

ROTARY TEDDER RT455/555

Round Tine Arm Models
For machines July 2009 onwards

Instruction & Parts Manual



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Amendments

April 2006

July 2009

February 2012

Original Issue

Tine Arms revised to round type

RT455 models added

IMPORTANT VERIFICATION OF WARRANTY REGISTRATION



DEALER WARRANTY INFORMATION & REGISTRATION VERIFICATION

It is imperative that the selling dealer registers this machine with Twose of Tiverton Limited before delivery to the end user – failure to do so may affect the validity of the machine warranty.

To register machines go to the Twose web site at www.twose.com, log onto 'Dealer Inside' and select the 'Machine Registration button' which can be found in the Service Section of the site. Confirm to the customer that the machine has been registered in the section below.

Should you experience any problems registering a machine in this manner please contact the Twose Office on 01884 253691.

Registration Verification

Dealer Name:
Dealer Address:
Customer Name:
Date of Warranty Registration:/...../..... Dealer Signature:

NOTE TO CUSTOMER / OWNER

Please ensure that the above section above has been completed and signed by the selling dealer to verify that your machine has been registered with Twose of Tiverton Limited.

IMPORTANT: During the initial 'bedding in' period of a new machine it is the customer's responsibility to regularly inspect all nuts, bolts and hose connections for tightness and re-tighten if required. New hydraulic connections occasionally weep small amounts of oil as the seals and joints settle in – where this occurs it can be cured by re-tightening the connection – *refer to torque settings chart below*. The tasks stated above should be performed on an hourly basis during the first day of work and at least daily thereafter as part of the machines general maintenance procedure.

TORQUE SETTINGS FOR HYDRAULIC FITTINGS

HYDRAULIC HOSE ENDS		
BSP	Setting	Metric
1/4"	18 Nm	19 mm
3/8"	31 Nm	22 mm
1/2"	49 Nm	27 mm
5/8"	60 Nm	30 mm
3/4"	80 Nm	32 mm
1"	125 Nm	41 mm
1.1/4"	190 Nm	50 mm
1.1/2"	250 Nm	55 mm
2"	420 Nm	70 mm

PORT ADAPTORS WITH BONDED SEALS		
BSP	Setting	Metric
1/4"	34 Nm	19 mm
3/8"	47 Nm	22 mm
1/2"	102 Nm	27 mm
5/8"	122 Nm	30 mm
3/4"	149 Nm	32 mm
1"	203 Nm	41 mm
1.1/4"	305 Nm	50 mm
1.1/2"	305 Nm	55 mm
2"	400 Nm	70 mm

WARRANTY POLICY

WARRANTY REGISTRATION

All machines must be registered, by the selling dealer with Twose of Tiverton Limited before delivery to the end user. On receipt of the goods it is the buyer's responsibility to check that the Verification of Warranty Registration in the Operator's Manual has been completed by the selling dealer.

1. LIMITED WARRANTIES

- 1.01. All machines supplied by Twose of Tiverton Limited are warranted to be free from defects in material and workmanship from the date of sale to the original purchaser for a period of 12 months, unless a different period is specified.
- 1.02. All spare parts supplied by Twose of Tiverton Limited are warranted to be free from defects in material and workmanship from the date of sale to the original purchaser for a period of 6 months.
- 1.03. The manufacturer will replace or repair for the purchaser any part or parts found, upon examination at its factory, to be defective under normal use and service due to defects in material or workmanship. Returned parts must be complete and unexamined.
- 1.04. This warranty does not apply to any part of the goods, which has been subjected to improper or abnormal use, negligence, alteration, modification, fitment of non-genuine parts, accident damage, or damage resulting from contact with overhead power lines, damage caused by foreign objects (e.g. stones, iron, material other than vegetation), failure due to lack of maintenance, use of incorrect oil or lubricants, contamination of the oil, or which has served its normal life. This warranty does not apply to any expendable items such as blades, flails, flap kits, skids, soil engaging parts, shields, guards, wear pads or pneumatic tyres.
- 1.05. Temporary repairs and consequential loss - i.e. oil, downtime and associated parts are specifically excluded from the warranty.
- 1.06. Warranty on hoses is limited to 12 months and does not include hoses which have suffered external damage. Only complete hoses may be returned under warranty, any which have been cut or repaired will be rejected.
- 1.07. Machines must be repaired immediately a problem arises. Continued use of the machine after a problem has occurred can result in further component failures, for which Twose of Tiverton Limited cannot be held liable, and may have safety implications.
- 1.08. Except as provided herein, no employee, agent, dealer or other person is authorised to give any warranties of any nature on behalf of Twose of Tiverton Limited.
- 1.09. For machine warranty periods in excess of 12 months the following additional exclusions shall apply:
 - 1) Hoses, external seals, exposed pipes and hydraulic tank breathers.
 - 2) Filters.
 - 3) Rubber mountings.
 - 4) External electric wiring.

N.B. Warranty cover will be invalid if any non-genuine parts have been fitted or used. Use of non-genuine parts may seriously affect the machine's performance and safety. Twose of Tiverton Limited cannot be held responsible for any failures or safety implications that arise due to the use of non-genuine parts.

2. REMEDIES AND PROCEDURES

- 2.01. The warranty is not effective unless the Selling Dealer registers the machine, via the Twose web site and confirms the registration to the purchaser by completing the Verification of Warranty Registration in the operator's manual.
- 2.02. Any fault must be reported to an authorised Twose dealer as soon as it occurs. Continued use of a machine, after a fault has occurred, can result in further component failure for which Twose of Tiverton Limited cannot be held liable.
- 2.03. Repairs should be undertaken within two days of the failure. Claims submitted for repairs undertaken more than 2 weeks after a failure has occurred, or 2 days after the parts were supplied will be rejected, unless the delay has been authorised by Twose of Tiverton Limited.
- 2.04. All claims must be submitted, by an authorised Twose Service Dealer, within 30 days of the date of repair.
- 2.05. Following examination of the claim and parts the manufacture will pay, at their discretion, for any valid claim the cost of any parts and an appropriate labour allowance if applicable.
- 2.06. The submission of a claim is not a guarantee of payment.
- 2.07. Any decision reached by Twose of Tiverton Limited is final.

3. LIMITATION OF LIABILITY

- 3.01. The manufacturer disclaims any express (except as set forth herein) and implied warranties with respect to the goods including, but not limited to, merchantability and fitness for a particular purpose.
- 3.02. The manufacturer makes no warranty as to the design, capability, capacity or suitability for use of the goods.
- 3.03. Except as provided herein, the manufacturer shall have no liability or responsibility to the purchaser or any other person or entity with respect to any liability, loss, or damage caused or alleged to be caused directly or indirectly by the goods including, but not limited to, any indirect, special, consequential, or incidental damages resulting from the use or operation of the goods or any breach of this warranty. Notwithstanding the above limitations and warranties, the manufacturer's liability hereunder for damages incurred by the purchaser or others shall not exceed the price of the goods.
- 3.04. No action arising out of any claimed breach of this warranty or transactions under this warranty may be brought more than one (1) year after the cause of the action has occurred.

4. MISCELLANEOUS

- 4.01. The manufacturer may waive compliance with any of the terms of this limited warranty, but no waiver of any terms shall be deemed to be a waiver of any other term.
- 4.02. If any provision of this limited warranty shall violate any applicable law and is held to be unenforceable, then the invalidity of such provision shall not invalidate any other provisions herein.
- 4.03. Applicable law may provide rights and benefits to the purchaser in addition to those provided herein.



DECLARATION OF CONFORMITY

Conforming to EU Machinery Directive 2006/42/EC

We,

TWOSE of TIVERTON LIMITED,
6 Chinon Court, Lower Moor Way,
Tiverton Business Park, Tiverton, Devon, EX16 6SS, UK

Hereby declare that:

The Product; Tractor Mounted Rotary Tedder

Product Code; TSIP

Serial No. & Date Type

Manufactured in; Slovenija

Complies with the required provisions of the Machinery Directive 2006/42/EC
The machinery directive is supported by the following harmonized standards;

- BS EN ISO 14121-1 (2007) Safety of machinery - Risk assessment, Part 1: Principles Part 2: practical guide and examples of methods.
- BS EN ISO 12100-1 (2010) Safety of machinery - Part 1: Basic terminology and methodology Part 2: Technical principles.
- BS EN 349(1993)+ A1 (2008) Safety of machinery - Minimum distances to avoid the entrapment with human body parts.
- BS EN 953 (1998) Safety of machinery - Guards General requirements for the design and construction of fixed and movable guards.
- BS EN 982(1996)+ A1 (2008) Safety requirements for fluid power systems and their components. Hydraulics

Signed *Responsible Person*
CHRISTIAN DAVIES on behalf of **TWOSE of TIVERTON LIMITED**

Status: General Manager

Date: May 2011

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TECHNICAL DATA

Type	Tedder 455	Tedder 555
Number of rotors	4	4
Diameter of rotor	1,5m	1,75m
No. of tines/rotor	6	6
Angle of tines	14-18 Degrees	14-18 Degrees
Working capacity	4,5 ha/h	5,5 ha/h
Working width	4,5m	5,3m
Transport width	2,9m	2,95m
Width of the machine	4,94m	5,72m
Height	2,4m	2,7m
Length	1,8m	2,0m
Working speed up to	12km/h	12km/h
Weight	425kg	475kg
Necessary tractor power	15 kW/20HP	15 kW/20HP
PTO Speed	450-540 RPM	450-540 RPM
Rotor Speed @ 540 RPM on PTO shaft	175 RPM	175 RPM
Tyres	15x6.00-6	15x6.00-6
Frame	adjustable	adjustable
Hitch frame 3 point flexible	Pull type	Pull type
Lifting to transport position	Hand operated hydraulic system	Hand operated hydraulic system
PTO Shaft:		
Length between the joints (<i>pull type hitch</i>)	1350mm	1350mm
Safety coupling	900Nm	900Nm
working snap	300Nm	300Nm

MACHINE RECORD PLATE

Information on the plate includes Machine Type, Serial Number and Weight. The machine type and serial number must always be quoted in all correspondence and when ordering spare parts.

DESCRIPTION

RT455 & RT555 Rotary Tedders are designed for forage tedding and spreading. They work on the principle of rotating spring tines attached to rotors. The four forward-angled rotors contra-rotate enabling the spring tines to gently rake, collect and turn the forage.

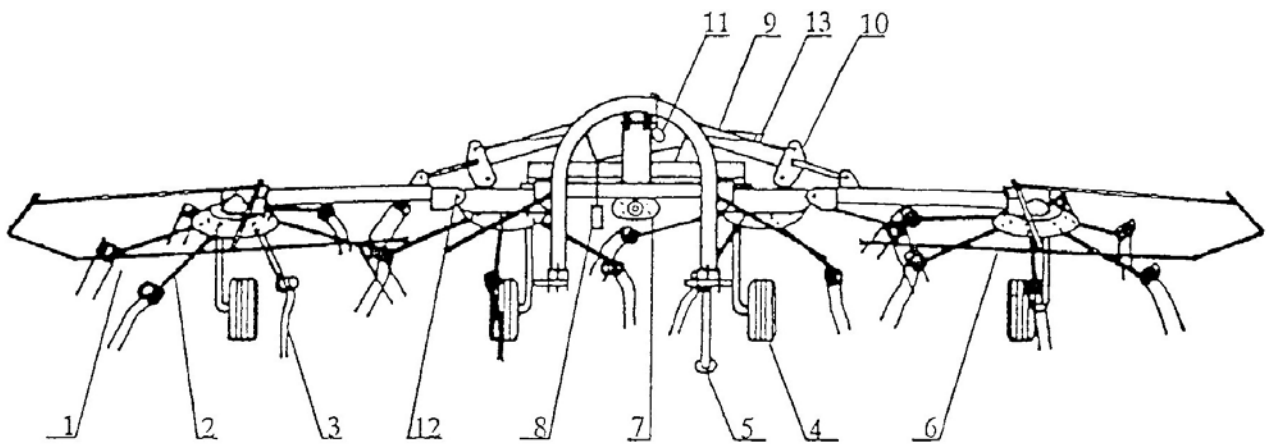
Gentle, airy and completely even scattering and tedding essentially accelerates drying and reduces losses which occur as a result of plant crumbling. Reducing the drying time and lessening the dependency on good weather will result in the preservation of valuable nourishment.

The tedder is constructed with individual support wheels located on each rotor allowing the machine to work efficiently on uneven surfaces.

These tedders can be connected to any type of tractor equipped with a three point connection system and a hydraulic connection. Machines are powered via a PTO shaft.

Setting the tedder into working or transport position is a simple and fast operation with a help of hydraulic cylinders, operable from the tractor cab. Work with the tedder is simple, clear and safe.

