

DISC MOWERS

DS215, DS255 & DS260HD

INSTRUCTION & PARTS MANUAL

Publication 507

Part No.41571.07



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Revisions

<i>Sept. 2006</i>	<i>First Issue</i>

We,

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

Declare under our sole responsibility that:

The product (type) *Disc Mowers*.....

Product Code *DS215, DS255, DS260*.....

Serial No. & Date Type

Manufactured by the above company/*

.....
(* insert business name and full address if not stated above)

Complies with the required provisions of the Machinery Directive 98/37/EC, * previously Directive 89/392/EEC as amended by Directives 91/368/EEC, 93/44/EEC and 93/68/EEC.

For the relevant implementation of the safety and health requirements mentioned in the Directives, the following standards have been respected:

- EN 292-1/1991 EN292-2/1991 EN294/1992 EN349/1993
- EN 1553/1999 EN 1152/1994 EN 953/1997 EN 982/1996

Signed *John Frank*.....
on behalf of TWOSE OF TIVERTON *Responsible Person*

Status: Chief Design Engineer

Date: July 2006



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TECHNICAL DATA

SPECIFICATION	DS215	DS255	DS260HD
Attachment (3-point hitch)	<i>Cat I & II</i>	<i>Cat I & II</i>	<i>Cat I & II</i>
Working width	<i>2100mm</i>	<i>2500mm</i>	<i>2570mm</i>
Weight	<i>400 kg</i>	<i>435 kg</i>	<i>630 kg</i>
Transport height	<i>2800mm</i>	<i>3300mm</i>	<i>3350mm</i>
Transport width	<i>1200mm</i>	<i>1200mm</i>	<i>1200mm</i>
Maximum working height	<i>1150mm</i>	<i>1150mm</i>	<i>1000mm</i>
Maximum PTO speed	<i>540 rpm</i>	<i>540 rpm</i>	<i>1000 rpm</i>
Disc rotation speed	<i>2950 rpm</i>	<i>2950 rpm</i>	<i>2950 rpm</i>
No. of discs	<i>5</i>	<i>6</i>	<i>6</i>
No. of knives	<i>10</i>	<i>12</i>	<i>12</i>
Basic drive type	<i>Belt (x4)</i>	<i>Belt (x4)</i>	<i>Driveshaft</i>
Disc drive type	<i>Gear</i>	<i>Gear</i>	<i>Gear</i>
Minimum power requirement	<i>25kW/34HP</i>	<i>30Kw/40HP</i>	<i>40Kw/54HP</i>
Cutting capacity	<i>2.5ha/h</i>	<i>3ha/h</i>	<i>3ha/h</i>

MACHINE SERIAL NUMBER PLATE

All machines will have a serial number plate fitted to them stating; the machine model, serial number of the machine, and the machine's weight. When ordering replacement parts or requesting service information always quote the machine model and serial number as stated on its serial number plate.

DESCRIPTION

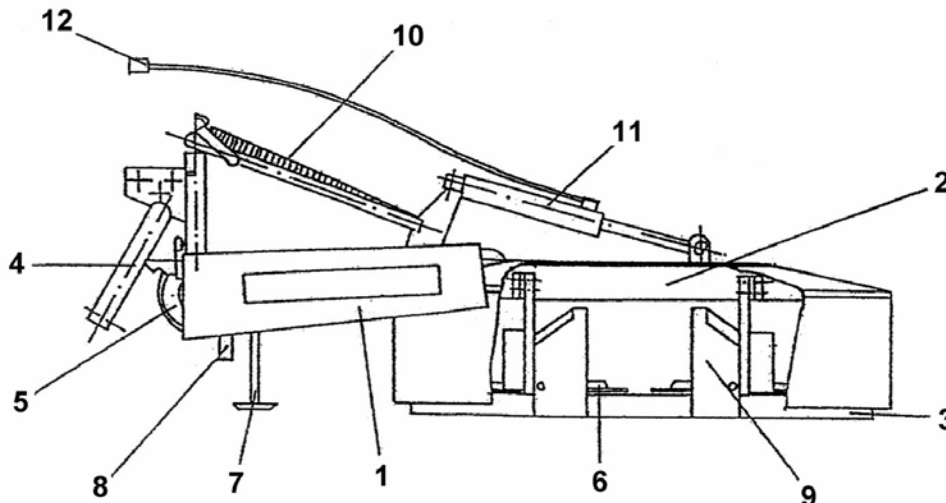
Twose DS215, DS255 & DS260HD Disc Mowers are three-point linkage tractor mounted agricultural implements specifically designed for the mowing of grass and clover on even terrain. Depending on the specific model, the machines have either 5 or 6 'cutterbar mounted' rotating discs each equipped with 2 cutting knives. The discs of the DS215 & DS255 models are belt driven whilst the DS260HD model utilises a shaft drive system fitted with slip clutch protection. All machines have mechanical breakback and a choice of either manual 'foldback' or hydraulic 'fold up' for transportation. Hydraulic 'fold up' feature is standard on DS260HD models.

These machines must only be used to perform the designated task for which they were designed. Use of these machines for any other function may cause damage to the machine and possible injury to the operator or other persons.

GENERAL ARRANGEMENT

The diagram below shows the location of the machines main components.















DS215 & DS255 Models












1. Main Frame
2. Upper Frame
3. Cutterbar
4. Linkage
5. Belt Drive
6. Discs
7. Support Leg
8. Safety Release
9. Windrowing Plate
10. Discharging Spring
11. Hydraulic Cylinder
12. Hydraulic Attachment

SAFETY INFORMATION

In the interest of safety it is important that great care is adopted at all times during the attachment, transportation, operation and maintenance of this machine. Both the owner and the operator of the machine should read and understand the following section to ensure the safety of themselves and all other persons who enter into the close proximity of these machines.

-  In addition to the instructions stated here always abide by general safety and accident regulations.
-  Safety and warning decals placed on the machine give important instructions for safe work - take them into consideration for your safety and the safety of others.
-  While driving on public roads always abide by traffic signs and road regulations.
-  Familiarise yourself with the controls and functions of the machine and practice them in a safe location before attempting to start work.
-  Never approach this machine whilst it is working or running – switch off the machine and wait until it has stopped fully before approaching.
-  Do not wear loose fitting clothes in the vicinity of this machine - clothes should fit tight to the user's body.
-  Check no one is near to, or on, the machine before attempting to start or transport it. Ensure your visibility is kept clear at all times.
-  Never permit anyone to ride on this machine.
-  Implements should always be attached according to the manufacturer's instructions and fastened correctly to the prescribed devices using the correct components.
-  When disconnecting the machine from the tractor select a firm level site and use the support leg.
-  Take care when connecting or disconnecting the implement to the tractor – keep onlookers at a safe distance.
-  Ensure controls for the machine are positioned such that the machine cannot accidentally be started during transport.
-  For transportation on the road, prepare and secure the machine according to the manufacturer's instructions.
-  Never leave the driver seat whilst the tractor or the machine is running.

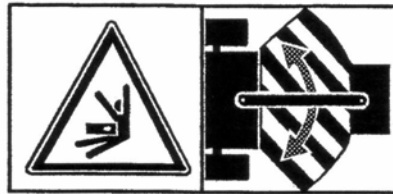
-  Always adjust the driving speed to suit the driving conditions. Avoid fast turning when driving uphill, downhill or across a slope. Braking performance and turning ability will be affected when implements are connected or mounted to the tractor - allow extra time for turning and braking.
-  Never attempt to operate a machine without its safety devices fitted or incorrectly secured.
-  Ensure all bystanders are kept at a safe distance from a moving or working machine.
-  Even when the machine is unattached some hydraulic or mechanical components on the machine are able to be rotated or moved by hand and are therefore capable of causing injury to fingers or hands due to trapping. Wherever possible secure these components during storage to prevent accidental injuries.
-  Always place the machine in a safe position before leaving the tractor - lower the implement completely, switch off the engine and remove the ignition key.
-  Never permit anyone between the machine and the tractor whilst either is working or when the machine is in a raised position.
-  Only use machines on a tractor that is capable of taking its weight - use weights or ballast as required ensuring stability of the unit.
-  Be aware at all times of the width, height and length of any machinery you are operating – especially when transporting on the public highway or near obstructions.
-  Ensure the work area is clear of obstructions before starting work – clear stones, wire, glass or any other dangerous objects from the work site before attempting to start work.

Although the information given here covers a wide range of safety subjects it is impossible to predict every eventuality that can occur under differing circumstances whilst operating this machine. No advice given here can replace 'good common sense' and 'total awareness' at all times but will go a long way towards the safe use of your Twose machine.

SAFETY DECALS



1.



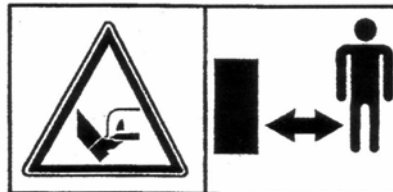
2.



3.



4.



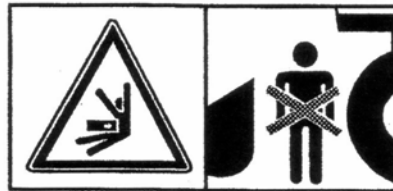
5.



6.



7.



8.



9.



10.



11.



12.

1. **WARNING!** Always 'Read the Operator Manual'.
2. **DANGER!** Articulation Zone – Keep Clear.
3. **DANGER!** Pinch & Crush Zone – Keep hands and limbs clear whilst machine is working.
4. **DANGER!** Wait until machine has stopped completely before approaching.
5. **DANGER!** Keep clear of mower knife area whilst tractor or machine is running.
6. **DANGER!** Keep clear of machine whilst tractor or machine is running.
7. **WARNING!** Switch off tractor engine & remove key before performing maintenance or repair.
8. **DANGER!** Keep clear of danger area between tractor and machine.
9. **DANGER!** Keep clear of raised machine.
10. **WARNING!** Maximum RPM – 540RPM machines only.
11. **WARNING!** Maximum RPM – 1000RPM machines only.
12. **WARNING!** Check tightness of nuts & bolts every couple of working hours.

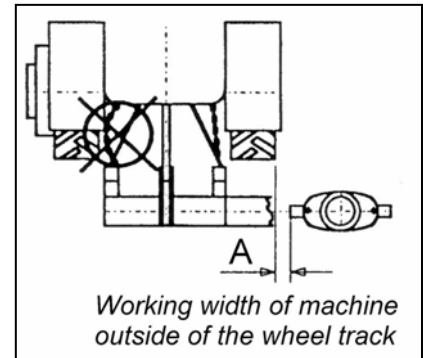
TRACTOR REQUIREMENTS

The tractor to which this machine is to be fitted must meet the following criteria:

- 3-point linkage connection – Cat. I or Cat. II.
- Minimum power requirement of:
 - 25kW (34HP) for DS215 models
 - 30kW (40HP) for DS255 models
 - 40kW (54HP) for DS260HD models
- PTO shaft speed: Maximum 540 RPM for DS215 & DS255 models.
Maximum 1000 RPM for DS260HD models.
- Hydraulic service connection.

ADJUSTMENT OF THE MACHINE TO THE TRACTOR WHEEL TRACK

The 3-point linkage pins should be set in a position that permits the machine to be attached to the tractor as close as possible whilst still allowing the full working width of the machine to remain outside of the tractor's wheel track. After adjustment fasten the hydraulic arms with check chains or bars – refer to diagram opposite.

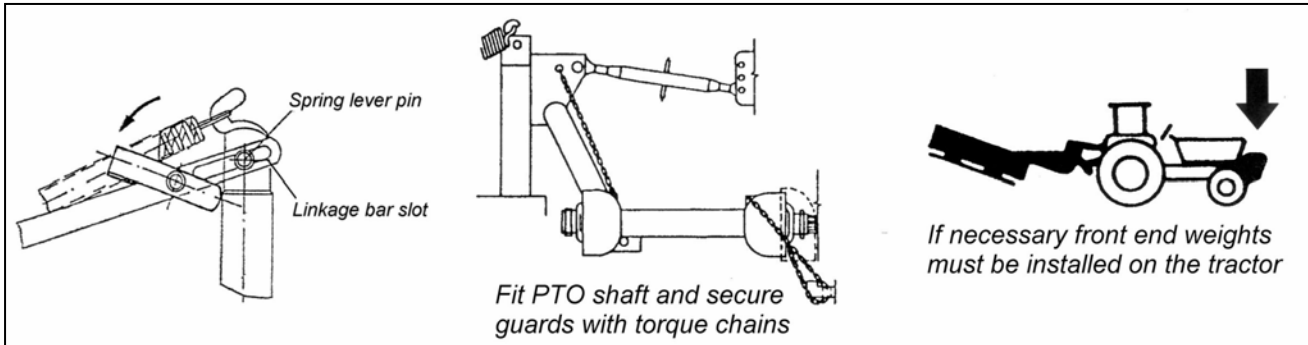


CONNECTION TO THE TRACTOR

Select a firm level site on which to attach the mower to the tractor.

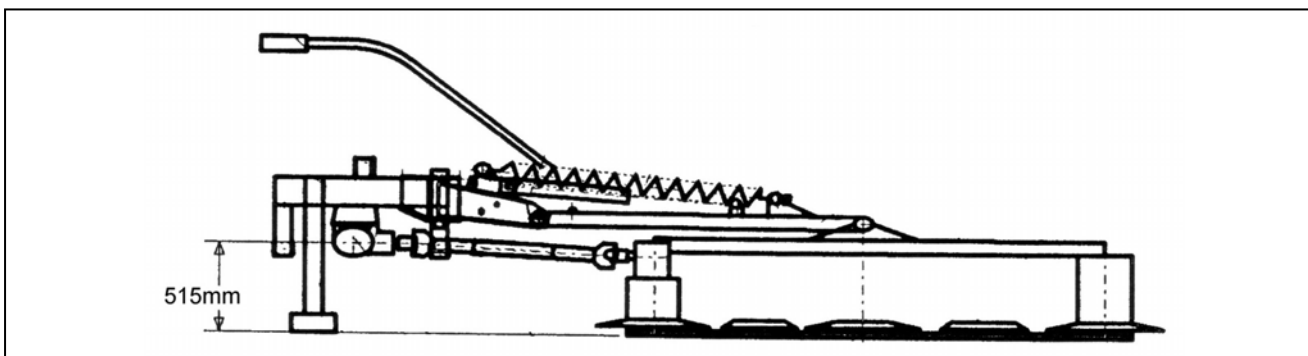
DS215 & DS255 Models

Connect the machine to the 3-point connection bars - the pin of the discharge spring lever must be located at the mid-point position of the slot in the linkage bar when the main linkage frame is in the horizontal position – refer to diagram below left.



DS26HD Models

Connect the machine to the 3-point connection bars and set the hydraulic arms of the tractor to a position where the distance from the connecting PTO shaft of the mower to the ground measures 515mm – this distance will allow for optimum adjustment of the cutterbar to the ground - see diagram below. Therefore the hitch should be in this position when moving.



All models

Fit the PTO shaft

– On initial attachment this will need to be measured and adjusted to suit the tractor used. Measure the PTO shaft and cut to the dimension shown - see diagram opposite.

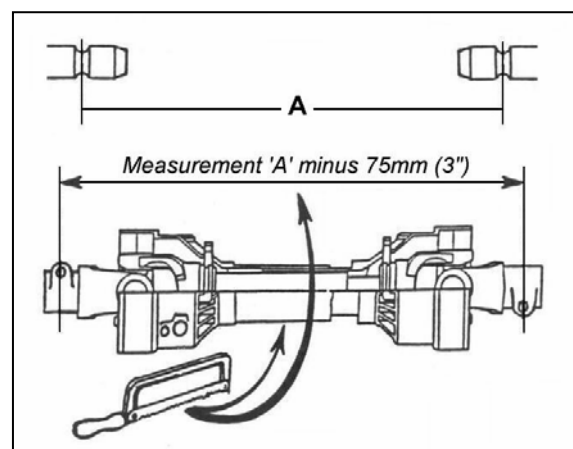
The finished length of the PTO shaft should be 75mm (3") less than the measured distance 'A' - between the tractor shaft and gearbox stub shaft - to enable correct fitting.

Note: For subsequent use with different tractors measure again – there must be a minimum shaft overlap of 150mm (6").

Secure PTO guards with torque chains.

Connect hoses to the tractors hydraulic system.

Add front end weights to the tractor if required.



CLUTCH INSTALLATION & MAINTENANCE – DS260HD Models only

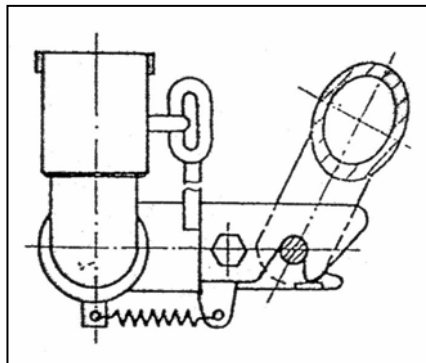
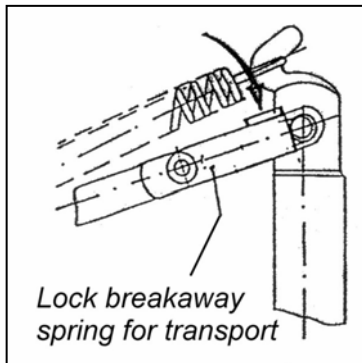
On initial use of the clutch and after storage it is necessary to restore the condition of the friction surfaces and apply full load to the discs using the following procedure:

- Install the device onto the input shaft of the machine and tighten fastenings.
- With the tractor engine running at idle speed, engage tractor PTO for 2-3 seconds to make the clutch slip. *Do not allow the clutch to slip for longer periods as this may cause damage to the linings*. If the clutch fails to slip after 2 or 3 attempts it will need to be disassembled and the contact surfaces cleaned. In the case of a 'used' machine check for damaged components and replace if required.
- Unscrew the socket head bolts completely – this will restore the spring load to the clutch for proper operation.
- At the end of the season, or prior to storage of the machine, tighten the socket head bolts and store the clutch in a clean dry environment.

