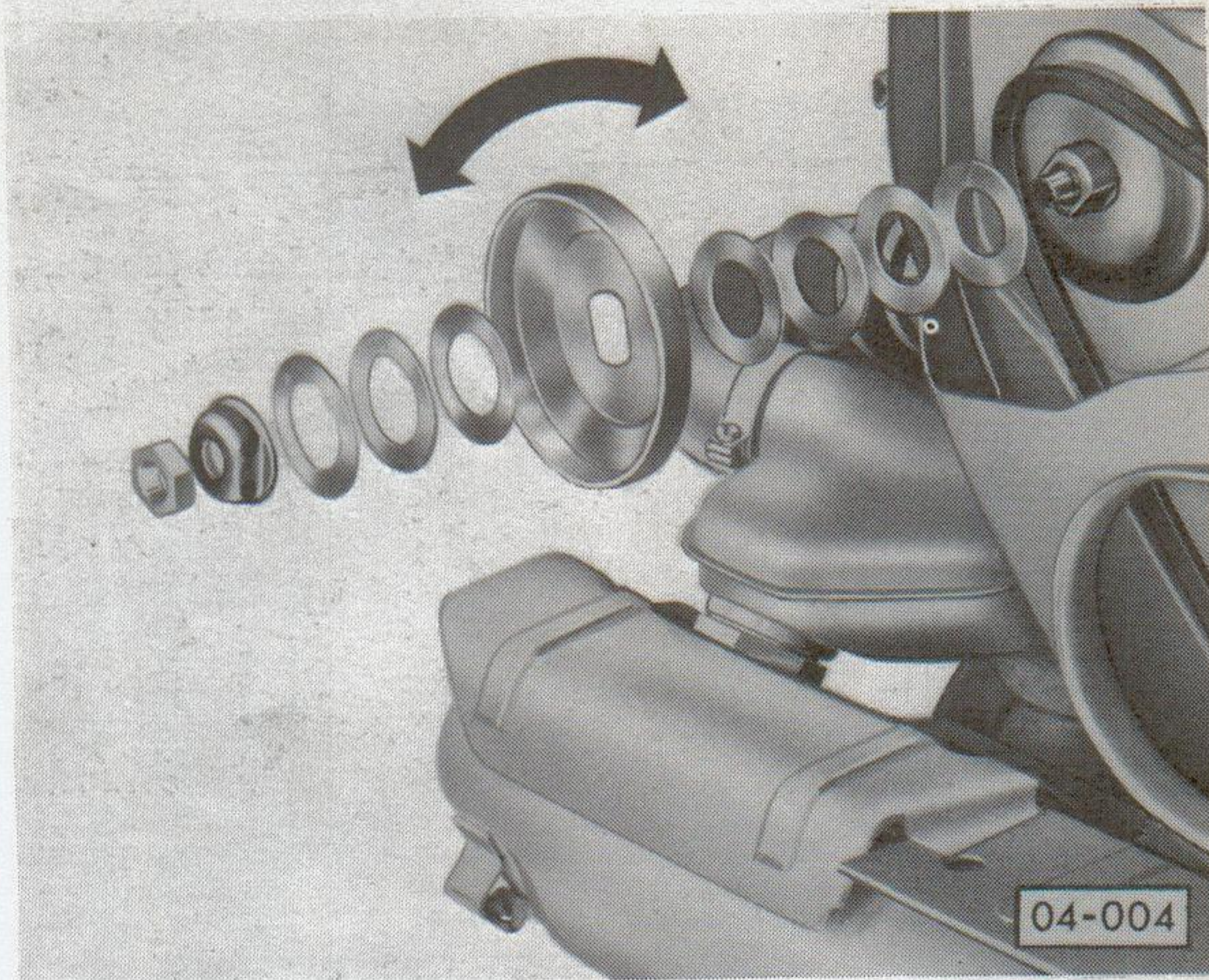
Adjusting

- With engine idling, aim stroboscopic lamp at timing mark or read off timing value indicated by VW 1313 advance angle tester or ignition tester V.A.G. 1367.
- Turn distributor until timing mark is aligned with reference mark or until advance angle tester or ignition tester indicate the correct setting.

Refer to setting **6**.

- Tighten clamping screw on distributor housing and check timing again.

- Remove nut, dished washer, washers and rear half of pulley.



- The tension is adjusted by varying the number of washers between the pulley halves.

Taking washers out increases the tension and putting more in decreases it.

- All washers not used between the pulley halves must be placed between the rear pulley half and the dished washer so that the total number of washers on the shaft remains the same.

Tighten nut. Refer to setting **47**.

V BELT

Belt tension

- Check the belt tension by pressing firmly with the thumb.

Note setting **9**.

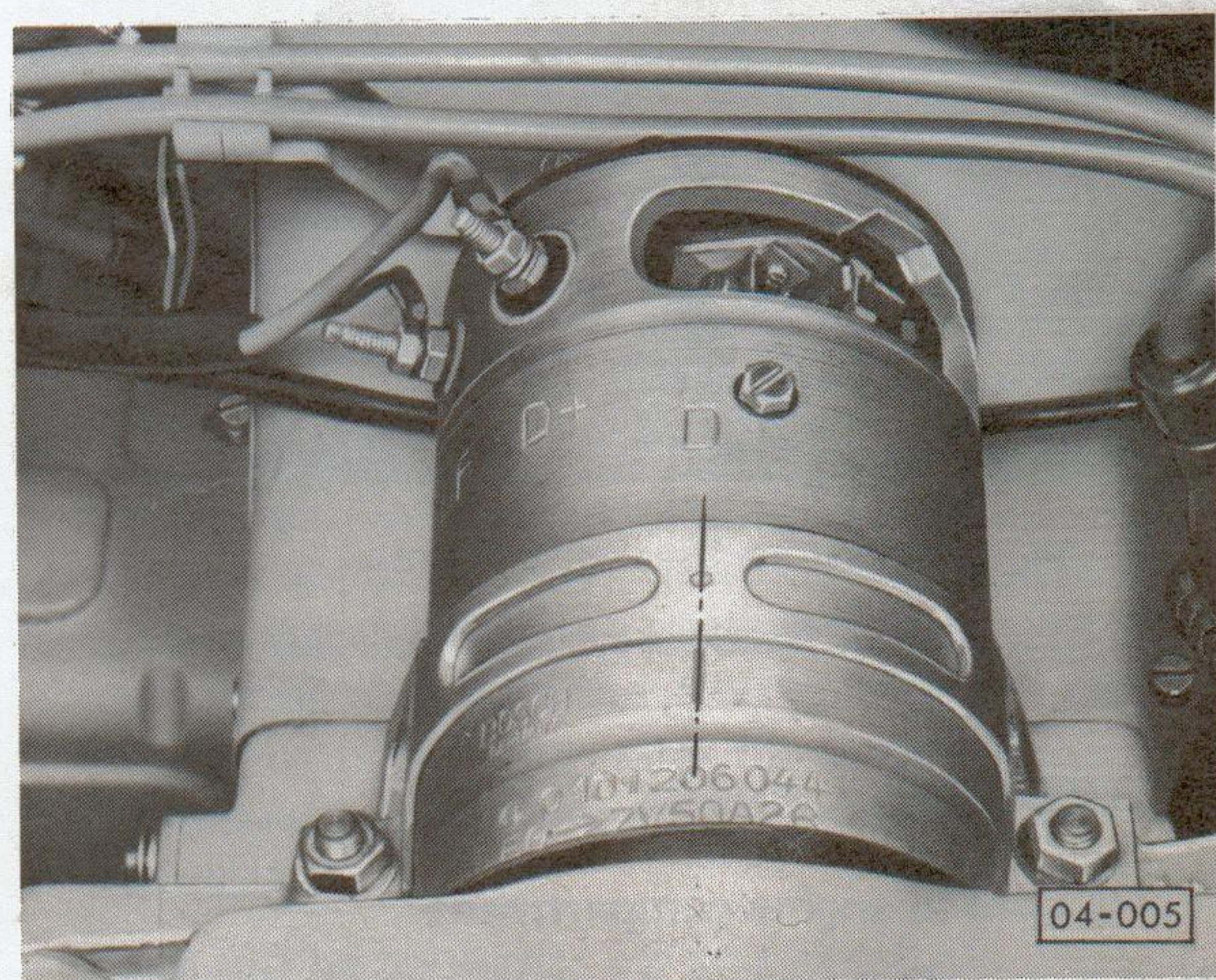
Belt condition

Check belt for excessive wear, frayed edges, traces of oil and cracks.

Tensioning belts

Note:

Fitting a new belt is a repair operation.



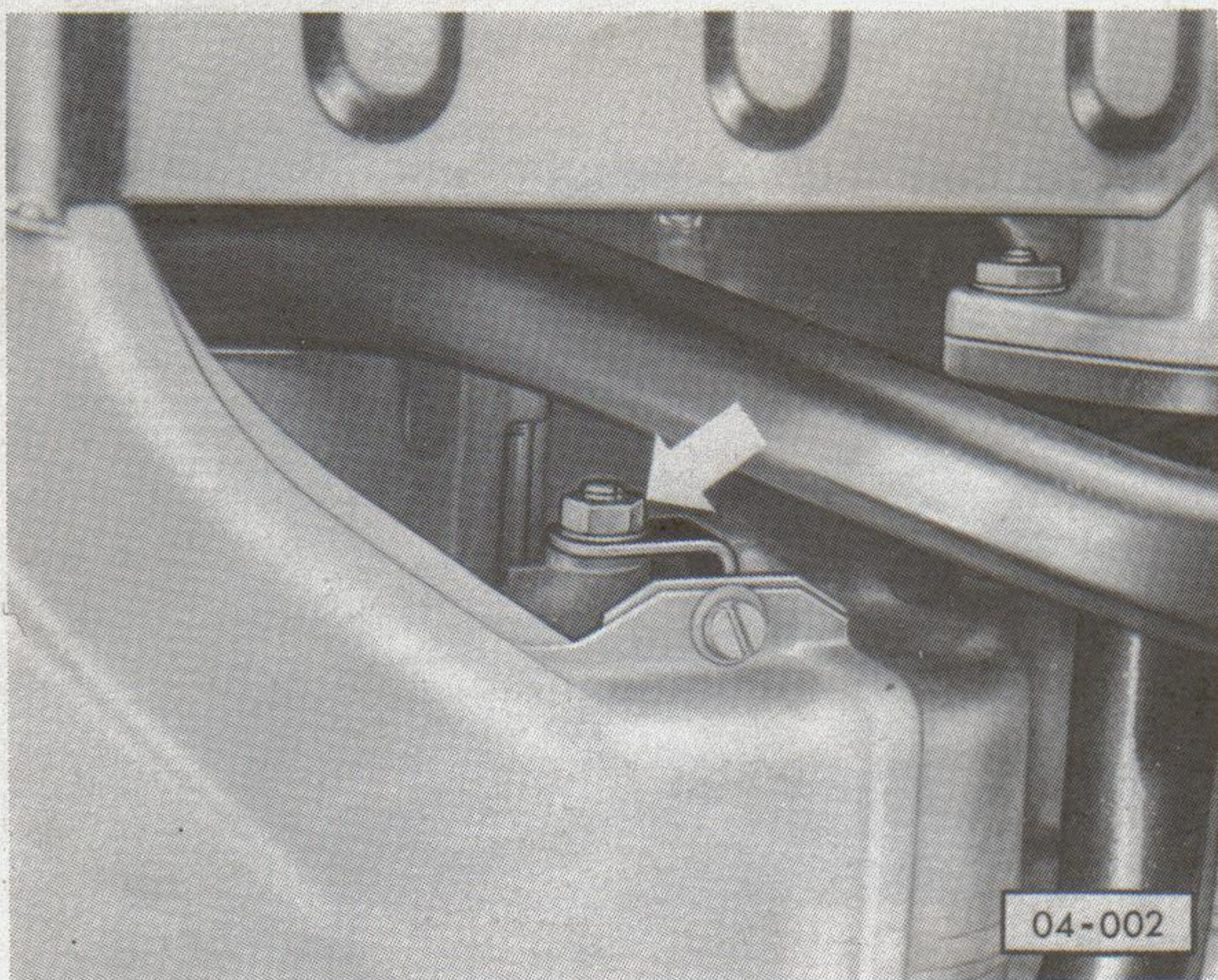
- Push generator back until the pulley aligns with the crankshaft pulley. In addition the notch on the generator housing must align with the centre punch mark on the strap.

- Tighten generator strap and check belt tension again.

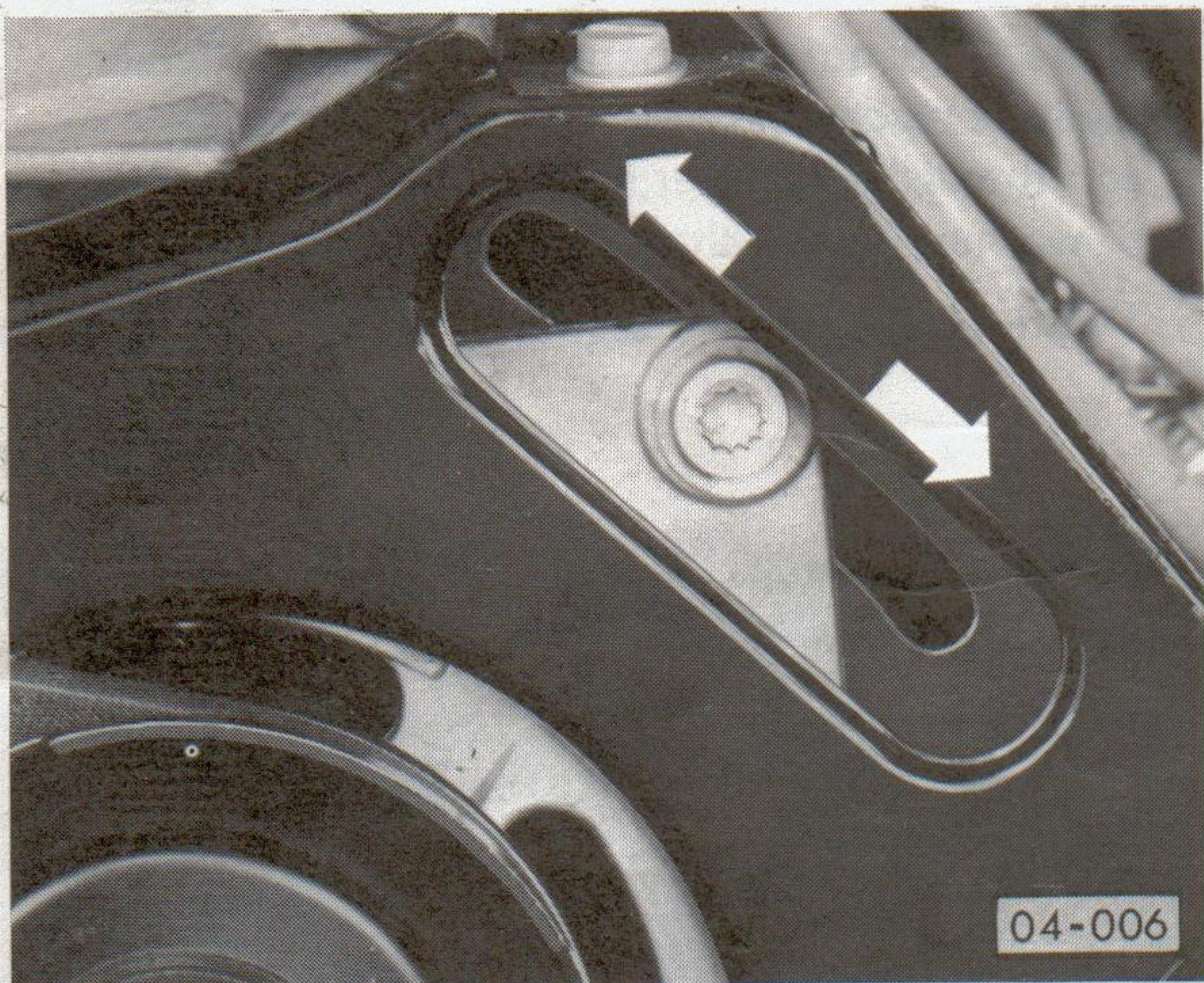
Type 3

- Hold dished washer on generator with spanner and loosen nut securing pulley.
- Loosen generator strap and pull generator forward slightly.

Type 4



- Loosen nut on lower generator securing bolt.
- Take lid off generator cover plate and loosen socket head screw.



- Swing generator to tension the belt.
- Tighten socket head screw and hexagon nut.

ENGINE VISUAL CHECK

Fuel system in engine compartment

Check pipes, hoses and connections for leaks, chafing, porosity and perishing.

Oil

- Check engine for leaks.

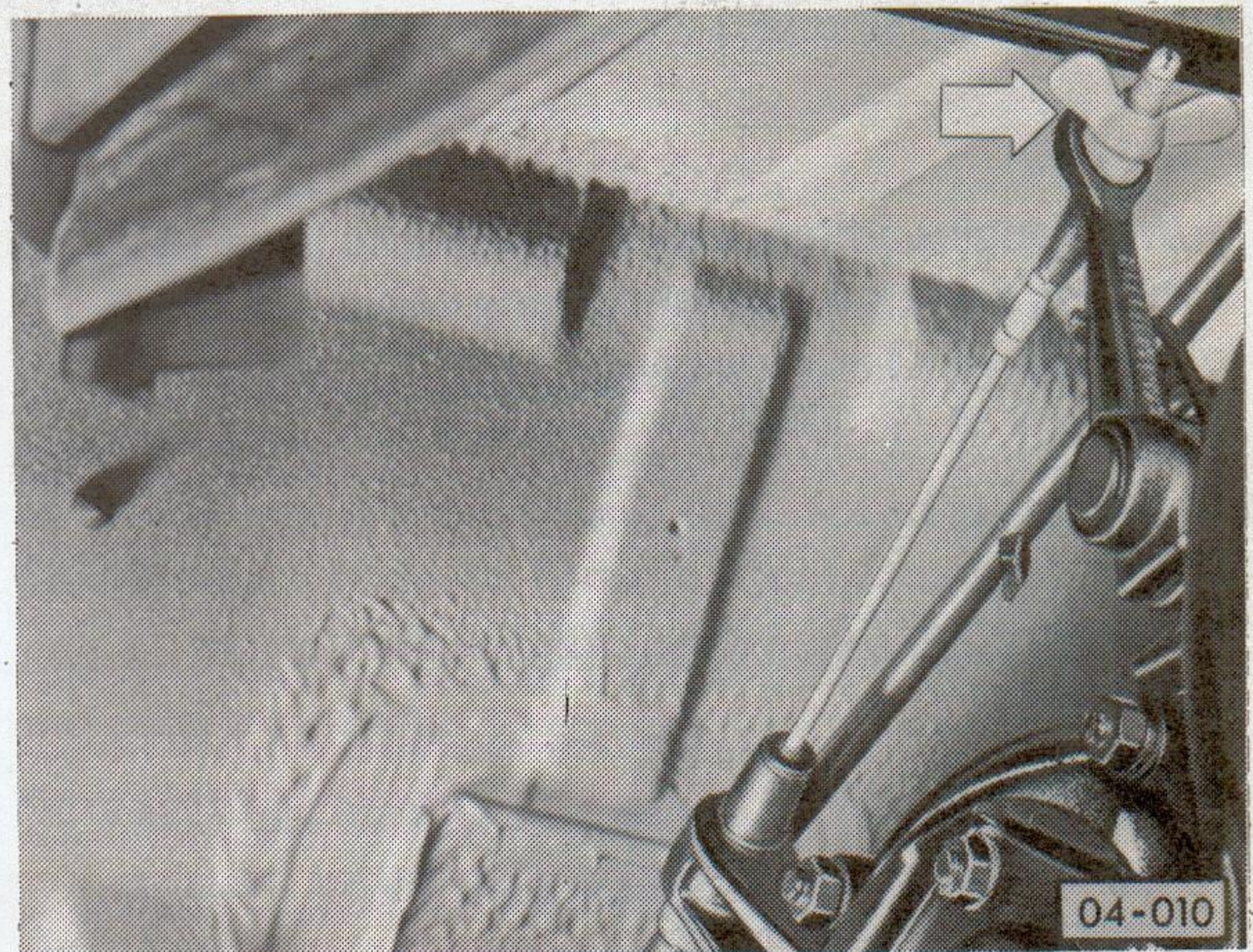
CLUTCH PLAY

Checking

- Check free travel at pedal.
Note setting **10**.

