Knoter für die Ballenpresse

Knotters for Balers

Noueurs pour Presse Ramasseuse

Atador de Cuerda para Empacadoras

rasspe

www.rasspe.de

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Hochdruck-Einfachknoter/High-Density-Single-Knotter A

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Section A 2

Series RS 6004

Fig. 1

1. Knotter Applications

The twine knotter models RS 3663, RS 3770, RS 6000, RS 6002, RS 6003 and RS 6004 are suitable for the installation in conventional high-density balers which are in use for picking up hay and straw. This baler type is equipped with 2, sometimes 3 knotter units.

The twine knotter model RS 6006 is installed in bigbalers for hight-density square baling. As a rule 4 to 6 knotters are arranged side by side on the knotter shaft.

2. Models

The diameter of the knotter shaft of the baler determines the correct knotter version. Specialized knotter components and specialized features can also determine which version of knotter should be used:

2.1 Series RS 3663 and RS 3770

The hub with the bore for the knotter shaft is shorter for the RS 3663 series than for the RS 3770. The space achieved by that, can be used for the installation of a shear clutch assembly protecting the knotters against overloading.

2.2 Series RS 6000

Compared to the RS 3663 and RS 3770 series this knotter version allows for a lager capacity bale weight.

2.3 Series RS 6002

The hub with the bore for the knotter shaft is substantialy shorter than the hub of the RS 3663 series. This small knotter design, together with a short-hub cam gear, allows the installation of 3 knotters side by side on a conventional pick-up baler.

2.4 Series RS 6003

For maintenance this series kotter allows the knotter frame to be taken off the knotter shaft without disassembling the other knotter units. The hub with the bore is made out of 2 separate elements that can be bolted onto the shaft.

2.5 Series RS 6004

This series knotter is equipped with special high capacity grease bushings. They are fitted in the knotter bores for the knotter shaft, the bill hook shaft and the disc assembly shaft.

2.6 Series RS 6006

This series knotter allows the knotter frame to be taken off the knotter shaft without disassembling the other knotter units. The hub with the bore is made out of 2 separate elements that can be bolted onto the shaft. This series knotter is also equipped with special high capacity grease bushings. They are fitted in the bores for the bill hook shaft, the twine disc assembly and the knife arm pin.
The bill hook of this series knotter allows for the use of big baler twine.

2.7 Knotter Cam Gears

The several knotter series are equipped with different cam gears depending on the baler design. Section A 3 shows the customary cam gear types together with the main measurements.

The minimum distance between the twine strands twining around the bales is determined by the hub length of the knotter frame and that of the cam gear. The sum of both dimensions increases by the thickness of the shims package, which must be inserted between the faces of the knotter and the cam gear hubs, when both components are assembled on a knotter shaft; for this also see paragraph 4.4.

According to the design of knotter and suitable cam gear, the minimum distances result in 160 to 190 mm.

3. Baler Twine

The Rasspe-Single-Knotters have been designed to use baler twine readily available on the market, as shown in the table below:

Baler Type	Baler Twine	Twine Runnage (m/kg)	Knot Strength (N) / (kp)
Konventio-nal baler	Sisal	150 - 250	approx. 700 / 70
	Synthetic	320 – 400	approx. 750 / 75
Big Baler	Sisal	70 - 100	approx. 1650 / 165
	Synthetic	120 – 150	approx. 2000 / 200

4. Setting Instructions

4.1 Bill Hook

The bill hook (fig. 2) is pressed shut by the jaw cam, which is controlled by a spring in tension (fig. 2). The spring force can be adjusted by means of the hex. nut (fig. 2).

If the bill hook mouth clamps the twine to tightly, the knot will jam in the mouth after being stripped off by the knife arm, the twine strand will break.

If the bill hook mouth does not clamp the twine tightly enough, there will either be no knot at all or only loose loops of twine, which will not hold under tension. Fig. 5 shows a correctly knotted twine strand.

Series RS 6004

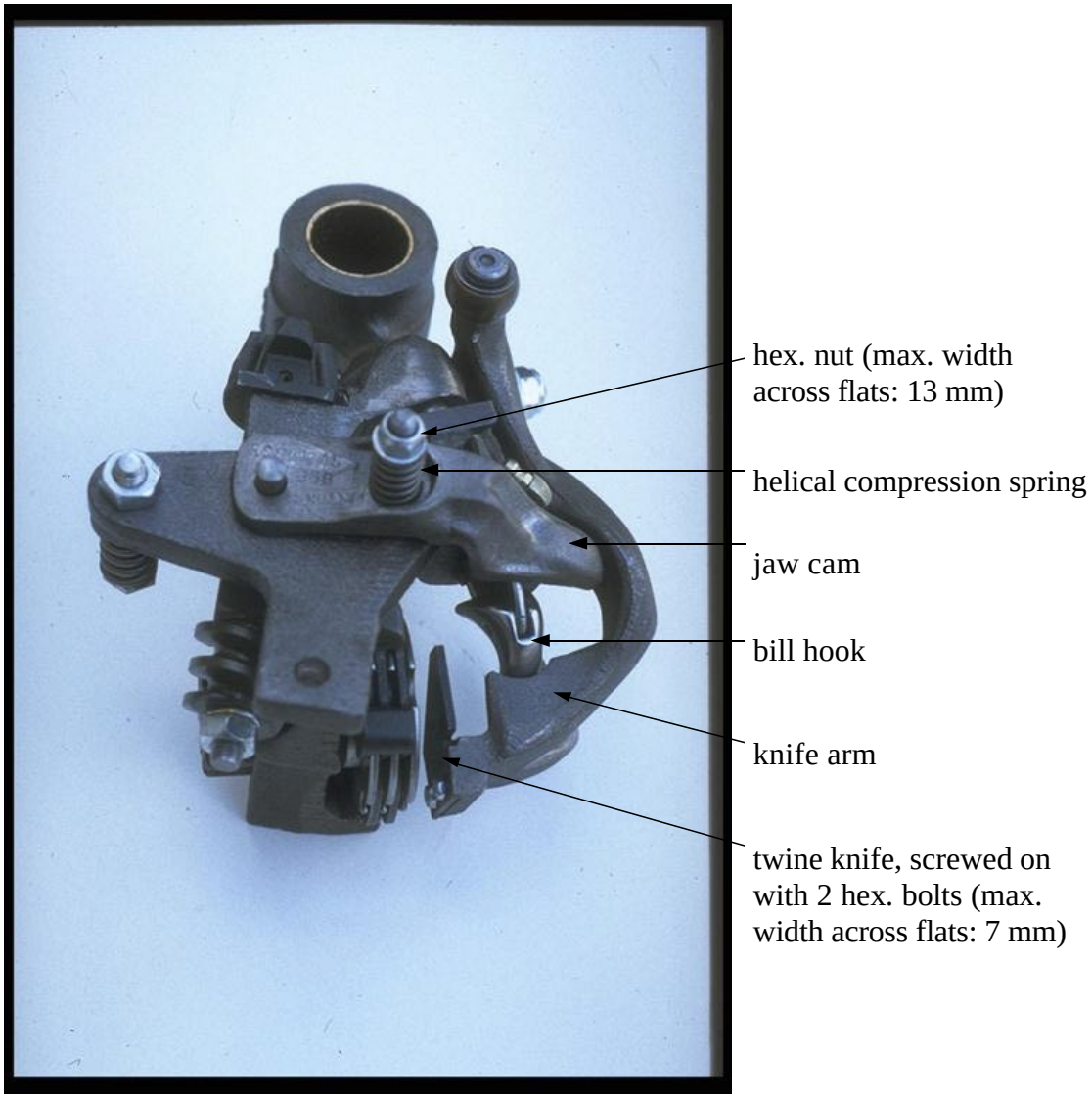


Fig.. 2

4.2 Twine Clamping

The twine disc assembly (fig. 3) must be set in such a way that, in its inoperative position, a section of the arched twine guiding edge of the cleaner disc engages 0 to 2 mm in a crescent-shaped notch of the disc assembly. After two tying cycles the outline of the said disc assy. notch and that of the twine holder run in one another. This will ensure that the already clamped and the other twine strand, which is fed by the baler needle, are positioned correctly in this trough-shaped opening.

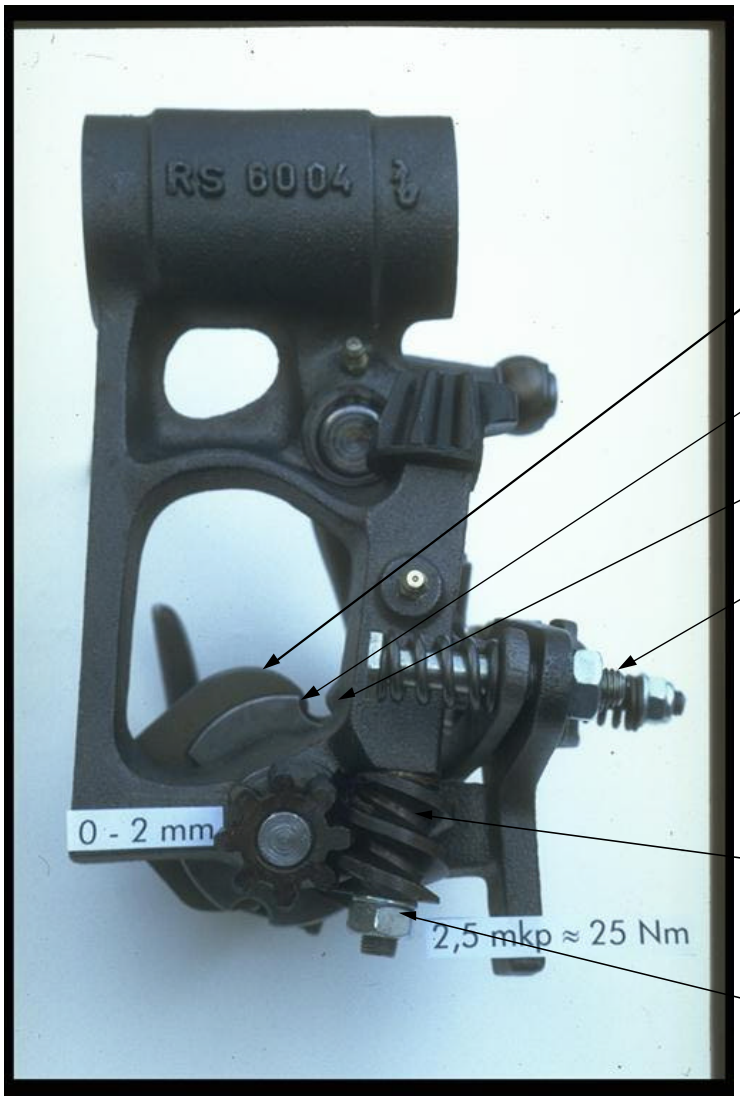
To adjust the twine disc assy. it is necessary to loosen the worm which is clamped to the cone of the worm shaft. To do so , unscrew the hex. nut (fig. 3) until one of its faces is approx. 1 mm off the end of the worm shaft. Tap the nut gently with a hammer to release the worm. The correct notch position may now be found by turning the disc assy.. After adjusting the hex. nut must be retightened at 2,5 mkg approx. 25 Nm approx. 18,44 lbf-ft.

To adjust the twine clamping force turn the hex. bolt resp. the hex. nut (fig. 3) to apply pressure to the twine holder via 2 or 3 leaf springs or via a coil spring in conjunction with a tilting lever, depending on knotter unit version.

The twine strand presently in the knotter should only be held tightly enough to prevent it slipping out of the clamping device during the tying cycle. If the strands are held too tightly they will tear or fray. Furthermore the tongue of the bill hook can be excessively loaded, by which it may bend out of shape.

The camping force required will need adjusting proportionally as the bale weight or density increase. The actual type of material to be baled, its moisture content and the choice of twine will all influence these settings. It is therefore necessary to adopt a trial-and-error-approach.

Series RS 6004



cleaner

twine disc assy.

twine holder

hex. bolt with hex. nut (max. width across flats: 17 mm, due to standard change in future 16 mm; some series equipped with 13 mm)

worm

hex. nut (max width across flats: 17 mm, due to standard changes in future 16 mm)

Fig. 3

4.3 Knife Arm

The knife arm (fig. 2 + 4) will require setting in such a way that the bill hook can rotate freely without coming into contact with any area of the knife arm. The stripping cam of the arm must slide smoothly over the surface of the bill hook head but be in contact with it.

In the outer dead position of the knife arm the distance between the stripping cam and the tip of the bill hook should be 8—15 mm. The knife arm is at its outer dead position when the knife arm roller reaches the peak of the cam on the cam gear (fig. 4 + 6).

In order to set the knife arm it is necessary to release the knotter frame on the baler chamber and to swivel the knotter upwards around the knotter drive shaft. To bend the knife arm use an appropriate setting tool, approx. 400 mm long with a forked end to enable the knife arm to be gripped. Very solid knife arm models will have to be removed and adjusted using special tools and devices. If necessary, exchange for a new knife arm.

The twine guiding areas of the knife arm (fig. 4) must always be kept smooth to prevent twine breakages. As soon as wear (grooves) becomes apparent, which cannot be removed without damaging the shape of the part, the knife arm must be replaced; that applies particularly to the v-shaped twine guiding area.

When the knotter with fitted knife arm is swiveled back and forth it can be observed how the stripping cam slides backwards and forwards over the bill hook head. If necessary the cam can be set to the bill hook with gentle blows of a hammer.

The twine knife must be replaced by a new one as soon as the cut ends of the twine appear irregularly long; according to the chosen twine type the knot ends can be even frayed.

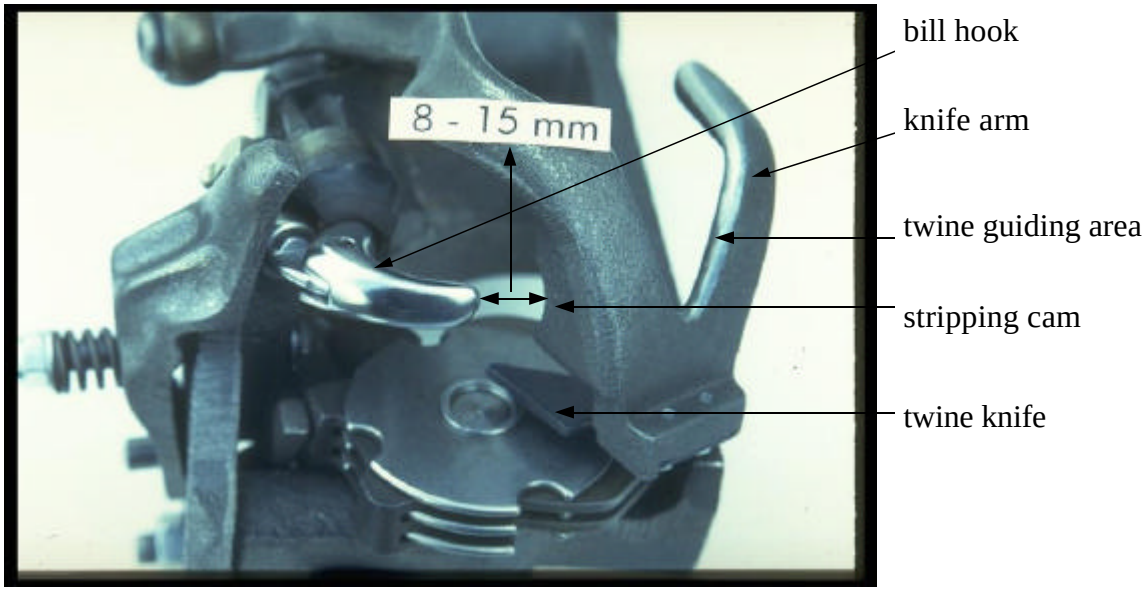

8 - 15 mm
bill hook
knife arm
twine guiding area
stripping cam
twine knife

Fig. 4

Fig. 5

4.4 Installation of Knotter and Knotter Cam Gear

When the knotter and the belonging cam gear are installed on the knotter shaft of the baler, the sliding surfaces of both pinions then come into contact with that of the cam gear. The gap being arisen between the hub faces of the knotter frame and cam gear has to be filled up with flat shims in such a way that a play arises between the sliding surfaces of both pinions and that of the cam gear, which can be measured with a caliper gauge. This play must be greater than zero; however, 0,4 mm should not be exceeded. This play must also be kept when pivoting the knotter around the knotter shaft of the baler.

When assembling the knotter shaft, the axial play between all components on the shaft should be kept extremely low. The intended positions of the knotter units and their distances to each other are to be achieved by inserting flat shims if necessary.

If one of the two or three cam gears on a knotter shaft is provided with an additional cam for driving the twine fingers, the correct position of this cam gear must be observed.

5. Knotter Lubrication

The lubricating points of the knotter will require greasing either over grease nippels by means of a grease gun or over a central lubrication system. Installed grease nipples must be greased on a daily basis before the baler is run in the field in order to maintain a trouble-free knotter function. It is advisable to apply a soft multi-purpose grease, preferably on the basis of lime or lithium soaps according to a grade 2 or 3 consistency. We do not recommend using lubricants on any other type because of fretting corrosion which may occur in compound with water, mating surfaces of the components can be affected.

The sliding and running surfaces as well as the toothing on the cam gears must be lightly greased. This also includes all knotter units connecting to the central lubricating system of the baler. Surplus of grease and baling material as well as dust must be removed before greasing.

