



nosstec



Bending Roll Machine 8263

OPERATING INSTRUCTIONS

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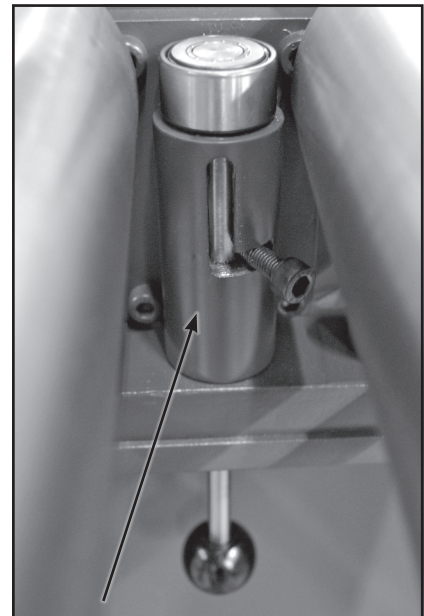
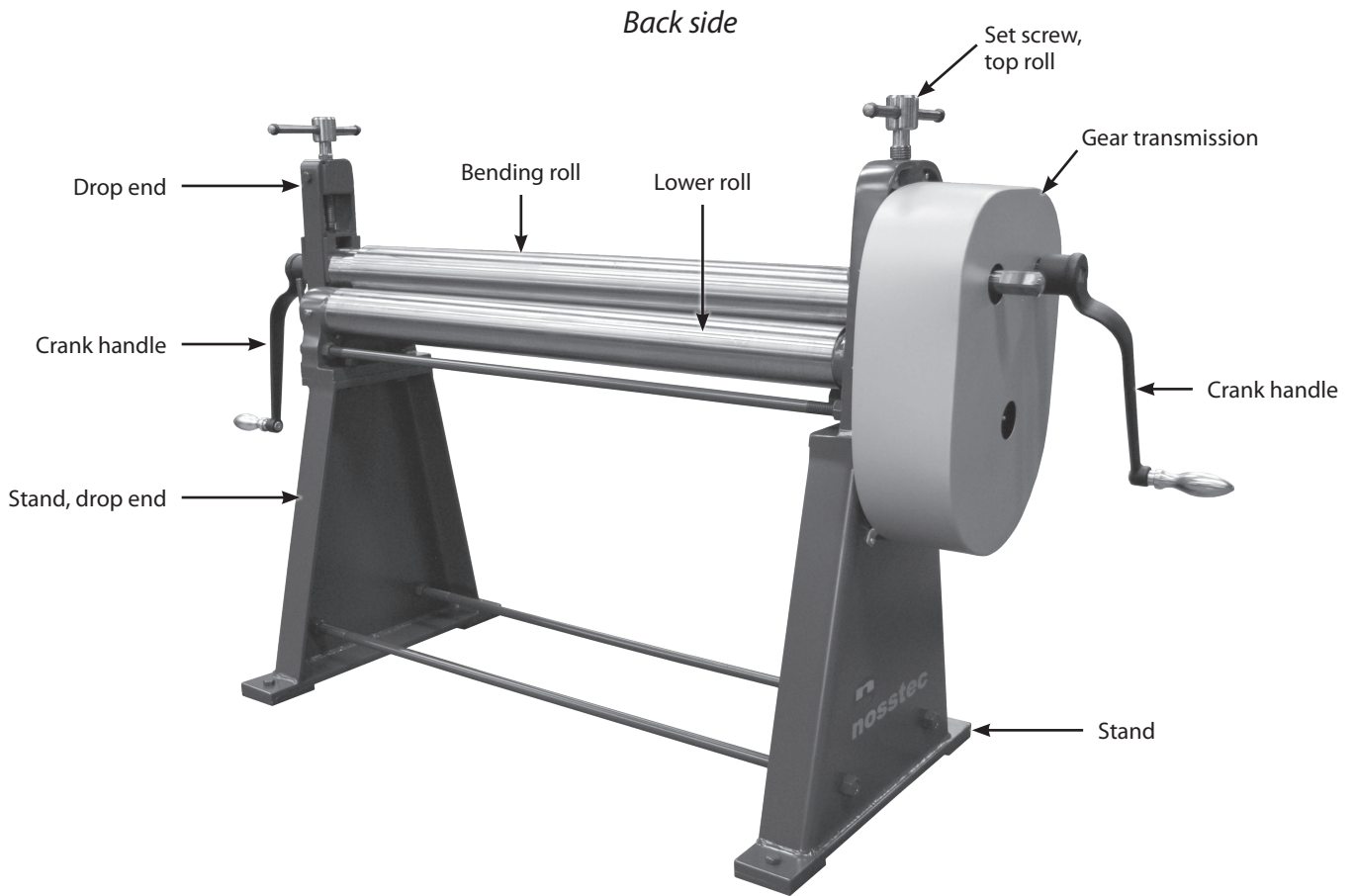