Adjusting

Type 3



- Adjust clutch play by turning the wing or hexagon nut.
- Lubricate thread on cable, wing nut and socket in lever with multi-purpose grease.

Type 4

Adjusting the clutch is a repair measure.

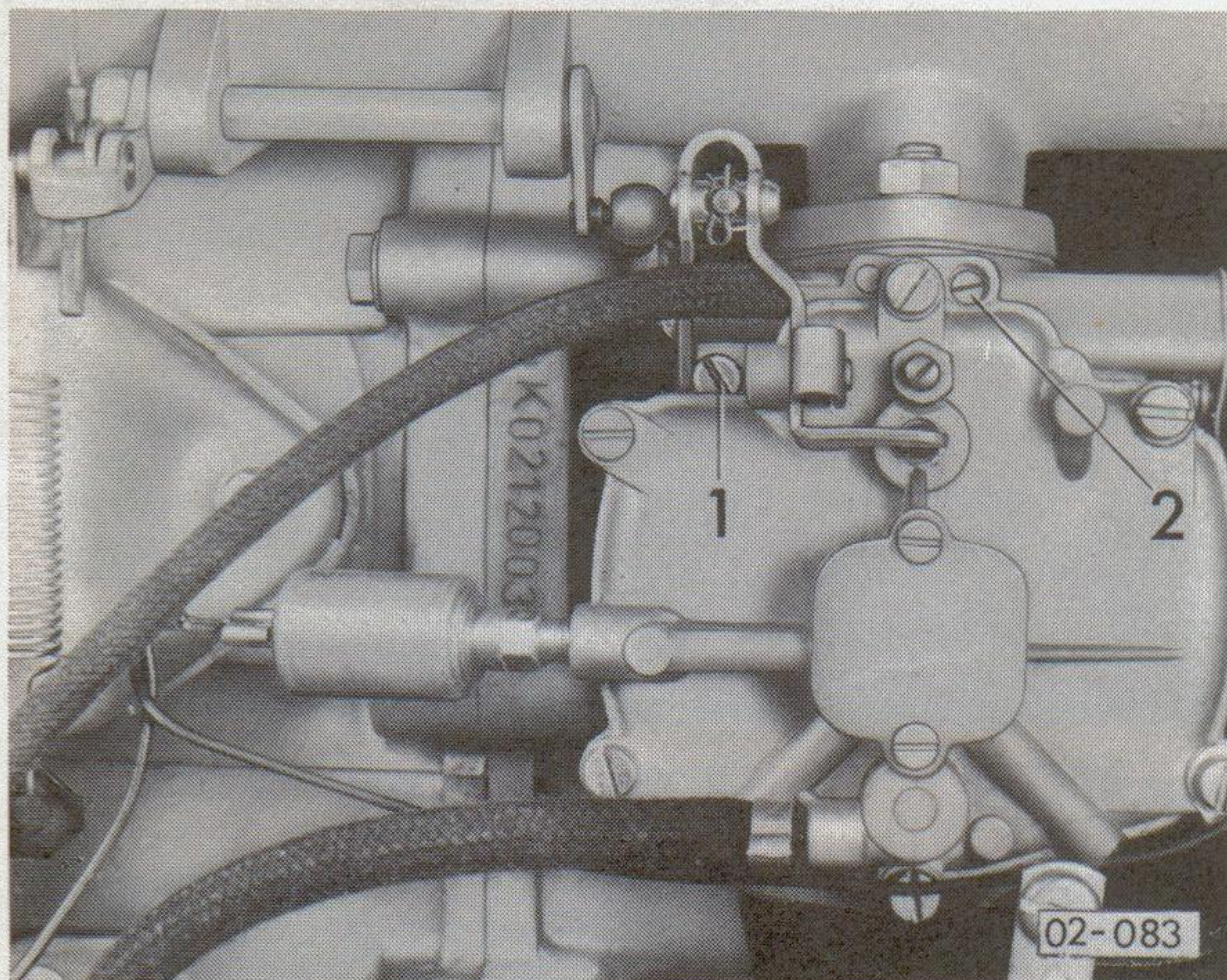
EMISSION TEST AND IDLE ADJUSTMENT

Test conditions

- No leaks in exhaust system.
- Oil temperature at least 60° C.
- Choke(s) fully open.
- Crankcase breather hose off.
- All current consumers switched off.
- CO probe inserted into tail pipe as far as possible.

Adjusting idling speed and CO content

Type 3 Single carburetor engine



1 – Idle adjusting screw

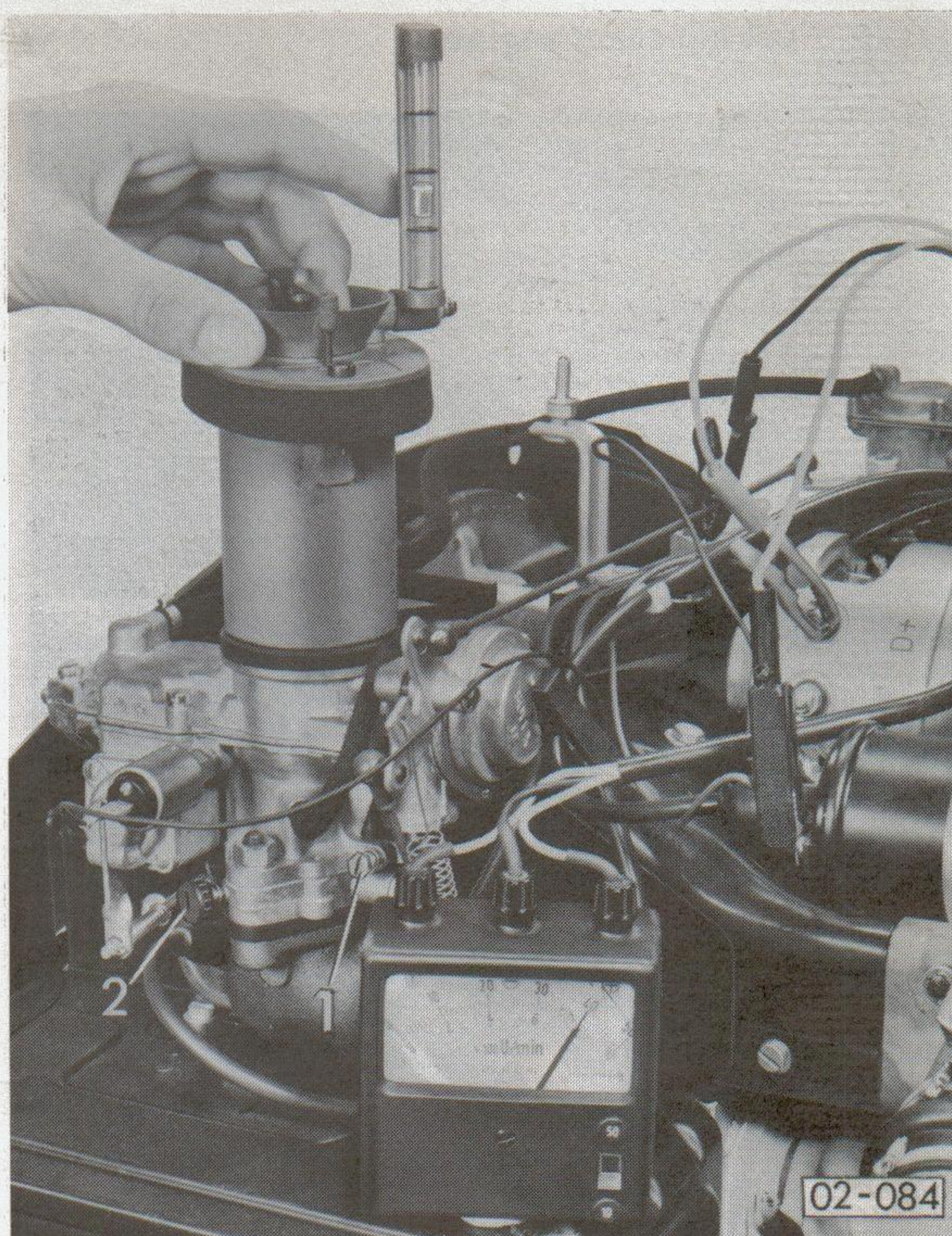
2 – CO adjusting screw

- Refer to specification **4**.
- Set idling speed.
- Adjust CO level.
- Regulate idling speed again if necessary and watch CO level.
- Check adjustment of accelerator cable. With pedal at full throttle there must be about 1 mm clearance between throttle lever and stop on carburetor housing.

Type 3, Twin carburetor engine

- Remove right-hand connecting rod and air cleaner or air cleaner end piece.
- Place synchro tester on left carburetor. Turn disc in tester until piston is approximately in the centre of the glass tube.
- Move tester to right-hand carburetor without altering setting of disc.

In the difference in the position of the piston in the tube is more than 10 mm, adjust idle screw (1) until the piston position is the same as on the other side.

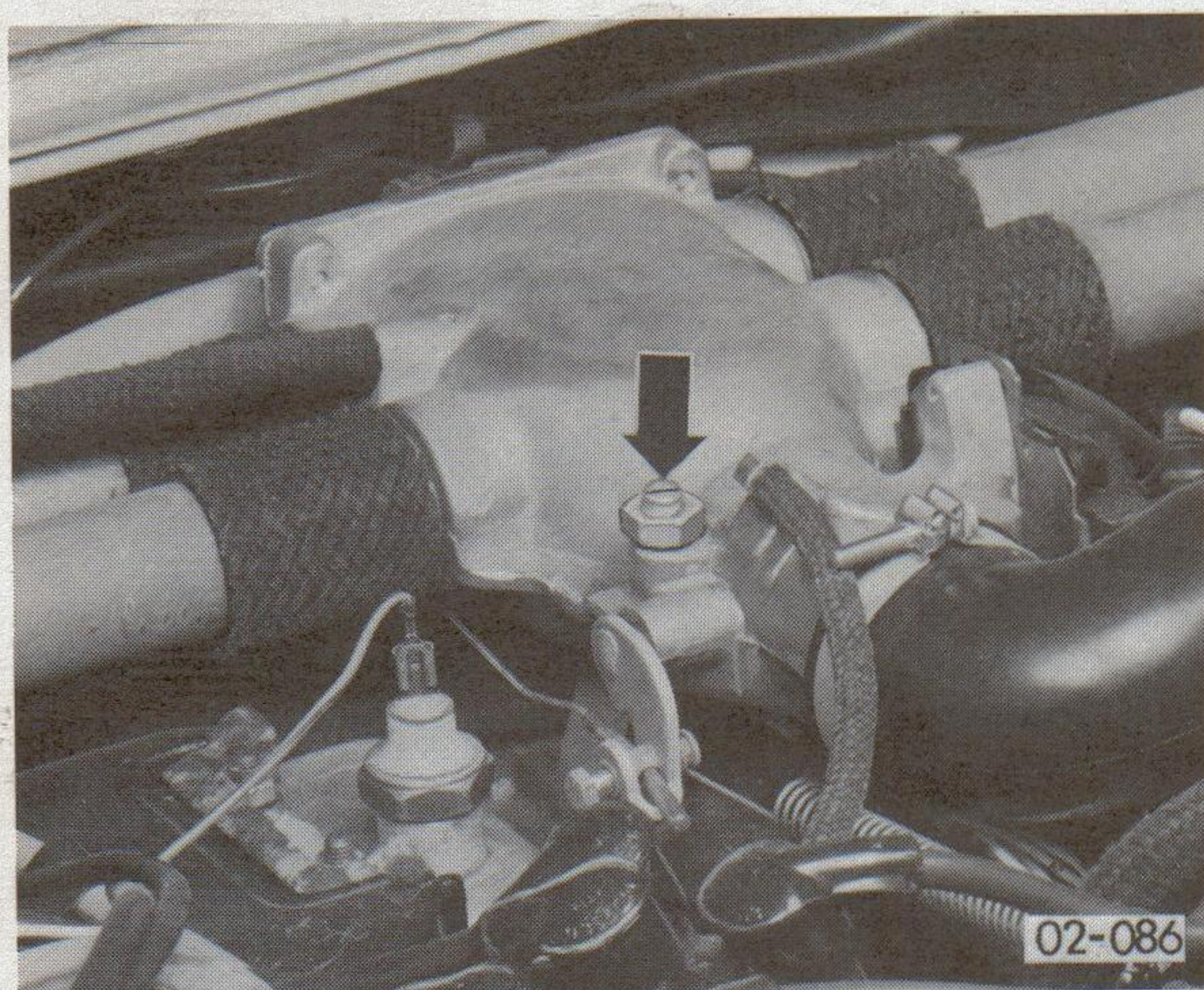


1 – Idle adjusting screw

2 – CO adjusting screw

- Set idling to speed given in setting **4** by turning both idle adjusting screws (1) the same amount.
- Turn CO control screws (2) on both carburetors in slowly until the speed starts to drop, then turn these screws out (about 1/4 to 1/2 a turn) until engine runs smoothly.
- Regulate idling speed and CO content again if necessary and watch setting **4** and synchronization.
- Install right-hand connecting rod again. Increase speed to 1500 – 1800 rpm with setting appliance and check the settings of the connecting rods with the synchro-tester. If the piston positions differ, alter the length of the **right-hand** rod until the tester indication is identical.
- Take setting appliance off and install air cleaner or end piece.
- Check adjustment of accelerator cable. With pedal at full throttle there must be about 1 mm clearance between throttle lever and stop on carburetor housing.

Type 3 Fuel injection engine



- Loosen lock nut and idling speed to setting **4** by turning adjusting screw with throttle closed.
- Tighten lock nut.
- Check accelerator cable. With pedal at full throttle there must be about 1 mm clearance between throttle lever and stop.

Type 4 Twin carburetor engine

Caution

The adjustment screws (7) on the carburetor throttle valve parts **must not** be turned.

- Take air cleaner end pieces off.
- Increase engine speed to 1500–1800 rpm with setting appliance (1).
- Place synchro-tester on right-hand carburetor. Turn disc in tester until piston is approximately in the centre of the glass tube.
- Move tester to left carburetor without altering setting of disc.

Type 4/1700

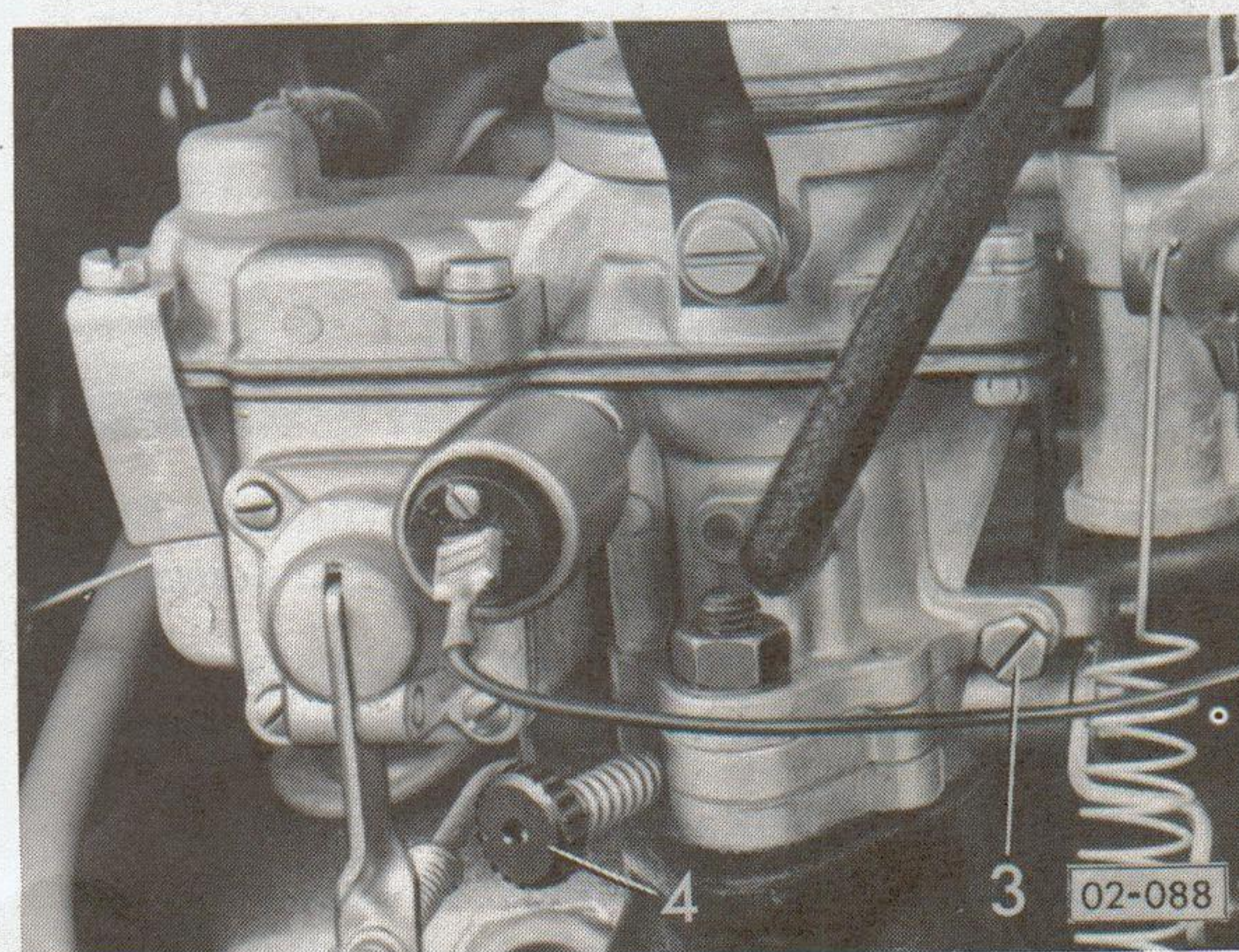
If the difference in the position of the piston in the tube is more than 10 mm, adjust the lever by turning nut (2) until the piston position is the same on both sides.

Type 4/1800

If the difference in the position of the piston is more than 10 mm, balance by adjusting the pull rod (5).

