

## Tillage System Model 46 Assembly Manual

Revision F - May 2019

Serial Number:

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### Thank you for choosing a Kelly Engineering product

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

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

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

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Email: hoodco@hoodco.com

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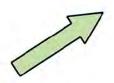
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This symbol indicates which bag the relevant fastners are in



This symbol indicates which bag the relevant hydraulics are in



This symbol indicates which way the machine is travelling

This document highlights the part numbers and locations of U-bolts to suit machines constructed of imperial sized steel tube.

Note: New machines will be supplied with the specific imperial sized U-bolt. Please use the specific imperial sized part number when ordering U-bolts as a spare part.

| 0271-12105104 | 0271-12107106U | U-Bolt M12 x 107 Deep x 106 Wide |
|---------------|----------------|----------------------------------|
| 0271-128077   | 0271-1287279U  | U-Bolt M12 x 82 Deep x 76 Wide   |
| 0271-16112104 | 0271-16114106U | U-Bolt M16 x 114 Deep x 106 Wide |
| 0271-16160127 | 0271-16162129U | U-Bolt M16 x 162 Deep x 129 Wide |
| 0271-1616077  | 0271-1616779U  | U-Bolt M16 x 190 Deep x 106 Wide |
| 0271-16185104 | 0271-16190106U | U-Bolt M16 x 190 Deep x 106 Wide |
| 0271-168577   | 0271-168779U   | U-Bolt M16 x 87 Deep x 79 Wide   |

### **Bolt Torque Settings**

| Bolt Type        |     | Whee | el nut |       |     | U Bolt | :   |     | Grad | 8.8 ab | Bolt |     | Gra<br>10.9 | ade<br>Bolt | Grade<br>8 Bolt |
|------------------|-----|------|--------|-------|-----|--------|-----|-----|------|--------|------|-----|-------------|-------------|-----------------|
| <b>Bolt Size</b> | M18 | M20  | 1/2"   | 9/16" | M10 | M12    | M16 | M10 | M12  | M16    | M20  | M24 | M20         | M24         | 1" UNF          |
| Ft lb            | 255 | 265  | 90     | 100   | 22  | 36     | 55  | 32  | 48   | 140    | 190  | 270 | 300         | 350         | 849             |
| Nm               | 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 rotation to the correct tension. To achieve this choose a wheel nut & tighten, then proceed clockwise to the next wheel nut & tighten & so on until all wheel nuts are tight. Then repeat the procedure to check that all nuts are tight. Do not use impact tools to tighten wheel nuts. For a guide to the correct tension of the wheel nuts please use the appropriate tension for your size wheel nuts from the Bolt Torque Settings table.

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

# Section 1 Unpacking





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



#### **CAUTION**

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



#### **CAUTION**

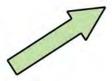
To avoid falling or moving components, before cutting straps attach slings or chains to individual pieces and only cut the straps holding the piece to be lifted.

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

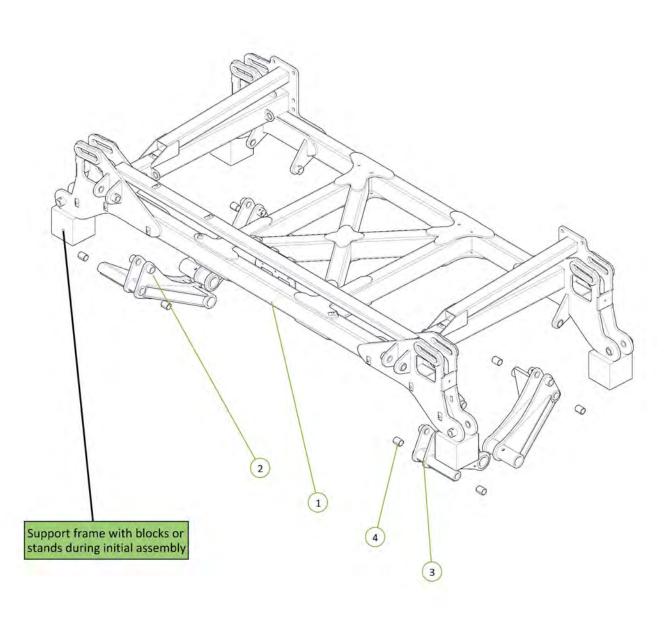
## Section 2 Parts & Assembly

# Please note For machines that are part-assembled on delivery, ensure walking axle linkage is installed (page 11), then start from page 23

