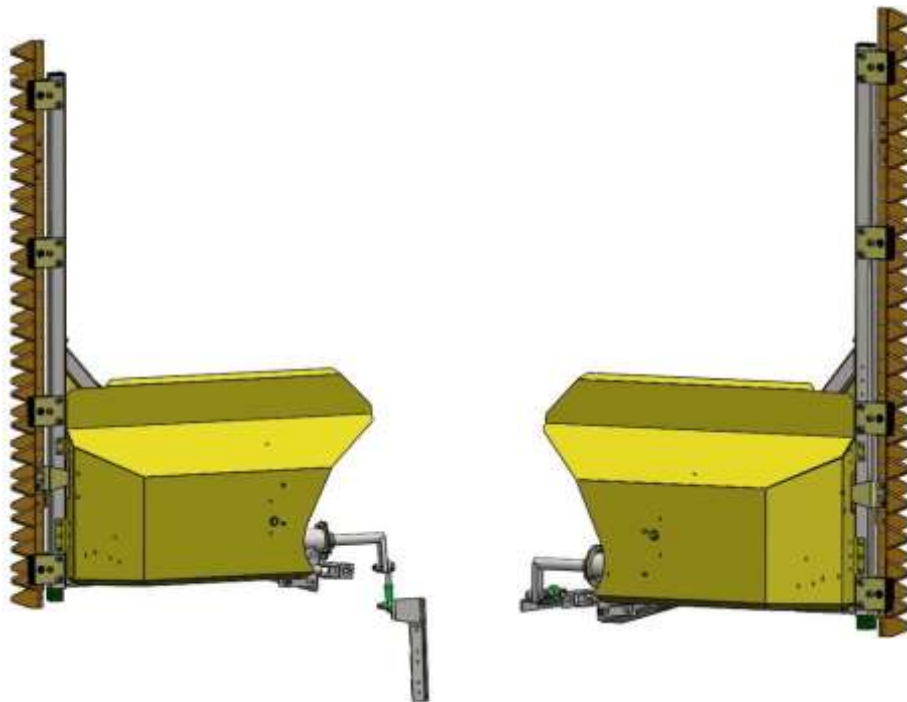


Fitting Instructions

Compact Side Cutter, clip- on left and right for
New Holland Varifeed Heavy Duty



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Introduction

Foreword

Proper use: This header is designed only for the usual application in agricultural work or similar activities.

Any other use beyond this is deemed improper use of the machine. The manufacturer accepts no liability whatsoever for damage resulting from improper use; the risk will be borne solely by the user. Proper use also includes complying with the operation, maintenance and service conditions specified by the manufacturer.

READ THIS OPERATING MANUAL THOROUGHLY to familiarise yourself with the correct operation and maintenance of the machine and to prevent injuries or damage to the machine. Not doing so can result in injuries or machine damage. This operating manual and the safety labels on the machine may also be available in other languages: please enquire at your John Deere dealership.

THIS OPERATING MANUAL IS PART OF THE MACHINE and should be handed over to the purchaser upon resale.

DIMENSIONS specified in this operating manual are metric. Use only appropriate parts and bolts. Different spanners are required for metric bolts and bolts with imperial (inch) dimensions.

THE DESIGNATIONS "RIGHT" AND "LEFT" refer to the forward direction of the machine.

ENTER THE SERIAL NUMBER in the first section of the operating manual. Please record all numbers accurately. In case of theft, these numbers can be important for tracing the machine. Your John Deere dealer also needs these numbers when you order spare parts. It is a good idea to keep a second record of these numbers in another location.

Your dealer has performed an INSPECTION OF THE MACHINE BEFORE DELIVERY. A further inspection should be carried out by your dealer after the first 20 to 50 hours of operation in order to ensure the best possible performance for the machine.

THIS HEADER MUST ONLY be used, serviced and repaired by persons who are familiar with it and who have been briefed about its hazards. The relevant accident prevention regulations and other generally recognized rules and laws for safety, occupational health and road traffic must also be observed. Unauthorized changes to this header release the manufacturer from any liability for resultant damages.

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Mounting instructions – Compact Side Cutter left

Extend the vario table and raise the reel.

Header tip left



Remove the last five knife blade screws on the left side of the mower knife.

Recess for follower

Fit the left knife follower with five M6x35 screws to the mower knife.

Cut out the left side wall above the connection between knife follower and clevis mount to allow the knife follower to pass through.



In the area of the left knife follower, grind the knife head by about 2 to 3 mm, so that the follower can be bolted flush to the back of the knife.

Do not use spacers or washers!

Follower must rest flush on back of knife

Grind knife head 2 – 3 mm



Slide the side cutter onto the header tip and secure with the upper quick-release clamp.

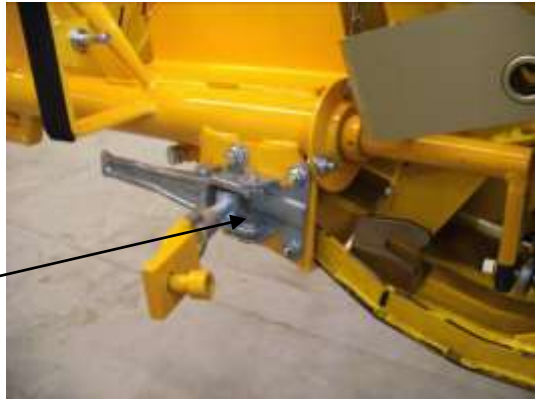
Engage hook under bolt!



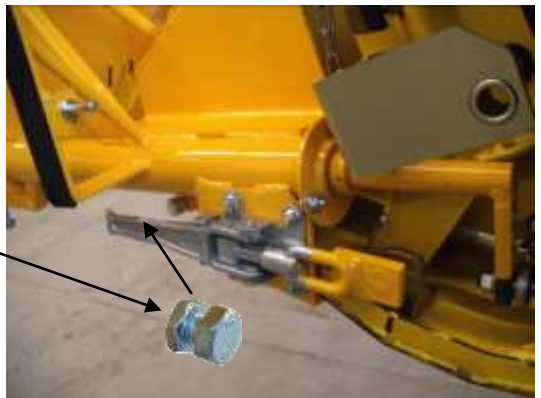
Align the hook for the lower quick-release clamp and drill and bolt to the header tip.

Secure the side cutter with the quick-release clamps. Then tighten and secure the adjusting bolt.

Lower quick-release clamp



Locknut
Adjusting bolt



Quick-release clamps



Connect the knife follower with the side cutter. Fit spacers either side of the clevis mounts. **(Caution! Different number of items 2+1)**

Turn the mower knife by hand and set to mid-stroke.

Check knife stroke at the side cutter and, if necessary, correct by adjusting the clevis mounts.

Spacers left and right

Bolt for disassembly

Tightening screw for
knife stroke adjustment

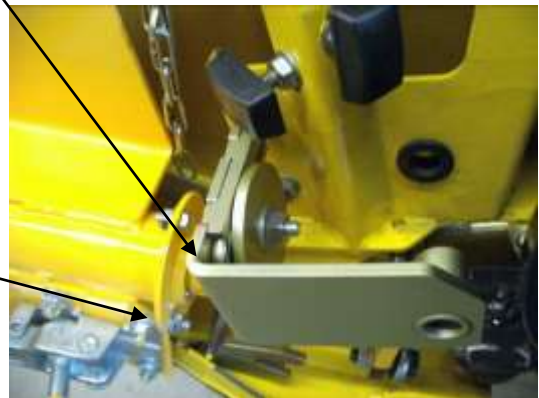
Clevis mount



Bolt the header guard adapter to the original lock.

Adapter for header

M10x40 bolt with locknut



Slide the guide pin of the header guard into the adapter and drill a Ø 5 mm hole for a tube clip through the pin.



Tube clip



Fitting guard extension

Drill holes for M6 screws (for dimensions, see Fig. 1).



A slot allows the extension to be adjusted for rapeseed operation (see Figs. 2 & 3) and normal operation (move to left).



The guard extension is fitted to the header guard with two screws.

Slot



To uninstall the side cutter, release the screw connecting knife follower and clevis mount.

Move the guard extension and remove the header guard adapter.

Plastic guard cover



Release to uninstall



Fitting the transport mount

For crop rotation or transport, the side cutter can be mounted to the header with a mount.

When transporting the header with the side cutter removed, the reel must first be retracted all the way and lowered.

Then retract the vario table.



Positioning options for vario table with fitted side cutter

Stop bolt



Resting position:

- Retract and lower reel
- Retract vario table.

Working position:

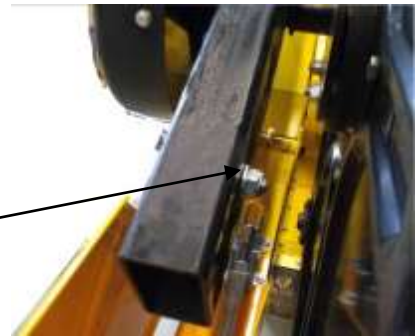
- Extend the vario table all the way.
- In this position, the reel can be used without limitations.

Alternative position:

- The vario table is to be moved during use.
- To avoid a collision of reel and side cutter, the movement range of reel and table must be limited with stop bolts.