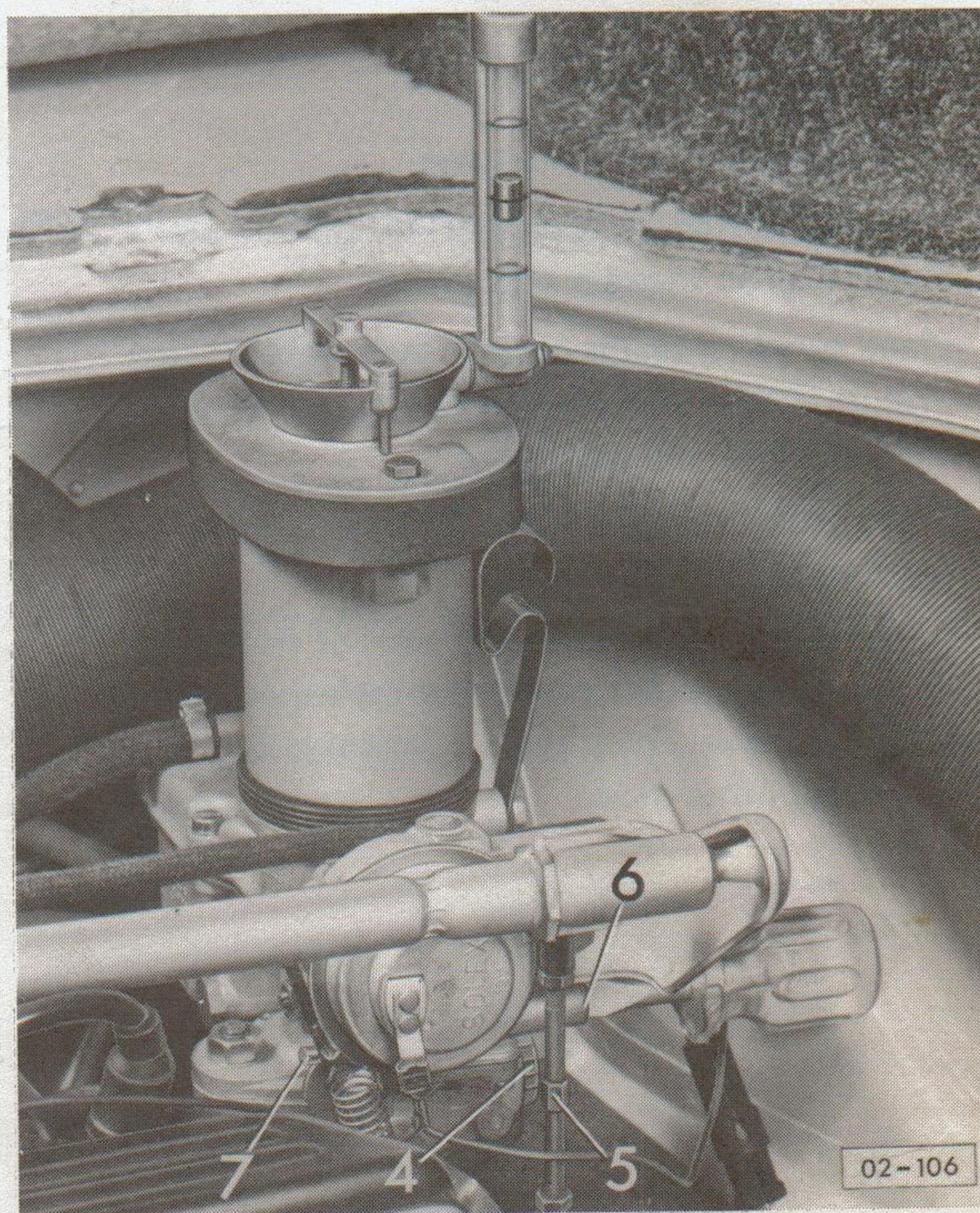


Type 4/1700



Type 4/1700:

- 3 — Idle adjusting screw
- 4 — CO adjusting screw



Type 4/1800:

- 6 — Idle adjusting screw
- 4 — CO adjusting screw

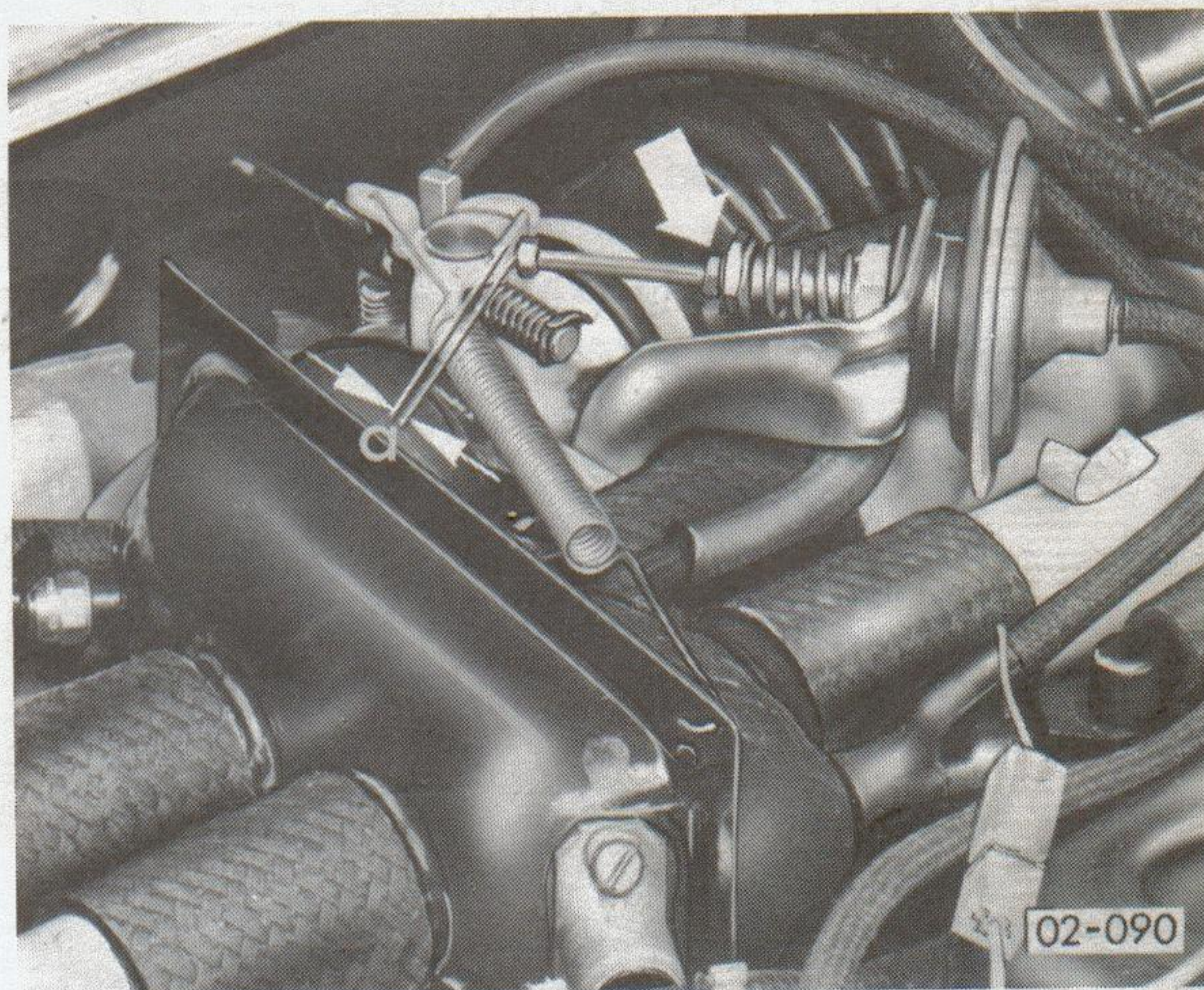
- Take the setting appliance (1) off.
- Adjust the idling speed to the values shown in setting **4** with idling adjustment screws (3) on Type 4/1700 or (6) on Type 4/1800.

When adjusting the idling speed with the synchro-tester, check that the air flow is the same on both carburetors.

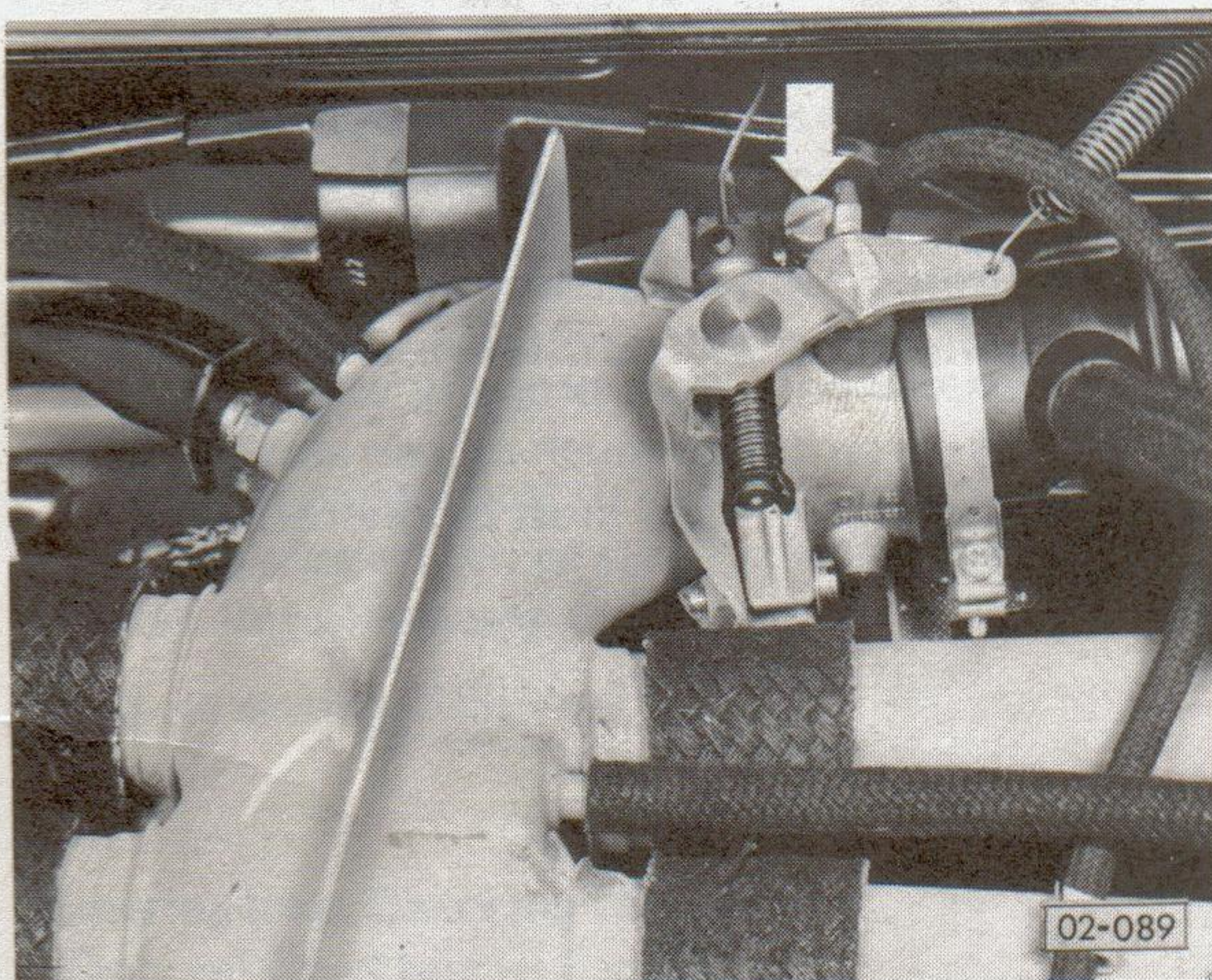
- Turn CO control screws (4) on both carburetors in slowly until the speed starts to drop then turn out again (1/4 — 1/2 turn) until engine runs smoothly.
- Regulate idling speed and CO content again if necessary watch setting **4** and synchronization.
- Install air cleaner end pieces.
- With accelerator pedal at full throttle there must be about 1 mm clearance between throttle levers and stop.



- On vehicles with automatic gearbox, check and adjust idle speed regulator as follows.



Type 4 Fuel injection engine



- Set idling to speed specified by turning the adjusting screw (arrow) with the throttle valve closed.
- Check accelerator cable.
At full throttle there must be about 1 mm clearance between throttle lever and stop.

Note

On vehicles which have a potentiometer in the control unit set CO content to setting **4**. (arrow Fig. 02-264).

Setting instructions up to Engine No. 0 105 248

- With idling speed adjusted correctly, set gap to 0.5 — 1.0 mm (a), after loosening M 5 nut (arrow). Tighten nut after making the adjustment.
- Apply handbrake and select a gear.
- Set engine speed to 700—750 rpm by turning the M 5 screw.

Setting instructions from Engine No. W 0 105 249

- Set idling speed correctly.
- Apply handbrake and select a gear.
- Under these conditions the engine speed should be 650 ± 50 rpm.
Adjust the gap "a" to 0.5 — 1.0 mm by turning the M 5 screw (arrow).

FINAL DRIVE / MANUAL GEARBOX

Check all joints for oil leakage. Check level of Hypoid oil and top up if necessary.

Note settings **11** and **12**.

Note for final drive with automatic gearbox

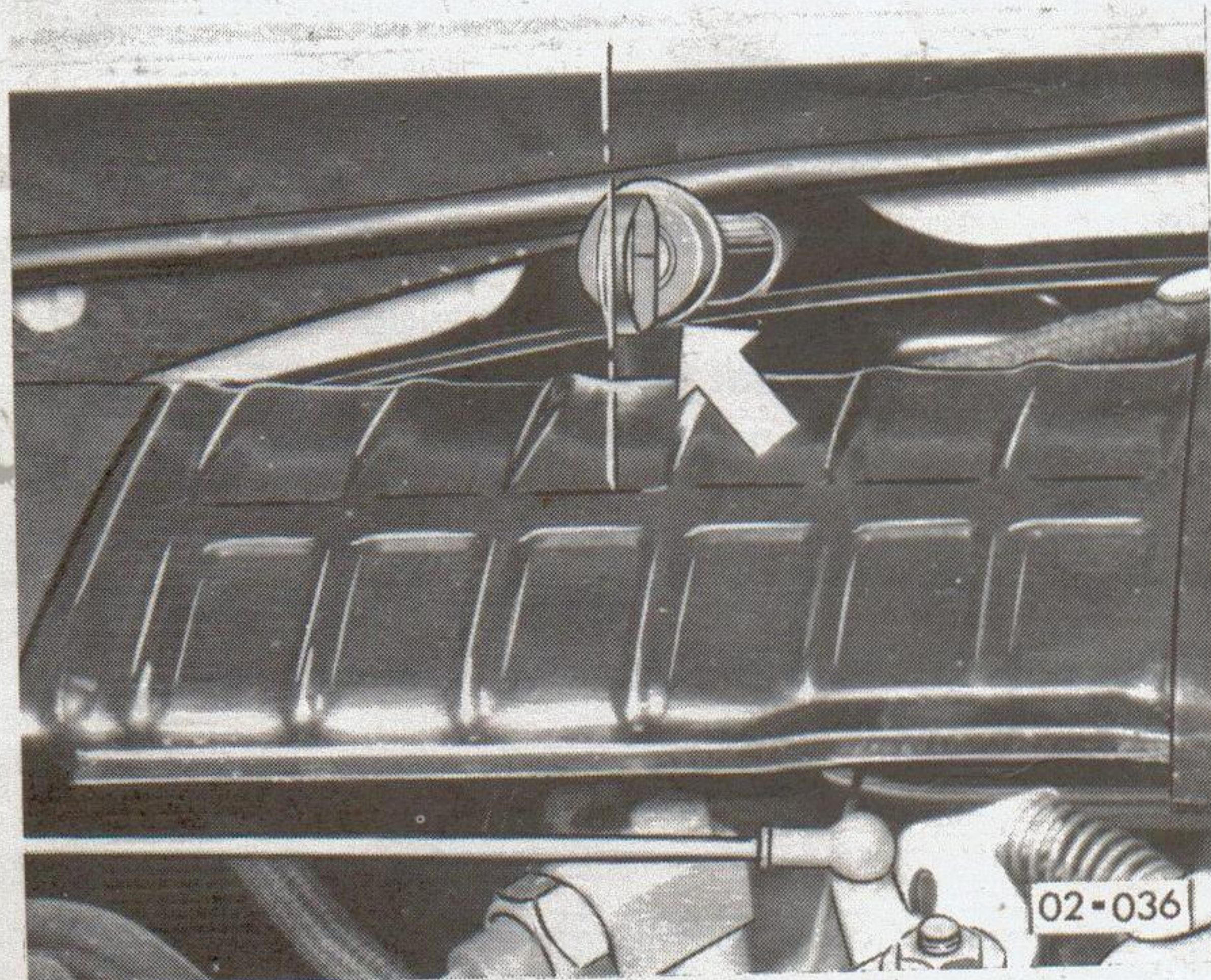
If there is too much or too little oil in the final drive when the level is checked, oil may be transferring to or from the gearbox. Find cause of trouble – repair operation.

AUTOMATIC GEARBOX

Checking ATF level and topping up if necessary

The ATF level is checked with the dipstick with engine running at idling speed, lever at N, handbrake on and oil lukewarm (40...60°). Vehicle must be on a level surface. The level must be between the two marks on the dipstick. See setting **13**.

When inserting the dipstick ensure that the ring shaped handle (see Fig.) is always vertical as otherwise the dipstick will twist in the filler tube and can cause damage to the gearbox.



Note:

The gearbox can only work properly when the ATF level is correct. Too much oil can also cause trouble in the gearbox and must be drained off.

Changing ATF

Important

The engine must not be started when there is no ATF in the gearbox.

Draining:

- Take off oil pan and oil strainer and clean thoroughly.

Keep parts spotlessly clean when installing.

- Renew oil pan gasket.
- Tighten oil pan securing screws. See setting **14**.

Putting ATF in:

- Put 2.5 l of ATF in first. Then start engine and with vehicle stationary select all gears in turn.
- With engine idling, handbrake applied and lever at N, check level with dipstick. The ATF should be up to the tip of the dipstick now otherwise a small amount of oil should be added.
- Take vehicle for a short run to warm the oil up slightly (40...60° C) and then add ATF to bring the level up to the upper mark on the dipstick with the engine idling (the vehicle must be standing on a level surface).

