



12X

KELLY 12X  
**ASSEMBLY MANUAL**

REVISION F – SEPTEMBER 2021

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Kelly 



## 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 the Kelly team 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.

### Contact Information

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**Phone:** +1 306 773 0996

**Email:** parts@adairreps.com

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This symbol indicates which bag the relevant fasteners are in



This symbol indicates which bag the relevant hydraulics are in



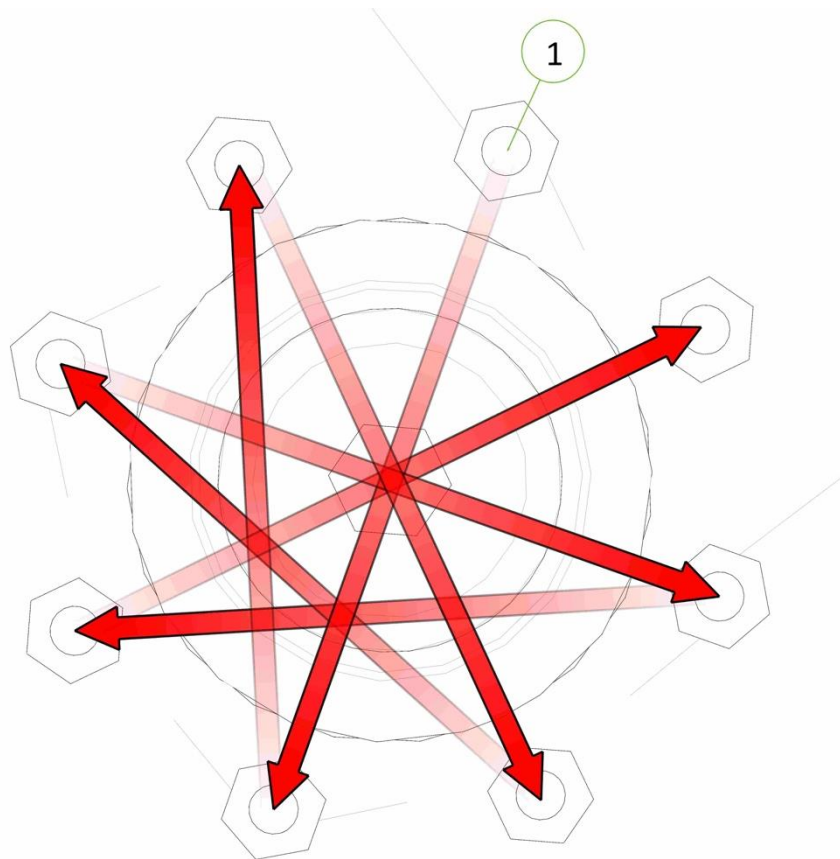
This symbol indicates which way the machine is travelling

## Bolt Torque Settings

| Bolt Type        | Wheel nut |     |      |       | U Bolt |     |     | Class 8.8 Bolt |     |     |     |     | Class 10.9 Bolt |     | Grade 8 Bolt |
|------------------|-----------|-----|------|-------|--------|-----|-----|----------------|-----|-----|-----|-----|-----------------|-----|--------------|
| <b>Bolt Size</b> | M18       | M20 | 1/2" | 9/16" | M10    | M12 | M16 | M10            | M12 | M16 | M20 | M24 | M20             | M24 | 1" UNF       |
| <b>Ft lb</b>     | 255       | 265 | 90   | 100   | 22     | 36  | 55  | 32             | 48  | 140 | 190 | 270 | 300             | 350 | 849          |
| <b>Nm</b>        | 345       | 360 | 125  | 140   | 30     | 50  | 75  | 44             | 65  | 190 | 260 | 370 | 406             | 475 | 1151         |

[1] When fitting a wheel & tire to a hub, tighten the wheel nuts in a star pattern to the correct tension. To achieve this, choose a wheel nut & tighten, then proceed to the opposite side of the hub 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

## SECTION 1 UNPACKING



### CAUTION

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



### CAUTION

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



### CAUTION

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

- Cut straps holding bundles and separate parts and place in assembly area
- Identify parts for each machine by serial no. or description and separate. Open parts box and check that all parts are accounted for against checklist
- Once all parts have been identified machines are ready for assembly
- Read assembly instructions before proceeding



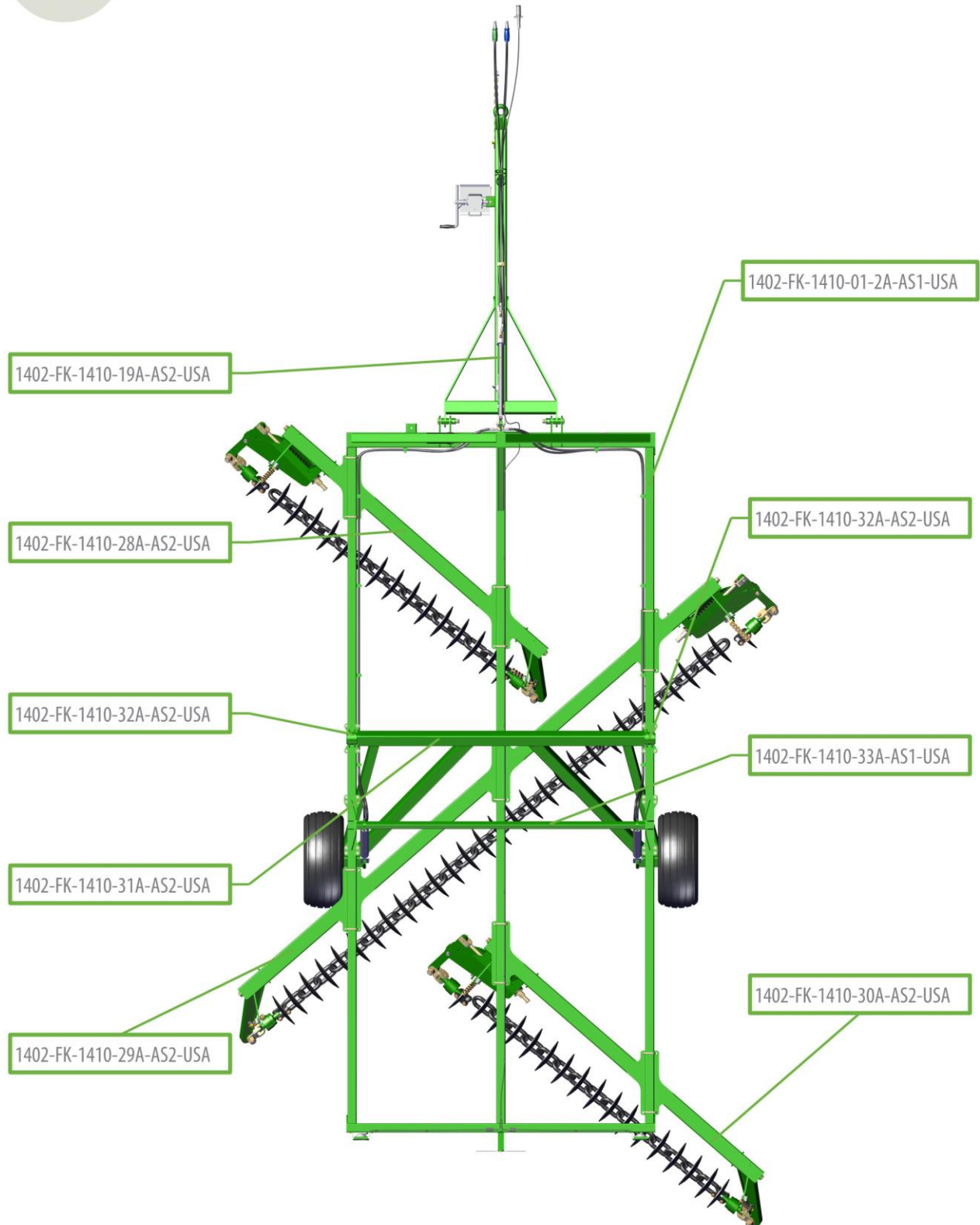
**SECTION 2**  
PARTS & ASSEMBLY



## SECTION 2 PARTS AND ASSEMBLY



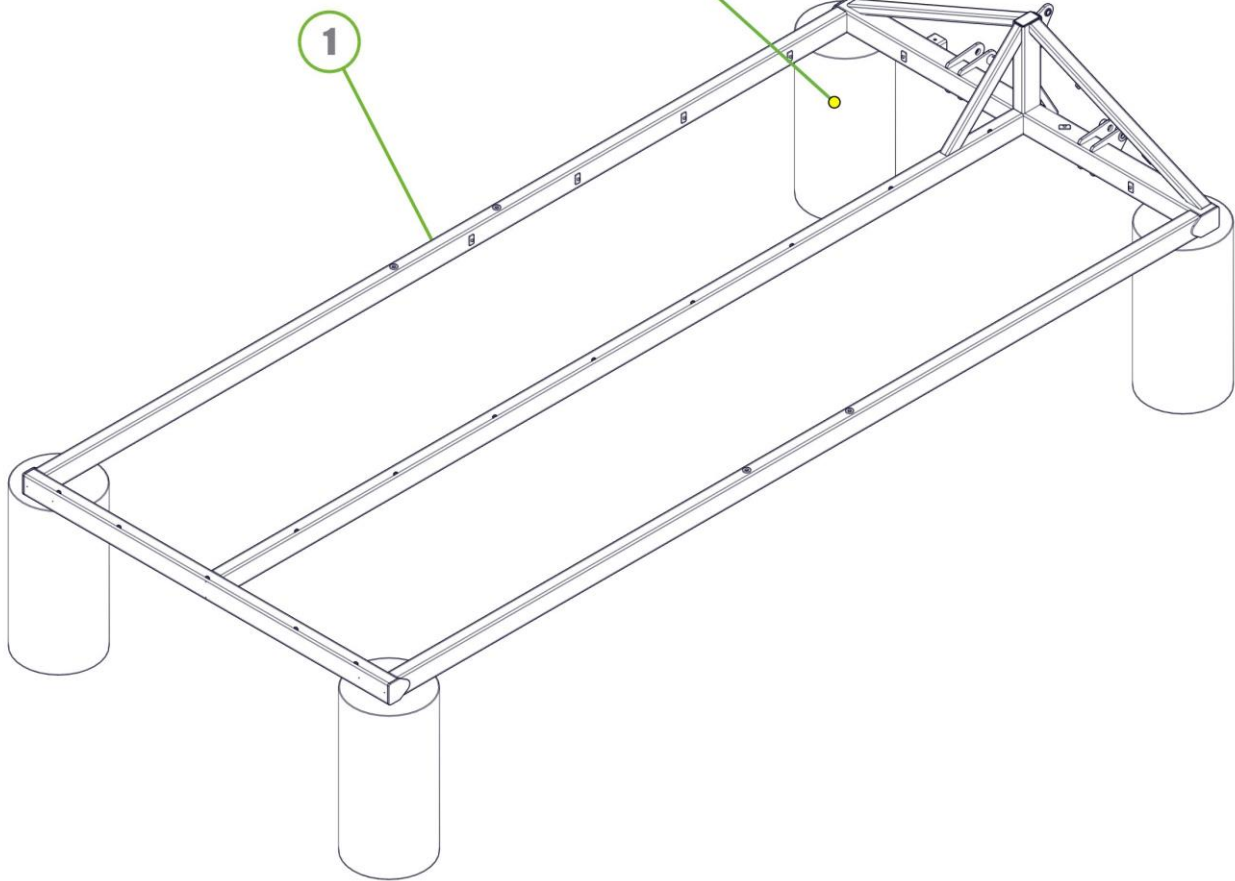
### Fastener Kits Bags Location



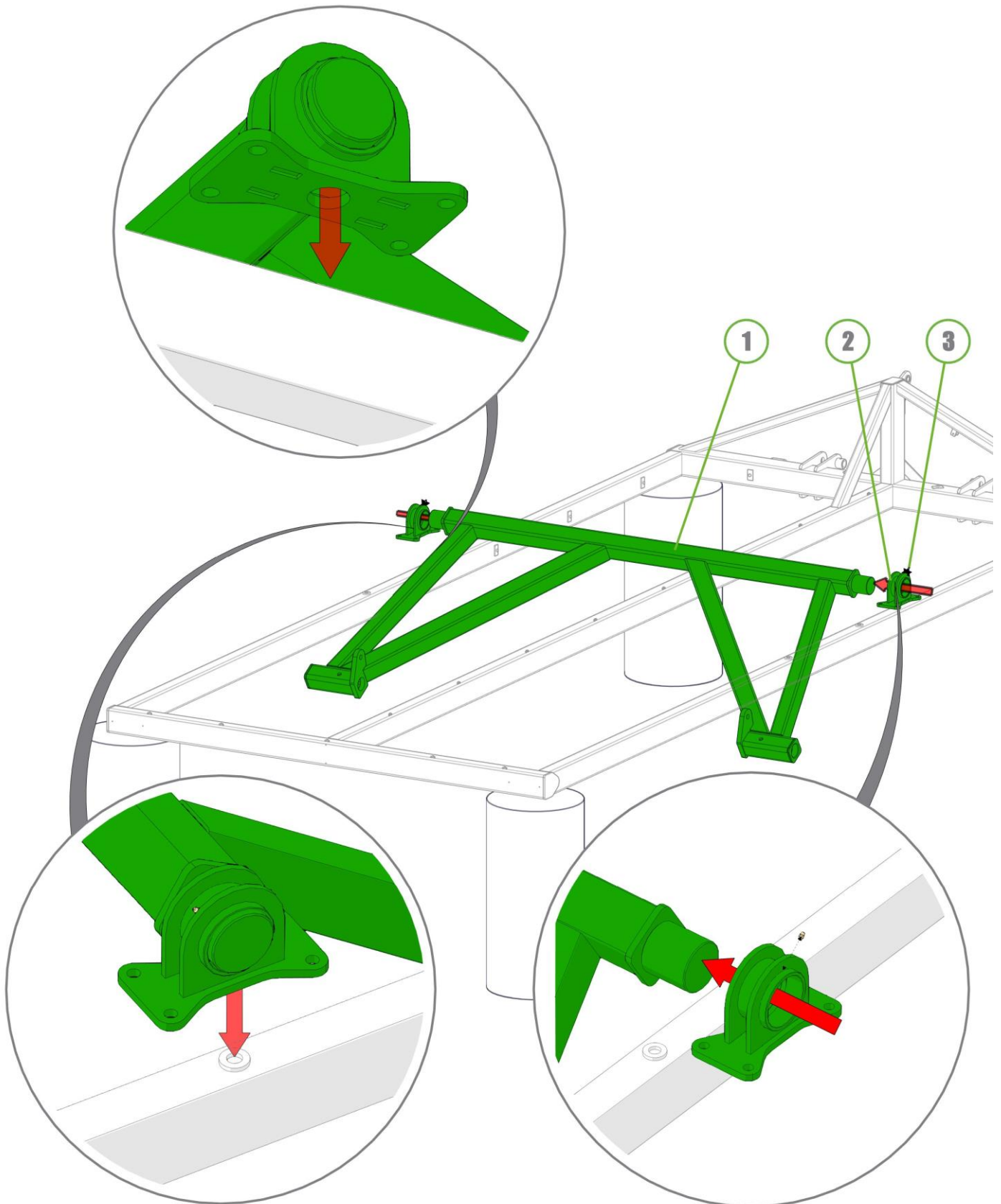
| Item No. | Description  | Number    | Qty |
|----------|--------------|-----------|-----|
| 1        | Centre Frame | 1410-01-2 | 1   |



Support frame with blocks or stands during initial assembly



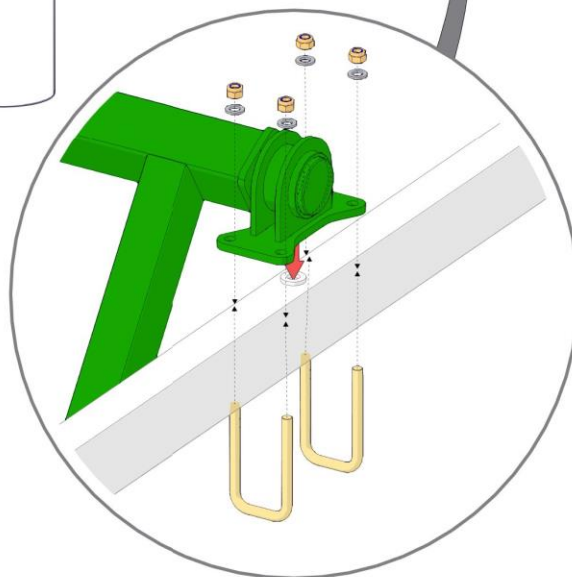
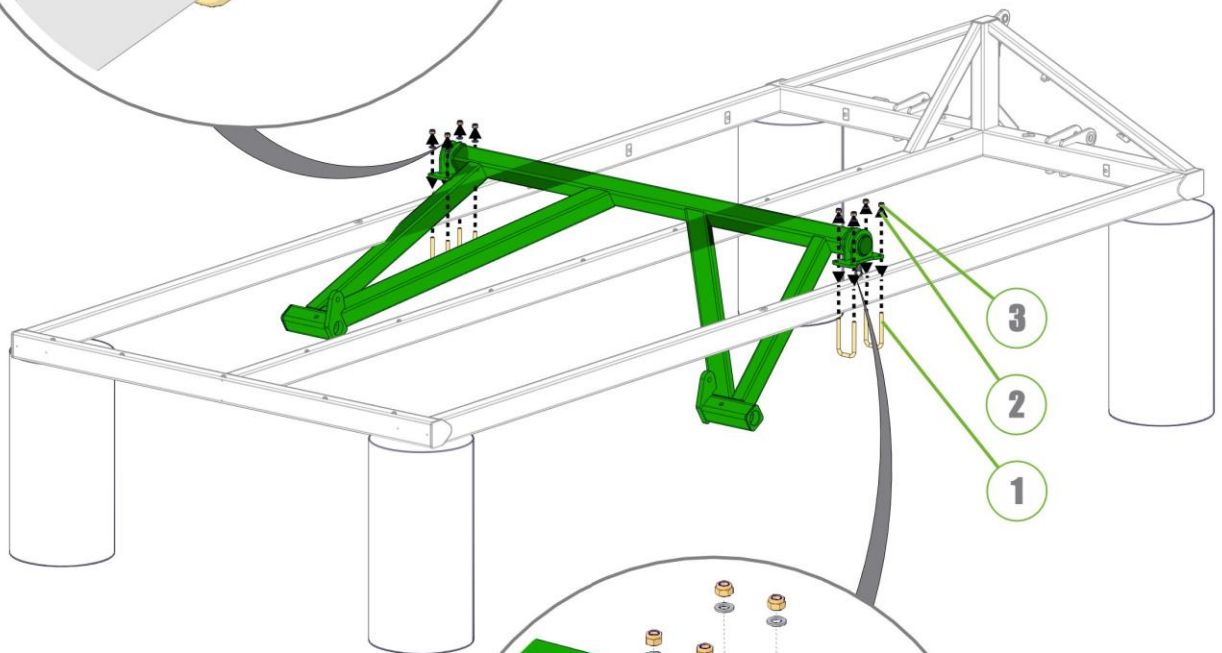
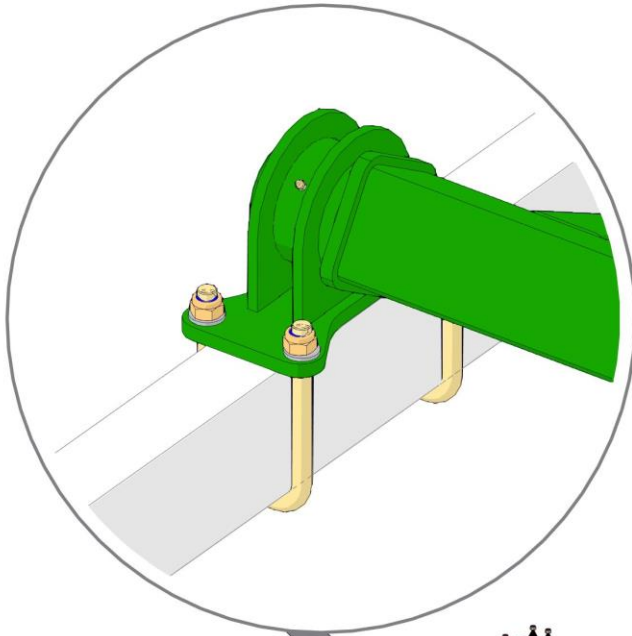
| Item No. | Description            | Number     | Qty |
|----------|------------------------|------------|-----|
| 1        | Wheel Arm Frame        | 1410-31    | 1   |
| 2        | Wheel Arm Bearing      | 1410-32    | 2   |
| 3        | Grease Nipple 1/4" UNF | 0181-GN1-4 | 2   |



| Item No. | Description                     | Number        | Qty |
|----------|---------------------------------|---------------|-----|
| 1        | U-Bolt M16 x 167 Deep X 79 Wide | 0271-1616779U | 4   |
| 2        | Washer Flat M16                 | 0231-F16      | 8   |
| 3        | Nyloc Nut M16                   | 0221-NYL16    | 8   |



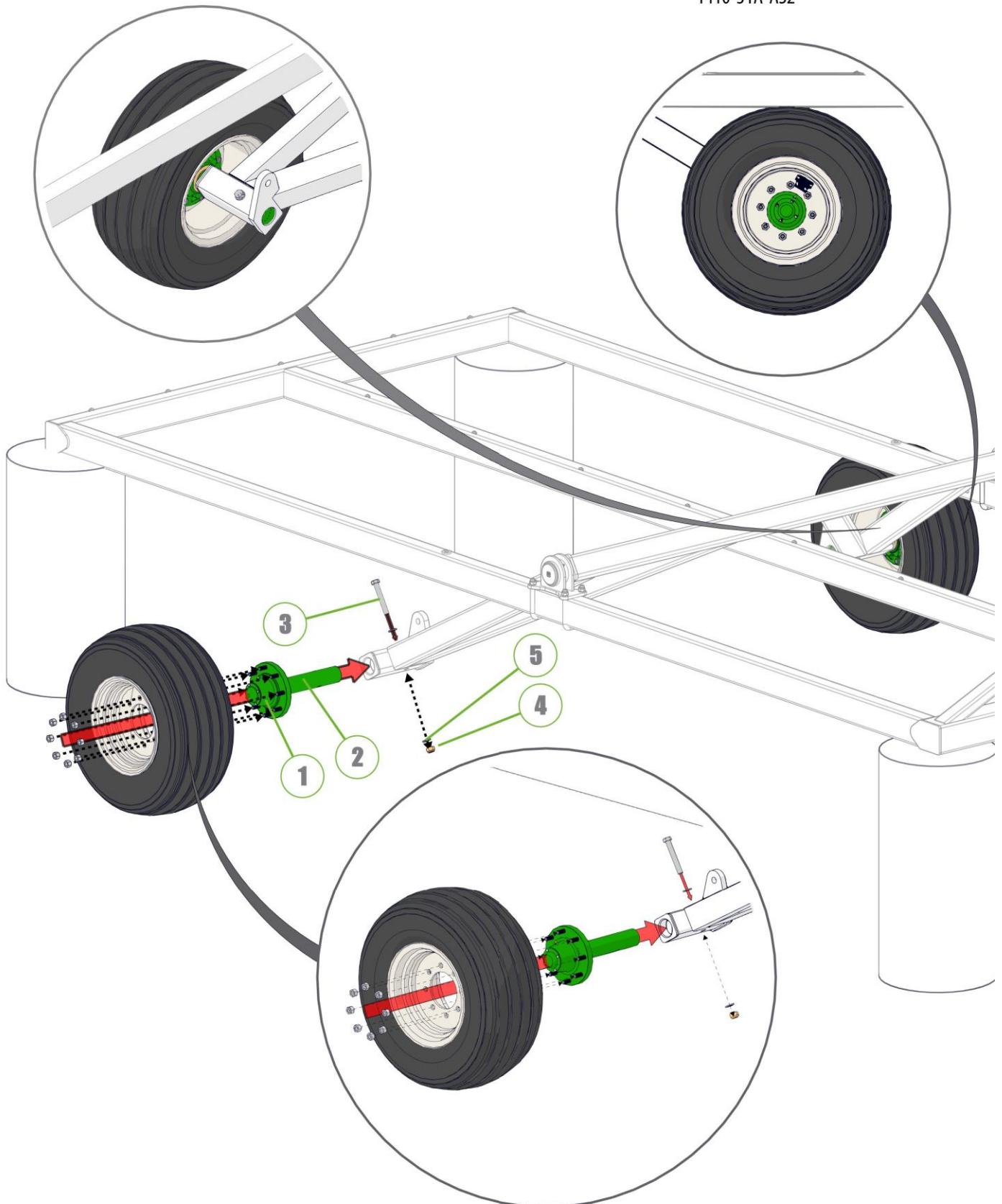
1410-32A-AS2



| Item No. | Description   | Number          | Qty |
|----------|---|-----------------|-----|
| 1        | 31/13.5-15 Tire and Rim Assembly                        | 0751-31-13.5-15 | 2   |
| 2        | 2.75"R C/W 6 tonne 8 on 8" PCD Complete Assembly inc GS | 0733-LG6080067  | 2   |
| 3        | M20 x 140 Grade 8.8 ZP Bolt                             | 0211-20140      | 2   |
| 4        | Nyloc Nut M20   | 0221-NYL20      | 2   |
| 5        | Washer Flat M20   | 0231-F20        | 4   |



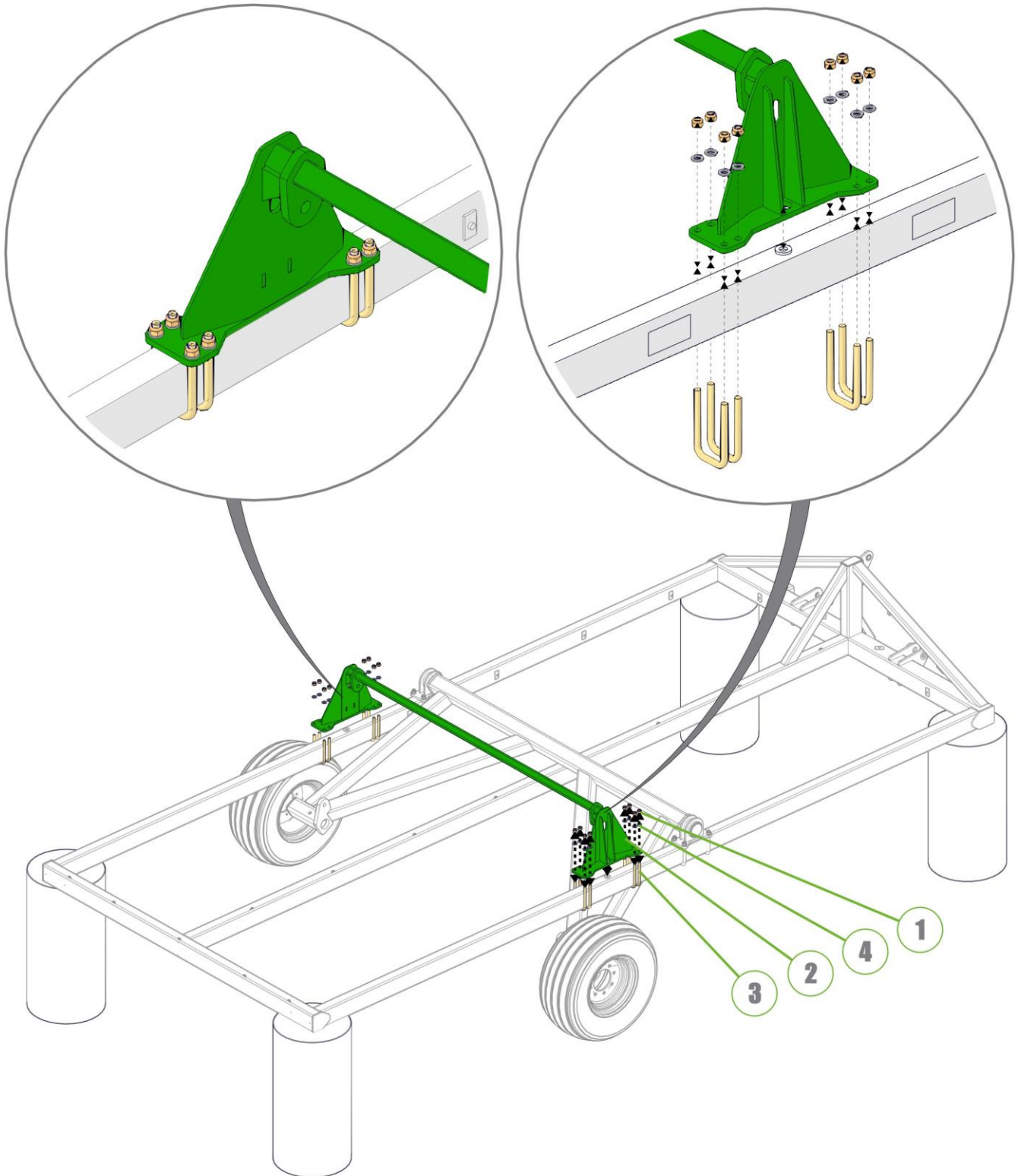
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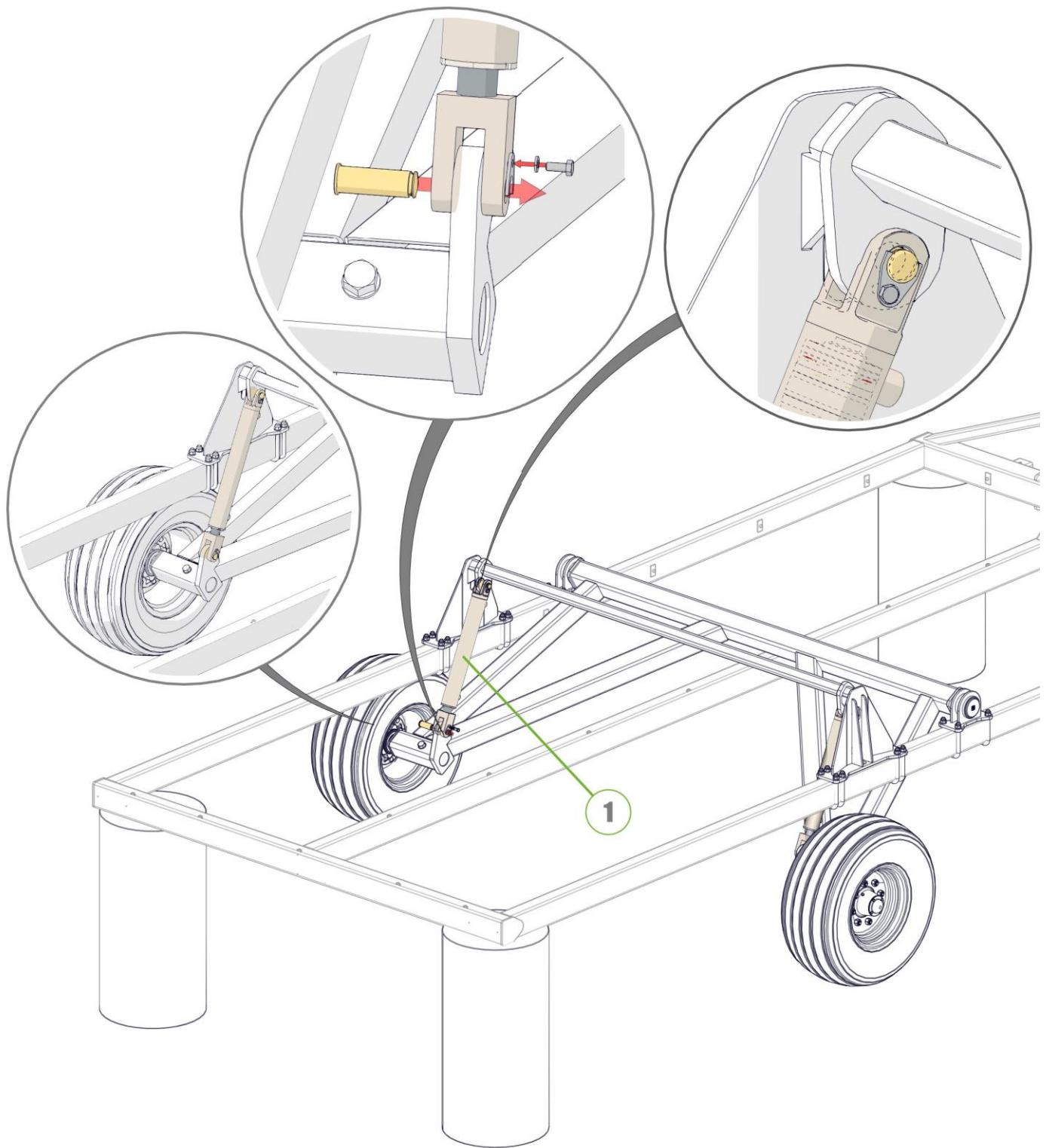
| Item No. | Description                     | Number       | Qty |
|----------|---------------------------------|--------------|-----|
| 1        | Nyloc Nut M16                   | 0221-NYL16   | 16  |
| 2        | Ram Mount Frame                 | 1410-33      | 1   |
| 3        | U-Bolt M16 x 167 Deep x 79 Wide | 0271-1616077 | 8   |
| 4        | Washer Flat M16                 | 0231-F16     | 16  |



1410-33A-AS1



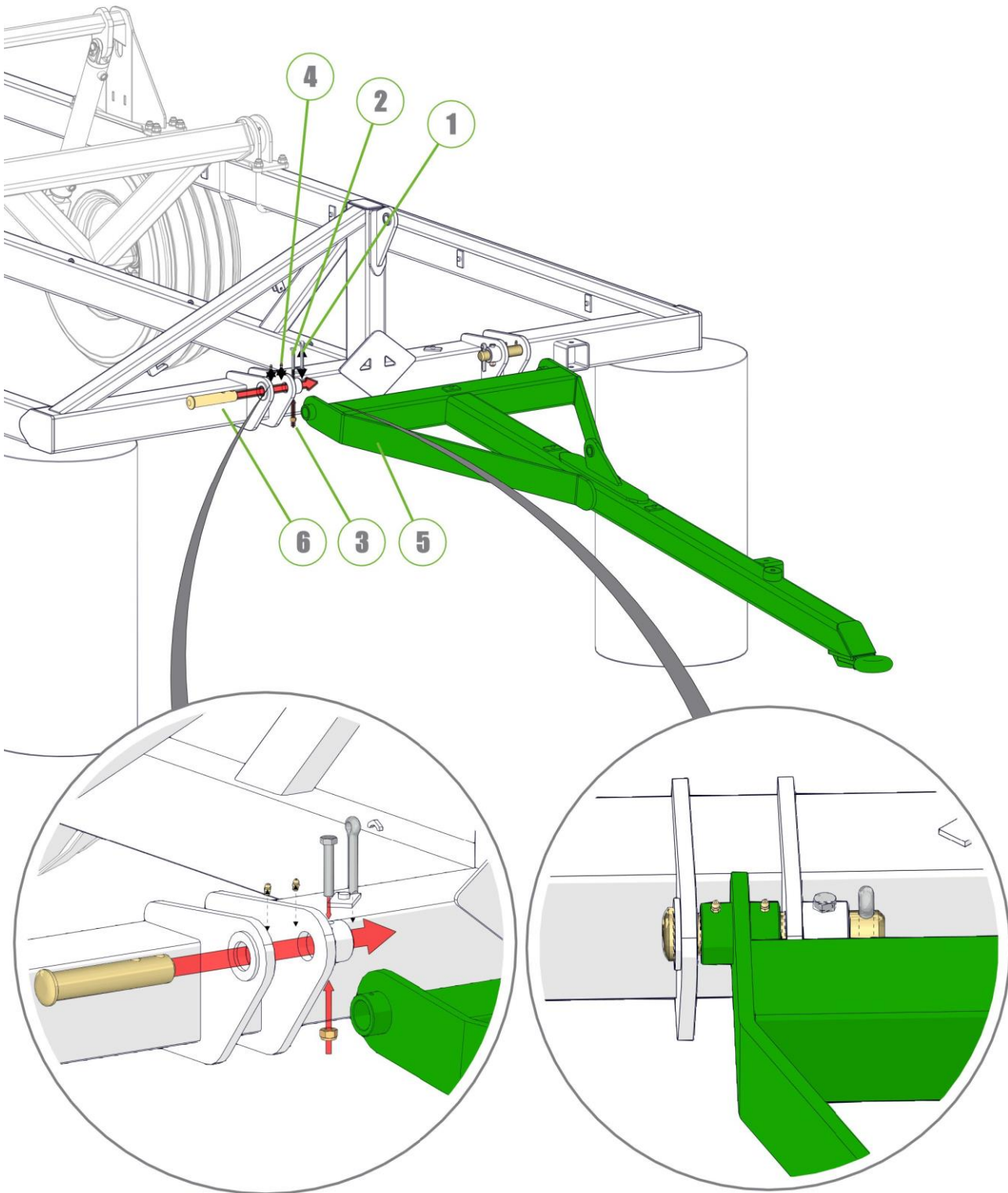
| Item No. | Description                               | Number    | Qty |
|----------|---|-----------|-----|
| 1        | 2.5" Bore x 16" Stroke Hydraulic Cylinder | 0311-2516 | 2   |



| Item No. | Description                | Number         | Qty |
|----------|----------------------------|----------------|-----|
| 1        | Cotter Pin M13 x 63        | 0261-PINC1363  | 2   |
| 2        | M12 x 65 Grade 8.8 ZP Bolt | 0211-1265      | 2   |
| 3        | Nyloc Nut M12              | 0221-NYL12     | 2   |
| 4        | Grease Nipple 1/4" UNF     | 0181-GN1-4     | 4   |
| 5        | Drawbar                    | 1410-19        | 1   |
| 6        | Tail Frame Pivot pin       | 0801-10-08-175 | 2   |

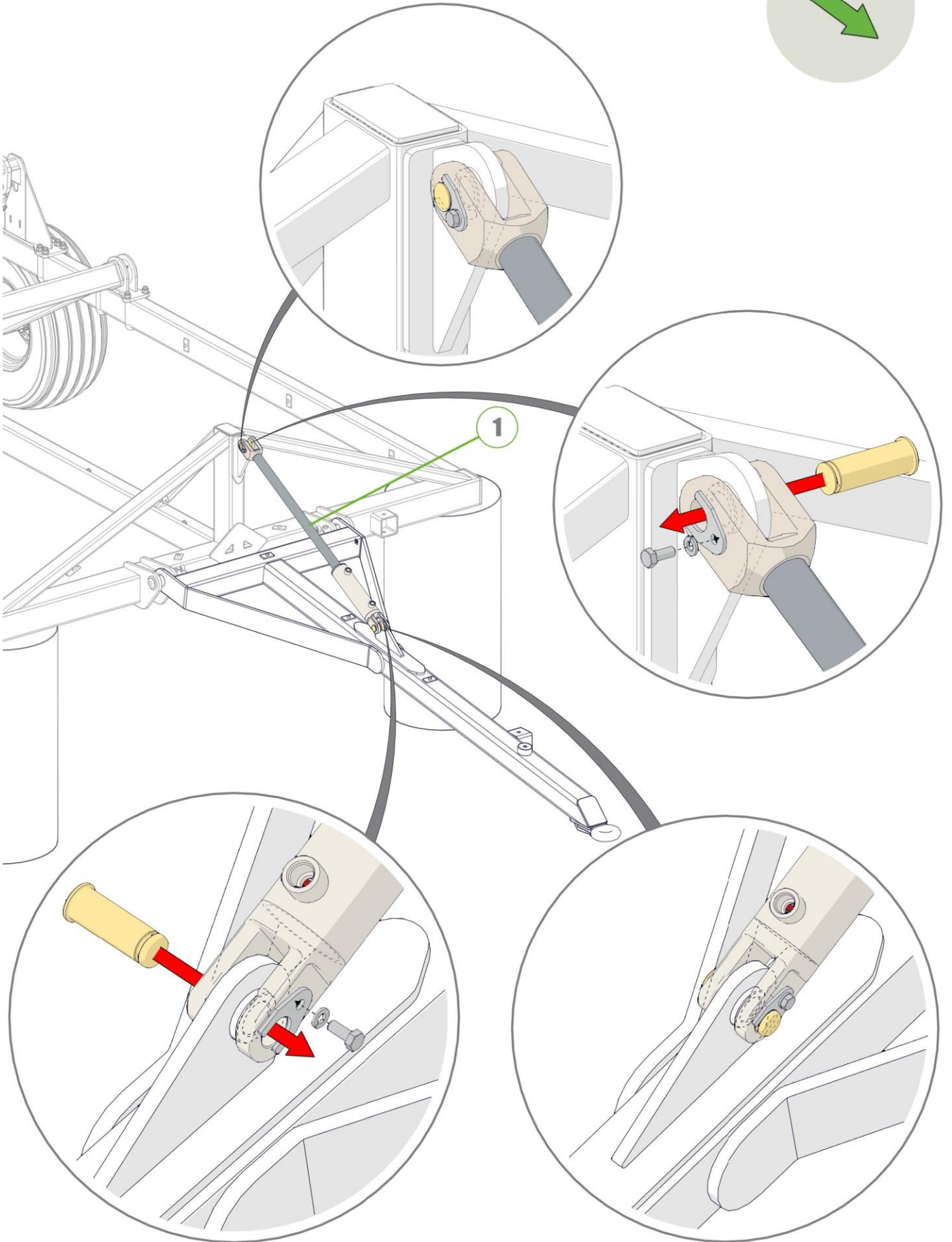


1410-01-2A-AS1

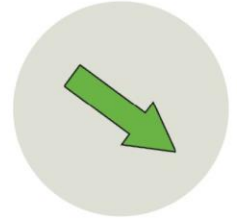




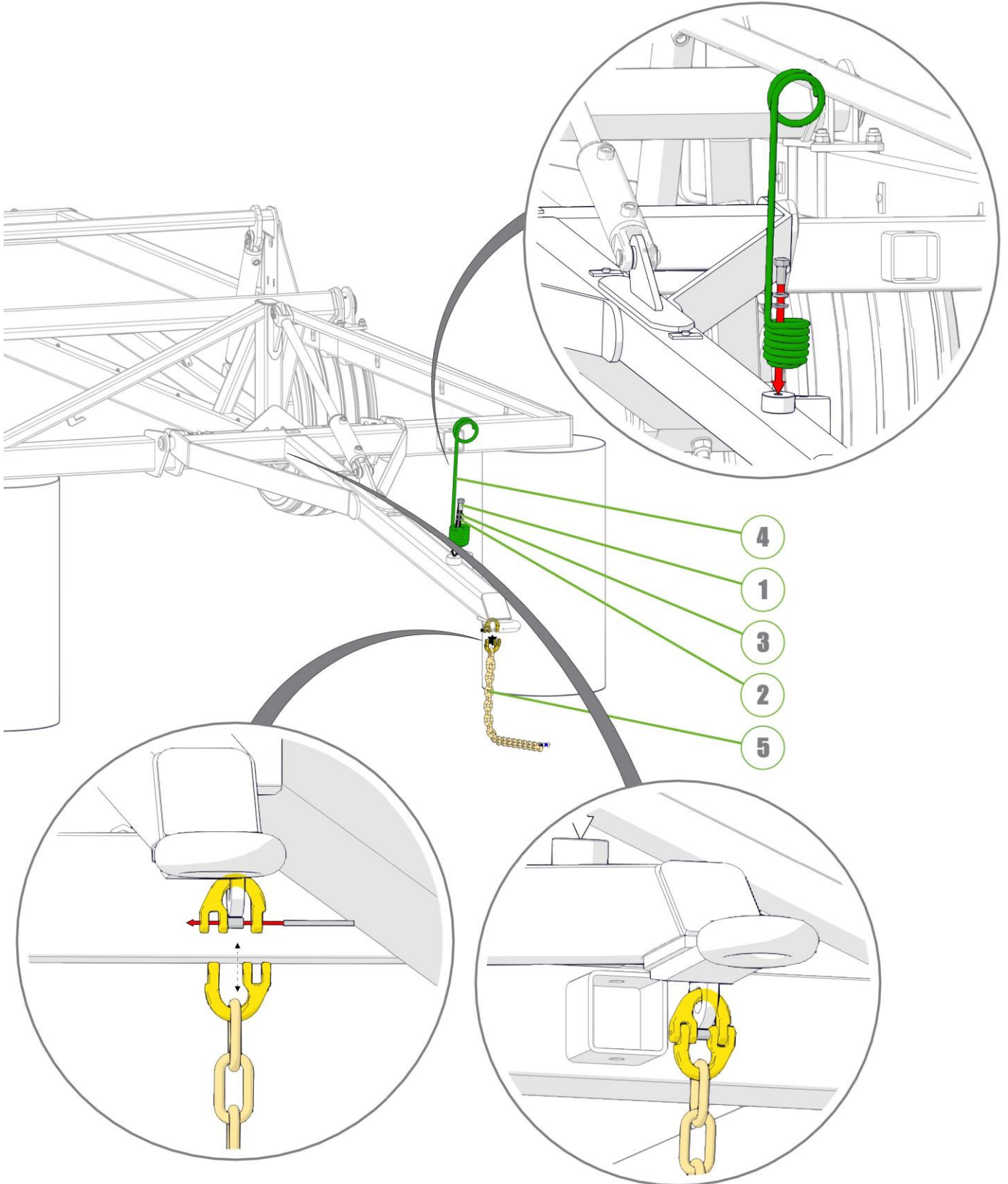
| Item No. | Description                             | Number       | Qty |
|----------|---|--------------|-----|
| 1        | 2.5" Bore x 6" Stroke Extended Cylinder | 0311-2506EXT | 1   |



