# Kelly\*

## Kelly Tillage System Model 4012 Assembly Manual Revision C - January 2021

Serial Number:

40

Kelly Tillage PO Box 100 Booleroo Centre South Australia 5482 P +61 8 8667 2253 W kellytillage.com

### Thank you for choosing a Kelly Tillage 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 Tillage directly.

Kelly 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.

### **Kelly Tillage**

PO Box 100 Booleroo Centre SA 5482 Phone: + 61 8 8667 2253 Fax: + 61 8 8667 2250 Email: sales@kellytillage.com Spare Parts: parts@kellytillage.com Website: www.kellytillage.com

#### Spare Parts Hood & Company Inc

Springfield MO

Phone: 417 865 2100 Fax: 417 865 2105 Email: hoodco@hoodco.com

### Contents

Section 1: Unpacking	Page Number 4
Section 2: Assembly	7
Section 3: Decal Application	120
Section 4: Light Kit	141
Section 5: Chain Assembly	155
Section 6: Diagrams & Specifications	165
Section 7: Pre-Delivery Checklist	169



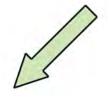
This symbol indicates which bag the relevant fasteners are in



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

# Section 1 Unpacking

# Unpacking



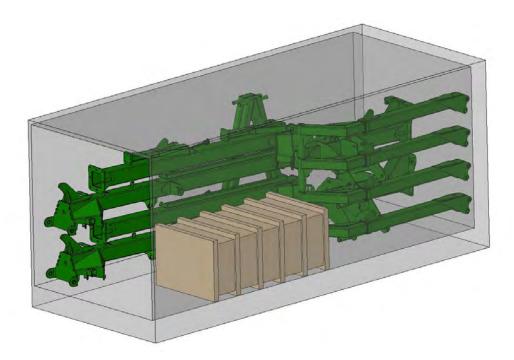
• Before unloading any loads please inspect exterior for damage

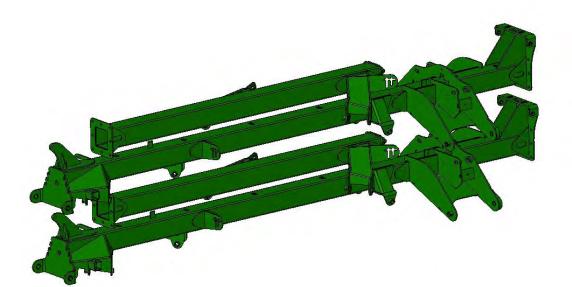


### CAUTION

### 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 5512 lbs (2500kg)
- 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

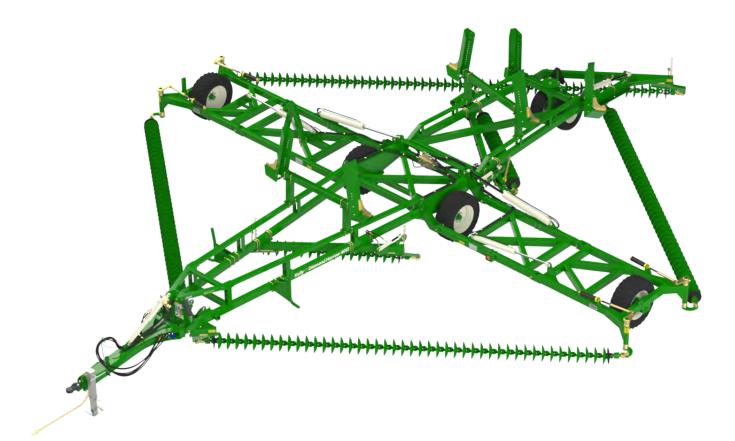
Wear eye and hand protection when cutting straps. Sharp edges are exposed as straps separate and may cause injury.

### 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.

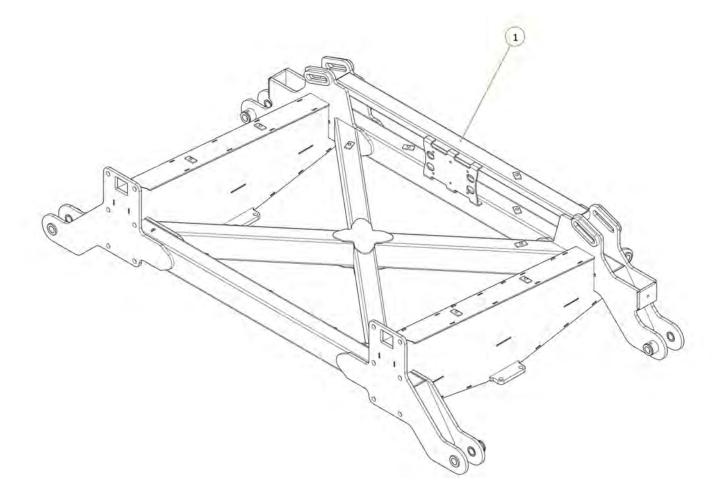
- Remove boxes from rear of container one at a time using a forklift truck. Each box weighs approximately 5512 lbs (2500 kg)
- Cut straps holding bundles and separate parts and place in assembly area
- Once all parts have been identified, the machine is ready for assembly
- Identify parts for each machine 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

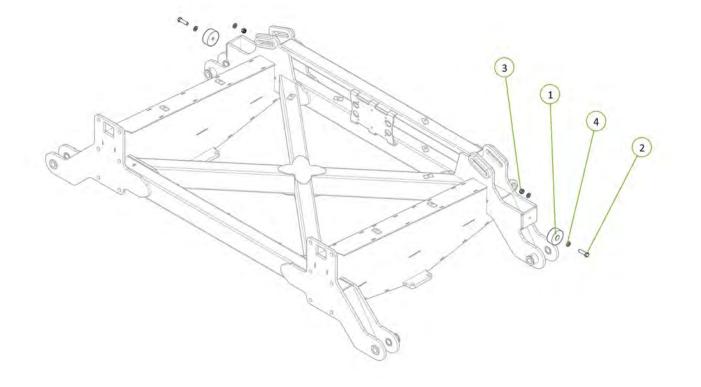




Item No.	Description	Qty	Number
1	Wing Folding Buffer	2	1201-12
2	M16 x 60 grade 8.8 zp Bolt	2	0211-1660
3	Nyloc Nut M16	2	0221-NYL16
4	Washer Flat M16	4	0231-F16



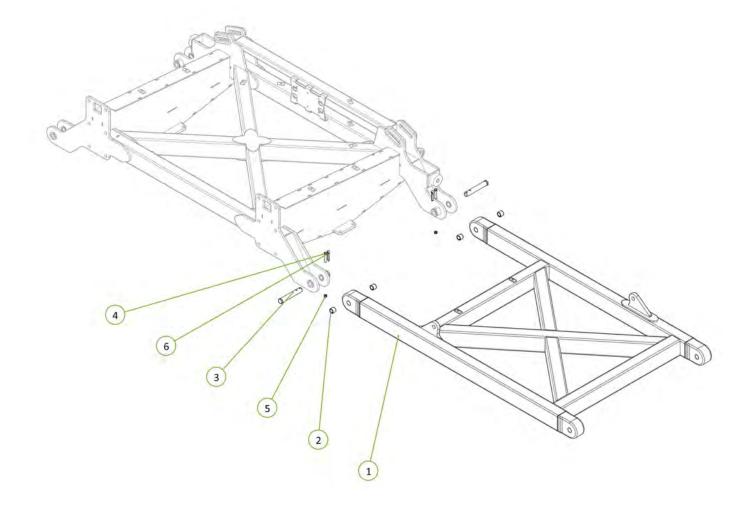




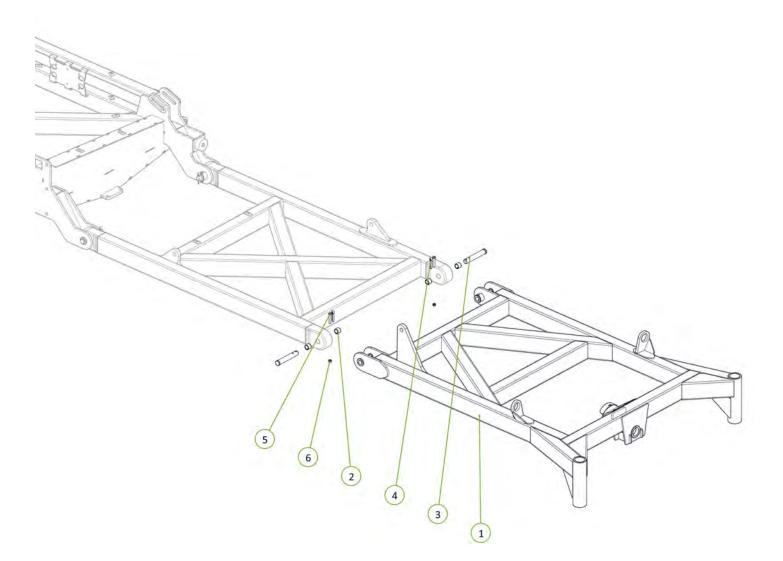
Item No.	Description	Qty	Number
1	40' LH Inner Wing	1	1540-05-3
2	35 ID x 30mm DU Bush	4	0113-MB 3530DU
3	PCH Wing Pivot Pin	2	0801-10-08-235
4	M12 x 80 grade 8.8 ZP Bolt	2	0211-1280
5	Nyloc Nut M12	2	0221-NYL12
6	Cotter Pin M13 x 63	2	0261-PINC1363







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 80 grade 8.8 ZP Bolt	2	0211-1280
6	Nyloc Nut M12	2	0221-NYL12



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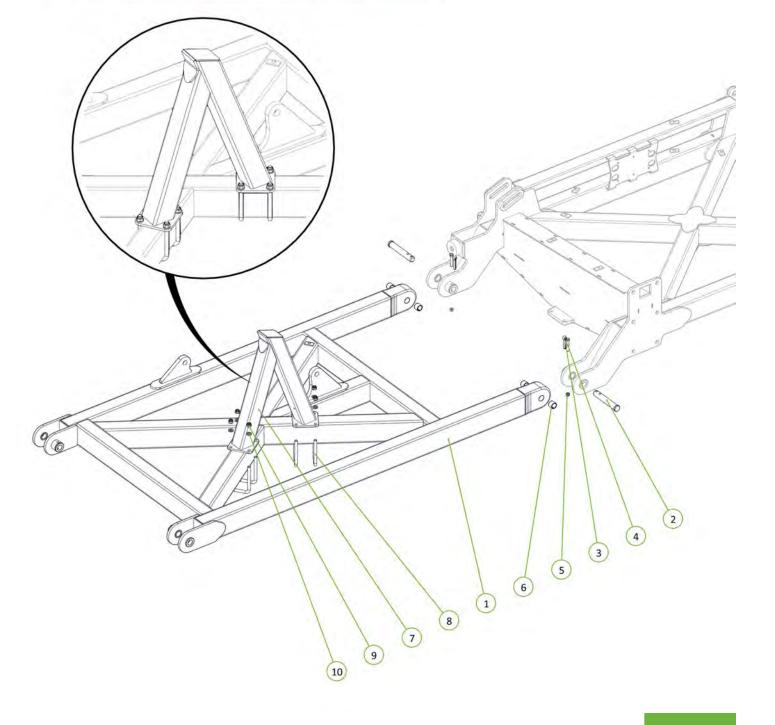
1540-07-FK

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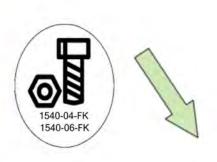
Item No.	Description	Qty	Number
1	40' RH Inner Wing	1	1540-04-3
2	PCH Wing Pivot Pin	2	0801-10-08-235
3	Cotter Pin M13 x 63	2	0261-PINC1363
4	M12 x 80 grade 8.8 ZP Bolt	2	0211-1280
5	Nyloc Nut M12	2	0221-NYL12
6	35 ID x 30mm DU Bush	4	0113-MB 3530DU
7	Inner Wing Post	1	1510-244
8	U-Bolt M16 x 185 Deep x 104 Wide	4	0271-16185104
9	Nyloc Nut M16	8	0221-NYL16
10	Washer Flat M16	8	0231-F16

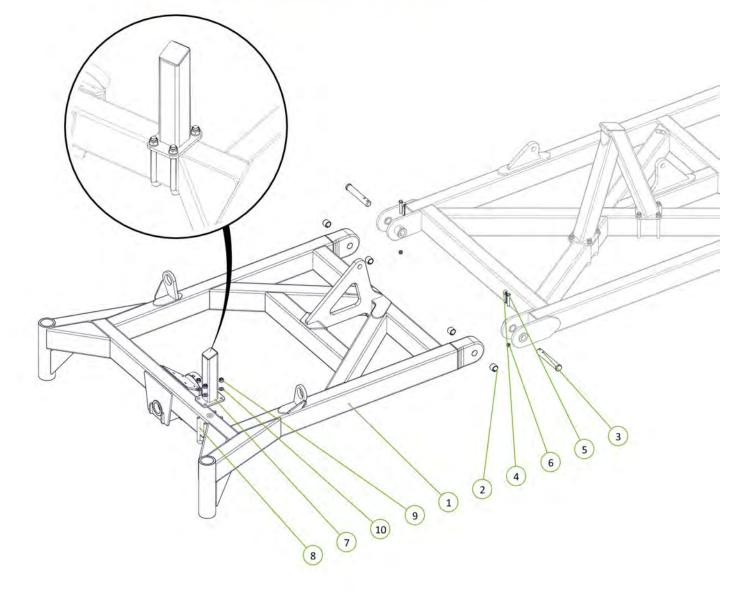




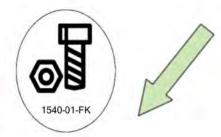


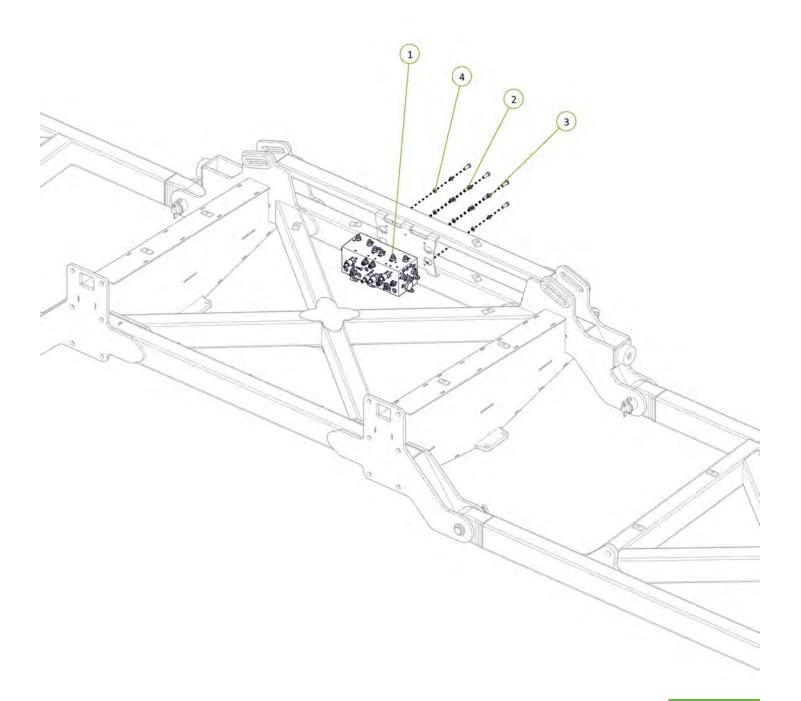
Item No.	Description	Qty	Number
1	40' RH Outer Wing	1	1540-06-2
2	35 ID x 30mm DU Bush	4	0113-MB 3530DU
3	PCH Wing Pivot Pin	2	0801-10-08-235
4	Cotter Pin M13 x 63	2	0261-PINC1363
5	M12 x 80 grade 8.8 ZP Bolt	2	0211-1280
6	Nyloc Nut M12	2	0221-NYL12
7	Right Hand Outer Wing Post	1	1510-241
8	U-Bolt M16 x 185 Deep x 104 Wide	2	0271-16185104
9	Nyloc Nut M16	4	0221-NYL16
10	Washer Flat M16	4	0231-F16





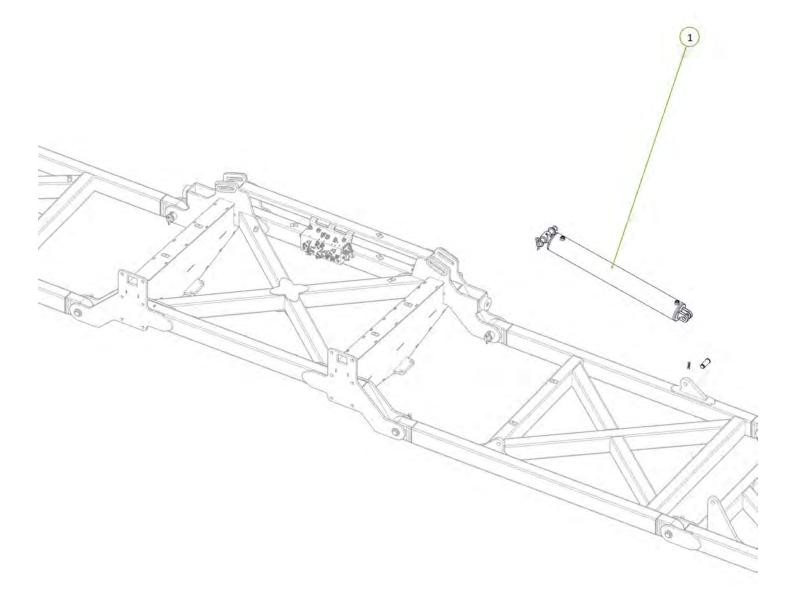
Item No.	Description	Qty	Number
1	Dual Circuit 3 Stage Sequence Manifold V12	1	0802-691033
2	M10 x 30 grade 8.8 ZP Bolt	6	0211-1035
3	Washer Spring M10	6	0231-S10
4	Washer Flat M10	6	0231-F10

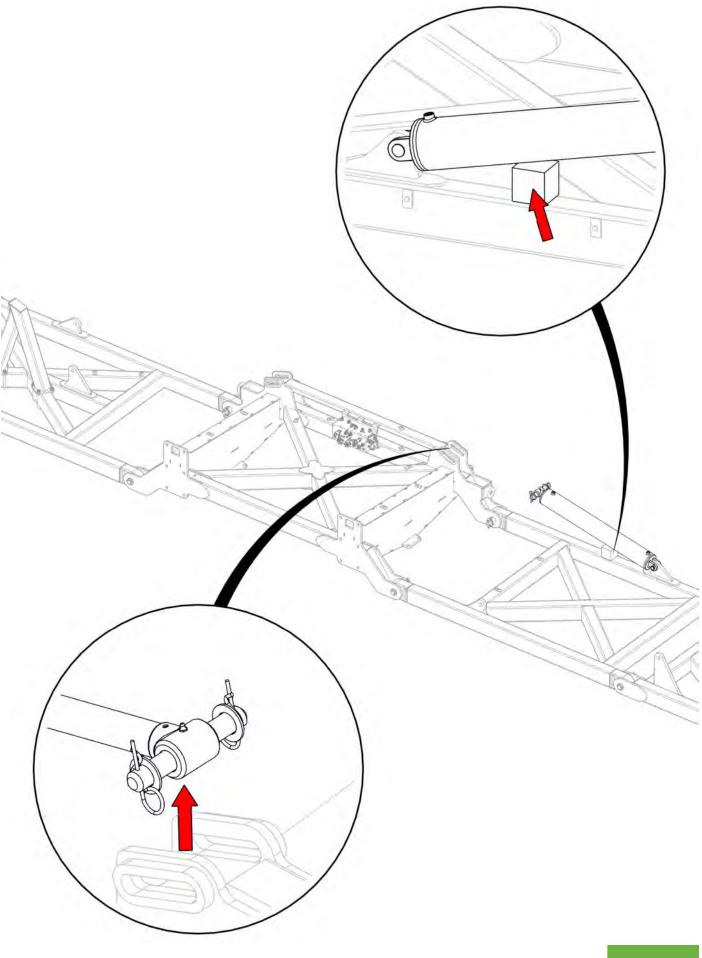




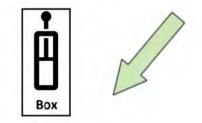
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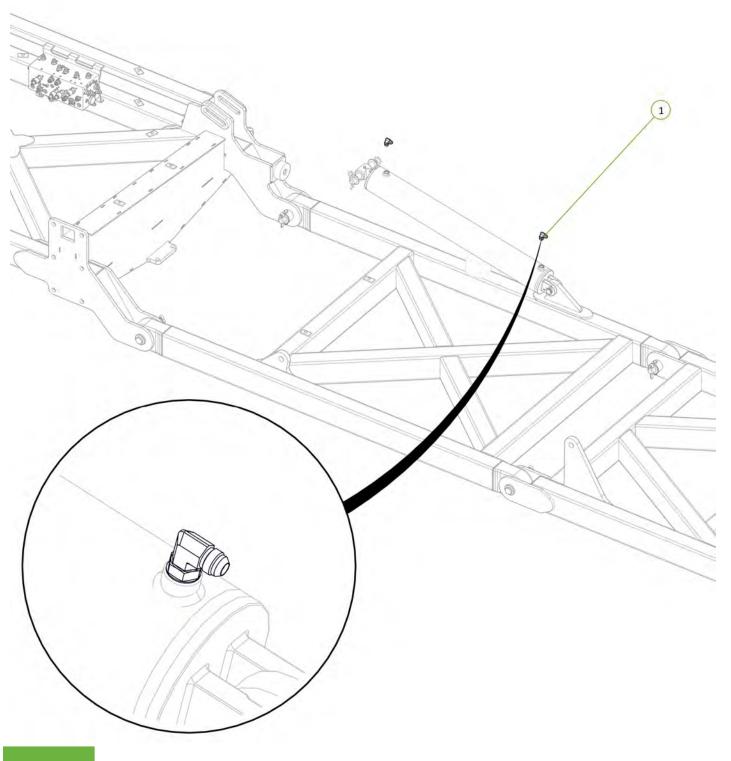
Item No.	Description	Qty	Number
1	5" Bore 36" Stroke 3 1/8" S/Tube 2" Rod Hydraulic Cylinder	1	0311-53651





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





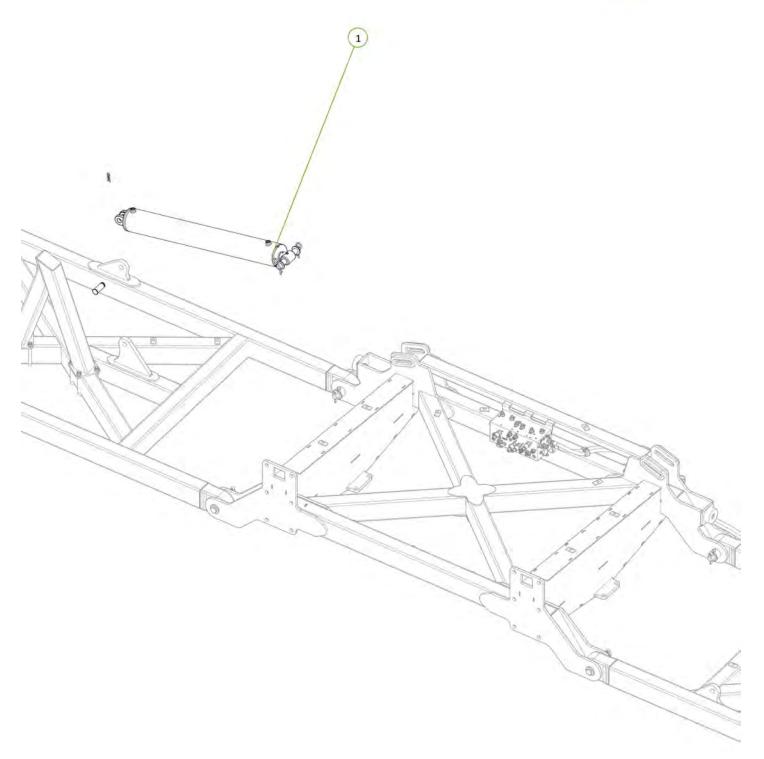
Item No.	Description	Qty	Number
1	Double Clamp Bolt Group 2	1	0325-RCD-2BH
2	Clamp top plate group 2	1	0325-RCD-2PT
3	17mm Clamp Jaws (Pair)	2	0325-RCD-17J
4	Double Clamp Stacking Plate (Non Ryco)	1	0325-SI-2-5D-W3
5	Double Clamp Stacking Bolt Group 2	1	0325-RCD-2BS

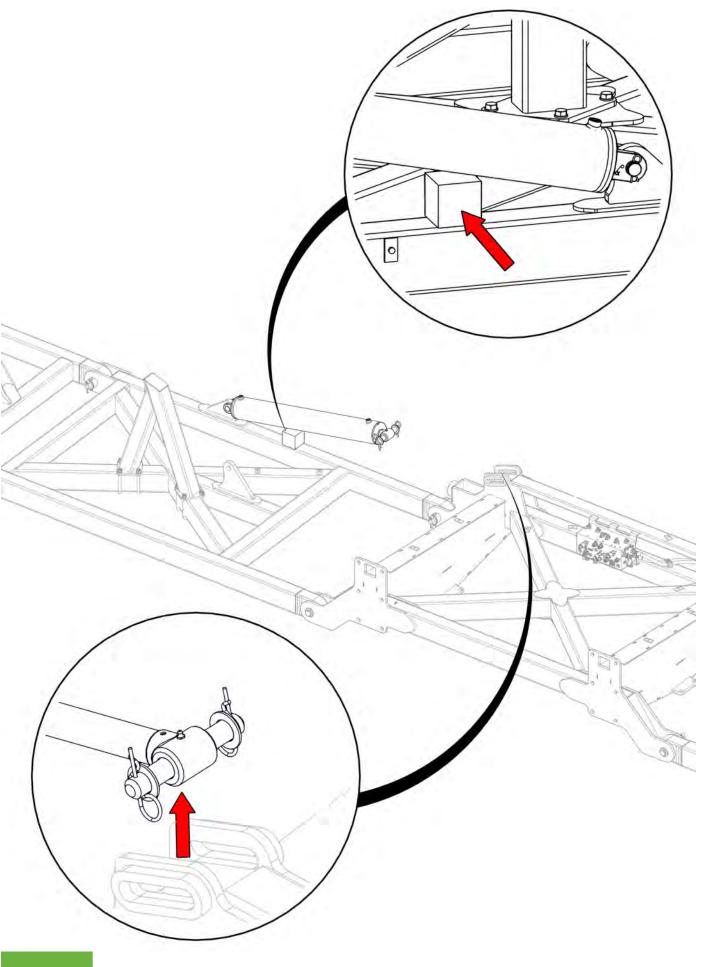
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Item No.	Description		Qty	Number		1
1	Left CE Port to LH Main Wing		1	H12-17	( <b>H</b>	45
2	Left CR Port to LH Main Wing	Cylinder Retract Port	1	H12-18		11
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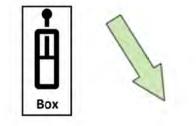
Item No.	Description	Qty	Number
1	5" Bore 36" Stroke 3 1/8" S/Tube 2" Rod Hydraulic Cylinder	1	0311-536ST

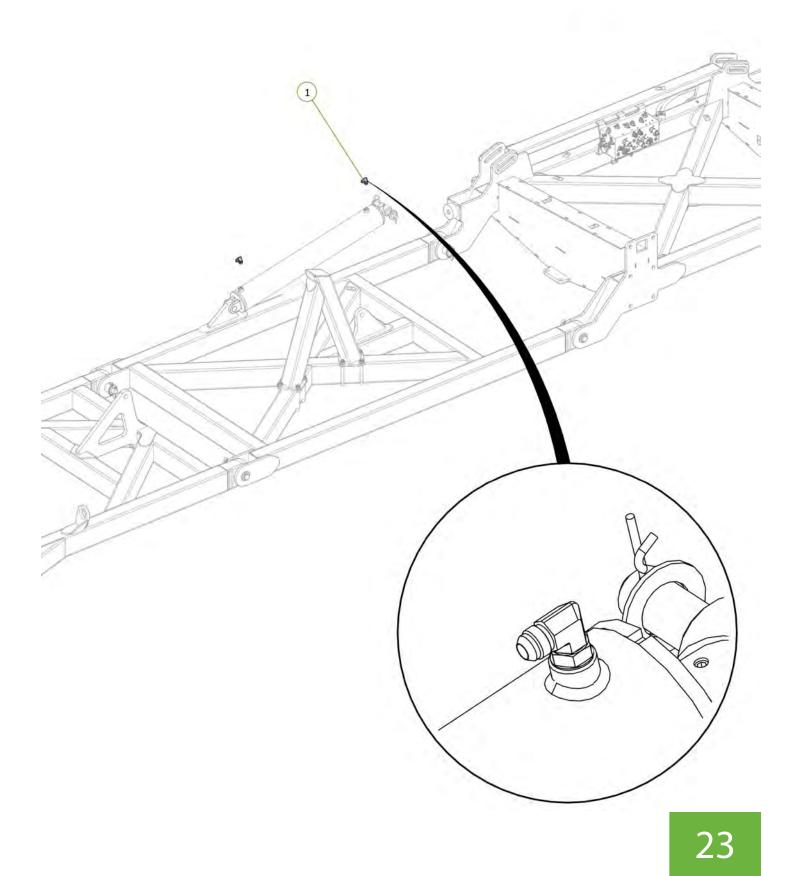




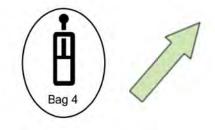


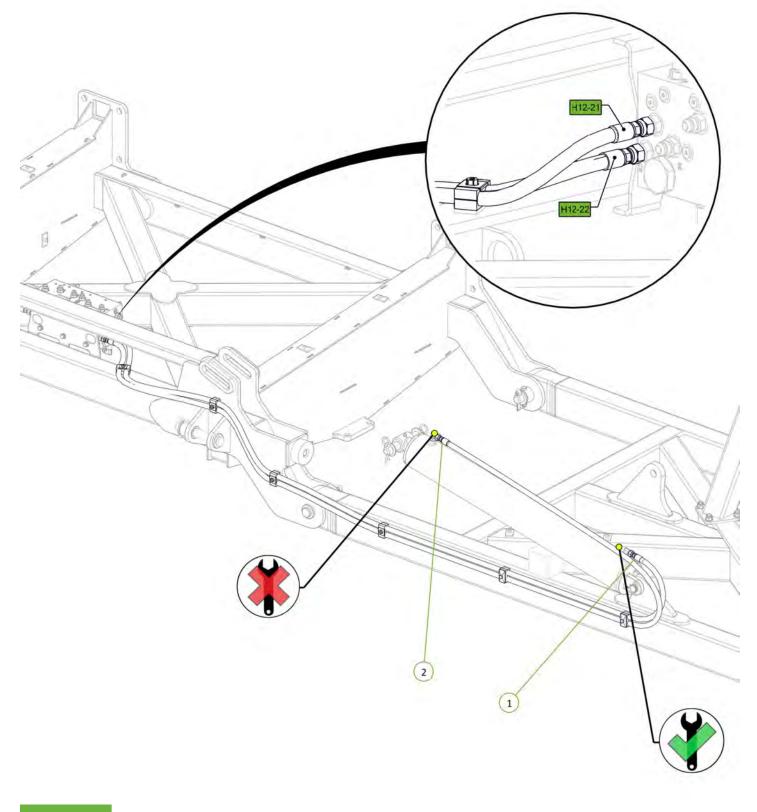
Item No.	Description	Qty	Number
1	3/4" JIC Male 3/4" UN O Ring Male 90° Elbow	2	0323-S91-1212





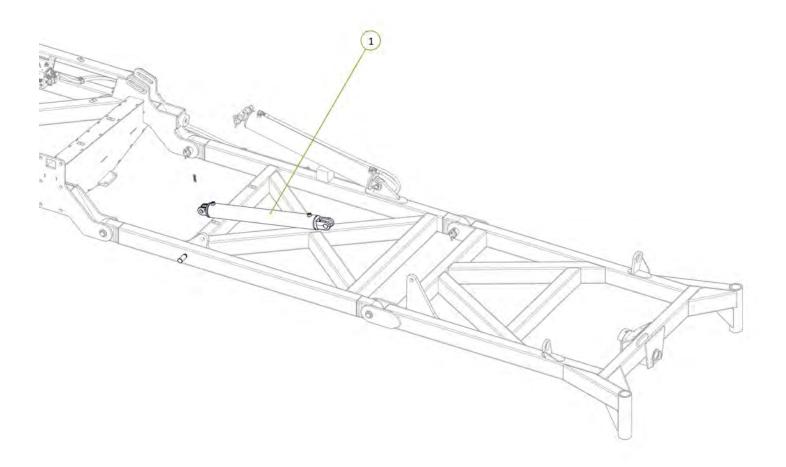
Item No.	Description	Qty	Number
1	Right CE Port to RH Main Wing Cylinder Extend Port	1	H12-21
2	Right CR Port to RH Main Wing Cylinder Retract Port	1	H12-22

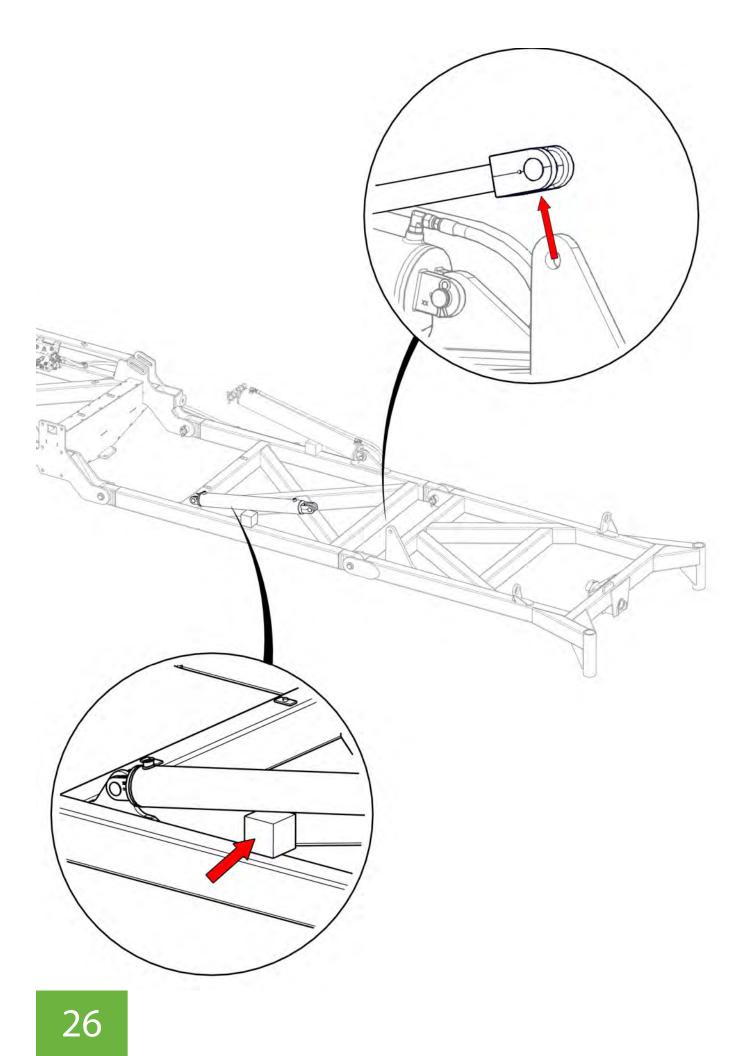




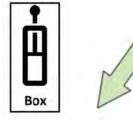
Item No.	Description	Qty	Number
1	4" Bore 30" Stroke 3" S/Tube 1.75" Rod Hydraulic Cylinder with Stop Tube & Clevis	1	0311-430ST-C2

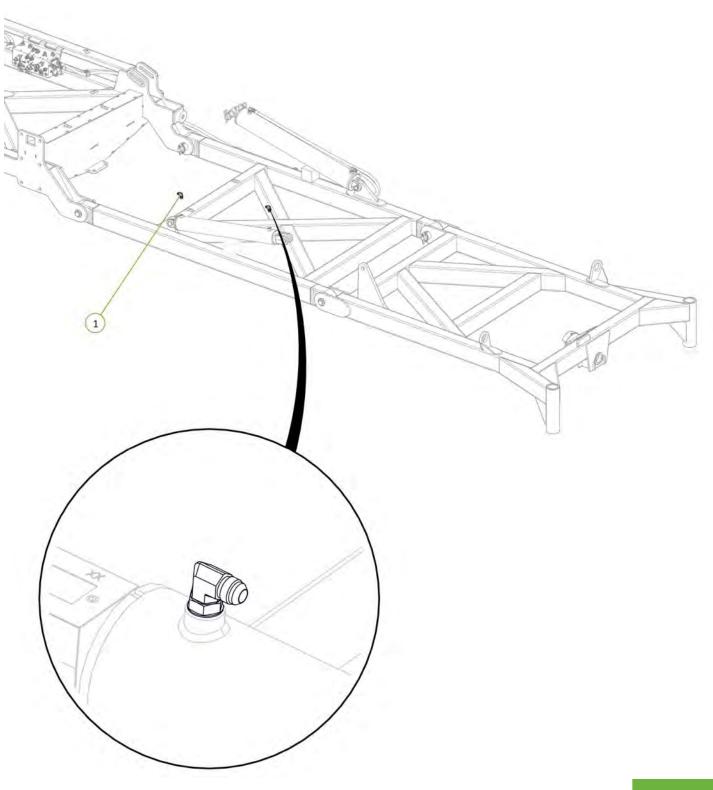






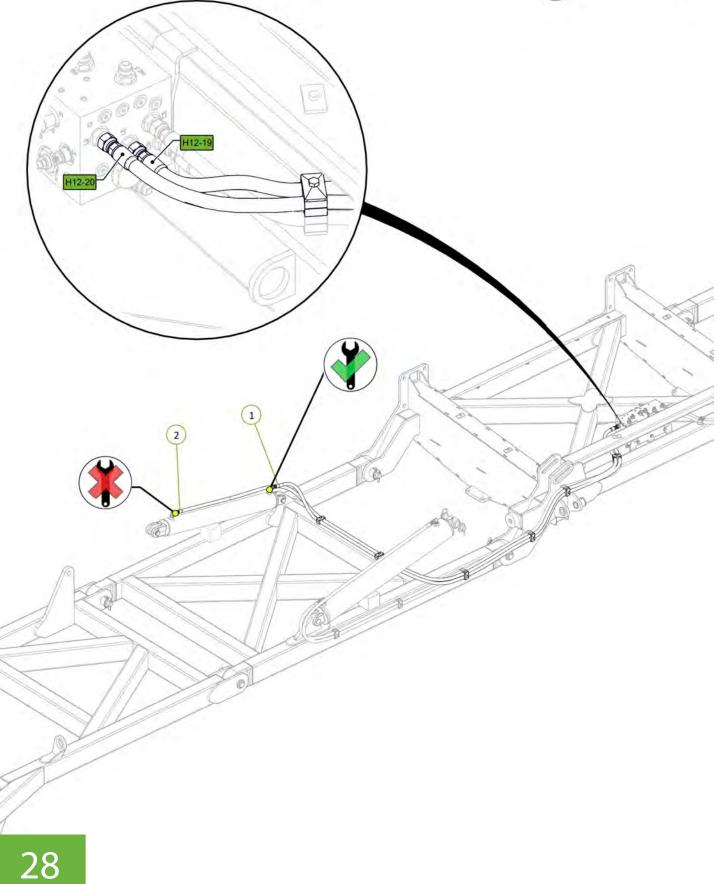
Item No.	Description	Qty	Number
1	3/4" JIC Male 3/4" UN O Ring Male 90° Elbow	2	0323-S91-1212



