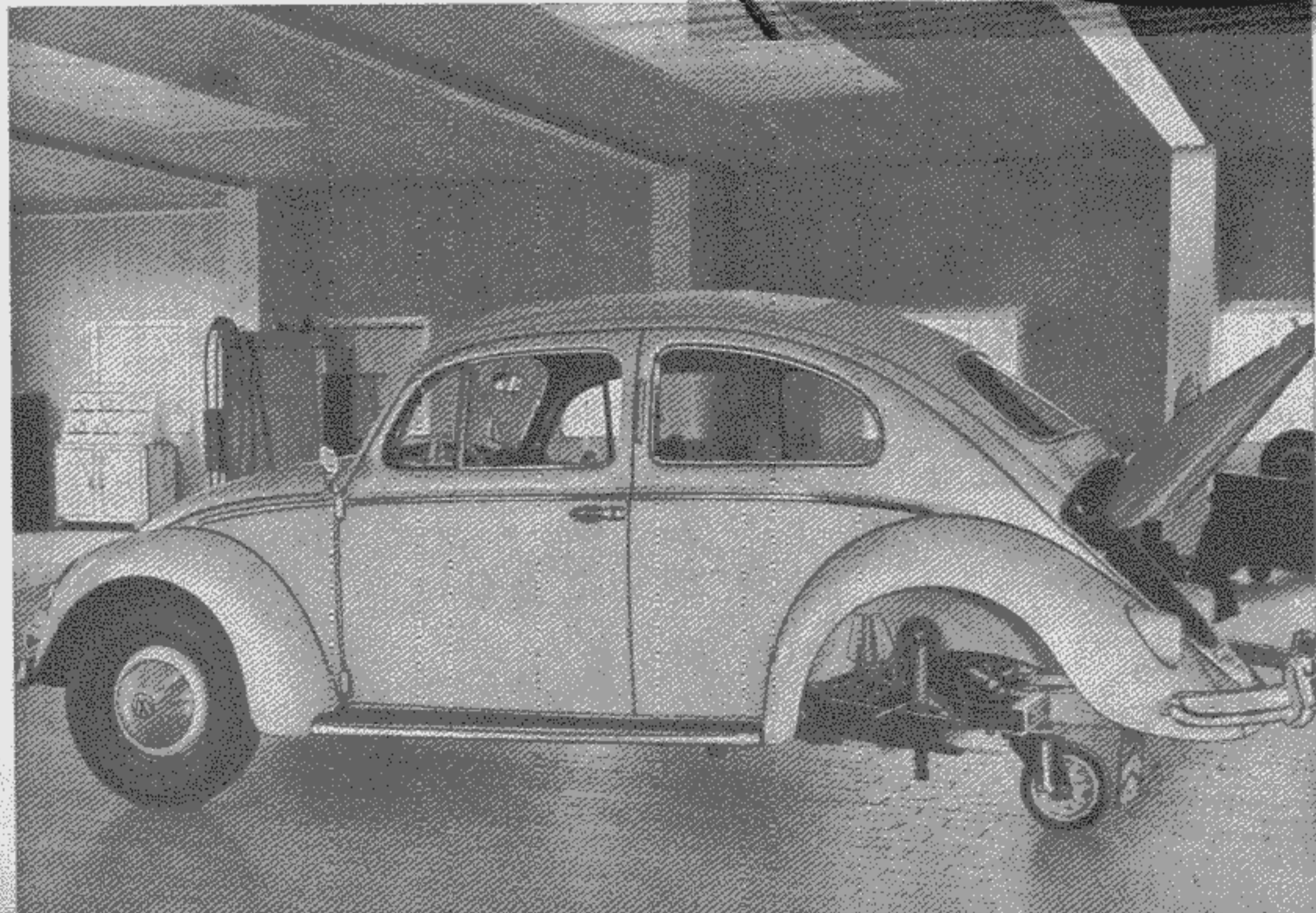
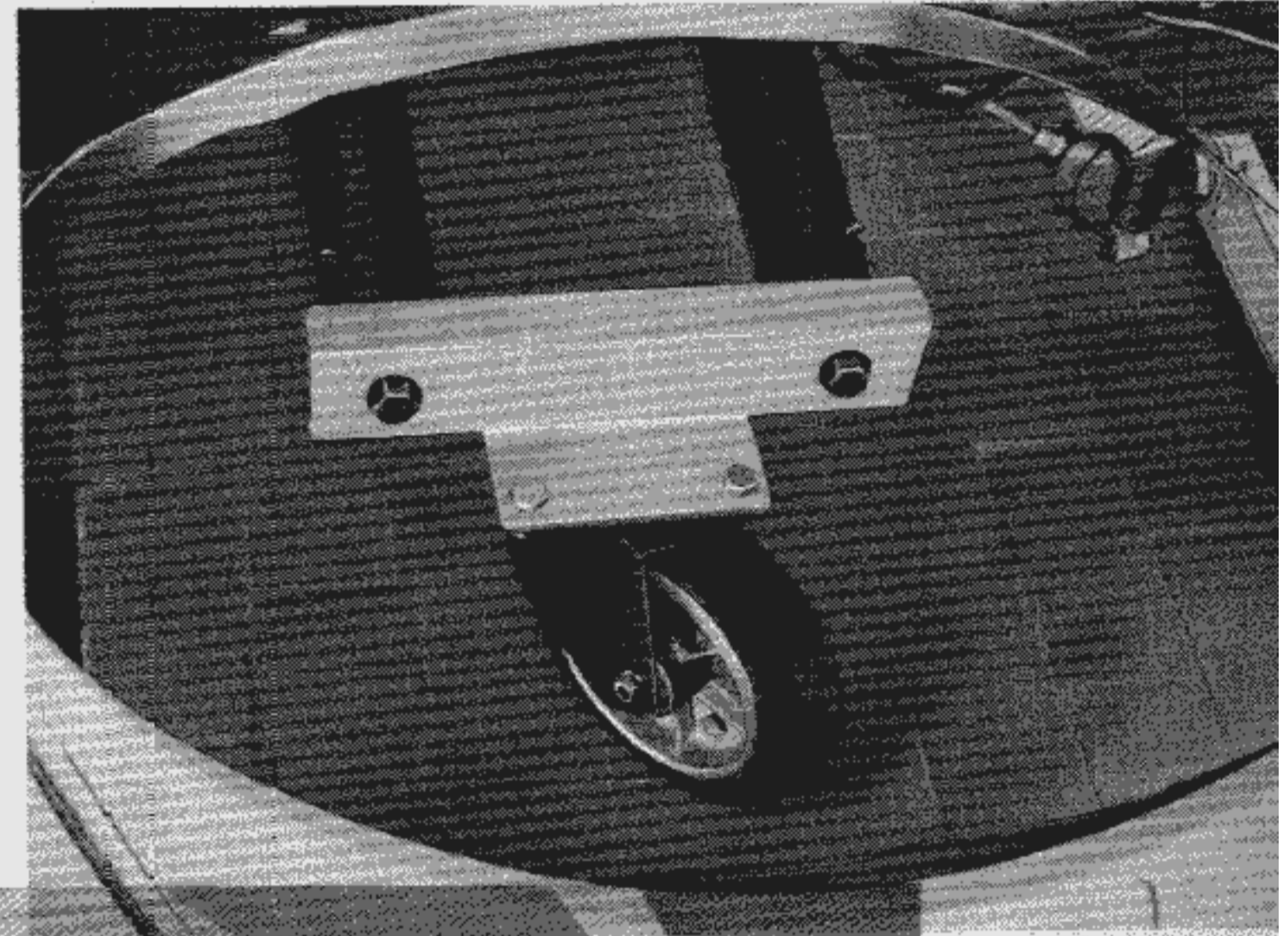


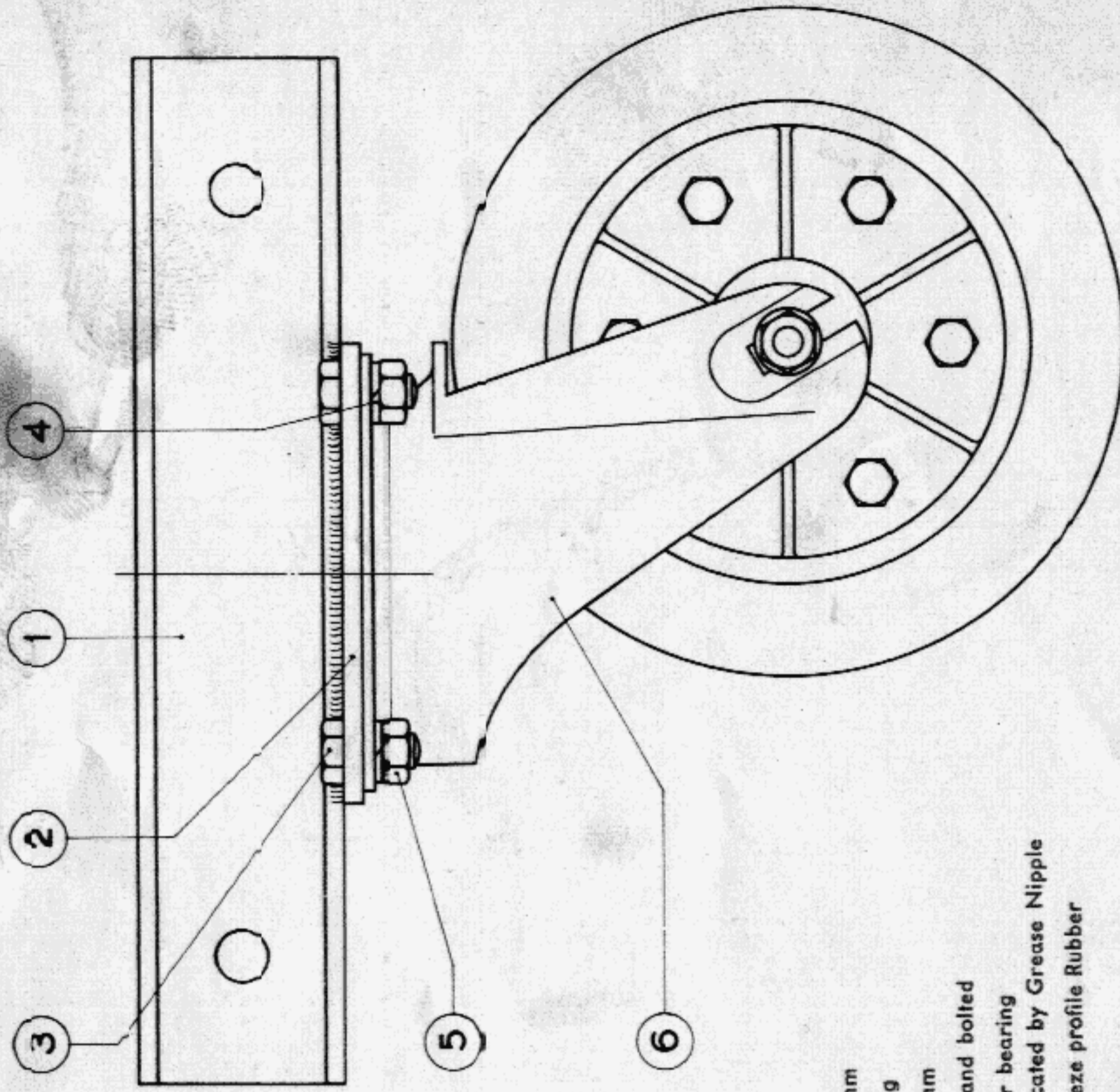
Castor and Bracket

After the removal of the transmission and rear axle the castor bracket can be bolted to the end of the frame fork thus enabling the VW passenger car and transporter to be moved around in the workshop.

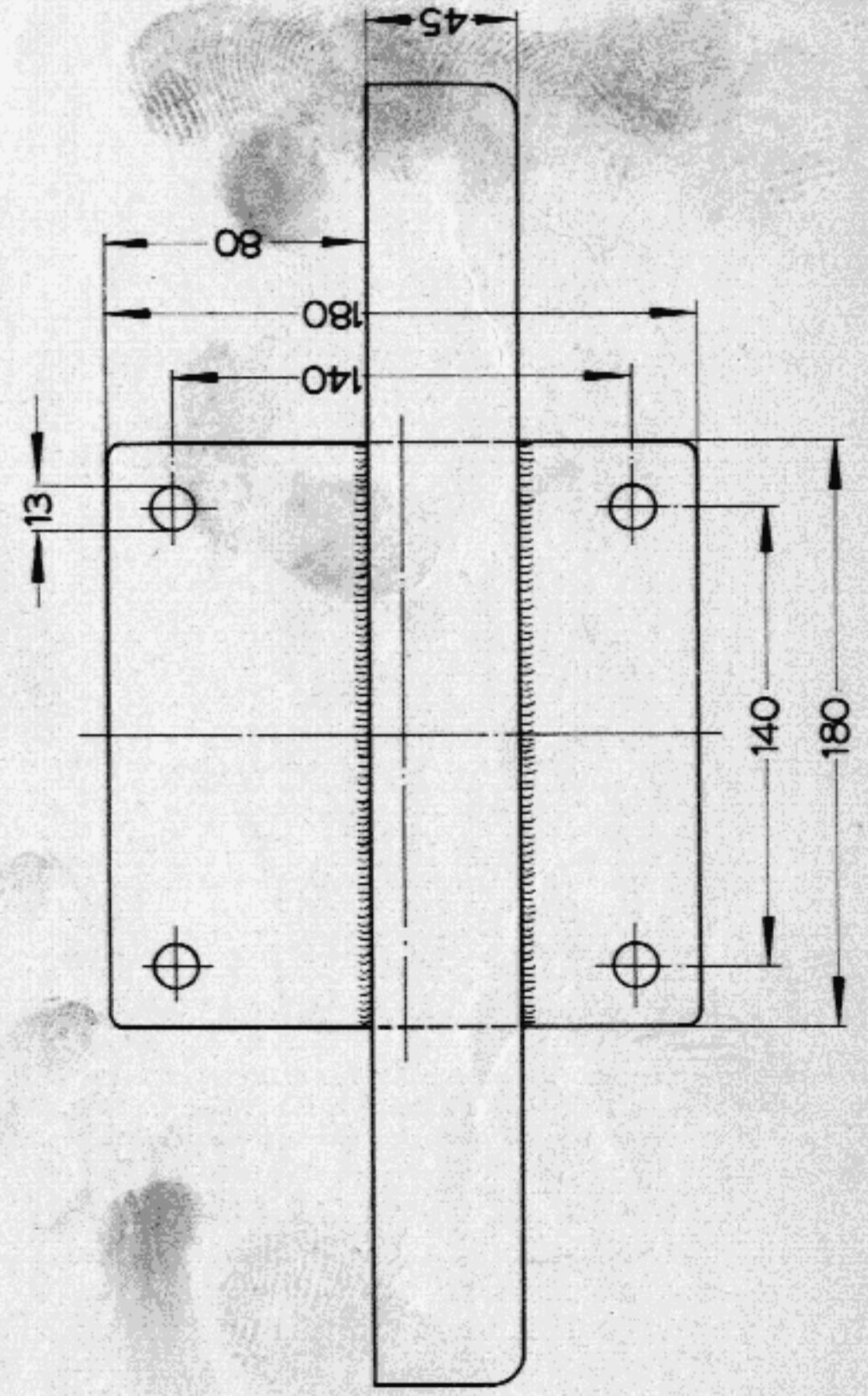
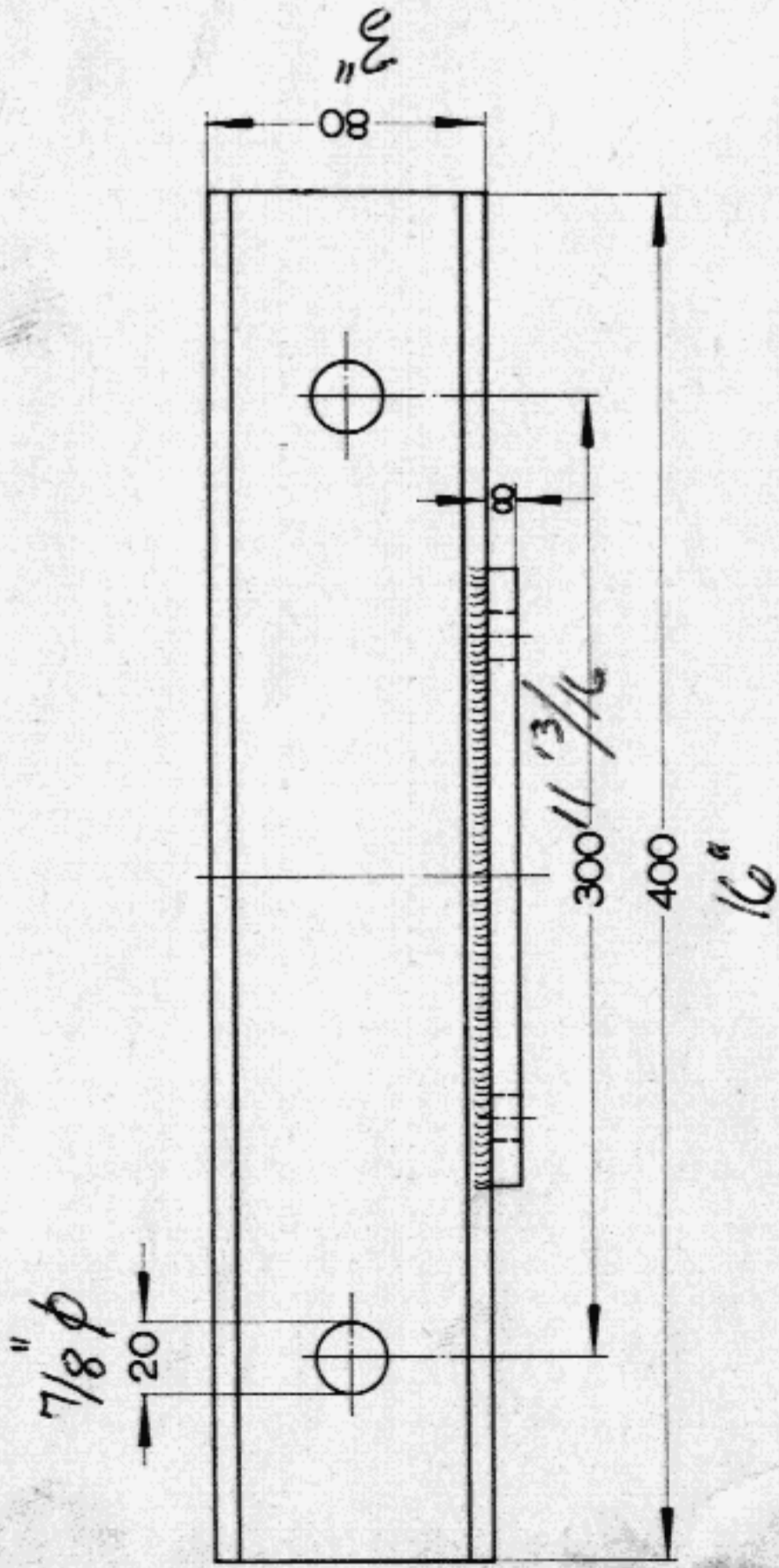


Construction Details for VW 676

- 1 - Cut channel section and flat steel pieces as detailed in specification.
- 2 - Drill two holes 20 mm dia. in the steel channel section (1).
- 3 - Drill four holes 13 mm dia. in the piece of flat steel (2) and finish off as shown on drawing.
- 4 - Weld the channel section (1) and the piece of flat steel (2) together as shown on drawing.
- 5 - Secure the caster plate (6) to the combined welded pieces by using four nuts and bolts M 12 (3 and 5) each bolt being fitted with a spring washer (4).
- 6 - Paint the caster and bracket in the prevailing colour of the equipment and machines in the workshop.



Wheel diameter 260 mm
 Load Capacity ca. 250 kg
 Caster 85 mm
 Rims split and bolted
 Bearings Roller bearing lubricated by Grease Nipple
 Tires Trapeze profile Rubber



6	1	Caster			
5	4	Nuts	M 12	DIN 934	
4	4	Spring Washer	A 12	DIN 127	
3	4	Bolts	M 12 x 30	DIN 601	
2	1	Carrier Plate	8 x 180 x 180	Sheet Steel	
1	1	Carrier	8 x 400	DIN 1026	

Part No. Description Rough Size or Standard Spec. Remarks

VOLKSWAGENWERK GMBH.
 WOLFSBURG
 Service Department

Scale 1:2

Drawn by: 21.8.58 Sandau
 Checked by: 26.8.58 Hendriak

Replacement for:

Replaced by:

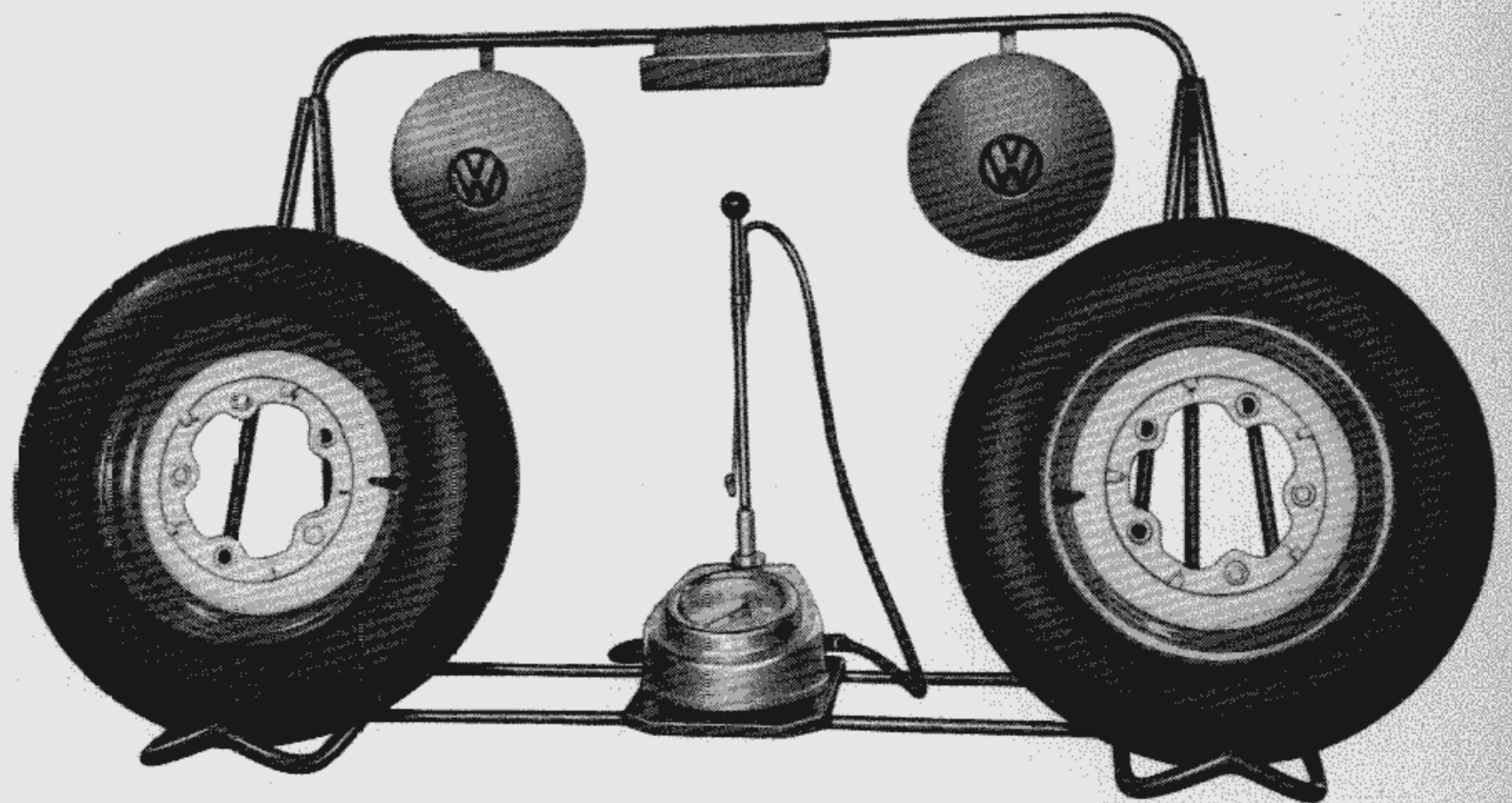
Caster and Bracket

VW 676



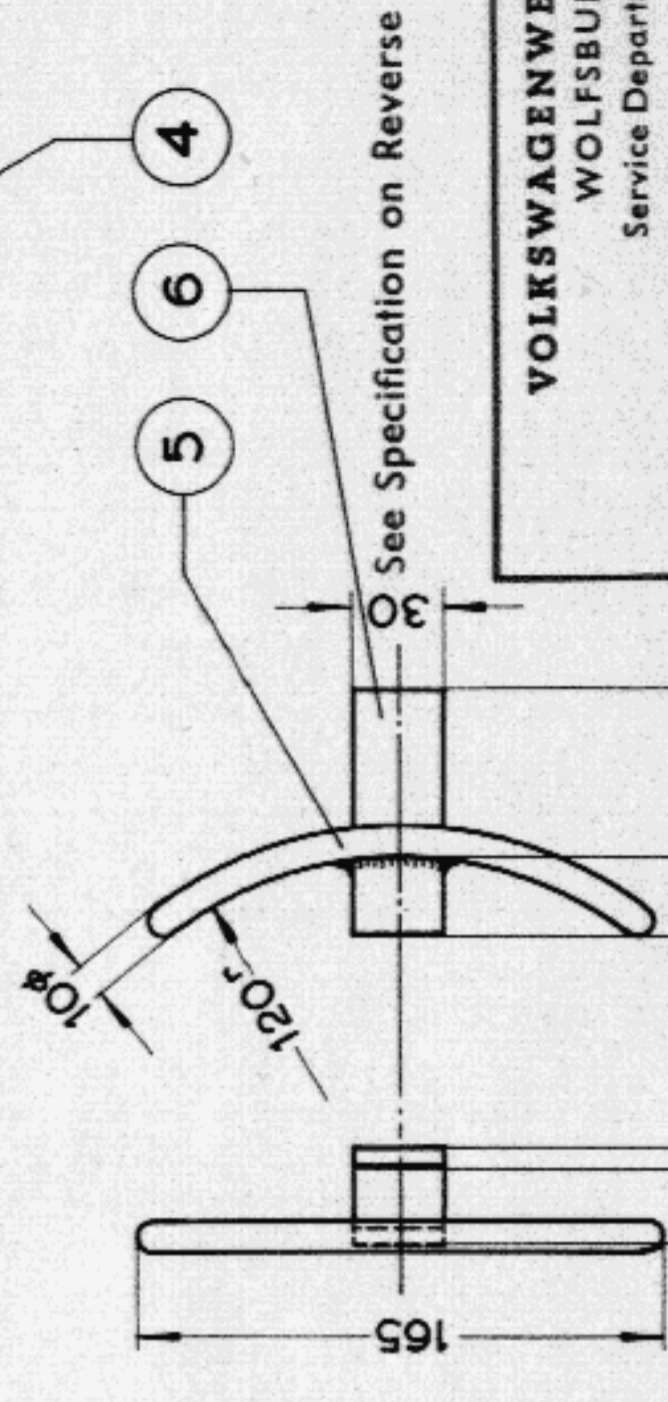
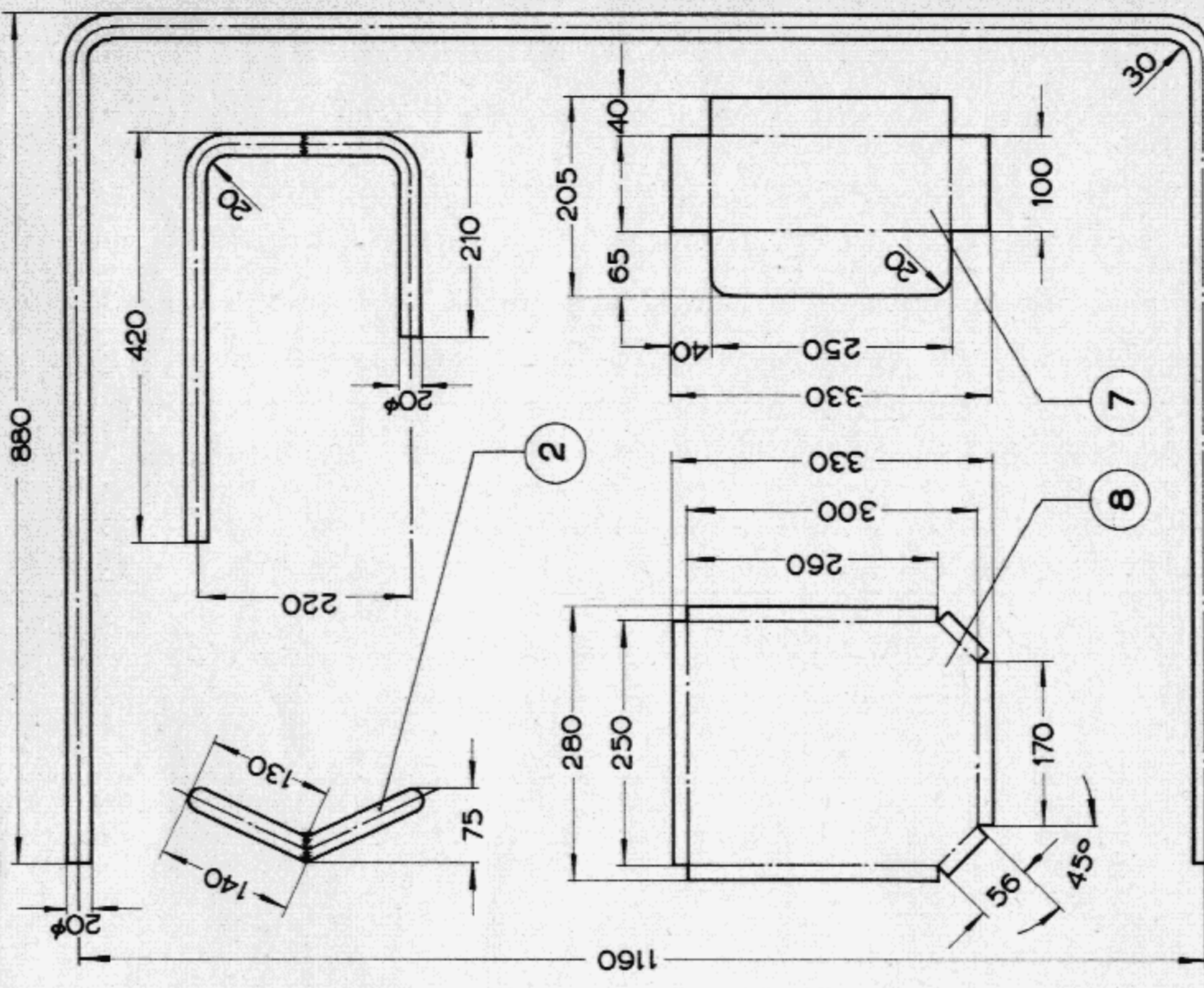
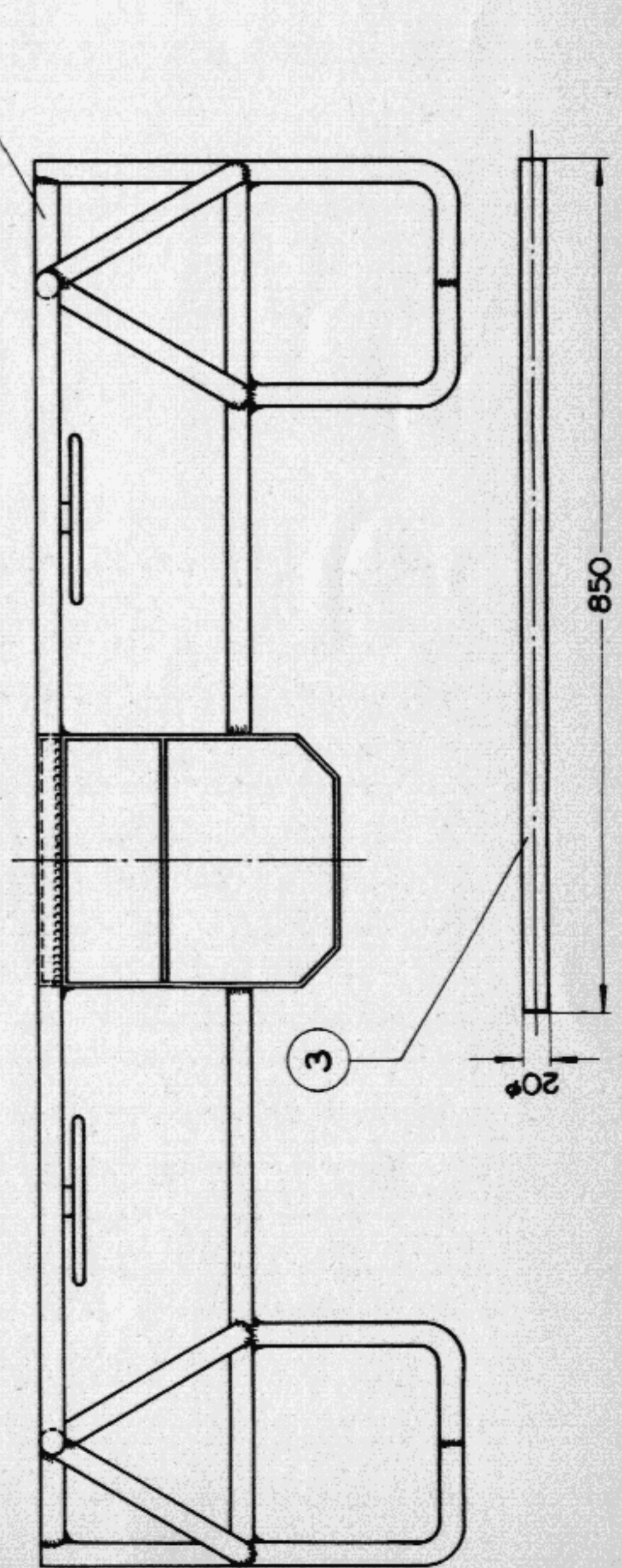
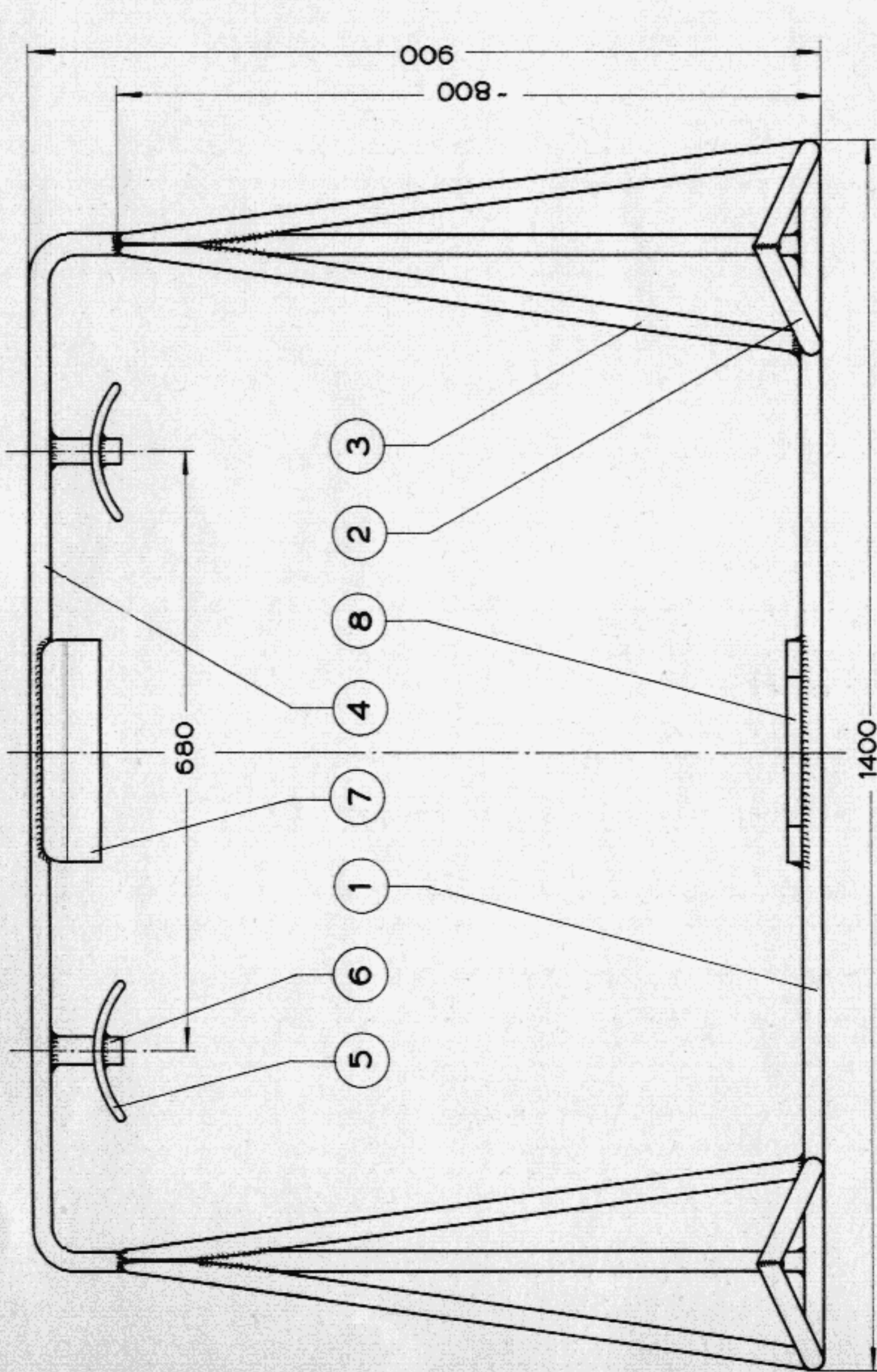
Wheel Stand

The wheel stand is used for holding the wheels after they have been removed for the carrying out of Maintenance, the hub caps should be hung on the brackets provided, the wheel nuts being laid in the tray, the locating of the tire inflator in the centre of the wheel stand allows for the quick checking and correcting of tire pressures of the removed wheels.



Construction Details for VW 677

- 1 – Cut the tubes and pieces of steel plate as detailed in specification.
- 2 – Bend the top rail (4) as shown on drawing and weld onto tube (1).
- 3 – Make tubes (2) as shown on drawing, fasten by spot welding them to the ends of tube (1) onto which tube (4) has already been welded.
- 4 – Make support tubes (3) to fit as shown on drawing, fit the second tube (1) and fasten all parts in position by spot welding.
- 5 – Square up the whole tubular construction, and completely weld round, all the spot welded joints.
- 6 – Finish off hub cap rest (5) and bracket (6) as shown on the drawing and weld both parts together.
- 7 – Make the screw tray (7), as shown on drawing and weld up all open corners.
- 8 – Cut out and bend receiving plate as shown on drawing, weld up all open corners.
- 9 – Fit the screw tray and receiving plate, and weld both in position.
- 10 – Paint the wheel stand in the prevailing colour of the equipment and machines in the workshop.



See Specification on Reverse

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Service Department

Wheel Stand

Scale 1:2.5	Drawn by: 4-12-58 Weinstock	Replacement for:
1:1	Checked by: 4-12-58 Hendriok	Replaced by:

VW 677



Tool Rack for Tool Trolley

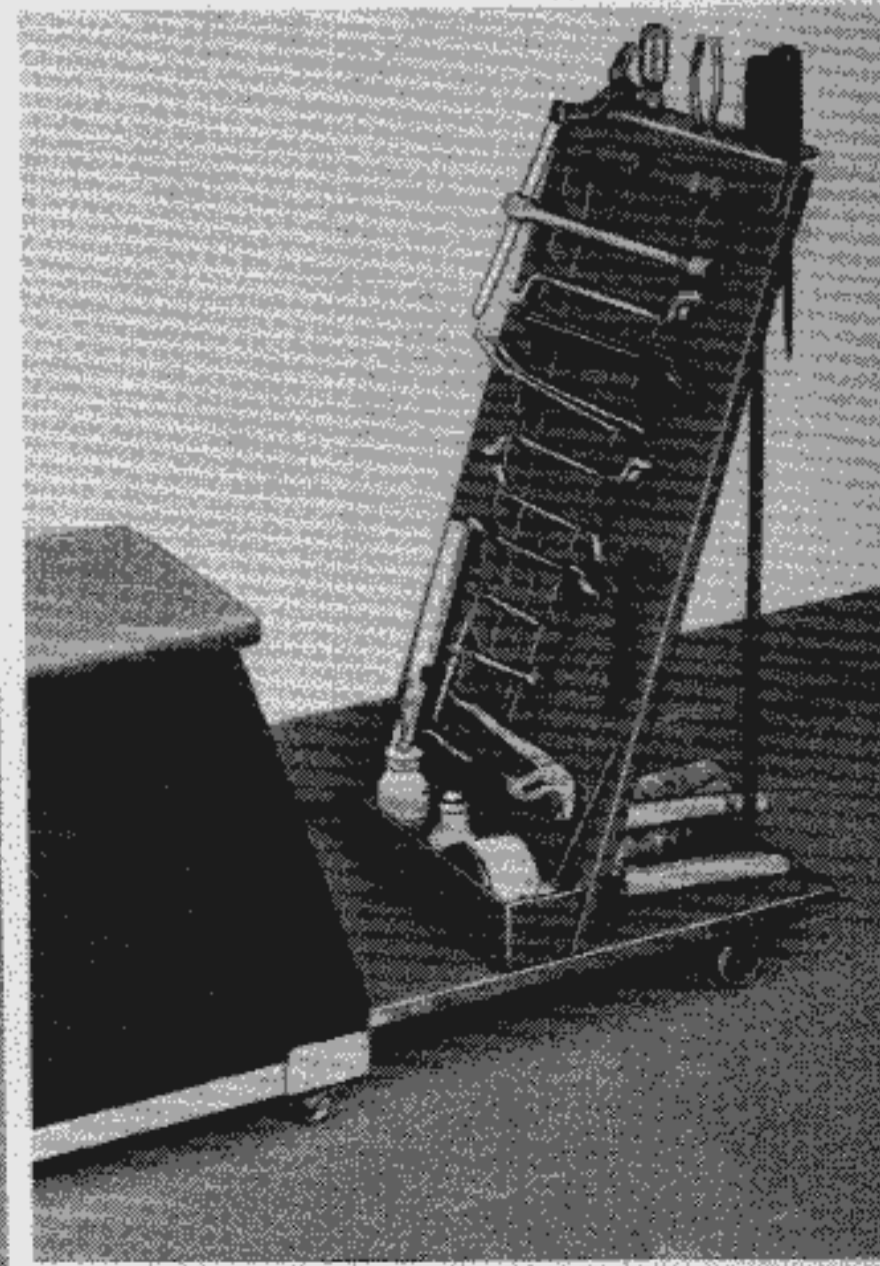
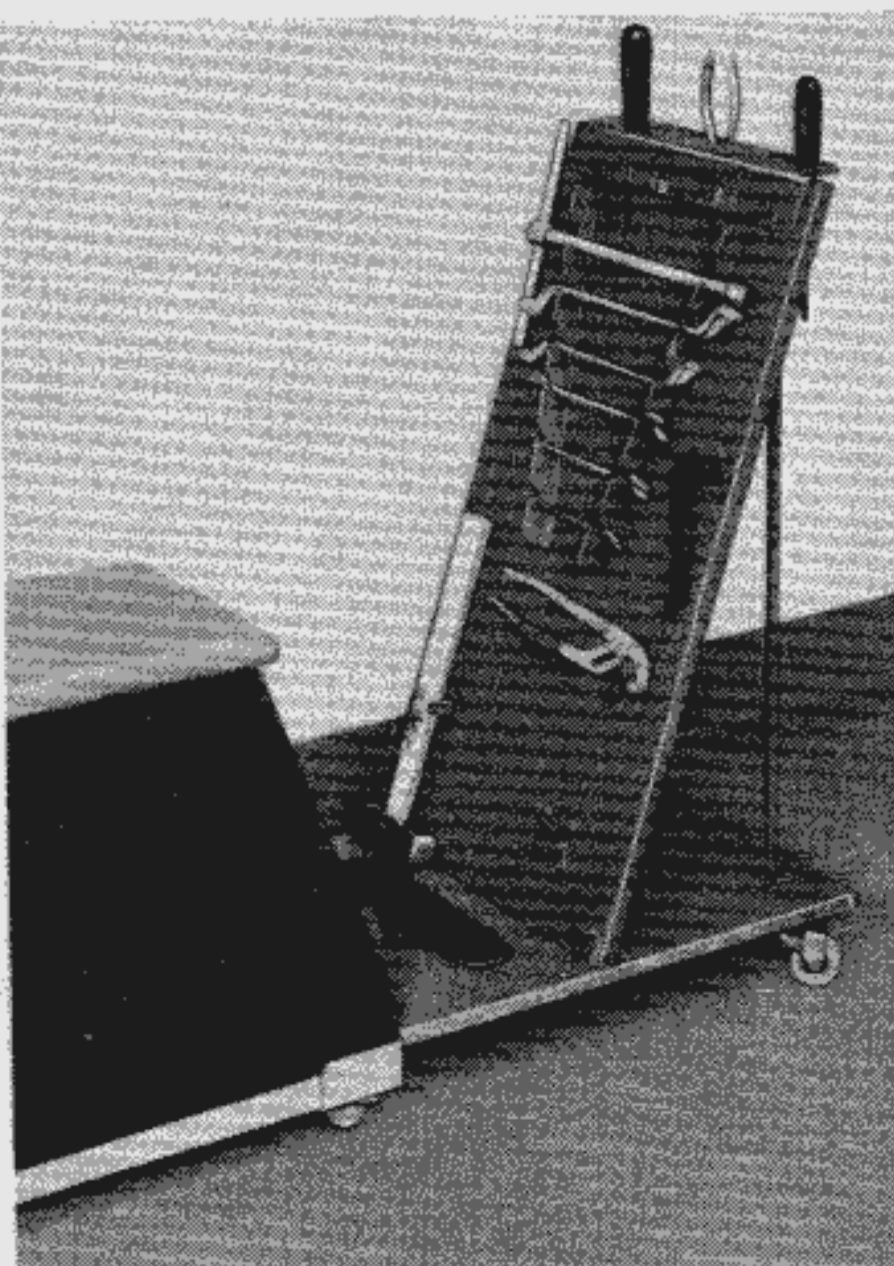
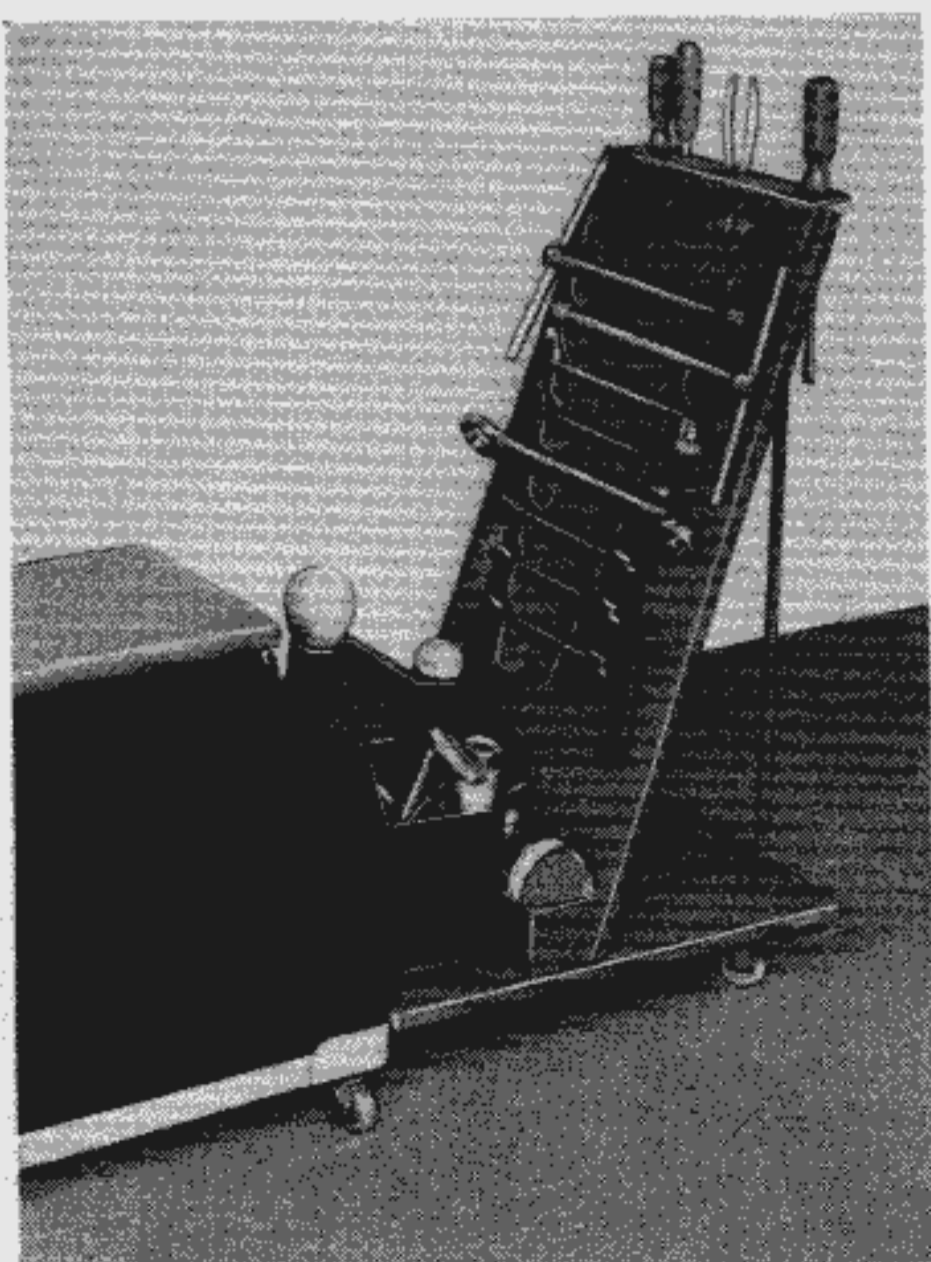
The tools and equipment of the mechanics working in the maintenance stall should be kept in a suitable rack mounted on a tool trolley. The type of work to be performed by each mechanic determines the type of tools required and their layout on the tool rack. There are three possible layouts for the work places of the mechanics 2 to 4 when working in one maintenance stall.

The details of tool requirements are given in the brochure S 5 "Lubrication and Maintenance Service", (4 mechanics at one hoist).

The layout on drawing VW 678/1 is for mechanic No. 2.

The layout on drawing VW 678/2 is for mechanic No. 3.

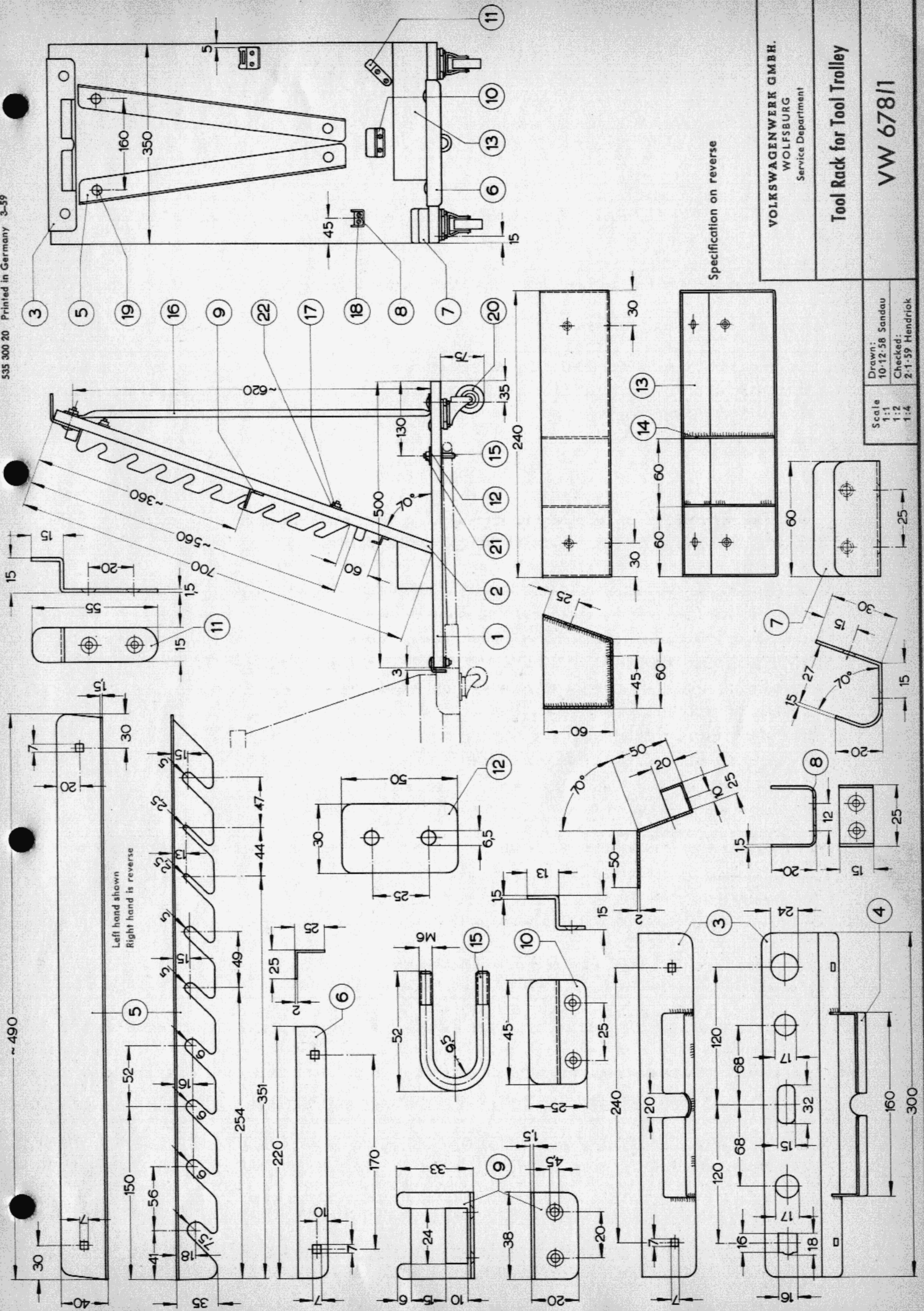
The layout on drawing VW 678/3 is for mechanic No. 4.



Construction Details for VW 678/1

- 1 – Cut round steel, steel plate, and plywood as detailed in specification.
- 2 – Drill 12 holes 6.5 mm dia. in base plate (1) (for the attachment of parts 6, 12, and 24).
- 3 – Drill 6 holes 6.5 mm dia. in the rack backboard (2) (for the attachment of parts 3 and 5).
- 4 – Shape tubes (16) as shown on drawing, drill a hole 6.5 mm dia. at either end of each of the tubes.
- 5 – Shape steel sheet (3) round off corners, drill and elongate holes as shown, bend and weld.
- 6 – Shape steel sheet (4) as shown on drawing, recess, bend and weld onto steel sheet (3).
- 7 – Shape steel sheet (5) as shown on drawing, round off corners and bend.
- 8 – Shape steel sheet (6) as shown on drawing, round off corners and bend.
- 9 – Shape steel sheet (7) as shown on drawing, drill four holes 4.5 mm dia. and bend.
- 10 – Drill two holes 4.5 mm dia. in steel sheet (24) as shown on drawing.
- 11 – Drill two holes 4.5 mm dia. in steel sheet (8) finish off and bend as shown on drawing.
- 12 – Drill two holes 4.5 mm dia. in steel sheet (9) finish off and bend as shown on drawing.
- 13 – Drill two holes 4.5 mm dia. in steel sheet (10) finish off and bend as shown on drawing.
- 14 – Drill two holes 4.5 mm dia. in steel sheet (11) finish off and bend as shown on drawing.
- 15 – Drill two holes 6.5 mm dia. in steel sheet (12) finish off as shown on drawing.
- 16 – Drill four holes 4.5 mm dia. in steel sheet (13) finish off and bend as shown on drawing.
- 17 – Fit steel strips (14) into container (13) as shown on drawing, weld in position.
- 18 – Cut a thread on the round steel piece (15) using a M 6 die, bend as shown.
- 19 – Mount the steel sheet pieces (3, 5, 7, 8, 9 and 11) on plywood (2) using bolts (19) washers (22) nuts (17) and wood screws (18).
- 20 – Fasten supports (16) to plywood parts (1 and 2) with bolts.
- 21 – Fasten casters (20) with bolts (19) fit nuts (17) and tighten.
- 22 – Screw the container (13) to the base board (1) and back board (2) using wood screws (18) as shown on drawing.
- 23 – Fasten angle bracket (24) to base board (1) and back board (2).
- 24 – Fasten steel sheet piece (6) using bolts (19) and nuts (17) tighten nuts.
- 25 – Place the round steel piece (15) around the straightened handle of the tool trolley, and push the ends through the holes in the base board (15) as shown on drawing, fit U-bolt plate (12) and secure with nuts (21).
- 26 – Fasten hook (23) to back board of rack (2).
- 27 – Paint the tool rack in the prevailing colour of the equipment and machines of the workshop.

Note: The racks shown on drawings VW 678/2 and 678/3 are similarly manufactured, with only slight alterations.



