

# Diamond Chain Harrow Assembly Manual

**Model 60CT/62**

Revised June 2016

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# Thank you for choosing a Kelly Engineering product

We trust the following manual should be clear and easy to follow, however feel free to contact our company for customer support.  
(details below)

Should you have any problems or wish to suggest any improvements or modifications that would help to improve our products please contact us.  
We welcome feedback.

Parts can be purchased when required through your local dealer, or by contacting either Kelly Engineering in Australia or in the US, Hood & Company Inc.

## **Kelly Engineering**

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# **Section 1**

## Unpacking



# Unpacking

*We recommend that a crane and forklift truck be available for unloading and assembly*



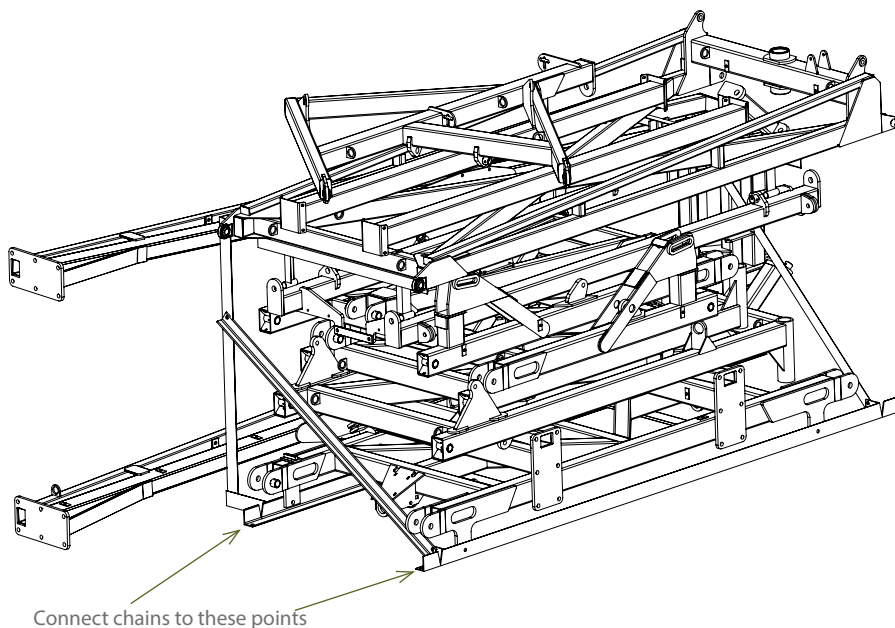
- Before opening shipping container inspect exterior for any damage. Remove seal and open container doors.

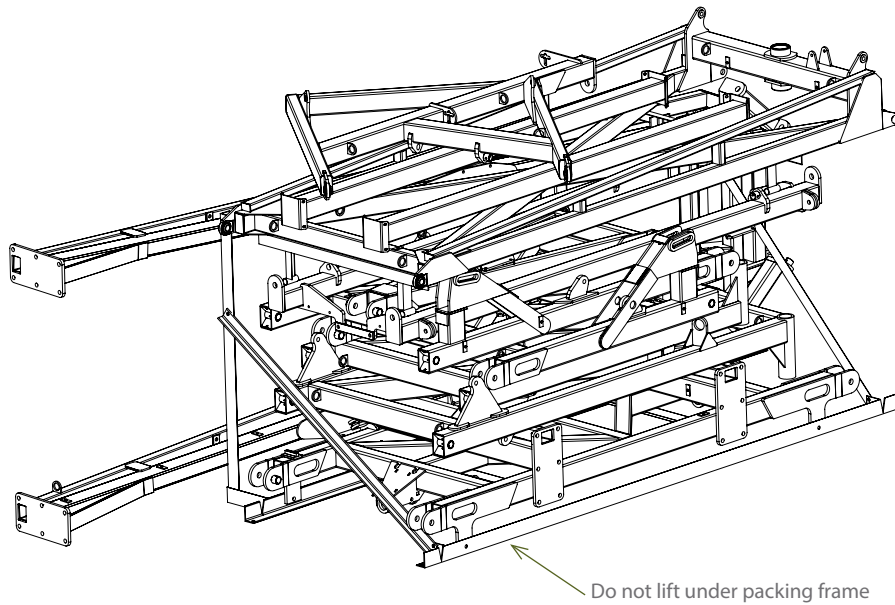


## CAUTION

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

- Remove boxes from doorway of container one at a time using a forklift truck. Each box weighs approximately 2600 lbs (91200kg)
- Check strapping on each bundle before attempting to remove
- Attach chains to the packing frame using shackles and using suitable equipment (eg. fork-lift or tractor) drag framework bundles out of container. To move bundles away from front of container lift from side with forklift. Do not lift under angle iron frame, lift only under centre frame. Each bundle weighs approximately 7000 lb (3200 kg).





### **CAUTION**

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



### **CAUTION**

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



### **CAUTION**

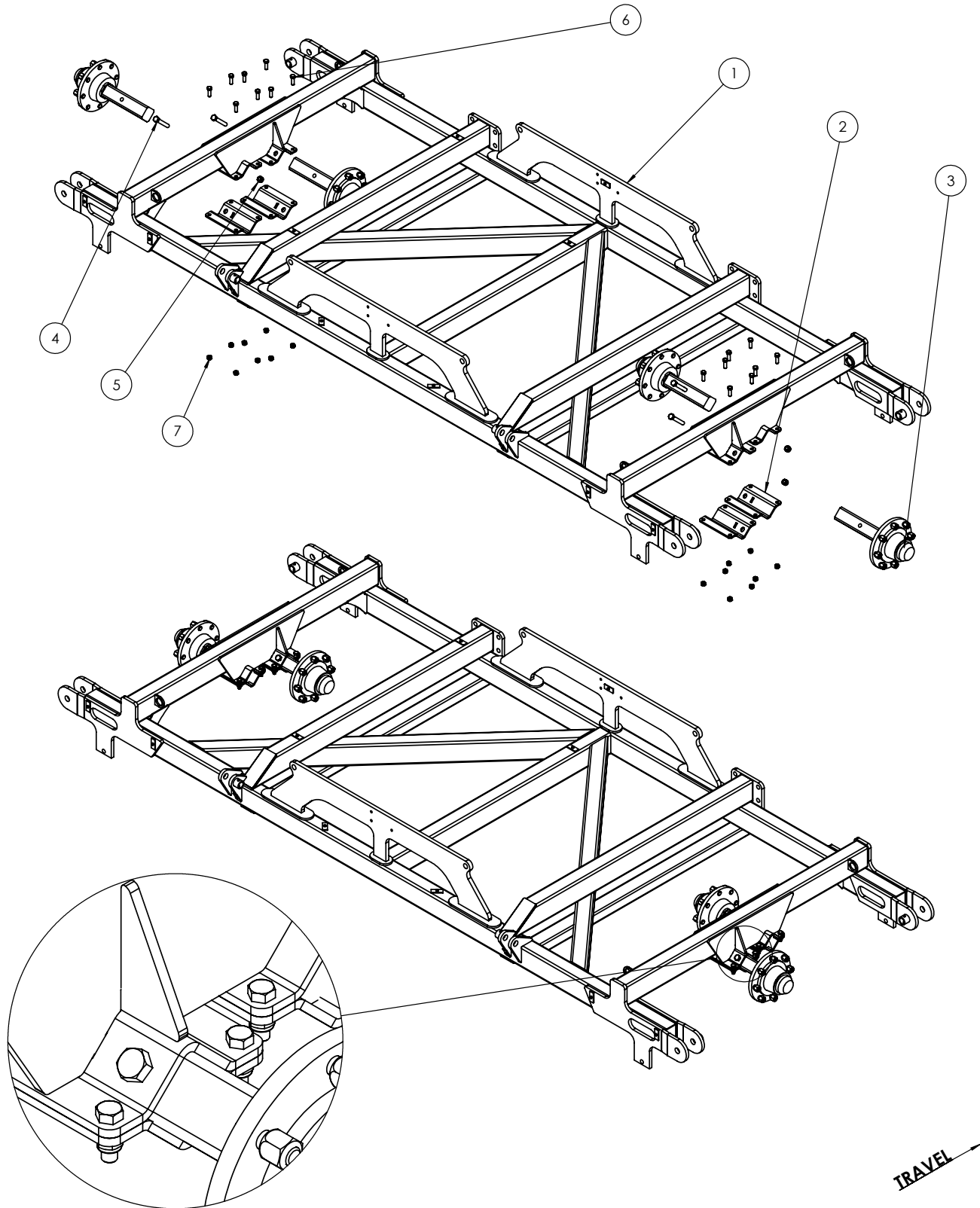
To avoid falling or moving components, before cutting straps attach slings or chains to individual pieces and only cut the straps holding the piece to be lifted.

- Remove boxes from rear of container one at a time using a forklift truck. Each box weighs approximately 2600 lbs (1200 kg)
- 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
- Cut straps holding bundles and separate parts and place in assembly area
- Once all parts have been identified machines are ready for assembly
- Read assembly instructions before proceeding.

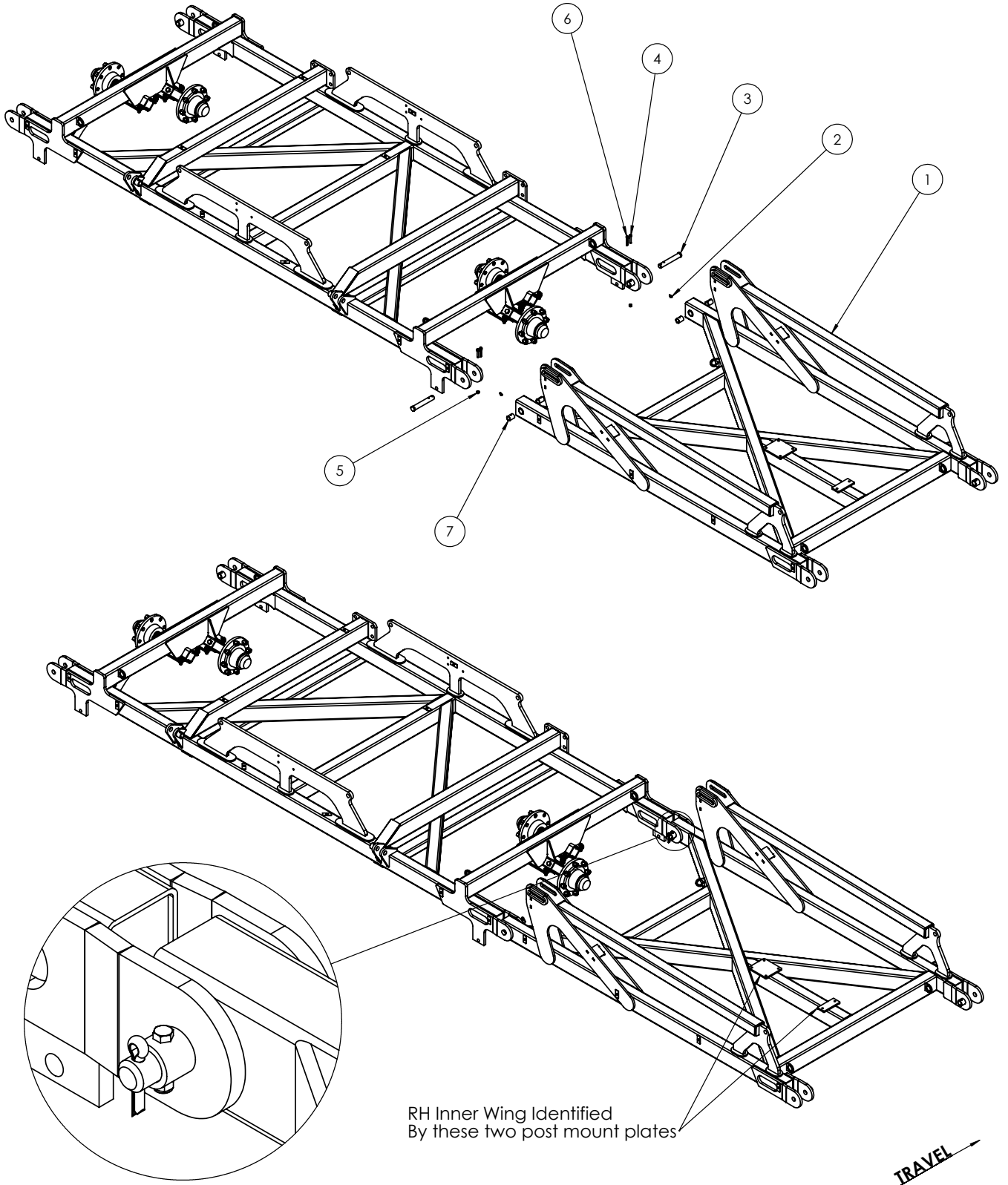
# **Section 2**

## Assembly Step by Step

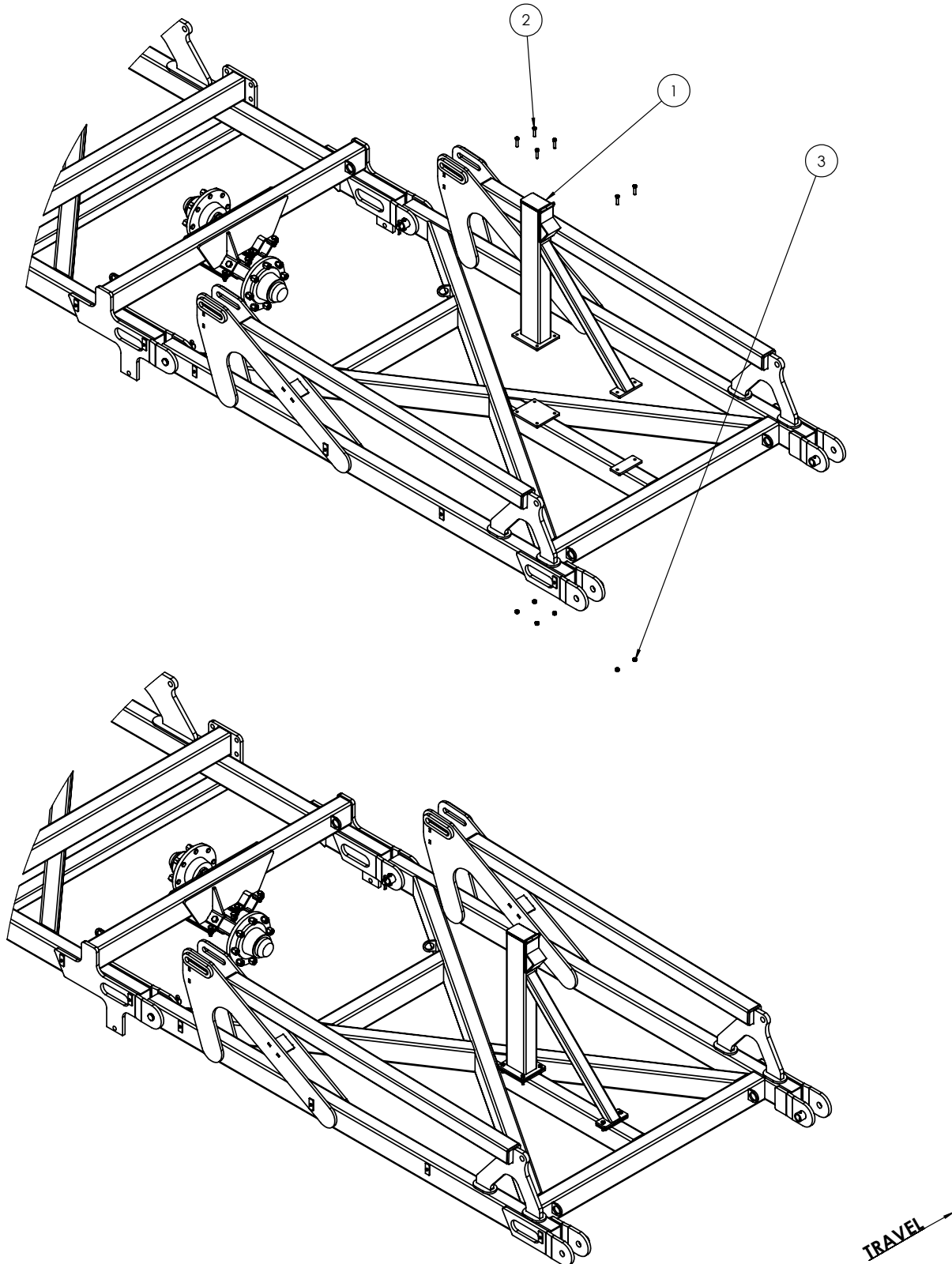
| ITEM NO. | PART NUMBER | DESCRIPTION                                 | Qty |
|----------|-------------|---|-----|
| 1        | 0860CT-01   | 60CT Centre Frame                           | 1   |
| 2        | 0800-253    | 60CT Axle Mount Plate                       | 4   |
| 3        | 0733-90     | 90 Series Stub Axle (Stub and Hub Complete) | 4   |
| 4        | 0211-20130  | M20 x 130 8.8 zp Bolt                       | 4   |
| 5        | 0221-NYL20  | M20 Nyloc Nut                               | 4   |
| 6        | 0211-1650   | M16 x 50 8.8 zp Bolt                        | 16  |
| 7        | 0221-NYL16  | M16 Nyloc Nut                               | 16  |



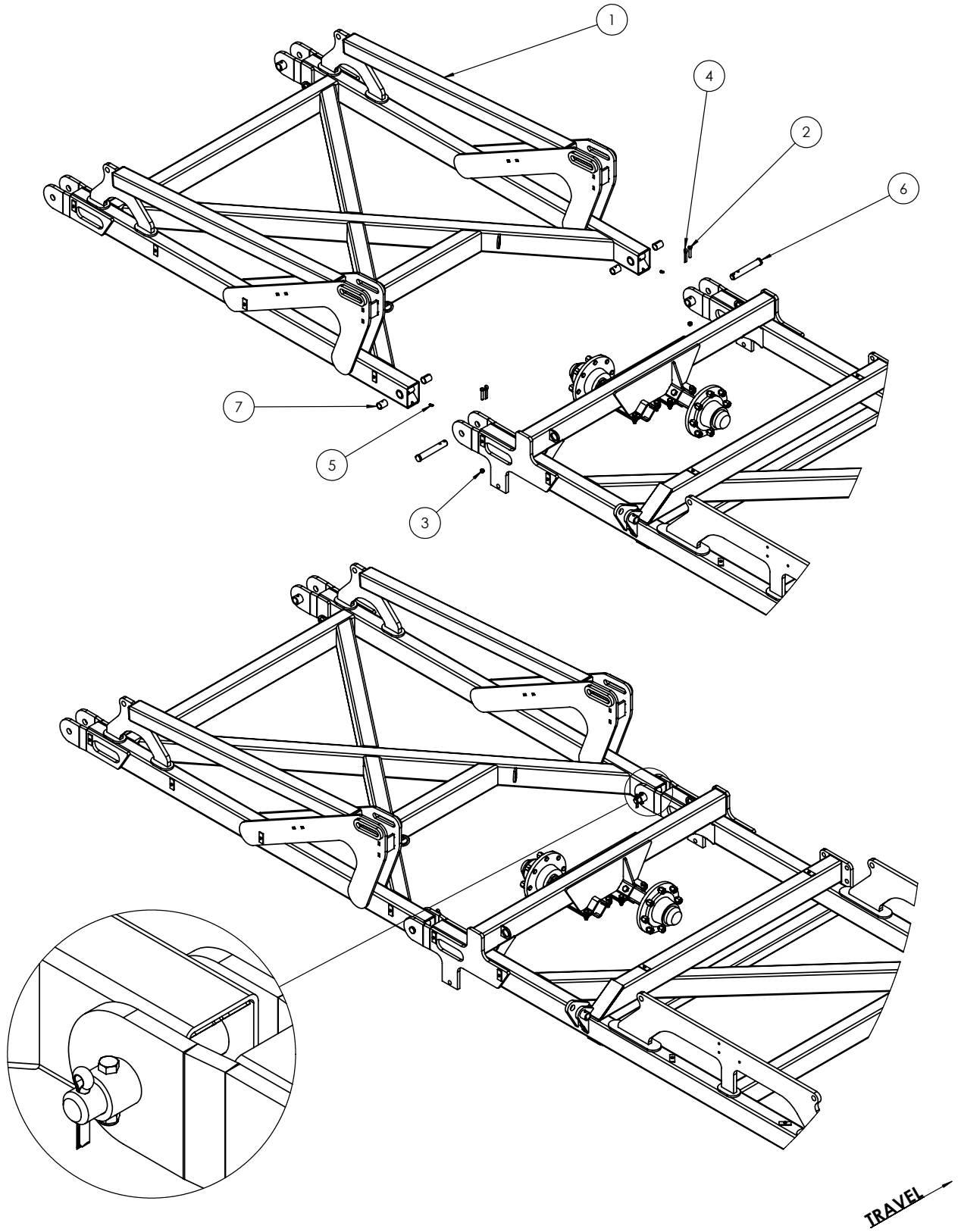
| ITEM NO. | PART NUMBER    | DESCRIPTION                   | Qty |
|----------|----------------|-------------------------------|-----|
| 1        | 0860CT-04      | 60CT RH Inner Wing Frame      | 1   |
| 2        | 0181-GN1-845   | Grease Nipple 1/8" BSP 45 Deg | 2   |
| 3        | 0801-10-08-235 | PCH Wing Pivot Pin            | 2   |
| 4        | 0211-1265      | M12 x 65 8.8 zp Bolt          | 2   |
| 5        | 0221-NYL12     | M12 Nyloc Nut                 | 2   |
| 6        | 0261-PINC1363  | Cotter Pin M13 x 63           | 2   |
| 7        | 0113-MB 3550DX | 35 ID x 50mm DX Bush          | 4   |



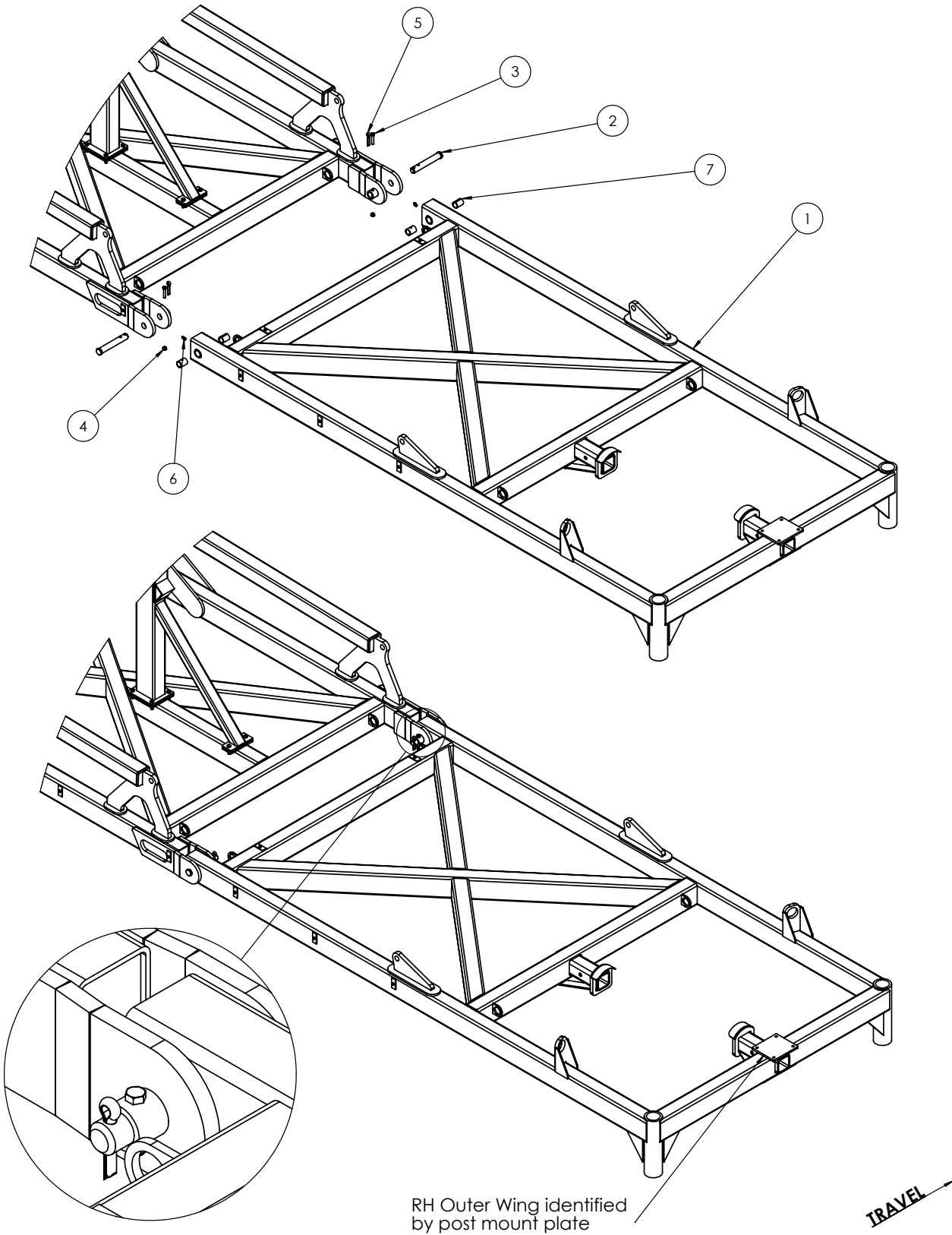
| ITEM NO. | PART NUMBER | DESCRIPTION          | Qty |
|----------|-------------|----------------------|-----|
| 1        | 0860CT-04P  | 60CT Inner Wing Post | 1   |
| 2        | 0211-1250   | M12 x 50 8.8 zp Bolt | 6   |
| 3        | 0221-NYL12  | M12 Nyloc Nut        | 6   |



| ITEM NO. | PART NUMBER    | DESCRIPTION                   | Qty |
|----------|----------------|-------------------------------|-----|
| 1        | 0860CT-05      | 60CT LH Inner Wing Frame      | 1   |
| 2        | 0211-1265      | M12 x 65 8.8 zp Bolt          | 2   |
| 3        | 0221-NYL12     | M12 Nyloc Nut                 | 2   |
| 4        | 0261-PINC1363  | Cotter Pin M13 x 63           | 2   |
| 5        | 0181-GN1-845   | Grease Nipple 1/8" BSP 45 Deg | 2   |
| 6        | 0801-10-08-235 | PCH Wing Pivot Pin            | 2   |
| 7        | 0113-MB 3550DX | 35 ID x 50mm DX Bush          | 4   |

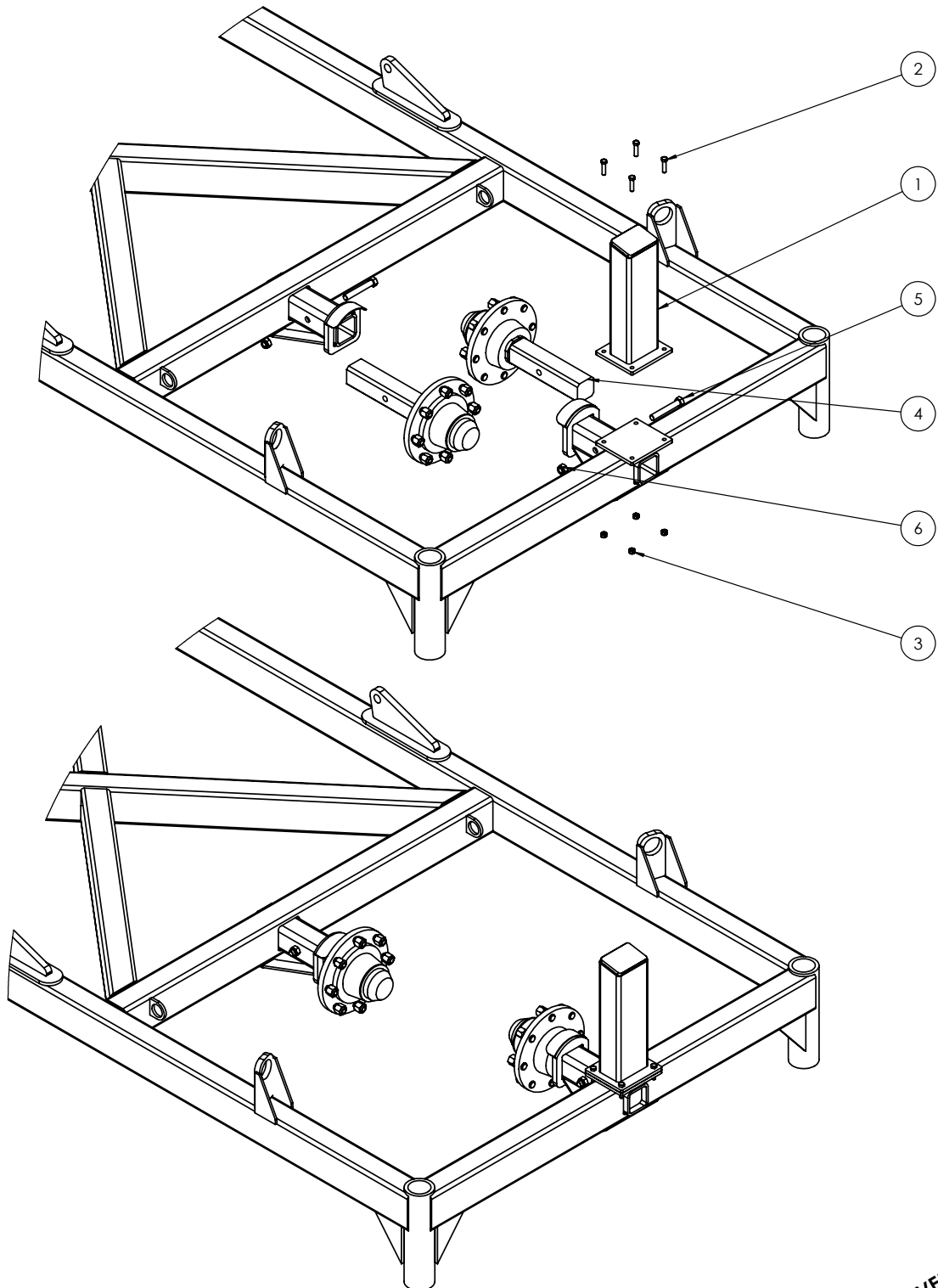


| ITEM NO. | PART NUMBER    | DESCRIPTION                   | Qty |
|----------|----------------|-------------------------------|-----|
| 1        | 0860CT-06      | 60CT RH Outer Wing Frame      | 1   |
| 2        | 0801-10-08-235 | PCH Wing Pivot Pin            | 2   |
| 3        | 0211-1265      | M12 x 65 8.8 zp Bolt          | 2   |
| 4        | 0221-NYL12     | M12 Nylloc Nut                | 2   |
| 5        | 0261-PINC1363  | Cotter Pin M13 x 63           | 2   |
| 6        | 0181-GN1-845   | Grease Nipple 1/8" BSP 45 Deg | 2   |
| 7        | 0113-MB 3550DX | 35 ID x 50mm DX Bush          | 4   |



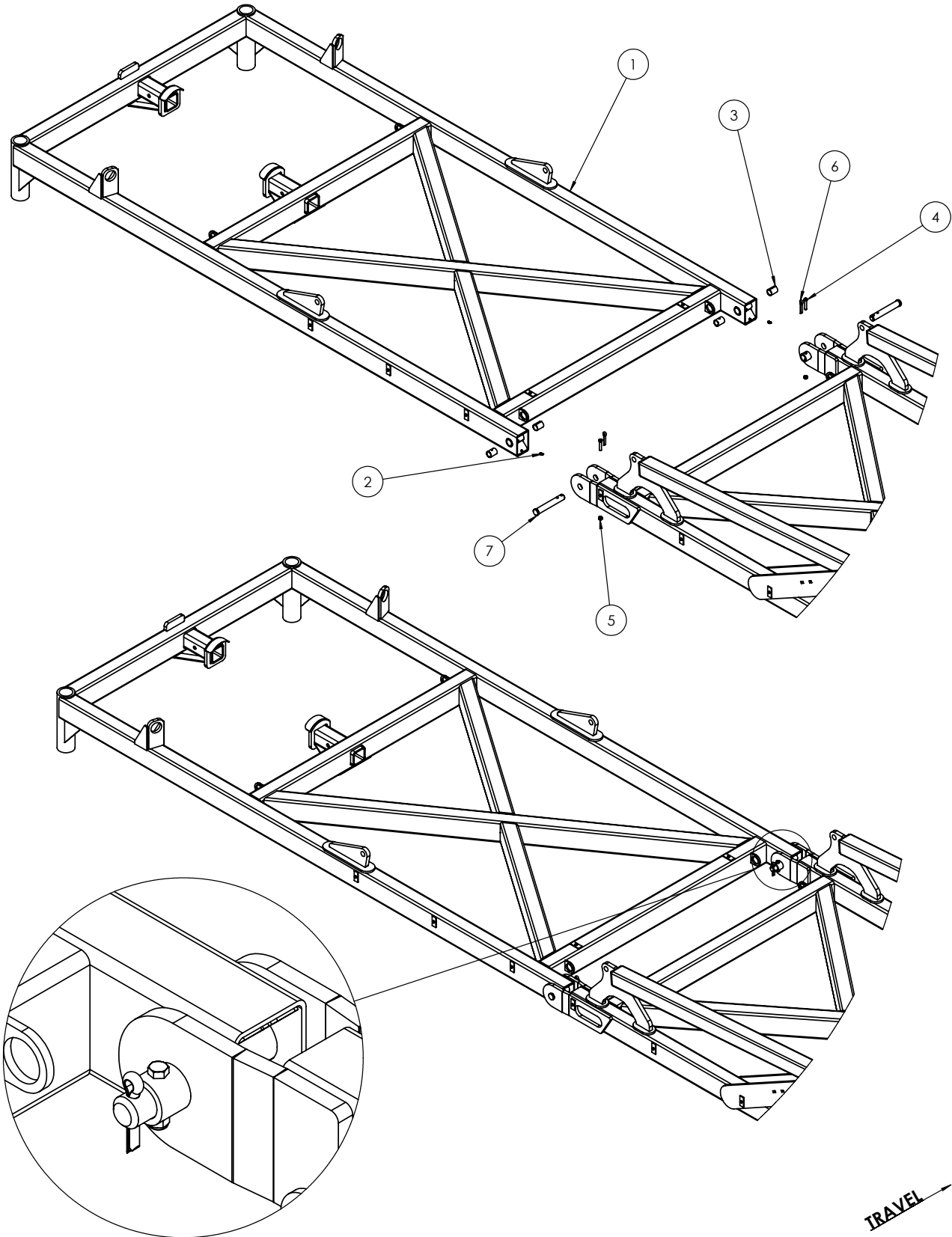


| ITEM NO. | PART NUMBER | DESCRIPTION                                 | Qty |
|----------|-------------|---|-----|
| 1        | 0860CT-06P  | 60CT Outer Wing Post                        | 1   |
| 2        | 0211-1250   | M12 x 50 8.8 zp Bolt                        | 4   |
| 3        | 0221-NYL12  | M12 Nyloc Nut                               | 4   |
| 4        | 0733-90     | 90 Series Stub Axle (Stub and Hub Complete) | 2   |
| 5        | 0211-20130  | M20 x 130 8.8 zp Bolt                       | 2   |
| 6        | 0221-NYL20  | M20 Nyloc Nut                               | 2   |

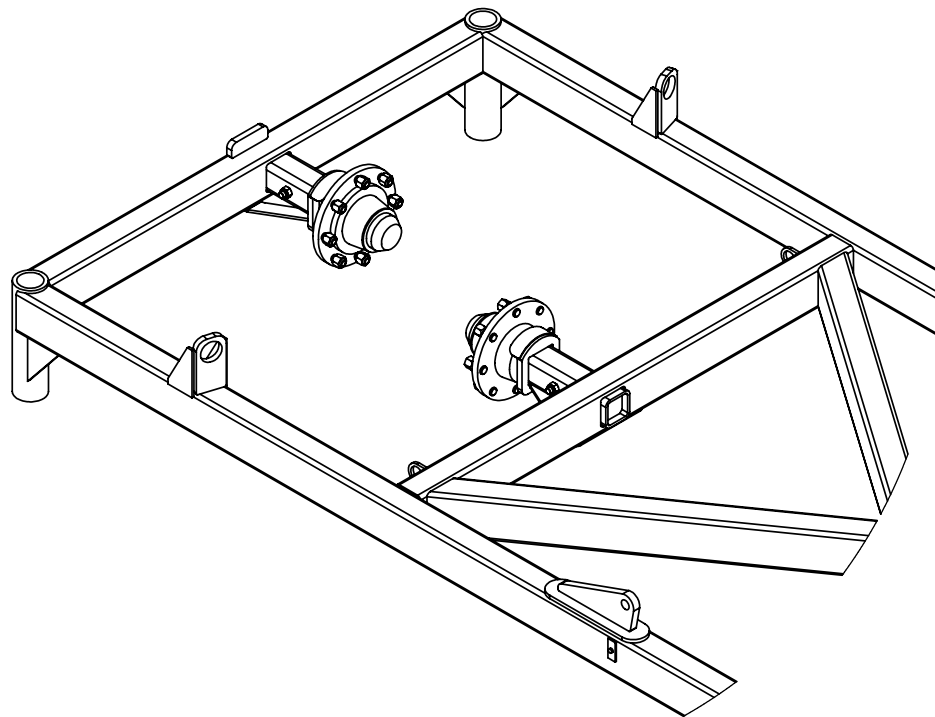
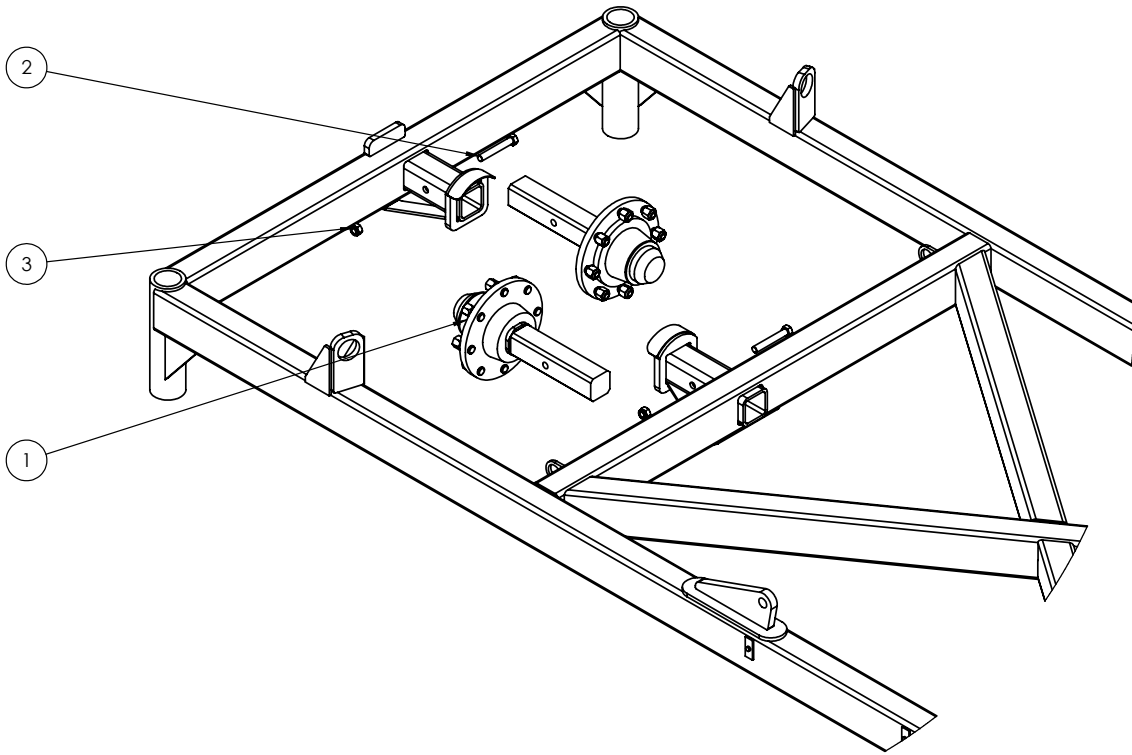


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| ITEM NO. | PART NUMBER    | DESCRIPTION                   | Qty |
|----------|----------------|-------------------------------|-----|
| 1        | 0860CT-07      | 60CT LH Outer Wing Frame      | 1   |
| 2        | 0181-GN1-845   | Grease Nipple 1/8" BSP 45 Deg | 2   |
| 3        | 0113-MB 3550DX | 35 ID x 50mm DX Bush          | 4   |
| 4        | 0211-1265      | M12 x 65 8.8 zp Bolt          | 2   |
| 5        | 0221-NYL12     | M12 Nyloc Nut                 | 2   |
| 6        | 0261-PINC1363  | Cotter Pin M13 x 63           | 2   |
| 7        | 0801-10-08-235 | PCH Wing Pivot Pin            | 2   |

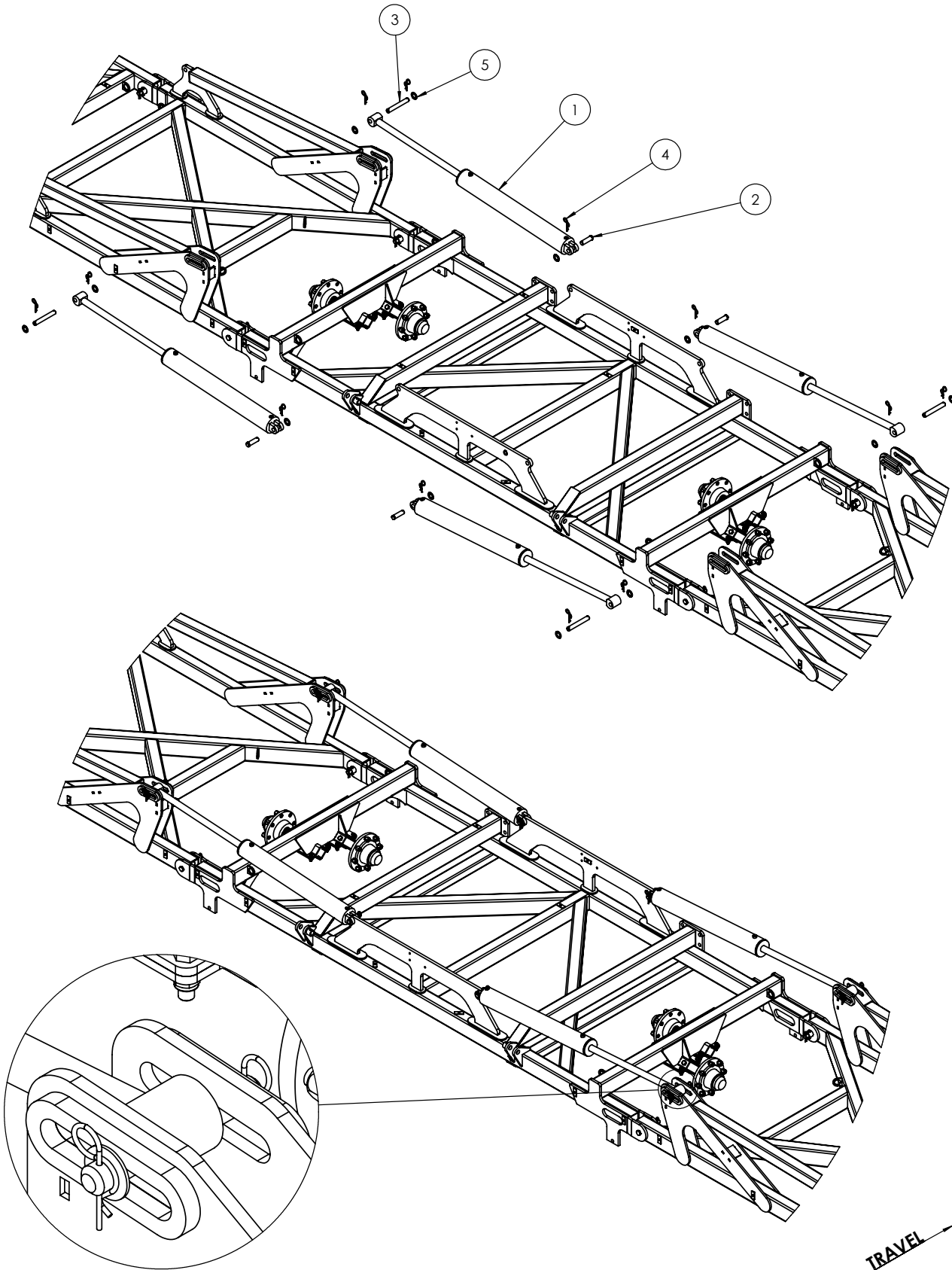


| ITEM NO. | PART NUMBER | DESCRIPTION                                 | Qty |
|----------|-------------|---|-----|
| 1        | 0733-90     | 90 Series Stub Axle (Stub and Hub Complete) | 2   |
| 2        | 0211-20130  | M20 x 130 8.8 zp Bolt                       | 2   |
| 3        | 0221-NYL20  | M20 Nyloc Nut                               | 2   |

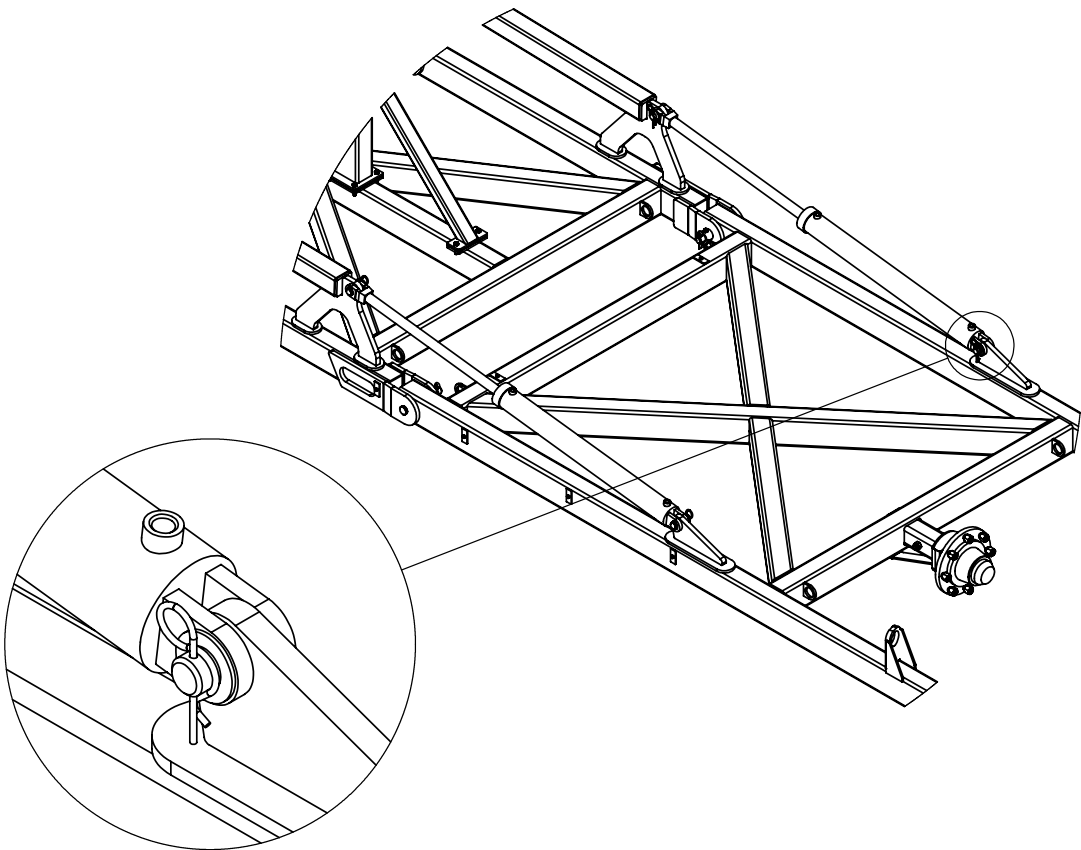
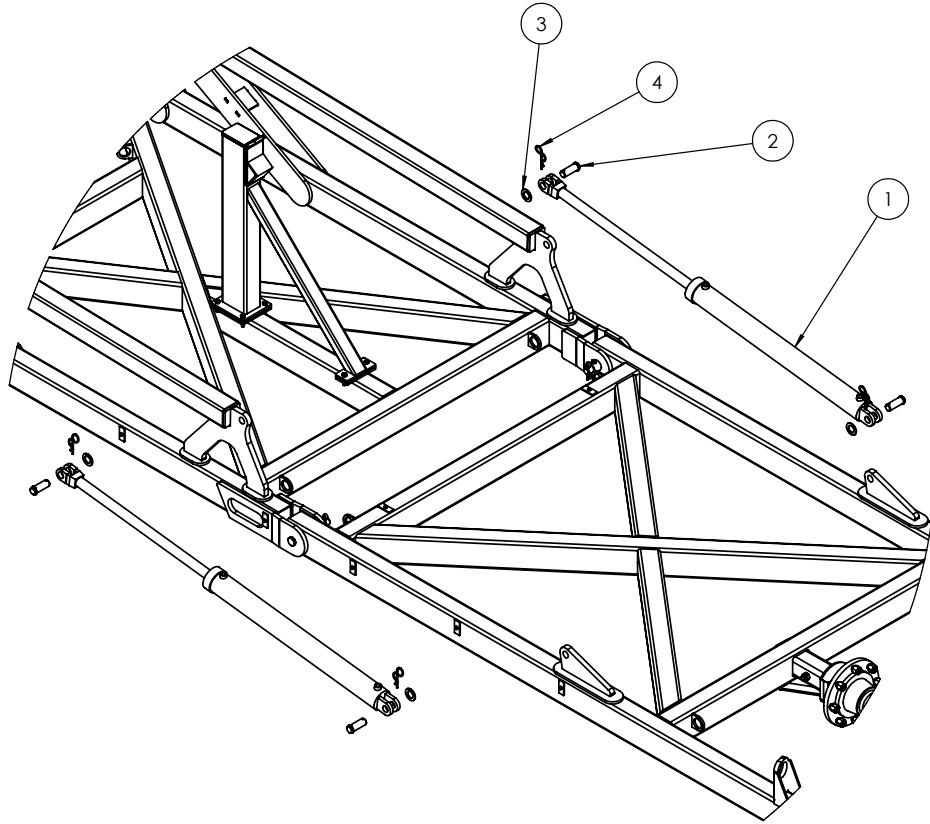