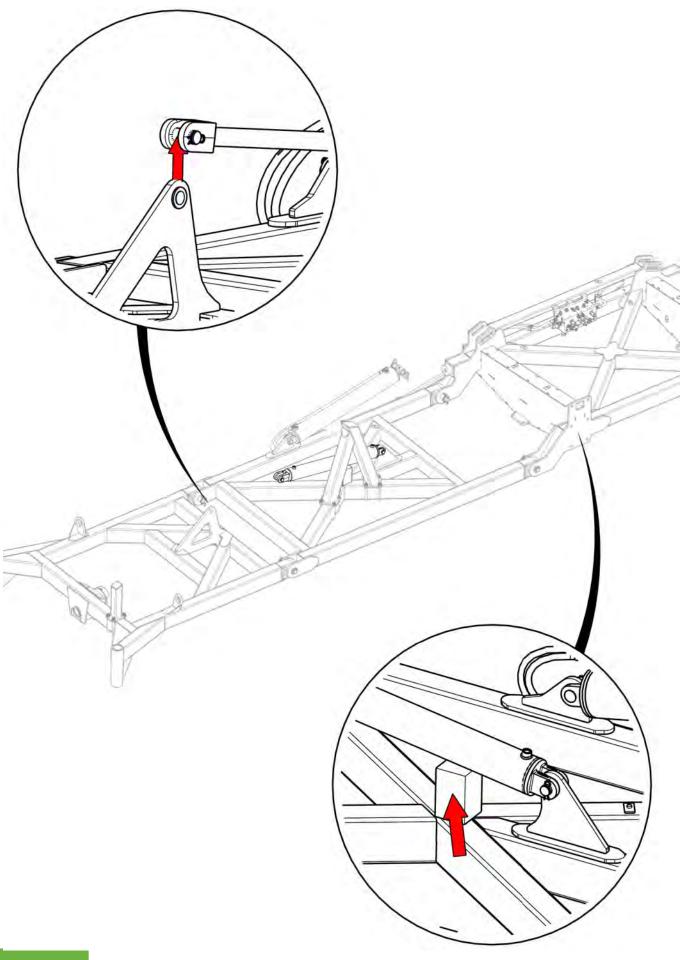


Item No.	Description	Qty	Number
1	LE Port to LH Outer Wing Cylinder Extend Port	1	H12-19
2	LR Port to LH Outer Wing Cylinder Retract Port	1	H12-20

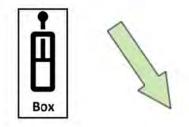


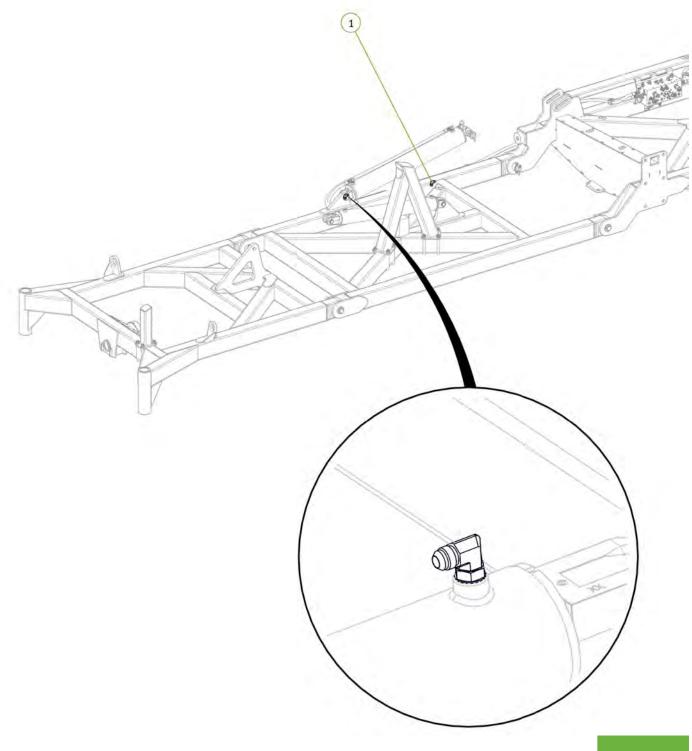


m No.	Description	Qty	Number
	4" Bore 30" Stroke 3" S/Tube 1.75" Rod Hydraulic Cylinder with Stop Tube & Clevis	1	0311-430ST-C2
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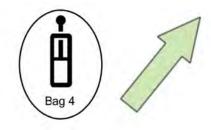


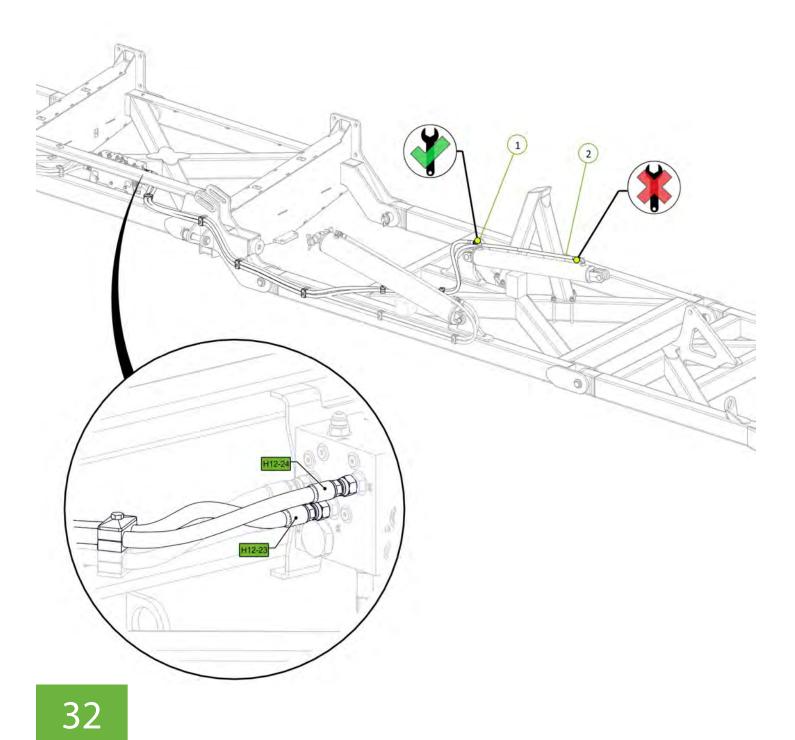
Item No.	Description	Qty	Number
1	3/4" JIC Male 3/4" UN O Ring Male 90° Elbow	2	0323-S91-1212

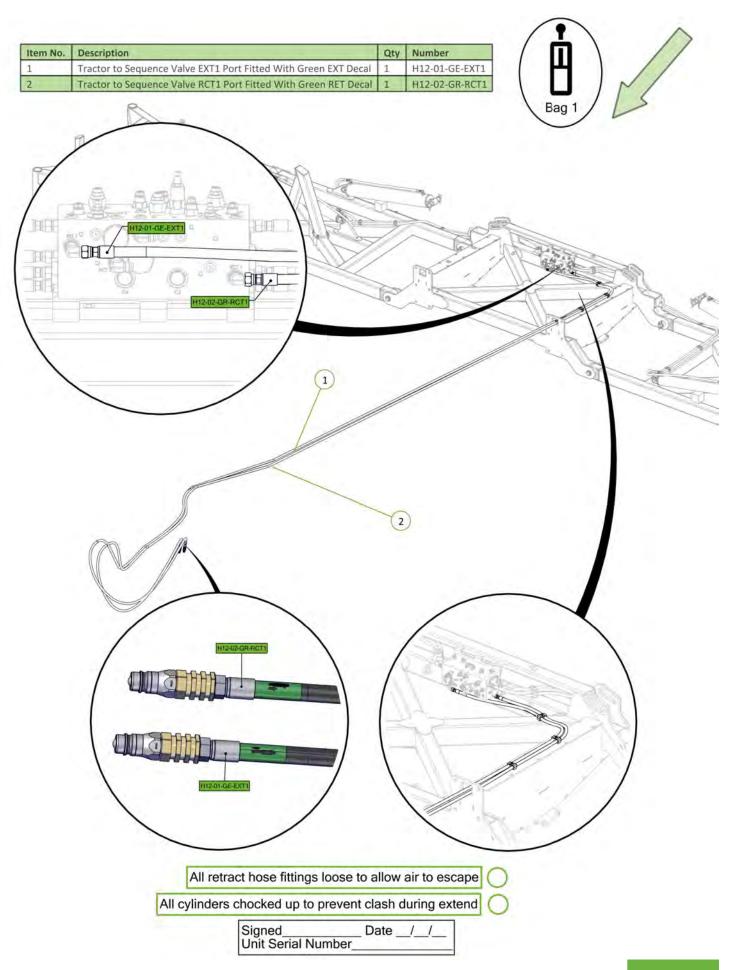


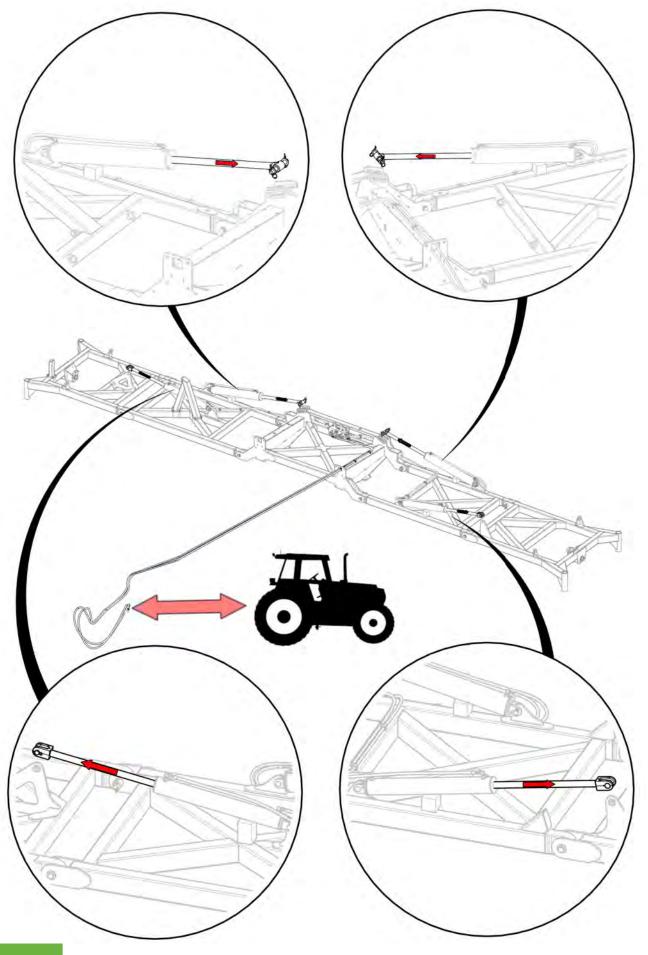


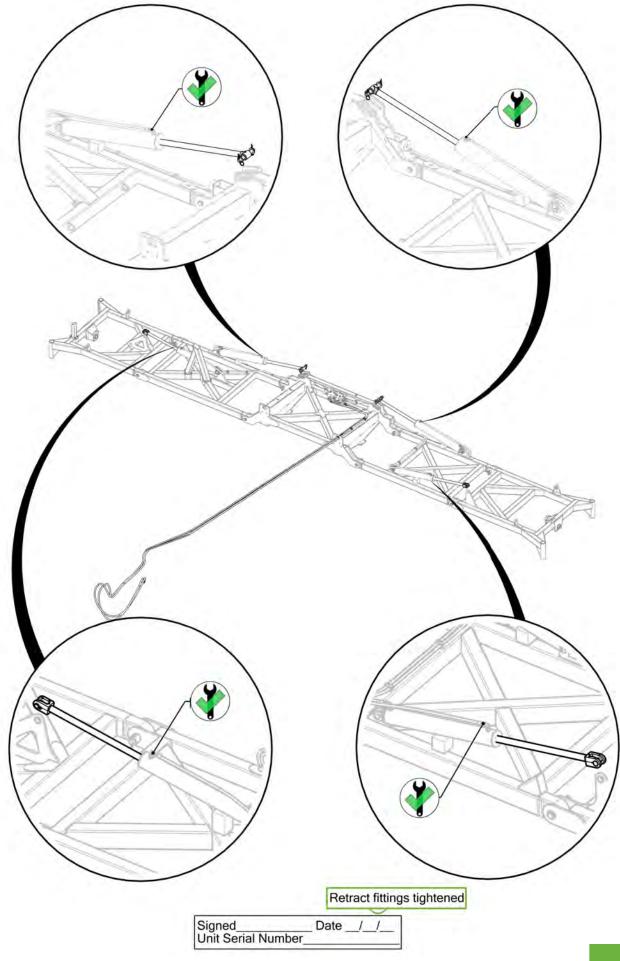
Item No.	Description	Qty	Number
1	RE Port to RH Outer Wing Cylinder Extend Port	1	H12-23
2	RR Port to RH Outer Wing Cylinder Retract Port	1	H12-24

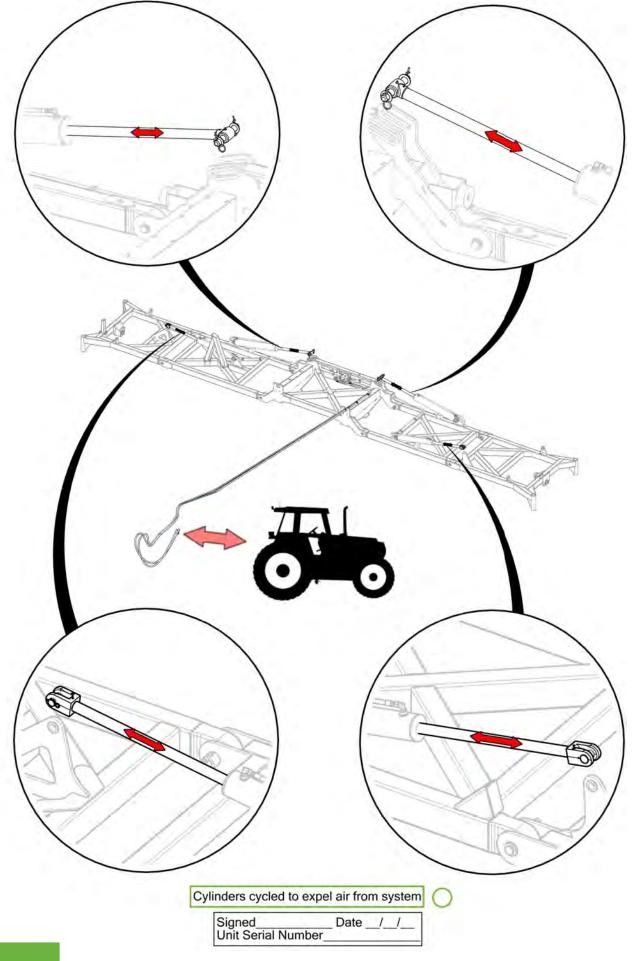


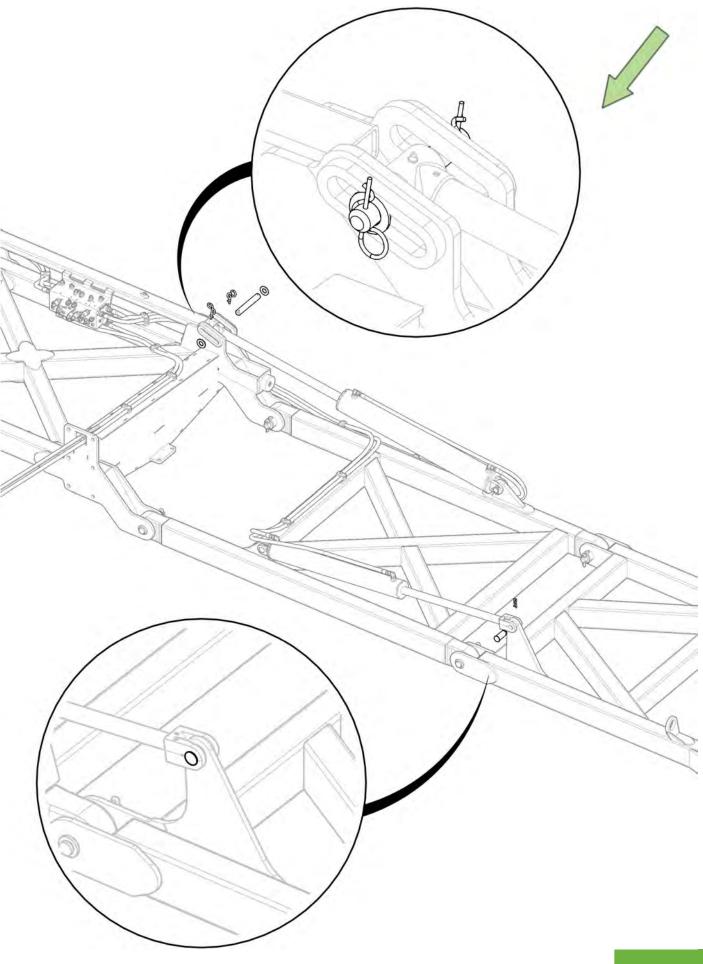


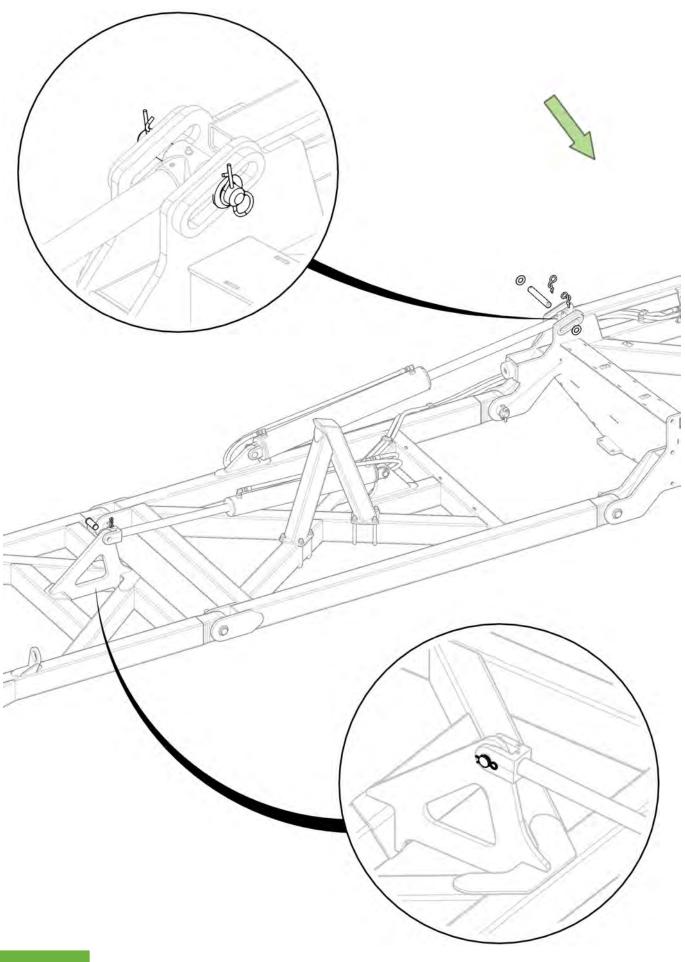




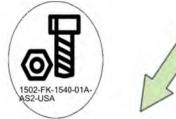


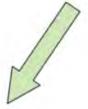


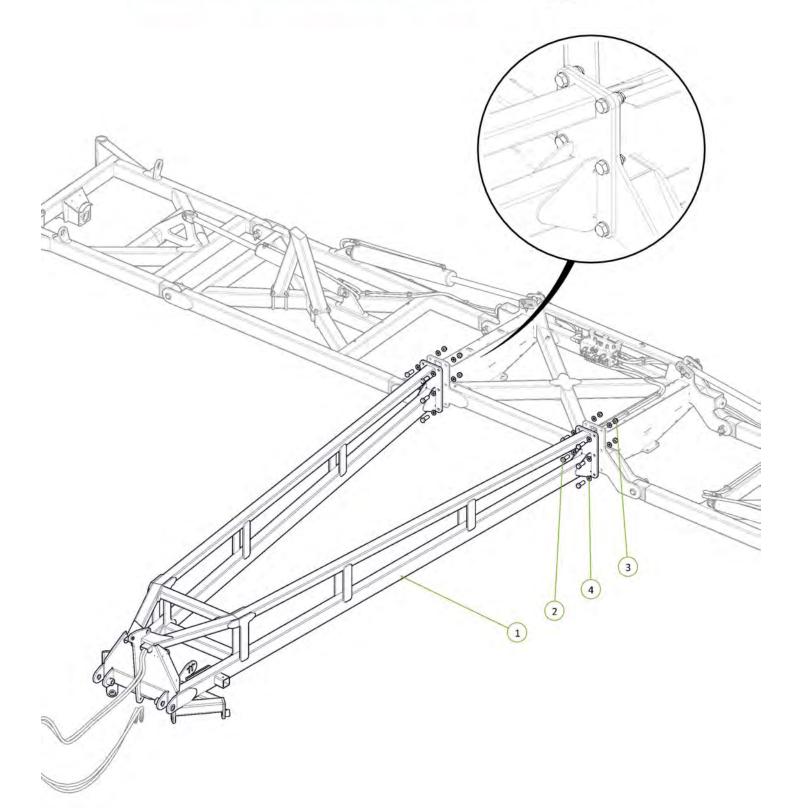




Item No.	Description	Qty	Number
1	40' Main Pull	1	1540-02
2	M24 x 75 grade 8.8 zp Bolt	12	0211-2475
3	Nyloc Nut M24	12	0221-NYL24
4	Washer Flat M24	24	0231-F24

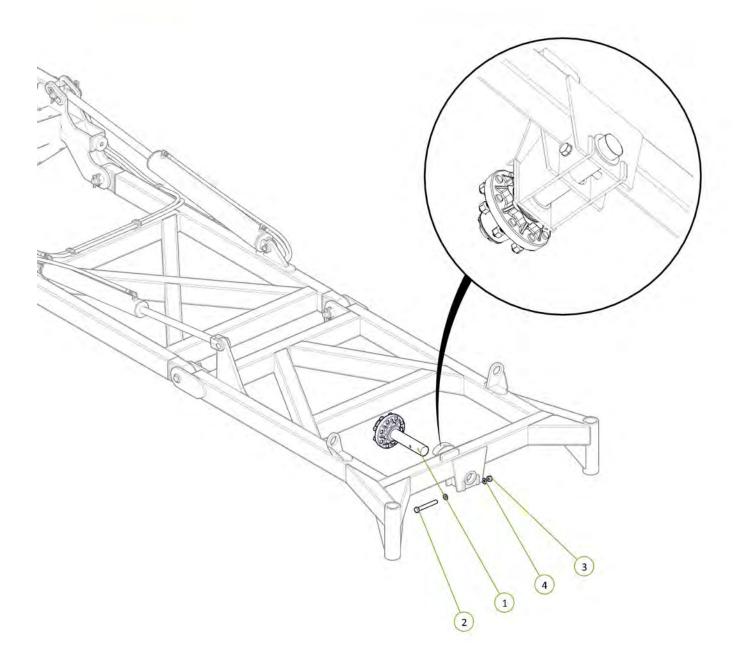




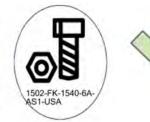


Item No.	Description	Qty	Number
1	2.75"R C/W 6 tonne 8 on 8" PCD Complete Assembly inc GS	1	0733-LG6080067
2	M20 x 170 grade 8.8 ZP Bolt	1	0211-20170
3	Nyloc Nut M20	1	0221-NYL20
4	Washer Flat M20	2	0231-F20

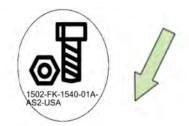


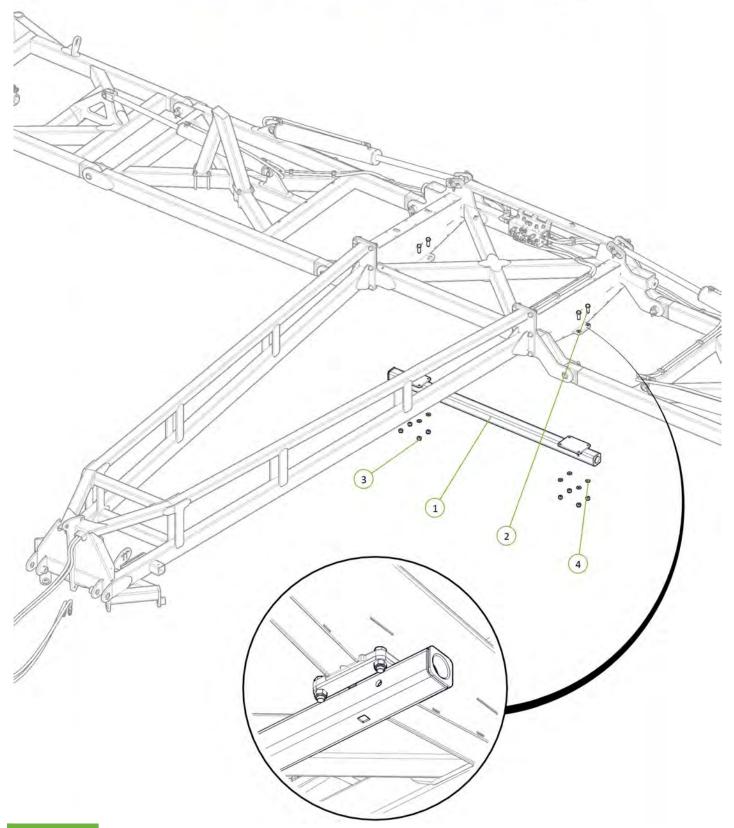


Item No.	Description	Qty	Number
1	2.75"R C/W 6 tonne 8 on 8" PCD Complete Assembly inc GS	1	0733-LG6080067
2	M20 x 170 grade 8.8 ZP Bolt	1	0211-20170
3	Nyloc Nut M20	1	0221-NYL20
4	Washer Flat M20	2	0231-F20



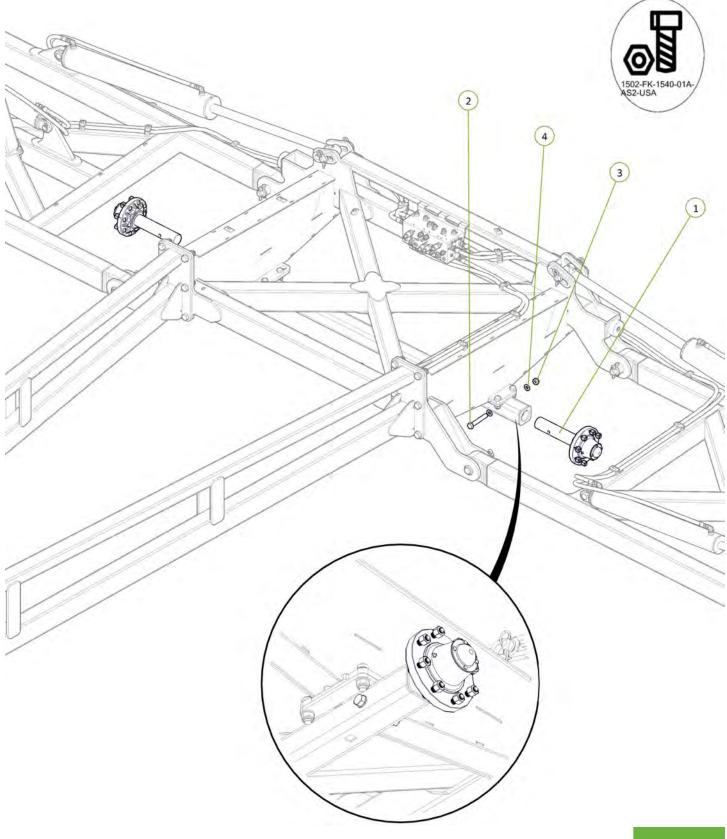
Item No.	Description	Qty	Number
1	12m Axle Beam	1	1540-11
2	M20 x 65 Grade 8.8 ZP Bolt	8	0211-2065
3	Nyloc Nut M20	8	0221-NYL20
4	Washer Flat M20	15	0231-F20





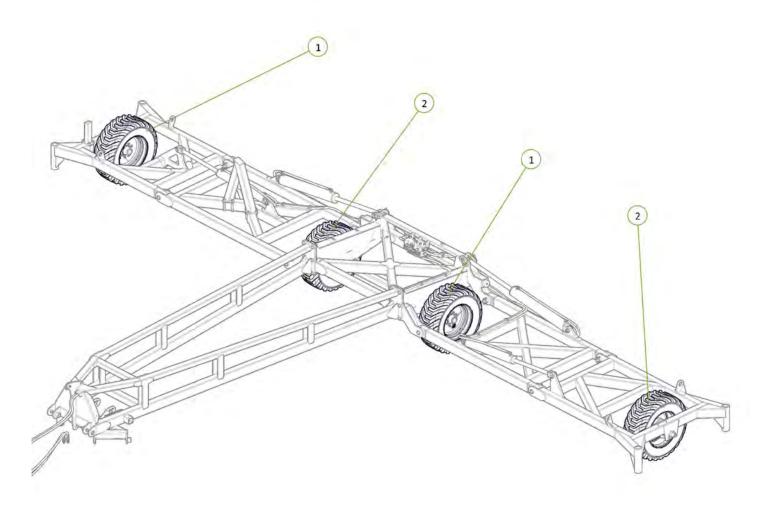
Item No.	Description	Qty	Number
1	2.75"R C/W 6 tonne 8 on 8" PCD Complete Assembly inc GS	2	0733-LG6080067
2	M20 x 140 grade 8.8 ZP Bolt	2	0211-20140
3	Nyloc Nut M20	2	0221-NYL20
4	Washer Flat M20	4	0231-F20





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





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 80 grade 8.8 ZP Bolt	2	0211-1280
5	Nyloc Nut M12	2	0221-NYL12
6	Cotter Pin M13 x 63	2	0261-PINC1363

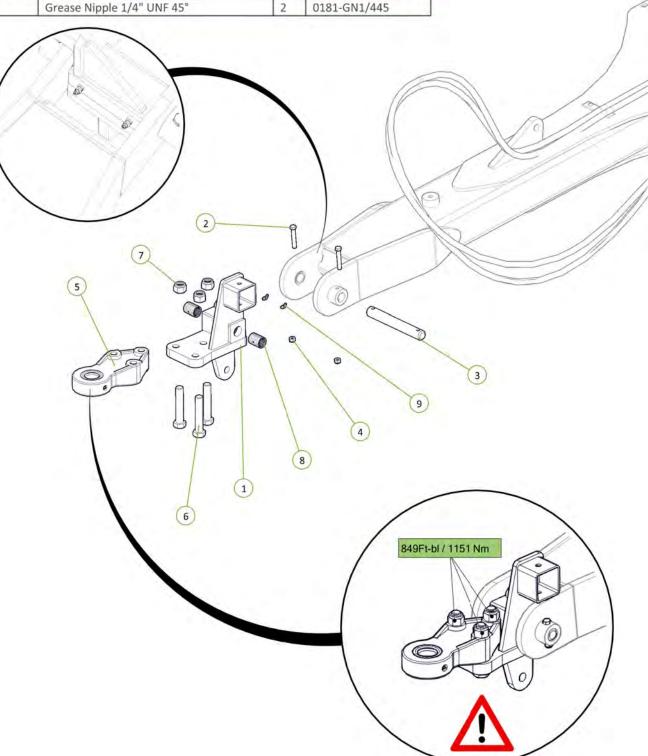




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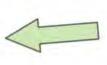
Item No.	Description	Qty	Number
1	Tow Hitch For Bull Pull Swivel Hitch	1	0810-09-BP
2	M12 x 80 grade 8.8 ZP Bolt	2	0211-1280
3	Tow Hitch Pivot Pin	1	0801-10-14
4	Nyloc Nut M12	2	0221-NYL12
5	Bull Pull Swivel Hitch CAT 4 wt 1-1/2' Insert	1	0801-BPF-CAT-4JDF-2
6	1" UNF Grade 8 ZP Bolt x 5-1/2"	3	0213-1 51-2
7	Nyloc Nut 1" UNF	3	0223-NYL1
8	35 ID x 50mm DX Bush	2	0113-MB3550DX
9	Grease Nipple 1/4" UNF 45°	2	0181-GN1/445

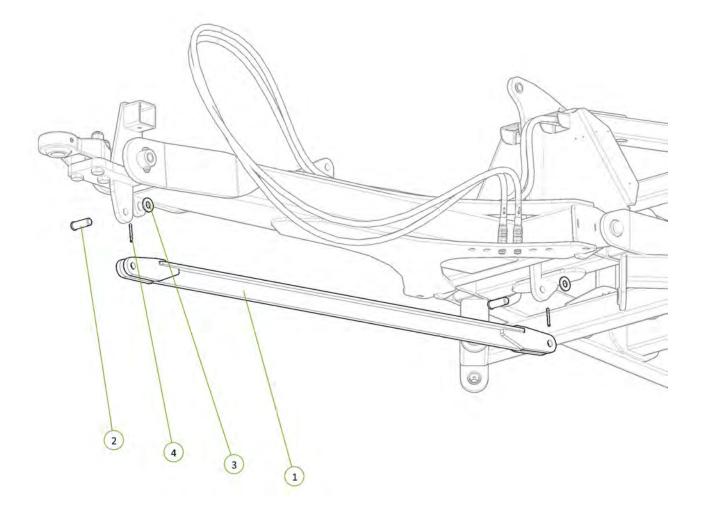




Item No.	Description	Qty	Number
1	Parallel Arm	1	0810-58
2	Clevis Pin 25mm x 75mm	2	0801-KE0307-1
3	Washer Flat 1"	2	0232-F1
4	Cotter Pin M5 x 50	2	0261-PINC550

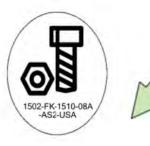


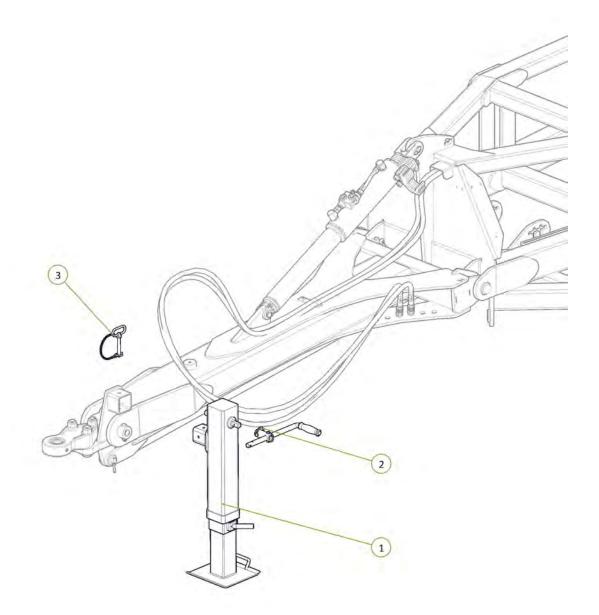




Item No.	Description 4" Bore 12" Stroke 2" Rod Extended	Qty d Hydraulic Cylinder 1	y Number 0311-412EXT-2	2
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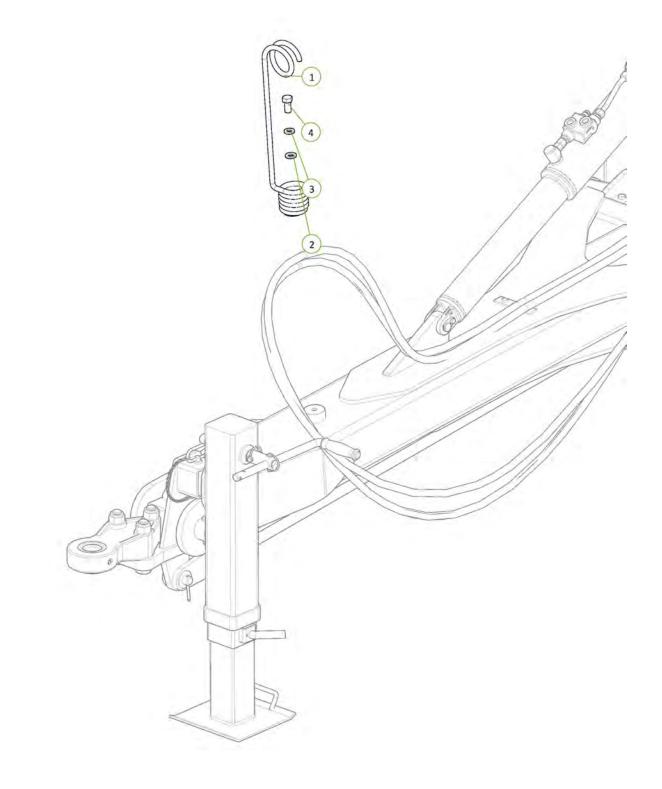
Item No.	Description	Qty	Number
1	Heavy Duty Jack	1	0801-SAK45B-1
2	Jack Handle Assembly 4 Tonne	1	0801-622110HA
3	Jack Pin	1	0801-B3077