Specification on reverse

VOLKSWAGENWERK GMBH.
WOLFSBURG
Service Department

Tool Rack for Tool Trolley

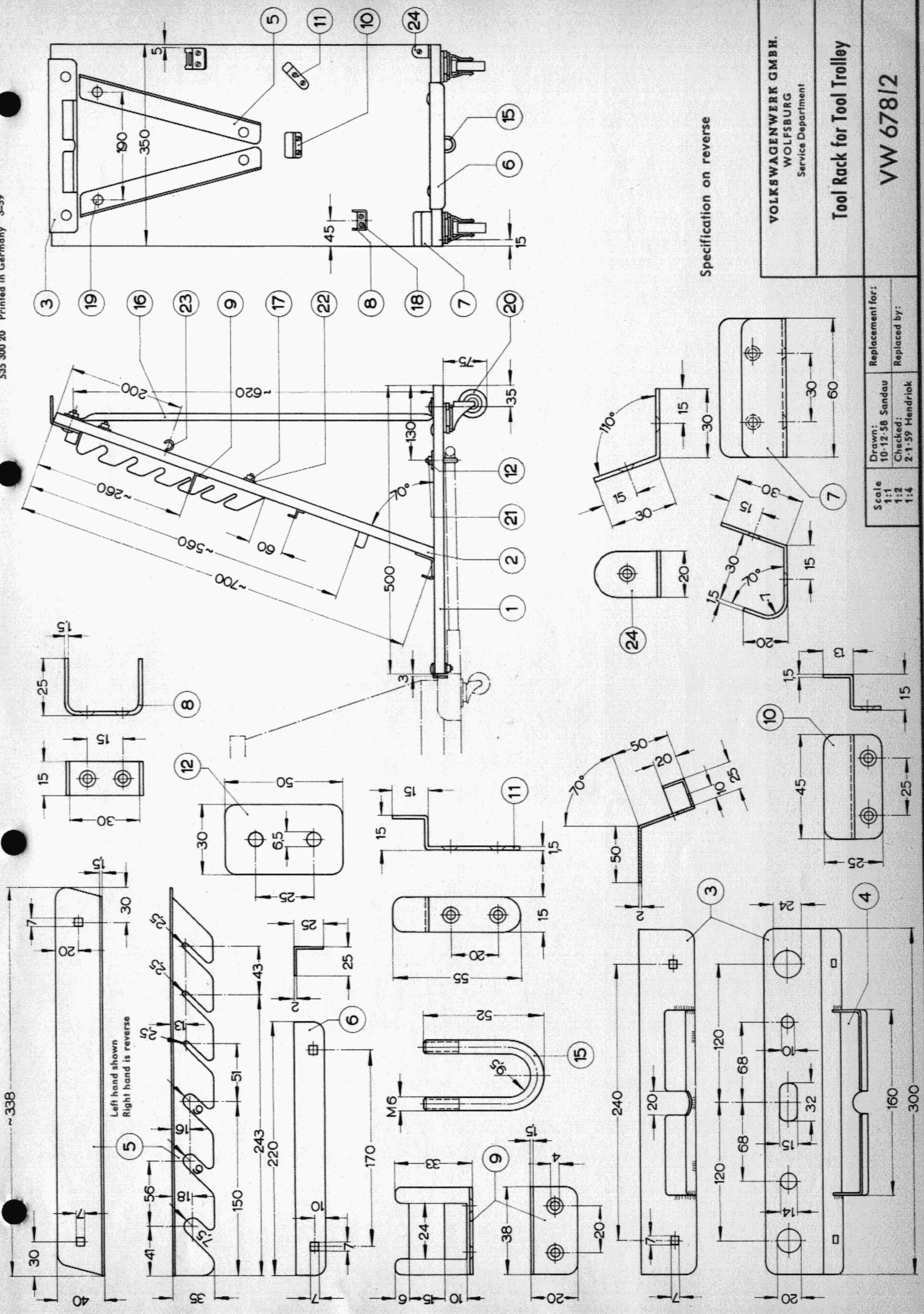
Scale
1:1
1:2
1:4

Drawn:
10-12-58 Sandau
Checked:
2-1-59 Hendriok

VW 678/1

22	6	Washer	R 7	DIN 440
21	2	Nuts	M 6	DIN 934
20	2	Caster	overall height 75 mm	
19	16	Bolts	M 6 x 30	DIN 603
18	16	Wood screws	4 x 17	DIN 97
17	16	Nuts	M 6	DIN 557
16	2	Supports	12 dia. x 0.75 x 675 Steel tube	
15	1	U-Bolts	6 dia. x 110	Round Steel
14	2	Sheets	1.5 x 60 x 82	Sheet Steel
13	1	Container	1.5 x 185 x 410	"
12	1	U-Bolt Plate	1.5 x 30 x 50	"
11	1	Bracket	1.5 x 15 x 70	"
10	1	Bracket	1.5 x 42 x 45	"
9	1	Bracket	1.5 x 38 x 55	"
8	1	Bracket	1.5 x 15 x 70	"
7	1	Bracket	1.5 x 60 x 80	"
6	1	Connecting Plate	2 x 50 x 220	"
5	2	Tool Rack	1.5 x 75 x 490	"
4	1	Rack	1.5 x 45 x 212	"
3	1	Rack	2 x 100 x 300	Steel Sheet
2	1	Rack Backboard	18 x 700 x 350	Plywood
1	1	Base board	18 x 500 x 350	Plywood

Part No. No Required Description Rough Size or Standard Spec. Remarks



Specification on reverse

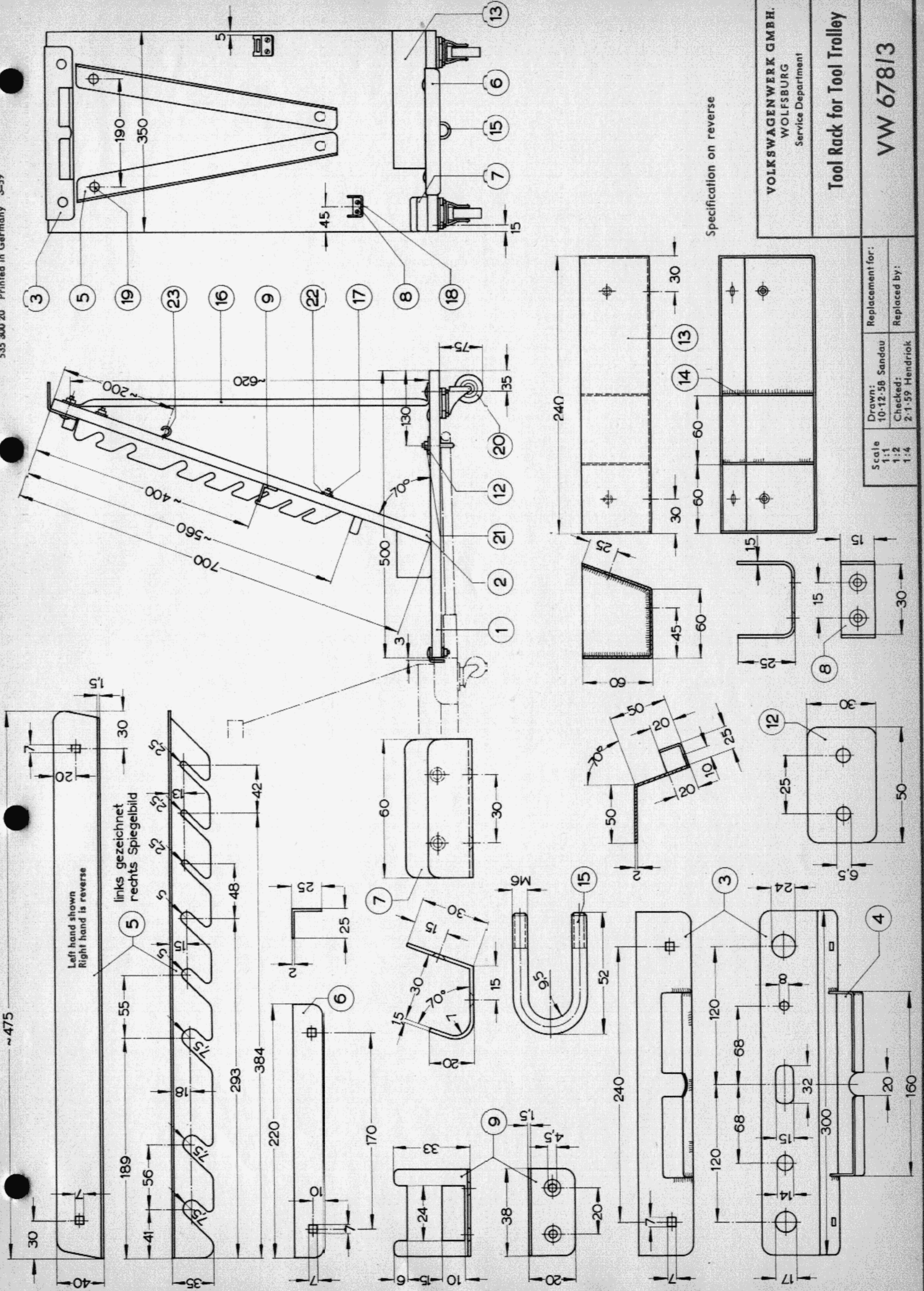
VOLKSWAGENWERK GMBH.
WOLFSBURG
Service Department

Tool Rack for Tool Trolley

VW 678/2

Scale	Replacement for:
1:1	10-12-58 Sandau
1:2	Checked:
1:4	2-1-59 Hendriok

24	1	Angle Bracket	2 X 20 X 60	Steel Sheet	
23	1	Hook			
22	6	Washers	R 7	DIN 440	
21	2	Nuts	M 6	DIN 934	
20	2	Casters	overall height 75 mm		
19	16	Bolts	M 6 X 30	DIN 603	
18	14	Wood Screws	4 X 17	DIN 97	
17	16	Nuts	M 6	DIN 934	
16	2	Supports	12 dia. X 0.75 X 675	Steel tube	
15	1	U-Bolt	6 dia. X 110	Round Steel	
12	1	U-Bolt Plate	1.5 X 30 X 50	Steel Sheet	
11	1	Bracket	1.5 X 15 X 70	"	
10	1	Bracket	1.5 X 42 X 45	"	
9	1	Bracket	1.5 X 38 X 55	"	
8	1	Rincket	1.5 X 15 X 80	"	
7	1	Bracket	1.5 X 60 X 80	"	
6	1	Connecting Plate	2 X 50 X 220	"	
5	2	Tool Rack	1.5 X 75 X 998	"	
4	1	Rack	1.5 X 45 X 212	"	
3	1	Rack	2 X 100 X 300	"	
2	1	Rack Backboard	18 X 700 X 350	Plywood	
1	1	Rack Baseboard	18 X 500 X 350	Plywood	
		Part No.	Description	Rough Size or Standard Spec.	Remarks
		No. Required			



Specification on reverse

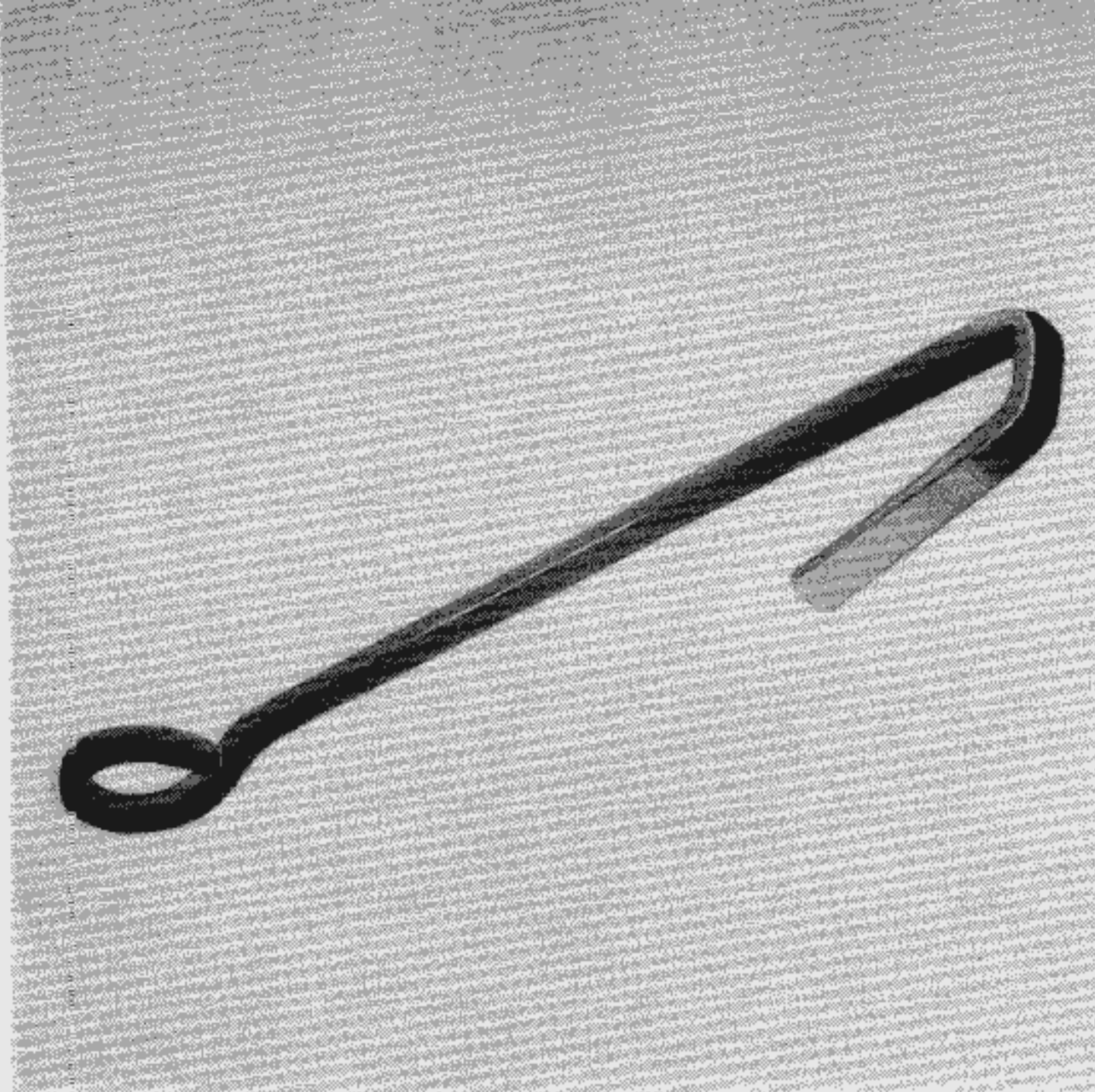
VOLKSWAGENWERK GMBH.
WOLFSBURG
Service Department

Tool Rack for Tool Trolley

Scale	Replacement for:
1:1	10-12-58 Sandau
1:2	Checked:
1:4	2-1-59 Hendriok
	Replaced by:

VW 67813

23	1	Hook				
22	6	Washers	R 7		DIN 440	
21	2	Nuts	M 6		DIN 934	
20	2	Casters	overall height 75 mm			
19	16	Bolts	M 6 x 30		DIN 603	
18	12	Wood Screws	4 x 17		DIN 97	
17	16	Nuts	M 6		DIN 557	
16	2	Supports	12 dia. x 0.75 x 675		Steel tube	
15	1	U-Bolt	6 dia. x 110		Round Steel	
14	2	Sheets	1.5 x 60 x 82		Steel Sheet	
13	1	Container	1.5 x 185 x 410		"	
12	1	U-Bolt Plate	1.5 x 30 x 50		"	
9	1	Bracket	1.5 x 38 x 55		Steel Sheet	
8	1	Bracket	1.5 x 15 x 80		"	
7	1	Bracket	1.5 x 60 x 80		"	
6	1	Connecting Plate	2 x 50 x 220		"	
5	2	Tool Rack	1.5 x 75 x 475		"	
4	1	Rack	1.5 x 45 x 212		"	
3	1	Rack	2 x 100 x 300		"	
2	1	Rack Backboard	18 x 700 x 350		Plywood	
1	1	Base board	18 x 500 x 350		Plywood	
Part No		Description		Rough Size or Standard Spec.		Remarks
No Required						



**Transmission
Oil Dipstick**

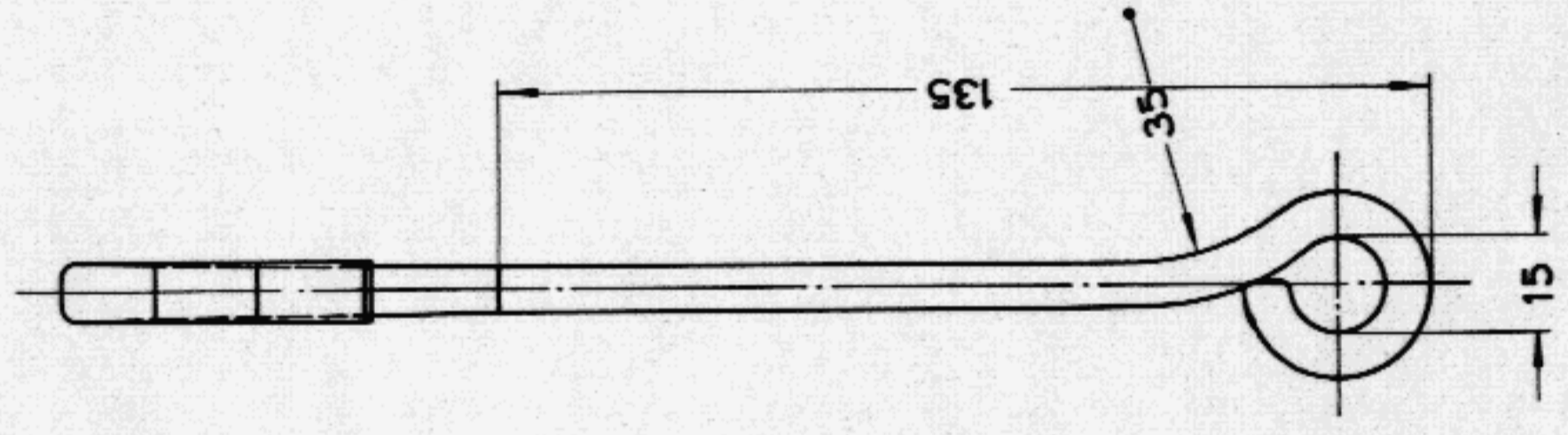
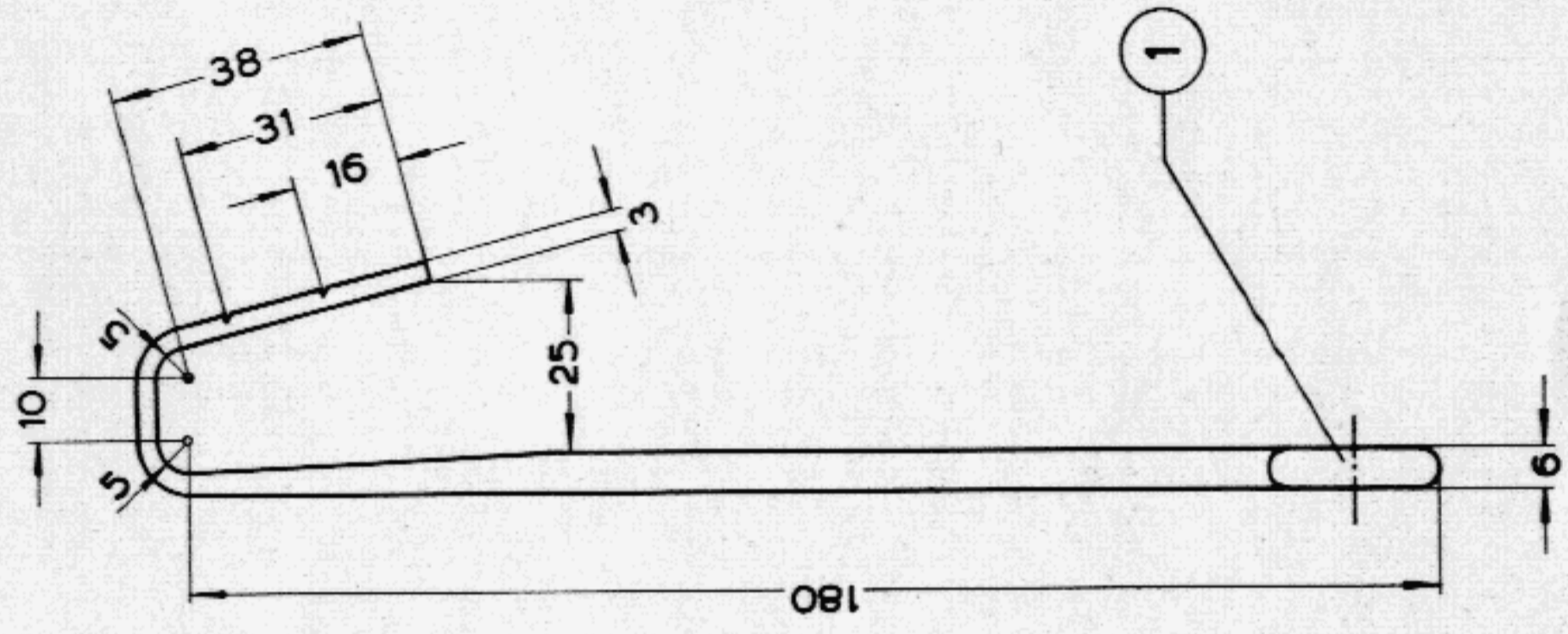
The hook-shaped dipstick is used for checking the transmission oil level on vehicles from Chassis No. 1—0397023.

The top mark shows the specified oil level: VW Passenger Cars and Transporters up to Chassis No. 469446 2.5 liters, VW Transporters from Chassis No. 469447 3.0 liters. The lower mark shows that 1 liter of oil is required to fill up to the specified oil level.



Construction Details for VW 679

- 1 — Cut round steel rod as detailed in list of parts.
- 2 — Flatten out end of round steel rod (1) and bend as shown in drawing. Clean outside surfaces by filing.
- 3 — Mark off on the polished surface of the round steel rod as shown on drawing.
- 4 — Paint the dipstick down to the measuring surface.



1	Measuring Rod	60 mm dia. X 280 Round steel
Part No.	Description	Rough size or standard spec.
No. required		Remarks

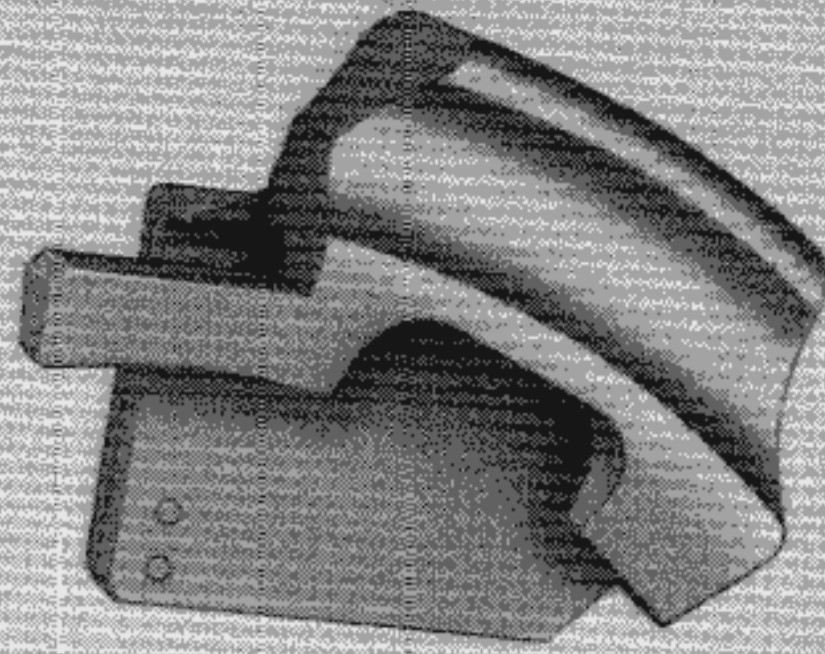
Transmission Oil Dipstick

VW 679

VOLKSWAGENWERK AG
WOLFSBURG
 Service — Department

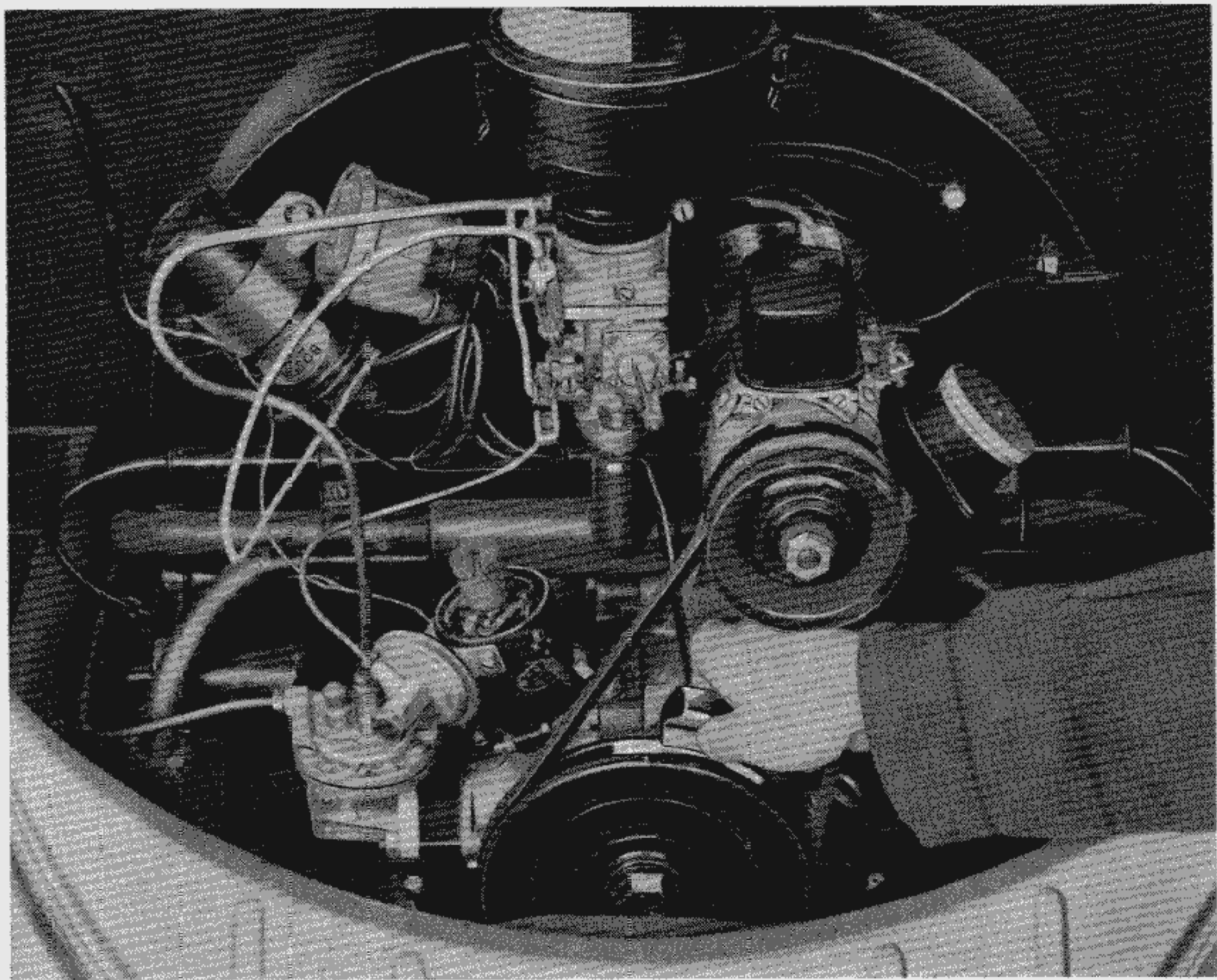
Drawn
 9. 2. 60 Weinstock

Checked
 7. 3. 60 Senf



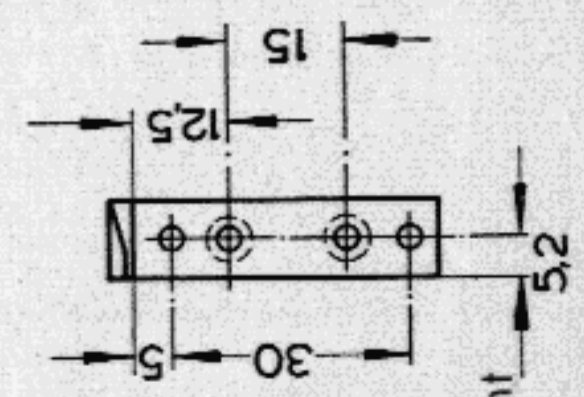
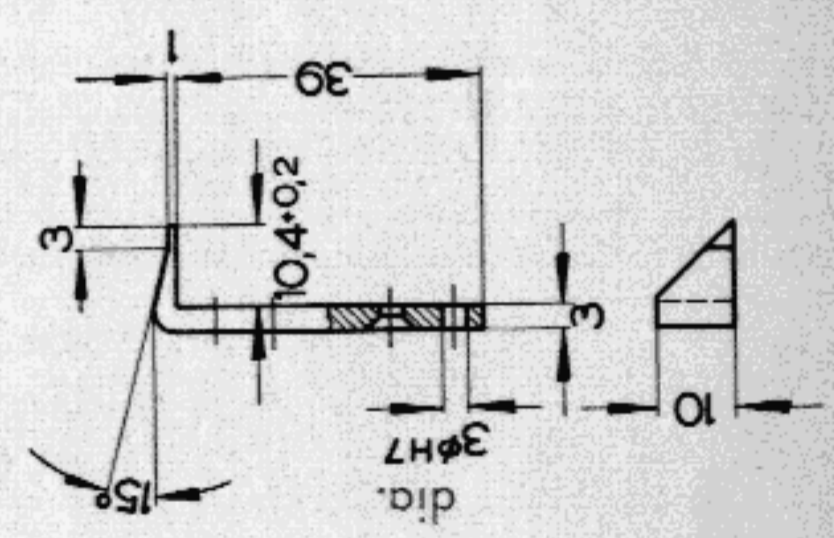
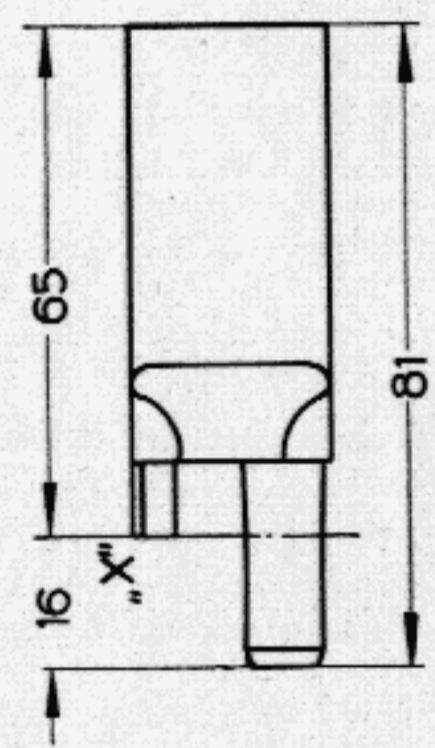
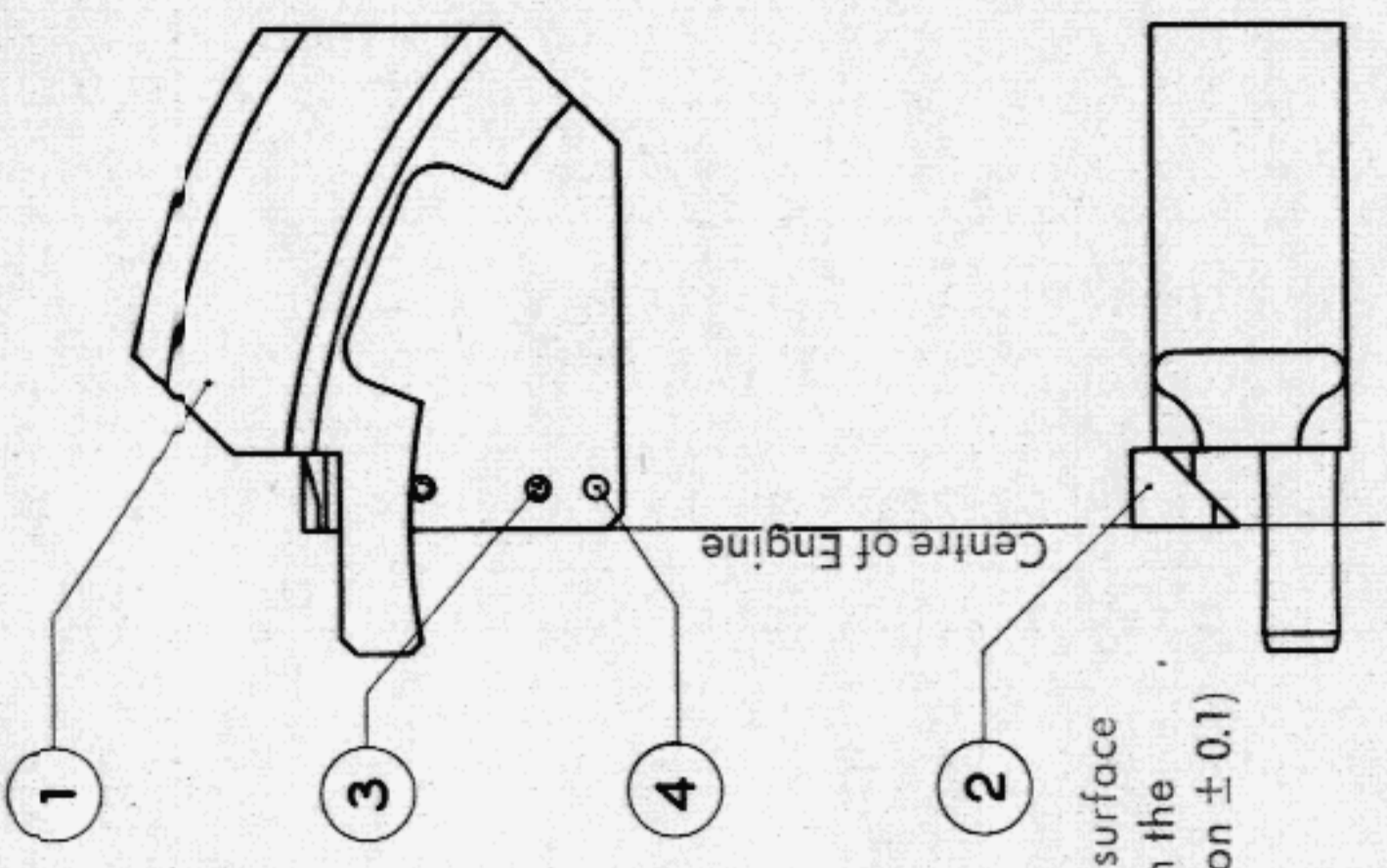
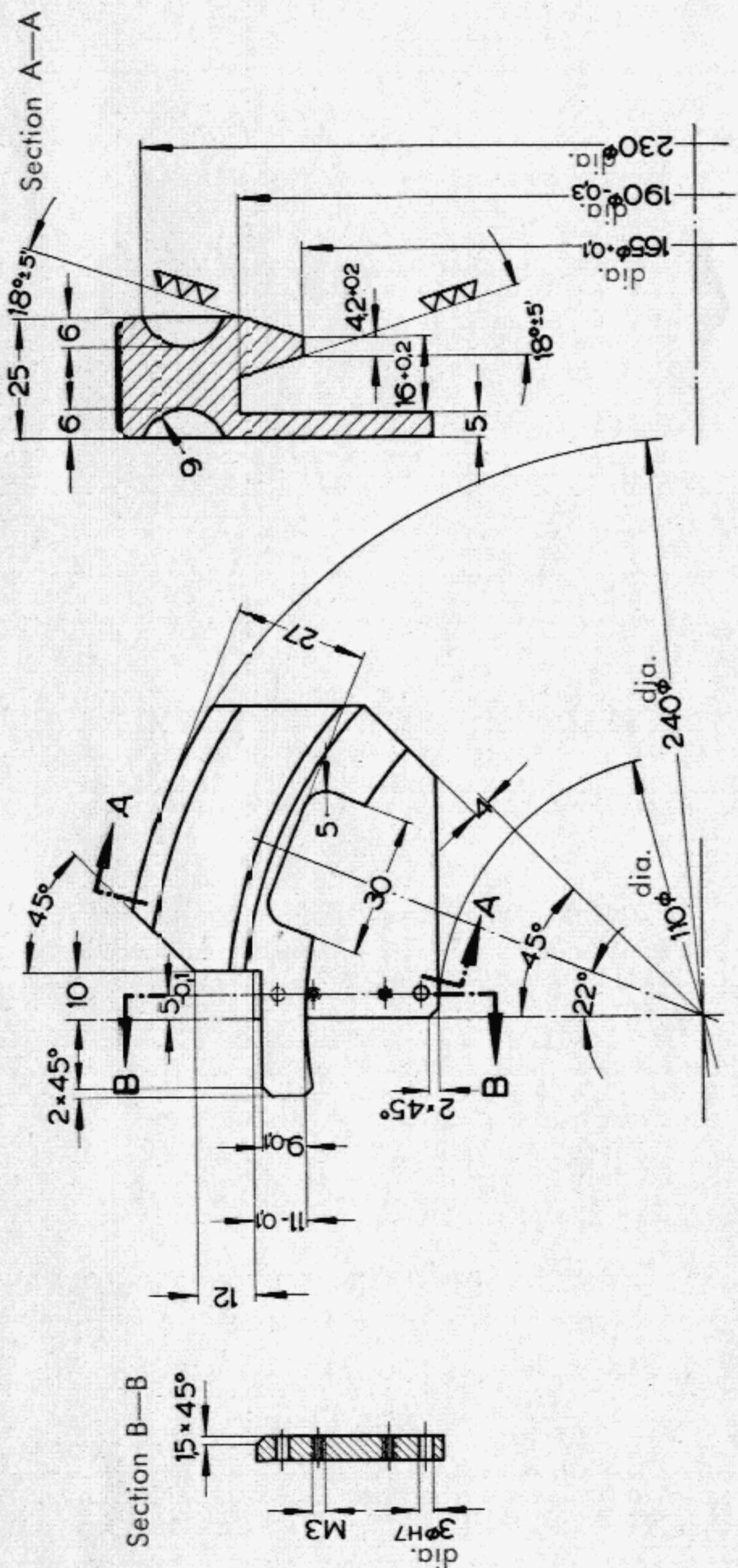
**Device for Checking Ignition
Timing Adjustment**

With the aid of this device the exact coincidence of the mark on the crankshaft pulley with the crankcase jointing face can be checked. The device is set in the crankshaft pulley and pushed from the right as far as the stop of the crankcase jointing face. Care must be taken when further turning the crankshaft pulley to see that the device remains against the stop of the crankcase jointing face. By correct adjustment the mark on the crankshaft pulley is covered by the point of the indicator.



Construction Details for VW 680

- 1 — Cut round and flat steel as detailed in list of parts.
- 2 — Turn round steel and cut out semi circular-groove as shown on drawing.
- 3 — Bend flat steel as shown on drawing, mark off for drilling.
- 4 — Drill 2 holes 2.3 mm dia., and 2 holes 3 mm dia. in flat steel as shown on drawing.
- 5 — Finish off semi-circular groove as shown on drawing.
- 6 — Lay the flat steel piece on the worked round steel part and, using a centre punch, mark off the drill holes from the flat steel piece on to the round steel part as shown on drawing.
- 7 — Drill 2 holes 2.3 mm dia. and 2 holes 3 mm dia. in the round steel piece. Cut a M3 thread in the 2.3 mm dia. hole.
- 8 — Screw the flat steel part (2) to round steel part (1) using 2 countersunk M3 set screws (3).
- 9 — Ream up 3 mm dia. drill holes in flat and round steel parts using an H7 reamer.
- 10 — Surface grind the contact edge of the finger (2) and shape part (1).
- 11 — Lightly smear with grease to protect the device against corrosion.



Front corner of the abutment surface must lie in a straight line with the indicator finger (max. variation ± 0.1)

Edge on the centre 165 dia ± 0.1
Max. deviation ± 0.1
surface ground

After fitting with abutment corner (X) of part 1 surface ground

Part No.	Description	Rough size or standard spec.	Remarks
4	2 Round pin	3 m 6 X 12	DIN 6325
3	1 Countersunk Screw	M 3 X 8	DIN 87
2	1 Indicator	10 X 3 X 53	Sr 00.12
1	1 Profile piece	250 dia. X 32	C 45

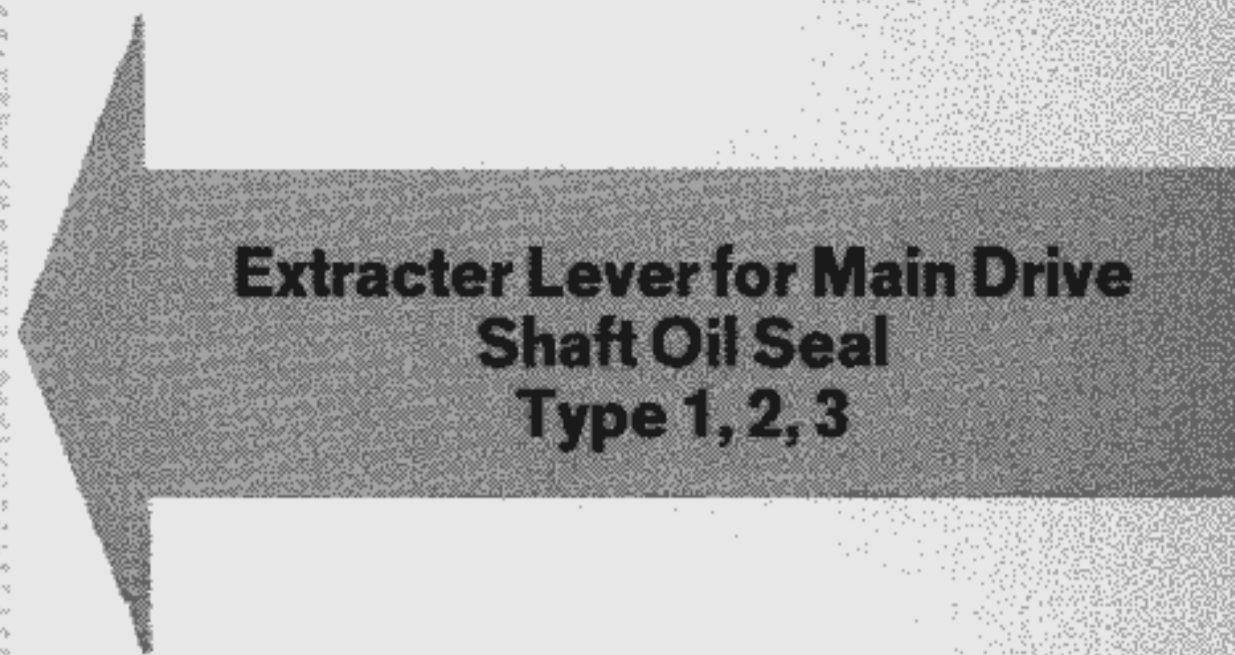
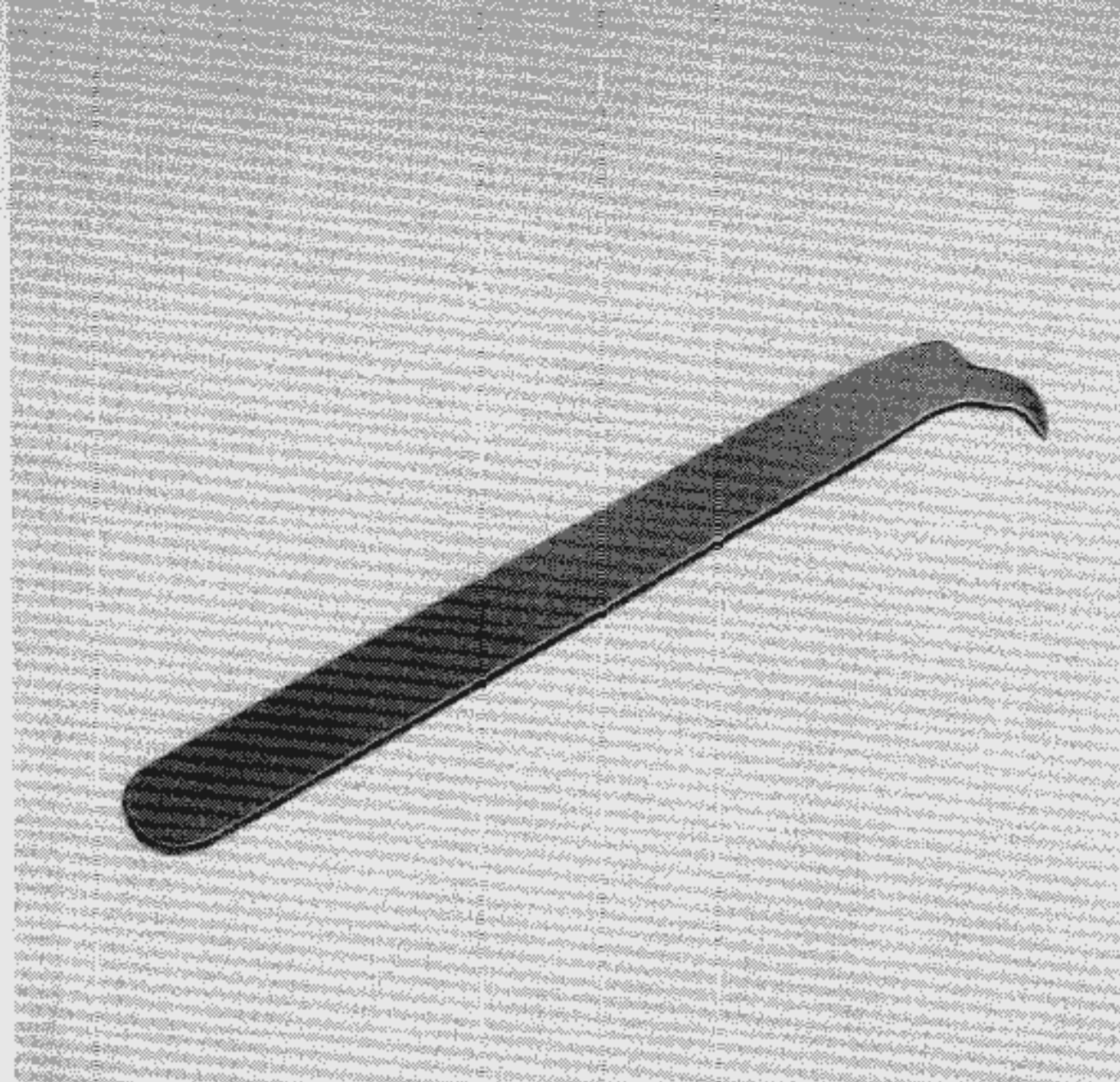
Device for Checking Ignition Timing Adjustment

VOLKSWAGENWERK AG
WOLFSBURG
Service Department

Drawn
23. 2. 59 Sandau

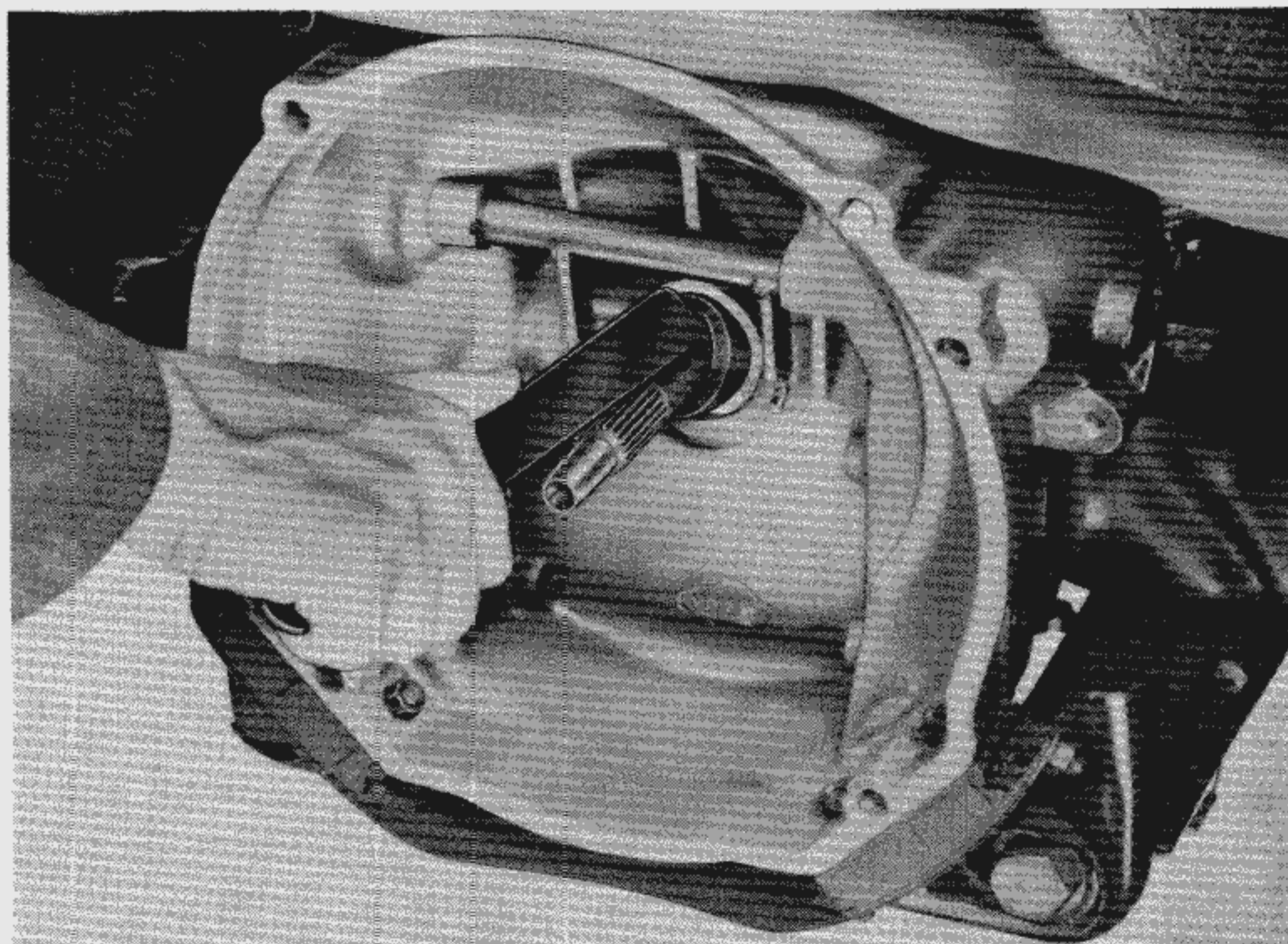
Checked
23. 2. 59 Röhr

VW 680

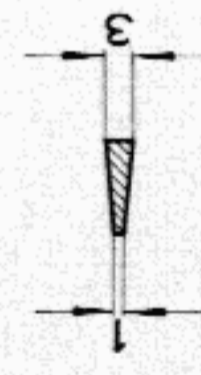
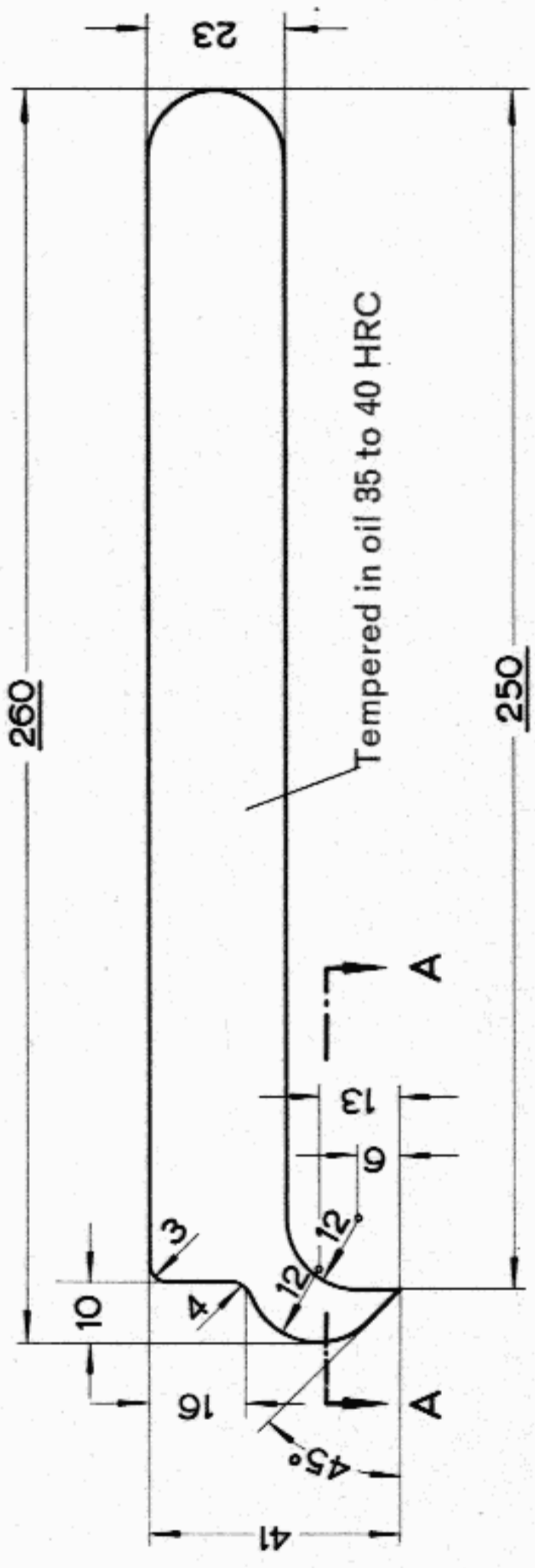


**Extractor Lever for Main Drive
Shaft Oil Seal
Type 1, 2, 3**

The main drive shaft oil seal can be removed from the transmission case with the aid of the extractor lever.



No.	Date	Description of modification
1	17. 8. 67	was strip steel



Section A-A

Chamfer edges

①

1	hook	1	spring steel strip	50x3x270	
Qty. Designation		Part	Material	Part No. or Standard spec.	Remarks

When no limit is given tolerance ± 0.25 ; $\pm 30'$ applies

VOLKSWAGENWERK AG
WOLFSBURG
Service Department

**Extractor Lever for Main Drive
Shaft Oil Seal**

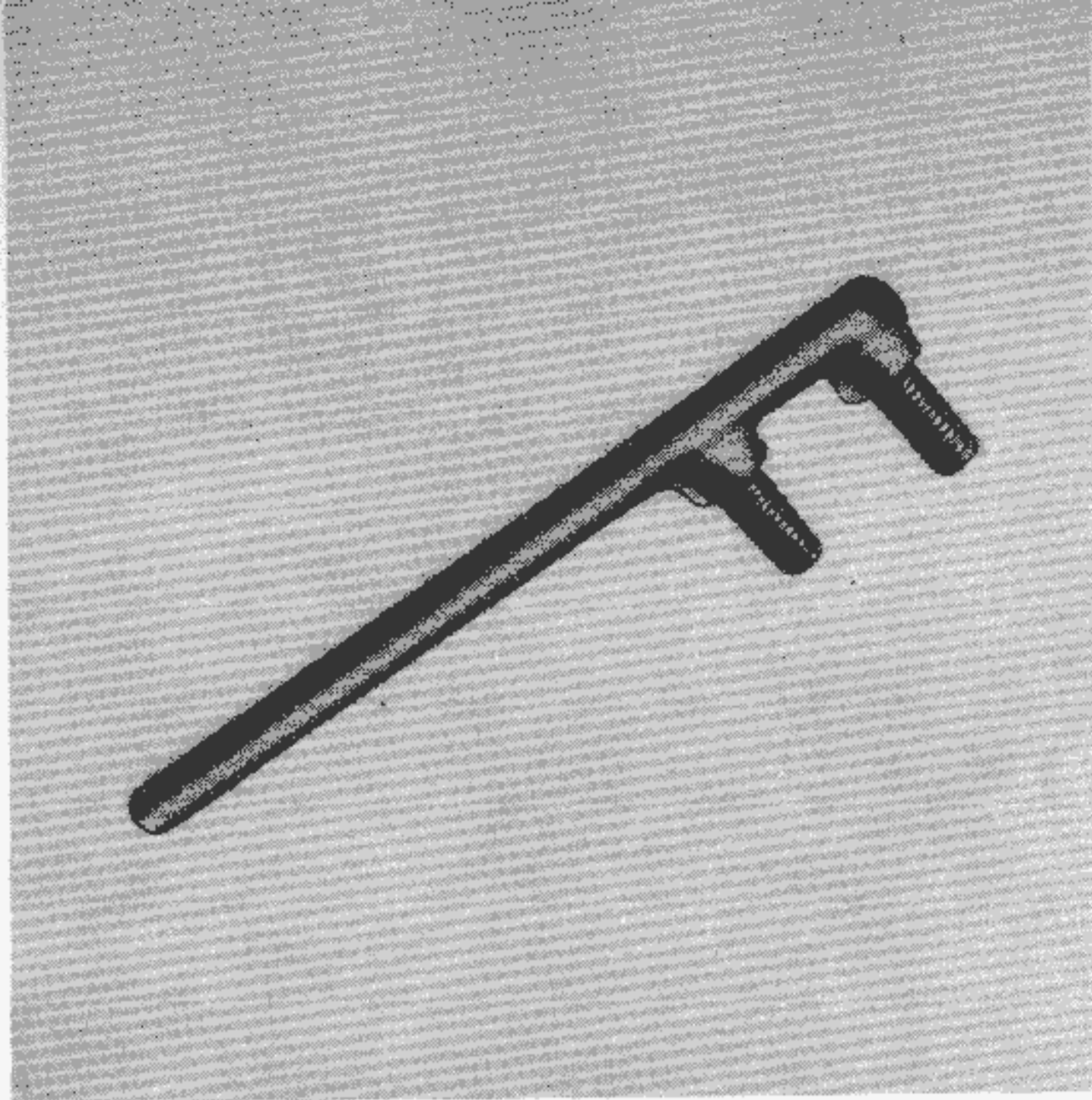
Drawn:
3. 3. 60 Weinstock

Checked:
7. 3. 60 Senf

No. of Sheets 1
Sheet No. 1

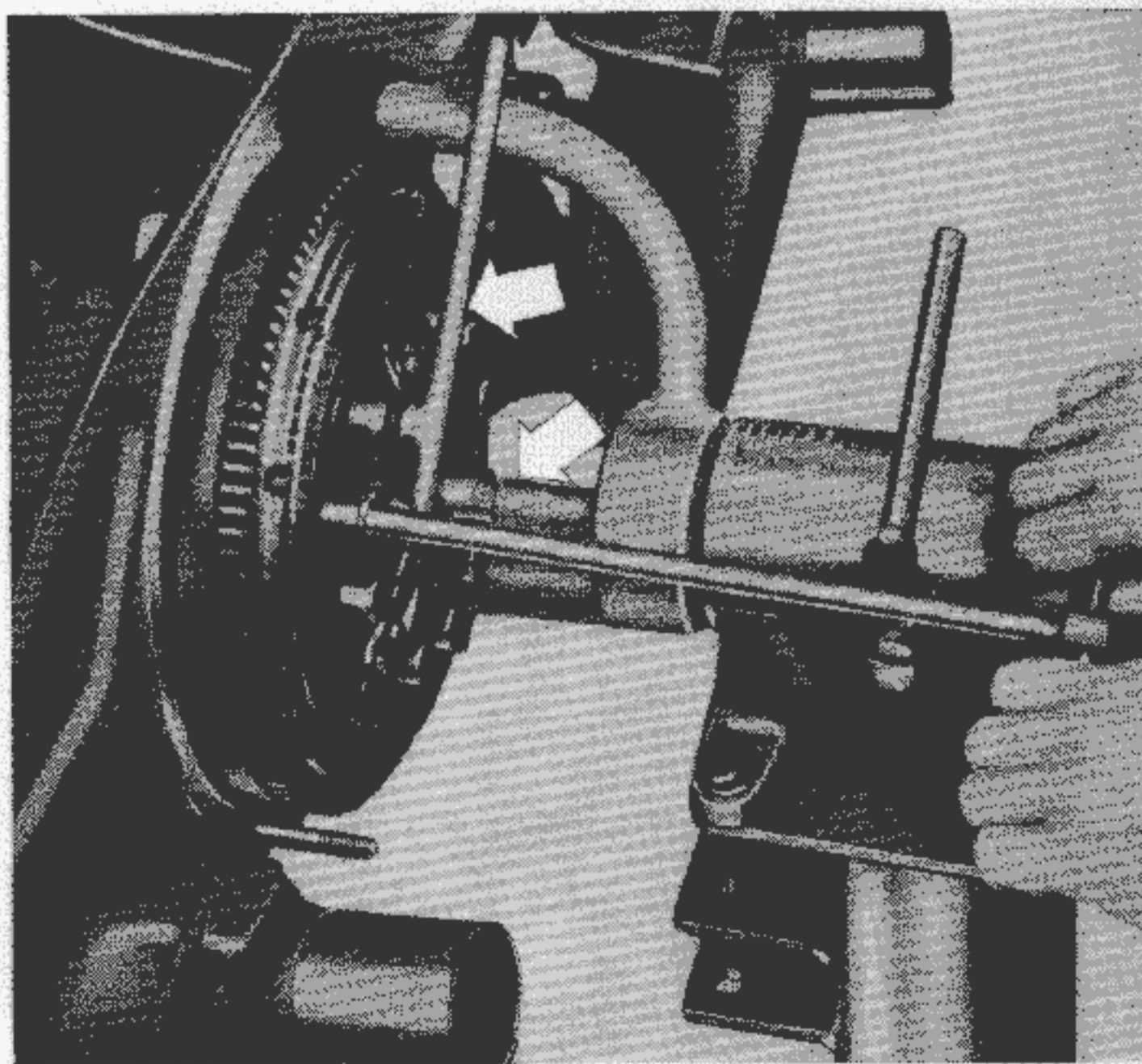
VW 681

LOCAL MANUFACTURE OF WORKSHOP EQUIPMENT



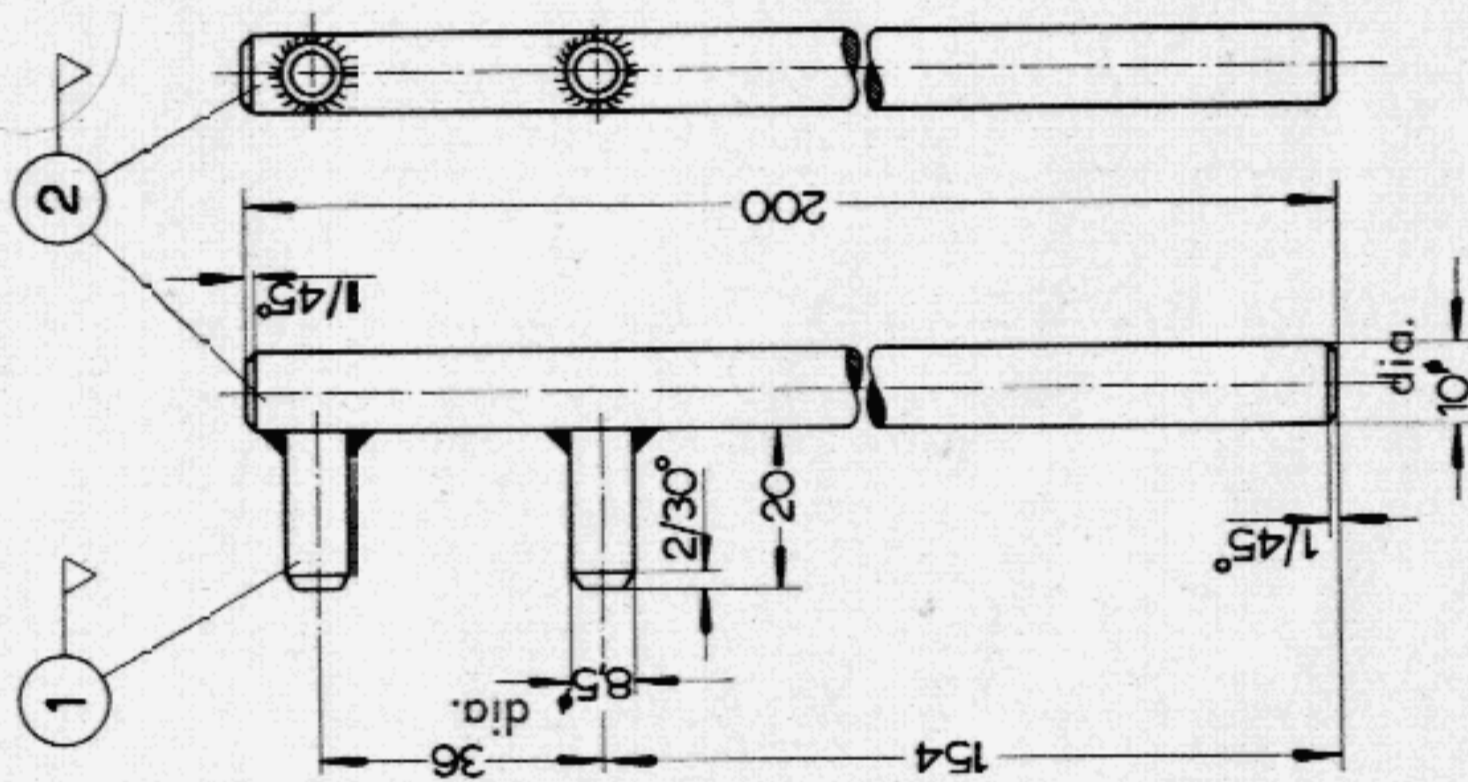
Retaining Lever for Clutch Pressure Plate (Automatic Clutch)

The retaining lever is inserted into two of the clutch pressure spring sleeves, the other end of the lever locating on the bracket of the assembly stand and, thereby holding the clutch pressure plate firm whilst pulling up the hexagon headed bolts on the clutch cover during the reassembly of the automatic clutch.