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| ITEM NO. | PART NUMBER     | DESCRIPTION                      | Qty |
|----------|-----------------|----------------------------------|-----|
| 1        | 0311-2956       | Hyd Cylinder 5" x 36"            | 4   |
| 2        | 0801-44102956-2 | Cylinder Pin 1 1/4" x 116mm      | 4   |
| 3        | 0801-44102956-1 | Cylinder Pin 1 1/4" x 230mm 4140 | 4   |
| 4        | 0801-KE012      | S Locking Pin Clip 5mm           | 12  |
| 5        | 0232-F11-4      | Washer Flat 1 1/4"               | 12  |

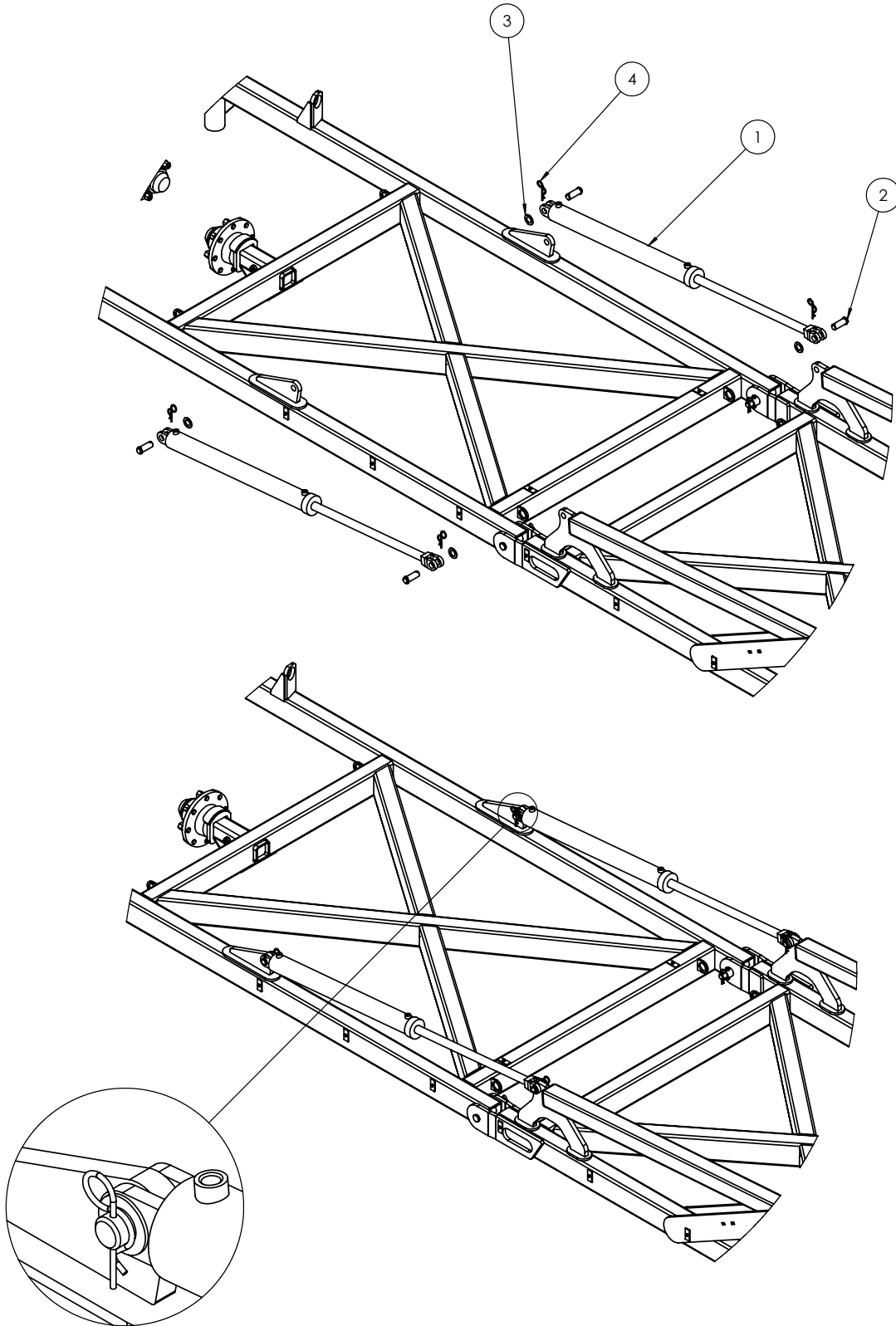


| ITEM NO. | PART NUMBER   | DESCRIPTION                            | Qty |
|----------|---------------|--|-----|
| 1        | 0311-6896     | Hyd Cylinder 3.5" x 32" + 4" Stop Tube | 2   |
| 2        | 0801-44103786 | Cylinder Pin 1 1/4" x 94mm             | 4   |
| 3        | 0232-F11-4    | Washer Flat 1 1/4"                     | 4   |
| 4        | 0801-KE012    | S Locking Pin Clip 5mm                 | 4   |



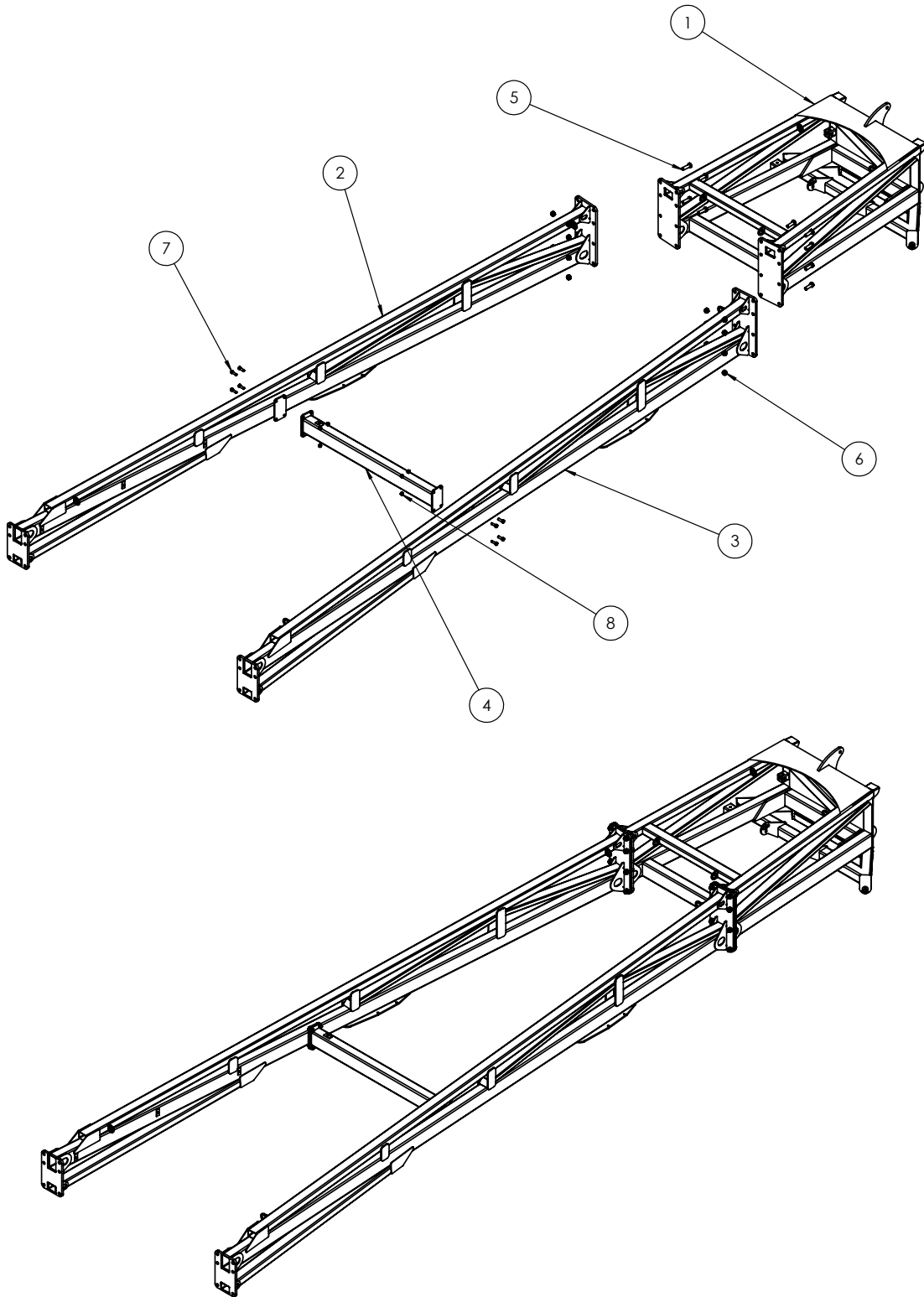
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| ITEM NO. | PART NUMBER   | DESCRIPTION                            | Qty |
|----------|---------------|--|-----|
| 1        | 0311-6896     | Hyd Cylinder 3.5" x 32" + 4" Stop Tube | 2   |
| 2        | 0801-44103786 | Cylinder Pin 1 1/4" x 94mm             | 4   |
| 3        | 0232-F11-4    | Washer Flat 1 1/4"                     | 4   |
| 4        | 0801-KE012    | S Locking Pin Clip 5mm                 | 4   |



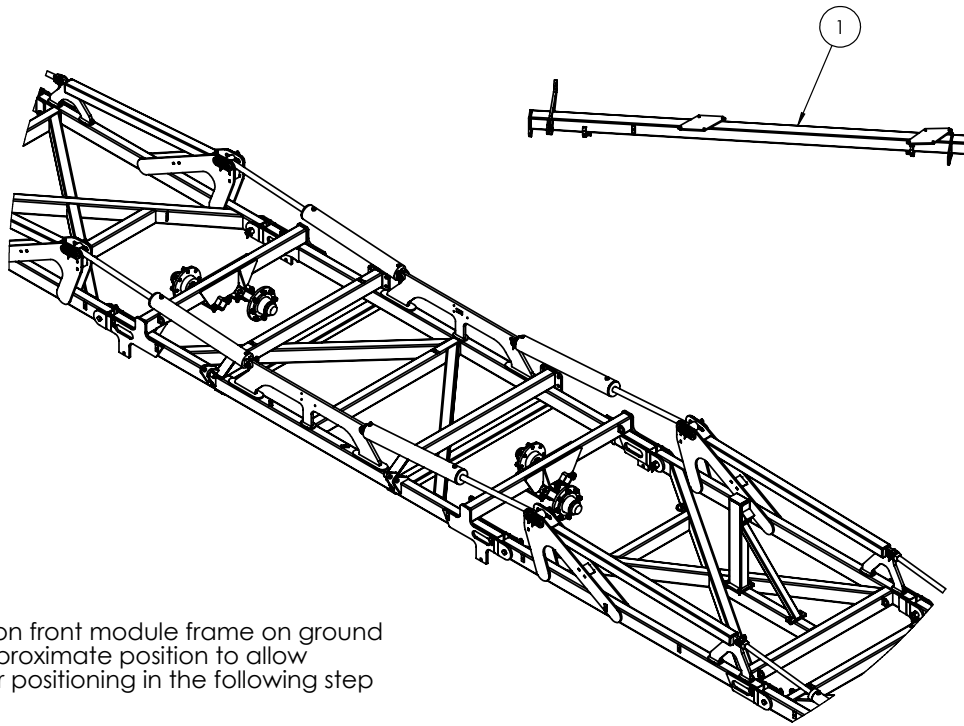
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| ITEM NO. | PART NUMBER | DESCRIPTION                      | Qty |
|----------|-------------|----------------------------------|-----|
| 1        | 0860CT-02F  | 60CT Front A-Frame Front Section | 1   |
| 2        | 0860CT-02L  | 60CT Front A-Frame LH Beam       | 1   |
| 3        | 0860CT-02R  | 60CT Front A-Frame RH Beam       | 1   |
| 4        | 0860CT-02B  | 60CT Front A-Frame Brace         | 1   |
| 5        | 0211-2475   | M24 x 75 8.8 zp Bolt             | 16  |
| 6        | 0221-NYL24  | M24 Nyloc Nut                    | 16  |
| 7        | 0211-1650   | M16 x 50 8.8 zp Bolt             | 8   |
| 8        | 0221-NYL16  | M16 Nyloc Nut                    | 8   |

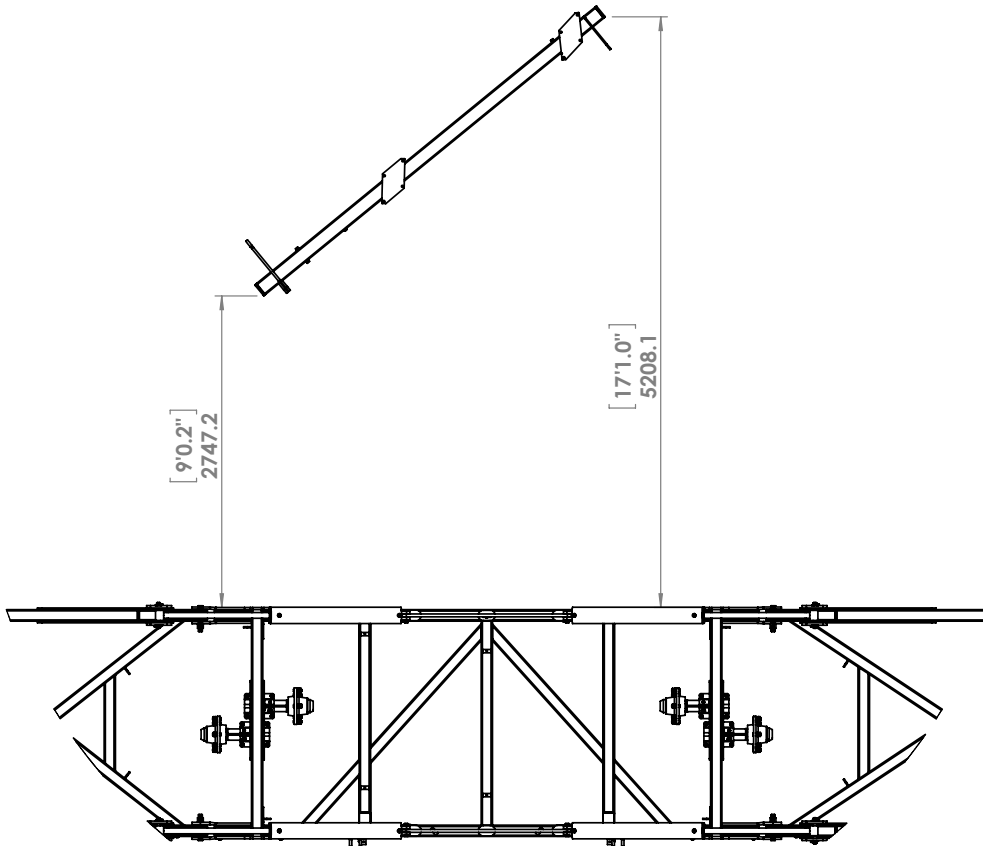


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| ITEM NO. | PART NUMBER | DESCRIPTION           | Qty |
|----------|-------------|-----------------------|-----|
| 1        | 0810-28-60  | 50 & 60' Front Module | 1   |



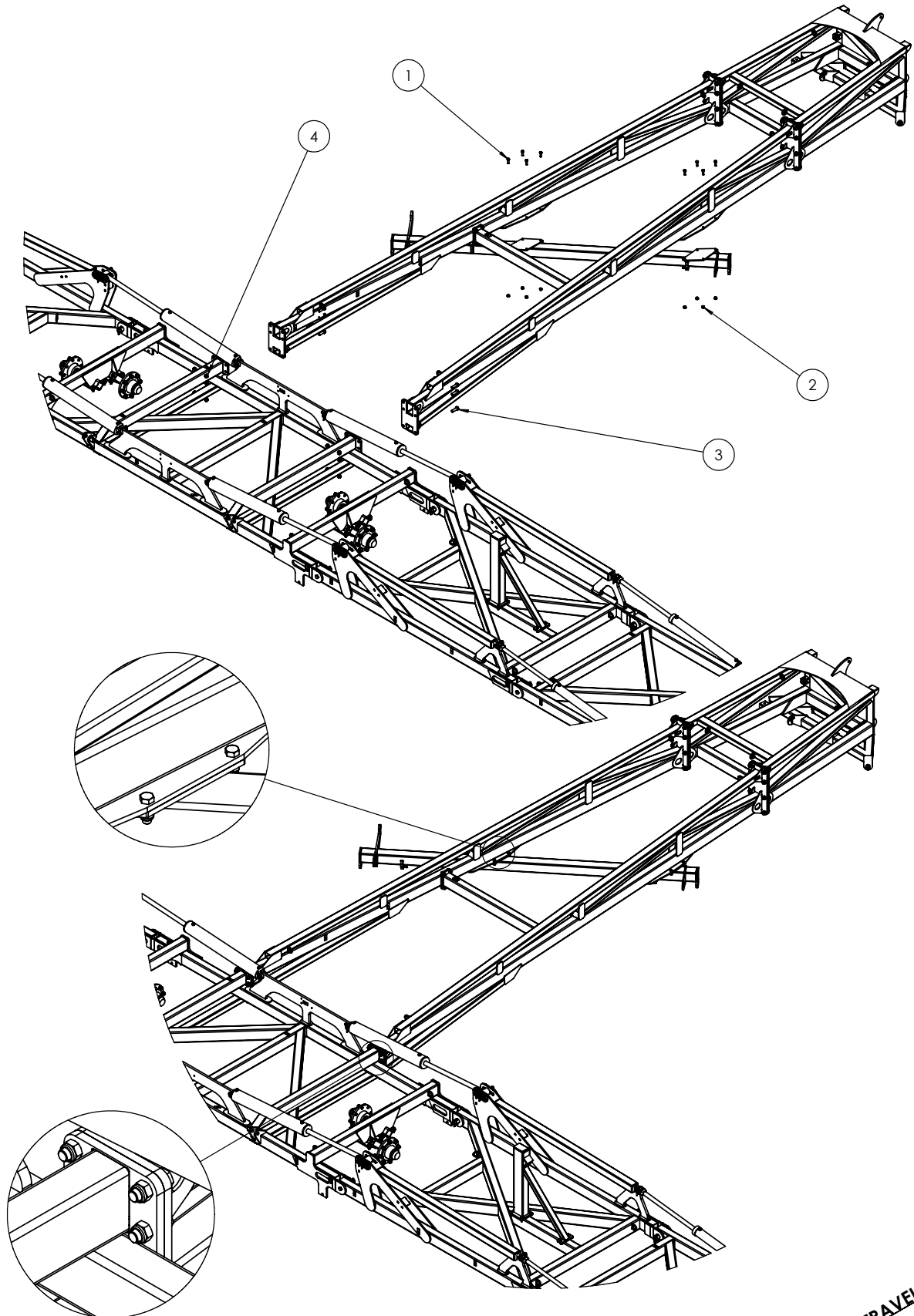
Position front module frame on ground in approximate position to allow easier positioning in the following step



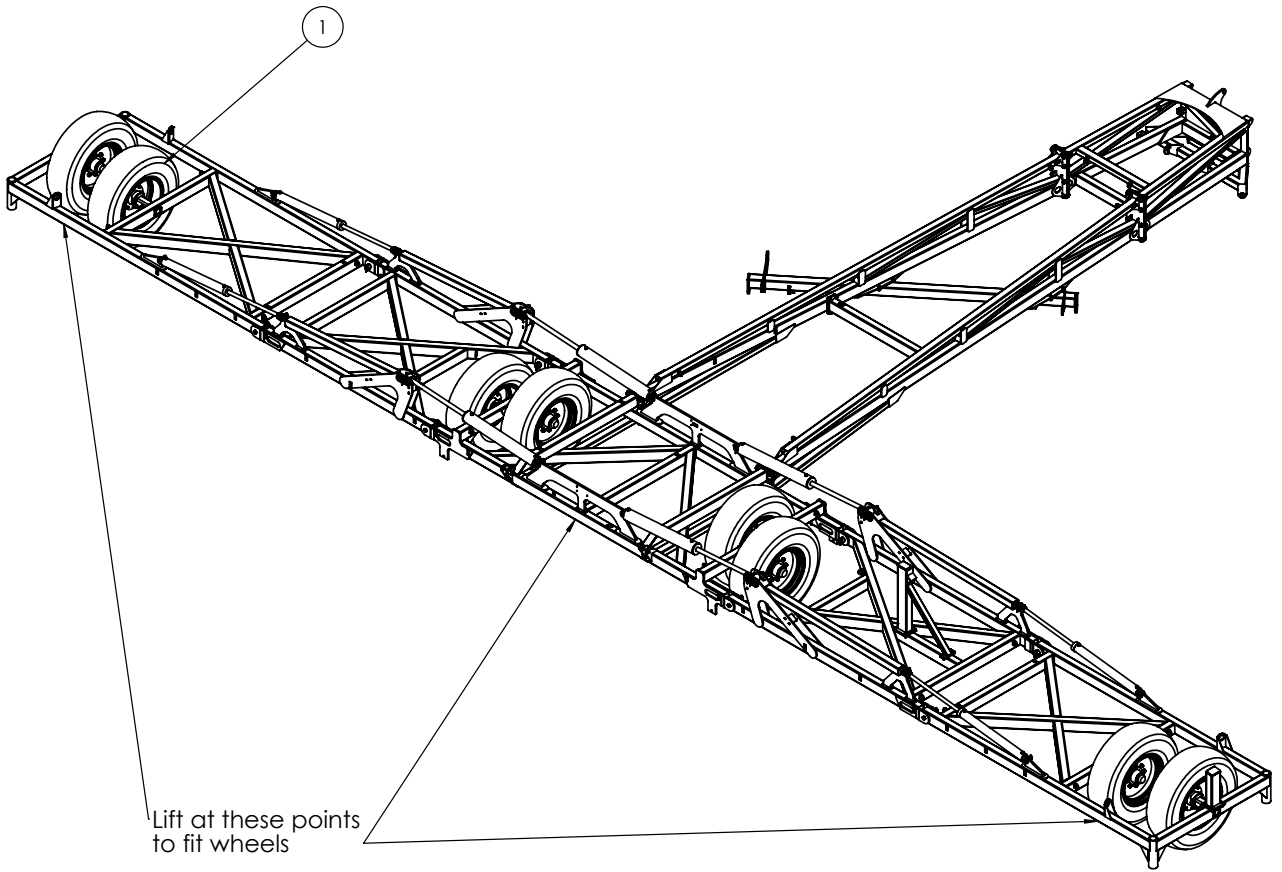
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| ITEM NO. | PART NUMBER | DESCRIPTION          | Qty |
|----------|-------------|----------------------|-----|
| 1        | 0211-1650   | M16 x 50 8.8 zp Bolt | 8   |
| 2        | 0221-NYL16  | M16 Nyloc Nut        | 8   |
| 3        | 0211-2475   | M24 x 75 8.8 zp Bolt | 12  |
| 4        | 0221-NYL24  | M24 Nyloc Nut        | 12  |

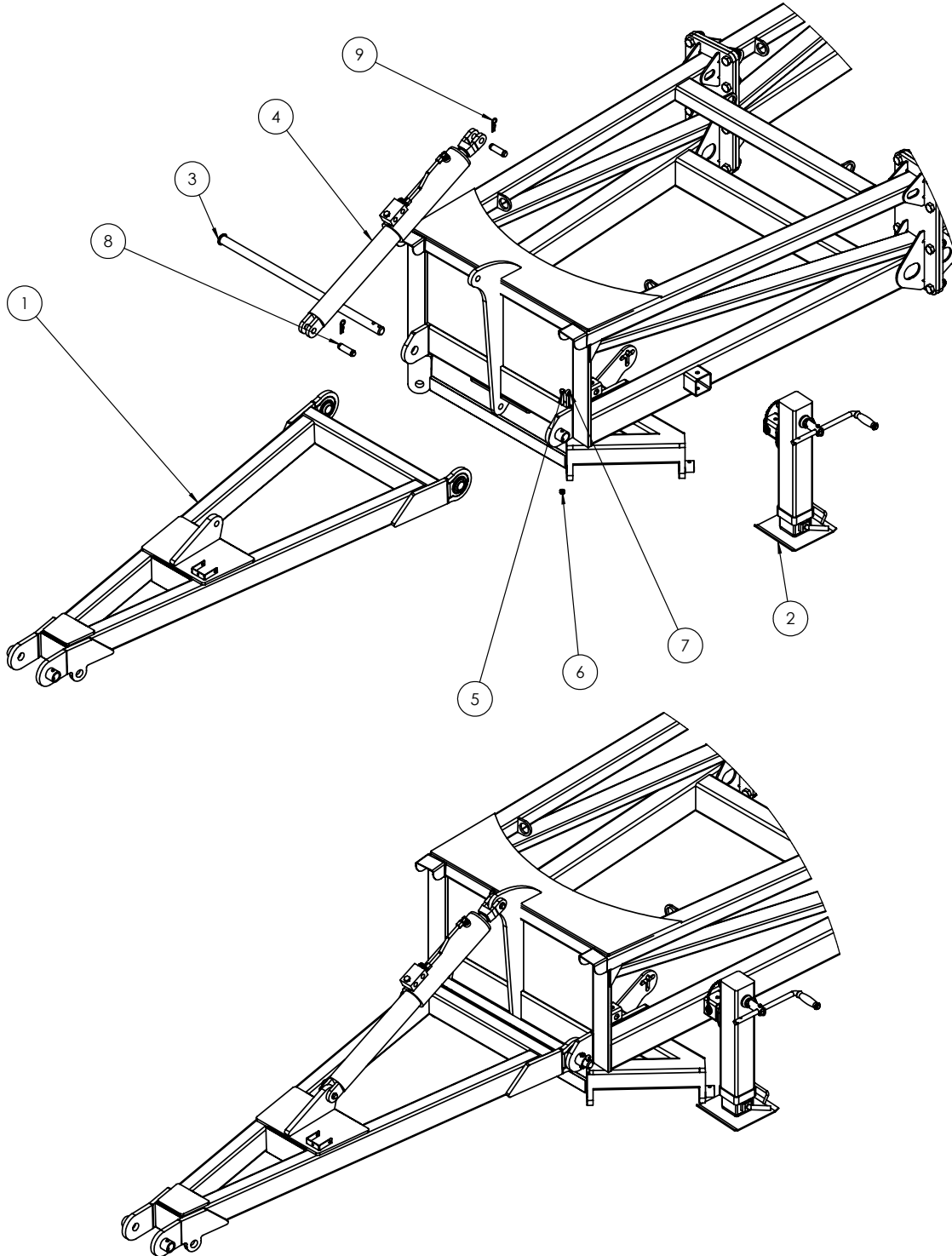


| ITEM NO. | PART NUMBER         | DESCRIPTION                   | Qty |
|----------|---------------------|-------------------------------|-----|
| 1        | 0751-15.5-80-248STR | 15.5/80/24 Tyre on 8 Stud Rim | 8   |



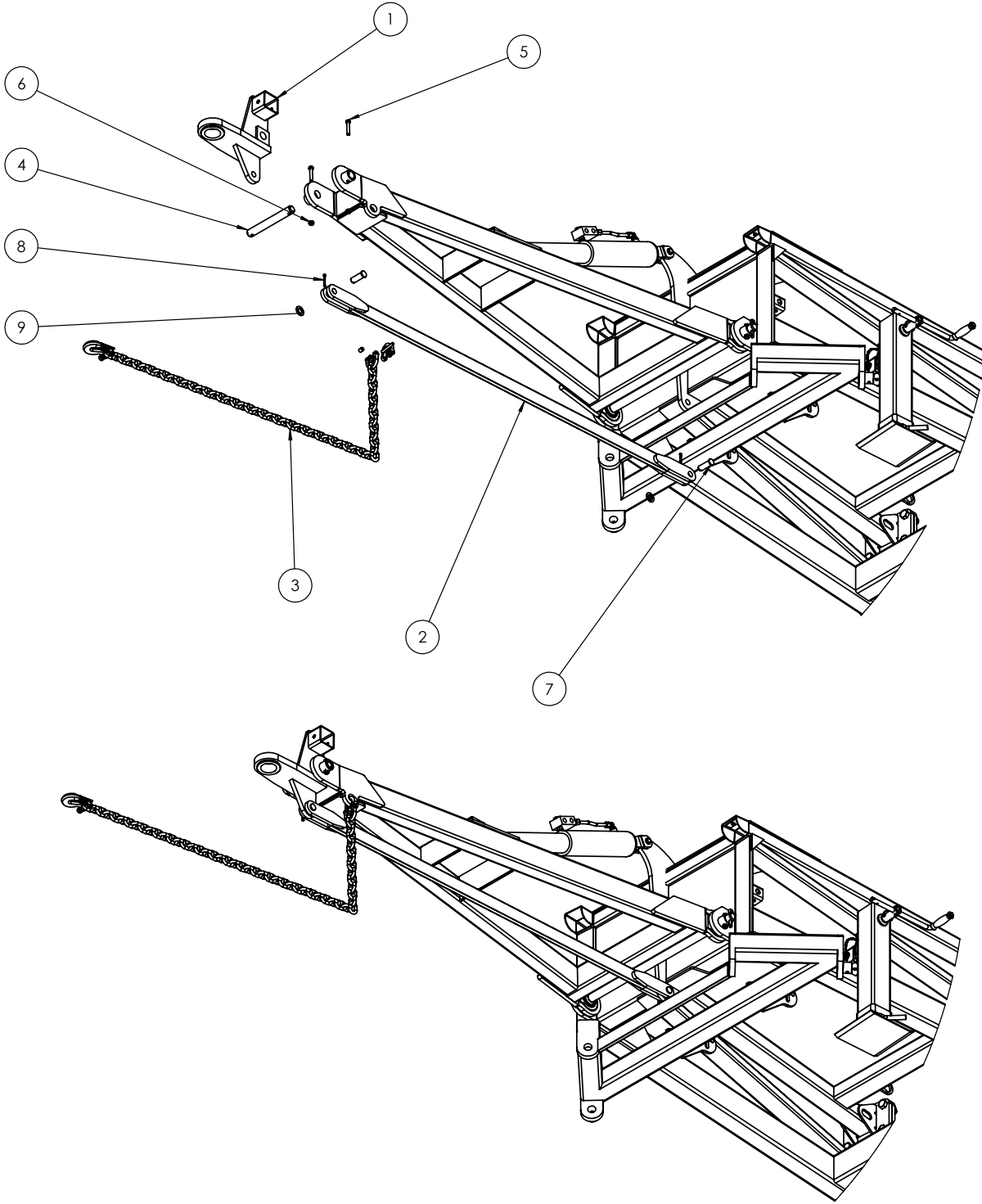
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| ITEM NO. | PART NUMBER    | DESCRIPTION                  | Qty |
|----------|----------------|------------------------------|-----|
| 1        | 0810-08        | Drawbar Frame                | 1   |
| 2        | 0810-37A       | Heavy Duty Jack Assembly     | 1   |
| 3        | 0801-10-13-970 | Drawbar Pivot Pin            | 1   |
| 4        | 0311-6357      | Hyd Cylinder 4 x 12 Extended | 1   |
| 5        | 0211-1265      | M12 x 65 8.8 zp Bolt         | 1   |
| 6        | 0221-NYL12     | M12 Nyloc Nut                | 1   |
| 7        | 0261-PINC1363  | Cotter Pin M13 x 63          | 1   |
| 8        | 0801-44082938  | Clevis Pin 1" x 75mm         | 2   |
| 9        | 0511-RCLIP4    | R Clip 4mm                   | 2   |



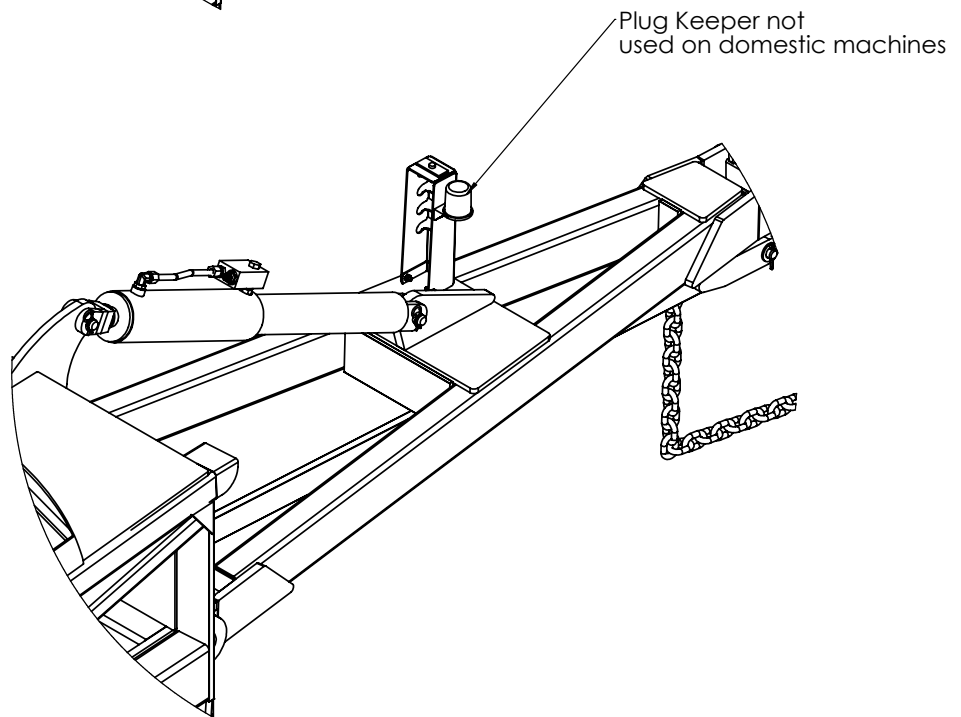
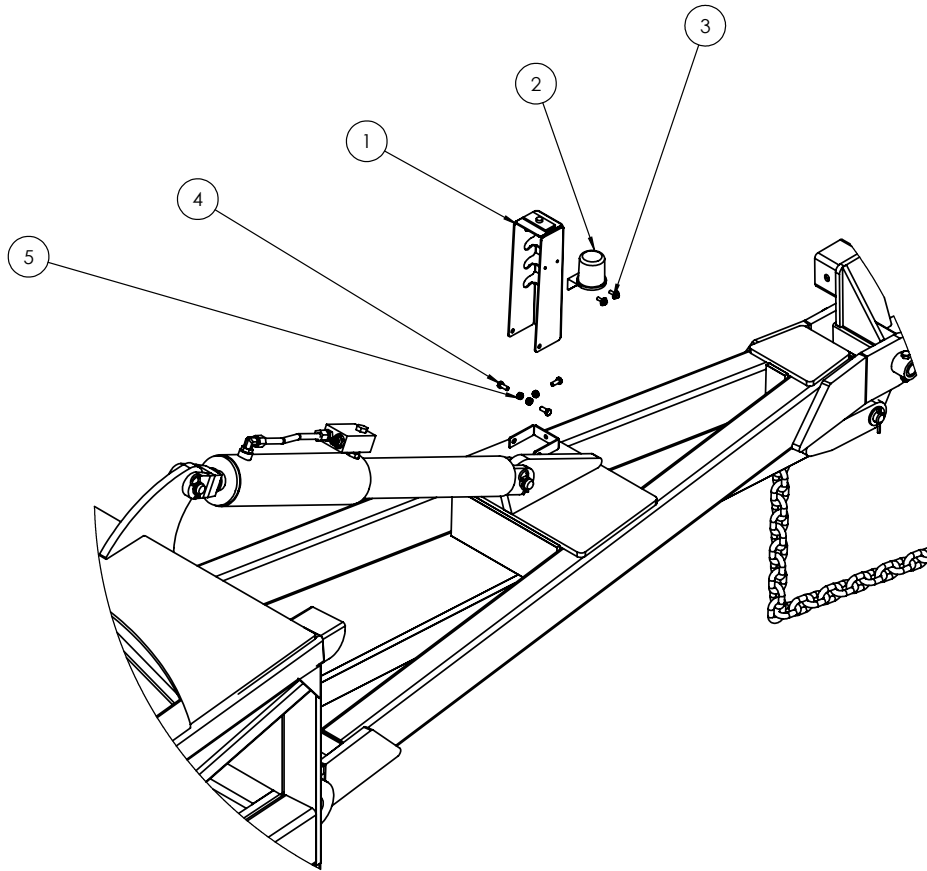
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| ITEM NO. | PART NUMBER   | DESCRIPTION            | Qty |
|----------|---------------|------------------------|-----|
| 1        | 0810-09A      | Tow Hitch Assembly     | 1   |
| 2        | 0810-22       | Parallel Arm           | 1   |
| 3        | 0810-16       | Safety Chain Assembly  | 1   |
| 4        | 0801-10-06    | Tow Hitch Pivot Pin    | 1   |
| 5        | 0211-1265     | M12 x 65 8.8 zp Bolt   | 2   |
| 6        | 0221-NYL12    | M12 Nyloc Nut          | 2   |
| 7        | 0801-KE0307-1 | Clevis Pin 25mm x 75mm | 2   |
| 8        | 0261-PINC550  | Cotter Pin M5 x 50     | 2   |
| 9        | 0231-F24      | M24 zp Flat Washer     | 2   |



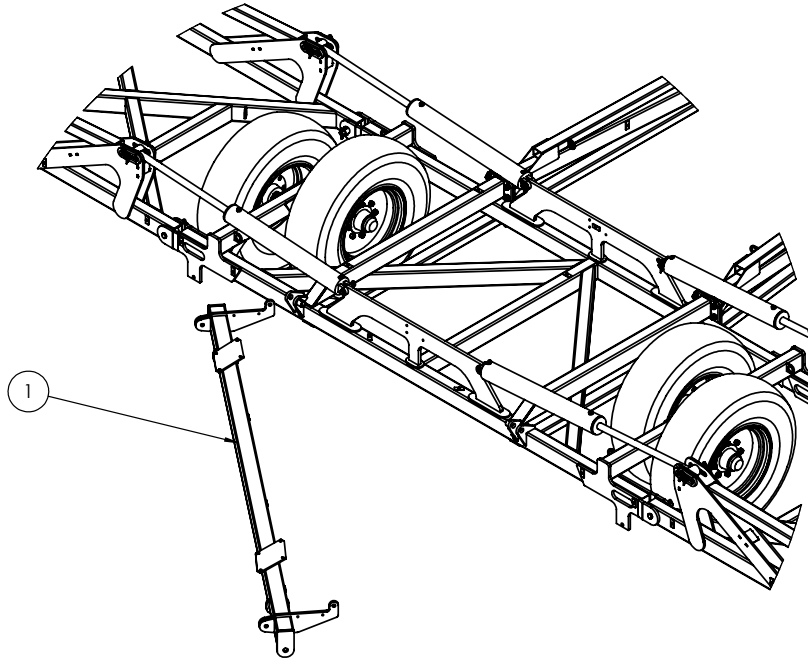
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| ITEM NO. | PART NUMBER     | DESCRIPTION                        | Qty |
|----------|-----------------|------------------------------------|-----|
| 1        | 0810-151        | Hose Post                          | 1   |
| 2        | 0416-11750B     | Electrical Plug Keeper             | 1   |
| 3        | 0211-M620MZPHTF | M6 x 20 Trilobe self tapping ScREW | 2   |
| 4        | 0211-820        | M8 x 20 8.8 zp bolt                | 3   |
| 5        | 0221-NYL8       | M8 Nyloc Nut                       | 3   |

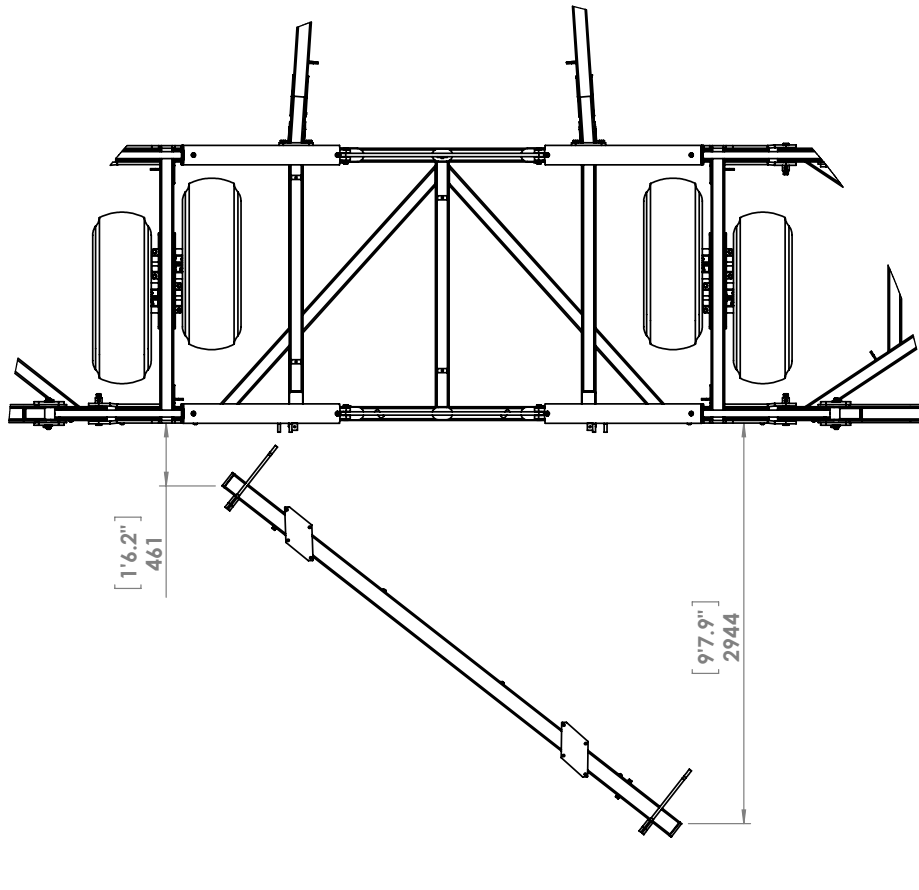


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| ITEM NO. | PART NUMBER | DESCRIPTION          | Qty |
|----------|-------------|----------------------|-----|
| 1        | 0810-29-60  | 50 & 60' Rear Module | 1   |

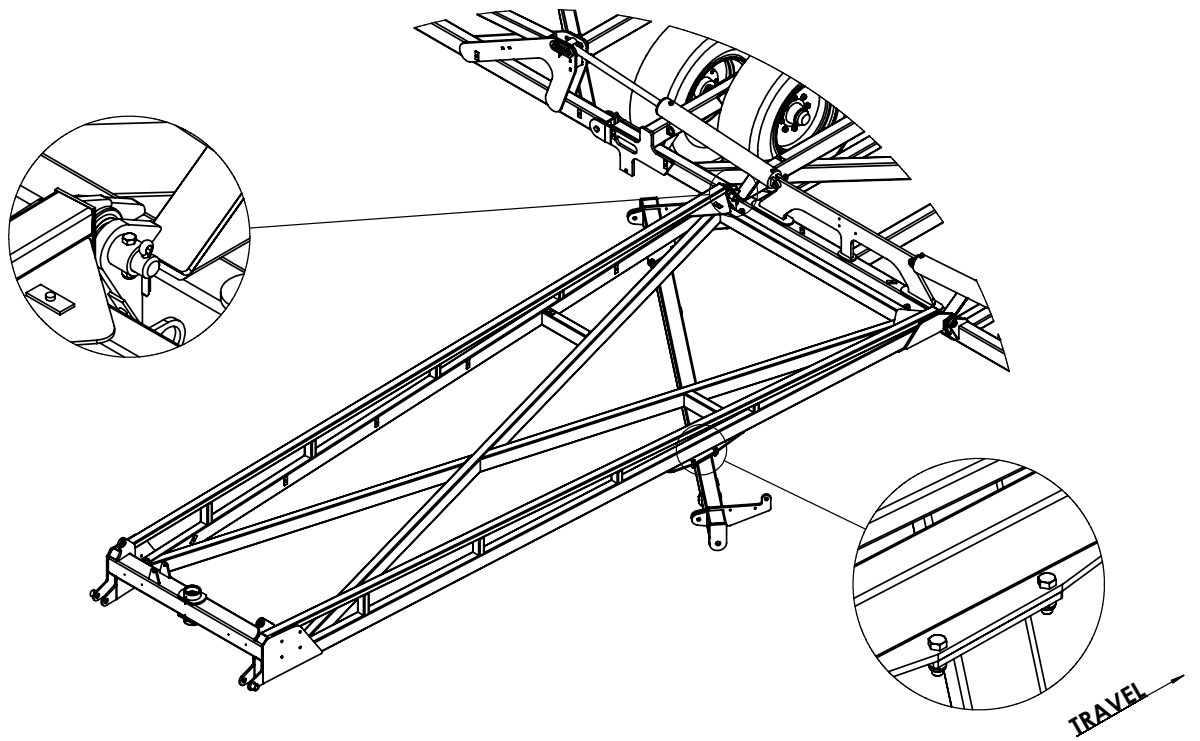
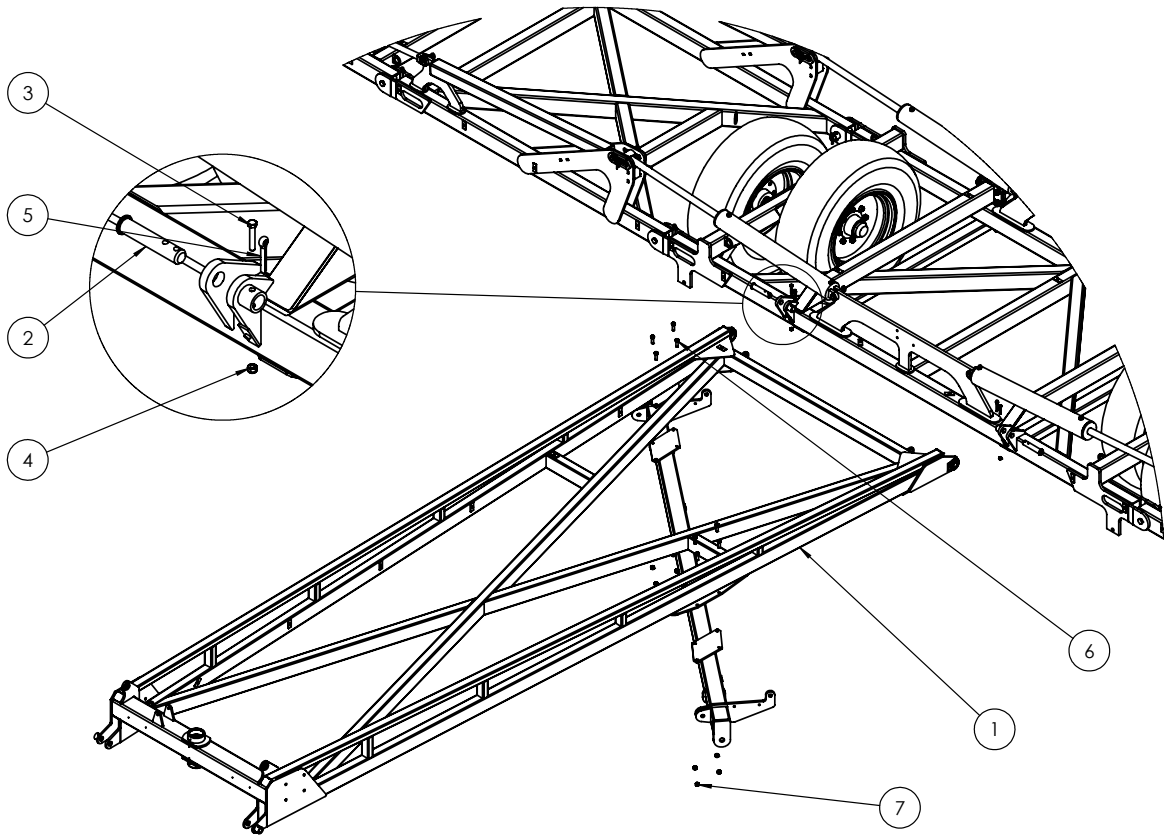