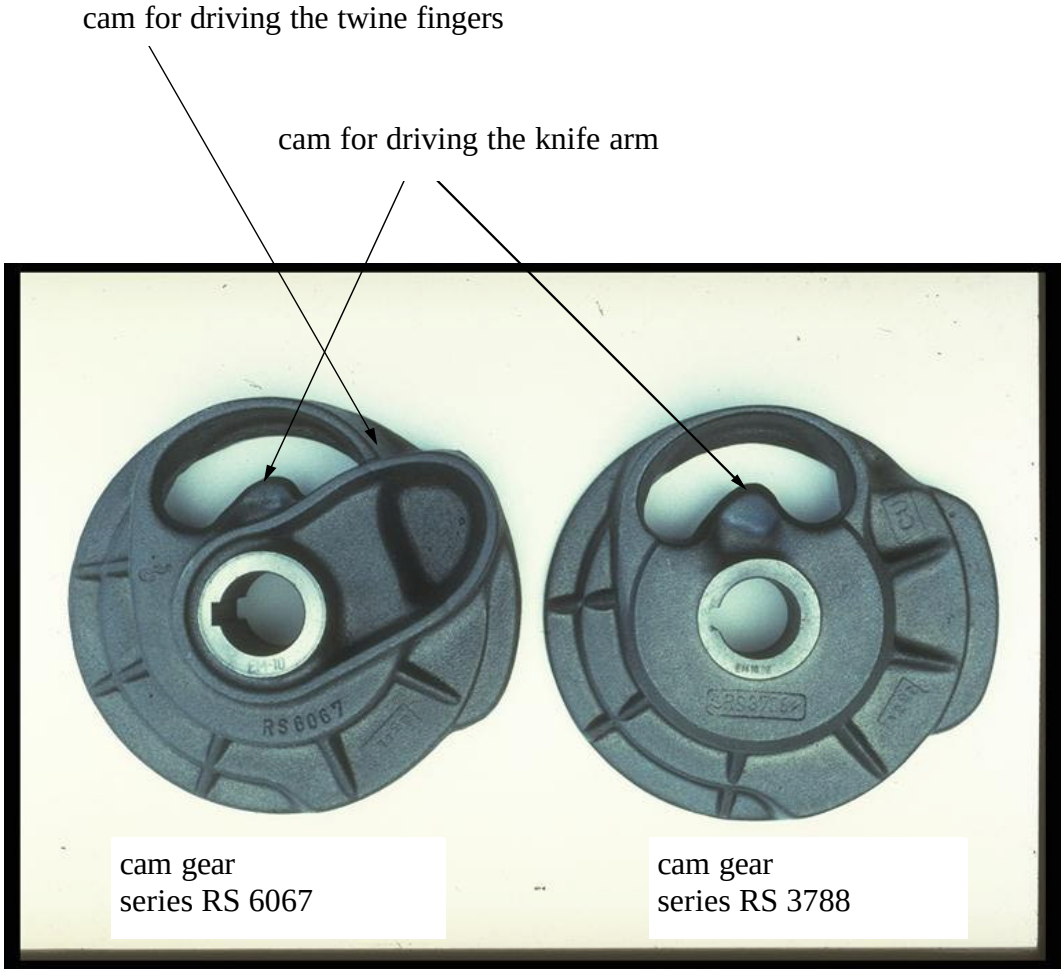

cam for driving the twine fingers
cam for driving the knife arm
RS 6067
cam gear
series RS 6067
cam gear
series RS 3788

Fig. 6

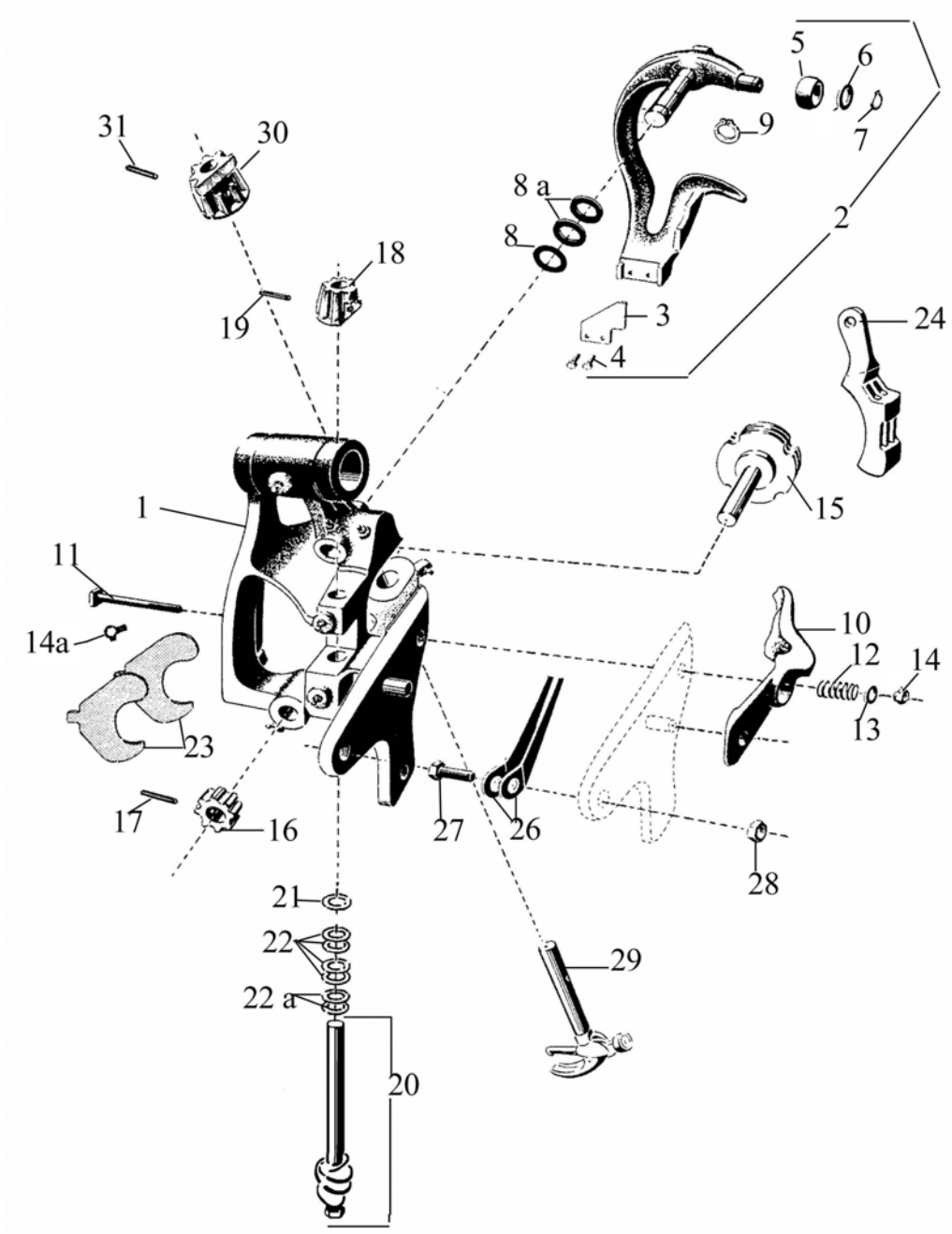
6. General Comments

The knotting reliability depends not only on the correct function of the Rasspe knotters and the use of quality baler twine, but also on the smooth mode of operation of all baler components taking part in the tying cycle. With respect to the above, the twine fingers on the bale channel, the needles, the twine tighteners and the various twine guiding eye-lets must be set properly. These points are dealt with in the operating instructions supplied by the manufacturers of the balers. Please read them carefully!

200.3663.20 / 42936

Ø= 30 mm

Abschnitt/
Section A 3



200.3663.20 / 42936

Ø= 30 mm

Abschnitt/
Secion A 3

Bild-Nr./ Ref. No.	Teile-Nr./ Part-No.	Bestell-Nr./ Order No.	Bezeichnung	Description
	200.3663.20	**42936**	Knoter, kpl.	knotter, cpt.
1	205.3663.20	**43017**	Knoterrahmen	knotter frame
2	206.6020.03	**51992**	Messerhebel, kpl.	knife arm assy.
3	206.6059.10	**51145**	Garnmesser	twine knife
4	300.6010.51	**45512**	Sechskantschraube (2 St.)	bolt (2 pcs.)
5	206.3773.70	**43187.01**	Rolle	roller
6	342.0110.00	**45741**	Scheibe (2 St.)	spacer (2 pcs.)
7	206.3698.00	**43172**	Sicherungsring	circlip
8	342.6200.00	**45754**	Stützscheibe	spacer
8 a	342.6201.00	**45755**	Stützscheibe (2 St.)	spacer (2 pcs.)
9	207.7310.70	**43396.01**	Sicherungsring	circlip
10	206.6011.70	**43239.01**	Schliesser	jaw cam
11	206.6024.70	**43257.01**	Schraube	bolt
12	206.3789.70	**43205.01**	Feder	spring
13	340.0084.01	**45716**	Scheibe	spacer
14	331.1080.51	**45701**	Sechskantmutter	nut
14 a	340.6140.01	**45726**	Scheibe	retaining ring
15	206.6085.70	**43301.01**	Mitnehmer, kpl.	twine disc cpt.
16	206.3779.70	**43192.01**	Schneckenrad	worm pinion
17	346.1522.00	**45852**	Spiral-Spannstift	spring pin
18	206.3782.20	**51838**	Schneckentriebel	pinion
19	346.1522.00	**45852**	Spiral-Spannstift	spring pin
20	206.3780.75	**51156.01**	Schneckenwelle, kpl.	worm shaft assy.
21	342.0102.00	**45739**	Scheibe (1 – 3 St.)	spacer (1 to 3 pcs.)
22	342.0105.00	**45740**	Scheibe (4 St.)	spacer (4 pcs.)
22 a	342.0110.00	**45741**	Scheibe (2 St.)	spacer (2 pcs.)
23	206.3783.72	**43200.01**	Reiniger (2 St.)	cleaner (2 pcs.)
24	206.3671.70	**43160.01**	Garnhalter	twine holder
26	206.3776.70	**43189.01**	Flachfeder (1 Paar)	spring (1 pair)
27	300.6325.51	**45531**	Sechskantschraube	bolt
28	330.1100.51	**45673**	Sechskantmutter	nut
29	206.6015.10	**51095**	Knoterhaken, kpl.	bill hook assy.
30	206.6127.01	**51446**	Hakentriebel	pinion
31	346.1522.00	**45852**	Spiral-Spannstift	spring pin

200.3770.11 / 52030

Ø= 28 mm

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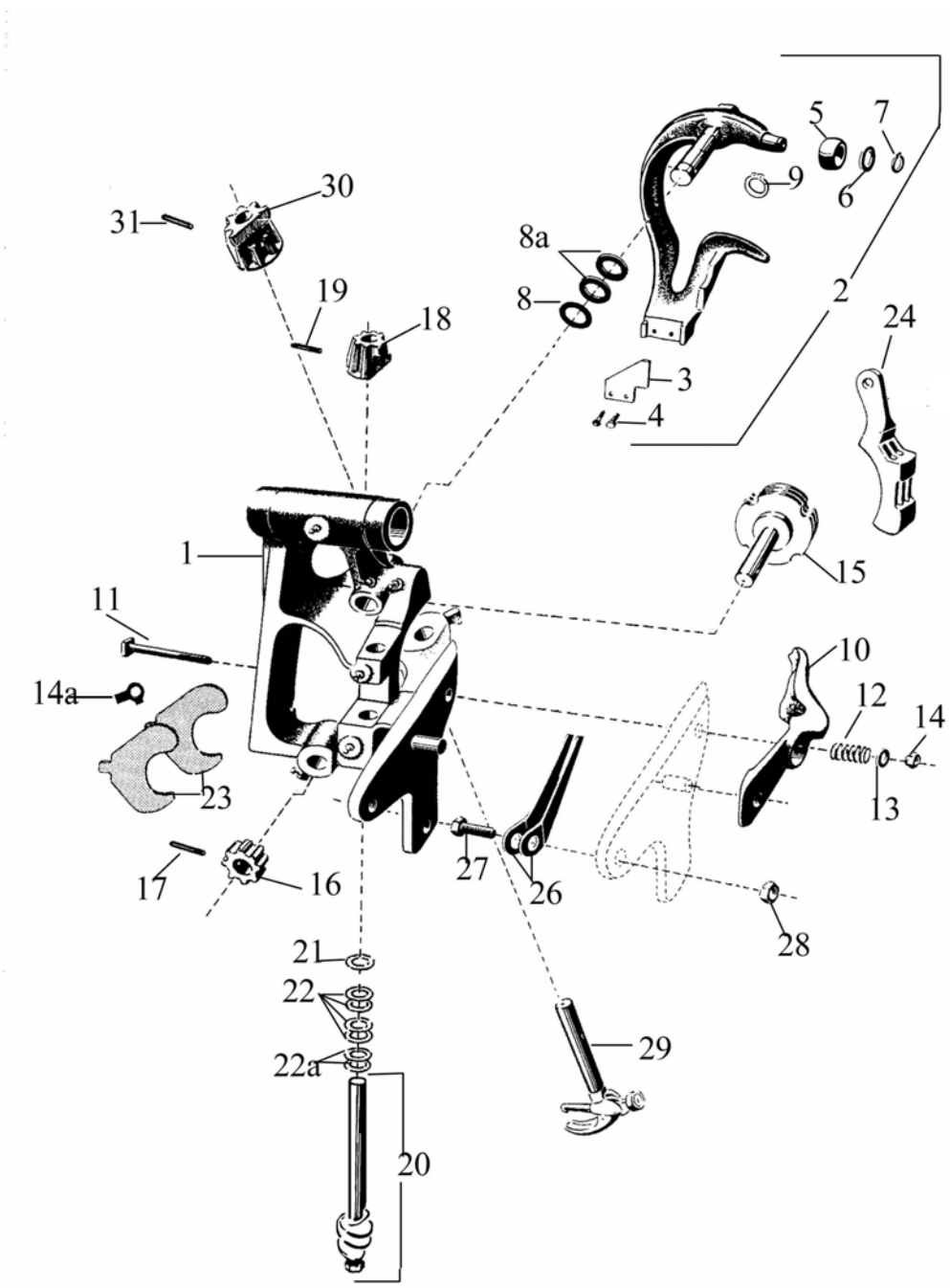
Section A 3



200.3770.11 / 52030

Ø= 28 mm

Abschnitt/
Secion A 3

Bild-Nr./ Ref. No.	Teile-Nr./ Part-No.	Bestell-Nr./ Order No.	Bezeichnung	Description
	200.3770.11	**52030**	Knoter, kpl.	knotter, cpt.
1	205.3770.10	**43024**	Knoterrahmen,	knotter frame
2	206.6020.03	**51992**	Messerhebel, kpl.	knife arm assy.
3	206.6059.10	**51145**	Garnmesser	twine knife
4	300.6010.51	**45512**	Sechskantschraube (2 St.)	bolt (2 pcs.)
5	206.3773.70	**43187.01**	Rolle	roller
6	342.0110.00	**45741**	Scheibe (2 St.)	spacer (2 pcs.)
7	206.3698.00	**43172**	Sicherungsring	circlip
8	342.6200.00	**45754**	Stützscheibe	spacer
8 a	342.6201.00	**45755**	Stützscheibe (2 St.)	spacer (2 pcs.)
9	207.7310.70	**43396.01**	Sicherungsring	circlip
10	206.6011.70	**43239.01**	Schliesser	jaw cam
11	206.6024.70	**43257.01**	Schraube	bolt
12	206.3789.70	**43205.01**	Feder	spring
13	340.0084.01	**45716**	Scheibe	spacer
14	331.1080.51	**45701**	Sechskantmutter	nut
14 a	340.6140.01	**45726**	Scheibe	retaining ring
15	206.6085.70	**43301.01**	Mitnehmer, kpl.	twine disc cpt.
16	206.3779.70	**43192.01**	Schneckenrad	worm pinion
17	346.1522.00	**45852**	Spiral-Spannstift	spring pin
18	206.3782.20	**51838**	Schneckentriebel	pinion
19	346.1522.00	**45852**	Spiral-Spannstift	spring pin
20	206.3780.75	**51156.01**	Schneckenwelle, kpl.	worm shaft assy.
21	342.0102.00	**45739**	Scheibe (1 – 3 St.)	spacer (1 to 3 pcs.)
22	342.0105.00	**45740**	Scheibe (4 St.)	spacer (4 pcs.)
22 a	342.0110.00	**45741**	Scheibe (2 St.)	spacer (2 pcs.)
23	206.3783.72	**43200.01**	Reiniger (2 St.)	cleaner (2 pcs.)
24	206.3671.70	**43160.01**	Garnhalter	twine holder
26	206.3776.70	**43189.01**	Flachfeder (1 Paar)	spring (1 pair)
27	300.6325.51	**45531**	Sechskantschraube	bolt
28	330.1100.51	**45673**	Sechskantmutter	nut
29	206.6015.10	**51095**	Knoterhaken kpl.	bill hook assy.
30	206.6127.01	**51446**	Hakentriebel	pinion
31	346.1522.00	**45852**	Spiral-Spannstift	spring pin

200.3770.21 / 51994

Ø= 30 mm

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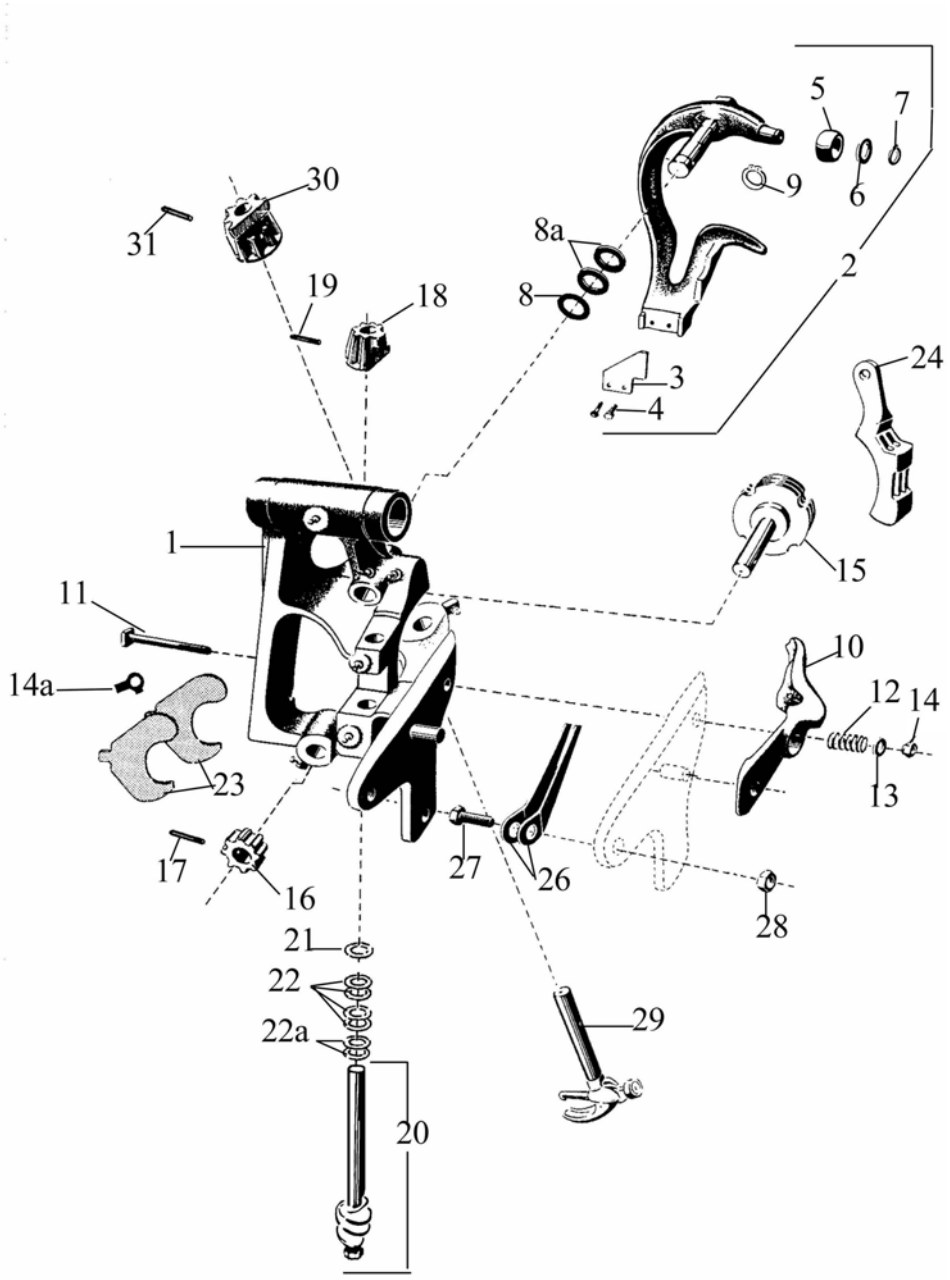
Section A 3



