SECTION 260

FRONT WHEEL BRAKE

DRAWING OF THE FRONT WHEEL BRAKE

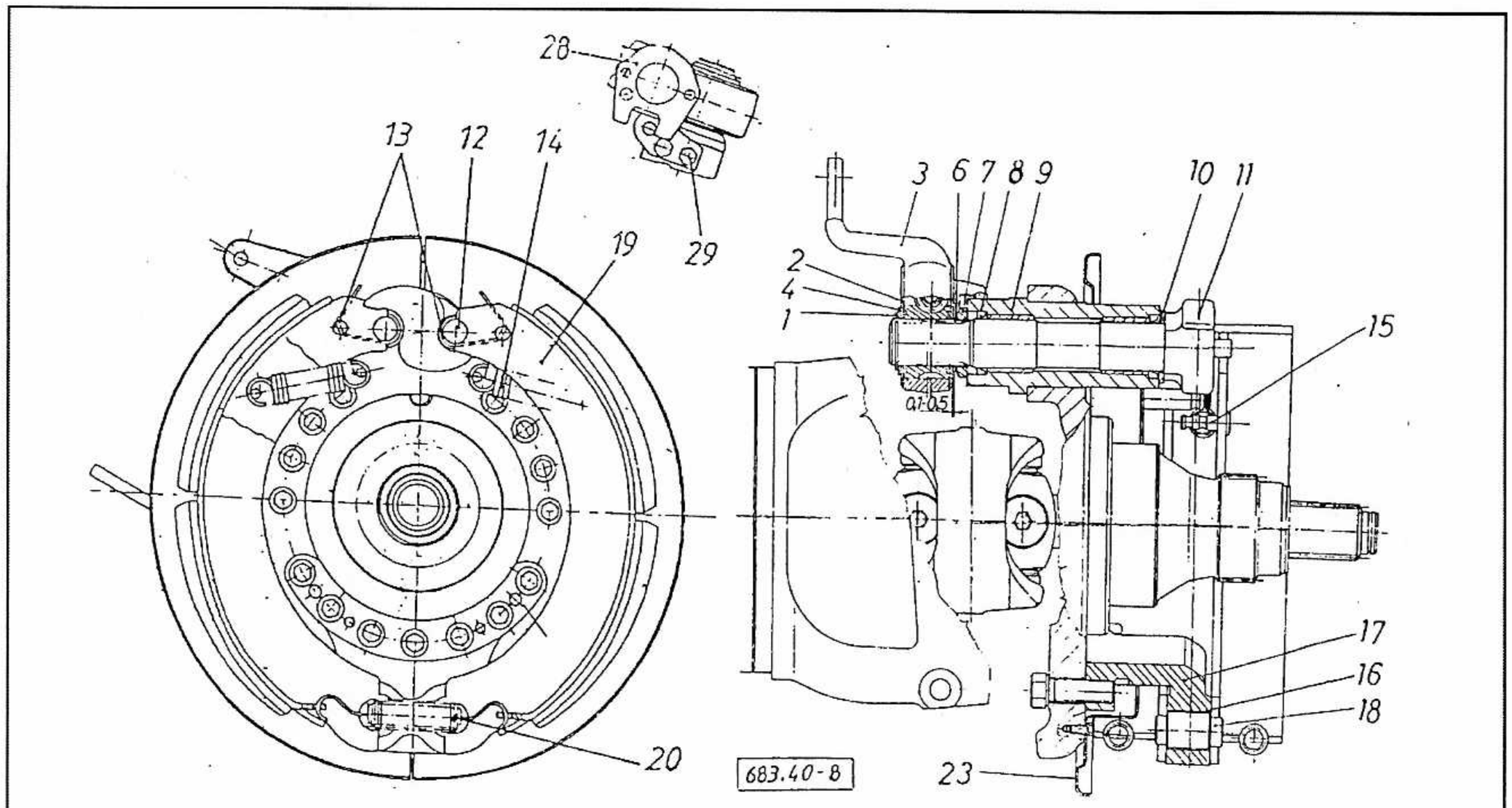


Fig. 1.: DRAWING OF THE WHEEL BRAKE

SECTION 261

PARTS OF THE FRONT WHEEL BRAKE

1 – Snap ring
2 – Spacer
3 – Brake lever
4 – Wear indicator disk
6 – Shims
7 – Spacer
8 – Sealing ring
9 – Bearing bush
10 – Spacer washer
11 – Camshaft
12 – Roller
13 – Roller locking spring
14 – Brake shoe return spring, long
15 – Spring support pin
16 – Bushing
17 – Brake Bracket (steering knuckle housing)
18 – Brake shoe anchor pin
19 – Brake shoes
20 – Brake shoe return spring, short
23 – Dustshield
28 – Stop
29 – Hex. bolt, Flat lock washer

