

# 40'



Kelly 

## Tillage System 40' Assembly Manual

Revision A - October 2019

Serial Number:

Kelly Engineering  
PO Box 100  
Booloroo Centre  
South Australia 5482  
P +61 8 8667 2253  
F +61 8 8667 2250  
W [kellyengineering.com.au](http://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**

**Boomeroo Centre SA 5482**

**Phone:** + 61 8 8667 2253

**Email:** sales@kellyengineering.com.au

**Spare Parts:** parts@kellyengineering.com.au

**Website:** www.kellyengineering.com.au

## **United States**

### **Kelly Engineering**

**526 1st Street**

**PO Box 121**

**New Glarus**

**WI 53574**

**Phone:** 417 865 2100

**Website:** www.kellyharrows.com

## **Spare Parts**

### **Hood & Company Inc**

**Springfield MO**

**Phone:** 417 865 2100

**Fax:** 417 865 2105

**Email:** hoodco@hoodco.com

# Contents

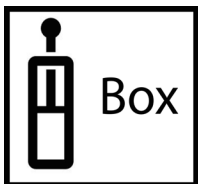
	Page Number
Section 1: Unpacking	5
Section 2: Assembly	8
Section 3: Decal Application	121
Section 4: Light Kit	142
Section 5: Chain Assembly	156
Section 6: Diagrams & Specifications	166
Section 7: Operation	169
Section 8: Pre-Delivery Checklist	173



This symbol indicates which bag the relevant fastners are in



This symbol indicates which bag the relevant hydraulics are in



This symbol indicates the hydraulics are in a box



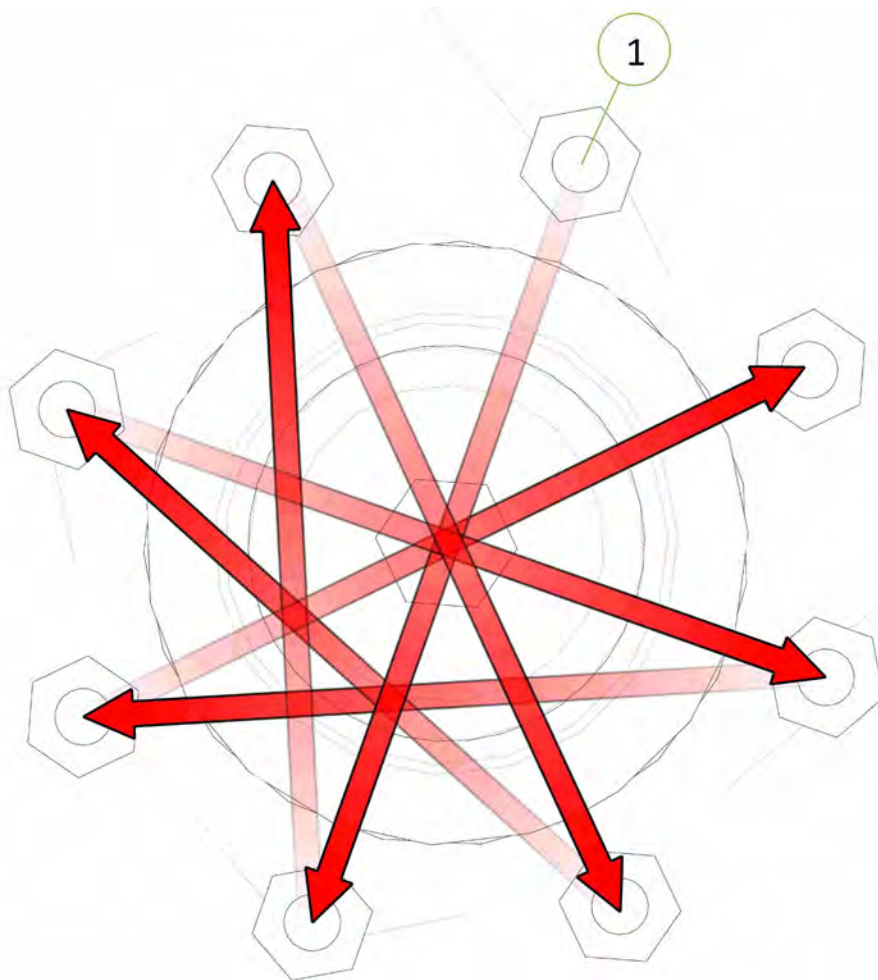
This symbol indicates which way the machine is travelling

## Bolt Torque Settings

Bolt Type	Wheel nut				U Bolt			Grade 8.8 Bolt					Grade 10.9 Bolt	
<b>Bolt Size</b>	M18	M20	1/2"	9/16"	M10	M12	M16	M10	M12	M16	M20	M24	M20	M24
<b>Ft lb</b>	255	265	90	100	22	36	55	32	48	140	190	270	300	350
<b>Nm</b>	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.



# Section 1

## Unpacking

# Unpacking

*We recommend the use of suitable lifting equipment with a lifting capacity of at least 4 tones.*



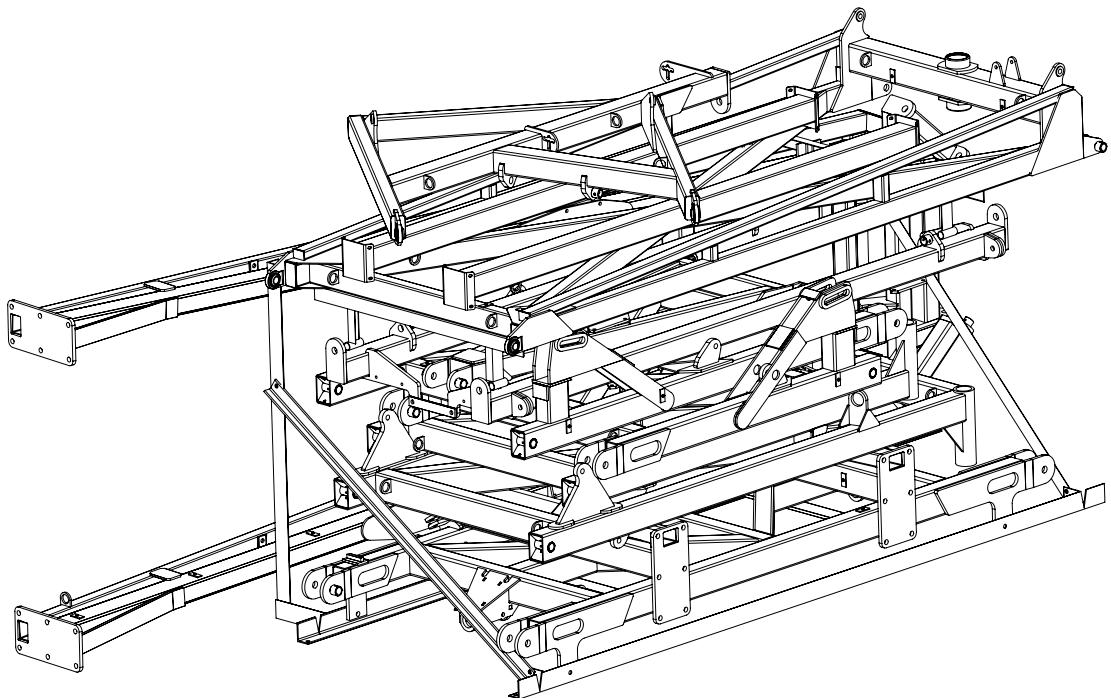
- Before unloading any loads please inspect exterior for damage

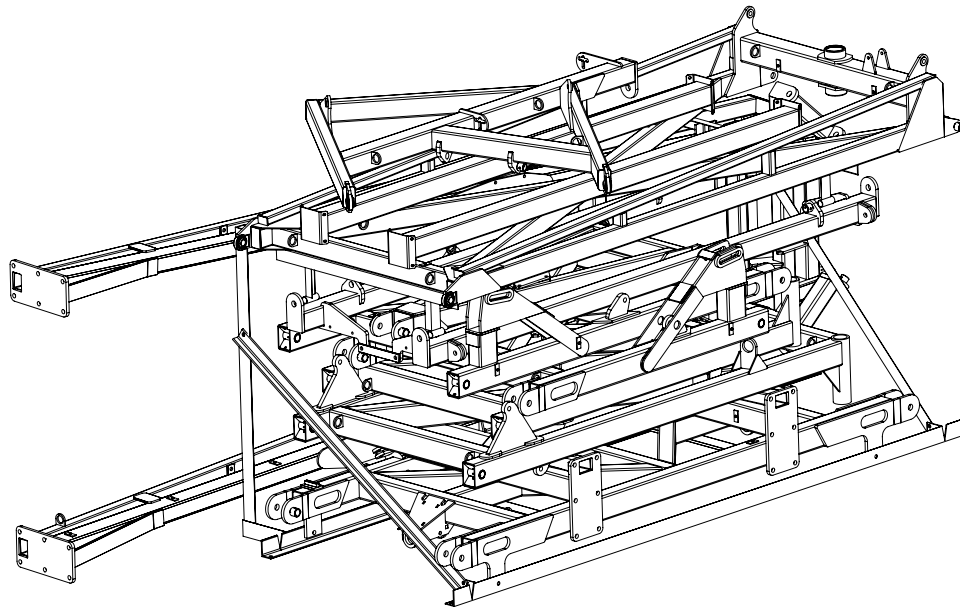


## CAUTION

**Take care when opening doors as load may have shifted or restraints may have broken.**

- Remove boxes from doorway of container one at a time using a forklift truck. Each box weighs approximately (2600 lbs 1200kg)
- Check strapping on each bundle before attempting to remove
- Attach chains to the packing frame using shackles and using suitable equipment (eg. fork-lift or tractor) drag framework bundles out of container. To move bundles away from front of container lift from side with forklift. Do not lift under angle iron frame, lift only under centre frame. Each bundle weighs approximately 7000 lb (3200 kg).





### **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**

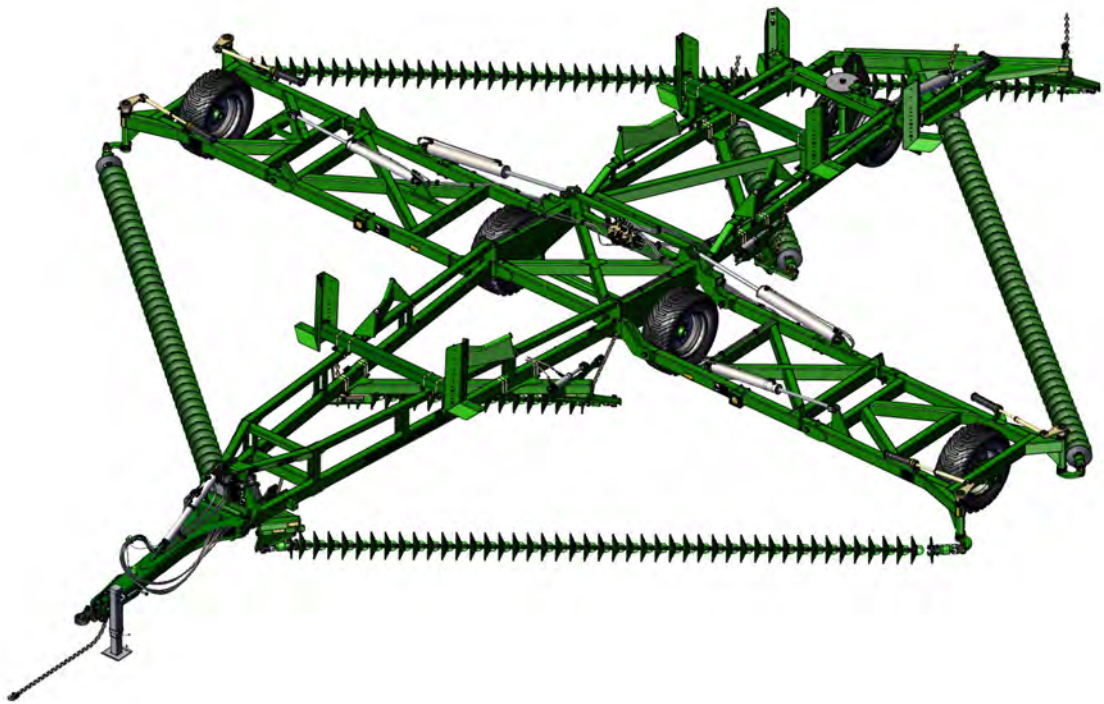
To avoid falling or moving components, before cutting straps attach slings or chains to individual pieces and only cut the straps holding the piece to be lifted.

- 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
- Once all parts have been identified, the machine is ready for assembly
- 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
- Read assembly instructions before proceeding.

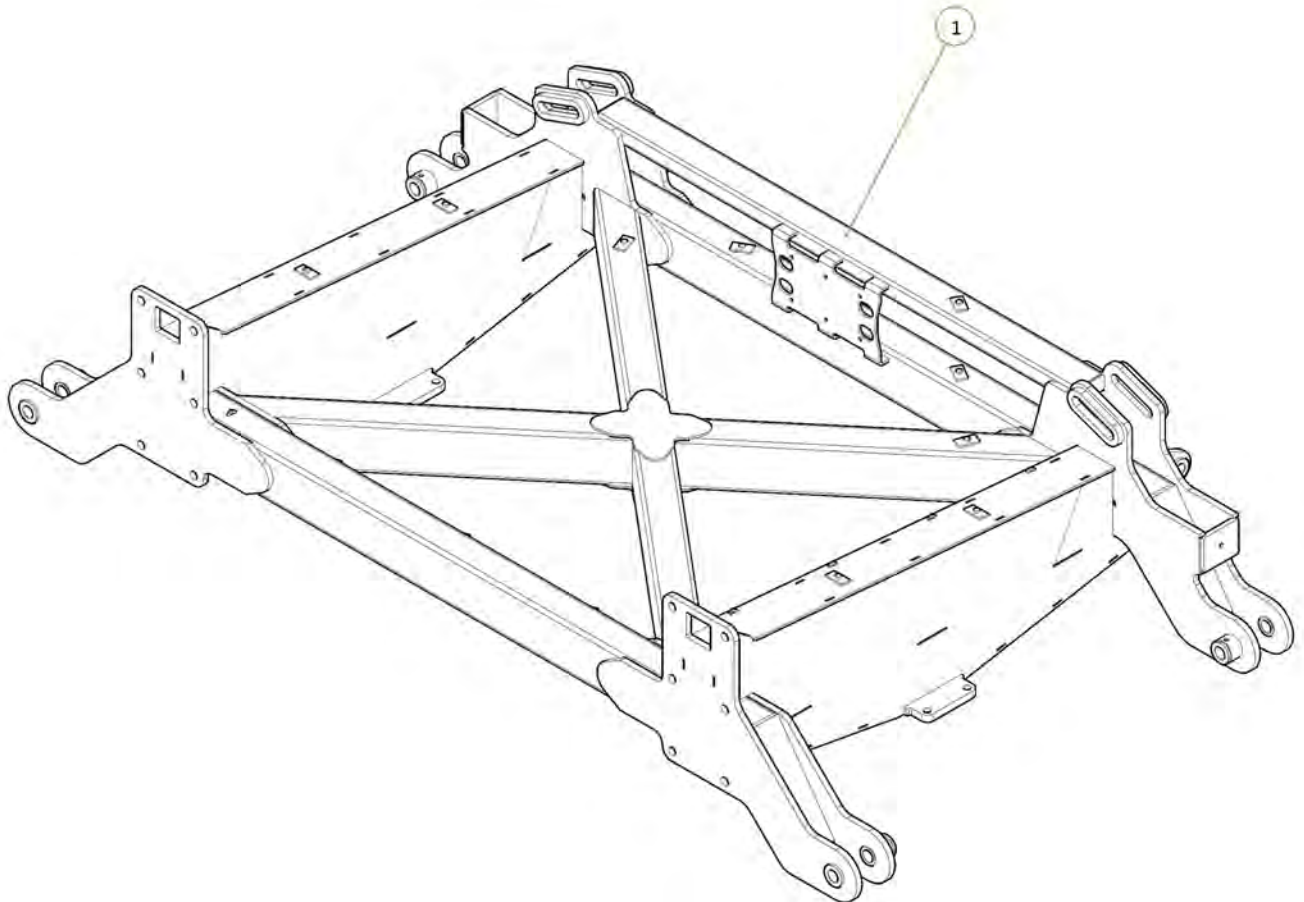
# Section 2

Assembly

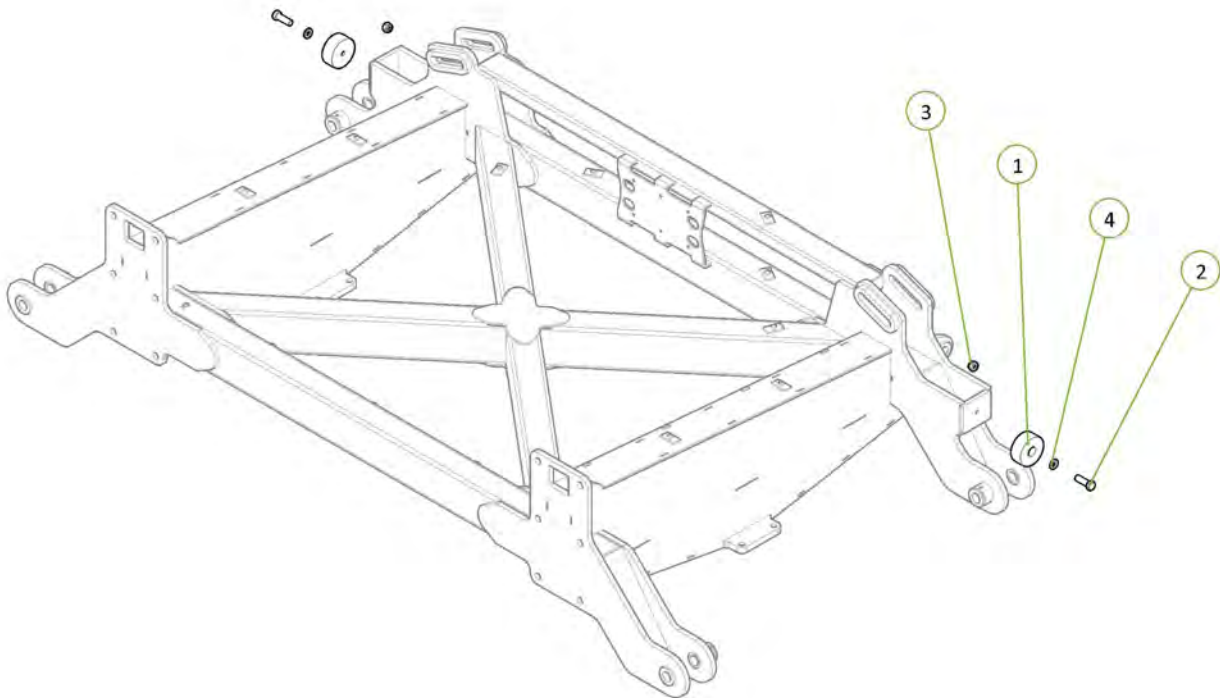




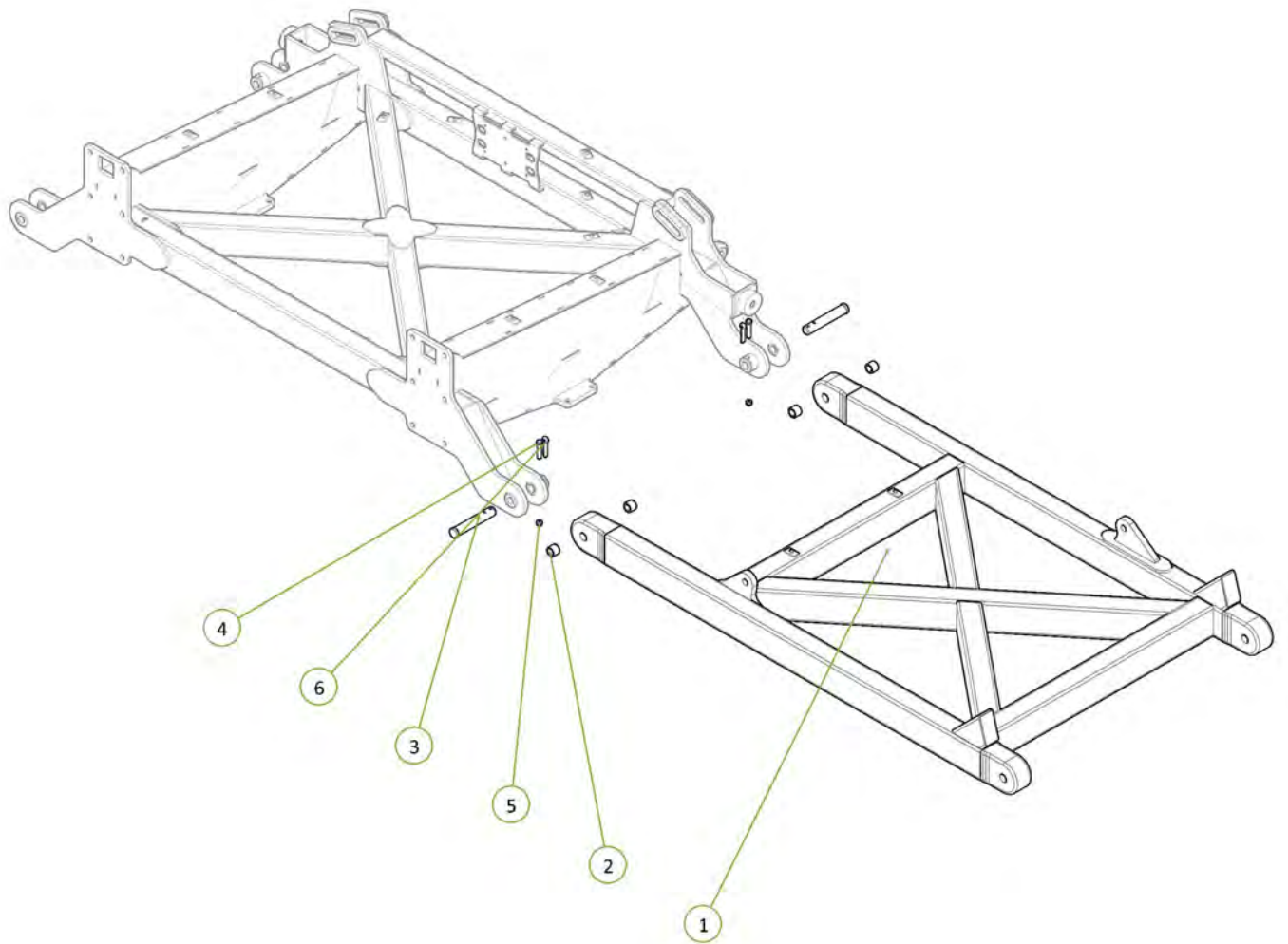
Item No.	Description	Qty	Number
1	40' Centre Frame	1	1540-01-1



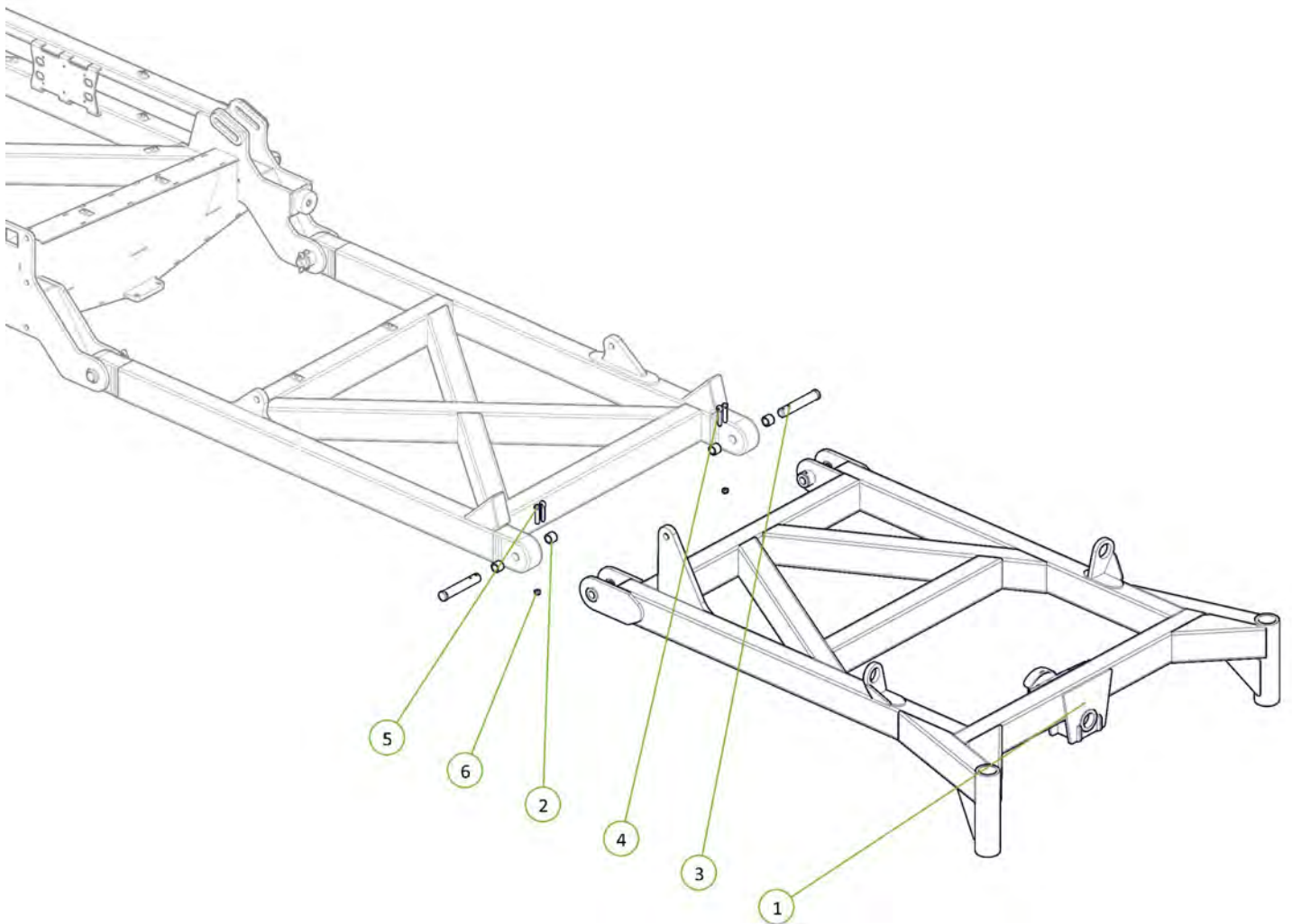
Item No.	Description	Qty	Number
1	Wing Folding Buffer	2	1201-12
2	M16 x 55 grade 8.8 zp Bolt	2	0211-1655
3	Nyloc Nut M16	2	0221-NYL16
4	Washer Flat M16	2	0231-F16



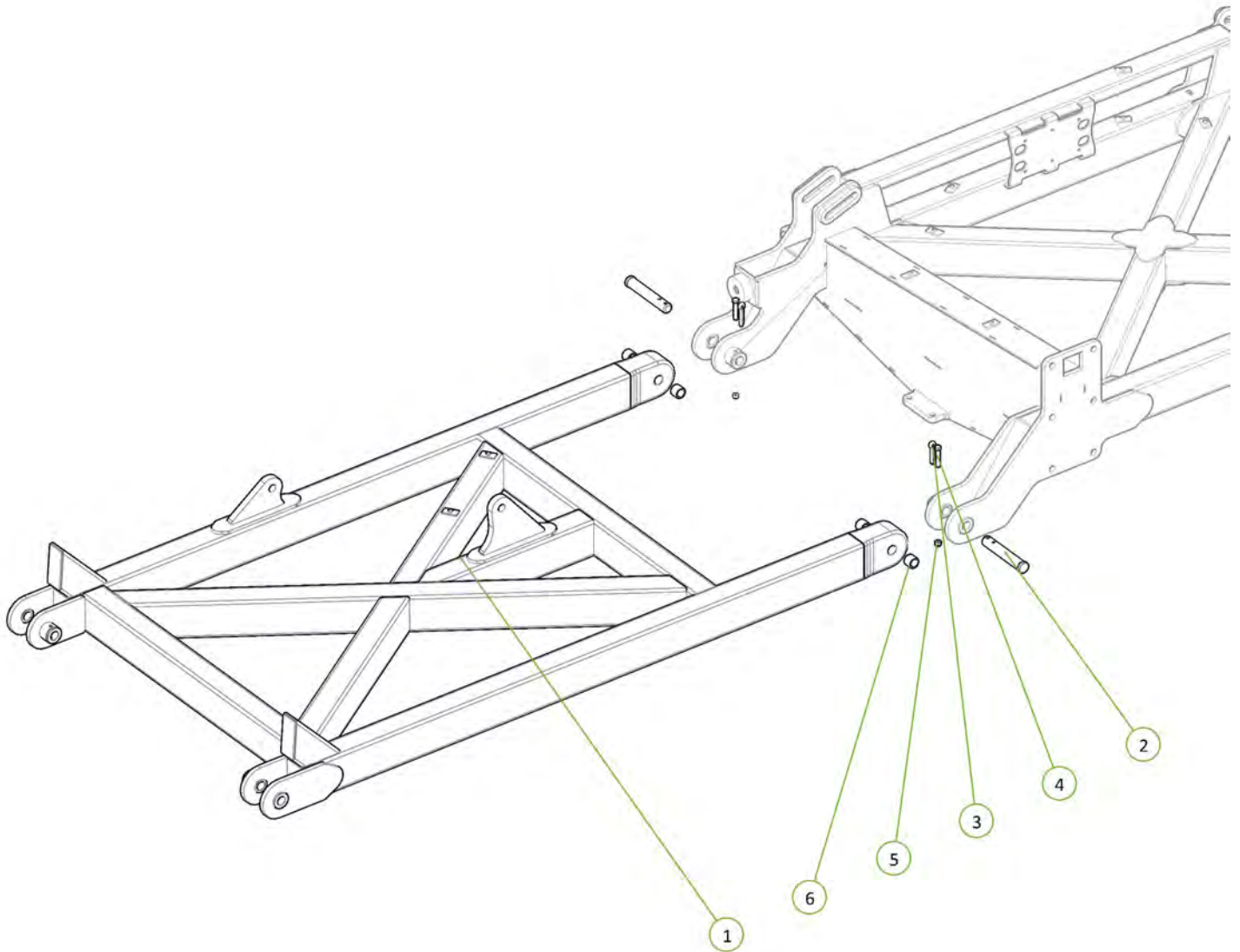
Item No.	Description	Qty	Number
1	40° LH Inner Wing	1	1540-05-3
2	35 ID x 30mm DU Bush	4	0113-MB 3530DU
3	PCH Wing Pivot Pin	2	0801-10-08-235
4	M12 x 75 grade 8.8 ZP Bolt	2	0211-1275
5	Nyloc Nut M12	2	0221-NYL12
6	Cotter Pin M13 x 63	2	0261-PINC1363



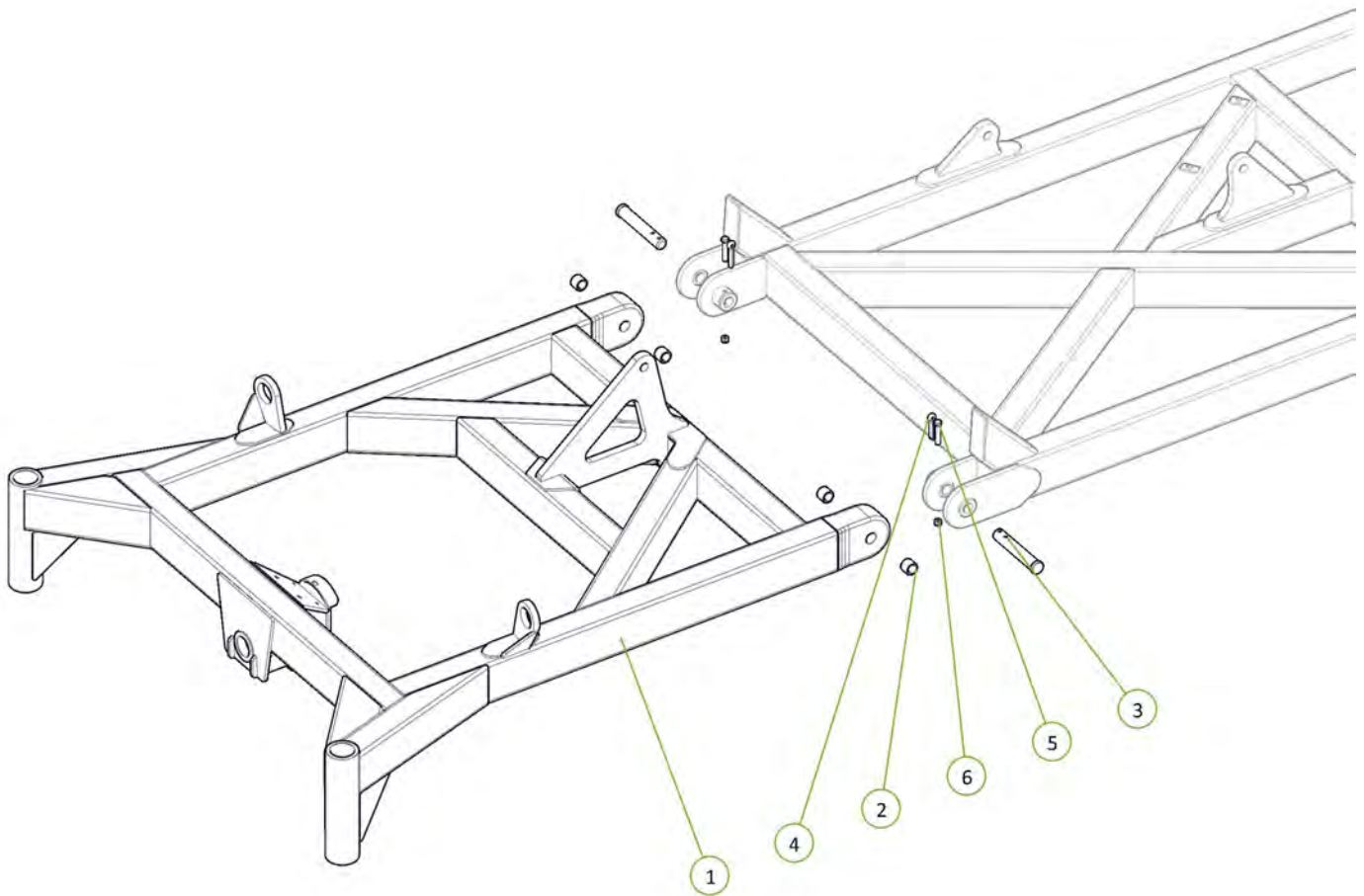
Item No.	Description	Qty	Number
1	40' LH Outer Wing	1	1540-07-2
2	35 ID x 30mm DU Bush	4	0113-MB 3530DU
3	PCH Wing Pivot Pin	2	0801-10-08-235
4	Cotter Pin M13 x 63	2	0261-PINC1363
5	M12 x 75 grade 8.8 ZP Bolt	2	0211-1275
6	Nyloc Nut M12	2	0221-NYL12



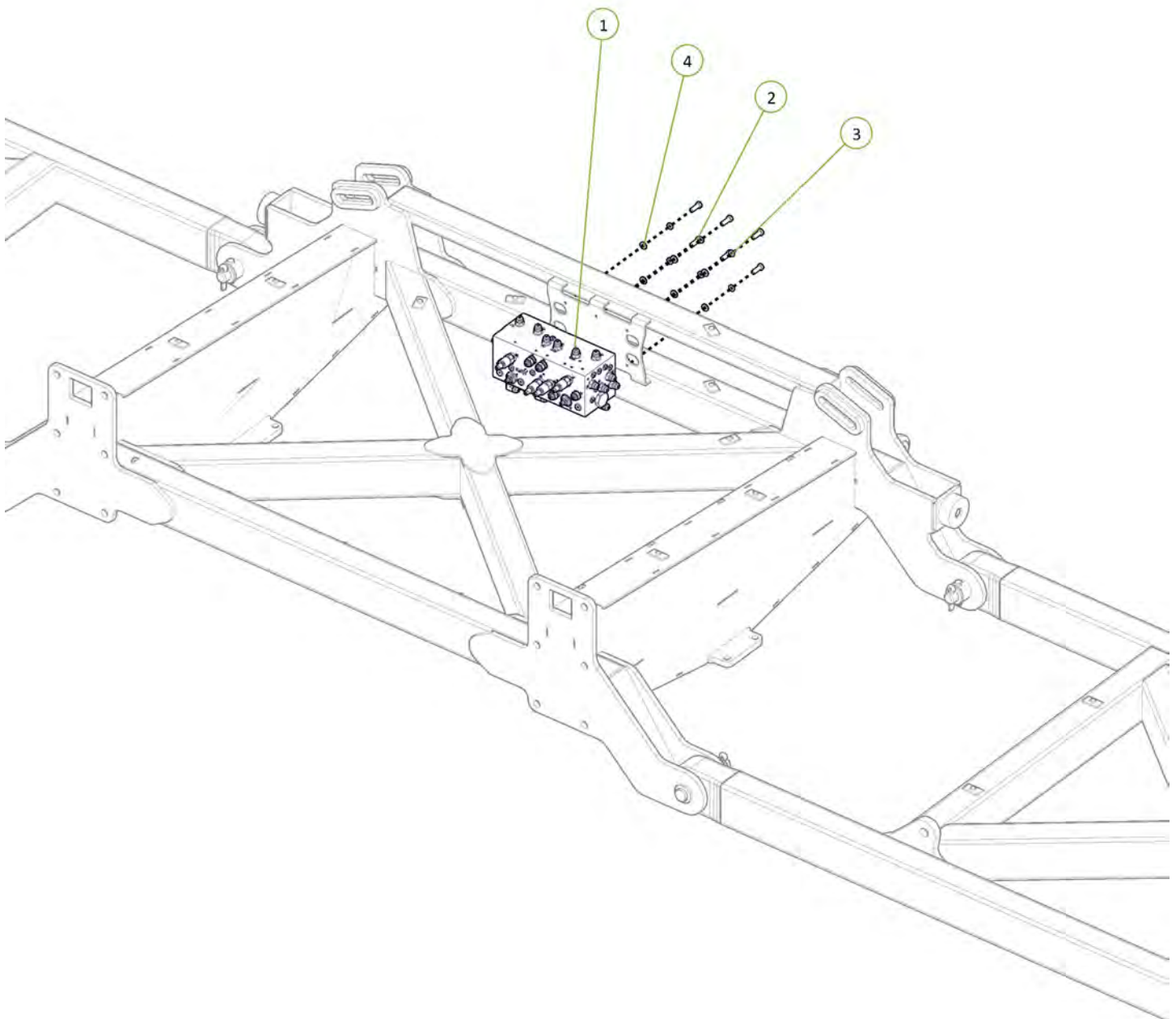
Item No.	Description	Qty	Number
1	40' RH Inner Wing	1	1540-04-3
2	PCH Wing Pivot Pin	2	0801-10-08-235
3	Cotter Pin M13 x 63	2	0261-PINC1363
4	M12 x 75 grade 8.8 ZP Bolt	2	0211-1275
5	Nyloc Nut M12	2	0221-NYL12
6	35 ID x 30mm DU Bush	4	0113-MB 3530DU



Item No.	Description	Qty	Number
1	40' RH Outer Wing	1	1540-06-2
2	35 ID x 30mm DU Bush	4	0113-MB 3530DU
3	PCH Wing Pivot Pin	2	0801-10-08-235
4	Cotter Pin M13 x 63	2	0261-PINC1363
5	M12 x 75 grade 8.8 ZP Bolt	2	0211-1275
6	Nyloc Nut M12	2	0221-NYL12

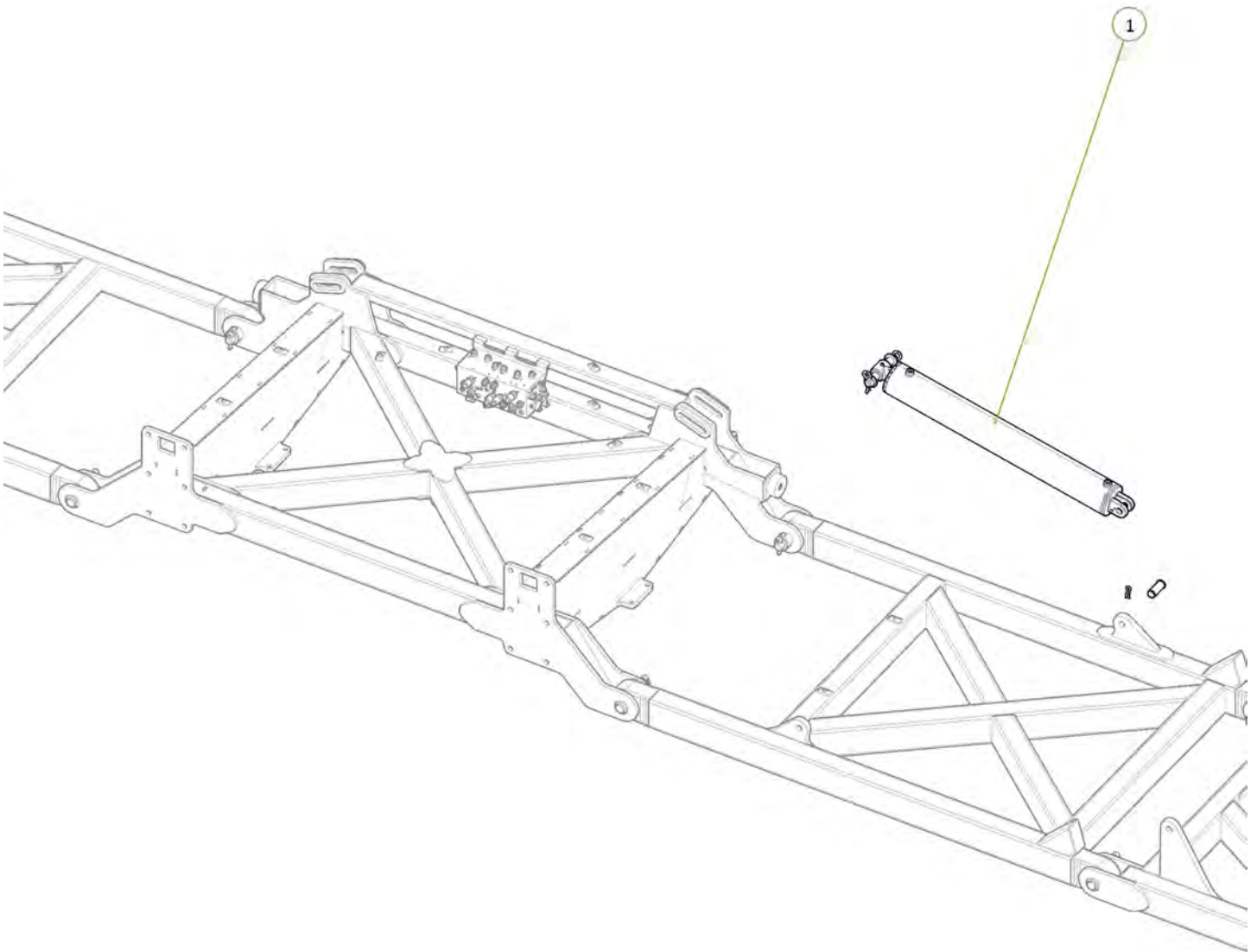


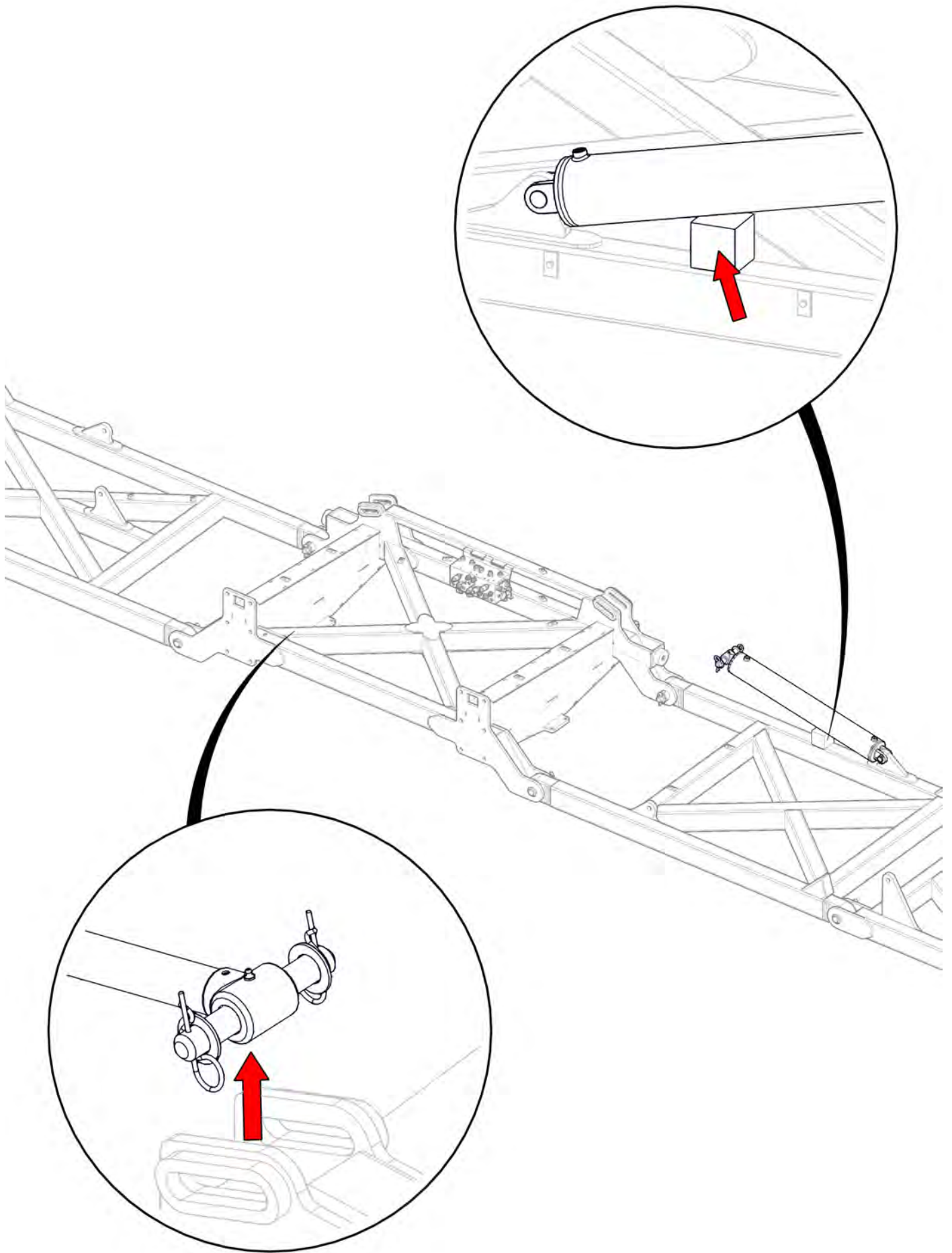
Item No.	Description	Qty	Number
1	Dual Circuit 3 Stage Sequence Manifold V12	1	0802-691033
2	M10 x 30 grade 8.8 ZP Bolt	6	0211-1035
3	Washer Spring M10	6	0231-S10
4	Washer Flat M10	6	0231-F10



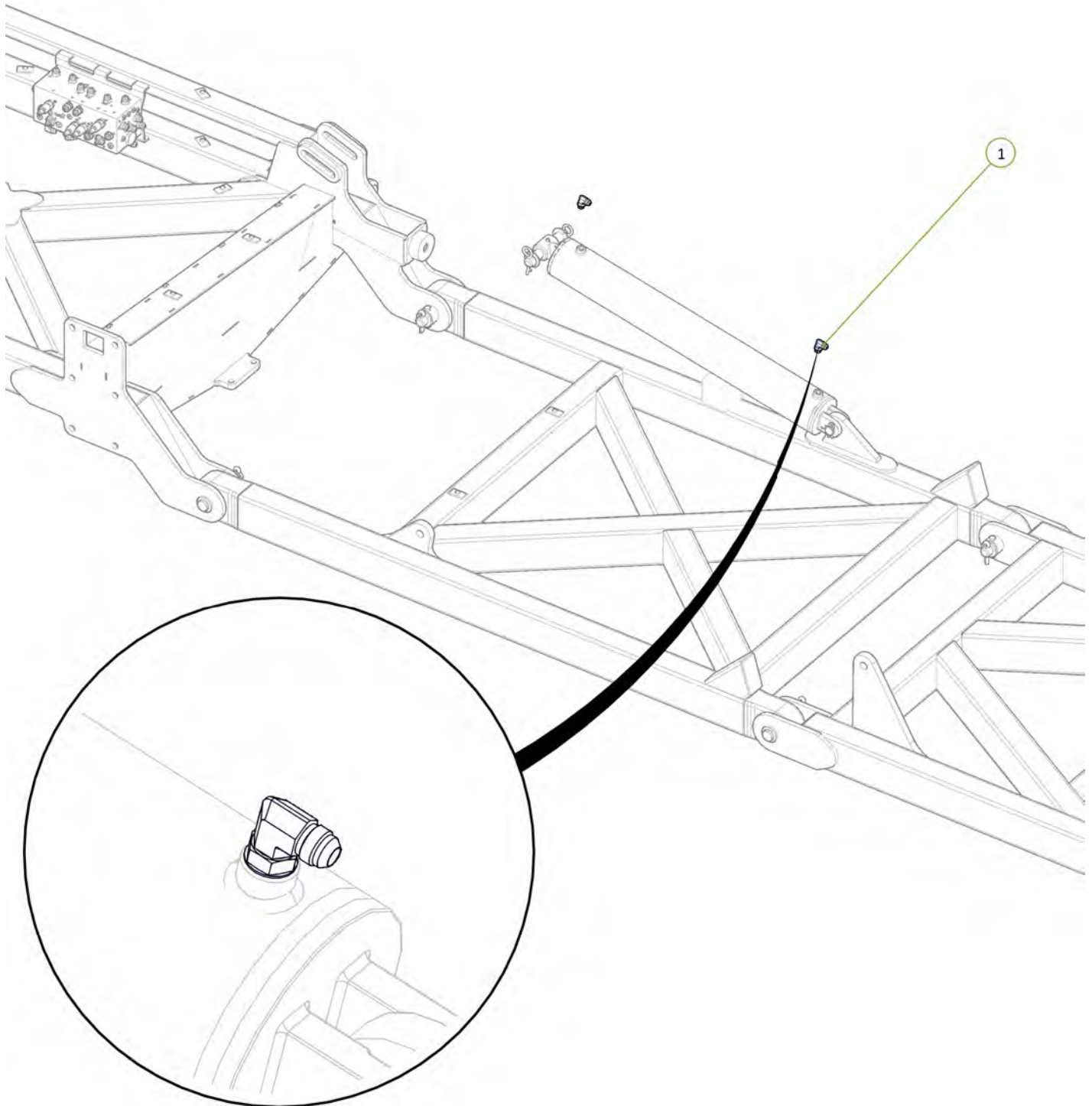


Item No.	Description	Qty	Number
1	5" Bore 36" Stroke 3 1/8" S/Tube 2" Rod Hydraulic Cylinder	1	0311-536ST

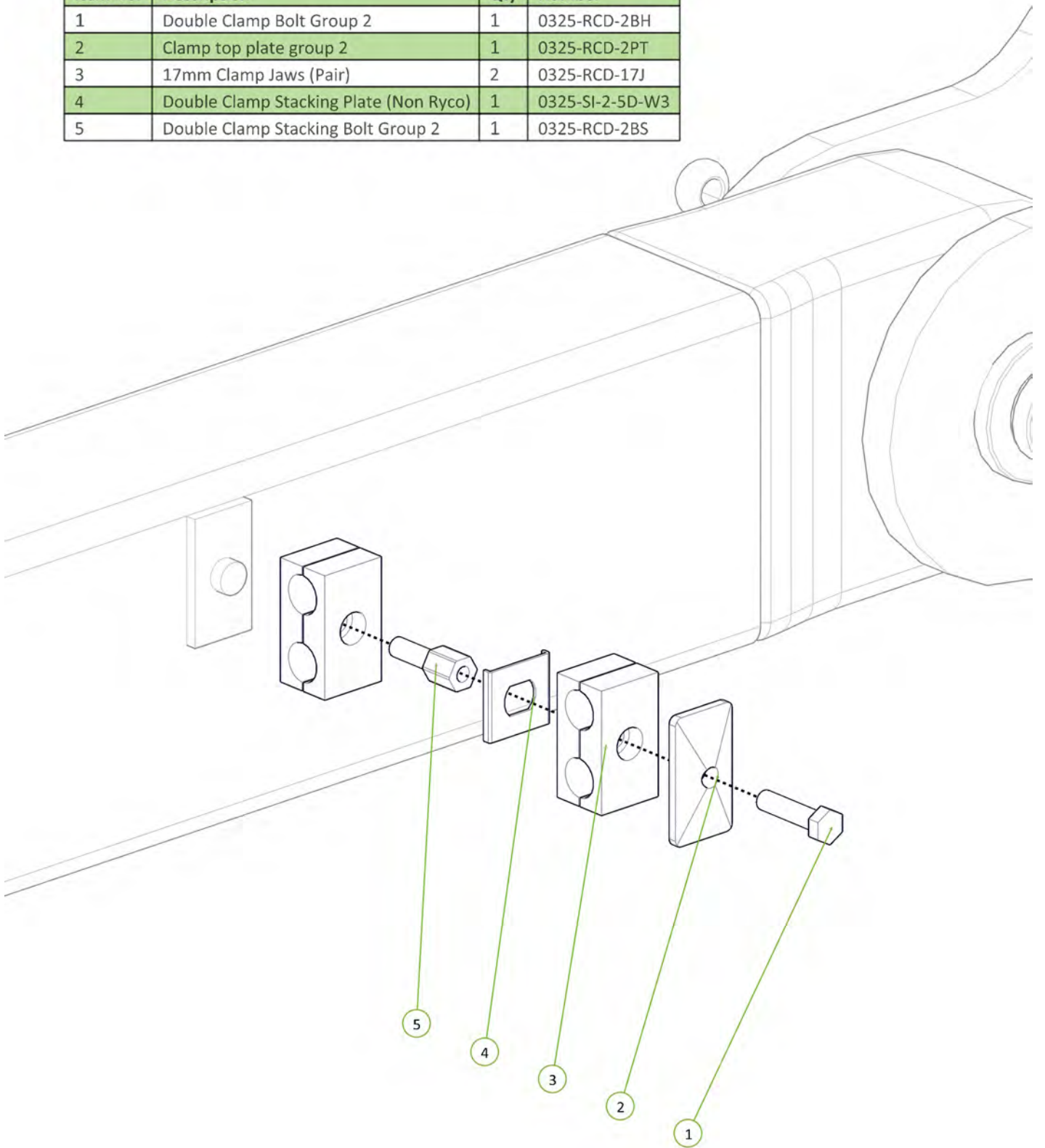




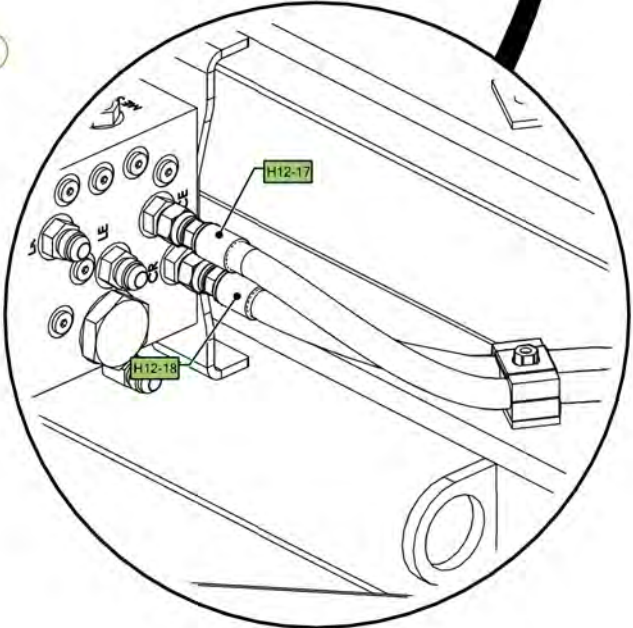
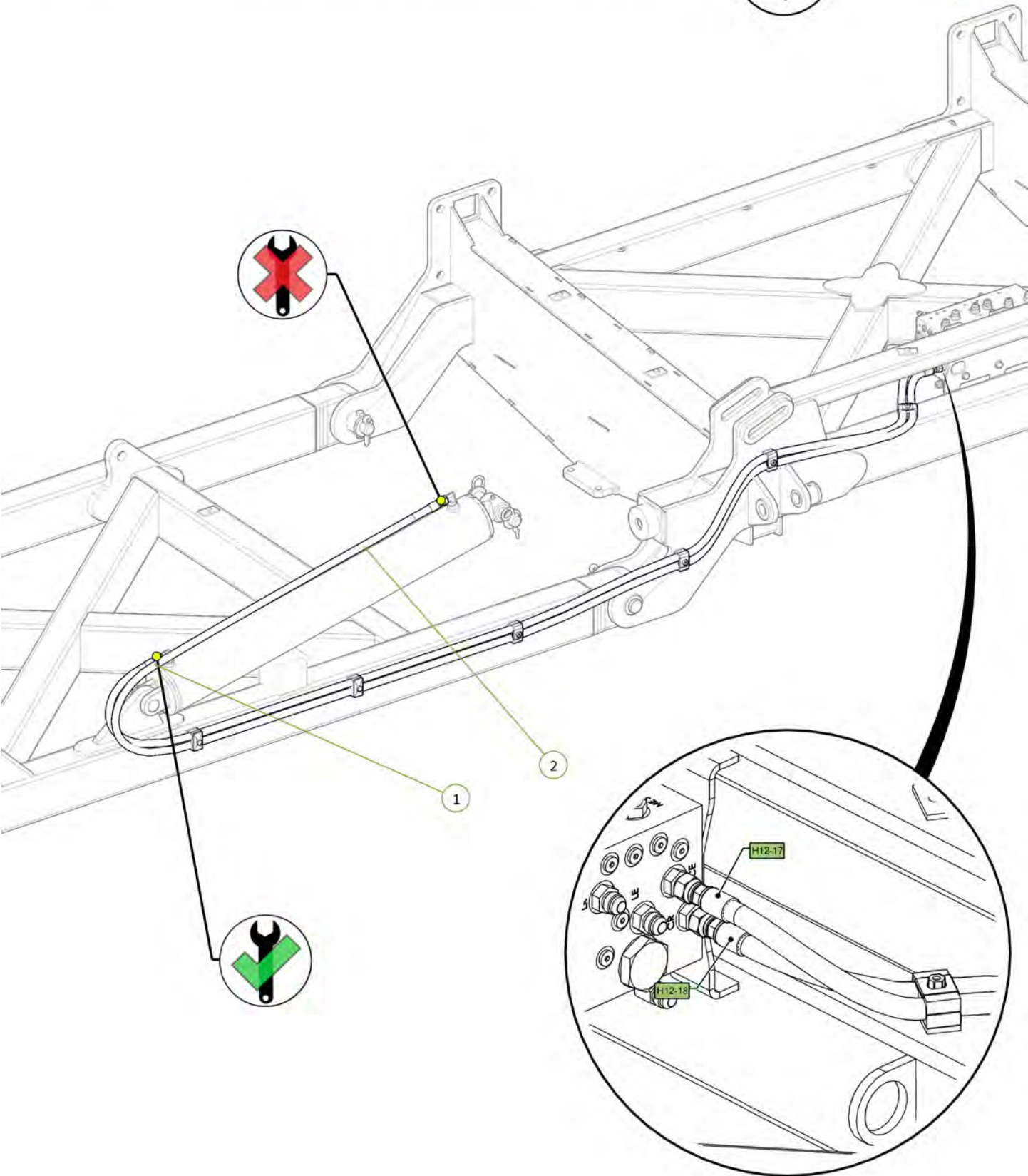
Item No.	Description	Qty	Number
1	3/4" JIC Male 3/4" UN O Ring Male 90° Elbow	2	0323-S91-1212



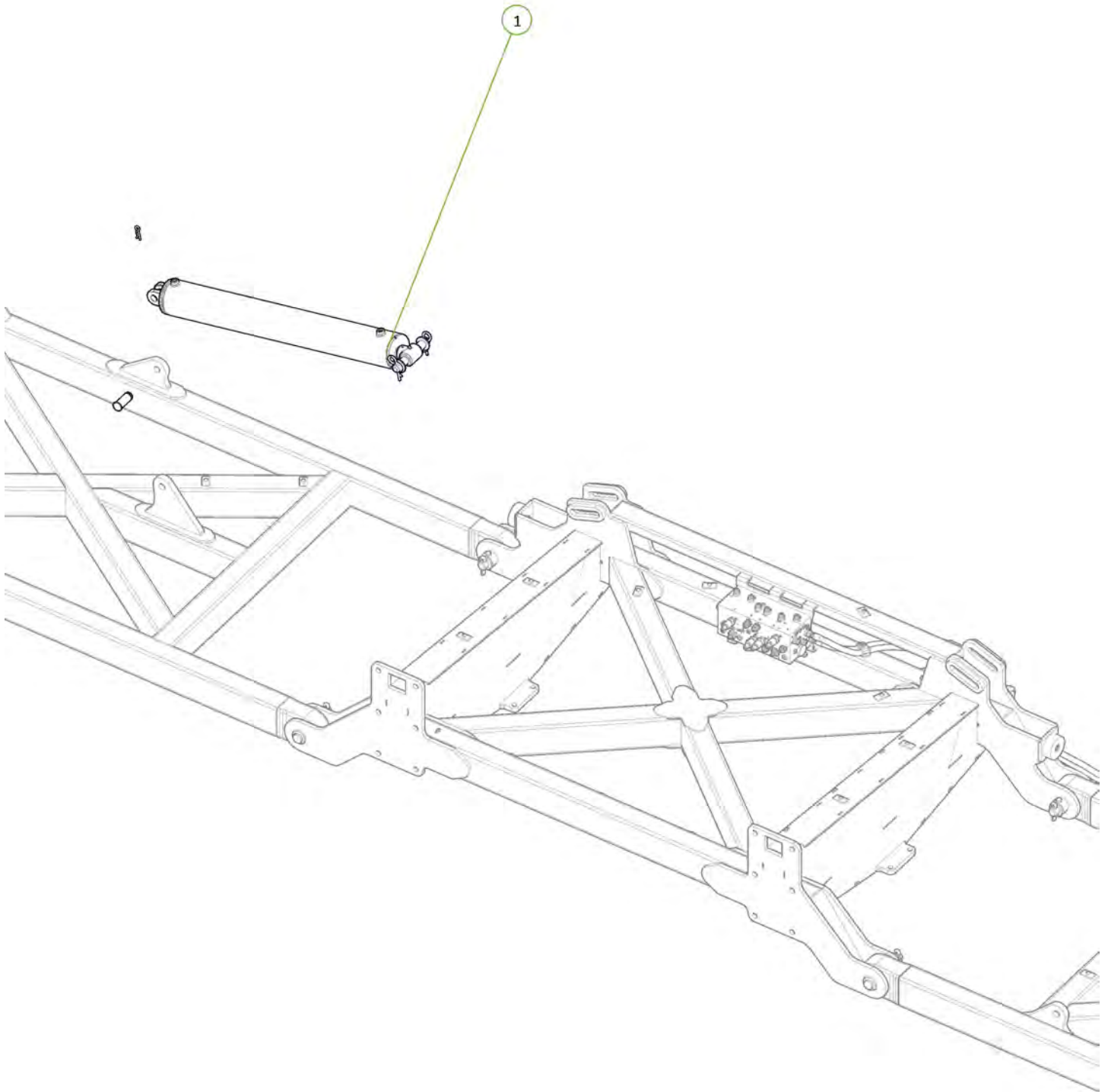
Item No.	Description	Qty	Number
1	Double Clamp Bolt Group 2	1	0325-RCD-2BH
2	Clamp top plate group 2	1	0325-RCD-2PT
3	17mm Clamp Jaws (Pair)	2	0325-RCD-17J
4	Double Clamp Stacking Plate (Non Ryco)	1	0325-SI-2-5D-W3
5	Double Clamp Stacking Bolt Group 2	1	0325-RCD-2BS

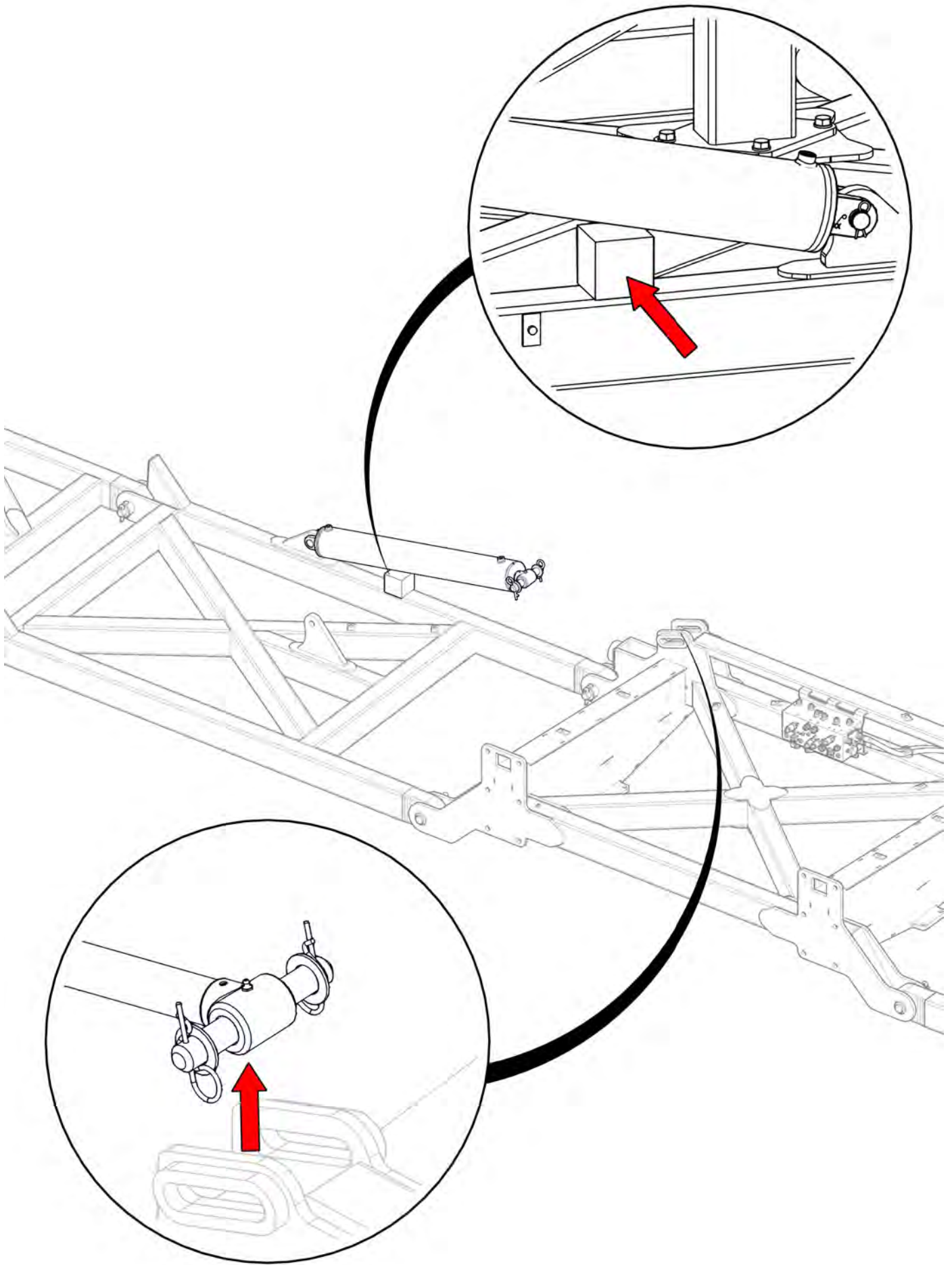


Item No.	Description	Qty	Number
1	Left CE Port to LH Main Wing Cylinder Extend Port	1	H12-17
2	Left CR Port to LH Main Wing Cylinder Retract Port	1	H12-18

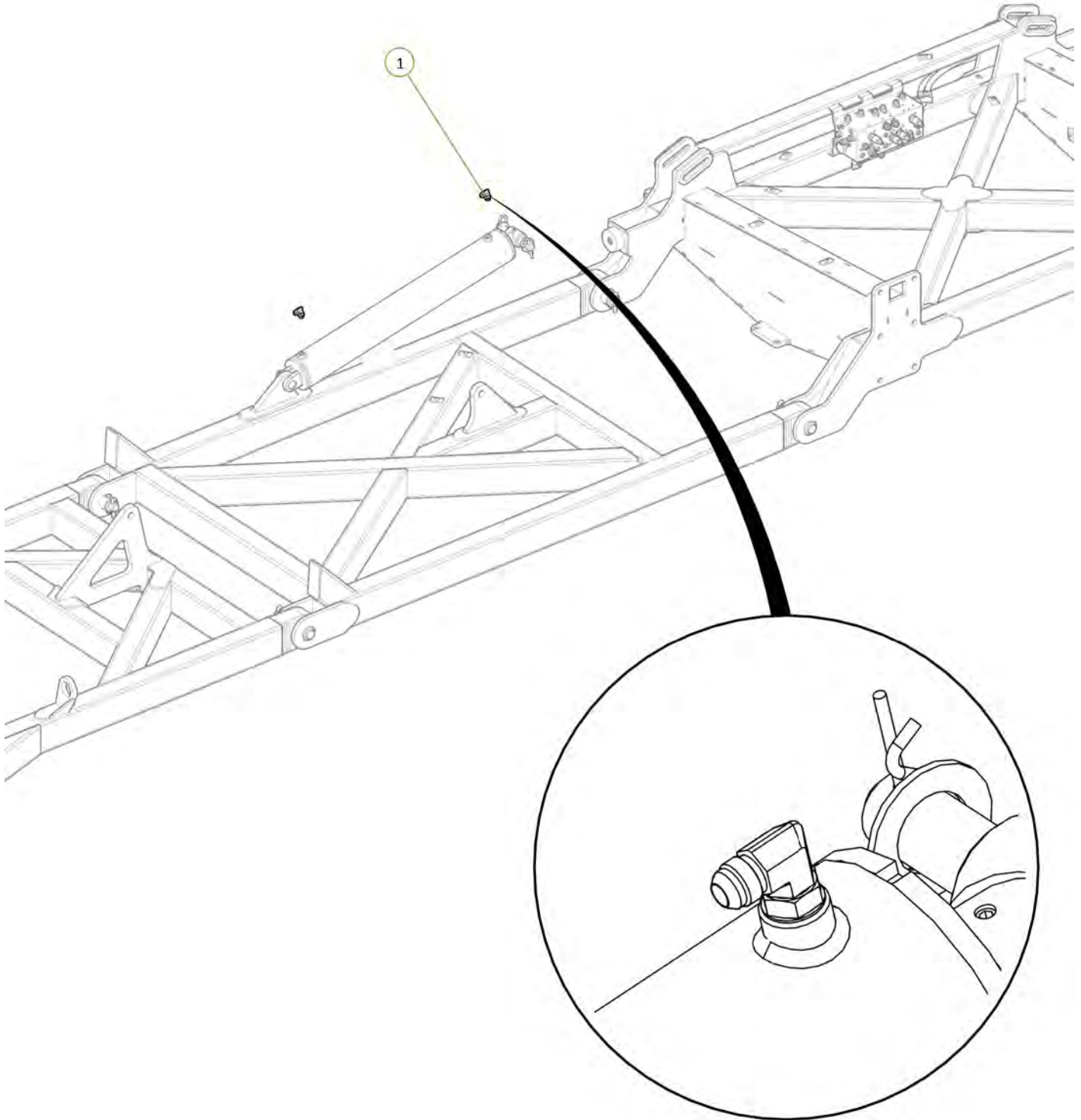


Item No.	Description	Qty	Number
1	5" Bore 36" Stroke 3 1/8" S/Tube 2" Rod Hydraulic Cylinder	1	0311-536ST



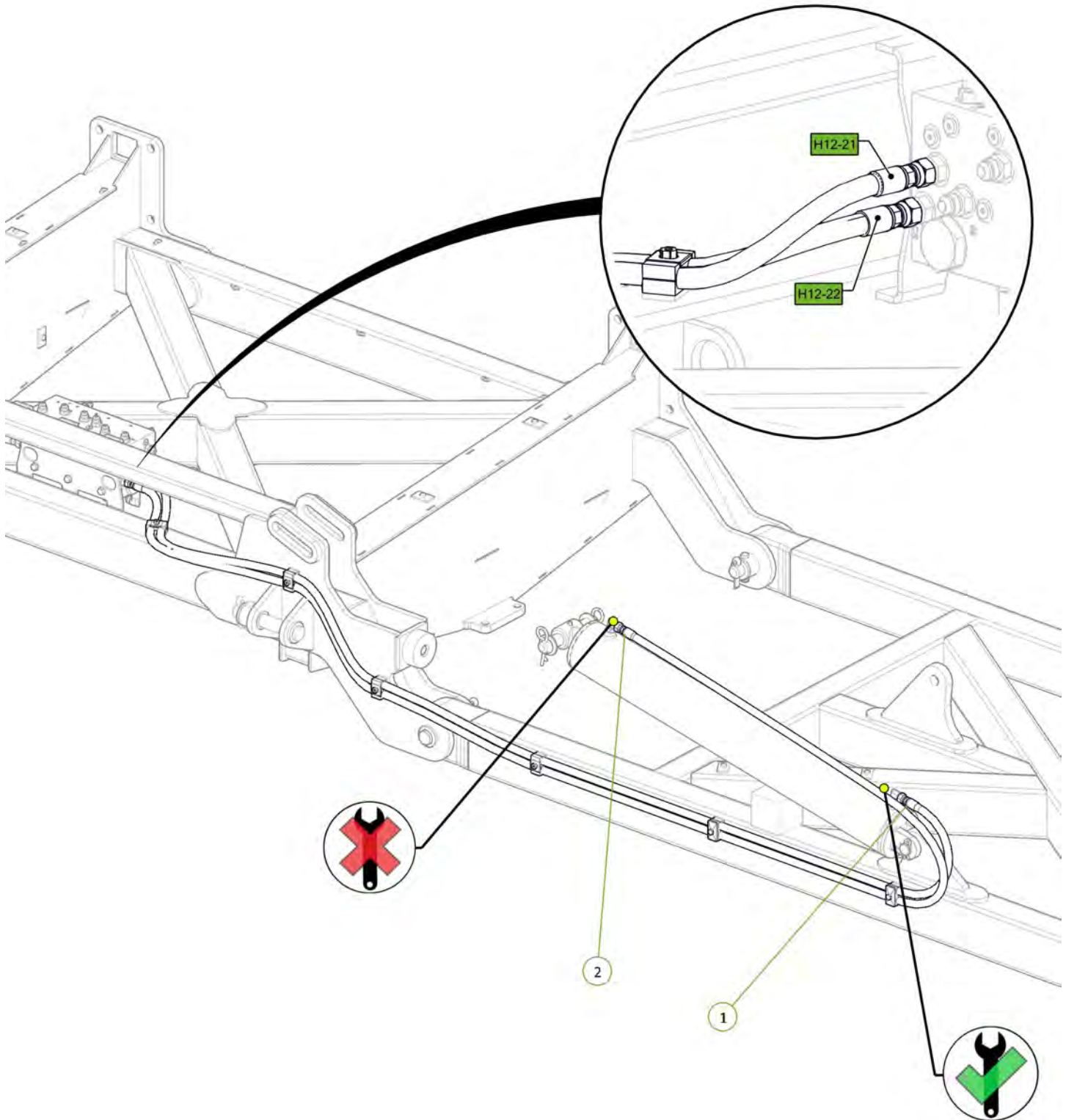


Item No.	Description	Qty	Number
1	3/4" JIC Male 3/4" UN O Ring Male 90° Elbow	2	0323-S91-1212