200.3770.21 / 51994

Ø= 30 mm

Abschnitt/
Secion A 3

Bild-Nr./ Ref. No.	Teile-Nr./ Part-No.	Bestell.-Nr./ Order No.	Bezeichnung	Description
	200.3770.21	**51994**	Knoter, kpl.	knotter, cpt.
1	205.3770.20	**43025**	Knoterrahmen	frame
2	206.6020.03	**51992**	Messerhebel, kpl.	knife arm assy.
3	206.6059.10	**51145**	Garnmesser	twine knife
4	300.6010.51	**45512**	Sechskantschraube (2 St.)	bolt (2 pcs.)
5	206.3773.70	**43187.01**	Rolle	roller
6	342.0110.00	**45741**	Scheibe (2 St.)	spacer (2 pcs.)
7	206.3698.00	**43172**	Sicherungsring	circlip
8	342.6200.00	**45754**	Stützscheibe	spacer
8 a	342.6201.00	**45755**	Stützscheibe (2 St.)	spacer (2 pcs.)
9	207.7310.70	**43396.01**	Sicherungsring	circlip
10	206.6011.70	**43239.01**	Schliesser	jaw cam
11	206.6024.70	**43257.01**	Schraube	bolt
12	206.3789.70	**43205.01**	Feder	spring
13	340.0084.01	**45716**	Scheibe	spacer
14	331.1080.51	**45701**	Sechskantmutter	nut
14 a	340.6140.01	**45726**	Scheibe	retaining ring
15	206.6085.70	**43301.01**	Mitnehmer, kpl.	twine disc cpt.
16	206.3779.70	**43192.01**	Schneckenrad	worm pinion
17	346.1522.00	**45852**	Spiral-Spannstift	spring pin
18	206.3782.20	**51838**	Schneckentriebel	pinion
19	346.1522.00	**45852**	Spiral-Spannstift	spring pin
20	206.3780.75	**51156.01**	Schneckenwelle, kpl.	worm shaft assy.
21	342.0102.00	**45739**	Scheibe (1 bis 3 St.)	spacer (1 to 3 pcs.)
22	342.0105.00	**45740**	Scheibe (4 St.)	spacer (4 pcs.)
22 a	342.0110.00	**45741**	Scheibe (2 St.)	spacer (2 pcs.)
23	206.3783.72	**43200.01**	Reiniger (2 St.)	cleaner (2 pcs.)
24	206.3671.70	**43160.01**	Garnhalter	twine holder
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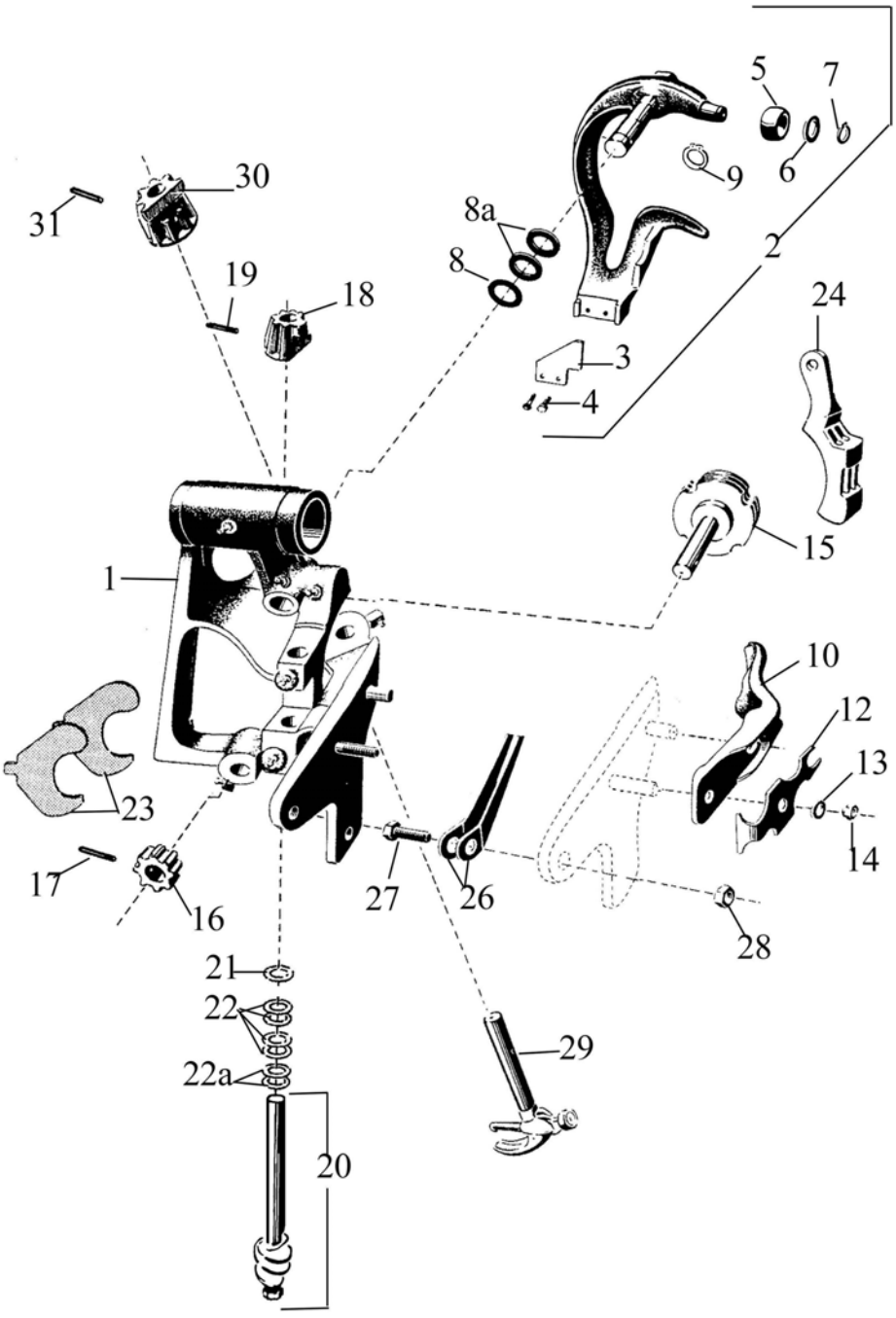
28	330.1100.51	**45673**	Sechskantmutter	nut
29	206.6015.10	**51095**	Knoterhaken, kpl.	bill hook assy.
30	206.6127.01	**51446**	Hakentriebel	pinion
31	346.1522.00	**45852**	Spiral-Spannstift	spring pin

200.6000.30 / 42941

Ø= 35 mm

Abschnitt/
Section A 3



200.6000.30 / 42941

Ø= 35 mm

Abschnitt/
Secion A 3

Bild-Nr./ Ref. No.	Teile-Nr./ Part-No.	Bestell-Nr./ Order No.	Bezeichnung	Description
	200.6000.30	**42941**	Knoter, kpl.	knotter, cpt.
1	205.6000.30	**43041**	Knoterrahmen	frame
2	206.6020.03	**51992**	Messerhebel, kpl.	knife arm assy.
3	206.6059.10	**51145**	Garnmesser	twine knife
4	300.6010.51	**45512**	Sechskantschraube (2 St.)	bolt (2 pcs.)
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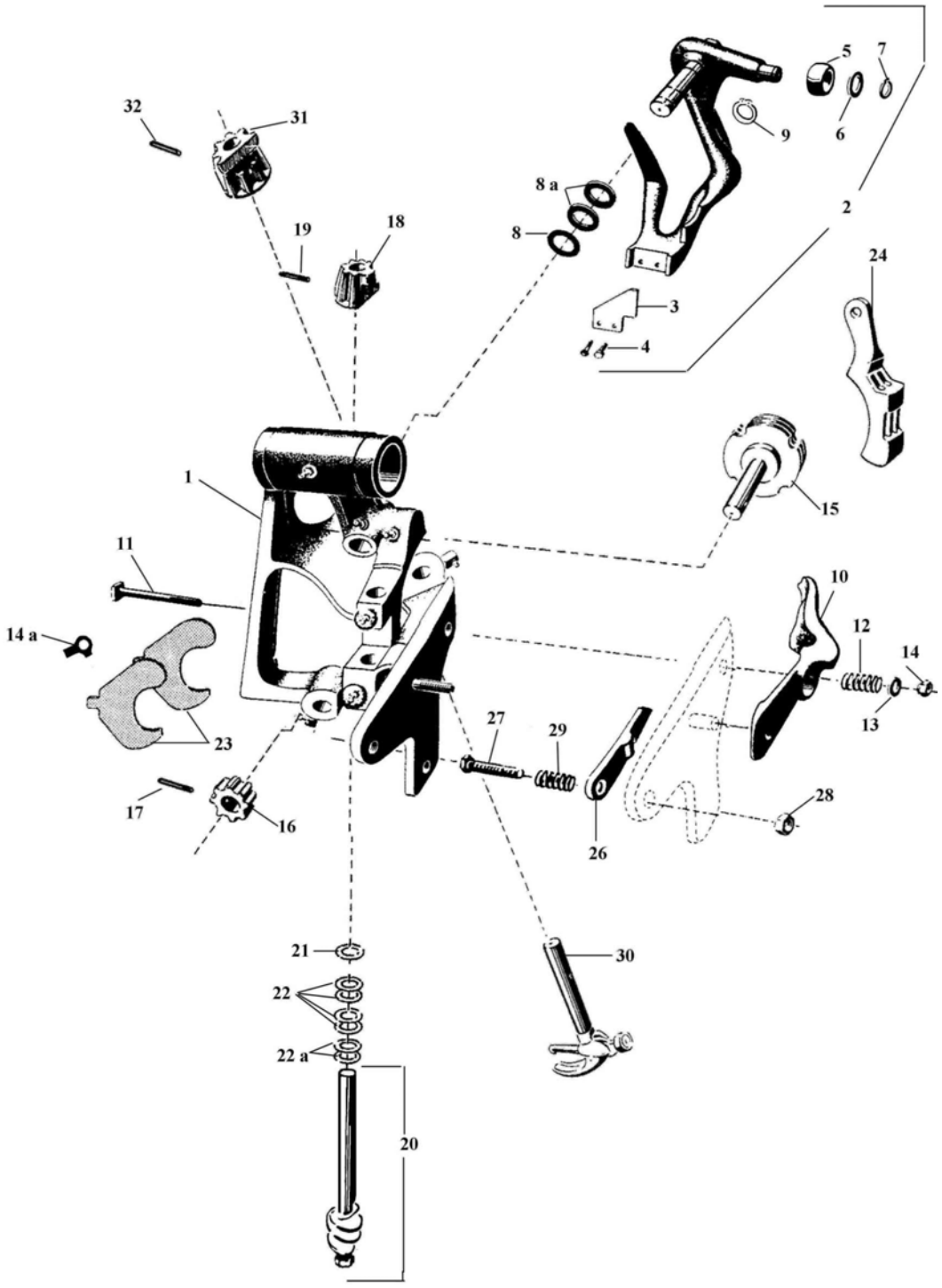
12	206.6010.70	**43238.01**	Flachfeder	spring
13	340.0084.01	**45716**	Scheibe	spacer
14	331.1080.51	**45701**	Sechskantmutter	nut
15	206.6085.70	**43301.01**	Mitnehmer, kpl.	twine disc cpt.
16	206.3779.70	**43192.01**	Schneckenrad	worm pinion
17	346.1522.00	**45852**	Spiral-Spannstift	spring pin
18	206.3782.20	**51838**	Schneckentriebel	pinion
17	346.1522.00	**45852**	Spiral-Spannstift	spring pin
20	206.3780.75	**51156.01**	Schneckenwelle, kpl.	worm shaft assy.
21	342.0102.00	**45739**	Scheibe (1 bis 3 St.)	spacer (1 to 3 pcs.)
22	342.0105.00	**45740**	Scheibe (4 St.)	spacer (4 pcs.)
22 a	342.0110.00	**45741**	Scheibe (2 St.)	spacer (2 pcs.)
23	206.3783.72	**43200.01**	Reiniger (2 St.)	cleaner (2 pcs.)
24	206.3671.70	**43160.01**	Garnhalter	twine holder
26	206.3776.70	**43189.01**	Flachfeder (1 Paar)	spring (1 pair)
27	300.6325.51	**45531**	Sechskantschraube	bolt
28	330.1100.51	**45673**	Sechskantmutter	nut
29	206.6015.10	**51095**	Knoterhaken, kpl.	bill hook assy.
30	206.6127.01	**51446**	Hakentriebel	pinion
31	346.1522.00	**45852**	Spiral-Spannstift	spring pin

200.6000.32 / 42942

Ø= 35 mm

Abschnitt/
Section A 3



200.6000.32 / 42942

Ø= 35 mm

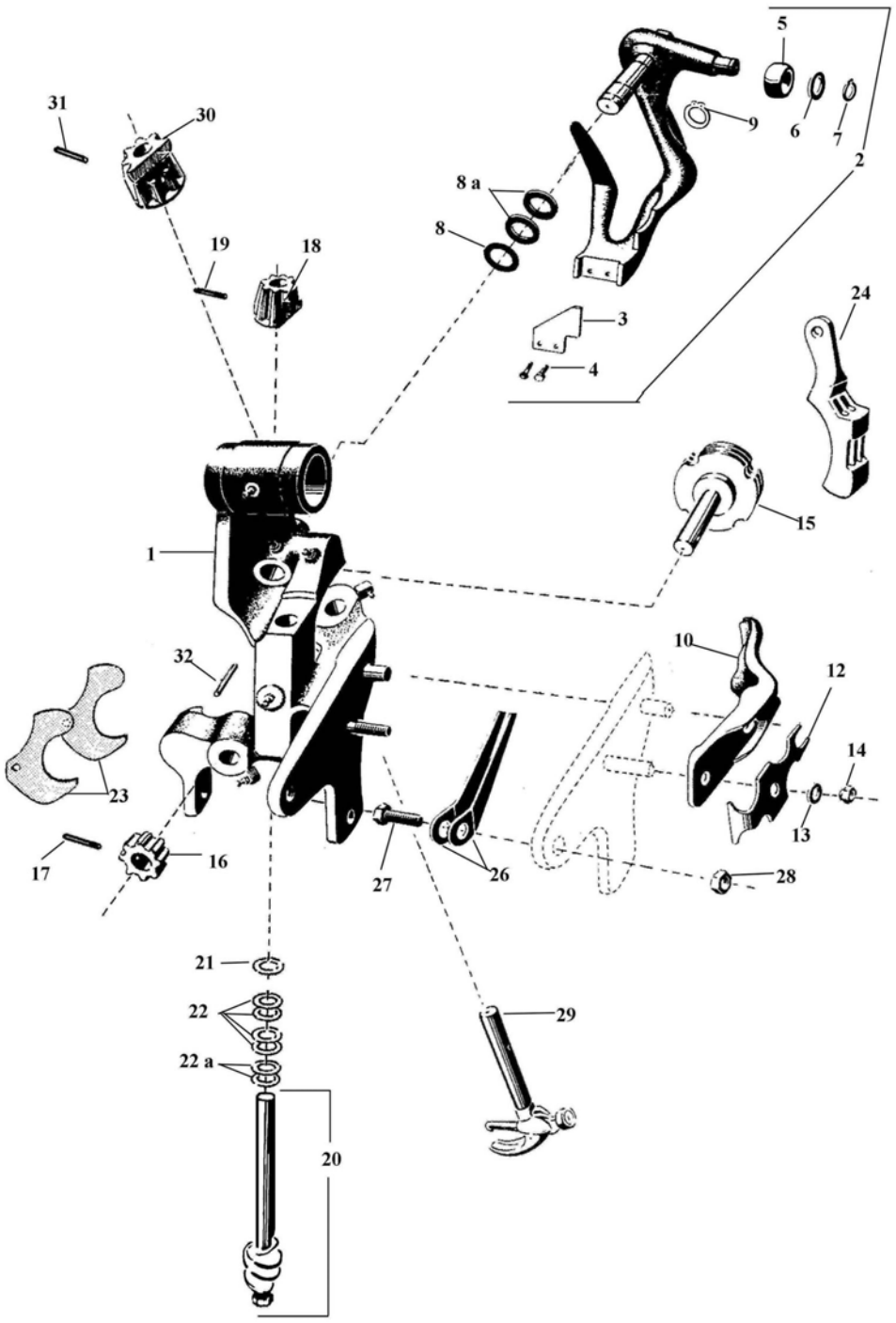
Bild-Nr/ Ref. No.	Teile-Nr./ Part-No.	Bestell-Nr./ Order No.	Bezeichnung	Description

wird ersetzt durch RS 6004 EMK3 23 = 200.6004.31/51948 = Seite 15 - 16
will be replaced by RS 6004 EMK3 23 = 200.6004.31/51948 = see page 15 - 16

200.6002.33 / 52009

Ø= 35 mm

Abschnitt/
Section A 3



200.6002.33 / 52009

Ø= 35 mm

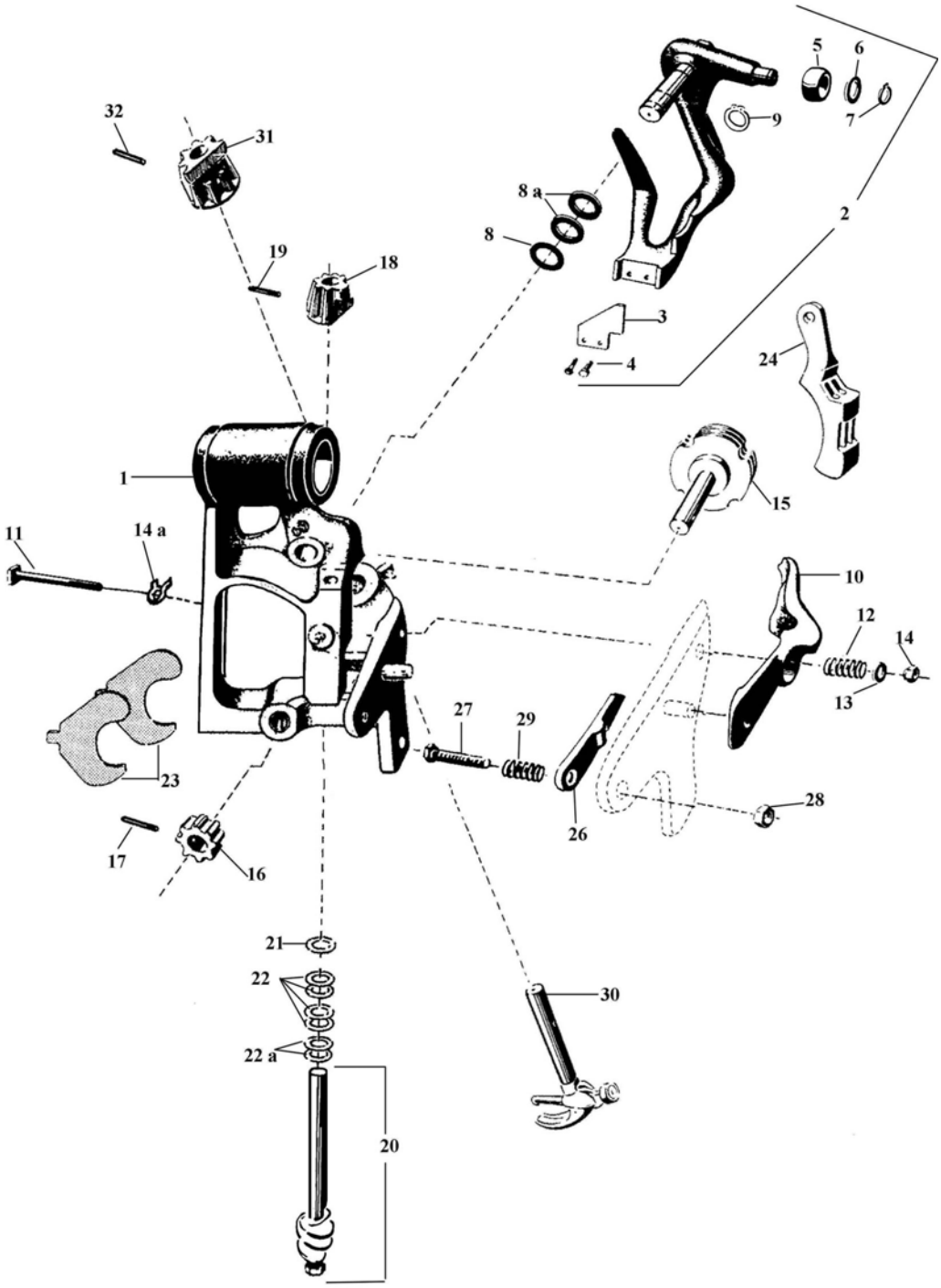
Abschnitt/
Section A 3

Bild-Nr./ Ref. No.	Teile-Nr./ Part-No.	Bestell.-Nr./ Order No.	Bezeichnung	Description
	200.6002.33	**52009**	Knoter, kpl.	knotter, cpt.
1	205.6002.30	**43045**	Knoterrahmen	frame
2	206.6030.02	**51984**	Messerhebel, kpl.	knife arm assy.
3	206.6059.10	**51145**	Garnmesser	twine knife
4	300.6010.51	**45512**	Sechskantschraube (2 St.)	bolt (2 pcs.)
5	206.3773.70	**43187.01**	Rolle	roller
6	342.0110.00	**45741**	Scheibe (2 St.)	spacer (2 pcs.)
7	206.3698.00	**43172**	Sicherungsring	circlip
8	342.6200.00	**45754**	Stützscheibe	spacer
8 a	342.6201.00	**45755**	Stützscheibe (2 St.)	spacer (2 pcs.)
9	207.7310.70	**43396.01**	Sicherungsring	circlip
10	206.6011.70	**43239.01**	Schliesser	jaw cam
12	206.6010.70	**43238.01**	Flachfeder	spring
13	340.0084.01	**45716**	Scheibe	spacer
14	331.1080.51	**45701**	Sechskantmutter	nut
15	206.6085.70	**43301.01**	Mitnehmer, kpl.	twine disc cpt.
16	206.3779.70	**43192.01**	Schneckenrad	worm pinion
17	346.1522.00	**45852**	Spiral-Spannstift	spring pin
18	206.3782.20	**51838**	Schneckentriebel	pinion
19	346.1522.00	**45852**	Spiral-Spannstift	spring pin
20	206.3780.75	**51156.01**	Schneckenwelle, kpl.	worm shaft assy.
21	342.0102.00	**45739**	Scheibe (1 bis 3 St.)	spacer (1 to 3 pcs.)
22	342.0105.00	**45740**	Scheibe (4 St.)	spacer (4 pcs.)
22 a	342.0110.00	**45741**	Scheibe (2 St.)	spacer (2 pcs.)
23	206.6012.02	**43240**	Reiniger (2 St.)	cleaner (2 pcs.)
24	206.3671.70	**43160.01**	Garnhalter	twine holder
26	206.3776.70	**43189.01**	Flachfeder (1 Paar)	spring (1 pair)
27	300.6325.51	**45531**	Sechskantschraube	bolt
28	330.1100.51	**45673**	Sechskantmutter	nut
29	206.6015.10	**51095**	Knoterhaken, kpl.	bill hook assy.
30	206.6127.01	**51446**	Hakentriebel	pinion
31	346.1522.00	**45852**	Spiral-Spannstift	spring pin
32	346.1545.00	**45854**	Spiral-Spannstift	spring pin