SECTION 262

REMOVING AND REINSTALLING THE BRAKE SHOES

REMOVING THE BRAKE SHOES

Remove the brake drum **(54 in Fig. 1. of Section 210)**.

Pry the brake shoes **(19)** away. Remove the rollers **(12)** together with the lock springs **(13)**.

Unhook the shoe return springs by means of a spring hooking device, then remove the brake shoes.

REINSTALLING THE BRAKE SHOES

Position the brake shoes to the placed in shoe anchor pin **(18)** and the brake camshaft head. Hook the return springs **(14 and 20)** to the brake shoes. Use the spring hooking device.

Place the roller **(12)** into the roller locking spring **(13)** pry the brake shoes away, then insert the rollers together with the lock spring so, they shall seat both in the brake shoe rib and in the brake spanner involute profile.

REPAIRING THE BRAKE SHOES AND THE BRAKE DRUM

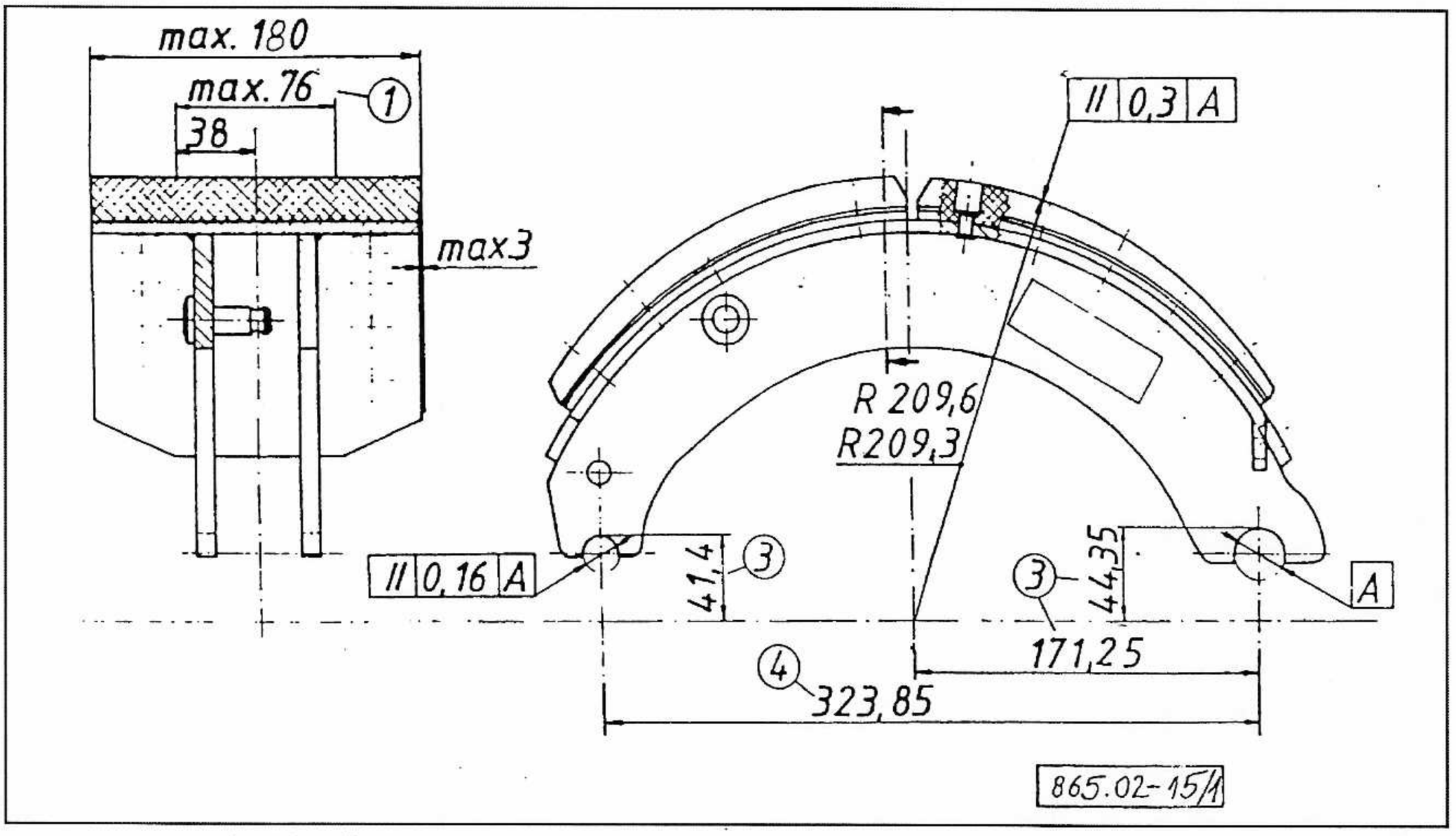
DO NOT operate the axle with brake drum trued-up exceeding the permitted max. diameter and brake lining worn below the permitted limit. Exceeding the permitted limits the brake camshaft may turn over making the brake application impossible.