Construction Details for VW 482

- 1 — Cut round steel as detailed in specification.
- 2 — Weld bolts (1) to the lever (2) as shown on drawing.
- 3 — Point retaining lever.



2	1	Lever C 15	10 dia. X 205	
1	2	Bolts C 15	10 dia. X 25	
Part No.	Description	Rough size or standard spec.	Remarks	
No. required				

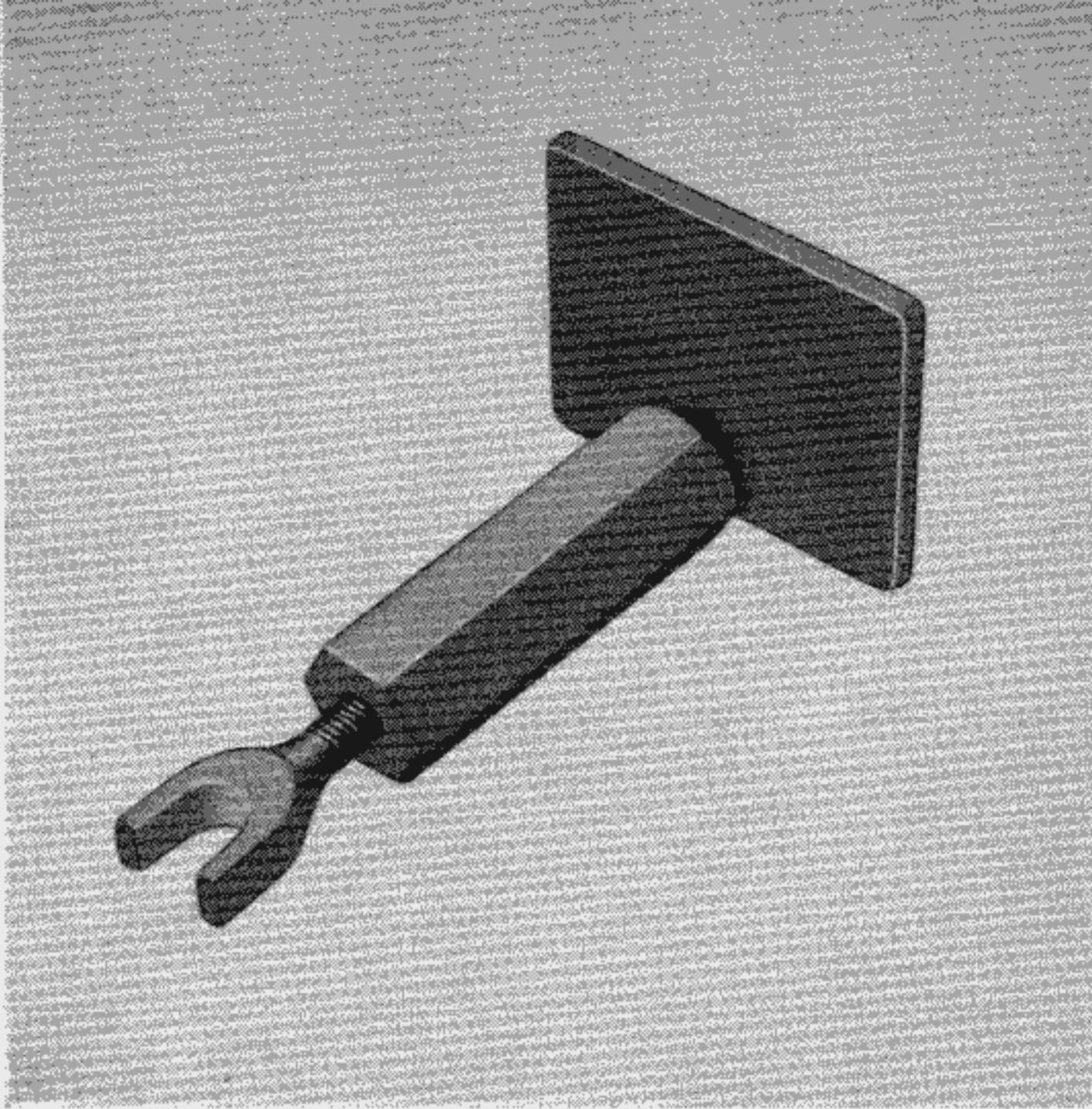
VOLKSWAGENWERK AG
WOLFSBURG
 Service Department

Drawn
3.3.60 Weinstock

Checked
7.3.60 Sent

Retaining Lever for Clutch Pressure Plate
(Automatic Clutch)

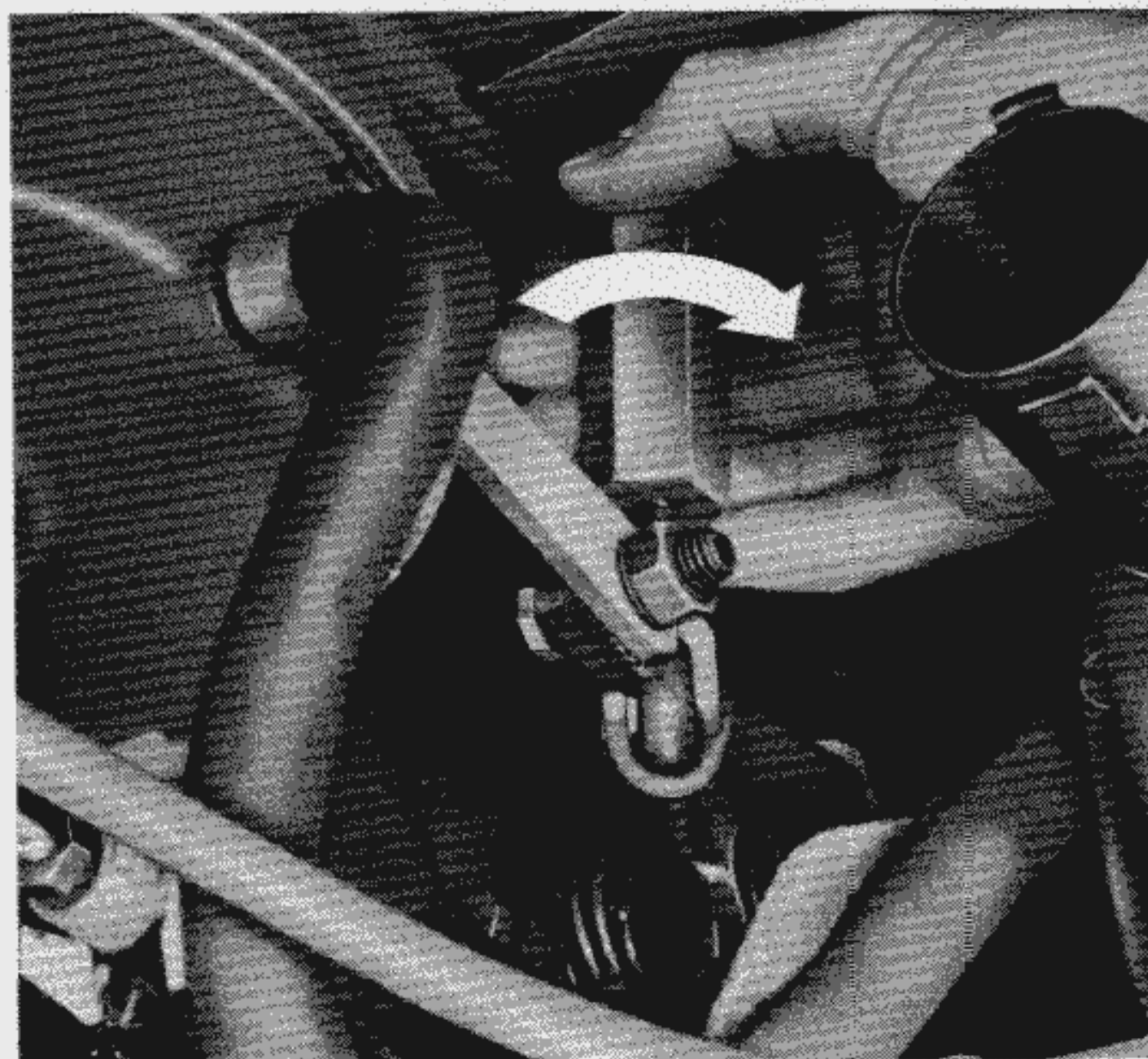
VW 682



Retaining Device for Clutch Lever (Automatic Clutch)

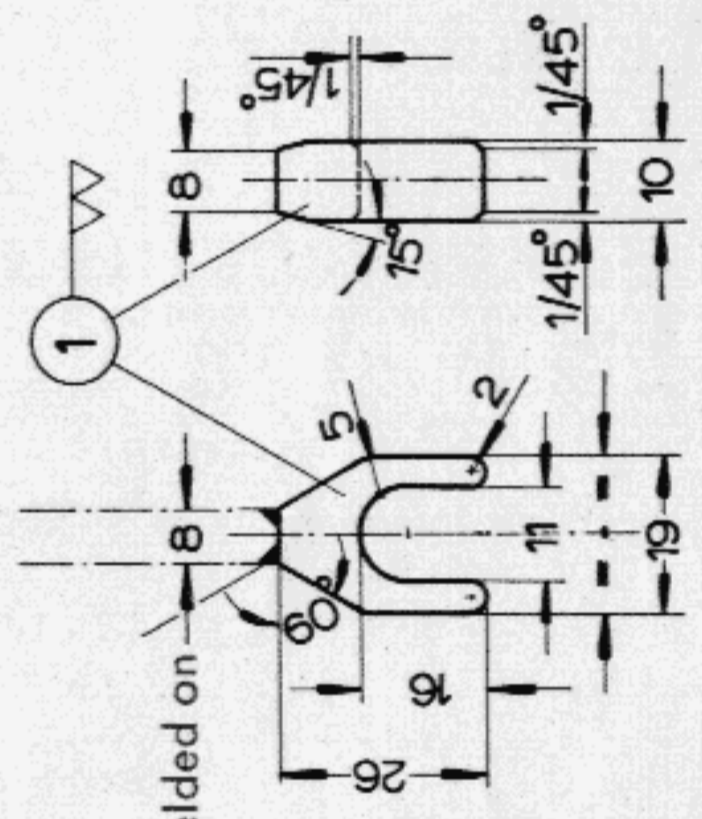
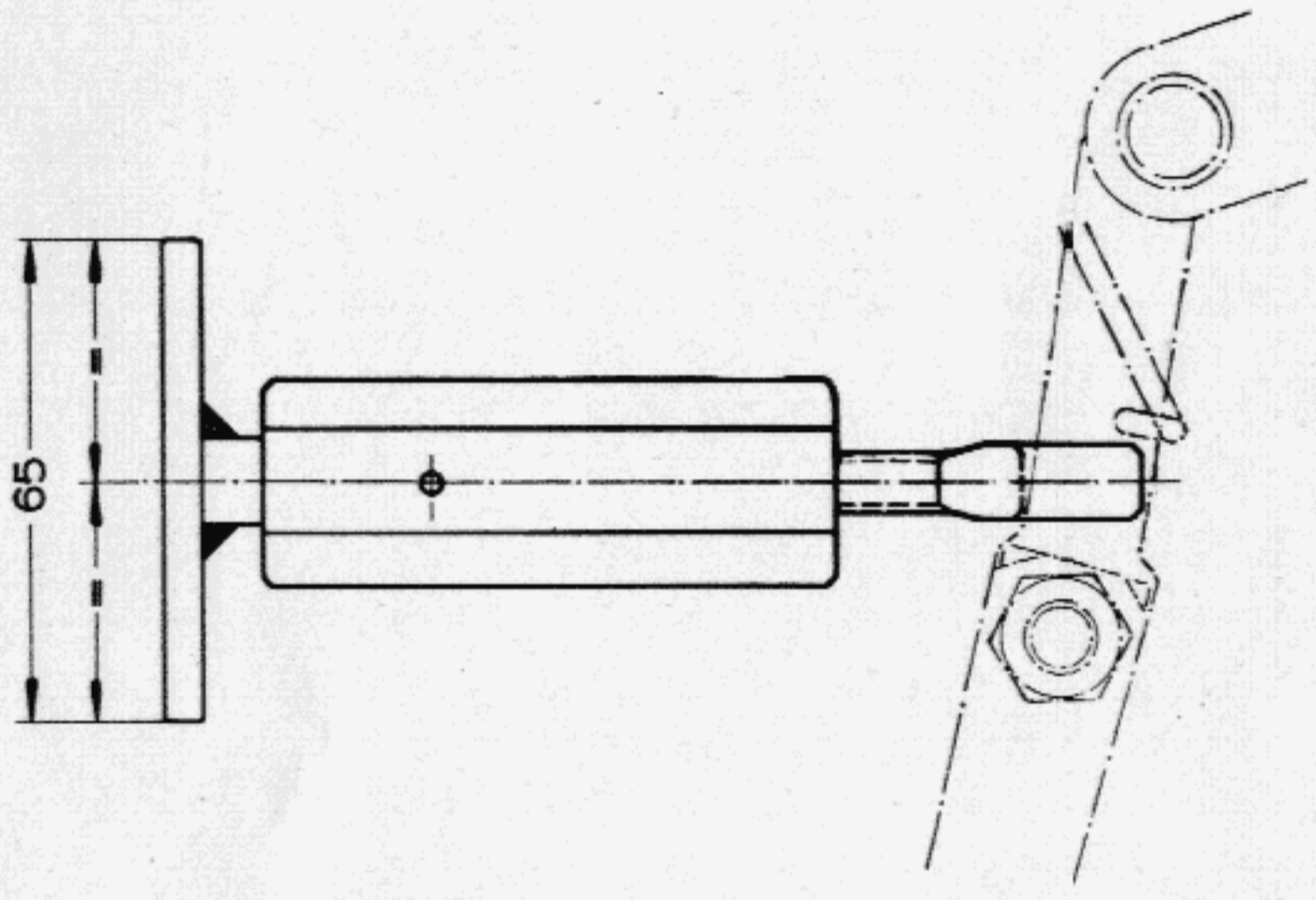
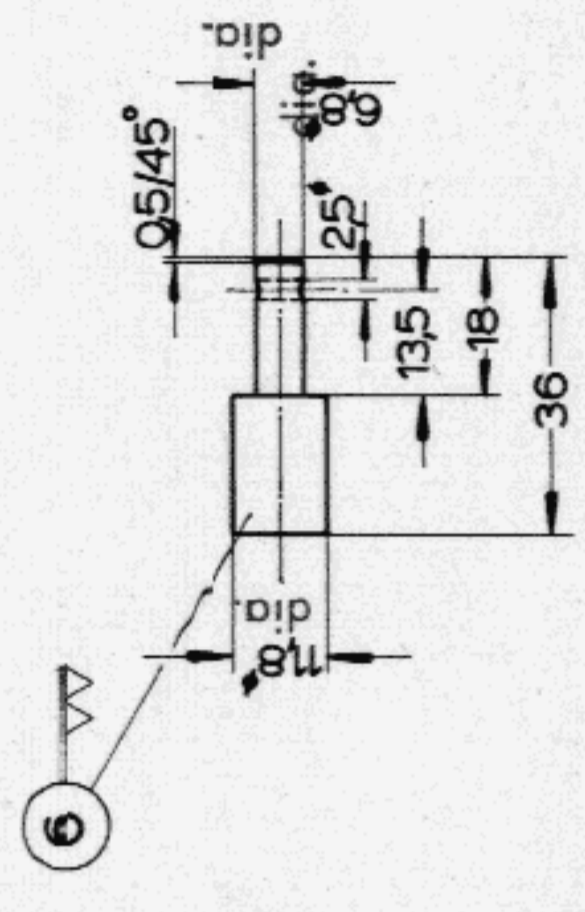
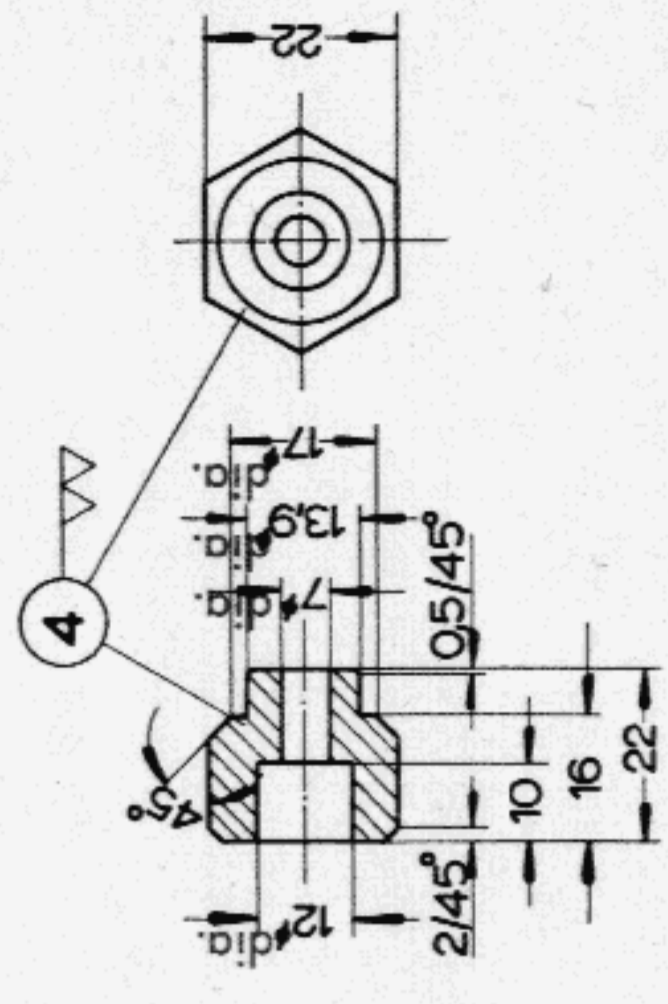
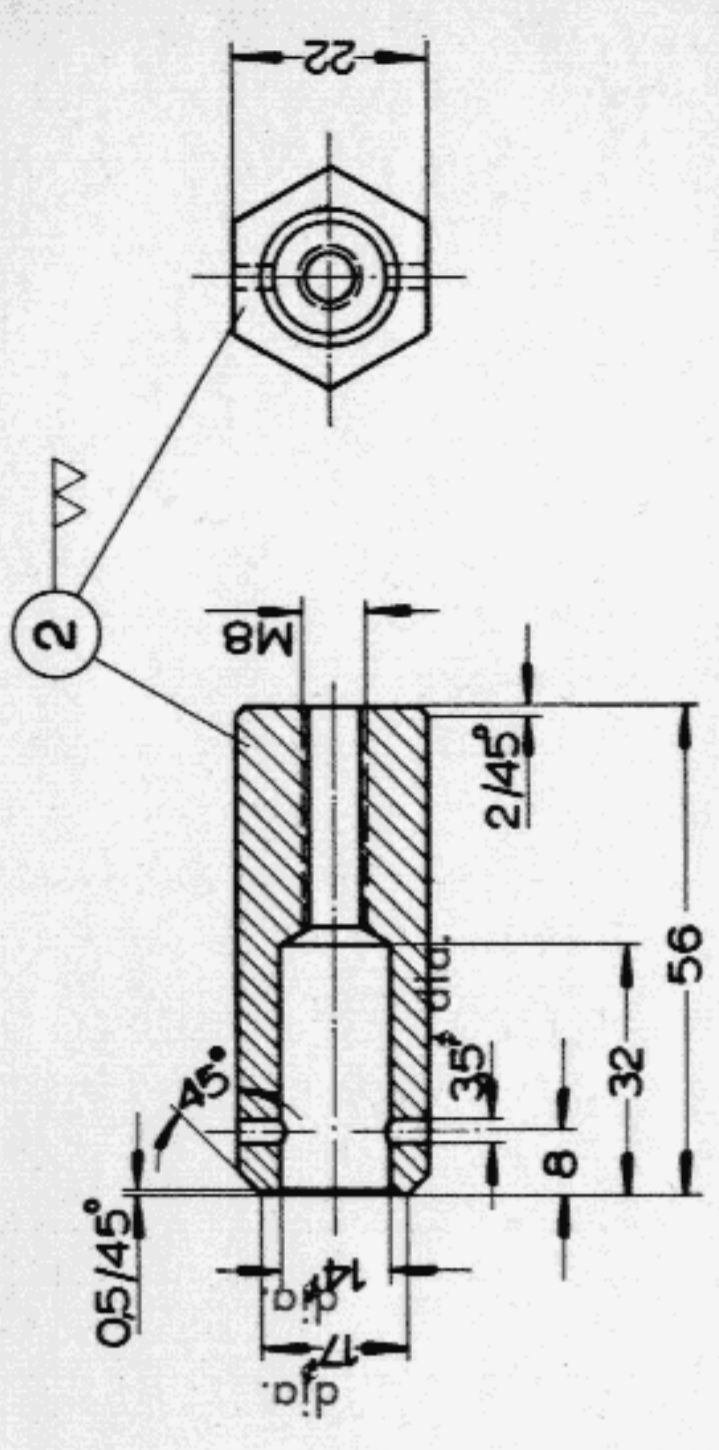
With the retaining device the lever of the Automatic Clutch can be held down whilst carrying out adjustment.

The device is fitted between the floor board of the rear luggage compartment and the clutch lever.

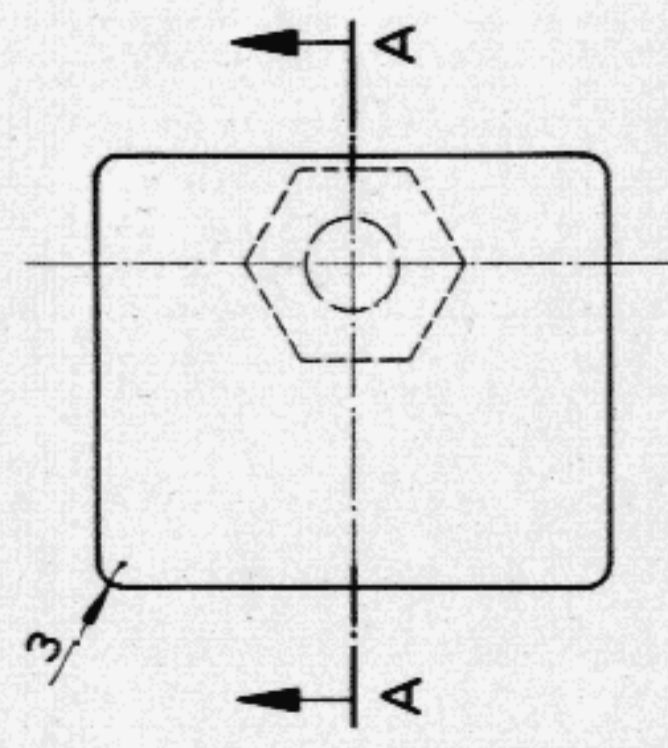
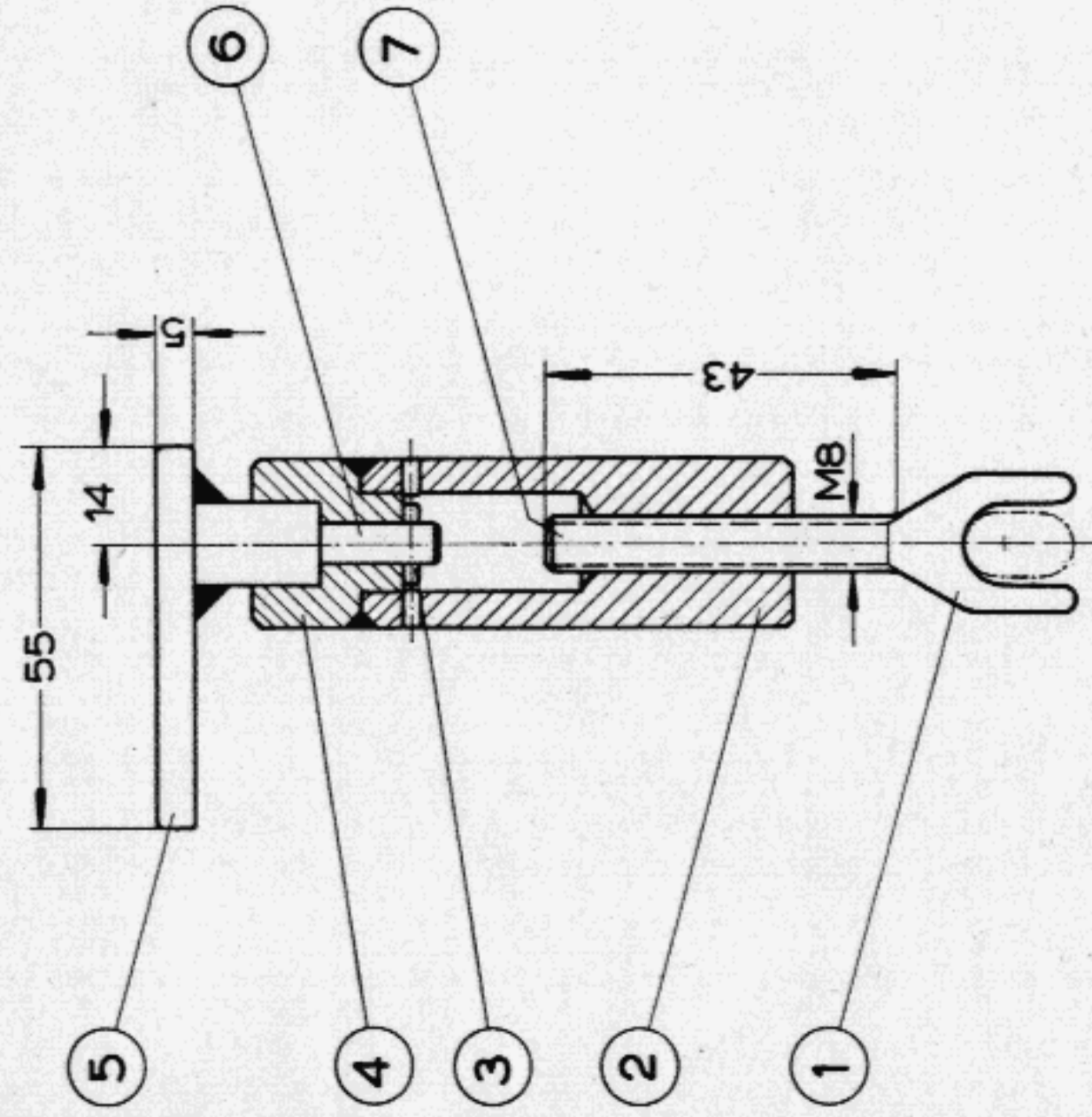


Constructions Details for VW 683

- 1 — Cut flat steel, and round and hexagonal steel bars as detailed in list of parts, and lay ready to hand together with standard parts.
- 2 — Shape fork (1) as shown on drawing.
- 3 — Drill, cut thread, cut to size and turn the hexagonal bars (2) and (4) as shown on drawing.
- 4 — Bore and turn bolt (6) as shown on drawing.
- 5 — Finish plate (5) to dimensions shown on drawing, weld bolt (6) to plate as shown on drawing.
- 6 — Weld the threaded part of the hex. bolt (7) to the fork piece (1) as shown on drawing.
- 7 — Weld hexagonal piece (2) to hexagonal (4) as shown on drawing.
- 8 — Place plate (5) with bolt (6) into bore in hexagonal piece (4) and secure in position with dowel pin (3).
- 9 — Paint device, lightly oil moving parts.



Part 7 welded on



Part No.	Description	Rough size or standard spec.	Remarks
7	Bolt M8 X 45	DIN 933 - 5.5	
6	Bolt	12 dia. X 40	C 15
5	Plate	60 X 5 X 70	St 37
4	Hex. piece	22 X 26	9 S 20 K
3	Dowel pin	2.5 X 12	DIN 1481
2	Hex Sleeve	22 X 60	9 S 20 K
1	Fork piece	30 X 10 X 24	C 15

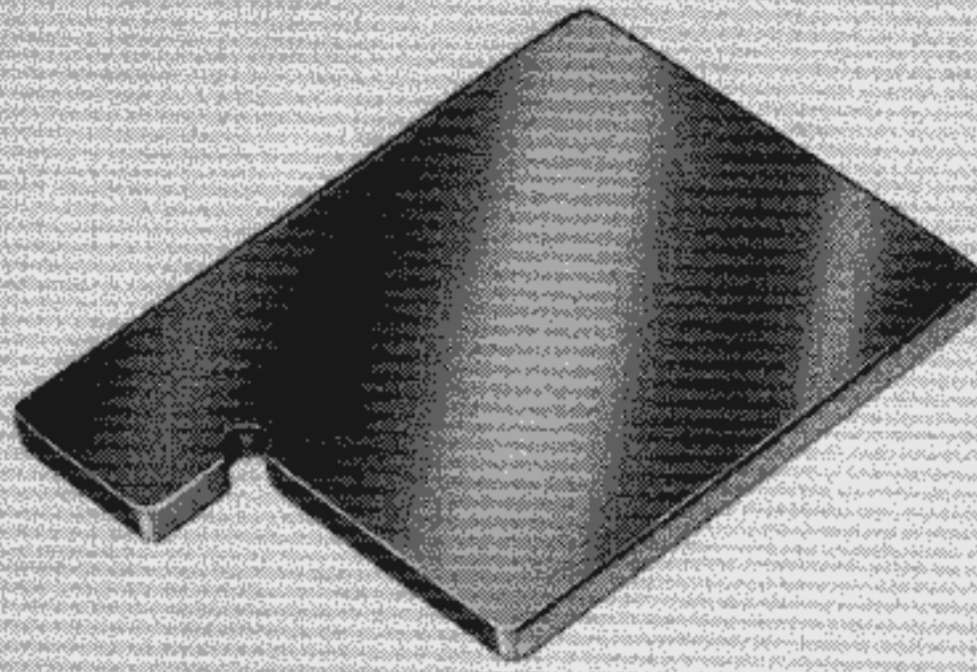
**Retaining Device for Clutch Lever
(Automatic Clutch)**

VW 683

VOLKSWAGENWERK AG
WOLFSBURG
Service Department

Drawn
23. 3. 60 Giesecking

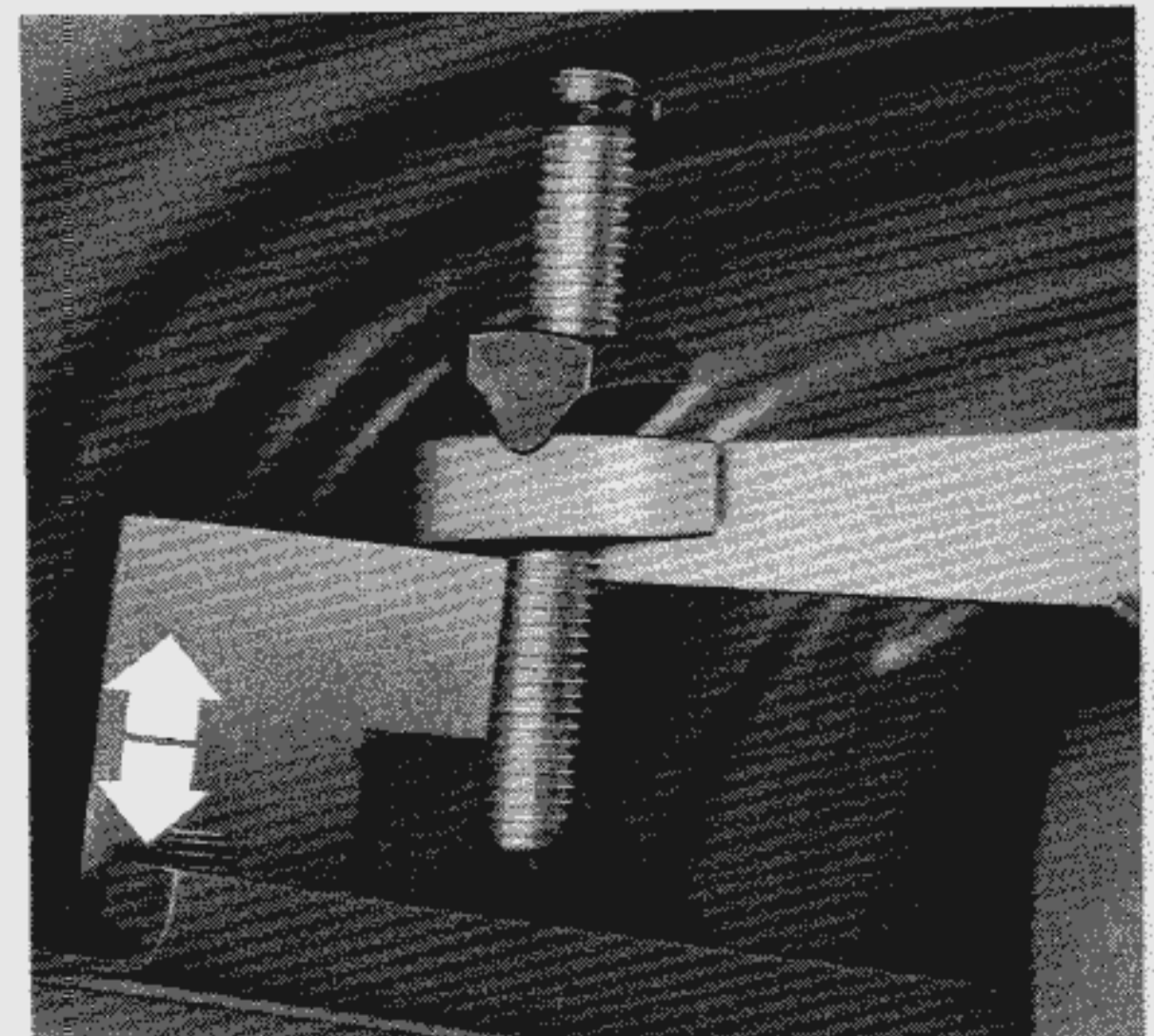
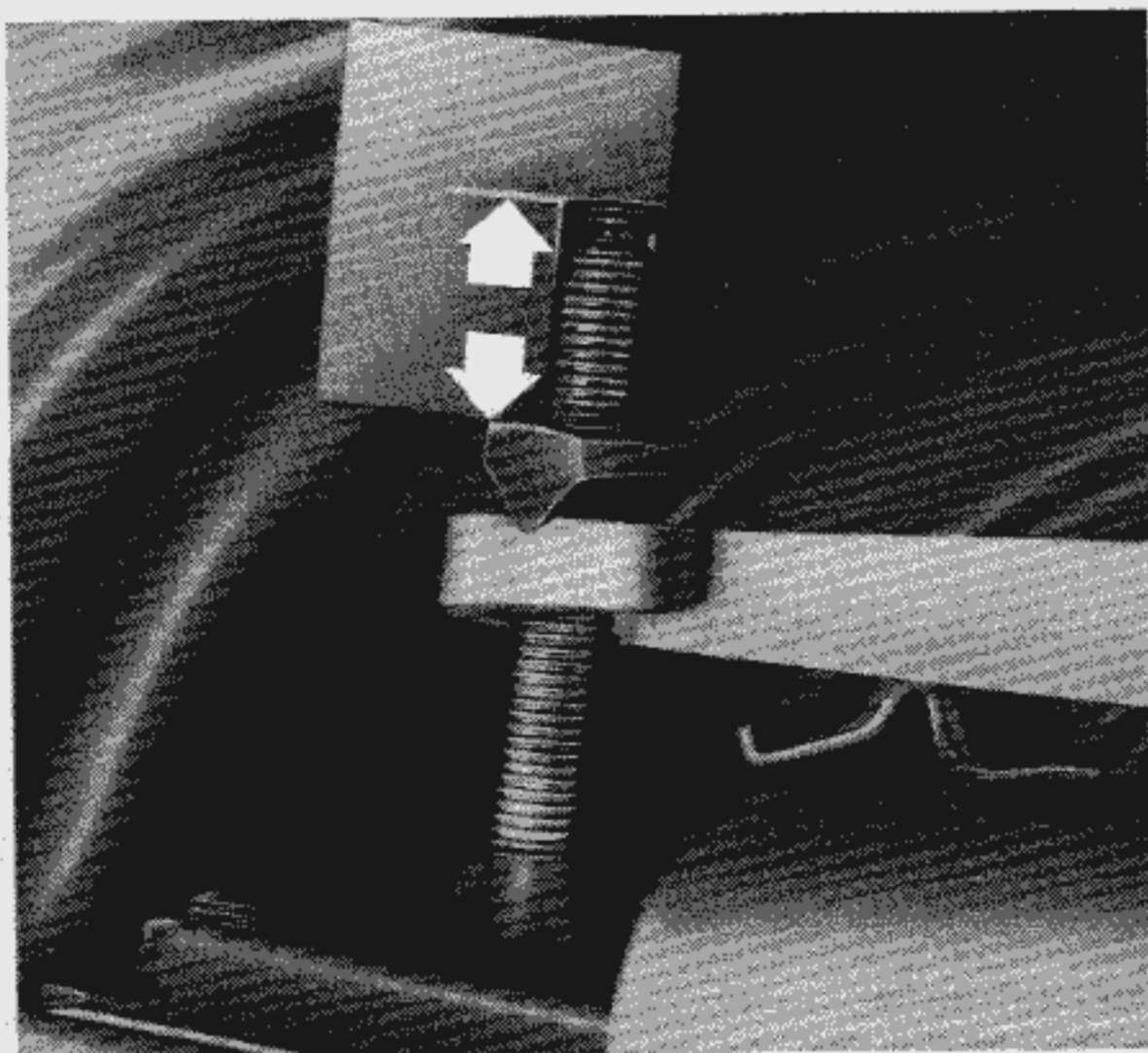
Checked
24. 3. 60 Senf



Gage for Clutch Lever (Automatic Clutch)

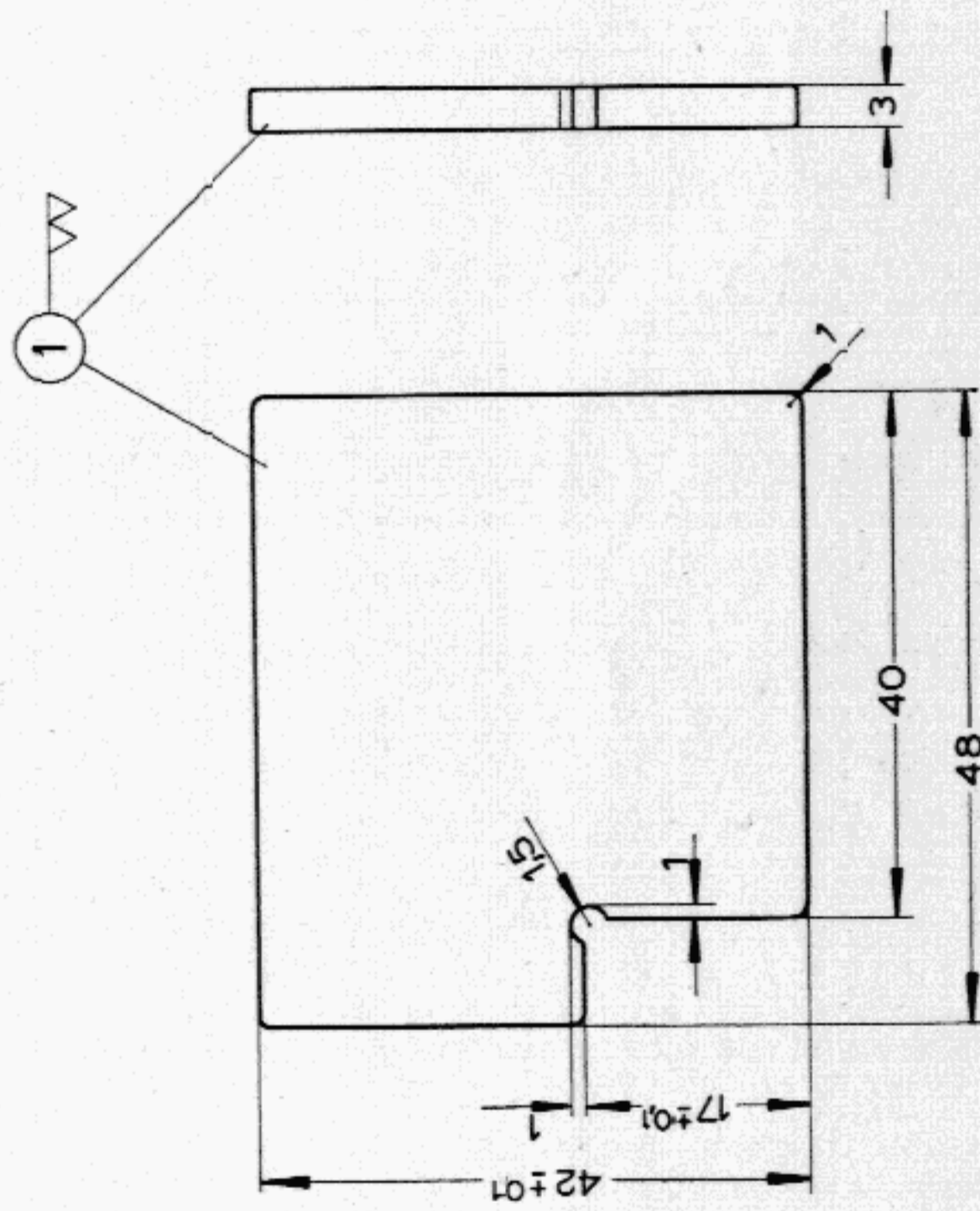
The flat gage is used for

- 1 - setting the adjustment nut to the dimension $a = 17 \text{ mm } (0.669\text{'})$
- 2 - checking the dimension $= 42 \text{ mm } (1.653\text{'})$ between the clutch lever and clutch servo bracket.



Construction Details for VW 684/1

- 1 — Cut gage from sheet metal as detailed in specification.
- 2 — Drill, cutout, file and finish the flat gage (1) as shown on the drawing.
- 3 — Smear the gage lightly with grease.



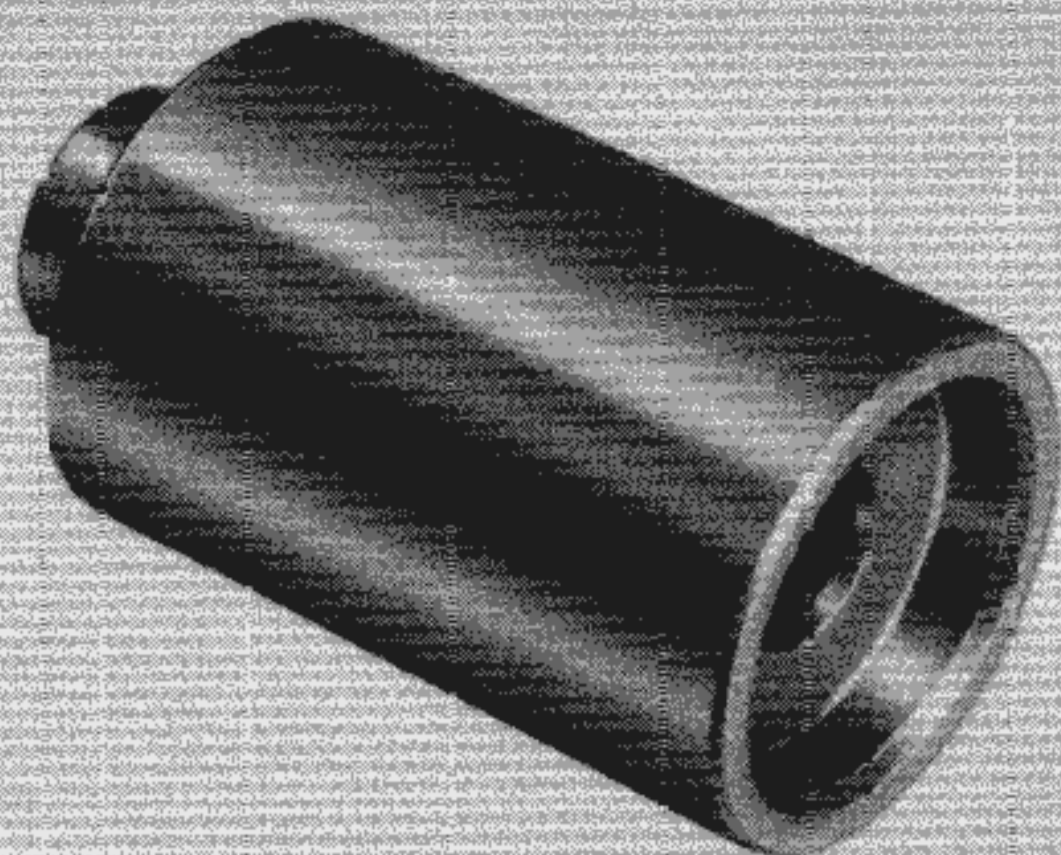
1	Flat Gage	45 X 3 X 52	gage sheet steel
Part No.	Description	Rough size or standard spec.	Remarks

Flat Gage for Clutch Lever (Automatic Clutch)

VW 684/1

VOLKSWAGENWERK AG
WOLFSBURG
 Service — Department

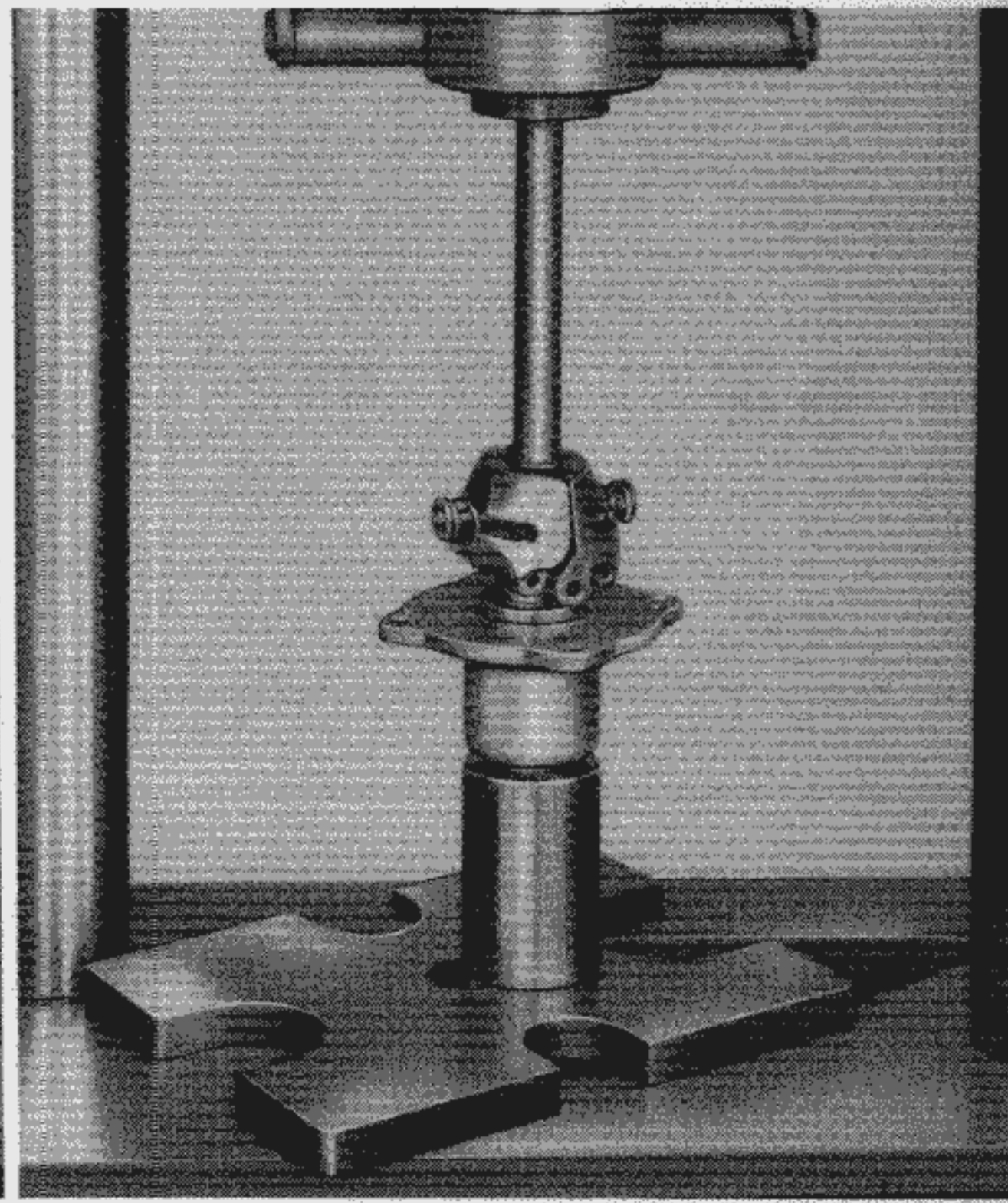
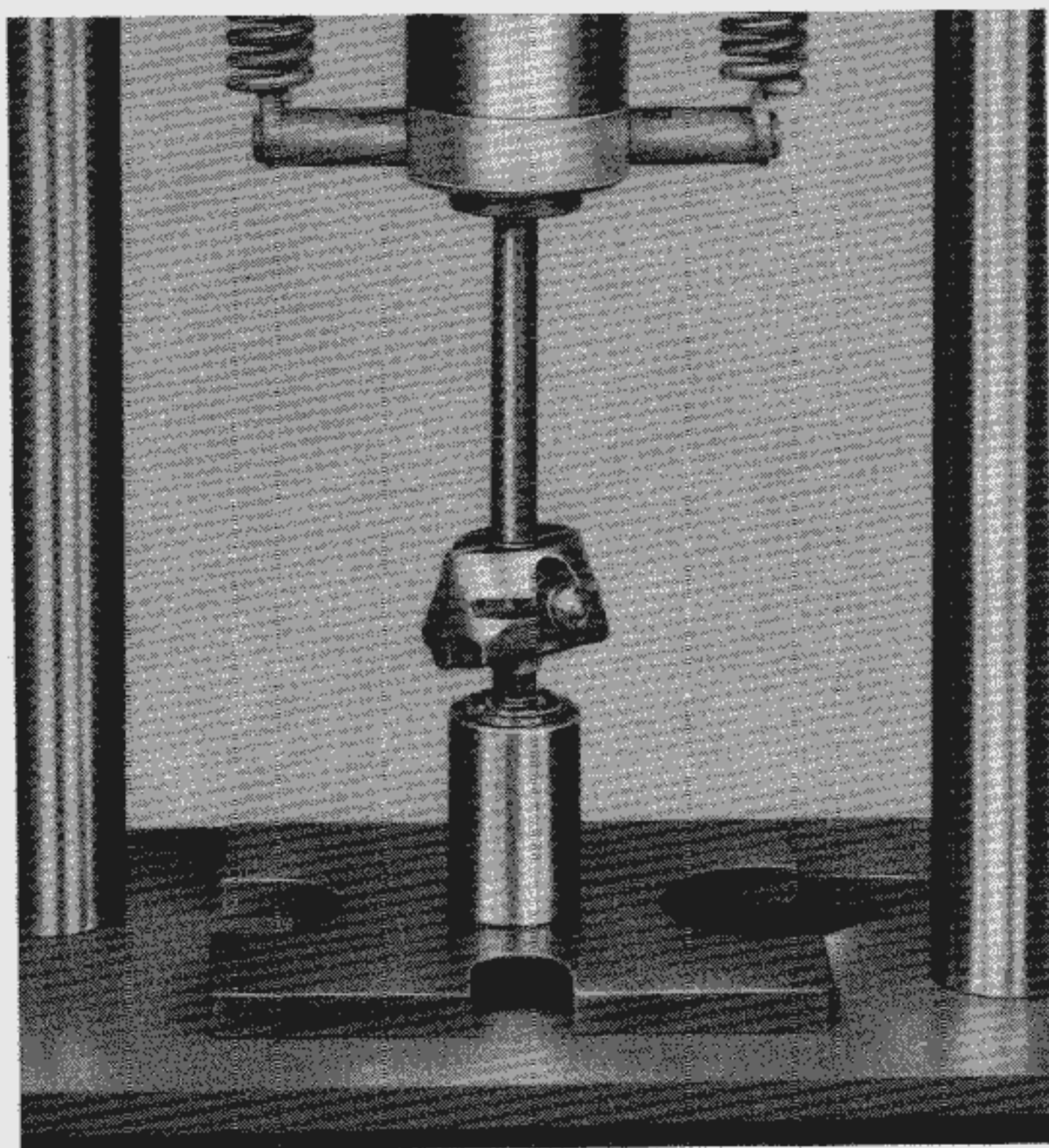
drawn: 22. 12. 60 Giesecking
 checked: 22. 12. 60 Senf



**Thrust piece
for governor**

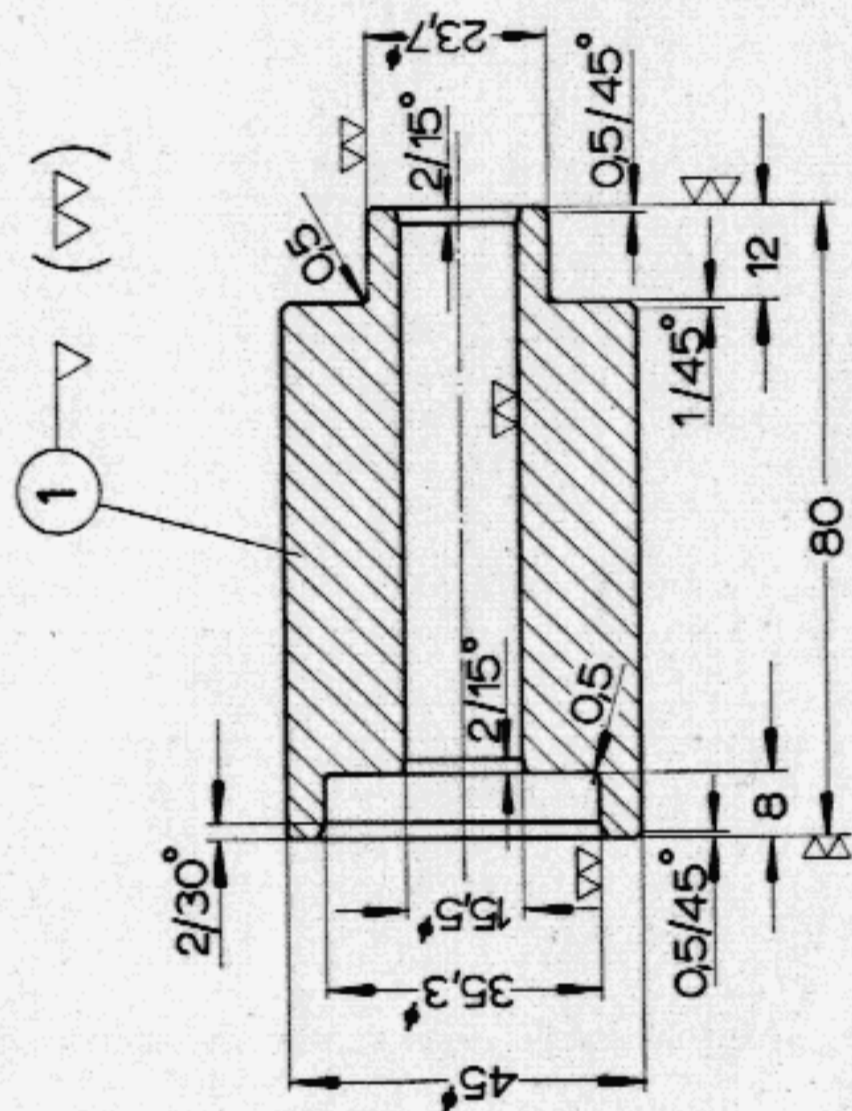
Application:

- 1 – Used in conjunction with Thrust Plate VW 401 and Mandrel VW 411 for pressing the ball bearing onto the governor shaft.
- 2 – Also in conjunction with VW 401 and VW 411 for pressing the governor shaft with bearing into the housing.