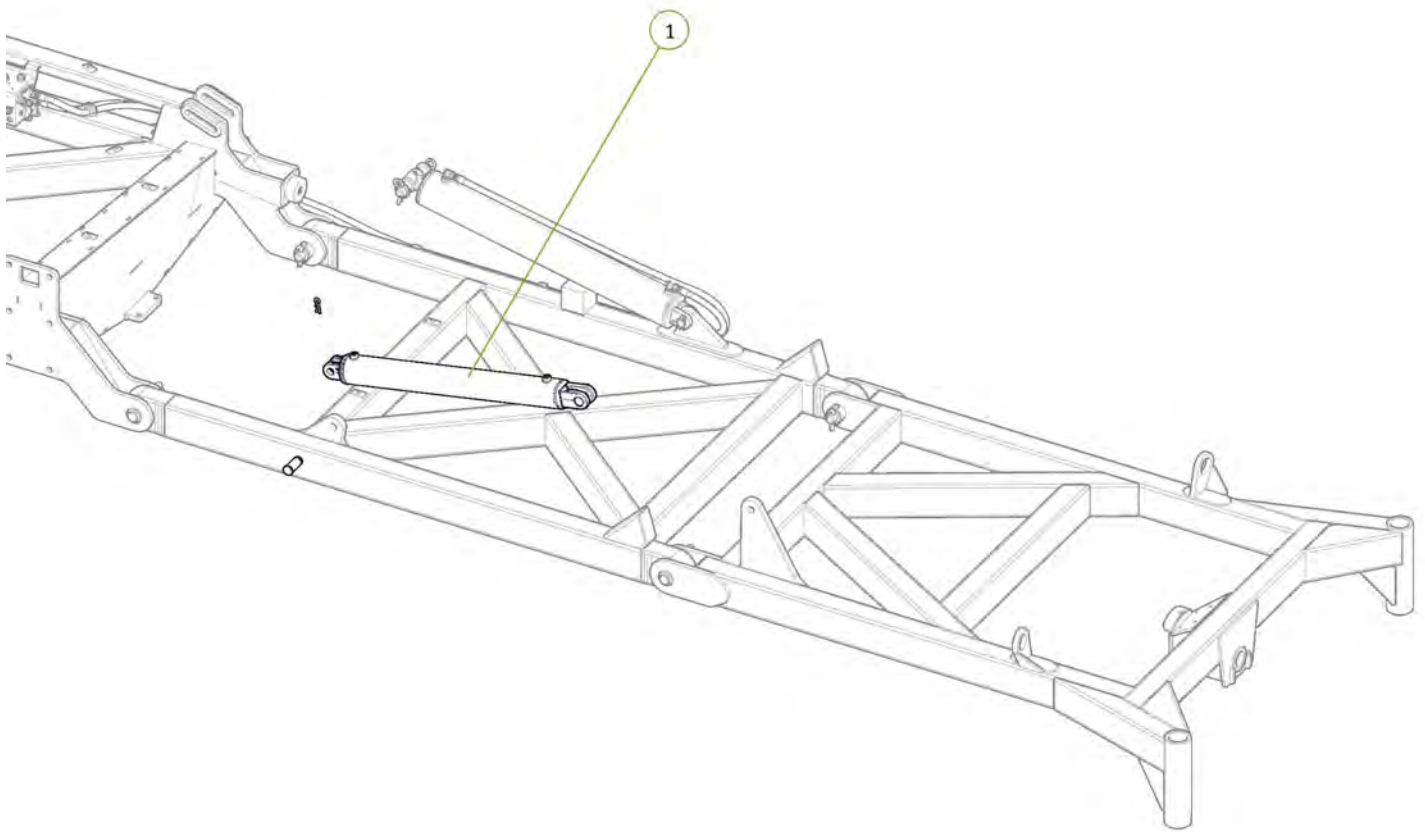


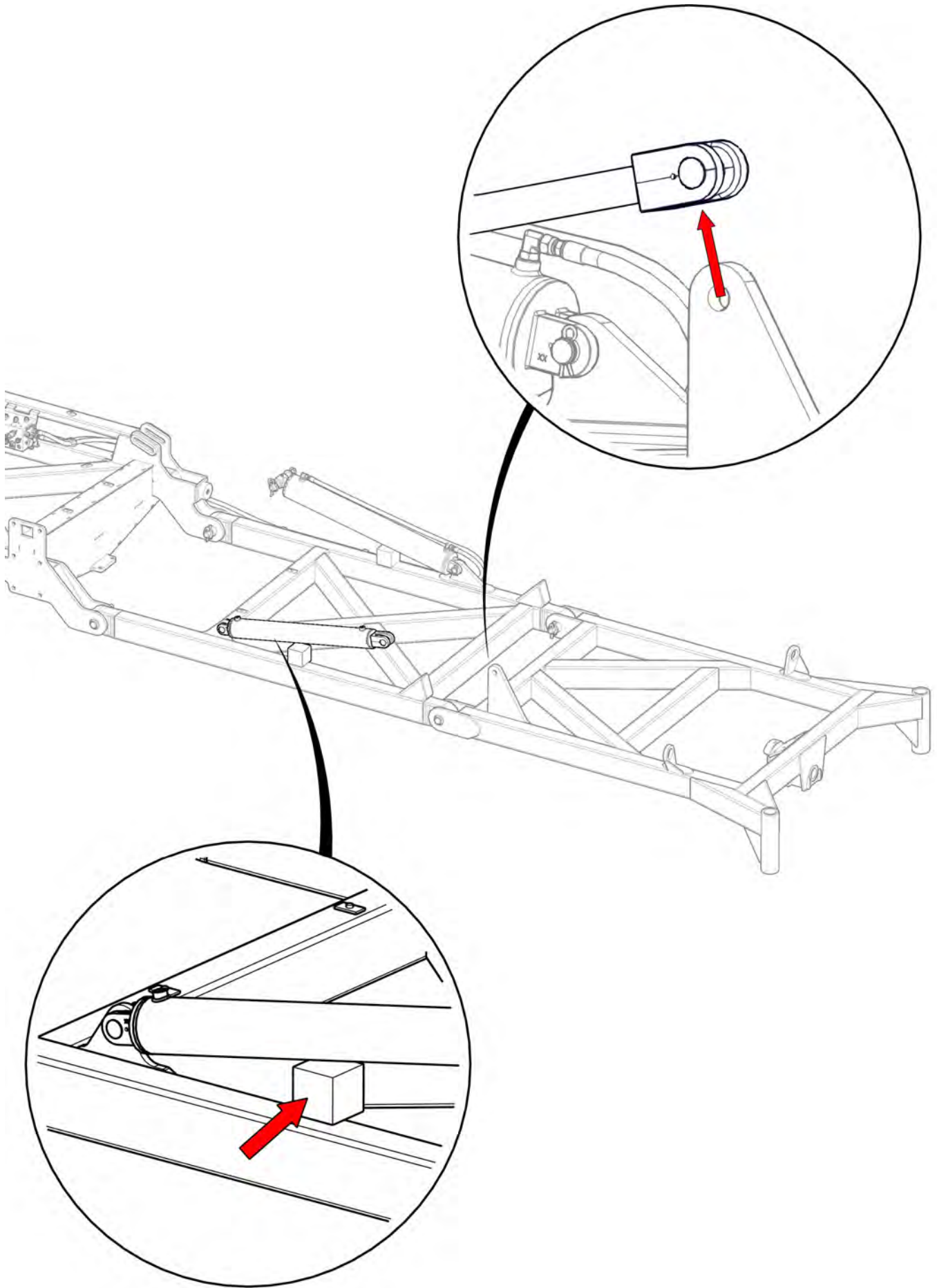


Item No.	Description	Qty	Number
1	Right CE Port to RH Main Wing Cylinder Extend Port	1	H12-21
2	Right CR Port to RH Main Wing Cylinder Retract Port	1	H12-22

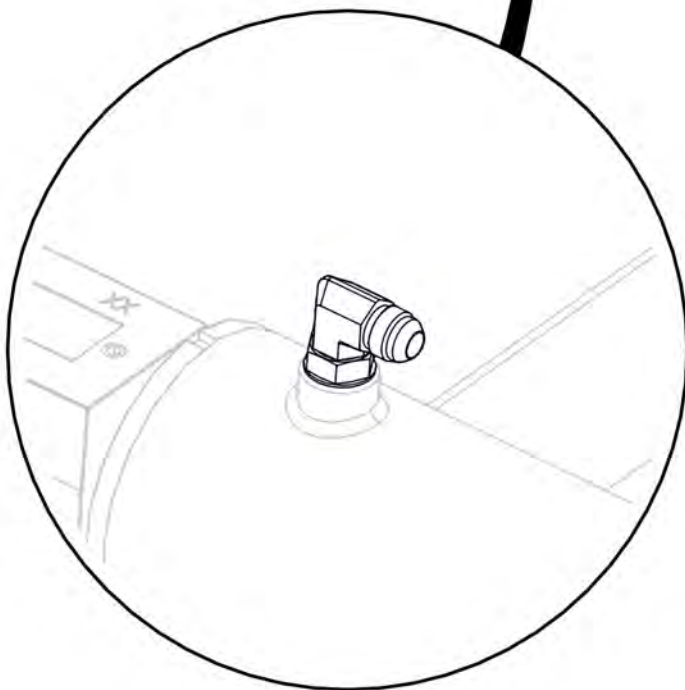
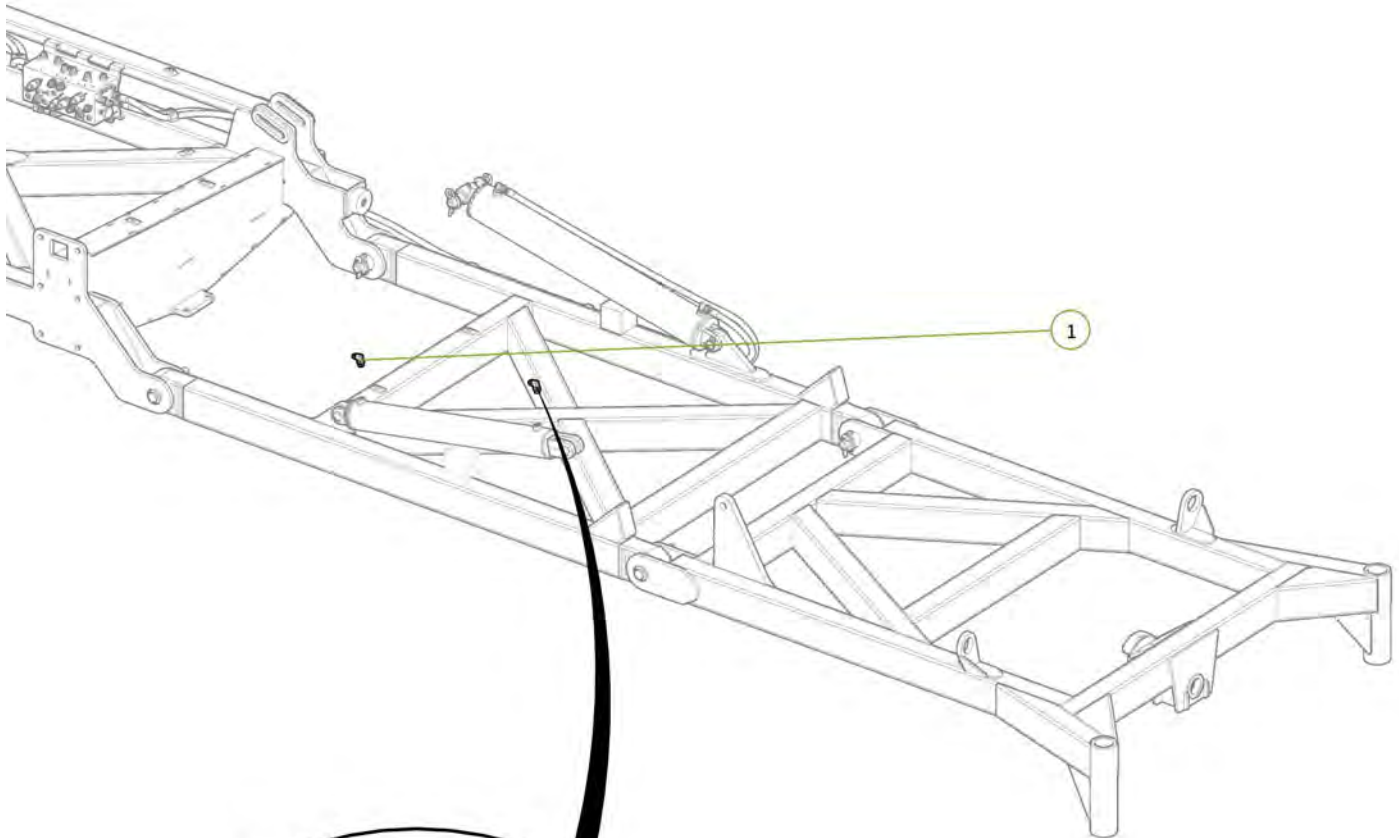


Item No.	Description	Qty	Number
1	4" Bore 30" Stroke 3" S/Tube 1.75" Rod Hydraulic Cylinder with Stop Tube & Clevis	1	0311-430ST-C2

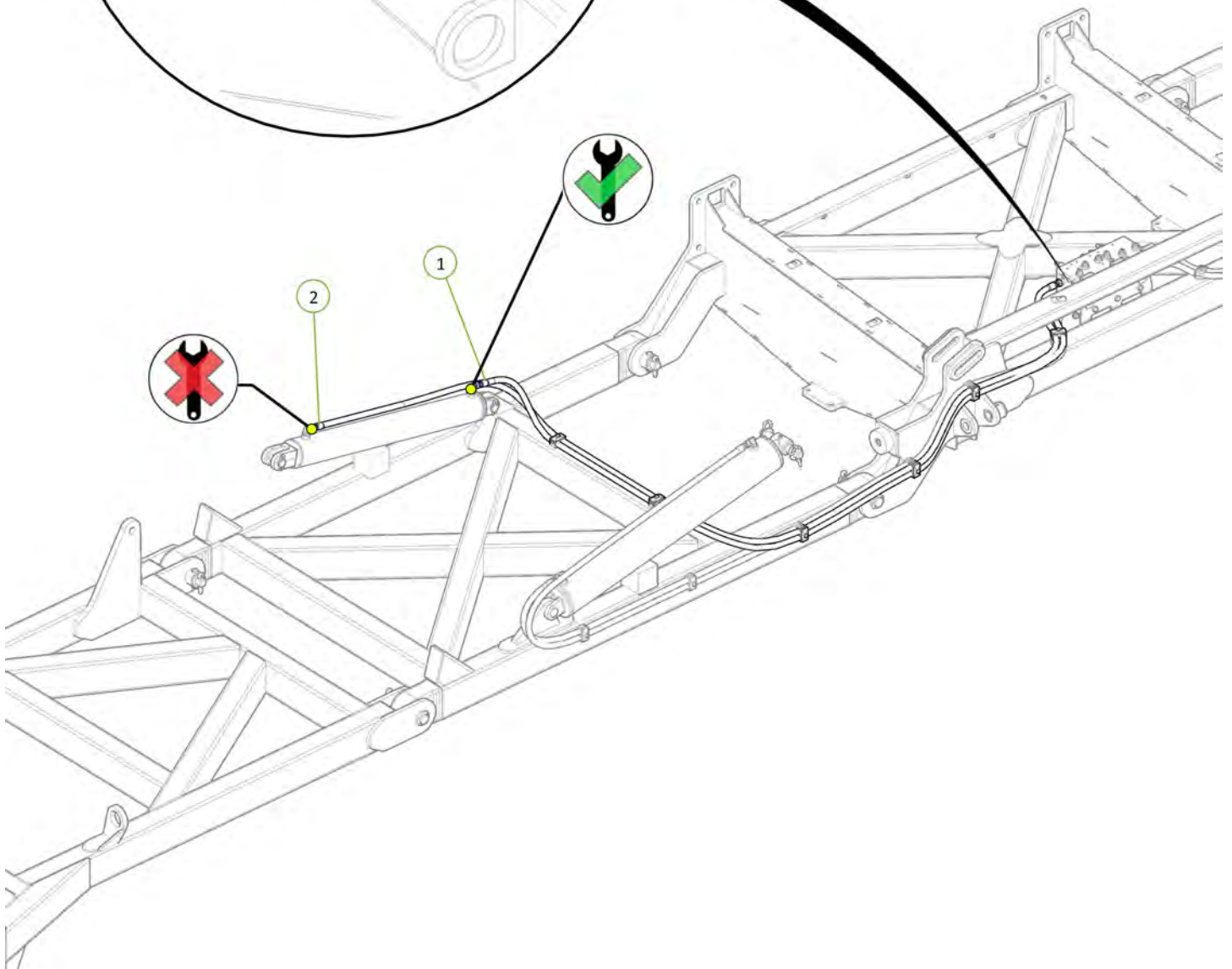
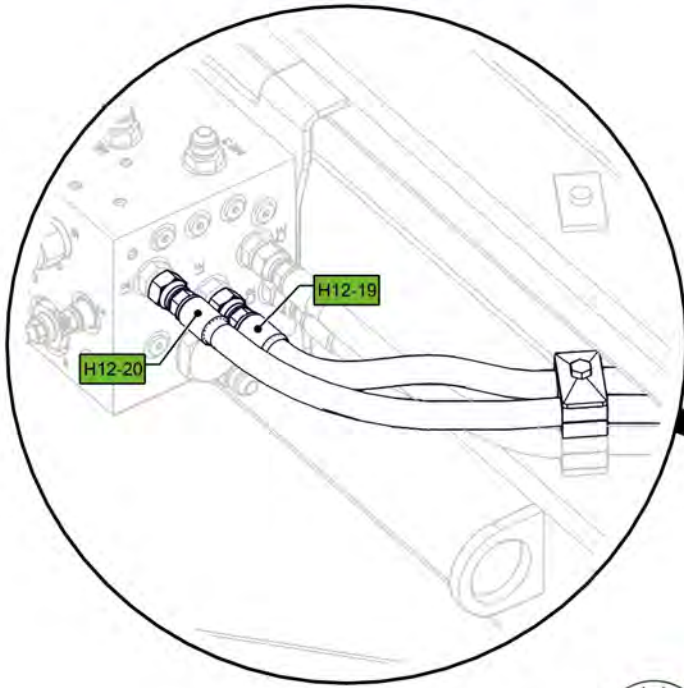




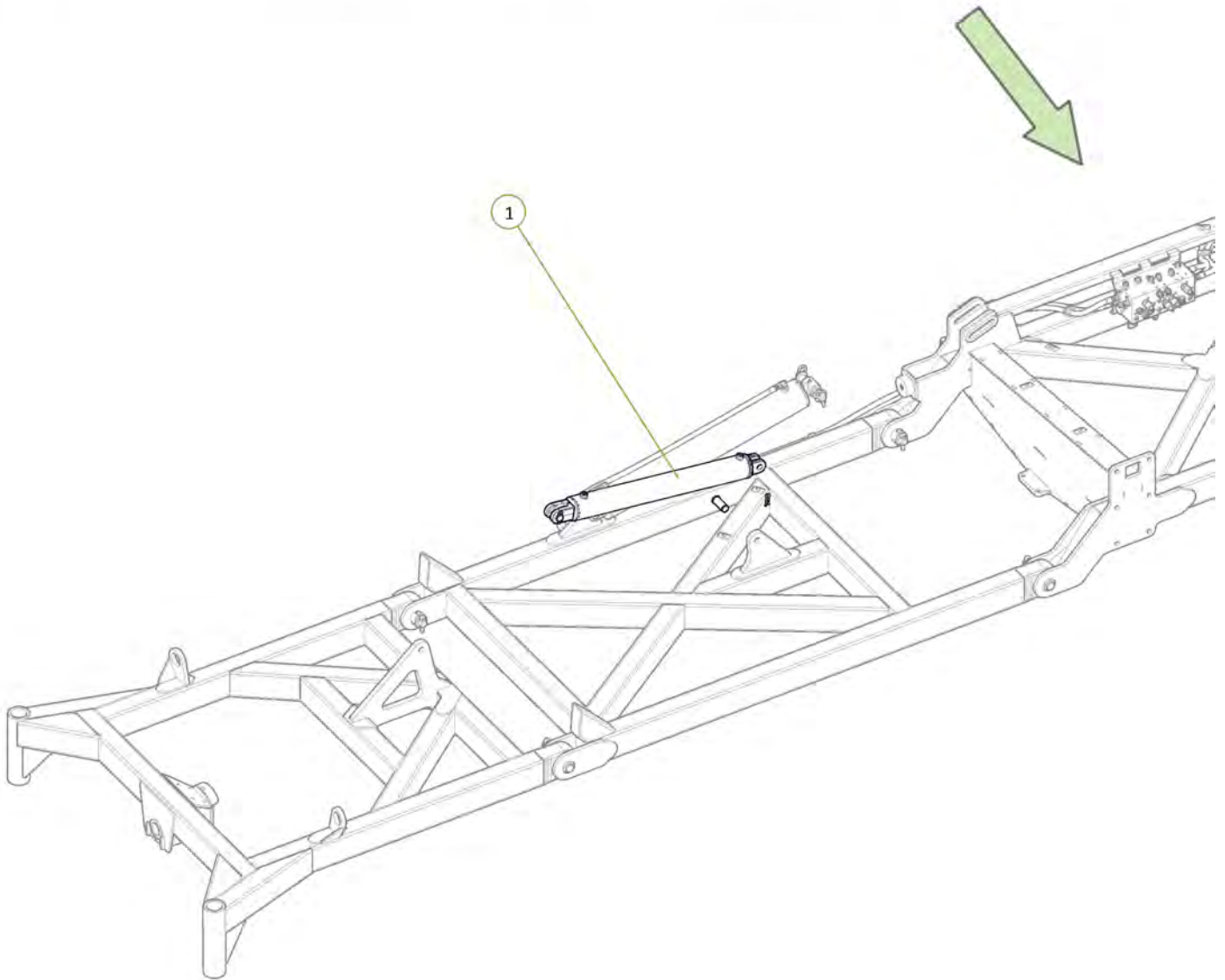
Item No.	Description	Qty	Number
1	3/4" JIC Male 3/4" UN O Ring Male 90° Elbow	2	0323-S91-1212

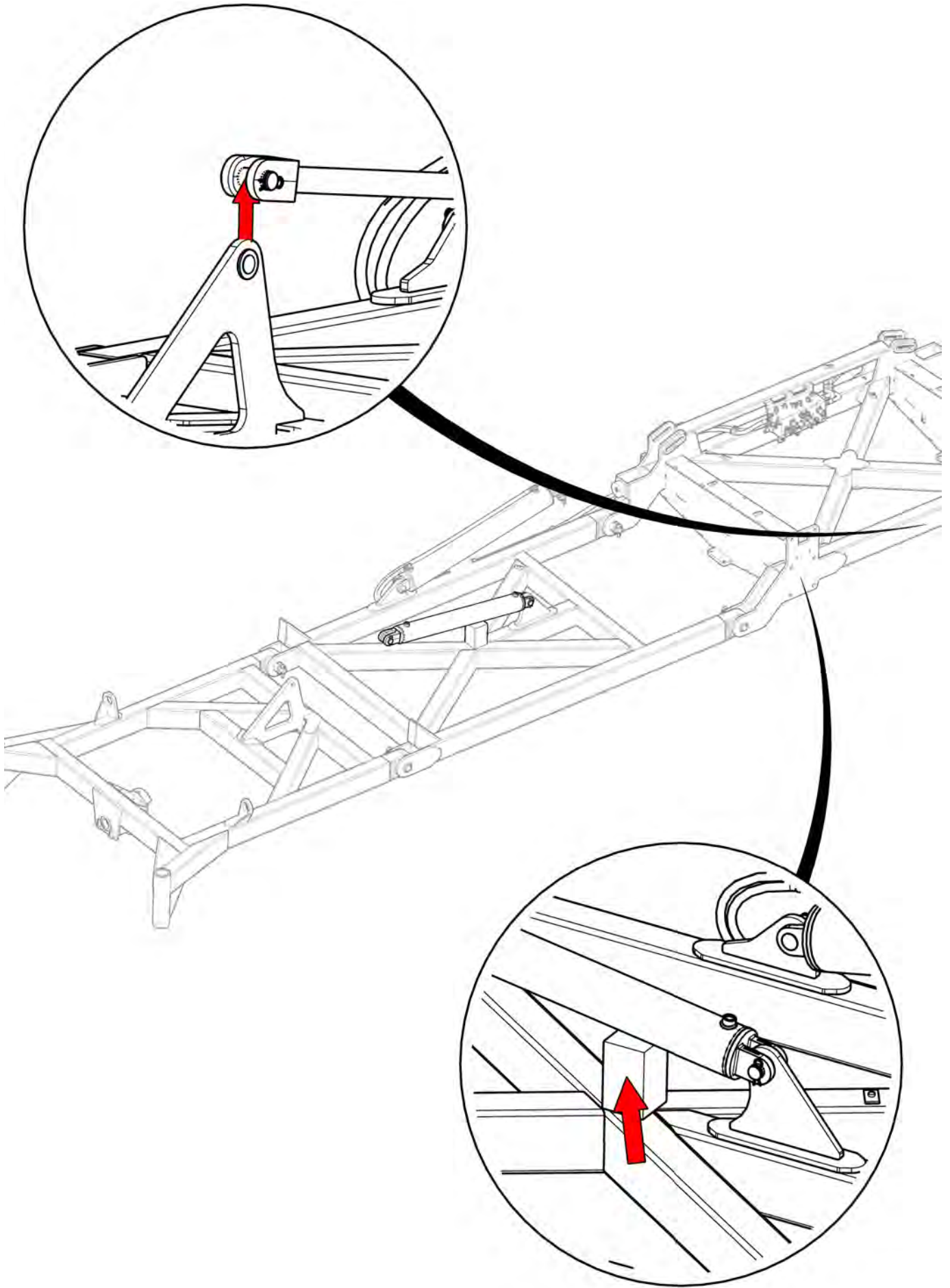


Item No.	Description	Qty	Number
1	LE Port to LH Outer Wing Cylinder Extend Port	1	H12-19
2	LR Port to LH Outer Wing Cylinder Retract Port	1	H12-20

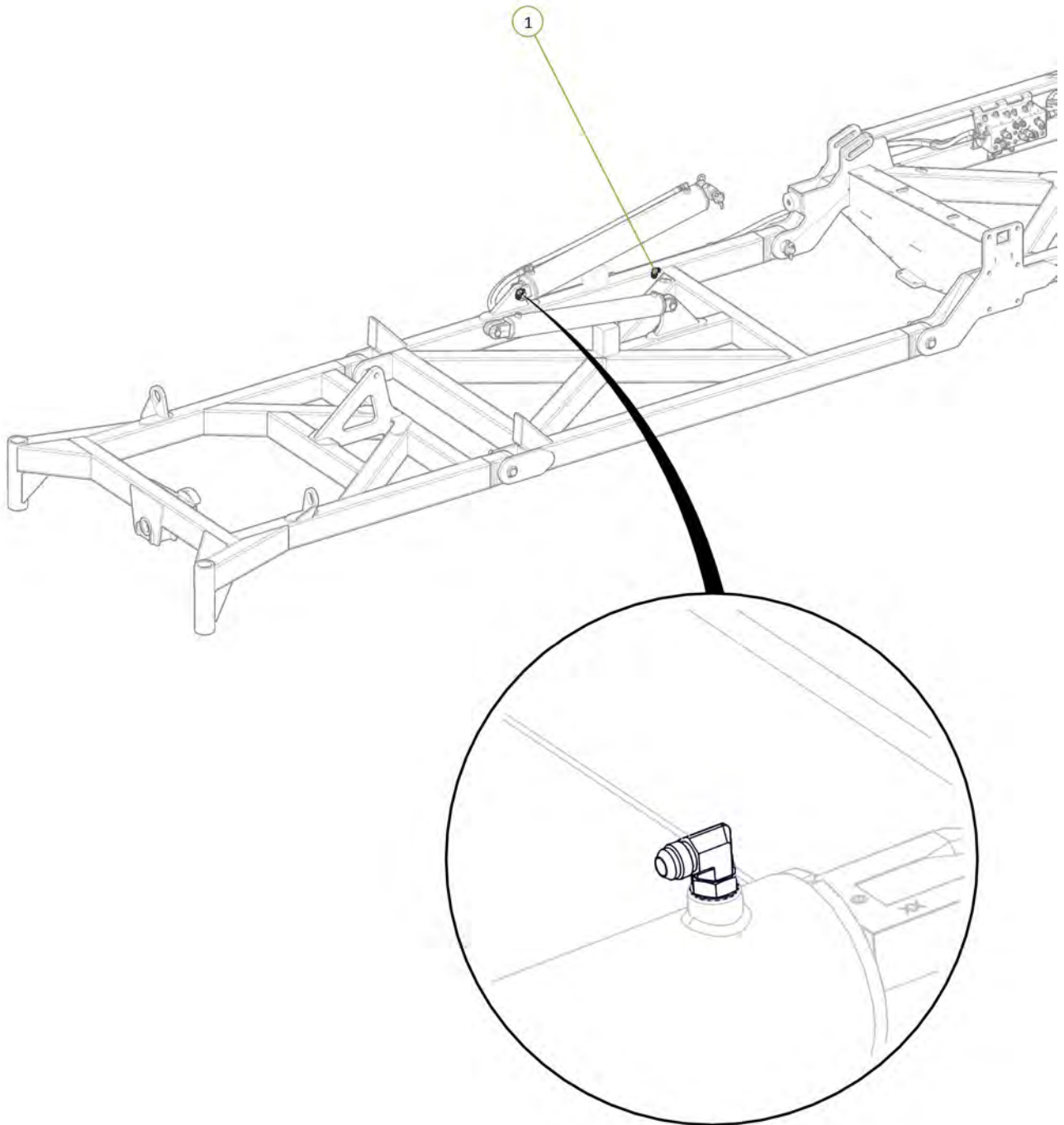


Item No.	Description	Qty	Number
1	4" Bore 30" Stroke 3" S/Tube 1.75" Rod Hydraulic Cylinder with Stop Tube & Clevis	1	0311-430ST-C2



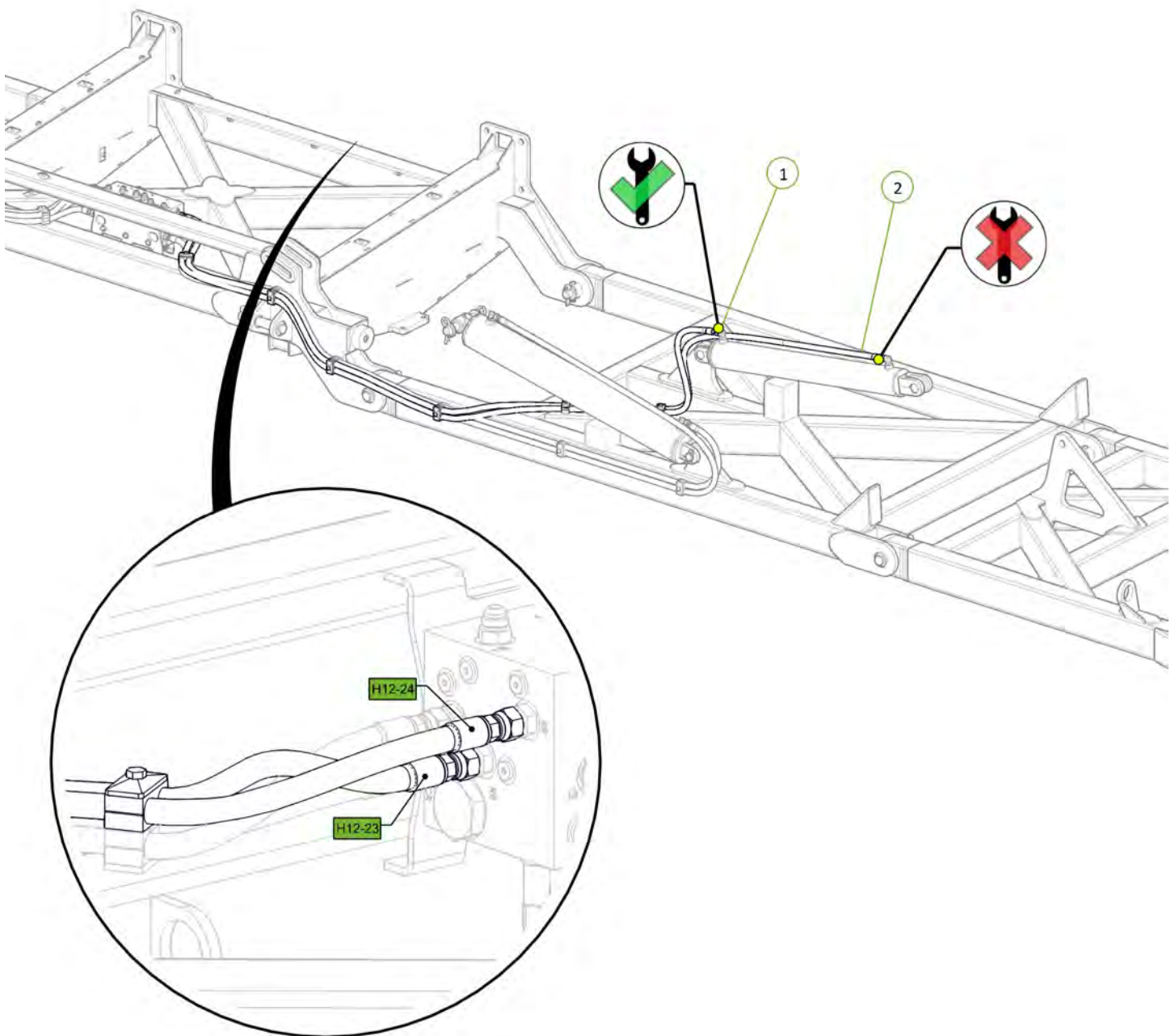


Item No.	Description	Qty	Number
1	3/4" JIC Male 3/4" UN O Ring Male 90° Elbow	2	0323-S91-1212

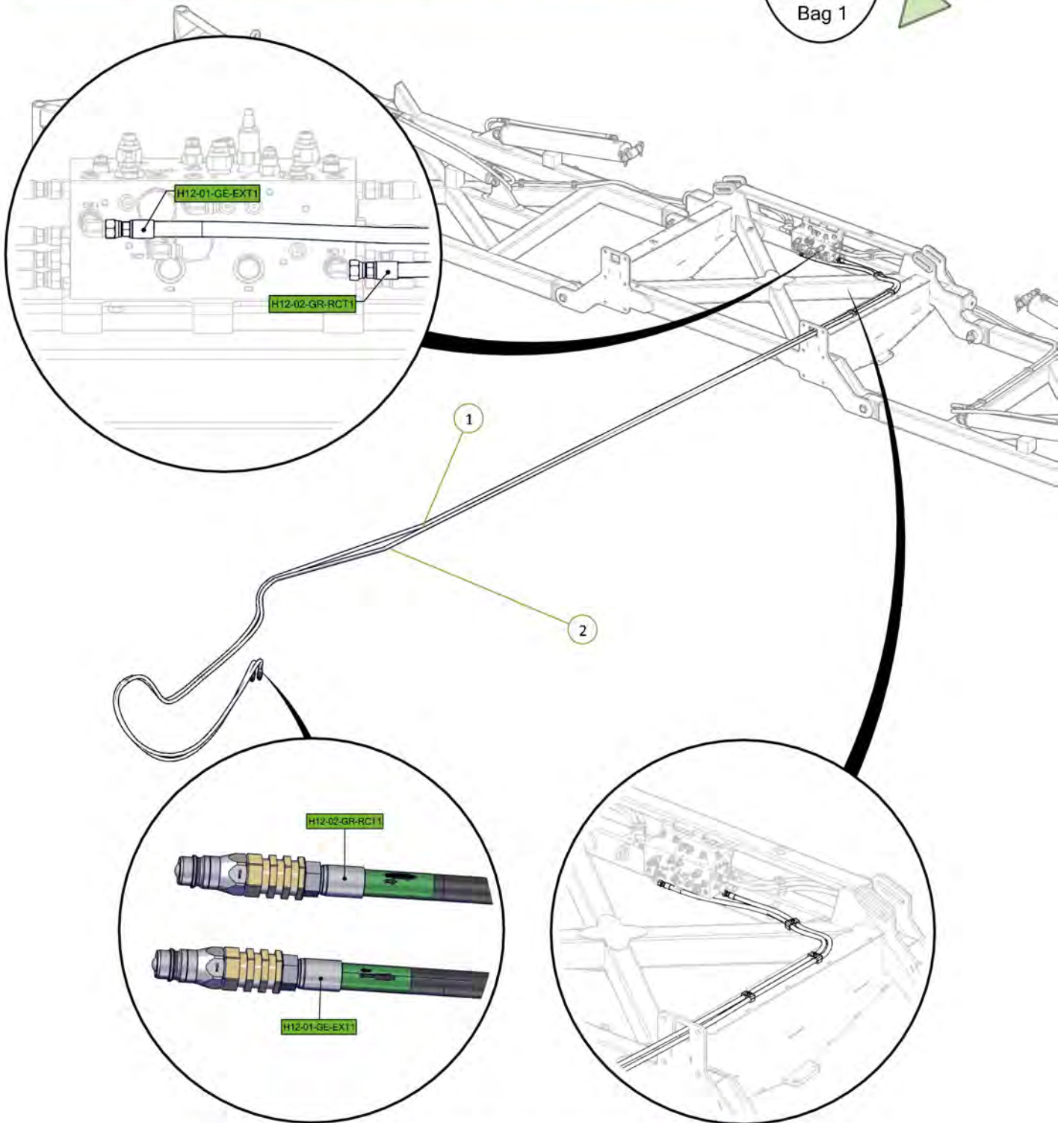




Item No.	Description	Qty	Number
1	RE Port to RH Outer Wing Cylinder Extend Port	1	H12-23
2	RR Port to RH Outer Wing Cylinder Retract Port	1	H12-24



Item No.	Description	Qty	Number
1	Tractor to Sequence Valve EXT1 Port Fitted With Green EXT Decal	1	H12-01-GE-EXT1
2	Tractor to Sequence Valve RCT1 Port Fitted With Green RET Decal	1	H12-02-GR-RCT1

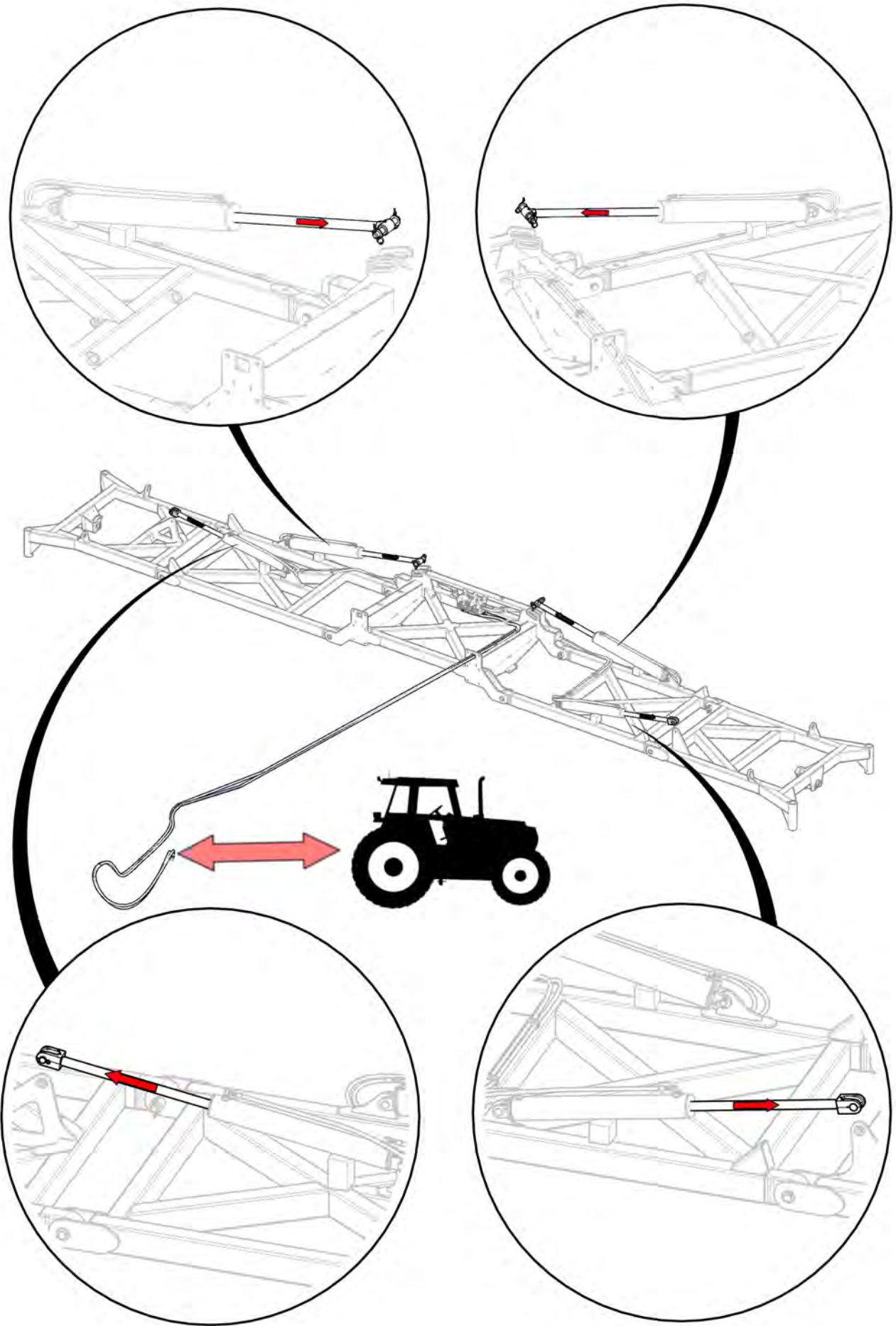


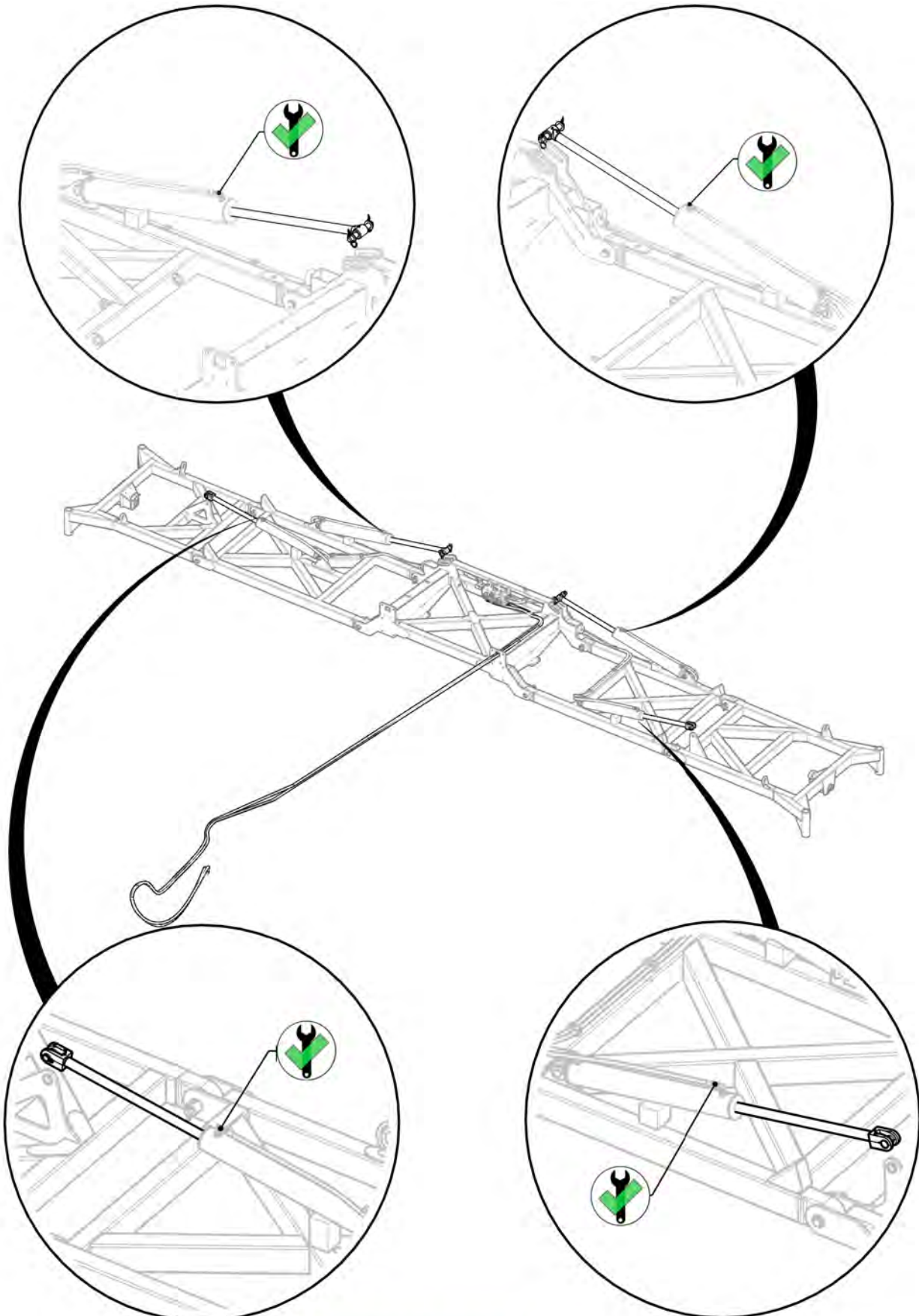
All retract hose fittings loose to allow air to escape

All cylinders chocked up to prevent clash during extend



Signed \_\_\_\_\_ Date \_\_\_\_/\_\_\_\_/\_\_\_\_  
 Unit Serial Number \_\_\_\_\_

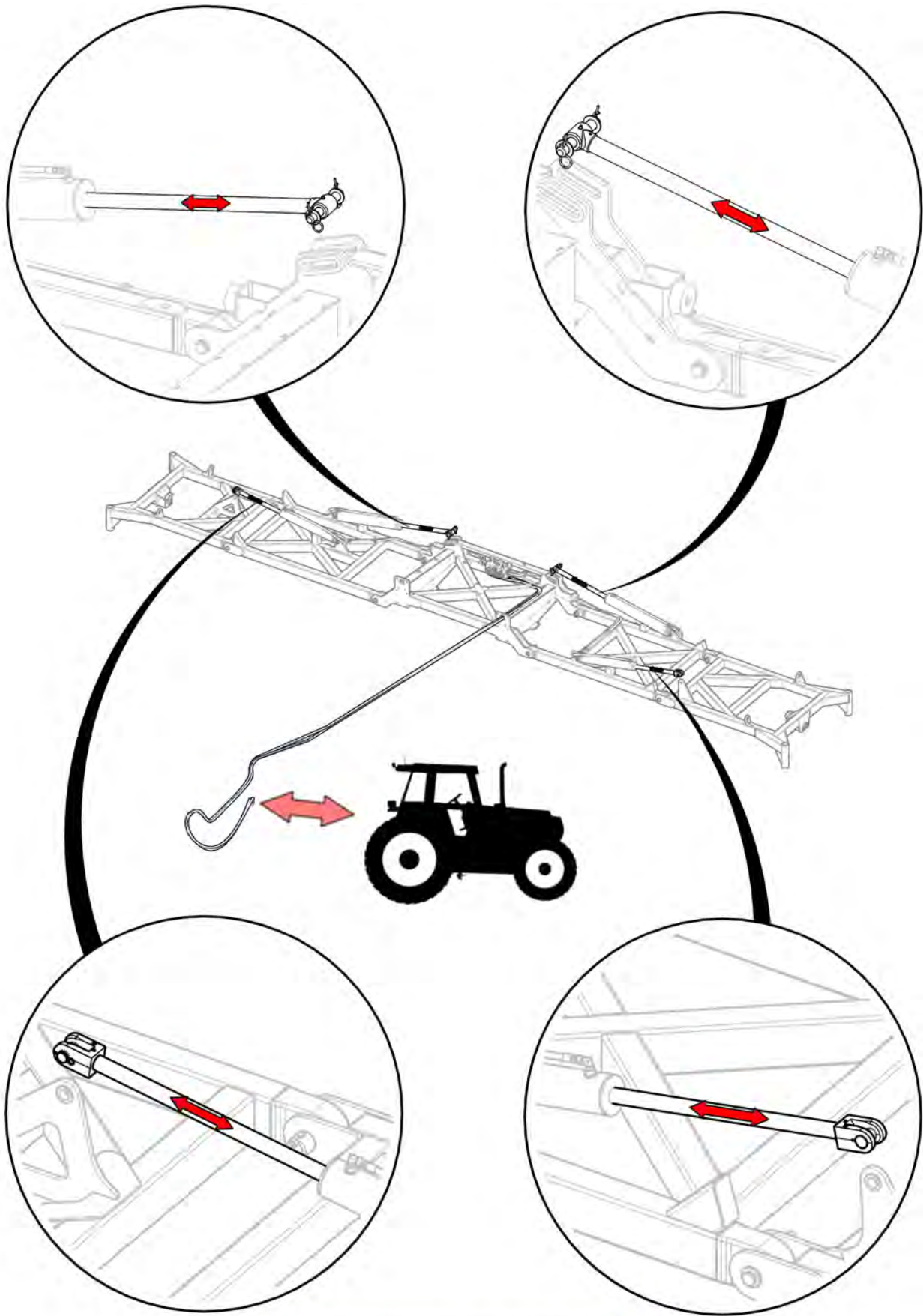




Retract fittings tightened

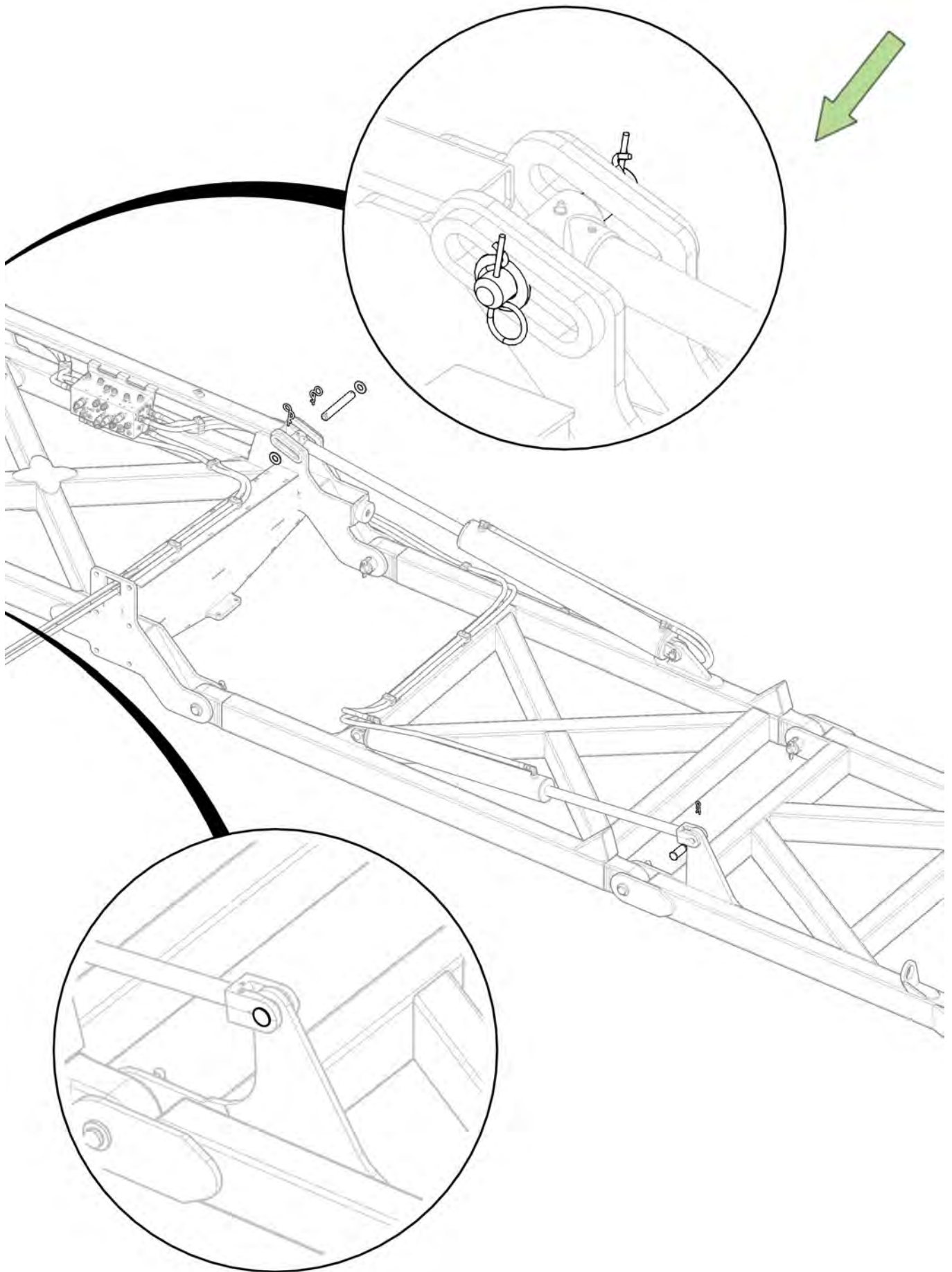


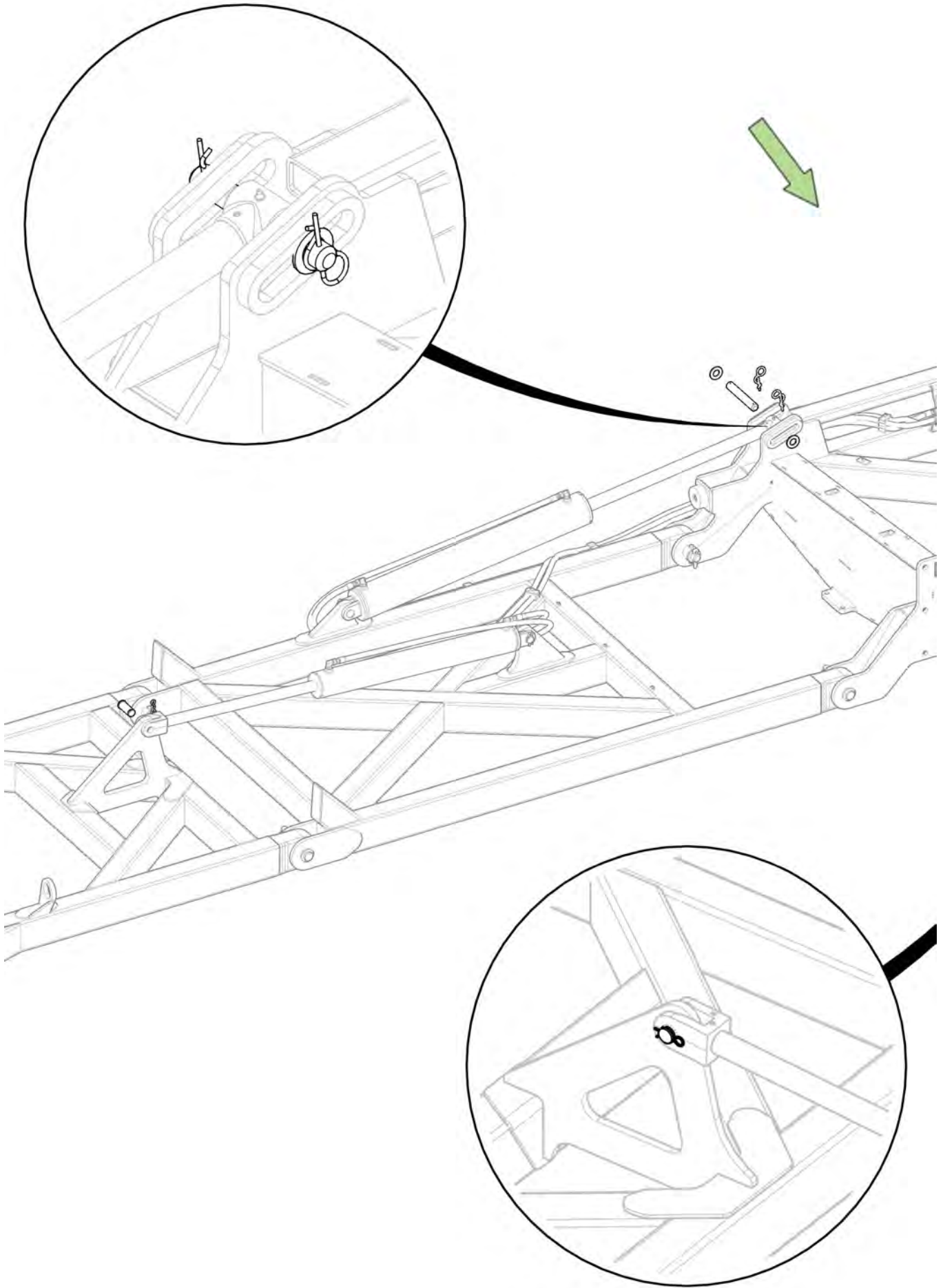
Signed \_\_\_\_\_ Date \_\_\_\_/\_\_\_\_/\_\_\_\_  
 Unit Serial Number \_\_\_\_\_



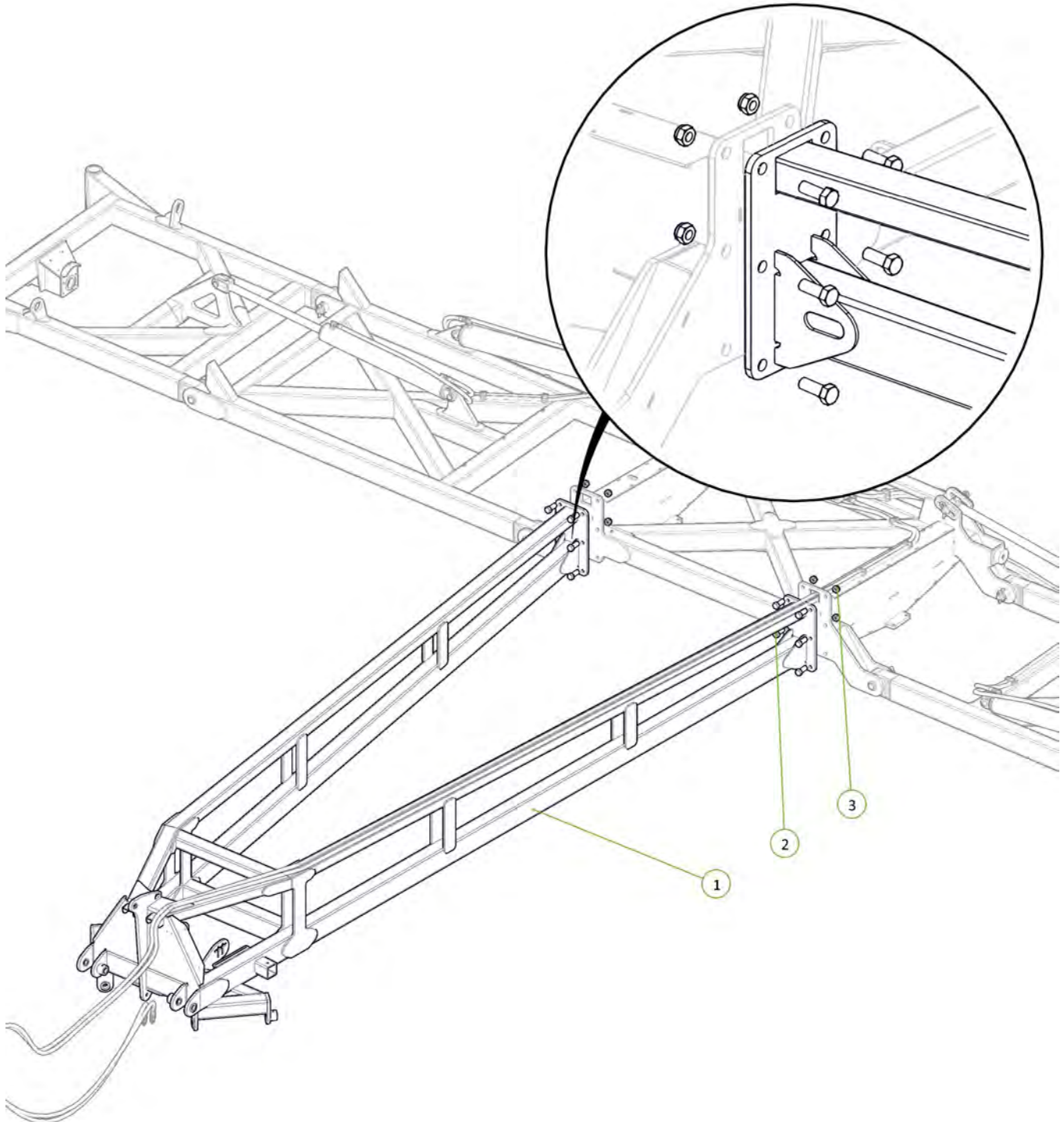
Cylinders cycled to expel air from system

Signed \_\_\_\_\_ Date \_\_\_\_/\_\_\_\_/\_\_\_\_  
 Unit Serial Number \_\_\_\_\_



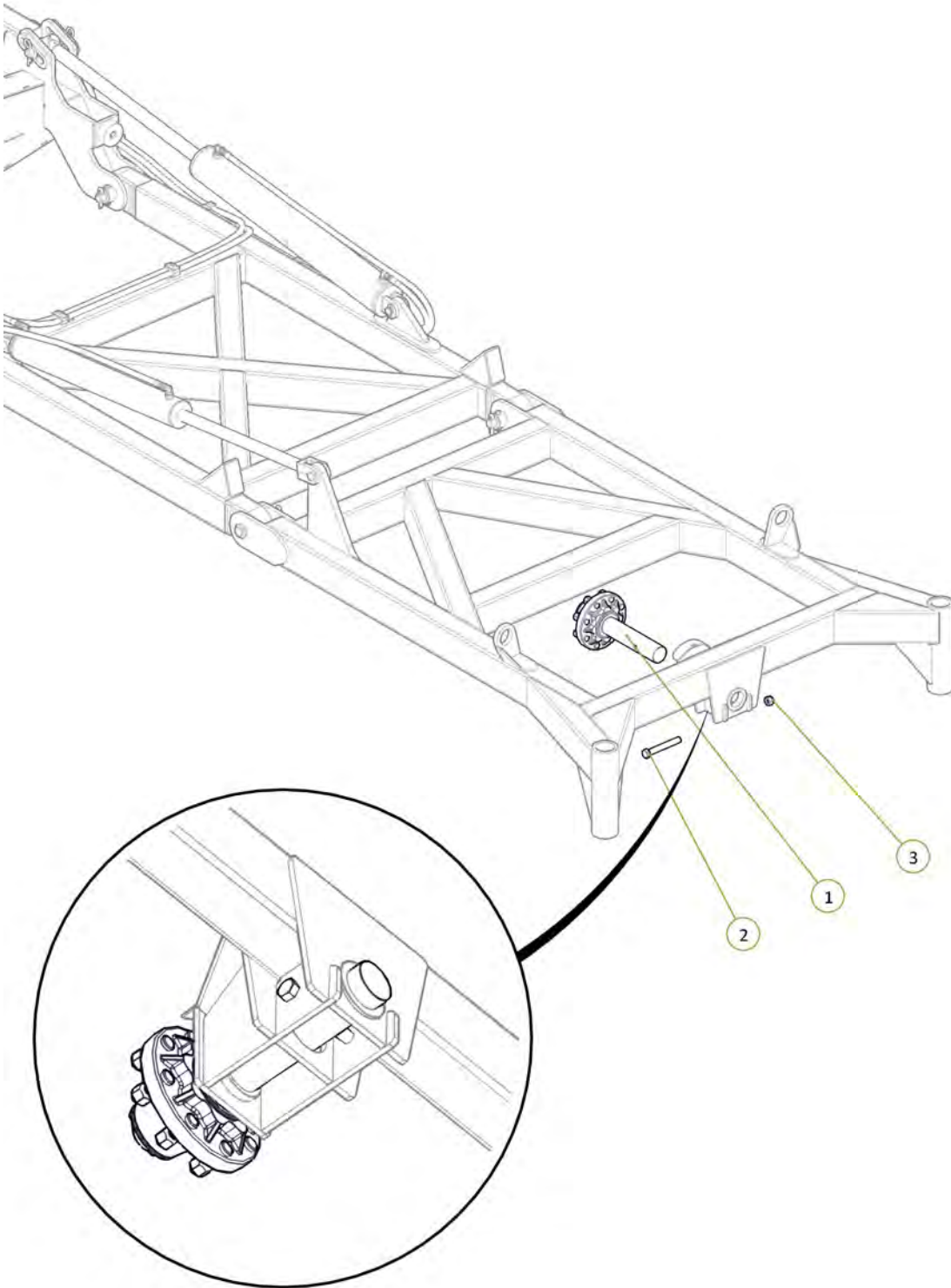
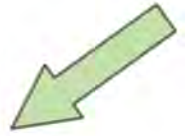


Item No.	Description	Qty	Number
1	40' Main Pull	1	1540-02
2	M24 x 65 grade 8.8 zp Bolt	12	0211-2465
3	Nyloc Nut M24	12	0221-NYL24

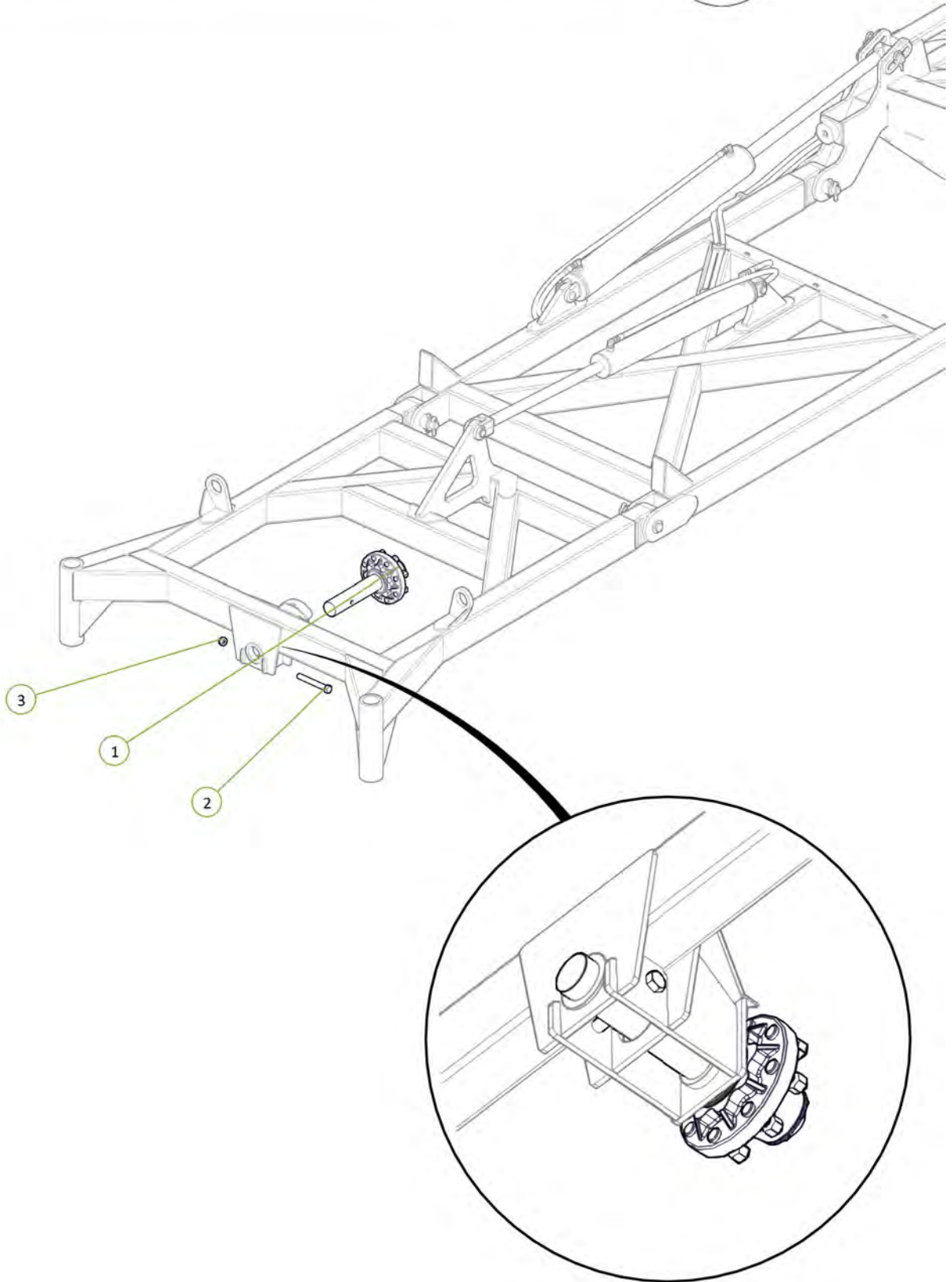




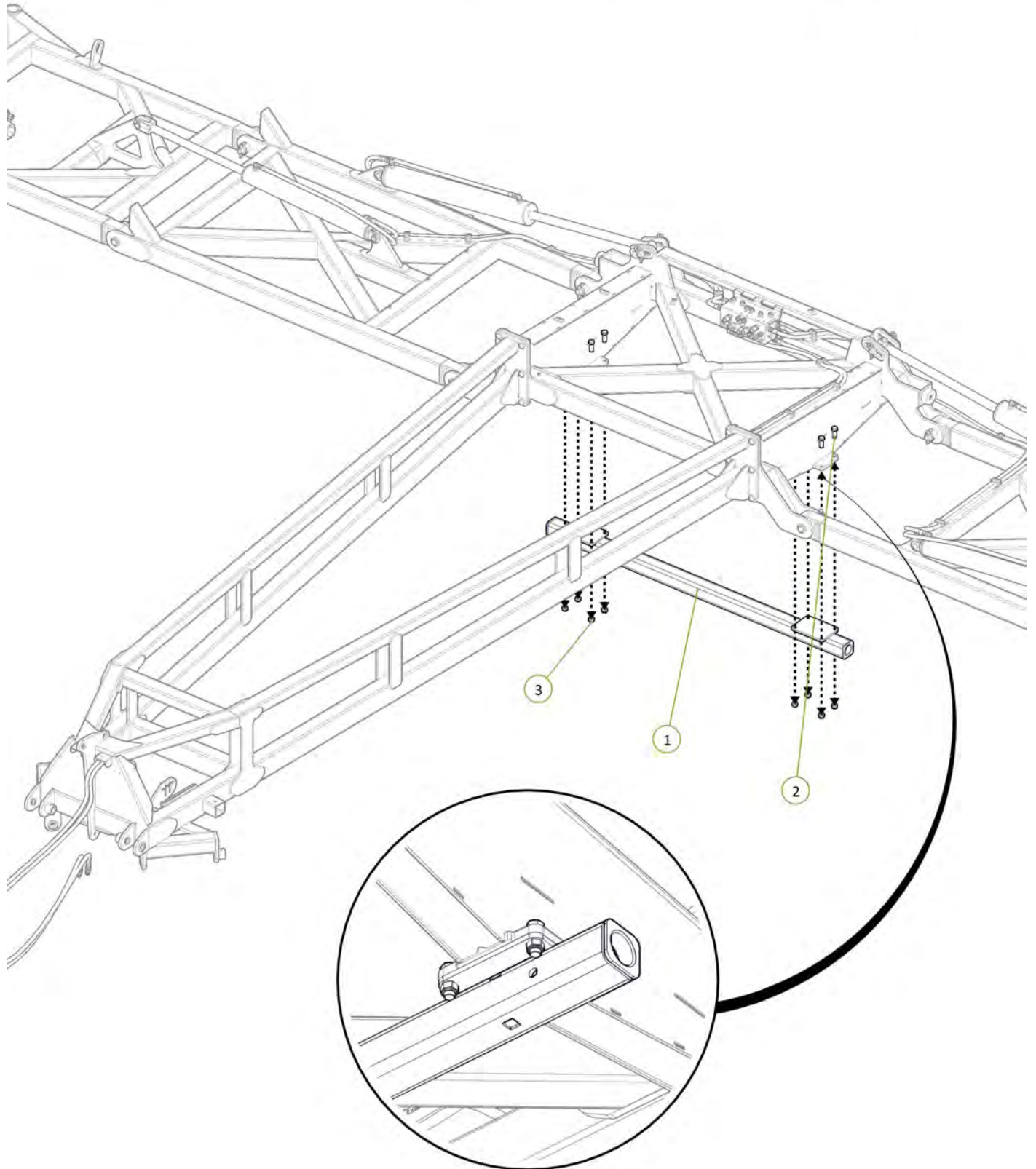
Item No.	Description	Qty	Number
1	2.75"R C/W 6 tonne 8 on 8" PCD Complete Assembly inc GS	1	0733-LG6080067
2	M20 x 170 grade 8.8 ZP Bolt	1	0211-20170
3	Nyloc Nut M20	1	0221-NYL20



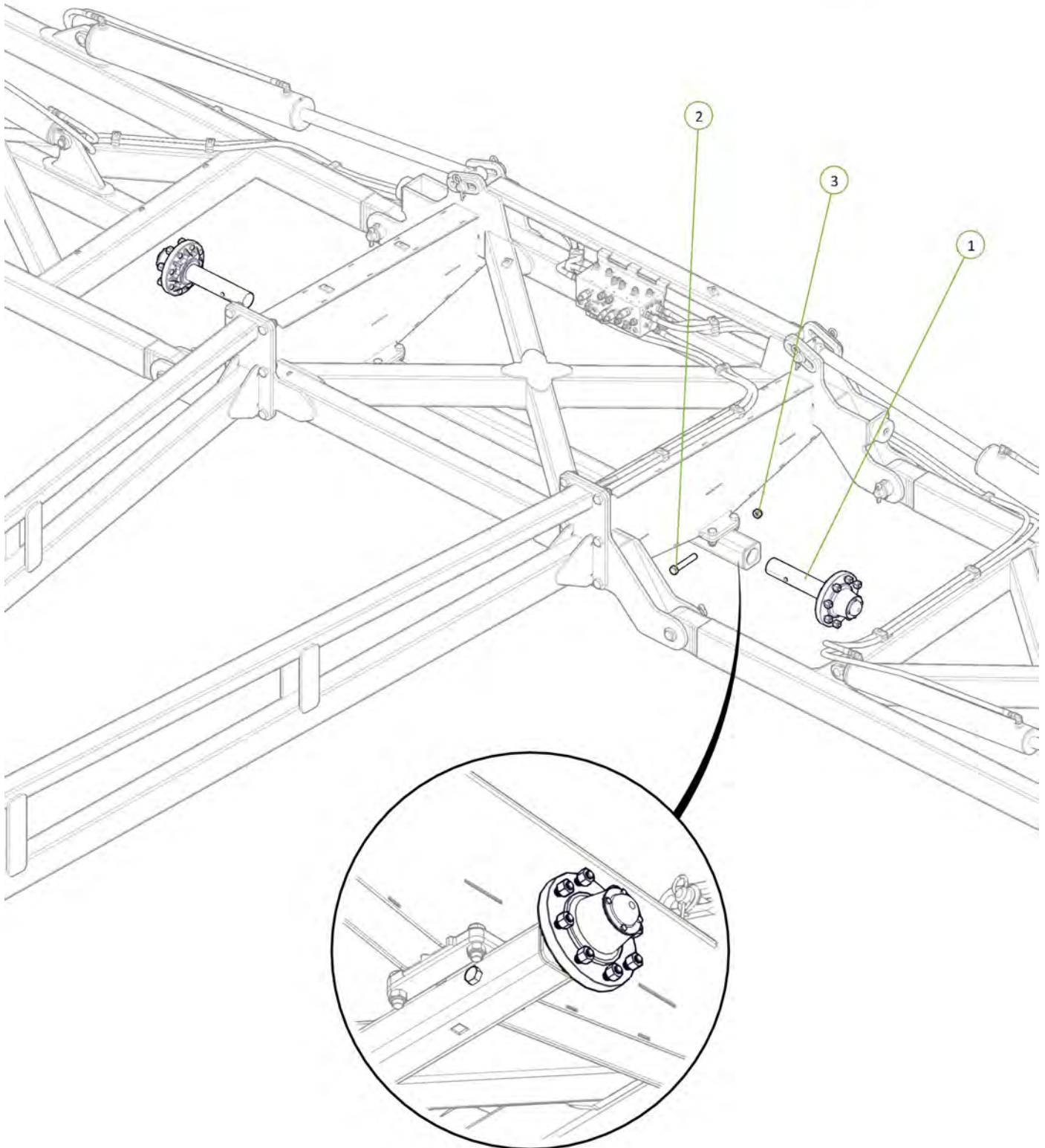
Item No.	Description	Qty	Number
1	2.75"R C/W 6 tonne 8 on 8" PCD Complete Assembly inc GS	1	0733-LG6080067
2	M20 x 170 grade 8.8 ZP Bolt	1	0211-20170
3	Nyloc Nut M20	1	0221-NYL20



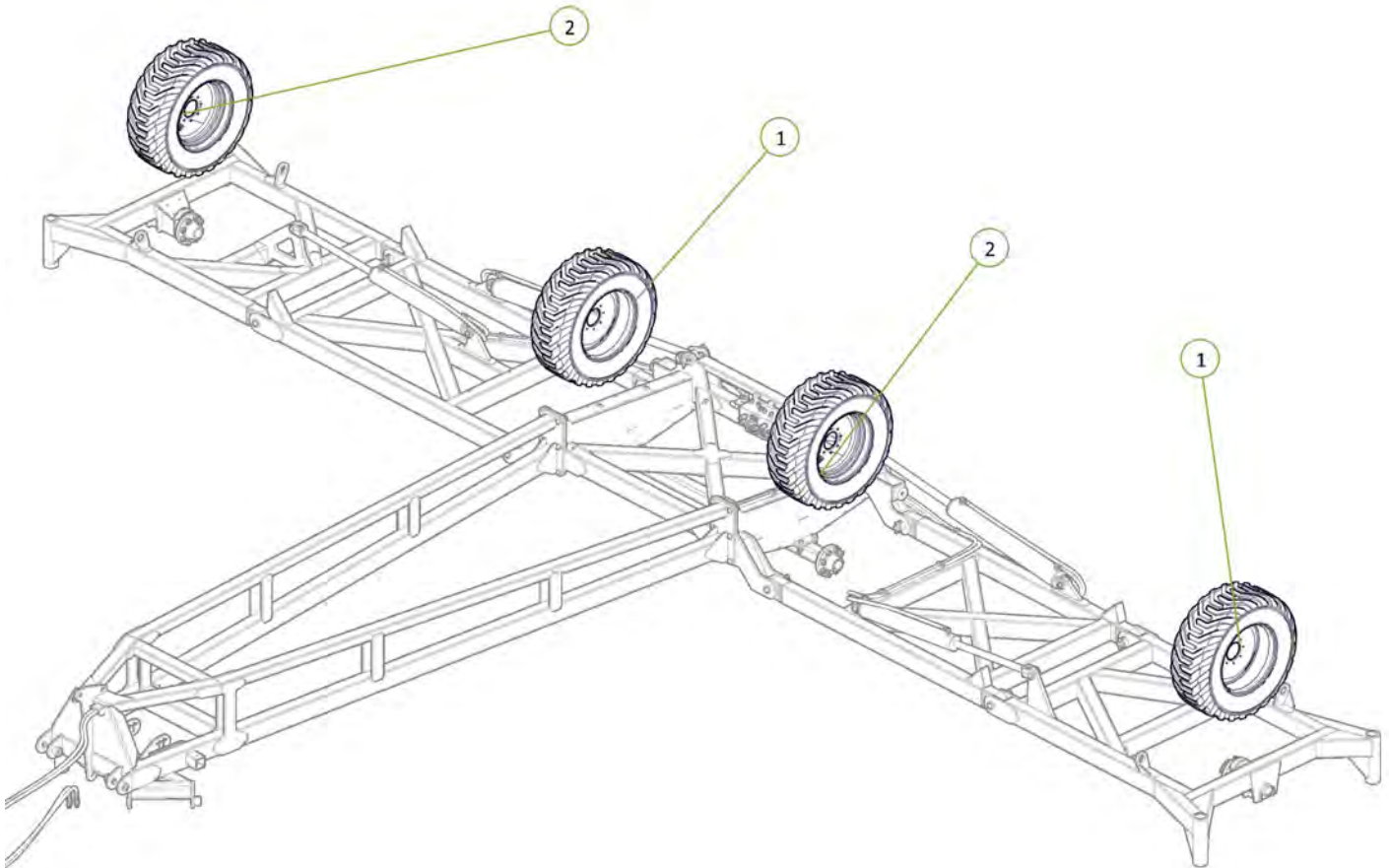
Item No.	Description	Qty	Number
1	40' Axle Beam	1	1540-11
2	M20 x 60 grade 8.8 ZP Bolt	8	0211-2060
3	Nyloc Nut M20	8	0221-NYL20



Item No.	Description	Qty	Number
1	2.75"R C/W 6 tonne 8 on 8" PCD Complete Assembly inc GS	2	0733-LG6080067
2	M20 x 130 grade 8.8 ZP Bolt	2	0211-20130
3	Nyloc Nut M20	2	0221-NYL20



Item No.	Description	Qty	Number
1	400/55-22.5 Tyre on 8 on 8" PCD Rim (Left Hand)	2	0751-400-55-22.5TR-L
2	400/55-22.5 Tyre on 8 on 8" PCD Rim (Right Hand)	2	0751-400-55-22.5TR-R