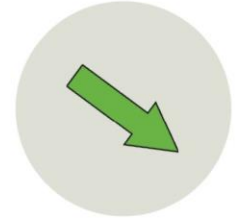
| Item No. | Description                | Number           | Qty |
|----------|----------------------------|------------------|-----|
| 1        | M16 x 35 Grade 8.8 ZP Bolt | 0211-1635        | 1   |
| 2        | Washer Flat M16            | 0231-F16         | 1   |
| 3        | Washer Spring M16          | 0231-S16         | 1   |
| 4        | Hose Post Spring           | 1601-CDB-00-0012 | 1   |
| 5        | Safety Chain Assembly      | 1402-16          | 1   |



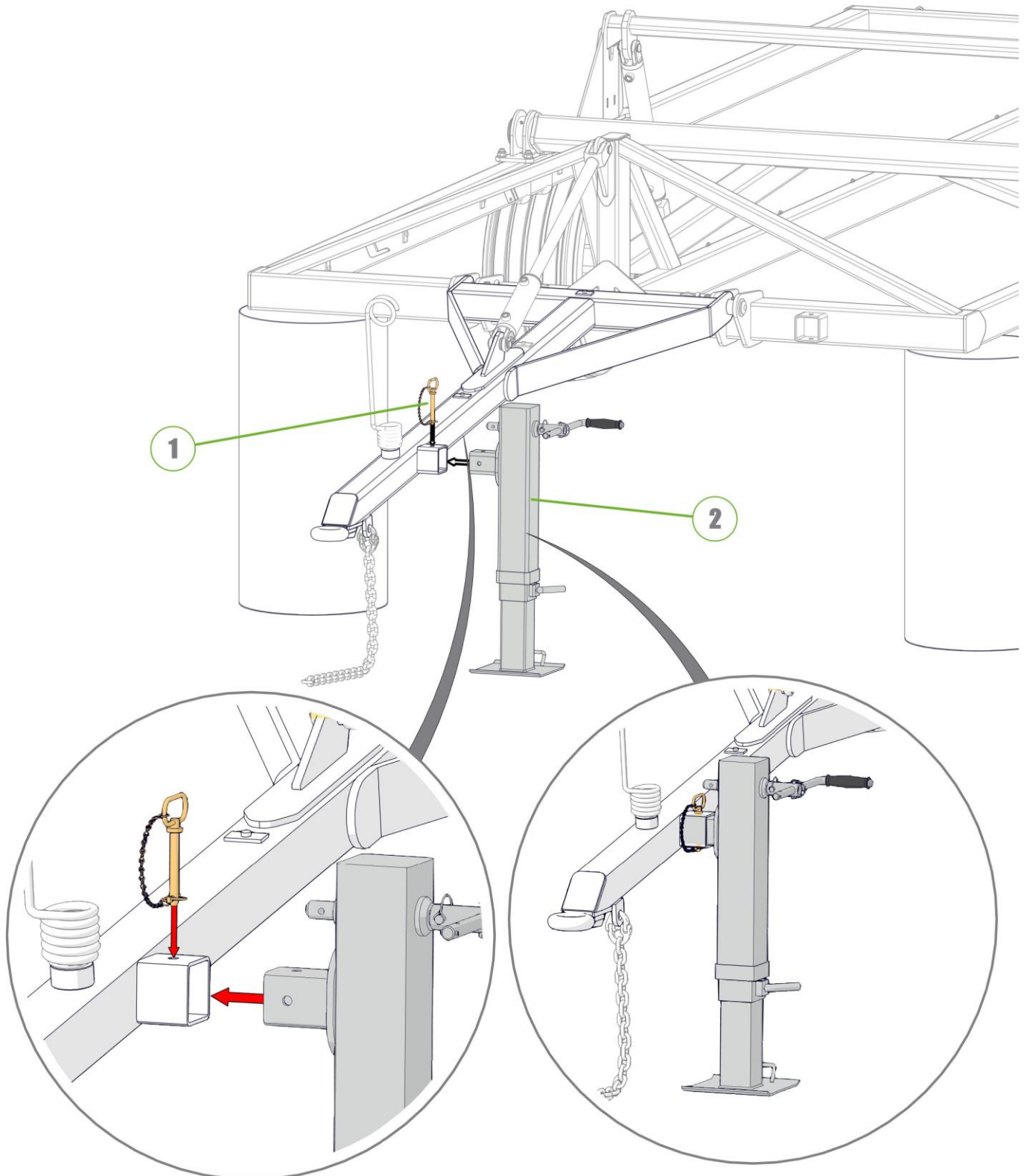
1410-19A-AS2



| Item No. | Description         | Number      | Qty |
|----------|---------------------|-------------|-----|
| 1        | Jack Pin            | 0801-B3077  | 1   |
| 2        | Parking Jack 4500kg | 0801-SAK45B | 1   |

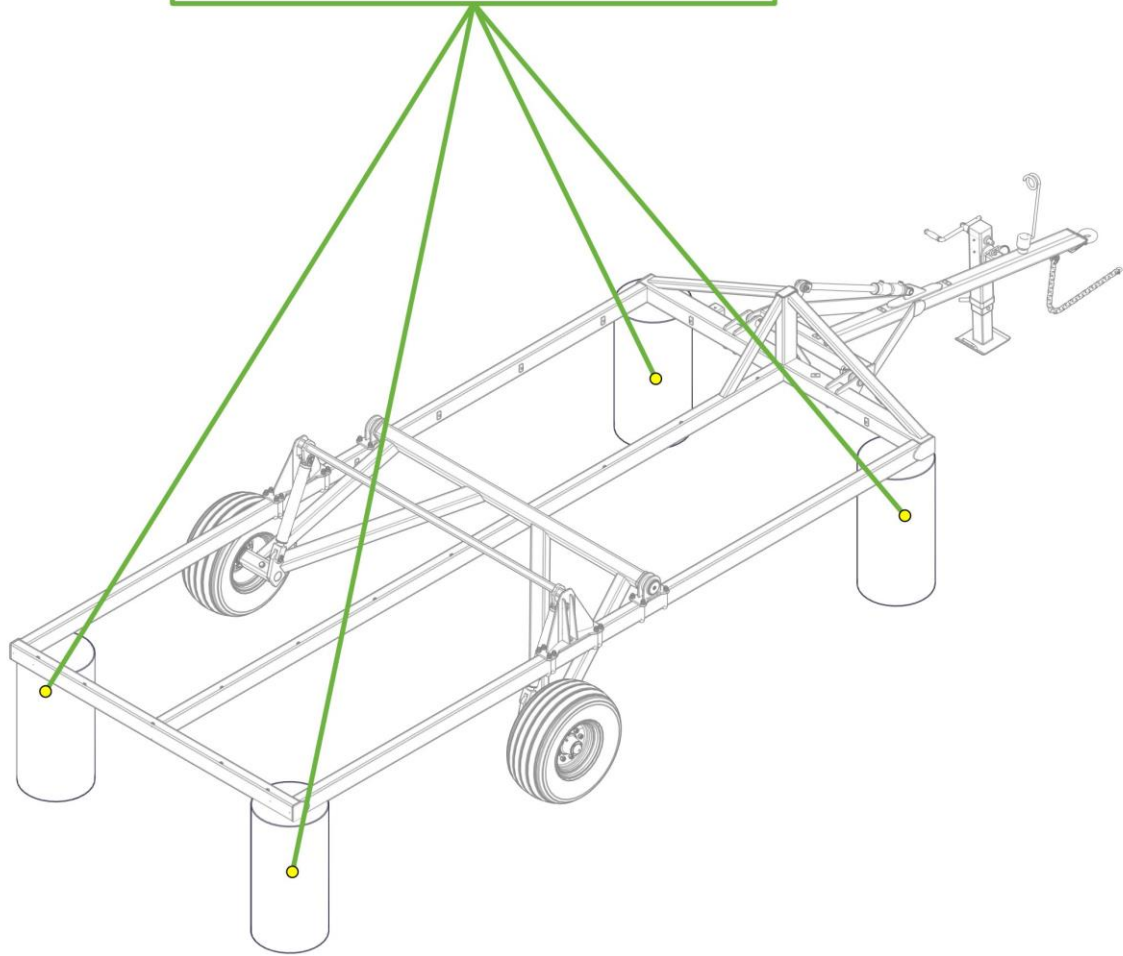


1410-19A-AS2





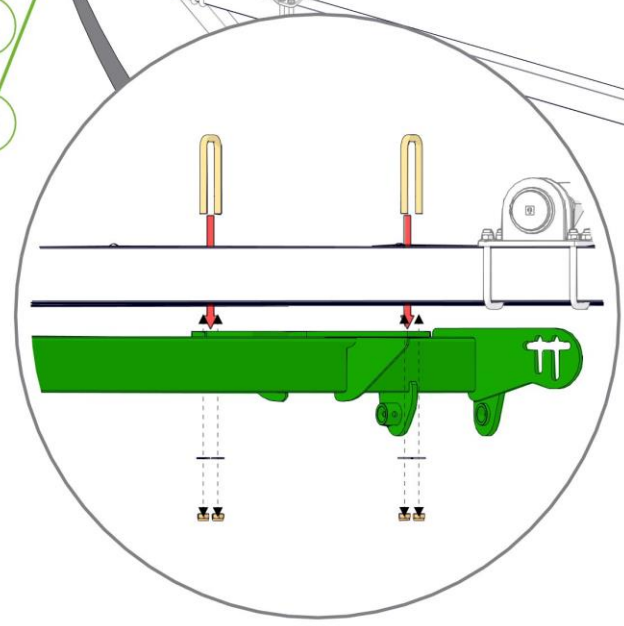
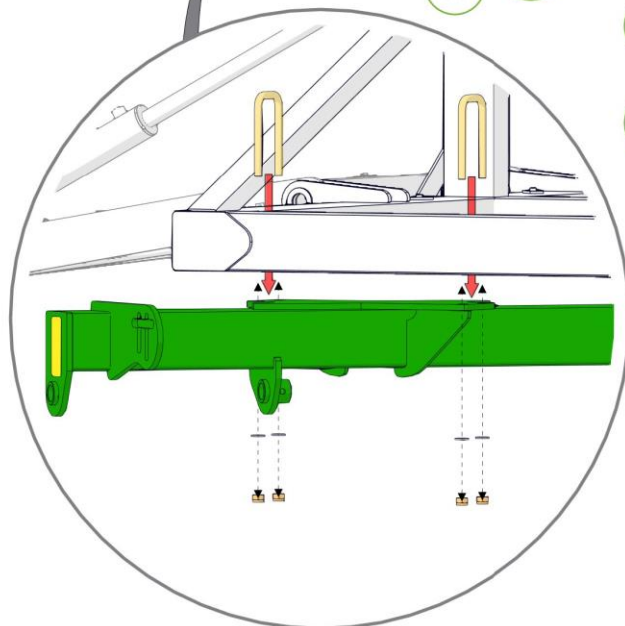
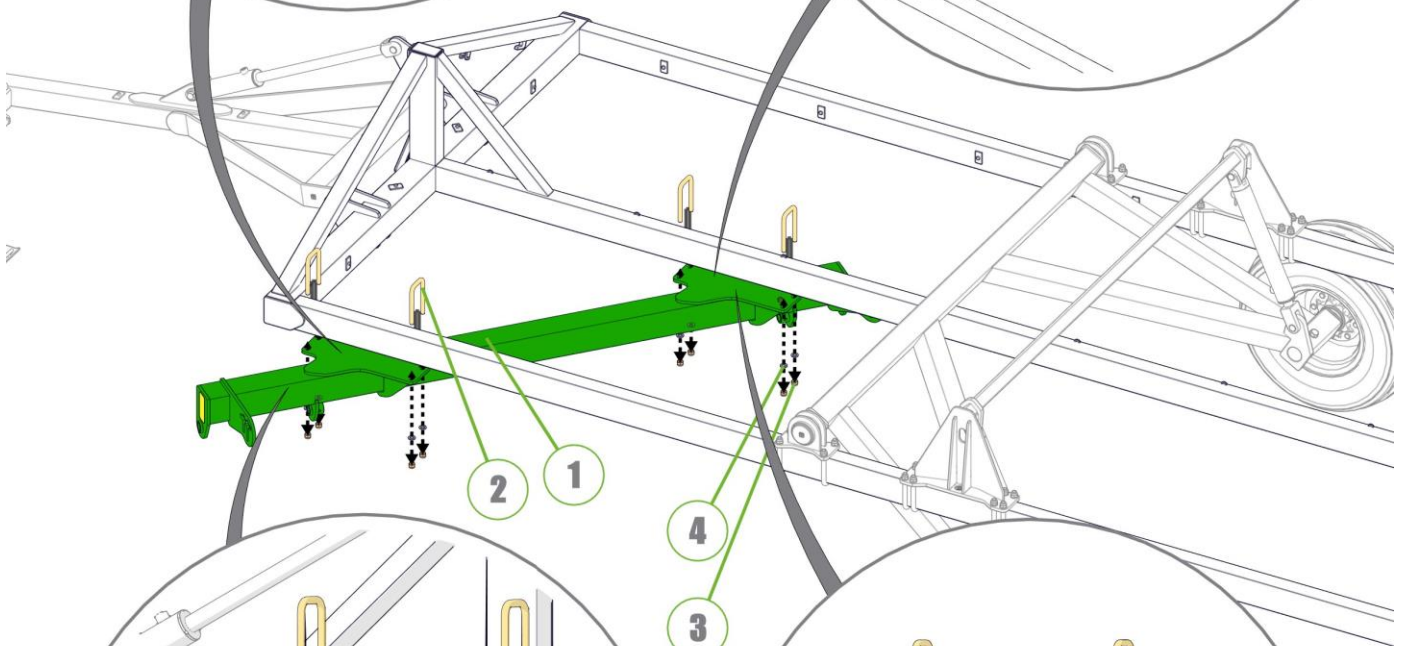
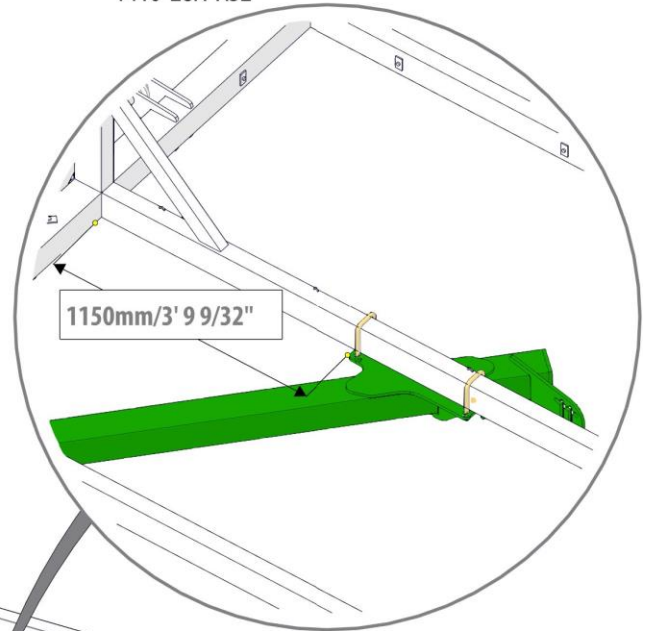
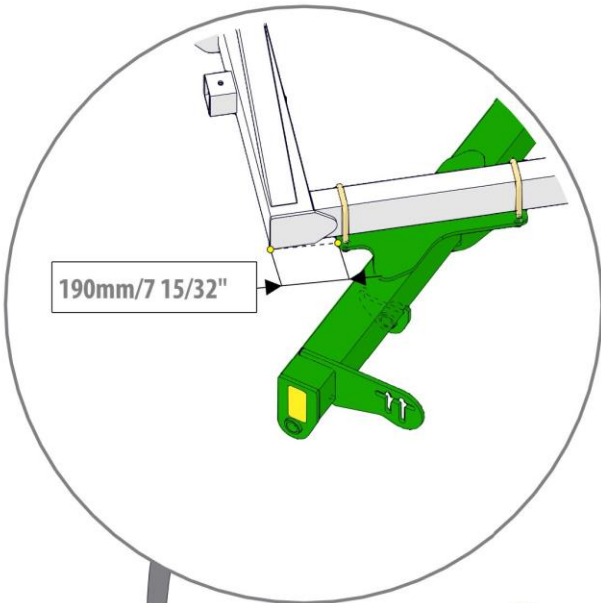
Remove stands, sit on wheels and support jack.



| Item No. | Description                     | Number        | Qty |
|----------|---------------------------------|---------------|-----|
| 1        | Front Module                    | 1410-28       | 1   |
| 2        | U-Bolt M16 x 167 Deep X 79 Wide | 0271-1616779U | 4   |
| 3        | Nyloc Nut M16                   | 0221-NYL16    | 8   |
| 4        | Washer Flat M16                 | 0231-F16      | 8   |



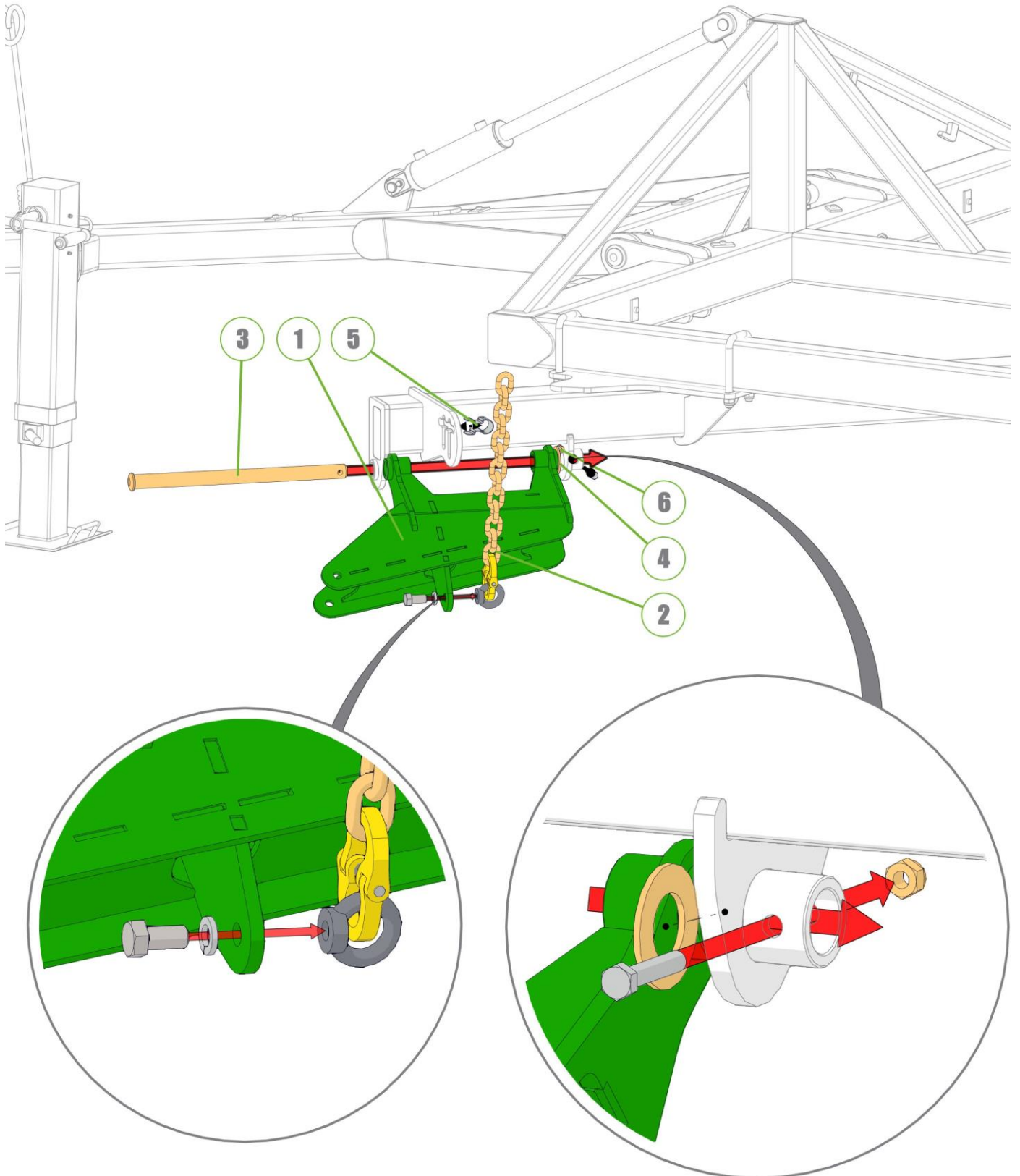
1410-28A-AS2



| Item No. | Description                             | Number      | Qty |
|----------|---|-------------|-----|
| 1        | Tension Box                             | 0810-57     | 1   |
| 2        | Height Adjusting Chain Assembly 13 Link | 0801-20MCA  | 1   |
| 3        | Chain Mount Pivot Pin                   | 0801-10-51  | 1   |
| 4        | Washer High Tensile 1 3/8"              | 0232-HT13-8 | 1   |
| 5        | Height Adjustor Retaining Clip          | 0801-KE014  | 1   |
| 6        | Nyloc Nut M12                           | 0221-NYL12  | 1   |



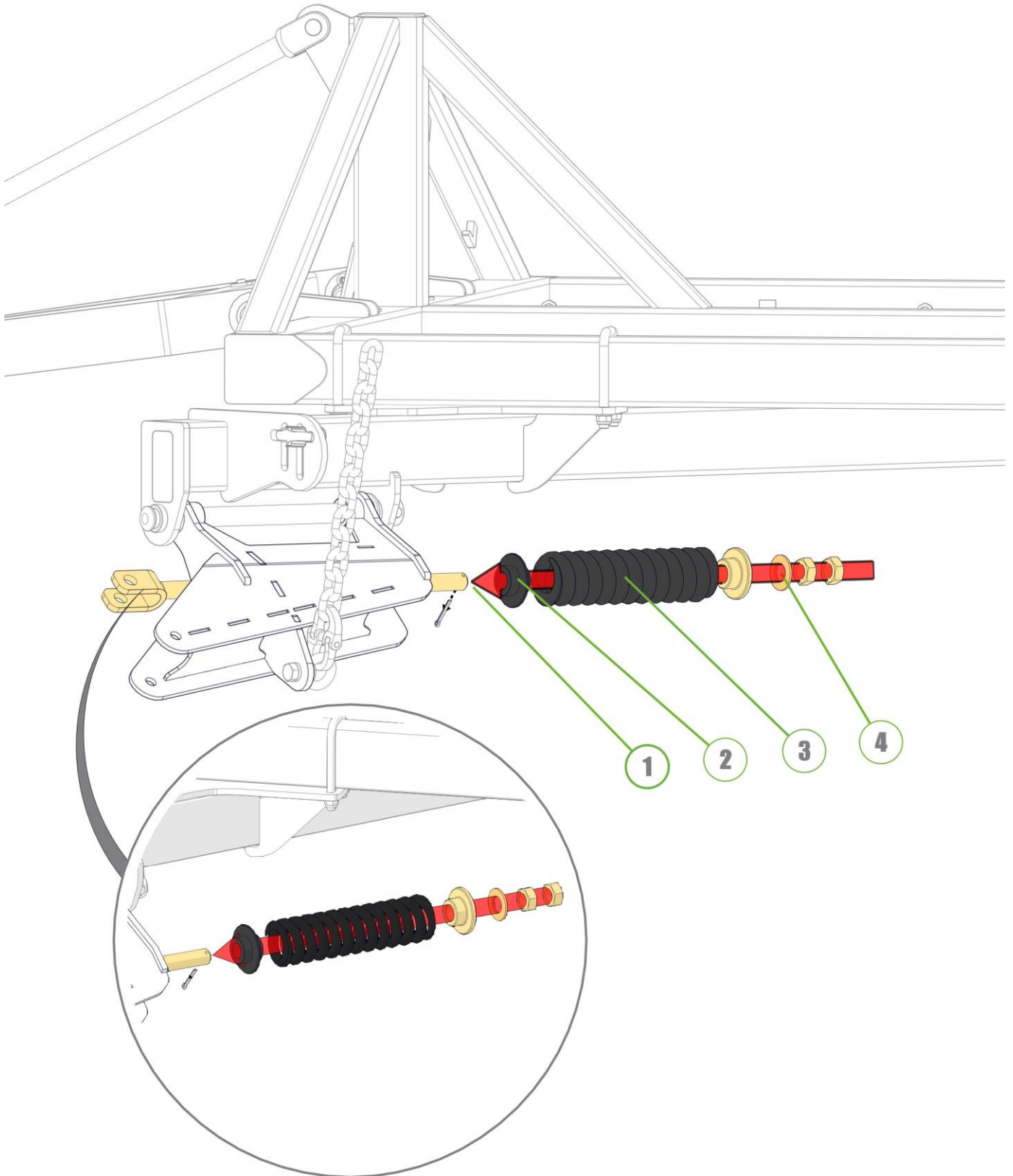
1410-28A-AS2



| Item No. | Description                 | Number        | Qty |
|----------|-----------------------------|---------------|-----|
| 1        | Module Tension Rod Assembly | 0810-105A     | 1   |
| 2        | Rigid Spring Locator        | 0801-10-S2L   | 1   |
| 3        | Heavy Duty Coil Spring 24mm | 0801-K2455350 | 1   |
| 4        | Washer High Tensile 1 1/4"  | 0232-HT11-4   | 1   |



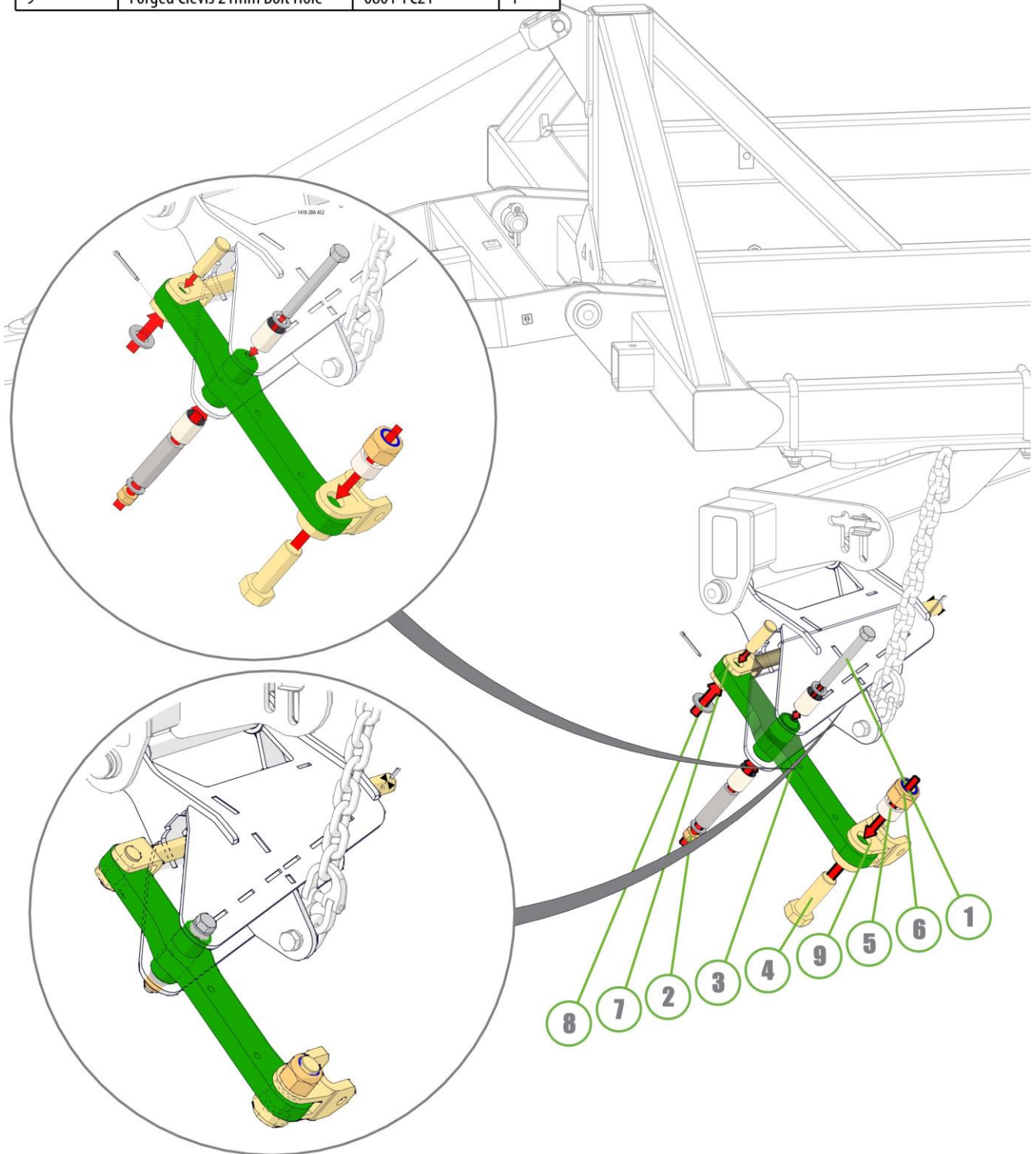
1410-28A-AS2



| Item No. | Description                  | Number         | Qty |
|----------|------------------------------|----------------|-----|
| 1        | M20 x 160 Grade 8.8 ZP Bolt  | 0211-20160     | 1   |
| 2        | Nyloc Nut M20                | 0221-NYL20     | 1   |
| 3        | Chain Tension Arm            | 0810-104-3.5   | 1   |
| 4        | M36 x 105 grade 8.8 ZP Bolt  | 0211-36105     | 1   |
| 5        | Wear Bush                    | 1501-365033-SS | 1   |
| 6        | Nyloc Nut M36                | 0221-NYL36     | 1   |
| 7        | Module Tension Rod Assembly  | 0810-105A      | 1   |
| 8        | Washer Flat 1"               | 0232-F1        | 1   |
| 9        | Forged Clevis 21mm Bolt Hole | 0801-FC21      | 1   |



1410-28A-AS2



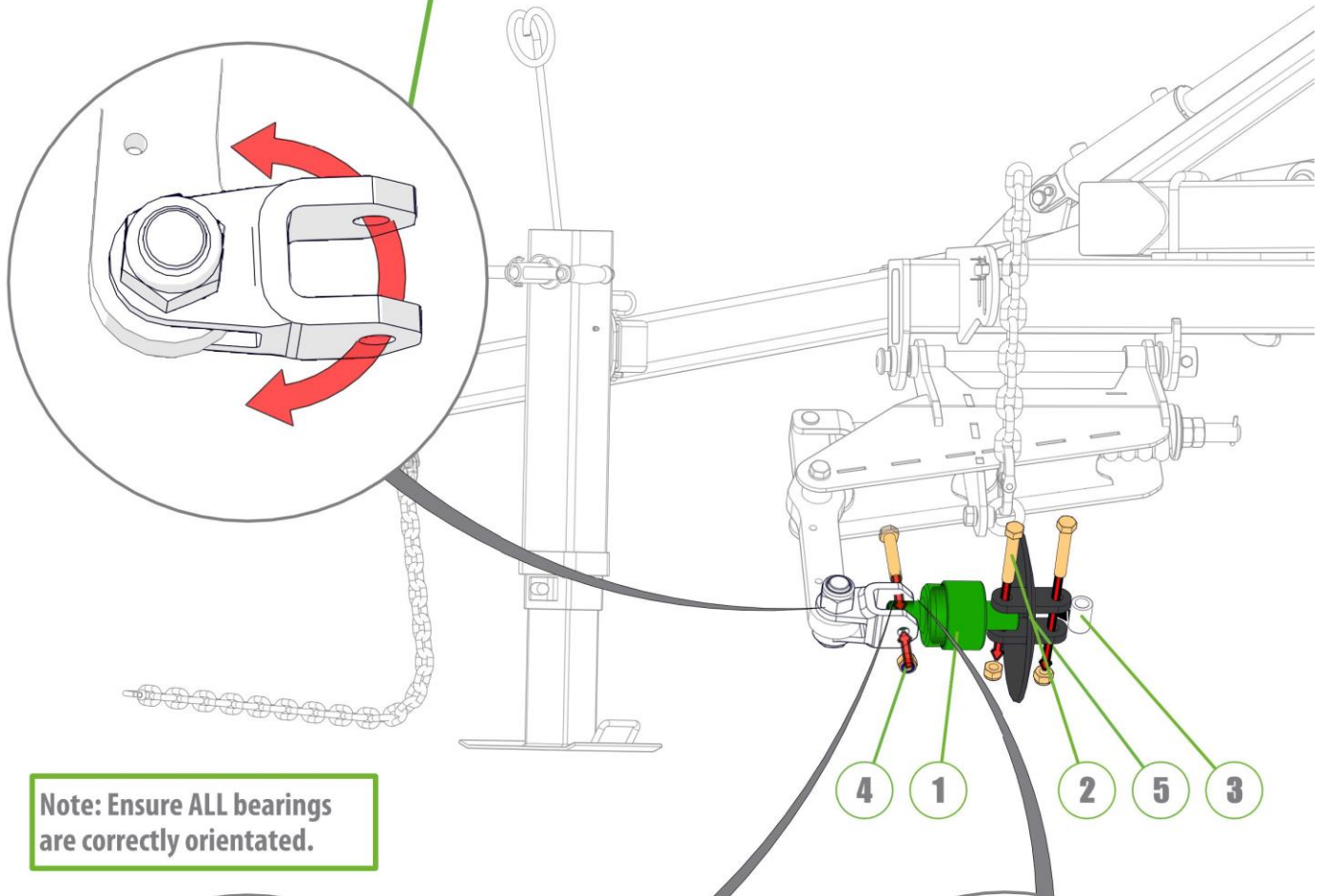


| Item No. | Description                               | Number       | Qty |
|----------|---|--------------|-----|
| 1        | 20mm Bolt Swivel Unit                     | 0802-PCHB55  | 1   |
| 2        | M20 x 110 Class 10.9 ZP Short Thread Bolt | 0211-20110ST | 3   |
| 3        | Disc Chain Spacer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

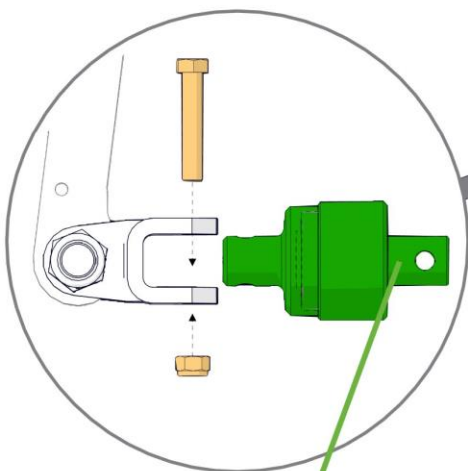


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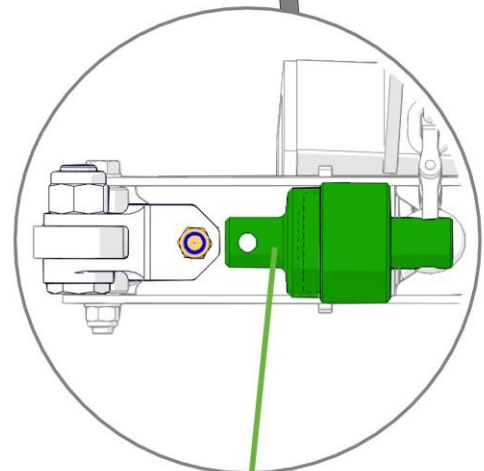
**Note: Ensure ALL clevis can pivot after installation**



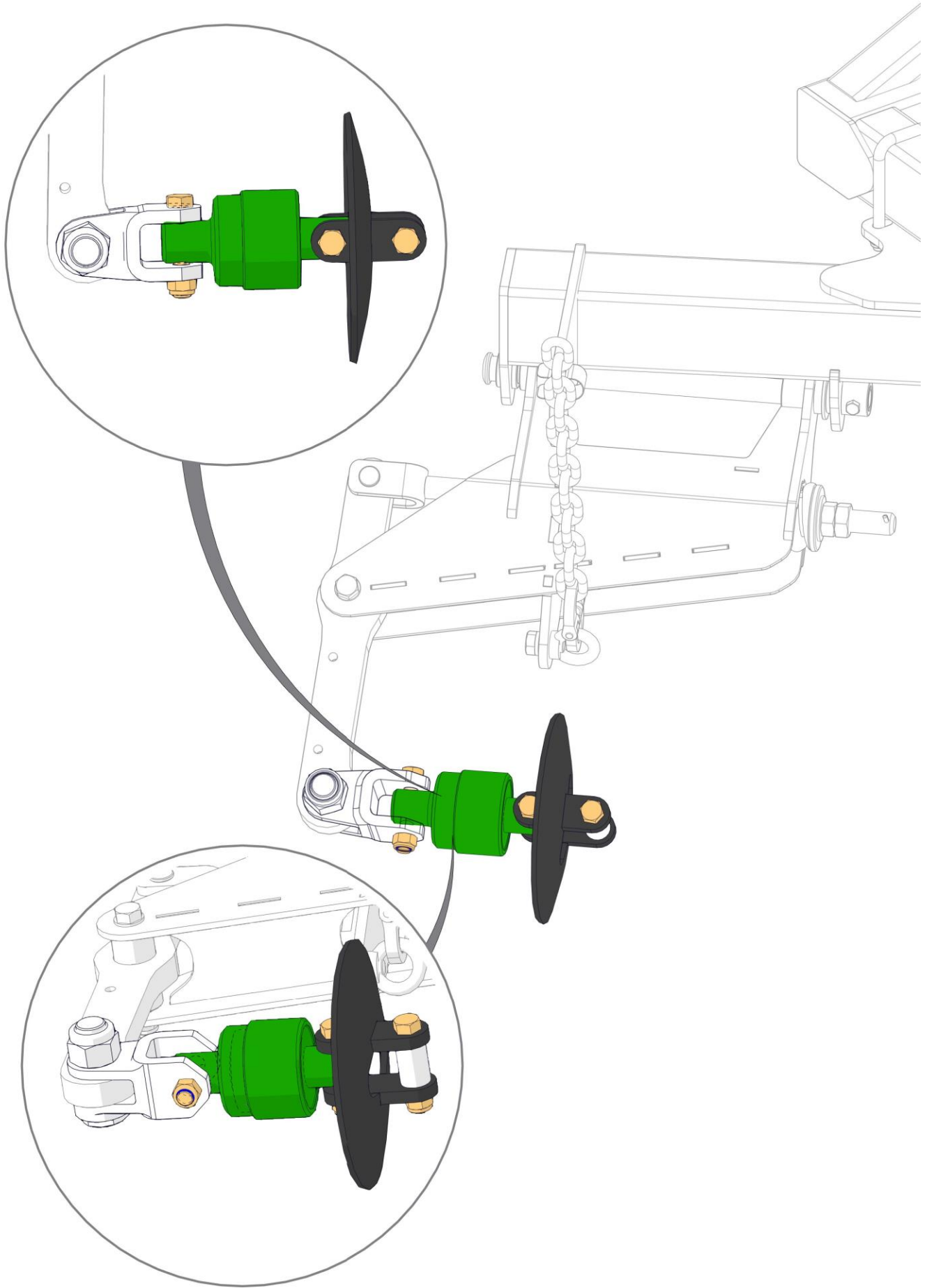
**Note: Ensure ALL bearings are correctly orientated.**



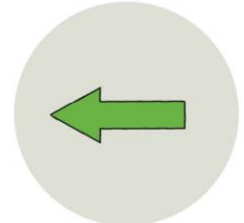
**Rotating seal end of swive should always face rearward**