200.6004.31 / 51948

Ø= 35 mm

Abschnitt/
Section A 3



200.6004.31 / 51948

Ø= 35 mm

Abschnitt/ Section A 3

Bild-Nr./ Ref. No.	Teile-Nr./ Part-No.	Bestell-Nr./ Order No.	Bezeichnung	Description
	200.6004.31	**51948**	Knoter, kpl.	knotter, cpt.
1	205.6004.30	**43057**	Knoterrahmen	frame
2	206.6030.02	**51984**	Messerhebel, kpl.	knife arm assy.
3	206.6059.10	**51145**	Garnmesser	twine knife
4	300.6010.51	**45512**	Sechskantschraube (2 St.)	bolt (2 pcs.)
5	206.3773.70	**43187.01**	Rolle	roller
6	342.0110.00	**45741**	Scheibe (2 St.)	spacer (2 pcs.)
7	206.3698.00	**43172**	Sicherungsring	circlip
8	342.6200.00	**45754**	Stützscheibe	spacer
8 a	342.6201.00	**45755**	Stützscheibe (2 St.)	spacer (2 pcs.)
9	207.7310.70	**43396.01**	Sicherungsring	circlip
10	206.6011.70	**43239.01**	Schliesser	jaw cam
11	206.6024.70	**43257.01**	Schraube	bolt
12	206.3789.70	**43205.01**	Feder	spring
13	340.0084.01	**45716**	Scheibe	spacer
14	331.1080.51	**45701**	Sechskantmutter	nut
14 a	340.6140.01	**45726**	Scheibe	retaining ring
15	206.6085.70	**43301.01**	Mitnehmer, kpl.	twine disc, cpt.
16	206.3779.70	**43192.01**	Schneckenrad	worm pinion
17	346.1522.00	**45852**	Spiral-Spannstift	spring pin
18	206.3782.20	**51838**	Schneckentriebel	pinion
19	346.1522.00	**45852**	Spiral-Spannstift	spring pin
20	206.3780.75	**51156.01**	Schneckenwelle, kpl.	worm shaft assy.
21	342.0102.00	**45739**	Scheibe (1 bis 3 St.)	spacer (1 to 3 pcs.)
22	342.0105.00	**45740**	Scheibe (4 St.)	spacer (4 pcs.)
22 a	342.0110.00	**45741**	Scheibe (2 St.)	spacer (2 pcs.)
23	206.3783.72	**43200.01**	Reiniger (2 St.)	cleaner (2 pcs.)
24	206.3671.70	**43160.01**	Garnhalter	twine holder
26	206.6019.70	**47143.01**	Kipphebel	lever
27	206.6025.00	**43258**	Sechskantschraube	bolt
28	330.1100.51	**45673**	Sechskantmutter	nut
29	206.0620.70	**43105.01**	Feder	spring
30	206.6015.10	**51095**	Knoterhaken, kpl.	bill hook assy.
31	206.6127.01	**51446**	Hakentriebel	pinion
32	346.1522.00	**45852**	Spiral-Spannstift	spring pin

In der Regel werden 2 Knoter kombiniert mit:/As a rule 2 knotters are combined with:

Knotereinheit bestehend aus:/Knotter unit consist of:

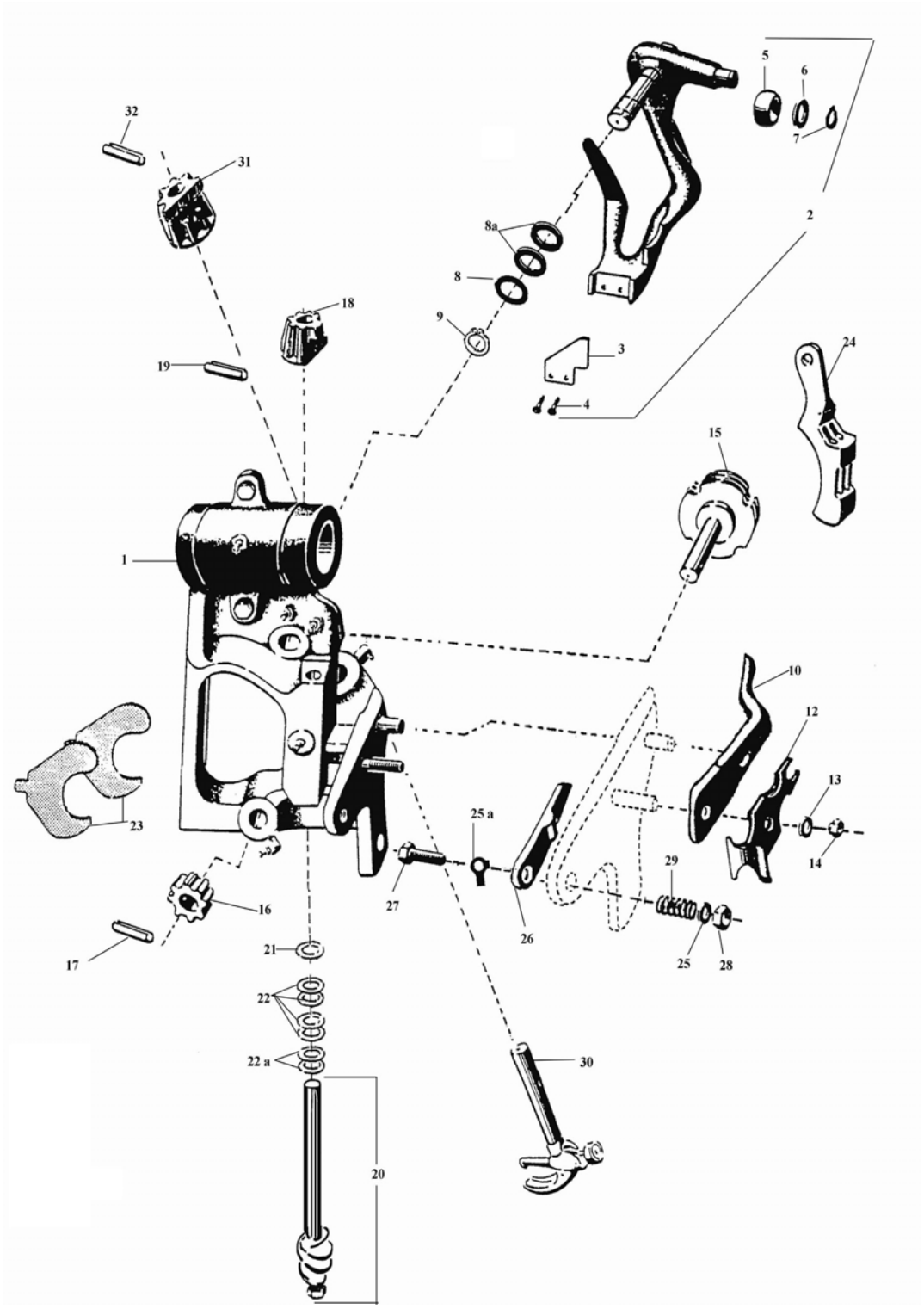
1 St./pcs. Knoterantriebsscheibe (rechts)/cam gear (r.h.) 205.3788.32/43035
= Satz-Nr./Set-No. 201.6004.04/51935

1 St./pcs. Knoterantriebsscheibe (links)/cam gear (l.h.) 205.6067.31/43071
= Satz-Nr./Set-No. 201.6004.05/51936

200.6006.32 / 42955

Ø= 35 mm

Abschnitt/
Section A 3



200.6006.32 / 42955

Ø= 35 mm

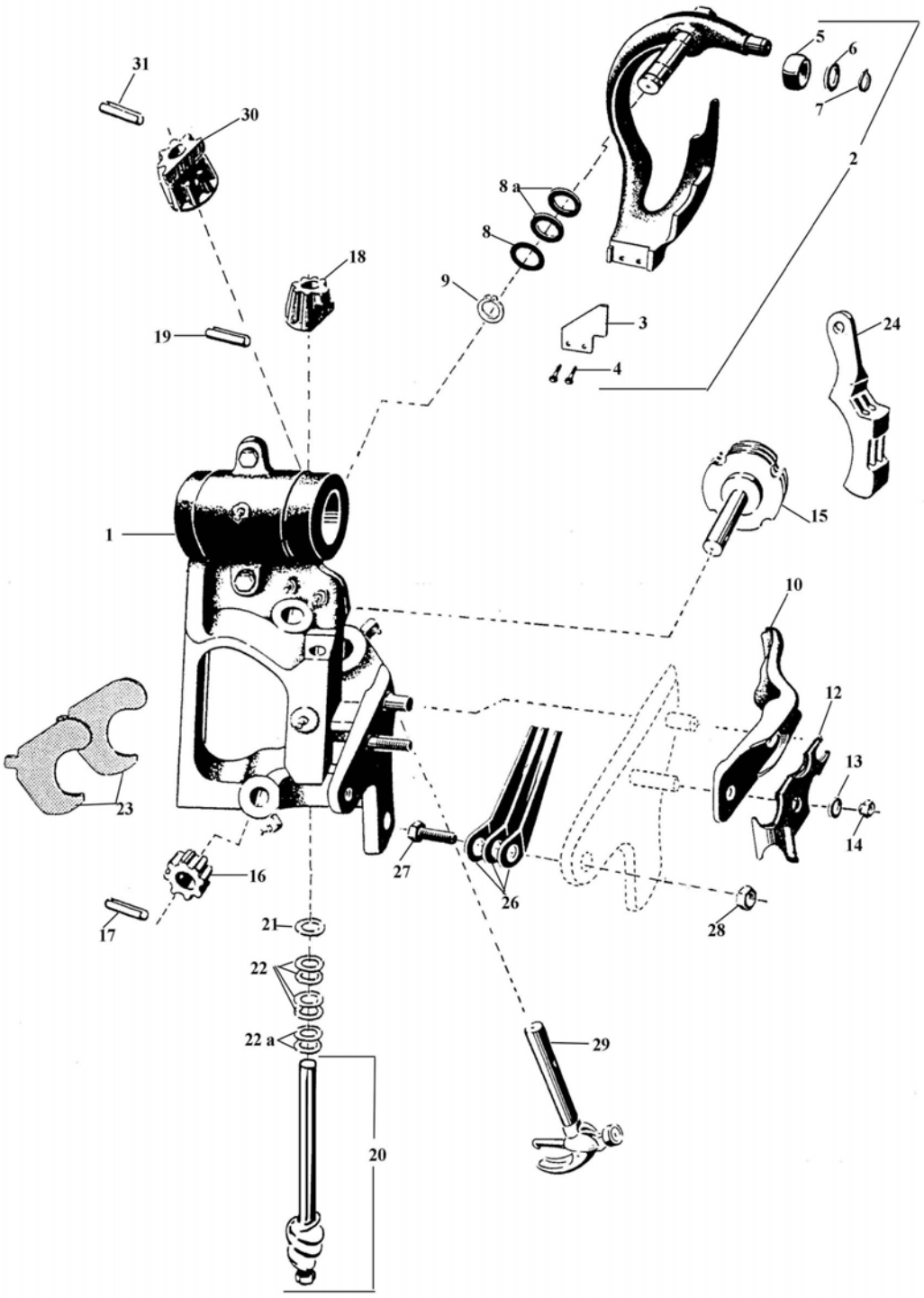
Abschnitt/
Section A 3

Bild-Nr./ Ref. No.	Teile-Nr./ Part-No.	Bestell-Nr./ Order No.	Bezeichnung	Description
	200.6006.32	**42955**	Knoter, kpl.	knotter, cpt.
1	205.6006.30	**43060**	Knoterrahmen,	frame
2	206.6060.05	**50971**	Messerhebel, kpl.	knife arm assy.
3	206.6059.10	**51145**	Garnmesser	twine knife
4	300.6010.51	**45512**	Sechskantschraube (2 St.)	bolt (2 pcs.)
5	206.3773.70	**43187.01**	Rolle	roller
6	342.0110.00	**45741**	Scheibe (2 St.)	spacer (2 pcs.)
7	206.3698.00	**43172**	Sicherungsring	circlip
8	342.6200.00	**45754**	Stützscheibe	spacer
8 a	342.6201.00	**45755**	Stützscheibe (2 St.)	spacer (2 pcs.)
9	207.7310.70	**43396.01**	Sicherungsring	circlip
10	206.6069.70	**43292.01**	Schliesser	jaw cam
12	206.6010.70	**43238.01**	Flachfeder (2 St.)	spring (2 pcs.)
13	340.0084.01	**45716**	Scheibe	spacer
14	331.1080.51	**45701**	Sechskantmutter	nut
15	206.6085.70	**43301.01**	Mitnehmer, kpl.	twine disc, cpt.
16	206.3779.70	**43192.01**	Schneckenrad	worm pinion
17	346.1522.00	**45852**	Spiral-Spannstift	spring pin
18	206.3782.20	**51838**	Schneckentriebel	pinion
19	346.1522.00	**45852**	Spiral-Spannstift	spring pin
20	206.3780.75	**51156.01**	Schneckenwelle, kpl.	worm shaft assy.
21	342.0102.00	**45739**	Scheibe (1 bis 3 St.)	spacer (1 to 3 pcs.)
22	342.0105.00	**45740**	Scheibe (4 St.)	spacer (4 pcs.)
22 a	342.0110.00	**45741**	Scheibe (2 St.)	spacer (2 pcs.)
23	206.3783.72	**43200.01**	Reiniger (2 St.)	cleaner (2 pcs.)
24	206.3671.70	**43160.01**	Garnhalter	twine holder
25	340.0084.01	**45716**	Scheibe	spacer
25 a	340.6140.01	**45726**	Scheibe	retaining ring
26	206.6019.70	**47143.01**	Kipphebel	lever
27	206.6024.70	**43257.01**	Schraube	bolt
28	331.1080.51	**45701**	Sechskantmutter	nut
29	206.0823.70	**43120.01**	Feder	spring
30	206.6035.10	**43263**	Knoterhaken, kpl.	bill hook assy.
31	206.6127.01	**51446**	Hakentriebel	pinion
32	346.1522.00	**45852**	Spiral-Spannstift	spring pin

200.6006.39 / 42957

Ø= 35 mm

Abschnitt/
Section A 3



200.6006.40 / 42957.01

Ø= 35 mm

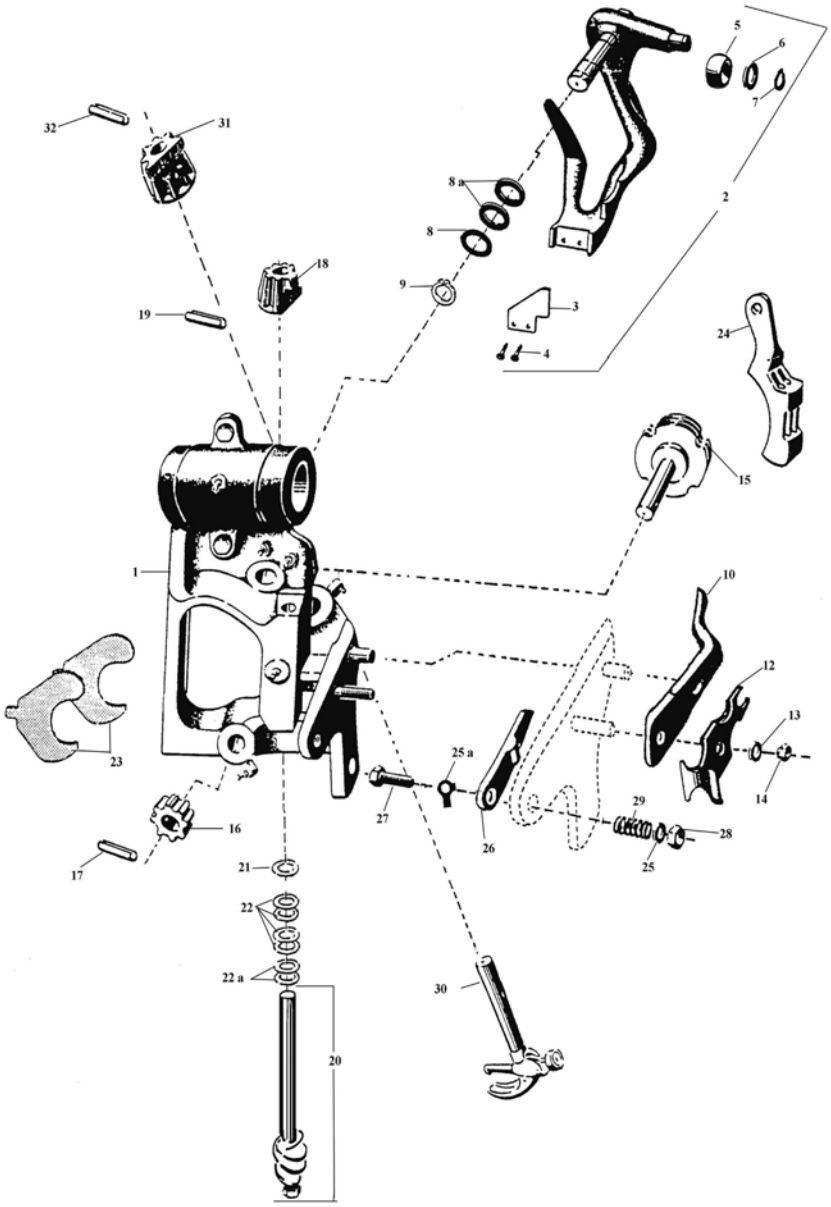
Abschnitt/
Section A 3

Bild-Nr./ Ref. No.	Teile-Nr./ Part-No.	Bestell-Nr./ Order No.	Bezeichnung	Description
	200.6006.40	**42957.01**	Knoter, kpl.	knotter, cpt.
1	205.6006.35	**43061**	Knoterrahmen	frame
2	206.3692.05	**51079.01**	Messerhebel, kpl.	knife arm assy.
3	206.6059.10	**51145**	Garnmesser	twine knife
4	300.6010.51	**45512**	Sechskantschraube (2 St.)	bolt (2 pcs.)
5	206.3773.70	**43187.01**	Rolle	roller
6	342.0110.00	**45741**	Scheibe (2 St.)	spacer (2 pcs.)
7	206.3698.00	**43172**	Sicherungsring	circlip
8	342.6200.00	**45754**	Stützscheibe	spacer
8 a	342.6201.00	**45755**	Stützscheibe (2 St.)	spacer (2 pcs.)
9	207.7310.70	**43396.01**	Sicherungsring	circlip
10	206.6011.70	**43239.01**	Schliesser	jaw cam
12	206.6010.70	**43238.01**	Flachfeder (2 St.)	spring (2 pcs.)
13	340.0084.01	**45716**	Scheibe	spacer
14	331.1080.51	**45701**	Sechskantmutter	nut
15	206.6085.70	**43301.01**	Mitnehmer, kpl.	twine disc, cpt.
16	206.3779.70	**43192.01**	Schneckenrad	worm pinion
17	346.1522.00	**45852**	Spiral-Spannstift	spring pin
18	206.3782.20	**51838**	Schneckentriebel	pinion
19	346.1522.00	**45852**	Spiral-Spannstift	spring pin
20	206.3780.75	**51156.01**	Schneckenwelle, kpl.	worm shaft assy.
21	342.0102.00	**45739**	Scheibe (1 – 3 St.)	spacer (1 to 3 pcs.)
22	342.0105.00	**45740**	Scheibe (4 St.)	spacer (4 pcs.)
22 a	342.0110.00	**45741**	Scheibe (2 St.)	spacer (2 pcs.)
23	206.3783.72	**43200.01**	Reiniger (2 St.)	cleaner (2 pcs.)
24	206.3671.70	**43160.01**	Garnhalter	twine holder
26	206.3776.70	**43189.01**	Flachfeder (2 Paar, eingebaut nur 3 St)	spring (2 pairs, fitted up 3 pcs. only)
27	300.6330.51	**45532**	Sechskantschraube	bolt
28	330.1100.51	**45673**	Sechskantmutter	nut
29	206.6015.20	**51142**	Knoterhaken, kpl.	bill hook assy.
30	206.6127.01	**51446**	Hakentriebel	pinion
31	346.1522.00	**45852**	Spiral-Spannstift	spring pin

