

62

Kelly[☆]

Diamond Chain Harrow 62 HDX Assembly & Parts Manual

Revision C-4 January 2017

Machine Serial Number:

Kelly Diamond Harrow 62HDX

Kelly Engineering
PO Box 100
Boileroo Centre
South Australia 5482
P +61 8 8667 2253
F +61 8 8667 2250
W kellyengineering.com.au

Thank you for choosing a Kelly Engineering product

We trust that you find the following manual clear and easy to follow. If you should require additional customer support or assistance, please do not hesitate to contact us.

Spare parts can be purchased, as required, through your local dealer or by contacting Kelly Engineering Australia or in the United States, Hood & Company.

Kelly Engineering welcomes feedback. Should you have any difficulties that you wish to raise, suggestions for improvement or modifications that you feel would enhance our products we look forward to hearing from you.

Australia

Kelly Engineering

PO Box 100

Boomer Centre SA 5482

Phone: + 61 8 8667 2253

Fax: + 61 8 8667 2250

Email: sales@kellyengineering.com.au

Spare Parts: parts@kellyengineering.com.au

Website: www.kellyengineering.com.au

United States

Kelly Engineering

Website: www.kellyharrows.com

Spare Parts

Hood & Company Inc

Springfield MO

Phone: 417 865 2100

Fax: 417 865 2105

Email: hoodco@hoodco.com

Contents

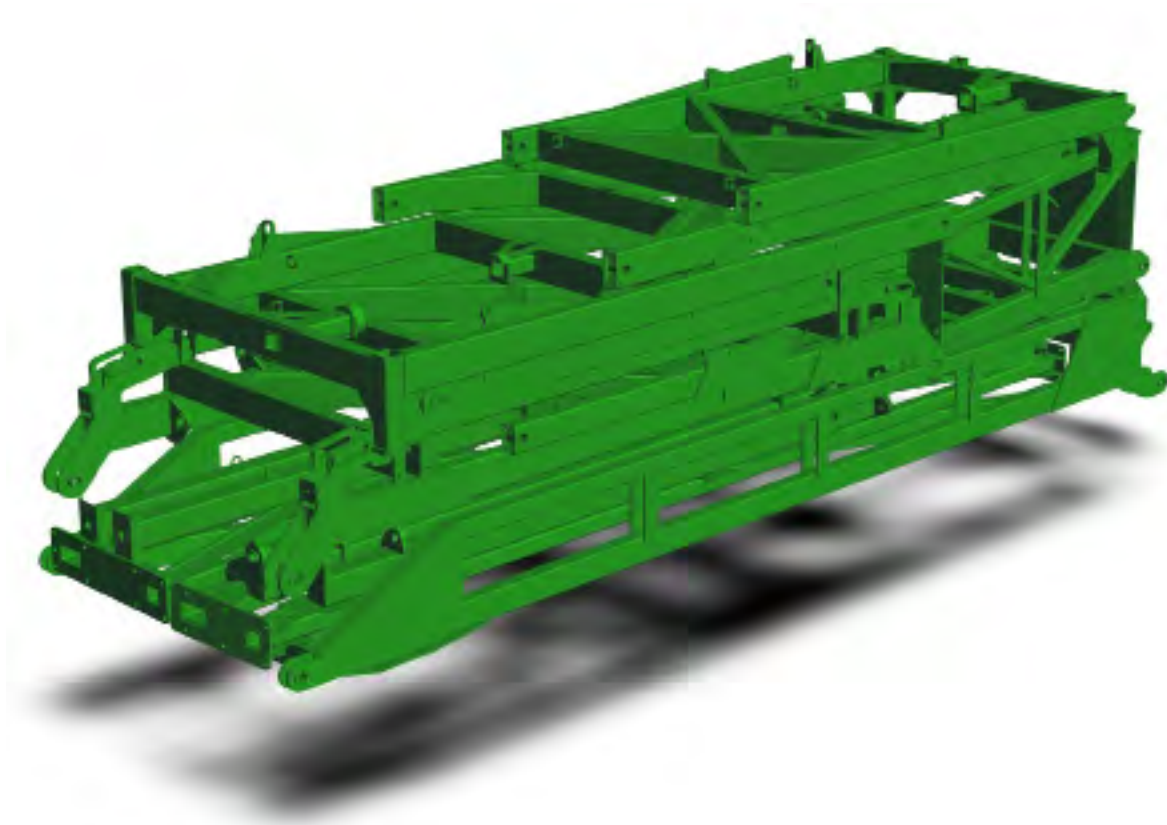
	Page no
Section 1: Unpacking	4
Section 2: Parts and Assembly	6
Section 3: Hydraulics Setup	89
Section 4: Diagrams & Charts	131
Wiring Diagram	132
Mounting Swivels	133
Cast Chain Link Retaining Specifications	134
Disc Chain Lengths	135
	136
Section 5: Operation	138
Basic Operation and Chain Tension	139
Module and Chain Tension	140
Light Brackets	141
CL2 Chain Configuration	142 - 143
Hydraulic Jack	144 - 145
CL2 Disc Change procedure	146 - 148



This symbol indicates which bag the relevant fastners are in

Section 1

Unpacking



CAUTION

Before cutting straps attach slings or chains and take the weight of the frames to avoid them slipping or falling and causing injury.



CAUTION

Wear eye and hand protection when cutting straps. Sharp edges are exposed as straps separate and may cause injury.



CAUTION

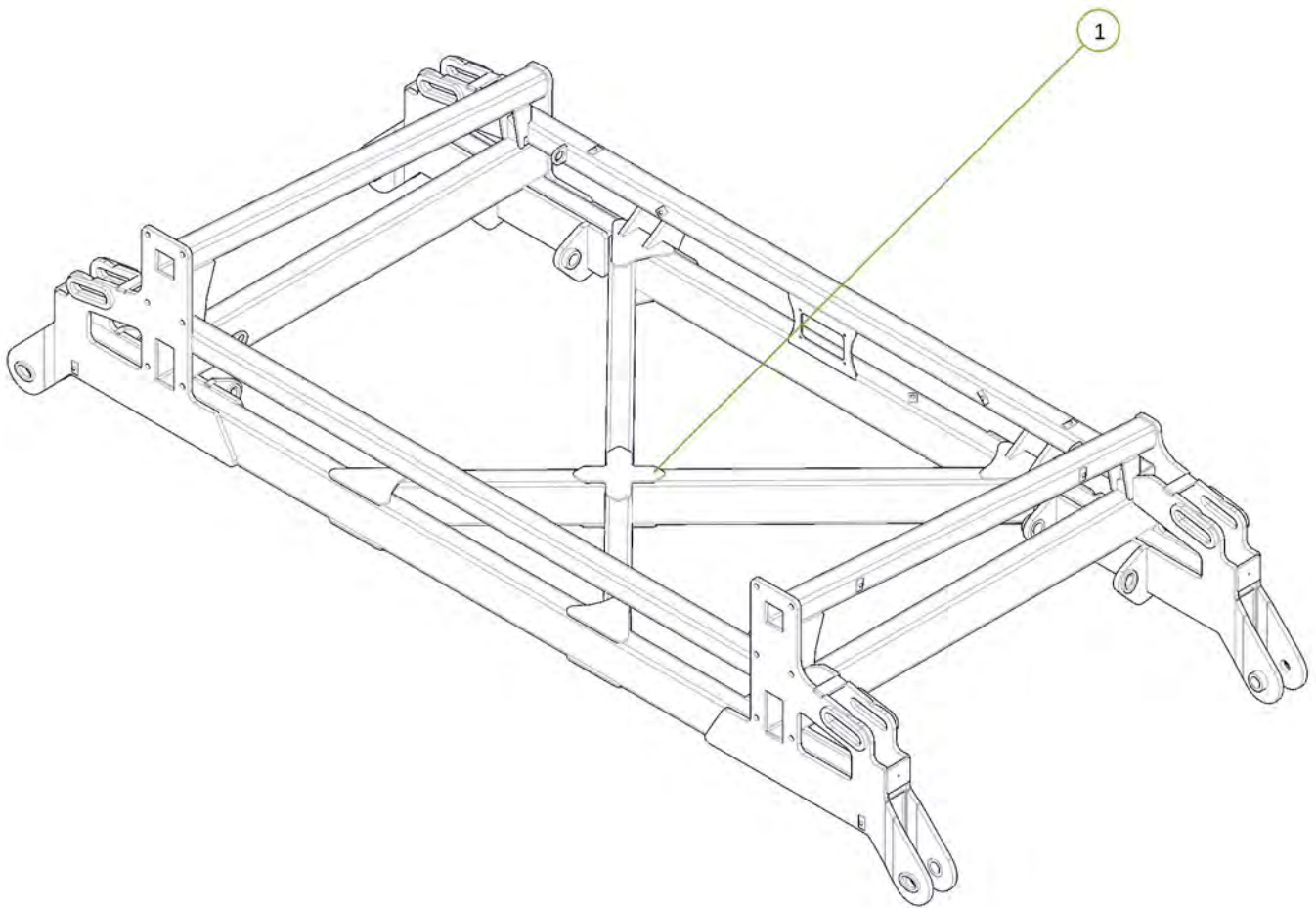
To avoid falling or moving components, before cutting straps attach slings or chains to individual pieces and only cut the straps holding the piece to be lifted.

- Remove boxes from rear of container one at a time using a forklift truck. Each box weighs approximately 2600 lbs (1200 kg)
- Cut straps holding bundles and separate parts and place in assembly area
- Identify parts for each machine by serial no. or description and separate. Open parts box and check that all parts are accounted for against checklist
- Once all parts have been identified machines are ready for assembly
- Read assembly instructions before proceeding.

Section 2

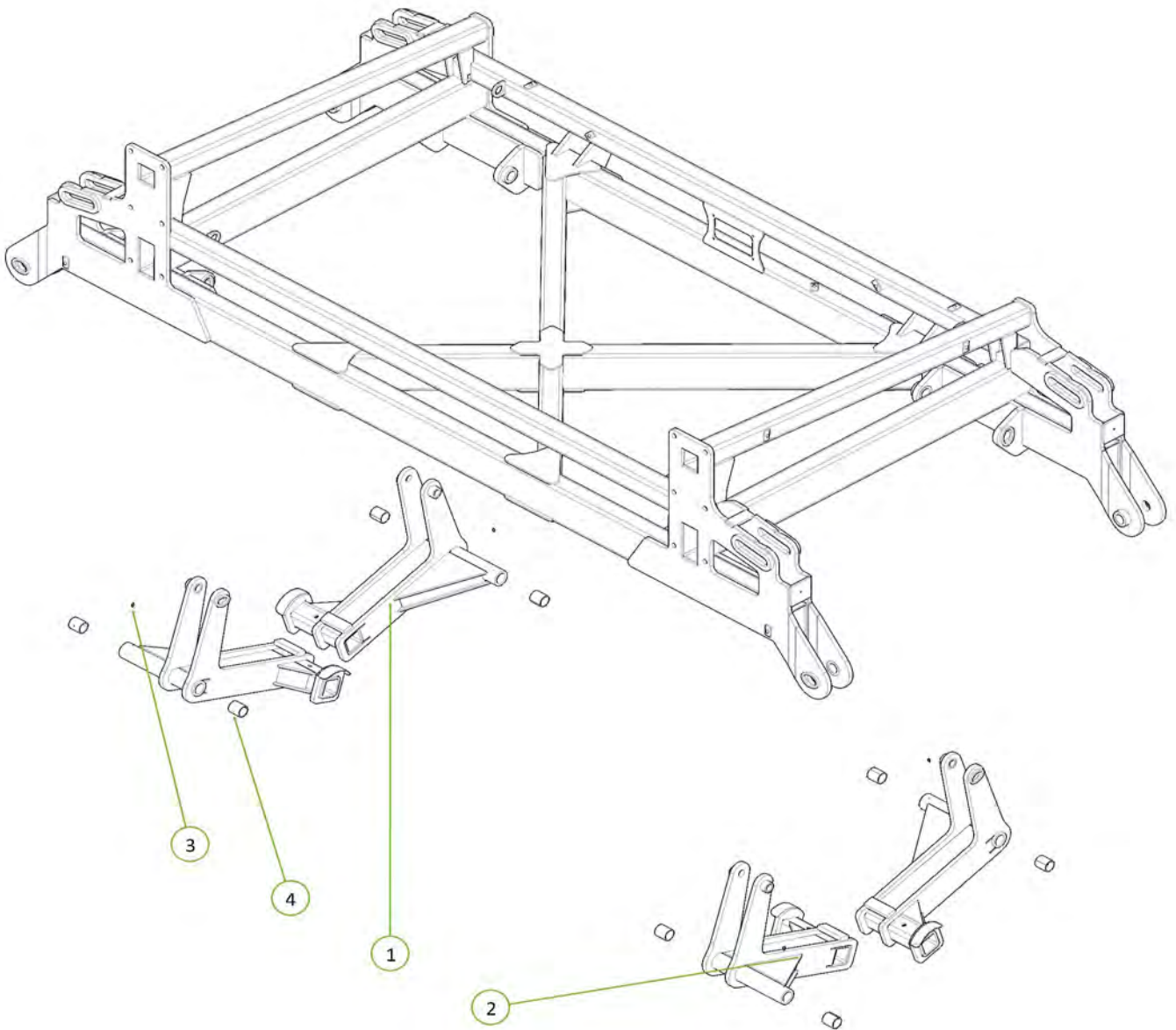
Parts & Assembly

Item No.	Description	Qty	Number
1	62HDX Centre Frame	1	1265-01

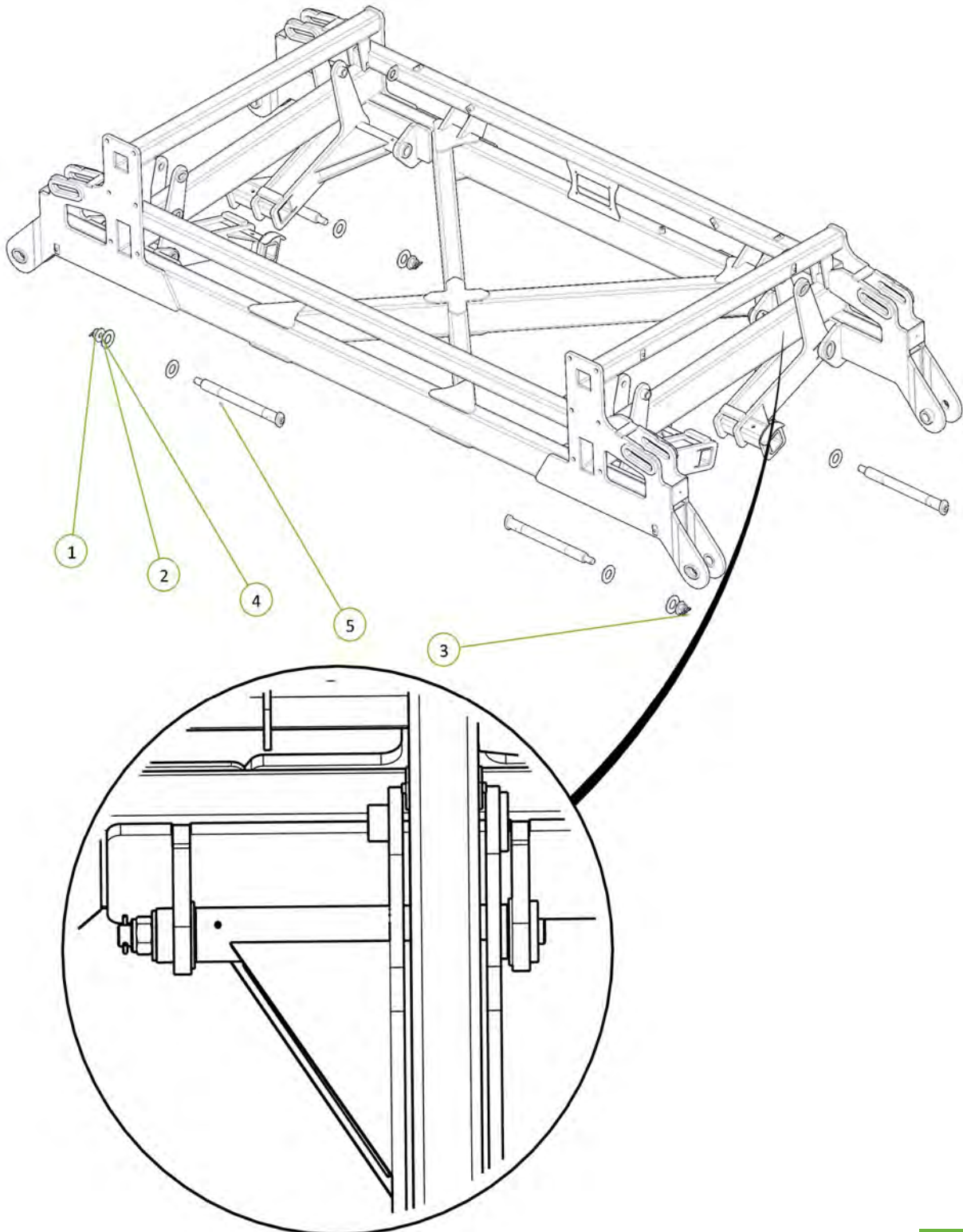


Item No.	Description	Qty	Number
1	RH Walking Axle Arm	2	1210-50
2	LH Walking Axle Arm	2	1210-51
3	Grease Nipple 1/4" UNF	4	0181-GN1-4
4	50 ID x 60mm DX Bush	8	0113-MB 5060DX

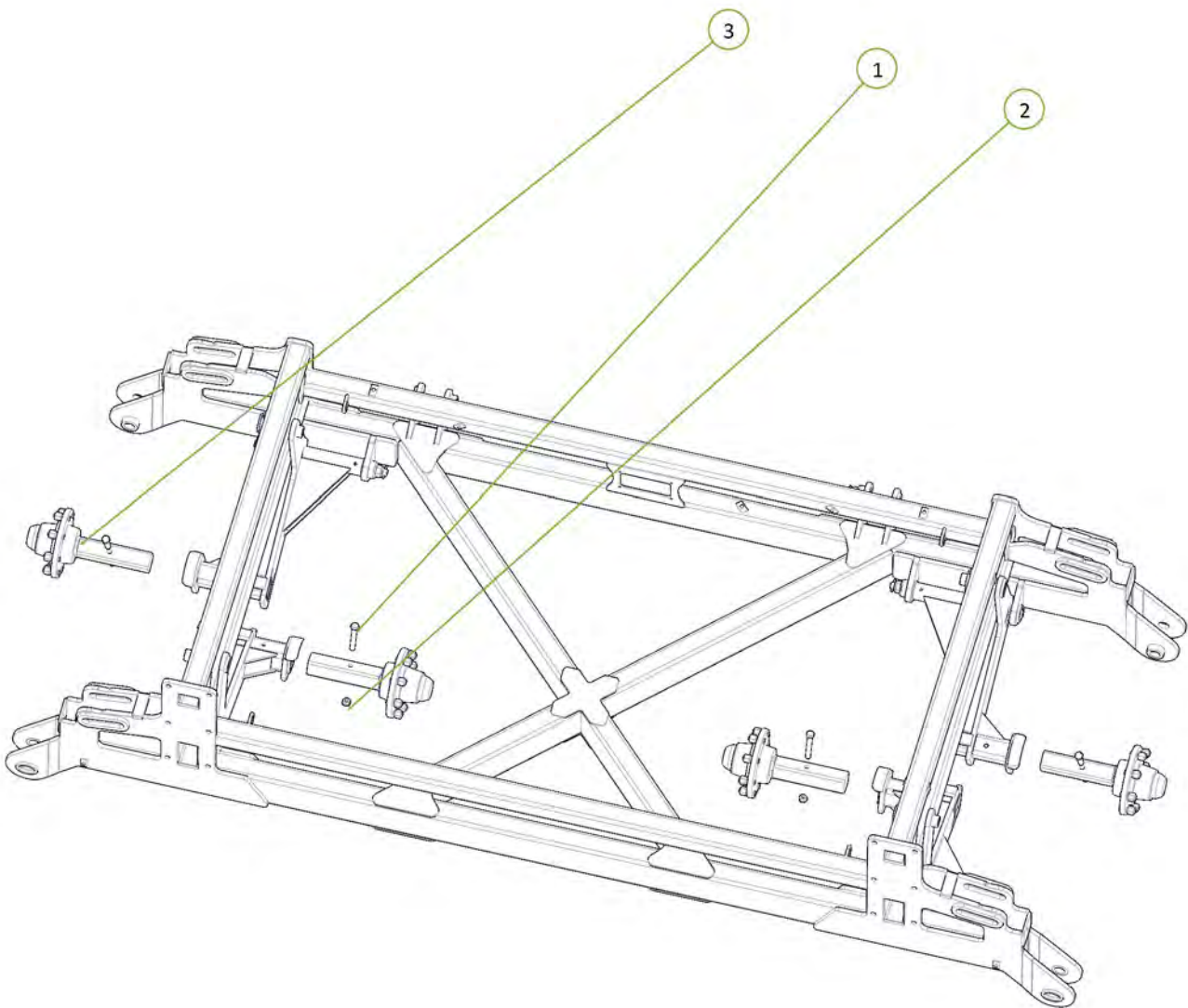
Please note - DX bushes are factory inserted



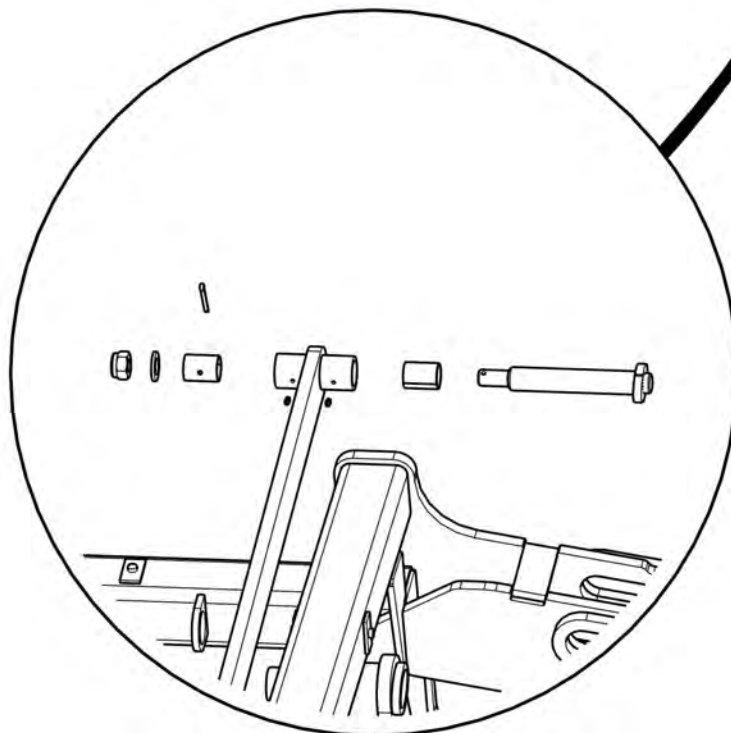
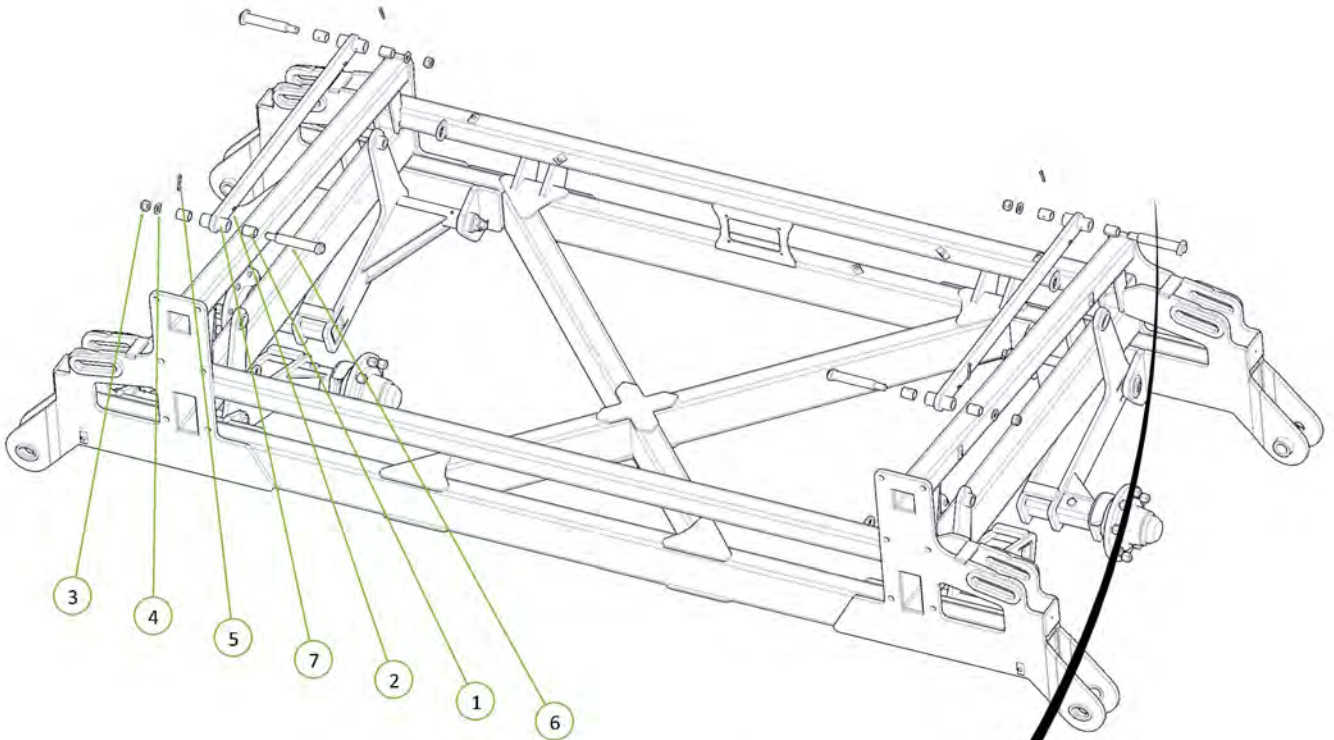
Item No.	Description	Qty	Number
1	Nyloc Nut M30	4	0221-NYL30
2	Washer High Tensile 2"	8	0232-HT2
3	Cotter Pin M6 x 50mm	4	0261-PINC650
4	50mm Pivot Pin Retaining Washer	4	1200-60
5	Oval Head 50mm Long Pivot Pin	4	1202-08



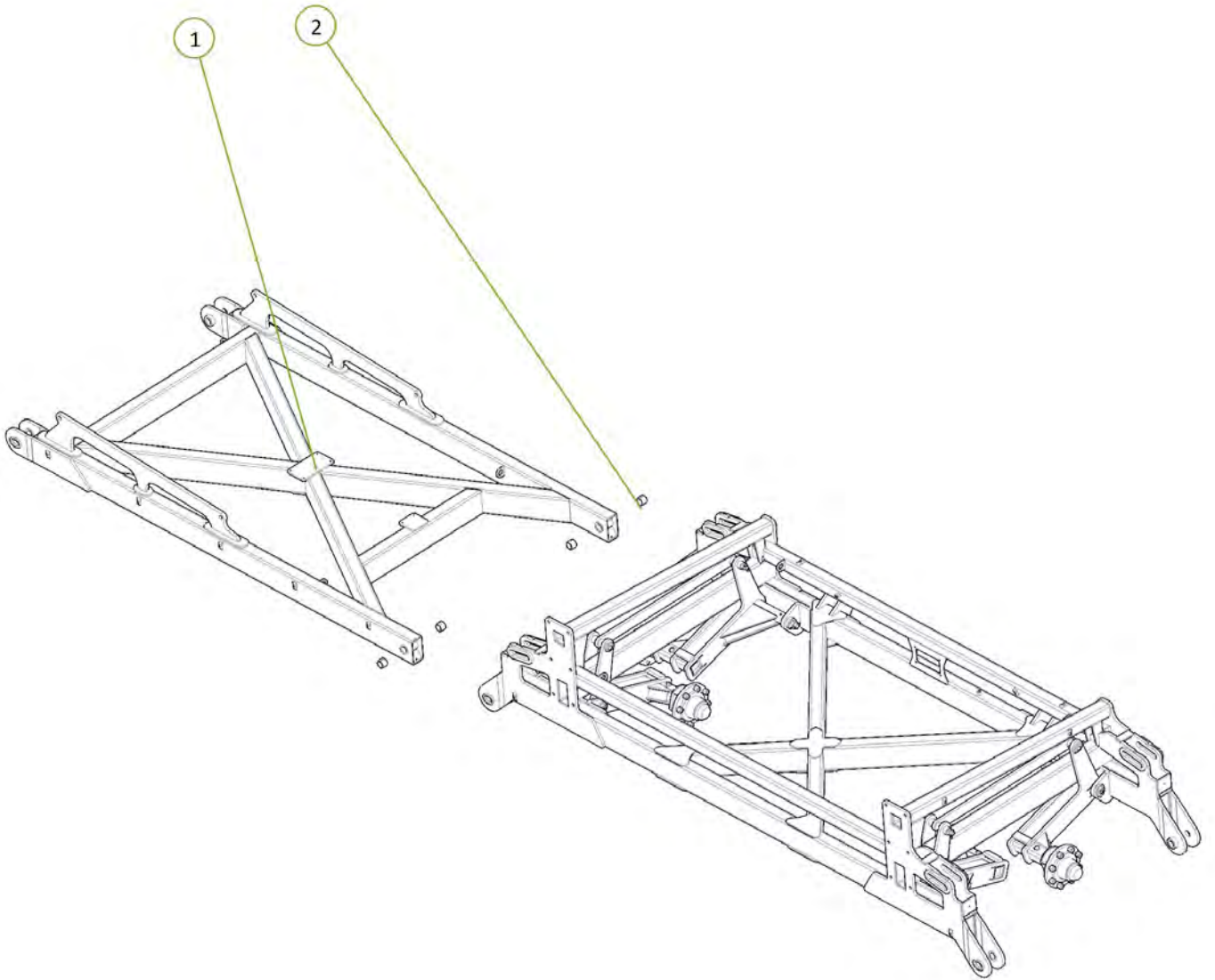
Item No.	Description	Qty	Number
1	M20 x 130 grade 8.8 ZP Bolt	4	0211-20130
2	Nyloc Nut M20	4	0221-NYL20
3	90 Series Stub Axle (Stub and Hub Complete)	4	0733-90



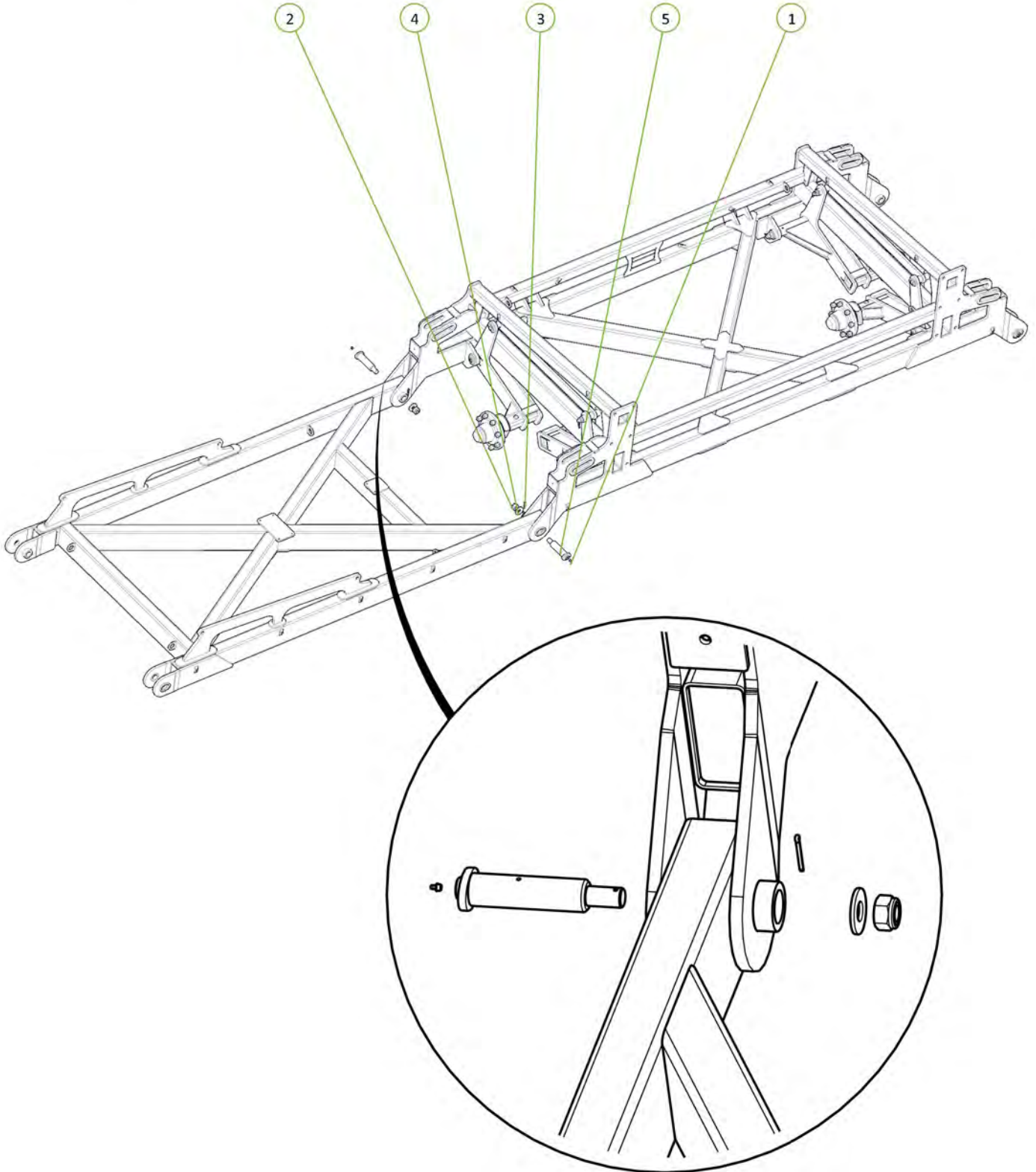
Item No.	Description	Qty	Number
1	35 ID x 50mm DX Bush	8	0113-MB 3550DX
2	Grease Nipple 1/4" UNF	8	0181-GN1-4
3	Nyloc Nut M24	4	0221-NYL24
4	Washer Flat M24	4	0231-F24
5	Cotter Pin M6 x 50mm	4	0261-PINC650
6	Oval Head 35mm Pivot Pin	4	1202-09
7	Walking Axle Linkage	2	1210-52



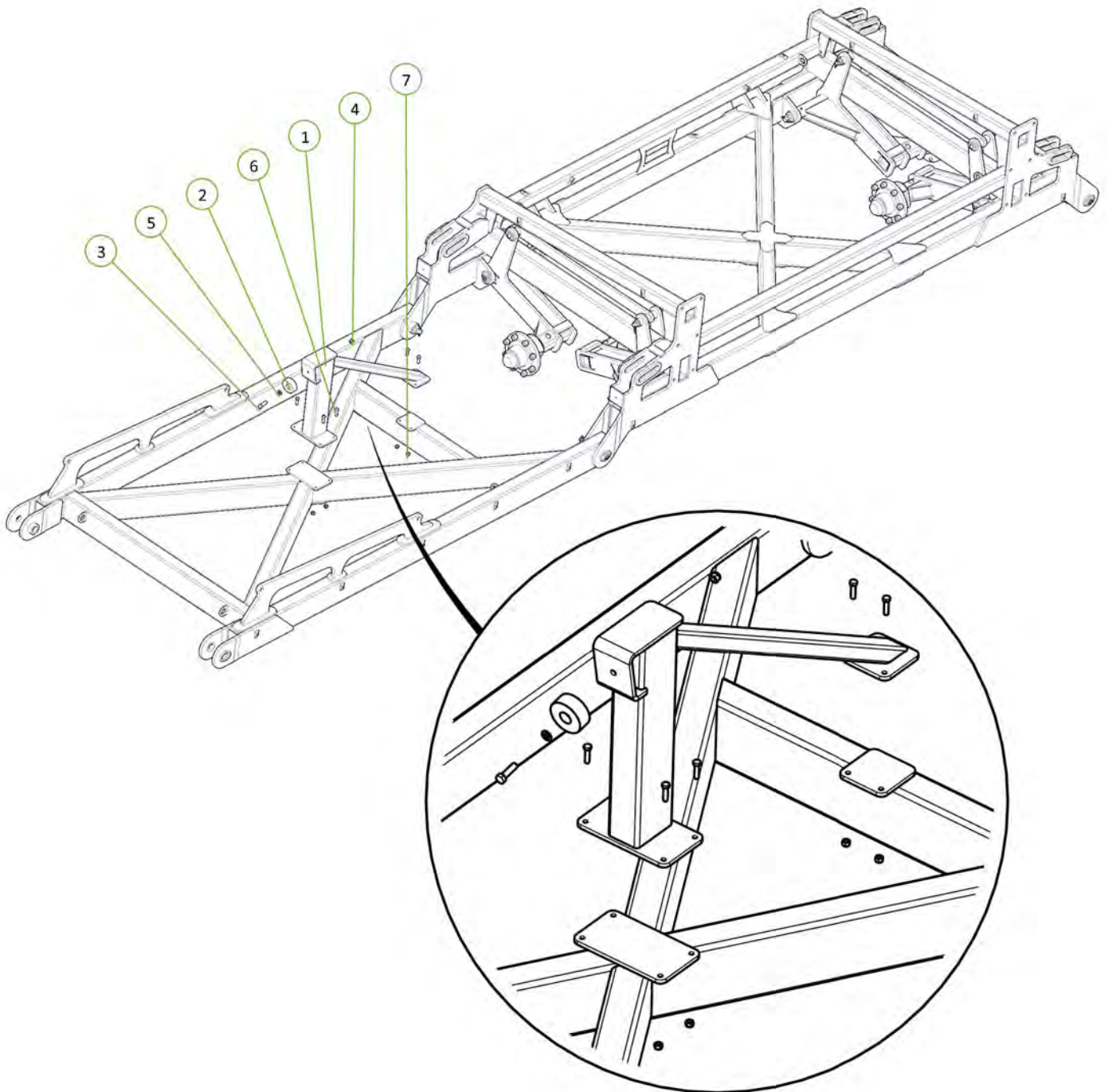
Item No.	Description	Qty	Number
1	62HDX RH Inner Wing Frame	1	1265-04
2	50 ID x 40mm DX Bush	4	0113-MB 5040DX



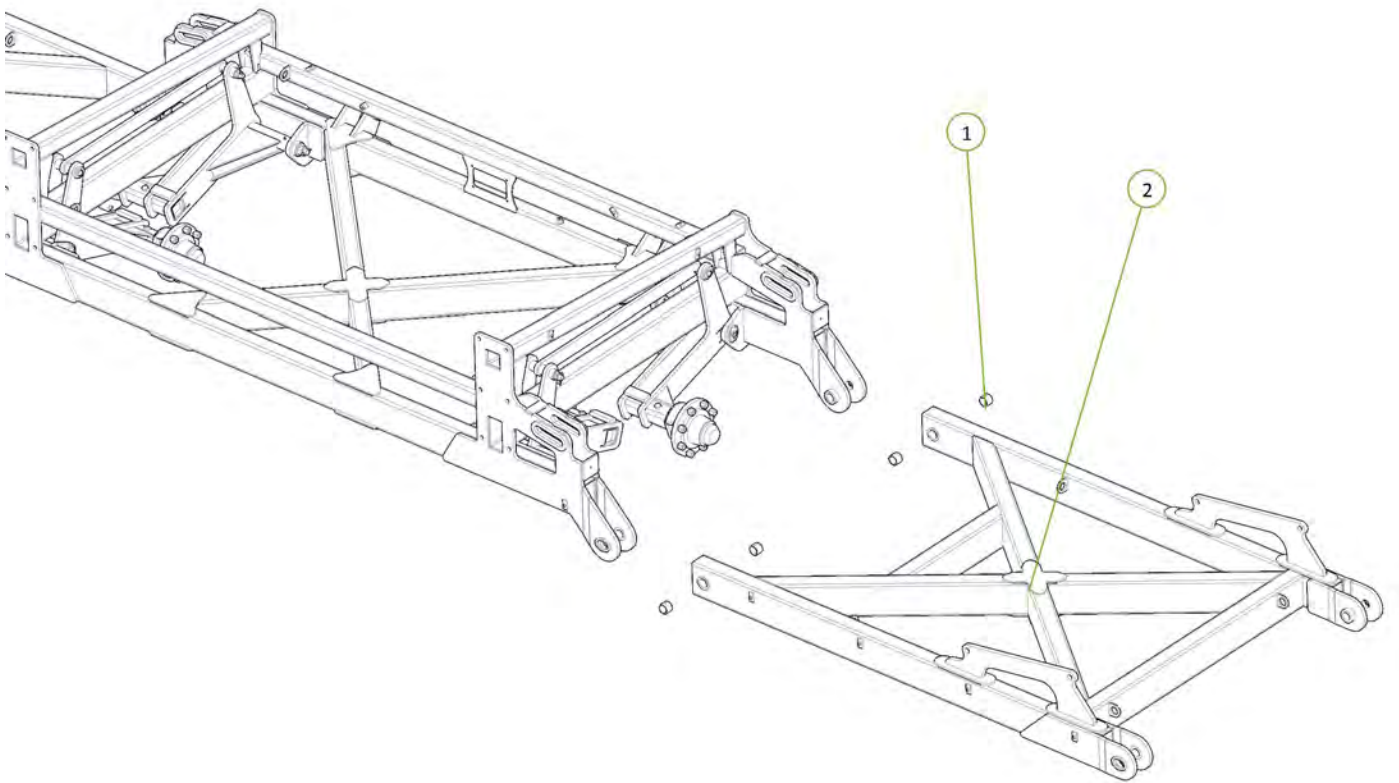
Item No.	Description	Qty	Number
1	Grease Nipple 1/8" BSP	2	0181-GN1-8
2	Nyloc Nut M30	2	0221-NYL30
3	Cotter Pin M6 x 50mm	2	0261-PINC650
4	50mm Pivot Pin Retaining Washer	2	1200-60
5	Oval Head 50mm Short Pivot Pin	2	1202-06



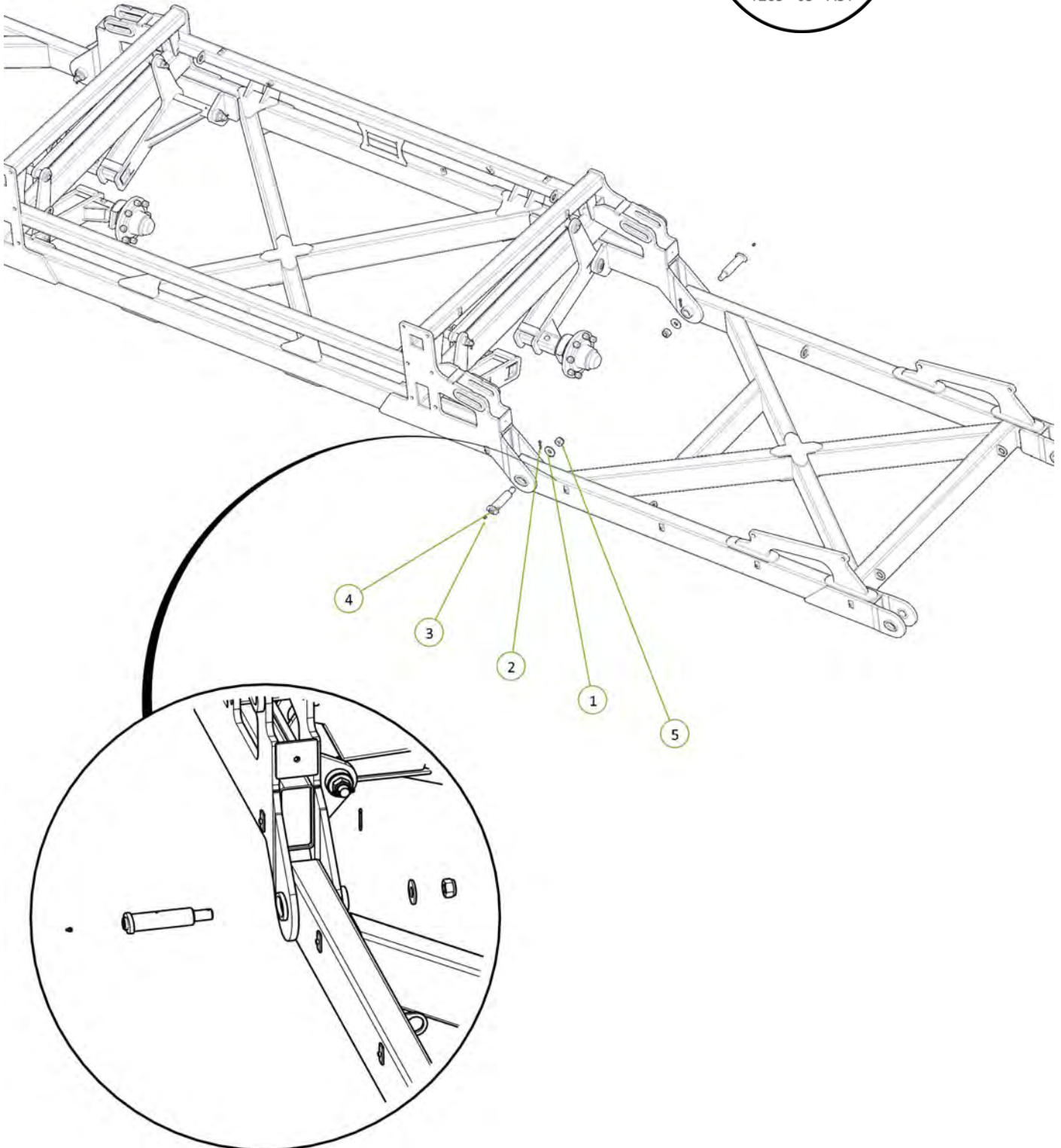
Item No.	Description	Qty	Number
1	62HDX Inner Wing Post	1	1265-04P
2	Wing Folding Buffer	1	1201-12
3	M16 x 55 grade 8.8 zp Bolt	1	0211-1655
4	Nyloc Nut M16	1	0221-NYL16
5	Washer Flat M16	1	0231-F16
6	M12 x 45 grade 8.8 7P Bolt	6	0211-1245
7	Nyloc Nut M12	6	0221-NYL12



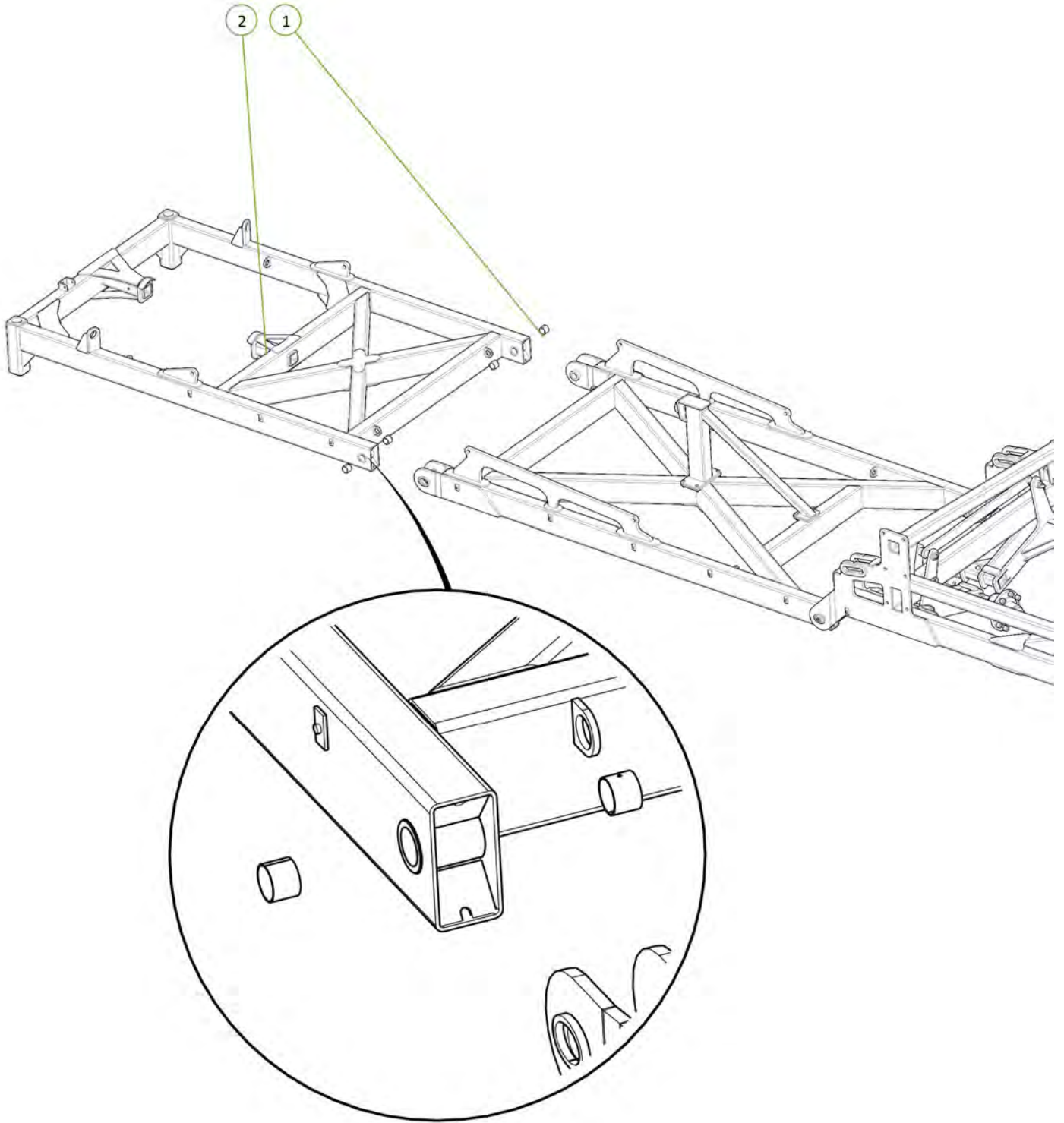
Item No.	Description	Qty	Number
1	50 ID x 40mm DX Bush	4	0113-MB 5040DX
2	62HDX LH Inner Wing	1	1265-05



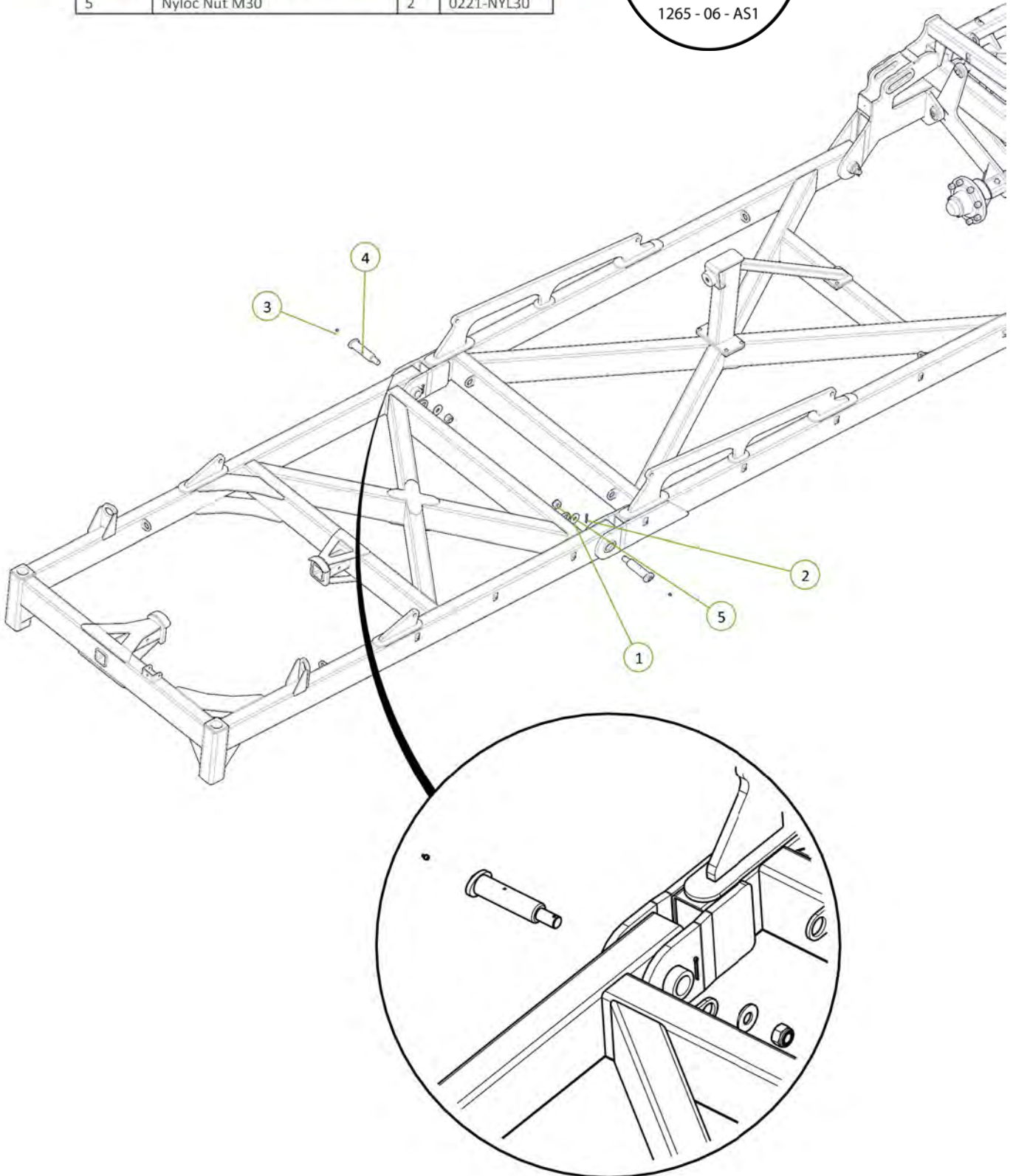
Item No.	Description	Qty	Number
1	50mm Pivot Pin Retaining Washer	2	1200-60
2	Cotter Pin M6 x 50mm	2	0261-PINC650
3	Grease Nipple 1/8" BSP	2	0181-GN1-8
4	Oval Head 50mm Short Pivot Pin	2	1202-06
5	Nyloc Nut M30	2	0221-NYL30



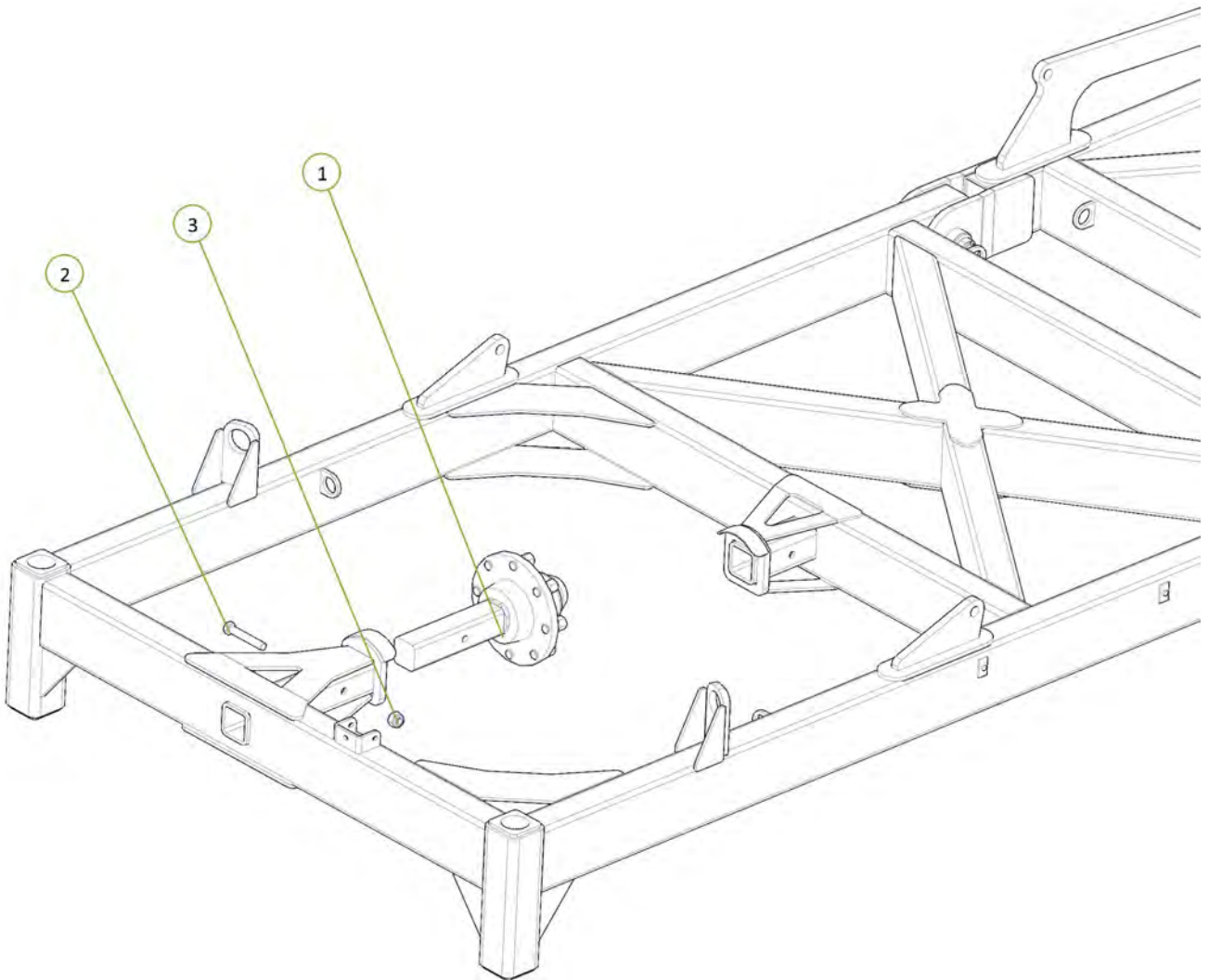
Item No.	Description	Qty	Number
1	50 ID x 40mm DX Bush	4	0113-MB 5040DX
2	62HDX RH Outer Wing	1	1265-06



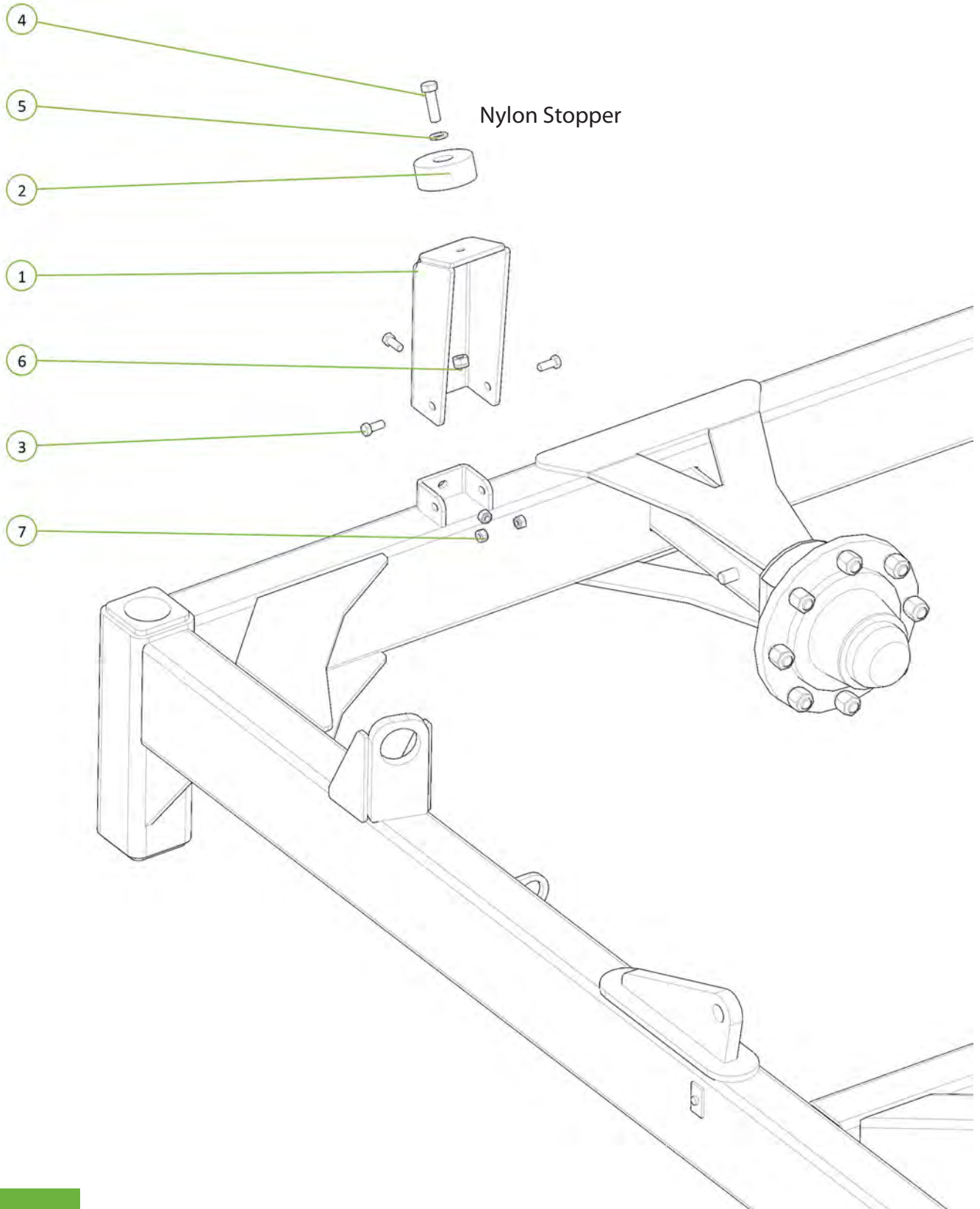
Item No.	Description	Qty	Number
1	50mm Pivot Pin Retaining Washer	2	1200-60
2	Cotter Pin M6 x 50mm	2	0261-PINC650
3	Grease Nipple 1/8" BSP	2	0181-GN1-8
4	Oval Head 50mm Short Pivot Pin	2	1202-06
5	Nyloc Nut M30	2	0221-NYL30



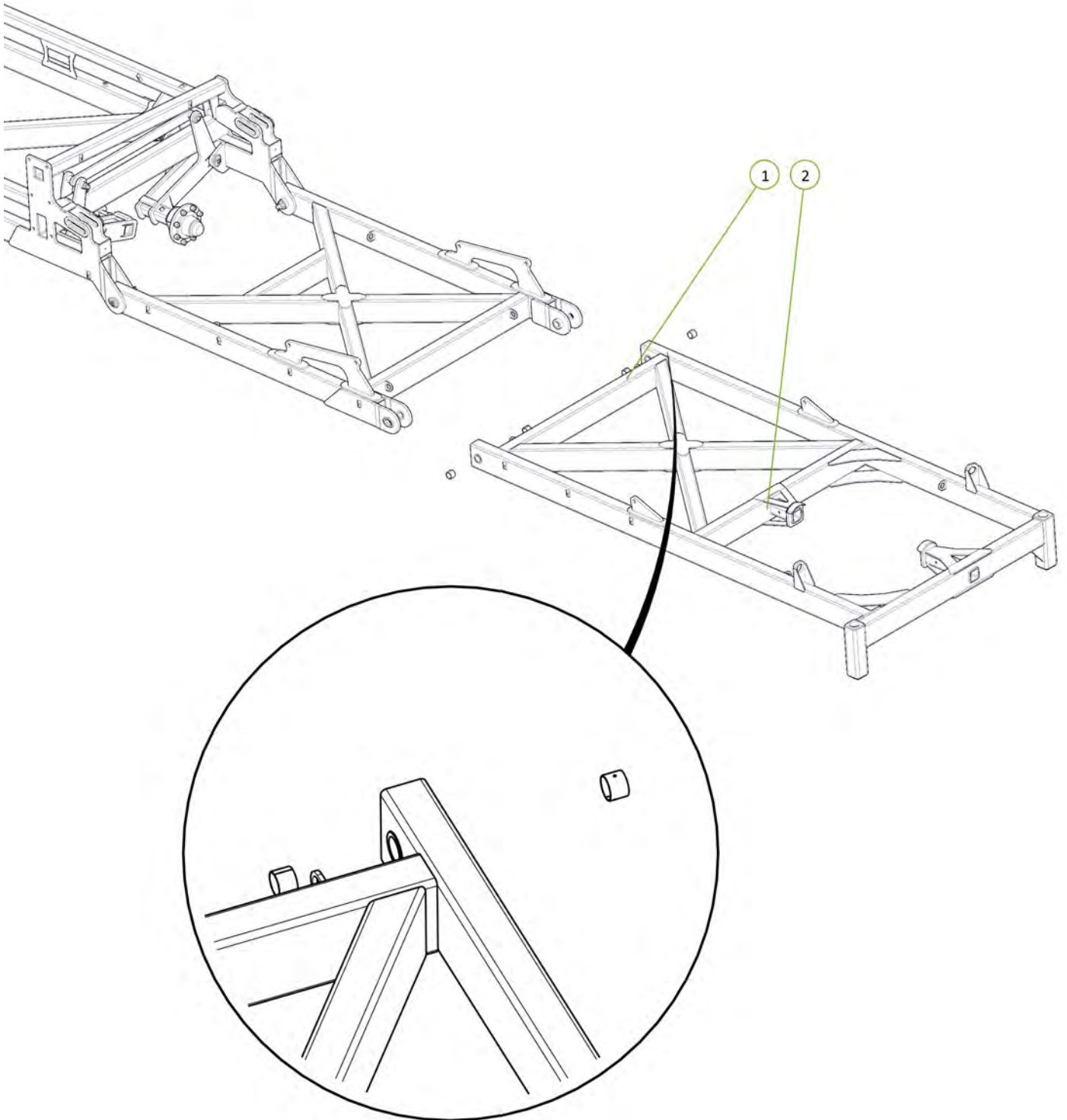
Item No.	Description	Qty	Number
1	90 Series Stub Axle (Stub and Hub Complete)	1	0733-90
2	M20 x 130 grade 8.8 ZP Bolt	1	0211-20130
3	Nyloc Nut M20	1	0221-NYL20