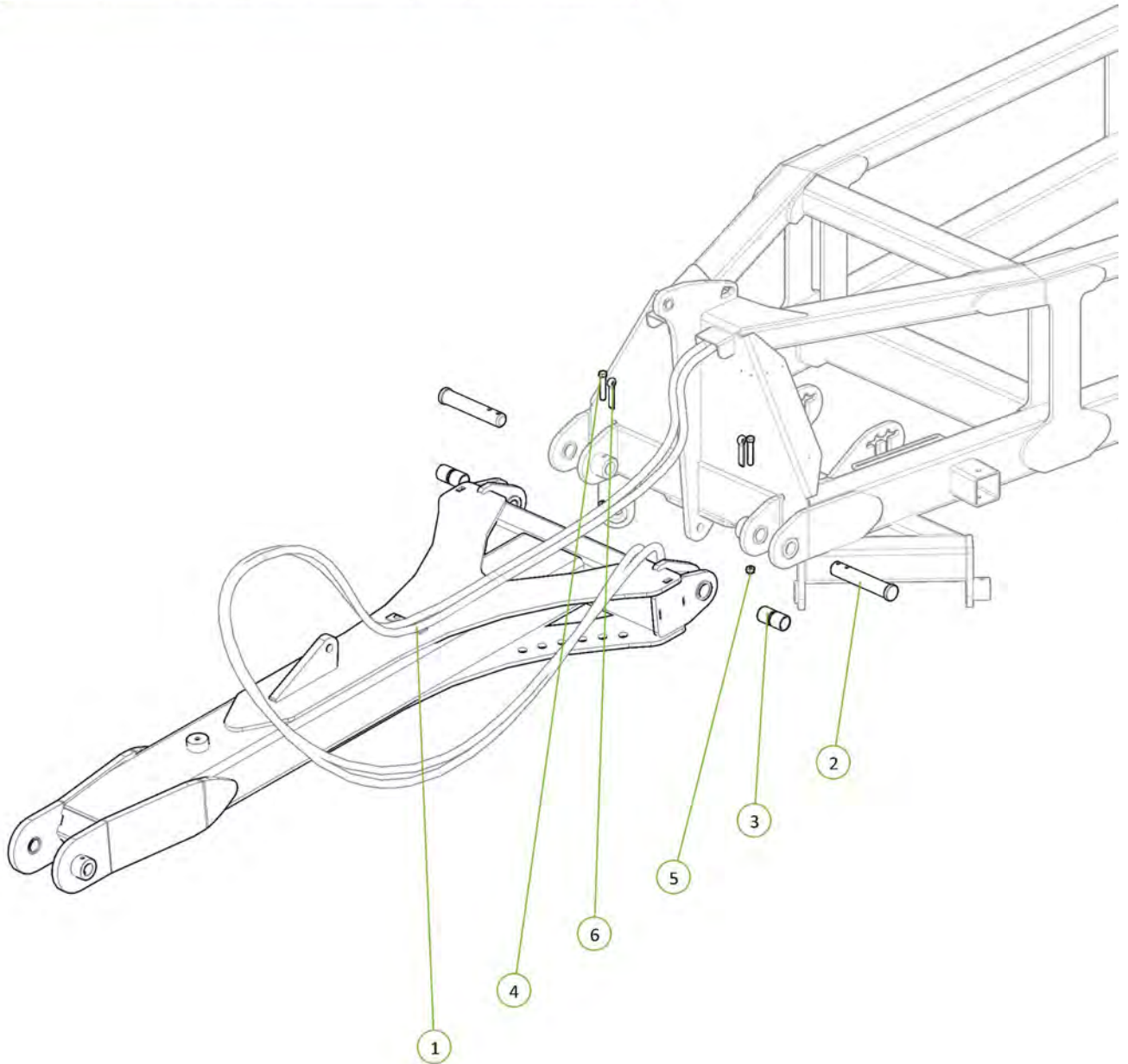


All wheel nuts tightened to 100ft-lb / 140Nm

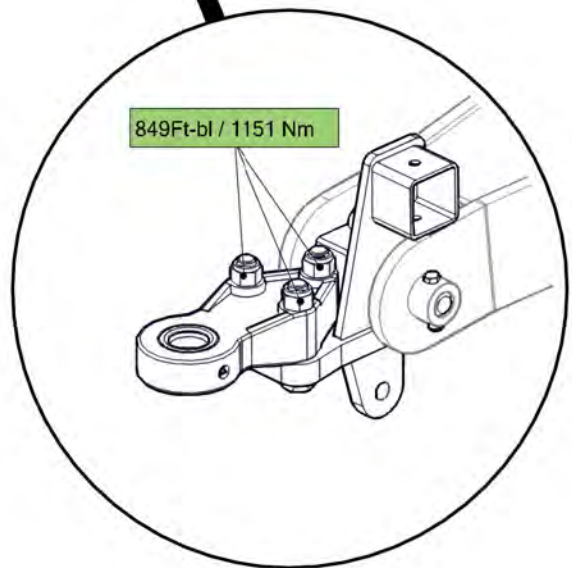
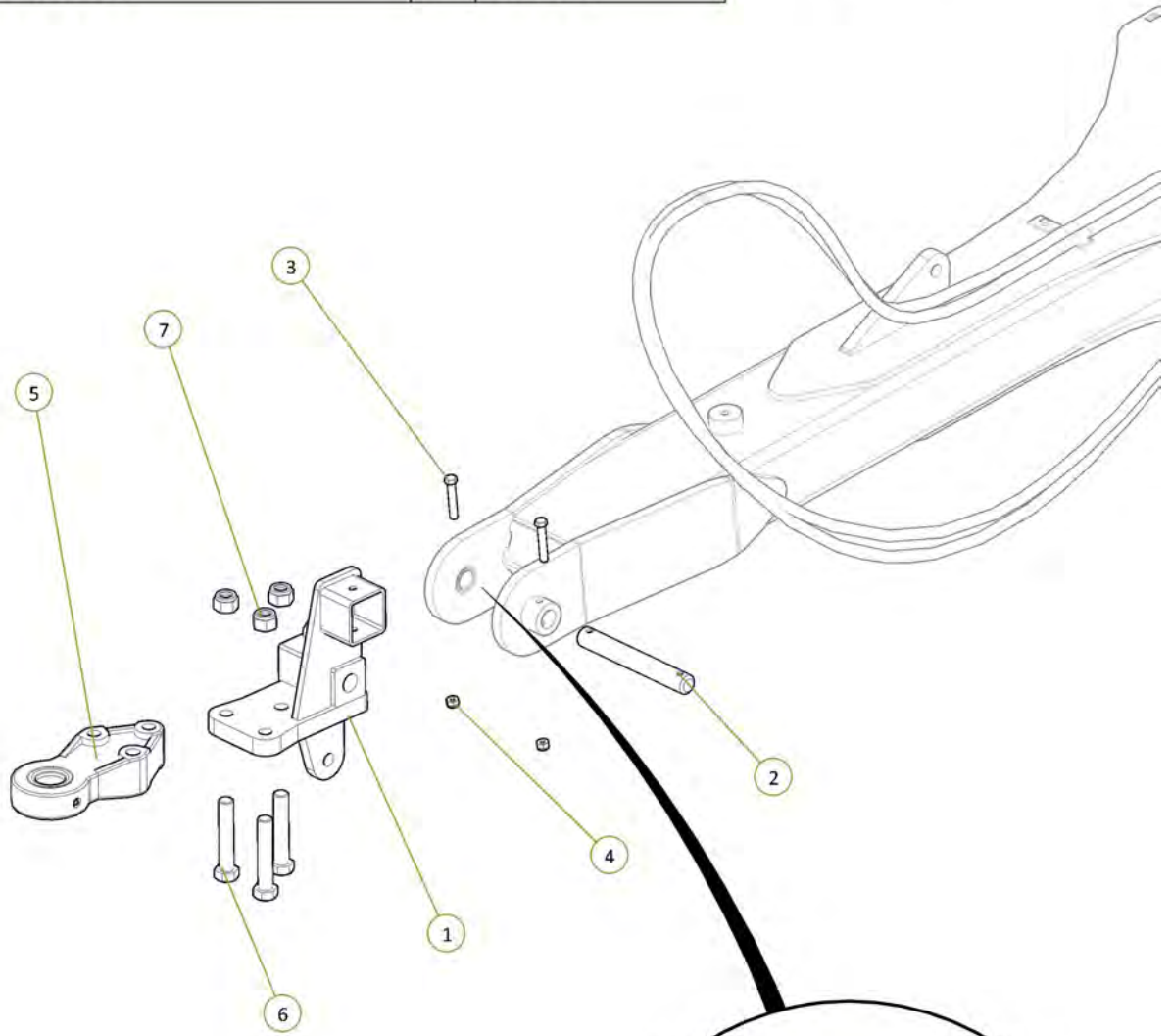
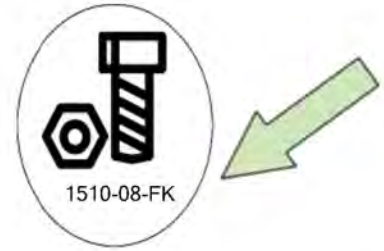


Signed \_\_\_\_\_ Date \_\_\_/\_\_\_/\_\_\_  
 Unit Serial Number \_\_\_\_\_

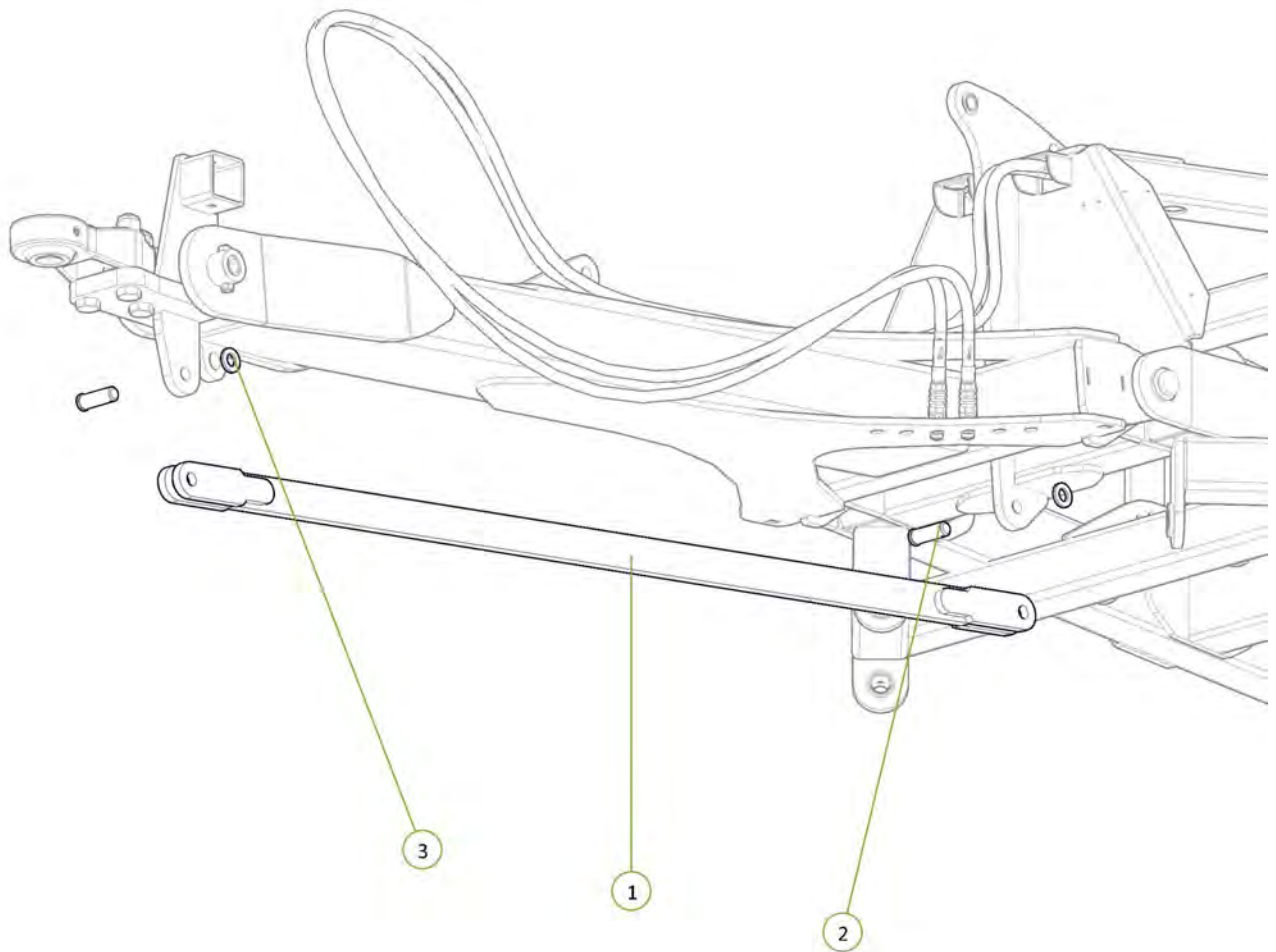
Item No.	Description	Qty	Number
1	Tapered T-Bar Drawbar	1	1510-08-2
2	Walking Axle Linkage Pivot Pin	2	1601-P38-220
3	Drawbar Pivot Bush	4	0801-B423838
4	M12 x 65 grade 8.8 ZP Bolt	2	0211-1265
5	Nyloc Nut M12	2	0221-NYL12
6	Cotter Pin M13 x 63	2	0261-PINC1363



Item No.	Description	Qty	Number
1	Tow Hitch For Bull Pull Swivel Hitch	1	0810-09-BP
2	Tow Hitch Pivot Pin	1	0801-10-06
3	M12 x 75 grade 8.8 ZP Bolt	2	0211-1275
4	Nyloc Nut M12	2	0221-NYL12
5	Bull Pull Swivel Hitch CAT 4 wt 1-1/2' Insert	1	0801-BPF-CAT-4JDF-2
6	1" UNF Grade 8 ZP Bolt x 5-1/2"	3	0213-1 51-2
7	Nyloc Nut 1" UNF	3	0223-NYL1

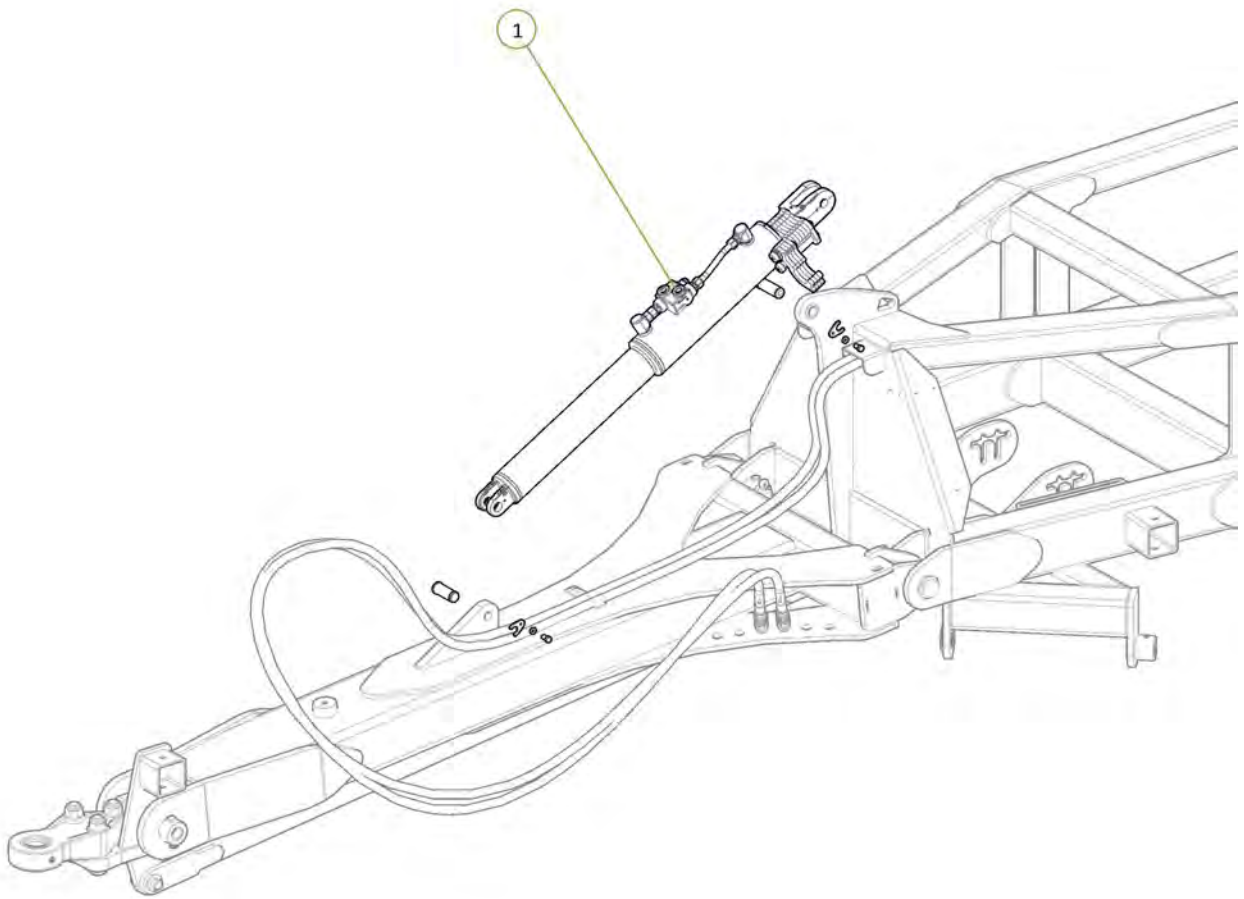
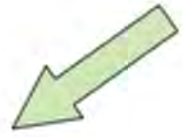


Item No.	Description	Qty	Number
1	Parallel Arm	1	0810-22
2	Clevis Pin 25mm x 75mm	2	0801-KE0307-1
3	Washer Flat M24	2	0231-F24

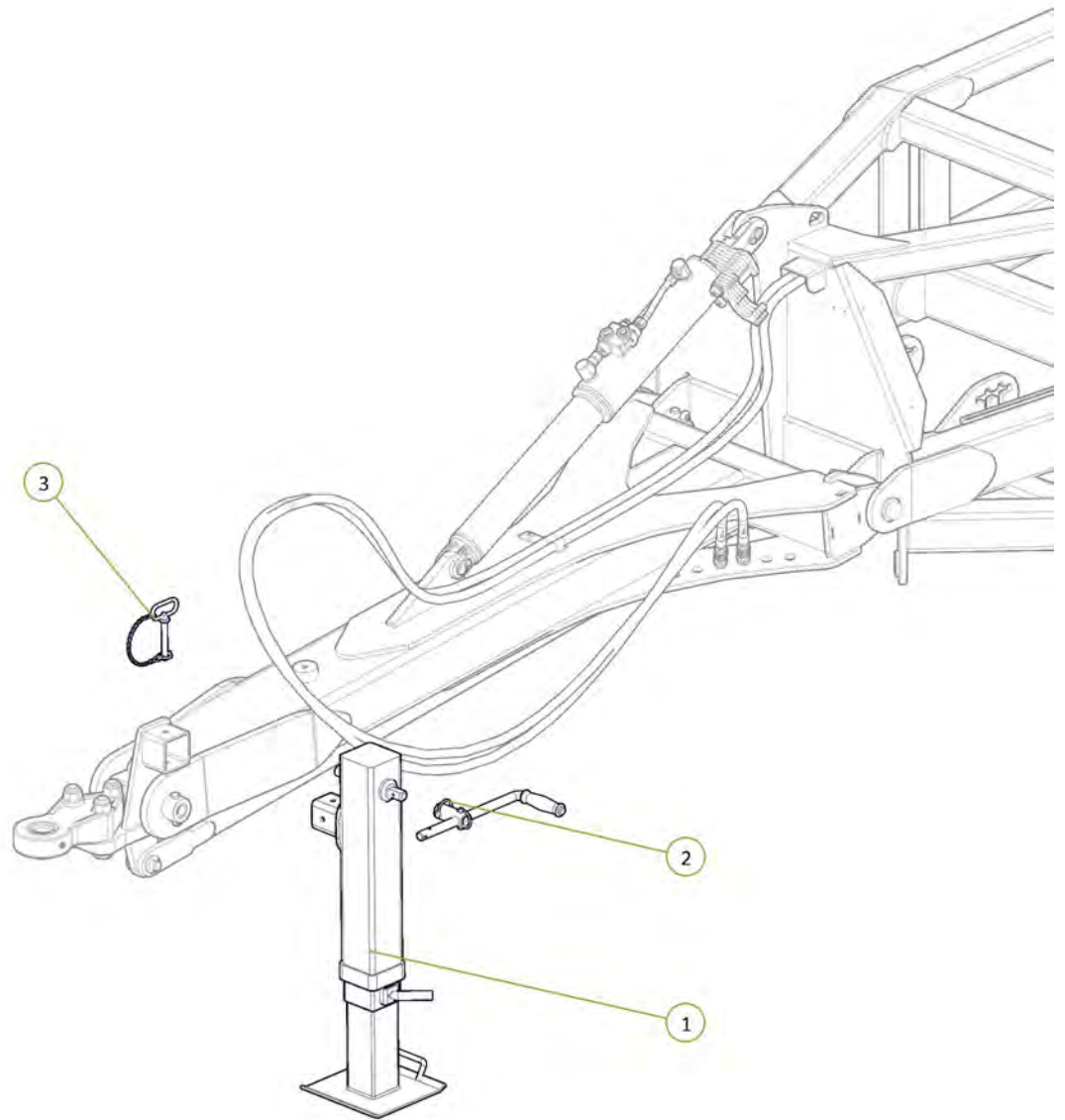




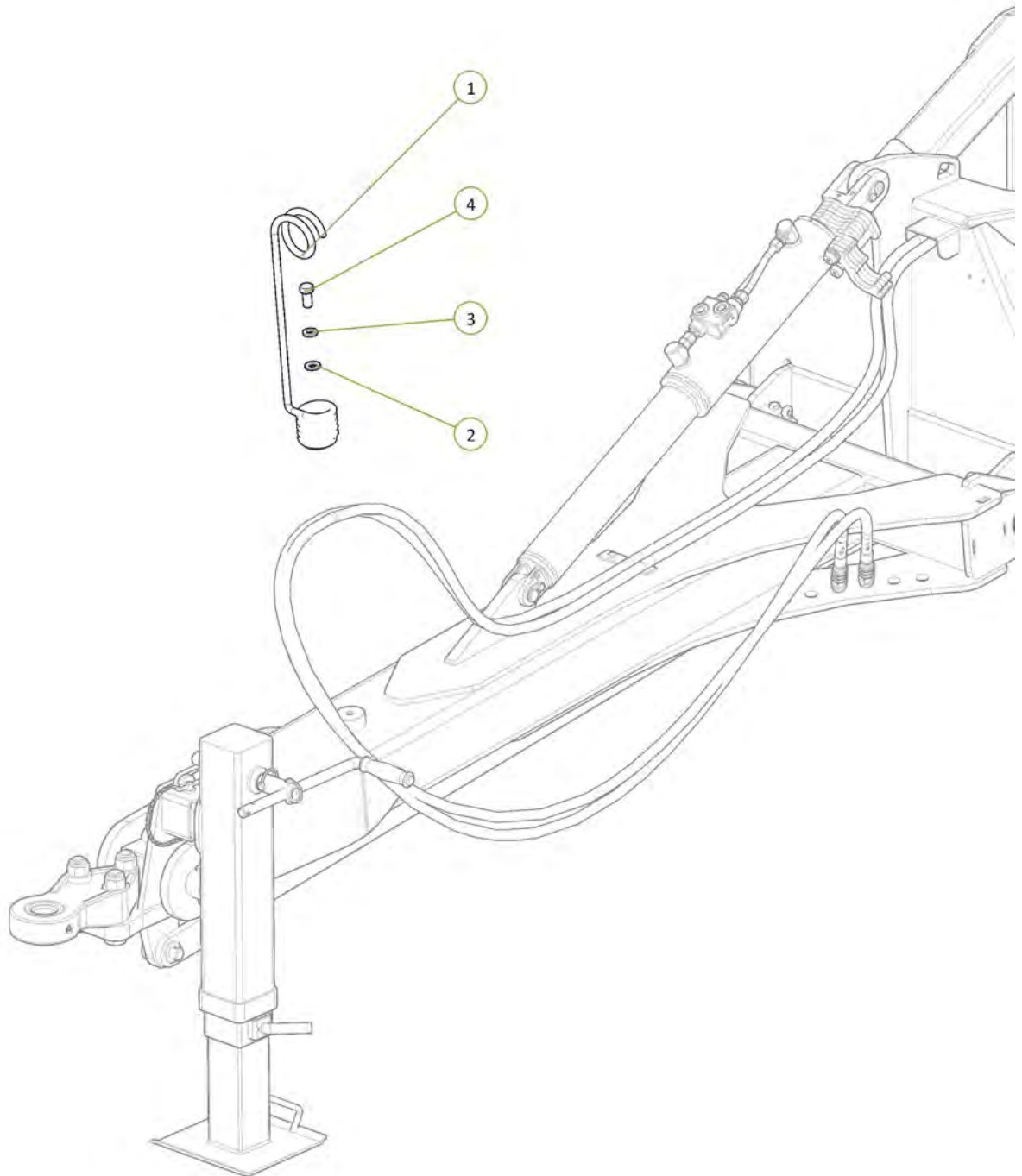
Item No.	Description	Qty	Number
1	4" Bore 12" Stroke 1.75" Rod Extended Hydraulic Cylinder	1	0311-412EXT

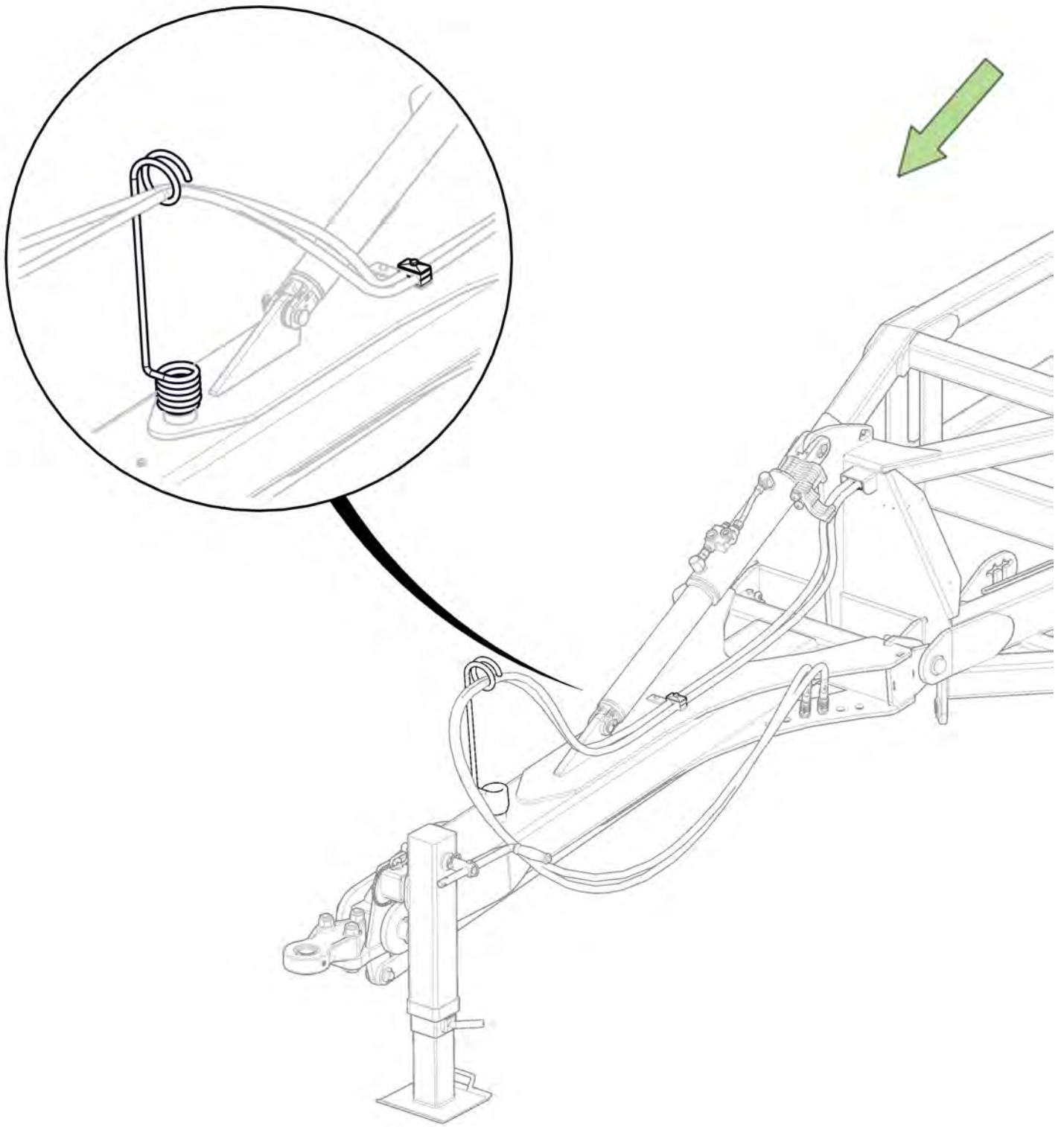


Item No.	Description	Qty	Number
1	Heavy Duty Jack	1	0801-SAK45B-1
2	Jack Handle Assembly 4 Tonne	1	0801-622110HA
3	Jack Pin	1	0801-B3077

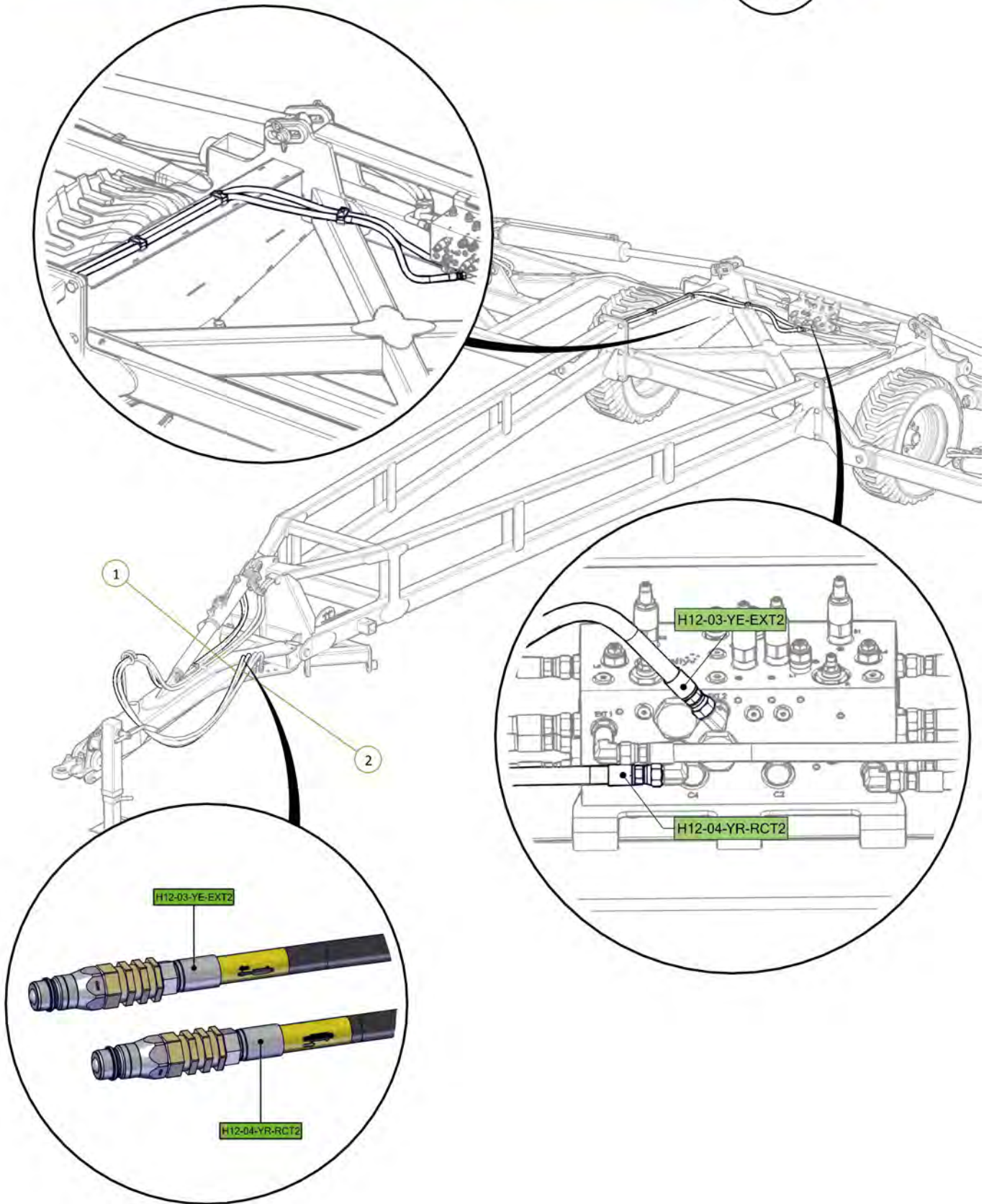


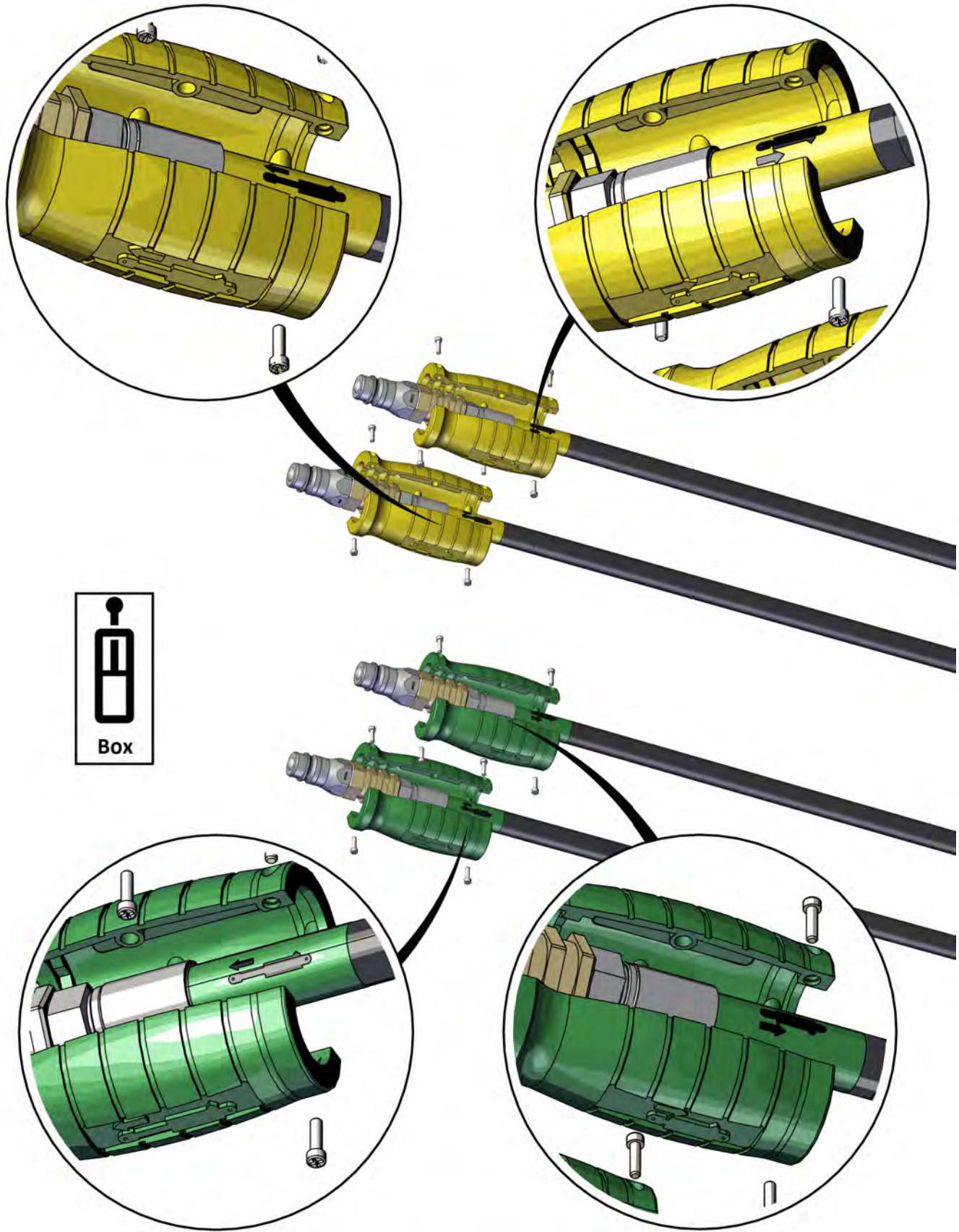
Item No.	Description	Qty	Number
1	Hose Post Spring	1	1601-CDB-00-0012
2	Washer Flat M16	1	0231-F16
3	Washer Spring M16	1	0231-S16
4	M16 x 40 grade 8.8 zp Bolt	1	0211-1640





Item No.	Description	Qty	Number
1	Tractor to Sequence Valve EXT2 Port Fitted With Yellow EXT Decal	1	H12-03-YE-EXT2
2	Tractor to Sequence Valve RTC2 Port Fitted With Yellow RTC Decal	1	H12-04-YR-RCT2



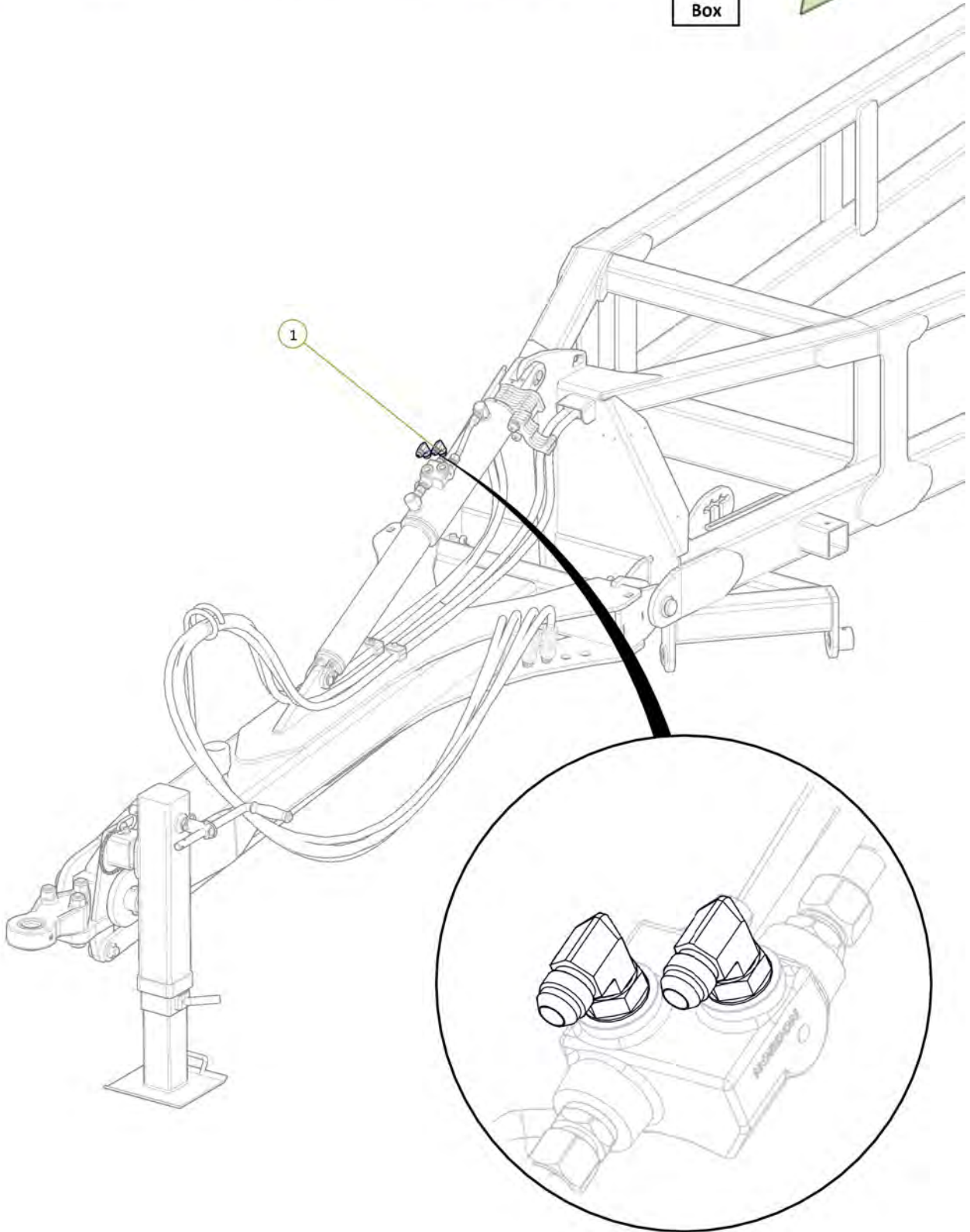


Hose grip handles fitted as per stickers on hoses

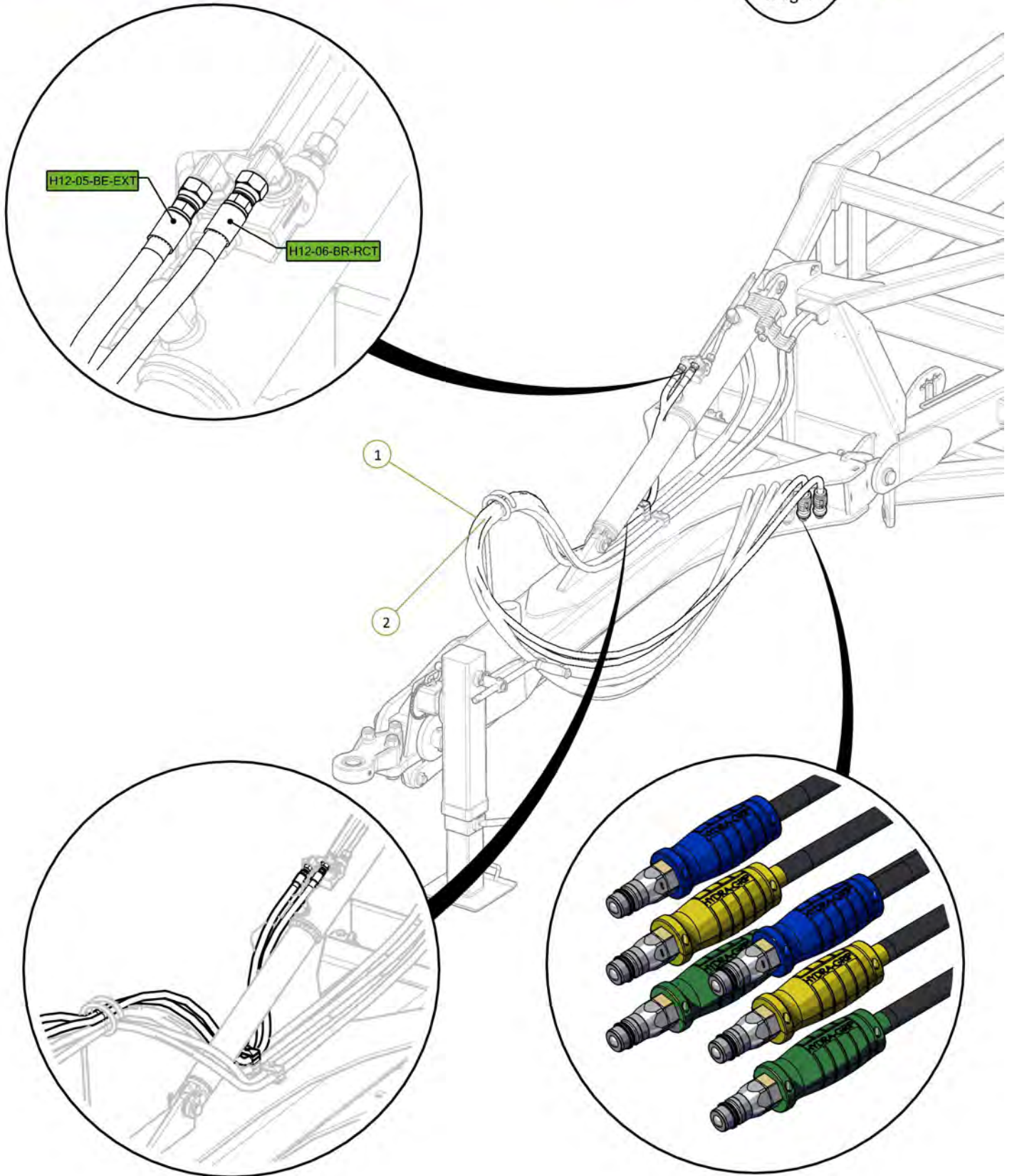


Signed \_\_\_\_\_ Date \_\_\_\_ / \_\_\_\_ / \_\_\_\_  
 Unit Serial Number \_\_\_\_\_

Item No.	Description	Qty	Number
1	3/4" JIC Male 3/4" UN O Ring Male 90° Elbow	2	0323-S91-1212

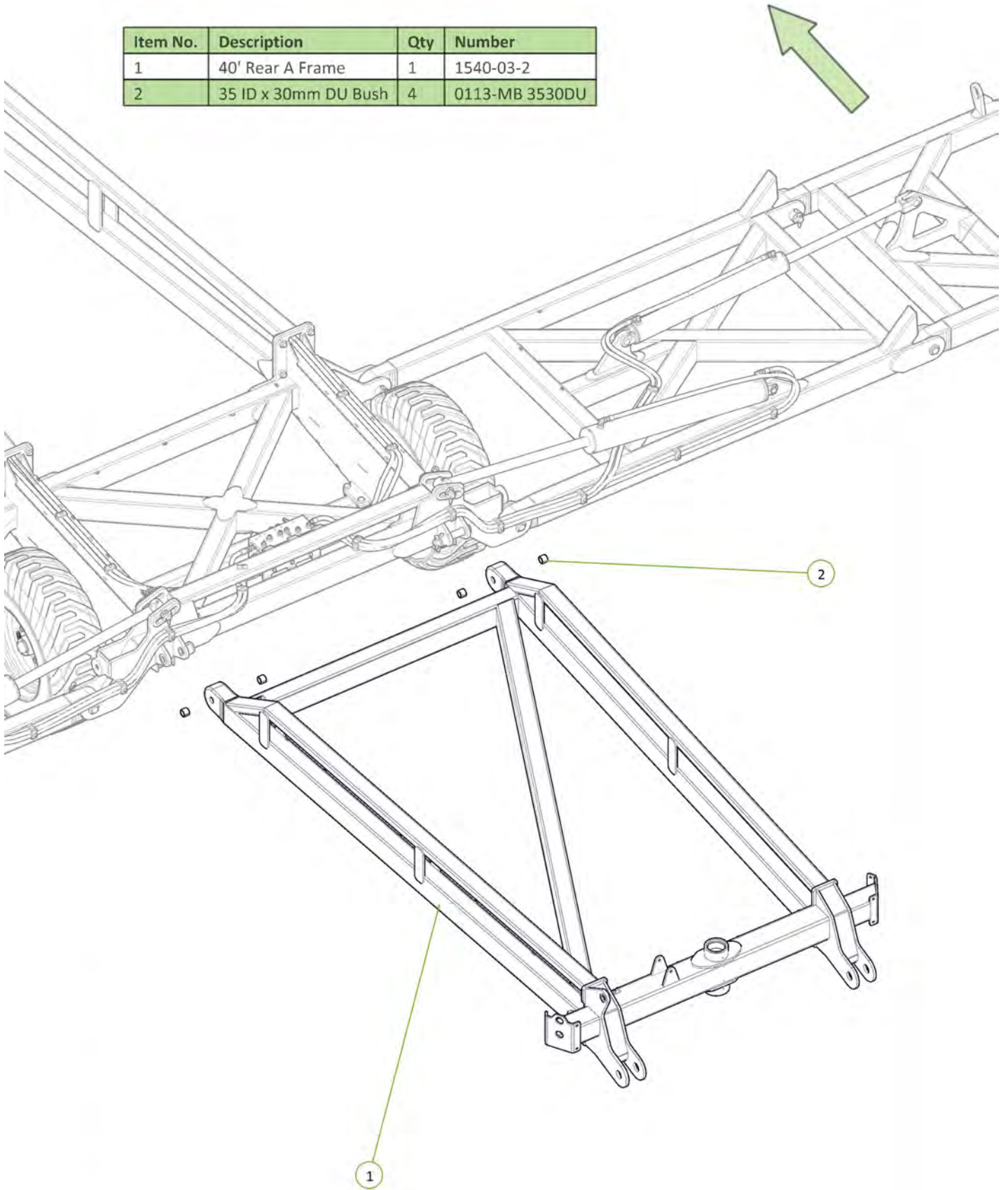


Item No.	Description	Qty	Number
1	Tractor to Front Lift Cylinder Extend Port Fitted With Blue EXT Grip	1	H12-05-BE-EXT
2	Tractor to Front Lift Cylinder Extend Port Fitted With Blue RTC Grip	1	H12-06-BR-RCT

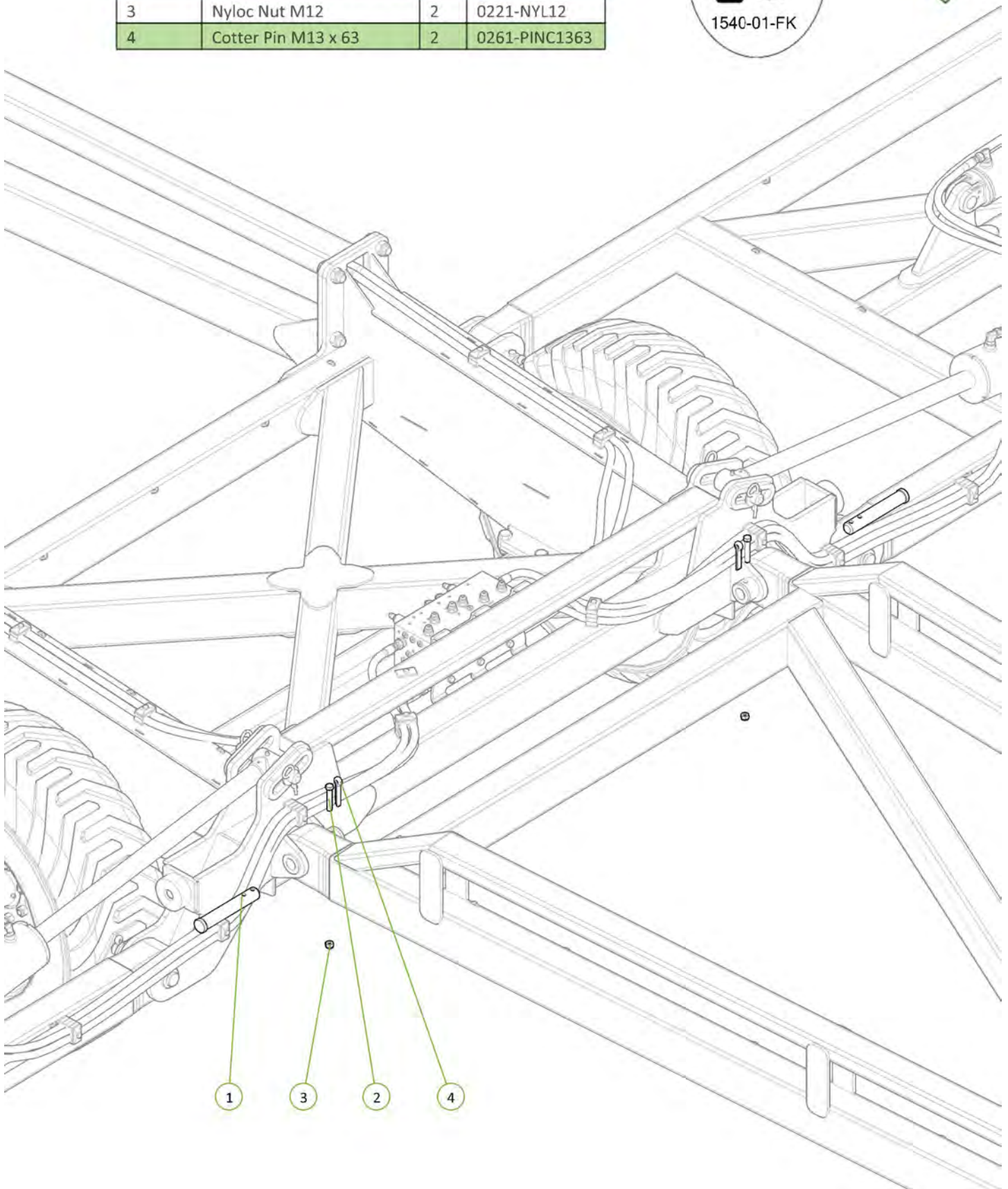




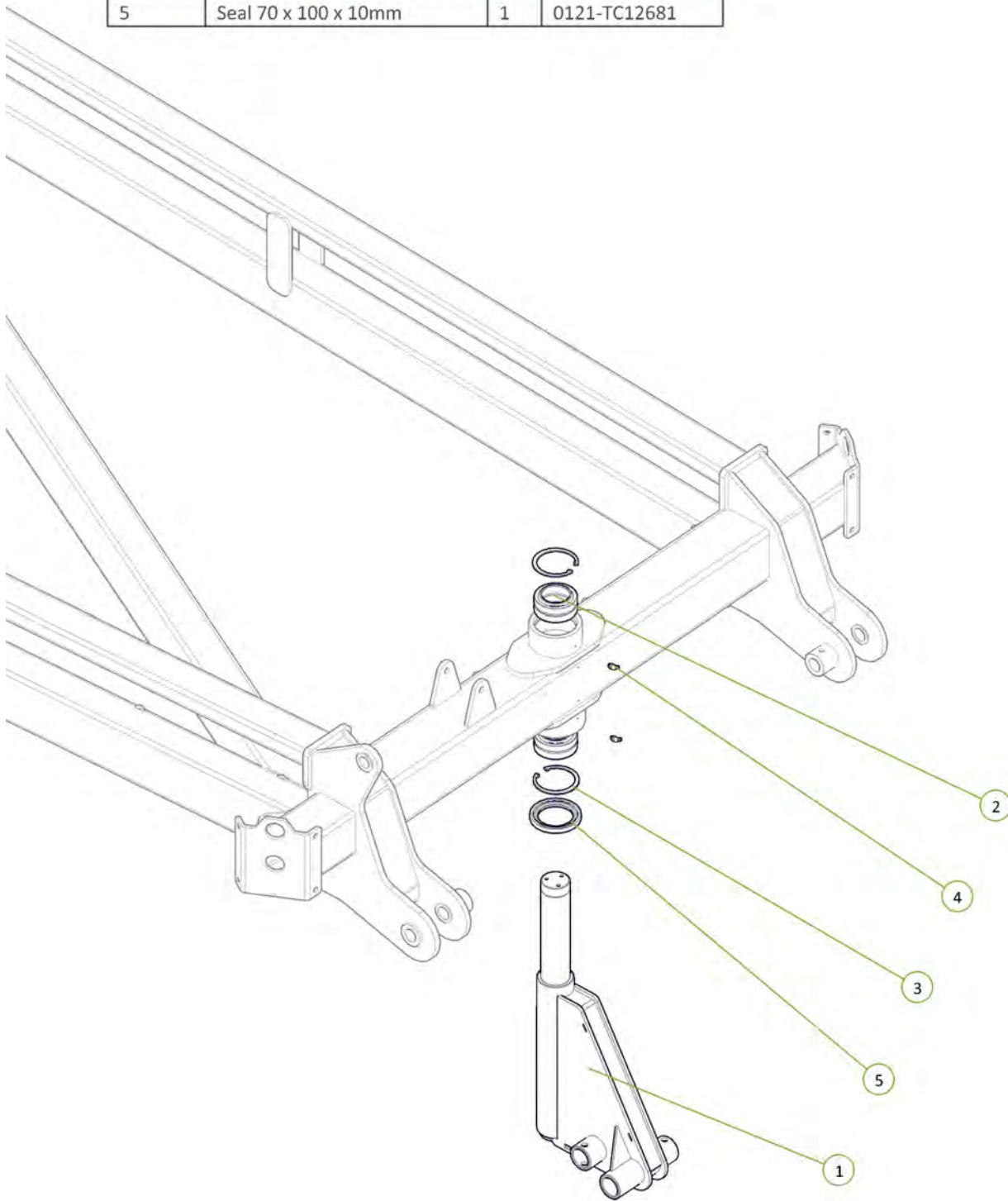
Item No.	Description	Qty	Number
1	40' Rear A Frame	1	1540-03-2
2	35 ID x 30mm DU Bush	4	0113-MB 3530DU



Item No.	Description	Qty	Number
1	PCH Wing Pivot Pin	2	0801-10-08-235
2	M12 x 75 grade 8.8 ZP Bolt	2	0211-1275
3	Nyloc Nut M12	2	0221-NYL12
4	Cotter Pin M13 x 63	2	0261-PINC1363

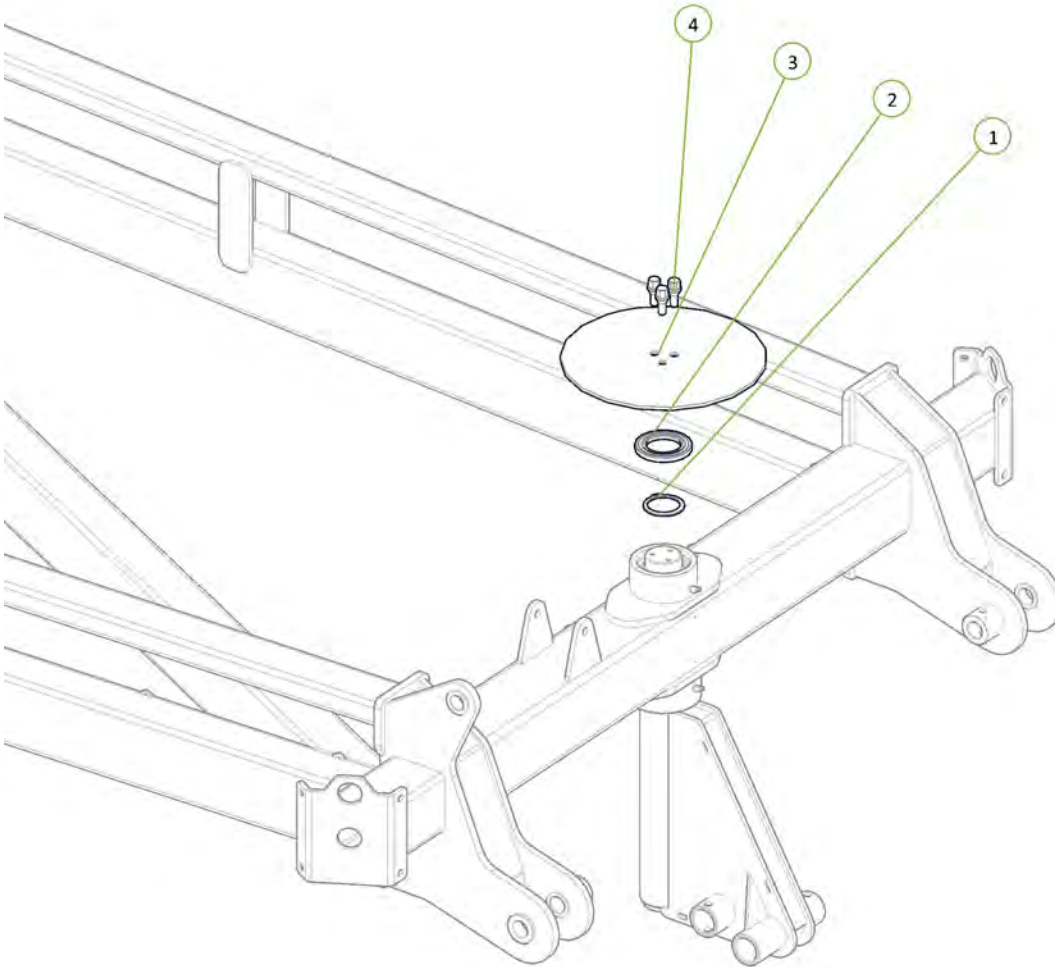


Item No.	Description	Qty	Number
1	70mm Jockey Wheel (Sleeved)	1	1610-12-70
2	Plain Spherical Bearing 70mm	2	0113-GE70DO-2RS
3	Circlip Internal 105mm	2	0171-J105
4	Grease Nipple 1/4" UNF 45°	2	0181-GN1/445
5	Seal 70 x 100 x 10mm	1	0121-TC12681





Item No.	Description	Qty	Number
1	Circlip External 70mm	1	0172-D1400-0700AAP
2	Seal 70 x 100 x 10mm	1	0121-TC12654
3	Brake Disc	1	1600-405
4	M12 x 24 Wheel Bolt	3	0216-WB1224

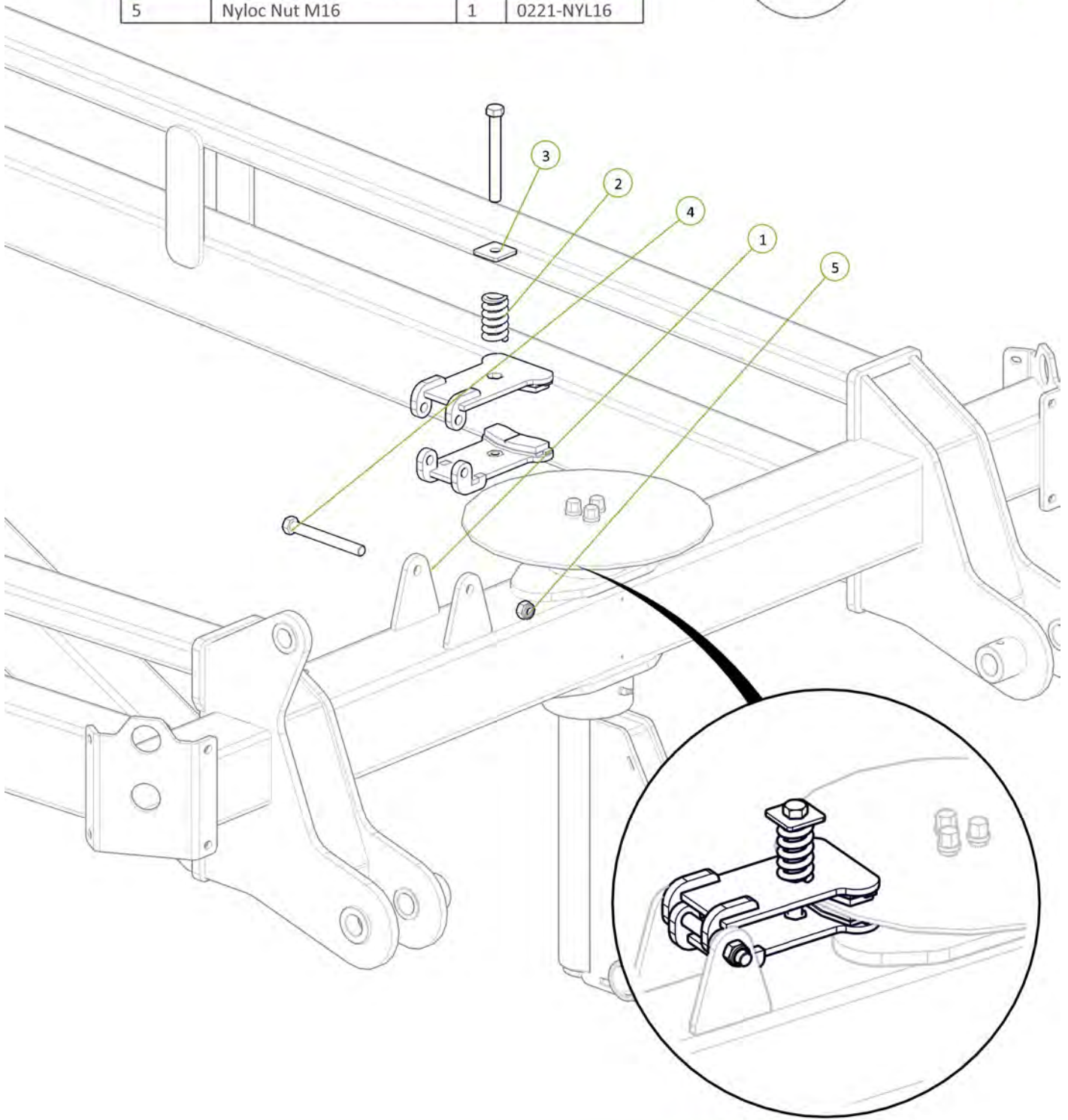
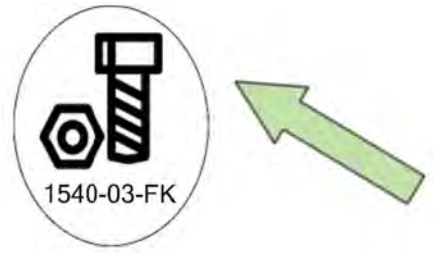


Wheel bolts torqued to 65Ft-Lb / 88Nm

Circlip fitted to Jockey Wheel shaft

Signed \_\_\_\_\_ Date \_\_\_ / \_\_\_ / \_\_\_  
 Unit Serial Number \_\_\_\_\_

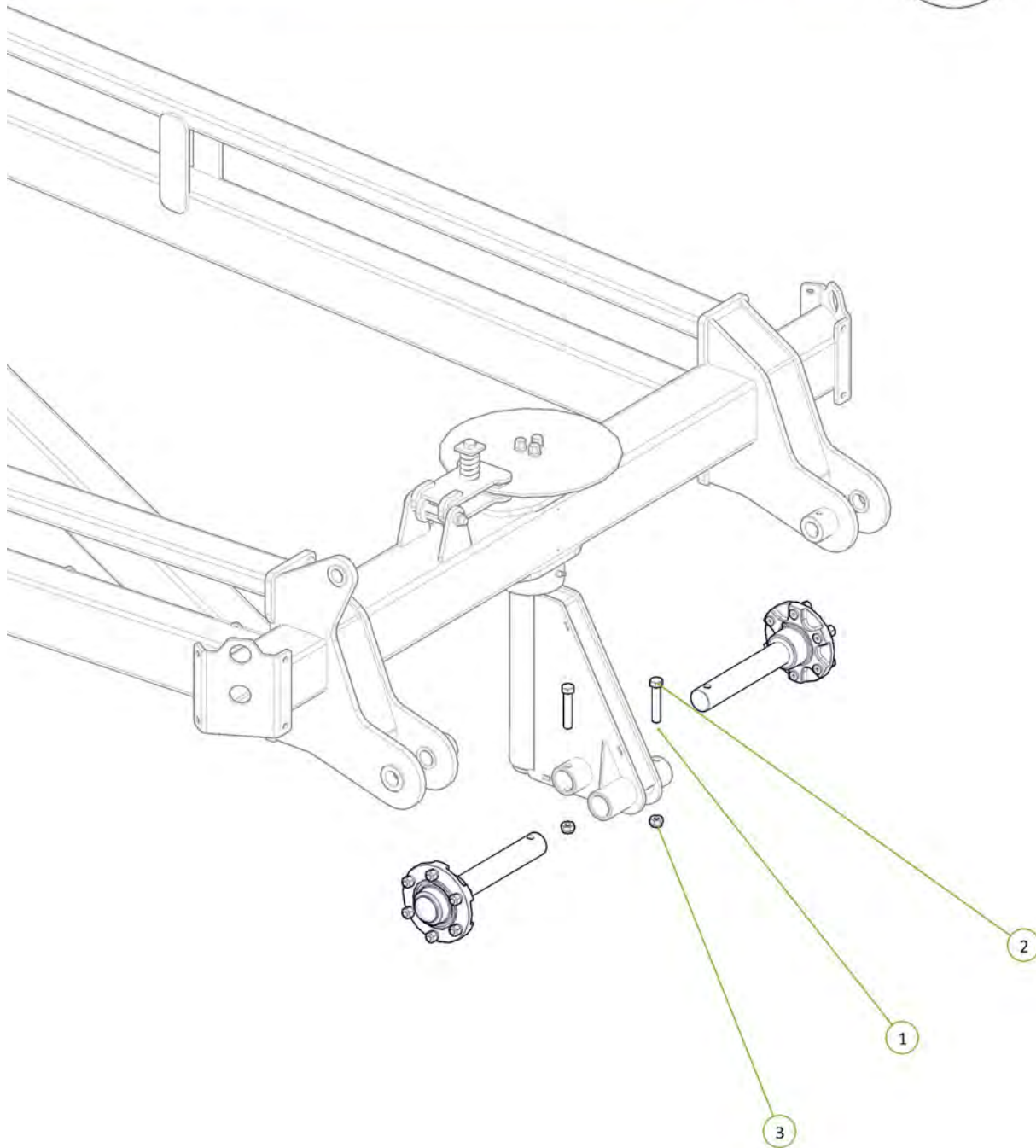
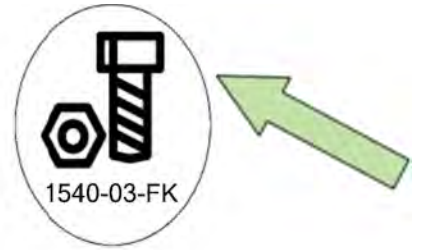
Item No.	Description	Qty	Number
1	Jockey Wheel Brake Caliper	1	0810-12CAL
2	Brake Compression Spring	1	0801-KE009
3	Washer Square M16 x 50 x 5	1	0231-SQ16505
4	M16 x 150 grade 8.8 zp Bolt	2	0211-16150
5	Nyloc Nut M16	1	0221-NYL16



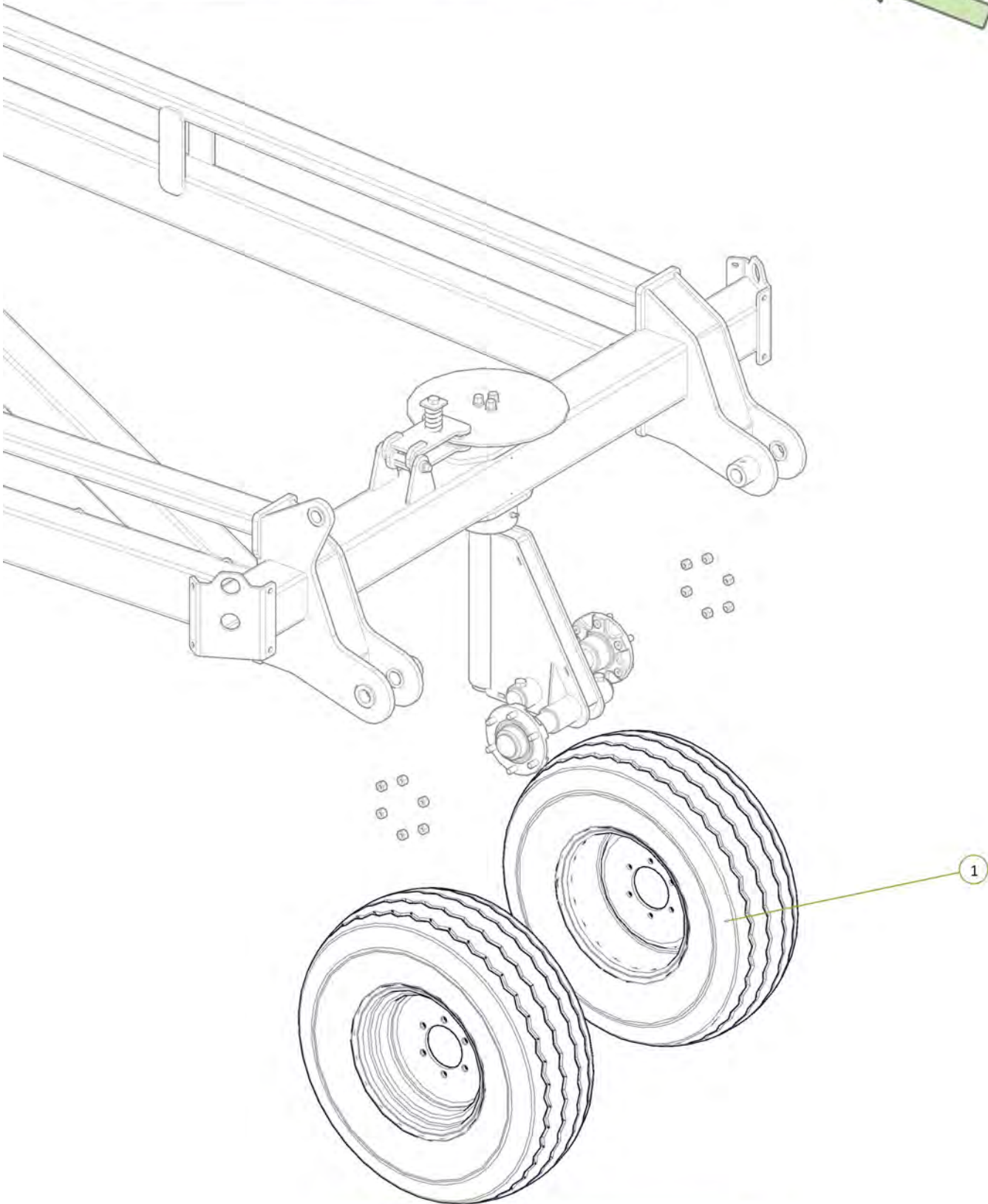
Check tension of brake calliper spring (50-63mm road transport) ○

Signed \_\_\_\_\_ Date \_\_/\_\_/\_\_  
 Unit Serial Number \_\_\_\_\_

Item No.	Description	Qty	Number
1	Axle 2"R 3T 6 on 6"PCD 330 OHF Complete Assembly Inc GS	2	0733-LG8880093
2	M16 x 90 grade 8.8 zp Bolt	2	0211-1690
3	Nyloc Nut M16	2	0221-NYL16



Item No.	Description	Qty	Number
1	11L15 F3 Tyre on 6 on 205 Stud Rim	2	0751-11L15

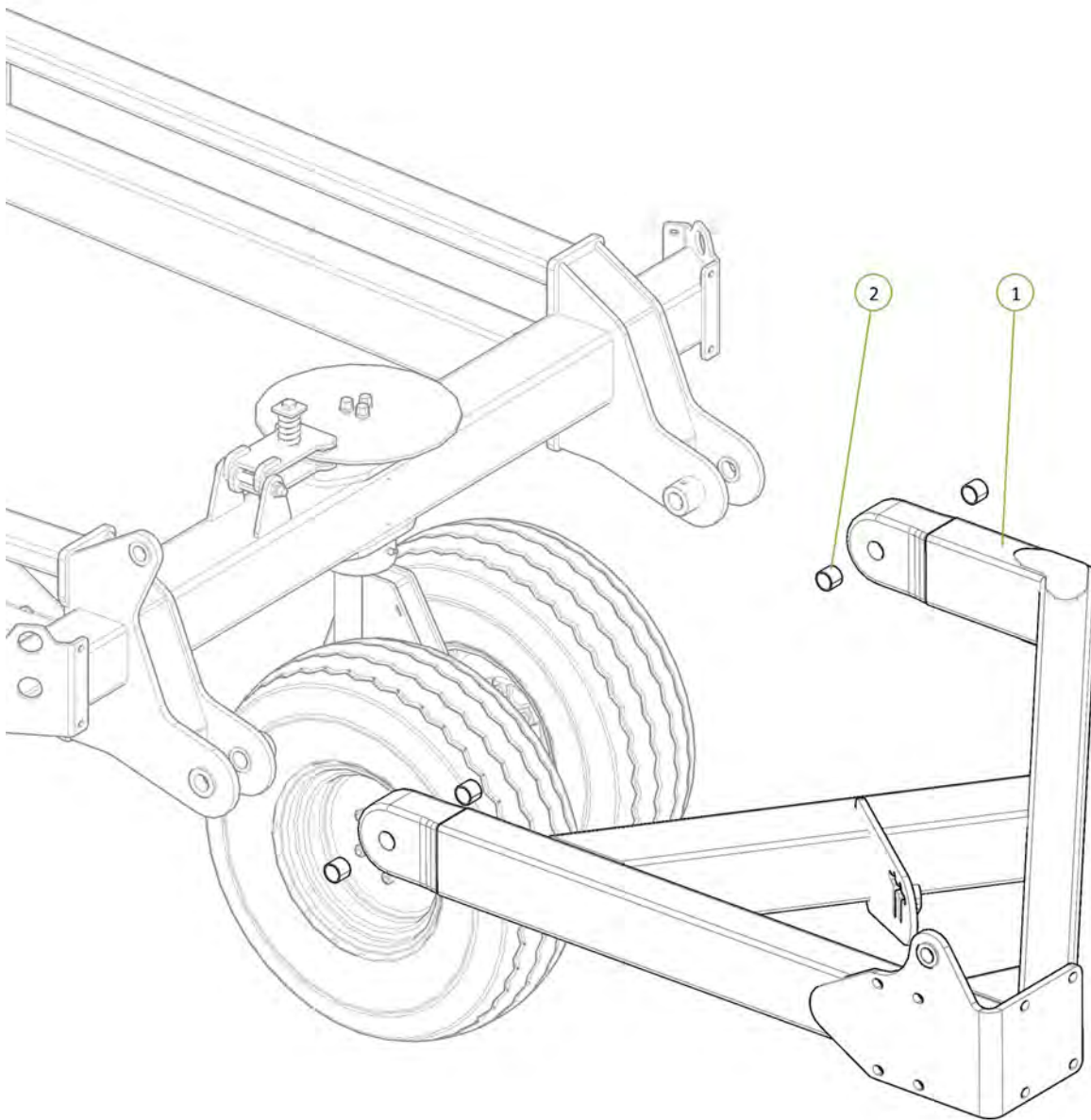


All wheel nuts tightened to 90Ft-Lb / 125Nm



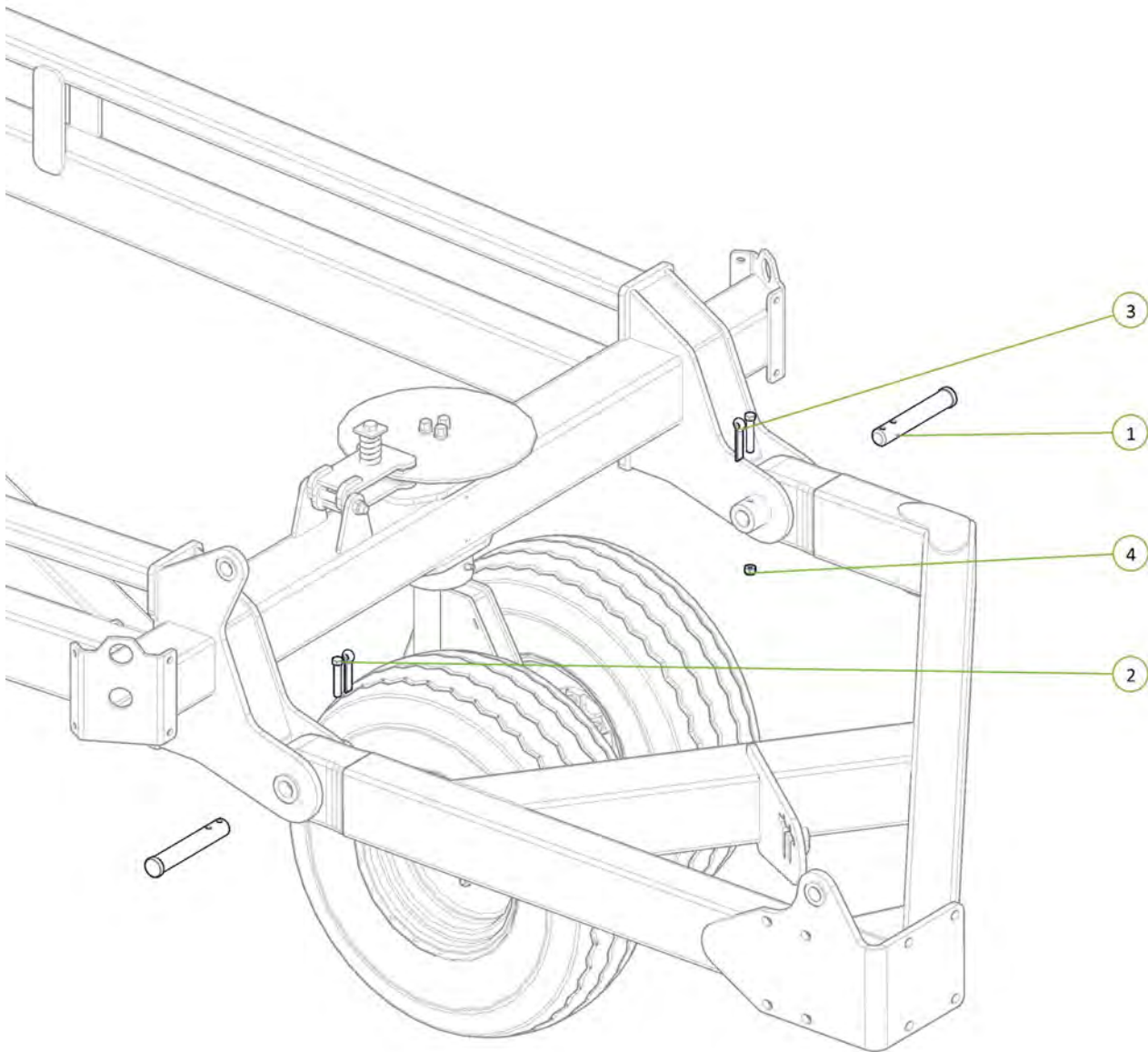
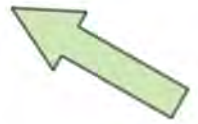
Signed \_\_\_\_\_ Date \_\_\_/\_\_\_/\_\_\_  
 Unit Serial Number \_\_\_\_\_