200.6006.56 / 42962

Ø= 40 mm

Abschnitt/
Section A 3



200.6006.56 / 42962

Ø= 40 mm

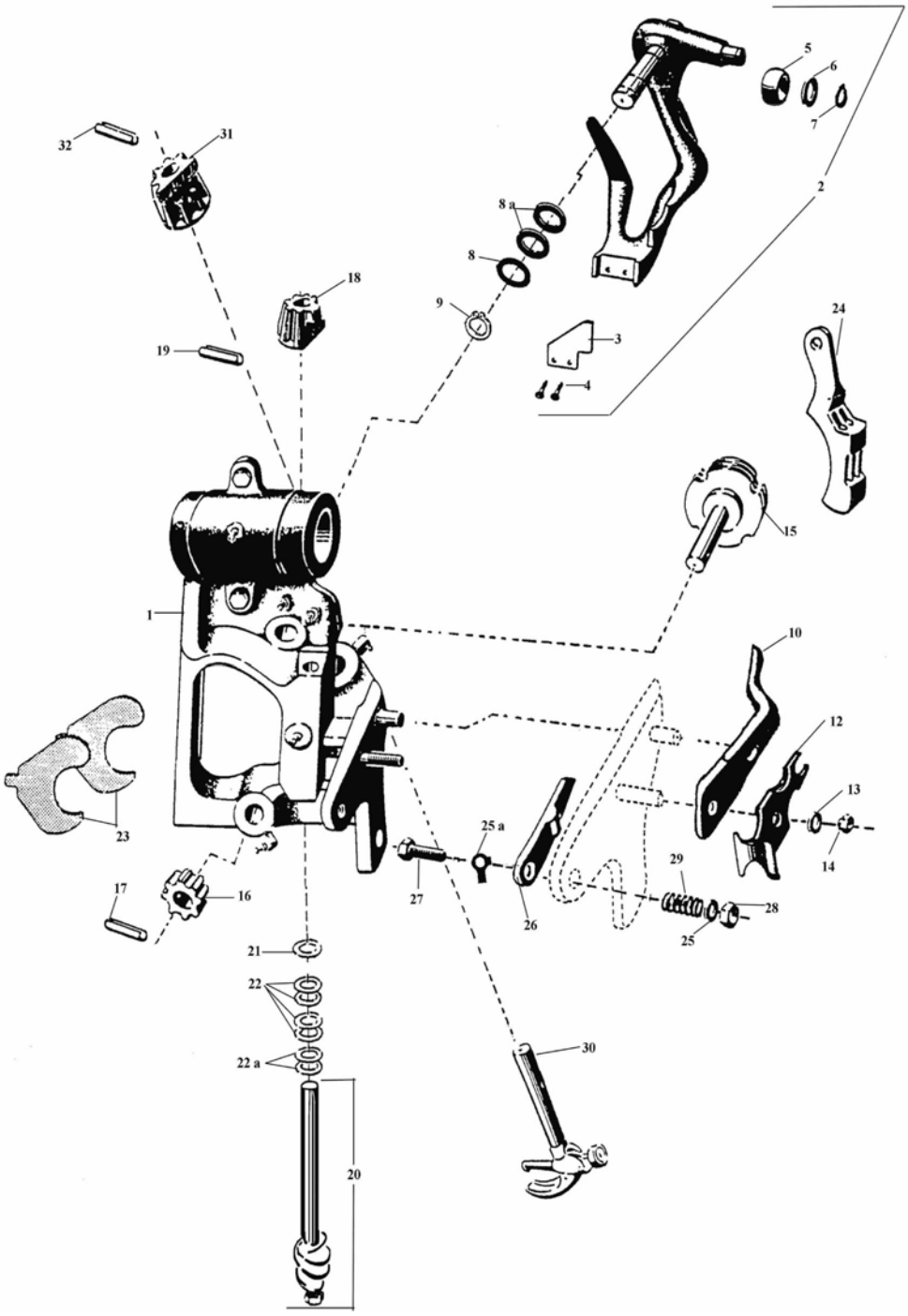
Abschnitt/
Section A 3

Bild-Nr./ Ref. No.	Teile-Nr./ Part-No.	Bestell-Nr./ Order No.	Bezeichnung	Description
	200.6006.56	**42962**	Knoter, kpl.	knotter, cpt.
1	205.6006.51	**43063**	Knoterrahmen	frame
2	206.6060.05	**50971**	Messerhebel, kpl.	knife arm assy.
3	206.6059.10	**51145**	Garnmesser	twine knife
4	300.6010.51	**45512**	Sechskantschraube (2 St.)	bolt (2 pcs.)
5	206.3773.70	**43187.01**	Rolle	roller
6	342.0110.00	**45741**	Scheibe (2 St.)	spacer (2 pcs.)
7	206.3698.00	**43172**	Sicherungsring	cirlip
8	342.6200.00	**45754**	Stützscheibe	spacer
8 a	342.6201.00	**45755**	Stützscheibe (2 St.)	spacer (2 pcs.)
9	207.7310.70	**43396.01**	Sicherungsring	circlip
10	206.6069.70	**43292.01**	Schliesser	jaw cam
12	206.6010.70	**43238.01**	Flachfeder (2 St.)	spring (2 pcs.)
13	340.0084.01	**45716**	Scheibe	spacer
14	331.1080.51	**45701**	Sechskantmutter	nut
15	206.6085.70	**43301.01**	Mitnehmer, kpl.	twine disc, cpt.
16	206.3779.70	**43192.01**	Schneckenrad	worm pinion
17	346.1522.00	**45852**	Spiral-Spannstift	spring pin
18	206.3782.20	**51838**	Schneckentriebel	pinion
19	346.1522.00	**45852**	Spiral-Spannstift	spring pin
20	206.3780.75	**51156.01**	Schneckenwelle, kpl.	worm shaft assy.
21	342.0102.00	**45739**	Scheibe (1 – 3 St.)	spacer (1 to 3 pcs.)
22	342.0105.00	**45740**	Scheibe (4 St.)	spacer (4 pcs.)
22 a	342.0110.00	**45741**	Scheibe (2 St.)	spacer (2 pcs.)
23	206.3783.72	**43200.01**	Reiniger (2 St.)	cleaner (2 pcs.)
24	206.3671.70	**43160.01**	Garnhalter	twine holder
25	340.0084.01	**45716**	Scheibe	spacer
25 a	340.6140.01	**45726**	Scheibe	retaining ring
26	206.6019.70	**47143.01**	Kipphebel	lever
27	206.6024.70	**43257.01**	Schraube	bolt
28	331.1080.51	**45701**	Sechskantmutter	nut
29	206.0823.70	**43120.01**	Feder	spring
30	206.6037.03	**43267**	Knoterhaken, kpl.	bill hook, assy..
31	206.6127.01	**51446**	Hakentriebel	pinion
32	346.1522.00	**45852**	Spiral-Spannstift	spring pin

200.6006.55 / 42961

Ø= 40 mm

Abschnitt/
Section A 3



200.6006.55 / 42961

Ø= 40 mm

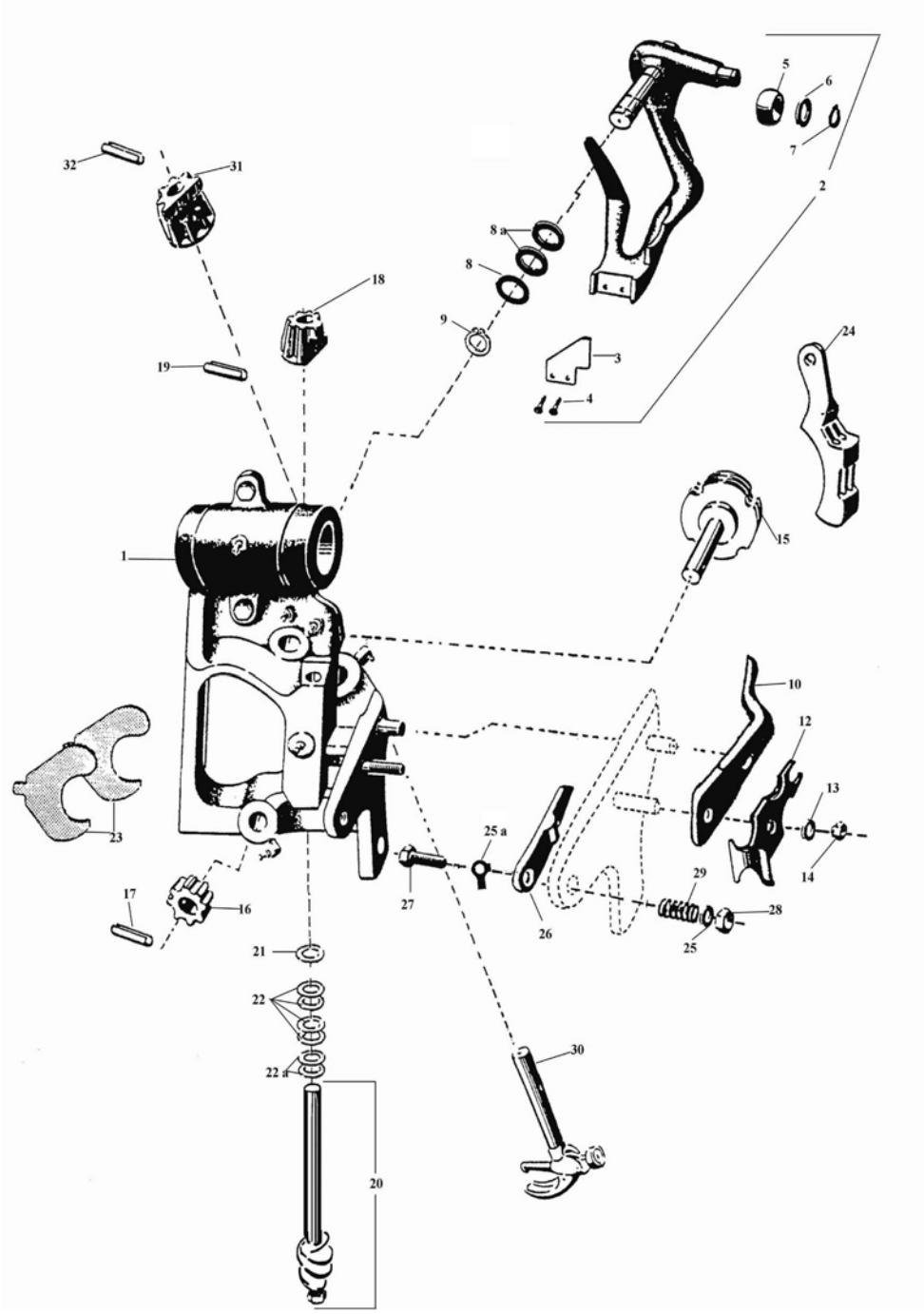
Abschnitt/
Section A 3

Bild-Nr./ Ref. No.	Teile-Nr./ Part-No.	Bestell-Nr./ Order No.	Bezeichnung	Description
	200.6006.55	**42961**	Knoter, kpl.	knotter, cpt.
1	205.6006.55	**43064**	Knoterrahmen	frame
2	206.6060.05	**50971**	Messerhebel, kpl.	knife arm assy.
3	206.6059.10	**51145**	Garnmesser	twine knife
4	300.6010.51	**45512**	Sechskantschraube (2 St.)	bolt (2 pcs.)
5	206.3773.70	**43187.01**	Rolle	roller
6	342.0110.00	**45741**	Scheibe (2 St.)	spacer (2 pcs.)
7	206.3698.00	**43172**	Sicherungsring	circlip
8	342.6200.00	**45754**	Stützscheibe	spacer
8 a	342.6201.00	**45755**	Stützscheibe (2 St.)	spacer (2 pcs.)
9	207.7310.70	**43396.01**	Sicherungsring	circlip
10	206.6069.70	**43292.01**	Schliesser	jaw cam
12	206.6010.70	**43238.01**	Flachfeder (2 St.)	spring (2 pcs.)
13	340.0084.01	**45716**	Scheibe	spacer
14	331.1080.51	**45701**	Sechskantmutter	nut
15	206.6085.70	**43301.01**	Mitnehmer, kpl.	twine disc, cpt.
16	206.3779.70	**43192.01**	Schneckenrad	worm pinion
17	346.1522.00	**45852**	Spiral-Spannstift	spring pin
18	206.3782.20	**51838**	Schneckentriebel	pinion
19	346.1522.00	**45852**	Spiral-Spannstift	spring pin
20	206.3780.75	**51156.01**	Schneckenwelle, kpl.	worm shaft assy.
21	342.0102.00	**45739**	Scheibe (1 – 3 St.)	spacer (1 to 3 pcs.)
22	342.0105.00	**45740**	Scheibe (4 St.)	spacer (4 pcs.)
22 a	342.0110.00	**45741**	Scheibe (2 St.)	spacer (2 pcs.)
23	206.3783.72	**43200.01**	Reiniger (2 St.)	cleaner (2 pcs.)
24	206.3671.70	**43160.01**	Garnhalter	twine holder
25	340.0084.01	**45716**	Scheibe	spacer
25 a	340.6140.01	**45726**	Scheibe	retaining ring
26	206.6019.70	**47143.01**	Kipphebel	lever
27	206.6024.70	**43257.01**	Schraube	bolt
28	331.1080.51	**45701**	Sechskantmutter	nut
29	206.0823.70	**43120.01**	Feder	spring
30	206.6035.10	**43263**	Knoterhaken, kpl.	bill hook assy.
31	206.6127.01	**51446**	Hakentriebel	pinion
32	346.1522.00	**45852**	Spiral-Spannstift	spring pin

200.6006.58 / 51223

Ø= 40 mm

Abschnitt/
Section A 3



200.6006.59 / 52083

Ø= 40 mm

Abschnitt/
Section A 3

Bild-Nr./ Ref. No.	Teile-Nr./ Part-No.	Bestell-Nr./ Order No.	Bezeichung	Description
	200.6006.59	**52083**	Knoter, kpl.	knotter, cpt.
1	205.6006.53	**51224**	Knoterrahmen	frame
2	206.6060.08	**51165.01**	Messerhebel, kpl.	knife arm assy.
3	206.6059.10	**51145**	Garnmesser	twine knife
4	300.6010.51	**45512**	Sechskantschraube (2 St.)	bolt (2 pcs.)
5	206.3773.70	**43187.01**	Rolle	roller
6	342.0110.00	**45741**	Scheibe (2 St.)	spacer (2 pcs.)
7	206.3698.00	**43172**	Sicherungsring	circlip
8	342.6200.00	**45754**	Stützscheibe	spacer
8 a	342.6201.00	**45755**	Stützscheibe (2 St.)	spacer (2 pcs.)
9	207.7310.70	**43396.01**	Sicherungsring	circlip
10	206.6069.70	**43292.01**	Schliesser	jaw cam
12	206.6010.70	**43238.01**	Flachfeder (2 St.)	spring (2 pcs.)
13	340.0084.01	**45716**	Scheibe	spacer
14	331.1080.51	**45701**	Sechskantmutter	bolt
15	206.6085.70	**43301.01**	Mitnehmer, kpl.	twine disc, cpt.
16	206.3779.70	**43192.01**	Schneckenrad	worm pinion
17	346.1522.00	**45852**	Spiral-Spannstift	spring pin
18	206.3782.20	**51838**	Schneckentriebel	pinion
19	346.1522.00	**45852**	Spiral-Spannstift	spring pin
20	206.3780.75	**51156.01**	Schneckenwelle, kpl.	worm shaft assy.
21	342.0102.00	**45739**	Scheibe (1 – 3 St.)	spacer (1 to 3 pcs.)
22	342.0105.00	**45740**	Scheibe (4 St.)	spacer (4 pcs.)
22 a	342.0110.00	**45741**	Scheibe (2 St.)	spacer (2 pcs.)
23	206.3783.72	**43200.01**	Reiniger (2 St.)	cleaner (2pcs.)
24	206.3671.70	**43160.01**	Garnhalter	twine holder
25	340.0084.01	**45716**	Scheibe	spacer
25 a	340.6140.01	**45726**	Scheibe	retaining ring
26	206.6019.70	**47143.01**	Kipphebel	lever
27	206.6024.70	**43257.01**	Schraube	bolt
28	331.1080.51	**45701**	Sechskantmutter	nut
29	206.0823.70	**43120.01**	Feder	spring
30	206.6035.10	**43263**	Knoterhaken, kpl.	bill hook assy.
31	206.6127.01	**51446**	Hakentriebel	pinion
32	346.1522.00	**45852**	Spiral-Spannstift	spring pin