Position rear module frame on ground in approximate position to allow easier positioning in the following step

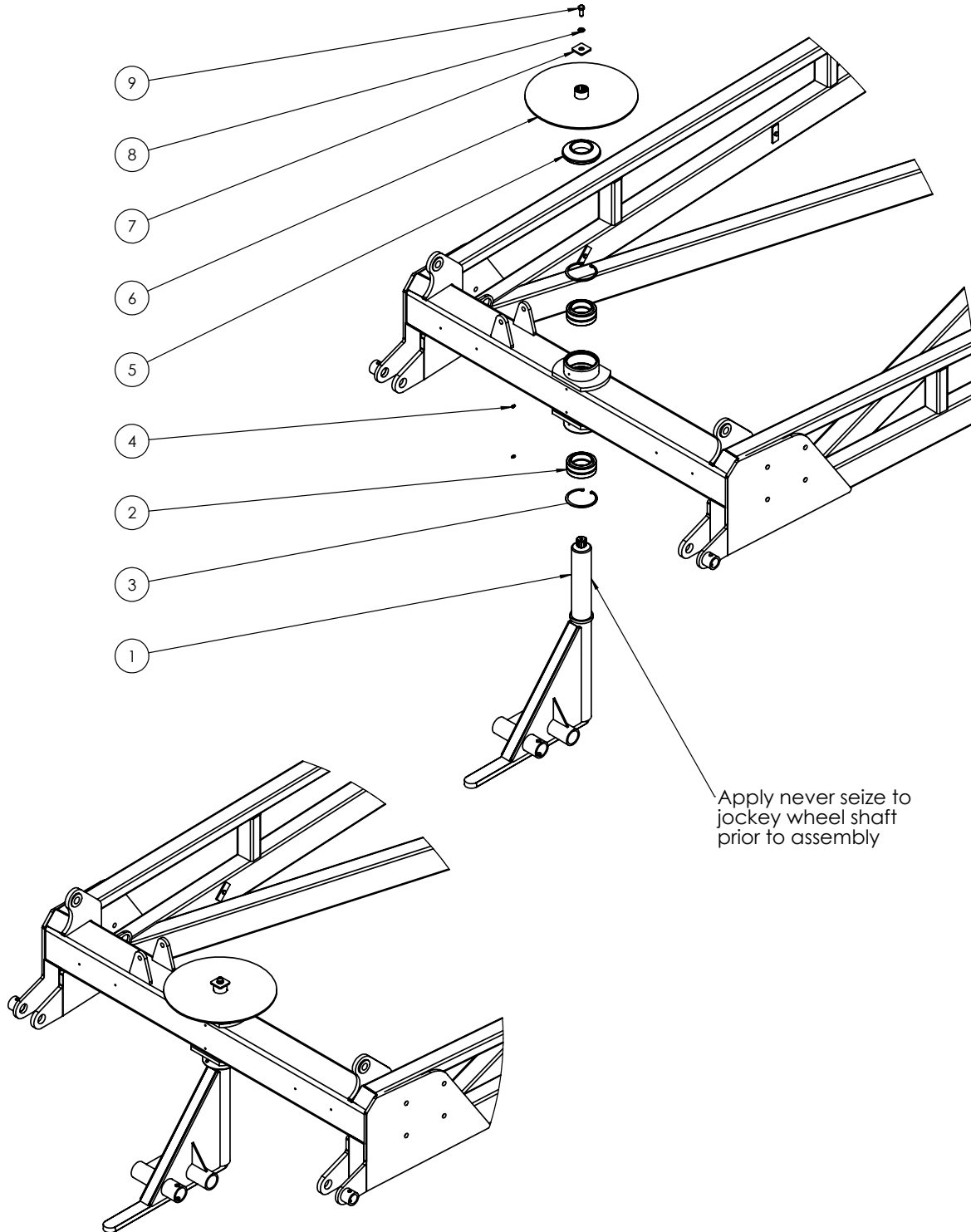


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| ITEM NO. | PART NUMBER    | DESCRIPTION          | Qty |
|----------|----------------|----------------------|-----|
| 1        | 0860CT-03      | 60CT Rear A-Frame    | 1   |
| 2        | 0801-10-08-175 | Tail Frame Pivot pin | 2   |
| 3        | 0211-1265      | M12 x 65 8.8 zp Bolt | 2   |
| 4        | 0221-NYL12     | M12 Nyloc Nut        | 2   |
| 5        | 0261-PINC1363  | Cotter Pin M13 x 63  | 2   |
| 6        | 0211-1650      | M16 x 50 8.8 zp Bolt | 8   |
| 7        | 0221-NYL16     | M16 Nyloc Nut        | 8   |



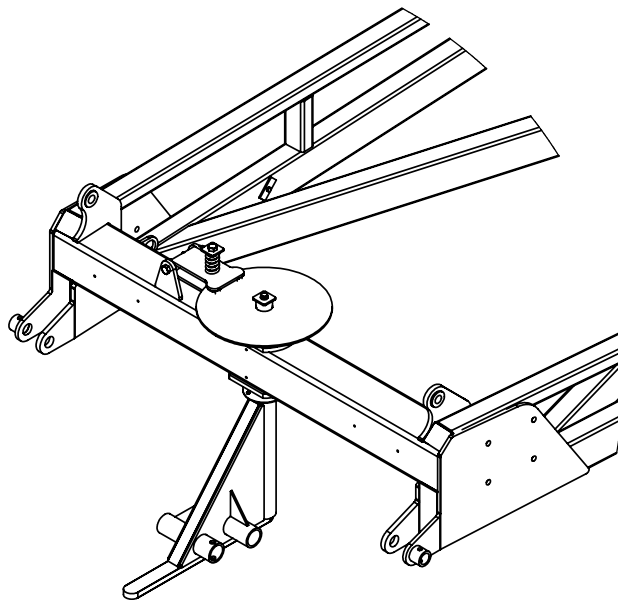
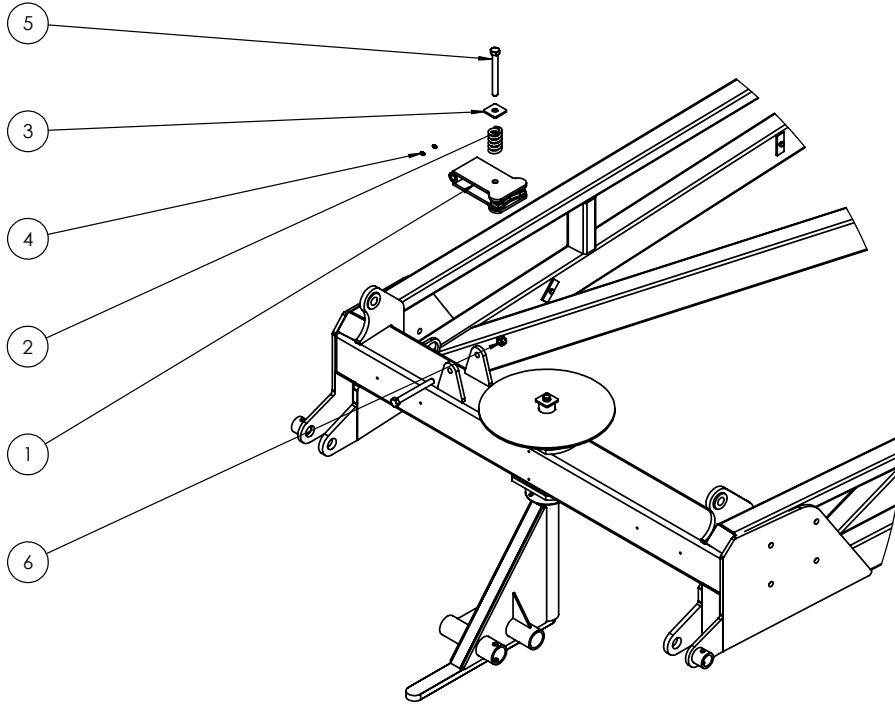
| ITEM NO. | PART NUMBER     | DESCRIPTION                  | Qty |
|----------|-----------------|------------------------------|-----|
| 1        | 0810-11-70      | 70mm Jockey Wheel            | 1   |
| 2        | 0113-GE70DO-2RS | Plain Spherical Bearing 70mm | 2   |
| 3        | 0171-J105       | Circlip Internal 105mm       | 2   |
| 4        | 0181-GN1-4      | Grease Nipple 1/4" UNF       | 2   |
| 5        | 0801-KE0705-13  | 70mm Polymer dust cap        | 1   |
| 6        | 0810-12DISC     | Jockey Wheel Brake Disc      | 1   |
| 7        | 0231-SQ12505    | Washer Square M12 x 50 x 5   | 1   |
| 8        | 0231-S12        | M12 zp Spring Washer         | 1   |
| 9        | 0211-1230       | M12 x 30 8.8 zp Bolt         | 1   |



TRAVEL →

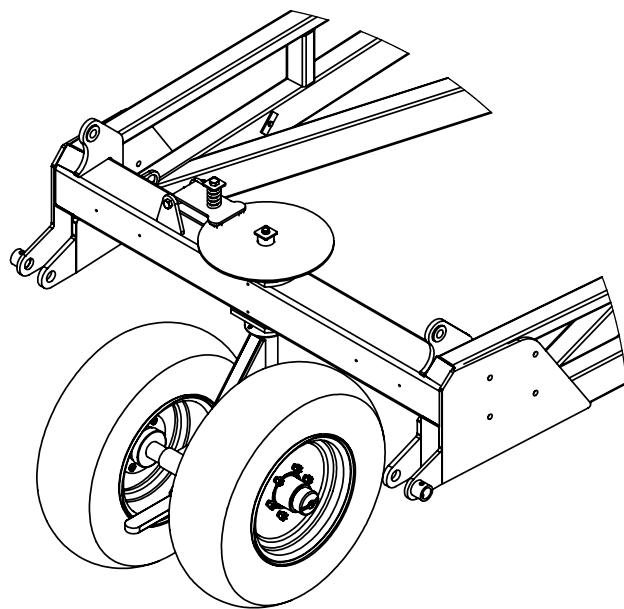
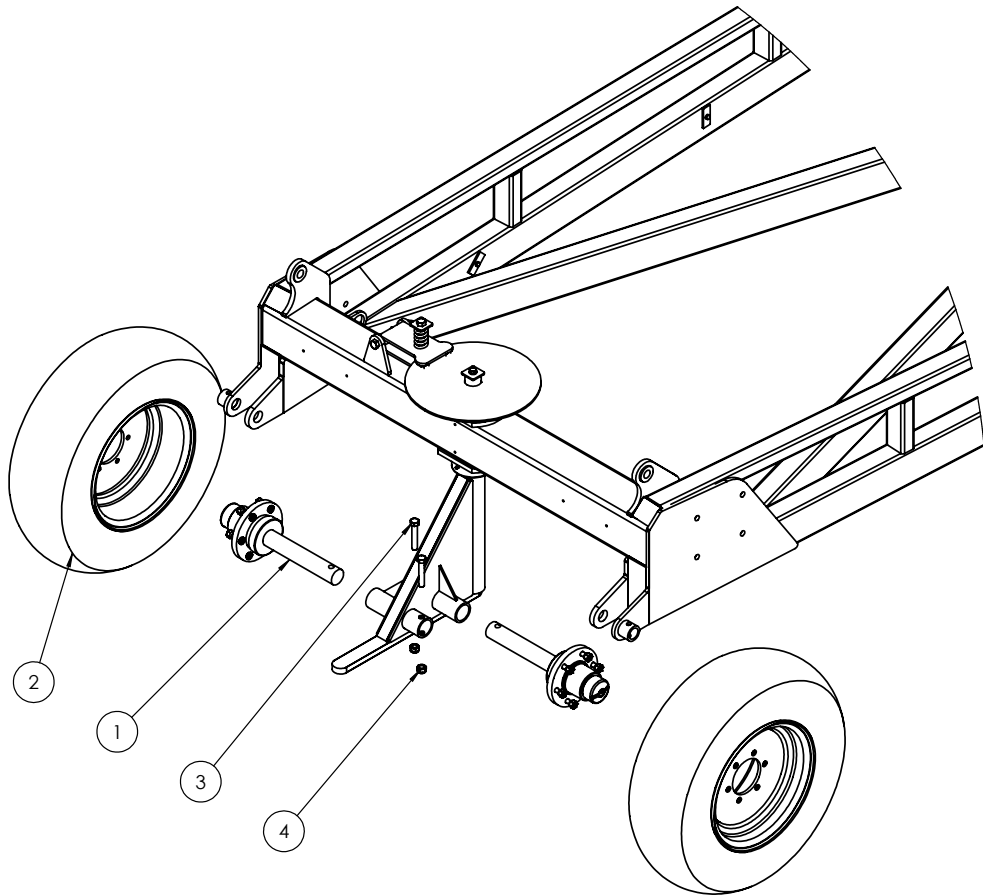


| ITEM NO. | PART NUMBER  | DESCRIPTION                | Qty |
|----------|--------------|----------------------------|-----|
| 1        | 0810-12CAL   | Jockey Wheel Brake Calpier | 1   |
| 2        | 0801-KE009   | Brake Compression Spring   | 1   |
| 3        | 0231-SQ16505 | Washer Square M16 x 50 x 5 | 1   |
| 4        | 0181-GN1-4   | Grease Nipple 1/4" UNF     | 2   |
| 5        | 0211-16150   | M16 x 150 8.8 zp Bolt      | 2   |
| 6        | 0221-NYL16   | M16 Nyloc Nut              | 1   |



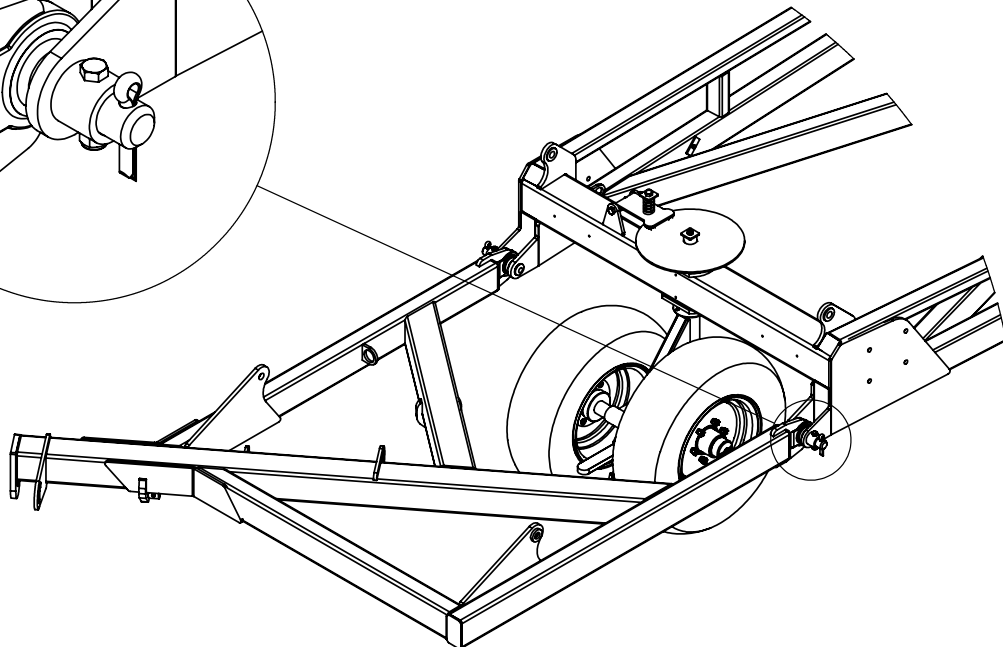
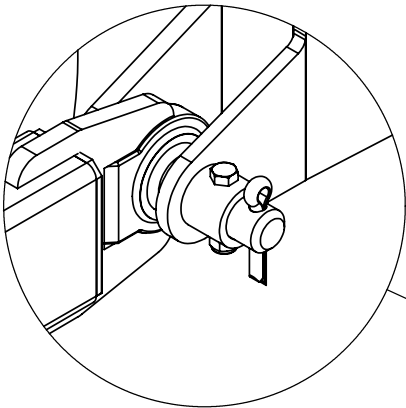
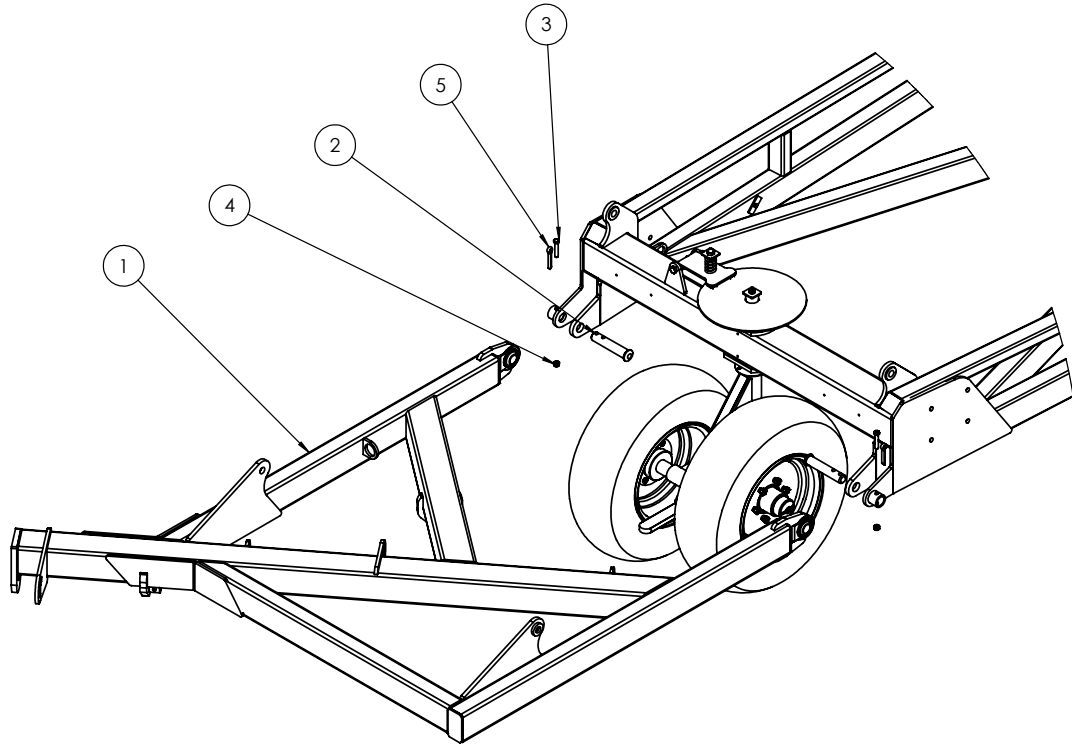
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| ITEM NO. | PART NUMBER    | DESCRIPTION                     | Qty |
|----------|----------------|---------------------------------|-----|
| 1        | 0733-K5083T66S | Axle 2"R 3T 6 on 6" PCD 330 OHF | 2   |
| 2        | 0751-11L15     | 11L15F3 Tyre on Rim             | 2   |
| 3        | 0211-1690      | M16 x 90 8.8 zp Bolt            | 2   |
| 4        | 0221-NYL16     | M16 Nylac Nut                   | 2   |



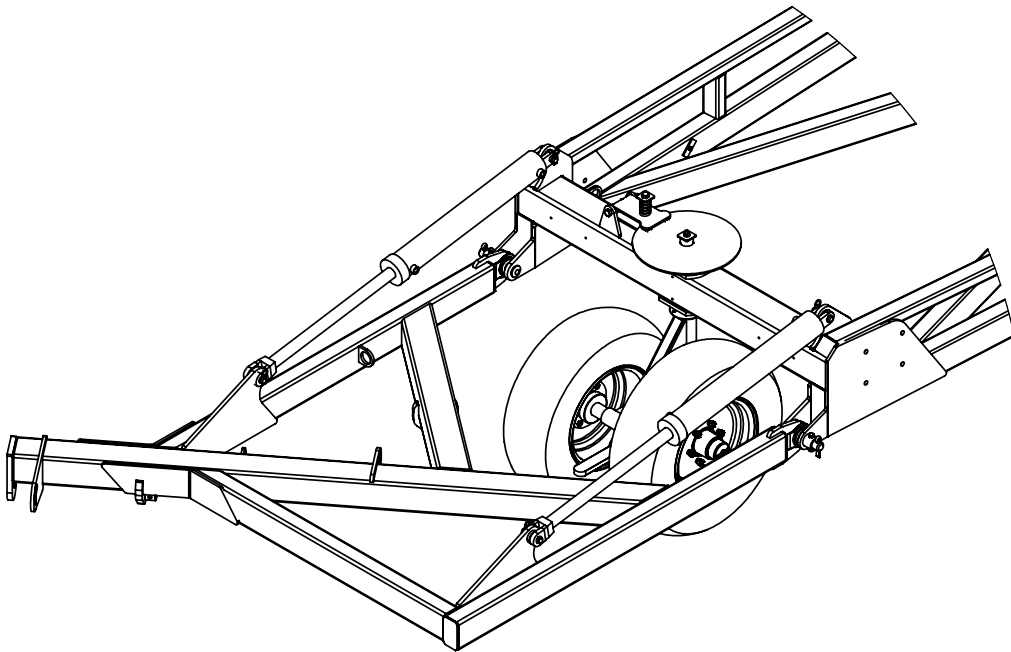
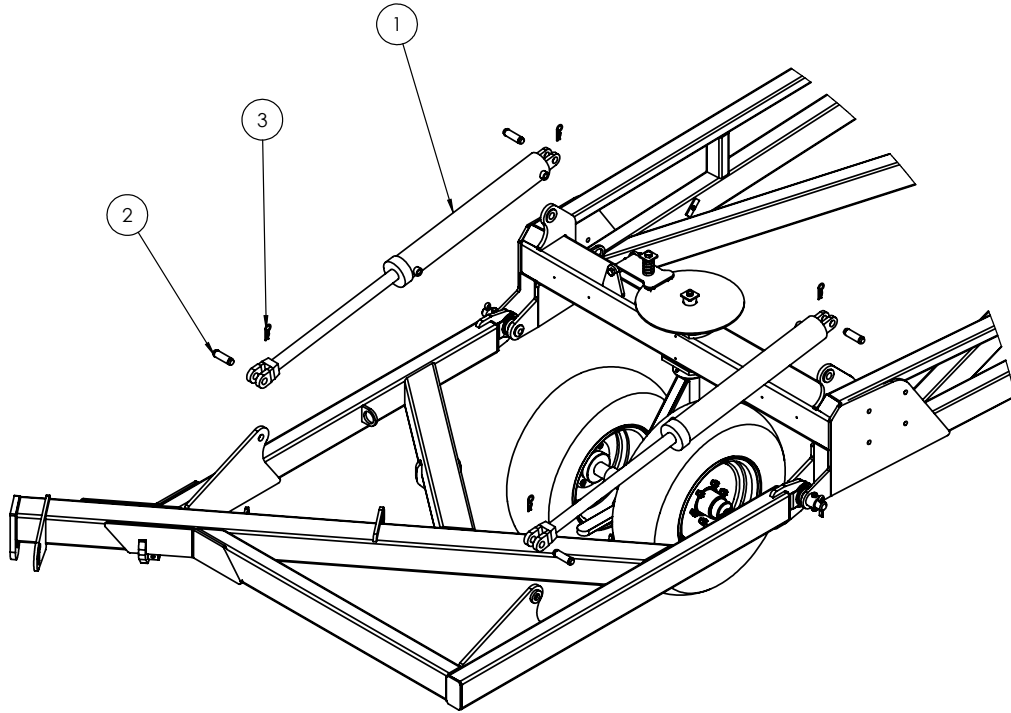
TRAVEL →

| ITEM NO. | PART NUMBER    | DESCRIPTION          | Qty |
|----------|----------------|----------------------|-----|
| 1        | 0810-10        | Rear Tail            | 1   |
| 2        | 0801-10-08-175 | Tail Frame Pivot pin | 2   |
| 3        | 0211-1265      | M12 x 65 8.8 zp Bolt | 2   |
| 4        | 0221-NYL12     | M12 Nyloc Nut        | 2   |
| 5        | 0261-PINC1363  | Cotter Pin M13 x 63  | 2   |



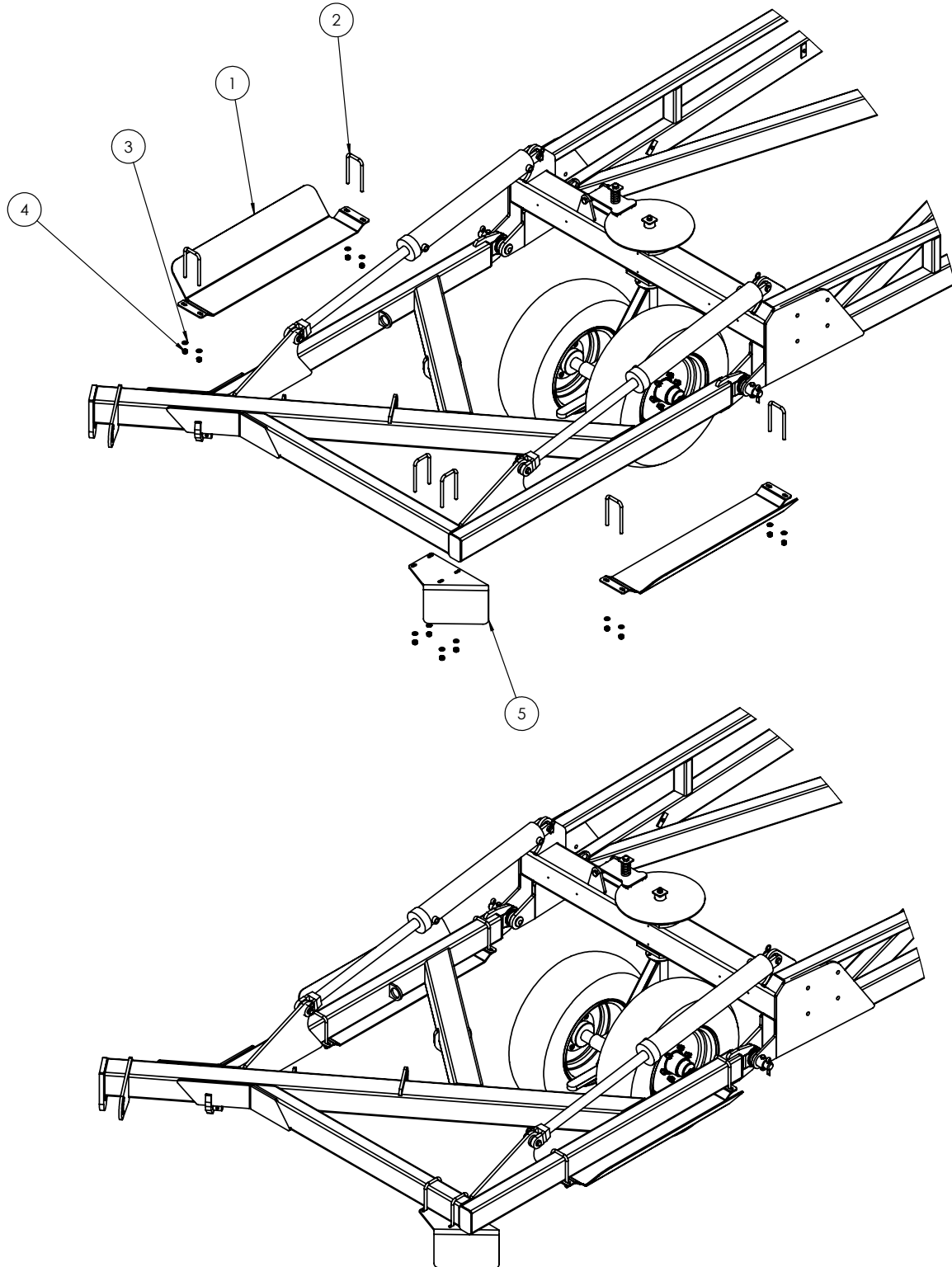
TRAVEL →

| ITEM NO. | PART NUMBER   | DESCRIPTION             | Qty |
|----------|---------------|-------------------------|-----|
| 1        | 0311-2958     | Hyd Cylinder 3.5" x 24" | 2   |
| 2        | 0801-44082938 | Clevis Pin 1" x 75mm    | 4   |
| 3        | 0511-RCLIP4   | R Clip 4mm              | 4   |



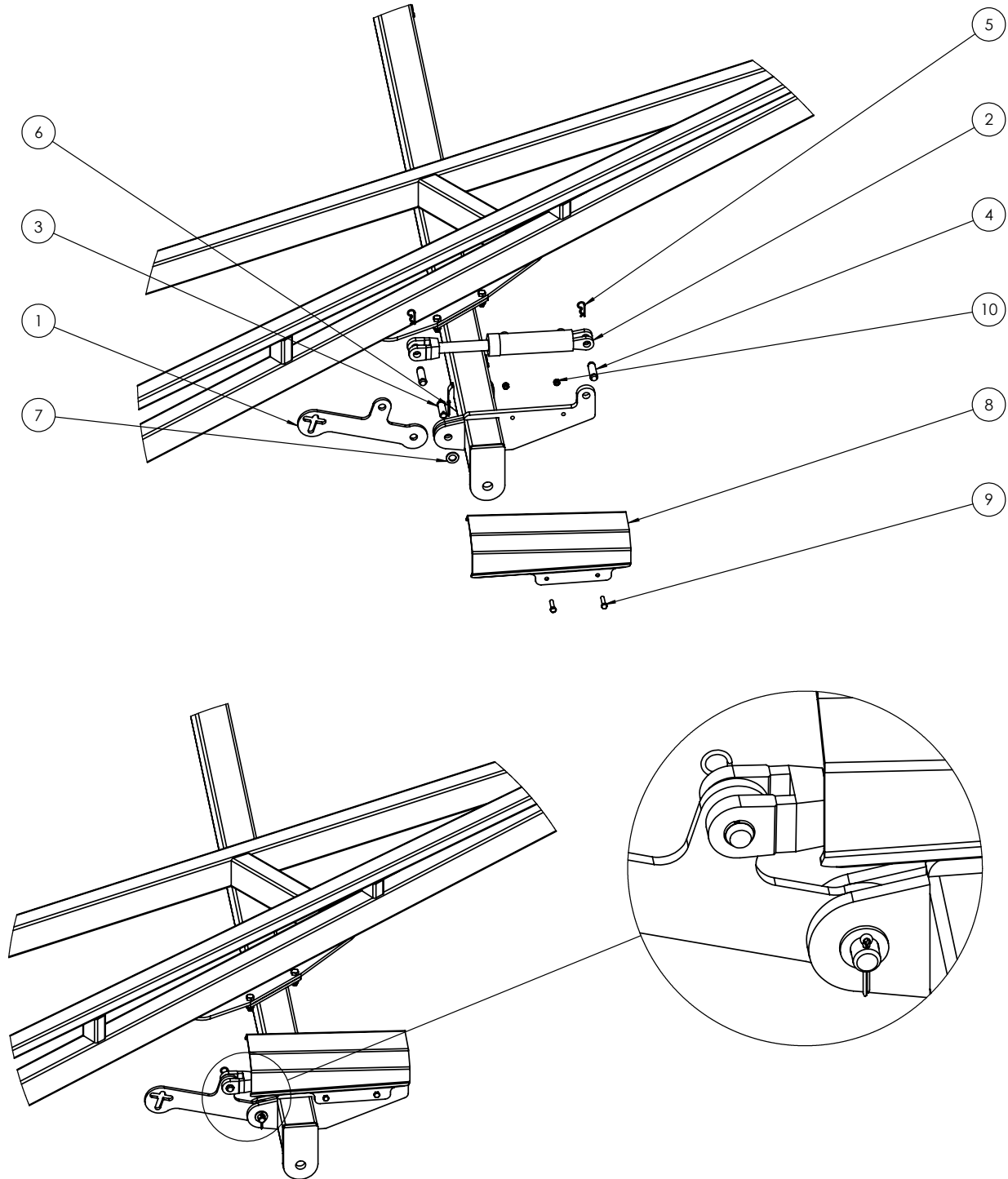
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| ITEM NO. | PART NUMBER  | DESCRIPTION                     | Qty |
|----------|--------------|---------------------------------|-----|
| 1        | 0800-235     | Rear Tail Guard                 | 2   |
| 2        | 0271-1215577 | U-Bolt M12 x 155 Deep x 77 Wide | 6   |
| 3        | 0231-F12     | M12 zp Flat Washer              | 12  |
| 4        | 0221-NYL12   | M12 Nyloc Nut                   | 12  |
| 5        | 0800-220.1   | Tail Chain Stop Guard           | 1   |



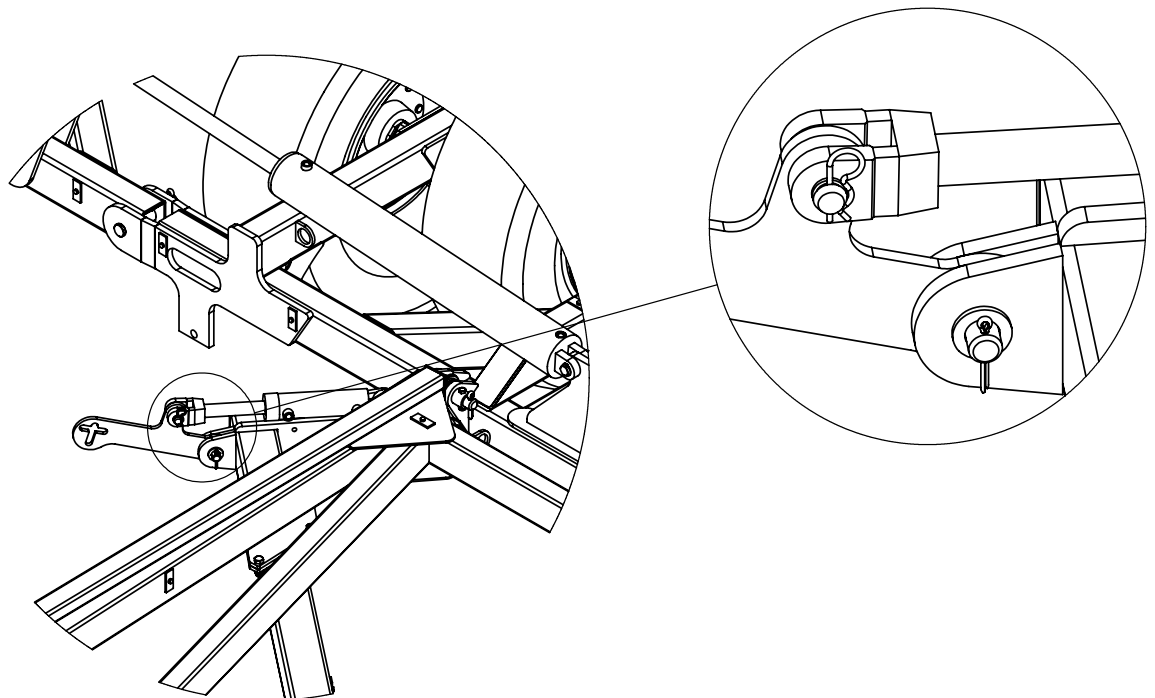
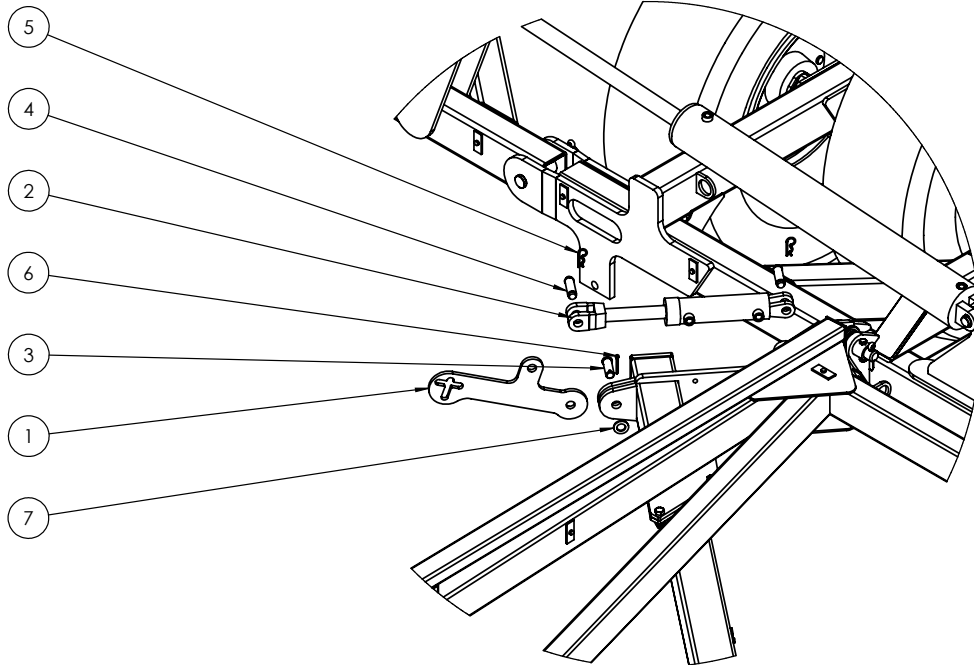
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| ITEM NO. | PART NUMBER   | DESCRIPTION                      | Qty |
|----------|---------------|----------------------------------|-----|
| 1        | 0800-120.3    | Module Lift Plate                | 1   |
| 2        | 0311-5041     | Hyd Cylinder 2.5" x 6" Side Port | 1   |
| 3        | 0801-KE0307-1 | Clevis Pin 25mm x 75mm           | 1   |
| 4        | 0801-44082938 | Clevis Pin 1" x 75mm             | 2   |
| 5        | 0511-RCLIP4   | R Clip 4mm                       | 2   |
| 6        | 0261-PINC550  | Cotter Pin M5 x 50               | 1   |
| 7        | 0231-F24      | M24 zp Flat Washer               | 1   |
| 8        | 0800-167.3    | Module Cylinder Guard            | 1   |
| 9        | 0211-1250     | M12 x 50 8.8 zp Bolt             | 2   |
| 10       | 0221-NYL12    | M12 Nyloc Nut                    | 2   |



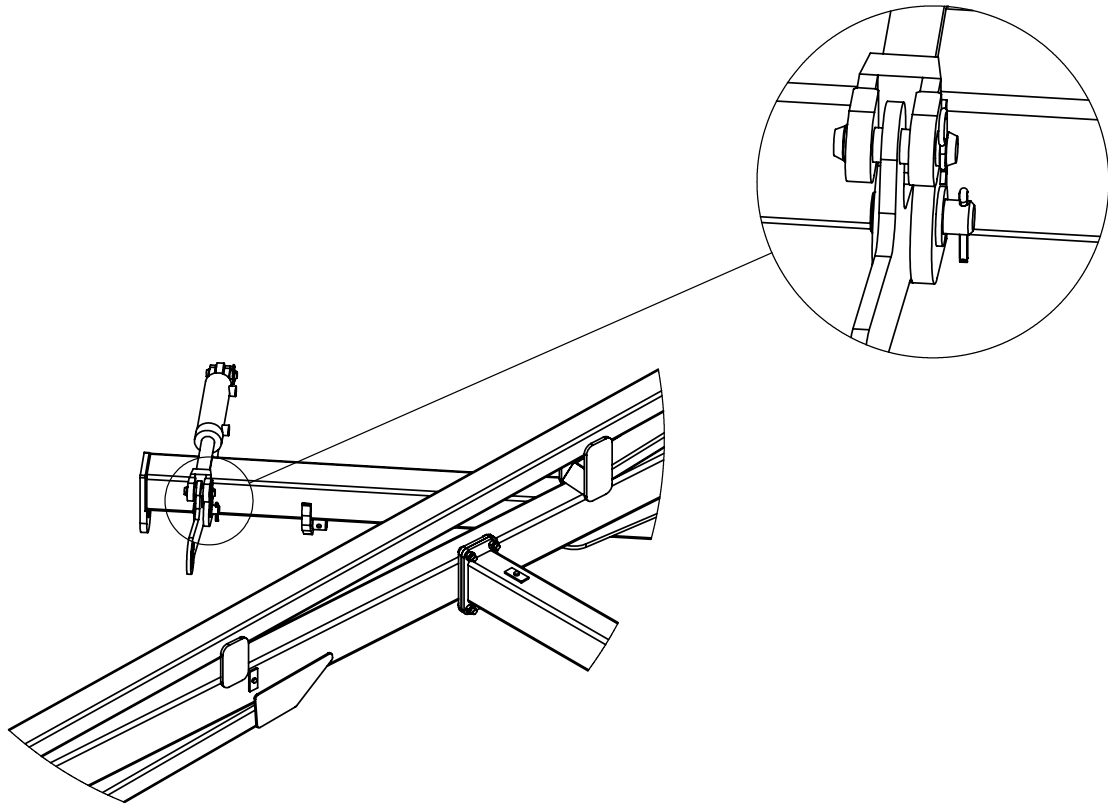
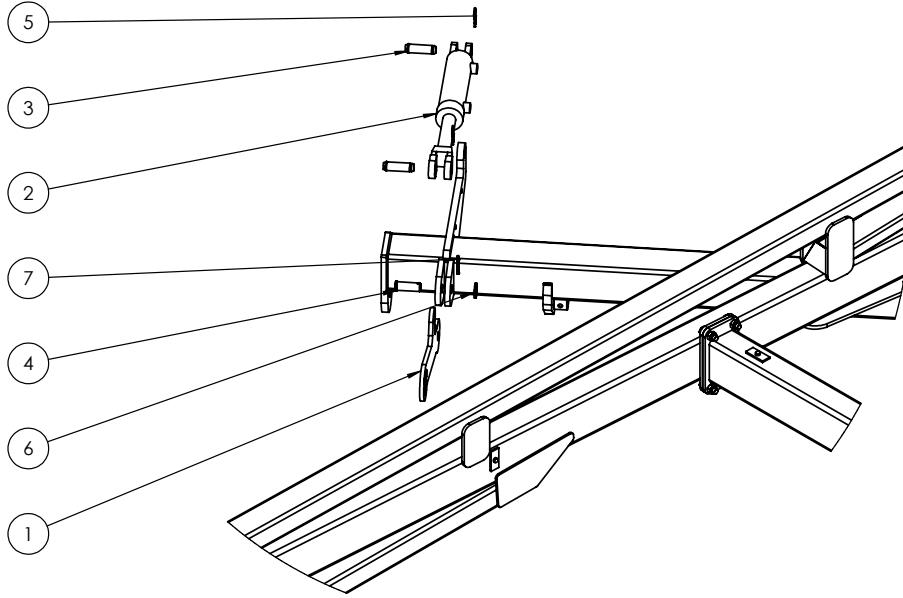
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| ITEM NO. | PART NUMBER   | DESCRIPTION                      | Qty |
|----------|---------------|----------------------------------|-----|
| 1        | 0800-120.3    | Module Lift Plate                | 1   |
| 2        | 0311-5041     | Hyd Cylinder 2.5" x 6" Side Port | 1   |
| 3        | 0801-KE0307-1 | Clevis Pin 25mm x 75mm           | 1   |
| 4        | 0801-44082938 | Clevis Pin 1" x 75mm             | 2   |
| 5        | 0511-RCLIP4   | R Clip 4mm                       | 2   |
| 6        | 0261-PINC550  | Cotter Pin M5 x 50               | 1   |
| 7        | 0231-F24      | M24 zp Flat Washer               | 1   |



TRAVEL →

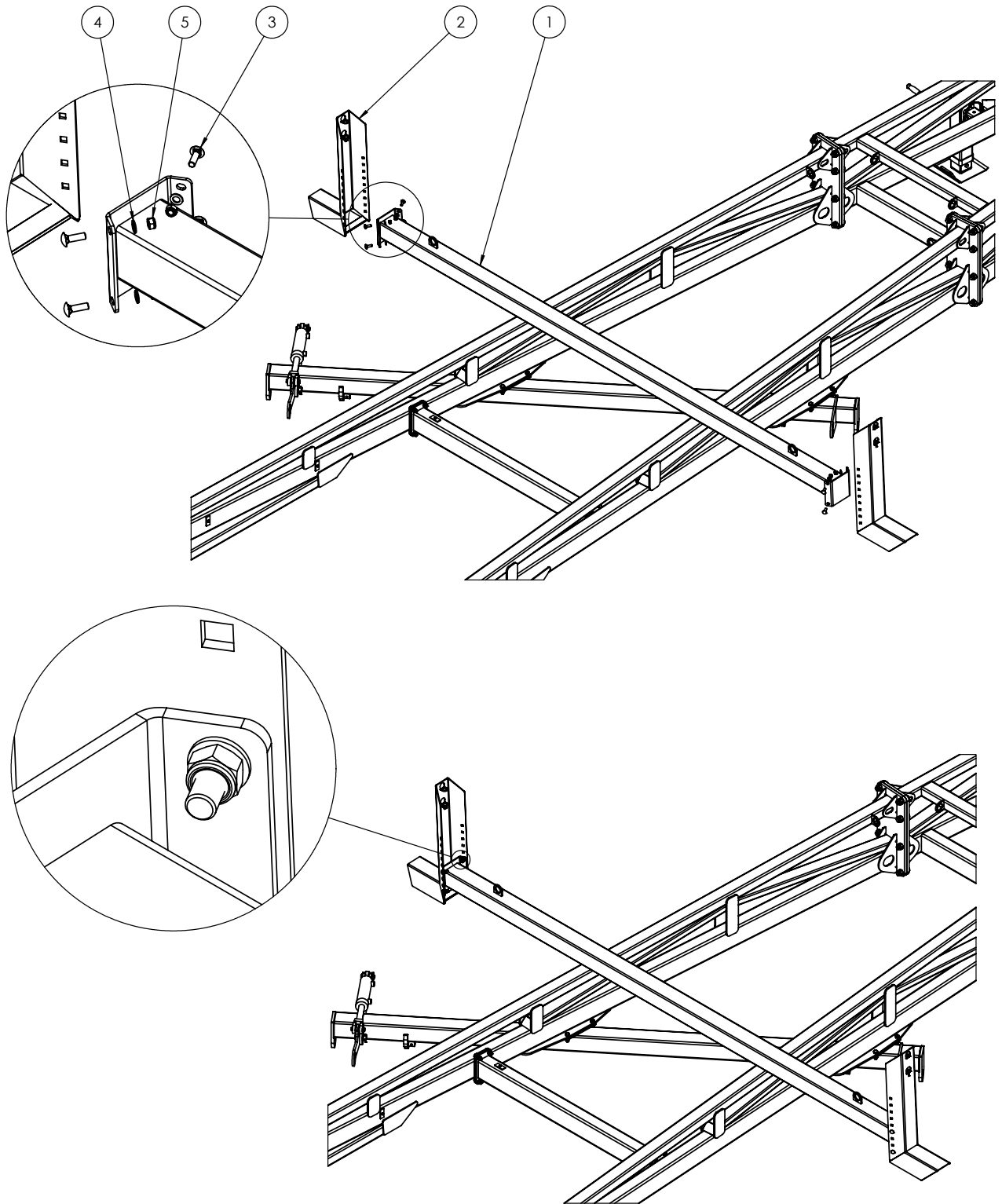
| ITEM NO. | PART NUMBER   | DESCRIPTION                      | Qty |
|----------|---------------|----------------------------------|-----|
| 1        | 0800-120.3    | Module Lift Plate                | 1   |
| 2        | 0311-5041     | Hyd Cylinder 2.5" x 6" Side Port | 1   |
| 3        | 0801-44082938 | Clevis Pin 1" x 75mm             | 2   |
| 4        | 0801-KE0307-1 | Clevis Pin 25mm x 75mm           | 1   |
| 5        | 0511-RCLIP4   | R Clip 4mm                       | 2   |
| 6        | 0231-F24      | M24 zp Flat Washer               | 1   |
| 7        | 0261-PINC550  | Cotter Pin M5 x 50               | 1   |