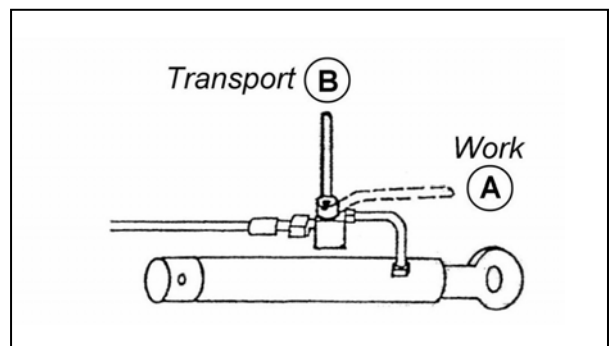
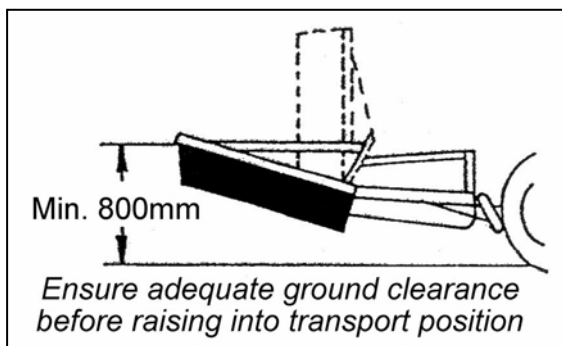
MOVING THE MACHINE INTO TRANSPORT POSITION

DS215 & DS255 Models

- Lock the breakaway spring for transport – *see diagram below left*.

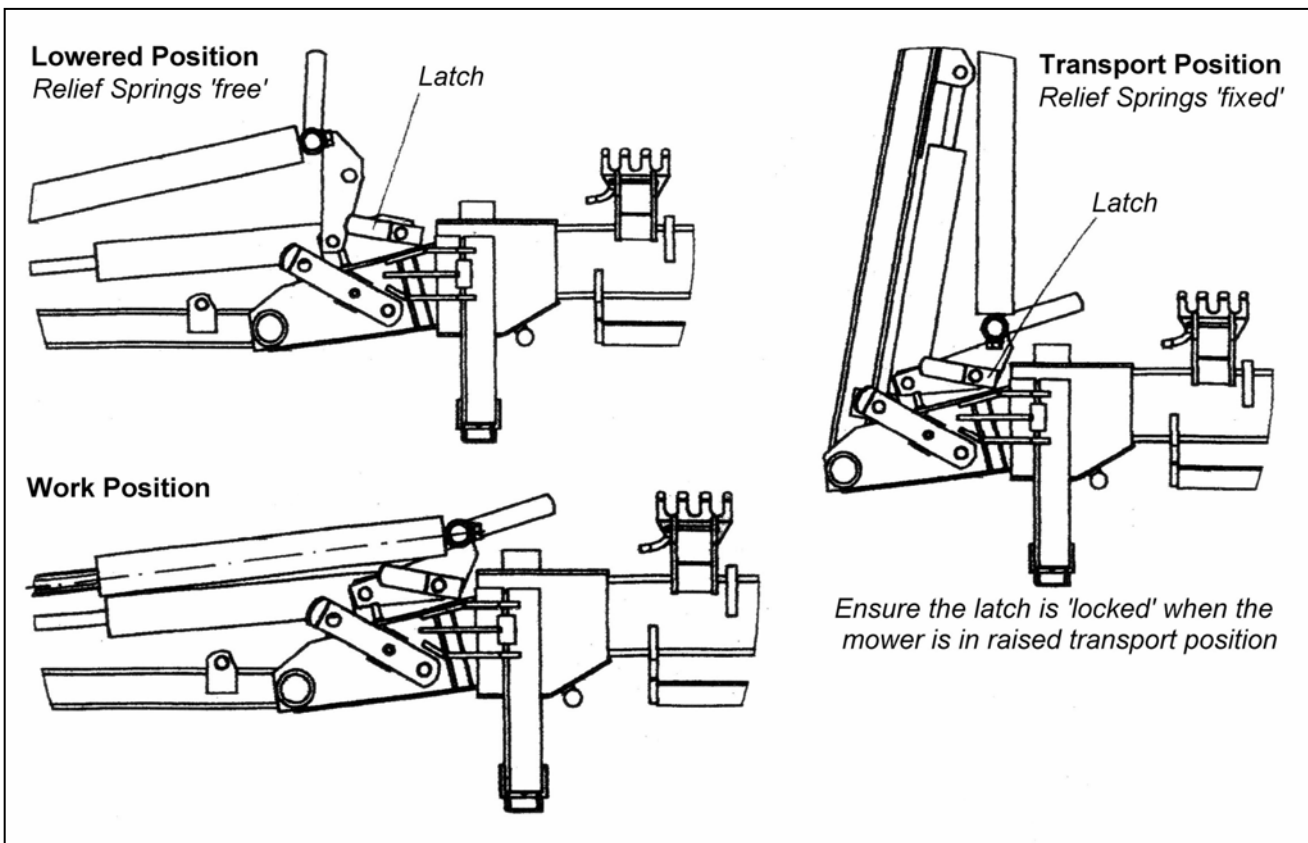


- Always check that the latch for holding the mower in the transport position is correctly located – *see diagram above right*.
- If the machine is of a type that is fitted with a hydraulic ram the cutterbar should be lifted into the vertical position for transport – always ensure there is adequate ground clearance below the machine before doing so. Once the mower is positioned vertically the valve tap on the hydraulic ram should be turned from the open work position 'A' to the closed transport position 'B' – *refer to diagrams below*.



MOVING THE MACHINE INTO TRANSPORT POSITION DS260HD Models

- Lower the 3-point linkage almost to the ground with the jacks clear of the ground.
- Raise the cutterbar with the hydraulic ram into the vertical transport position.
- Swing the cutterbar into the central position directly behind the tractor using the hydraulic slew ram.
- Lock the relieving springs with the latch – see *diagrams below*.
- Raise stand legs into their stowed position.

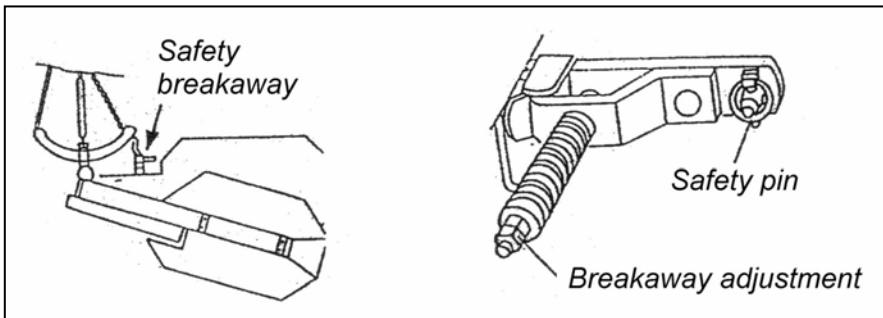


**MOVING FROM TRANSPORT POSITION TO WORK POSITION
DS215 & DS255 Models**

WARNING:
Ensure all persons are kept at a safe distance before moving the machine from the transport position to work position.



- If the mower is of the type fitted with a hydraulic ram the valve tap will first need to be switched from the closed transport position to the open work position before the machine can be lowered into the horizontal position.
- Lift the hook that holds the mower in the transport position by pulling the rope.
- Push the mower into the working position.
- Install safety breakaway onto the bolt of the hitch and secure with safety pin – see *diagrams below*.



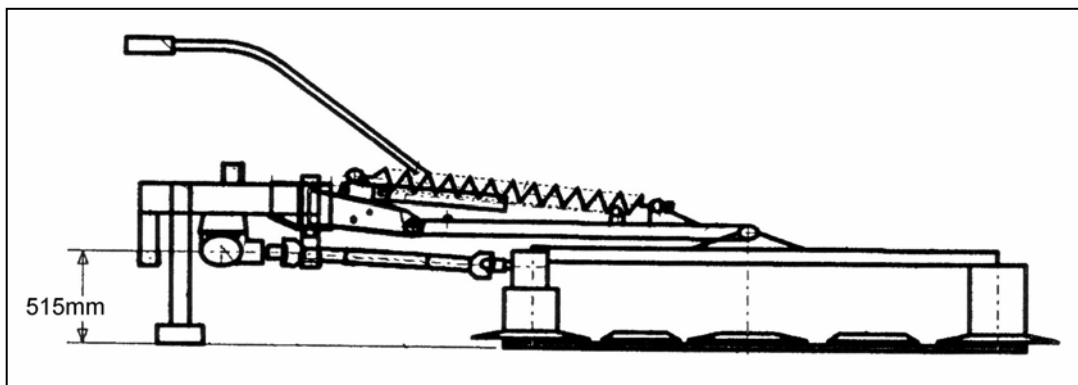
MOVING FROM TRANSPORT POSITION TO WORK POSITION DS260HD Models

WARNING:

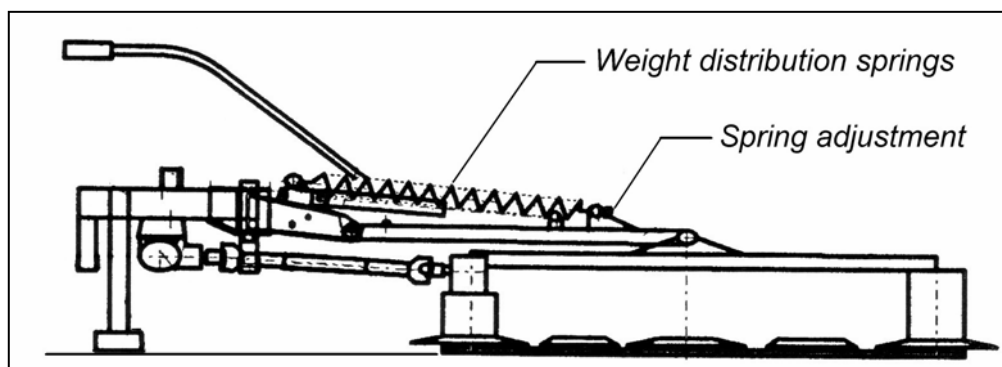
Ensure all persons are kept at a safe distance before moving the machine from the transport position to work position.



- By operation of the slew ram, swing the mower out from the transport position directly behind the tractor to its work position at right angles to the tractor.
- Pull the rope to release the hook that holds the mower in the transport position.
- Lower the mower on the hydraulic ram into the horizontal work position.
- Ensure the distance between the PTO shaft of the mower and the ground is 515mm – refer to diagram below.



The mower is equipped with 'weight distribution springs' to reduce weight burden on the cutterbar – the pressure of the springs can be adjusted at the location indicated in the drawing below. The recommended weight pressure is 50-70 kg.



WARNING: Never raise or lower the mower using the tractor hydraulics whilst mowing, use the hydraulic ram instead and make sure the distance between the PTO shaft and the ground remains constant at 515mm.

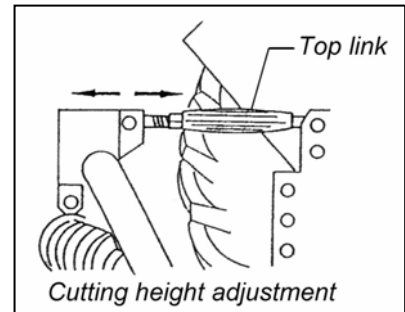
INSTRUCTIONS FOR SAFE MOWING

- Always ensure that each disc is fitted with 2 knives, either new or equally worn.
- Always replace damaged or worn blades, knives, and knife holders immediately – never attempt to operate the machine with any of these components in a damaged or overly worn condition.
- Stop the machine immediately if an increase in noise or vibration is experienced – continue work only when the reason for the disturbance has been investigated and resolved. *Ensure both the machine and the tractor's engines are switched off before nearing the mower to investigate.*
- Only operate the machine at the correct PTO speed. The maximum PTO speeds are as follows: 540 RPM for DS215 & DS255 Models and 1000 RPM for the DS260HD Model.

REGULATION OF CUTTING HEIGHT

The cutting height can be regulated by the top link – see *diagram opposite*.

Correct adjustment is with the position of the mower inclined forwards. If the mower is inclined backwards the cutting height will be higher and therefore quantity of forage reduced.



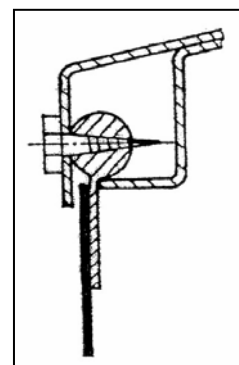
MOWING INSTRUCTIONS

- Allow the mower to reach its maximum permitted PTO speed before entering it into the grass to cut and keep the machine at this speed for the duration of the mowing to ensure a clean cut.
- Select a gear that will enable best mowing according to the ground conditions.
- Replace worn knives – sharp knives produce a cleaner more efficient cut.
- On DS215 & DS255 models pay attention to the fact that the middle beam during mowing should be positioned so that the bolt of the levers is in the mid-point of the slot to allow the mower to adjust to the contours of the ground.

PROTECTION CURTAIN REPLACEMENT

Removal and replacement of the protection curtain is as follows:

- Undo attachment screws.
- Remove curtain out of the notch.
- Install new curtain and re-fasten with attachment screws.

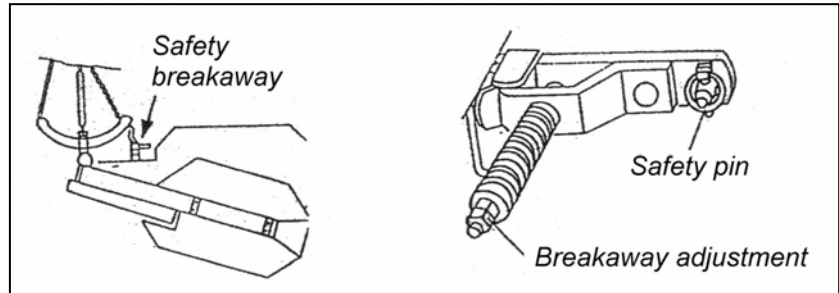


SAFETY 'BREAKBACK'

The mower has a safety system which allows the machine to automatically breakback to a position behind the tractor if contact with a heavy or fixed obstacle is made, thus preventing, or reducing, damage to the machine. When the mower 'breaks back' the tractor should be stopped immediately and reversed backwards to return the mower to the work position - the obstacle should then be removed or avoided to allow continuation of mowing.

NOTE: The 'breakback' system only operates when the machine is moving in a forwards direction.

If it is found that the 'breakback' operates during normal working without any contact with obstructions the sensitivity of the system is incorrectly set – this setting can be altered by adjustment of the spring tensioning nut – see *diagram opposite*.



REMOVAL OF THE MOWER FROM THE TRACTOR – DS260HD Models

With the cutterbar in the transport position (upright on the right hand side) release latch 'A' - see *diagram opposite*.

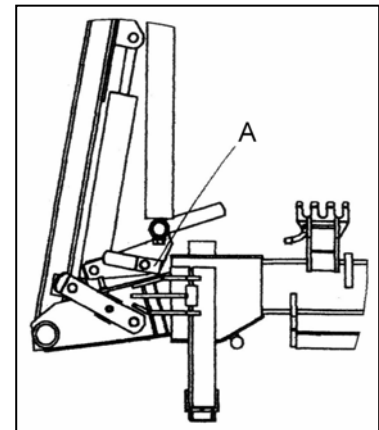
Lower the stand legs and secure.

Lower cutterbar to the ground with the hydraulic ram – making sure that the cutterbar does not 'hit' the ground as the discharging spring will no longer be tensioned.

Lower the tractor hydraulics until the machine is supported on the stand legs.

Remove the machine from the tractor.

Replace latch (A) onto the centre frame.



WARNING: Never attempt to disconnect the mower with the discharge springs tensioned.

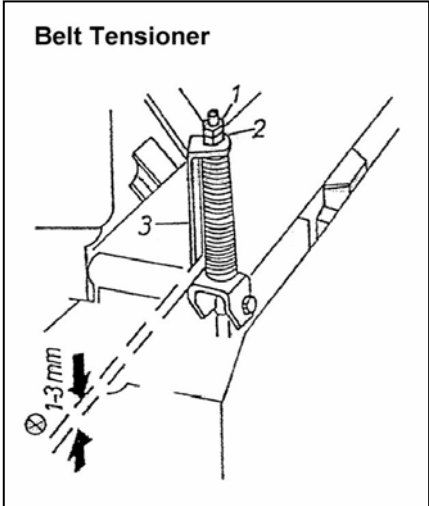
WARNING!
Always ensure the machine and tractor are switched off and the tractor's key removed before attempting any maintenance on the machine.

BELTS – DS215 & DS255 Models only

The mowing unit is driven by 4 'spring tensioned' vee-belts. If a belt is damaged or worn out all 4 belts should be replaced at the same time.

BELT TENSION

New belts will experience a certain amount of stretching on initial use and will therefore occur during the first working hours of the new machine. The belt tensioner will keep the belts taut but it is advisable that the belt tension is checked regularly and adjusted if necessary during this initial 'running in' period and at regular intervals thereafter.



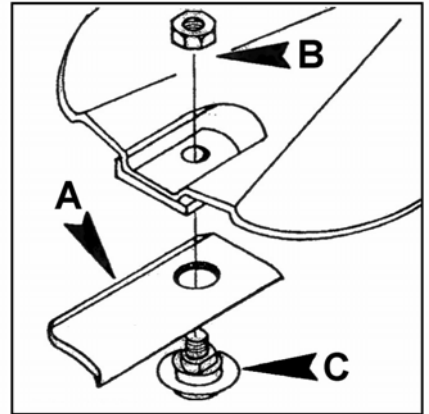
NOTE:
Do not tighten belts more than necessary as this may damage bearings and shafts.

KNIFE REPLACEMENT

The knives of the mower are 'double-sided' and can be turned around when the first sides of the blades have become over worn.

The life expectancy of the knives will be determined by the ground surface that you are mowing – stony ground will cause damage to the knives and therefore reduce their life expectancy.

Replacement of the knives (A) is by removal of their fixing nut (B) and blade holder (C) as illustrated in the diagram opposite. When replacing the blades it is always advisable to renew the fixing nut (B) at the same time.



WARNING: When removing and replacing discs take care to replace the disc in the correct position in relation to its neighbouring disc so that the knives do not come into contact with each other.

MAINTENANCE AND LUBRICATION

Main Frame

DS215 & DS255 Models

Lubricate main frame grease points (5 off) after every 5 hours of work.

DS260HD Models

Lubricate main frame grease points (2 off) after every 10 hours of work.

PTO Shaft

Lubricate PTO shaft in accordance with the enclosed manufacturer's instructions.

Safety 'Breakback'

Test 'breakback' function occasionally to ensure it works correctly.

Gearbox

The main gearbox is filled with semi-liquid grease EP-0. The grease level must always reach the lower point of the driving shaft. Top up the gearbox using EP-0 only if required.

PERIODICAL OVERHAULS

A thorough periodic overhaul of the mower is necessary every year and should be overhauled from time to time during the year to check if lubrication or maintenance is needed.