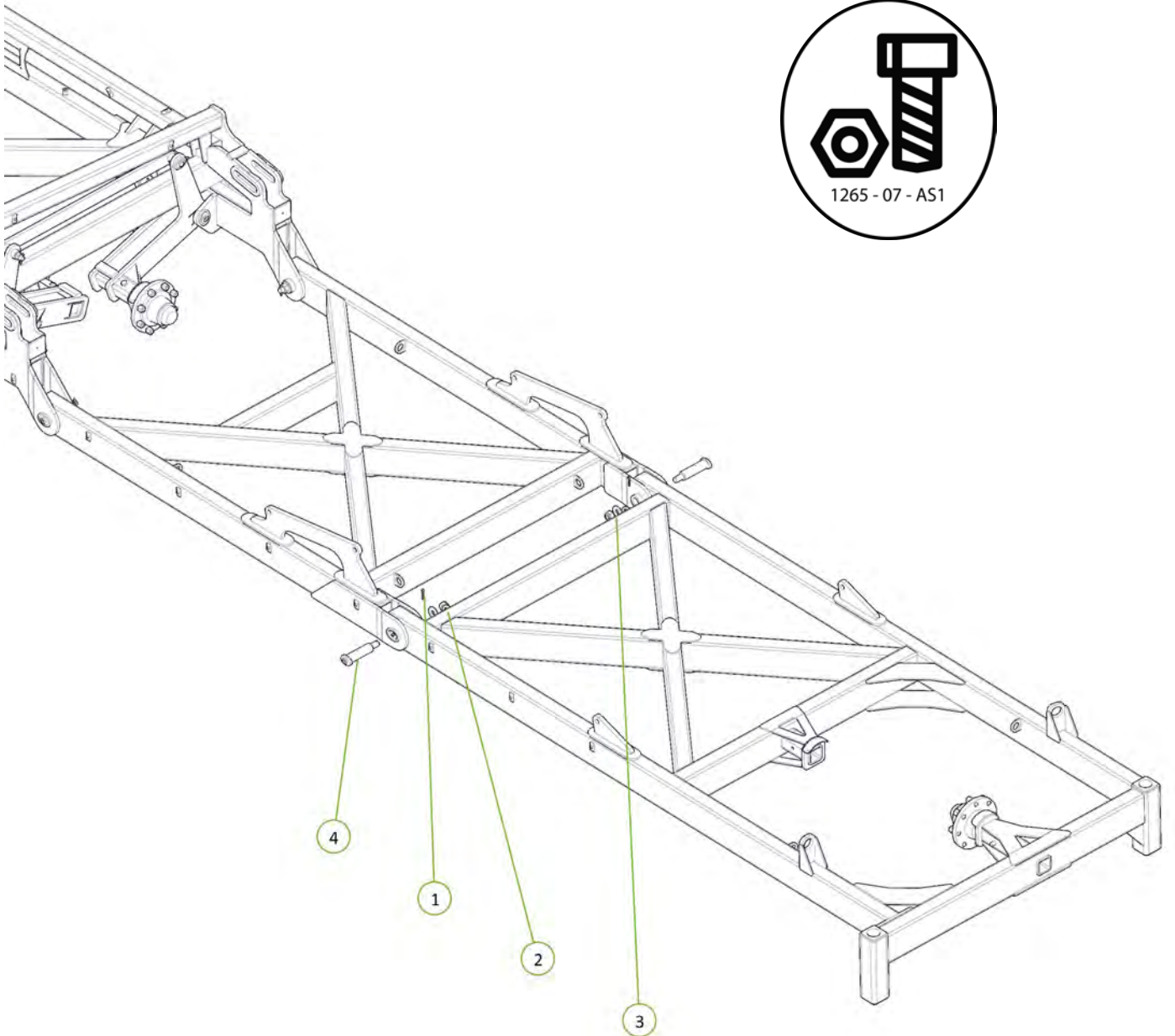
Item No.	Description	Qty	Number
1	65' Outer Wing Post	1	1200-154
2	Wing Folding Buffer	1	1201-12
3	M12 x 30 grade 8.8 ZP Bolt	3	0211-1230
4	M16 x 55 grade 8.8 zp Bolt	1	0211-1655
5	Washer Flat M16	1	0231-F16
6	Nyloc Nut M16	1	0221-NYL16
7	Nyloc Nut M12	3	0221-NYL12



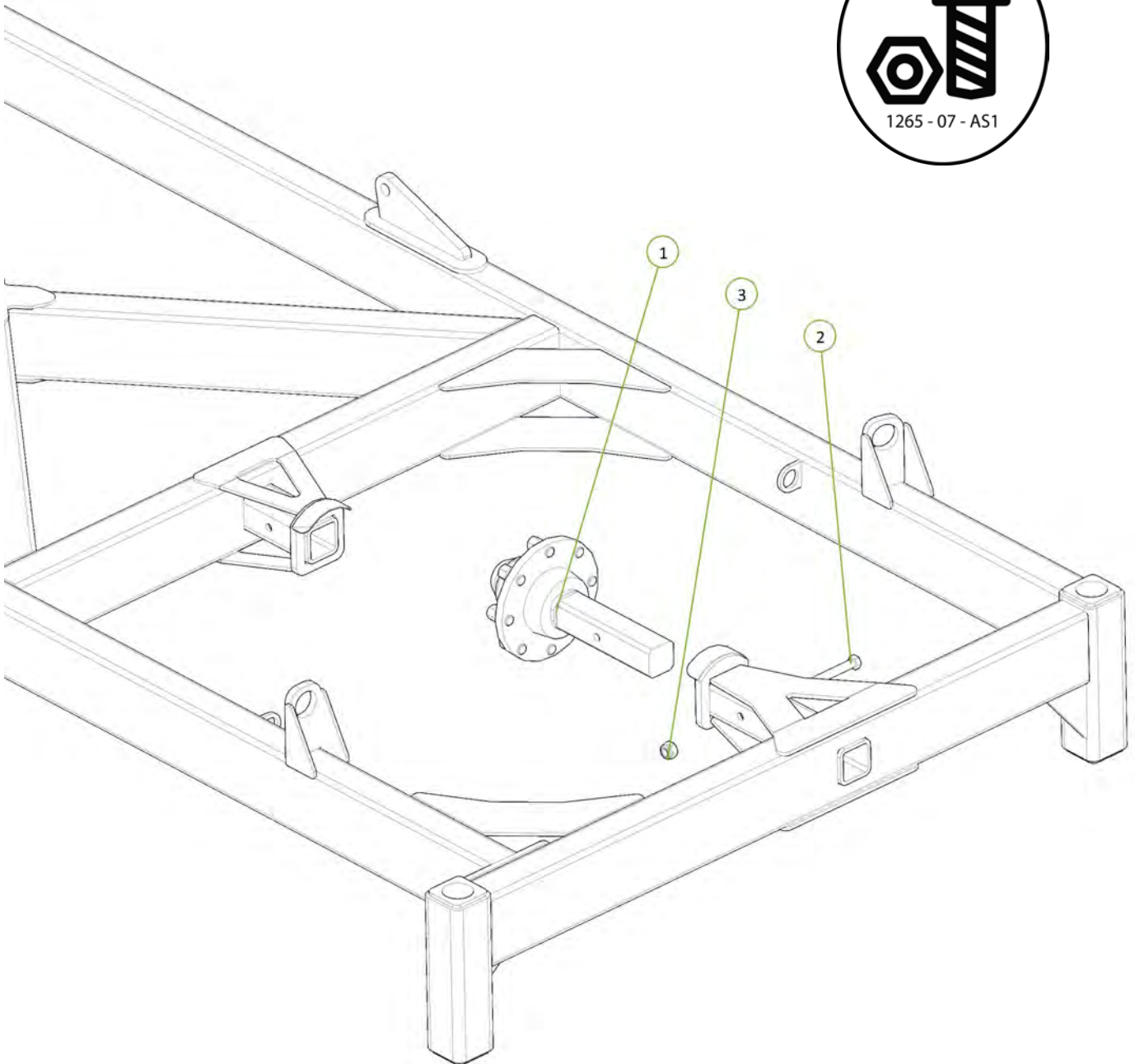
Item No.	Description	Qty	Number
1	50 ID x 40mm DX Bush	4	0113-MB 5040DX
2	62HDX LH Outer Wing	1	1265-07



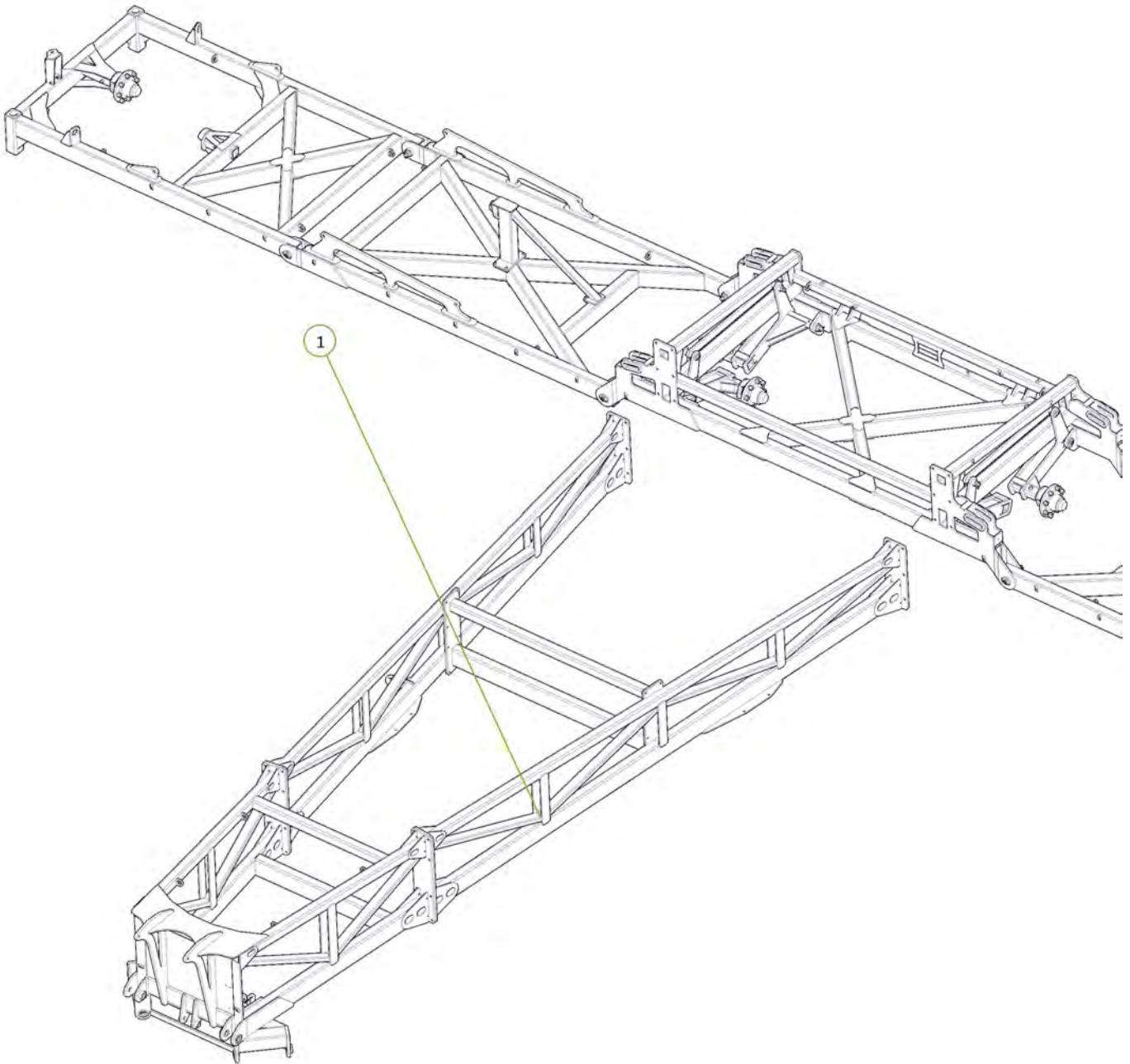
Item No.	Description	Qty	Number
1	Cotter Pin M6 x 50mm	2	0261-PINC650
2	Nyloc Nut M30	2	0221-NYL30
3	50mm Pivot Pin Retaining Washer	2	1200-60
4	Oval Head 50mm Short Pivot Pin	2	1202.06A



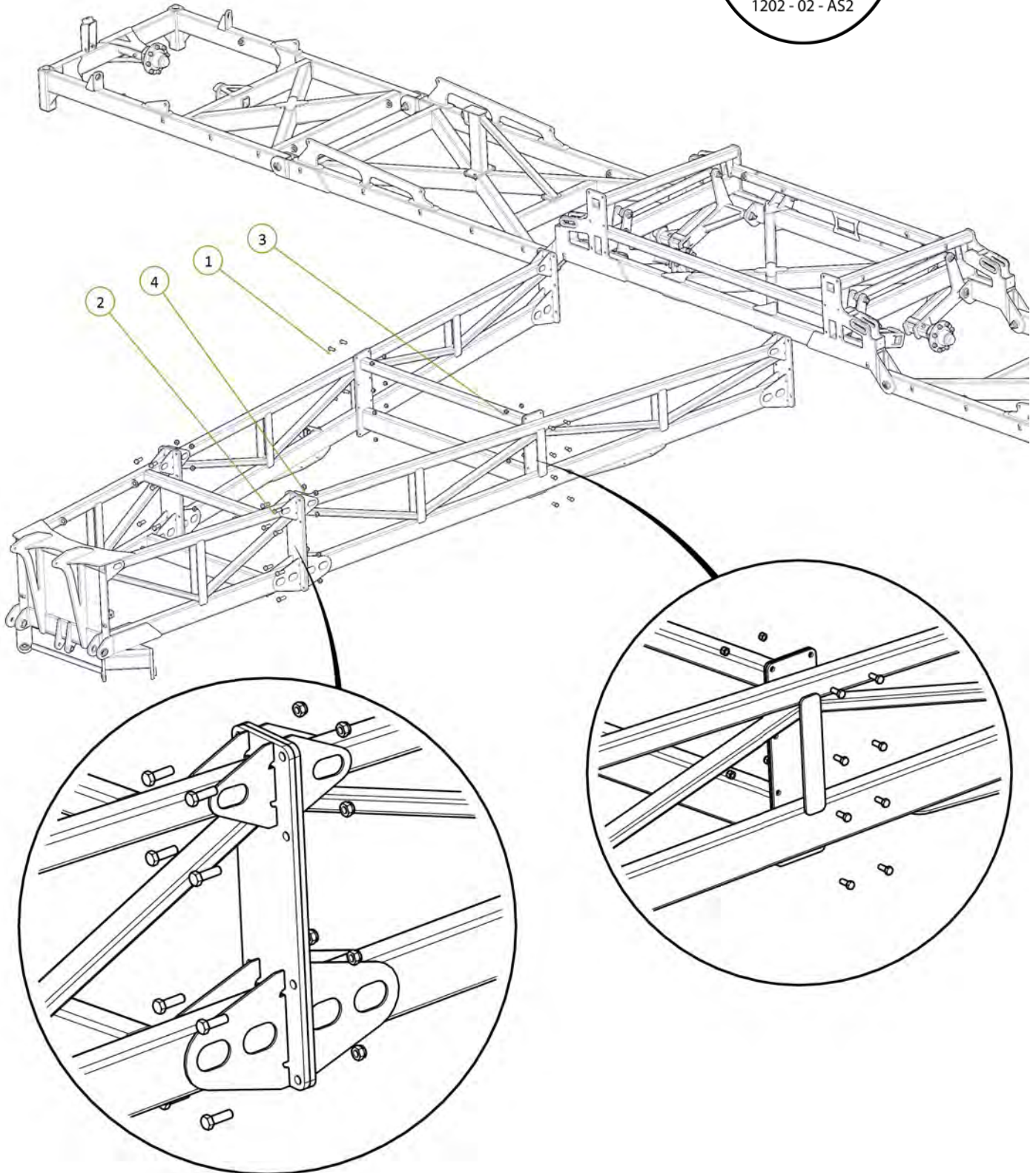
Item No.	Description	Qty	Number
1	90 Series Stub Axle (Stub and Hub Complete)	1	0733-90
2	M20 x 130 grade 8.8 ZP Bolt	1	0211-20130
3	Nyloc Nut M20	1	0221-NYL20



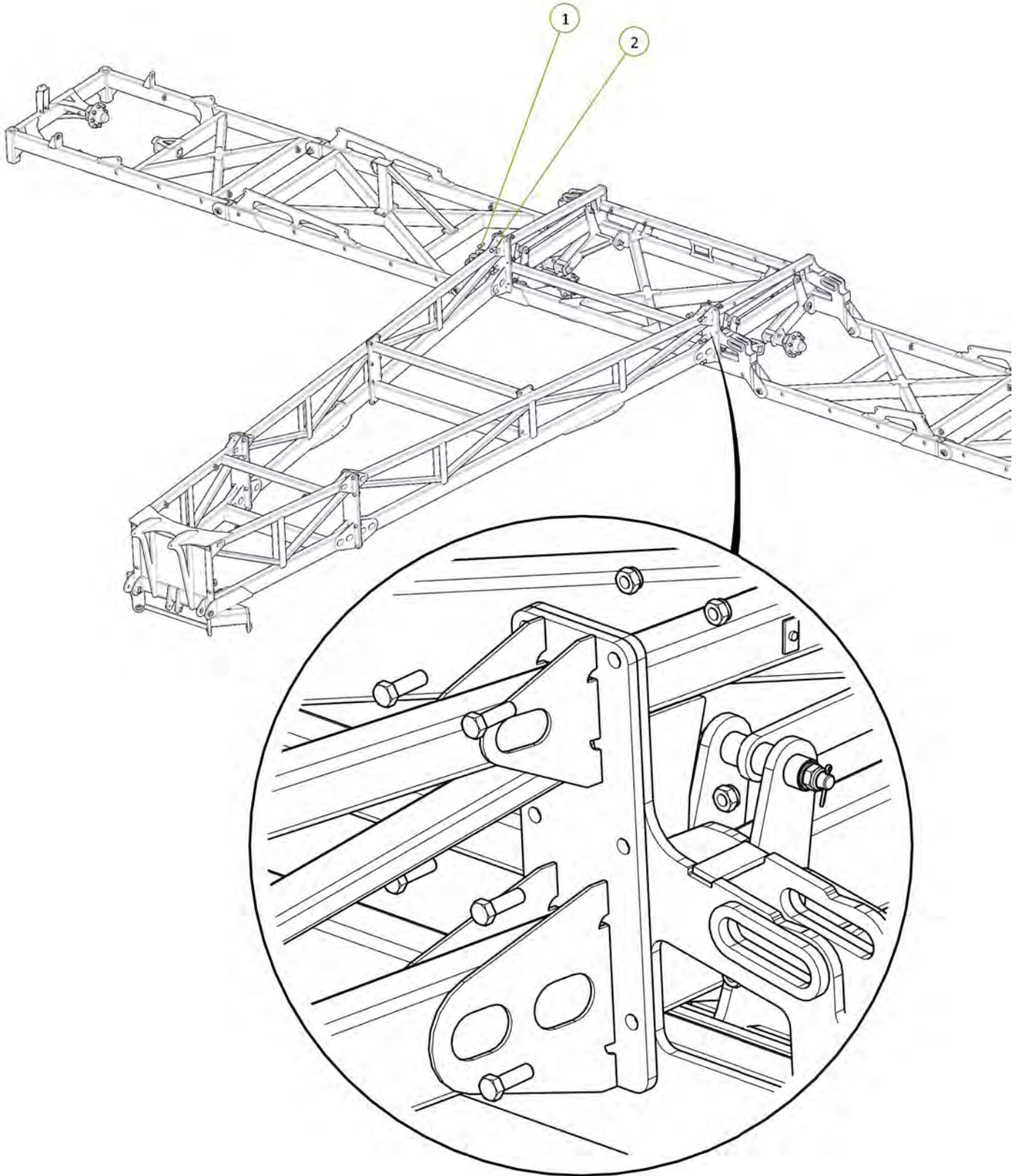
Item No.	Description	Qty	Number
1	62HDX Front A-Frame	1	1265-02



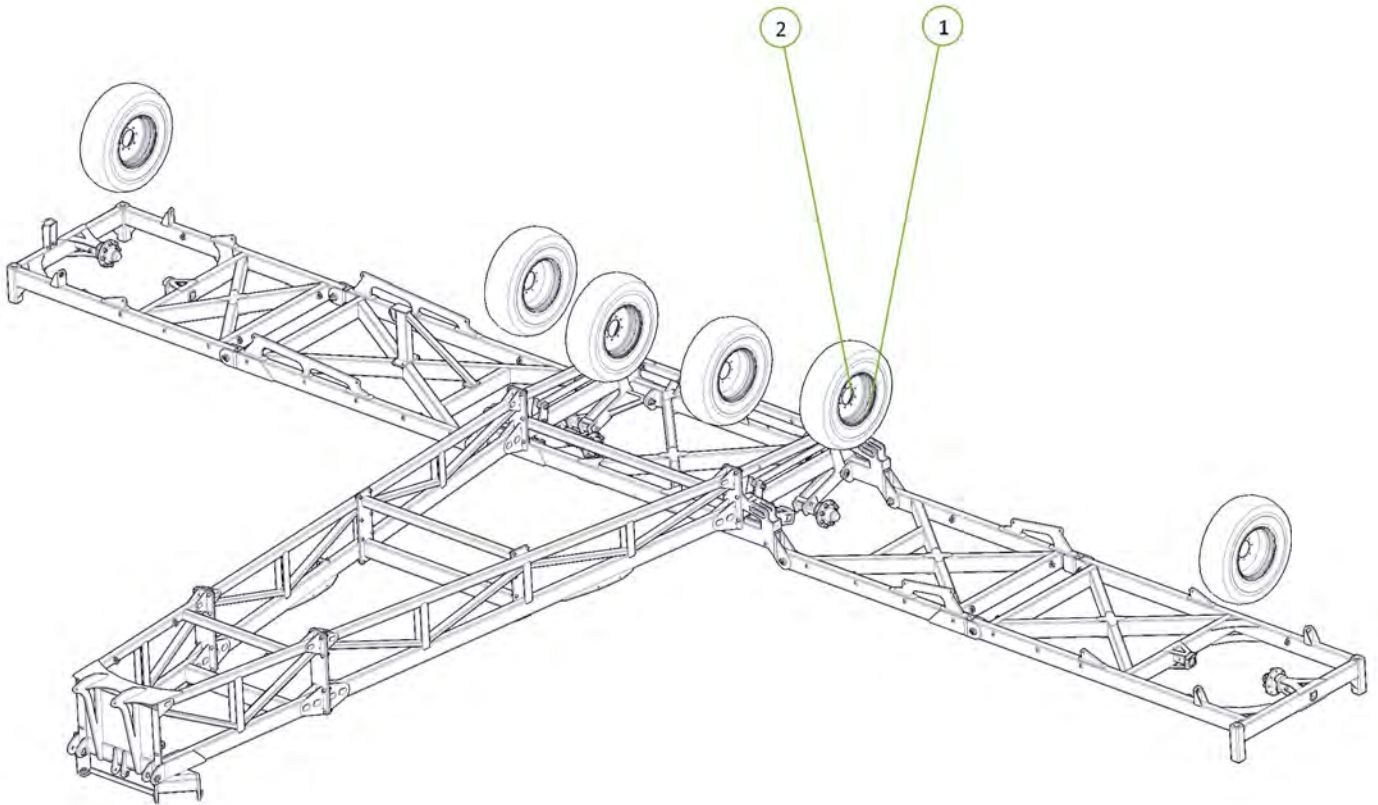
Item No.	Description	Qty	Number
1	M20 x 50 grade 8.8 ZP Bolt	16	0211-2050
2	M24 x 50 grade 8.8 zp Bolt	16	0211-2450
3	Nyloc Nut M20	16	0221-NYL20
4	Nyloc Nut M24	16	0221-NYL24



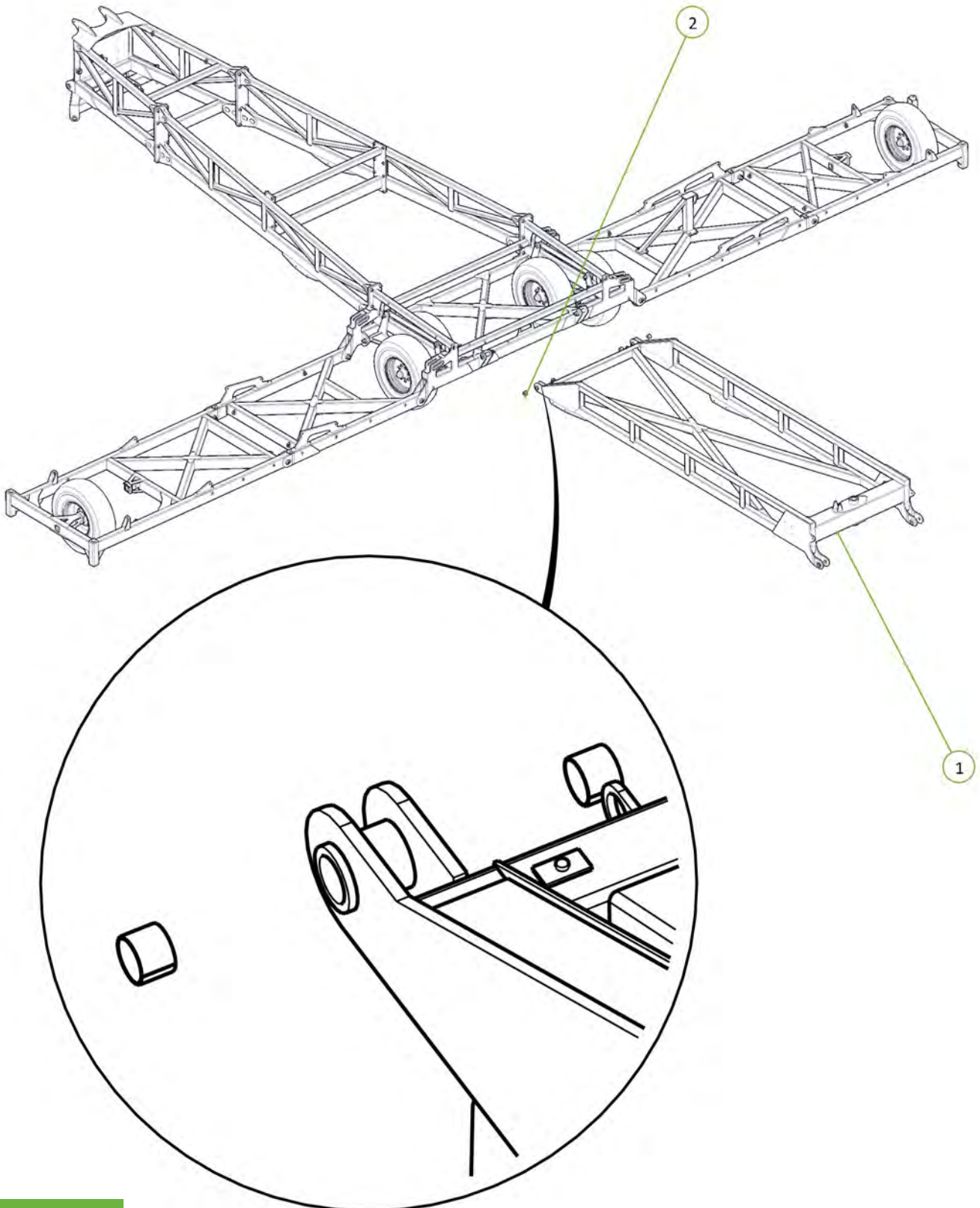
Item No.	Description	Qty	Number
1	M24 x 75 grade 8.8 zp Bolt	12	0211-2475
2	Nyloc Nut M24	12	0221-NYL24



Item No.	Description	Qty	Number
1	Tyre Only 15.5/80-24 16 PLY AS504	6	0711-15.5-80-24
2	Rim Only 24"Diameter 12"Wide, 8 on 275 PCD, 221mm Bore,+20 Offset	6	0721-24X12

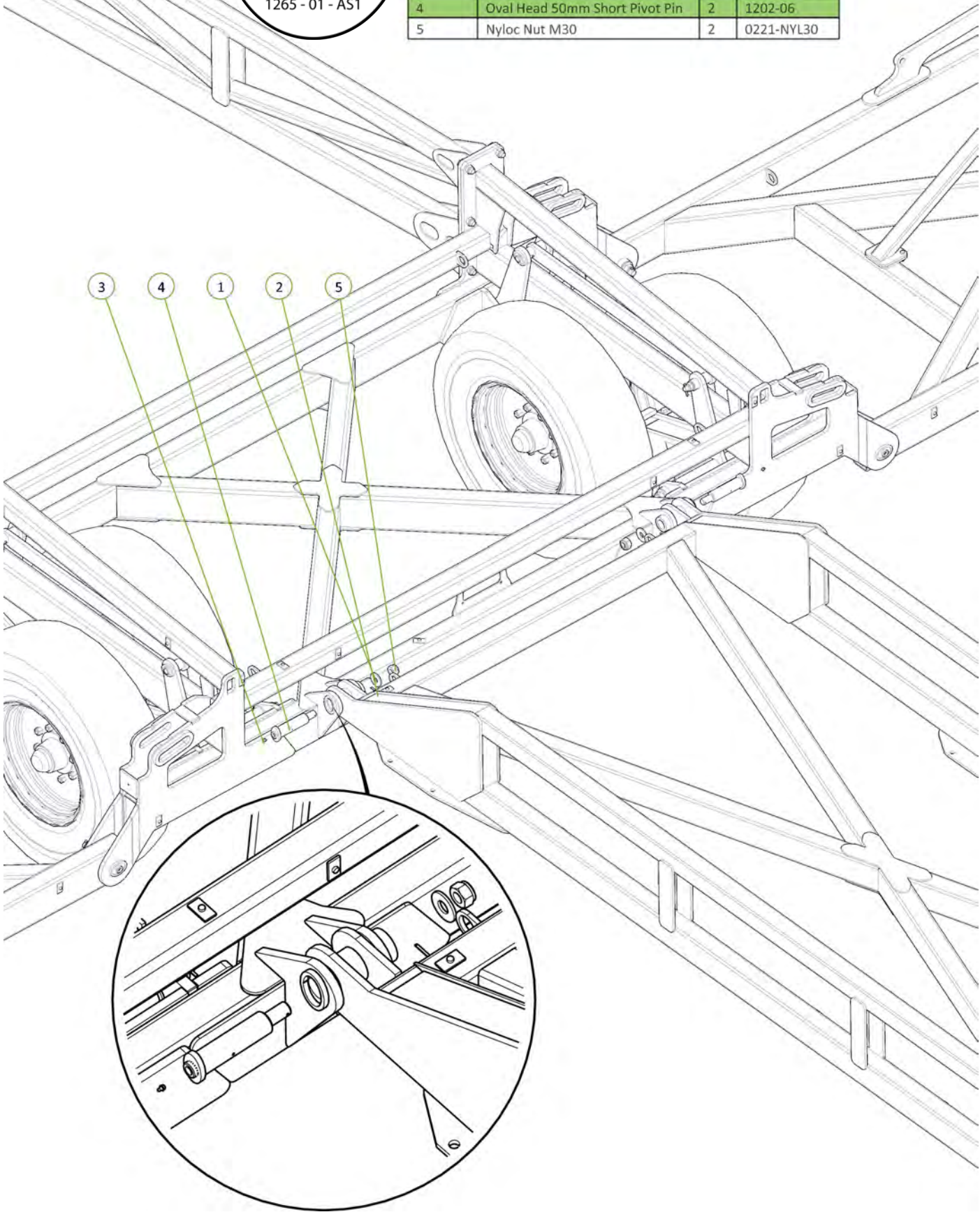


Item No.	Description	Qty	Number
1	62'HDX Rear A-Frame	1	1265-03
2	50 ID x 40mm DX Bush	4	0113-MB 5040DX

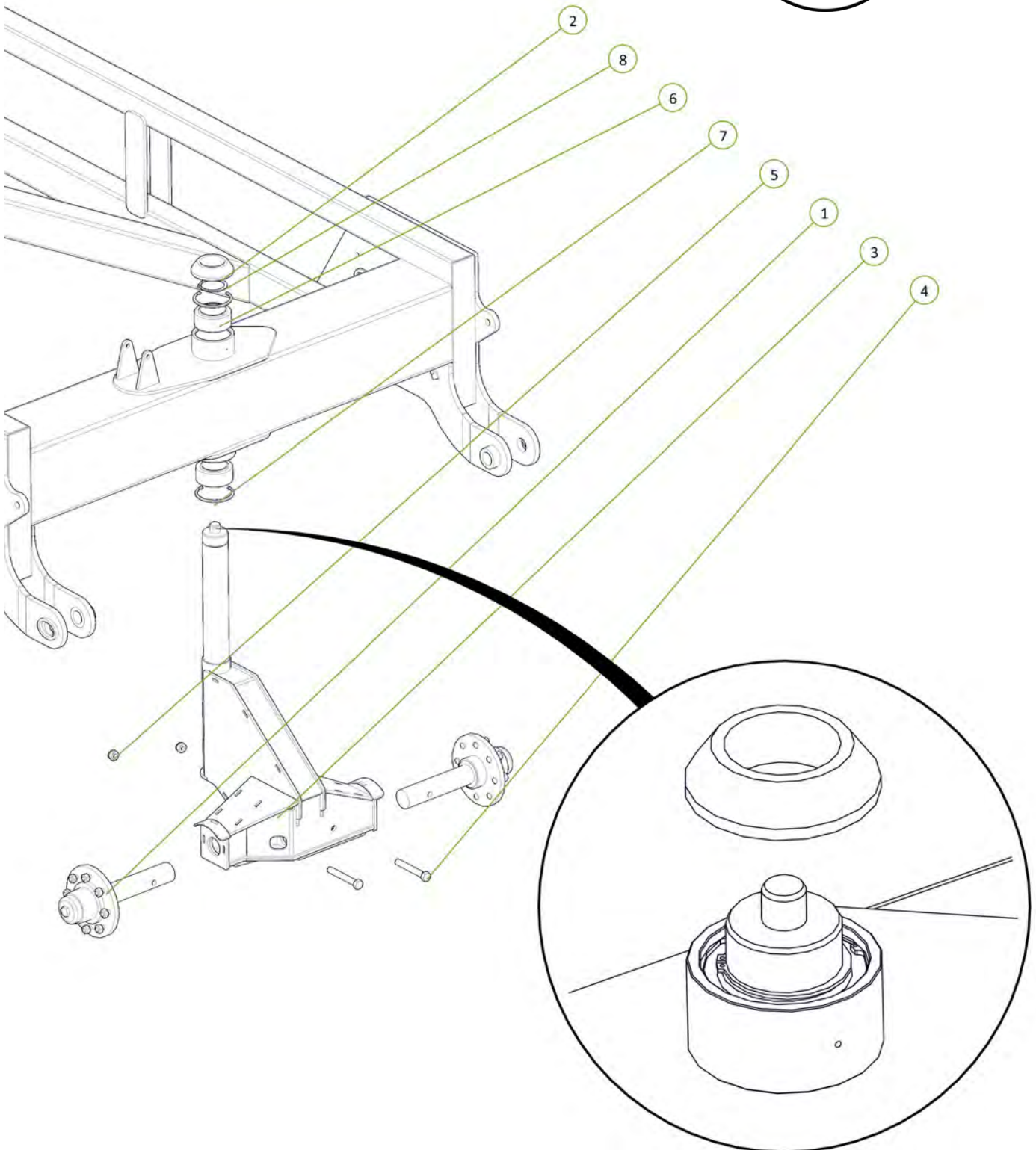




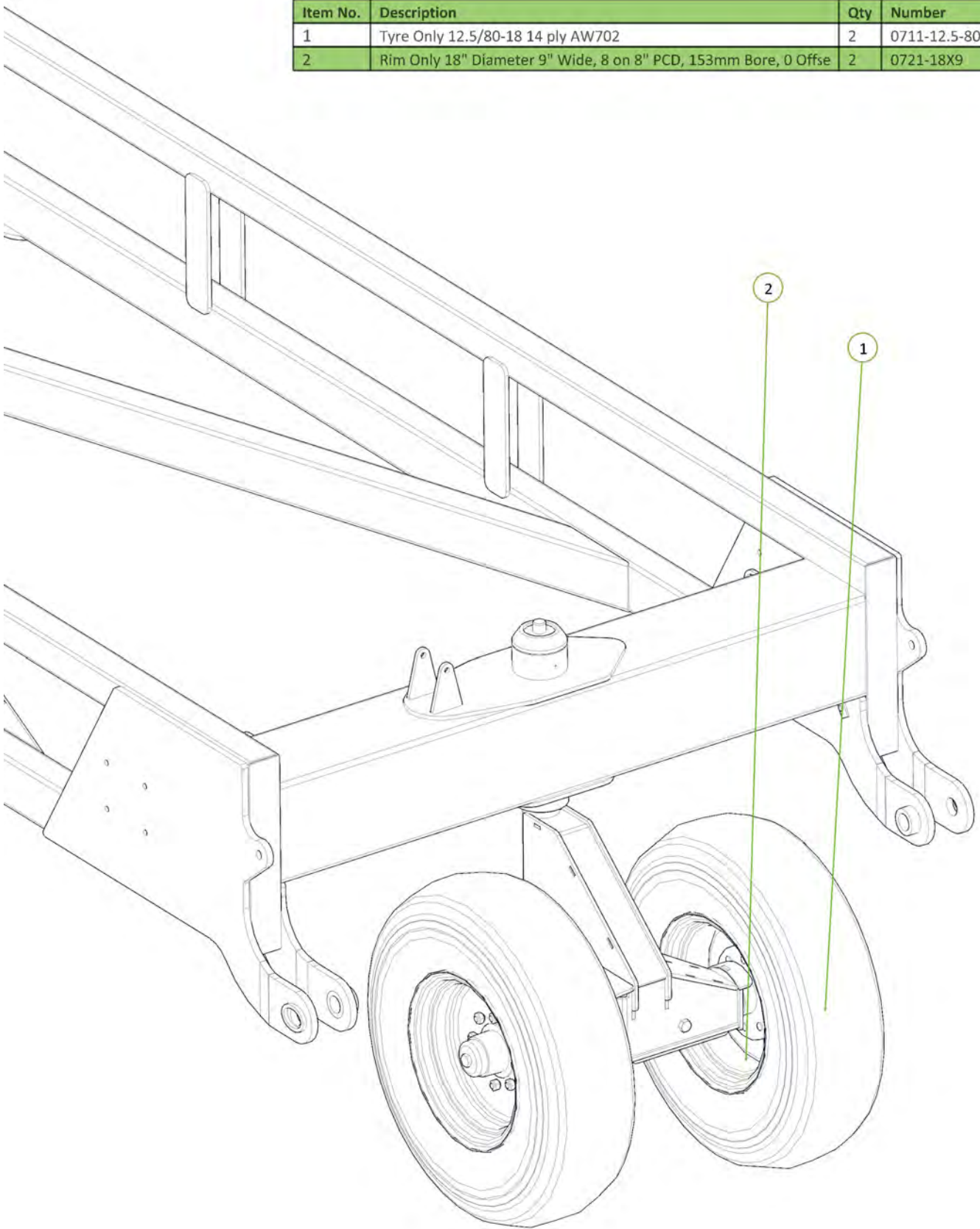
Item No.	Description	Qty	Number
1	50mm Pivot Pin Retaining Washer	2	1200-60
2	Cotter Pin M6 x 50mm	2	0261-PINC650
3	Grease Nipple 1/8" BSP	2	0181-GN1-8
4	Oval Head 50mm Short Pivot Pin	2	1202-06
5	Nyloc Nut M30	2	0221-NYL30



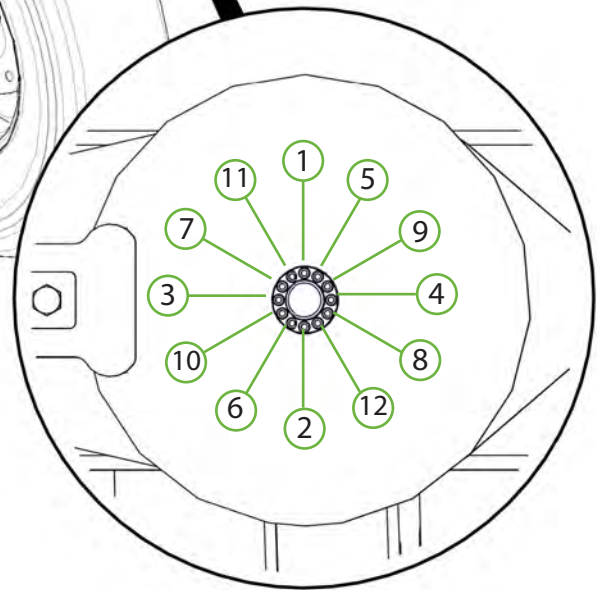
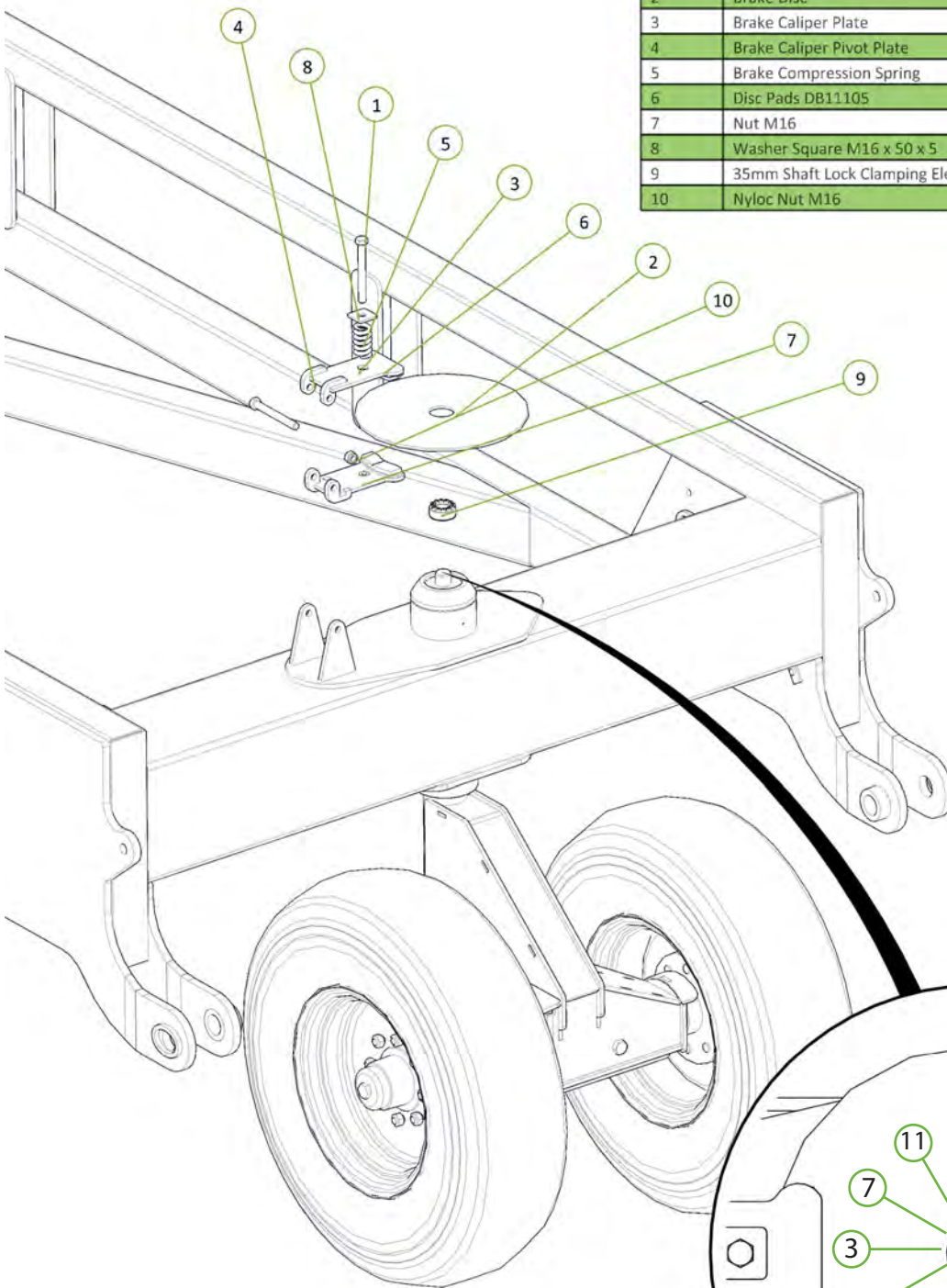
Item No.	Description	Qty	Number
1	2.75"R 6 Tonne 8 on 8" PCH Hub	2	0733-SH27596880
2	90mm Nylon Jockey Wheel Dust Cap	1	1201-43
3	Heavy Duty Jockey Wheel	1	1210-80
4	M20 x 150 grade 8.8 ZP Bolt	2	0211-20140
5	Nyloc Nut M20	2	0221-NYL20
6	Plain Spherical Bearing 90mm	2	0113-GE90DO-2RSP
7	Circlip Internal 130mm	2	0171-J130
8	Circlip External 90mm	1	0172-D1400-90



Item No.	Description	Qty	Number
1	Tyre Only 12.5/80-18 14 ply AW702	2	0711-12.5-80-18
2	Rim Only 18" DÍámetro 9" Wide, 8 on 8" PCD, 153mm Bore, 0 Offse	2	0721-18X9



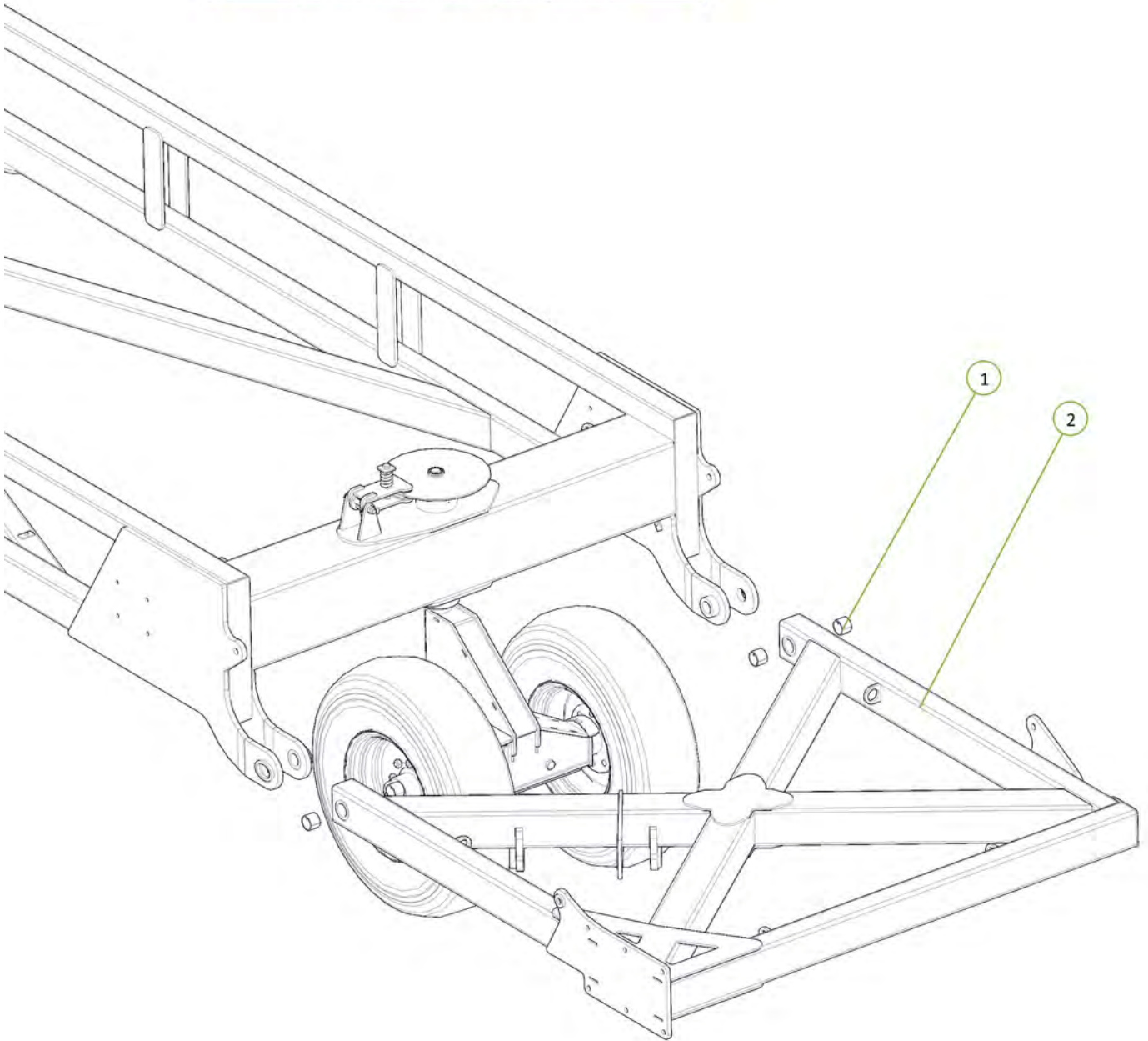
Item No.	Description	Qty	Number
1	M16 x 150 grade 8.8 zp Bolt	2	0211-16150
2	Brake Disc	1	0800-02.1
3	Brake Caliper Plate	2	0800-03.1
4	Brake Caliper Pivot Plate	4	0800-291
5	Brake Compression Spring	1	0801-KE009
6	Disc Pads DB11105	2	0801-DB11105
7	Nut M16	1	0221-16
8	Washer Square M16 x 50 x 5	1	0231-SQ16505
9	35mm Shaft Lock Clamping Element	1	0801-LOCK01-35
10	Nyloc Nut M16	1	0221-NYL16



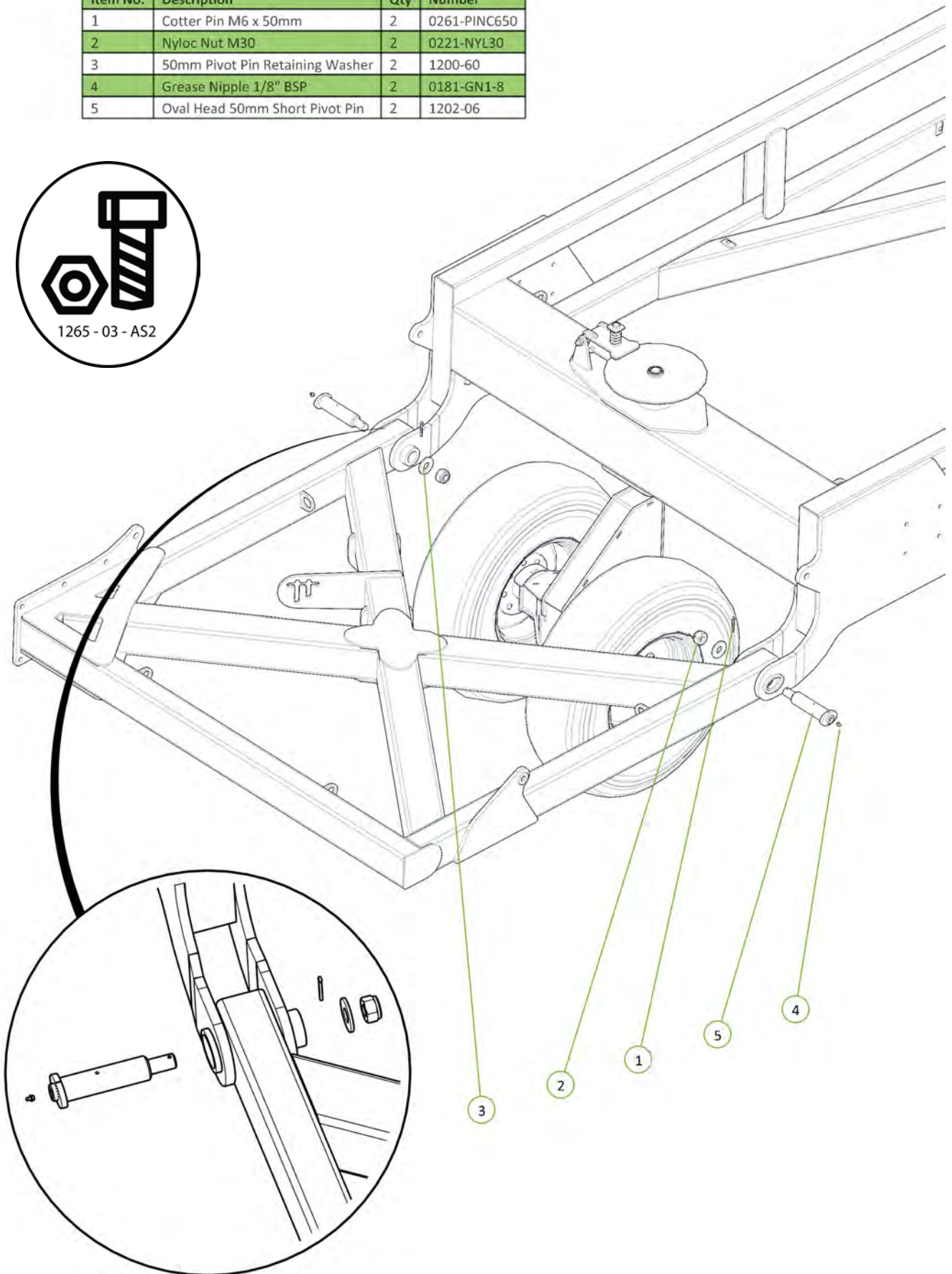
NOTE - Tighten in a cross pattern (see numbered pattern to the right), bring all bolts up equally to 17Nm (12.54ft/lbs) (caution if a single bolt is done up to tension there is a risk of the bolt breaking)

To undo, remove all bolts and gently tap collar with hammer. The collar will become loose.

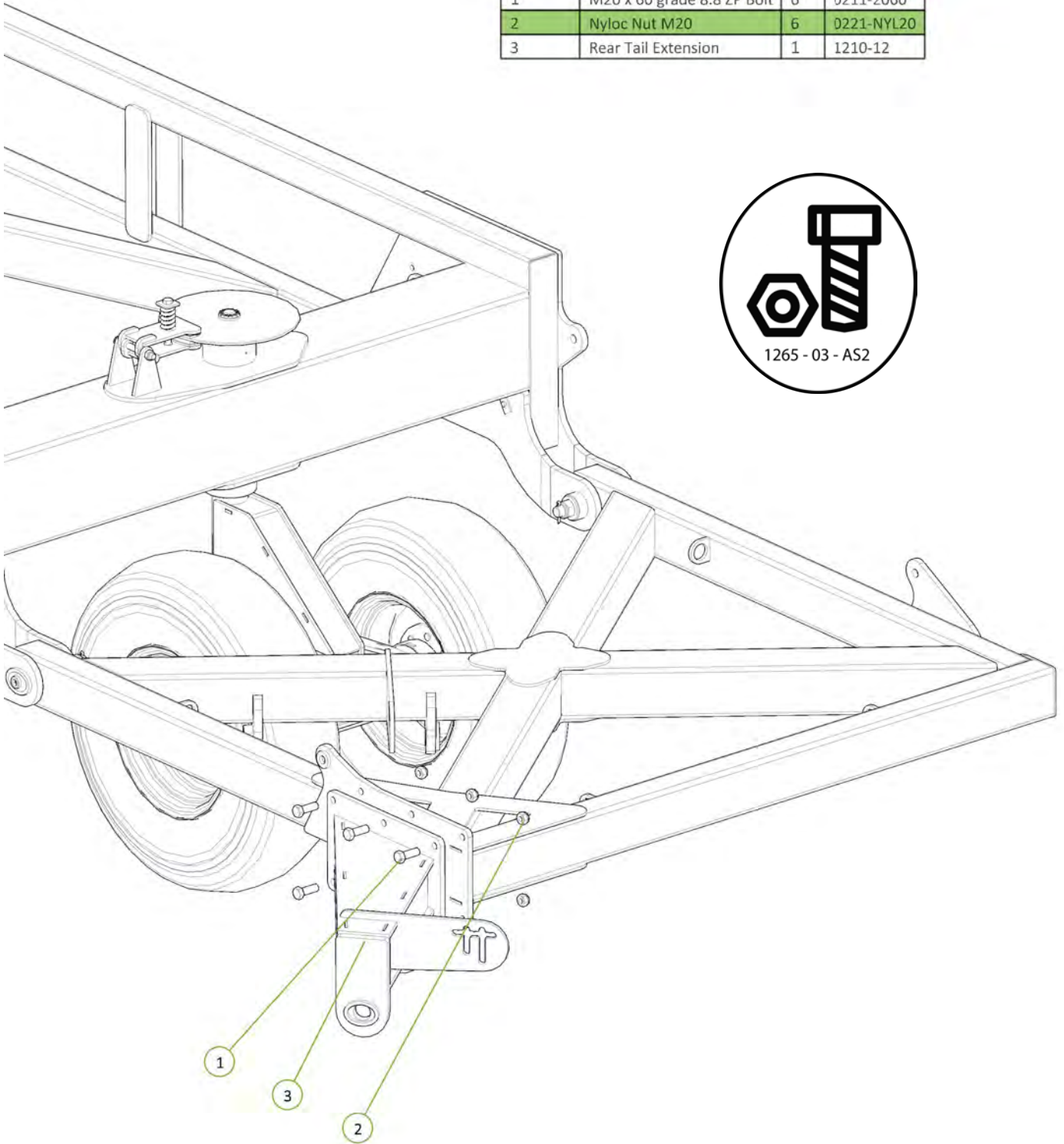
Item No.	Description	Qty	Number
1	50 ID x 40mm DX Bush	4	0113-MB 5040DX
2	Heavy Duty Rear Tail	1	1210-10



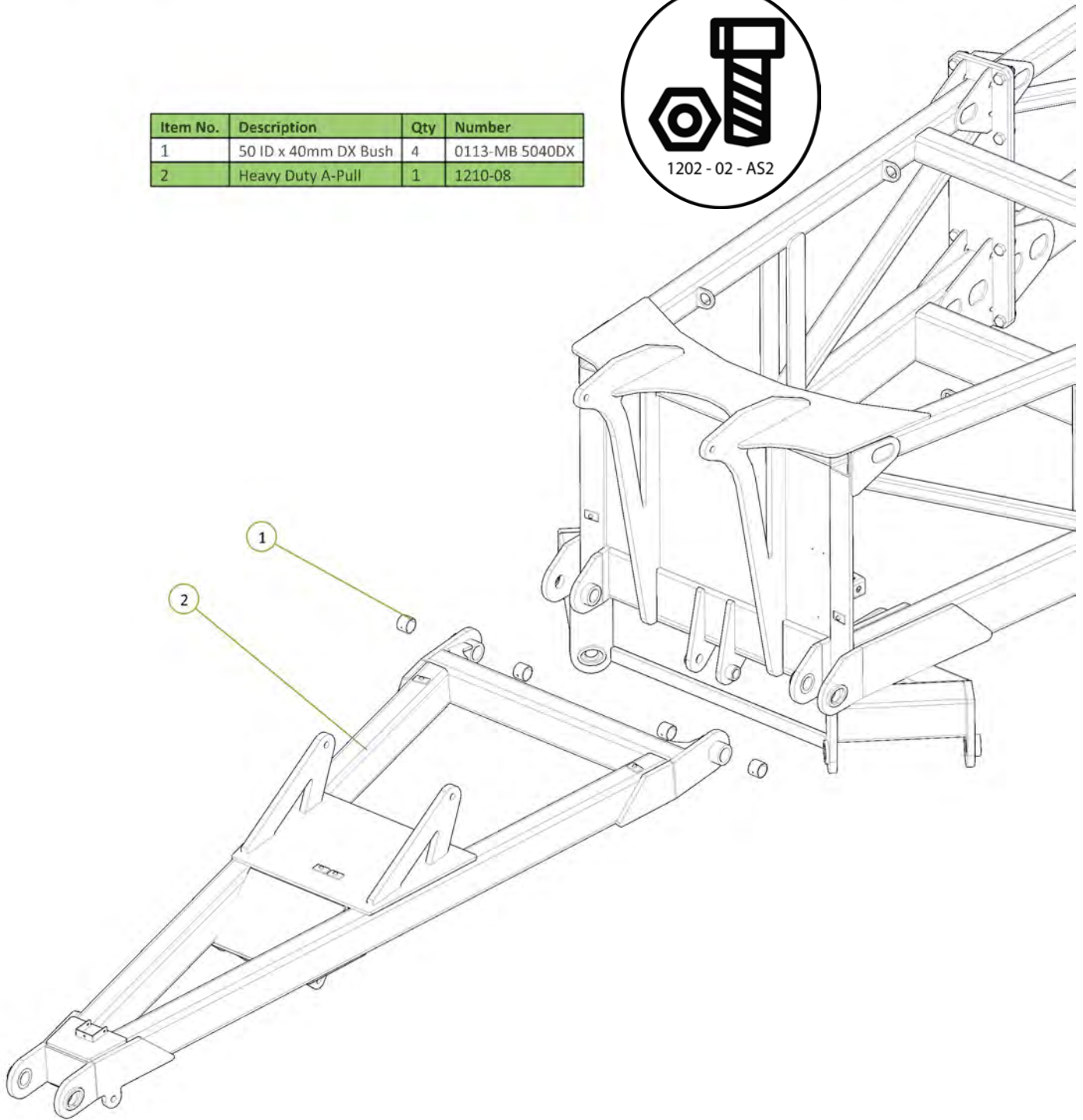
Item No.	Description	Qty	Number
1	Cotter Pin M6 x 50mm	2	0261-PINC650
2	Nyloc Nut M30	2	0221-NYL30
3	50mm Pivot Pin Retaining Washer	2	1200-60
4	Grease Nipple 1/8" BSP	2	0181-GN1-8
5	Oval Head 50mm Short Pivot Pin	2	1202-06



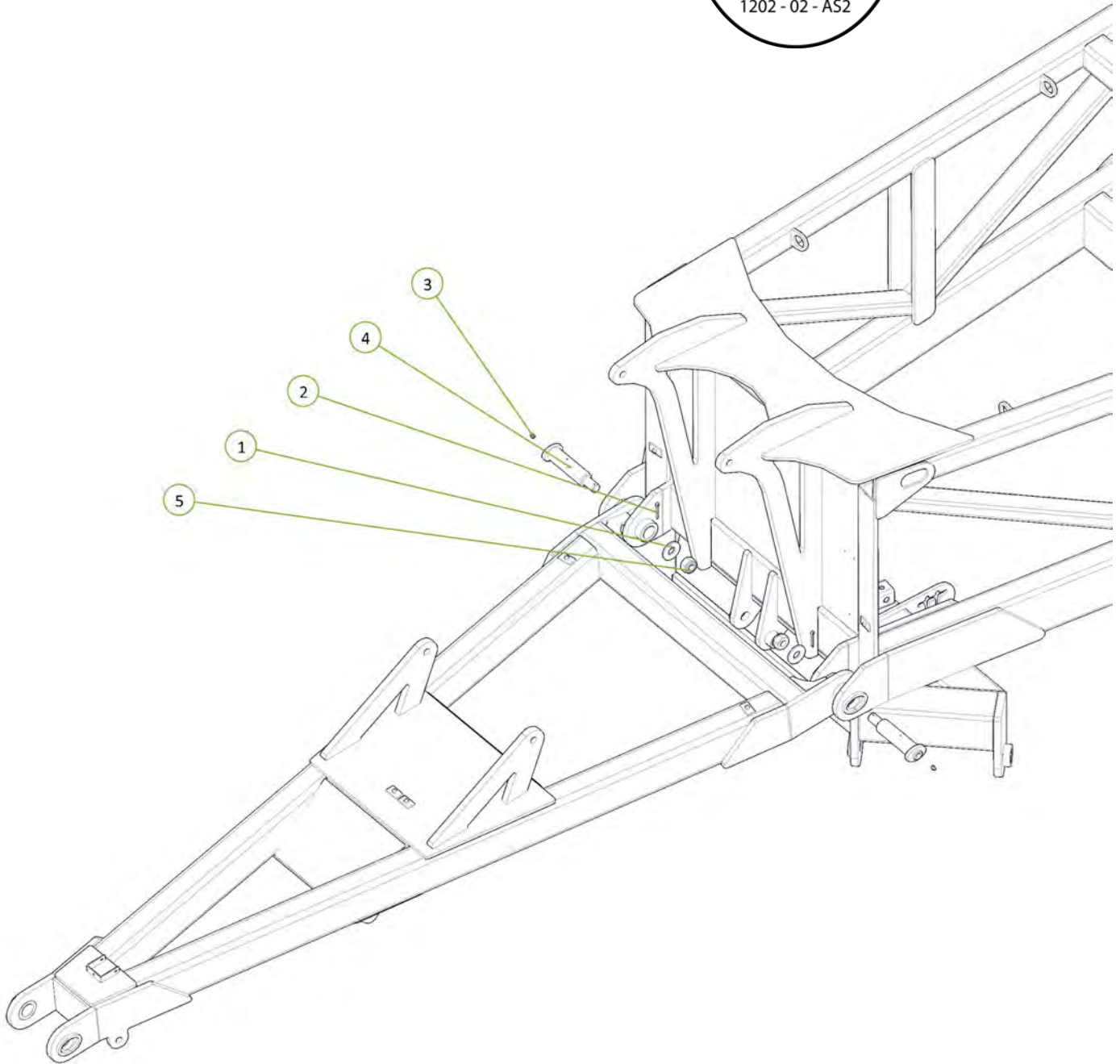
Item No.	Description	Qty	Number
1	M20 x 60 grade 8.8 ZP Bolt	6	0211-2060
2	Nyloc Nut M20	6	0221-NYL20
3	Rear Tail Extension	1	1210-12