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Note: We reserve the right to alter specifications without prior notice.

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MAIN COMPONENTS



Cone bending device

Disclaimer: The machine pictured on this page is not necessarily representative of the actual product as delivered. Differences in sizes, options and/or accessories may or may not be pictured here.

Prebending

In order to obtain a symmetrically round shape, it is necessary to prebend the front as well as the rear edge of the workpiece. This prebending can be carried out by means of suitable equipment e.g. a press brake or manual folding machine. ***This operation can not be performed with a 8263 bending roll machine.***

Bending

This machine shall be used for bending sheets to a round shape. Also cylinders with conical shape can be bent if the machine is equipped with cone bending device.

At the maximum operating length and the maximum sheet thickness tubes down to about 1,5 times the diameter of the bending roll can be formed and for thinner sheets down to about 1,2 times the diameter of the roll.

When bending steel sheet or stainless steel the maximum thickness capacity of the machine will be reduced to about $\frac{2}{3}$ compared to mild carbon steel sheet.

Bending operation:

The bending roll is screwed up so that the workpiece can be introduced between the bending roll and lower rolls. After having centered the workpiece in the machine, the bending roll is screwed down towards the workpiece so that a bend appears. How much the bending roll must be screwed down depends partly on the thickness of the material and partly on the final diameter.

Generally the sheet must be run through the machine several times in order to obtain the desired shape. When the workpiece has been introduced between the rolls, the machine can be started by means of the pedal switch. The workpiece should then be run through the machine until it nearly leaves the lower roll. After this the bending roll is screwed down somewhat and the procedure is repeated but in the opposite direction by means of the pedal switch. Continue to run the workpiece forwards and backwards at the same time as the bending roll is screwed down, until the workpiece has obtained the desired shape.

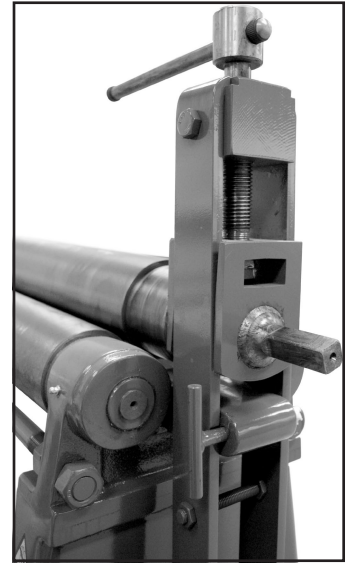
In order to get a better cylinder, the workpiece can be run through the machine some extra times, either direct after the rolling or after the joint has been welded and emery ground.

OPERATION

Removal of workpiece

The finished workpiece is removed from the machine as follows:

- Loosen the set screws of the bending roll so that the bending roll is released from the workpiece.
- Remove the locking device of the clamp.
- Introduce a flat bar or similar between the bending and lower rolls a couple of centimeters from the drive side.
- Turn the set screw on the drive side down so that the bending roll hangs freely when the clamp is pulled down.
- Go over to the other side of the machine and adjust the set screw until the clamp can easily be pulled down.
- Pull down the clamp and remove the workpiece.
- Raise the clamp and mount the locking device.

