

COMBINATION TEDDER RAKE BE-TRXX



OPERATIONS & PARTS MANUAL

FOR MODELS:

• BE-TR300

• BE-TR300T

PURCHASE DATE	MODEL NO.	SERIAL NUMBER
DEALER		

TABLE OF CONTENTS

- 3 SAFETY
- 6 ADJUSTMENTS
- 8 TRANSPORT
- 9 MAINTENANCE
- 11 EXPLODED VIEW & PARTS LIST

USED TERMS AND SYMBOLS

Specifications are subject to change without previous notice.

Directional indicators (such as "right", "left", "front", "rear", etc.) are to be interpreted when facing in direction of travel; parts are numbered from left to right.

This is also the basic position for defining the direction in connection with which:

- RH (rotation) = clockwise rotation
- LH (rotation) = counter clockwise rotation
- Rotation around a vertical axis is defined when looking from top to bottom
- Rotation around a horizontal axis almost perpendicular to the direction of travel is defined when looking from left to right.
- Rotation of bolts, nuts, hand cranks, etc. is defined when looking from the position of operation.

Unit of measurement are given both in Imperial (US) and international metric units; the metric value shall be decisive (conversion table inside fold-out page).

Abbreviations used are: CW = Clockwise CCW = Counter Clockwise IPL = Illustrated Spare Parts Lists PIN* = Product Identification No. (= machine serial no.) PSN* = Production Series No. * = You can find this number on the identity plate of the machine.

A DANGER:

When you see this safety alert heading, be alert to the danger of injury or death of men and animals.

ATTENTION:

When you see this heading, be alert to the possibility of damage to equipment, crops, buildings, etc., but to financial and/or juridical problems (warranty, product liability).

Note:

This heading indicates a remark to make a job easier, better and safer.

SAFETY AND LIABILITY



Note: Everyone must be given operating instructions before starting to operate the equipment. Pass on all safety advices to other users!

You are responsible for the SAFE operation and maintenance of your equipment. It is the operator's responsibility to read and understand ALL safety and operating instructions in the manual and to follow these. You must ensure that you and anyone else who is going to operate, maintain or work around the unit be familiar with the operating and maintenance procedures and related SAFETY information contained in this manual. The manual will take you step-by-step through your working day and alert you to all good safety practices that should be adhered to while operating this equipment.

Remember, you are the key to safety. Good safety practices not only protect you but also the people around you. Make these practices a working part of your safety program. Be certain EVERYONE operating this equipment is familiar with the recommended operating and maintenance procedures and follow all safety precautions.

Most accidents can be prevented. Do not risk injury or death by ignoring goof safety practices.

Machines must never be tested on a tractor in an enclosed space because of the danger from exhaust fumes! Always check traffic and operational safety before putting the machine into operation.

Adhere to the general rules of health and safety precautions besides the advice of this manual.

The installed warning and advisory signs give important hints for a safe operation; adhering to these serves your own safety.

Keep safety decals and signs clean and legible at all times.

Replace safety decals and signs that are missing or have become illegible.

If original parts on which a safety decal or sign was installed are replaced, be sure that the replacement part also displays the current decal or sign.

When making use of public roads adhere to applicable traffic rules.

Become acquainted with all installations and control devices as well with the function BEFORE starting operation.

The clothing of the operator should be tight. Avoid wearing any loose clothing.

Before beginning to drive and/or operate, check surrounding area (children!) Ensure sufficient during all operation and transport.

No one shall drive on the machine during transport and/or operation.

Attach accessories in accordance with mounting instructions and only to the appropriate attaching points. Special care shall be taken when (dis)mounting the machine on/off the tractor.

When attaching/detaching the machine, place the jack stand into the corresponding position.

Always fit front weights to the fixing points provided for that purpose.

For road transport, bring machine in a transport position and secure it.

Install and check transport equipment, e.g., lighting, warning devices and guards. Adhere to maximum permissible axle loads, total weights and transport dimensions.

Never leave the operator's seat during operation or transport.

Moving behavior, steer ability and braking performances are influenced by mounted implements and ballast weight. Ensure sufficient braking effect and safe manageability.

Always adapt the speed to the local conditions. When making short turns note the larger radius because of increased width or length of the combination as well as mass and inertia changes due to the other center of gravity position.