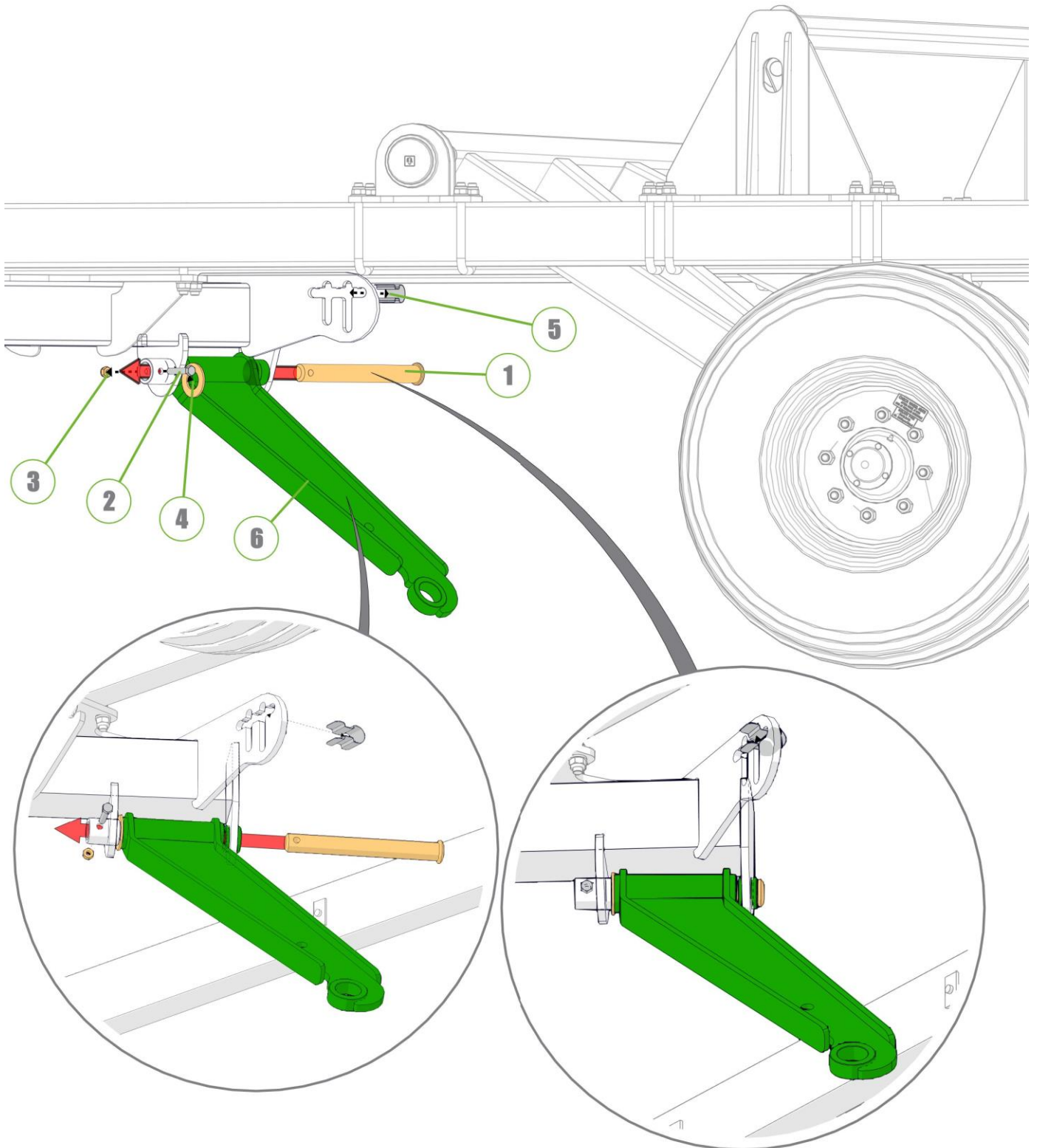
**Fixed housing end of swivel should always face forward**



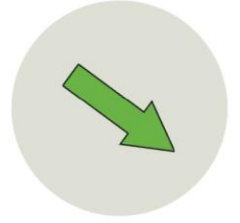
| Item No. | Description                    | Number      | Qty |
|----------|--------------------------------|-------------|-----|
| 1        | Chain Mount Pivot Pin 301mm    | 1401-16     | 1   |
| 2        | M12 x 65 Grade 8.8 ZP Bolt     | 0211-1265   | 1   |
| 3        | Nyloc Nut M12                  | 0221-NYL12  | 1   |
| 4        | Washer High Tensile 1 3/8"     | 0232-HT13-8 | 1   |
| 5        | Height Adjustor Retaining Clip | 0801-KE014  | 1   |
| 6        | Chain Mount Plate              | 1510-20     | 1   |



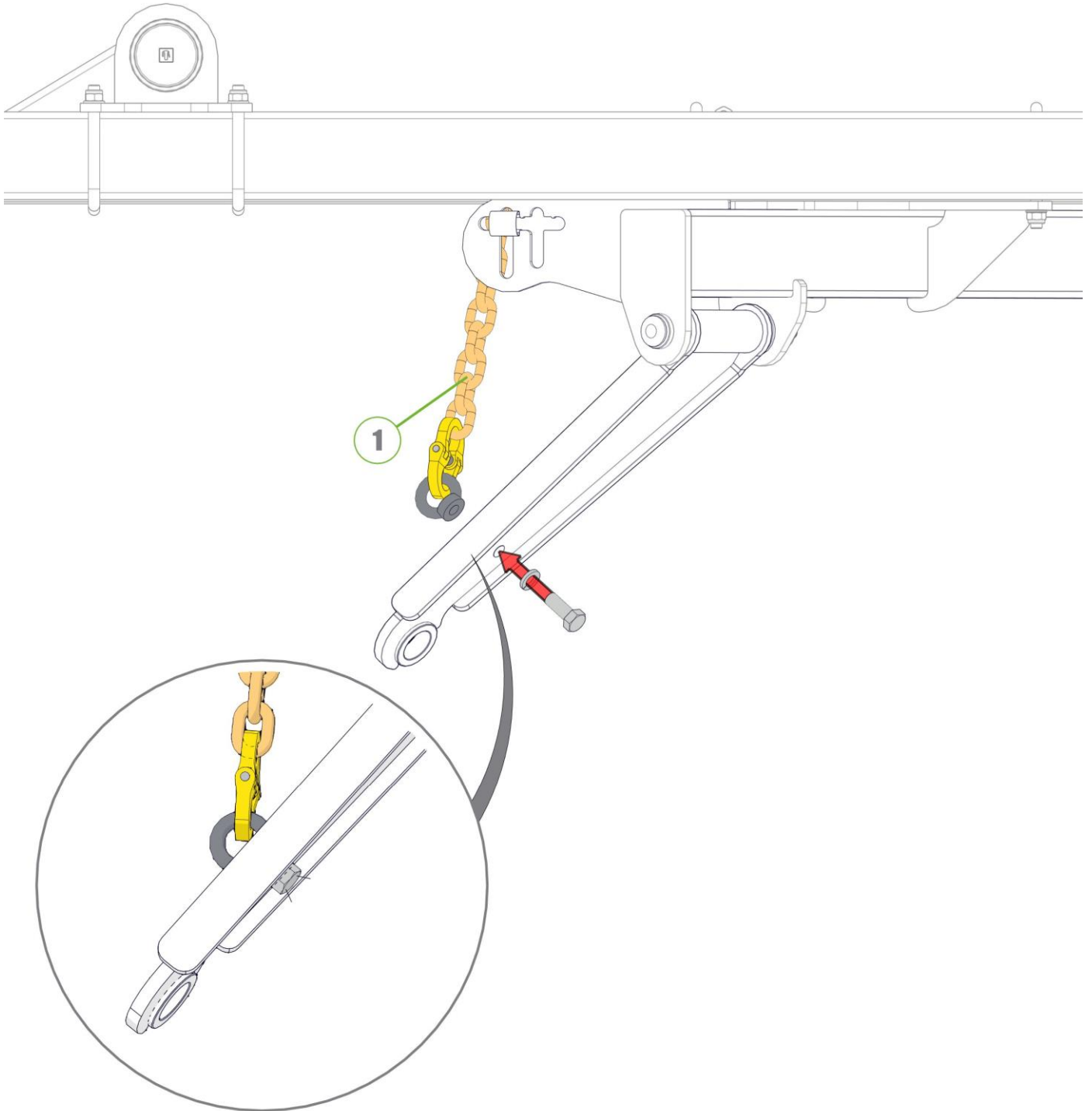
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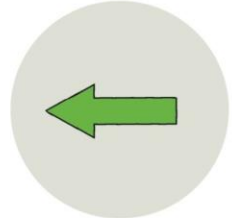
| Item No. | Description                             | Number     | Qty |
|----------|---|------------|-----|
| 1        | Height Adjusting Chain Assembly 13 Link | 0801-20MCA | 1   |



1410-28A-AS2

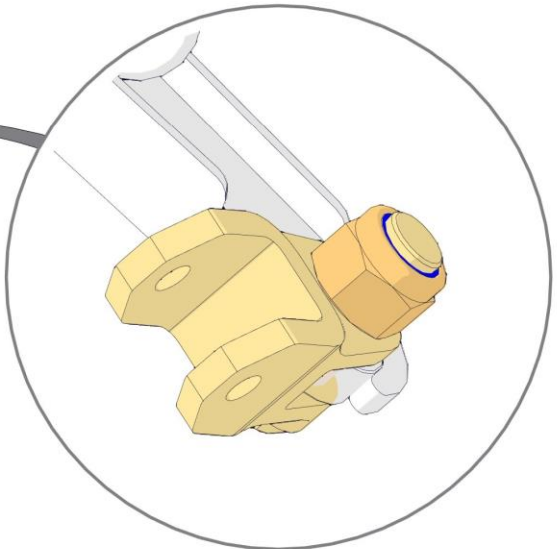
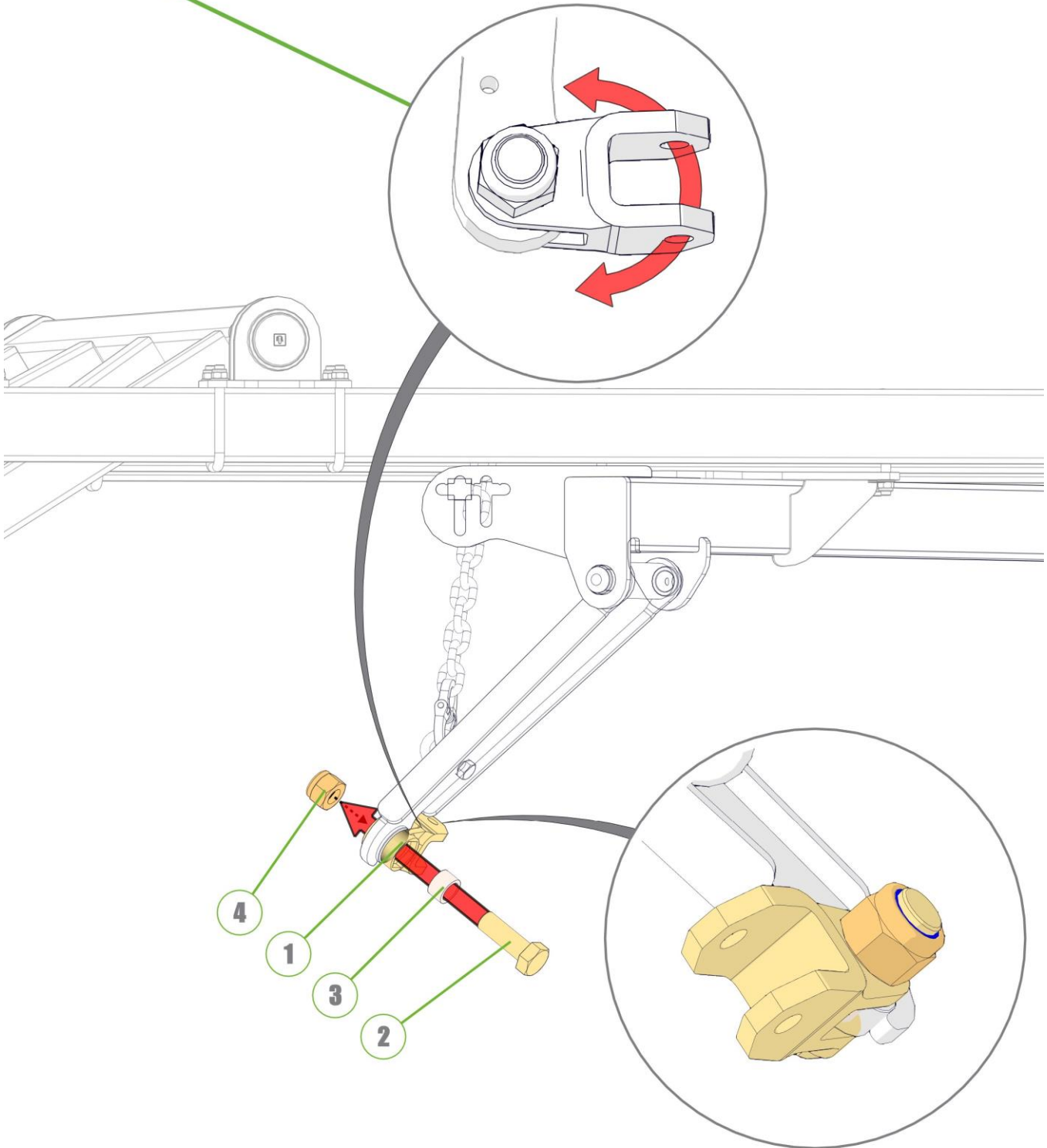


| Item No. | Description                  | Number         | Qty |
|----------|------------------------------|----------------|-----|
| 1        | Forged Clevis 21mm Bolt Hole | 0801-FC21      | 1   |
| 2        | M36 x 105 grade 8.8 ZP Bolt  | 0211-36105     | 1   |
| 3        | Wear Bush                    | 1501-365033-SS | 1   |
| 4        | Nyloc Nut M36                | 0221-NYL36     | 1   |

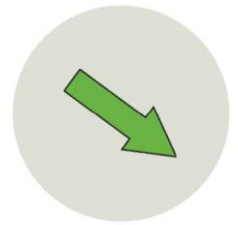


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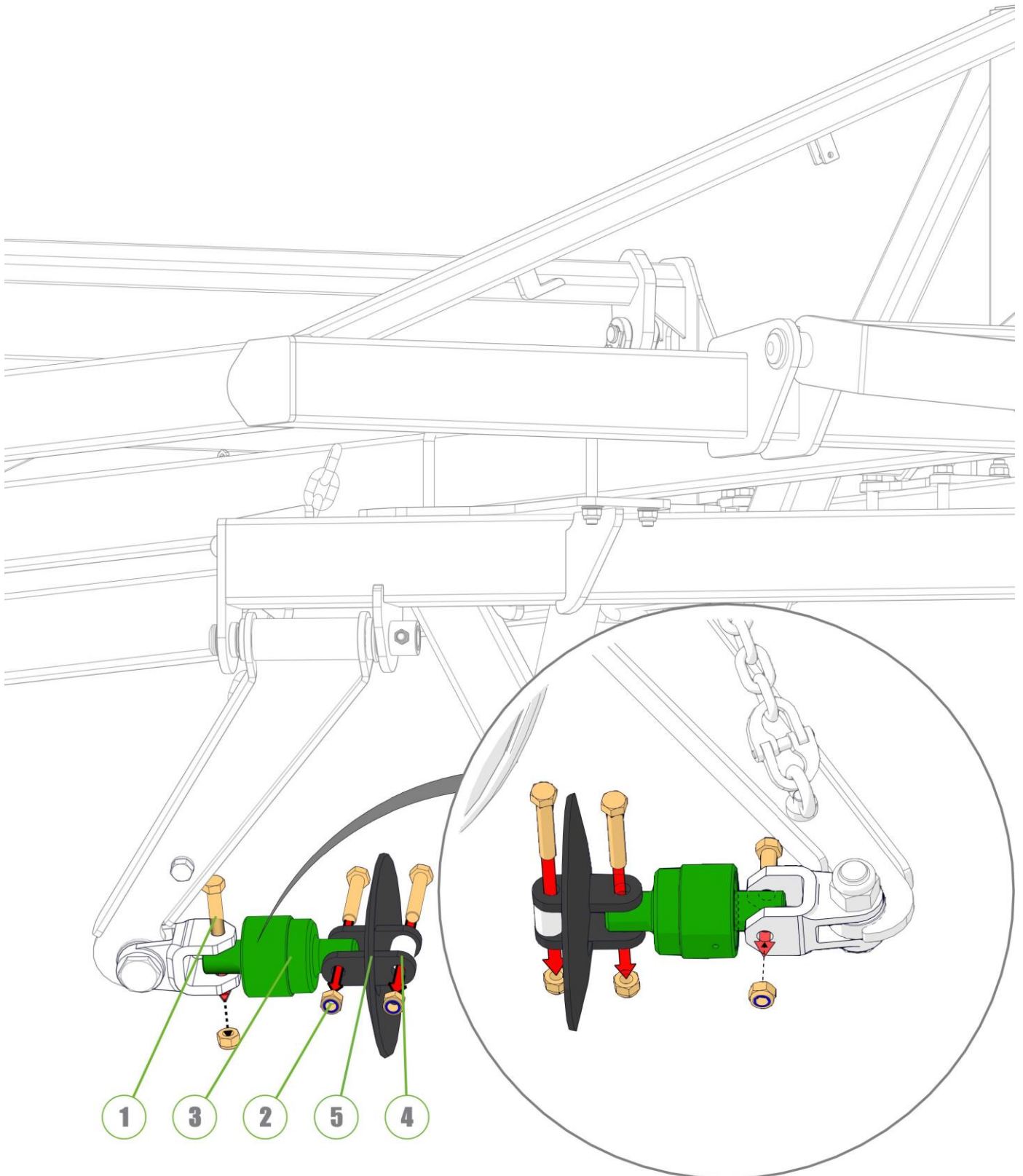
**Note: Ensure ALL clevis can pivot after installation**



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



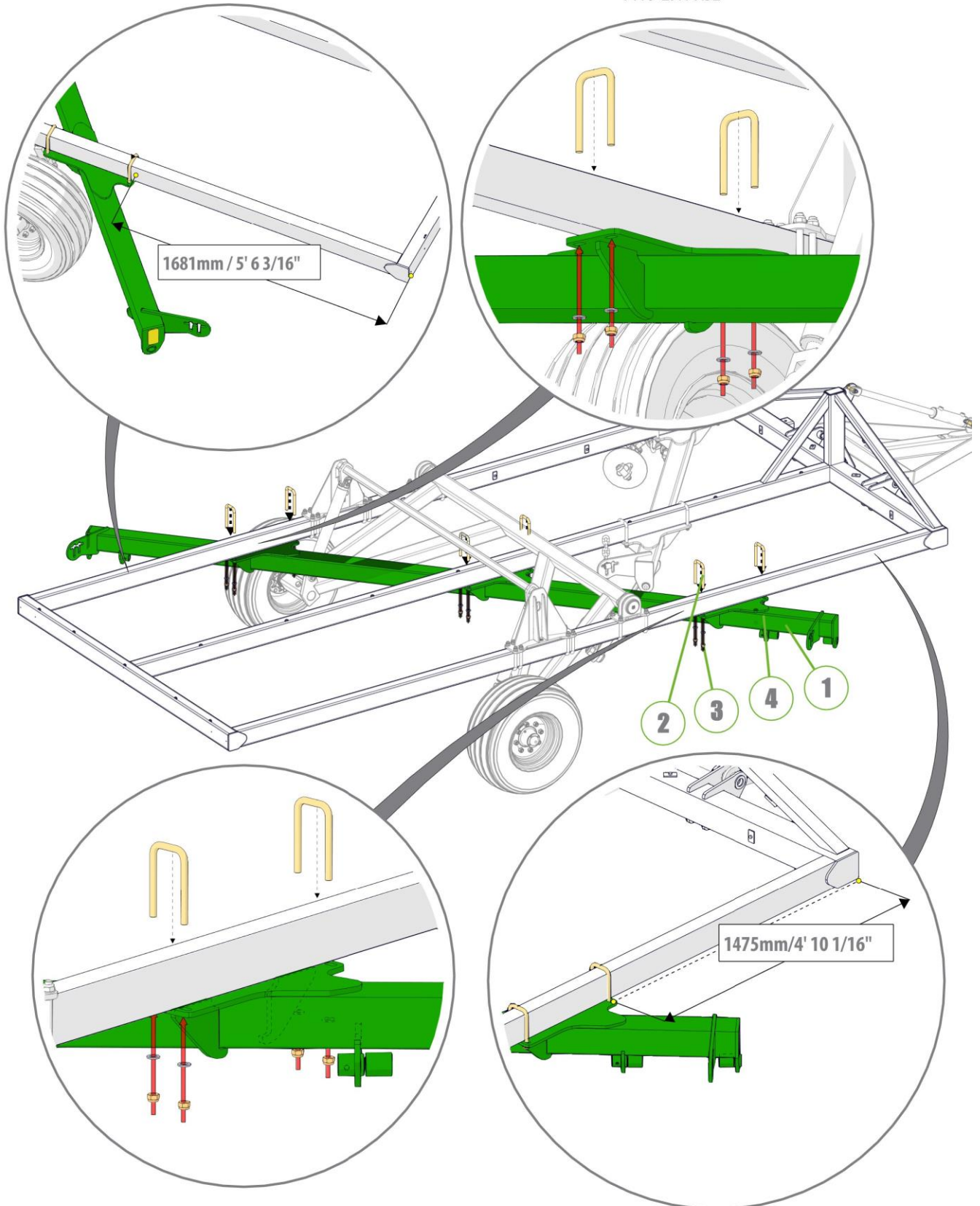
1410-28A-AS2



| Item No. | Description                     | Number        | Qty |
|----------|---------------------------------|---------------|-----|
| 1        | Centre Module                   | 1410-29       | 1   |
| 2        | U-Bolt M16 x 167 Deep x 79 Wide | 0271-1616779U | 6   |
| 3        | Nyloc Nut M16                   | 0221-NYL16    | 12  |
| 4        | Washer Flat M16                 | 0231-F16      | 12  |

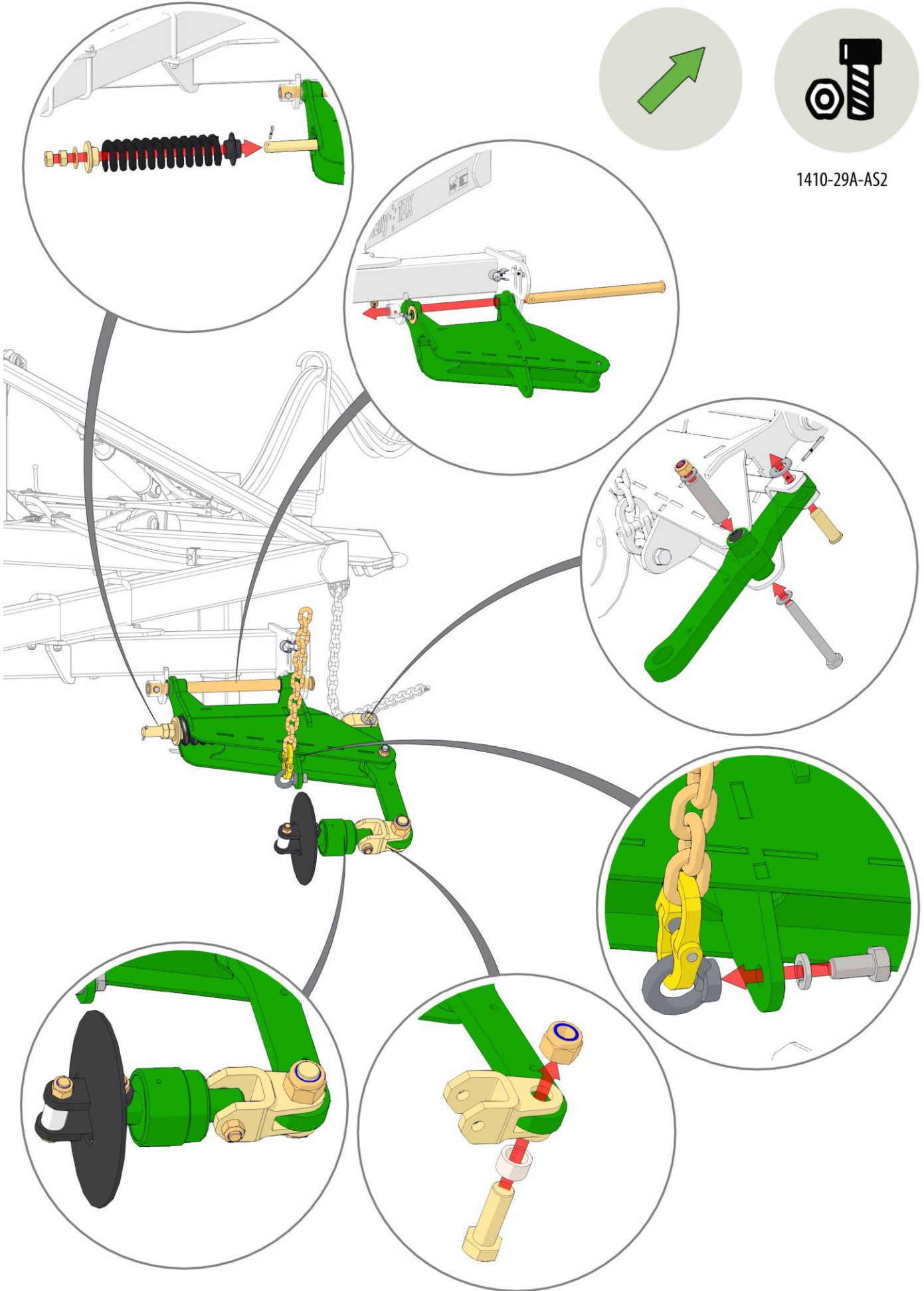


1410-29A-AS2





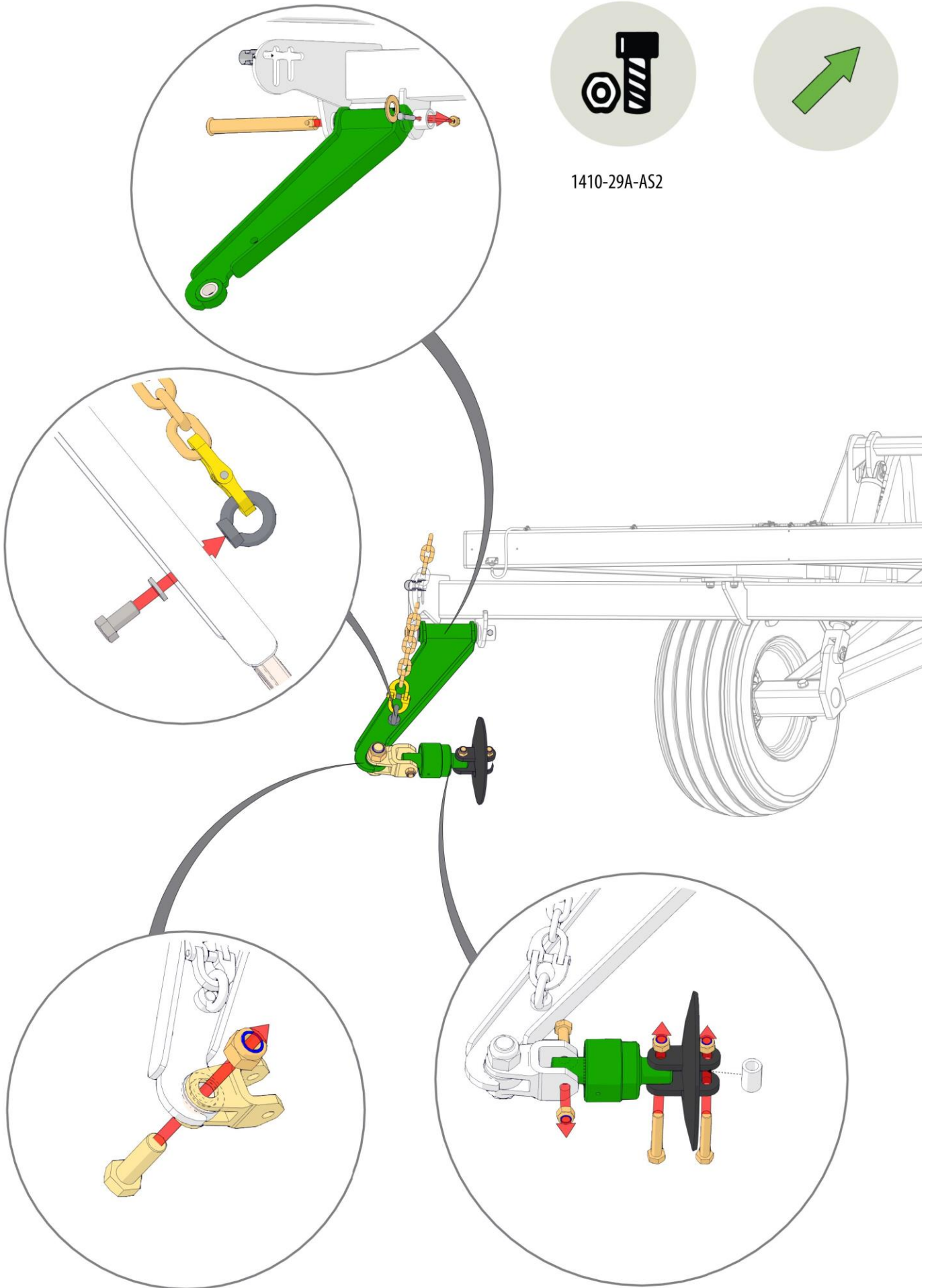
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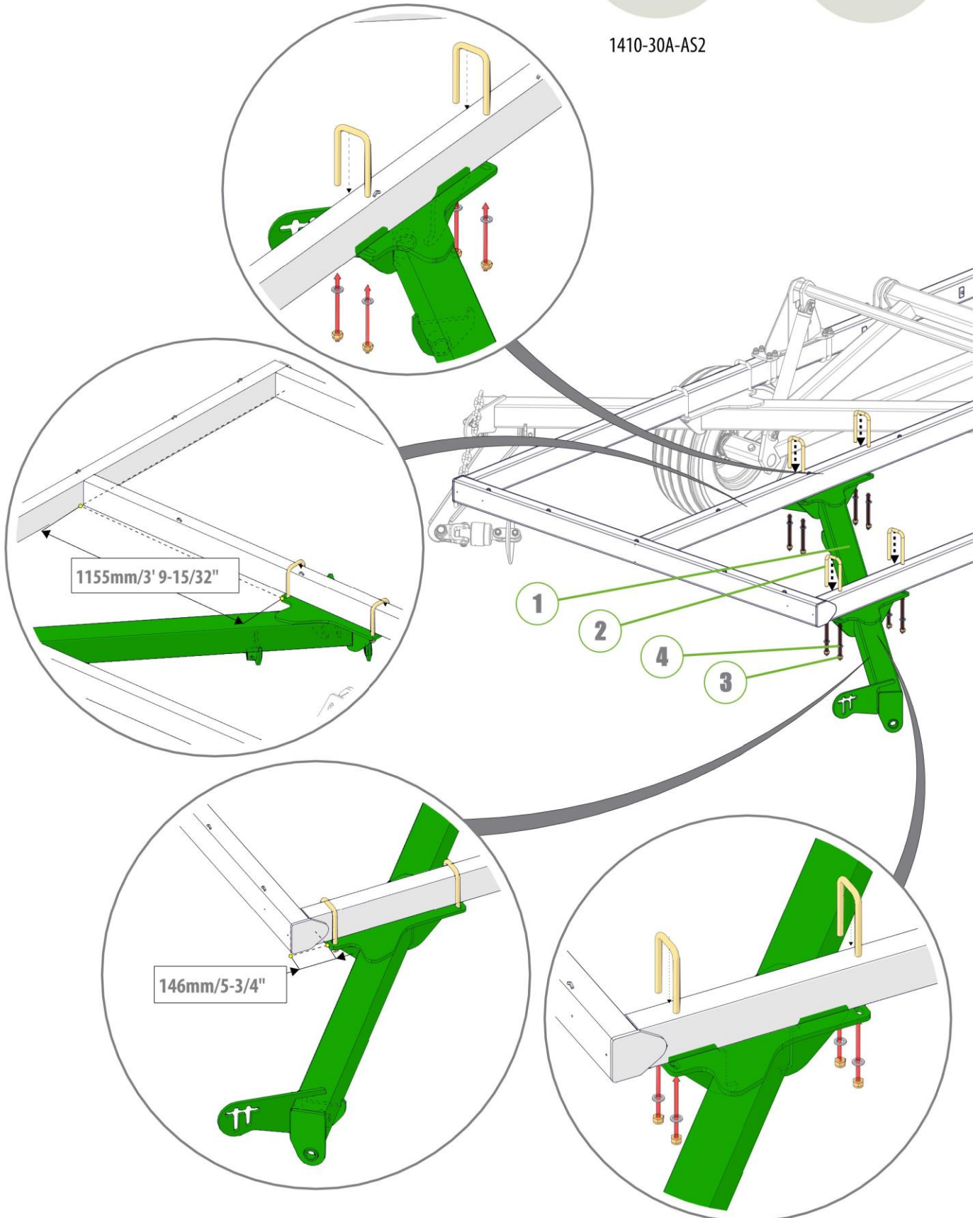
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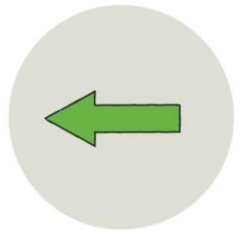


| Item No. | Description                     | Number        | Qty |
|----------|---------------------------------|---------------|-----|
| 1        | Rear Module                     | 1410-30       | 1   |
| 2        | U-Bolt M16 x 167 Deep X 79 Wide | 0271-1616779U | 4   |
| 3        | Nyloc Nut M16                   | 0221-NYL16    | 8   |
| 4        | Washer Flat M16                 | 0231-F16      | 8   |

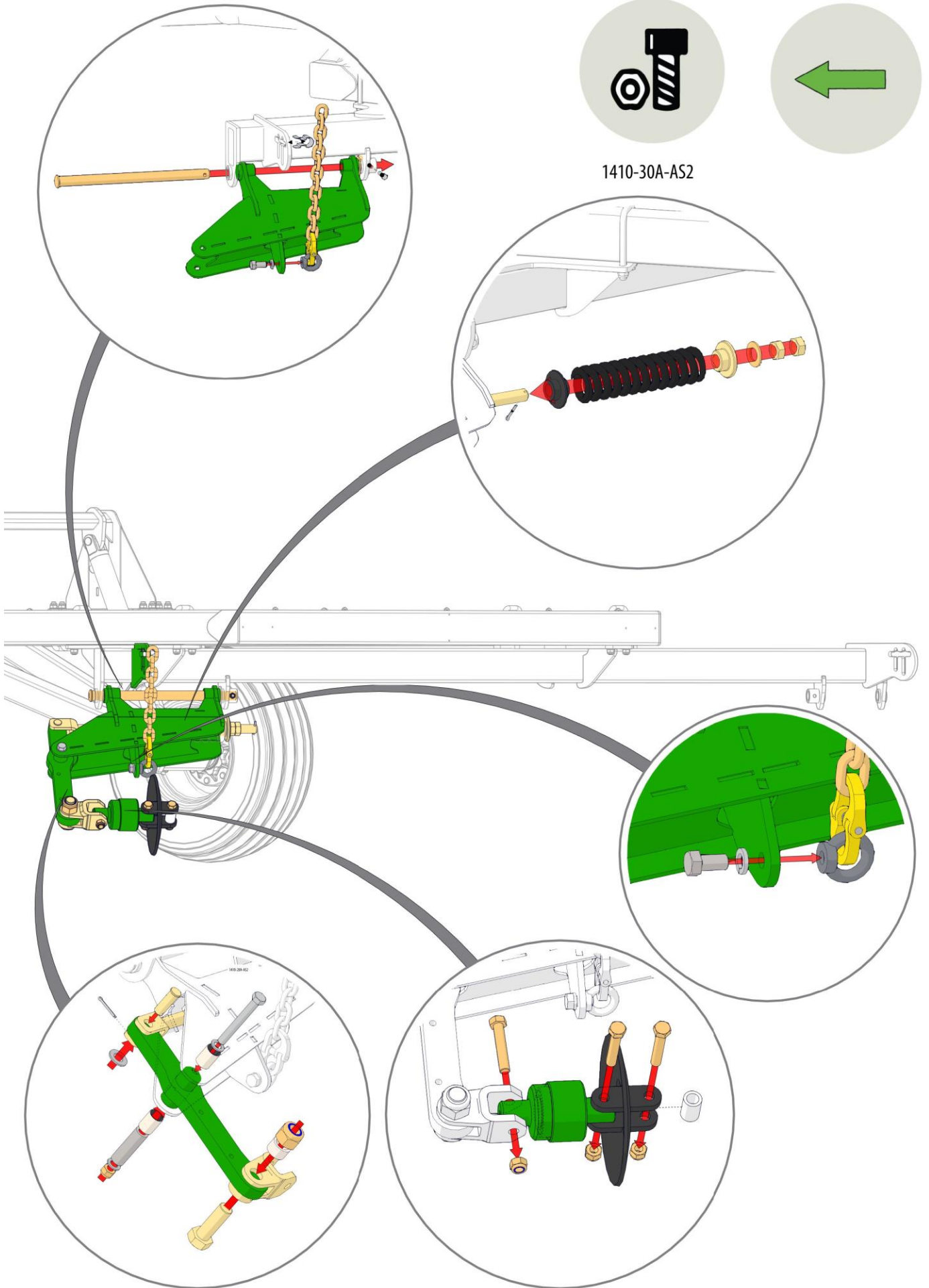


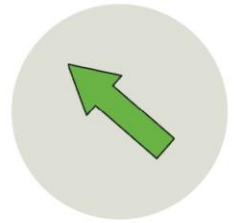
1410-30A-AS2



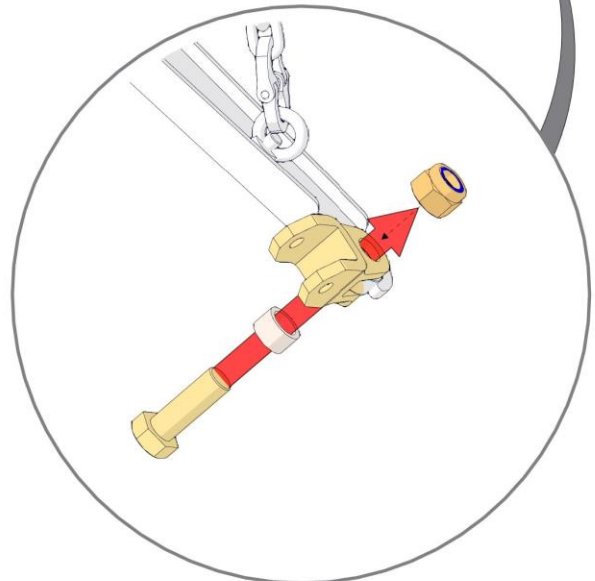
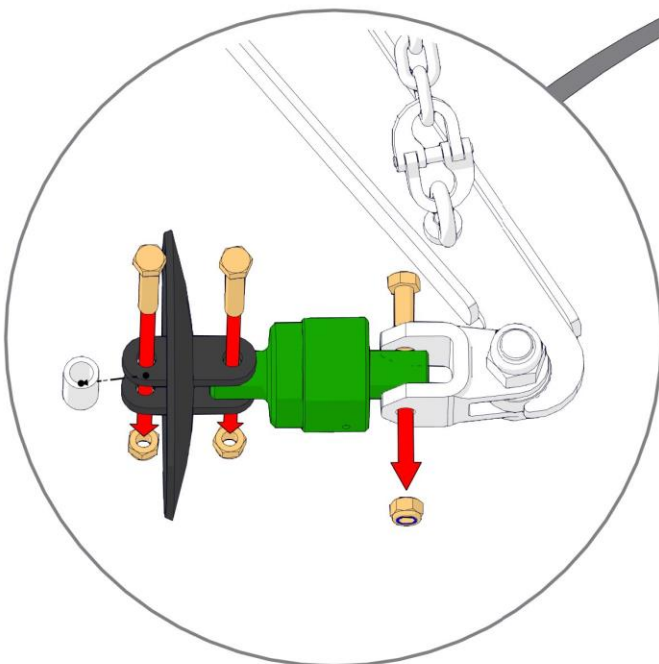
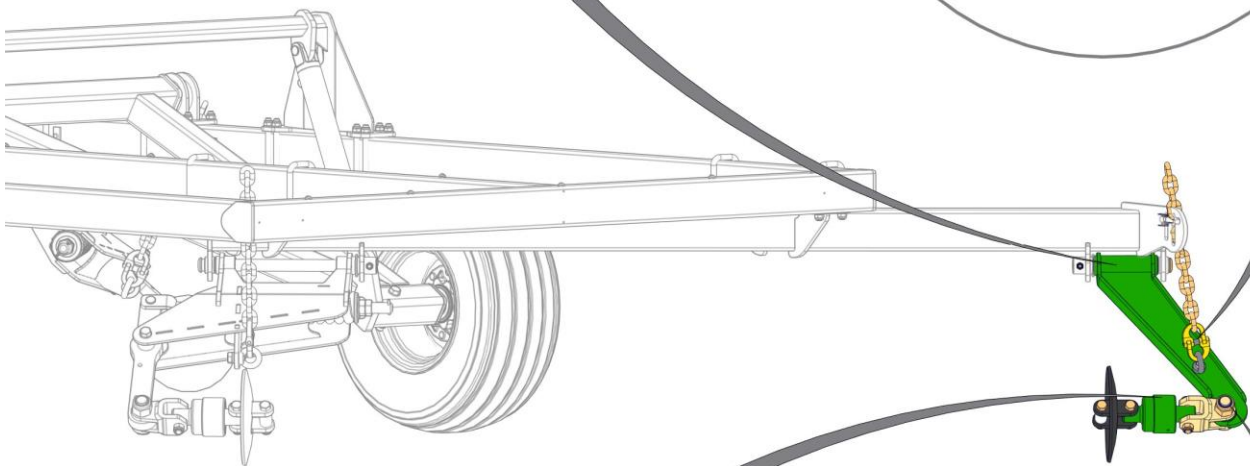
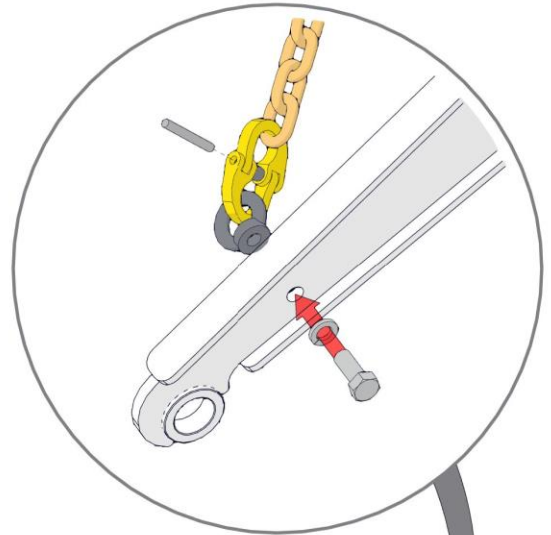
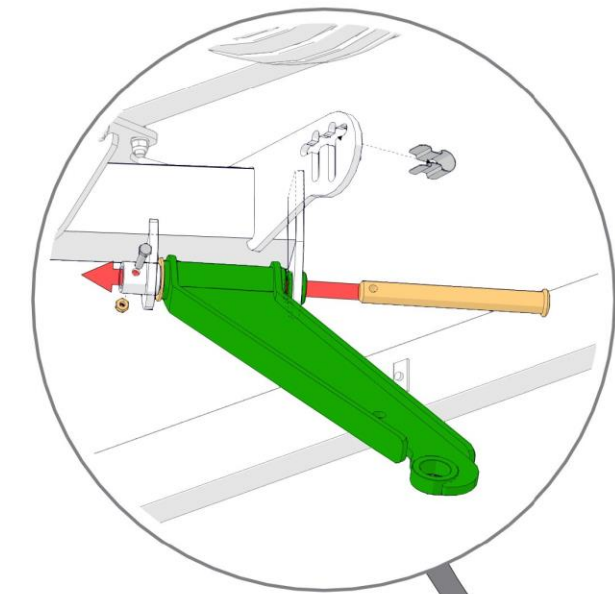