Manufacturing instructions for VW 225

- 1— Cut a suitable piece of material
- 2— Form as shown in drawing
- 3— Coat lightly with grease



1	Thrust piece	50 dia X 85
Part No.	Description	Rough size or standard spec.
No. required		Remarks

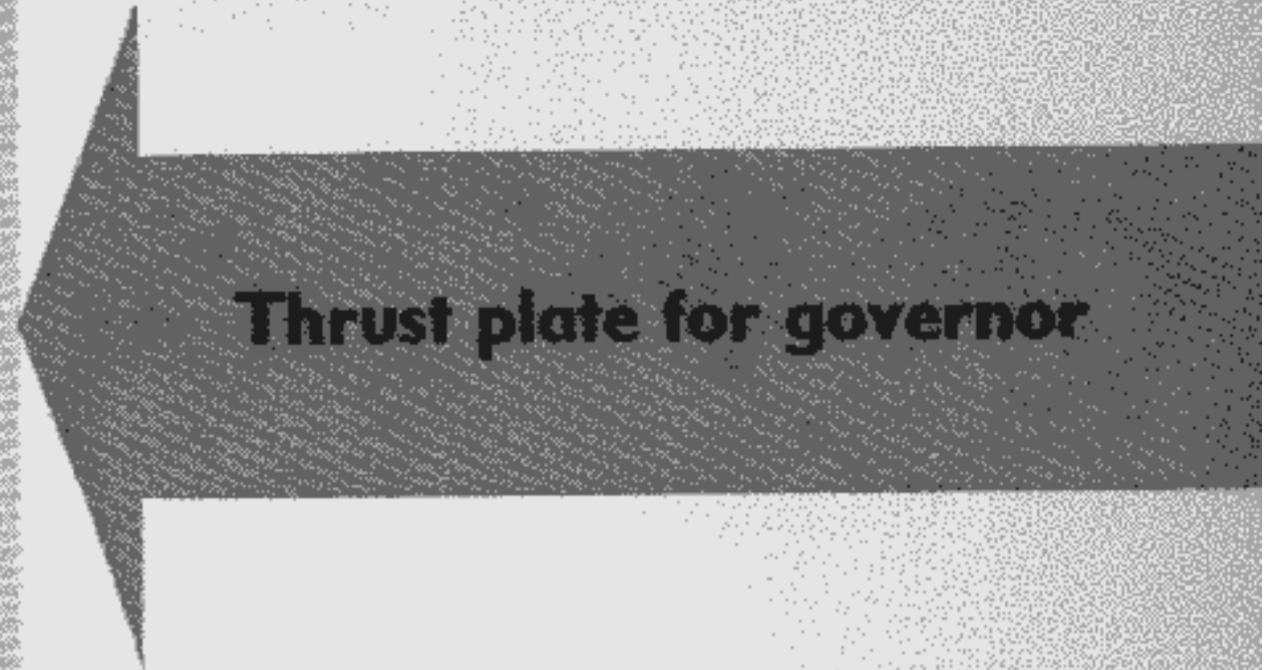
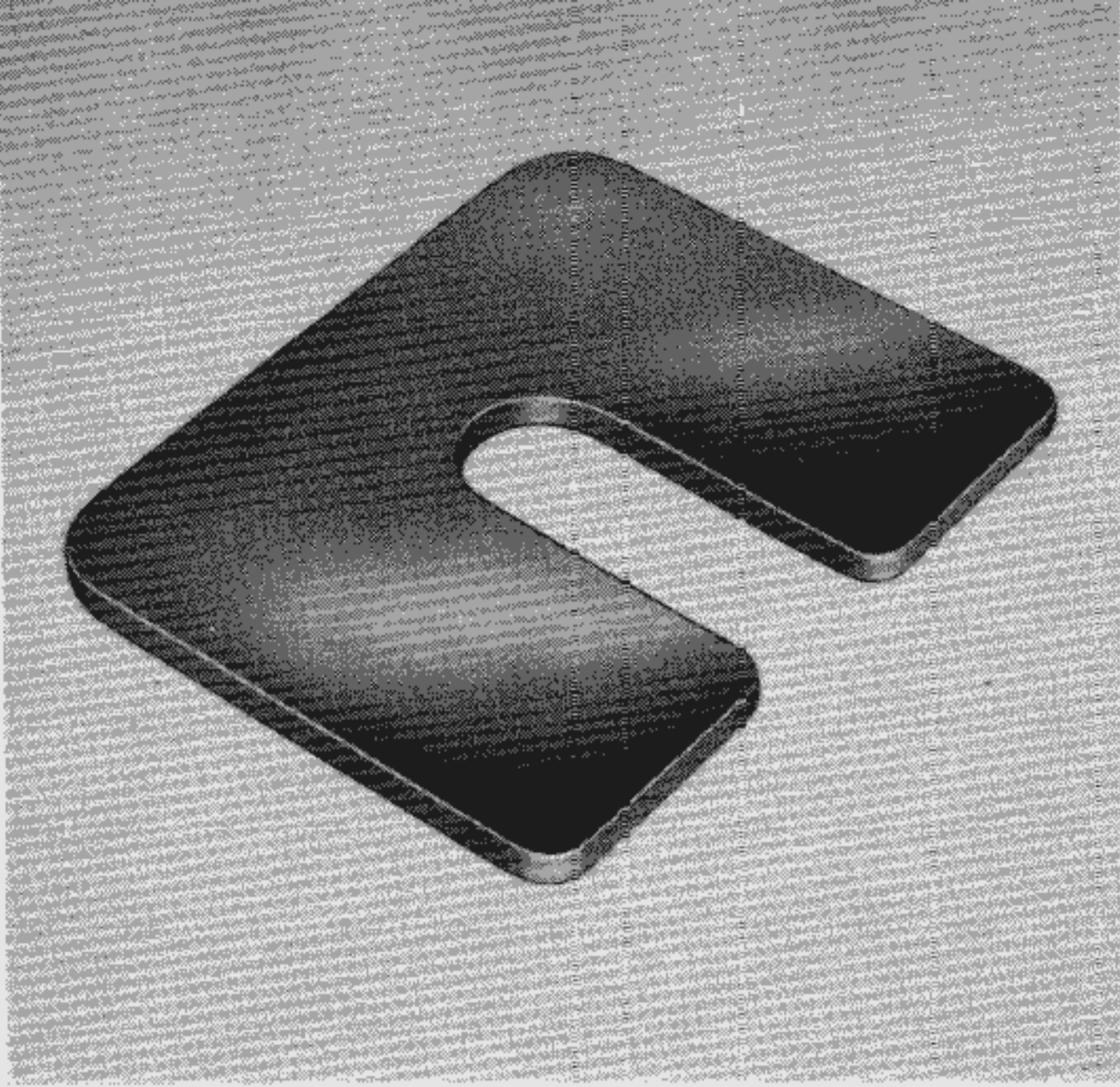
Thrust piece for Governor

VW 685

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WOLFSBURG
 Service — Department

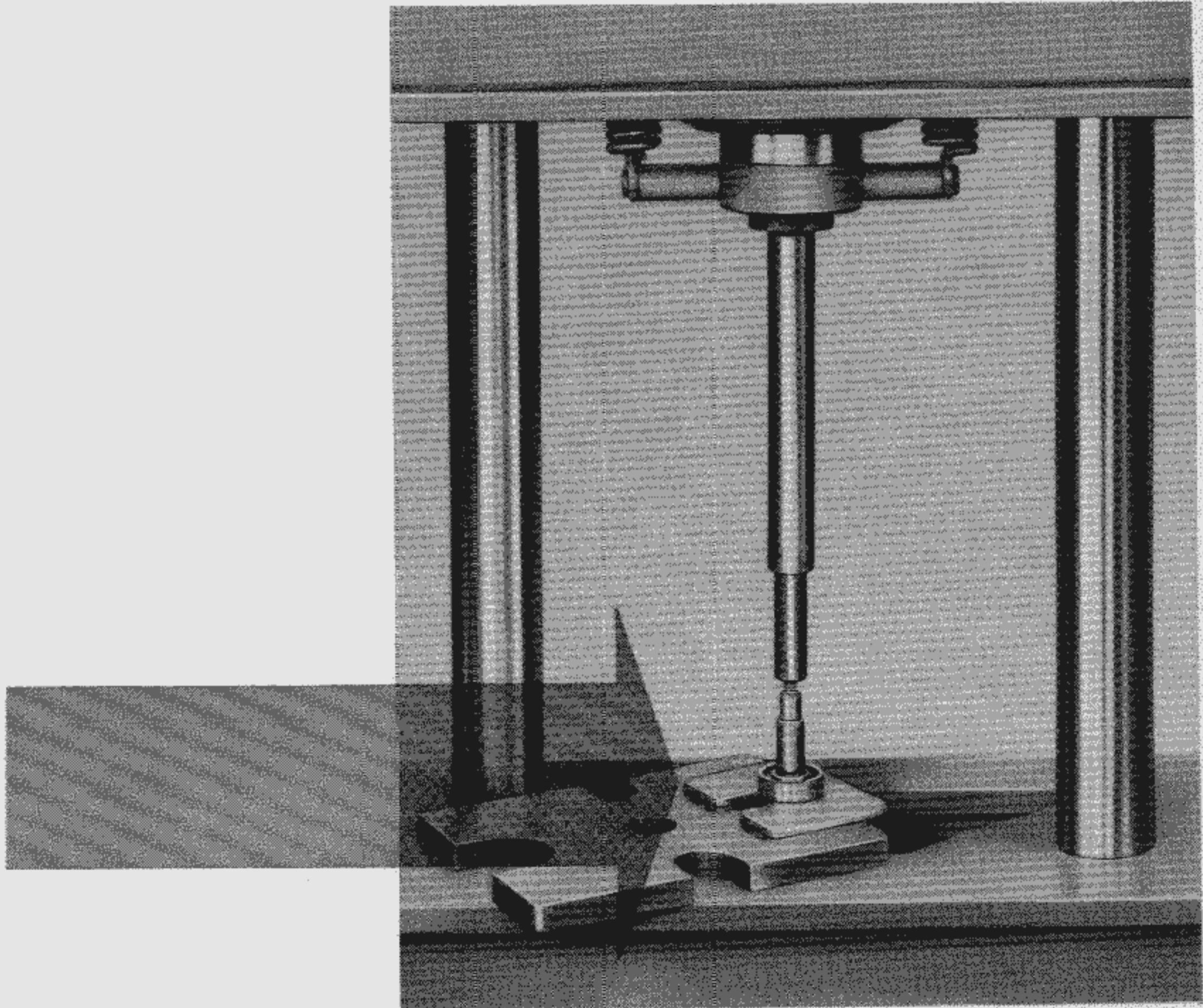
drawn: 20. 10. 60 Giesekeing
 checked: 24. 10. 60 Senf

LOCAL MANUFACTURE OF WORKSHOP EQUIPMENT



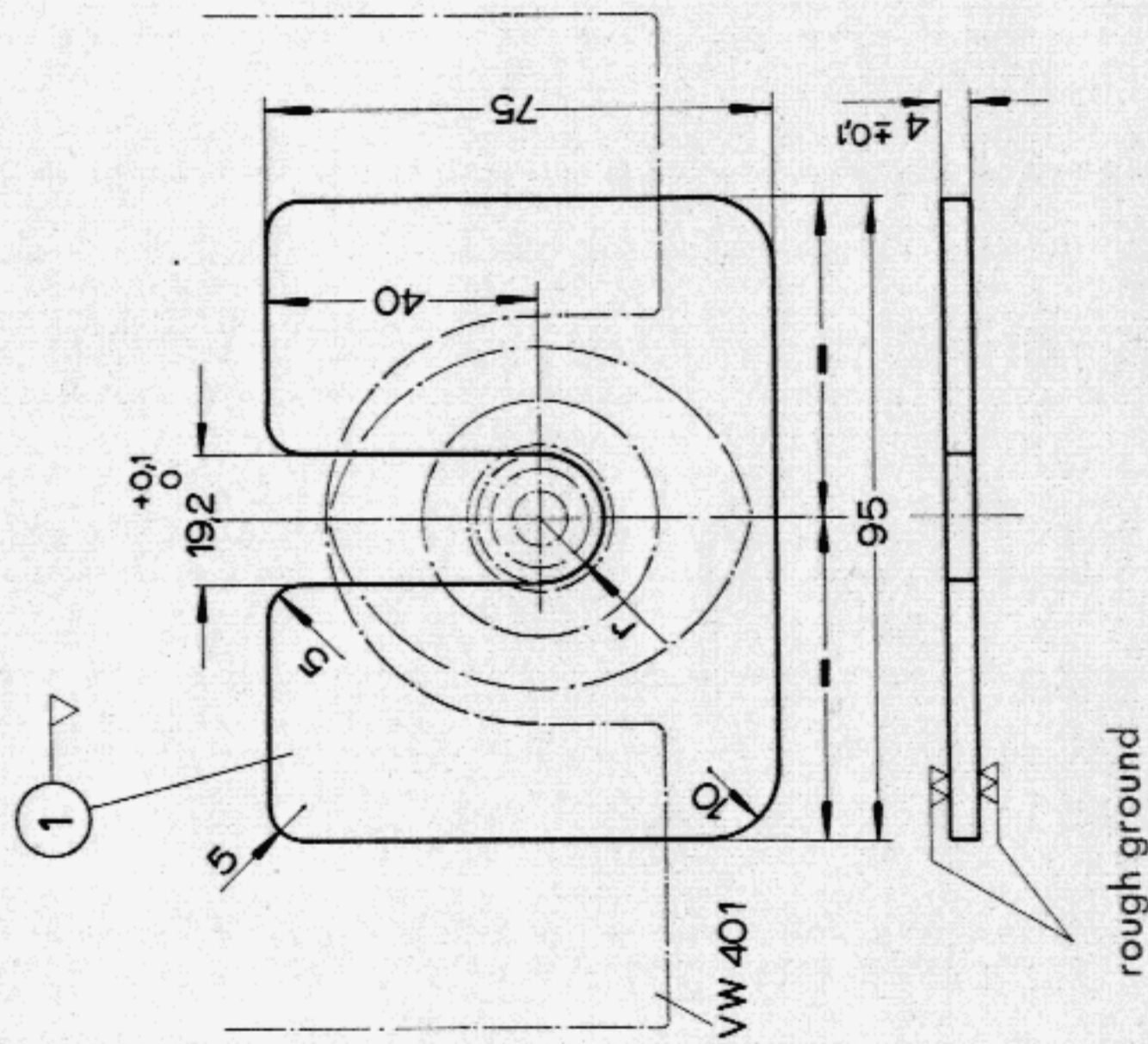
Thrust plate for governor

The plate serves as a support when pressing the bearing off the governor shaft. It is used in conjunction with Special Service Tools VW 401 and VW 408.



Manufacturing Instructions for VW 885

- 1—Cut a suitable piece of flat steel.
- 2—Drill a 19.2 mm/0.755" hole in the plate and machine as shown in drawing.
- 3—Harden and grind plate.
- 4—Coat plate lightly with grease.



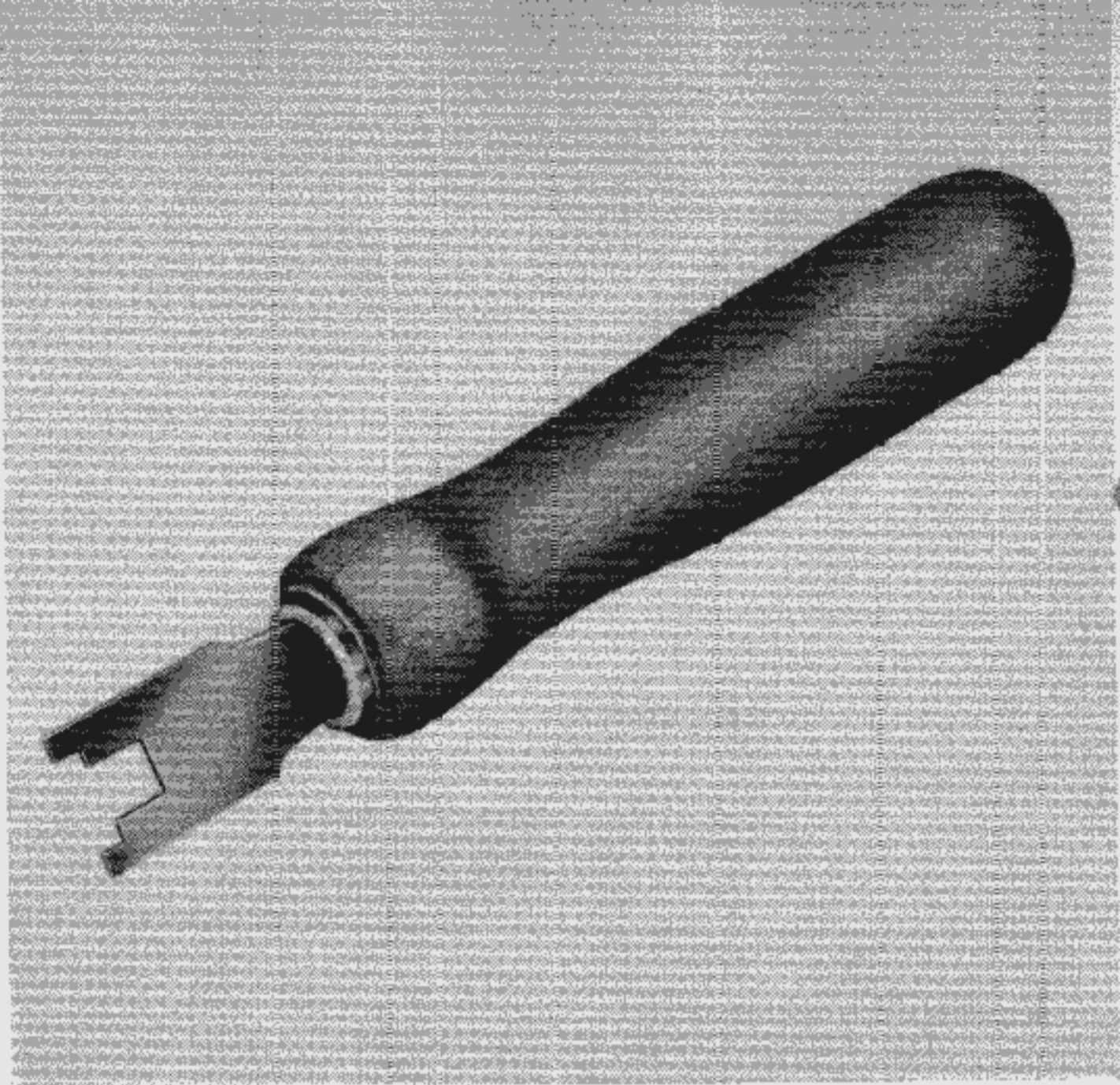
Part No. No. required	Thrust plate Description	80 X 4.5 X 100 Rough size or standard spec.	hardened Remarks
Thrust plate for Governor			

VOLKSWAGENWERK AG
WOLFSBURG
 Service — Department

drawn: 21. 10. 60 Gieseeking
 checked: 24. 10. 60 Sent

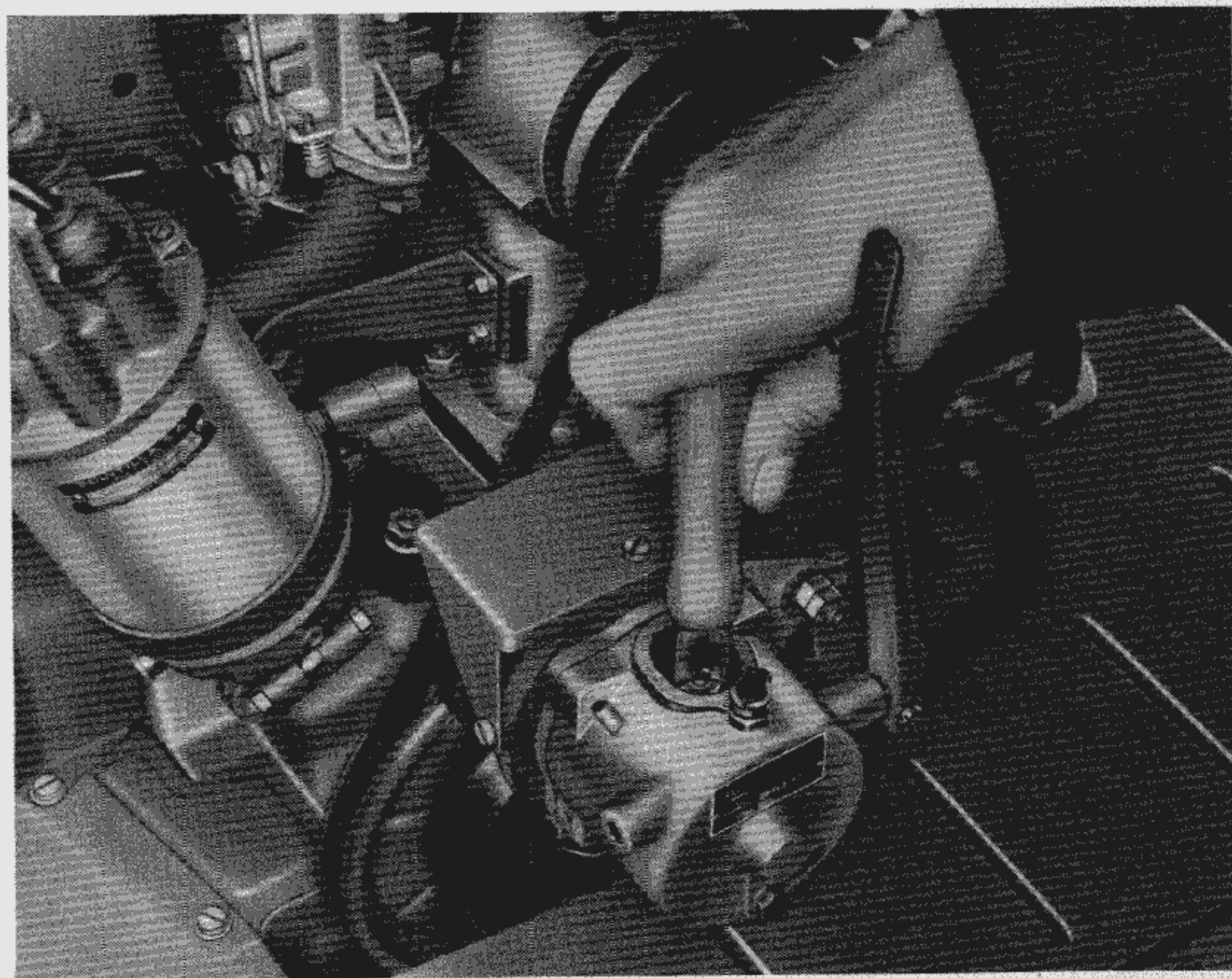
VW 686

LOCAL MANUFACTURE OF WORKSHOP EQUIPMENT



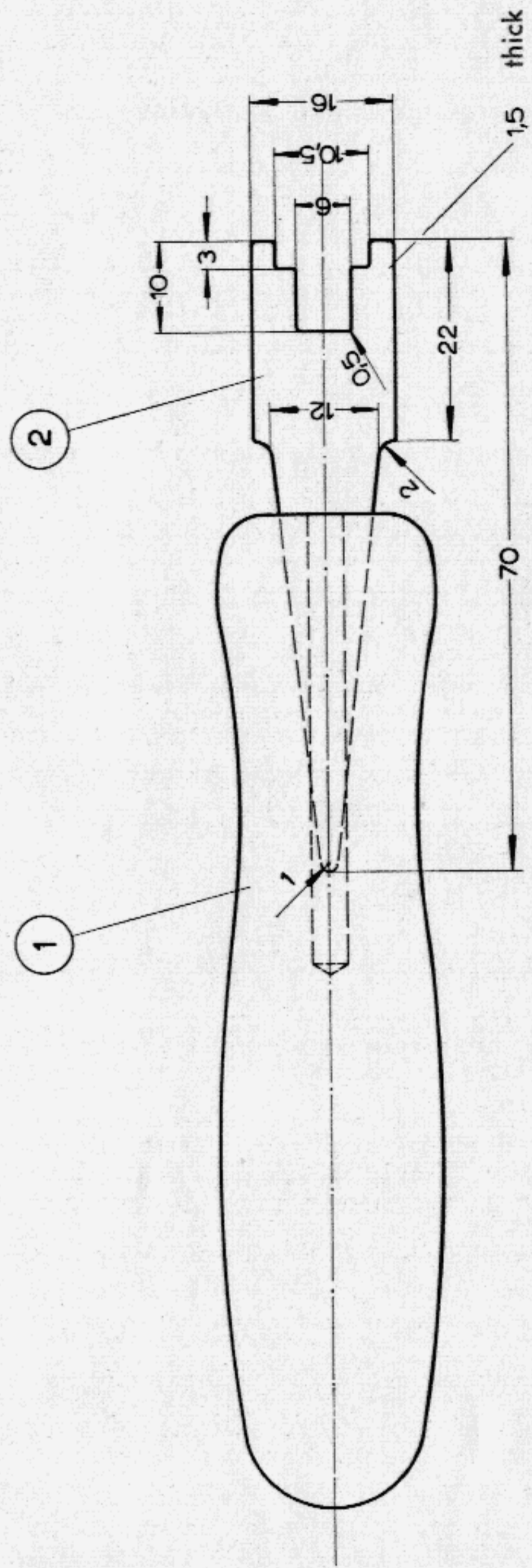
**Governor Adjusting Key
(industrial engine)**

The key is used for adjusting the spring nuts of the governor regulating shaft.



Construction Details for VW 487

- 1 — Cut sheet metal according to specification.
- 2 — Work sheet metal to shape as shown in drawing.
- 3 — Drive sheet metal part firmly into file handle.



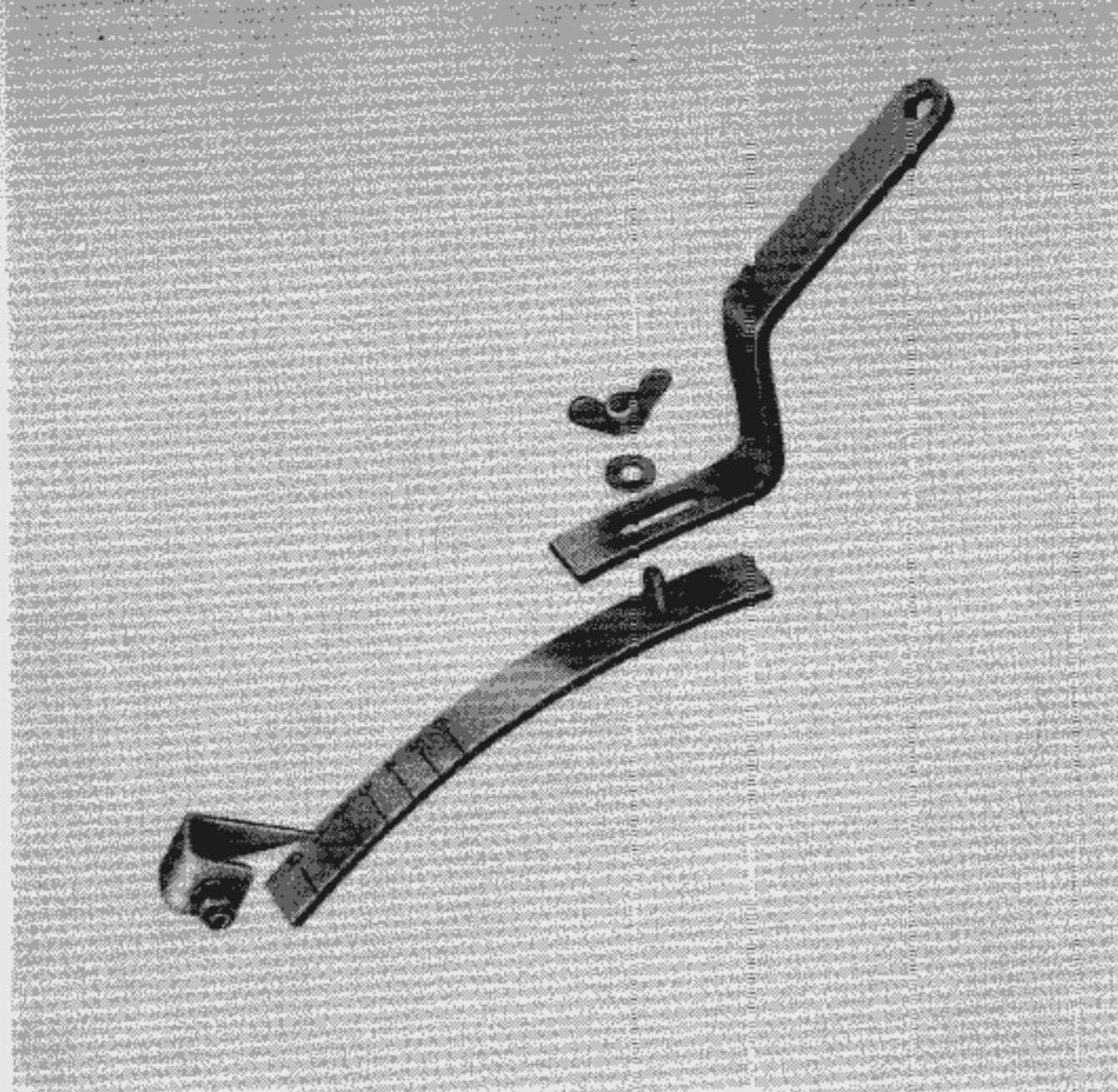
2	1	Key 20 X 1,5 X 75	DIN 395	
1	1	File handle		
Part No.	Description	Rough size or standard spec.	Remarks	
No. required				

VOLKSWAGENWERK AG
WOLFSBURG
 Service — Department

drawn: 25. 9. 59 Gieseking checked 25. 9. 59 Sent

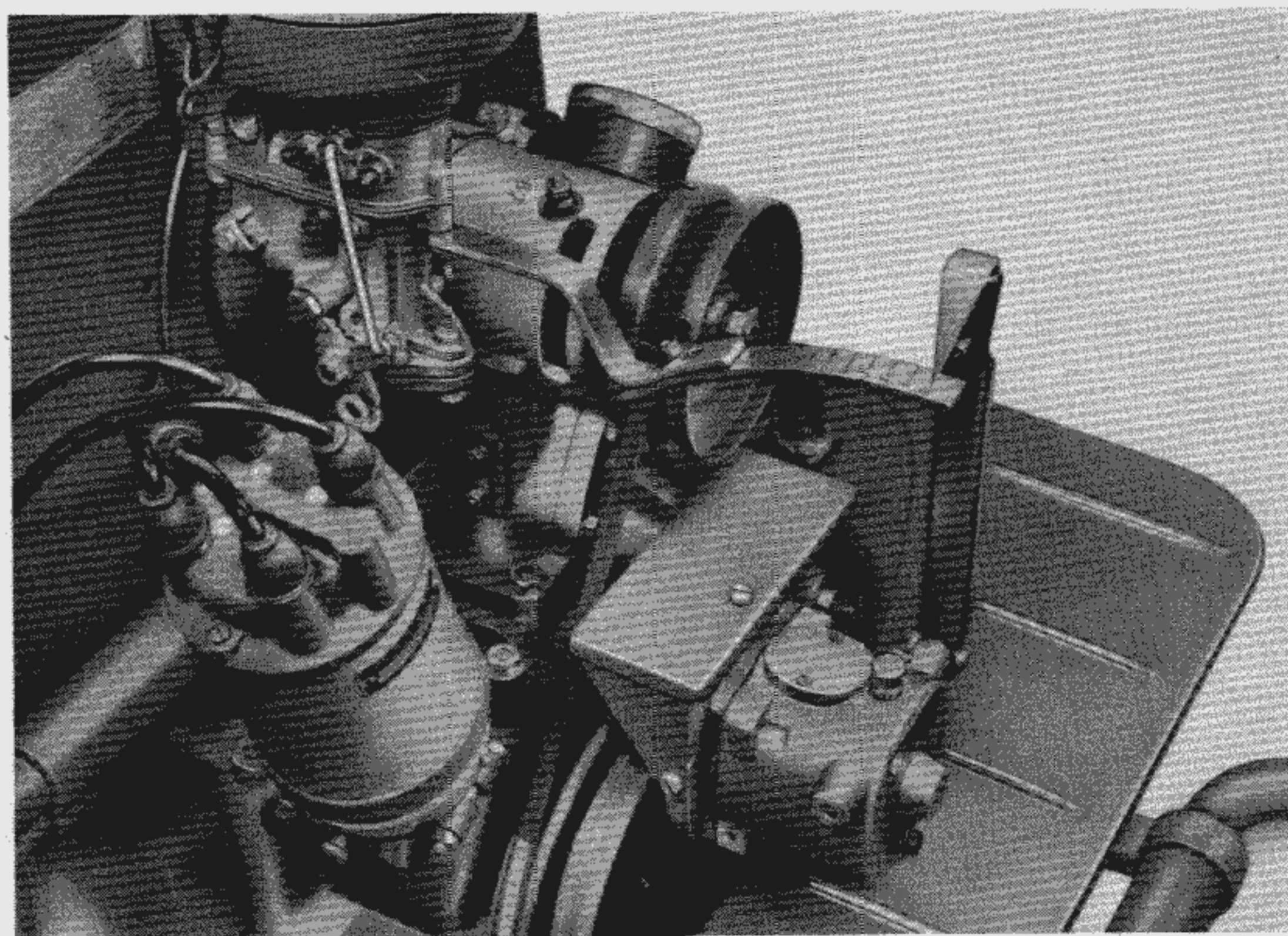
Governor Adjusting Key

VW 687



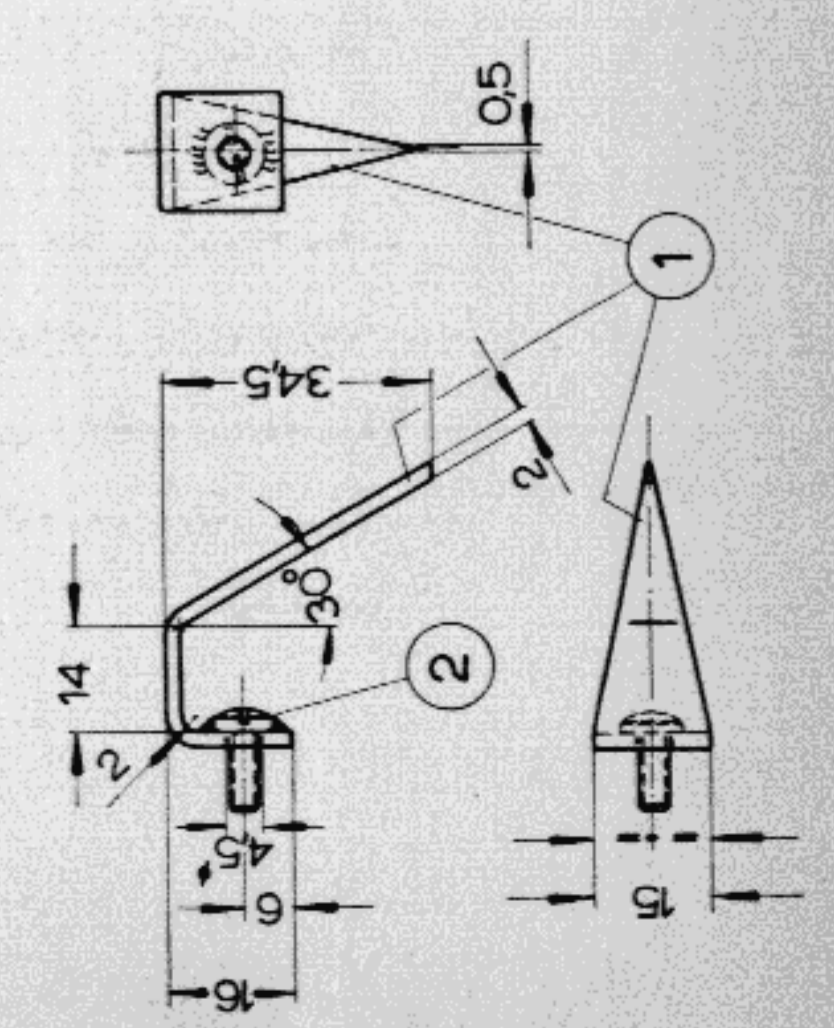
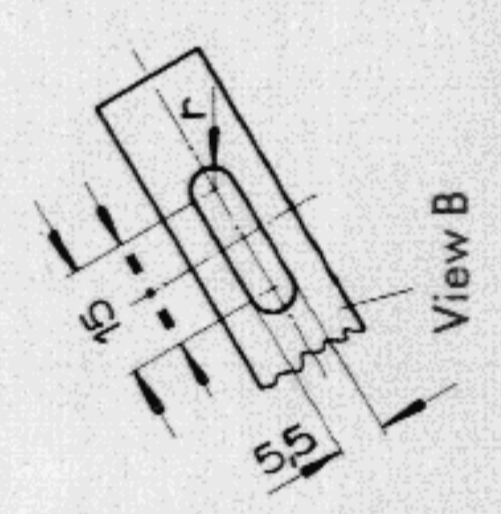
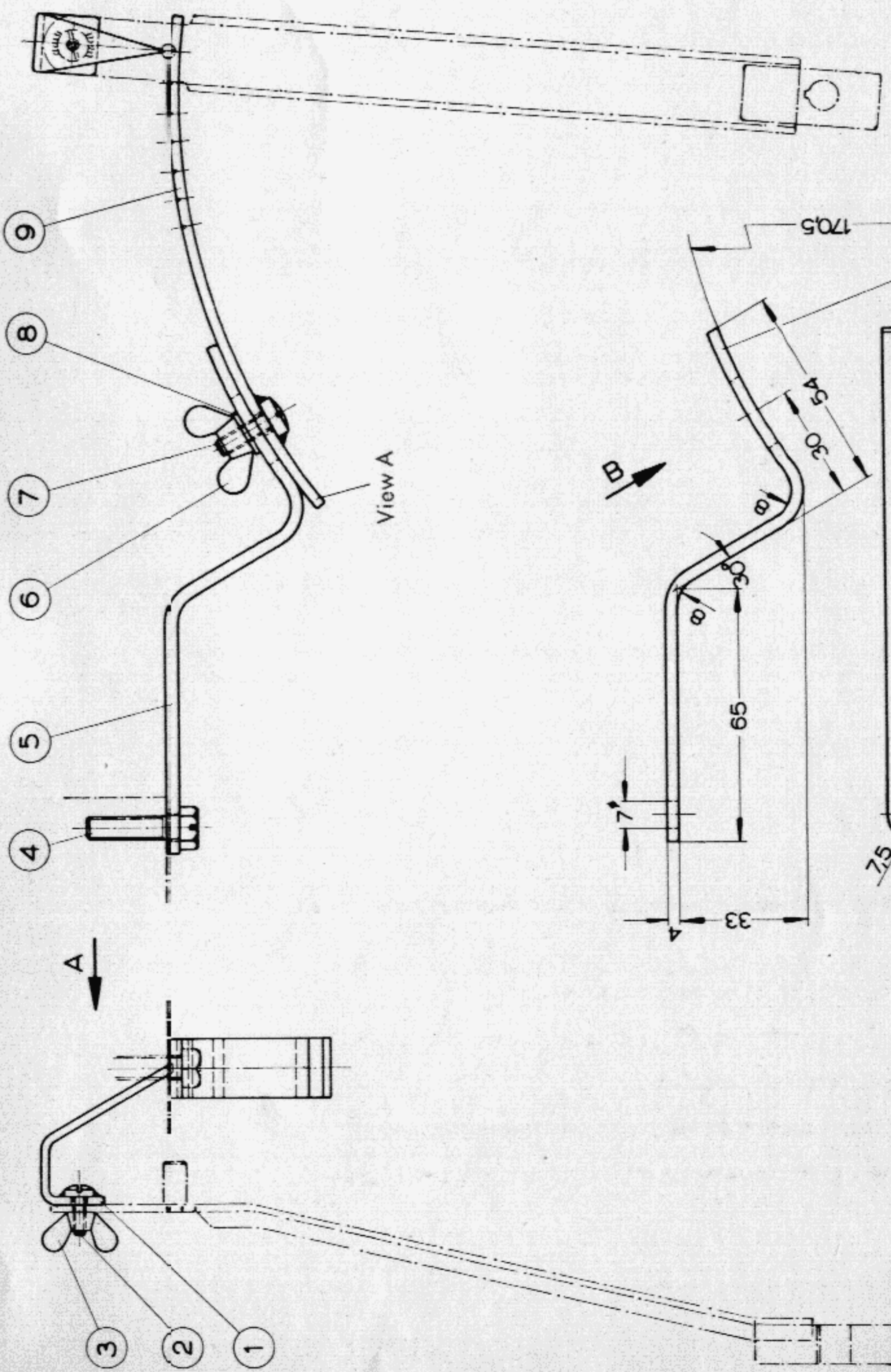
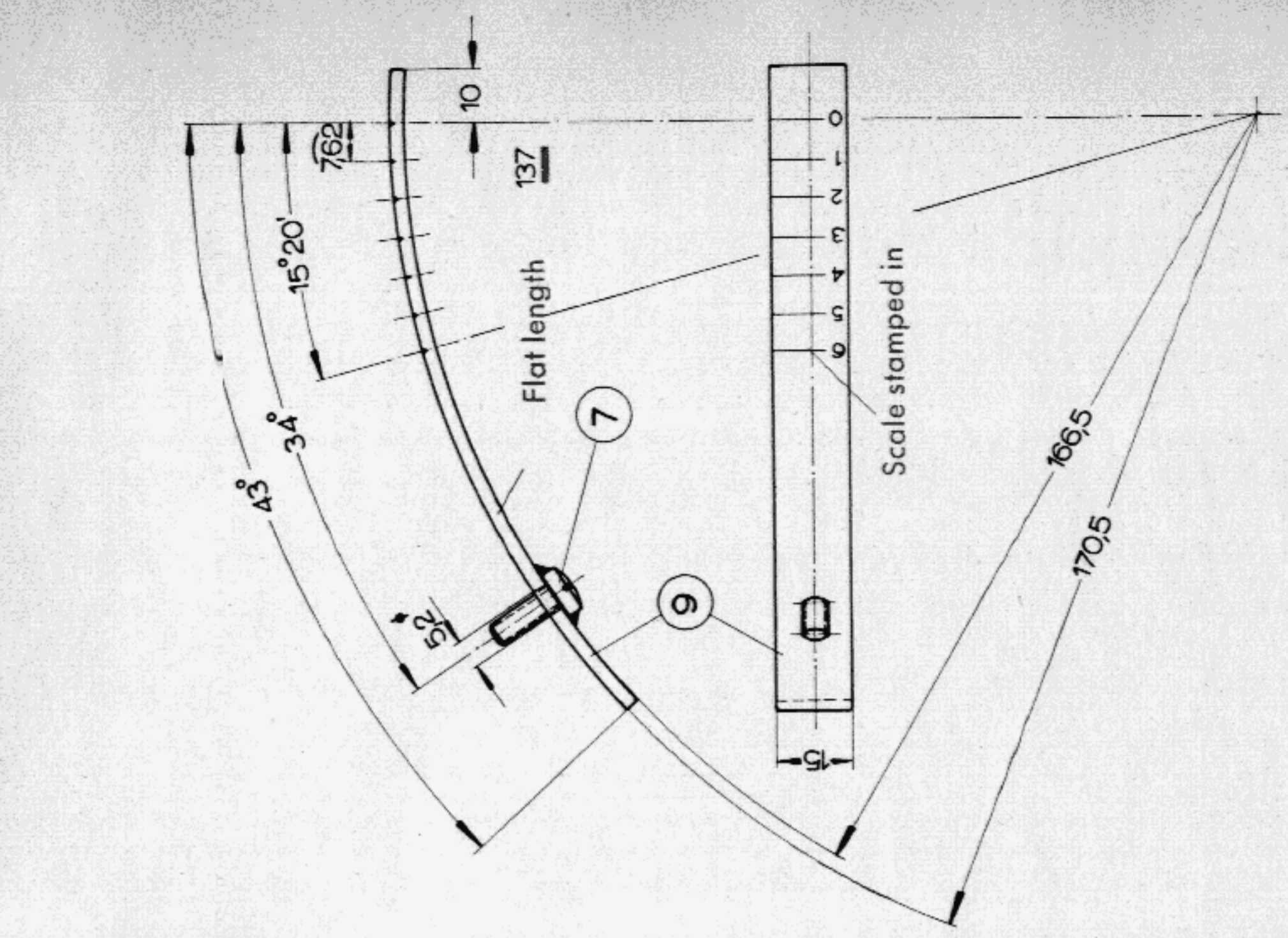
Checking Device for Governor Adjustment (industrial engine)

With this device the stroke of the governor lever can be checked with the engine running.



Construction Details for VW 488

- 1 — Cut flat steel as specified in the list of parts, and place all standard parts ready to hand.
- 2 — Work, drill and bend flat steel parts (1, 5, 9) as shown in drawing.
- 3 — Weld set screw (2) to flat steel (1) and set screw (7) to flat steel (9) as shown on drawing.
- 4 — Mark scale on flat steel part (9) as shown in drawing.
- 5 — Connect flat steel part (5) with flat steel part (9) using wing nut (6) and washer (8).
- 6 — Screw wing nut (3) onto set screw (2) in flat steel part (1) keep hex. set screw handy for assembly.



Part No.	Description	Rough size or standard spec.	Remarks
9	Scale bar 15 X 4 X 145		
8	Washer B 5.3	DIN 9021 St	
7	Fillister head screw M5 X 15	DIN 85-55	
6	Wing nut M5	DIN 315 mg	
5	Adjustment bar 15 X 4 X 170		
4	Hex. set screw M6 X 24 slotted	DIN 931	
3	Wing nut M4	DIN 315 mg	
2	Fillister head screw M4 X 10	DIN 85-55	
1	pointer 15 X 2 X 80		

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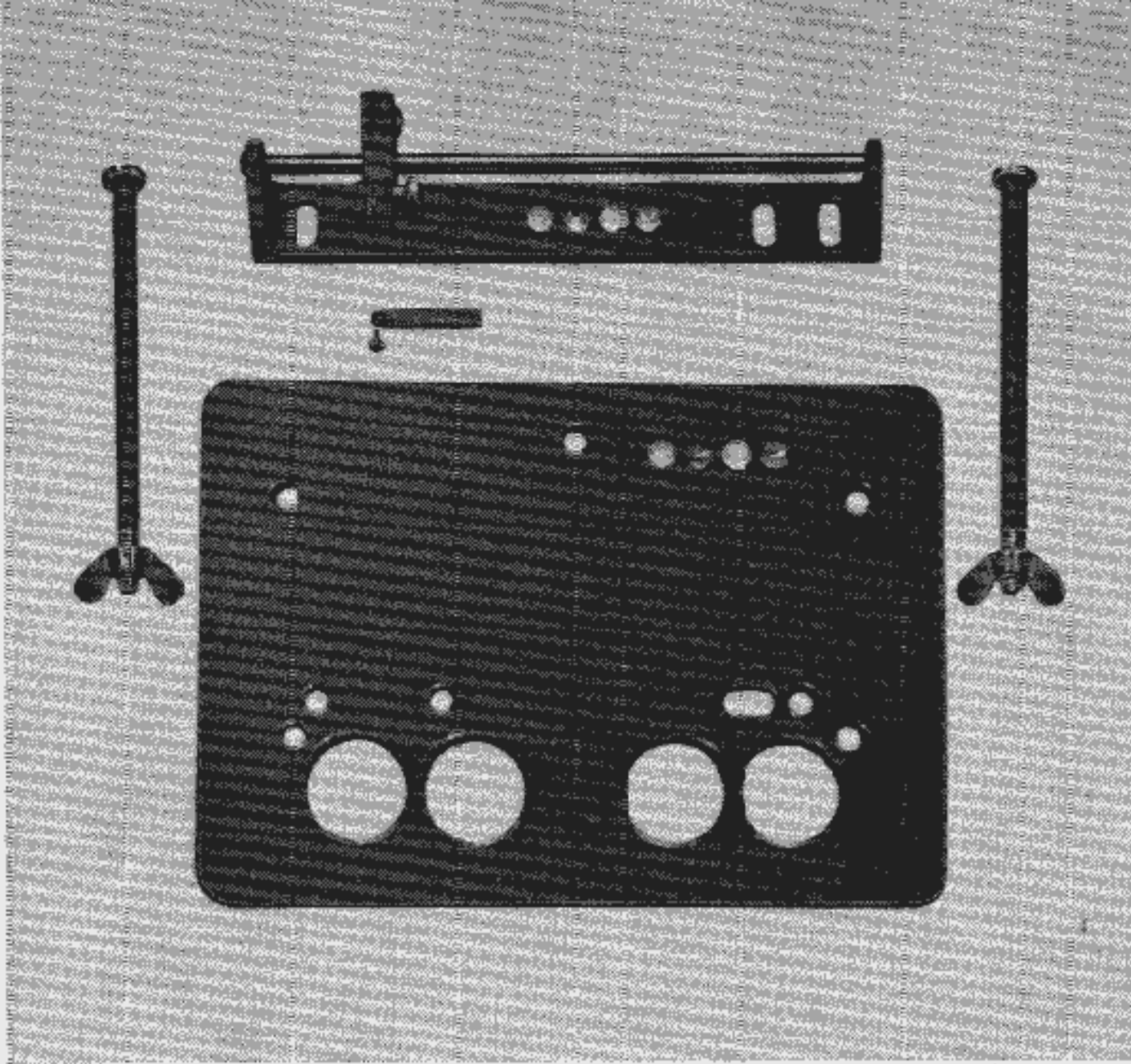
drawn: 26. 10. 60 Giesekeing
 checked: 27. 10. 60 Sent

Checking Device for Governor Adjustment

VW 688

Mounting Plate for Cylinder Head together
with Valve Guide Wear Measuring Appliance
Type 1, 2, 3, 122, 124, 126

APR 11 1966

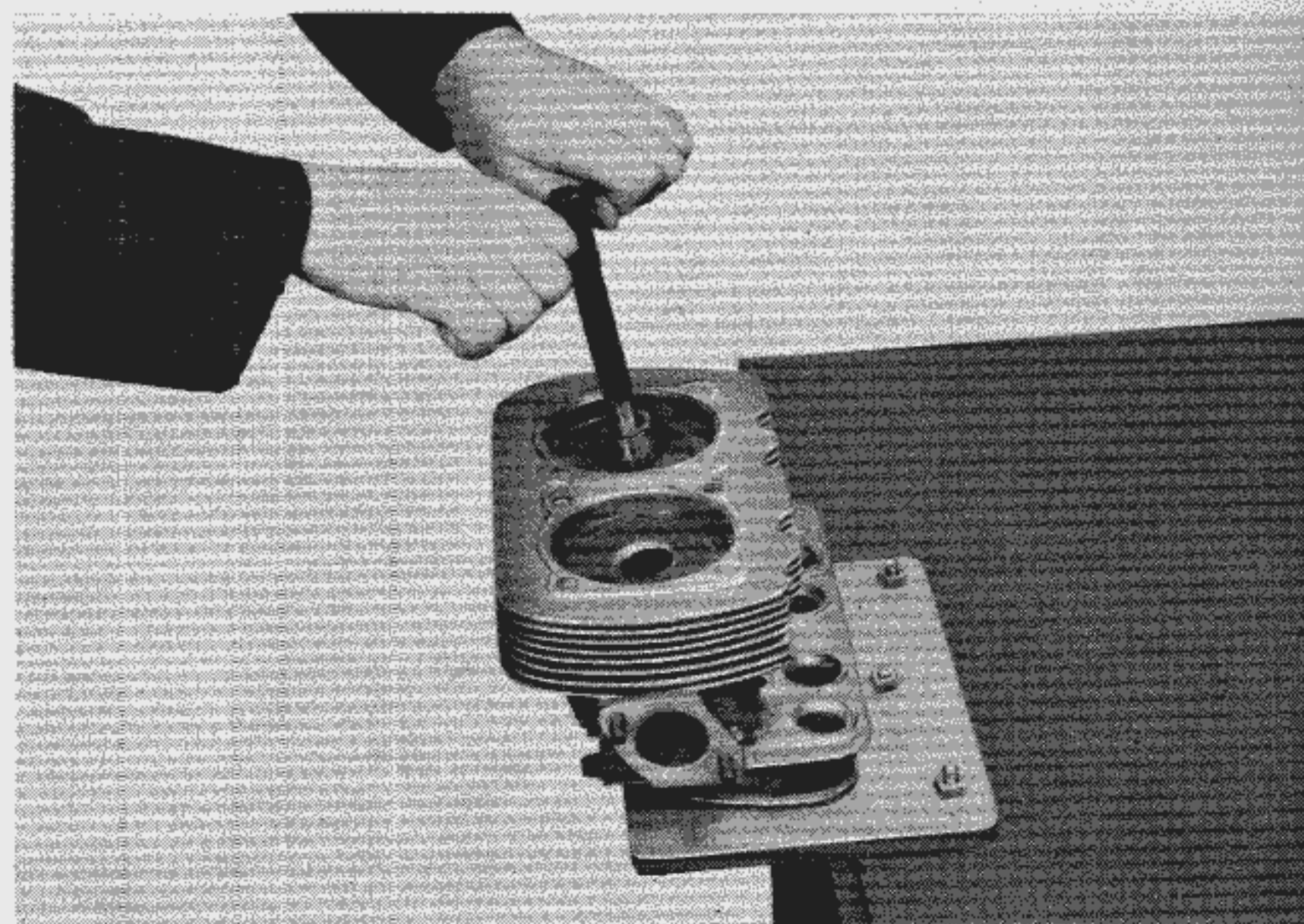
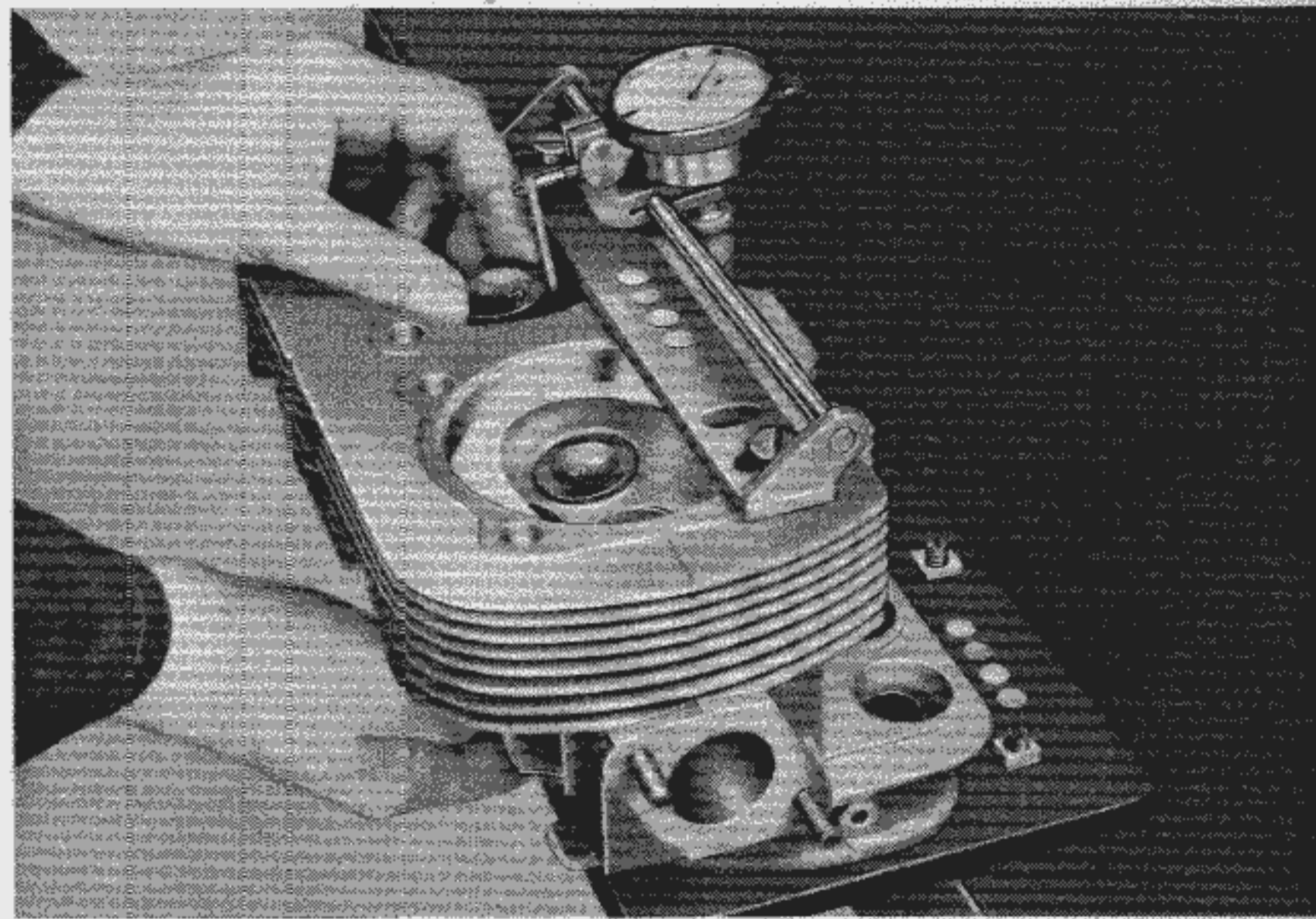


The mounting plate and the wear measuring appliance are necessary when measuring the rock between the valve and the valve guide. In addition a dial gauge is mounted on the wear measuring appliance.

Before attempting to take measurements all carbon deposit must be removed from the valve guides with a cleaning broach. When taking measurements a new exhaust or inlet valve must be used. The valve must be inserted from the combustion chamber side and pushed in until the end of the valve stem is flush with the lower end of the valve guide and can be held in that position with one finger. By moving the valve backwards and forwards in the direction of the dial gauge the amount of rock can then be read off the gauge.

When carrying out work on the cylinder head (remachining valve seat inserts, reaming out valve guides) only the mounting plate is required. The cylinder head is secured to the mounting plate with two winged nuts which are screwed onto the rocker shaft studs which protrude on the other side of the plate. The cylinder head cover sealing surface is thereby protected against damage.

When not in use the wing nuts can be screwed onto the 6 mm of protruding thread of the mounting plate securing bolts.

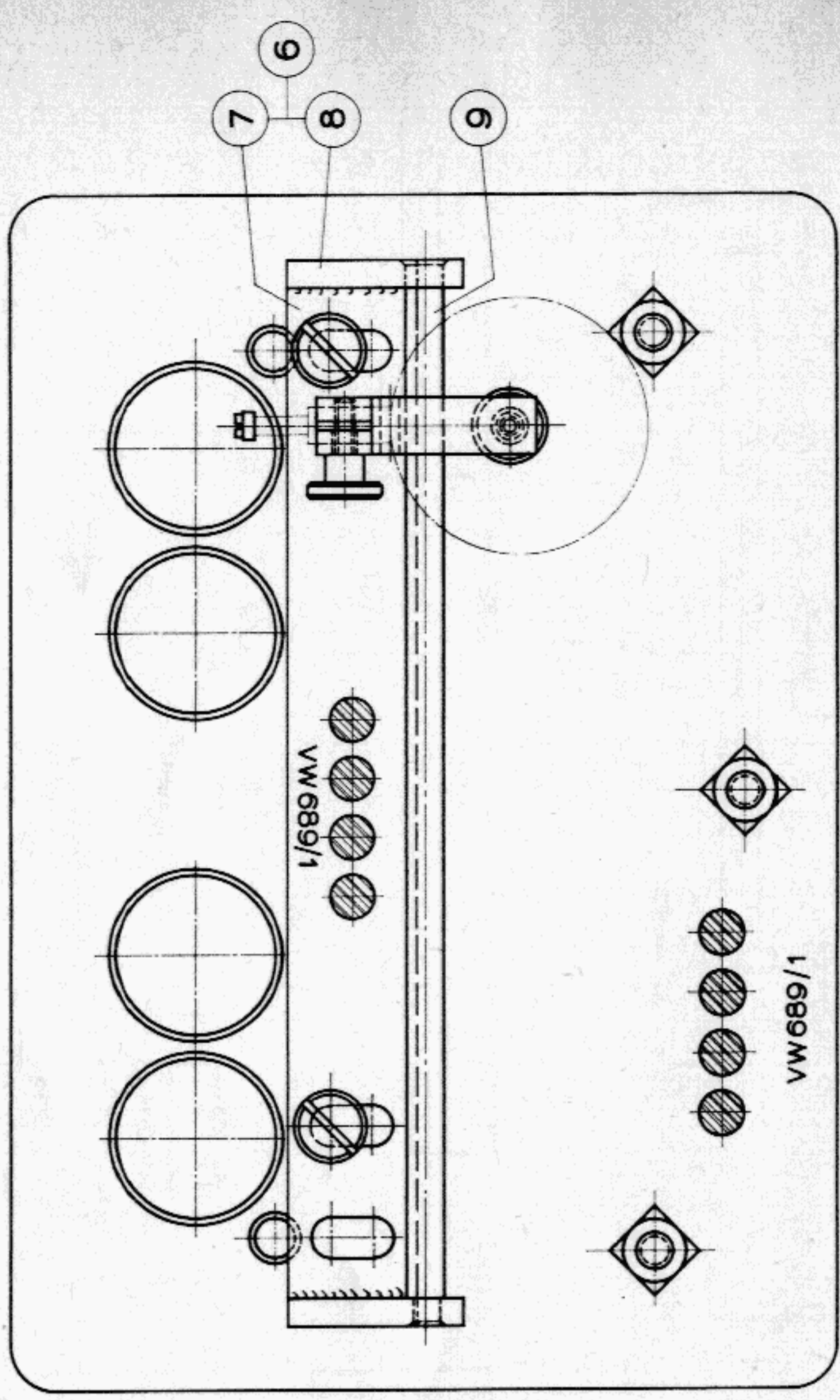
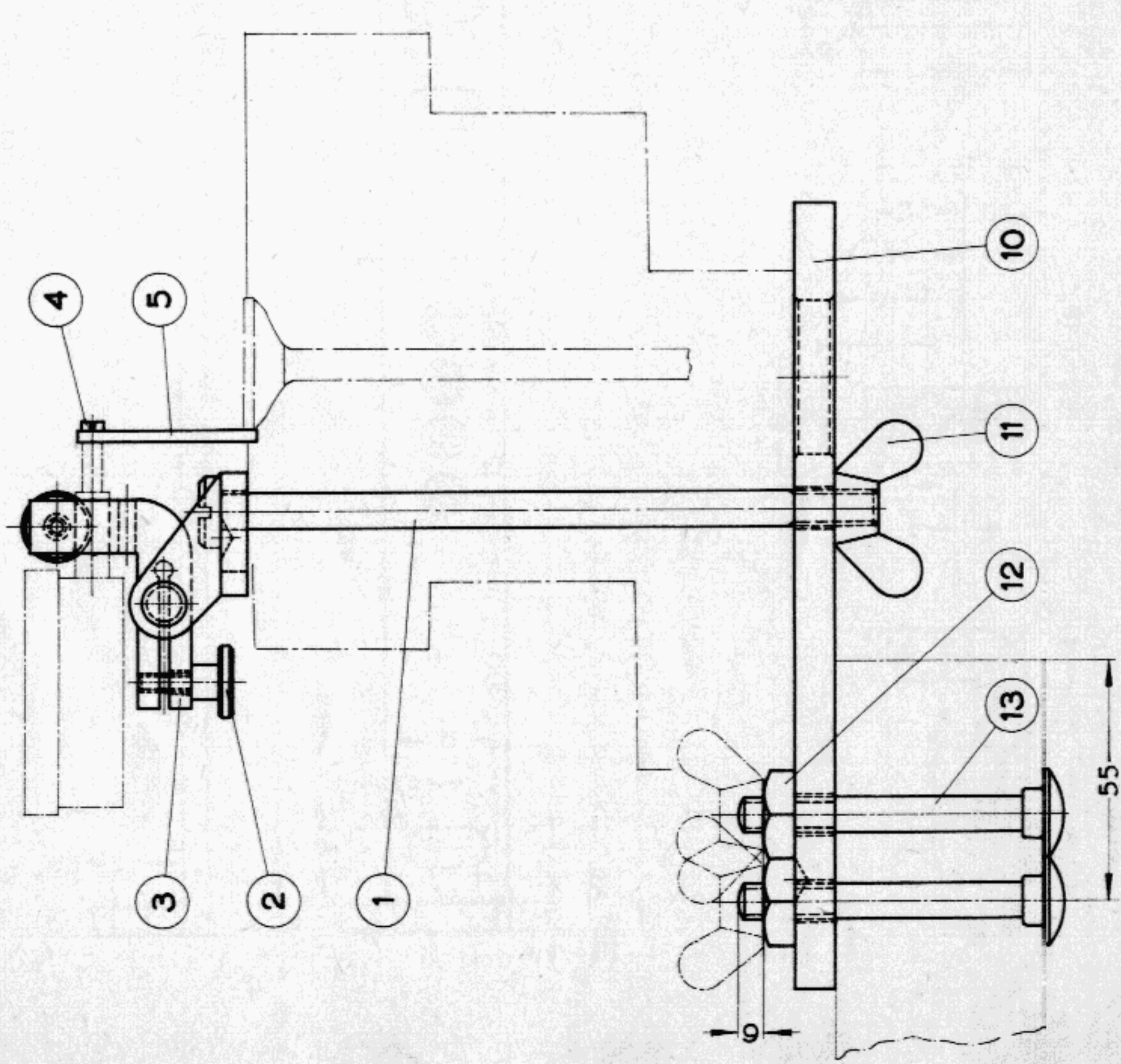


Construction Details for VW 689/1

- 1 — Cut all parts and have standard parts ready to hand.
- 2 — Turn parts 1 and 9.
- 3 — Make parts 3 and 5.
- 4 — Make welded part 6.
- 5 — Assemble wear measuring appliance.
- 6 — Mark out the outer shape of part 10, centre punch and shape.
- 7 — Mark out all holes, centre punch and bore.
- 8 — Paint the mounting plate and measuring appliance (except contact surfaces) dark green (RAL 6011).