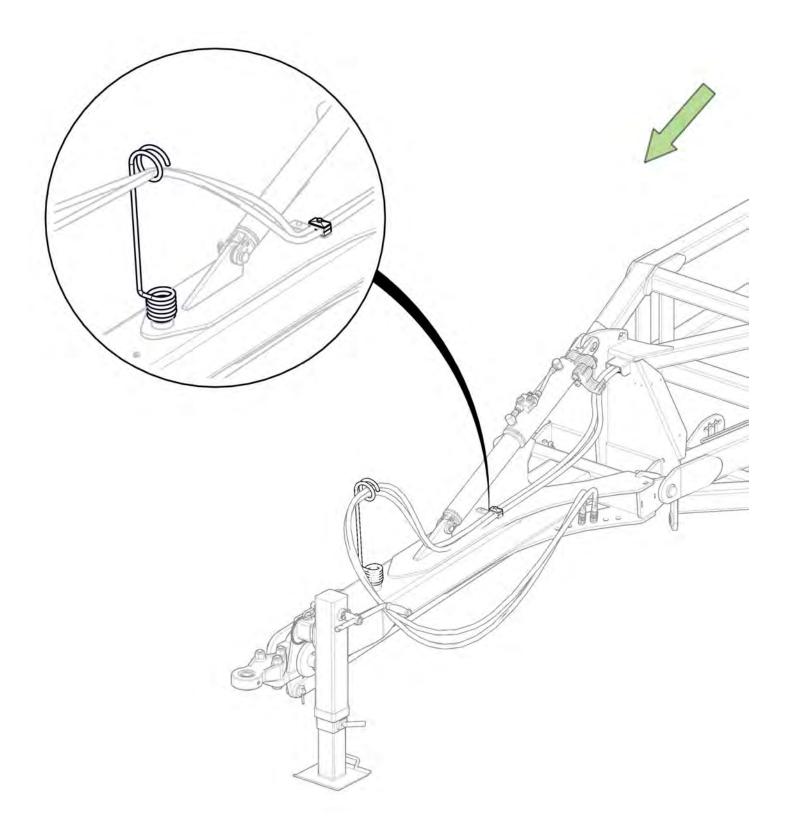




Item No.	Description	Qty	Number
1	Hose Post Spring	1	1601-CDB-00-0012
2	Washer Flat M16	1	0231-F16
3	Washer Spring M16	1	0231-S16
4	M16 x 35 grade 8.8 zp Bolt	1	0211-1635

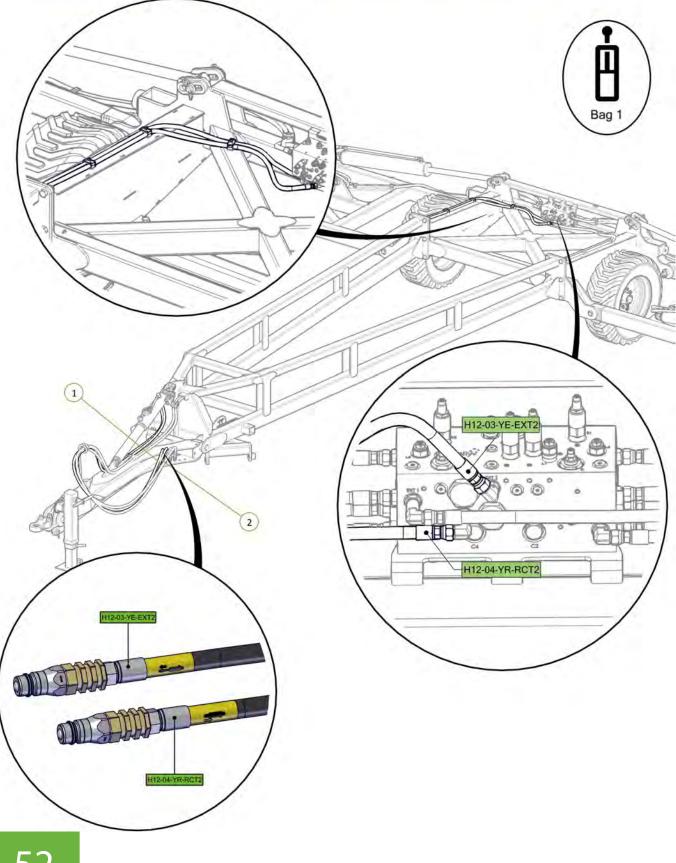


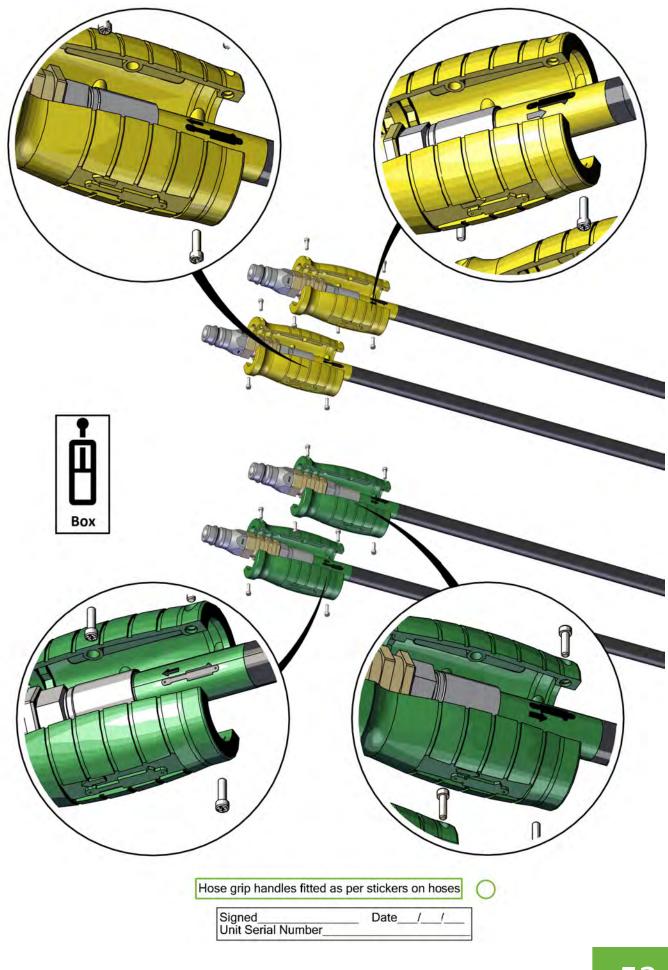


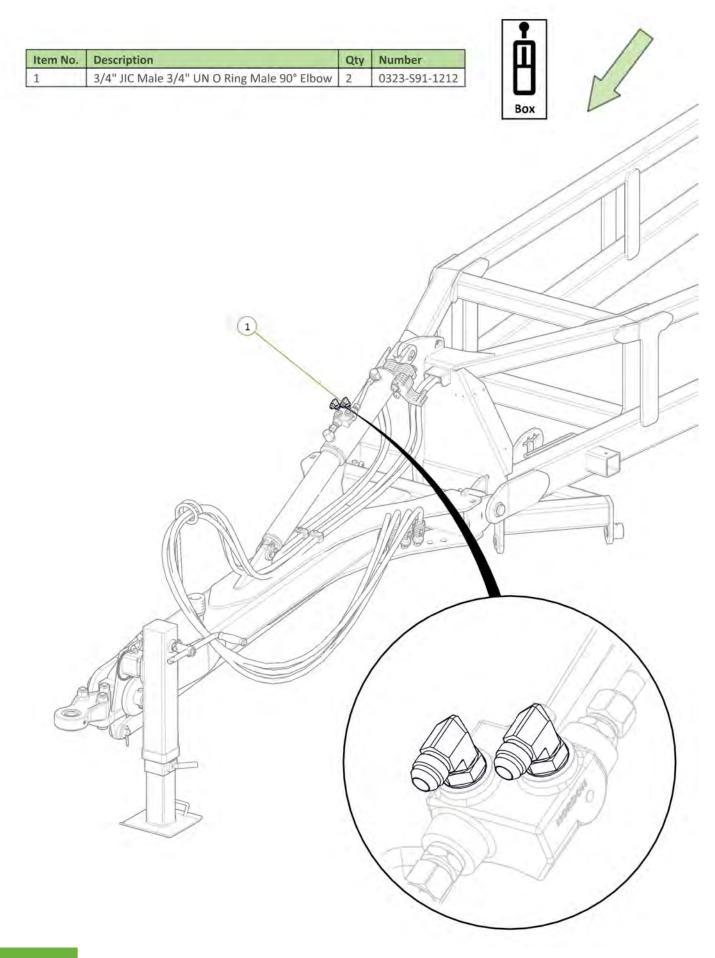


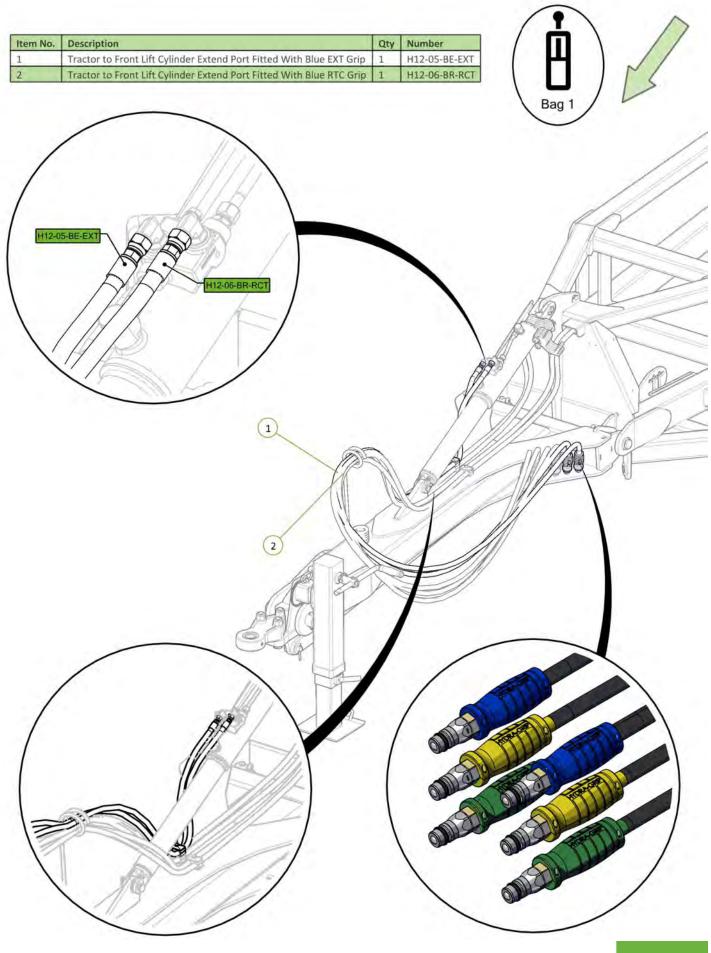
Item No.	Description	Qty	Number
1	Tractor to Sequence Valve EXT2 Port Fitted With Yellow EXT Decal	1	H12-03-YE-EXT2
2	Tractor to Sequence Valve RTC2 Port Fitted With Yellow RTC Decal	1	H12-04-YR-RCT2

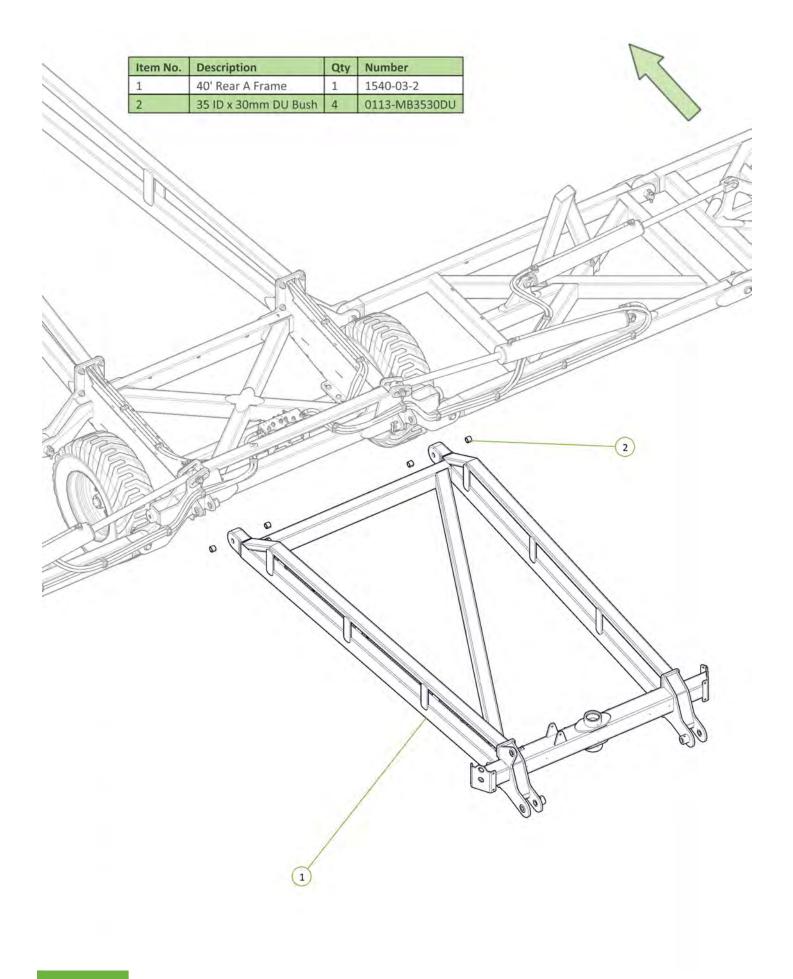












Item No.	Description	Qty	Number
1	PCH Wing Pivot Pin	2	0801-10-08-235
2	M12 x 80 grade 8.8 ZP Bolt	2	0211-1280
3	Nyloc Nut M12	2	0221-NYL12
4	Cotter Pin M13 x 63	2	0261-PINC1363

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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

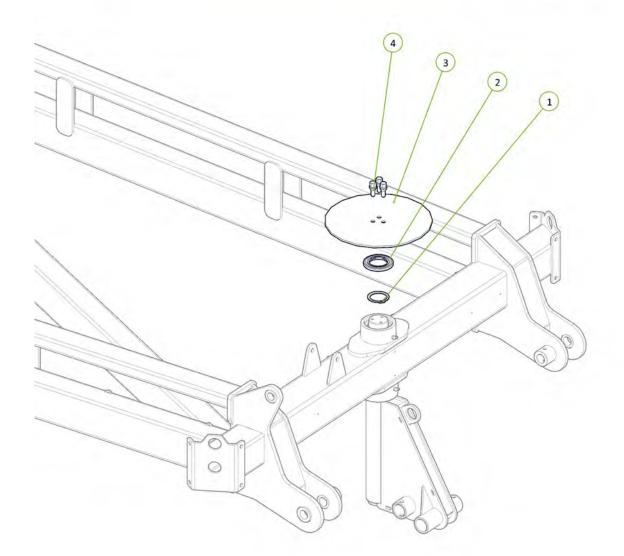




Item No.	Description	Qty	Number
1	Circlip External 70mm	1	0172-D1400-0700APP
2	Seal 70 x 100 x 10mm	1	0121-TC12654
3	Brake Disc	1	1600-405
4	M12 x 24 Wheel Bolt	3	0216-WB1224

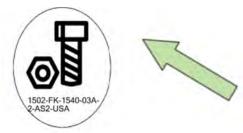


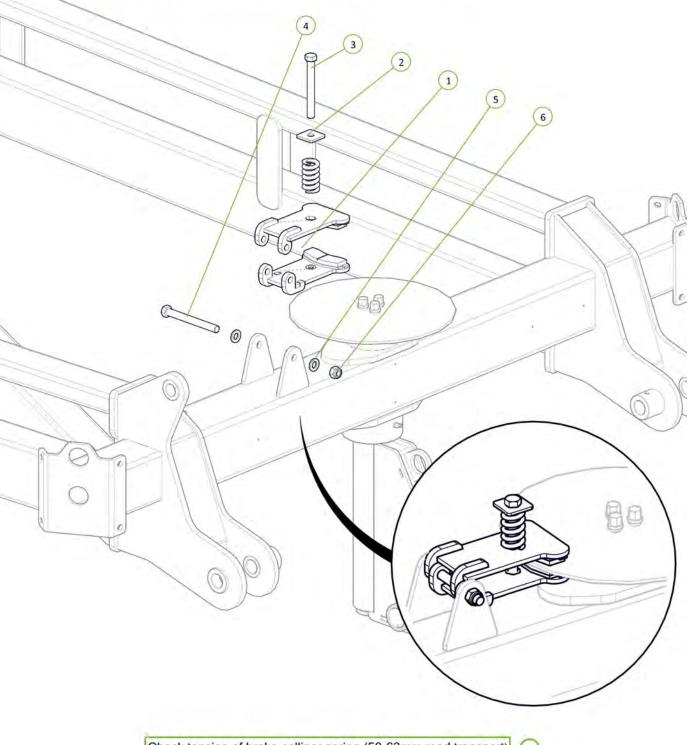




Wheel bolts torqued to 6	5Ft-Lb / 88Nm	
Circlip fitted to Jocke	y Wheel shaft	
Signed Unit Serial Number	Date_/	/

Item No.	Description	Qty	Number
1	Jockey Wheel Brake Caliper	1	0810-12CAL
2	Washer Square M16 x 50 x 5	1	0231-SQ16505
3	M16 x 150 Grade 8.8 ZP Bolt	1	0211-16150
4	M16 x 160 Grade 8.8 ZP Bolt	1	0211-16160
5	Washer Flat M16	2	0231-F16
6	Nyloc Nut M16	1	0221-NYL16

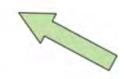


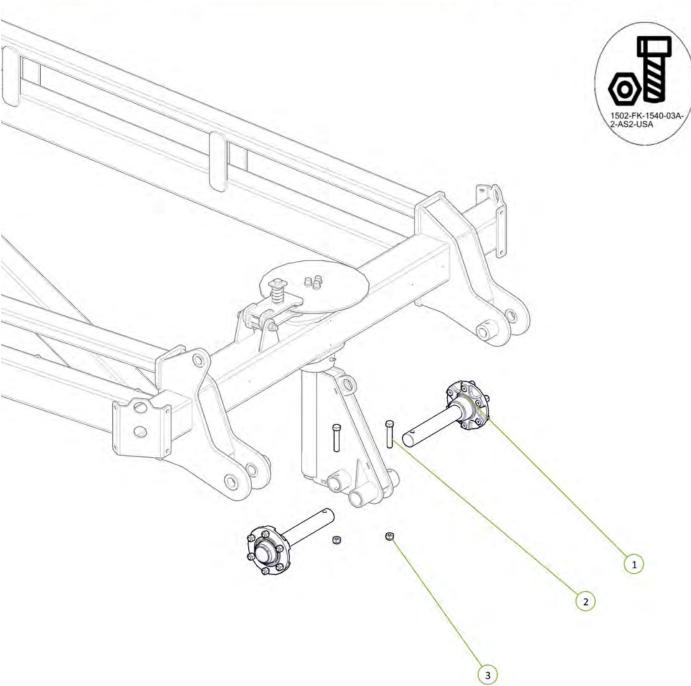


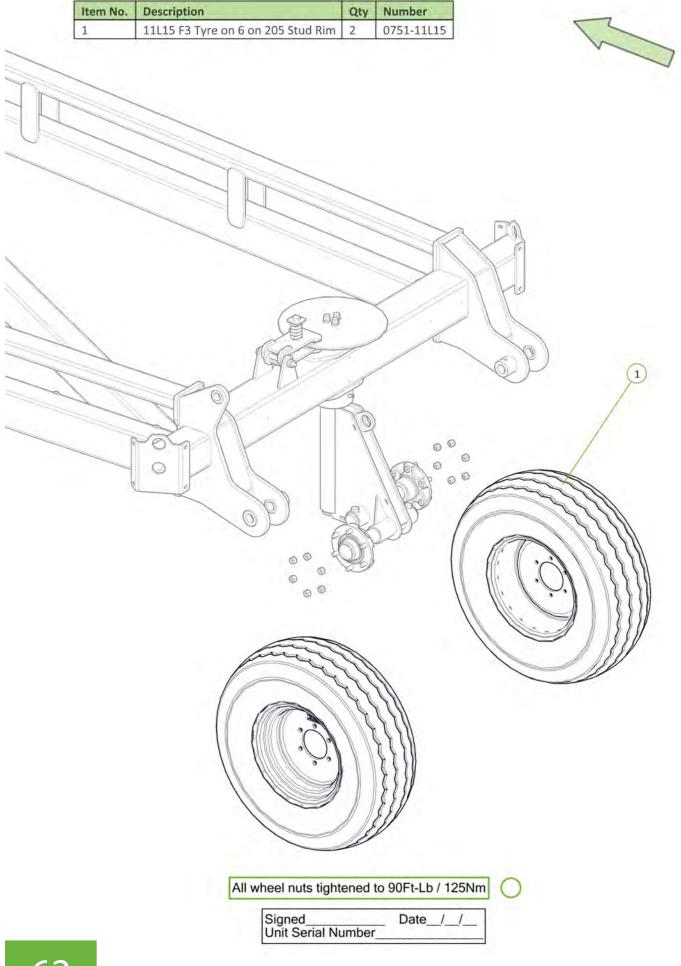
Check tension of brake calliper spring (50-63mm road transport)

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

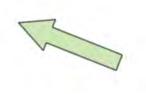
Item No.	Description	Qty	Number
1	Axle 2"R 3T 6 on 6"PCD 330 OHF Complete Assembly Inc GS	2	0733-LG8880093
2	M16 x 90 grade 8.8 zp Bolt	2	0211-1690
3	Nyloc Nut M16	2	0221-NYL16

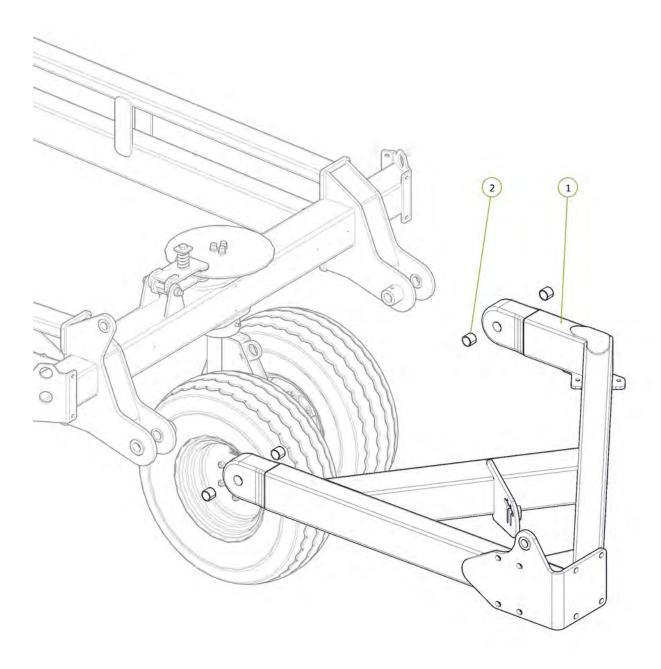




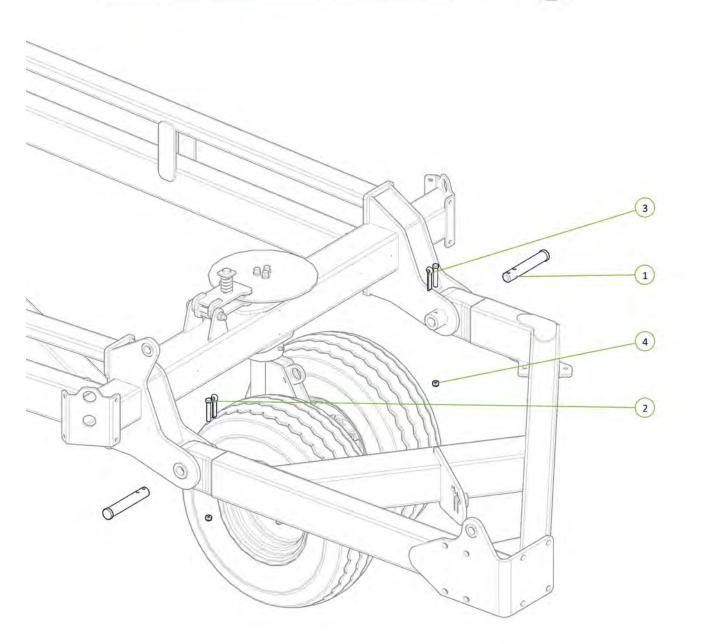


Item No.	Description	Qty	Number
1	Rear Tail	1	1510-405
2	35 ID x 30mm DU Bush	4	0113-MB3530DU





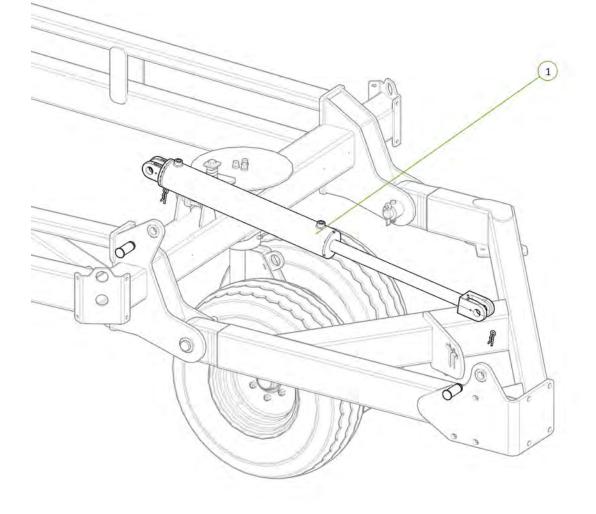
Item No.	Description	Qty	Number
1	PCH Wing Pivot Pin	2	0801-10-08-235
2	M12 x 80 grade 8.8 ZP Bolt	2	0211-1280
3	Cotter Pin M13 x 63	2	0261-PINC1363
4	Nyloc Nut M12	2	0221-NYL12



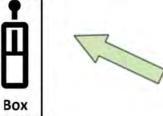
1502-FK-1540-03A 2-AS1-USA

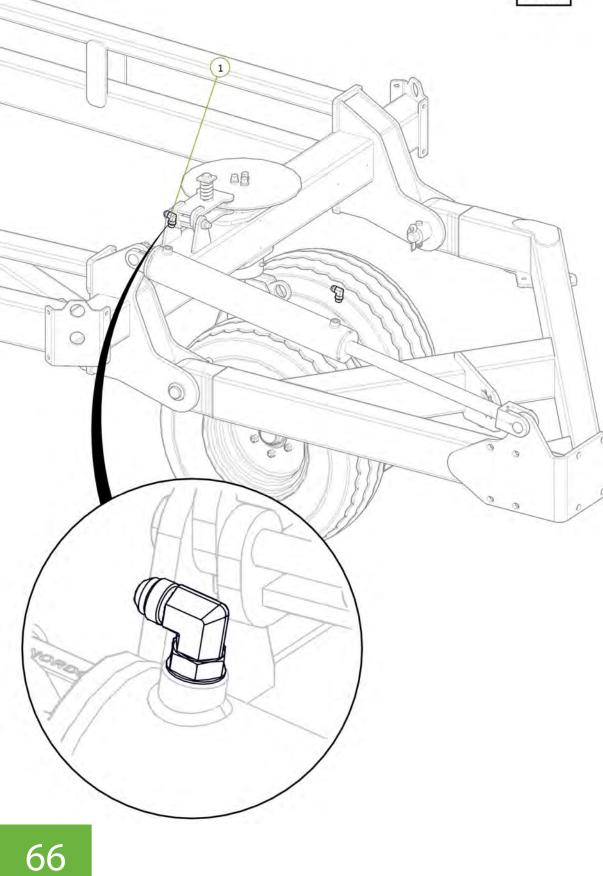
Item No.	Description	Qty	Number
1	4" Bore 24" Stroke 1.75" Rod Hydraulic Cylinder	1	0311-424



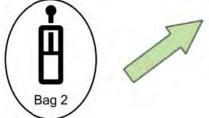


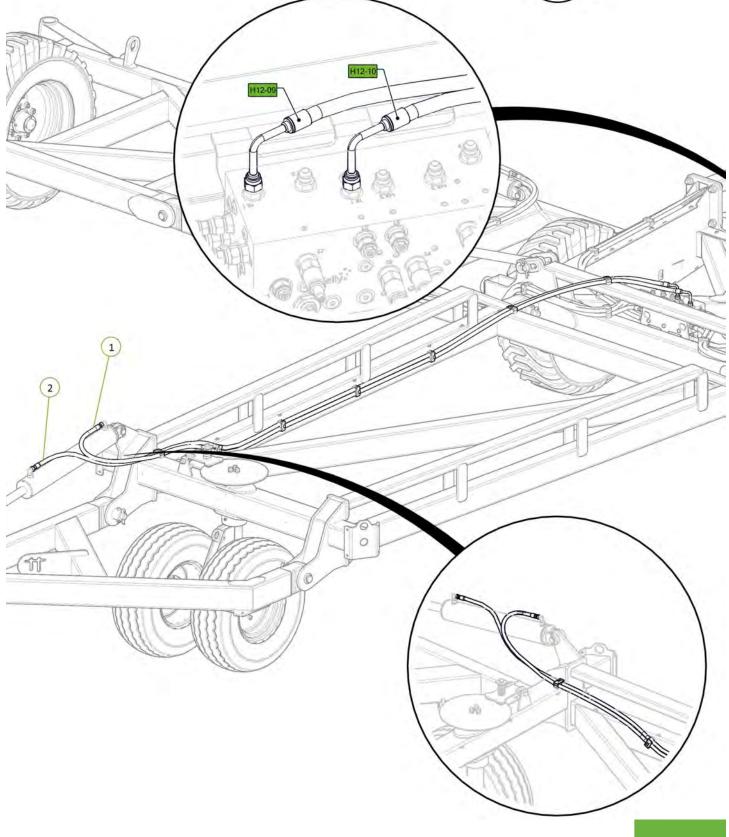
Item No.	Description	Qty	Number
1	3/4" JIC Male 3/4" UN O Ring Male 90° Elbow	2	0323-S91-1212





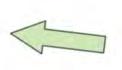
Item No.	Description	Qty	Number
1	TE1 Port to Tail Lift Cylinder Extend Port	1	H12-09
2	TR1 Port to Tail Lift Cylinder Retract Port	1	H12-10

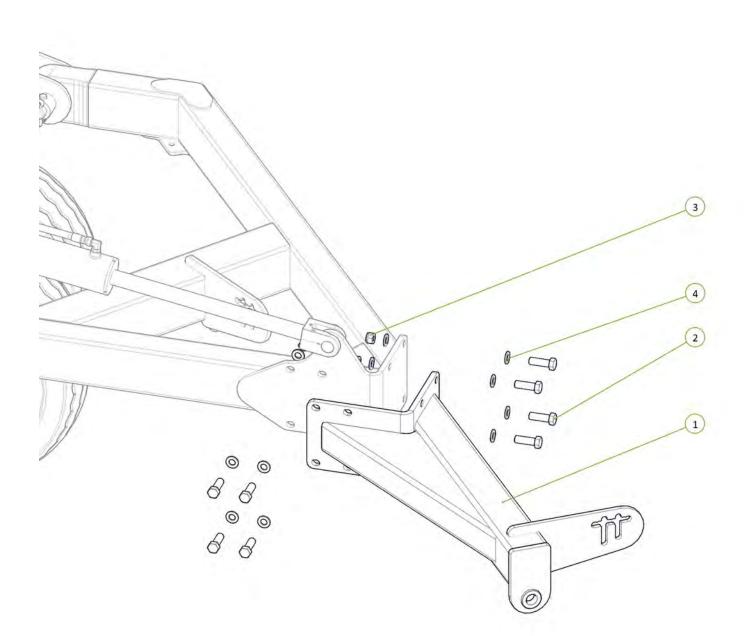




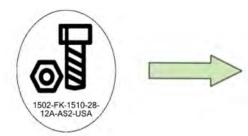
Item No.	Description	Qty	Number
1	Tail Extension	1	1510-40ST
2	M20 x 65 grade 8.8 ZP Bolt	8	0211-2065
3	Nyloc Nut M20	8	0221-NYL20
4	Washer Flat M20	16	0231-F20

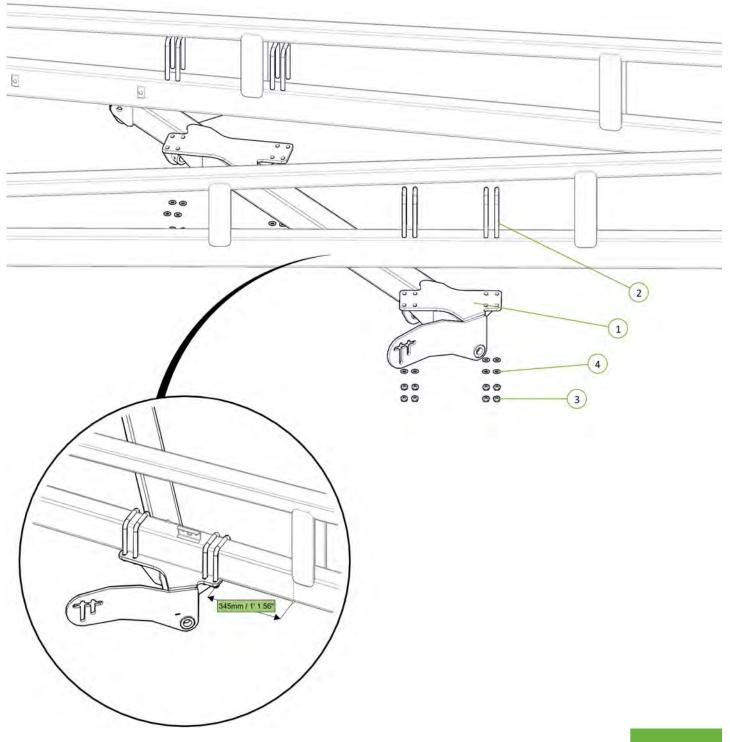


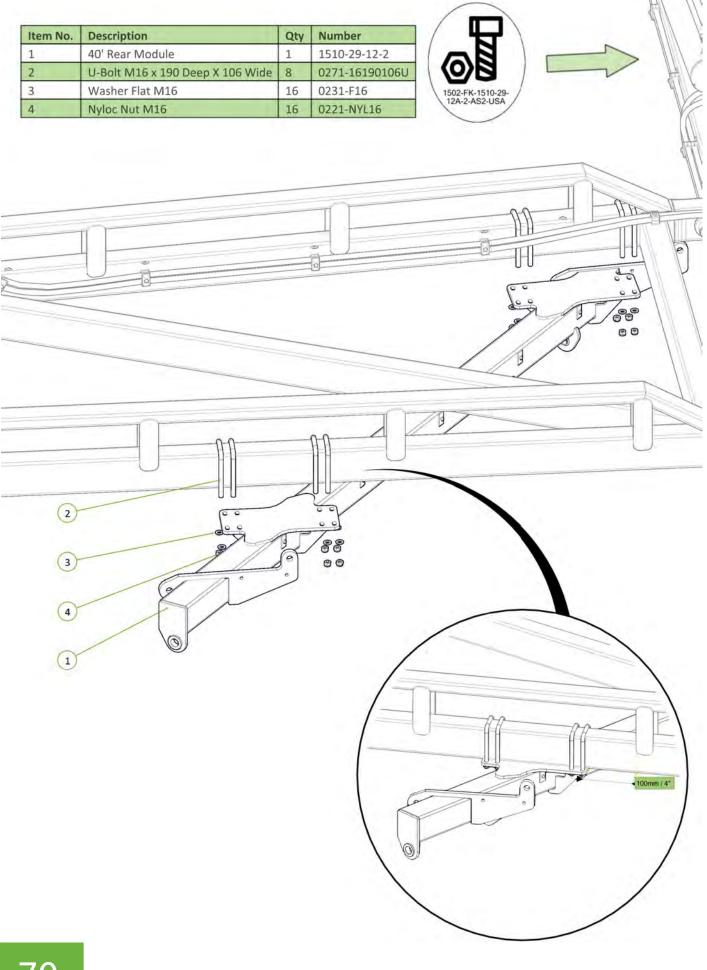




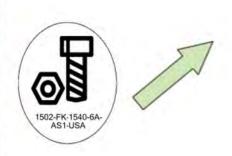
Item No.	Description	Qty	Number
1	40' Front Module	1	1510-28-12
2	U-Bolt M16 x 190 Deep X 106 Wide	8	0271-16190106U
3	Nyloc Nut M16	16	0221-NYL16
4	Washer Flat M16	16	0231-F16