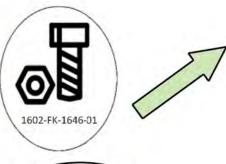
| Item No. | Description           | Qty | Number         |
|----------|-----------------------|-----|----------------|
| 1        | 46' Centre Frame      | 1   | 1646-01        |
| 2        | LH Walking Axle Arm   | 2   | 1610-30        |
| 3        | RH Walking Axle Arm   | 2   | 1610-31        |
| 4        | 1-1/2 ID x 2" DU Bush | 8   | 0113-MB 24DU32 |

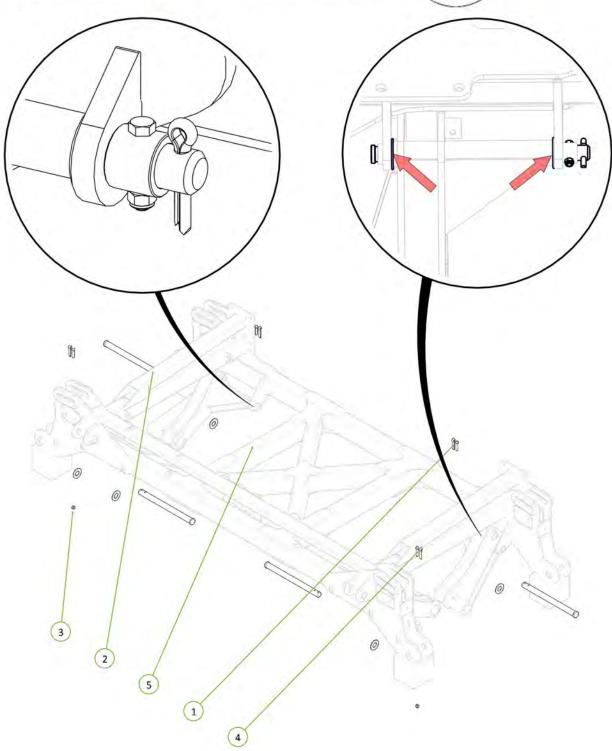


Please note bushes are factory inserted

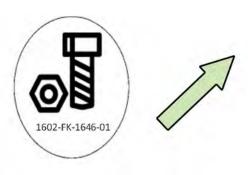


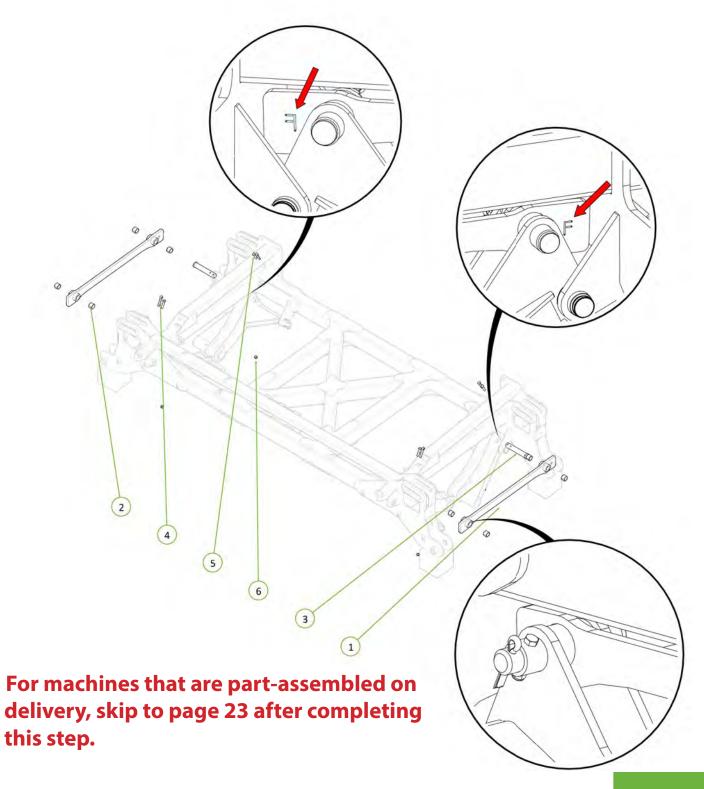
| Item No. | Description                | Qty | Number        |
|----------|----------------------------|-----|---------------|
| 1        | Cotter Pin M13 x 63        | 4   | 0261-PINC1363 |
| 2        | Walking Axle Pivot Pin     | 4   | 1601-P38-525  |
| 3        | Nyloc Nut M12              | 4   | 0221-NYL12    |
| 4        | M12 x 65 grade 8.8 ZP Bolt | 4   | 0211-1265     |
| 5        | Washer High Tensile 1 3/8" | 8   | 0232-HT11-2   |