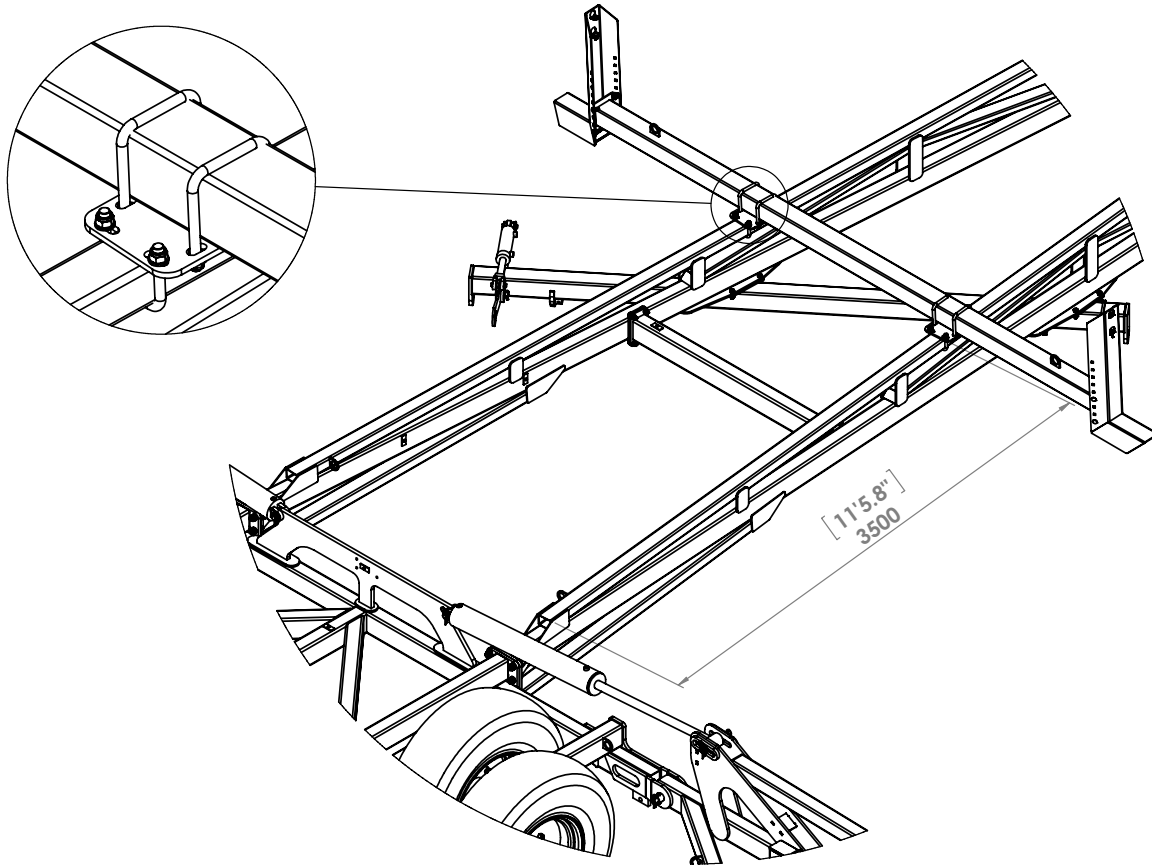
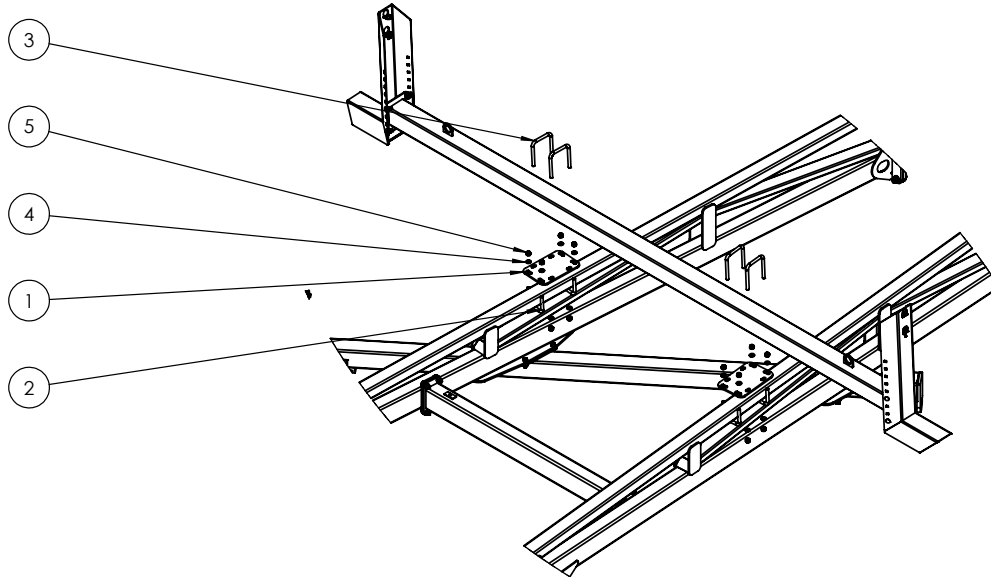
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| ITEM NO. | PART NUMBER | DESCRIPTION               | Qty |
|----------|-------------|---------------------------|-----|
| 1        | 0810-17-60  | 50/60' Chain Carrier Beam | 1   |
| 2        | 0810-17L    | Chain Carrier Bolt on End | 2   |
| 3        | 0215-CH1240 | M12 x 40 Coach Head Bolt  | 8   |
| 4        | 0231-F12    | M12 zp Flat Washer        | 8   |
| 5        | 0221-NYL12  | M12 Nyloc Nut             | 8   |

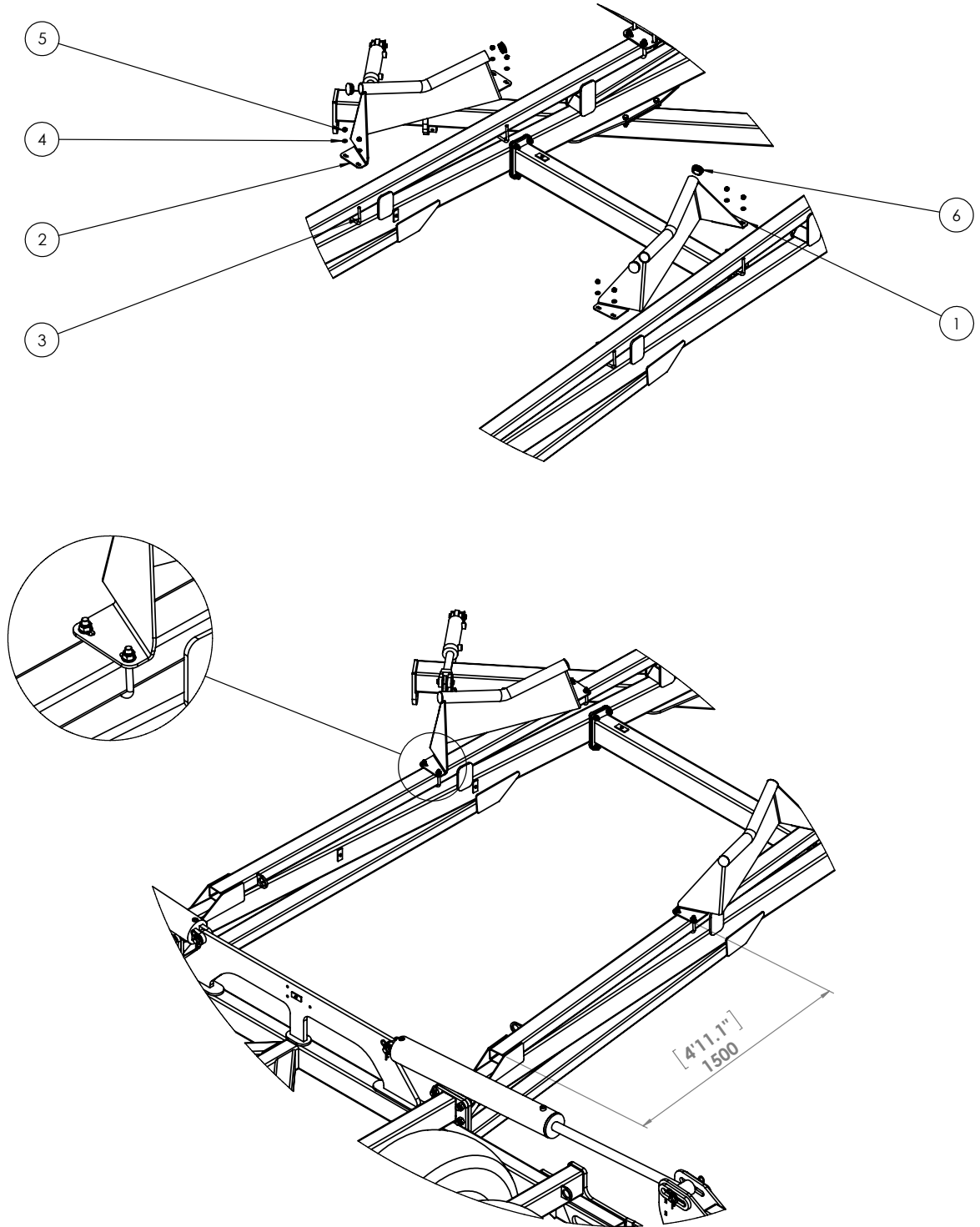


| ITEM NO. | PART NUMBER   | DESCRIPTION                      | Qty |
|----------|---------------|----------------------------------|-----|
| 1        | 0800-139.1    | Chain Carrier Mount Plate        | 2   |
| 2        | 0271-16112104 | U-Bolt M16 x 112 Deep x 104 Wide | 4   |
| 3        | 0271-16160127 | U-Bolt M16 x 160 Deep x 127 Wide | 4   |
| 4        | 0231-F16      | M16 zp Flat Washer               | 16  |
| 5        | 0221-NYL16    | M16 Nyloc Nut                    | 16  |



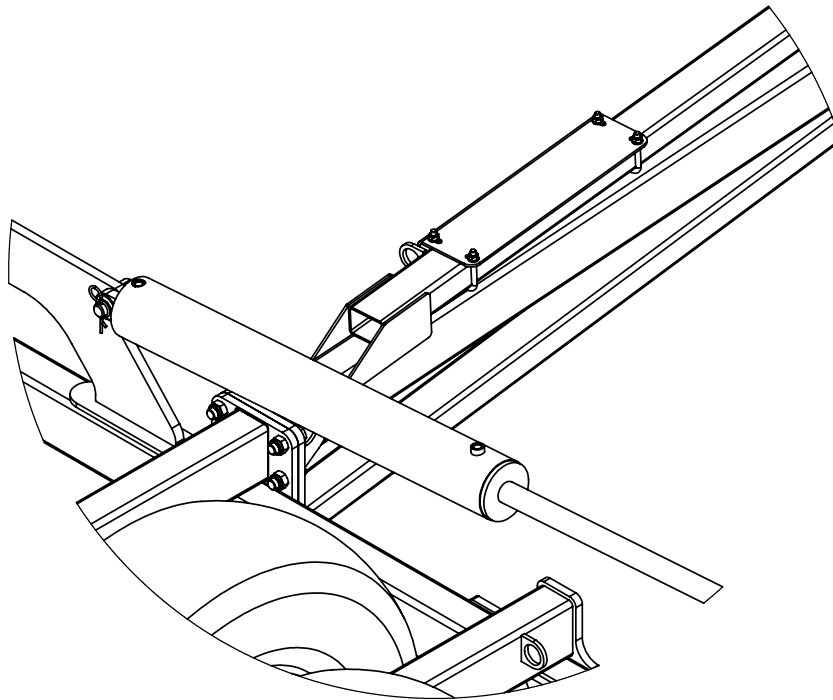
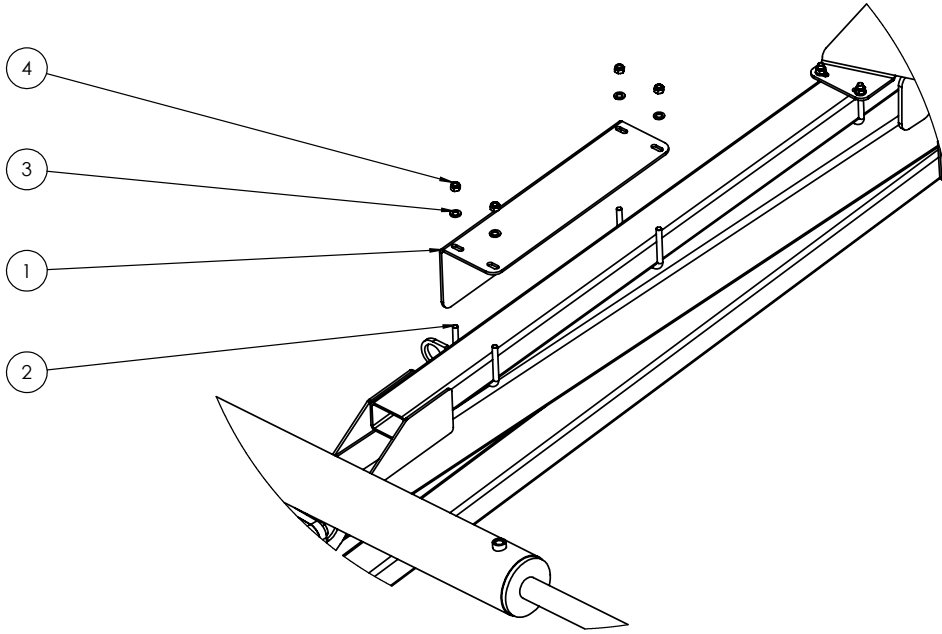
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| ITEM NO. | PART NUMBER    | DESCRIPTION                      | Qty |
|----------|----------------|----------------------------------|-----|
| 1        | 0810-18R       | Right Hand Off Set M             | 1   |
| 2        | 0810-19L       | Left Hand Off Set M              | 1   |
| 3        | 0271-12105104  | U-Bolt M12 x 105 Deep x 104 Wide | 4   |
| 4        | 0231-F12       | M12 zp Flat Washer               | 8   |
| 5        | 0221-NYL12     | M12 Nyloc Nut                    | 8   |
| 6        | 0264-RTRI-5584 | Round Tube Insert 60.3 x 3.2-5mm | 4   |



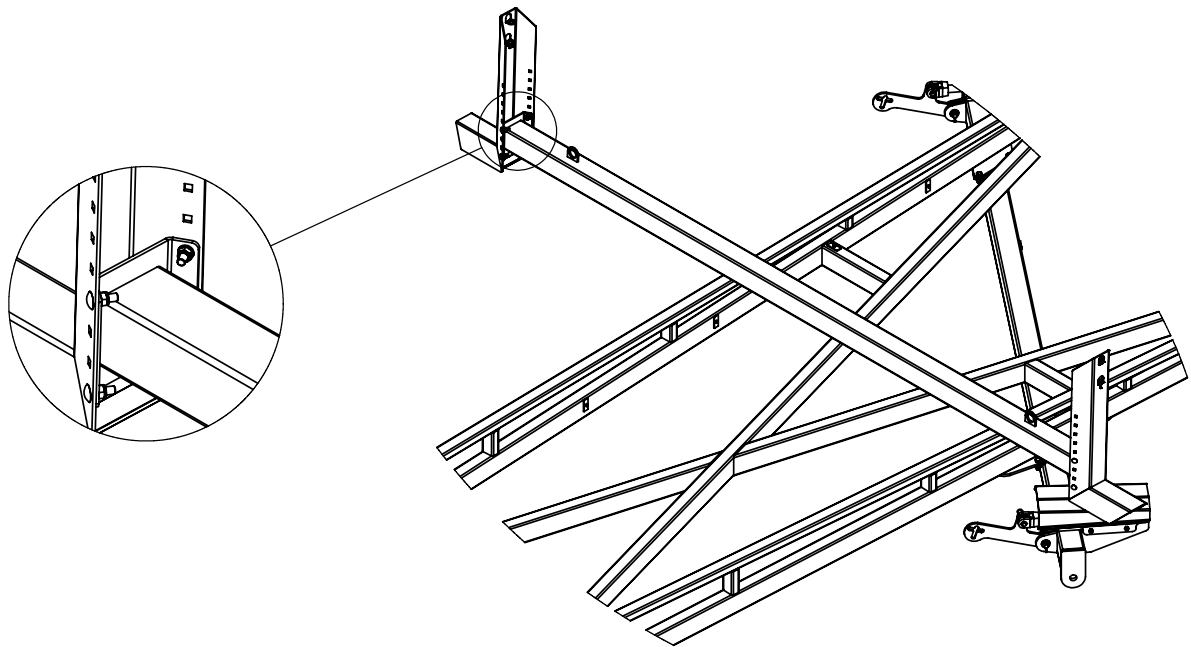
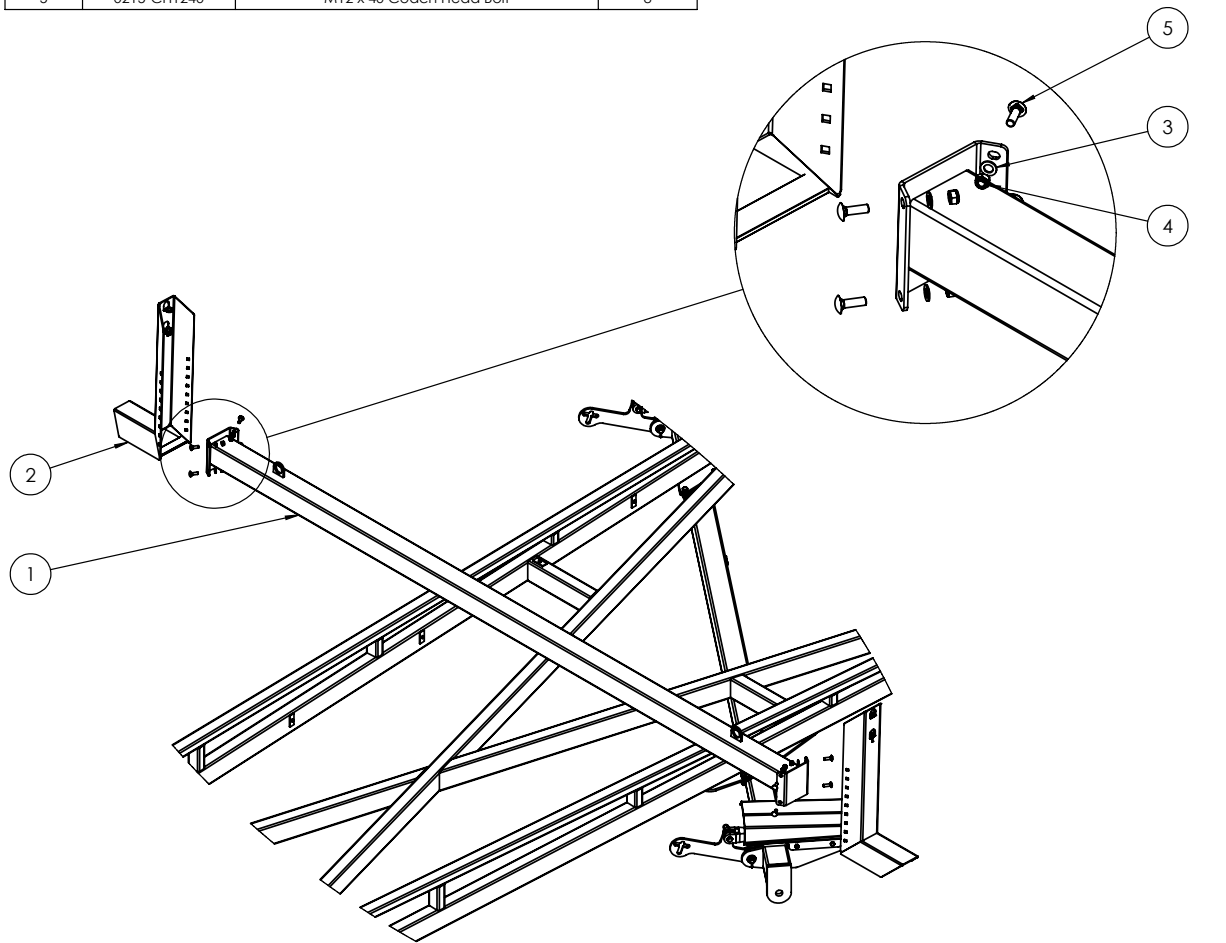
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| ITEM NO. | PART NUMBER   | DESCRIPTION                      | Qty |
|----------|---------------|----------------------------------|-----|
| 1        | 0800-228.1    | 60" Rear A-Frame Guard           | 1   |
| 2        | 0271-12105104 | U-Bolt M12 x 105 Deep x 104 Wide | 2   |
| 3        | 0231-F12      | M12 zp Flat Washer               | 4   |
| 4        | 0221-NYL12    | M12 Nylac Nut                    | 4   |



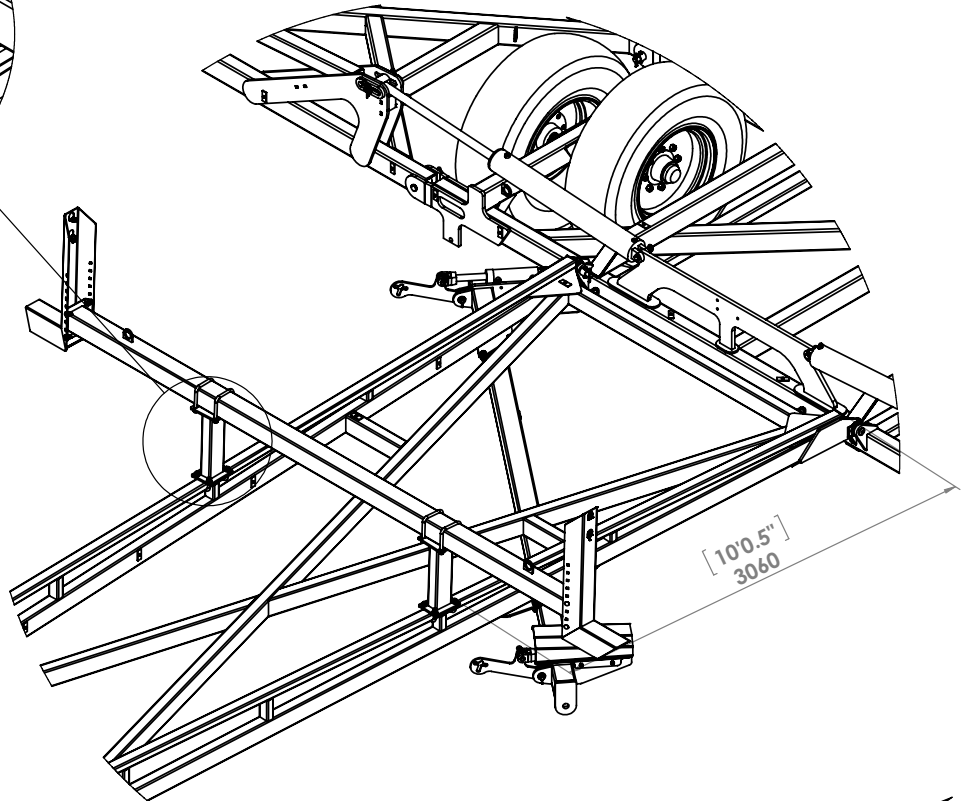
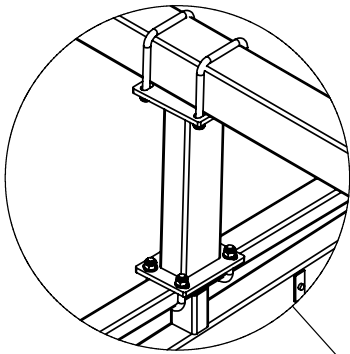
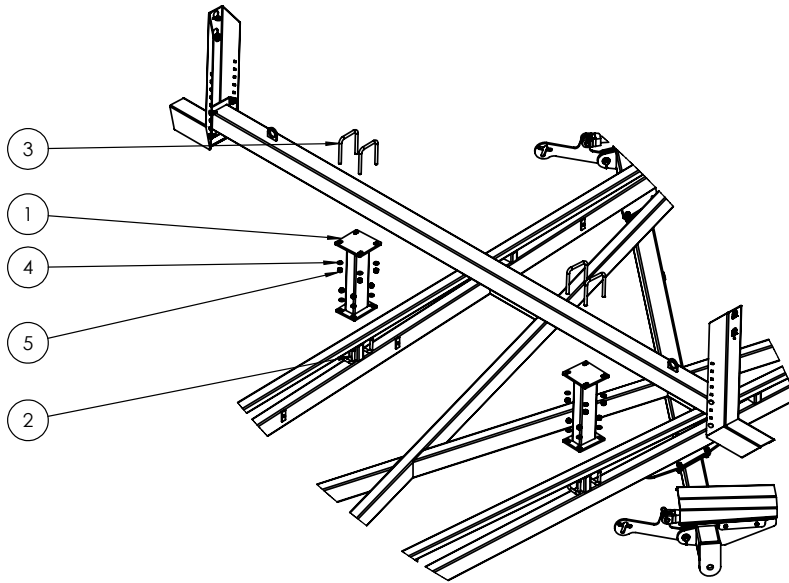
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| ITEM NO. | PART NUMBER | DESCRIPTION               | Qty |
|----------|-------------|---------------------------|-----|
| 1        | 0810-17-60  | 50/60' Chain Carrier Beam | 1   |
| 2        | 0810-17L    | Chain Carrier Bolt on End | 2   |
| 3        | 0231-F12    | M12 zp Flat Washer        | 8   |
| 4        | 0221-NYL12  | M12 Nyloc Nut             | 8   |
| 5        | 0215-CH1240 | M12 x 40 Coach Head Bolt  | 8   |

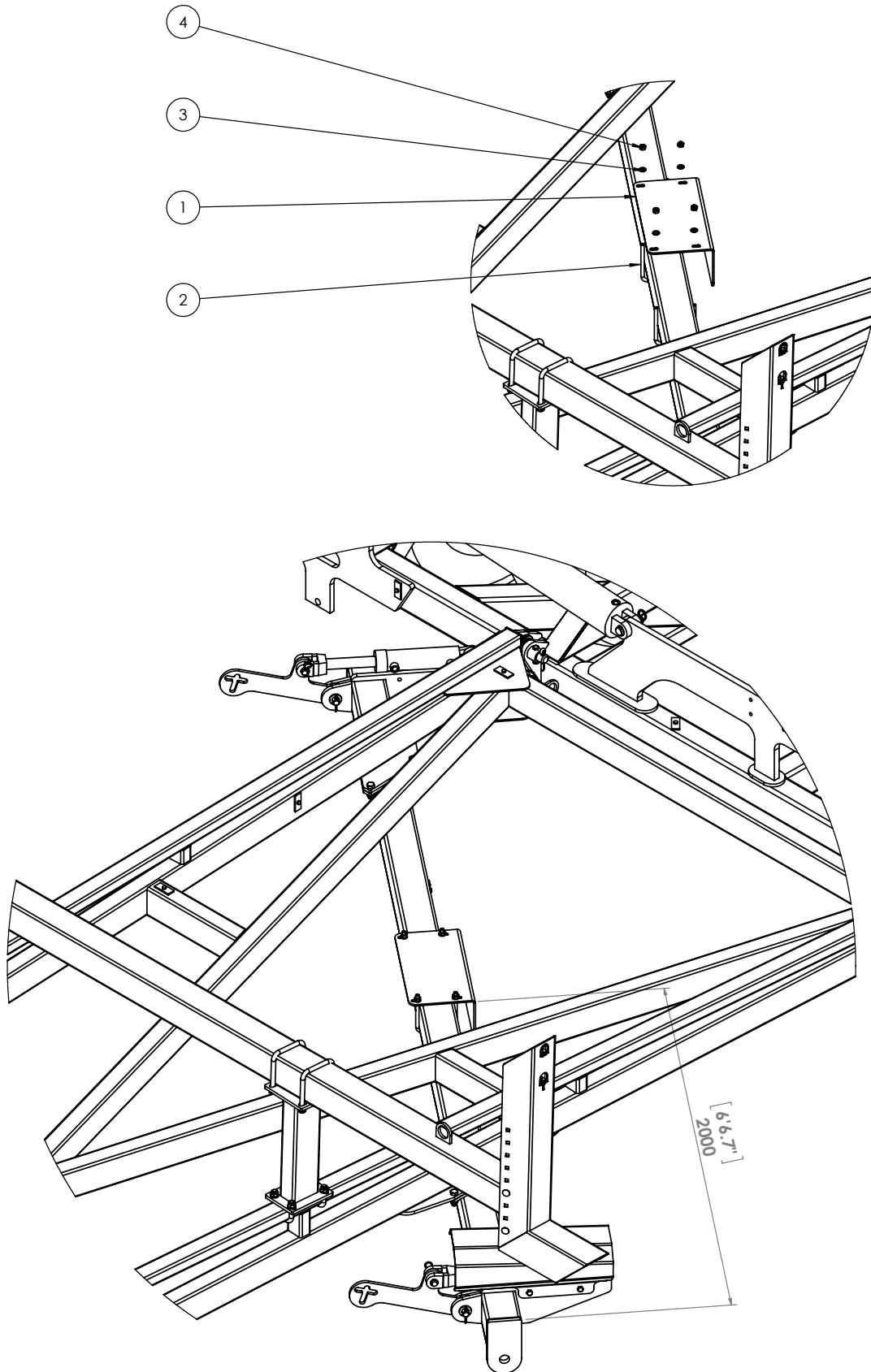


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| ITEM NO. | PART NUMBER   | DESCRIPTION                      | Qty |
|----------|---------------|----------------------------------|-----|
| 1        | 0810-23-60    | 60CT Chain Carrier Pedestal      | 2   |
| 2        | 0271-168577   | U-Bolt M16 x 85 Deep X 77 Wide   | 4   |
| 3        | 0271-16160127 | U-Bolt M16 x 160 Deep x 127 Wide | 4   |
| 4        | 0231-F16      | M16 zp Flat Washer               | 16  |
| 5        | 0221-NYL16    | M16 Nyloc Nut                    | 16  |

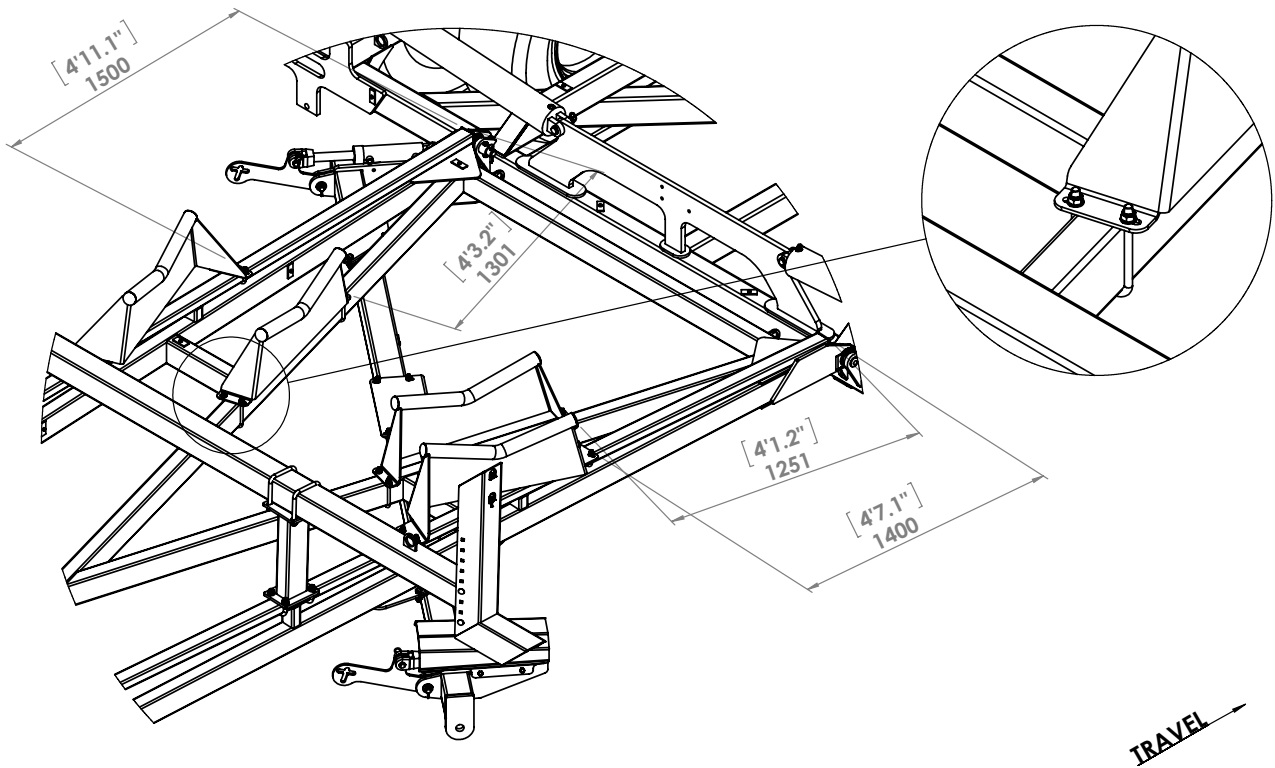
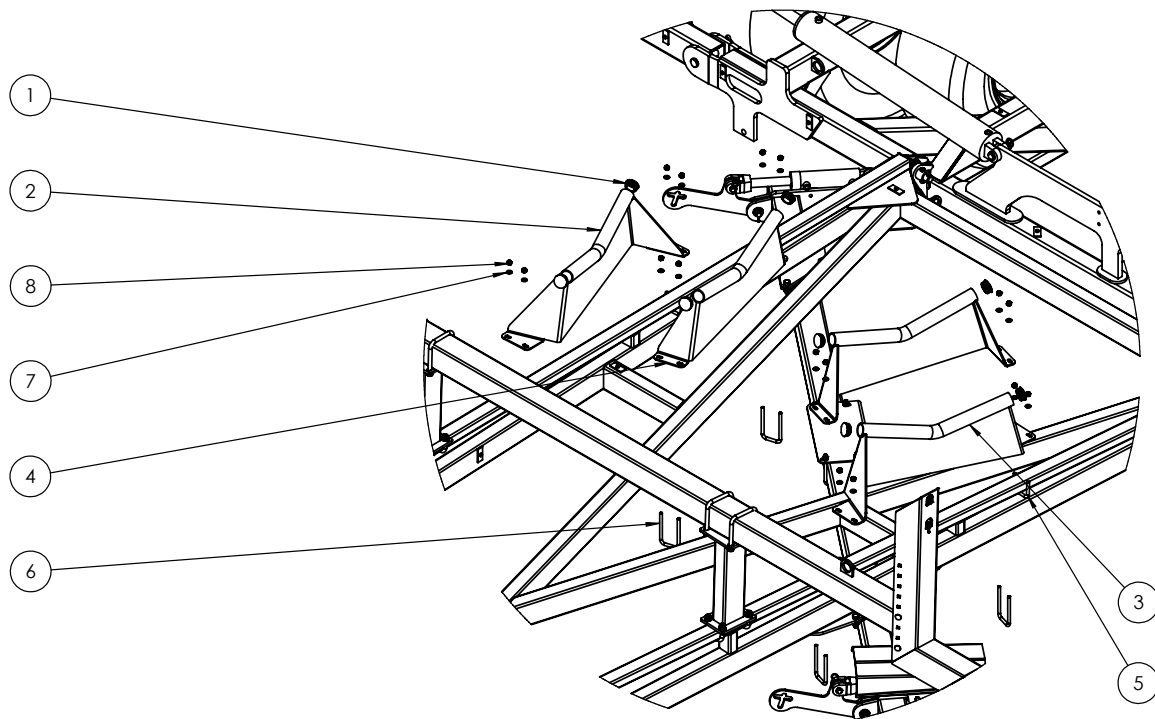


| ITEM NO. | PART NUMBER   | DESCRIPTION                      | Qty |
|----------|---------------|----------------------------------|-----|
| 1        | 0800-229.1    | Rear Module Guard 60/65"         | 1   |
| 2        | 0271-12155127 | U-Bolt M12 x 155 Deep x 127 Wide | 2   |
| 3        | 0231-F12      | M12 zp Flat Washer               | 4   |
| 4        | 0221-NYL12    | M12 Nyloc Nut                    | 4   |



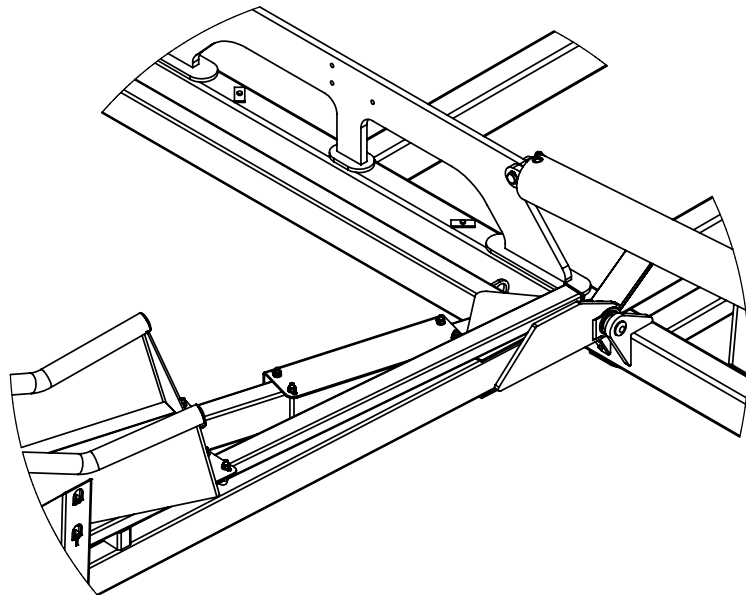
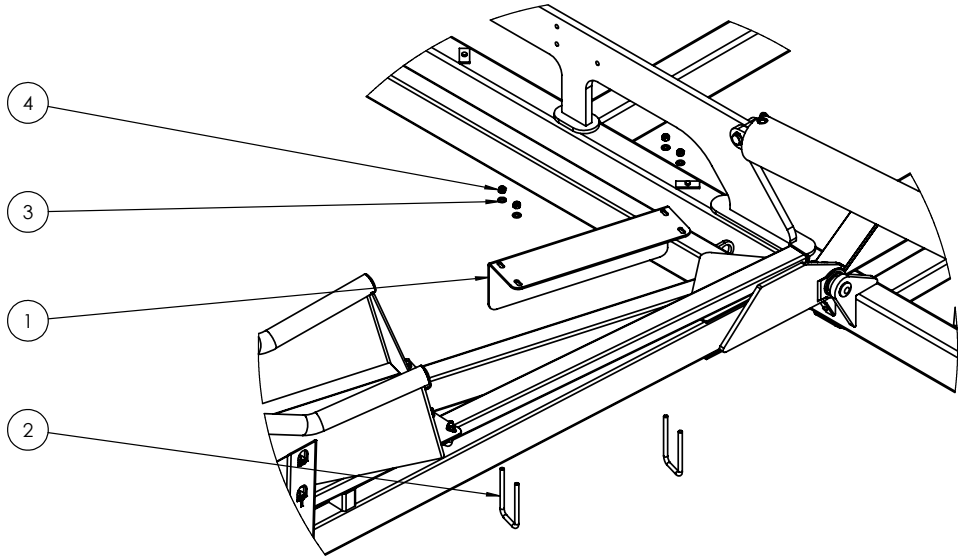
TRAVEL →

| ITEM NO. | PART NUMBER    | DESCRIPTION                      | Qty |
|----------|----------------|----------------------------------|-----|
| 1        | 0264-RTRI-5584 | Round Tube Insert 60.3 x 3.2-5mm | 8   |
| 2        | 0810-18R       | Right Hand Off Set M             | 1   |
| 3        | 0810-19L       | Left Hand Off Set M              | 1   |
| 4        | 0810-19        | Straight Chain Carrier M         | 2   |
| 5        | 0271-128077    | U-Bolt M12 x 80 Deep x 77 Wide   | 4   |
| 6        | 0271-1215577   | U-Bolt M12 x 155 Deep x 77 Wide  | 4   |
| 7        | 0231-F12       | M12 zp Flat Washer               | 16  |
| 8        | 0221-NYL12     | M12 Nyloc Nut                    | 16  |



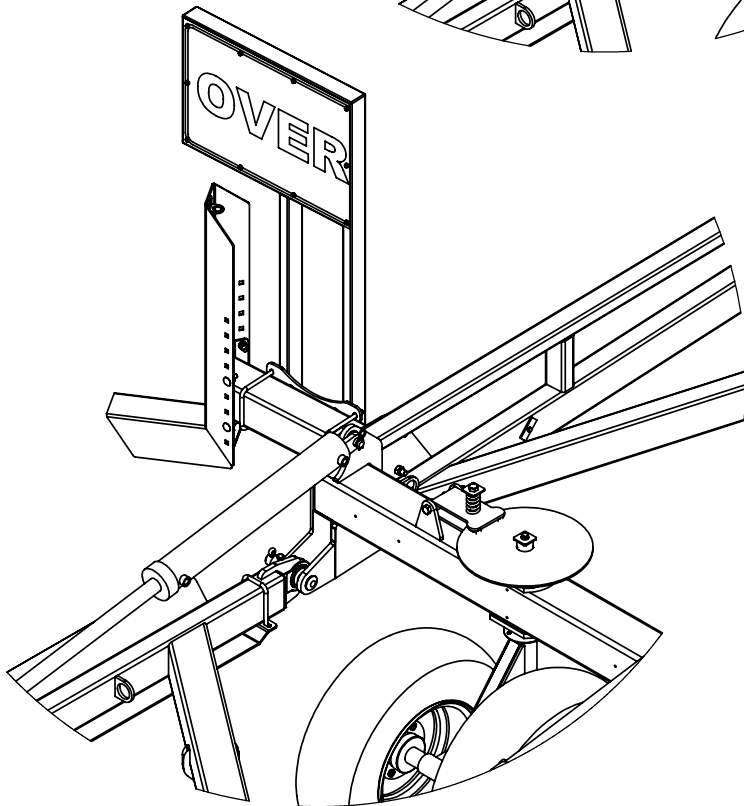
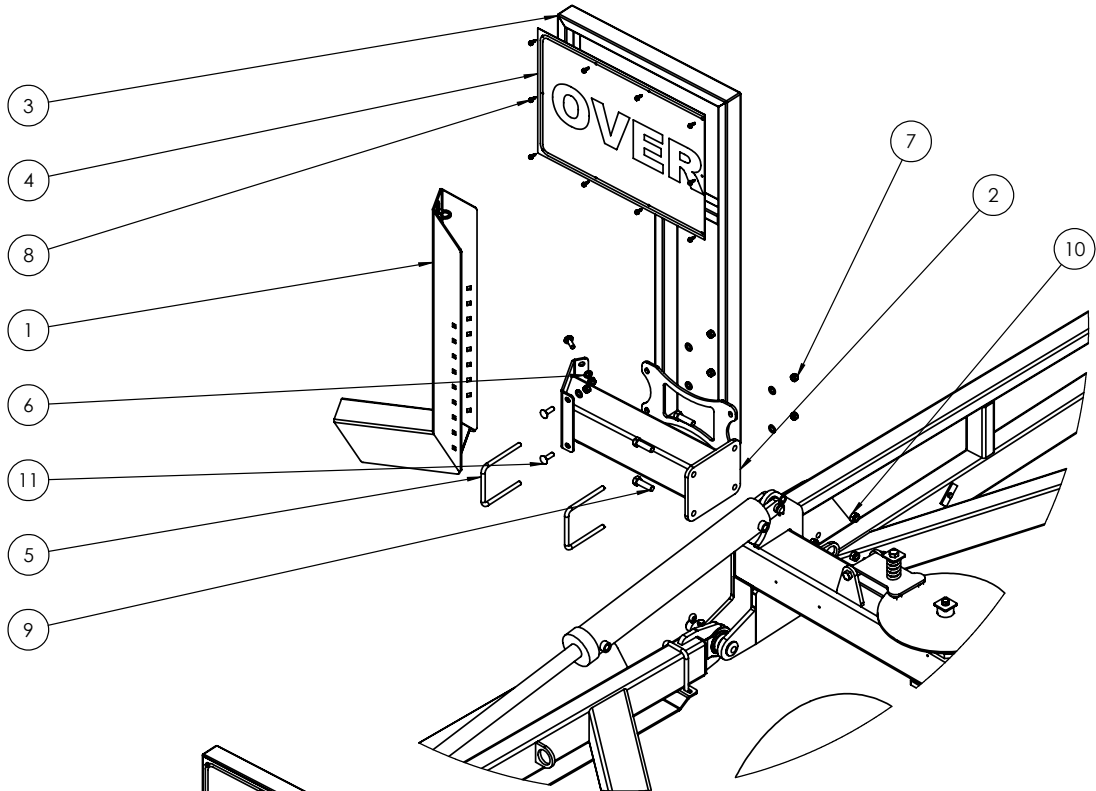


| ITEM NO. | PART NUMBER  | DESCRIPTION                     | Qty |
|----------|--------------|---------------------------------|-----|
| 1        | 0800-228.1   | 60' Rear A-Frame Guard          | 1   |
| 2        | 0271-1215577 | U-Bolt M12 x 155 Deep x 77 Wide | 2   |
| 3        | 0231-F12     | M12 zp Flat Washer              | 4   |
| 4        | 0221-NYL12   | M12 Nyloc Nut                   | 4   |



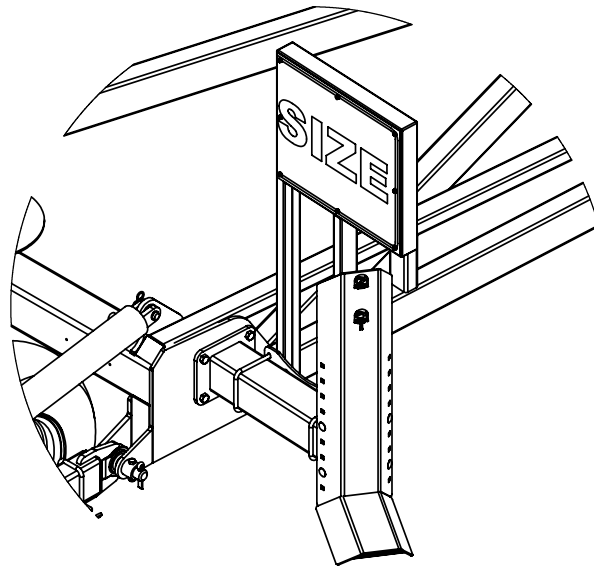
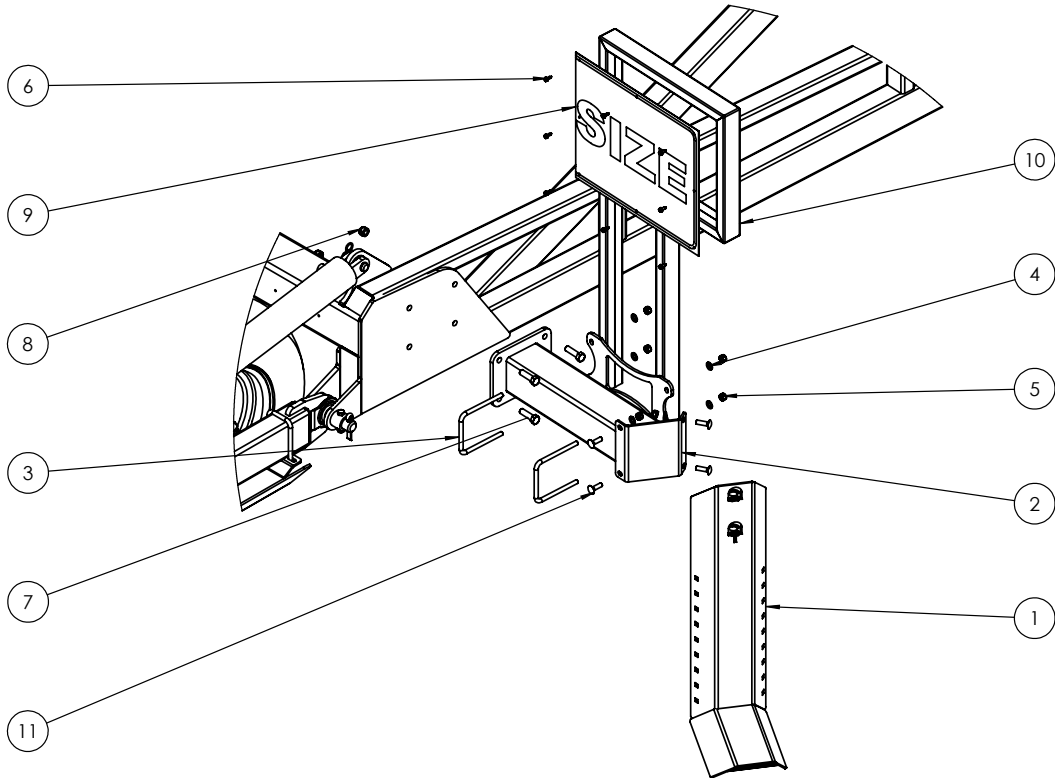
TRAVEL →

| ITEM NO. | PART NUMBER     | DESCRIPTION                      | Qty |
|----------|-----------------|----------------------------------|-----|
| 1        | 0810-17L        | Chain Carrier Bolt on End        | 1   |
| 2        | 0810-109        | Outrigger                        | 1   |
| 3        | 0810-110        | LH Oversize Sign Frame           | 1   |
| 4        | 0801-SIGNOSL    | Oversize Sign Left Hand          | 1   |
| 5        | 0271-12155127   | U-Bolt M12 x 155 Deep x 127 Wide | 2   |
| 6        | 0231-F12        | M12 zp Flat Washer               | 8   |
| 7        | 0221-NYL12      | M12 Nyloc Nut                    | 8   |
| 8        | 0241-TEK10-1616 | TEK Screw 10g 16 x 16            | 10  |
| 9        | 0211-1655       | M16 x 55 8.8 zp Bolt             | 4   |
| 10       | 0221-NYL16      | M16 Nyloc Nut                    | 4   |
| 11       | 0215-CH1240     | M12 x 40 Coach Head Bolt         | 4   |



