

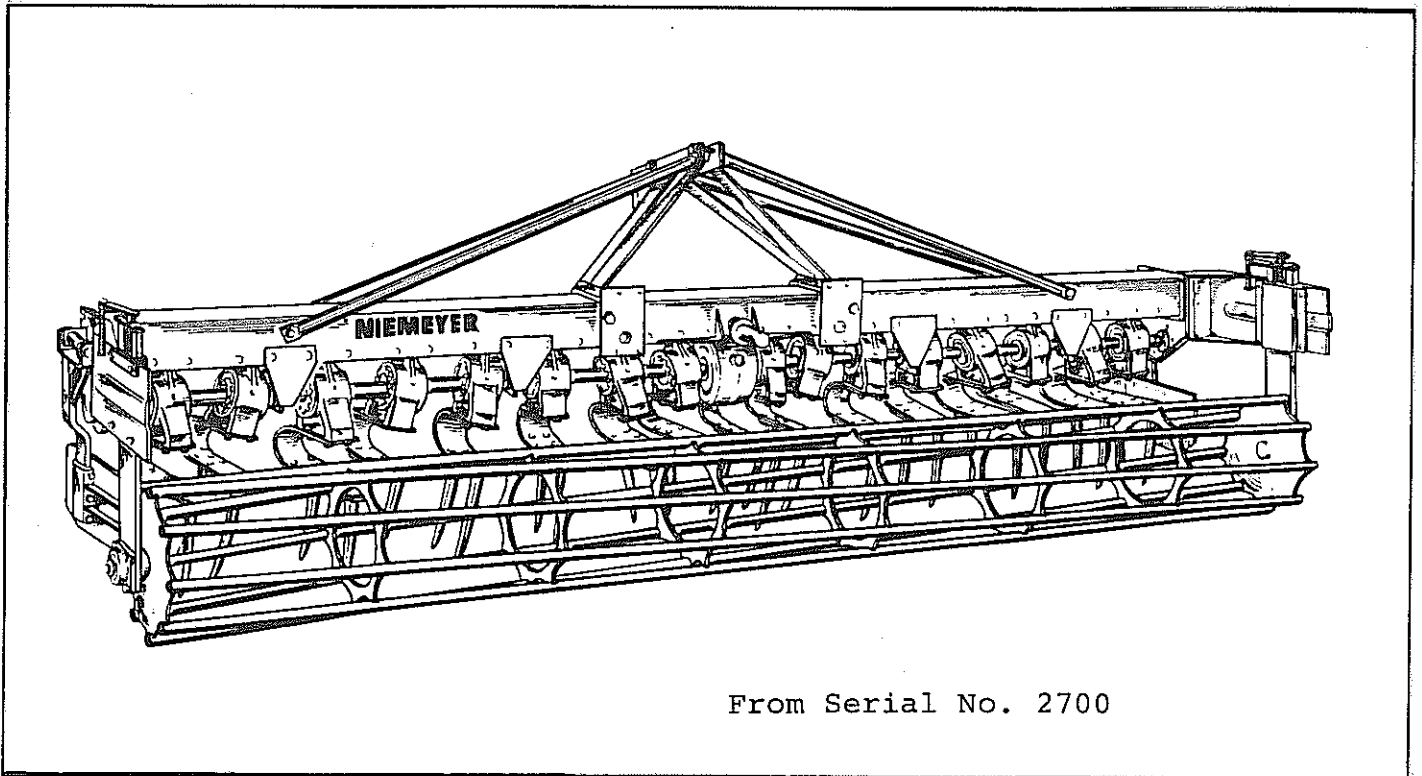
**INSTRUCTIONS FOR ASSEMBLY AND OPERATION
SPARE PARTS LIST**

POWER HARROWS

TE-400 TE-450

TE 402 TE 452

(From Serial No. 3000)



From Serial No. 2700

NIEMEYER

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S U P P L Y S C H E D U L E :

- 1 POWER HARROW TE 400 or TE 450
- 1 Crumbler roller for TE 400 or TE 450
- 1 3-PT Linkage frame c/w rope
- 1 Bundle = 4 Struts for 3-PT Linkage frame
2 Parking props
- 1 PTO-guard with 9 holes
- 1 PTO-shaft
- 1 Case accessories:
 - 1 Pair adjusting slides with guide plates
 - 1 Pair deflectors c/w tension pins
 - 2 Springs c/w bolts
- 32 (36) Tines
- 2 Plastic bags = 128 (144) Hex. bolts M 12 x 40 DIN 93388
- 128 (144) Hex. nuts M 12 DIN 93478
- 128 (144) Schnorr-Rings 12 mm VS 8

N O T E

Where right and left hand sides, or front and rear, are indicated, these relate to the direction of travel when viewed from the rear.

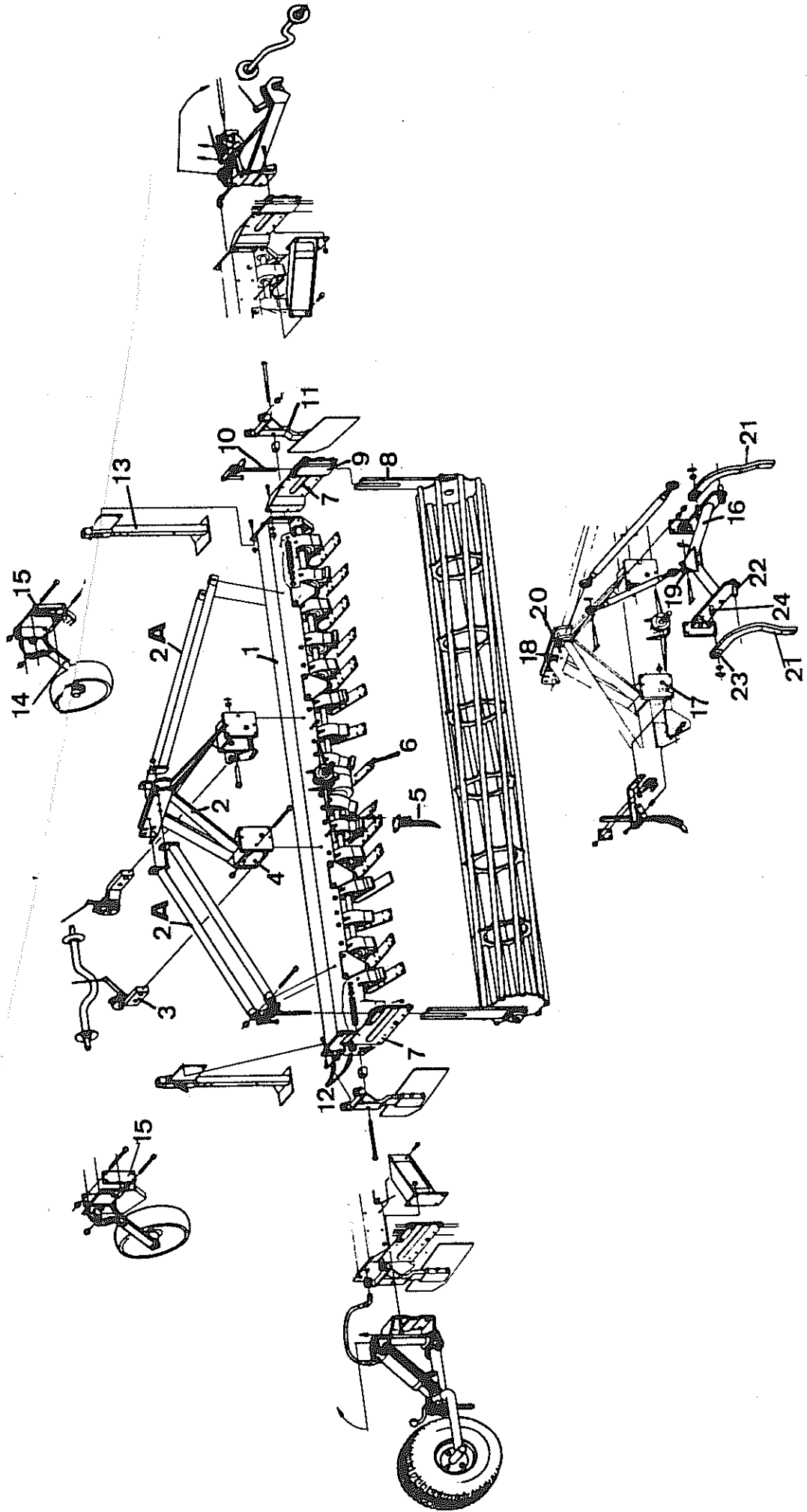
Every precaution has been taken to ensure accuracy in this book but all recommendations should be regarded as a guide only and subject to alterations in work and modifications in construction.



S A F E T Y

All guards must be fitted.

Support machine when adjusting in the raised position. Keep well clear of all moving parts. When running the PTO with the machine stationary, securely block tractor wheels. Always replace tractor PTO shaft cover when machine is detached.



ASSEMBLY :

1. Bolt the three point frame (2) to the main frame (1). Then attach the four support brackets (2A) supporting hitch to the main frame.
2. Put bottom links (3) into the sockets of the 3 point hitch (4).
3. Turn the POWER HARROW over for easier mounting of tines to the tine carriers. When turning the machine be careful of the gearbox input and output shafts. The tines are mounted with the curved tip pointing in the direction of travel.
4. Mount the side plate assemblies (7) to the main frame.
5. Insert the roller slides (8) into guide pockets (9) and then engage the depth control screw (10) and bolt inplace.
6. Slide the spring loaded soil leveling plates (11) into the eyelets (12) on each side. The springs should be to the front of the main frame. NOTE, when mounted, these plates will angle slightly toward the inside of the crumbler roller.
7. The jack supports(13) are bolted to the front holes of the side plate assembly. The foot of the jack points in direction of travel.