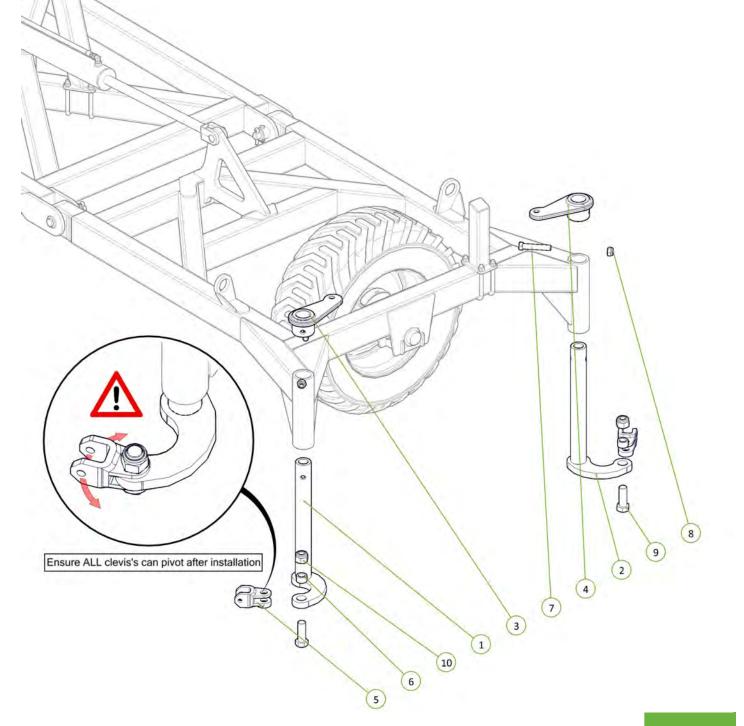


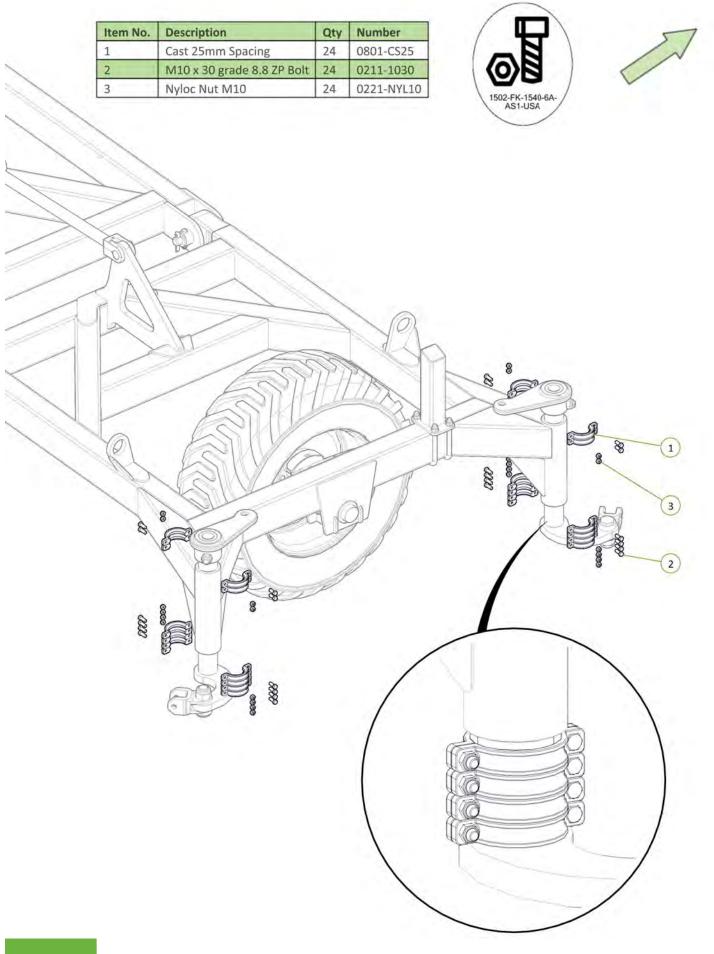




Item No.	Description	Qty	Number
1	Super Single LH Drop Leg No Clevis	1	0810-24SF
2	Super Single RH Drop Leg No Clevis	1	0810-255F
3	LH Chain Adjusting Lug	1	0810-26
4	RH Chain Adjusting Lug	1	0810-27
5	Forged Clevis 21mm Bolt Hole	2	0801-FC21
6	Stainless Steel Wear Bush	2	1501-365033-SS
7	M24 x 140 grade 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



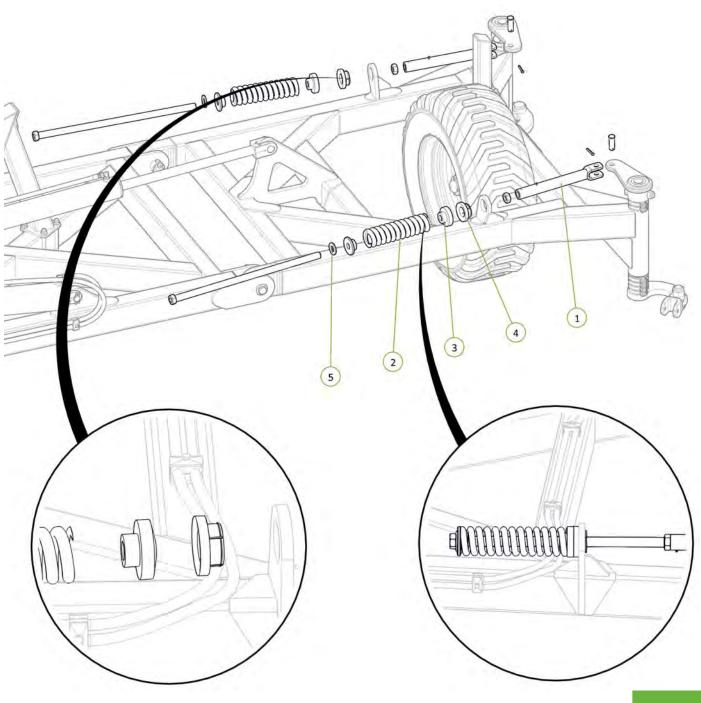




Item No.	Description	Qty	Number
1	Chain Tension Adjustor	2	0802-PCHTA
2	20mm Compression Spring	2	0801-XK9261S
3	Tensioner Cup - Male	2	0801-KE0805-3
4	Female Spring Locator	2	0801-KE0805-4
5	Washer High Tensile 1 1/4"	2	0232-HT11-4







Item No.	Description	Qty	Number
1	Super Single LH Drop Leg No Clevis	1	0810-24SF
2	Super Single RH Drop Leg No Clevis	1	0810-25SF
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

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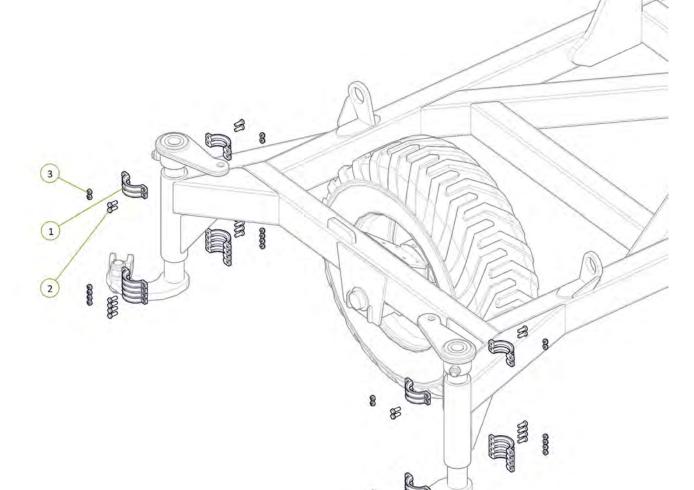
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Item No.	Description	Qty	Number
1	Cast 25mm Spacing	24	0801-CS25
2	M10 x 30 grade 8.8 ZP Bolt	24	0211-1030
3	Nyloc Nut M10	24	0221-NYL10



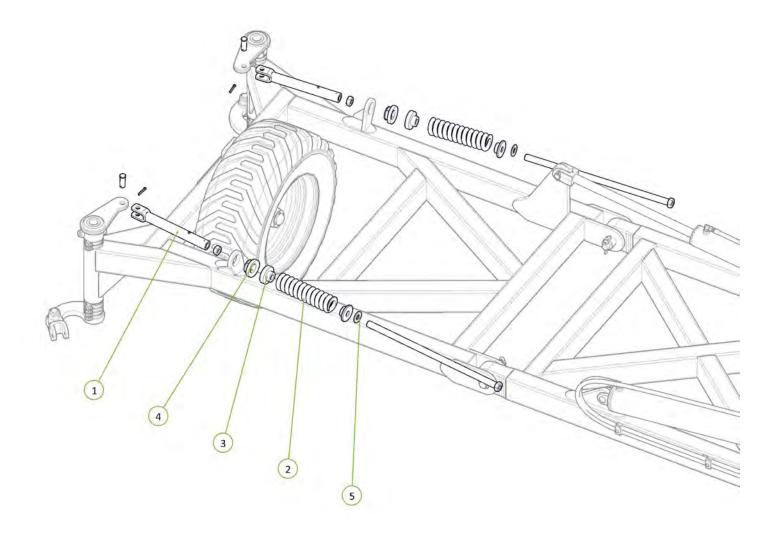


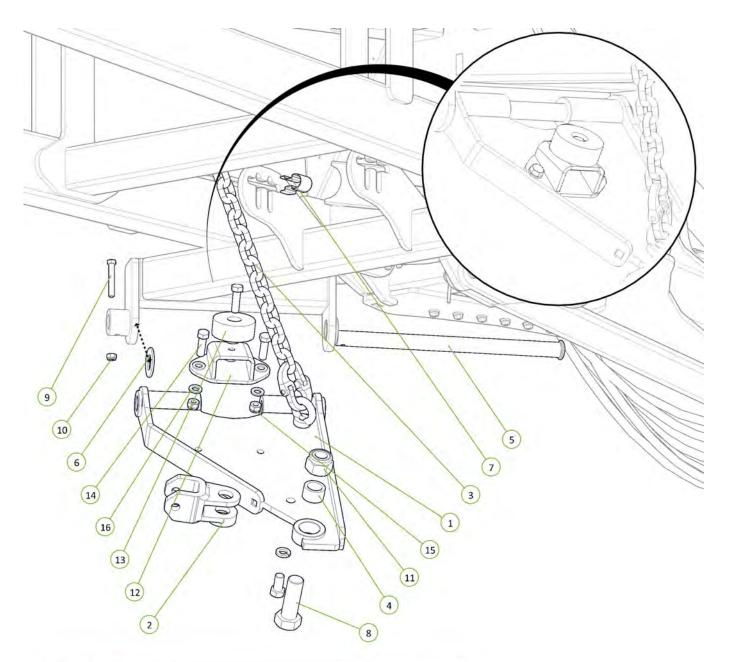


Item No.	Description	Qty	Number
1	Chain Tension Adjustor	2	0802-PCHTA
2	20mm Compression Spring	2	0801-XK9261S
3	Tensioner Cup - Male	2	0801-KE0805-3
4	Female Spring Locator	2	0801-KE0805-4
5	Washer High Tensile 1 1/4"	2	0232-HT11-4

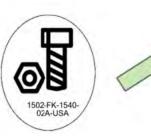


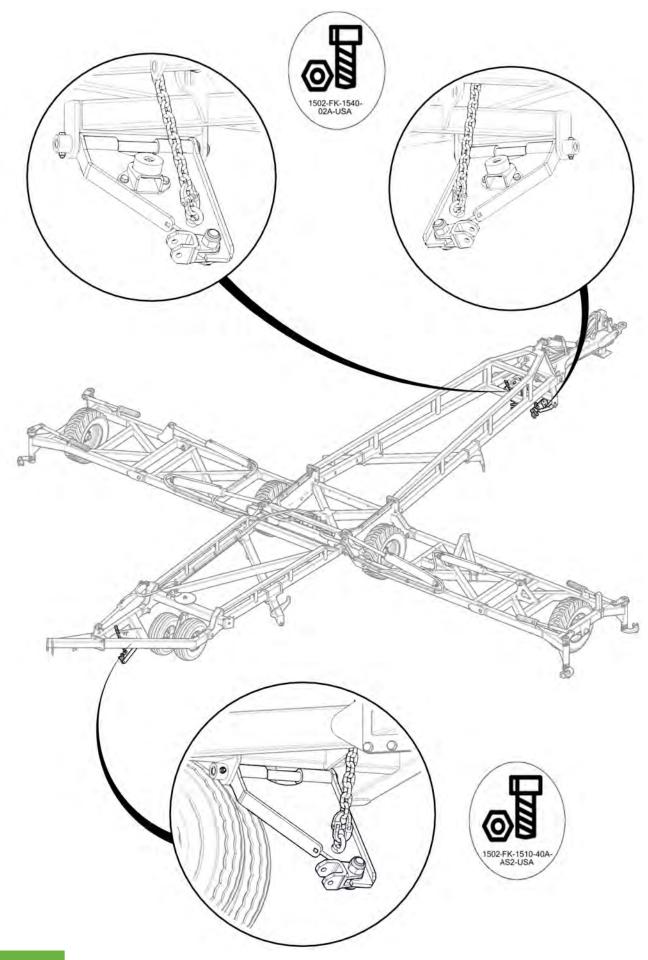






Item No.	Description	Qty	Number
1	Standard Chain Mount Plate	1	0810-20
2	Forged Clevis 21mm Bolt Hole	1	0801-FC21
3	Height Adjusting Chain Assembly 13 Link	1	0801-20MCA
4	Stainless Steel Wear Bush	1	1501-365033-SS
5	Chain Mount Pivot Pin	1	0801-10-51
6	Washer High Tensile 1 3/8"	1	0232-HT13-8
7	Height 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
12	Buffer Mount	1	0810-43
13	Wing Folding Buffer	1	1201-12
14	M16 x 55 Grade 8.8 ZP Bolt	3	0211-1655
15	Nyloc Nut M16	3	0221-NYL16
16	Washer Flat M16	6	0231-F16

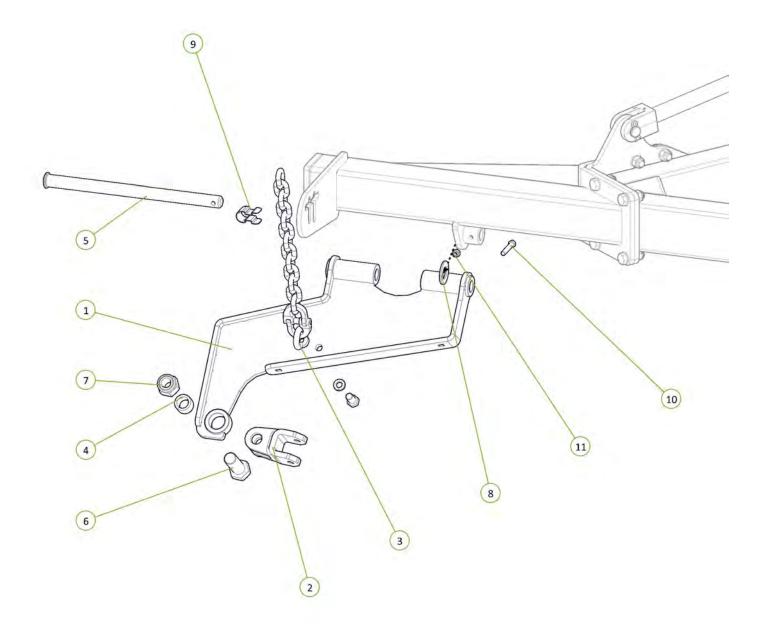


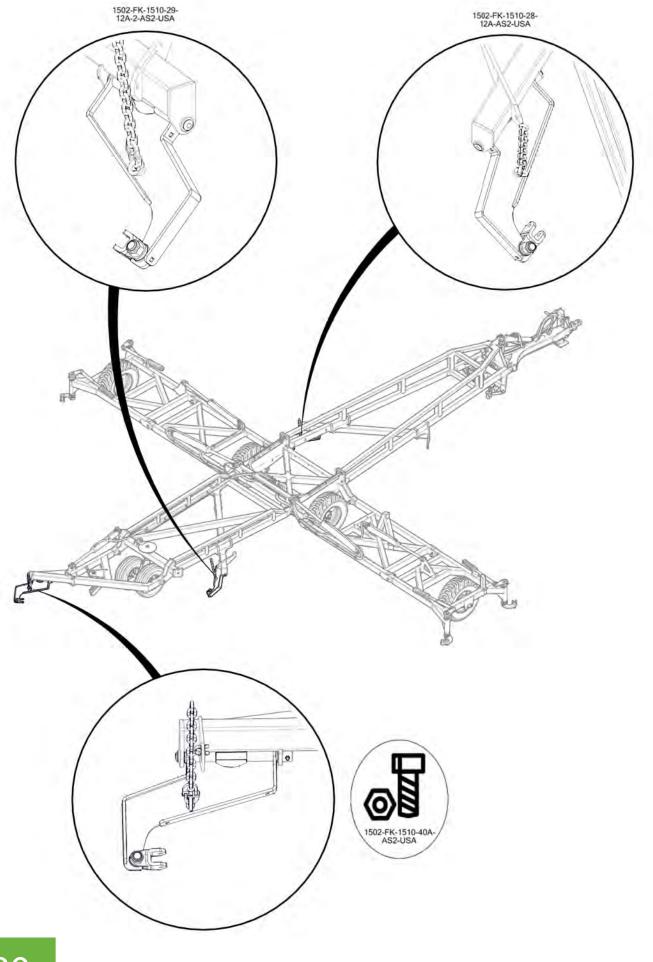


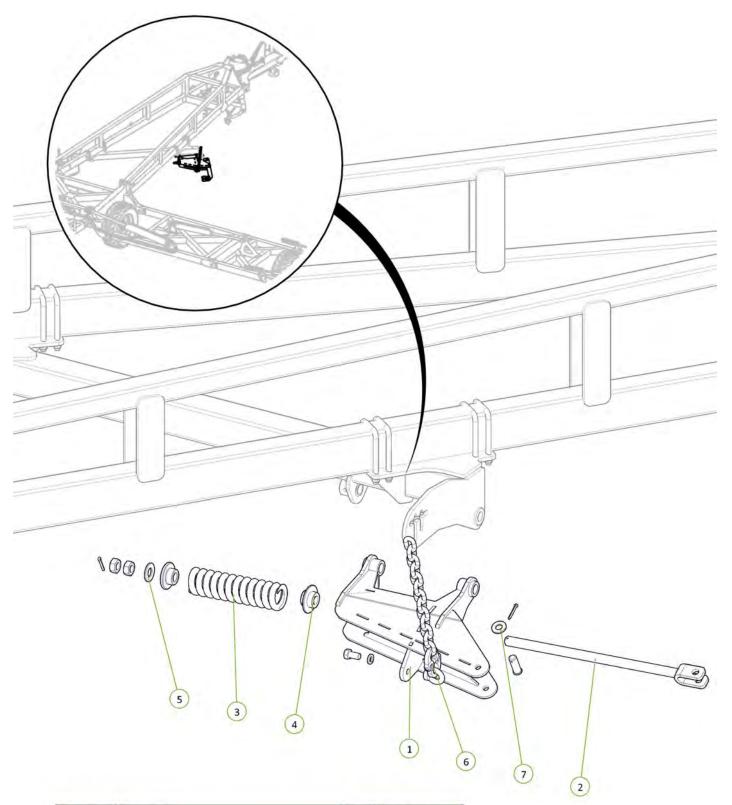
Item No.	Description	Qty	Number
1	Extended Chain Mount Plate	1	0810-30
2	Forged Clevis 21mm Bolt Hole	1	0801-FC21
3	Height Adjusting Chain Assembly 13 Link	1	0801-20MCA
4	Stainless Steel Wear Bush	1	1501-365033-SS
5	Chain Mount Pivot Pin	1	0801-10-51
6	M36 x 105 grade 8.8 zp Bolt	1	0211-36105
7	Nyloc 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 80 grade 8.8 ZP Bolt	1	0211-1280
11	Nyloc Nut M12	1	0221-NYL12



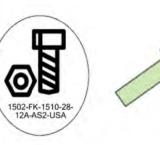


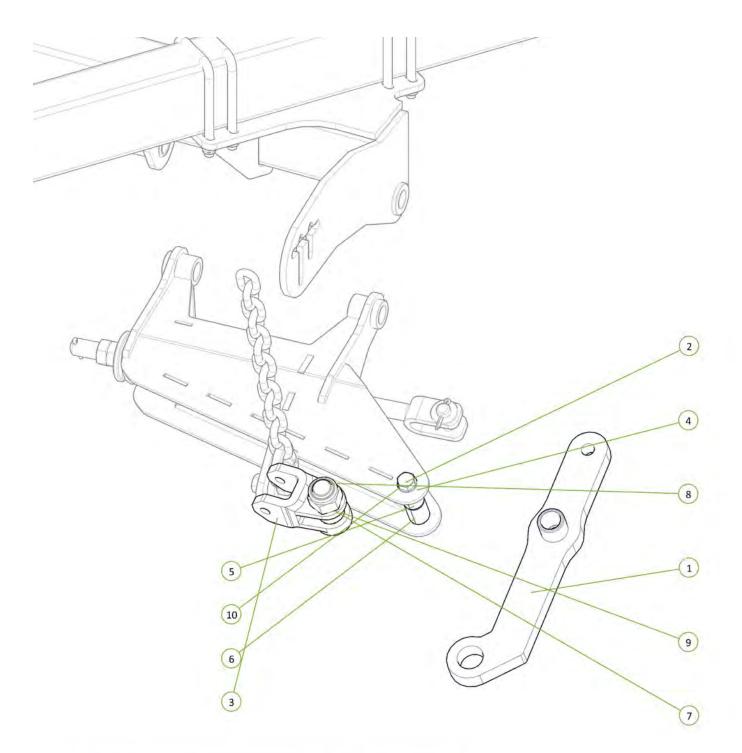






Item No.	Description	Qty	Number
1	Tension Box	1	0810-57
2	Module Tension Rod Assembly	1	0810-105A
3	20mm Compression Spring	1	0801-XK9261S
4	Rigid Spring Locator	1	0801-10-S2L
5	Washer High Tensile 1 1/4"	1	0232-HT11-4
6	Height Adjusting Chain Assembly 13 Link	1	0801-20MCA
7	Washer Flat 1"	1	0232-F1

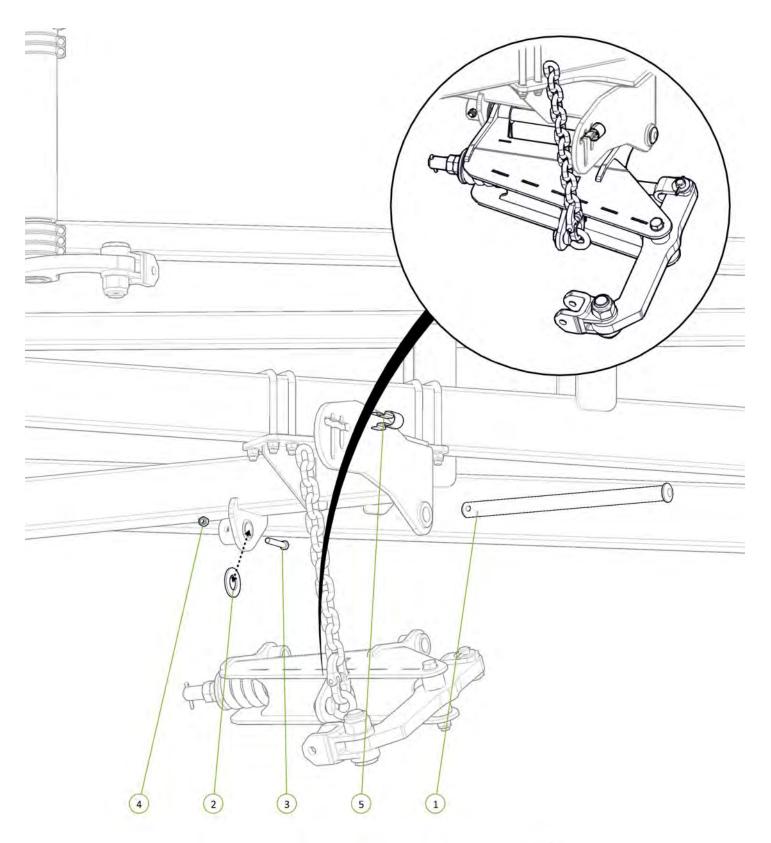




Item No.	Description	Qty	Number
1	Module Tension Arm No Clevis	1	0810-104
2	Module Pivot Arm Bush	1	0801-10-110
3	Forged Clevis 21mm Bolt Hole	1	0801-FC21
4	35 ID x 50mm DU Bush	2	0113-MB3550DU
5	M20 x 160 Grade 8.8 ZP Bolt	1	0211-20160
6	Nyloc Nut M20	1	0221-NYL20
7	M36 x 105 grade 8.8 zp Bolt	1	0211-36105
8	Nyloc Nut M36	1	0221-NYL36
9	Stainless Steel Wear Bush	1	1501-365033-SS
10	Washer Flat M20	2	0231-F20

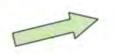


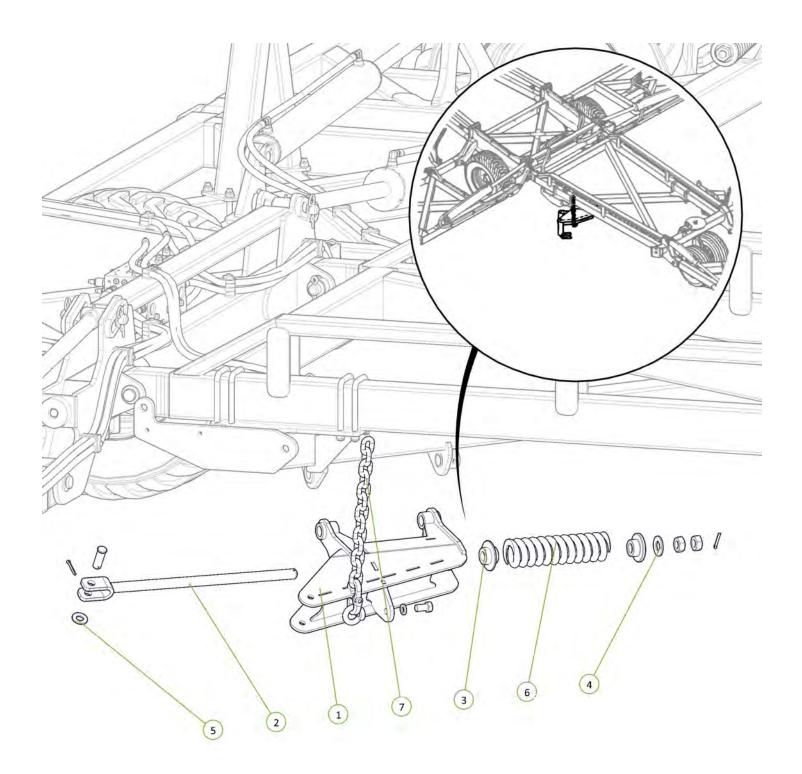




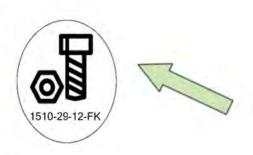
Item No.	Description	Qty	Number
1	Chain Mount Pivot Pin	1	0801-10-51
2	Washer High Tensile 1 3/8"	1	0232-HT13-8
3	M12 x 80 grade 8.8 ZP Bolt	1	0211-1280
4	Nyloc Nut M12	1	0221-NYL12
5	Height Adjustor Retaining Clip	1	0801-KE014

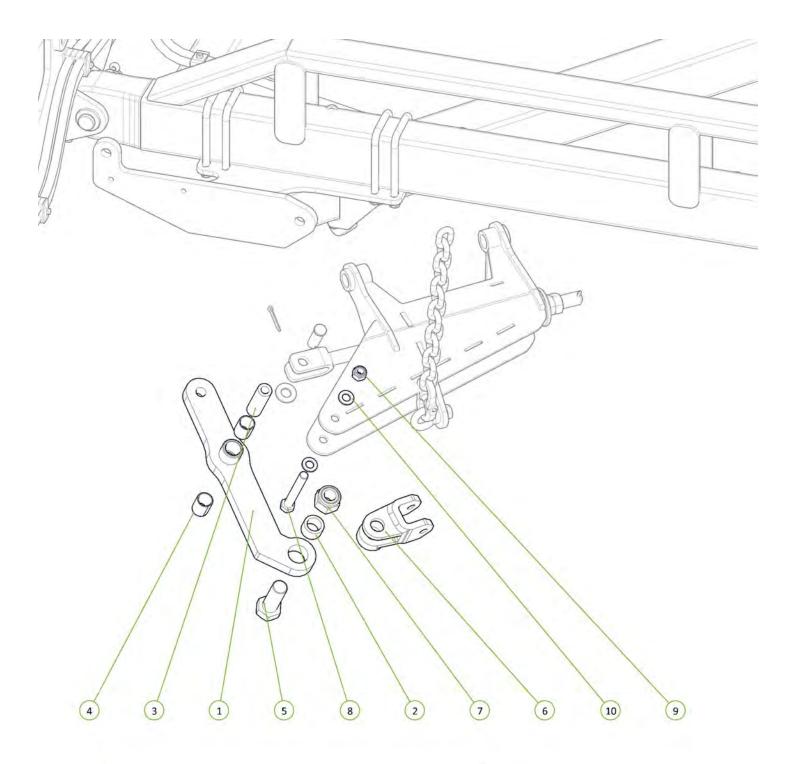




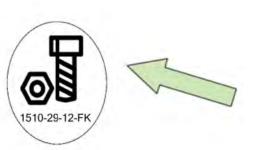


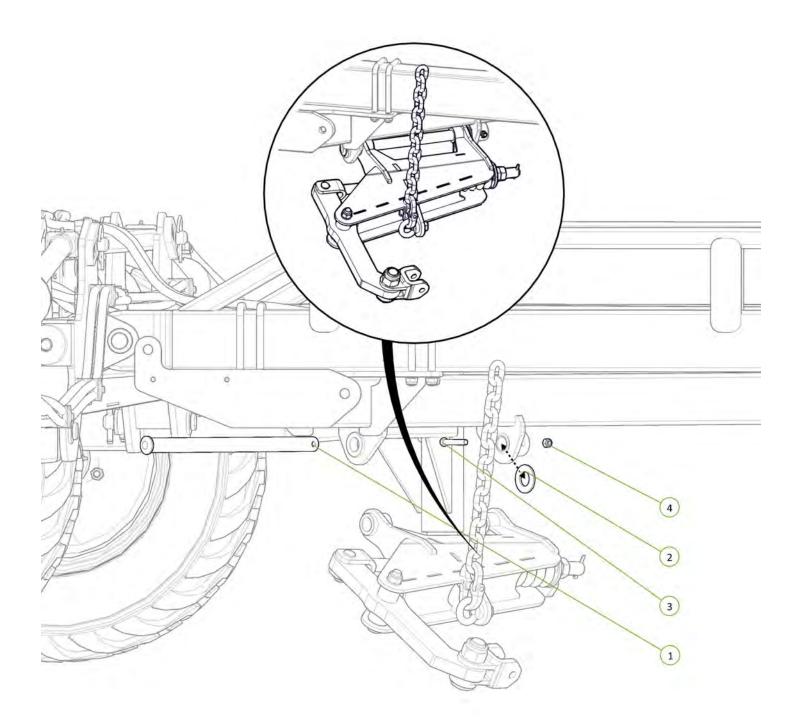
Item No.	Description	Qty	Number
1	Tension Box	1	0810-57
2	Module Tension Rod Assembly	1	0810-105A
3	Rigid Spring Locator	1	0801-10-S2L
4	Washer High Tensile 1 1/4"	1	0232-HT11-4
5	Washer Flat 1"	1	0232-F1
6	20mm Compression Spring	1	0801-XK92615
7	Height Adjusting Chain Assembly 13 Link	1	0801-20MCA



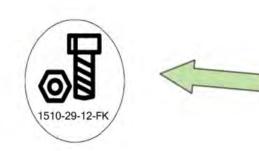


Item No.	Description	Qty	Number
1	Module Tension Arm No Clevis	1	0810-104
2	Stainless Steel Wear Bush	1	1501-365033-SS
3	Module Pivot Arm Bush	1	0801-10-110
4	35 ID x 50mm DU Bush	2	0113-MB3550DU
5	M36 x 105 grade 8.8 ZP Bolt	1	0211-36105
6	Forged Clevis 21mm Bolt Hole	1	0801-FC21
7	Nyloc Nut M36	1	0221-NYL36
8	M20 x 160 Grade 8.8 ZP Bolt	1	0211-20160
9	Nyloc Nut M20	1	0221-NYL20
10	Washer Flat M20	2	0231-F20



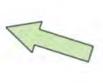


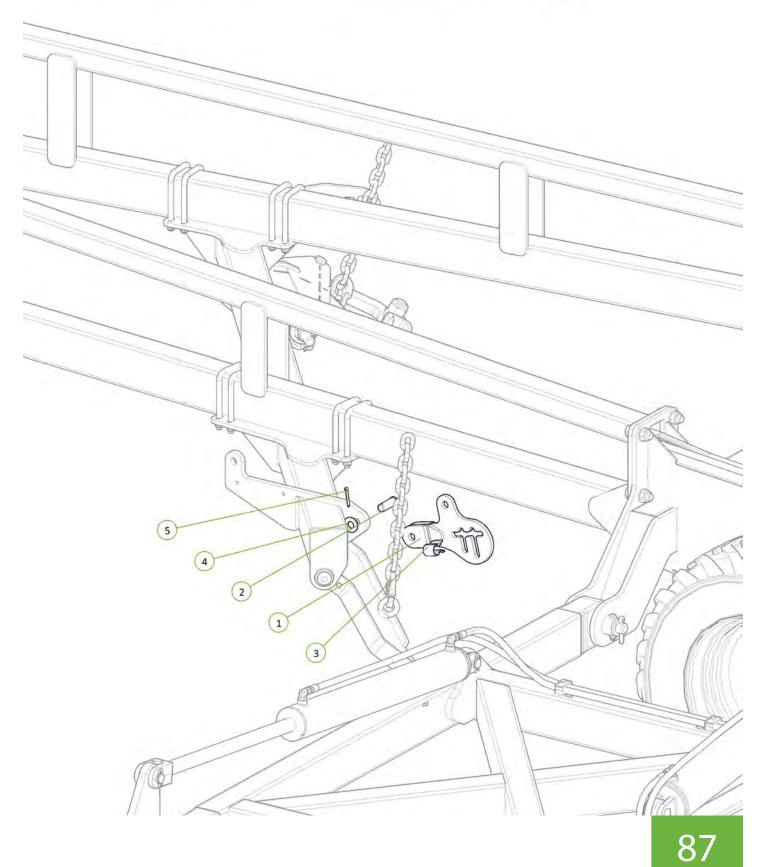
Item No.	Description	Qty	Number
1	Chain Mount Pivot Pin	1	0801-10-51
2	Washer High Tensile 1 3/8"	1	0232-HT13-8
3	M12 x 80 grade 8.8 ZP Bolt	1	0211-1280
4	Nyloc Nut M12	1	0221-NYL12

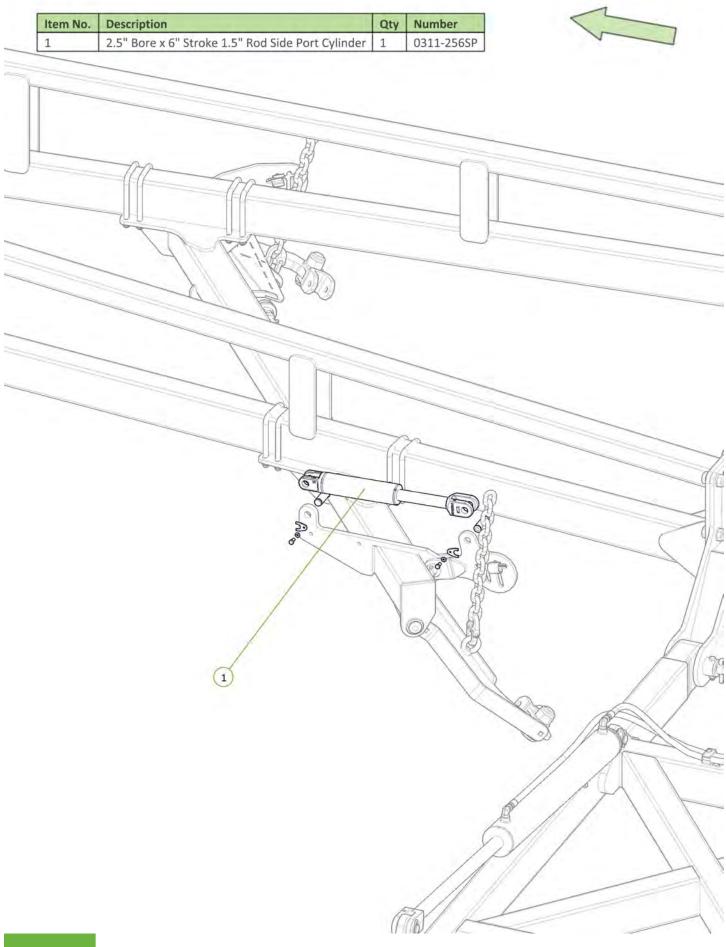


Item No.	Description	Qty	Number
1	Compact Module Lift Arm	1	0810-51
2	Clevis Pin 25mm x 75mm	1	0801-KE0307-1
3	Height Adjustor Retaining Clip	1	0801-KE014
4	Washer Flat 1"	1	0232-F1
5	Cotter Pin M5 x 50	1	0261-PINC550