GENERAL ARRANGEMENT



1. Side rotor
2. Spring tine arm
3. Spring tine
4. Support wheel
5. Jack stand
6. Protection rail
7. Protection of the P.T.O. shaft
8. Hydraulic tube
9. Hydraulic cylinder
10. Rotor hold/for transport position
11. Pull rope
12. Gear joint
13. Lifting and lowering speed adjusting screw

TEDDER WORK DEMONSTRATION

1. Scattering of cut grass
2. Swath scattering
3. Tedding
4. Tedding or scattering in side position

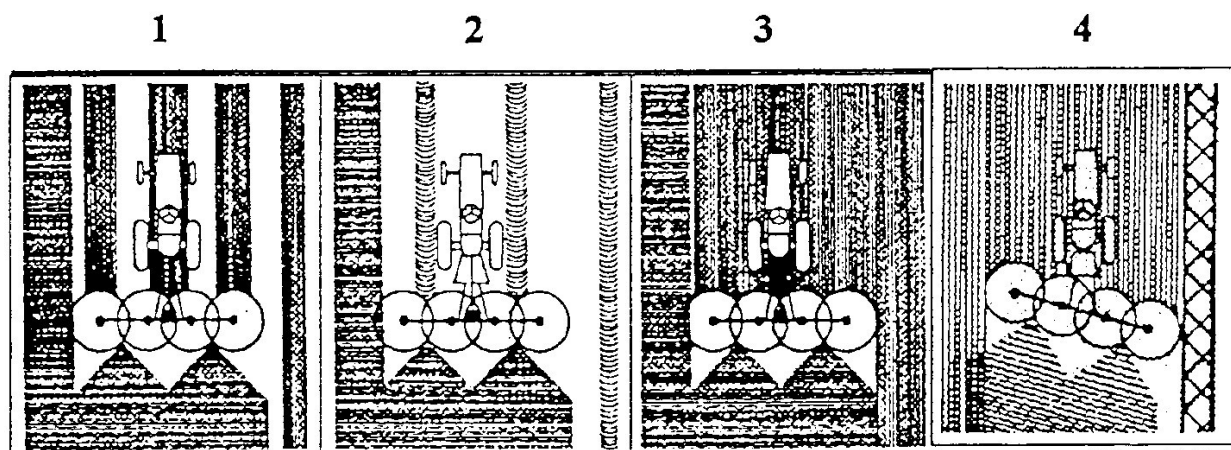


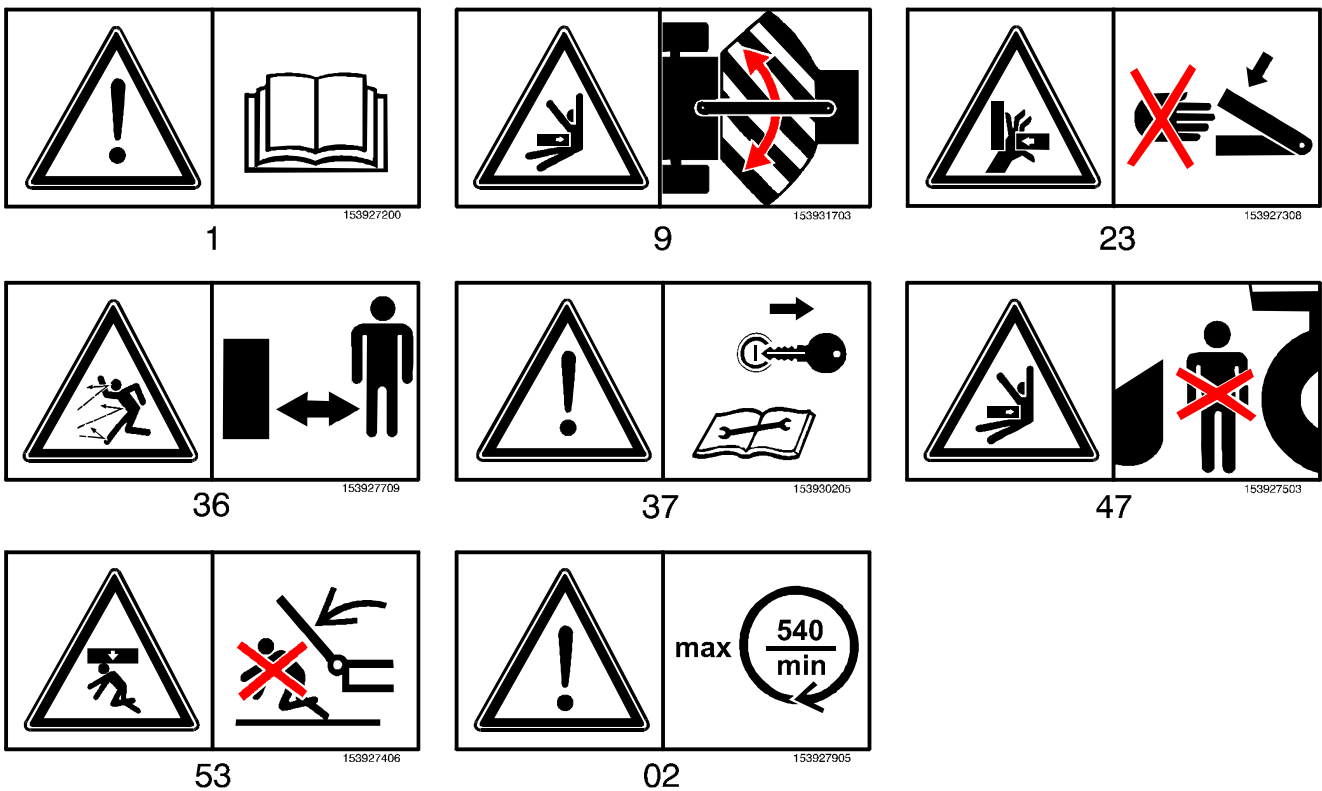
Fig. 1

SAFETY

When working with the tedder, the operator has to follow, laws and statutes on safety at work as well as the manufacturer's instructions.

1. The P.T.O. Shaft and the tractor must be switched off during any work on the tedder.
2. Make sure that nobody is near the machine before starting.
3. Nobody should be in the working area of the tedder during the work.
5. The P.T.O. shaft protection must be fixed by the chain.
4. Protections on the tedder (6) must always be well fastened.
6. Place the tedder safety, that it can not be turned over, when disconnected from the tractor.
7. Be particularly careful when lowering the rotors into the working position.
8. Before each transport make sure to protect the two lifted rotors with the rotor holds/blocking elements/.

Safety Decals



- 1 Read and observe operator's manual.
- 9 Stay clear of articulation area while engine is running.
- 23 Never reach into the crushing danger area as long as parts may move.
- 36 Stay clear while engine is running.
- 37 Shut off engine and remove key before performing maintenance or repair work.
- 47 Stay clear of danger area between front attachment and machine.
- 53 Stay clear of swinging area of implements.
- 02 Max. no. of. rpm and direction of rotating.

INSTRUCTIONS FOR THE WORK WITH THE TEDDER

When connecting the tedder on the tractor for the first time, check the length of the P.T.O. shaft, according to the P.T.O. Shaft manufacturer's manual. Use only P.T.O. shafts with a built-in safety coupling.

When connecting the tedder to the 3 point linkage of the tractor, do not forget to lift the jack stand and secure it.

To place the tedder into the working position, place the tedder on the ground/the tedder is connected with the tractor/, use the hydraulic lever to release the vertically set rotors. Pull the string (which you have previously led to the tractor and is in the reach of the hand) and lift blocking elements and lower side rotors onto support wheels.

The speed of lowering-lifting the rotors can be adjusted by adjusting screw on each hydraulic cylinder, separately. We suggest slower speed of lowering-lifting in order to avoid damage. Before you start to work pull out the transport safety pin on the top of the hitch frame, so that the tedder can follow the ground contours. (fig.2).

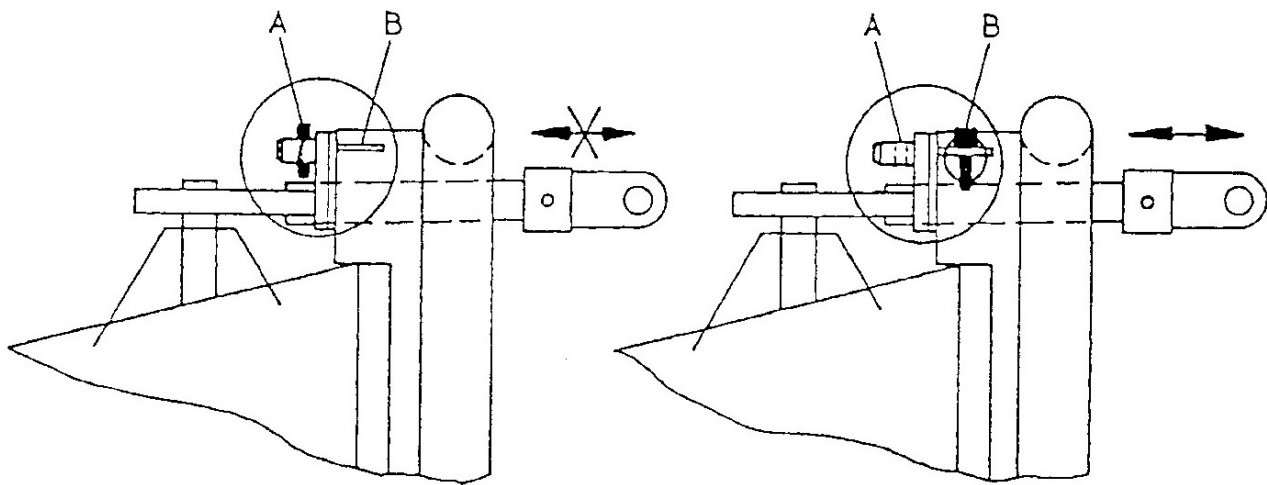


Fig. 2

When the tedder is in the working position the safety pin should be in position B, when the tedder is in the transport position the safety pin should be in position A. If you do not pull out the safety pin, the damage on the wheels can occur.

The tedder has a flexible link which enables turning the tedder to the left or to the right. To diminish the swinging of the tedder (6 rotors) from left to right and back, you should tighten the screws on amortizers of swinging. Amortizers of swinging are placed between the bow of the hitch frame and the frame-work of the machine. When working in one of the side positions, the tedder throws the forage on one side only. You can ted or scatter near fences, fields or ditches because it throws the forage away from the obstacle. Wheels are not flexible during the work. The flexibility is ensured by the flexible hitch frame.

Tedder can be moved to left or to the right by aid of adjustable wheels, which have 3 possibilities of adjustment: straight A, right B, left C (fig. 3).

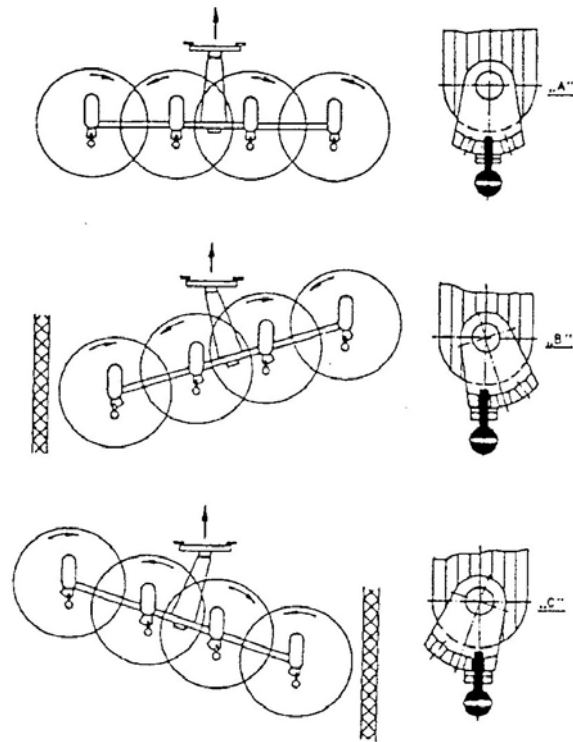


Fig. 3

In case there is little grass, start tedding and scattering in the middle of the meadow, in side position, to get the forage together (fig.4).