1 2 3 4 5 6 7 8 9

R



View R Turned 90°

When no limit is given tolerance ± 0.25 ; $\pm 30'$ applies.

Colour identification marks

- (01) orange RAL 2004
 - (02) blue RAL 5015
 - (03) violet RAL 4003
 - (04) green RAL 6018
 - (05) black RAL 9005
- Surfaces in given colours (synthetic resin) shown thus.

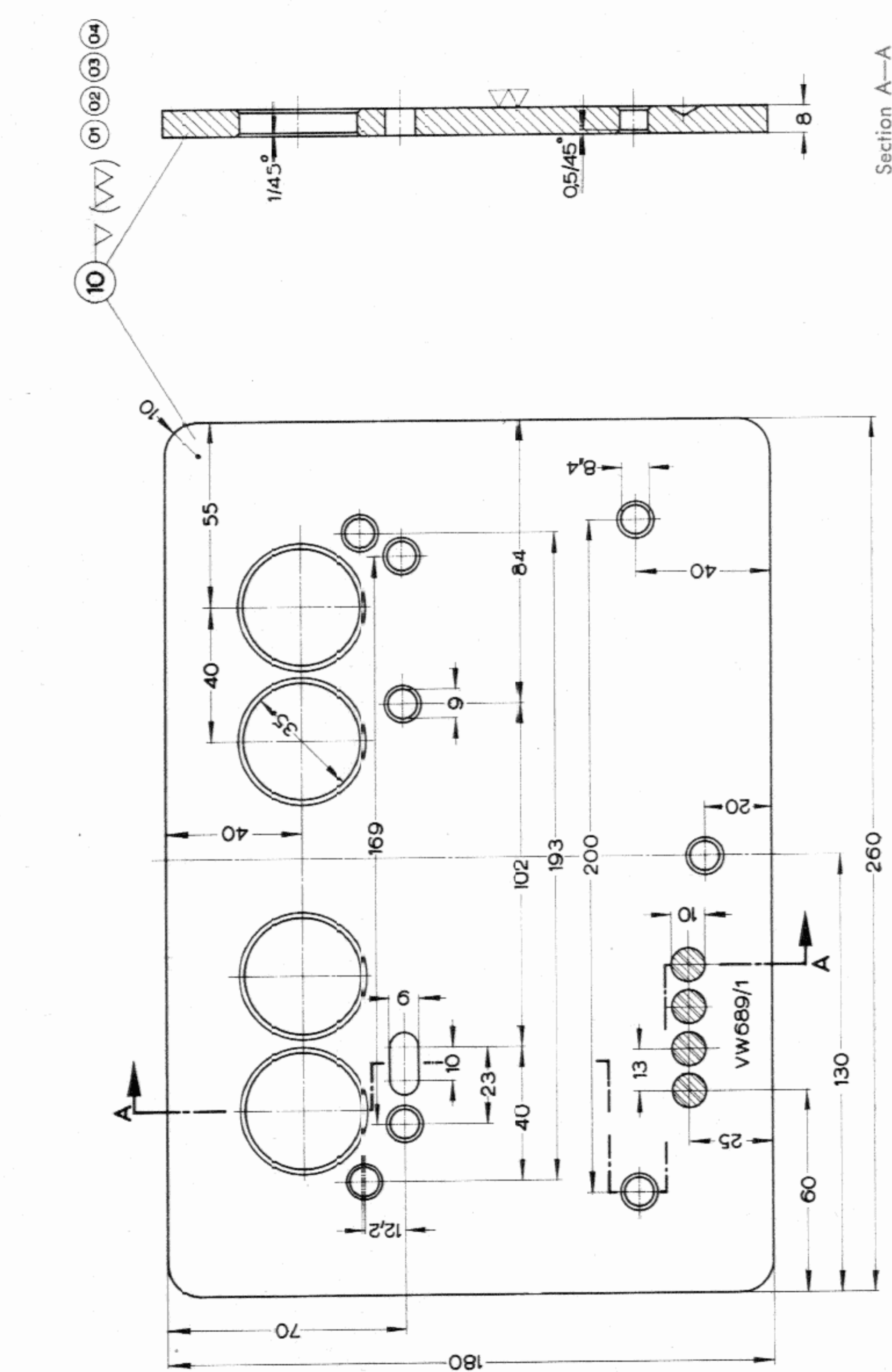
Req.	Description	Part	Material	Part No. or Standard Spec.	Remarks
3	Coach bolts	M 8	C 15	DIN 603	Length as required
3	Square nuts	M 8	C 15	BIN 339	
2	Wing nuts	M 8	C 15	DIN 315 mg 4 D	
1	Fl 165 X 10 X 265	MR St 42-2	C 15		
1	Rd 8 X 240	9 S 20 K	C 15		
2	Fl 25 X 6 X 42	MR St 37-2	C 15		Drawn
1	Fl 30 X 6 X 235	MR St 37-2	C 15		
1	Welded part	Fl 8 X 4 X 45	C 15		Parts 7 + 8
1	Cheese headed AM 2,6 X 8 screw	Sq 12 X 85	C 15	DIN 64-4 S	
1	Knurled screw	M 4 X 12	C 15	DIN 464-5 S	
2	RD 18 X 160	C 15	C 15		

VOLKSWAGEN WERK AG
WOLFSBURG
Service Department

Drawn: 18. 8. 65 Krumbholz
Checked: 30. 9. 65 Gieseking

Mounting Plate for Cylinder Head together with Valve Guide Wear Measuring Appliance, Types 1, 2, 3, 122, 124, 126

VW 689/1
No. of sheets 3
Sheet No. 1

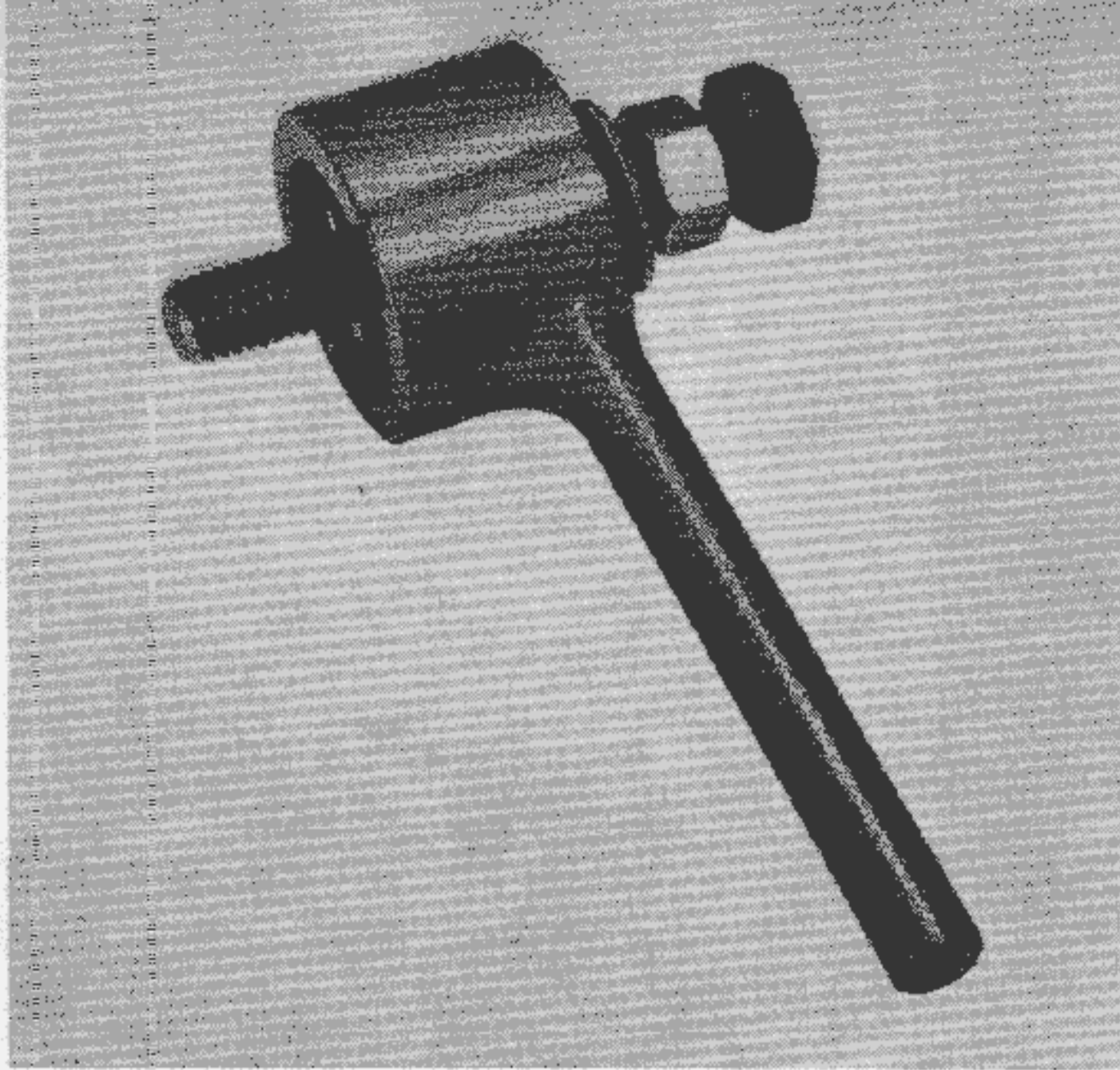


Section A—A

When no limit is given tolerance
± 0.25; ± 30' applies

Colour identification marks	
01	orange RAL 2004
02	blue RAL 5015
03	violet RAL 4003
04	green RAL 6018
05	black RAL 9005
	Surfaces in given colours (synthetic resin) shown thus

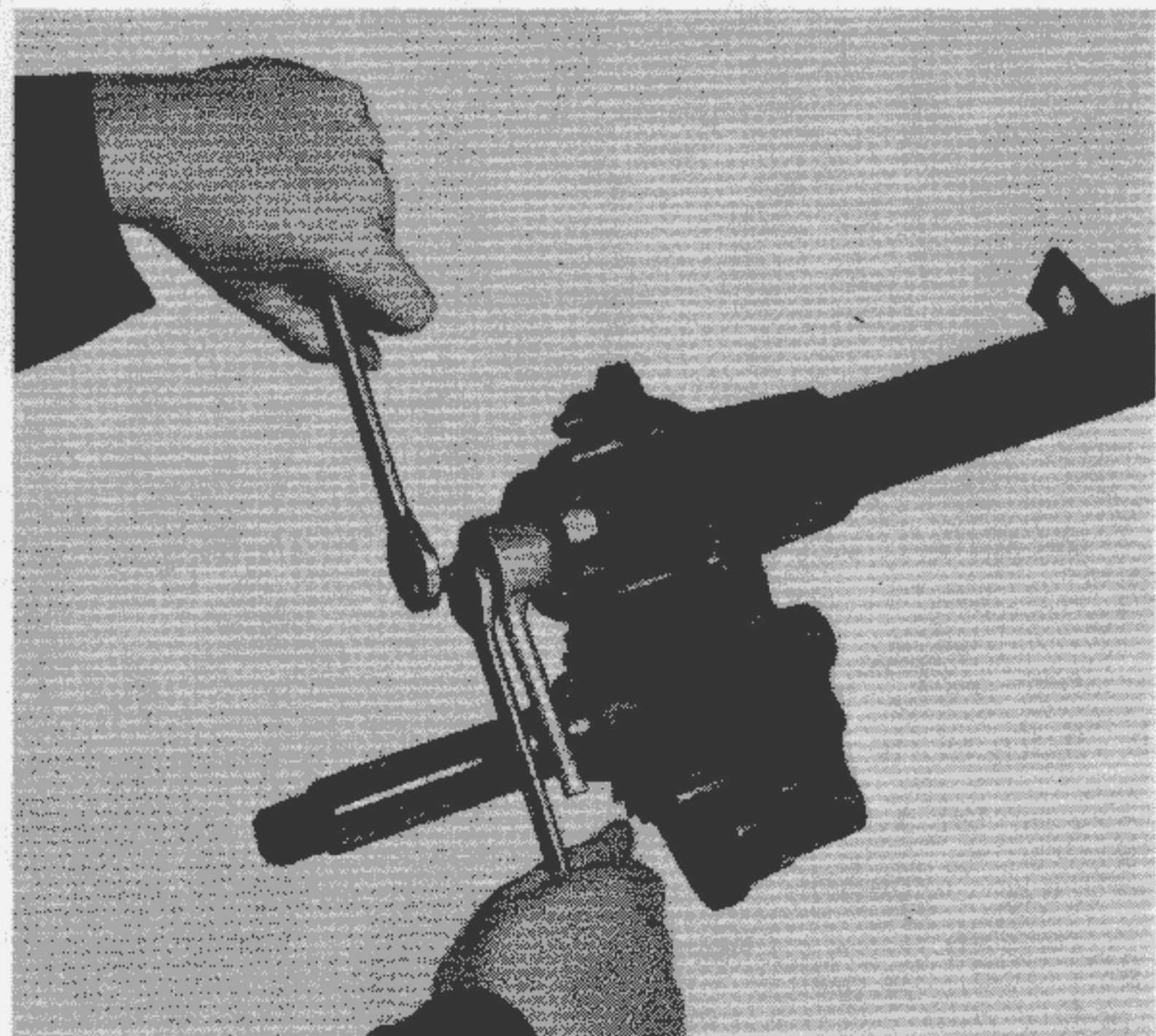
VOLKSWAGENWERK AG WOLFSBURG Service Department		No. of sheets 3 Sheet No. 3
Drawing: 18. 8. 65 Krumbholz Checked: 30. 9. 65 Giesecking		VW 689/1
Mounting Plate for Cylinder Head together with Valve Guide Wear Measuring Appliance, Types 1, 2, 3, 122, 124, 126		



Installing Device for Type 2
Rear Axle Shaft Ball Bearing

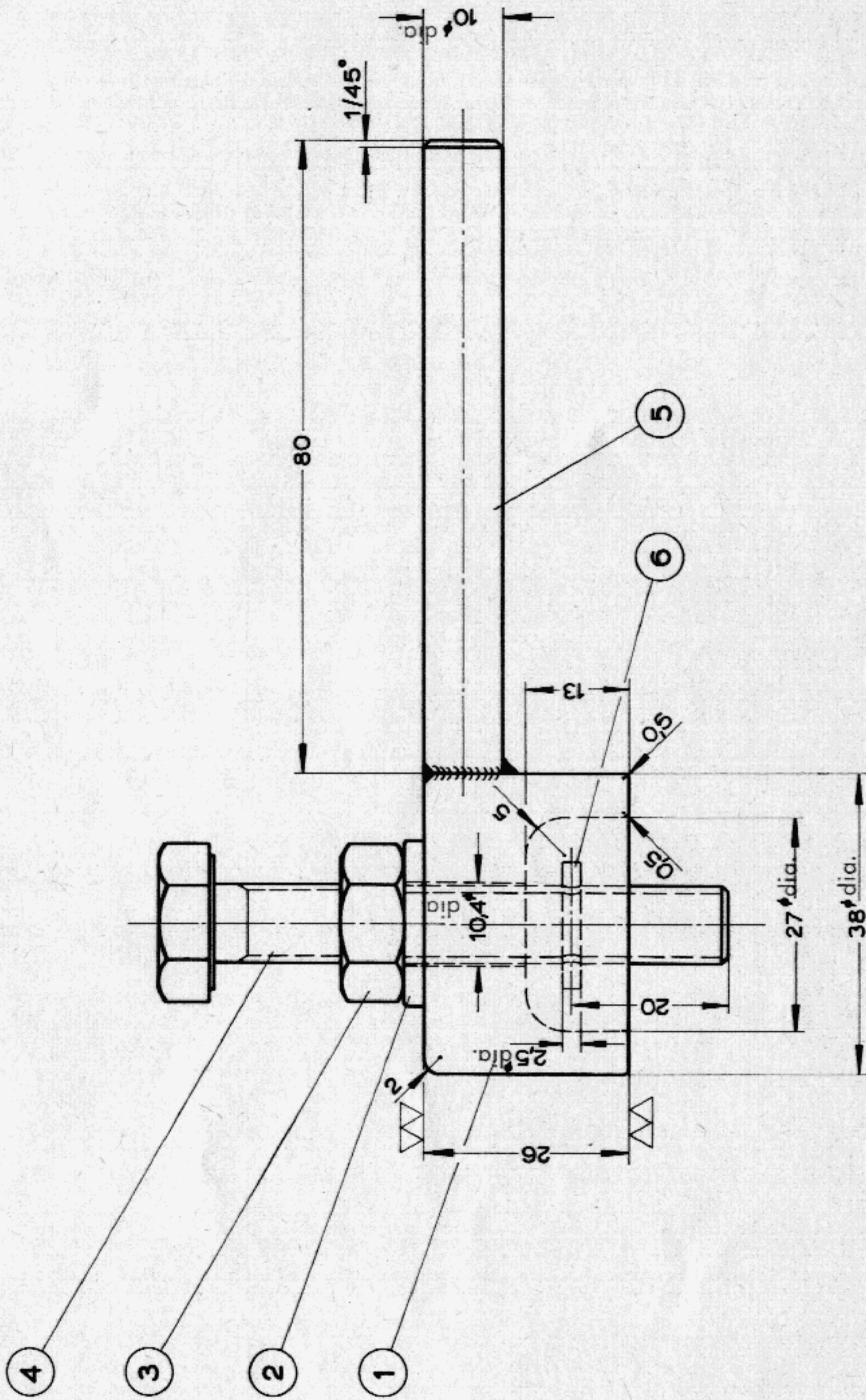
The device is used for installing the outer ball bearing on the rear axle shaft when assembling the rear axle reduction gear, thus enabling the circlip to be correctly fitted.

The hexagon bolt of the device is screwed tightly into the threaded hole in the end of the axle shaft. The ball bearing is then pushed onto the axle shaft by pulling up the hexagon nut against pressure piece.



Construction Details for VW 690

- 1 — Cut all parts to dimensions given in list of parts, have standard parts ready to hand.
- 2 — Make parts (1) and (5) as shown in drawing.
- 3 — Weld parts (1) and (5) as shown in drawing, smooth welds.
- 4 — Drill a 2.5 mm dia. hole in the hex. bolt.
- 5 — Screw hex. nut onto part (4).
- 6 — Put washer on bolt.
- 7 — Assemble bolt, nut, and washer with part (1) and insert part (6).
- 8 — Paint the device except the bolt, nut and washer.



6	1	Retaining pin	2,5 X 16	DIN 1481
5	1	Lever	10 dia. X 80 C 15	
4	1	Hex. bolt	M 10 X 65	DIN 933-5D
3	1	Hex. Nut	M 10	DIN 934-4D
2	1	Washer	10,5	DIN 125 St
1	1	Pressure piece	40 dia. X 28 C 15	

Part No. required	Description	Material	Part No. or standard spec.
6	1 Retaining pin		DIN 1481
5	1 Lever		
4	1 Hex. bolt		DIN 933-5D
3	1 Hex. Nut		DIN 934-4D
2	1 Washer		DIN 125 St
1	1 Pressure piece		

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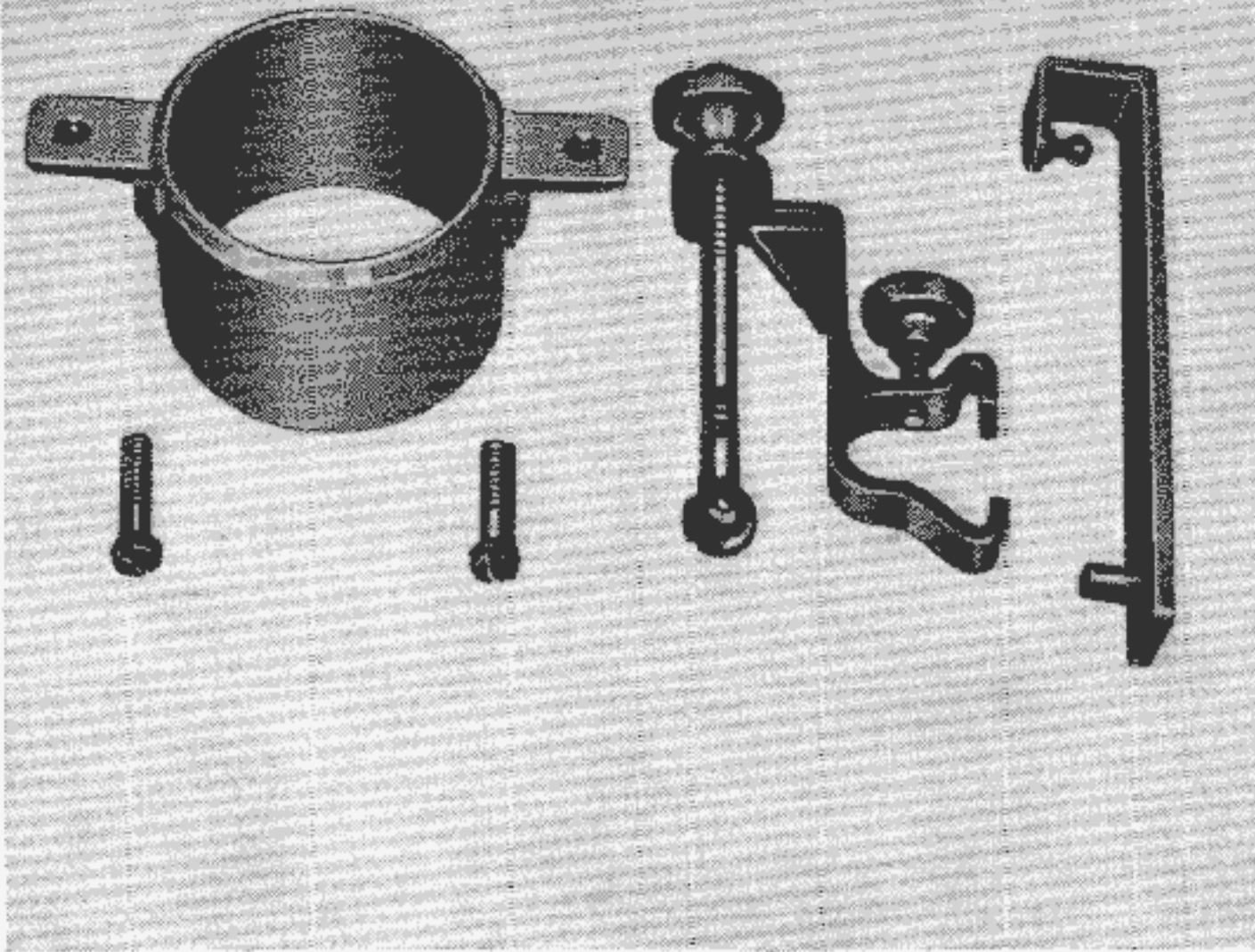
Drawn by:
3. 8. 62 Gieseking

Checked by:
3. 8. 62 Ratte

Installing Device for Rear Axle Shaft Ball Bearing

VW 690

Sheet No. 1
 No. of Sheets 1



VW 691

MAY 20 1965

Adjusting Device for the Twin Carburettor System Type 3

WATCH FOR EDITION WITHOUT DATE RECEIVED 12-5 KA

The adjusting device when used in conjunction with a normal carburettor adjustment regulator enables the twin carburettors to be evenly adjusted.

The adjusting device consists of three separate parts and is provided for the following jobs:

1 — Measuring gauge

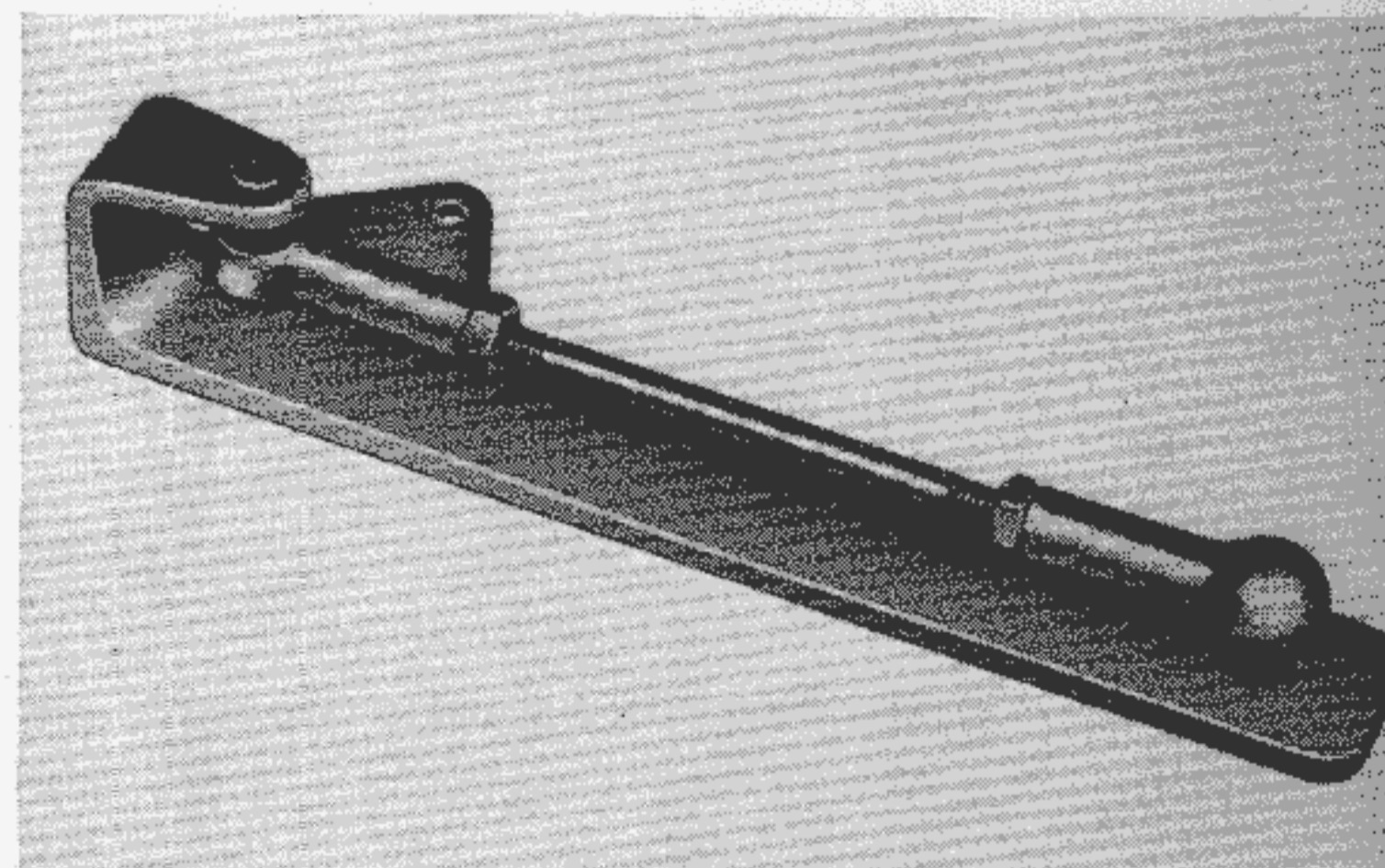
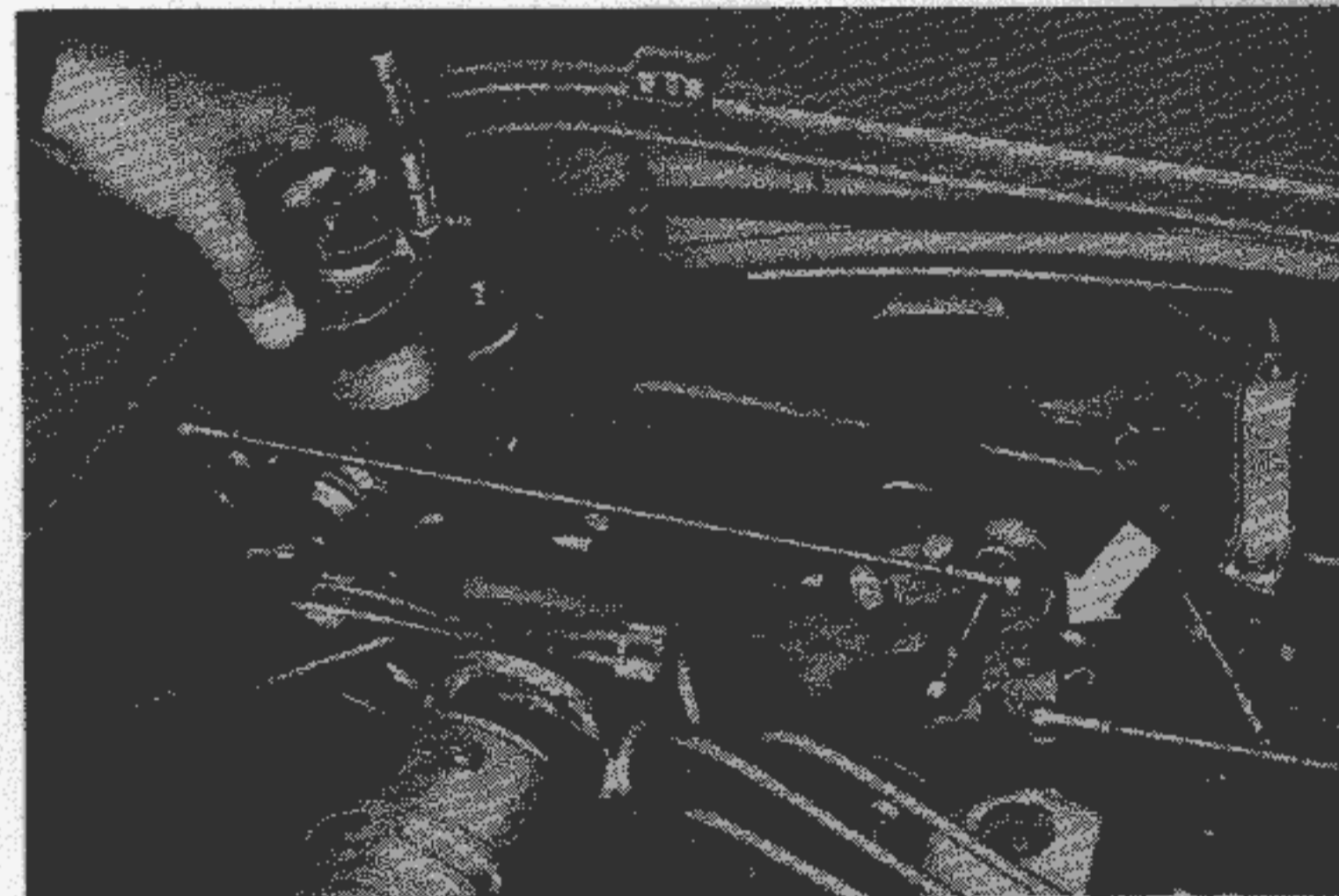
The measuring gauge has a ball joint and a spigot for the reception of the carburettor operating rod. The operating rods can be checked for length with this gauge and where necessary both adjusted to the same length.

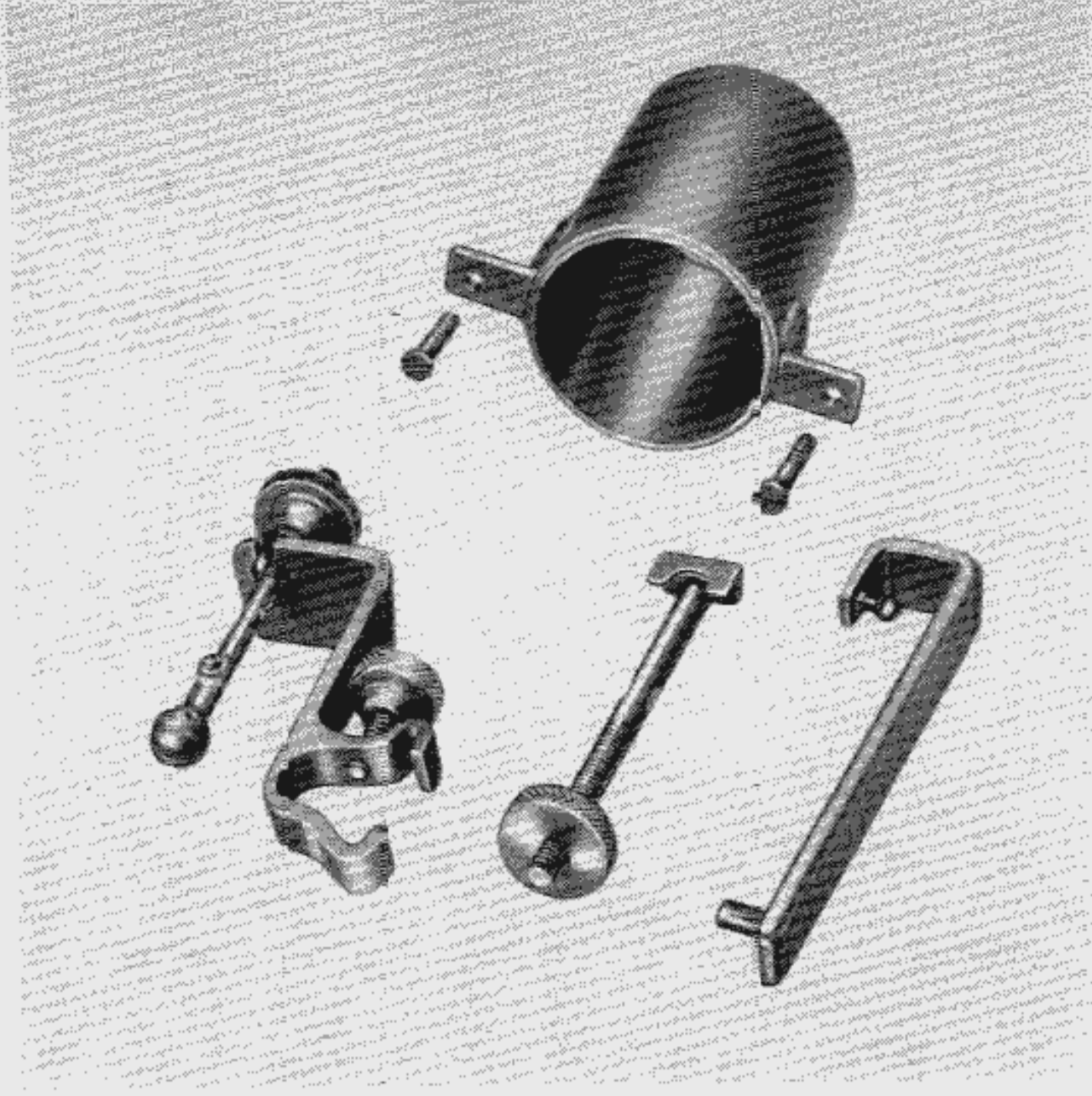
2 — Distance piece

The distance piece consists of a short piece of tube to which two fixing brackets are welded. The distance piece is screwed firmly to a normal type carburettor adjustment regulator. This carburettor regulator can only be fitted to the carburettor when used in conjunction with the distance piece.

3 — Three arm lever operating device

The device is clamped onto the mounting bracket of the three arm lever with a small clamp and knurled headed screw. The accelerator cable is disconnected at the ball joint on the three arm lever and the ball socket of the device is then connected up in its place. By turning the knurled headed screw the revolutions of the engine can be set to any desired range.





DEC 10 1965 VW 691

Adjusting Device for the Twin Carburettor System Type 3

WATCH FOR
EDITION 12/64

RS

The adjusting device when used in conjunction with a normal carburettor adjustment regulator enables the twin carburettors to be evenly set. The adjusting device consists of three separate parts and is utilized for the following jobs:

1 — Measuring gauge

The measuring gauge has a ball joint and a spigot for the reception of the carburettor operating rod. The operating rods can be checked for length with this gauge and, where necessary, both adjusted to the same length.

2 — Distance piece

The distance piece consists of a short piece of tube to which two fixing brackets are welded. The distance piece is screwed firmly to a normal type carburettor adjustment regulator. This carburettor regulator can only be fitted to the carburettor when used in conjunction with the distance piece.

3 — Three arm lever operating device

The device is clamped on to the mounting bracket of the three arm lever by a knurled headed screw.

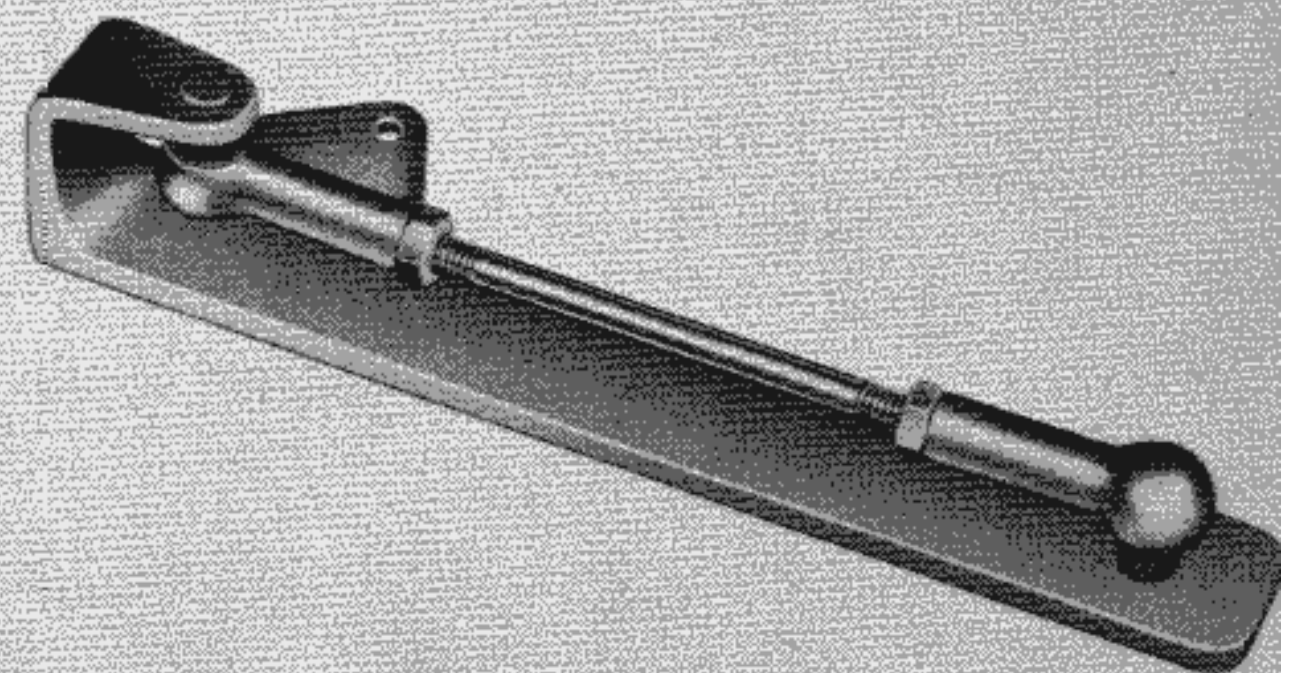
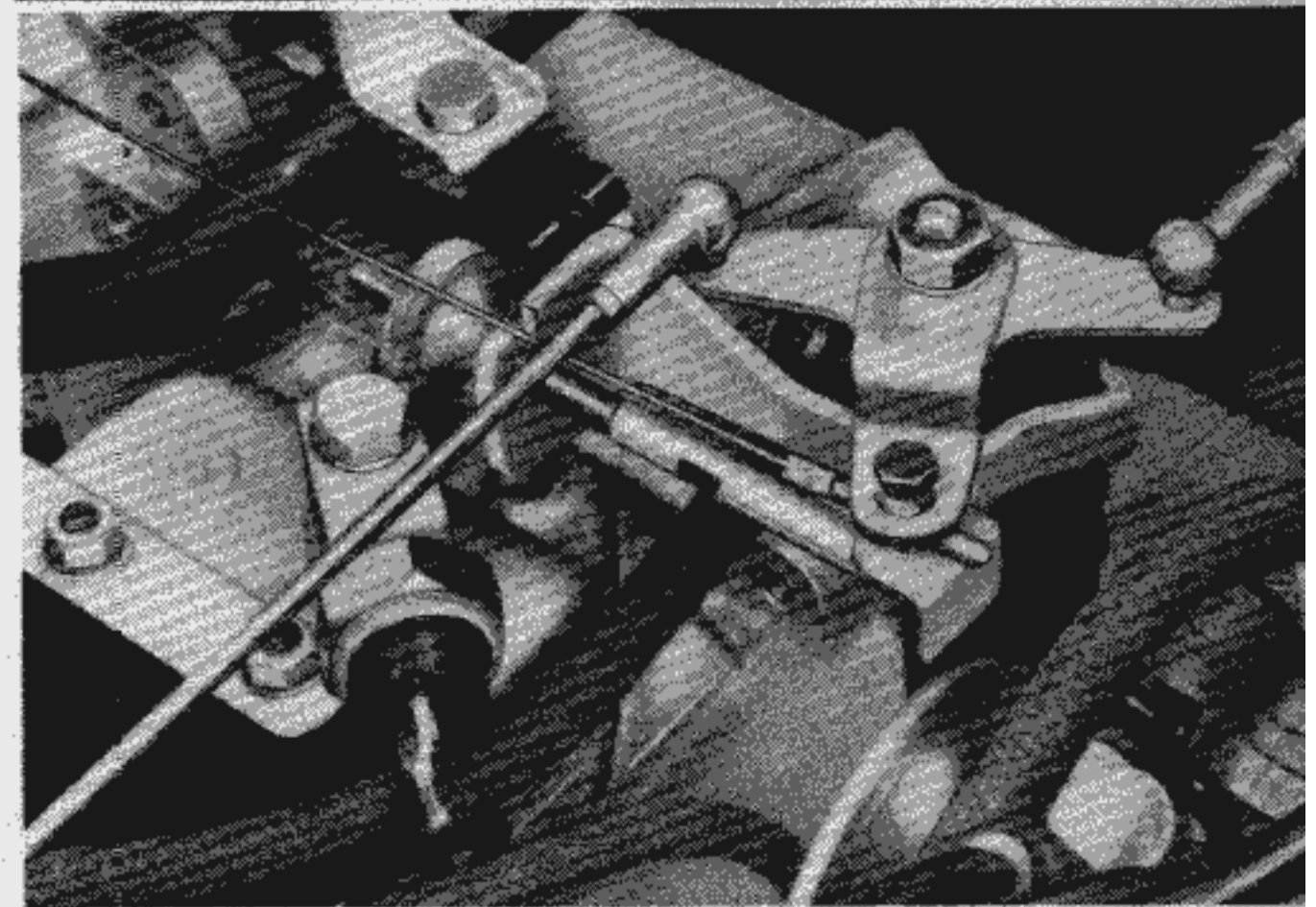
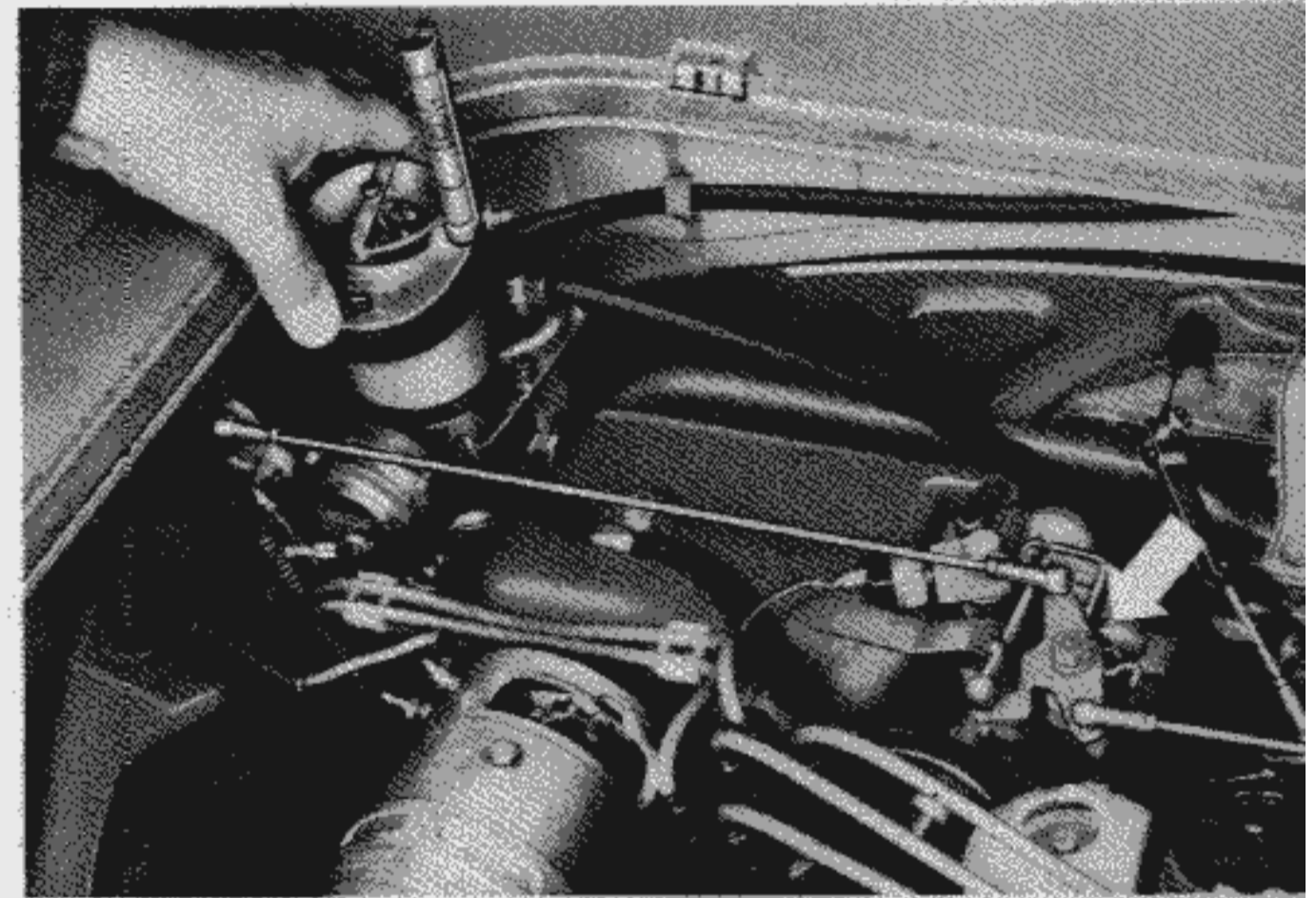
Type 3 up to August 1965:

The accelerator cable is disconnected at the ball joint on the three arm lever and the pull rod of the device is connected up in its place.

Type 3 from August 1965:

The angled bracket of the pull rod is pushed on to the accelerator cable bolt. The accelerator cable need not be disconnected in this case.

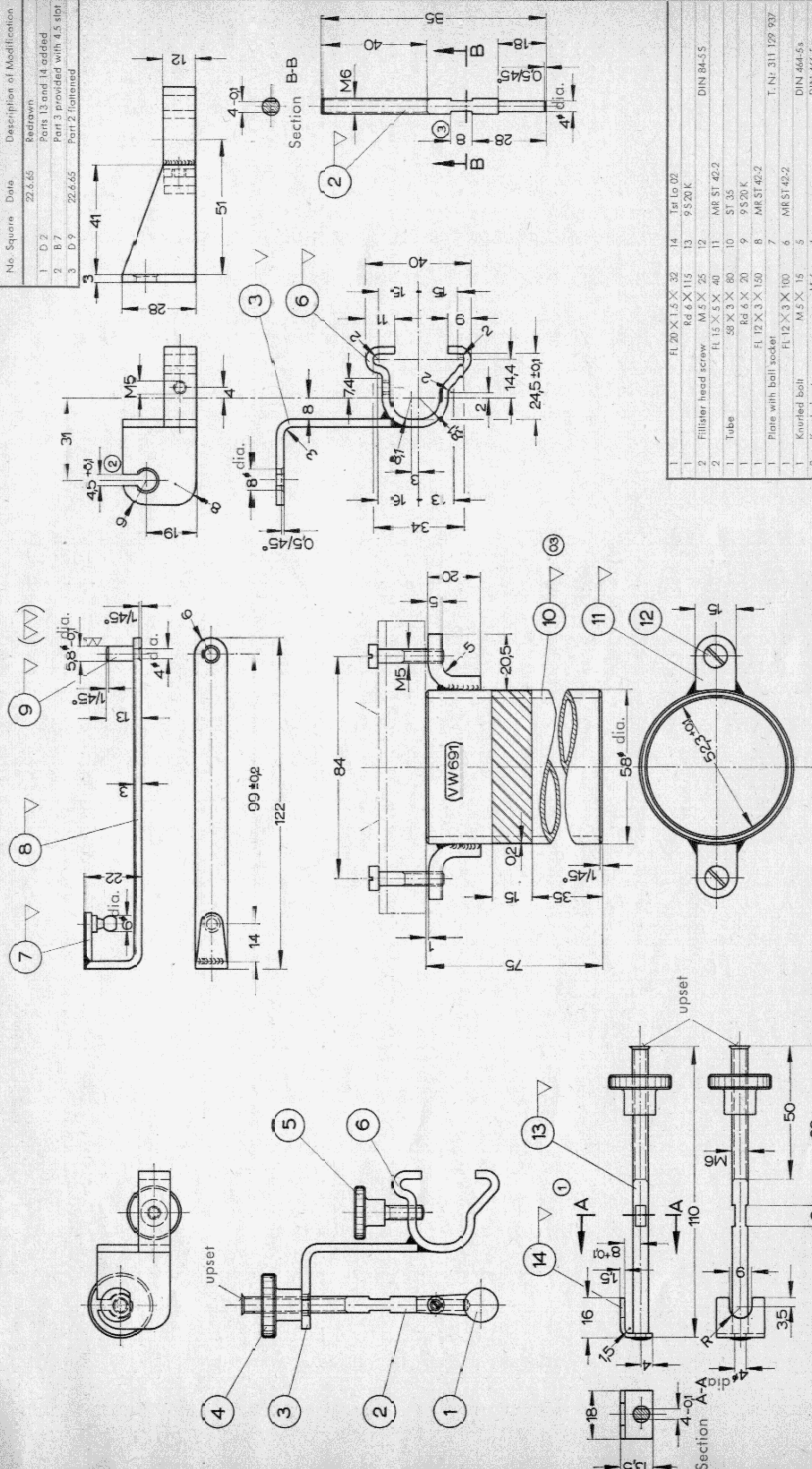
The speed of the engine can be set as required by turning the knurled nut on the control linkage of the twin carburettor system.



Construction Details for VW 691

- 1 — Cut all parts to size and have standard parts ready to hand.
- 2 — Mark out part 3, work and shape.
- 3 — Shape part 6.
- 4 — Weld parts 3 and 6.
- 5 — Drill 8 mm, 4 mm (M 5) holes and cut M 6 thread.
- 6 — Cut out 4.5 mm slot.
- 7 — Turn down parts 9 and 13.
- 8 — Turn down parts 2 and 13, cut M 6 thread and rework.
- 9 — Finish parts 11 and 14.
- 10 — Weld parts 10 and 11.
- 11 — Rivet parts 13 and 14.
- 12 — Cut part 7 from 311 129 937.
- 13 — Finish part 8.
- 14 — Weld parts 7 and 8.
- 15 — Rivet in part 9.
- 16 — Assemble the adjusting device.
- 17 — Upset parts 2 and 13.
- 18 — Paint adjusting device dark green (RAL 6011).