No one should operate the machine unless all protection is installed and in functional position.

Never stay or allow anyone to stay within the operating area.

Never stay or allow anyone to stay within the turning and slewing area.

Before leaving the tractor, lower the machine onto the ground, apply the parking brake, shut down the engine and remove the ignition key.

Allow nobody to stay between tractor and machine unless the tractor is prevented from inadvertent rolling away by applied parking brake and/or placed chocks.

Store the unit in an area away from human activity.

Do not permit children to play on or around the stored unit. Use the provided jack supports, store in sable machine mode.

WARRANTY

In order to ensure safety. All persons working at and/or with this machine must read and understand this operation manual. Furthermore, this machine shall always be used, handled and stored in accordance with the design and construction destination (intended use) which also means:

- Exclusively work in accordance with the instructions given in the appropriate assembly, operation and repair instructions (manual) including all valid errata supplements as well as taking into account the relevant service bulletins; exclusively use correct tools and equipment being in a perfect condition.
- Strictly observe the applicable local regulations concerning safety and accident prevention, generally acknowledged and approved technical, medical and traffic rules as well the functional limitations and safety instructions stated in above mentioned technical documentation.
- Do not use any parts (spares, accessories, lubricants) other than those complying with manufacturer requirements. A part complies with manufacturer requirement when either genuine or approved by the manufacturer or when all its properties can be proven to meet with the appropriate manufacturer requirements for that very use/function.
- Only well instructed people being familiar with all possible danger shall work with or at the machine.
- The machine shall not be used nor transported unless all safety devices (cover, plates, rails, curtains, locks, etc). are correctly installed and in a perfect condition and set in the appropriate safety position. All safety decals and signs shall be legible and in the correct place.
- Unauthorized modification of or arbitrary changes on the machine or parts of it exclude any responsibility and reliability of the machine manufacturer for the consequences of that operation.

ATTENTION:

Those disregarding above mentioned rules act grossly negligent (careless) through which all manufacturers warranty and reliability for damages and all other consequences become extinct. The negligent person carries all risks!

Safety decals

This machine has been marked with safety decals of the new generation in accordance with ISO11684, i.e. without text. The decals are shown below.

TR 2005:

A DANGER:

Stop the engine and ensure it cannot be re-started during performance of work on the machine! TR 2011:

A DANGER:

When three-point linkage is controlled from outside ensure no one is between tractor and machine!





1. Tines

Put the tines in the tedding position by moving the tine shaft. Check all tines are in the correct position.

2. Wheels

The wheels must be in the lower or middle position, for this operation; i.e. the machine will be in its highest position.

3. Top Link

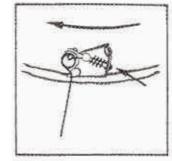
The top link is attached in the lower hole of the hitch-frame. When the points of the tines exactly touch the stubble in front of the top link is correct.

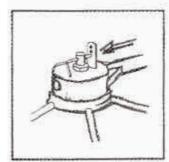
At 430 RPM of the PTO the tines have reached their lowest position.

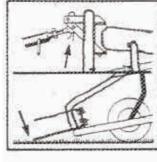
4. Swath Deflectors

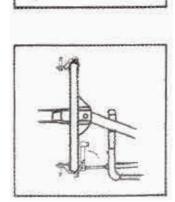
If required either one or both deflectors can be used to separate the swaths. This is particularly useful when working the outsides of a field.

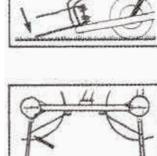
5. Locking Device Disconnect the locking device.











ADJUSTMENT FOR RAKING AND WINDROWING

1. Tines

Place the tines in the raking position by moving the tine pivot shaft. Check all tines are in the correct position.

2. Wheels

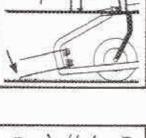
The wheels must be set in the upper or middle position for this operation; i.e. the machine will be in its lowest position.

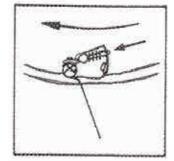
3. Top Link

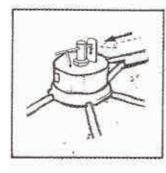
The top link is attached in the upper hole of the hitch-frame. When the point of the tines exactly touch the stubble in front of the rotors and the machine turns at full speed the length of the top link is correct. At 430 RPM of the PTO, the tines have reached their lowest position.