Self-locking nut



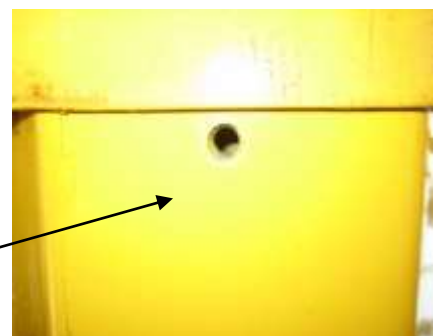
Note: On attachment part kits, stop bolts are located on the right side.



2 x M12x70 with self-locking nut
4 x M10x20 with spring washers



Table underside



Mounting instructions – Compact Side Cutter right

Extend the vario table and raise the reel.

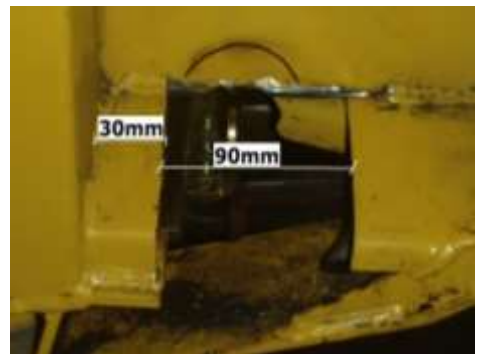
Header tip, right side



At the right header tip, cut out the cover over the mower knife (for dimensions, see drawing).

Weld in a bridge for stabilisation.

Remove the last four knife blade screws on the right side of the mower knife.



Welded bridge



Fit the right knife follower to the mower knife with four M6x20 screws.

Fit pressure plates as mower knife guides.

Cut out the right side wall above the knife follower to allow the knife follower with the clevis mount to pass through.



Slide the side cutter onto the header tip and secure with the quick-release clamp. Then tighten and secure the adjusting bolt.

Engage hook under bolt!



Locknut securing bolt



Connect the knife follower with the side cutter. Fit one spacer each either side of the clevis mounts.

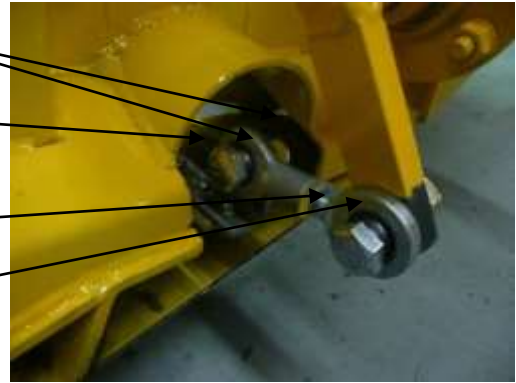
Turn the mower knife by hand and set to mid-stroke.

Spacers left and right

Bolt for disassembly

Tightening screw for
knife stroke adjustment

Clevis
mount



Check knife stroke at the side cutter and, if necessary, correct by adjusting the clevis mounts.

To uninstall the side cutter, release the screw connecting knife follower and clevis mount.

Fitting the transport mount

For crop rotation or transport, the side cutter can be mounted to the header with a mount.

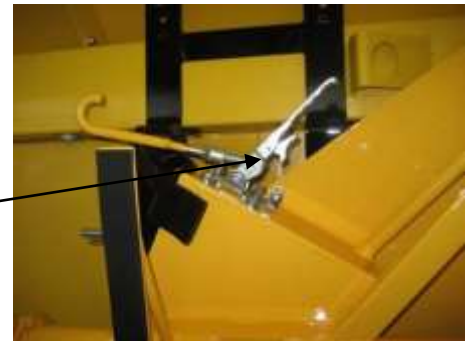
Transport mount



When transporting the header with the side cutter removed, the reel must first be retracted all the way and lowered.

Then retract the vario table.

Quick-release clamp



Positioning options for vario table with fitted side cutter:

Resting position:

Stop bolt

- Retract and lower reel
- Retract vario table.

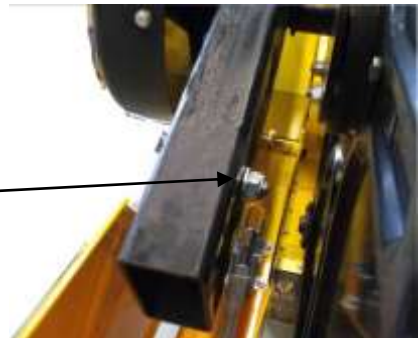
Working position:

- Extend the vario table all the way.
- In this position, the reel can be used without limitations.

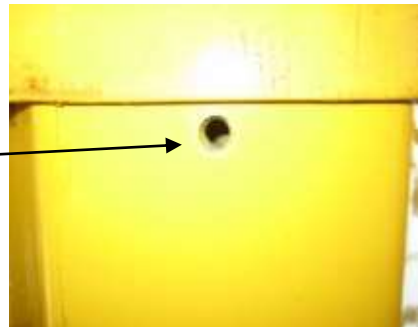
Alternative position:

- The vario table is to be moved during use.
- To avoid a collision of reel and side cutter, the movement range of reel and table must be limited with stop bolts.

Note: On attachment part kits, stop bolts are located on the right side.