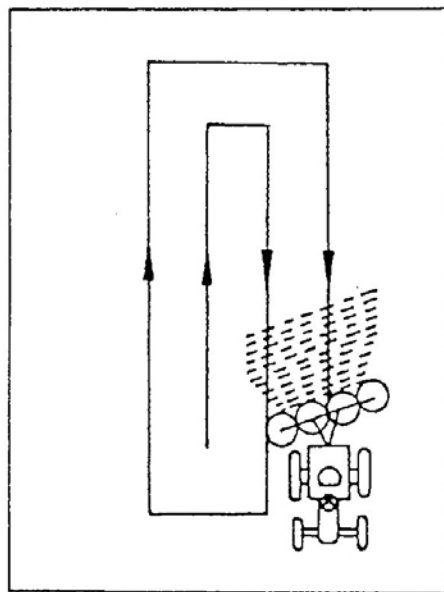
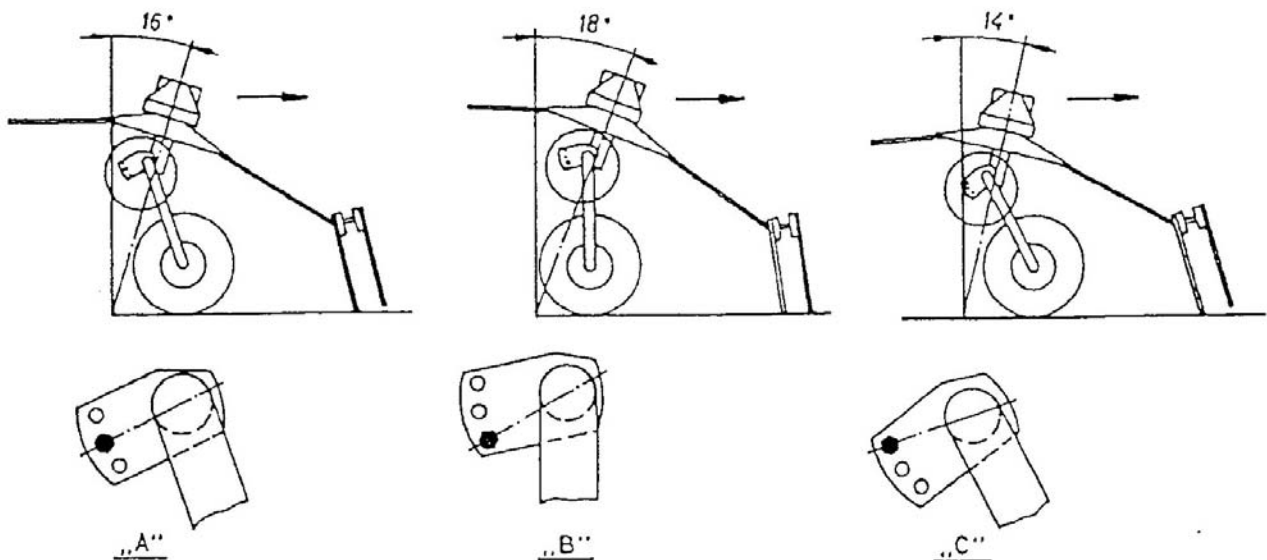


Fig. 4

The height of tedding can be adjusted to allow the spring tines to reach the turf. The exact adjustment is to be done with the upper tractor link. Check during the work that the spring tines are not going to deep into the turf, because it can be damaged, and the forage could be contaminated by the soil. The rotor can be adjusted in three positions. The basic position is, when the screw is in the middle position. The angle is 16° /Fig.5A/. This position is the most common one. When there is a lot of forage, the wheel axle should be adjusted so, that the screw is in the lower hole /Fig. 5B/.

In this case the angle of the rotors will be increased up to approximately 18°. The tines which must reach down to the turf will in this position turn and scatter more intensively and easy. On the contrary when there is little forage, the same screw should be placed in the upper hole (Fig.5C). In this case the angle of the rotors is only about 14°. In this positions the tines will more easily reach smaller quantity of short forage, which will provide sufficient scattering and tedding. If you have a tedder which offers the possibility to turn the outer rotors inside during the transport. You have to do following before turning the motors inside:

- release the bolts of the outer wheels, so that the wheels are freely movable and can be fixed into transport position.
- when you are turning the rotor to the inside position you have to turn the tines slightly at the same time. in order to find the space so that the tines pass the hitch holder.
- You are allowed to switch on the drive of the tedder only when the tedder is the working position (when all the rotors are in the lower position).



Fig, 5

MAINTENANCE AND LUBRICATING

The maintenance of the tedder is not exacting, but you should consider following instructions to prolong its life time:

1. The drive mechanism is made of cone gear drives. The middle drive and the reduction gear-box are filled with the EP-O semi liquid grease up to the stopper.
2. The rotor drives should be lubricated with the LIS 2 grease every 10 to 15 working hours. Lubricate also bolts on side rotor joints and double P.T.O. shaft joints. The side rotors propulsion gears, must be lubricated every 8 working hours.
3. The number of the nipples and the time of each lubricating is to be seen from the lubricating scheme (Fig. 6).
4. Lubricate the P.T.O. shaft according to its manual.
5. The rotor gear boxes must be lubricated every 10 to 15 working hours.
6. Control the screws by which spring tines and spring tine holders are fastened. Make sure to do that after few first hours of work.
7. The tines are fixed correctly if they are inclined under exact angle (Fig. 7).

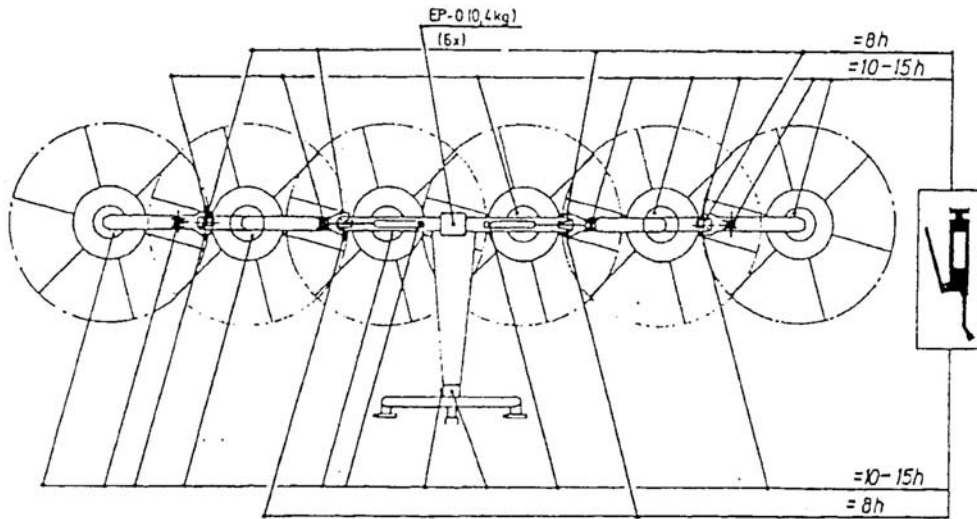


Fig. 6

8. Control check the tyre pressure and keep it constantly at 2 bars.
9. In winter time check the tedder and prepare it for the work in the forage season.
10. Lubricate all flexible points on the machine. All other bearings are closed and permanently lubricated.
11. When fitting the hitch frame on the tedder's housing, tight strongly the screw M16x30 PART no.27 (Tightening moment $M=195$) and secure them by tab washers. (Part No. 45) by bending the washer extension against the frame holder and by bending the rest of the washer against the screw head (fig. 8).

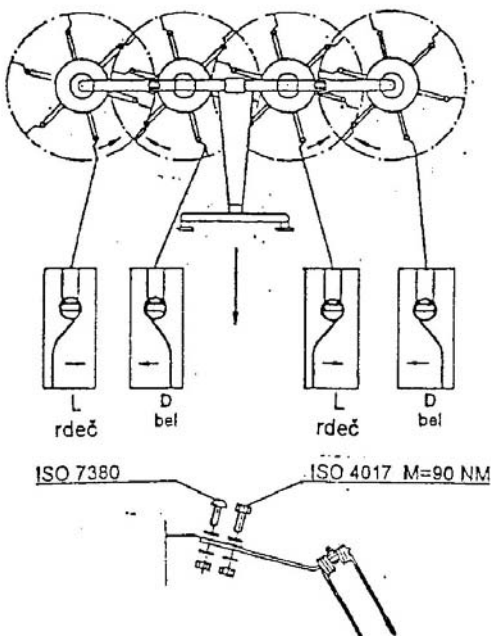


Fig. 7 A,B

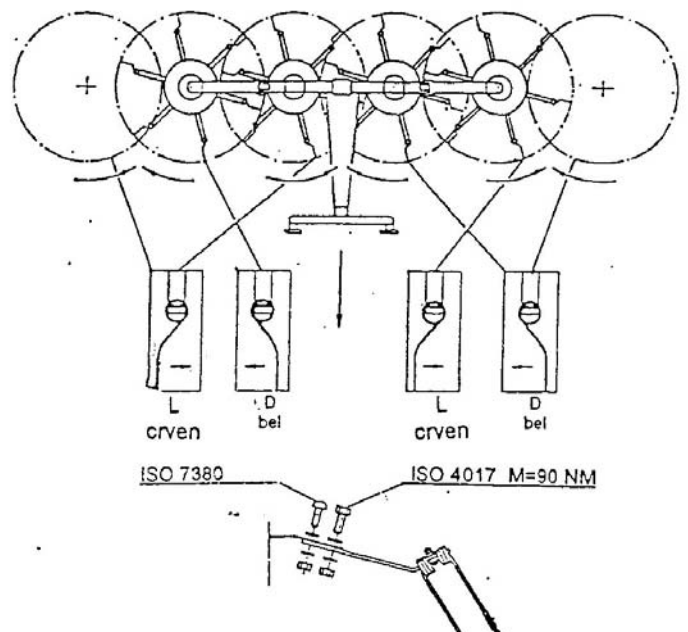
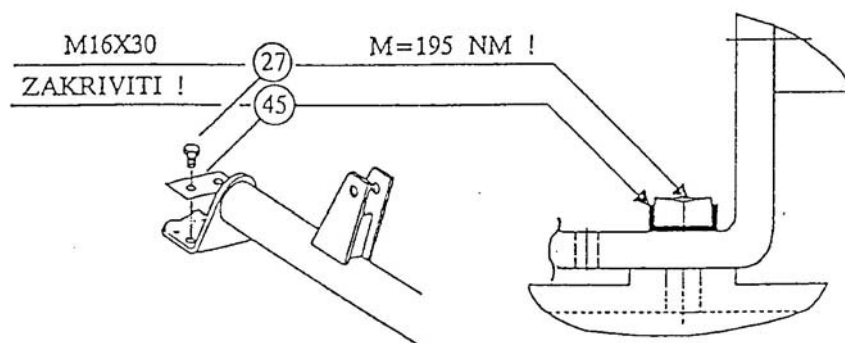


Fig. 7 C

**Fig. 8**

PERIODIC ATTENTION

A thorough check and overhaul is necessary for the tedder every year. The tedder should be overhauled from time to time during the year to see if lubricating or maintenance are needed.

Overhaul consists of:

- Cone drives examination
- Examination of the hydraulic safety mechanism for transport
- Control of the spring tines adjustment
- Examination of P.T.O. shaft protections
- Lubrication according to the instructions for maintenance and lubrication

Parts Section RT455 & RT555 Rotary Tedders

For best performance...

USE ONLY GENUINE TWOSE SERVICE PARTS

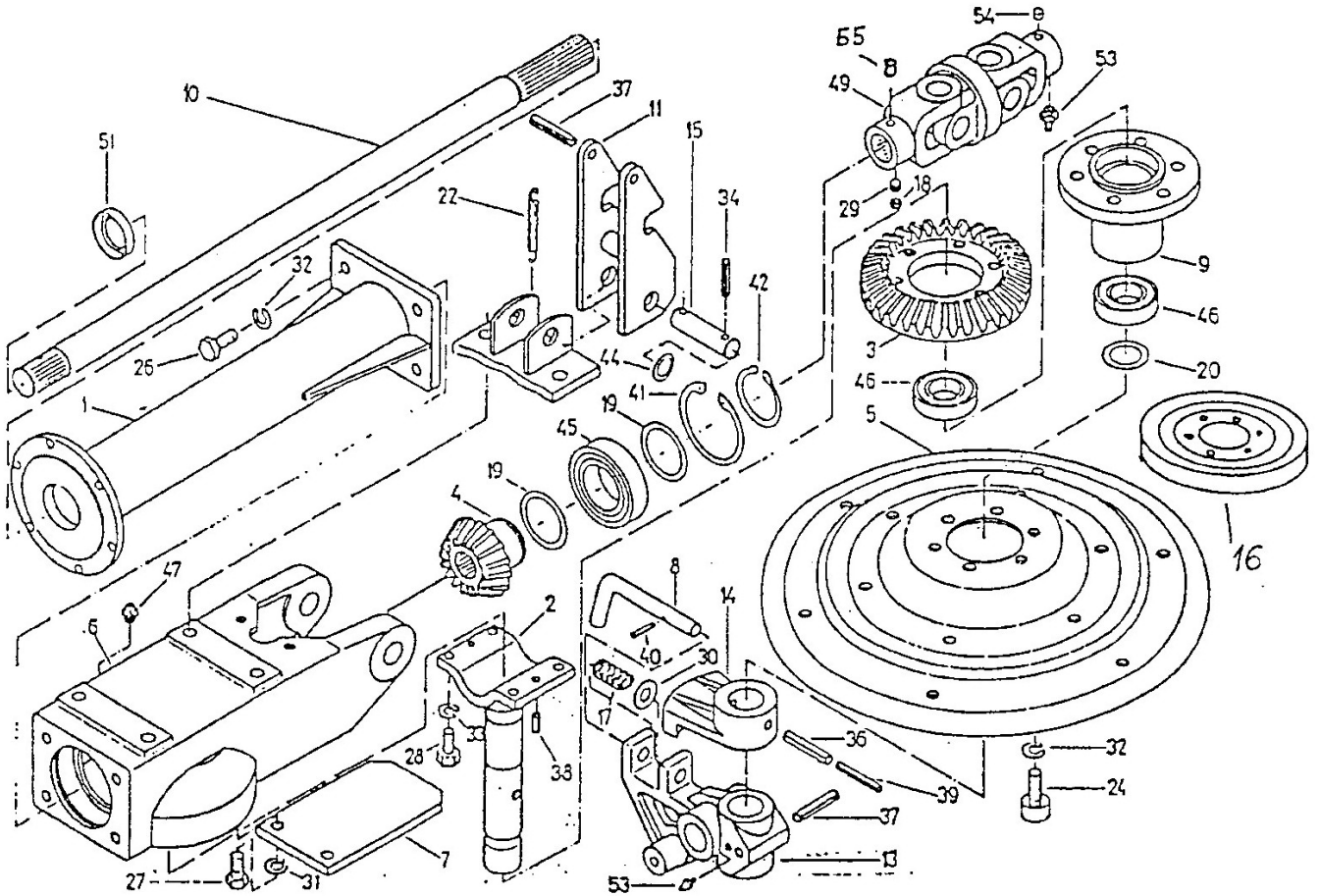
To be assured of the latest design improvements purchase your 'Genuine Replacements' from the Original Equipment Manufacturer through your local Dealer or Stockist.