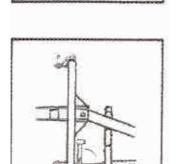
4. Swath Deflectors By placing the swath deflectors in the position shown an equal swath is built.

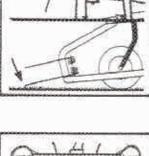
5. Locking Device Disconnect the locking device.











TRANSPORT POSITION

Lift the machine.

During transport the locking device in the center behind the tractor (see fig. 6). This also prevents the machine from sideways movement.

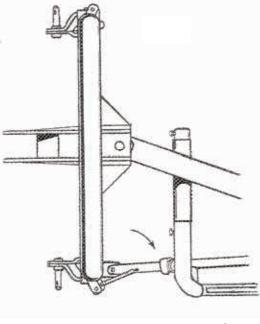
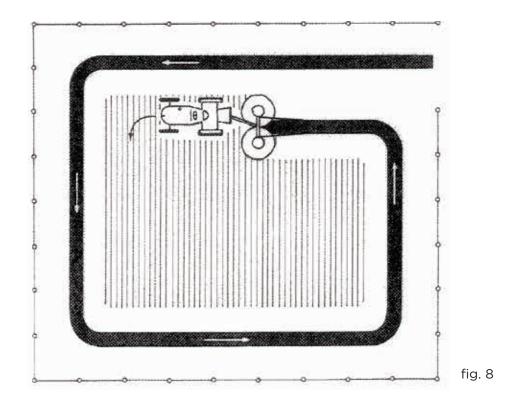


fig. 6

In working position, the Haybob is a trailed machine, allowing you to make left hand turns without trouble. For making right hand turns it is necessary to loft the machine on the tractor linkage.



RAKING TWO SWATHS TOGETHER

When you place the swath deflectors as shown in fig. 9, the swaths are laid down close together in the first operation. These swaths are easily put together afterwards.

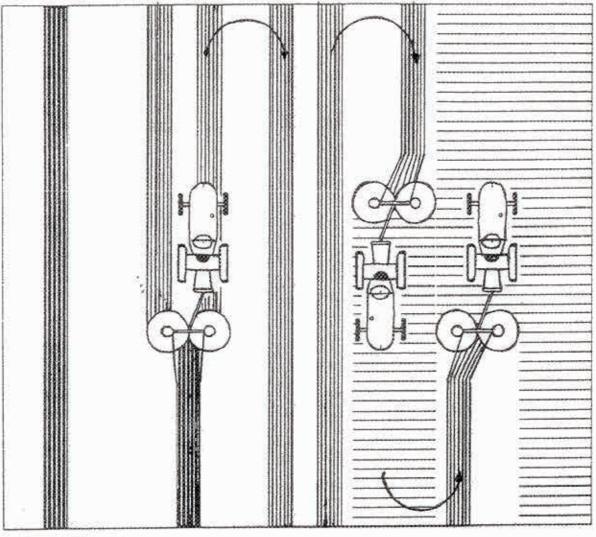


fig. 9

LUBRICATION AND MAINTENANCE

- Every 5 hours of work, the nipples and the inner tube of the PTO shaft must be greased.
- Every 10 hours of work, the nipples (2) on the gearboxes must be greased.
- Every 10 hours of work, the nipples (2) in the wheels must be greased.
- At the end of the season, the machine must be cleaned and made ready for the following season.

INSTRUCTIONS FOR ORDERING SPARE PARTS

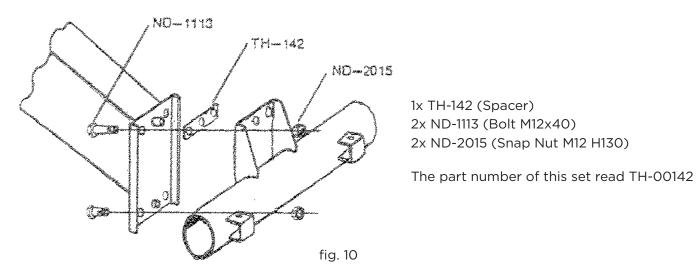
Your order for spare parts should contain the following information:

- 1. Machine-type and frame number.
- 2. Description, part number and quantity of parts in question.