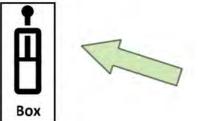


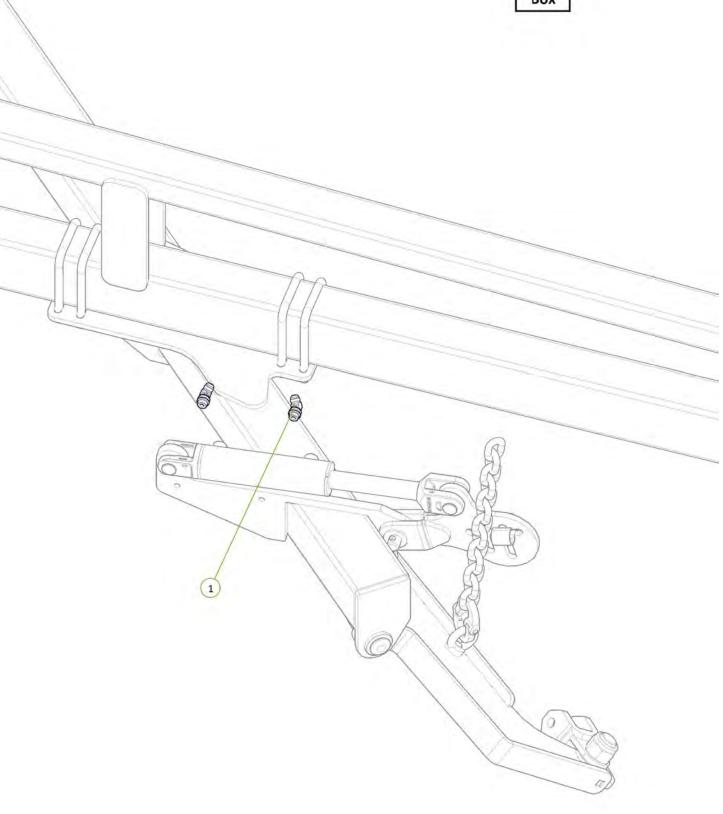


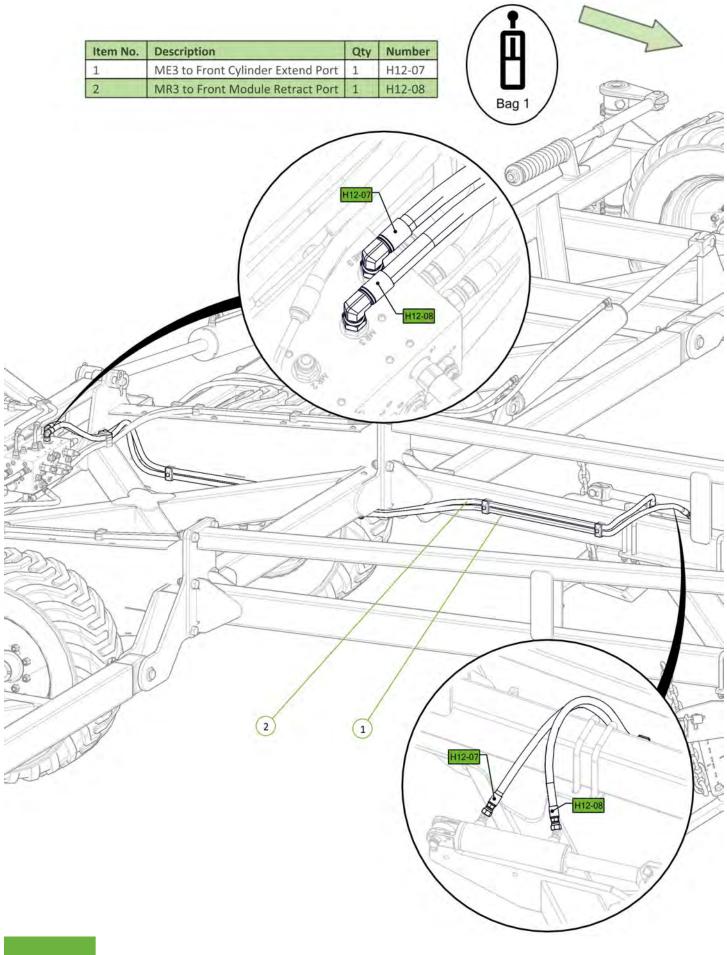


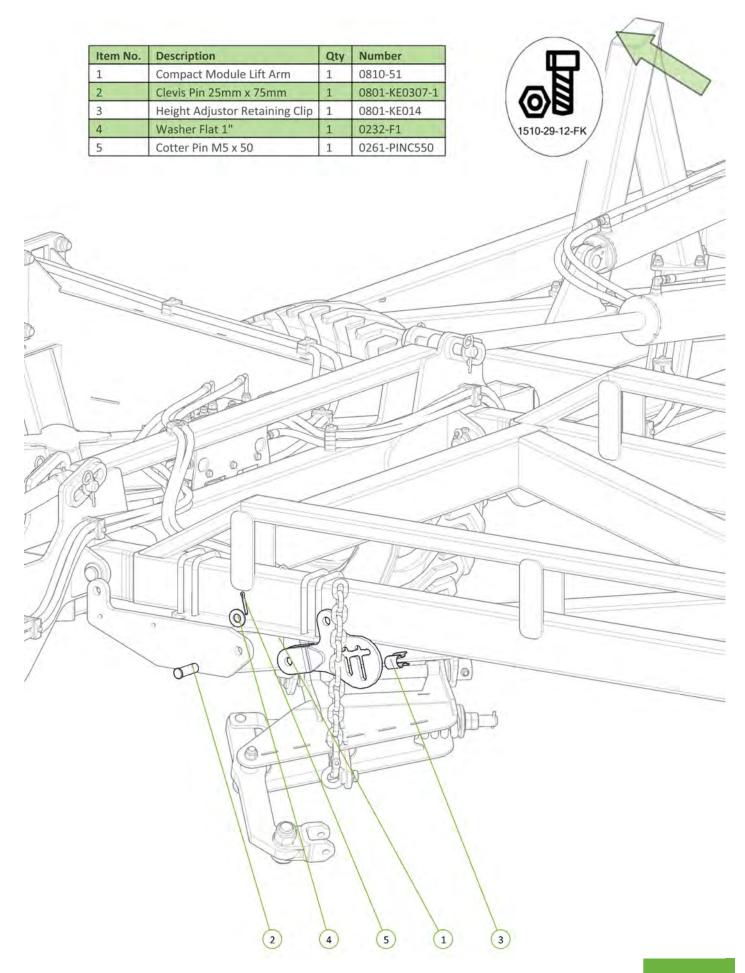


Item No.	Description	Qty	Number
1	3/4" JIC Male 3/4" UN O Ring Male 45° Elbow	2	0323-588-1212

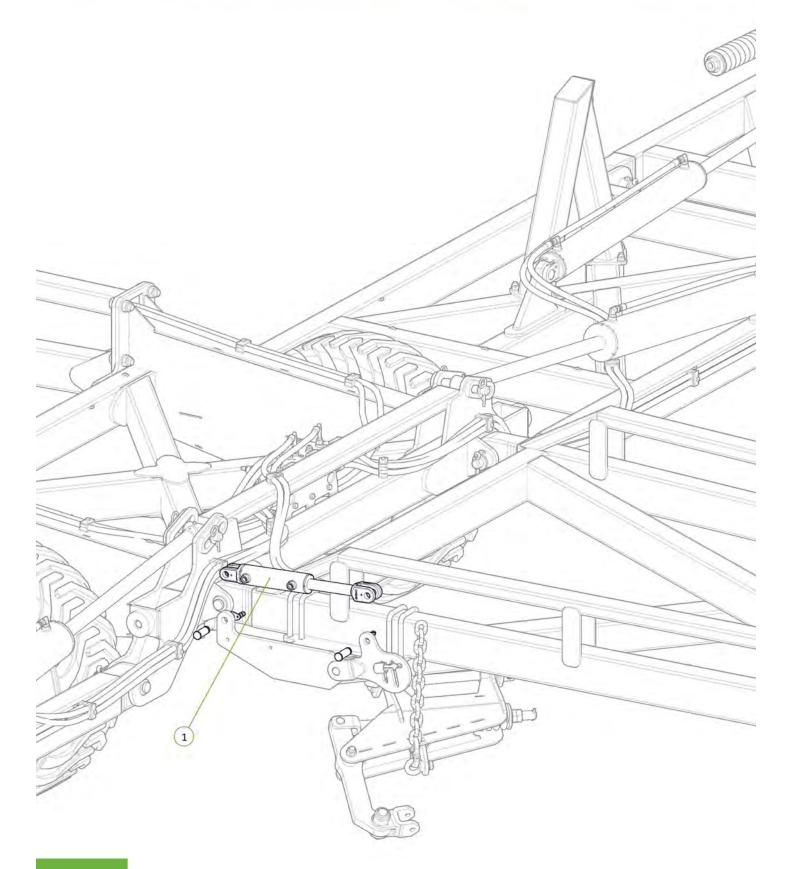


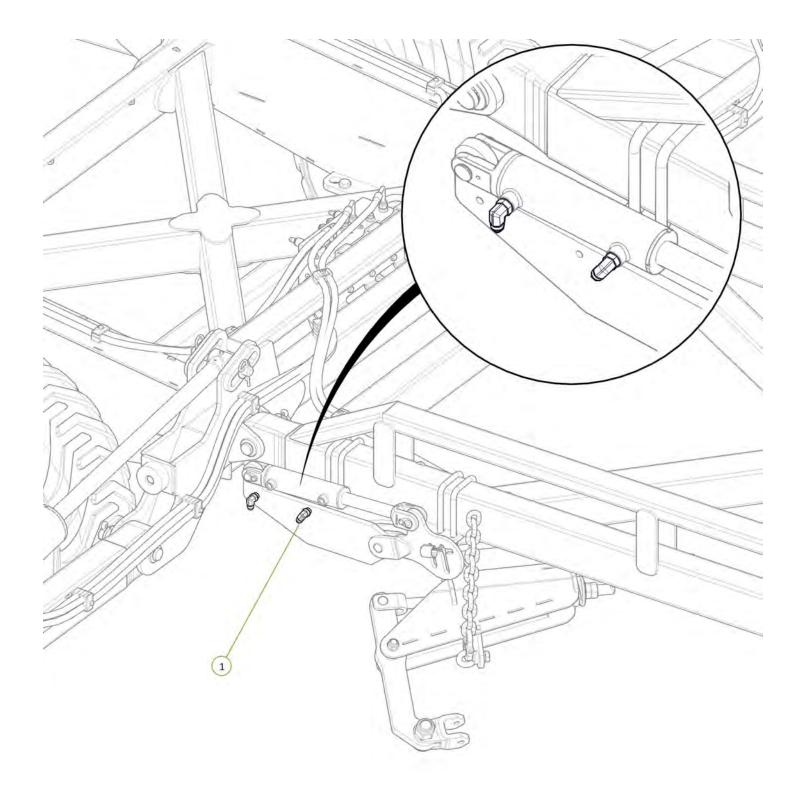




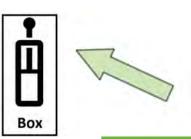


Item No.	Description	Qty	Number
1	2.5" Bore x 6" Stroke 1.5" Rod Side Port Cylinder	1	0311-256SP





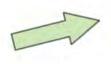
tem No.	Description	Qty	Number
1	3/4" JIC Male 3/4" UN O Ring Male 90° Elbow	2	0323-S91-1212

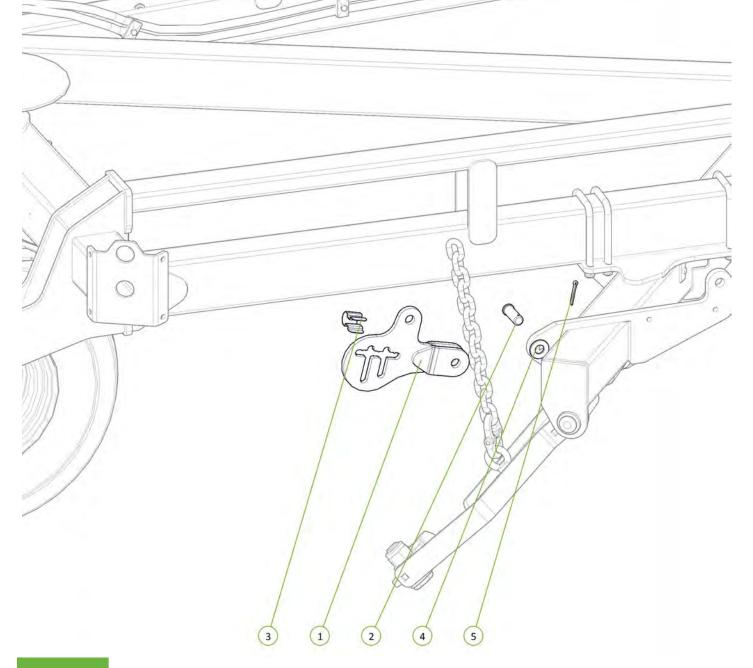


Item No.	Description	Qty	Number
1	Compact Module Lift Arm	1	0810-51
2	Clevis Pin 25mm x 75mm	1	0801-KE0307-1
3	Height Adjustor Retaining Clip	1	0801-KE014
4	Washer Flat 1"	1	0232-F1
5	Cotter Pin M5 x 50	1	0261-PINC550

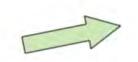


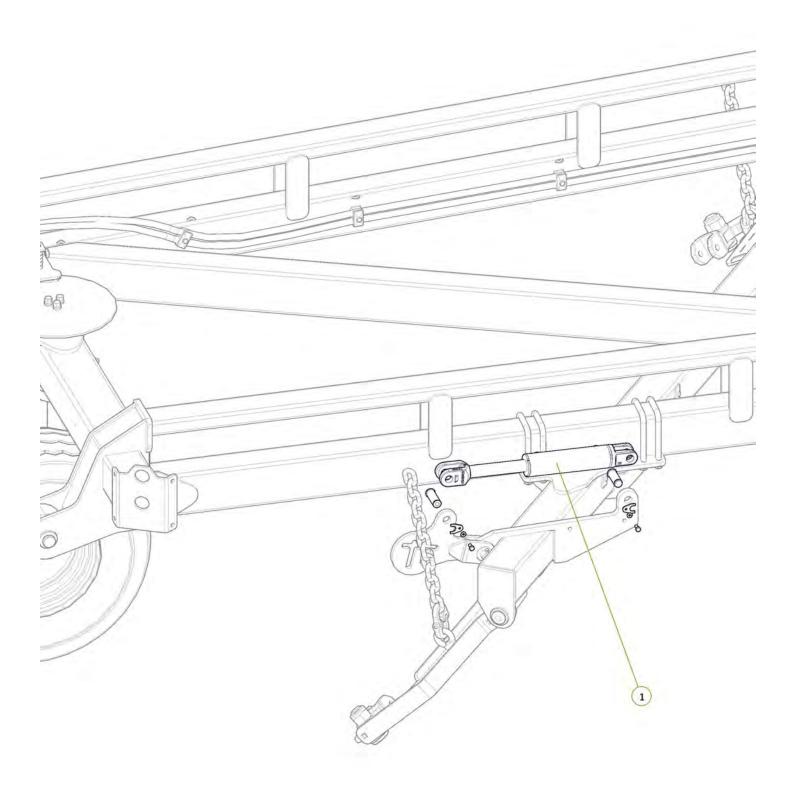
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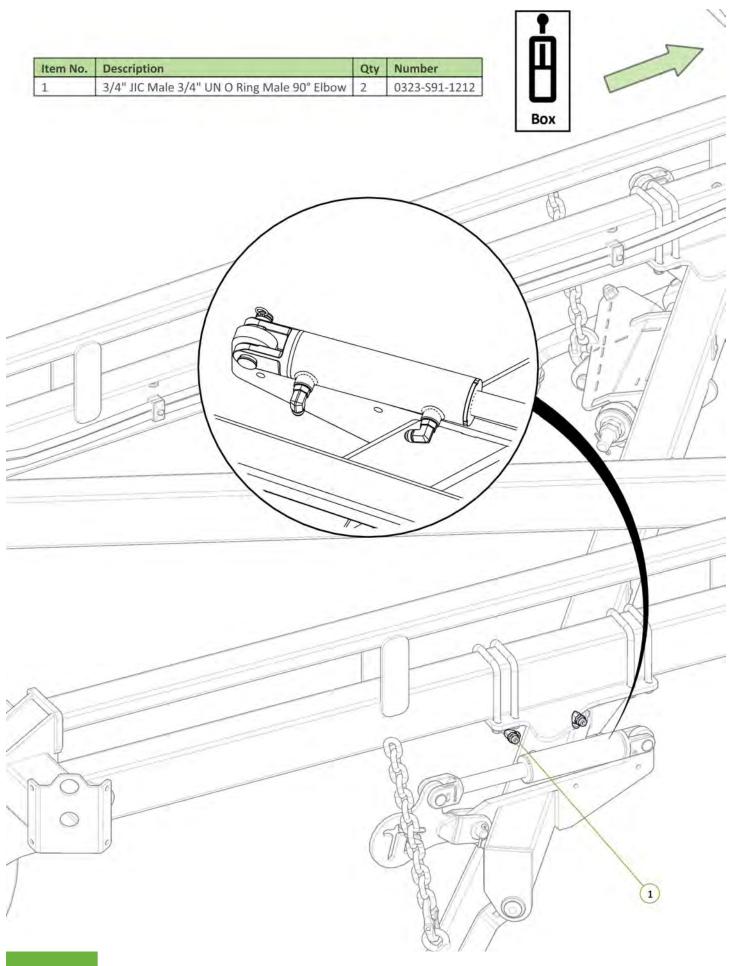




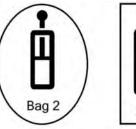
Item No.	Description	Qty	Number
1	2.5" Bore x 6" Stroke 1.5" Rod Side Port Cylinder	1	0311-256SP





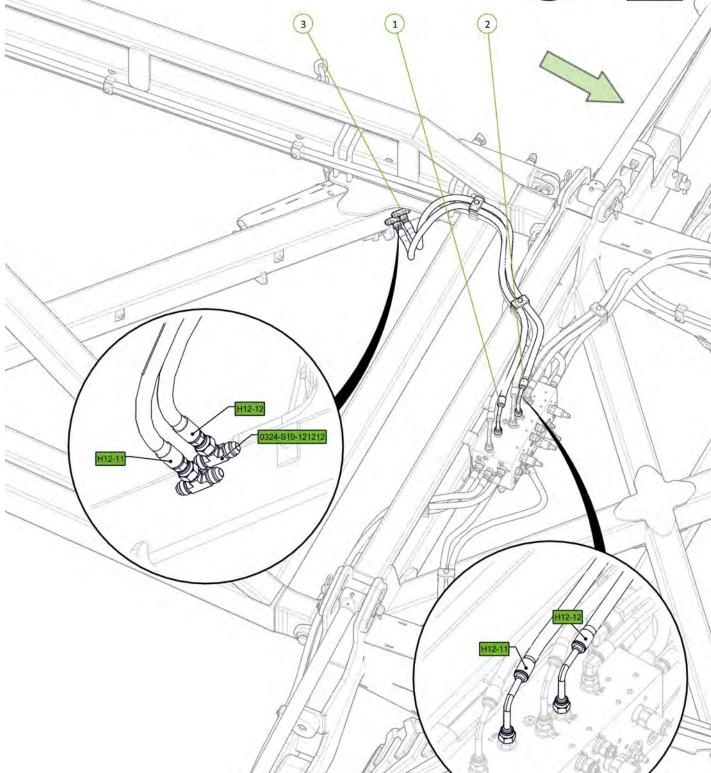


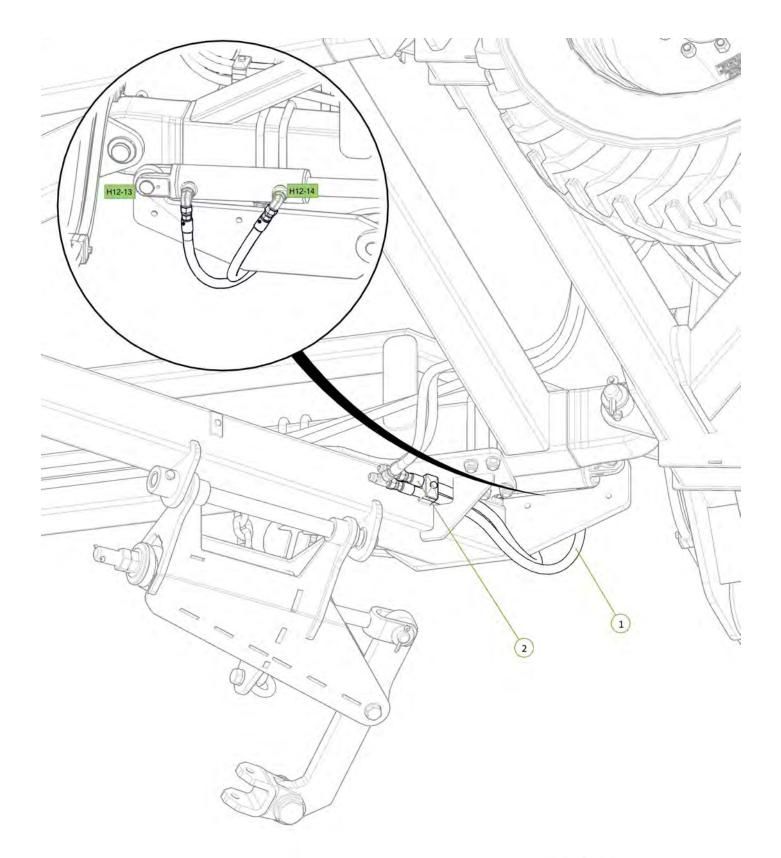
Item No.	Description	Qty	Number
1	ME2 Port to Rear Module Extend Tee	1	H12-11
2	MR2 Port to Rear Module Retact Tee	1	H12-12
3	3/4" JIC Male Tee	2	0324-S19-121212



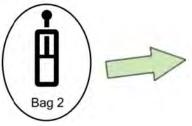


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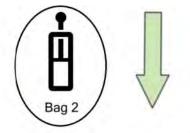


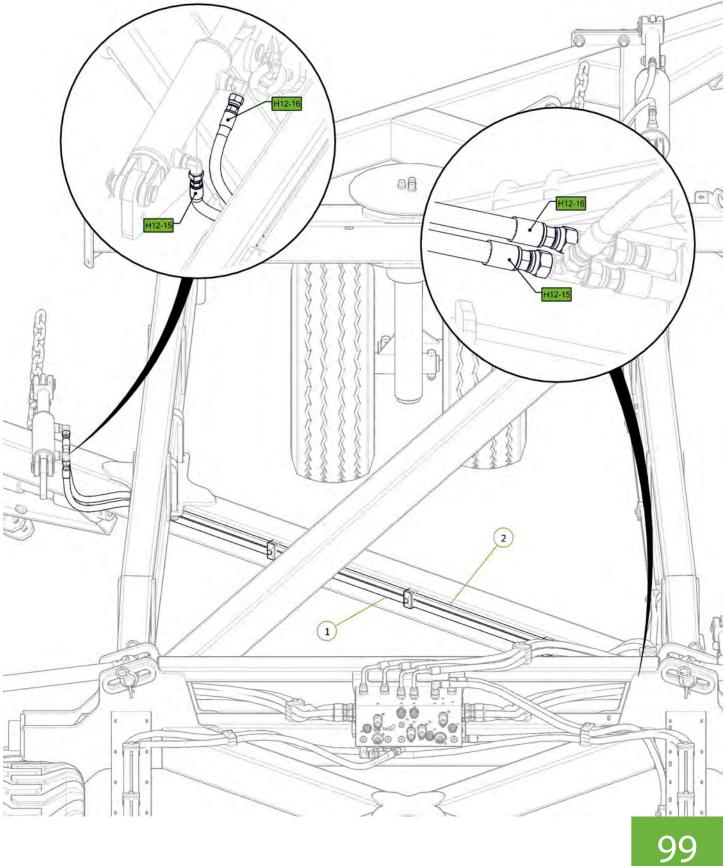


Item No.	Description	Qty	Number
1	Rear Module Extend Tee to LH Rear Module Cyl Extend Port	1	H12-13
2	Rear Module Retract Tee to LH Rear Module Cyl Retract Port	1	H12-14

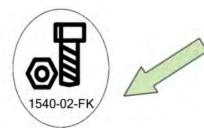


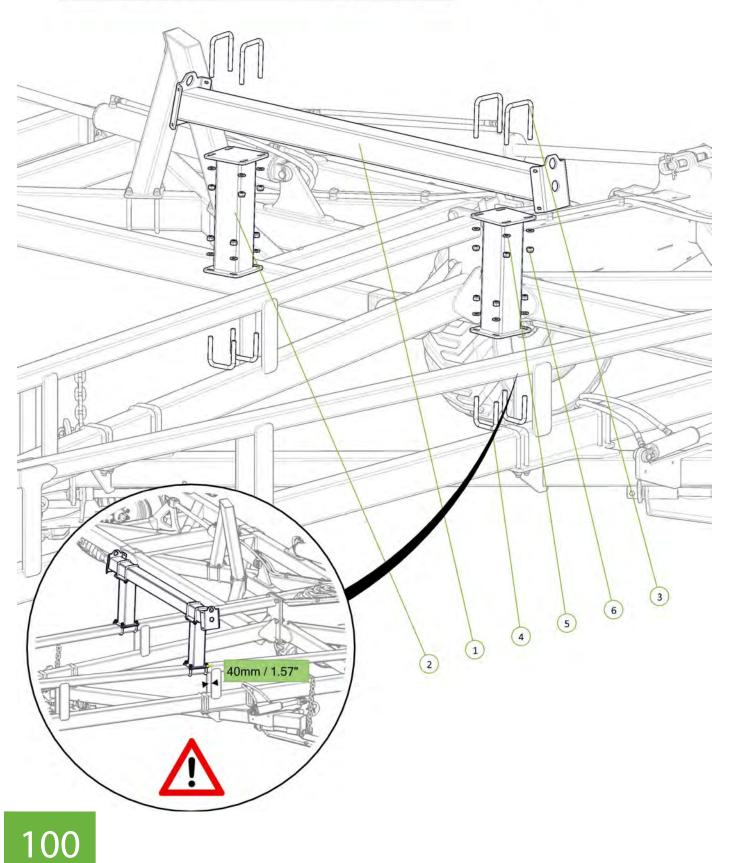
Item No.	Description	Qty	Number
1	Rear Module Extend Tee to RH Rear Module Cyl Extend Port	1	H12-15
2	Rear Module Retract Tee to RH Rear Module Cyl Retract Port	1	H12-16





Item No.	Description	Qty	Number
1	Angled Chain Carrier Beam	1	0810-53
2	500mm Pedestal	2	0810-52
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

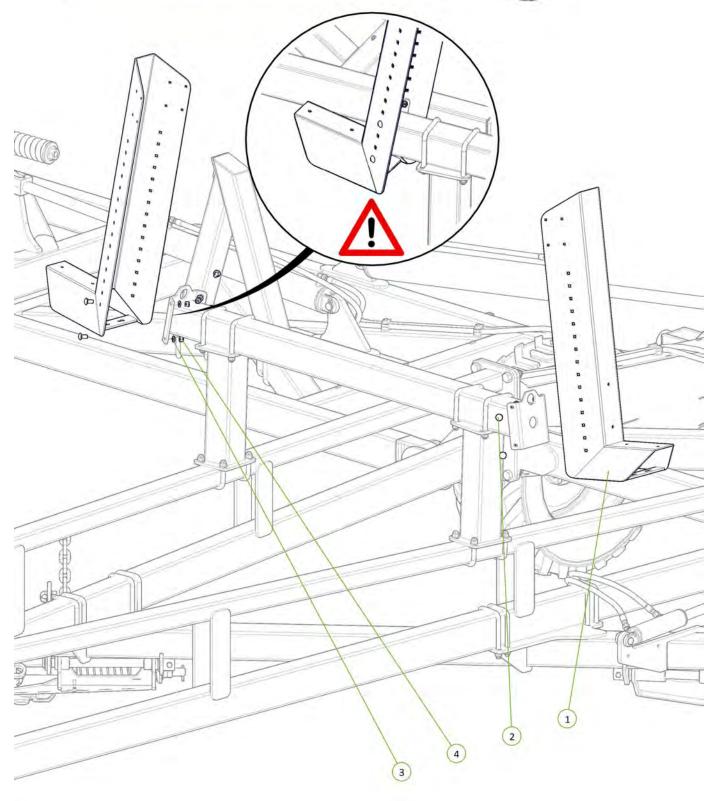


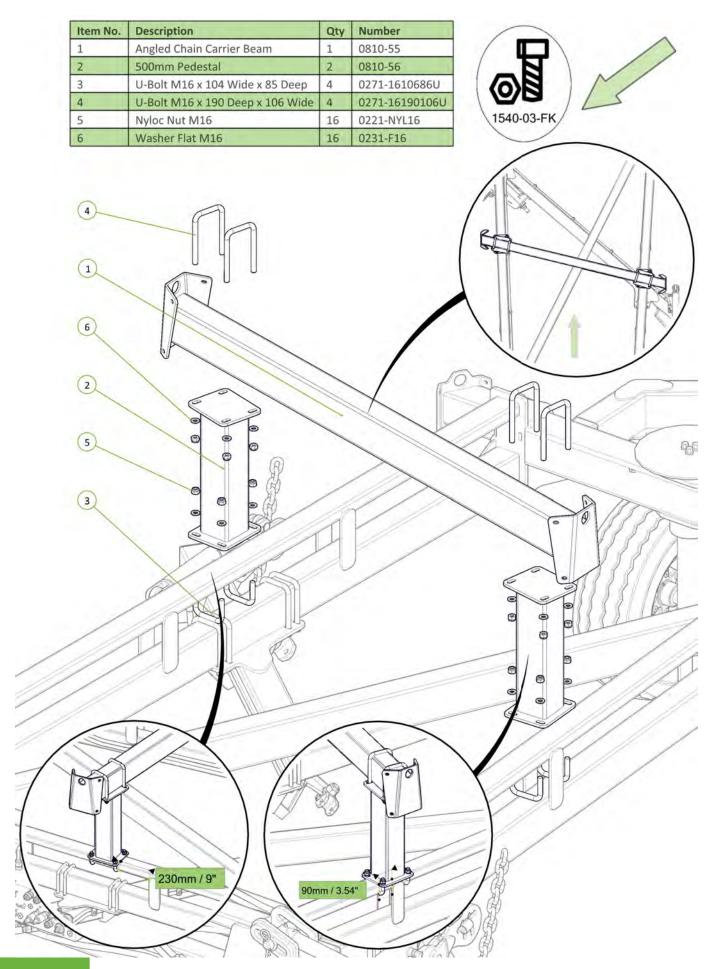


Item No.	Description	Qty	Number
1	Extended Chain Carrier Bolt on End	2	0810-17LE
2	M12 x 30 Coach Head Bolt	8	0215-CH1230
3	Washer Flat M12	8	0231-F12
4	Nyloc Nut M12	8	0221-NYL12





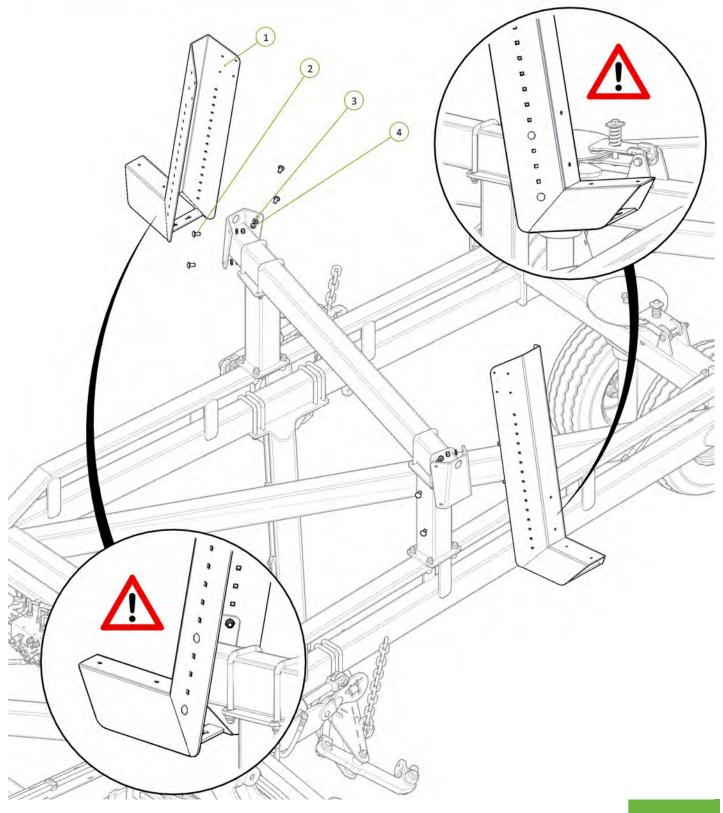




Item No.	Description	Qty	Number
1	Extended Chain Carrier Bolt on End	2	0810-17LE
2	M12 x 30 Coach Head Bolt	8	0215-CH1230
3	Washer Flat M12	8	0231-F12
4	Nyloc Nut M12	8	0221-NYL12

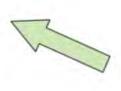


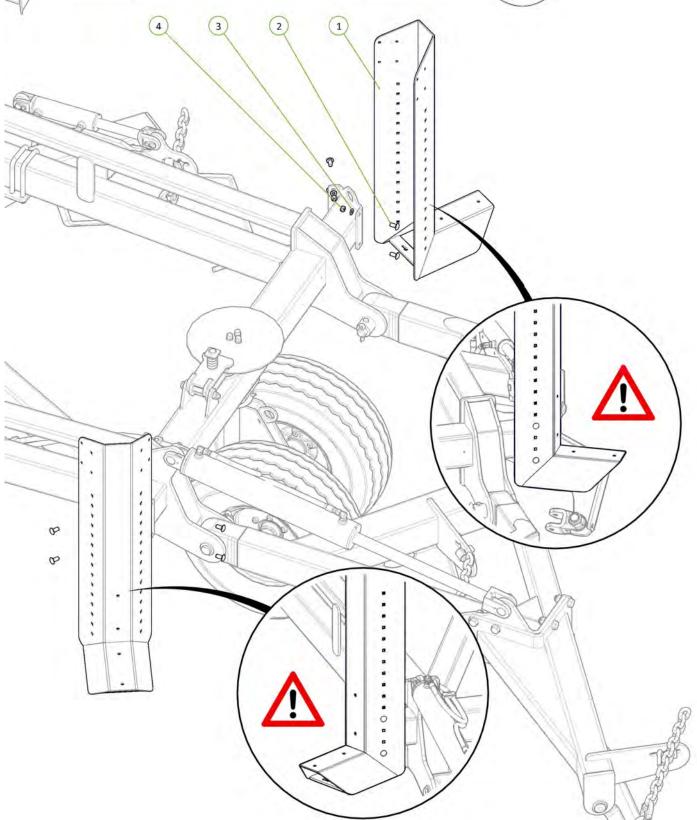


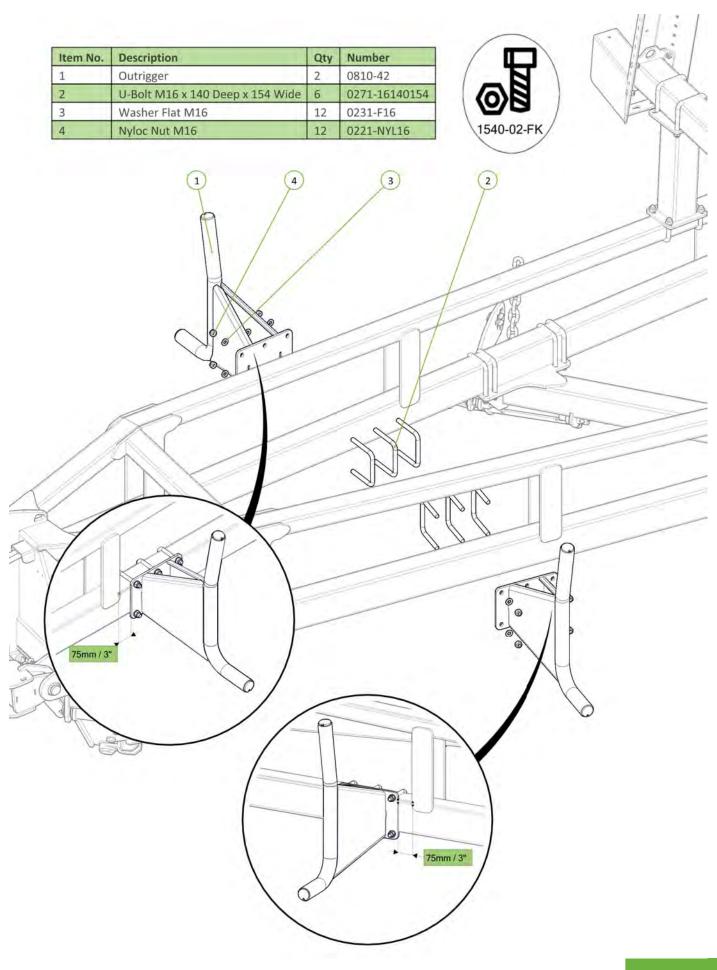


Item No.	Description	Qty	Number
1	Extended Chain Carrier Bolt on End	2	0810-17LE
2	M12 x 30 Coach Head Bolt	8	0215-CH1230
3	Washer Flat M12	8	0231-F12
4	Nyloc Nut M12	8	0221-NYL12

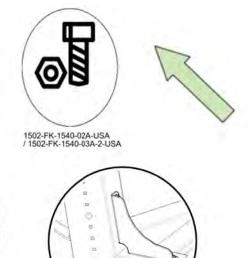


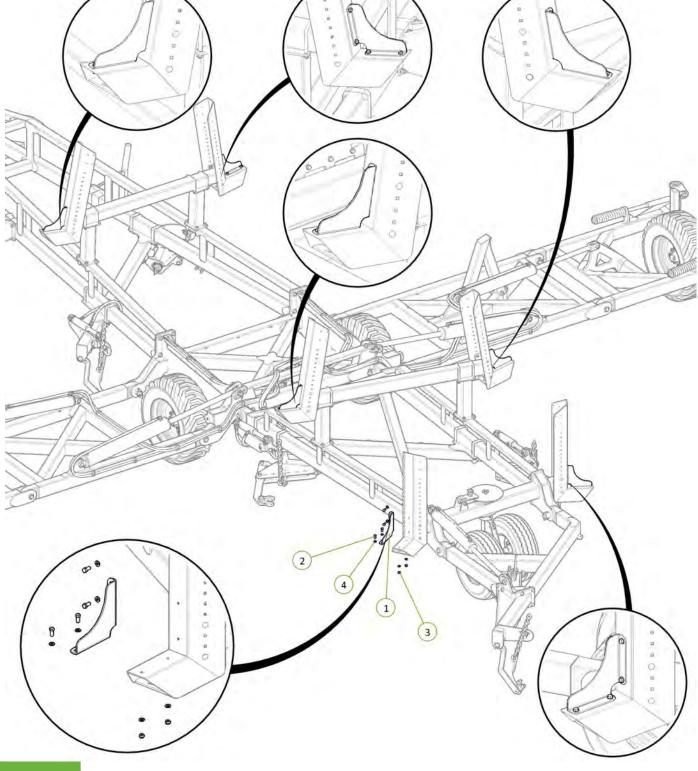






Item No.	Description	Qty	Number
1	Chain Retainer Plate	6	0800-360
2	M12 x 30 grade 8.8 ZP Bolt	24	0211-1230
3	Nyloc Nut M12	24	0221-NYL12
4	Washer Flat M12	48	0231-F12



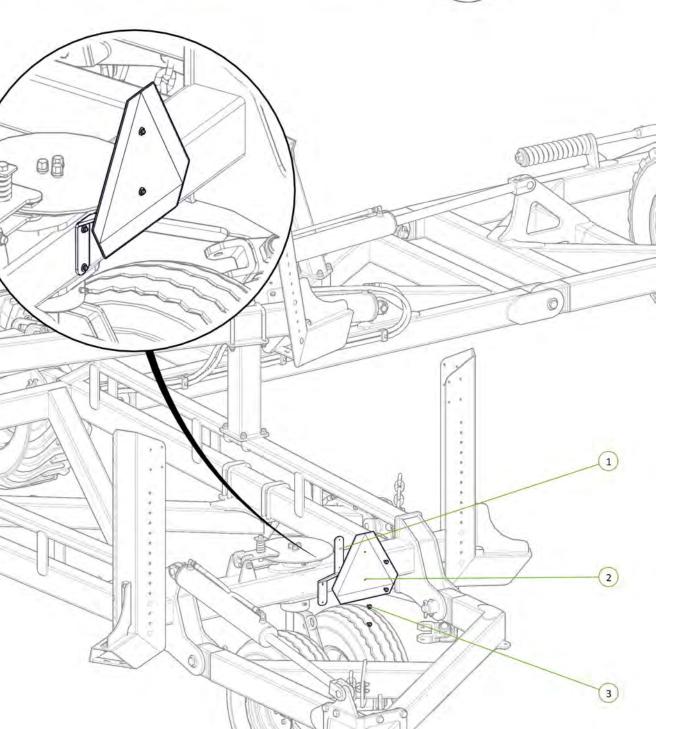


Item No.	Description	Qty	Number
1	SMV Sign Bracket	1	0800-195.1
2	Slow Moving Vehical Sign	1	0801-FBSMVTUF
3	M6 x 20 Trilobe self tapping Scew	4	0211-M620MZPHTF