The permitted minimum brake lining thickness is indicated by the upper edge of the recess in the brake lining side. **(This value is vmin = 7 mm as measured at center of the brake shoe)**

In case of damage or wear to the permitted limit replace the brake linings.

Replacement of the brake lining or true-up of the brake shoe may be performed only in brake shoe pairs.

The brake shoes equipped with new linings should be in compliance with the dimension specifications and technical requirements shown in **Fig. 1**.



1 – Max. Zed-area
3 – Dimension data
4 – Check dimension

Fig. 1.: DATA FOR TRUEING UP THE BRAKE SHOES WITH NEW LININGS.

For riveting use ONLY the rivets corresponding to **Fig. 2**

TECHNICAL REQUIREMENTS:

1 – Material: C10 MSZ 31
2 – Copper plated
3 – Tolerance of the untolerated dimensions is ± 0.254
4 – Tolerance of the untolerated angles is ± 1°

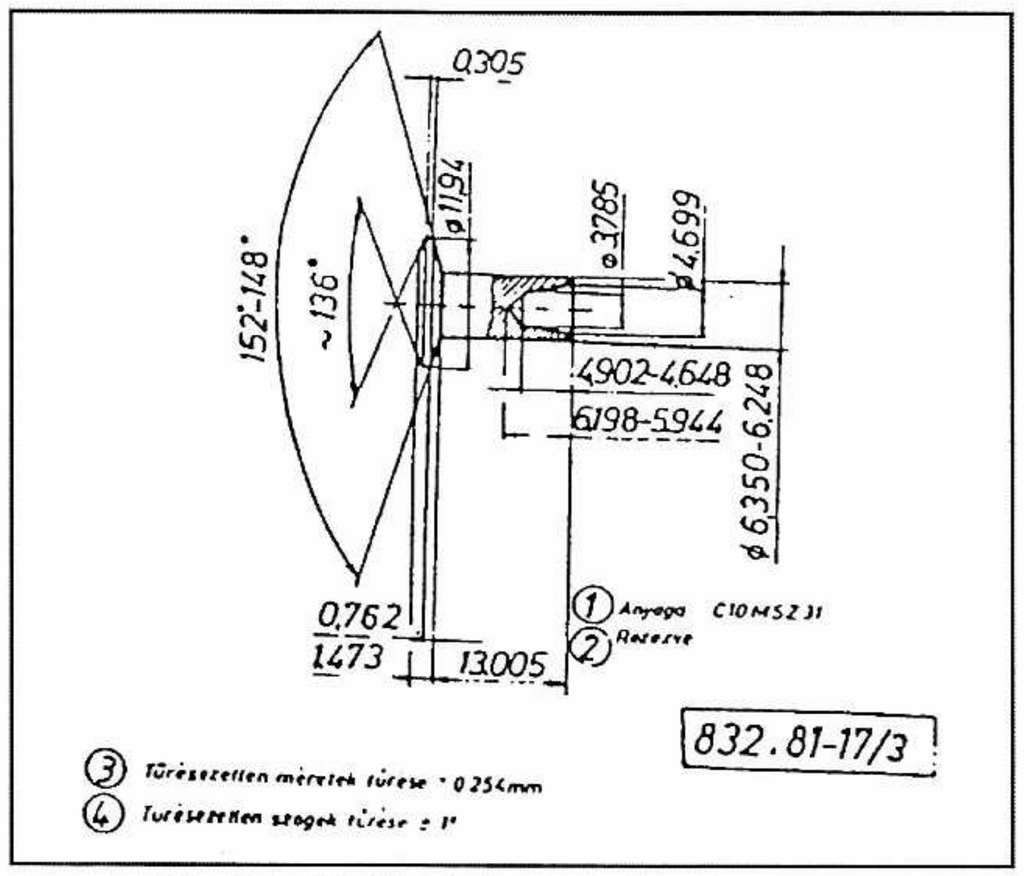


Fig. 2.: DIMENSIONS OF THE RIVETS

For riveting use the device equipped with tool developed according to **Fig. 3**.