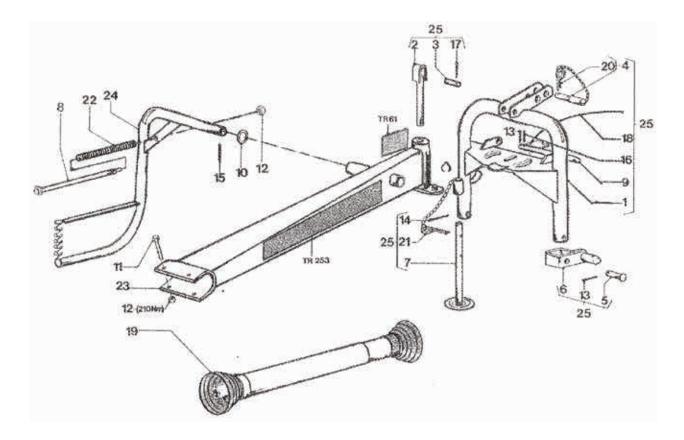
If in doubt, send a rough sketch or pattern clearly marked with your name and address. Only original PZ spars ensure excellent quality and correct fitting.

ACCESSORIES

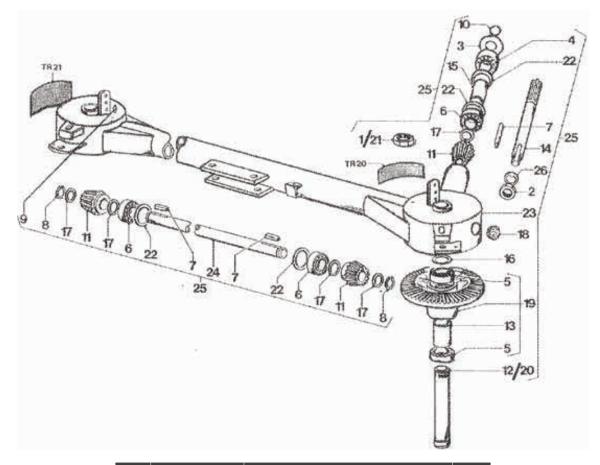
When using tractors, the lift capacity of which is insufficient, it may occur that the haybob cannot be raised high enough in some cases. In order to improve this, the following set can be fitted (see fig 10).



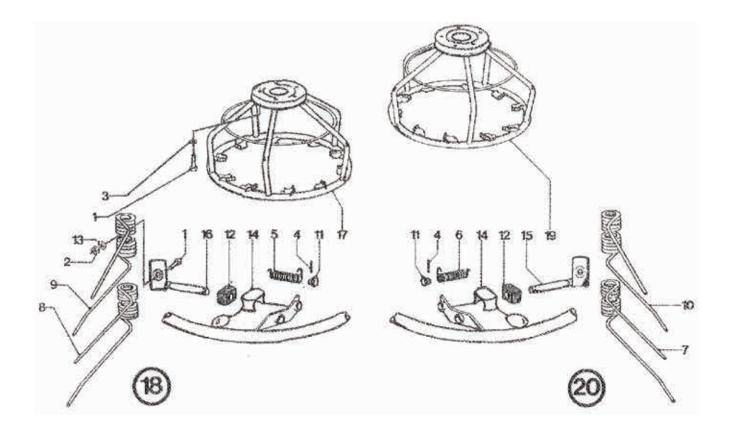
Attention: The bolt and nuts must be tightened firmly and this has to be checked after some hours of work.