Note:

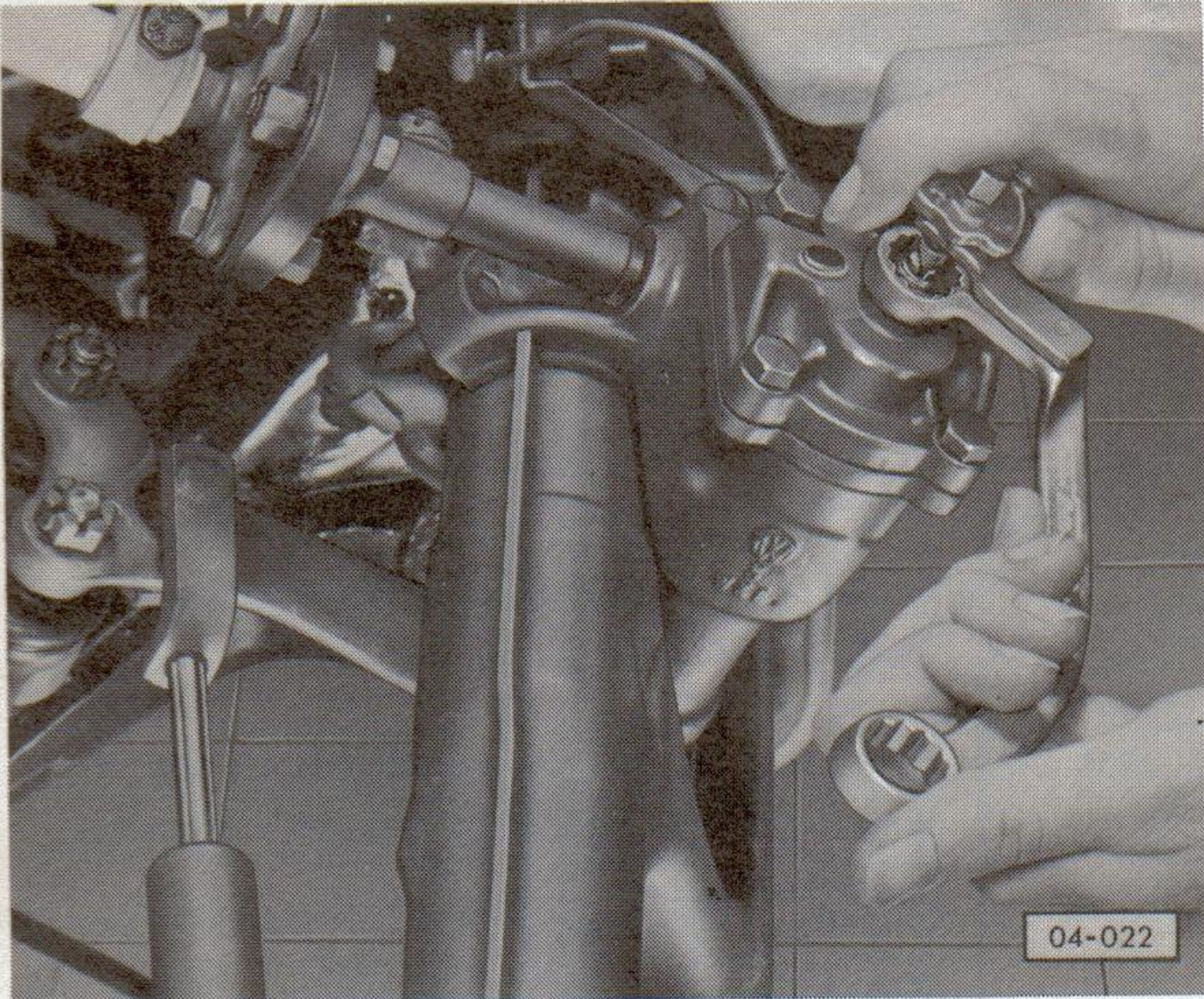
The gearbox can only work properly when the ATF level is correct. Too much oil can also cause trouble in the gearbox and must be drained off.

STEERING

Checking play

Check play in steering by moving steering wheel back and forwards with vehicle standing on wheels (wheels in straight ahead position). Note setting **16**.

Adjusting steering (Type 3)



- Turn steering wheel from centre position about 90° to left or right.
- Loosen lock nut on adjusting screw.
- Screw adjusting screw out about 1 turn and then screw it in again until it makes contact and lock.
- Turn steering wheel to centre position and check play on rim of steering wheel (vehicle standing on wheels).

Note setting **16**.

Steering box: Checking for leaks (Only oil-filled box — Type 3)

If steering box is leaking:

- Check oil level visually or by inserting a piece of welding wire.
To prevent dirt from getting into the steering box, the area around the plug should be cleaned before plug is removed.
- Add oil until level is up to lower edge of filler hole.
Refer to setting **17**.

TIE ROD ENDS

- Check play by moving tie rods and wheels. Refer to specification **18**.
- Check attachment of tie rod ends.
- Check boots for damage and tightness.

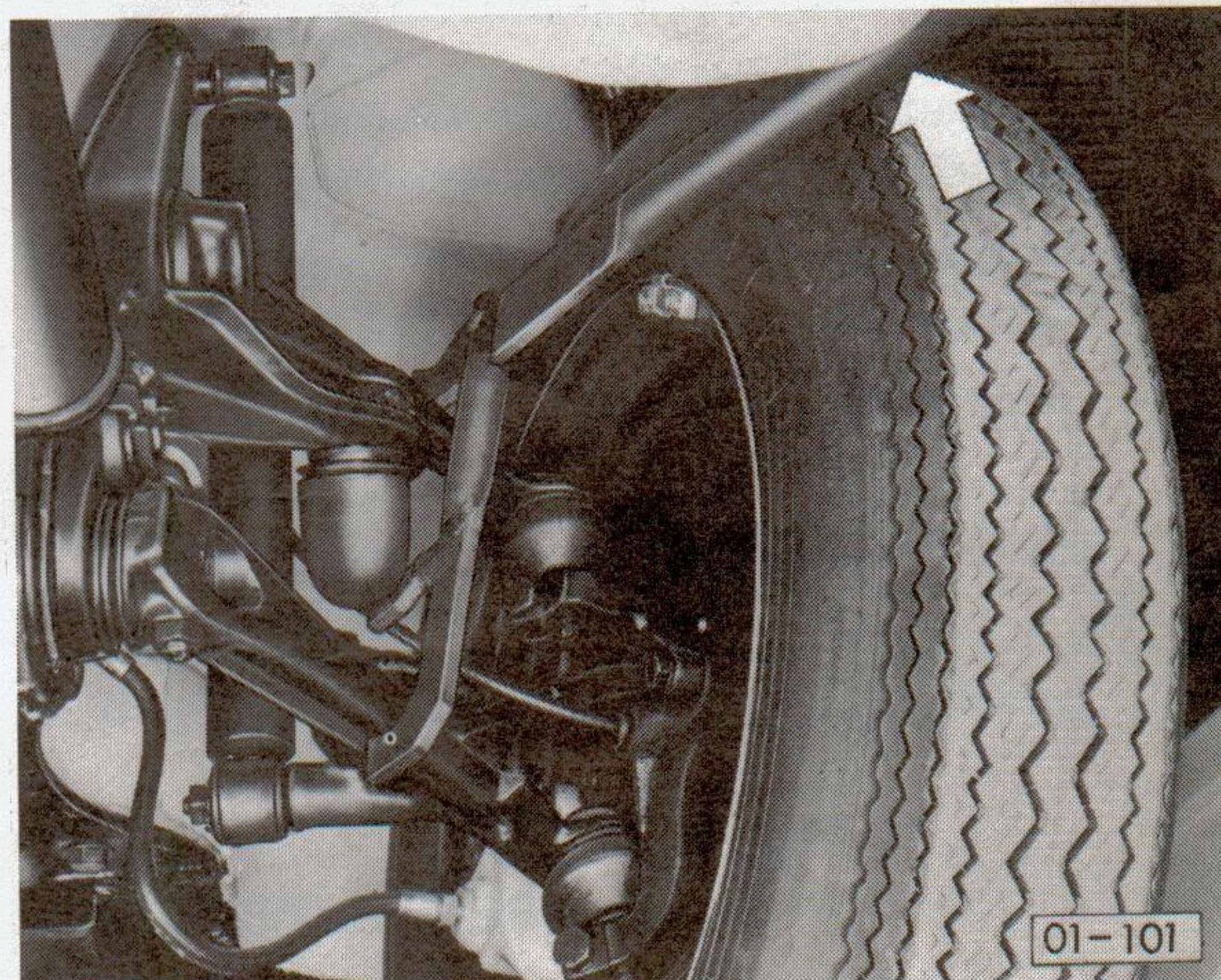
STEERING BALL JOINTS

Checking play

Check the axial play in the ball joints with lever VW 281 a or measure with caliper gauge.

Refer to setting **19**.

Using the lever VW 281 a



Apply the lever as shown in the illustration, move the lever in the direction of the arrow to produce play.

Checking boots

Check boots for damage and correct seating.

CV JOINT BOOTS

- Check boots for leaks and damage.
- Check that all clips are seated properly.

LUBRICATING FRONT AXLE

- Lift vehicle so that axle is free of load.
- Clean the nipples and force the grease (multi-purpose grease with lithium basis) in until fresh grease starts to emerge at edges of bearings.

Note:

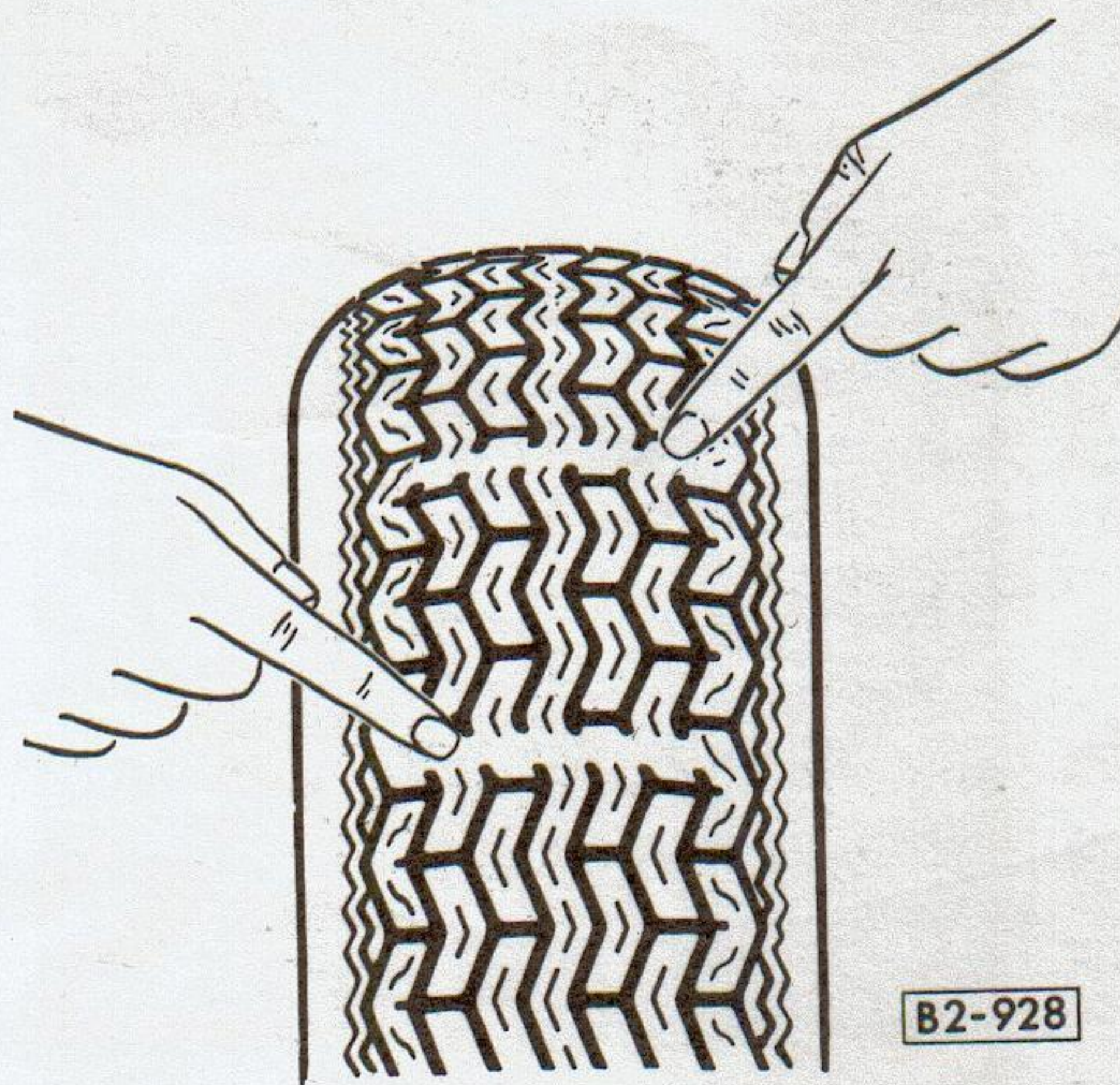
Tyres and brake hoses must be kept free of grease at all costs. Even the smallest traces must be wiped off immediately.

TYRES

Measure tread depth

Refer to specification **21**.

Look for scuffing,
treads that are worn on one side,
porous side-walls,
cuts,
fractures, etc.



Worn tyre.

Inform the customer if it is found that the tread depth is getting near to the legal minimum, i. e. if the tread wear indicator bars are exposed (1.6 mm high bars spaced round the tyre).

Please note

For safety reasons only tyres of the same type and tread pattern should be used on one vehicle.

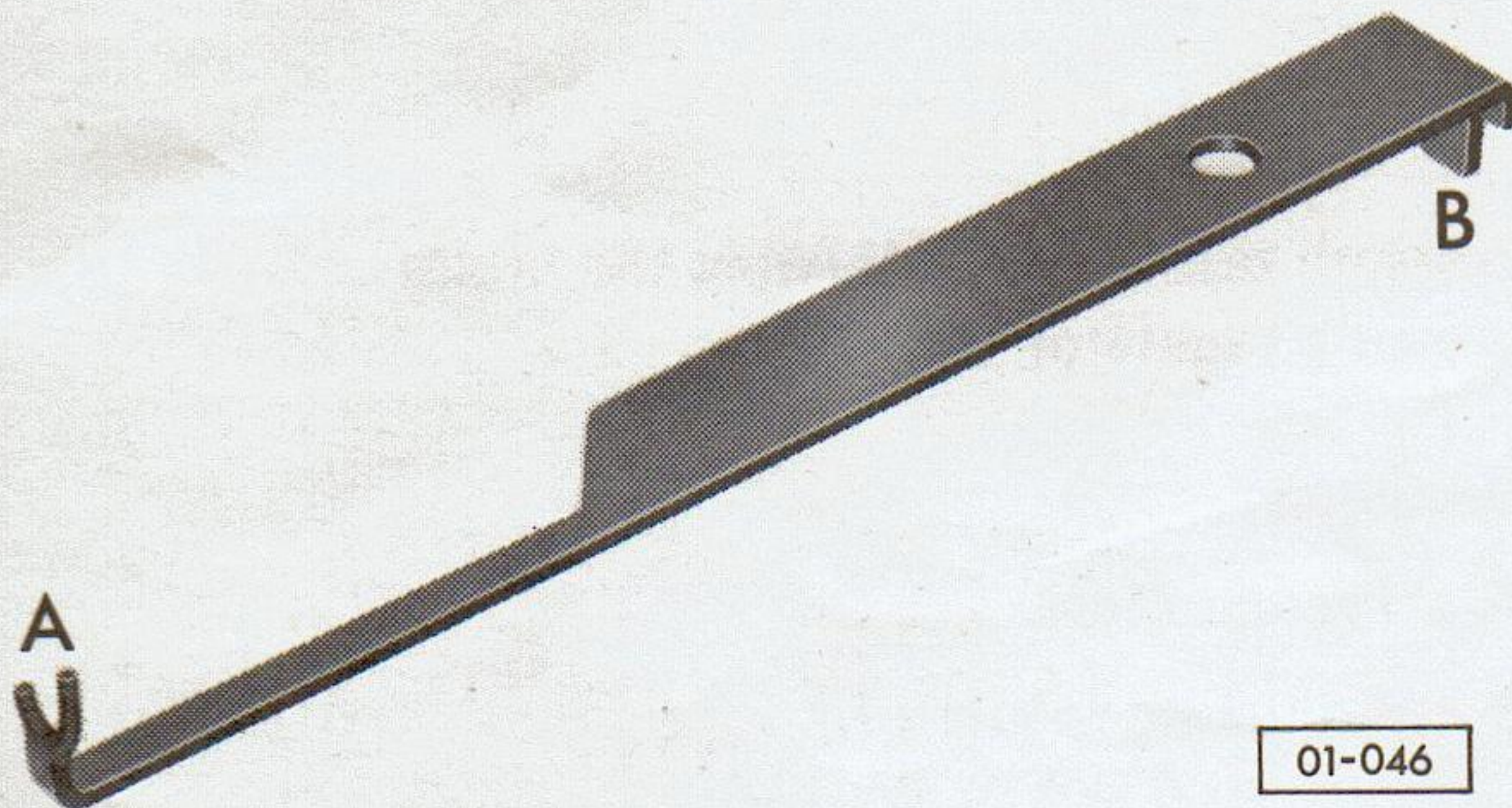
Checking tread wear pattern

- The tread wear pattern on the wheels will indicate whether the toe and camber settings should be checked:
 - "Feathering" on the tread indicates an incorrect toe setting:
 - If the tread is worn down on one side, this is usually caused by incorrect camber.
- When wear of this nature is noticed the cause should be determined by checking the wheel alignment (repair operation).

BRAKE LININGS: CHECK THICKNESS

Disc brakes

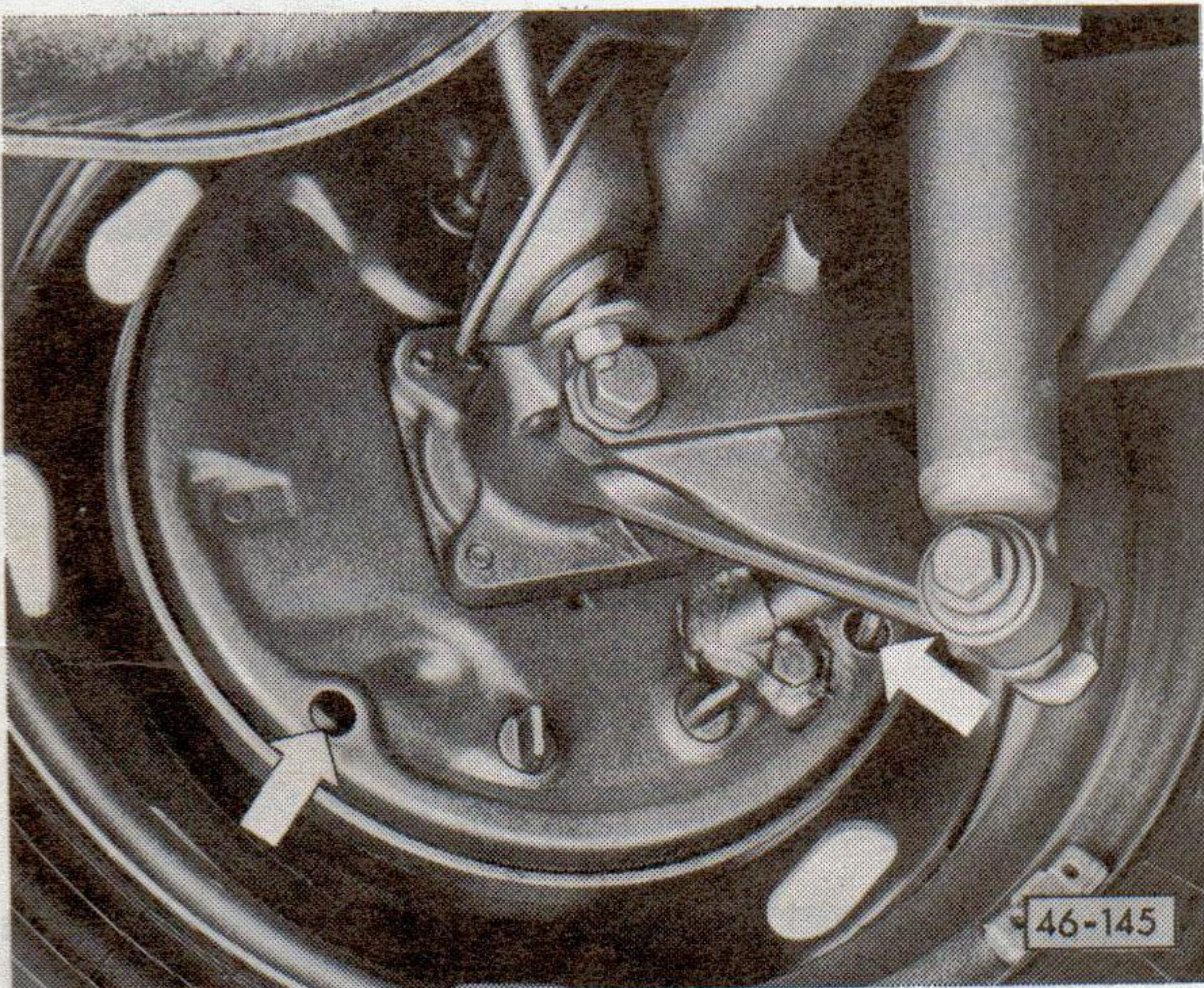
- The thickness of the disc brake pads are checked with the gauge VW 136 with the wheels fitted.