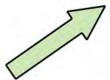
| Item No. | Description                    | Qty | Number         |
|----------|--------------------------------|-----|----------------|
| 1        | Walking Axle Linkage           | 2   | 1610-33        |
| 2        | 1-1/2 ID x 1-1/4mm DU Bush     | 8   | 0113-MB 24DU20 |
| 3        | Walking Axle Linkage Pivot Pin | 4   | 1601-P38-220   |
| 4        | Cotter Pin M13 x 63            | 4   | 0261-PINC1363  |
| 5        | M12 x 65 grade 8.8 ZP Bolt     | 4   | 0211-1265      |
| 6        | Nyloc Nut M12                  | 4   | 0221-NYL12     |

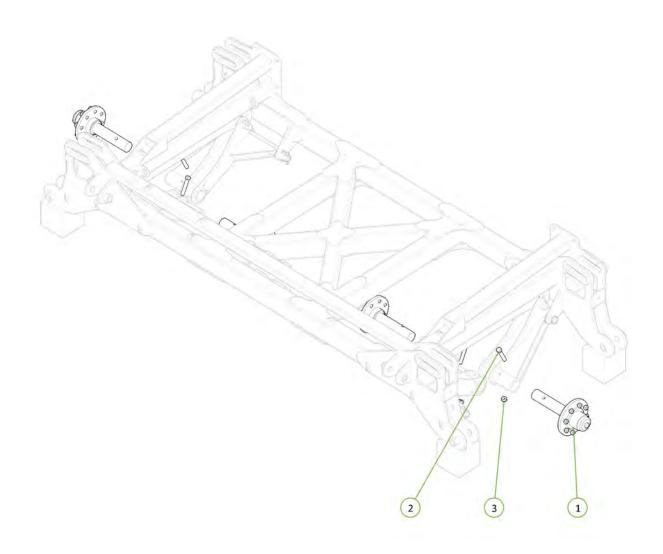




| Item No. | Description                                      | Qty | Number          |
|----------|--|-----|-----------------|
| 1        | 2.75"R C/W 6 tonne 8 on 8" PCD Complete Assembly | 4   | 0733-SH27596880 |
| 2        | M20 x 120 grade 8.8 ZP Bolt                      | 4   | 0211-20120      |
| 3        | Nyloc Nut M20                                    | 4   | 0221-NYL20      |