An overhaul consists of:

Gearbox – *check tightness of fasteners & lubrication level.*

Discs – *check for wear and replace worn components if required.*

Knife Holders – *check for wear and replace worn components if required.*

Knives – *check for wear and replace over worn knives (replace disc set not single knives)*

Protection Covers & Curtains – *check for damage or wear, replace if required.*

PTO Shaft Guarding – *check for damaged/missing components, repair/replace if required.*

Lubrication – *lubricate machine at the recommended intervals.*

Always clean and check the machine prior to storage to ensure the machine is fully prepared and ready for the next seasons work.

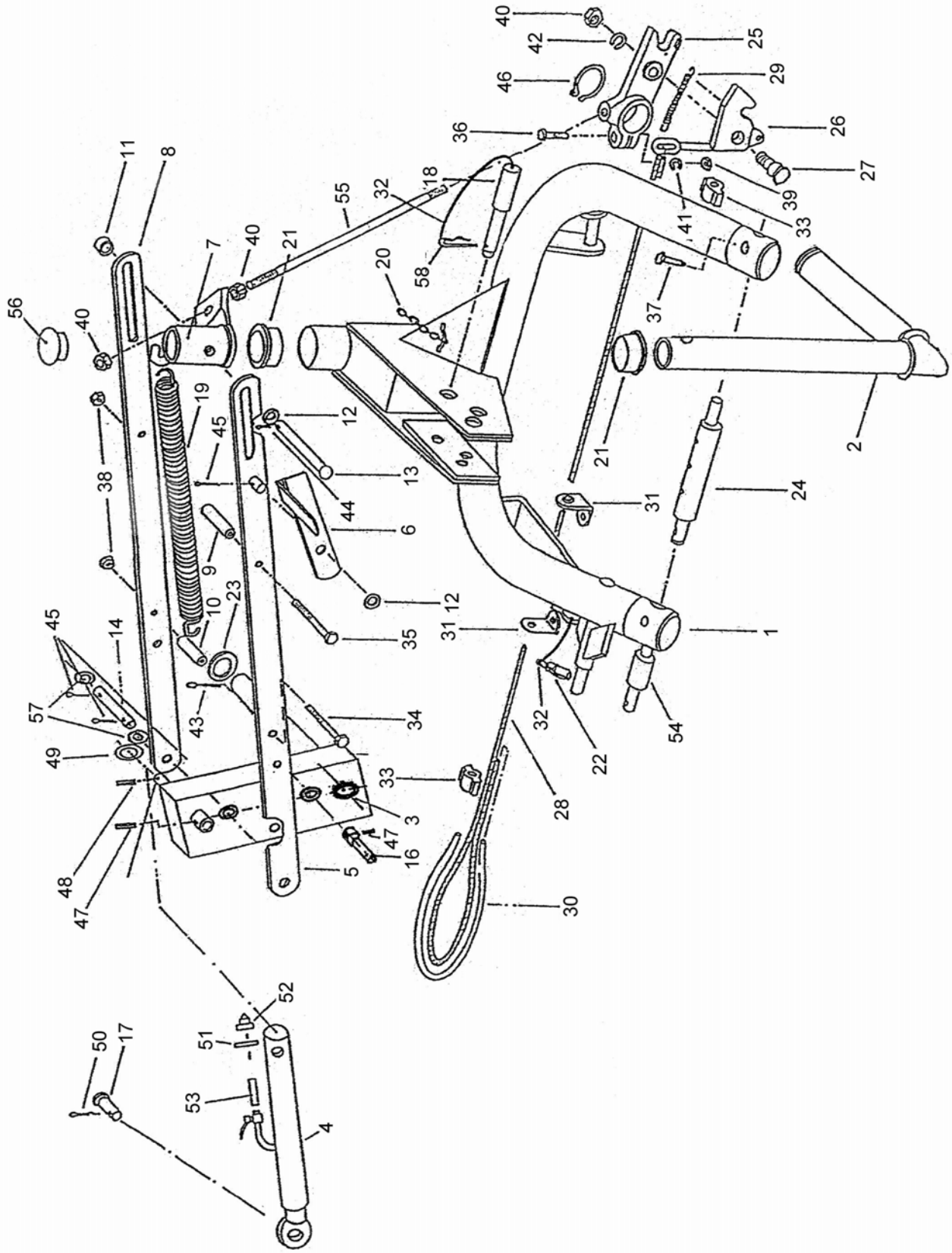
ONLY USE GENUINE TWOSE PARTS ON THIS MACHINE

PARTS SECTION
DS215, DS255 & DS260HD
Disc Mowers

REF.	QTY.	PART No.	DESCRIPTION
			DS215 & DS255 - MAIN FRAME ASSEMBLY
1	1	1021848	HITCH
2	1	1021567	NECK
3	1	1021849	LEVER
4	1	1021850	HYDRAULIC RAM
5	1	1021851	LINK
6	1	1021716	PROTECTOR
7	1	1021717	CAP
8	1	1021852	LINK
9	1	1021721	DISTANCE SLEEVE
10	1	1021722	DISTANCE SLEEVE
11	1	1021723	SLEEVE
12	2	1021853	WASHER
13	1	1021724	BOLT
14	1	1021854	BOLT
15	1	1021855	BOLT
16	1	1021727	BOLT
17	1	1021728	BOLT
18	1	1021729	BOLT
19	1	1021517	SPRING
20	1	1021856	CHAIN
21	2	1021608	PLASTIC SLEEVE
22	1	1021857	PROTECTION PIN
23	1	1021731	WASHER
24	1	1021732	BOLT
25	1	1021858	LIMITER
26	1	1021859	HOOK
27	1	1021860	BOLT
28	1	1021861	STRING
29	1	1021862	SPRING
30	1	1021863	TUBE
31	2	1021864	EYE
32	2	1021865	PLASTIC STRING
33	2	1021654	CLAMP
34	1	1021733	SCREW
35	1	1021734	SCREW
36	1	1021785	SCREW
37	2	1021735	SCREW
38	2	1021829	NUT
39	1	1021179	NUT
40	3	1021619	NUT

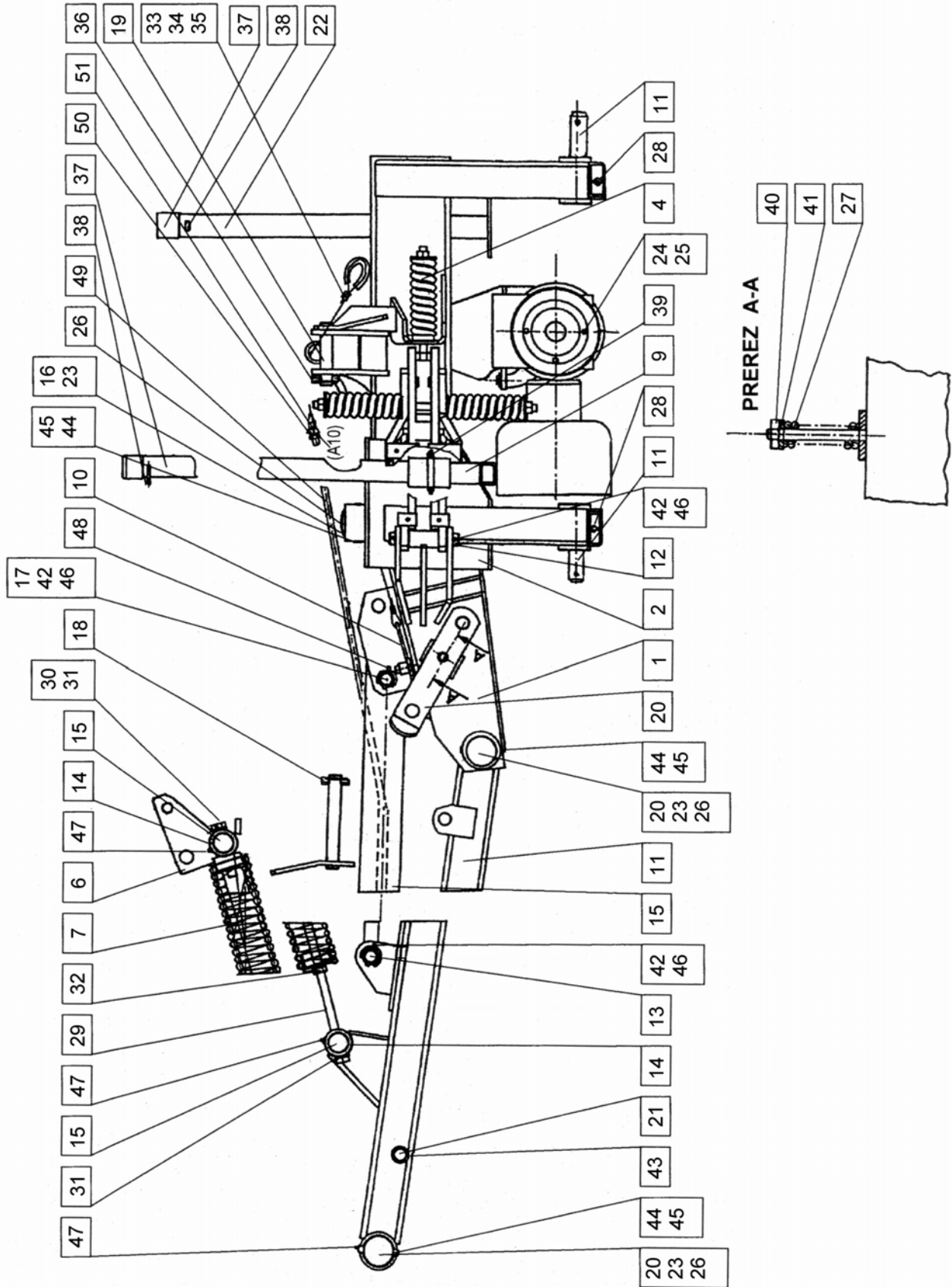
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MAIN FRAME ASSEMBLY – DS215 & DS255 Models (Cont'd)



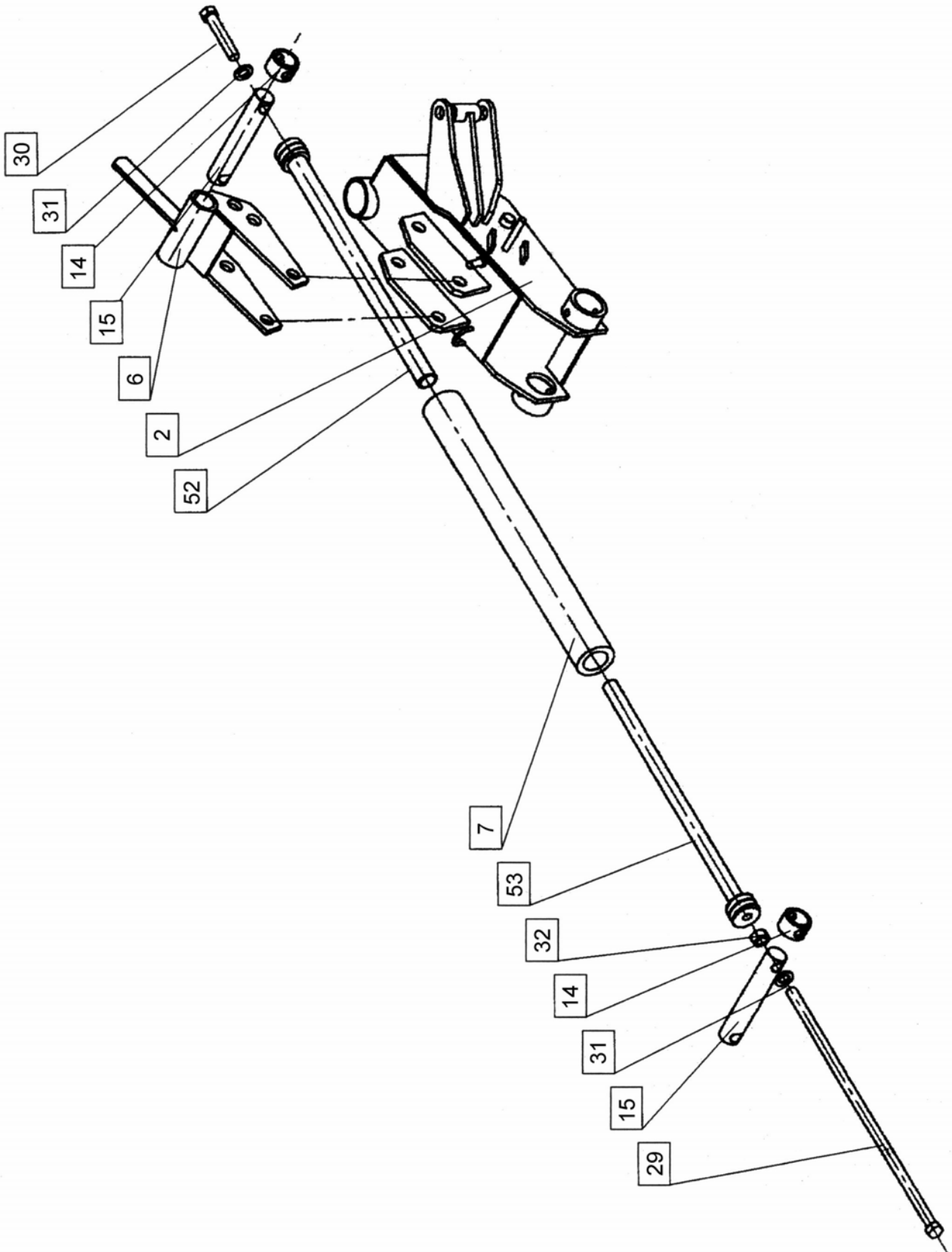
REF.	QTY.	PART No.	DESCRIPTION
			DS215 & DS255 - MAIN FRAME ASSEMBLY (Cont'd)
41	1	1021866	WASHER
42	1	1021867	WASHER
43	1	1021736	COTTER
44	1	1021737	COTTER
45	3	1021621	COTTER
46	1	1021102	CIRCLIP
47	2	1021738	PIN
48	1	1021591	PIN
49	1	1021739	WASHER
50	1	1021079	COTTER
51	1	1021741	WASHER
52	1	1021742	CLAMP
53	1	1021868	TUBE
54	1	1021744	BOLT
55	1	1021869	BAR
56	1	1021746	COVER
57	2	1021870	WASHER
58	1	1021730	SPRING CLIP

MAIN FRAME ASSEMBLY – DS260HD Models



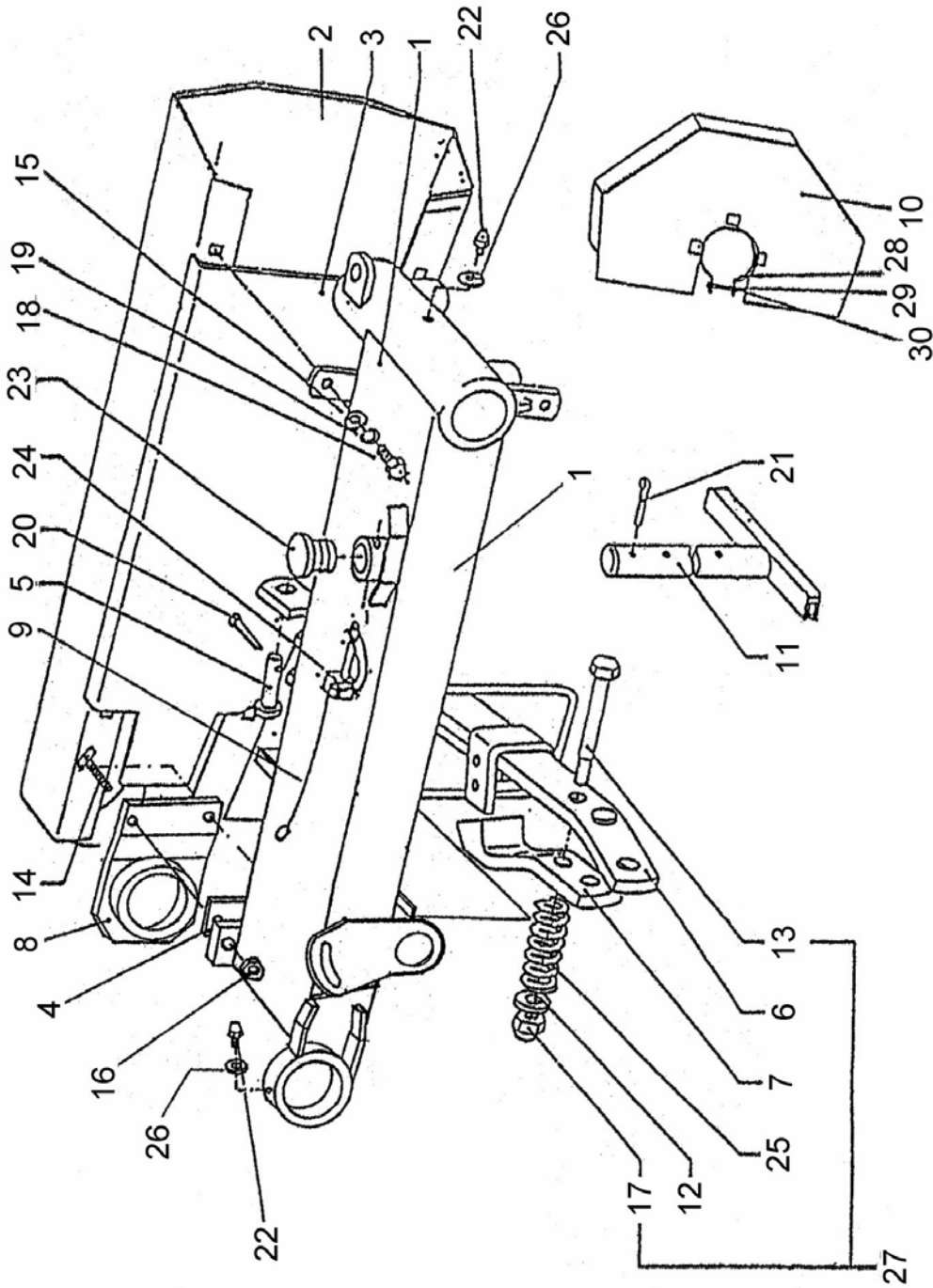
REF.	QTY.	PART No.	DESCRIPTION
			DS260HD - MAIN FRAME ASSEMBLY
1	1	1021877	HOLDER
2	1	1021878	HITCH
3	1	1021879	HOLDER
4	1	1021880	PROTECTOR
5	1	1021881	HYDRAULIC RAM
6	1	1021882	LINK
7	2	1021836	SPRING
8	1	1021883	BAR
9	1	1021884	LEG
10	1	1021885	EYE
11	2	1021886	BOLT
12	1	1021887	BOLT
13	1	1021888	BOLT
14	4	1021889	SLEEVE
15	2	1021890	BOLT
16	1	1021891	TUBE
17	1	1021892	BOLT
18	1	1021893	BOLT
19	1	1021894	BOLT
20	2	1021895	TUBE
21	1	1021896	BOLT
22	1	1021897	LEG
23	6	1021609	SLEEVE
24	3	1021179	NUT
25	3	1021067	WASHER
26	5	1021746	COVER
27	1	1021898	SPRING
28	2	1021735	SCREW
29	2	1021899	SCREW
30	2	1021900	SCREW
31	4	1021901	WASHER
32	2	1021902	NUT
33	1	1021652	STRING
34	1	1021863	TUBE
35	2	1021654	CLAMP
36	2	1021857	TRACTOR PIN
37	2	1021646	COVER
38	2	1021736	COTTER
39	2	1021060	SAFETY PIN
40	1	9163006	NUT