End A is for Teves calipers

- If the tool cannot be inserted between pad and spreader spring the pads are worn out.

Drum brakes



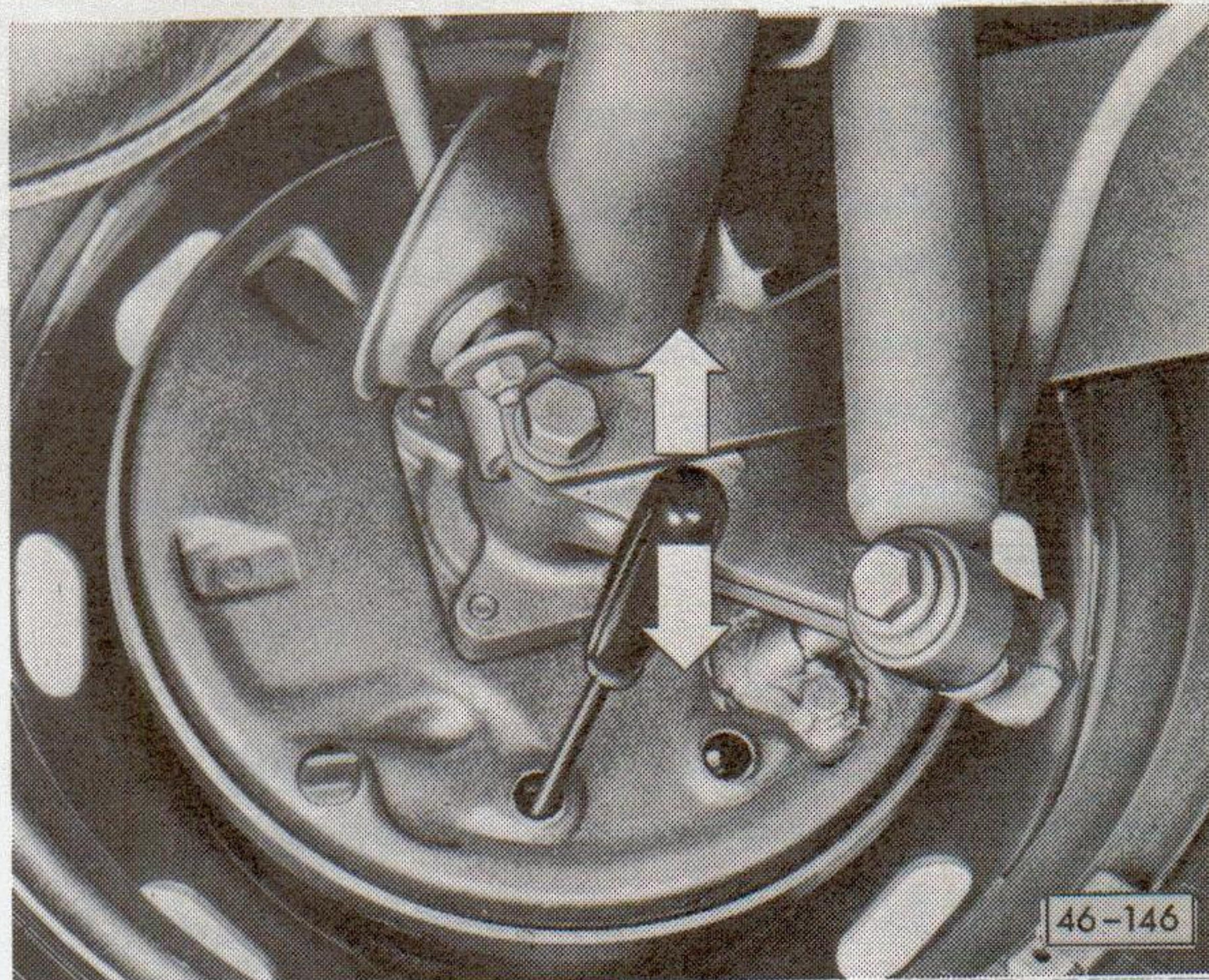
The position of the lining inspection holes varies according to model.

- Check thickness of brake lining through inspection hole in the brake back plate.

Note setting **26**.

- When checking the linings look for oily brake linings or linings smeared with hydraulic fluid and grease.

ADJUSTING BRAKE SHOES



The holes for the adjusters vary according to model.

Important

Before adjusting the shoes, check lining wear specification **26**.

The instructions for adjusting brake shoes do not apply to vehicles with self-adjusting brakes.

- Turn adjuster by levering with a suitable tool until wheel can no longer be turned by hand. Then slacken adjuster off until wheels turn freely.
- Depress brake pedal several times and check that all wheels turn freely.
- Road test vehicle to check brake efficiency.

ADJUSTING HANDBRAKE

Check free play of handbrake. Refer to specification **23**.

Manual adjustment

- Adjust rear brake shoes before adjusting handbrake.
- Pull up handbrake lever as specified **23**. Tighten cable with adjusting nut until wheels can no longer be turned by hand.
- After adjusting, release handbrake and check that rear wheels turn freely.
- Road test vehicle to check brake efficiency.

BRAKE LINES AND HOSES

Check as follows:

- Hoses must not be twisted, watch coloured line.
- Hoses must not touch any part of vehicle when steering is on full lock.
- Check connections and mountings for security, leaks and corrosion.
- Check hoses and pipes for porosity, chafing and perishing.

Additional on Type 3

Examine brake lines inside vehicle near pedal cluster and driving seat.

BRAKE FLUID LEVEL

- Before adding brake fluid, check hydraulic brake system for leaks.
- Only add genuine Volkswagen or Audi brake fluid (complying with US standard FMVSS 116 DOT 3 or 116 DOT 4).

Refer to specification **24**.

Caution!

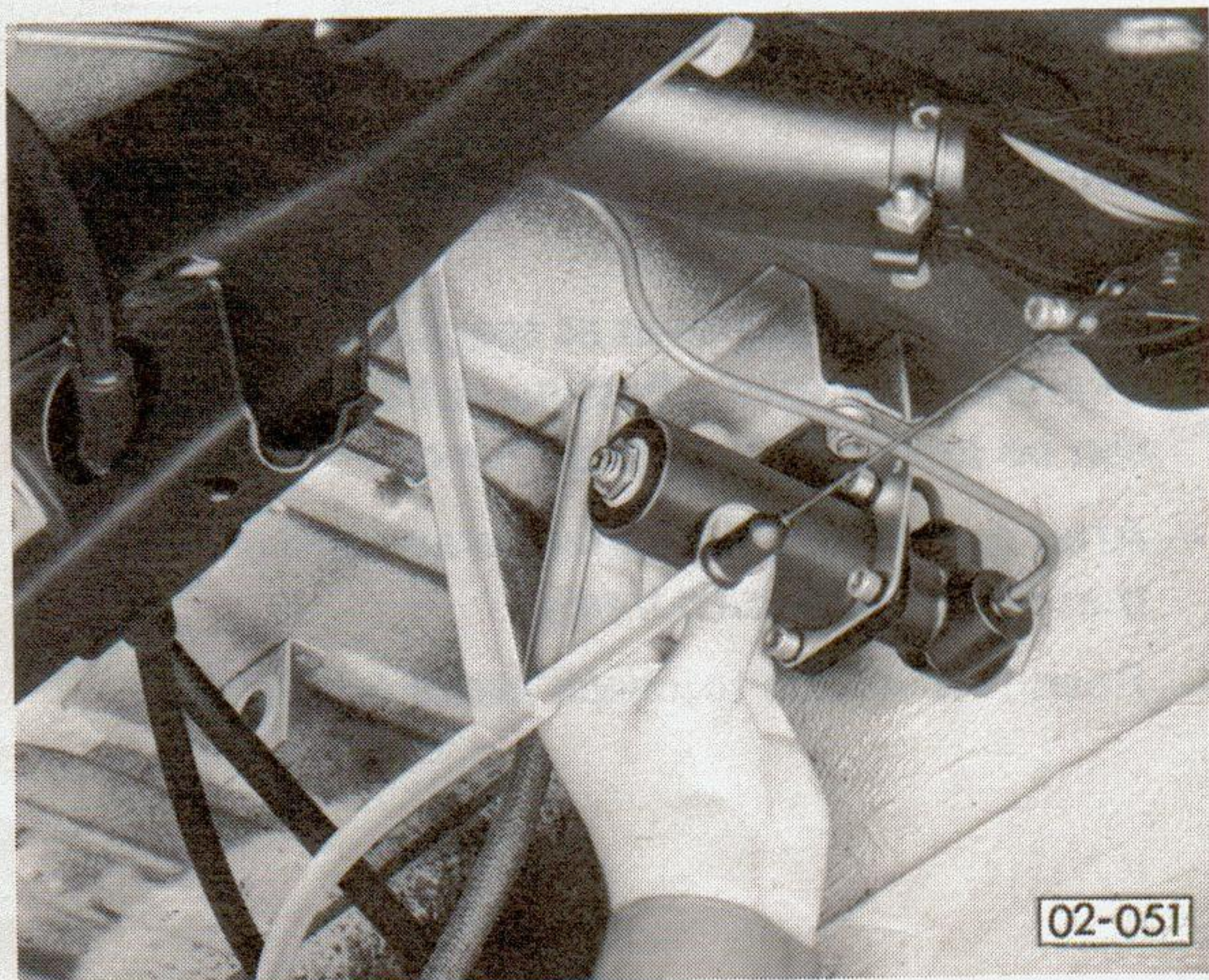
Brake fluid is

- poisonous
- corrosive (will damage paint)
- hygroscopic (readily attracts water).

As an excess of water in the fluid is detrimental to the entire system the fluid must be renewed every two years.

BRAKE PRESSURE REGULATOR

Checking operation (Type 4)



- Depress brake firmly and have a second mechanic put hand on cylinder to feel if piston moves.
- It must also be possible to feel movement of piston when pedal is released quickly.

Pressure testing and adjusting the brake pressure regulator (type 4)

Sequence:

- A — Pressure test
- B — Adjusting regulator

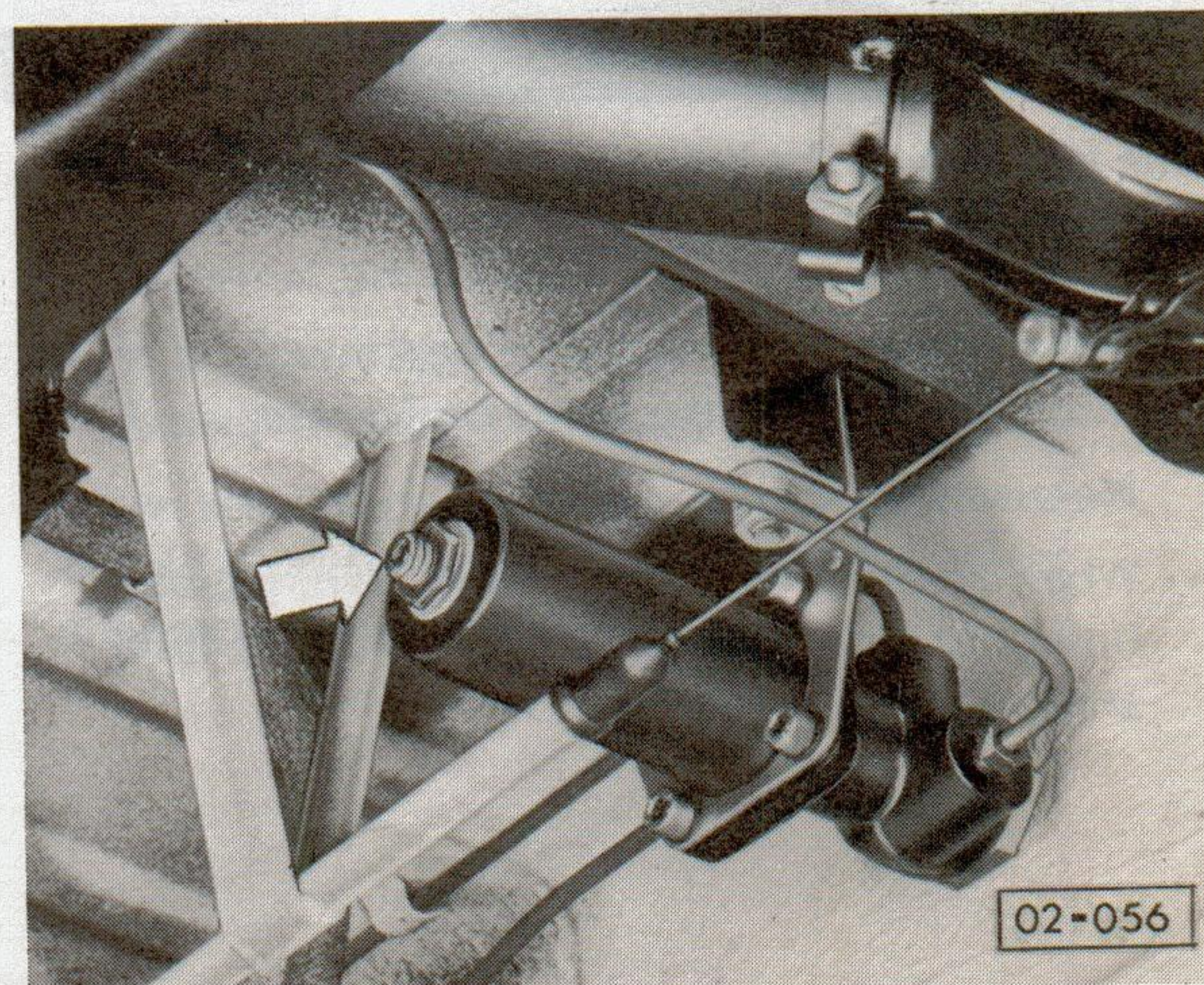
A — Pressure test

Use VW 1310 for this purpose.

- Suck fluid out of reservoir.
- Connect appliance VW 1238 or 1238/1 to reservoir.
- Connect VW 1310 in place of bleeder screws on top front left on caliper and on rear right wheel cylinder and bleed both pressure gauges.
- Load pedal and read pressure on both gauges. See setting **27**.

If the readings are too high or too low, adjust as described at point B.

B — Adjusting brake pressure regulator



- Pressure too high on rear axle — Turn screw out.
- Pressure too low on rear axle — Turn screw in.

Note

Do not adjust with pedal under pressure.

Sequence:

- Read gauges
- Release pedal
- Turn screw
- Depress pedal
- Read gauges
- Repeat test and compare with settings.
- Take gauges off and change brake fluid.

BRAKE SYSTEM WARNING DEVICE

Checking warning lamp

Test depends on which version is fitted, "A" or "B".

Version "A"

Lamp should light up when ignition is switched on and the spring-loaded bulb holder is pressed.

Version "B"

- Switch ignition on. Lamp in dash should light up.
- Start engine and release handbrake. Lamp should go out.

Checking circuit warning switches on master cylinder

- Open bleeder screw on front left caliper
- Switch ignition and depress brake pedal. Lamp should light up. Close bleeder screw before releasing pedal.
- Repeat check on rear left wheel cylinder.

CHANGING BRAKE FLUID

Note:

Before changing the fluid, check that brake system warning device is working and pressure test and adjust the brake pressure regulator (if fitted).

- Check warning device as explained on left.
- Brake pressure regulator testing — see page 28.

Note

On vehicles with pressure regulators these two points are part of the pressure test.

- Draw as much fluid as possible out of the reservoir with the bleeding bottle.
- Connect filling and bleeding appliance VW 1238 or 1238/1 to the reservoir.
- Place pedal depresser between pedal and drivers seat and tension it.
- Switch appliance on and change the fluid in the system by opening the individual bleeder screws.

Sequence: Rear right
 Rear left
 Front right
 Front left

Amount of fluid: refer to specification **28**.

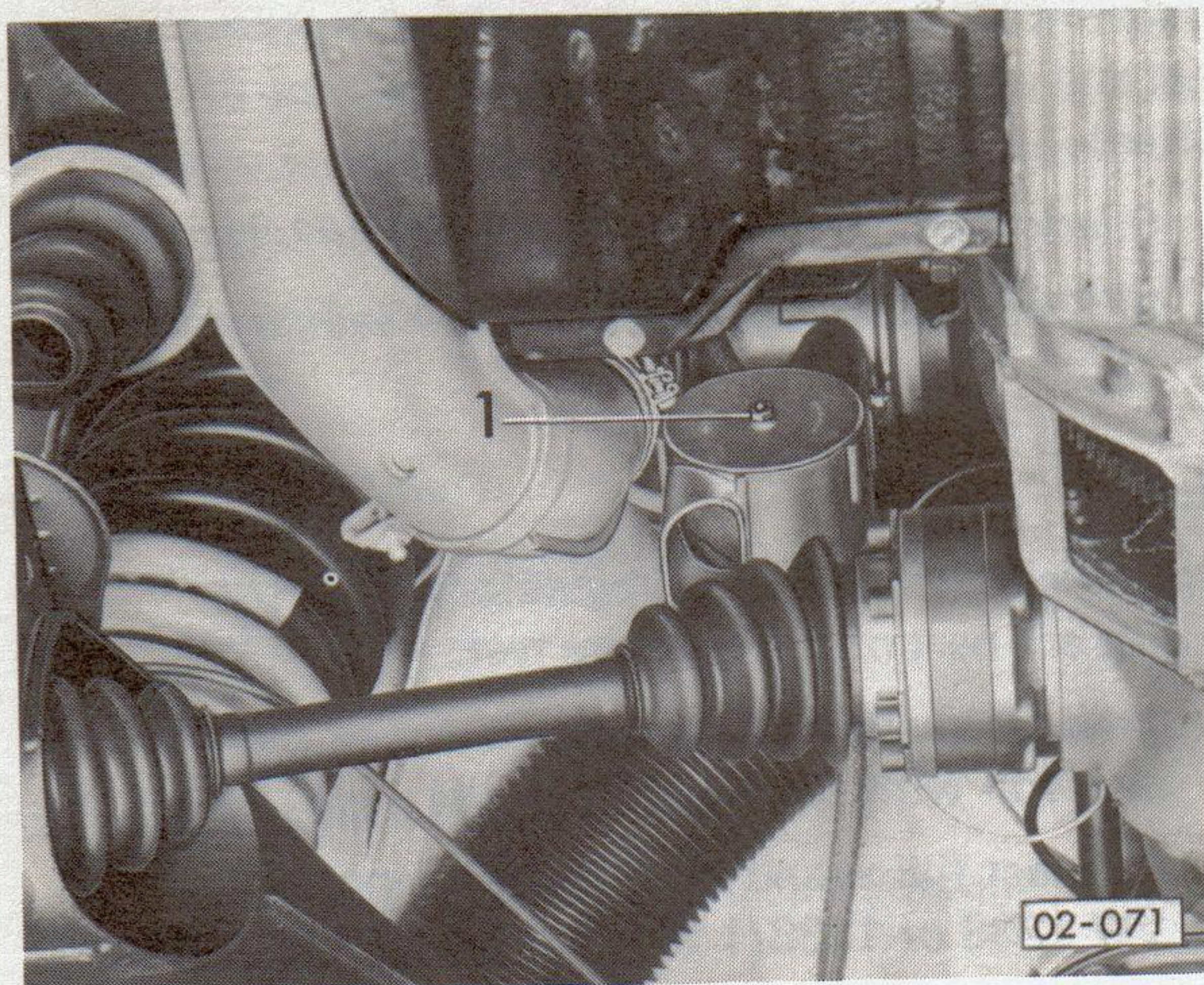
- Take special tool VW 552 off.
- Disconnect appliance from reservoir and remove pedal depresser.
- Check pedal pressure and free play.
Specification **22**.