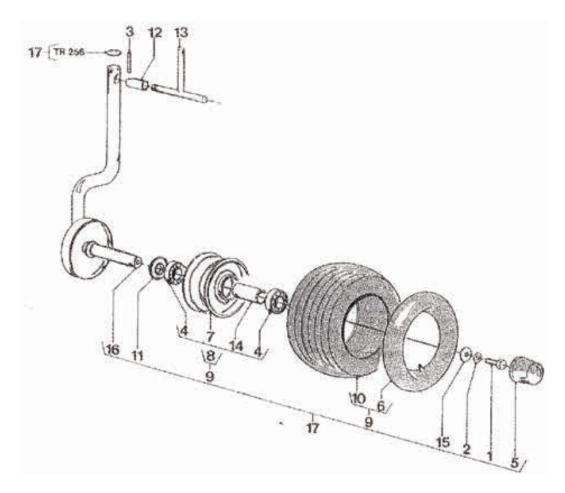
REF	PART NO	DESCRIPTION	QTY
1	GV 037	HITCH FRAME	1
2	GZ 0281	EYE PIN	1
3	GZ 283V	PIN	1
4	HK 0028V	PIN	1
5	HS 182V	PIN	2
6	HS 0188	HITCH BRACKET	2
7	HS 0200	JACK STAND	1
8	HS 0210V	PIN	1
9	HS 0218	LOCKING LEVER	1
10	MT 84V	RING	1
11	ND 1037V	BOLT (M16X20)	2
12	ND 2090V	LOCK NUT (M16)	3
13	ND 4020V	COTTER PIN (Ø5X35)	3
14	ND 4022V	COTTER PIN (Ø8X60)	1
15	ND 4040	SPRING PIN (Ø8X60)	1
16	ND 4044V	SPRING PIN (Ø6X60)	1
17	ND 4055V	COTTER PIN (Ø6X35)	2
18	ND 9347	CORD (Ø5X1900)	1
19	ND 9610	PTO DRIVE SHAFT W2200-K32-1350-SC14	1
20	PZ 25V	SPRING CLIP (Ø4)	1
21	PZ 199V	SPRING CLIP (Ø6)	1
22	PZ 281V	COMPRESSION SPRING	1
23	TH 0179	SUBFRAME	1
24	TH 0181	CROP DIVIDER	1
25	TH 00205	HITCH FRAME ASSEMBLY	1



REF	PART NO	DESCRIPTION	QTY
1	GT 37	NUT (1-1/2" R)	1
2	MT 174	NUT (M30X1.5)	1
3	MT 365	DUST SHIELD	1
4	ND 5027	BALL BEARING - 8207-2RS	1
5	ND 5036	BALL BEARING - 6210-2Z-C3	4
6	ND 5048	BALL BEARING - 6207-2Z	3
7	ND 7003	KEY (8X7X50)	3
8	ND 8008	CIRCLIP - A-35	2
9	ND 9004V	GREASE NIPPLE (M6X180°)	2
10	PZ 72	CIRCLIP	1
11	TH 2	BEVEL PINION	3
12	TH 041	RH TRUNNION	1
13	TH 65	SPACING TUBE	2
14	TH 67	MAIN DRIVE SHAFT	1
15	TH 68	SPACING TUBE	1
16	TH 0078	SHIM SET (-X50, 2X58, 5)	-
17	TH 0079	SHIM SET (-X35, 2X43)	-
18	TH 94	PLUG (NYLON)	1
19	TH 00137	BEVEL GEAR COMPL.	2
20	TH 0140	LH TRUNNION	1
21	TH 141	NUT (LH THREADED) 1-1/2"L	1
22	TH 00145	SHIM SET (-X60X72)	-
23	TH 0173	MAIN FRAME	1
24	TH 190	DRIVE SHAFT	1
25	TH 00190	MAIN FRAME COMPL.	1
26	VS 81	TAB WASHER (INT)	1



REF	PART NO	DESCRIPTION	QTY
1	ND 1075V	BOLT (M12X40)	30
2	ND 2085V	LOCK NUT (M12)	20
3	ND3105V	SPRING WASHER (13MM)	10
4	ND 4027	SPRING PIN (6X40)	20
5	PZ 99	TORSION SPRING (LH)	10
6	PZ 100	TORSION SPRING (RH)	10
7	PZ 106	RH TINE NARROW (YELLOW)	5
8	PZ 107	LH TINE NARROW (BLUE)	5
9	PZ 110	LH TINE WIDE (BLUE)	5
10	PZ 111	RH TINE WIDE (YELLOW)	5
11	TH 42	STOP RING (NYLON)	20
12	TH 93	SLEEVE (NYLON)	20
13	TH 100V	PLAIN WASHER (12MM)	20
14	TH 107	BEARING HOUSING	20
15	TH 108	RH TINE MOUNTING (YELLOW)	10
16	TH 0109	LH TINE MOUNTING (BLUE)	10
17	TH 0203	LH ROTOR (BLUE)	1
18	TH 00203	LH ROTOR ASSY. (BLUE)	1
19	TH 0204	RH ROTOR (YELLOW)	1
20	TH 00204	RH ROTOR ASSY. (YELLOW)	1