MAIN FRAME ASSEMBLY – DS260HD Models (Cont'd)



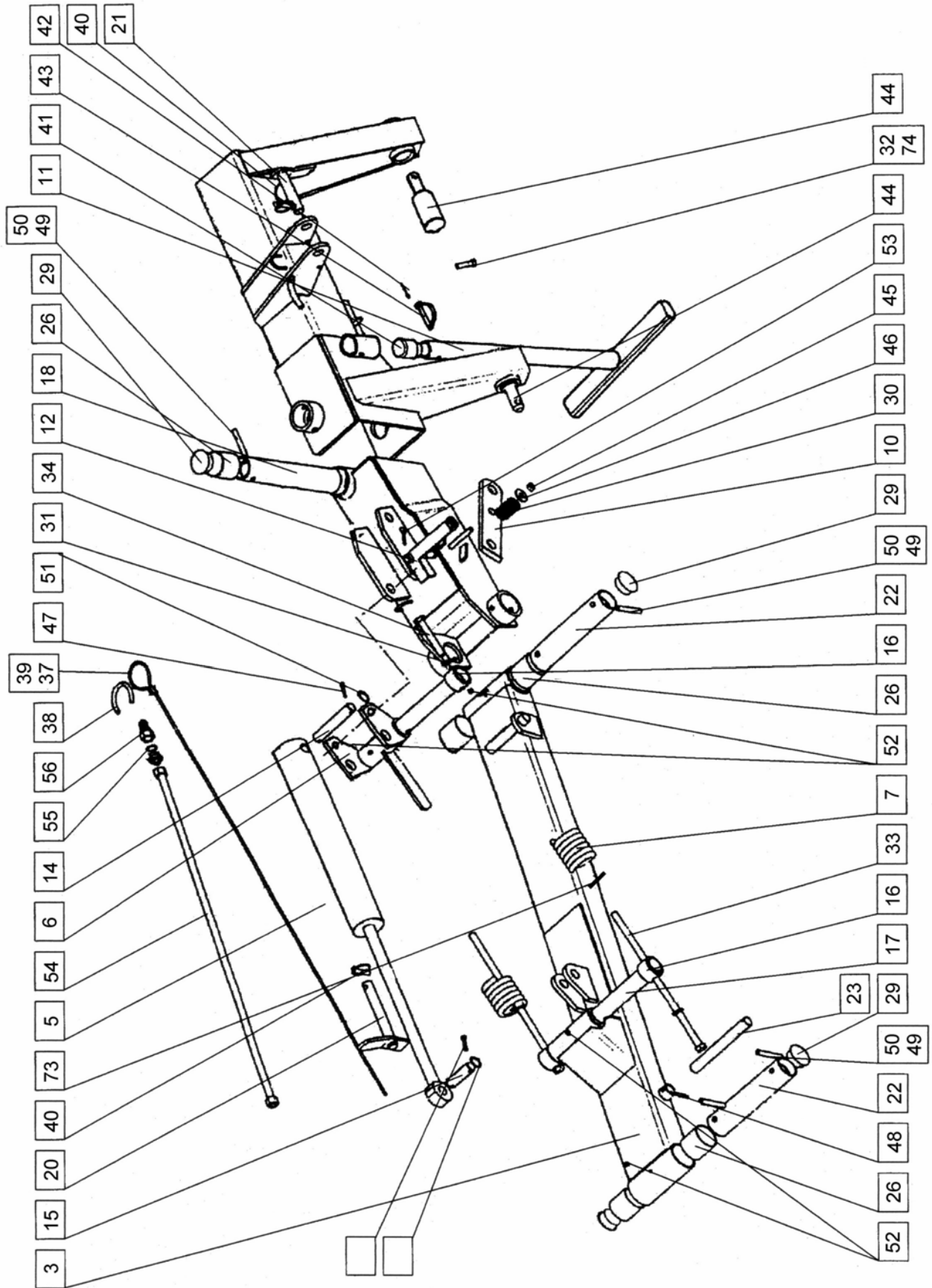
REF.	QTY.	PART No.	DESCRIPTION
			DS260HD - MAIN FRAME ASSEMBLY (Cont'd.)
41	1	1021187	WASHER
42	6	1021079	COTTER
43	1	1021903	PIN
44	5	1021904	PIN
45	5	1021905	PIN
46	6	1021906	WASHER
47	4	1021064	NIPPLE
48	1	1021907	COTTER
49	1	1021908	TUBE
50	1	1021741	WASHER
51	1	1021742	CLAMP
52	2	1021909	GUIDE
53	2	1021910	GUIDE

BEAM ASSEMBLY – DS215 & DS255 Models



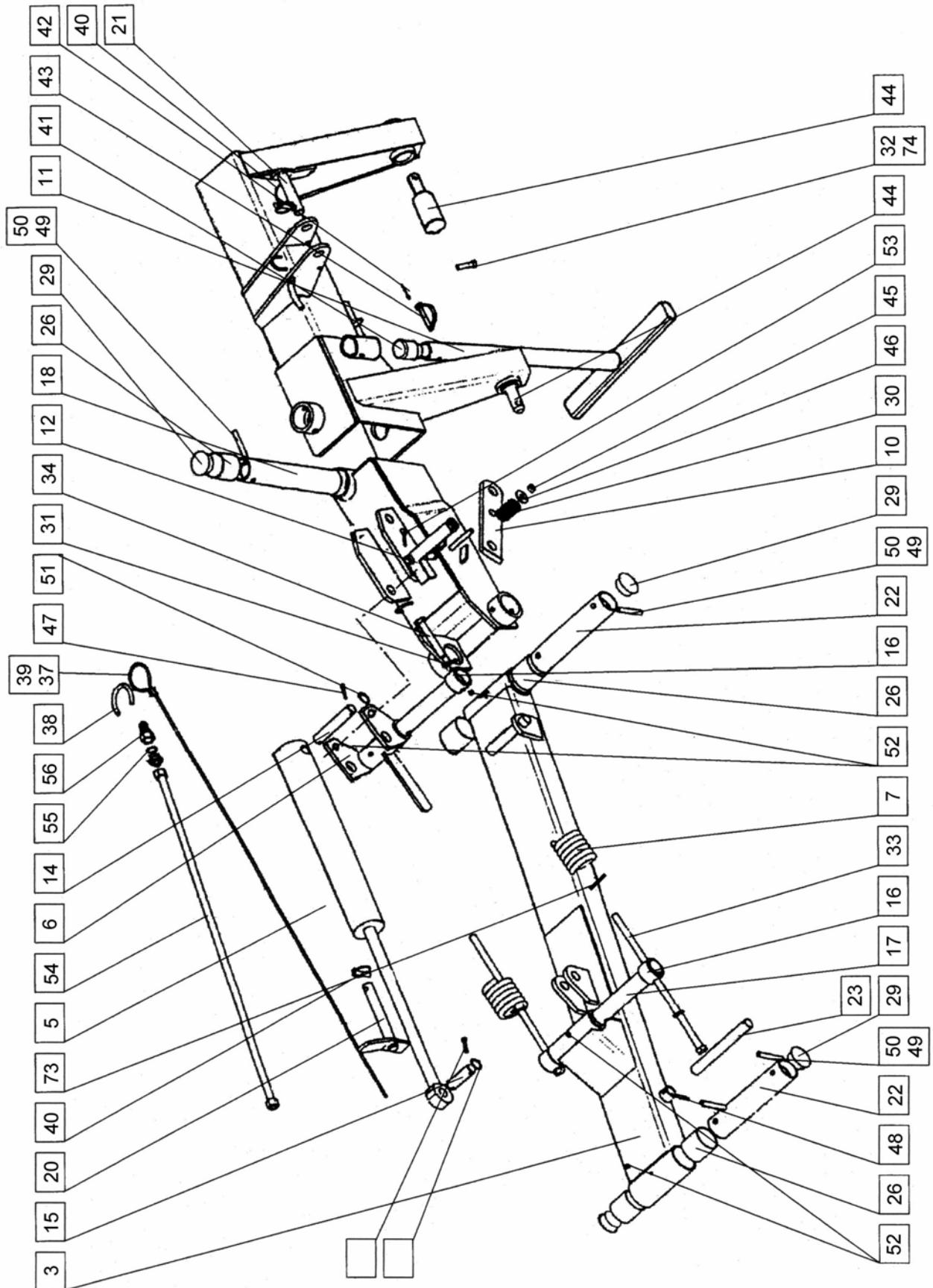
REF.	QTY.	PART No.	DESCRIPTION
			DS215 & DS255 - BEAM ASSEMBLY
1	1	1021998	HOLDER
2	1	1021999	PROTECTION
3	1	1022001	INNER PROTECTION
4	3	1022002	SPACER
5	1	1022003	BOLT
6	1	1022004	SAFETY CLAMP
7	1	1022005	PROTECTOR
8	1	1021969	HINGE
9	1	1021081	STRING
10	1	1022006	BELT PROTECTION
11	1	1022007	SUPPORT LEG
12	1	1022008	WASHER
13	1	1022009	SCREW
14	2	1021666	SCREW
15	4	1021147	WASHER
16	2	1021224	NUT
17	1	1021532	NUT
18	4	1021936	SCREW
19	4	1021226	SPRING WASHER
20	1	1021621	COTTER
21	1	1021645	COTTER
22	2	1021063	LUBRICATOR
23	1	1021646	COVER
24	1	1021060	SAFETY PIN
25	1	1022010	SPRING
26	2	1021648	WASHER
27	1	1022011	PROTECTOR
28	1	1021660	CLAMP
29	1	1021225	SCREW
30	1	1021628	NUT

BEAM ASSEMBLY – DS260HD Models



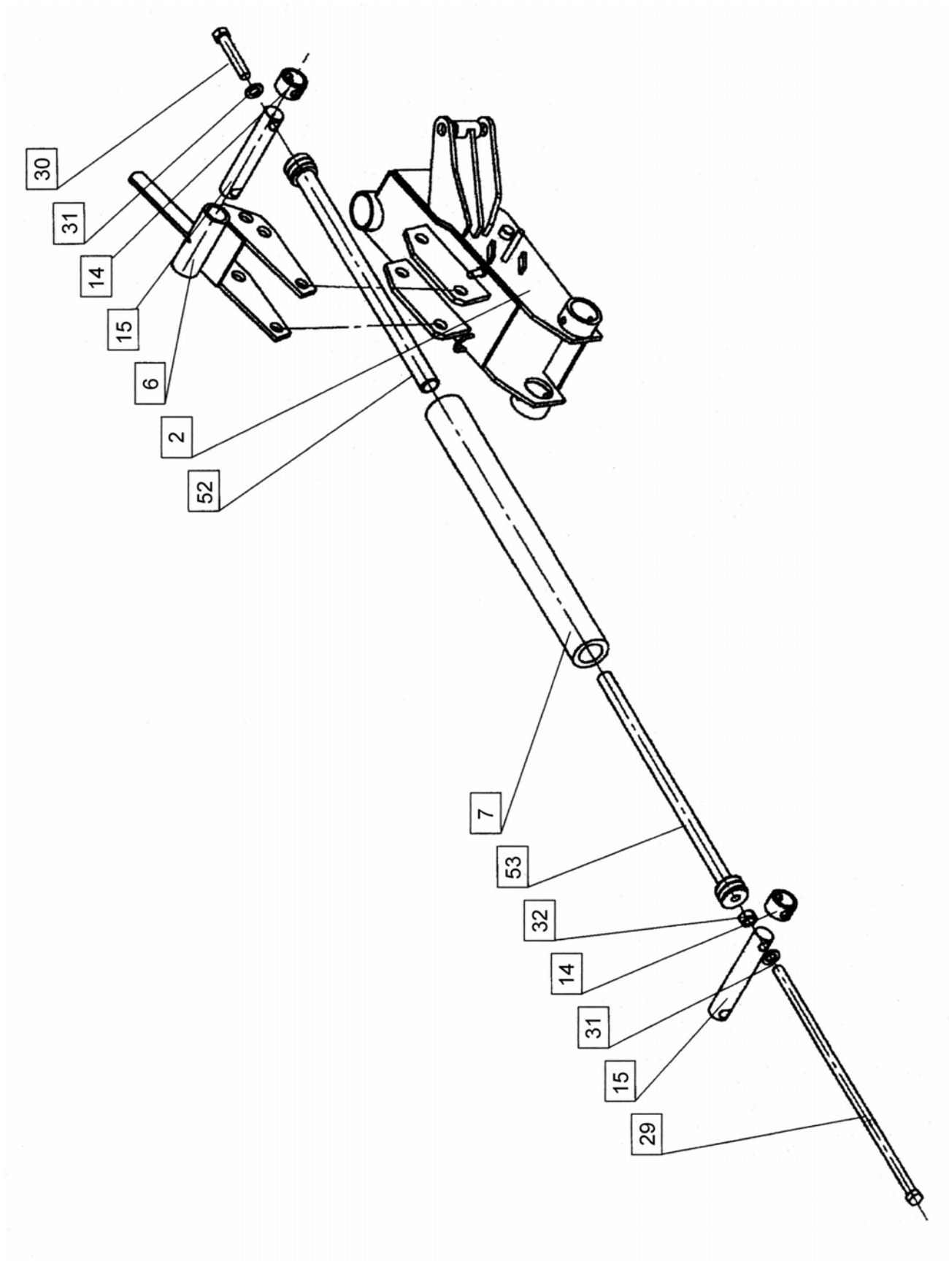
REF.	QTY.	PART No.	DESCRIPTION
			DS260HD - BEAM ASSEMBLY
1	1	1021942	BRACKET
2	1	1021943	THREE-POINT FRAME
3	1	1021879	CONNECTING BRACKET
4	1	1021944	HOLDER
5	1	1021881	HYDRAULIC RAM
6	1	1021882	SPRING CONNECTING PIECE
7	2	1021836	SPRING
8	1	1021897	STAND LEG
9	1	1021945	HOLDER
10	1	1021883	BAR
11	1	1021884	STAND LEG
12	1	1021885	LEVER
13	1	1021946	PIN
14	1	1021892	PIN
15	1	1021888	PIN
16	4	1021889	BUSH
17	2	1021890	PIN
18	1	1021891	TUBE
19	1	1021947	PIN
20	1	1021893	PIN
21	1	1021894	PIN
22	2	1021895	TUBE
23	1	1021896	PIN
24	1	1021948	GABEL
25	1	1021949	PLATE
26	6	1021609	BUSH
27	1	1021950	PIN
28	1	1021951	PIN
29	5	1021746	CAP
30	1	1021898	SPRING
31	4	1021901	WASHER
32	3	1021735	SCREW
33	2	1021899	SCREW
34	2	1021900	SCREW
35	1	1021952	WASHER
36	1	1021619	NUT
37	1	1021652	ROPE
38	1	1021863	TUBE

BEAM ASSEMBLY – DS260HD Models (Cont'd)

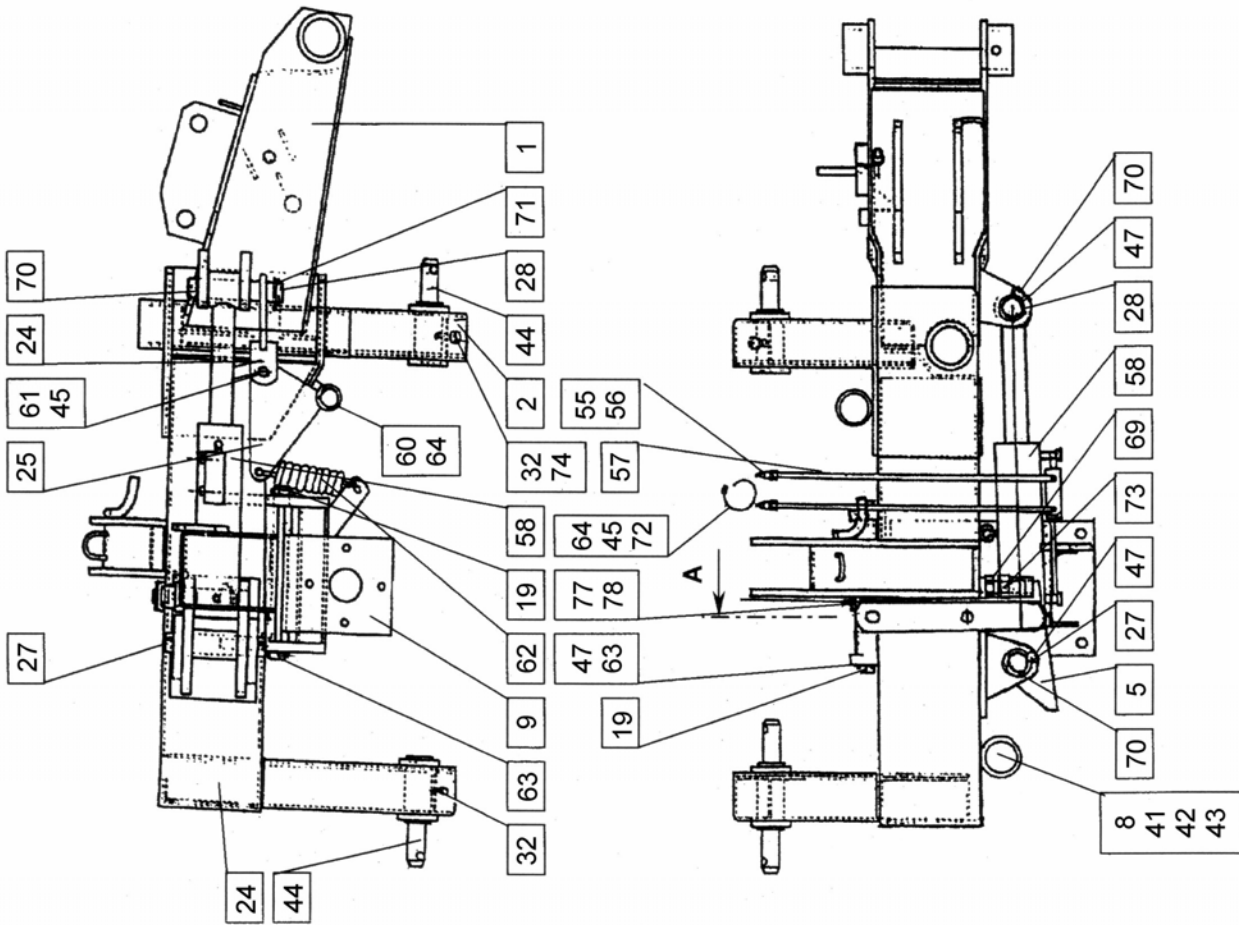
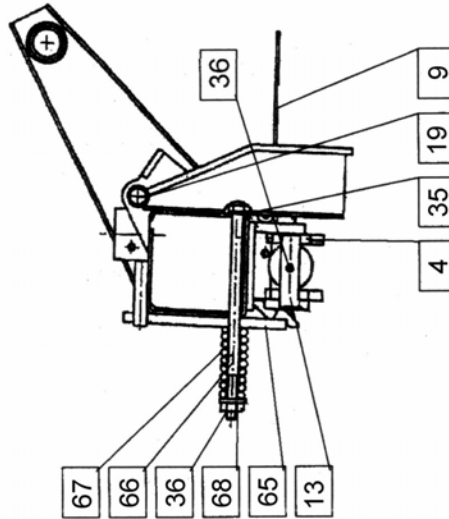