1410-30A-AS2





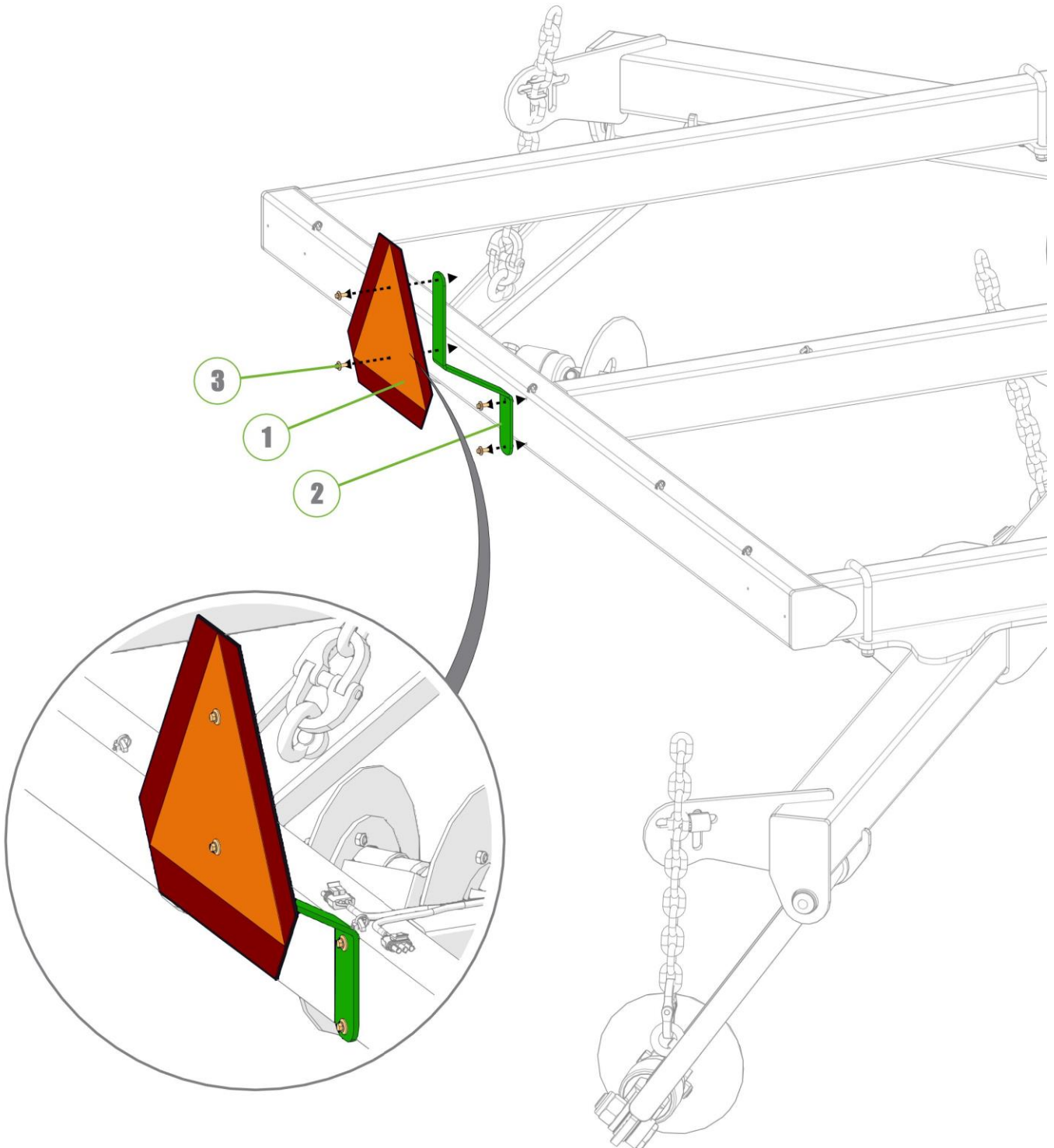
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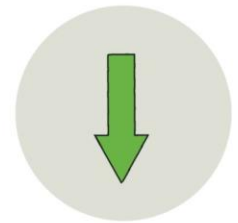
| Item No. | Description              | Number          | Qty |
|----------|--------------------------|-----------------|-----|
| 1        | Slow Moving Vehical Sign | 0801-FBSMVTUF   | 1   |
| 2        | SMV Sign Bracket         | 0800-195.1      | 1   |
| 3        | M6 x 20mm Trilobe Screw  | 0211-M620MZPHTF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



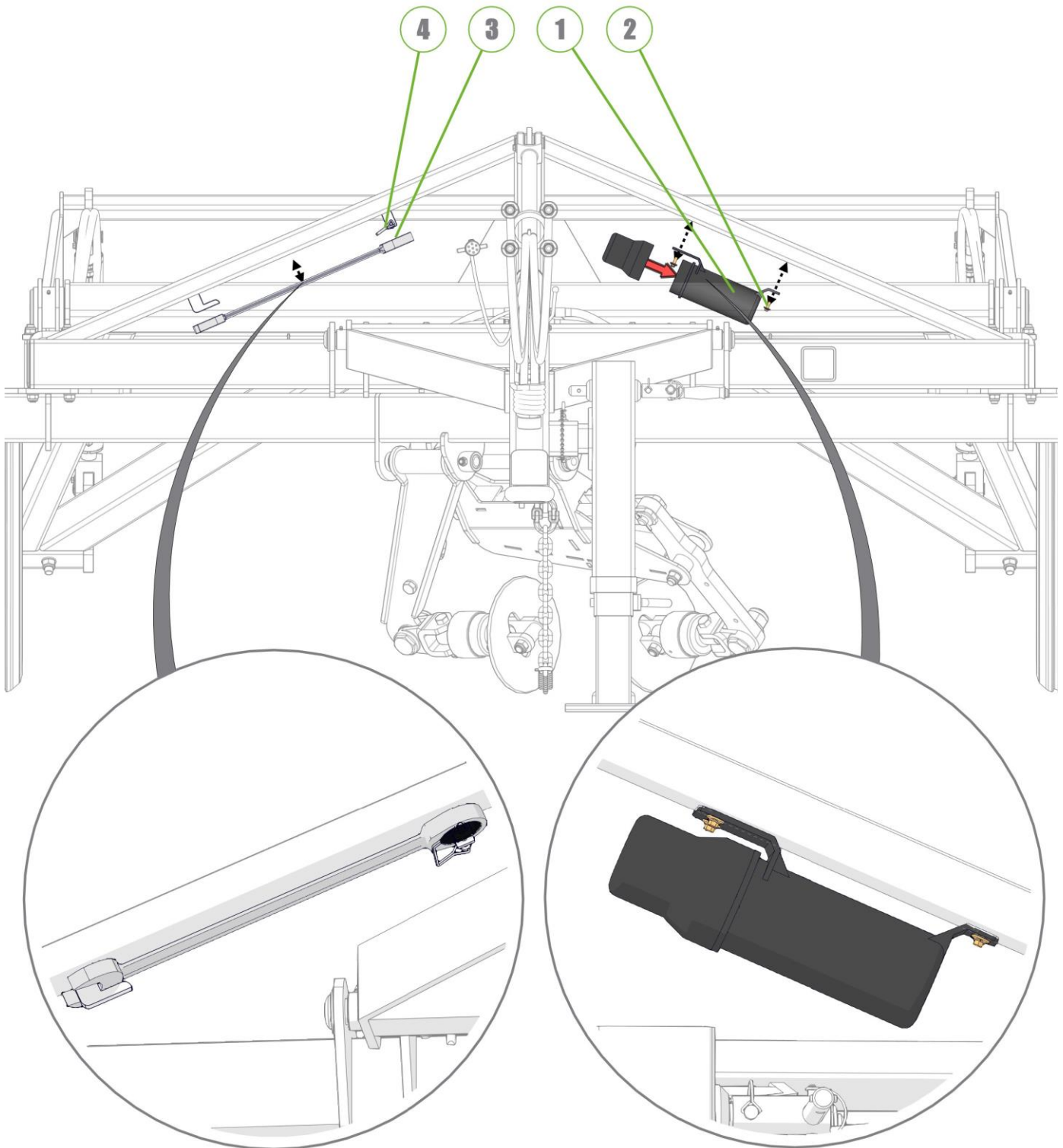
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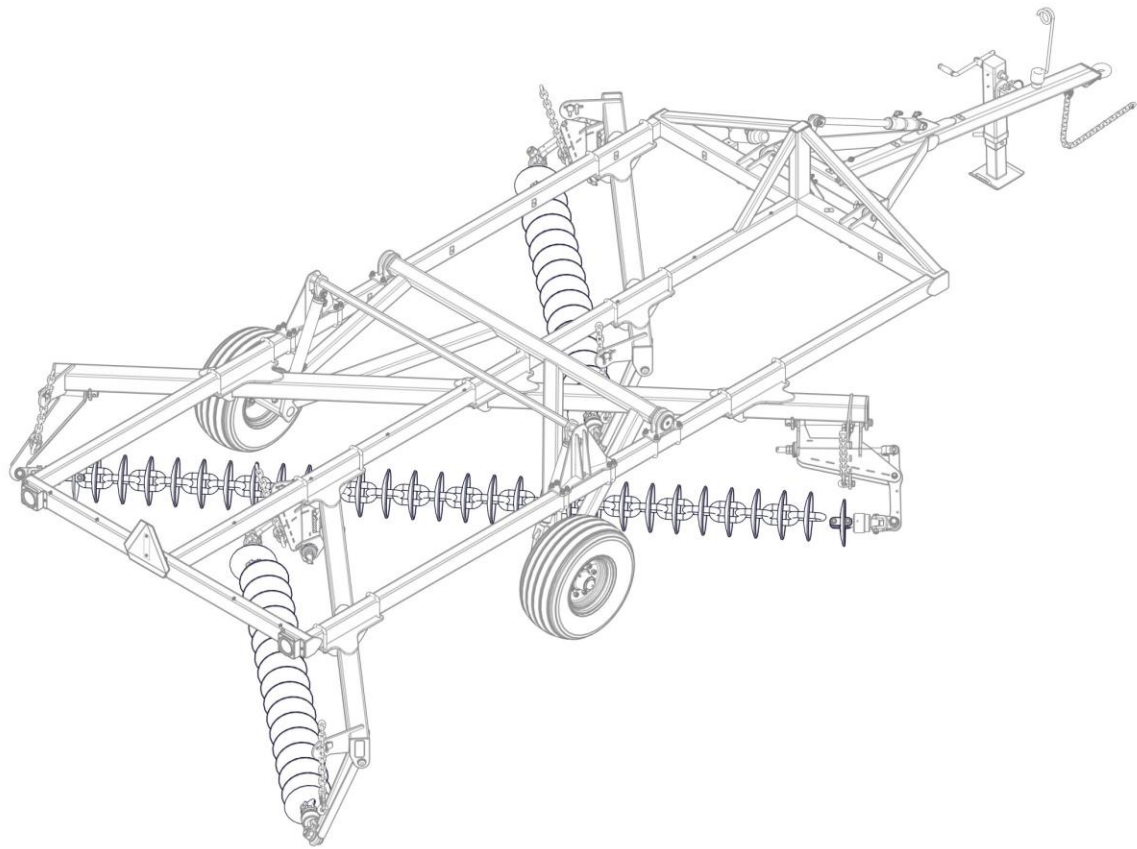


| Item No. | Description                   | Number            | Qty |
|----------|-------------------------------|-------------------|-----|
| 1        | Operator Manual Cannister     | 0801-OMC-1        | 1   |
| 2        | M6 x 20mm Trilobe Screw       | 0211-M620MZPHTF   | 3   |
| 3        | Ratcheting Gear Wrench 1 3/4" | 0802-GW1 3-4      | 1   |
| 4        | Square Loop Pin M8 x 63       | 0511-PINLOOPSQ863 | 1   |



1410-01-2A-AS1





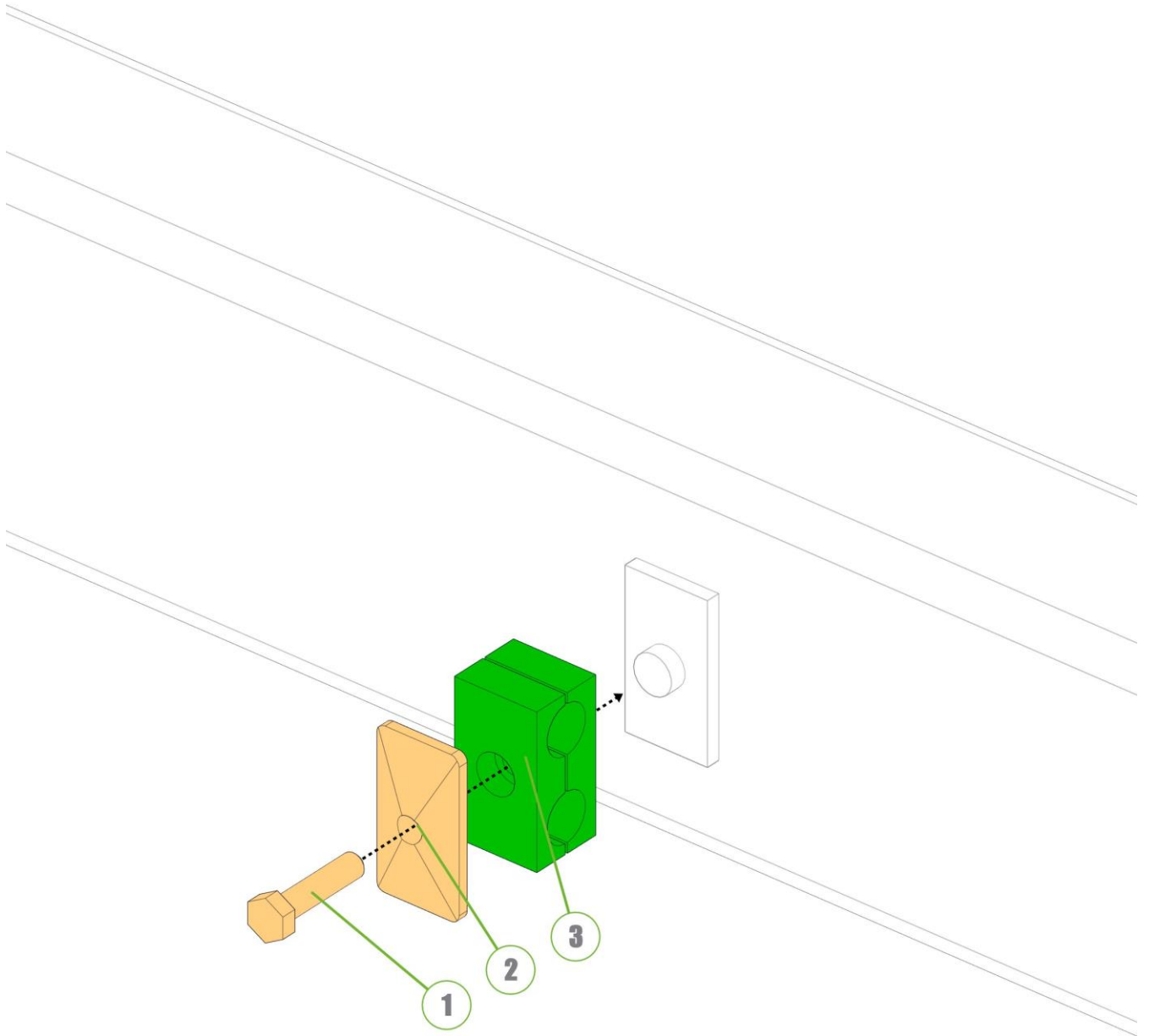


**SECTION 3**  
HYDRAULICS

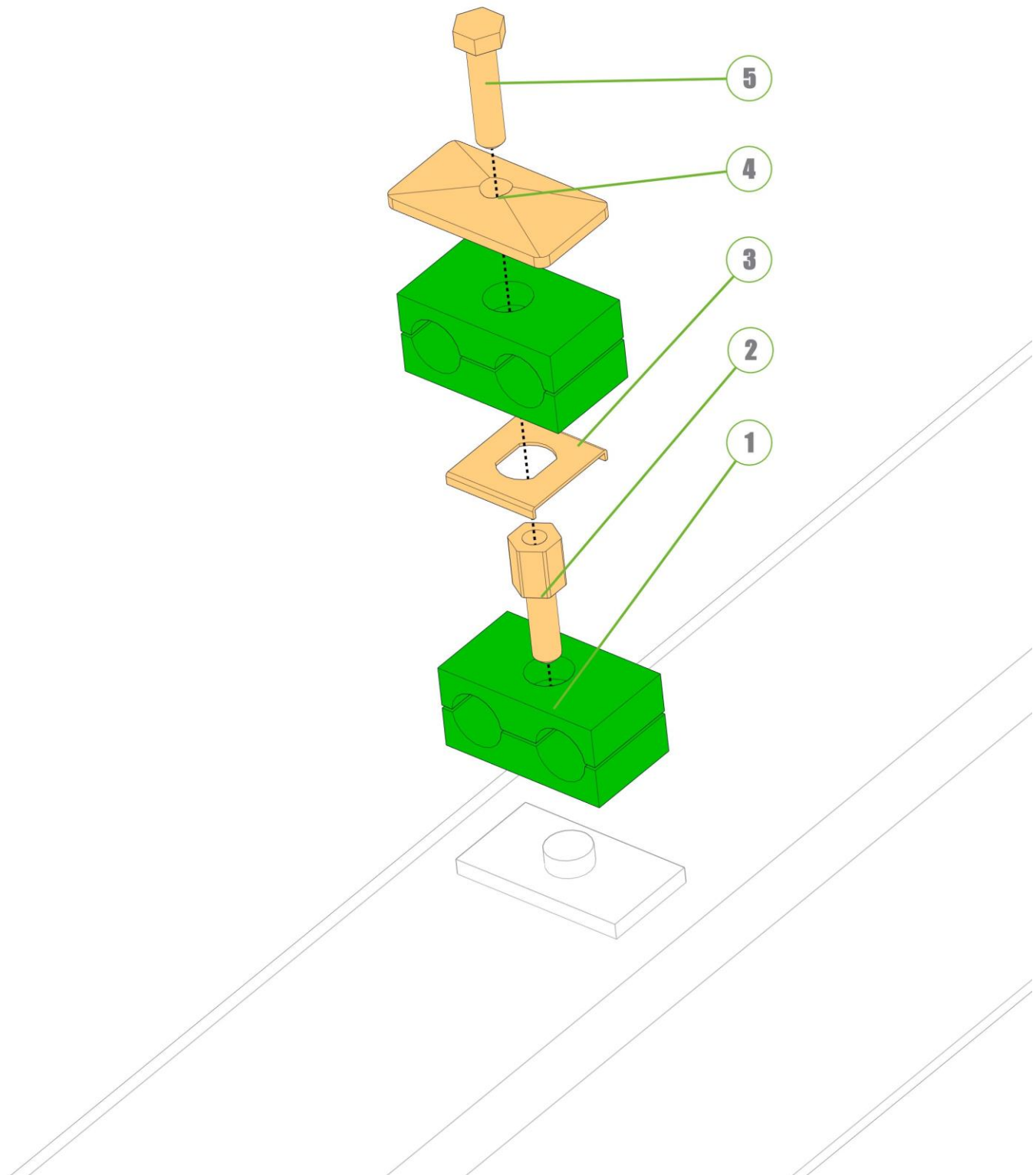


## SECTION 3 HYDRAULICS

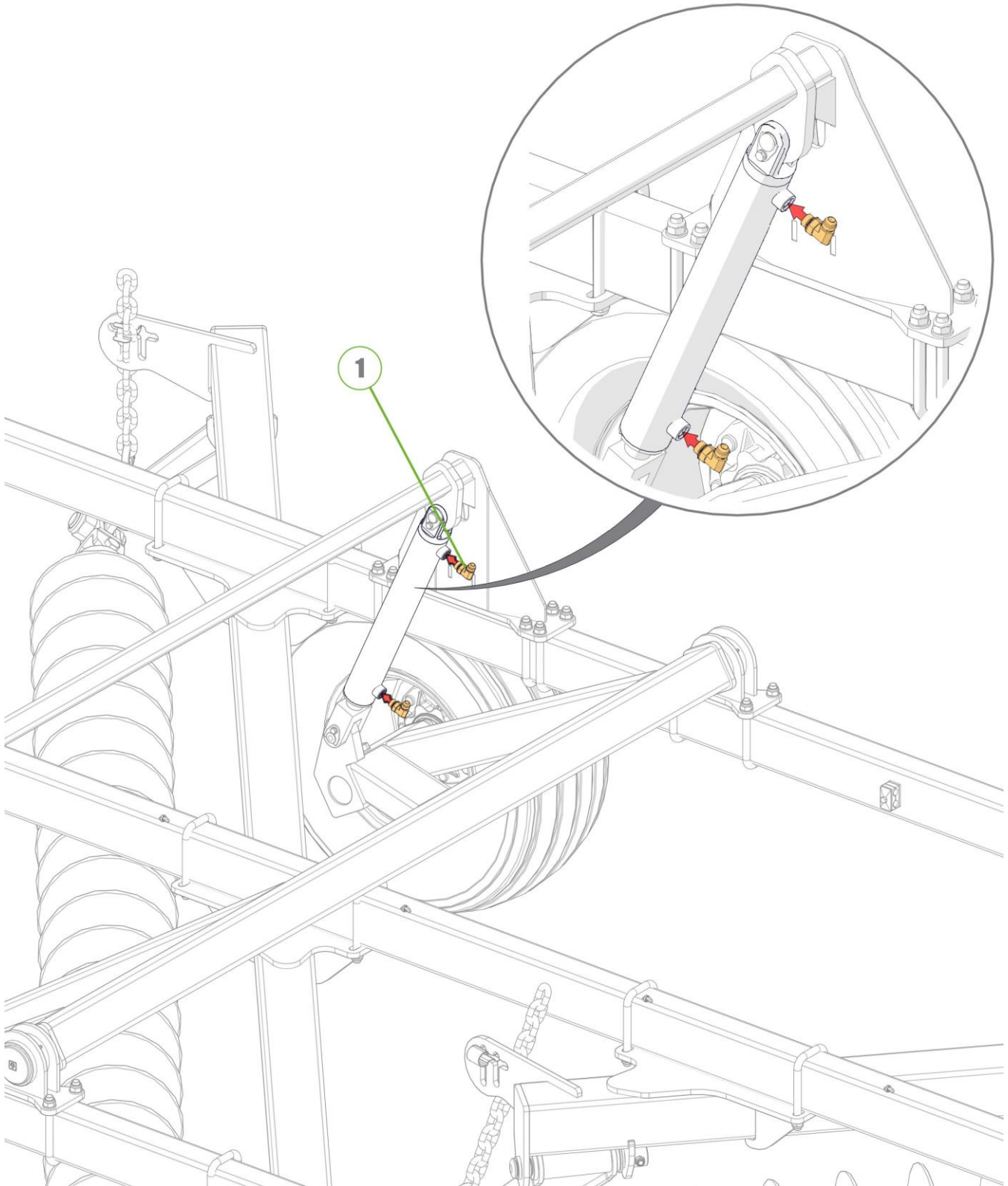
| Item No. | Description                     | Number       | Qty |
|----------|---------------------------------|--------------|-----|
| 1        | RCD Double Clamp Bolt No 2      | 0325-RCD-2BH | 1   |
| 2        | RCD Double Clamp Top Plate No 2 | 0325-RCD-2PT | 1   |
| 3        | RCD Double Clamp Jaws 17mm      | 0325-RCD-17J | 1   |



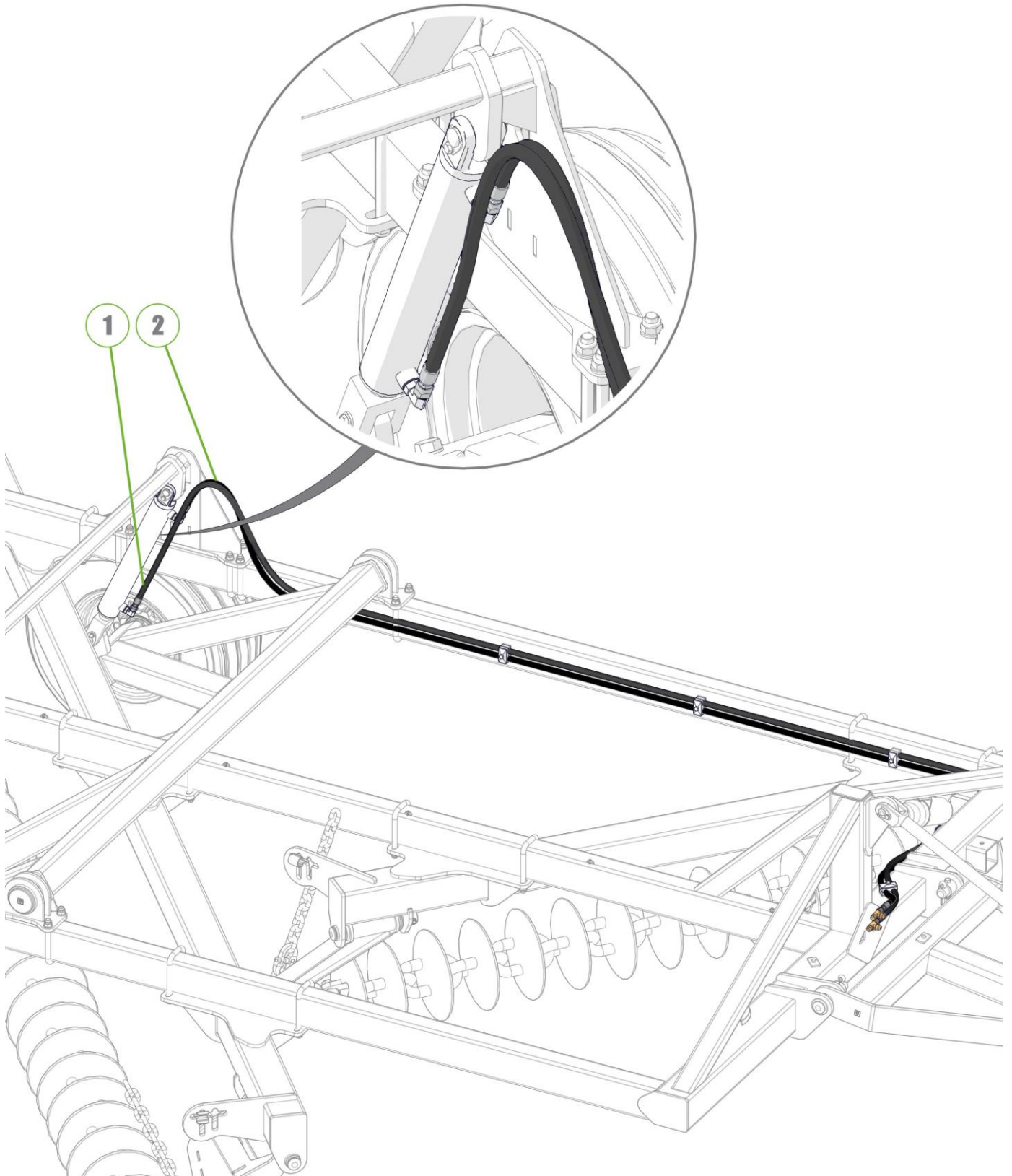
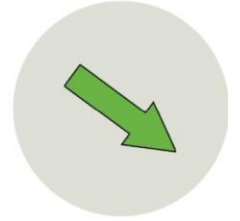
| Item No. | Description                            | Number          | Qty |
|----------|--|-----------------|-----|
| 1        | RCD Double Clamp Jaws 17mm             | 0325-RCD-17J    | 2   |
| 2        | RCD Double Clamp Stacking Bolt No 2    | 0325-RCD-2BS    | 1   |
| 3        | Double Clamp Stacking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

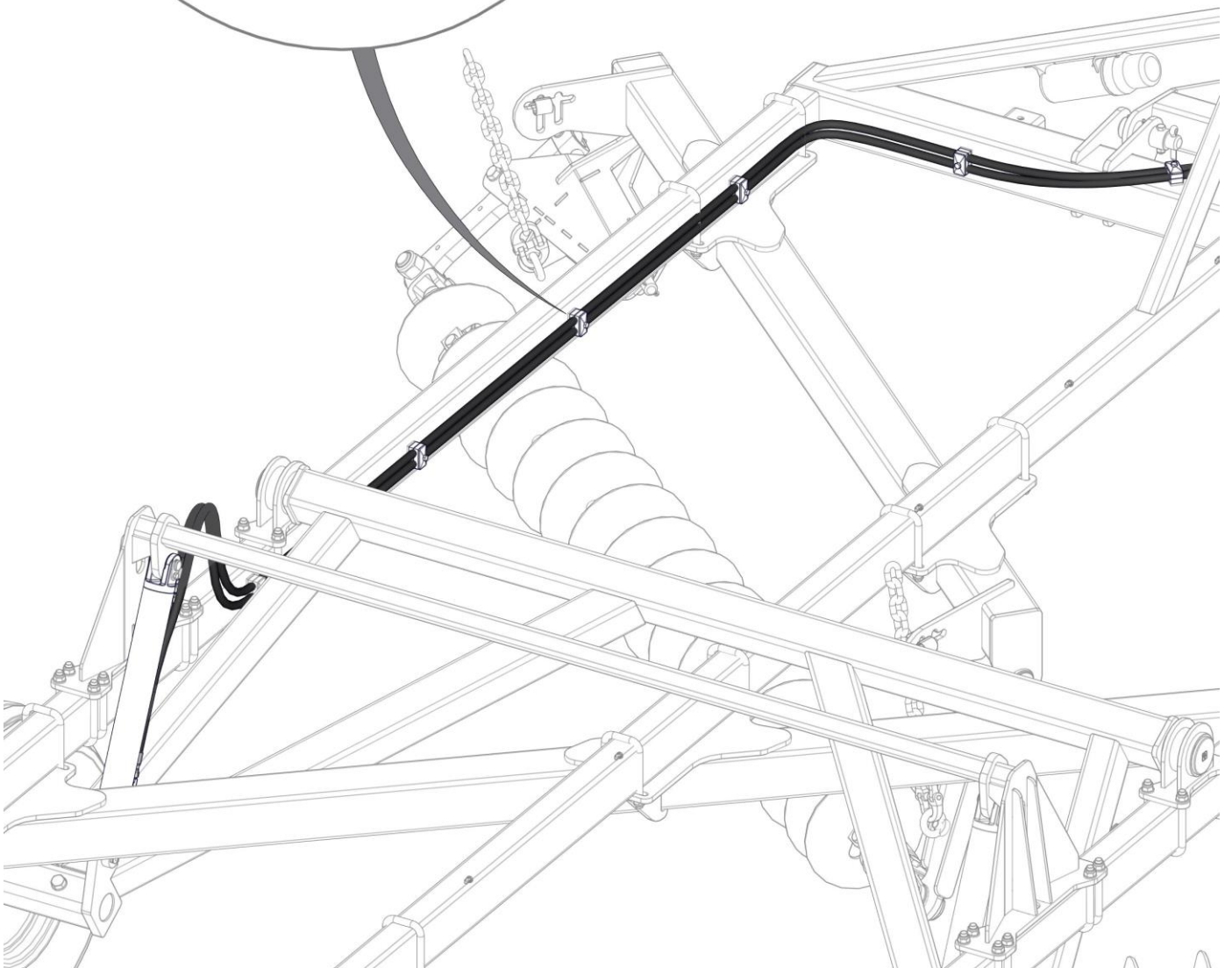
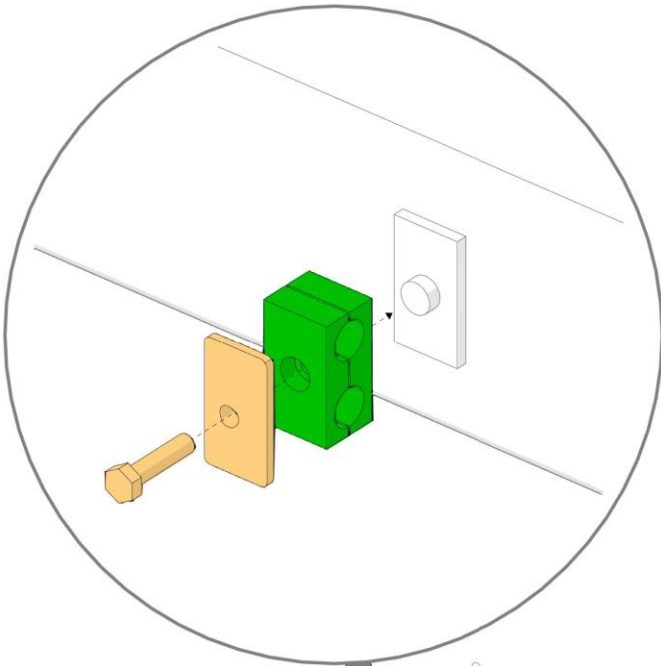


| Item No. | Description                                 | Number        | Qty |
|----------|---|---------------|-----|
| 1        | 3/4" JIC Male 3/4" UN O Ring Male 90° Elbow | 0323-S91-1212 | 2   |

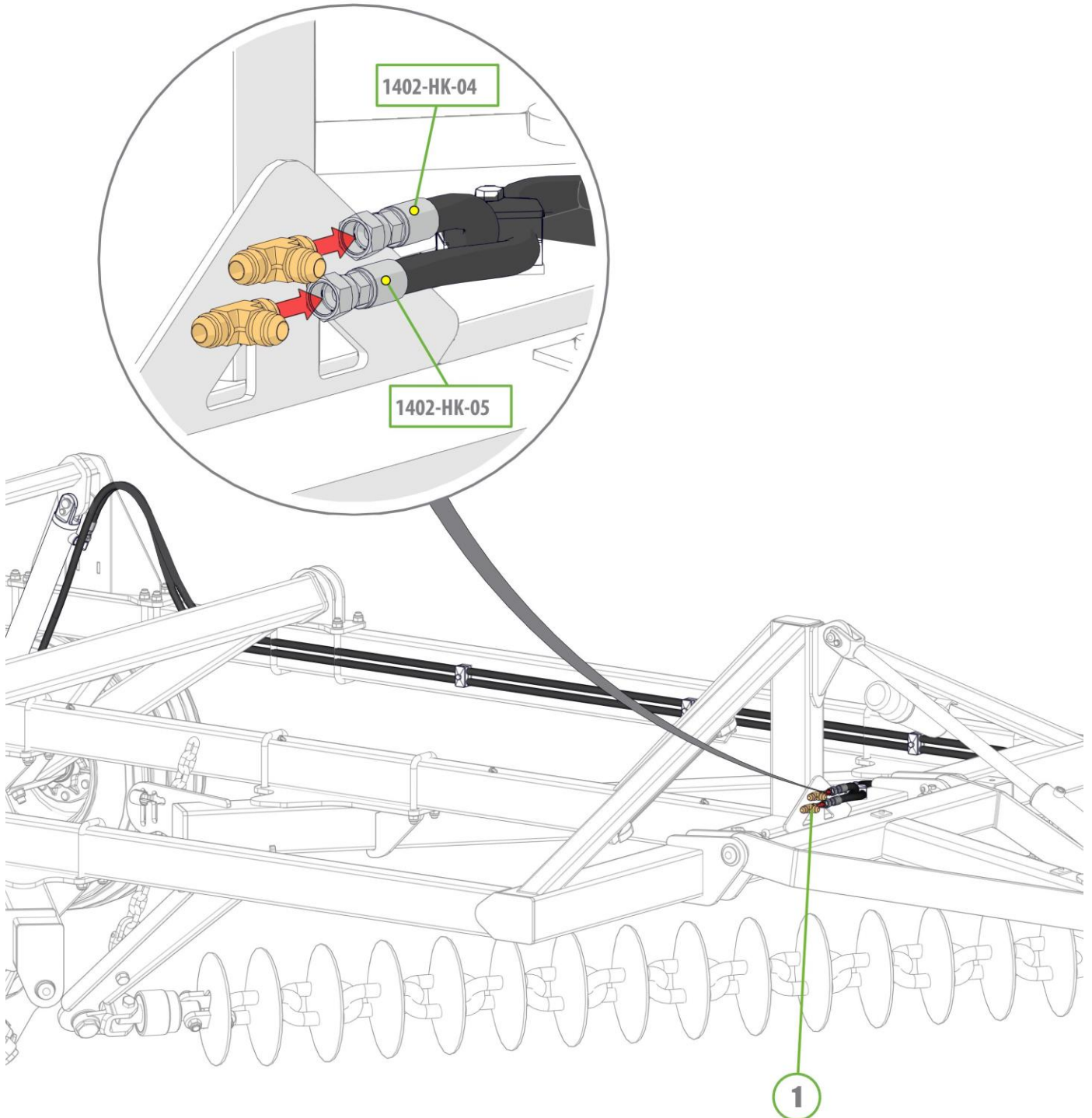
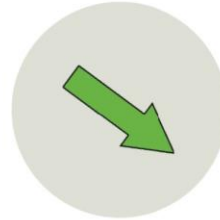


| Item No. | Description  | Number     | Qty |
|----------|--|------------|-----|
| 1        | Retract Tee To Retract Port of LH Lift Cylinder Hose | 1402-HK-05 | 1   |
| 2        | Extend Tee To Extend Port of LH Lift Cylinder Hose   | 1402-HK-04 | 1   |

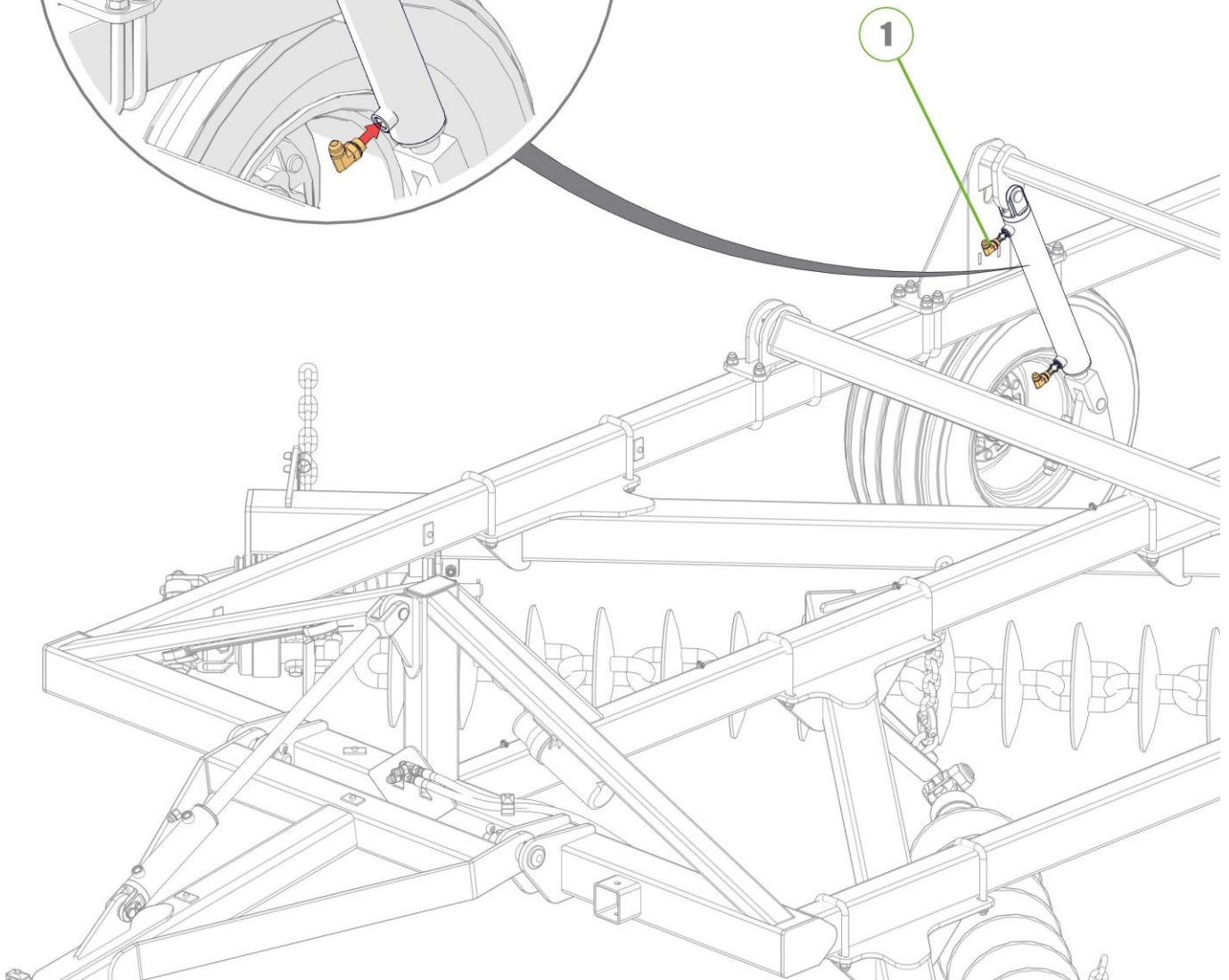
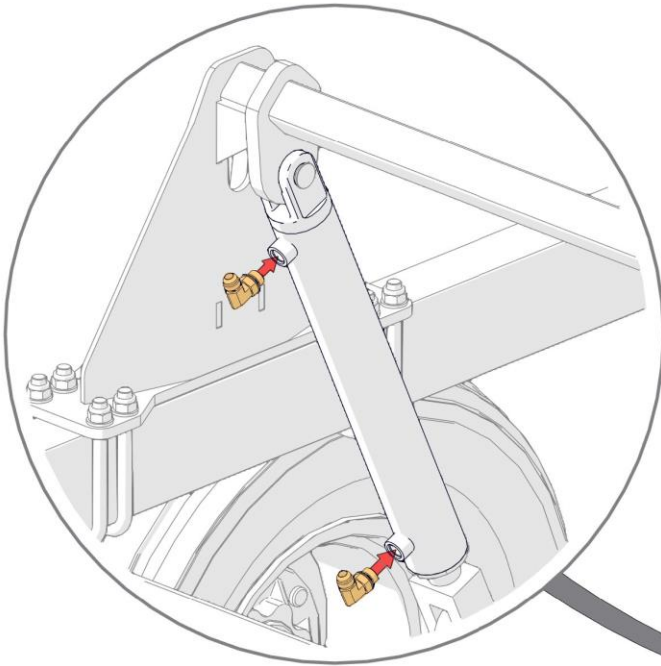