REF	PART NO	DESCRIPTION	QTY
1	ND 1072V	Bolt (M12x25)	30
2	ND 3105V	Spring Washer (13mm)	20
3	ND4035V	Spring Pin (5x20)	10
4	ND 5002	Ball Bearing (6205)	20
5	ND 9820V	Wheel Cap	10
6	ND 9779	Tube (15x6.00)	10
7	ND 9781	Rim	5
8	ND 9827	Rim Assembly	5
9	ND 9841	Wheel Assembly	5

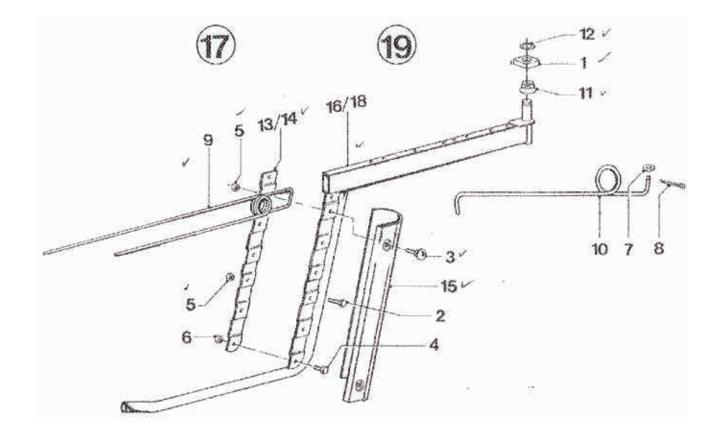
REF	PART NO	DESCRIPTION	QTY
10	ND 9842	TIRE (15X6.00-6 4PR)	20
11	TH 9	DUST RING (NYLON)	20
12	TH 33V	SPRING SLEEVE	20
13	TH 062V	LOCK	20
14	TH 66	Spacing Tube	10
15	TH 100V	Plain Washer	10
16	TH 0188	Wheel Carrier	1
17	TH 00188	Wheel Carrier Assembly	1

BE-TR300T - Tandem Wheel Kit

REF	PART NO	DESCRIPTION	QTY
1	01.012.025	Hex Bolt (12x25x1.75)	2
2	121.327	Dust Cap (52mm)	2
3	51.000.013	Tire (15"x600-6 4-Ply)	2
4	51.000.014	Tube (15"x600-6)	2
5	BE-TR-TANDEM	TR300 - Tandem Axel	2
6	ND 9827	Rim Assy. (15"x6.00-6)	2
7	TH 100V	Washer (29x12x5)	2
8	ТН 9	Dust Ring	2

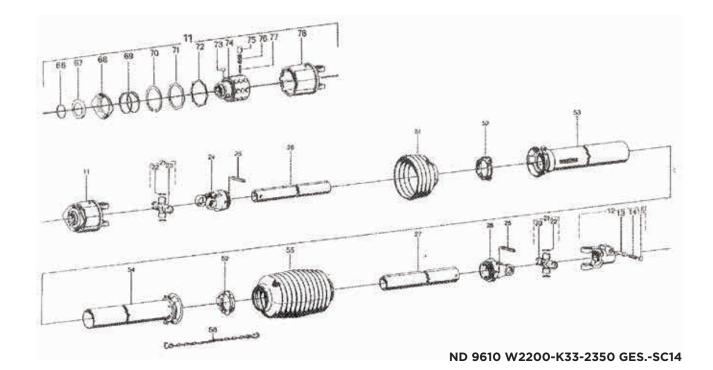
* Tandem Wheel Kit not illustrated in parts breakdown.

••Tandem Wheel Kit uses components from existing rake.