O P T I O N A L S :

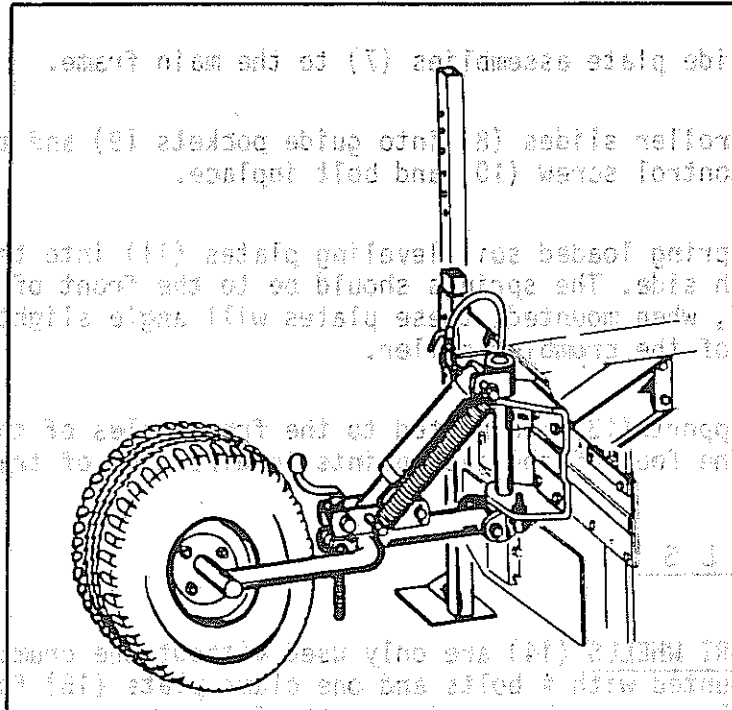
8. FRONT SUPPORT WHEELS (14) are only used without the crumbler roller. They are mounted with 4 bolts and one clamp plate (15) for each wheel. They are bolted to each end of the main frame pointing to the front of the POWER HARROW. NOTE, the bottom bolts have spacers.
9. SEEDER LINKAGE - the carrier frame (16) is bolted to the mounting plates (17) welded on the rear of the machine. The short top link is installed between holes (18) and (19). The long top link is installed between hole (20) and the seeder. The lower link arms (21) rest on pin (22). They are adjustable at hole (23) on pin (24).
10. For LENGTHWISE TRANSPORT - the TE 400 and TE 450 can be equipped with an optional HYDRAULIC WHEEL ASSEMBLY on one end of the machine and bottom link arms on the other. These are only available as a factory ordered option. As such, they are mounted to the side plate (7) at the factory and no other mounting instructions are needed.

At the linkage arm end of the machine a hydraulic shut off valve has to be bolted on and the hydraulic hose connected.

In transport, the wheel is swung into line with the main frame and locked. The linkage arms are unfolded and also locked with the rod provided. In working position, the linkage arms are folded. The wheel is swung forward. Both are locked in position.

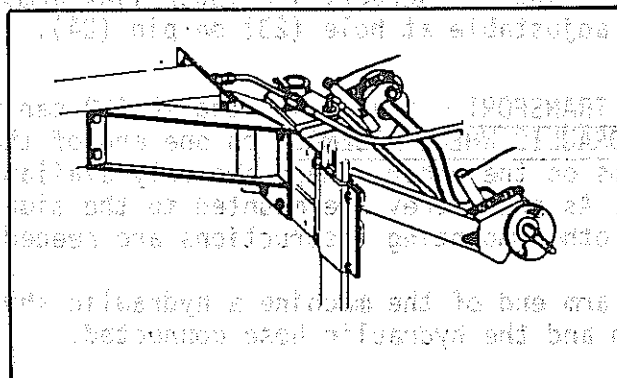
See illustration:

1. Bolt the three point frame (3) to the main frame (1). Then attach the four support brackets (2A) supporting hitch to the main frame.
2. Turn the POWER HARROW over for easier mounting of tires to the drive carriers. When turning hitch into transport position the tires are mounted with the curved tip pointing in the direction of travel.



Linkage arms

3. Attach the linkage arms in transport position to the main frame. The hitch pin (1) is inserted into the hitch hole (2) and the hitch pin (3) is inserted into the hitch hole (4). The hitch pin (5) is inserted into the hitch hole (6) and the hitch pin (7) is inserted into the hitch hole (8). The hitch pin (9) is inserted into the hitch hole (10) and the hitch pin (11) is inserted into the hitch hole (12). The hitch pin (13) is inserted into the hitch hole (14) and the hitch pin (15) is inserted into the hitch hole (16). The hitch pin (17) is inserted into the hitch hole (18) and the hitch pin (19) is inserted into the hitch hole (20). The hitch pin (21) is inserted into the hitch hole (22) and the hitch pin (23) is inserted into the hitch hole (24). The hitch pin (25) is inserted into the hitch hole (26) and the hitch pin (27) is inserted into the hitch hole (28). The hitch pin (29) is inserted into the hitch hole (30) and the hitch pin (31) is inserted into the hitch hole (32). The hitch pin (33) is inserted into the hitch hole (34) and the hitch pin (35) is inserted into the hitch hole (36). The hitch pin (37) is inserted into the hitch hole (38) and the hitch pin (39) is inserted into the hitch hole (40). The hitch pin (41) is inserted into the hitch hole (42) and the hitch pin (43) is inserted into the hitch hole (44). The hitch pin (45) is inserted into the hitch hole (46) and the hitch pin (47) is inserted into the hitch hole (48). The hitch pin (49) is inserted into the hitch hole (50) and the hitch pin (51) is inserted into the hitch hole (52). The hitch pin (53) is inserted into the hitch hole (54) and the hitch pin (55) is inserted into the hitch hole (56). The hitch pin (57) is inserted into the hitch hole (58) and the hitch pin (59) is inserted into the hitch hole (60). The hitch pin (61) is inserted into the hitch hole (62) and the hitch pin (63) is inserted into the hitch hole (64). The hitch pin (65) is inserted into the hitch hole (66) and the hitch pin (67) is inserted into the hitch hole (68). The hitch pin (69) is inserted into the hitch hole (70) and the hitch pin (71) is inserted into the hitch hole (72). The hitch pin (73) is inserted into the hitch hole (74) and the hitch pin (75) is inserted into the hitch hole (76). The hitch pin (77) is inserted into the hitch hole (78) and the hitch pin (79) is inserted into the hitch hole (80). The hitch pin (81) is inserted into the hitch hole (82) and the hitch pin (83) is inserted into the hitch hole (84). The hitch pin (85) is inserted into the hitch hole (86) and the hitch pin (87) is inserted into the hitch hole (88). The hitch pin (89) is inserted into the hitch hole (90) and the hitch pin (91) is inserted into the hitch hole (92). The hitch pin (93) is inserted into the hitch hole (94) and the hitch pin (95) is inserted into the hitch hole (96). The hitch pin (97) is inserted into the hitch hole (98) and the hitch pin (99) is inserted into the hitch hole (100).



The following information and instructions will be helpful in operation, promotion and demonstrations of the POWER HARROW:

MOUNTING AND SET-UP

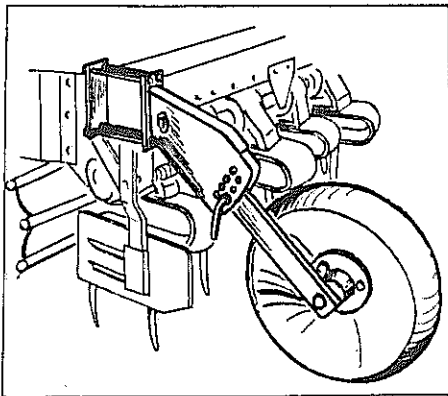
The POWER HARROW is designed for heavy duty use. It is shipped standard for Cat. II and Cat. III 3-pt linkage. The machines are produced in 540 or 1000 RPM and the gearboxes are marked for easy identification. The gearbox input and rear output shafts have a 6 spline profile. Their rpm are identical.

When the HARROW is mounted the tines should point straight down. The tines are mounted with the curved section pointing in the direction of travel. The tines should not lean forward or backward. Adjust top link as required. Fit stabilizers or tighten external check chains to prevent side sway in transport. In operation the bottom links should be free for side sway.

The working depth is controlled by adjusting the crumbler roller. The working depth should not exceed the length of the tines, however, 3 - 5 inches is normally used. Keep tractor hydraulics in free floating position.

For operation without the crumbler roller there are optional Depth Control Wheels which mount on the front of the HARROW. The roller can remain on the machine and be simply raised above the soil level.

See illustration below:



IMPORTANT

Always have tines running at full PTO speed before lowering the HARROW into the ground. To do otherwise runs the risk of damage to the machine.