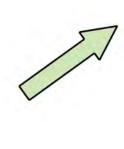


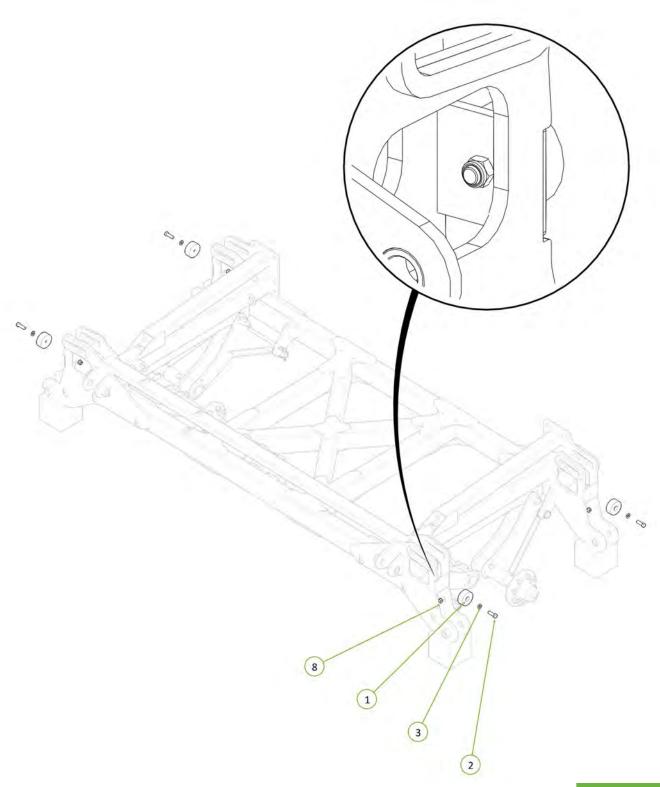




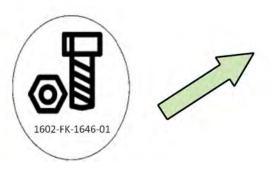
| Item No. | Description                | Qty | Number     |
|----------|----------------------------|-----|------------|
| 1        | Wing Folding Buffer        | 4   | 1201-12    |
| 2        | M16 x 55 grade 8.8 zp Bolt | 4   | 0211-1655  |
| 3        | Washer Flat M16            | 4   | 0231-F16   |
| 8        | Nyloc Nut M16              | 4   | 0221-NYL16 |