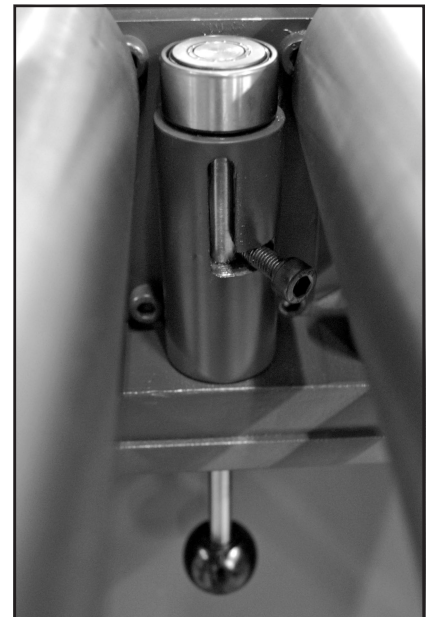


Cone bending

In order to be able to make cones, the machine must be equipped with a cone bending device.

The cones are made as follows:

- Raise the cone bending device so that it rests on the bending roll (see figure).
- Introduce the workpiece so that its rear end is parallel to the rear lower roll and the small radius points at the cone bending device.
- Screw down the bending roll on the cone bending side so that a bend appears (check that there is enough room for the material to move).
- Start the bending process and let the sheet skid against the cone bending device at the same time as it is fed through the machine and bent.
- Screw down the bending roll somewhat. Bend again and continue until the cone has obtained the desired form.



General

This machine is designed with a view to eliminating personal injuries provided that the instructions in this manual are being followed.

Only authorized and trained staff is allowed to use the machine. Read the whole instruction manual and make sure that you understand the contents before the machine is taken into use. It is important that you read the safety instructions below:



Safety instructions in connection with the installation

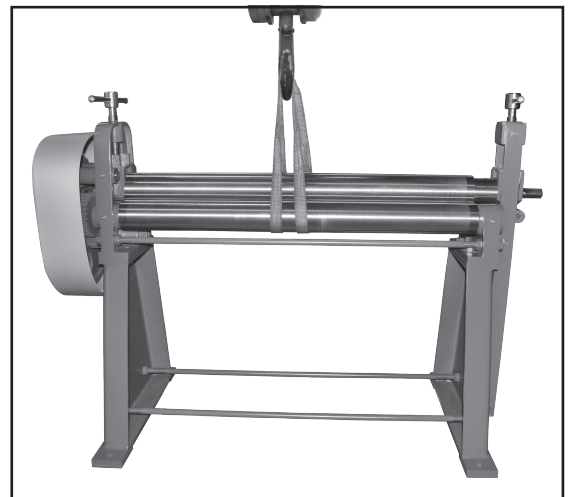
The machine must be bolted to the floor with 4 pcs expansion shell bolts diameter 16 mm.

Lifting instructions

This machine must be lifted by truck as long as it is packed in a crate or a wooden case. When lifting it from the packing to the permanent working site an approved lifting device type travelling crane must be used. Instructions for lifting by means of travelling crane:

1. Check that the top roll is in the locked position.
2. Put a lifting sling around the rolls as per figure.
3. Lift carefully at the same time as you check that the rolls are pressed together.

Regarding weights: see technical data



SAFETY



Application

Never use the machine for material which is outside the capacity range of the machine. Check the machine plate and the section "Technical data".

Before the machine is operated the following steps must be taken:

Check that all safety devices function and that they are not damaged. Also check that moveable parts are not exposed to obstacles e.g. owing to incorrectly mounted guards or parts. Broken parts or safety components must be changed by authorized staff. Contact Nosstec in case spare parts are needed. The machine has a 24 month applicable warranty from date of delivery. The warranty is only applicable as long as original spare parts are used.

Check that the environment around the machine is suitable

- Do not expose the machine to rain.
- Do not use the machine in wet or damp premises.
- Check that the lighting of the premises is satisfactory.
- The floor must be clean, dry and free from oil and grease spots.
- Never use easily inflammable material close to the machine.
- Dirty working sites increase the risk of accidents.

Avoid unstable working positions

Check that the operator always has a secure and stable working position.

Do not keep tools on the machine

Remove all tools from the machine before it is operated.



All repairs must be carried out by authorized staff

The machine has been made according to valid safety rules. All repairs must be carried out by trained and qualified staff. Only original spares must be used.