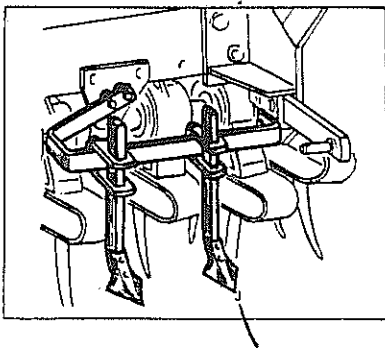
PTO-SHAFT

Before the first operation, or when using a different tractor, the PTO-shaft length must be checked. The PTO should be as long as possible and have about 1 inch of free play at the most retracted point. If the PTO-shaft has to be shortened, take the same length off each end. If the PTO-shaft is too long and bottoms out during operation, severe gearbox damage may result. Attach the clutch end to the HARROW and the plain end to the tractor.

The PTO-shaft should not exceed 30° - 35° angle when raised. If when the HARROW is raised a rattling noise is heard from the PTO-shaft, the machine is too high and the angle is too great. The hydraulic level on the tractor should have a stop put on so that the HARROW cannot be raised too high.

DRY RUN

After the PTO is adjusted and the machine is properly mounted, start the machine slowly and bring the rpm up in stages. During this time check to be sure that all moving parts are free and moving properly. Check that the rollers above the rotor bearing housings are free and rolling in the channel groove. Be safe. Always shut down the tractor completely before making any adjustments.

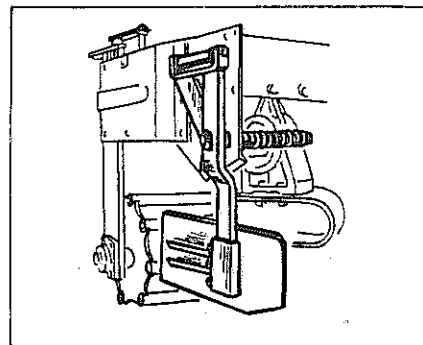


If subsoilers (panbusters) are used, they should be mounted directly behind the tractor wheels.

(see illustration)

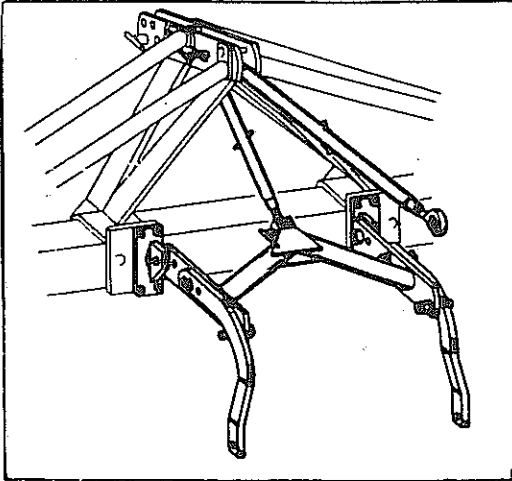
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Spring Loaded Levelers are mounted on each side of the machine to smooth out the ridges that can be pushed up at the sides of the work area. They should be adjusted to be at the soil surface according to working depth.



Seeder Linkage Parts are an option that enables the use of 3 pt. seeders behind the HARROW. The frame of the linkage is bolted to two square attachment plates welded to the rear of the HARROW. The short top link goes between the linkage frame and the hitch, the long top link between the hitch and the seeder.

See illustration:



The bottom links can be adapted to Cat. I or II by reversing them side for side.

The long top link is connected to the seeder. The shorter link is for height adjustment.

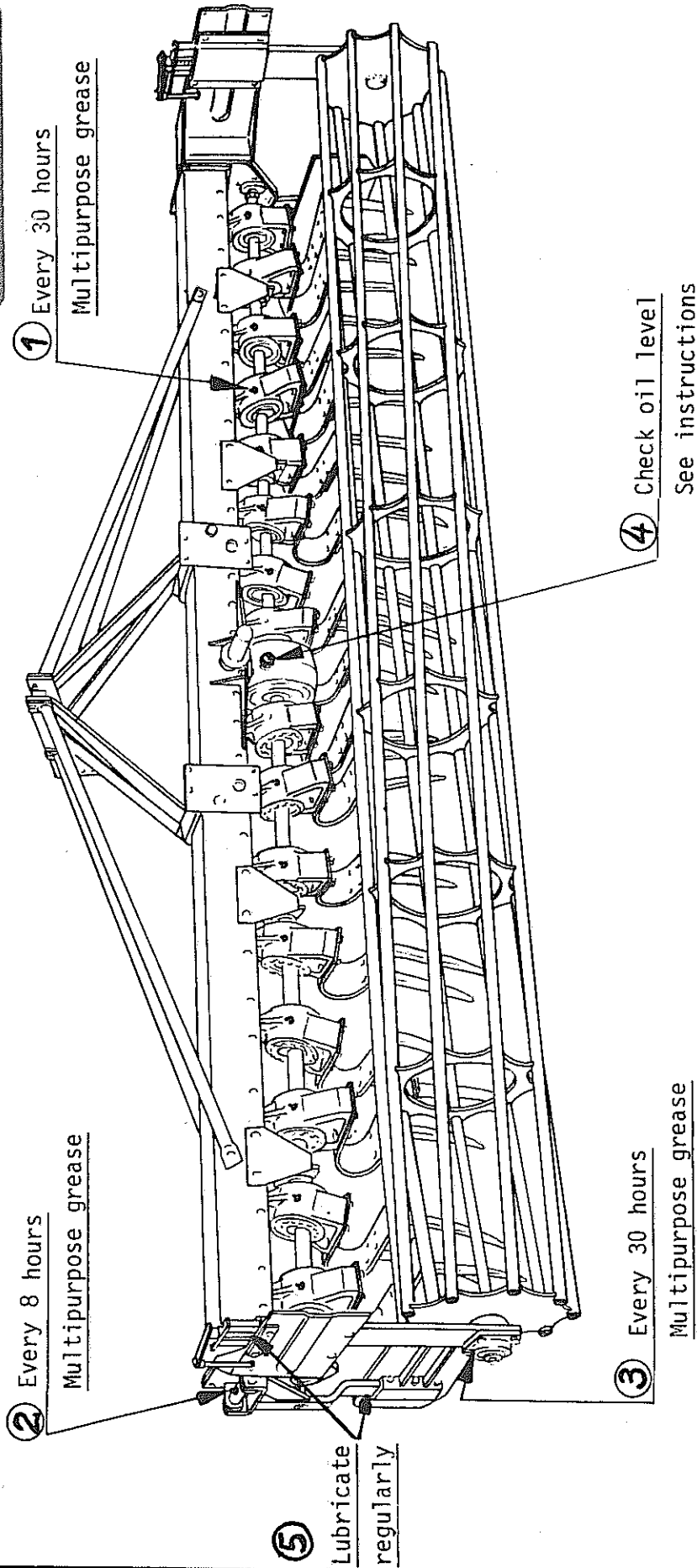
MAINTENANCE

On new machines all bolts want to be checked for tightness after the first hour of operation.

The tine bolts and the tine carrier bolts, in particular, should be rechecked again for tight fit before a new operation is started.

Bolt or nut	Torque setting		Size of wrench jaw (mm)
	Nm	ft/lbs	
Bolt M 8	25	18	13
M 8 (Internal hex. bolt)	25	18	5 or 6
M 10	47	34	17
M 12	80	58	19
M 12 (Allen screw)	120	87	6
M 16	180	130	24
M 20	330	240	30
M 24 x 1,5	590	427	36
M 42 x 2	-	-	55

From serial no. 3600
Wobble bearing assemblies
are greased for life.



All bearings with grease fittings should be greased prior to the first operation and then according to the schedule below:

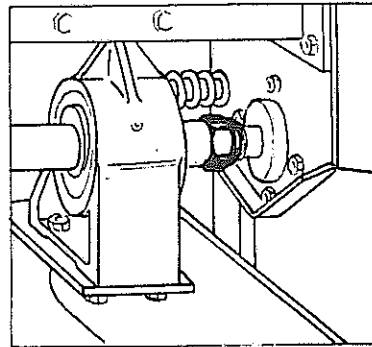
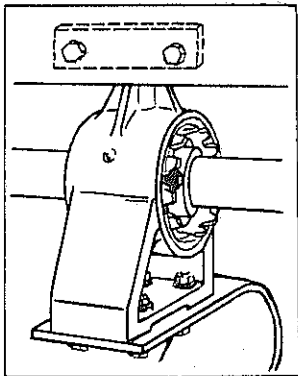
1. Wobble bearings every 30 working hours.
2. Flange bearings of the crumbler roller every 30 hours.
3. Axles of deflector arms every 8 hours.
4. Joints of the PTO drive shaft every 8 hours.

Use a multipurpose lithium base grease.

The rollers in the groove above the rotor bearing housings should be checked and greased regularly.

After about 25 hours work and weekly thereafter check the tapered roller bearings on the rotor shaft for play. These bearings are like front wheel bearings in a car and should be adjusted the same. Undo the lock set screw, tighten the crown nut snug and then back off one notch, put the set screw back in to lock it in place.

See illustration:



The axial backlash of the wobble bearings on the rotor shaft should be checked regularly. If the spacers between the wobble bearings can be turned by hand they are too loose. In this case drive the nut M 42 x 2 home until the spacers have a snug fit again.

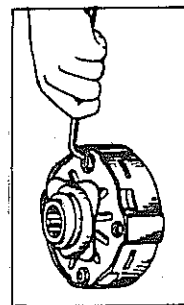
The main gearbox is filled to the bottom of the filler plug with 2 litres SAE 90 or 140 gear oil (API GL 3/4). Check the level once a week during operation.