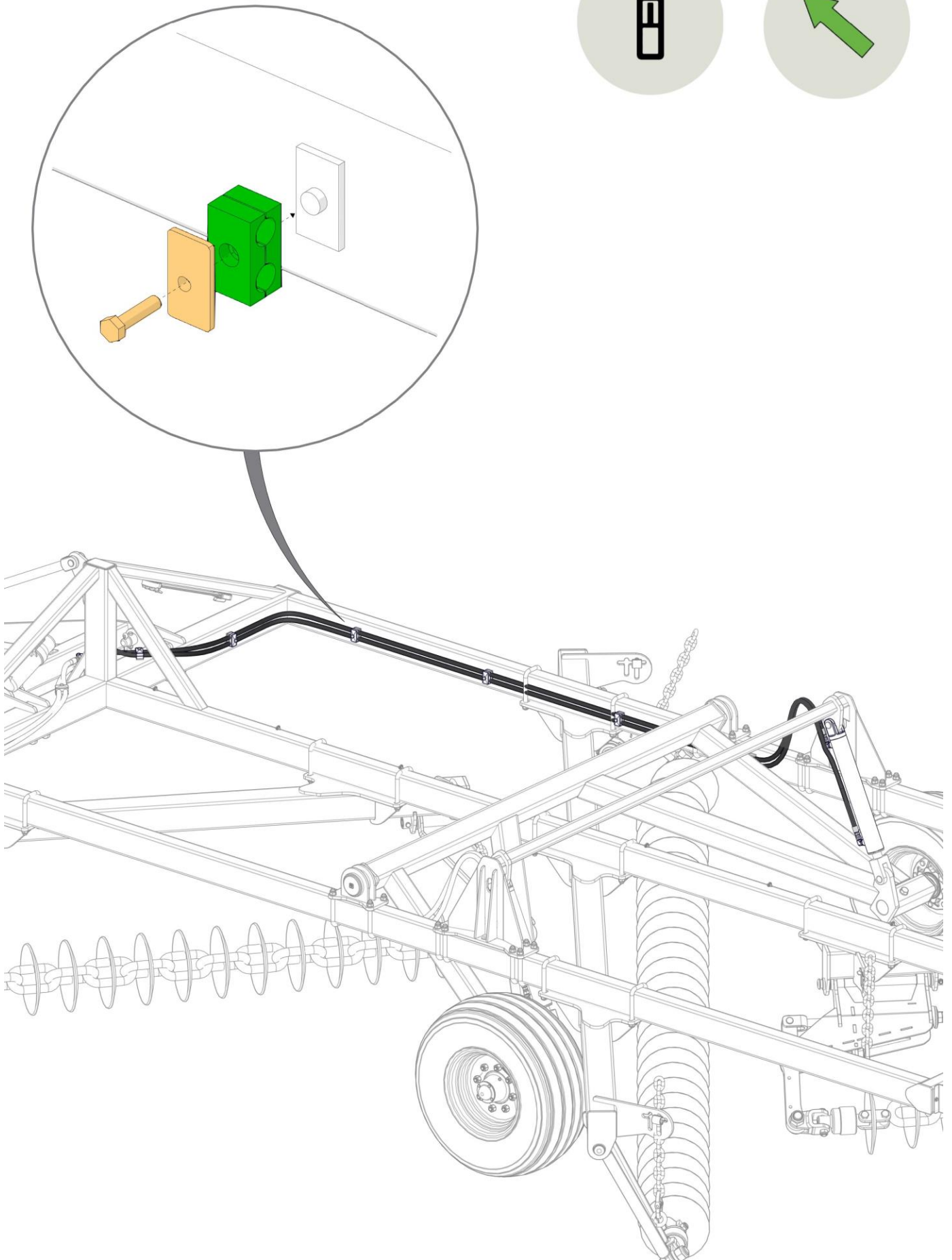


| Item No. | Description   | Number          | Qty |
|----------|---|-----------------|-----|
| 1        | 3/4" JIC Male Tee 3/4" JIC Male Tee 3/4" JIC Male Tee | 0324-S19-121212 | 2   |



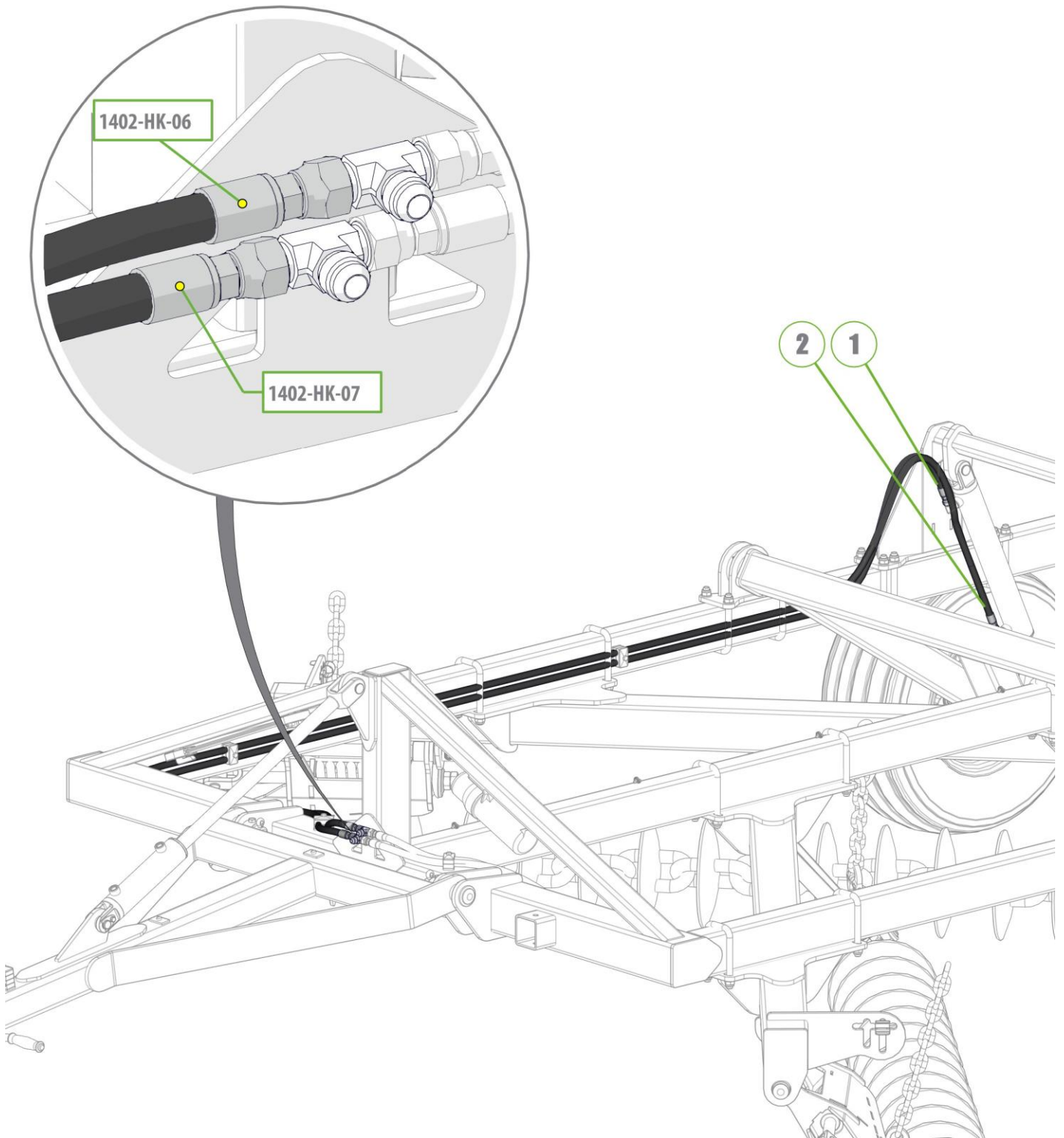
| Item No. | Description                                 | Number        | Qty |
|----------|---|---------------|-----|
| 1        | 3/4" JIC Male 3/4" UN O Ring Male 90° Elbow | 0323-S91-1212 | 2   |



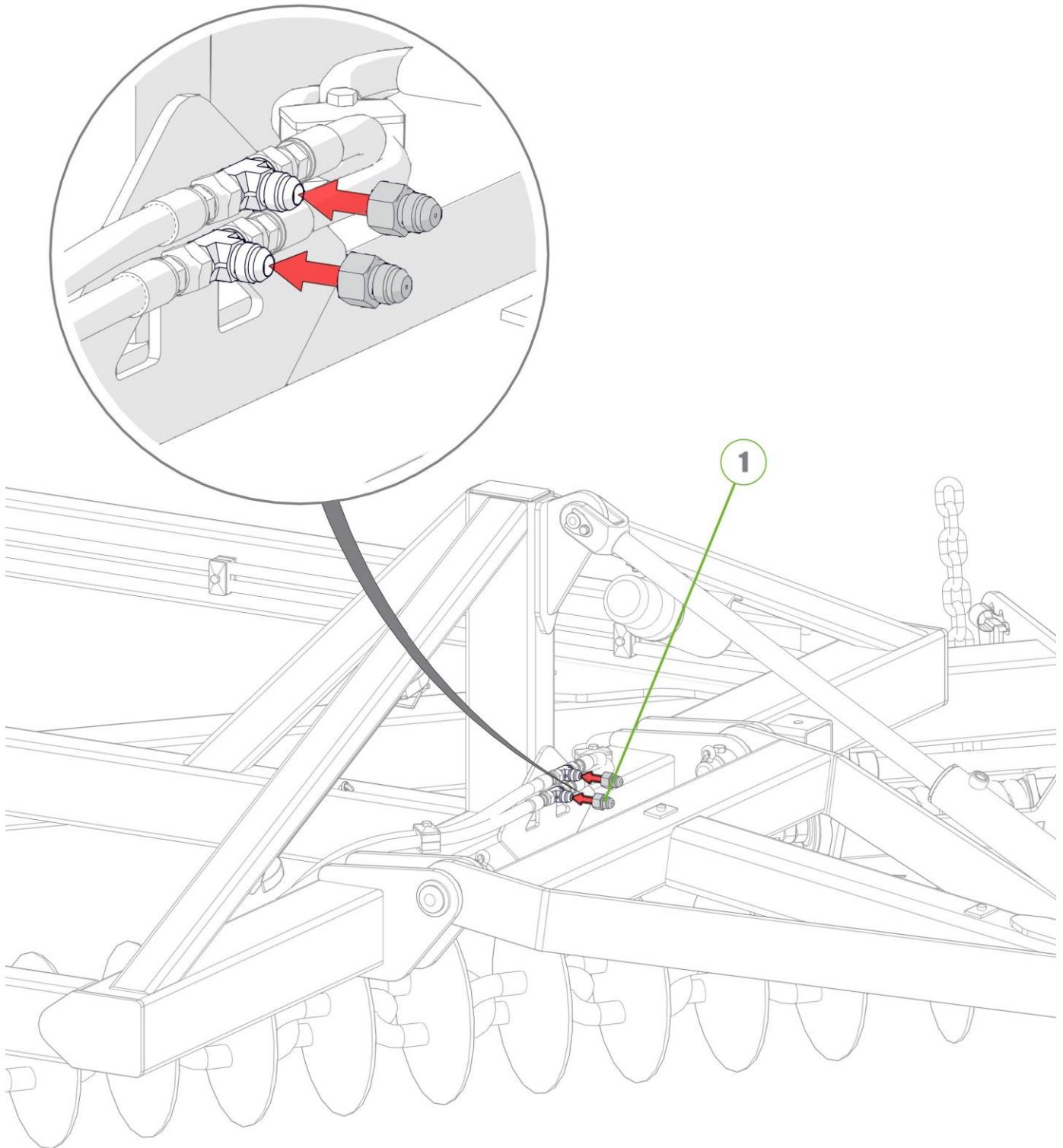




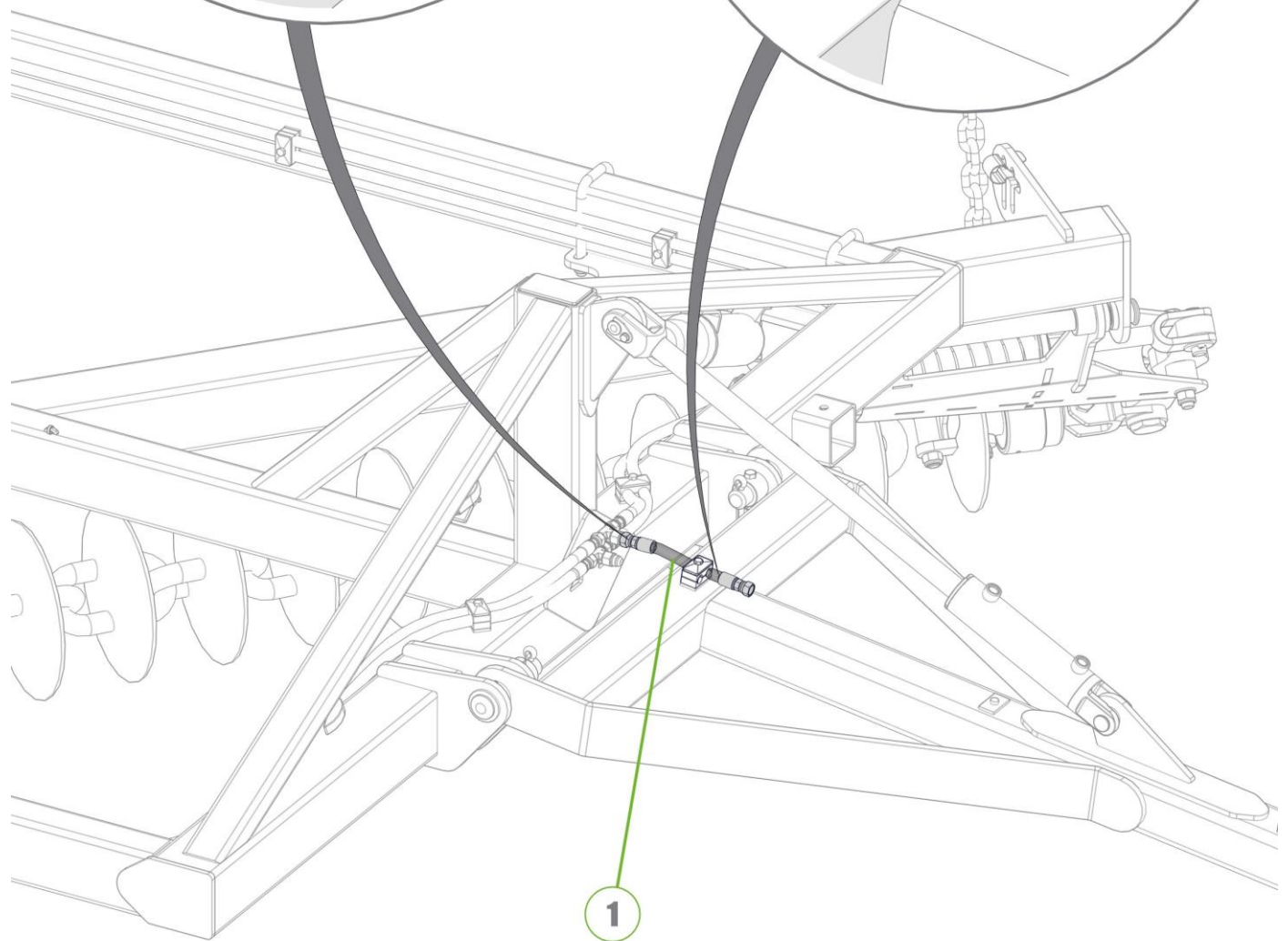
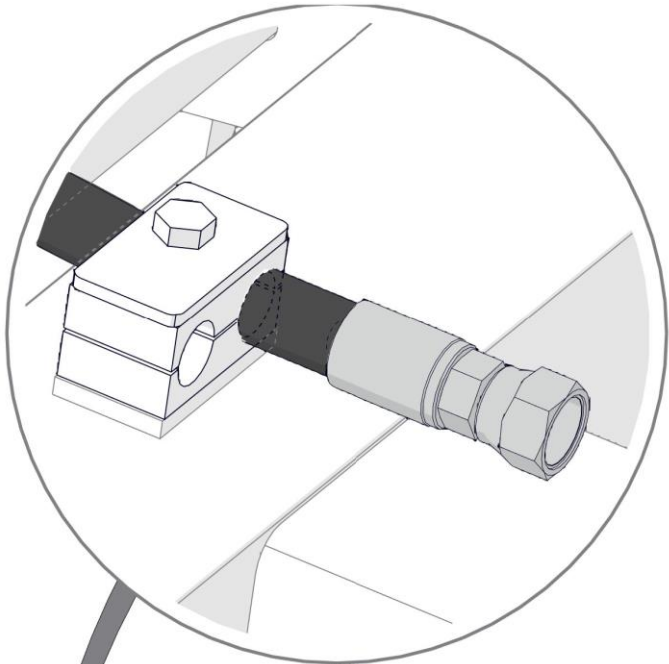
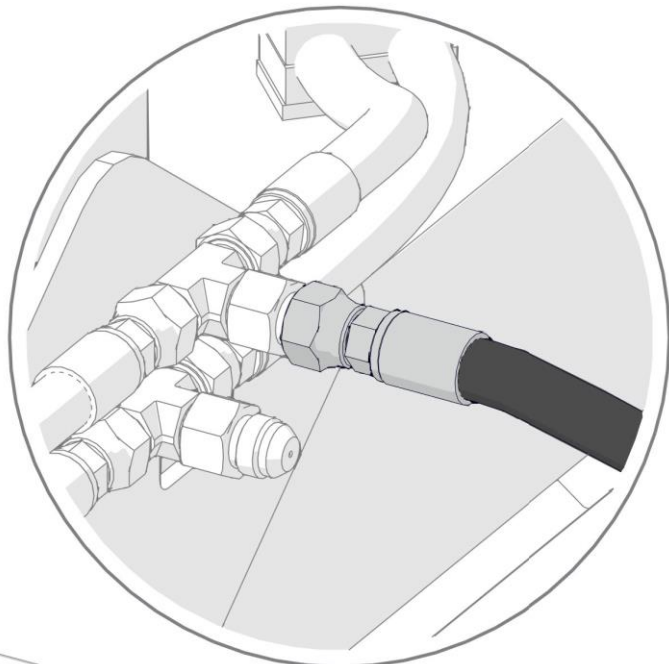
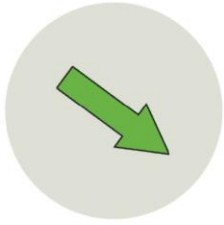
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|----------|--|------------|-----|
| 1        | Extend Tee To Extend Port of RH Lift Cylinder Hose   | 1402-HK-06 | 1   |
| 2        | Retract Tee To Retract Port of RH Lift Cylinder Hose | 1402-HK-07 | 1   |



| Item No. | Description  | Number        | Qty |
|----------|--|---------------|-----|
| 1        | 3/4" JIC Male to 3/4" JIC Female 2mm Orifice Adaptor | 0323-1212R2.0 | 2   |

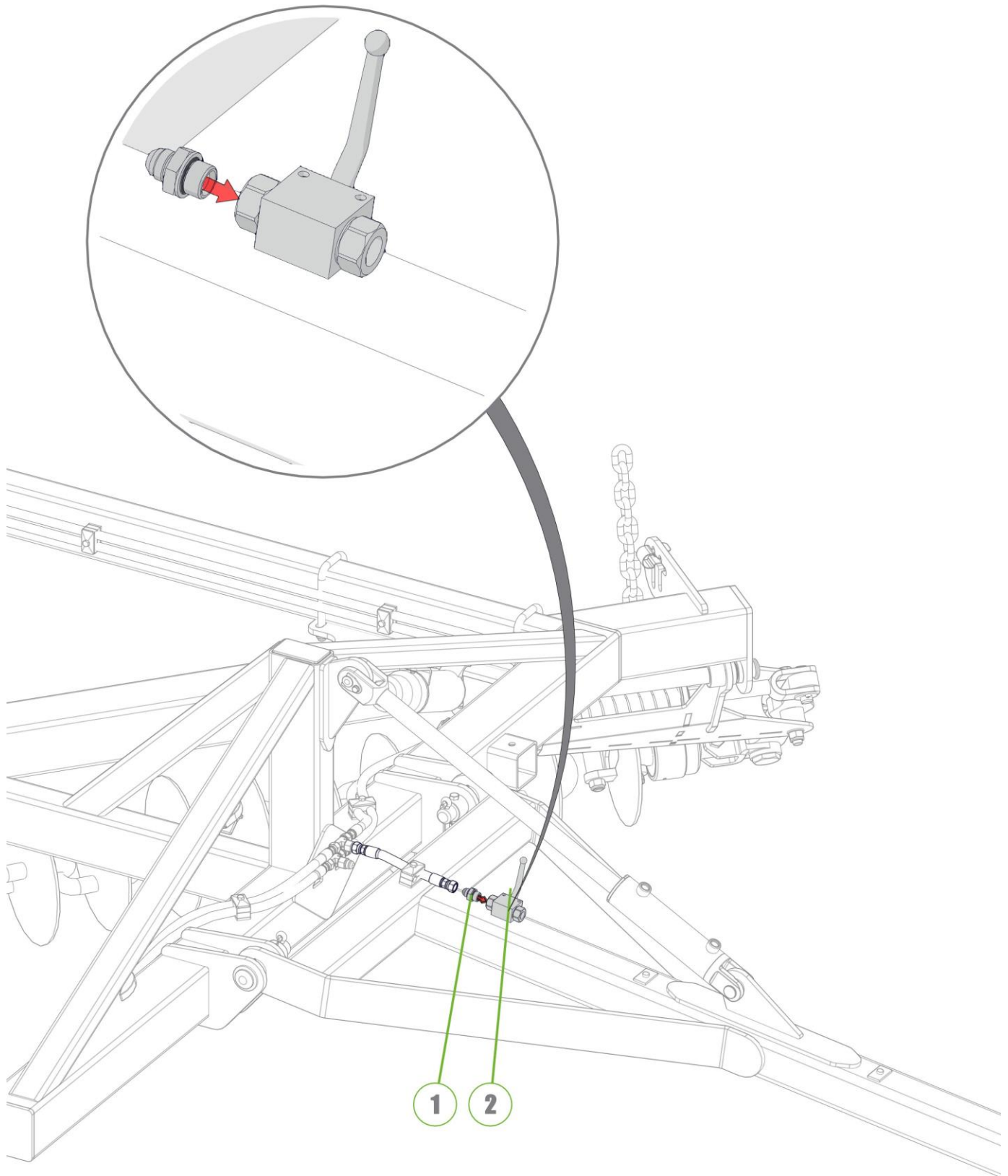
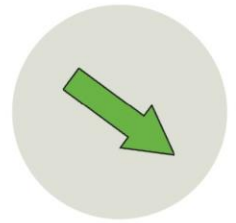


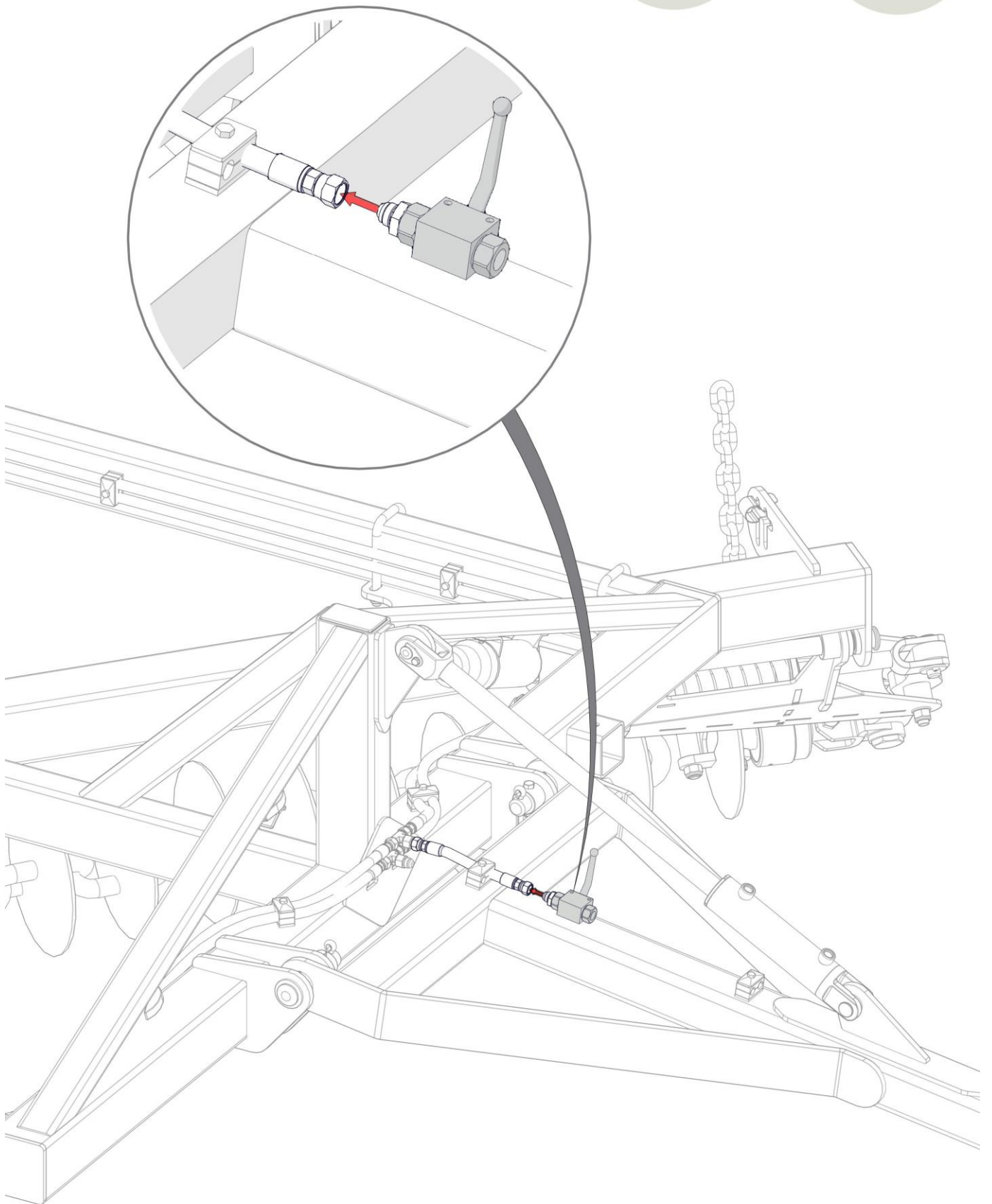
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|----------|--------------------------------------|------------|-----|
| 1        | Ball Valve to Extend Orifice Fitting | 1402-HK-02 | 1   |



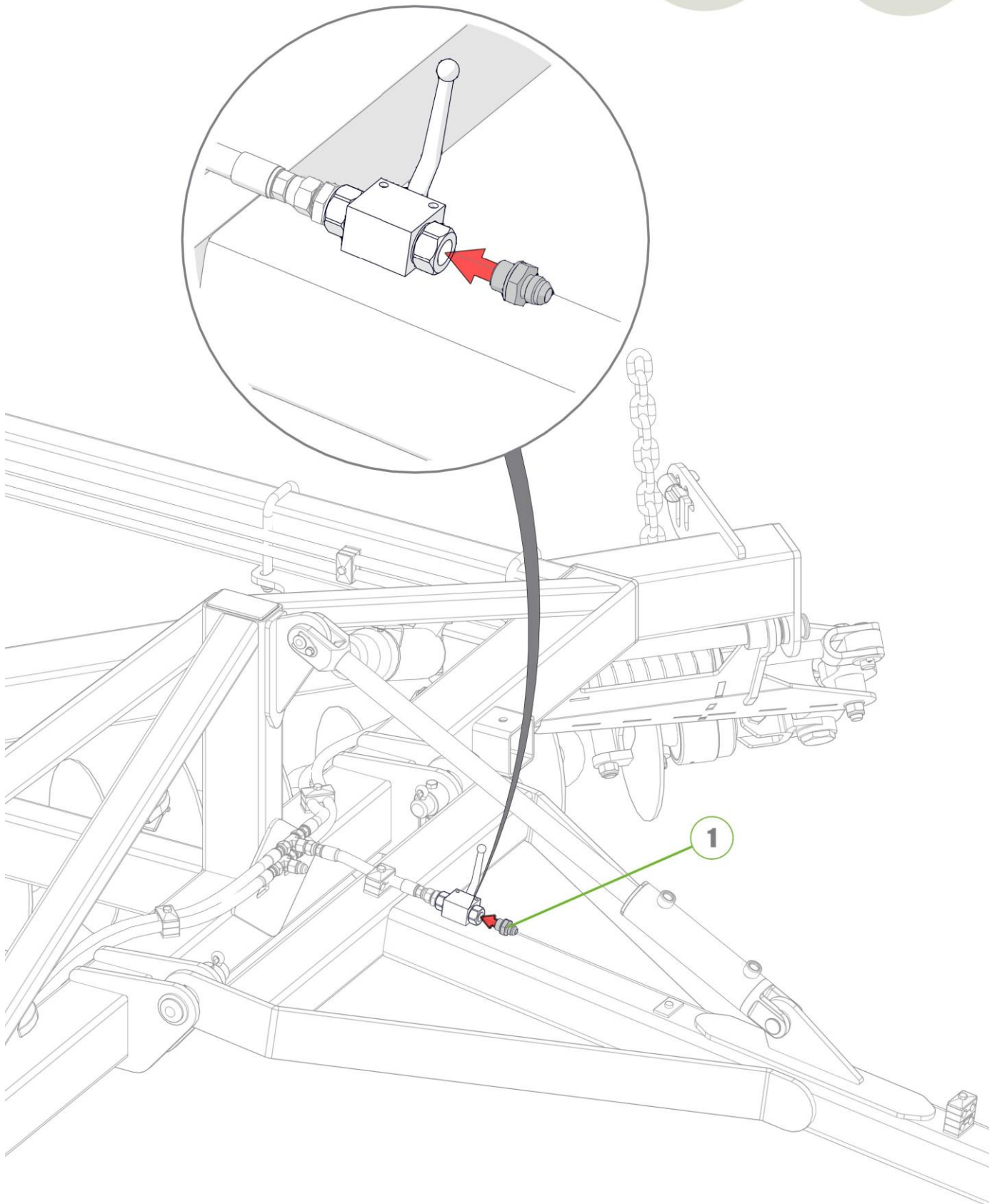
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| Item No. | Description                                 | Number           | Qty |
|----------|---|------------------|-----|
| 1        | 1/2" BSPP Encapt Male 3/4" JIC Male Adaptor | 0323-S74-0812    | 1   |
| 2        | Ball Valve BSPP 1/2"                        | 0341-RL20SH-0808 | 1   |

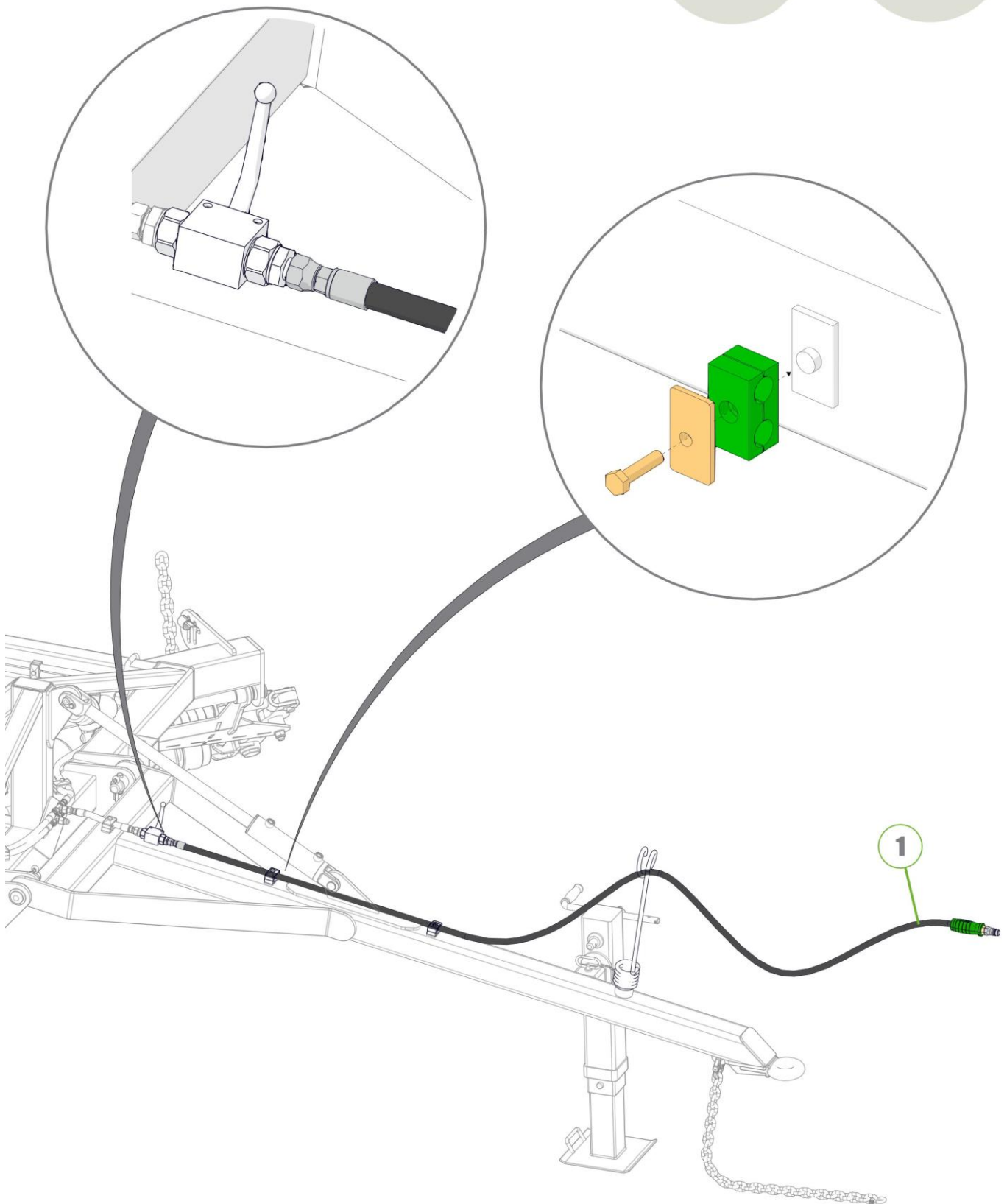
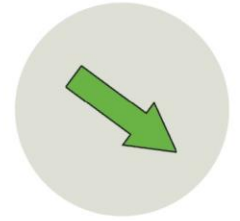


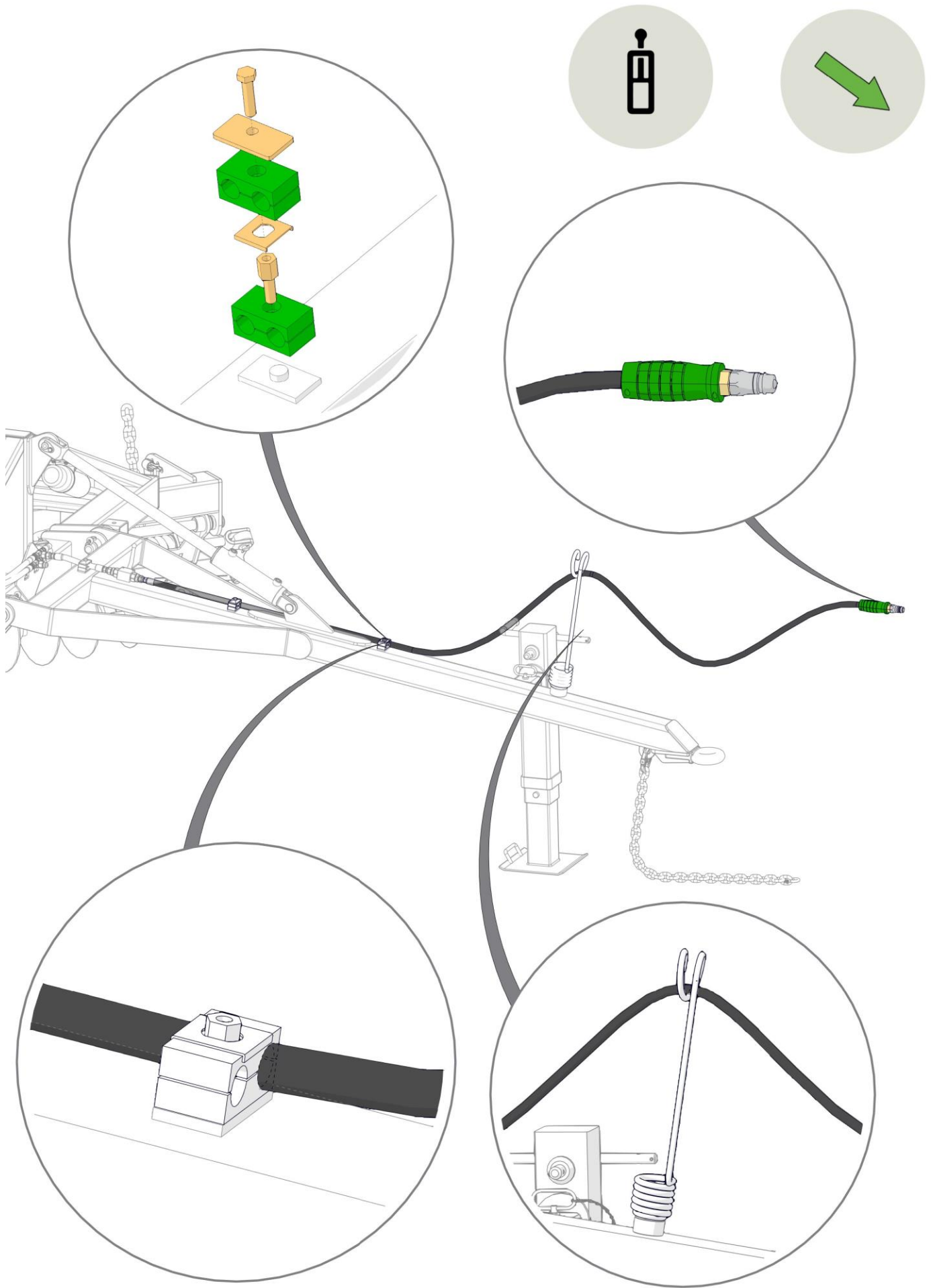


| Item No. | Description                                 | Number        | Qty |
|----------|---|---------------|-----|
| 1        | 1/2" BSPP Encapt Male 3/4" JIC Male Adaptor | 0323-574-0812 | 1   |



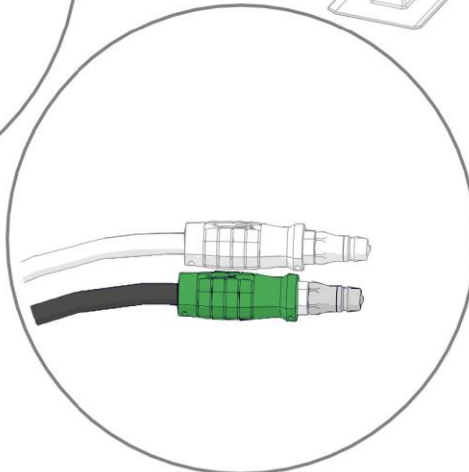
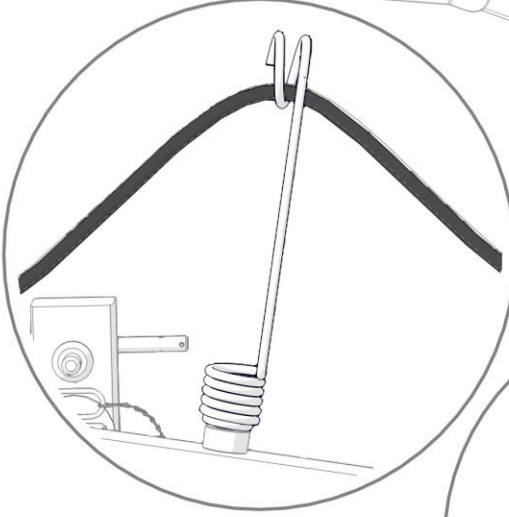
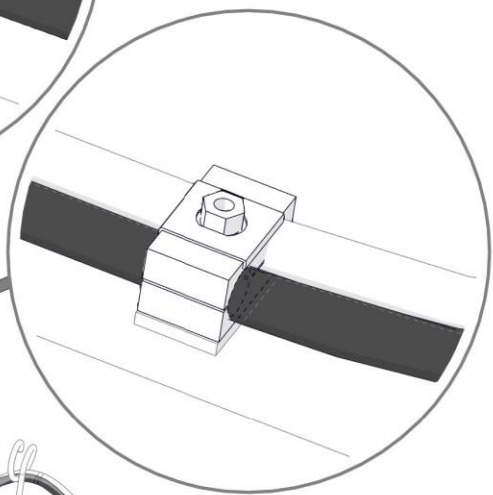
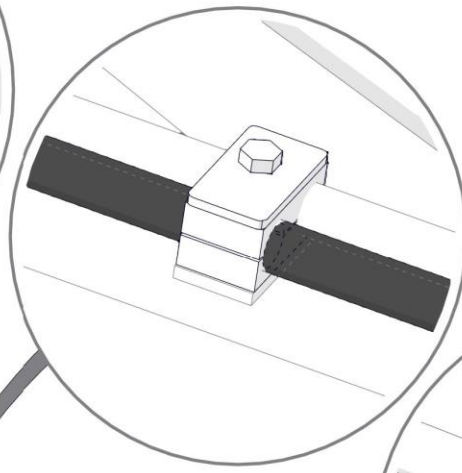
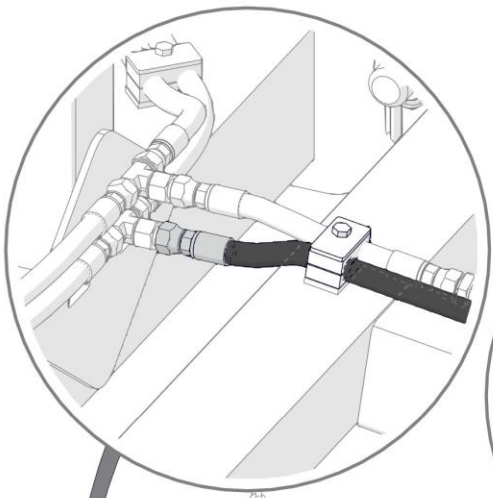
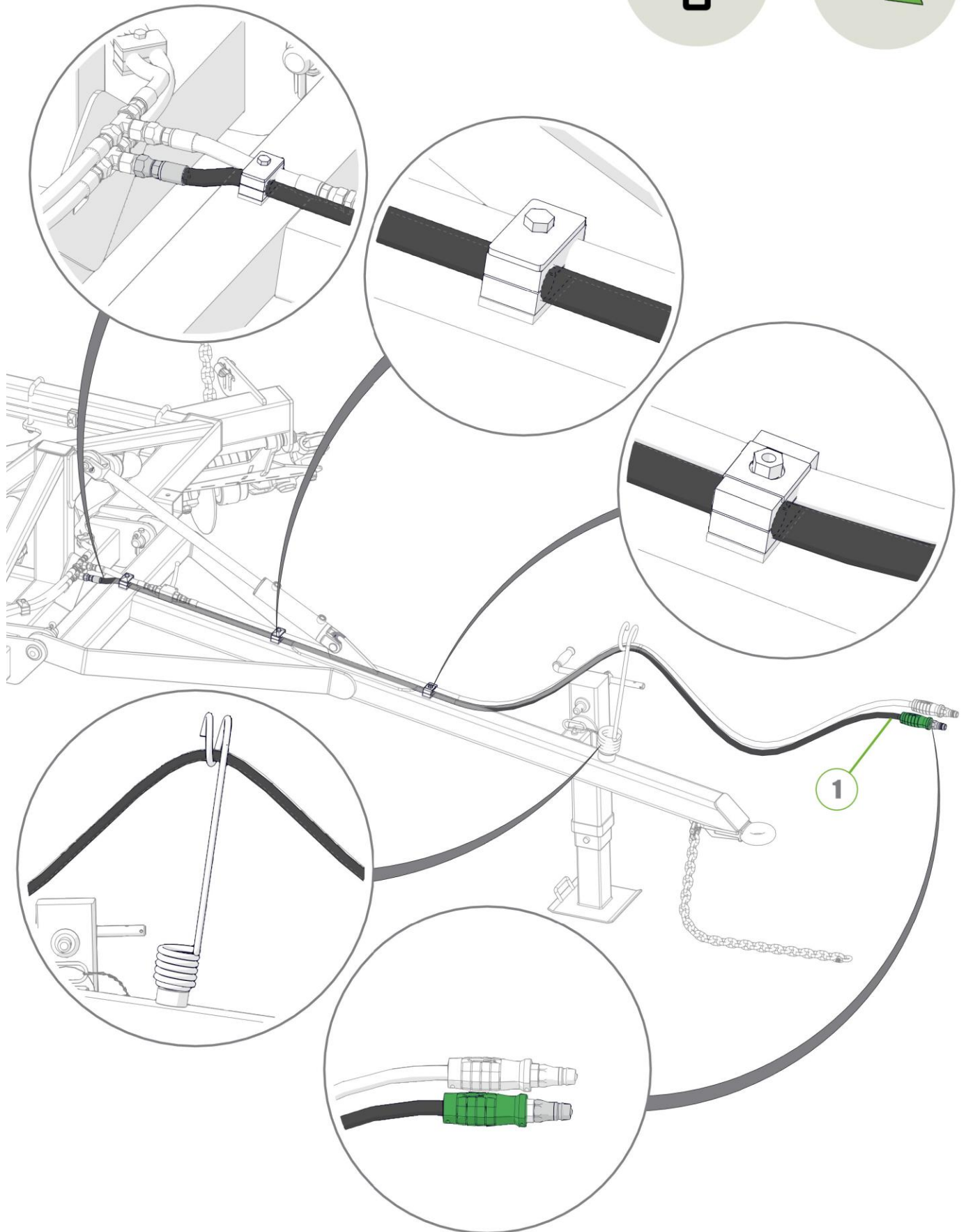
| Item No. | Description   | Number     | Qty |
|----------|---|------------|-----|
| 1        | Tractor to Ball Valve Fitted with Green Extend Grip | 1402-HK-01 | 1   |