1 2 3 4 5 6 7 8 9



No. Square	Date	Description of Modification
1	D 2	Redrawn
2	B 7	Parts 13 and 14 added
3	D 9	Part 3 provided with 4.5 slot Part 2 flattened

Quan- tity	Description	Part	Material
1	Ball joint	1	T. Nr. 211 955 323
1	FL 30 X 3 X 80	3	MR ST 42-2
1	Rd 6 X 90	2	9 S 20 K
2	Knurled nut	M 6	DIN 466-5.5
1	Knurled bolt	M 5 X 15	DIN 464-5.5
1	FL 12 X 3 X 100	6	MR ST 42-2
1	Plate with ball socket	7	T. Nr. 311 129 937
1	FL 12 X 3 X 150	8	MR ST 42-2
1	Rd 6 X 20	9	9 S 20 K
1	58 X 3 X 80	10	ST 35
2	FL 15 X 5 X 40	11	MR ST 42-2
2	M 5 X 25	12	DIN 84-5.5
1	Rd 6 X 115	13	9 S 20 K
1	FL 20 X 1.5 X 32	14	Tst Lo 02

When no limit is given tolerance
± 0.25; ± 30' applies

Colour identification marks

- (01) orange RAL 2004
 - (02) blue RAL 5015
 - (03) violet RAL 4003
 - (04) green RAL 6018
 - (05) black RAL 9005
- Surfaces in given colours
(synthetic resin) shown thus

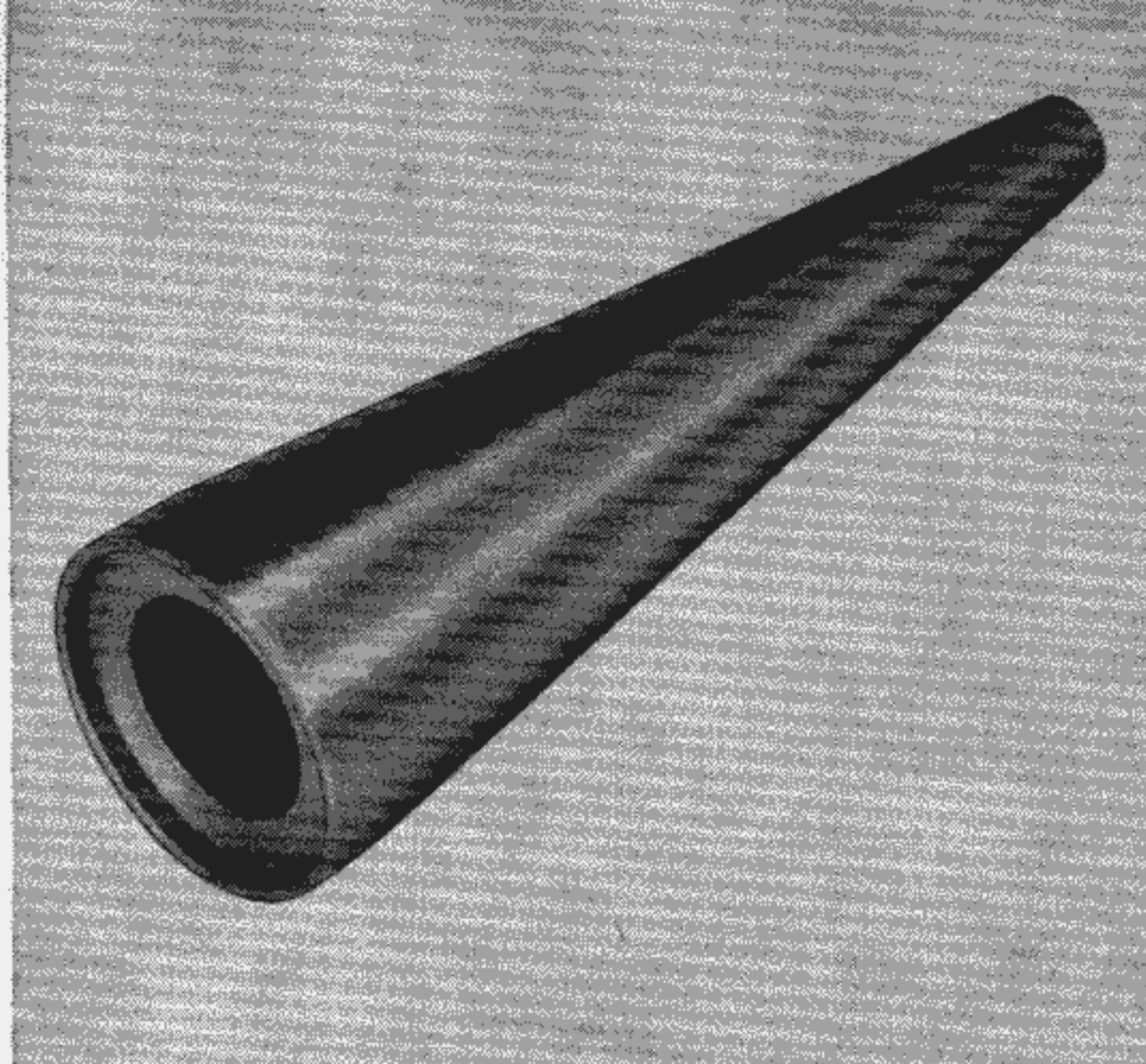
VOLKSWAGENWERK AG
WOLFSBURG
Service Department

Drawn:
22. 6. 65 Gieseking

Checked:
23. 6. 65 Ratte

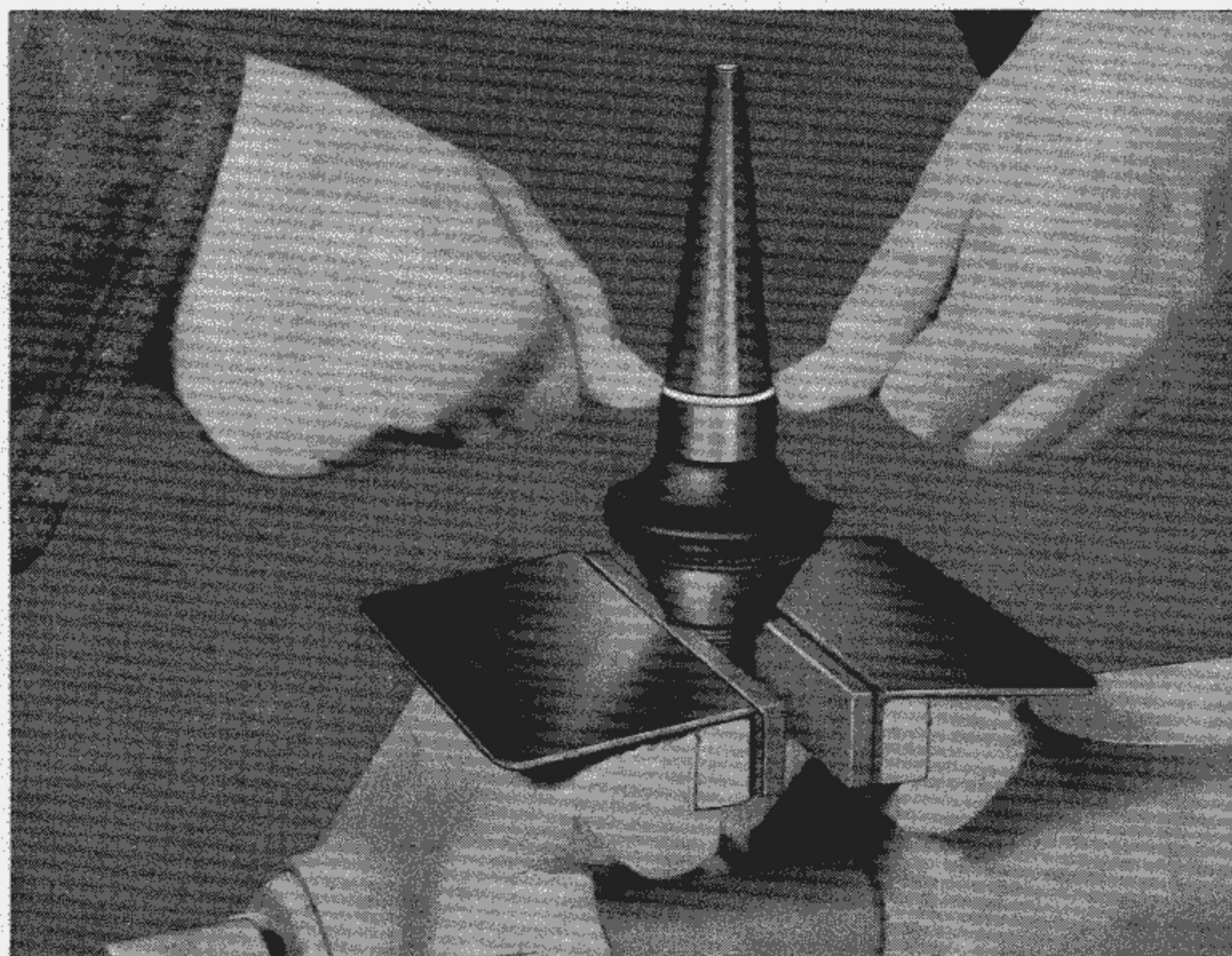
Adjusting Device for the Twin Carburetor System

VW 691



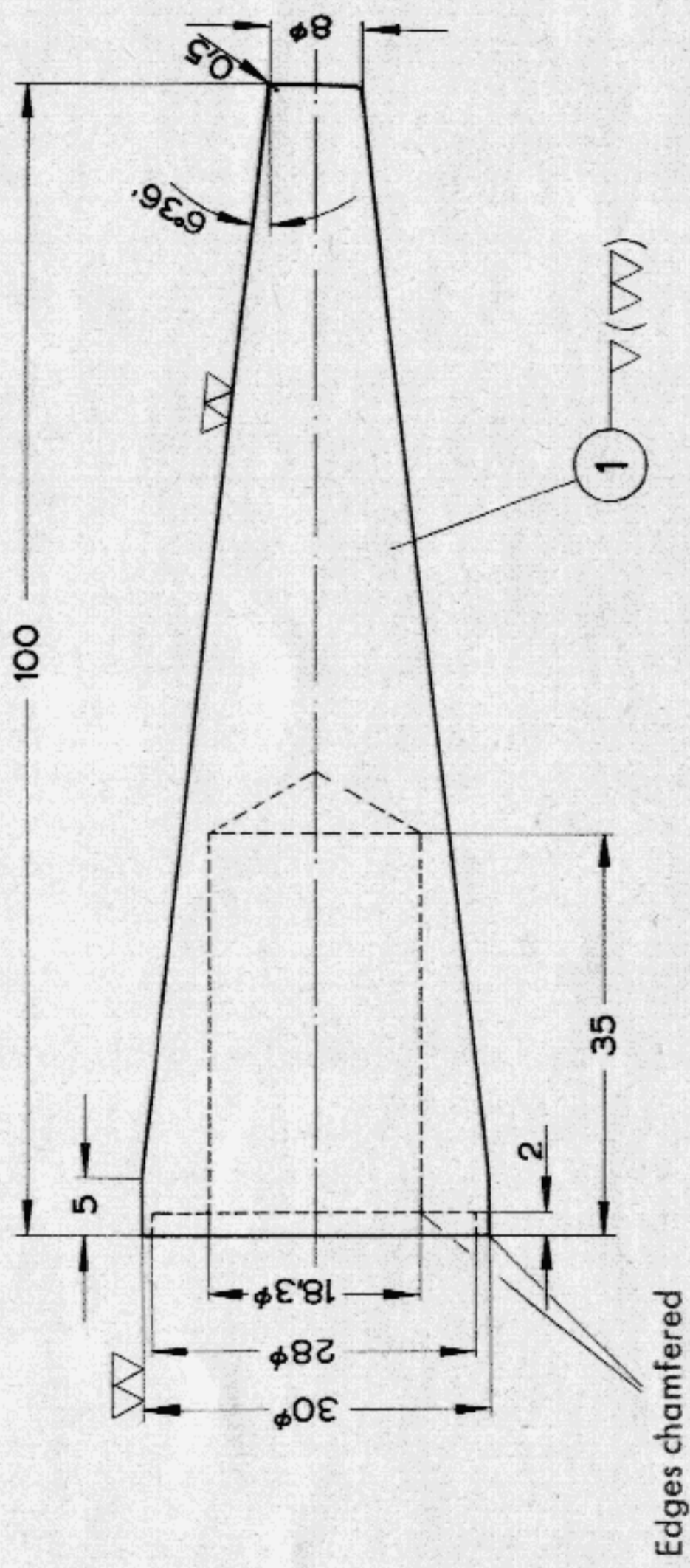
Spring Clip Installing Sleeve,
Type 3

The installing sleeve prevents the spring clip from being spread to wide when being installed. To this end the installing sleeve must be pushed so far over the guide pin of the lower or upper ball joint that the collar of the dust seal rests on the 2 mm recessed face of the sleeve. To facilitate installation of the spring clip it is recommended that the outside of the installation sleeve is treated with a lubricant i. e. Talcum powder.



Construction Details for VW 692

- 1 — Turn as shown in drawing.
- 2 — Lightly grease the installing sleeve.

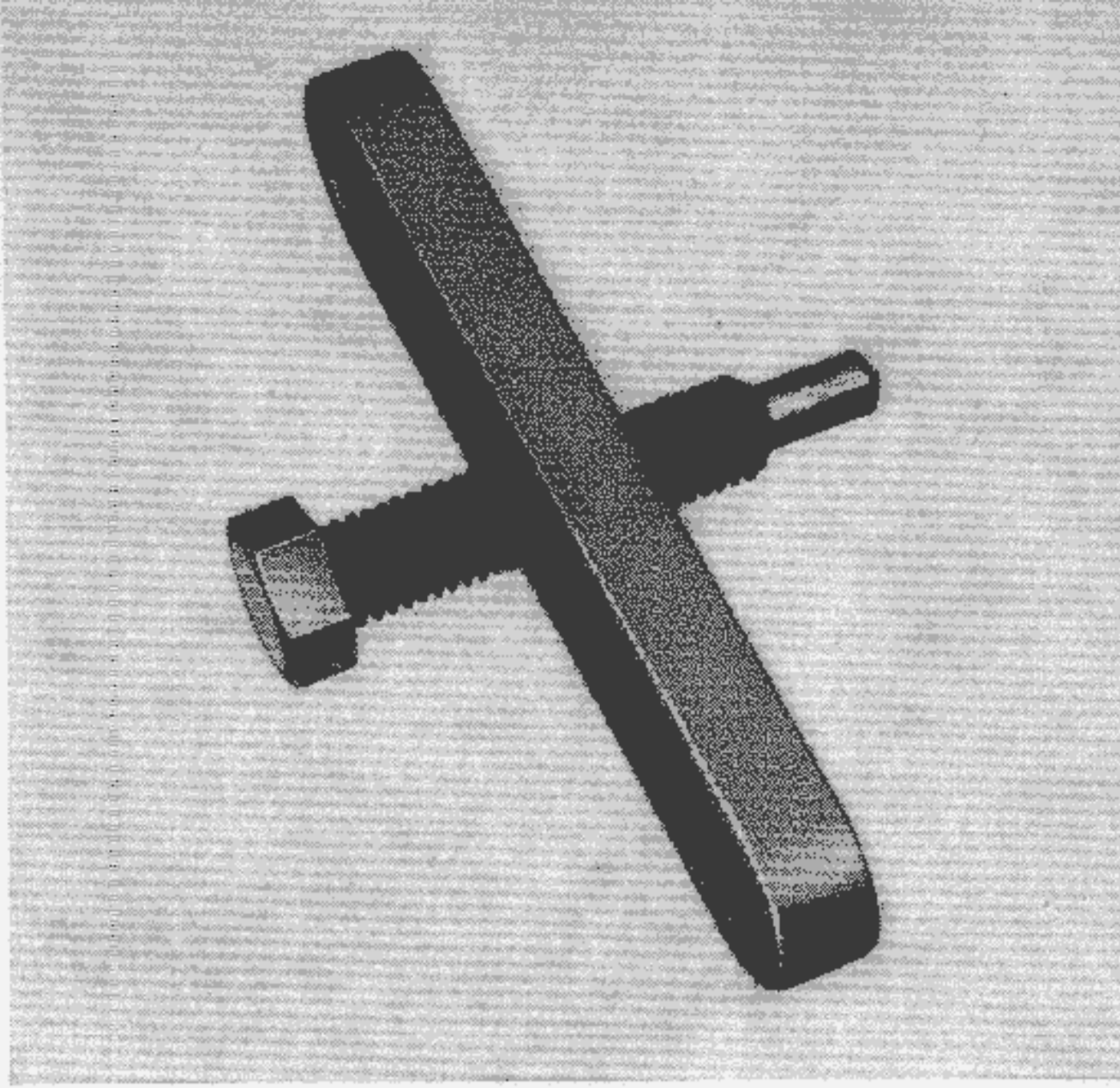


1	Installation Sleeve	35 dia. X 105	C 15
Part No re- No. quired	Description	Material	
	Spring Clip Installation Sleeve		
	VW 692	Sheet No. 1	No. of Sheets 1

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WOLFSBURG
 Service Department

Drawn by:
 26. 2. 63 Jahn

Checked by:
 27. 2. 63 Gieseking



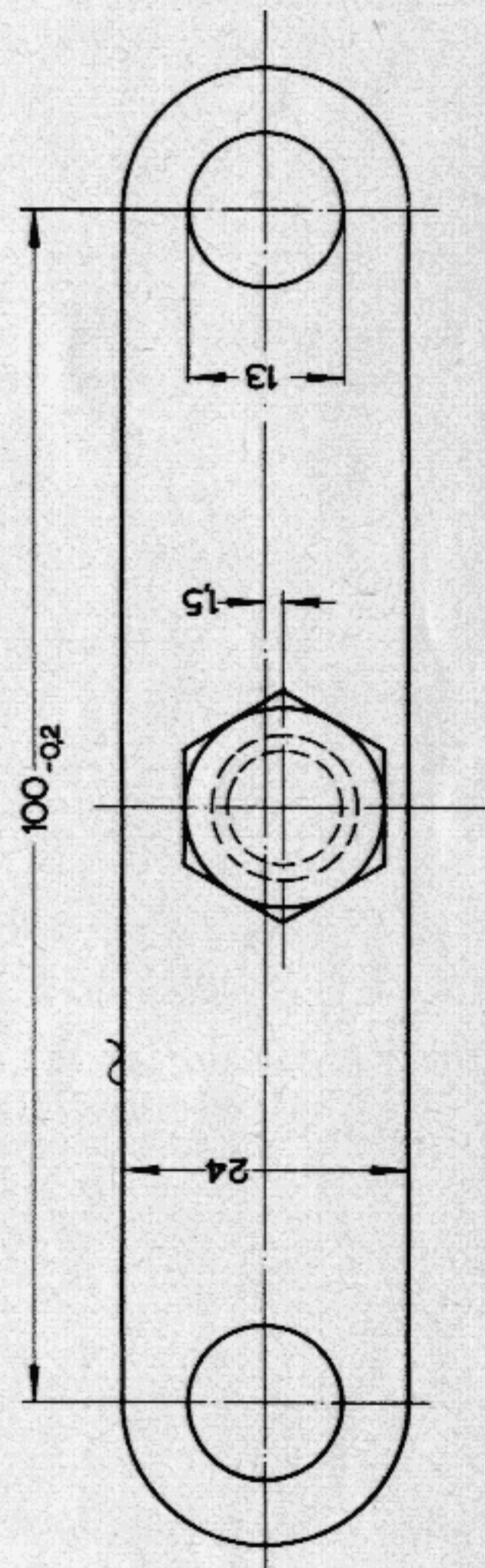
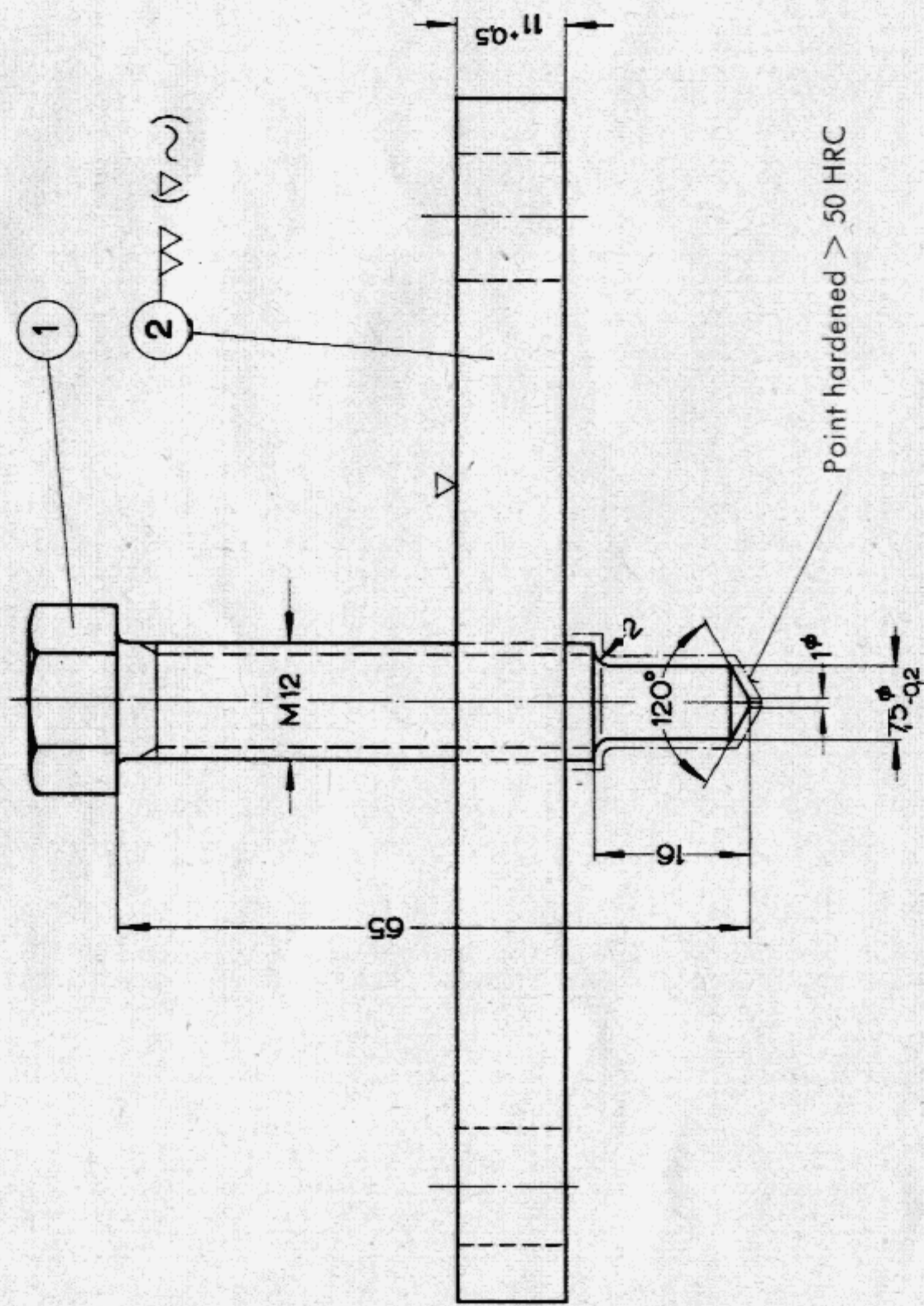
Device for pressing out the driven gear and shaft of the rear axle
Type 2

The device is used for pressing the driven gear and shaft out of the rear axle. It is secured to the reduction gear housing by using 2 of the spring plate bolts. When screwing the device on ensure that it is central so that the point of the pressure bolt locates correctly in the centre boring of the driven gear and shaft.



Construction Details for VW 693

- 1 — Rework point of part 1 and harden.
- 2 — Mark out, centre punch and work part 2.
- 3 — Drill 2 holes 13 mm dia. and 1 hole 9.7 mm dia. remove burrs.
- 4 — Cut M 12 thread.
- 5 — Point part 2.



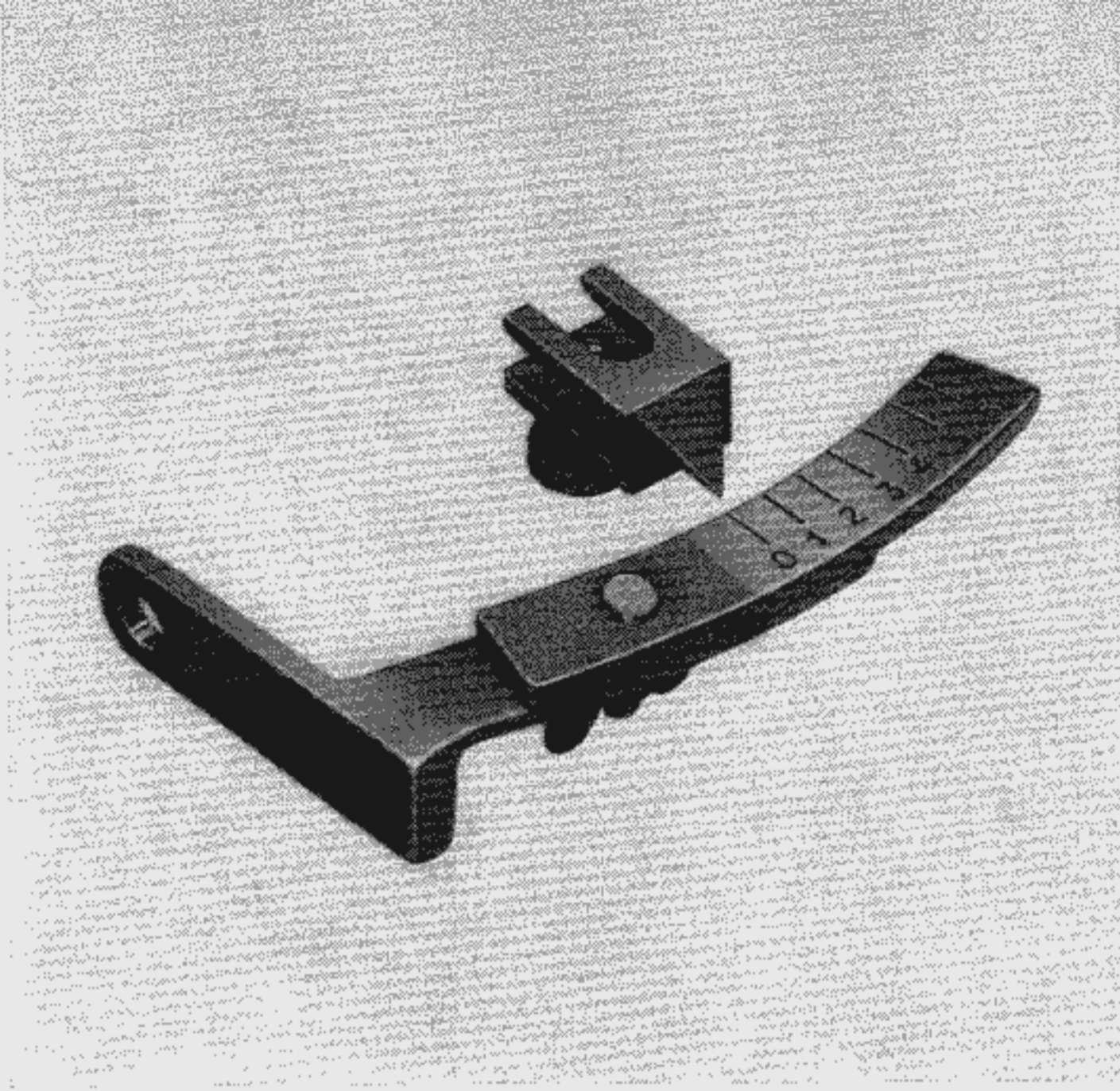
Edges chamfered

2	1	Bridge	25 X 12 X 128	MR St 42-2	DIN 561-8 G	Reworked
1	1	Hexagon screw	M 12 X 70			
Part No. required	Description		Material	Rough size or standard spec.		
Device for Pressing out the Driven Gear and Shaft of the Rear Axle						
						No. of sheets Sheet No. 1

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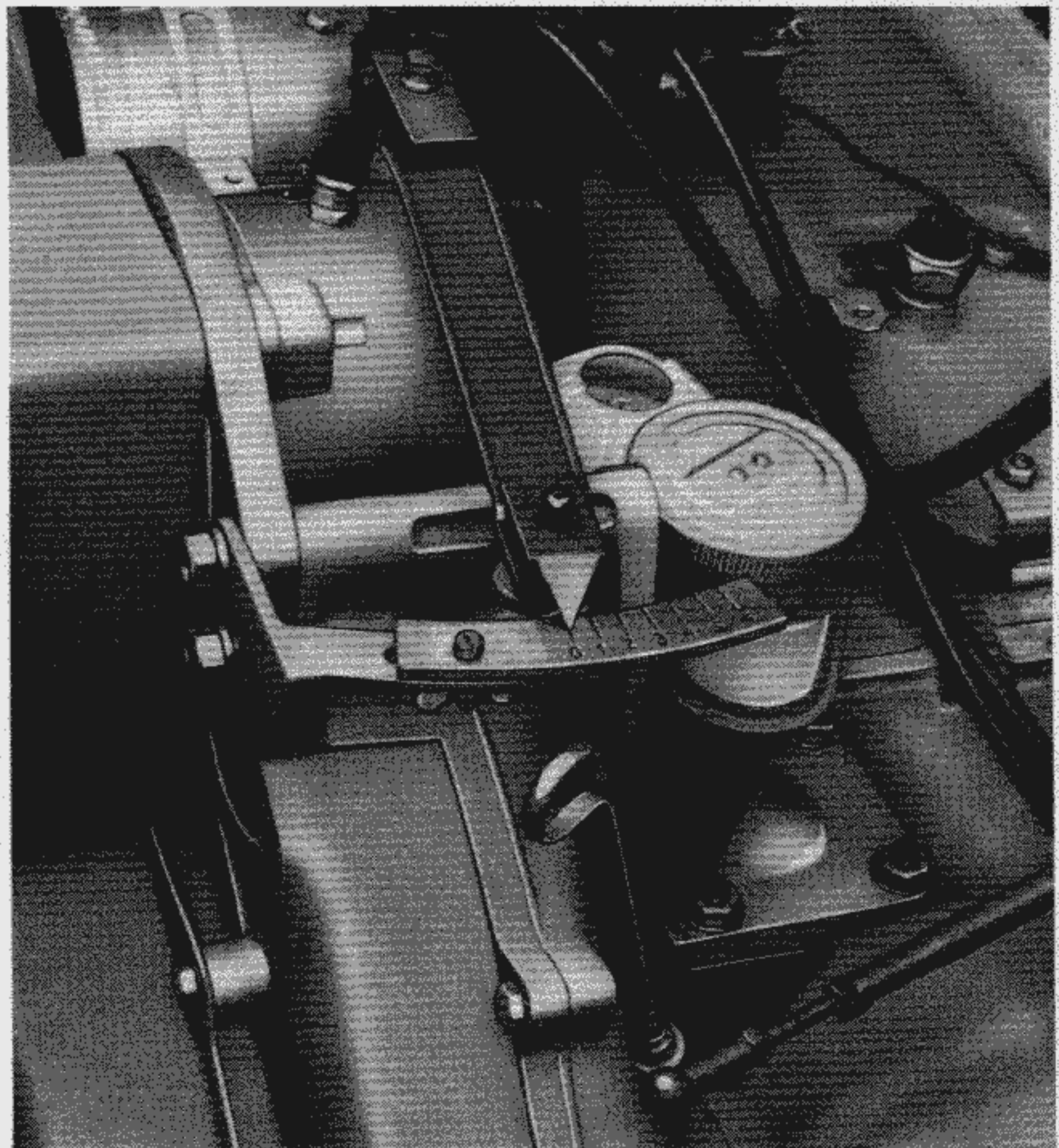
Drawn: 1. 7. 63 Krumbholz
 Checked: 4. 7. 63 Giesecking

VW 693



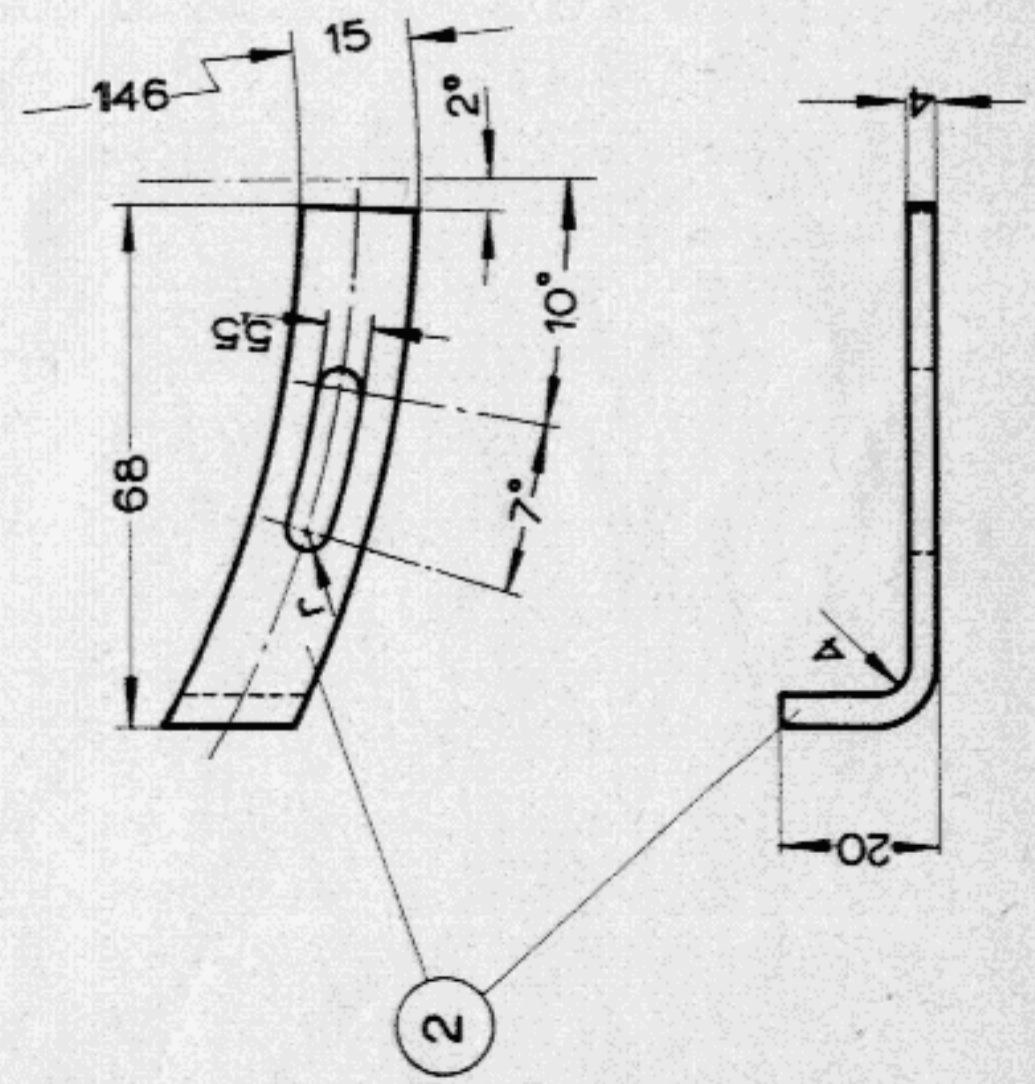
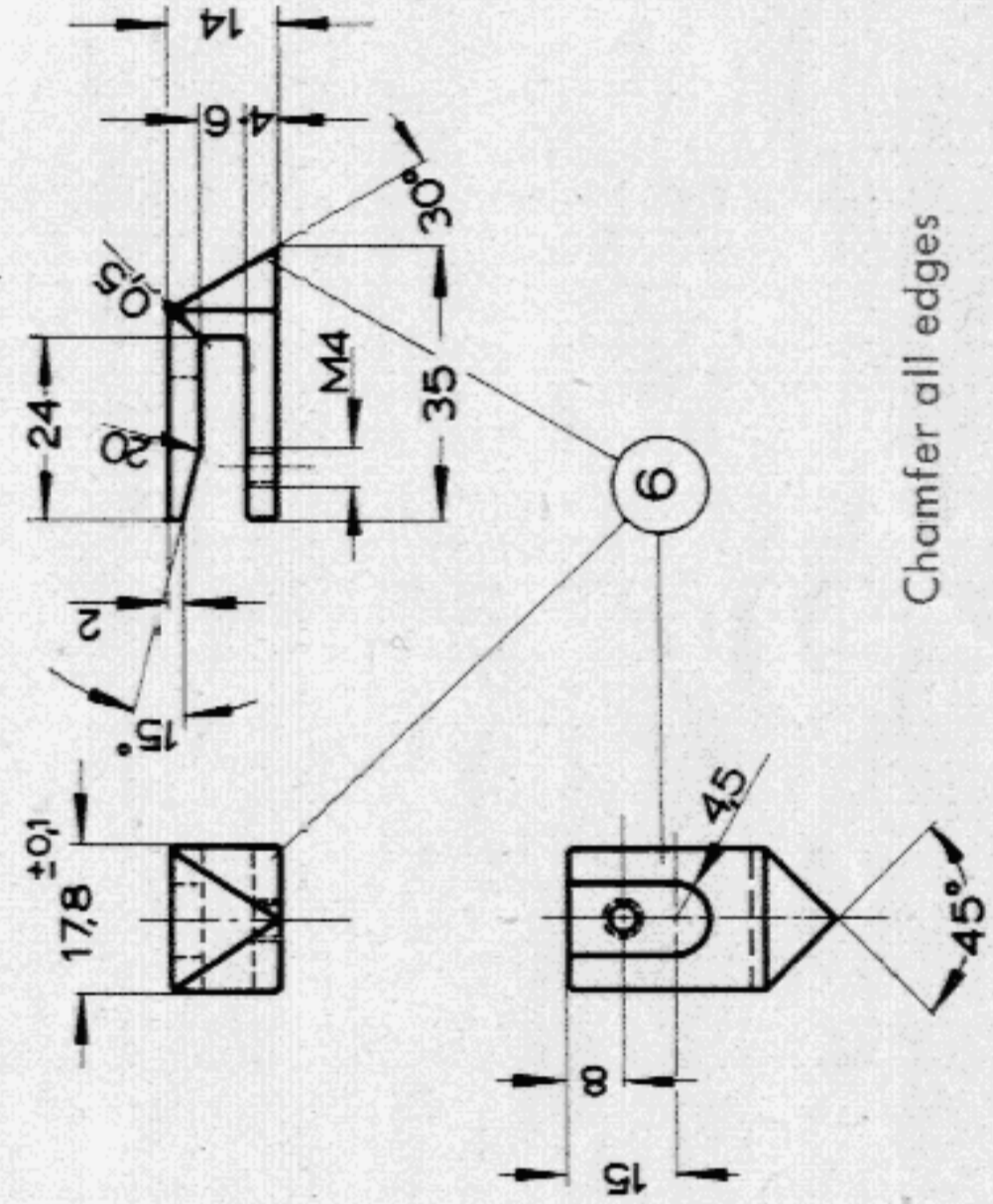
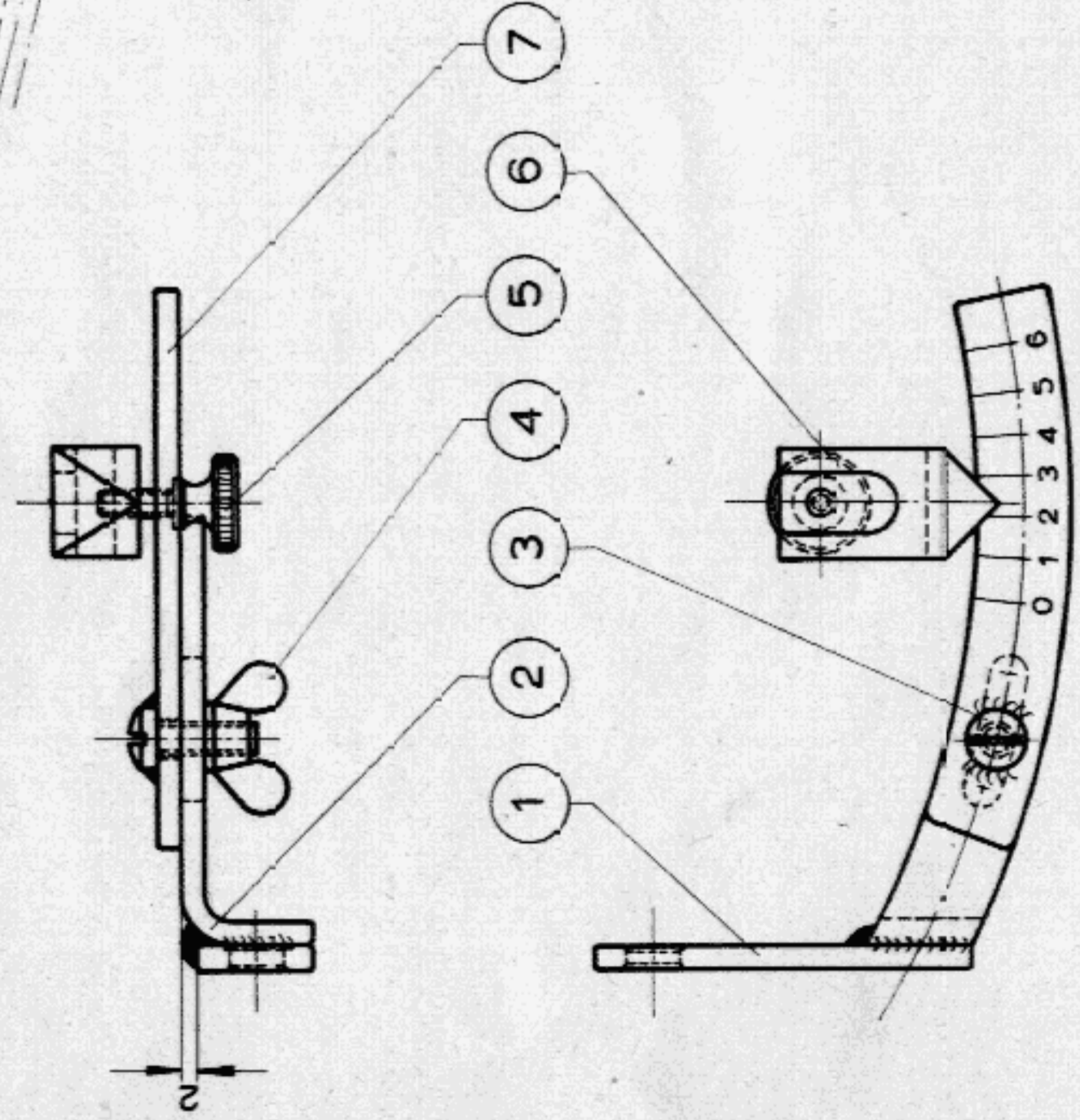
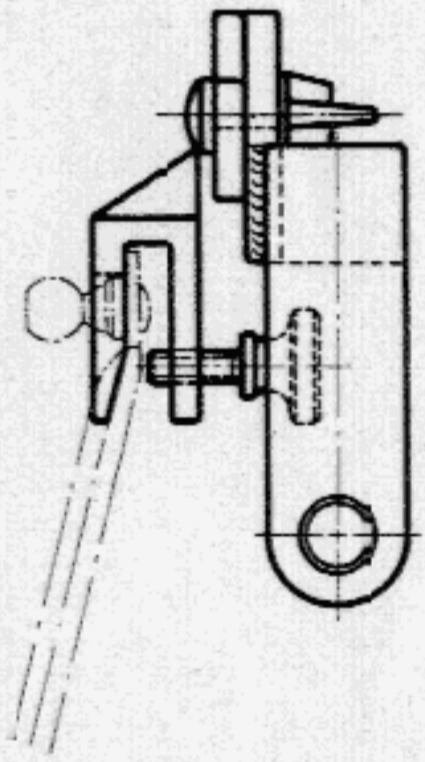
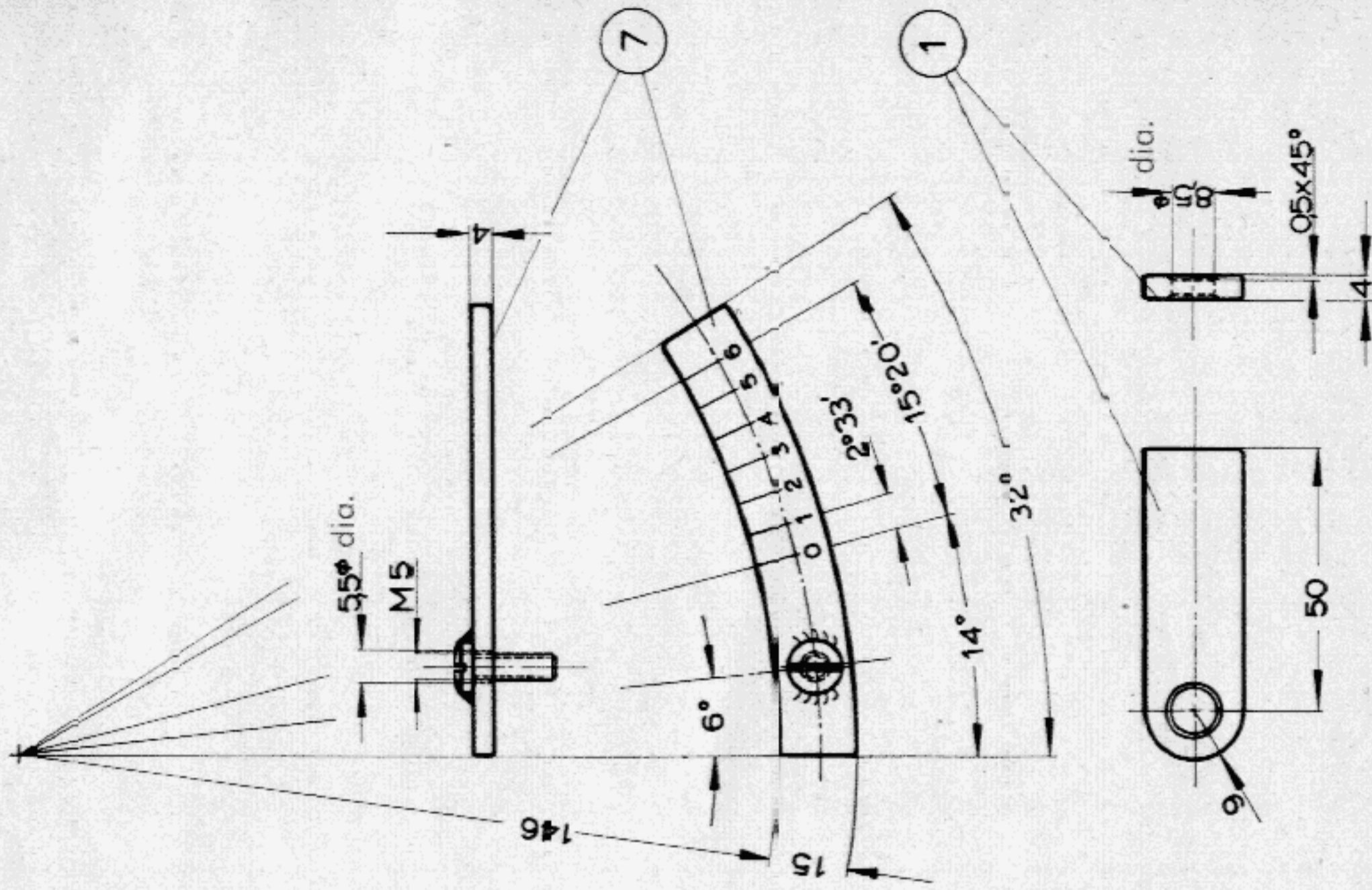
**Governor Adjustment
Test Appliance
Type 124**

The stroke of the governor lever can be checked with the engine running. The scale is fixed to the upper stud of the governor mounting bracket. The governor push rod is to be removed during testing.



Construction Details for VW 695

- 1 — Cut all parts as detailed in the list of parts and have standard parts ready to hand.
- 2 — Mark out parts 1 and 2, centre punch, drill and re-work.
- 3 — Bend part 2.
- 4 — Make part 6.
- 5 — Mark out part 7, centre punch, drill and re-work.
- 6 — Provide part 7 with a scale.
- 7 — Weld parts 3 and 7 together.
- 8 — Weld parts 1 and 2 together.
- 9 — Smooth down welded joints.
- 10 — Paint whole of appliance except the scale.



Part No.	Description	Material	Part No. or standard spec.
7	Measuring rail	30 X 4 X 95	St 37
6	Pointer	20 X 15 X 40	C 15
5	Knurled headed screw	M 4 X 12	DIN 464-5 S
4	Winged nut	M 5	4 D
3	Fillester head screw	M 5 X 15	DIN 315 mg
2	Adjusting rail	40 X 4 X 90	DIN 85-5 S
1	Bracket	20 X 4 X 65	St 37

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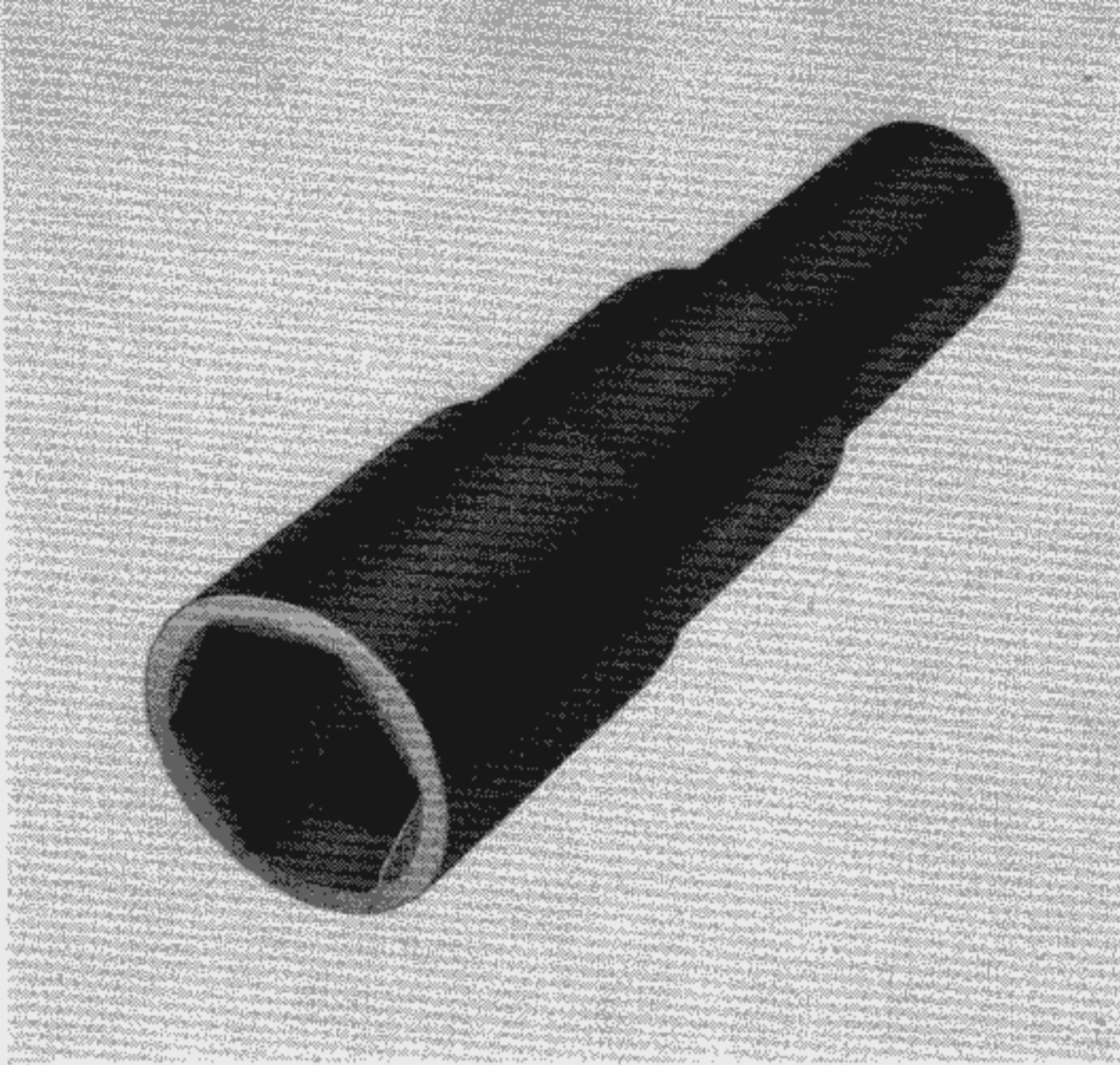
Drawn: 23. 11. 61 Raebel
 Checked: 28. 11. 61 Giesecking

Governor Adjustment Test Appliance (Type 124)

VW 695

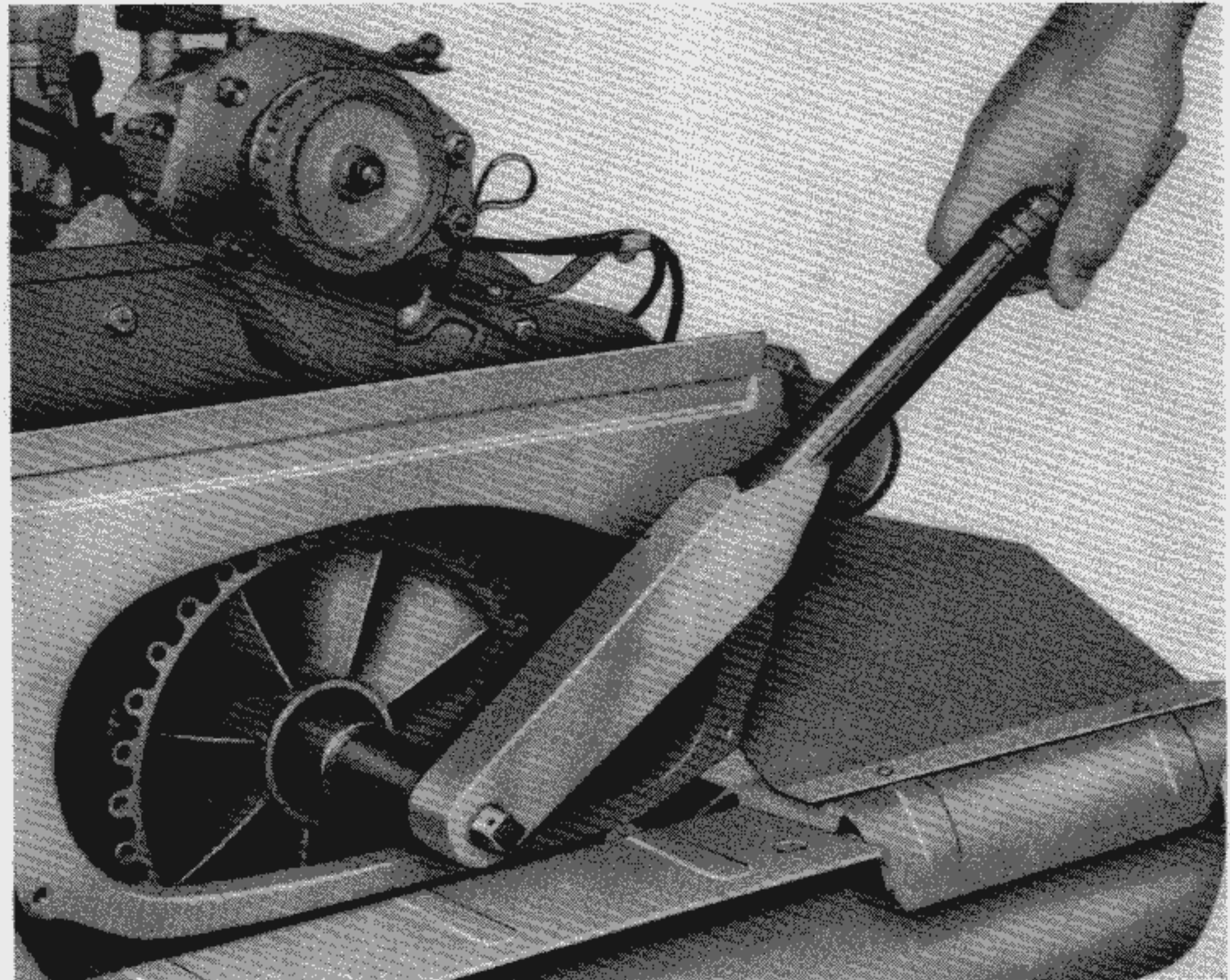
No. of Sheets 1
 Sheet No. 1

LOCAL MANUFACTURE OF WORKSHOP EQUIPMENT



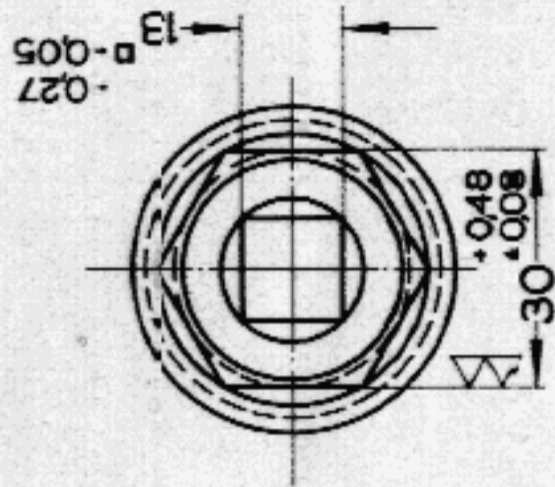
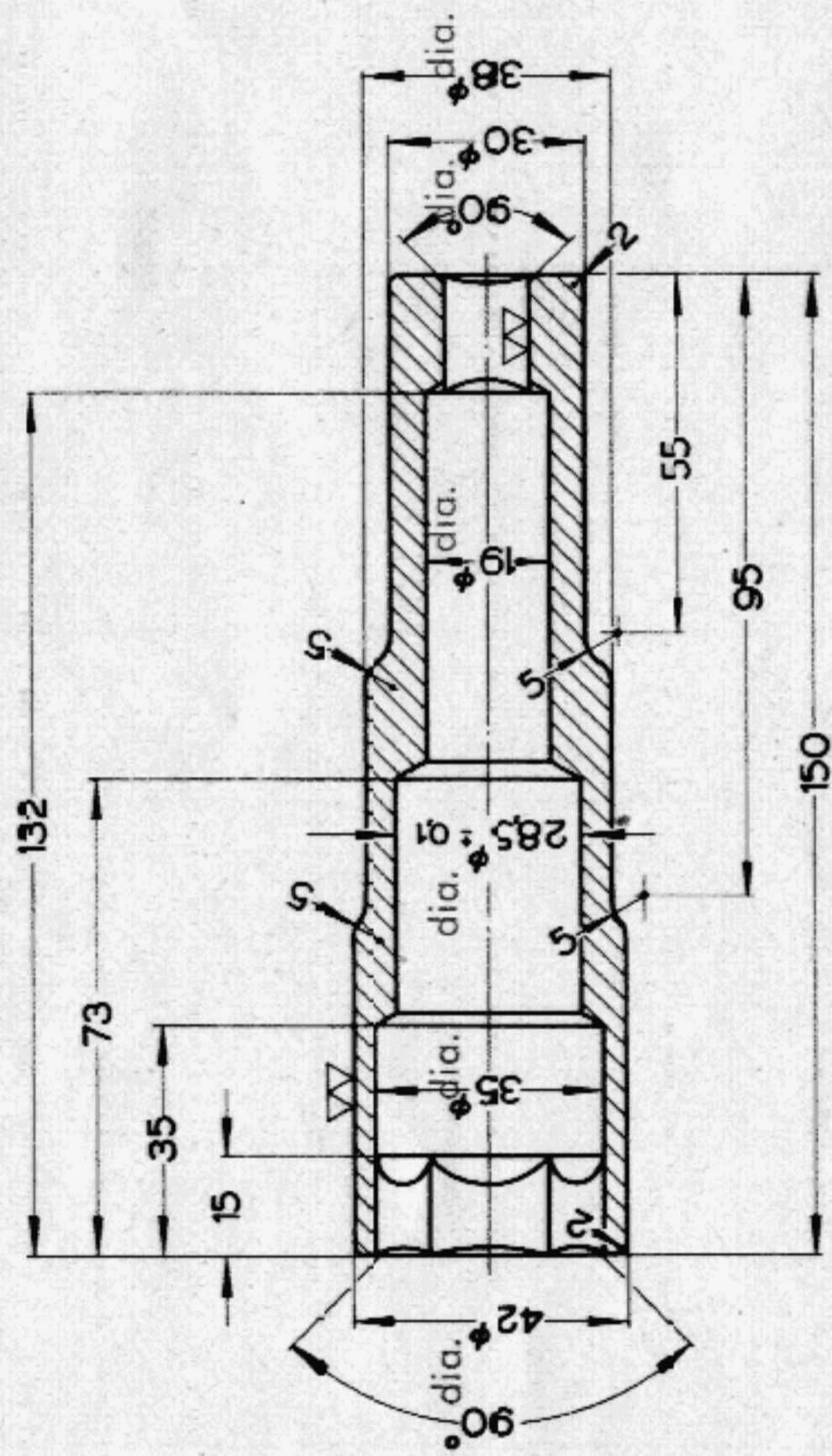
Socket Wrench for the crankshaft pulley fixing bolt
Type 124

The socket wrench is used in conjunction with a torque wrench for assembly work on the cooling fan. It is provided for loosening and tightening up the bolt of the crankshaft pulley.



Construction Details for VW 696

- 1 — Cut part 1 as detailed in list of parts.
- 2 — Turn as shown in drawing.
- 3 — Machine hexagon and square drive.
- 4 — Harden.
- 5 — Blacken the socket wrench in oil.