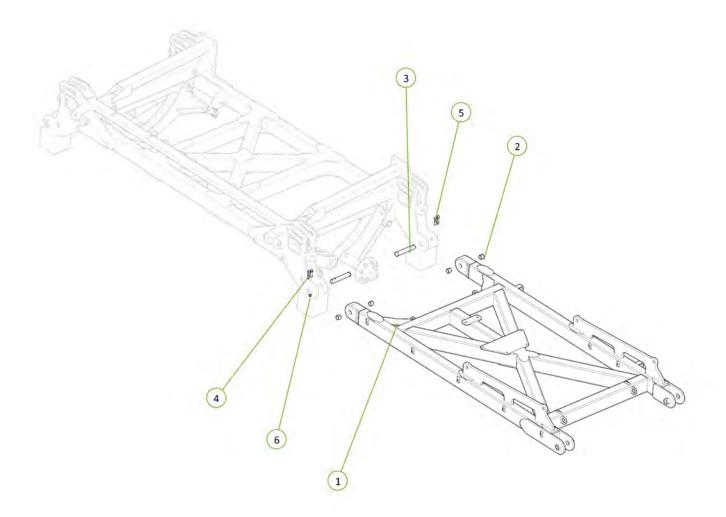




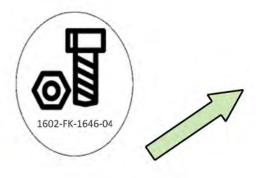


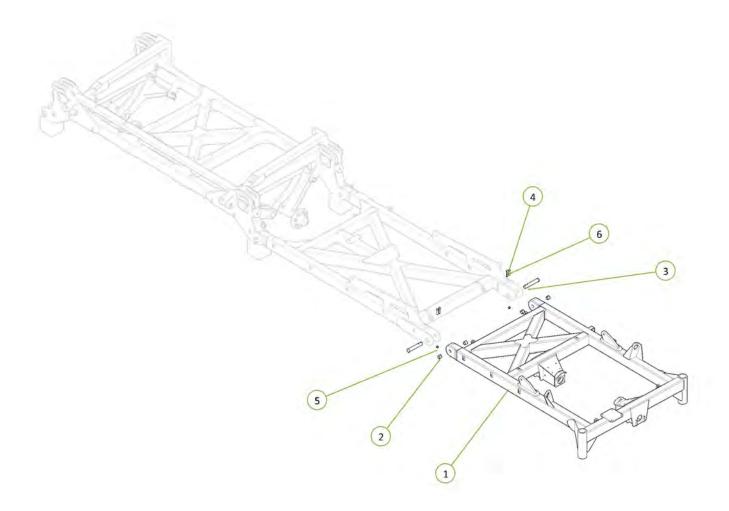
| Item No. | Description                | Qty | Number         |
|----------|----------------------------|-----|----------------|
| 1        | 46' RH Inner Wing Frame    | 1   | 1646-04        |
| 2        | 35 ID x 30mm DU Bush       | 4   | 0113-MB 3530DU |
| 3        | PCH Wing Pivot Pin         | 2   | 0801-10-08-235 |
| 4        | COTTER PIN M13 X 63mm      | 2   | 0261-PINC1363  |
| 5        | M12 x 65 grade 8.8 ZP Bolt | 2   | 0211-1265      |
| 6        | Nyloc Nut M12              | 2   | 0221-NYL12     |





| Item No. | Description                | Qty | Number         |
|----------|----------------------------|-----|----------------|
| 1        | 46' RH Outer Wing Frame    | 1   | 1646-06        |
| 2        | 35 ID x 30mm DU Bush       | 4   | 0113-MB 3530DU |
| 3        | PCH Wing Pivot Pin         | 2   | 0801-10-08-235 |
| 4        | COTTER PIN M13 X 63mm      | 2   | 0261-PINC1363  |
| 5        | Nyloc Nut M12              | 2   | 0221-NYL12     |
| 6        | M12 x 65 grade 8.8 ZP Bolt | 2   | 0211-1265      |

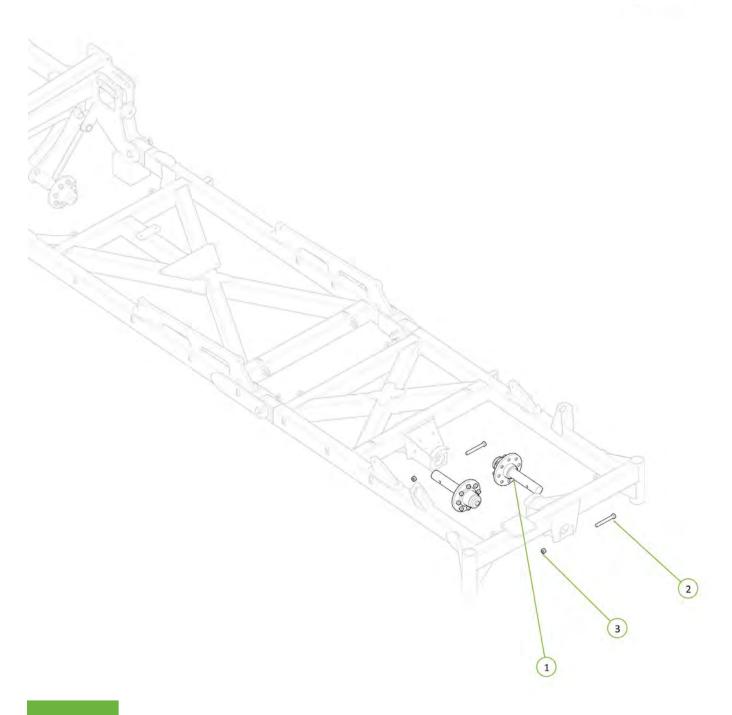




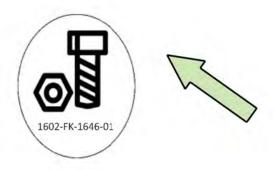
| Item No. | Description                                      | Qty | Number          |
|----------|--|-----|-----------------|
| 1        | 2.75"R C/W 6 tonne 8 on 8" PCD Complete Assembly | 2   | 0733-SH27596880 |
| 2        | M20 x 170 grade 8.8 ZP Bolt                      | 2   | 0211-20170      |
| 3        | Nyloc Nut M20                                    | 2   | 0221-NYL20      |