1 – Rivet set, upper
2 – Rivet set, lower
3 – Globe R 2.4 mm

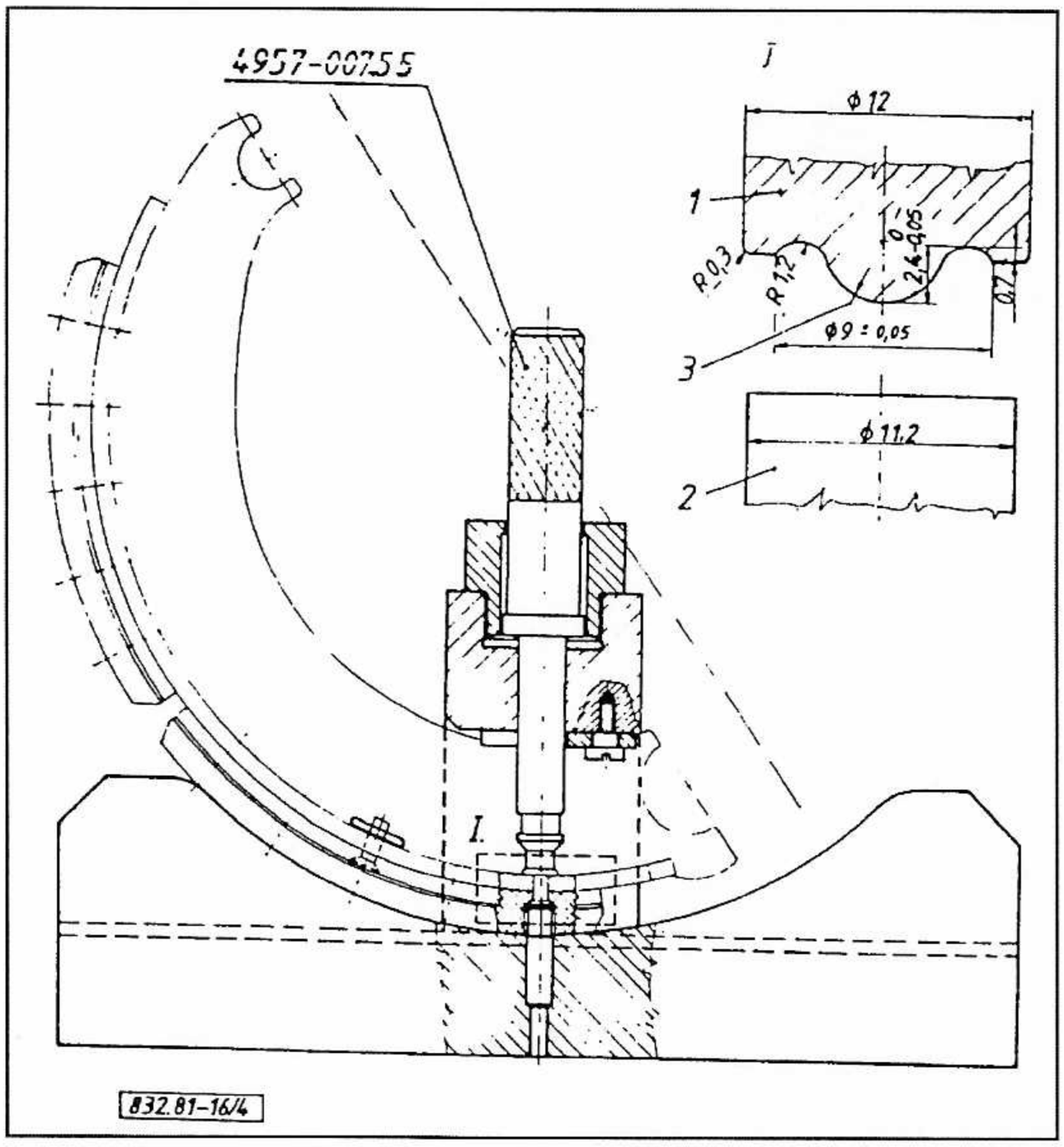


Fig. 3.: RIVETING TOOLS

Perform riveting in sequence shown in **Fig. 4**.

1 – Center of the brake shoe
2 – Brake camshaft end of the brake shoe

The brake lining should seat so, the feeler gage of thickness **0.15 mm** could not be inserted to between the lining and the brake shoe along the full length except the **Zed**-area **(see Fig. 1.)**.

At the both ribs check the brake lining surface for parallel.

That to the dimension **"A"** so, the dimension **"A"** by a **ø 22.5 mm** pin be positioned as shown **(see Fig. 1.)**.

During checking the **32** rivets should endure the **5340 N** test load, applied to bottom of the **ø 3.784 mm** bore, without loosening.

On each lining **2** rivet flanges may crack in Vee-shape, provided the test load was endured.