Always quote:

- ***Machine Type***
- ***Serial Number***
- ***Part Number***

Design Improvements may have altered some of the parts listed in this manual – The latest part will always be supplied when it is interchangeable with an earlier one.

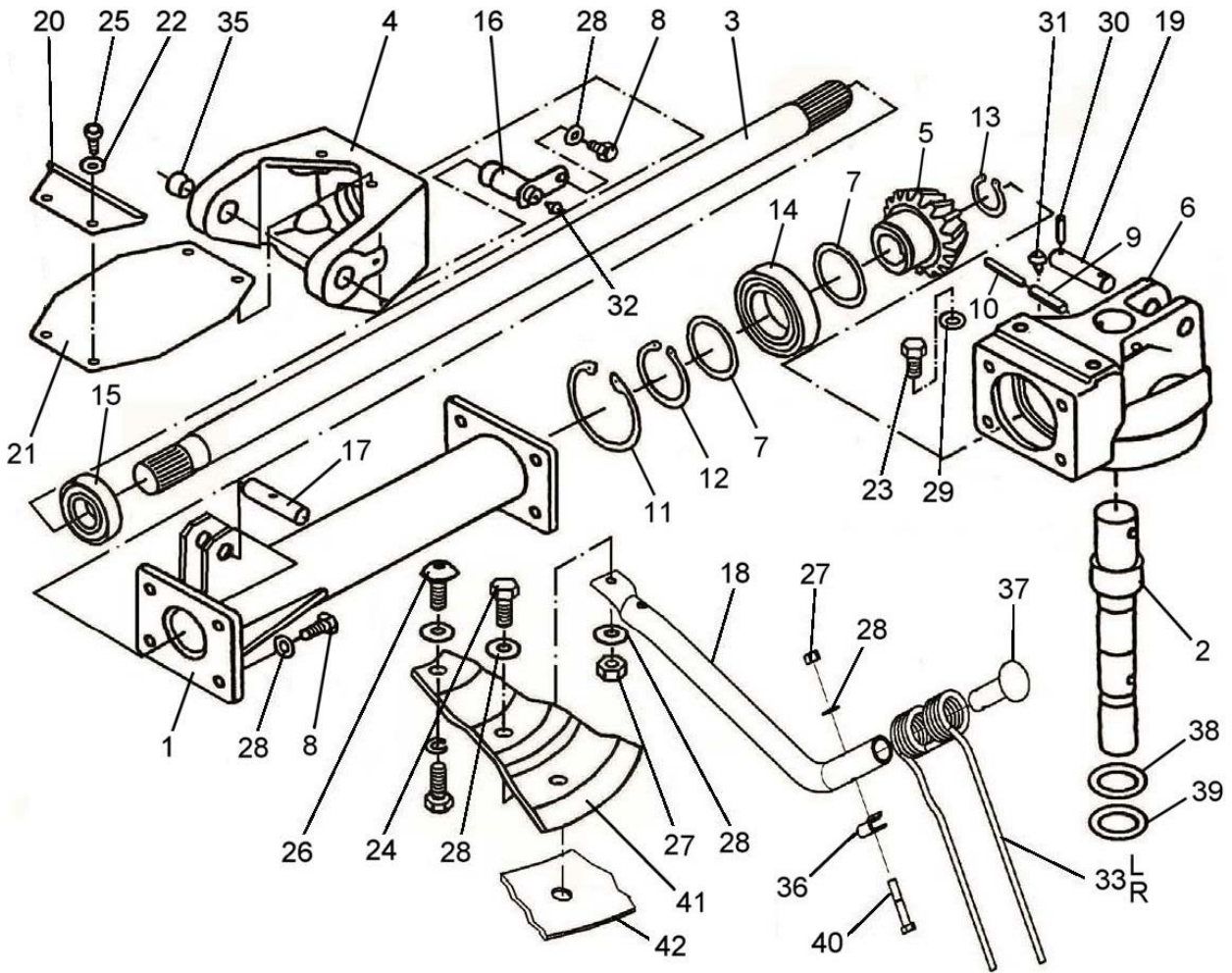
DRIVE ASSEMBLY



REF.	QTY.	PART No.	DESCRIPTION
RT455 & RT555 DRIVE ASSEMBLY			
1	1	1022140	TUBE - LEFT
1	1	1022141	TUBE - RIGHT
1	1	1022142	TUBE - LEFT (ESP)
1	1	1022143	TUBE - RIGHT (ESP)
2	2	1021258	SHAFT
3	4	1021260	CONE GEAR
4	2	1021266	CONE GEAR
5	4	1022144	ROTOR
6	2	1022145	GEARBOX
7	2	1022146	SUPPORT
8	4	1022147	BOLT
9	4	1022122	FLANGE

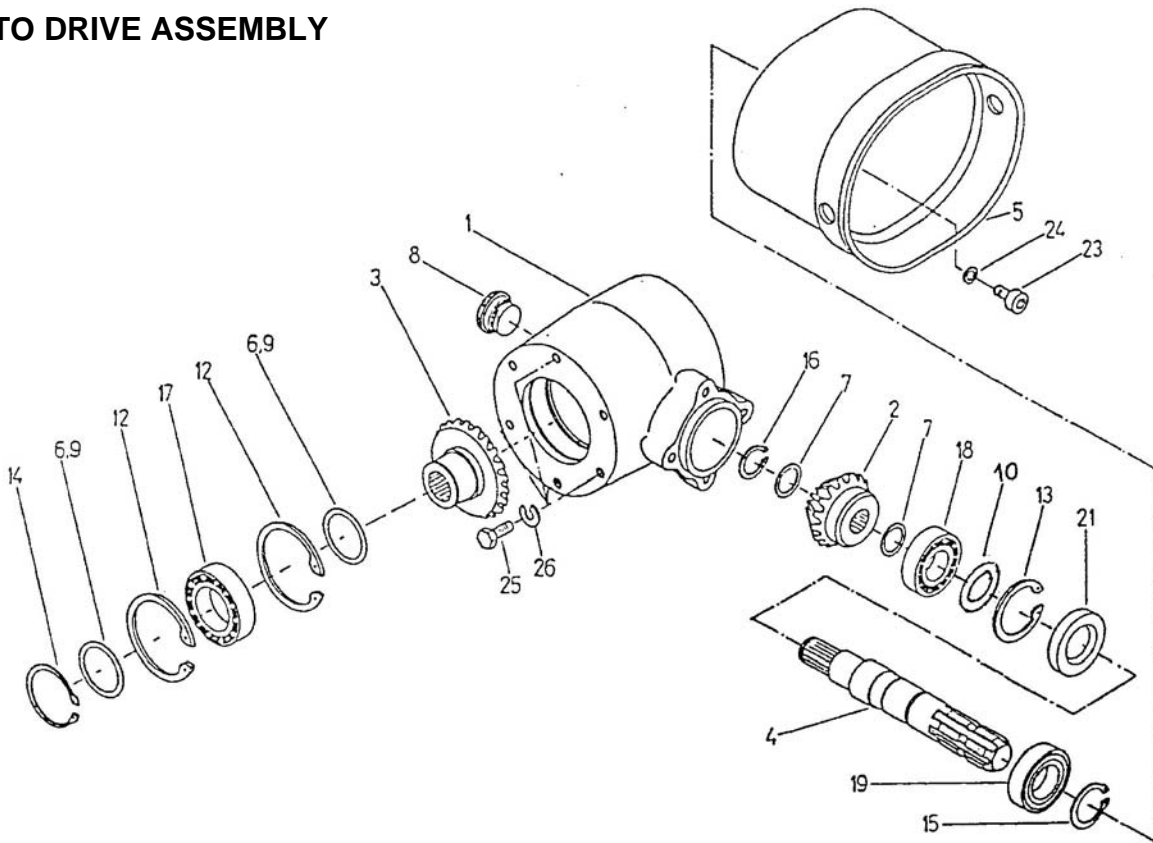
REF.	QTY.	PART No.	DESCRIPTION
			RT455 & RT555 DRIVE ASSEMBLY
10	1	1022148	SHAFT - LEFT
10	1	1021268	SHAFT - RIGHT
10	1	1022149	SHAFT - LEFT (ESP)
10	1	1022150	SHAFT - RIGHT (ESP)
11	2	1022151	HOLDER
13	4	1022152	WHEEL HOLDER
14	4	1022123	ADJUSTING PIECE
15	2	1022153	BOLT
16	4	1022154	PROTECTION
17	4	1022155	SPRING
18	2	1021179	NUT
19	4	1021703	DISTANCE RING
20	4	1021124	SHIM
22	2	1021862	SPRING
24	24	1022156	SCREW
26	8	1022157	SCREW
27	4	1022158	SCREW
28	8	1022159	SCREW
29	2	1022160	SCREW
30	4	1022161	WASHER
31	4	1022162	WASHER
32	32	1021100	WASHER
33	8	1022163	WASHER
34	4	1022164	SPRING TENSION PIN
36	4	1022165	SPRING TENSION PIN
37	6	1022166	SPRING TENSION PIN
38	4	1022167	SPRING TENSION PIN
39	4	1022168	SPRING TENSION PIN
40	4	1021140	SPRING TENSION PIN
41	2	1022169	CIRCLIP
42	2	1022170	CIRCLIP
44	4	1021181	SHIM
45	2	1021253	BEARING
46	8	1022171	BEARING
47	2	1021222	GREASE NIPPLE
49	2	1021257	SHAFT JOINT
51	1	1021251	OIL SEAL
51	1	1021504	OIL SEAL
53	10	1021063	GREASE NIPPLE
54	2	1022172	COVER
55	2	1022173	COVER