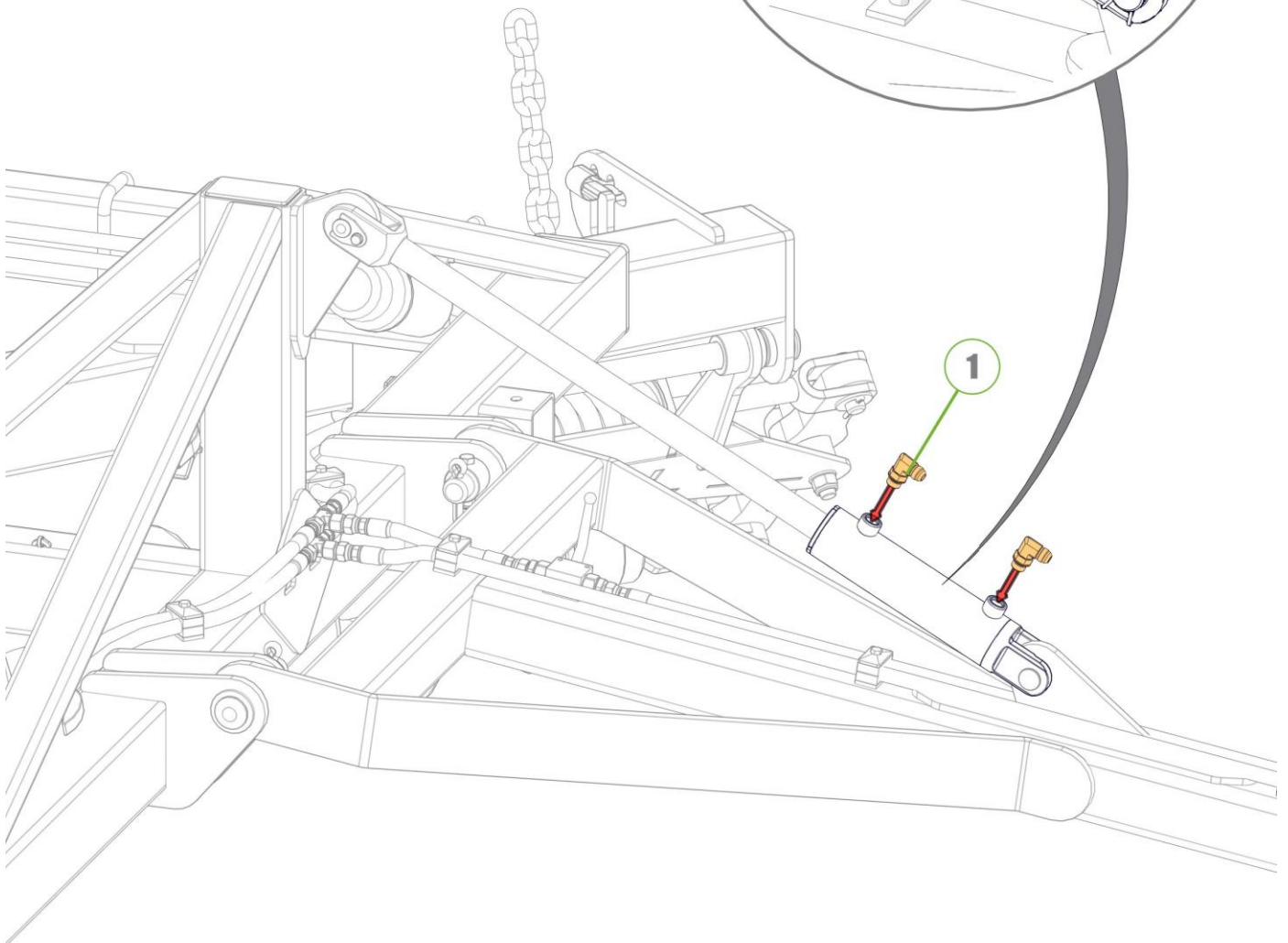
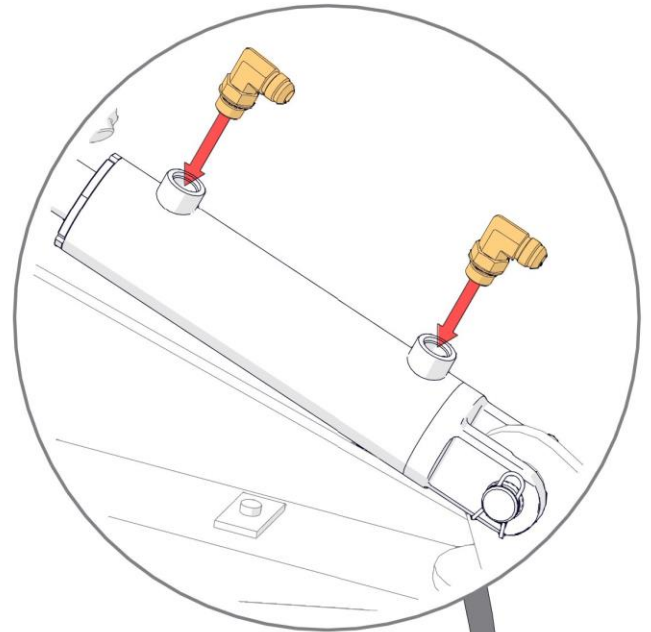
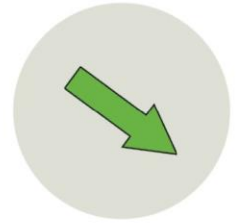


| Item No. | Description   | Number     | Qty |
|----------|---|------------|-----|
| 1        | Tractor To Retract Orifice Fitting Fitted with Green Retract Grip | 1402-HK-03 | 1   |

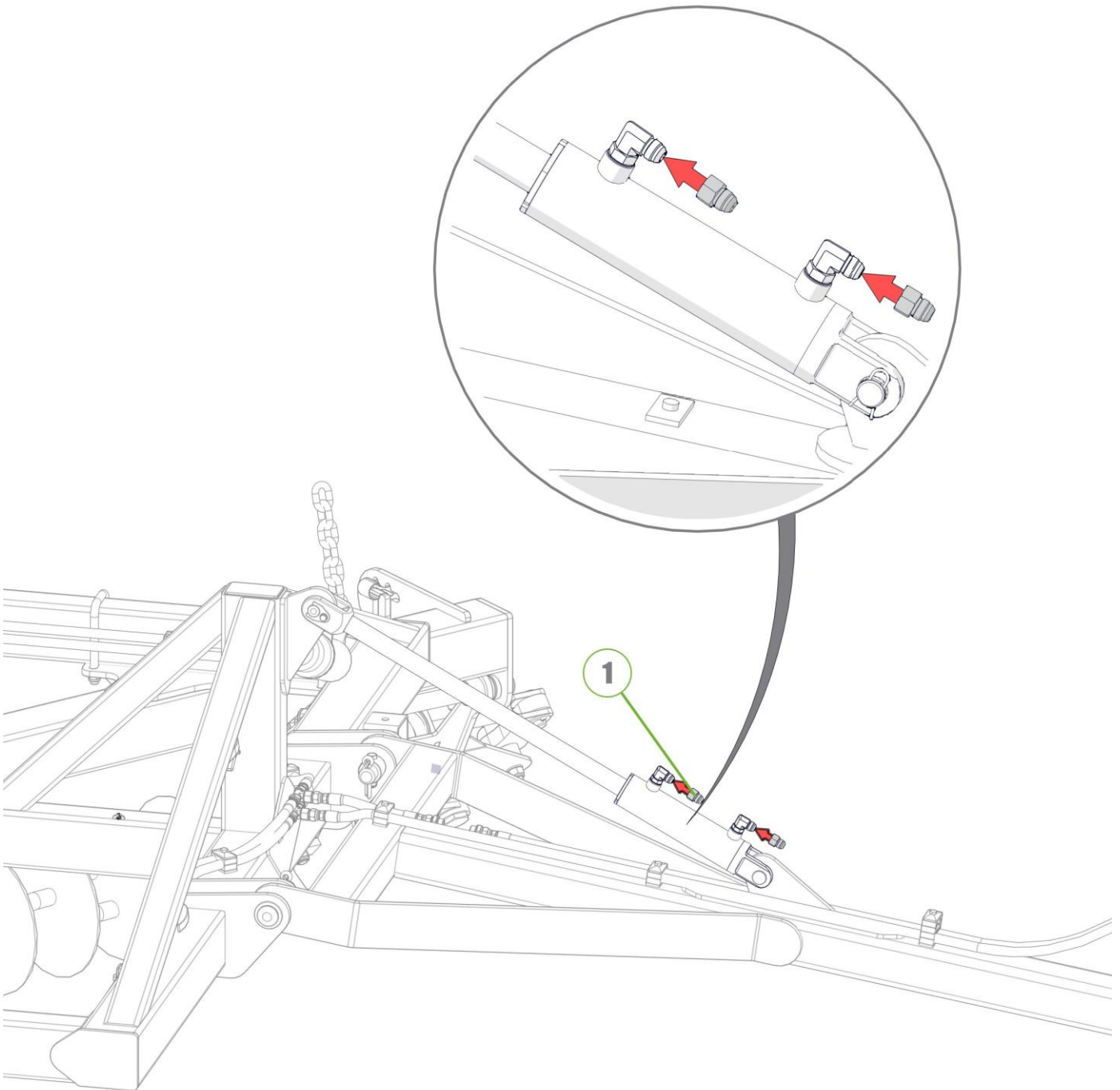


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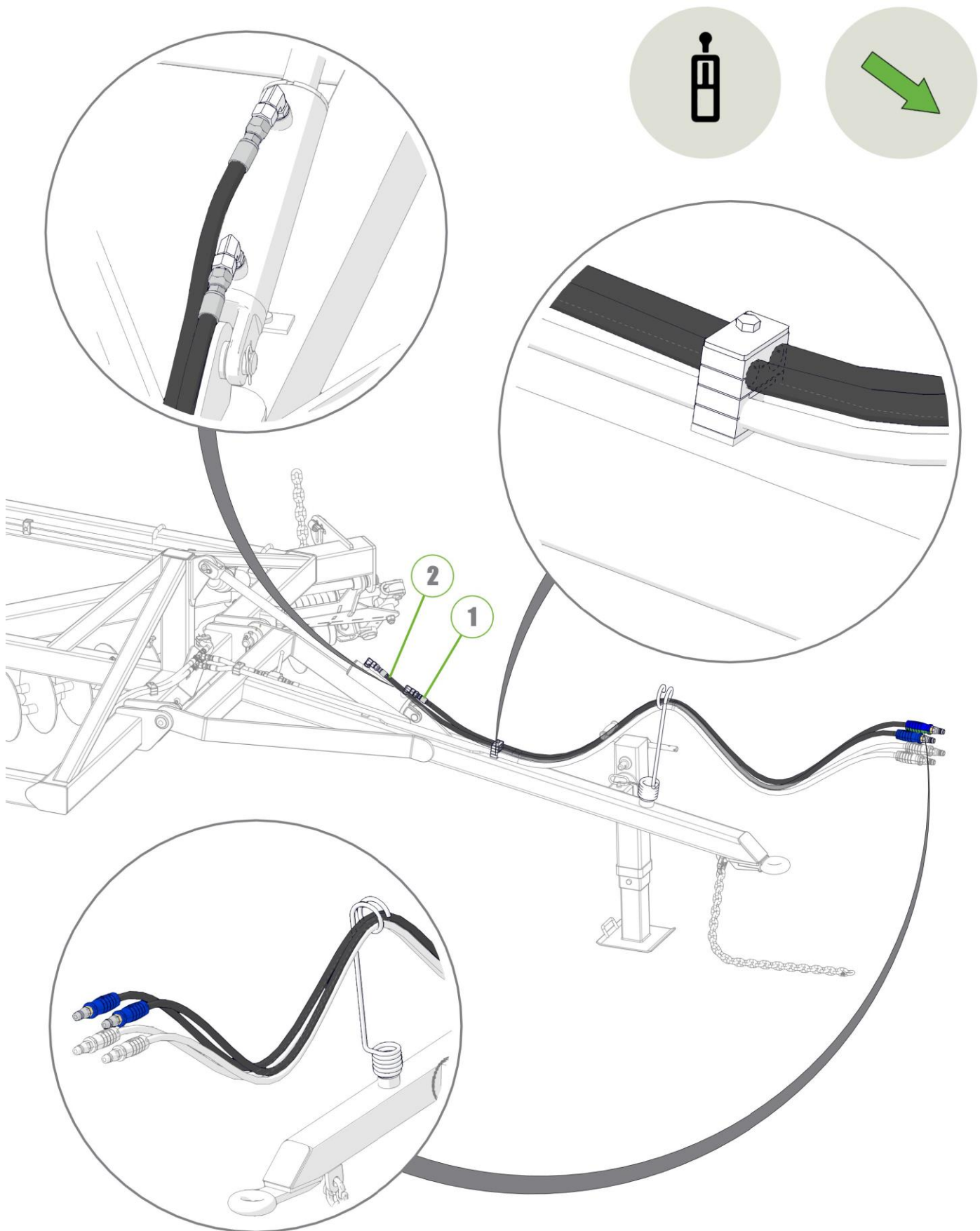
| Item No. | Description                                 | Number        | Qty |
|----------|---|---------------|-----|
| 1        | 3/4" JIC Male 3/4" UN O Ring Male 90° Elbow | 0323-591-1212 | 2   |



| Item No. | Description  | Number        | Qty |
|----------|--|---------------|-----|
| 1        | 3/4" JIC Male to 3/4" JIC Female 2mm Orifice Adaptor | 0323-1212R2.0 | 2   |



| Item No. | Description  | Number     | Qty |
|----------|--|------------|-----|
| 1        | Tractor To Extend Port Of Front Cylinder Fitted with Blue Extend Grip Hose   | 1402-HK-09 | 1   |
| 2        | Tractor To Retract Port Of Front Cylinder Fitted with Blue Retract Grip Hose | 1402-HK-08 | 1   |

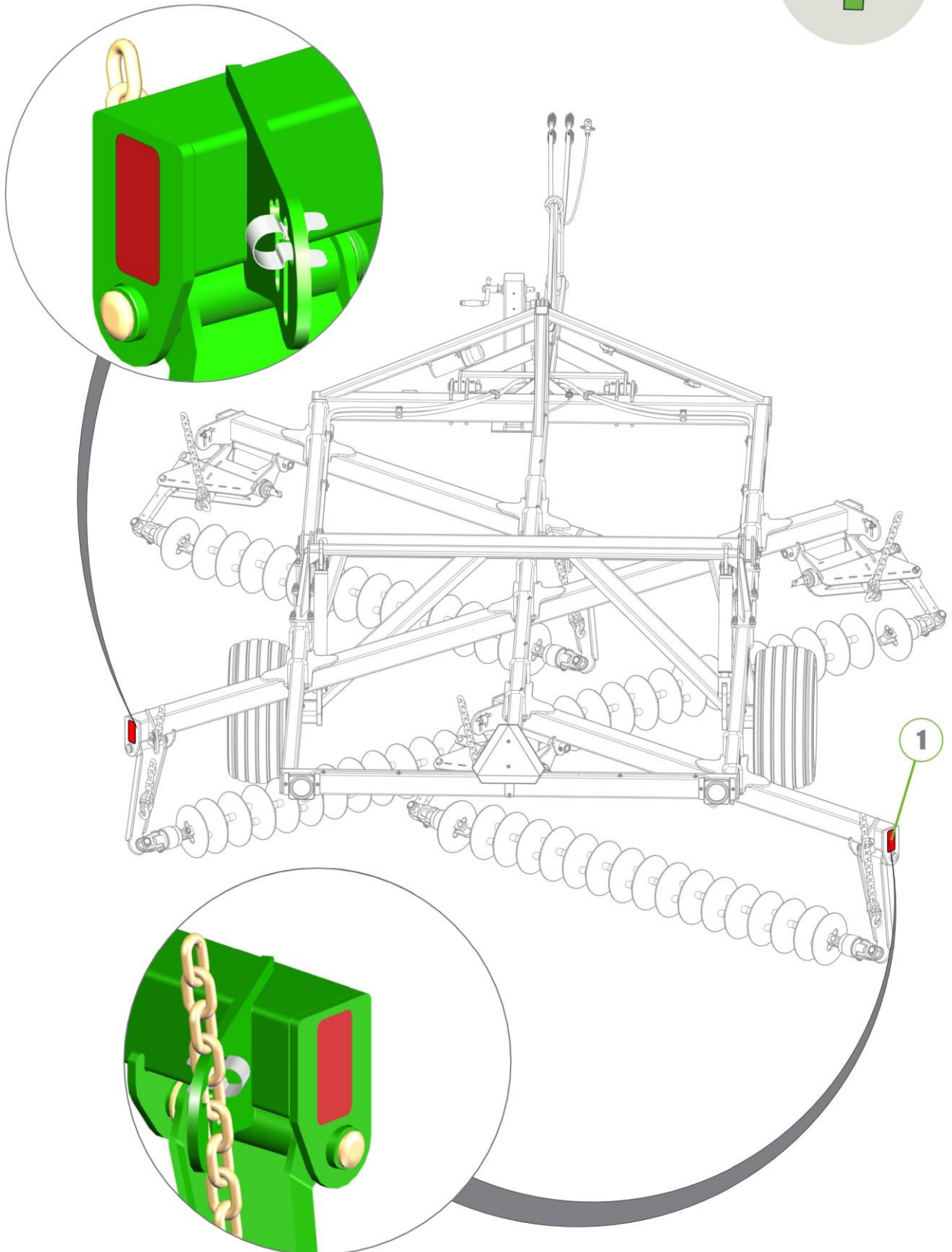




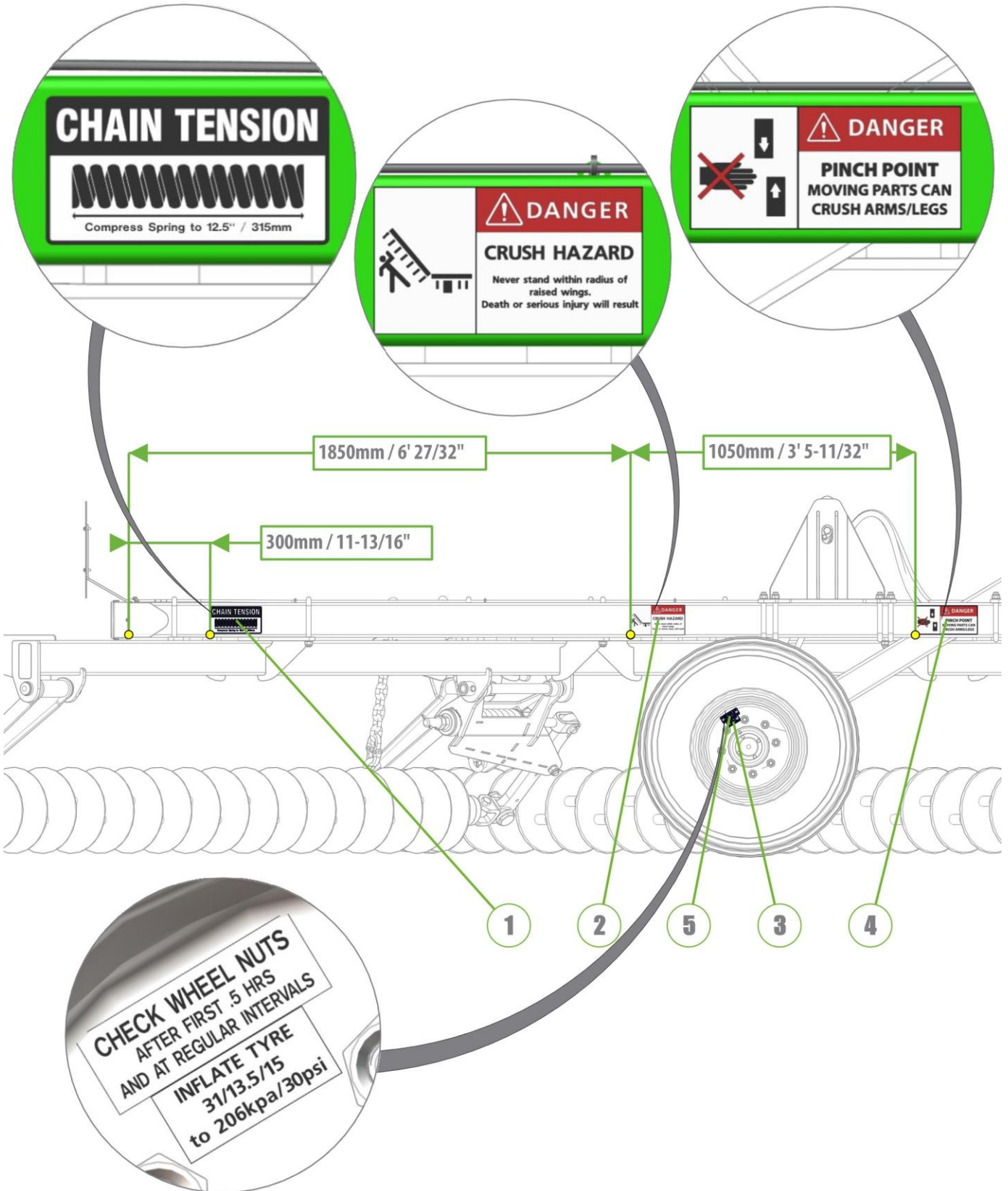
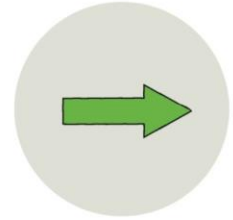
**SECTION 4**  
DECAL APPLICATION

## SECTION 4 DECAL APPLICATION

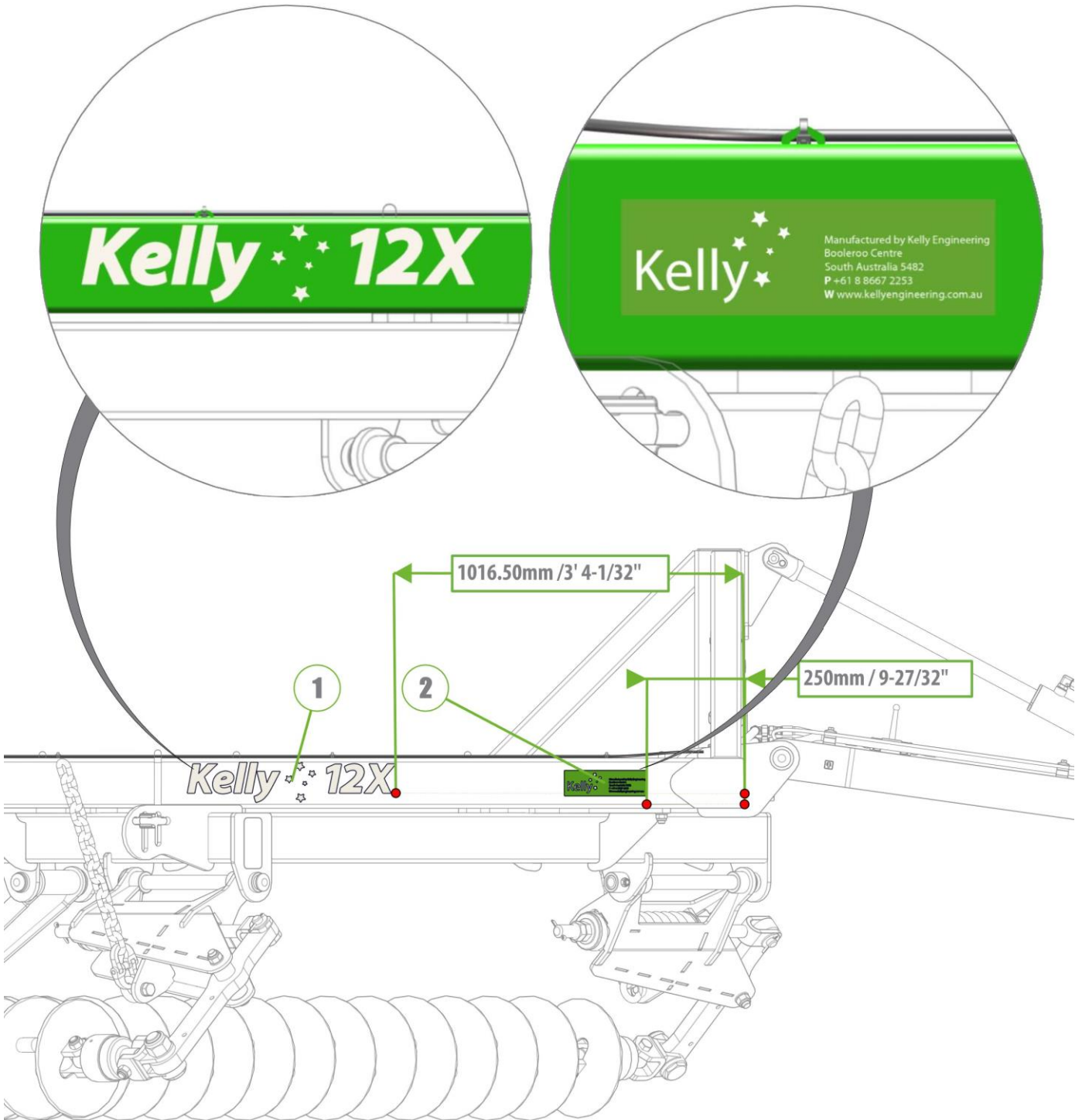
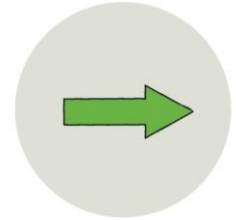
| Item No. | Description          | Number    | Qty |
|----------|----------------------|-----------|-----|
| 1        | Red Reflective Decal | 0801-SRRF | 2   |



| Item No. | Description                      | Number             | Qty |
|----------|----------------------------------|--------------------|-----|
| 1        | Chain Tension 315mm Decal        | 0801-S13           | 1   |
| 2        | Danger Crush Hazard Decal        | 0801-S3            | 1   |
| 3        | Decal, 31/13.5/15 Tyre Inflation | 0801-S8-31-13.5-15 | 1   |
| 4        | Pinch Point Decal                | 0801-S17           | 1   |
| 5        | Wheel Nut Decal                  | 0801-S9            | 1   |

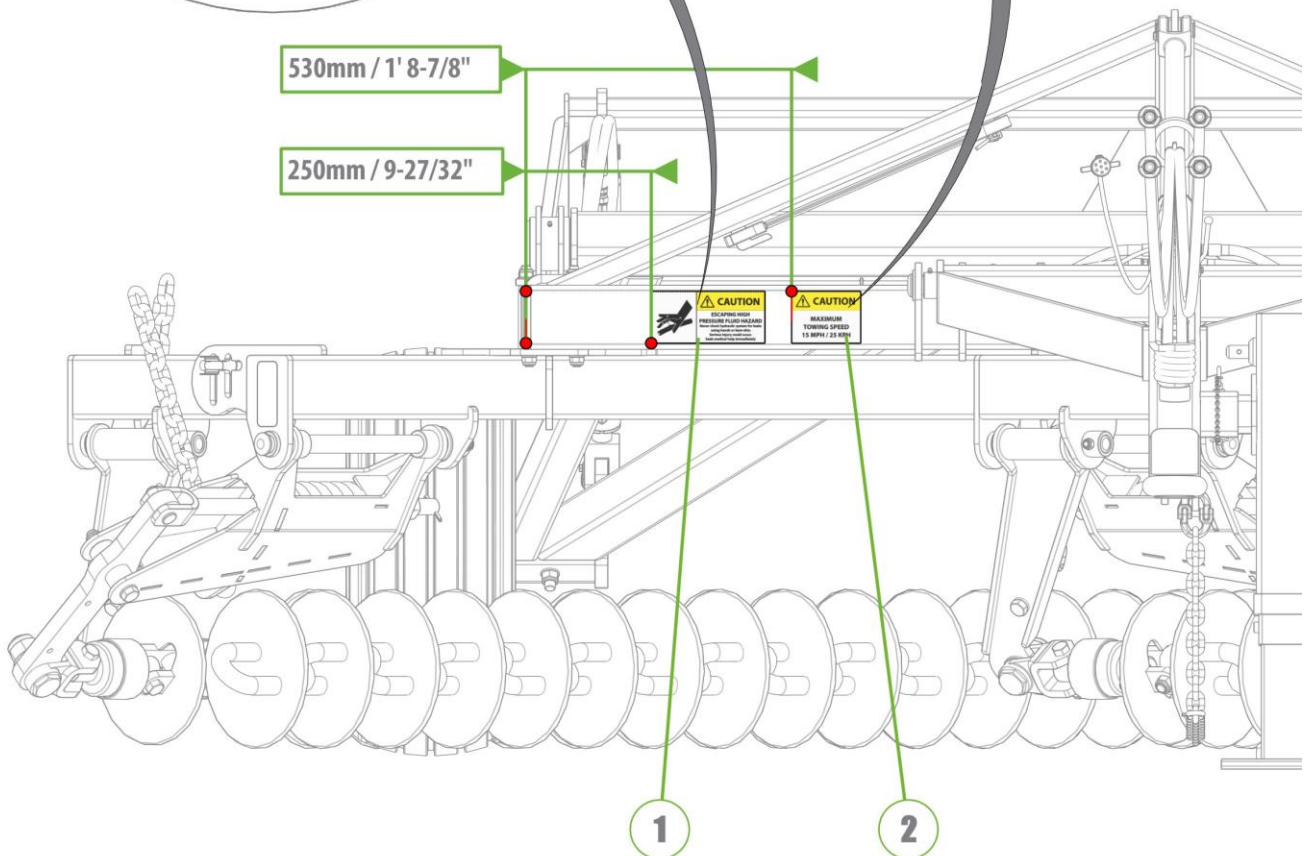
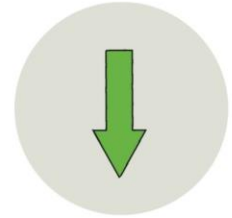


| Item No. | Description              | Number       | Qty |
|----------|--------------------------|--------------|-----|
| 1        | Diamond Harrow 12X Decal | 0801-SKDH12X | 1   |
| 2        | Kelly Engineering Decal  | 0801-S12     | 1   |

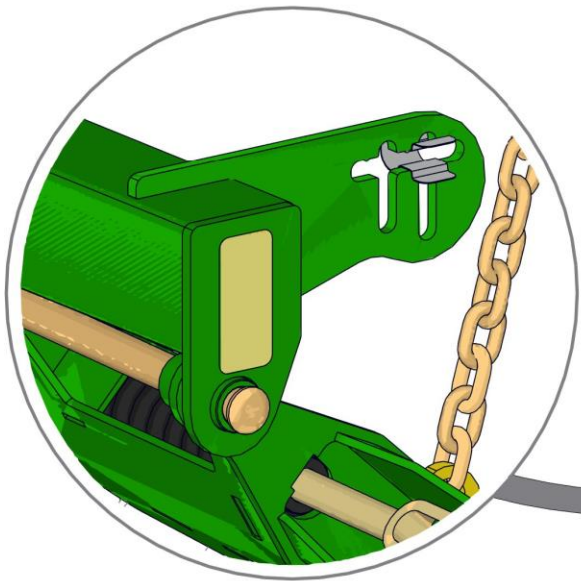
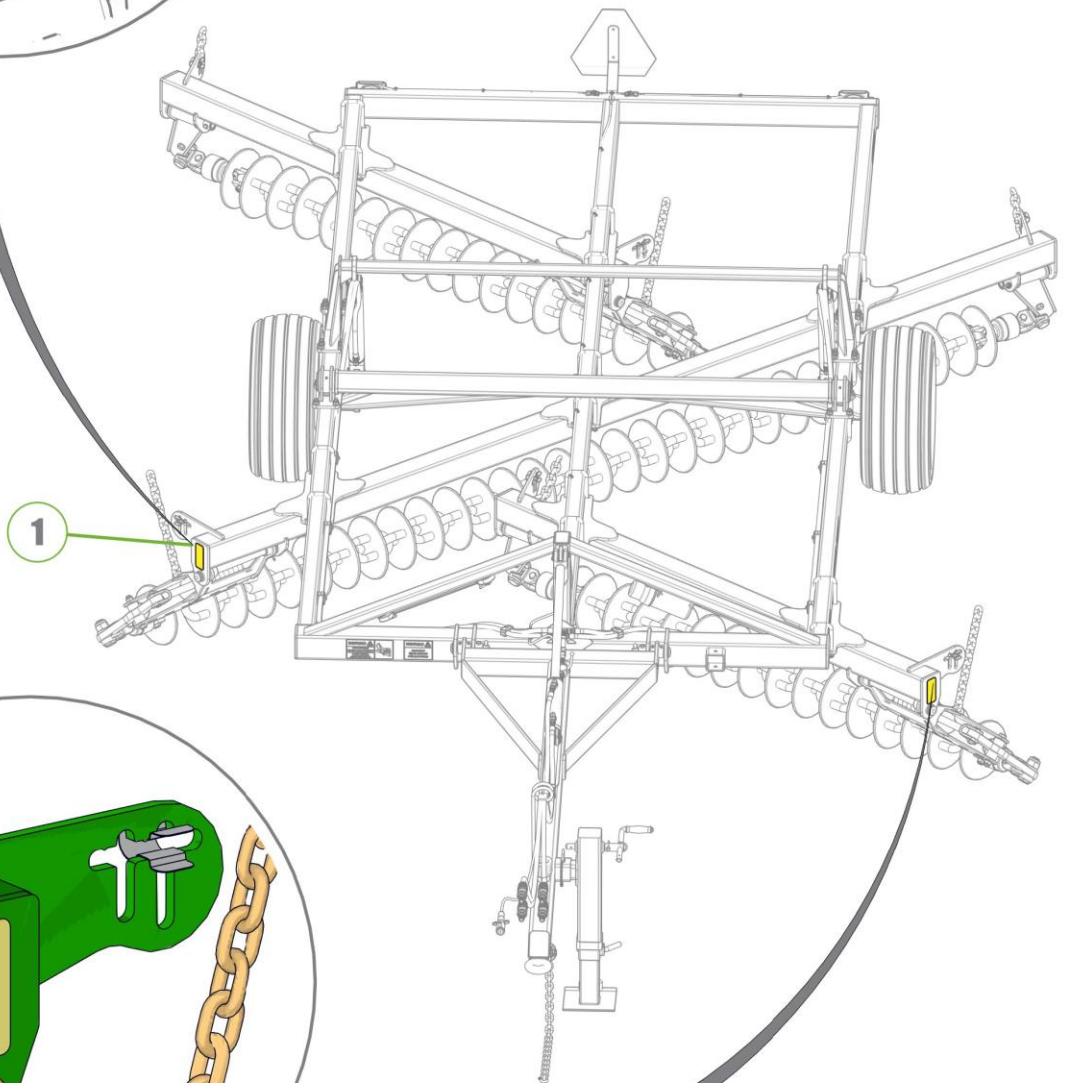
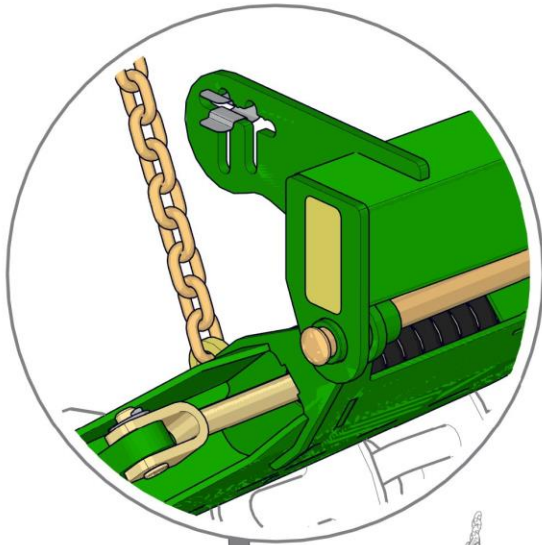
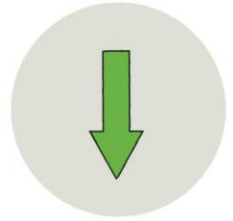




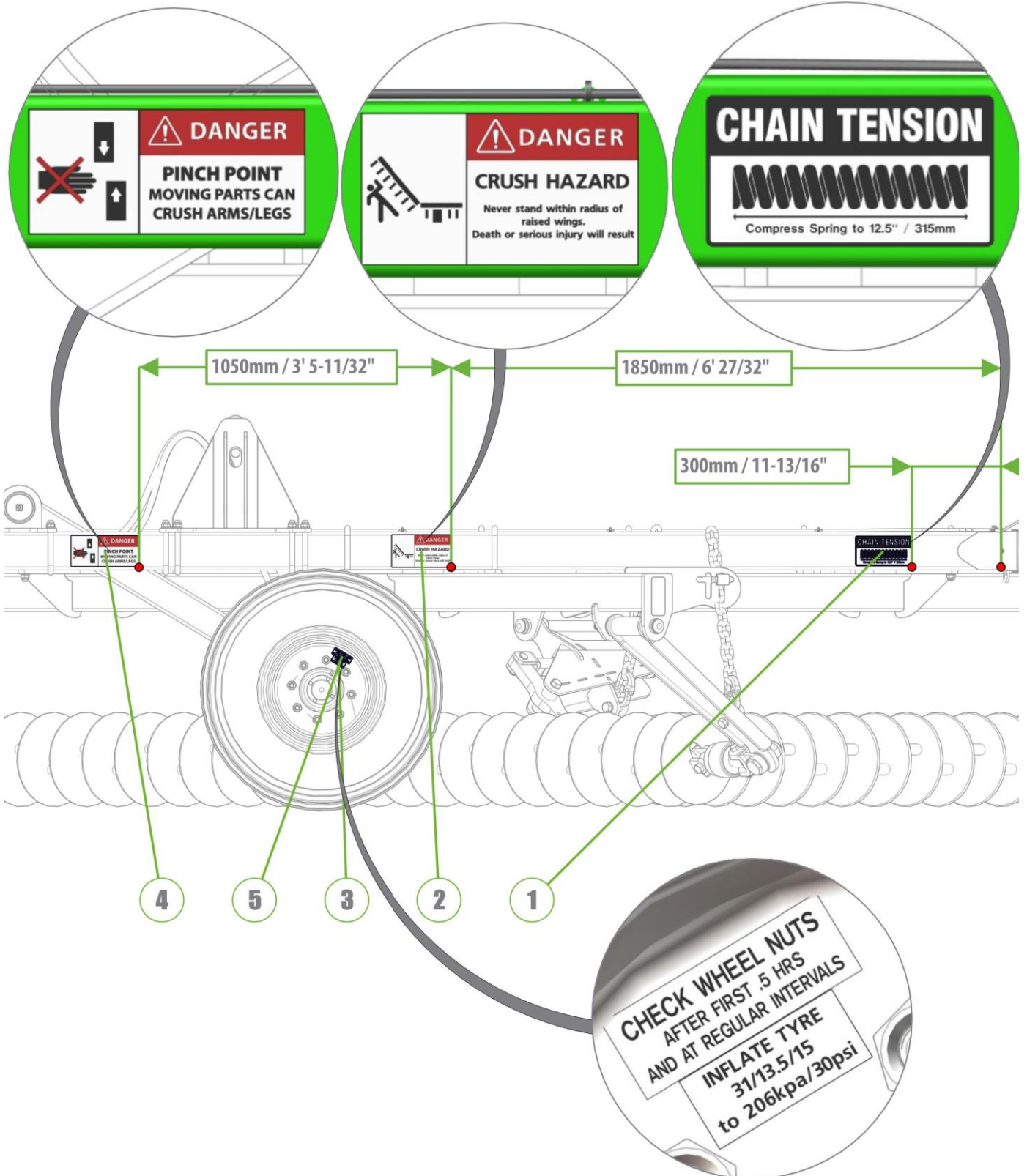
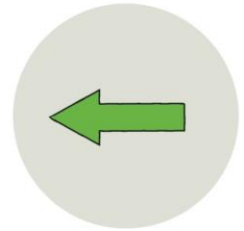
| Item No. | Description                      | Number  | Qty |
|----------|----------------------------------|---------|-----|
| 1        | Hydraulic Pressure Caution Decal | 0801-S4 | 1   |
| 2        | Towing Speed Decal               | 0801-S5 | 1   |