REF.	QTY.	PART No.	DESCRIPTION
			DS260HD - BEAM ASSEMBLY (Cont'd)
39	2	1021654	CLAMP
40	2	1021857	LYNCH PIN
41	2	1021646	CAP
42	2	1021736	COTTER PIN
43	2	1021060	LYNCH PIN
44	2	1021886	BOLT
45	3	9163006	NUT
46	1	1021187	WASHER
47	10	1021079	COTTER PIN
48	1	1021903	ROLL PIN
49	5	1021904	ROLL PIN
50	5	1021905	ROLL PIN
51	6	1021906	WASHER
52	4	1021064	GREASE NIPPLE
53	1	1021907	COTTER PIN
54	1	1021908	HYDRAULIC HOSE
55	3	1021741	WASHER
56	3	1021742	COUPLING
57	2	1021953	HYDRAULIC HOSE
58	1	1021954	HYDRAULIC RAM
59	1	1021178	NUT
60	1	1021906	WASHER
61	1	1021955	SCREW
62	1	1021956	SPRING
63	2	1021739	WASHER
64	1	1021957	COTTER PIN
65	1	1021958	PROTECTION DEVICE
66	1	1021959	SCREW
67	1	1021647	SPRING
68	1	1021960	WASHER
69	1	1021661	SCREW
70	3	1021227	WASHER
71	1	1021962	WASHER
72	1	1021963	CLIP
73	3	1021902	NUT
74	2	1021964	NUT
75	2	1021909	GUIDE
76	2	1021910	GUIDE
77	1	1021965	WASHER
78	1	1021064	GREASE NIPPLE

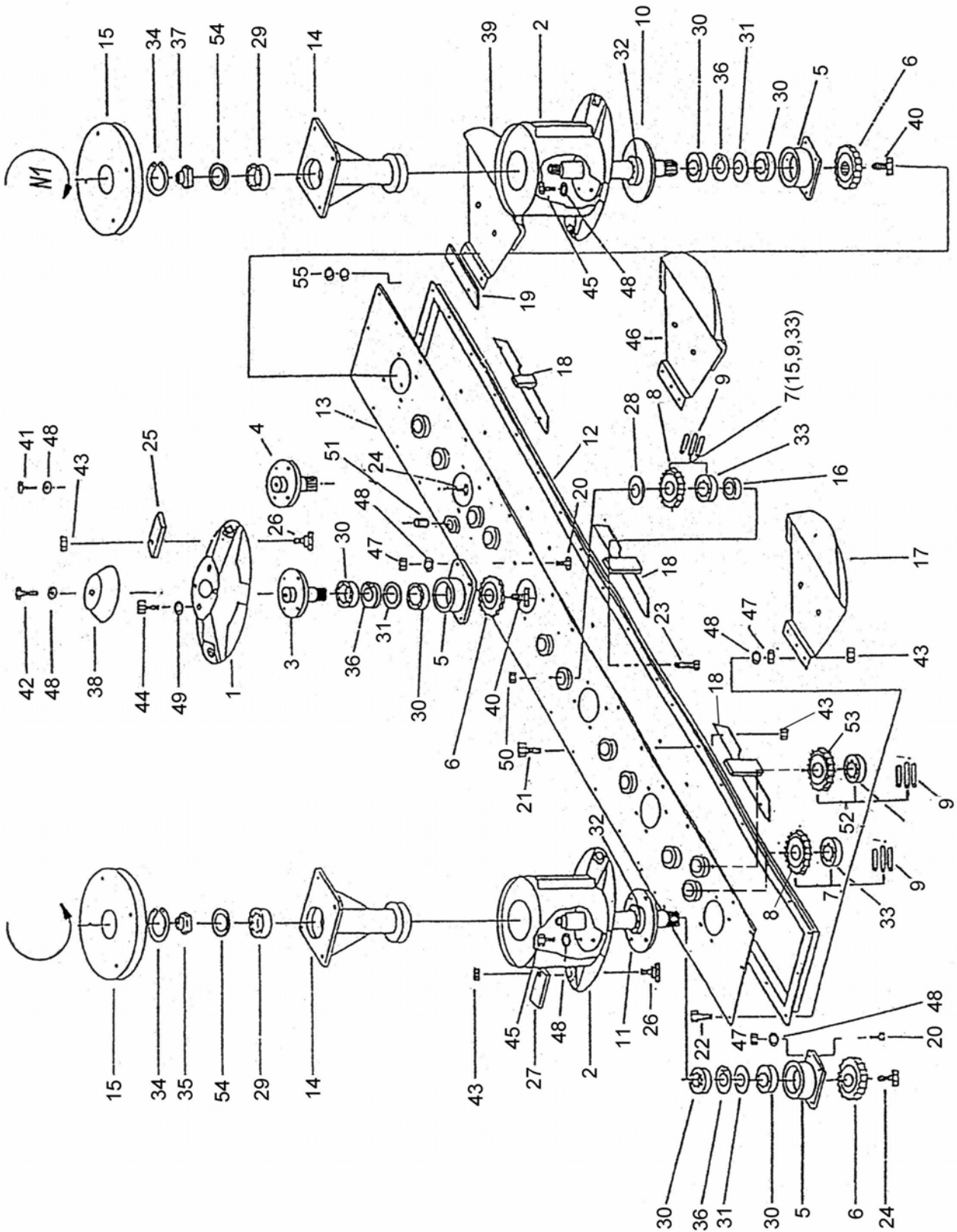
BEAM ASSEMBLY – DS260HD Models (Cont'd)



BEAM ASSEMBLY – DS260HD Models (Cont'd)



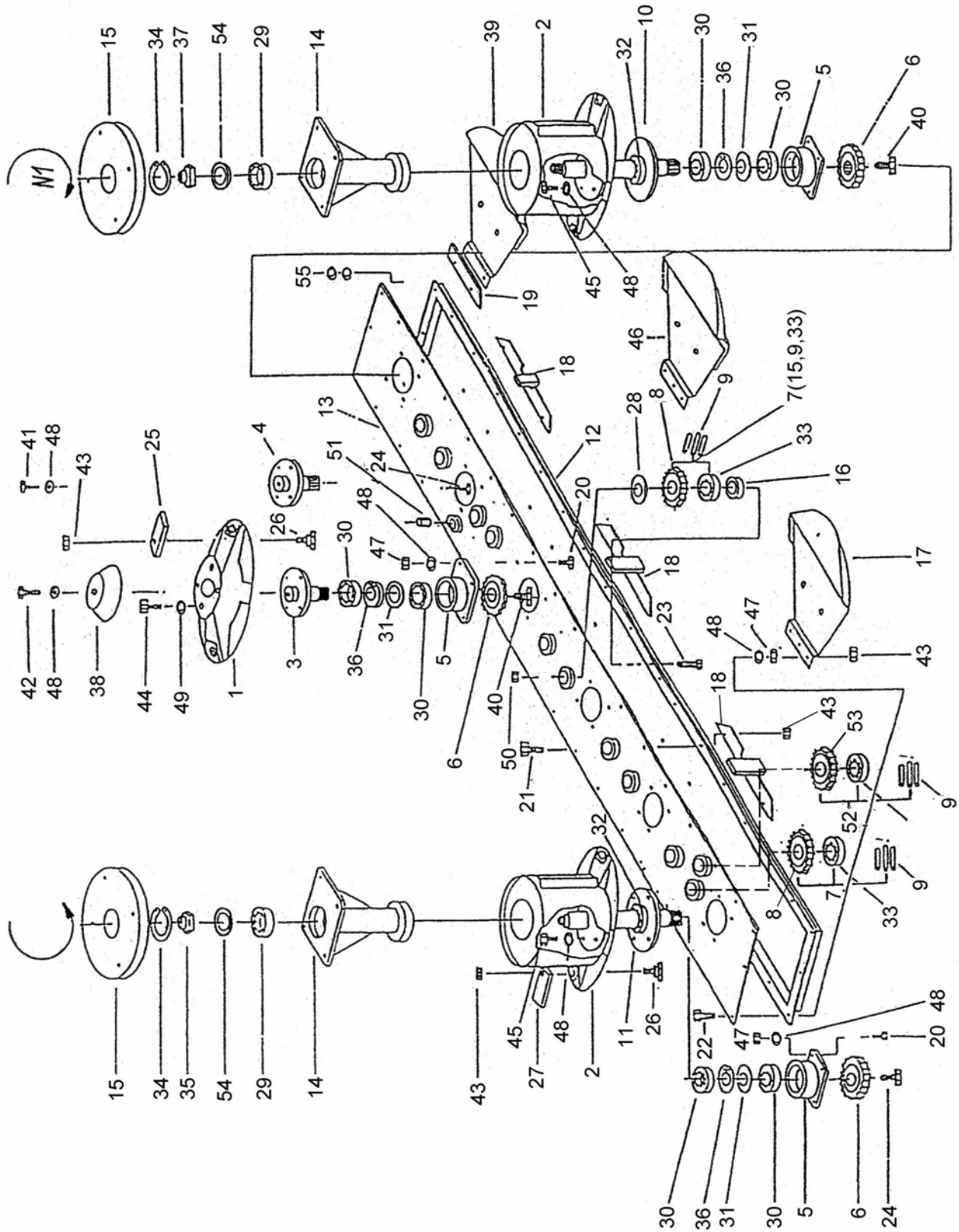
CUTTERBAR ASSEMBLY – DS215 & DS255 Models



REF.	QTY.	PART No.	DESCRIPTION
DS215 & DS255 - CUTTERBAR ASSEMBLY			
1	3	1021815	DISC - <i>DS215 Models</i>
	4	1021815	DISC - <i>DS255 Models</i>
2	2	1021911	DISC
3	1	1021823	FLANGE - RIGHT
4	1	1021824	FLANGE - LEFT
5	4	1021817	BEARING HOUSING
6	4	1021912	GEAR
7	6	1021818	GEAR
8	6	1021913	GEAR
9	18	1021914	SAFETY WIRE
10	1	1021846	SHAFT
11	1	1021847	SHAFT
12	1	1021915	HOUSING - <i>DS215 Models</i>
	1	1021938	HOUSING - <i>DS255 Models</i>
13	1	1021916	TROUGH COVER - <i>DS215 Models</i>
	1	1021939	TROUGH COVER - <i>DS255 Models</i>
14	2	1021917	NECK
15	2	1021918	COVER
16	6	1021919	SLEEVE
17	1	1021874	SLIDER
18	3	1021920	BAND
19	1	1021921	BAND - LEFT
20	16	1021922	SCREW
21	16	1021923	SCREW
22	12	1021924	SCREW
23	6	1021925	SCREW
24	2	1021822	SCREW
25	5	1021607	KNIFE (RIGHT) - <i>DS215 Models</i>
	6	1021607	KNIFE (RIGHT) - <i>DS255 Models</i>
26	8	1021820	KNIFE SCREW
27	5	1021606	KNIFE (LEFT) - <i>DS215 Models</i>
	6	1021606	KNIFE (LEFT) - <i>DS255 Models</i>
28	4	1021926	WASHER
29	2	1021023	BEARING
30	8	1021828	BEARING
31	4	1021927	WASHER
32	2	1021813	BEARING
33	6	1021928	BEARING
34	2	1021126	CIRCLIP
35	1	1021929	NUT
36	6	1021930	CIRCLIP
37	1	1021931	NUT
38	2	1021932	COVER
39	1	1021872	SLIDER - LEFT

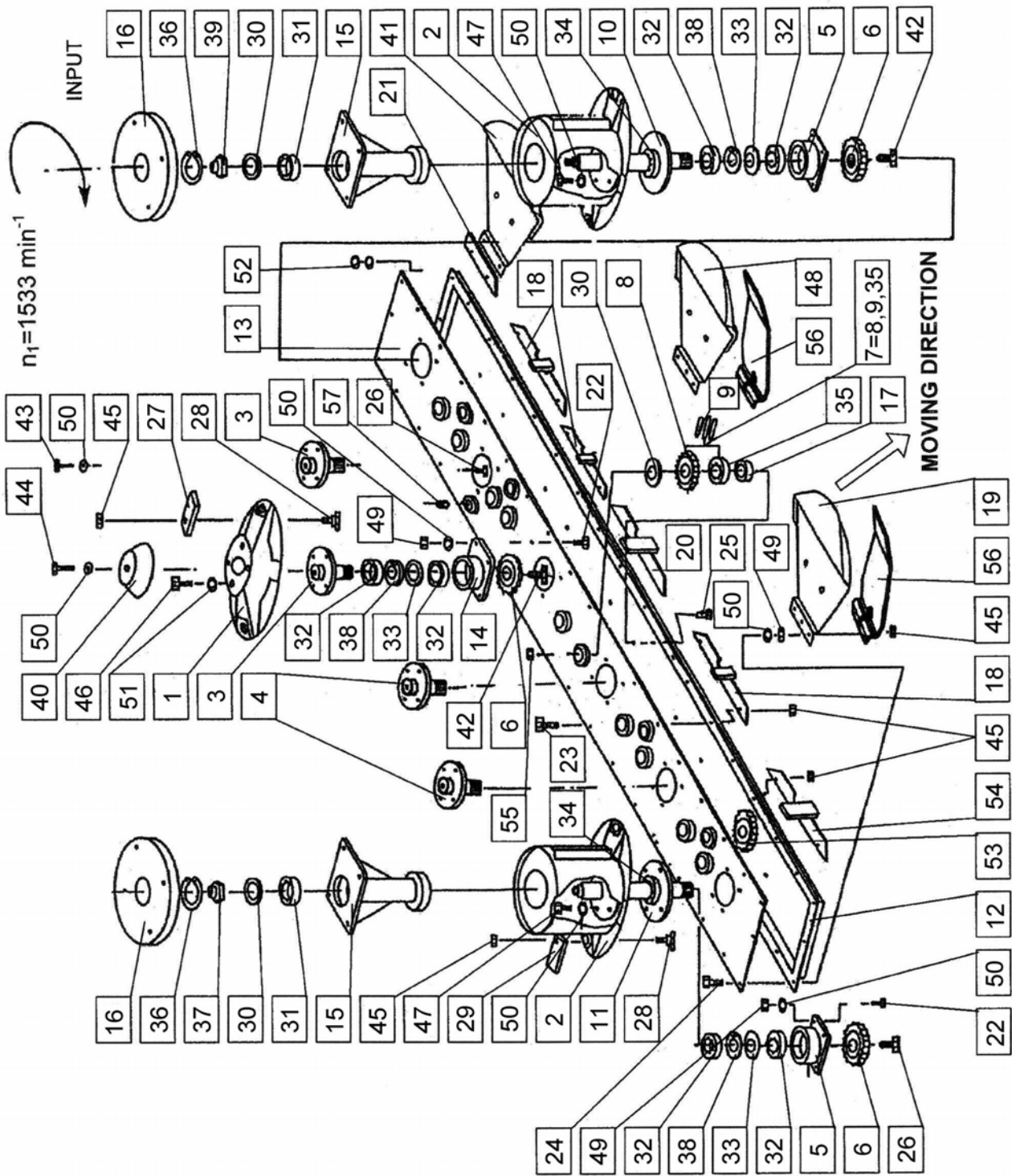
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CUTTERBAR ASSEMBLY – DS215 & DS255 Models (Cont'd)



REF.	QTY.	PART No.	DESCRIPTION
			DS215 & DS255 - CUTTERBAR ASSEMBLY (Cont'd)
40	2	1021821	SCREW
41	1	1021933	SCREW
42	1	1021934	SCREW
43	20	1021876	NUT
44	8	1021935	SCREW
45	8	1021936	SCREW
46	3	1021873	SLIDER - <i>DS215 Models</i>
	4	1021873	SLIDER - <i>DS255 Models</i>
47	48	1021179	NUT
48	52	1021226	WASHER
49	8	1021806	WASHER
50	6	1021829	NUT
51	1	1021937	SCREW
52	3	1021940	GEAR - <i>DS215 Models only</i>
53	3	1021941	GEAR - <i>DS215 Models only</i>
54	2	1021996	WASHER
55	2	1021997	WASHER