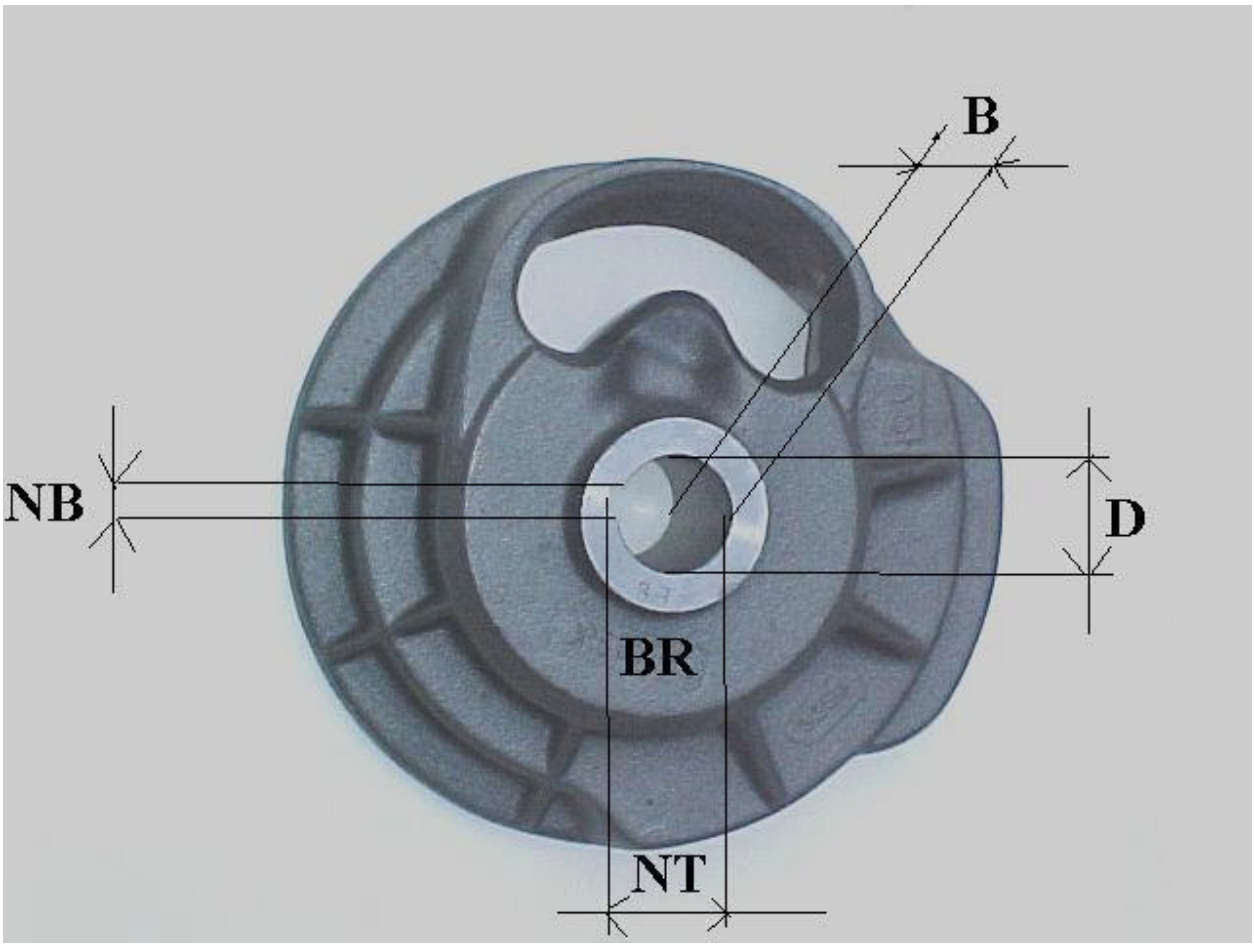
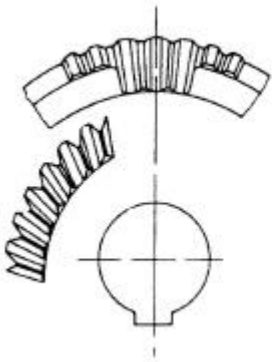


Abb./Fig. 7

Lage der Keilnut P
Position of Keyway P

Position I



Position II

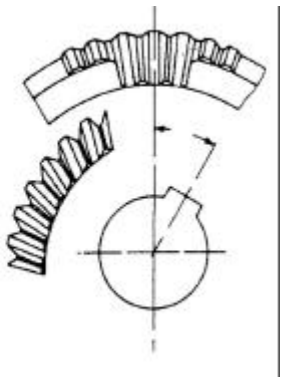


Abb./Fig. 8

Alle Maßangaben in mm/all dimensions in mm

Teile-Nr. **Ref.-No.**	**Bestell-Nr.** **Order-No.**	**D**	**NB**	**NT**	**B**	**P** **I**	 **II**
205.3664.20	**43018**	30	-	-	45,50	-	-
205.3665.21	**43019**	30	8 P 9	33,5	54,75	I	-
205.3788.11	**43031**	28	8 P 9	31,5	54,75	I	-
205.3788.21	**43033**	30	8 P 9	33,5	54,75	I	-
205.3788.22	**43034**	30	10 P 9	33,5	54,75	I	-
205.3788.32	**43035**	35	10 P 9	38,5	47,50	I	-
205.3788.33	**43036**	35	10 P 9	38,2/38,0	47,00	I	-
205.6051.31	**43067**	35	10 P 9	38,5	54,75	I	-
205.6051.32	**43068**	35	10 P 9	38,5	47,50	I	-
205.6061.52	**43070**	40	12 P 9	43,5	74,00	-	90°
205.6067.31	**43071**	35	10 P 9	38,5	74,00	I	-
205.6068.32	**43072**	35	10 P 9	38,5	47,50	I	-
205.6068.38	**43073**	35	3/8 J 9	39,0	47,50	-	30°
205.6069.50	**43075**	40	12 P 9	43,5	68,00	-	90°
205.6108.51	**43080**	40	12 P 9	43,5	171,5	-	90°

Bei Ersatzteil-Bestellungen von Knoter-Antriebsscheiben wird um folgende Angaben gebeten, siehe auch Skizze (Abb. 7+8):

For replacement orders of cam gears please give the following details, see also Fig. 7+8:

- Nummer BR der Baureihe / Series No.
- Durchmesser D der Bohrung für die Bindewelle /Dia. D for the knotter shaft
- Breite NB der Bohrungsnut/ Width NB of Keyway
- Tiefe NT der Bohrungsnut/ Depth NT of Keyway
- Breite B der Nabe, die die Bohrung für die Bindewelle aufnimmt/Hub width B for the knotter shaft
- Position P der Bohrungsnut/Position P of Keyway
- Modellbezeichung der Presse/ Baler model

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Hochdruck-HDC-Doppelknoter High-Density-HDC-Double-Knotters	C

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High-Density-HDC-Single-Knotters

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Ersatzteillisten/Spare Parts Lists	B3	B 3- 3

passend zu/ to fit	**Ø Bindewelle shaft dia. (mm)**	
200.6101.63/42963 u. 201.6100.05/42989 Knoter, kpl./knotter, cpt.	40	B 3- 3
200.6101.64/42964 u. 201.6100.08/42991knotter, kpl./knotter, cpt.	40	B 3- 5

- **Nachdruck – auch auszugsweise – ist ohne schriftliche Genehmigung nicht gestattet.**
- **Farbabweichungen zum Original behalten wir uns aus techn. Gründen vor.**
- **Alle Maßangaben (mm) sind unverbindlich und nur zur Orientierung. Techn. Änderungen behalten wir uns vor.**

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- **For technical reasons, colours are subject to variation from the original.**
- **Dimensions (mm) shown are for information only and are subject to technical alterations.**

Series 6100

Fig. 1

1. Knotter Applications

The twine knotter model RS 6100 is suitable for the installation in big balers for square baling which are in use for picking up hay and straw. As a rule this baler type is equipped with 4 to 6 knotter units.

2. Models

This series knotter is pivoted and axially secured to slide on a hub, which is positioned on the toothing face of the cam gear and tightly coupled with it. The pre-assembled knotter units can be easy put on the knotter shaft of a baler, aligned and fastened. These units are known under the term HDC-Knotters; HDC is the abbreviation for Heavy Duty Combination.

For maintenance this series knotter allows the knotter frame to be taken off the cam gear hub by disassembling the frame bearing cap.

The hub length of this special gam gear measures 171,5 mm. This also is the minimum distance between the twine strands twining around the bales.

3. Baler Twine

The Rasspe HDC-Single-Knotter has been designed to use baler twine readily available on the market, as shown in the table below:

Baler-Twine	Twine Runnage (m/kg)	knot strength (N) / (kp)
Sisal	70 – 100	approx. 1650 /165
Synthetic	120 – 150	approx. 2000/ 200

4. Setting Instructions

4.1 Bill Hook

The bill hook (fig. 4) is pressed shut by the jaw cam, which is controlled by a spring in tension (fig. 2). The spring force can be adjusted by means of the hex. nut (fig. 2).

If the bill hook mouth clamps the twine to tightly, the knot will jam in the mouth after beeing stripped off by the knife arm, the twine strand will break.

If the bill hook mouth does not clamp the twine tightly enough, there will either be no knot at all or only loose loops of twine, which will not hold under tension. Fig. 5 shows a correctly knotted twine strand.

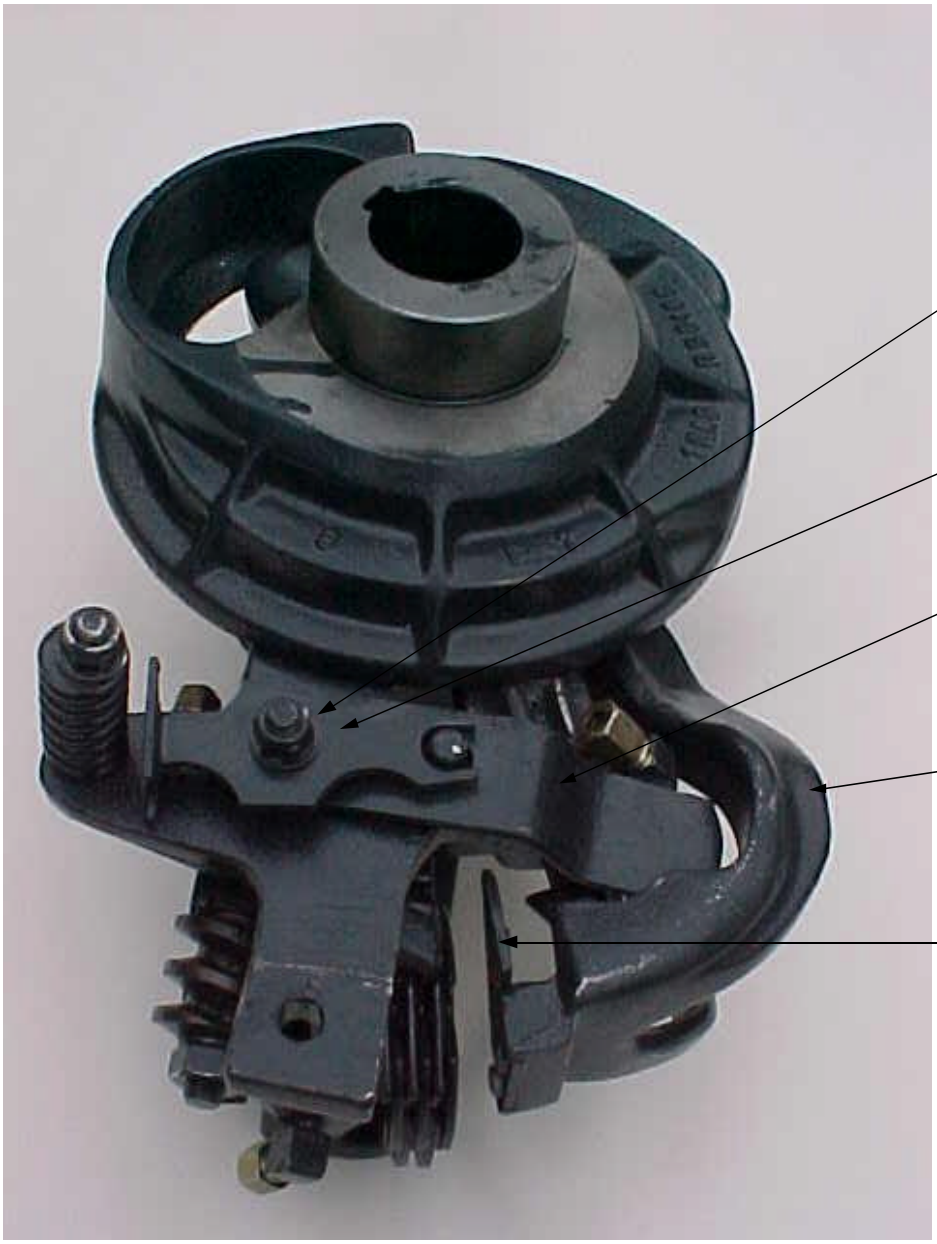

hex. nut (max. width across flats: 13 mm)
flat spring
jaw cam
knife arm
twine knife, screwed on with 2 hex. bolts (max. width across flats: 7 mm)

Fig. 2

spacers
retaining ring
cleaner
twine disc assy.
twine holder
helical compression spring
hex. nut (max. width across flats: 13 mm)
worm
hex. nut (max. width across flats: 17 mm, due to standard changes in future 16 mm)

Fig. 3

4.2 Twine Clamping

The twine disc assembly (fig. 3) must be set in such a way that, in its inoperative positi-on, a section of the arched twine guiding edge of the cleaner disc engages 0 to 2 mm in a crescent-shaped notch of the disc assembly. After two tying cycles the outline of the said disc assy. notch and that of the twine holder run in one another. This will ensure that the already clamped and the other twine strand, which is fed by the baler needle, are psitioned correctly in this trough-shaped opening.

To adjust the twine disc assy. it is necessary to loosen the worm which is clamped to the cone of the worm shaft. To do so, unscrew the hex. nut (fig. 3) until one of its faces is approx. 1 mm off the end of the worm shaft. Tap the nut gently with a hammer to re-lease the worm. The correct notch position may now be found by turning the disc. as-sy.. After adjusting, the hex. nut must be retightened at 2,5 mkg approx. 25 Nm approx. 18,44 lbf-ft.

To adjust the twine clamping force turn the hex. bolt resp. the hex. nut (fig. 3). This ap-plies pressure to the twine holder via a coil spring in conjunction with a tilting lever.

The twine strand presently in the knotter should only be held tightly enough to prevent it slipping out of the clamping device during the tying cycle. If the strands are helt too tightly they will tear or fray. Furthermore the tongue of the bill hook can be excessively loaded by which it may bent out of shape.

The clamping force required will need adjusting proportionally as the bale weight or density increases. The actual type of material to be baled, its moisture content and the choice of twine will all influence these settings. It is therefore necessary to adopt a trial-and-error approach.

4.3 Knife Arm

The knife arm (fig. 2 + 4) will require setting in such a way that the bill hook can rotate freely without coming into contact with any area of the knife arm. The stripping cam of the arm must slide smoothly over the surface of the bill hook head, but be in contact with it.

In the outer dead position of the knife arm the distance between the stripping cam and the tip of the bill hook should be 15—18 mm. The knife arm is at its outer dead position when the knife arm roller reaches the peak of the cam on the cam gear.

In order to set the knife arm it is necessary to release the knotter frame on the baler chamber and to swivel the knotter upwards around the hub of the cam gear. To bend the knife arm use an appropriate setting tool, approx. 400 mm long with a forked end to enable the knife arm to be gripped. Very solid knife arm models will have to removed and adjusted using special tools and devices. If necessary, exchange for a new knife arm.

The twine guiding areas of the knife arm (fig. 4) must always be kept smooth to prevent twine breakages. As soon as wear (grooves) becomes apparent, which cannot be removed without damaging the shape of the part, the knife arm must be replaced; that applies particularly to the V-shaped twine guiding area.

When the knotter with fitted knife arm is swiveled back and forth , it can be observed how the stripping cam slides backwards and forwards over the bill hook head. If necessary the cam can be set to the bill hook with gentle blows of a hammer.

The twine knife must be replaced by a new one as soon as the cut ends of the twine appear irregularly long; according to the chosen twine type the knot ends can be even frayed.

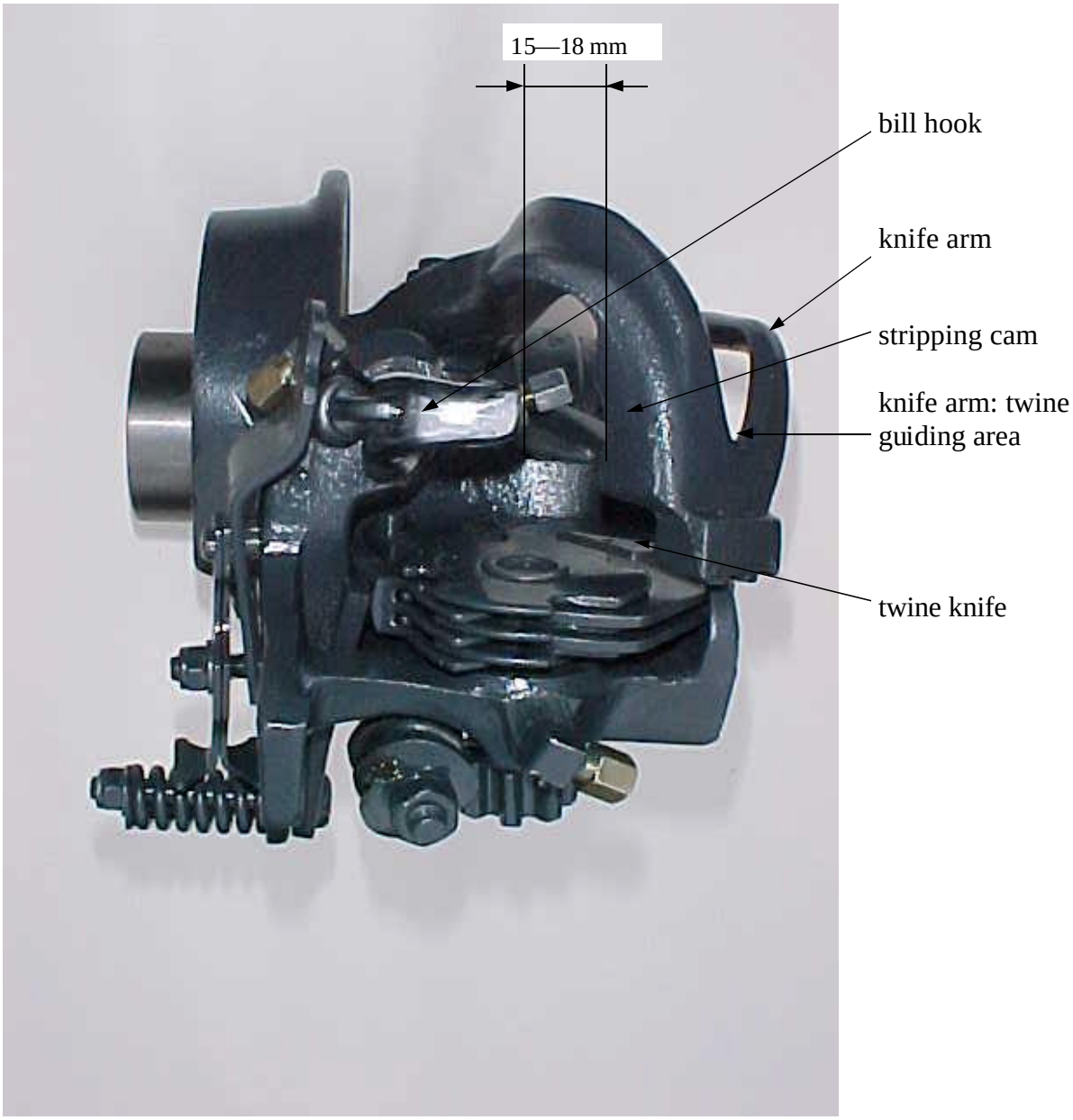

15—18 mm
bill hook
knife arm
stripping cam
knife arm: twine guiding area
twine knife

Fig. 4

4.4 Knotter Unit

The knotter and the belonging cam gear are fitted together before the unit is installed on the knotter shaft of the baler. For this, the knotter is shoved over the long hub of the cam gear until the sliding surfaces of both pinions come into contact with that of the cam gear. The gap being arisen between the hub face of the knotter frame and the collar of the cam gear has to be filled up with flat shims in such a way that a play arises between the sliding surfaces of both pinions and that of the cam gear, which can be measured with a caliper gauge. This play must be greater than zero; however, 0,4 mm should not be exceeded. This play must also be kept when pivoting the knotter around the hub of the cam gear.

After adaption of the knotter and the cam gear as instructed, the knotter must be secured by inserting flat shims and an external retaining ring against axial displacement in such a way that the knotter can be easily swivelled; any axial play is not allowable.

When assembling the knotter shaft of the baler, the axial play between all components on the shaft should be kept extremly low. The intended positions of the knotter units and their distances to each other are to be achieved by inserting flat shims if necessary.