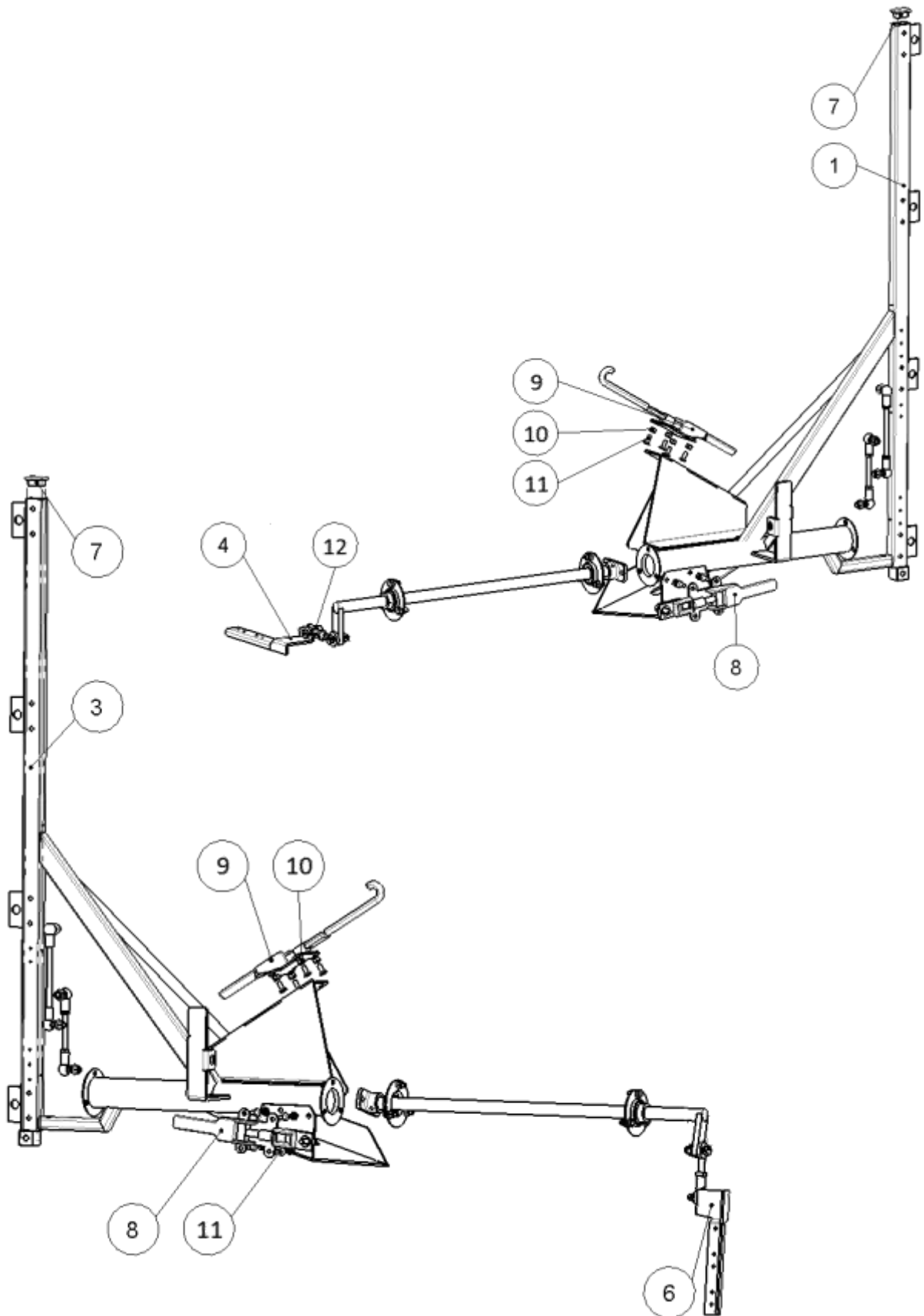


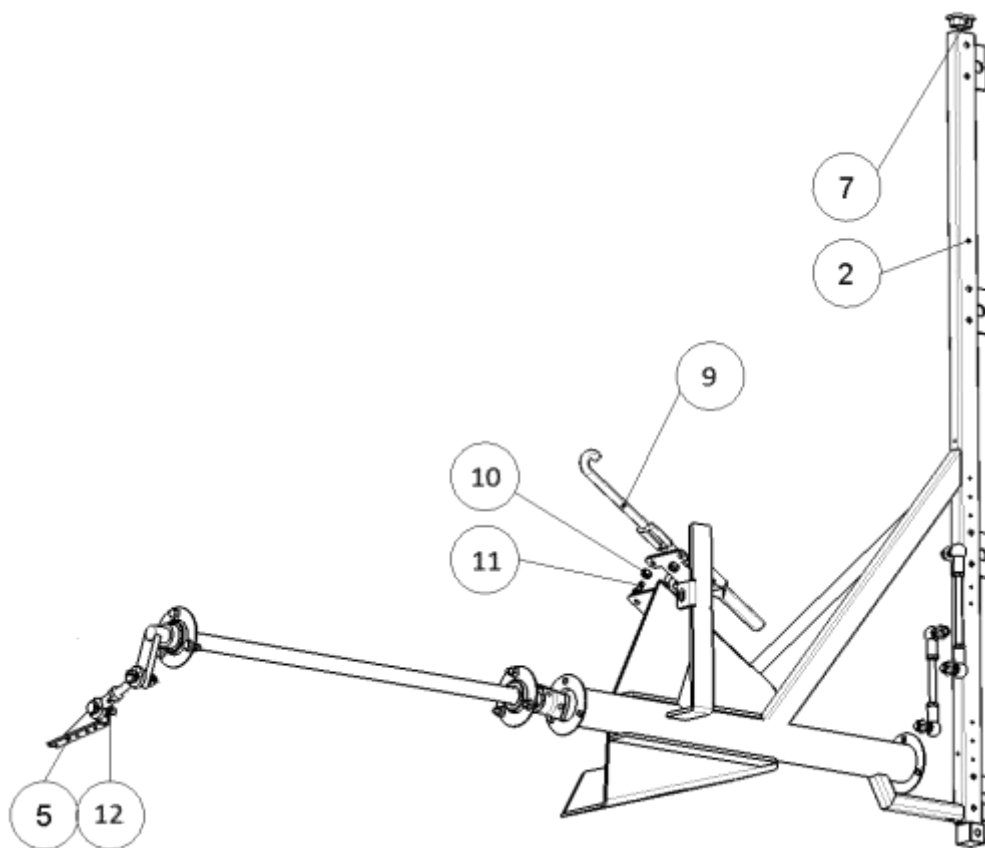
2 x M12x70 with self-locking nut
4 x M10x20 with spring washers



Spare parts list

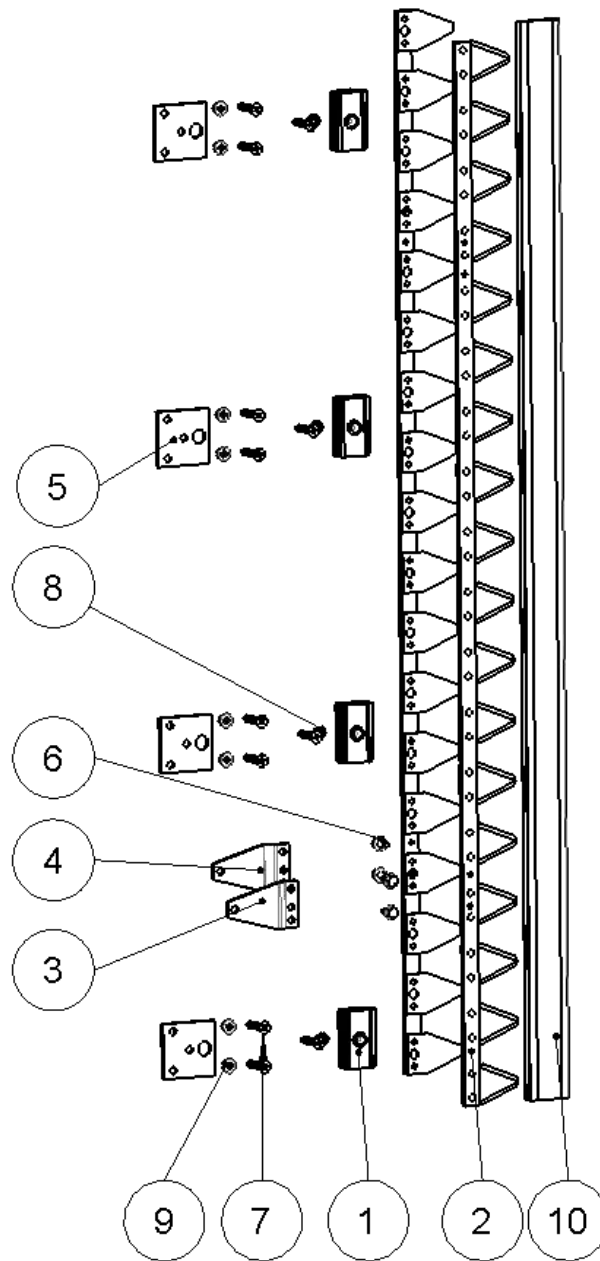
Frame





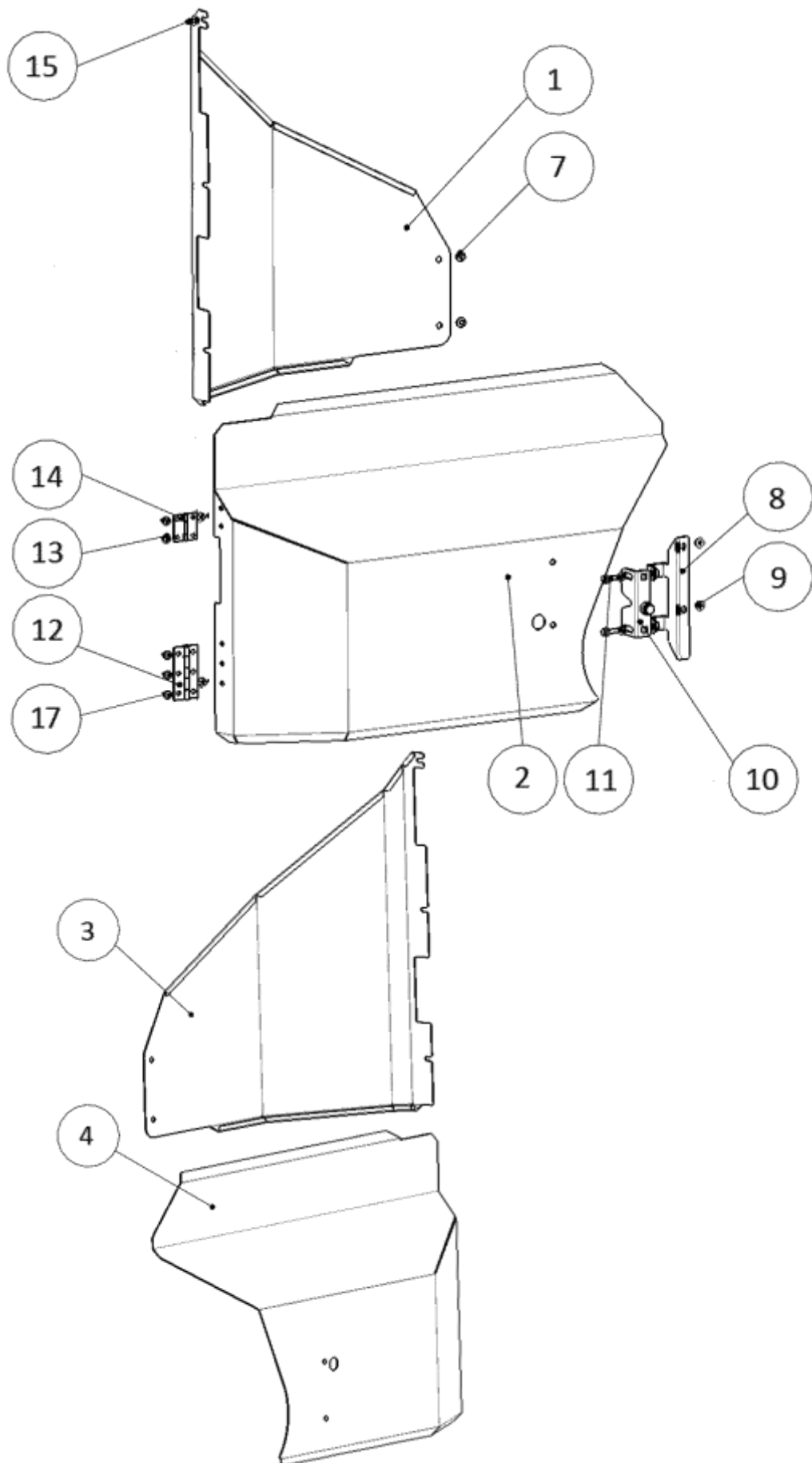
Position	Article number	Designation	Quantity
1	22121	Compact right 40 ft HD welded assembly	1
2	22040	Compact right welded assembly, complete	1
3	22041	Compact left HD welded assembly	1
4	22129	NHVF HD 40 ft knife follower right	1
5	22026	Knife follower right	1
6	22059	Knife follower left	1
7	18359	Beam end cap	1
8	22073	Eccentric tensioner with hook 50 mm	1
9	22070	Eccentric tensioner with hook	1
10	70103	Hexagon nut M8, ISO 4034	4
11	70034	Hexagon-head bolt M8x20, ISO 7046-1	4
12	16179	Assembly GAR COM 600 MY2013	1