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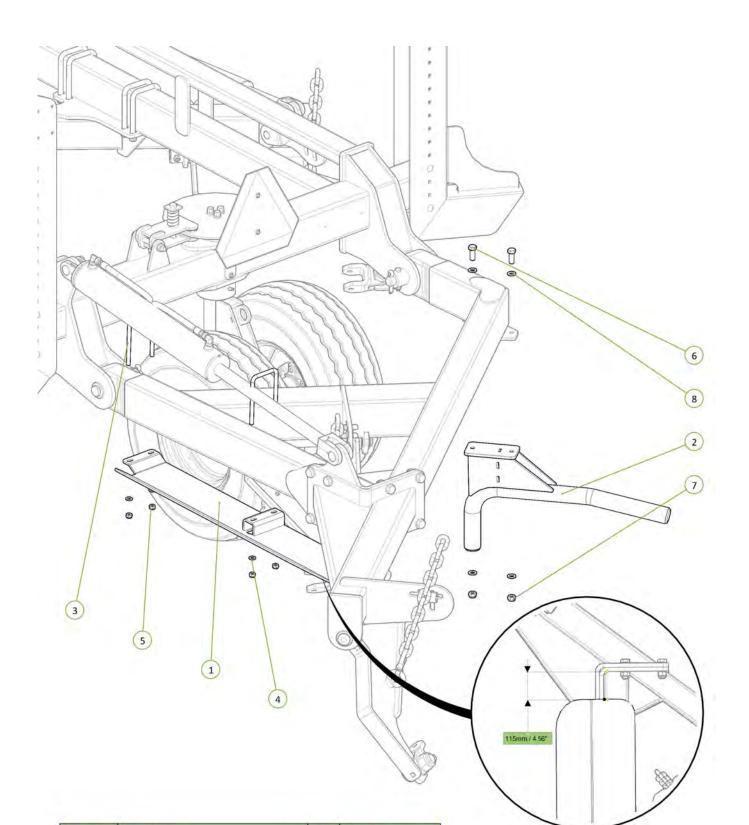
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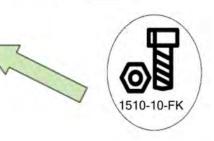


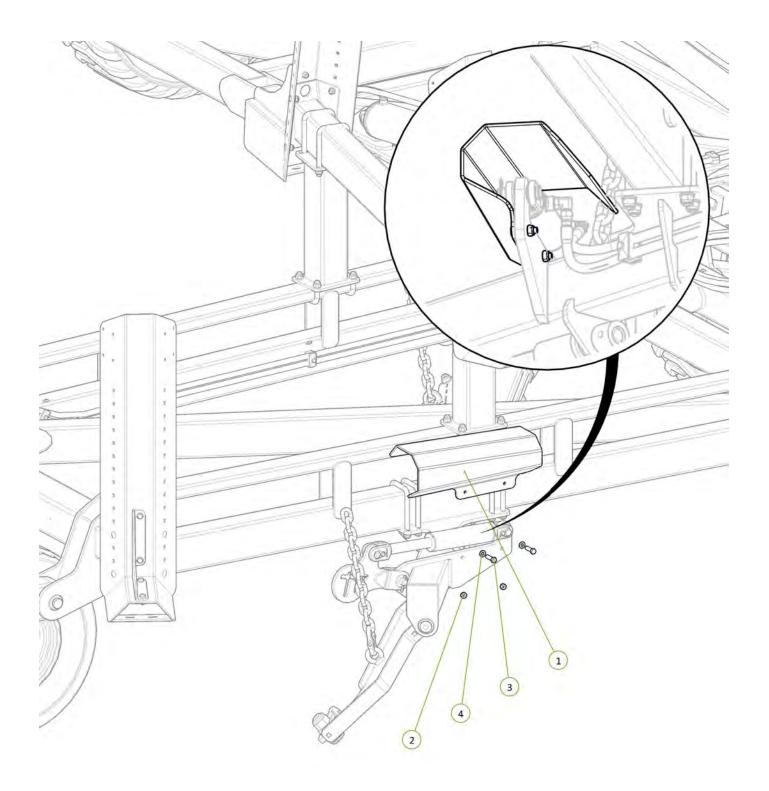
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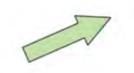
Item No.	Description	Qty	Number
1	Rear Guard 40'	1	1510-229
2	Outrigger	1	0810-41
3	U-Bolt M12 x 188 Deep x 106 Wide	2	0271-12188106U
4	Washer Flat M12	4	0231-F12
5	Nyloc Nut M12	4	0221-NYL12
6	M16 x 45 Grade 8.8 ZP Bolt	2	0211-1645
7	Nyloc Nut M16	2	0221-NYL16
8	Washer Flat M16	4	0231-F16



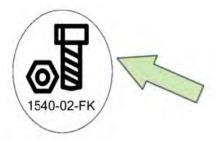


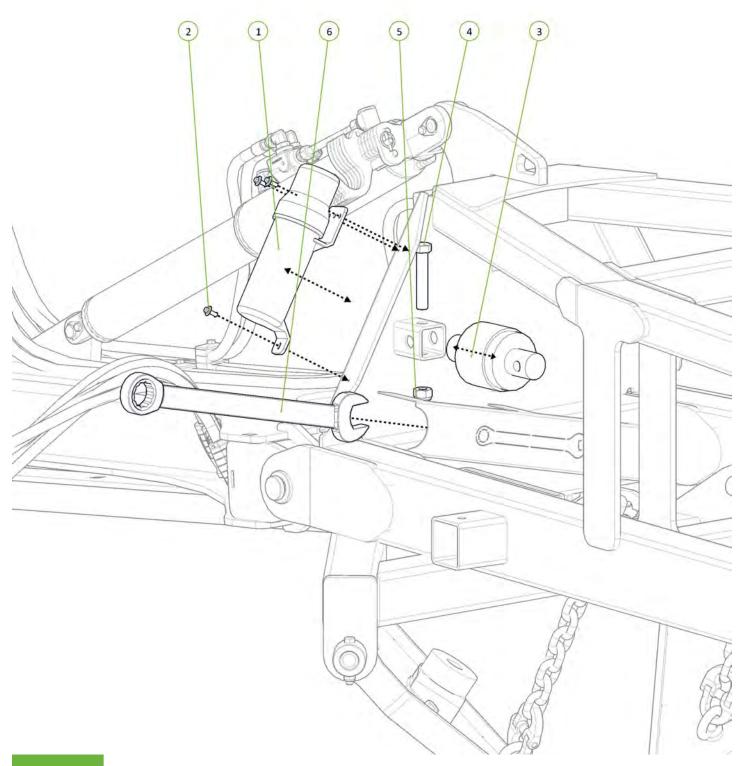
Item No.	Description	Qty	Number
1	Module Cylinder Guard	1	0800-167.3
2	Nyloc Nut M12	2	0221-NYL12
3	M12 x 45 grade 8.8 ZP Bolt	2	0211-1245
4	Washer Flat M12	4	0231-F12

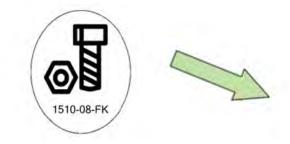




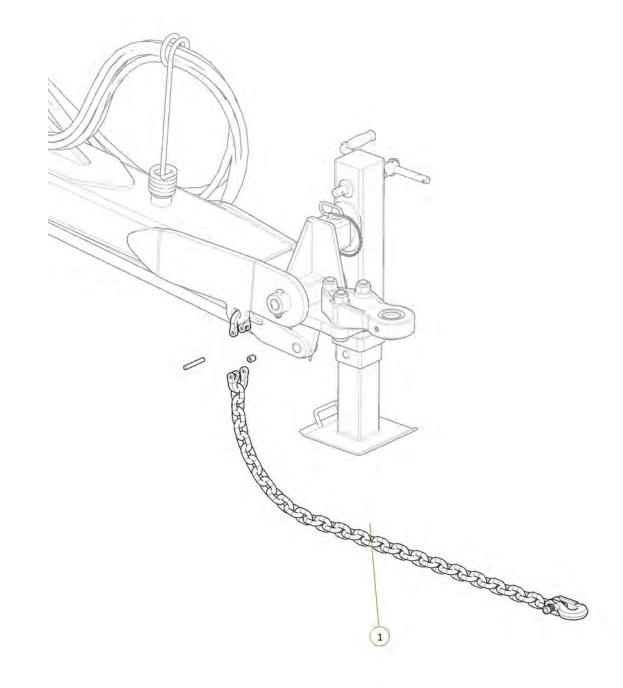
Item No.	Description	Qty	Number
1	Operator Manual Cannister	1	0801-OMC-1
2	M6 x 20 Trilobe self tapping Scew	3	0211-M620MZPHTF
3	20mm Bolt Swivel Unit	1	0802-PCHB55
4	M20 x 110 grade 10.9 ZP Short Thread Bolt	1	0211-20110 ST
5	Nyloc Nut M20	1	0221-NYL20
6	Ratcheting Gear Wrench 1 3/4"	1	0802-GW1 3-4

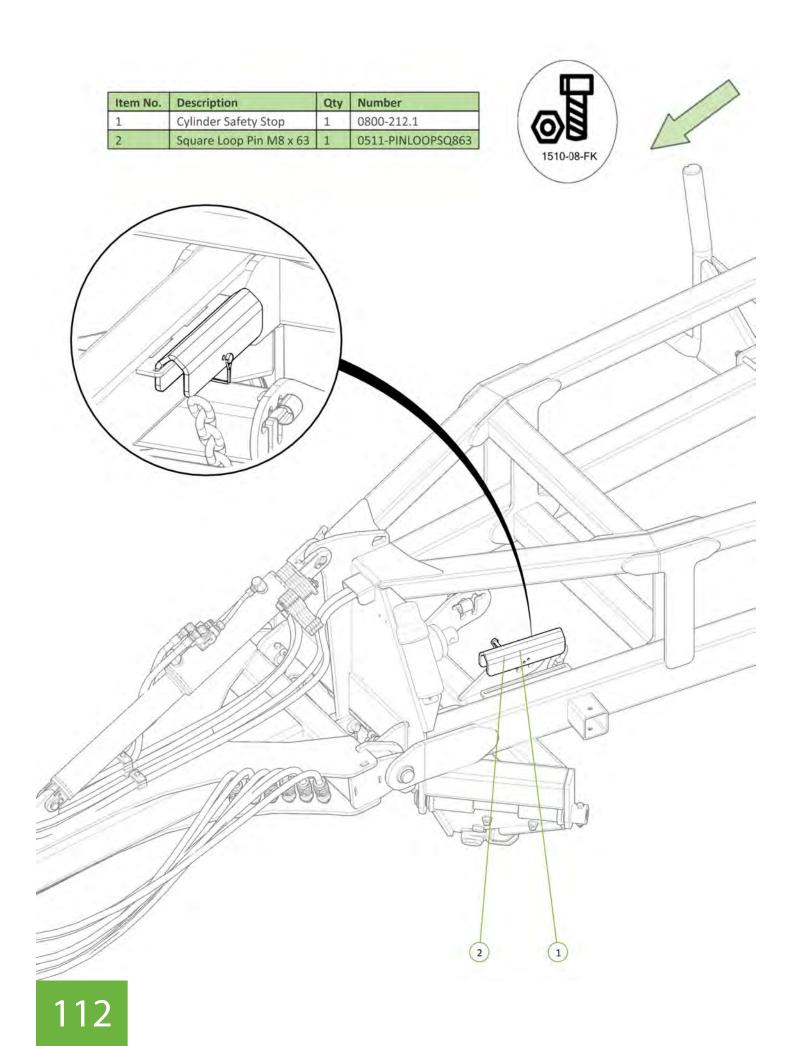


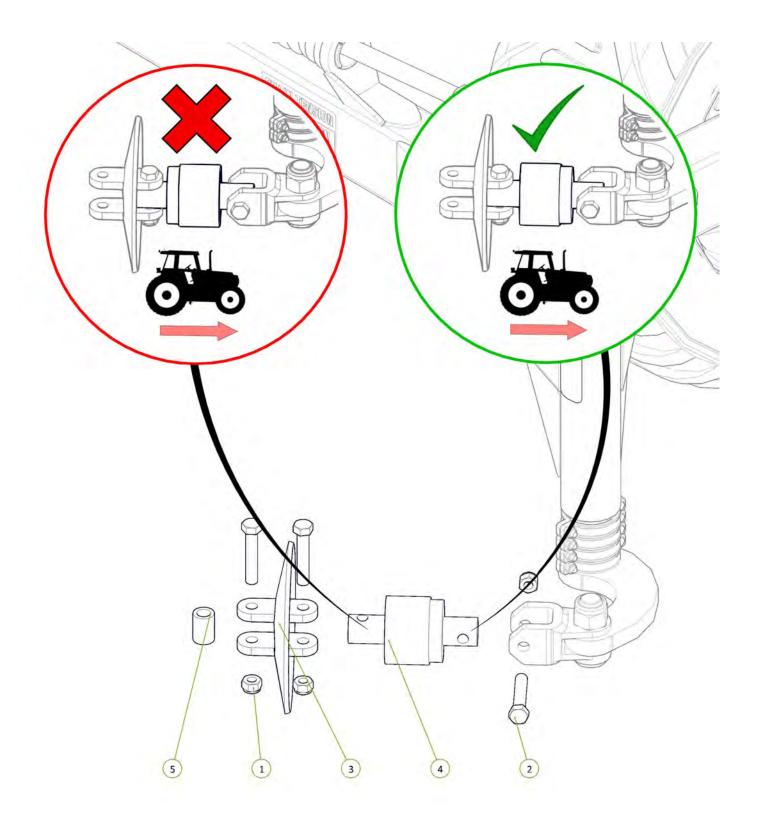




Item No.	Description	Qty	Number
1	Safety Chain Assembly	1	0810-16

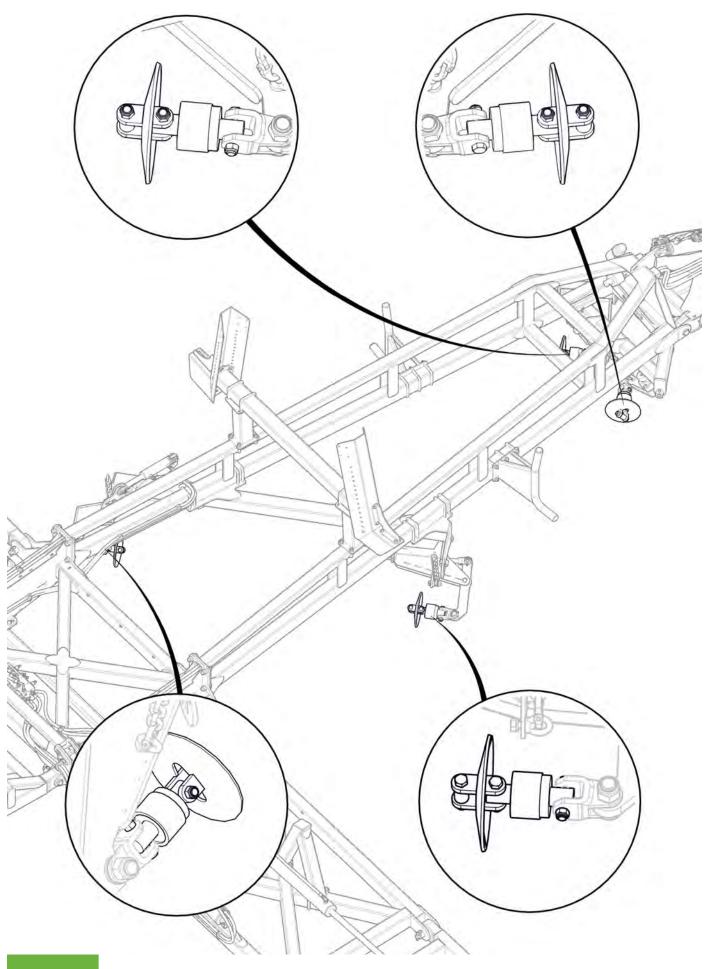


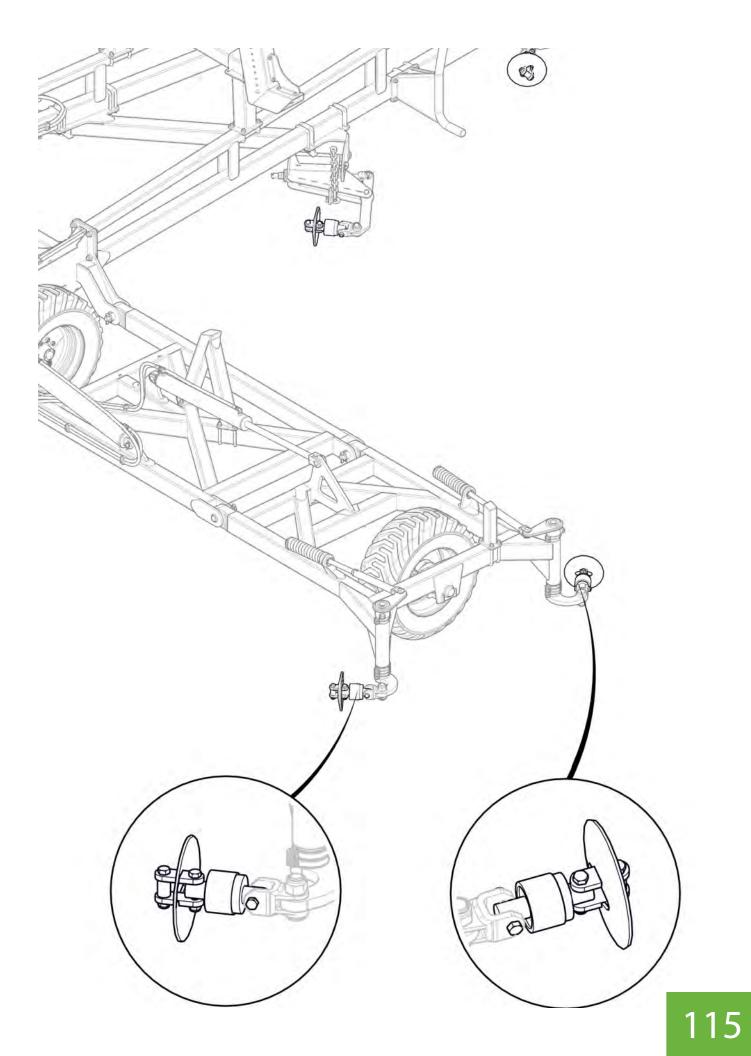


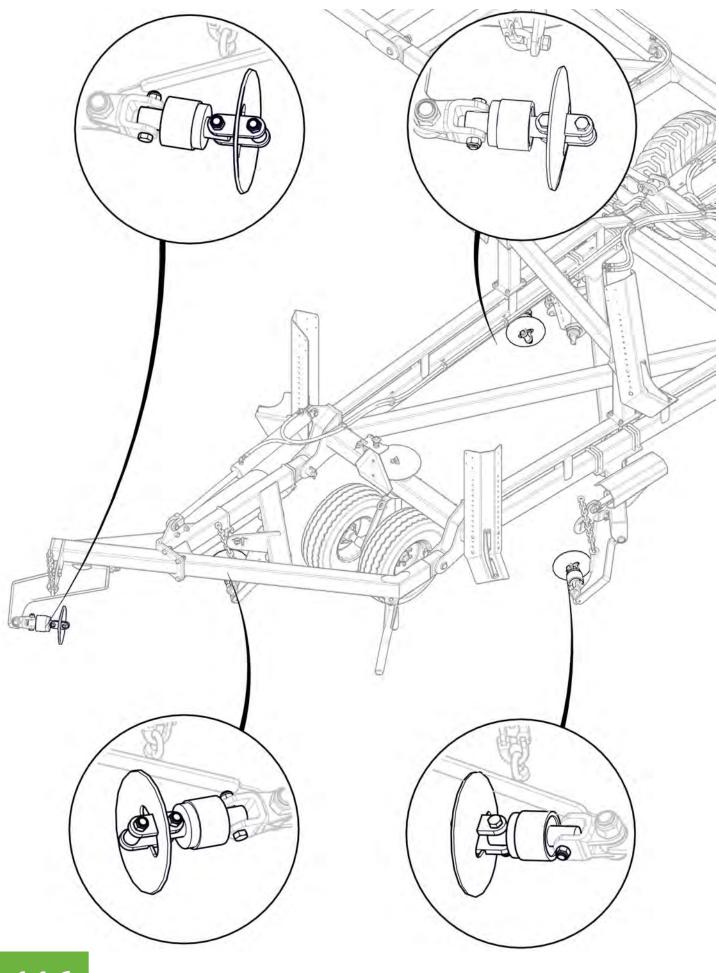


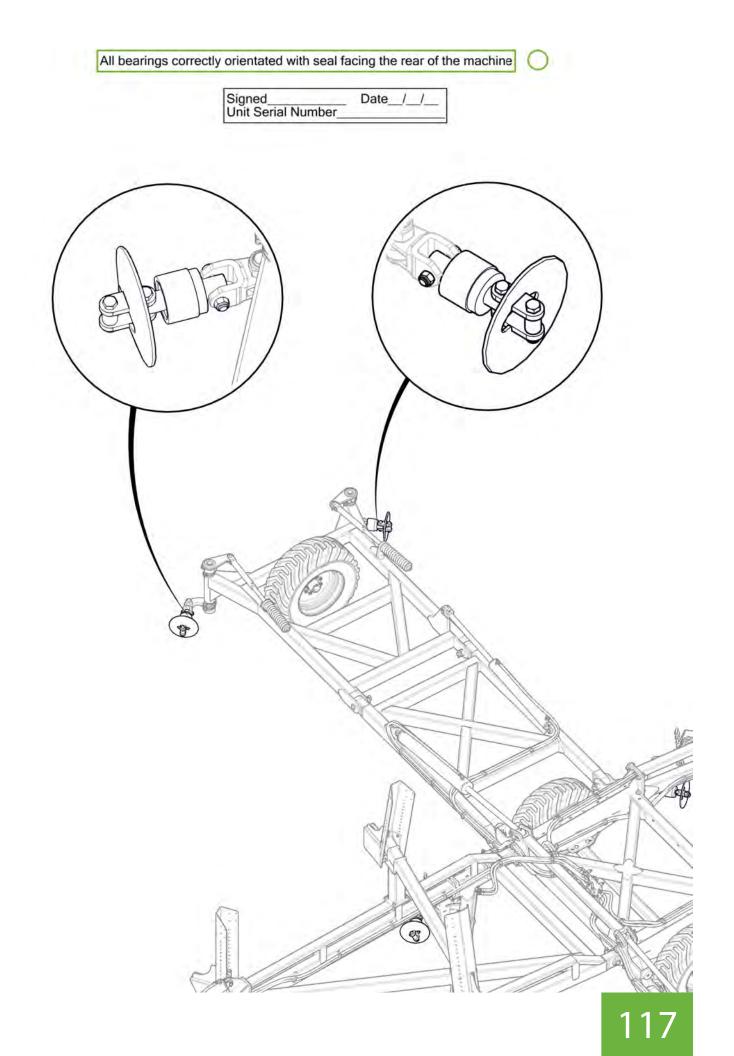
Item No.	Description	Qty	Number
1	Nyloc Nut M20	3	0221-NYL20
2	M20 x 110 grade 10.9 ZP Short Thread Bolt	3	0211-20110 ST
3	Disc Chain Tie Plate Link 20mm	1	0802-DCTP-20
4	20mm Bolt Swivel Unit	1	0802-PCHB55
5	Tie Plate Bush	1	0801-PCDCS55

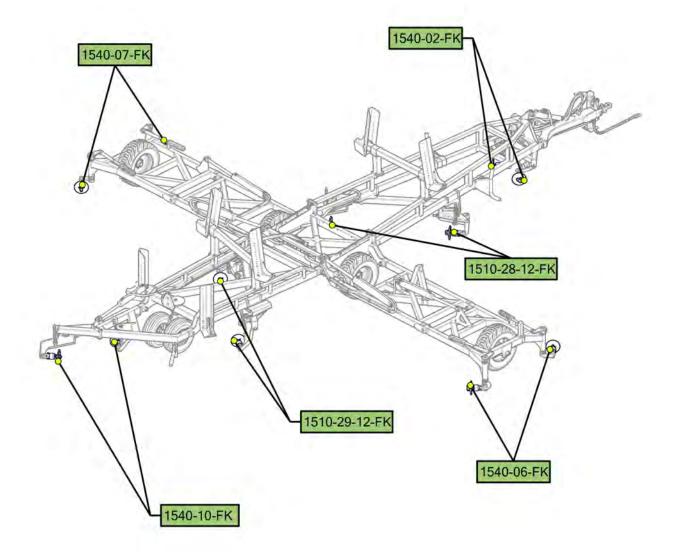


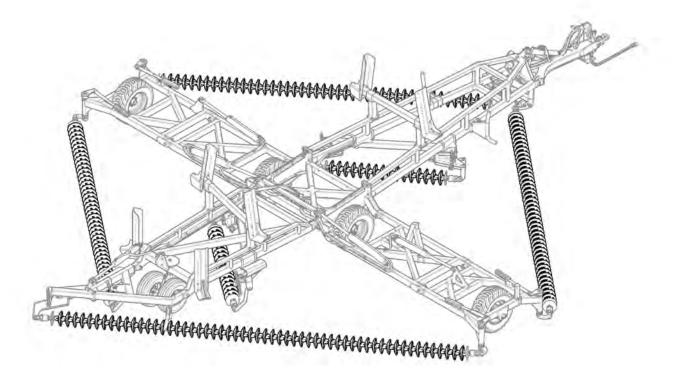






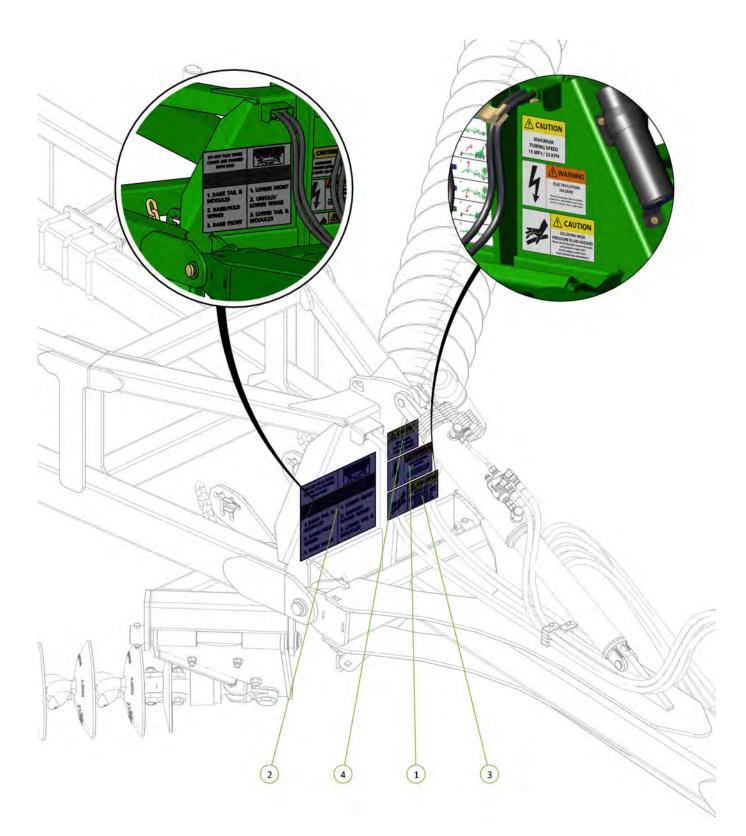






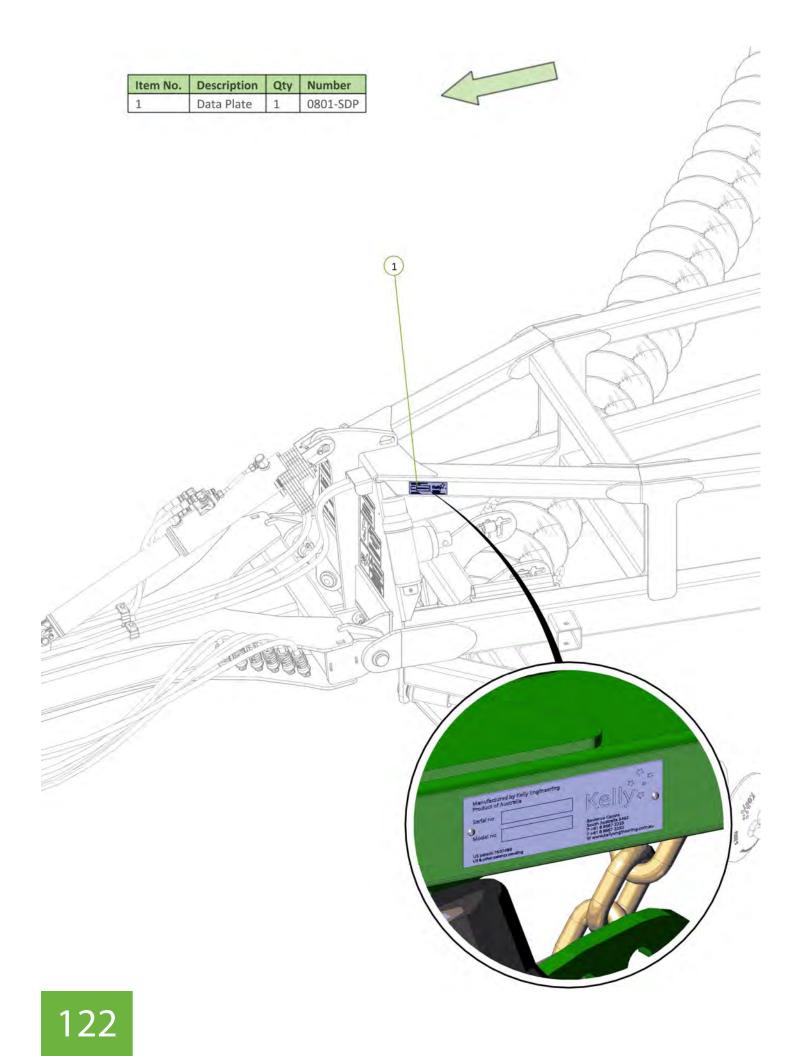
## Section 3 Decal Application

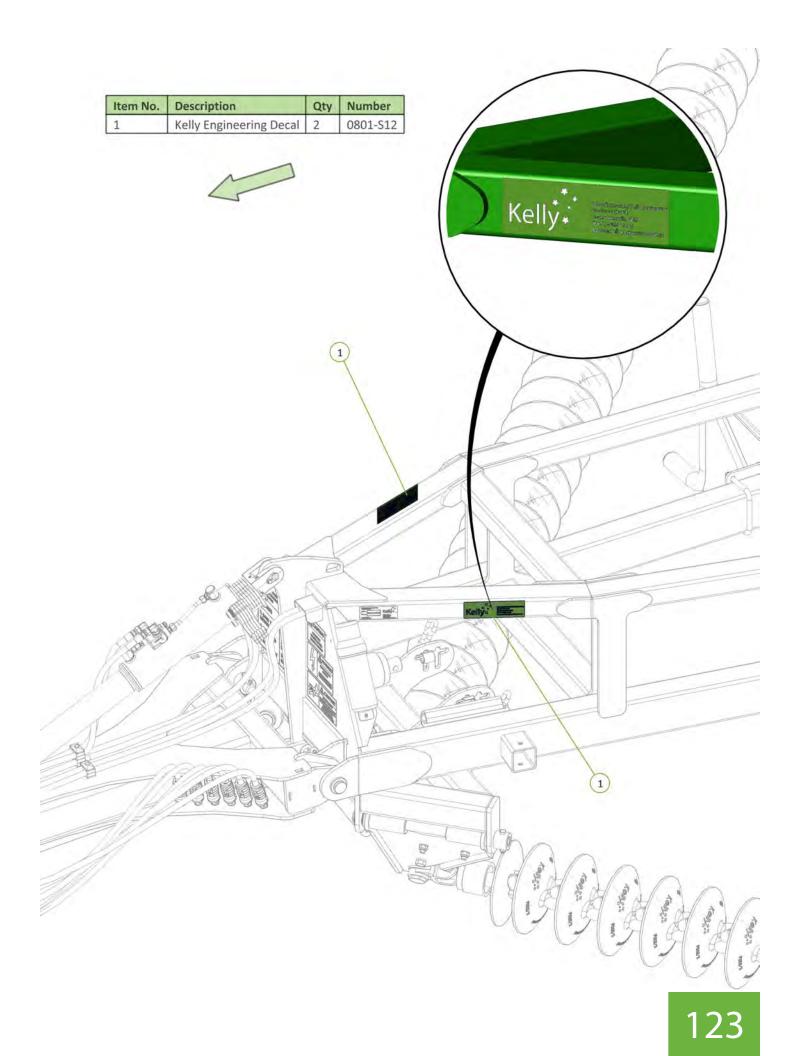


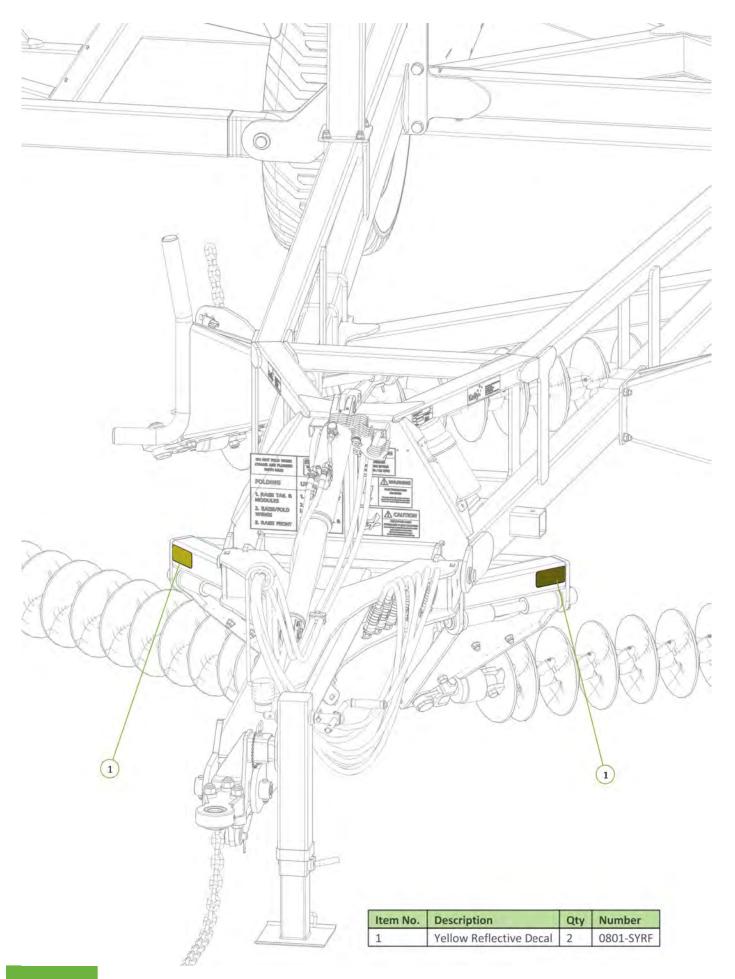


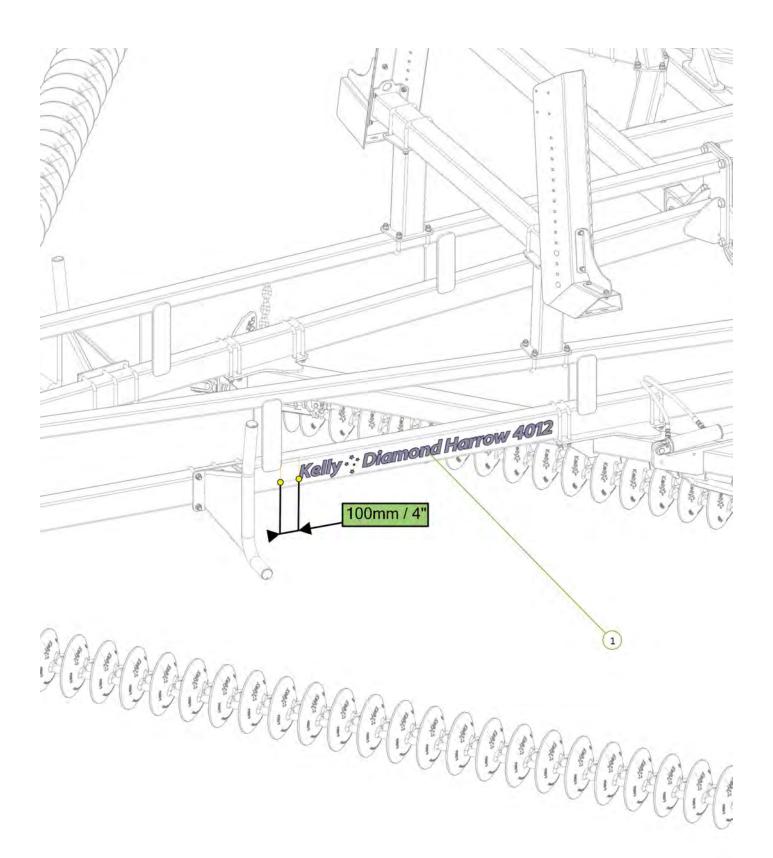
Item No.	Description	Qty	Number
1	Electrocution Hazard Decal	1	0801-S6
2	Fold-Unfold Decal 340 x 280mm	1	0801-518
3	Hydraulic Pressure Caution Decal	1	0801-S4
4	Towing Speed Decal	1	0801-55