DRIVE ASSEMBLY



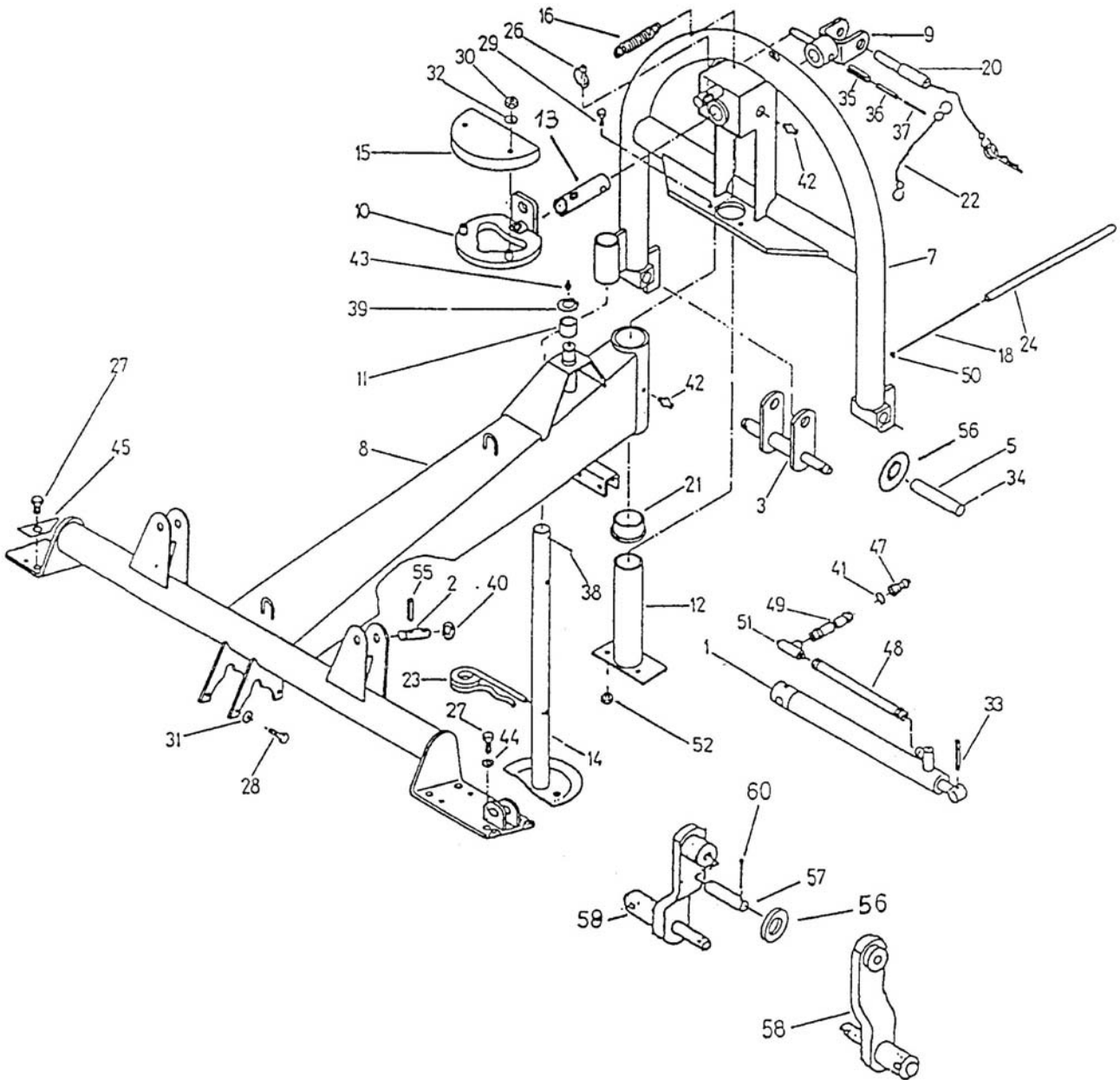
REF.	QTY.	PART No.	DESCRIPTION
			RT455 & RT555 DRIVE ASSEMBLY
1	2	1023569	TUBE - RT455
	2	1022231	TUBE - RT555
2	2	1022175	AXLE
3	2	1023570	SHAFT - RT455
	2	1021269	SHAFT - RT555
4	2	1022176	FORK
5	2	1021266	PINION
6	2	1022177	GEARBOX HOUSING
7	4	1021703	WASHER
8	20	1022157	SCREW
9	2	1022165	SPRING TENSION PIN
10	2	1022168	SPRING TENSION PIN
11	2	1022169	CIRCLIP
12	2	1022170	CIRCLIP
13	2	1021062	CIRCLIP
14	2	1021253	BEARING
15	2	1021250	BEARING
16	4	1022178	BOLT
17	2	1022179	BOLT
18	24	1022842	TINE ARM (ROUND TYPE) - RT455
	24	1022848	TINE ARM (ROUND TYPE) - RT555
19	2	1022180	BOLT
20	2	1022181	PLATE
21	2	1022297	PLATE
22	8	1022036	WASHER
23	4	1021097	SCREW
24	24	1021990	SCREW
25	8	1022182	SCREW
26	24	1021787	SCREW
27	72	1021178	NUT
28	136	1021100	WASHER
29	4	1021072	WASHER
30	4	1021154	TENSION PIN
31	2	1021222	GREASE NIPPLE
32	4	1021063	GREASE NIPPLE
33L	12	1022844	SPRING FINGER - LEFT
33R	12	1022845	SPRING FINGER - RIGHT
34	24	1021955	SCREW
35	4	1022183	SLEEVE
36	24	1021129	TINE CONNECTOR
37	24	1022846	PROTECTION CAP
38	2	1022850	SPACER
39	2	1022851	WASHER
40	24	9213136	SCREW
41	4	1022144	ROTOR
42	4	1022849	LOWER PLATE

PTO DRIVE ASSEMBLY



REF.	QTY.	PART No.	DESCRIPTION
			RT455 & RT555 PTO DRIVE ASSEMBLY
1	1	1022184	HOUSING
2	1	1021263	CONE GEAR
3	1	1021264	CONE GEAR
4	1	1022185	SHAFT
5	1	1022186	PTO SHAFT PROTECTION
6	2	1022187	SPACING RING
7	1	1021511	SPACING RING
8	1	1022188	PLUG
9	2	1022189	SPACING RING
10	1	1022190	WASHER
12	1	1021972	CIRCLIP
13	1	1021701	CIRCLIP
14	1	1022130	CIRCLIP
15	1	1021080	CIRCLIP
16	1	1021162	CIRCLIP
17	1	1022191	BEARING
18	1	1022192	BEARING
19	1	1022193	BEARING
21	1	1022194	OIL SEAL
23	4	1022195	SCREW
24	4	1021629	WASHER
25	8	1022196	SCREW
26	8	1022163	WASHER
		1022197	GEARBOX

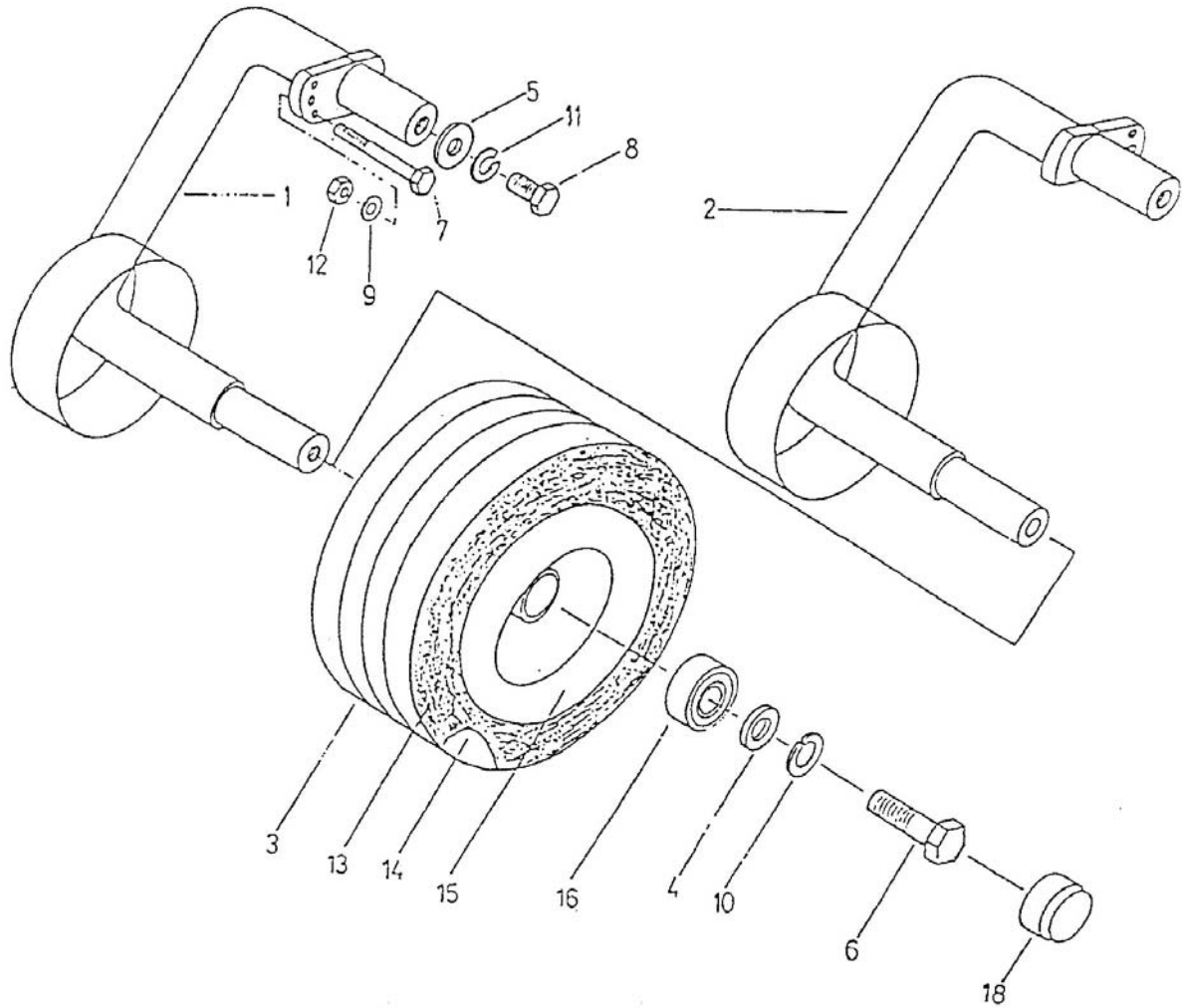
MAIN FRAME



REF.	QTY.	PART No.	DESCRIPTION
1	2	1022198	HYDRAULIC RAM
2	2	1022199	BOLT
3	2	1022200	BOLT
5	2	1022201	BOLT
7	1	1022202	BOW
8	1	1023579	HOLDER - RT455
	1	1022204	HOLDER - RT555
9	1	1022208	EYE

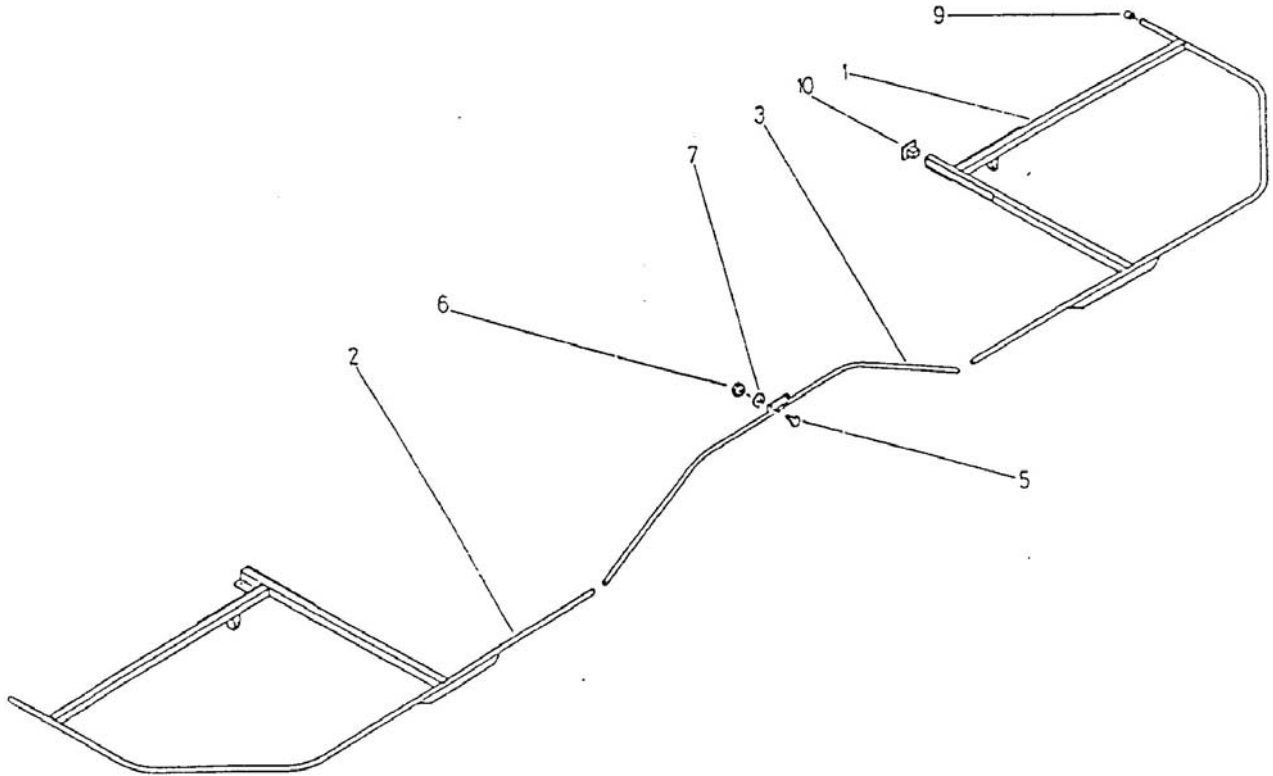
REF.	QTY.	PART No.	DESCRIPTION
			RT455 & RT555 MAIN FRAME ASSEMBLY
10	1	1021278	CURVE
11	1	1022209	SLEEVE
12	1	1021276	SHAFT
13	1	1022210	BOLT
14	1	1021277	SUPPORT LEG
15	1	1021069	PROTECTION
16	1	1021074	SPRING
18	1	1022211	STRING
20	1	1022212	BOLT
21	2	1021608	SLEEVE
22	3	1021856	CHAIN
23	1	1022213	WIRE SAFETY CLAMP
24	1	1021863	TUBE
26	1	1021060	SAFETY PIN
27	8	1022214	SCREW
28	4	1022215	SCREW
29	2	1021933	SCREW
30	2	1021239	NUT
31	4	1021067	WASHER
32	2	1021070	WASHER
33	2	1022216	PIN
34	4	1021240	COTTER
35	2	1021075	PIN
36	2	1021076	PIN
37	2	1021077	PIN
38	1	1021079	PIN
39	1	1021062	CIRCLIP
40	4	1021181	WASHER
41	1	1021741	WASHER
42	2	1021064	GREASE NIPPLE
43	1	1021063	GREASE NIPPLE
44	4	1022217	WASHER
45	2	1022218	PROTECTION PLATE
47	1	1021742	PIN
48	2	1022219	TUBE
49	1	1022220	TUBE
50	2	1021654	CLAMP
51	1	1022221	CONNECTOR
52	2	1021829	NUT
55	4	1022222	PIN
56	4	1021057	WASHER