Item No.	Description	Qty	Number
1	Rear Tail	1	1510-40S
2	35 ID x 30mm DU Bush	4	0113-MB 3530DU

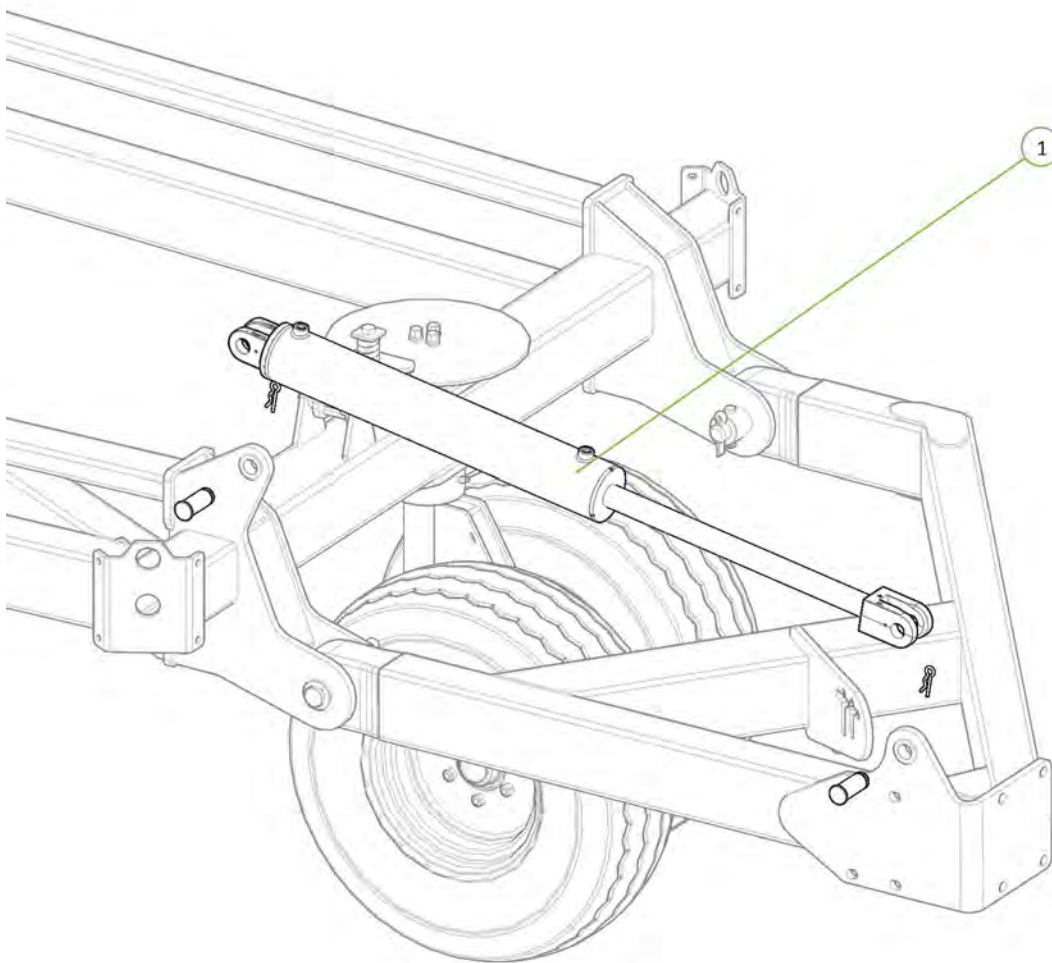




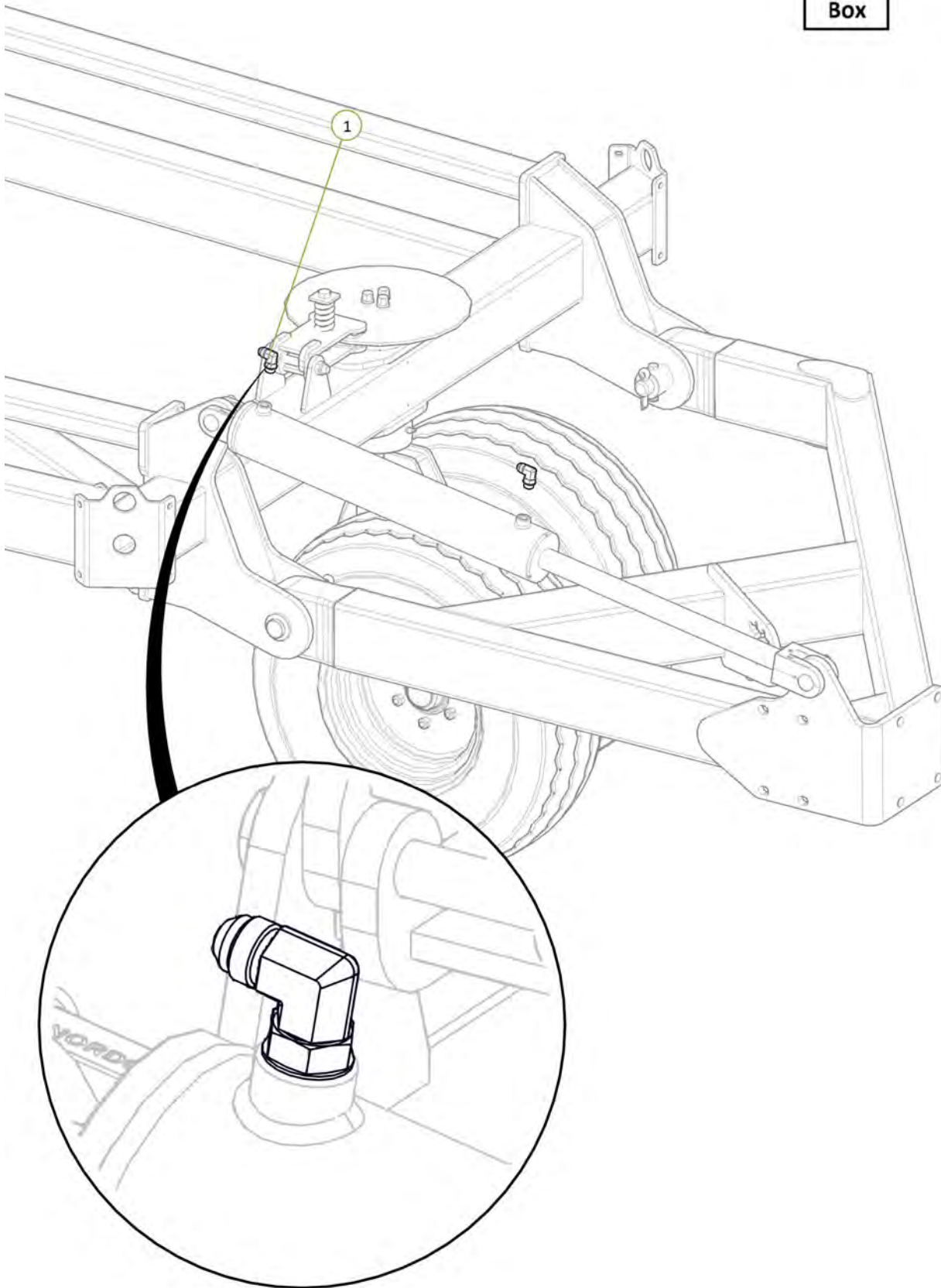
Item No.	Description	Qty	Number
1	PCH Wing Pivot Pin	2	0801-10-08-235
2	M12 x 75 grade 8.8 ZP Bolt	2	0211-1275
3	Cotter Pin M13 x 63	2	0261-PINC1363
4	Nyloc Nut M12	2	0221-NYL12



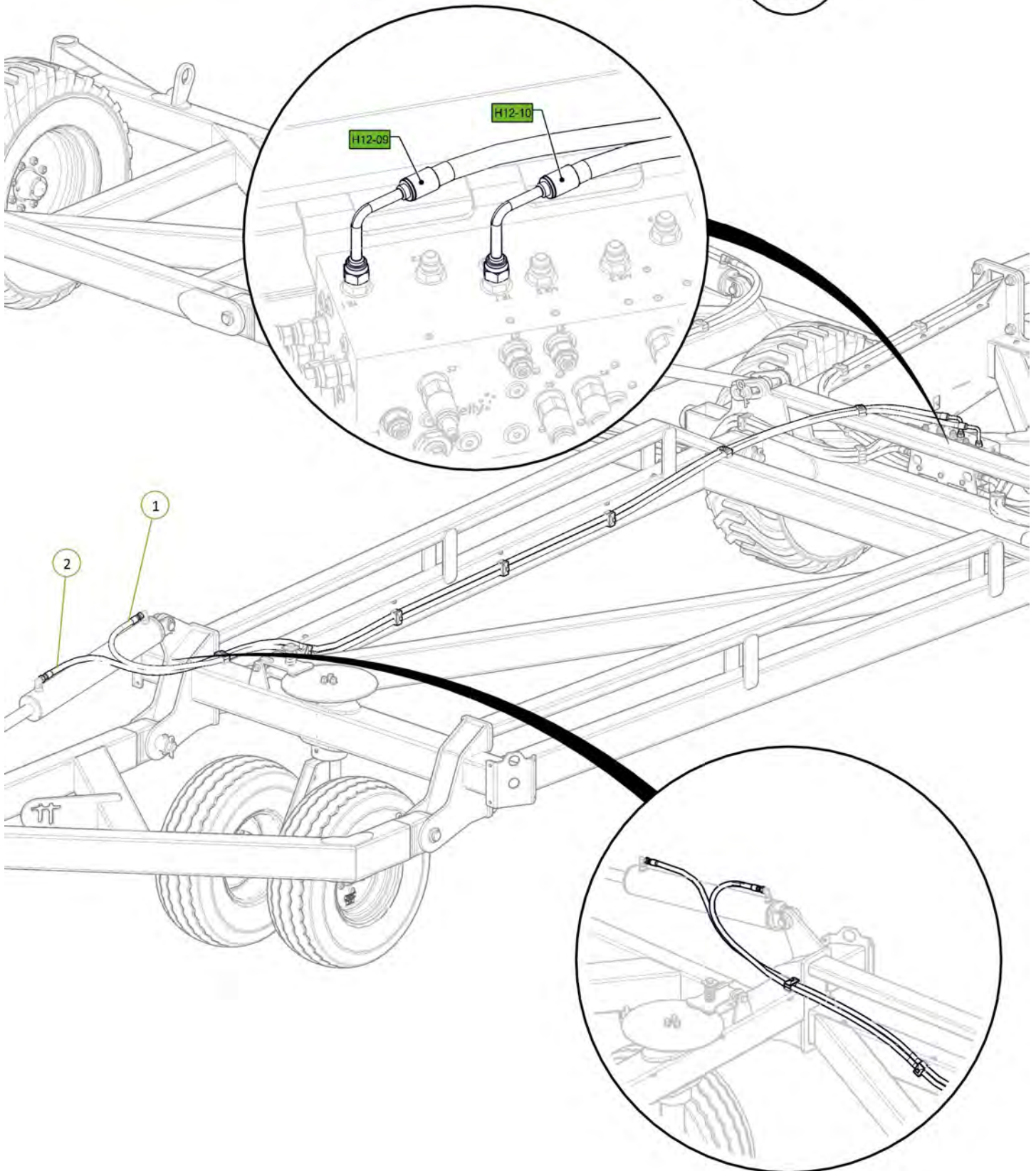
Item No.	Description	Qty	Number
1	4" Bore 24" Stroke 1.75" Rod Hydraulic Cylinder	1	0311-424



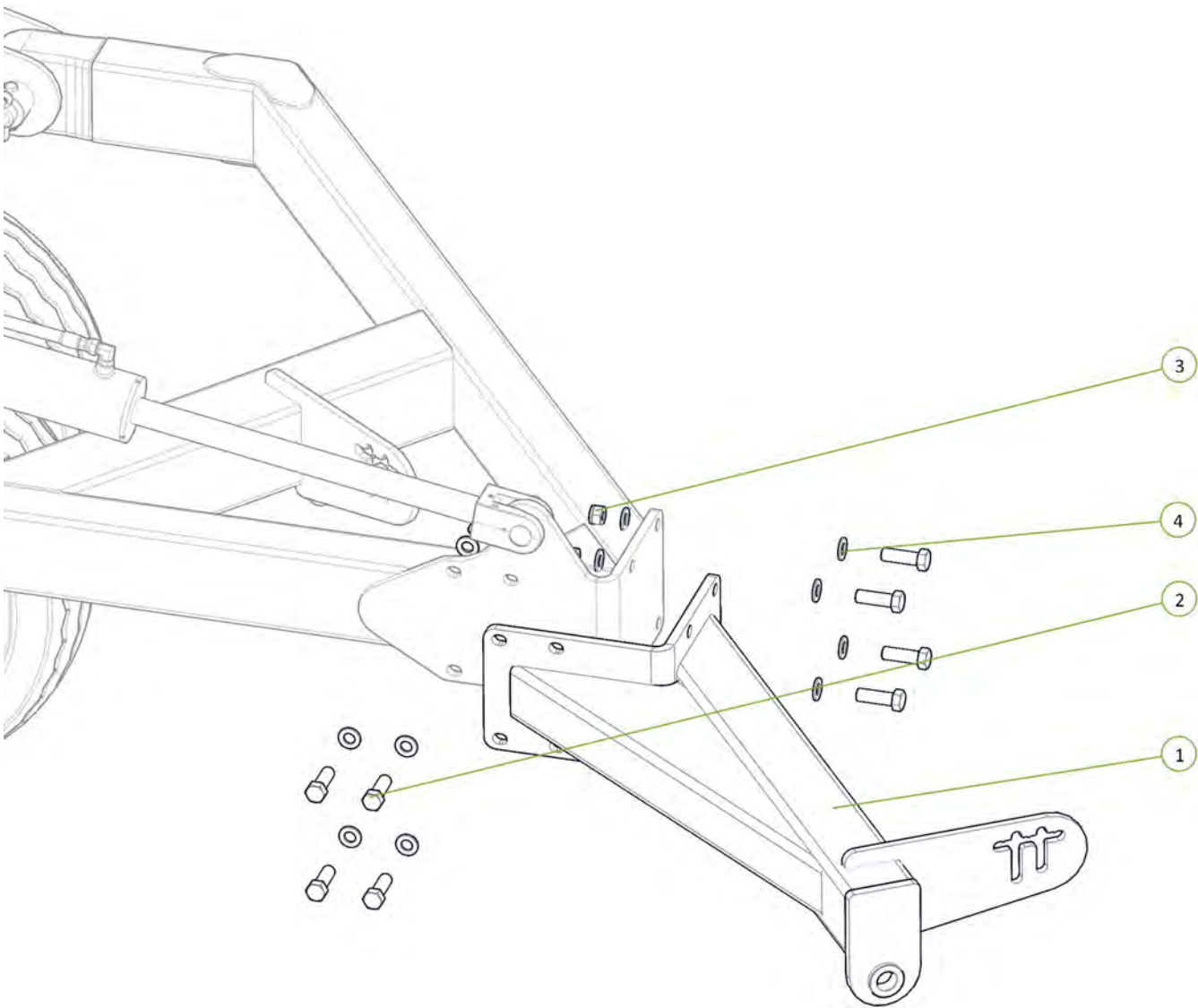
Item No.	Description	Qty	Number
1	3/4" JIC Male 3/4" UN O Ring Male 90° Elbow	2	0323-S91-1212



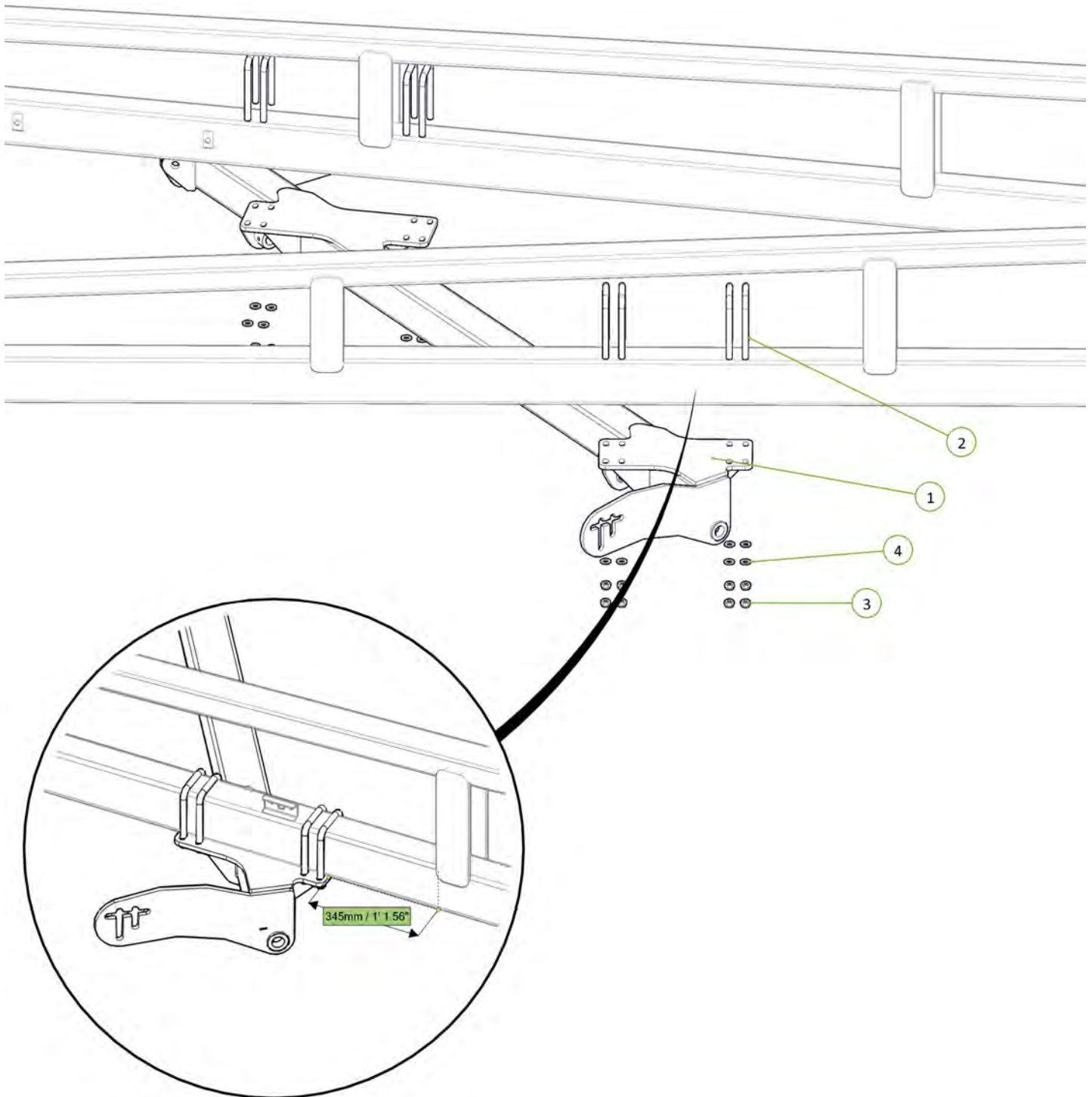
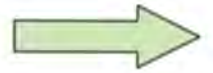
Item No.	Description	Qty	Number
1	TE1 Port to Tail Lift Cylinder Extend Port	1	H12-09
2	TR1 Port to Tail Lift Cylinder Retract Port	1	H12-10



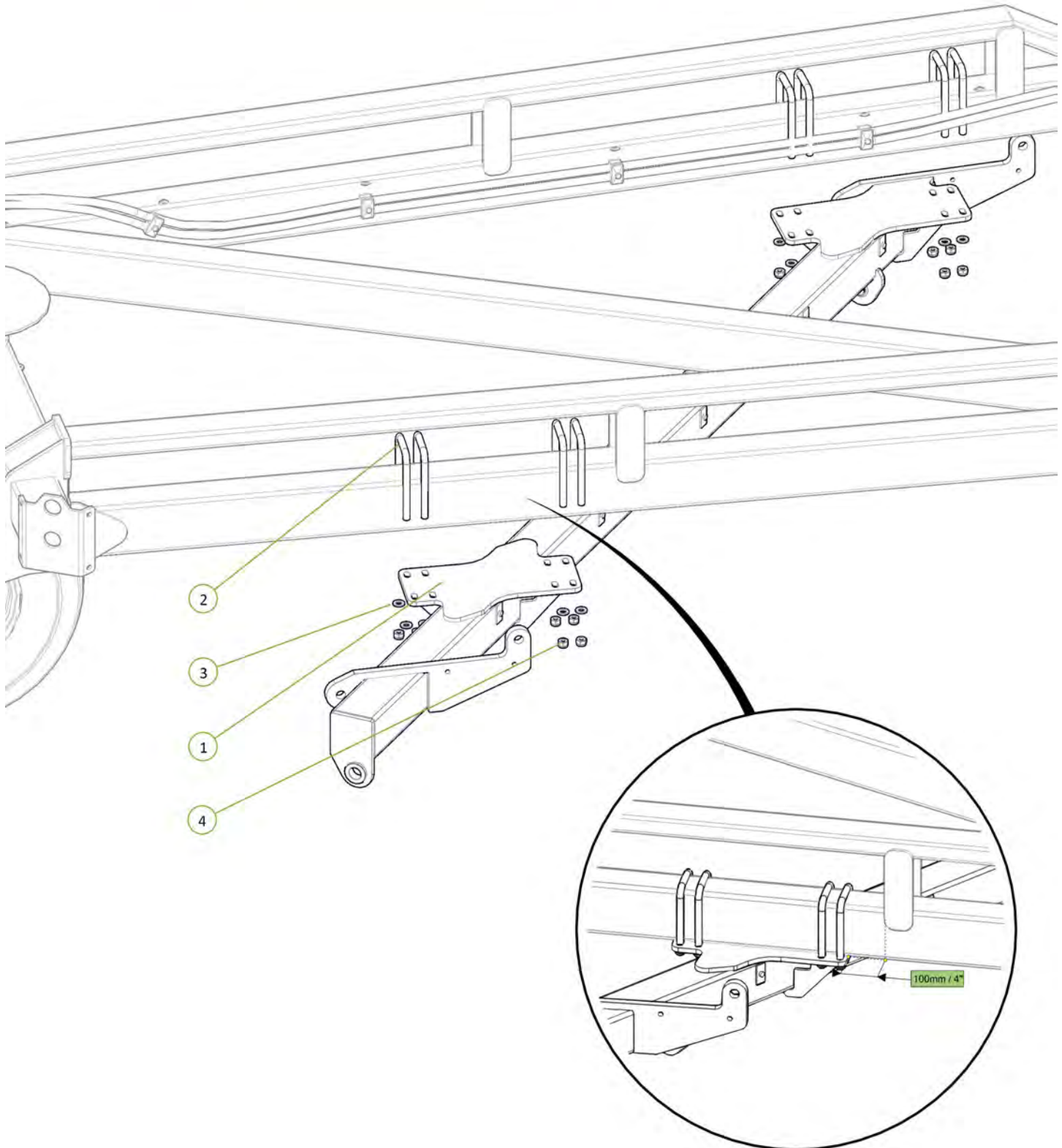
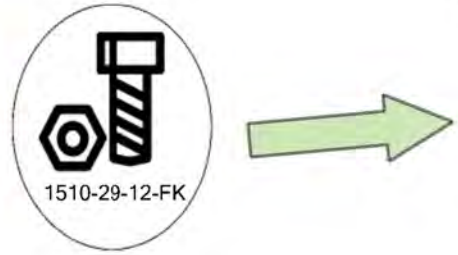
Item No.	Description	Qty	Number
1	Tail Extension	1	1510-40ST
2	M20 x 65 grade 8.8 ZP Bolt	8	0211-2065
3	Nyloc Nut M20	8	0221-NYL20
4	Washer Flat M20	16	0231-F20



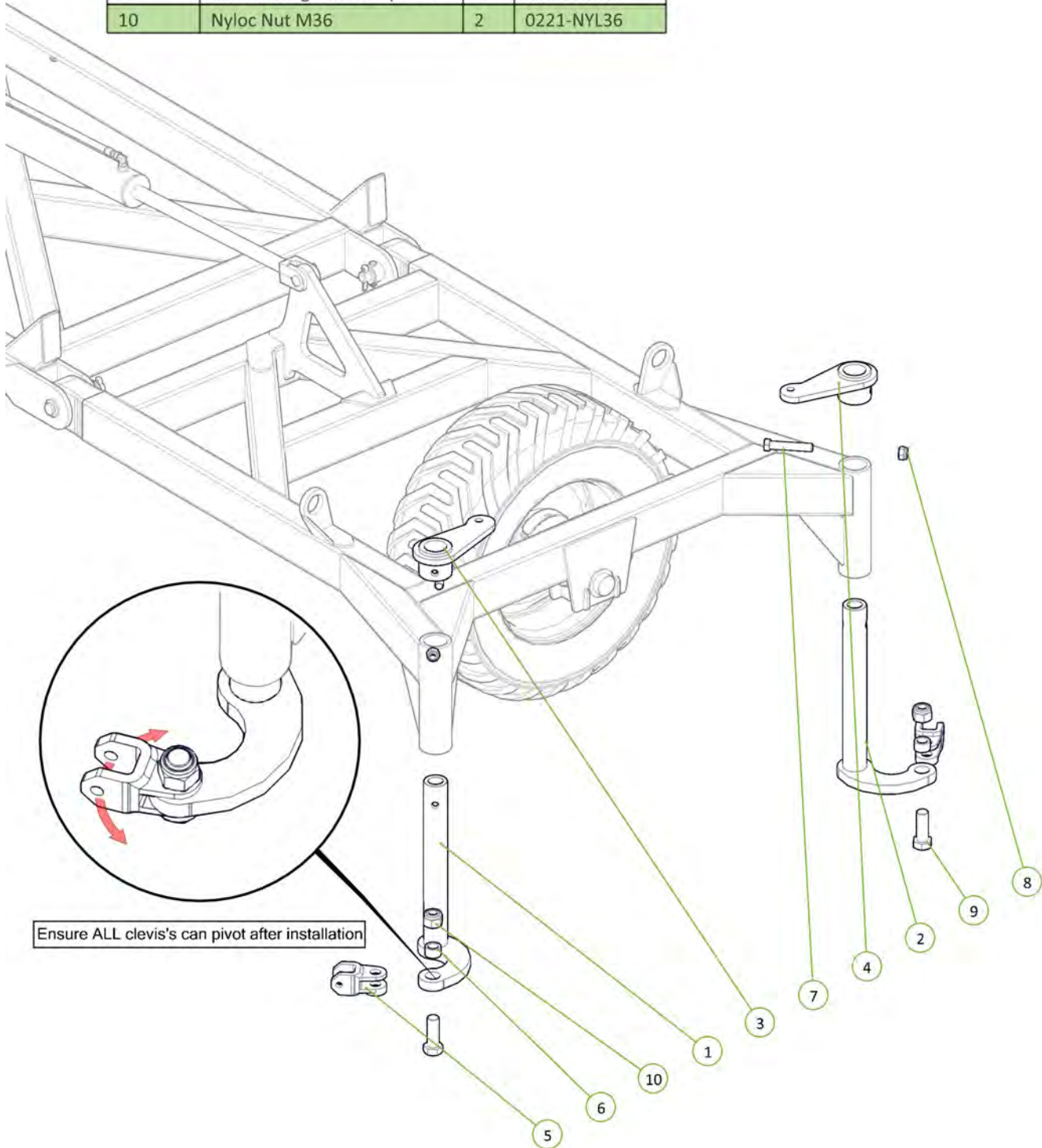
Item No.	Description	Qty	Number
1	40' Front Module	1	1510-28-12
2	U-Bolt M16 x 190 Deep X 106 Wide	8	0271-16190106U
3	Nyloc Nut M16	16	0221-NYL16
4	Washer Flat M16	16	0231-F16



Item No.	Description	Qty	Number
1	40' Rear Module	1	1510-29-12-2
2	U-Bolt M16 x 190 Deep X 106 Wide	8	0271-16190106U
3	Washer Flat M16	16	0231-F16
4	Nyloc Nut M16	16	0221-NYL16

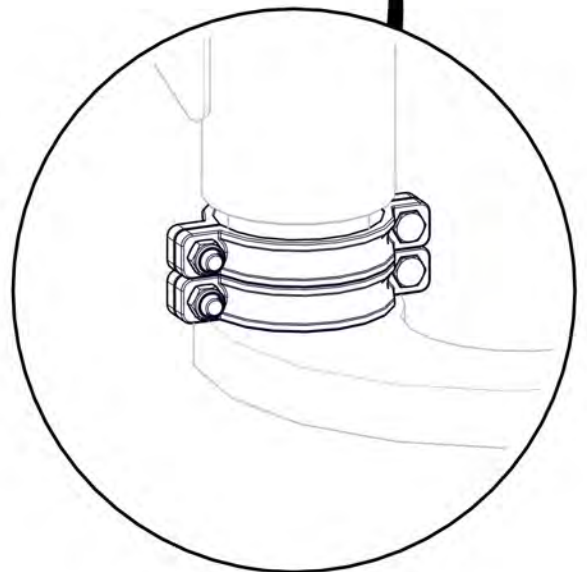
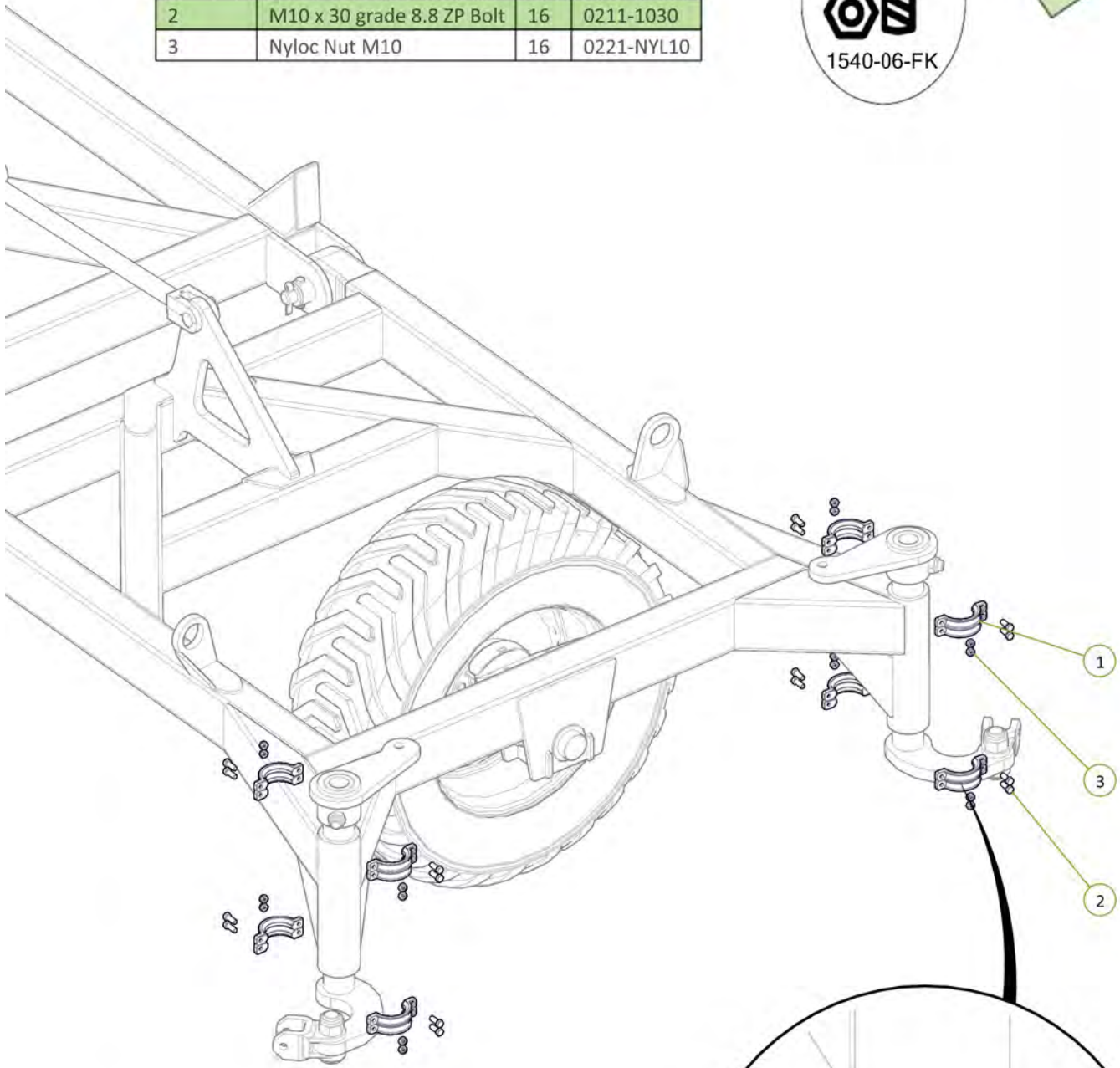


Item No.	Description	Qty	Number
1	LH Dropleg No Clevis	1	0810-24F
2	RH Dropleg No Clevis	1	0810-25F
3	LH Chain Adjusting Lug	1	0810-26
4	RH Chain Adjusting Lug	1	0810-27
5	Forged Clevis 21mm Bolt Hole	2	0801-FC21
6	Stainless Steel Wear Bush	2	1501-365033-SS
7	M24 x 140 grade 8.8 zp Bolt	2	0211-24140
8	Nyloc Nut M24	2	0221-NYL24
9	M36 x 105 grade 8.8 zp Bolt	2	0211-36105
10	Nyloc Nut M36	2	0221-NYL36

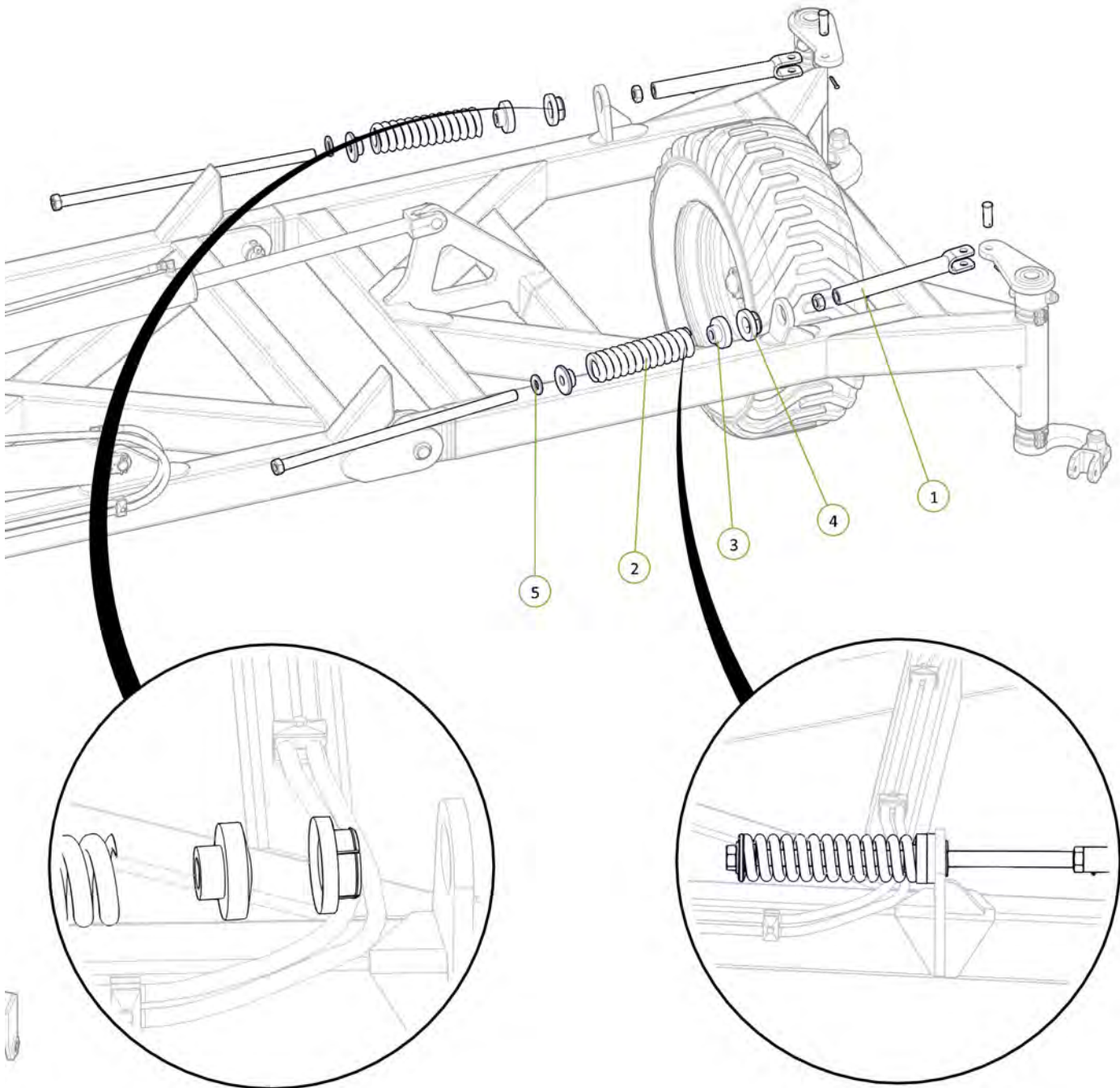




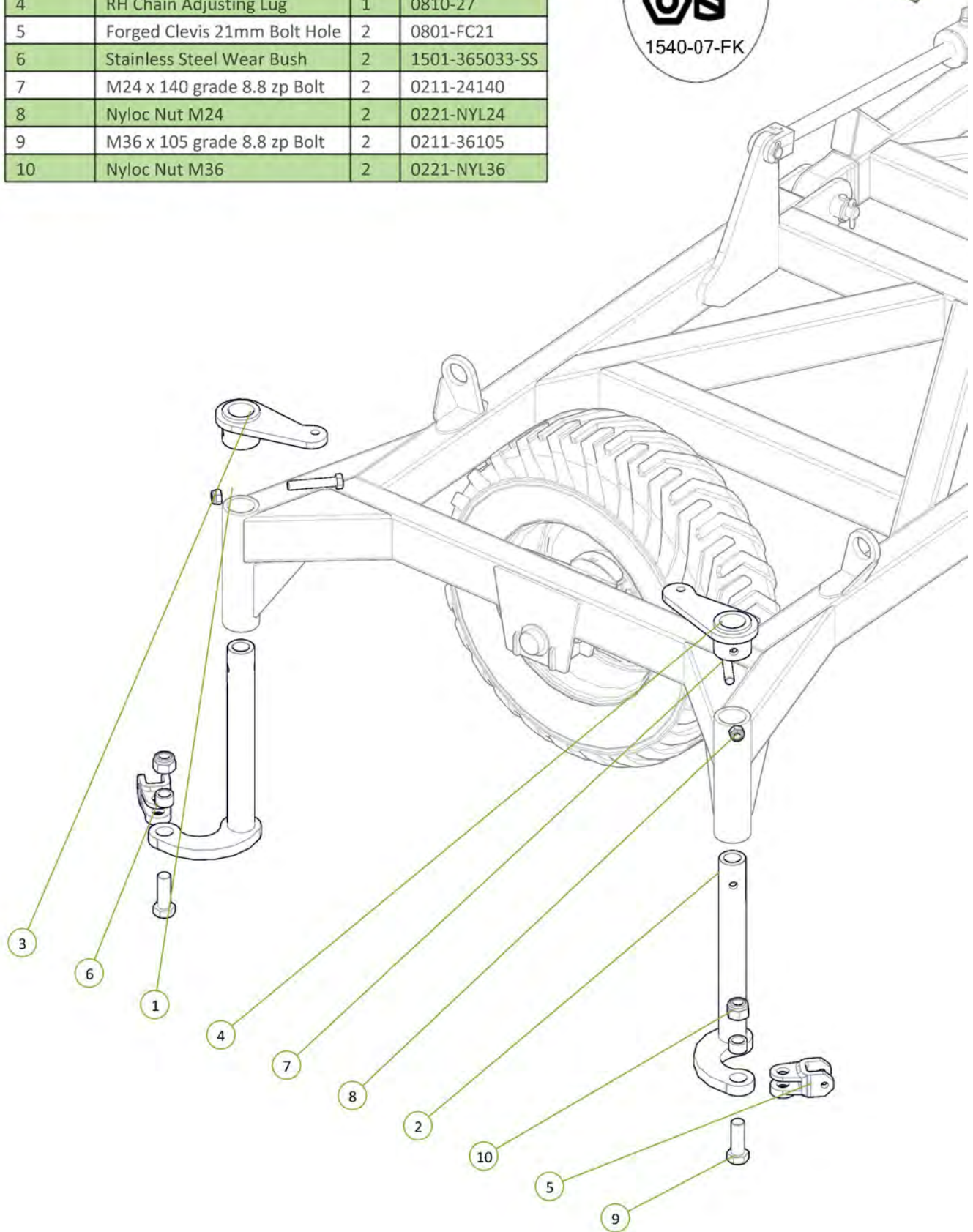
Item No.	Description	Qty	Number
1	Cast 25mm Spacing	16	0801-CS25
2	M10 x 30 grade 8.8 ZP Bolt	16	0211-1030
3	Nyloc Nut M10	16	0221-NYL10



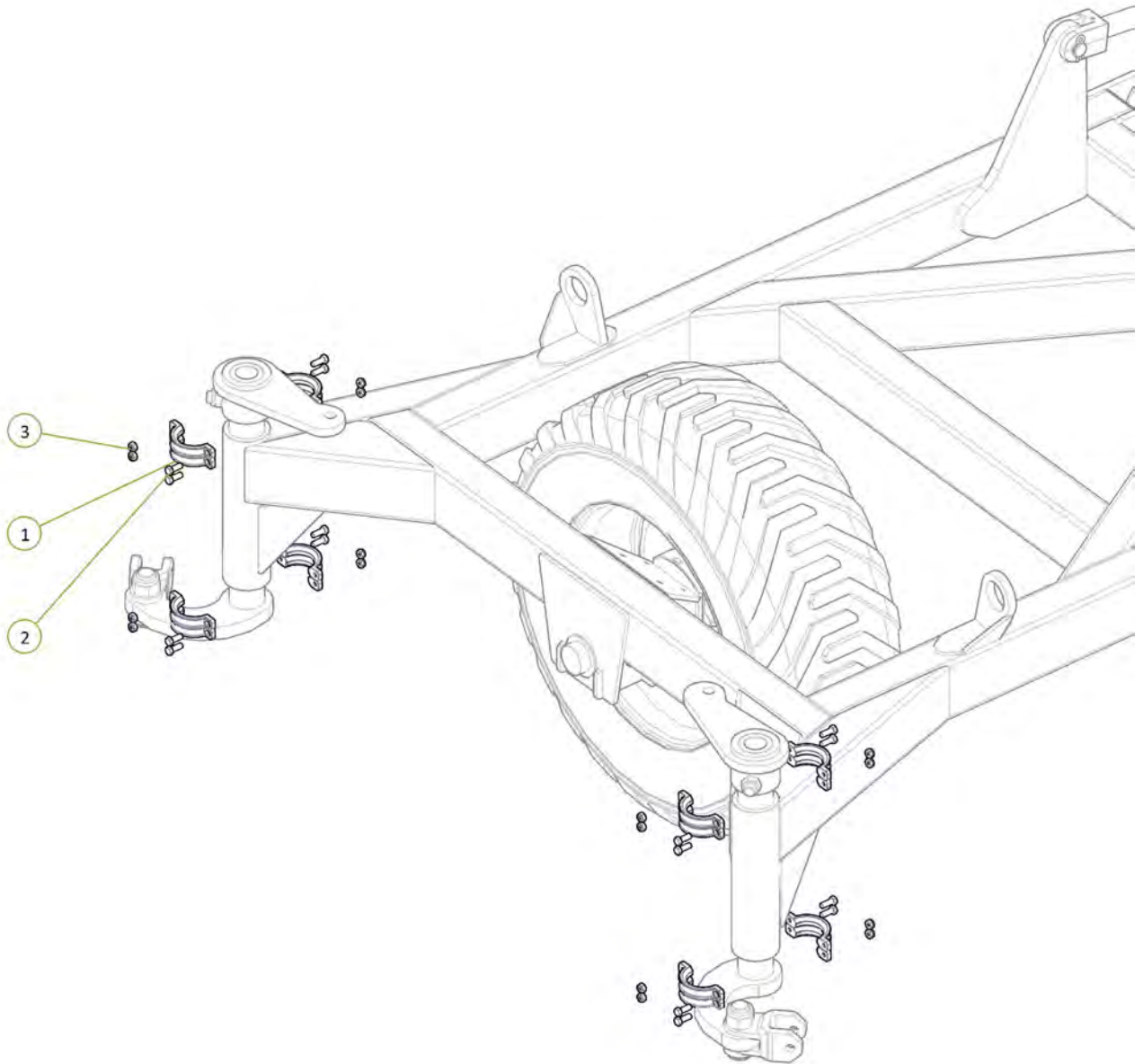
Item No.	Description	Qty	Number
1	Chain Tension Adjustor	2	0802-PCHTA
2	20mm Compression Spring	2	0801-XK9261S
3	Tensioner Cup - Male	2	0801-KE0805-3
4	Female Spring Locator	2	0801-KE0805-4
5	Washer High Tensile 1 1/4"	2	0232-HT11-4



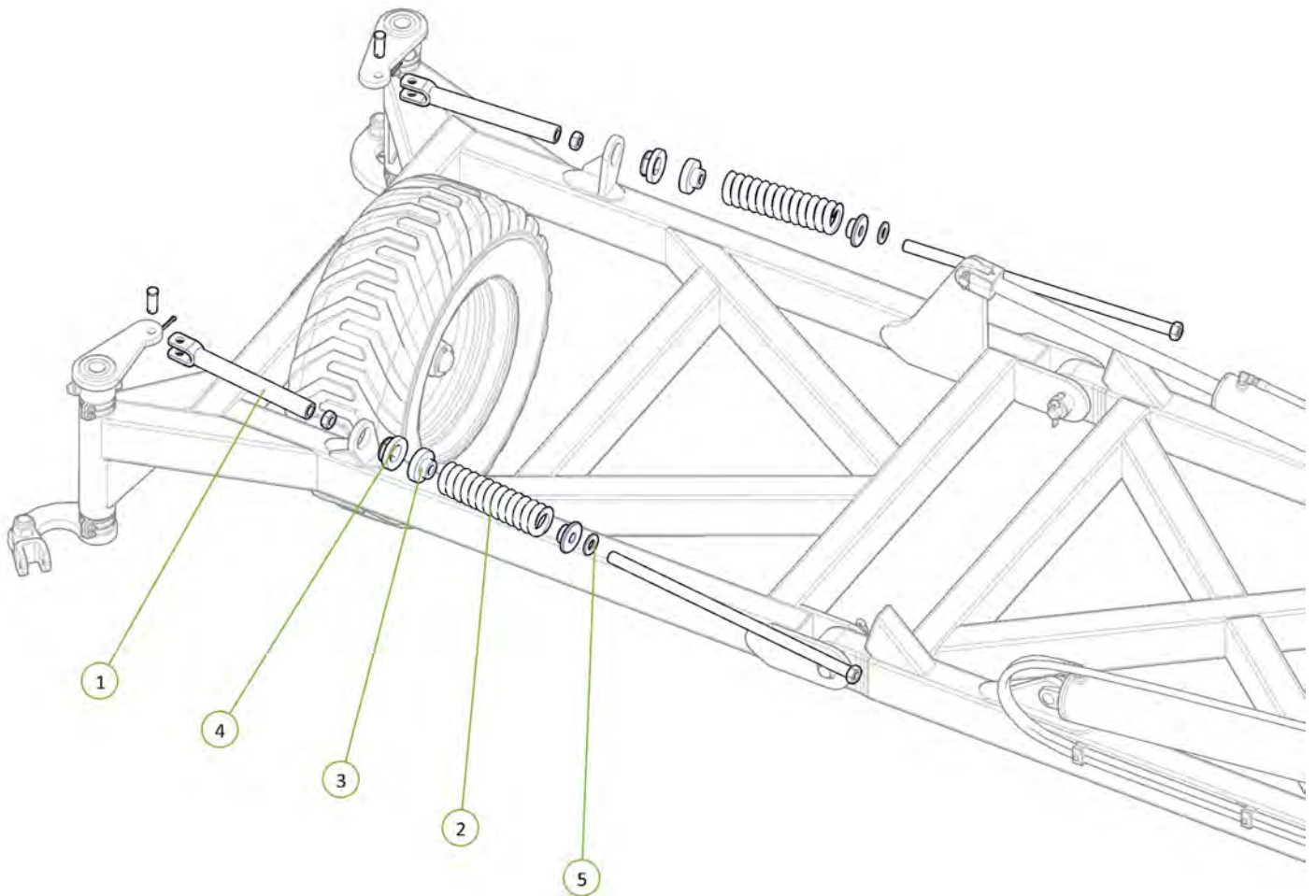
Item No.	Description	Qty	Number
1	LH Dropleg No Clevis	1	0810-24F
2	RH Dropleg No Clevis	1	0810-25F
3	LH Chain Adjusting Lug	1	0810-26
4	RH Chain Adjusting Lug	1	0810-27
5	Forged Clevis 21mm Bolt Hole	2	0801-FC21
6	Stainless Steel Wear Bush	2	1501-365033-SS
7	M24 x 140 grade 8.8 zp Bolt	2	0211-24140
8	Nyloc Nut M24	2	0221-NYL24
9	M36 x 105 grade 8.8 zp Bolt	2	0211-36105
10	Nyloc Nut M36	2	0221-NYL36

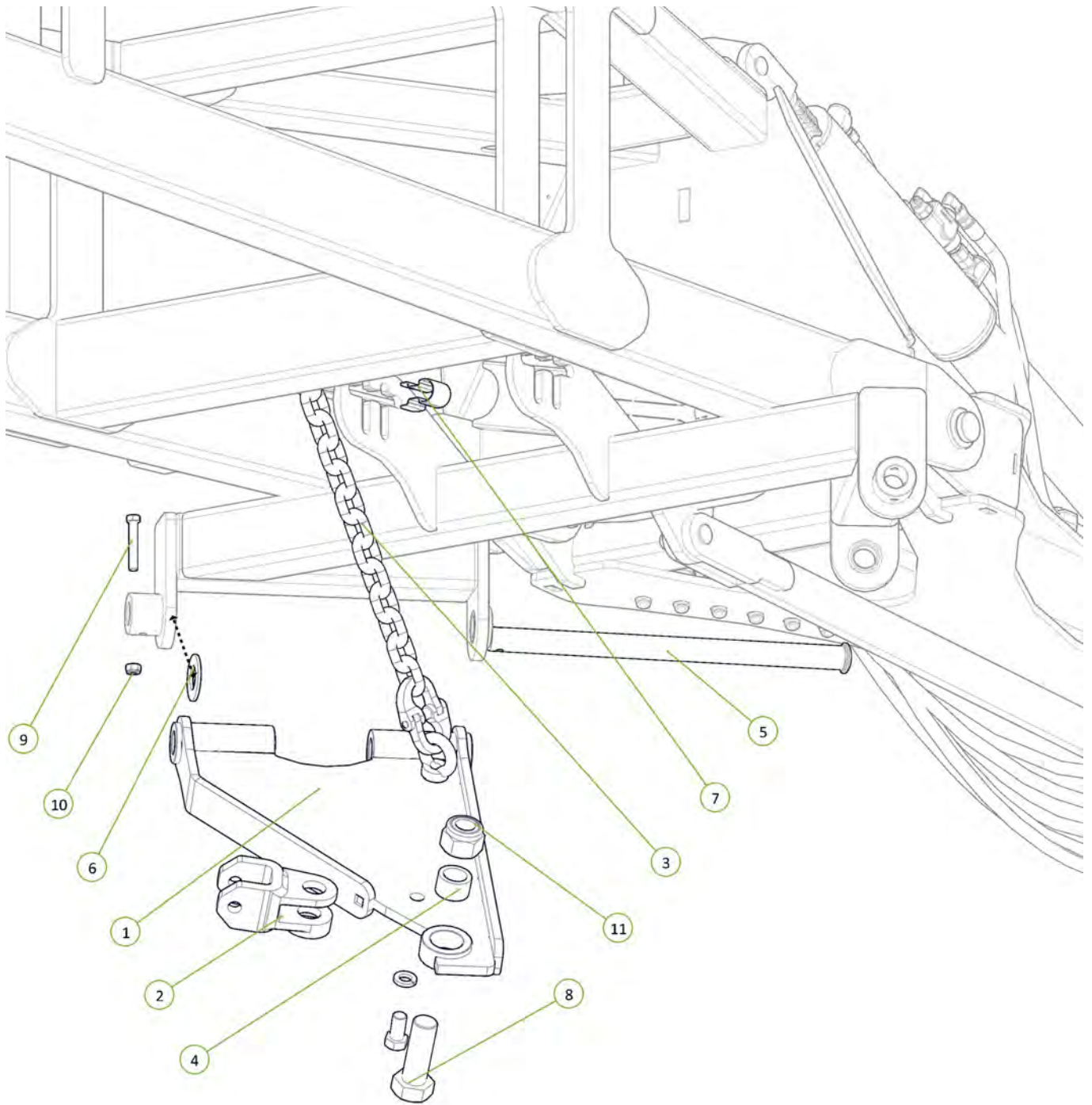


Item No.	Description	Qty	Number
1	Cast 25mm Spacing	16	0801-CS25
2	M10 x 30 grade 8.8 ZP Bolt	16	0211-1030
3	Nyloc Nut M10	16	0221-NYL10

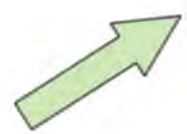


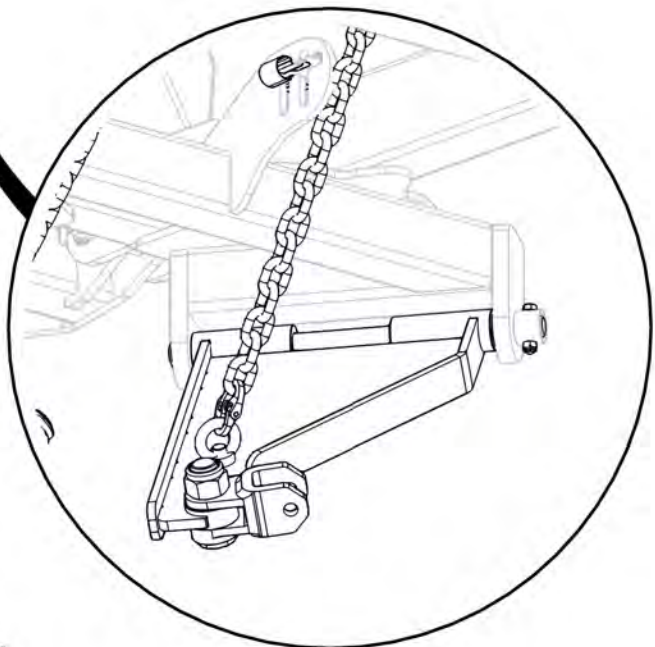
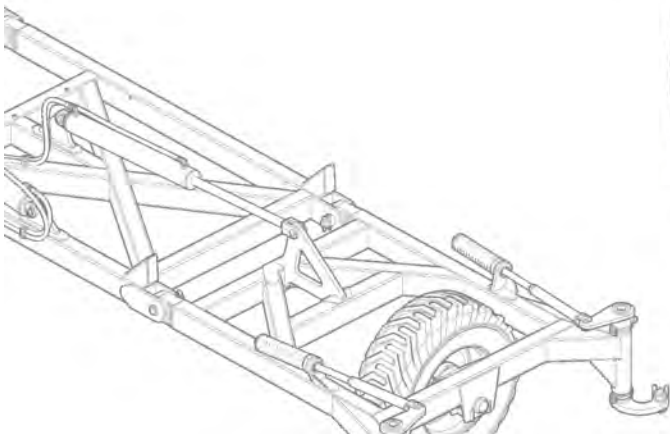
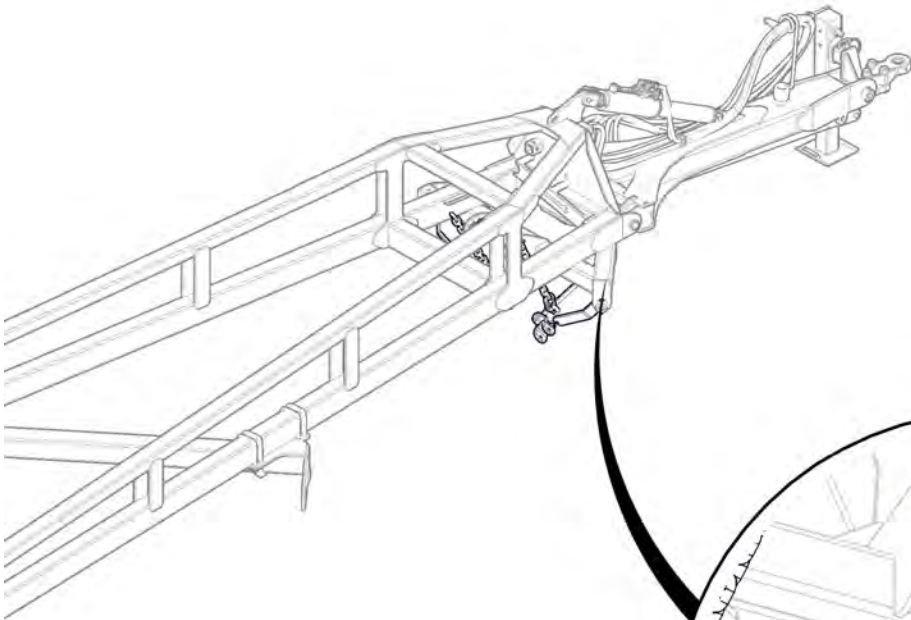
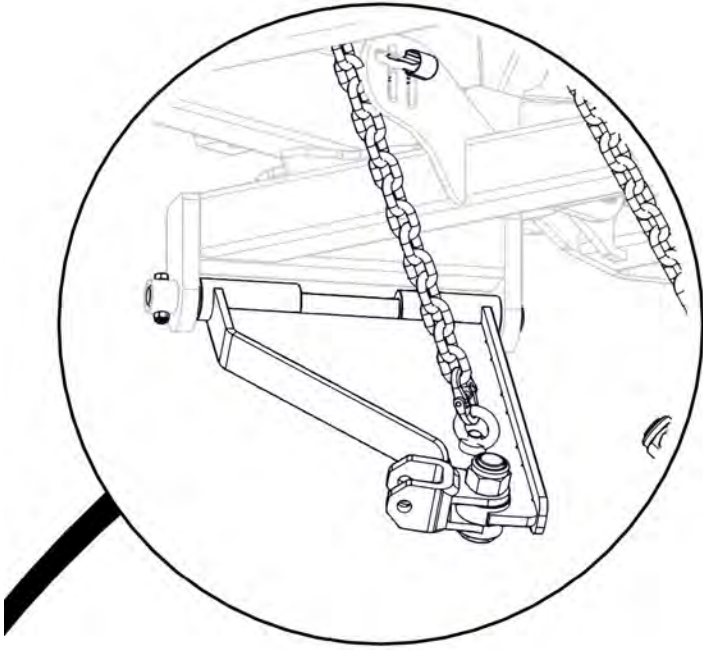
Item No.	Description	Qty	Number
1	Chain Tension Adjustor	2	0802-PCHTA
2	20mm Compression Spring	2	0801-XK9261S
3	Tensioner Cup - Male	2	0801-KE0805-3
4	Female Spring Locator	2	0801-KE0805-4
5	Washer High Tensile 1 1/4"	2	0232-HT11-4



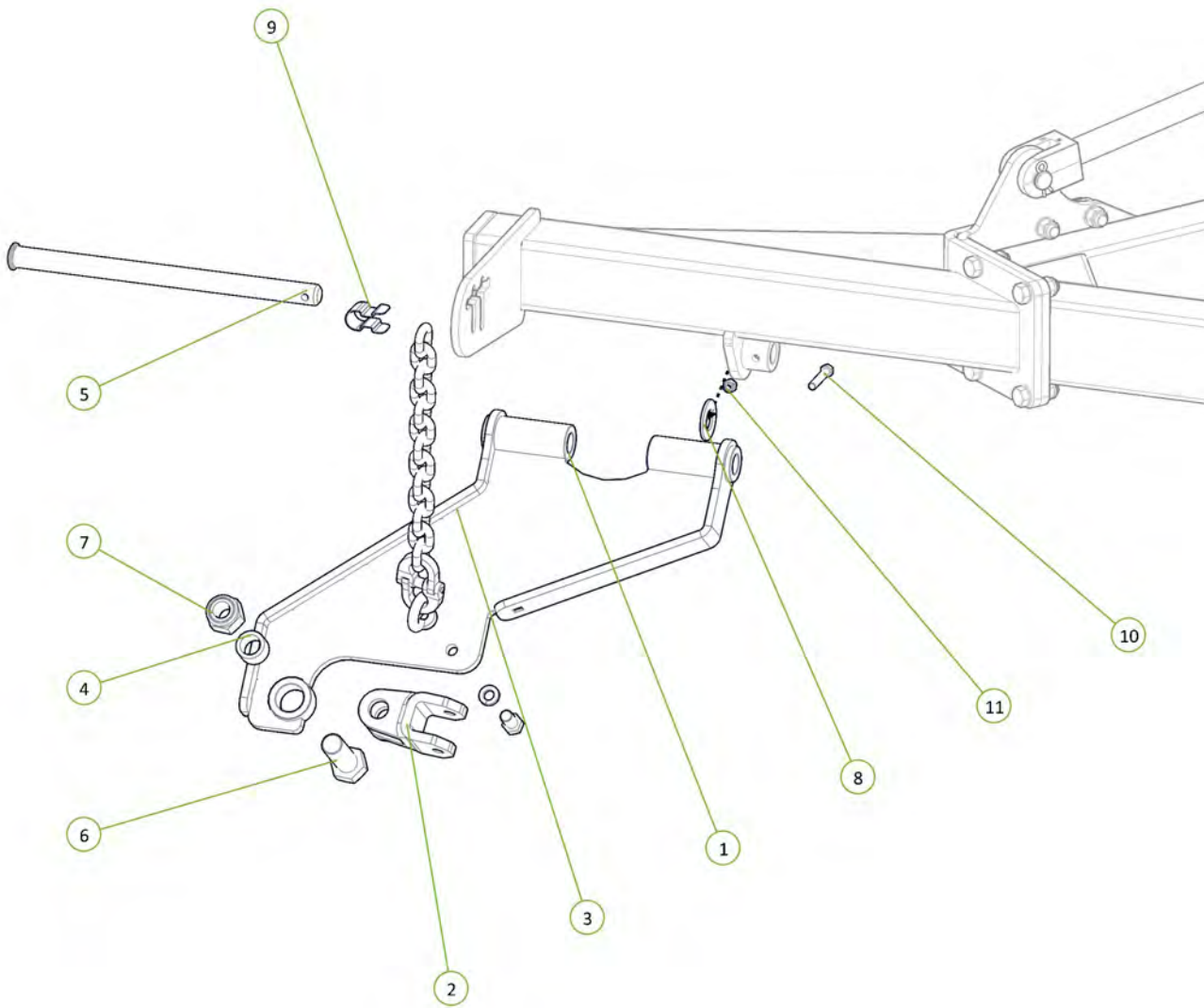
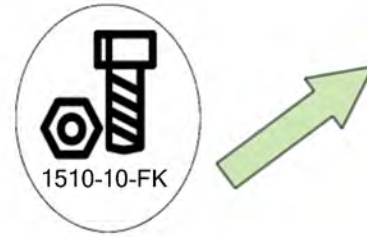


Item No.	Description	Qty	Number
1	Standard Chain Mount Plate	1	0810-20
2	Forged Clevis 21mm Bolt Hole	1	0801-FC21
3	Height Adjusting Chain Assembly 13 Link	1	0801-20MCA
4	Stainless Steel Wear Bush	1	1501-365033-SS
5	Chain Mount Pivot Pin	1	0801-10-51
6	Washer High Tensile 1 3/8"	1	0232-HT13-8
7	Height Adjustor Retaining Clip	1	0801-KE014
8	M36 Grade 8.8 ZP Bolt	1	0211-36105
9	M12 x 75 grade 8.8 ZP Bolt	1	0211-1275
10	Nyloc Nut M12	1	0221-NYL12
11	Nyloc Nut M36	1	0221-NYL36





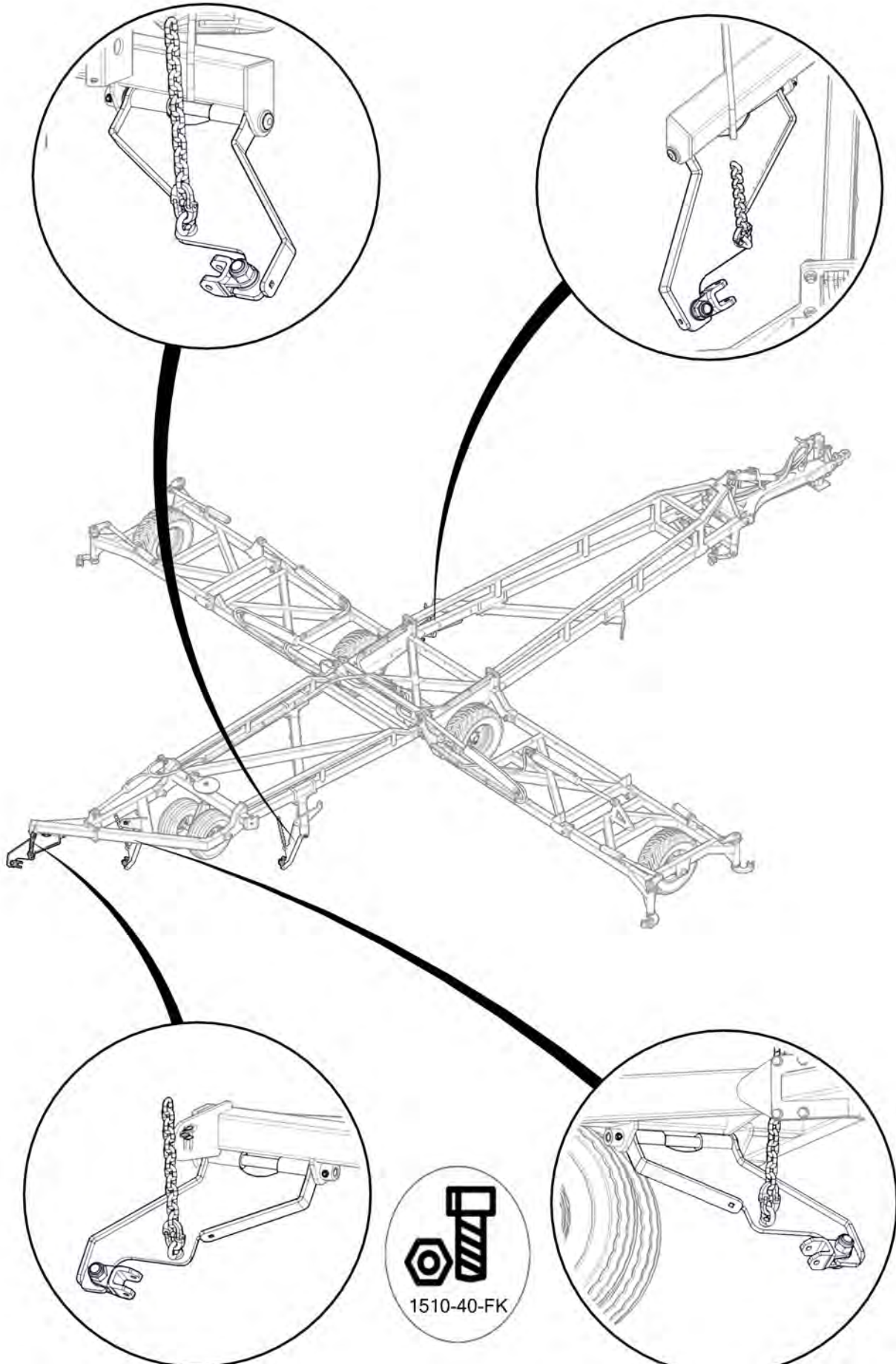
Item No.	Description	Qty	Number
1	Extended Chain Mount Plate	1	0810-21
2	Forged Clevis 21mm Bolt Hole	1	0801-FC21
3	Height Adjusting Chain Assembly 13 Link	1	0801-20MCA
4	Stainless Steel Wear Bush	1	1501-365033-SS
5	Chain Mount Pivot Pin	1	0801-10-51
6	M36 x 105 grade 8.8 zp Bolt	1	0211-36105
7	Nyloc Nut M36	1	0221-NYL36
8	Washer High Tensile 1 3/8"	1	0232-HT13-8
9	Height Adjustor Retaining Clip	1	0801-KE014
10	M12 x 75 grade 8.8 ZP Bolt	1	0211-1275
11	Nyloc Nut M12	1	0221-NYL12



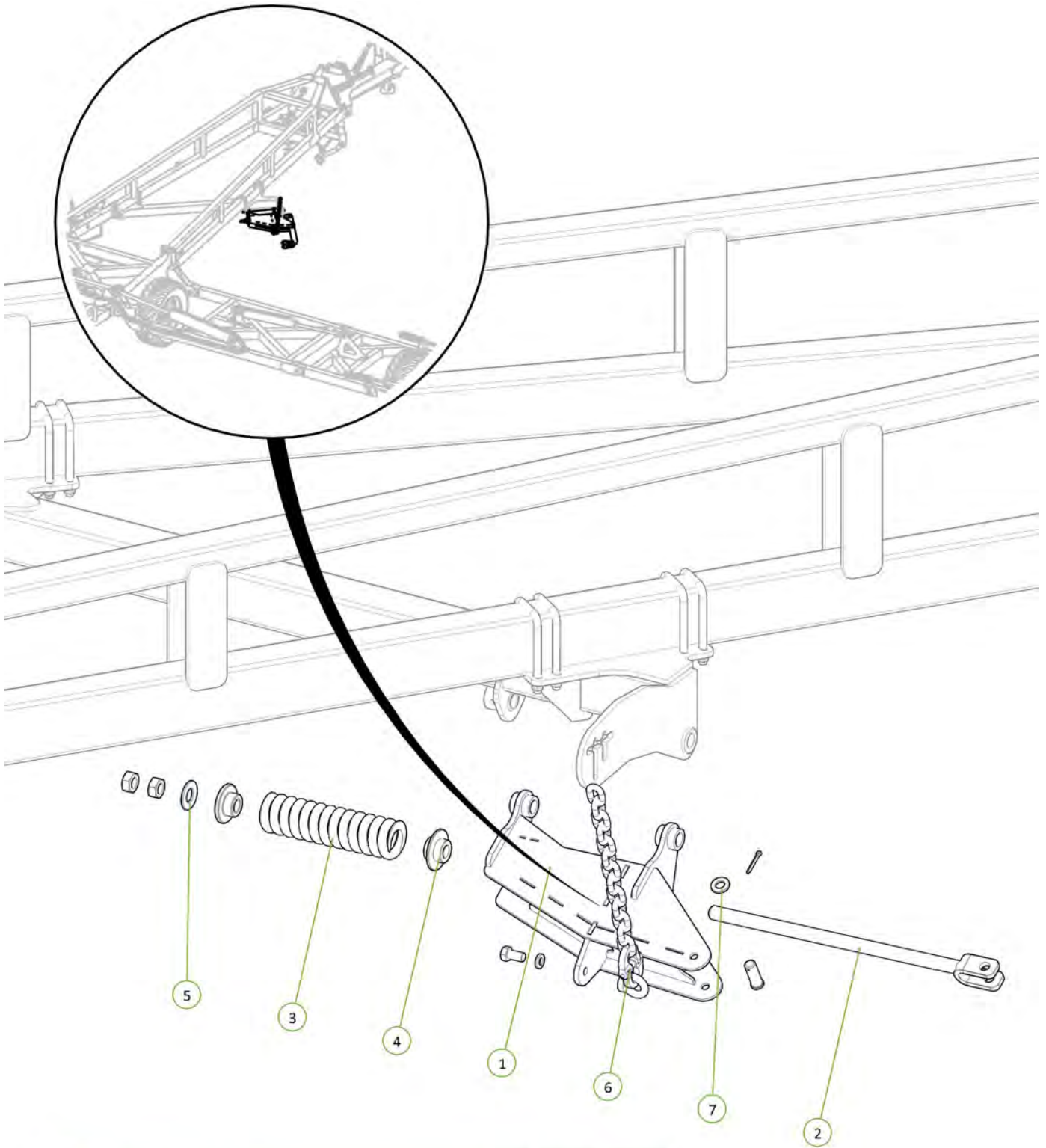


1510-29-12-FK

1510-28-12-FK

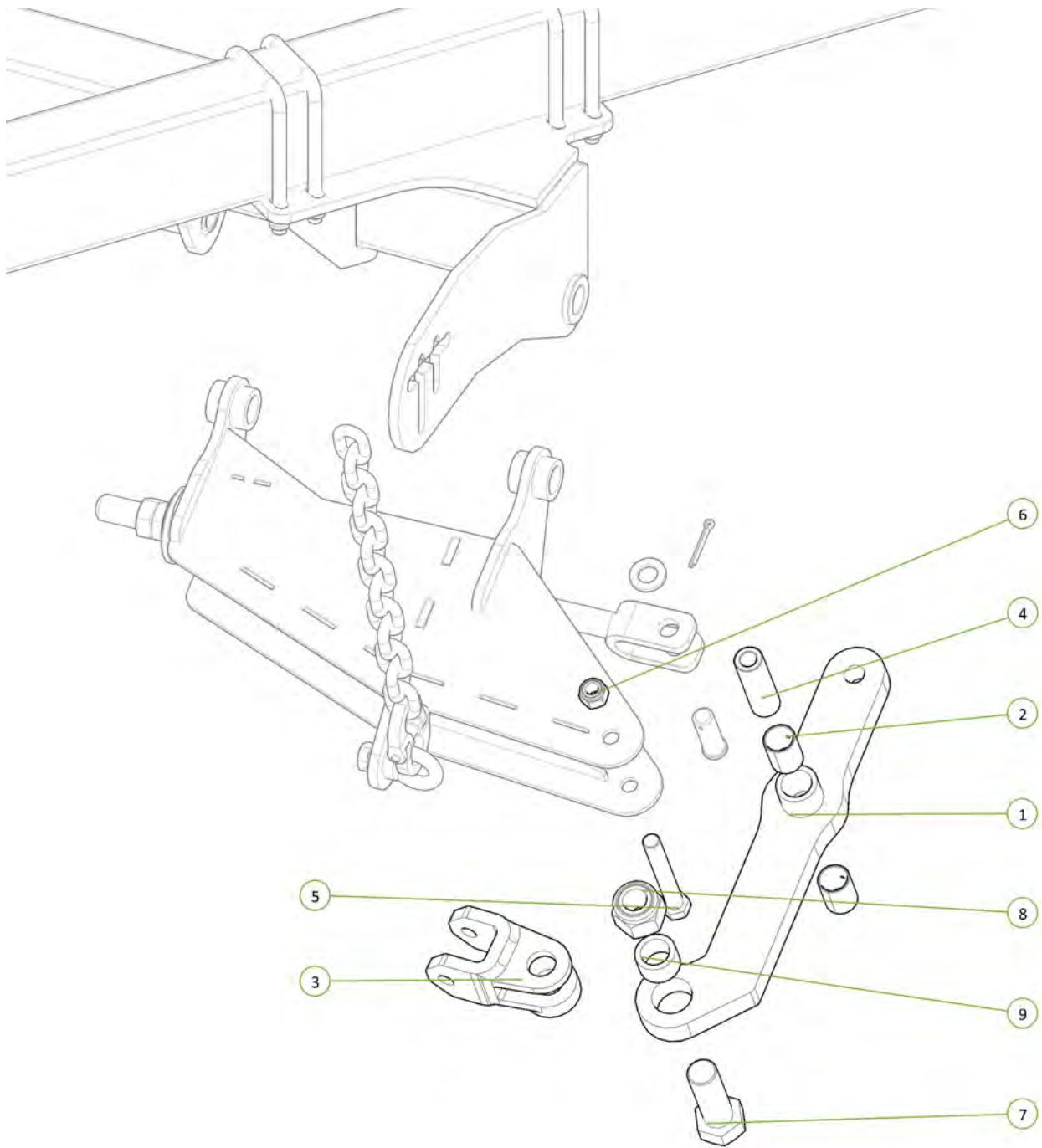


1510-40-FK



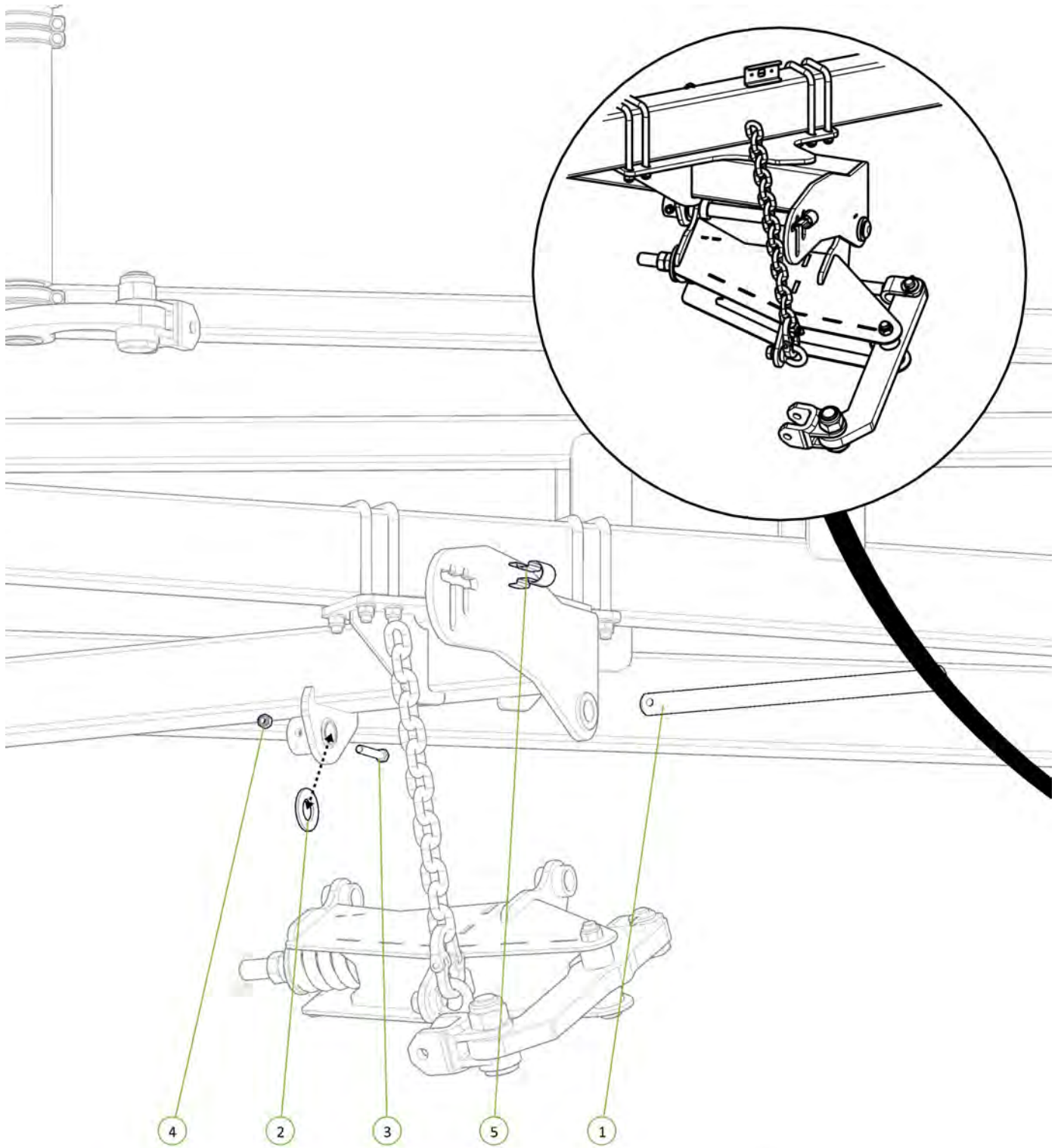
Item No.	Description	Qty	Number
1	Rear Module Tension Body	1	0810-103R
2	Module Tension Rod Assembly	1	0810-105A
3	20mm Compression Spring	1	0801-XK9261S
4	Rigid Spring Locator	1	0801-10-S2L
5	Washer High Tensile 1 3/8"	1	0232-HT13-8
6	Height Adjusting Chain Assembly 13 Link	1	0801-20MCA
7	Washer Flat M24	1	0231-F24