Fig. 5

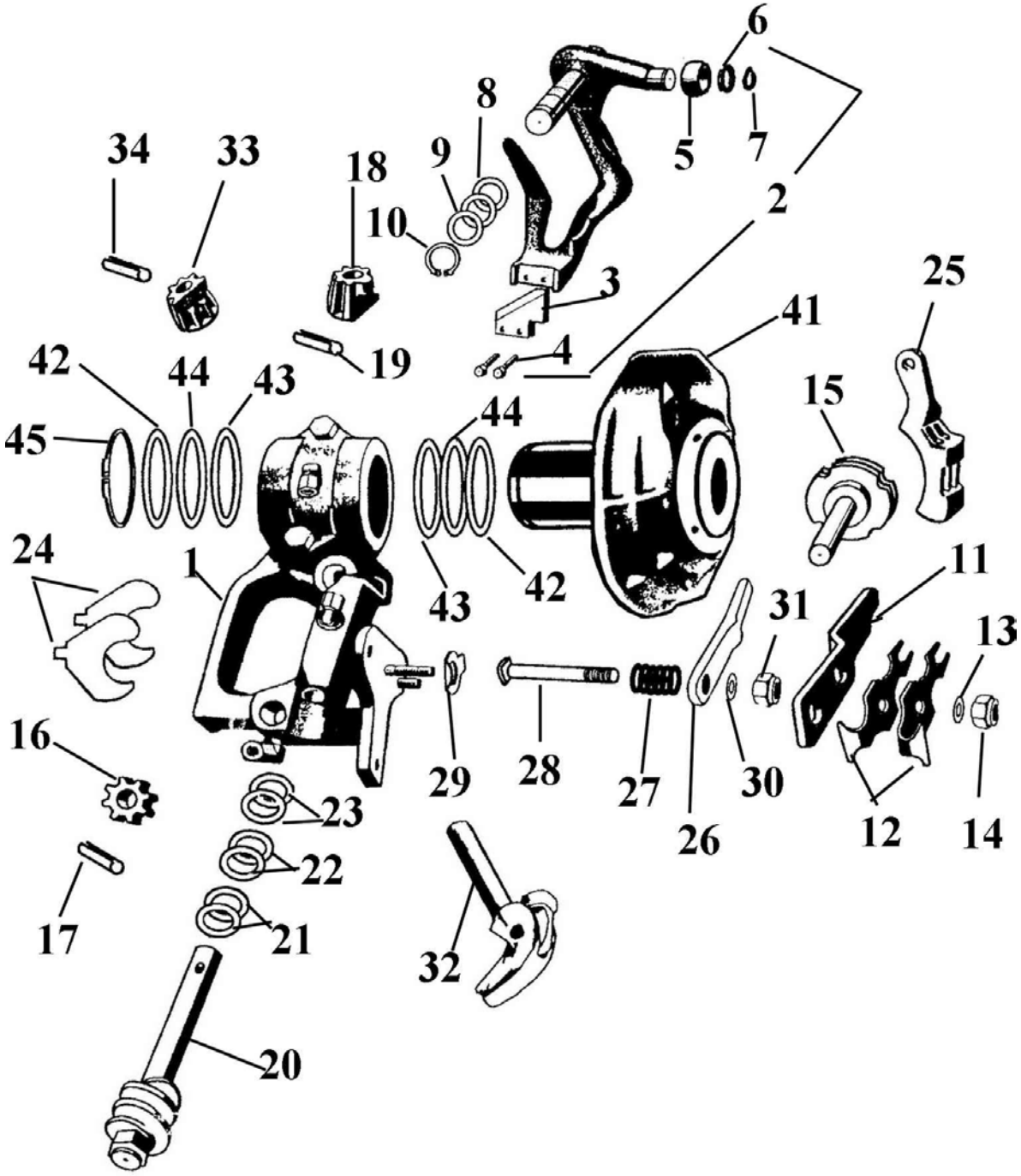
5. Knotter Lubrication

The lubricating points of the knotter will require greasing either over grease nippels by means of a grease gun or over a central lubrication system. Installed grease nippels must be greased on a daily basis before the baler is run in the field in order to maintain a trouble-free knotter function. It is advisable to apply a soft multi-purpose grease, preferably on the basis of lime or lithium soaps according to a grade 2 or 3 consistency. We do not recommend using lubricants of any other type because of fretting corrosion which may occur in compound with water; mating surfaces of the components can be affected.

The sliding and running surfaces as well as the toothing on the cam gears must be lightly greased. This also includes all knotter units connecting to the central lubricating system of the baler. Surplus of grease and baling material as well as dust must be removed before greasing.

6. General Comments

The knotting reliability depends not only on the correct function of the Rasspe knotters and the use of quality baler twine, but also on the smooth mode of operation of all baler components taking part in the tying cycle. With respect to the above, the twine fingers on the bale channel, the needles, the twine tighteners and the various twine guiding eye-lets must be set properly. These points are dealt with in the operating instructions supplied by the manufacturers of the balers. Please read them carefully!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200.6101.67/51179.01 u. 201.6100.10/51167.01

Ø= 40 mm

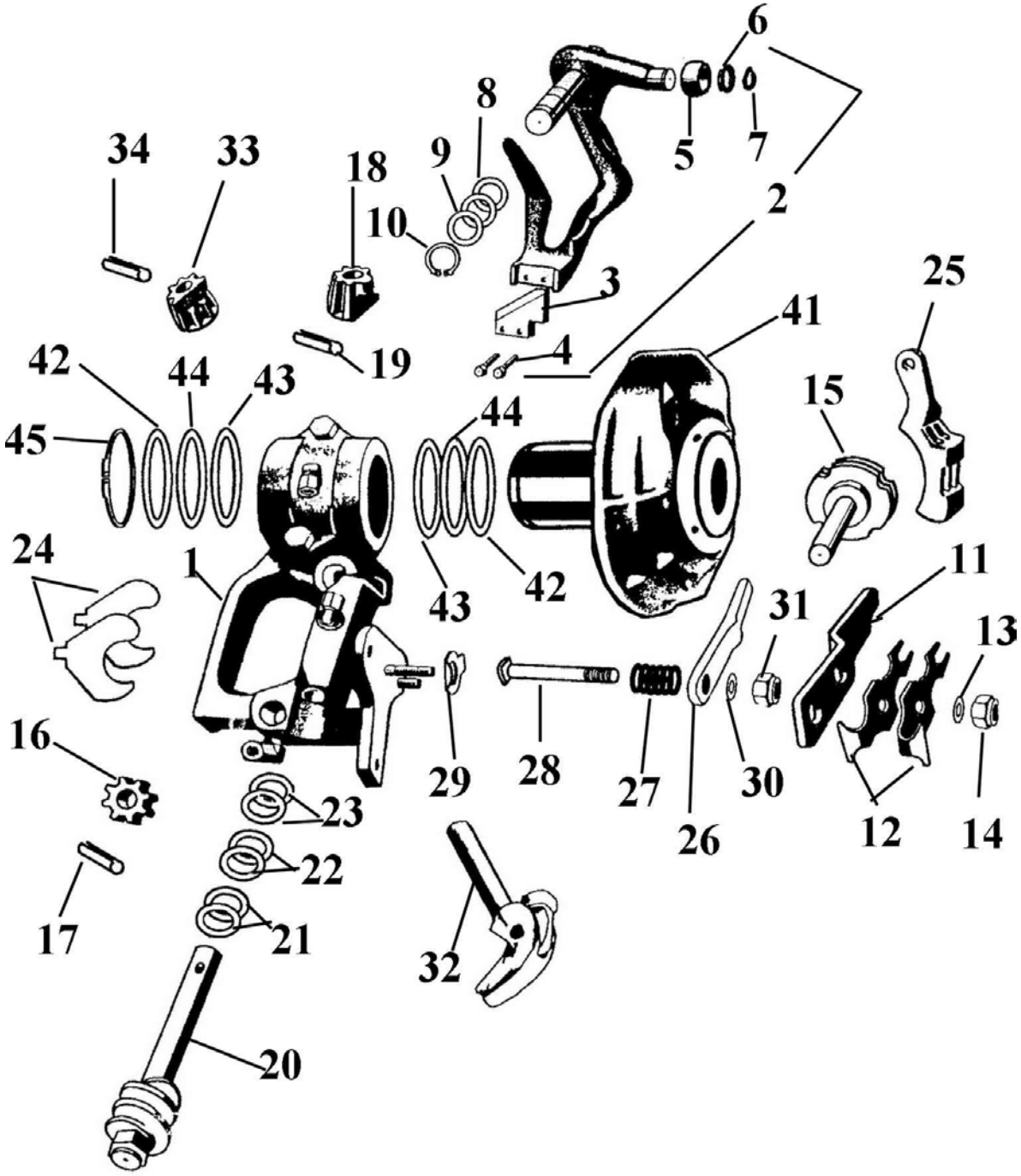
Abschnitt/
Section B 3

Bild-Nr./ Ref. No.	Teile-Nr./ Part-No.	Bestell-Nr./ Order No.	Bezeichung	Description
	200.6101.67	**51179.01**	Knoter, kpl.	knotter, cpt.
1	205.6101.65	**51180.01**	Knoterrahmen	knotter frame
2	206.6060.08	**51165.01**	Messerhebel, kpl.	knife arm assy.
3	206.6059.10	**51145**	Garnmesser	twine knife
4	300.6010.51	**45512**	Sechskantschraube (2 St.)	bolt (2 pcs.)
5	206.3773.70	**43187.01**	Rolle	roller
6	342.0110.00	**45741**	Scheibe (2 St.)	spacer (2 pcs.)
7	206.3698.00	**43172**	Sicherungsring	circlip
8	342.6200.00	**45754**	Stützscheibe	spacer
9	342.6201.00	**45755**	Stützscheibe (2 St.)	spacer (2 pcs.)
10	207.7310.00	**43396**	Sicherungsring	circlip
11	206.6069.70	**43292.01**	Schliesser	jaw cam
12	206.6010.70	**43238.01**	Flachfeder (2 St.)	spring (2 pcs.)
13	340.0084.01	**45716**	Scheibe	spacer
14	331.1080.51	**45701**	Sechskantmutter	nut
15	206.6085.70	**43301.01**	Mitnehmer, kpl.	twine disc cpt.
16	206.3779.70	**43192.01**	Schneckenrad	worm pinion
17	346.1522.00	**45852**	Spiral-Spannstift	spring pin
18	206.3782.20	**51838**	Schneckentriebel	pinion
19	346.1522.00	**45852**	Spiral-Spannstift	spring pin
20	206.3780.75	**51156.01**	Schneckenwelle, kpl.	worm shaft assy.
21	342.0102.00	**45739**	Scheibe (1 – 3 St.)	spacer (1 to 3 pcs.)
22	342.0105.00	**45740**	Scheibe (4 St.)	spacer (4 pcs.)
23	342.0110.00	**45741**	Scheibe (2 St.)	spacer (2 pcs.)
24	206.3783.72	**43200.01**	Reiniger (2 St.)	cleaner (2 pcs.)
25	206.3671.70	**43160.01**	Garnhalter	twine holder
26	206.6019.70	**47143.01**	Kipphebel	lever
27	206.0823.70	**43120.01**	Feder	spring
28	206.6024.70	**43257.01**	Schraube	bolt
29	340.6140.01	**45726**	Scheibe	retaining ring
30	340.0084.01	**45716**	Scheibe	spacer
31	331.1080.51	**45701**	Sechskantmutter	nut
32	206.6035.10	**43263**	Knoterhaken, kpl.	bill hook assy.
33	206.6127.01	**51446**	Hakentriebel	pinion
34	346.1522.00	**45852**	Spiral-Spannstift	spring pin
41	205.6108.53	**43080.01**	Knoter-Antriebsscheibe	knotter cam gear
42	206.6103.01	**51208**	Distanzscheibe 3,5 mm (2 St.)	spacer 3,5mm (2 pcs.)
43	206.6104.01	**51209**	Distanzscheibe 0,5 mm dick (6 St.)	spacer 0,5mm (6 pcs.)
44	206.6105.01	**51210**	Distanzscheibe 0,2 mm dick (4 St.)	spacer 0,2mm (4 pcs.)
45	206.6106.00	**43307**	Sicherungsring	circlip
	206.6022.02	**51159**	Schmierbuchse für Messerhebel	bushing for knife arm

200.6101.66/51437 u. 201.6100.09/51436

Ø= 40 mm

Abschnitt/
Section B 3



200.6101.66/51437 u. 201.6100.09/51436

Ø= 40 mm

Abschnitt/
Section B 3

Bild-Nr./ Ref. No.	Teile-Nr./ Part-No.	Bestell-Nr./ Order No.	Bezeichung	Description
	200.6101.66	**51437**	Knoter, kpl.	knotter, cpt.
1	205.6101.64	**51180**	Knoterrahmen	knotter frame
2	206.6060.08	**51165.01**	Messerhebel, kpl.	knife arm assy.
3	206.6059.10	**51145**	Garnmesser	twine knife
4	300.6010.51	**45512**	Sechskantschraube (2 St.)	bolt (2 pcs.)
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8	342.6200.00	**45754**	Stützscheibe	spacer
9	342.6201.00	**45755**	Stützscheibe (2 St.)	spacer (2 pcs.)
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12	206.6010.70	**43238.01**	Flachfeder (2 St.)	spring (2 pcs.)
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14	331.1080.51	**45701**	Sechskantmutter	nut
15	206.6085.70	**43301.01**	Mitnehmer, kpl.	twine disc cpt.
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17	346.1522.00	**45852**	Spiral-Spannstift	spring pin
18	206.3782.20	**51838**	Schneckentriebel	pinion
19	346.1522.00	**45852**	Spiral-Spannstift	spring pin
20	206.3780.75	**51156.01**	Schneckenwelle, kpl.	worm shaft assy.
21	342.0102.00	**45739**	Scheibe (1 – 3 St.)	spacer (1 to 3 pcs.)
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23	342.0110.00	**45741**	Scheibe (2 St.)	spacer (2 pcs.)
24	206.3783.72	**43200.01**	Reiniger (2 St.)	cleaner (2 pcs.)
25	206.3671.70	**43160.01**	Garnhalter	twine holder
26	206.6019.70	**47143.01**	Kipphebel	lever
27	206.0823.70	**43120.01**	Feder	spring
28	206.6024.70	**43257.01**	Schraube	bolt
29	340.6140.01	**45726**	Scheibe	retaining ring
30	340.0084.01	**45716**	Scheibe	spacer
31	331.1080.51	**45701**	Sechskantmutter	nut
32	206.6035.10	**43263**	Knoterhaken, kpl.	bill hook assy.
33	206.6727.01	**51446**	Hakentriebel	pinion
34	346.1522.00	**45852**	Spiral-Spannstift	spring pin
41	205.6108.52	**43081**	Knoter-Antriebsscheibe	knotter cam gear
42	206.6103.01	**51208**	Distanzscheibe 3,5 mm (2 St.)	spacer 3,5mm (2 pcs.)
43	206.6104.01	**51209**	Distanzscheibe 0,5 mm dick (6 St.)	spacer 0,5mm (6 pcs.)
44	206.6105.01	**51210**	Distanzscheibe 0,2 mm dick (4 St.)	spacer 0,2mm (4 pcs.)
45	206.6106.00	**43307**	Sicherungsring	circlip

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Hochdruck-HDC-Einfachknoter High-Density-HDC-Single-Knotters	B
Hochdruck-HDC-Doppelknoter **High-Density-HDC-Double-Knotters**	**C**

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High-Density-HDC-Double-Knotters

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passend zu/ to fit	**Ø Bindewelle shaft dia. (mm)**	
200.6131.01/51181 u. 201.6131.01/51201 Knoter, kpl./knotter, cpt.	55	C 3-

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Series RS 6131

Fig. 1

1. Knotter Applications

The twine knotter model RS 6131 is suitable for the installation in big balers for square baling which are in use for picking up hay, straw and especially silage. As a rule this baler type is equipped with 4 to 6 knotter units.

2. Models

This series knotter is pivoted and axially secured to slide on a hub, which is positioned on the toothing face of the cam gear and tightly coupled with it. The pre-assembled knotter units can be easy put on the knotter shaft of a baler, aligned and fastened. These units are known under the term HDC-Knoters; HDC is the abbreviation for Heavy Duty Combination.

For maintenance this series knotter allows the knotter frame to be taken off the cam gear hub by disassembling the frame bearing cap.

The hub length of this special gam gear measures 171,5 mm This also is the minimum distance between the twine strands twining around the bales.

3. Baler Twine

The Rasspe HDC-Double-Knotter has been designed to use baler twine readily available on the market, as shown in the table below:

Baler Twine	Twine Runnage (m/kg)	Knot strength (N) / (kp)
Sisal	70 – 100	approx. 1650 /165
Synthetic	120 – 150	approx. 2000/ 200

4. Setting Instructions

4.1 Bill Hook

The bill hook (fig. 4) is pressed shut by the jaw cam, which is controlled by a spring in tension (fig. 2). The spring force can be adjusted by means of the hex. nut (fig. 2).

If the bill hook mouth clamps the twine to tightly, the knot will jam in the mouth after beeing stripped off by the knife arm, the twine strand will break.

If the bill hook mouth does not clamp the twine tightly enough, there will either be no knot at all or only loose loops of twine, which will not hold under tension. Fig. 5 shows a correctly knotted twine strand.

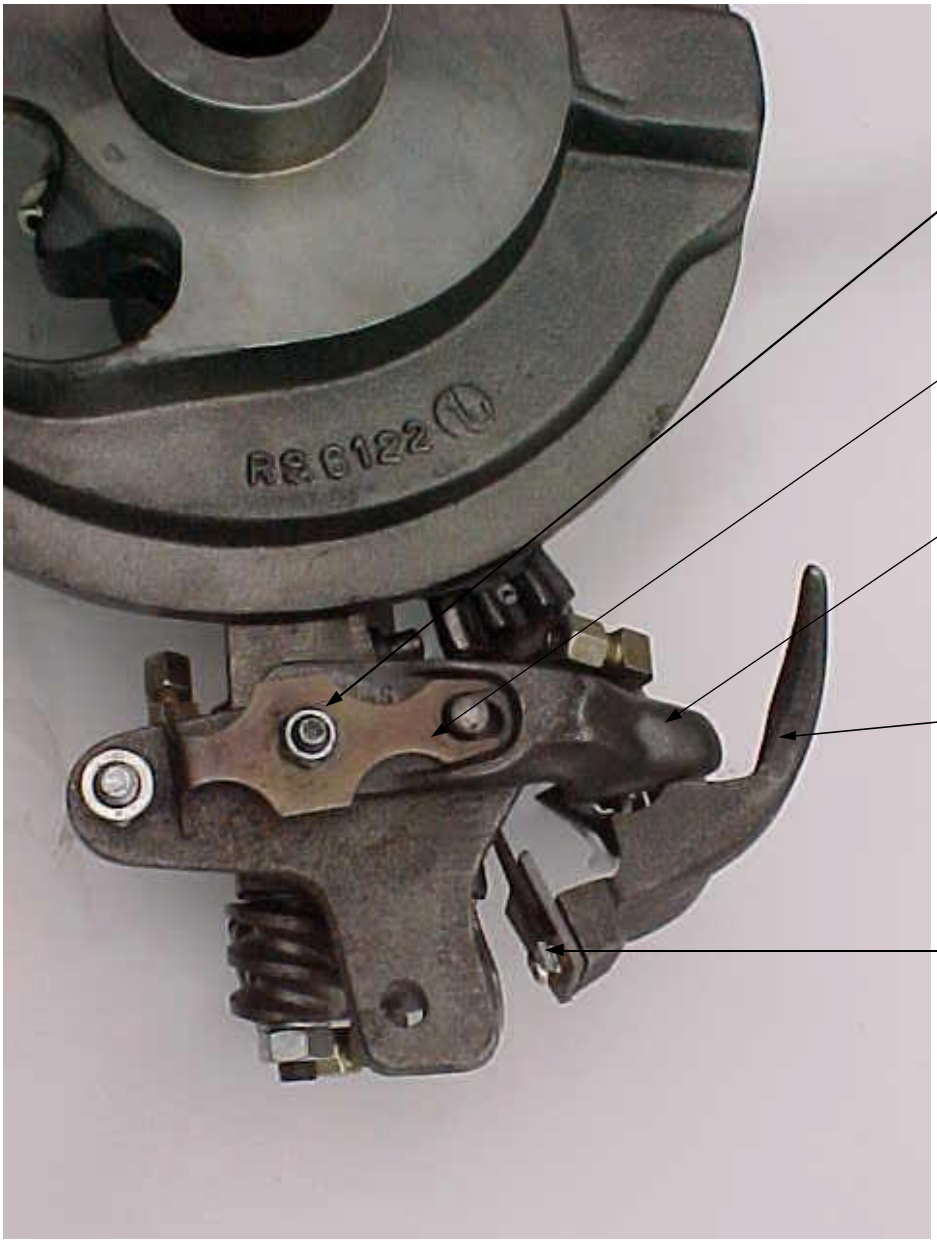
RS 6122
hex. nut (max. width across flats: 13 mm)
flat spring
jaw cam
knife arm
twine knife, screwed on with 2 hex. bolts (max. width across flats: 7 mm)

Fig. 2

4.2 Twine Clamping

The twine disc assembly (fig. 3) must be set in such a way that, in its inoperative position, a section of the arched twine guiding edge of the cleaner disc engages 0 to 2 mm in a crescent-shaped notch of the disc assembly. After two tying cycles the outline of the said disc assy. notch and that of the twine holder run in one another. This will ensure that the already clamped and the other twine strand, which is fed by the baler needle, are positioned correctly in this troughshaped opening.