It is recommended to change the gear oil of new machines after 50 hours of operation. Further oil changes are not necessary.

After 10 hours and later on in regular periods go over all bolts on the machine; in particular the tine bolts and tine carrier bolts.

After inactive periods the overload clutch must be freed up. Occasionally the plates may freeze together. This clutch works backwards. Tighten all the bolts, free the clutch by hand, then loosen all the bolts to the previous position.

(see illustration)



OPERATION

The POWER HARROW is designed for a forward speed of about 4 - 5 miles per hour with the PTO revolving at full 540 or 1000 RPM. Exceeding this speed limit or reducing the revs. may cause serious damage in the range of the oscillating tool assembly. Also make sure that the PTO revolves at full 540 or 1000 RPM before the tines touch the ground.

In heavy or moist soil it is advisable to reduce the forward speed in order to achieve a better crumbling effect.

Incorporation of long trash or corn straw may become problematic unless the straw is chopped by a chopper or cut short by a disk harrow previously. This way the incorporation is greatly improved and the straw will not easily wind up around the rotor shaft. If any straw is winding up or plugging it should be removed immediately in order to avoid damage to the bearing flanges.

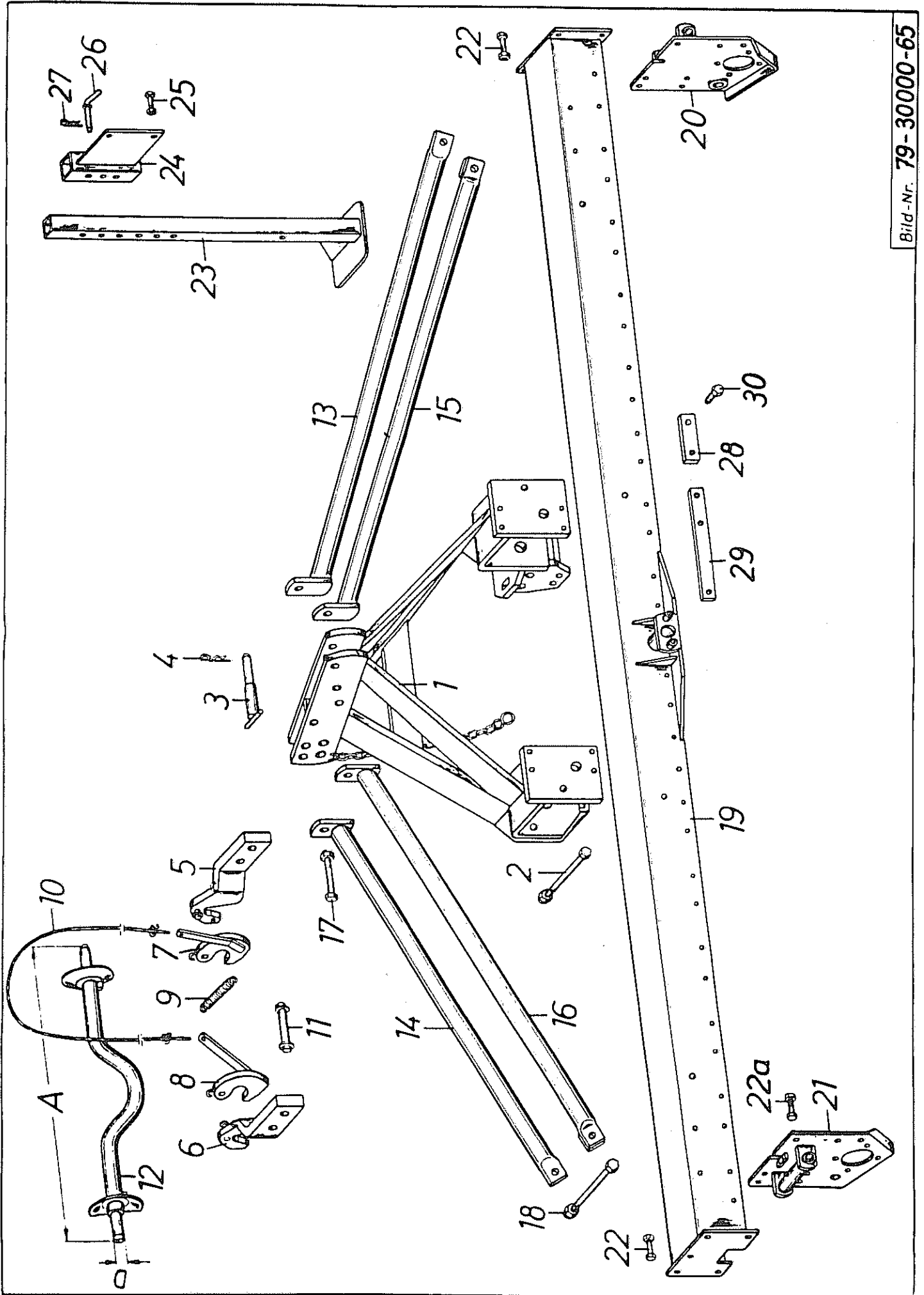
In principle the POWER HARROW is built for secondary tillage, i.e. behind a mouldboard, disk or chisel plow. If it is used on unplowed soil, however, or if it is operated deeper in the ground than the primary tool the forward speed should be reduced with full PTO revolutions.

REPLACEMENT OF A ROTOR BEARING WOBBLE UNIT

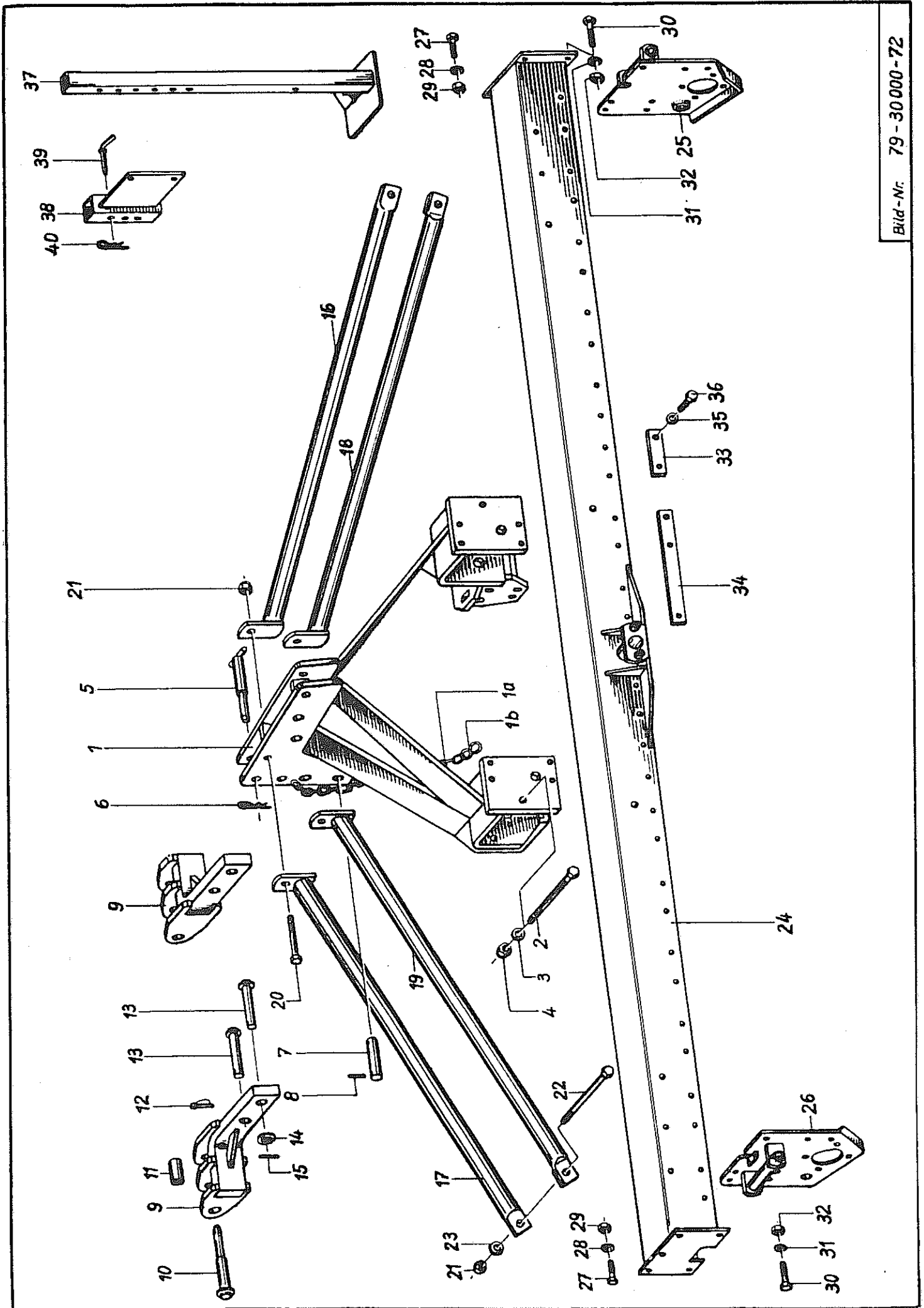
The rotor bearing wobble units on the rotor shaft, including the tapered roller bearing, are very rugged and wear resistant. They can be replaced or rebuilt. To do this proceed in the following order:

- 1) Make a note of how the two shafts R/H and L/H come together into the center gearbox. There are no timing marks but it is important to put the shafts back in the same relation to each other so that the 2 center tine carriers do not touch.
- 2) Turn the machine upside down.
- 3) Support the rotor shaft securely at the outer end. This is very important to prevent bending the shaft.
- 4) Remove the flange bearing from the end of the shaft and the side plate. Then unbolt the side plate and swing it down out of the way.
- 5) Unbolt the support bracket in the center of the shaft.
- 6) Slide the rotor shaft to the outside until it is clear of the center gearbox. The rotor bearing wobble unit can now be pulled off at either end of the shaft (whichever end is closest to the damaged one).
- 7) Reassemble in the reverse order. When putting the shaft back into the center gearbox be certain it is aligned the same way relative to the other shaft as it goes into the center gearbox.