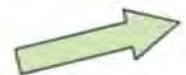


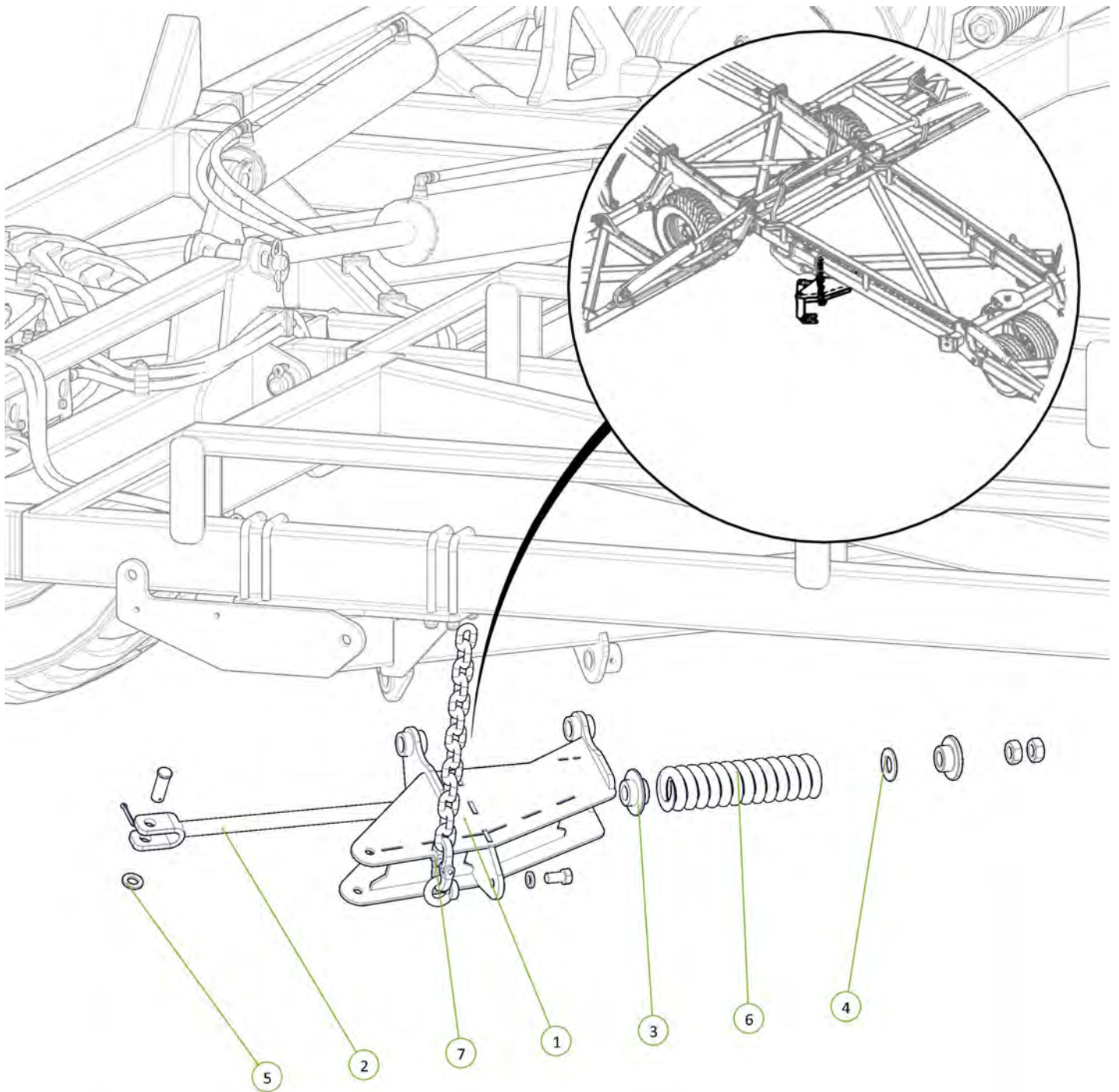
Item No.	Description	Qty	Number
1	Module Tension Arm No Clevis	1	0810-104F
2	35 ID x 50mm DX Bush	2	0113-MB 3550DX
3	Forged Clevis 21mm Bolt Hole	1	0801-FC21
4	Module Pivot Arm Bush	1	0801-10-110
5	M20 x 150 grade 8.8 ZP Bolt	1	0211-20150
6	Nyloc Nut M20	1	0221-NYL20
7	M36 x 105 grade 8.8 zp Bolt	1	0211-36105
8	Nyloc Nut M36	1	0221-NYL36
9	Stainless Steel Wear Bush	1	1501-365033-SS





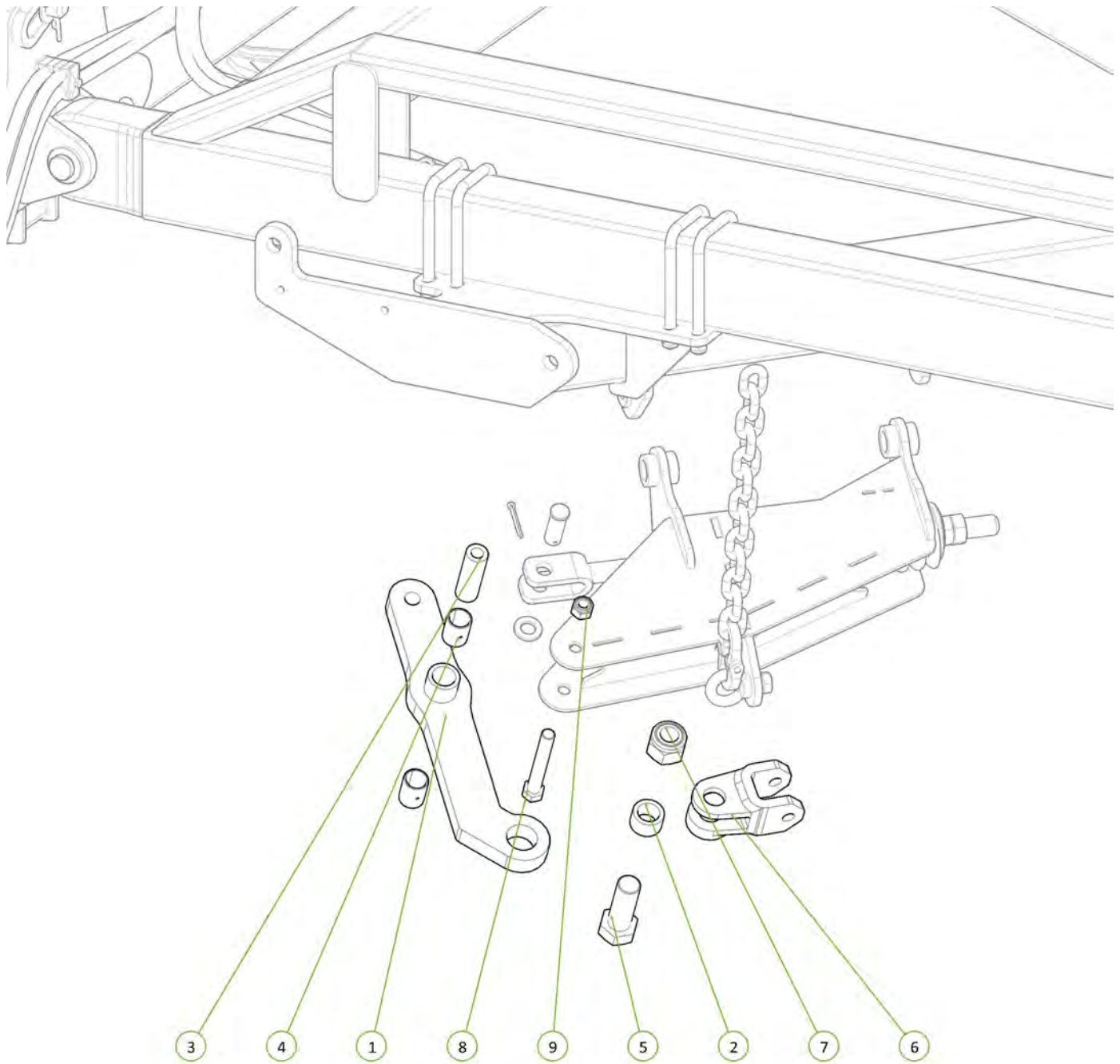
Item No.	Description	Qty	Number
1	Chain Mount Pivot Pin	1	0801-10-51
2	Washer High Tensile 1 3/8"	1	0232-HT13-8
3	M12 x 75 grade 8.8 ZP Bolt	1	0211-1275
4	Nyloc Nut M12	1	0221-NYL12
5	Height Adjustor Retaining Clip	1	0801-KE014





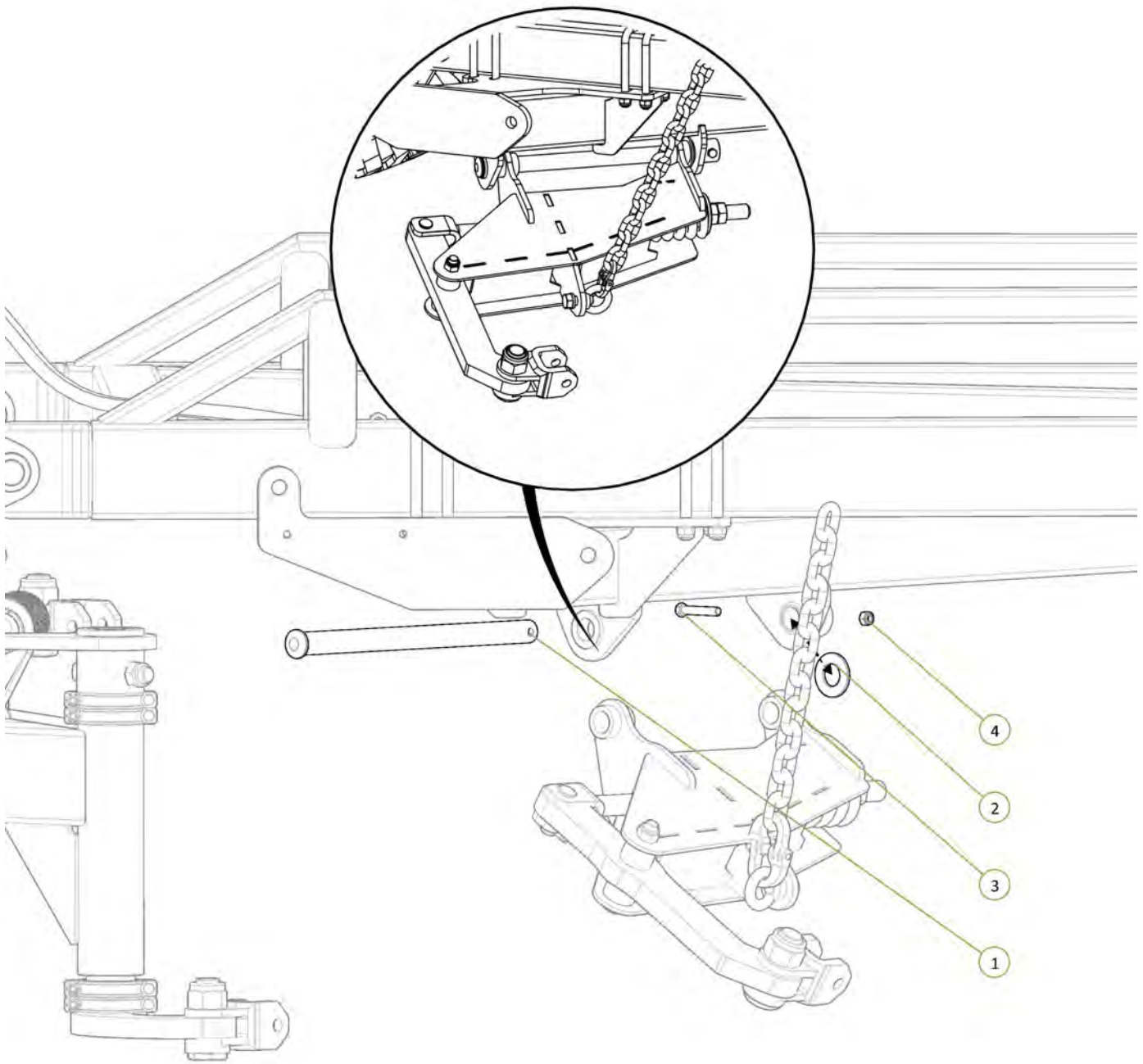
Item No.	Description	Qty	Number
1	Front Module Tension Body	1	0810-103F
2	Module Tension Rod Assembly	1	0810-105A
3	Rigid Spring Locator	1	0801-10-S2L
4	Washer High Tensile 1 3/8"	1	0232-HT13-8
5	Washer Flat M24	1	0231-F24
6	20mm Compression Spring	1	0801-XK9261S
7	Height Adjusting Chain Assembly 13 Link	1	0801-20MCA





Item No.	Description	Qty	Number
1	Module Tension Arm	1	0810-104
2	Stainless Steel Wear Bush	1	1501-365033-SS
3	Module Pivot Arm Bush	1	0801-10-110
4	35 ID x 50mm DX Bush	2	0113-MB 3550DX
5	M36 x 105 grade 8.8 zp Bolt	1	0211-36105
6	Forged Clevis 21mm Bolt Hole	1	0801-FC21
7	Nyloc Nut M36	1	0221-NYL36
8	M20 x 150 grade 8.8 ZP Bolt	1	0211-20150
9	Nyloc Nut M20	1	0221-NYL20

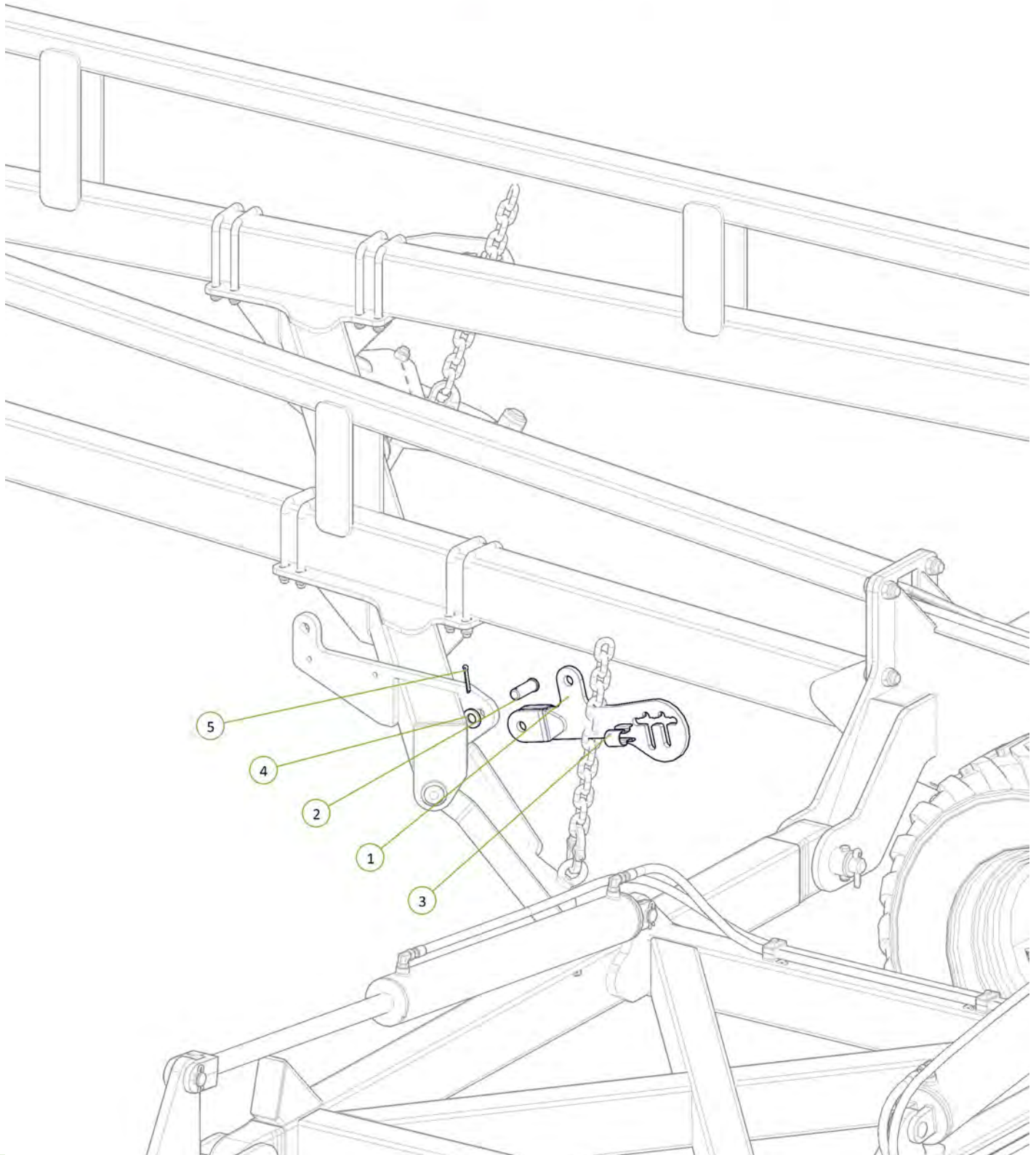




Item No.	Description	Qty	Number
1	Chain Mount Pivot Pin	1	0801-10-51
2	Washer High Tensile 1 3/8"	1	0232-HT13-8
3	M12 x 75 grade 8.8 ZP Bolt	1	0211-1275
4	Nyloc Nut M12	1	0221-NYL12

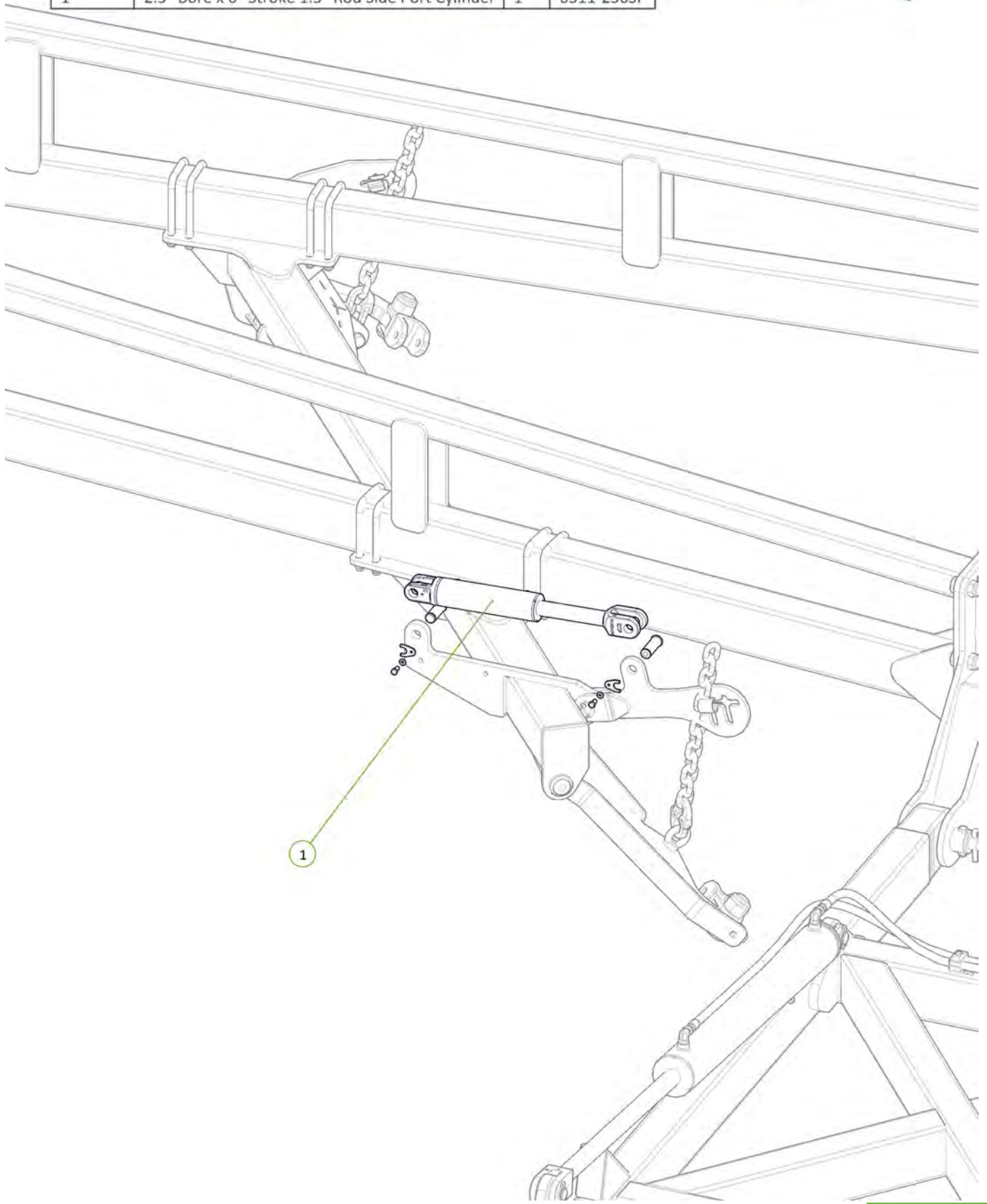


Item No.	Description	Qty	Number
1	Long Module Lift Arm	1	1610-106
2	Clevis Pin 25mm x 75mm	1	0801-KE0307-1
3	Height Adjustor Retaining Clip	1	0801-KE014
4	Washer Flat M24	1	0231-F24
5	Cotter Pin M5 x 50	1	0261-PINC550

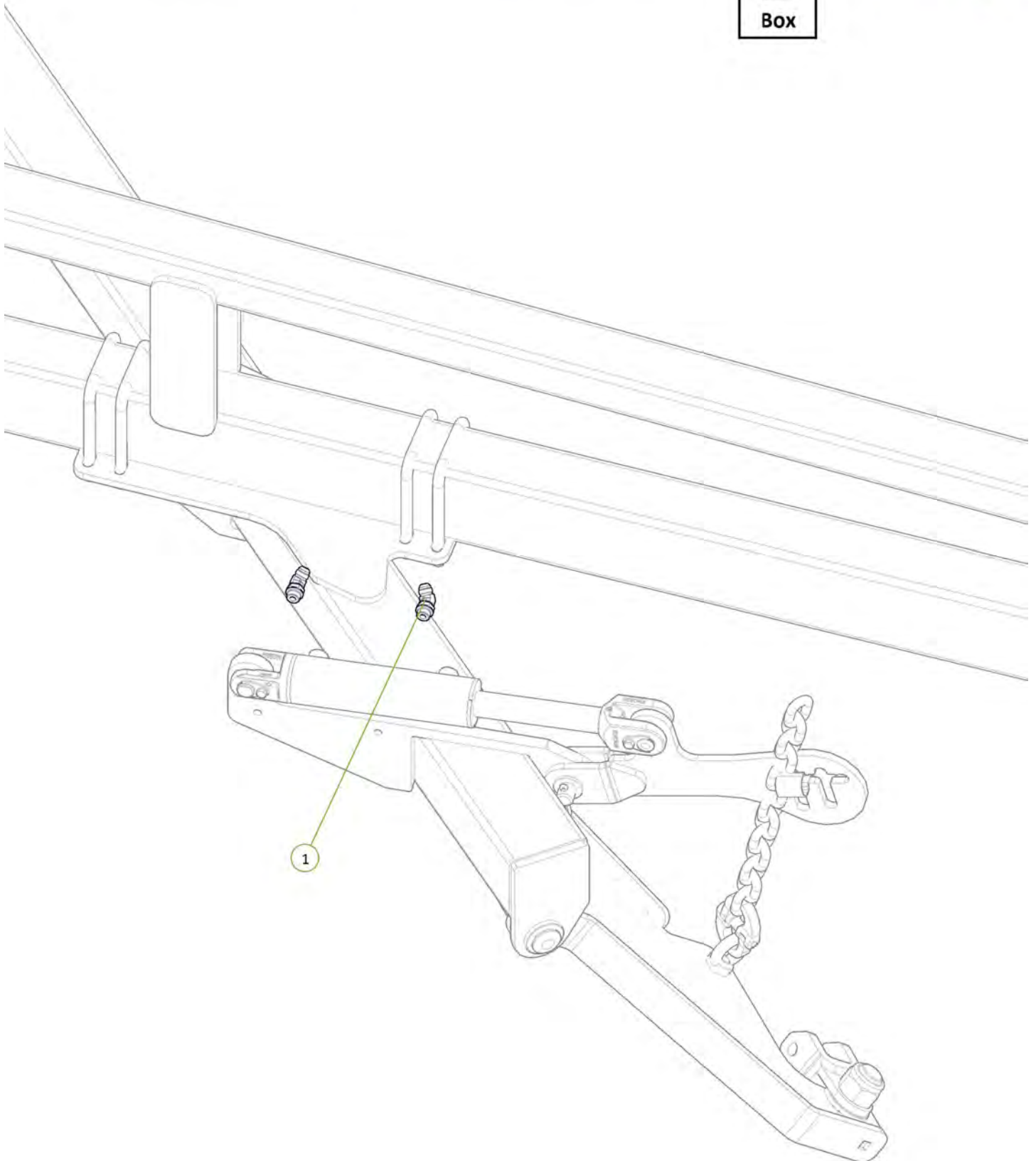




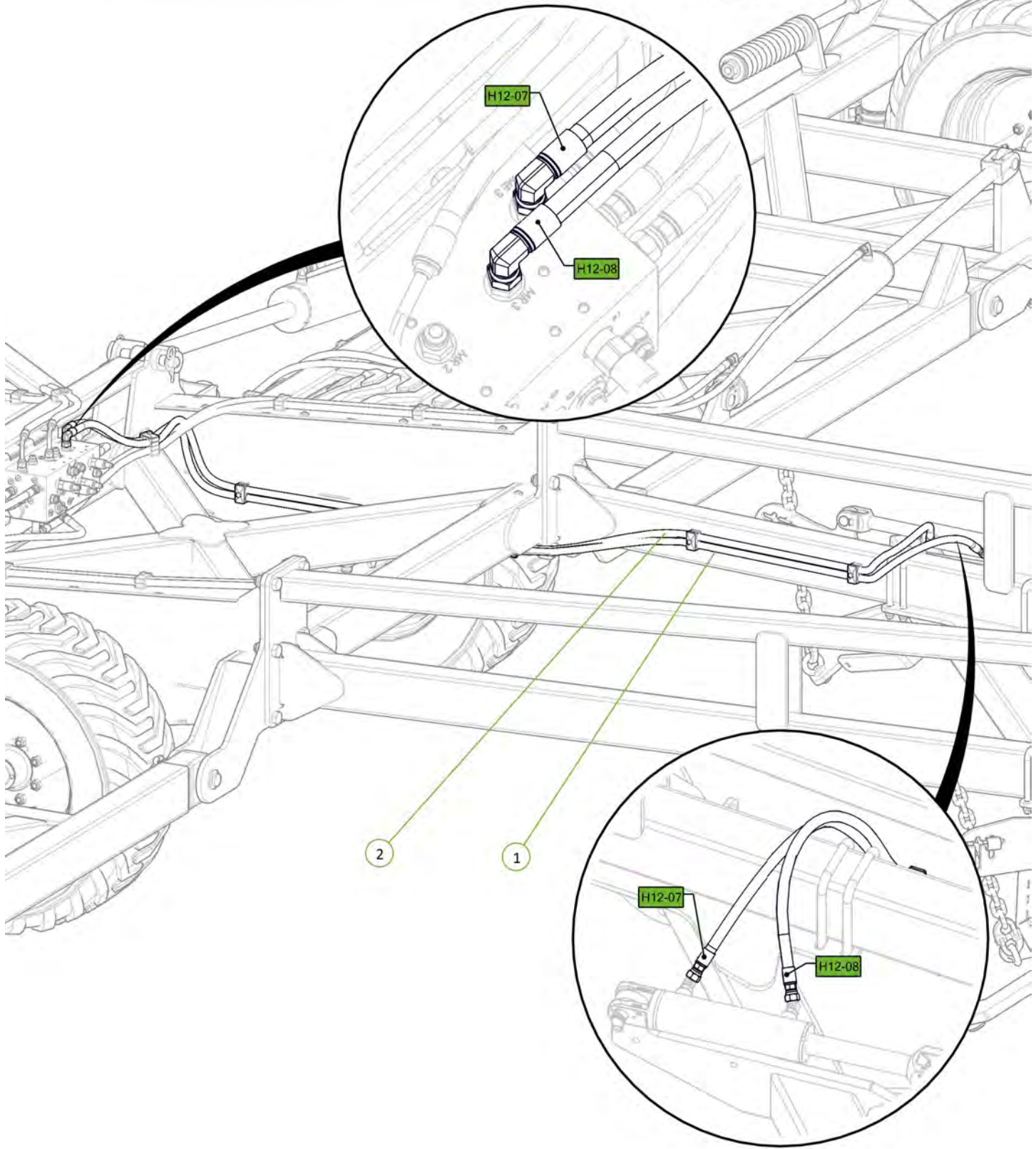
Item No.	Description	Qty	Number
1	2.5" Bore x 6" Stroke 1.5" Rod Side Port Cylinder	1	0311-256SP



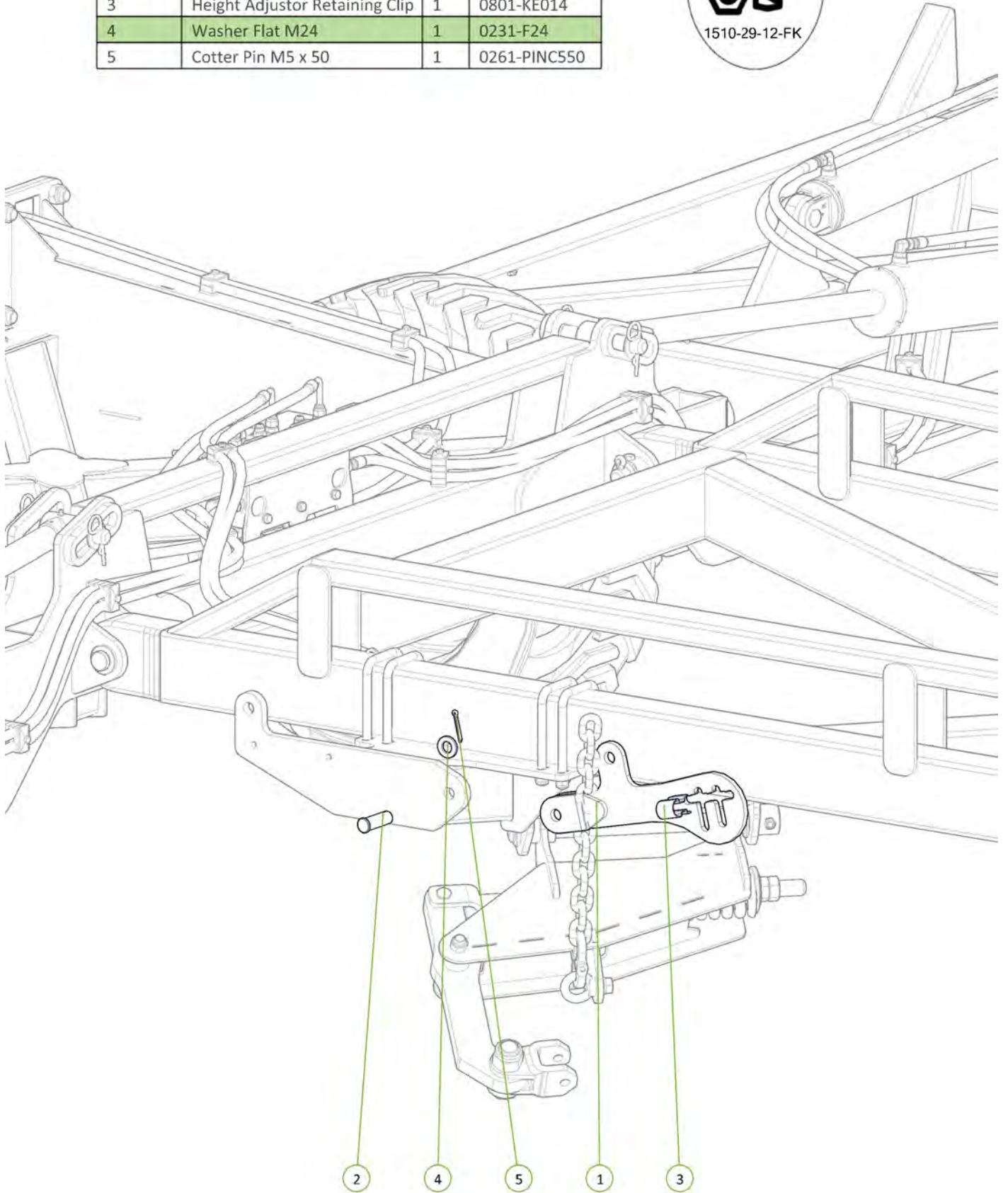
Item No.	Description	Qty	Number
1	3/4" JIC Male 3/4" UN O Ring Male 45° Elbow	2	0323-S88-1212



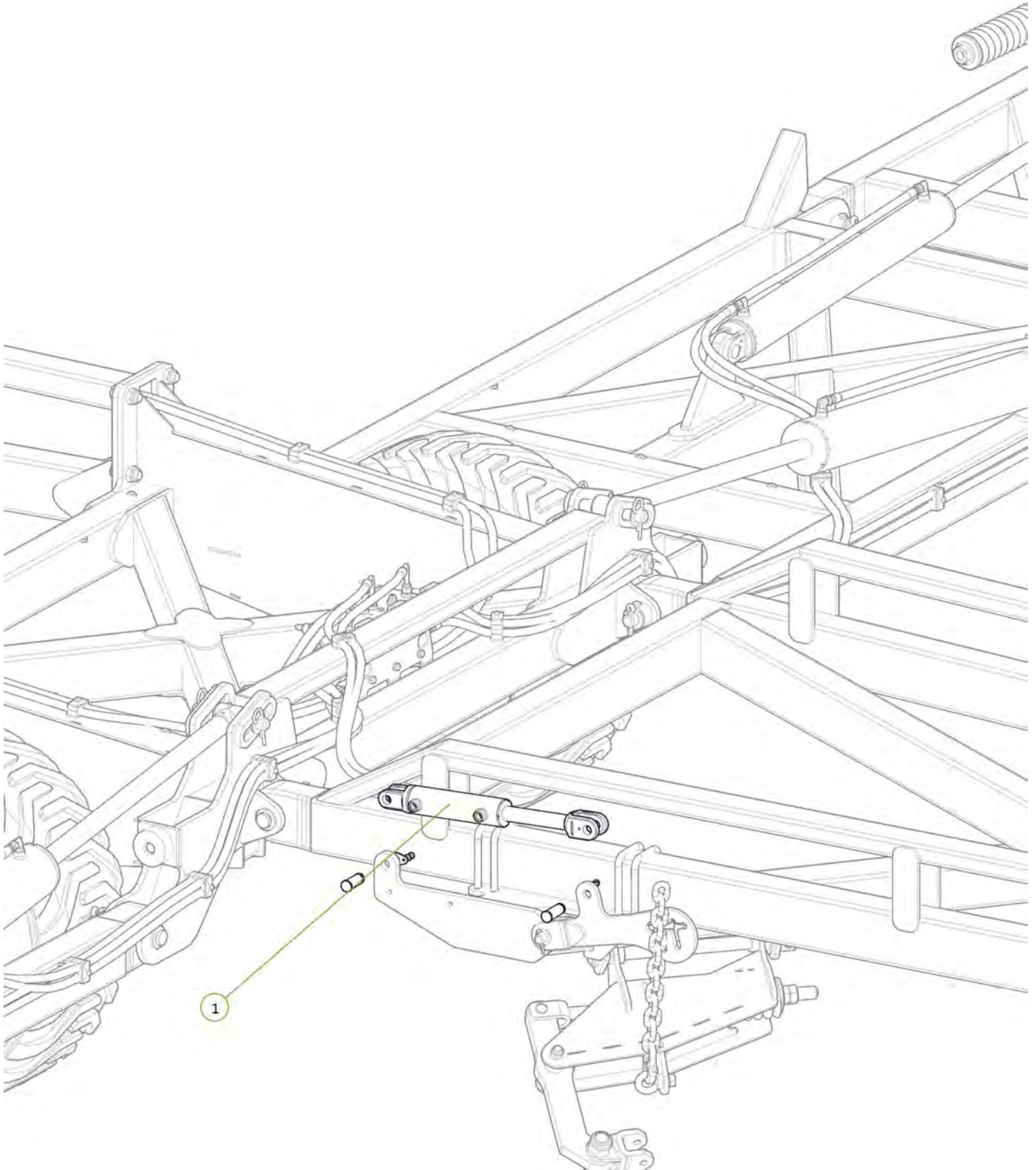
Item No.	Description	Qty	Number
1	ME3 to Front Cylinder Extend Port	1	H12-07
2	MR3 to Front Module Retract Port	1	H12-08

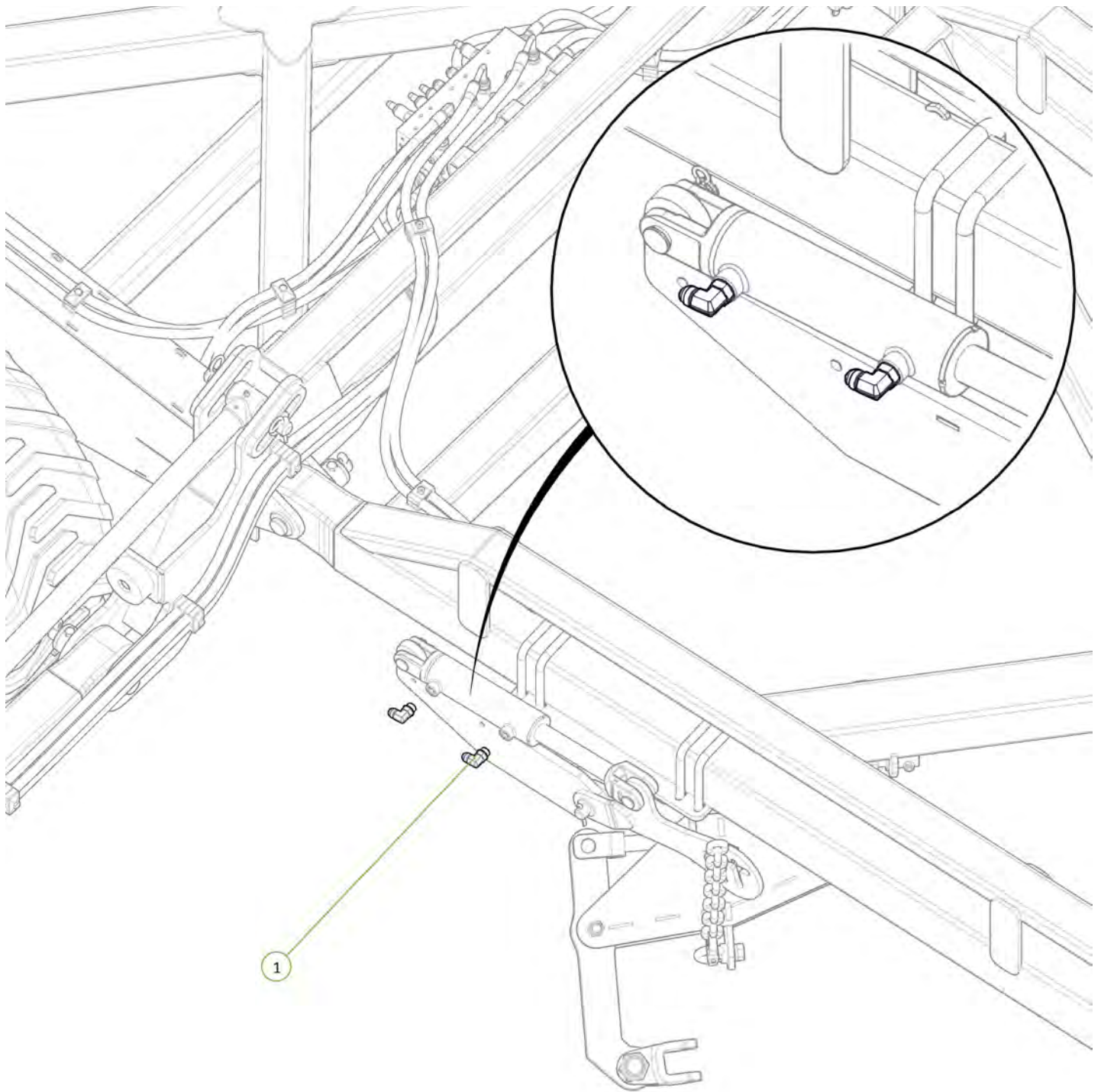


Item No.	Description	Qty	Number
1	Long Module Lift Arm	1	1610-106
2	Clevis Pin 25mm x 75mm	1	0801-KE0307-1
3	Height Adjustor Retaining Clip	1	0801-KE014
4	Washer Flat M24	1	0231-F24
5	Cotter Pin M5 x 50	1	0261-PINC550



Item No.	Description	Qty	Number
1	2.5" Bore x 6" Stroke 1.5" Rod Side Port Cylinder	1	0311-256SP

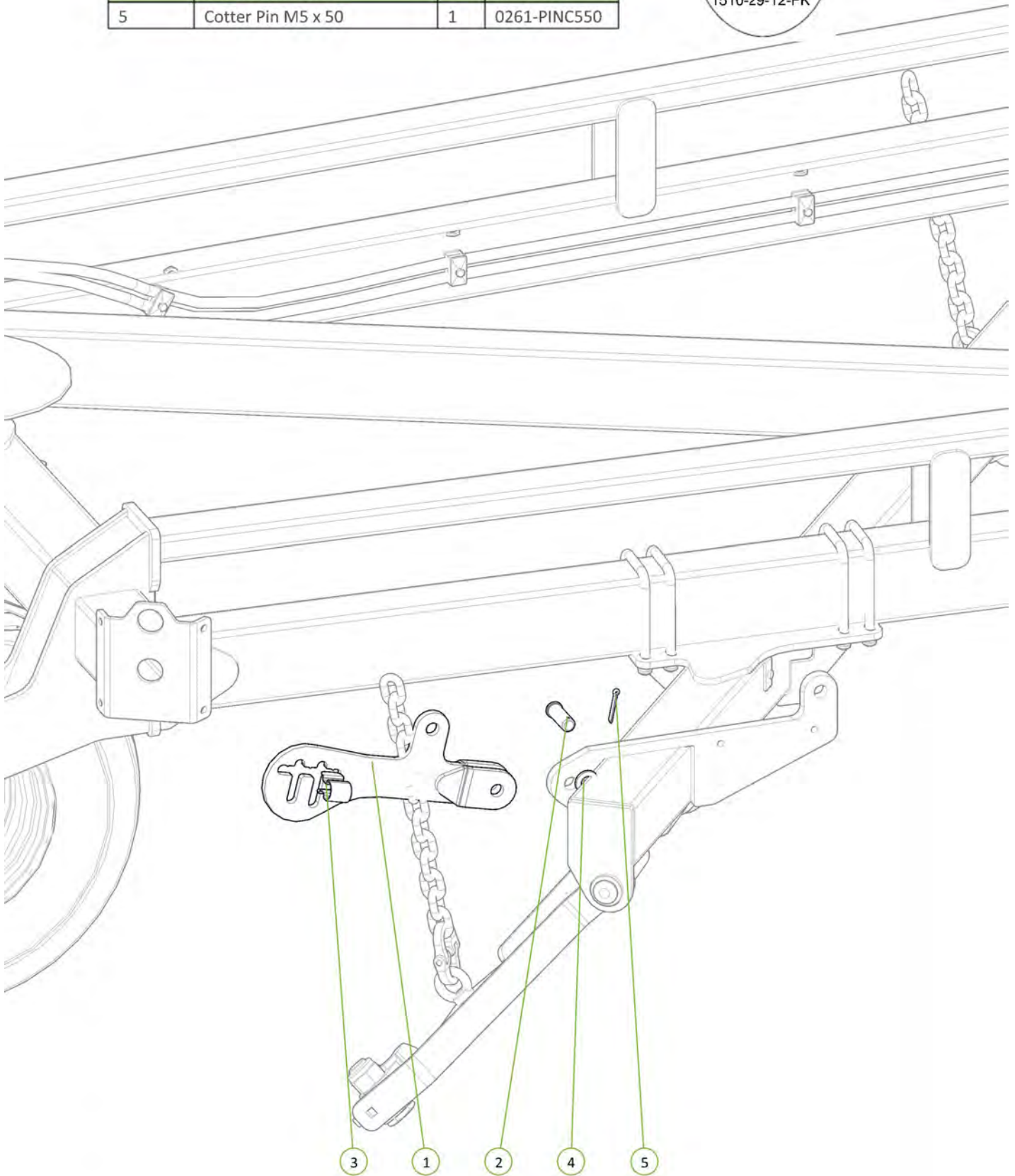




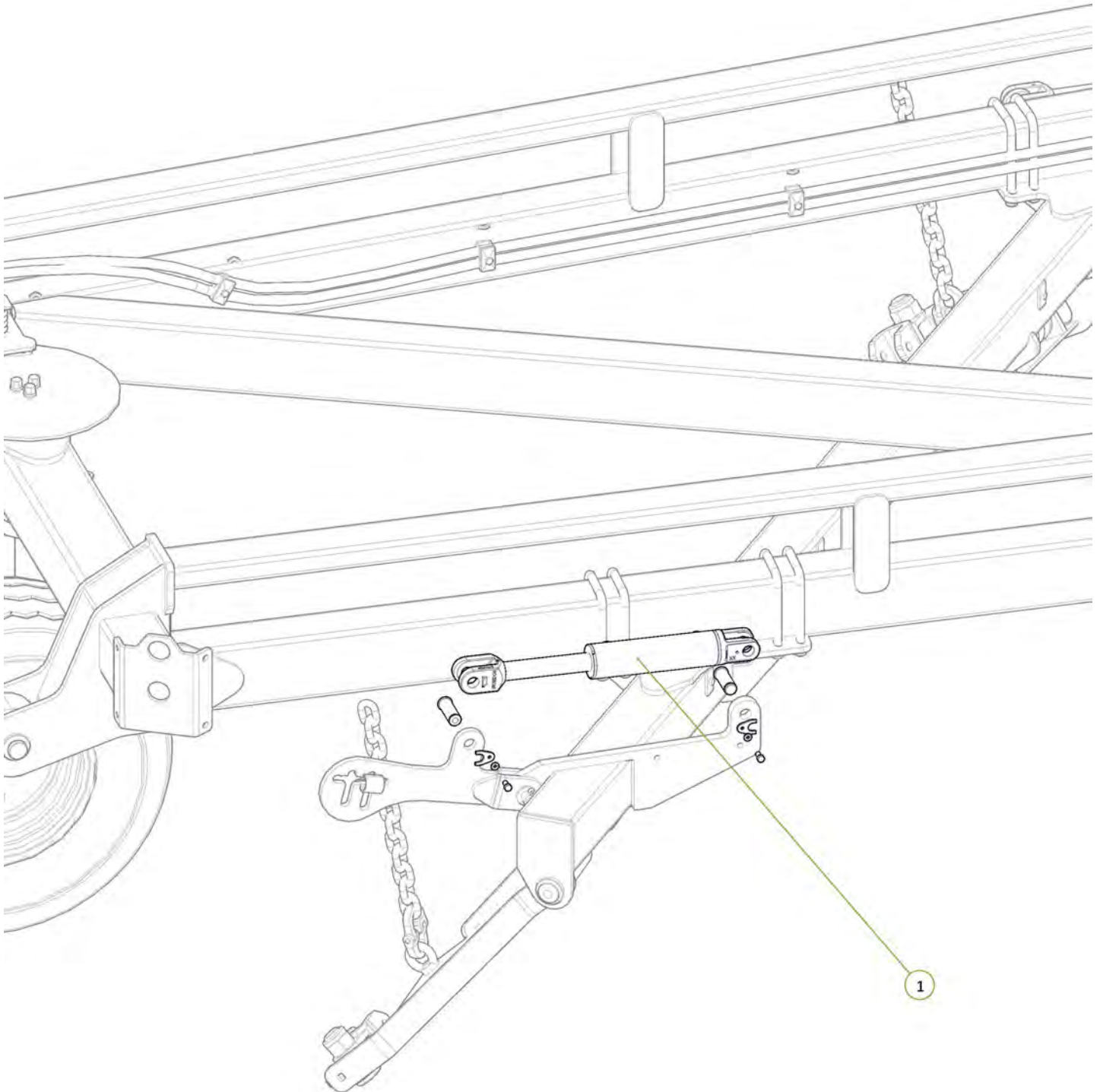
Item No.	Description	Qty	Number
1	3/4" JIC Male 3/4" UN O Ring Male 90° Elbow	2	0323-S91-1212



Item No.	Description	Qty	Number
1	Long Module Lift Arm	1	1610-106
2	Clevis Pin 25mm x 75mm	1	0801-KE0307-1
3	Height Adjustor Retaining Clip	1	0801-KE014
4	Washer Flat M24	1	0231-F24
5	Cotter Pin M5 x 50	1	0261-PINC550

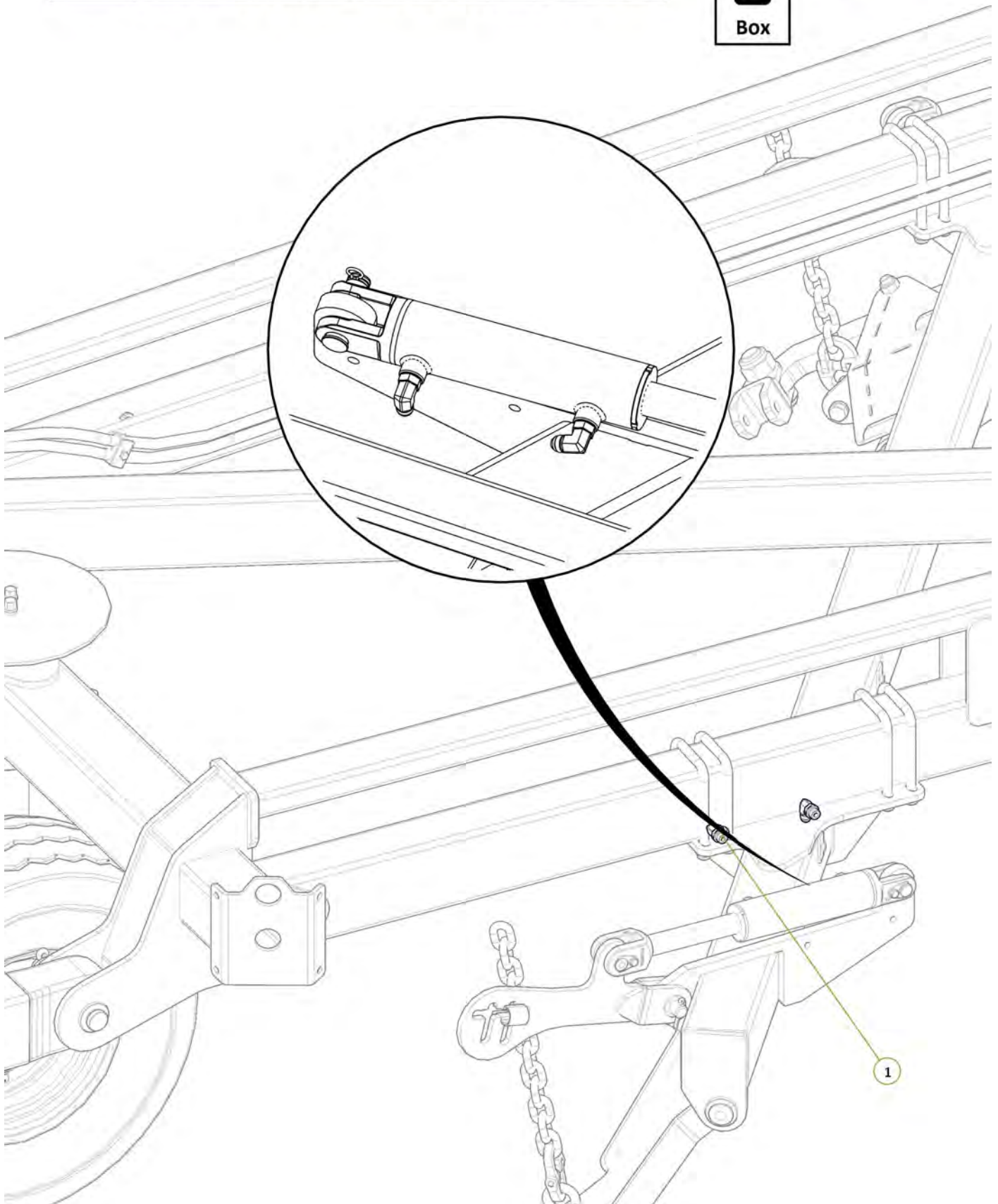
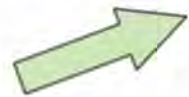
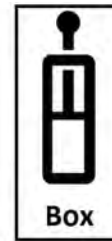


Item No.	Description	Qty	Number
1	2.5" Bore x 6" Stroke 1.5" Rod Side Port Cylinder	1	0311-256SP



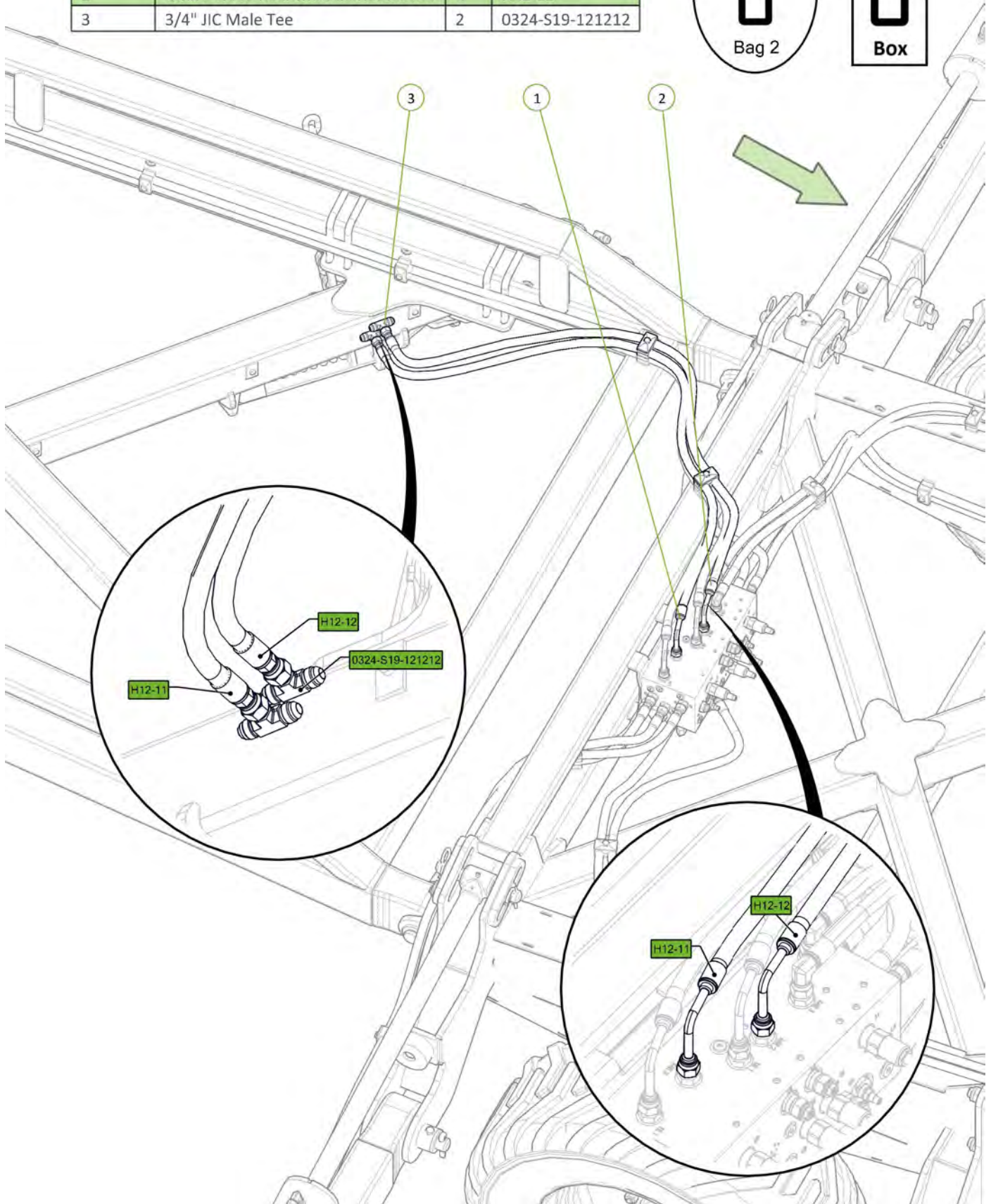


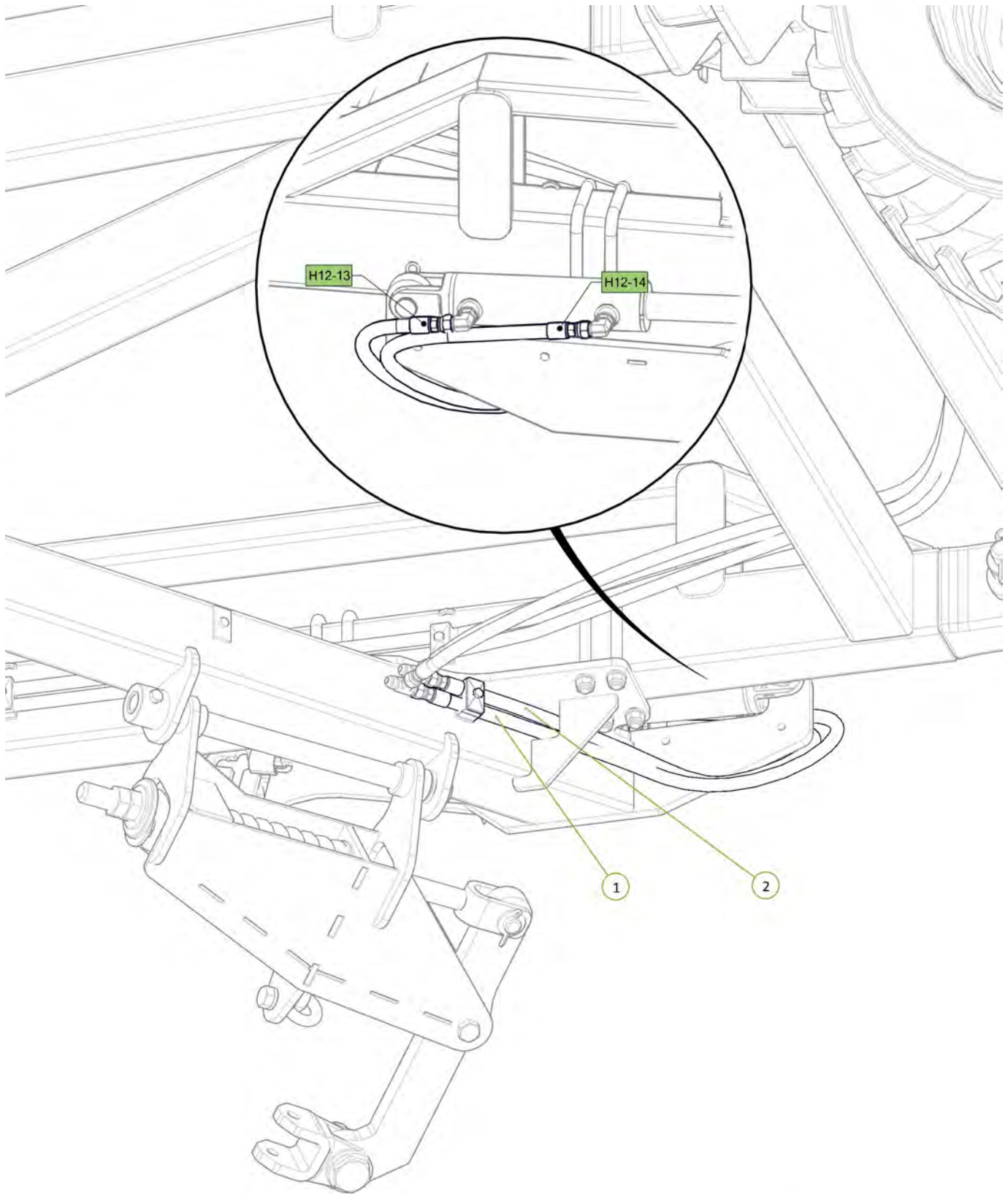
Item No.	Description	Qty	Number
1	3/4" JIC Male 3/4" UN O Ring Male 90° Elbow	2	0323-S91-1212



1

Item No.	Description	Qty	Number
1	ME2 Port to Rear Module Extend Tee	1	H12-11
2	MR2 Port to Rear Module Retract Tee	1	H12-12
3	3/4" JIC Male Tee	2	0324-S19-121212

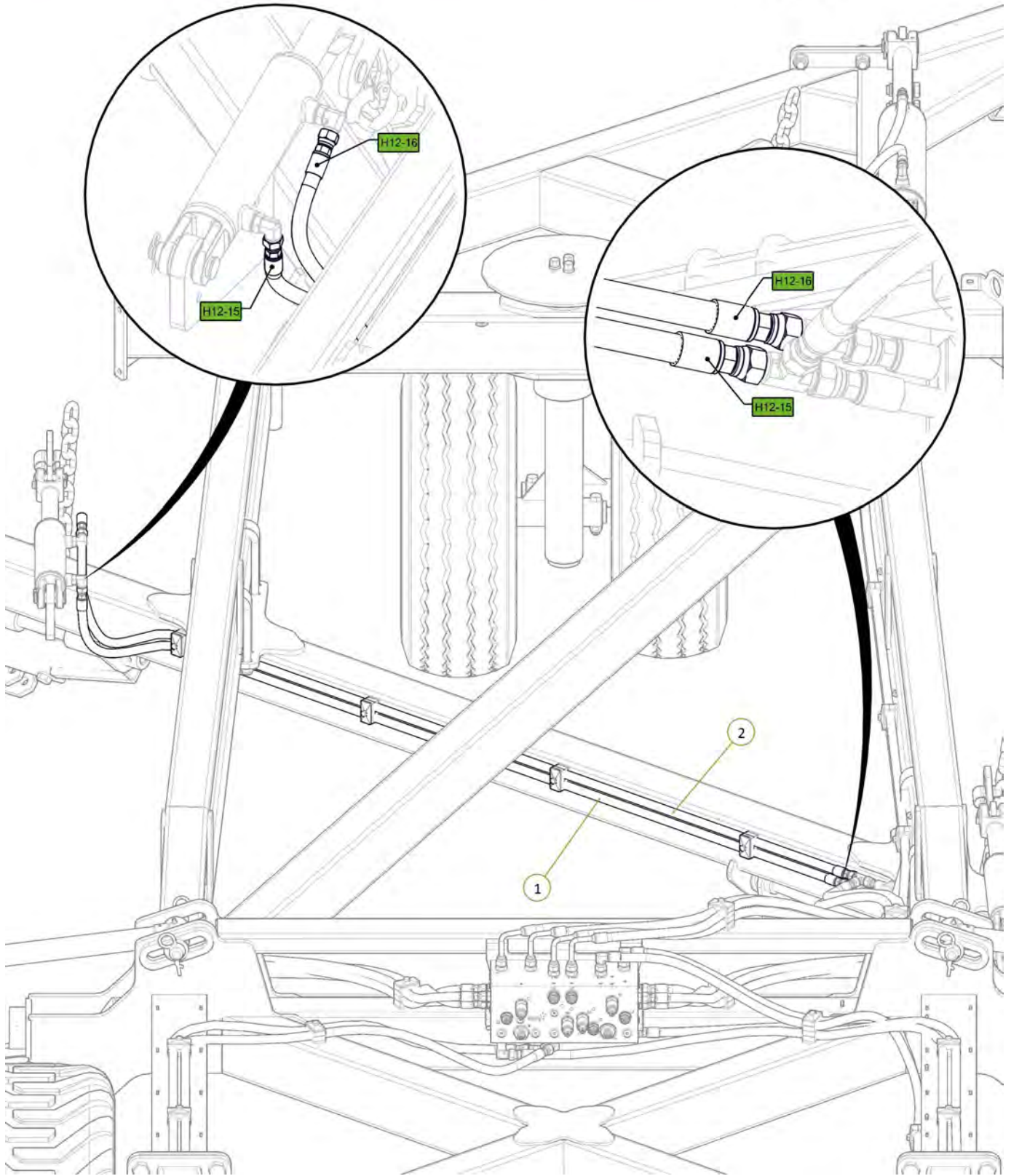
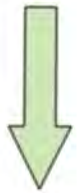




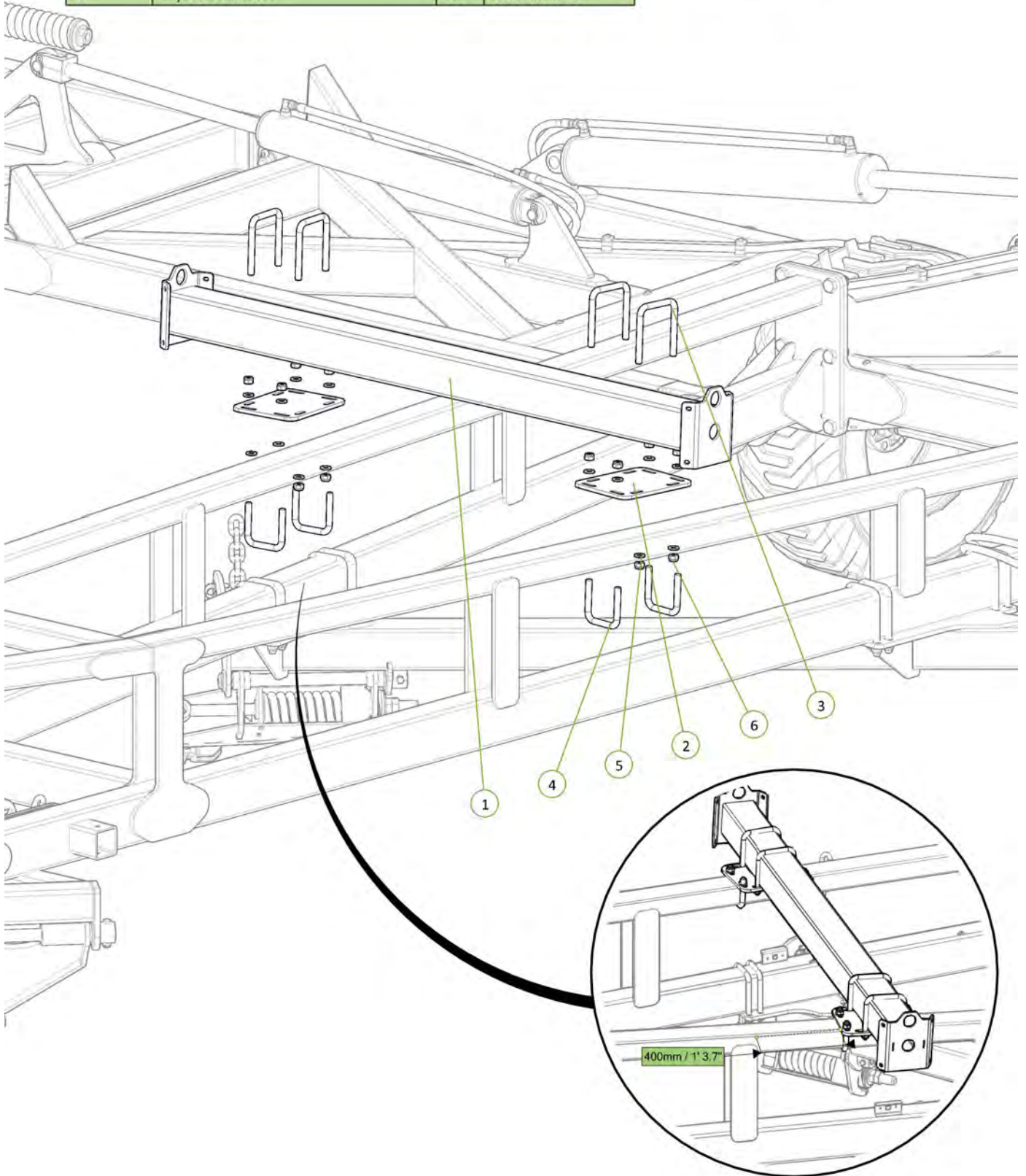
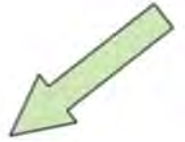
Item No.	Description	Qty	Number
1	Rear Module Extend Tee to LH Rear Module Cyl Extend Port	1	H12-13
2	Rear Module Retract Tee to LH Rear Module Cyl Retract Port	1	H12-14



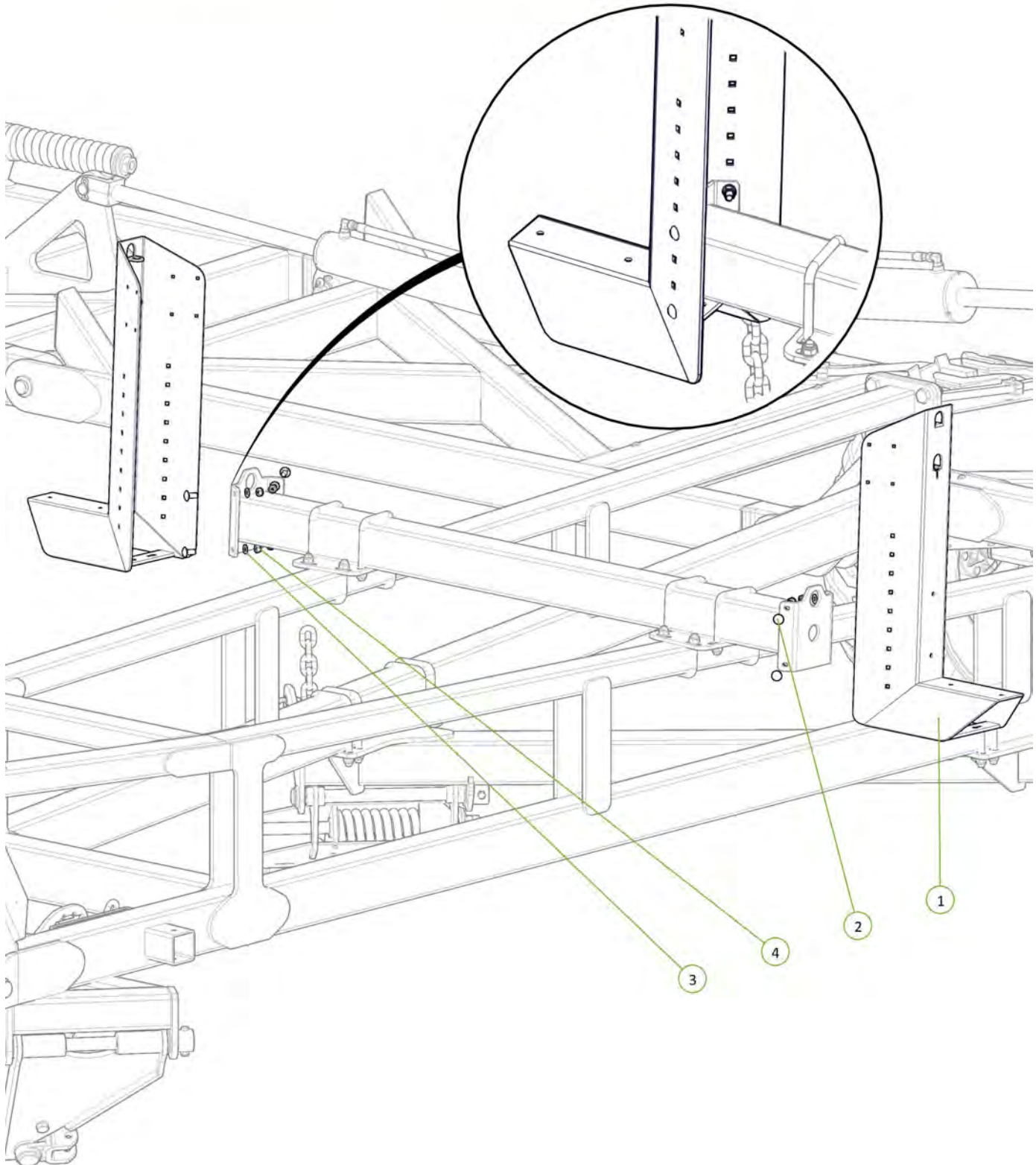
Item No.	Description	Qty	Number
1	Rear Module Extend Tee to RH Rear Module Cyl Extend Port	1	H12-15
2	Rear Module Retract Tee to RH Rear Module Cyl Retract Port	1	H12-16



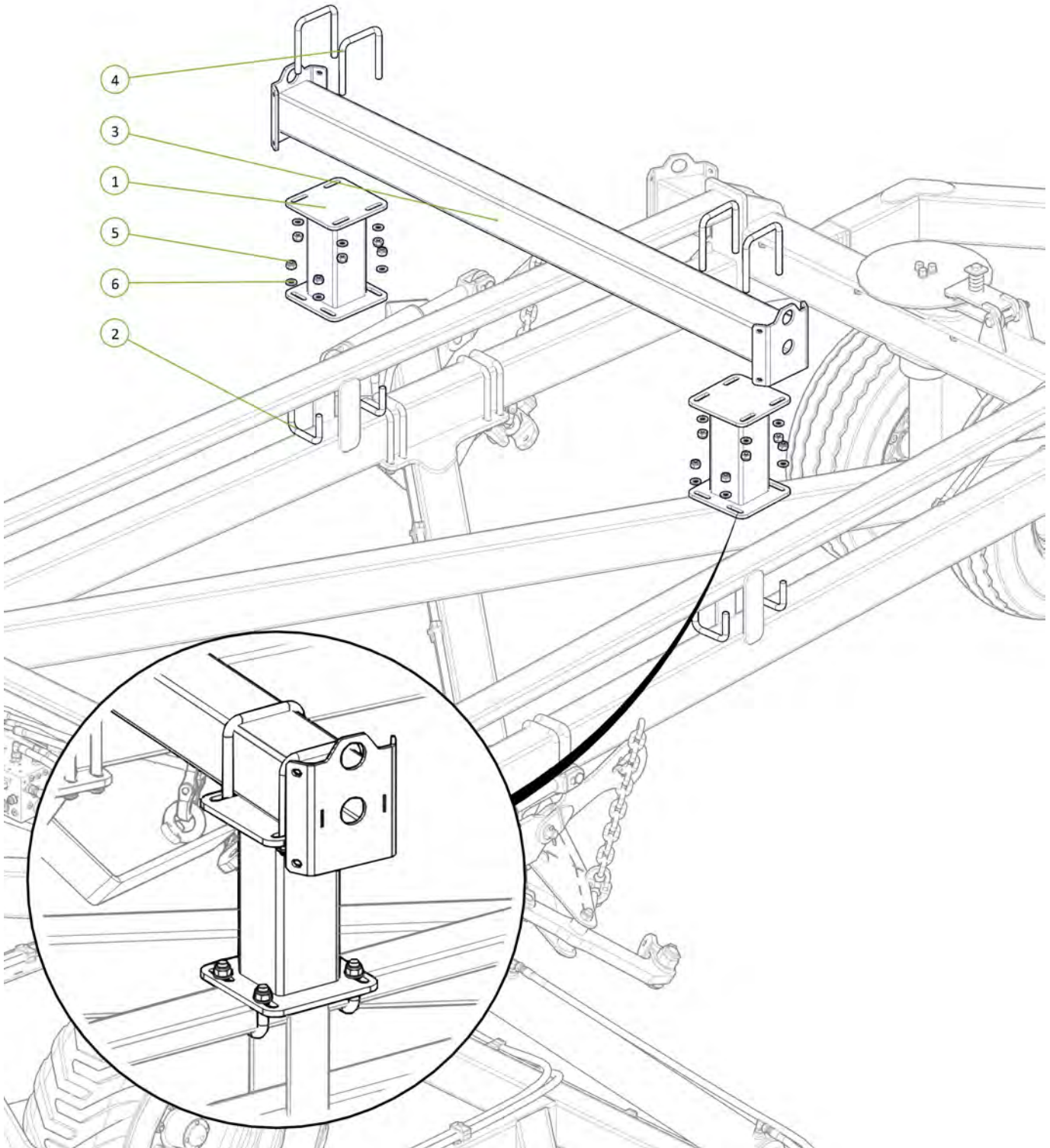
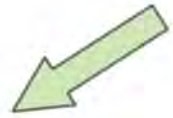
Item No.	Description	Qty	Number
1	Chain Carrier Beam	1	1610-17-12
2	Chain Carrier Mount Plate	2	0800-139.1
3	U-Bolt M16 x 162 Deep x 129 Wide	4	0271-16162129U
4	U-Bolt M16 x 114 Deep x 106 Wide	4	0271-16114106U
5	Washer Flat M16	16	0231-F16
6	Nyloc Nut M16	16	0221-NYL16