To adjust the twine disc assy. it is necessary to loosen the worm which is clamped to the cone of the worm shaft. To do so, unscrew the hex. nut (fig. 3) until one of its faces is approx. 1 mm off the end of the worm shaft. Tap the nut gently with a hammer to release the worm. The correct notch position may now be found by turning the disc assy.. After adjusting, the hex. nut must be retightened at 2,5 mkg approx. 25 Nm approx. 18,44 lbf-ft.

To adjust the twine clamping force turn the hex. bolt resp. the hex. nut (fig. 3). This applies pressure to the twine holder via a coil spring in conjunction with a tilting lever.

The twine strand presently in the knotter should only be held tightly enough to prevent it slipping out of the clamping device during the tying cycle. If the strands are held too tightly they will tear o fray. Furthermore the tongue of the bill hook can be excessively loaded, by which it may bend out of shape.

The clamping force required will need adjusting proportionally as the bale weight or density increases. The actual type of material to be baled, its moisture content and the choice of twine will all influence these settings. It is therefore necessary to adopt a trial-and-error approach.

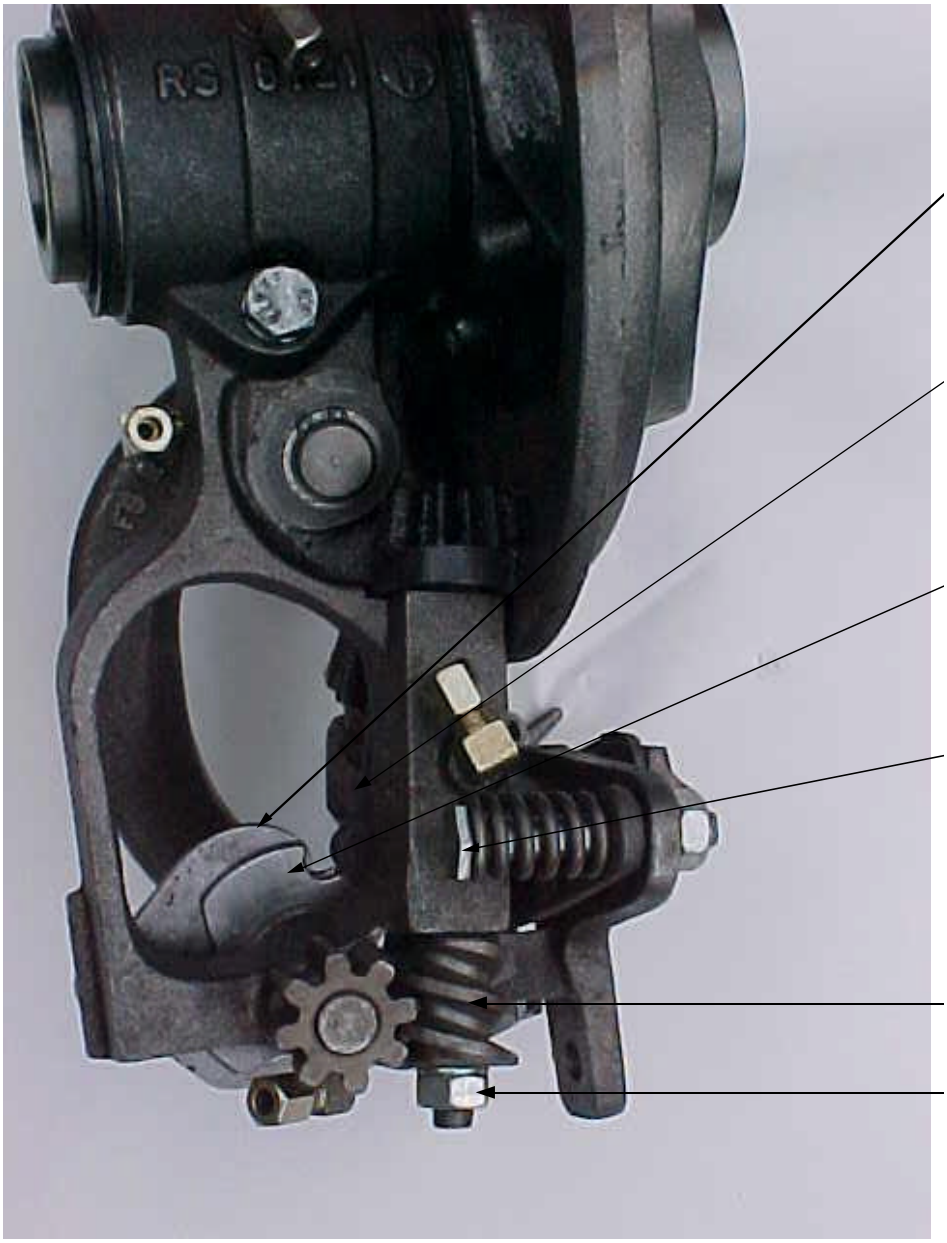
cleaner
twine holder
twine disc assy.
hex. bolt with hex. nut (max. width across flats: 13 mm)
worm
hex. nut (max. width across flats: 17 mm, due to standard changes in future 16 mm)

Fig. 3

4.3 Knife Arm

The knife arm (fig. 2 + 4) will require setting in such a way that the bill hook can rotate freely without coming into contact with any area of the knife arm. The stripping cam of the arm must slide smoothly over the surface of the bill hook head, but be in contact with it.

In the outer dead position of the knife arm the distance between the stripping cam and the tip of the bill hook should be 15—18 mm. The knife arm is at its outer dead position when the knife arm roller reaches the peak of the cam on the cam gear.

In order to set the knife arm it is necessary to release the knotter fram on the baler chamber and to swivel the knotter upwards around the hub of the cam gear. To bend the knife arm use an appropriate setting tool, approx. 400 mm long with a forked end to enable the knife arm to be gripped. Very solid knife arm models will have to be removed and adjusted using special tools and devices. If necessary, exchange for a new knife arm.

The twine guiding areas of the knife arm (fig. 4) must always be kept smooth to prevent twine breakages. As soon as wear (grooves) becomes apparent, which cannot be removed without damaging the shape of the part, the knife arm must be replaced; that applies particularly to the V-shaped twine guiding area.

When the knotter with fitted knife arm is swiveled back and forth it can be observed how the stripping cam slides backwards and forwards over the bill hook head. If necessary the cam can be set to the bill hook with gentle blows of a hammer.

The twine knife must be replaced by a new one as soon a the cut ends of the twine appear irregularly long; according to the chosen twine type the knot ends can be even frayed.

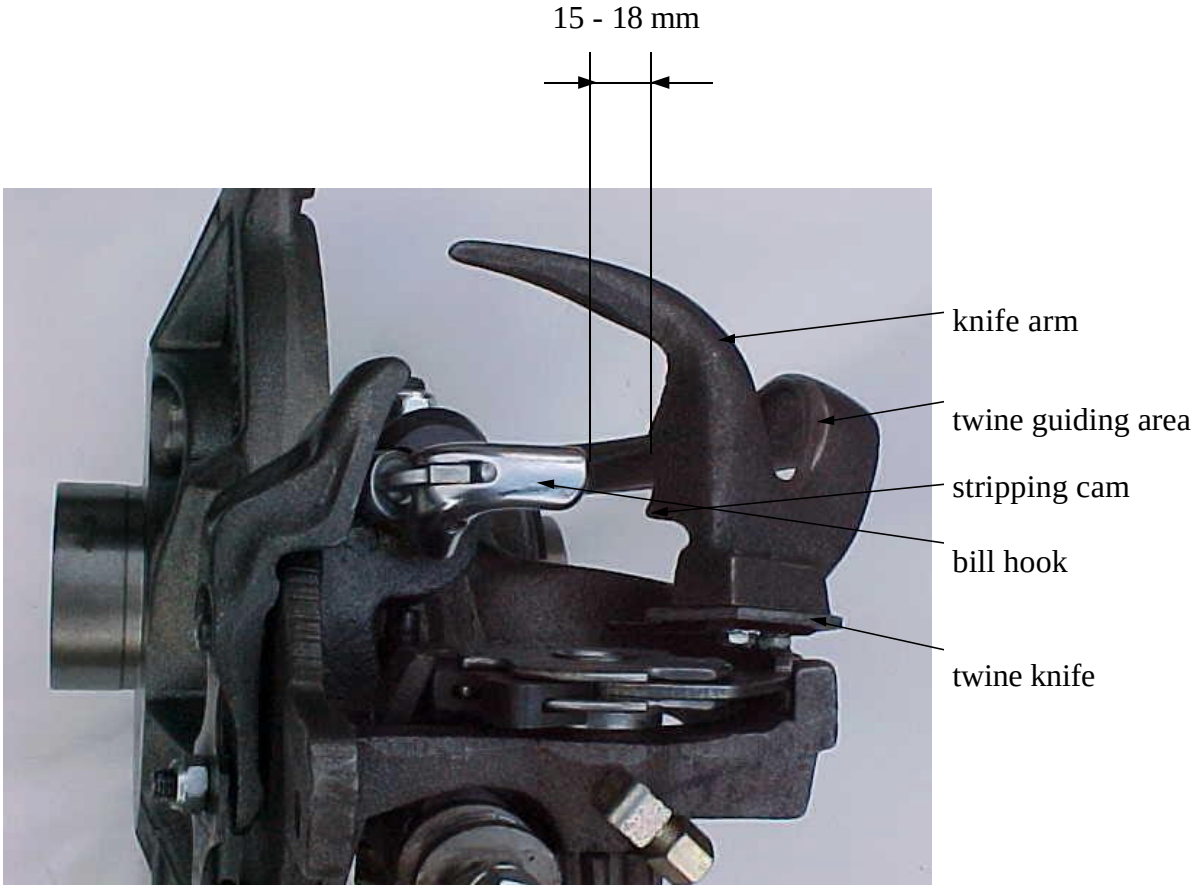
15 - 18 mm
knife arm
twine guiding area
stripping cam
bill hook
twine knife

Fig. 4

Fig. 5

4.4 Knotter Unit

The knotter and the belonging cam gear are fitted together before the unit is installed on the knotter shaft of the baler. For this the knotter is shoved over the long hub of the cam gear until the sliding surfaces of both pinions come into contact with that of the cam gear. The gap being arisen between the hub face of the knotter frame and the collar of the cam gear has to be filled up with flat shims in such a way that a play arises between the sliding surfaces of both pinions and that of the cam gear, which can be measured with a caliper gauge. This play must be greater than zero; however, 0,4 mm should not be exceeded.. This play must also be kept when pivoting the knotter around the hub of the cam gear.

After adaption of the knotter and the cam gear as instructed, the knotter must be secured by inserting flat shims and an external retaining ring against axial displacement in such a way that the knotter can be easily swiveled; any axial play is not allowable.

When assembling the knotter shaft of the baler, the axial play between all components on the shaft should be kept extremly low. The intended positions of the knotter units and their distances to each other are to be achieved by inserting flat shims if necessary.

5. Knotter Lubrication

The lubricating points of the knotter will require greasing either over grease nippels by means of a grease gun or over a central lubricating system. Installed grease nippels must be greased on a daily basis before the baler is run in the field in order to maintain a trouble-free knotter function. It is advisable to apply a soft multi-purpose grease, preferably on the basis of lime or lithium soaps according to a grade 2 or 3 consistency. We do not recommend using lubricants of any other type because of fretting corrosion which may occur in compound with water; mating surfaces of the components can be affected.

The sliding and running surfaces as well as the toothing on the cam gears must be lightly greased. This also includes all knotter units connecting to the central lubricating system of the baler. Surplus of grease and baling material as well as dust must be removed before greasing.

6. General Comments

The knotting reliability depends not only on the correct function of the Rasspe Knotters and the use of quality baler twine, but also on the smooth mode of operation of all baler components taking part in the tying cycle. With respect to the above, the twine fingers on the bale channel, the needles, the twine tighteners and the various twine guiding eye-lets must be set properly. These points are dealt with in the operating instructions supplied by the manufacturers of the balers. Please read them carefully!

200.6131.72/51896 u. 201.6131.71/51204.01

Ø= 55 mm

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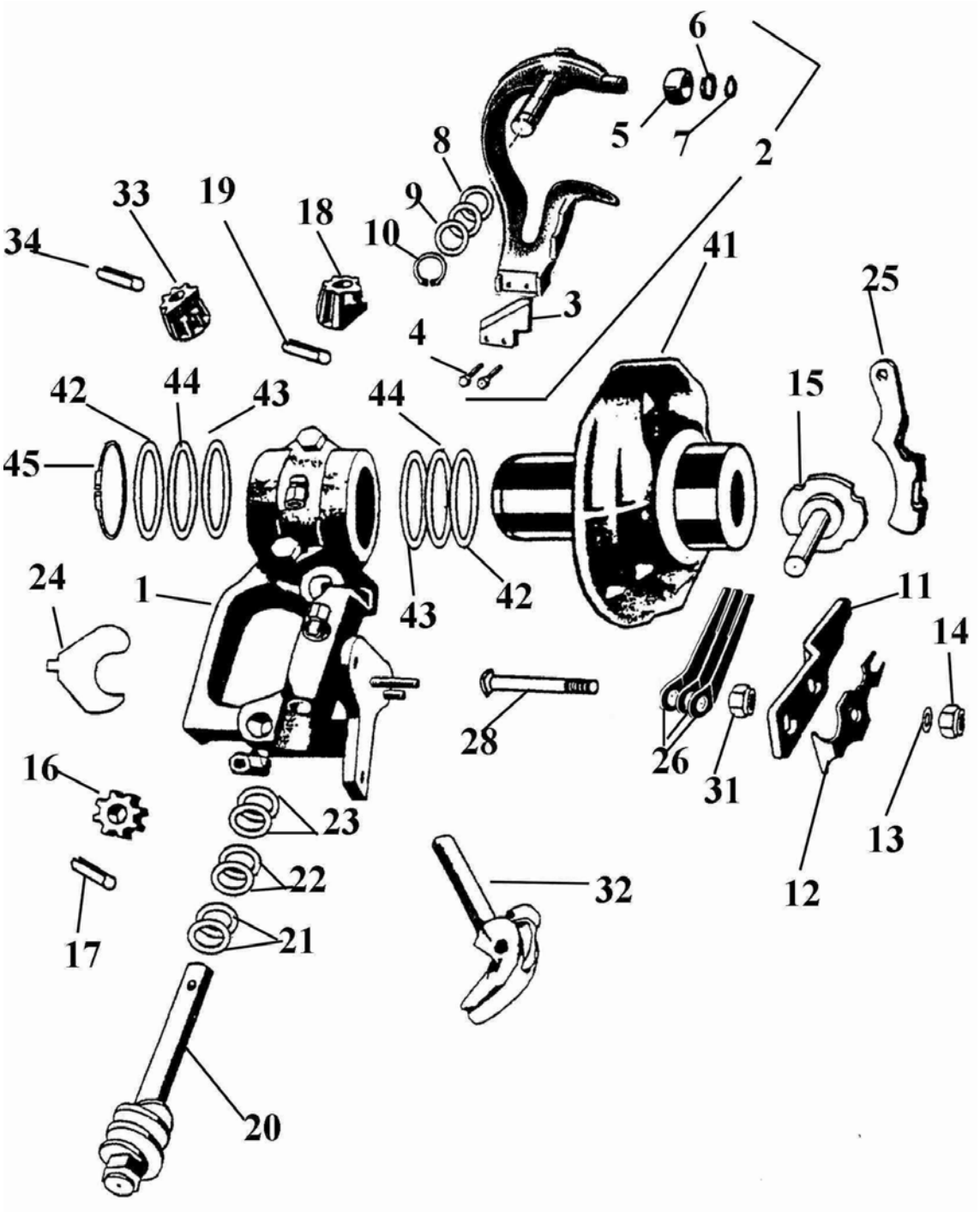

200.6131.72/51896 u. 201.6131.71/51204.01

Ø= 55 mm

Abschnitt/
Section C 3

Bild-Nr,/ Ref. No.	Teile-Nr./ Part-No.	Bestell-Nr./ Order No.	Bezeichung	Description
	200.6131.72	51896	Knoter, kpl.	Knotter, cpt.
1	205.6131.71	51183.01	Knoterrahmen	knotter frame
2	206.6123.72	51219.01	Messerhebel, kpl.	knife arm assy.
3	206.4436.10	51146	Garnmesser	twine knife
4	300.5016.51	45481	Sechskantschraube (2 Stück)	bolt (2 pcs.)
5	206.3773.70	43187.01	Rolle	roller
6	342.0110.00	45741	Scheibe (2 Stück)	space (2 pcs.)
7	206.3698.00	43172	Sicherungsring	circlip
8	342.6200.00	45754	Stützscheibe	spacer
9	342.6201.00	45755	Stützscheibe (2 Stück)	spacer (2 pcs.)
10	207.7310.70	43396.01	Sicherungring	circlip
11	206.3203.70	43140.01	Schliesser	jaw cam
12	206.6010.70	43238.01	Flachfeder	spring
13	340.0084.01	45716	Scheibe	spacer
14	331.1080.51	45701	Sechskantmutter	nut
15	206.5313.71	51304.01	Mitnehmer, kpl.	twine disc, cpt.
16	206.3779.70	43192.01	Schneckenrad	pinion
17	346.1522.00	45852	Spiral-Spannstift	spring pin
18	206.6126.01	51854	Hakentriebel	pinion
19	346.1530.00	51346	Spiral-Spannstift	spring pin
20	206.3780.75	51156.01	Schneckenwelle, kpl.	worm shaft assy.
21	342.0102.00	45739	Scheibe (1 – 3 Stück)	spacer (1 to 3 pcs.)
22	342.0105.00	45740	Scheibe (4 Stück)	spacer (4 pcs.)
23	342.0110.00	45741	Scheibe (2 Stück)	spacer (2 pcs.)
24	206.3783.72	43200.01	Reiniger	cleaner
25	206.3784.70	51021.01	Garnhalter	twine holder
26	206.3776.71	43190.01	Flachfeder (3 Stück)	spring (3 pcs.)
28	300.6330.51	45532	Sechskantschraube	bolt
31	330.1100.51	45673	Sechskantmutter	nut
32	206.6128.00	43314	Knoterhaken, kpl.	bill hook, cpt.
33	206.6127.02	52522	Hakentriebel	pinion
34	346.1522.00	45852	Spiral-Spannstift	spring pin
41	205.6132.70	50984.01	Knoter-Antriebsscheibe	knotter cam gear
42	206.6107.00	50973	Distanzscheibe 3,5 (2 Stück)	spacer (2 pcs.)
43	206.6108.00	50974	Distanzscheibe 0,5 (5 Stück)	spacer (5 pcs.)
44	206.6109.00	50975	Distanzscheibe 0,2 (3 Stück)	spacer (3 pcs.)
45	206.6110.00	50976	Sicherrungsring	circlip