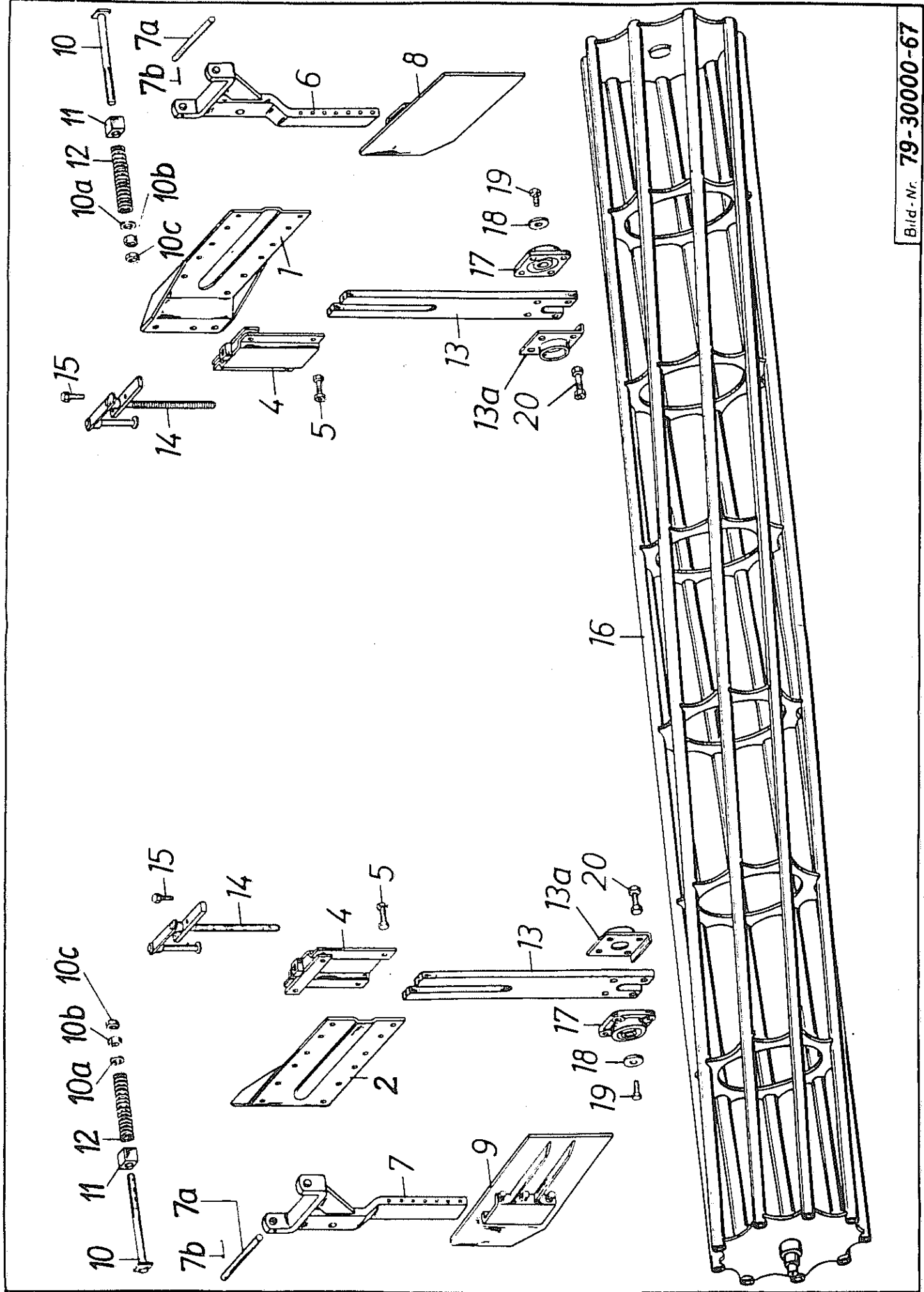
The timing is correct if the innermost tine carriers (R/H and L/H of the center gearbox) are assembled and keep moving in a parallel position.



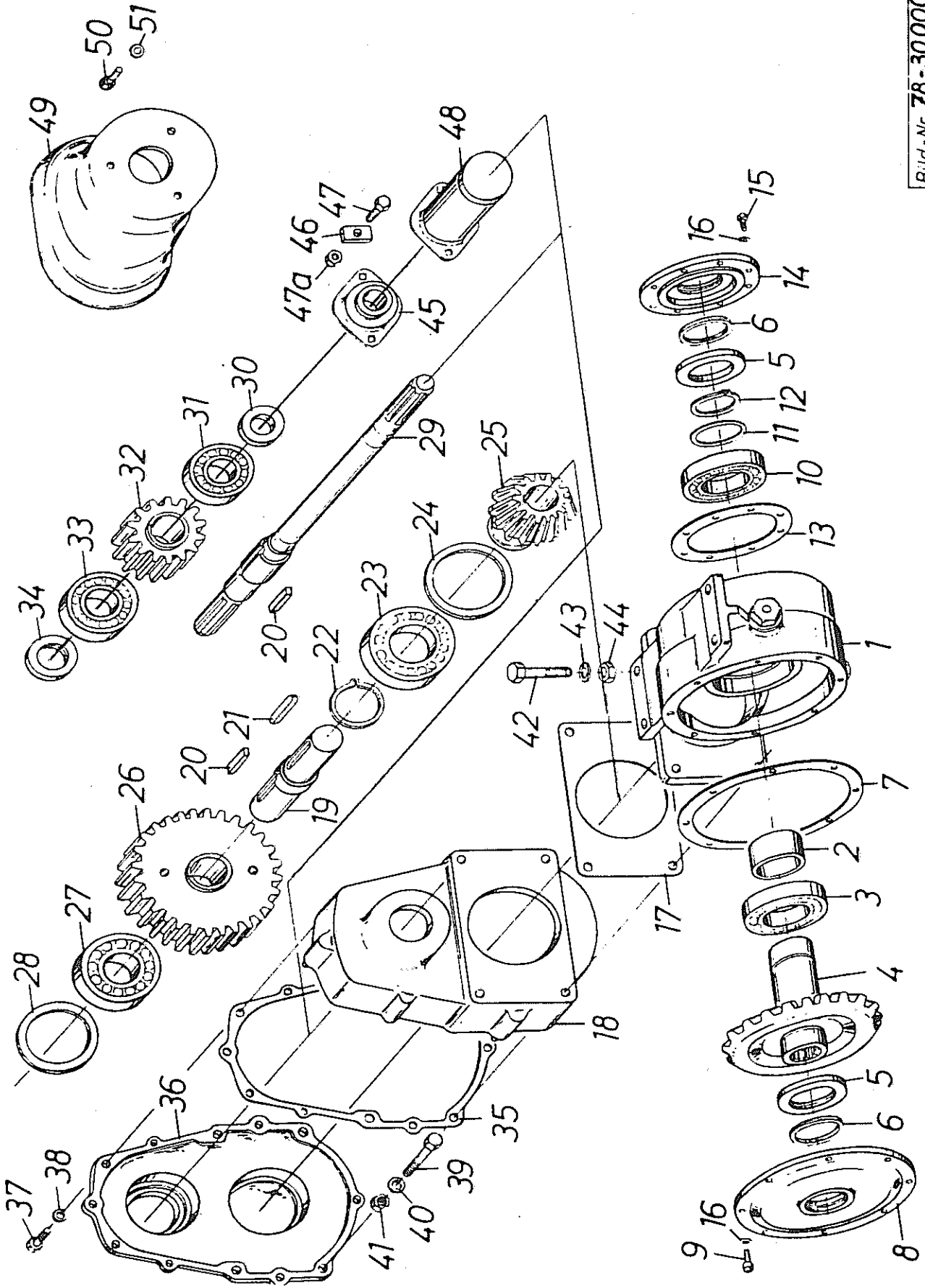
Ref. No.	Part No.	Description (79-30000-0065/E)	Model No.
		<u>from Serial No. 2700</u>	
1	9210.030.300	Linkage frame c/w chain and S-hook	
	9930.570.031	Chain, 22 links	
	9930.570.203	S-hook \varnothing 6	
2	9930.501.068	Hex. bolt M 24 x 1,5 x 240 8.8 DIN 960	
	9930.510.540	Hex. nut M 24 x 1,5 8 DIN 985	
	9930.520.184	Washer \varnothing 26/40 x 4 DIN 1441	
3	9210.030.301	Top link pin	
4	9920.570.227	Spring clip \varnothing 5 mm	
5	9210.030.302	Bottom link, R/H	
6	9210.030.303	Bottom link, L/H	
	9930.520.146	Washer \varnothing 21/40 x 3	
	9930.530.062	Tension pin 6 x 40 DIN 1481	
7	9210.030.304	Clamp, R/H	
8	9210.030.305	Clamp, L/H	
9	9920.560.043	Spring	
10	9210.030.306	Rope c/w clamp	
	9930.570.590	Clamp 1/4"	
11	9210.030.307	Bolt c/w washer and tension pin	
	9930.520.189	Washer \varnothing 26/50 x 4	
	9930.530.094	Tension pin 8 x 40 DIN 1481	
12	9210.030.308	Bottom link bar, Cat. II (measure A/D 977/ \varnothing 28)	
12	9210.030.309	Bottom link bar, Cat. III (measure A/D 1125/ \varnothing 36)	
13	9210.030.310	Stay, front, R/H	
14	9210.030.311	Stay, front, L/H	
15	9210.030.312	Stay, rear, R/H	
16	9210.030.313	Stay, rear, L/H	
17	9930.500.554	Hex. bolt M 20 x 160 8.8 DIN 931	
	9930.510.523	Hex. nut M 20 8 DIN 985	
18	9930.500.558	Hex. bolt M 20 x 260 8.8 DIN 931	
	9930.520.154	Washer A 21 DIN 7989	
	9930.510.523	Hex. nut M 20 8 DIN 985	
19	9210.030.416	Main frame for TE 400	
	9210.030.417	Main frame for TE 450	
20	9210.030.472	Bearing plate, R/H	
21	9210.030.471	Bearing plate, L/H	
22	9930.500.822	Hex. bolt M 16 x 40 8.8 DIN 933	
	9930.520.536	Spring lock washer 16 DIN 128	
	9930.510.235	Hex. nut M 16 8 DIN 934	
	9930.500.824	Hex. bolt M 16 x 50 8.8 DIN 933	
22a	9930.520.580	Ring (Schnorr) VS 16	
	9930.510.452	Nut (Stover) M 16 8 DIN 980	
23	9210.030.318	Parking prop	
24	9210.030.319	Guide for prop	
25	9930.500.822	Hex. bolt M 16 x 40 8.8 DIN 933	
	9930.520.536	Spring lock washer 16 DIN 128	
	9930.510.235	Hex. nut M 16 8 DIN 934	
26	9210.030.320	Bolt, angled	
27	9920.570.226	Spring clip \varnothing 4 mm	
28	9210.030.014	Thrust plate 125 mm long	
29	9210.030.455	Thrust plate 375 mm long	
30	9930.500.789	Hex. bolt M 12 x 40 8.8 DIN 933	
	9930.520.534	Spring lock washer 12 DIN 128	