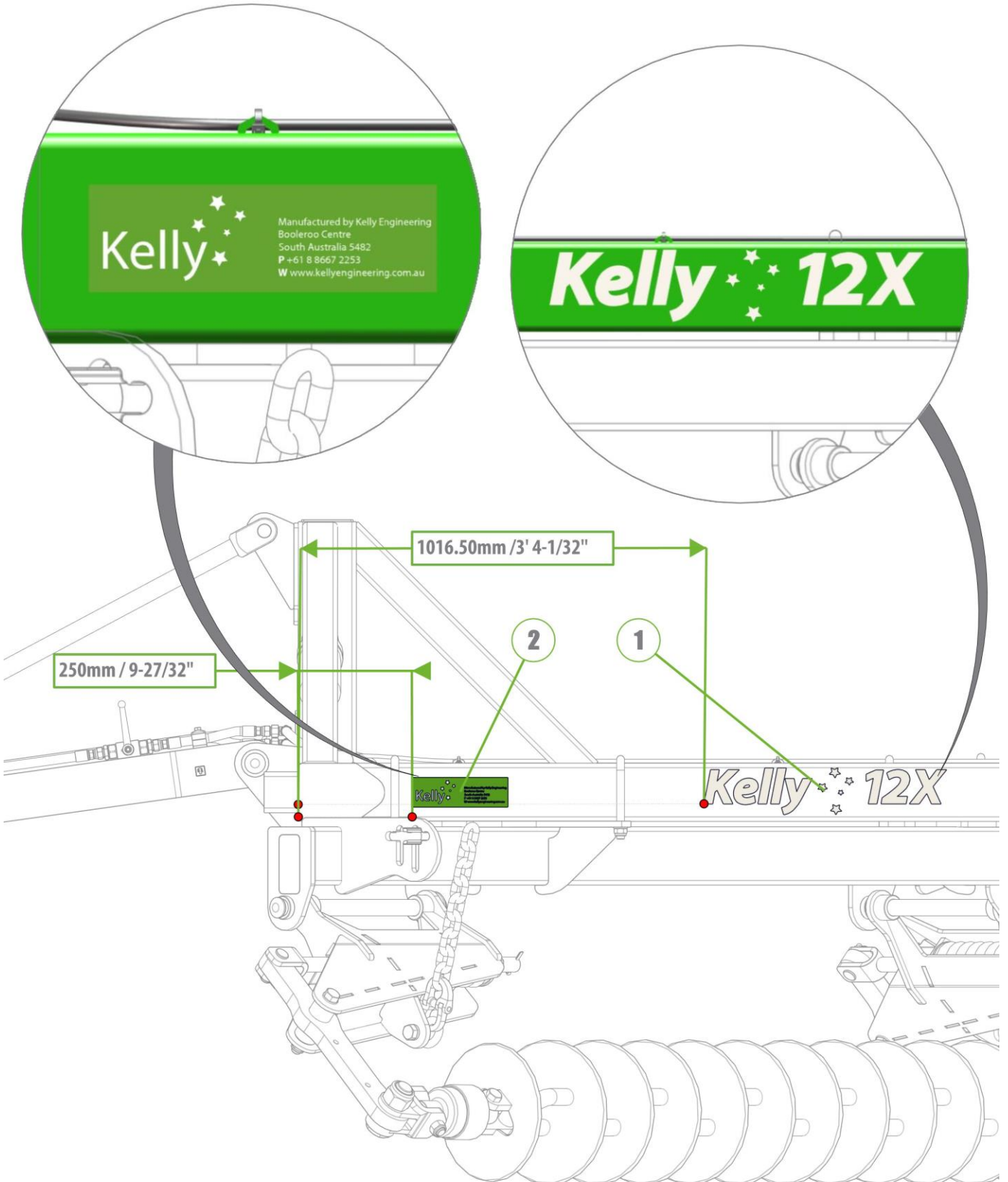
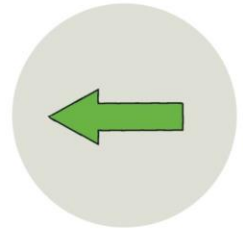
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|----------|-------------------------|-----------|-----|
| 1        | Yellow Reflective Decal | 0801-SYRF | 2   |



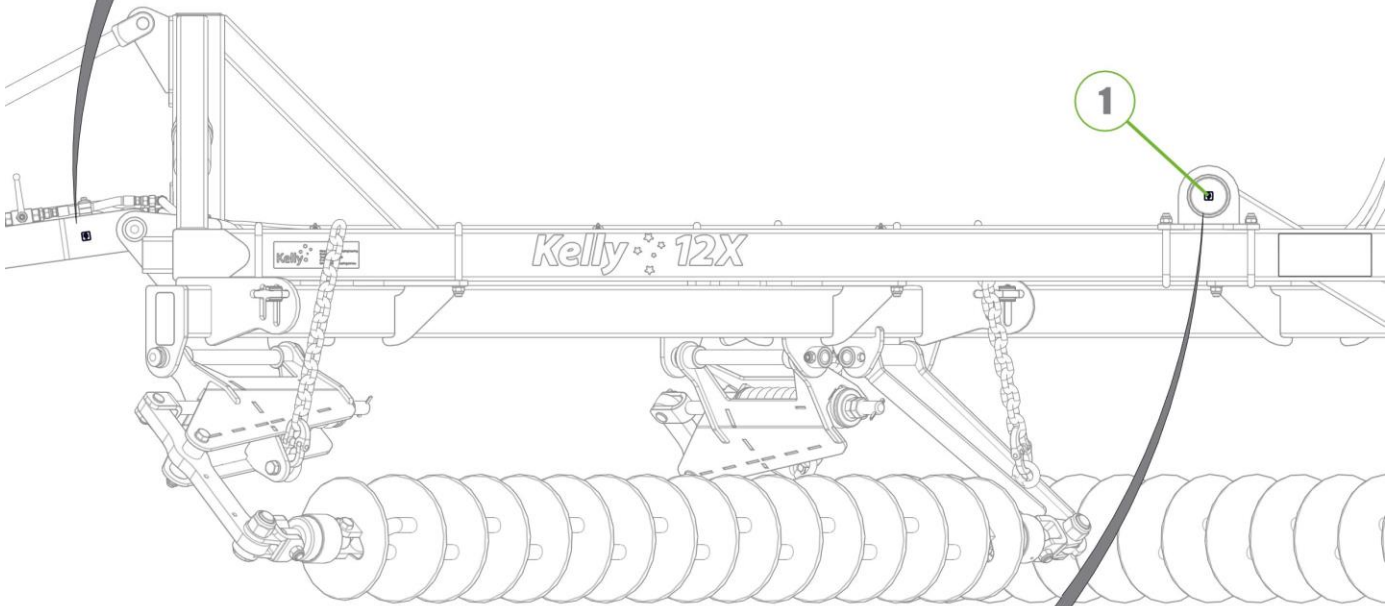
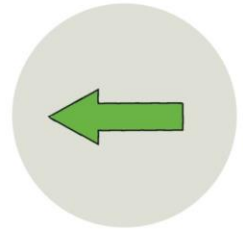
| Item No. | Description                      | Number             | Qty |
|----------|----------------------------------|--------------------|-----|
| 1        | Chain Tension 315mm Decal        | 0801-S13           | 1   |
| 2        | Danger Crush Hazard Decal        | 0801-S3            | 1   |
| 3        | Decal, 31/13.5/15 Tyre Inflation | 0801-S8-31-13.5-15 | 1   |
| 4        | Pinch Point Decal                | 0801-S17           | 1   |
| 5        | Wheel Nut Decal                  | 0801-S9            | 1   |



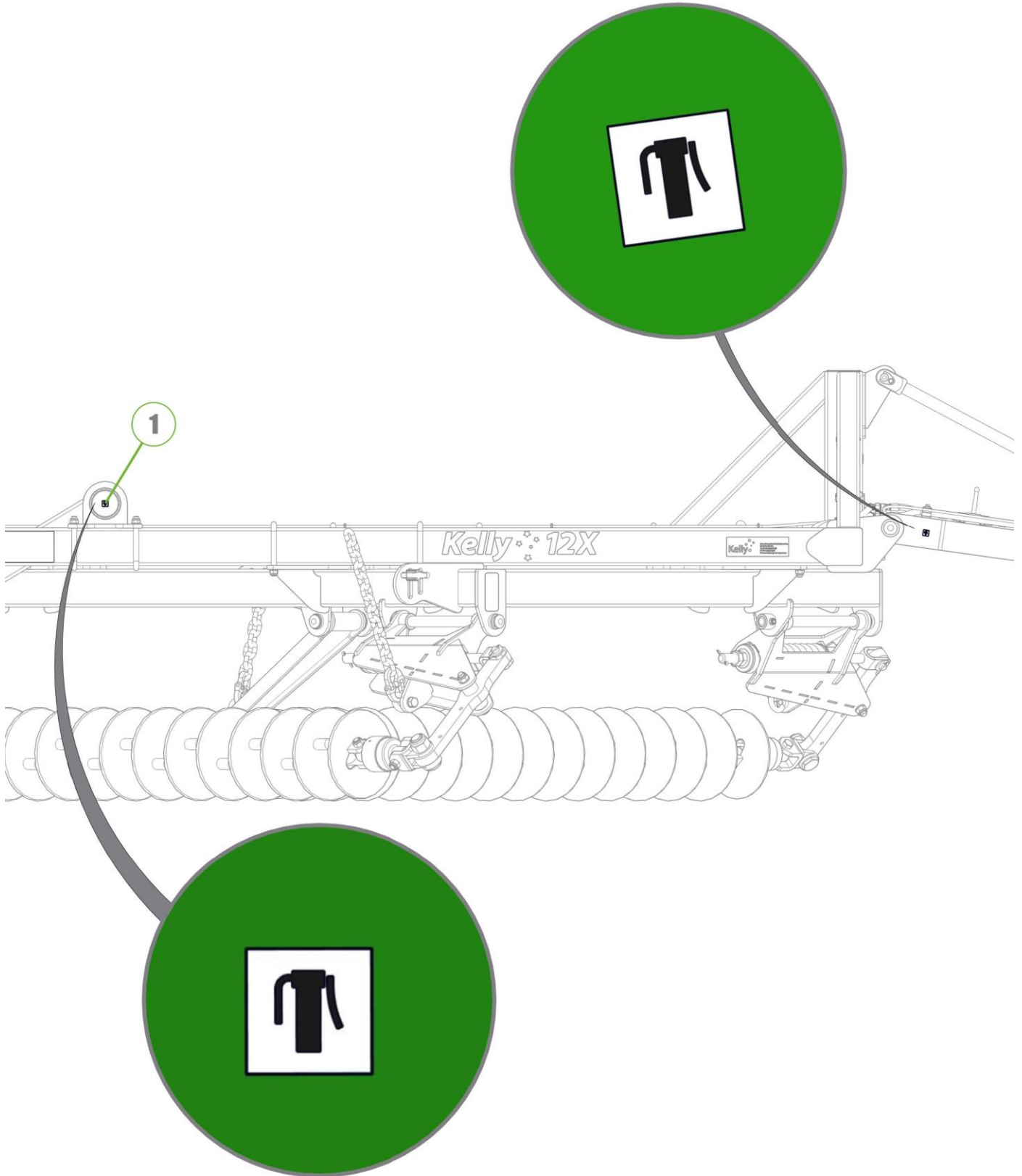
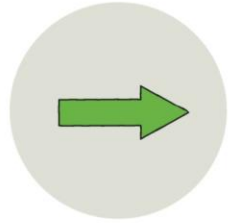
| Item No. | Description              | Number       | Qty |
|----------|--------------------------|--------------|-----|
| 1        | Diamond Harrow 12X Decal | 0801-SKDH12X | 1   |
| 2        | Kelly Engineering Decal  | 0801-S12     | 1   |



| Item No. | Description  | Number   | Qty |
|----------|--------------|----------|-----|
| 1        | Grease Decal | 0801-S10 | 2   |



| Item No. | Description  | Number   | Qty |
|----------|--------------|----------|-----|
| 1        | Grease Decal | 0801-S10 | 2   |





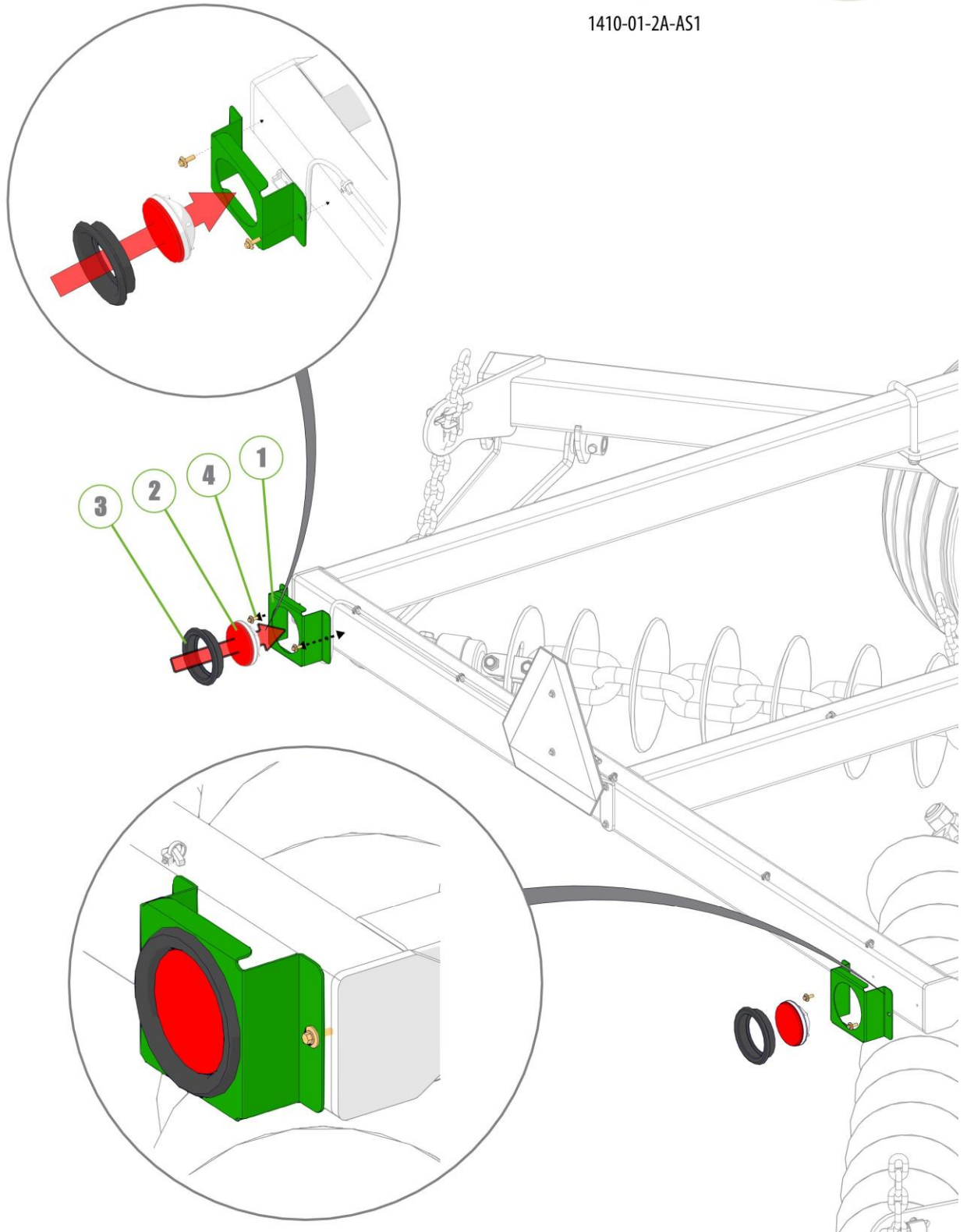
**SECTION 5**  
LIGHT KIT

## SECTION 5 LIGHT KIT

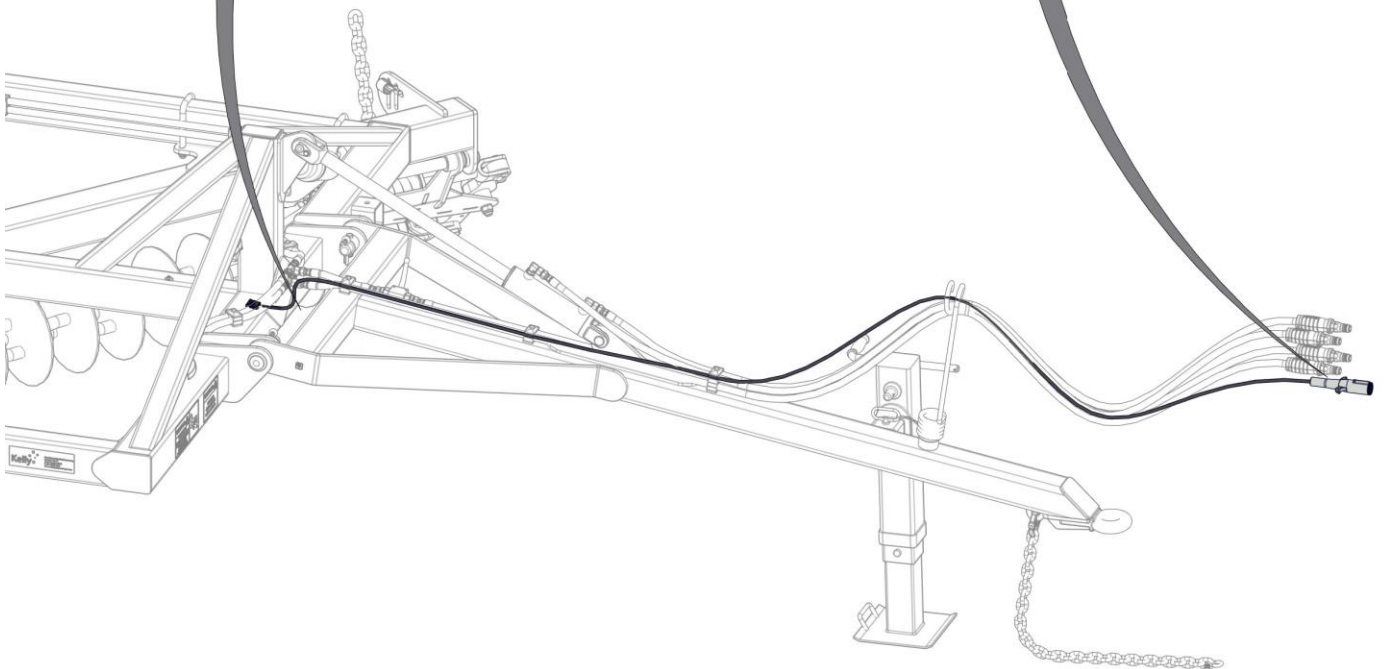
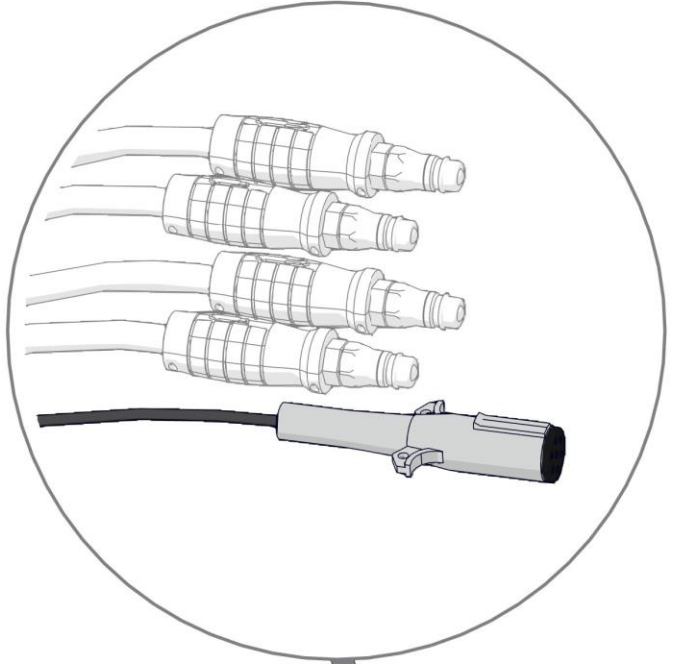
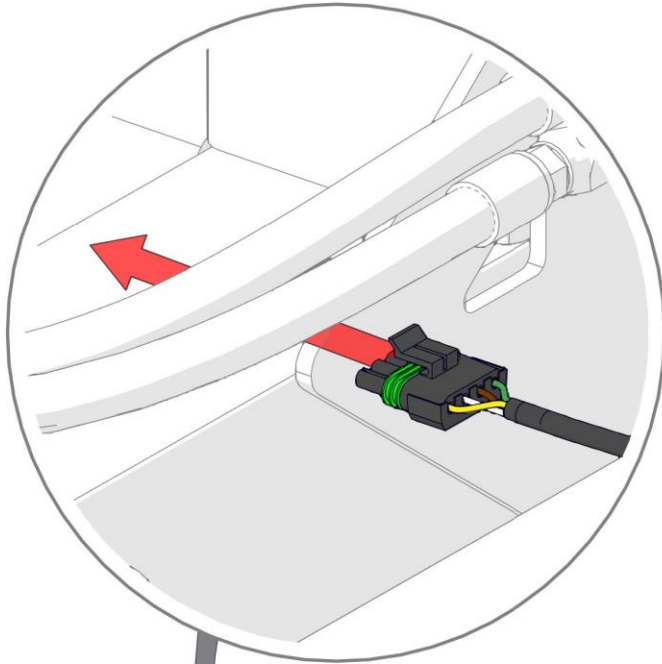
| Item No. | Description             | Number          | Qty |
|----------|-------------------------|-----------------|-----|
| 1        | US Tail Light Bracket   | 0800-194.1      | 2   |
| 2        | LED Stop Tail Lamp      | 0412-LED110RM   | 2   |
| 3        | 110RM Rubber Grommet    | 0412-53101RG    | 2   |
| 4        | M6 x 20mm Trilobe Screw | 0211-M620MZPHTF | 4   |

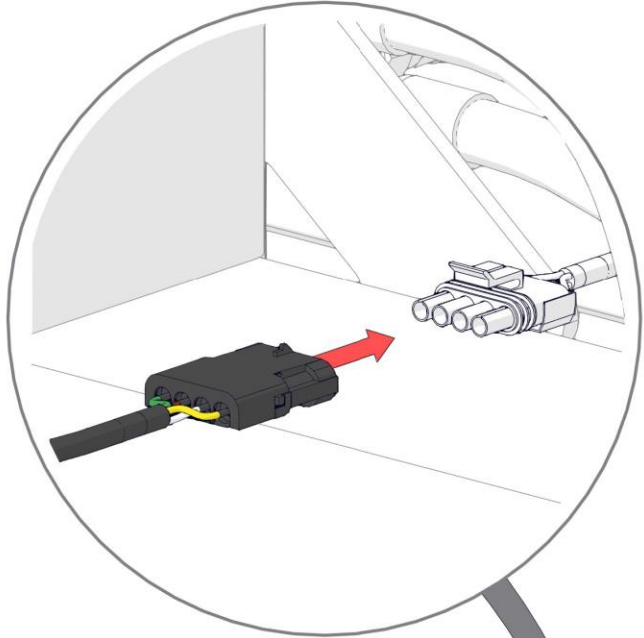
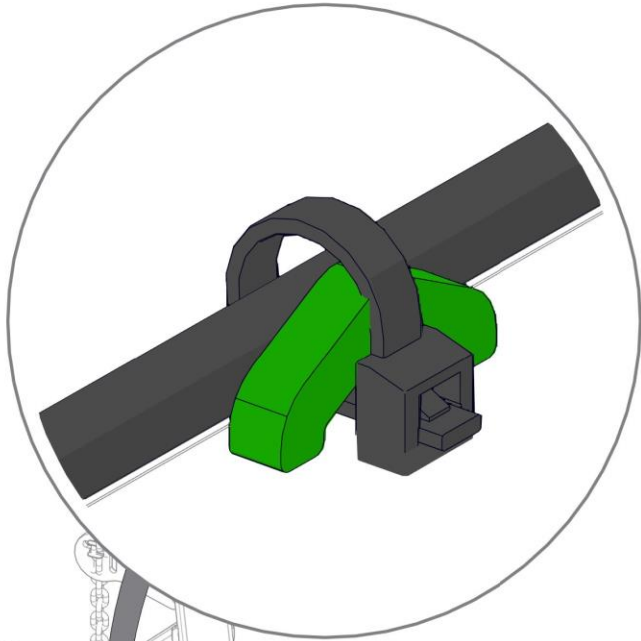


1410-01-2A-AS1

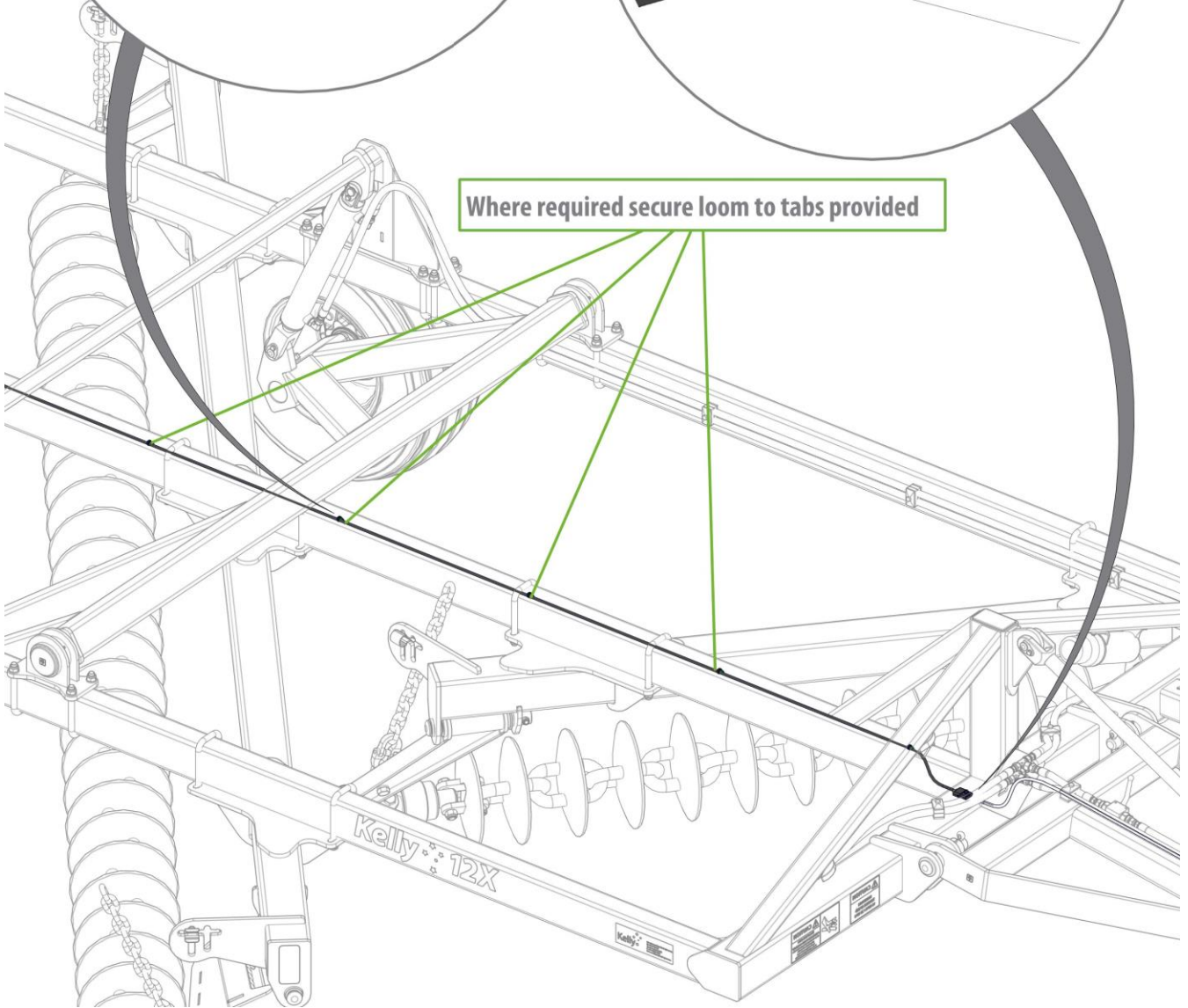


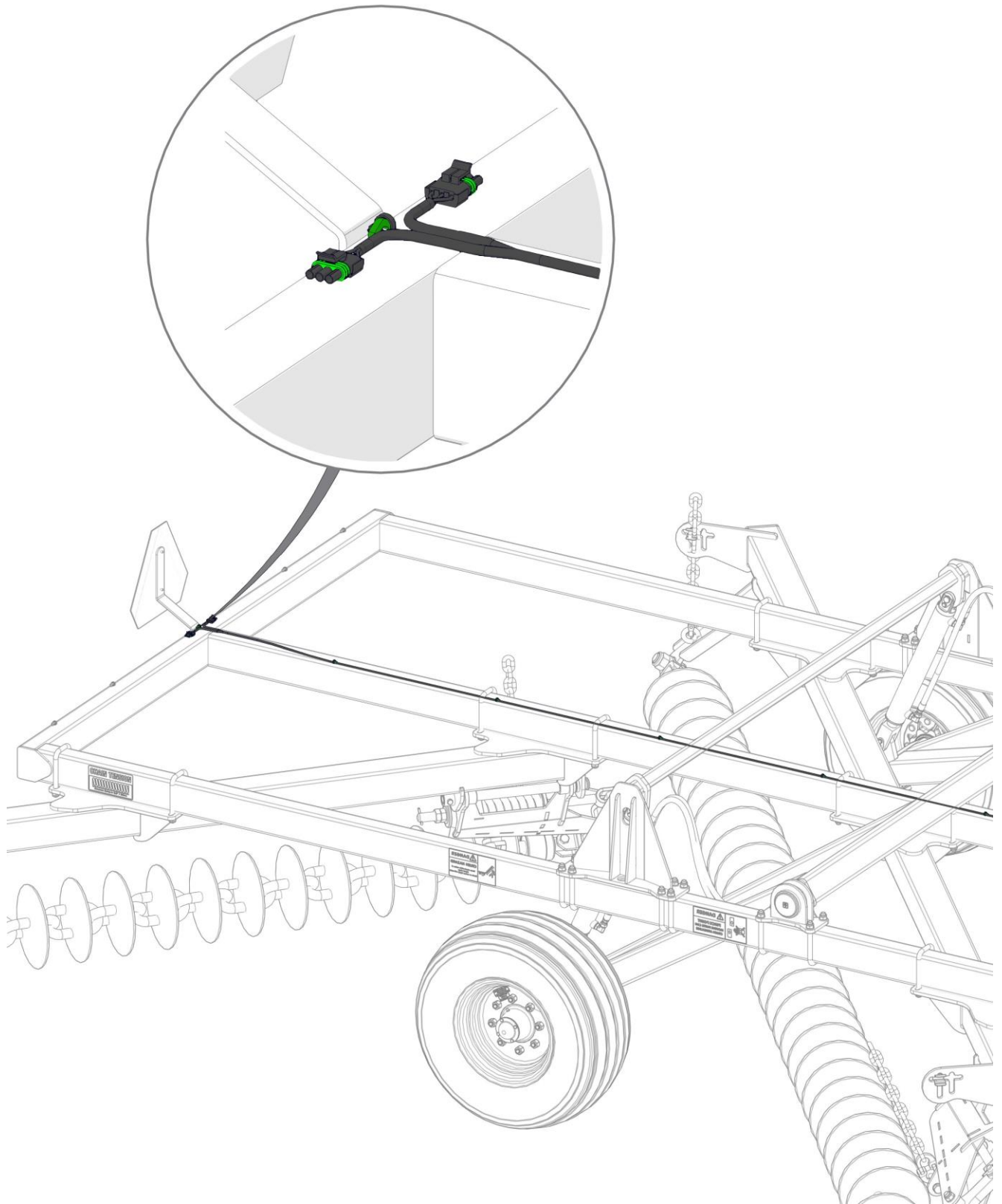


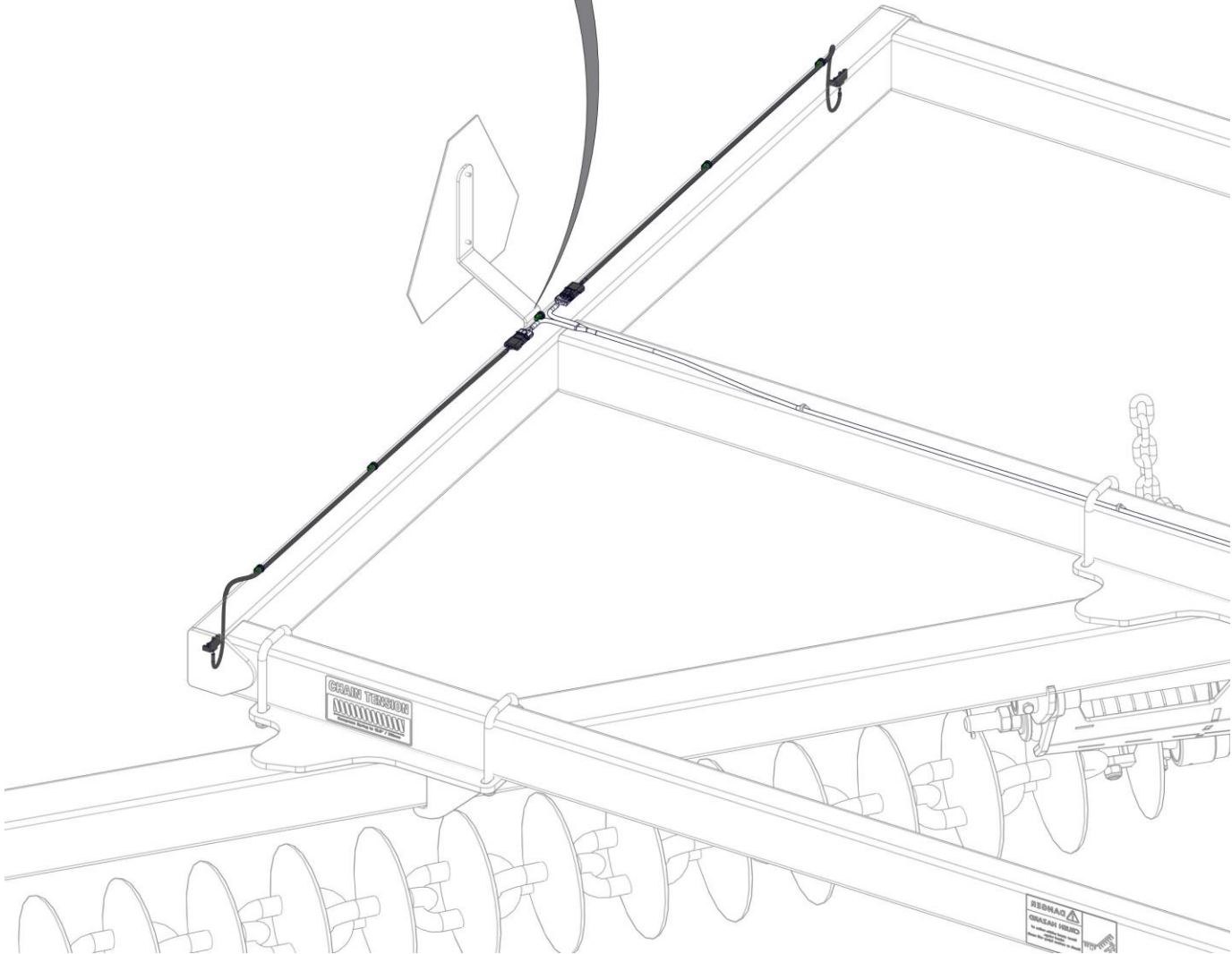
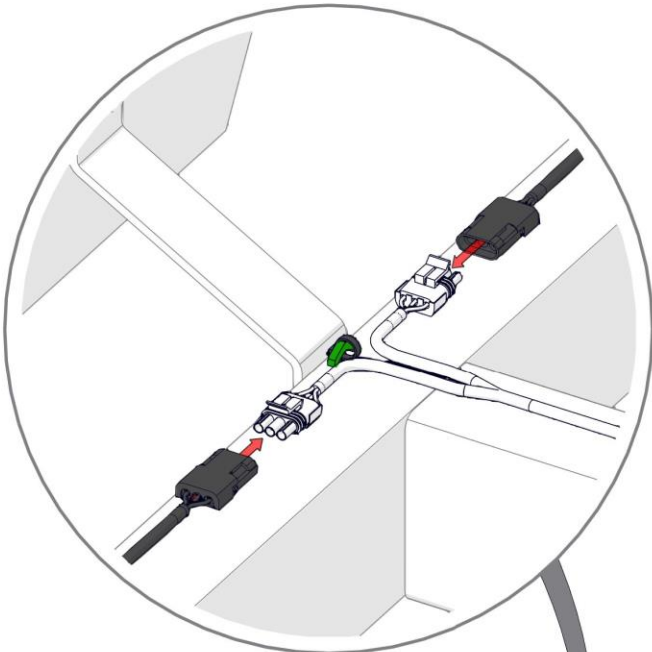


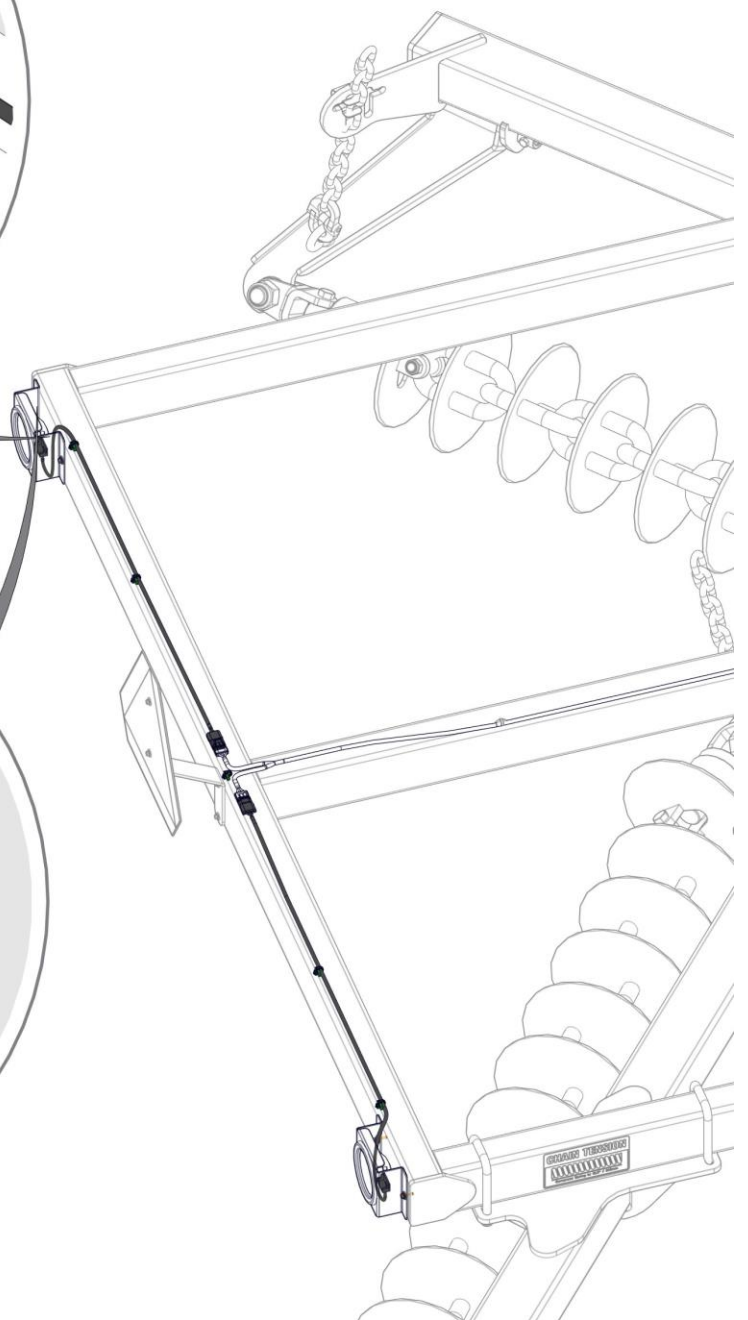
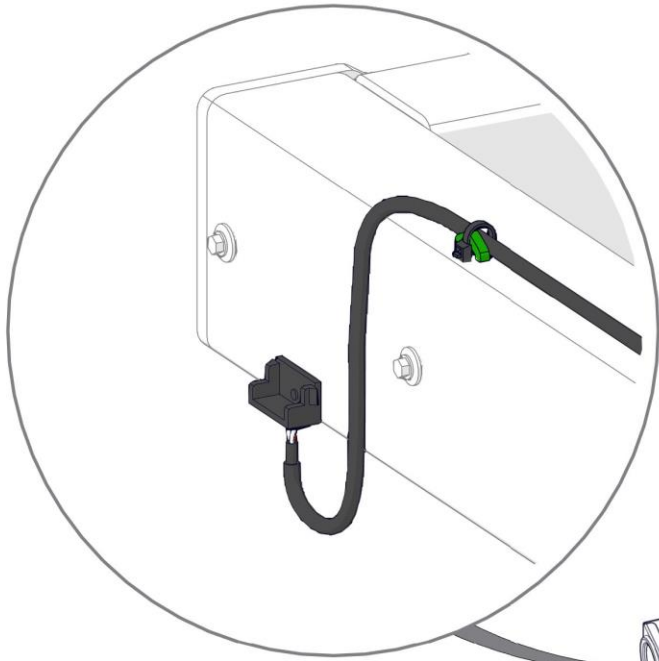


Where required secure loom to tabs provided







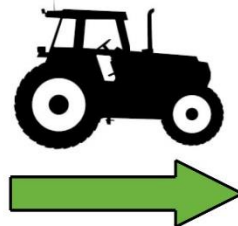
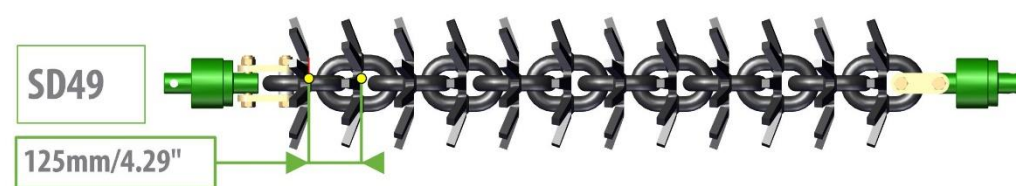
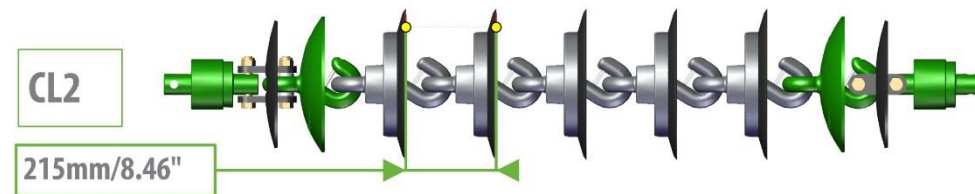