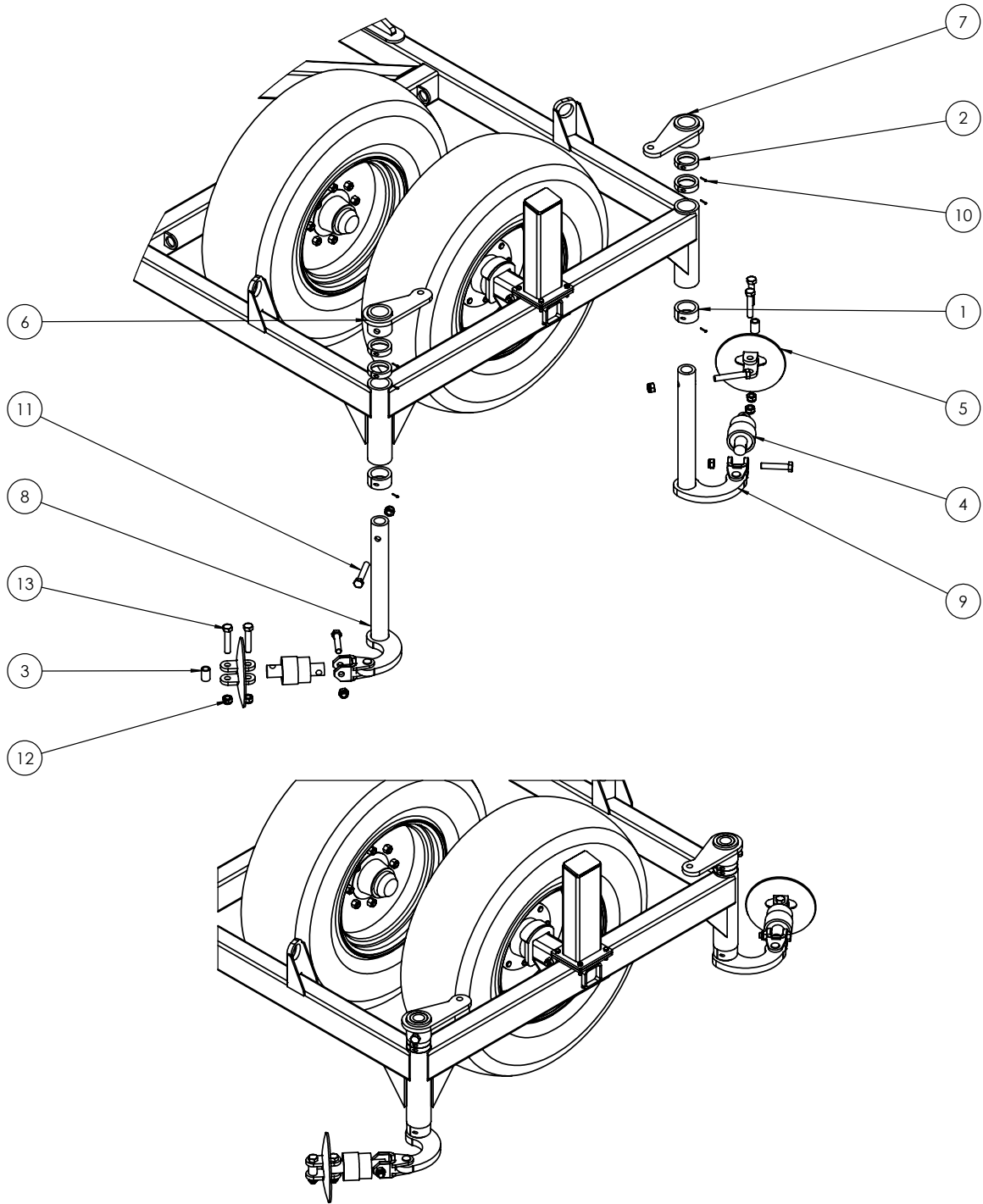
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| ITEM NO. | PART NUMBER     | DESCRIPTION                      | Qty |
|----------|-----------------|----------------------------------|-----|
| 1        | 0810-17L        | Chain Carrier Bolt on End        | 1   |
| 2        | 0810-109        | Outrigger                        | 1   |
| 3        | 0271-12155127   | U-Bolt M12 x 155 Deep x 127 Wide | 2   |
| 4        | 0231-F12        | M12 zp Flat Washer               | 8   |
| 5        | 0221-NYL12      | M12 Nyloc Nut                    | 8   |
| 6        | 0241-TEK10-1616 | TEK Screw 10g 16 x 16            | 8   |
| 7        | 0211-1655       | M16 x 55 8.8 zp Bolt             | 4   |
| 8        | 0221-NYL16      | M16 Nyloc Nut                    | 4   |
| 9        | 0801-SIGNOSR    | Oversize Sign Right Hand         | 1   |
| 10       | 0810-111        | RH Oversize Sign Frame           | 1   |
| 11       | 0215-CH1240     | M12 x 40 Coach Head Bolt         | 4   |



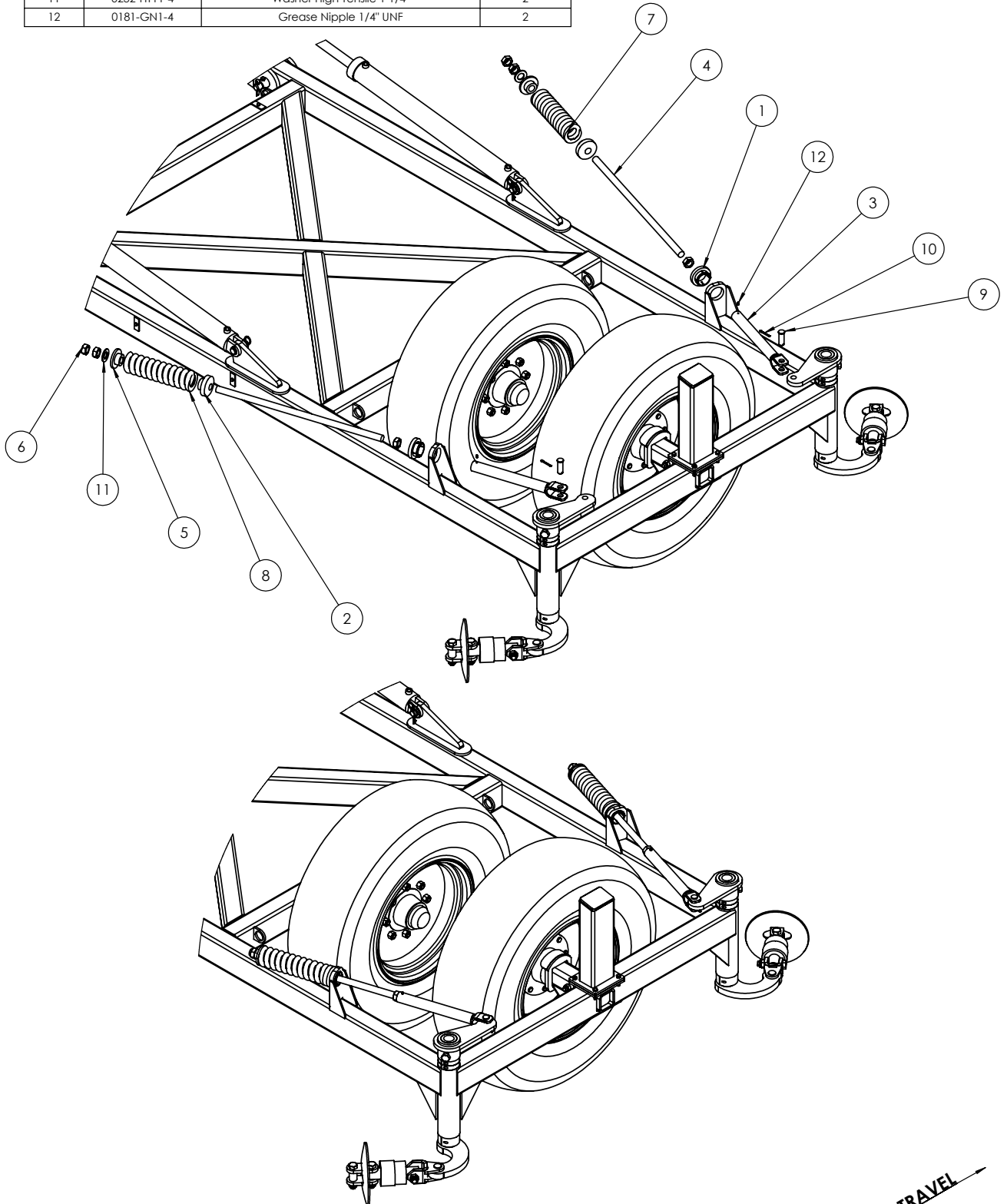
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| ITEM NO. | PART NUMBER     | DESCRIPTION                        | Qty |
|----------|-----------------|------------------------------------|-----|
| 1        | 0801-PS50       | 50mm Drop Leg Spacer               | 2   |
| 2        | 0801-PS25       | 25mm Drop leg Spacer               | 4   |
| 3        | 0801-PCDCS55    | Tie Plate Bush                     | 2   |
| 4        | 0802-PCHB553    | 24mm Bolt Swivel Unit              | 2   |
| 5        | 0802-DCTP-24    | Disc Chain Tie Plate Link 24mm     | 2   |
| 6        | 0810-26         | LH Chain Adjusting Lug             | 1   |
| 7        | 0810-27         | RH Chain Adjusting Lug             | 1   |
| 8        | 0810-24-60      | LH Drop Leg 24mm Clevis            | 1   |
| 9        | 0810-25-60      | RH Drop Leg 24mm Clevis            | 1   |
| 10       | 0243-STSG1.25ZP | Poly Spacer Clamp Screw            | 6   |
| 11       | 0211-24140      | M24 x 140 8.8 zp Bolt              | 2   |
| 12       | 0221-NYL24      | M24 Nyloc Nut                      | 8   |
| 13       | 0211-24120ST    | M24 x 120 Short Thread 8.8 zp Bolt | 6   |

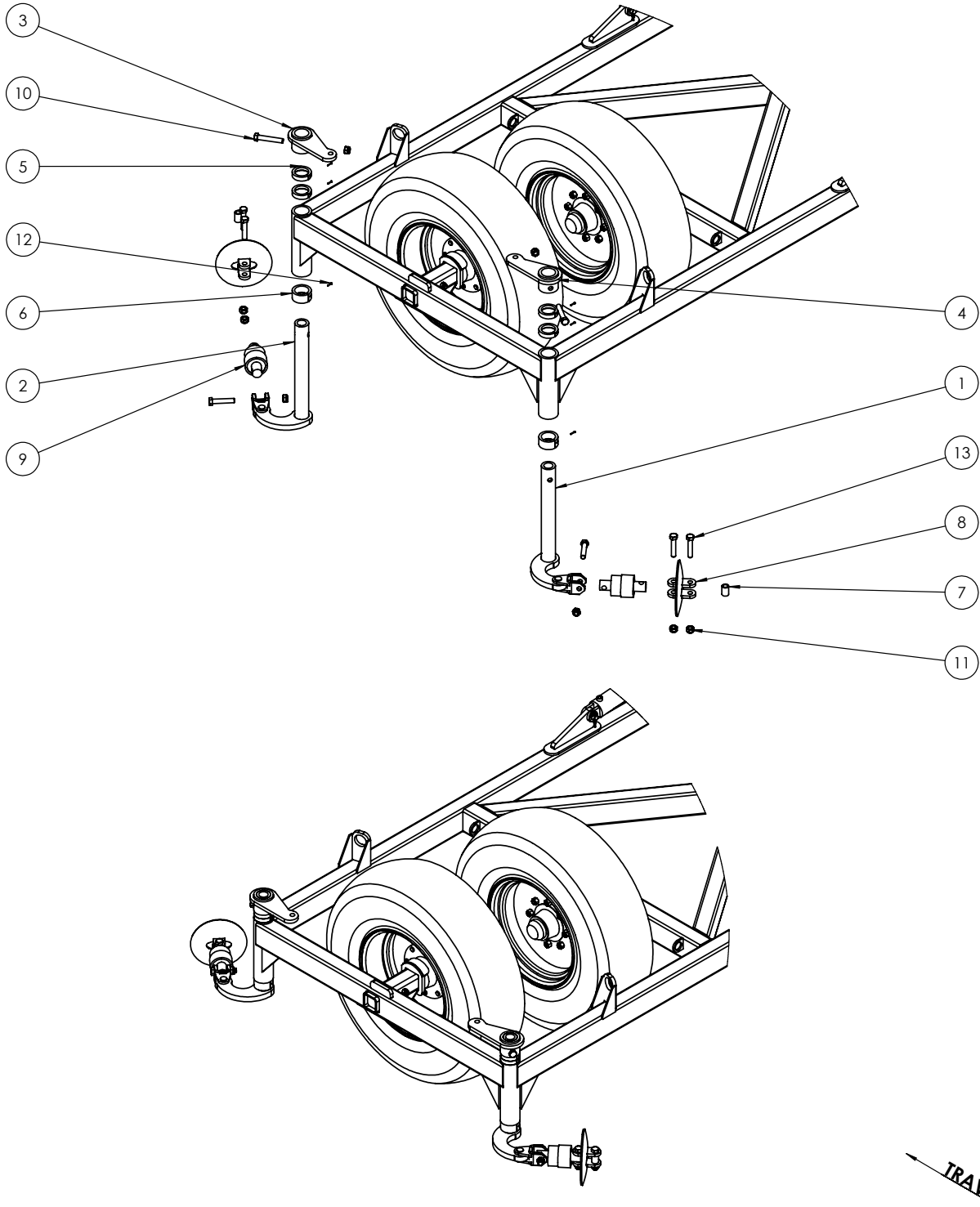


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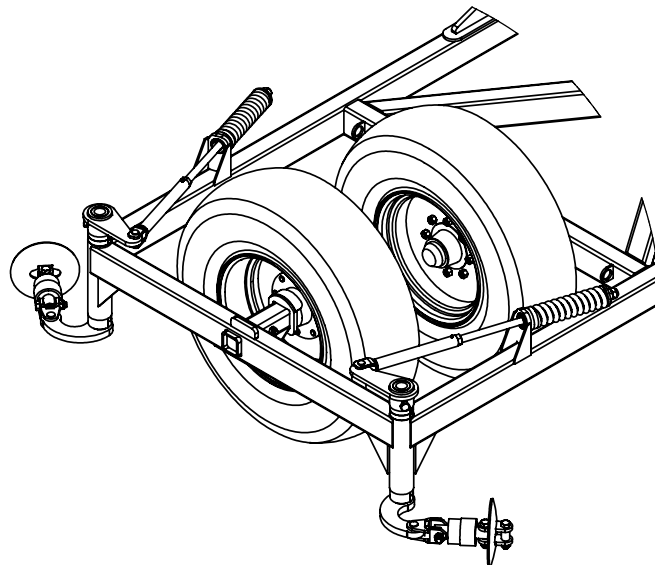
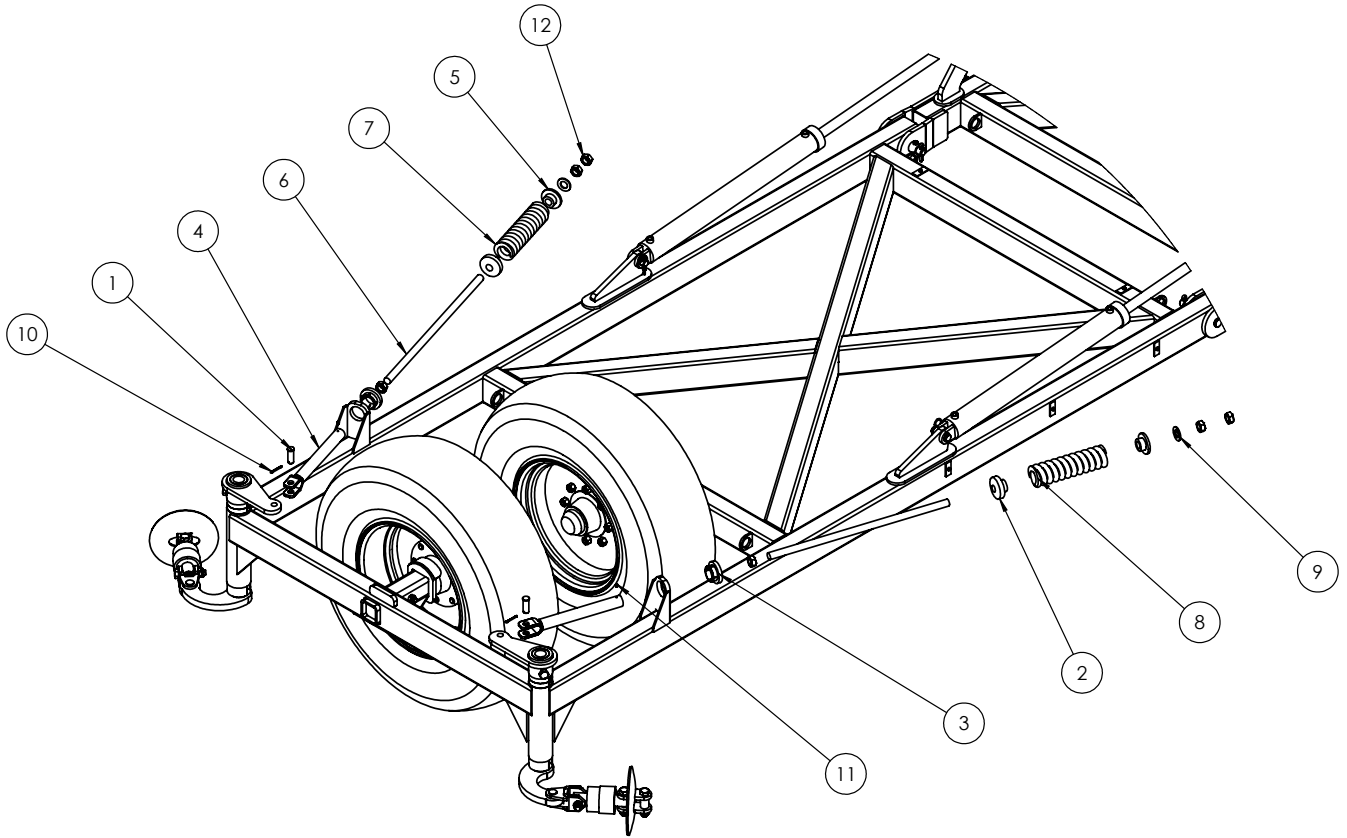
| ITEM NO. | PART NUMBER   | DESCRIPTION                       | Qty |
|----------|---------------|-----------------------------------|-----|
| 1        | 0801-KE0805-4 | Female Spring Locator             | 2   |
| 2        | 0801-KE0805-3 | Tensioner Cup - Male              | 2   |
| 3        | 0801-PCHTABC  | Tension Assembly Body with Clevis | 2   |
| 4        | 0801-PCHTA-B6 | 6tpi 1.25" Tension Bolt           | 2   |
| 5        | 0801-PCHTA-SB | Steel Spring Retaining Bush       | 2   |
| 6        | 0801-PCHTA-N6 | 1 1/4" 6 tpi ACME Lock Nut        | 6   |
| 7        | 0801-XK9261S  | 20mm Compression Spring           | 1   |
| 8        | 0801-K2455350 | Heavy Duty Coil Spring 24mm       | 1   |
| 9        | 0801-KE0307-1 | Clevis Pin 25mm x 75mm            | 2   |
| 10       | 0261-PINC550  | Cotter Pin M5 x 50                | 2   |
| 11       | 0232-HT11-4   | Washer High Tensile 1 1/4"        | 2   |
| 12       | 0181-GN1-4    | Grease Nipple 1/4" UNF            | 2   |



| ITEM NO. | PART NUMBER     | DESCRIPTION                        | Qty |
|----------|-----------------|------------------------------------|-----|
| 1        | 0810-25-60      | RH Drop Leg 24mm Clevis            | 1   |
| 2        | 0810-24-60      | LH Drop Leg 24mm Clevis            | 1   |
| 3        | 0810-26         | LH Chain Adjusting Lug             | 1   |
| 4        | 0810-27         | RH Chain Adjusting Lug             | 1   |
| 5        | 0801-PS25       | 25mm Drop leg Spacer               | 4   |
| 6        | 0801-PS50       | 50mm Drop Leg Spacer               | 2   |
| 7        | 0801-PCDCS55    | Tie Plate Bush                     | 2   |
| 8        | 0802-DCTP-24    | Disc Chain Tie Plate Link 24mm     | 2   |
| 9        | 0802-PCHB553    | 24mm Bolt Swivel Unit              | 2   |
| 10       | 0211-24140      | M24 x 140 8.8 zp Bolt              | 2   |
| 11       | 0221-NYL24      | M24 Nyloc Nut                      | 8   |
| 12       | 0243-STSG1.25ZP | Poly Spacer Clamp Screw            | 6   |
| 13       | 0211-24120ST    | M24 x 120 Short Thread 8.8 zp Bolt | 6   |

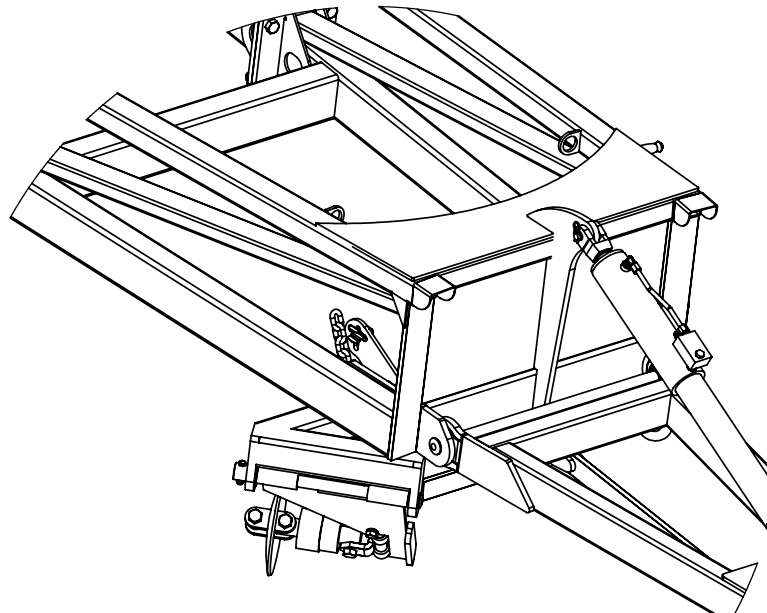
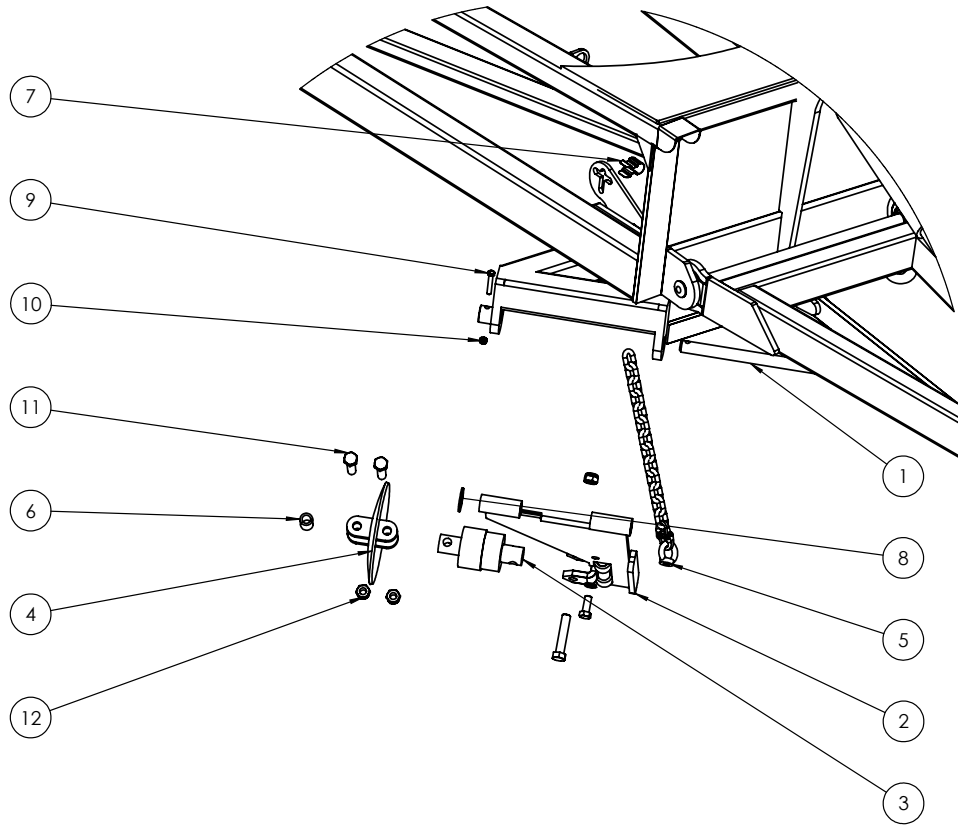


| ITEM NO. | PART NUMBER   | DESCRIPTION                       | Qty |
|----------|---------------|-----------------------------------|-----|
| 1        | 0801-KE0307-1 | Clevis Pin 25mm x 75mm            | 2   |
| 2        | 0801-KE0805-3 | Tensioner Cup - Male              | 2   |
| 3        | 0801-KE0805-4 | Female Spring Locator             | 2   |
| 4        | 0801-PCHTABC  | Tension Assembly Body with Clevis | 2   |
| 5        | 0801-PCHTA-SB | Steel Spring Retaining Bush       | 2   |
| 6        | 0801-PCHTA-B6 | 6tpi 1.25" Tension Bolt           | 2   |
| 7        | 0801-XK9261S  | 20mm Compression Spring           | 1   |
| 8        | 0801-K2455350 | Heavy Duty Coil Spring 24mm       | 1   |
| 9        | 0232-HT11-4   | Washer High Tensile 1 1/4"        | 2   |
| 10       | 0261-PINC550  | Cotter Pin M5 x 50                | 2   |
| 11       | 0181-GN1-4    | Grease Nipple 1/4" UNF            | 2   |
| 12       | 0801-PCHTA-N6 | 1 1/4" 6 tpi ACME Lock Nut        | 6   |



TRAVEL

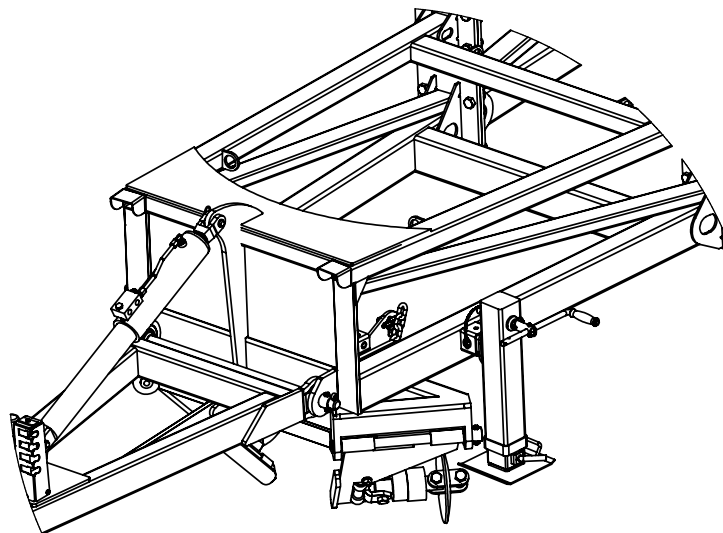
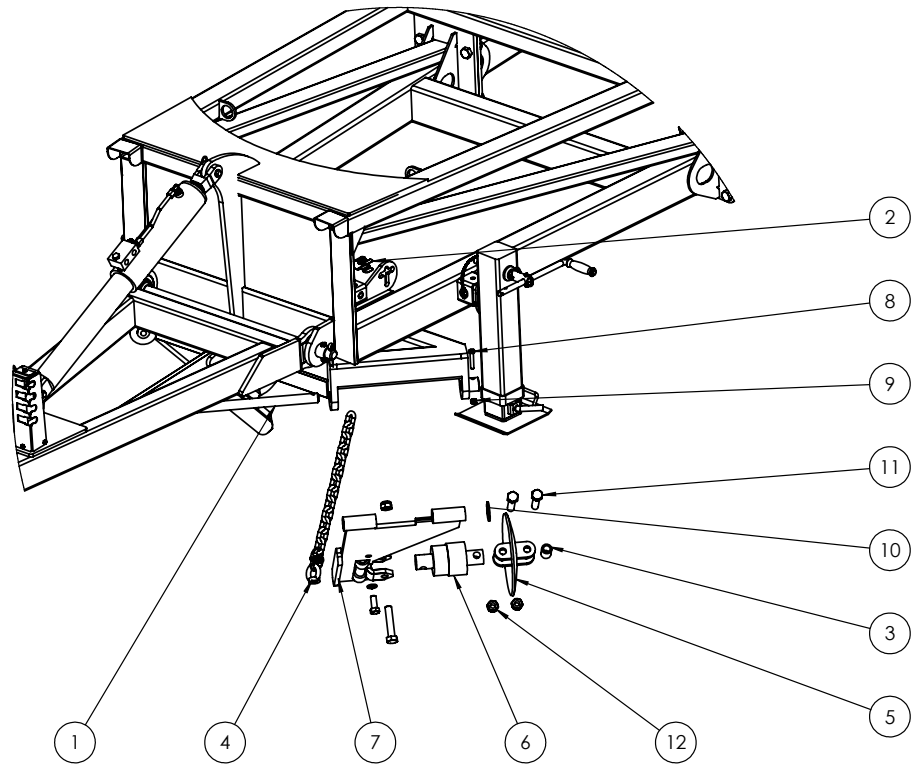
| ITEM NO. | PART NUMBER   | DESCRIPTION                        | Qty |
|----------|---------------|------------------------------------|-----|
| 1        | 0801-10-51    | Chain Mount Pivot Pin              | 1   |
| 2        | 0810-20-60    | Chain Mt Arm 24mm Clevis           | 1   |
| 3        | 0802-PCHB553  | 24mm Bolt Swivel Unit              | 1   |
| 4        | 0802-DCTP-24  | Disc Chain Tie Plate Link 24mm     | 1   |
| 5        | 0801-PCH24MCA | Height Adjusting Chain Assembly    | 1   |
| 6        | 0801-PCDCS55  | Tie Plate Bush                     | 1   |
| 7        | 0801-KE014    | Height Adjustor Retaining Clip     | 1   |
| 8        | 0232-HT13-8   | Washer High Tensile 1 3/8"         | 1   |
| 9        | 0211-1265     | M12 x 65 8.8 zp Bolt               | 1   |
| 10       | 0221-NYL12    | M12 Nyloc Nut                      | 1   |
| 11       | 0211-24120ST  | M24 x 120 Short Thread 8.8 zp Bolt | 3   |
| 12       | 0221-NYL24    | M24 Nyloc Nut                      | 3   |



TRAVEL →

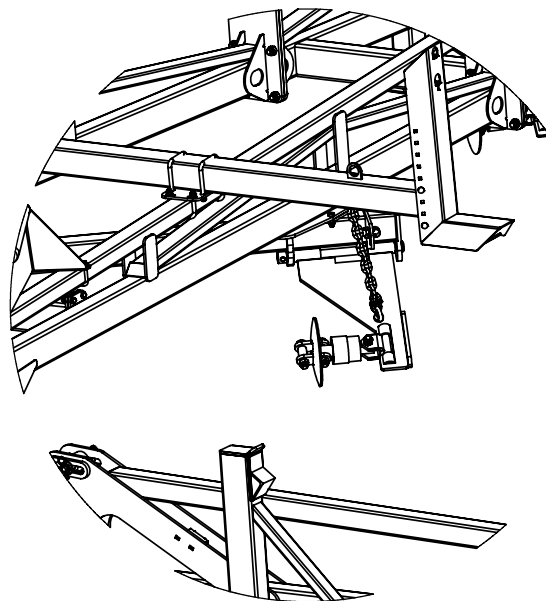
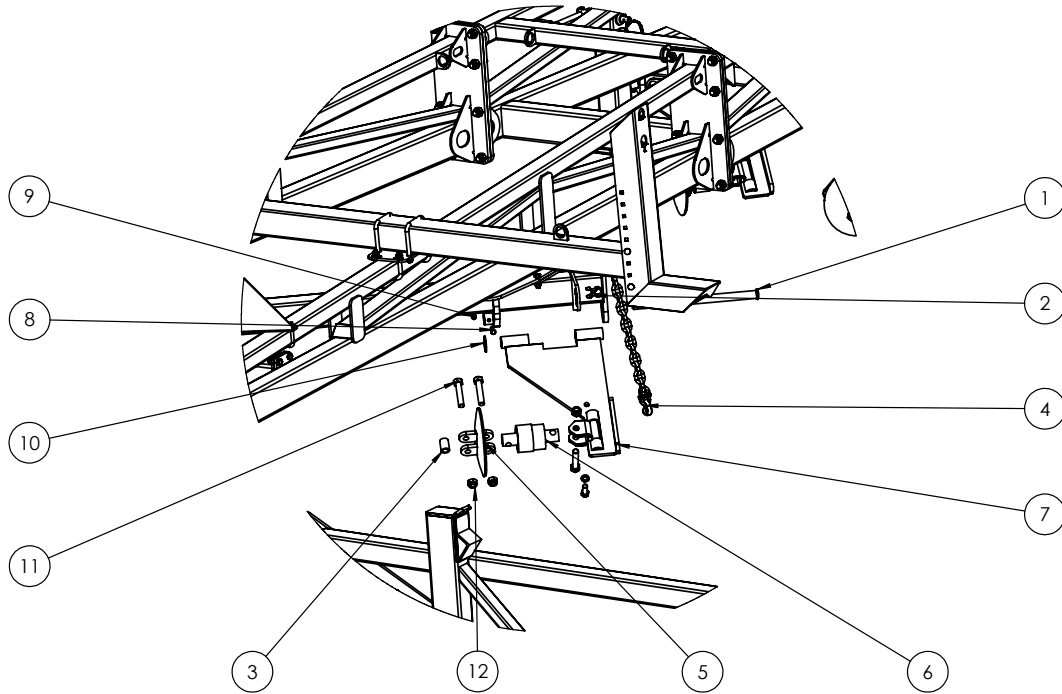


| ITEM NO. | PART NUMBER   | DESCRIPTION                        | Qty |
|----------|---------------|------------------------------------|-----|
| 1        | 0801-10-51    | Chian Mount Pivot Pin              | 1   |
| 2        | 0801-KE014    | Height Adjustor Retaining Clip     | 1   |
| 3        | 0801-PCDCS55  | Tie Plate Bush                     | 1   |
| 4        | 0801-PCH24MCA | Height Adjusting Chain Assembly    | 1   |
| 5        | 0802-DCTP-24  | Disc Chain Tie Plate Link 24mm     | 1   |
| 6        | 0802-PCHB553  | 24mm Bolt Swivel Unit              | 1   |
| 7        | 0810-20-60    | Chain Mt Arm 24mm Clevis           | 1   |
| 8        | 0211-1265     | M12 x 65 8.8 zp Bolt               | 1   |
| 9        | 0221-NYL12    | M12 Nyloc Nut                      | 1   |
| 10       | 0232-HT13-8   | Washer High Tensile 1 3/8"         | 1   |
| 11       | 0211-24120ST  | M24 x 120 Short Thread 8.8 zp Bolt | 3   |
| 12       | 0221-NYL24    | M24 Nyloc Nut                      | 3   |



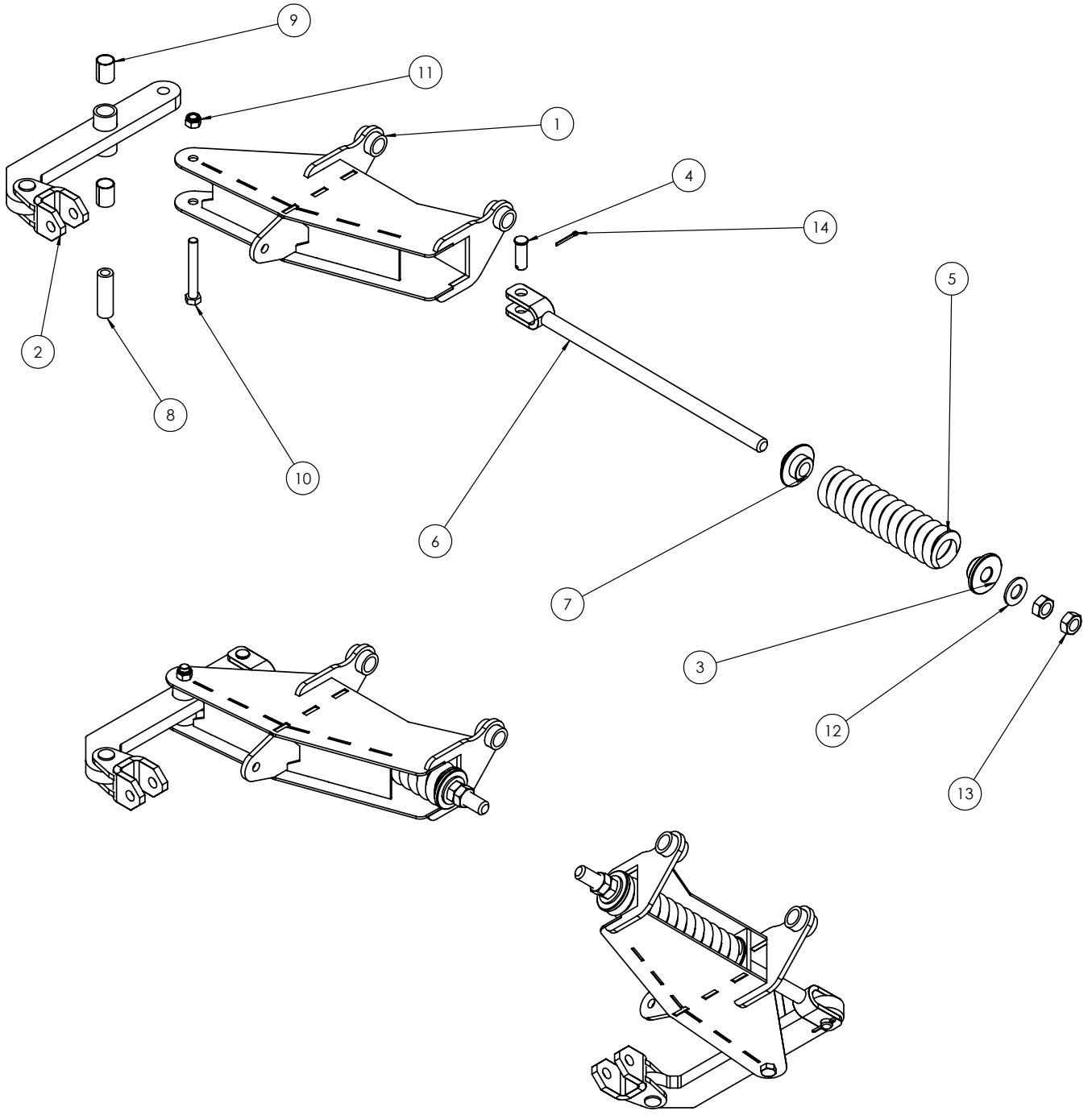
TRAVEL

| ITEM NO. | PART NUMBER   | DESCRIPTION                        | Qty |
|----------|---------------|------------------------------------|-----|
| 1        | 0801-10-51    | Chain Mount Pivot Pin              | 1   |
| 2        | 0801-KE014    | Height Adjustor Retaining Clip     | 1   |
| 3        | 0801-PCDCS55  | Tie Plate Bush                     | 1   |
| 4        | 0801-PCH24MCA | Height Adjusting Chain Assembly    | 1   |
| 5        | 0802-DCTP-24  | Disc Chain Tie Plate Link 24mm     | 1   |
| 6        | 0802-PCHB553  | 24mm Bolt Swivel Unit              | 1   |
| 7        | 0810-20-60    | Chain Mt Arm 24mm Clevis           | 1   |
| 8        | 0211-1265     | M12 x 65 8.8 zp Bolt               | 1   |
| 9        | 0221-NYL12    | M12 Nyloc Nut                      | 1   |
| 10       | 0232-HT13-8   | Washer High Tensile 1 3/8"         | 1   |
| 11       | 0211-24120ST  | M24 x 120 Short Thread 8.8 zp Bolt | 3   |
| 12       | 0221-NYL24    | M24 Nyloc Nut                      | 3   |

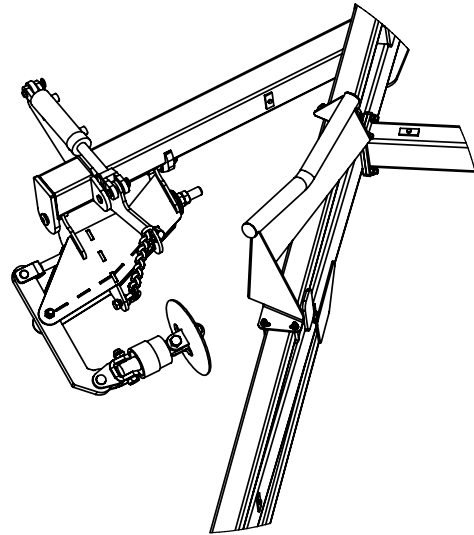
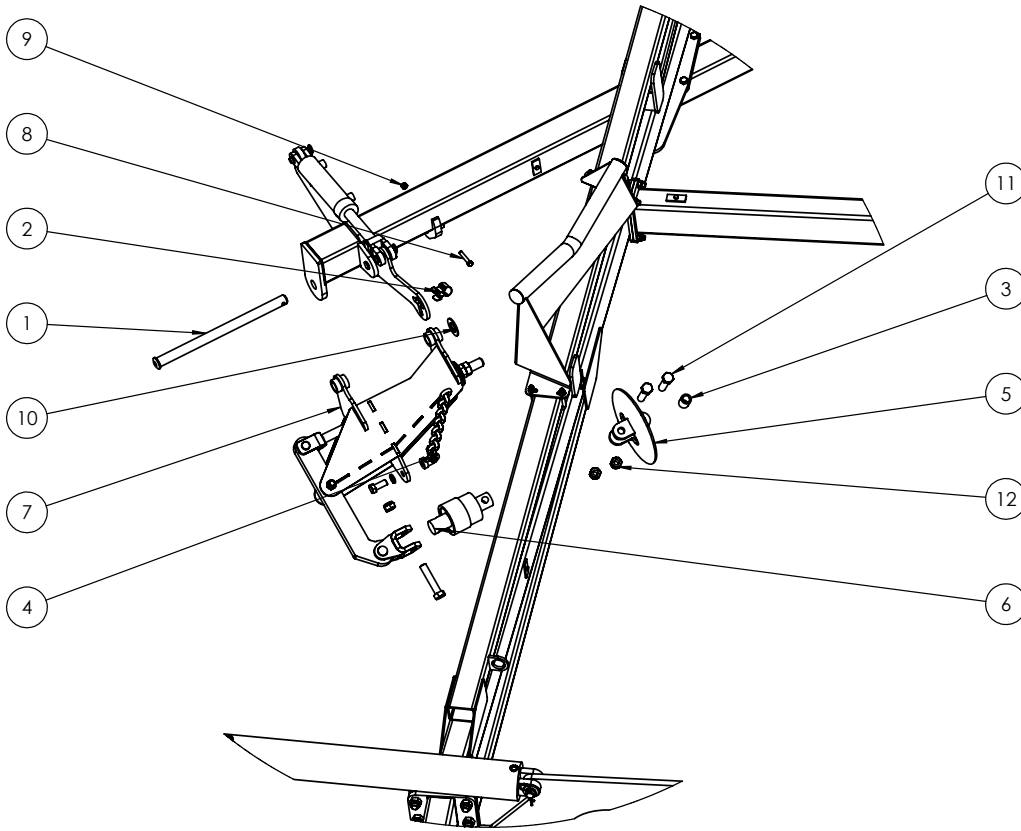


TRAVEL →

| ITEM NO. | PART NUMBER    | DESCRIPTION                 | Qty |
|----------|----------------|-----------------------------|-----|
| 1        | 0810-103F      | Front Module Tension Body   | 1   |
| 2        | 0810-104-50-60 | 40/45° Module Tension Arm   | 1   |
| 3        | 0801-PCHTA-SB  | Steel Spring Retaining Bush | 1   |
| 4        | 0801-KE0307-1  | Clevis Pin 25mm x 75mm      | 1   |
| 5        | 0801-XK9261S   | 20mm Compression Spring     | 1   |
| 6        | 0810-105       | Module Tension Linkage      | 1   |
| 7        | 0801-10-S2L    | Rigid Spring Locator        | 1   |
| 8        | 0801-10-110    | Module Pivot Arm Bush       | 1   |
| 9        | 0113-MB 3550DX | 35 ID x 50mm DX Bush        | 2   |
| 10       | 0211-20150     | M20 x 150 8.8 zp Bolt       | 1   |
| 11       | 0221-NYL20     | M20 Nyloc Nut               | 1   |
| 12       | 0232-HT11-4    | Washer High Tensile 1 1/4"  | 1   |
| 13       | 0801-PCHTA-N6  | 1 1/4" 6 tpi ACME Lock Nut  | 2   |
| 14       | 0261-PINC550   | Cotter Pin M5 x 50          | 1   |

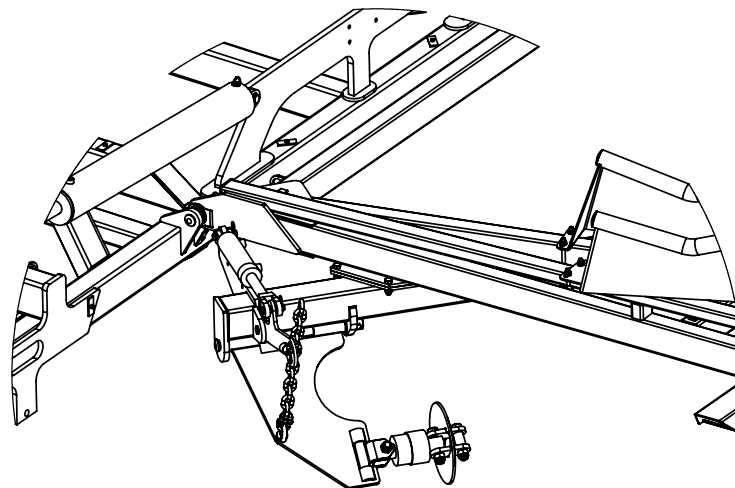
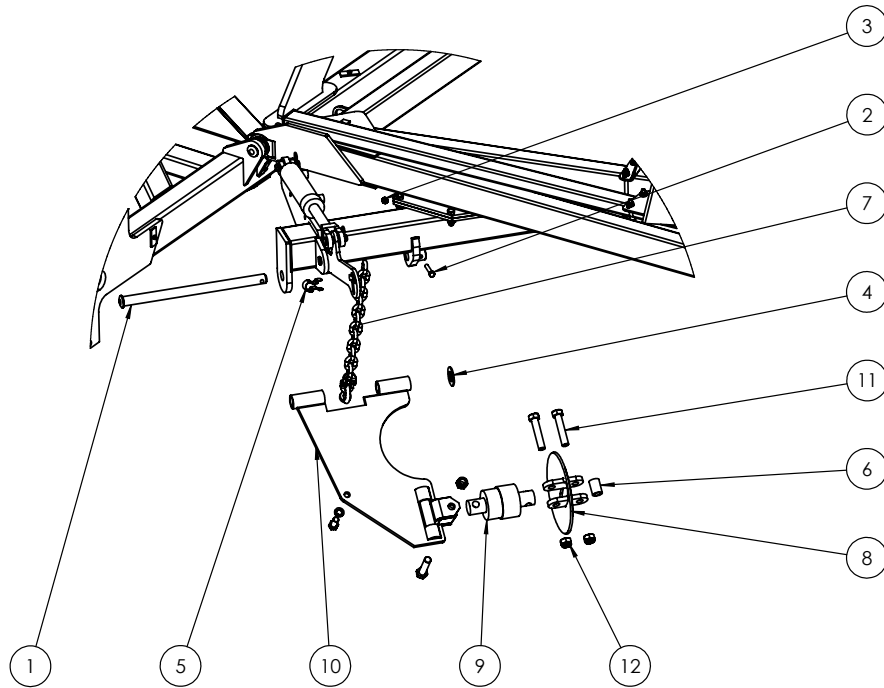


| ITEM NO. | PART NUMBER      | DESCRIPTION                          | Qty |
|----------|------------------|--------------------------------------|-----|
| 1        | 0801-10-51       | Chain Mount Pivot Pin                | 1   |
| 2        | 0801-KE014       | Height Adjustor Retaining Clip       | 1   |
| 3        | 0801-PCDCS55     | Tie Plate Bush                       | 1   |
| 4        | 0801-PCH24MCA    | Height Adjusting Chain Assembly      | 1   |
| 5        | 0802-DCTP-24     | Disc Chain Tie Plate Link 24mm       | 1   |
| 6        | 0802-PCHB553     | 24mm Bolt Swivel Unit                | 1   |
| 7        | 0810-103FA-50-60 | 50-60" Front Module Tension Assembly | 1   |
| 8        | 0211-1265        | M12 x 65 8.8 zp Bolt                 | 1   |
| 9        | 0221-NYL12       | M12 Nyloc Nut                        | 1   |
| 10       | 0232-HT13-8      | Washer High Tensile 1 3/8"           | 1   |
| 11       | 0211-24120ST     | M24 x 120 Short Thread 8.8 zp Bolt   | 3   |
| 12       | 0221-NYL24       | M24 Nyloc Nut                        | 3   |