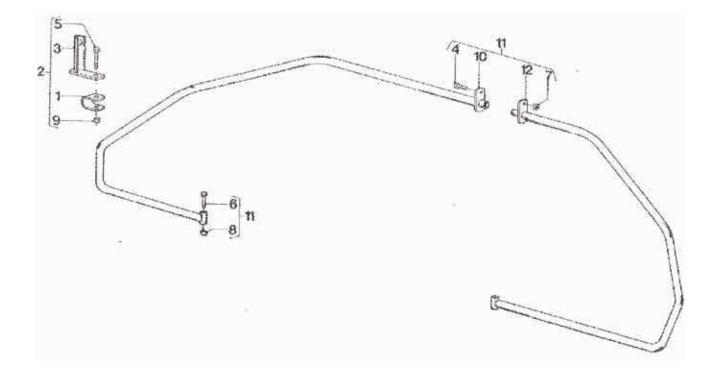
REF	PART NO	DESCRIPTION	QTY
1	JH 66		2
2	ND 1007		6
3	ND 1055V		4
4	ND 1063		4
5	ND 2064V		10
6	ND 2091V		4
7	ND 3009V		2
8	ND 4025V		2
9	PZ 114		10
10	PZ 115		2

REF	PART NO	DESCRIPTION	QTY
11	PZ 300V	Compression Spring	2
12	PZ 301V	Circlip	2
13	TH 115	LH Spring Holder	1
14	TH 116	RH Spring Holder	1
15	TH 125	Shield	2
16	TH 0208	RH Deflector Frame	1
17	TH 00208	RH Deflector Assy	1
18	TH 0209	LH Deflector Frame	1
19	TH 00209	LH Deflector Assy	1



REF	PART NO	DESCRIPTION	QTY
11	55.210.03	Star Ratchet Clutch Compl. (K33-R-2200-1 3/8" (6) M=700Nm)	2
12	20.10.00	Quick-Disconnect Yoke Compl. AG 2200-1 3/8" (6)	6
13	85.01.12	Quick-Disconnect Pin	4
14	66.01.49	Compression Spring	4
15	16.11.22	Washer	10
21	20.00.00	Cross Bearing Kit Compl.	4
22	62.23.00	Retaining Ring (24x1.5)	2
23	63.22.01	Grease Nipple	2
24	20.11.00	Inboard Yoke (RG 2200-0V)	10
25	61.05.04	Spring Type Straight Pin (10x65 DIN 1481)	2
26	75.11.16*	Profile Tube 39.4in. lg. (Ov: L=1000mm)	2
27	75.15.16*	Profile Tube 39.2in. lg. (1: L=995mm)	2
28	20.12.00	Inboard Yoke (RG 2200-1)	1
51	84.03.06	Guard Cone	1
52	82.83.06	Bearing Ring	2
53	80.37.03*	Outer Guard with Collar 37in. lg. (L=940mm)	1

REF	PART NO	DESCRIPTION	QTY
54	80.36.03*	Inner Guard Tube with Bearing Housing 37in. Ig. (L=940mm)	2
55	84.02.101	Guard Cone	2
56	82.36.03	Safety Chain	1
66	62.07.00	Snap Ring (SP 42 DIN 5417)	1
67	16.20.14	Backup Ring	2
68	65.03.05	Lock Collar	1
69	66.01.46	Compression Spring	1
70	62.15.00	Retaining Ring (80x2.5)	1
71	55.15.00	Supporting Ring	1
72	55.17.11	Sealing Ring	1
73	64.01.02	Ball (1/2"V DIN 5401)	2
74	55.14.18	Hub (1-3/8" (6)	1
75	55.01.03	Cam	1
76	66.01.04	Compression Spring; Outer	1
77	66.01.05	Compression Spring; Inner	1
78	20.31.03	Clutch Housing	1



REF	PART NO	DESCRIPTION	QTY
1	GZ 154	Brace	3
2	GZ 00156	Lamp Support Assembly	3
3	GZ 0252	Lamp Support	3
4	ND 1068V	Bolt (M10x35)	1
5	ND 1137V	Bolt (M8x50)	3
6	ND 1269	Bolt (M12x70)	2
7	ND 2084	Lock Nut (M10)	1
8	ND 2085V	Lock Nut (M12)	2
9	ND 2091V	Lock Nut (M12)	3
10	TH 0194	LH Guard Rail	1
11	TH 00194	Protection Compl.	1
12	TH 0195	RH Guard Rail	1



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