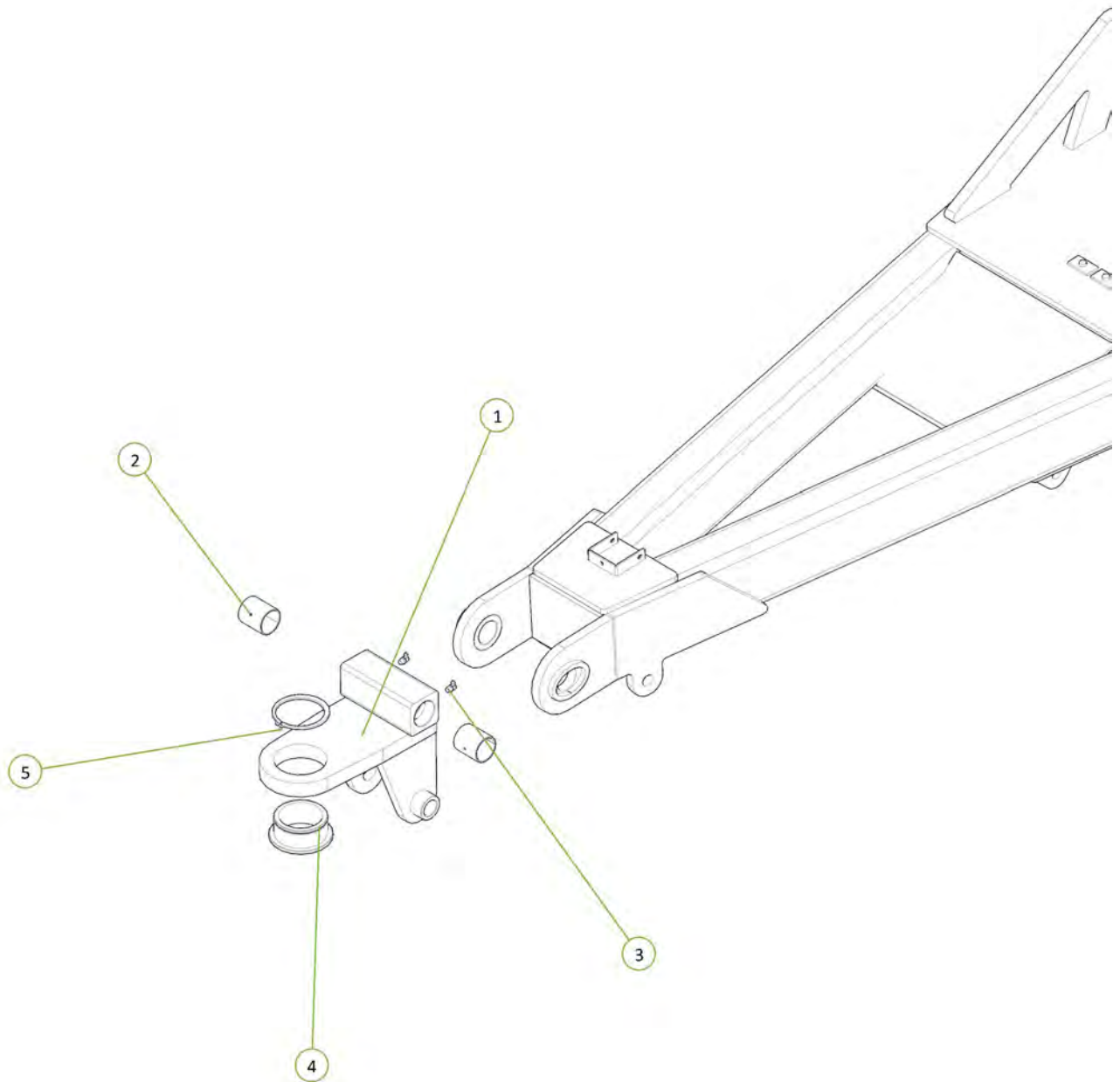
Item No.	Description	Qty	Number
1	50 ID x 40mm DX Bush	4	0113-MB 5040DX
2	Heavy Duty A-Pull	1	1210-08



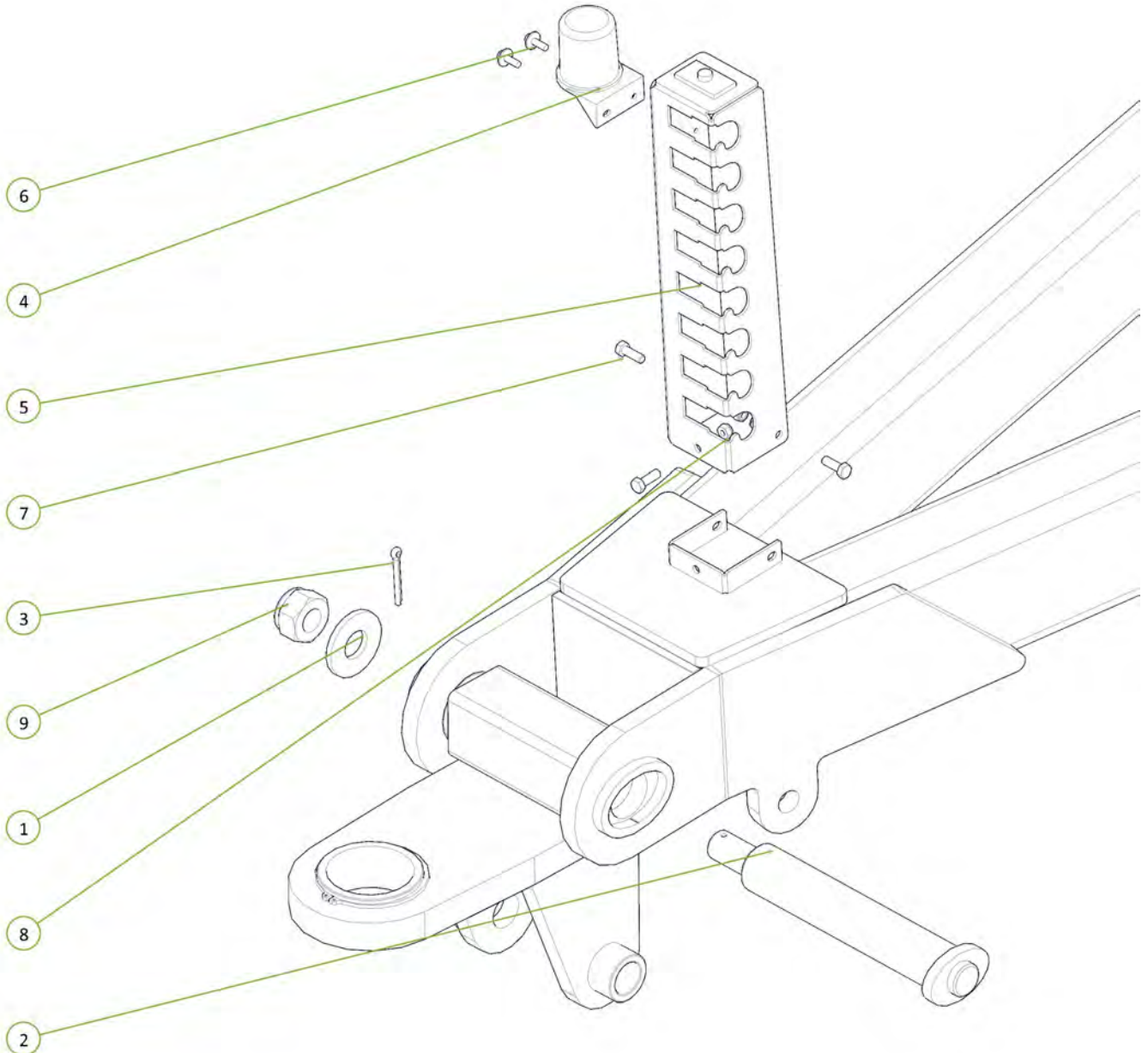
Item No.	Description	Qty	Number
1	50mm Pivot Pin Retaining Washer	2	1200-60
2	Cotter Pin M6 x 50mm	2	0261-PINC650
3	Grease Nipple 1/8" BSP	2	0181-GN1-8
4	Oval Head 50mm Short Pivot Pin	2	1202-06
5	Nyloc Nut M30	2	0221-NYL30



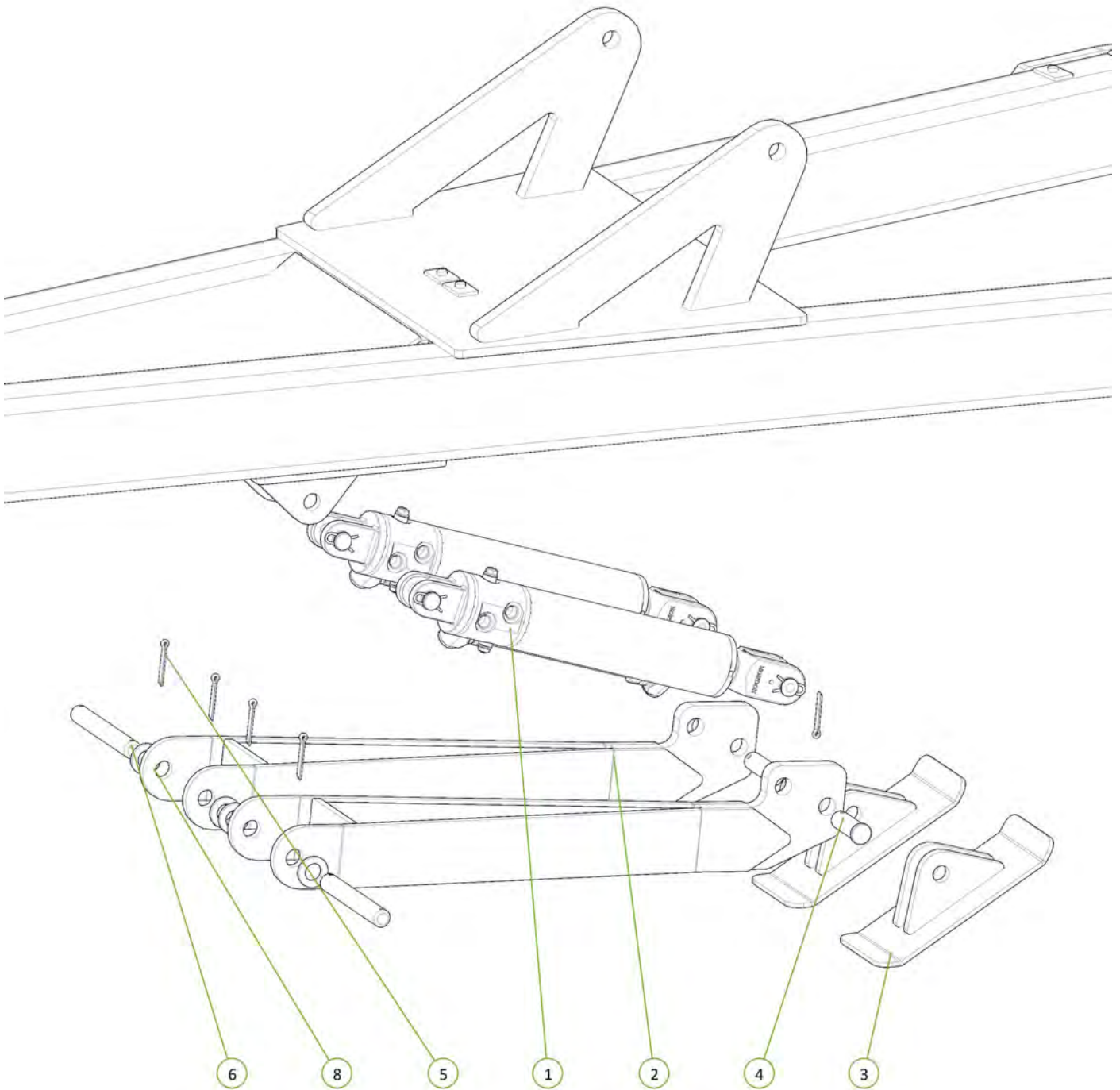
Item No.	Description	Qty	Number
1	Heavy Duty Drawbar Hitch	1	1210-09
2	50 ID x 60mm DX Bush	2	0113-MB 5060DX
3	Grease Nipple 1/8" BSP 90 deg	2	0181-GN1-890
4	2 3/4" Tow Hitch Bush	1	0801-KE-0905-1-D
5	Circlip External 105mm	1	0172-1400-105



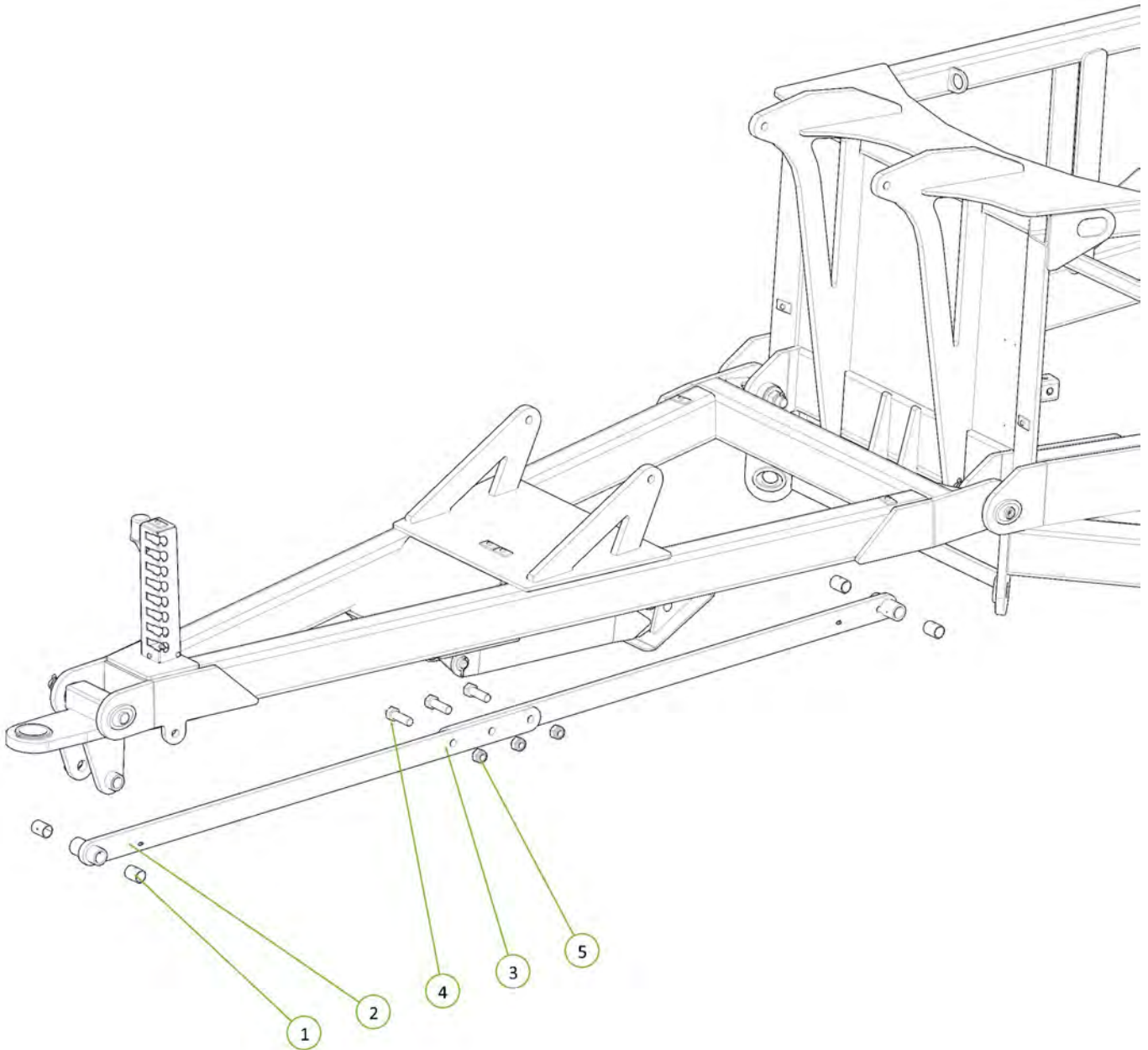
Item No.	Description	Qty	Number
1	50mm Pivot Pin Retaining Washer	1	1200-60
2	50mm Tow Hitch Pivot Pin	1	1202-11
3	Cotter Pin M6 x 50mm	1	0261-PINC650
4	Electrical Plug Keeper	1	0416-11750B
5	Hose Post	1	0810-151
6	M6 x 20 Trilobe Self Tapping Screw	2	0211-M620MZPHTF
7	M8 x 25 grade 8.8 ZP Bolt	3	0211-825
8	Nyloc Nut M8	3	0221-NYL8
9	Nyloc Nut M30	1	0221-NYL30



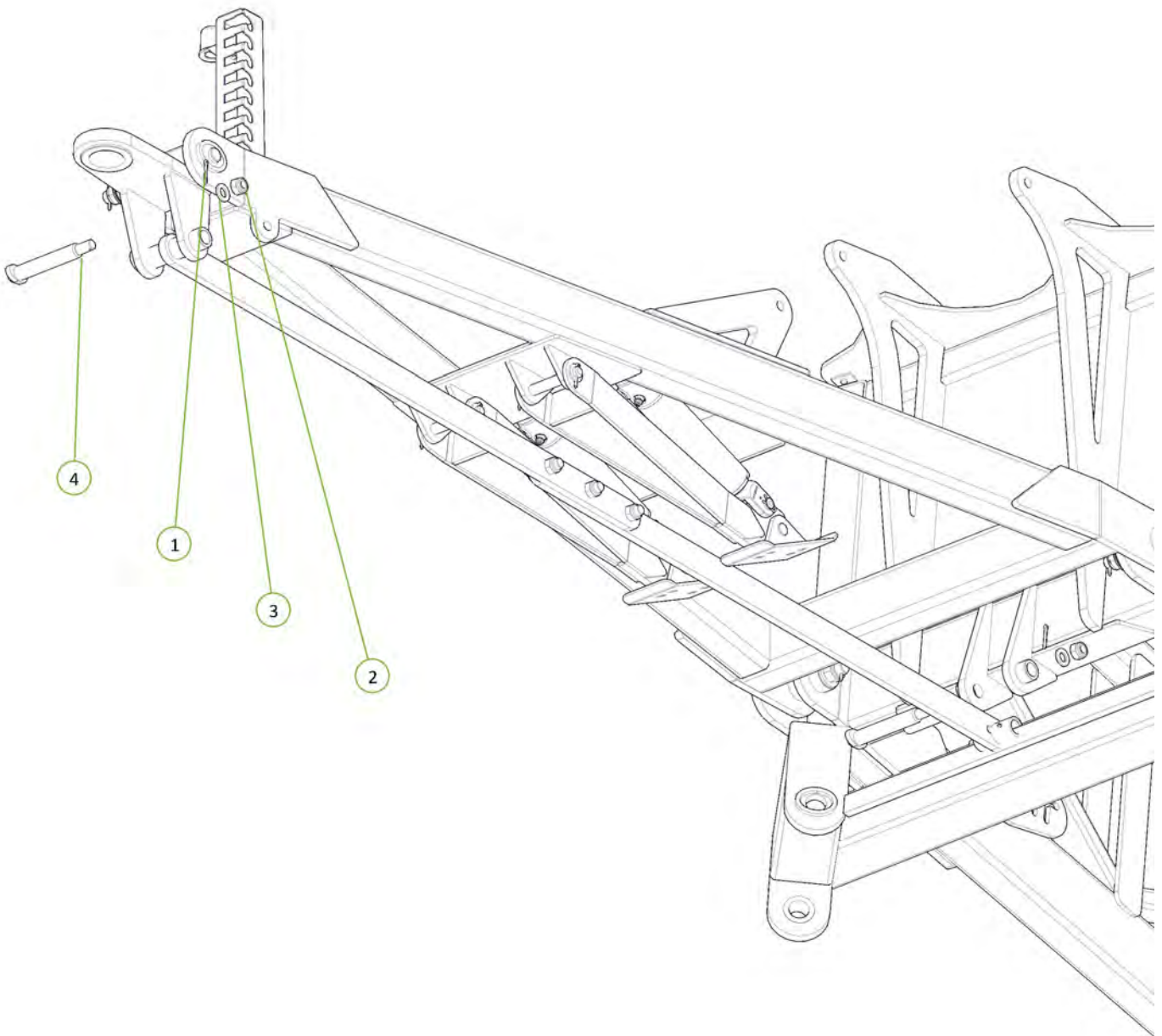
Item No.	Description	Qty	Number
1	3" Bore 8" Stroke NI Cylinder with Int DCBV Valve	2	0313-308SPOC-B
2	Hyd Jack Side Plate	4	1200-315
3	Hydraulic Jack Foot Plate	2	1200-305
4	Clevis Pin 25mm x 75mm	2	0801-KE0307-1
5	Cotter Pin M5 x 50	6	0261-PINC550
6	25mm Shaft 185mm Long	2	1201-44
8	Washer Flat M24	4	0231-F24



Item No.	Description	Qty	Number
1	35 ID x 50mm DX Bush	4	0113-MB 3550DX
2	Grease Nipple 1/4" UNF	4	0181-GN1-4
3	Parrallelogram Link Half	2	1210-22
4	M24 x 50 grade 8.8 zp Bolt	3	0211-2475
5	Nyloc Nut M24	3	0221-NYL24

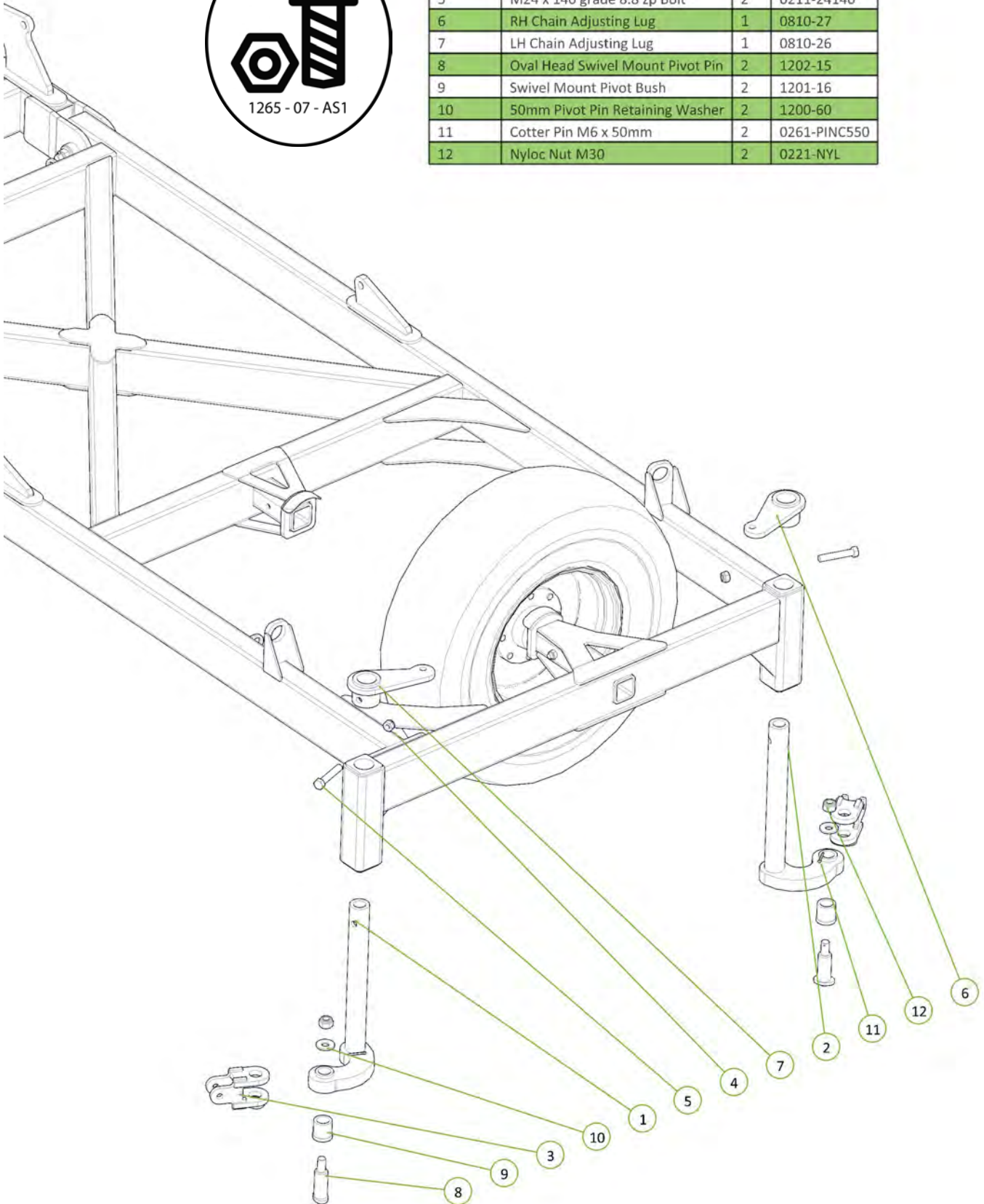


Item No.	Description	Qty	Number
1	Cotter Pin M6 x 50mm	2	0261-PINC650
2	Nyloc Nut M24	2	0221-NYL24
3	Washer Flat M24	2	0231-F24
4	Oval Head 35mm Pivot Pin	2	1202-09



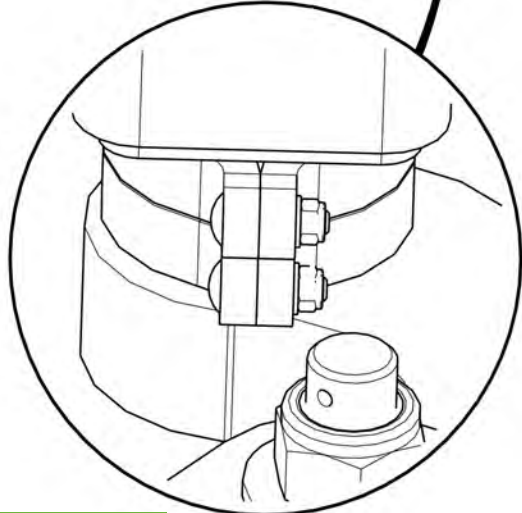
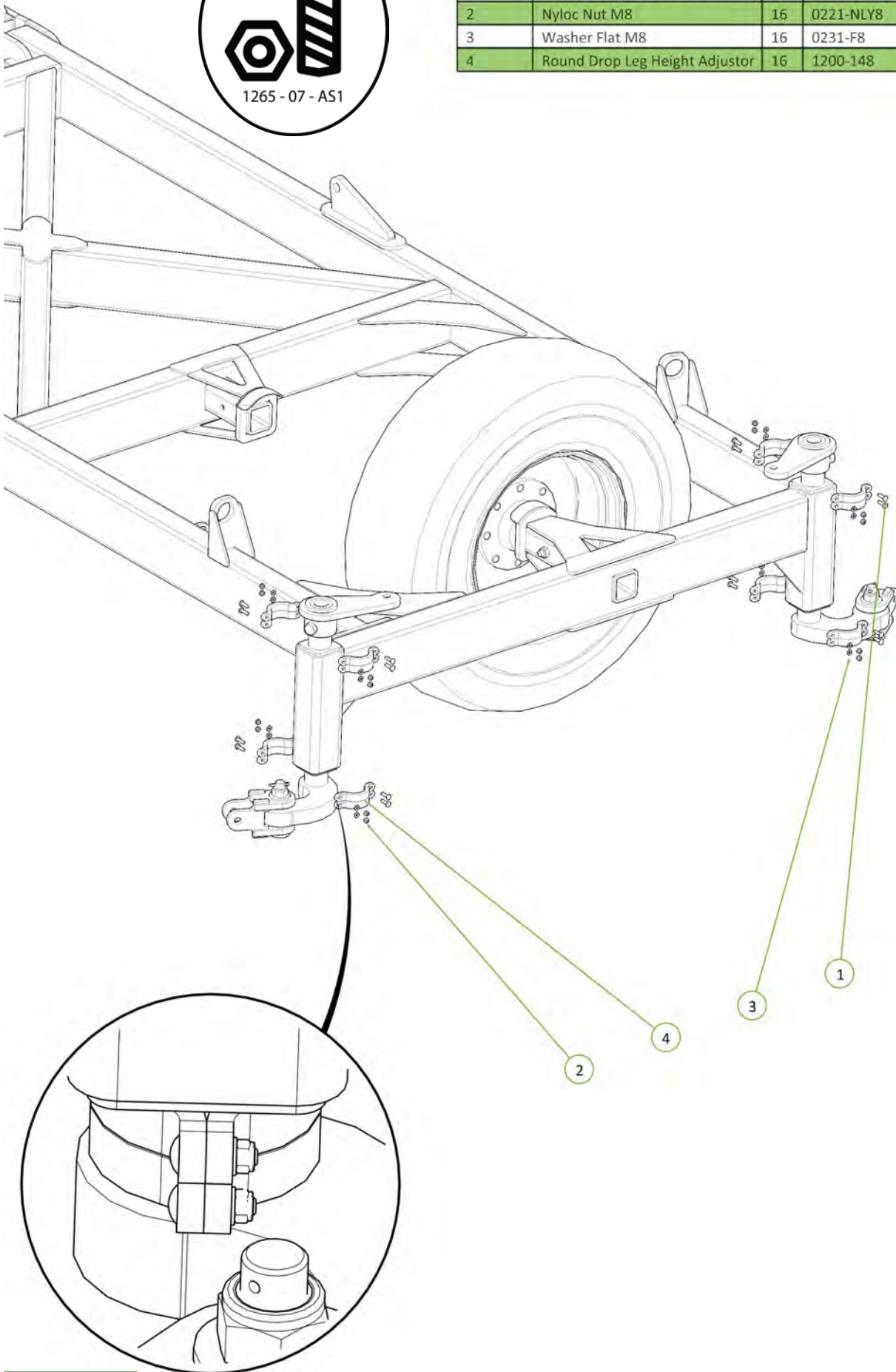


Item No.	Description	Qty	Number
1	Heavy Duty LH Drop Leg	1	1210-24
2	Heavy Duty RH Drop Leg	1	1210-25
3	PCHB553 Heavy Duty Mount Joint	2	1210-57
4	Nyloc Nut M24	2	0221-NYL24
5	M24 x 140 grade 8.8 zp Bolt	2	0211-24140
6	RH Chain Adjusting Lug	1	0810-27
7	LH Chain Adjusting Lug	1	0810-26
8	Oval Head Swivel Mount Pivot Pin	2	1202-15
9	Swivel Mount Pivot Bush	2	1201-16
10	50mm Pivot Pin Retaining Washer	2	1200-60
11	Cotter Pin M6 x 50mm	2	0261-PINC550
12	Nyloc Nut M30	2	0221-NYL

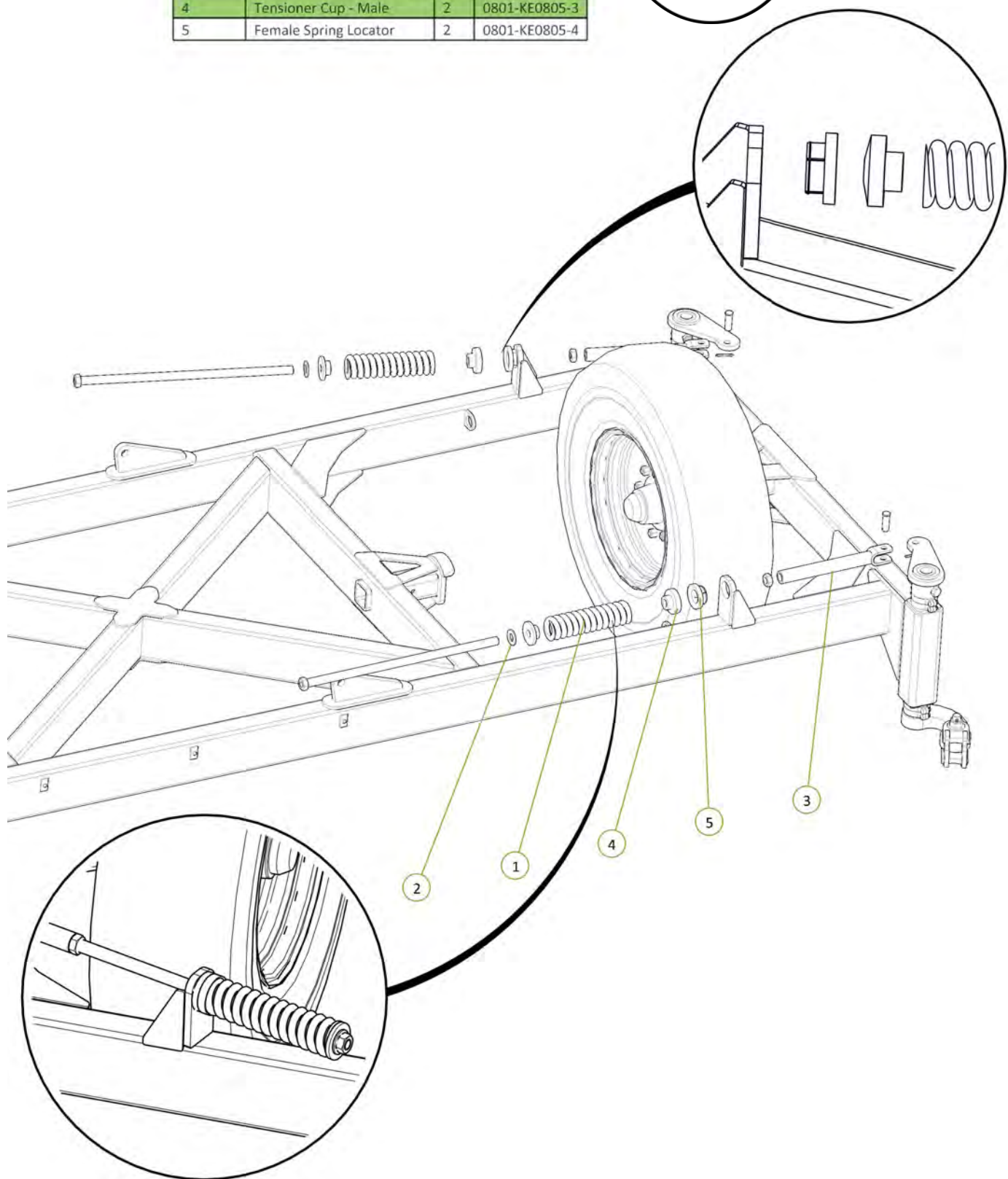




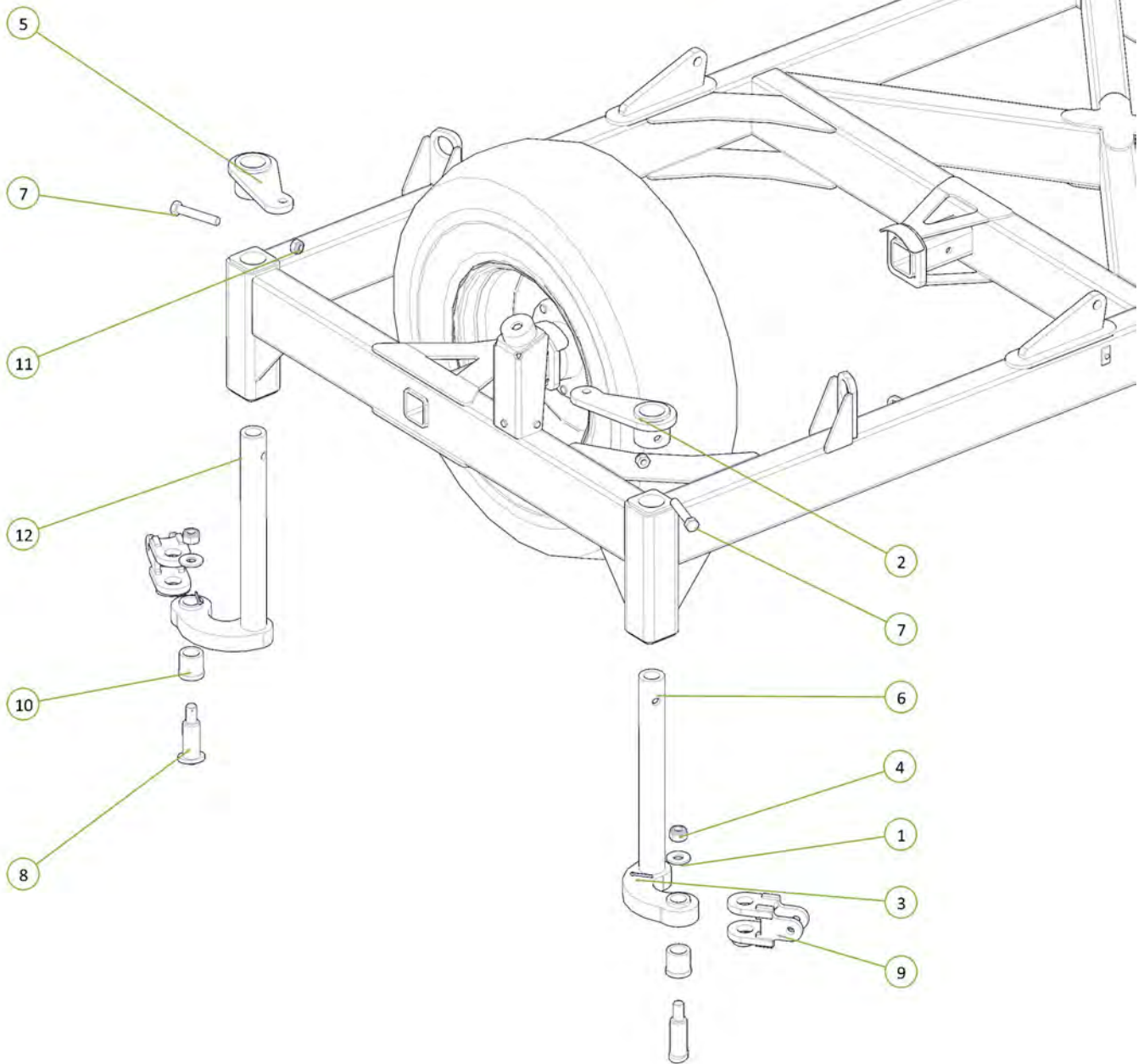
Item No.	Description	Qty	Number
1	M8 x 35 Coach Head Bolt	16	0215-CH0835
2	Nyloc Nut M8	16	0221-NLY8
3	Washer Flat M8	16	0231-F8
4	Round Drop Leg Height Adjustor	16	1200-148



Item No.	Description	Qty	Number
1	20mm Compression Spring	2	0801-XK9261S
2	Washer High Tensile 1 1/4"	2	0232-HT11-4
3	Chain Tension Assembly	2	0802-PCHTA
4	Tensioner Cup - Male	2	0801-KE0805-3
5	Female Spring Locator	2	0801-KE0805-4

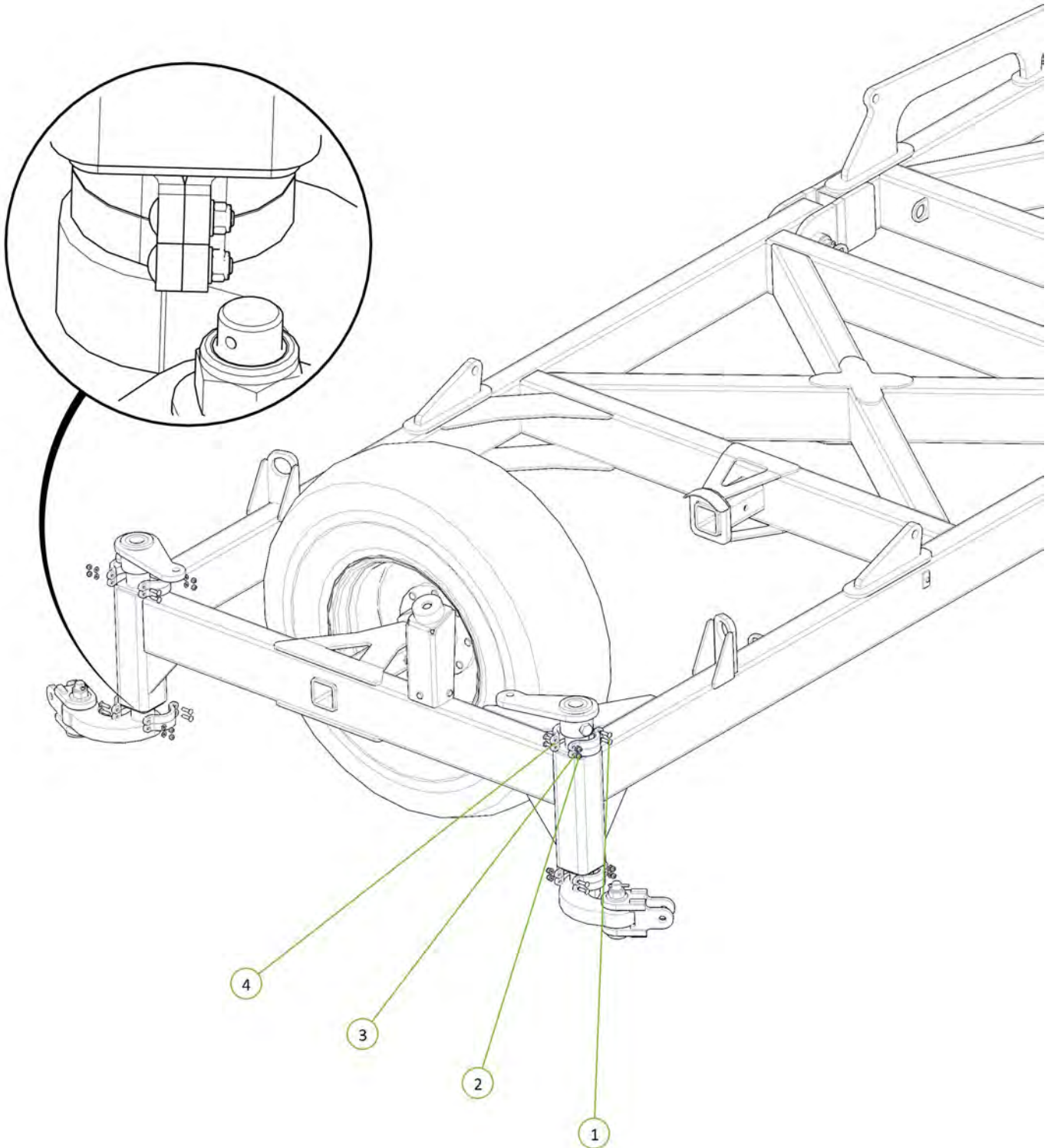


Item No.	Description	Qty	Number
1	50mm Pivot Pin Retaining Washer	2	1200-60
2	RH Chain Adjusting Lug	1	0810-27
3	Cotter Pin M5 x 50	2	0261-PINC550
4	Nyloc Nut M30	2	0221-NYL30
5	LH Chain Adjusting Lug	1	0810-26
6	Heavy Duty RH Drop Leg	1	1210-25
7	M24 x 140 grade 8.8 zp Bolt	2	0211-24140
8	Oval Head Swivel Mount Pivot Pin	2	1202-15
9	PCHB553 Heavy Duty Mount Joint	2	1210-57
10	Swivel Mount Pivot Bush	2	1201-16
11	Nyloc Nut M24	2	0221-NYL24
12	Heavy Duty LH Drop Leg	1	1210-24

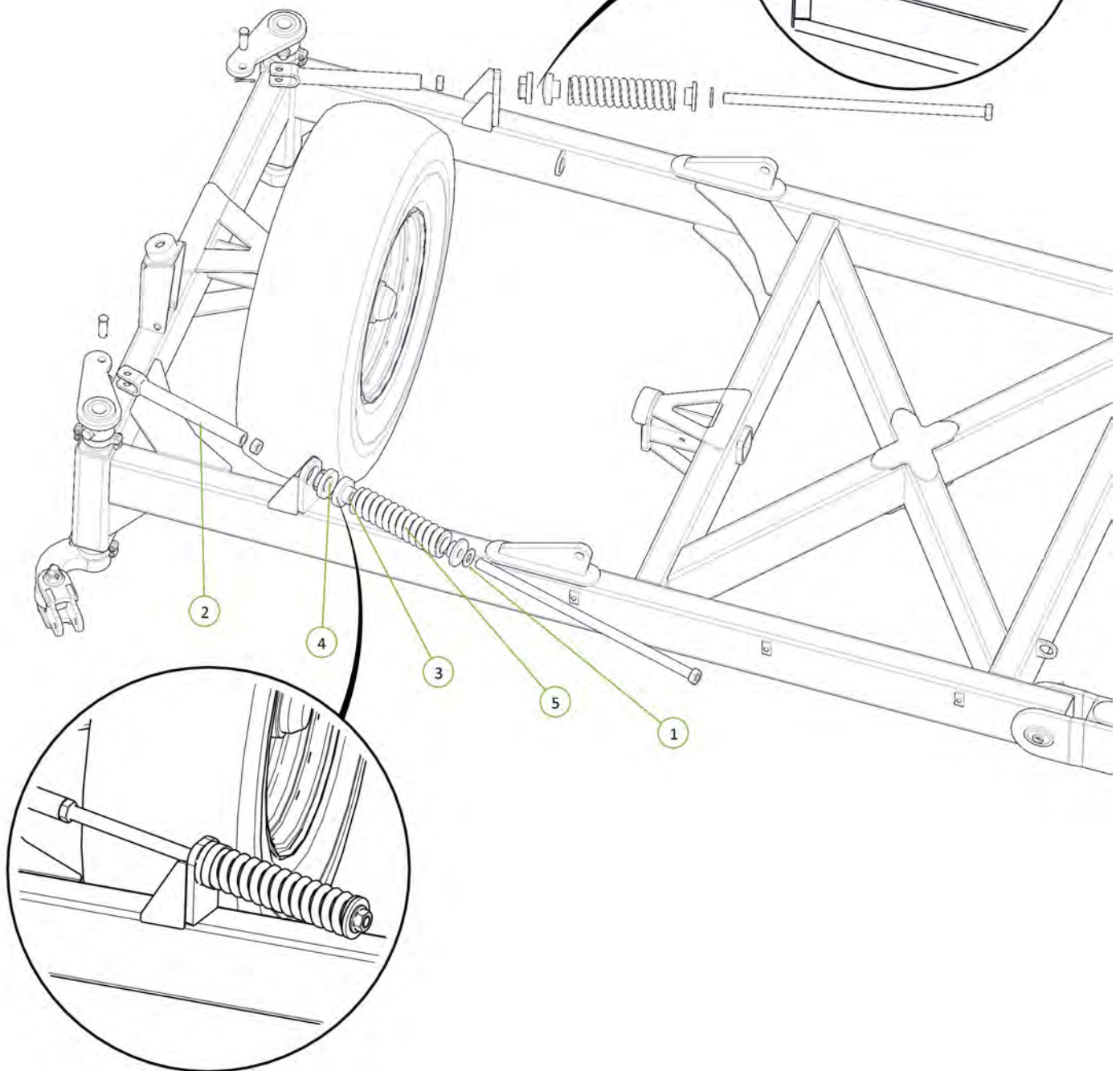
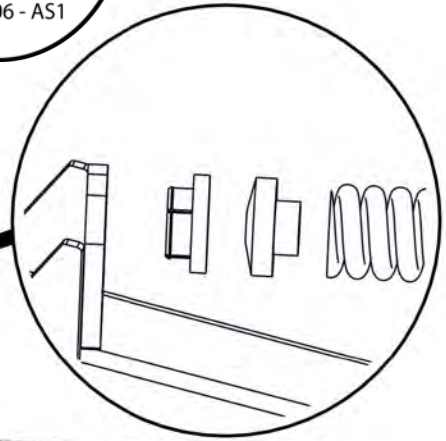




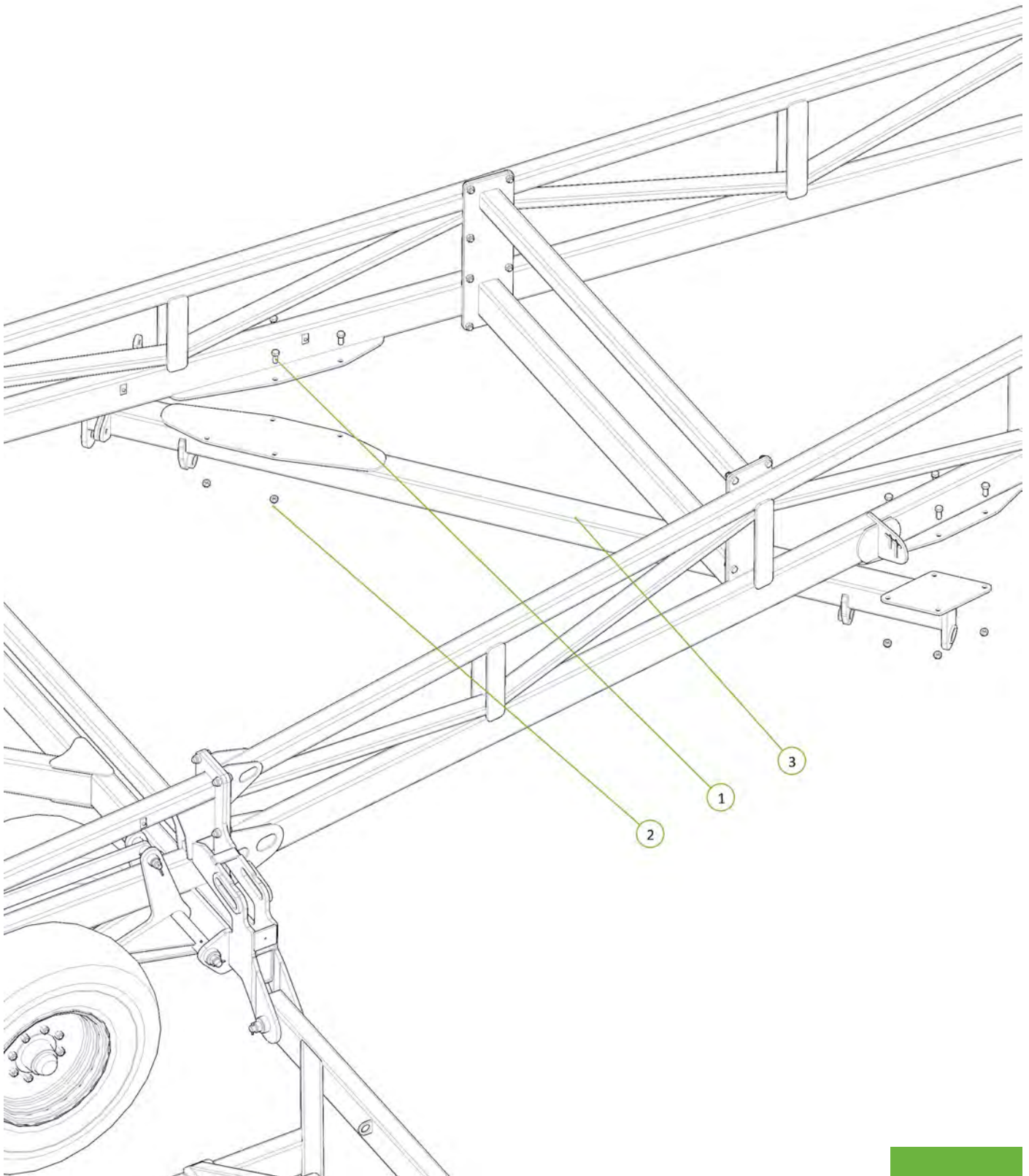
Item No.	Description	Qty	Number
1	M8 x 35 Coach Head Bolt	16	0215-CH0835
2	Nyloc Nut M8	16	0221-NYL8
3	Washer Flat M8	16	0231-F8
4	Round Drop Leg Height Adjustor	16	1200-148



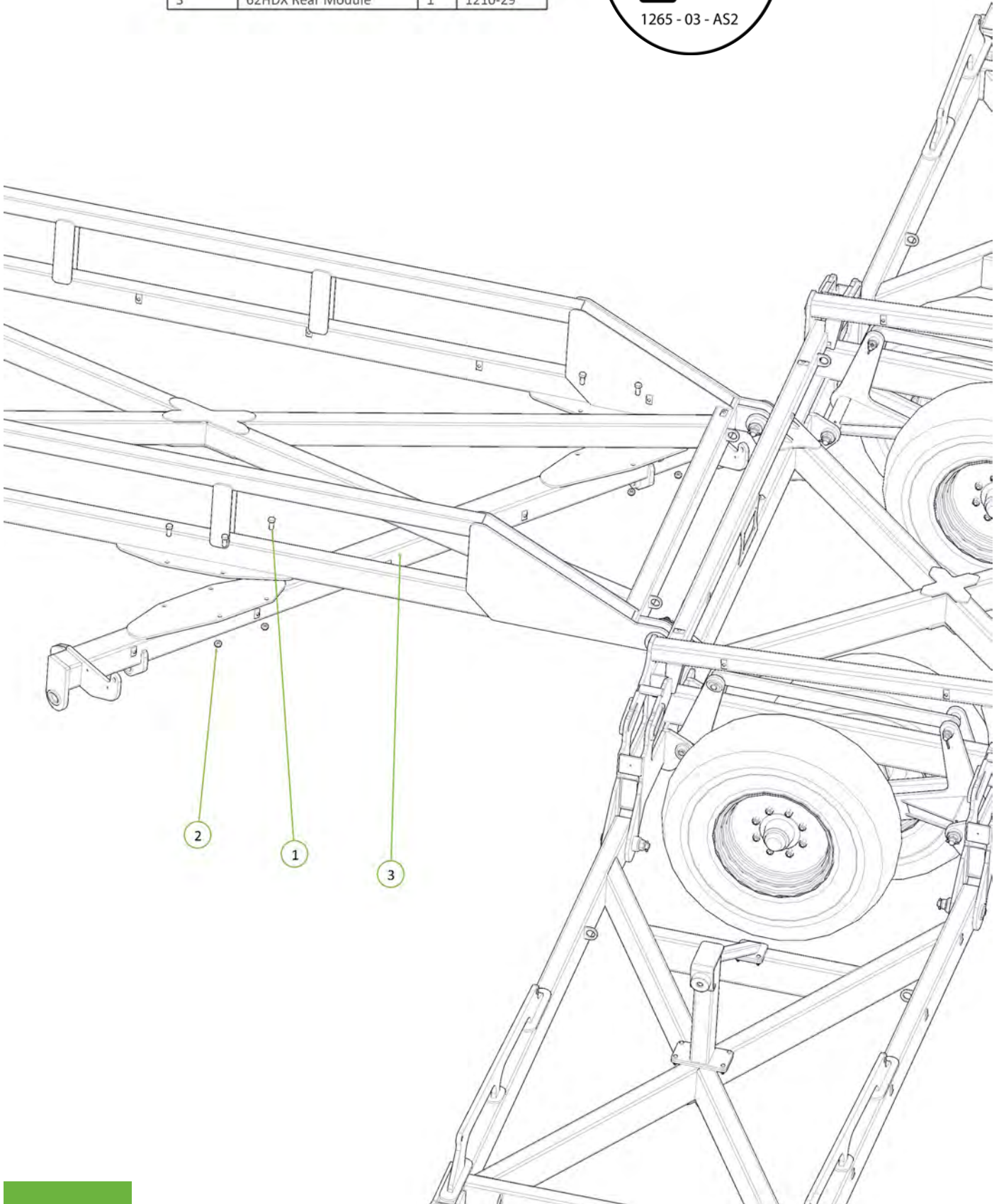
Item No.	Description	Qty	Number
1	Washer High Tensile 1 1/4"	2	0232-HT11-4
2	Chain Tension Assembly	2	0802-PCHTA
3	Tensioner Cup - Male	2	0801-KE0805-3
4	Female Spring Locator	2	0801-KE0805-4
5	20mm Compression Spring	2	0801-XX9261S



Item No.	Description	Qty	Number
1	M20 x 50 grade 8.8 ZP Bolt	8	0211-2050
2	Nyloc Nut M20	8	0221-NYL20
3	62HDX Front Module	1	1210-28

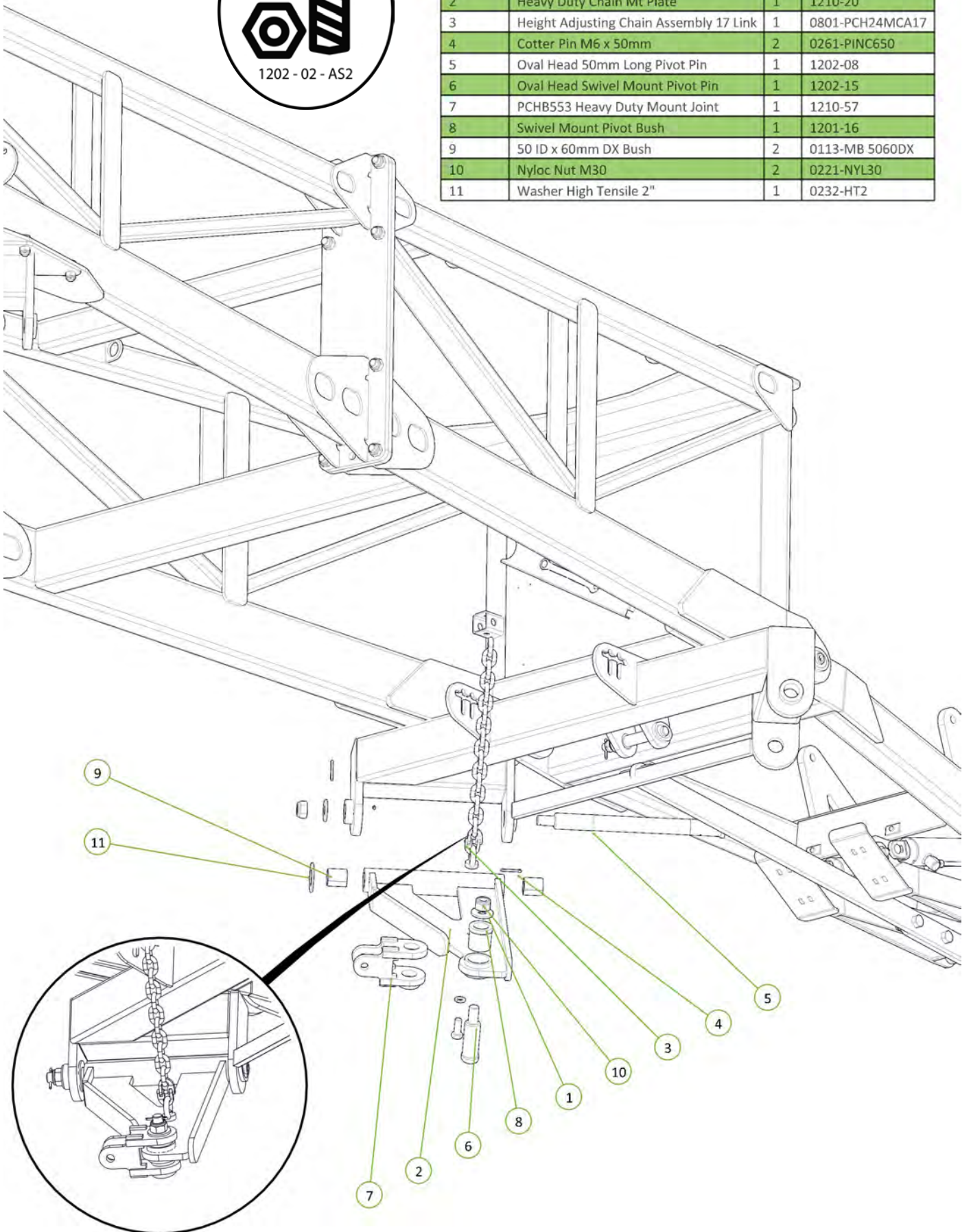


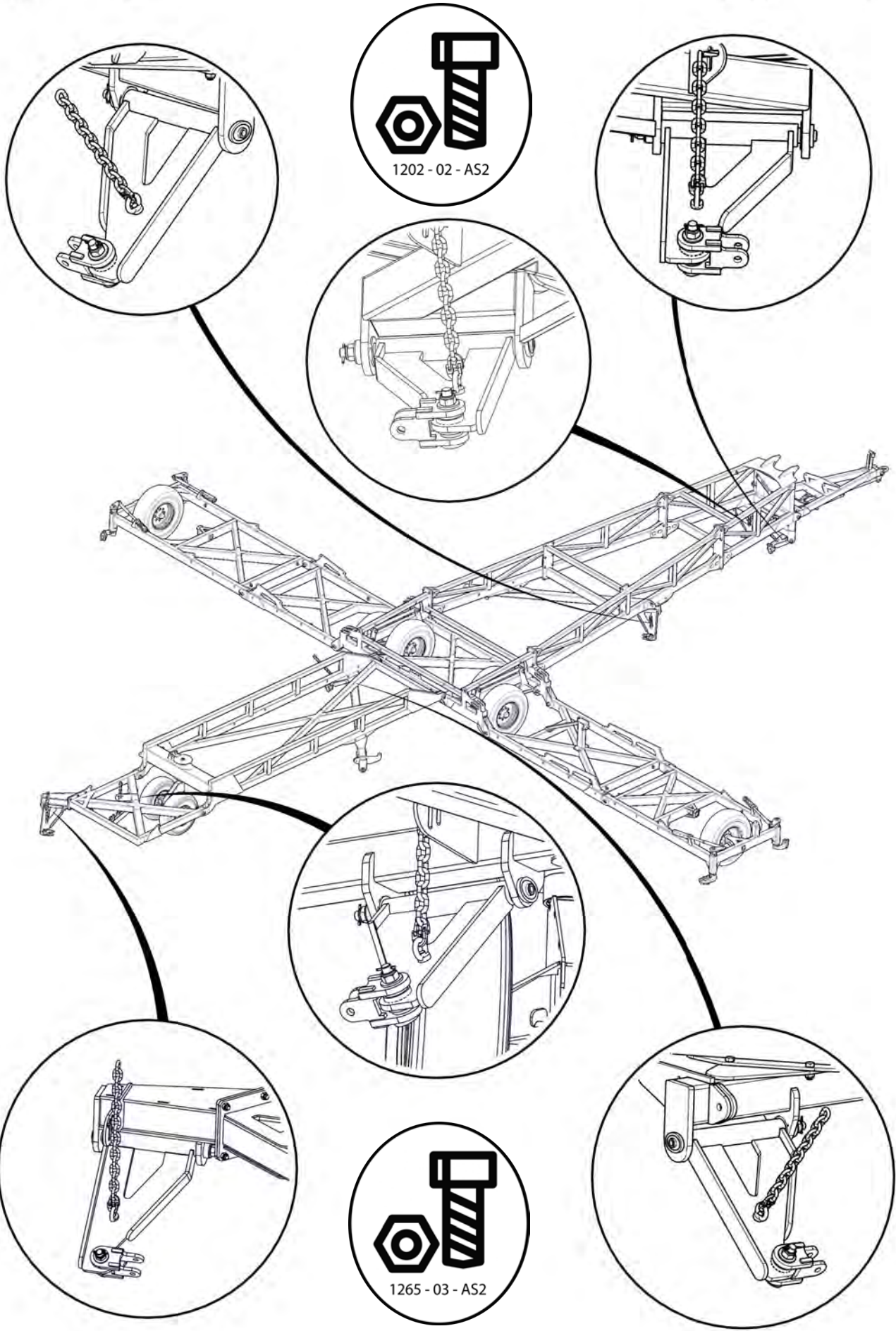
Item No.	Description	Qty	Number
1	M20 x 50 grade 8.8 ZP Bolt	8	0211-2050
2	Nyloc Nut M20	8	0221-NYL20
3	62HDX Rear Module	1	1210-29