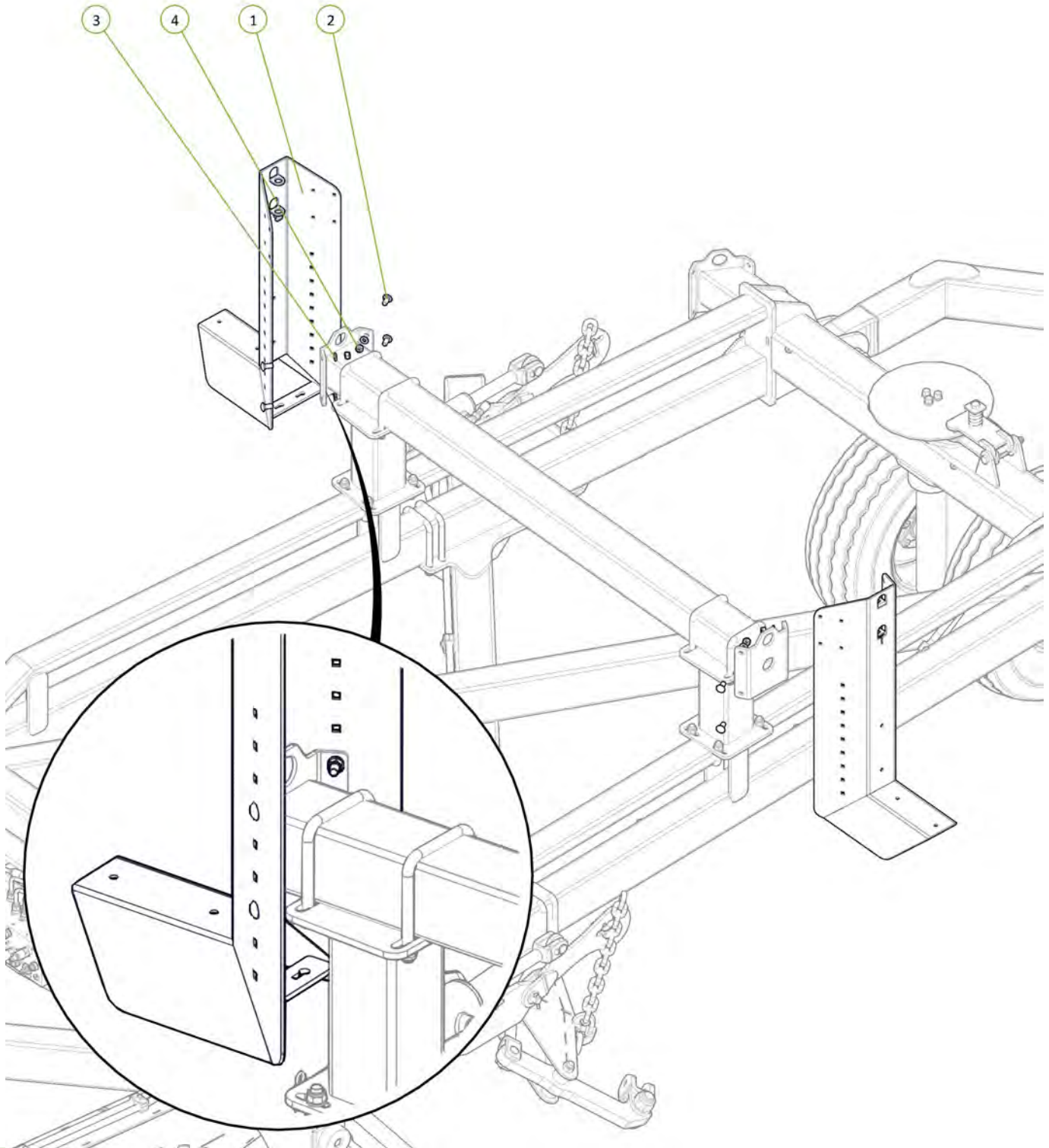
Item No.	Description	Qty	Number
1	Extended Chain Carrier Bolt on End	2	0810-17L_SD
2	M12 x 30 Coach Head Bolt	8	0215-CH1230
3	Washer Flat M12	8	0231-F12
4	Nyloc Nut M12	8	0221-NYL12



Item No.	Description	Qty	Number
1	300mm Chain Carrier Pedestal	2	1510-43
2	U-Bolt M16 x 106 Wide x 86 Deep	4	0271-1610686U
3	Chain Carrier Beam	1	1610-17-12
4	U-Bolt M16 x 162 Deep x 129 Wide	4	0271-16162129U
5	Nyloc Nut M16	16	0221-NYL16
6	Washer Flat M16	16	0231-F16

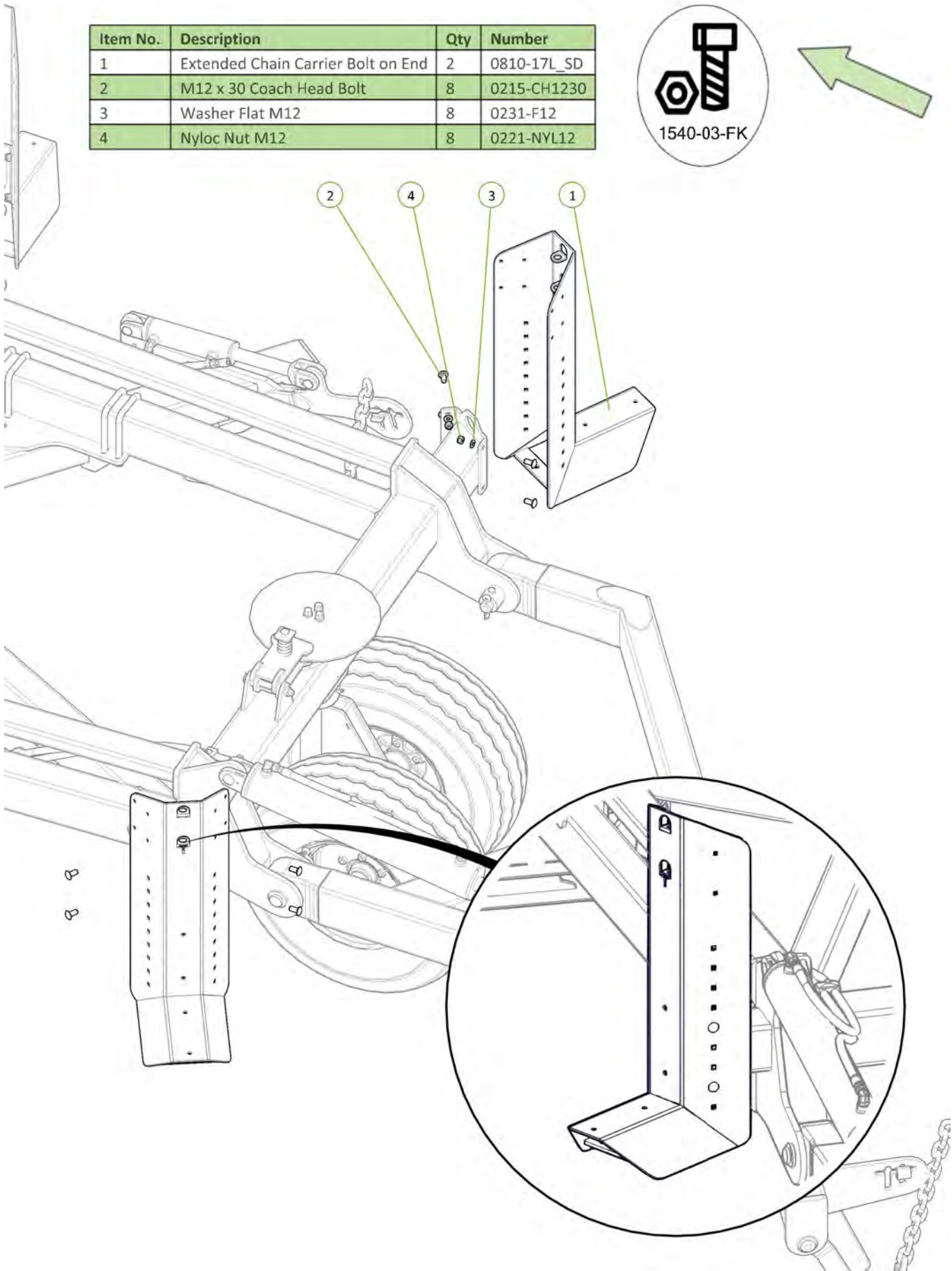


Item No.	Description	Qty	Number
1	Extended Chain Carrier Bolt on End	2	0810-17L_SD
2	M12 x 30 Coach Head Bolt	8	0215-CH1230
3	Washer Flat M12	8	0231-F12
4	Nyloc Nut M12	8	0221-NYL12

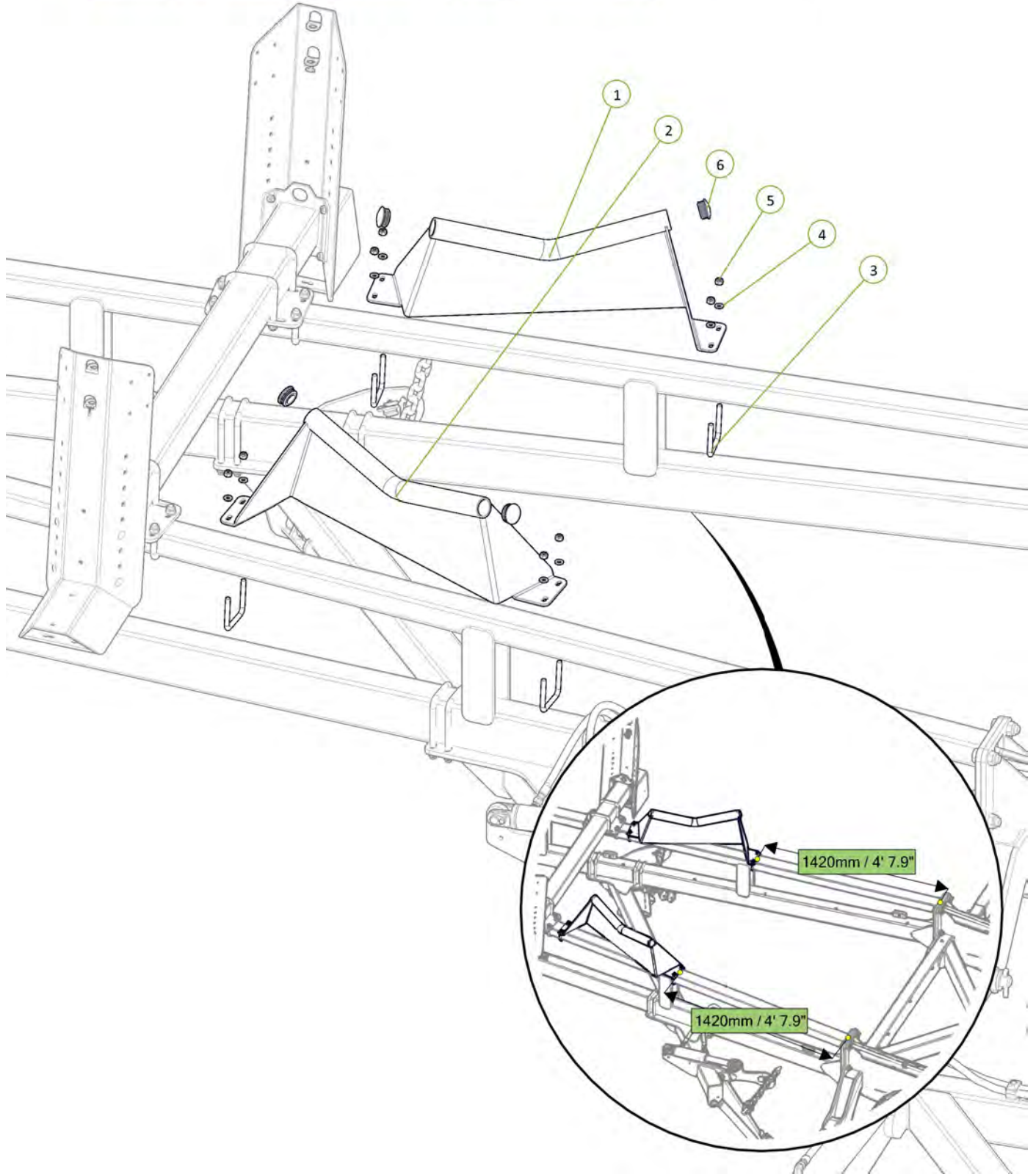
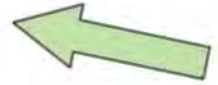




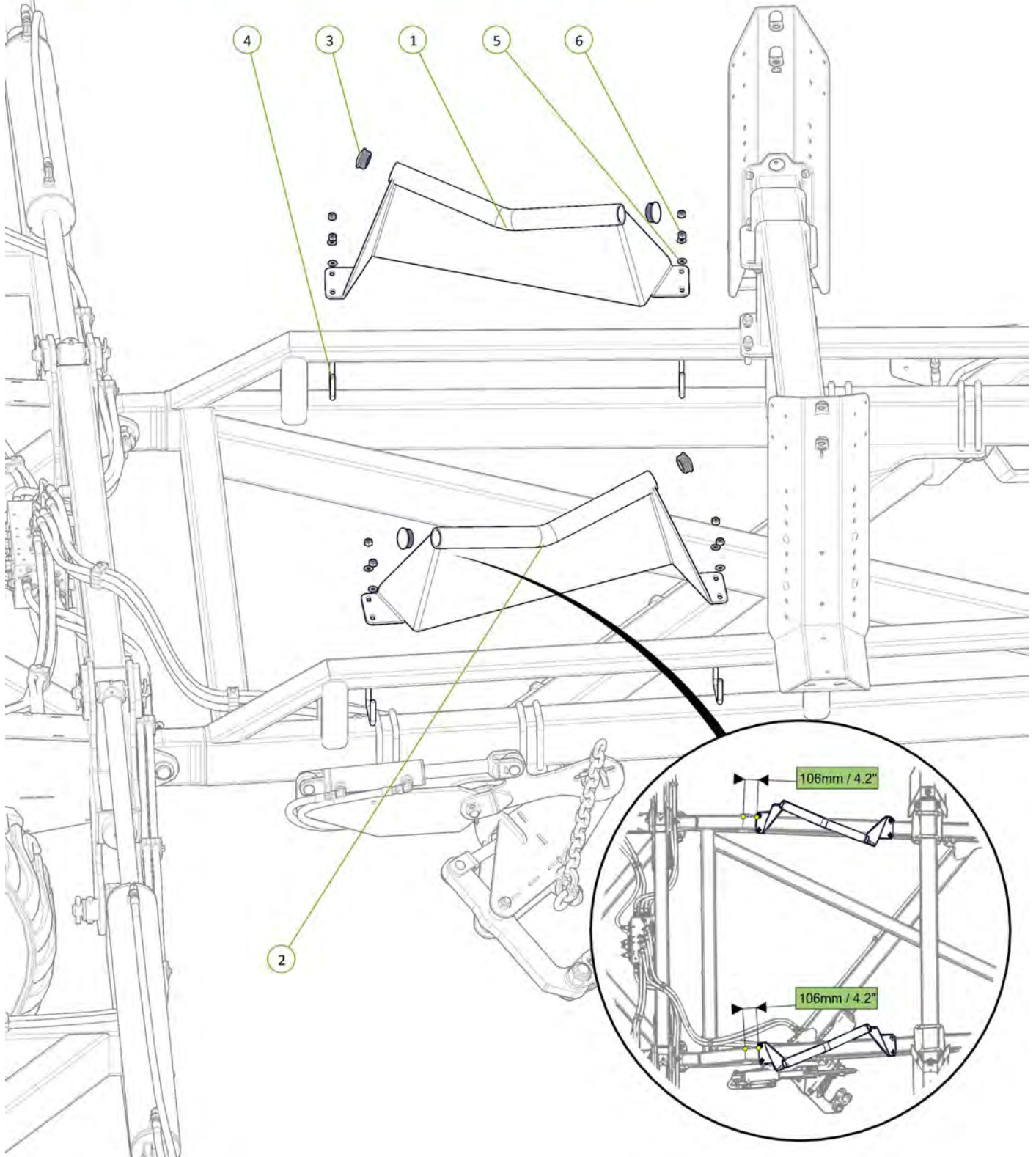
Item No.	Description	Qty	Number
1	Extended Chain Carrier Bolt on End	2	0810-17L_SD
2	M12 x 30 Coach Head Bolt	8	0215-CH1230
3	Washer Flat M12	8	0231-F12
4	Nyloc Nut M12	8	0221-NYL12



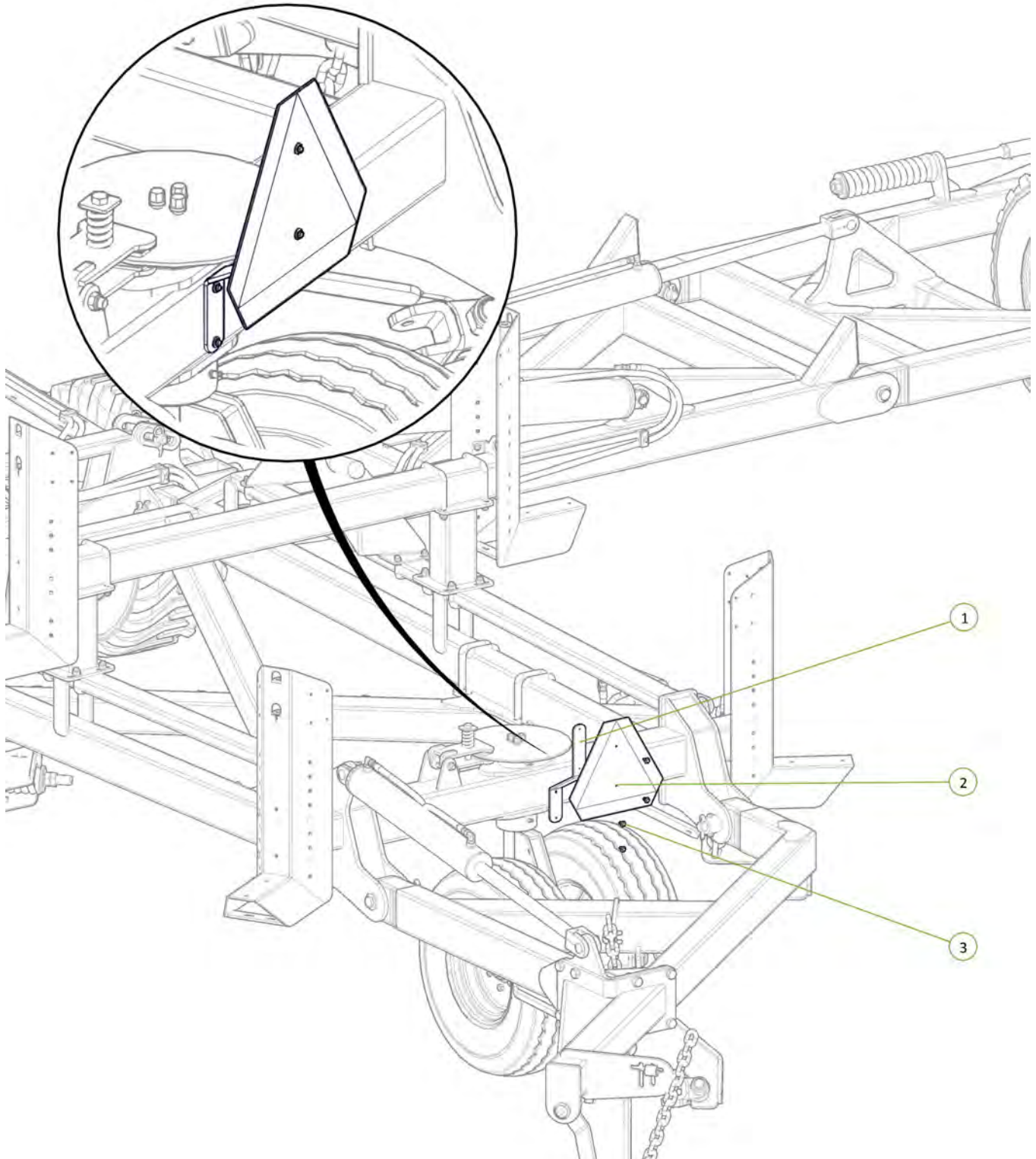
Item No.	Description	Qty	Number
1	Right Hand Off Set M	1	0810-18R
2	Left Hand Off Set M	1	0810-19L
3	U-Bolt M12 x 107 Deep x 106 Wide	4	0271-12107106U
4	Washer Flat M12	8	0231-F12
5	Nyloc Nut M12	8	0221-NYL12
6	Round Tube Insert 60.3 x 3.2-5mm	4	0264-RTRi-5584

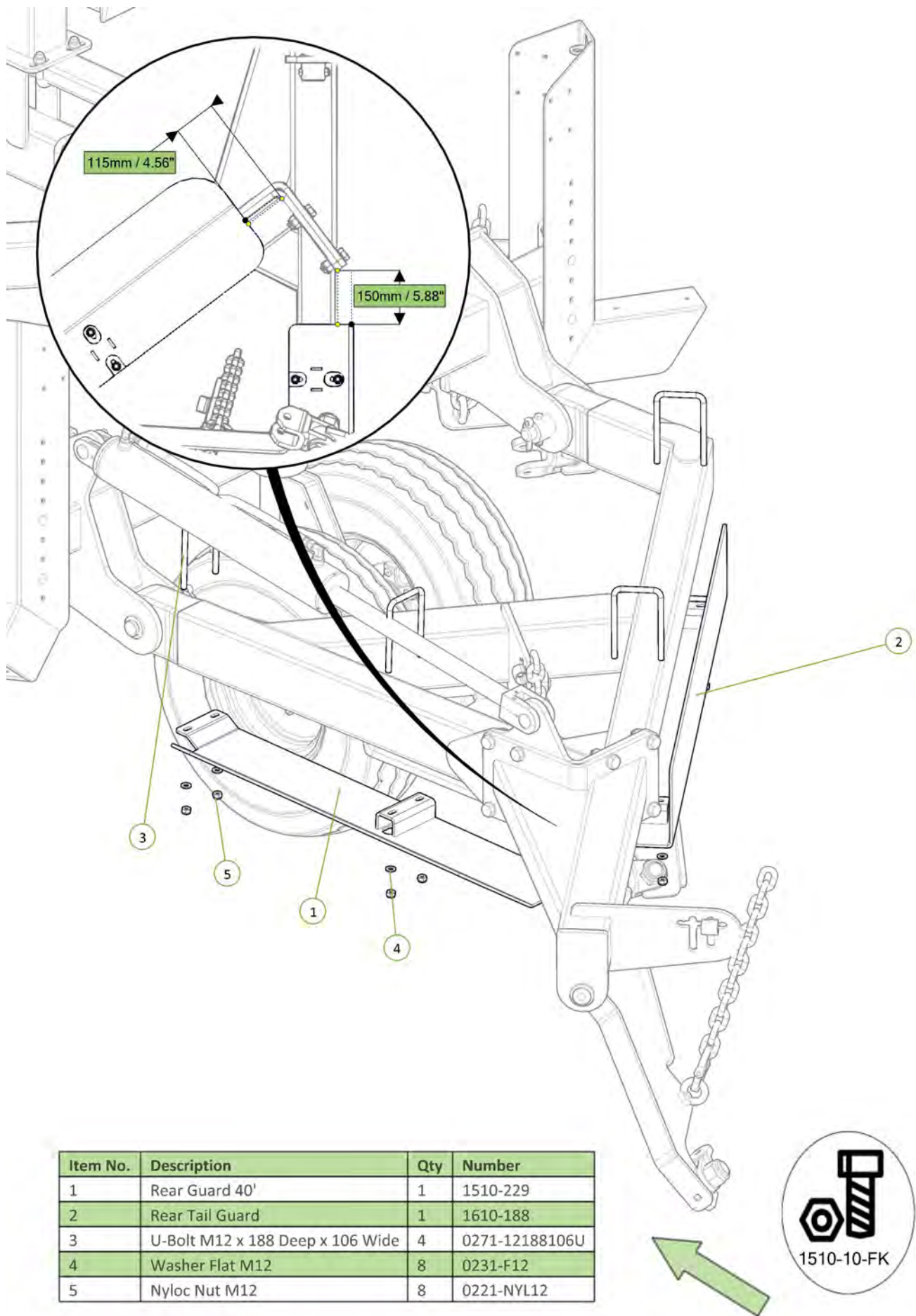


Item No.	Description	Qty	Number
1	Left Hand Off Set M	1	0810-19L
2	Right Hand Off Set M	1	0810-18R
3	Round Tube Insert 60.3 x 3.2-5mm	4	0264-RTRi-5584
4	U-Bolt M12 x 106 Deep x 79 Wide	4	0271-1210679U
5	Washer Flat M12	8	0231-F12
6	Nyloc Nut M12	8	0221-NYL12

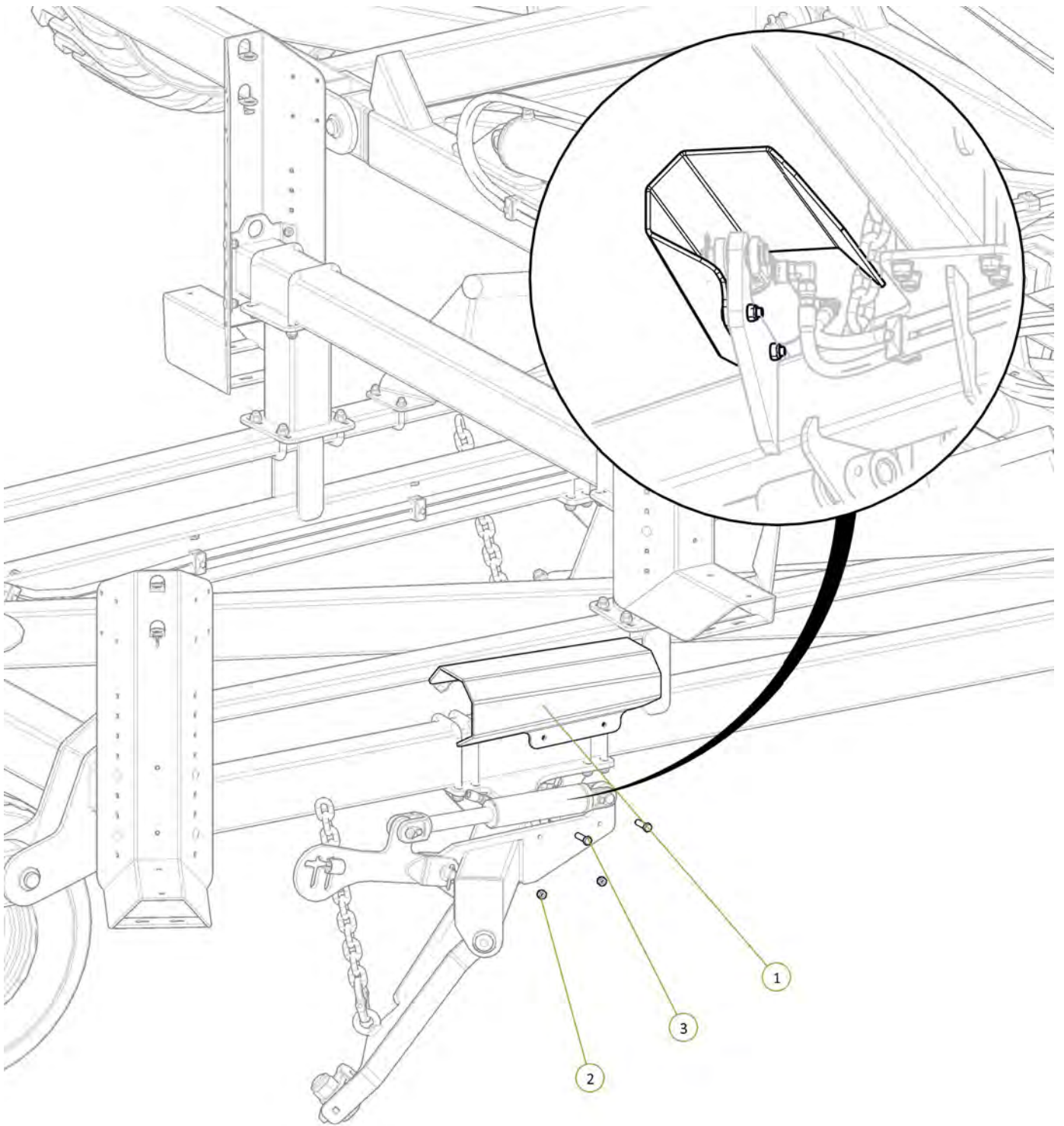


Item No.	Description	Qty	Number
1	SMV Sign Bracket	1	0800-195.1
2	Slow Moving Vehical Sign	1	0801-FBSMVTUF
3	M6 x 20 Trilobe self tapping Scew	4	0211-M620MZPHTF

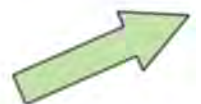




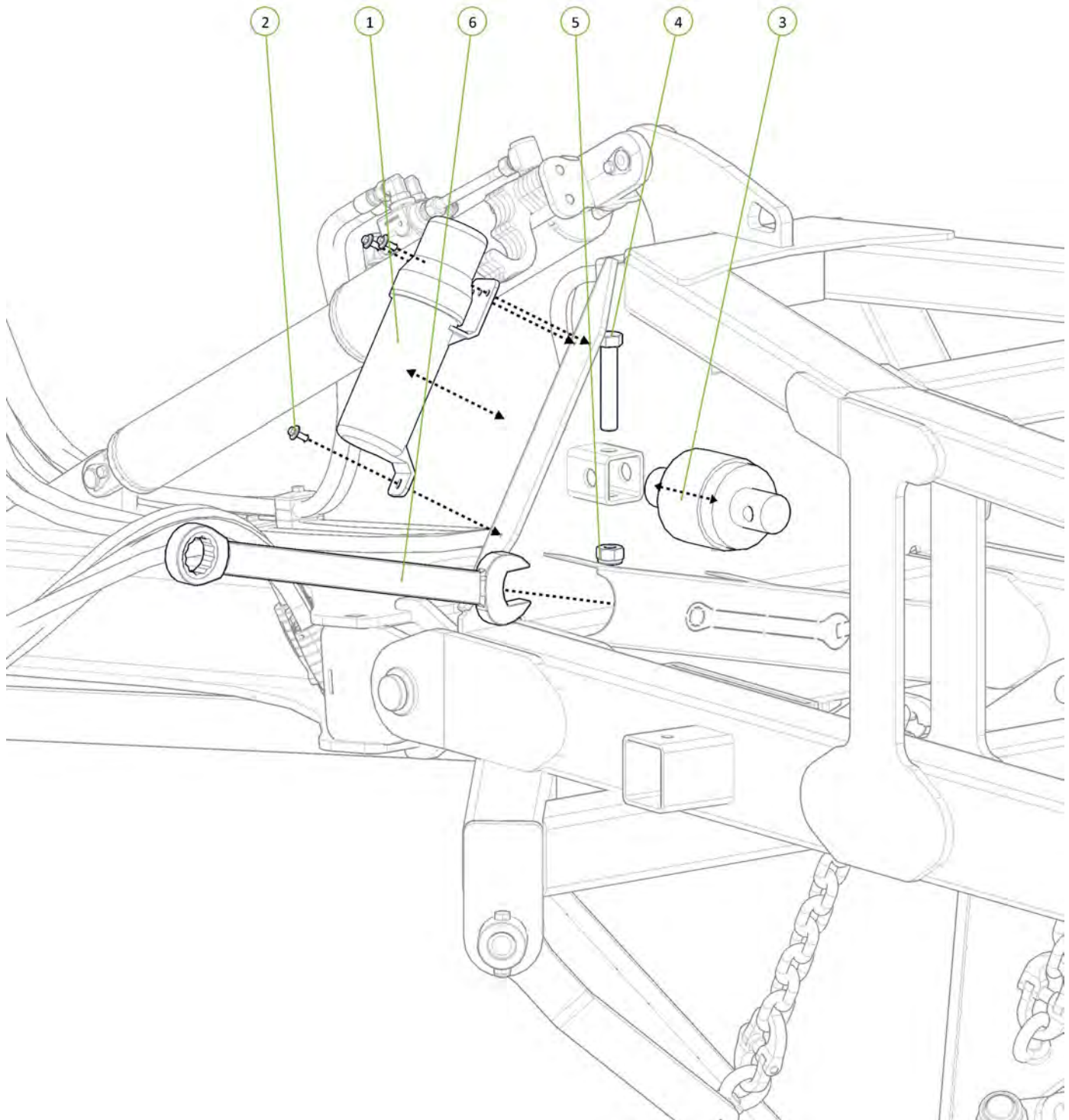
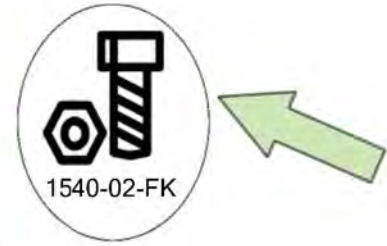
Item No.	Description	Qty	Number
1	Rear Guard 40'	1	1510-229
2	Rear Tail Guard	1	1610-188
3	U-Bolt M12 x 188 Deep x 106 Wide	4	0271-12188106U
4	Washer Flat M12	8	0231-F12
5	Nyloc Nut M12	8	0221-NYL12



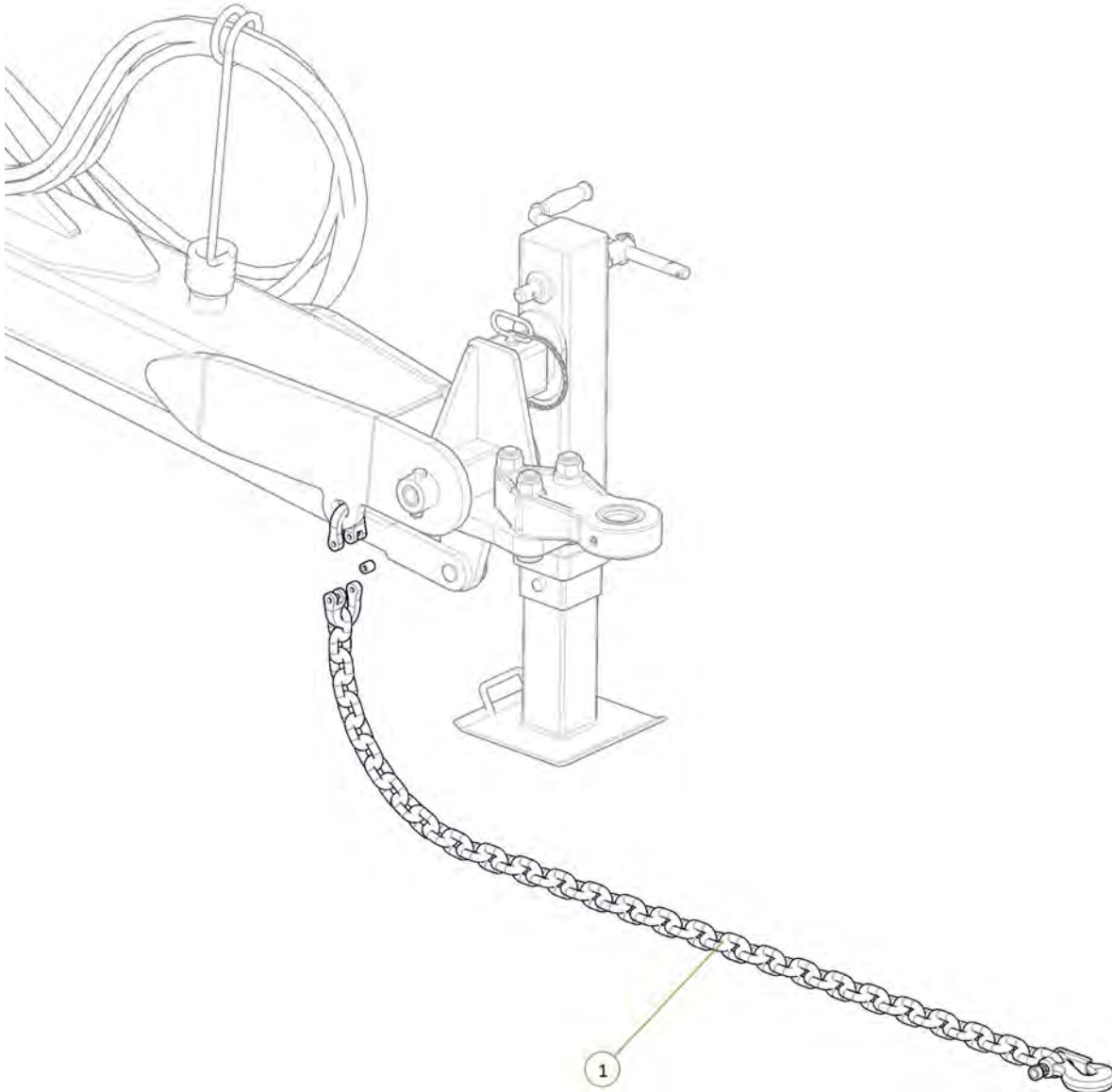
Item No.	Description	Qty	Number
1	Module Cylinder Guard	1	0800-167.3
2	Nyloc Nut M12	2	0221-NYL12
3	M12 x 45 grade 8.8 ZP Bolt	2	0211-1245



Item No.	Description	Qty	Number
1	Operator Manual Cannister	1	0801-OMC-1
2	M6 x 20 Trilobe self tapping ScREW	3	0211-M620MZPHTF
3	20mm Bolt Swivel Unit	1	0802-PCHB55
4	M20 x 110 grade 10.9 ZP Short Thread Bolt	1	0211-20110 ST
5	Nyloc Nut M20	1	0221-NYL20
6	Ratcheting Gear Wrench 1 3/4"	1	0802-GW1 3-4

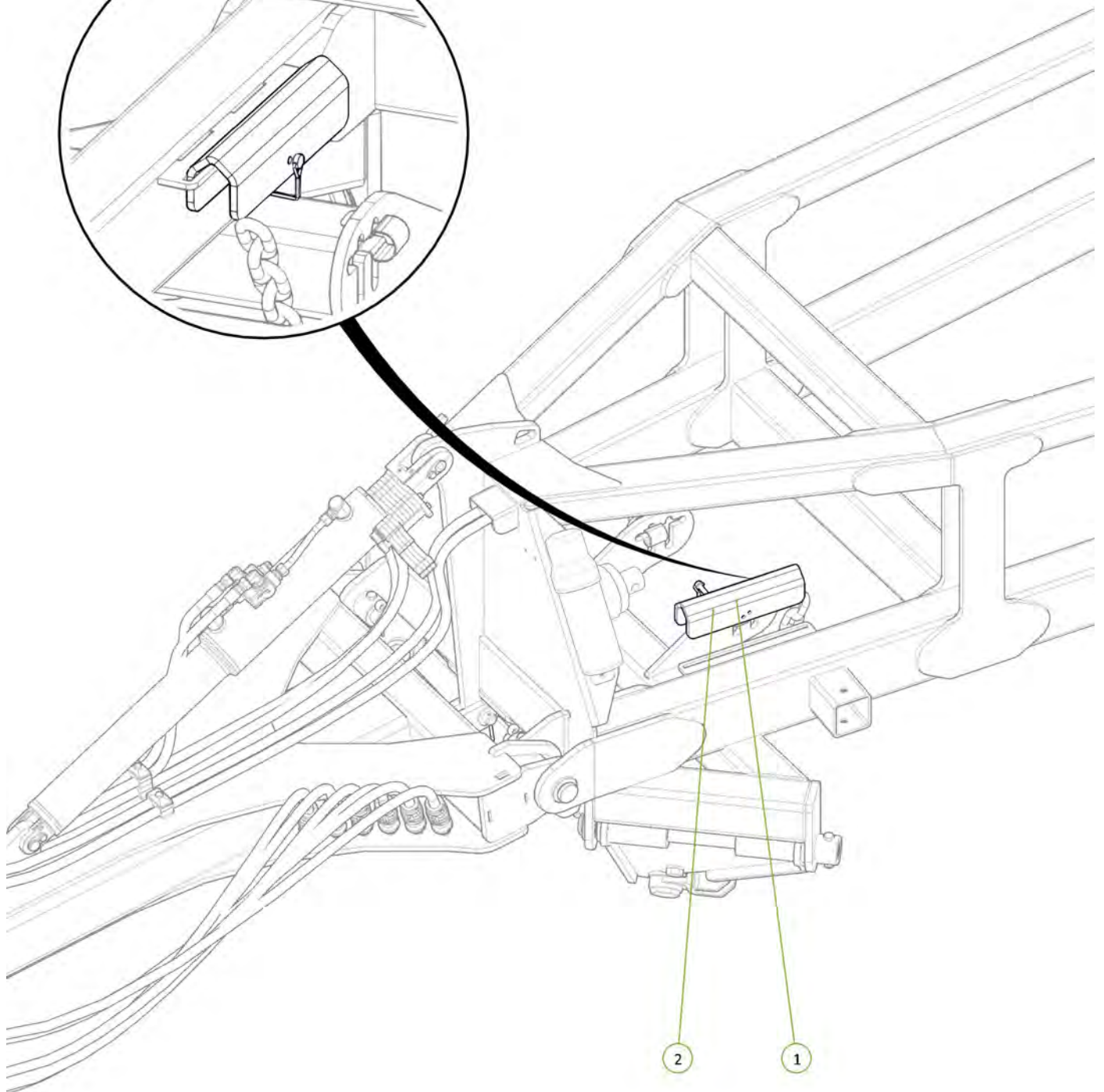
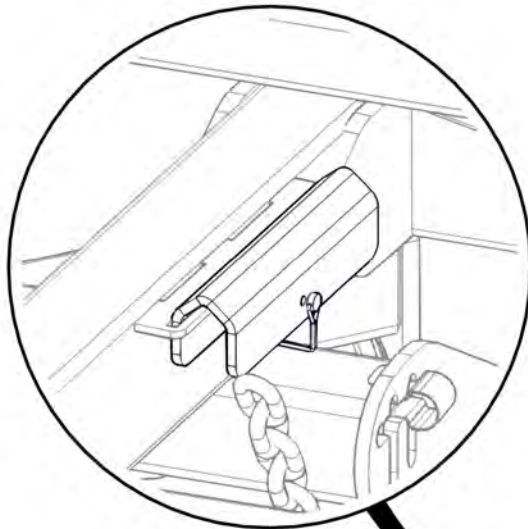
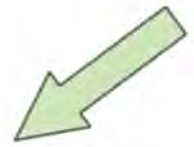


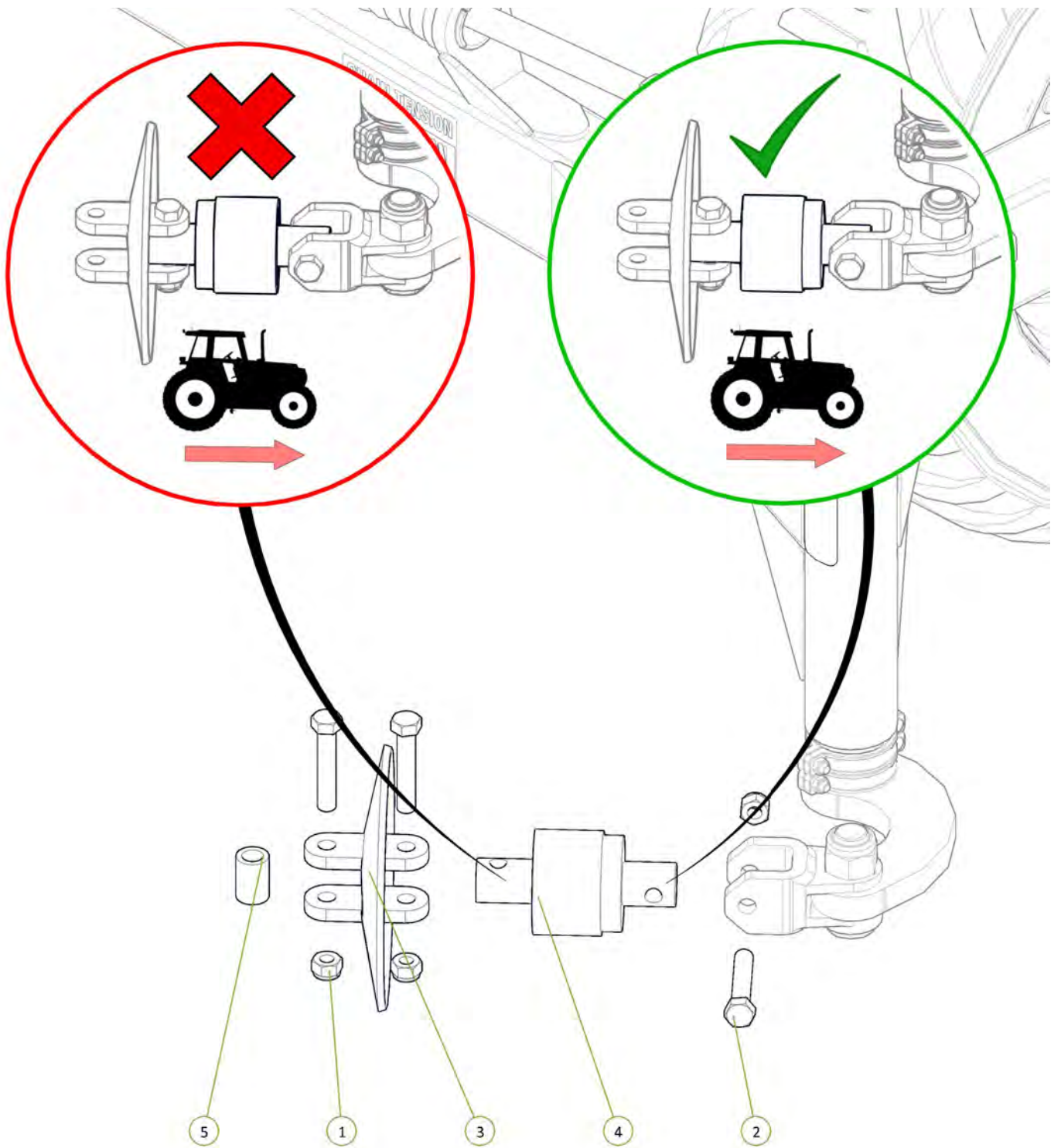
Item No.	Description	Qty	Number
1	Safety Chain Assembly	1	0810-16





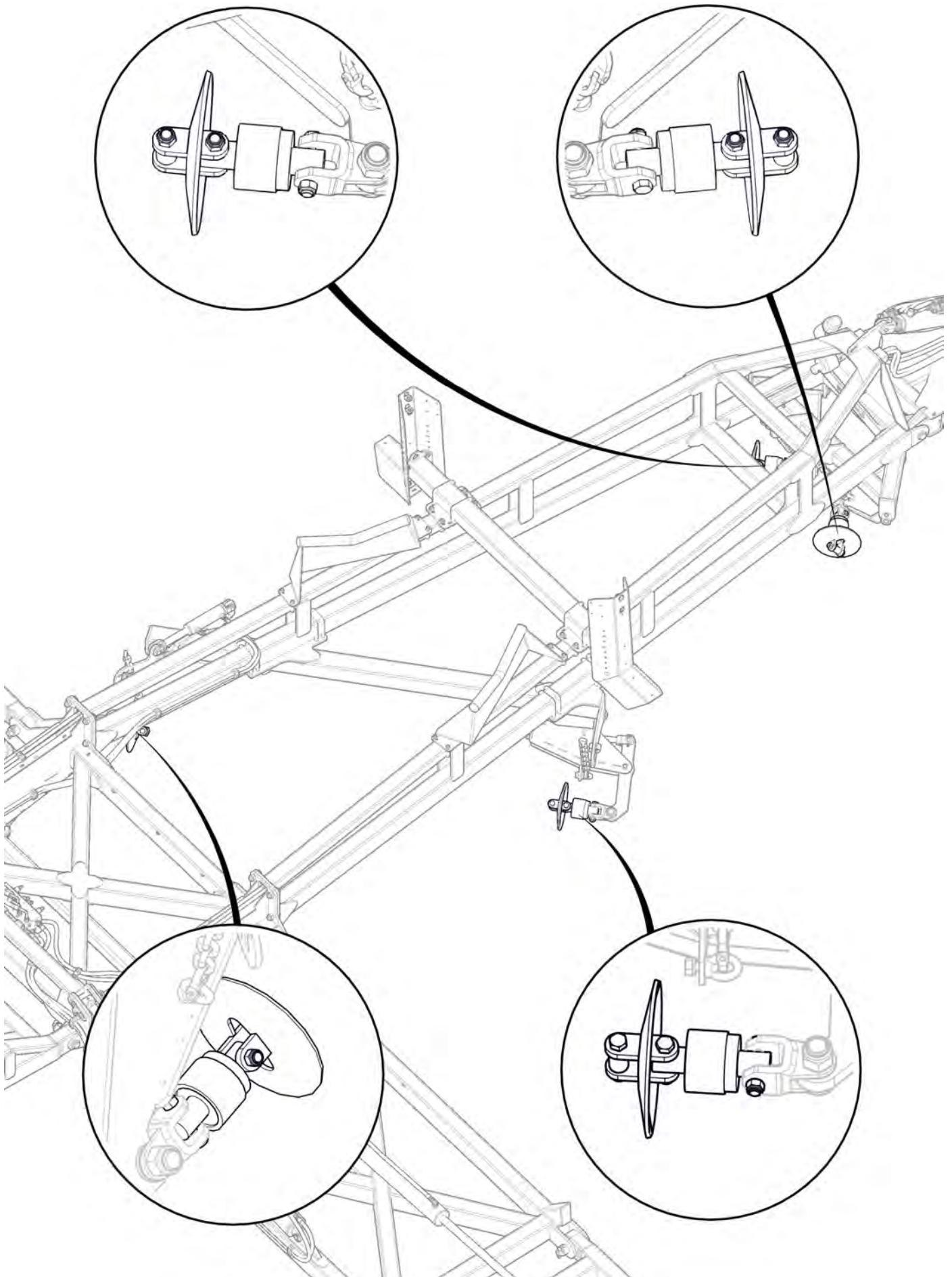
Item No.	Description	Qty	Number
1	Cylinder Safety Stop	1	0800-212.1
2	Square Loop Pin M8 x 63	1	0511-PINLOOPSQ863

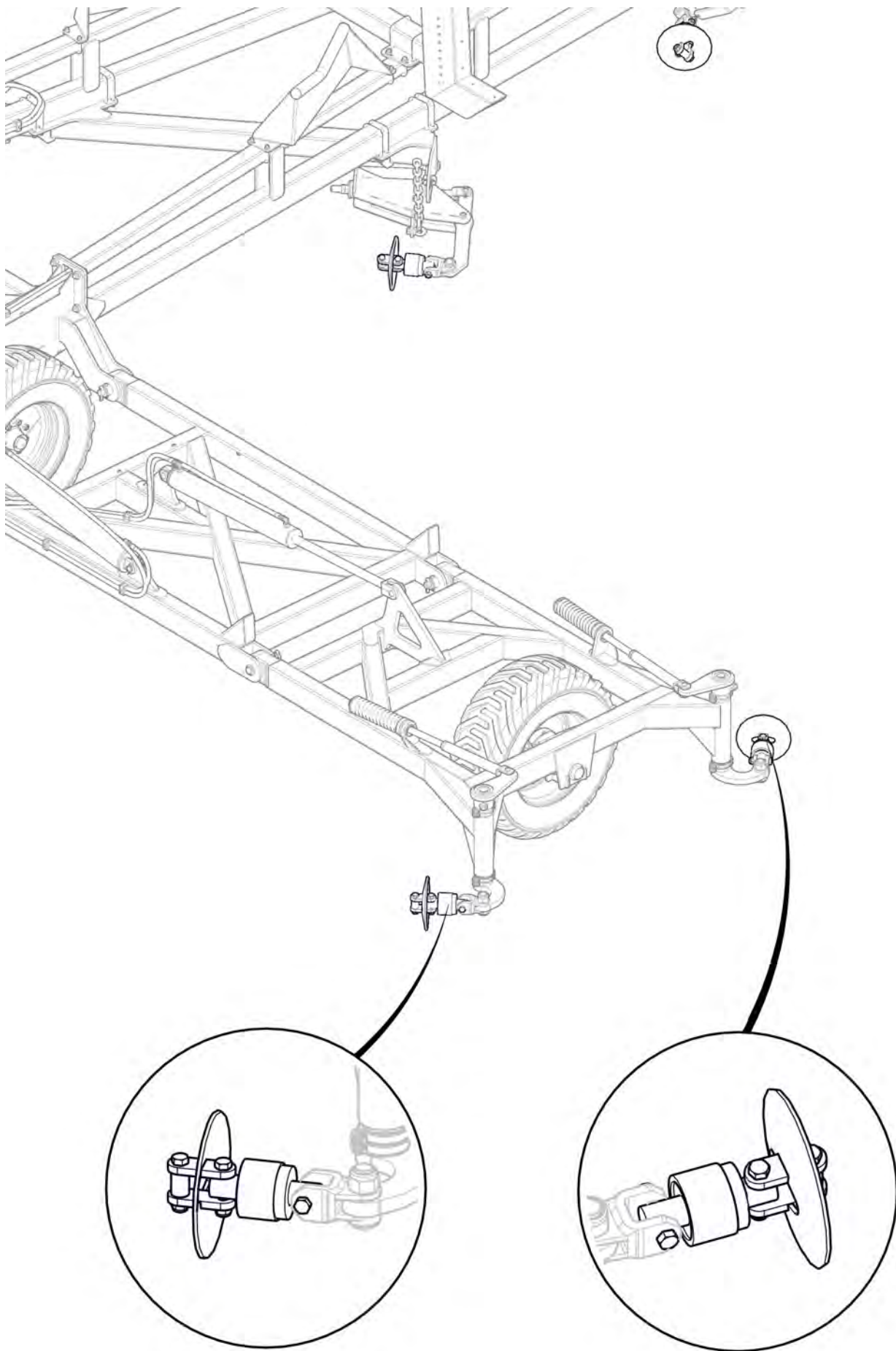


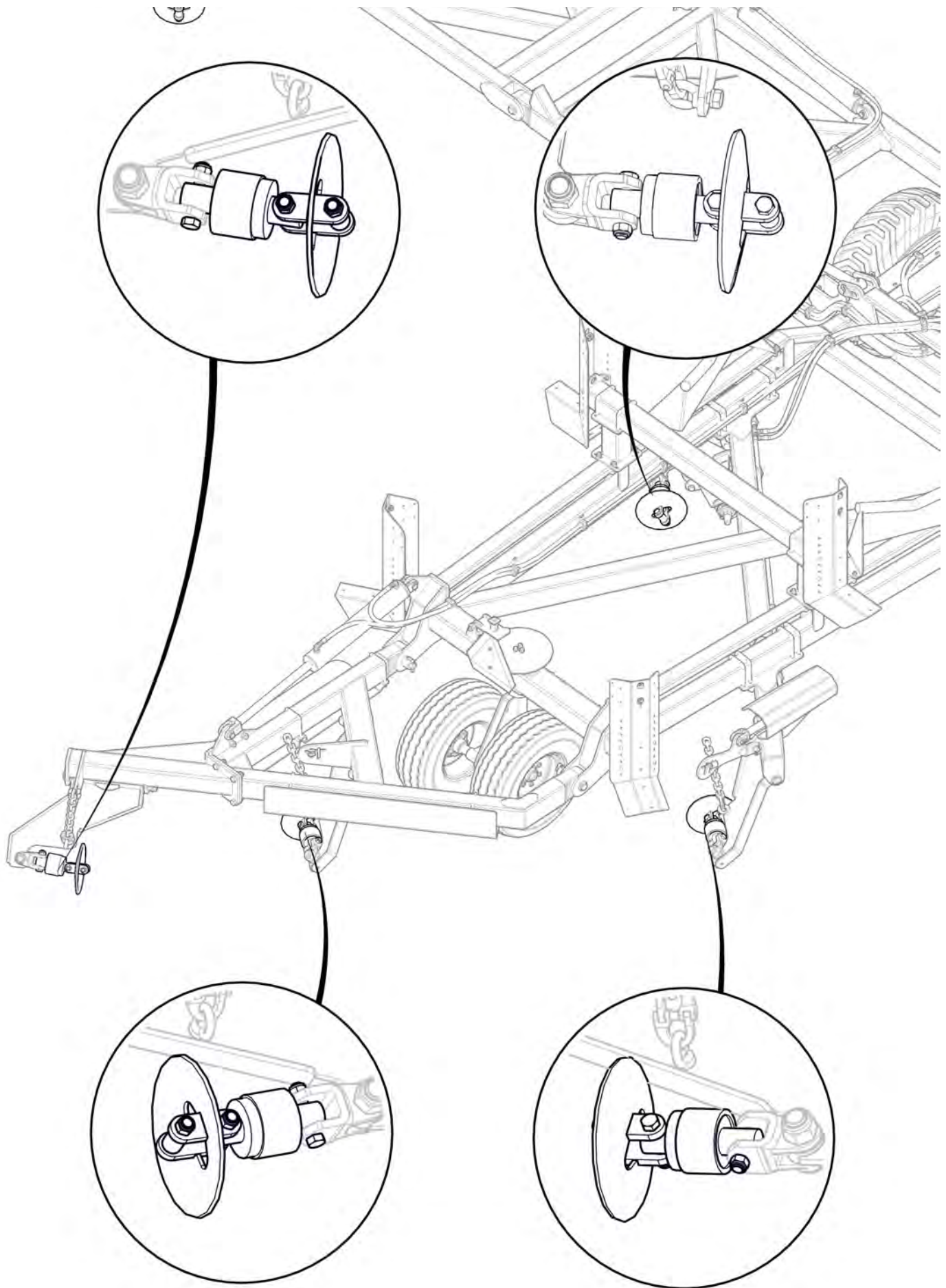


Item No.	Description	Qty	Number
1	Nyloc Nut M20	3	0221-NYL20
2	M20 x 110 grade 10.9 ZP Short Thread Bolt	3	0211-20110 ST
3	Disc Chain Tie Plate Link 20mm	1	0802-DCTP-20
4	20mm Bolt Swivel Unit	1	0802-PCHB55
5	Tie Plate Bush	1	0801-PCDCS55





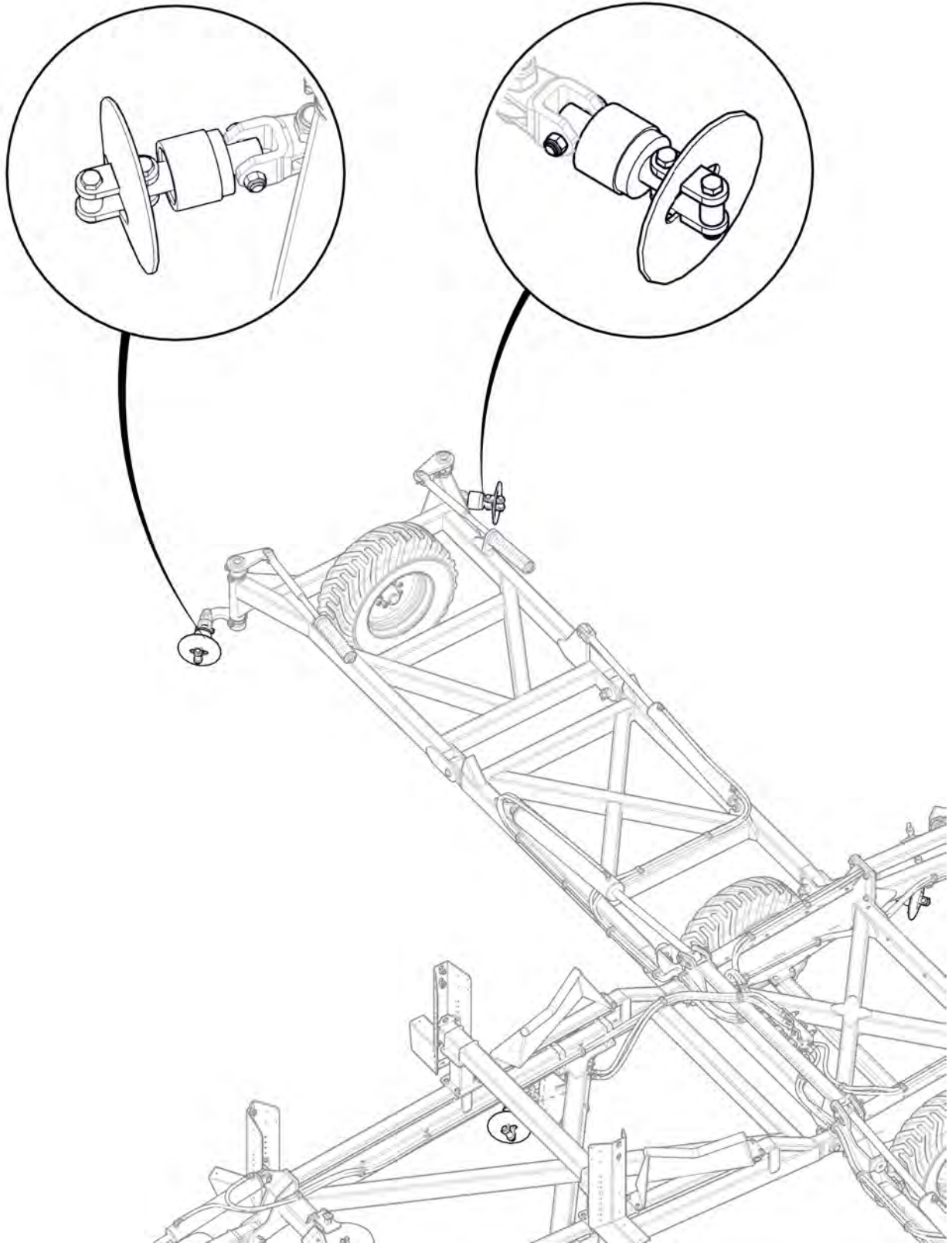


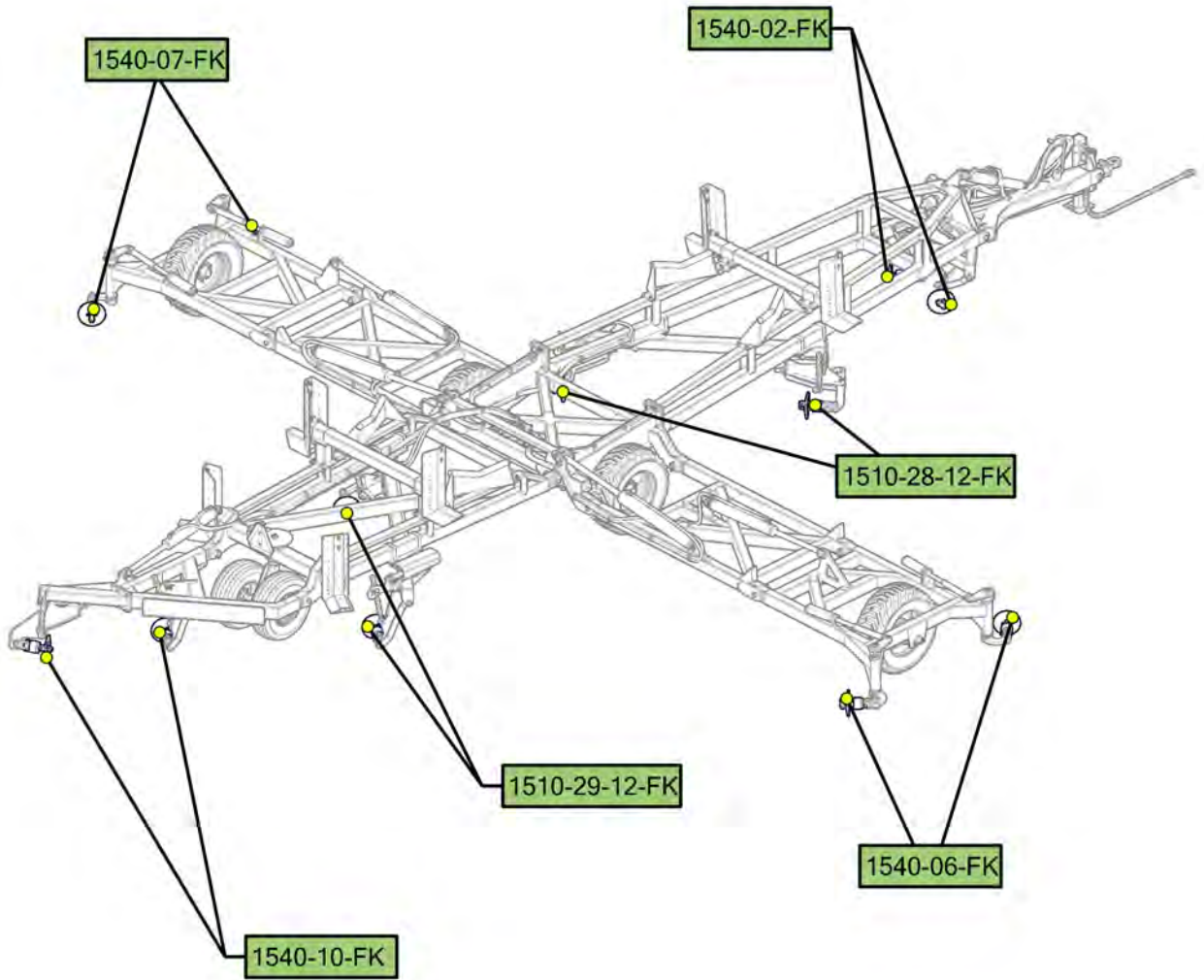


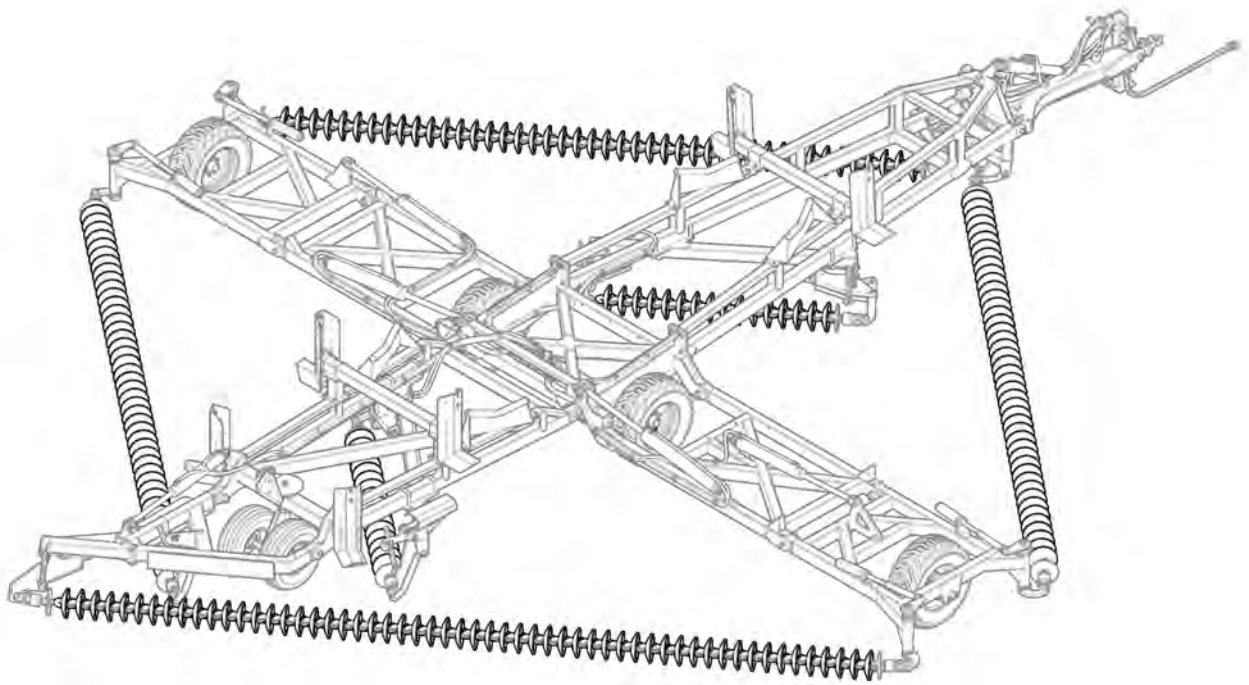
All bearings correctly orientated with seal facing the rear of the machine



Signed \_\_\_\_\_ Date \_\_\_\_/\_\_\_\_/\_\_\_\_  
Unit Serial Number \_\_\_\_\_



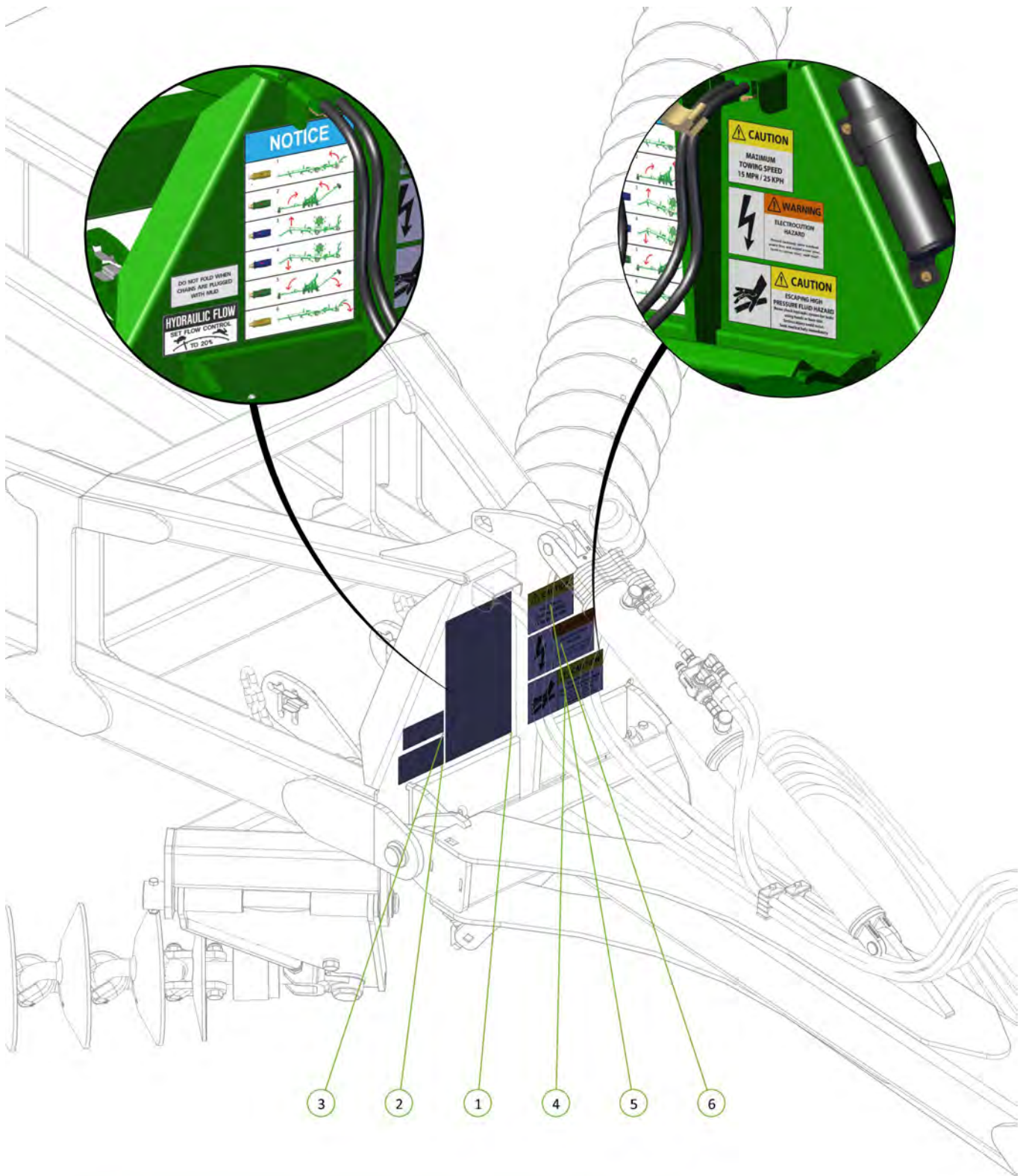






# Section 3

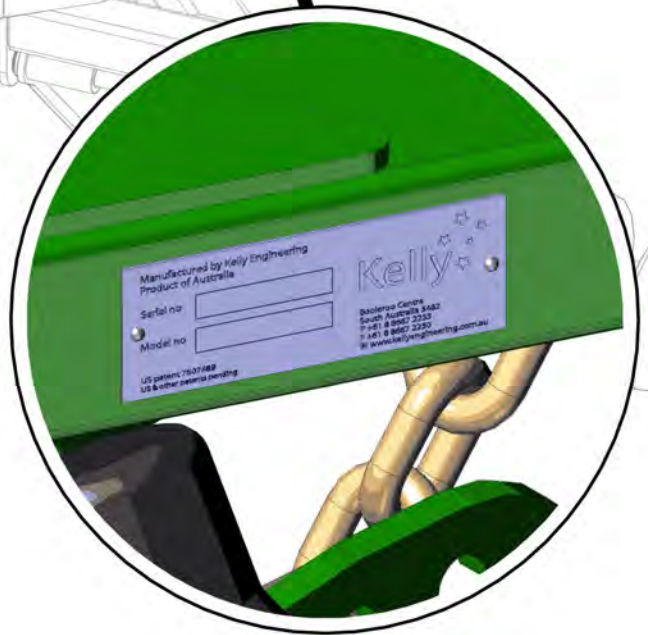
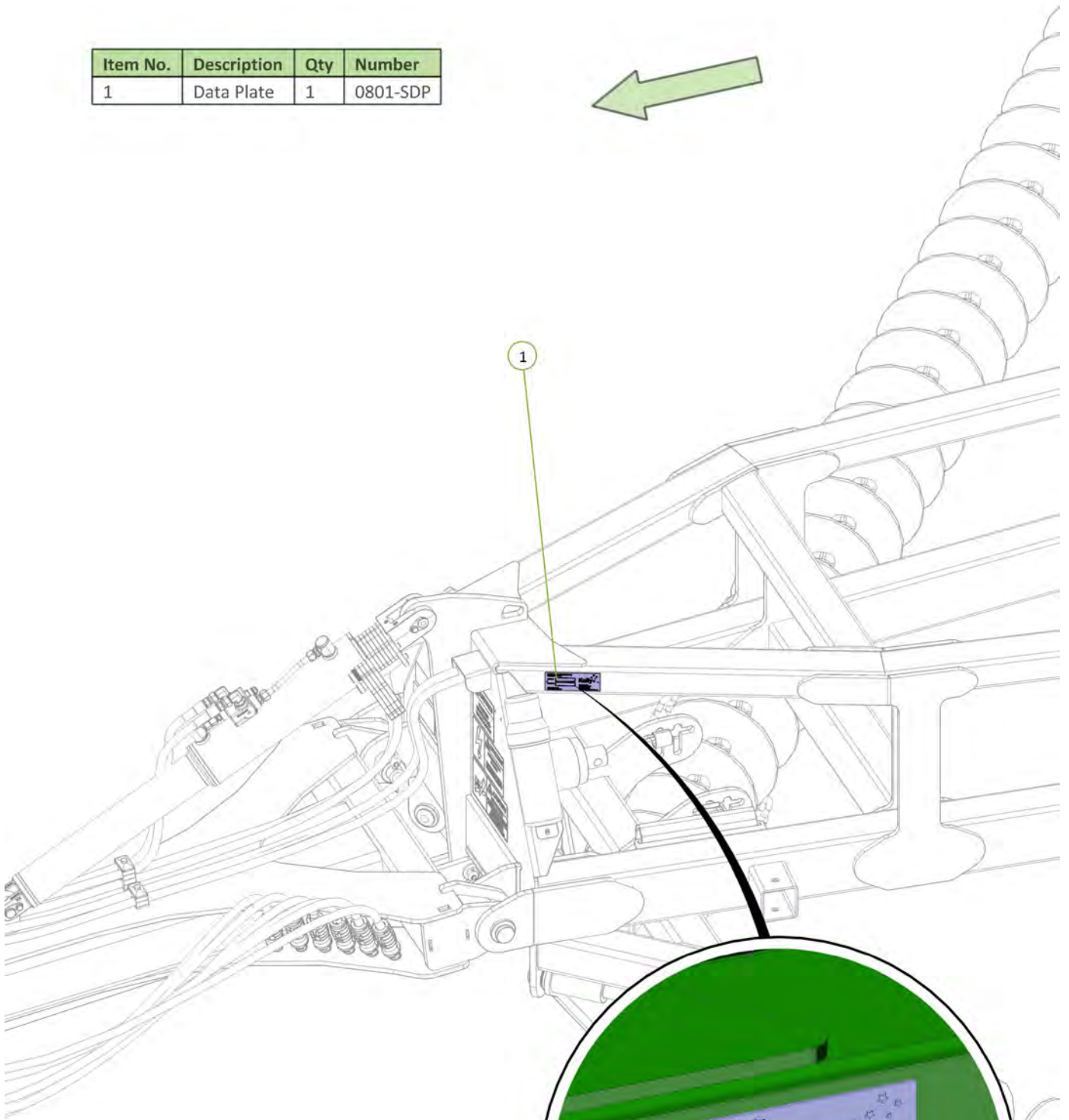
## Decal Application