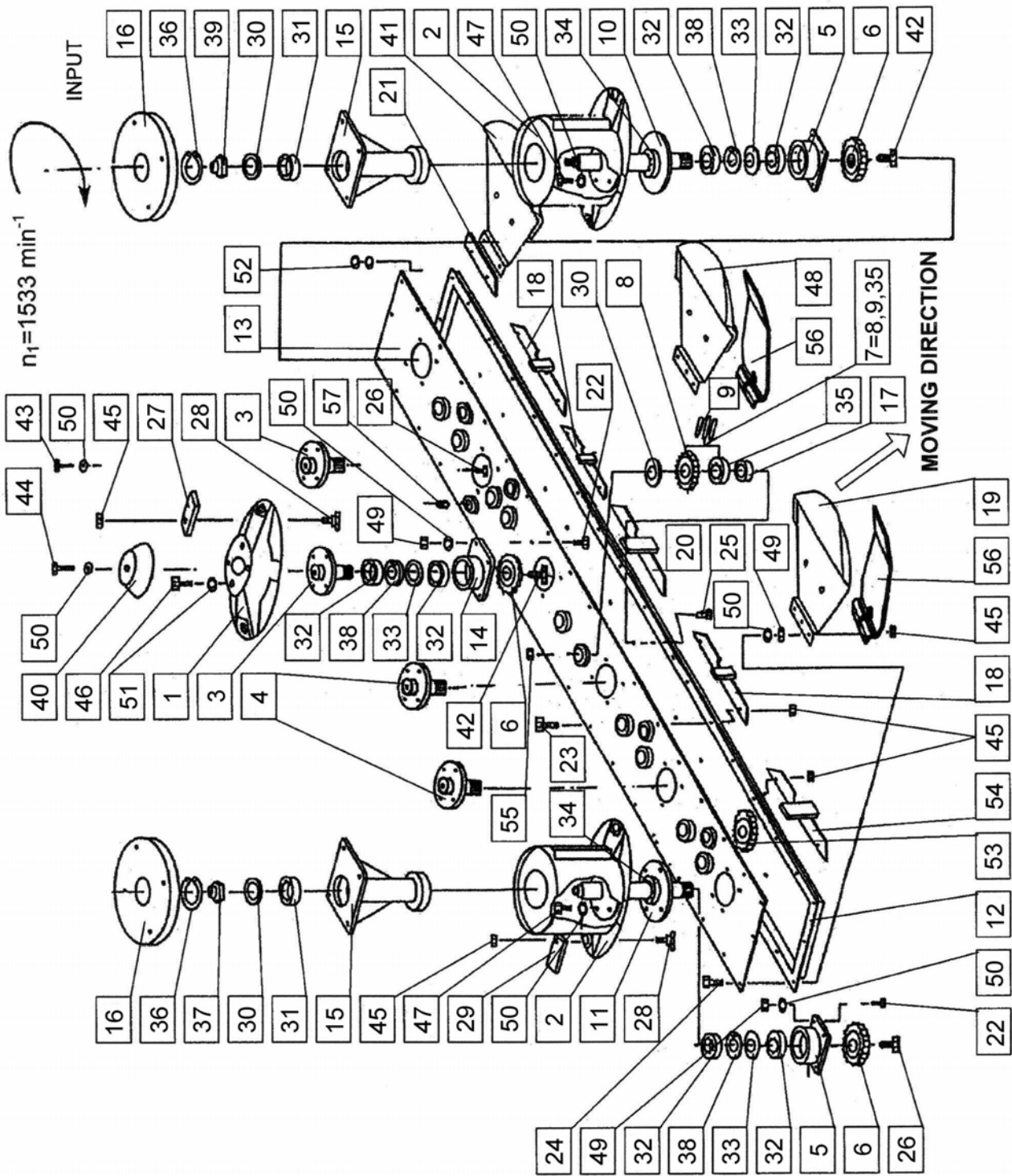
CUTTERBAR ASSEMBLY – DS260HD Models



REF.	QTY.	PART No.	DESCRIPTION
			DS260HD - CUTTERBAR ASSEMBLY
1	4	1021815	DISC
2	2	1021816	DISC
3	2	1021823	FLANGE - RIGHT
4	2	1021824	FLANGE - LEFT
5	2	1022299	BEARING HOUSING
6	6	1022300	GEAR
7	2	1022301	GEAR CPL.
8	2	1022302	GEAR
9	42	1021914	SAFETY WIRE
10	1	1021825	SHAFT
11	1	1022303	SHAFT
12	1	1022304	HOUSING
13	1	1022305	TROUGH COVER
14	4	1021817	BEARING HOUSING
15	2	1022306	NECK
16	2	1021918	COVER
17	14	1021919	SLEEVE
18	3	1022307	BAND
19	1	1021874	SLIDER - RIGHT
20	1	1021920	BAND
21	1	1022308	BAND - LEFT
22	24	1021922	SCREW
23	18	1021923	SCREW
24	12	1021924	SCREW
25	20	1021925	SCREW
26	3	1021822	SCREW
27	6	1021831	KNIFE - RIGHT
28	12	1021832	KNIFE SCREW
29	6	1021830	KNIFE - LEFT
30	12	1021926	WASHER
31	2	1021023	BEARING
32	12	1021828	BEARING
33	6	1021927	WASHER
34	2	1021813	BEARING
35	14	1021928	BEARING
36	2	1021126	CIRCLIP
37	1	1021929	NUT - RIGHT
38	6	1021930	CIRCLIP
39	1	1021931	NUT - LEFT
40	4	1021932	COVER

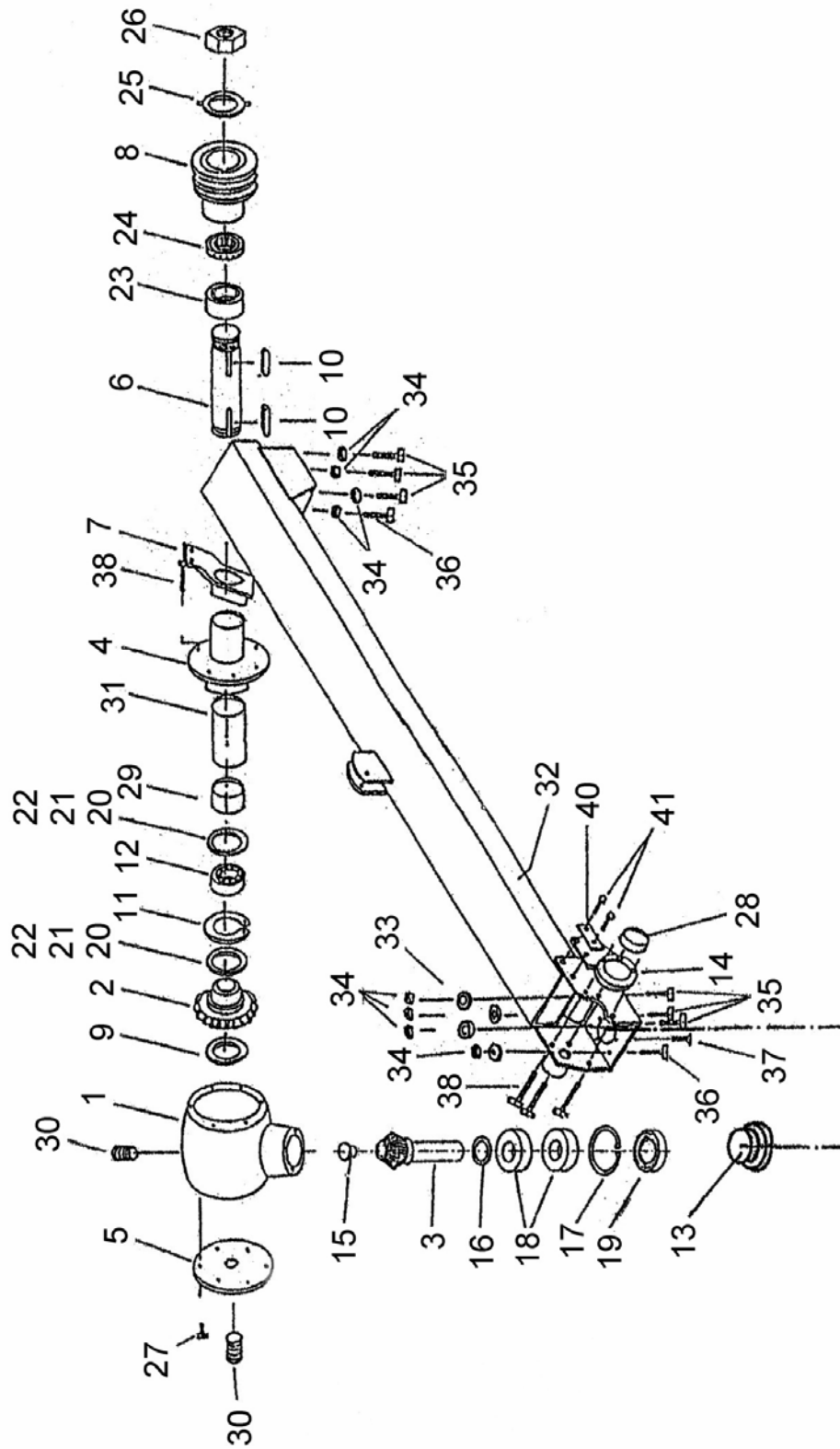
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CUTTERBAR ASSEMBLY – DS260HD Models (Cont'd)



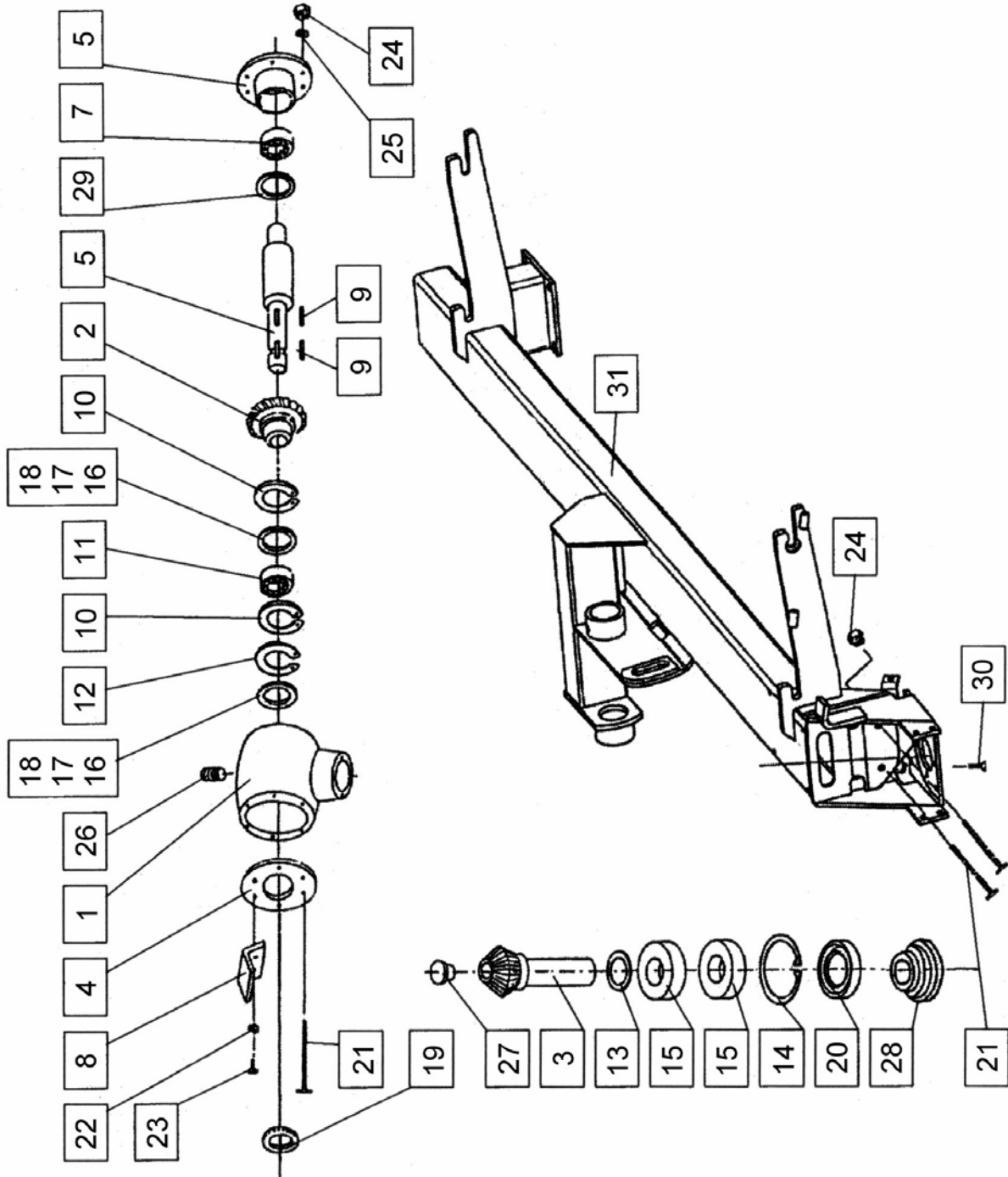
REF.	QTY.	PART No.	DESCRIPTION
			DS260HD - CUTTERBAR ASSEMBLY (Cont'd)
41	1	1021872	SLIDER - LEFT
42	3	1021821	SCREW - RIGHT
43	2	1021933	SCREW
44	2	1021934	SCREW - LEFT
45	2	1021876	NUT
46	16	1021935	SCREW
47	8	1021936	SCREW
48	4	1021873	SLIDER
49	62	1021179	NUT
50	74	1021226	WASHER
51	16	1021806	WASHER
52	8	1021997	WASHER
53	12	1022309	GEAR
54	1	1022310	BAND
55	14	1021829	NUT
56	7	1022311	TOPPING SKID
57	1	1021937	SCREW

DRIVE ASSEMBLY – DS215 & DS255 Models



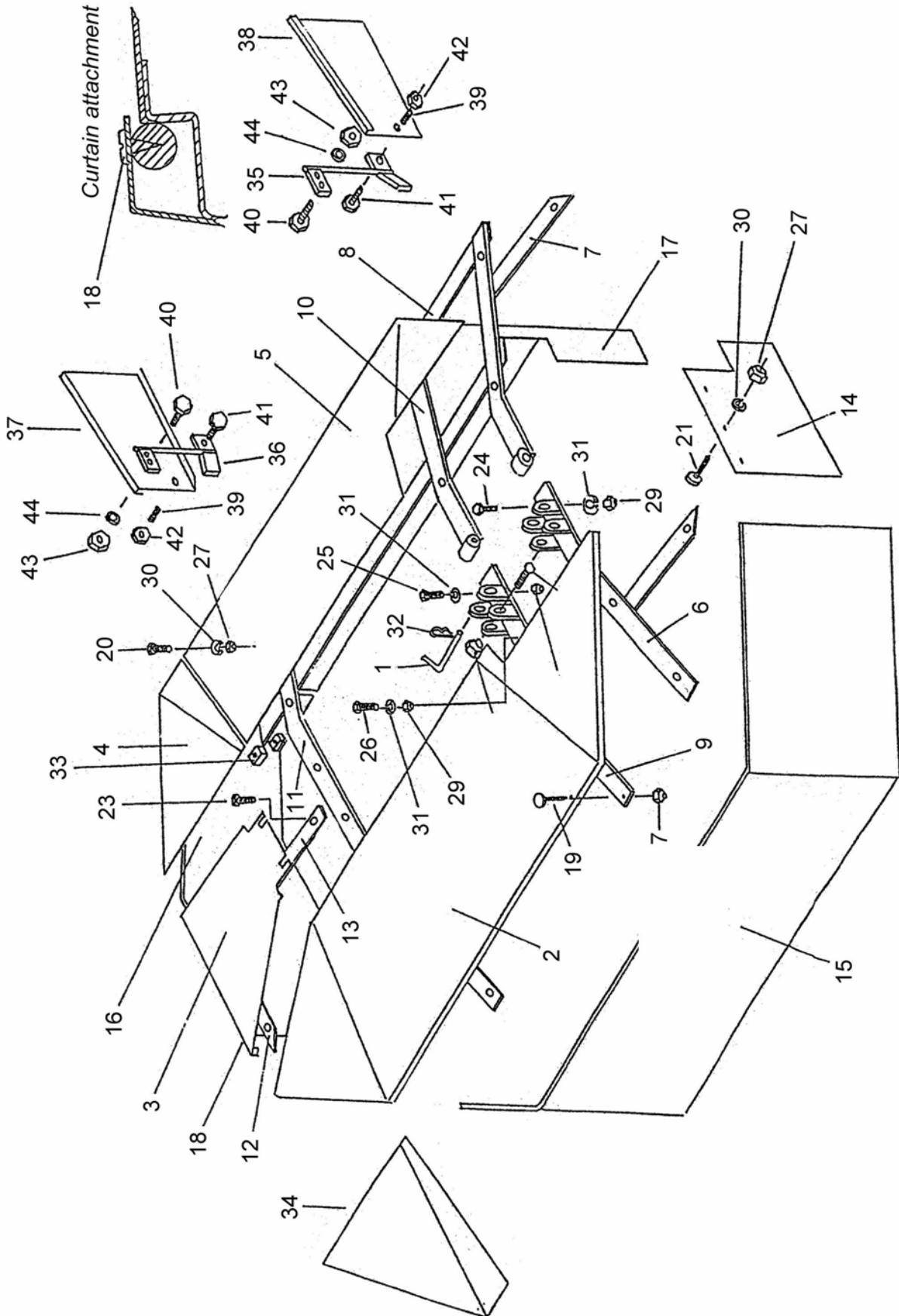
REF.	QTY.	PART No.	DESCRIPTION
DS215 & DS255 - DRIVE ASSEMBLY			
1	1	1021966	GEARBOX HOUSING
2	1	1021826	PINION
3	1	1021827	PINION
4	1	1021967	FLANGE
5	1	1021968	COVER
6	1	1021819	SHAFT
7	1	1021969	HINGE
8	1	1021970	PULLEY
9	1	1021684	ELASTIC RING
10	2	1021971	KEY
11	1	1021972	CIRCLIP
12	1	1021973	BEARING
13	1	1021974	SLEEVE
14	1	1021975	HINGE
15	1	1021976	COVER
16	1	1021657	WASHER
17	1	1021977	CIRCLIP
18	2	1021978	BEARING
19	1	1021979	OIL SEAL
20	2	1021980	WASHER
21	2	1021981	WASHER
22	2	1021982	WASHER
23	1	1021537	BEARING
24	3	1021504	OIL SEAL
25	1	1021613	WASHER
26	1	1021678	NUT
27	6	1021983	SCREW
28	1	1021984	BEARING SLEEVE
29	1	1021985	SLEEVE
30	2	1021937	LOCKING SCREW
31	1	1021986	SLEEVE
32	1	1021988	HOLDER - <i>DS215 Models</i>
	1	1021989	HOLDER - <i>DS255 Models</i>
33	8	1021604	WASHER
34	8	1021178	NUT
35	6	1021990	SCREW
36	2	1021991	SCREW
37	4	1021992	SCREW
38	3	1021993	SCREW
39	3	1021178	NUT
40	1	1021994	STRIPE
41	2	1021995	SCREW