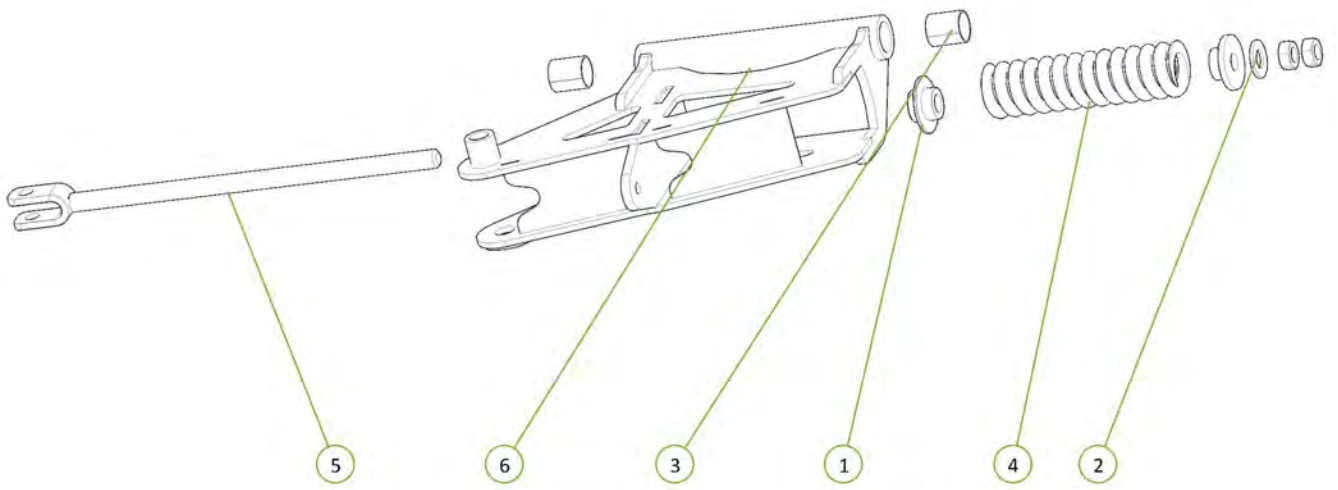
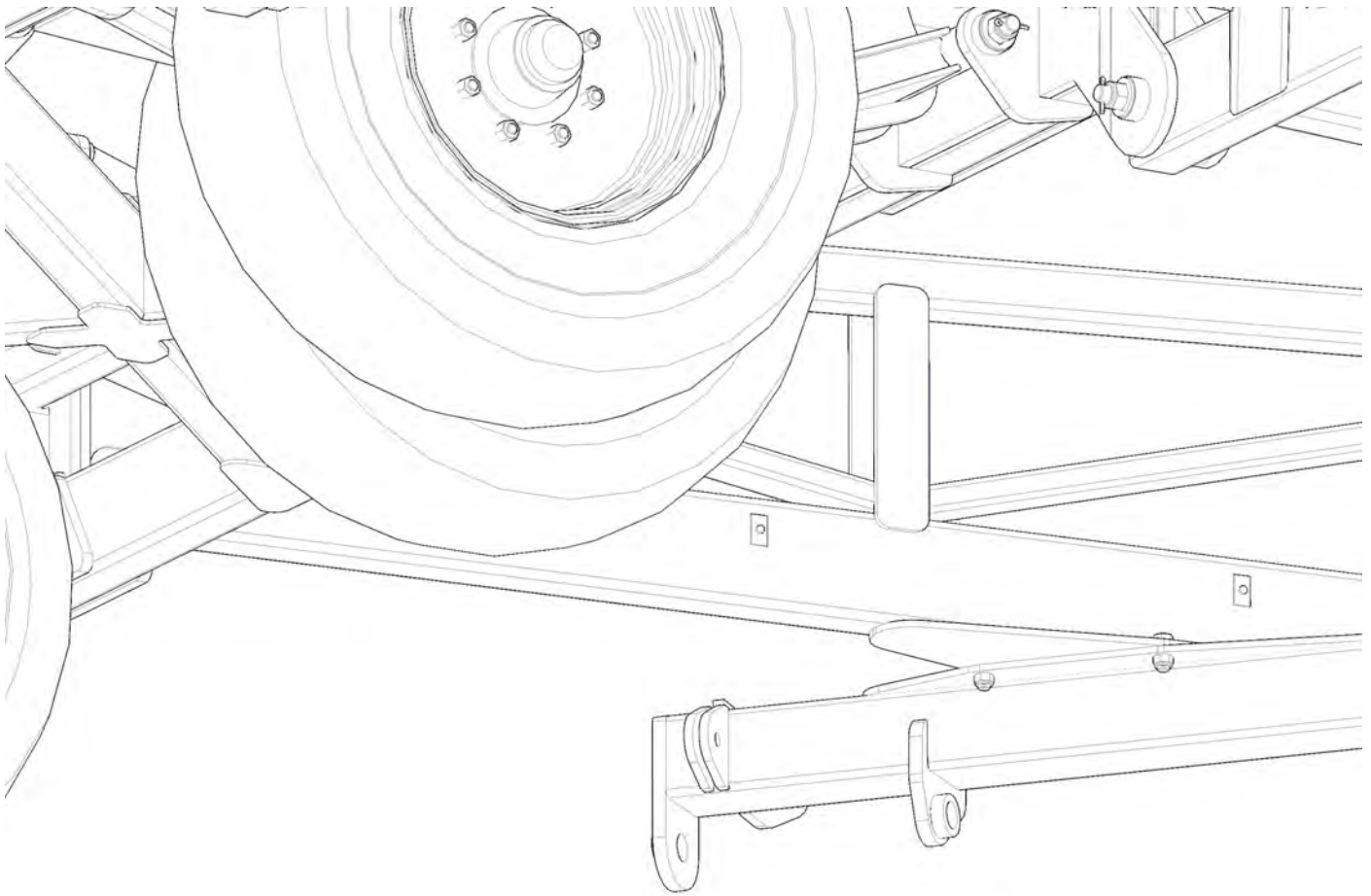




Item No.	Description	Qty	Number
1	50mm Pivot Pin Retaining Washer	2	1200-60
2	Heavy Duty Chain Mt Plate	1	1210-20
3	Height Adjusting Chain Assembly 17 Link	1	0801-PCH24MCA17
4	Cotter Pin M6 x 50mm	2	0261-PINC650
5	Oval Head 50mm Long Pivot Pin	1	1202-08
6	Oval Head Swivel Mount Pivot Pin	1	1202-15
7	PCHB553 Heavy Duty Mount Joint	1	1210-57
8	Swivel Mount Pivot Bush	1	1201-16
9	50 ID x 60mm DX Bush	2	0113-MB 5060DX
10	Nyloc Nut M30	2	0221-NYL30
11	Washer High Tensile 2"	1	0232-HT2

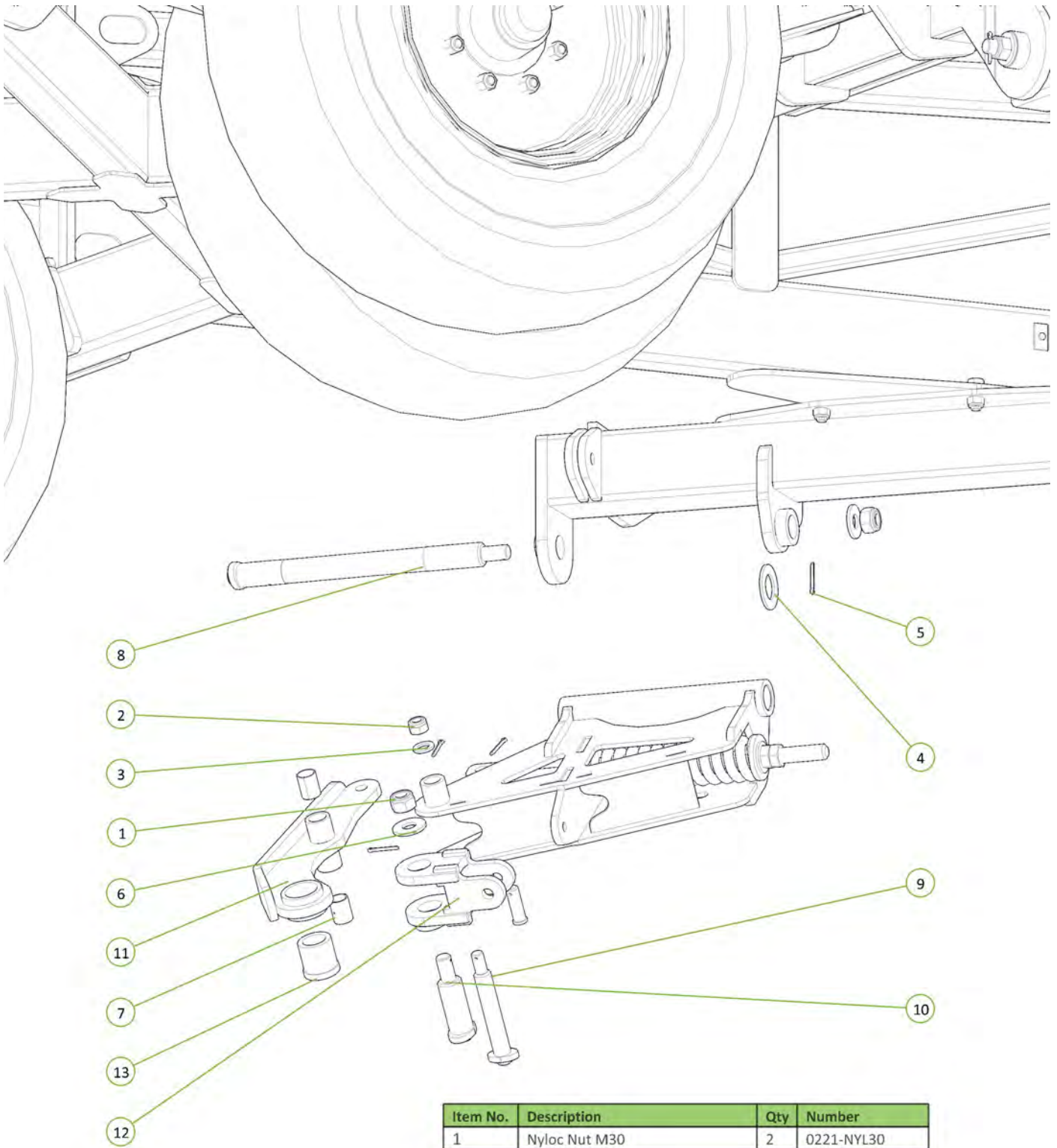






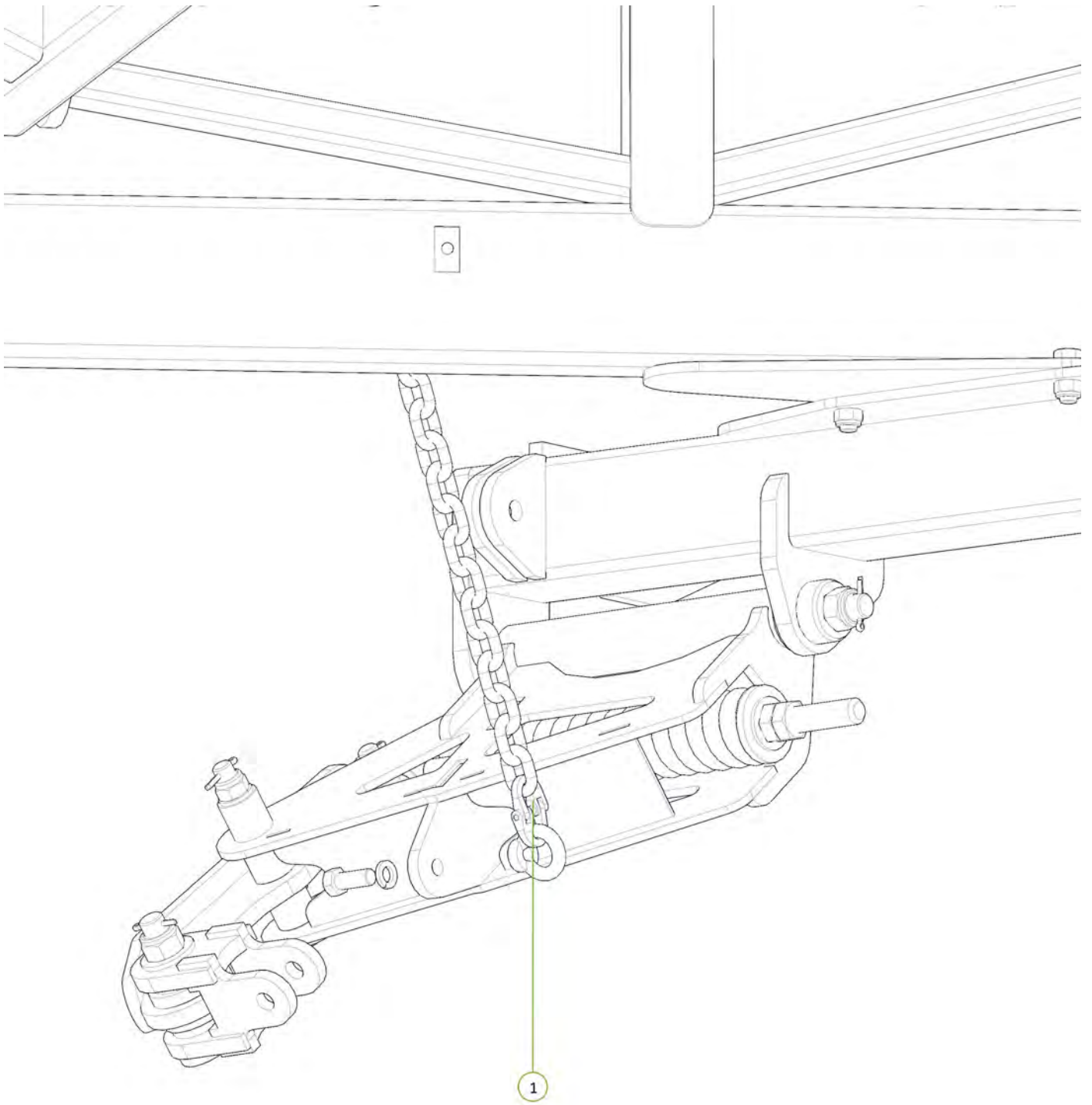
See p56 for location

Item No.	Description	Qty	Number
1	Rigid Spring Locator	1	0801-10-S2L
2	Washer High Tensile 1 1/4"	1	0232-HT11-4
3	50 ID x 60mm DX Bush	2	0113-MB 5060DX
4	20mm Compression Spring	1	0801-XK9261S
5	Module Tension Linkage	1	0810-105A
6	Left Hand Chain Tension Box	1	1210-103



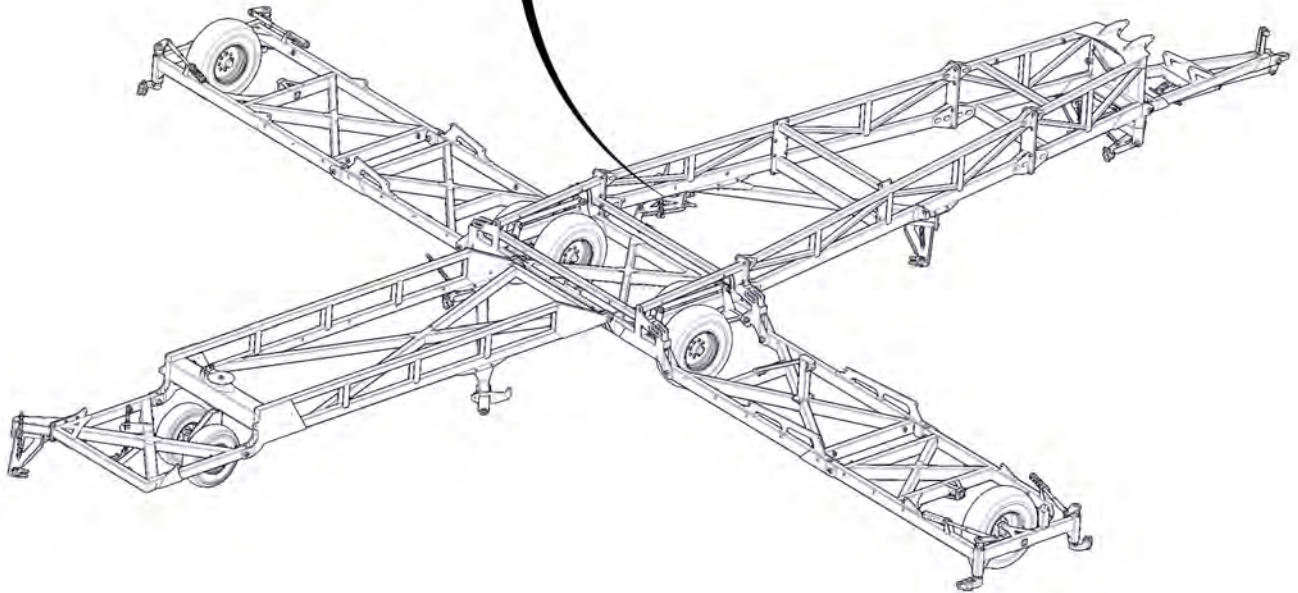
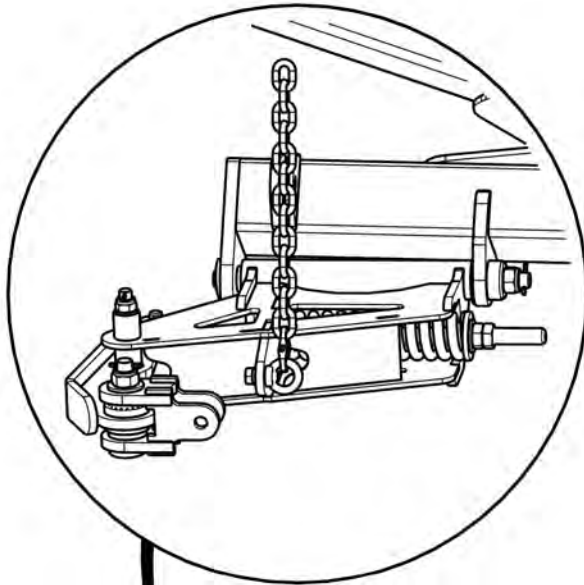
See p56 for location

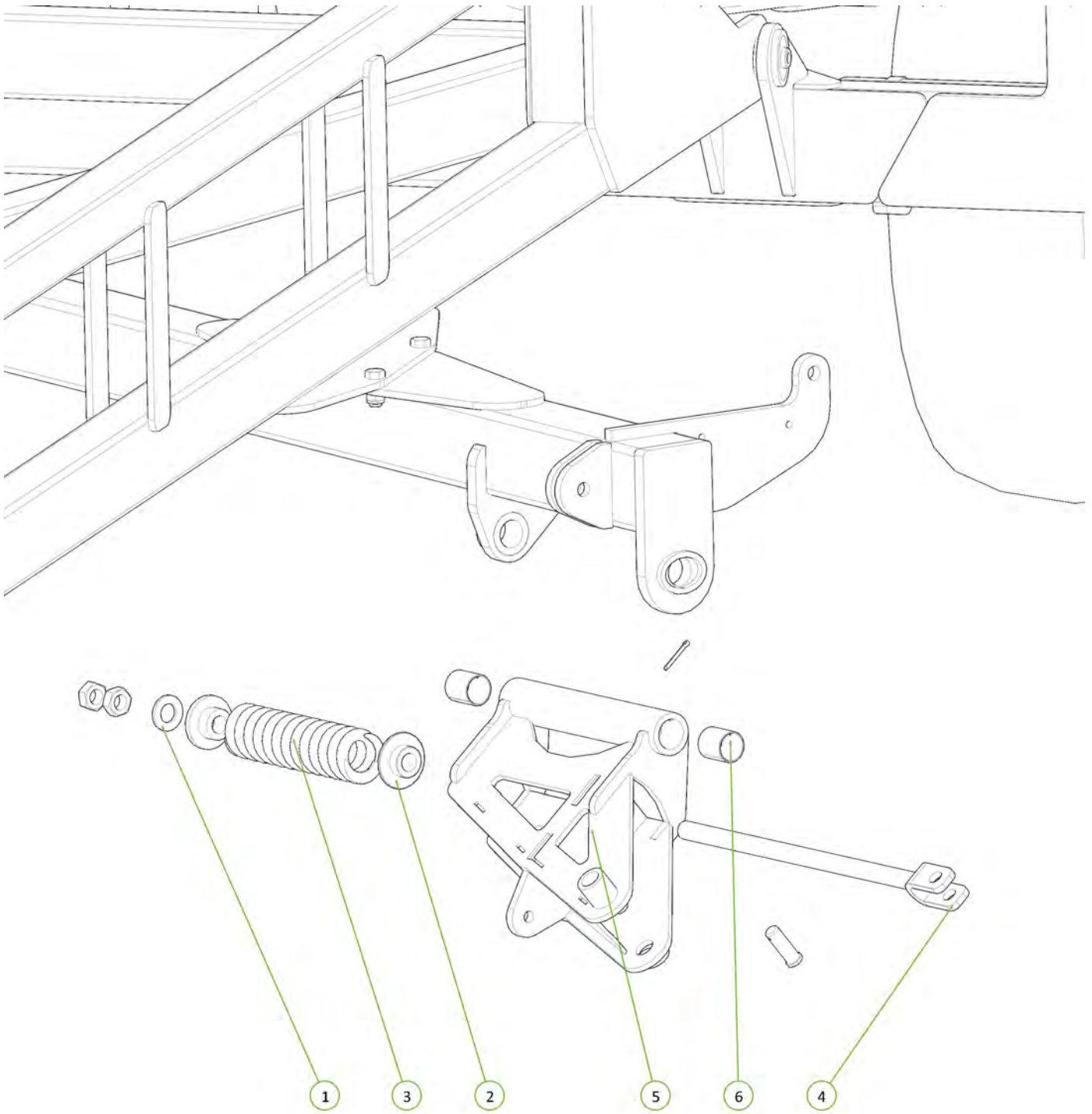
Item No.	Description	Qty	Number
1	Nyloc Nut M30	2	0221-NYL30
2	Nyloc Nut M24	1	0221-NYL24
3	Washer Flat M24	1	0231-F24
4	Washer High Tensile 2"	1	0232-HT2
5	Cotter Pin M6 x 50mm	3	0261-PINC650
6	50mm Pivot Pin Retaining Washer	2	1200-60
7	35 ID x 50mm DX Bush	2	0113-MB 3550DX
8	Oval Head 50mm Long Pivot Pin	1	1202-08
9	Oval Head 35mm Pivot Pin	1	1202-09
10	Oval Head Swivel Mount Pivot Pin	1	1202-15
11	Chain Tension Arm	1	1210-104
12	PCHB553 Heavy Duty Mount Joint	1	1210-57
13	Swivel Mount Pivot Bush	1	1201-16



See p56 for location

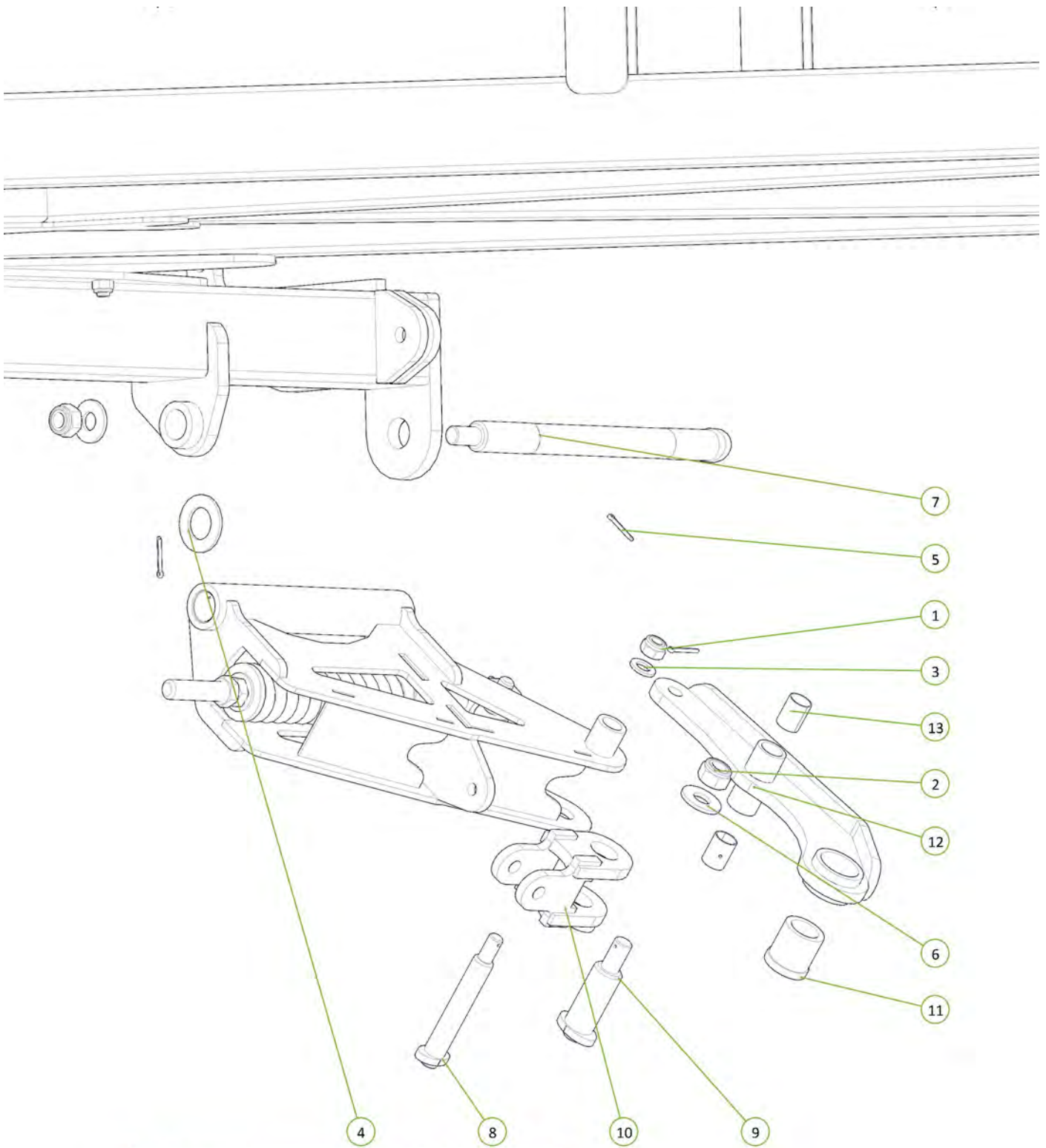
Item No.	Description	Qty	Number
1	Height Adjusting Chain Assembly 17 Link	1	0801-PCH24MCA17





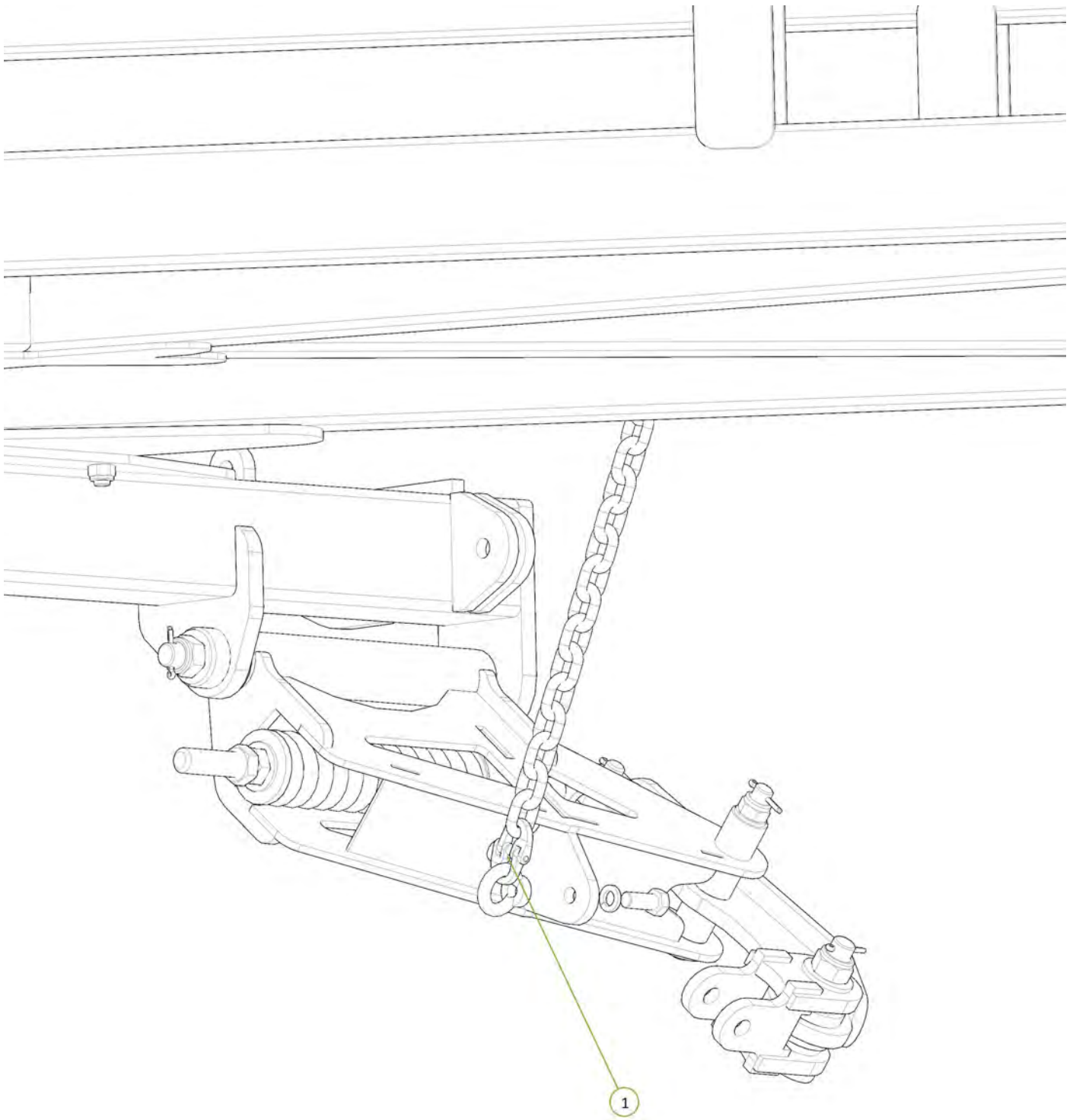
Item No.	Description	Qty	Number
1	Washer High Tensile 1 1/4"	1	0232-HT11-4
2	Rigid Spring Locator	1	0801-10-S2L
3	20mm Compression Spring	1	0801-XK9261S
4	Module Tension Linkage	1	0810-105A
5	Right Hand Chain Tension Box	1	1210-102
6	50 ID x 60mm DX Bush	2	0113-MB 5060DX

See p60 for location



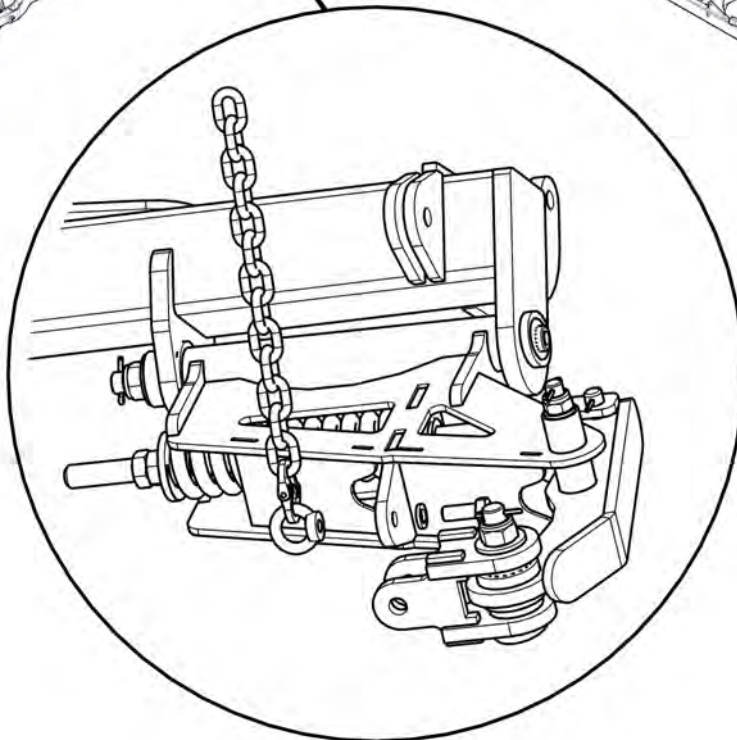
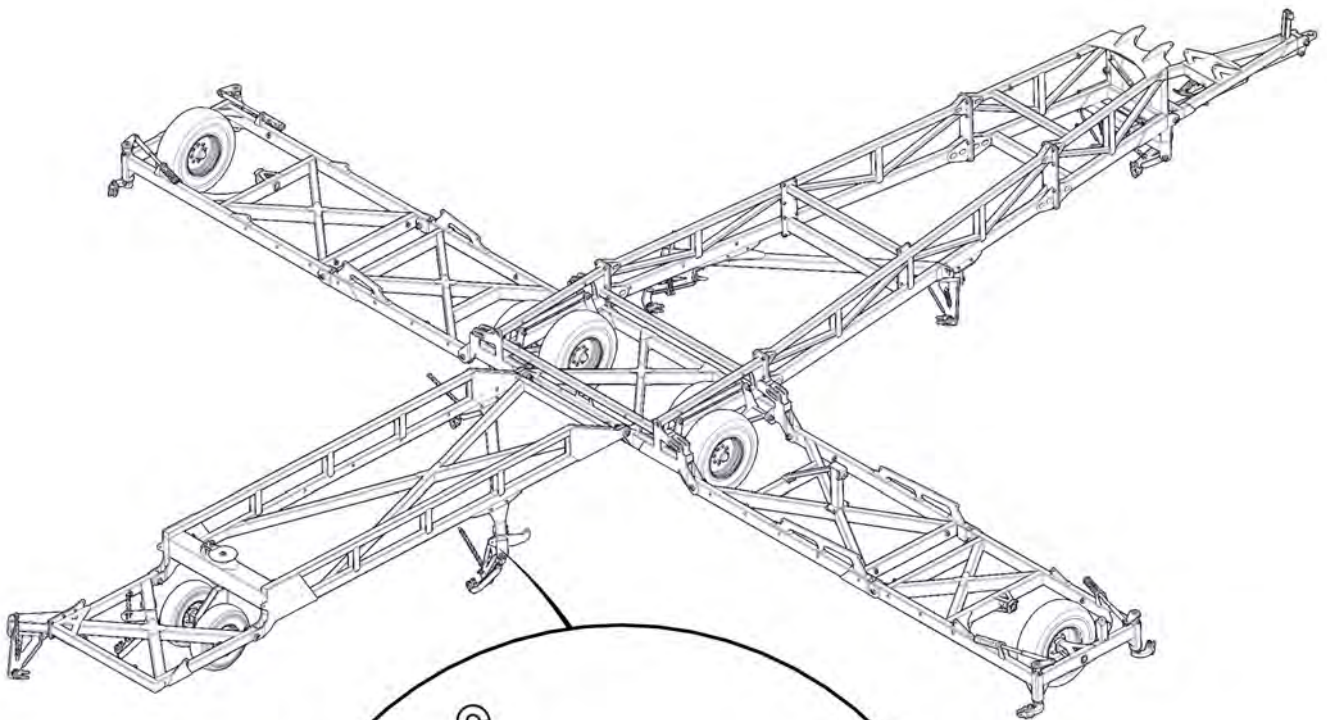
Item No.	Description	Qty	Number
1	Nyloc Nut M24	1	0221-NYL24
2	Nyloc Nut M30	2	0221-NYL30
3	Washer Flat M24	1	0231-F24
4	Washer High Tensile 2"	1	0232-HT2
5	Cotter Pin M6 x 50mm	3	0261-PINC650
6	50mm Pivot Pin Retaining Washer	2	1200-60
7	Oval Head 50mm Long Pivot Pin	1	1202-08
8	Oval Head 35mm Pivot Pin	1	1202-09
9	Oval Head Swivel Mount Pivot Pin	1	1202-15
10	PCHB553 Heavy Duty Mount Joint	1	1210-57
11	Swivel Mount Pivot Bush	1	1201-16
12	Chain Tension Arm	1	1210-104
13	35 ID x 50mm DX Bush	2	0113-MB 3550DX

See p60 for location

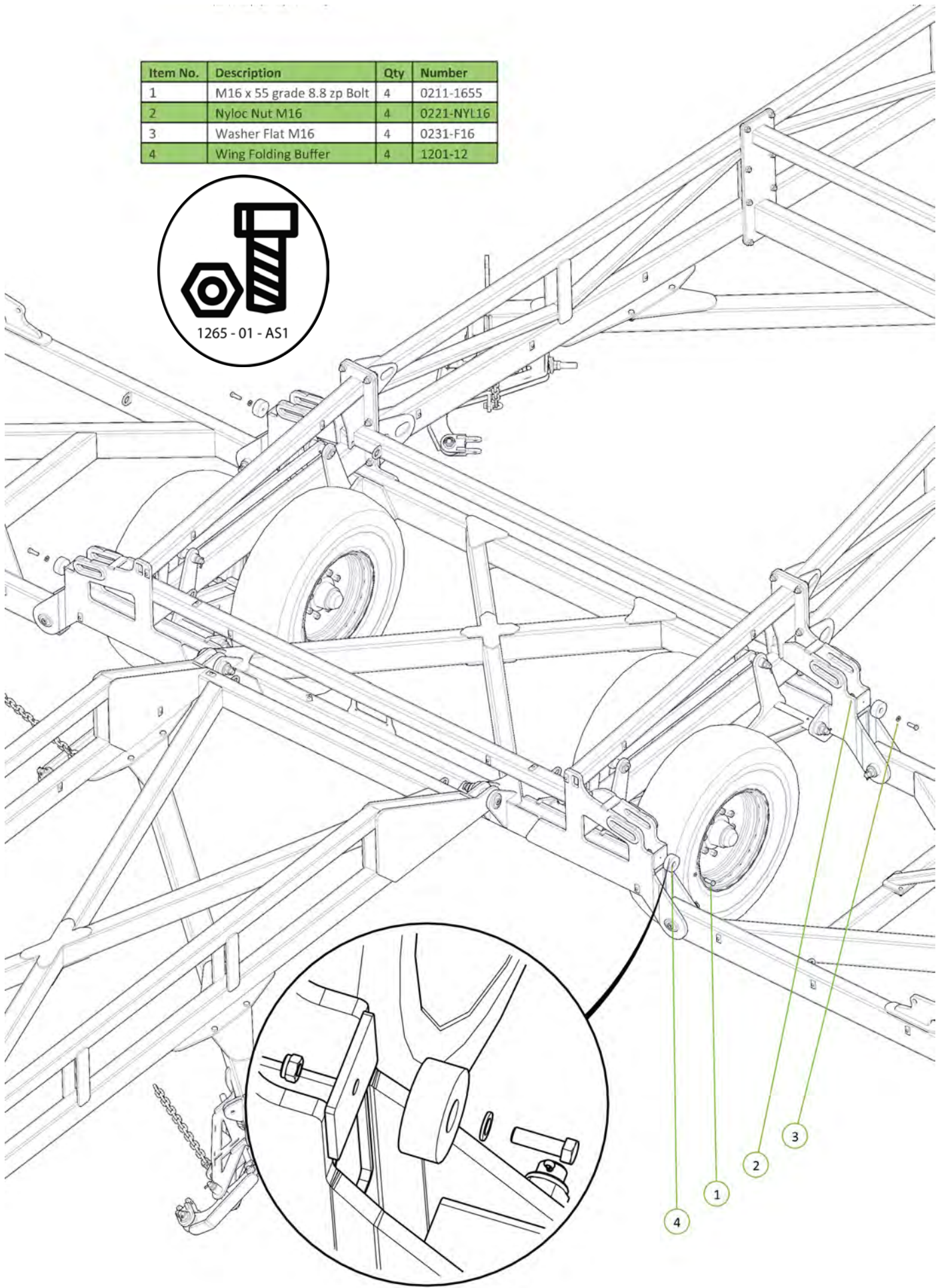


See p60 for location

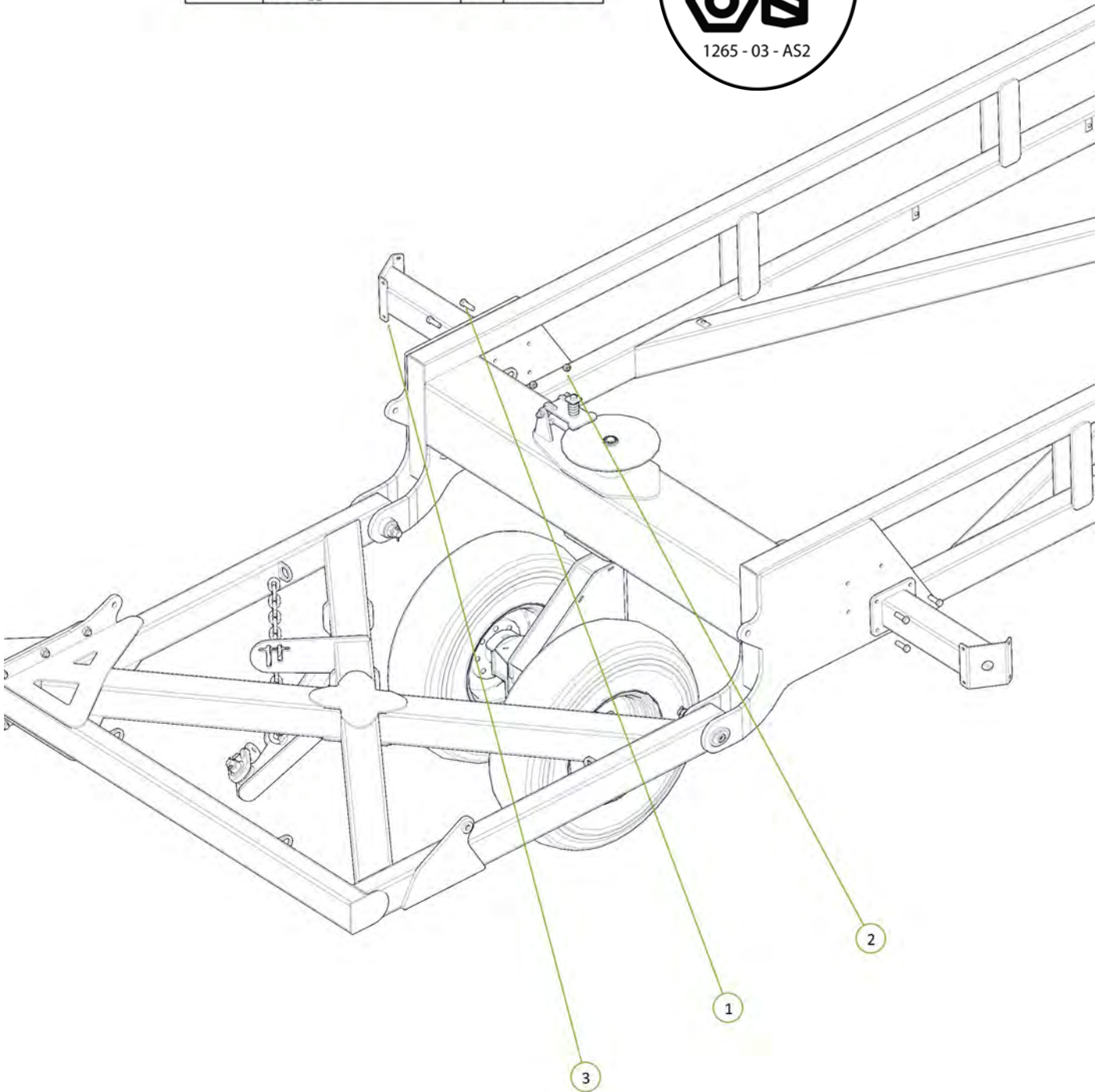
Item No.	Description	Qty	Number
1	Height Adjusting Chain Assembly 17 Link	1	0801-PCH24MCA17



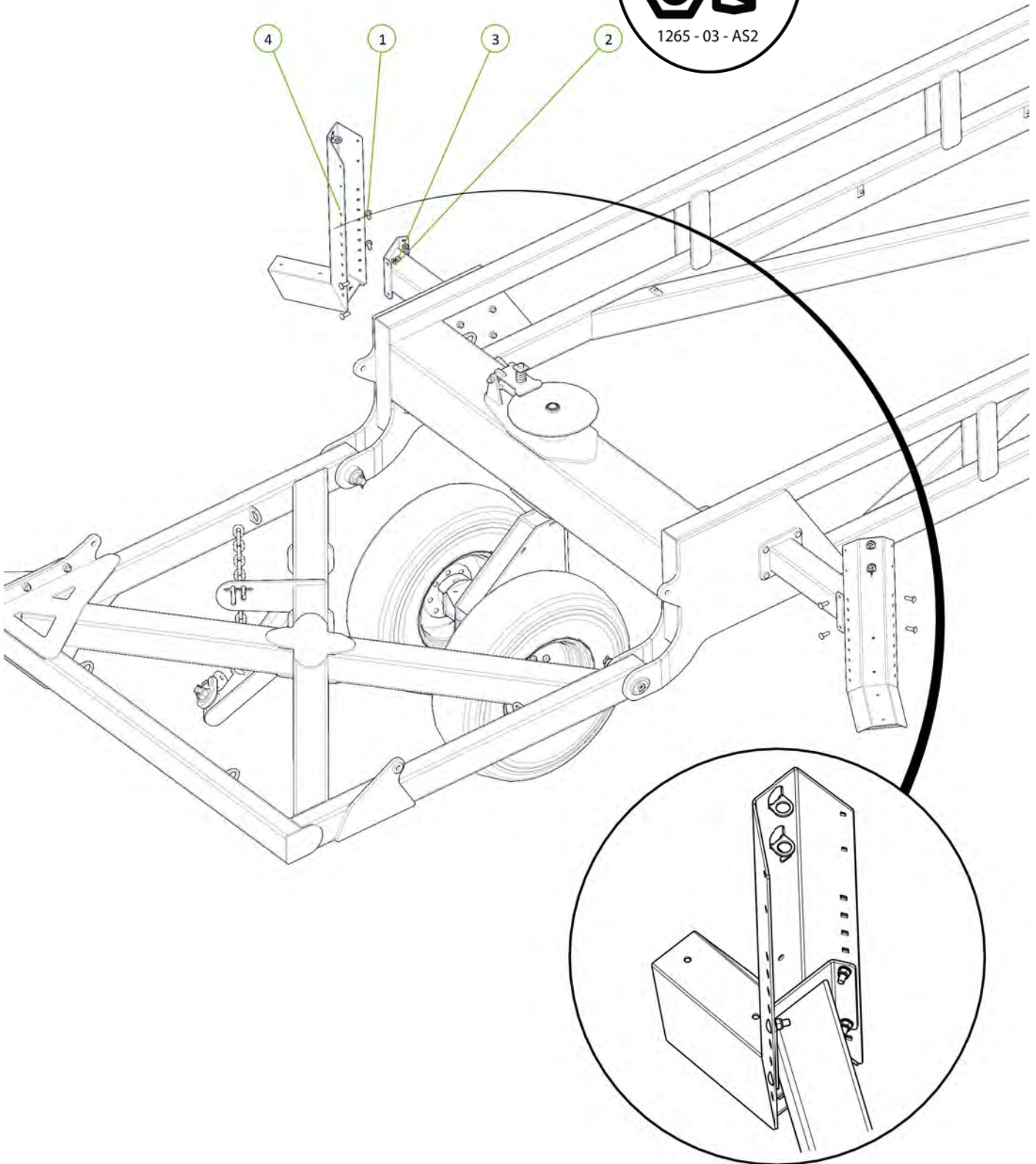
Item No.	Description	Qty	Number
1	M16 x 55 grade 8.8 zp Bolt	4	0211-1655
2	Nyloc Nut M16	4	0221-NYL16
3	Washer Flat M16	4	0231-F16
4	Wing Folding Buffer	4	1201-12



Item No.	Description	Qty	Number
1	M16 x 55 grade 8.8 zp Bolt	8	0211-1655
2	Nyloc Nut M16	8	0221-NYL16
3	Outrigger	2	0810-109

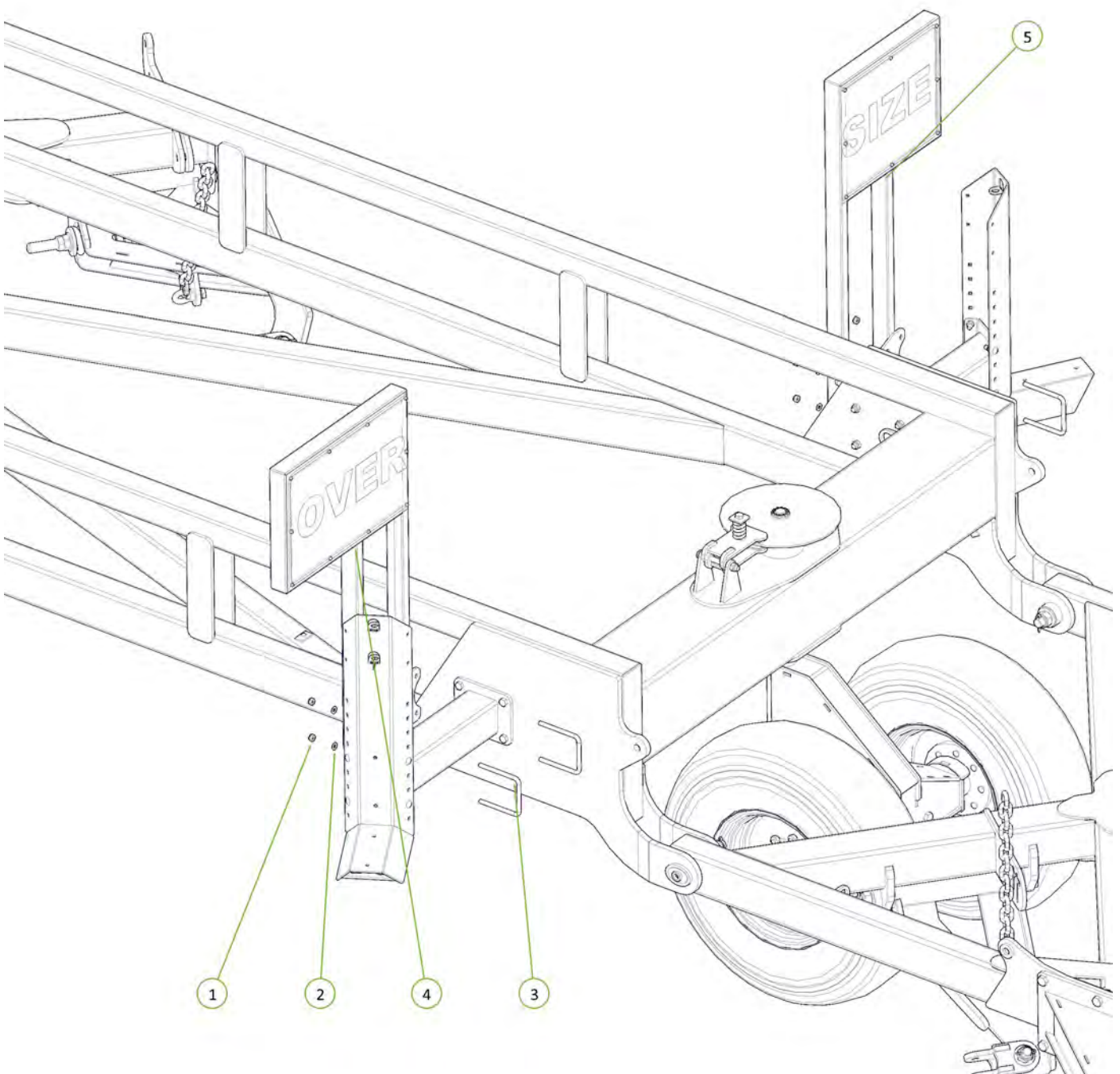


Item No.	Description	Qty	Number
1	M12 x 40 Coach Head Bolt	8	0215-CH1240
2	Nyloc Nut M12	8	0221-NYL12
3	Washer Flat M12	8	0231-F12
4	Chain Carrier Bolt on End	2	0810-17L

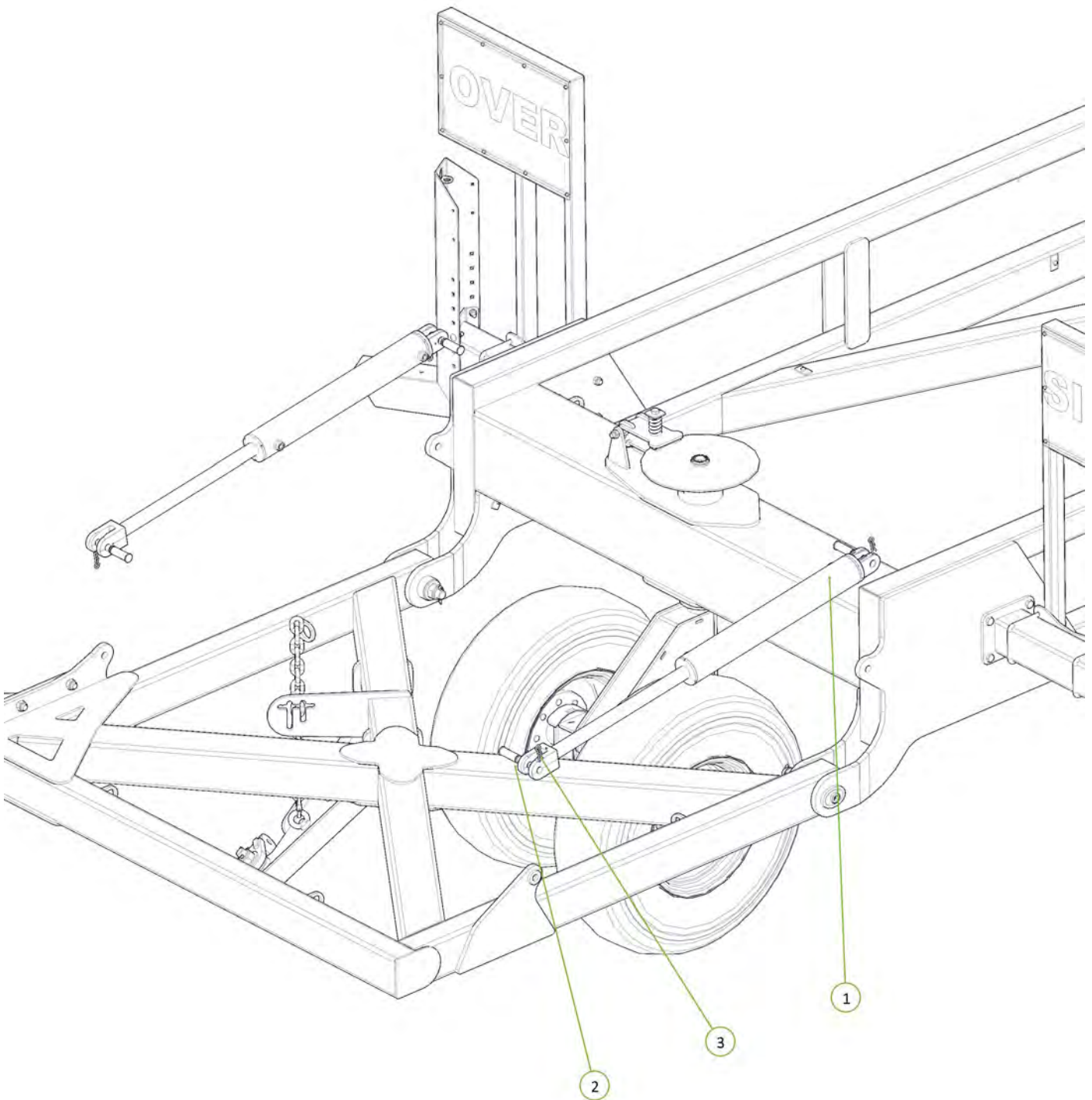


Item No.	Description	Qty	Number
1	Nyloc Nut M12	8	0221-NYL12
2	Washer Flat M12	8	0231-F12
3	U-Bolt M12 x 155 Deep x 127 Wide	4	0271-12155127
4	LH Oversize Sign Frame	1	0810-110
5	RH Oversize Sign Frame	1	0810-111

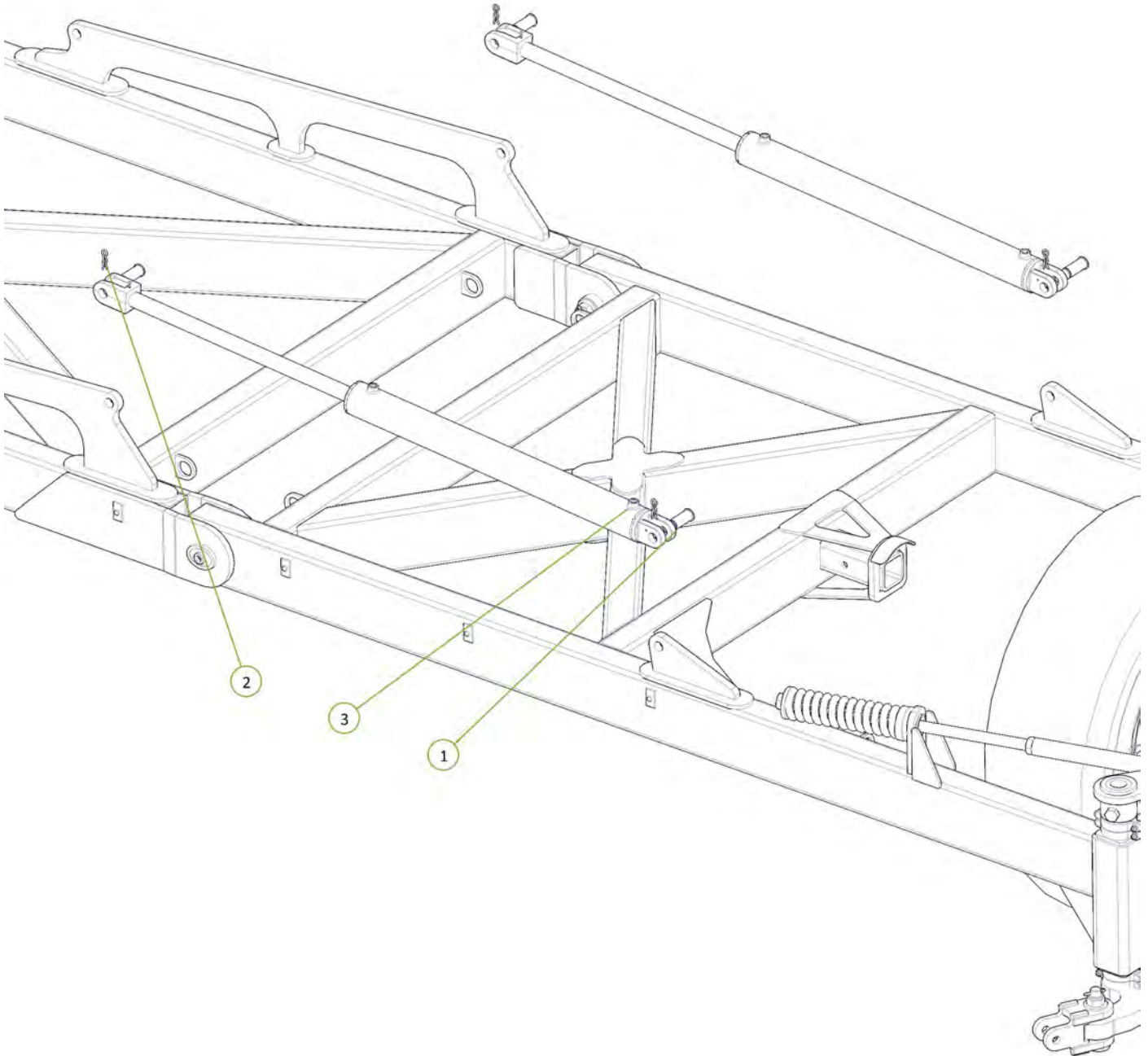
Signage may change according to local regulations



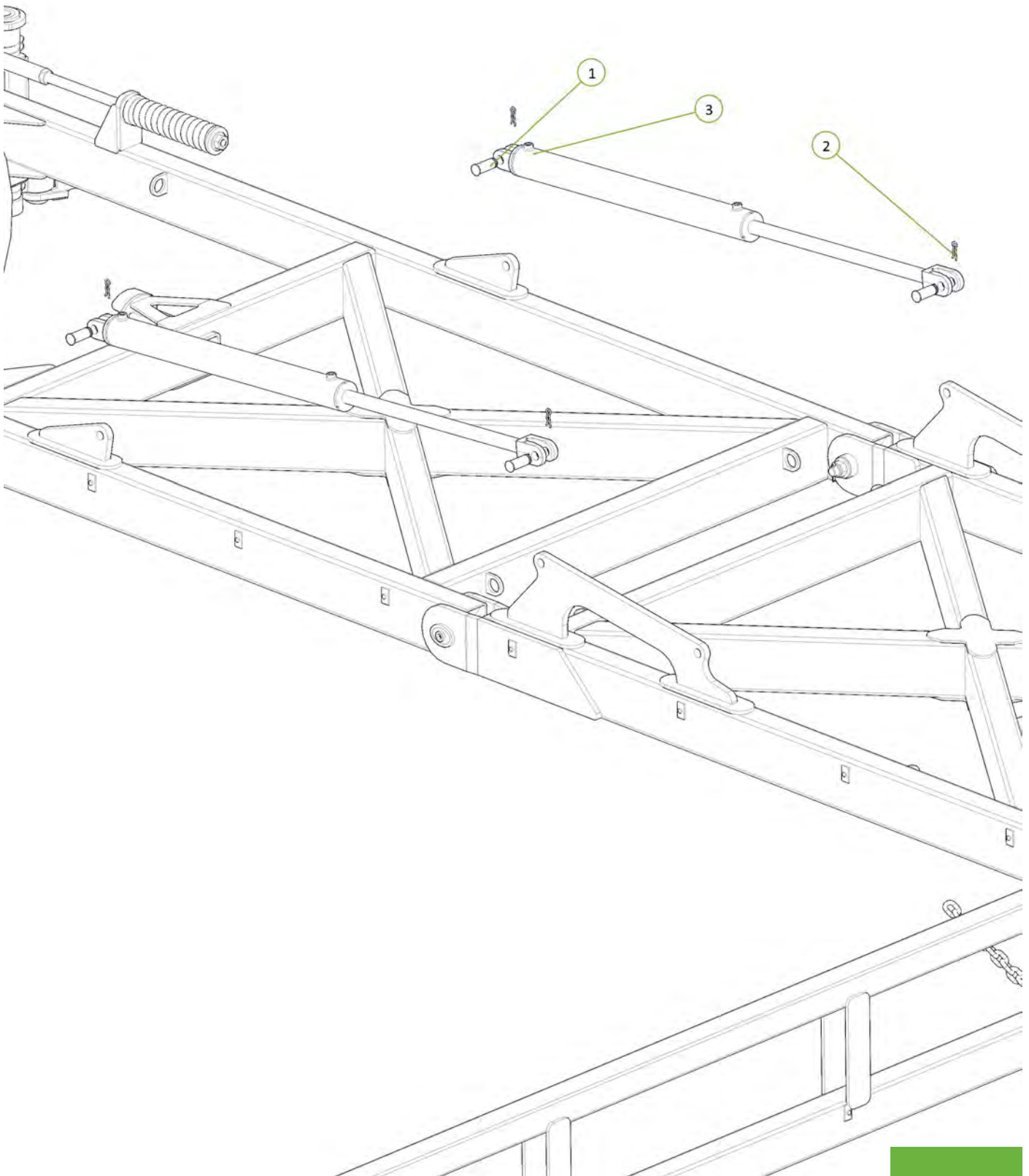
Item No.	Description	Qty	Number
1	3.5" Bore 24" Stroke 1.75" Rod Hydraulic Cylinder	2	0313-3524SP-B
2	Hydraulic Cylinder Pin 1" x 75mm	4	0313-NCP1X75
3	R Clip 3mm	4	0511-RCLIP3