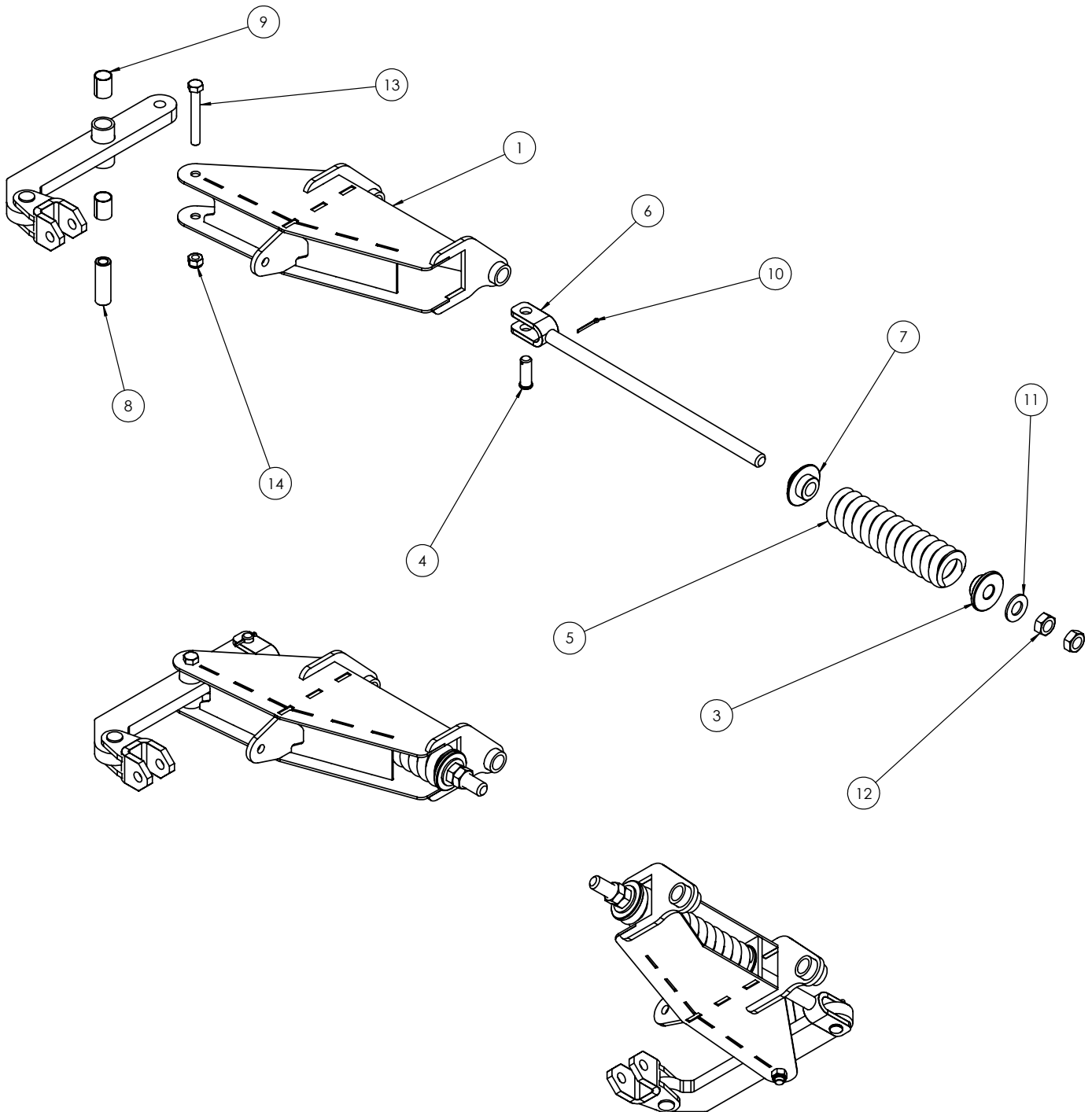
**TRAVEL** →

| ITEM NO. | PART NUMBER   | DESCRIPTION                          | Qty |
|----------|---------------|--------------------------------------|-----|
| 1        | 0801-10-51    | Chain Mount Pivot Pin                | 1   |
| 2        | 0211-1265     | M12 x 65 8.8 zp Bolt                 | 1   |
| 3        | 0221-NYL12    | M12 Nyloc Nut                        | 1   |
| 4        | 0232-HT13-8   | Washer High Tensile 1 3/8"           | 1   |
| 5        | 0801-KE014    | Height Adjustor Retaining Clip       | 1   |
| 6        | 0801-PCDCS55  | Tie Plate Bush                       | 1   |
| 7        | 0801-PCH24MCA | Height Adjusting Chain Assembly      | 1   |
| 8        | 0802-DCTP-24  | Disc Chain Tie Plate Link 24mm       | 1   |
| 9        | 0802-PCHB553  | 24mm Bolt Swivel Unit                | 1   |
| 10       | 0810-33-60    | Reducing Chain Mount Arm 24mm Clevis | 1   |
| 11       | 0211-24120ST  | M24 x 120 Short Thread 8.8 zp Bolt   | 3   |
| 12       | 0221-NYL24    | M24 Nyloc Nut                        | 3   |

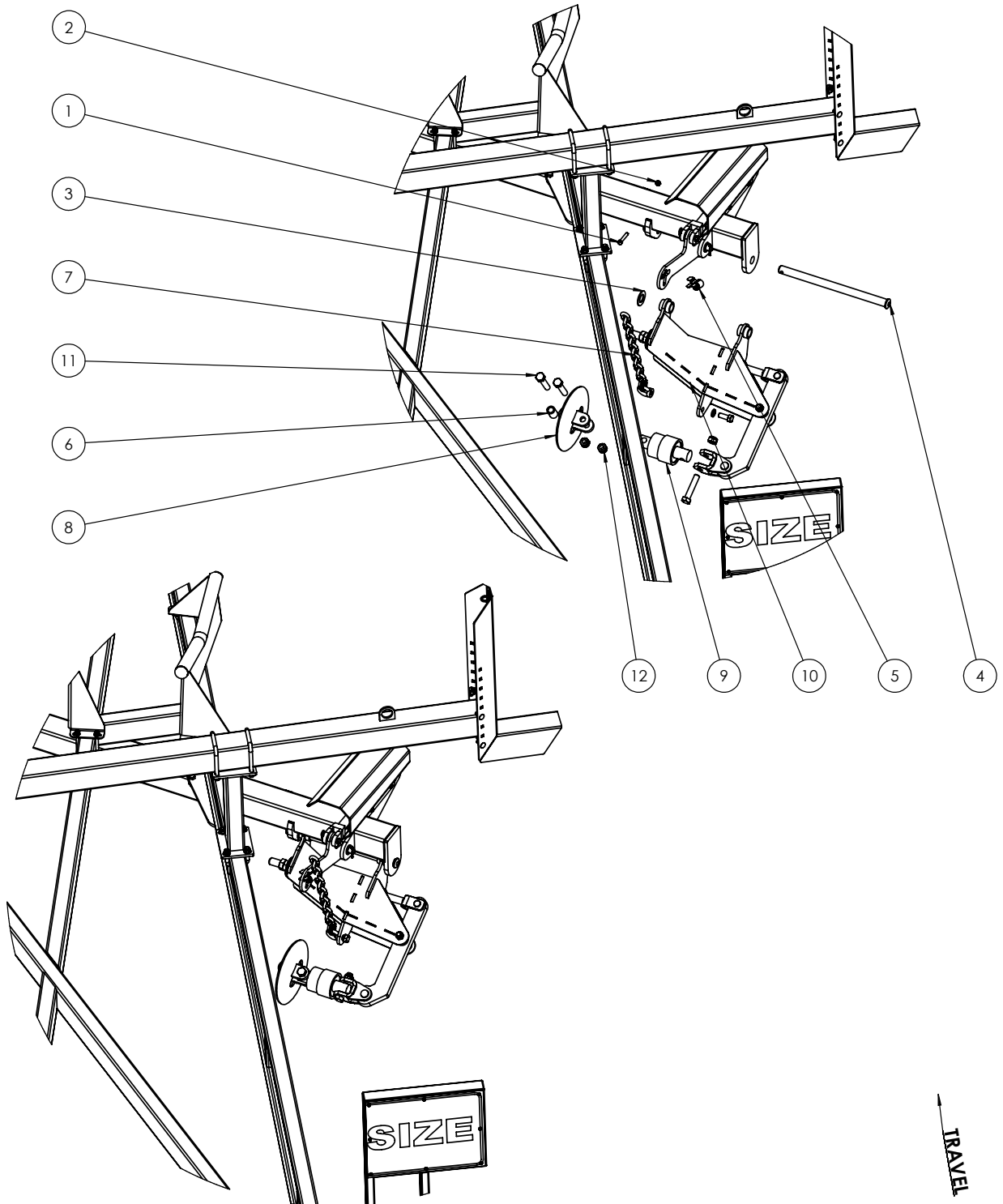


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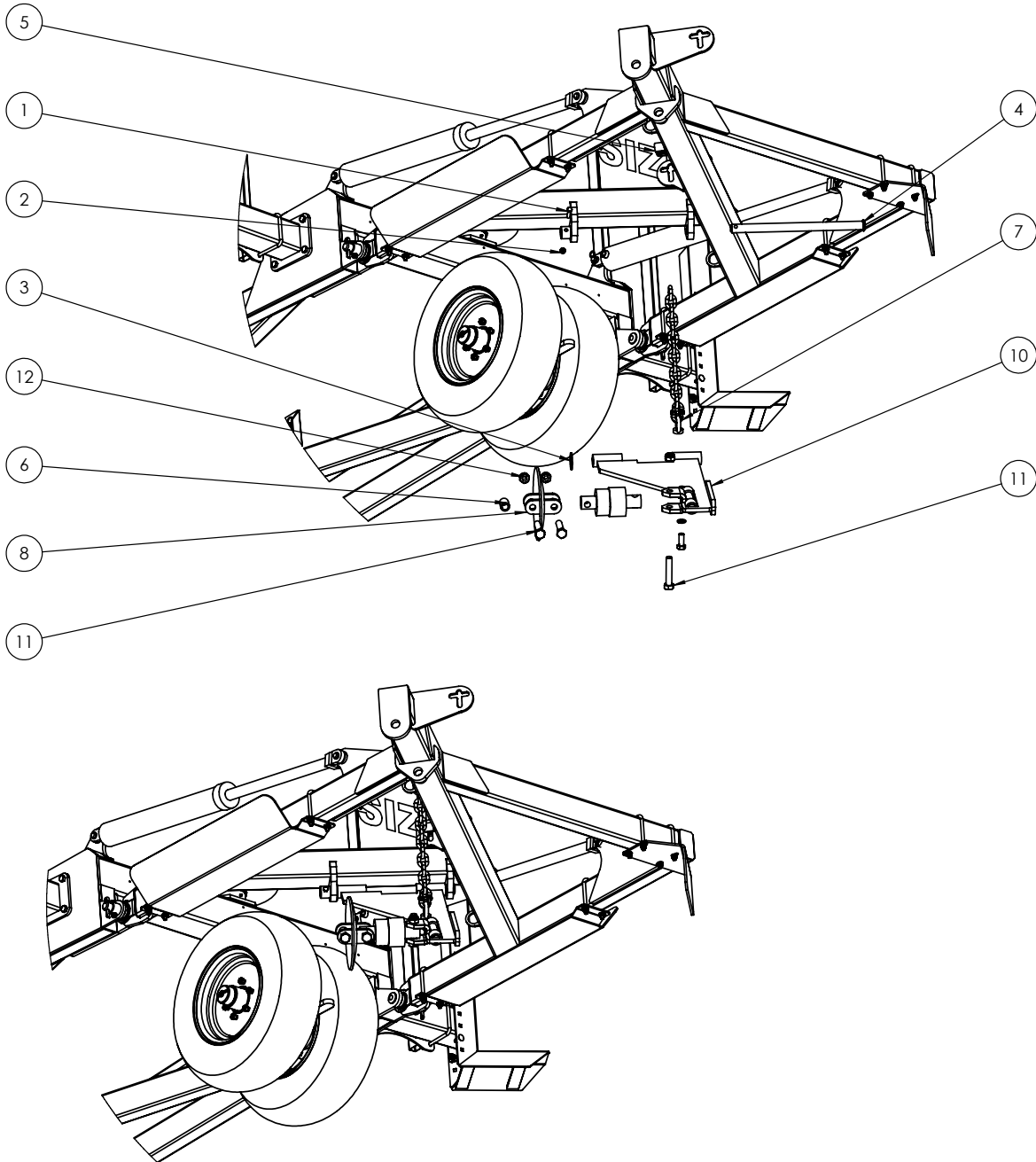
| ITEM NO. | PART NUMBER    | DESCRIPTION                 | Qty |
|----------|----------------|-----------------------------|-----|
| 1        | 0810-103R      | Rear Module Tension Body    | 1   |
| 2        | 0810-104-50-60 | 40/45' Module Tension Arm   | 1   |
| 3        | 0801-PCHTA-SB  | Steel Spring Retaining Bush | 1   |
| 4        | 0801-KE0307-1  | Clevis Pin 25mm x 75mm      | 1   |
| 5        | 0801-XK9261S   | 20mm Compression Spring     | 1   |
| 6        | 0810-105       | Module Tension Linkage      | 1   |
| 7        | 0801-10-S2L    | Rigid Spring Locator        | 1   |
| 8        | 0801-10-110    | Module Pivot Arm Bush       | 1   |
| 9        | 0113-MB 3550DX | 35 ID x 50mm DX Bush        | 2   |
| 10       | 0261-PINC550   | Cotter Pin M5 x 50          | 1   |
| 11       | 0232-HT11-4    | Washer High Tensile 1 1/4"  | 1   |
| 12       | 0801-PCHTA-N6  | 1 1/4" 6 tpi ACME Lock Nut  | 2   |
| 13       | 0211-20150     | M20 x 150 8.8 zp Bolt       | 1   |
| 14       | 0221-NYL20     | M20 Nyloc Nut               | 1   |



| ITEM NO. | PART NUMBER      | DESCRIPTION                         | Qty |
|----------|------------------|-------------------------------------|-----|
| 1        | 0211-1265        | M12 x 65 8.8 zp Bolt                | 1   |
| 2        | 0221-NYL12       | M12 Nyloc Nut                       | 1   |
| 3        | 0232-HT13-8      | Washer High Tensile 1 3/8"          | 1   |
| 4        | 0801-10-51       | Chain Mount Pivot Pin               | 1   |
| 5        | 0801-KE014       | Height Adjustor Retaining Clip      | 1   |
| 6        | 0801-PCDCS55     | Tie Plate Bush                      | 1   |
| 7        | 0801-PCH24MCA    | Height Adjusting Chain Assembly     | 1   |
| 8        | 0802-DCTP-24     | Disc Chain Tie Plate Link 24mm      | 1   |
| 9        | 0802-PCHB553     | 24mm Bolt Swivel Unit               | 1   |
| 10       | 0810-103RA-50-60 | 50-60' Rear Module Tension Assembly | 1   |
| 11       | 0211-24120ST     | M24 x 120 Short Thread 8.8 zp Bolt  | 3   |
| 12       | 0221-NYL24       | M24 Nyloc Nut                       | 3   |



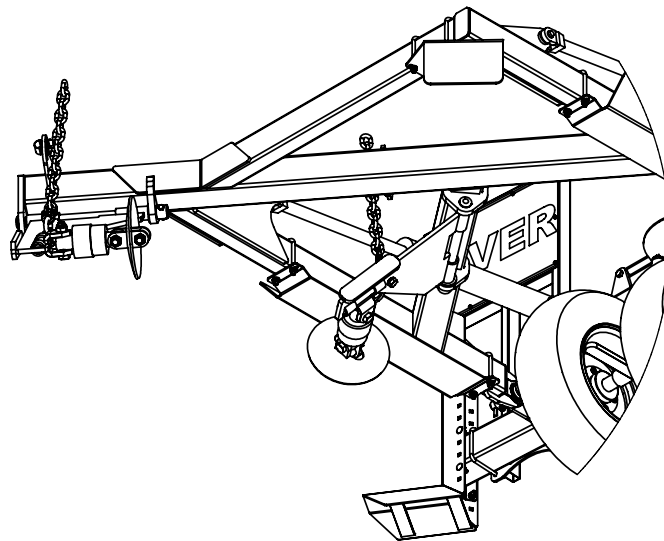
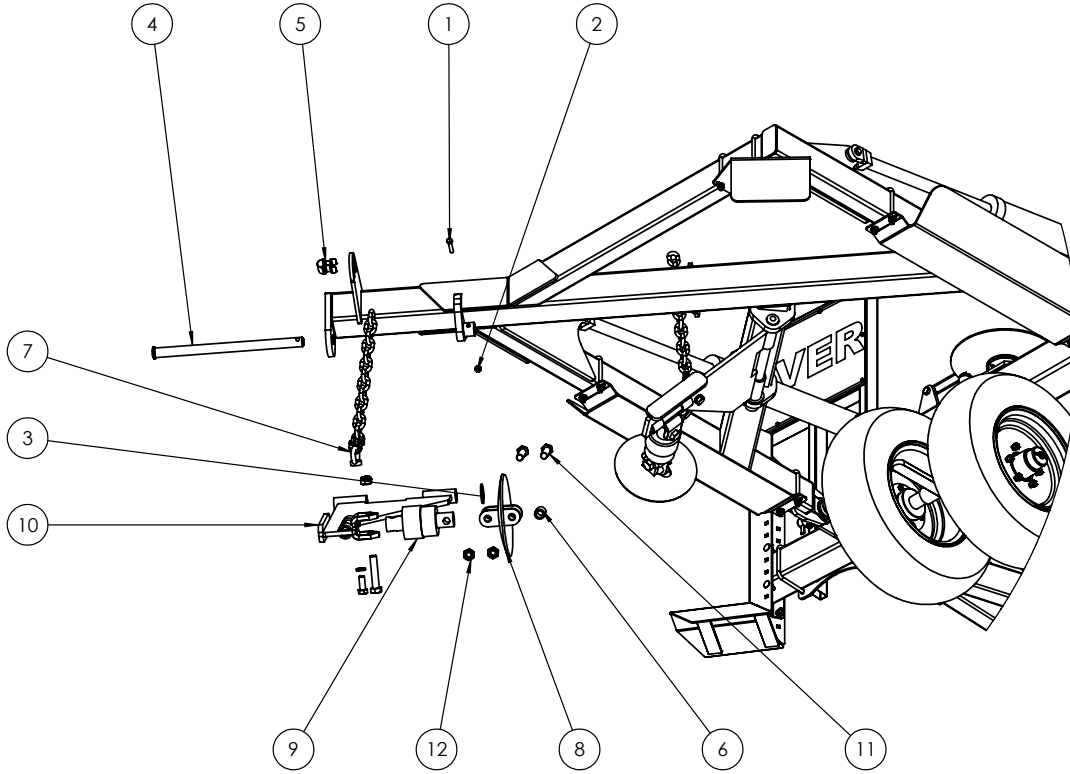
| ITEM NO. | PART NUMBER   | DESCRIPTION                        | Qty |
|----------|---------------|------------------------------------|-----|
| 1        | 0211-1265     | M12 x 65 8.8 zp Bolt               | 1   |
| 2        | 0221-NYL12    | M12 Nyloc Nut                      | 1   |
| 3        | 0232-HT13-8   | Washer High Tensile 1 3/8"         | 1   |
| 4        | 0801-10-51    | Chain Mount Pivot Pin              | 1   |
| 5        | 0801-KE014    | Height Adjustor Retaining Clip     | 1   |
| 6        | 0801-PCDCS55  | Tie Plate Bush                     | 1   |
| 7        | 0801-PCH24MCA | Height Adjusting Chain Assembly    | 1   |
| 8        | 0802-DCTP-24  | Disc Chain Tie Plate Link 24mm     | 1   |
| 9        | 0802-PCHB553  | 24mm Bolt Swivel Unit              | 1   |
| 10       | 0810-20-60    | Chain Mt Arm 24mm Clevis           | 1   |
| 11       | 0211-24120ST  | M24 x 120 Short Thread 8.8 zp Bolt | 3   |
| 12       | 0221-NYL24    | M24 Nyloc Nut                      | 3   |



TRAVEL

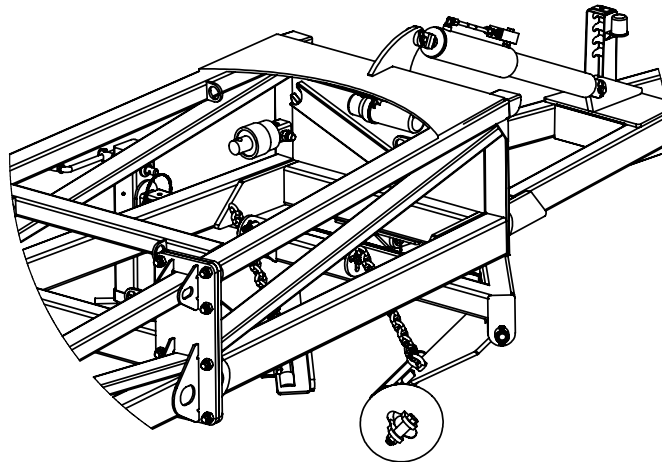
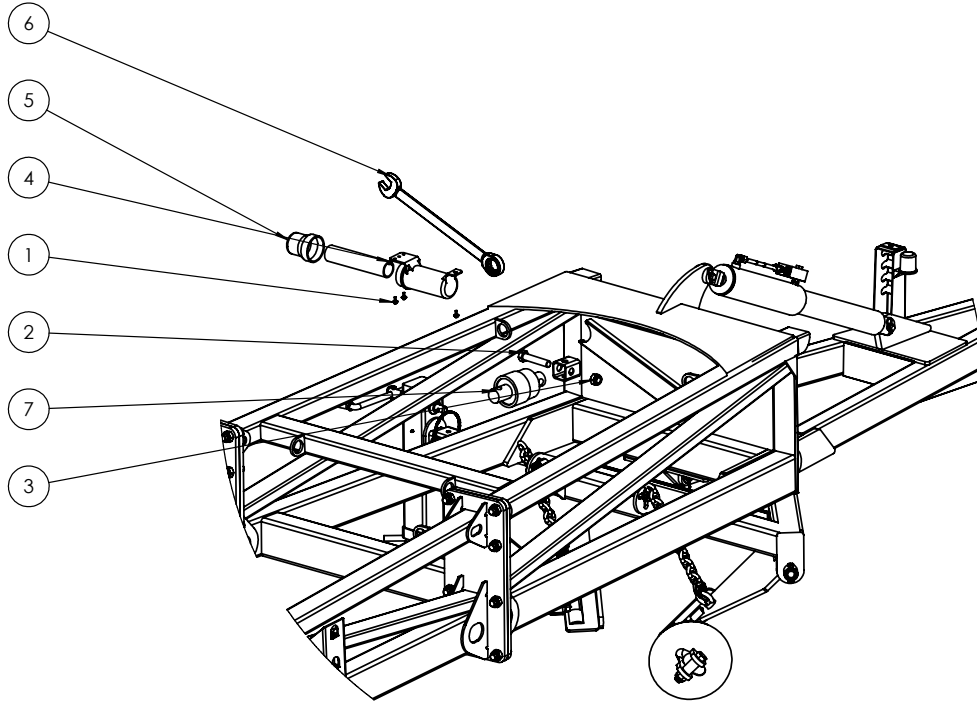


| ITEM NO. | PART NUMBER   | DESCRIPTION                        | Qty |
|----------|---------------|------------------------------------|-----|
| 1        | 0211-1265     | M12 x 65 8.8 zp Bolt               | 1   |
| 2        | 0221-NYL12    | M12 Nyloc Nut                      | 1   |
| 3        | 0232-HT13-8   | Washer High Tensile 1 3/8"         | 1   |
| 4        | 0801-10-51    | Chain Mount Pivot Pin              | 1   |
| 5        | 0801-KE014    | Height Adjustor Retaining Clip     | 1   |
| 6        | 0801-PCDCS55  | Tie Plate Bush                     | 1   |
| 7        | 0801-PCH24MCA | Height Adjusting Chain Assembly    | 1   |
| 8        | 0802-DCTP-24  | Disc Chain Tie Plate Link 24mm     | 1   |
| 9        | 0802-PCHB553  | 24mm Bolt Swivel Unit              | 1   |
| 10       | 0810-20-60    | Chain Mt Arm 24mm Clevis           | 1   |
| 11       | 0211-24120ST  | M24 x 120 Short Thread 8.8 zp Bolt | 3   |
| 12       | 0221-NYL24    | M24 Nyloc Nut                      | 3   |



TRAVEL

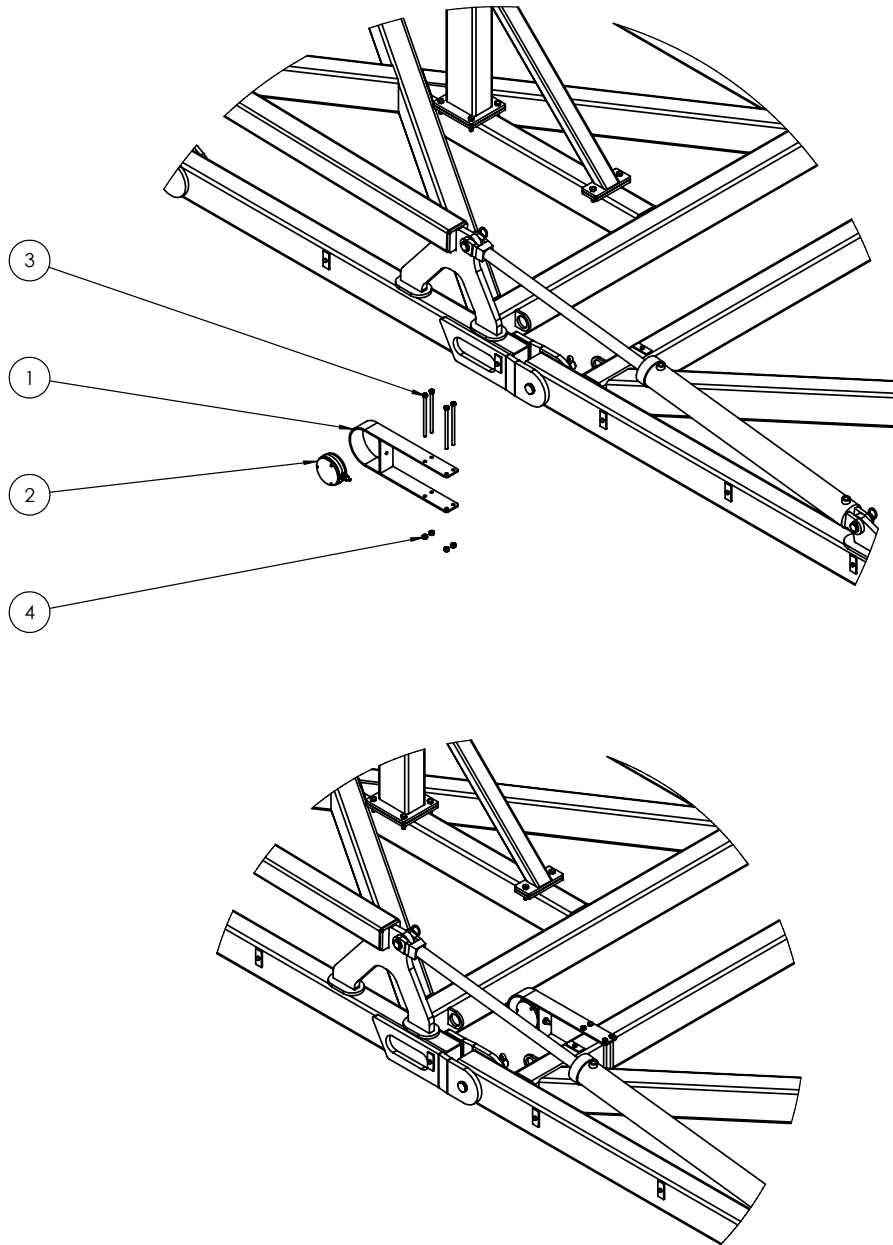
| ITEM NO. | PART NUMBER     | DESCRIPTION                                 | Qty |
|----------|-----------------|---|-----|
| 1        | 0211-M620MZPHTF | M6 x 20 Trilobe self tapping ScREW          | 3   |
| 2        | 0211-24120ST    | M24 x 120 Short Thread 8.8 zp Bolt          | 1   |
| 3        | 0221-NYL24      | M24 Nyloc Nut                               | 1   |
| 4        | 0492-OPMAN      | Diamond Harrow Operating Instruction Manual | 1   |
| 5        | 0801-OMC-1      | Operator Manual Cannister                   | 1   |
| 6        | 0802-GW1 3-4    | Gear Wrench 1 3/4"                          | 1   |
| 7        | 0802-PCHB553    | 24mm Bolt Swivel Unit                       | 1   |



TRAVEL →

| ITEM NO. | PART NUMBER | DESCRIPTION           | Qty |
|----------|-------------|-----------------------|-----|
| 1        | 0810-34LB   | Light Bracket         | 1   |
| 2        | 0412-85940  | Indicator Lamp        | 1   |
| 3        | 0211-10180  | M10 x 180 8.8 zp Bolt | 4   |
| 4        | 0221-NYL10  | M10 Nyloc Nut         | 4   |

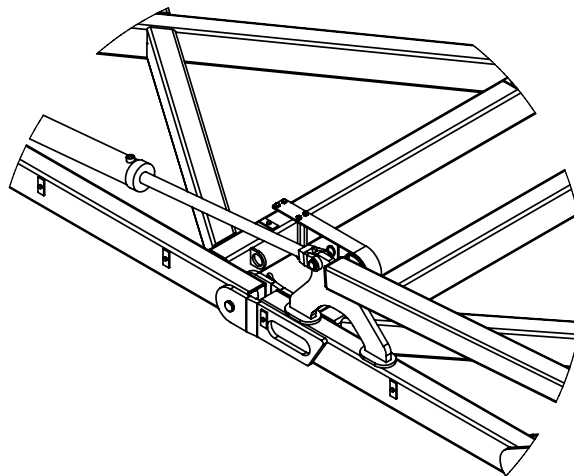
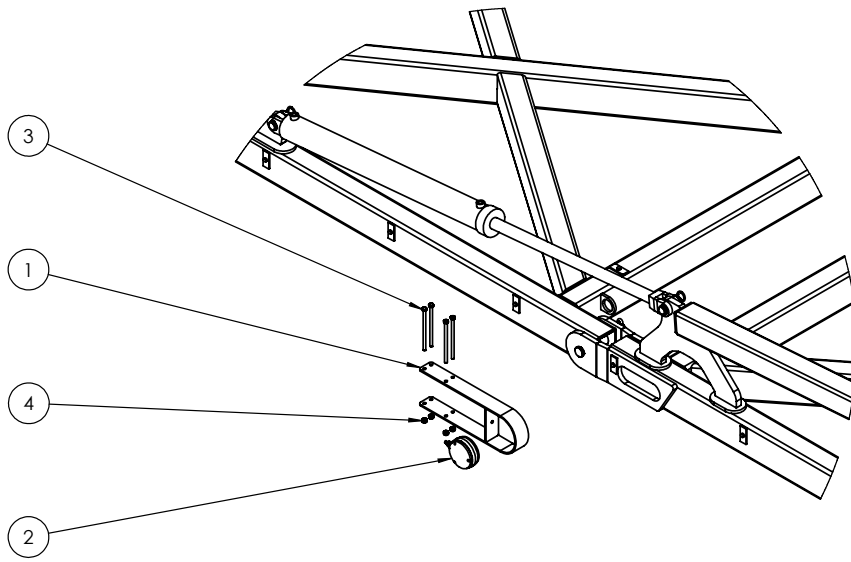
**This Step not applicable for Domestic machines**



**TRAVEL** →

| ITEM NO. | PART NUMBER | DESCRIPTION           | Qty |
|----------|-------------|-----------------------|-----|
| 1        | 0810-34LB   | Light Bracket         | 1   |
| 2        | 0412-85940  | Indicator Lamp        | 1   |
| 3        | 0211-10180  | M10 x 180 8.8 zp Bolt | 4   |
| 4        | 0221-NYL10  | M10 Nylac Nut         | 4   |

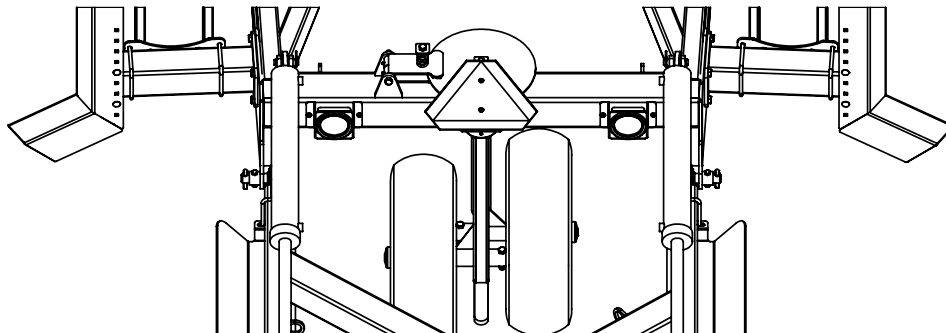
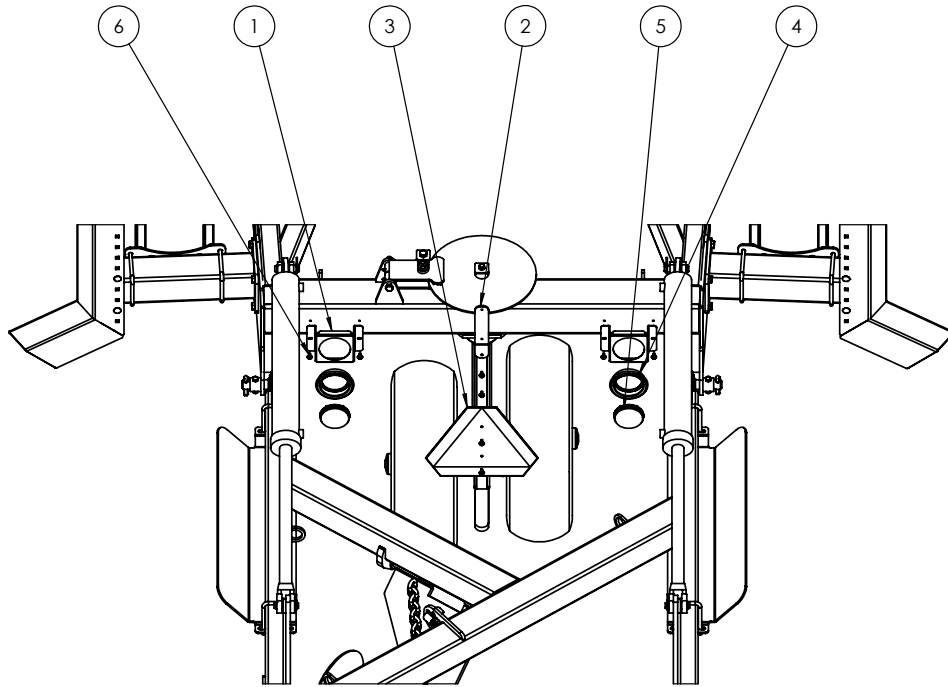
**This Step not applicable for Domestic machines**



**TRAVEL** →

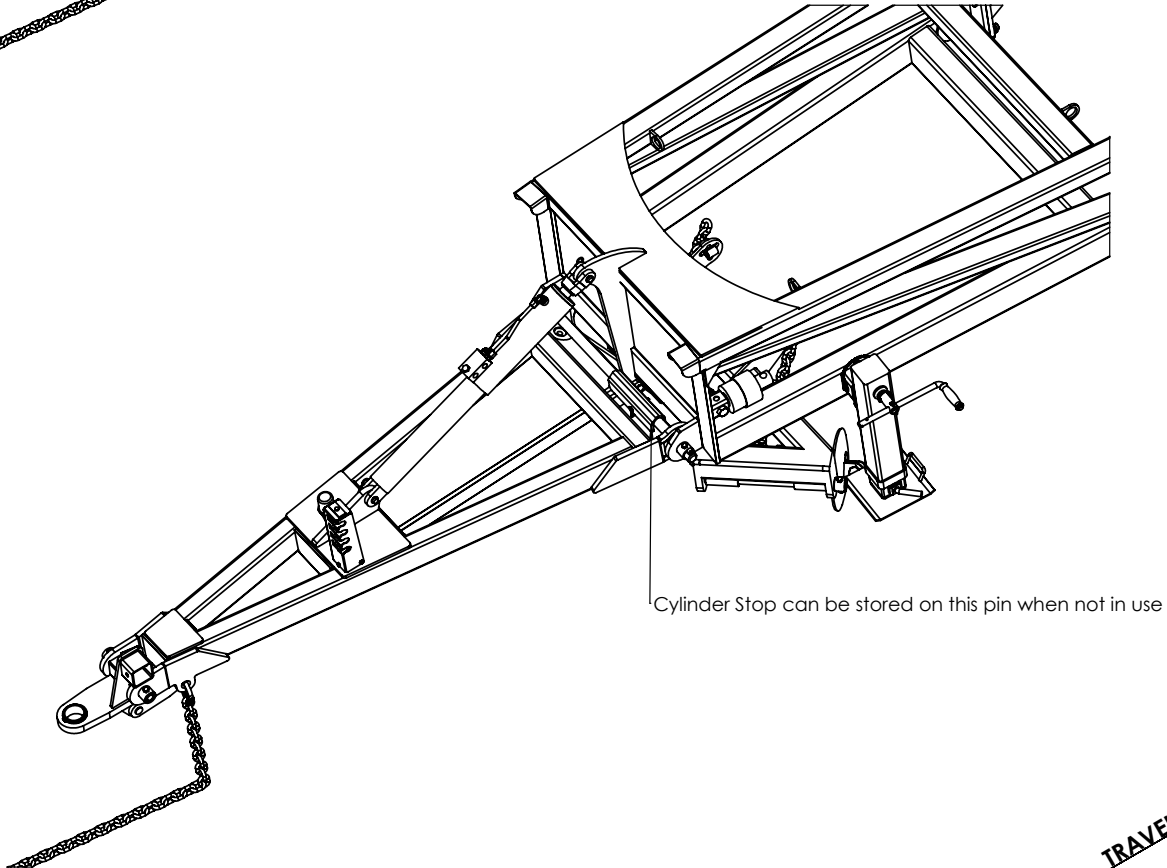
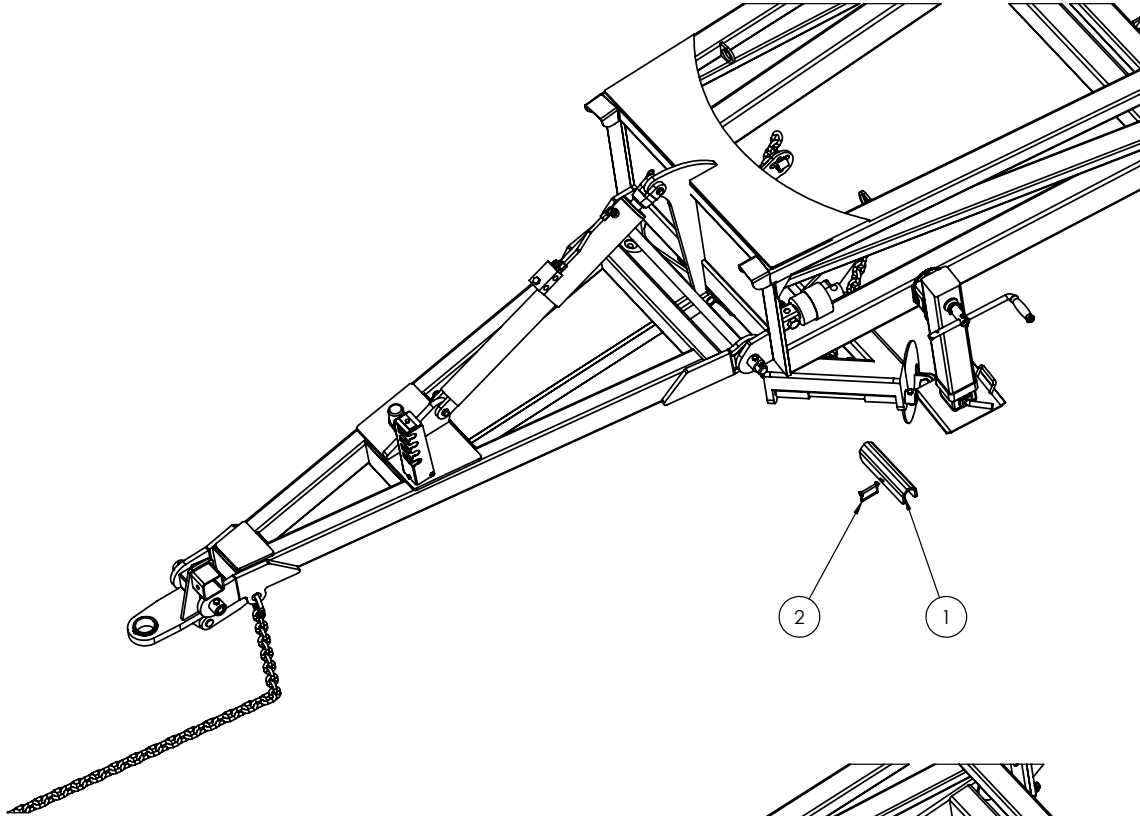
| ITEM NO. | PART NUMBER     | DESCRIPTION                        | Qty |
|----------|-----------------|------------------------------------|-----|
| 1        | 0800-194.1      | US Tail Light Bracket              | 2   |
| 2        | 0800-195.1      | SMV Sign Bracket                   | 1   |
| 3        | 0801-FBSMVTUF   | Slow Moving Vehical Sign           | 1   |
| 4        | 0412-53101RG    | 110RM Rubber Grommet               | 2   |
| 5        | 0412-LED110RM   | LED Stop Tail Lamp                 | 2   |
| 6        | 0211-M620MZPHTF | M6 x 20 Trilobe self tapping ScREW | 8   |

**This Step not applicable for Domestic machines**



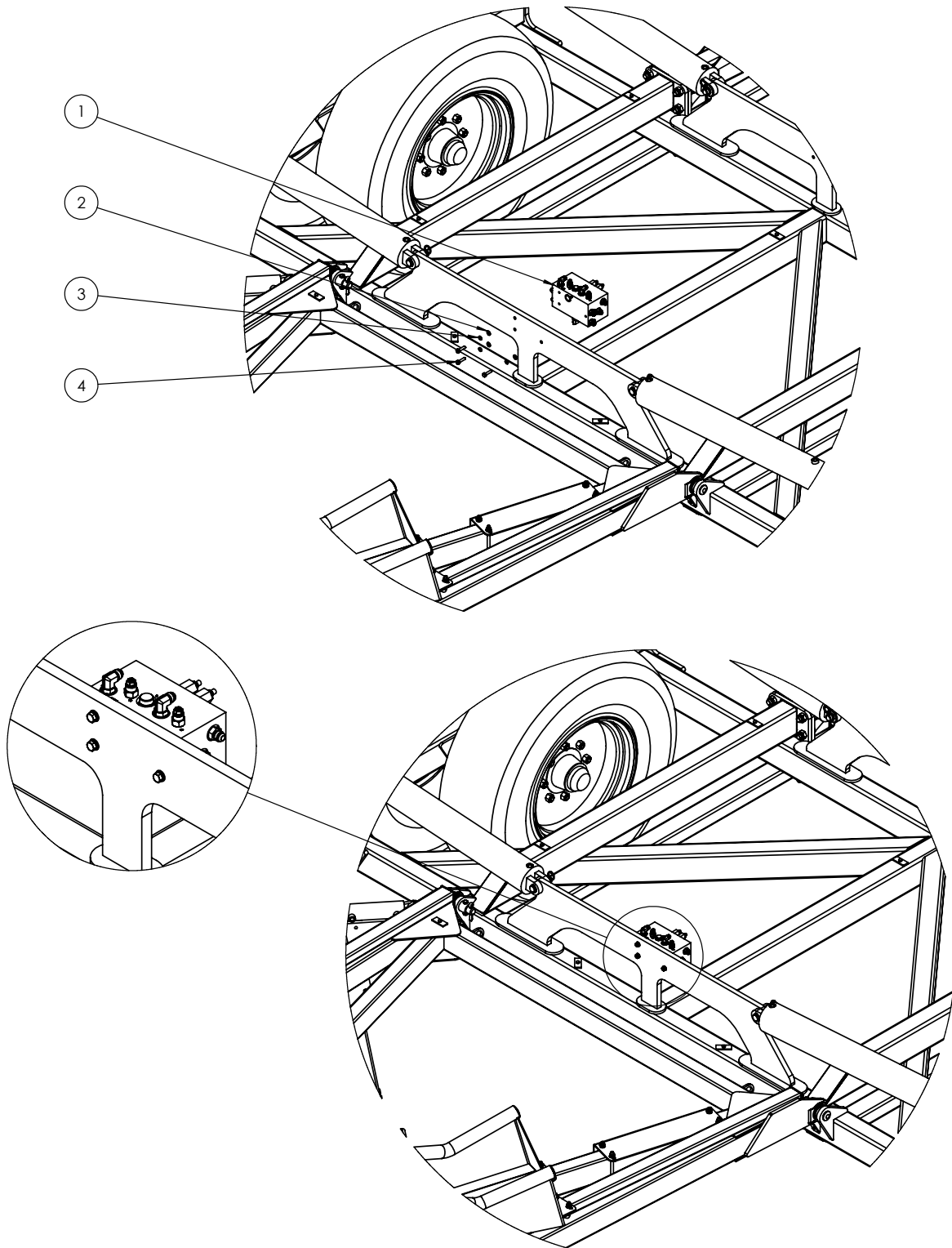
TRAVEL →

| ITEM NO. | PART NUMBER       | DESCRIPTION             | Qty |
|----------|-------------------|-------------------------|-----|
| 1        | 0800-212.1        | Cylinder Safety Stop    | 1   |
| 2        | 0511-PINLOOPSQ863 | Square Loop Pin M8 x 63 | 1   |



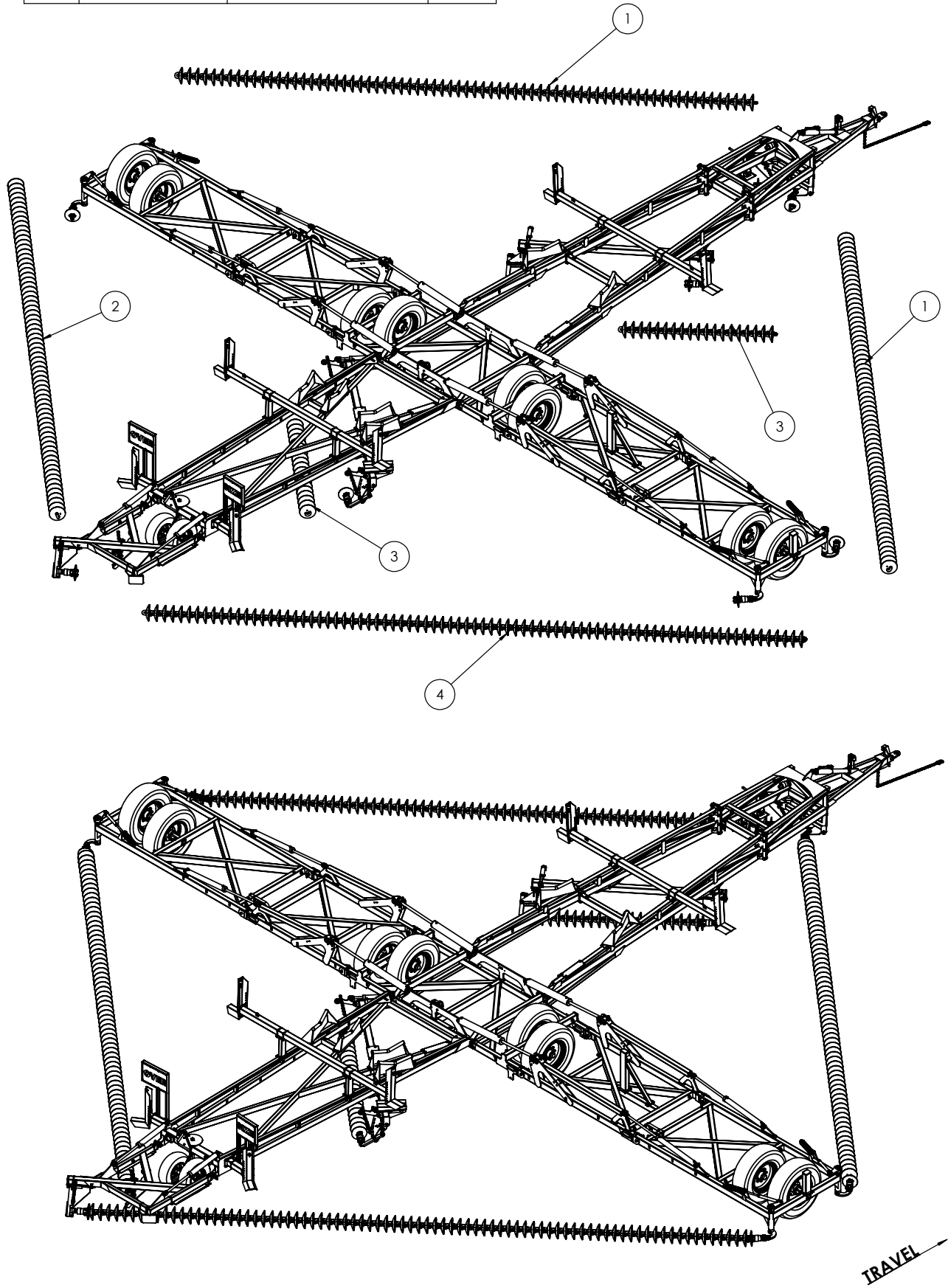
**TRAVEL**

| ITEM NO. | PART NUMBER   | DESCRIPTION                     | Qty |
|----------|---------------|---------------------------------|-----|
| 1        | 0802-SV688712 | 3 Stage Kickdown Sequence Valve | 1   |
| 2        | 0231-F10      | M10 zp Flat Washer              | 3   |
| 3        | 0231-S10      | M10 zp Spring Washer            | 3   |
| 4        | 0211-1040     | M10 x 40 8.8 zp Bolt            | 3   |



TRAVEL →

| ITEM NO. | PART NUMBER    | DESCRIPTION                | Qty |
|----------|----------------|----------------------------|-----|
| 1        | 0803-60CT-FL&R | 60CT Front Chain           | 2   |
| 2        | 0803-60CT-LHR  | 60CT Left Hand Rear Chain  | 1   |
| 3        | 0803-60CT-MOD  | 60CT Module Chain          | 2   |
| 4        | 0803-60CT-RHR  | 60CT Right Hand Rear Chain | 1   |





# **Section 3**

## Hydraulics set up

## Charging hydraulic system

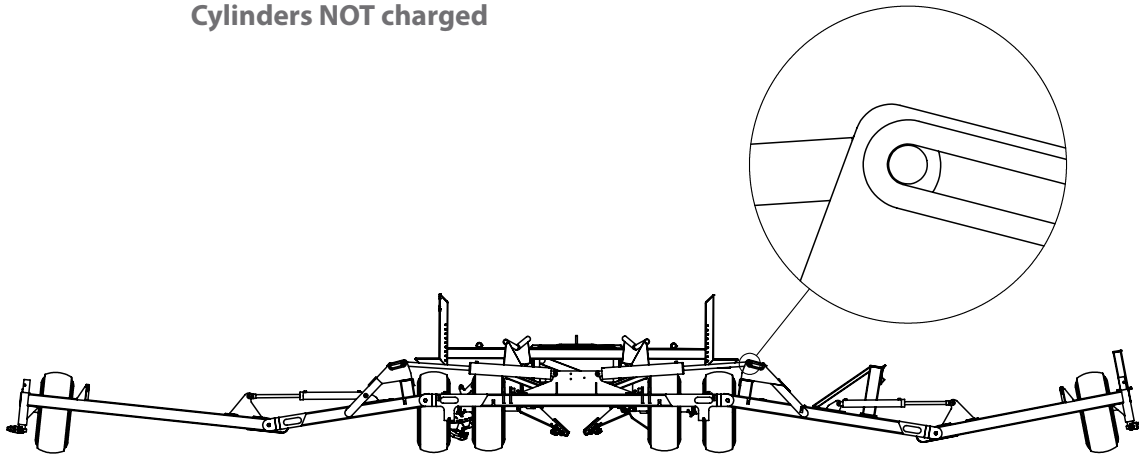


Before folding the machine for the first time, ensure all hydraulic cylinders are charged with oil.