WHEEL ASSEMBLY



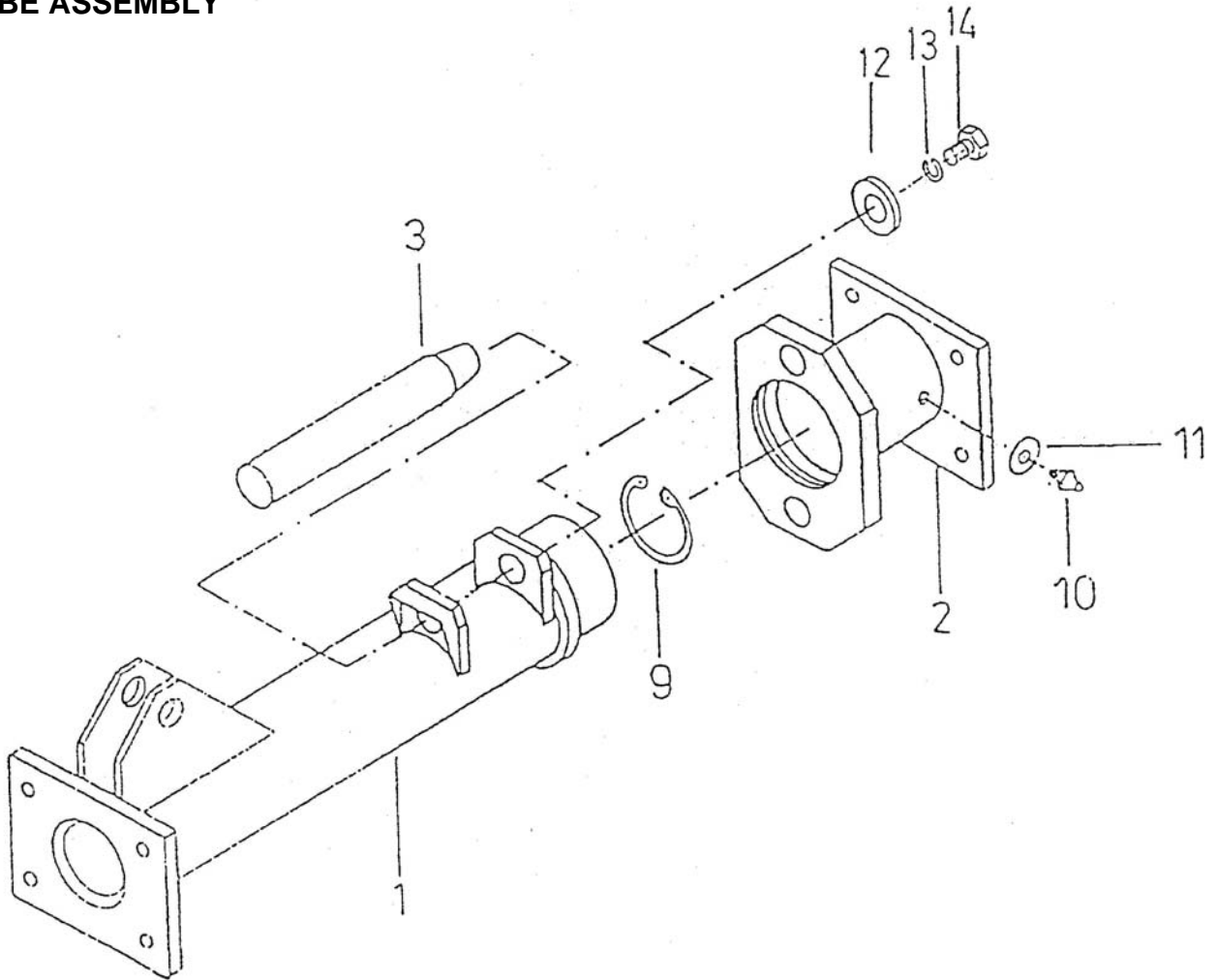
REF.	QTY.	PART No.	DESCRIPTION
RT455 & RT555 WHEEL ASSEMBLY			
1	2	1023571	AXLE (RIGHT) - RT455
	2	1022223	AXLE (RIGHT) - RT555
2	2	1023572	AXLE (LEFT) - RT455
	2	1022224	AXLE (LEFT) - RT555
3	4	1021256	WHEEL
4	4	1021187	WASHER
5	4	1022139	WASHER
6	4	1022225	SCREW
7	4	1021733	SCREW
8	4	1021641	SCREW
9	4	1021067	WASHER
10	4	1021806	WASHER
11	4	1022217	WASHER
12	4	1021829	NUT
13	4	1021004	TYRE
14	4	1021005	TUBE
15	4	1022226	RIM
16	8	1021002	BEARING

PROTECTION



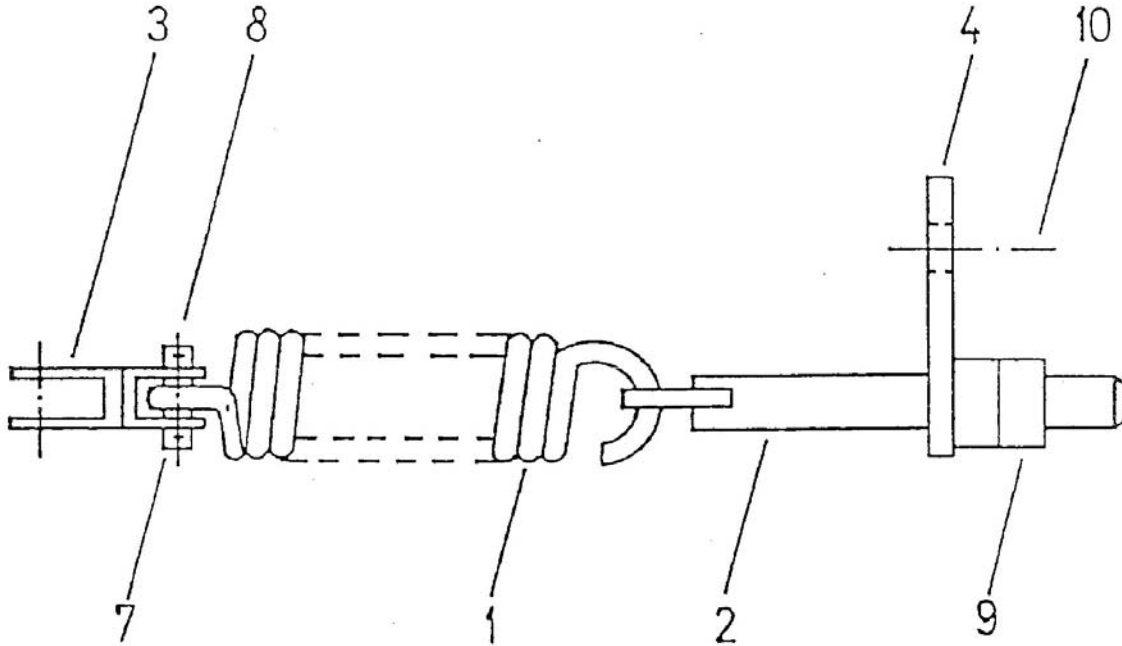
REF.	QTY.	PART No.	DESCRIPTION
1	1	1023573	RT455 & RT555 PROTECTION ASSEMBLY PROTECTION RAIL (LEFT) - RT455
	1	1022227	PROTECTION RAIL (LEFT) - RT555
2	1	1023574	PROTECTION RAIL (RIGHT) - RT455
	1	1022228	PROTECTION RAIL (RIGHT) - RT555
3	1	1022229	PROTECTION RAIL (CENTRE)
5	2	1021933	SCREW
6	2	1021829	NUT
7	2	1021067	WASHER
9	6	1021781	COVER
10	2	1023575	COVER (PVC) - RT455
	2	1022230	COVER (PVC) - RT555

TUBE ASSEMBLY

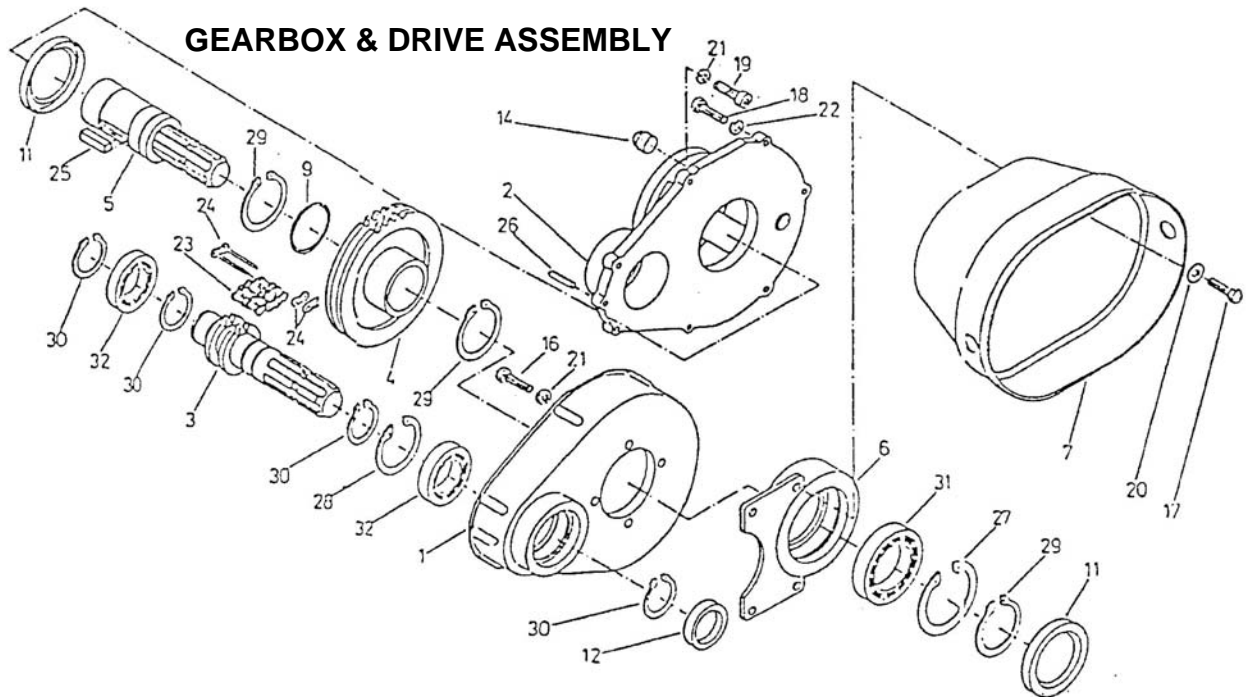


REF.	QTY.	PART No.	DESCRIPTION
			RT455 & RT555 TUBE ASSEMBLY
1	2	1023576	TUBE OUTER - RT455
	2	1022231	TUBE OUTER - RT555
2	2	1022232	TUBE
3	2	1022233	BOLT
9	2	1022234	CIRCLIP
10	4	1021064	GREASE NIPPLE
11	4	1021764	WASHER
12	2	1022235	WASHER
13	2	1021226	WASHER
14	2	1022236	SCREW