UNDERSEAL

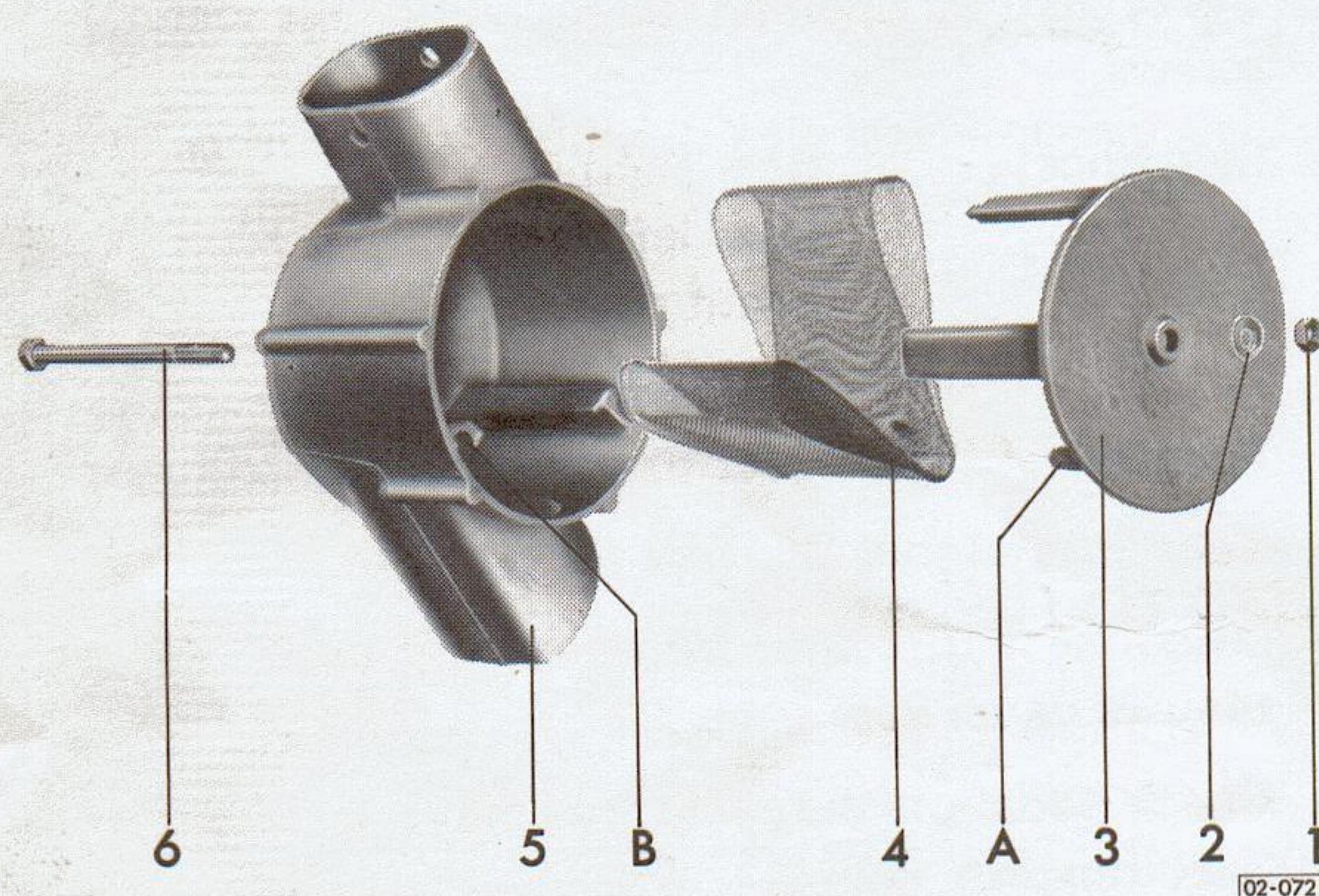
When carrying out a visual inspection of the under-seal for damage, be sure also to inspect the wheel arches.

AUXILIARY HEATER

Check air blower strainer and clean if necessary
(Type 4)



- Loosen nut (1) and take off together with washer (2).



- Pull strainer frame (3) and strainer (4) off strainer housings (5).
- Wash strainer in petrol and blow it out.
Install strainer frame and strainer so that the guide pin (A) engages the guide (B) in the housing.
- When tightening the nut (1), ensure that the bolt (6) is located properly in the guide hole.

Note:

If the strainer is completely blocked or damaged it should be replaced.

HEADLIGHTS

Check headlights for damage

Test conditions

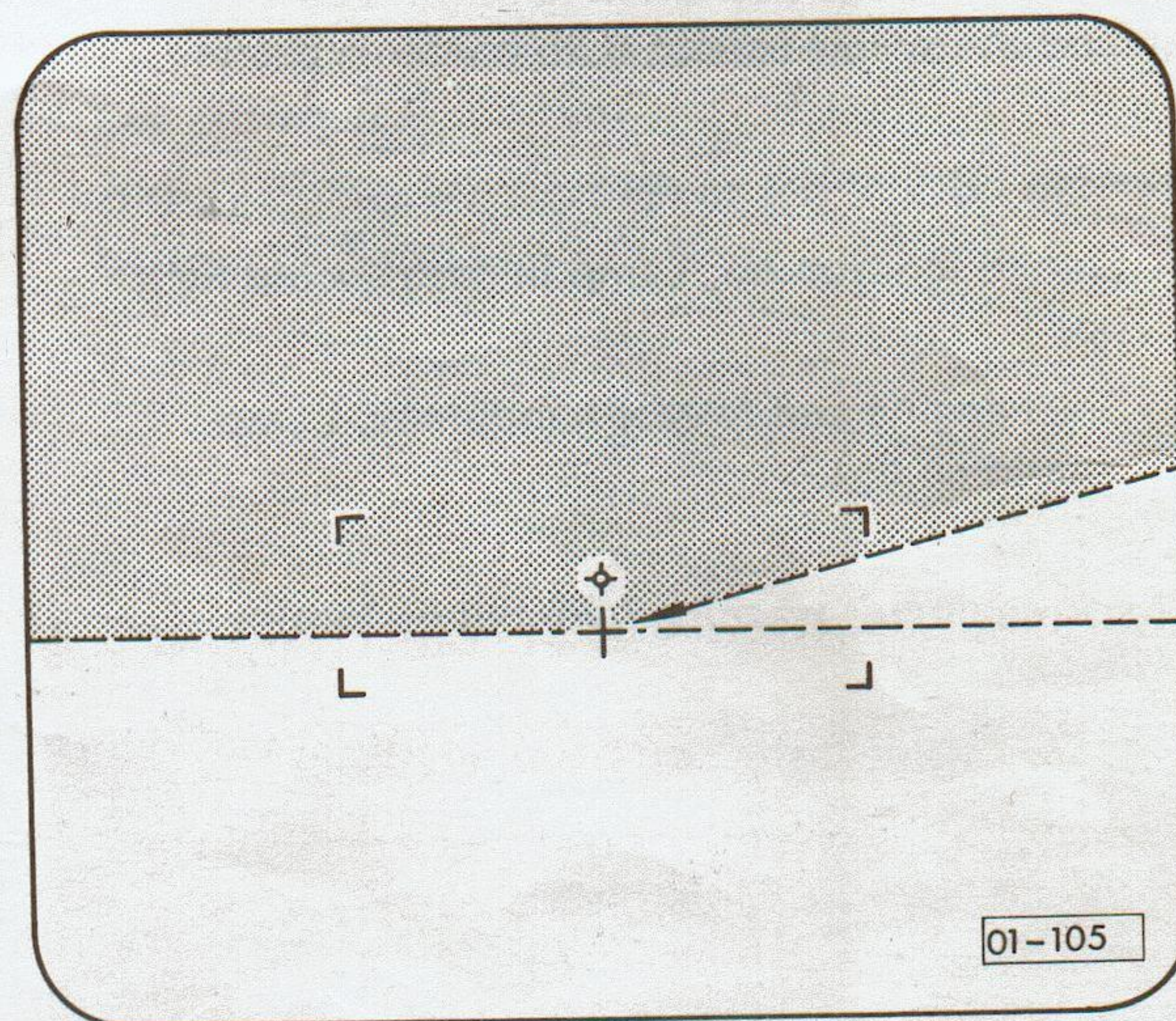
- Align vehicle or beam setting appliance.
See manufacturers instructions for operating the appliance.
- Set dip angle on beam setting appliance.
Refer to specification **41**.
- The headlights should be adjusted according to the regulations of the country where the vehicle is registered.

Check headlight beam setting and adjust if necessary

The instructions for testing and adjusting given below apply to Germany and countries where the same regulations are enforced.

A — Headlights with asymmetric low beam

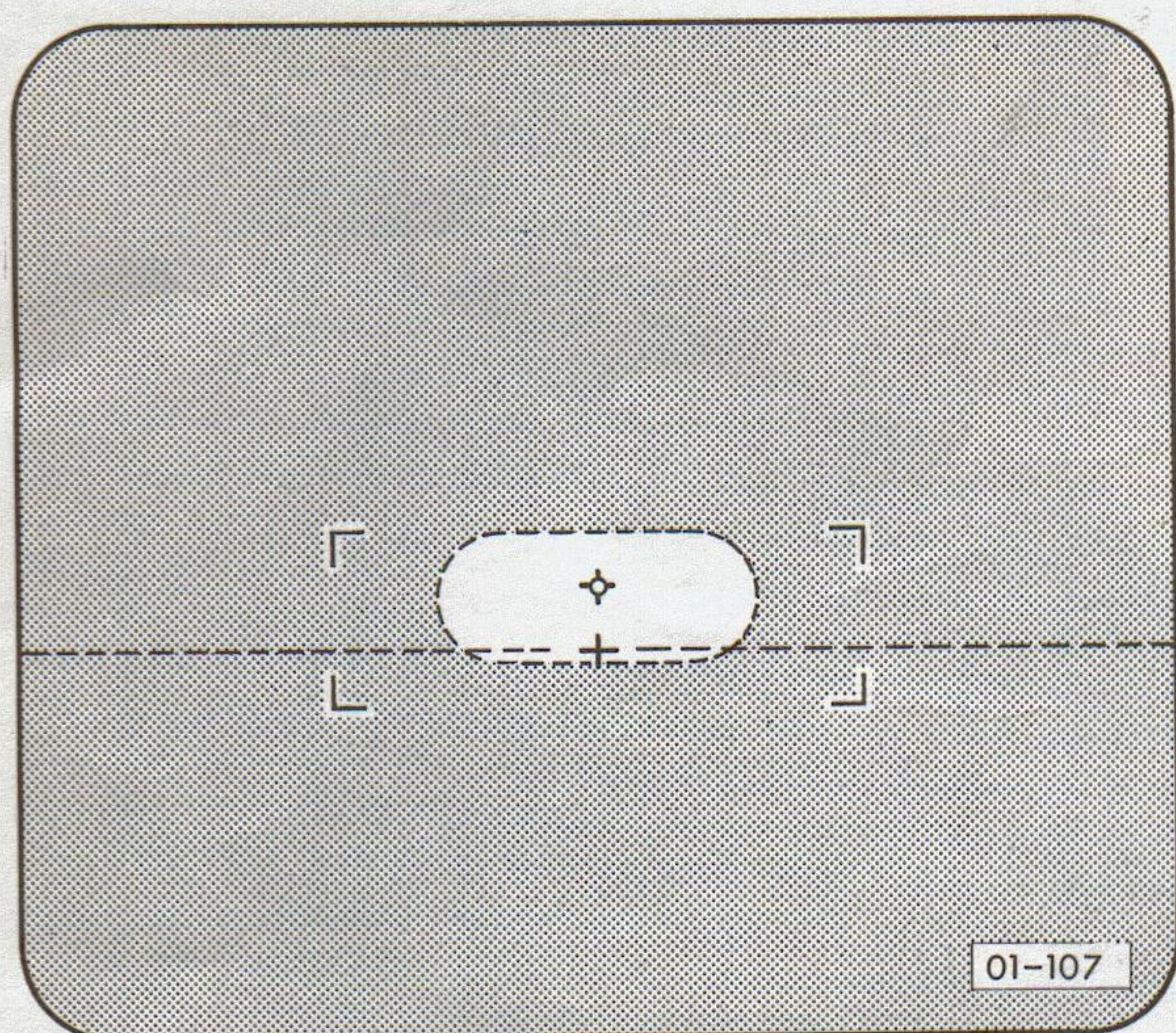
- Low beam adjustment
(outer lights with dual headlights)



Adjust the headlights so that the light-dark border coincides with the adjusting line, running horizontally to the left of the aiming cross, and rises at 15° to the right of the aiming cross.

— High beam adjustment

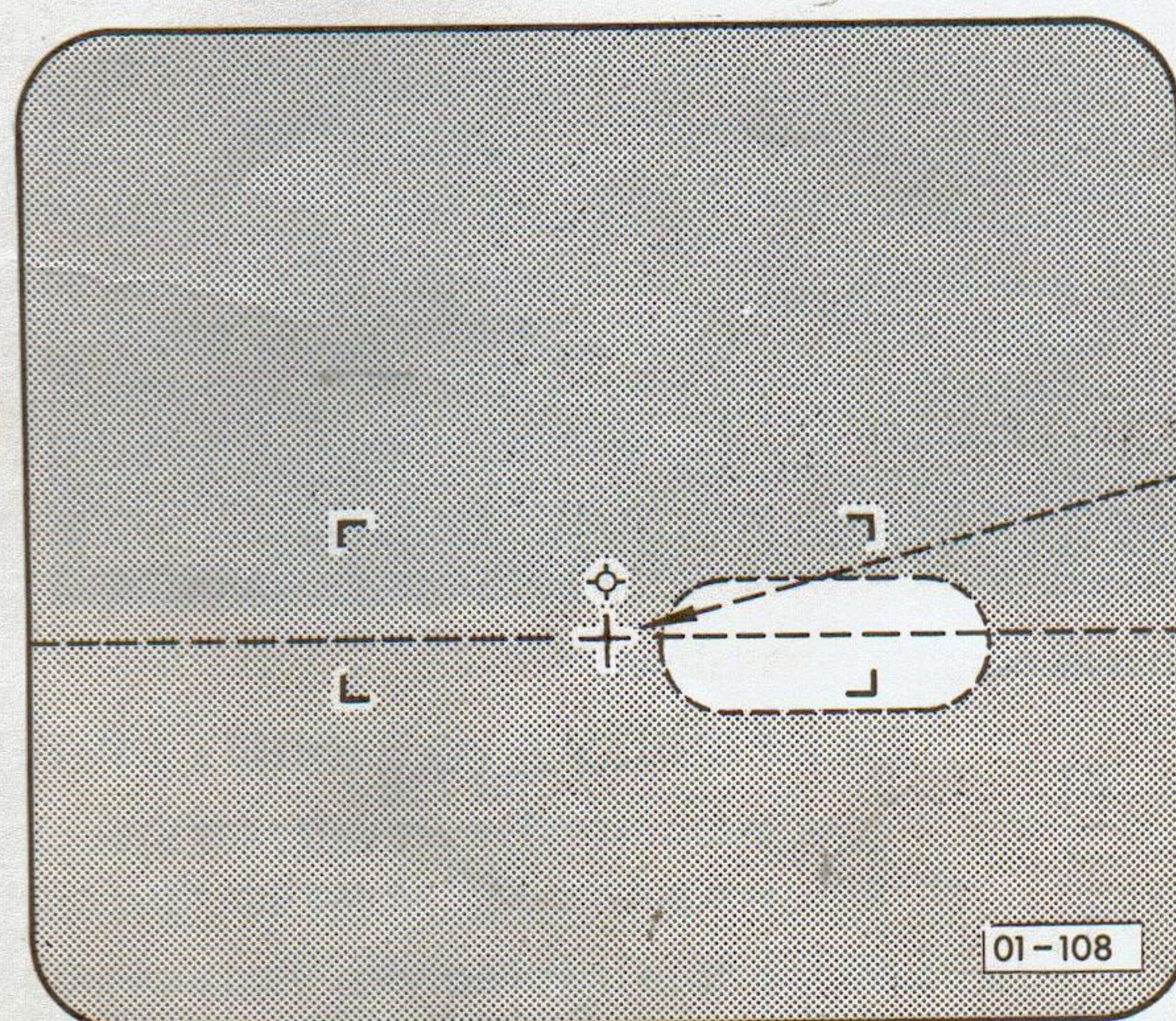
The high beam setting with single headlights is automatically correct when low beam is set.



Cover low beam headlight. The centre of the headlight high beam must be on the upper aiming cross.