Ref. No.	Part No.	Description (79-30000-0073/E)	Model No.
		<u>from Serial No. 2800</u>	
1	9210.030.510	Linkage frame c/w chain and S-hook	
1a	9930.570.031	Chain, 22 links	
1b	9930.570.203	S-hook \varnothing 6	
2	9930.501.068	Hex. bolt M 24 x 1,5 x 240 8.8 DIN 960	
3	9930.520.184	Washer \varnothing 26/40 x 4 DIN 1481	
4	9930.510.540	Hex. nut M 24 x 1,5 8 DIN 985	
5	9210.030.301	Top link pin	
6	9920.570.227	Spring clip \varnothing 5 mm	
7	9210.030.511	Bolt	
8	9930.530.096	Tension pin 8 x 50 DIN 1481	
9	9210.030.514	Bottom link	
10	9210.030.512	Bottom link pin	
11	9210.030.513	Spacer	
12	9930.570.240	Snaplock ring	
13	9210.030.307	Bolt c/w washer and tension pin (Ref. Nos. 13,14,15)	
14	9930.520.189	Washer \varnothing 26/50 x 4	
15	9930.530.094	Tension pin 8 x 40 DIN 1481	
16	9210.030.310	Stay, front, R/H	
17	9210.030.311	Stay, front, L/H	
18	9210.030.312	Stay, rear, R/H	
19	9210.030.313	Stay, rear, L/H	
20	9930.500.554	Hex. bolt M 20 x 160 8.8 DIN 931	
21	9930.510.523	Hex. nut M 20 8 DIN 985	
22	9930.500.558	Hex. bolt M 20 x 260 8.8 DIN 931	
23	9930.520.154	Washer A 21 DIN 7989	
24	9210.030.416	Main frame for TE 400	
24	9210.030.417	Main frame for TE 450	
25	9210.030.472	Bearing plate, R/H	
26	9210.030.471	Bearing plate, L/H	
27	9930.500.822	Hex. bolt M 16 x 40 8.8 DIN 933	
28	9930.520.536	Spring lock washer 16 DIN 128	
29	9930.510.235	Hex. nut M 16 8 DIN 934	
30	9930.500.824	Hex. bolt M 16 x 50 8.8 DIN 933	
31	9930.520.580	Ring (Schnorr) VS 16	
32	9930.510.452	Nut (Stover) M 16 8 DIN 980	
33	9210.030.014	Thrust plate 125 mm long	
34	9210.030.455	Thrust plate 375 mm long	
35	9930.520.534	Spring lock washer 12 DIN 128	
36	9930.500.789	Hex. bolt M 12 x 40 8.8 DIN 933	
37	9210.030.318	Parking prop	
38	9210.030.319	Guide for prop	
39	9210.030.320	Bolt, angled	
40	9920.570.226	Spring clip \varnothing 4 mm	



Ref. No.	Part No.	Description (79-30000-0067/E)	Model No.
1	9210.030.464	Guide plate, R/H	
2	9210.030.463	Guide plate, L/H	
4	9210.030.121	Guide pocket	
5	9930.500.787	Hex. bolt M 12 x 35 8.8 DIN 933	
	9930.500.481	Hex. bolt M 12 x 45 8.8 DIN 931	
	9930.520.534	Spring lock washer 12 DIN 128	
	9930.510.228	Hex. nut M 12 8 DIN 934	
6	9210.030.466	Deflector arm, R/H	
7	9210.030.465	Deflector arm, L/H	
7a	9210.030.467	Bearing bolt	
7b	9930.530.113	Tension pin 10 x 50 DIN 1481	
8	9210.030.086	Deflector, R/H	
9	9210.030.085	Deflector, L/H	
	9930.500.786	Hex. bolt with lead-in end M 12 x 30 8.8 DIN 933	
	9930.510.228	Hex. nut M 12 8 DIN 934	
10	9210.030.468	Spring bolt	
10a	9930.520.177	Washer \emptyset 25/44 x 4 DIN 125	
10b	9930.510.247	Hex. nut M 24 6 DIN 934	
10c	9930.510.317	Hex. nut M 24 8 DIN 936	
11	9910.600.417	Spacer	
12	9910.560.315 9920.560.135	Spring	
13	9210.030.242	Adjusting slide	
13a	9210.030.243	Support ring	
14	9210.030.256	Depth screw cpl.	
15	9930.500.789	Hex. bolt M 12 x 40 8.8 DIN 933	
	9930.520.534	Spring lock washer 12 DIN 128	
16	9210.030.321	Crumbler roller for TE 400	
16	9210.030.322	Crumbler roller for TE 450	
17	9930.541.301	Bearing flange M-UFL 207 D1	
18	9210.030.013	Washer	
19	9930.500.782	Hex. bolt M 12 x 25 8.8 DIN 933	
	9930.520.534	Spring lock washer 12 DIN 128	
20	9930.500.483	Hex. bolt M 12 x 50 8.8 DIN 931	
	9930.520.534	Spring lock washer 12 DIN 128	
	9930.510.228	Hex. nut M 12 8 DIN 934	