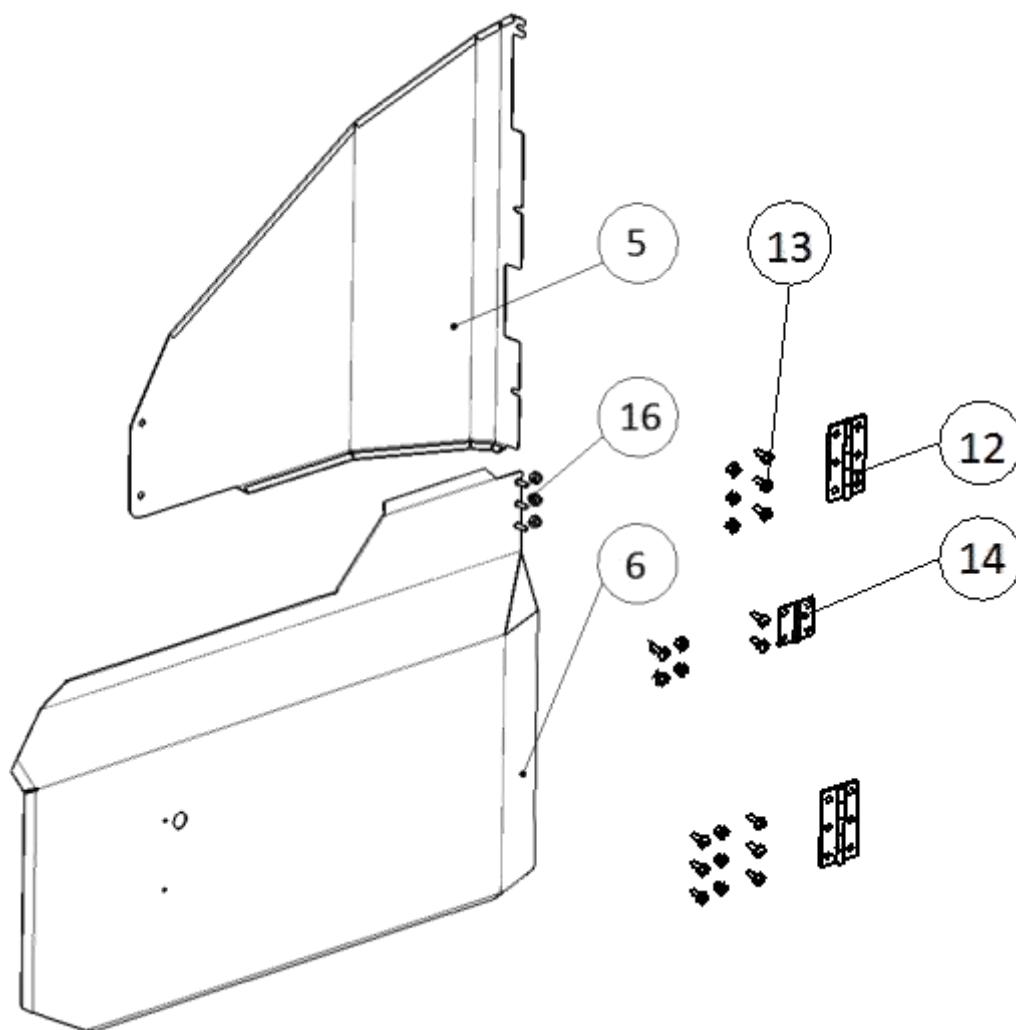
Blades



Position	Article number	Designation	Quantity
1	18343	Knife guide	8
2	18307	Rapeseed knife, 18-blade complete	2
3	18803	Lever 110 mm right	1
4	18804	Lever 110 mm left	1
5	19100	Plate 75.5x70.5, 3 countersinks	4
6	18347	Corrugated-head screw M8x12 DIN 6921	4
7	70813	Countersunk screw Torx 40 M8x42.5	12
8	70103	Hexagon self-locking nut, low M8, ISO 10511	4
9	70232	Hexagon flanged nut M8, DIN 6923	8
10	18350	Knife guard	1