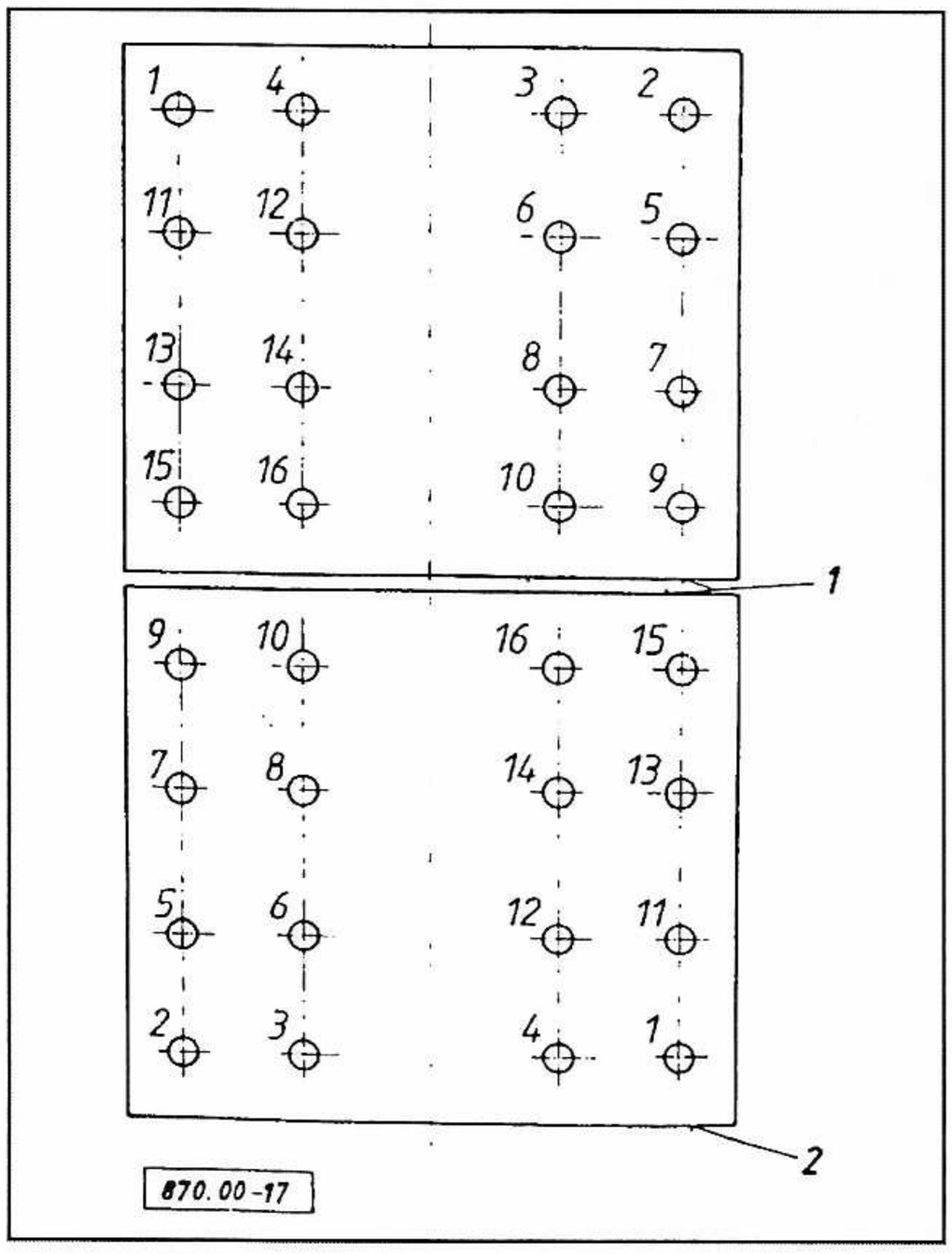


Fig. 4.: RIVETING SEQUENCE

CHECKING THE BRAKE DRUM

Check the inside surface of the brake drum.

If depth of the hair-cracks experienced on the brake drum surface does not exceed **1 mm** the brake drum can be repaired by true-up.

The maximum of the brake drum diameter after true-up **ø 423 mm**

Out of this diameter the brake drum should be replaced.

When trueing up the brake drum the brake shoes should be trued up taking the brake drum diameter into account.

E.g.: If diameter of the trued up brake drum is **422 mm**, true up the brake shoe to **R210.6 - R210.3 mm** as shown in **Fig. 1**.