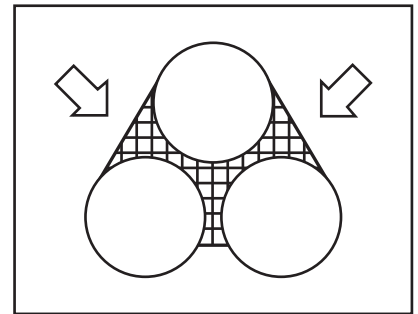
Note: If the repairs also involve dismantling of the machine, this must be carried out according to the enclosed dismantling instruction. This instruction must not be kept together with the machine.



Danger zone

In connection with production work check that no part of the body comes too close to the infeed side of the clamping rolls of the machine (see figure).

Note: The infeed side may vary owing to the direction of rotation of the rolls.



Keep the instruction manual of the machine in a safe place.

The instruction manual contains important information that besides the safety information also give important information regarding operation, service, maintenance etc.

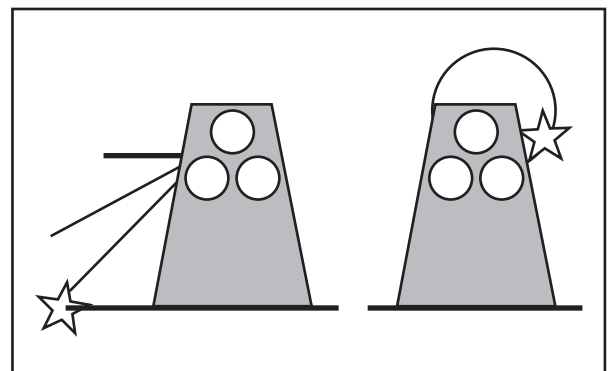
Modification of the machine

All conversion, modification or change of this machine is strictly forbidden with the exception of

- Original spare parts
- Optional equipment supplied by the manufacturer.

Falling workpieces

Be careful when working with heavy workpieces so that they do not fall down by mistake when the grip loosens between the bending and lower rolls (see figure). If necessary use a support table, travelling crane or some other lifting device.

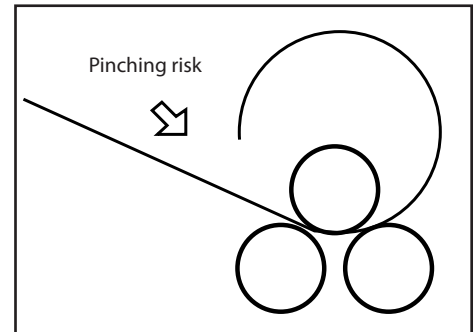


SAFETY



Pinching risk of the workpiece

Note that there is a pinching risk between the ends of the workpiece, see figure.



Gearing protection

All machine transmissions are completely covered by fixed protections.

Note! The machine must not be run if one of these protections has been removed.

Service and maintenance

Before service and maintenance are carried out on the machine you must have had instructions from your foreman. You must also read and understand this instruction manual. If the machine must be dismantled, completely or partly, contact your foreman.

Protective clothing

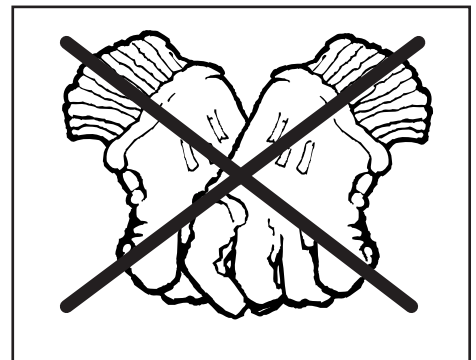
Important! Never use gloves when bending, as this considerably increases the risk of getting pinched between the rolls.

For other handling of the workpieces use gloves. The operator must not carry belts, rings or necklaces.

Working shoes with steel inserts must be used.

Loose hanging clothes must not be used.

If the operator has long hair, this must not hang loose.



Deburring of the workpiece

Burrs and sharp edges must be removed from the workpiece before bending.

Safety in general

The chapters describing the safety devices are based on the assumption that the machine is used in the manner described in this instruction manual, that the operator has got the necessary information regarding the safety of the machine as well as the special risks involved with this type of machine.

If the machine is not used in the proper way, the manufacturer cannot be held responsible for personal injuries or material damages, which may be the result. Also check the following:

- Take all necessary safety precautions when loading, setting, changing spare parts, cleaning, repairing and servicing so that the exposed person cannot start the machine.
- Do not disconnect the safety devices of the machine.
- Do not remove any part of the machine belonging to the safety devices.
- Always check that all safety devices have been remounted after repair work etc.