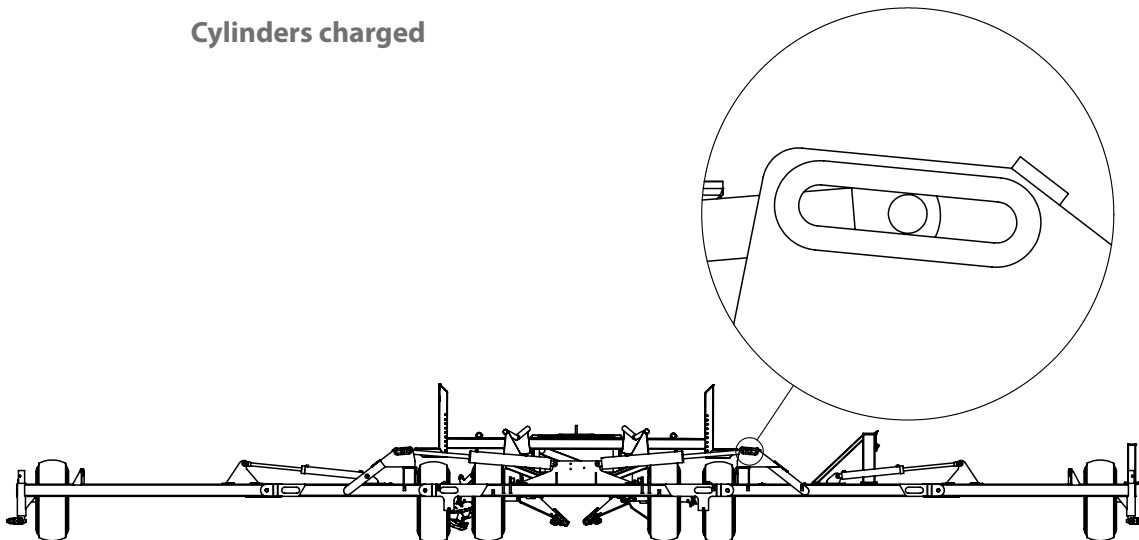
To do this, run the hydraulics through the unfold sequence until the outer wings are straight and the center cylinders are centered in the slots. (It may take a few minutes for the cylinders to charge completely).

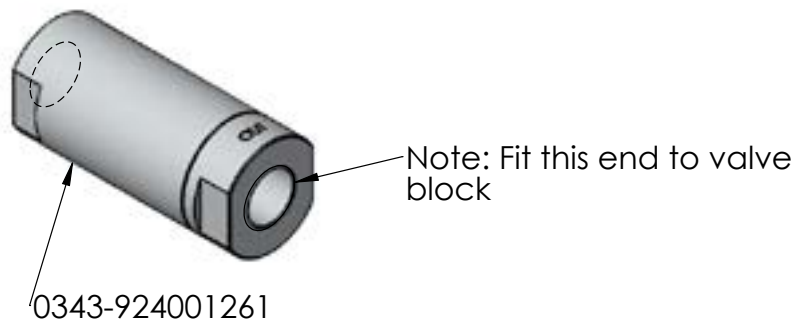
Failure to do this could result in severe personal injury and/or damage to the machine.

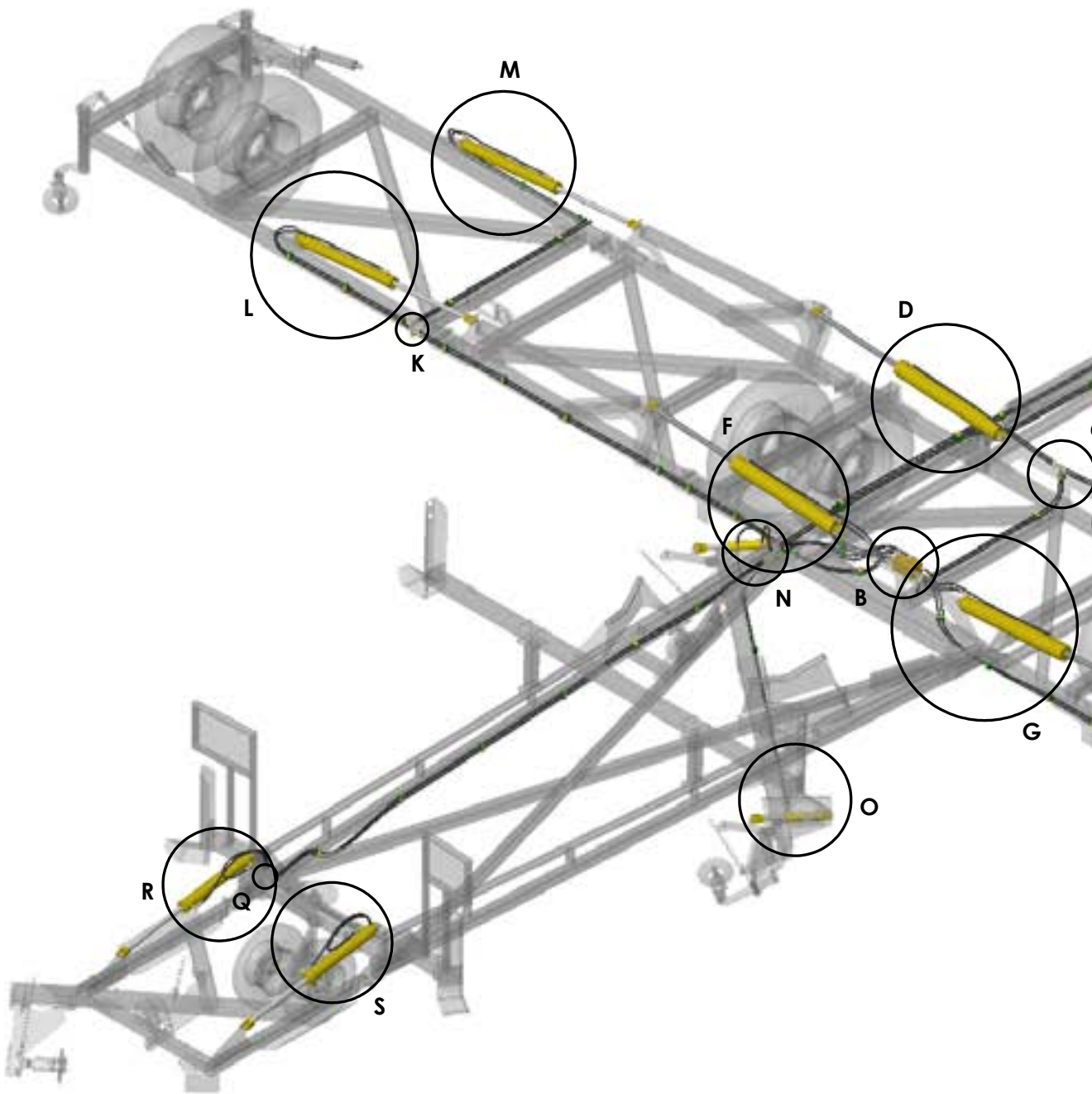
**Cylinders NOT charged**

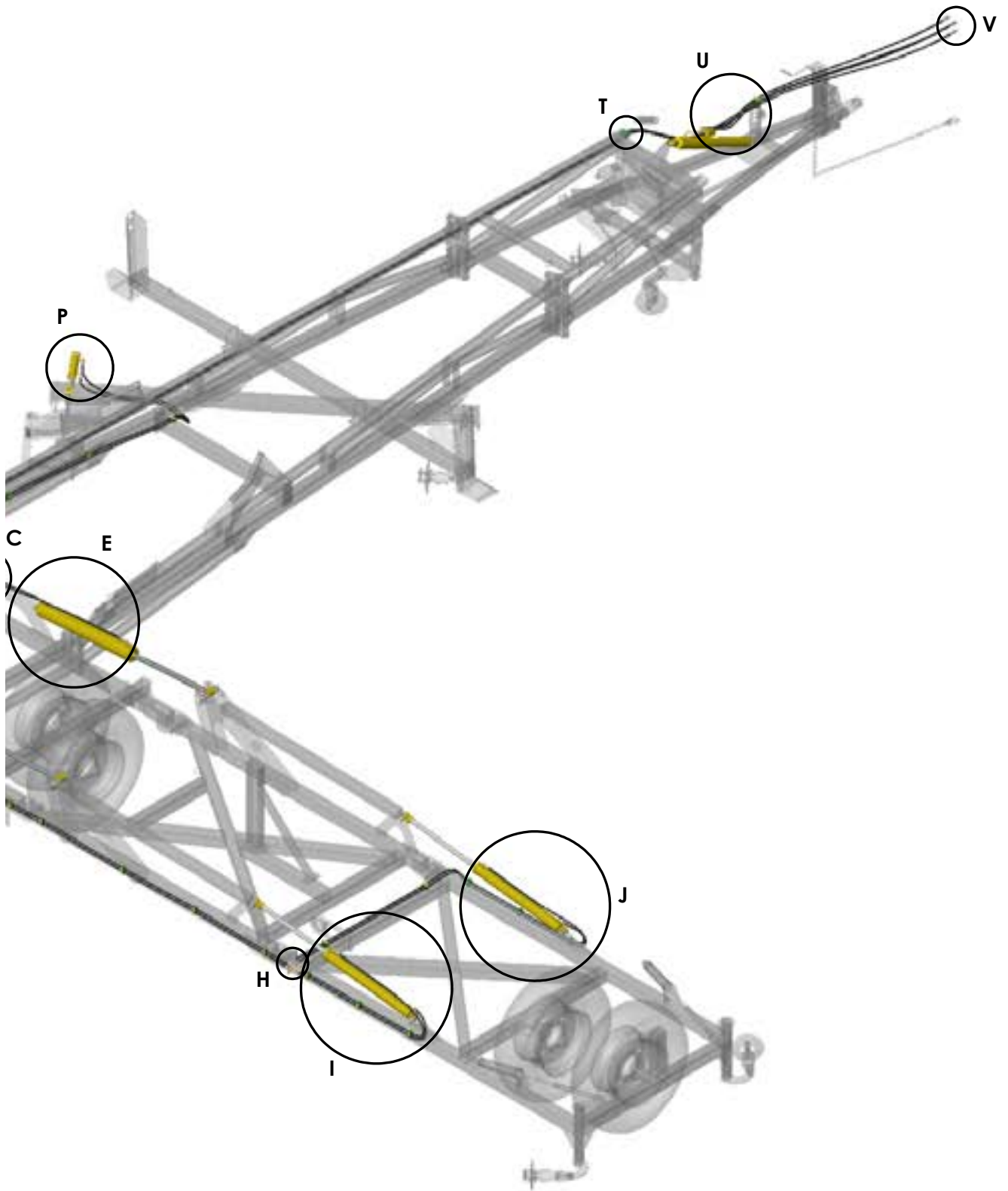


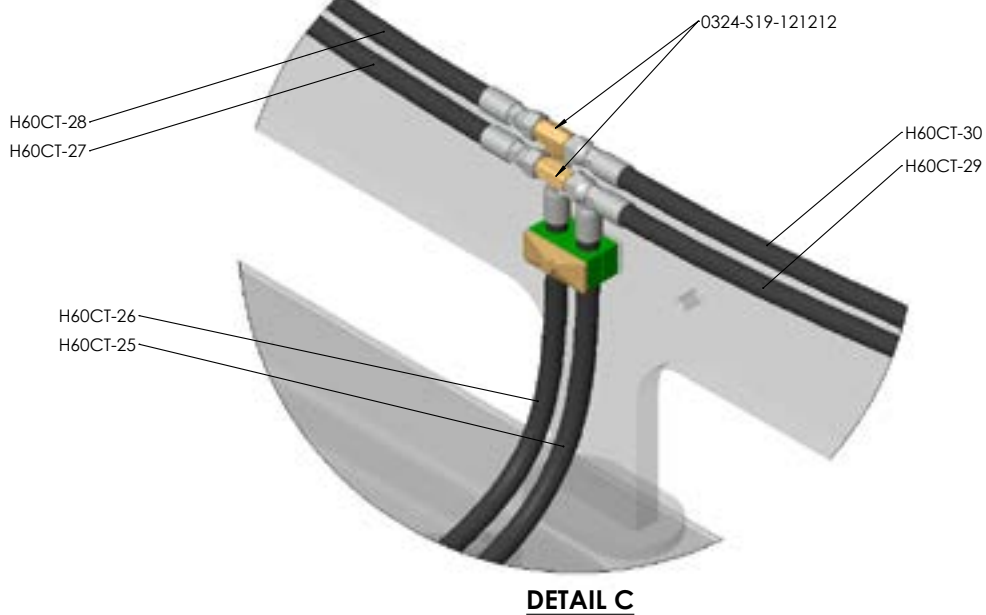
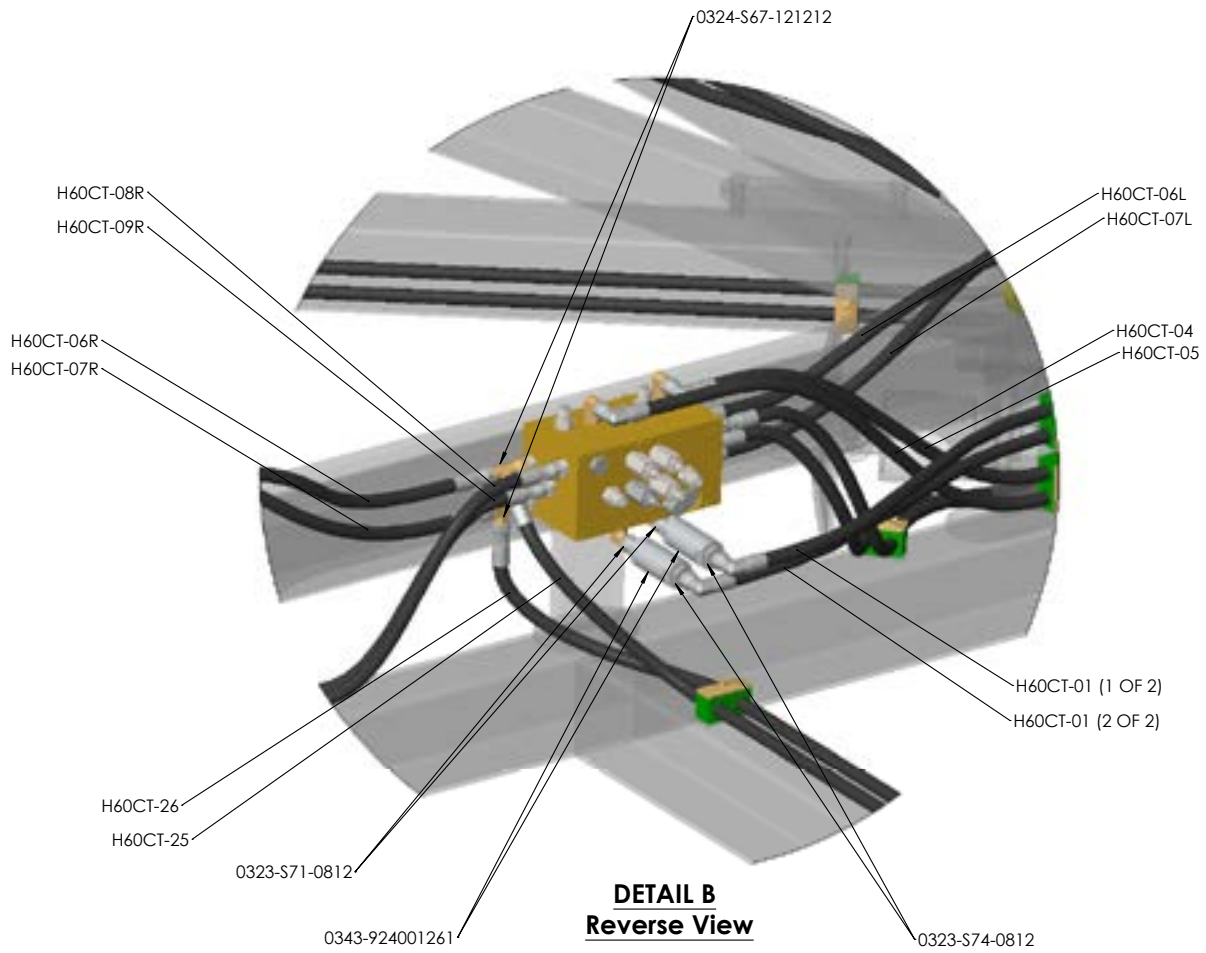
**Cylinders charged**

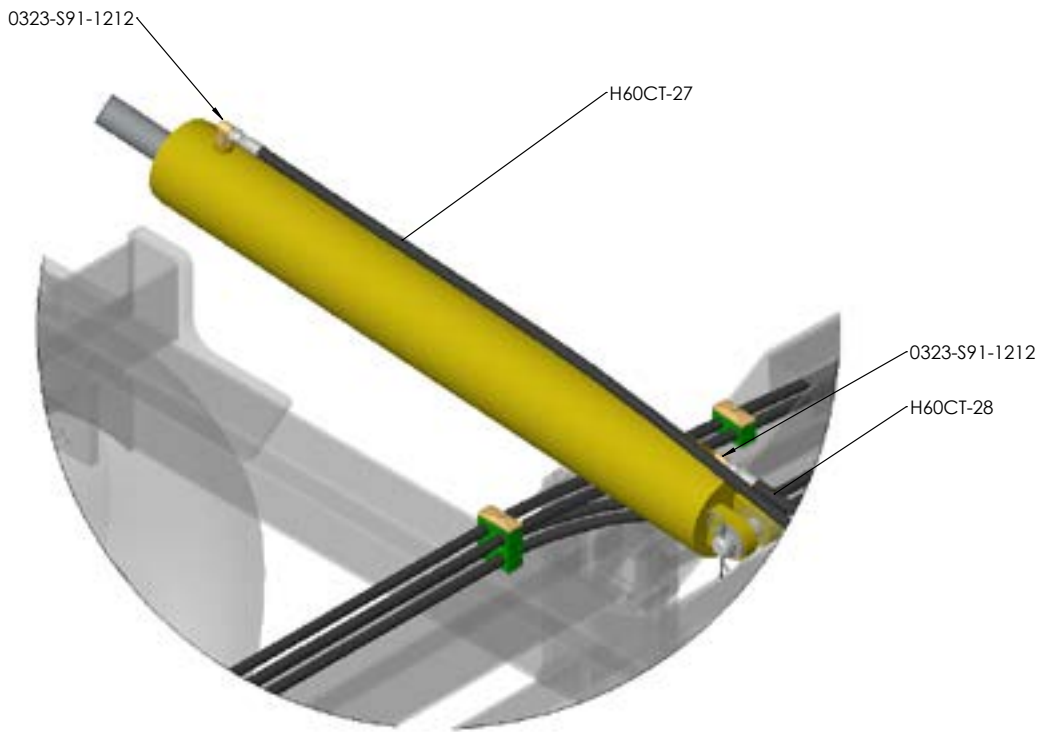




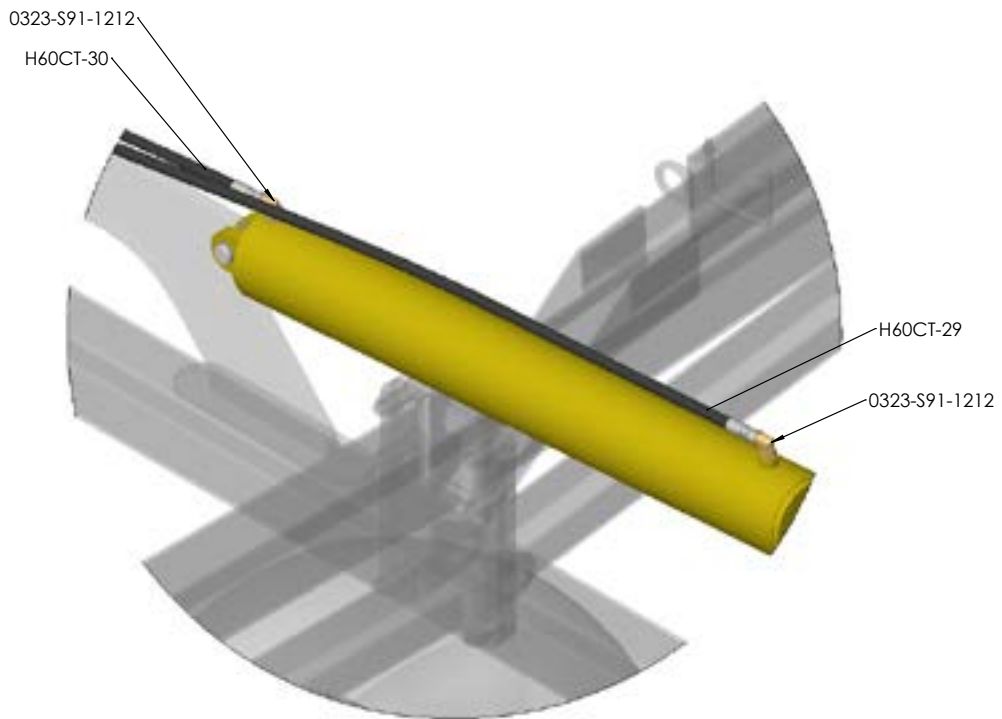






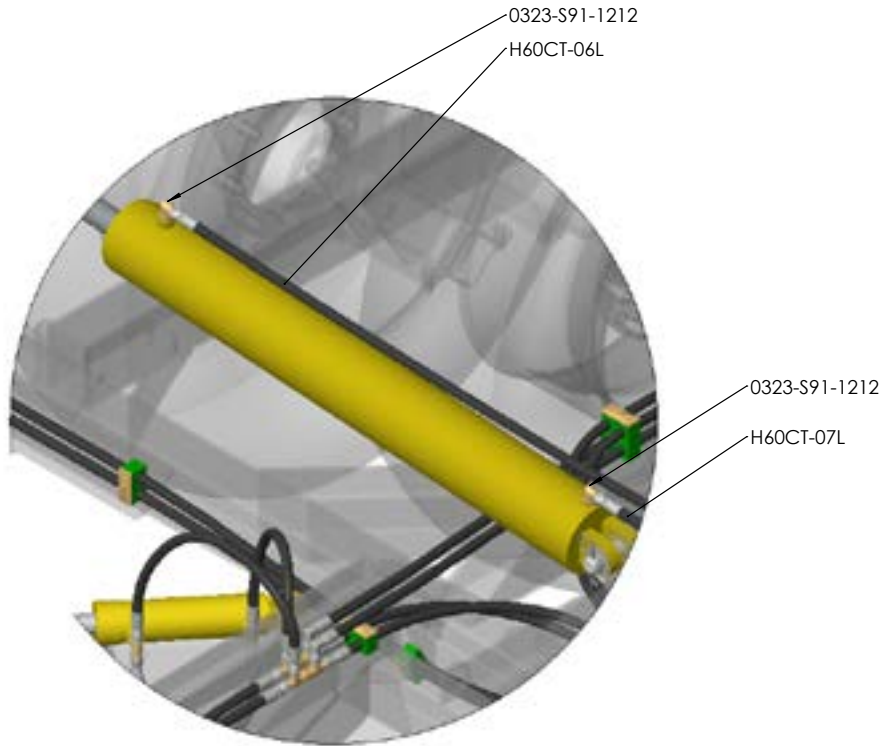


**DETAIL D**

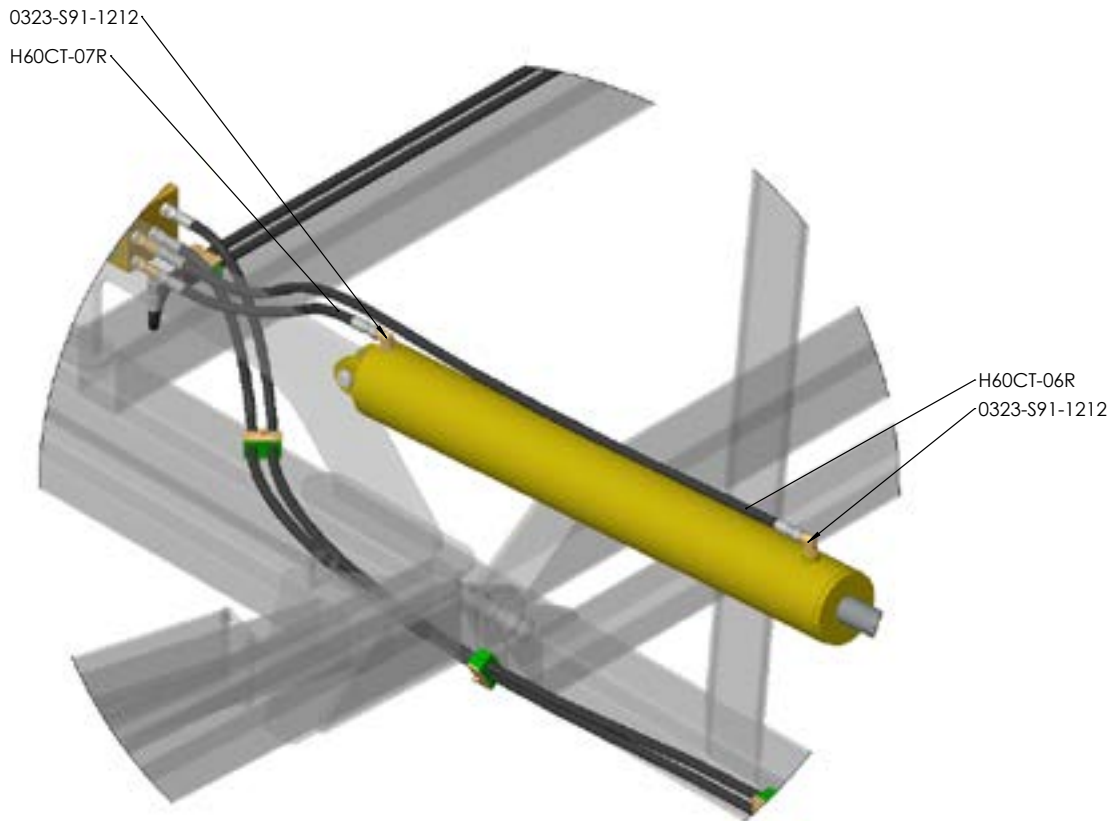


**DETAIL E**



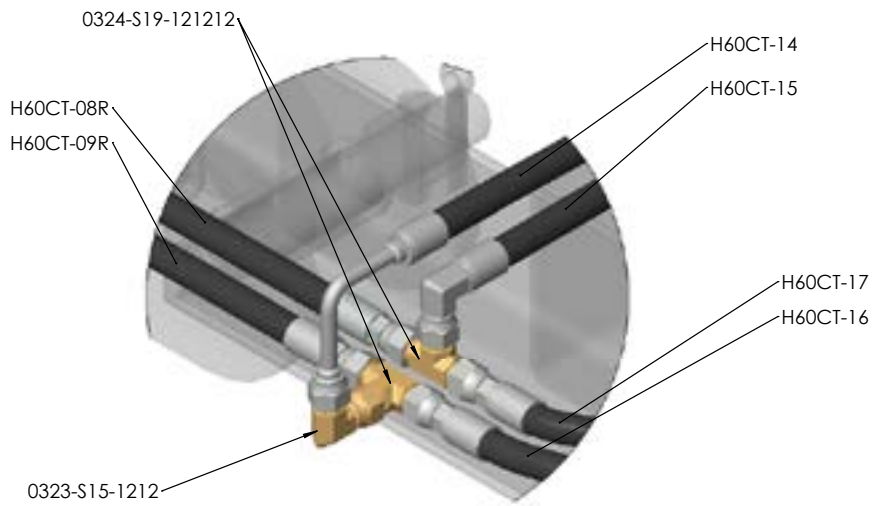


**DETAIL F**

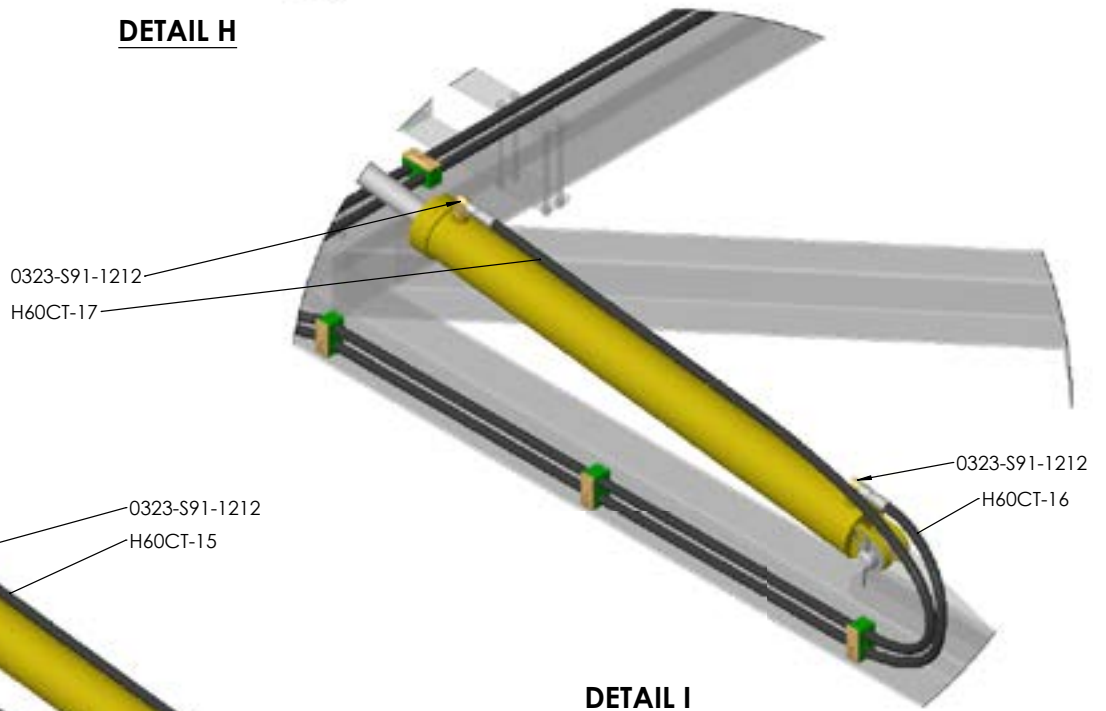


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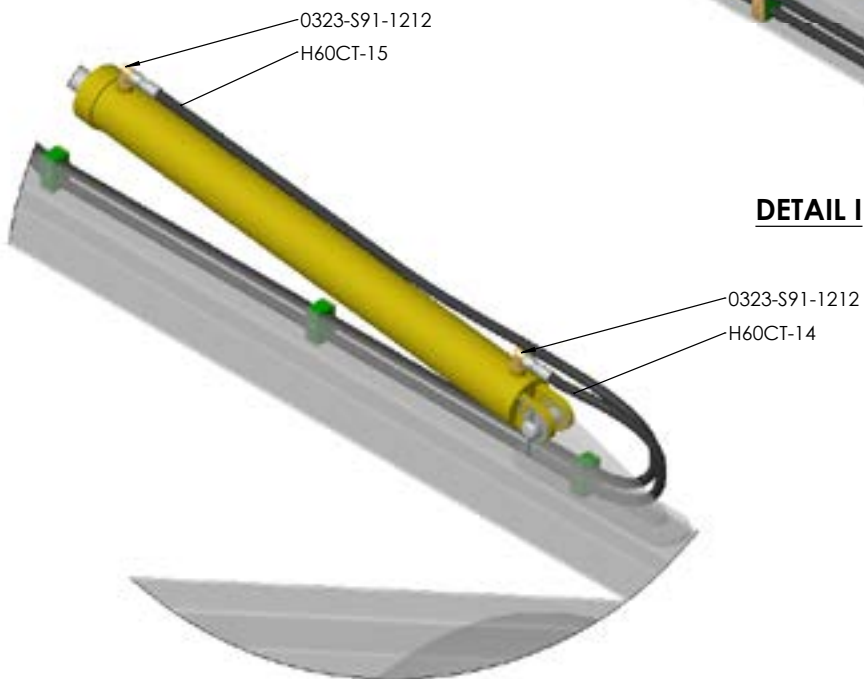