B — Sealed Beam Headlights

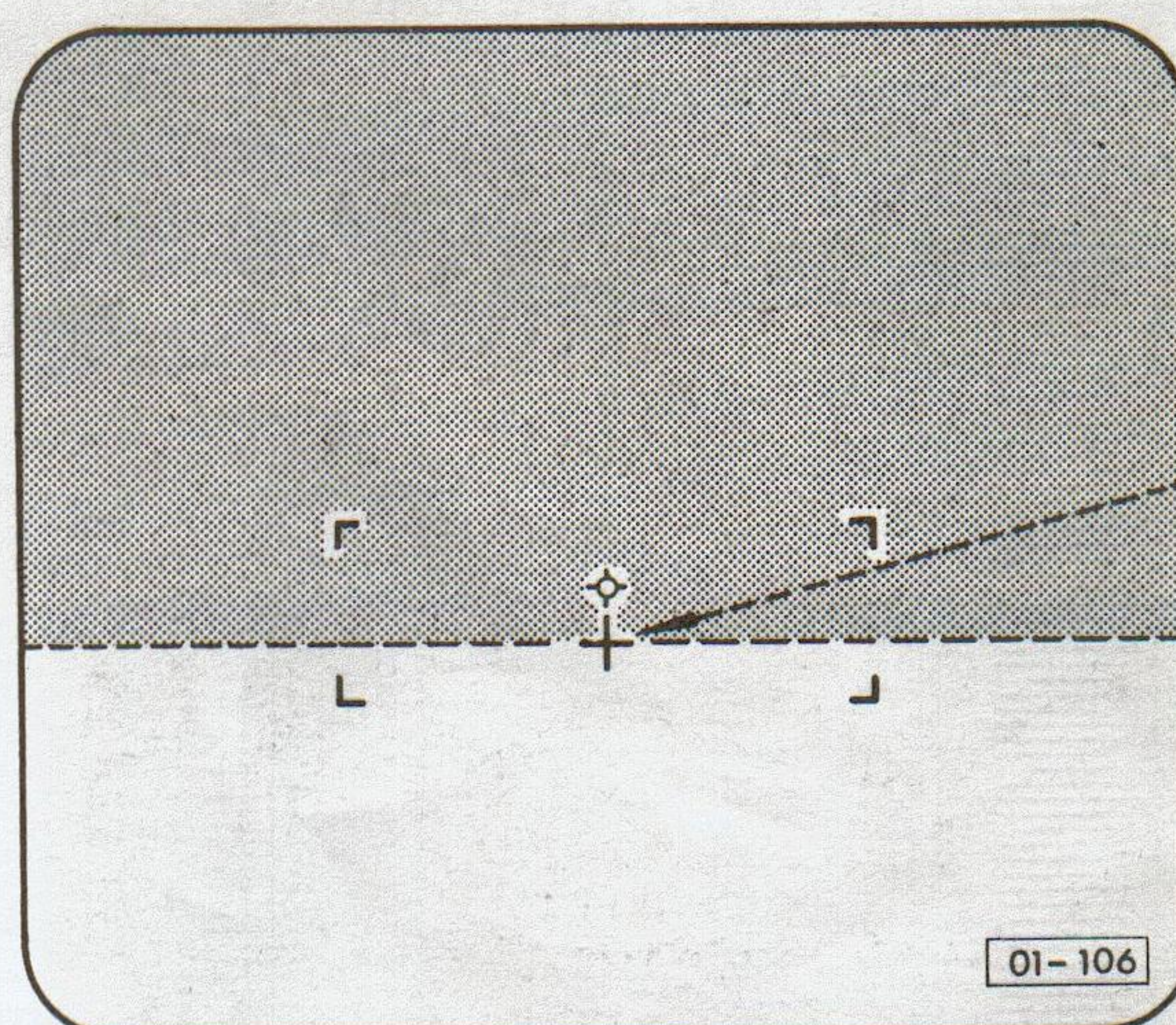
- Low beam adjustment (Outer headlight on vehicles with twin headlights)



Set top edge of high intensity zone on to extension of horizontal line of upper aiming cross. Set left hand edge of high intensity zone 7 mm to right of extended vertical line of aiming cross.

- High beam adjustment see point A.

C — Additional lights



— Fog lights

The upper light-dark border must touch the aiming line and must run horizontally over the full width of the screen.

— Other driving lights

Subsequently installed driving lights of other types must be adjusted in accordance with current local regulations.

ROAD TEST

- Foot and handbrake: Check free play and efficiency.
Note settings **22** and **23**.
- Check brake servo.
 - a — Depress pedal firmly several times with engine stationary to exhaust vacuum.
 - b — Hold pedal down with medium foot pressure and start engine. The pedal should give slightly under the foot as servo operates.
- Check clutch.
- Check steering.
- Check kick-down device.
- Check cylinder head cover and oil filter for leaks.

identification plate, chassis and engine numbers

IDENTIFICATION PLATE

The identification plate is on the front cross panel near the bonnet lock.

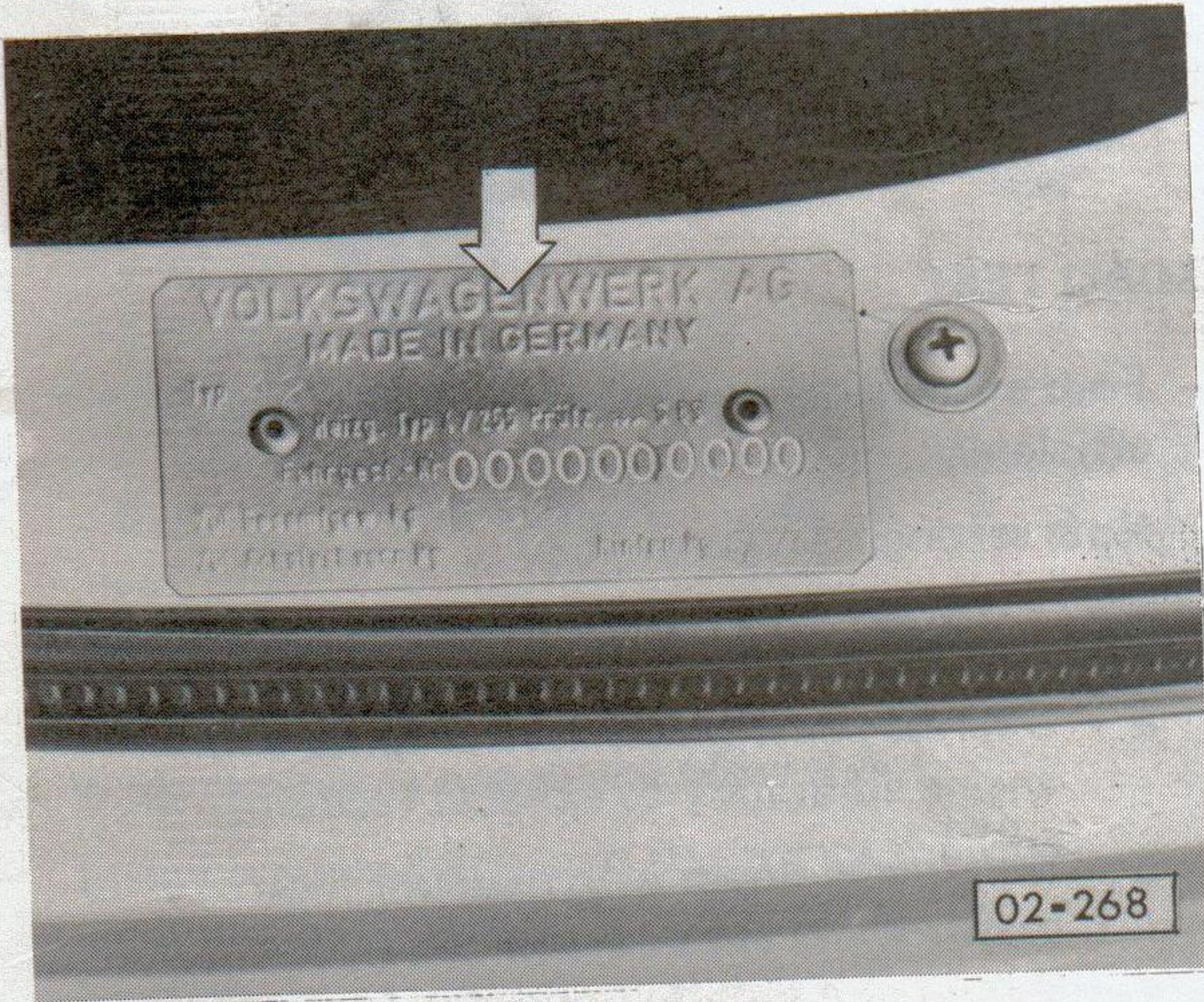
Note:

Vehicles for some countries have no identification plate.

Type 3



Type 4



CHASSIS NUMBER

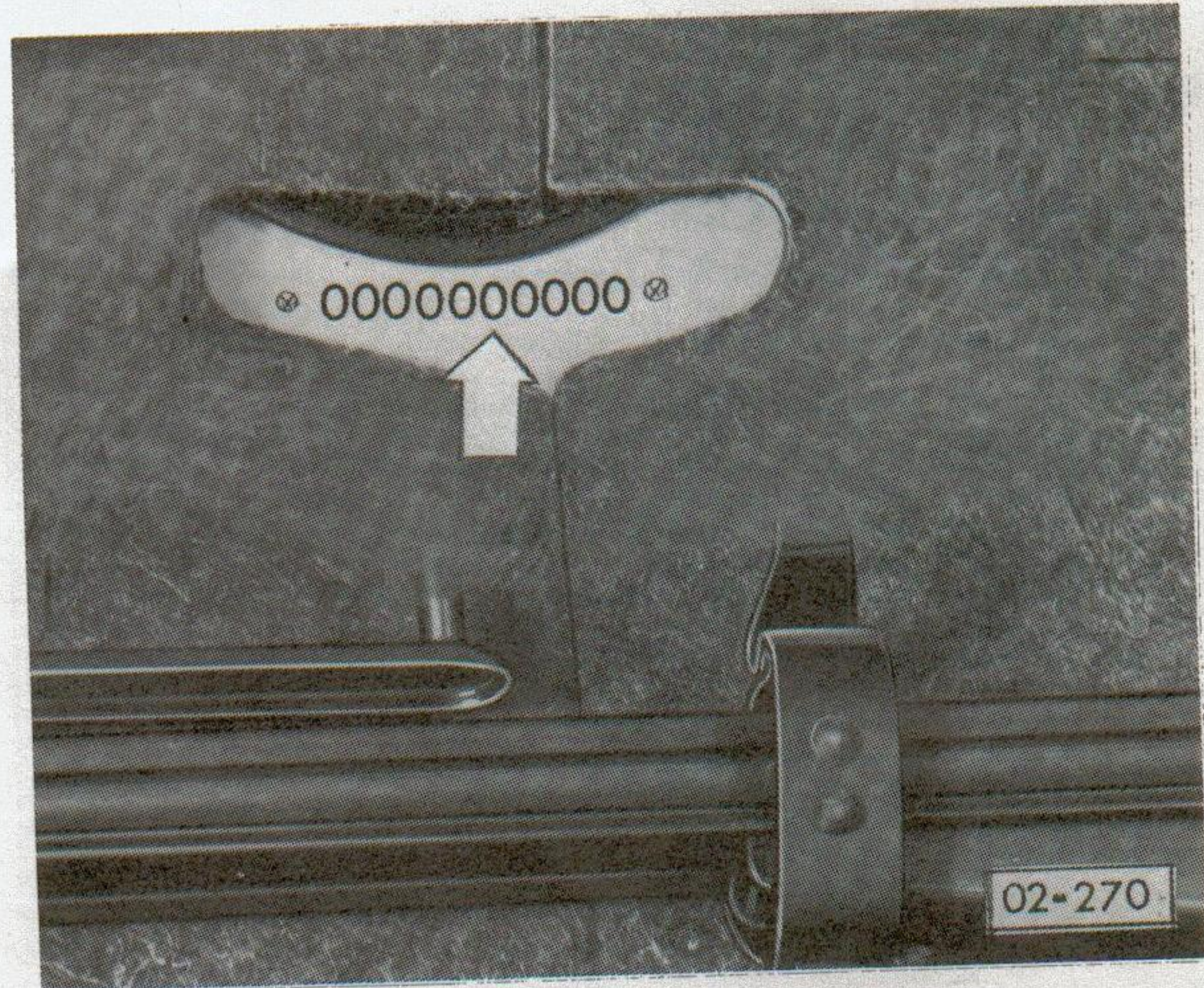
Type 3

At end of tunnel under rear seat.

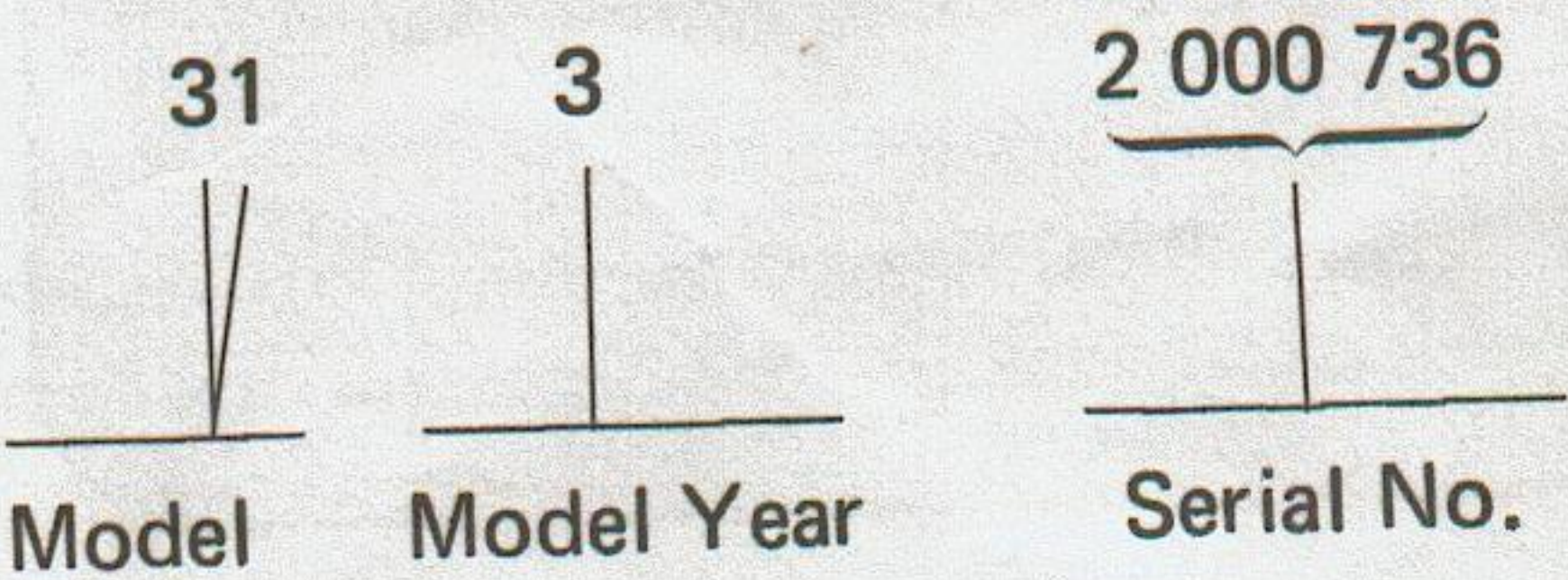


Type 4

On boot floor under rear seat.

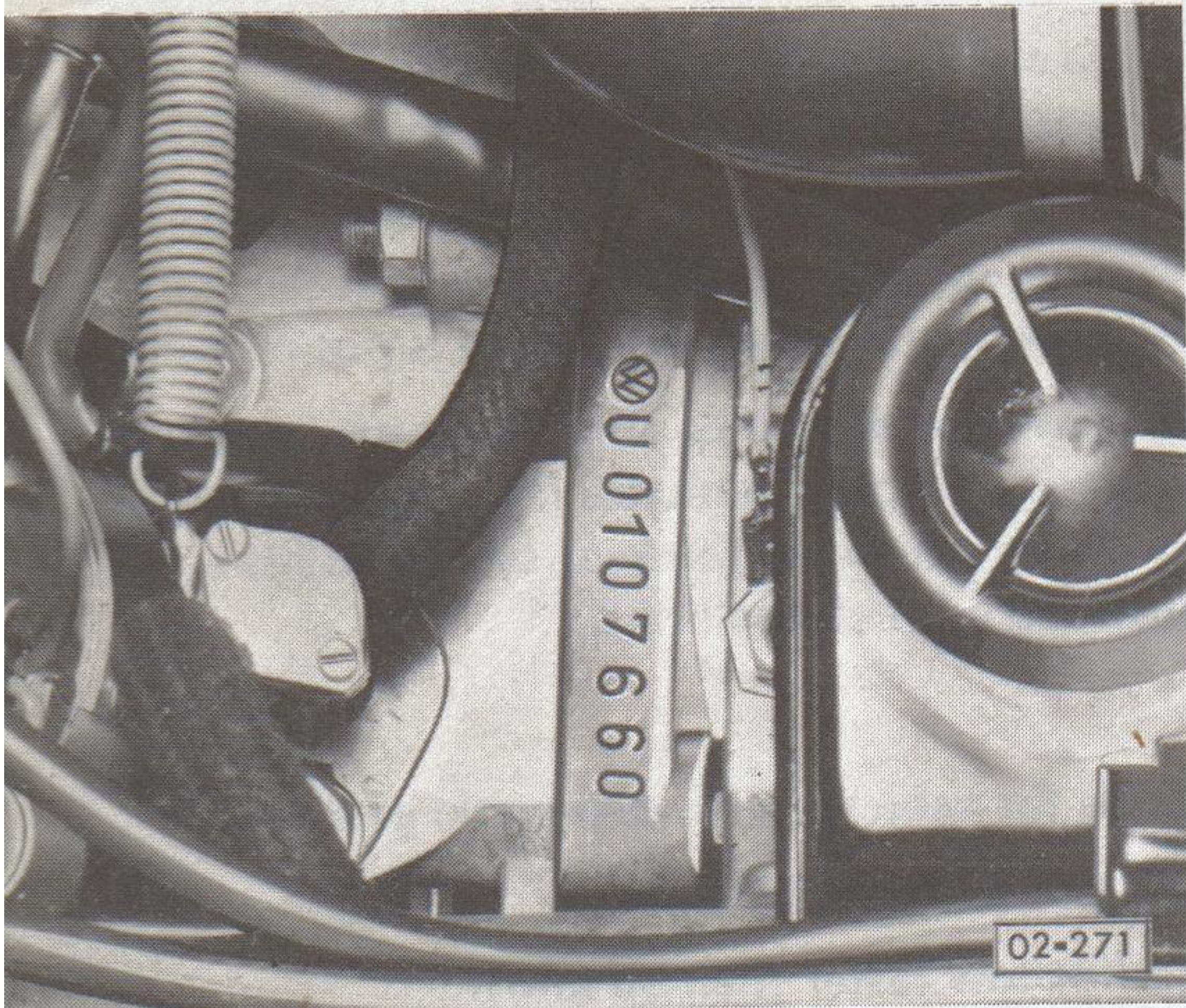


Chassis number break down



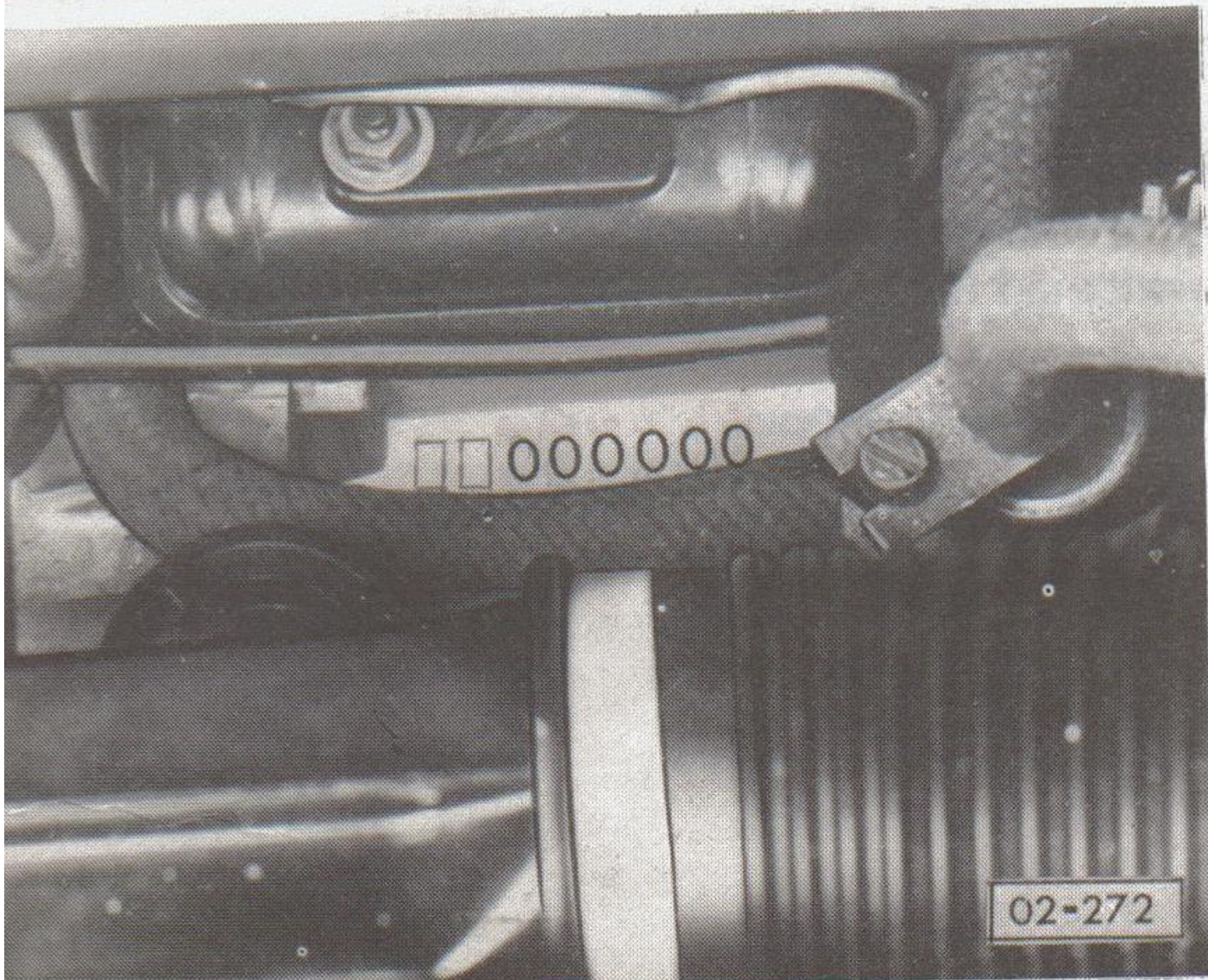
ENGINE NUMBER AND CODE LETTERS

Type 3



At top near crankcase joint.