**SECTION 6**  
CHAIN ASSEMBLY

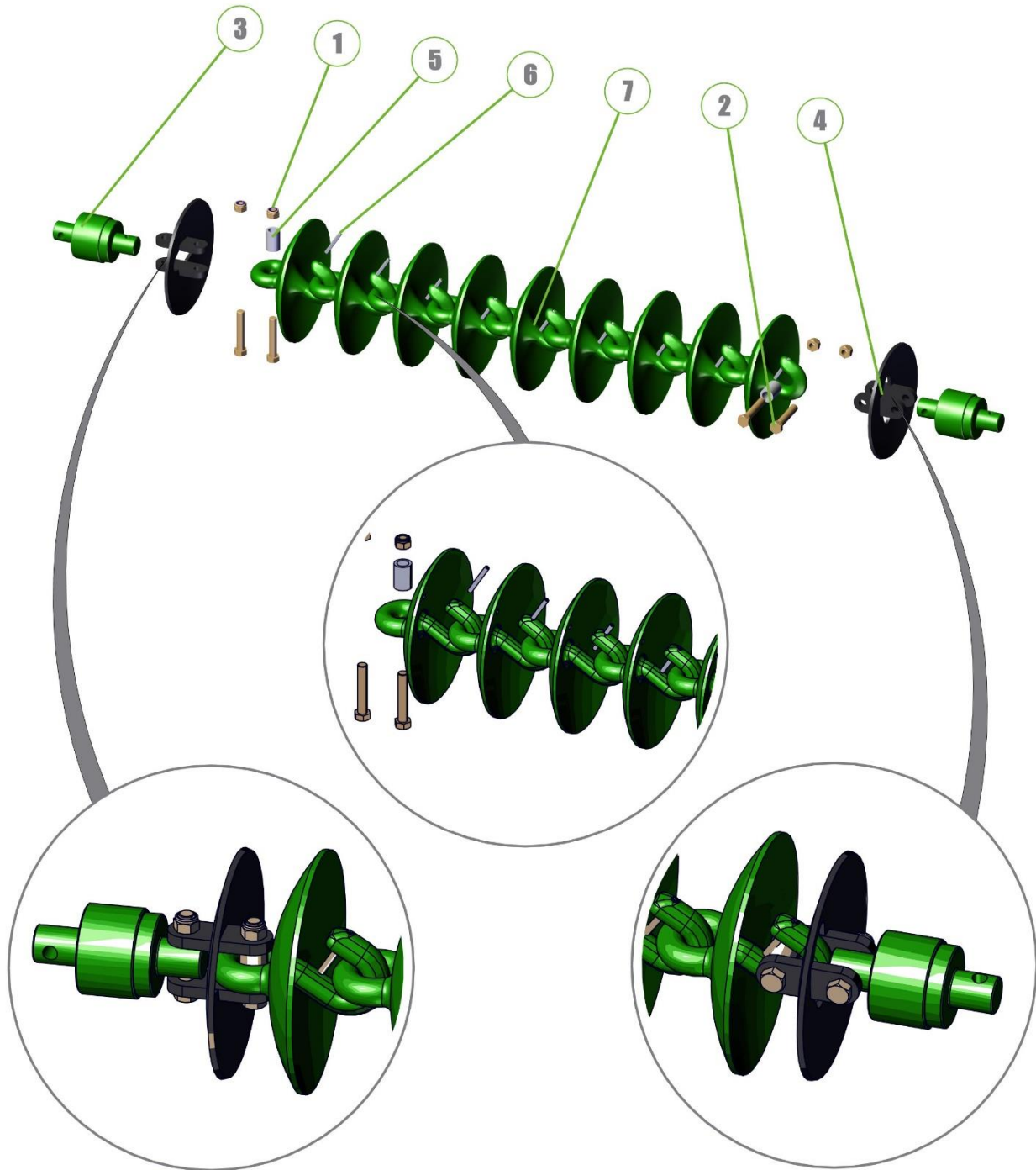
## SECTION 6 CHAIN ASSEMBLY

### Chains



# CL1 Chain

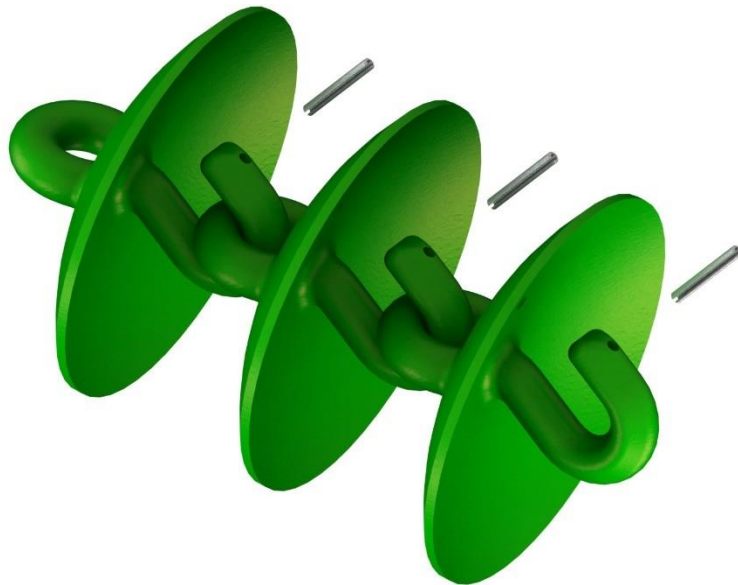
| Item No. | Description   | Number                      | Qty |
|----------|---|-----------------------------|-----|
| 1        | Nyloc Nut M20/24                                      | 0221-NYL20/24               | 4   |
| 2        | M20 x 110 / M24 x 120 grade 10.9 ZP Short Thread Bolt | 0211-20110ST/0211-24120ST   | 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   |





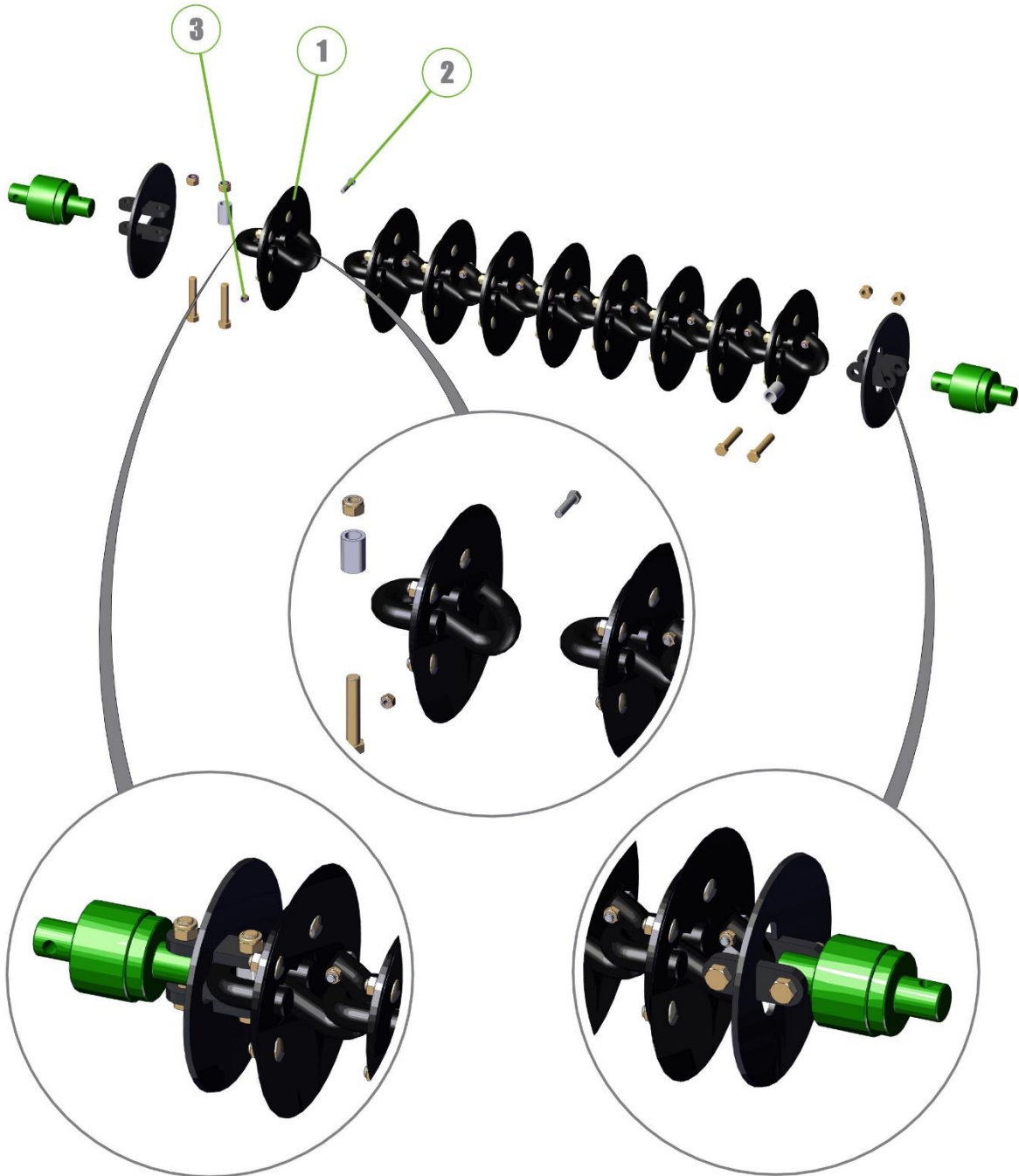
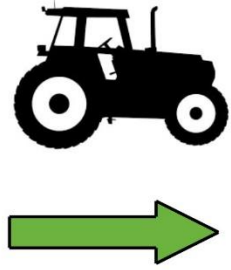
## Fitting Cast Link Pins

Please install cast link retaining Pins (3/8" x 3" Roll pin, part number 0262-3-8X3) on all cast disc links. Failure to do this could lead to the discs becoming dislodged during transport causing severe damage or injury.



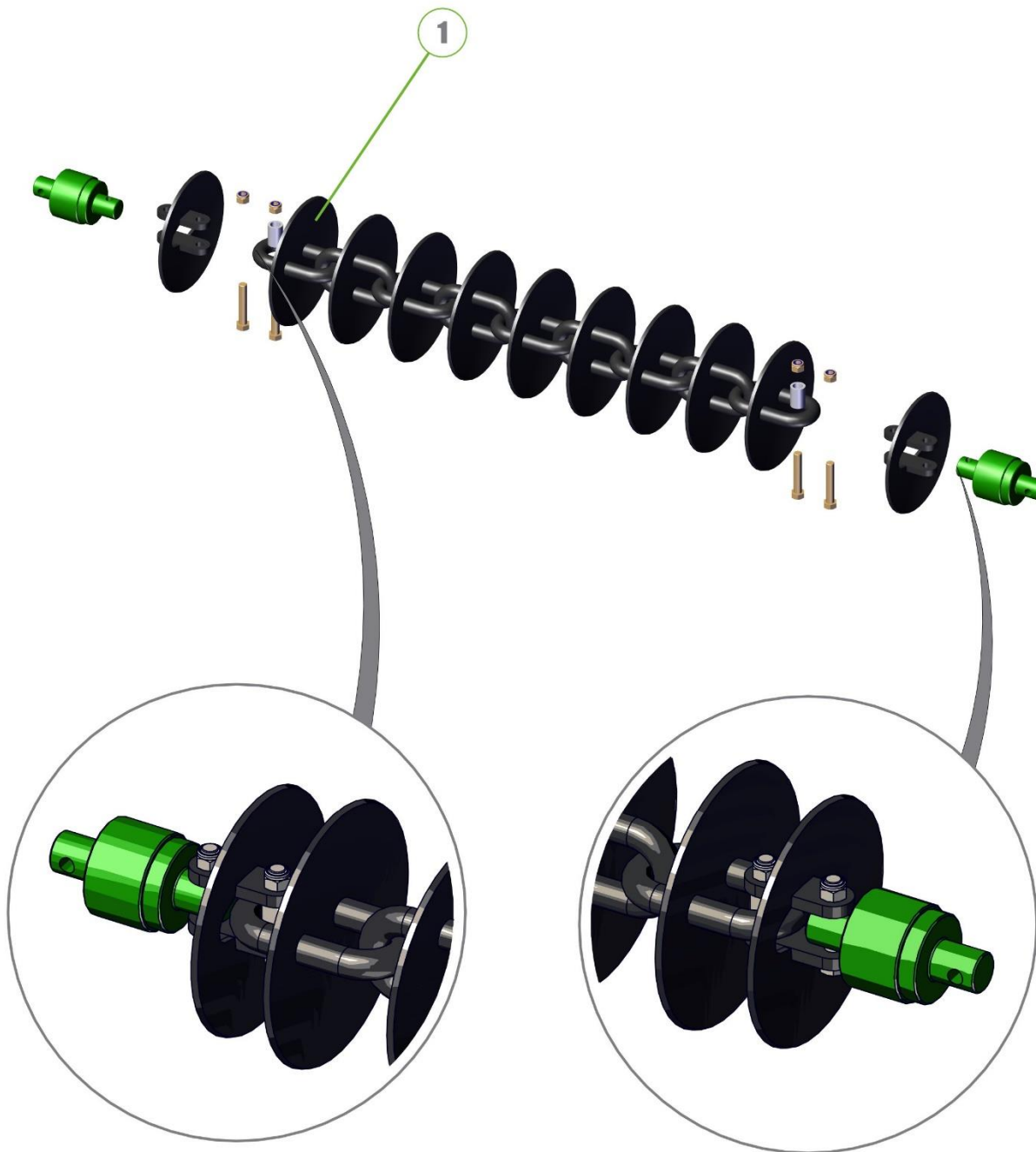
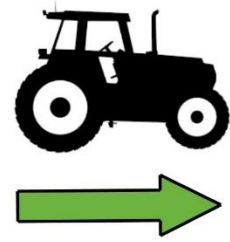
# K4 Chain

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



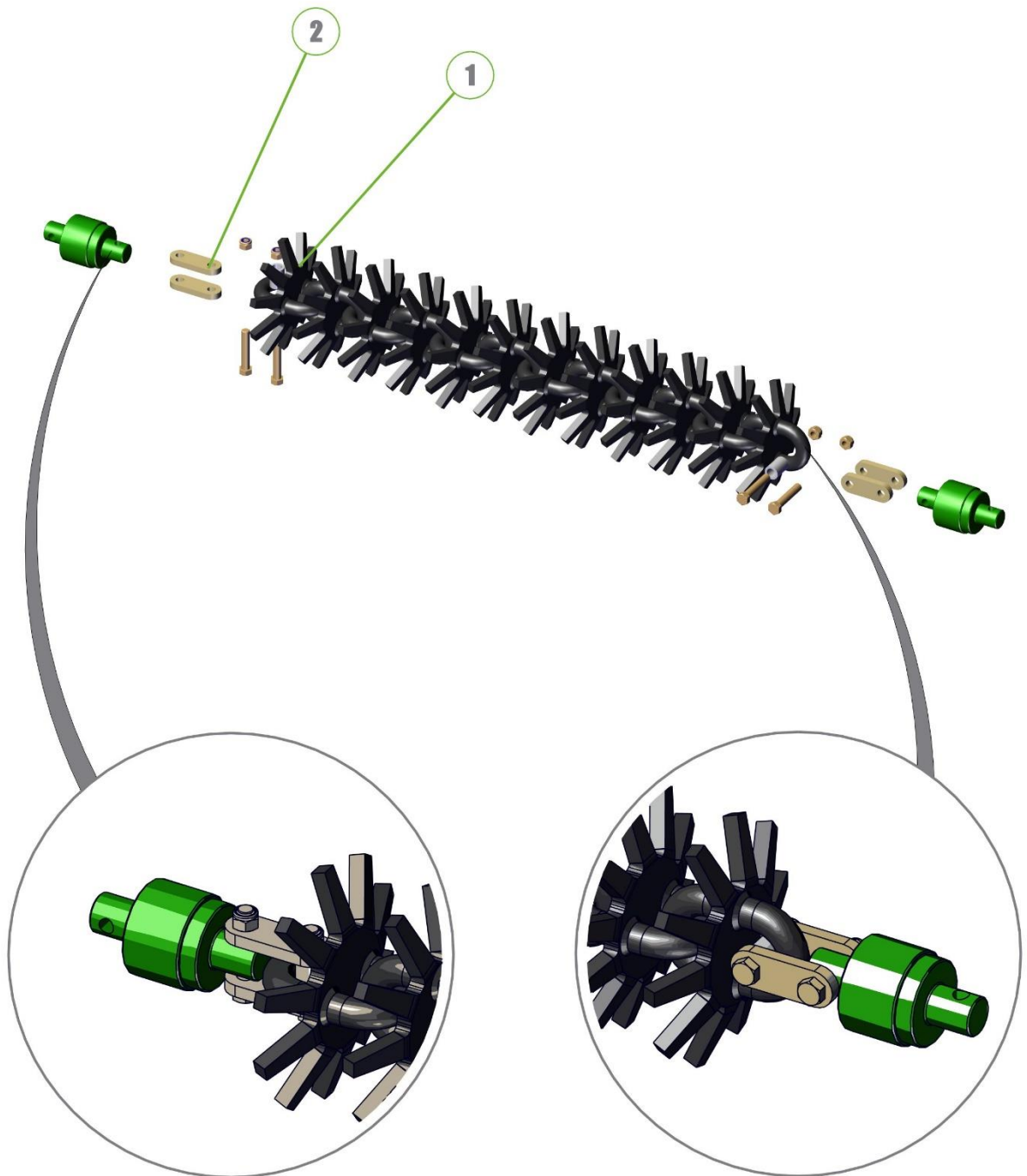
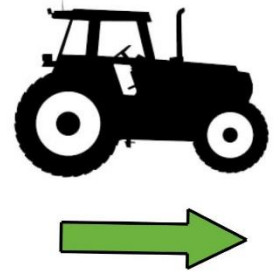
## W36 Chain

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



## Spike Disc (SD49) 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   |



## Disc Chain Lengths and Quantities

| <b>12X Model</b> | <b>Length</b>                     | <b>CL1/W36</b>       | <b>CL1</b> | <b>W36</b> | <b>SD49</b> | <b>K4</b> |
|------------------|-----------------------------------|----------------------|------------|------------|-------------|-----------|
| Front Left       | 8' $\frac{1}{4}$ " / 2.445m       | CL1 - 15             | 15         | 13         | 19          | 15        |
| Centre           | 15' 10- $\frac{5}{32}$ " / 4.830m | CL1 - 16<br>W36 - 13 | 30         | 27         | 39          | 23        |
| Rear Right       | 8' 4- $\frac{15}{16}$ " / 2.564m  | W36 - 14             | 16         | 14         | 20          | 16        |

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

Spiked Disc Chain - cut a disc chain link from the end of the disc chain

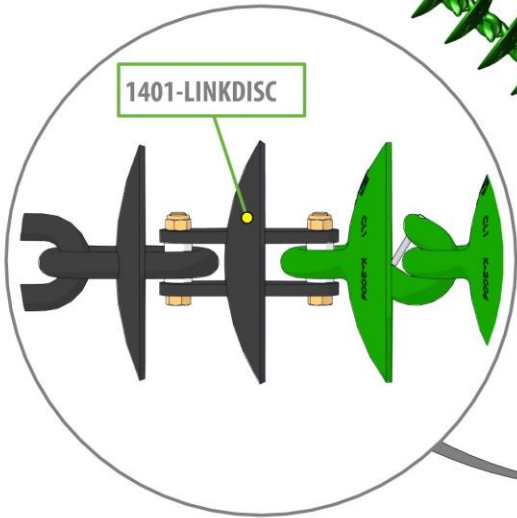
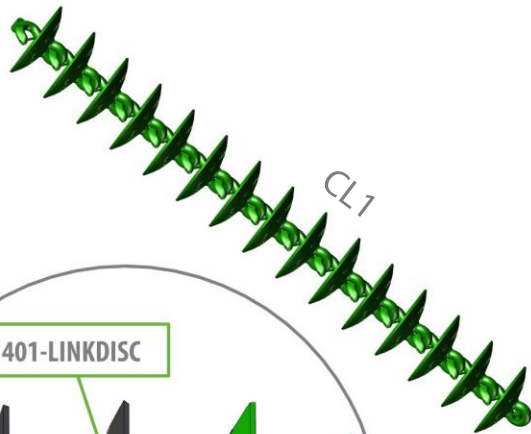
W36 Disc Chain - cut a disc chain link from the end of the disc chain

K4 Disc Chain - unhook disc chain link/s from end of the disc chain

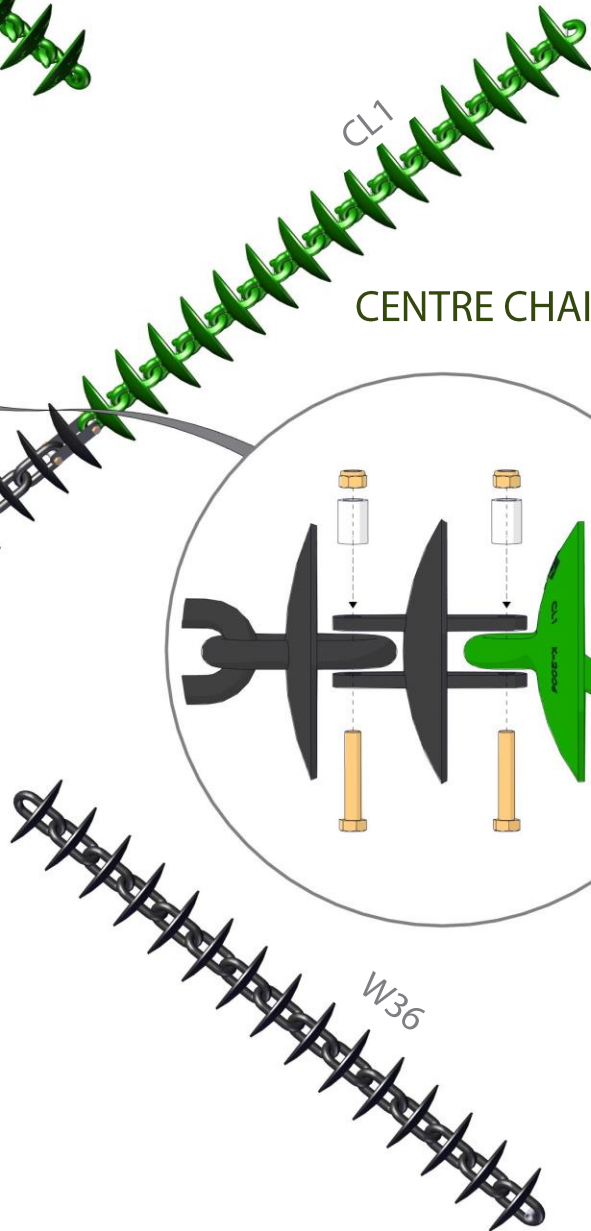
Scan the following QR code to open the removing a welded disc chain video.



FRONT CHAINSET



CENTRE CHAINSET



REAR CHAINSET

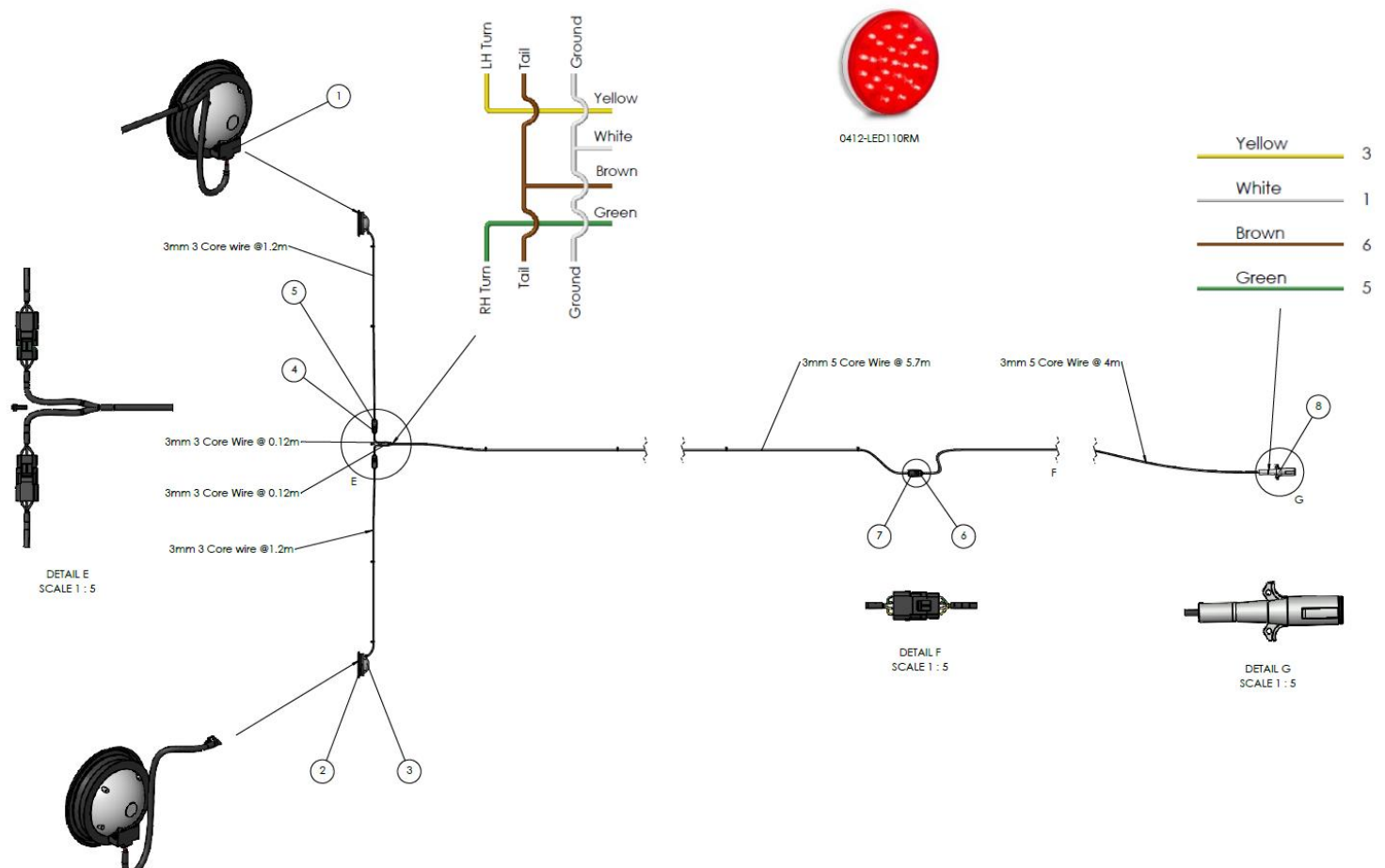


**SECTION 7**  
DIAGRAMS & CHARTS

## SECTION 7 DIAGRAMS & CHARTS

### Wiring Diagram

| Item No. | Part Number   | Description                 | Qty. |
|----------|---------------|-----------------------------|------|
| 1        | 0412-110RMLP  | LED110RM Loom Plug (53102)  | 2    |
| 2        | 0412-53101RG  | 110RM Rubber Grommet        | 2    |
| 3        | 0412-LED110RM | LED Stop Tail Lamp          | 2    |
| 4        | 0413-2C3CW-F  | 3 Pin Connector Female      | 2    |
| 5        | 0413-2C3CW-M  | 3 Pin Connecto Male         | 2    |
| 6        | 0413-2C4CW-F  | 4 Pin Connector Female      | 1    |
| 7        | 0413-2C4CW-M  | 4 Pin Connector Male        | 1    |
| 8        | 0413-82194    | Heavy Duty Metal 7 Pin Plug | 1    |





# Specifications

## Operating speeds

| <b>Recommended operating speeds in normal conditions with all chain types</b> |                          |
|---|--------------------------|
| Operating / working speed   | (6-8 mph) / (10-12 km/h) |
| Transporting / towing speed   | (15 mph) / (25 km/h)     |

## Tire pressure

| <b>Tire size</b> | <b>Ply</b> | <b>KPA</b> | <b>PSI</b> |
|------------------|------------|------------|------------|
| 31/13.5-15       | 12         | 206        | 30         |

## 12X specifications

| <b>Model</b>     | <b>12X</b>          |
|------------------|---------------------|
| Operating width  | 14' 6-1/32" / 4.42m |
| Transport width  | 14' 6-1/32" / 4.42m |
| Transport height | 6' 3-3/16" / 1.91m  |
| Transport length | 30' 4-9/16" / 9.26m |



**SECTION 8**  
CHAIN SETTINGS

## SECTION 8 CHAIN FIELD SETTINGS

### Chain Tension

#### 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
- Uneven field surface with ridges and furrows being created.

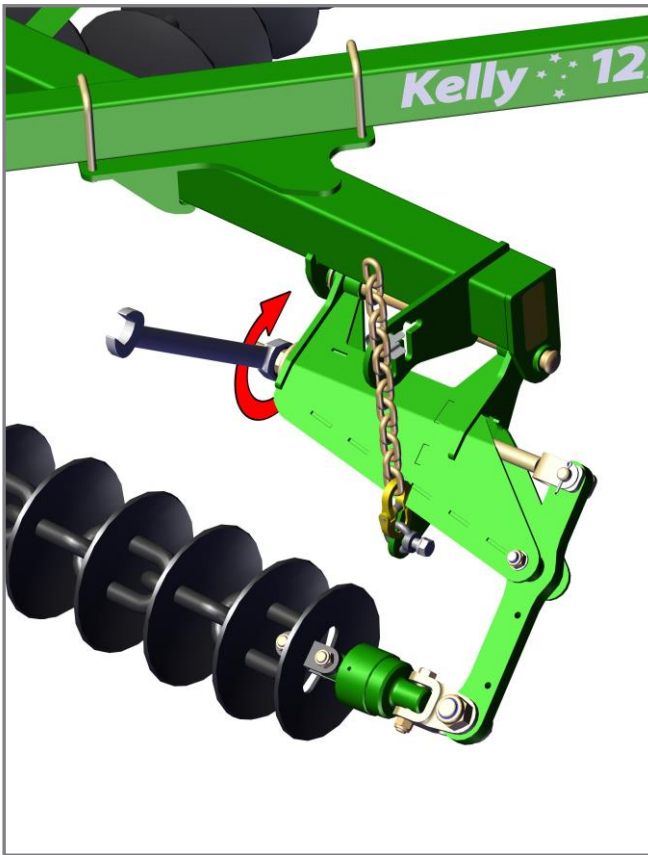
The leading 1/3rd of a loose chain is much more aggressive than the trailing 1/3rd and the centre. This will mean that the middle of the machine's front pair of chains will aggressively move soil outwards. The machine's rear pair of chains, if loose, have their aggressive 1/3rd near the wing extremity. 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 will not be evident in one pass but is possible if care is not taken over time.

**A correctly adjusted machine will not have this problem.**

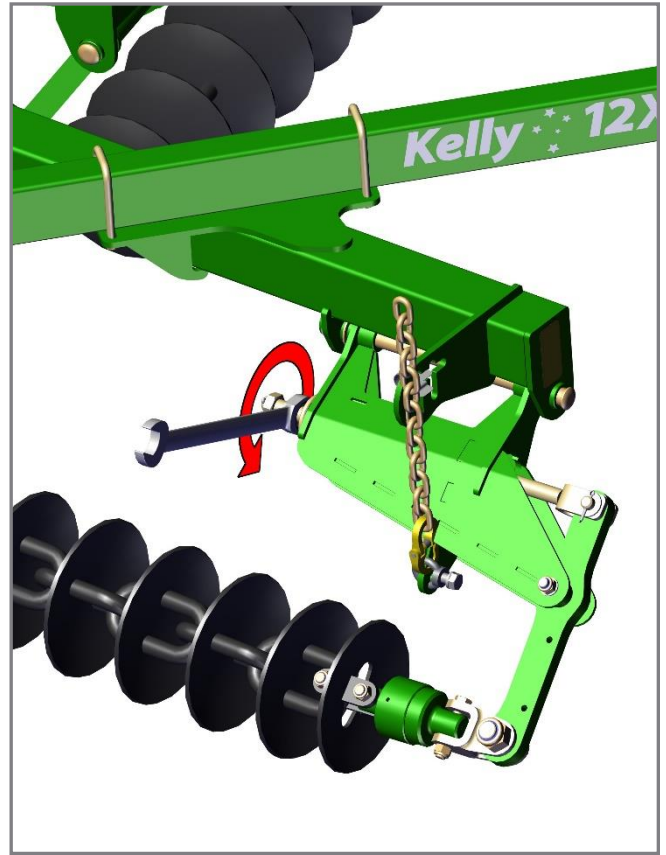
#### Chain Tension

1. Loosen the lock nut on the draw bolt.
2. Tighten the adjusting nut clockwise until the outer face of the spring retaining washer is pushed with the body of the module tensioning unit.
3. When 7-7/8" / 200mm or more of tensioner thread is visible then one link must be removed from the chain set to maintain correct tension adjustment. Spring length of 330mm / 1' 1"
4. Retighten the lock nut.

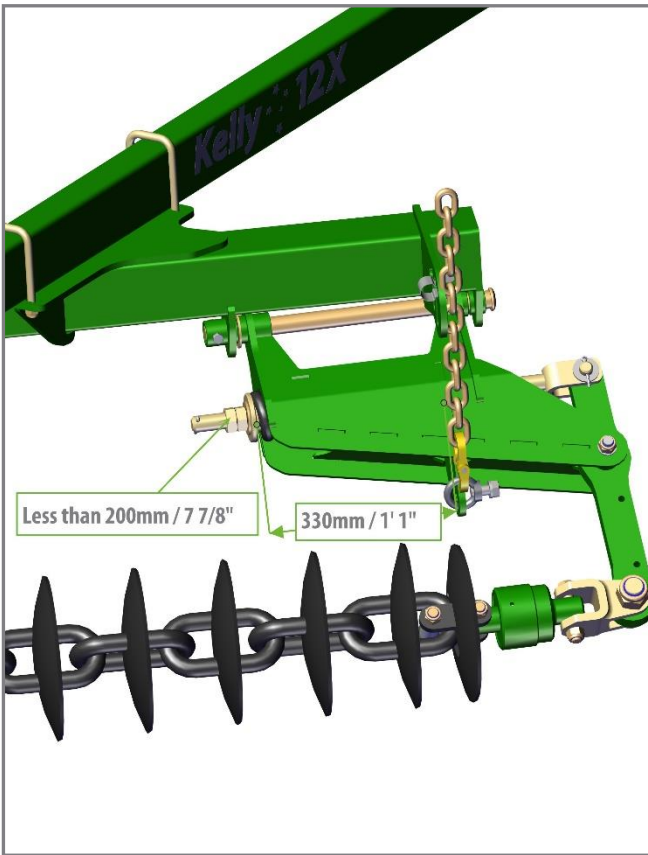
1



2



3



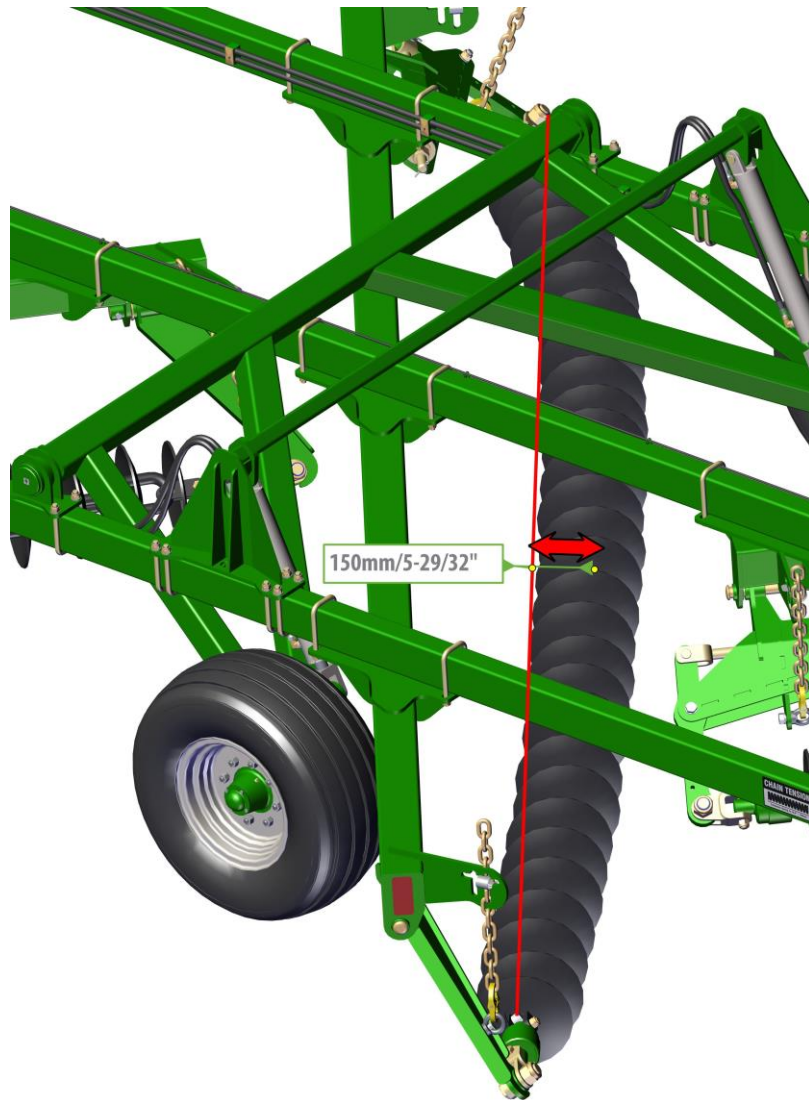
4



## Chain Curve

Correct chain tension will ensure that the entire length of discs will roll as one. This minimises the movement between each link. If a chain is not adjusted and runs loose, each link acts as a universal joint as the curved chain rolls along. The wear rate between each link is greatly accelerated and can lead to premature failure. The chain should not wear out before the discs are worn down.

**ONLY POOR ADJUSTMENT CAUSES PREMATURE WEAR**



Indicator line shows acceptable curvature when operating.

## Chain Mount Arm Height Adjustment

1. Use tractor hydraulics to raise the module chain or chain mount plate that requires adjustment. Position a suitable block or stand to support the arm. Using the tractor hydraulics, lower the machine until the height adjusting chains are loose.

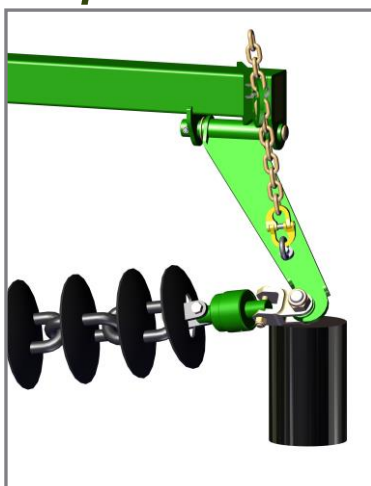
2. Remove spring retaining clip. Slide chain up to the top of the slot in lifting arm to pass the chain through the cross at top of plate.

3. Slide chain back down to the bottom when the desired position is reached. To achieve "one link" of adjustment, lift chain to the top of the slot, pass one link through the slot and rotate 90 degrees to allow the next link in the adjusting chain to lower into the same slot.

To achieve "half link" of adjustment lift the chain to the top of the slot and slide chain horizontally and lower the same link into the second slot. This will raise or lower the chain mount plate by half a link depending on which slot the chain started in. Any excess chain can be fed back through the second slot.

4. Install retaining clip. Remove stand.

**Step 1**



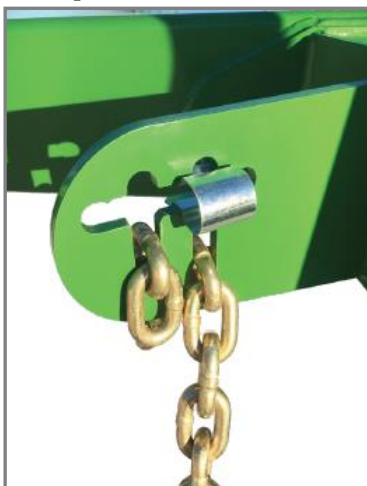
**Step 2**



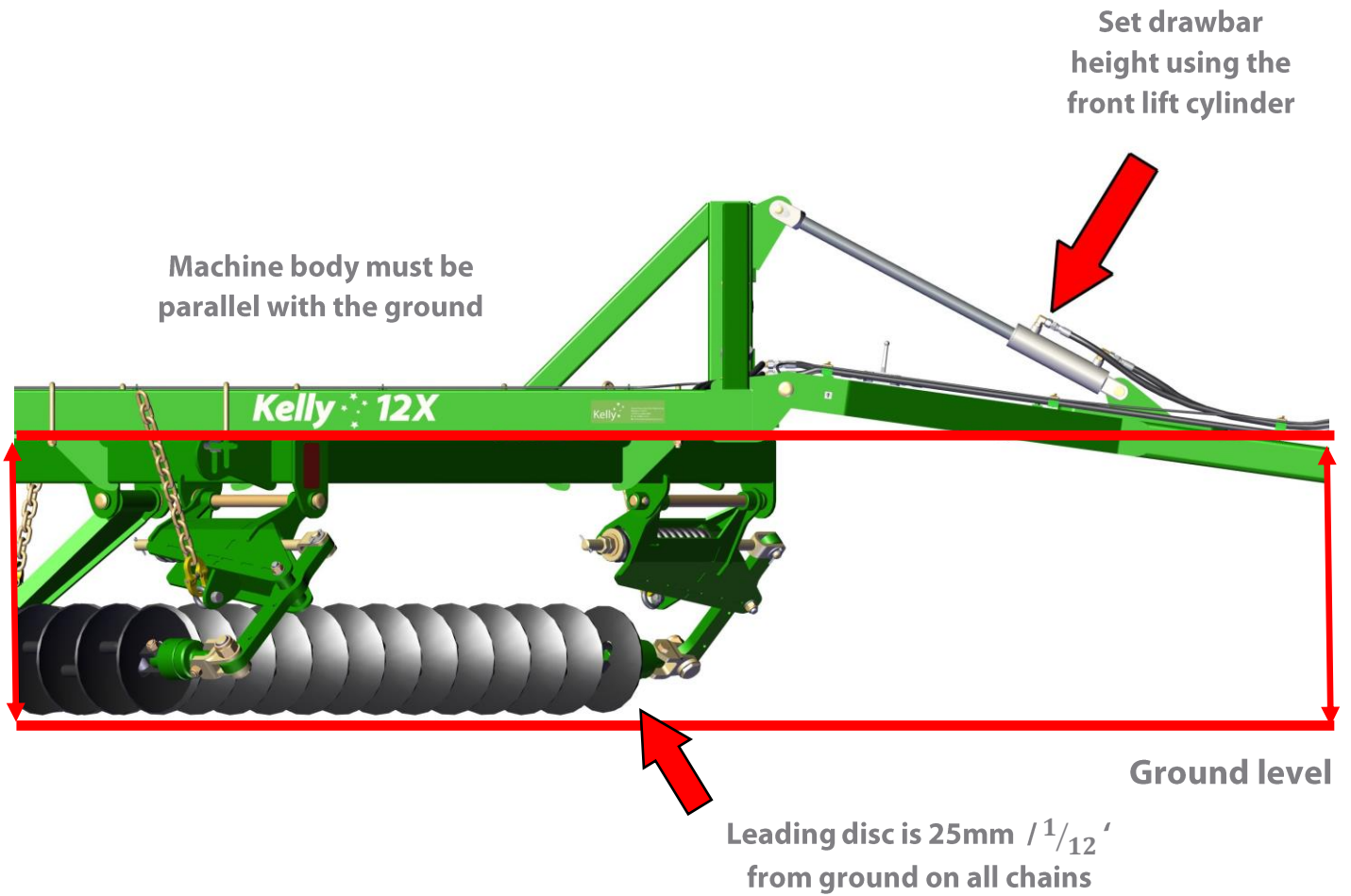
**Step 3**



**Step 4**



## Frame height adjustment



Check the length of the height adjusting chains on the two front chain mount plates. There should be no slack in the chain and about 25-51mm /  $\frac{1}{12}' - \frac{1}{6}'$  of gap between the ground and the bottom of the first disc machine near the centre line.

## NOTES



## NOTES