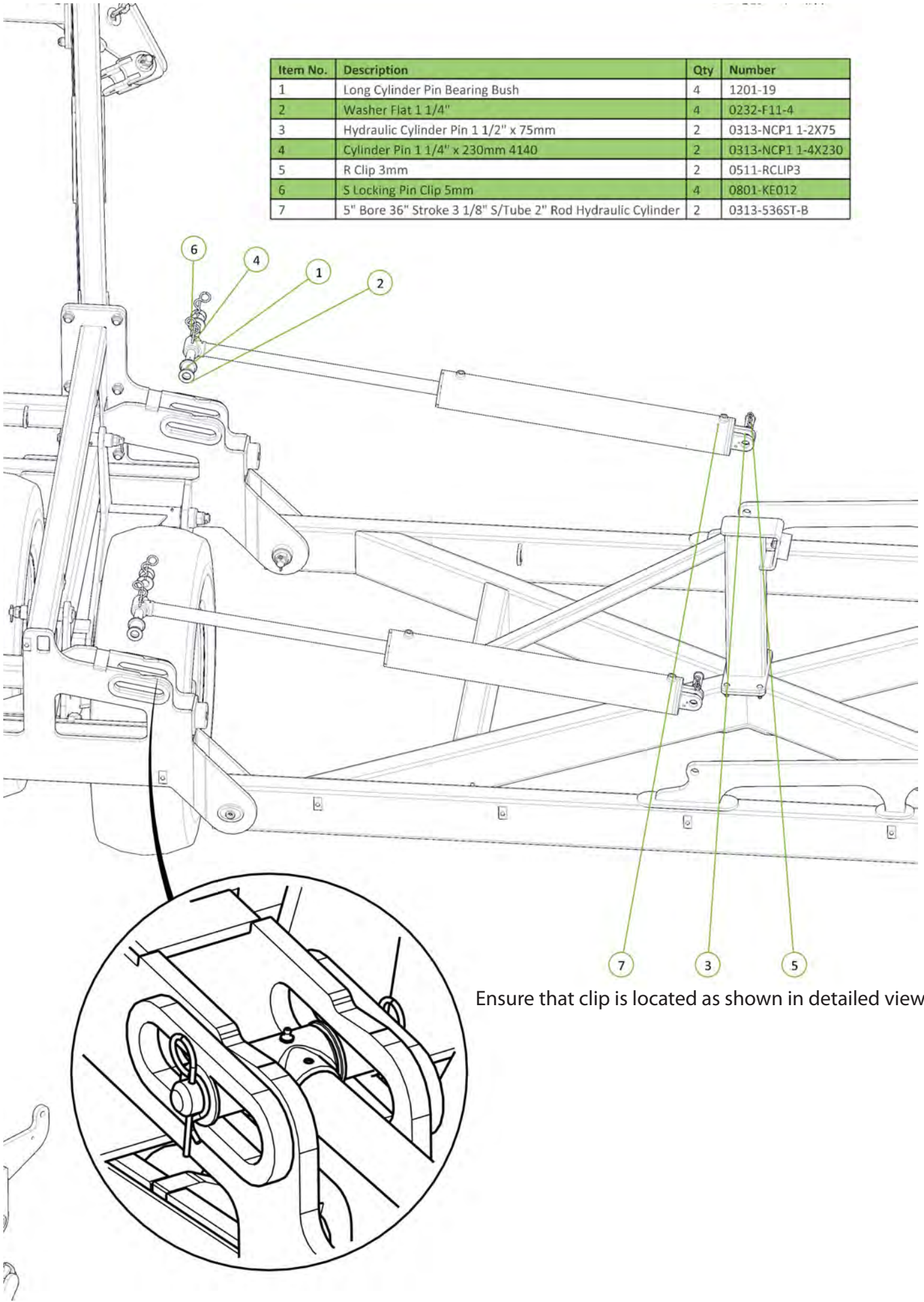
Item No.	Description	Qty	Number
1	Hydraulic Cylinder Pin 1 1/2" x 75mm	4	0313-NCP1 1-2X75
2	R Clip 3mm	4	0511-RCLIP3
3	3.5" Bore 32" Stroke 4" S/Tube 1.75" Rod Hydraulic Cylinder	2	0313-3532ST-B



Item No.	Description	Qty	Number
1	Hydraulic Cylinder Pin 1 1/2" x 75mm	4	0313-NCP1 1-2X75
2	R Clip 3mm	4	0511-RCLIP3
3	3.5" Bore 32" Stroke 4" S/Tube 1.75" Rod Hydraulic Cylinder	2	0313-3532ST-B



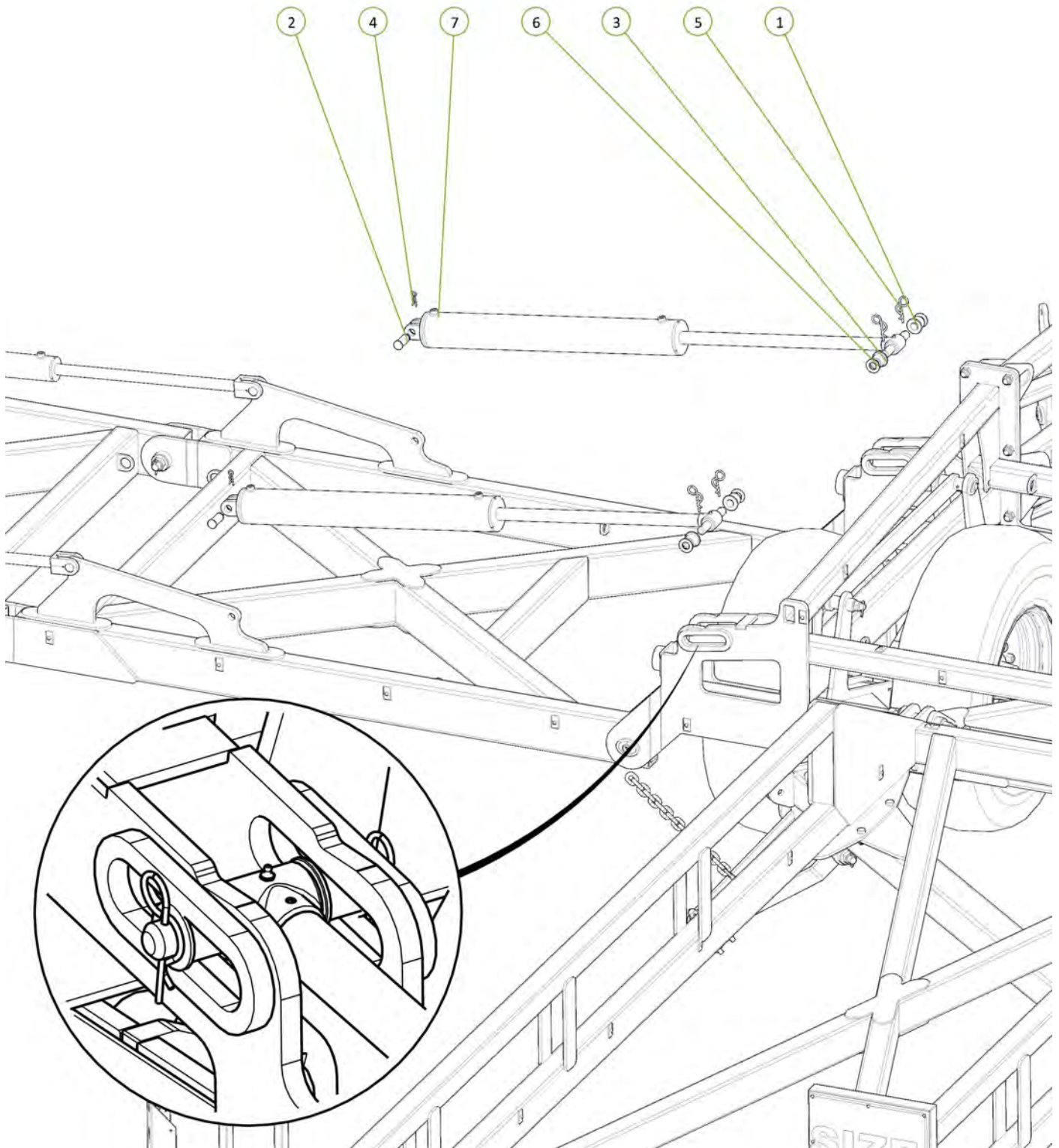
Item No.	Description	Qty	Number
1	Long Cylinder Pin Bearing Bush	4	1201-19
2	Washer Flat 1 1/4"	4	0232-F11-4
3	Hydraulic Cylinder Pin 1 1/2" x 75mm	2	0313-NCP1 1-2X75
4	Cylinder Pin 1 1/4" x 230mm 4140	2	0313-NCP1 1-4X230
5	R Clip 3mm	2	0511-RCLIP3
6	S Locking Pin Clip 5mm	4	0801-KE012
7	5" Bore 36" Stroke 3 1/8" S/Tube 2" Rod Hydraulic Cylinder	2	0313-536ST-B



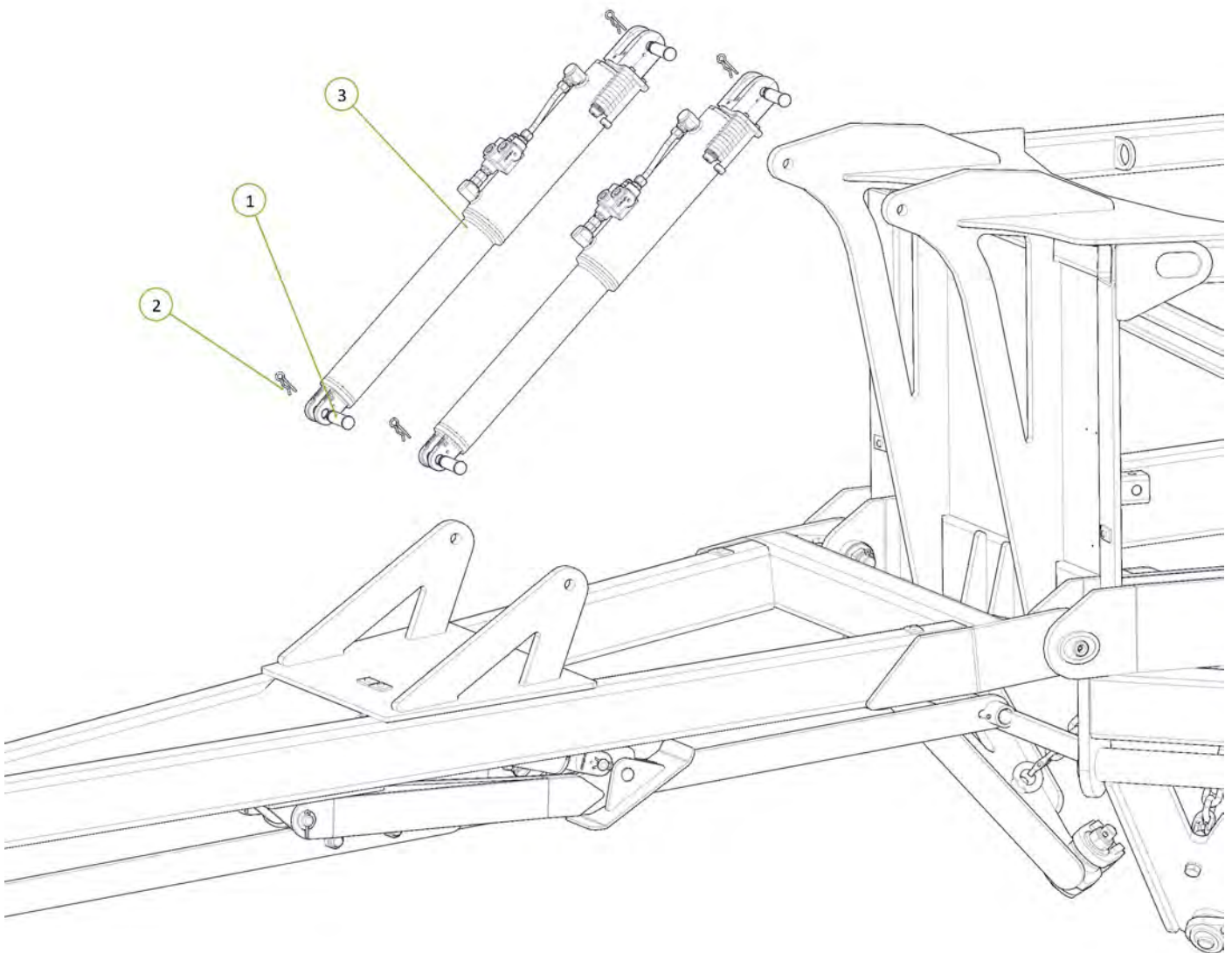
Ensure that clip is located as shown in detailed view

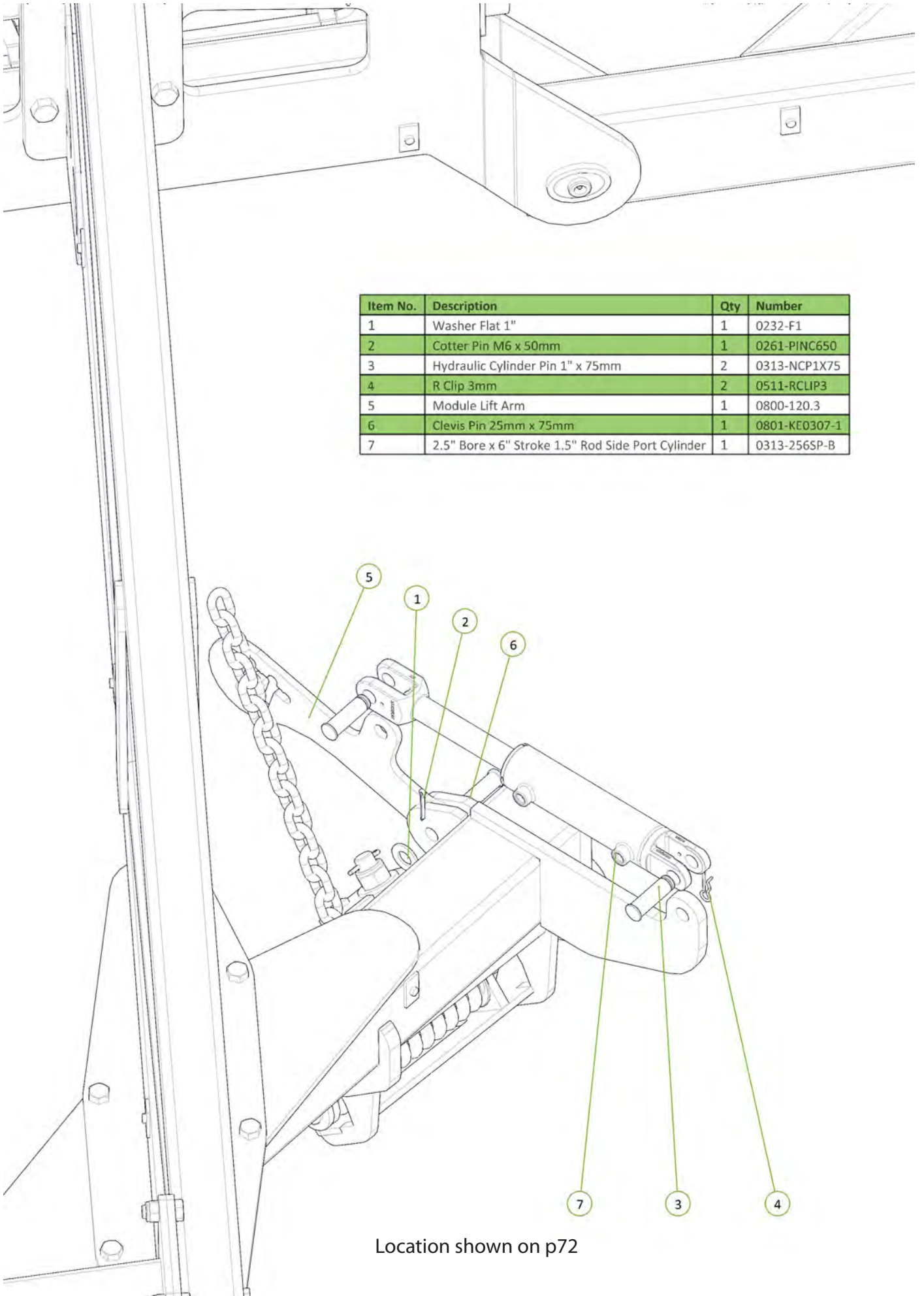
Item No.	Description	Qty	Number
1	Washer Flat 1 1/4"	4	0232-F11-4
2	Hydraulic Cylinder Pin 1 1/2" x 75mm	2	0313-NCP1 1-2X75
3	Cylinder Pin 1 1/4" x 230mm 4140	2	0313-NCP1 1-4X230
4	R Clip 3mm	2	0511-RCLIP3
5	S Locking Pin Clip 5mm	4	0801-KE012
6	Long Cylinder Pin Bearing Bush	4	1201-19
7	5" Bore 36" Stroke 3 1/8" S/Tube 2" Rod Hydraulic Cylinder	2	0313-536ST-B

Ensure that clip is located as shown in detailed view



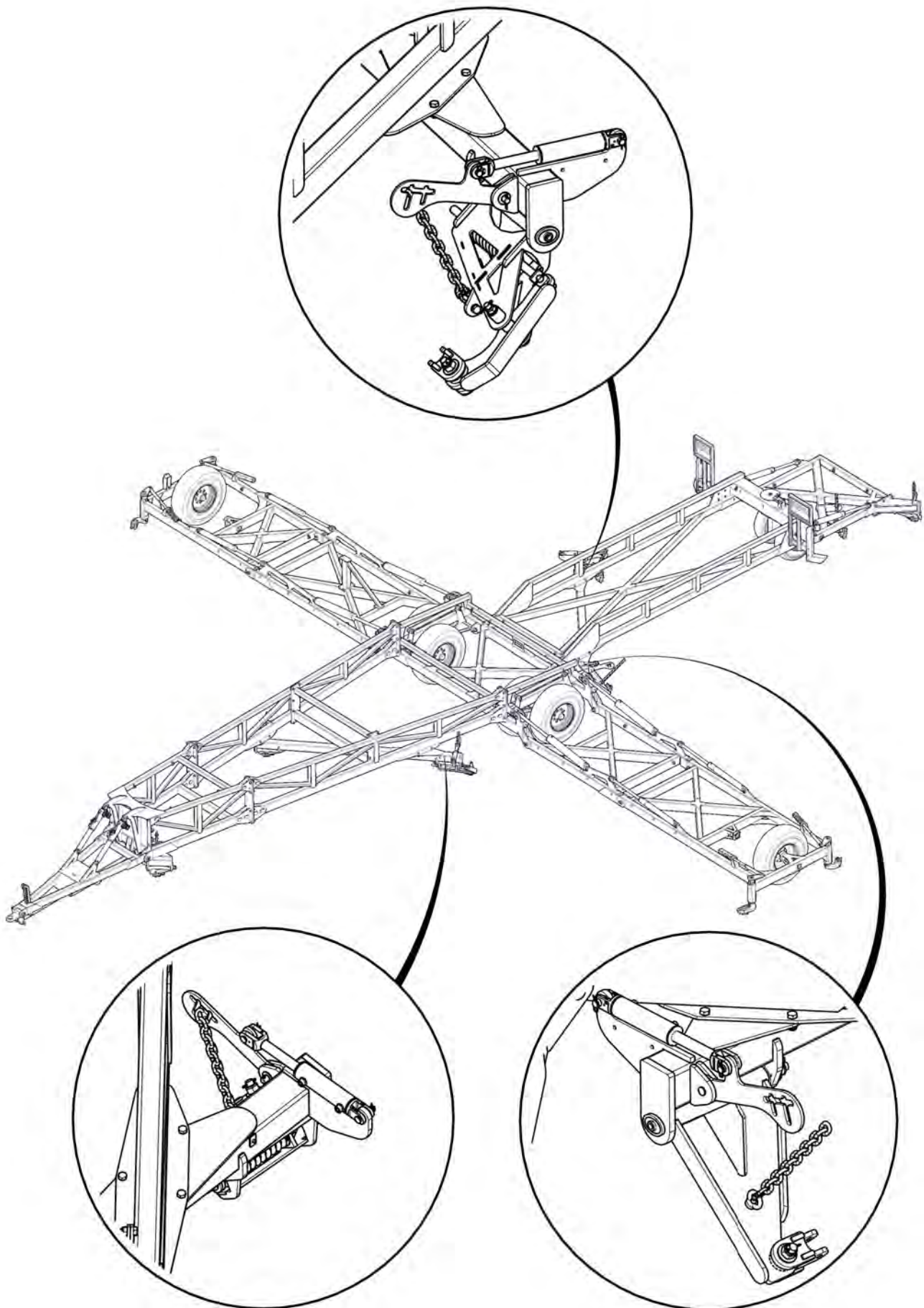
Item No.	Description	Qty	Number
1	Hydraulic Cylinder Pin 1" x 75mm	4	0313-NCP1X75
2	R Clip 3mm	4	0511-RCLIP3
3	4" Bore 12" Stroke 1.75" Rod Extended Hydraulic Cylinder	2	0313-412EXT-B



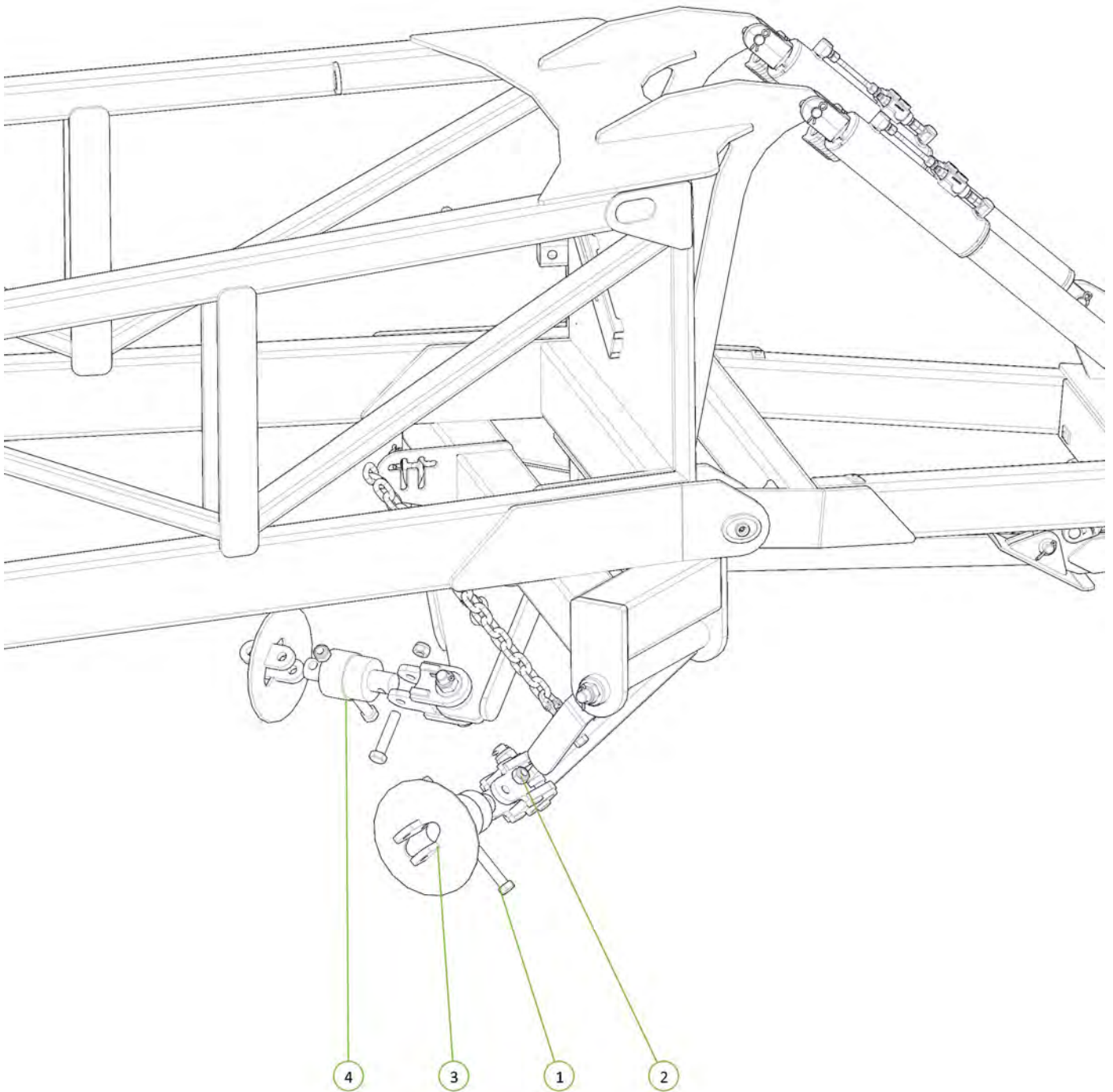


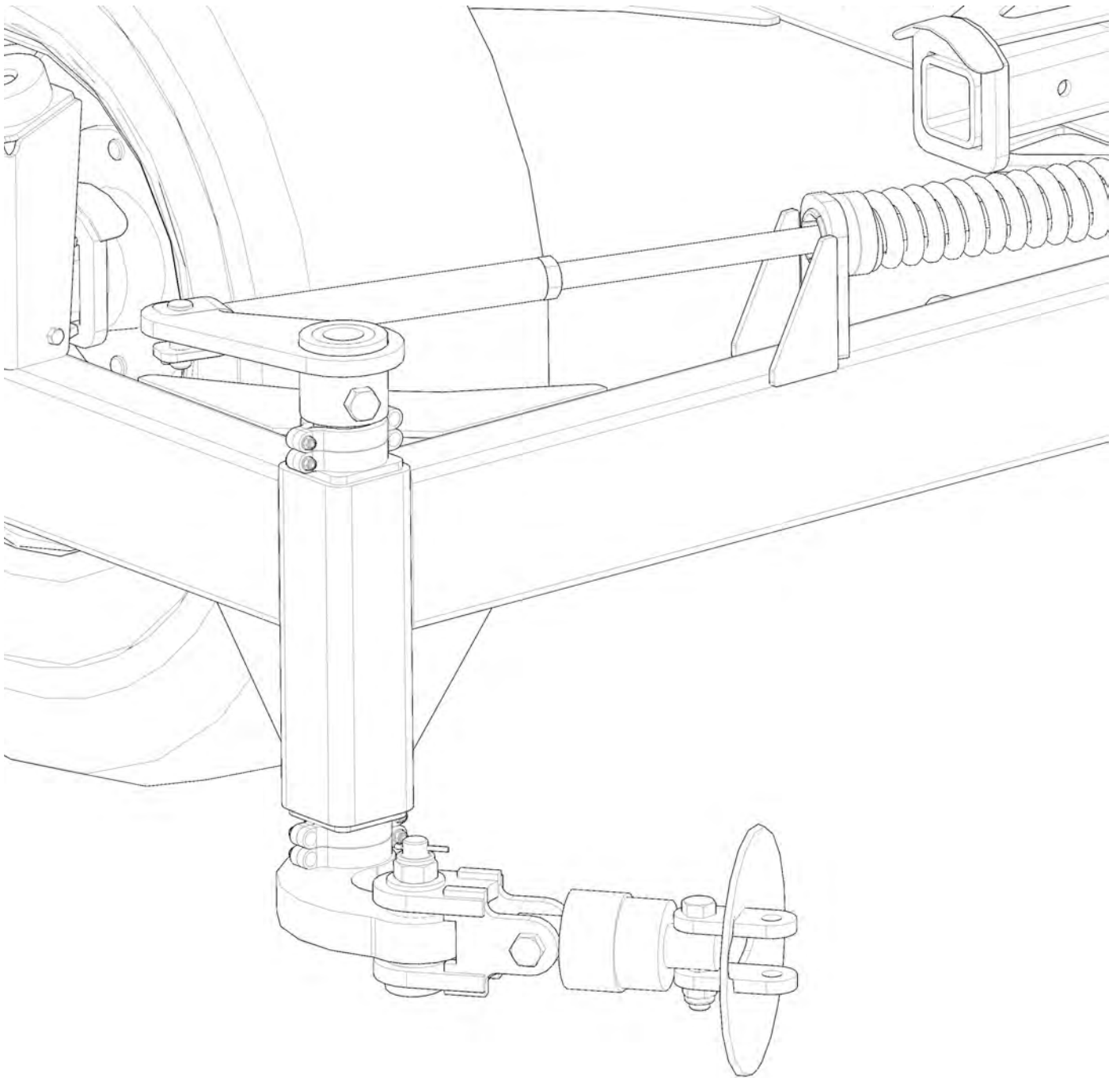
Item No.	Description	Qty	Number
1	Washer Flat 1"	1	0232-F1
2	Cotter Pin M6 x 50mm	1	0261-PINC650
3	Hydraulic Cylinder Pin 1" x 75mm	2	0313-NCP1X75
4	R Clip 3mm	2	0511-RCLIP3
5	Module Lift Arm	1	0800-120.3
6	Clevis Pin 25mm x 75mm	1	0801-KE0307-1
7	2.5" Bore x 6" Stroke 1.5" Rod Side Port Cylinder	1	0313-256SP-B

Location shown on p72



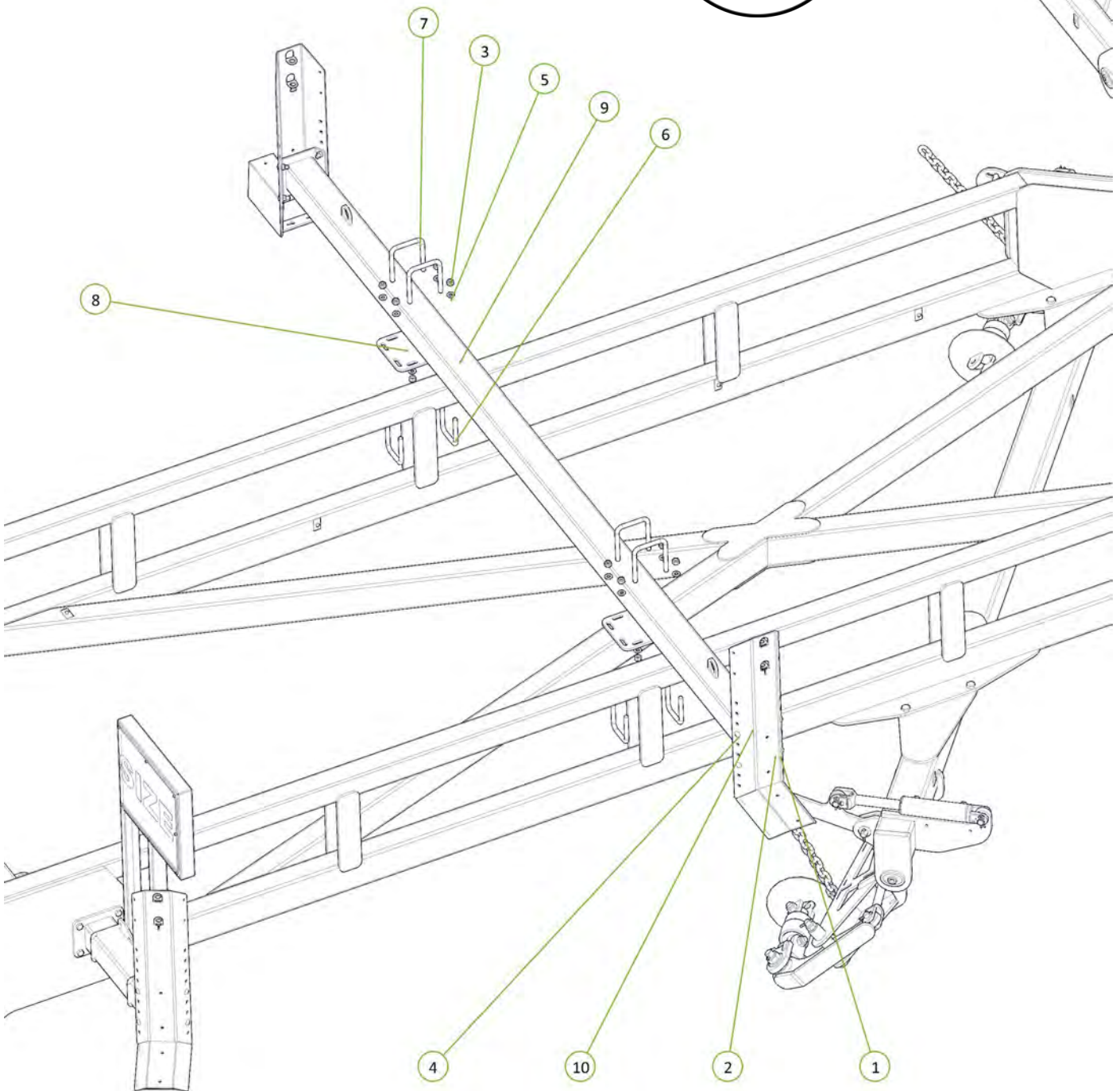
Item No.	Description	Qty	Number
1	M24 x 120 grade 10.9 zp Short Thread Bolt	4	0211-24120
2	Nyloc Nut M24	4	0221-NYL24
3	Disc Chain Tie Plate Link 24mm	2	0802-DCTP-24
4	24mm Bolt Swivel Unit	2	0802-PCHB553



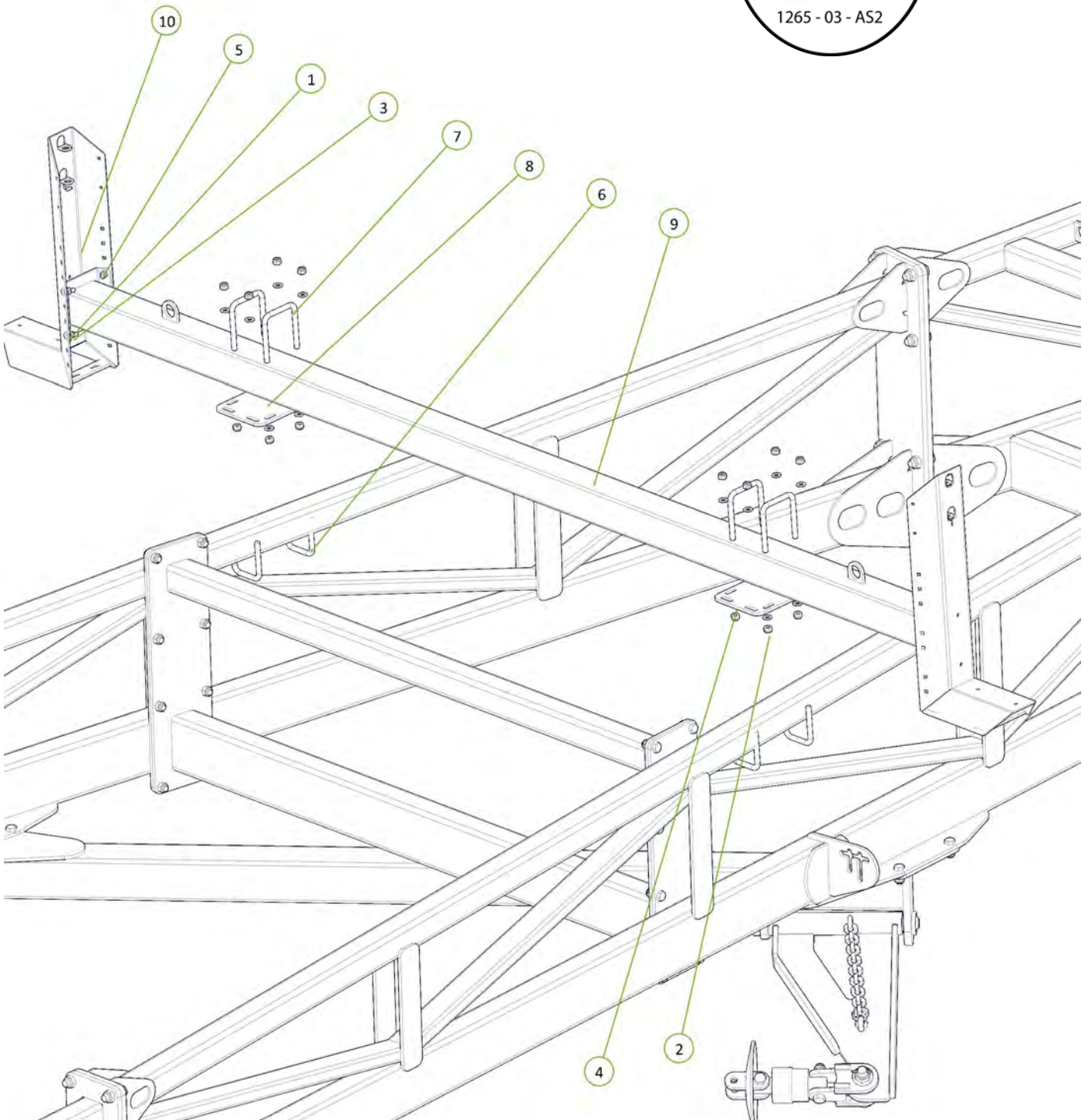


Item No.	Description	Qty	Number
1	M12 x 40 Coach Head Bolt	8	0215-CH1240
2	Nyloc Nut M12	8	0221-NYL12
3	Nyloc Nut M16	16	0221-NYL16
4	Washer Flat M12	8	0231-F12
5	Washer Flat M16	16	0231-F16
6	U-Bolt M16 x 135 Deep x 104 Wide	4	0271-16135104
7	U-Bolt M16 x 160 Deep x 127 Wide	4	0271-16160127
8	Chain Carrier Mount Plate	2	0800-139.1
9	50/60' Chain Carrier Beam	1	0810-17-60
10	Chain Carrier Bolt on End	2	0810-17L

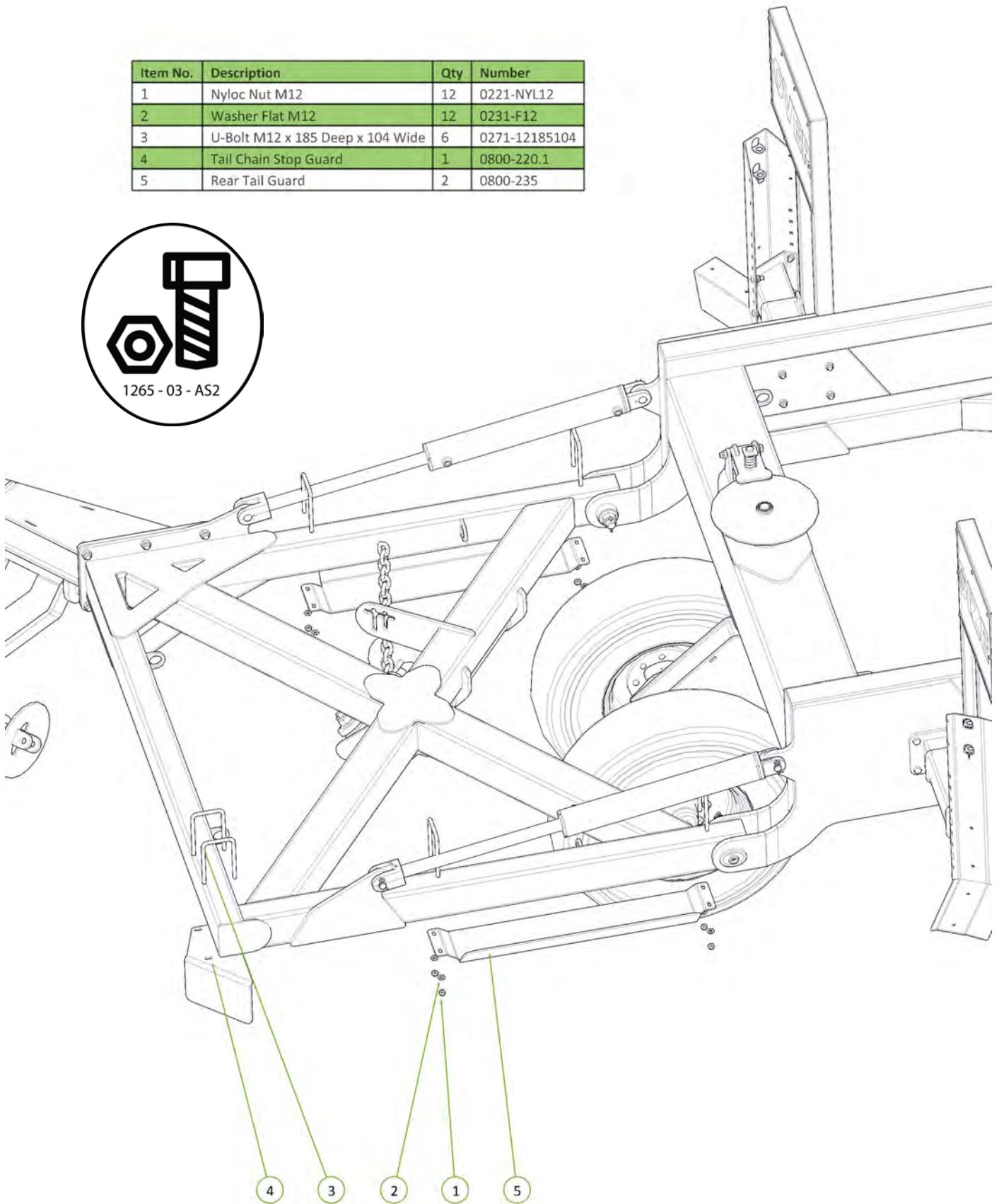
Note that chain carrier position may require slight modification to catch chain - adjust as necessary



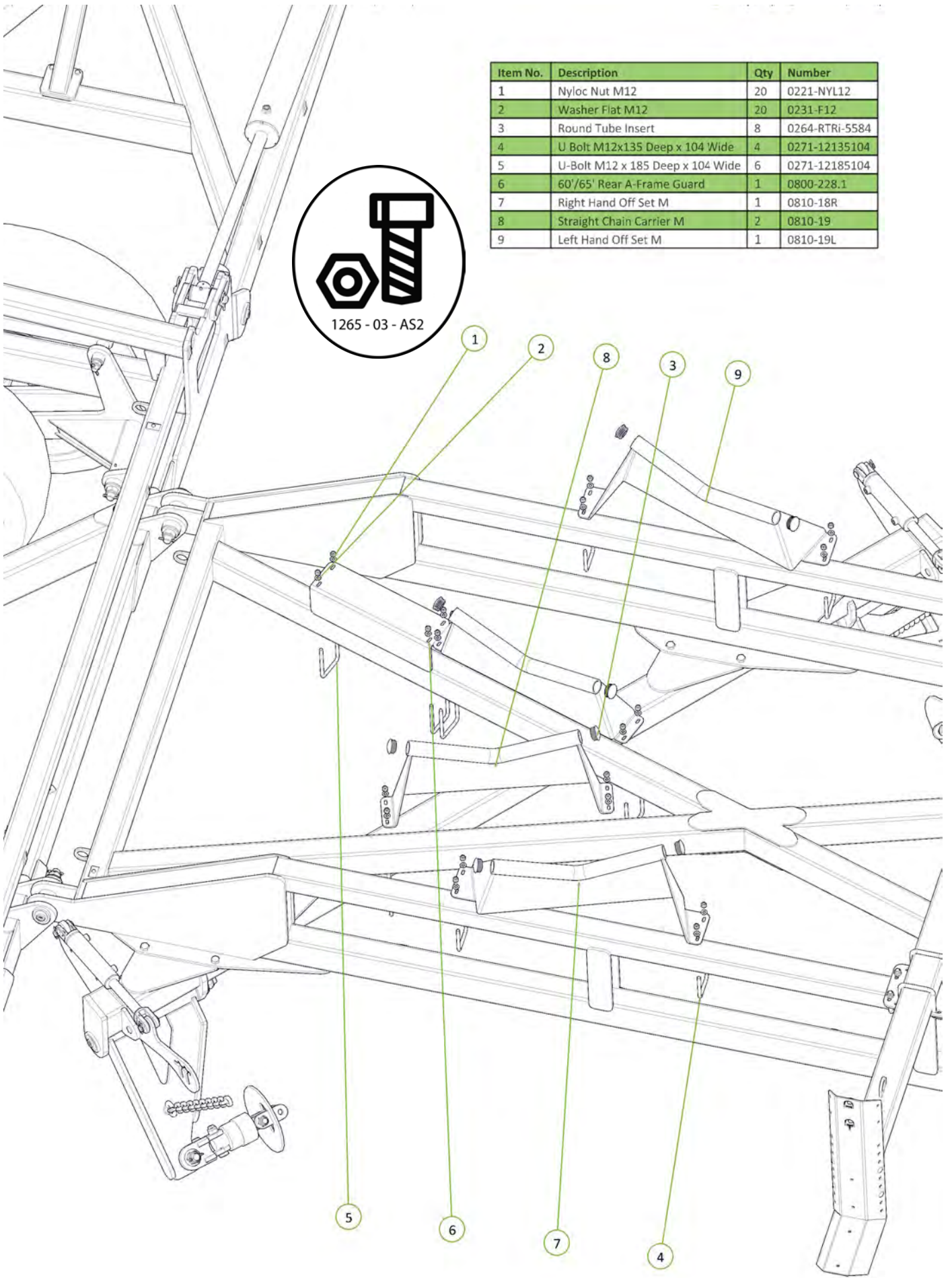
Item No.	Description	Qty	Number
1	M12 x 40 Coach Head Bolt	8	0215-CH1240
2	Nyloc Nut M16	16	0221-NYL16
3	Nyloc Nut M12	8	0221-NYL12
4	Washer Flat M16	16	0231-F16
5	Washer Flat M12	8	0231-F12
6	U-Bolt M16 x 135 Deep x 104 Wide	4	0271-16135104
7	U-Bolt M16 x 160 Deep x 127 Wide	4	0271-16160127
8	Chain Carrier Mount Plate	2	0800-139.1
9	50/60' Chain Carrier Beam	1	0810-17-60
10	Chain Carrier Bolt on End	2	0810-17L



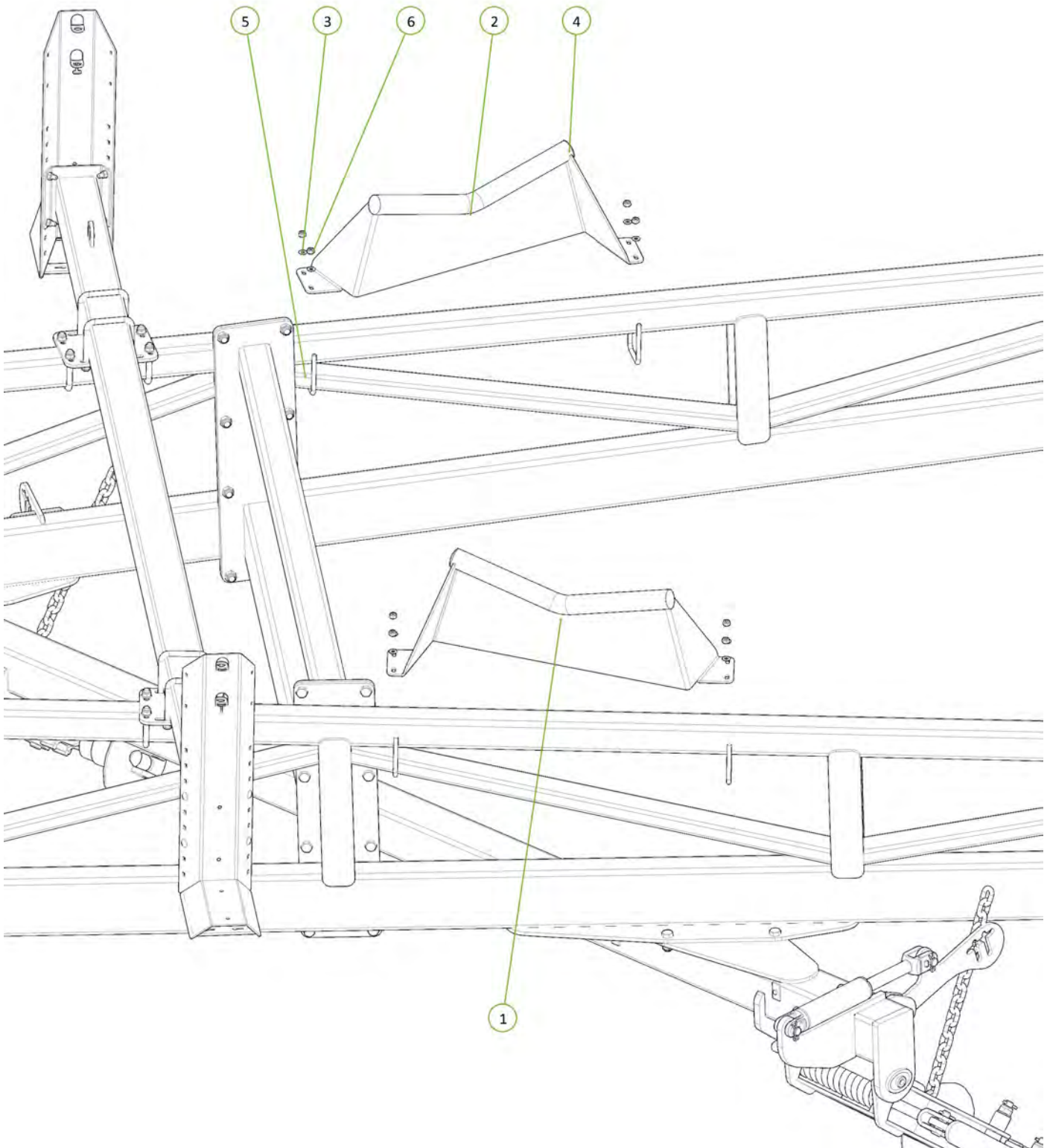
Item No.	Description	Qty	Number
1	Nyloc Nut M12	12	0221-NYL12
2	Washer Flat M12	12	0231-F12
3	U-Bolt M12 x 185 Deep x 104 Wide	6	0271-12185104
4	Tail Chain Stop Guard	1	0800-220.1
5	Rear Tail Guard	2	0800-235

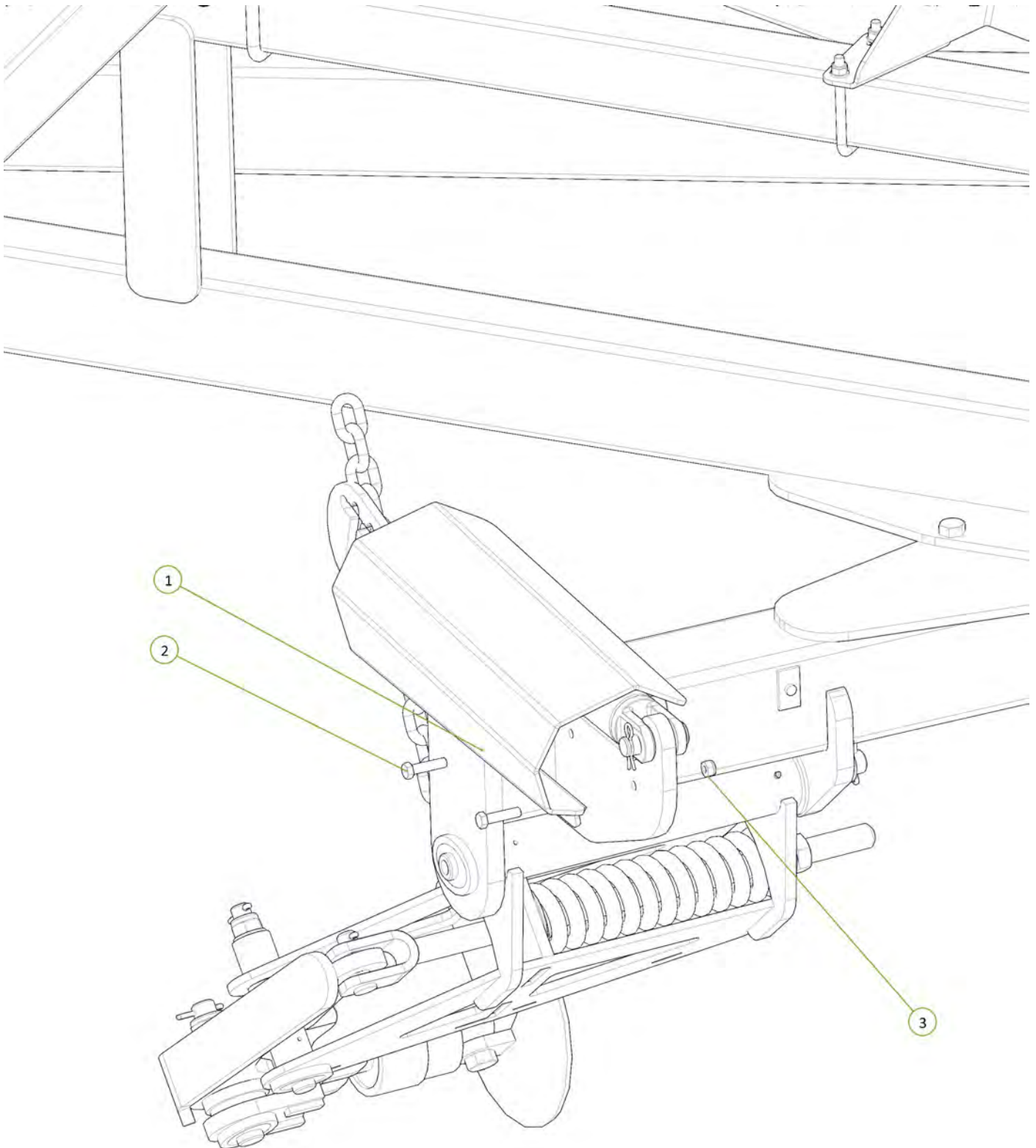


Item No.	Description	Qty	Number
1	Nyloc Nut M12	20	0221-NYL12
2	Washer Flat M12	20	0231-F12
3	Round Tube Insert	8	0264-RTRi-5584
4	U Bolt M12x135 Deep x 104 Wide	4	0271-12135104
5	U-Bolt M12 x 185 Deep x 104 Wide	6	0271-12185104
6	60'/65' Rear A-Frame Guard	1	0800-228.1
7	Right Hand Off Set M	1	0810-18R
8	Straight Chain Carrier M	2	0810-19
9	Left Hand Off Set M	1	0810-19L



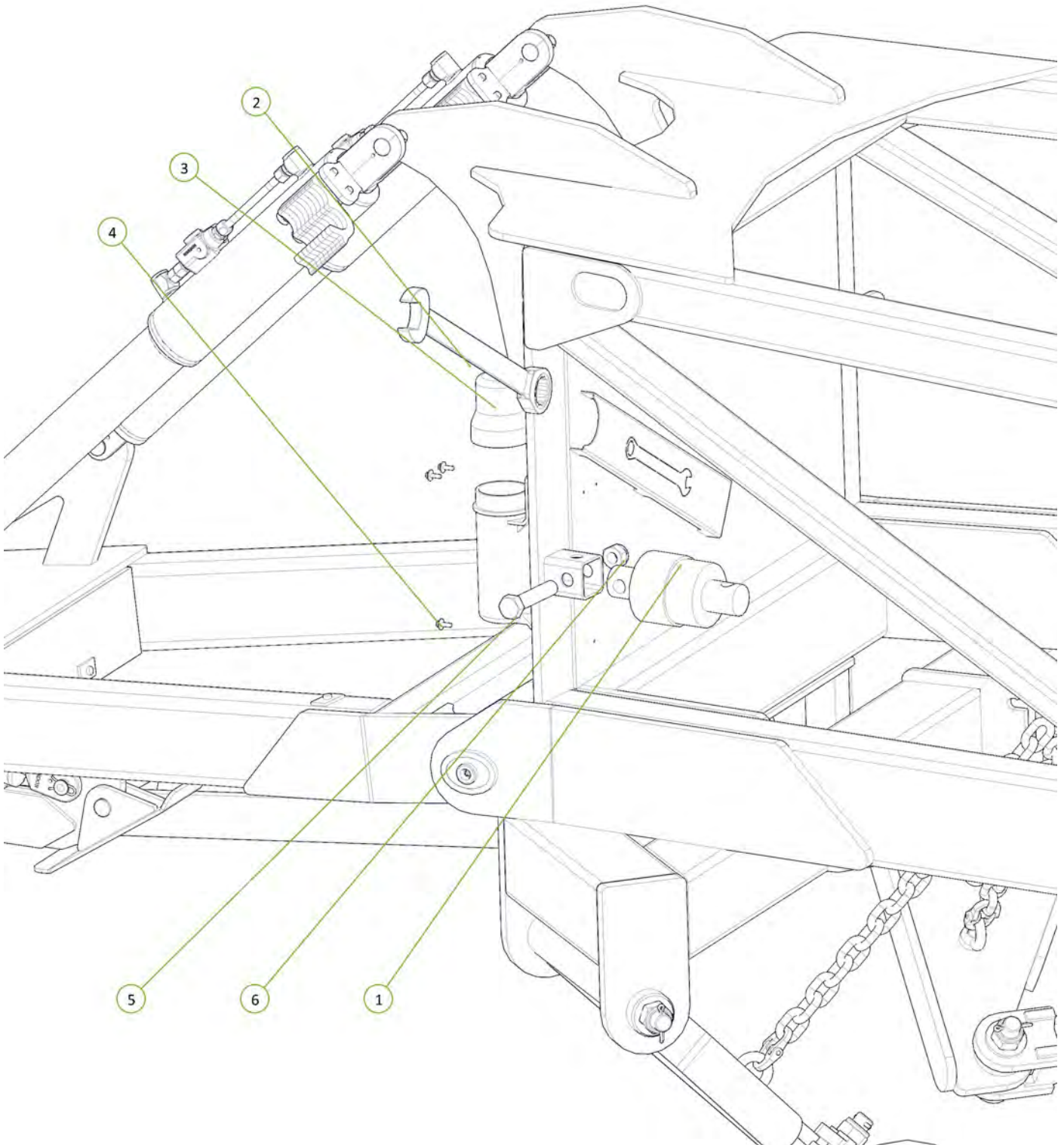
Item No.	Description	Qty	Number
1	Left Hand Off Set M	1	0810-19L
2	Right Hand Off Set M	1	0810-18R
3	Washer Flat M12	8	0231-F12
4	Round Tube Insert	4	0264-RTRI-5584
5	U Bolt M12x 135 Deep x 104 Wide	4	0271-12135104
6	Nyloc Nut M12	8	0221-NYL12

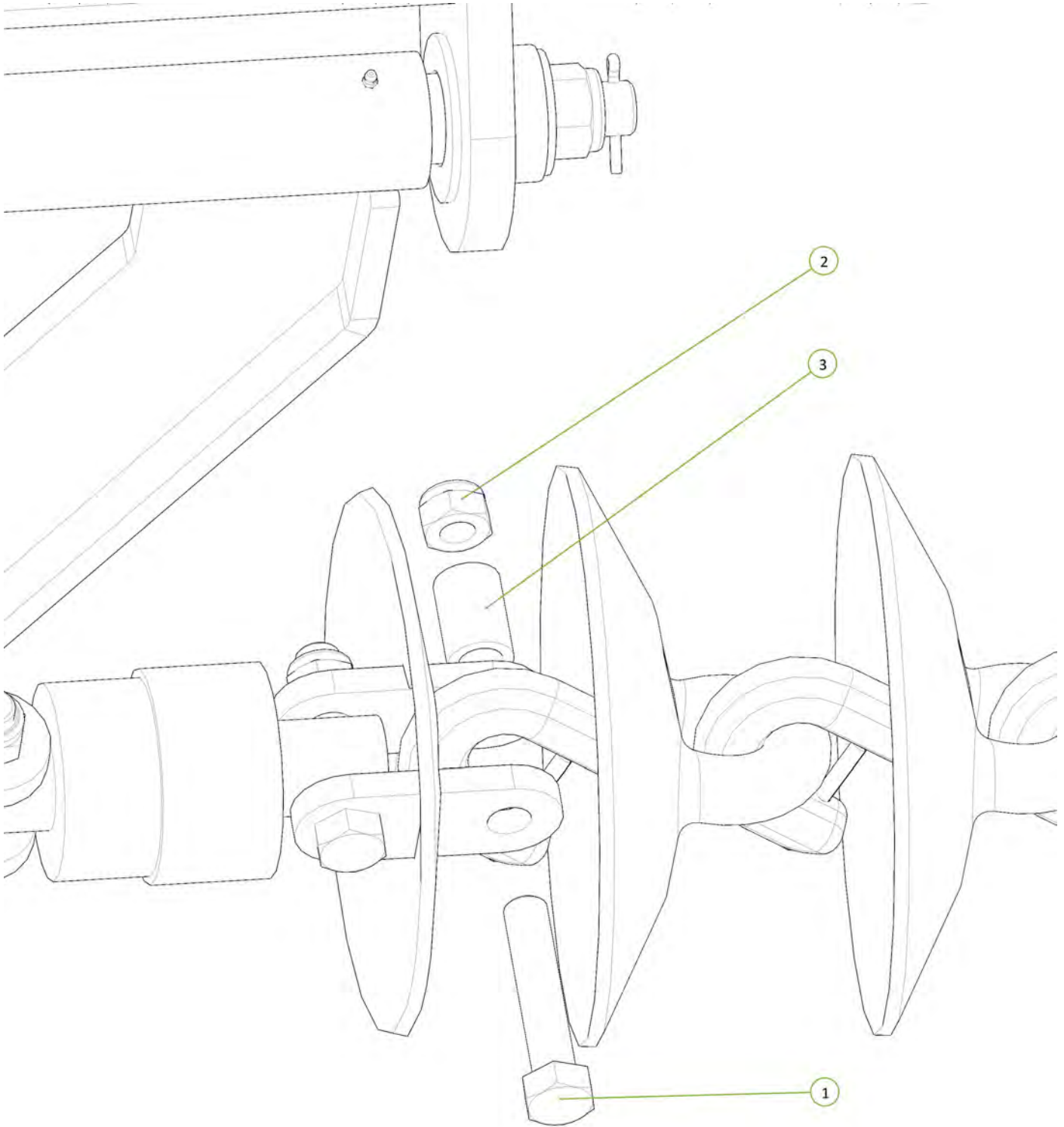




Item No.	Description	Qty	Number
1	Module Cylinder Gaurd	1	0800-167.3
2	M12 x 50 grade 8.8 ZP Bolt	2	0211-1250
3	Nyloc Nut M12	2	0221-NYL12

Item No.	Description	Qty	Number
1	24mm Bolt Swivel Unit	1	0802-PCHB553
2	Gear Wrench 1 3/4"	1	0802-GW1 3-4
3	Manual Canister	2	0801-OMC-1
4	M6x20 Trilobe Self Tapping Screw	3	0211-M620MZPHTF
5	M24 x 120 grade 10.9 zp Short Thread Bolt	1	0211-24120ST
6	Nyloc Nut M24	1	0221-NYL24



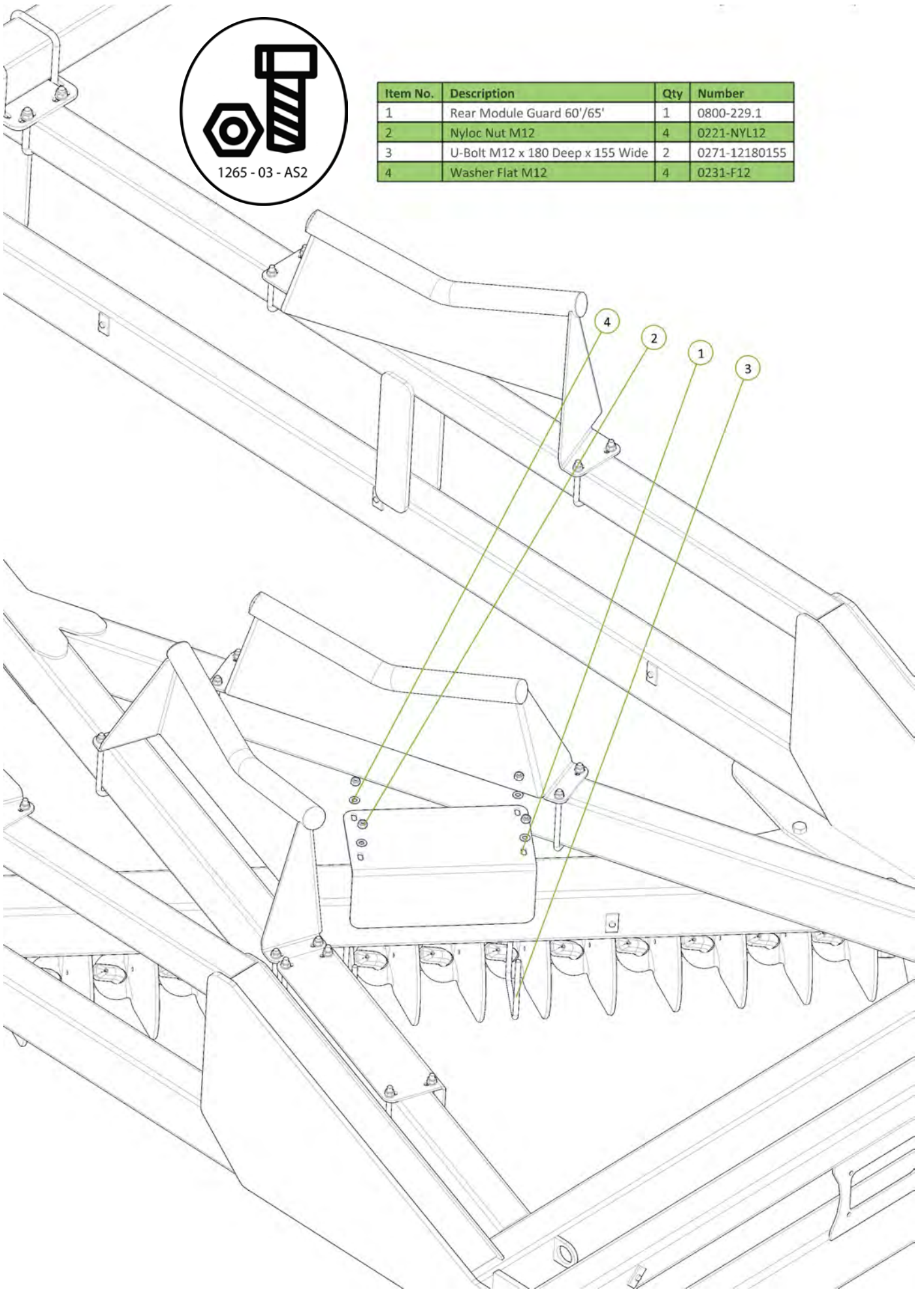


Item No.	Description	Qty	Number
1	M24 x 120 grade 10.9 zp Short Thread Bolt	1	0211-24120ST
2	Nyloc Nut M24	1	0221-NYL24
3	Tie Plate Bush	1	0801-PCDCS55