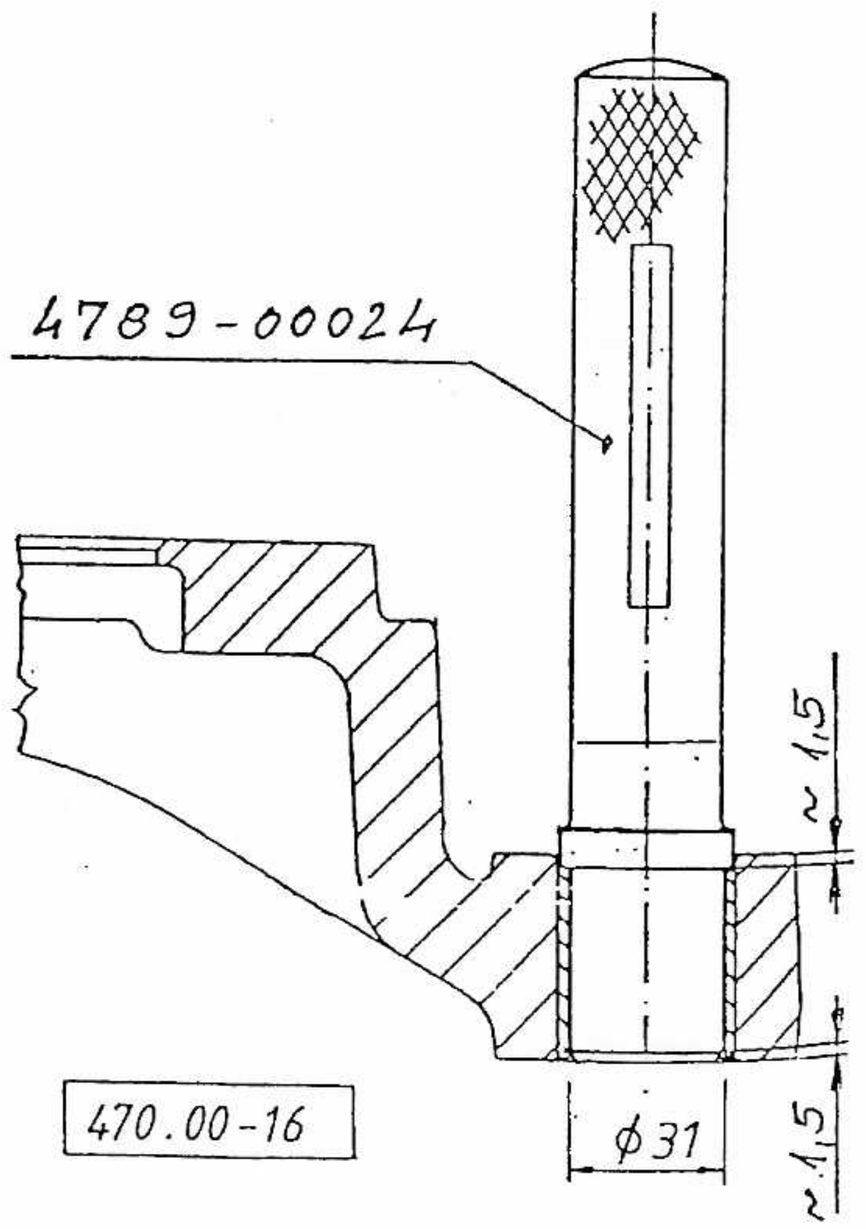


Fig. 1.: PRESSING THE BUSHINGS IN AND OUT

SECTION 264

REMOVING AND REINSTALLING THE BRAKE SUPPORT AND THE CAM-SHAFT SUPPORT, ASSEMBLING THE SPRING SUPPORTING PIN

In case of damage to the brake support the steering swivel assembly machined together with the brake support should be replaced as described in the Section 243.

ASSEMBLING THE SPRING SUPPORTING PINS

Install the spring supporting pins **(15)** with thread adhesive.

REMOVING THE CAMSHAFT SUPPORT

After removing the hex. flanged bolts **(5)** the camshaft support can be pulled out of the steering swivel.

REINSTALLING THE CAMSHAFT SUPPORT

The relevant **(RH - LH)** camshaft support should be positioned into bore of the steering knuckle and secured by hex. flanged bolts coated with thread locker. Tighten the bolts to **130 - 140 Nm** torque.

If the anchor pin bushing **(16)** are to be replaced, use the tool shown. **Fig. 1**.

SECTION 265

REMOVING AND REINSTALLING THE BRAKE LEVER AND THE CAMSHAFT

REMOVING THE CAMSHAFT

Removal of the camshaft can be performed after removing the brake shoes.

Remove the snap ring **(1)**, the spacer **(2a)** and the wear indicator disk **(2)**.

Pull the brake lever **(3)**, the shims **(6)** and the spacer **(7)** off the brake spanner **(11)** end.

Pull the brake spanner out of the brake spanner support **(4)** and remove the distance washer **(10)** below the brake spanner head.

REINSTALLING THE BRAKE SPANNER