Type 4

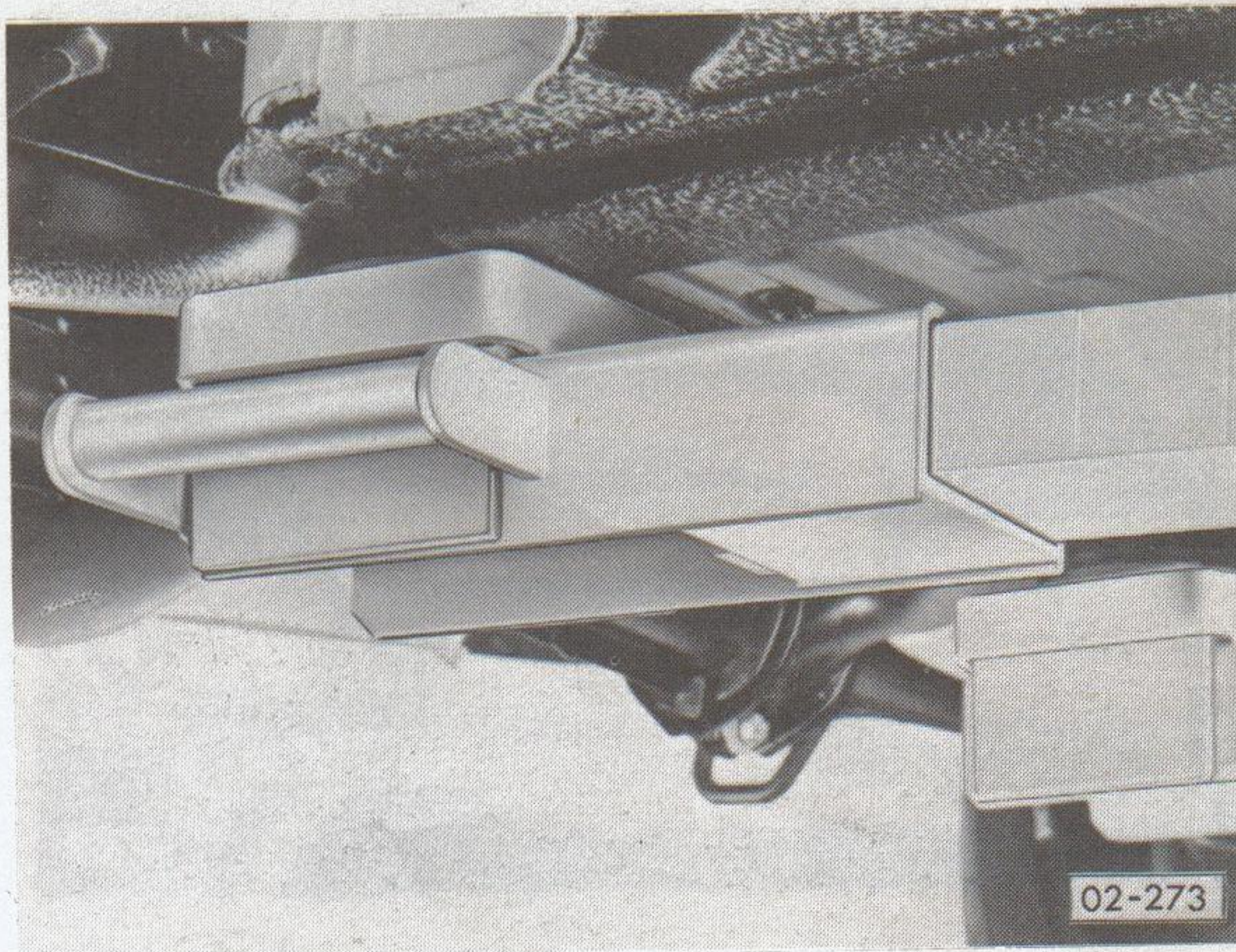


On right half of crankcase below breather tower.

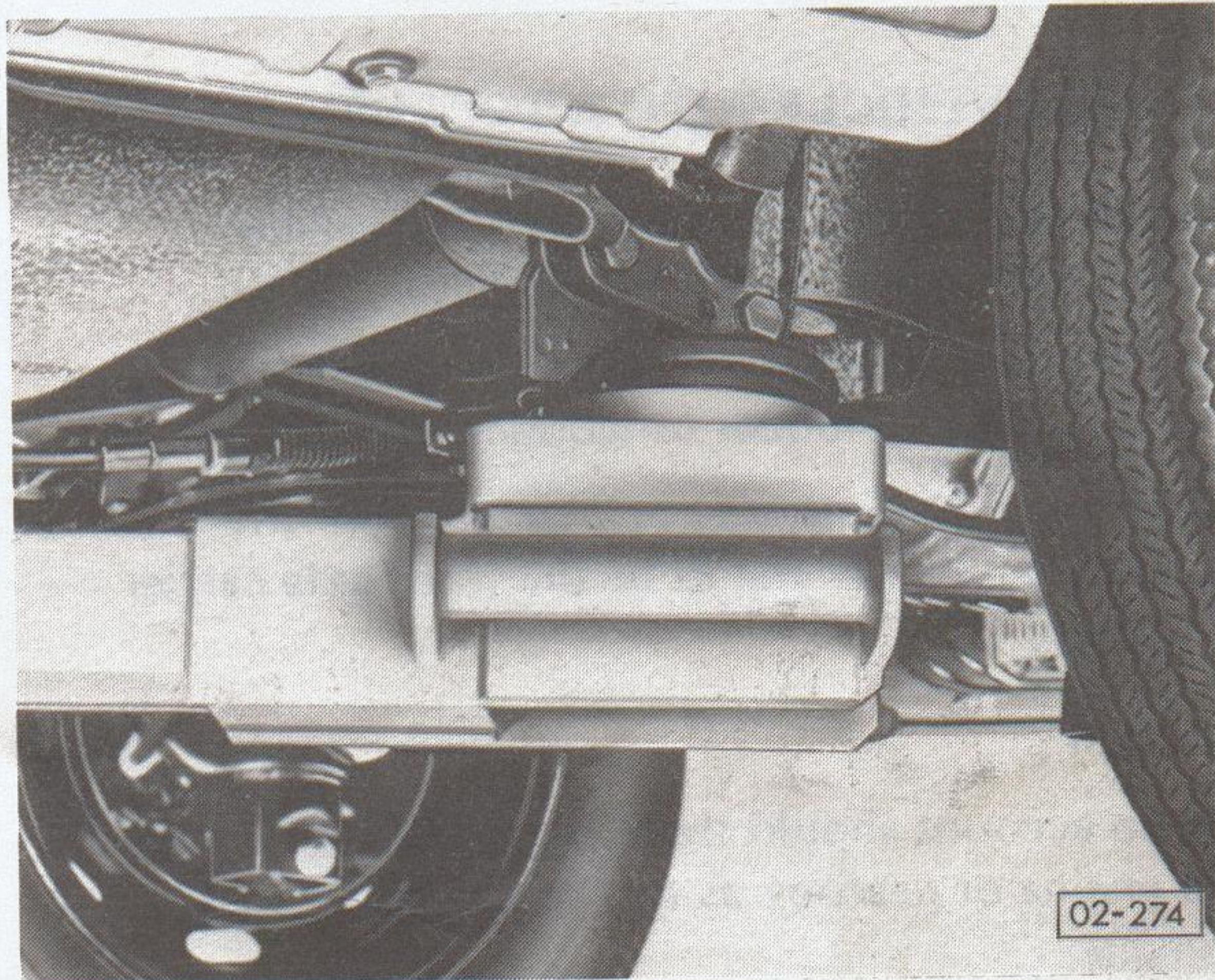
LIFTING VEHICLE ON A VEHICLE LIFT

Make sure that there is sufficient clearance underneath the car before driving over the lift. The vehicle may only be lifted at the points shown here.

Type 3

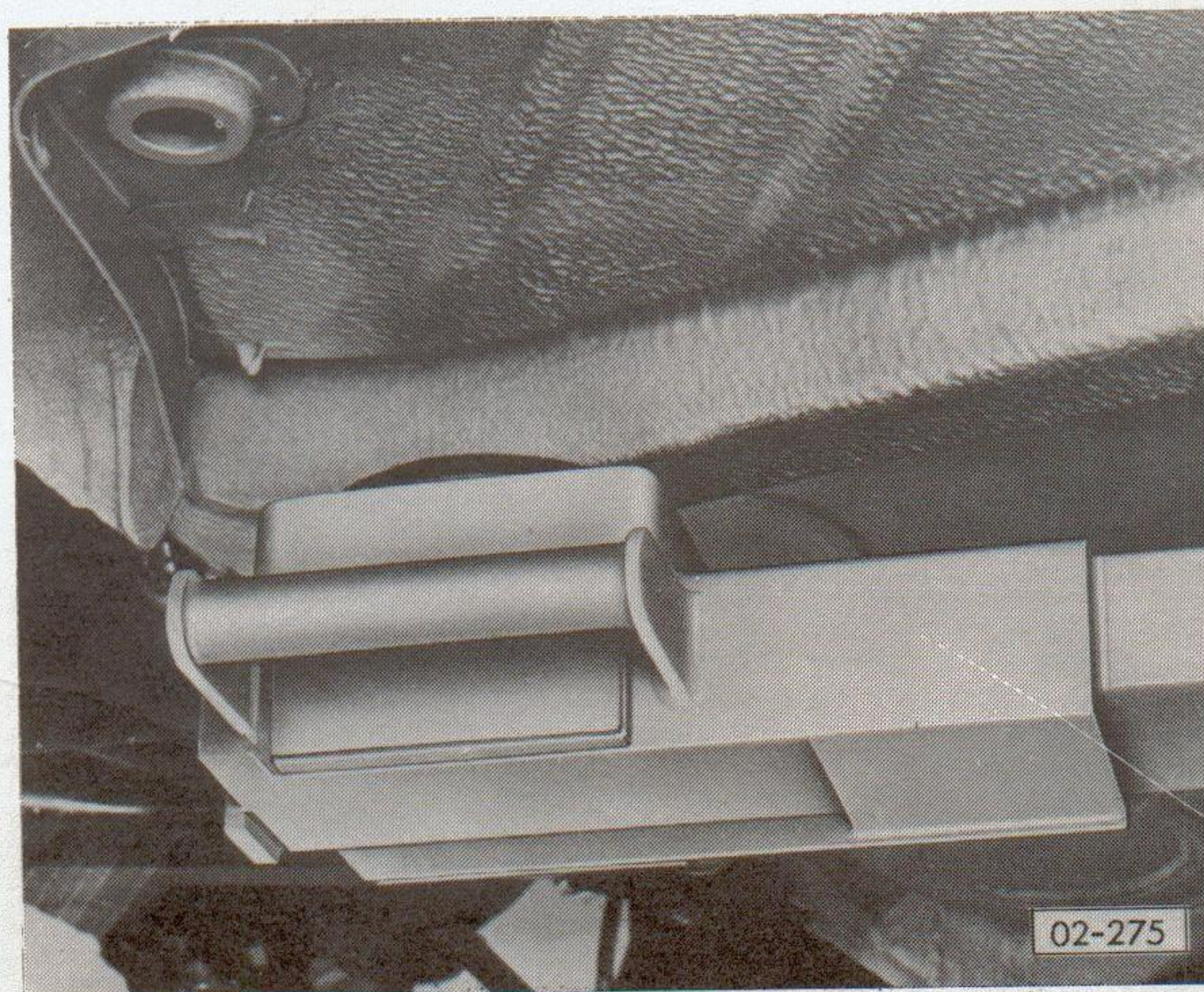


Front — At cross member

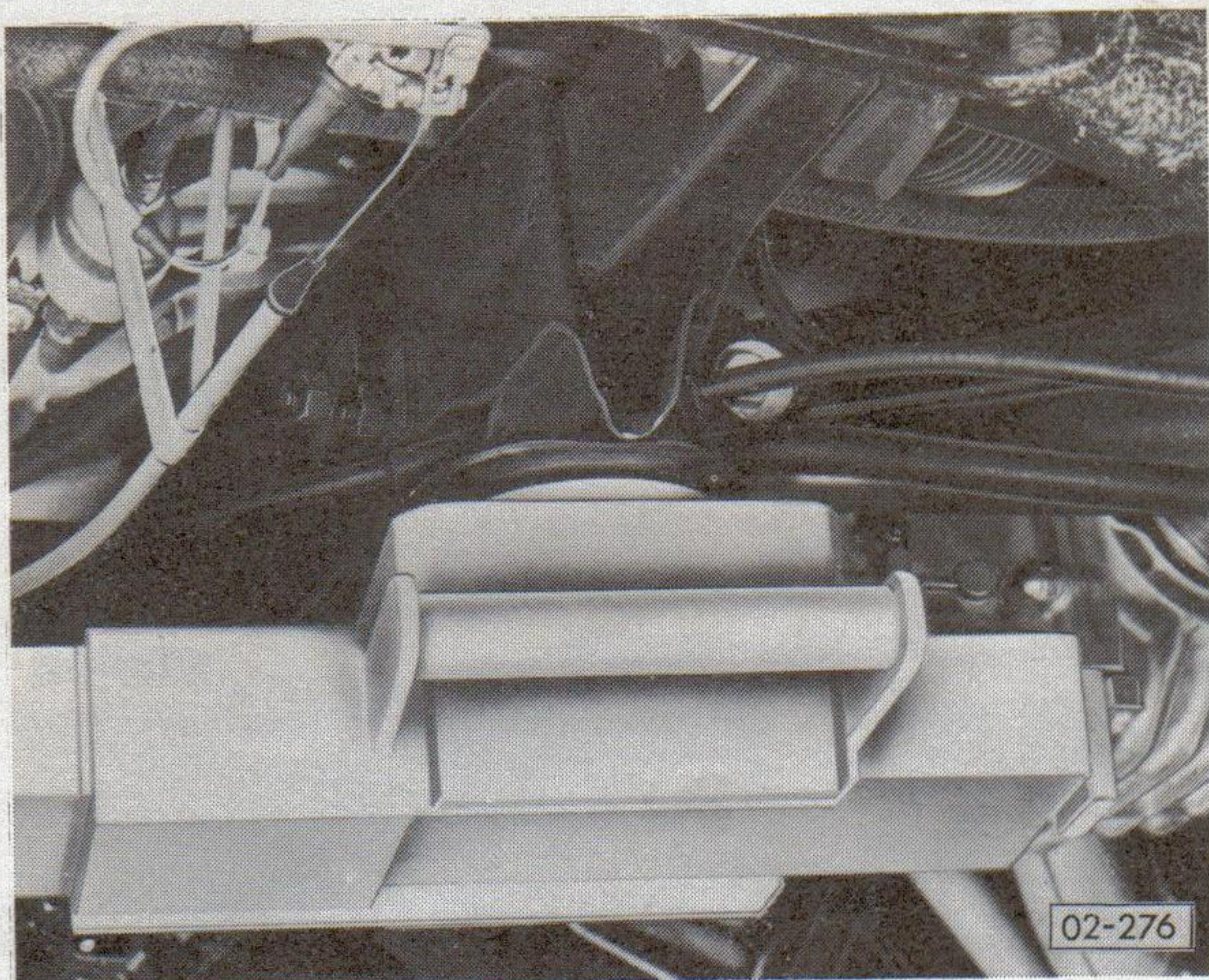


Rear — At bearing housing on cross tube or on cross tube outer ends.

Type 4



Front — At side member



Rear — At support plate on rear axle carrier

LIFTING VEHICLE WITH A TROLLEY JACK

The vehicle should also only be lifted with a trolley jack at the points shown here.

To prevent damage to the vehicle it is essential to use a suitable rubber or wooden pad.

The trolley jack can also be placed under the front axle beam (Type 3) or the front axle carrier (Type 4).

Caution

On no account should the vehicle be lifted under the engine or gearbox as this can cause serious damage.

TOWING

Please observe any traffic regulations which may apply to vehicles being towed on public roads.

Switch on the ignition so that the steering wheel is free and the turn signals, horn and if necessary the windshield wipers can be used.

The brake servo only works when the engine is running, so more pressure will be required on the brake pedal when the engine is not running.

The towrope should be slightly elastic to reduce the strain on both vehicles. It is advisable to use towropes which are made of synthetic fibre or provided with elastic links.

Notes for vehicles with automatic gearbox

Selector lever at "N".

Do not tow faster than 50 km/h

Do not tow further than 50 km!

If the vehicle has to be towed further than this the rear wheels must be raised clear of the road or the drive shafts must be taken off.

The reason is that the ATF pump in the gearbox does not operate when the engine is switched off and therefore the gearbox is not sufficiently lubricated for higher speeds or longer distances.

Attaching a towrope

Use the eyes provided for this purpose.

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