▽ (▽▽)

Hardened 80—100 kg/mm²

Part No.	No. required	Description	Material
		Round steel 45 dia. X 155	34 Cr 4

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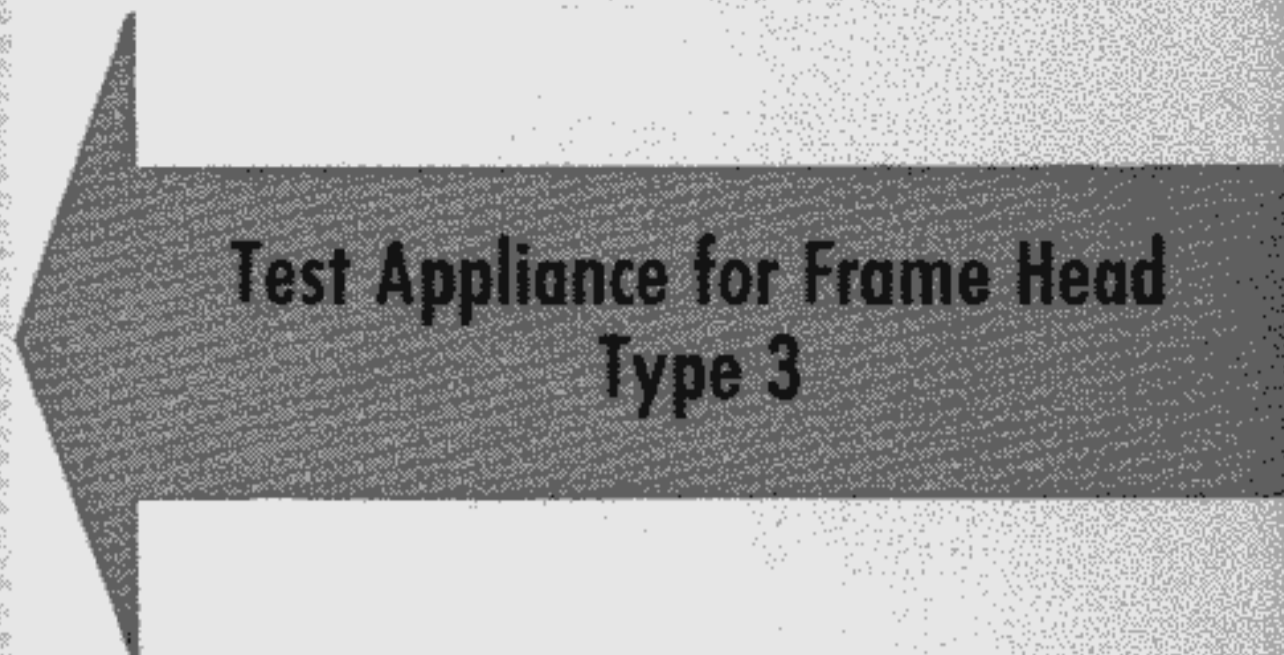
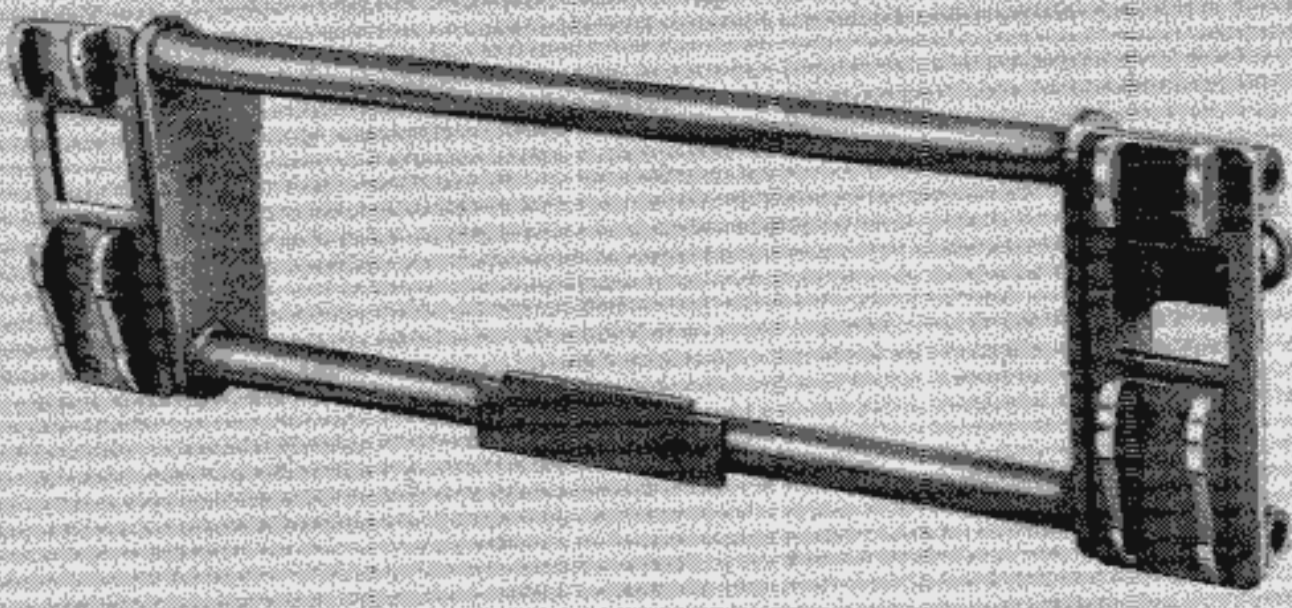
Drawn: 2.7.63 Krumbholz
 Checked: 9.7.63 Giesecking

Socket Wrench for the Crankshaft Pulley Bolt

VW 696
 No. of Sheets 1
 Sheet No. 1

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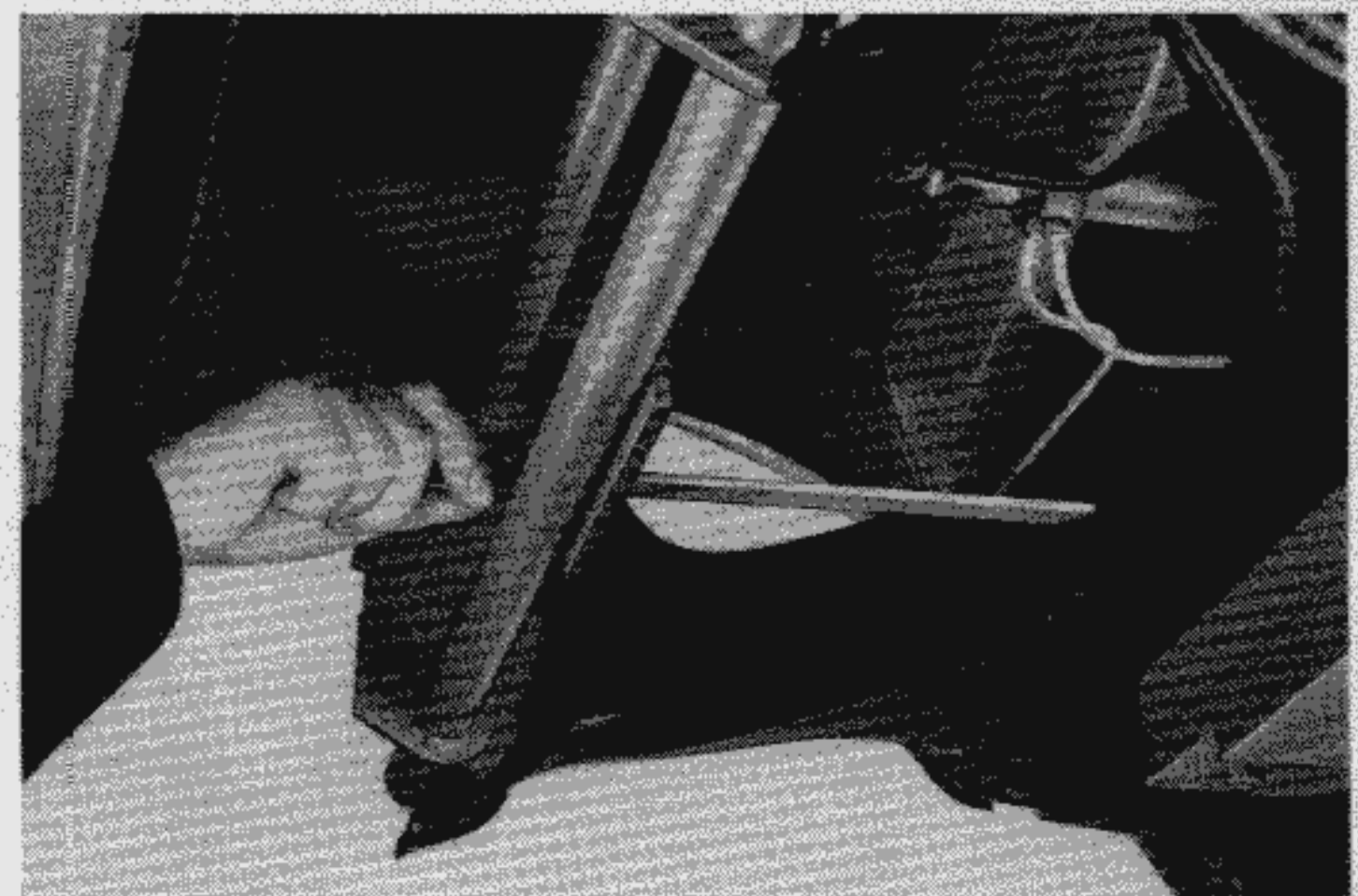
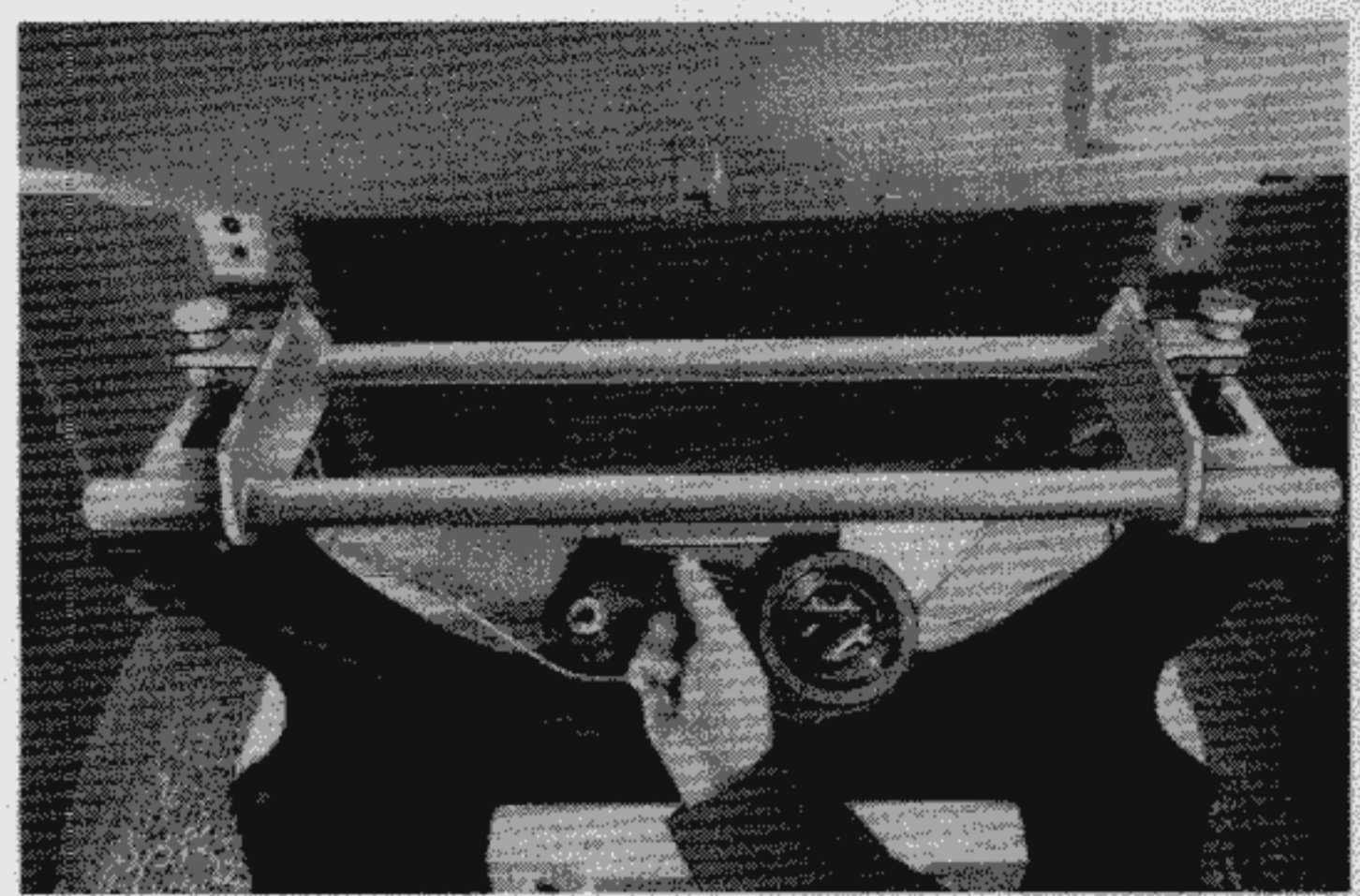
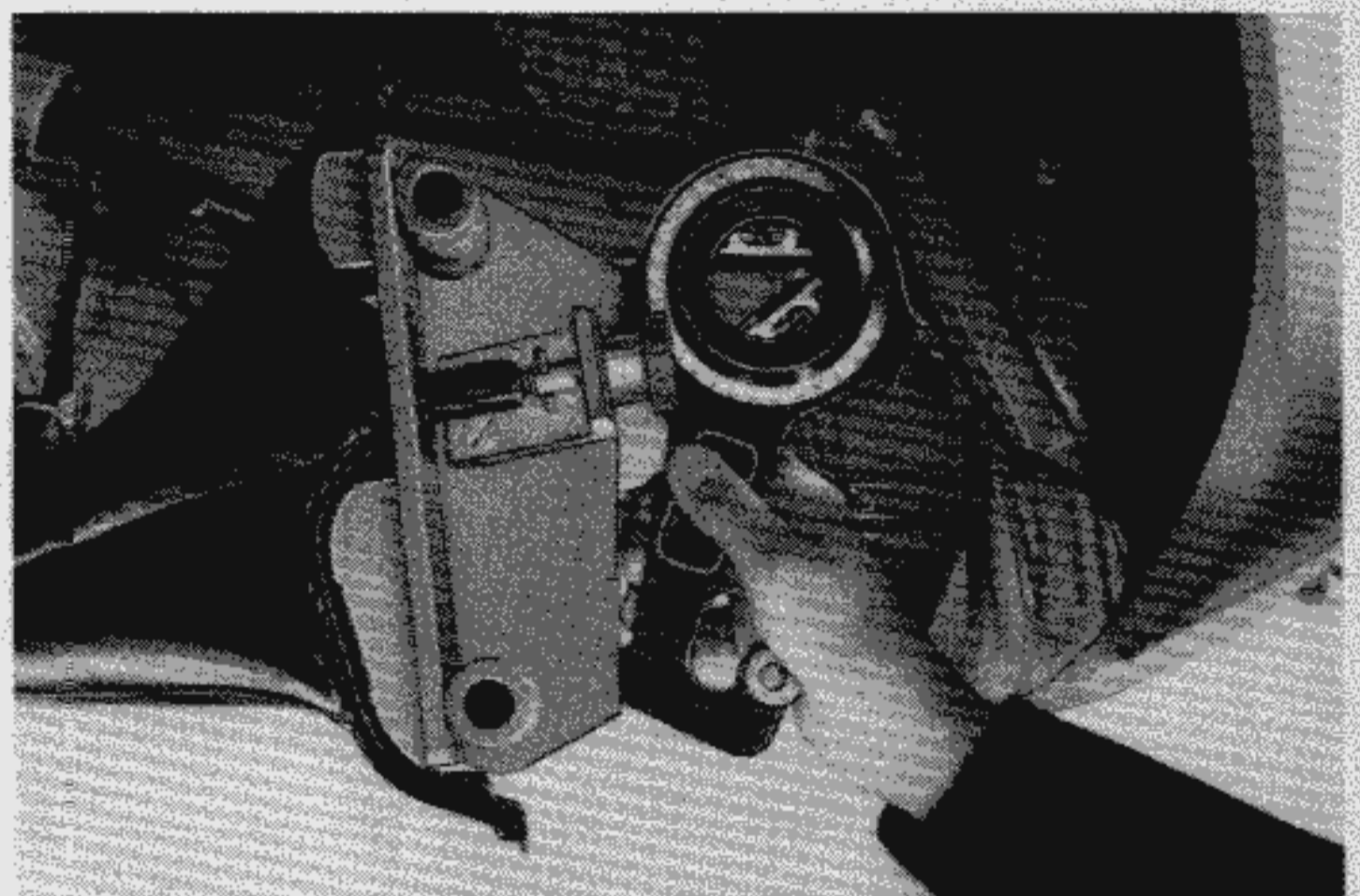
VW 697



Test Appliance for Frame Head Type 3

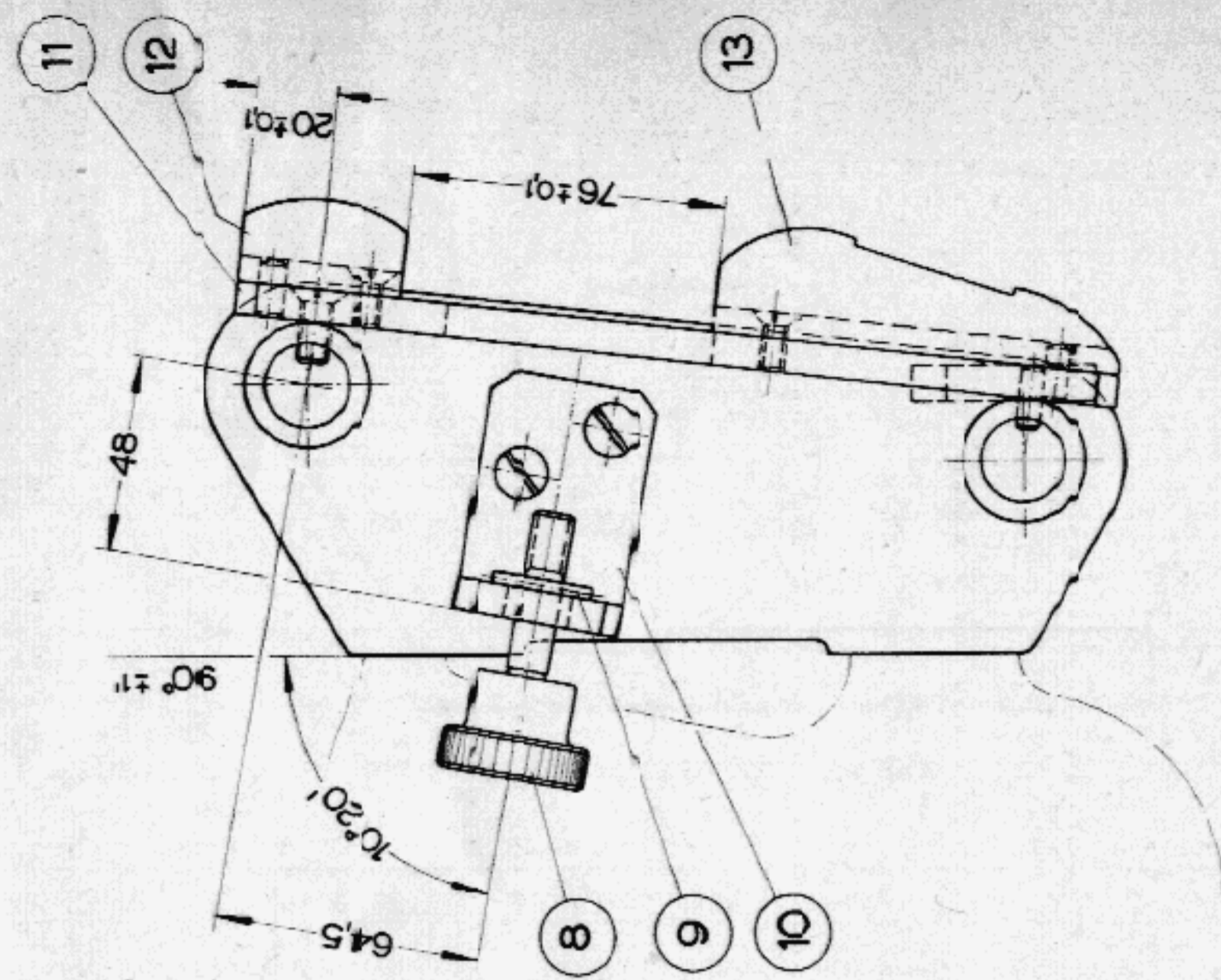
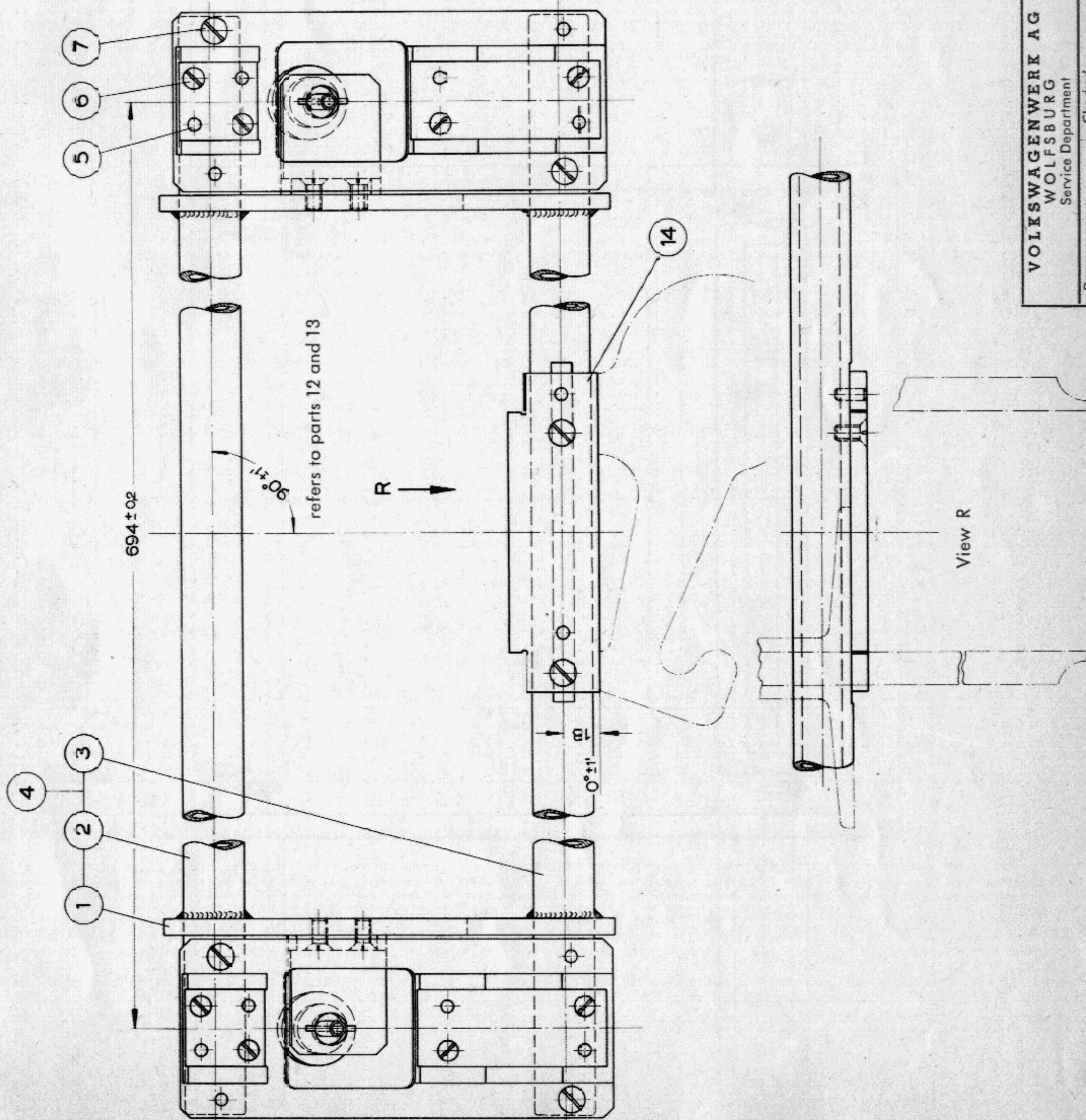
The test appliance is used for checking for distortion of the frame head. To do this it is necessary to remove the front axle and install the appliance in its place. With the protractor VW 261 — which is placed on the three measuring surfaces of the appliance — distortion can be ascertained in two planes. Alteration to the length of the frame head can be ascertained by comparison measurements and a depth gauge.

When the appliance is fitted to the frame head the knurled screws must only be lightly tightened.



Construction Details for VW 697

- 1 — Cut all parts and have standard parts ready to hand.
- 2 — Turn down part 8, cut thread and drill 3 mm hole.
- 3 — Finish welded part 4, except for the surface and mounting hole for part 11 alternatively part 14.
- 4 — Align welded part.
- 5 — Part 3, mark out surface and work out.
- 6 — Mark out all mounting holes of the parts 2 and 3, drill, ream out and cut threads.
- 7 — Make parts 10 to 14.
- 8 — Assemble test appliance.
- 9 — Paint the whole test appliance except for the measuring and contact surfaces.



Part No. required	Description	Material	Part No. or standard spec.	Remarks
14	1	Fl 50 X 10 X 165	C 45	
13	2	Fl 60 X 30 X 105	C 45	
12	2	Fl 60 X 30 X 45	C 45	
11	2	Fl 95 X 10 X 220	St 37	
10	2	L 60 X 8 X 45	St 37	
9	2	Clamping bracket	3 X 26 DIN 1028	
8	2		Rd 40 X 70 DIN 1481	
7	10	Countersink screw A M 8 X 15	DIN 63 - 5.5	
6	8	Countersink screw A M 6 X 15	DIN 63 - 5.5	
5	14	Cylindrical pin 6 m 6 X 16	DIN 7	
4	1	Welded part		Parts 1, 2 and 3
3	1	Tube 30 X 5 X 785	St 35	DIN 2488
2	1	Tube 30 X 5 X 785	St 35	DIN 2488
1	2	Fl 95 X 8 X 220	St 37	

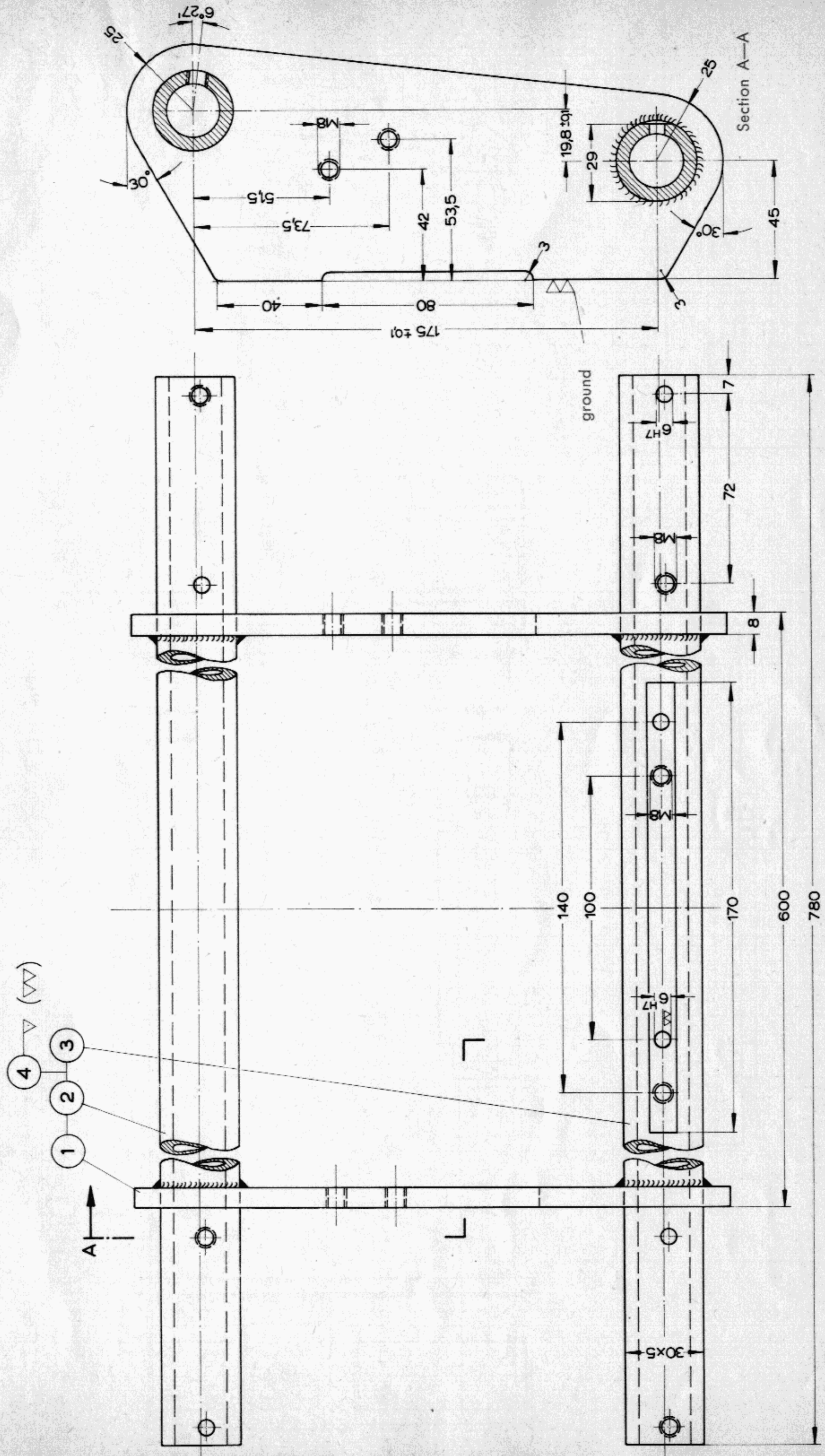
VOLKSWAGENWERK AG
WOLFSBURG
Service Department

Drawn: 24. 11. 64 Giesekeing
Checked: 25. 11. 64 Rattie

Test appliance for frame head

VW 697

No. of Sheets 3
Sheet No. 1



Test appliance for frame head

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WOLFSBURG
Service Department

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No. of Sheets 3
Sheet No. 2

VW 697

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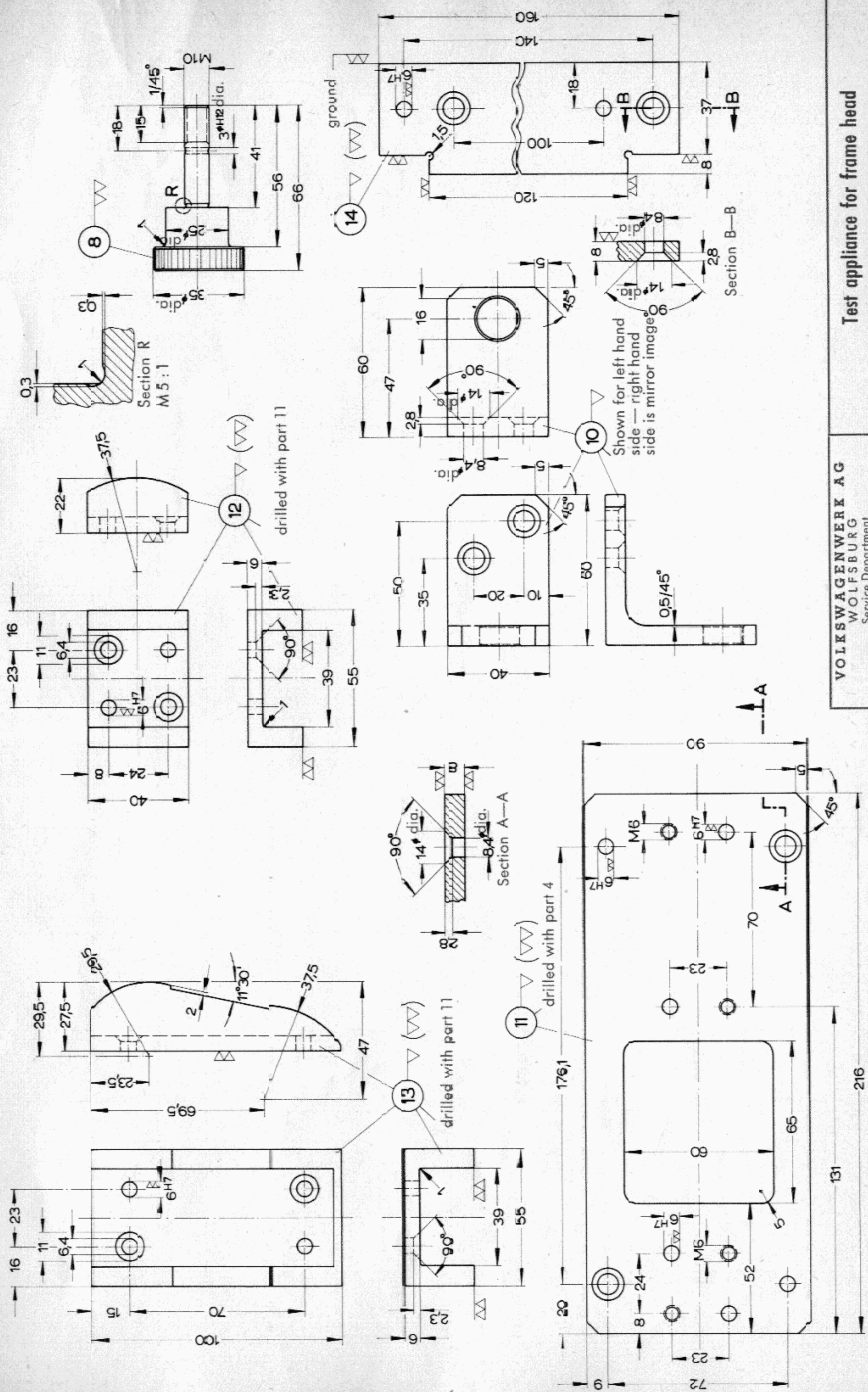
1 2 3

A

A

ground

Section A-A



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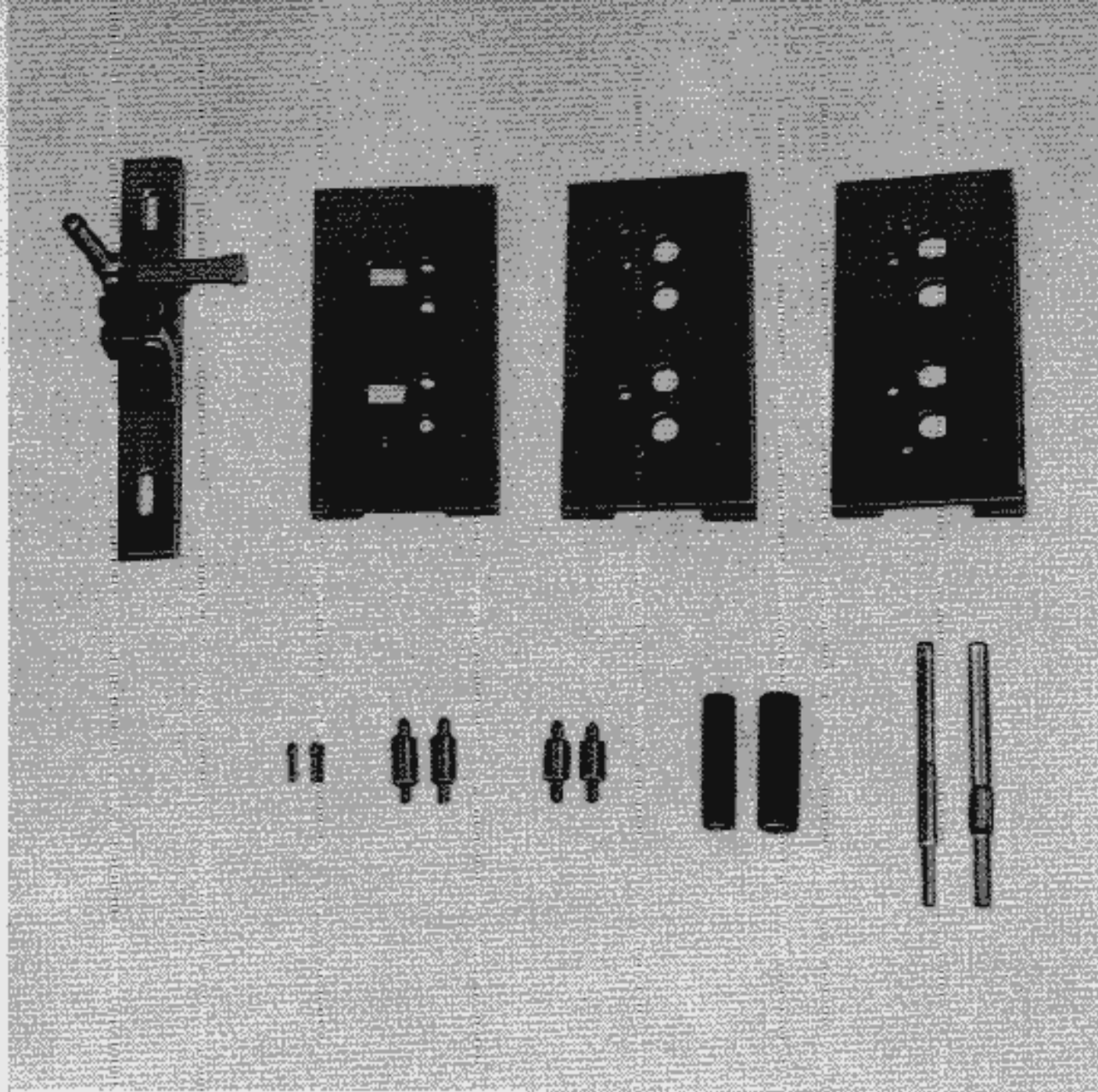
Test appliance for frame head

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 24. 11. 64 Gieseck

Checked:
 25. 11. 64 Ratte

VW 697

No. of Sheets 3
 Sheet No. 3



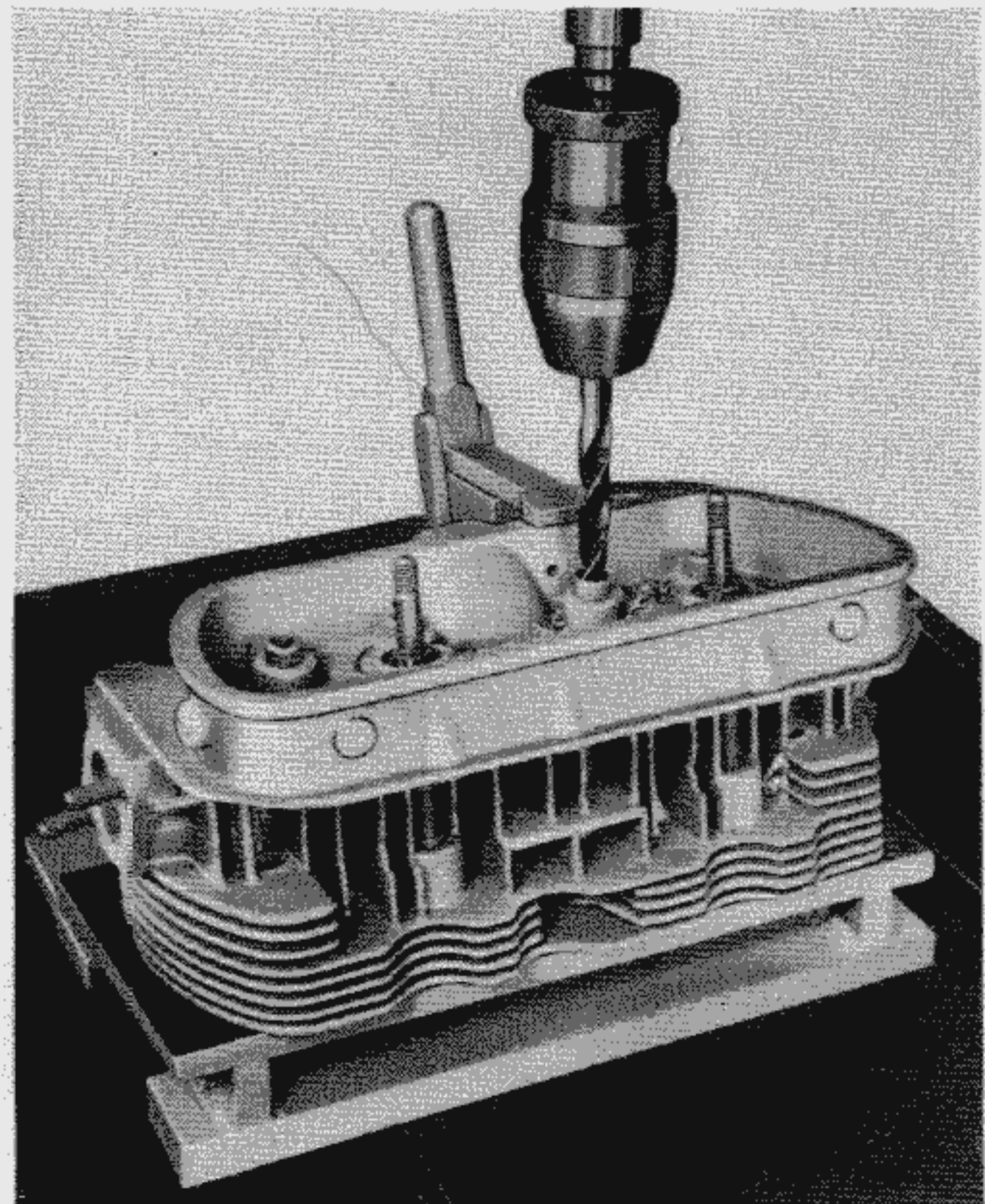
Cylinder Head Repair Appliance Types 1, 2, 3, 122, 124, 126

The repair appliance includes some of the tools which are necessary for the replacement of the valve guides. They are as follows:

- | | |
|--|----------------|
| 1 Mounting plate (without inclination) | 1 Clamping bar |
| 1 Mounting plate (9° inclination) | 2 Mandrels |
| 1 Mounting plate (9° 30' inclination) | 2 Drifts |

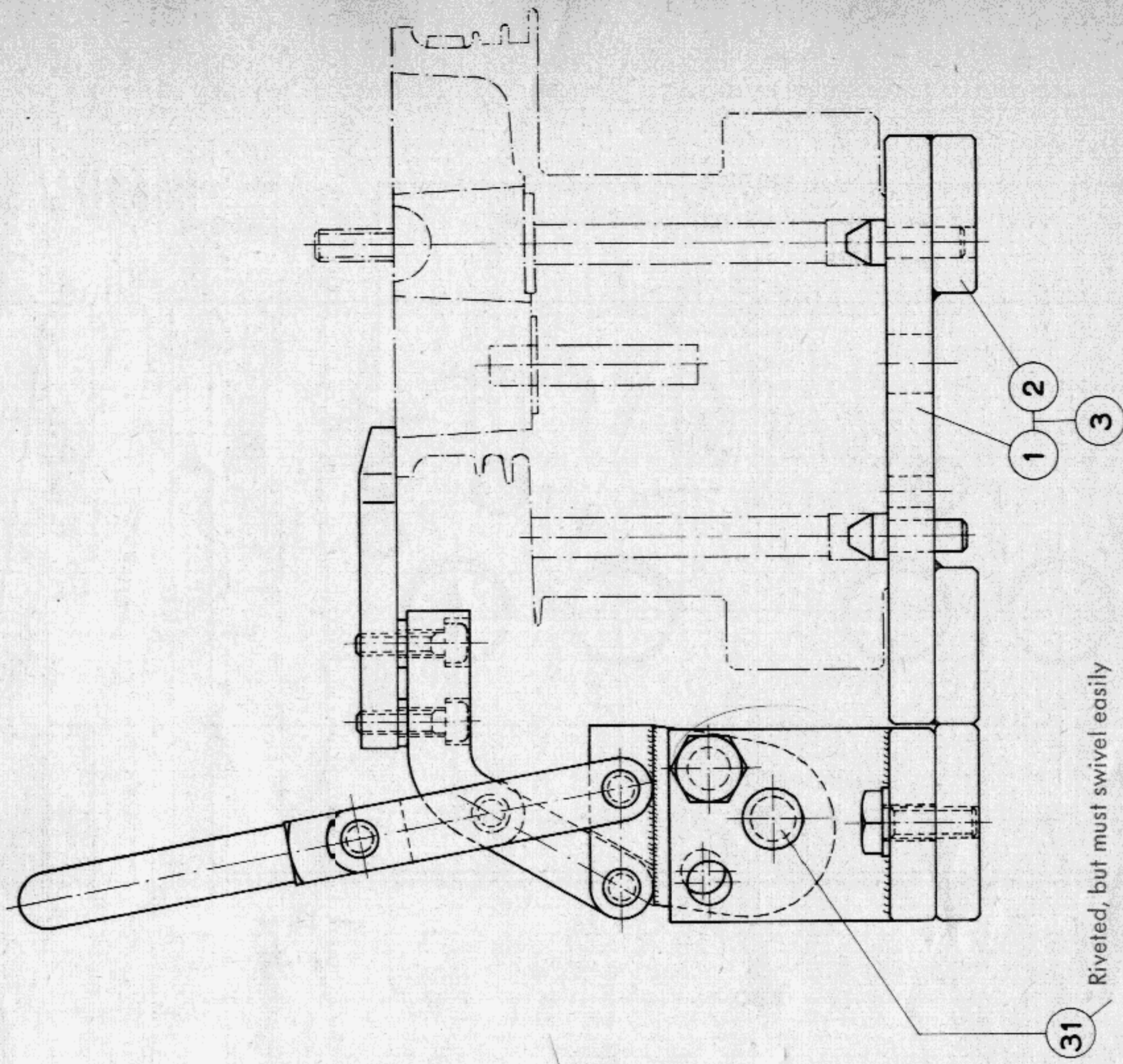
The various inclinations of the mounting plates take into consideration the position of the valve guides in the individual versions of the cylinder heads. The cylinder head is so held by the mounting plate that the valve guides are vertical during all operations. The clamping bar holds the mounting plates and the cylinder head firmly on the drilling machine table during drilling and reaming up operations. Knock out the bored out valve guides with the drift and press in the new valve guides under a repair press using a mandrel.

The mounting plates can also be used when the valve seats must be recut.

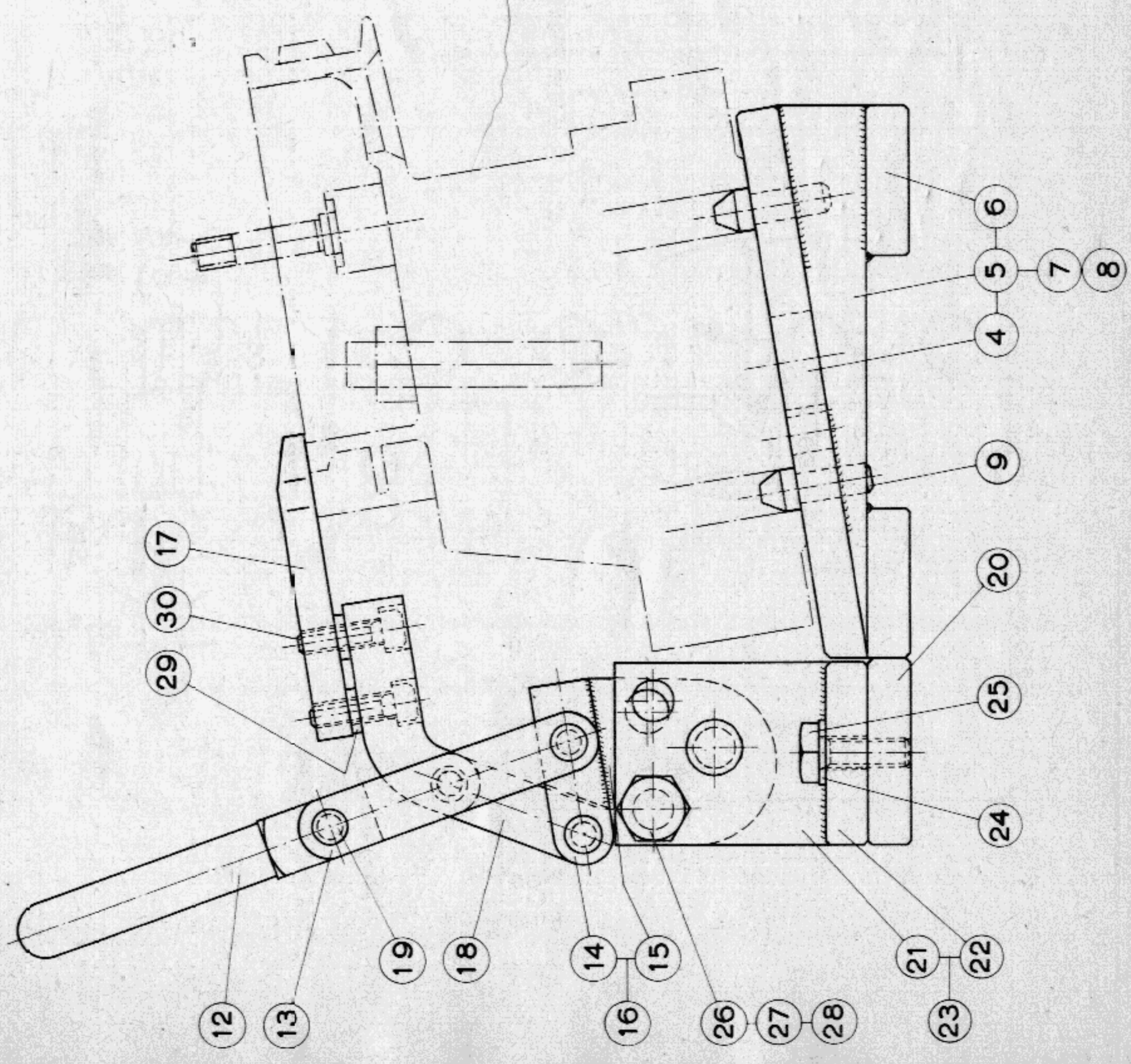


Construction Details for VW 698

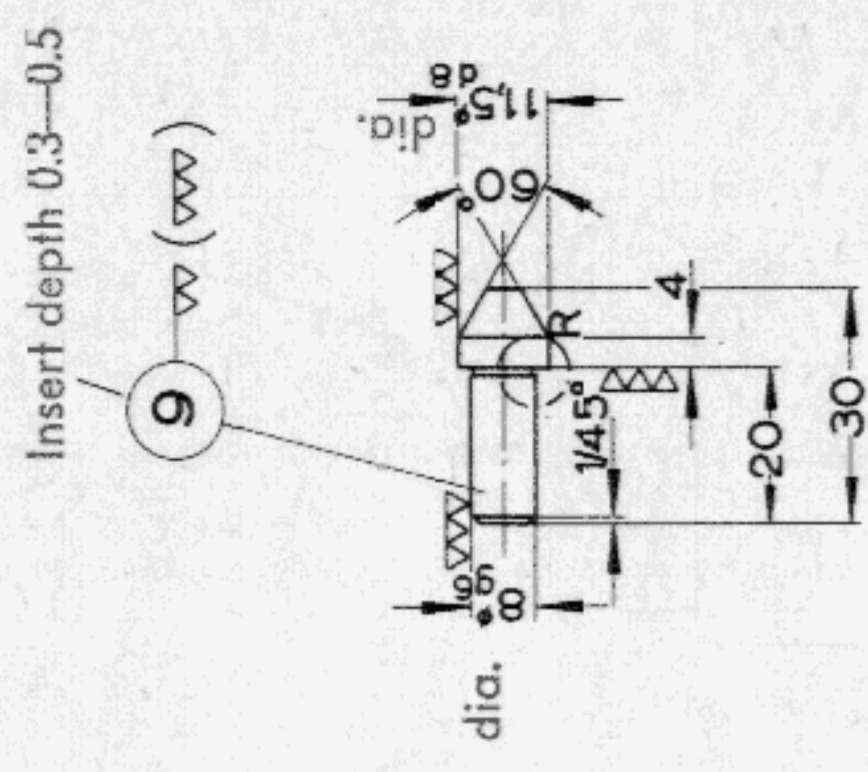
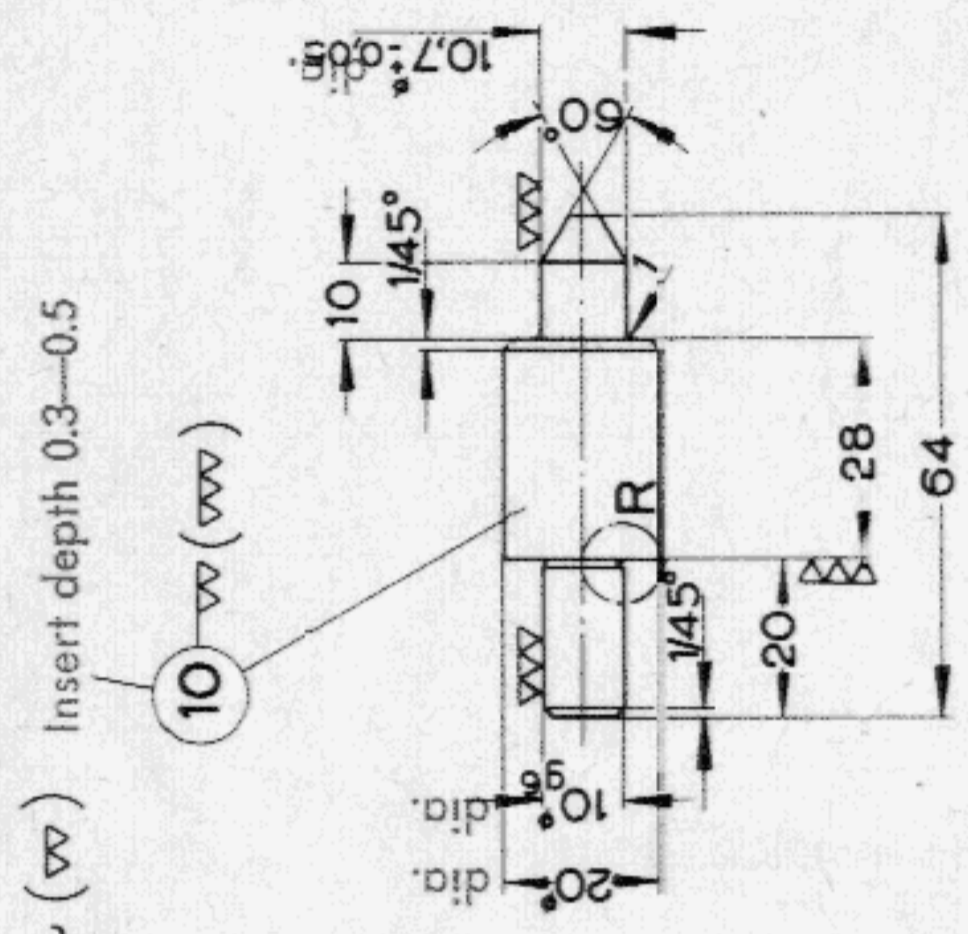
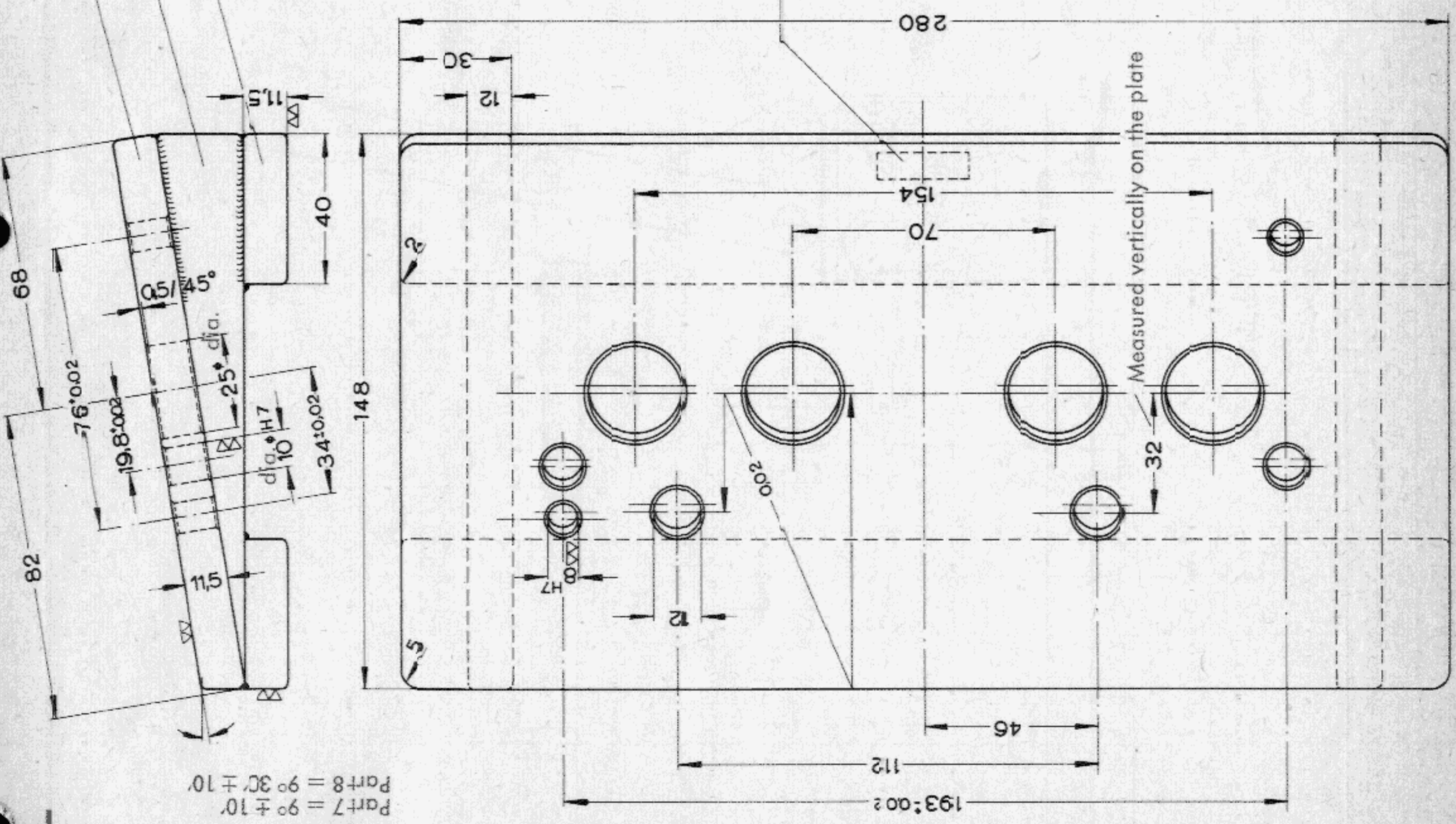
- 1 — Cut all parts to dimensions given in the list of parts, have all standard parts ready to hand.
- 2 — Prepare parts 1 and 2 and weld together.
- 3 — Finish off part 3.
- 4 — Prepare parts 4, 5 and 6 and weld together.
- 5 — Finish off parts 7 and 8.
- 6 — Mark part 7 with 9° .
- 7 — Mark part 8 with $9^\circ 30'$.
- 8 — Prepare 14 and 15 and weld together.
- 9 — Finish off part 16.
- 10 — Prepare parts 21 and 22 and weld together.
- 11 — Finish off part 23.
- 12 — Turn parts 9 to 11, 19, 31 to 35.
- 13 — Make part 20, the length of the clamping bar and the elongated holes must fit the table and table slots.
- 14 — Make tensioning clamp.
- 15 — Assemble appliance and paint.