Position the distance washer **(10)** to the relevant brake spanner **(RH - LH)** to bottom out against the brake spanner head.

Apply grease to the brake spanner bushings and push the brake spanner subassembled with distance washer into the bushings **(9)** of the brake spanner support.

REINSTALLING AND ADJUSTING THE BRAKE LEVER

Stack the spacer **(7)**, the required number shims **(6)** and the relevant brake lever **(RH - LH)** to the brake spanner. Position the wear indicator disk **(2)**, the spacer **(2a)** and the snap ring **(1)** to be end of the brake spanner.

Install the brake lever to the brake spanner so, the bore center of the brake lever bush shall be in distance **"A"** specified in the **"TECHNICAL DATA"** from the upper plane of the brake canister holder.

After adjusting the above **"A"** dimension and the **0.1 - 0.6 mm** shoe clearance adjust the wear indicator disk so, the cut-out marked **"0"** on the disk and the recess on the lever shall be in the nearest position to each other.

In case of new lining the brake lever recess and **"0"** mark of the wear indicator disk will nearly align **(max. deviation is 9°)**.

With wear of the brake lining the brake canister stroke length increases, which is automatically readjusted before exceeding the limit permitted by the brake canister.

In case of new brake drum of **ø 420 mm** the mark **"420"** while at brake drum trued-up to a **ø 424 mm** the mark **"424"** of the disk may reach the recess on the brake