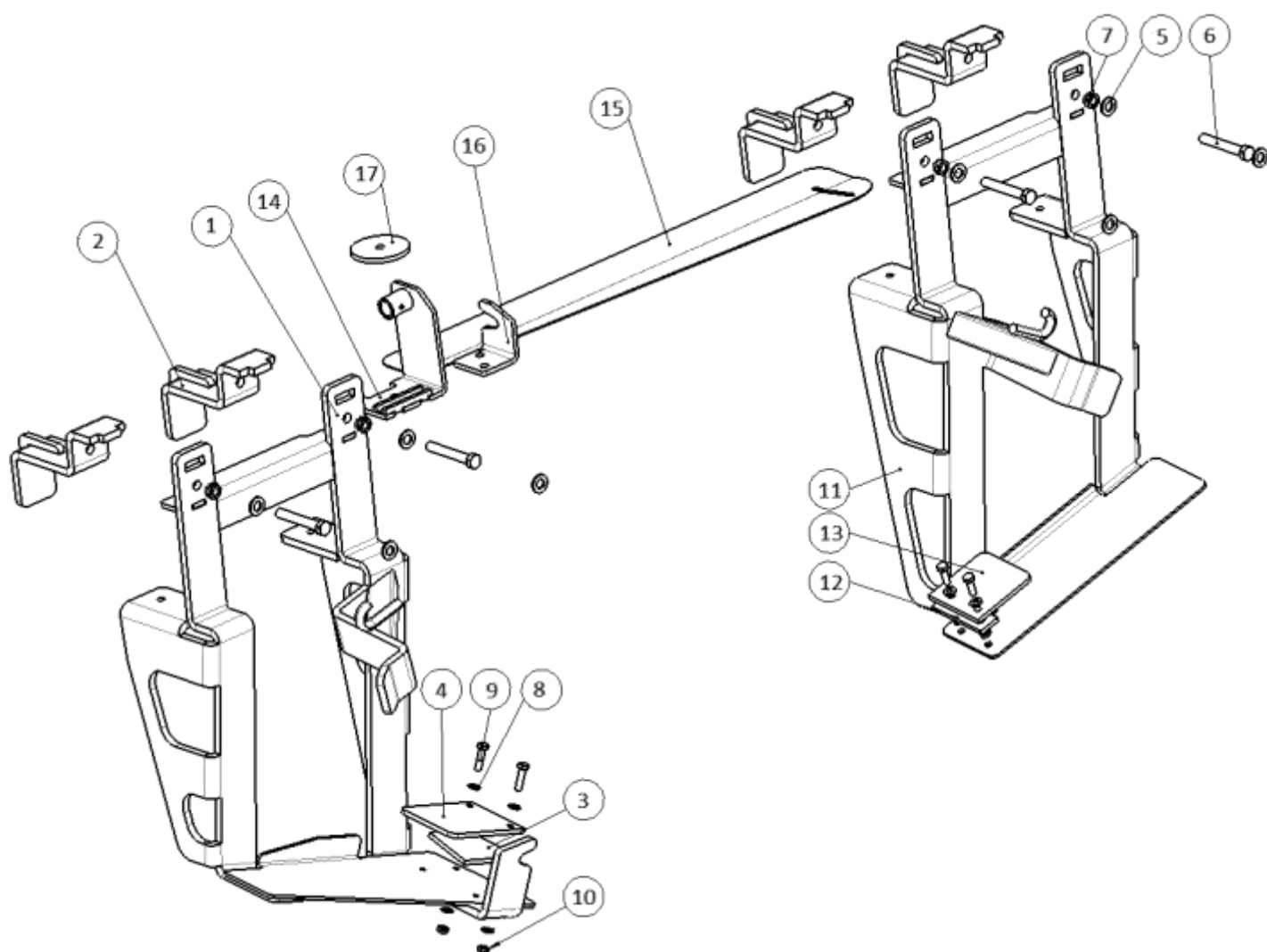
Side guard





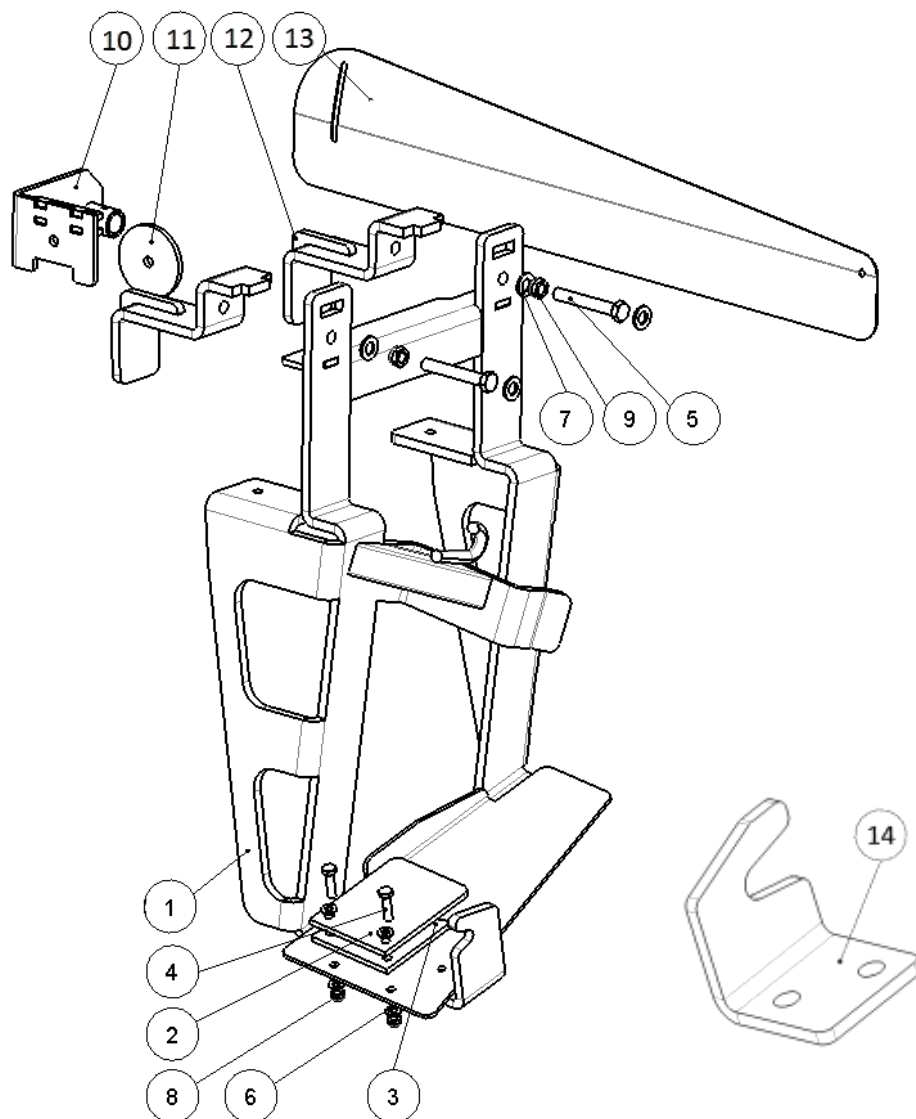
Position	Article number	Designation	Quantity
1	22061	Guard left inner	1
2	22033	Hinged guard left	1
3	22127	Hinged guard right inner NHVF HD 40FT	1
4	22132	Hinged guard right NHVF HD 40FT	1
5	22051	Guard right inner	1
6	22031	Hinged guard right	1
7	70101	Fillister-head screw, allen M6x6	2
8	16135	Lock bracket	2
9	70004	Locking tooth nut M6	9
10	18240	Catch fastener	2
11	70044	Locking tooth screw M8x20	2
12	18233	Hinge wide	2
13	70688	Fillister-head screw M6x8	9
14	18252	Hinge narrow	1
15	70154	Locking tooth screw M6x12	13
16	70020	Locknut M6	5
17	70028	Fillister-head screw M6x10	3

Attachment parts Transport mount



Position	Article number	Designation	Quantity
1	22034	Mount left welded part complete	1
2	22075	Mount left clamp piece	4
3	22019	Mount left part 7	1
4	22018	Mount left part 6	1
5	70076	Washer DIN 125, A 13	8
6	70231	Hexagon-head bolt ISO 4014, M12x80	4
7	70022	Hexagon self-locking nut, low, M12, ISO 10511	4
8	70109	Washer DIN 125, B 8.4	8
9	70334	Hexagon-head screw, ISO 4017, M8x30	4
10	70103	Hexagon self-locking nut, low, M8, ISO 10511	4
11	22035	Mount right welded part complete	1
12	22020	Mount right part 4	1
13	22021	Mount right part 5	1
14	22024	Plastic guard bracket	1
15	22058	Plastic guard cover	1
16	22057	Mounting bracket left	1
17	22078	Disk for plastic guard bracket	1

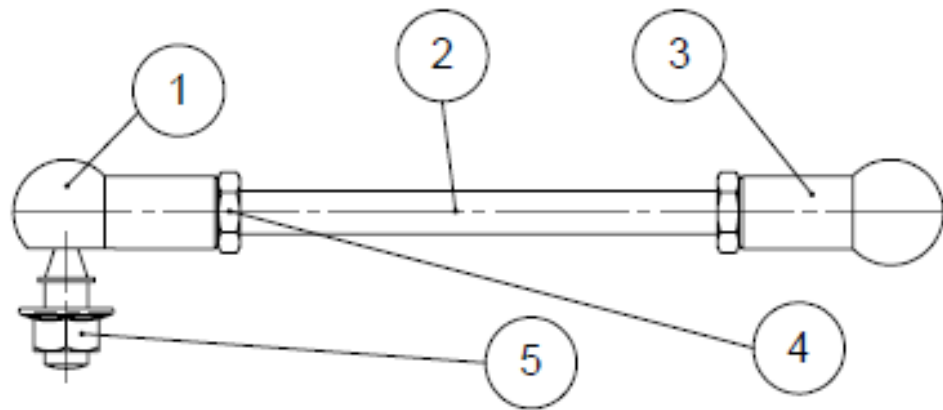
Transport mount 40FT



Position	Article number	Designation	Quantity
1	22174	Mount right 40 ft. Weld assembly complete	1
2	22018	Mount left part 6	1
3	22019	Mount left part 7	1
4	70334	Hexagon-head screw, ISO 4017, M8x30	4
5	70231	Hexagon-head bolt ISO 4014, M12x80	4
6	70109	Washer DIN 125, B 8.4	8
7	70076	Washer DIN 125, A 13	8
8	70103	Hexagon self-locking nut, low, M8, ISO 10511	4
9	70022	Hexagon self-locking nut, low, M12, ISO 10511	4
10	22175	Plastic guard bracket welded assembly	1
11	22177	Plastic guard cover	1
12	22075	Mount left clamp piece	4
13	22057	Mounting bracket left	1
14	22119	NHVF HD 40 ft mounting bracket right	1

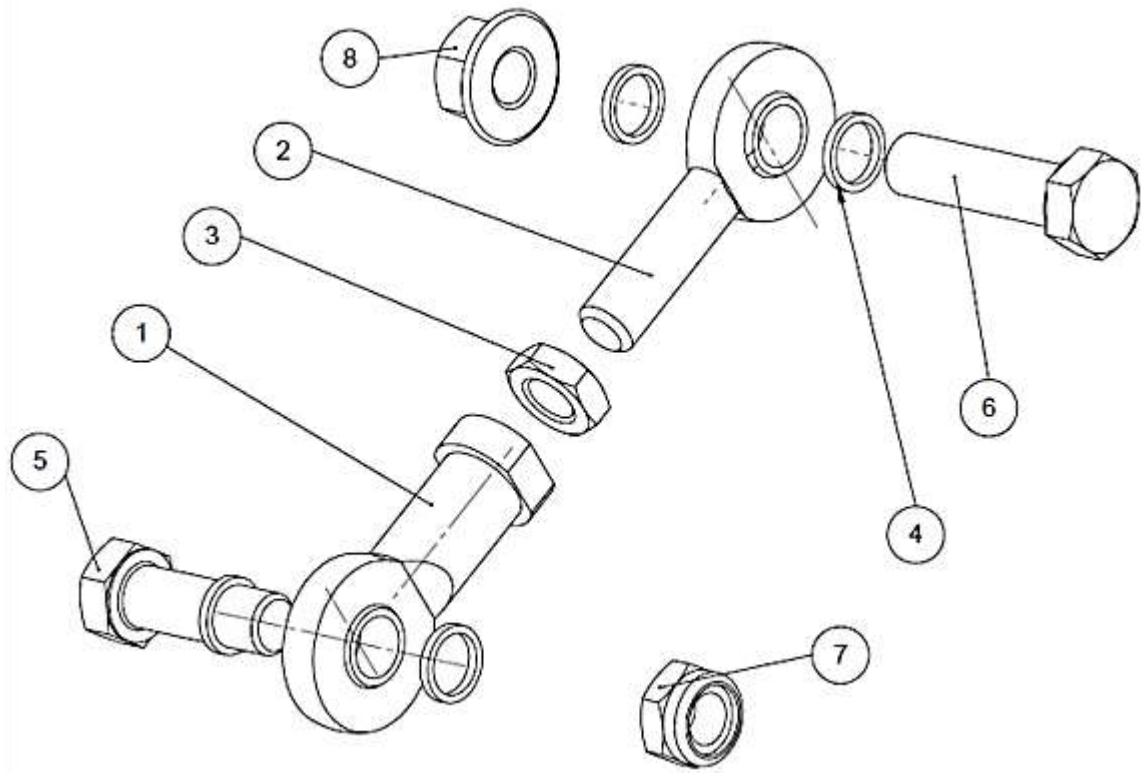
Accessories

Drive



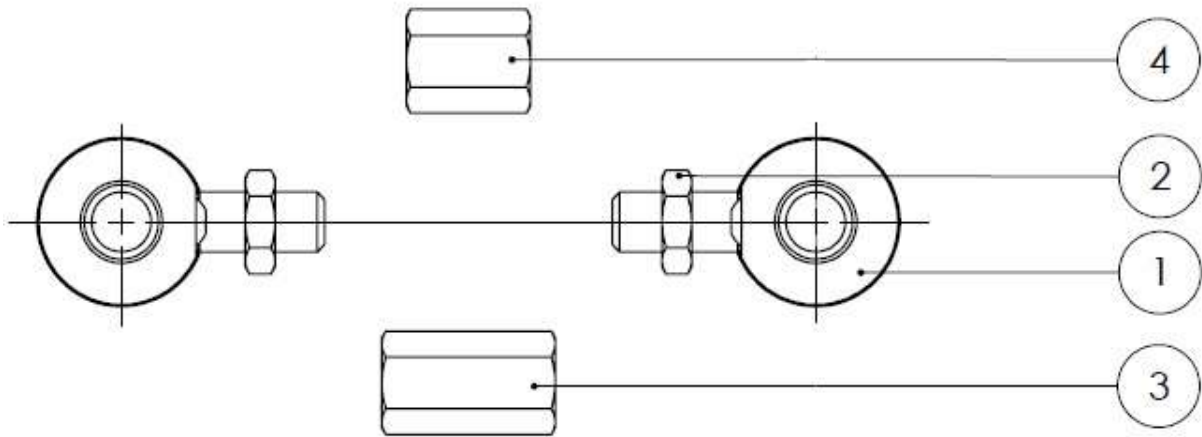
Position	Article number	Designation	Quantity
1	18384	Spherical head M10	1
2	16104	Rod long M10×150	1
	16105	Rod short M10×110	1
3	19375	Ball head shortened M10	1
4	70007	Nut low profile M10	2
5	70006	Self-locking nut M10	1
1-5	19920	Threaded rod with spherical head, 150mm, right	1
	19921	Threaded rod with spherical head, 150 mm, left	1
	19922	Threaded rod with spherical head, 110 mm, right	1
	19923	Threaded rod with spherical head, 110 mm, left	1