SERVICE AND MAINTENANCE

Installation

The machine must be placed on firm ground e.g. cemented floor. The ground must be level in order to avoid tensions in the machine when fixing it to the floor.

Maintenance

The machine is delivered with greased bearings for about 200 hours' continuous duty. After this period it should be lubricated with ball bearing grease of good quality, e.g. Esso Multi purpose grease H or equivalent.

See also section on Lubrication / grease chart.

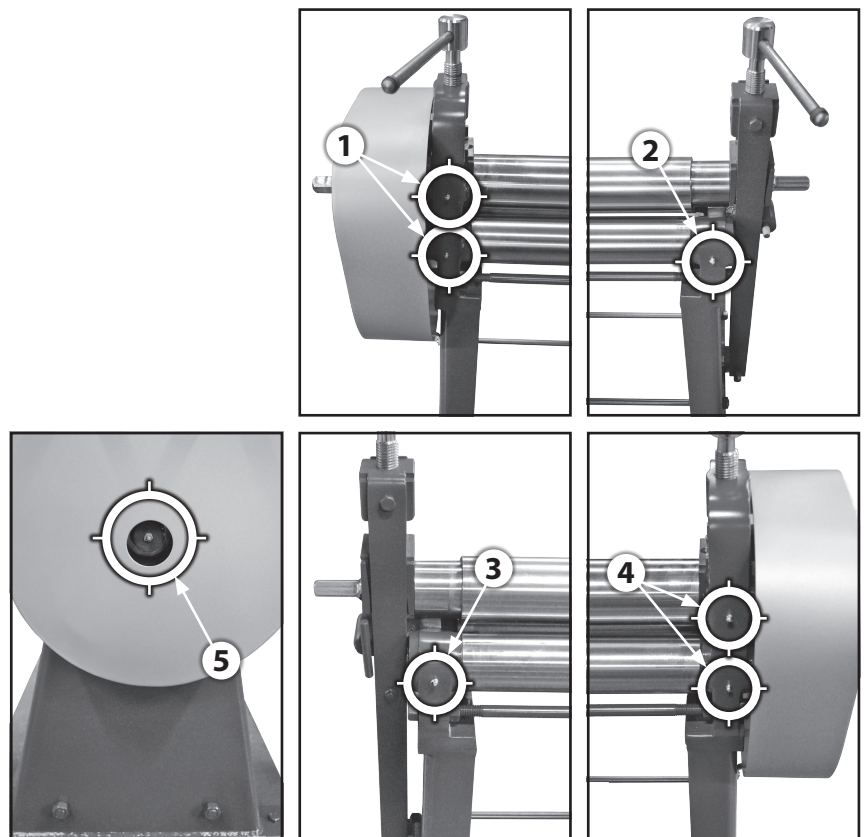
LUBRICATION / GREASE CHART

Lubrication points

There are in total 7 lubrication points:

1. Front left side, 2 points.
2. Front right side, 1 point.
3. Rear left side, 1 point.
4. Rear right side, 2 points.
5. Left side, 1 point.

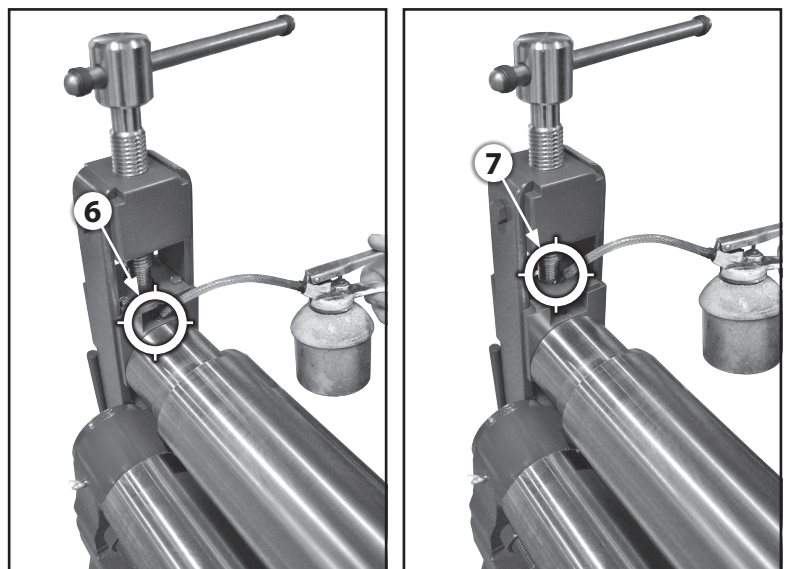
See images for the lubrication points locations.