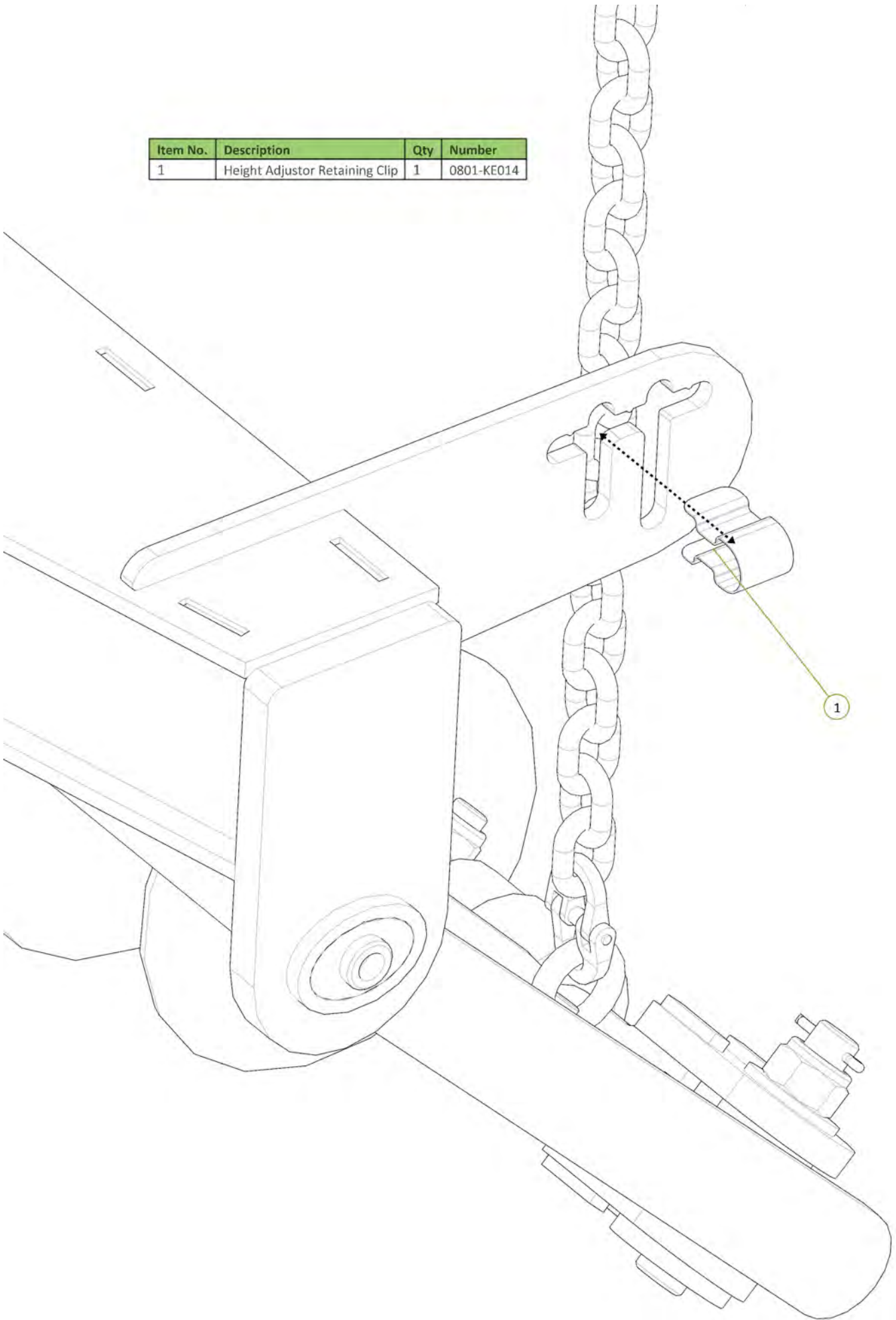




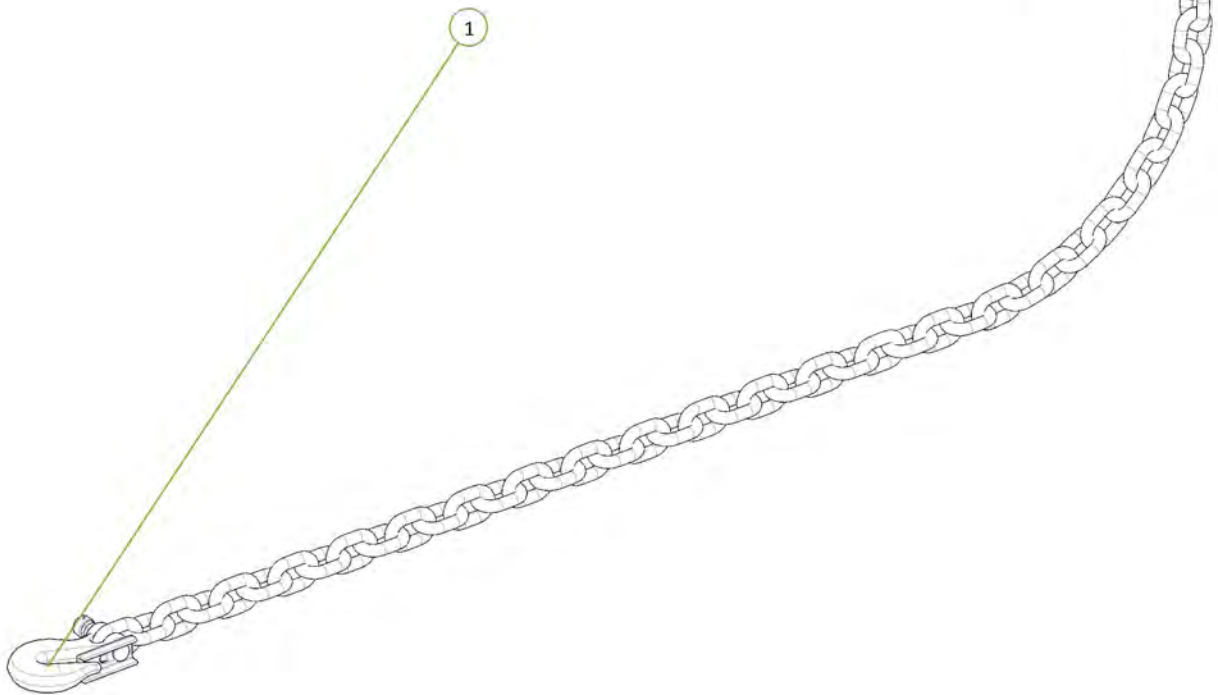
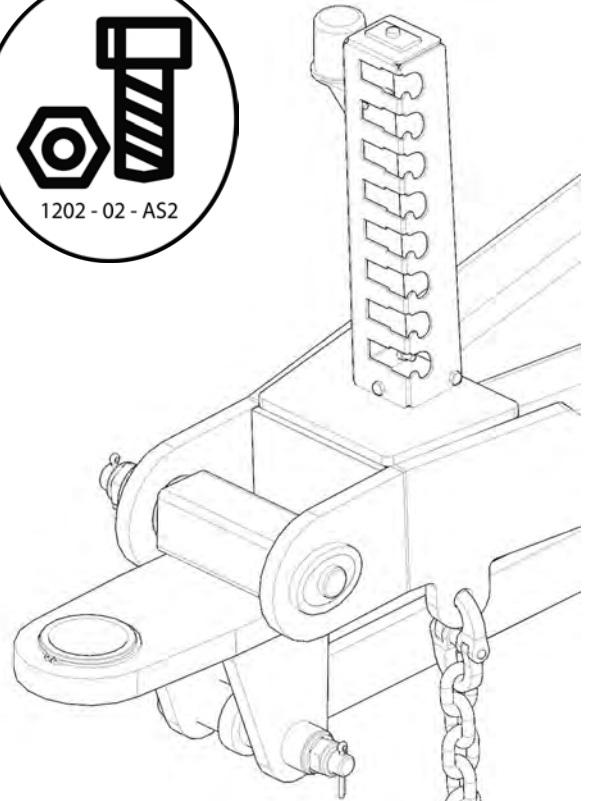
Item No.	Description	Qty	Number
1	Rear Module Guard 60'/65'	1	0800-229.1
2	Nyloc Nut M12	4	0221-NYL12
3	U-Bolt M12 x 180 Deep x 155 Wide	2	0271-12180155
4	Washer Flat M12	4	0231-F12



Item No.	Description	Qty	Number
1	Height Adjustor Retaining Clip	1	0801-KE014

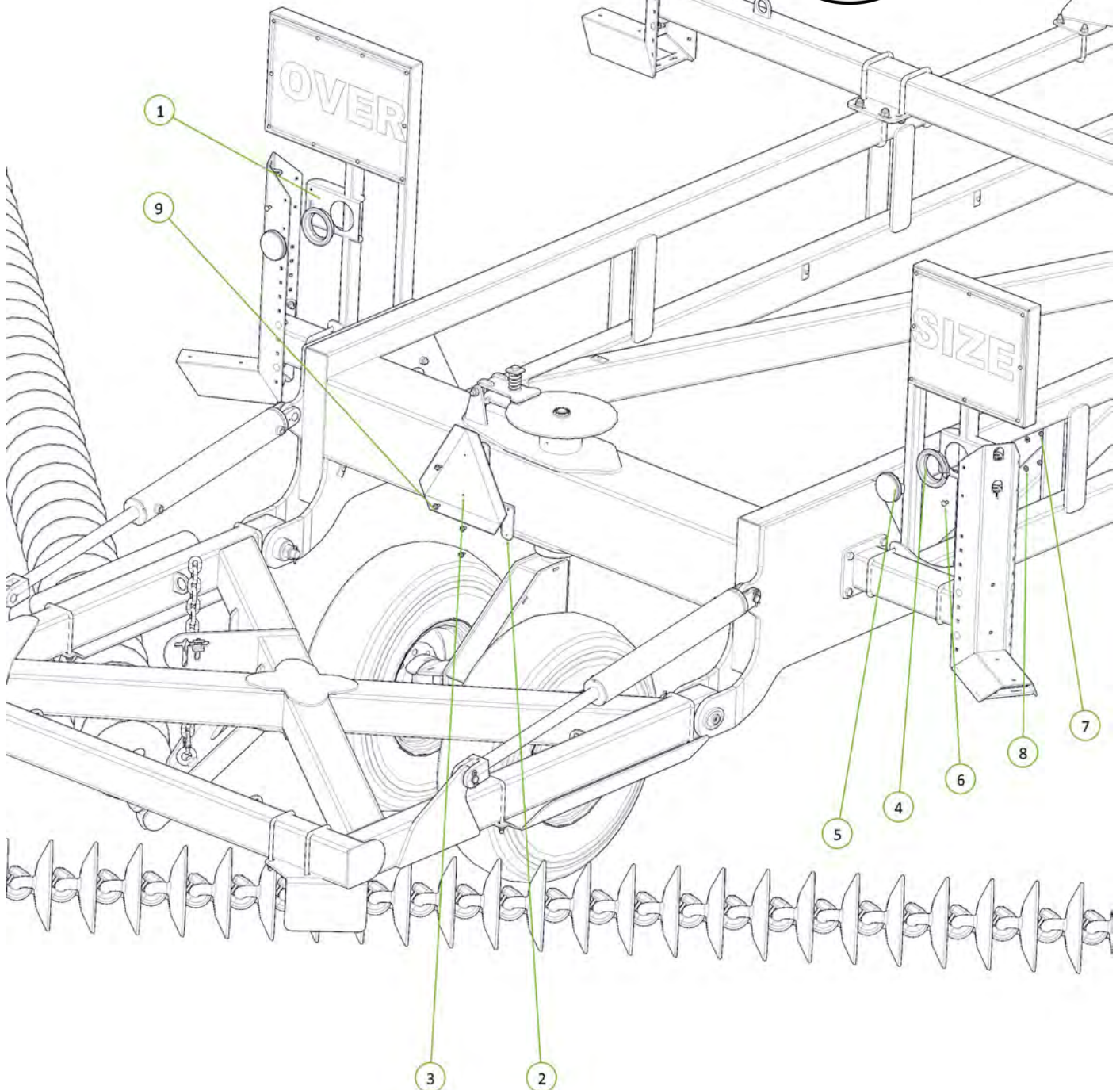


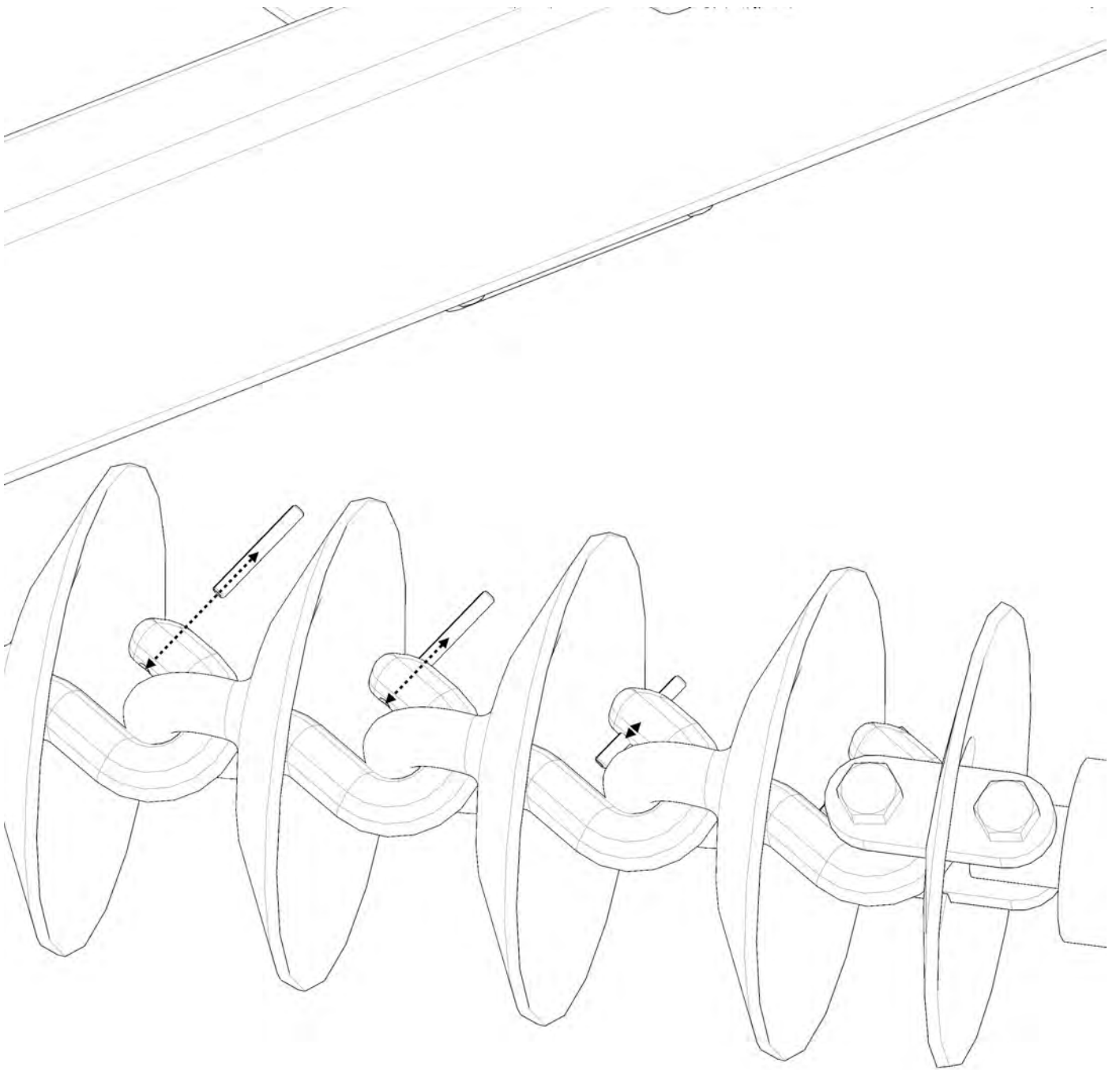
Item No.	Description	Qty	Number
1	Safety Chain Assembly	1	0810-16

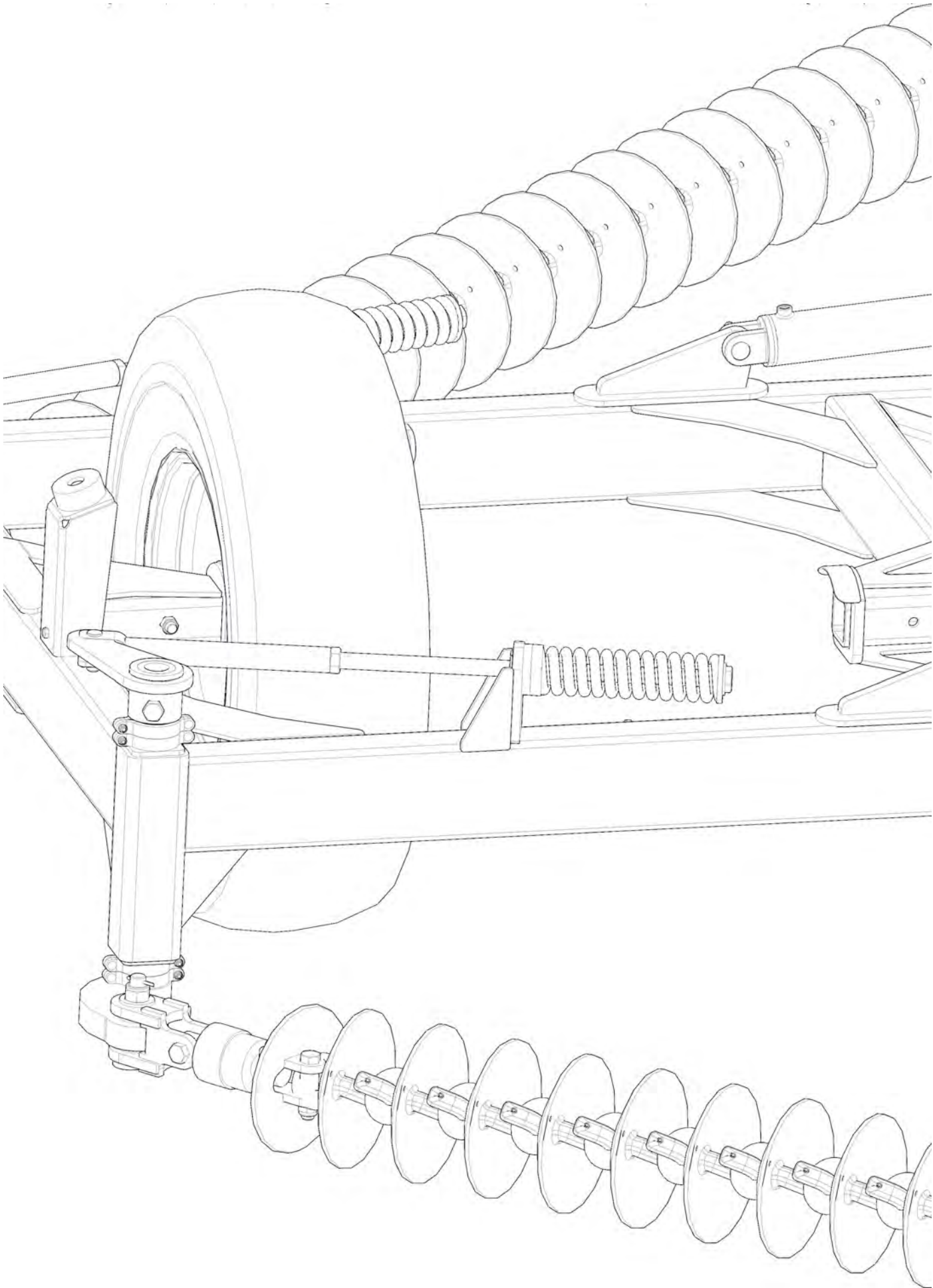


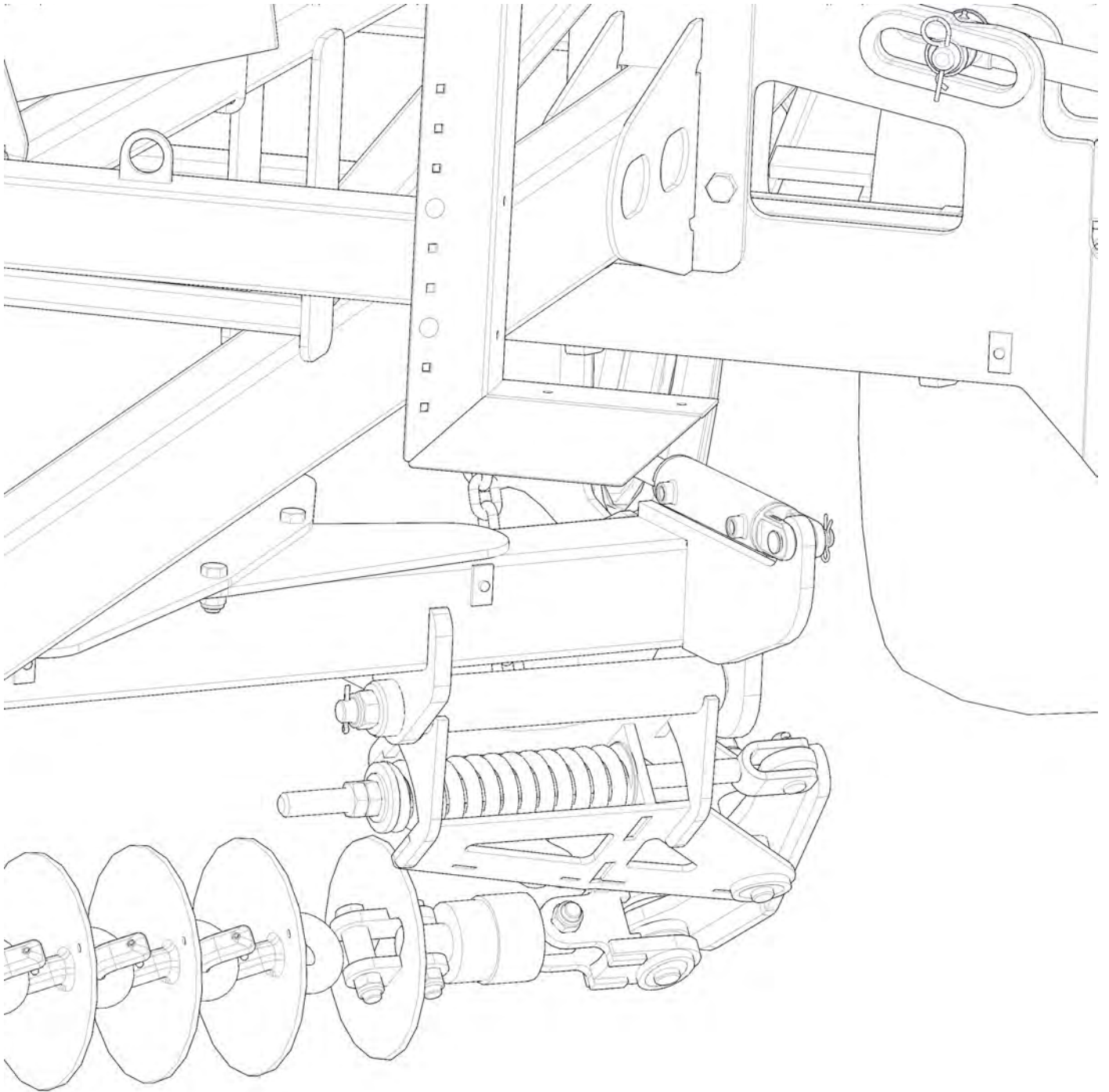
United States Only

Item No.	Description	Qty	Number
1	Rear Light Bracket	2	0800-295
2	SMV Sign Bracket	1	0800-195.1
3	Slow Moving Vehical Sign	1	0801-FBSMVTUF
4	110RM Rubber Grommet	2	0412-53101RG
5	LED Stop Tail Lamp	2	0412-LED110RM
6	M8 x 20 Coach Head Bolt	4	0215-CH0820
7	Nyloc Nut M8	4	0221-NYL8
8	Washer Flat M8	4	0231-F8
9	M6 x 20 Trilobe self tapping ScREW	4	0211-M620MZPHTF









Section 3

Hydraulic Setup

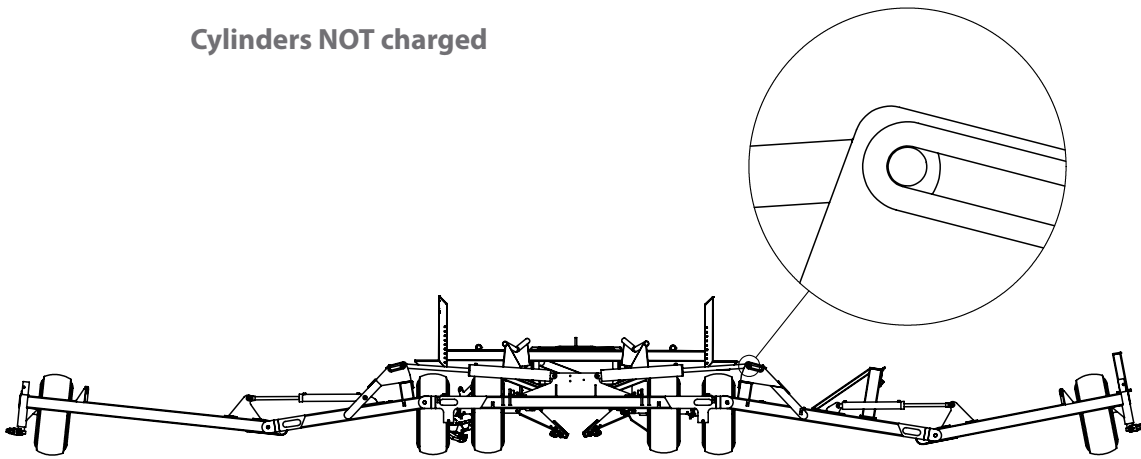


Before folding the machine for the first time, ensure all hydraulic cylinders are charged with oil.

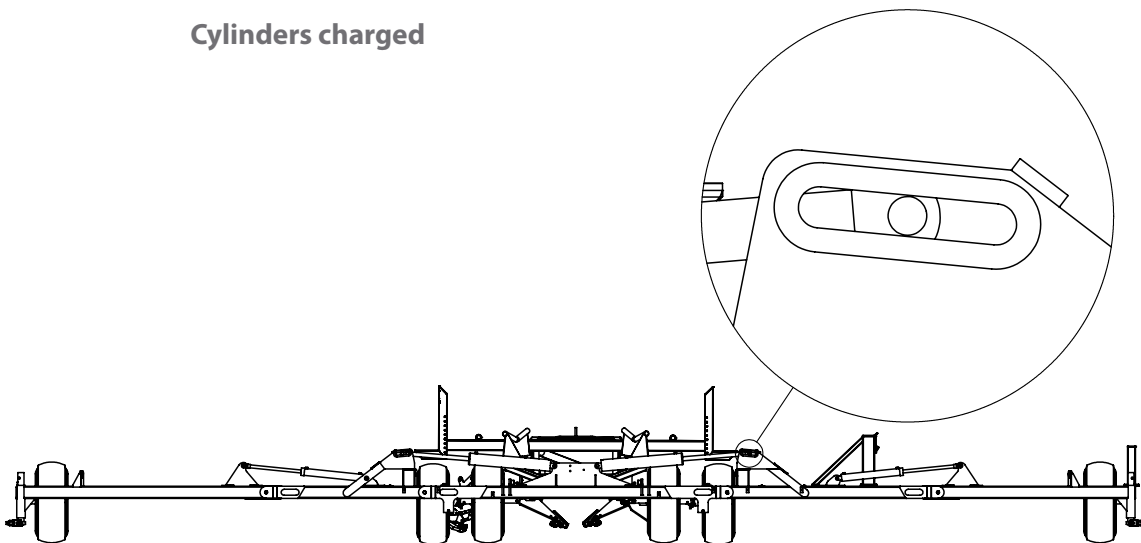
To do this, run the hydraulics through the unfold sequence until the outer wings are straight and the center cylinders are centered in the slots. (It may take a few minutes for the cylinders to charge completely).

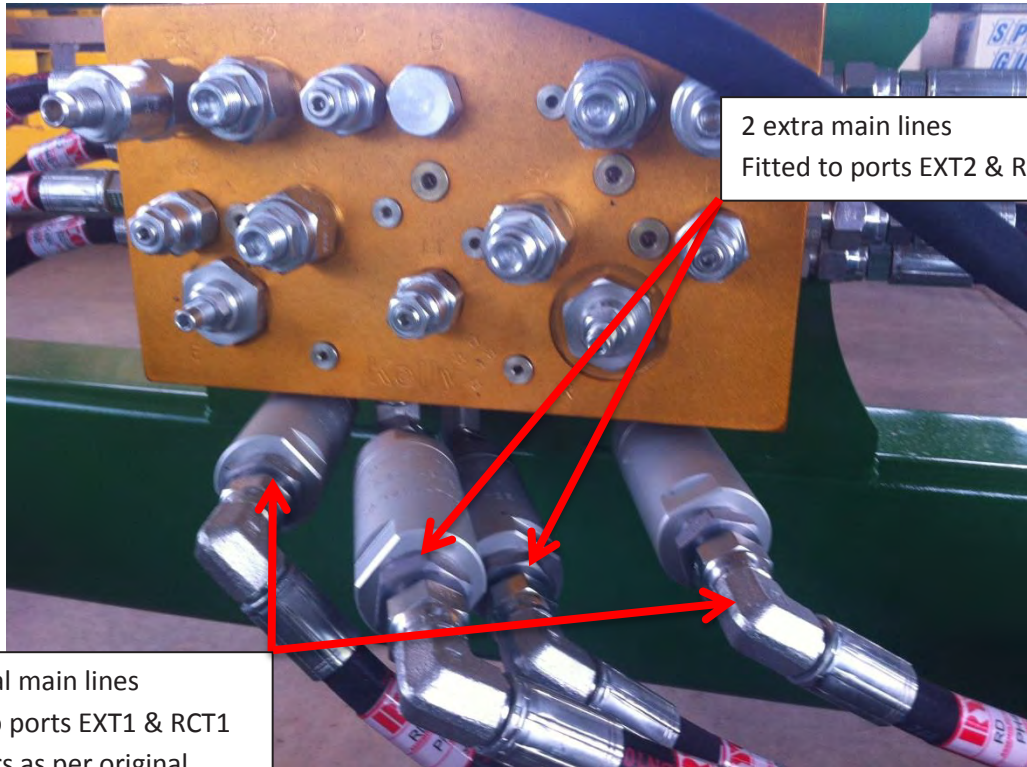
Failure to do this could result in severe personal injury and/or damage to the machine.

Cylinders NOT charged



Cylinders charged





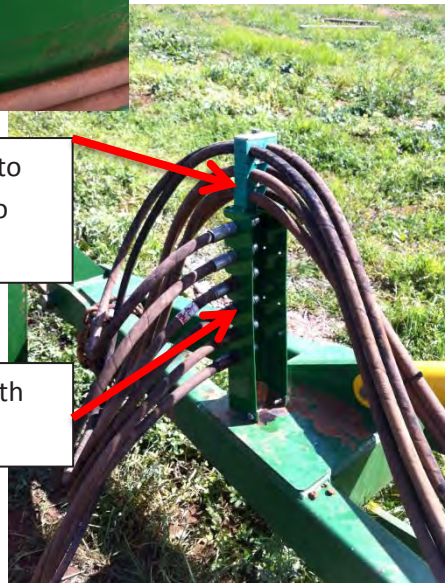
2 extra main lines
Fitted to ports EXT2 & RCT2

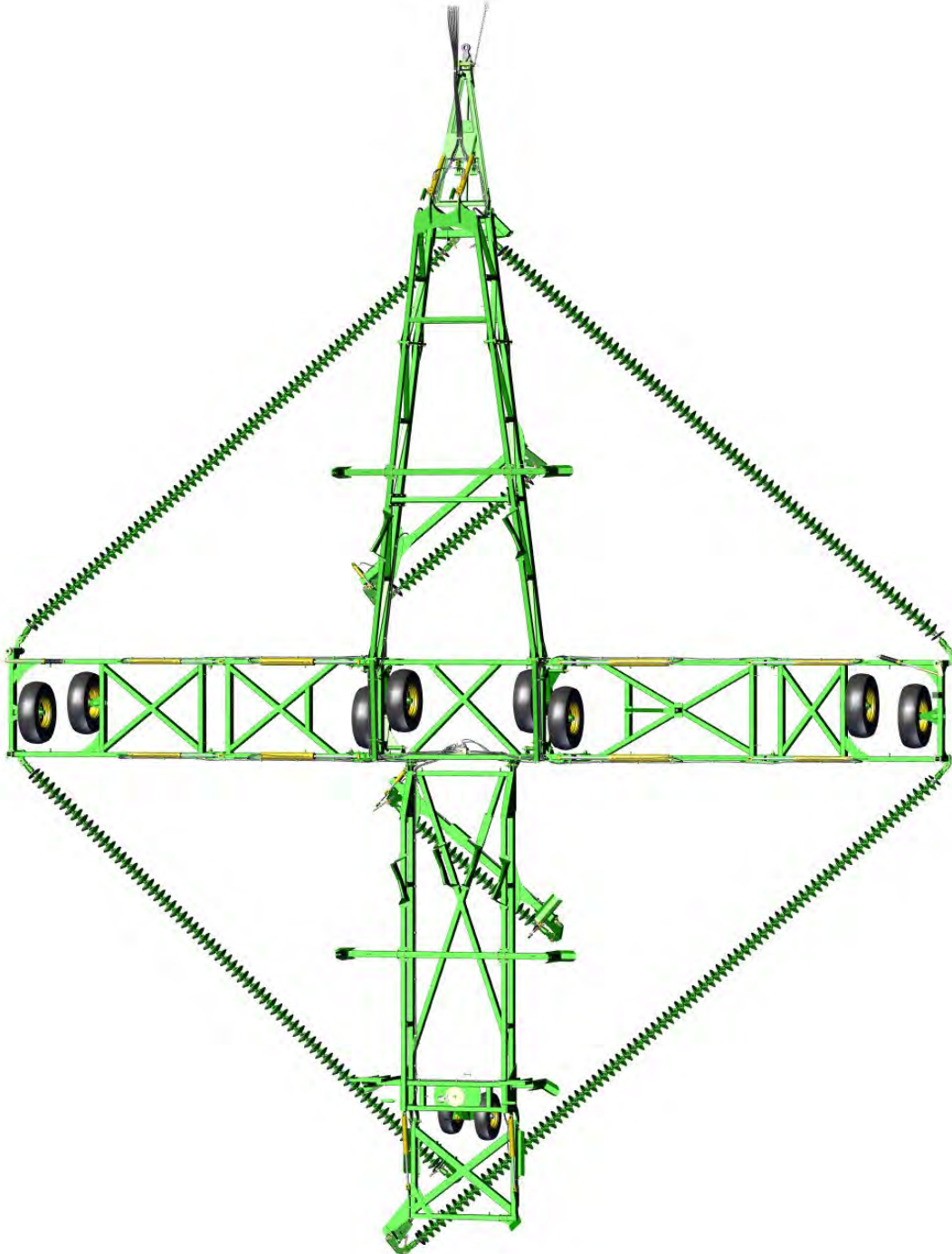
2 original main lines
Fitted to ports EXT1 & RCT1
Via filters as per original
OUT end of filter to valve
block

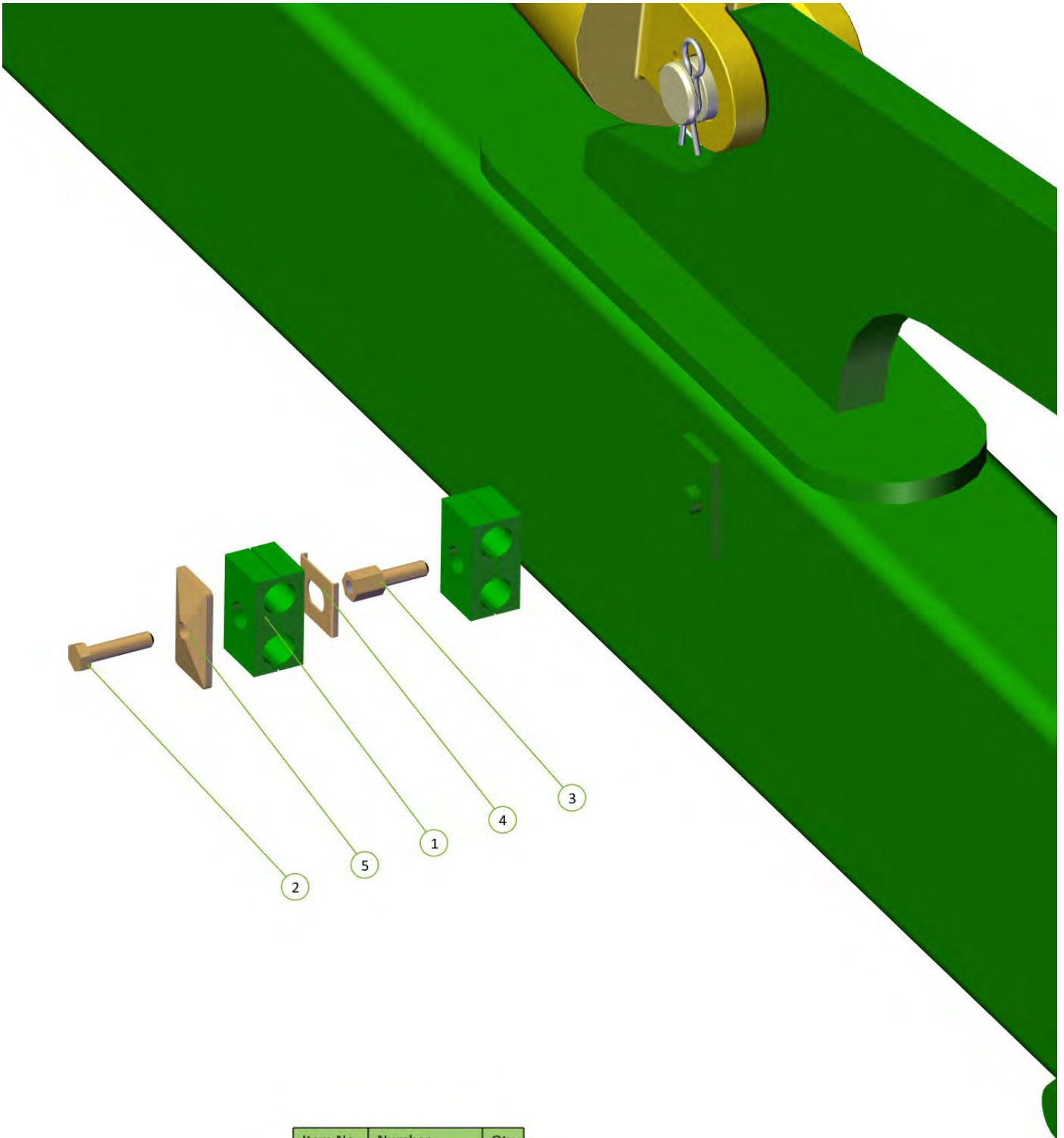


Extra stack clamp added to
mount extra main lines to
existing main lines

New hose mount post with
extra storage points



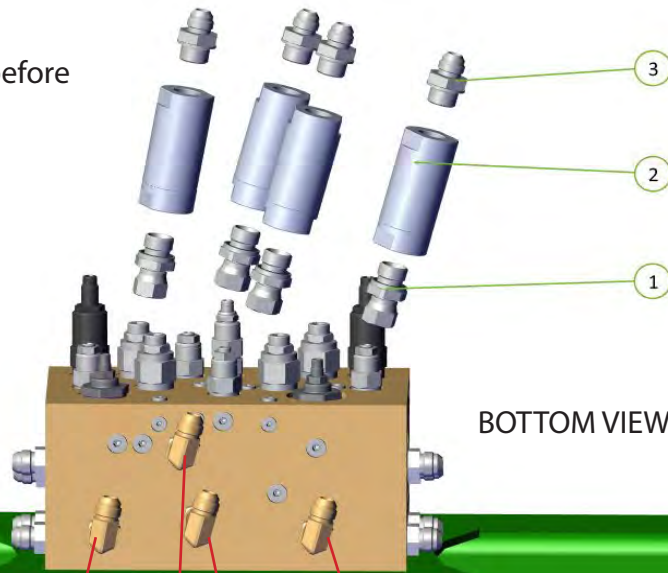




Item No.	Number	Qty
1	0325-RCD-17J	2
2	0325-RCD-2BH	1
3	0325-RCD-2BS	1
4	0325-RCD-2PS	1
5	0325-RCD-2PT	1

Item No.	Number	Qty
1	0323-S71-0812	4
2	0343-924001261	4
3	0323-S74-0812	4

Tighten fittings on to filter before screwing filter on to block



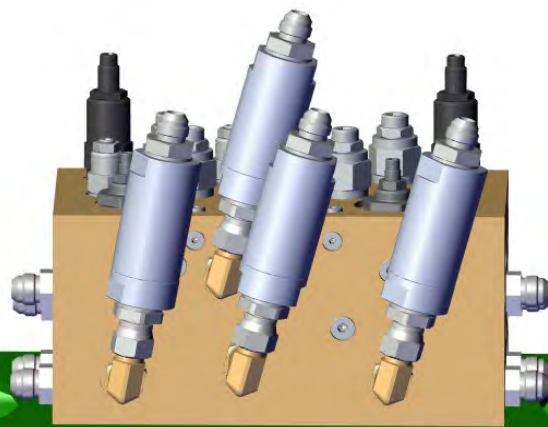
BOTTOM VIEW

EXT 1

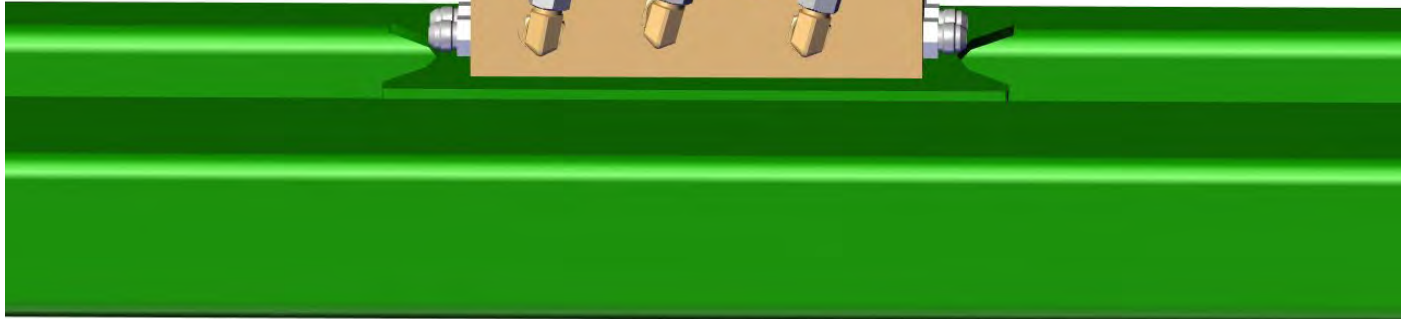
RCT2

EXT2

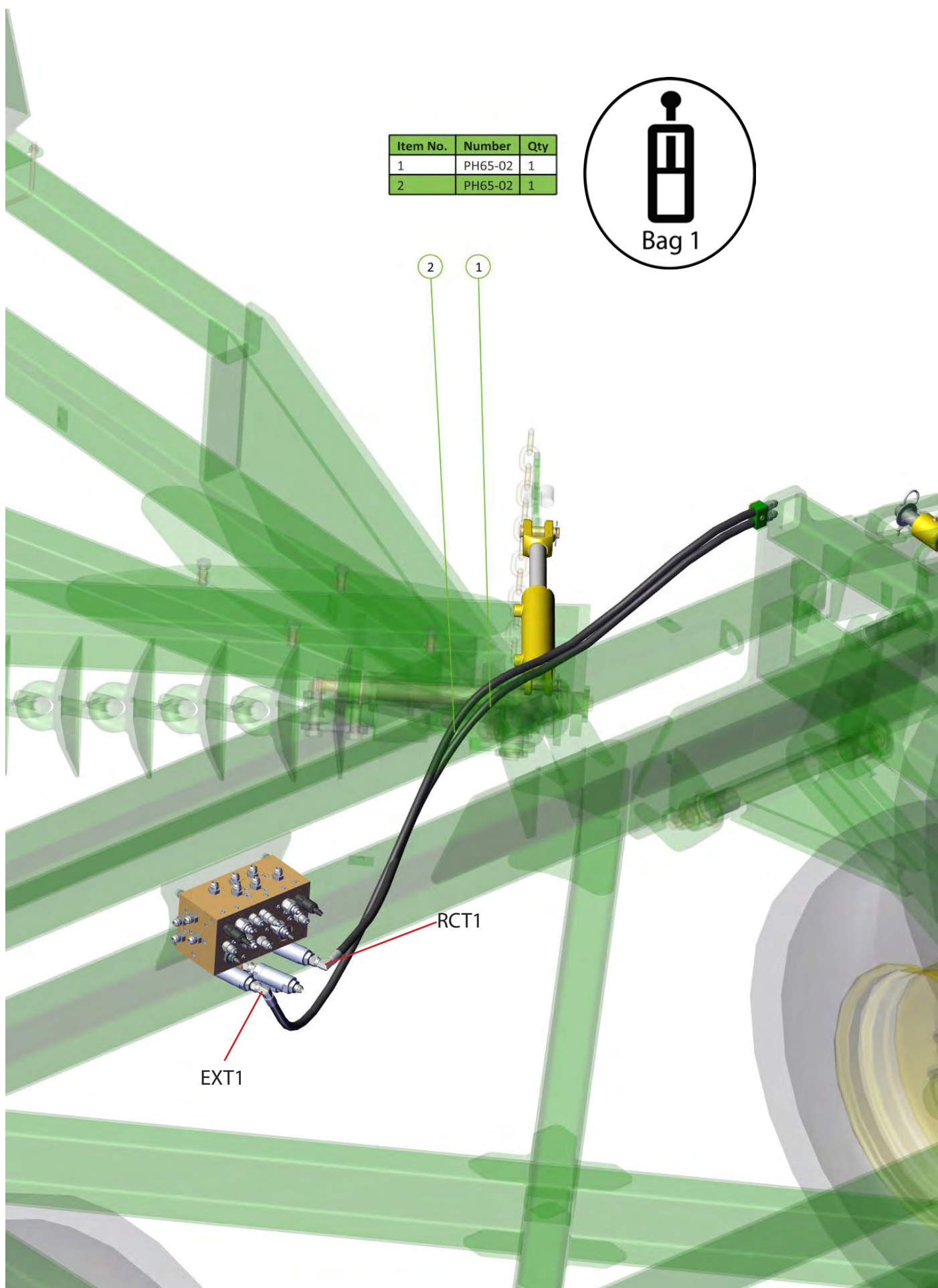
RCT1



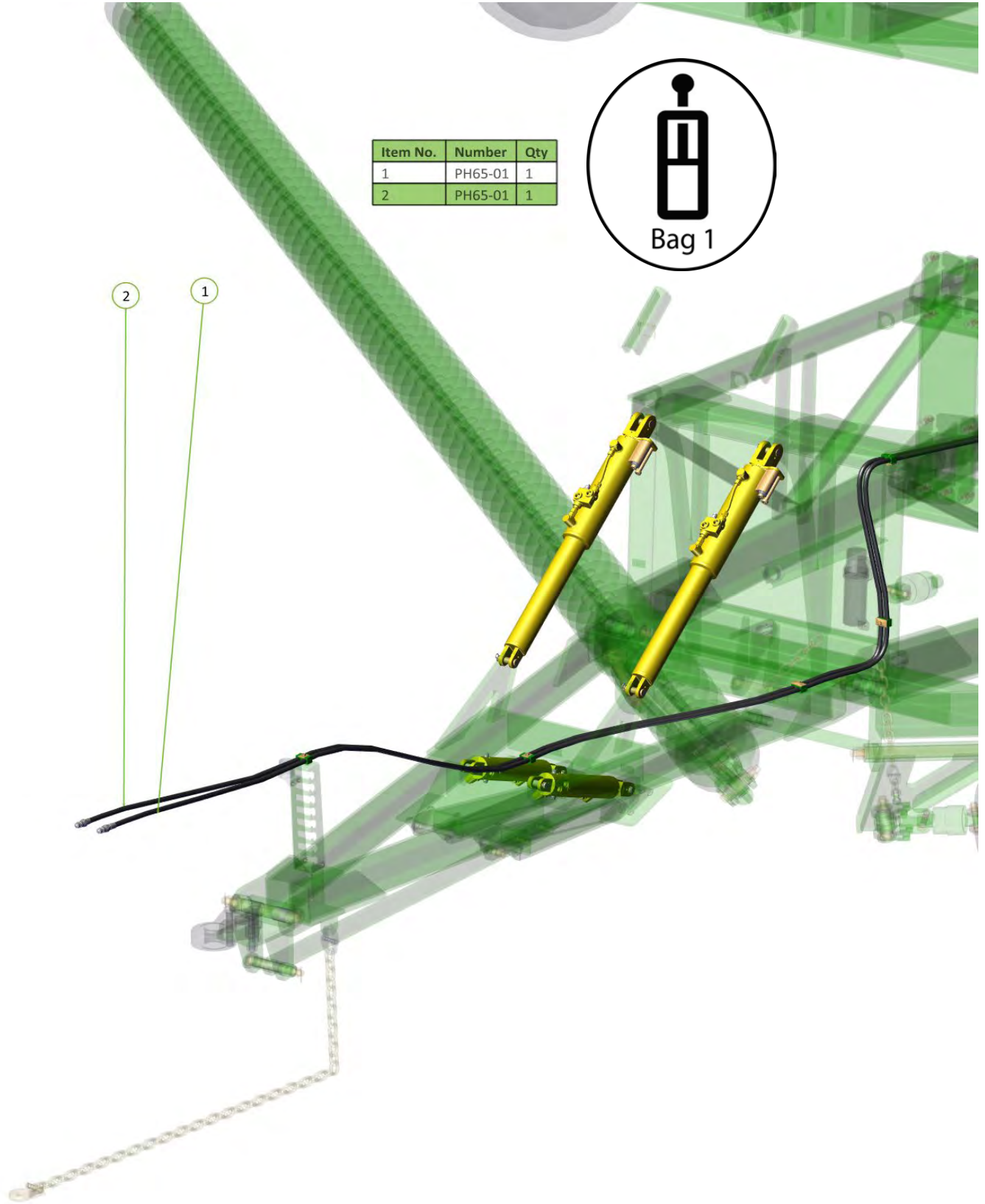
BOTTOM VIEW

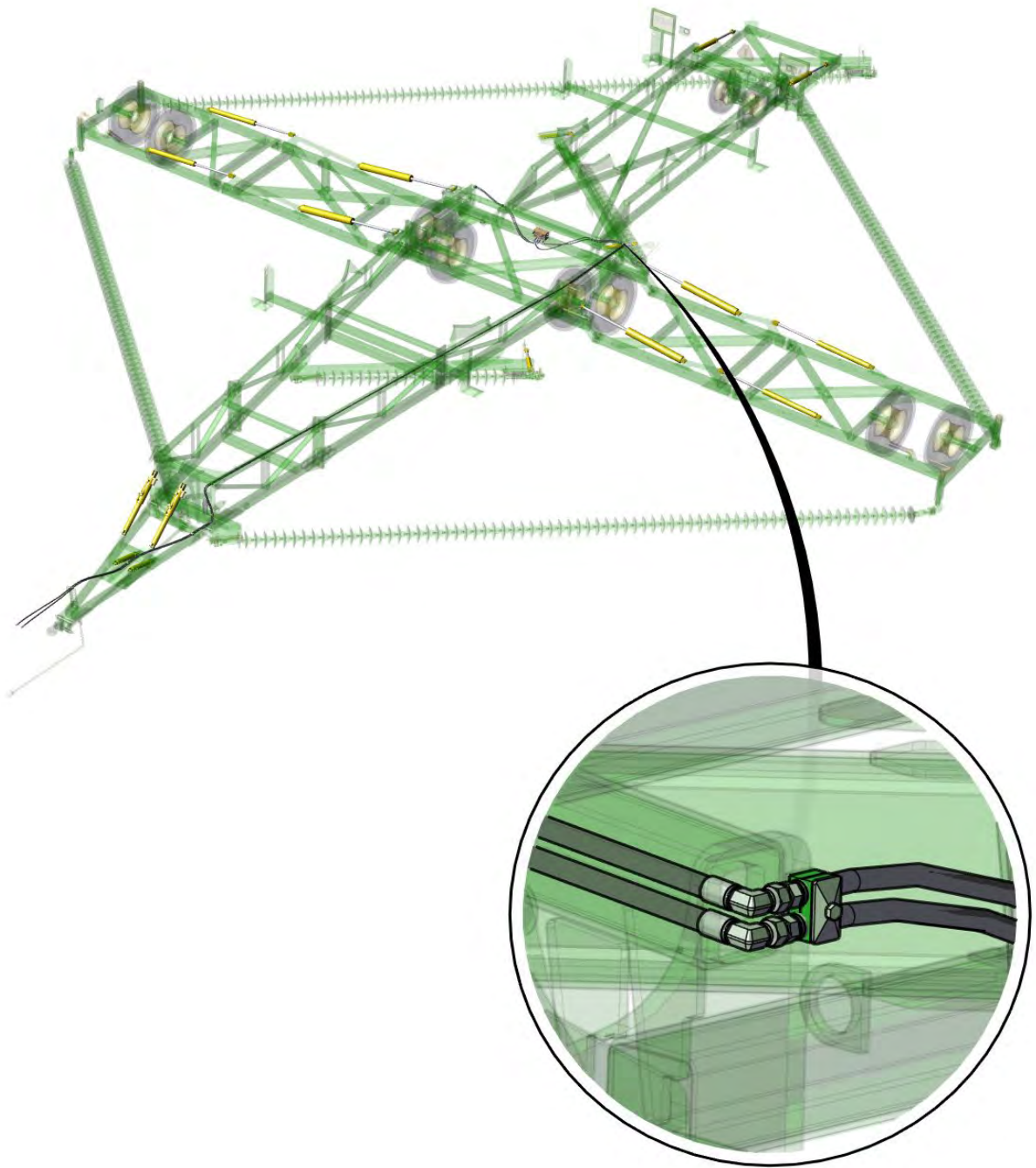


Item No.	Number	Qty
1	PH65-02	1
2	PH65-02	1



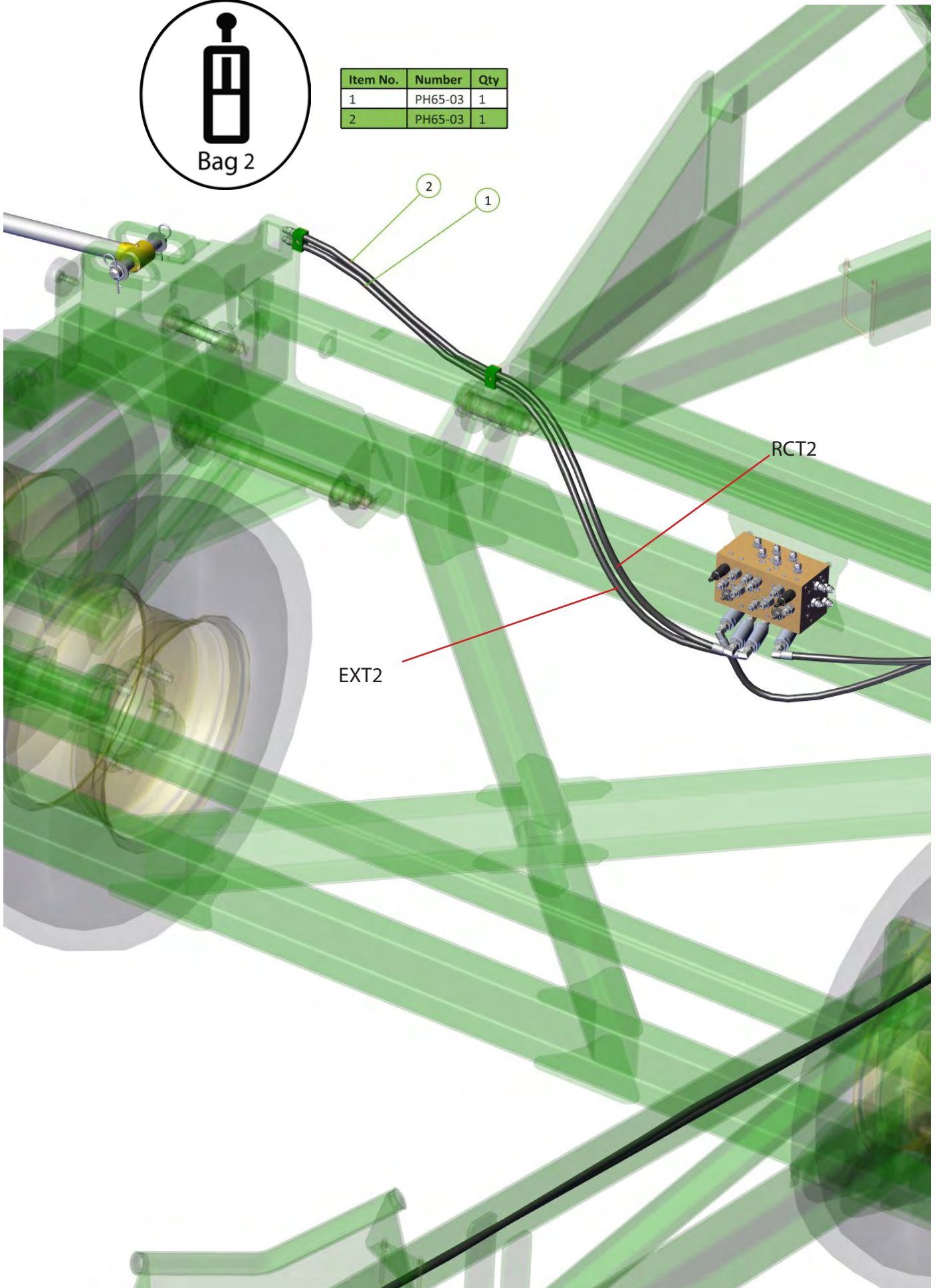
Item No.	Number	Qty
1	PH65-01	1
2	PH65-01	1

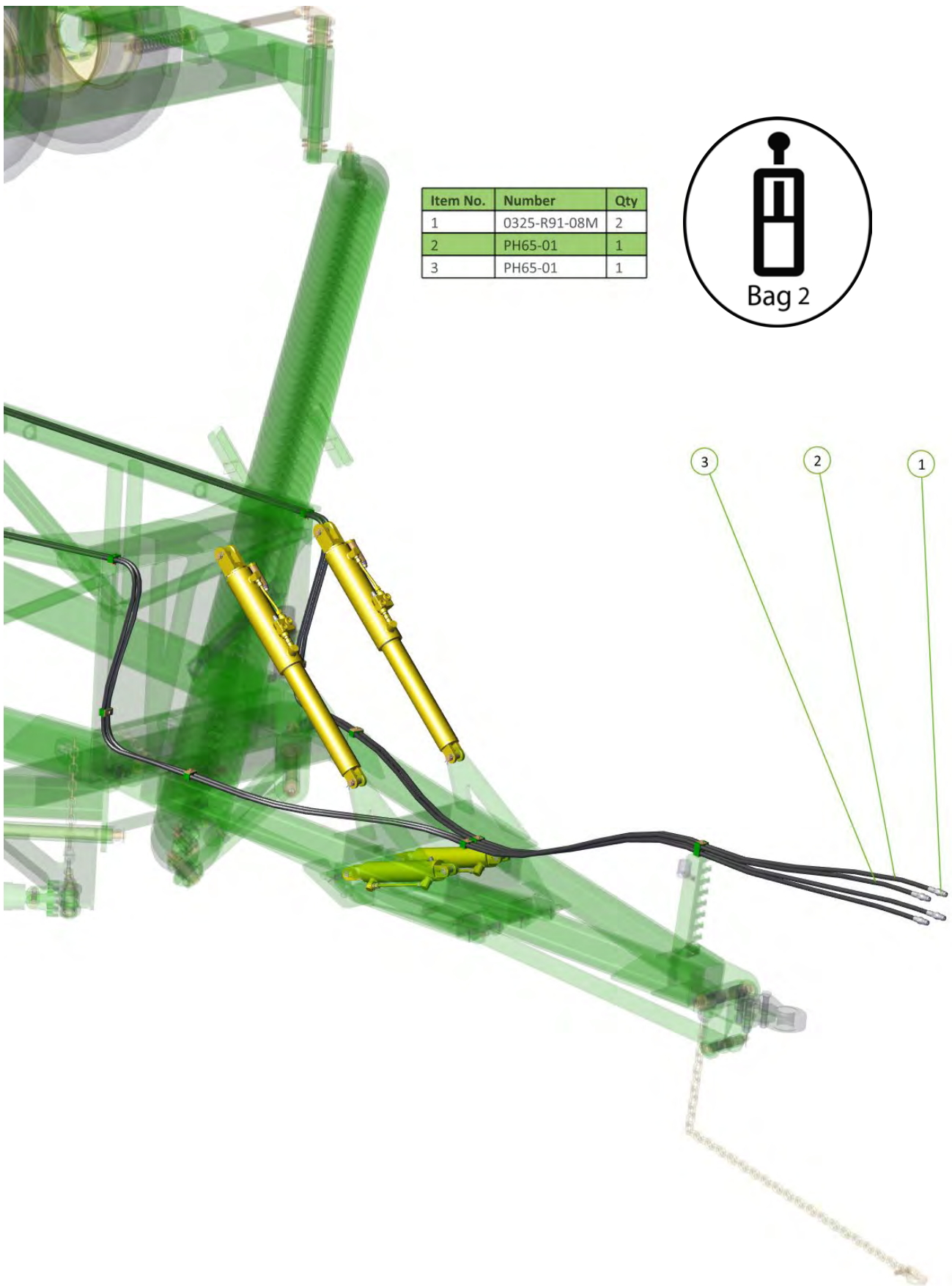






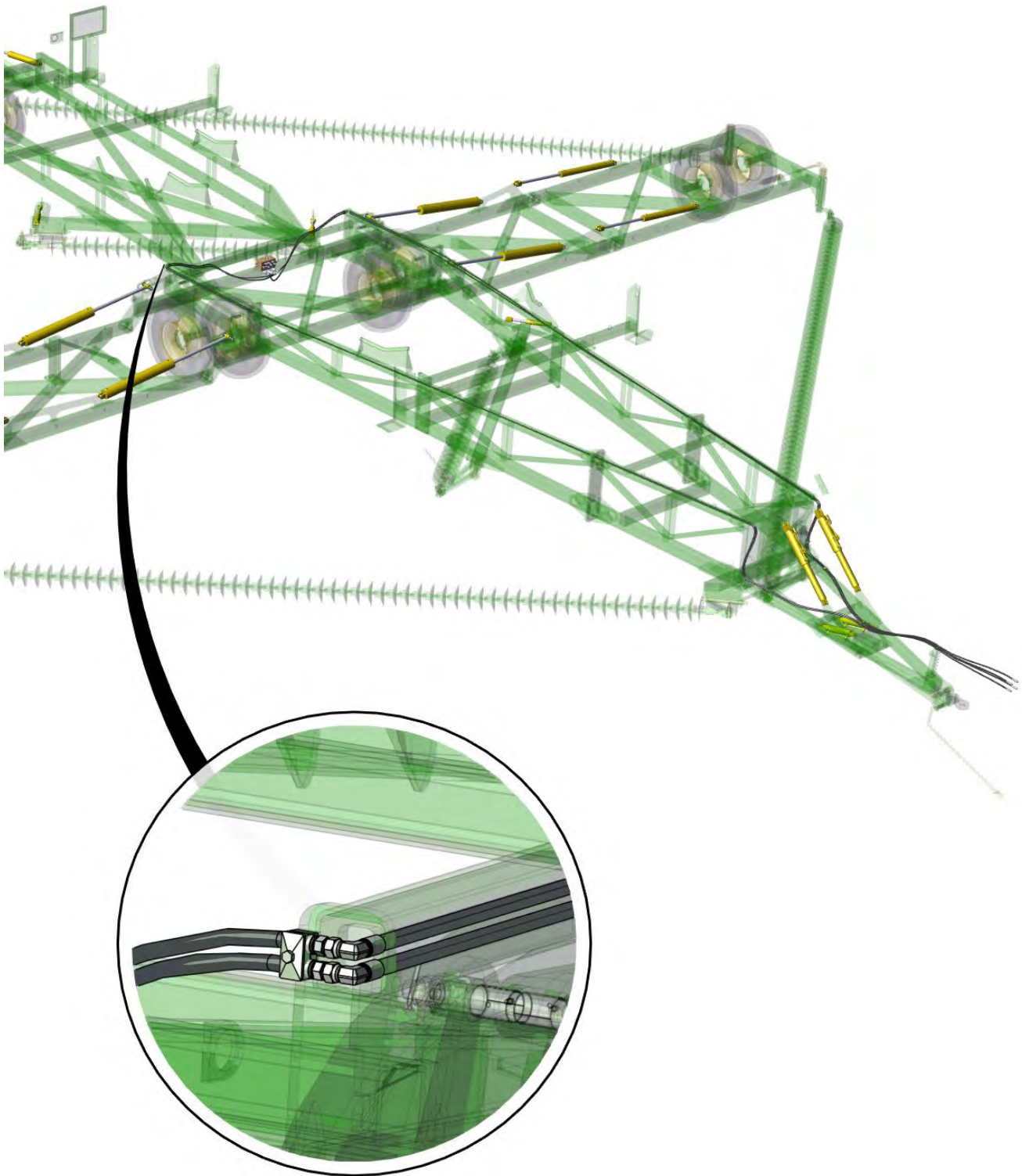
Item No.	Number	Qty
1	PH65-03	1
2	PH65-03	1