Ref. No.	Part No.	Description (78-30000-0039/E)	Model No.
1	9210.030.402	Drive housing c/w 2 plugs	TE 45 B
	9210.030.423	Plastic plug M 42 x 2 c/w breather	
	9930.570.325	Breather	
	9930.503.006	Plastic plug M 18 x 1,5 DIN 910	
	9930.551.109	Copper ring Ø 24/18 x 1,5	
2	9210.030.403	Spacer	
3	9930.541.113	Roller bearing NUP 212 E	
4	9210.030.405	Pinion	
5	9930.550.101	Oil seal BA 60-90-10	
6	9930.550.209	Ring JSD 60 (1 set)	
7	9910.551.225	Gasket	TE 48
8	9210.030.407	Cover	
9	9930.501.650	Bolt M 8 x 16 DIN 912	
10	9930.540.185	Grooved ball bearing 6212	
11	9930.520.373	Adaptor washer PS 60 x 75 x 1	
12	9930.531.539	Circlip A 60 x 2 DIN 471	
13	9910.551.226	Gasket	
14	9210.030.409	Cover	
15	9930.500.742	Hex. bolt M 8 x 20 DIN 933	
16	9930.520.575	Ring VS 8	
--	9210.030.425	Drive housing cpl. mounted (Ref. Nos. 1 - 16)	
17	9910.551.213	Gasket	
18	9210.030.335	Housing c/w grooved pin	
	9930.530.893	Grooved pin 10 x 32 DIN 1472	
19	9210.030.336	Shaft	
20	9930.531.387	Key B 14 x 9 x 55 DIN 6885	
21	9930.531.388	Key A 14 x 9 x 70 DIN 6885	
22	9930.531.541	Circlip A 65 x 2,5 DIN 471	
23	9930.541.115	Roller bearing NJ 213	
24	9930.520.485	Spacer SS 100 x 120 x 3,5	TE 46
25	9210.030.341	Bevel gear, 14 T	
26	9210.030.342	Pinion, 28 T (for 1000 RPM PTO)	
26	9210.030.424	Pinion, 21 T (for 540 RPM PTO)	
27	9930.540.267	Grooved ball bearing 6310	
28	9930.520.401	Adaptor washer PS 90 x 110 x 0,3	
	9930.520.402	Adaptor washer PS 90 x 110 x 0,5	
29	9210.030.411	Spline shaft	
30	9930.550.060	Oil seal BA 35 - 62 - 10	
31	9930.540.258	Grooved ball bearing 6308	
32	9210.030.347	Pinion, 14 T (for 1000 RPM PTO)	TE 47
32	9210.030.424	Pinion, 21 T (for 540 RPM PTO)	
33	9930.540.262	Grooved ball bearing 6309	
34	9930.550.088	Oil seal B2 45- 70 - 10	
35	9910.551.219	Gasket	
36	9210.030.350	Cover	
37	9930.500.762	Hex. bolt M 10 x 30 DIN 933	
38	9930.520.533	Spring lock washer 10 DIN 128	
39	9930.500.497	Hex. bolt M 12 x 120 DIN 931	
40	9930.520.534	Spring lock washer 12 DIN 128	
41	9930.510.228	Hex. nut M 12 DIN 934	
--	9210.030.426	Housing cpl. (Ref. Nos. 18 - 41) (f. 1000 RPM PTO)	
--	9210.030.427	Housing cpl. (Ref. Nos. 18 - 41) (f. 540 RPM PTO)	
--	9210.030.428	Drive housing cpl. (Ref.Nos. 1-41)(f. 1000 RPM PTO)	
--	9210.030.429	Drive housing cpl. (Ref.Nos. 1-41)(f. 540 RPM PTO)	
42	9930.500.824	Hex. bolt M 16 x 50 DIN 933	
43	9930.520.536	Spring lock washer 16 DIN 128	
44	9930.510.235	Hex. nut M 16 DIN 934	
45	9930.541.331	Bearing UEL PFL 207	
46	9210.030.413	Distance piece	
47	9930.500.456	Hex. bolt M 10 x 45 DIN 931	
47a	9930.510.512	Hex. nut M 10 DIN 985	
48	9210.030.430	Guard tube	
49	9930.610.743	Guard	
50	9930.500.741	Hex. bolt M 8 x 15 DIN 933	
51	9930.520.032	Washer A 8,4/25 x 2 DIN 9021, zinc plated	

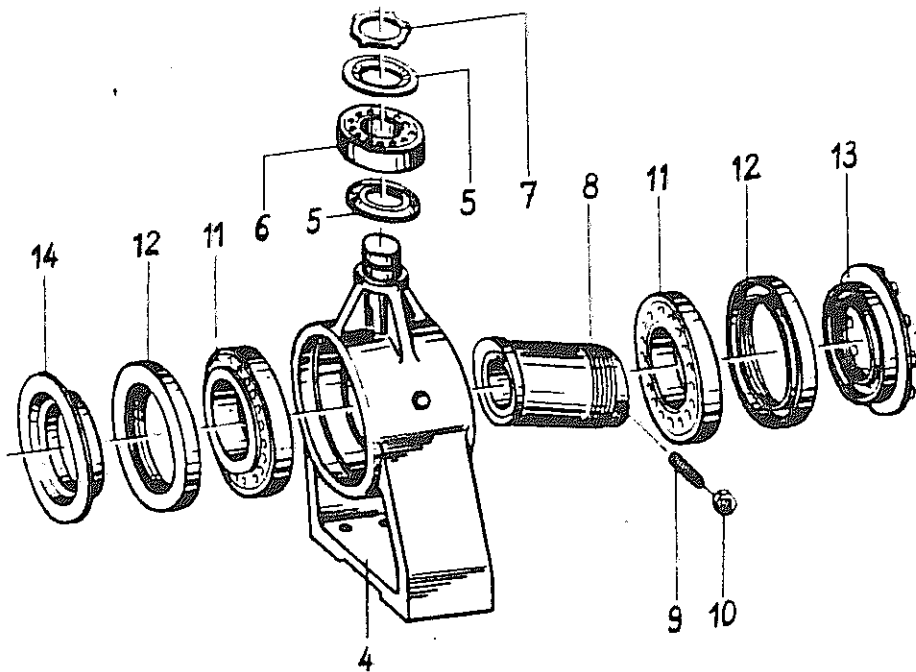
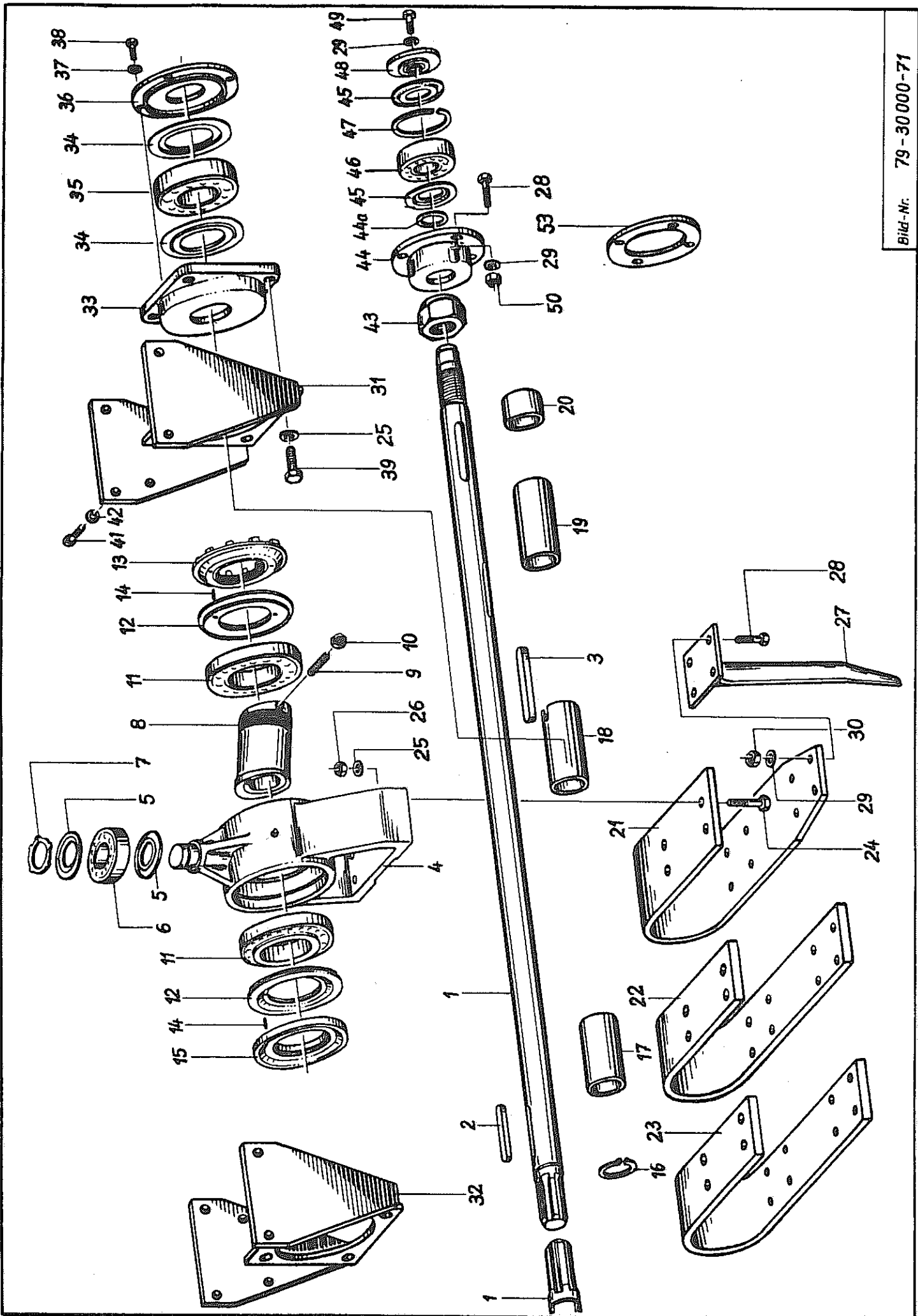