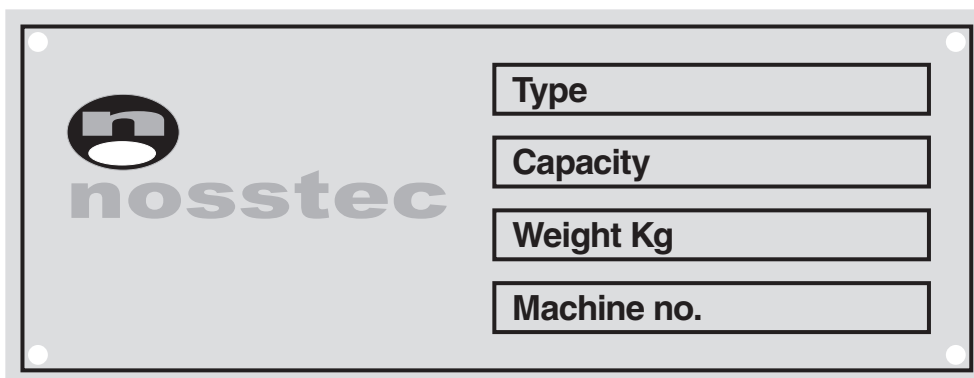
Oil points

There are in total 4 locations:

6. Left and right bearing housing, 2 locations.
7. Left and right set screw thread, 2 locations.



MACHINE PLATES AND STICKERS



Aluminium plate, blue anodized text.

DISMANTLING OF THE MACHINE

This instruction is made in order to support trained staff when repairing with a view to minimizing the risk of personal injuries and damage to the machine.

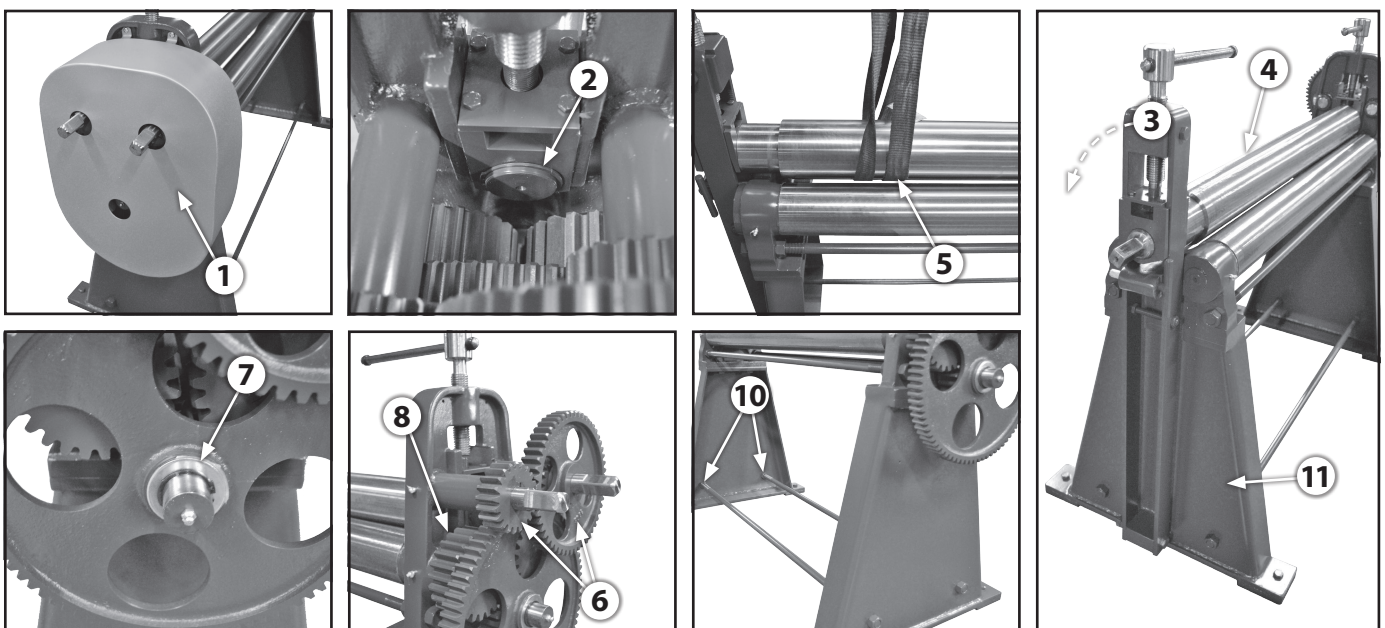
To enable dismantling of the machine in a safe way, the job must be carried out by at least two trained mechanics.