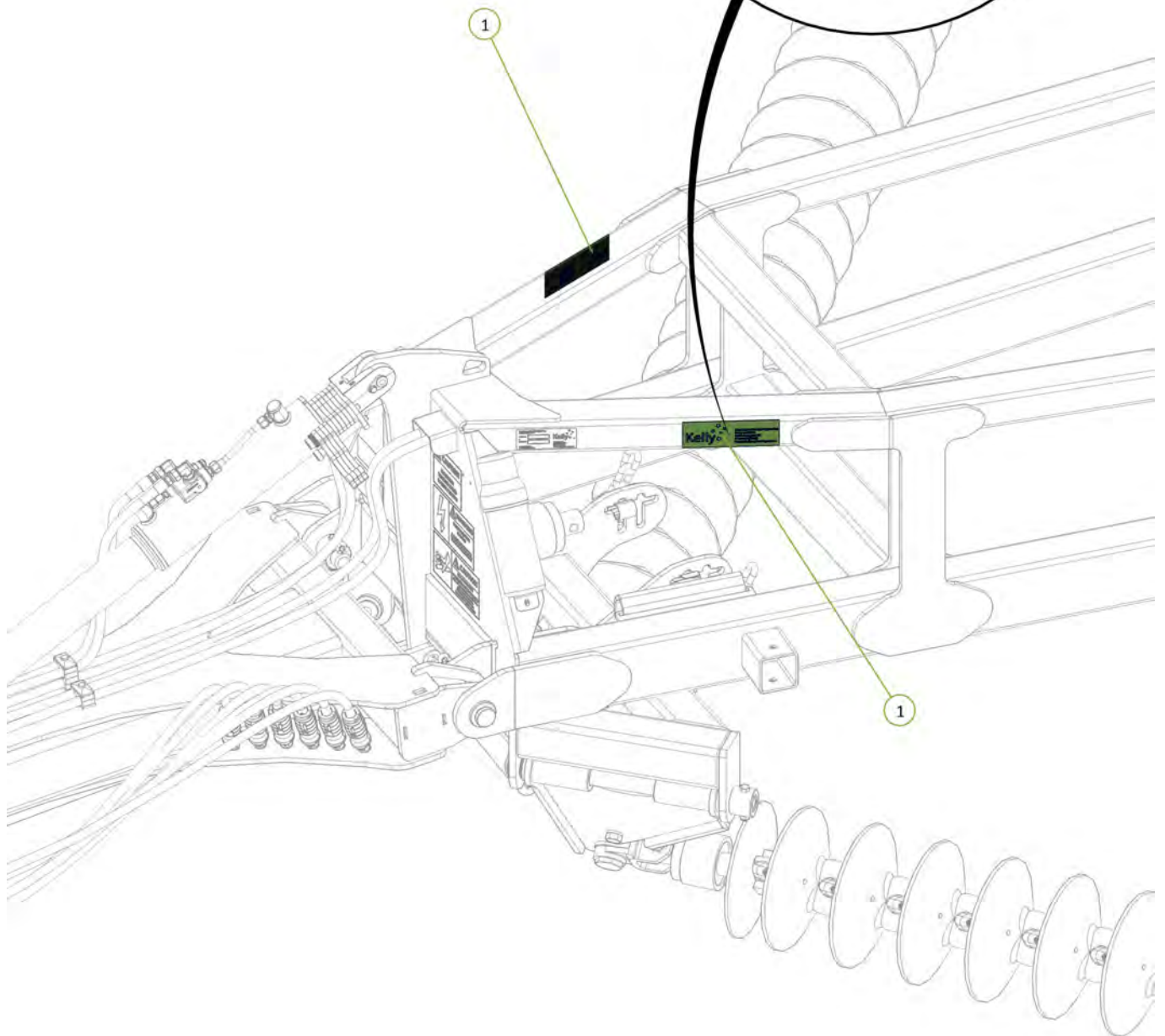
Item No.	Description	Qty	Number
1	'NOTICE' Hydra Grip Sequence Decal 200x360mm	1	0801-S20
2	Hydraulic Flow Decal	1	0801-S21
3	Mud Folding Warning Decal	1	0801-S22
4	Hydraulic Pressure Caution Decal	1	0801-S4
5	Towing Speed Decal	1	0801-S5
6	Electrocution Hazard Decal	1	0801-S6

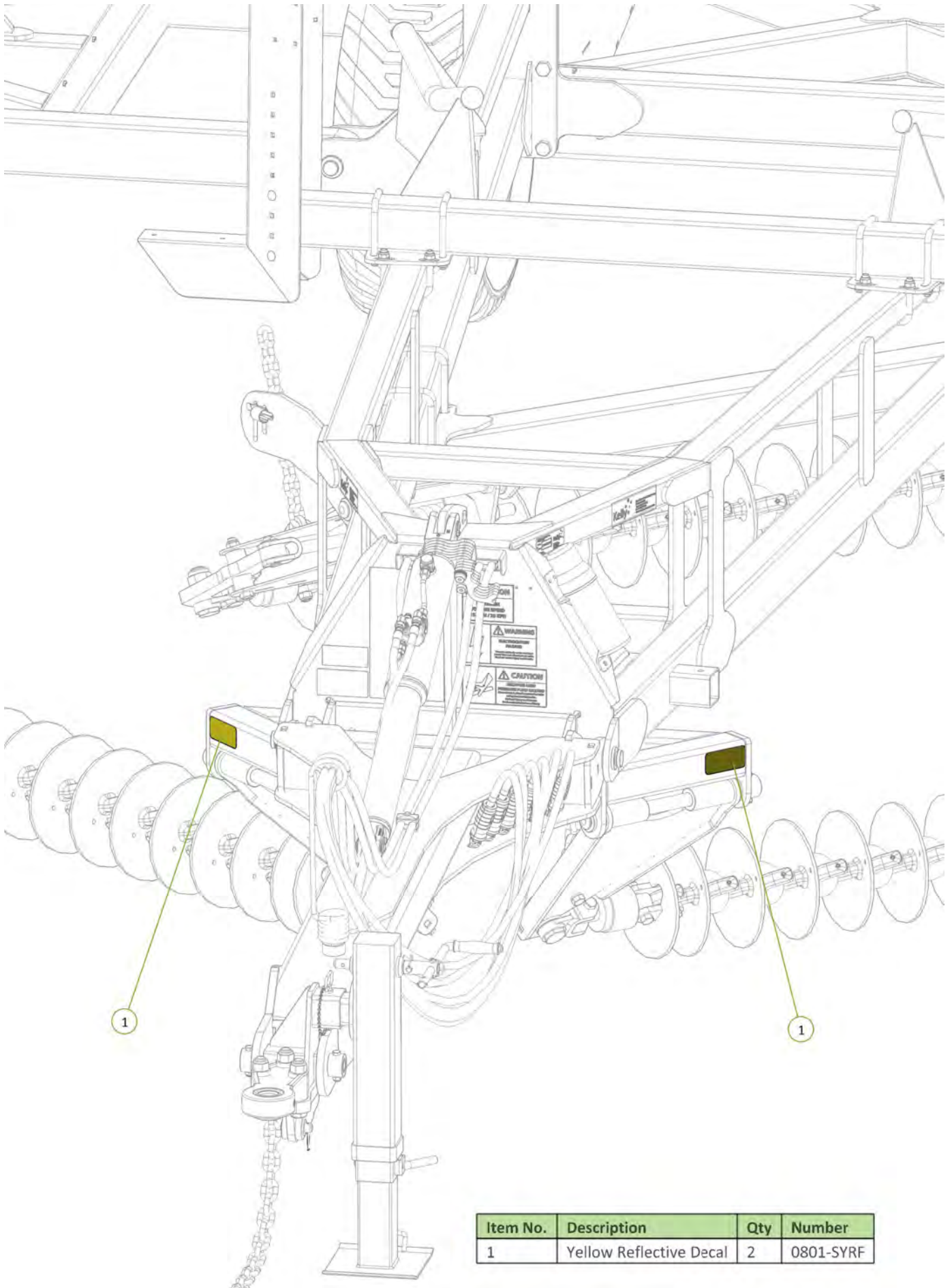


Item No.	Description	Qty	Number
1	Data Plate	1	0801-SDP

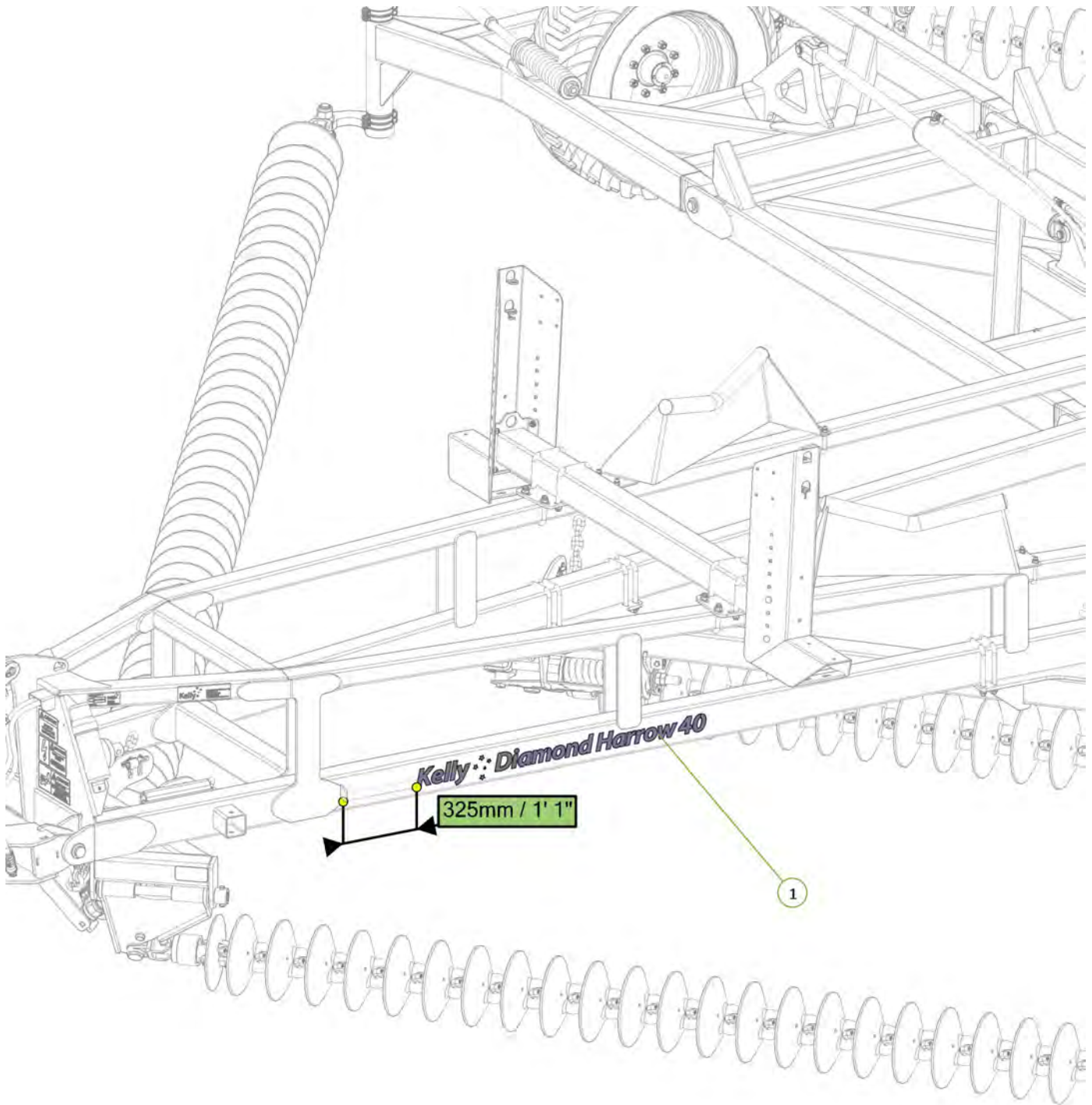


Item No.	Description	Qty	Number
1	Kelly Engineering Decal	2	0801-S12



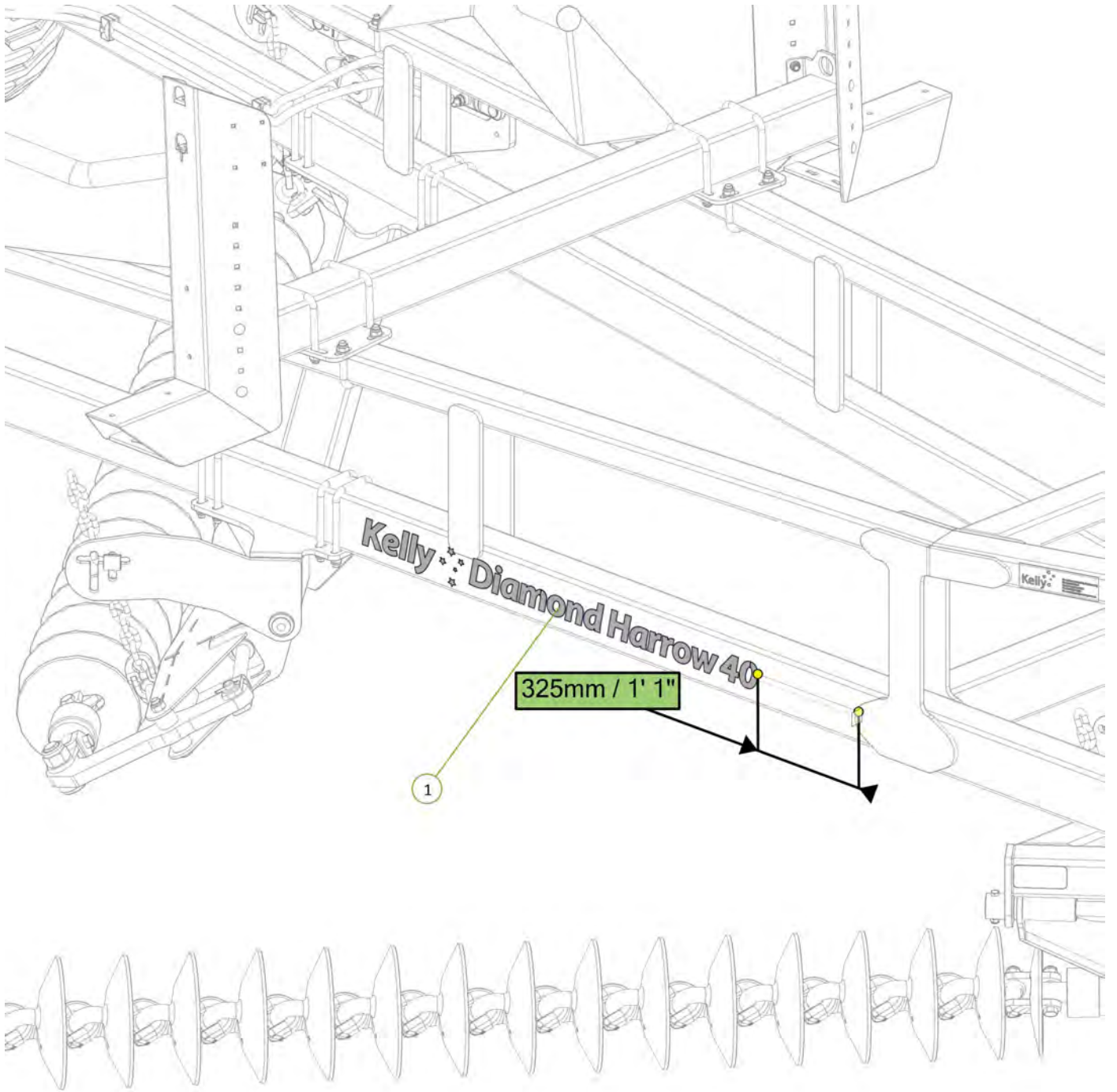


Item No.	Description	Qty	Number
1	Yellow Reflective Decal	2	0801-SYRF



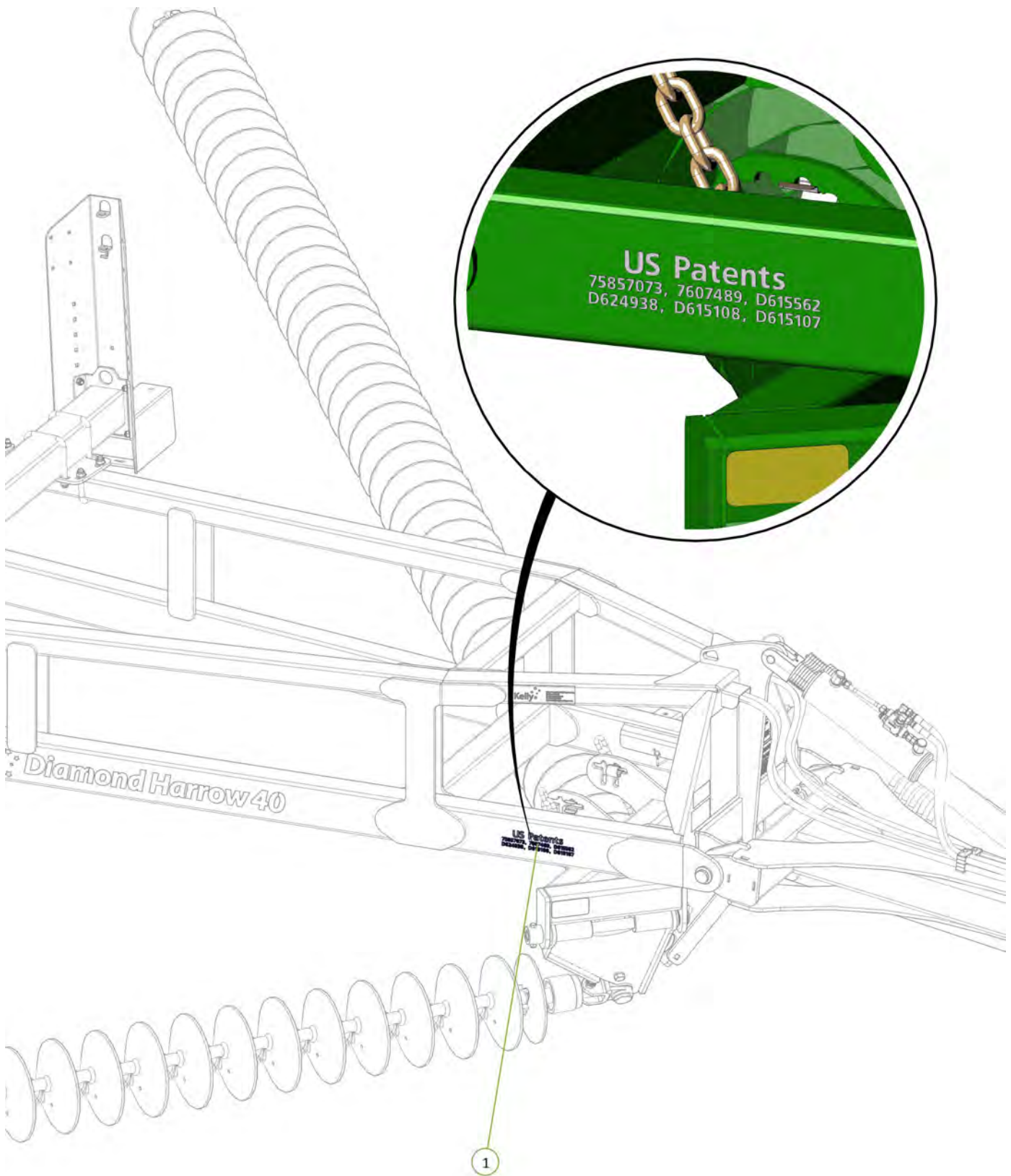
Item No.	Description	Qty	Number
1	Diamond Harrow 40 Decal	1	0801-SKDH40





Item No.	Description	Qty	Number
1	Diamond Harrow 40 Decal	1	0801-SKD40

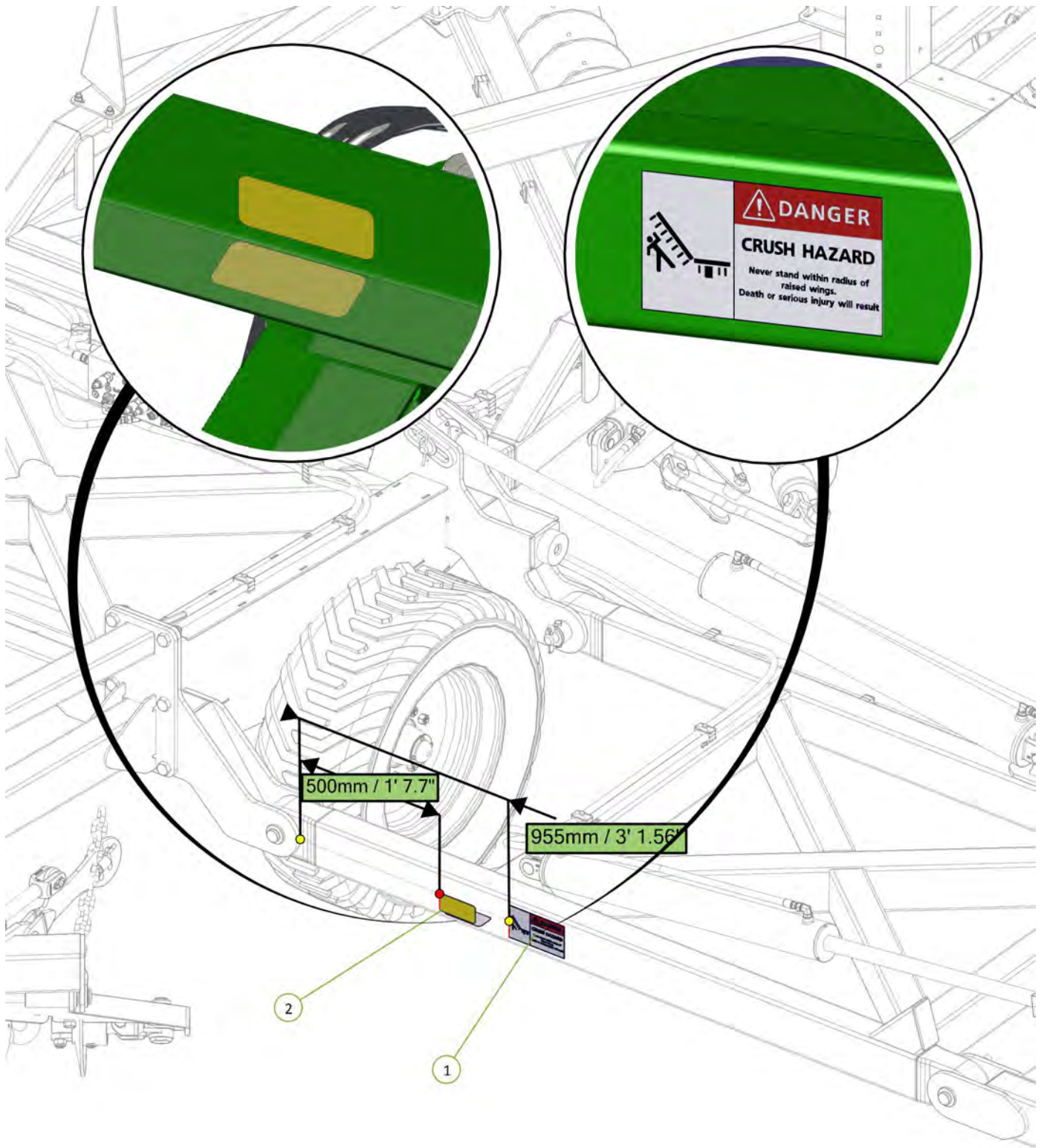




Item No.	Description	Qty	Number
1	USA Patent No. Decal	1	0801-SUSP

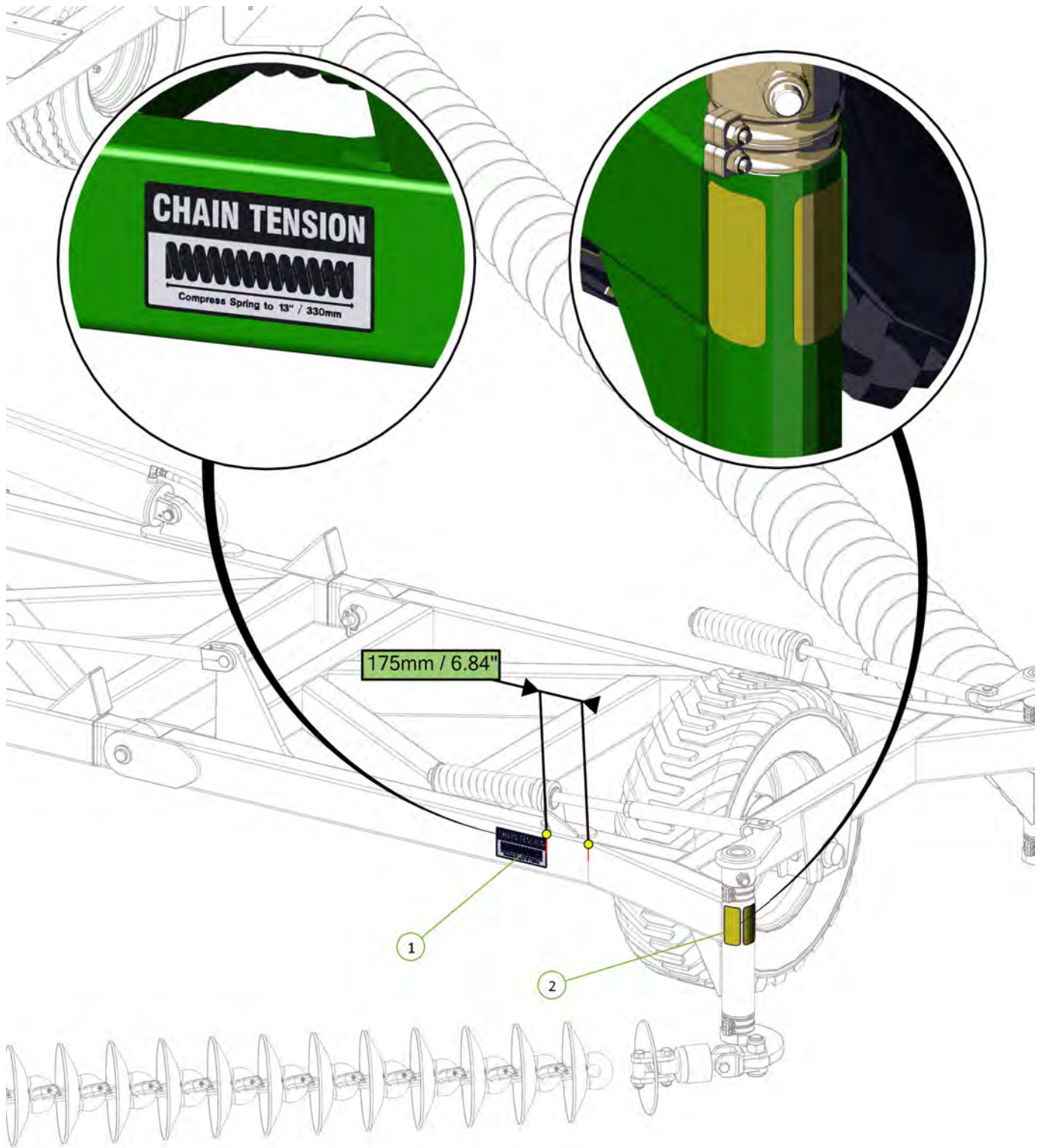






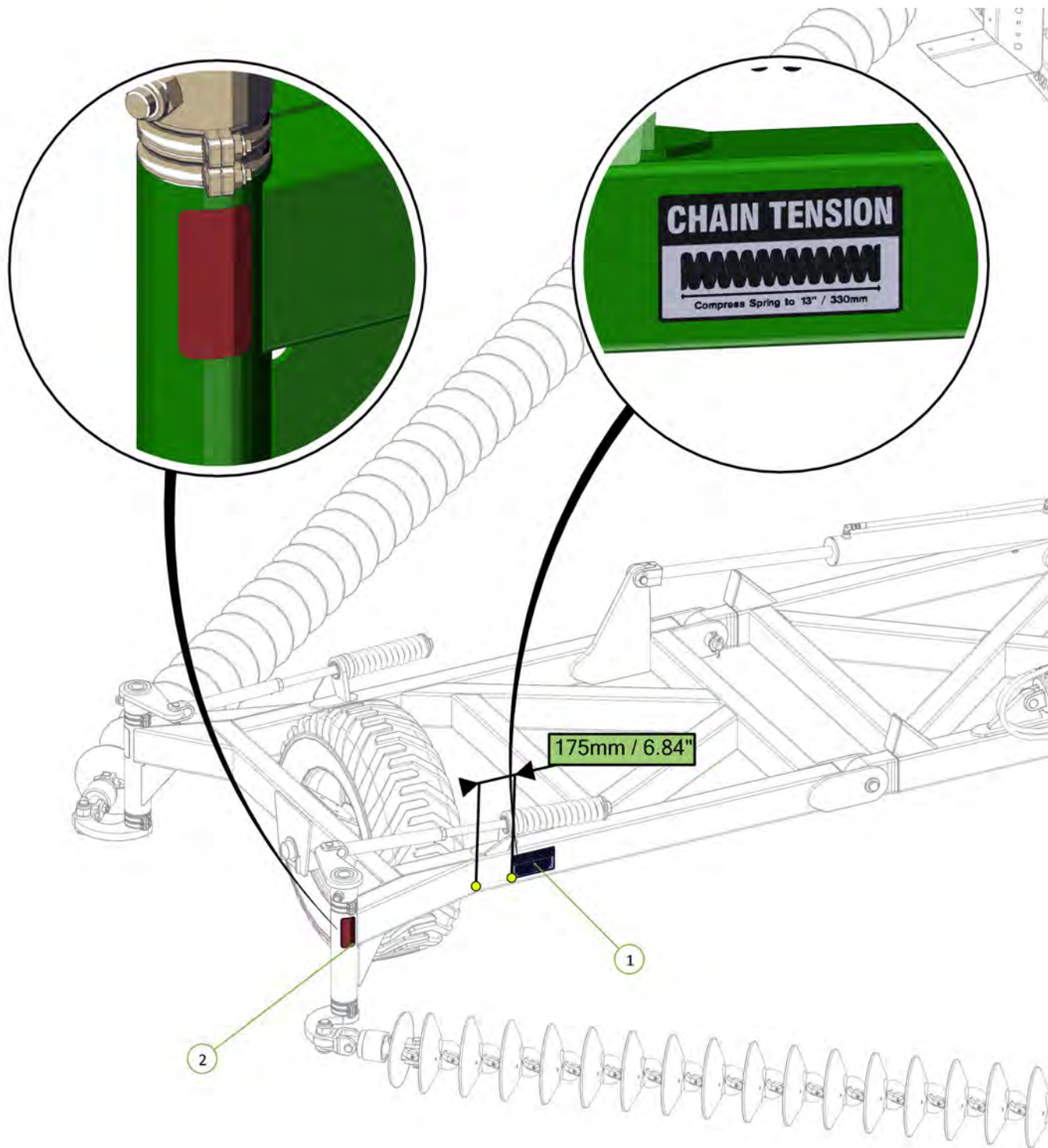
Item No.	Description	Qty	Number
1	Danger Crush Hazard Decal	1	0801-S3
2	Yellow Reflective Decal	2	0801-SYRF





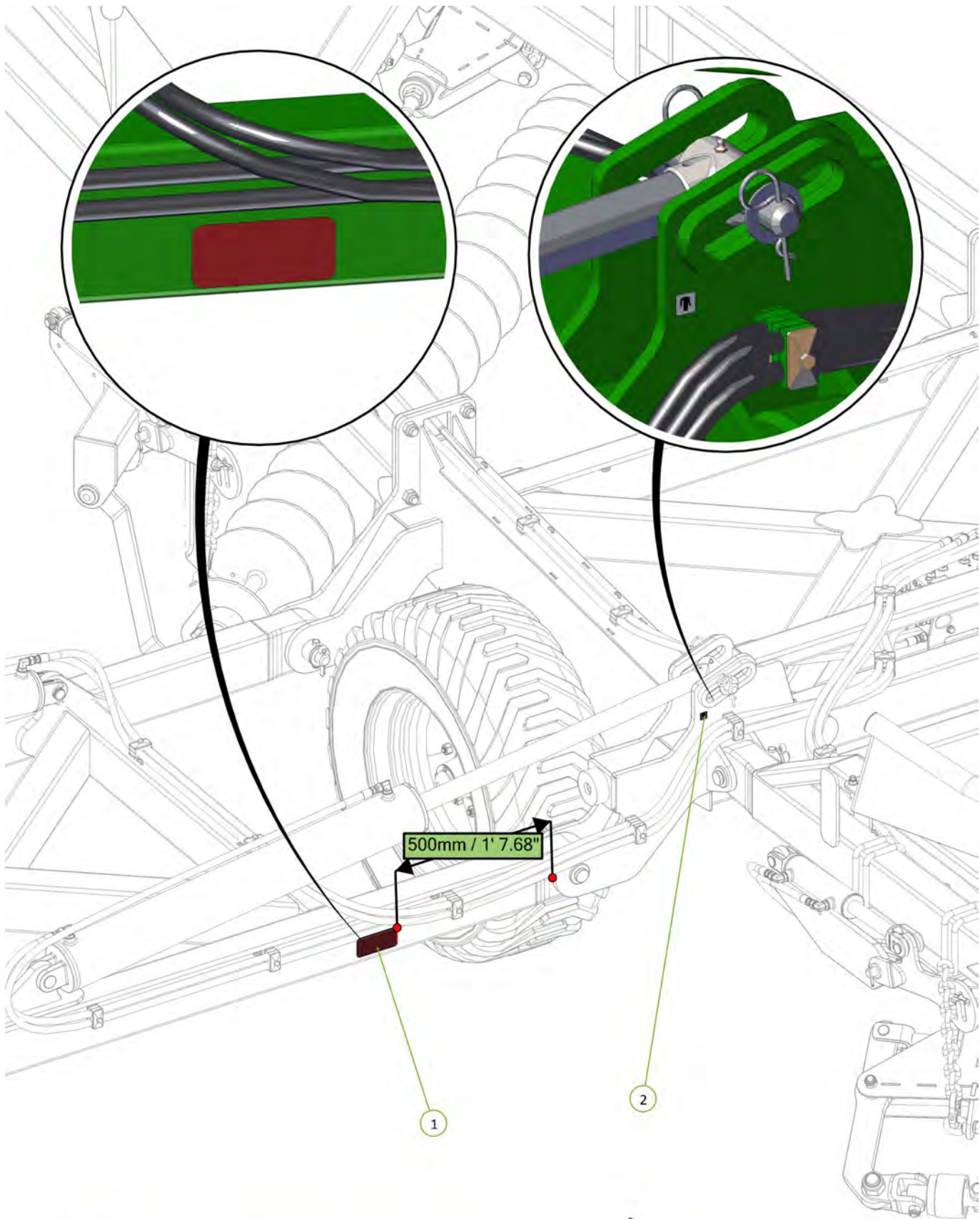
Item No.	Description	Qty	Number
1	Chain Tension 330mm Decal	1	0801-S15
2	Yellow Reflective Decal	2	0801-SYRF





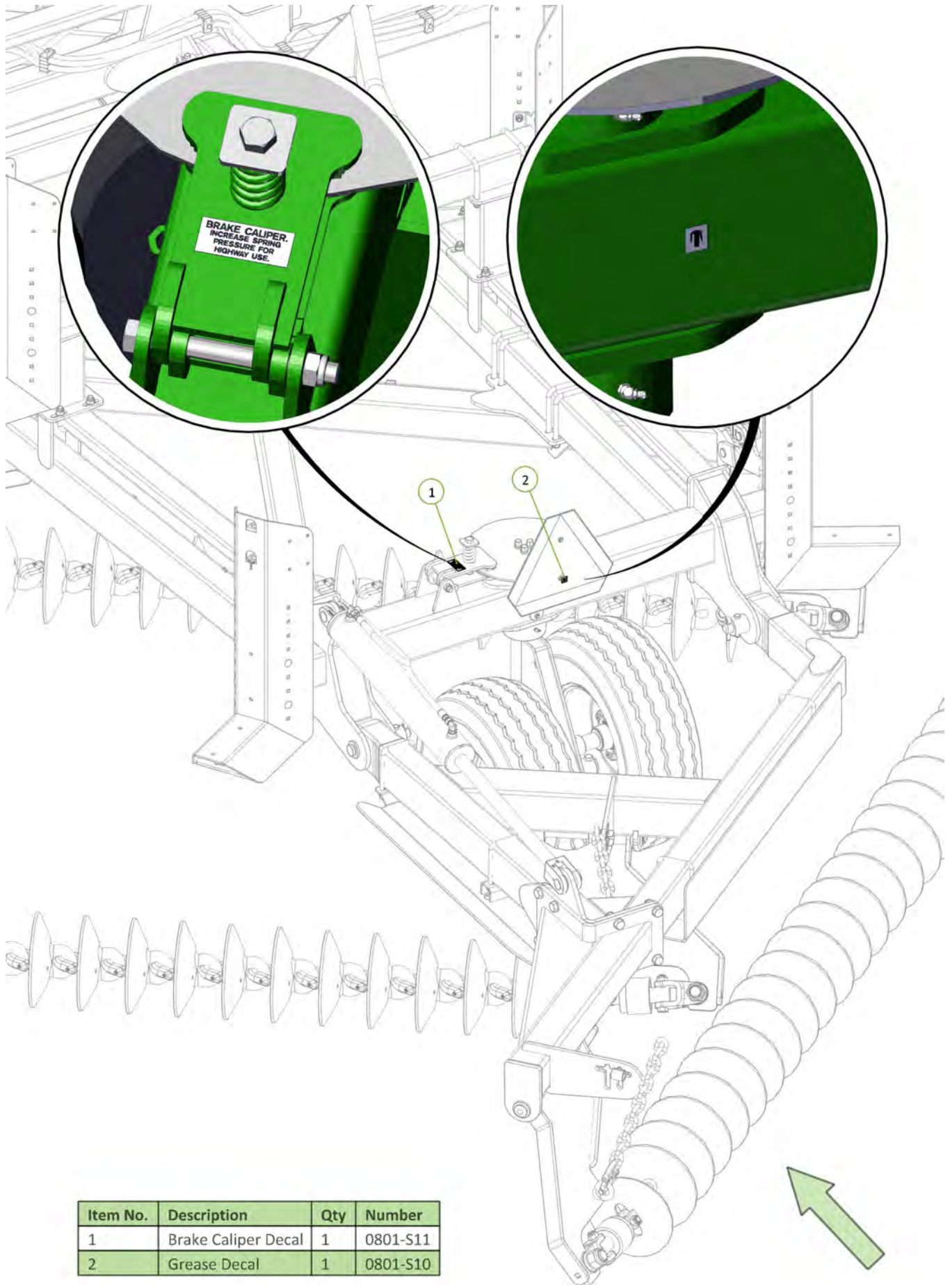
Item No.	Description	Qty	Number
1	Chain Tension 330mm Decal	1	0801-S15
2	Red Reflective Decal	1	0801-SRRF





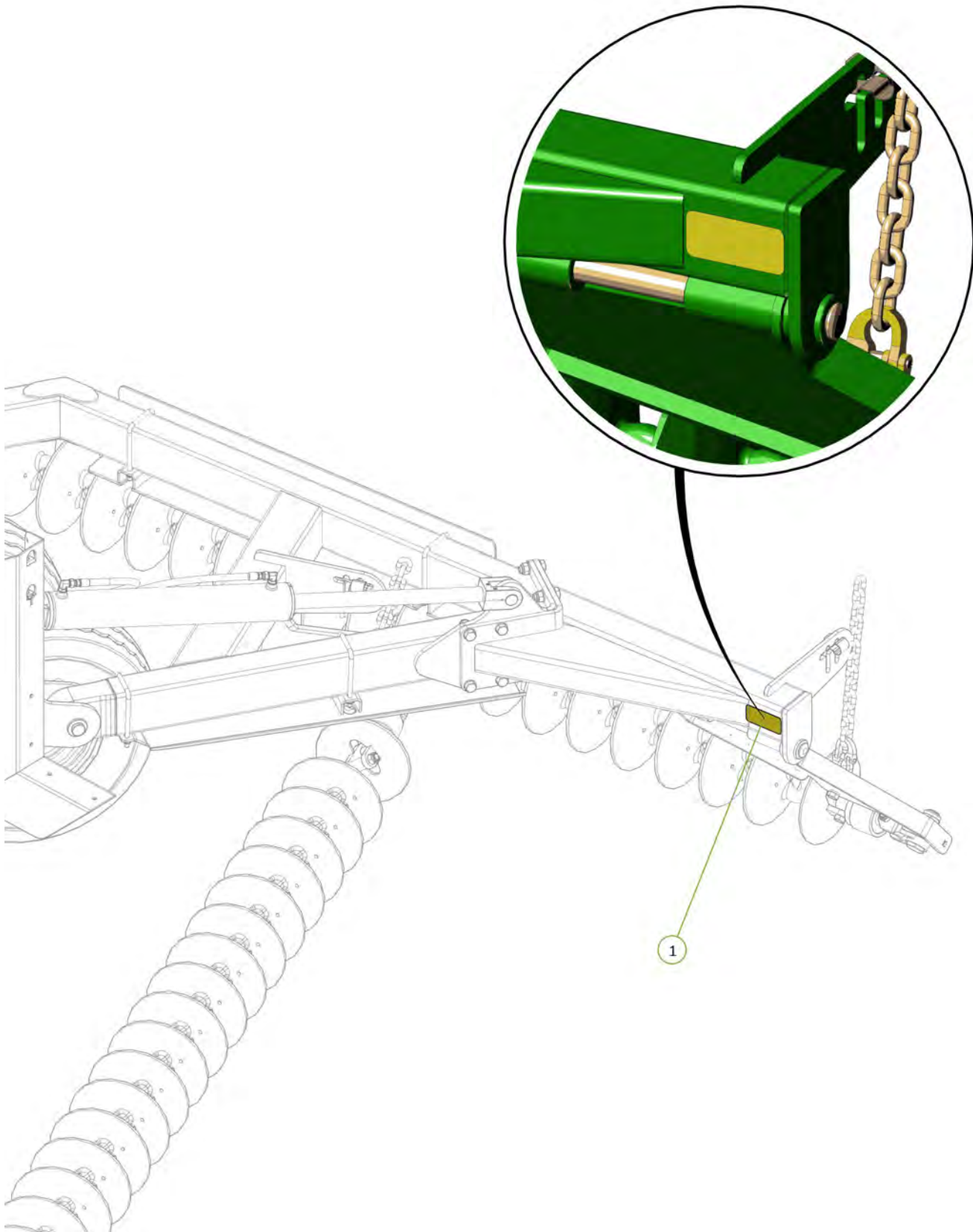
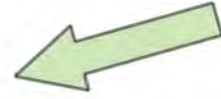
Item No.	Description	Qty	Number
1	Red Reflective Decal	1	0801-SRRF
2	Grease Decal	1	0801-S10



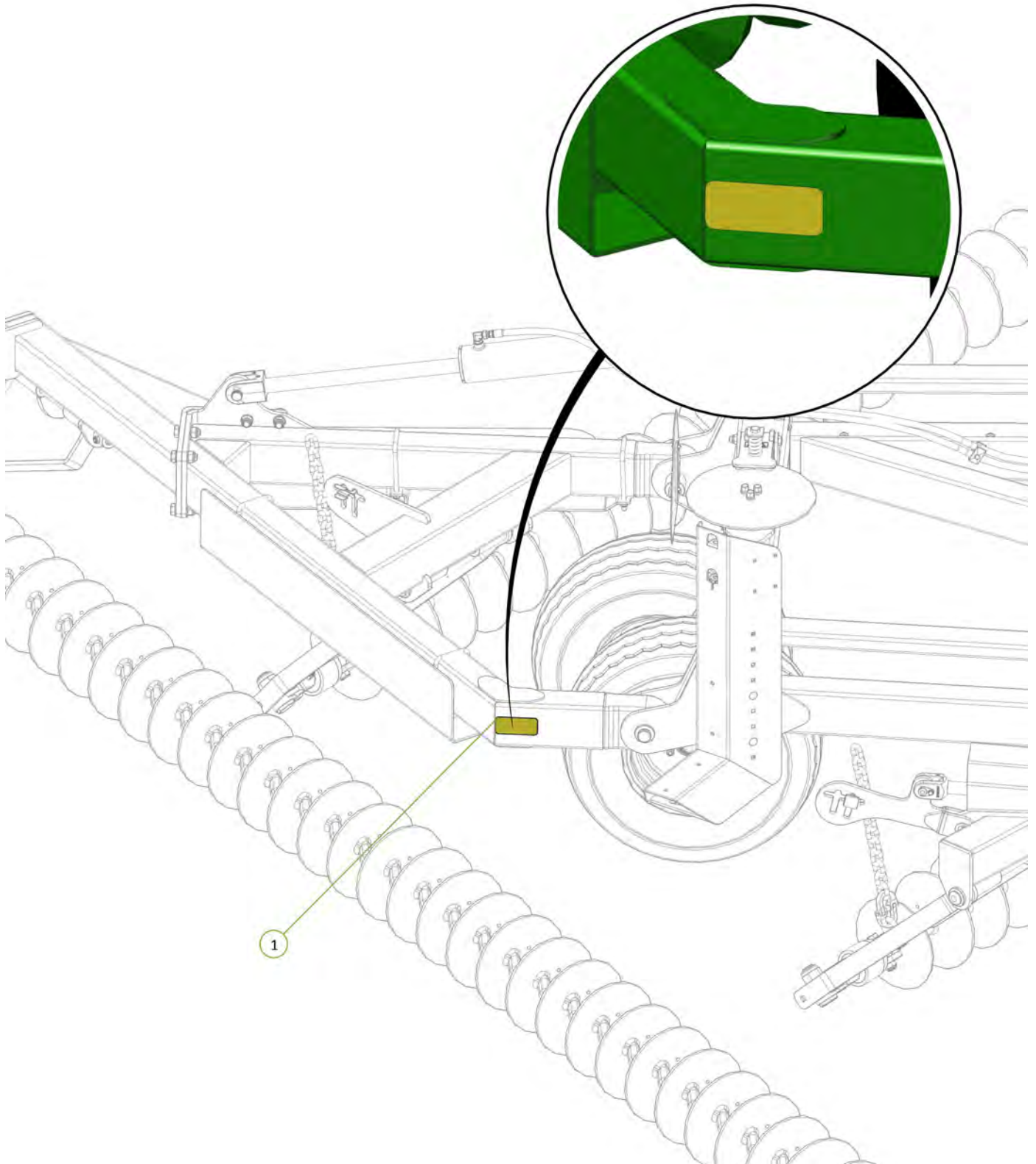


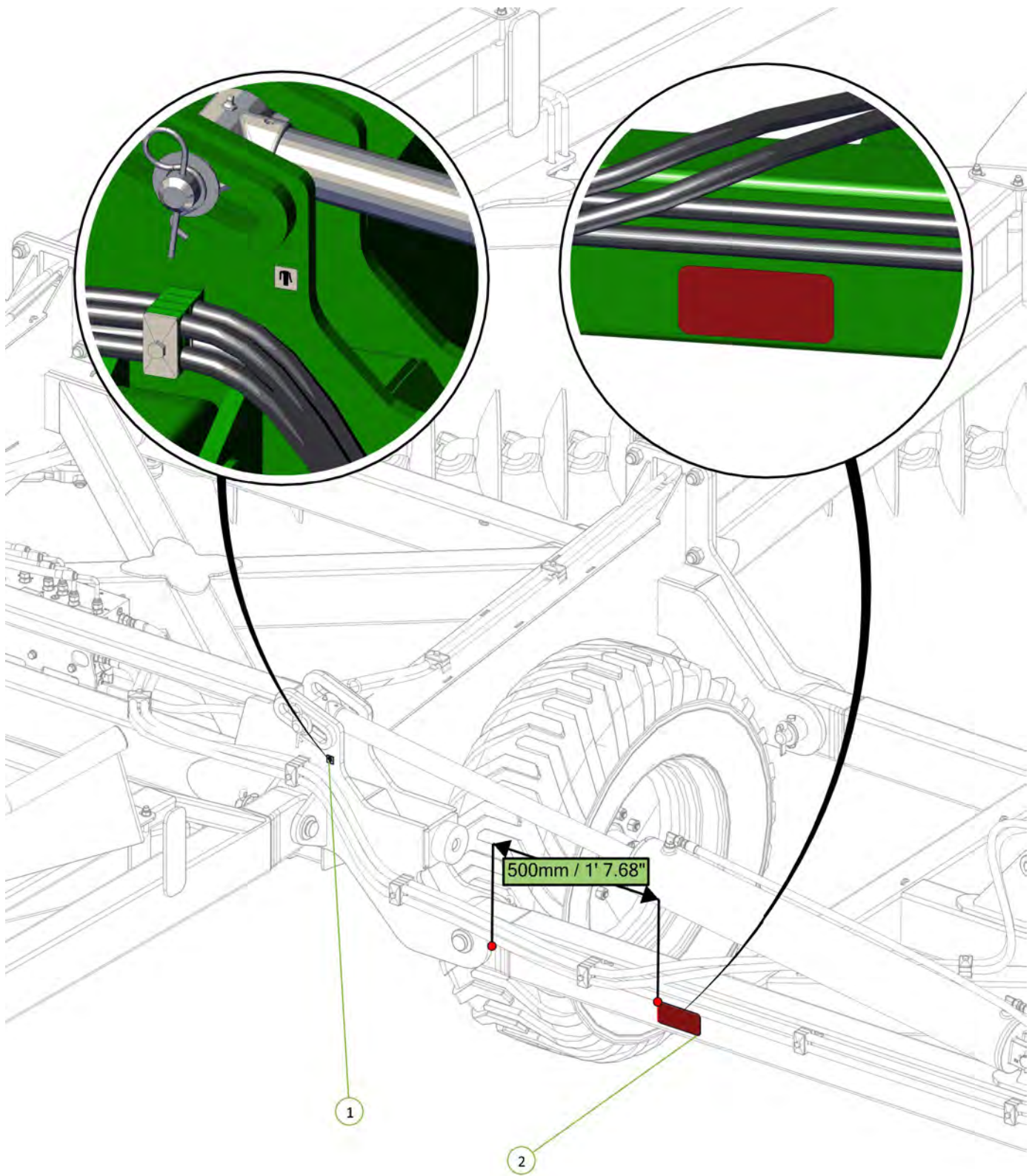
Item No.	Description	Qty	Number
1	Brake Caliper Decal	1	0801-S11
2	Grease Decal	1	0801-S10

Item No.	Description	Qty	Number
1	Yellow Reflective Decal	1	0801-SYRF



Item No.	Description	Qty	Number
1	Yellow Reflective Decal	1	0801-SYRF

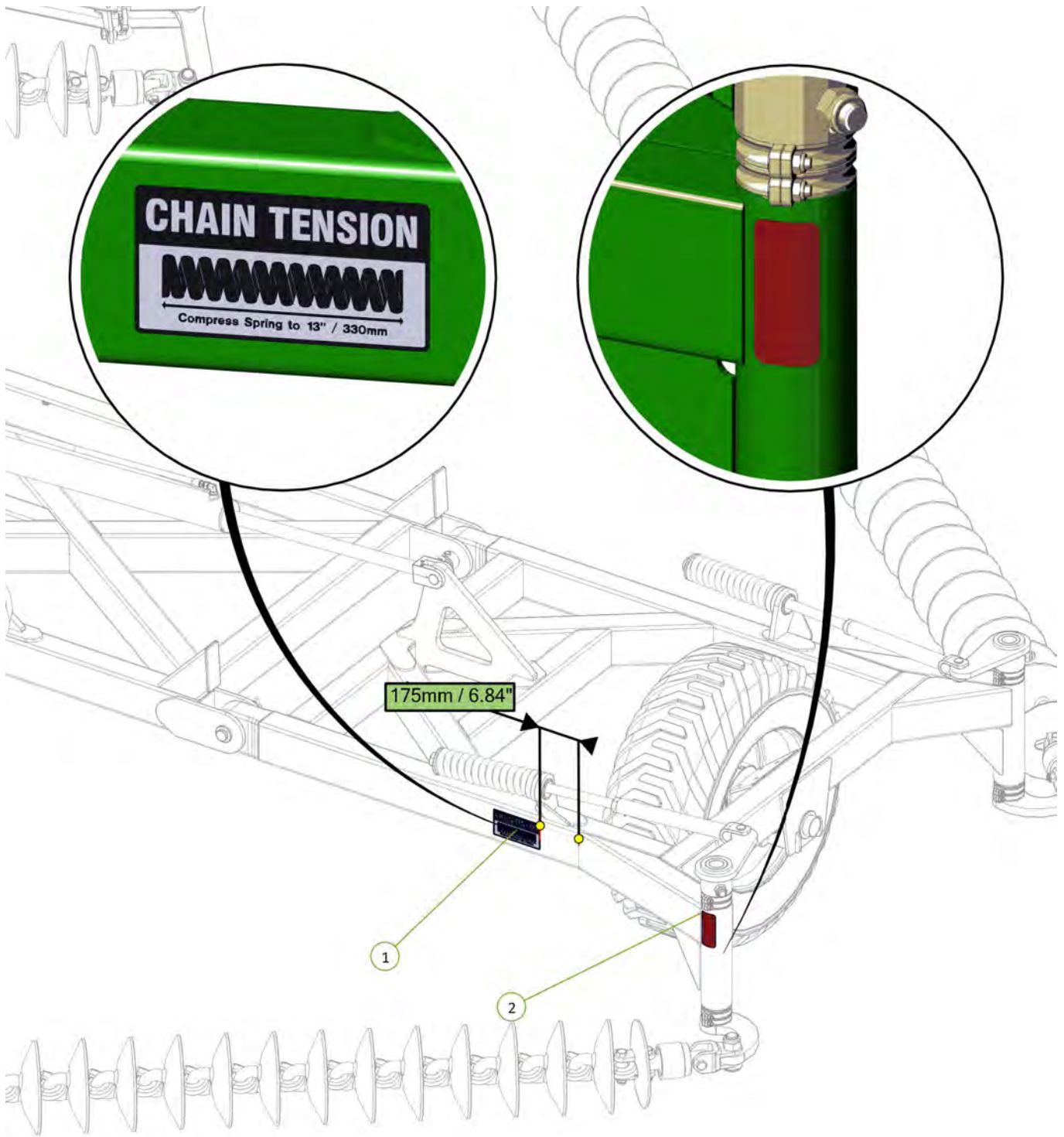




Item No.	Description	Qty	Number
1	Grease Decal	1	0801-S10
2	Red Reflective Decal	1	0801-SRRF

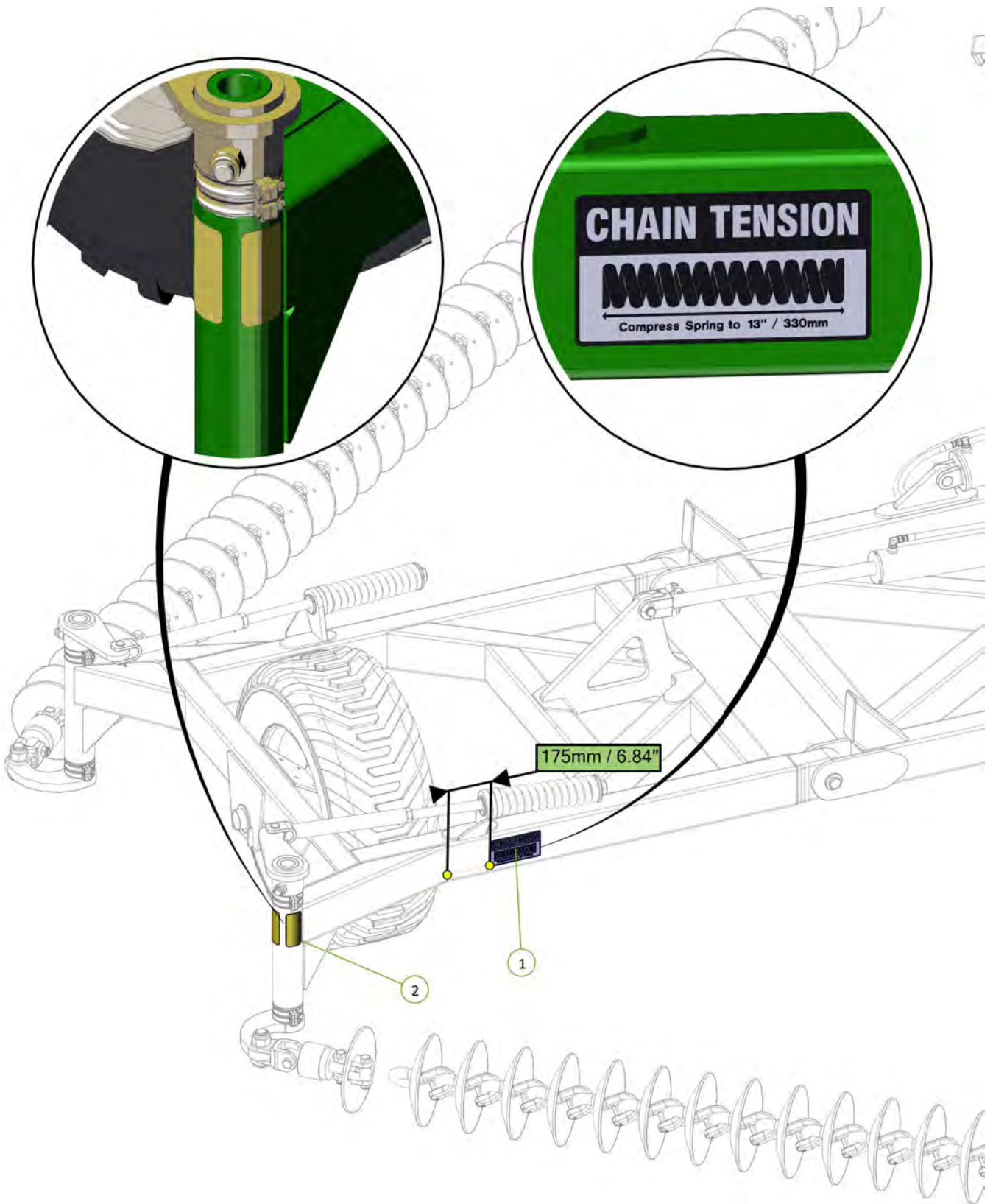






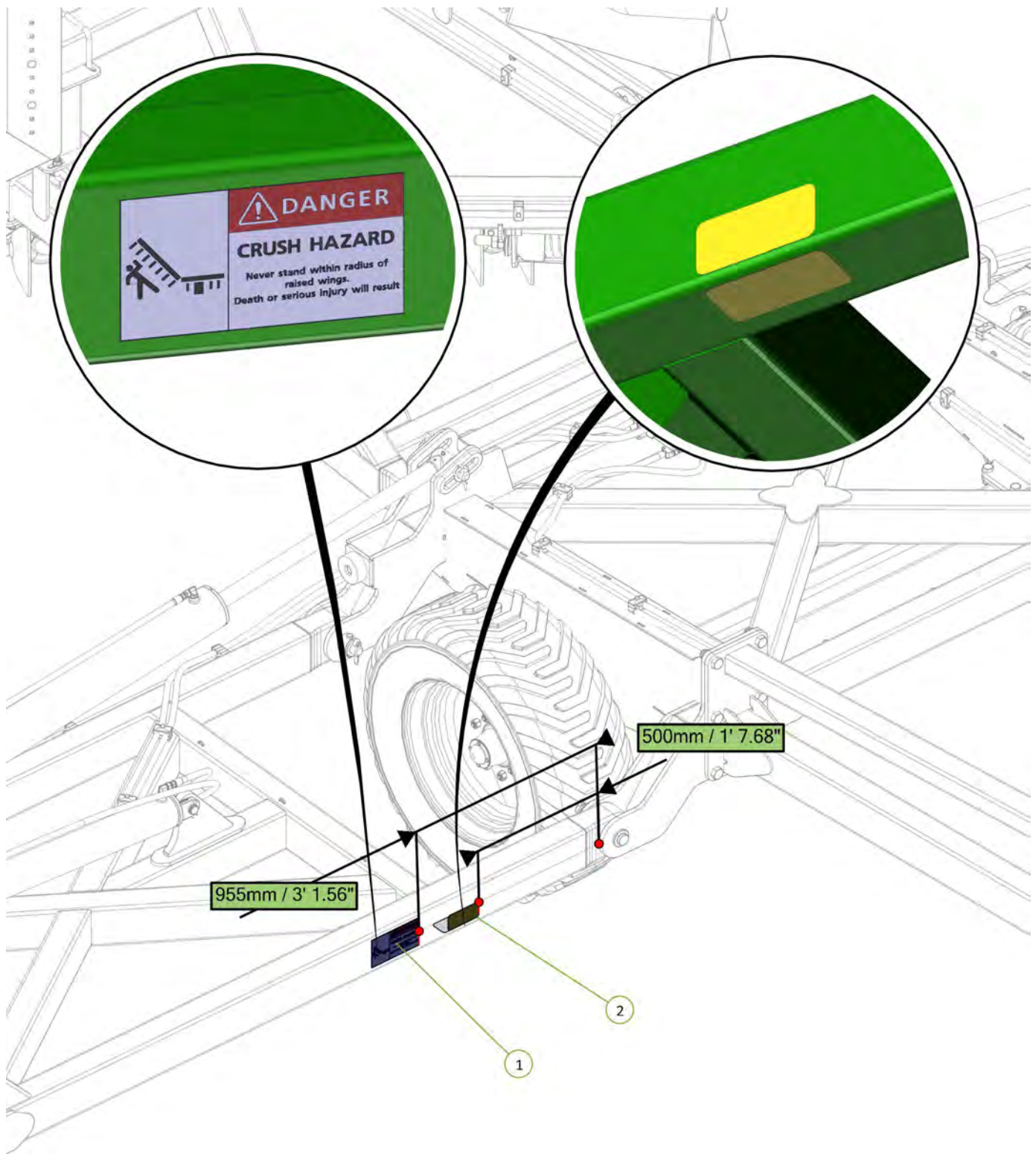
Item No.	Description	Qty	Number
1	Chain Tension 330mm Decal	1	0801-S15
2	Red Reflective Decal	1	0801-SRRF





Item No.	Description	Qty	Number
1	Chain Tension 330mm Decal	1	0801-S15
2	Yellow Reflective Decal	2	0801-SYRF

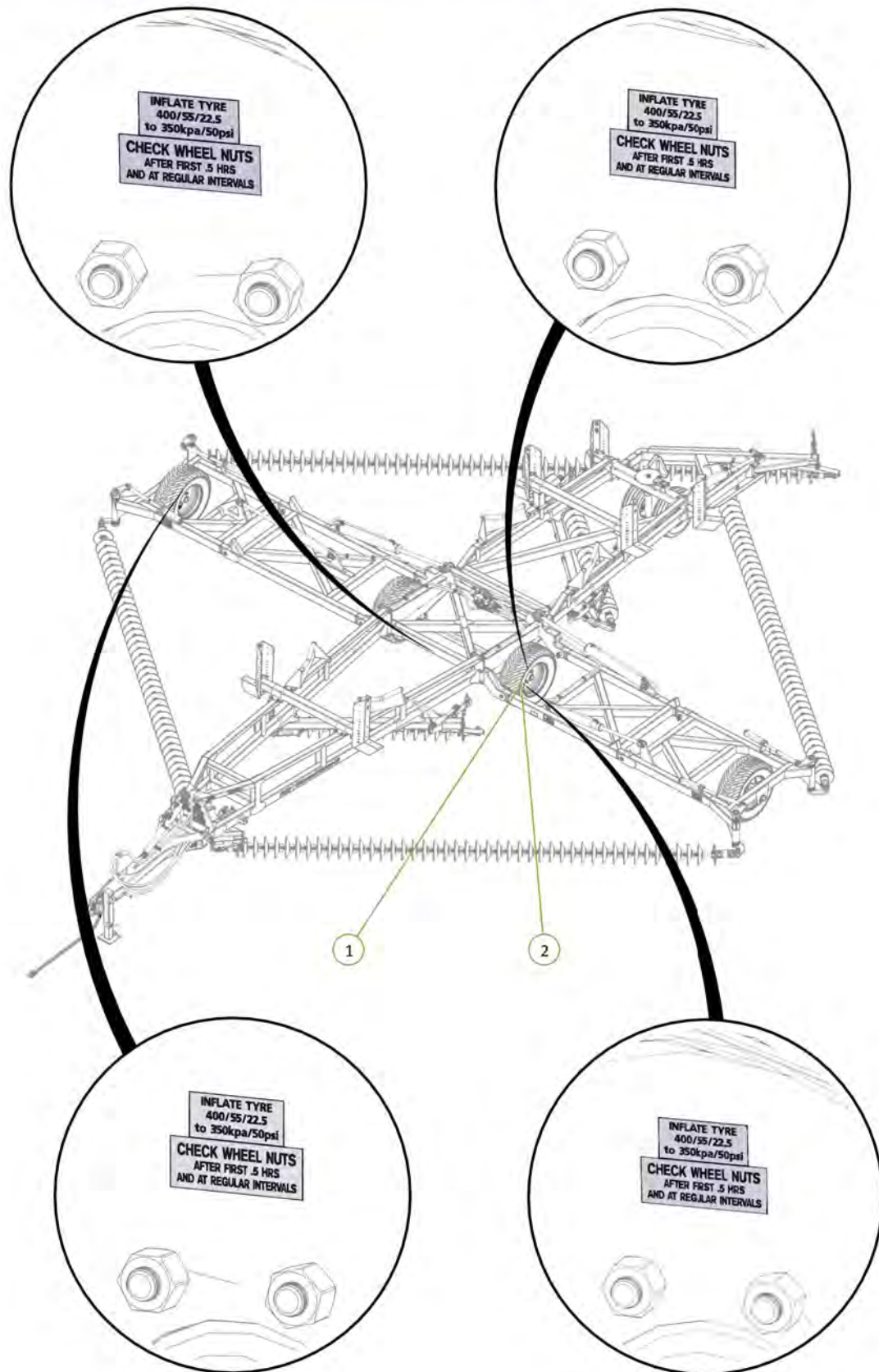




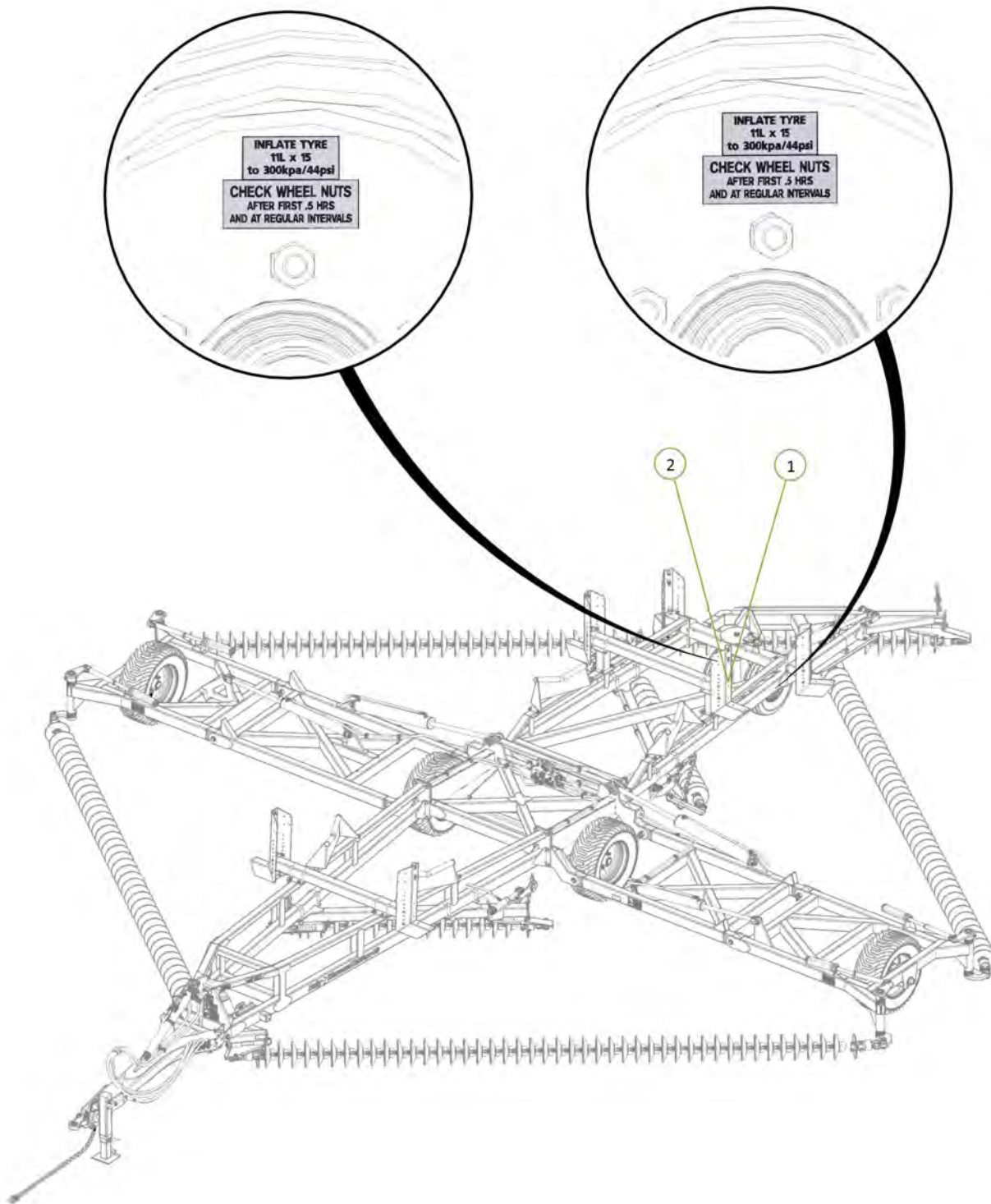
Item No.	Description	Qty	Number
1	Danger Crush Hazard Decal	1	0801-S3
2	Yellow Reflective Decal	2	0801-SYRF



Item No.	Description	Qty	Number
1	Wheel Nut Decal	4	0801-59
2	Decal, 400/55/22.5 Tyre Inflation	4	0801-S8-400-55-22.5



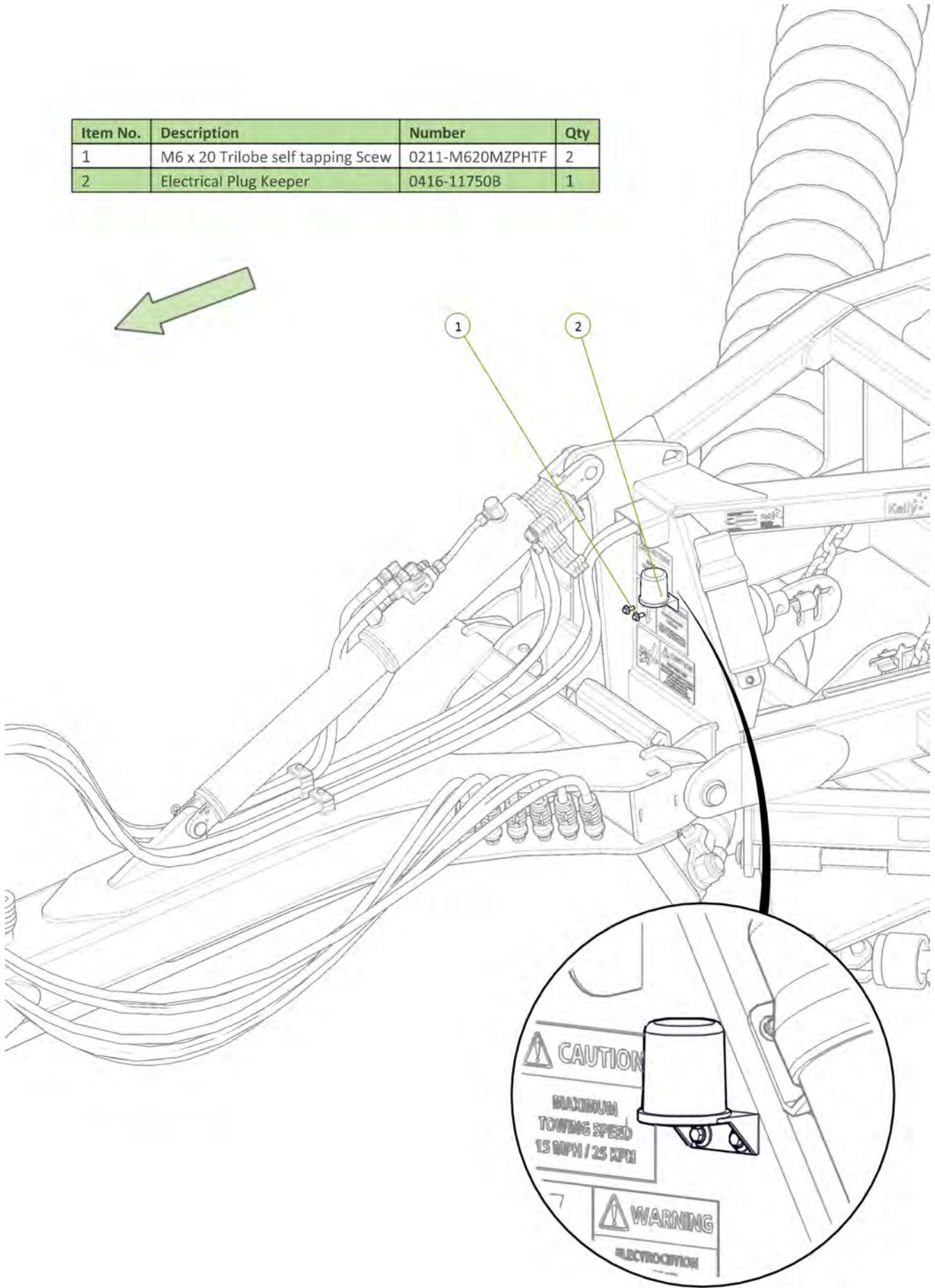
Item No.	Description	Qty	Number
1	Decal, 11L-15 Tyre Inflation	2	0801-S8-11L-15.JPG
2	Wheel Nut Decal	2	0801-S9

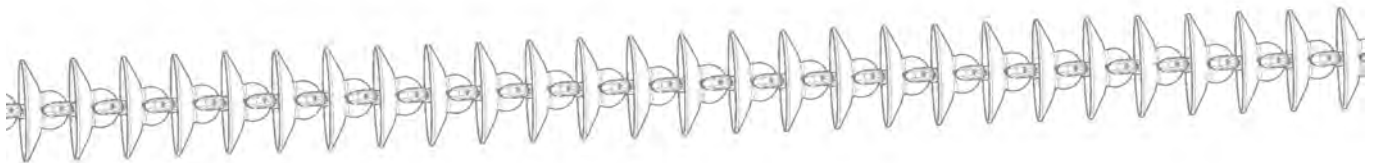
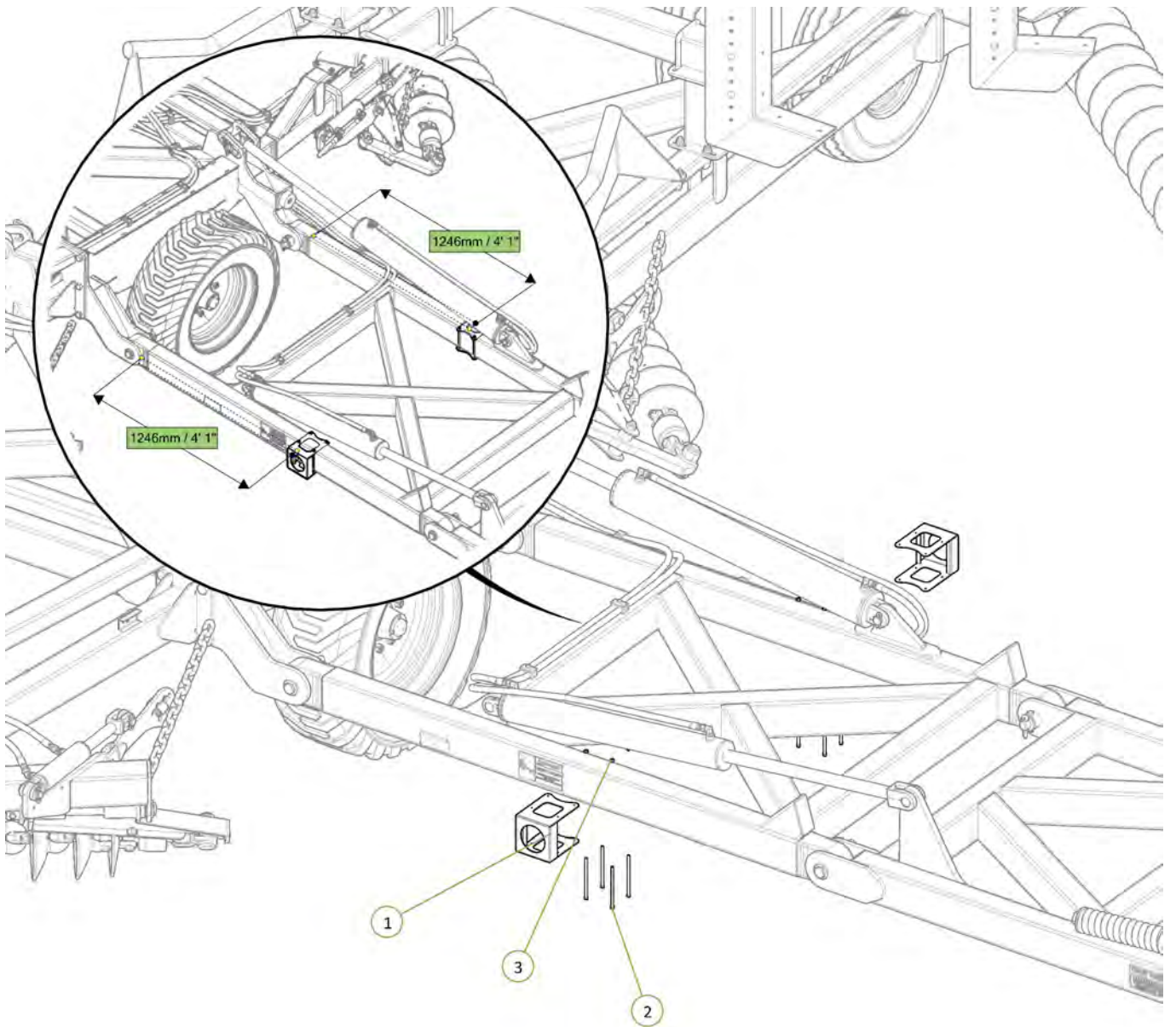


# Section 4

## Light Kit

Item No.	Description	Number	Qty
1	M6 x 20 Trilobe self tapping Scew	0211-M620MZPHTF	2
2	Electrical Plug Keeper	0416-11750B	1

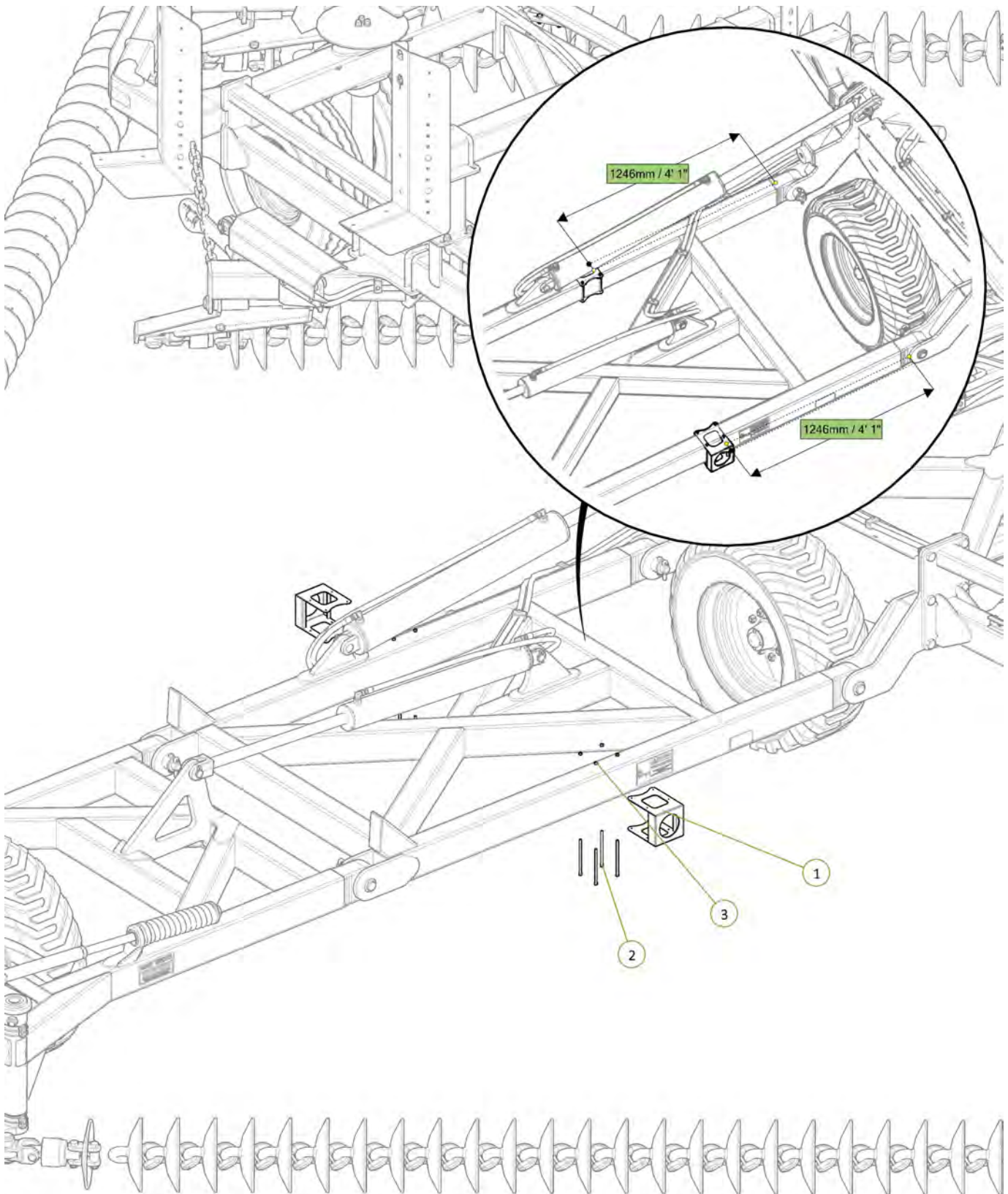




Item No.	Description	Number	Qty
1	Wing light bracket	0800-296	2
2	Socket Head Bolt M6 x 170 zp	0211-SH6170	8
3	Nyloc Nut M6	0221-NYL6	8