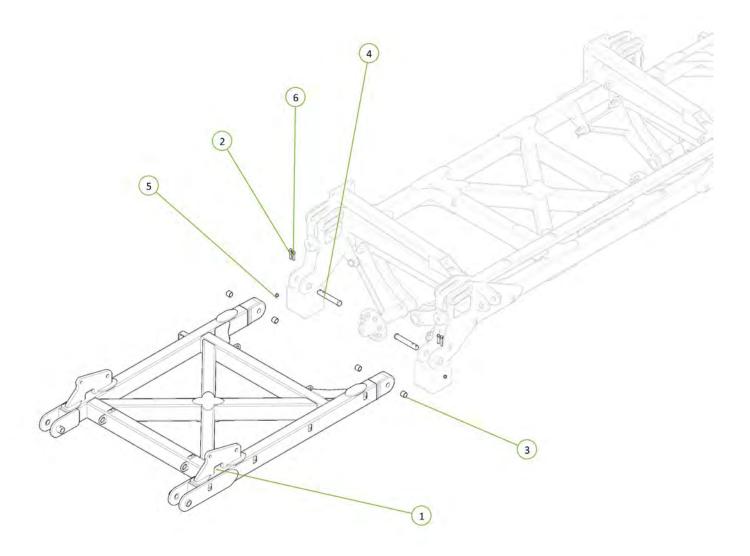






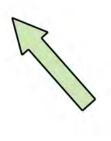
| Item No. | Description                | Qty | Number         |
|----------|----------------------------|-----|----------------|
| 1        | 46' LH Inner Wing Frame    | 1   | 1646-05        |
| 2        | Cotter Pin M13 x 63        | 2   | 0261-PINC1363  |
| 3        | 35 ID x 30mm DU Bush       | 4   | 0113-MB 3530DU |
| 4        | PCH Wing Pivot Pin         | 2   | 0801-10-08-235 |
| 5        | Nyloc Nut M12              | 2   | 0221-NYL12     |
| 6        | M12 x 65 grade 8.8 ZP Bolt | 2   | 0211-1265      |

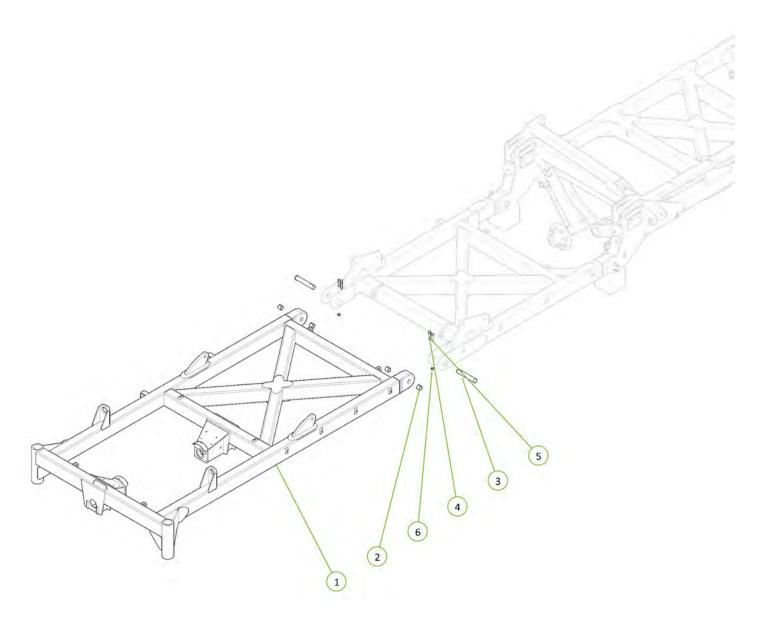




| Item No. | Description                | Qty | Number         |
|----------|----------------------------|-----|----------------|
| 1        | 46' LH Outer Wing Frame    | 1   | 1646-07        |
| 2        | 35 ID x 30mm DU Bush       | 4   | 0113-MB 3530DU |
| 3        | PCH Wing Pivot Pin         | 2   | 0801-10-08-235 |
| 4        | COTTER PIN M13 X 63mm      | 2   | 0261-PINC1363  |
| 5        | M12 x 65 grade 8.8 ZP Bolt | 2   | 0211-1265      |
| 6        | Nyloc Nut M12              | 2   | 0221-NYL12     |