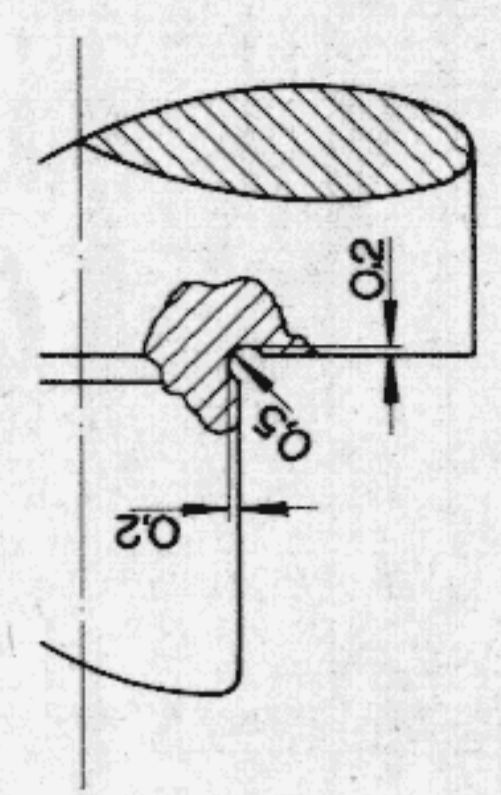
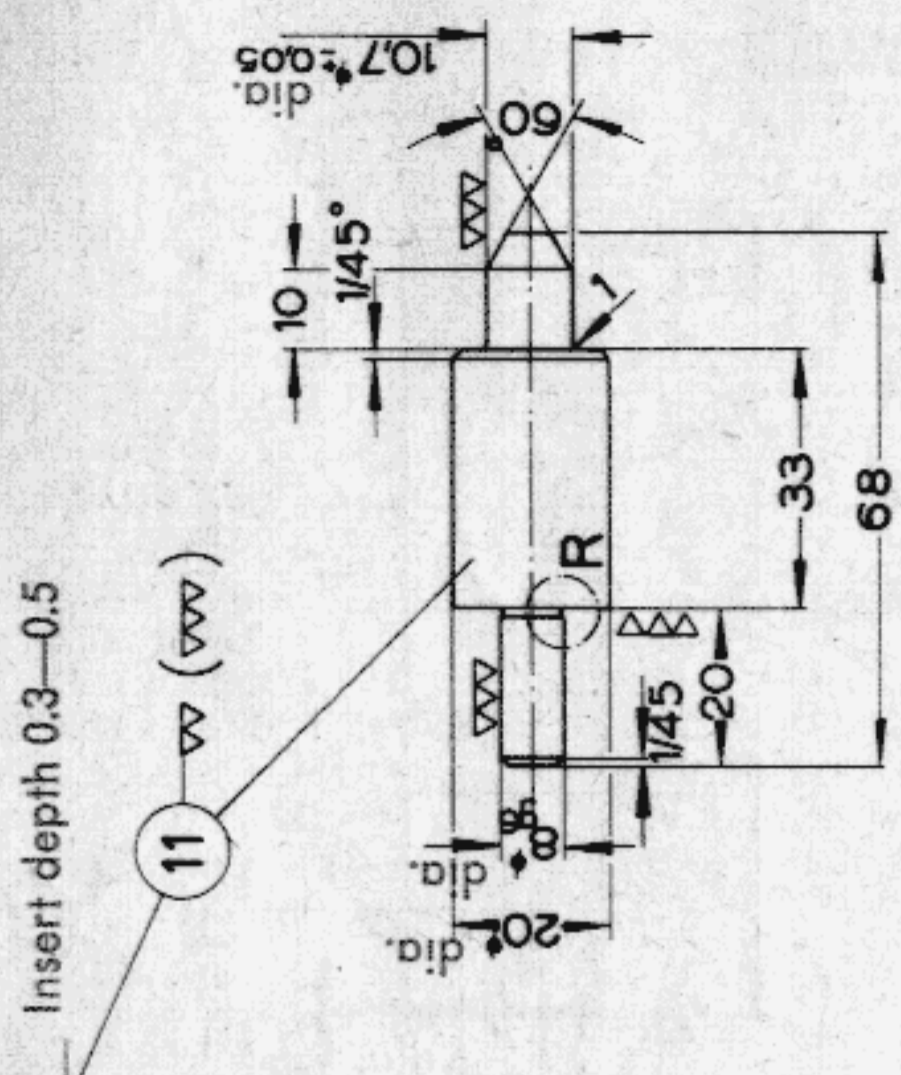
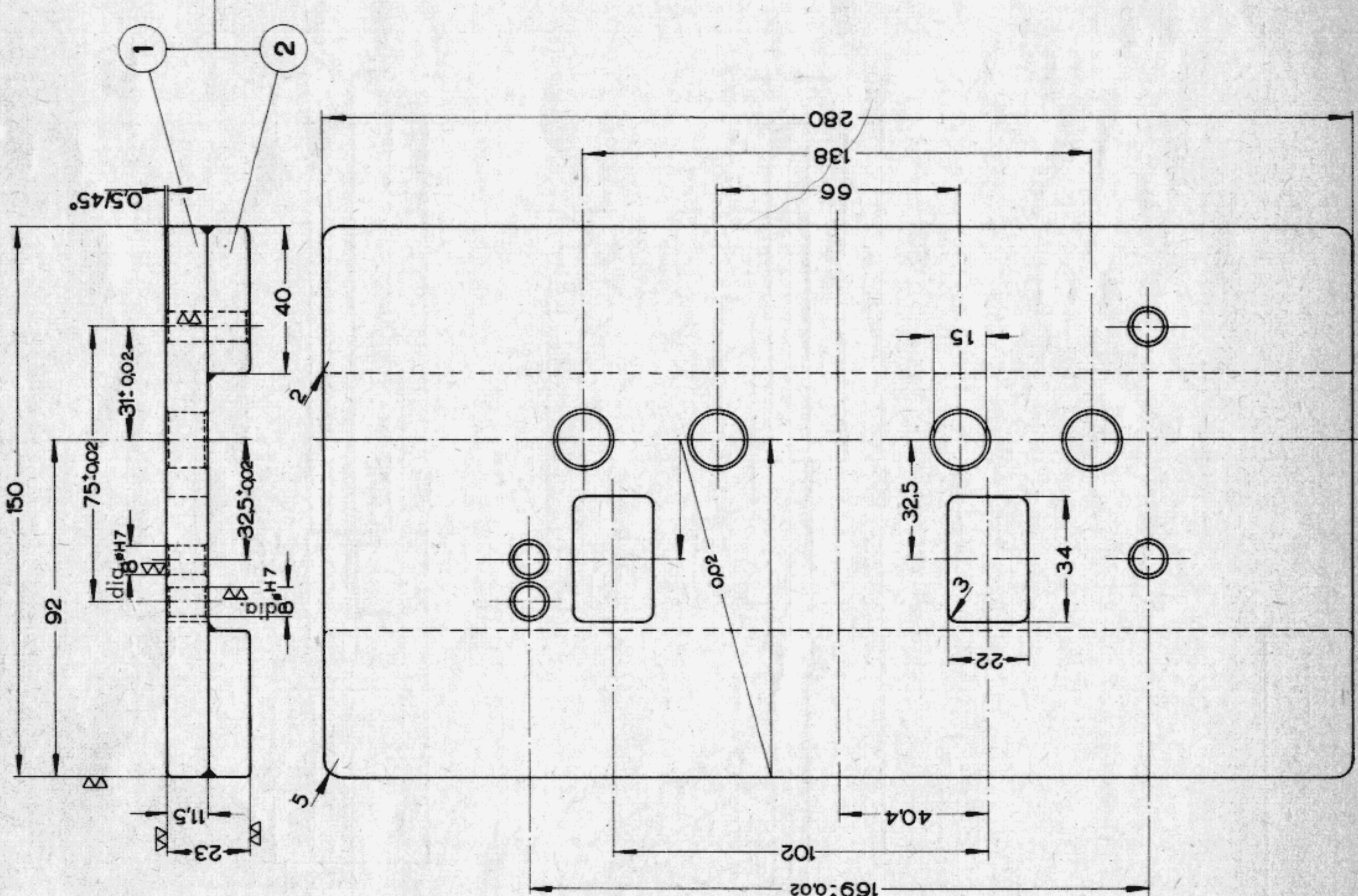


Riveted, but must swivel easily



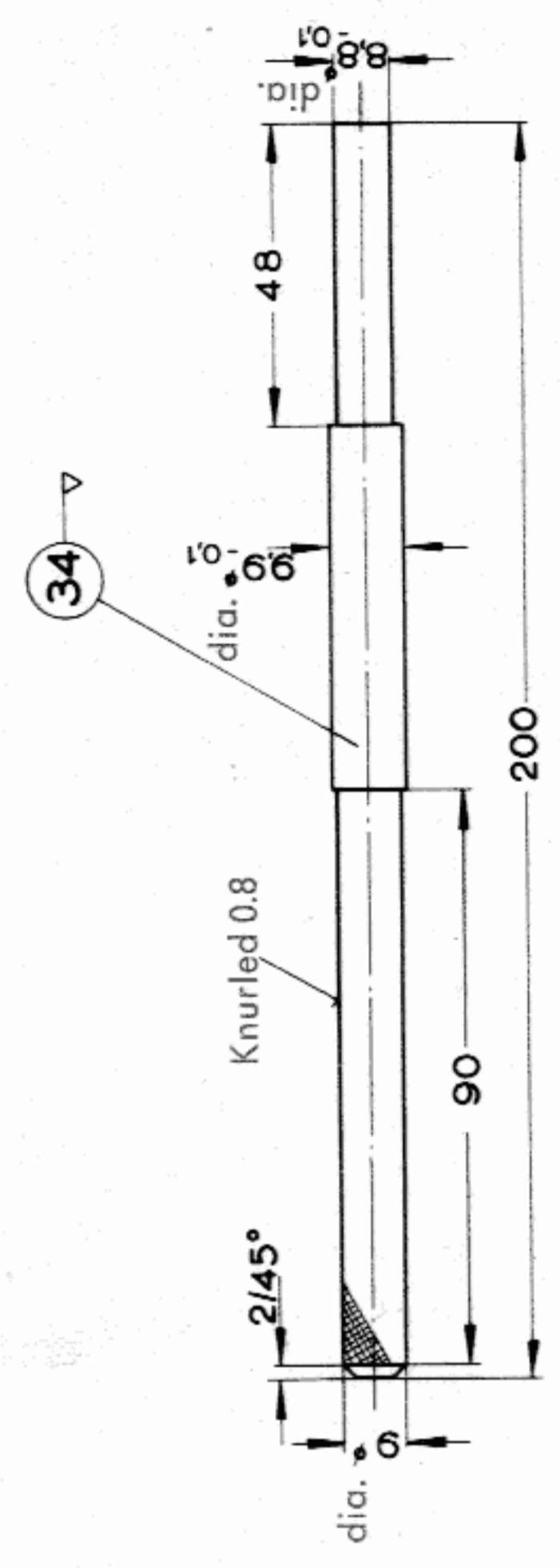
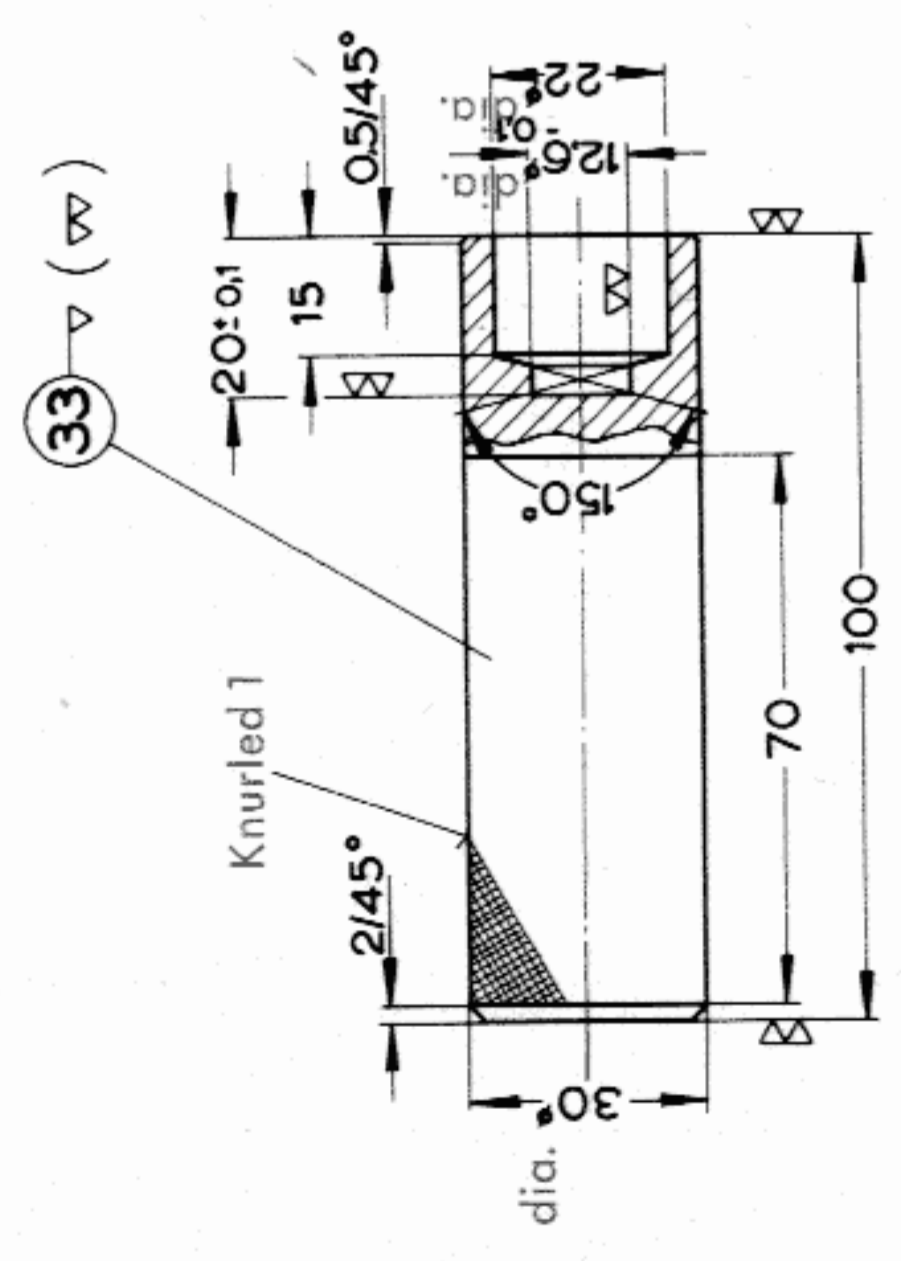
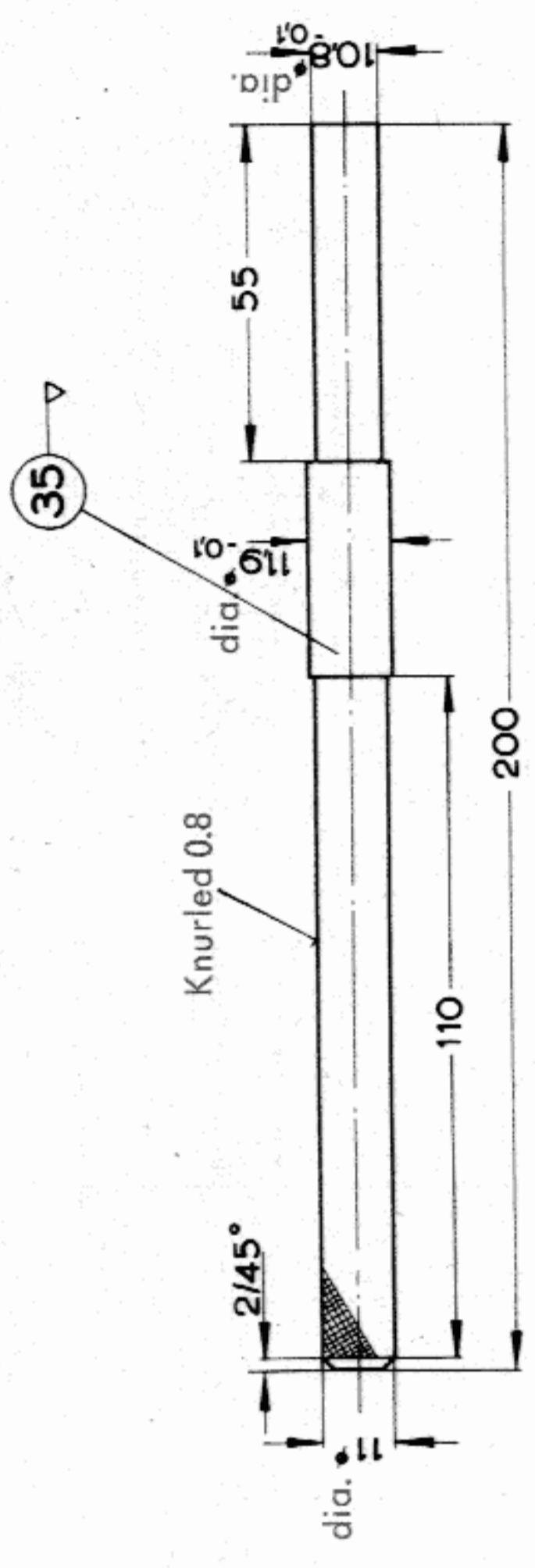
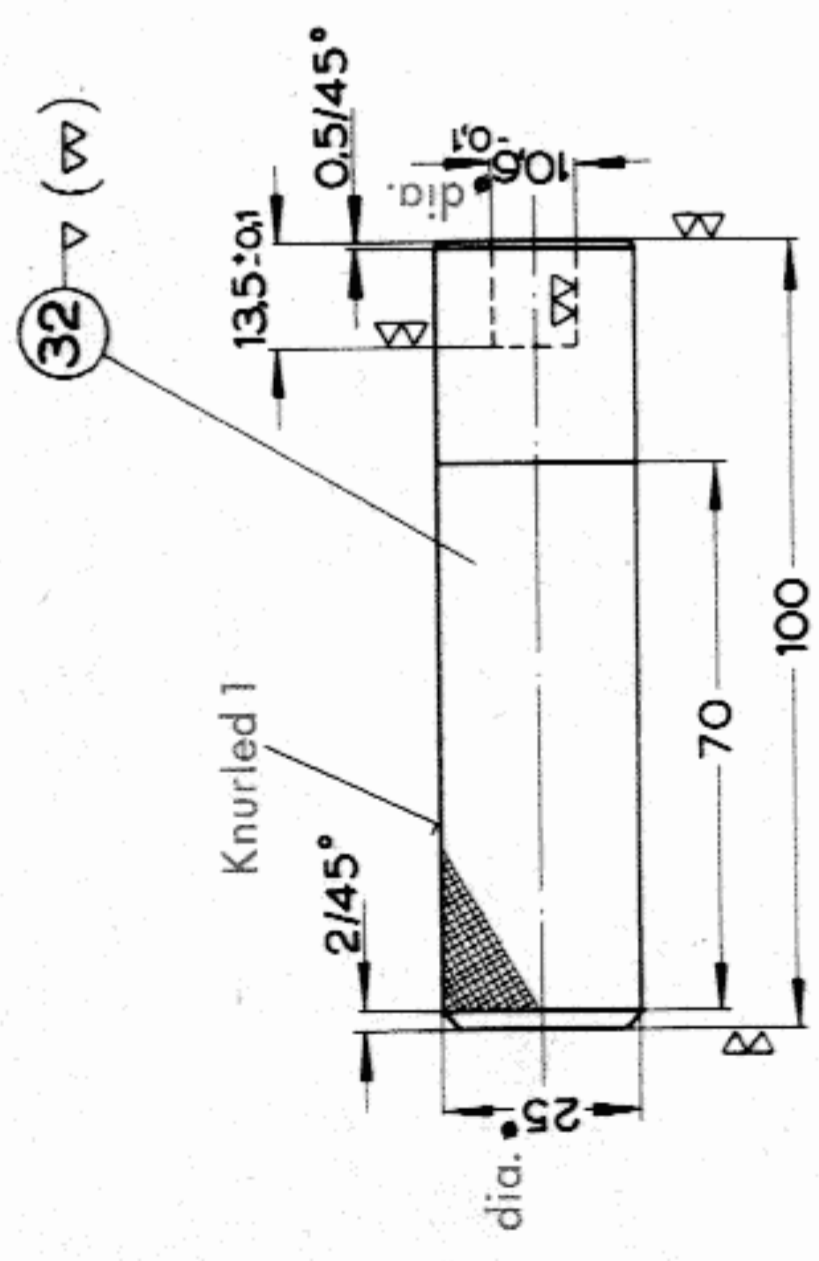
VOLKSWAGENWERK AG WOLFSBURG Service Department		Cylinder Head Repair Appliance Operation: Renewing Valve Guides	
Drawn: 27. 11. 63 Jahn	Checked: 18. 12. 63 Giesecking	VW 698	
		No. of Sheets 6 Sheet No. 1	



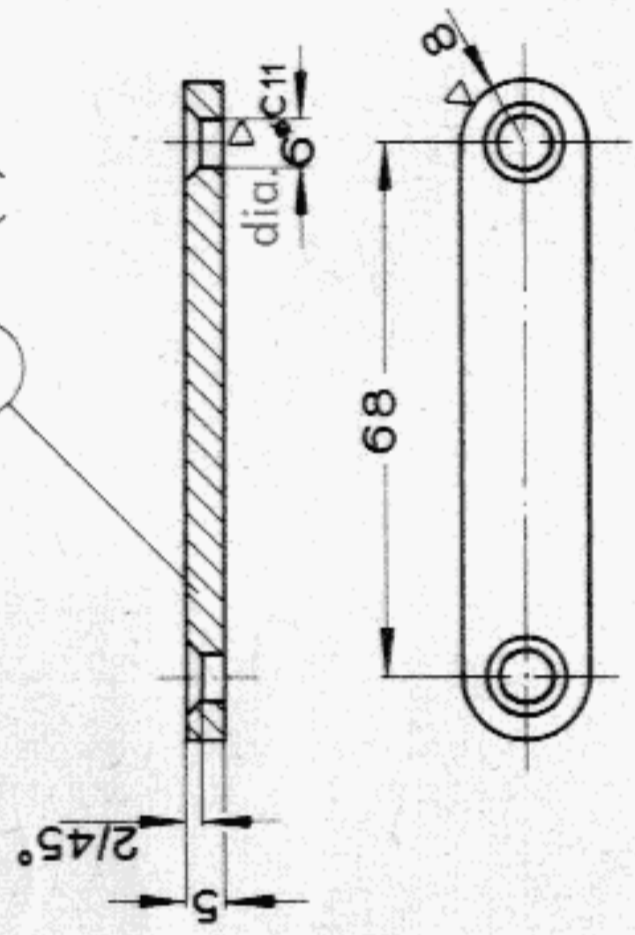


Section R
M 5:1

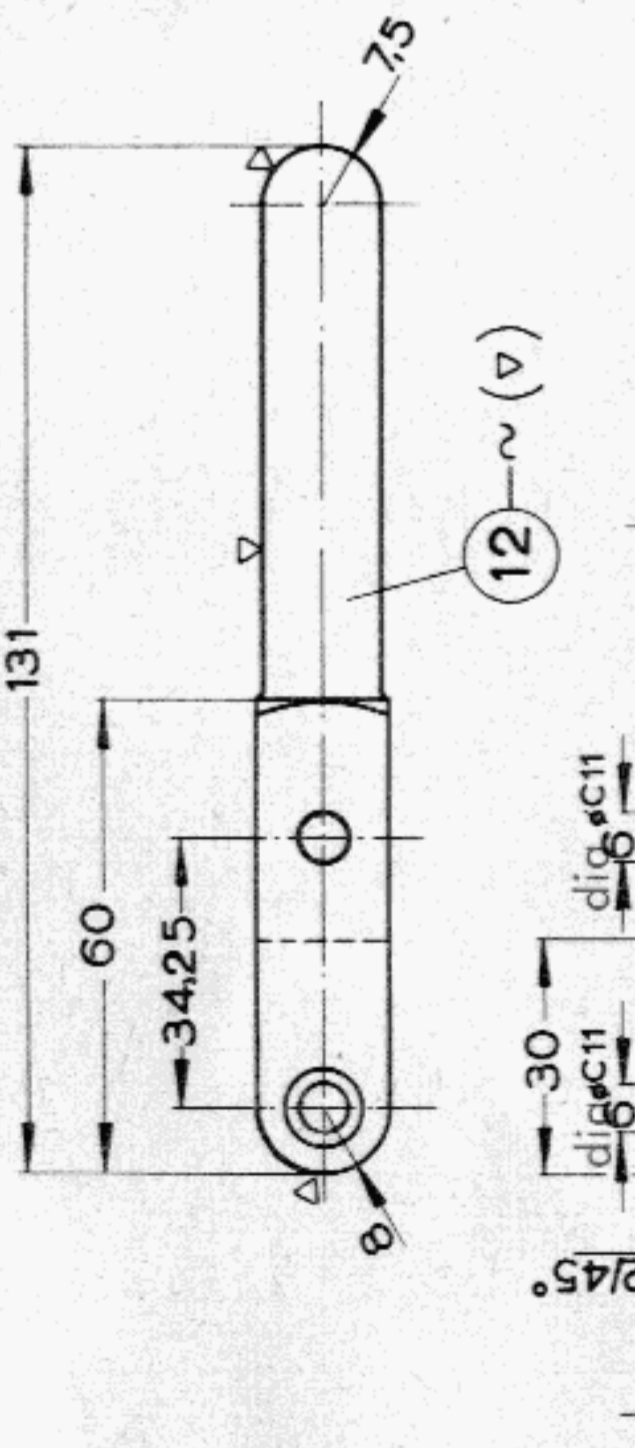
Chamfer edges



13 ~ (▽)



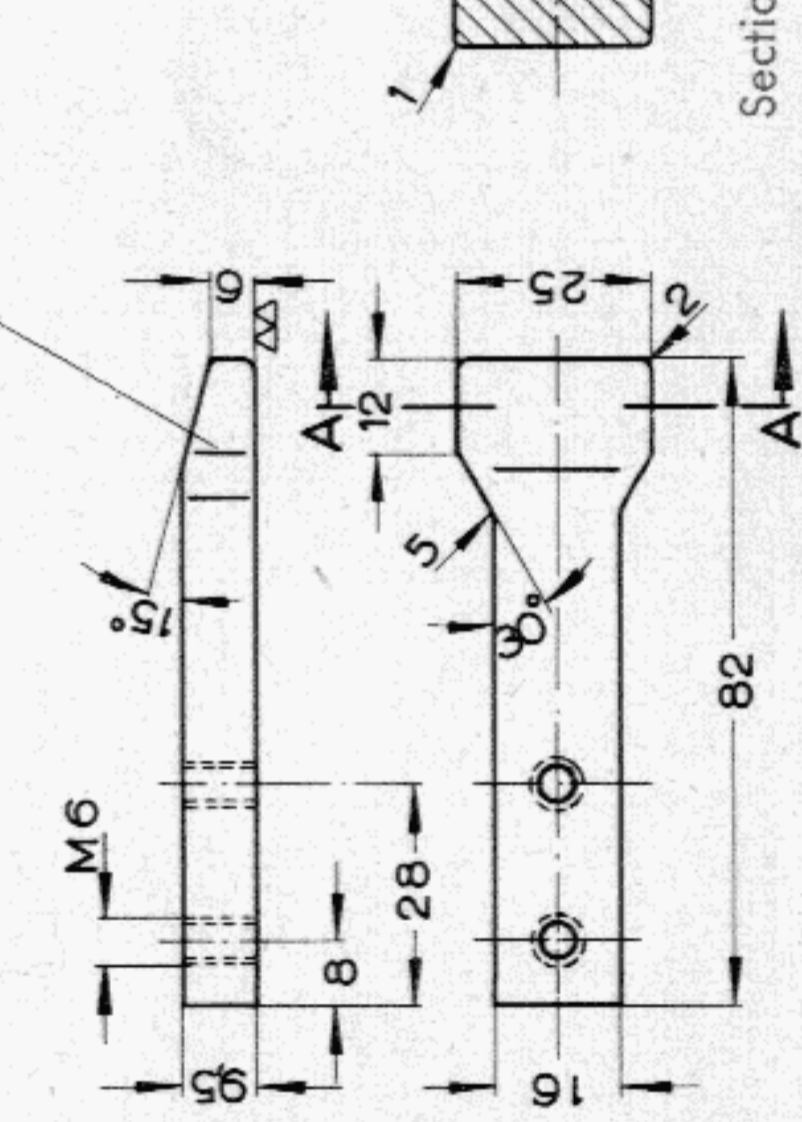
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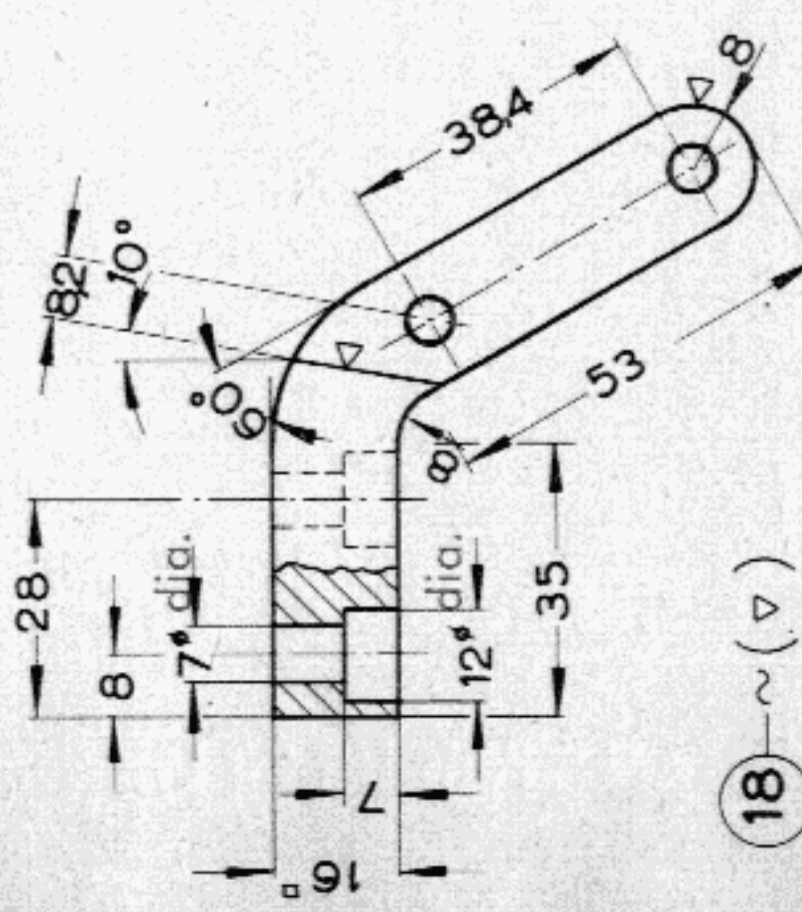
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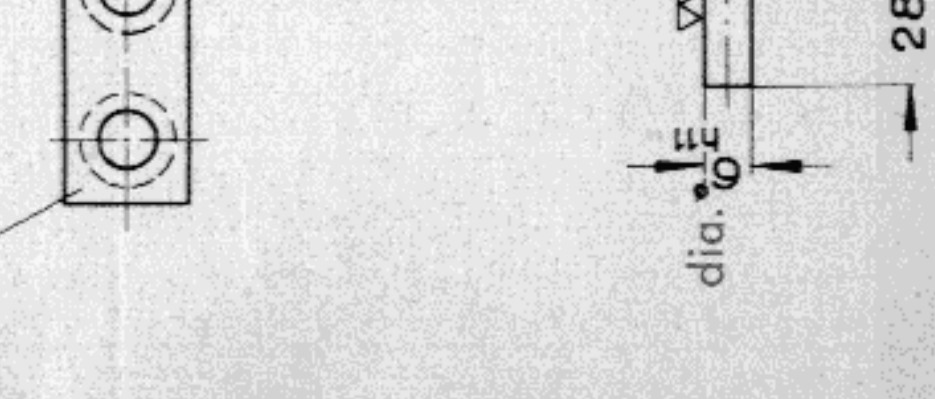
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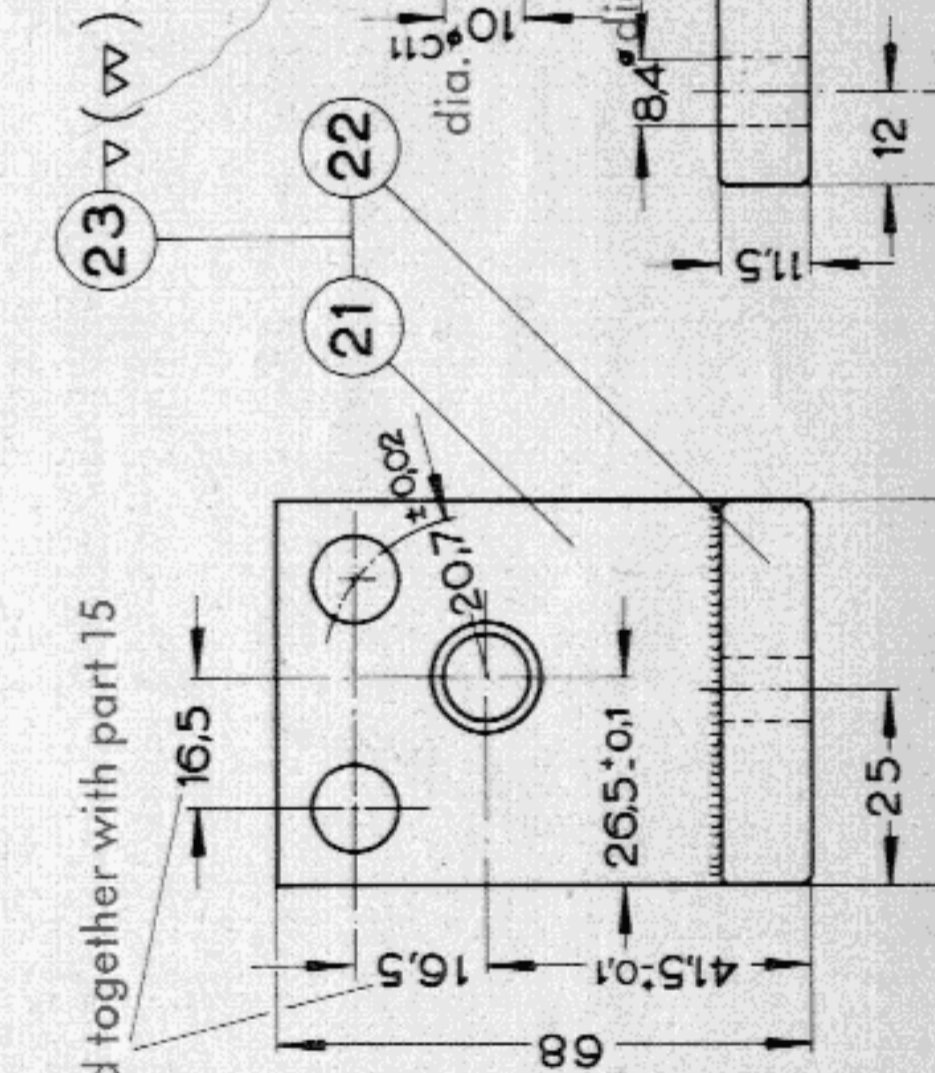
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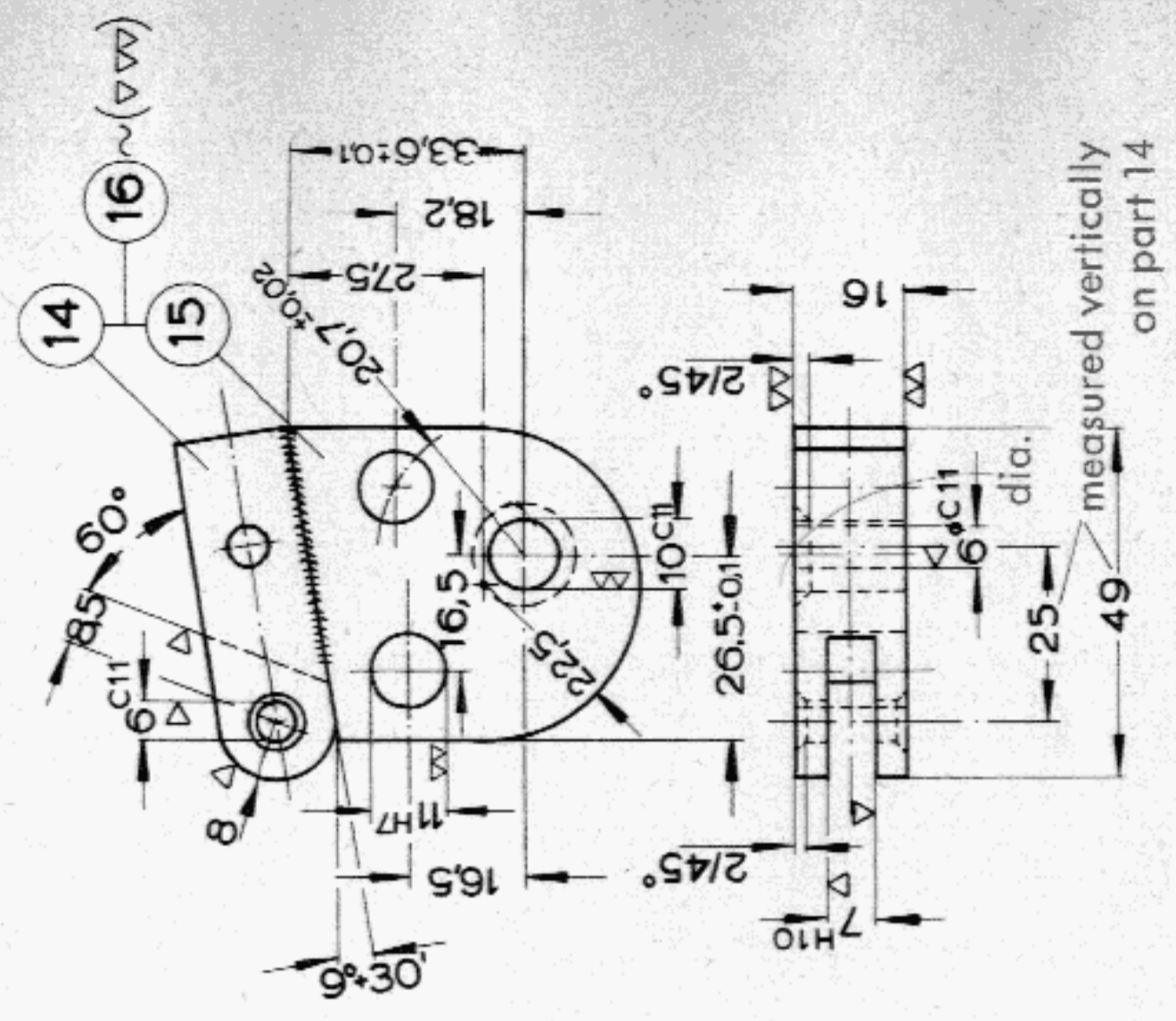
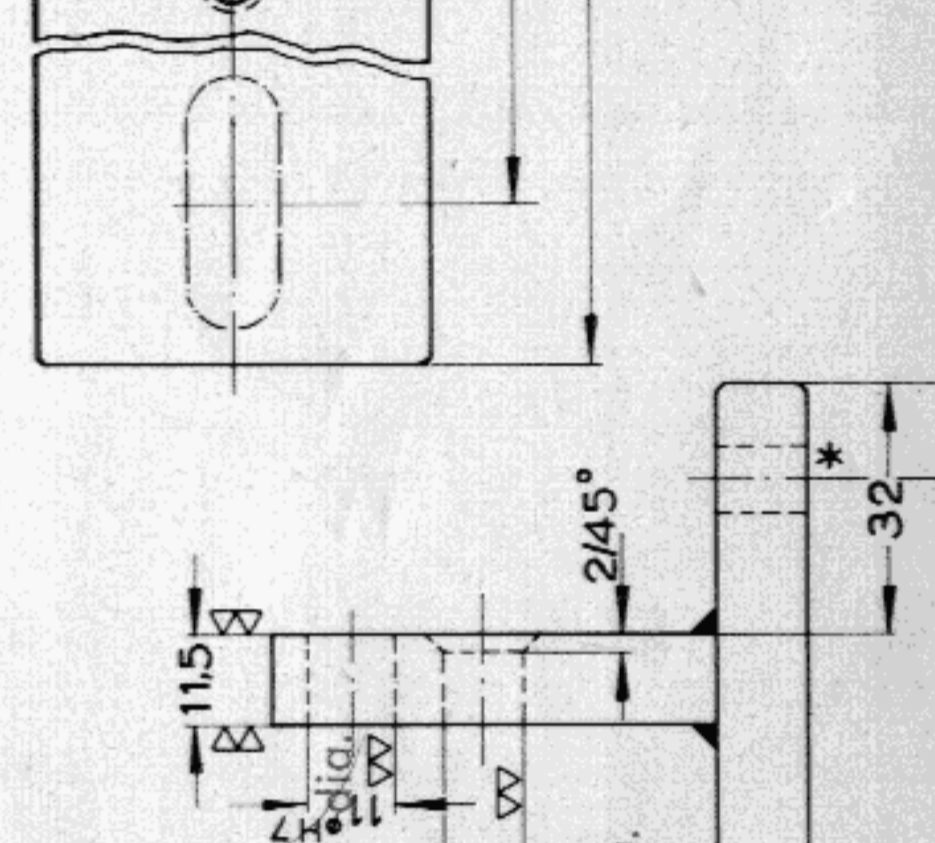
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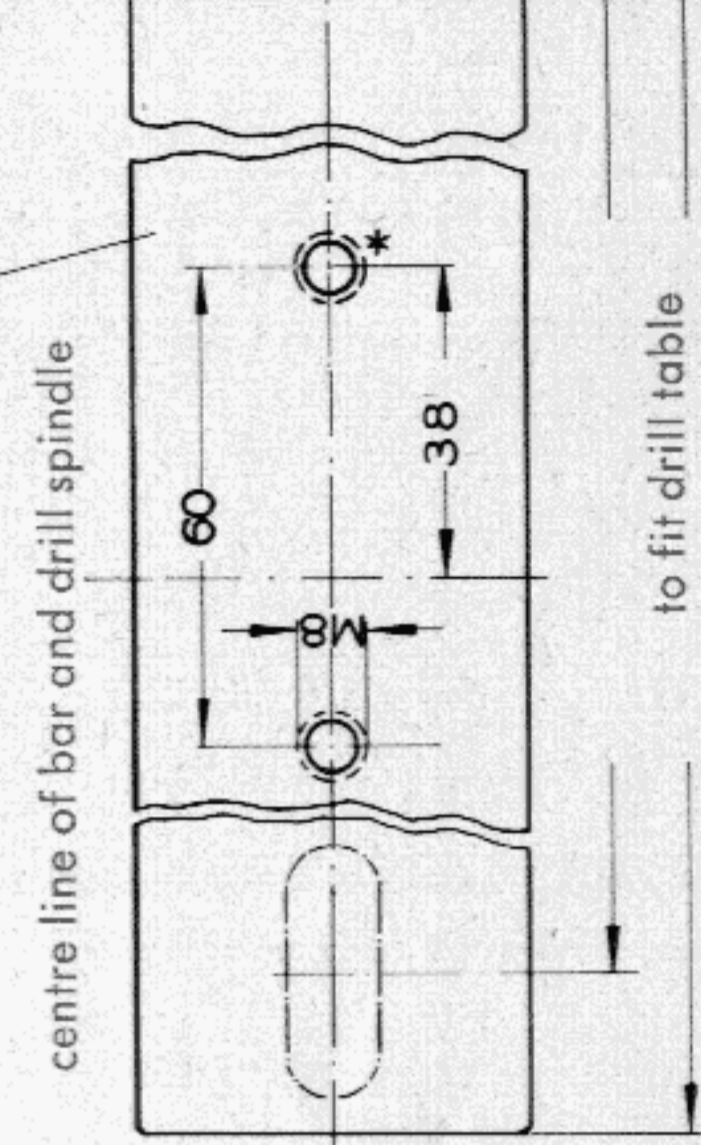
20 (▽)



31 (▽)



20 (▽)

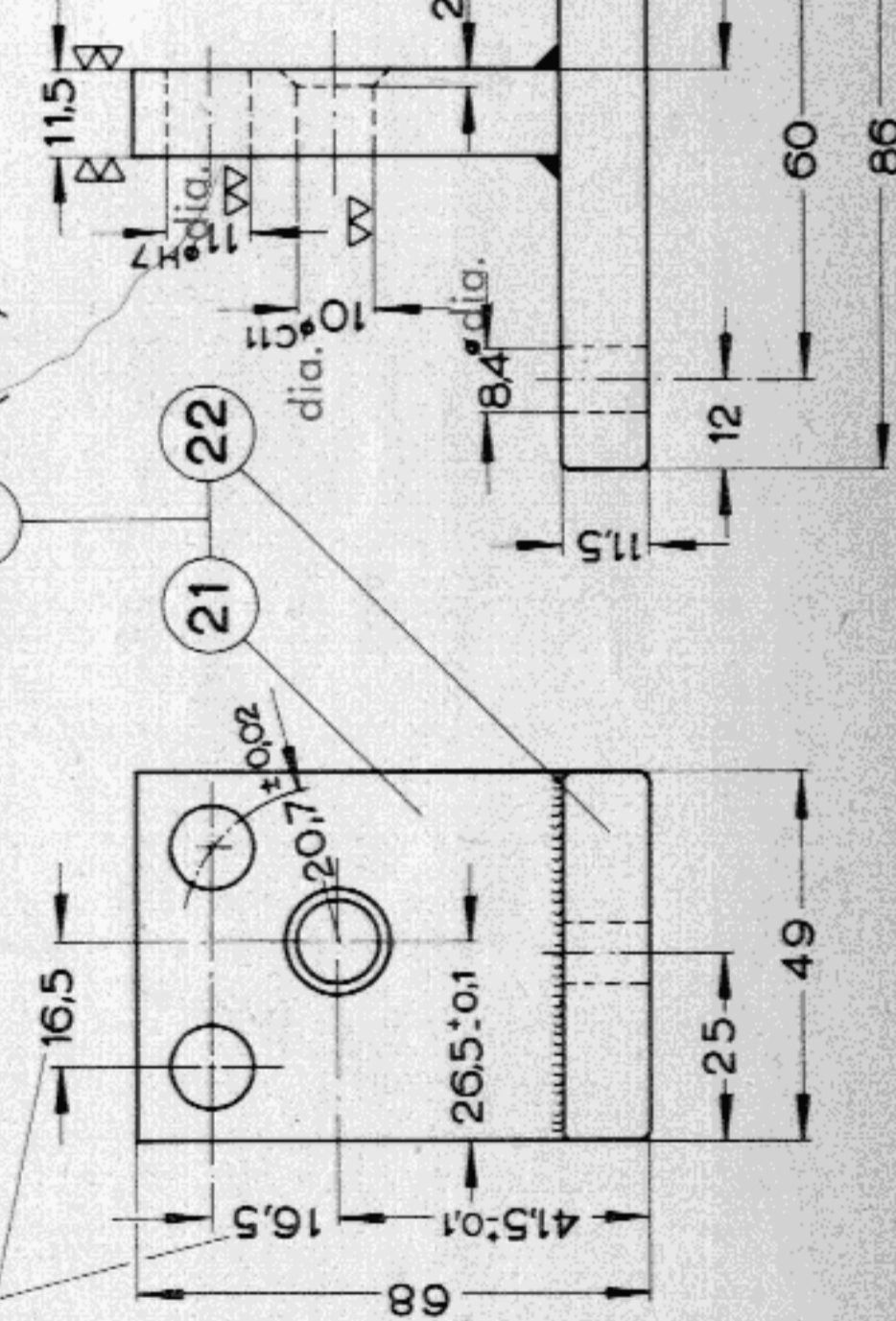


centre line of bar and drill spindle

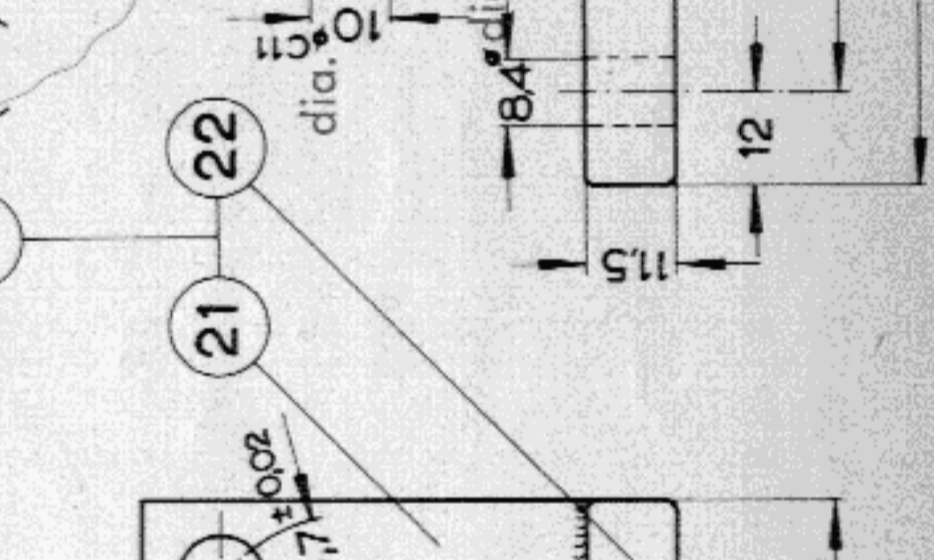
to fit drill table

Chamfer edges

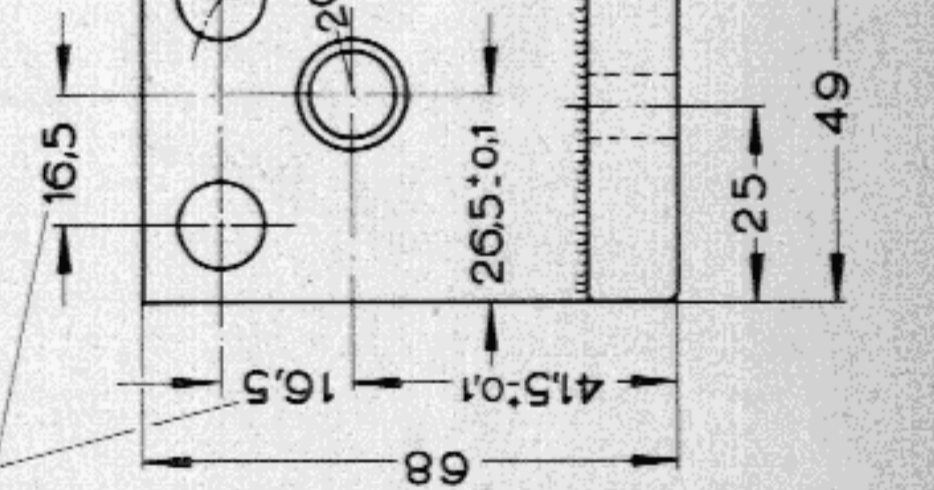
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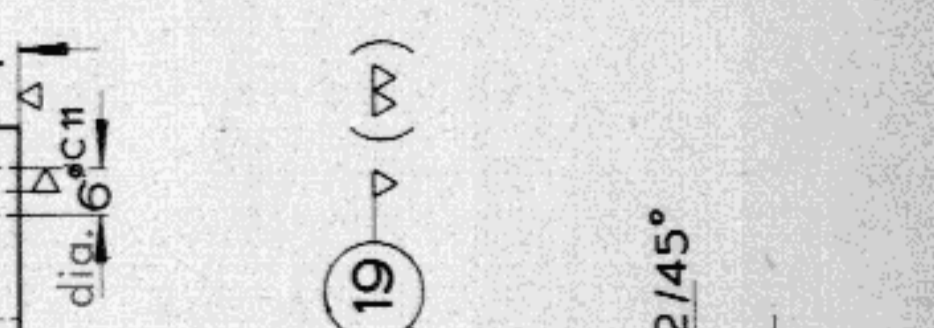
21



22



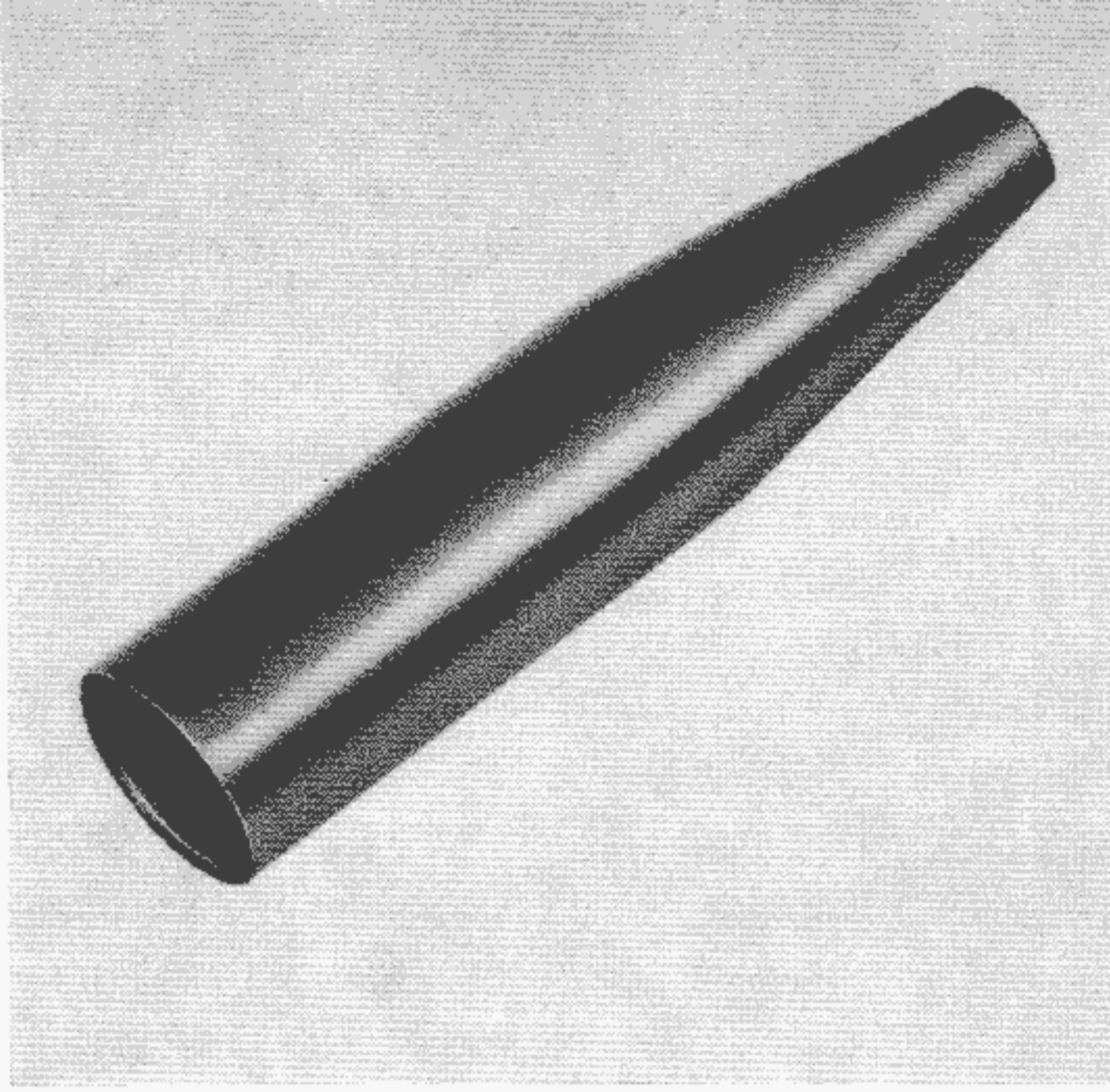
18 ~ (▽)



drilled together with part 15

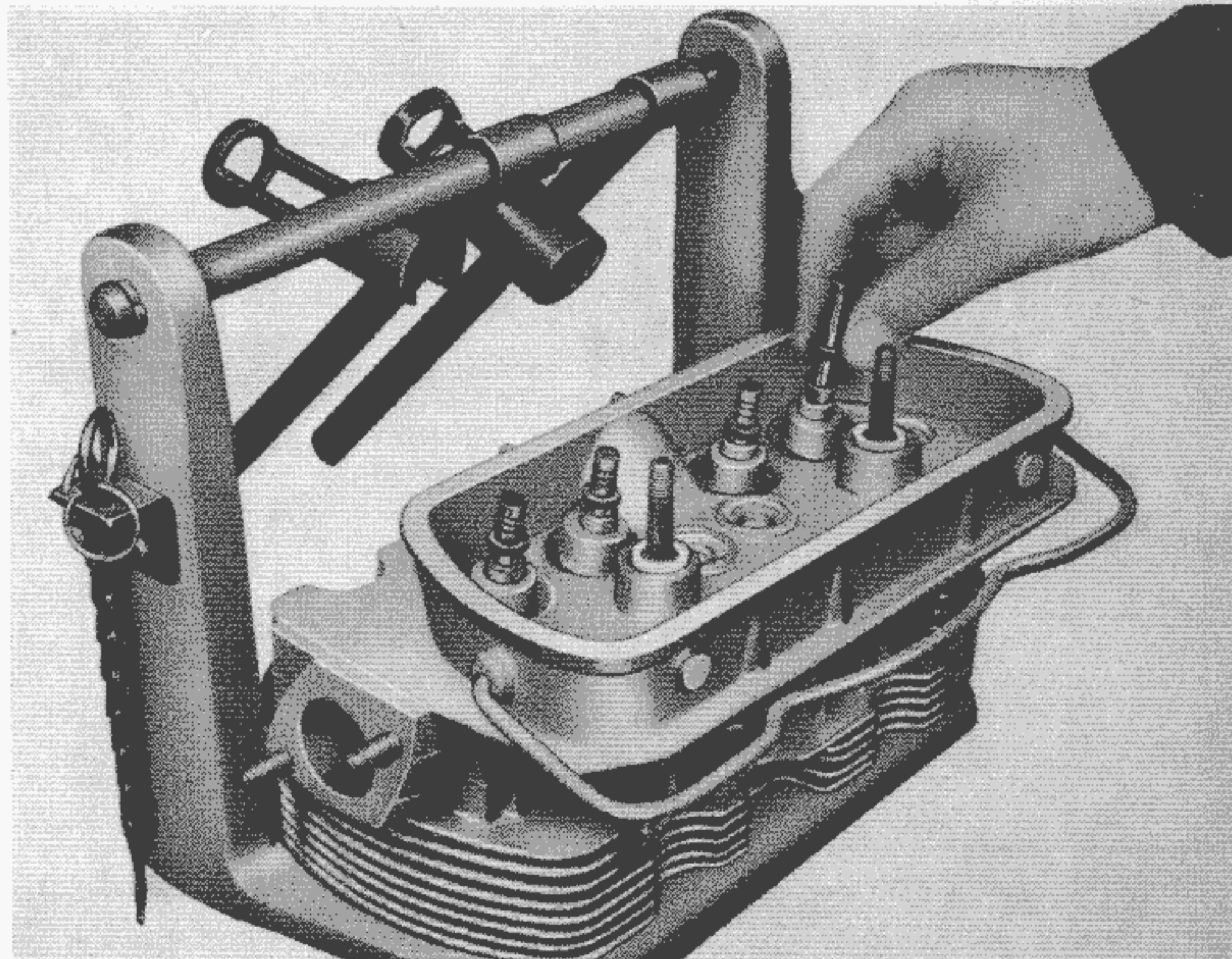
35	1	Drift	15 φ × 205	C 45	4		
34	1	Drift	12 φ × 205	C 45	4		
33	1	Mandrel	35 φ × 105	C 45	4		
32	1	Mandrel	30 φ × 105	C 45	4		
31	1	Pin	12 φ × 32	C 45	5		Parts 12 to 31
30	2	Cheese head screw	M 6 × 25		1	DIN 912-8 G	
29	2	Washer	6.4		1	DIN 125-St	
28	1	Nut	M 10		1	DIN 934-4 D	
27	1	Washer	10.5		1	DIN 125-St	
26	1	Fitted screw	M 10 × 40, k 6		1	DIN 610-m-5 DM	
25	2	Screw	M 8 × 25		1	DIN 933-5 D	
24	2	Washer	8.4		1	DIN 125-St	
23	1	Welded part			5		Parts 21 to 22
22	1		50 × 12 × 90	MR St 42-2	5		
21	1		50 × 12 × 60	MR St 42-2	5		
20	1	Bar	55 × 12 × 350	MR St 42-2	5		
19	4	Pin	8 φ × 30	C 45	5		2, 18.5 mm long
18	1	Clamp lever	16 □ × 95	St 34 K	5		
17	1	Pressure arm	28 × 10 × 85	MR St 42-2	5		
16	1	Pivot piece			5		Parts 14 and 15
15	1		50 × 20 × 55	MR St 42-2	5		
14	1		16 □ × 52	St 34 K	5		
13	2	Link	16 × 6 × 86	St 37	5		
12	1	Handle	16 □ × 135	St 34 K	5		
11	2	Locating pin	25 φ × 70	C 15	3		
10	2	Locating pin	25 φ × 70	C 15	2		
9	2	Locating pin	15 φ × 35	C 15	2		
8	1	Mounting plate, 9°30'			2		Parts 4 to 6
7	1	Mounting plate, 9°			2		Parts 4 to 6
6	4		45 × 12 × 285	MR St 42-2	2		
5	4		28 × 12 × 150	MR St 42-2	2		
4	2		155 × 12 × 285	MR St 42-2	2		
3	1	Mounting plate			3		Parts 1 and 2
2	2		45 × 12 × 285	MR St 42-2	3		
1	1		155 × 12 × 285	MR St 42-2	3		
Part No.	No. re-quired	Description		Material	Sheet No.	Part No. or standard spec.	Remarks
Parts List for Cylinder Head Repair Appliance							
VW 698							No. of Sheets 6
							Sheet No. 6

VW 699



**Fitting Sleeve for Oil-Deflector
Ring Types 1, 2, 3, 122, 124 and 126**

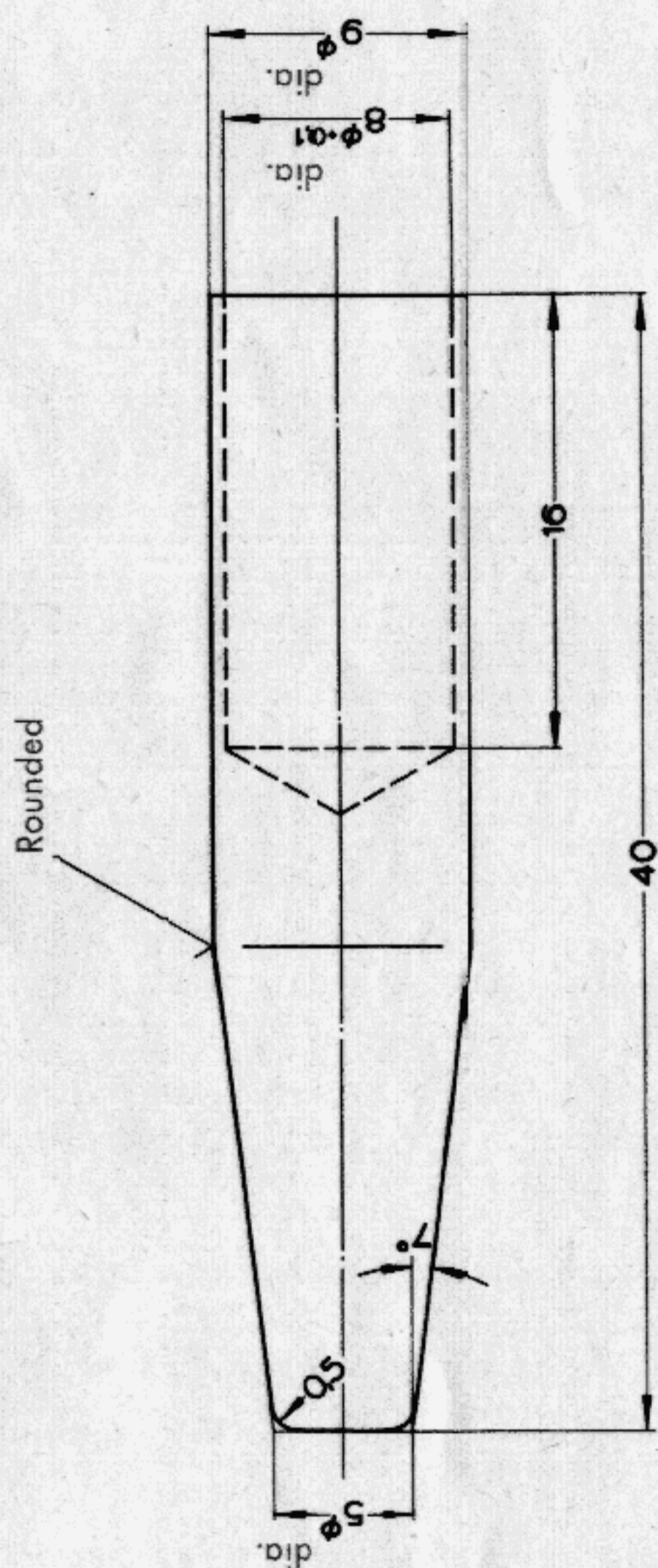
The fitting sleeve covers the grooves on the valve stem whilst the deflector ring is being fitted; thus enabling the oil deflector ring to be pushed onto the valve stem without it being damaged.



Construction Details for VW 699

1 — Turn Part.

2 — Blacken in oil.



Edges chamfered

Part No.	Description	Material
1	Fitting Sleeve 12 dia. X 45 C 15	
No. required		

VOLESWAGENWERK AG WOLFSBURG Service Department		Checked: 30. 10. 63 Giesekeing
Drawn: 26. 10. 63 Krumbholz	VW 699	
		No. of Sheets 1 Sheet No. 1