SPRING ASSEMBLY

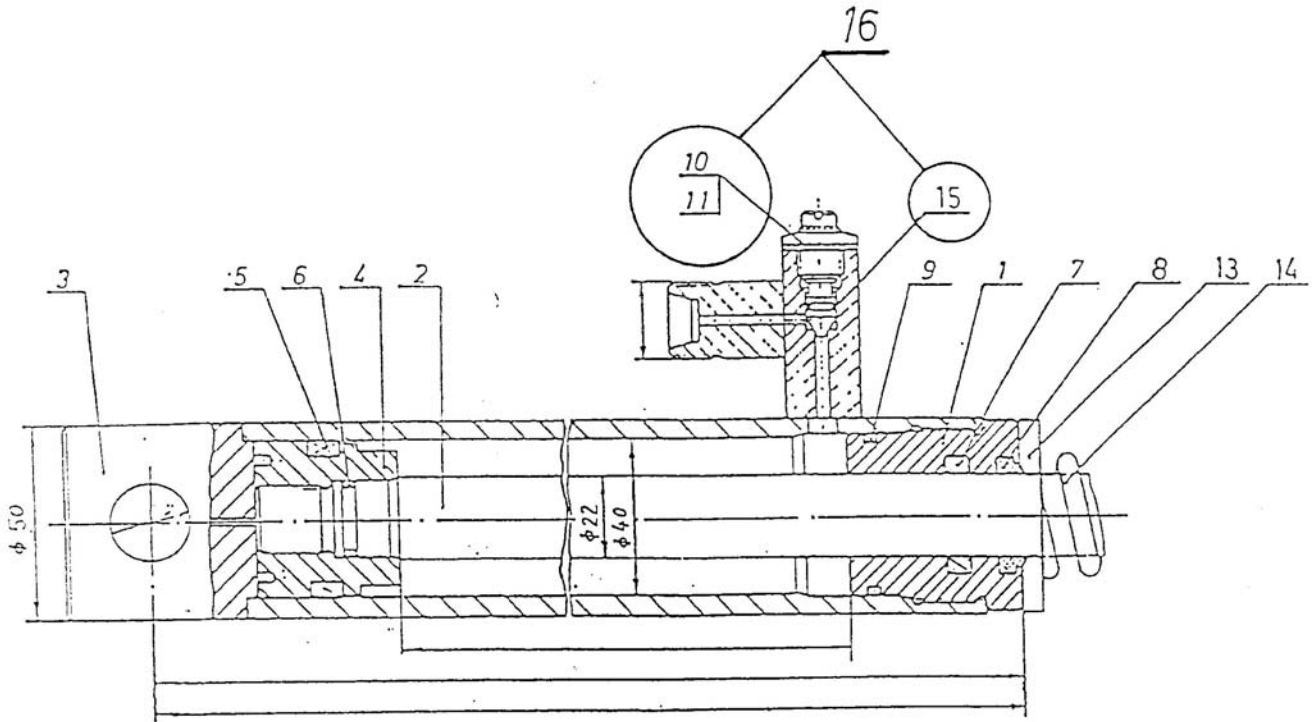


REF.	QTY.	PART No.	DESCRIPTION
			RT455 & RT555 SPRING ASSEMBLY
1	2	1022237	SPRING
2	2	1022238	SCREW
3	2	1023577	CONNECTION - RT455
	2	1022239	CONNECTION - RT555
4	2	1022240	SPRING HOLDER
7	4	1022241	BOLT
8	8	1022242	COTTER
9	4	1022243	NUT
10	4	1022244	SCREW



REF.	QTY.	PART No.	DESCRIPTION
RT455 & RT555 GEARBOX & DRIVE ASSEMBLY			
1	1	1022245	GEARBOX HOUSING
2	1	1022246	COVER
3	1	1022247	SHAFT & SPROCKET
4	1	1022248	SPROCKET
5	1	1022249	SHAFT & SPROCKET
6	1	1022250	RING
7	1	1022251	PTO SHAFT PROTECTION
9	1	1022252	DISTANCE RING
11	2	1022253	SEAL RING
12	1	1022254	SEAL RING
14	4	1022255	SCREW
16	4	1022118	SCREW
17	7	1022256	SCREW
18	4	1022257	SCREW
19	4	1022258	SCREW
20	8	1021997	WASHER
21	7	1021866	WASHER
22	1	1022259	WASHER
23	1	1022260	CHAIN
24	1	1022261	LOCKING LINK
25	1	1022262	COTTER
26	1	1021591	PIN
27	1	1021930	CIRCLIP
28	1	1021701	CIRCLIP
29	3	1022170	CIRCLIP
30	4	1021080	CIRCLIP
31	1	1022263	BEARING
32	2	1022264	BEARING

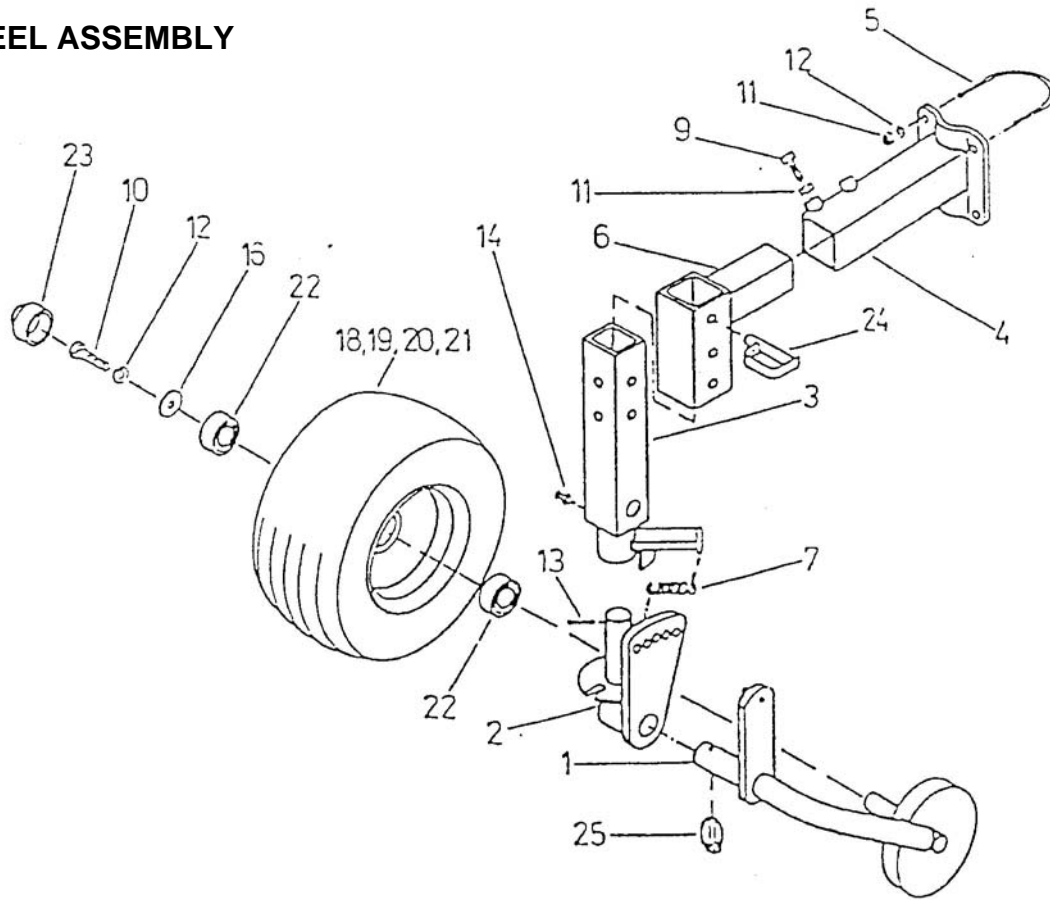
HYDRAULIC RAM



REF.	QTY.	PART No.	DESCRIPTION
			RT455 & RT555 HYDRAULIC RAM
	1	1022198	CYLINDER
5	1	1022265	SEAL
6	1	1022266	SEAL
7	1	1022267	SEAL
8	1	1022268	SCRAPER
9	1	1022269	SEAL
10	1	1022270	ADJUSTMENT SCREW
11	1	1022271	NUT
14	1	1022640	SPRING
15	1	1022272	SEAL
16	1	1022273	ADJUSTMENT SCREW
	1	1022274	SEAL

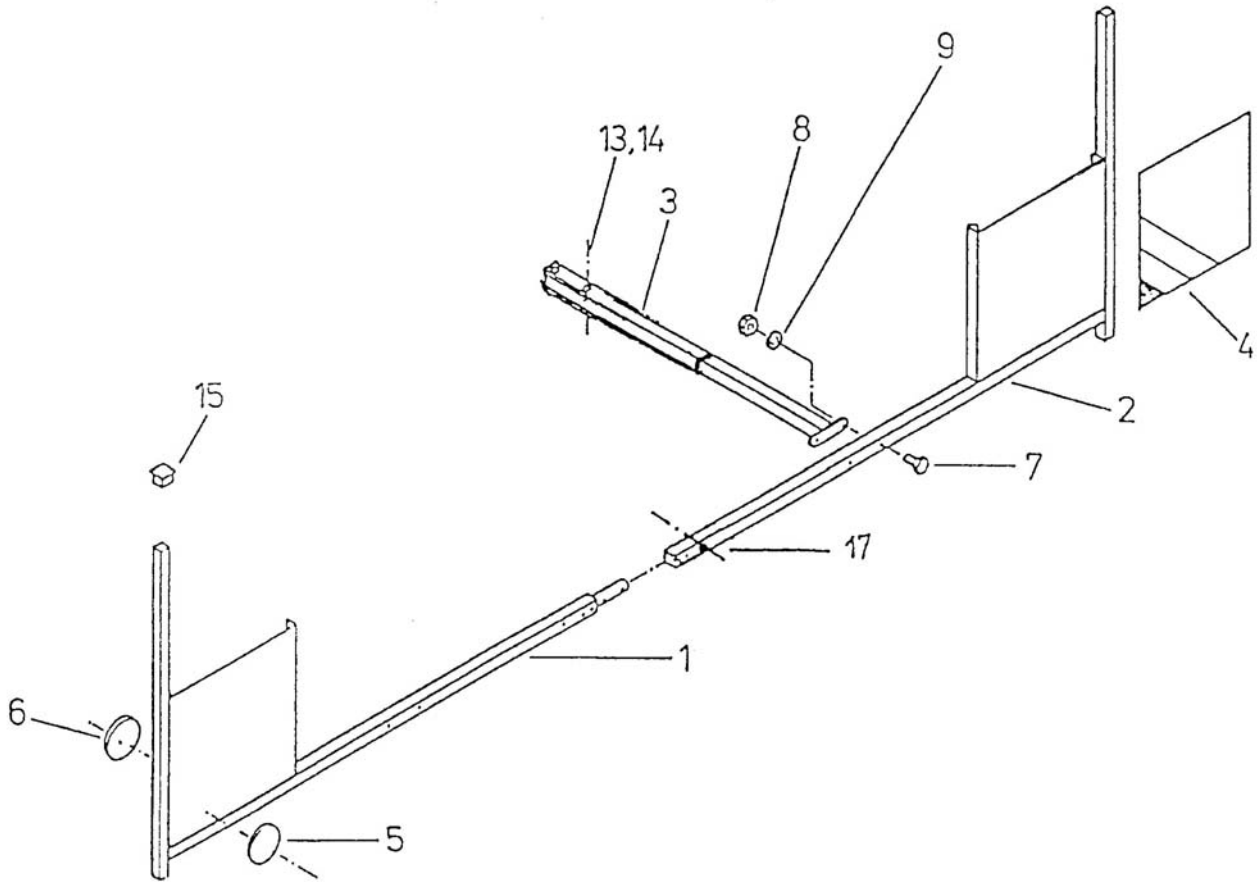
NOTE: Only items listed are available as replacement parts