DRIVE ASSEMBLY – DS260HD Models



REF.	QTY.	PART No.	DESCRIPTION
			DS260HD - DRIVE ASSEMBLY
1	1	1021966	GEARBOX HOUSING
	1	1022124	GEARBOX
2	1	1021826	PINION
3	1	1021827	PINION
4	1	1022125	FLANGE
5	1	1022126	FLANGE
6	1	1022127	SHAFT
7	1	1022128	BEARING
8	1	1022129	BRACKET
9	2	1021971	KEY
10	2	1021972	CIRCLIP
11	1	1021973	BEARING
12	1	1022130	CIRCLIP
13	1	1021657	WASHER
14	1	1021977	CIRCLIP
15	2	1021978	BEARING
16	2	1021980	WASHER
17	2	1021981	WASHER
18	2	1021982	WASHER
19	1	1022131	OIL SEAL
20	1	1021979	OIL SEAL
21	3	1021993	SCREW
22	6	1022132	WASHER
23	6	1022118	SCREW
24	3	1021178	NUT
25	3	1022133	WASHER
26	1	1021937	LOCKING SCREW
27	1	1021976	TAP
28	1	1021974	SLEEVE
29	1	1021511	WASHER
30	4	1021992	SCREW
31	1	1022066	HOLDER

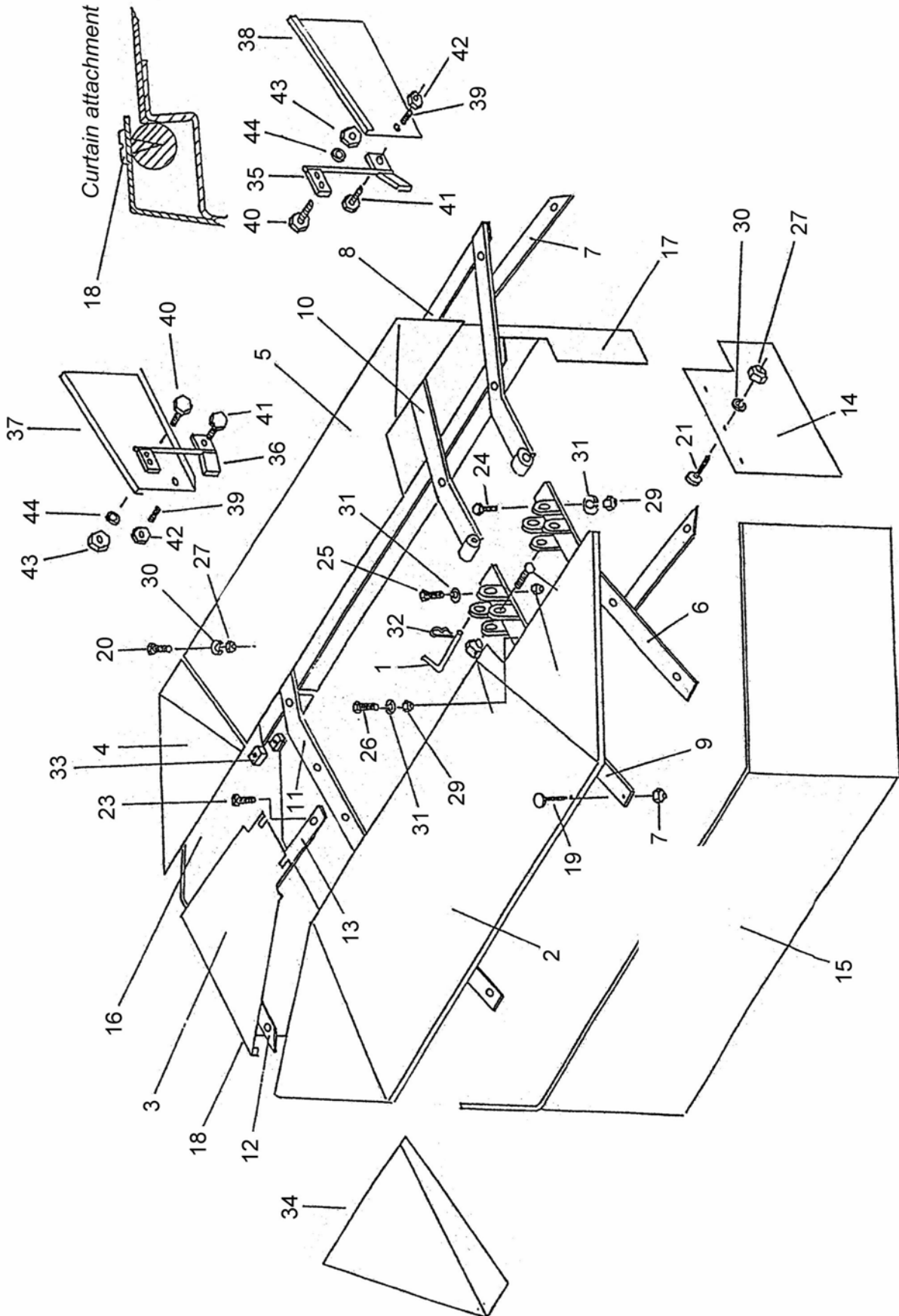
CURTAINS & COVERS ASSEMBLY – DS215 & DS255 Models



REF.	QTY.		PART No.	DESCRIPTION
	215	255		
DS215 & DS255 - CURTAINS & COVERS				
1	3	3	1022012	BOLT
2	1	1	1022013	FRONT COVER PLATE - <i>DS215 Model</i>
	1	1	1022014	FRONT COVER PLATE - <i>DS255 Model</i>
3	1	1	1022015	SIDE COVER PLATE
4	1	1	1022016	COVER PLATE
5	1	1	1022017	COVER PLATE
6	1	1	1022018	LINK - <i>DS215 Model</i>
	1	1	1022019	LINK - <i>DS255 Model</i>
7	1	1	1022020	LINK
8	2	2	1022021	BAND
	2	2	1022022	LINK - <i>DS215 Model</i>
9	2	2	1022023	LINK
10	1	2	1022024	LINK
11	1	1	1022025	LINK
12	1	1	1022026	LINK
13	1	1	1022027	SUPPORT
14	1	1	1022028	CURTAIN - LEFT
15	1	1	1022029	CURTAIN - FRONT - <i>DS215 Model</i>
	1	1	1021871	CURTAIN - FRONT - <i>DS255 Model</i>
16	1	1	1022030	CURTAIN - SIDE
17	1	1	1022031	CURTAIN - REAR - <i>DS215 Model</i>
	1	1	1022032	CURTAIN - REAR - <i>DS255 Model</i>
18	8	8	1021767	SCREW
19	14	12	1021786	SCREW
20	9	11	1021762	SCREW
21	3	3	1021765	SCREW
22	3	3	1022033	SCREW
23	4	4	1021933	SCREW
24	1	1	1022034	SCREW
25	2	2	1022035	SCREW
26	2	2	1021734	SCREW
27	26	26	1021173	NUT
28	3	3	1021193	NUT
29	9	9	1021179	NUT
30	3	3	1022036	WASHER
31	9	9	1021226	WASHER
32	3	3	1022037	WIRE SAFETY CLAMP
33	4	4	1022038	EYE
34	1	1	1022039	PLATE - <i>DS255 Model</i>
	1	1	1022040	PLATE - <i>DS215 Model</i>

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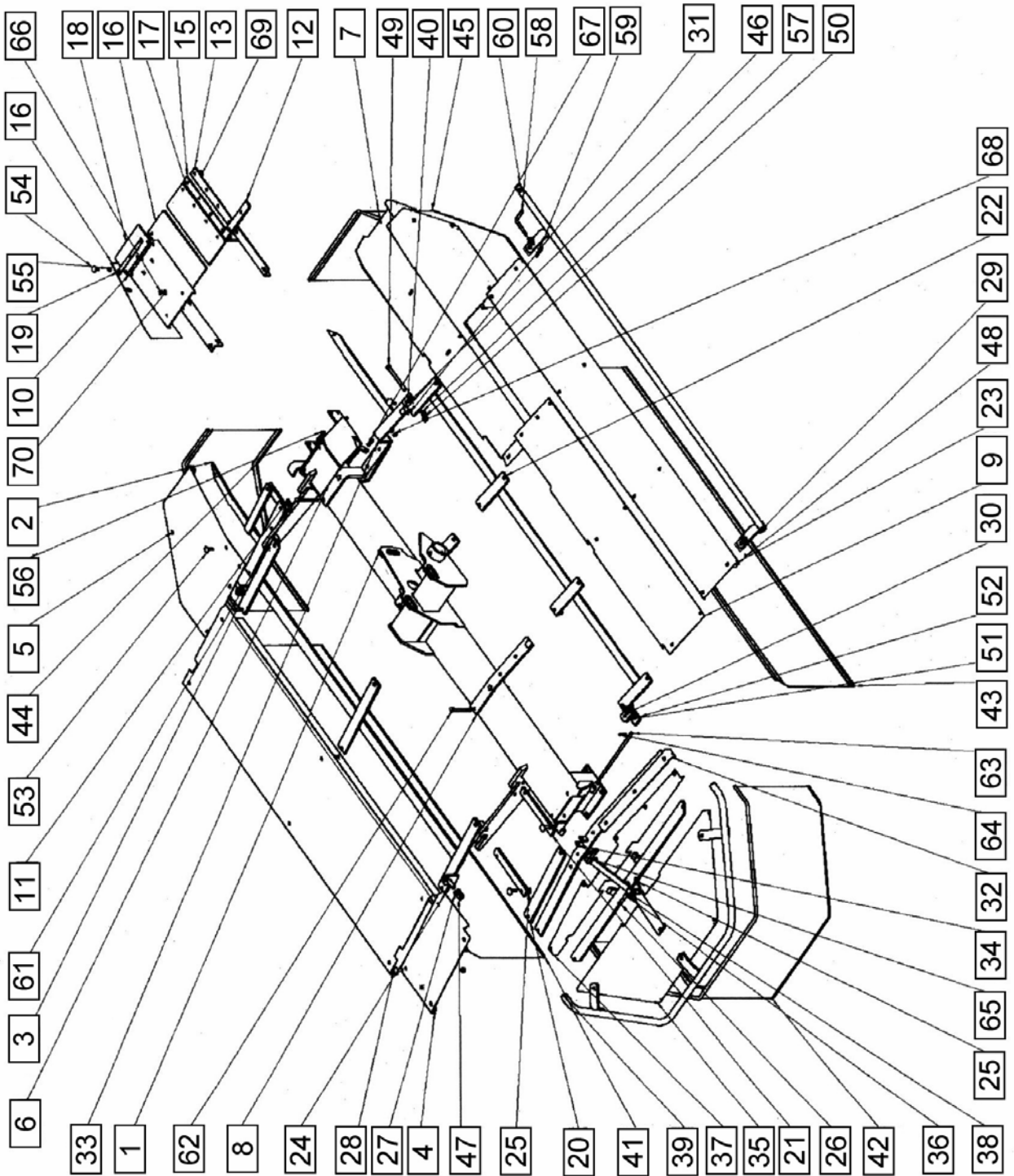
CURTAINS & COVERS ASSEMBLY – DS215 & DS255 Models (Cont'd)





REF.	QTY.		PART No.	DESCRIPTION
	215	255		
				DS215 & DS255 - CURTAINS & COVERS (Cont'd)
35	1	1	1022041	HOLDER - LEFT - <i>DS255 Model</i>
36	1	1	1022042	HOLDER - RIGHT
37	1	1	1022043	PLATE - LEFT - <i>DS255 Model</i>
38	1	1	1022044	PLATE - RIGHT
39	1	1	1022045	SPRING
40	2	4	1021990	SCREW
41	1	2	1022046	SCREW
42	1	2	1021532	NUT
43	2	4	1021169	NUT
44	2	4	1021806	SPRING WASHER

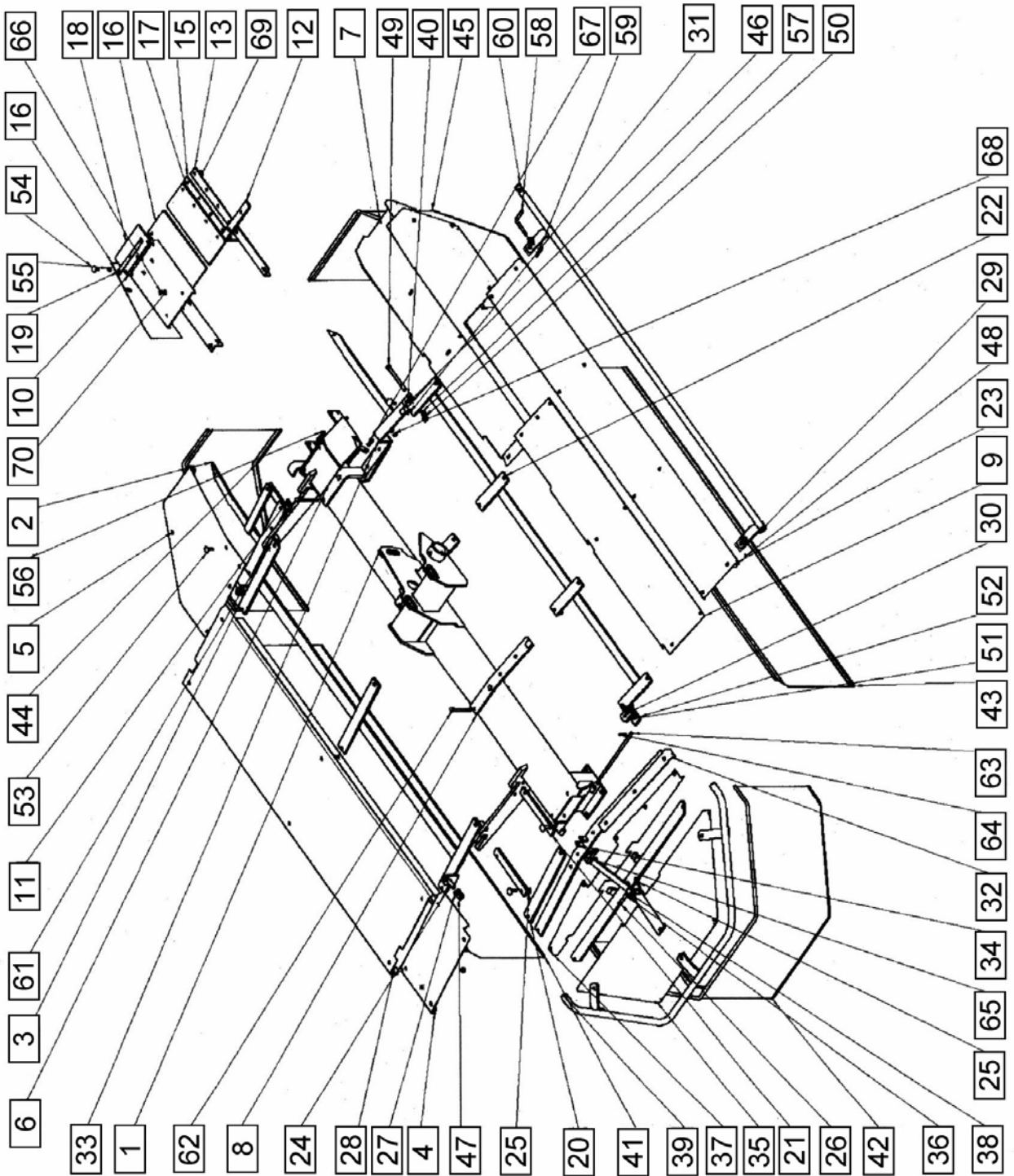
CURTAINS & COVERS ASSEMBLY – DS260HD Models



REF.	QTY.	PART No.	DESCRIPTION
			DS260HD - CURTAINS & COVERS
1	1	1022066	CUTTERBAR HOLDER
2	1	1022067	FRAME PLATE
3	1	1022068	NECK - RIGHT
4	1	1022069	PLATE
5	1	1022070	PLATE
6	1	1022071	FRAME PLATE
7	1	1022072	PLATE
8	2	1022073	LINK
9	1	1022074	COVER PLATE
10	1	1022075	GEARBOX PLATE
11	1	1022076	NECK - LEFT
12	1	1022077	PLATE SUPPORT
13	2	1022078	BRACKET
14	2	1022079	RUBBER PROTECTION
15	1	1022080	STRIPE
16	1	1022081	PTO SHAFT PLATE
17	2	1022082	BRACKET
18	1	1022083	RUBBER PROTECTION
19	1	1022084	STRIPE
20	1	1022085	STRIPE
21	1	1022086	STRIPE
22	1	1022087	FRAME PLATE
23	1	1022088	PLATE
24	1	1022089	LINK
25	1	1021876	NUT
26	1	1022090	SCREW
27	2	1022091	SLEEVE
28	1	1022092	PLATE
29	1	1022093	TUBE
30	1	1022094	EYE
31	2	1022038	STRAP
32	1	1022095	PLATE
33	1	1022096	LINK
34	1	1022097	LINK
35	1	1022098	SIDE PROTECTION - R/H
36	1	1022099	PROTECTION FRAMEWORK - R/H
37	1	1022100	PLATE - R/H
38	1	1022101	HOLDER
39	1	1022102	TUBE SIDE
40	1	1022103	EYE