Side cutter drive right



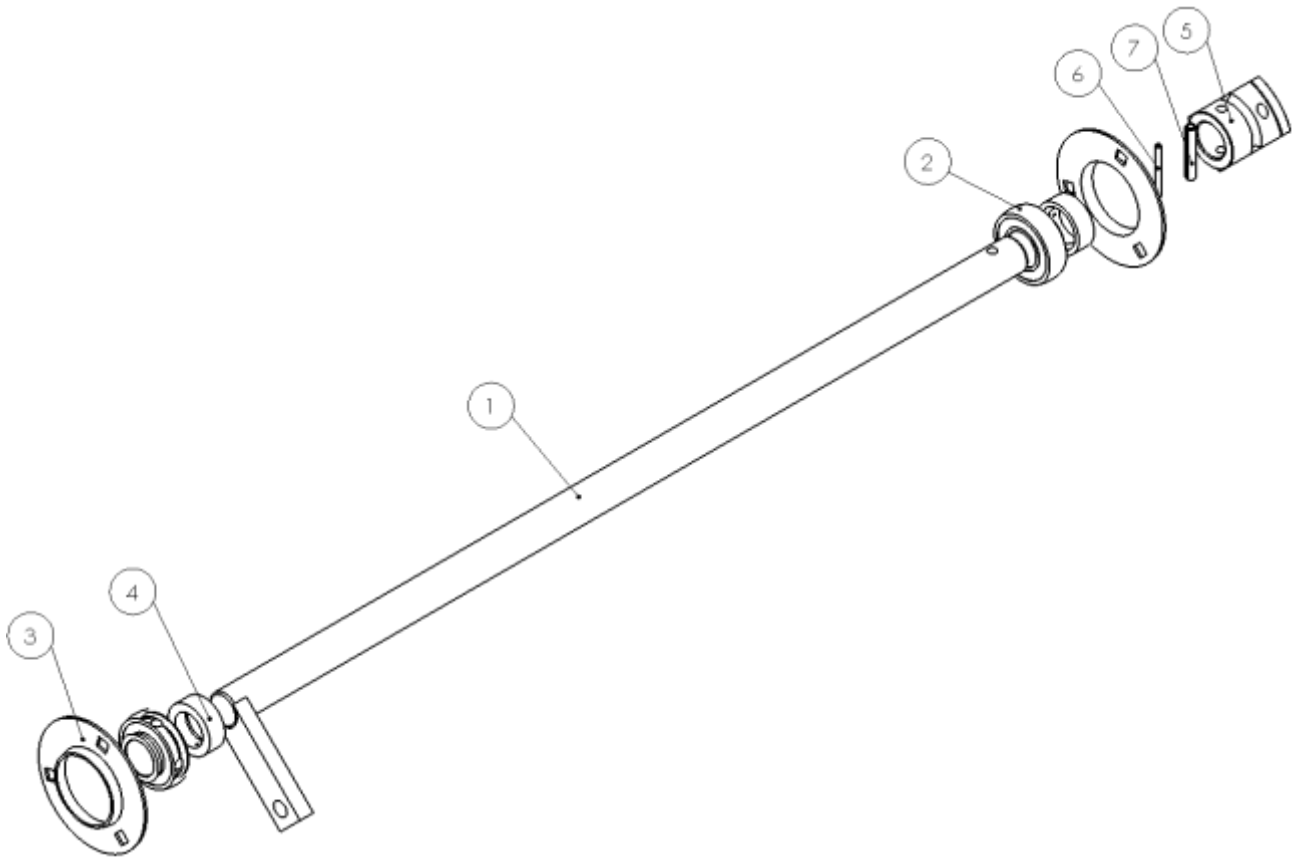
Position	Article number	Designation	Quantity
1	18302	GIR 12 DO	1
2	21008	GAR 12 DO	1
3	70008	Nut low profile M12	1
4	18388	Spacer	4
5	50356	Hexagon-head screw M12×32	1
6	70054	Hexagon-head screw M12×40	1
7	70022	Self-locking nut M12	1
8	70104	Self-locking nut M12	1

Side cutter drive left



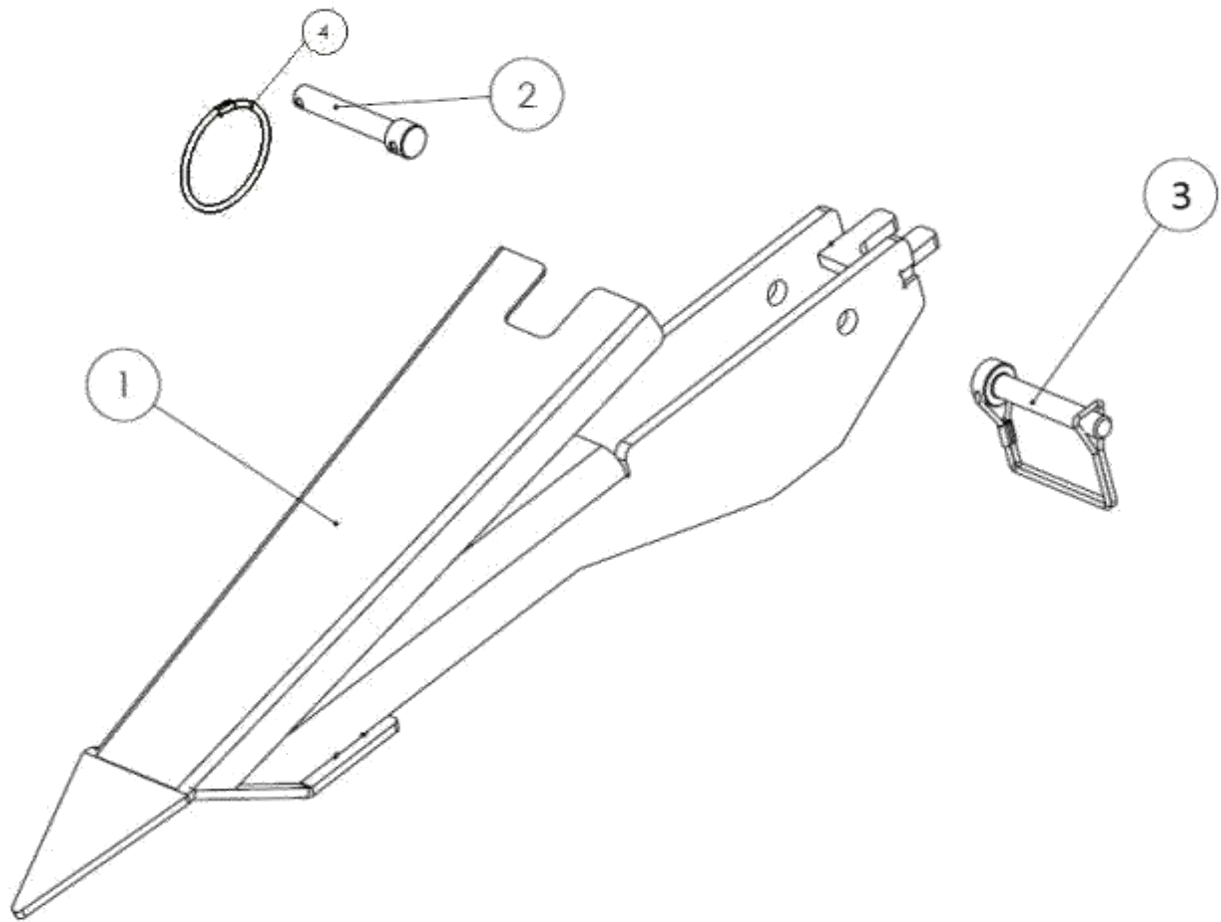
Position	Article number	Designation	Quantity
1	16178	GAR 12 DO shortened COM 600	2
2	70008	Nut low profile M12	2
3	70565	Union nut M12x30	1
4	70710	Union nut M12x35	1