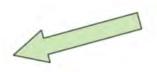


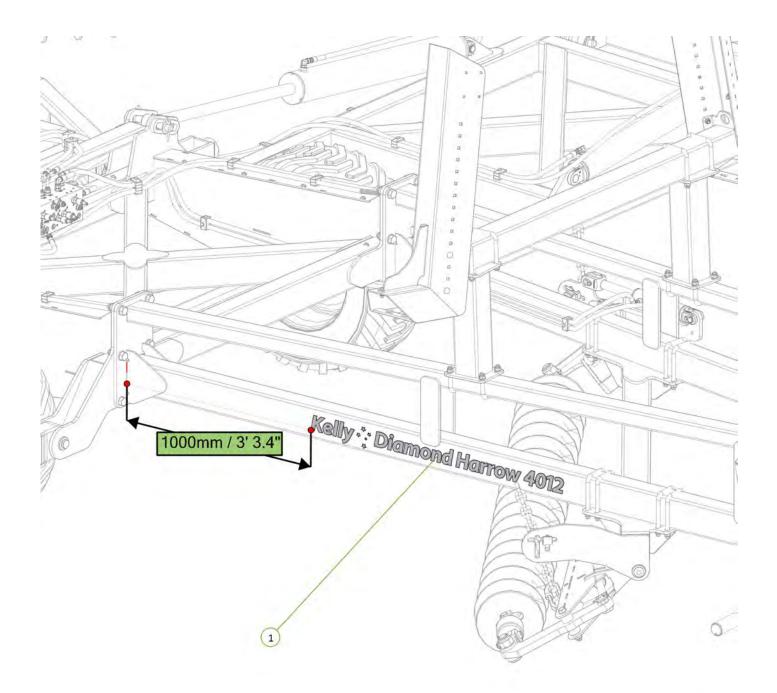




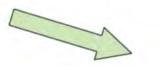


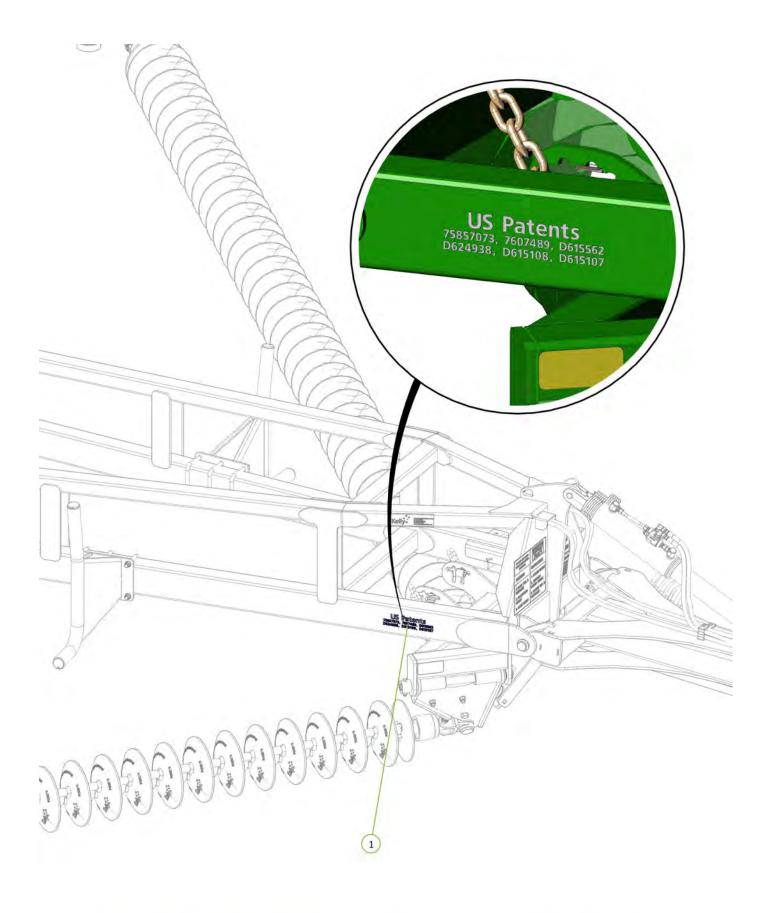
Item No.	Description	Qty	Number
1	Diamond Harrow 4012 Decal	1	0801-SKDH4012





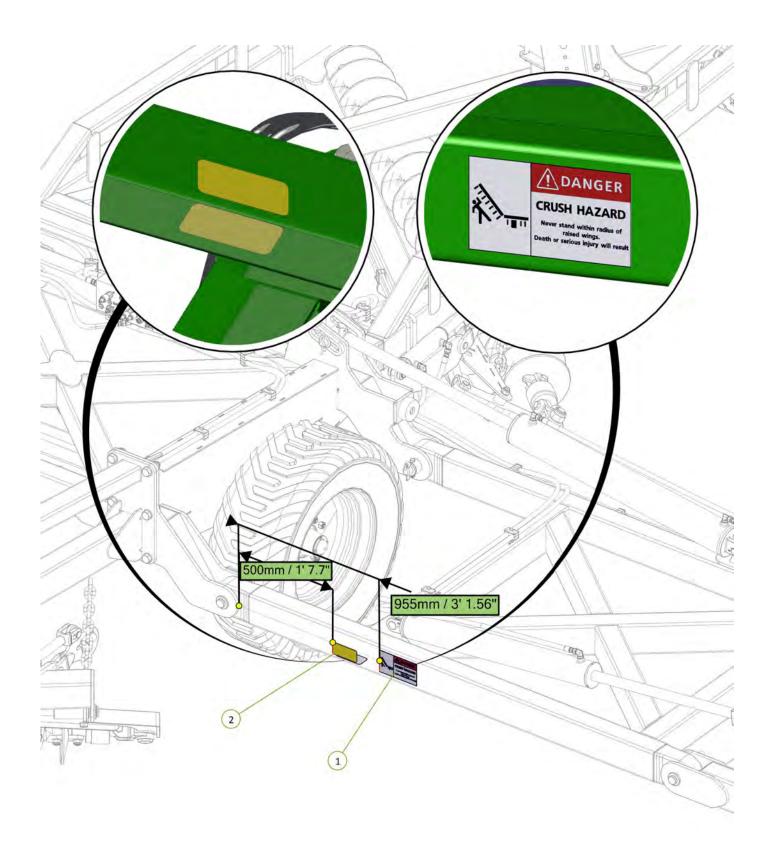
Item No.	Description	Qty	Number
1	Diamond Harrow 4012 Decal	1	0801-SKDH4012





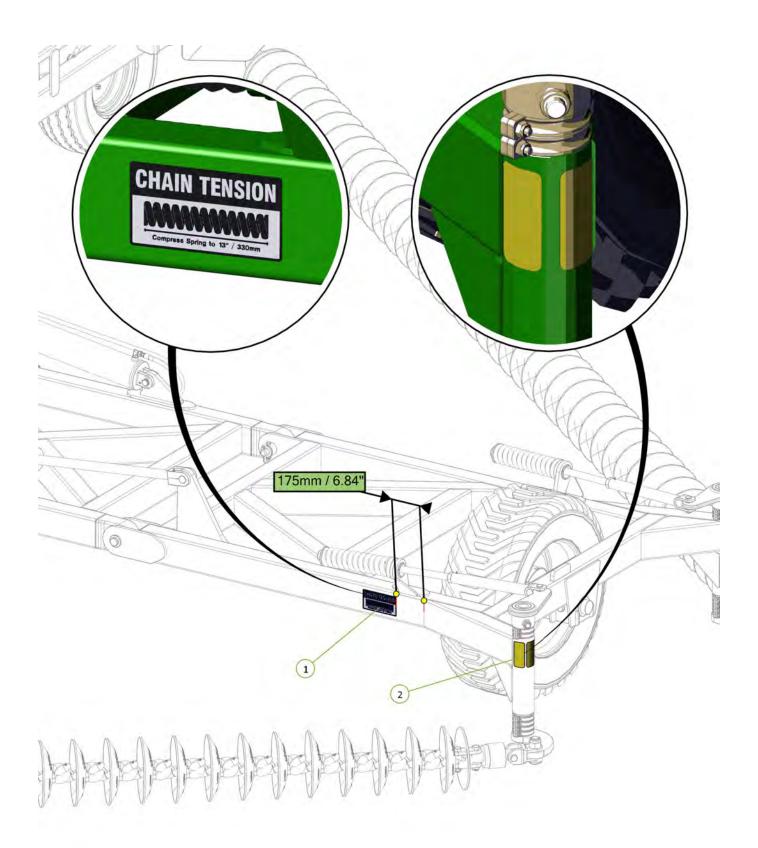
Item No.	Description	Qty	Number
1	USA Patent No. Decal	1	0801-SUSP





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

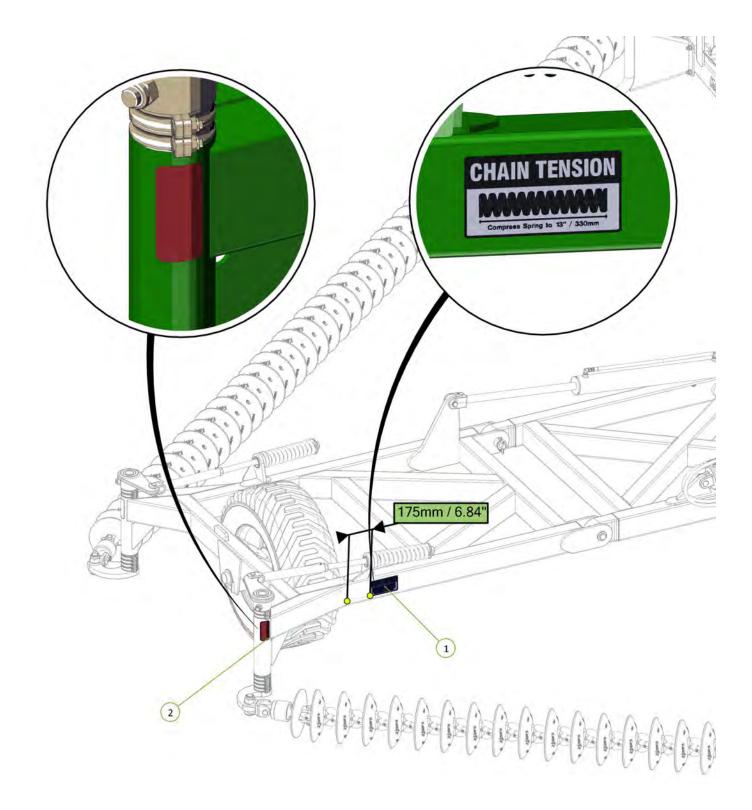




Item No.	Description	Qty	Number
1	Chain Tension 330mm Decal	1	0801-S15
2	Yellow Reflective Decal	2	0801-SYRF



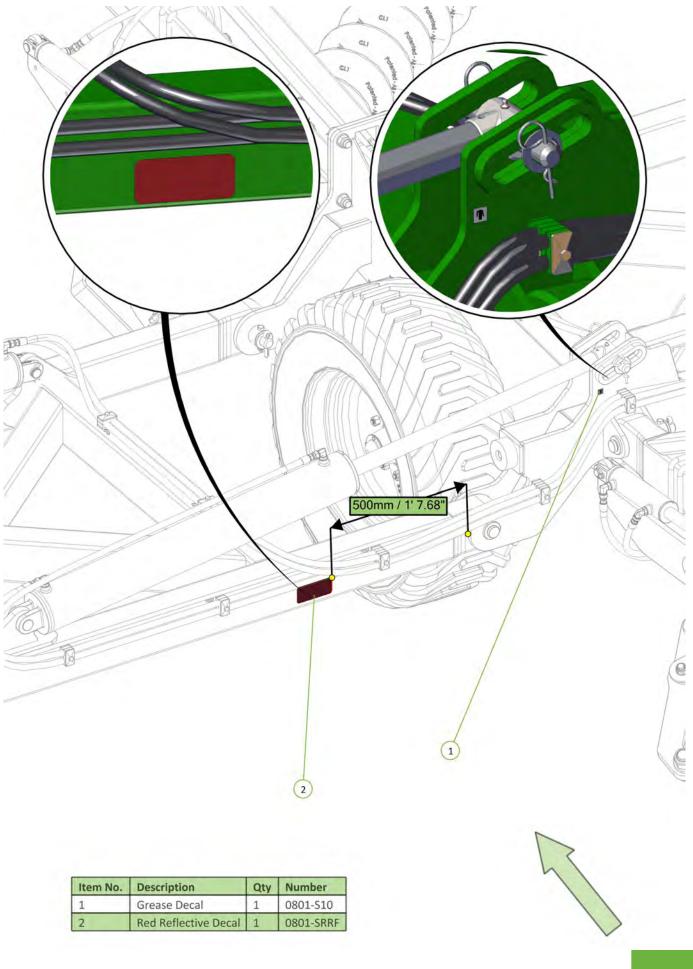


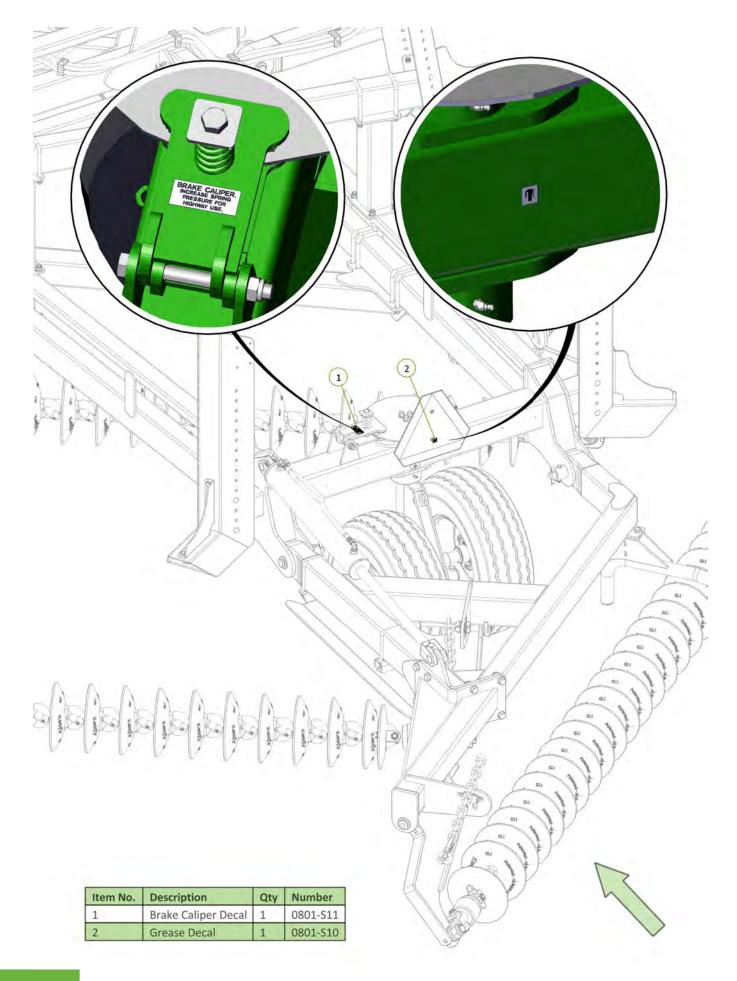


Item No.	Description	Qty	Number
1	Chain Tension 330mm Decal	1	0801-S15
2	Red Reflective Decal	1	0801-SRRF

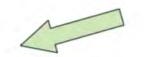


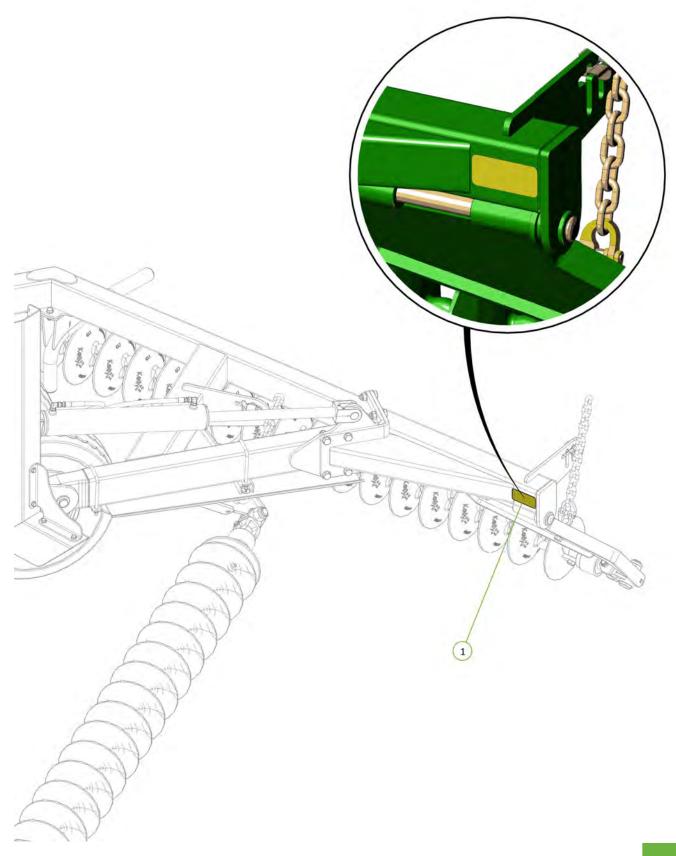




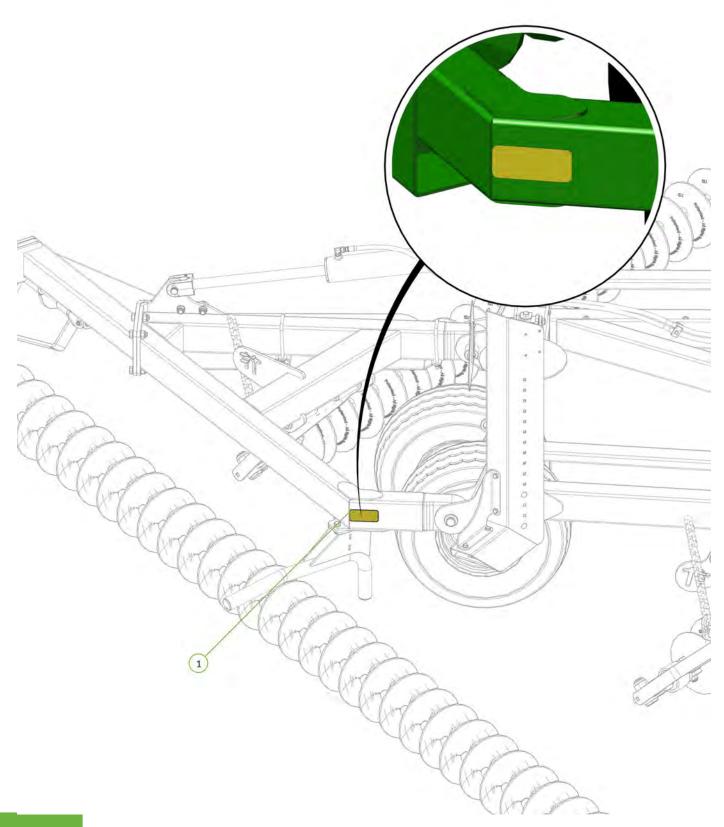


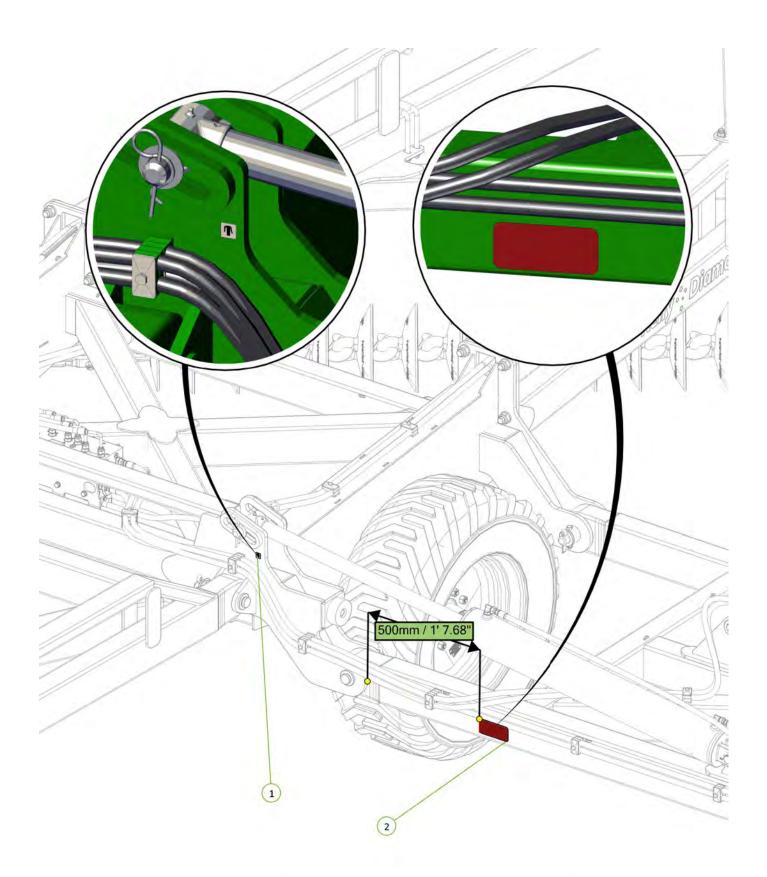
Item No.	Description	Qty	Number
1	Yellow Reflective Decal	1	0801-SYRF





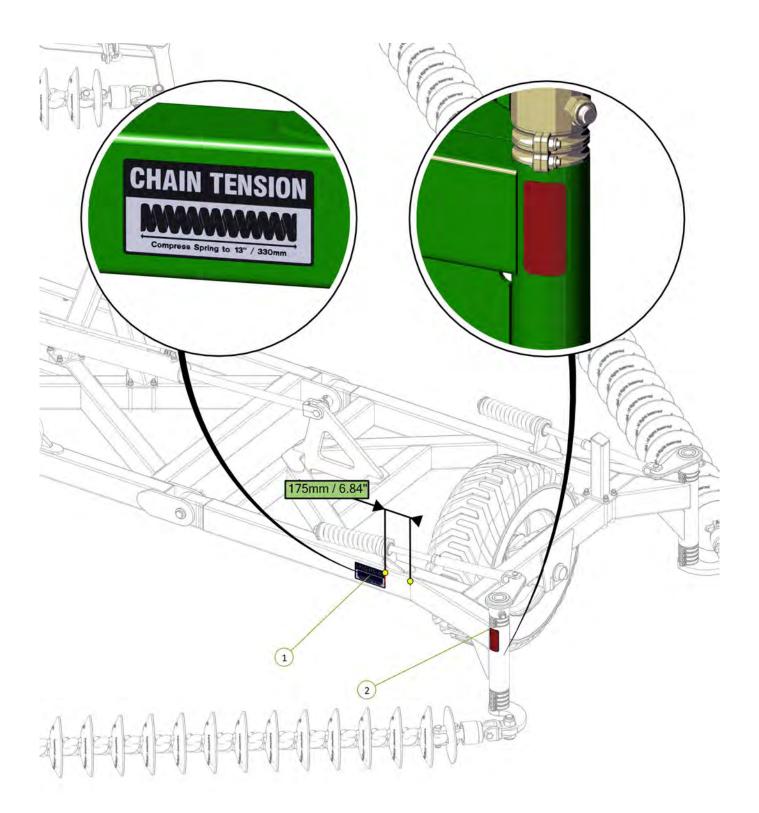
Item No.	Description	Qty	Number
1	Yellow Reflective Decal	1	0801-SYRF





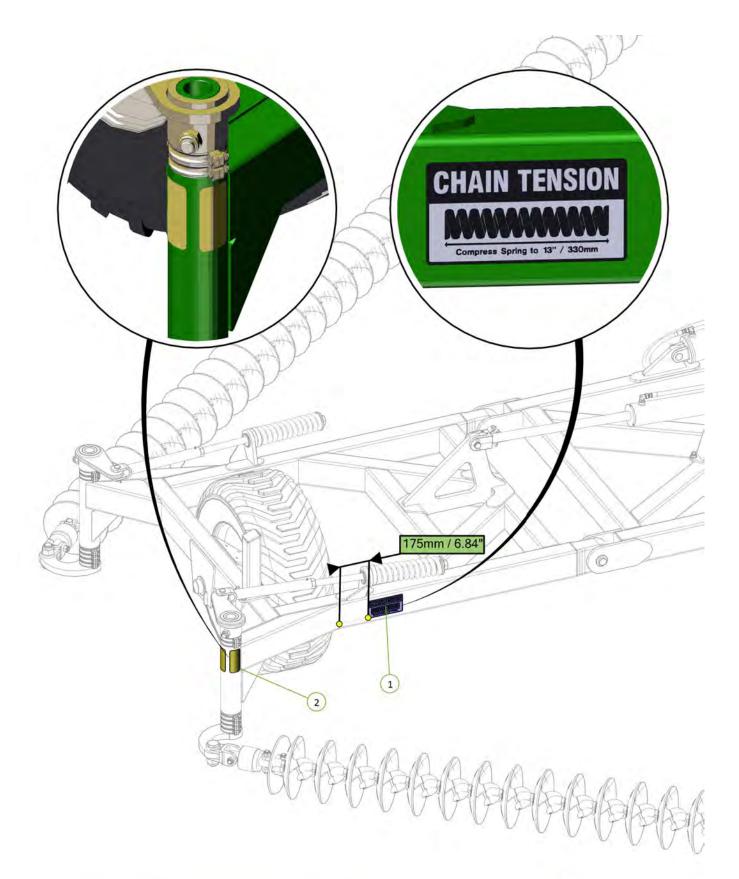
Item No.	Description	Qty	Number
1	Grease Decal	1	0801-S10
2	Red Reflective Decal	1	0801-SRRF





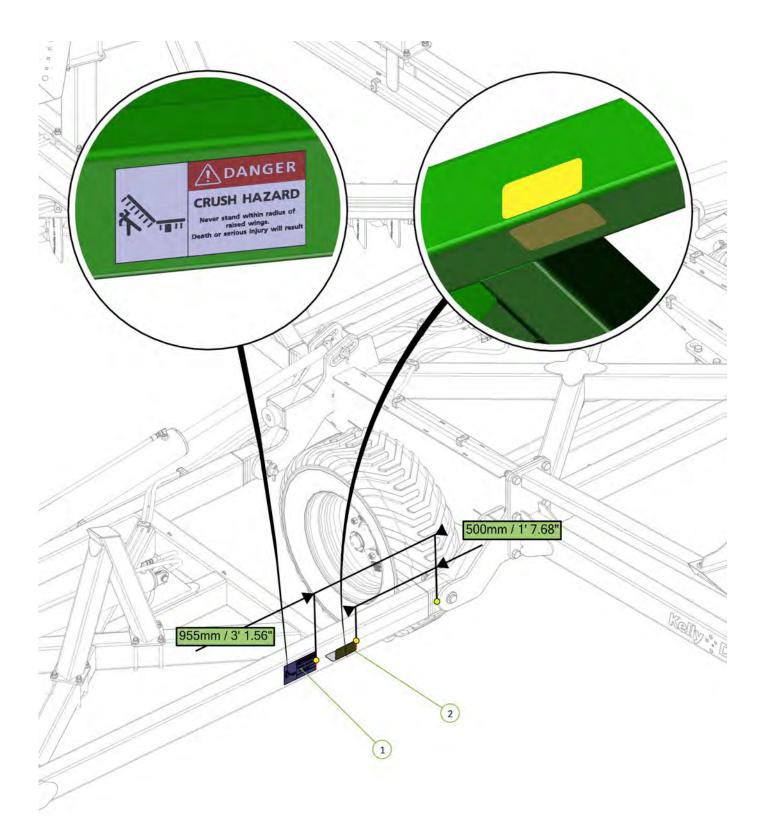
Item No.	Description	Qty	Number
1	Chain Tension 330mm Decal	1	0801-S15
2	Red Reflective Decal	1	0801-SRRF



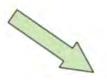


Item No.	Description	Qty	Number
1	Chain Tension 330mm Decal	1	0801-S15
2	Yellow Reflective Decal	2	0801-SYRF

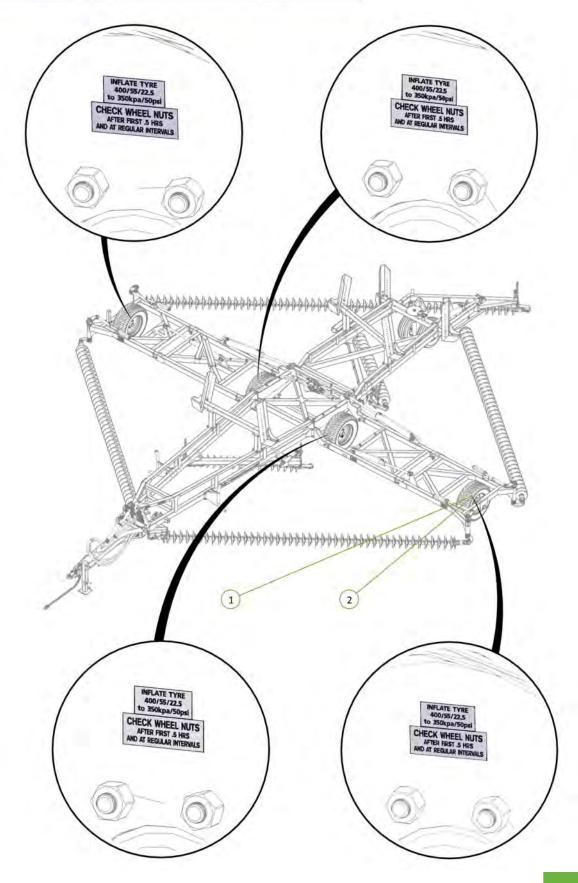




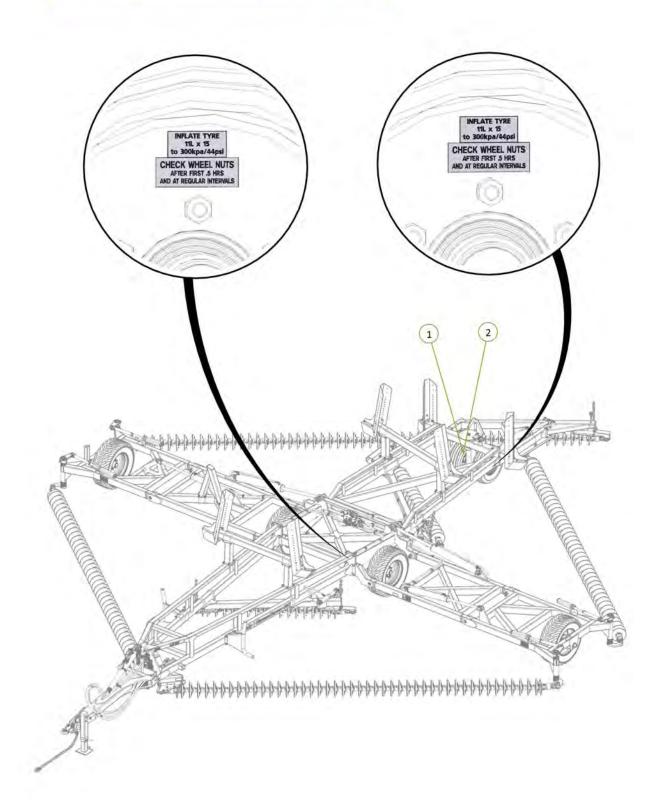
Item No.	Description	Qty	Number
1	Danger Crush Hazard Decal	1	0801-S3
2	Yellow Reflective Decal	2	0801-SYRF



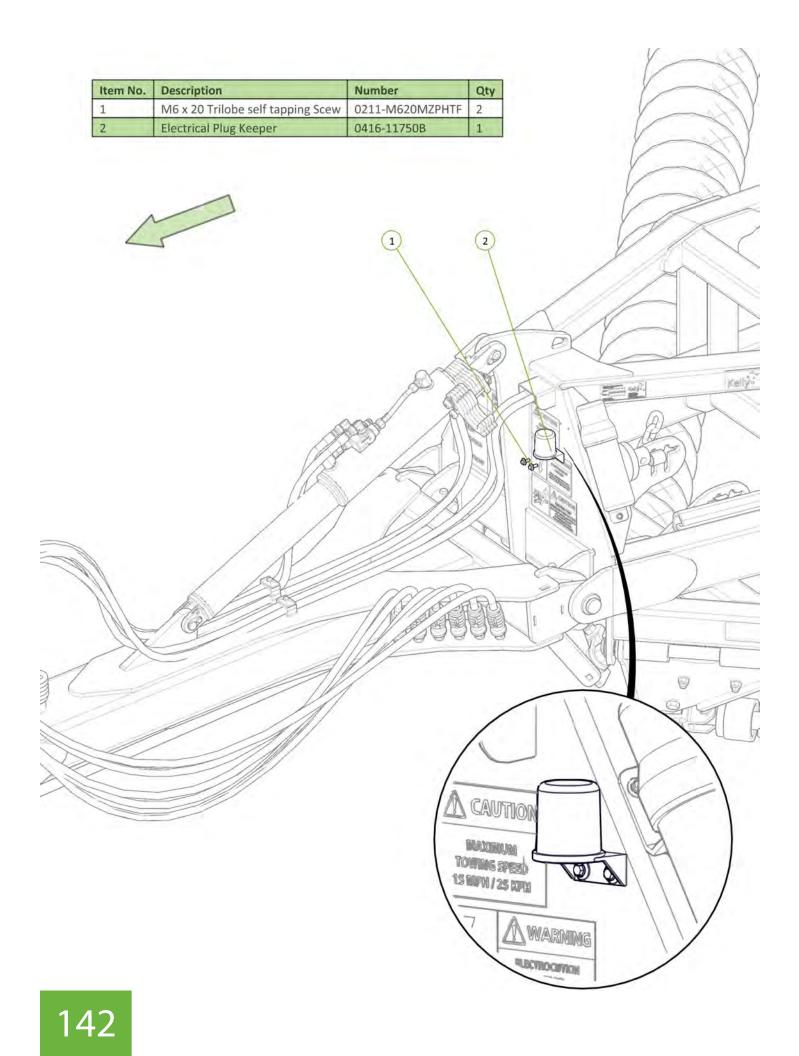
Item No.	Description	Qty	Number
1	Decal, 400/55/22.5 Tyre Inflation	4	0801-58-400-55-22.5
2	Wheel Nut Decal	4	0801-59

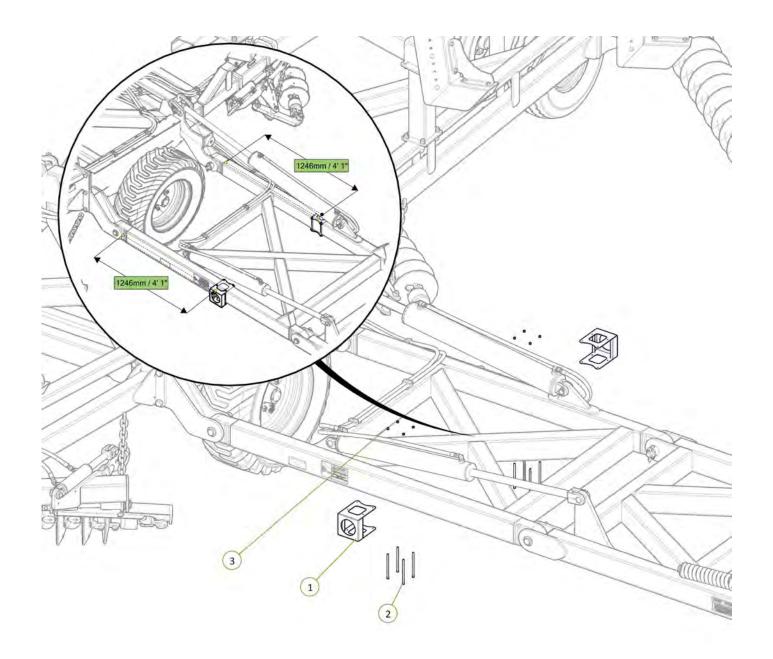


Item No.	Description	Qty	Number
1	Decal, 11L-15 Tyre Inflation	2	0801-S8-11L-15
2	Wheel Nut Decal	2	0801-59



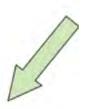
## Section 4 Light Kit

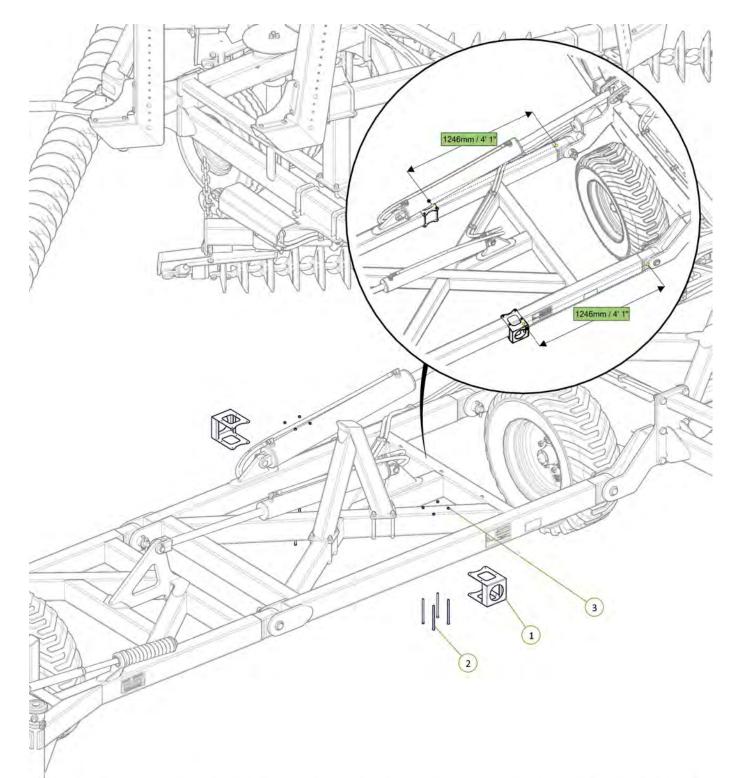




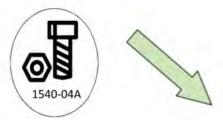
Item No.	Description	Number	Qty	
1	Wing light bracket	0800-296	2	
2	Socket Head Bolt M6 x 170 zp	0211-SH6170	8	
3	Nyloc Nut M6	0221-NYL6	8	