WHEEL ASSEMBLY



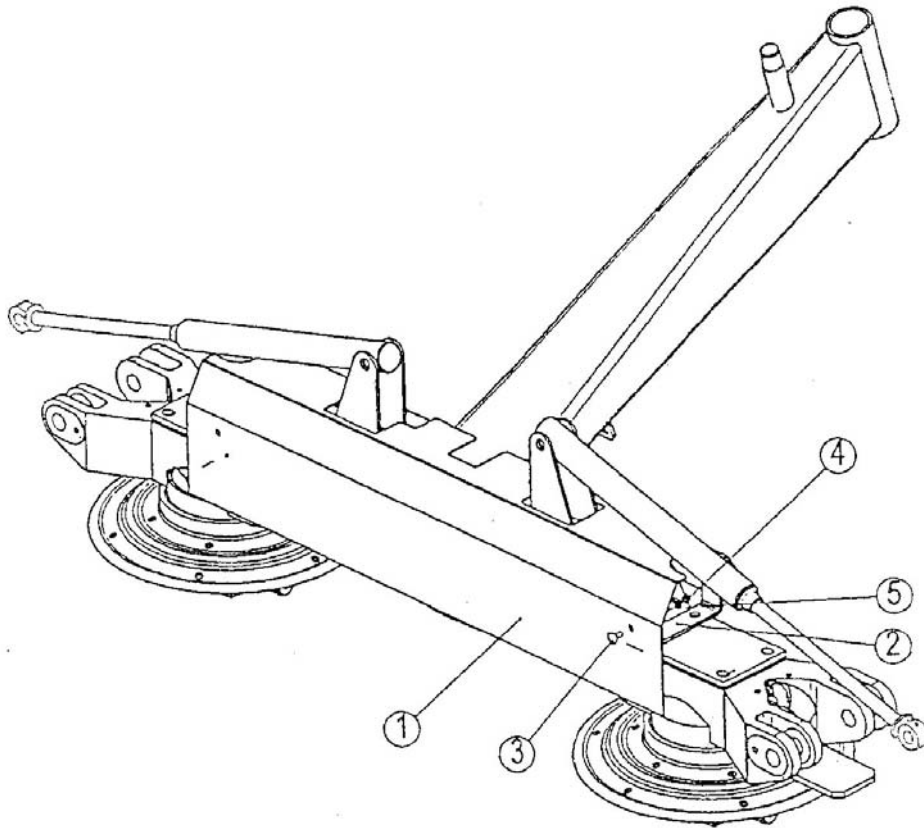
REF.	QTY.	PART No.	DESCRIPTION
RT455 & RT555 WHEEL ASSEMBLY			
1	1	1022275	WHEEL BOW - RIGHT
2	1	1022276	BRACKET
3	1	1021177	HOLDER
4	1	1021595	TUBE
5	2	1021597	CLAMP
6	1	1022277	HOLDER
7	2	1021171	SPRING
9	2	1022236	SCREW
10	1	1022225	SCREW
11	6	1021169	NUT
12	5	1021806	WASHER
13	1	1021170	PIN
14	1	1021064	GREASE NIPPLE
16	1	1021187	WASHER
18	1	1021256	WHEEL
19	1	1021004	TYRE
20	1	1021005	TUBE
21	1	1022226	RIM
22	2	1021002	BEARING
23	1	1021237	COVER
24	1	1021168	BOLT
25	1	1021006	PIN

SAFETY REFLECTORS



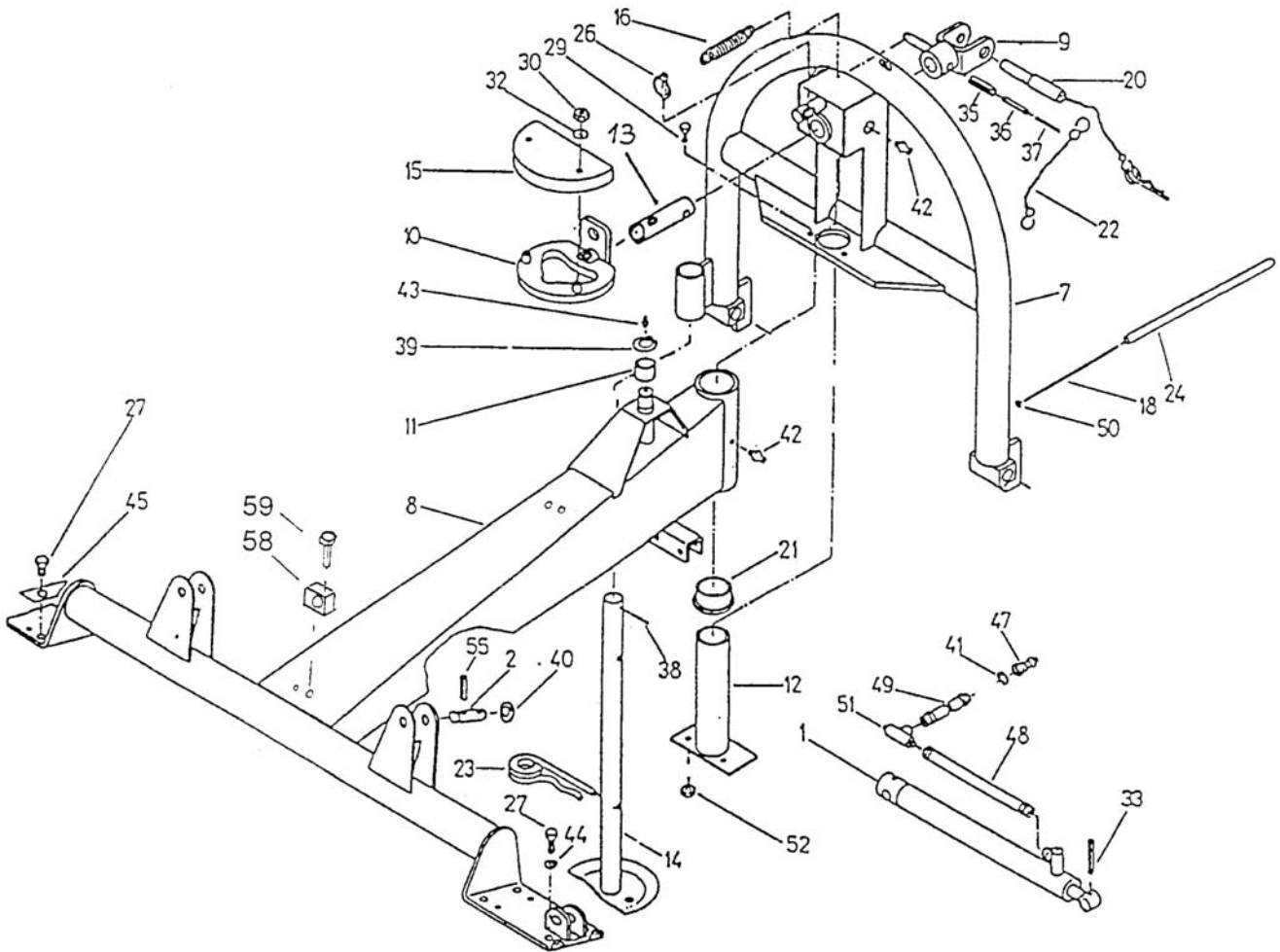
REF.	QTY.	PART No.	DESCRIPTION
RT455 & RT555 SAFETY REFLECTORS			
1	1	1022278	HOLDER (LEFT)
2	1	1022279	HOLDER (RIGHT)
3	2	1023578	HOLDER - RT455
	2	1022280	HOLDER - RT555
4	4	1022281	LABEL - RED/WHITE
4	4	1022282	LABEL - YELLOW/BLACK
5	2	1022283	REFLECTION PLATE - RED
6	2	1022284	REFLECTION PLATE - WHITE
7	4	1022285	SCREW
8	8	1021829	NUT
9	8	1021067	WASHER
13	4	1022286	SCREW
14	4	1021100	WASHER
15	4	1022287	COVER
17	4	1022288	SCREW

GUARDING



REF.	QTY.	PART No.	DESCRIPTION
			RT455 & RT555 GUARDING
1	1	1022294	PROTECTION PLATE
2	2	1022295	GUARD HOLDER
3	4	1022296	SCREW
4	4	1021239	NUT
5	4	1021070	PROTECTION WASHER

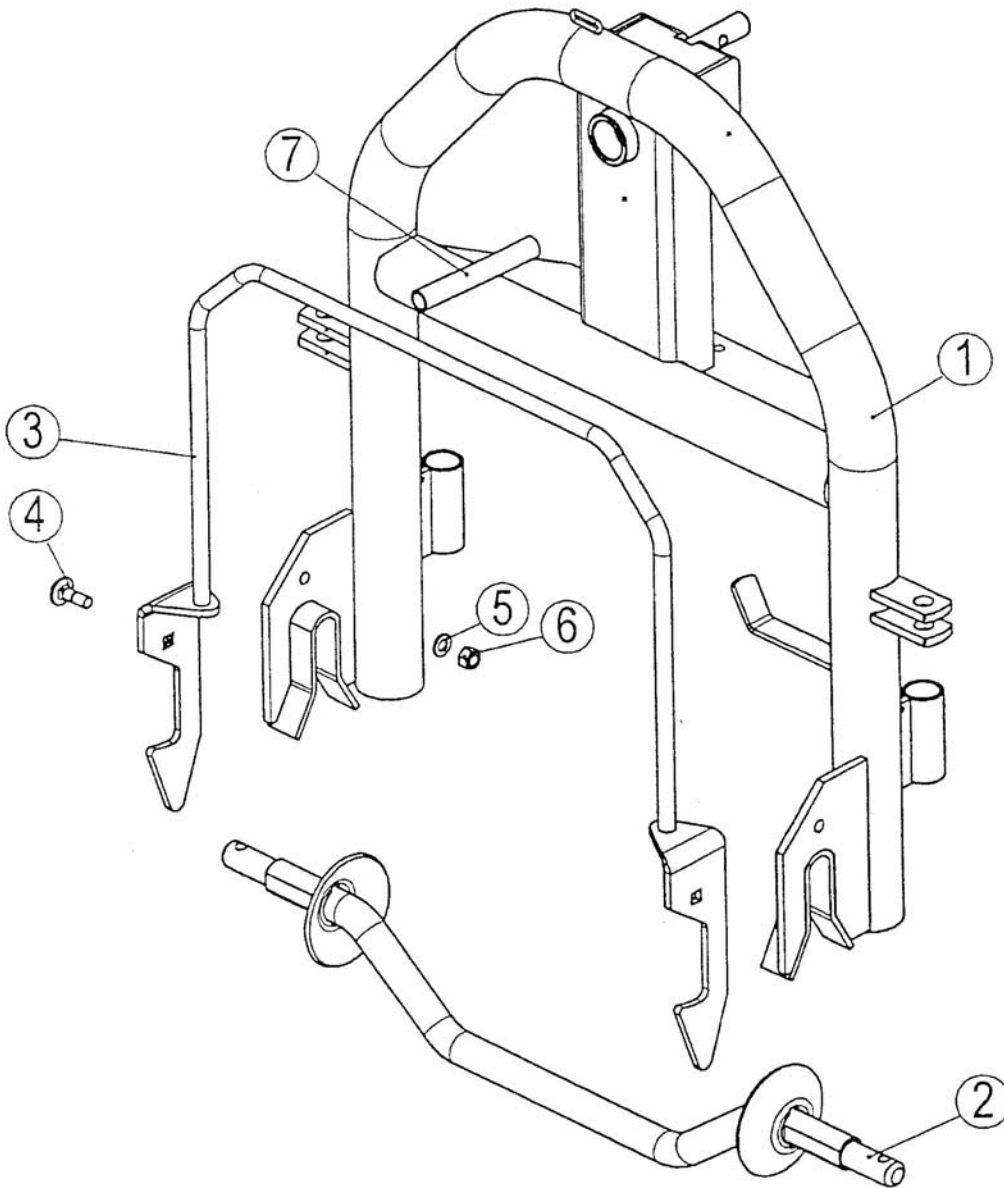
FRAME ASSEMBLY



REF.	QTY.	PART No.	DESCRIPTION
			RT455 & RT555 FRAME ASSEMBLY
1	2	1022198	HYDRAULIC RAM
2	2	1022199	BOLT
3	2	1022200	BOLT
5	2	1022201	BOLT
7	1	1022293	HITCH FRAME
8	1	1023579	HOLDER - RT455
	1	1022289	HOLDER - RT555
9	1	1022208	EYE
10	1	1021278	CURVE
11	1	1022209	SLEEVE
12	1	1021276	BOLT
13	1	1022210	BOLT

REF.	QTY.	PART No.	DESCRIPTION
			RT455 & RT555 FRAME ASSEMBLY
14	1	1021277	SUPPORT LEG
15	1	1021069	PROTECTION
16	1	1021074	SPRING
18	1	1022211	STRING
20	1	1022112	BOLT
21	2	1021608	SLEEVE
22	3	1021856	STRING
23	1	1022213	WIRE SAFETY CLAMP
24	1	1021863	TUBE
26	1	1021060	SAFETY PIN
27	4	1022214	SCREW
29	2	1021933	SCREW
30	2	1021239	NUT
32	2	1021070	WASHER
33	2	1022216	PIN
35	2	1021075	PIN
36	2	1021076	PIN
37	2	1021077	PIN
38	1	1021079	PIN
39	1	1021062	CIRCLIP
40	4	1021181	WASHER
41	1	1021741	WASHER
42	2	1021064	GREASE NIPPLE
43	1	1021063	GREASE NIPPLE
44	4	1022217	WASHER
45	2	1022218	PROTECTION PLATE
47	1	1021742	CLAMP
48	2	1022219	TUBE
49	1	1022220	TUBE
50	2	1021654	CLAMP
51	1	1022221	CONNECTOR
52	2	1021829	NUT
55	4	1022222	PIN
57	2	1022290	SCREW
58	2	1022291	CLIP
59	4	1022292	SCREW

ATTACHMENT FRAME



REF.	QTY.	PART No.	DESCRIPTION
1	1	1022298	RT455 & RT555 ATTACHMENT FRAME BOW
2	1	1021601	LINK
3	1	1021602	HOLDER
4	2	1021603	SCREW
5	2	1021604	WASHER
6	2	1021178	NUT
7	1	1021605	SPRING