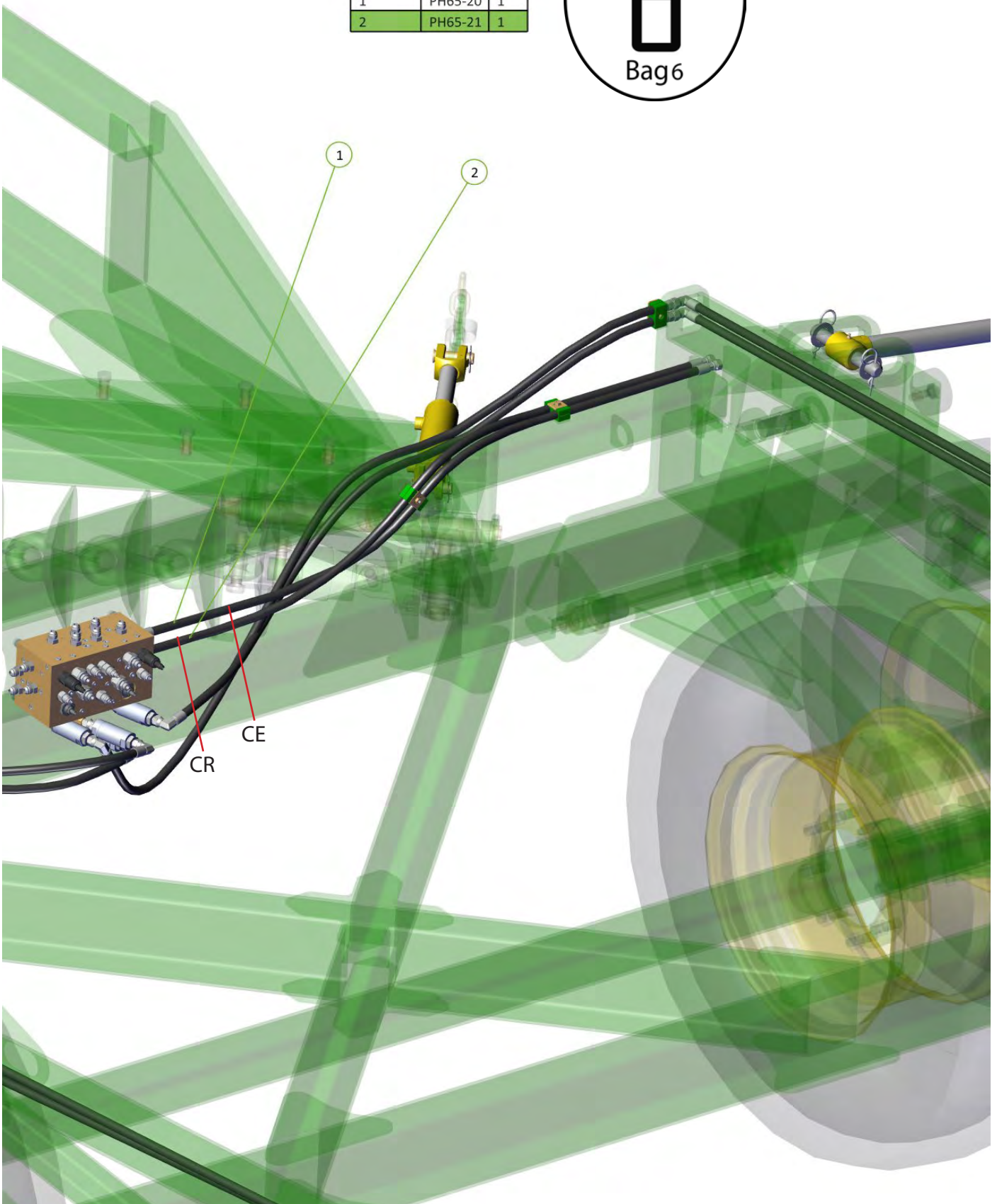


Item No.	Number	Qty
1	0325-R91-08M	2
2	PH65-01	1
3	PH65-01	1

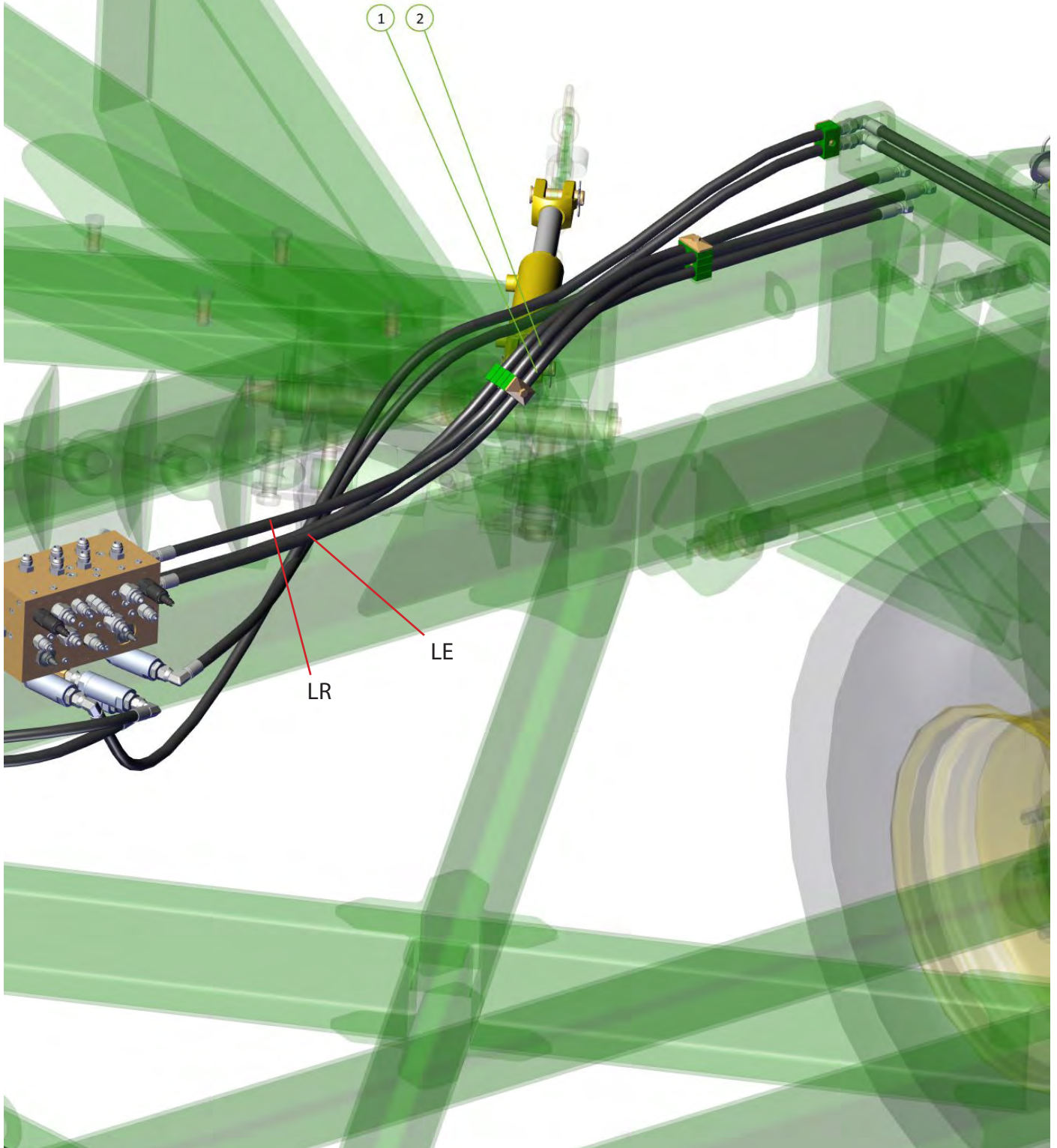




Item No.	Number	Qty
1	PH65-20	1
2	PH65-21	1

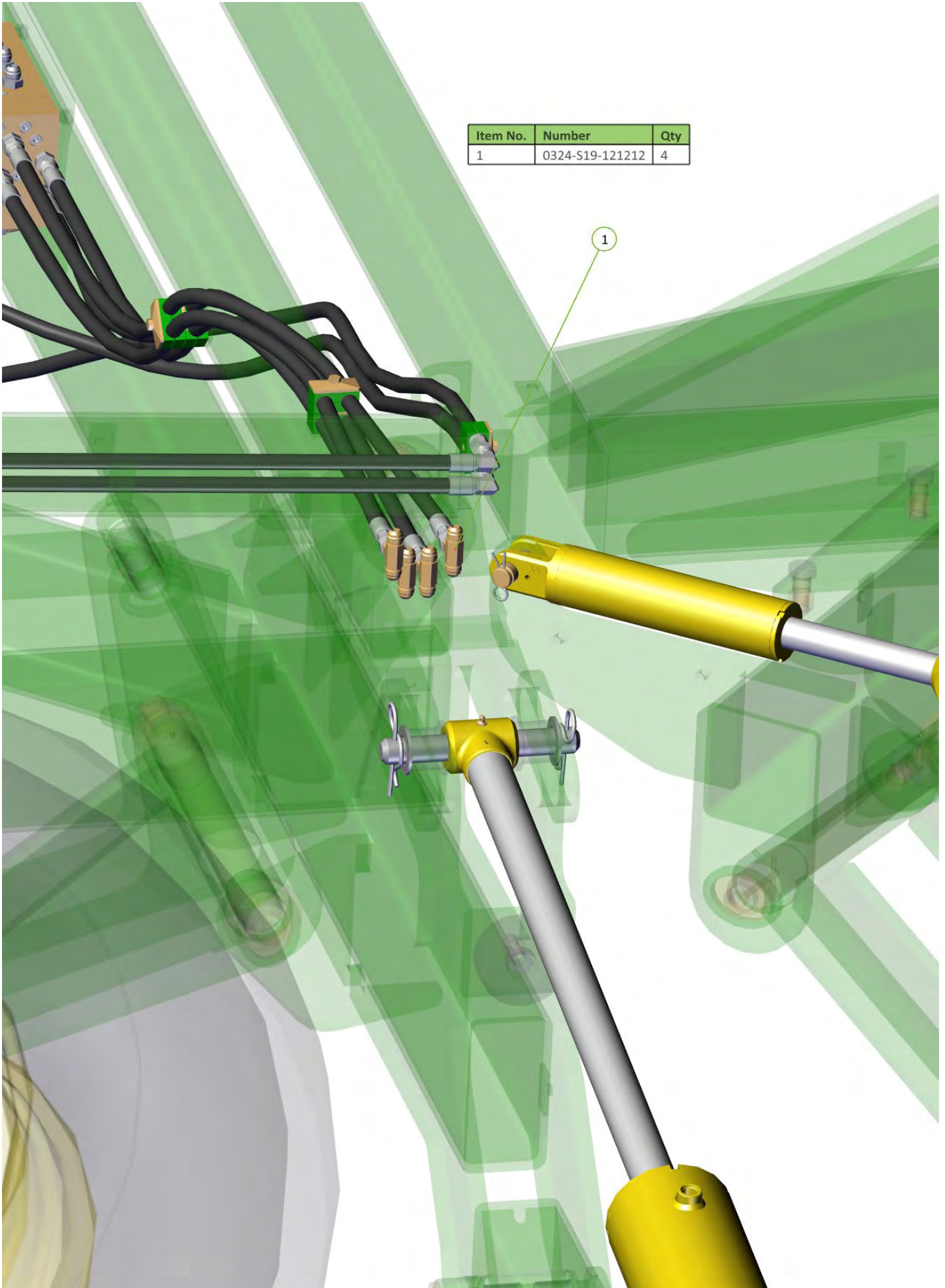


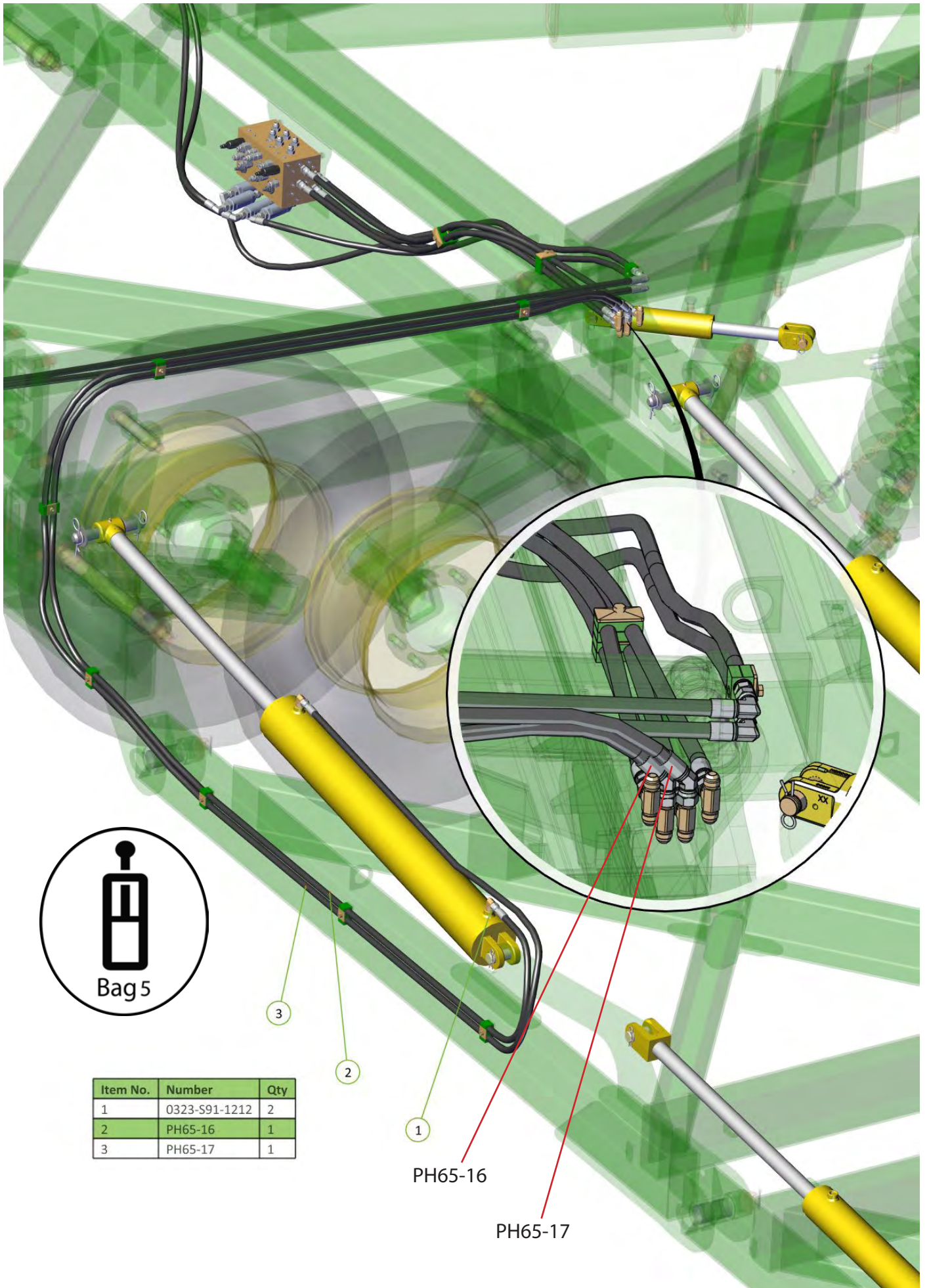
Item No.	Number	Qty
1	PH65-24	1
2	PH65-25	1



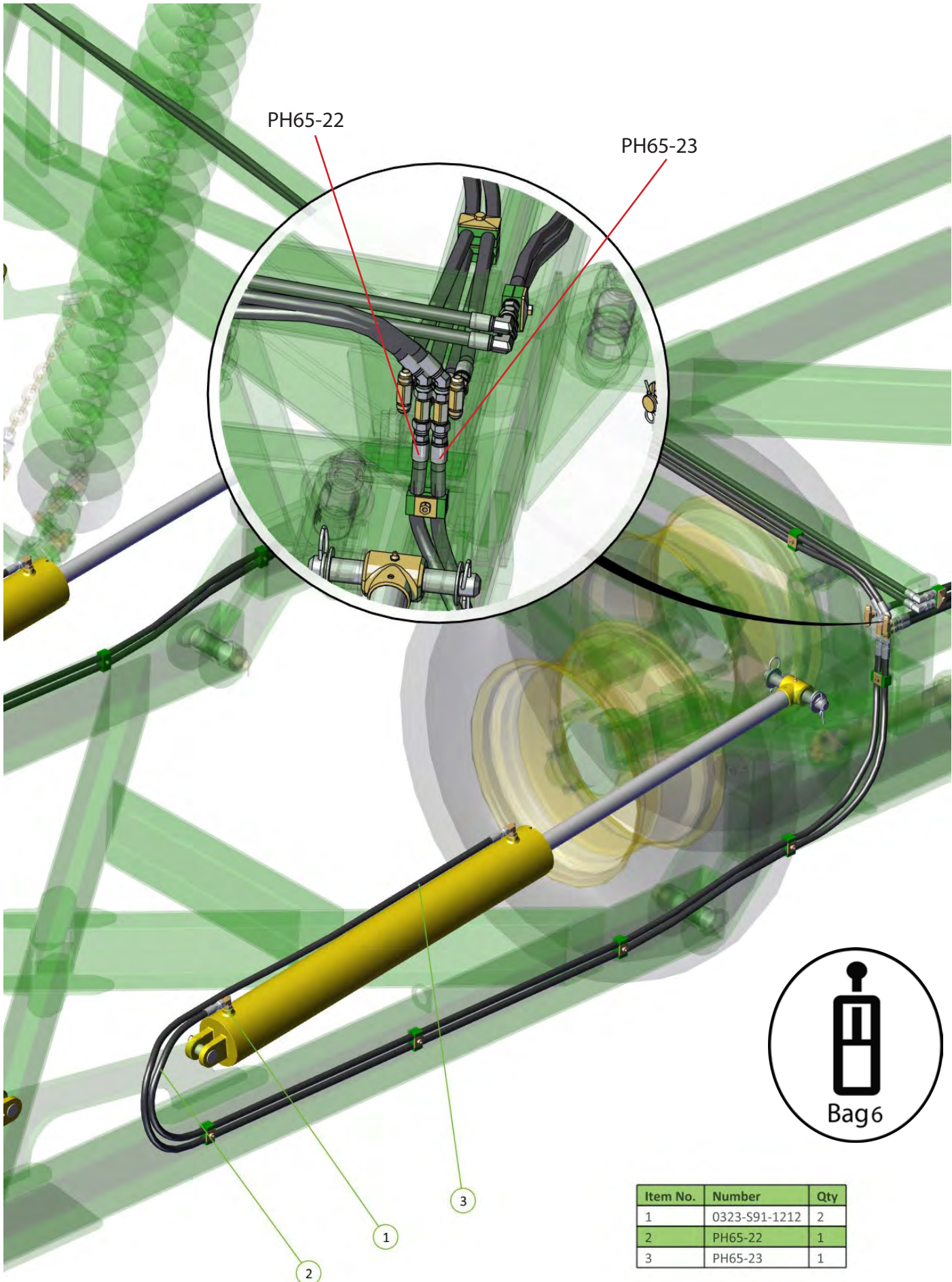
Item No.	Number	Qty
1	0324-S19-121212	4

1





Item No.	Number	Qty
1	0323-S91-1212	2
2	PH65-16	1
3	PH65-17	1

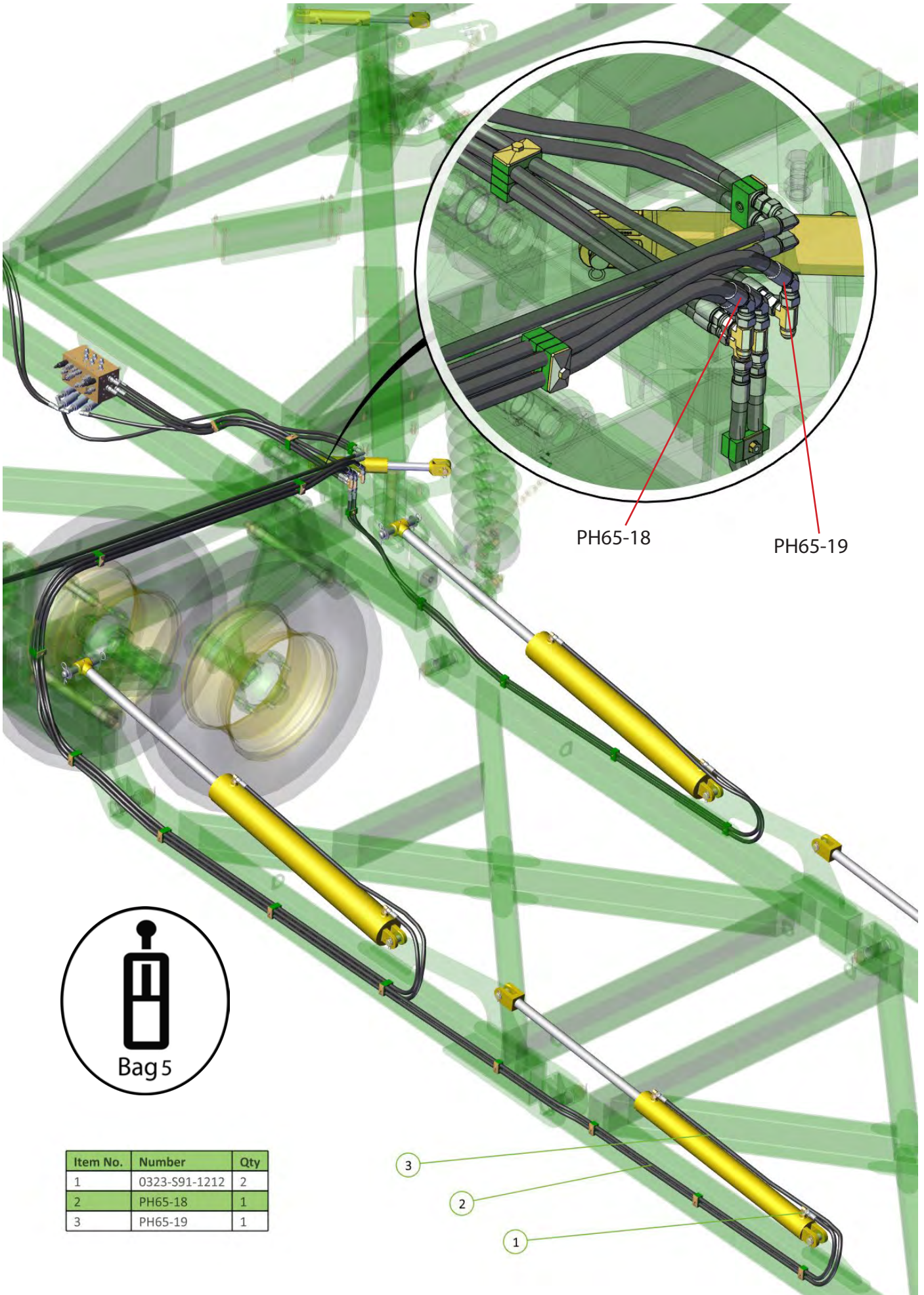


PH65-22

PH65-23



Item No.	Number	Qty
1	0323-S91-1212	2
2	PH65-22	1
3	PH65-23	1



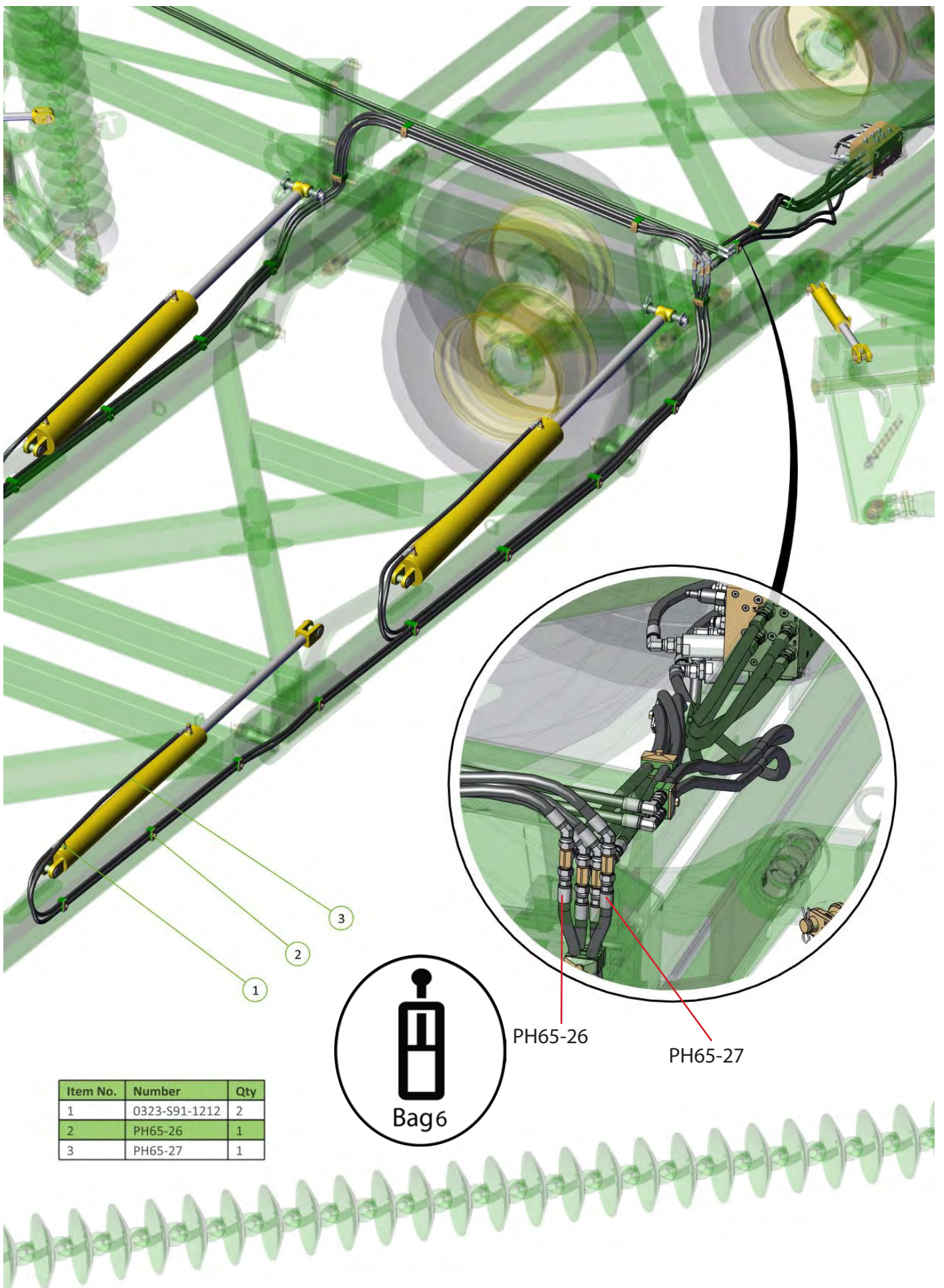
PH65-18

PH65-19



Item No.	Number	Qty
1	0323-S91-1212	2
2	PH65-18	1
3	PH65-19	1





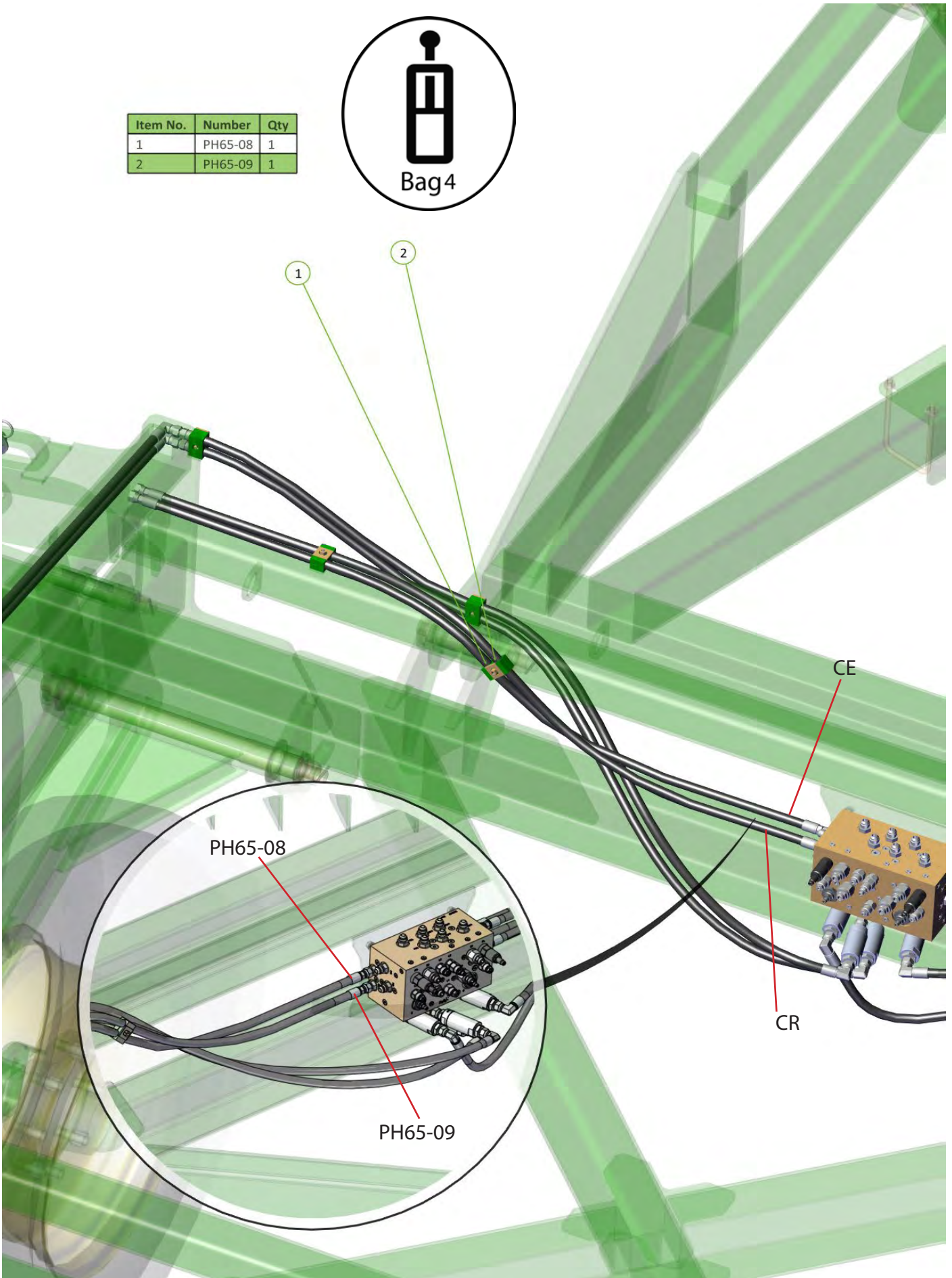
Item No.	Number	Qty
1	0323-S91-1212	2
2	PH65-26	1
3	PH65-27	1



PH65-26

PH65-27

Item No.	Number	Qty
1	PH65-08	1
2	PH65-09	1



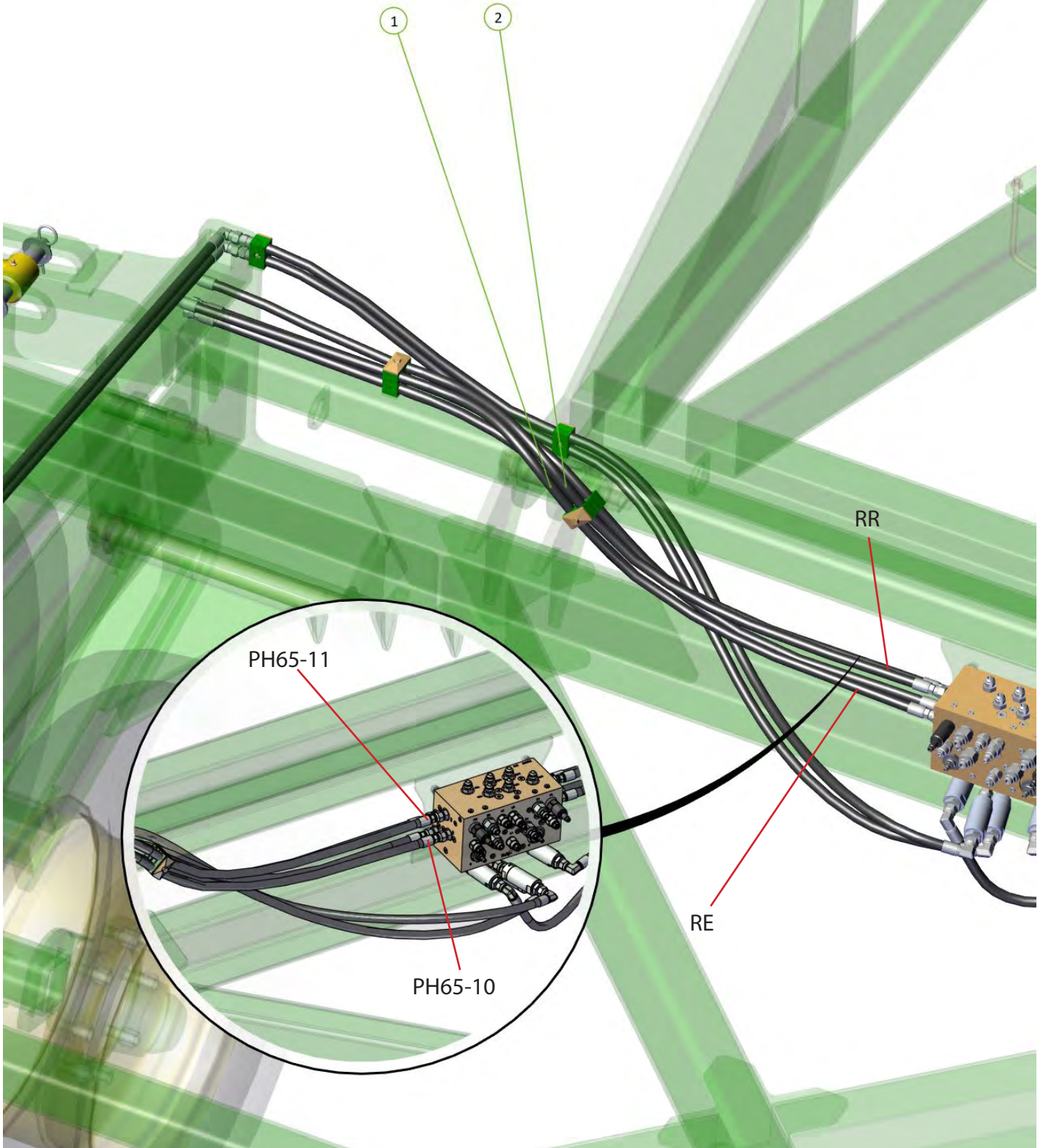
PH65-08

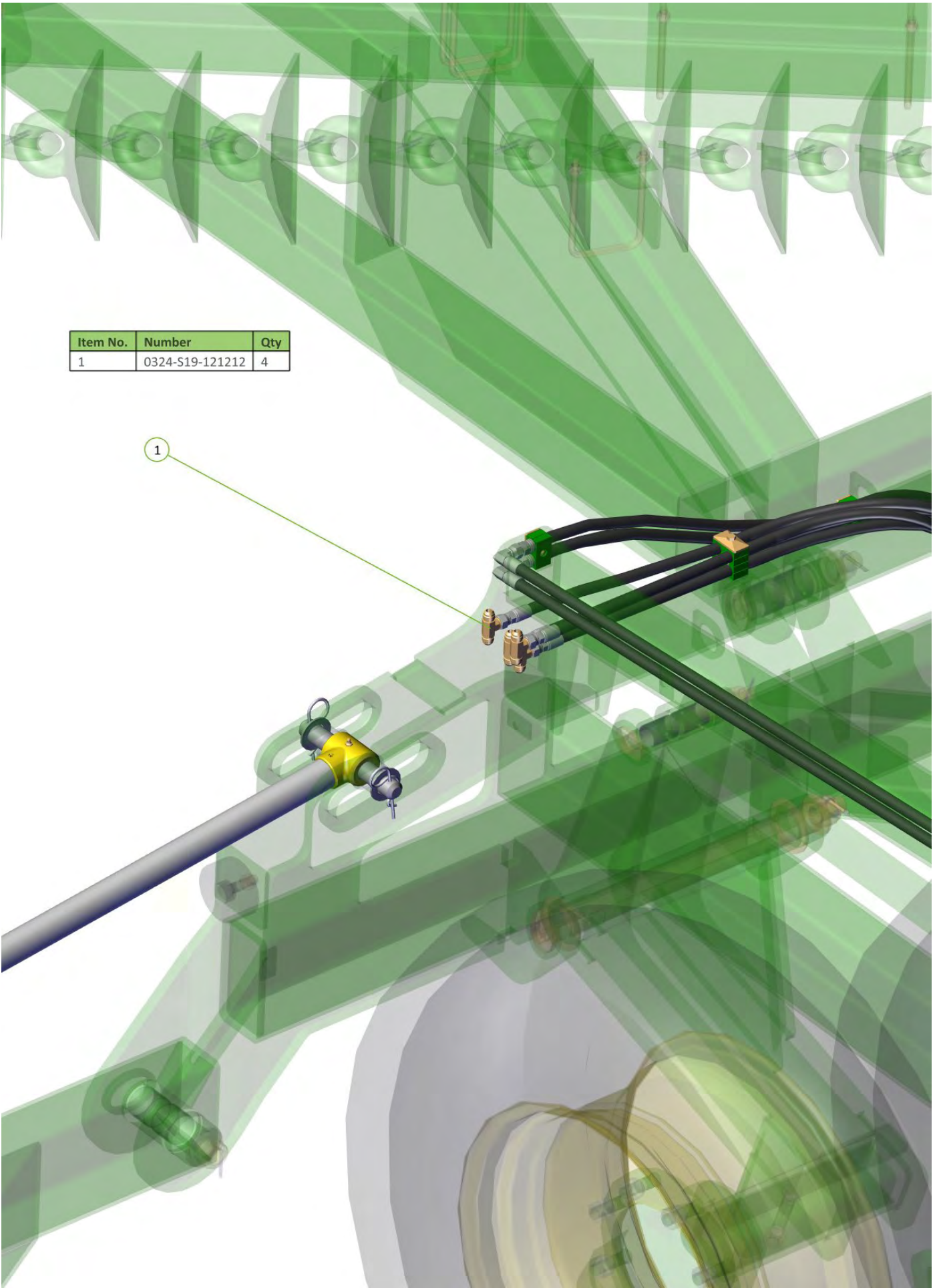
PH65-09

CE

CR

Item No.	Number	Qty
1	PH65-10	1
2	PH65-11	1





Item No.	Number	Qty
1	0324-S19-121212	4

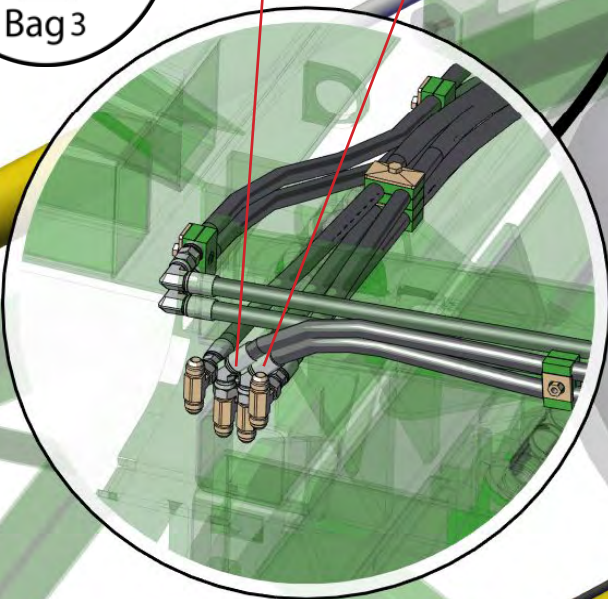
1

Item No.	Number	Qty
1	0323-S91-1212	2
2	PH65-04	1
3	PH65-05	1



PH65-05

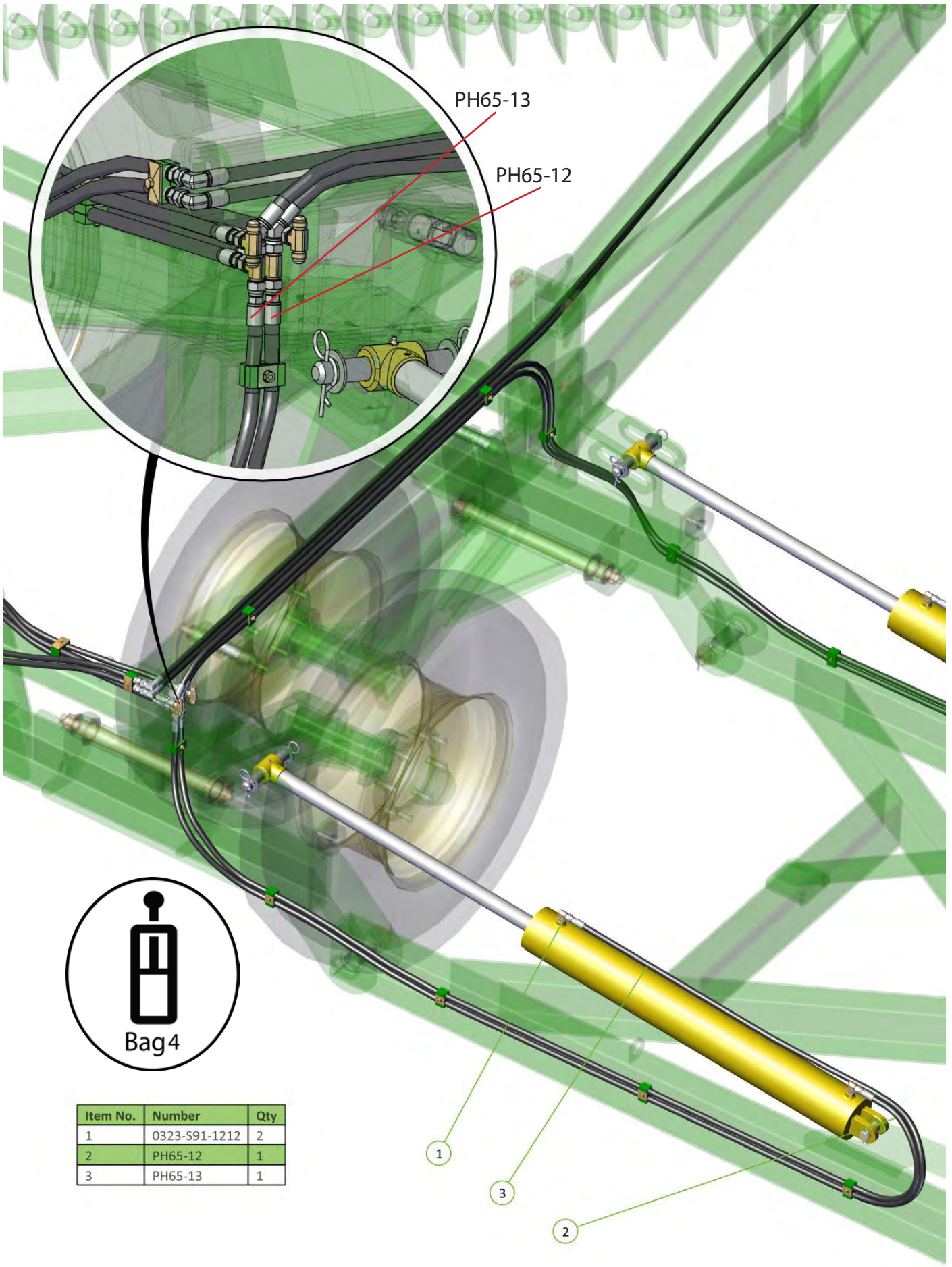
PH65-04



2

3

1



PH65-13

PH65-12



Item No.	Number	Qty
1	0323-S91-1212	2
2	PH65-12	1
3	PH65-13	1

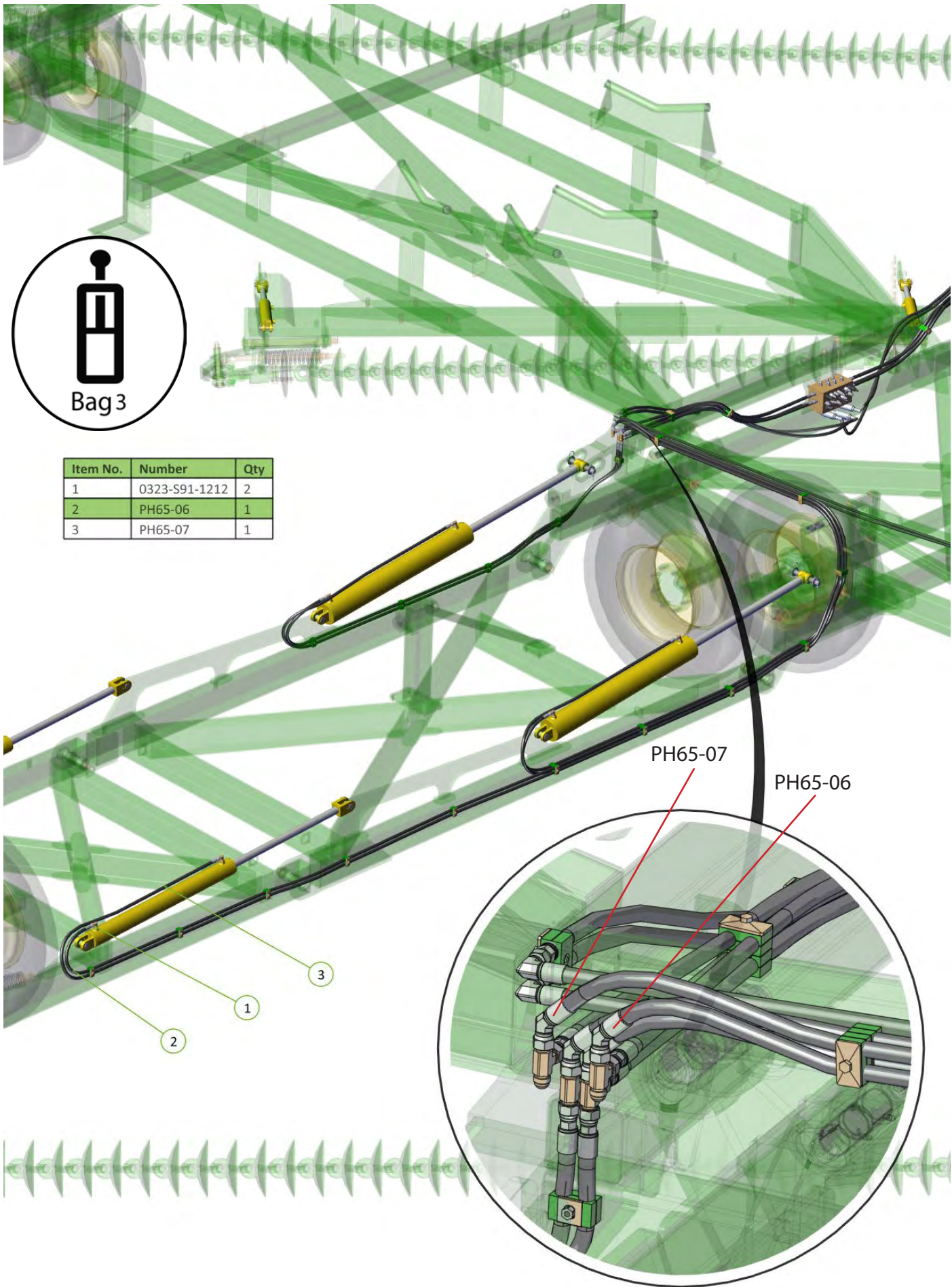
1

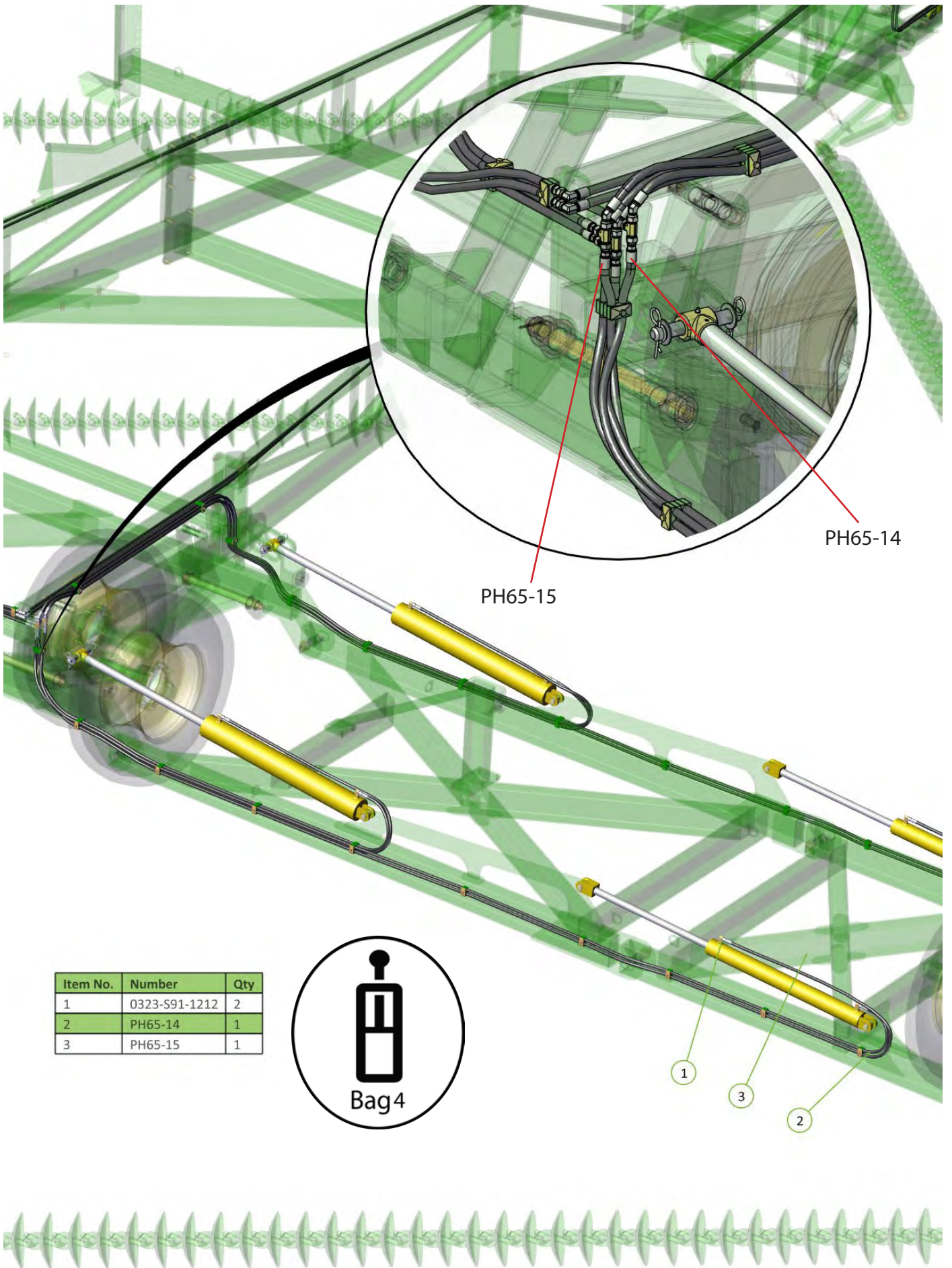
3

2



Item No.	Number	Qty
1	0323-S91-1212	2
2	PH65-06	1
3	PH65-07	1

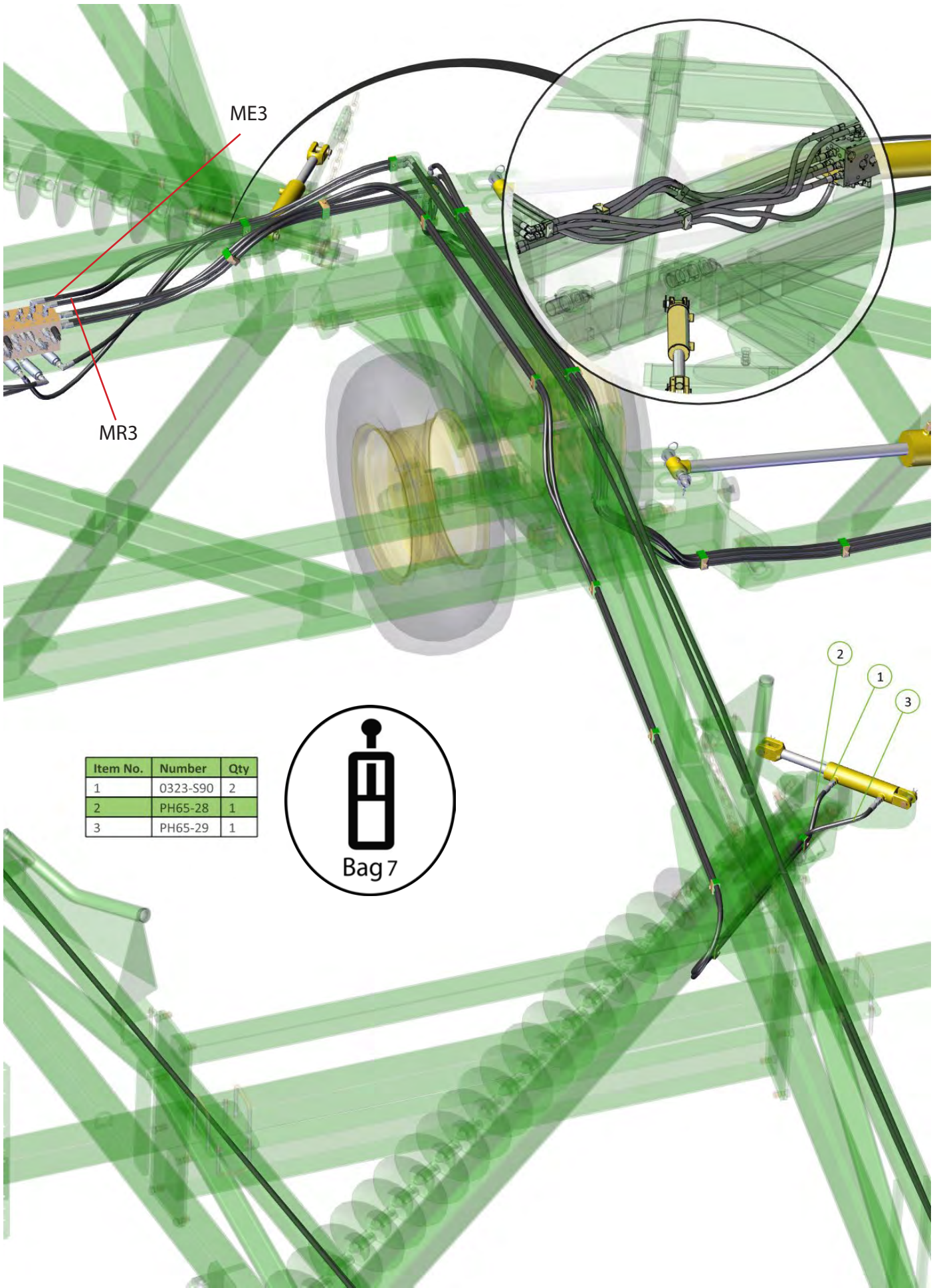




Item No.	Number	Qty
1	0323-S91-1212	2
2	PH65-14	1
3	PH65-15	1



- 1
- 2
- 3



Item No.	Number	Qty
1	0323-S90	2
2	PH65-28	1
3	PH65-29	1



Item No.	Number	Qty
1	PH65-30	1
2	PH65-31	1

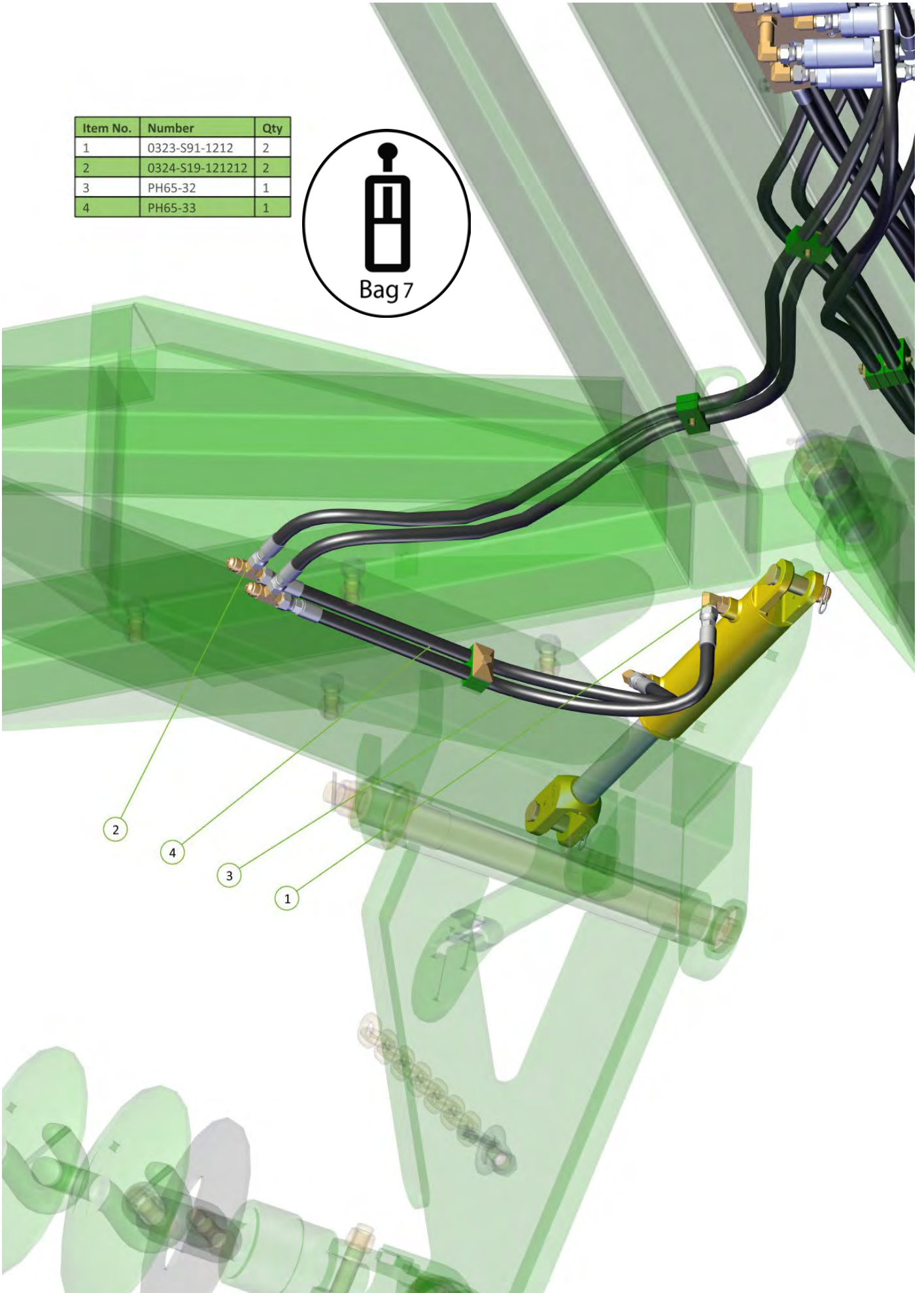


1
2

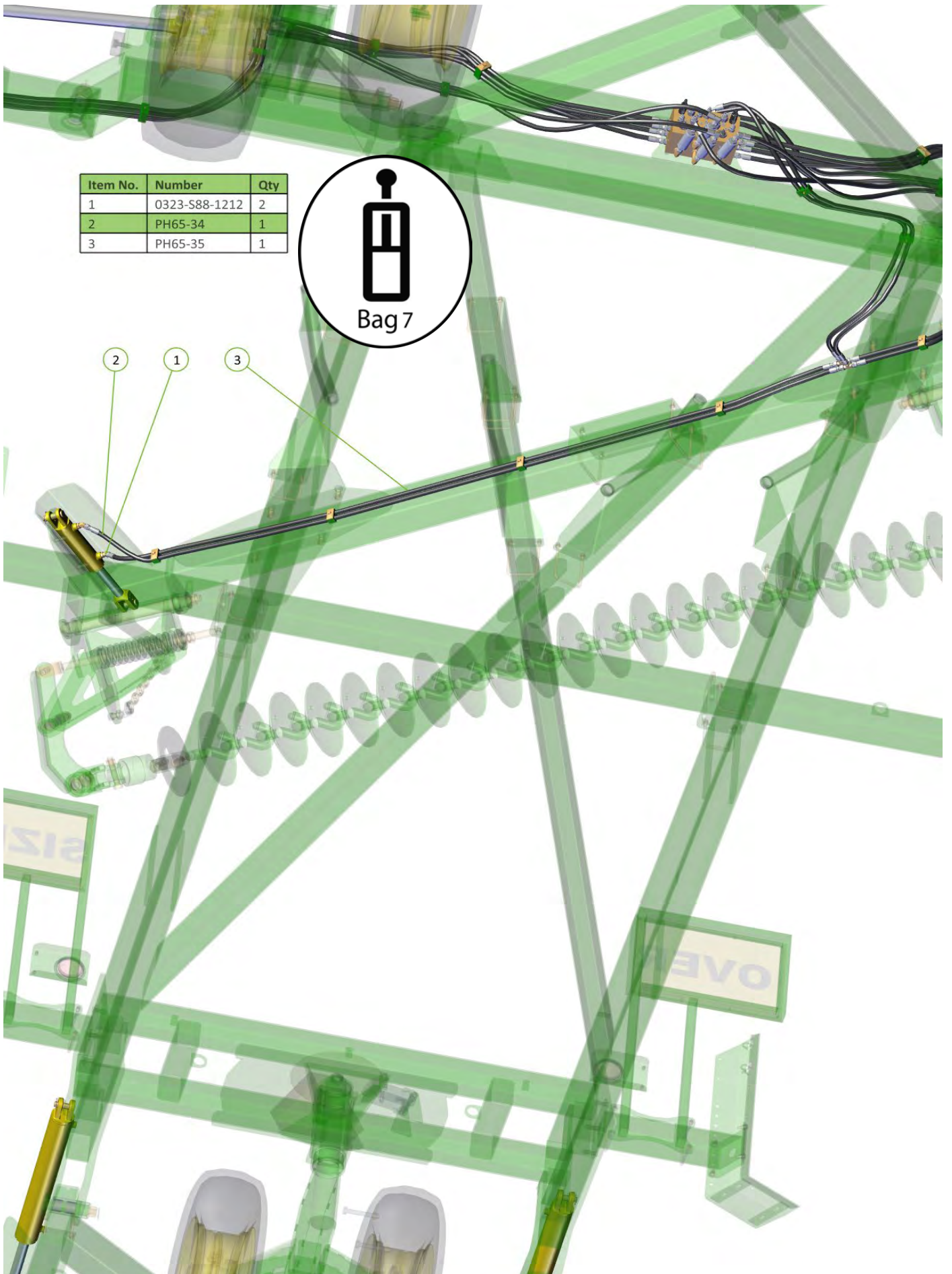
ME2

MR2

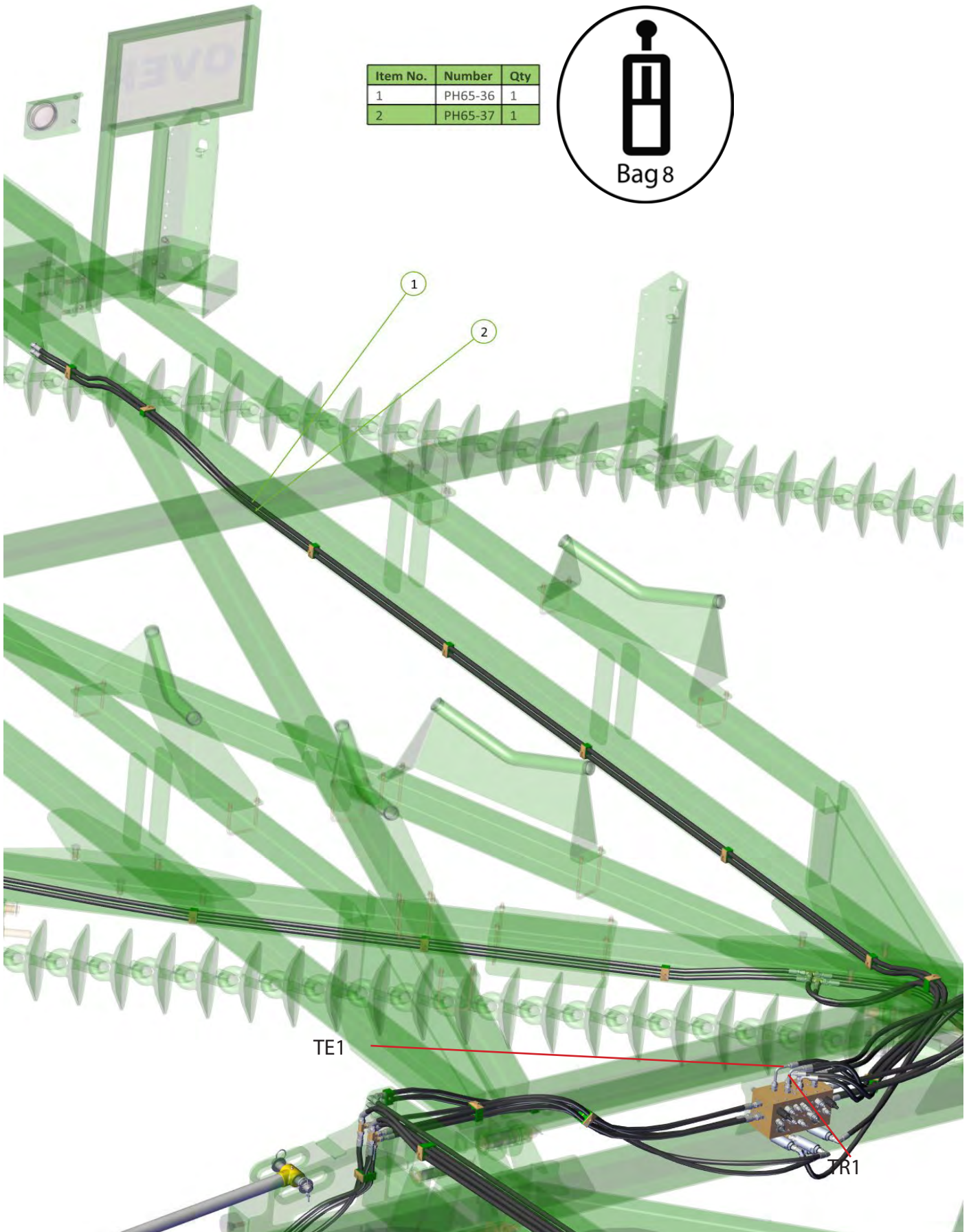
Item No.	Number	Qty
1	0323-S91-1212	2
2	0324-S19-121212	2
3	PH65-32	1
4	PH65-33	1