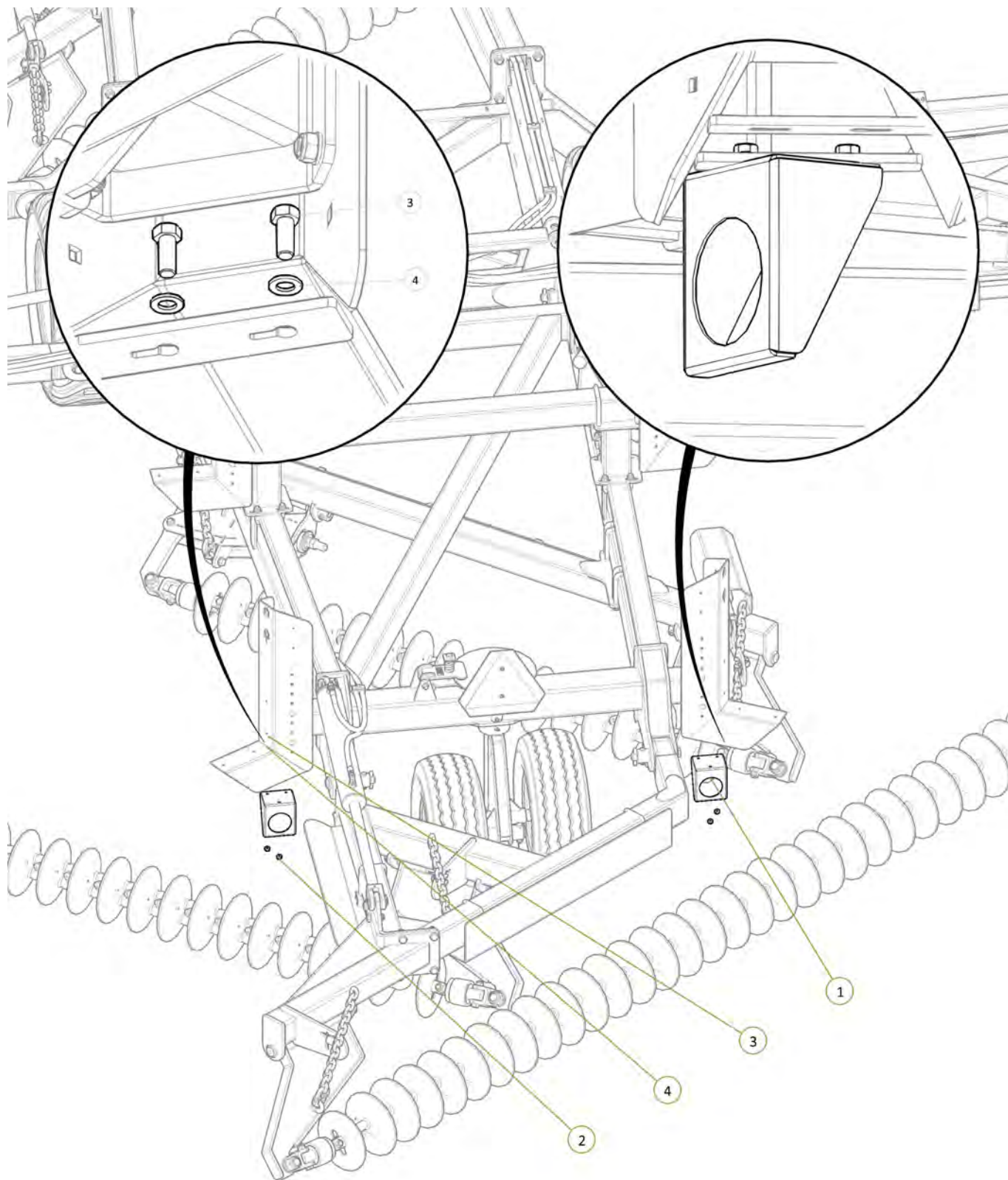






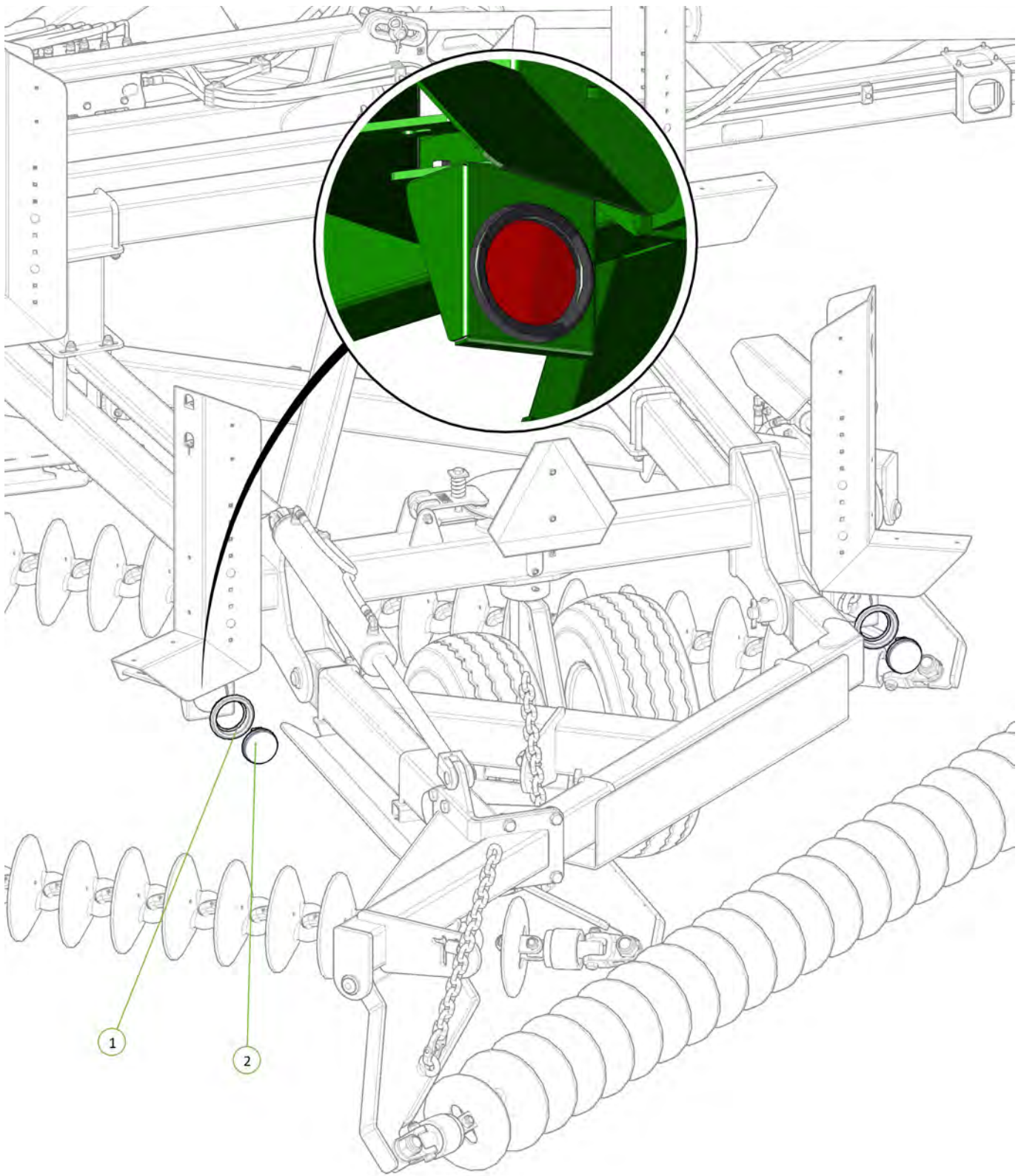
Item No.	Description	Number	Qty
1	Wing light bracket	0800-296	2
2	Socket Head Bolt M6 x 170 zp	0211-SH6170	8
3	Nyloc Nut M6	0221-NYL6	8





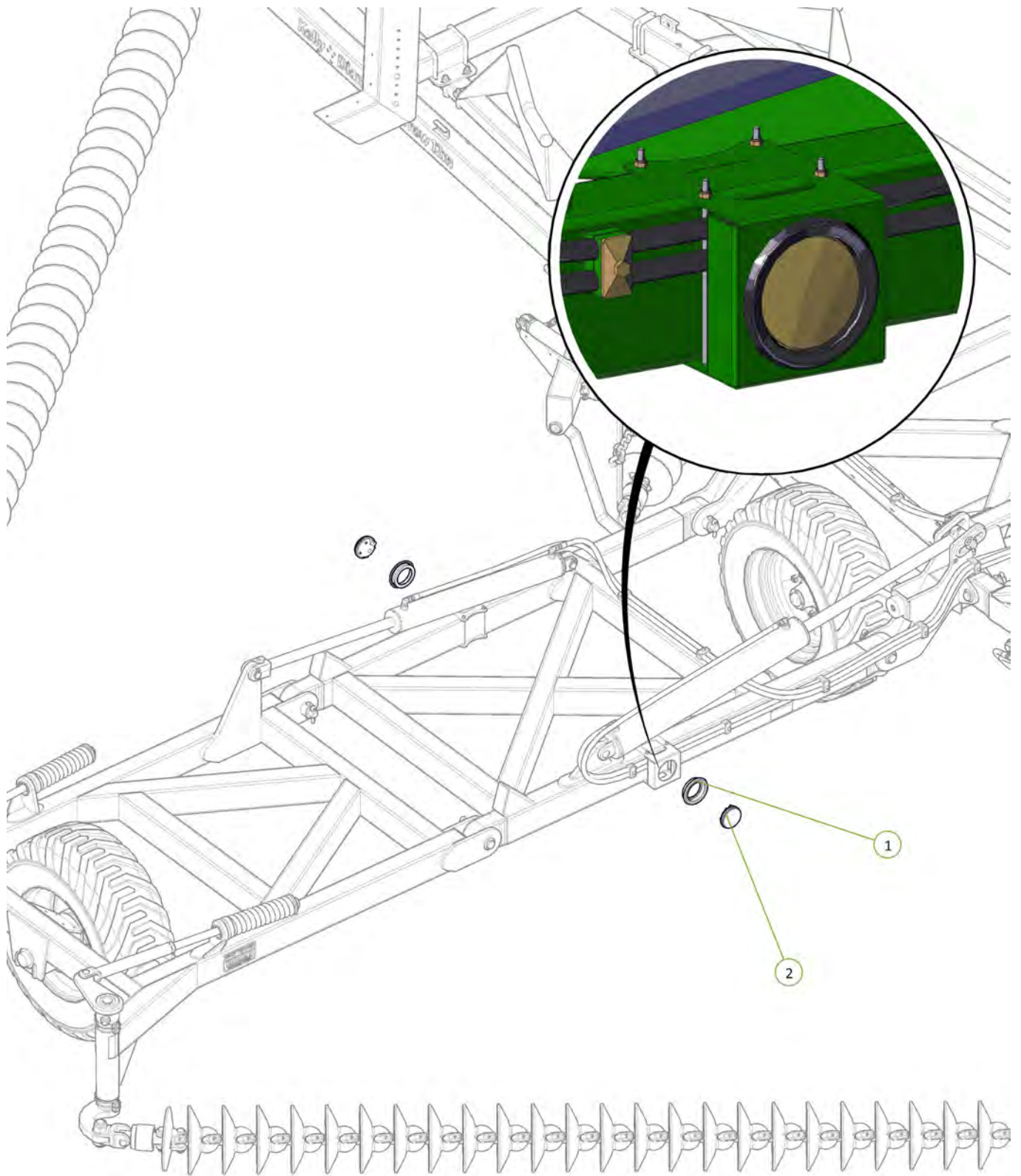
Item No.	Description	Number	Qty
1	Rear Light Bracket	1600-615	2
2	Nyloc Nut M12	0221-NYL12	4
3	M12 x 30 grade 8.8 ZP Bolt	0211-1230	4
4	Washer Flat M12	0231-F12	4





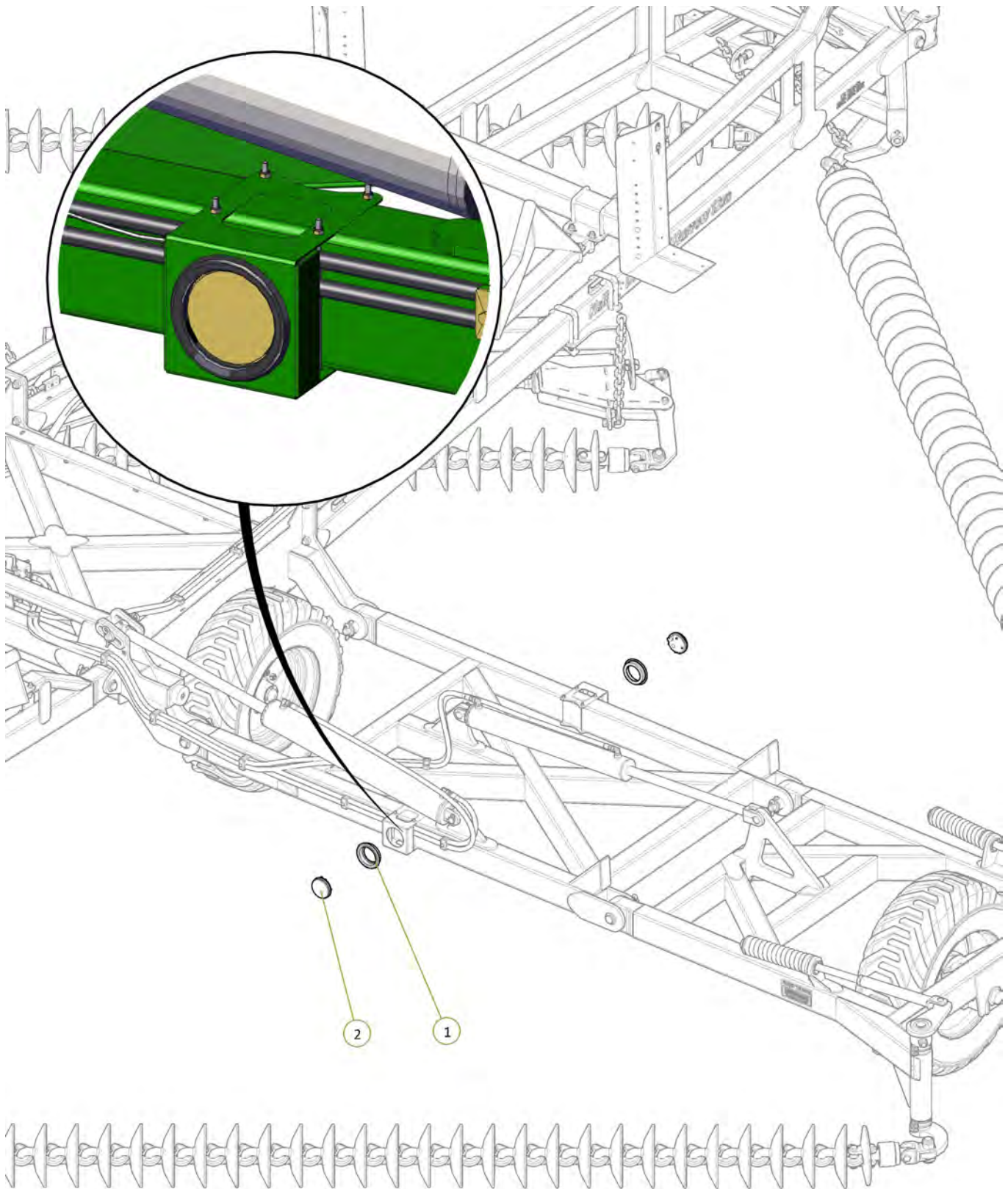
Item No.	Description	Number	Qty
1	110RM Rubber Grommet	0412-53101RG	2
2	LED Stop Tail Lamp	0412-LED110RM	2





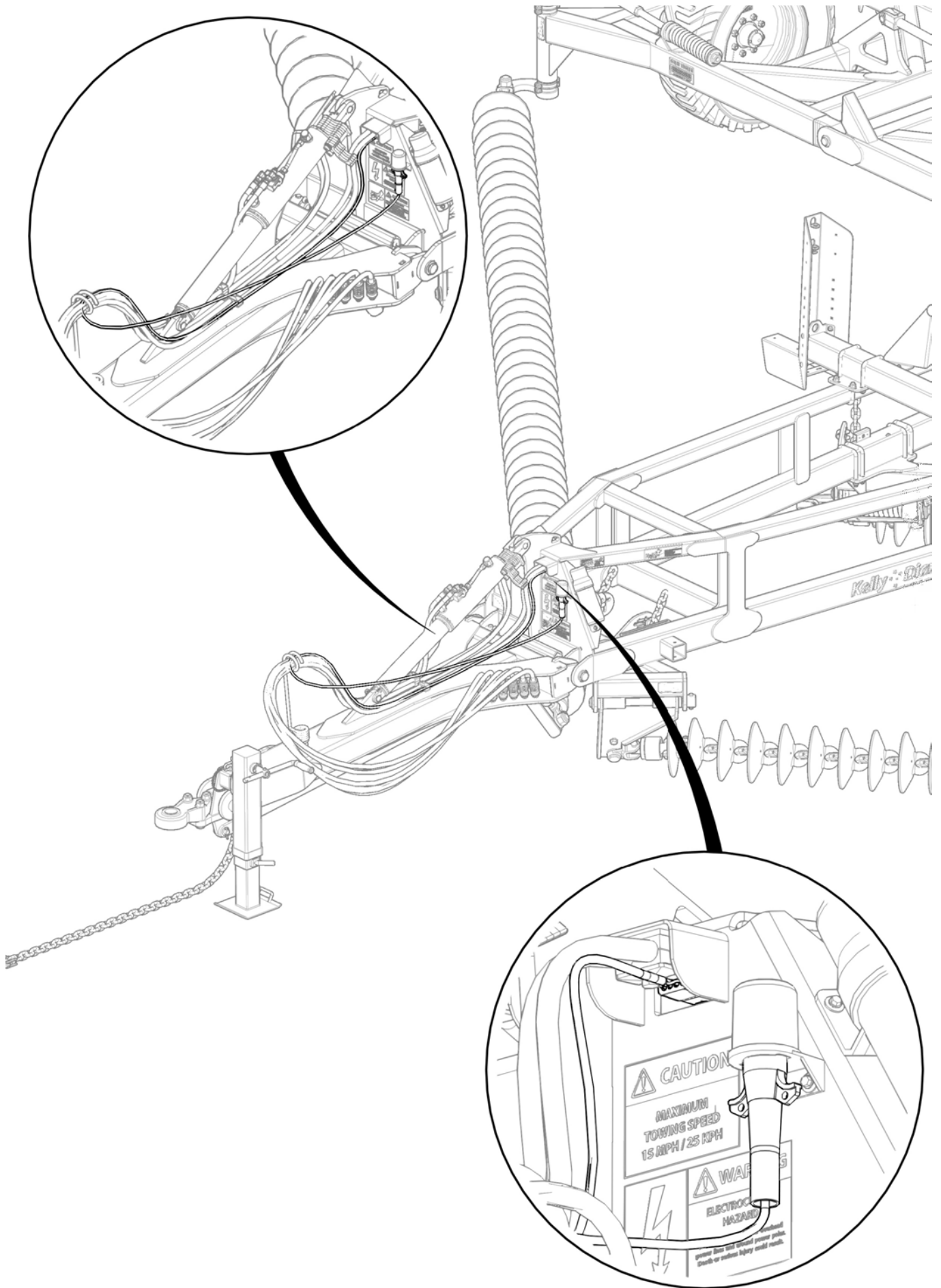
Item No.	Description	Number	Qty
1	110RM Rubber Grommet	0412-53101RG	2
2	LED Rear Indicator Lamp	0412-LED110AM	2

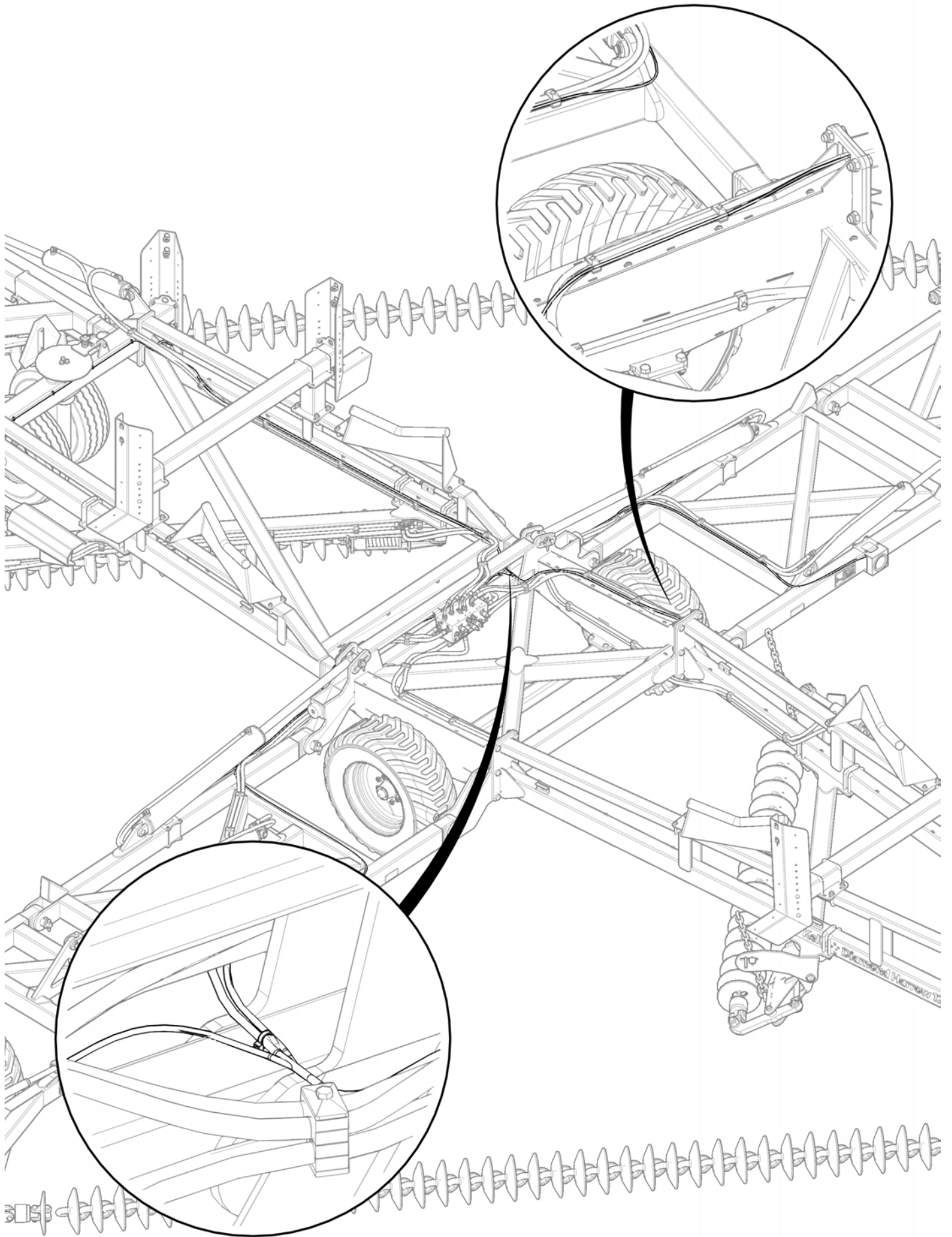


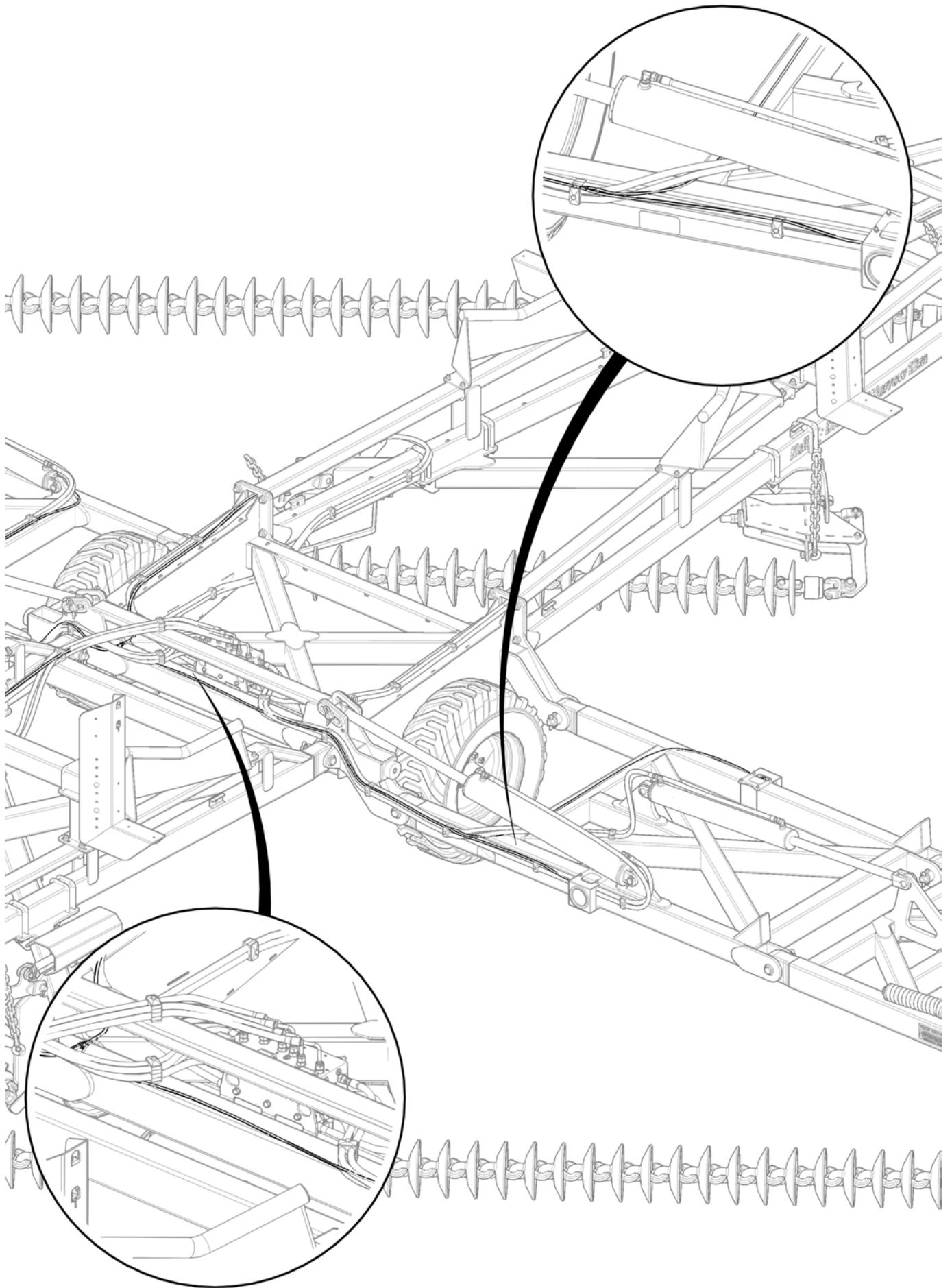


Item No.	Description	Number	Qty
1	110RM Rubber Grommet	0412-53101RG	2
2	LED Rear Indicator Lamp	0412-LED110AM	2

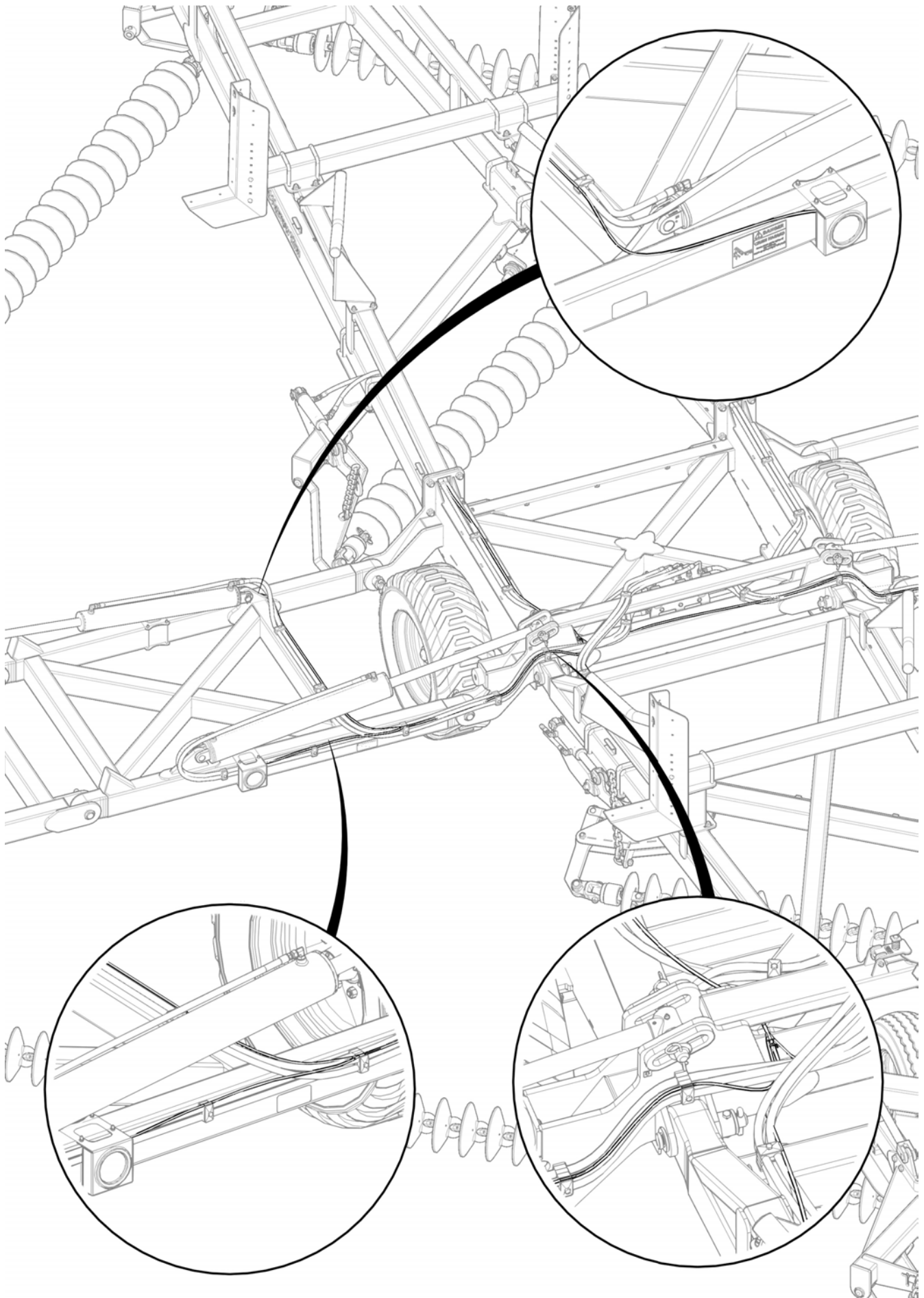


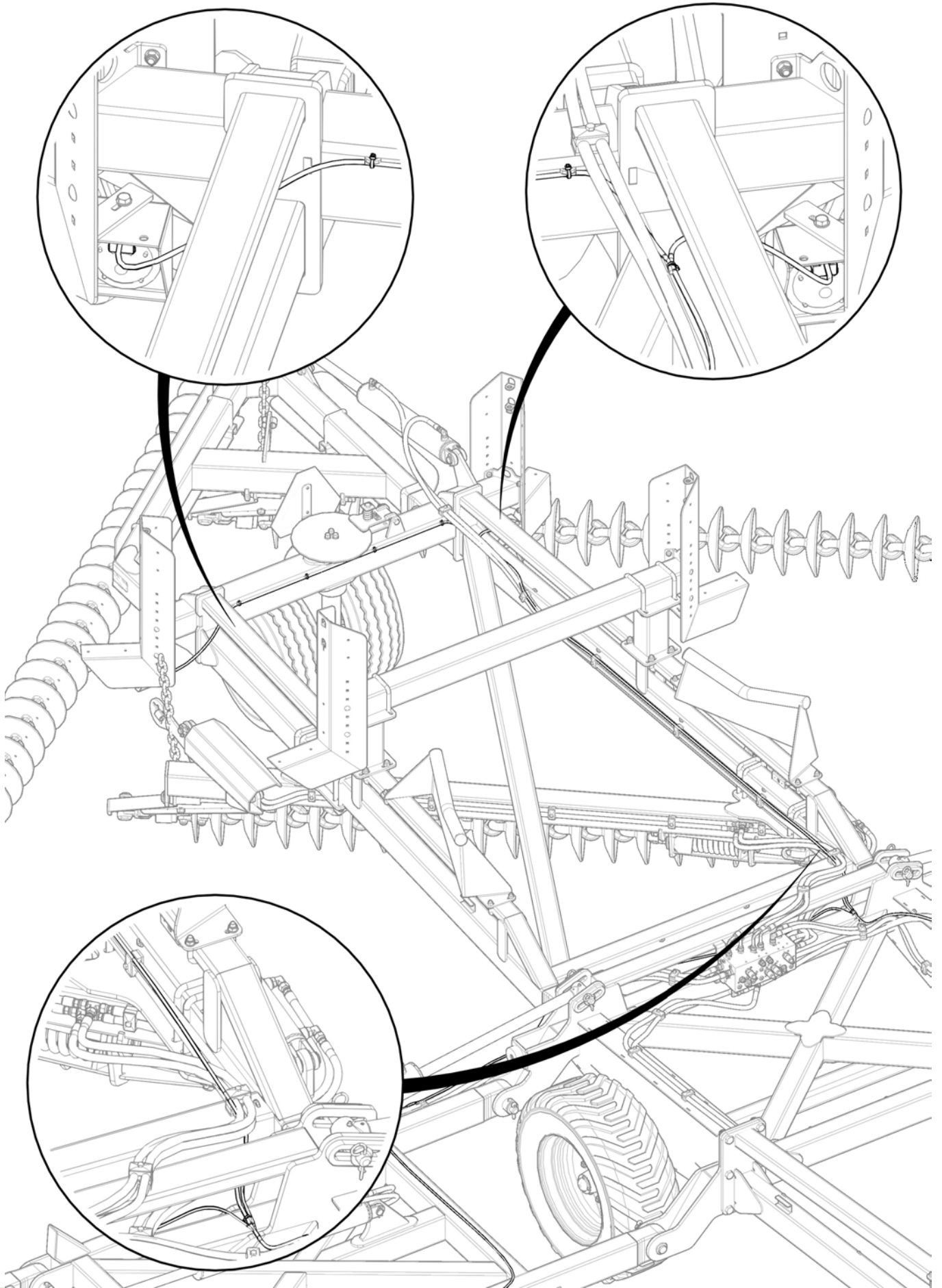


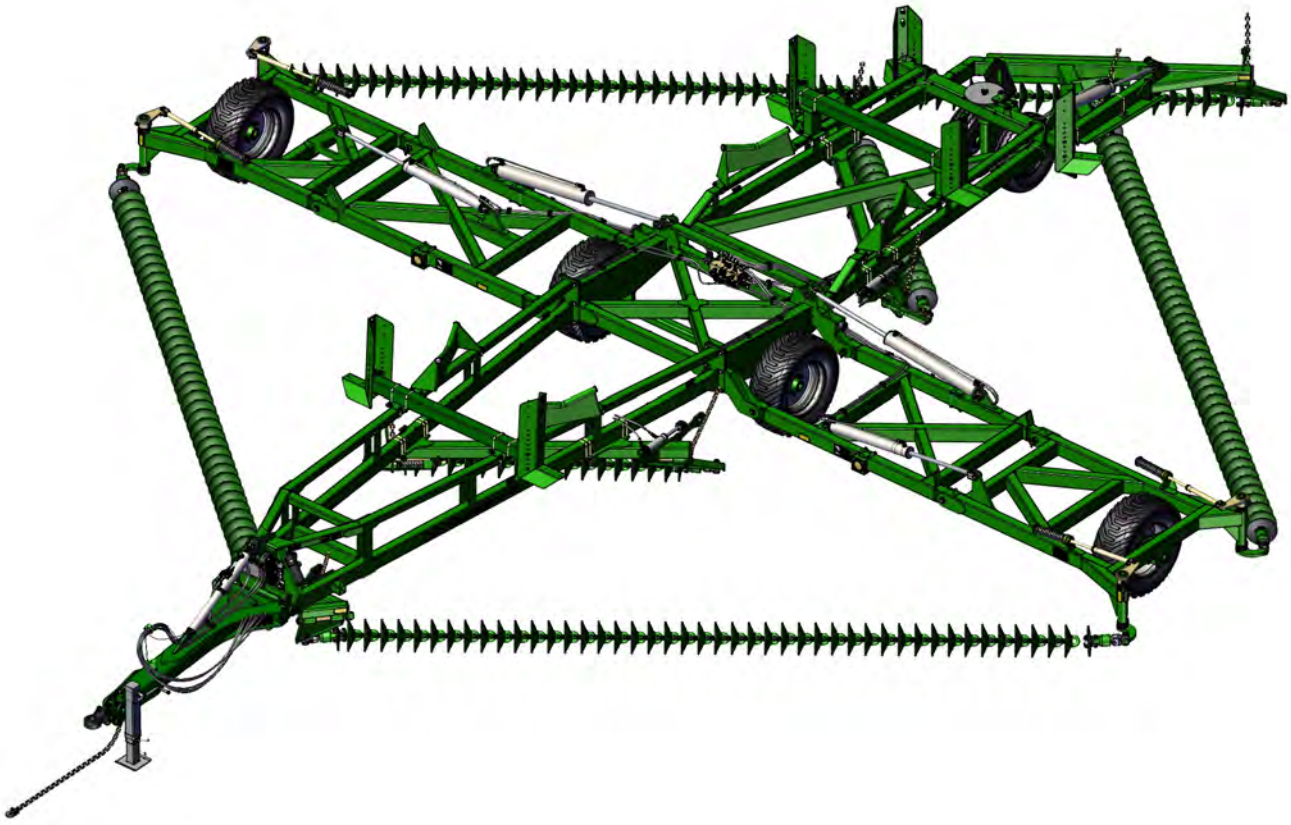






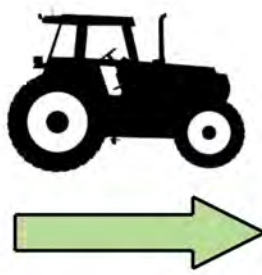
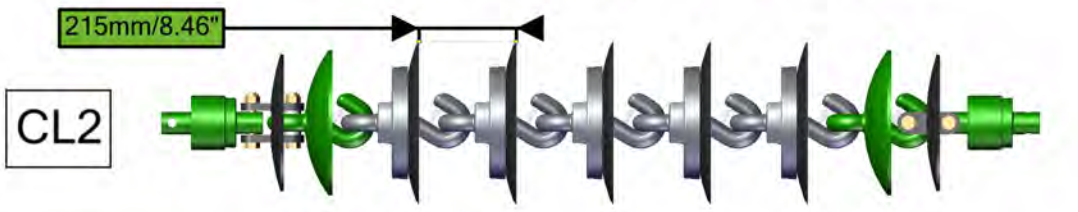




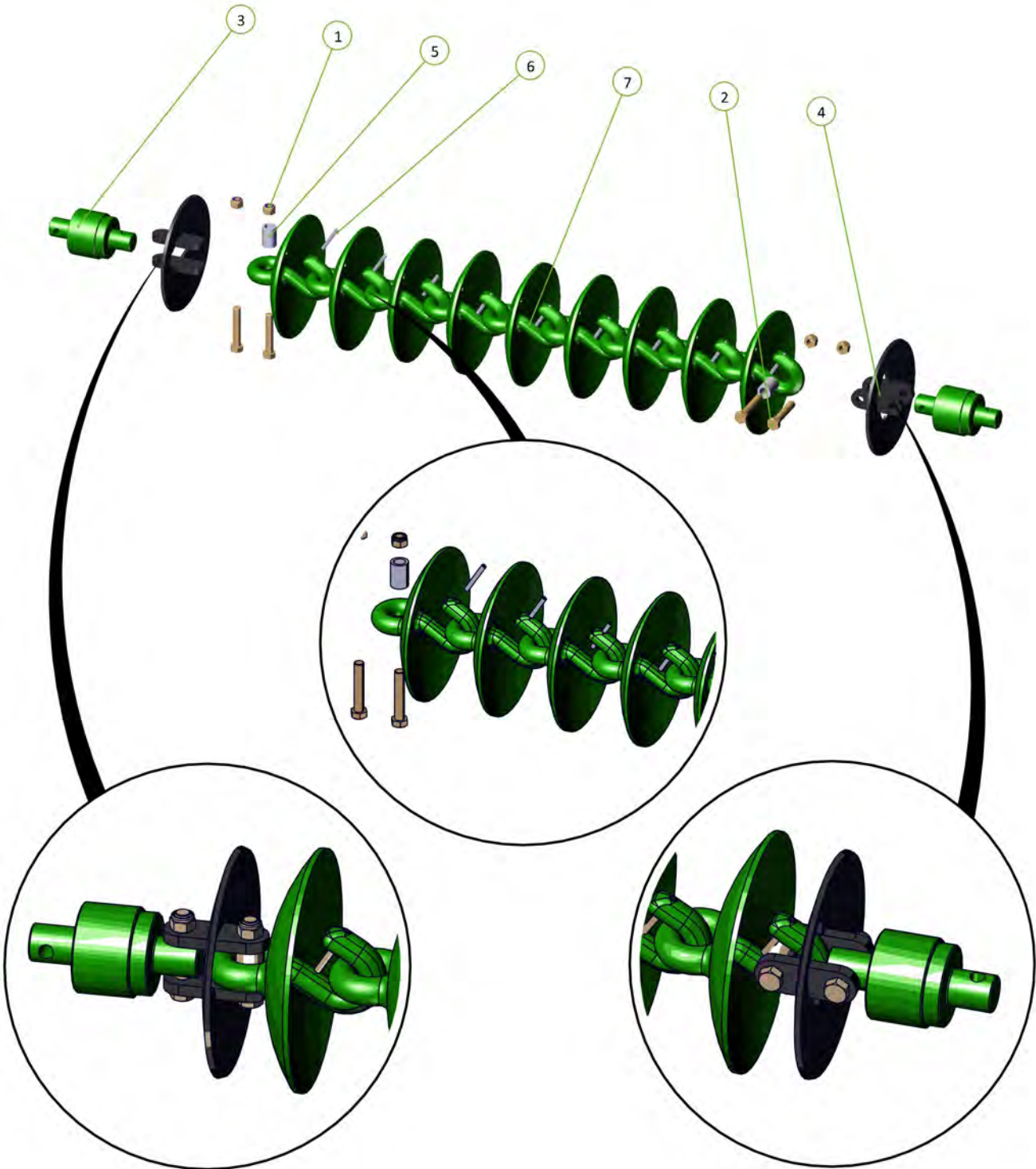
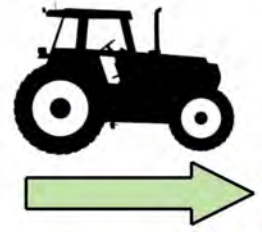


# Section 5

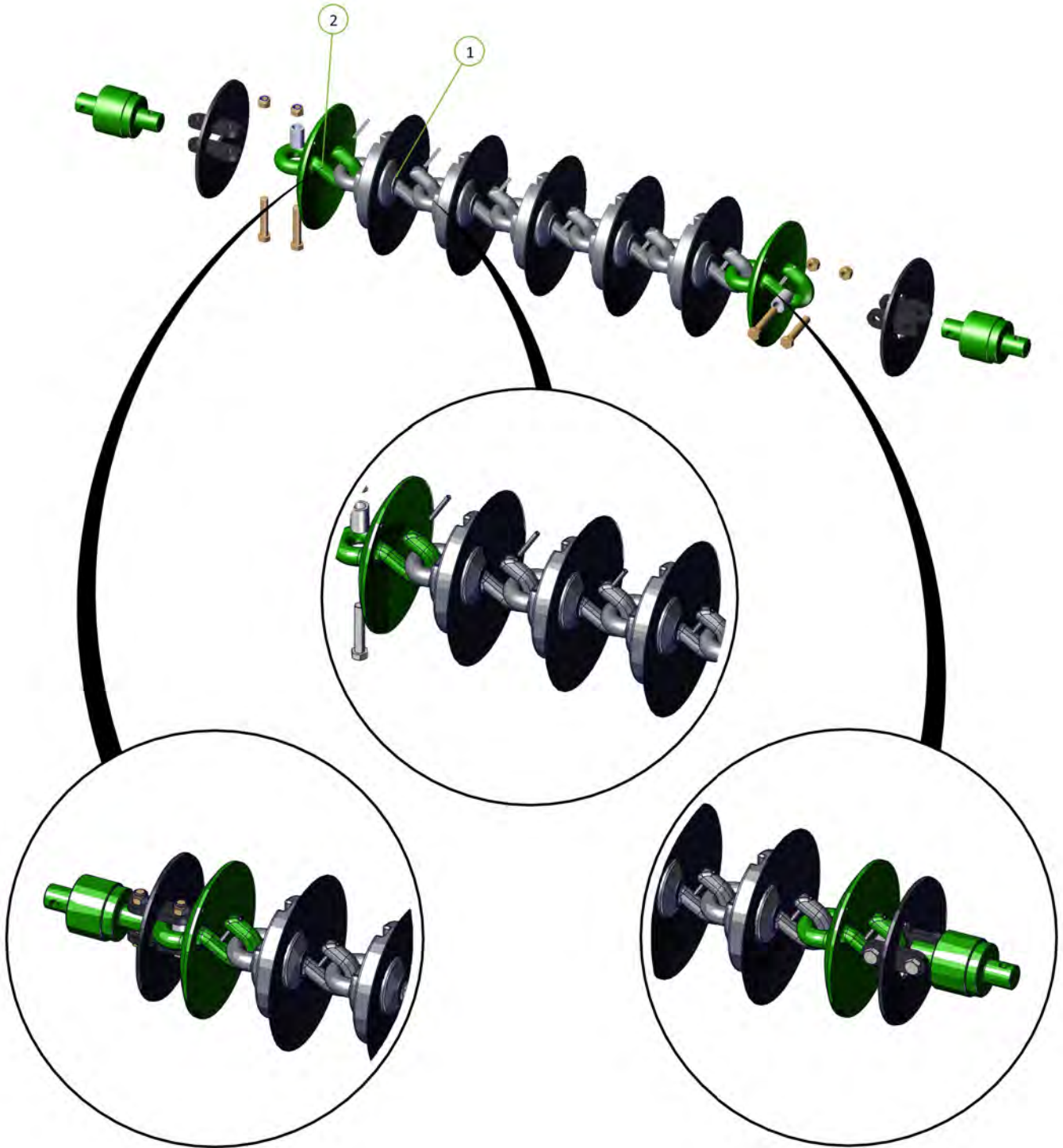
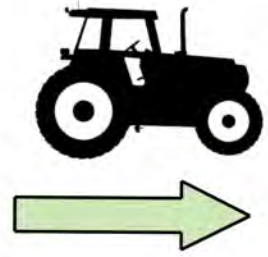
## Chain Assembly

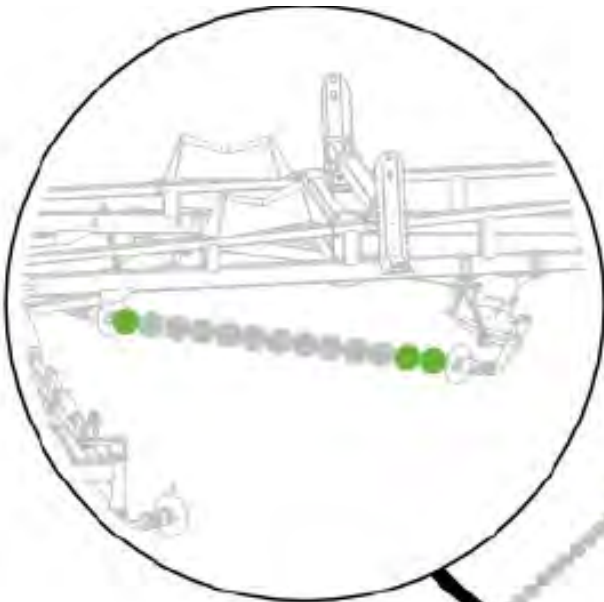


Item No.	Description	Number	Qty
1	Nyloc Nut M20/24	0221-NYL20/24	4
2	M20 x 110 / M24 x 120 grade 10.9 2P Short Thread Bolt	0211-20110ST/0211-24120ST	4
3	20/24mm Bolt Swivel Unit	0802-PCHB55 / 0802-PCHB553	2
4	Disc Chain Tie Plate Link 20mm / 24mm	0802-DCTP-20 / 0802-DCTP-24	2
5	Tie Plate Bush	0801-PCDCS55	2
6	Roll Pin Zinc Plated 3/8" x 3"	0262-3-8X3	1
7	CL1-B Chain Disc Link	0803-CL1	1

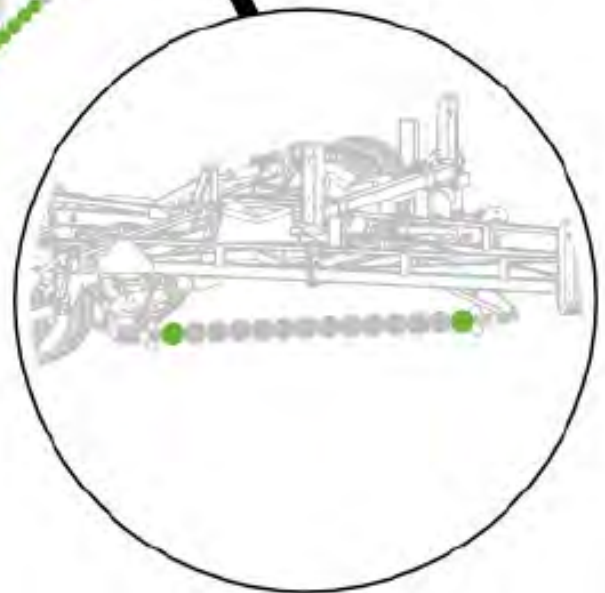


Item No.	Description	Number	Qty
1	0803-CL2-Link Assembly	0803-CL2	1
2	CL1-B Chain Disc Link	0803-CL1	1



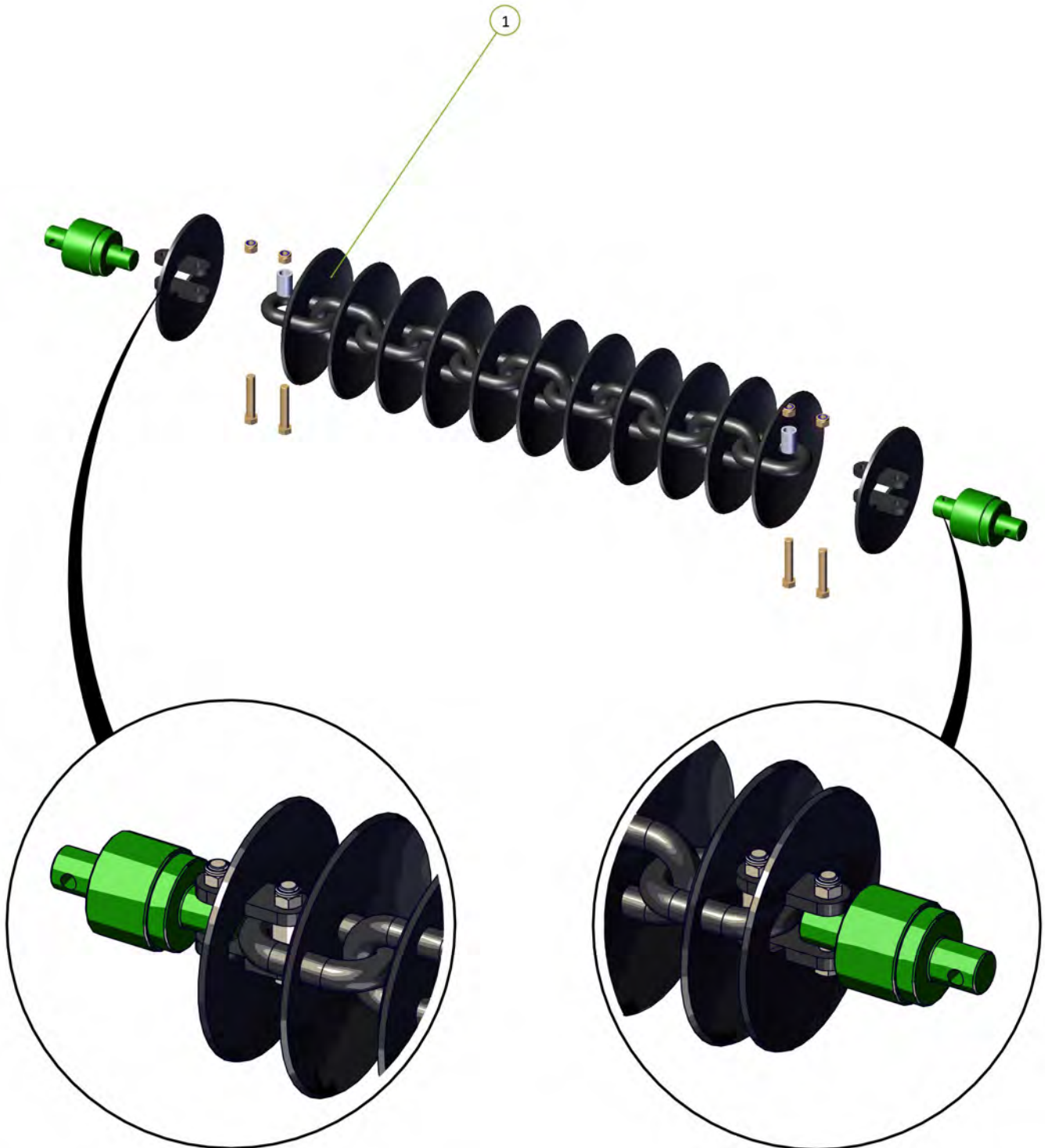
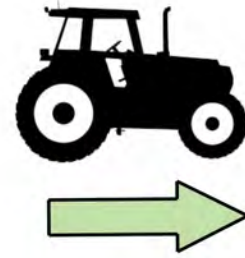


Set	CL2	CL1
Front Left	32	2
Front Right	32	2
Front Modules	10	3
Front Set	74	7
Rear Right	31	15
Rear Left	31	2
Rear Modules	12	2
Rear Set	74	19
Total	148	26

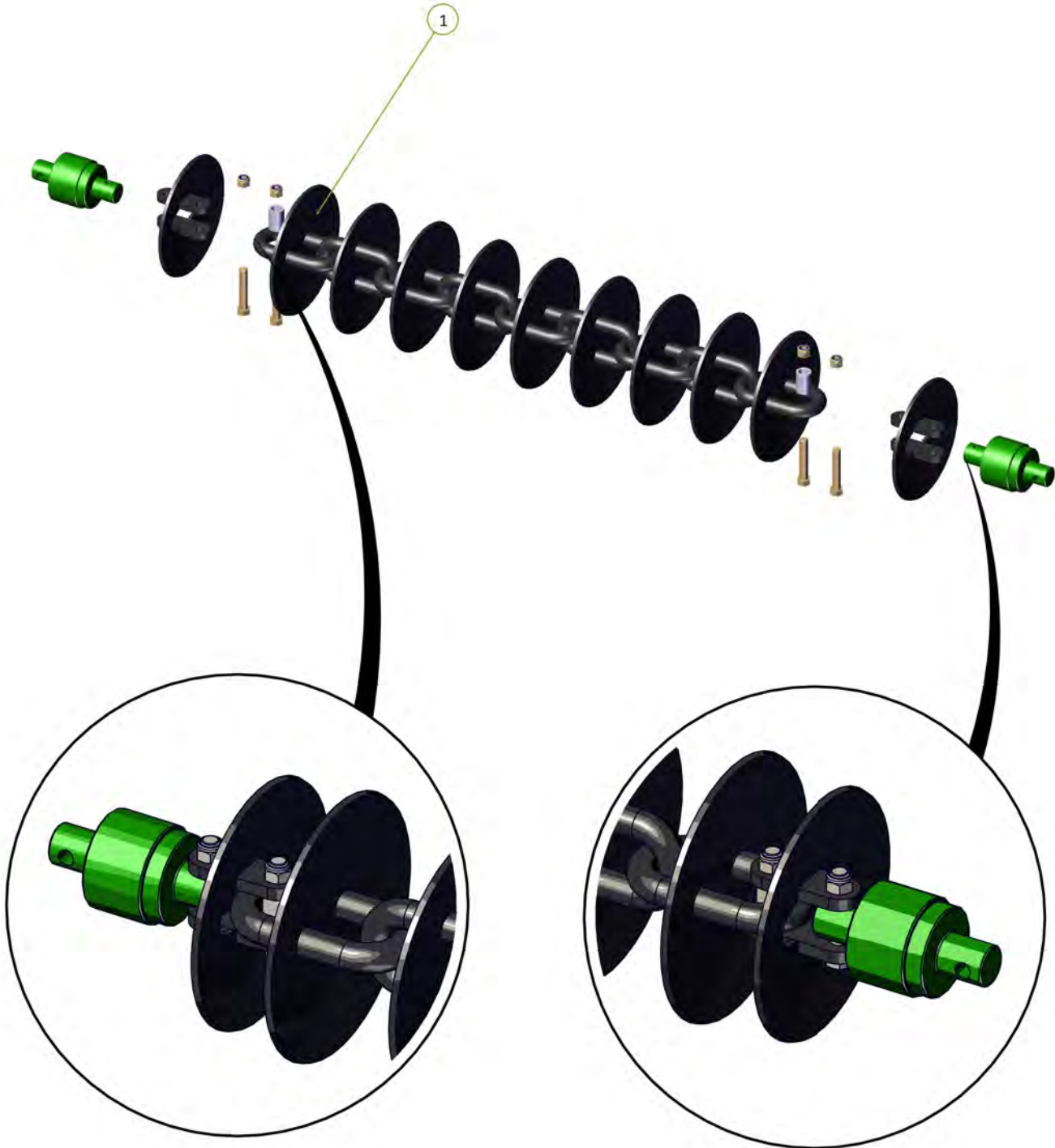
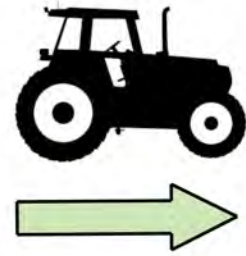




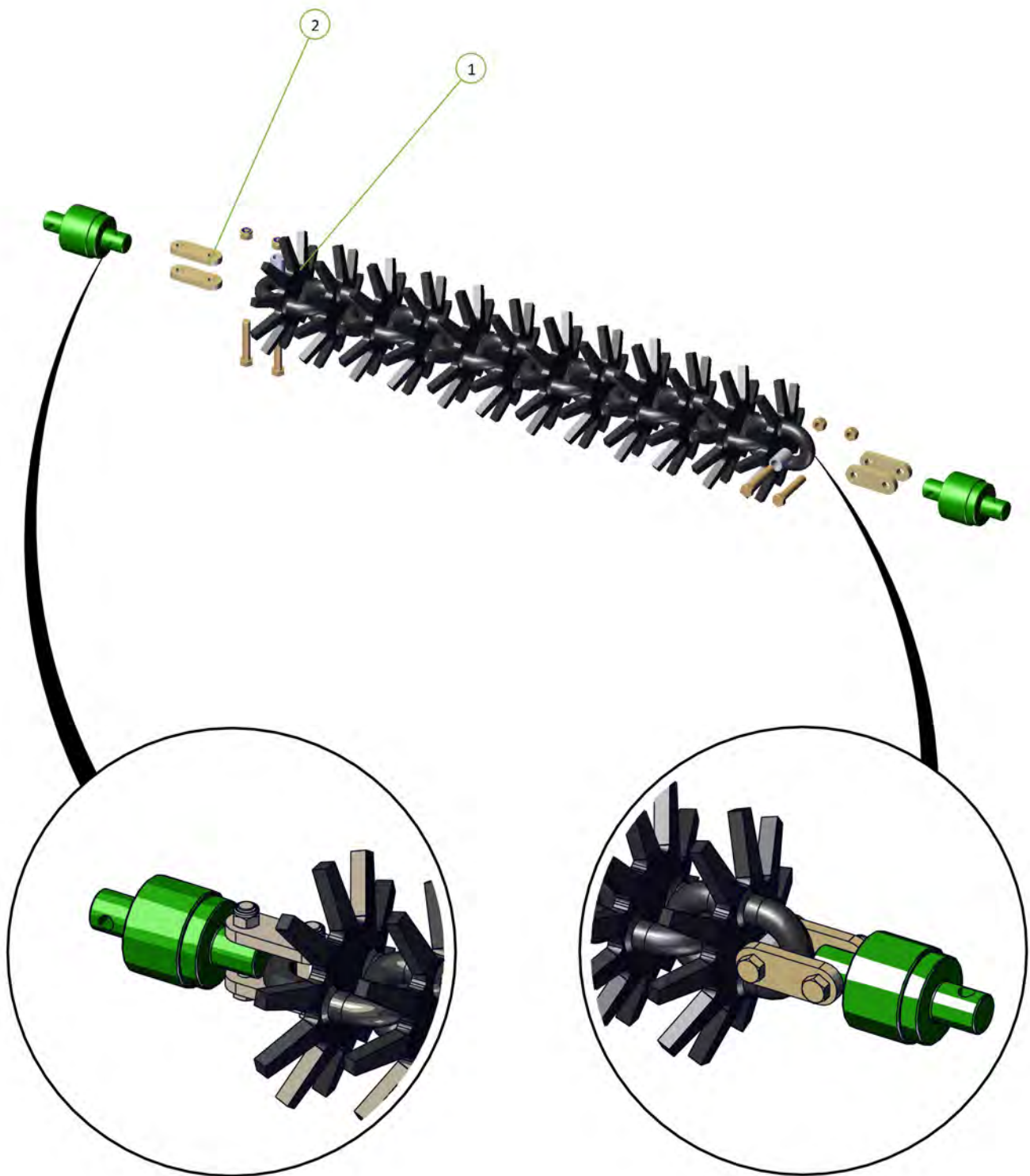
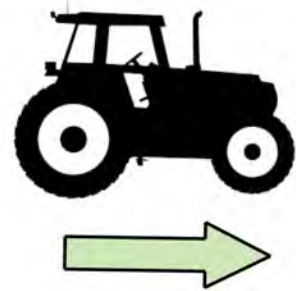
Item No.	Description	Number	Qty
1	R300 Chain Link	0803-R300	1



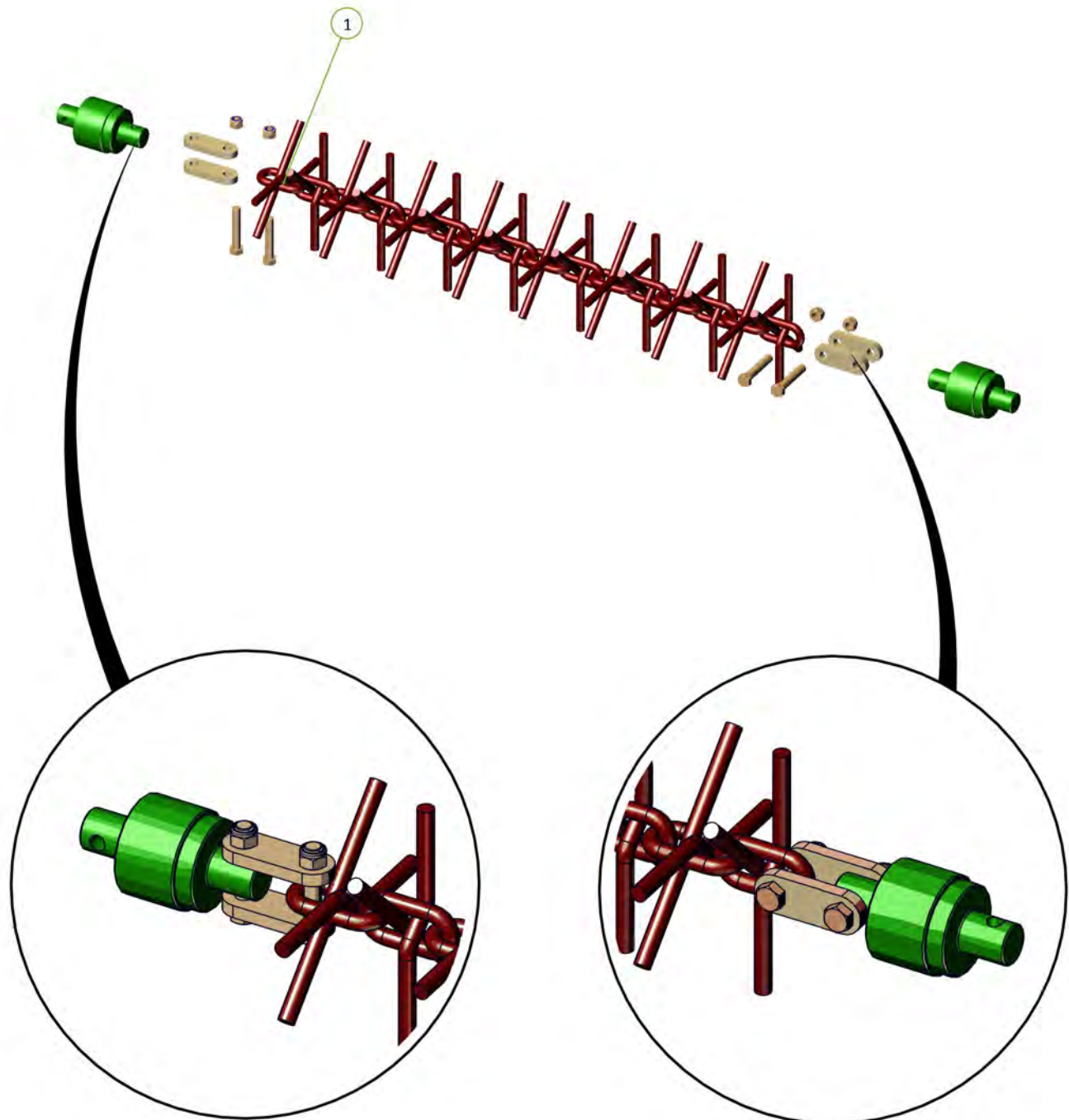
Item No.	Description	Number	Qty
1	W36/25 Chain Link	0803-W36	1

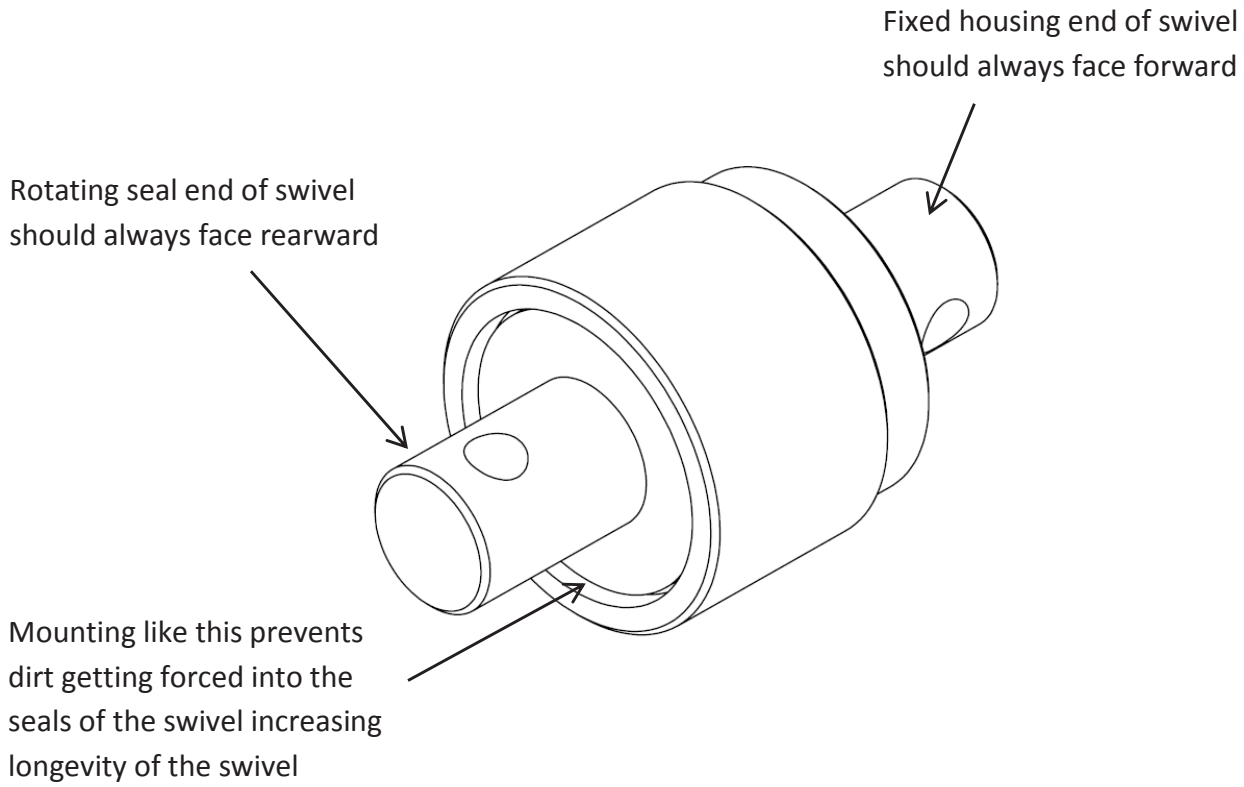


Item No.	Description	Number	Qty
1	10 Spike Disc Chain 49/27/5	0803-SD49	1
2	Tie Plate For 20mm Bolt/ Tie Plate For 24mm Bolt	0800-83.2 / 0800-83.3	4



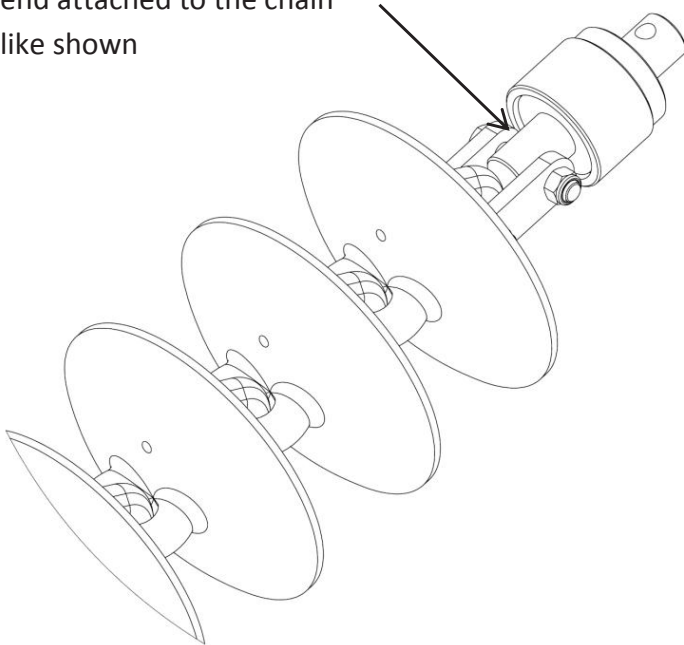
Item No.	Description	Number	Qty
1	Prickle Chain Link	0803-PCH	1



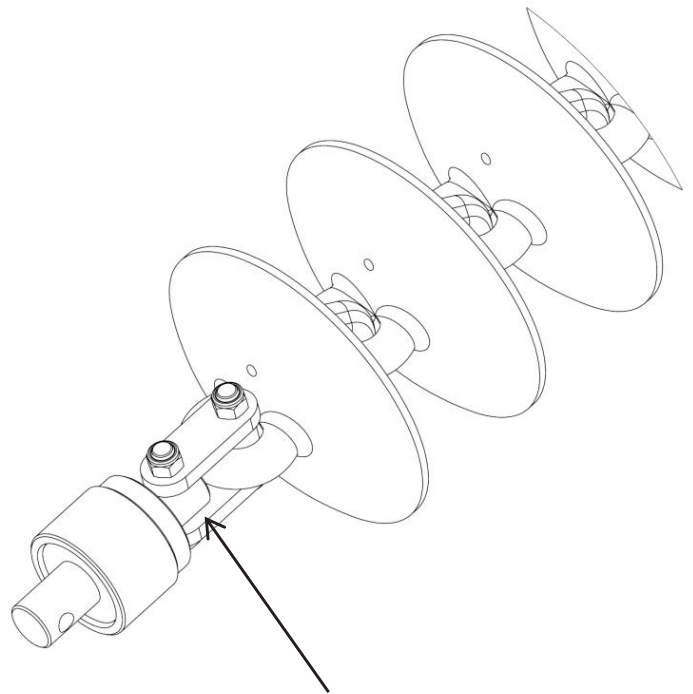


## For Example

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



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



# Section 6

## Diagrams & Specifications

## Operating speeds

Operating speeds for normal conditions	
Chain type	Speed
Prickle Chain	6-10 Mph / 10-16 kmph
Disc 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	40'
Working width	39' / 11.9m
Transport width	9'8" / 3m
Transport height	13'1" / 4m
Transport length	47'9" / 14.6m

## Disc Chain Lengths

Model		Length	CL2	CL1	W36	R300	SD49	Prickle chain
			CL2 disc chain also requires CL1 disc chain					
<b>40'</b>	Front right	7.33m	CL2 - 32 CL1 - 2	45	44	59	59	81
	Front left	7.32m	CL2 - 32 CL1 - 2	45	44	59	59	81
	Rear right	9.2m	CL2 - 31 CL1 - 15	56	56	74	74	102
	Rear left	7.13m	CL2 - 31 CL1 - 2	44	43	57	57	79
	Front module		CL2 - 10 CL1 - 3	17	17	22	22	31
	Rear module		CL2 - 12 CL1 - 2	17	17	22	22	31



# Section 7

Operation

# Basic Operating & Chain Tension

## 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 th at height adjusting chains have not fallen out of their slotted plates during transport.
  - d. Ensure front lift cylinder depth stops are fully engaged on cylinder shaft.
2. Lower front A frame to working height.
3. Unfold wings holding the hydraulic lever until both the main center cylinder pins have centered in their slots. (If chain pulls tight during unfold, stop and inspect if chain is hooked)
4. Lower rear tail by holding hydraulic lever until tail and modules are completely lowered to working position.
5. 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.
6. 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. Raise the Rear Tail and modules by holding the hydraulic lever until they come to a complete stop.
3. Fold the wings. They should move as follows; 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.
4. Raise front A frame to transport height.
5. Walk around and check that chains have located correctly in transport rests.  
**(30' only, close wing transport lock valves).**

## 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
40	12.4	330

When less than 4" (100mm) of thread remains visible on the adjuster 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.**

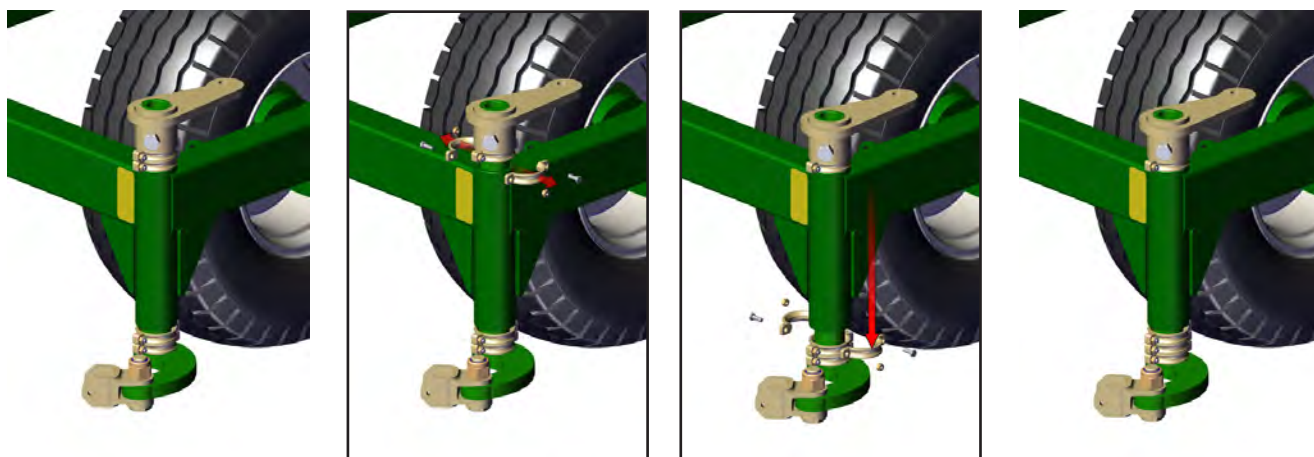
## Settings for correct working height

To adjust the swivel height at the wings, relocate one of the polyurethane spacers either above or below the fixed mounting tube.

### Adjustment

1	Loosen chain tension completely
2	Undo 2 x M10 bolts from corresponding spacer set and take the two halves off of the drop leg tube
3	Replace it in the selected position after raising or lowering the drop leg
4	Reinstall the M10 bolts and re-tension the chain

It is possible to install all spacers either above or below the mounting tube giving a maximum of 4" (100mm) of adjustment.



# Section 8

## Pre-Delivery Checklist

Name \_\_\_\_\_ Date \_\_\_\_\_ Location \_\_\_\_\_

<b>Pre-delivery check list</b>	<b>Checked</b>
Check tyre pressure (As per manual)	
Check wheel nuts are tight	
Hydraulic rams & hoses are sound	
Grease caster wheel kingpin bearing	
All bolts and nuts are tightened to the correct torque values	
All safety decals are on the machine in the correct locations as per the operator's manual	
Check the chain tension as per the operator's manual	
Assembly and operating manuals are in the manual canister	
Brake disc tension spring is tensioned for road transport (50-63mm)	
Roll pins are installed in the CL Discs (CL2 & CL1)	
Chains are resting correctly in their transport supports (chain carries)	
Machine is registered	
Accumulator charged to 70bar with Argon (6m Only)	
<b>Europe Only</b>	
Check air brake hoses are sound with no leaks	
Check air brake relay valve is correctly set for the load	
Signature _____	