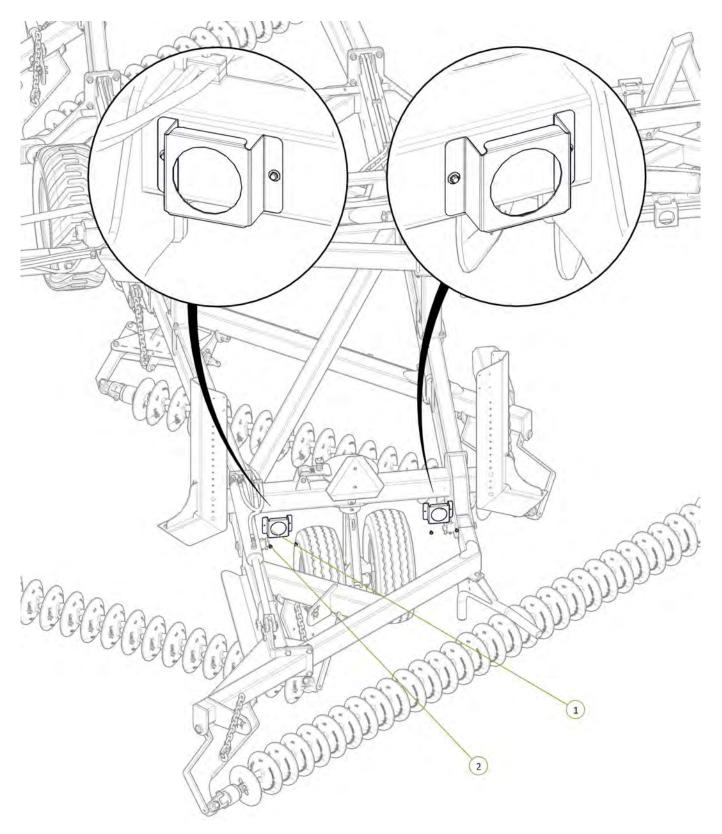






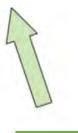
Item No.	Description	Number	Qty	
1	Wing light bracket	0800-296	2	
2	Socket Head Bolt M6 x 170 zp	0211-SH6170	8	
3	Nyloc Nut M6	0221-NYL6	8	

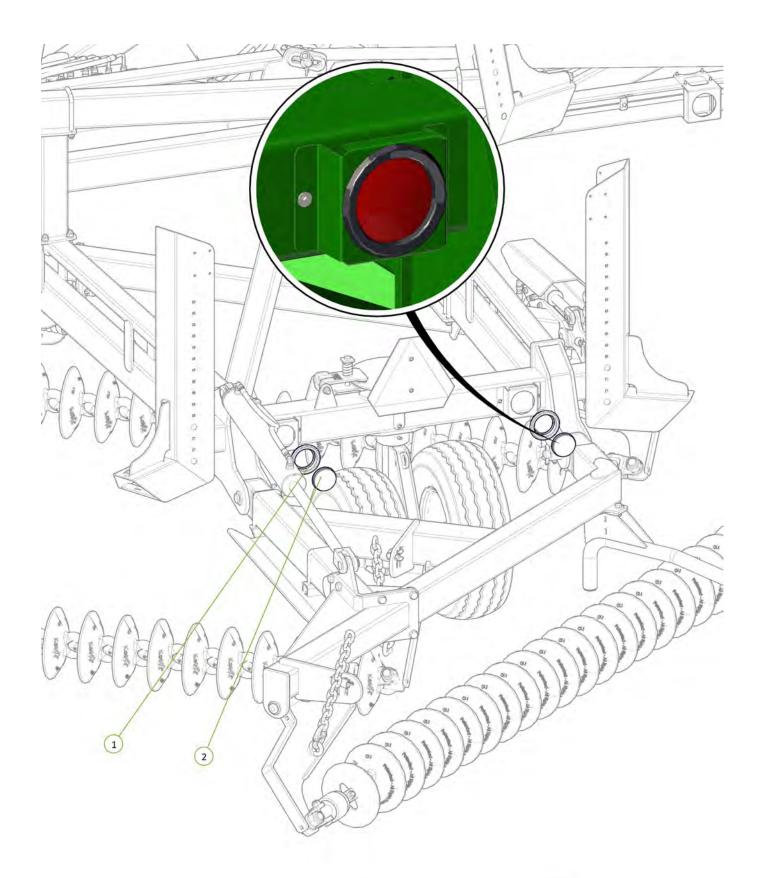




Item No.	Description	Number	Qty
1	US Tail Light Bracket	0800-194.1	2
2	M6 x 20 Trilobe self tapping Scew	0211-M620MZPHTF	4

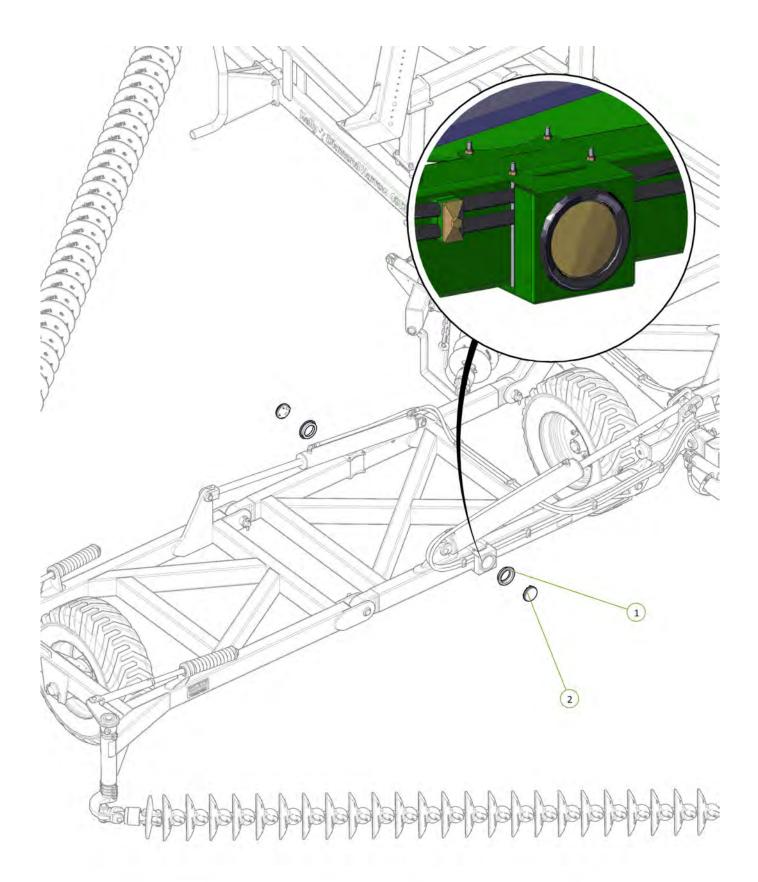






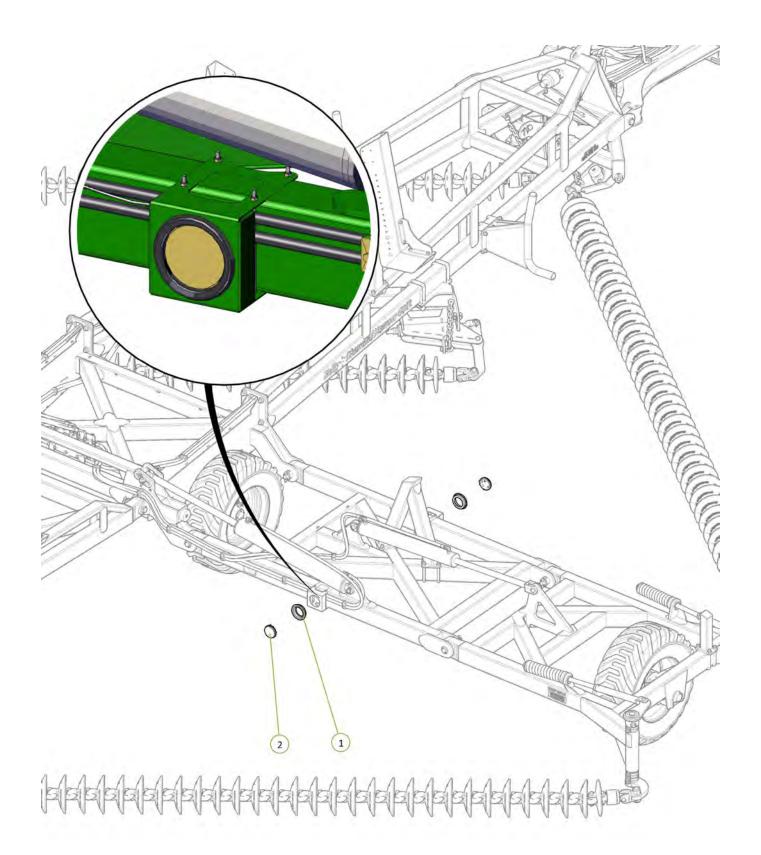
Item No.	Description	Number	Qty
1	110RM Rubber Grommet	0412-53101RG	2
2	LED Stop Tail Lamp	0412-LED110RM	2





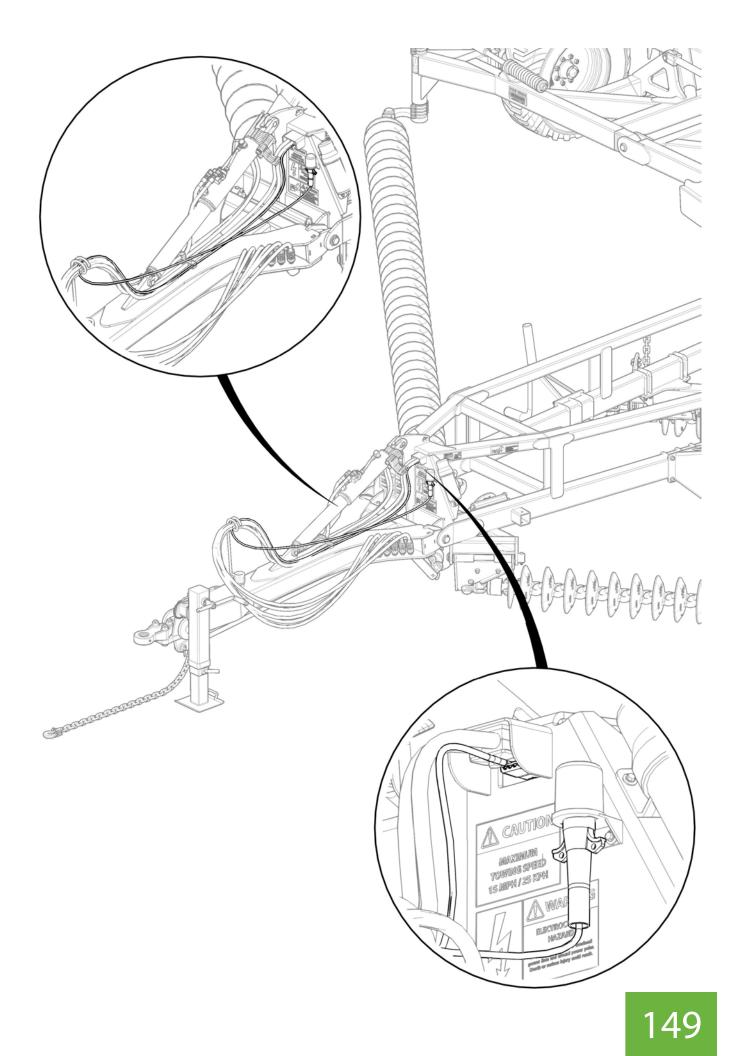
Item No.	Description	Number	Qty
1	110RM Rubber Grommet	0412-53101RG	2
2	LED Rear Indicator Lamp	0412-LED110AM	2

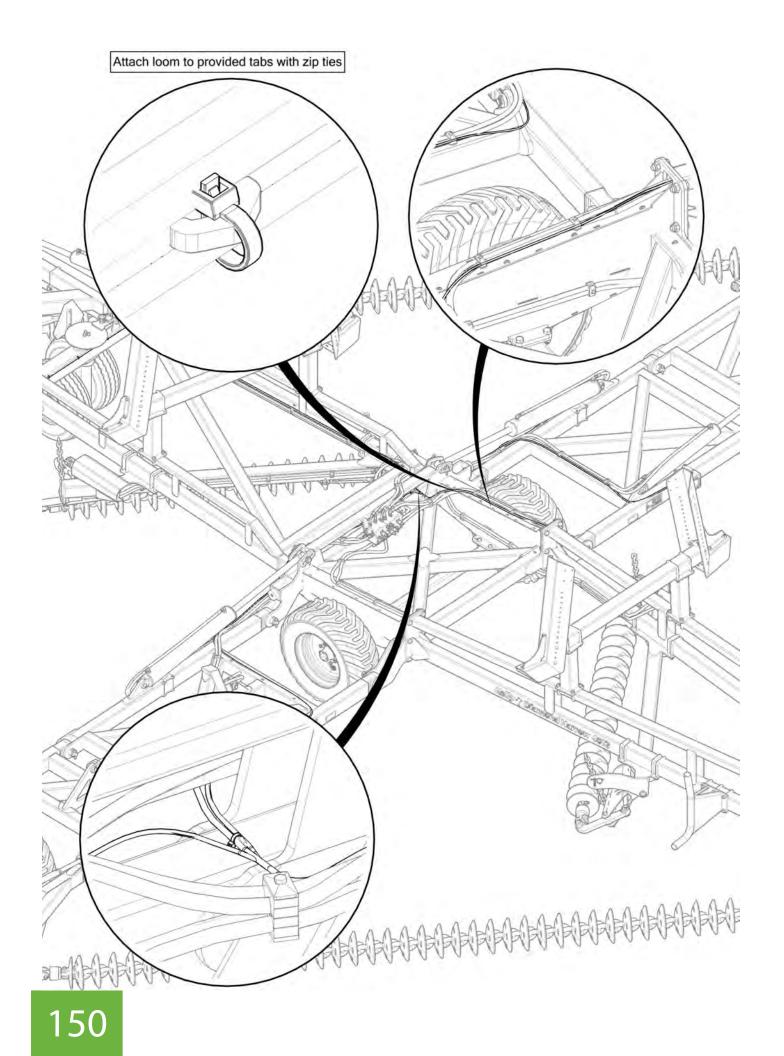


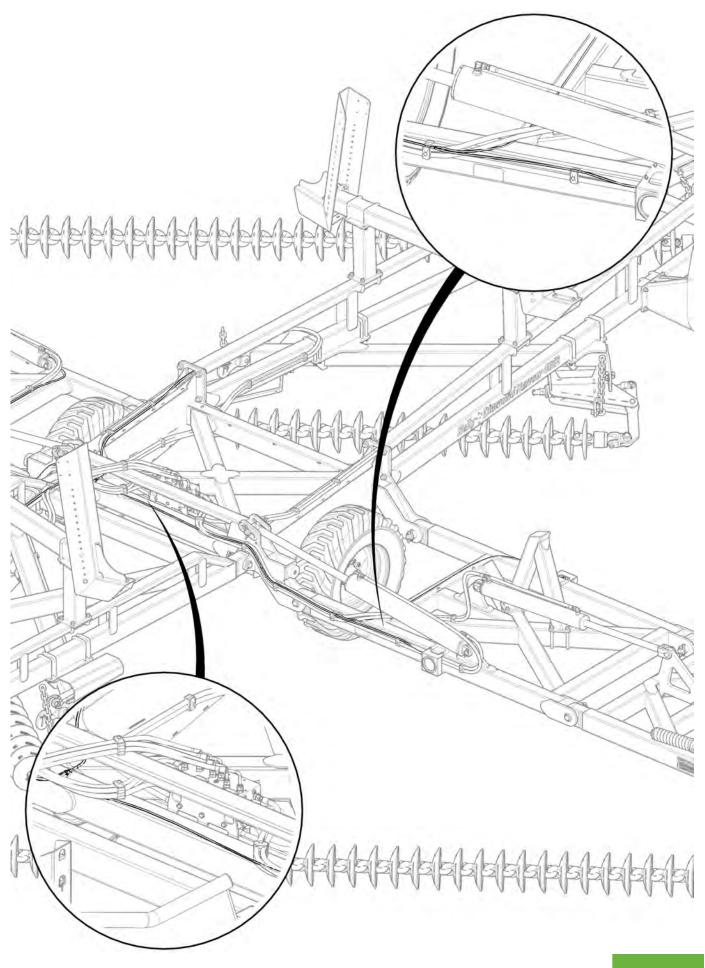


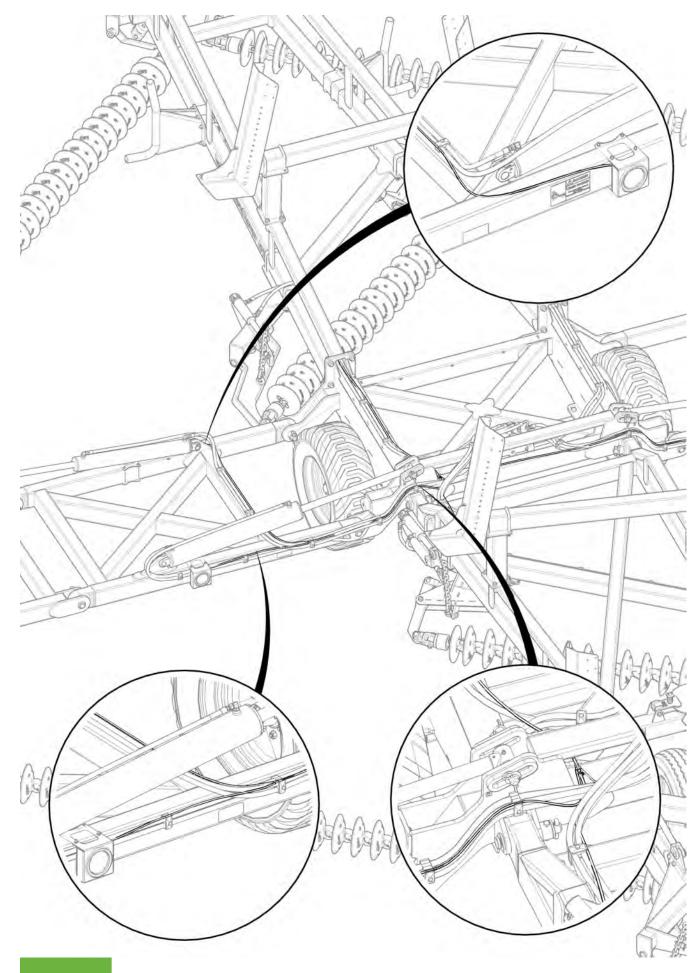
Item No.	Description	Number	Qty
1	110RM Rubber Grommet	0412-53101RG	2
2	LED Rear Indicator Lamp	0412-LED110AM	2

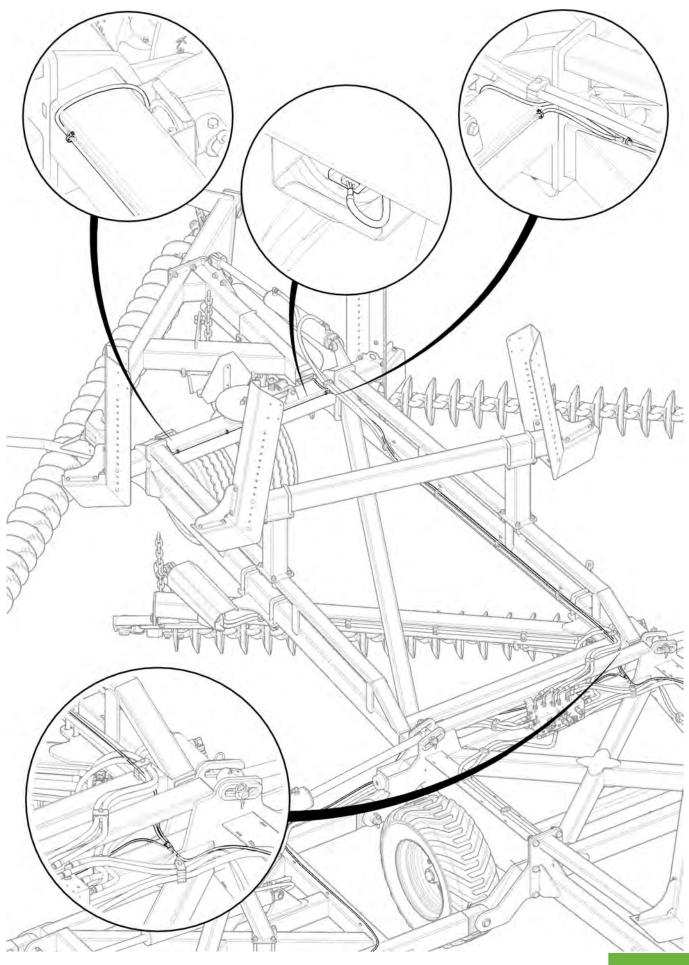


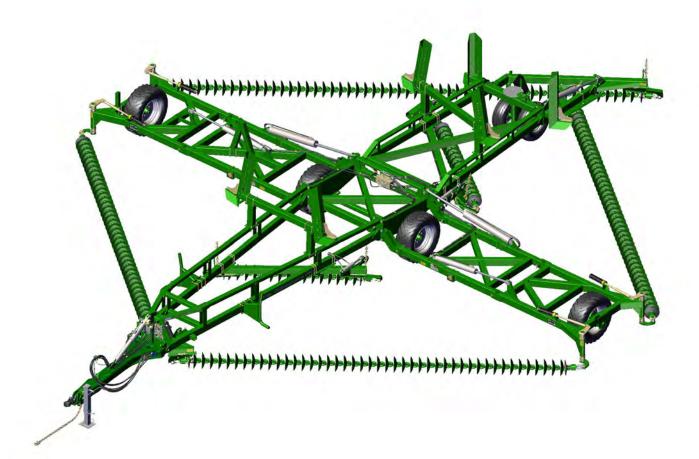






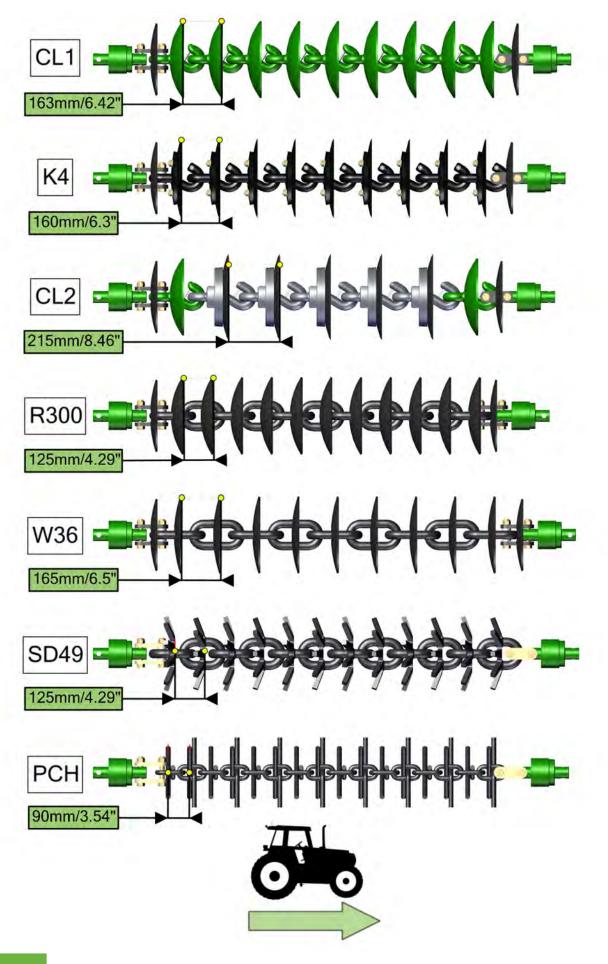






## Section 5 Chain Assembly



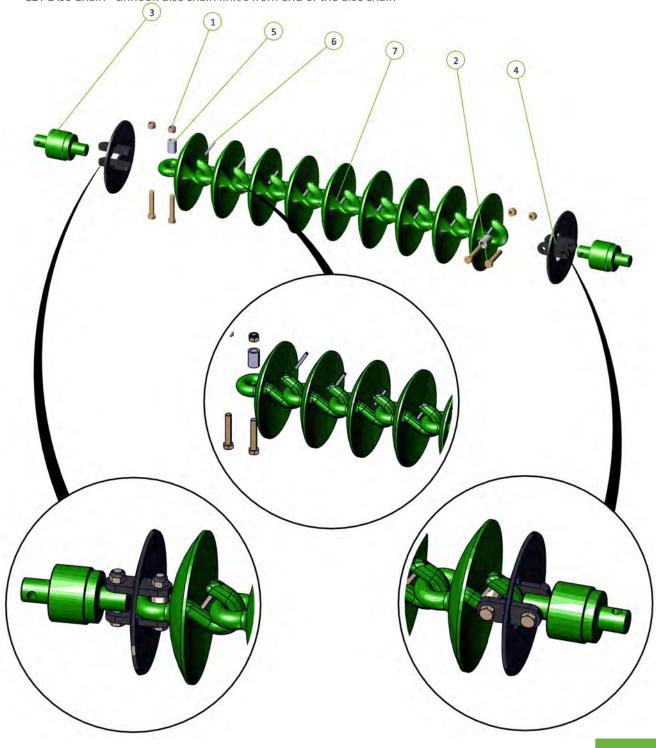


Item No.	Description	Number	Qty
1	Nyloc Nut M20/24	0221-NYL20/24	4
2	M20 x 110 / M24 x 120 grade 10.9 ZP Short Thread Bolt	0211-20110ST/0211-24120ST	4
3	20/24mm Bolt Swivel Unit	0802-PCHB55 / 0802-PCHB553	2
4	Disc Chain Tie Plate Link 20mm / 24mm	0802-DCTP-20 / 0802-DCTP-24	2
5	Tie Plate Bush	0801-PCDCS55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



For correct chain tension, chain links may need to be removed from the end of the chain as follows:

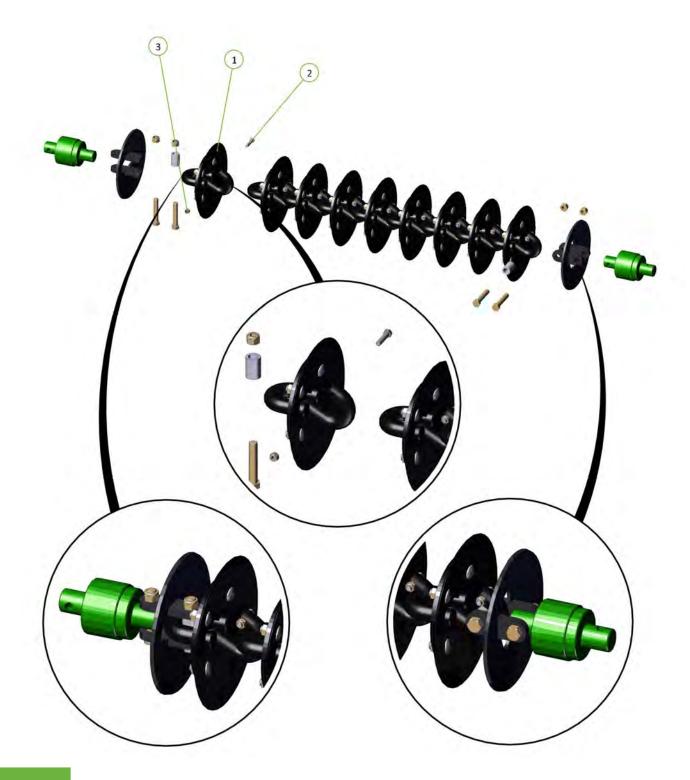
CL1 Disc Chain - unhook disc chain link/s from end of the disc chain



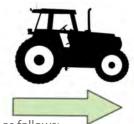
Item No.	Description	Number	Qty
1	K4-50 Disc Assembly 4/50/25/63	0803-K4-50	1
2	M12 x 55 grade 8.8 ZP Bolt	0211-1255	1
3	Nyloc Nut M12	0221-NYL12	1



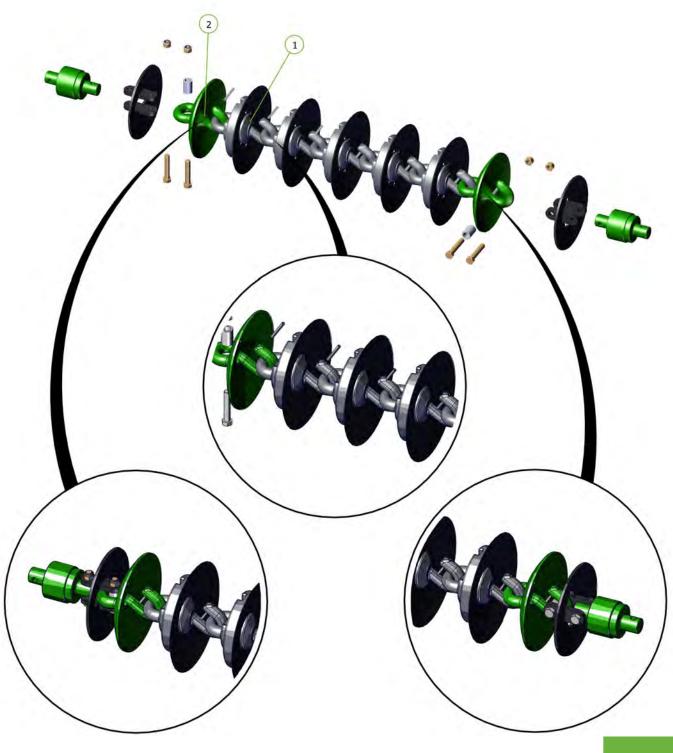
For correct chain tension, chain links may need to be removed from the end of the chain as follows: K4 Disc Chain - unhook disc chain link/s from end of the disc chain



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

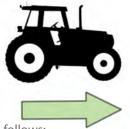


For correct chain tension, chain links may need to be removed from the end of the chain as follows: CL2 Disc Chain - unhook disc chain link/s from end of the disc chain

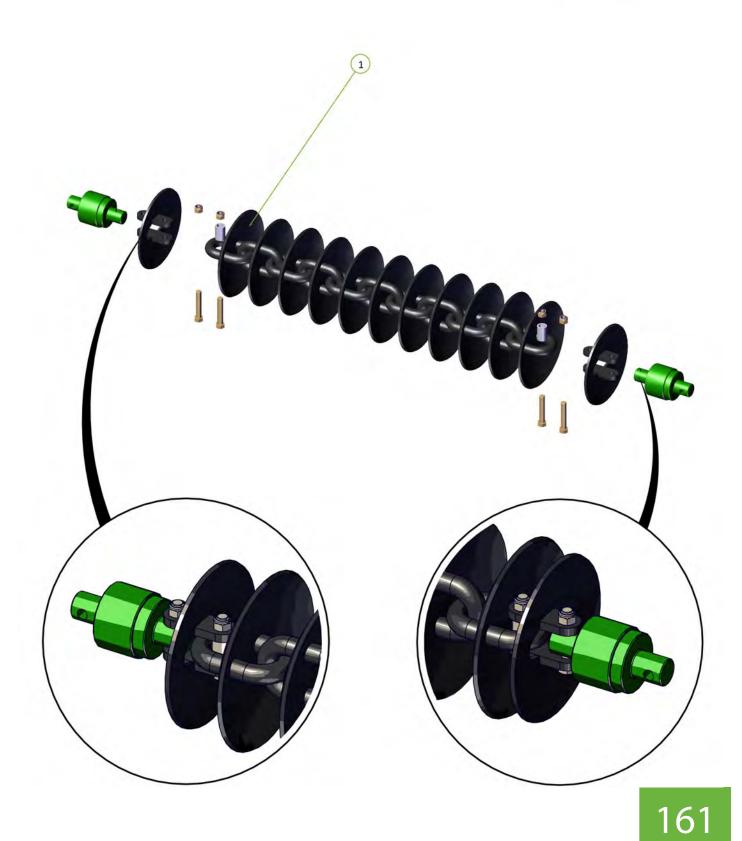


	Set	CL2	CL1
	Front Left	32	2
	Front Right	32	2
- George - G	Front Modules	10	3
	Front Set	74	7
	Rear Right	31	15
	Rear Left	32	2
	Rear Modules	11	2
	Rear Set	74	19
/	Total	148	26
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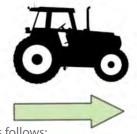
Item No.	Description	Number	Qty
1	R300 Chain Link	0803-R300	1



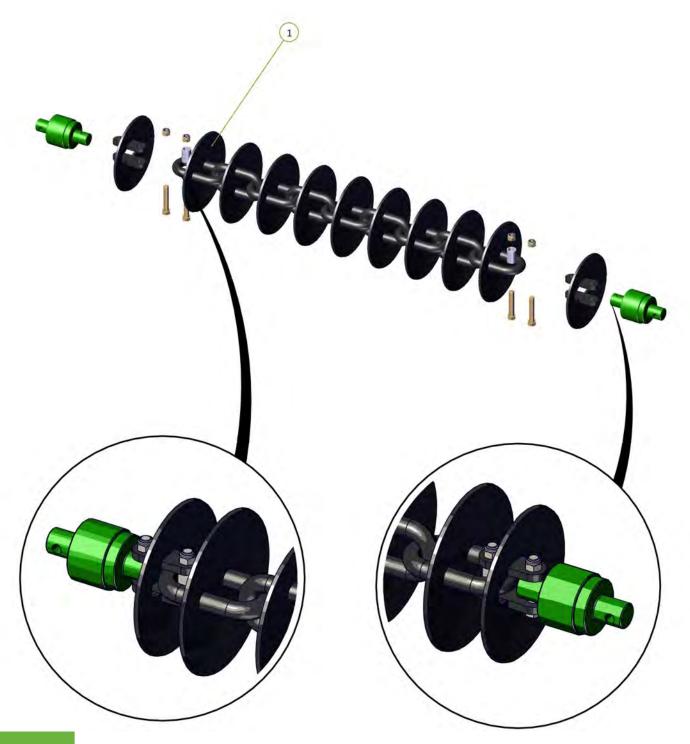
For correct chain tension, chain links may need to be removed from the end of the chain as follows: R300 Disc Chain - cut a disc chain link from the end of the disc chain



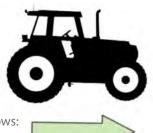
Item No.	Description	Number	Qty
1	W36/25 Chain Link	0803-W36	1



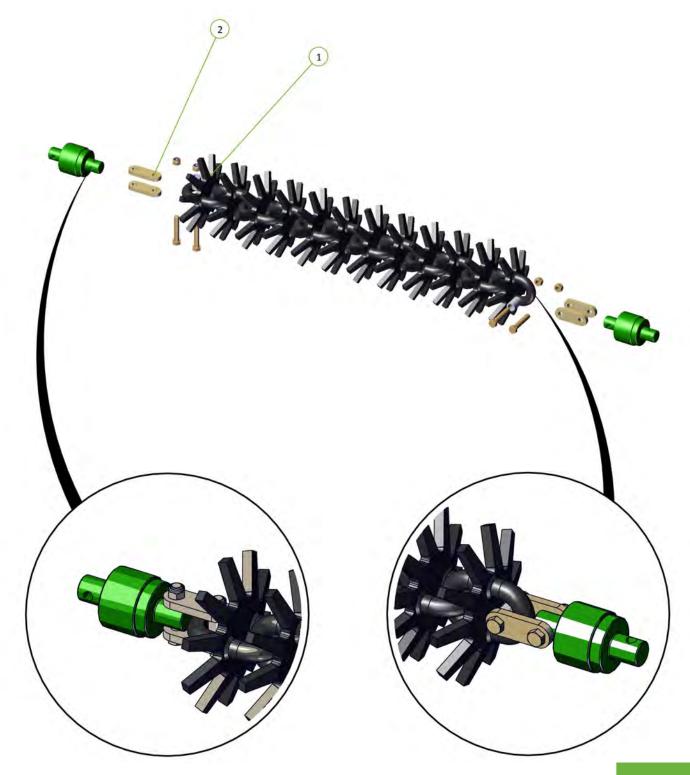
For correct chain tension, chain links may need to be removed from the end of the chain as follows: W36 Disc Chain - cut a disc chain link from the end of the disc chain



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



For correct chain tension, chain links may need to be removed from the end of the chain as follows: Spiked Disc Chain - cut a disc chain link from the end of the disc chain



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

For correct chain tension, chain links may need to be removed from the end of the chain as follows: Prickle Chain - cut a prickle chain link from the end of the prickle chain



# **Section 6** Diagrams & Specifications



Fixed housing end of swivel should always face forward

Rotating seal end of swivel should always face rearward 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 like shown Swivels attached to the trailing ends of the chains should have the fixed housing end attached to the chain like shown

#### **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				

#### **Chain Harrow specifications**

Model	4012
Working width	40′10.15″ / 12.45m
Transport width	11′5.8″ / 3.50m
Transport height	12′6.20″/ 3.80m
Transport length	45'5.22" / 13.85m

#### **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
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						
4012	Front right	7.31m	CL2 - 32 CL1 - 2	45	43	58	58	81	
	Front left	7.31m	CL2 - 32 CL1 - 2	45	43	58	58	81	
	Rear right	9.21m	CL2 - 31 CL1 - 15	56	54	74	74	102	
	Rear left	7.14m	CL2 - 32 CL1 - 2	44	42	57	57	79	
	Front module	2.63m	CL2 - 10 CL1 - 3	16	15	21	21	29	
	Rear module	2.64m	CL2 - 11 CL1 - 2	16	15	21	21	29	

For correct chain tension, chain links may need to be removed from the end of the chain as follows:

CL2 Disc Chain - unhook disc chain link/s from end of the disc chain CL1 Disc Chain - unhook disc chain link/s from end of the disc chain K4 Disc Chain - unhook disc chain link/s from end of the disc chain Spiked Disc Chain - cut a disc chain link from the end of the disc chain R300 Disc Chain - cut a disc chain link from the end of the disc chain W36 Disc Chain - cut a disc chain link from the end of the disc chain Prickle Chain - cut a prickle chain link from the end of the prickle chain

## **Section 7** Pre-Delivery Checklist

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

Check Item:	Checked by Initial
Tyres are fitted correctly	
Check wheel nuts are tightened to the correct torque and marked	
Check tyres are inflated to correct pressure	
Tow Hitch is fitted correctly with bolts tightened to correct torque and marked.	
All bolts and nuts are tightened to the correct torque values and marked.	
All retaining pins are inserted and engaged	
All hoses are correctly routed through holders	
Air brake hoses are sound with no leaks	
Air brake relay valve is correctly set for the load	
Hydraulic rams and hoses are sound	
Hydraulic Accumulator is charged correctly.( 6M only)	
Drop legs are correctly orientated. (6M only)	
Swivel Units are correctly orientated	
Chains are resting correctly on their transport supports (chain carriers)	
Check the chain tension as per assembly manual	
All points are greased on the machine	
Roll pins are installed in the discs (CL1 and CL2)	
All safety decals are on the machine in the correct locations are per the Assembly/ Operators manual	
All safety signs are present & lights working	
Machine is registered for Warranty	
Customer has been shown the website and how to access parts information	
Operators manual has been provided with the machine	

Signature\_\_\_\_\_

KEASM- 4012 Issue C 08/01/2021

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