Item No.	Number	Qty
1	0323-S88-1212	2
2	PH65-34	1
3	PH65-35	1

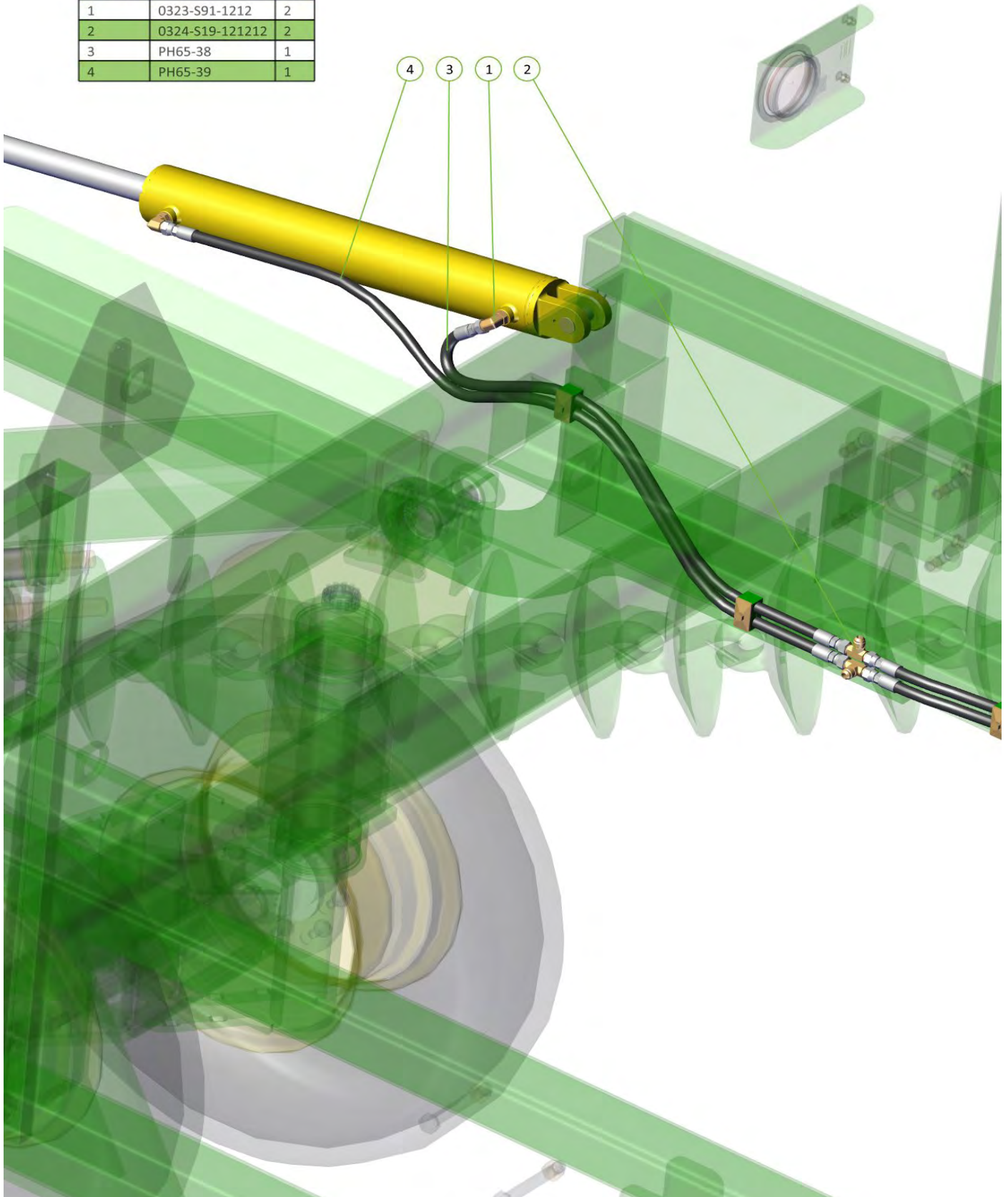


Item No.	Number	Qty
1	PH65-36	1
2	PH65-37	1

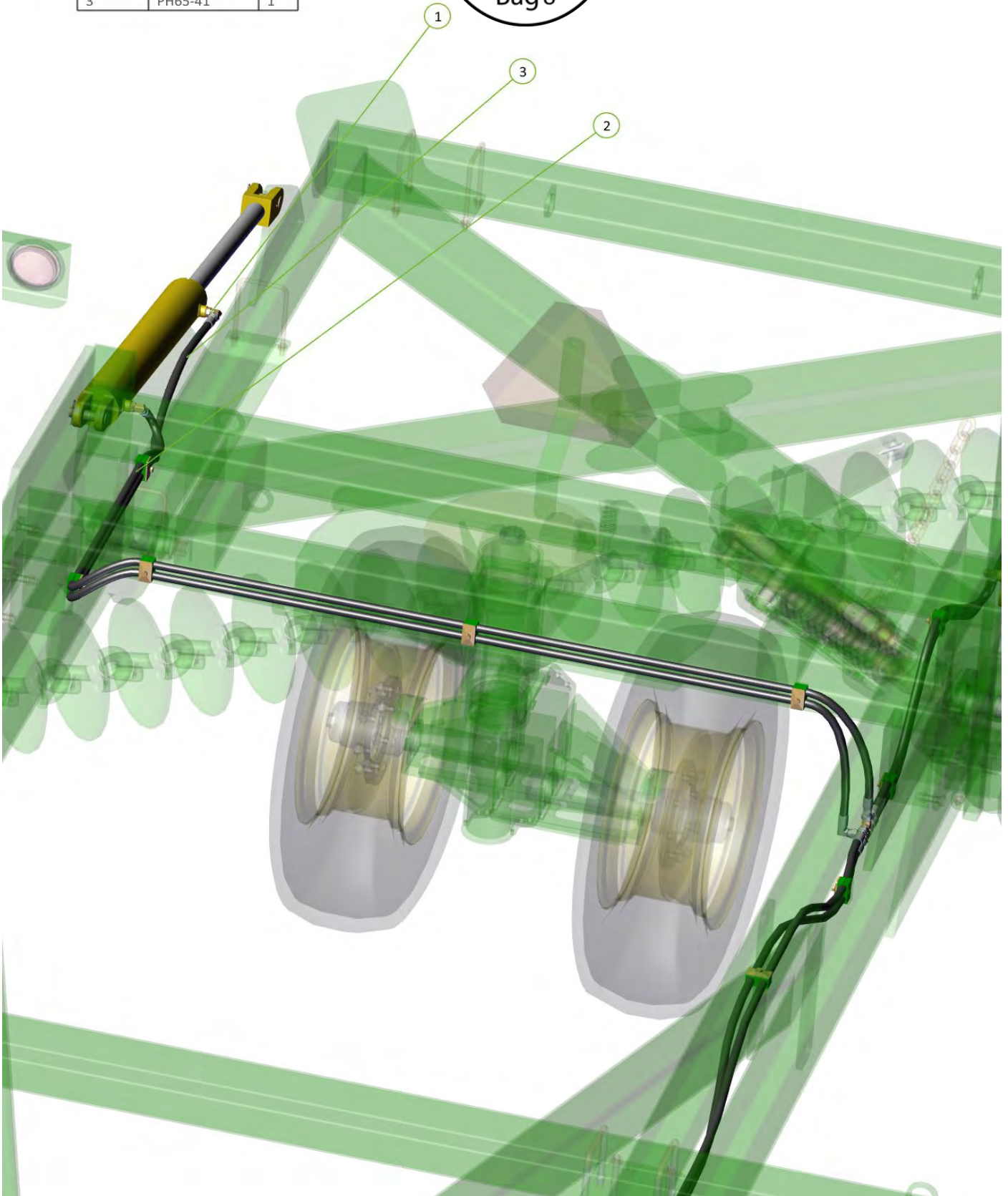


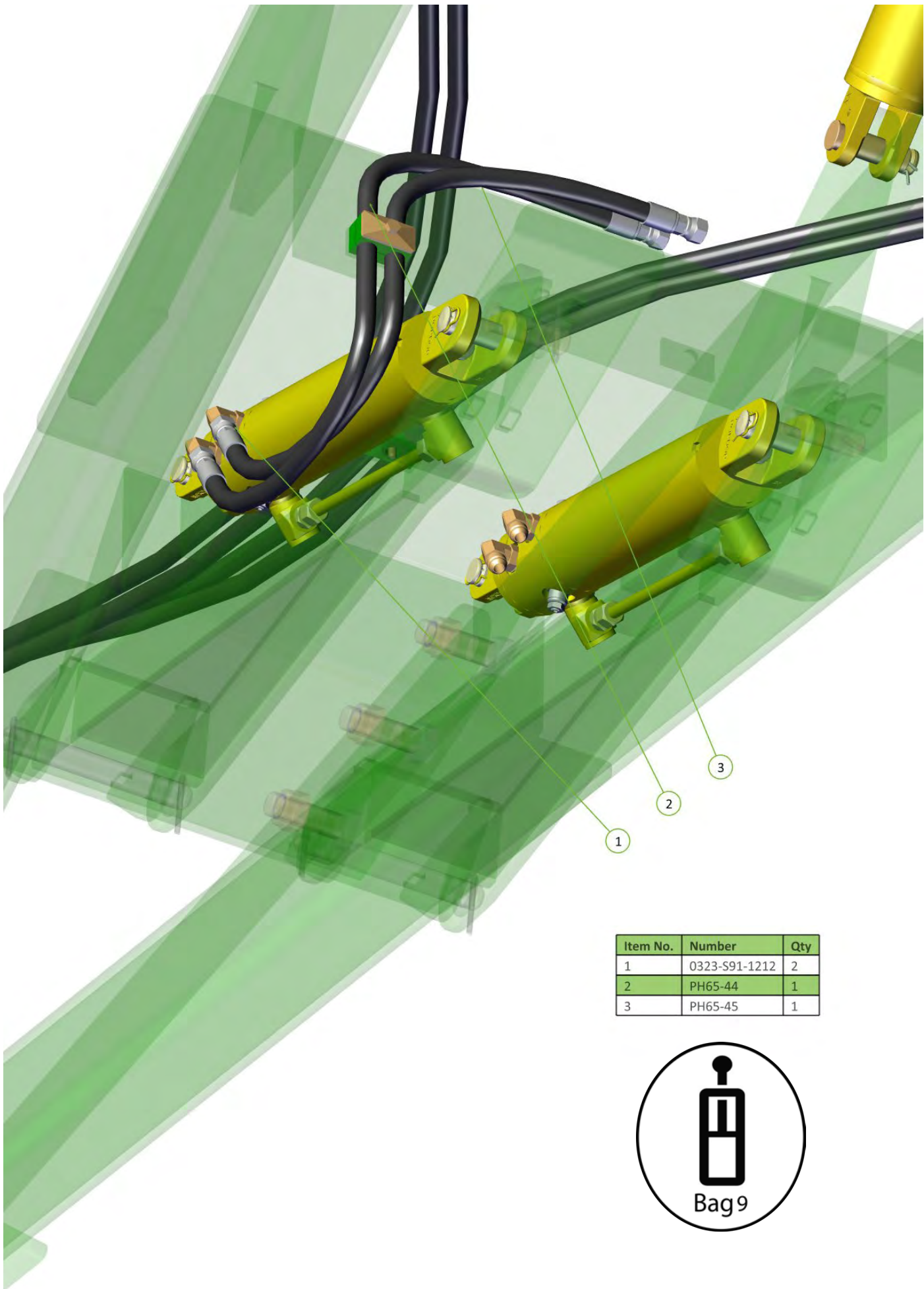


Item No.	Number	Qty
1	0323-S91-1212	2
2	0324-S19-121212	2
3	PH65-38	1
4	PH65-39	1



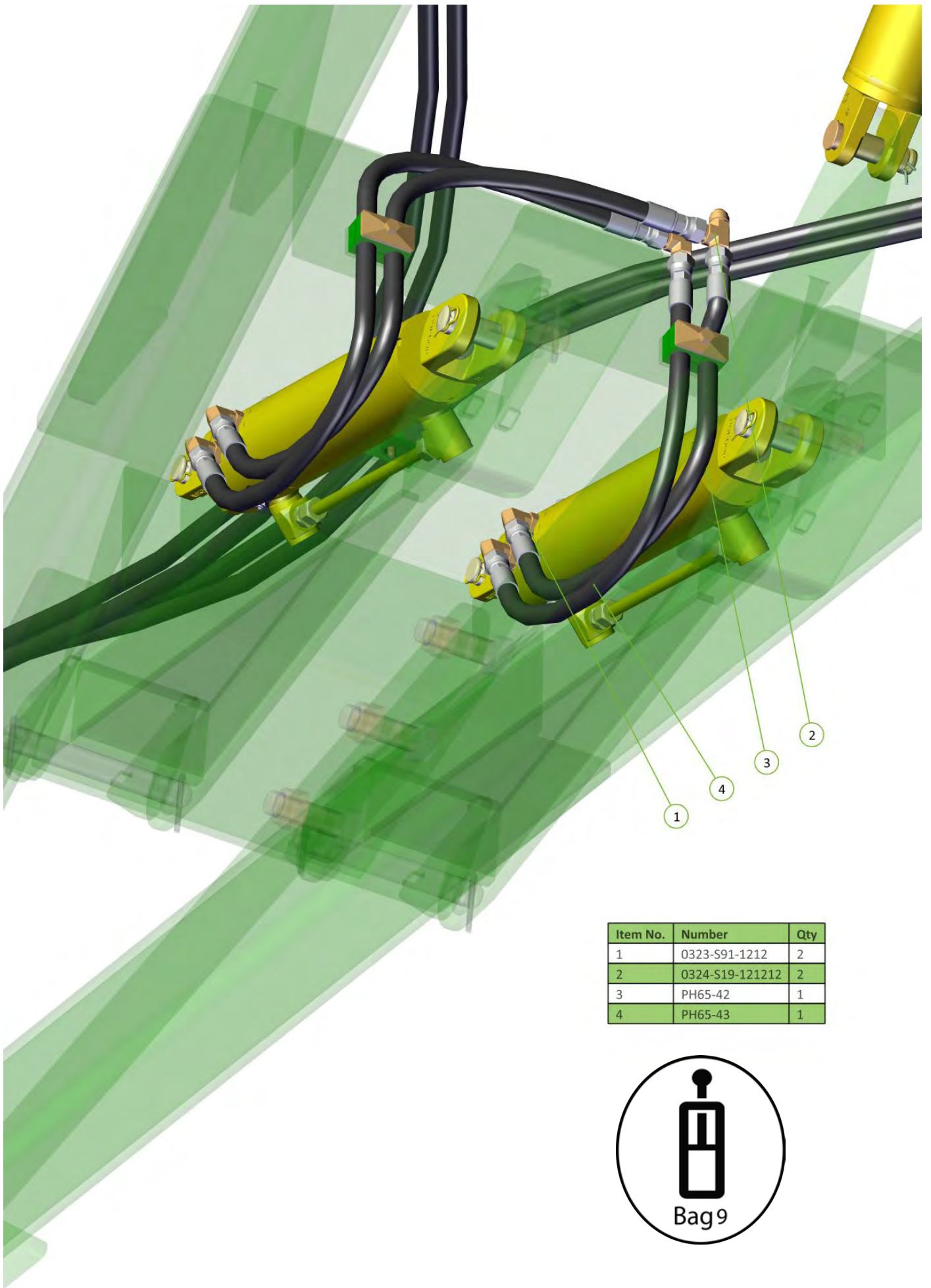
Item No.	Number	Qty
1	0323-S91-1212	2
2	PH65-40	1
3	PH65-41	1





Item No.	Number	Qty
1	0323-S91-1212	2
2	PH65-44	1
3	PH65-45	1

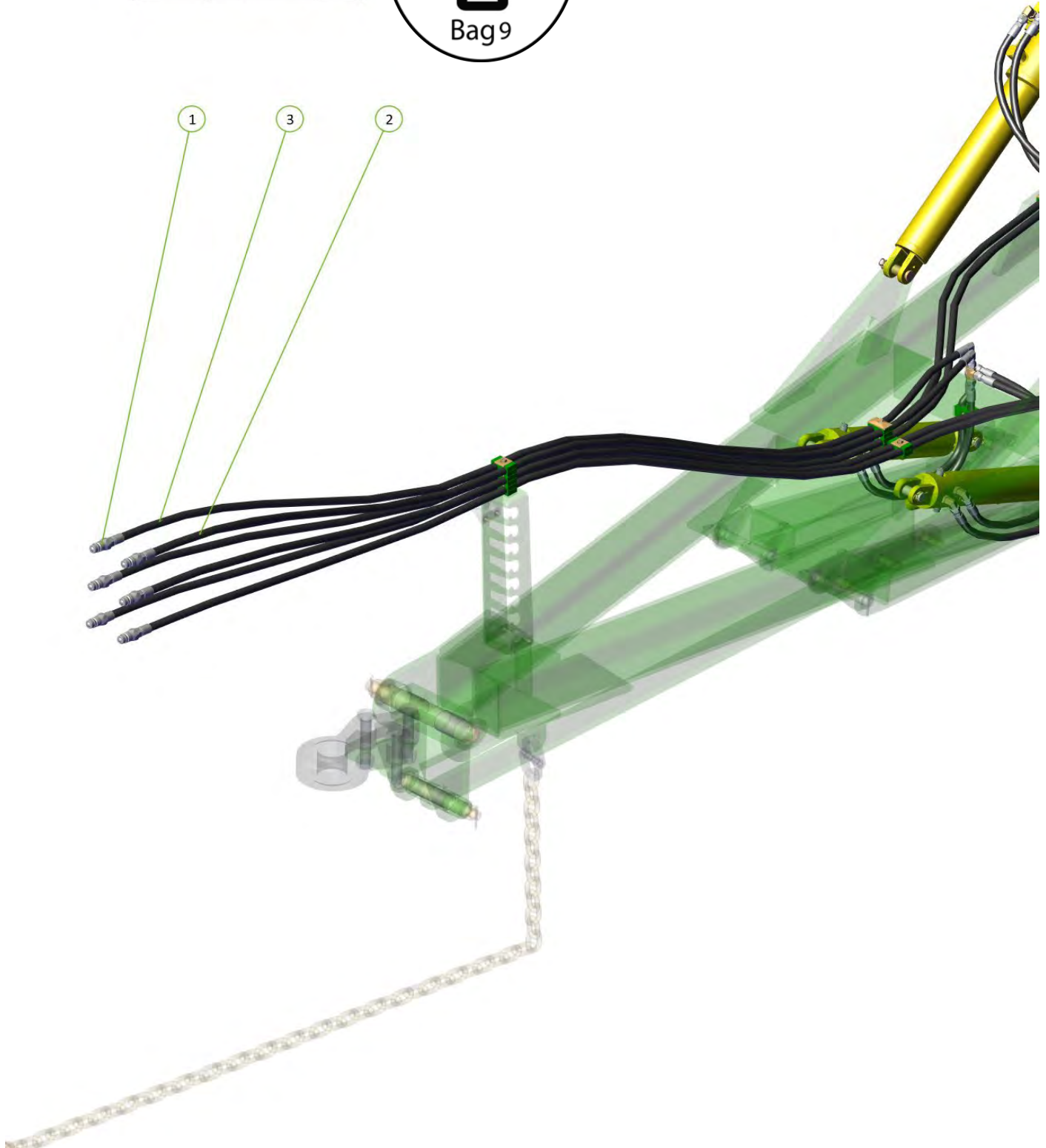




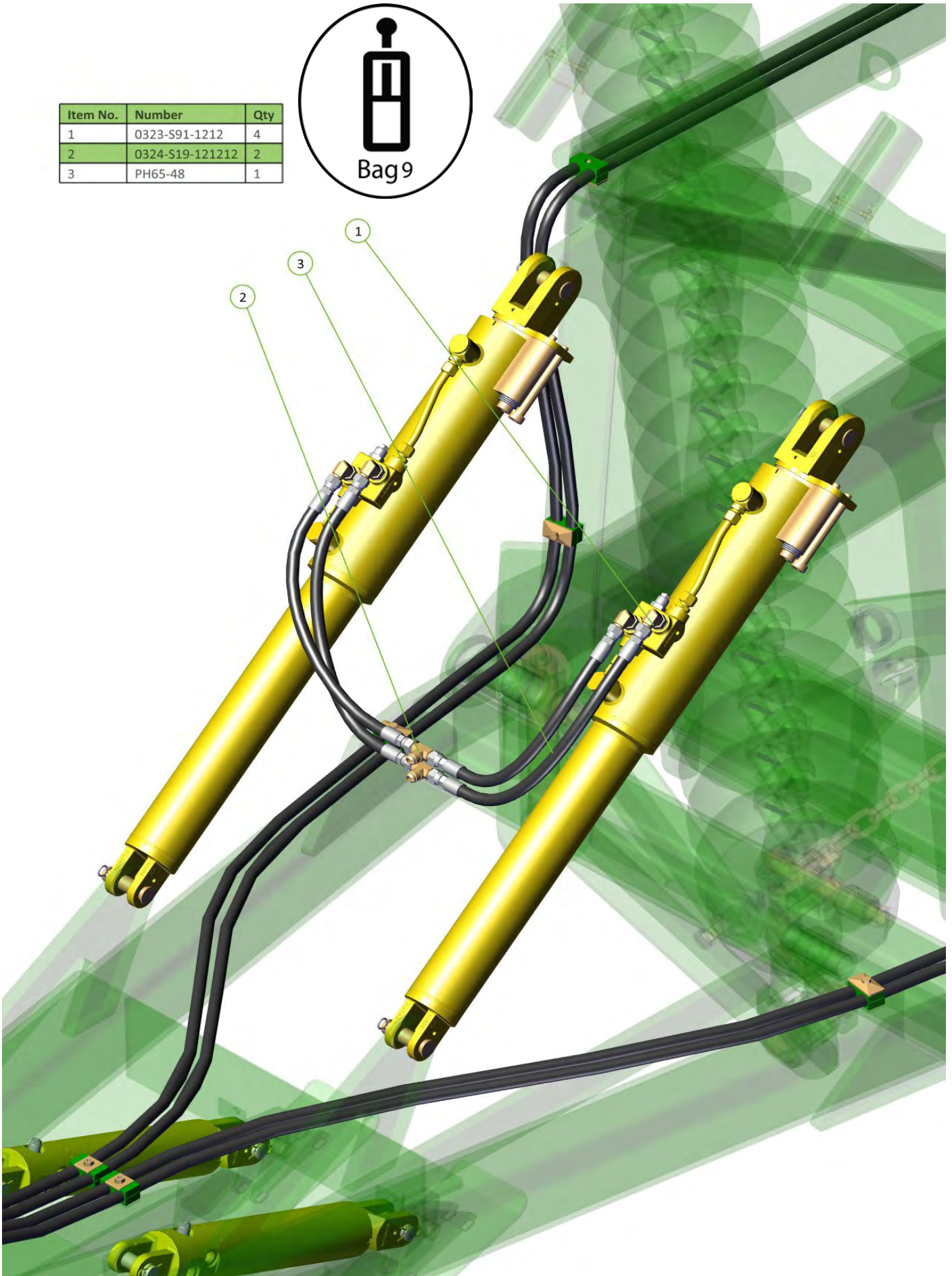
Item No.	Number	Qty
1	0323-S91-1212	2
2	0324-S19-121212	2
3	PH65-42	1
4	PH65-43	1



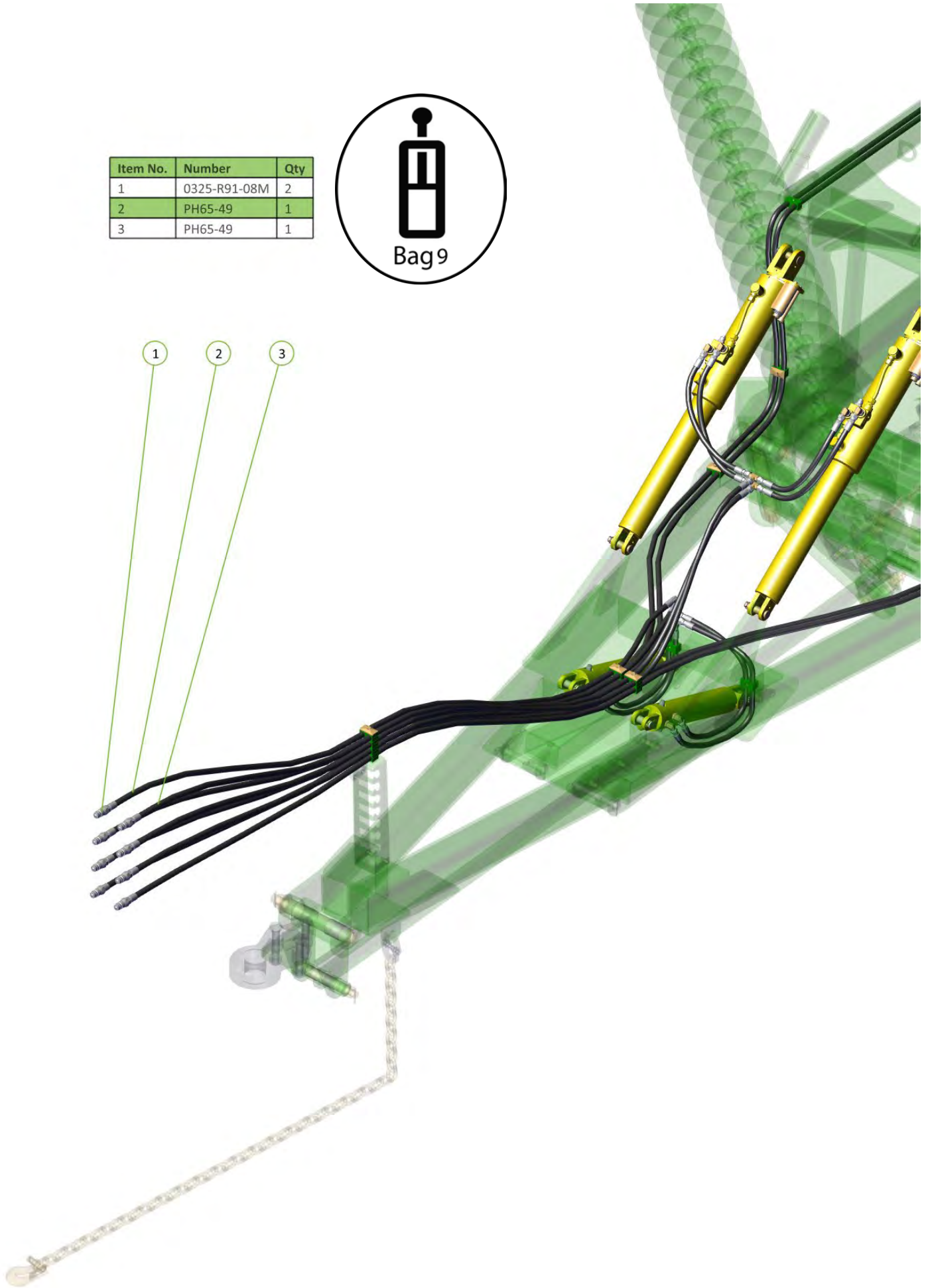
Item No.	Number	Qty
1	0325-R91-08M	2
2	PH65-46	1
3	PH65-47	1

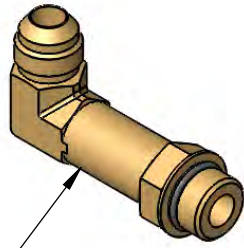


Item No.	Number	Qty
1	0323-S91-1212	4
2	0324-S19-121212	2
3	PH65-48	1

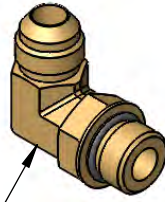


Item No.	Number	Qty
1	0325-R91-08M	2
2	PH65-49	1
3	PH65-49	1

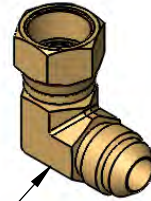




0323-S12-1212



0323-S91-1212



0323-S15-1212



0323-S71-0812



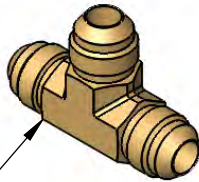
0323-S74-0812



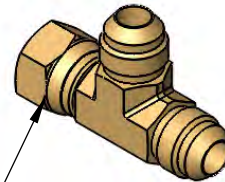
0323-S88-1212



0323-S90



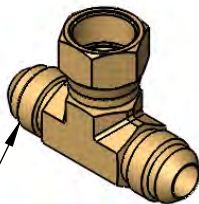
0324-S19-121212



0324-S67-121212



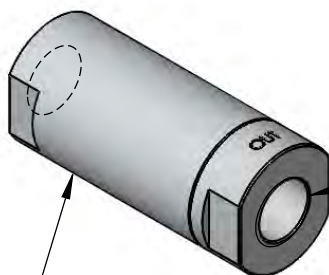
0324-S92-121212



0324-S68-121212



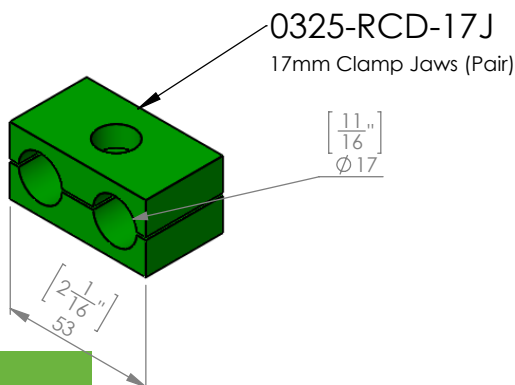
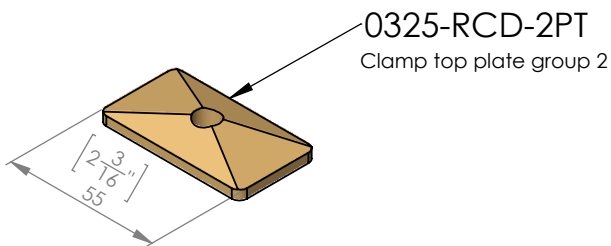
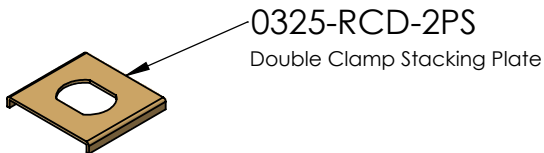
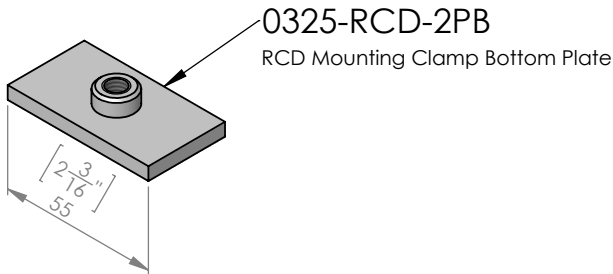
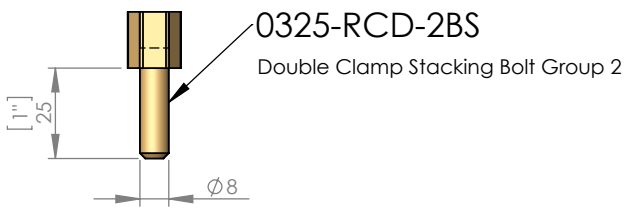
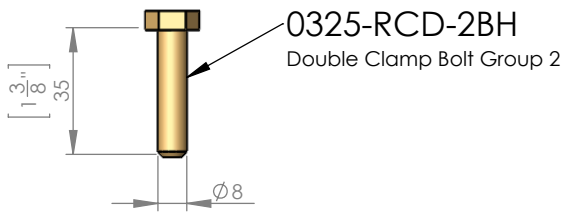
0325-R91-08M



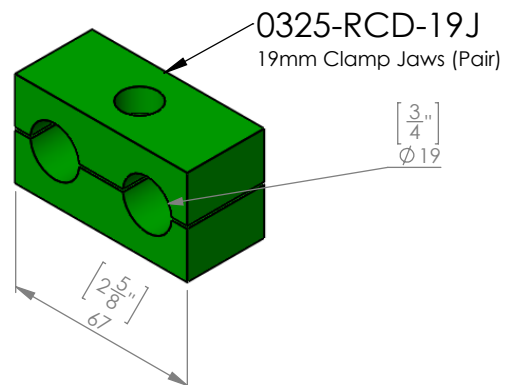
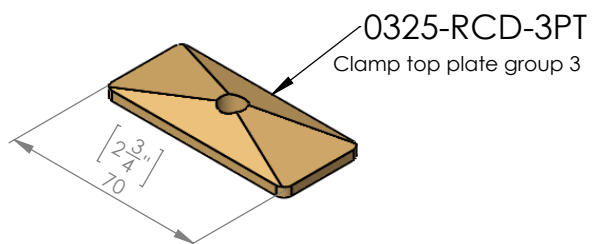
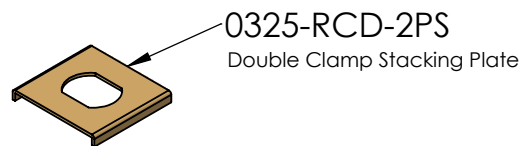
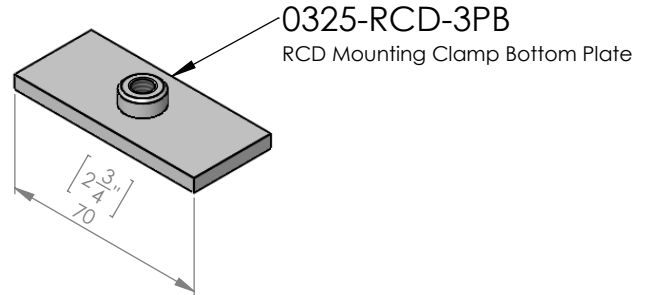
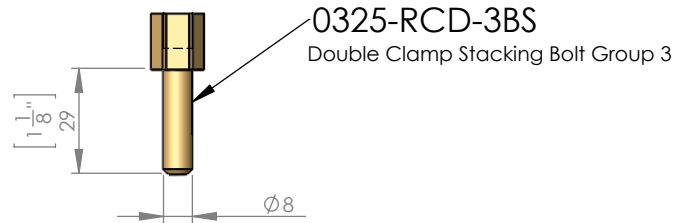
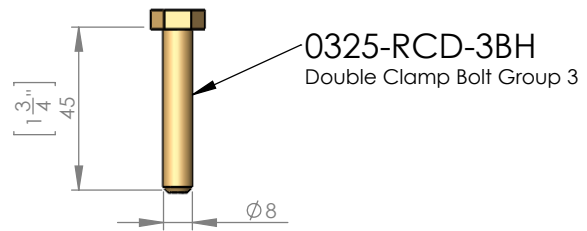
0343-924001261

Note: Fit this end to valve block

New Style Hose Clamp Components Fits Hose T5006A

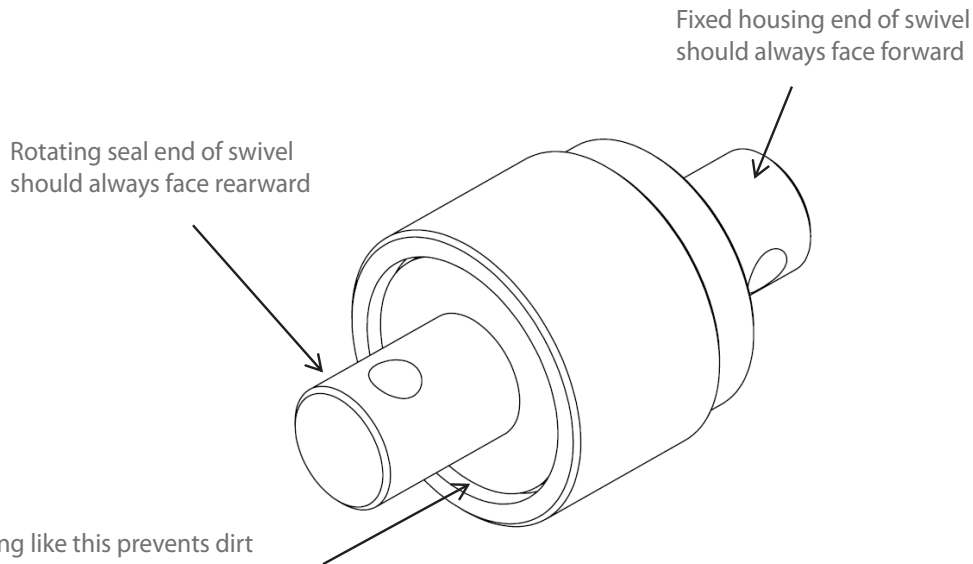


Old Style Hose Clamp Components Fits Hose T26A



Section 4

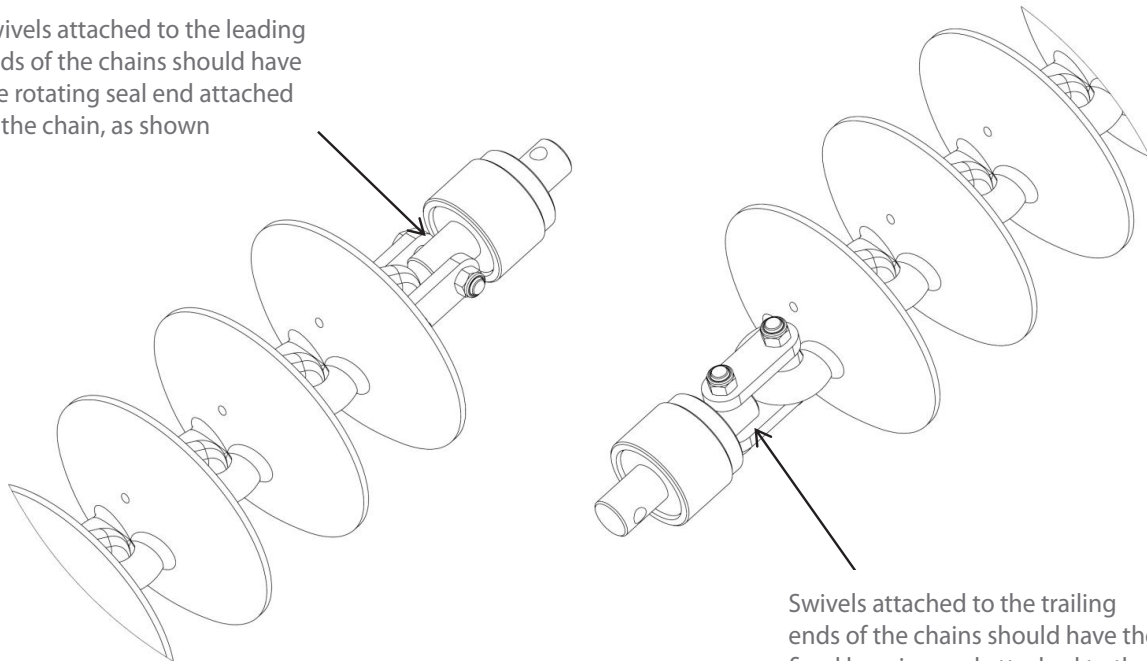
Diagrams & Charts



Mounting like this prevents dirt getting forced into the seals of the swivel increasing longevity of the swivel

For example

Swivels attached to the leading ends of the chains should have the rotating seal end attached to the chain, as shown

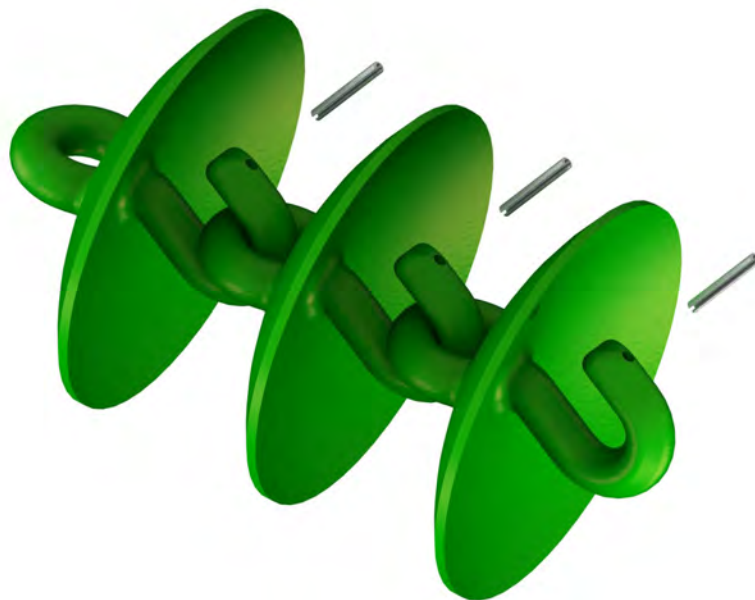
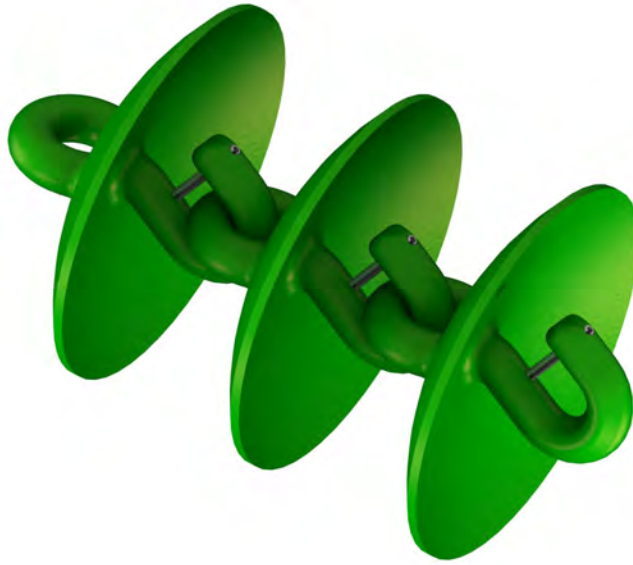


Swivels attached to the trailing ends of the chains should have the fixed housing end attached to the chain, as shown

Cast Chain Link Retaining Pins

Please install cast link retaining Pins (3/8" x 3" Roll Pin, part number 0262-3-8X3) on all cast disc links (CL1 & CL2).

Failure to do this could lead to the discs becoming dislodged during transport causing severe damage or injury.



Operating speeds

Operating speeds for normal conditions	
Chain type	Speed
Prickle Chain	6-10 Mph / 10-16 kmph
Disc Mulch Chain	6-8 Mph / 10-12 kmph
Transport / towing on roads	15 Mph / 25 kmph

Tire pressure

Tire size	Ply	PSI	KPA
16.5L x 16.1	14	36	250
H40 x 14.5-19	26	60	410
11L - 15	10	44	300
15.5/80/24	16	58	400
16.5/85/24	16	55	380
550/60/22.5	16	40	280
400/60/22.5	16	50	350
12.5/80/18	14	85	590
15.0/70/18	14	71	490

Chain Harrow specifications

Model	62'HDX
Working width	62'/18.3m
Transport width	16.3'/5.0m
Transport height	14.6'/4.5m
Transport length	72'/22.0m

Bolt Torque Settings

Bolt Type	Wheel nut				U Bolt			Grade 8.8 Bolt					Grade 10.9 Bolt	
	M18	M20	1/2"	9/16"	M10	M12	M16	M10	M12	M16	M20	M24	M20	M24
Ft lb	255	265	90	100	22	36	55	32	48	140	190	270	300	350
Nm	345	360	125	140	30	50	75	44	65	190	260	370	406	475

[1] When fitting a wheel & tire to a hub, tighten the wheel nuts in rotation to the correct tension. To achieve this choose a wheel nut & tighten, then proceed clockwise to the next wheel nut & tighten & so on until all wheel nuts are tight. Then repeat the procedure to check that all nuts are tight. Do not use impact tools to tighten wheel nuts. For a guide to the correct tension of the wheel nuts please use the appropriate tension for your size wheel nuts from the Bolt Torque Settings table.

Torque values are for dry threads and surfaces however it is permissible to apply a small amount of anti corrosive oil to the threads.

Model		Length	CL2	CL1	W36	R300	SD49	Prickle chain
			CL2 disc chain also requires CL1 disc chain					
62' HDX	Front right	37.1'/11.3m	CL2 - 52 CL1 - 2	71	70	93	93	129
	Front left	37.1'/11.3m	CL2 - 52 CL1 - 2	70	69	91	91	127
	Rear right	45.5'/13.9m	CL2 - 51 CL1 - 16	85	84	111	111	154
	Rear left	37.1'/11.3m	CL2 - 52 CL1 - 2	71	70	92	92	128
	Modules front	11.2'/3.4m	CL2 - 13 CL1 - 3	21	21	28	28	38
	Modules rear	11.2'/3.4m	CL2 - 14 CL1 - 2	21	21	28	28	38

Section 5

Operation & Technical Bulletins

Basic Operation

Unfolding:

1. Walk around and inspect the machine.
 - a. Check that chains are not hooked on framework
 - b. Check swivel bolts are in place and not broken
 - c. Check that height adjusting chains have not fallen out of their slotted plates during transport.
2. Lower front A frame to working height.
3. Unfold wings holding the hydraulic lever until the tail is in working position and the main center cylinder pins have centered in their slots.
4. Walk around and check that all chain links are straight and that working height of all swivels is correct for field conditions. Adjust if necessary.
5. Move off with all chains in working position. If necessary it is acceptable to raise front A pull to transport height. This will lift the front chains off the ground and reduce the load on the tractor. Lower the front A pull once moving satisfactorily.

Folding:

1. Lower the front A frame to working height. (This is important to ensure that all chains locate correctly in their transport rests).
2. Fold the wings. They should move as follows; modules will raise, tail will raise, main center cylinders will retract, one or both, until the wings stand vertically. The left outer wing then the right outer wing will fold down.
3. Raise front A frame to transport height.
4. Walk around and check that chains have located correctly in transport rests.

Setting for correct chain tension

Wings

Use the spanner supplied. Loosen the lock nut adjacent to the tensioner assembly body. Turn the tension bolt clockwise to compress the coil spring. Correct tension is achieved when spring retains its set length when operator rolls the chain fore and aft on the ground. Retighten the lock nut. See table below

Spring Compression Length

Model	inches	mm
60	12.4	315

When less than 4" (100mm) of thread remains visible on the adjustor bolt then a link must be removed from the chain



Modules

Loosen the lock nut on the draw bolt.

Tighten the adjusting nut clockwise until the outer face of the spring retaining washer is flush with the body of the module tensioning unit.

Retighten the lock nut.

If more than 8" (200mm) of thread is exposed then a link should be removed to maintain correct adjustment.



Importance of chain tension

Operational

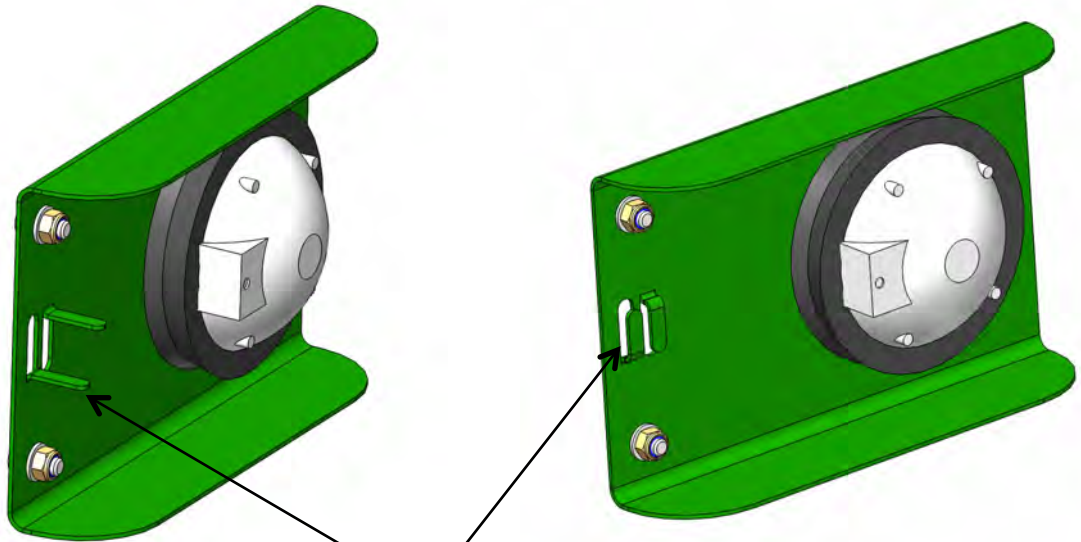
It is imperative that the correct adjustment be maintained. Only through correct adjustment can a smooth and level finish be achieved in field working.

Loose chains lead to :

- Uneven performance across the width of the machine
- Uneven weed control
- Unsatisfactory incorporation
- Ineffective levelling
- Accelerated or premature chain wear
- Chains failing to engage with transport locators when folded
- Machine damage when folding or unfolding
- Uneven field surface with ridges and furrows being created. The leading 1/3rd of a loose chain is much more aggressive than the trailing 1/3rd and the center. This will mean that middle of the machine's front pair of chains will aggressively move soil outwards. The machine's rear pair of chains, if loose, have their aggressive 1/3rd near the wing extremity. It follows then that as the front discs push soil outwards, the least aggressive portion of the rear chain follows them and does not balance the soil movement. This is exacerbated at the wings, effectively creating a broad ridge about halfway out each wing. It won't be evident in one pass, but is possible if care is not taken over time.

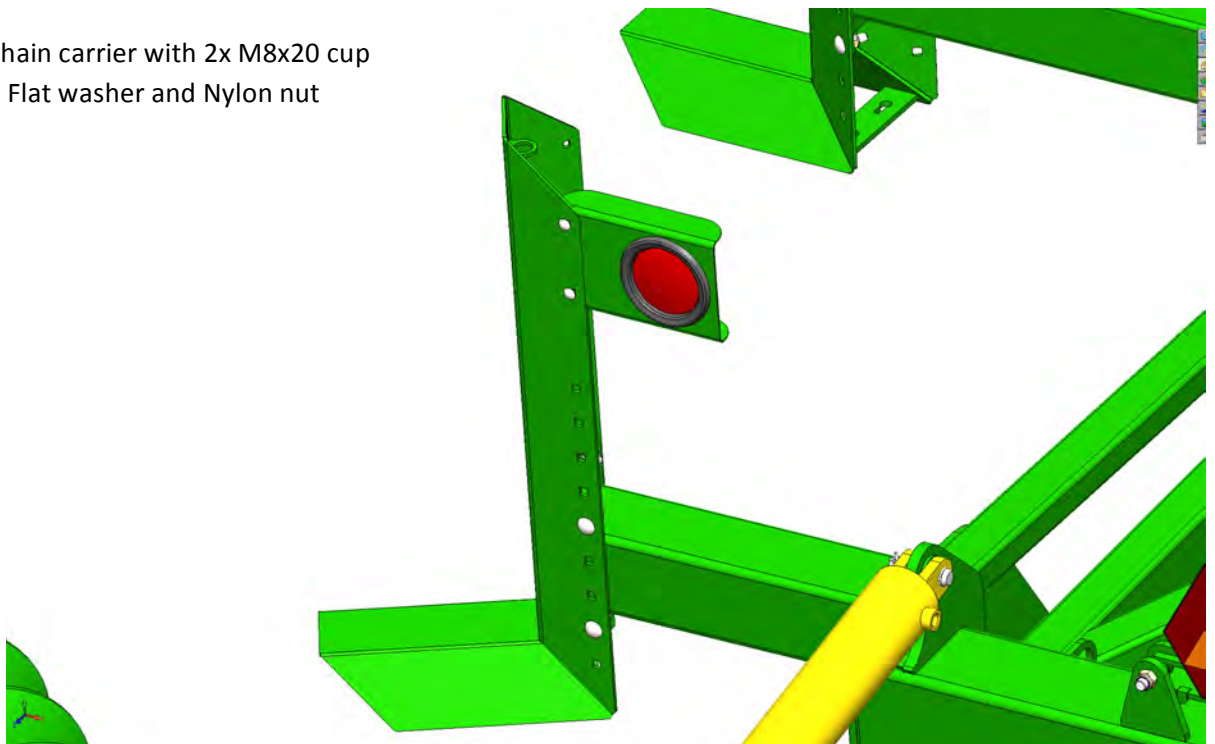
A correctly adjusted machine will not cause this phenomenon.

Light Brackets



Please ensure to bend tabs up and feed wire through, so the light cable is secure

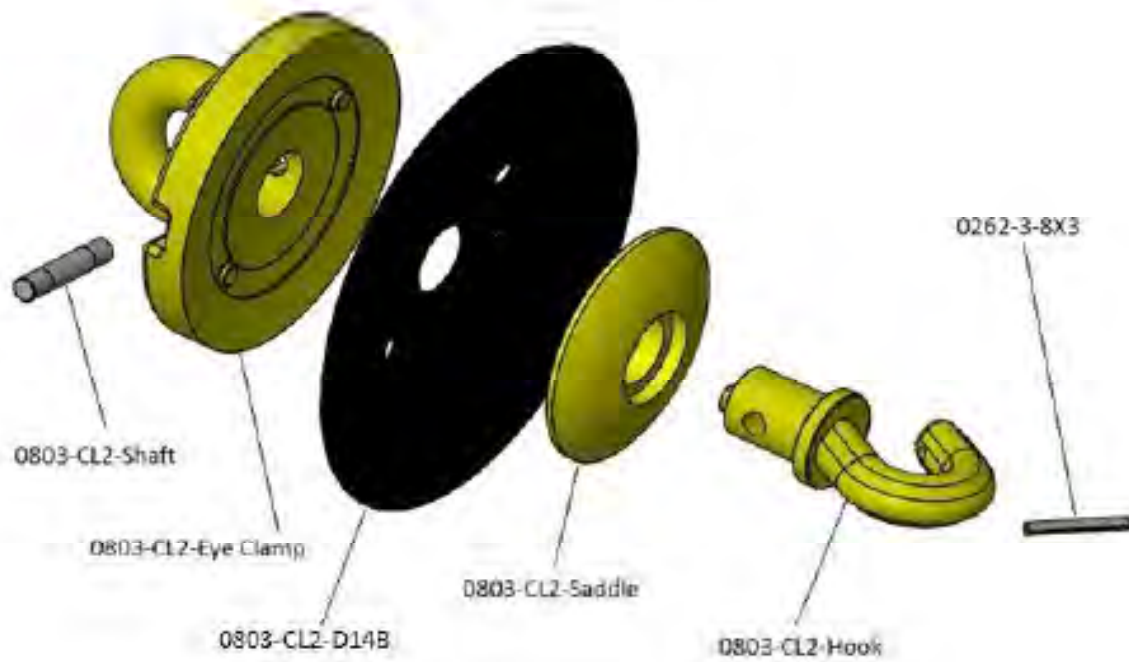
Mount to chain carrier with 2x M8x20 cup head bolts, Flat washer and Nylon nut



CL2 Chain Configuration

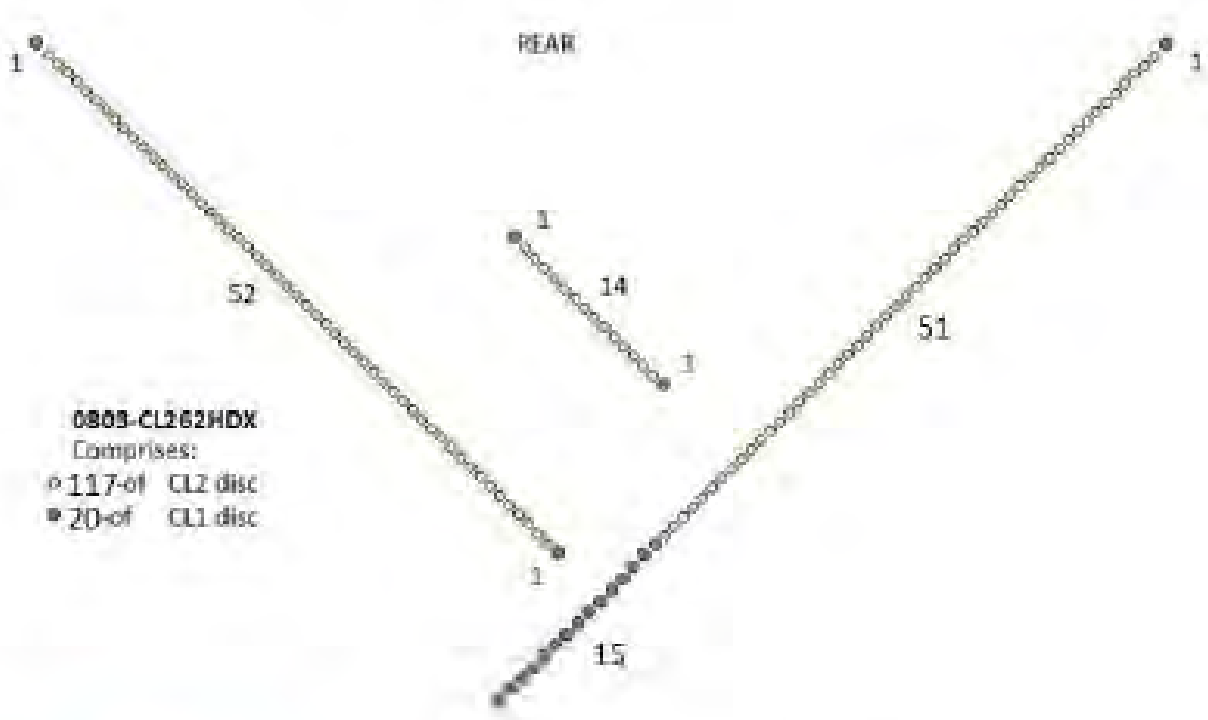
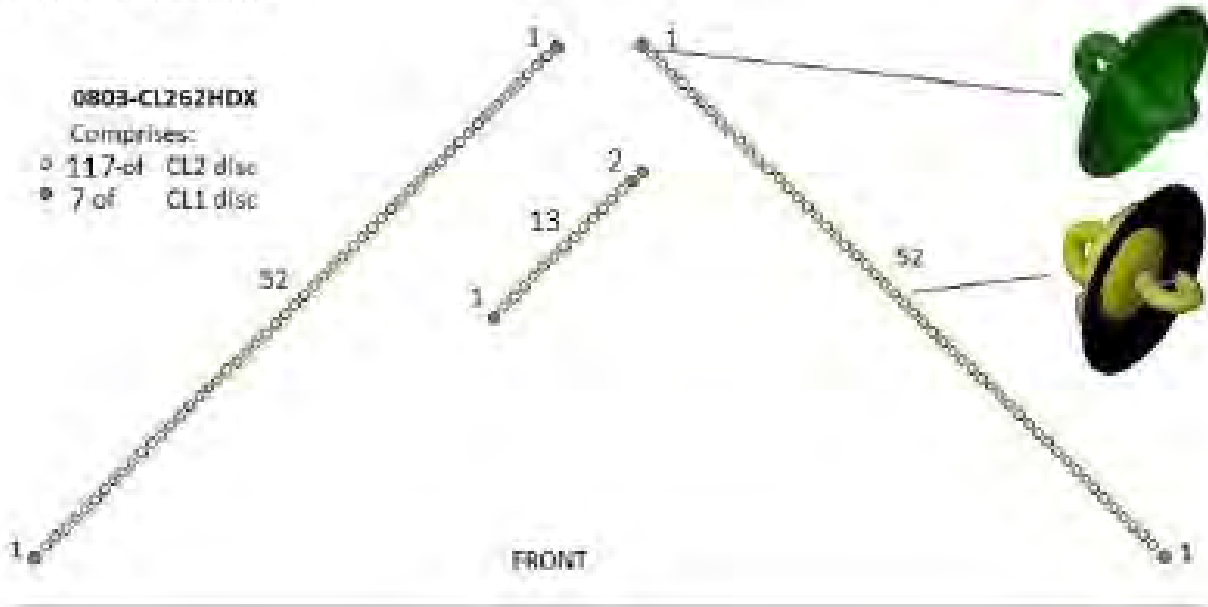


0803-CL2-Link Assembly



CL2 Chain Configuration

62'HDX Machine



Please Note

Machines built from serial number 1170126 on will have 3 extra CL1 discs on the rear right chain.

Hydraulic Jack



S91-1212
(90 Elbow)

Tighten elbow onto
cylinder facing rod
before putting
cylinder up into
position.



S91-1212
(90 Elbow)

Hydraulic Jack



PHJACK-01

519-121212

PHJACK-04

PHJACK-03



PHJACK-02

PHJACK-02

CL2 Disc Change Procedure

This document describes a procedure for the safe changeover of CL2 discs.

NOTE: Each disc weighs 22kg (48lb). Appropriate care must be taken during manual handling

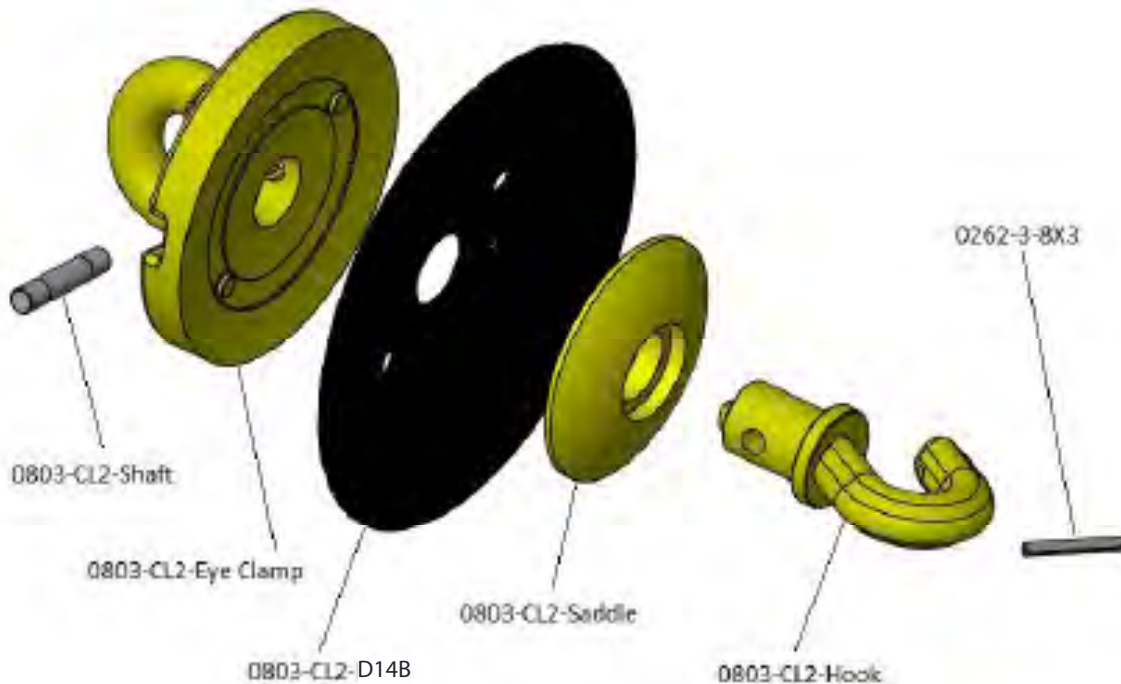


Figure 1: Exploded view of CL2 disc assembly

Changeover procedure as follows:

1. Locate press jig in press (see Figure 2 for orientation).
2. Load disc into press with Hook facing upwards - ensure that Eye Clamp and Hook are secured within the jig with pins supplied
3. Close press, applying force to Saddle (see Figure 3). DO NOT exceed pressure of 9 Tonne (19,800lb)
4. With the clamping force applied, push or tap the shaft with a hammer & drift, and remove from the CL2 Disc assembly
5. Open the press and remove the Disc from the assembly
6. Ensure that all surfaces of the castings are free from debris

CL2 Disc Change Procedure

7. Place replacement disc on to Eye Clamp, ensuring that location holes align with casting lugs
8. Close press and re-apply clamping force. Visually confirm that Hook location hole is properly aligned with Eye Clamp location hole
9. Locate pin within hole and tap gently through both castings
10. Remove clamping force, and remove CL2 assembly from jig
11. CL2 disc is now ready for use. Repeat procedure as necessary



Figure 2: CL2 disc with press jig in Open position

CL2 Disc Change Procedure



Figure 3: CL2 disc with press jig in Closed position