Shaft



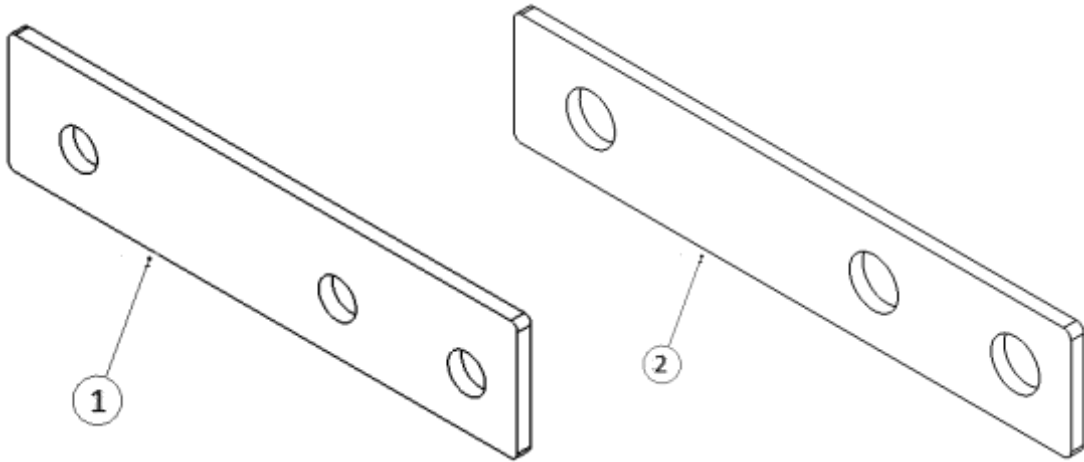
Position	Article number	Designation	Quantity
1	22068	Shaft NHVF HD welded part left 765 mm	1
	22102	Shaft NHVF HD welded part right 830 mm	1
2	18373	Ball bearing	2
3	18372	Bearing shell	2
4	18371	Setting collar	2
5	18381	Swivelling lever	1
6	70094	Locating pin 4x40	1
7	70171	Locating pin 7x40	1
1-7	22069	Shaft NHVF HD left	1
	22100	Shaft NHVF HD left	1

Crop divider tip



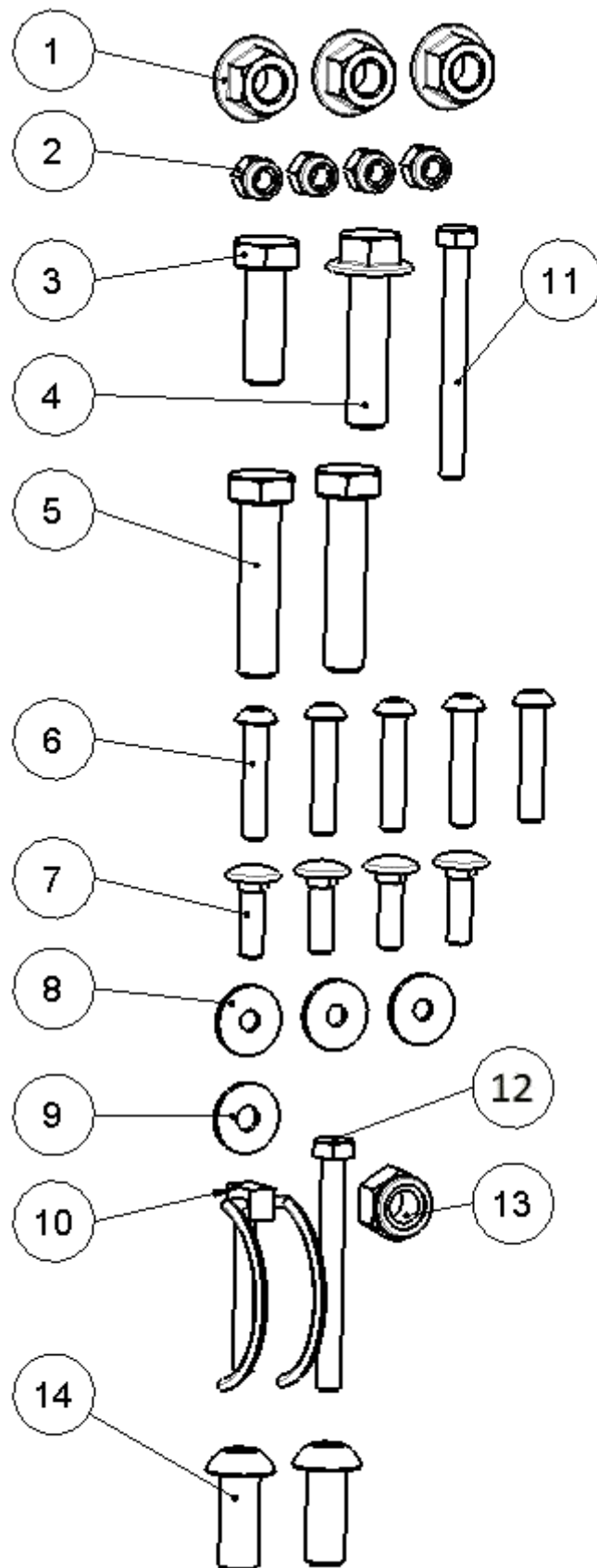
Position	Article number	Designation	Quantity
1	16118	Tip	1
2	16122	Bolt	1
3	16975	Square locking pin	1
4	16131	Lock ring	1

Pressure plates



Position	Article number	Designation	Quantity
1	22027	Pressure plate top	1
2	22028	Pressure plate bottom	1
3	22206	Pressure plate spacer	2

Screws and bolts





15



16

17

Position	Article number	Designation	Quantity
1	70006	Self-locking nut, yellow, M10	5
2	70020	Locking nut M6	11
3	70061	Hexagon-head bolt M10x30	1
4	70062	Hexagon-head bolt with collar M10x40	1
5	70182	Hexagon-head bolt M10x45	2
6	70461	Fillister-head bolt with flange M6x35, 10.9	5
7	70357	Fillister-head Torx bolt M6x20, 10.9	4
8	70749	Washer M6, Ø 25	3
9	70319	Washer M6, Ø 20	1
10	16107	Tube clip 4 mm	1
11	70143	Hexagon-head bolt, partial thread M6x60	1
12		Hexagon-head bolt, partial thread M6x70	1
13	70021	Self-locking nut M10	1
14		Fillister-head screw M10x25	2
15	22103	Welded bridge	1
16	16125	Door bolt	1
17	70214	Tip adjusting screw M12x70	1
18	22166	Attachment parts, Compact NH Clip-On Varifeed HD right	1
19	22167	Attachment parts, Compact NH Clip-On Varifeed HD left	1

General terms of guarantee

Zürn Harvesting GmbH & Co. KG Kapellenstraße 1 D-74214 Schöntal-Westernhausen herewith certifies each buyer of a new Zürn machine purchased from an authorised dealer, that the materials and workmanship of this machine will be guaranteed to the conditions specified below, providing that the machine is put into operation and maintained in accordance with the specifications in the operating instructions.

The guarantee period is one year from the date of delivery and is valid for up to 500 operating hours within this period. The date of the invoice to the end user as well as the date on the declaration of commissioning, signed by the dealer and customer and returned to the company are decisive. The guarantee embraces only the reimbursement or repair of the parts and reimbursement of work time required effect the repair, based on the repair times allowed by Zürn Harvesting, under the prerequisite that the fault was determined by our technical customer service department and was acknowledged by Zürn Harvesting to be attributable to faulty materials or workmanship.

THE FOLLOWING CASES ARE EXEMPTED FROM GUARANTEE:

- Damages, that are attributable to normal wear and tear, negligence, carelessness, improper use, incorrect maintenance and/or if the machine was involved in an accident, lent to another user or put to another use than that for which it was intended.
- The guarantee will be rendered null and void if technical modifications are made to the machine without the express permission of Zürn Harvesting or if spare parts other than original Zürn spare parts are used and/or if repairs were not carried out by an authorised dealer.
- Zürn Harvesting will accept no liability for damages to the machine or its equipment caused during transportation or loading up by any transport company and this outside the specified guarantee period. Machines, equipment and parts are shipped at the risk of the recipient.
- Zürn Harvesting will accept no responsibility for possible personal injury, e.g. for injuries to the owner of the machine or third parties.
- Further to this, Zürn Harvesting will not pay compensation for losses of harvest or cuts in profit as a result of a defect, a hidden fault or machine failure.

THE PURCHASER IS RESPONSIBLE FOR THE FOLLOWING AND WILL BEAR THE COSTS:

- The everyday maintenance of the machine, i.e. lubrication, checking and correcting oil levels, minor adjustment work, etc.
- Travelling and mileage allowances for service technicians
- Transporting the machine, the parts or equipment to the place of repair and returning them to the place of use
 - Expendable parts like drive belts, tyres, blades, cutter discs, disc clutches, etc. are not covered by the guarantee.

THE TERMS OF THE GUARANTEE ARE DEPENDENT UPON PRECISE OBSERVANCE OF THE FOLLOWING REGULATIONS BY BOTH THE DEALER AND THE PURCHASER:

- The machine must be put into service for the first time by the dealer, in accordance with Zürn Harvesting regulations.
- The guarantee card (machine card) completed by the dealer and customer must be returned to Zürn Harvesting by post or e-mail as soon as the machine has been delivered to the customer.
- Applications for guarantee claims must be formulated on the corresponding Zürn form and presented to Zürn Harvesting by the dealer within one calendar month.
- The application must be completed legibly and must contain the following information:
 - Name, address and dealer customer number
 - Name and address of the customer
 - Precise machine type and designation
 - Complete serial number of the machine

- Date of delivery to the customer
- Date of the claim
- Number of operating hours or acreage harvested by the machine
- Precise description of the damage and information regarding the probable cause
- Quantity, item numbers and description of damaged parts
- Invoice number and date of the parts replaced
- The parts reported as damaged must be returned to Zürn Harvesting free of charge for appraisal, complete with a copy of the guarantee claim application. Any costs incurred for returning the parts replaced will be borne by the sender.
- Use and maintenance of the machine must comply with the specifications in the operating instructions. Lubricants used must be of the qualities and quantities of those specified by Zürn Harvesting.
- The decision of Zürn Harvesting is, irrespective of the guarantee claim application, final and irrevocable and the purchaser is obliged to accept this decision.
- If the guarantee claim application is refused, the dealer has a period of 15 days, starting from the day the Zürn Harvesting decision was received, to demand return of the damaged parts. Once this period has elapsed, the parts will be systematically destroyed.