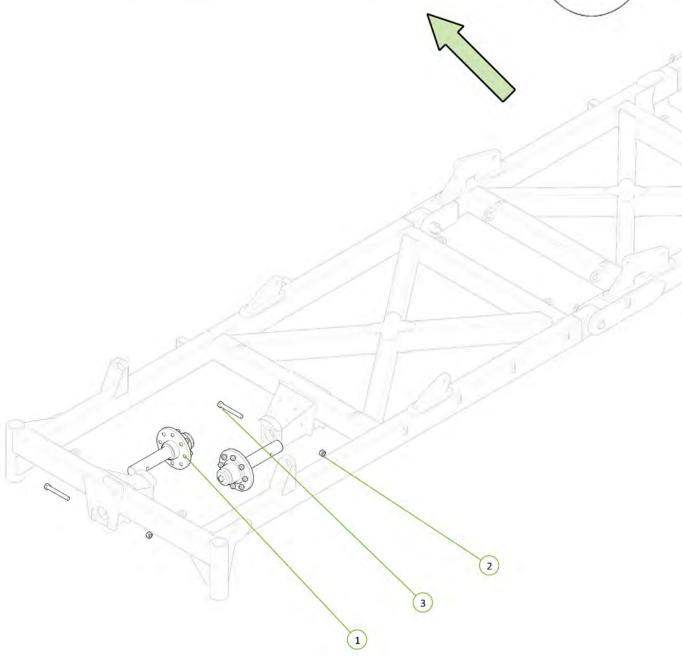






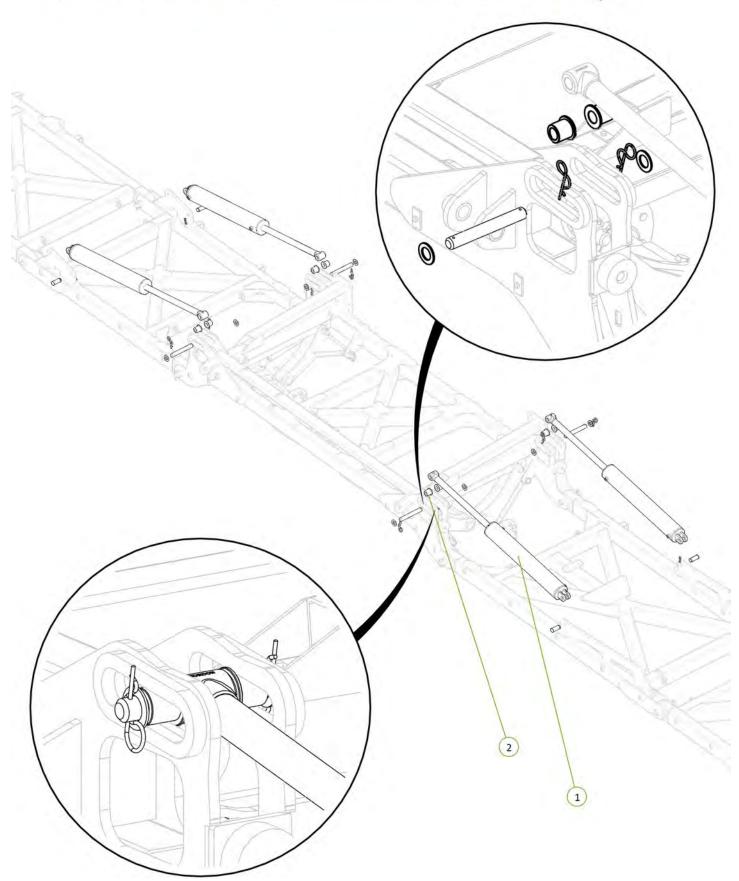
| Item No. | Description                                      | Qty | Number          |
|----------|--|-----|-----------------|
| 1        | 2.75"R C/W 6 tonne 8 on 8" PCD Complete Assembly | 2   | 0733-SH27596880 |
| 2        | Nyloc Nut M20                                    | 2   | 0221-NYL20      |
| 3        | M20 x 170 grade 8.8 ZP Bolt                      | 2   | 0211-20170      |