This dismantling instruction must not be kept together with the machine. The proper holder is the supervisor and/or service staff.

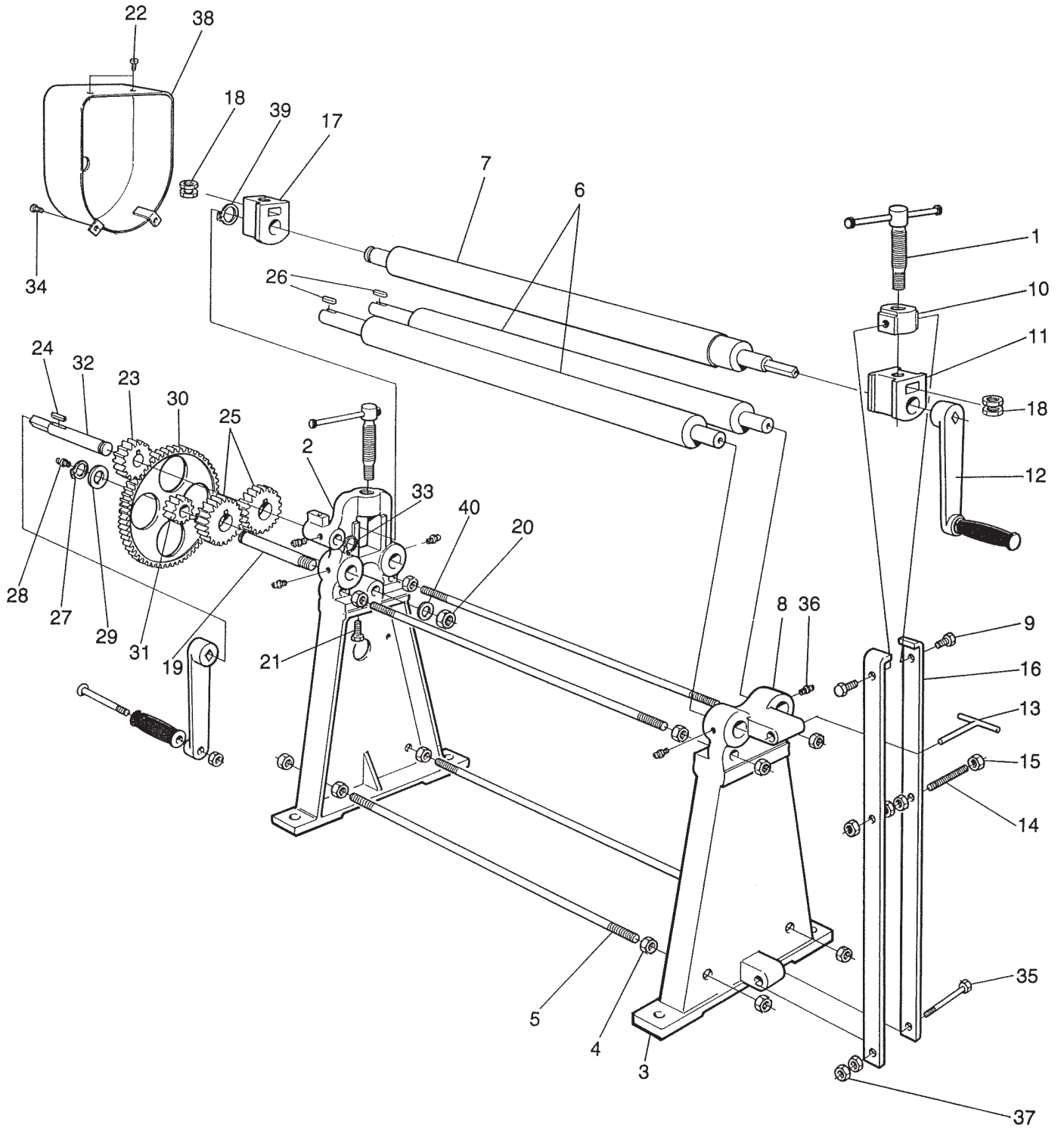
Procedure:

1. Dismount the protection cover.
2. Remove the locking ring of the bending roll.
3. Open the drop end on the opposite drive side.
4. Pull the bending roll out of the bearing housing so that it rests on the lower rolls.
5. Place a lifting strap in the middle of the bending roll. Remove the roll and place it e.g. on a bench.
6. Disassemble the upper gears using a puller.
7. Remove the locking ring and dismount the gear wheels.
8. Pull off the roller gears from the lower rolls.
9. Lower the lifting strap around the lower rolls and fixate them by means of a strong flat iron between the rolls.
10. Loosen the nuts on the in- and outside of the front part.
11. Release the front part.
12. Place a strong support under the detached roll ends (**Note: not under the roll necks**), and place the lifting strap under the centre of gravity of one of the rolls. Pull the roll out of the frame, lift it down and place it on e.g. a bench. Repeat this procedure with the other lower roll.

NOTE: Handle the loose parts carefully and check that all pieces removed also are mounted in their right places, but in the reverse order.



SPARE PARTS





		Svenska	English	Deutsch	Français
1	2	Ställskruv	Set screw	Stellschraube	Vis de réglage
2	1	Stativ	Frame	Gestell	Bâti
3	2	Stativ	Frame	Gestell	Bâti
4	16	Mutter	Nut	Mutter	Ecrou
5	4	Stag	Bar	Strebe	Nervure en long
6	2	Undervals	Lower roll	Unterrolle	Rouleau inférieur
7	1	Övervals	Upper roll	Oberrolle	Rouleau supérieur
8	1	Framstycke	Front	Front	Front
9	2	Skruv	Screw	Schraube	Vis
10	1	Mutter	Nut	Mutter	Ecrou
11	1	Lagertärning	Bearing	Lager	Palier
12	2	Vev	Crank	Kurbel	Manivelle
13	1	Lägeshållare	Holder	Halter	Support
14	1	Gängstång	Threaded screw	Gewindeschraube	Vis filetée
15	4	Mutter	Nut	Mutter	Ecrou
16	2	Stag	Bar	Stütze	Support
17	1	Lagertärning	Bearing	Lager	Palier
18	4	Mutter	Nut	Mutter	Ecrou
19	1	Axel	Shaft	Achse	Axe
20	1	Mutter	Nut	Mutter	Ecrou
21	4	Skruv	Screw	Schraube	Vis
22	2	Skruv	Screw	Schraube	Vis
23	1	Kugghjul	Gear	Zahnrad	Roue dentée
24	1	Kil	Wedge	Keil	Coin
25	2	Valsdrev	Roller gear	Walzengetriebe	Roue-vis
26	2	Kil	Wedge	Keil	Coin
27	1	Axelsäkring	Shaft locking	Achsensicherung	Arrêt d'axe
28	1	Smörjnippel	Grease nipple	Schmiernippel	Graisser
29	1	Bricka	Washer	Teller	Rondelle
30	1	Kugghjul	Gear	Zahnrad	Roue dentée
31	1	Kugghjul	Gear	Zahnrad	Roue dentée
32	1	Drivaxel	Drive shaft	Antriebswelle	Arbre de commande
33	1	Axelsäkring	Shaft locking	Achsensicherung	Arrêt d'axe
34	4	Skruv	Screw	Schraube	Vis
35	1	Skruv	Screw	Schraube	Vis
36	5	Smörjnippel	Grease nipple	Schmiernippel	Graisser
37	2	Mutter	Nut	Mutter	Ecrou
38	1	Ingrepsskydd	Contact protection	Eingriffschutz	Protection de contact
39	1	Axelsäkring	Shaft locking	Achsensicherung	Arrêt d'axe
40	1	Bricka	Washer	Teller	Rondelle



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