ADDITIONAL PROVISIONS AND RESTRICTION OF LIABILITY:



- The guarantee is non-transferable to third parties without the prior, written permission of Zürn Harvesting.
- The dealer has neither the right nor the authority to enter into a commitment in the name of Zürn Harvesting, whether expressly or implied.
- The technical support for repair of the machine given by Zürn Harvesting or their representatives excludes any further liability whatsoever by Zürn Harvesting and has no influence whatsoever on the existing terms of guarantee.
- Zürn Harvesting reserves the right to modify the design of the machine without prior notice. It is not obliged to transfer such modifications to machine which have already been sold or are in use.
- Furthermore, due to the rapid development of the state of the art, no guarantee can be given for the machine descriptions contained in these operating instructions or other technical leaflets and data sheets.
- The existing guarantee excludes any further obligations by Zürn Harvesting, be it a legal or contractual obligation, whether expressly or implied. The obligations of Zürn Harvesting can not under any circumstances exceed the provisions specified in the previous paragraphs. Zürn Harvesting will accept no liability in particular and will not pay compensation for materials and personal injury, loss of crops or liabilities incurred in any way or for any consequences of whatever nature resulting from hidden defects or constructional faults within the framework of the existing terms of contract.

**EG- Konformitätserklärung nach Maschinenrichtlinie
2006/42/EG**

Bitte sorgfältig aufbewahren, jedoch nicht im Fahrzeug

**EC DECLARATION OF CONFORMITY
According to Machinery Directive 2006/42/EEC**

Please keep safely, not inside the vehicle

Hiermit bestätigt die Hereby declares	Zürn Harvesting GmbH & Co. KG	
in alleiniger Verantwortung dass das landwirtschaftliche Anbaugerät the full responsibility for the agricultural implement	Fabrikmarke Brand	Zürn
	Typ Type	Compact New Holland
	Model	Varifeed HD
genehmigt in approved in	Schoental	
am on	10.03.2009	
durch den by the	Hersteller / manufacturer	
den grundlegenden Sicherheits- und Gesundheitsanforderungen der Richtlinie 2006/42/EG entspricht. to fulfill the complete safety and health requirements according to machinery directive 2006/42/EEC.		
Zur sachgerechten Umsetzung der in den EU-Richtlinien genannten Sicherheits- und Gesundheitsanforderungen wurden folgende Normen herangezogen: For proper implementation according to the EU Directives for health and safety requirements, the following standards were used:	DIN EN ISO 4254-1 (06/06) DIN EN 632	
Geschehen zu Done at	Schoental	
am on	12/01/12	
		Rolf Zürn, Geschäftsführer, CEO

Torques for metric bolts

Bolts	Grade 4.8				Grade 8.8 or 9.8				Grade 10.9				Grade 12.9			
	Oiled ^a		Dry ^b		Oiled		Dry ^b		Oiled		Dry ^b		Oiled		Dry ^b	
Size	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in
M6	4,7	42	6	53	8,9	79	11,3	100	13	115	16,5	146	15,5	137	19,5	172
									N•m	lb-ft	N•m	lb-ft	N•m	lb-ft	N•m	lb-ft
M8	11,5	102	14,5	128	22	194	27,5	243	32	23,5	40	29,5	37	27,5	47	35
			N•m	lb-ft	N•m	lb-ft	N•m	lb-ft								
M10	23	204	29	21	43	32	55	40	63	46	80	59	75	55	95	70
	N•m	lb-ft														
M12	40	29,5	50	37	75	55	95	70	110	80	140	105	130	95	165	120
M14	63	46	80	59	120	88	150	110	175	130	220	165	205	150	260	190
M16	100	74	125	92	190	140	240	175	275	200	350	255	320	235	400	300
M18	135	100	170	125	265	195	330	245	375	275	475	350	440	325	560	410
M20	190	140	245	180	375	275	475	350	530	390	675	500	625	460	790	580
M22	265	195	330	245	510	375	650	480	725	535	920	680	850	625	1080	800
M24	330	245	425	315	650	80	820	600	920	680	1150	850	1080	800	1350	1000
M27	490	360	625	460	950	700	1200	885	1350	1000	1700	1250	1580	1160	2000	1475
M30	660	490	850	625	1290	950	1630	1200	1850	1350	2300	1700	2140	1580	2700	2000
M33	900	665	1150	850	1750	1300	2200	1625	2500	1850	3150	2325	2900	2150	3700	2730
M36	1150	850	1450	1075	2250	1650	2850	2100	3200	2350	4050	3000	3750	2770	4750	3500

The tightening torques given are guideline values. Do NOT use these values if a different torque or another securing method is specified for a specific application. For stainless steel bolts and nuts for stirrup bolts, see specific instructions. Tighten locknuts with plastic insert or edge-raised steel locknuts to the corresponding torques for dry bolts and nuts given in the table unless otherwise instructed.

Shear pins are designed to break at a certain load. When replacing shear pins, use only pins of the same grade. When replacing bolts and nuts, make sure that equivalent parts of the same or a higher grade are used. Tighten higher-grade nuts and bolts to the same torque as the originally used parts. Make sure that the thread is clean and the bolts correctly fitted. If possible, oil normal and galvanised nuts and bolts (except for locknuts and wheel studs or nuts) unless specified otherwise for the specific application.

“Oiled” means that a lubricant, such as engine oil, is applied to the bolts or that phosphatised or oiled bolts or zinc-coated bolts according to JDM F13C with a size from M20 are used.

“Dry” means the use of normal or galvanised bolts without lubrication or bolts with a size between M6 and M18 that are zinc-coated according to JDM F13B.

Torques for SAE bolts

Bolts	SAE Grade 1				SAE Grade 2a				SAE Grade 5, 5.1 or 5.2				SAE Grade 8 or 8.2			
	Oiled		Dry _c		Oiled		Dry _c		Oiled		Dry _c		Oiled		Dry _c	
Size	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in	N•m	lb-in
1/4	3,7	33	4,7	42	6	53	7,5	66	9,5	84	12	106	13,5	120	17	150
													N•m	lb-ft	N•m	lb-ft
5/16	7,7	68	9,8	86	12	106	15,5	137	19,5	172	25	221	28	20,5	35	26
									N•m	lb-ft	N•m	lb-ft				
3/8	13,5	120	17,5	155	22	194	27	240	35	26	44	32,5	49	36	63	46
			N•m	lb-ft	N•m	lb-ft	N•m	lb-ft								
7/16	22	194	28	20,5	35	26	44	32,5	56	41	70	52	80	59	100	74
	N•m	lb-ft														
1/2	34	25	42	31	53	39	67	49	85	63	110	80	120	88	155	115
9/16	48	35,5	60	45	76	56	95	70	125	92	155	115	175	130	220	165
5/8	67	49	85	63	105	77	135	100	170	125	215	160	240	175	305	225
3/4	120	88	150	110	190	140	240	175	300	220	380	280	425	315	540	400
7/8	190	140	240	175	190	140	240	175	490	360	615	455	690	510	870	640
1	285	210	360	265	285	210	360	265	730	540	920	680	1030	760	1300	960
1-1/8	400	300	510	375	400	300	510	375	910	670	1150	850	1450	1075	1850	1350
1-1/4	570	420	725	535	570	420	725	535	1280	945	1630	1200	2050	1500	2600	1920
1-3/8	750	550	950	700	750	550	950	700	1700	1250	2140	1580	2700	2000	3400	2500
1-1/2	990	730	1250	930	990	730	1250	930	2250	1650	2850	2100	3600	2650	4550	3350

The tightening torques given are guideline values. Do NOT use these values if a different torque or another securing method is specified for a specific application. For locknuts with plastic insert, edge-raised steel locknuts, stainless-steel bolts and nuts, and nuts for stirrup bolts, see specific instructions. Shear pins are designed to break at a certain load. When replacing shear pins, use only pins of the same grade.

When replacing bolts and nuts, make sure that equivalent parts of the same or a higher grade are used. Tighten higher-grade nuts and bolts to the same torque as the originally used parts. Make sure that the thread is clean and the bolts correctly fitted. If possible, oil normal and galvanised nuts and bolts (except for locknuts and wheel studs or nuts) unless specified otherwise for the specific application.

For SAE Grade 2 bolts of up to 152 mm (6 in) length. For other bolts, the values for SAE Grade 1 apply.

“Oiled” means that a lubricant, such as engine oil, is applied to the bolts or that phosphatised or oiled bolts or zinc-coated bolts according to JDM F13C with a size from 7/8” are used.

“Dry” means the use of normal or galvanised bolts without lubrication or bolts with a size between ¼ and ¾” that are zinc-coated according to JDM F13B.