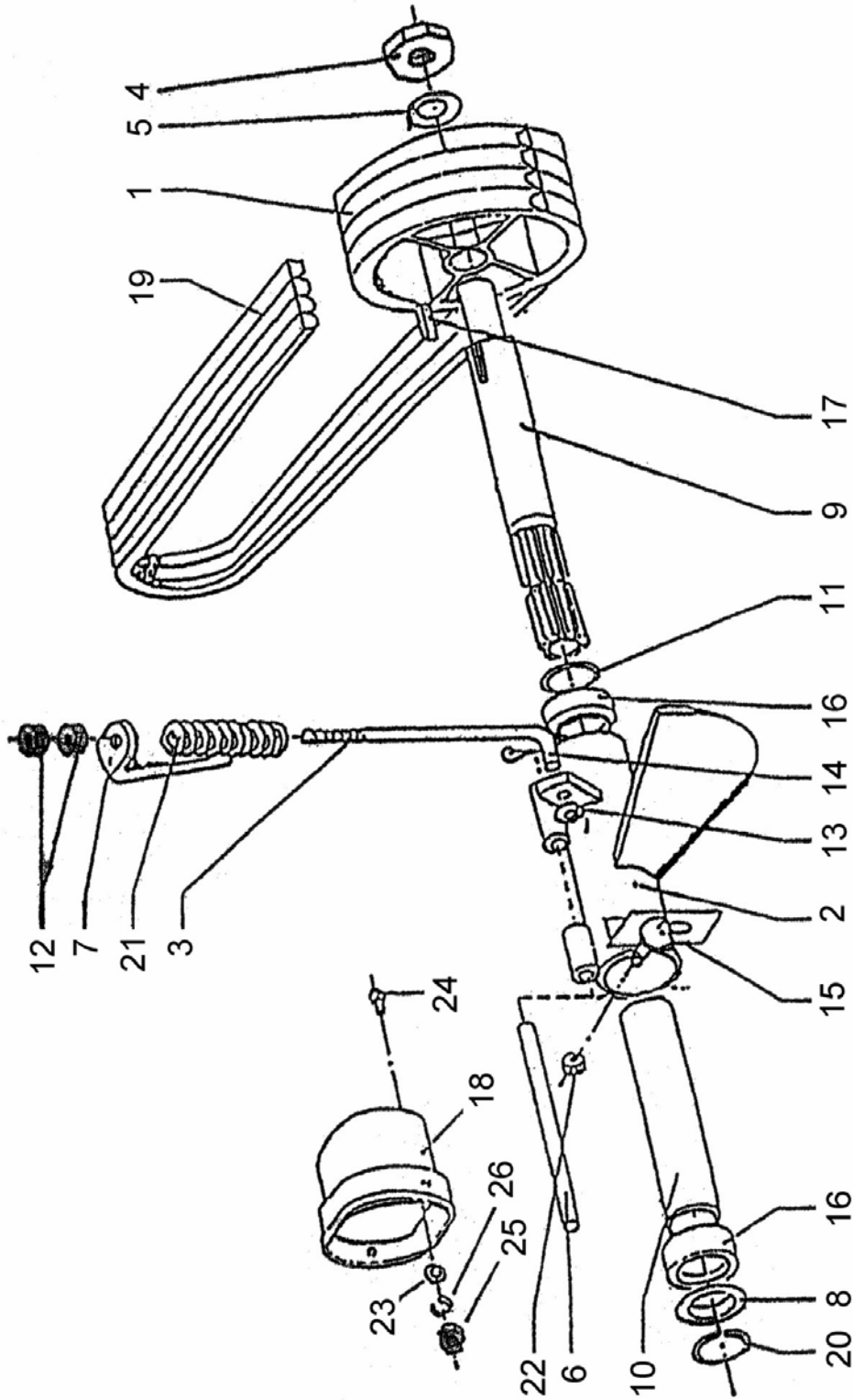
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CURTAINS & COVERS ASSEMBLY – DS260HD Models (Cont'd)



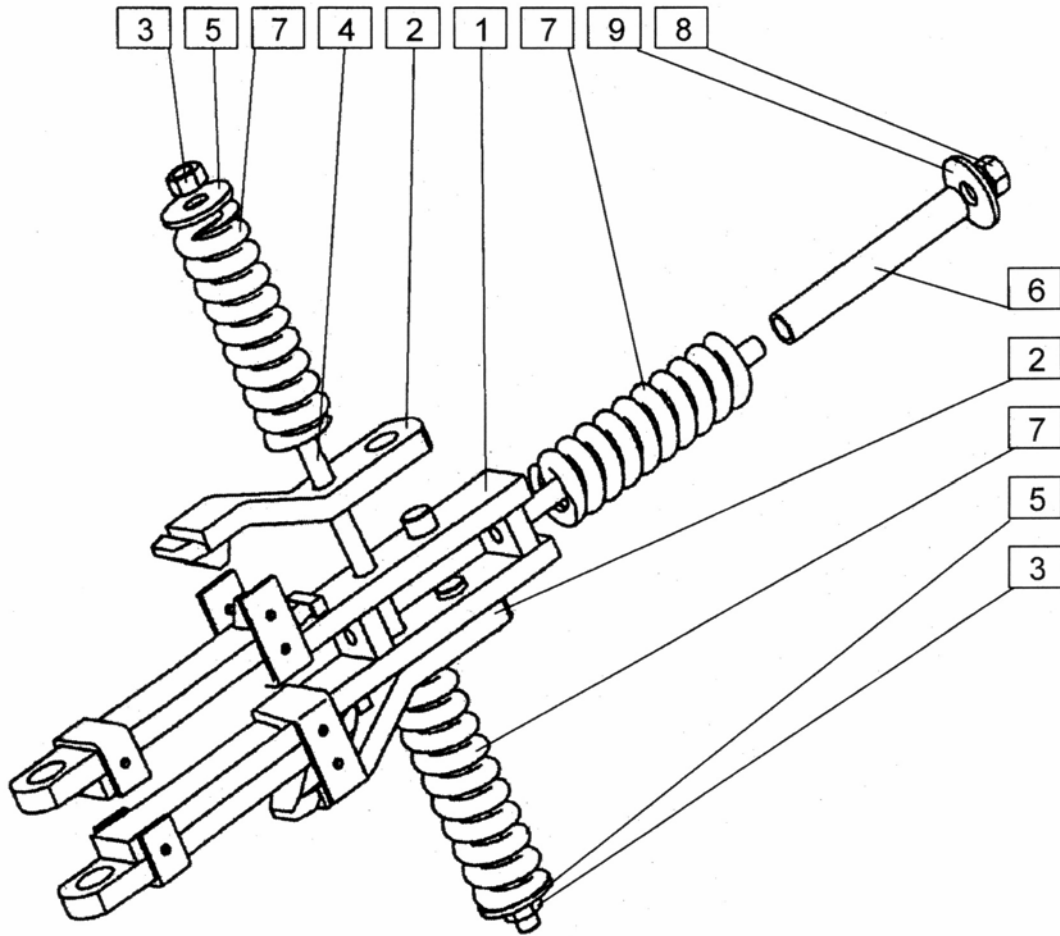
REF.	QTY.	PART No.	DESCRIPTION
DS260HD - CURTAINS & COVERS (Cont'd)			
41	1	1022104	CURTAIN - REAR
42	1	1022105	CURTAIN - SIDE R/H
43	1	1022106	CURTAIN - FRONT
44	1	1022107	CURTAIN
45	1	1022108	CURTAIN
46	15	1022109	SCREW
47	2	1021643	NUT
48	15	1021767	SCREW
49	2	1021185	SCREW
50	2	1021178	NUT
51	2	1022110	SCREW
52	51	1021829	NUT
53	23	1022111	SCREW
54	12	1022112	SCREW
55	17	1021173	NUT
56	2	1021785	SCREW
57	53	1021067	WASHER
58	2	1022012	BOLT
59	2	1022037	WIRE SAFETY CLAMP
60	4	1021781	PLASTIC TAPE
61	2	1022113	SCREW
62	2	1022114	SCREW
63	1	1022115	BOLT
64	2	1022116	COTTER PIN
65	1	1021060	SPRING CLIP
66	7	1022117	SCREW
67	3	1022118	SCREW
68	2	1022119	SLEEVE
69	3	1022120	WASHER
70	2	1022121	WASHER

BELT DRIVE & TENSIONER ASSEMBLY – DS215 & DS255 Models



REF.	QTY.	PART No.	DESCRIPTION
			DS215 & DS255 - BELT DRIVE & TENSIONER
1	1	1022047	PULLEY
2	1	1021610	BEARING HOUSING
3	1	1022048	TENSIONER
4	1	1022049	NUT
5	1	1022050	PROTECTION WASHER
6	1	1021614	BOLT
7	1	1022051	SUPPORT
8	1	1021616	COVER
9	1	1022052	SHAFT
10	1	1021617	DISTANCE TUBE
11	1	1021618	WASHER
12	2	1021619	NUT
13	1	1021620	WASHER
14	1	1021621	COTTER
15	1	1021622	SCREW
16	2	1021023	BEARING
17	1	1022053	KEY
18	1	1021625	PTO SHAFT PROTECTION
19	4	1021812	VEE BELT
20	1	1021626	ELASTIC RING
21	1	1022054	SPRING
22	1	1021628	NUT
23	2	1021630	WASHER
24	2	1022055	SCREW
25	2	1021179	NUT
26	2	1021629	WASHER

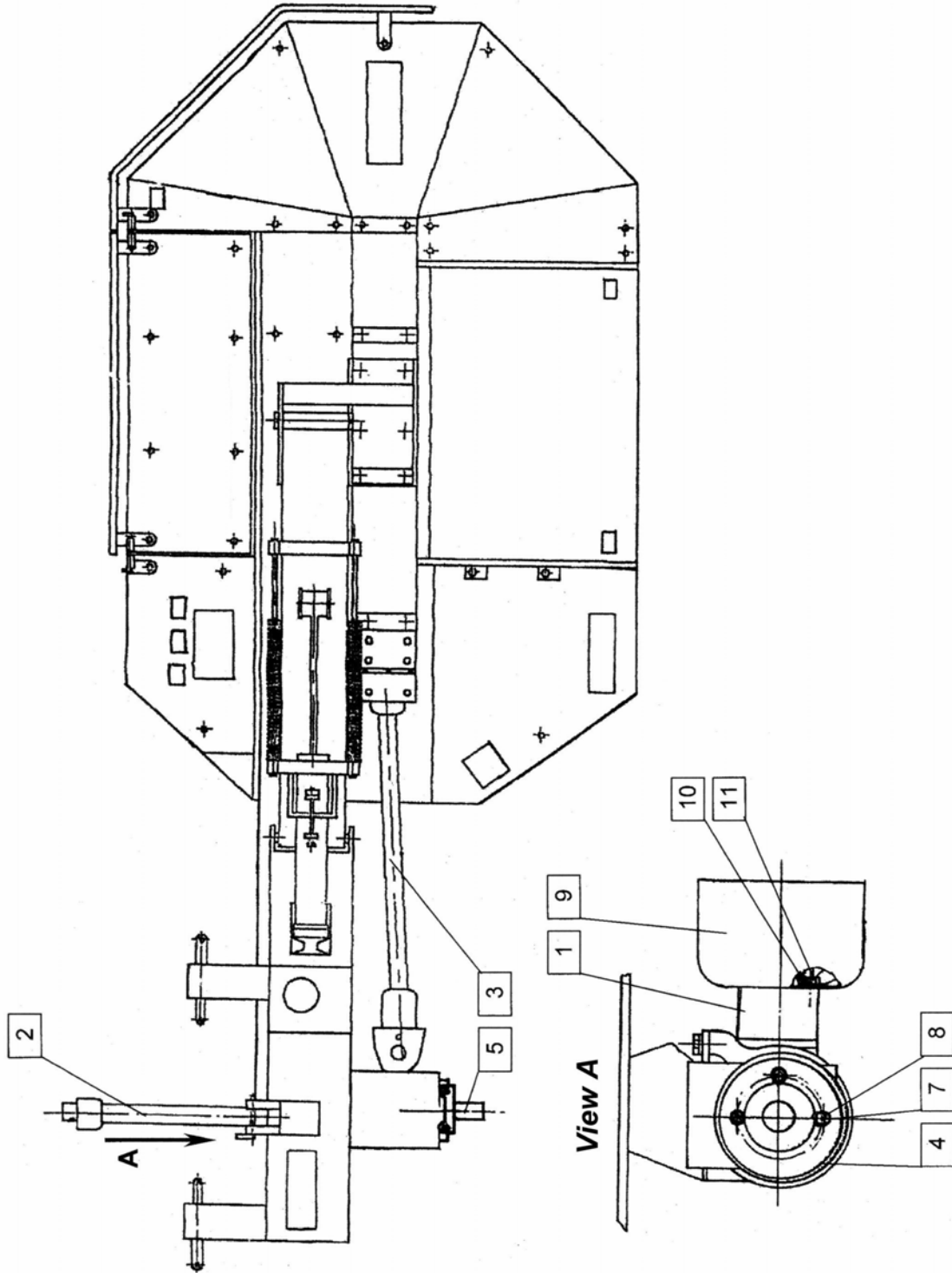
BREKBACK PROTECTION ASSEMBLY – DS260HD Models



REF.	QTY.	PART No.	DESCRIPTION
DS260HD - BREAKBACK PROTECTION			
1	1	1022134	PROTECTION
2	2	1022135	PROTECTION
3	1	1021532	NUT
4	1	1022136	SCREW
5	2	1022008	WASHER
6	1	1022137	TUBE
7	3	1021647	SPRING
8	1	1022138	NUT
9	1	1022139	WASHER

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DRIVE ASSEMBLIES – DS260HD Models



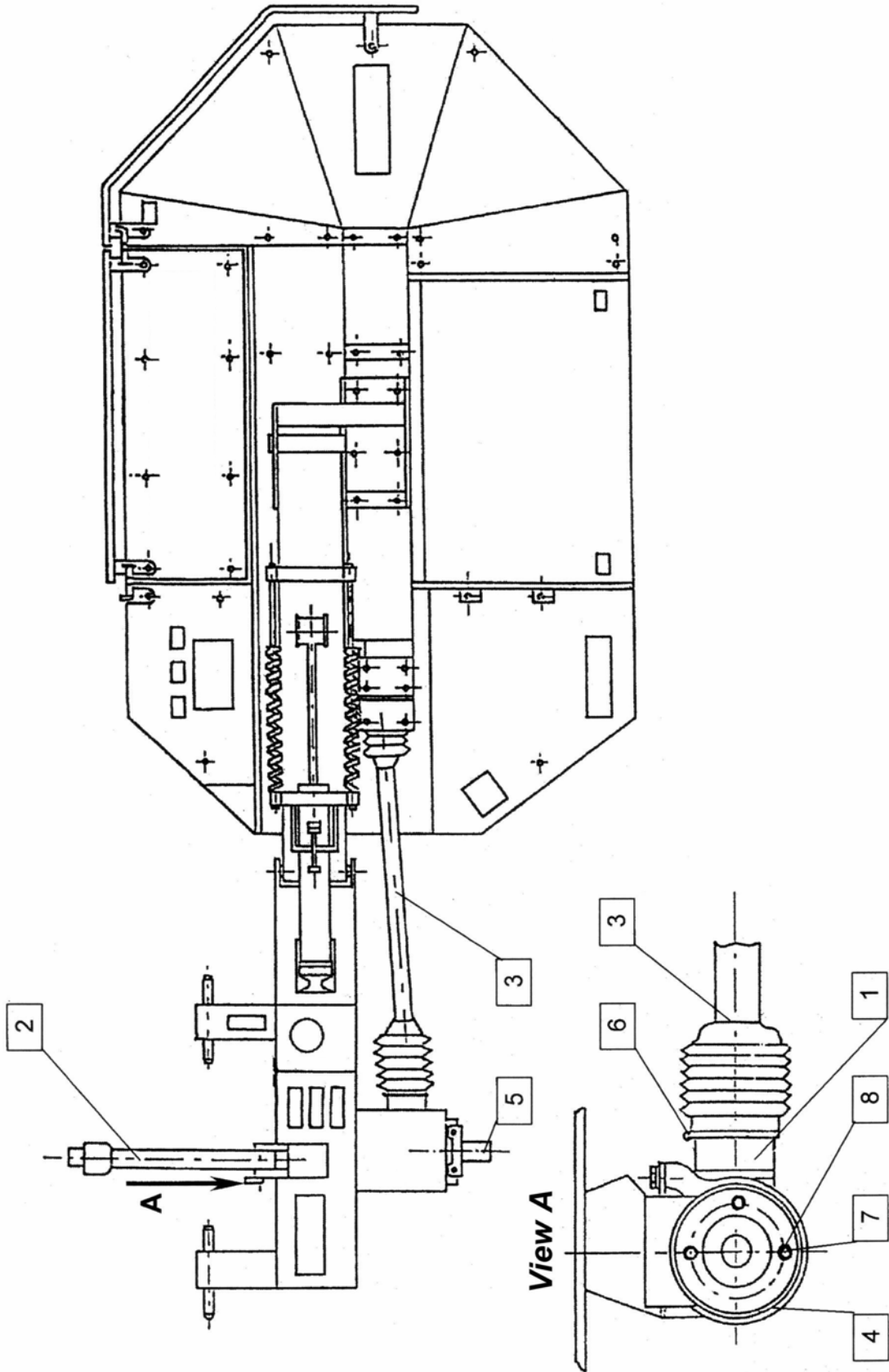
REF.	QTY.	PART No.	DESCRIPTION
			DS260HD DRIVE ASSEMBLY - 1000 RPM
1	1	1022056	ANGLE GEARBOX - 1000 RPM Models
2	1	1022065	DRIVE PTO SHAFT
3	1	1022058	PTO SHAFT
4	1	1022059	PTO SHAFT PROTECTION
5	1	1022060	PTO SHAFT PROTECTION
6	4	1021179	NUT
7	4	1021067	WASHER
8	1	1022061	PTO SHAFT PROTECTION
9	4	1021765	SCREW
10	4	1021036	WASHER

Verticle transport position on side - 1000 RPM drive

REF.	QTY.	PART No.	DESCRIPTION
			DS260HD DRIVE ASSEMBLY - 540 RPM
1	1	1022057	ANGLE GEARBOX - 540 RPM Models
2	1	1022064	DRIVE PTO SHAFT
3	1	1022058	PTO SHAFT
4	1	1022059	PTO SHAFT PROTECTION
5	1	1022060	PTO SHAFT PROTECTION
6	4	1021179	NUT
7	4	1021067	WASHER
8	1	1022061	PTO SHAFT PROTECTION
9	4	1021765	SCREW
10	4	1021036	WASHER

Verticle transport position on side - 540 RPM drive

DRIVE ASSEMBLIES – DS260HD Models



REF.	QTY.	PART No.	DESCRIPTION
			DS260HD DRIVE ASSEMBLY - 1000 RPM
1		1022056	ANGLE GEARBOX - 1000 RPM Models
2		1022065	DRIVE PTO SHAFT
3		1022062	PTO SHAFT - B&P
4		1022059	PTO SHAFT PROTECTION
5		1022060	PTO SHAFT PROTECTION
6		1022063	CLIP
7		1021179	NUT
8		1021067	WASHER

Upright transport position, folded behind three point frame - 1000 RPM drive

REF.	QTY.	PART No.	DESCRIPTION
			DS260HD DRIVE ASSEMBLY - 540 RPM
1		1022057	ANGLE GEARBOX - 540 RPM Models
2		1022064	DRIVE PTO SHAFT
3		1022062	PTO SHAFT - B&P
4		1022059	PTO SHAFT PROTECTION
5		1022060	PTO SHAFT PROTECTION
6		1022063	CLIP
7		1021179	NUT
8		1021067	WASHER

Upright transport position, folded behind three point frame - 540 RPM drive