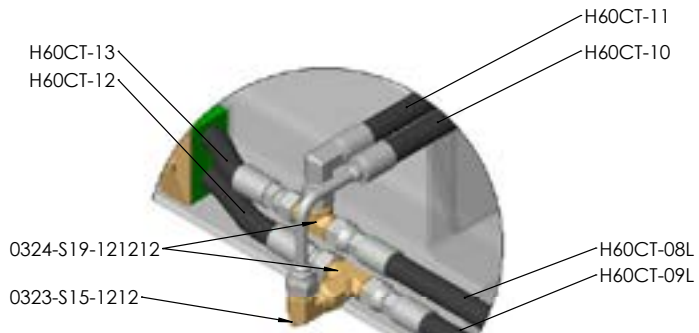
**DETAIL H**



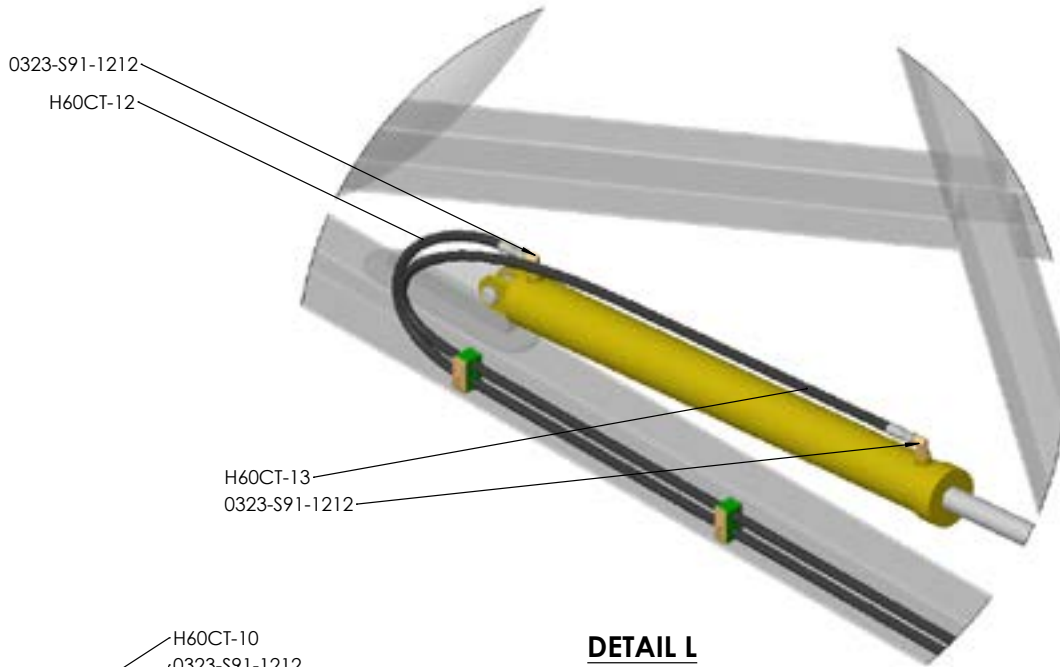
**DETAIL I**



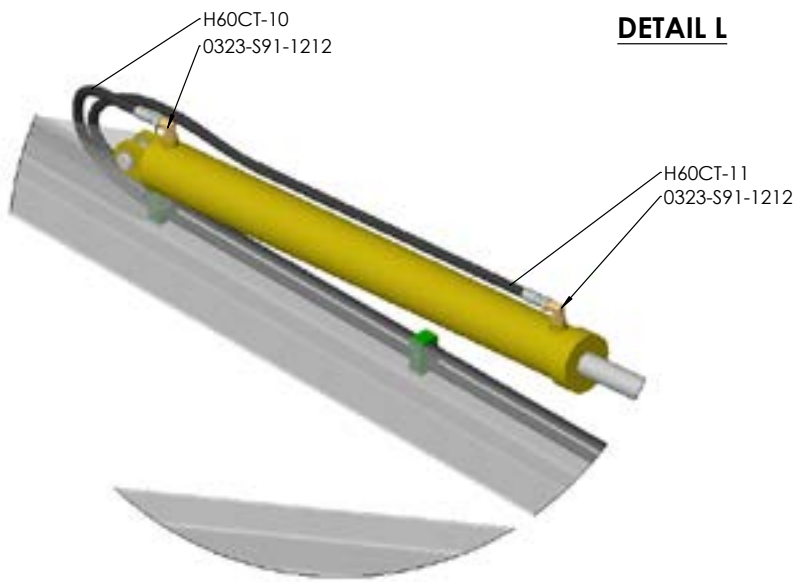
**DETAIL J**



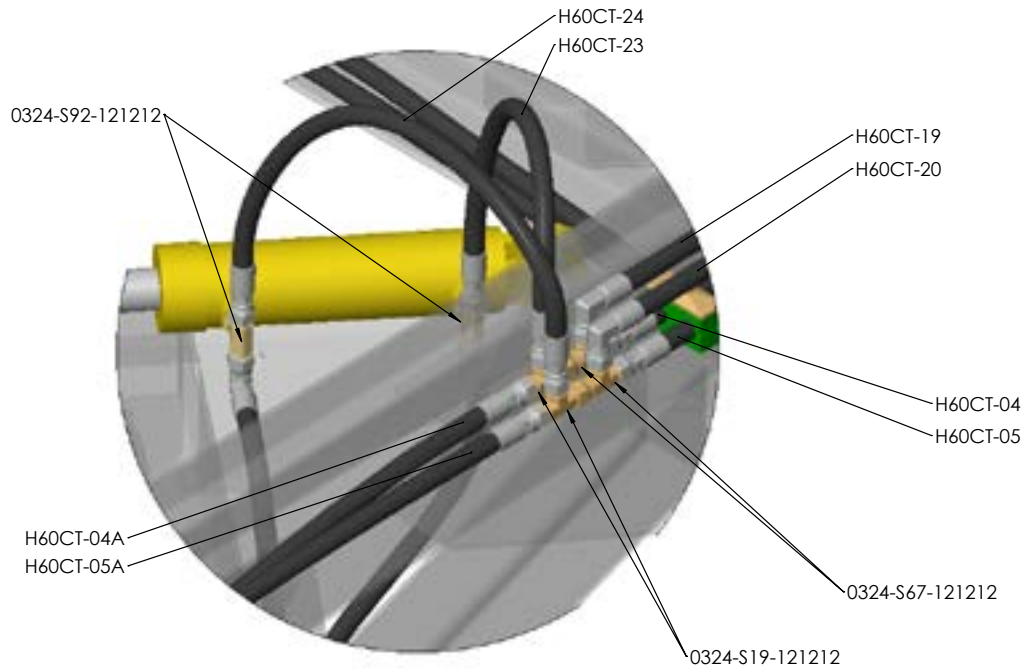
**DETAIL K**



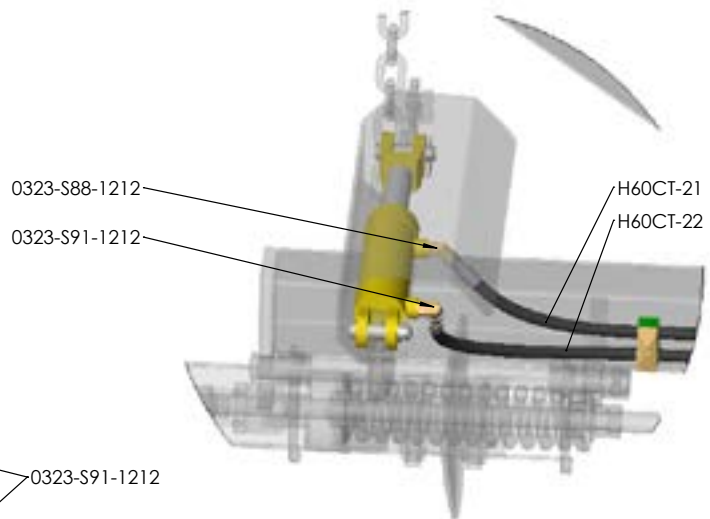
**DETAIL L**



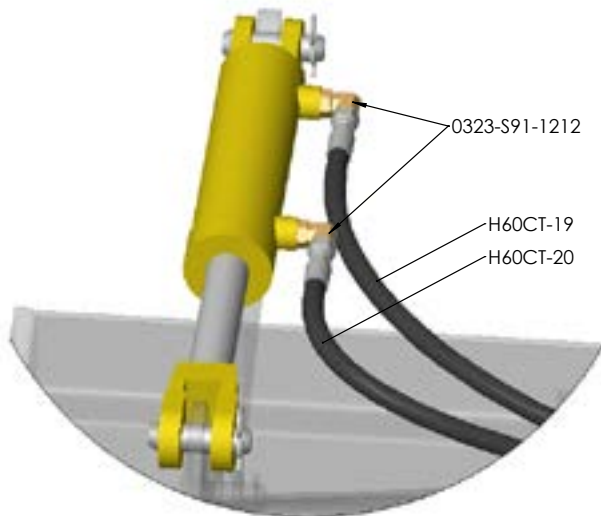
**DETAIL M**



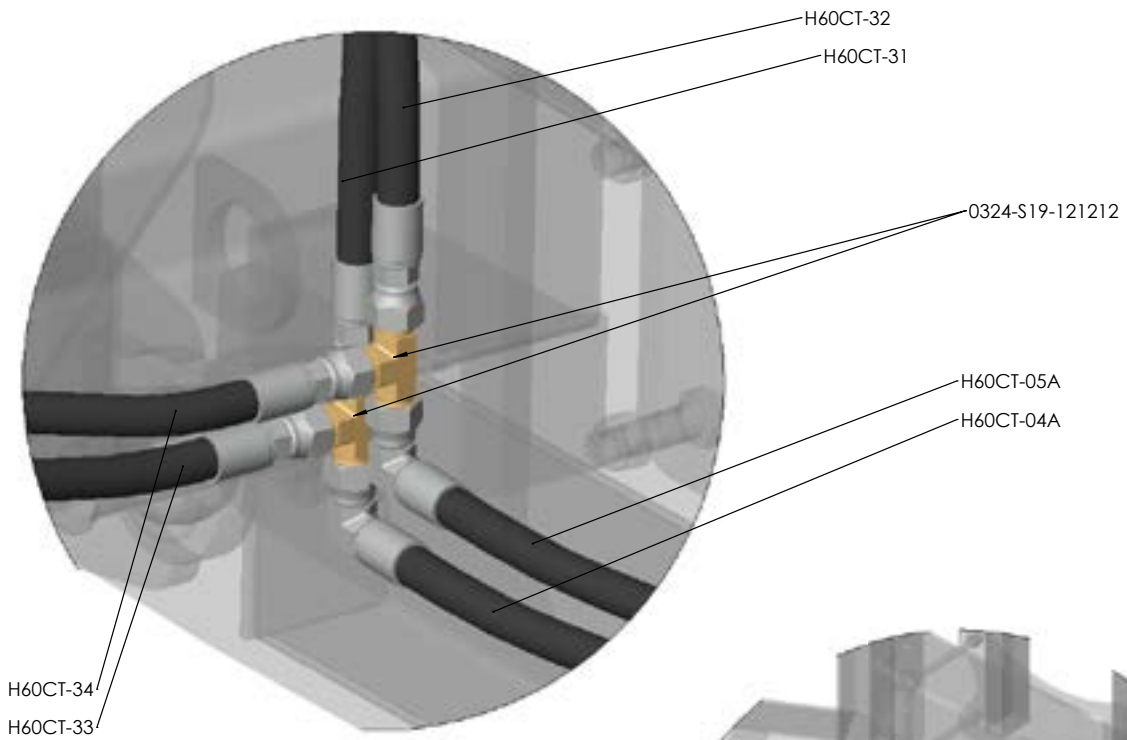
**DETAIL N**



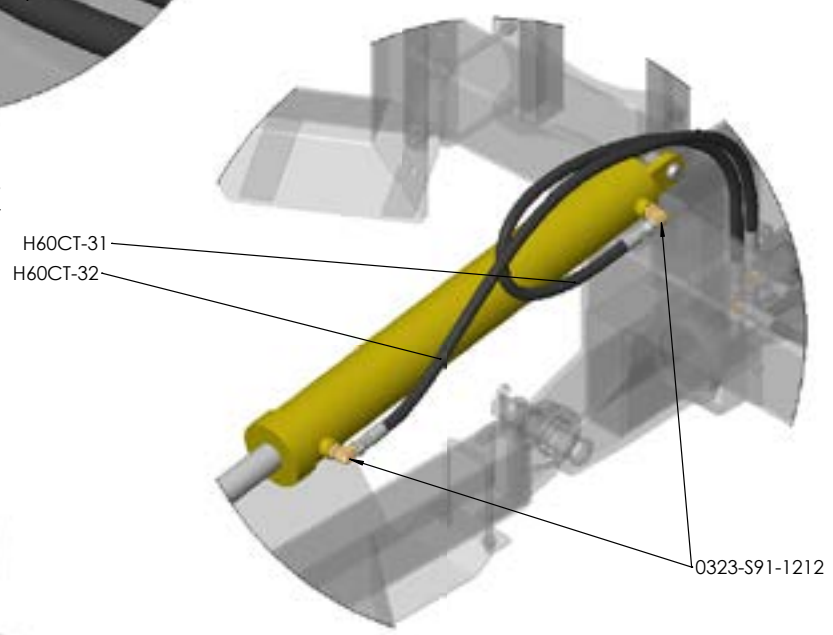
**DETAIL O**  
**Reverse View**



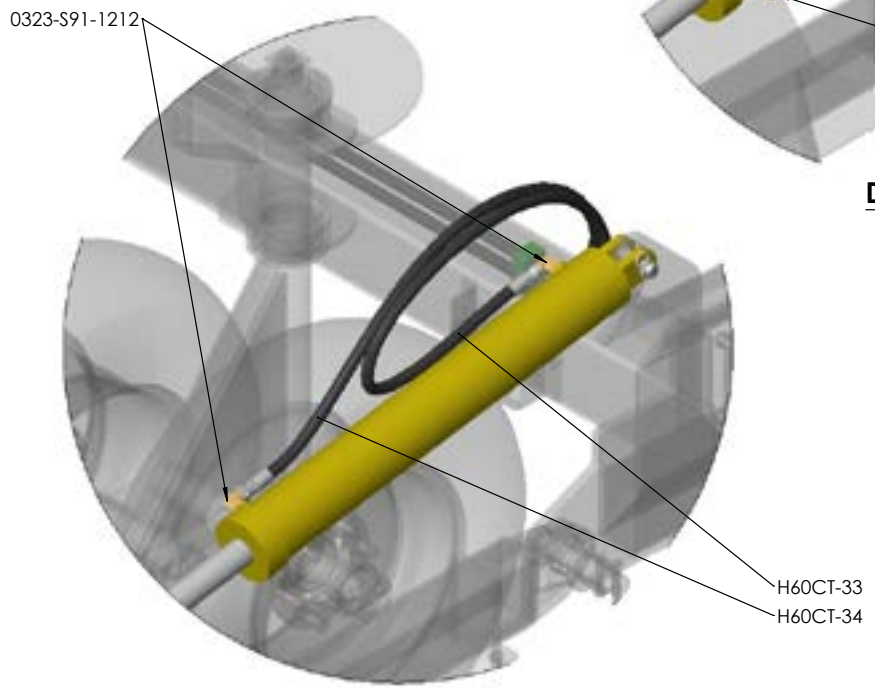
**DETAIL P**



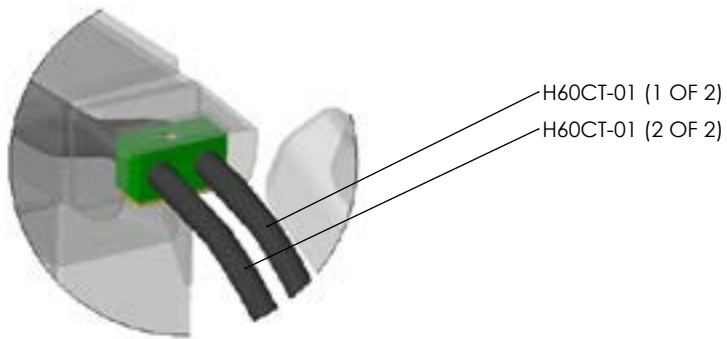
**DETAIL Q**  
**Reverse View**



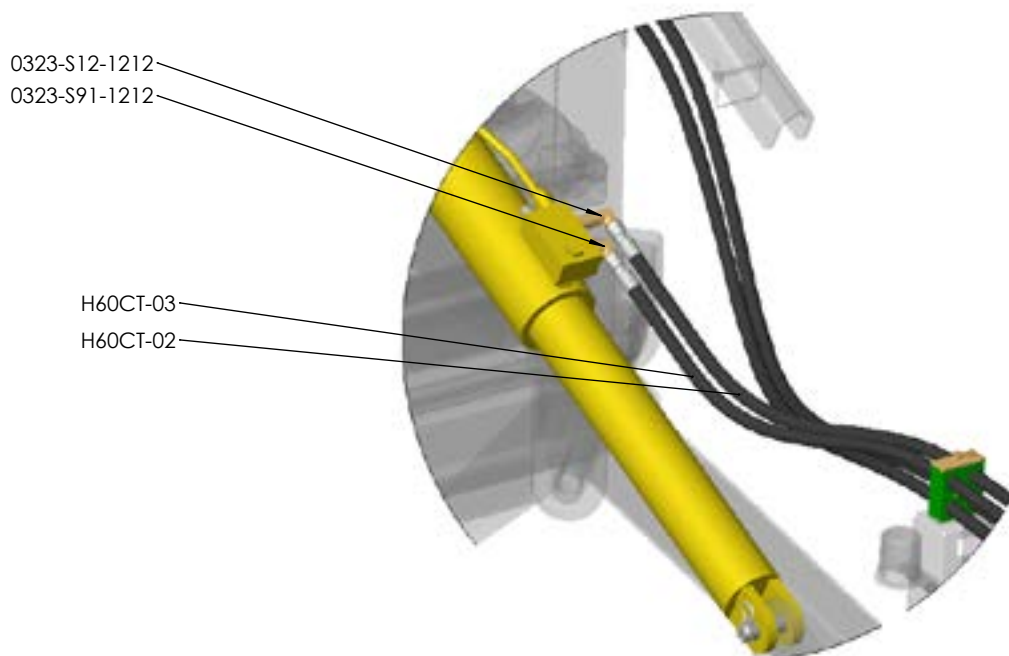
**DETAIL R**



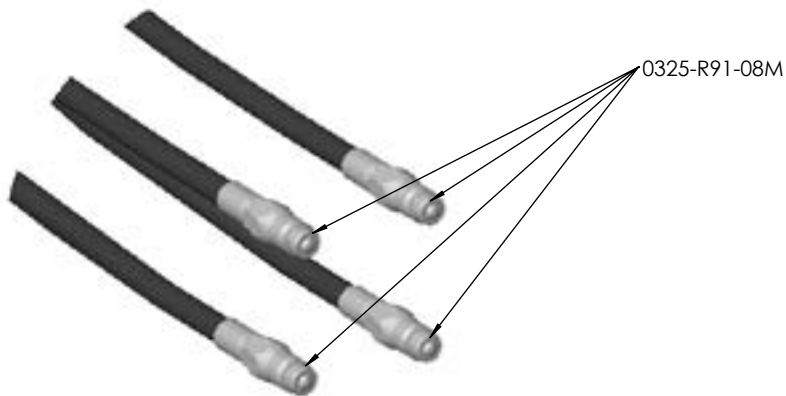
**DETAIL S**



**DETAIL T**  
**Reverse View**



**DETAIL U**  
**Reverse View**

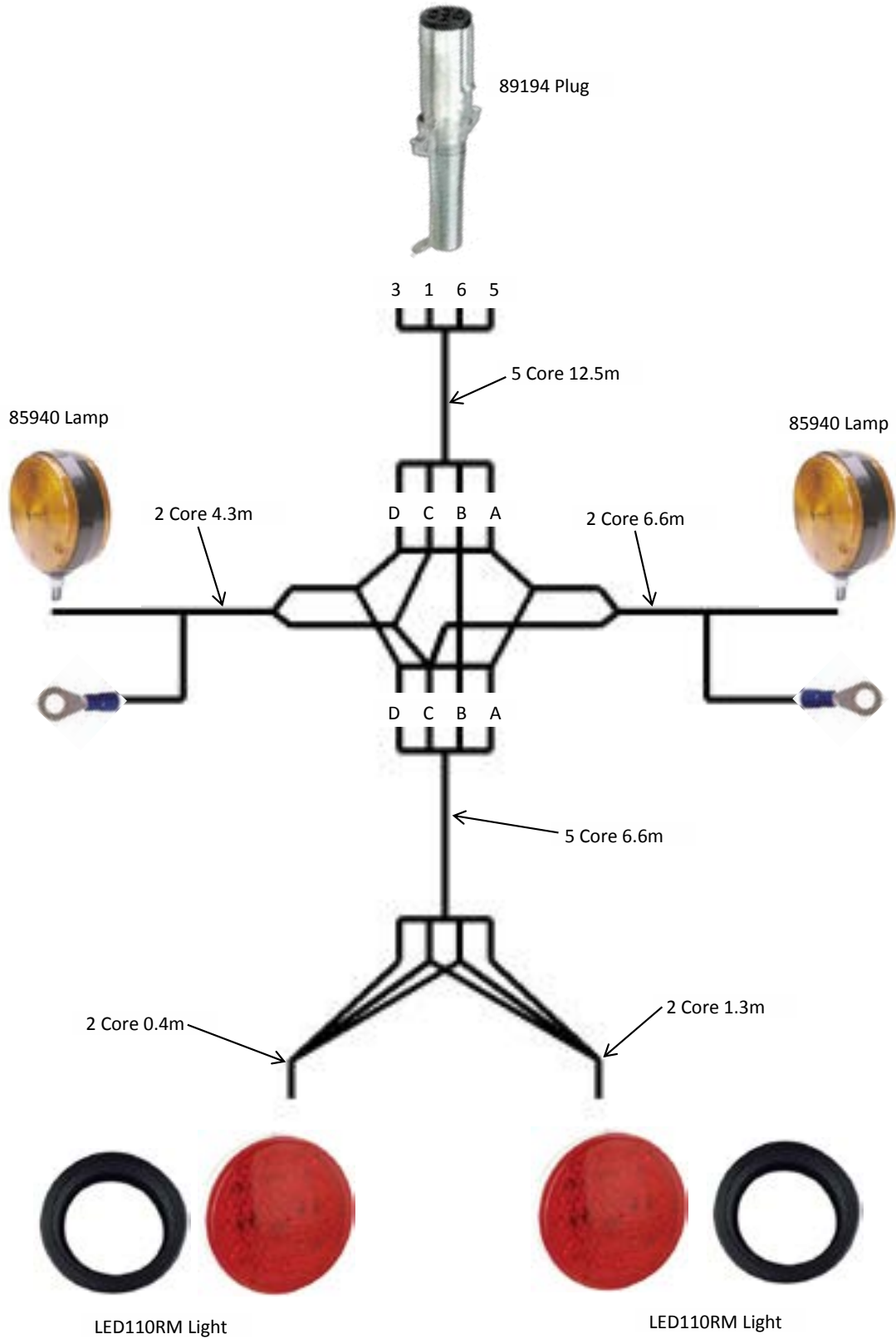


**DETAIL V**  
**Reverse View**

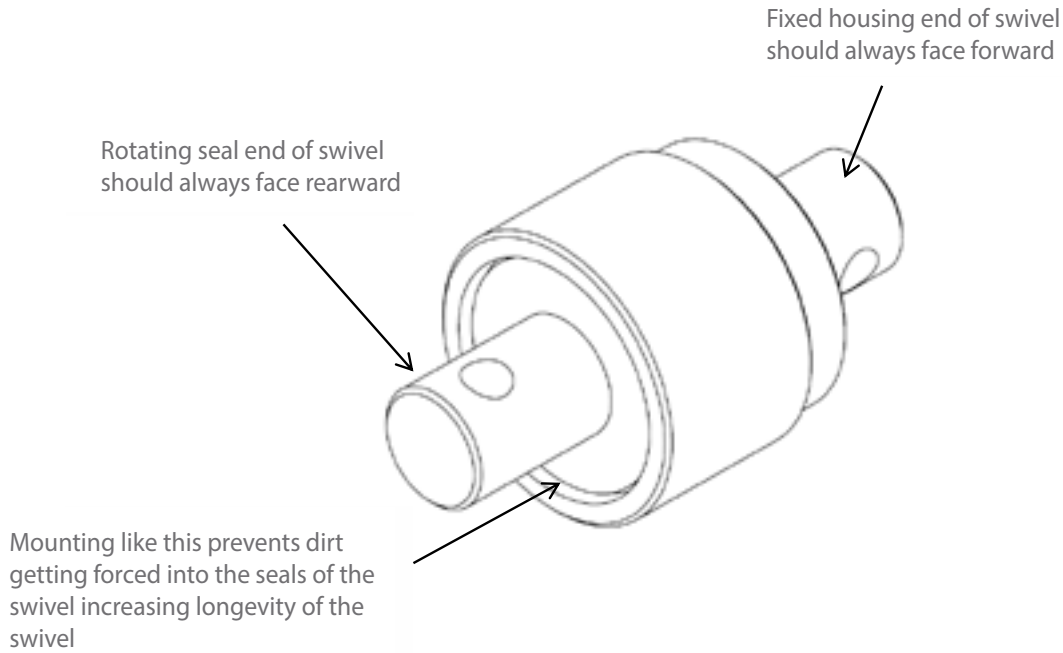
# Section 4

## Diagrams and charts

# Wiring diagram

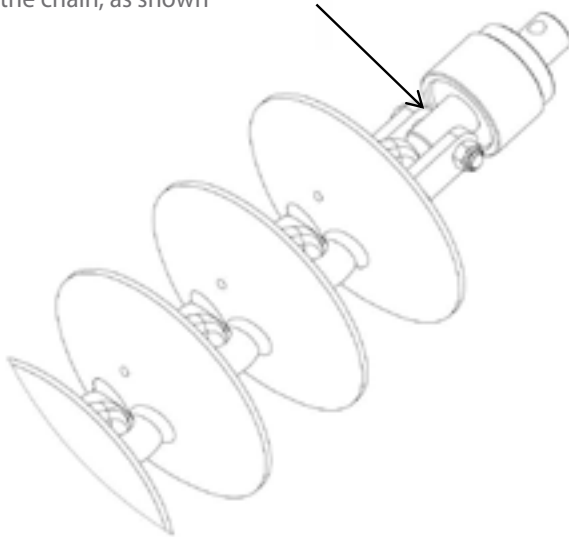


# Mounting swivels

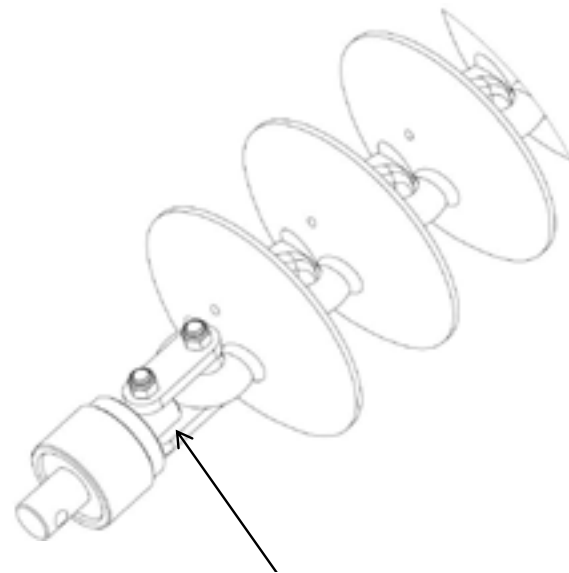


For example

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



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

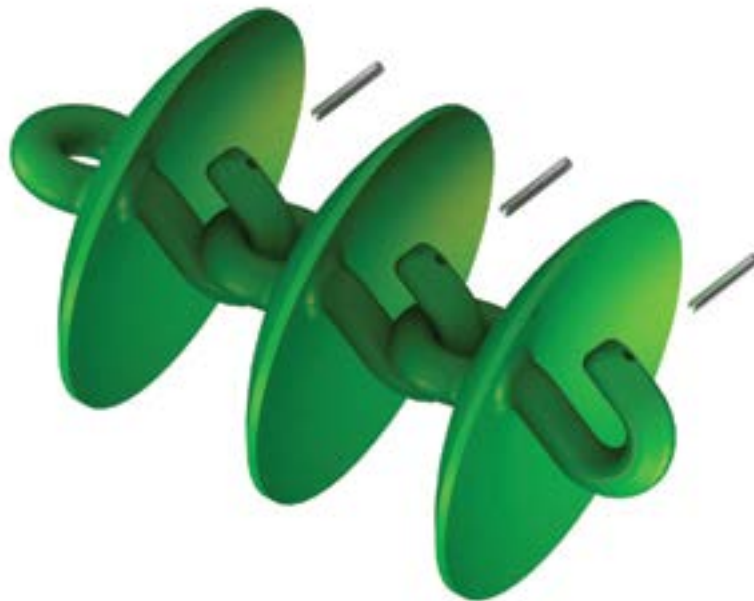




## Fitting cast link retaining pins

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

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



## Operating speeds

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

## Tire pressure

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

## Chain Harrow specifications

| Model            | 62'/18m    | 65'        |
|------------------|------------|------------|
| Working width    | 62'/18.3m  | 62'/18.3m  |
| Transport width  | 17'/5.2m   | 16.3'/5.0m |
| Transport height | 14.6'/4.5m | 14.6'/4.5m |
| Transport length | 72'/22.0m  | 72'/22.0m  |

## Bolt Torque Settings

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

[1] When fitting a wheel & tire to a hub, do the wheel nuts up in rotation to the correct tension. To achieve this choose a wheel nut & tighten, then go 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.

## Disc Chain lengths

| <b>Model 60CT/62</b> | <b>Length</b> | <b>W36</b> | <b>Chain type</b> |             |
|----------------------|---------------|------------|-------------------|-------------|
|                      |               |            | <b>CL1</b>        | <b>R300</b> |
| Front right          | 38.7'/11.8m   | 70         | 71                | 93          |
| Front left           | 38.7'/11.8m   | 70         | 71                | 93          |
| Rear right           | 44.3'/13.5m   | 80         | 81                | 106         |
| Rear left            | 38.7'/11.8m   | 70         | 71                | 93          |
| Modules front        | 10.3'/3.15m   | 18         | 19                | 25          |
| Modules rear         | 10.3'/3.15m   | 18         | 19                | 25          |

# **Section 5**

## Operation

## Basic Operation

### Unfolding:

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

### Folding:

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

## Setting for correct chain tension

### Wings

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

See table below

### Spring Compression Length

| Model | inches | mm  |
|-------|--------|-----|
| 60    | 12.4   | 315 |

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



### Modules

Loosen the lock nut on the draw bolt.

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

Retighten the lock nut.

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



### Importance of chain tension

#### Operational

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

Loose chains lead to :

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

**A correctly adjusted machine will not cause this phenomenon.**

## Settings for correct working height

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

### Adjustment

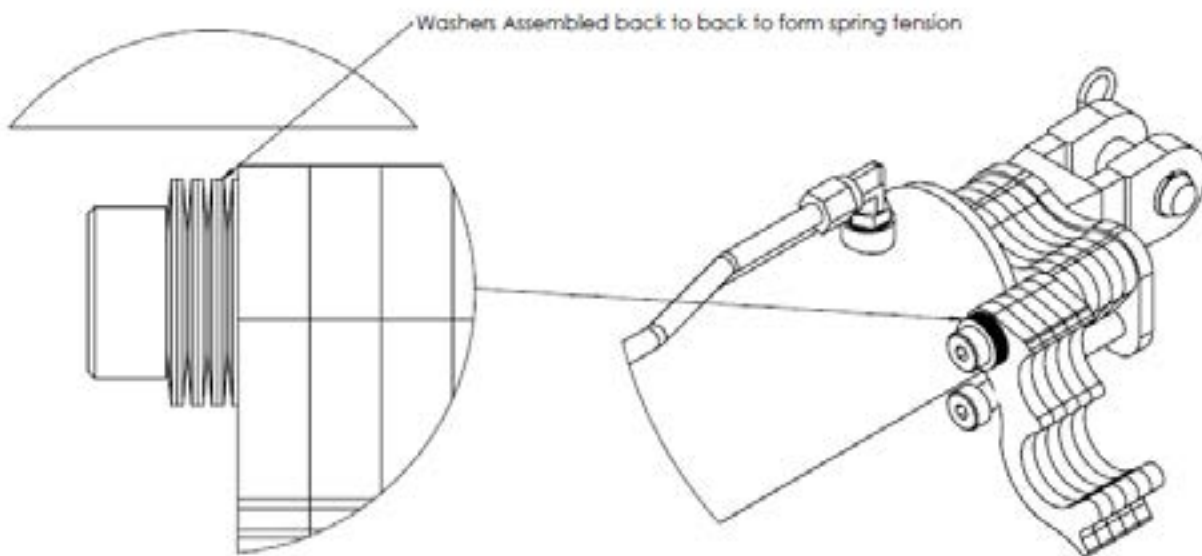
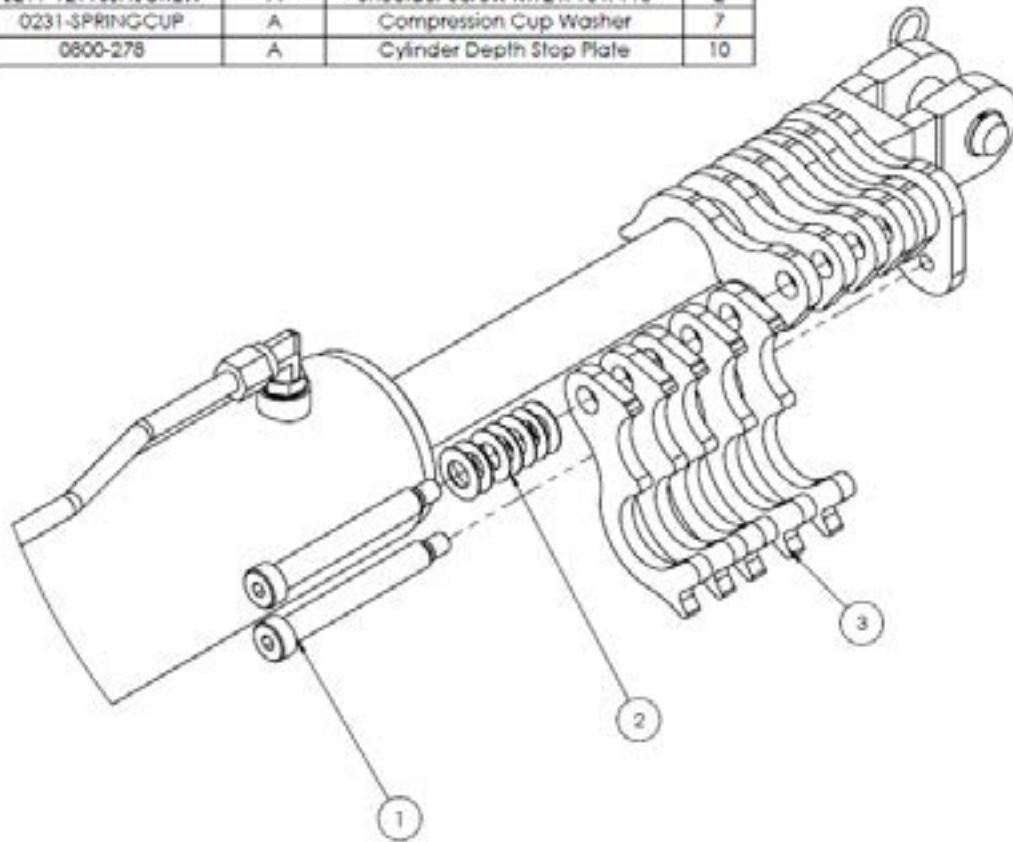
|   |   |
|---|---|
| 1 | Loosen chain tension completely   |
| 2 | Undo self tapping screw from corresponding spacer then prise open the spacer and spring it off of the drop leg tube |
| 3 | Replace it in the selected position after raising or lowering the drop leg  |
| 4 | Reinstall the self tapping screw and re-tension the chain   |

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



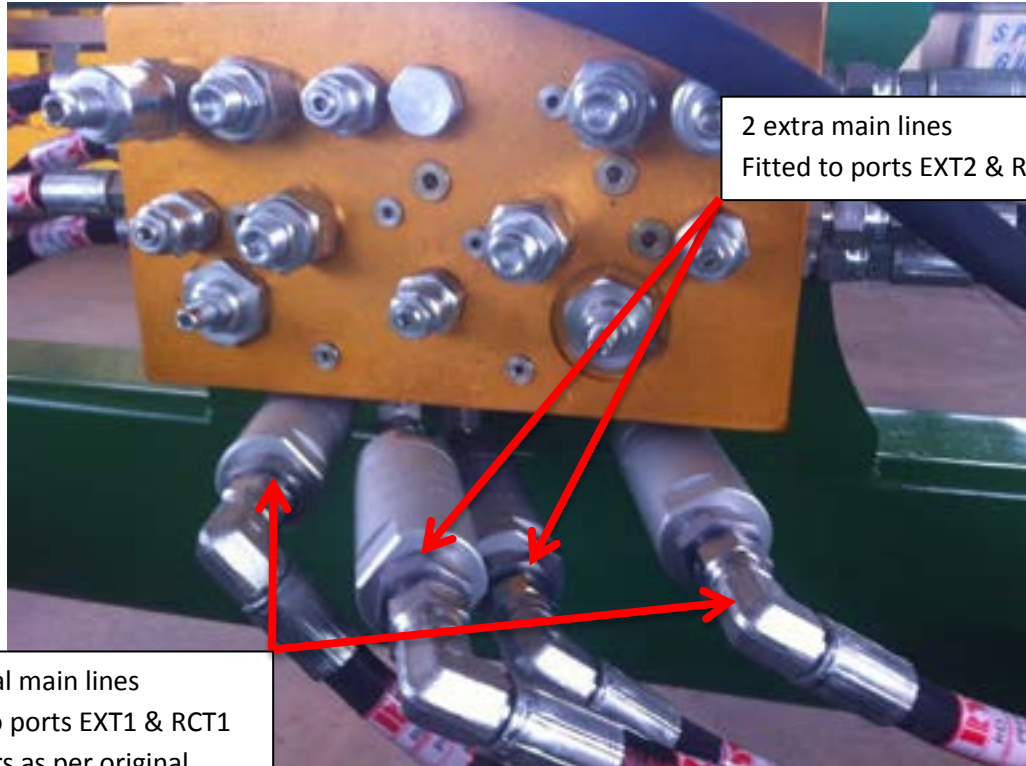
## Front Cylinder Depth Stop

| ITEM NO. | PART NUMBER       | Revision | DESCRIPTION                   | QTY. |
|----------|-------------------|----------|-------------------------------|------|
| 1        | 0211-12110SHSCREW | A        | Shoulder Screw M12 x 16 x 110 | 2    |
| 2        | 0231-SPRINGCUP    | A        | Compression Cup Washer        | 7    |
| 3        | 0800-278          | A        | Cylinder Depth Stop Plate     | 10   |





## Hydraulic Valve Block



2 extra main lines  
Fitted to ports EXT2 & RCT2

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



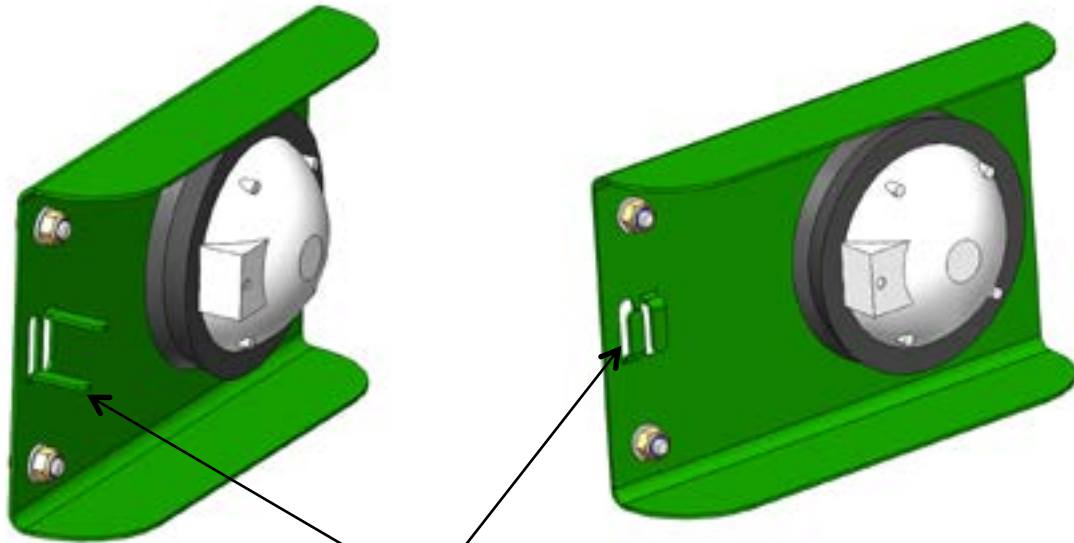
Extra stack clamp added to  
mount extra main lines to  
existing main lines



New hose mount post with  
extra storage points

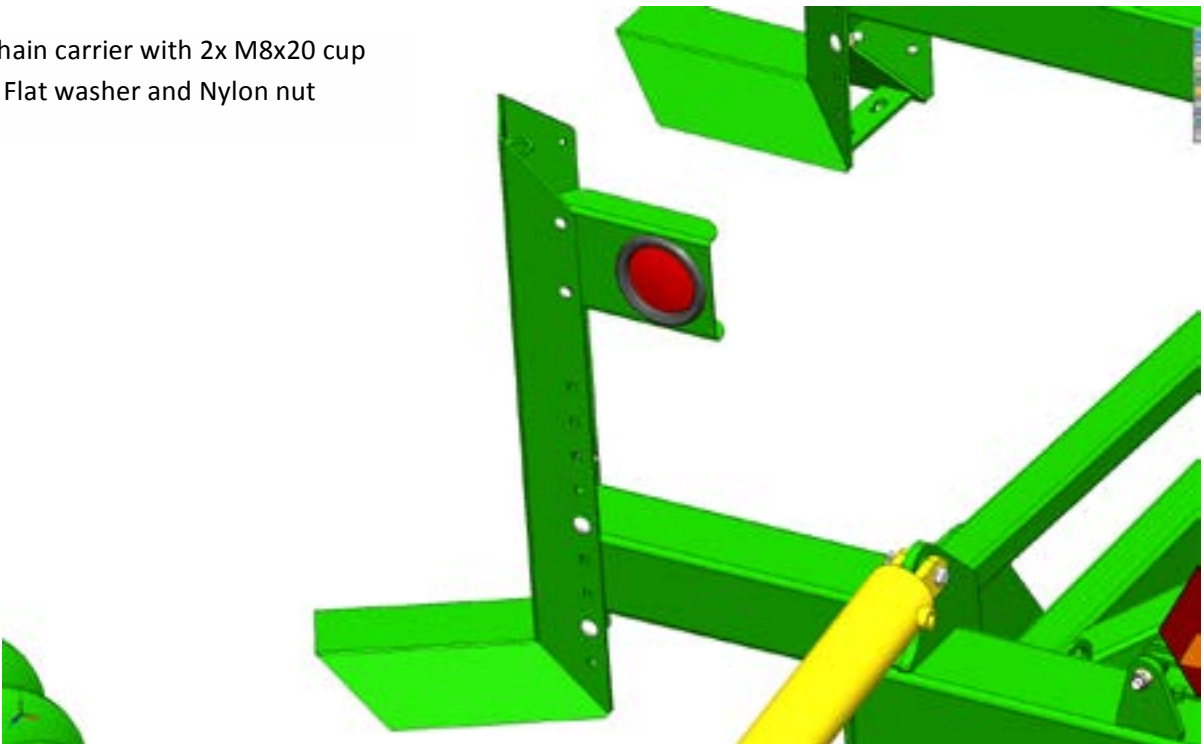


## Rear Light Brackets

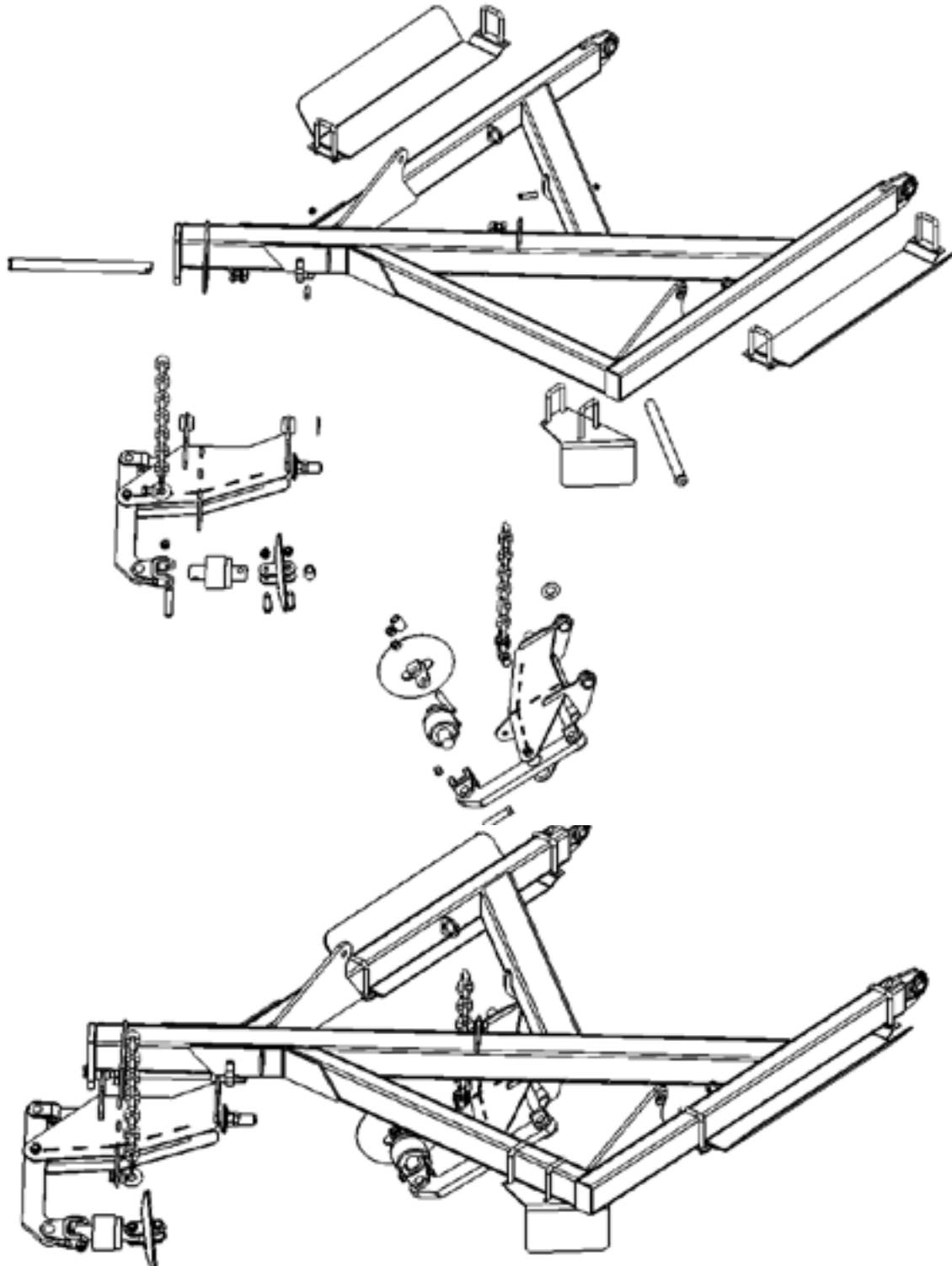


Please ensure to bend tabs up and feed wire through, so the light cable is secure

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



## Chain Tensioners on Rear Tail

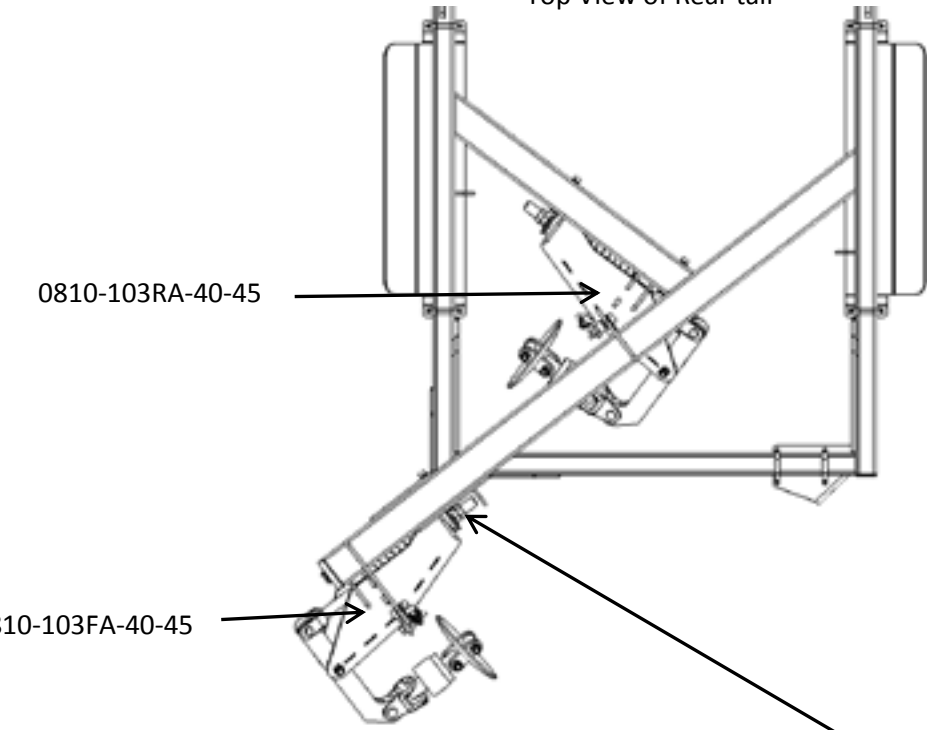


### Chain Tensioners on Rear Tail

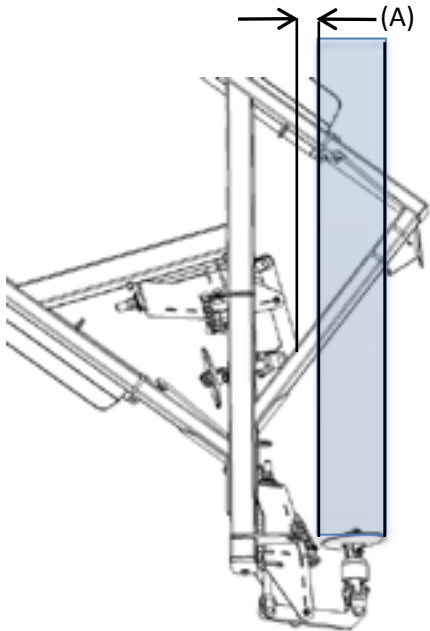
Top View of Rear tail

0810-103RA-40-45

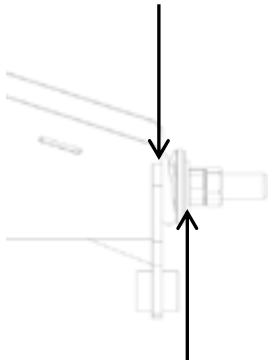
0810-103FA-40-45



Caution- Do not let arm protrude back in line with the RHR chain as it may interfere with the chain.

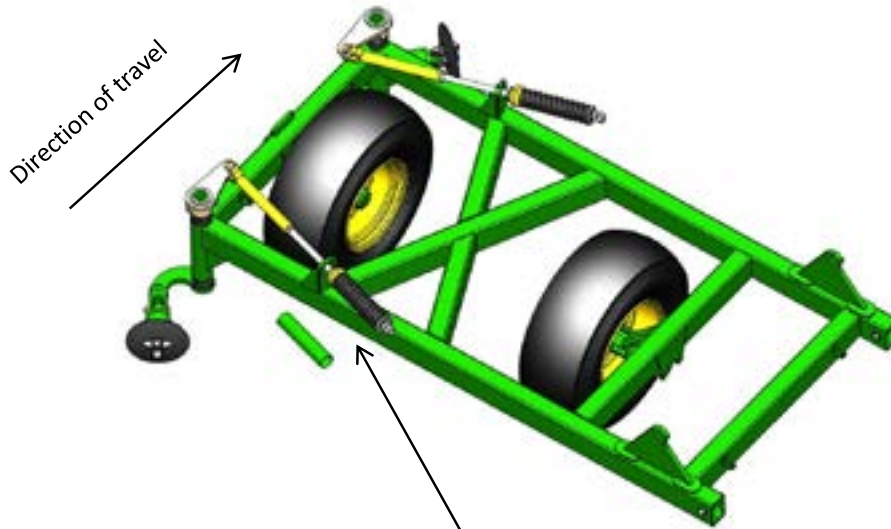


- (A) -Ensure chain length and tension is correct.
- Tighten wing adjustor to provide clearance at (A)



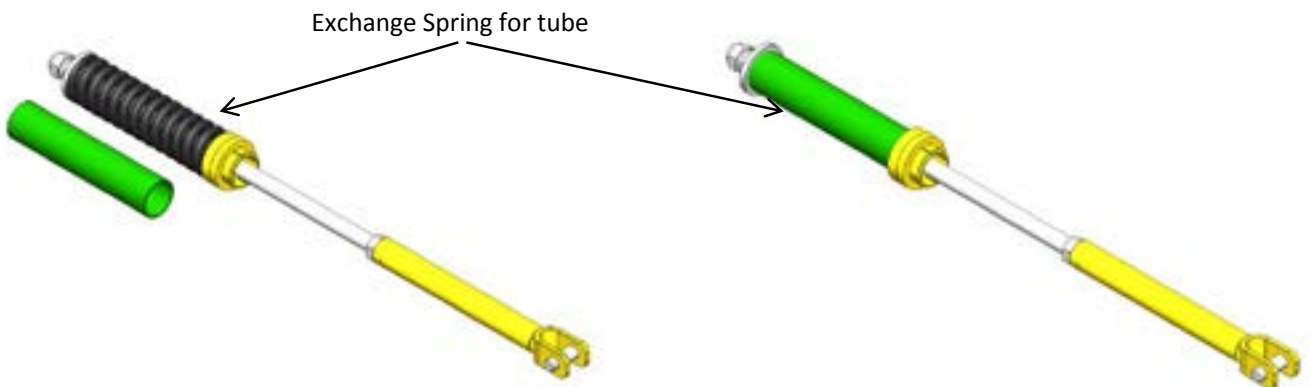
Tighten adjusting bolt until outer face of the spring retaining bush is flush with end of the tension box.

## Chain Tensioners on Rear Tail



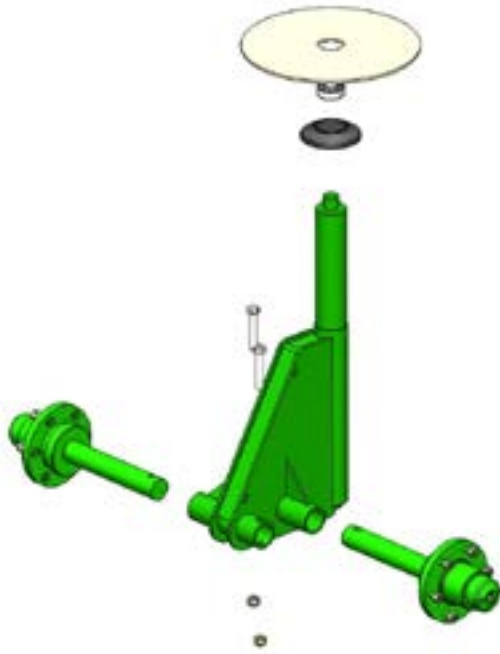
Please note-Exchange the spring for Part no 0801-PCHTA-FB, on rear of both outer wings only.

When fitting the Chain tension boxes on the rear tail the outer wing drop leg becomes fixed. The existing spring is used on the tension box on the rear tail.





## Brake Disc Collar (Revision B)



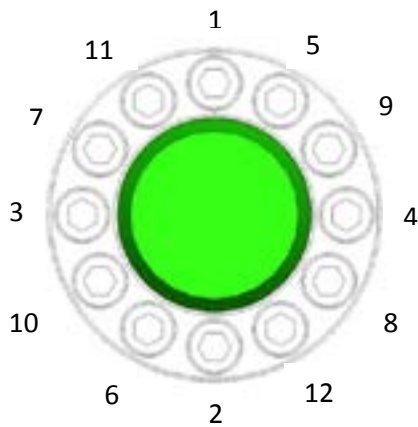
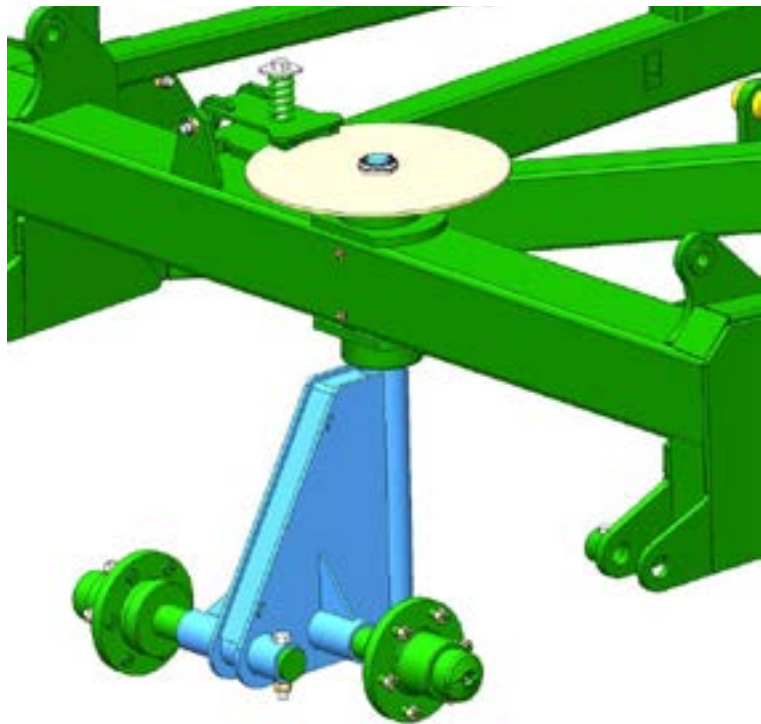
Slide shaft of jockey wheel up through both bearings.

Place black dust cover onto top bearing.

Slide disc brake into the calliper and over the top of jockey wheel.

Ensure when unscrewing bolts to fit collar over that some thread is still engaged otherwise you will not be able to screw bolt in.

Slide collar over shaft and inside the brake disc hole.



Tighten in a cross pattern, Bring all bolts up equally to 17Nm (12.54 Ft/Lbs) (caution if a single bolt is done up to tension there is a risk of the bolt breaking)

To undo, remove all bolts and gently tap collar with a hammer and collar should become loose.

## Correct Hose Attachment

Please note that when attaching hoses to sequence valve block to check that hoses are connected to the correct port.

Ports with CE, LE or RE are extend ports (the E denotes Extend) and hoses connected to these must go to the rear end of the cylinder.

Ports with CR, LR or RR are retract ports (the R denotes Retract) and hoses connected to these must go to the rod end of the cylinder.



## Thank you for choosing a Kelly Engineering product

We hope this manual proved to be clear and easy to follow, however feel free to contact our company for customer support.

Parts can be purchased when required through your local dealer, or by contacting either Kelly Engineering in Australia or in the US, Hood & Company Inc.

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### **Hood & Company Inc Springfield MO**

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## Notes