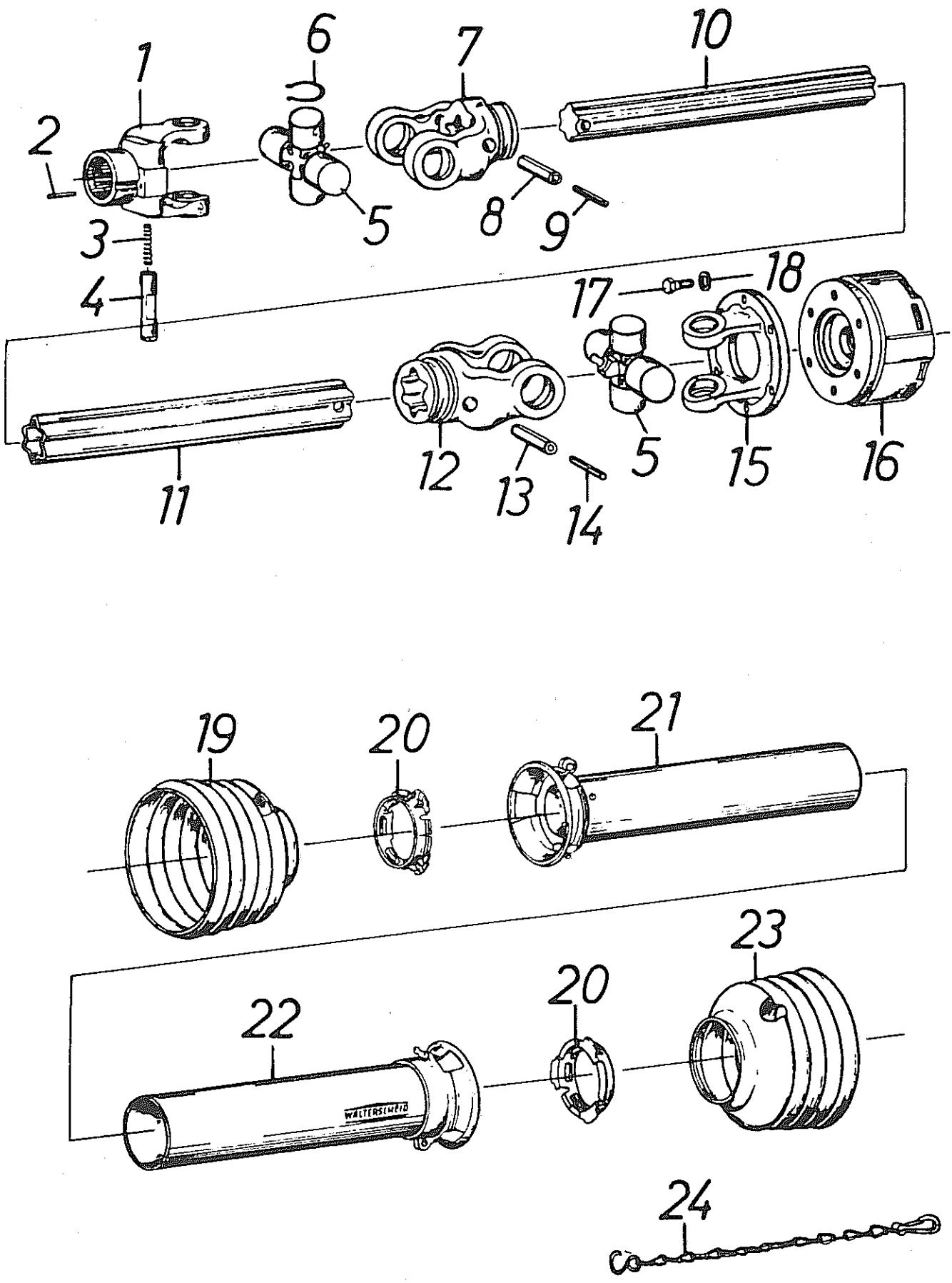
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ROTOR BEARING HOUSING (From Serial No. 3000)

4	9210.030.539	Rotor bearing housing c/w hex. bolt	TE 132
--	9930.500.740	Hex. bolt M 8 x 12 8.8 DIN 933	
5	9930.550.305	Nilos ring 1208 AV	
6	9930.541.406	Guide roller LR 208 NPPU	
7	9930.531.529	Circlip A 40 x 1,75 L	
8	9210.030.207	Bush	
9	9930.503.555	Allen screw M 12 x 45 DIN 913	
10	9930.510.306	Hex. nut M 12 8 DIN 936	
11	9930.541.011	Tapered roller bearing 302 15 A	
12	9930.551.180	WDR-Combi-Seal \varnothing 110/140 x 17	
13	9210.030.540	Crown ring	
14	9210.030.541	Ring	
--	9210.030.542	Rotor bearing housing cpl. (Ref. Nos. 4 - 14)	



Ref. No.	Part No.	Description (79-30000-0074/E)	Model No.
1	9210.030.515	Rotor shaft for TE 400	
1	9210.030.516	Rotor shaft for TE 450	
2	9930.531.389	Key A 14 x 9 x 100 DIN 6885	
3	9930.531.391	Key A 14 x 9 x 125 DIN 6885	
4	9210.030.446	Rotor bearing housing c/w grease nipple	TE 111
	9930.570.267	Grease nipple H1 - M 8 x 1,25	
5	9930.550.305	Nilos ring 1208 AV	
6	9930.541.406	Guide roller LR 208 NPPU	
7	9930.531.529	Circlip A 40 x 1,75 L	
8	9210.030.207	Excenter bushing	
9	9930.503.555	Allen screw M 12 x 45 DIN 913	
10	9930.510.306	Hex. nut M 12 8 DIN 936	
11	9930.541.011	Tapered roller bearing 302 15 A	
12	9930.550.416	Nilos ring	
13	9210.030.447	Crown ring (Ref. Nos. 13, 14)	TE 113
14	9930.530.038	Tension pin 4 x 10 DIN 1481	
15	9210.030.448	Ring c/w tension pin (Ref. Nos. 14 and 15)	
--	9210.030.449	Cpl. mounted rotor bearing housing (Ref. Nos. 4-15)	
16	9930.531.532	Circlip A 45 x 2,5 Sd DIN 471	
17	9210.030.450	Spacer 114,5 mm long	
18	9210.030.214	Bush 132 mm long	
19	9210.030.213	Spacer 132 mm long	
20	9210.030.502	Spacer 43 mm long	
21	9210.030.451	Tine carrier	
22	9210.030.474	Tine carrier, R/H	
23	9210.030.473	Tine carrier, L/H	
24	9930.500.824	Hex. bolt M 16 x 50 8.8 DIN 933	
25	9930.520.580	Ring (Schnorr) VS 16	
26	9930.510.452	Hex. nut M 16 8 DIN 680	
27	9210.030.070	Tine	
28	9930.500.789	Hex. bolt M 12 x 40 8.8 DIN 933	
29	9930.520.579	Ring (Schnorr) VS 12	
30	9930.510.229	Hex. nut M 12 8 DIN 934, zinc plated	
31	9210.030.504	Support bracket, R/H	
32	9210.030.503	Support bracket, L/H	
33	9210.030.505	Support bearing housing	TE 119
34	9930.550.386	Nilos ring 6311 - ZJV	
35	9930.540.268	Grooved ball bearing 6311 - 2Z - C3 - L71 - H	
36	9210.030.506	Cover	TE 120
37	9930.520.575	Ring (Schnorr) VS 8	
38	9930.500.741	Hex. bolt M 8 x 15 8.8 DIN 933	
39	9930.500.818	Hex. bolt M 16 x 30 8.8 DIN 933	
41	9930.500.794	Hex. bolt M 12 x 50 8.8 DIN 933	
42	9930.520.534	Spring lock washer 12 DIN 128	
43	9930.510.463	Hex. nut M 42 x 2 8 DIN 980	
44	9210.030.507	Bearing housing	TE 121
44a	9930.520.341	Washer PS 35 x 45 x 1	
45	9930.550.312	Nilos ring 2307 AV	
46	9930.540.780	Bearing, self-aligning 2307	
47	9930.531.810	Ring SB 80	
48	9210.030.508	Cover	TE 122
49	9930.500.782	Hex. bolt M 12 x 25 8.8 DIN 933	
50	9930.510.451	Hex. nut M 12 8 DIN 980	



Ref. No.	Part No.	Description (78-0001-0034/E)	Walterscheid Part No.
		<u>PTO-shaft W 700-SC 24-K92/4-024/025 No. 7332, 7333</u>	
1	9930.610.002	Quick release yoke, 21 splined	12.50.00
2	9930.530.037	Tension pin 4 x 26 DIN 1481	61.02.01
3	9930.560.201	Spring	66.01.00
4	9930.610.041	Quick release pin	65.01.04
5	9930.610.051	Unit package	12.00.00
6	9930.531.729	Circlip	12.00.50
7	9930.610.017	Inner yoke for profile S4GA	12.38.02
8	9930.530.122	Tension pin 10 x 75 DIN 1481	61.05.03
9	9930.530.070	Tension pin 6 x 75 DIN 1481	61.03.06
10	9930.610.282	Profile tube S4GA, length: 560 mm	75.44.96
11	9930.610.291	Profile tube S5, length: 550 mm	75.45.16
12	9930.610.023	Outer yoke for profile S 5	12.30.00
13	9930.530.121	Tension pin 10 x 85 DIN 1481	61.05.09
14	9930.530.071	Tension pin 6 x 85 DIN 1481	61.03.07
15	9930.610.135	Yoke \emptyset 136	55.30.02
16	9930.610.138	Disc clutch K 92/4 1 3/8" DIN 9611 (MdE 135 da Nm)	56.134.16
16	9930.610.136	Disc clutch K 92/4 1 3/8" DIN 9611 (MdE 95 da Nm)	56.134.16
17	9930.500.761	Hex. bolt M 10 x 25 DIN 933	60.05.05
18	9930.520.509	Spring lock washer A 10 DIN 127	60.82.00
19	9930.610.717	Protective cone	84.13.05
20	9930.610.682	Sliding ring	82.83.04
21	9930.610.655	Inner guard tube, length: 460 mm	80.38.03
22	9930.610.669	Outer guard tube, length: 475 mm	80.39.03
23	9930.610.720	Protective cone	84.14.05
24	9930.610.566	Stop chain	82.36.03
--	9930.610.824	Inner guard tube assy (Ref. Nos 19-21) Tube length: 460 mm, Cone 84.13.05	82.163
--	9930.610.833	Outer guard tube assy (Ref. Nos 20, 22, 23) Tube length: 475 mm, Cone 84.14.05	82.164

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