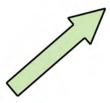


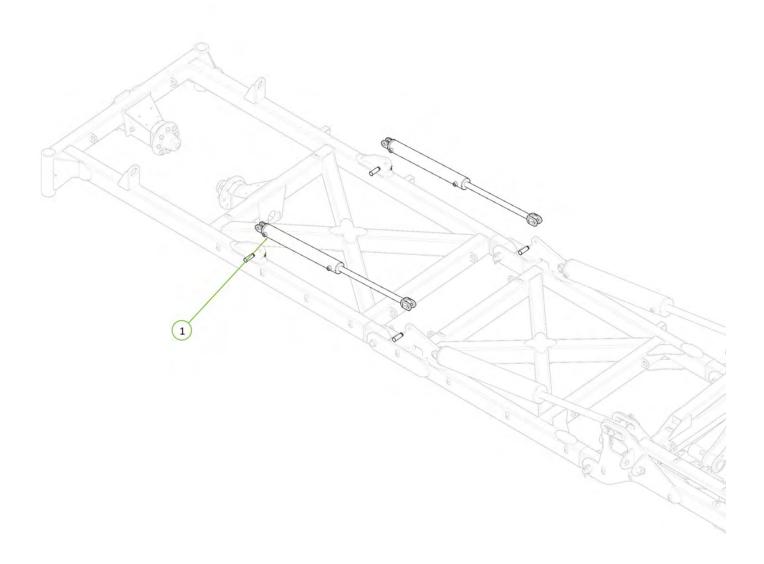
| Item No. | Description  | Qty | Number       |
|----------|--|-----|--------------|
| 1        | 5" Bore 30" Stroke 3 1/8" S/Tube 2" Rod Hydraulic Cylinder | 4   | 0311-530STSP |
| 2        | Long Cylinder Pin Bearing Bush                             | 8   | 1201-19      |



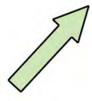


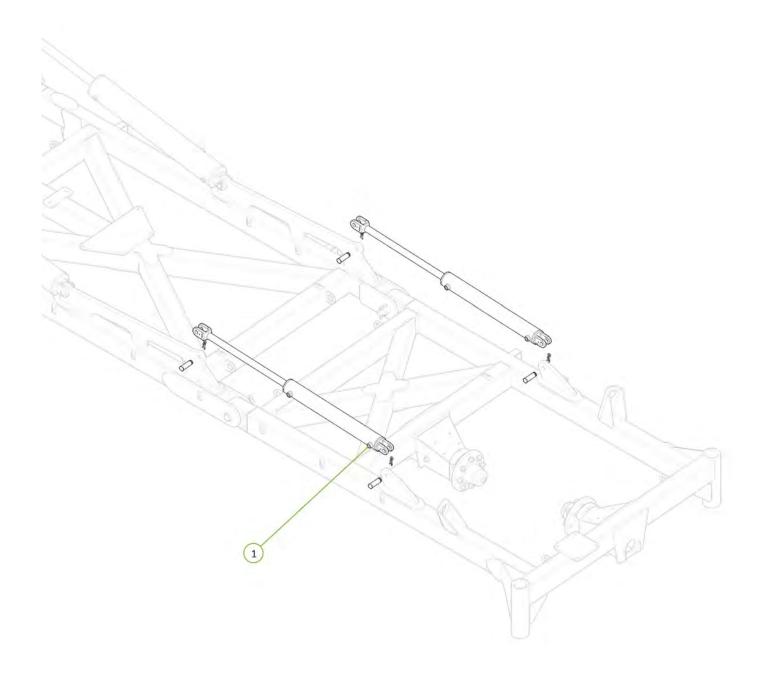
| Item No. | Description                                      | Qty | Number     |
|----------|--|-----|------------|
| 1        | 3" Bore x 24" Stroke 1.5" Rod Cylinder Side Port | 2   | 0311-324SP |



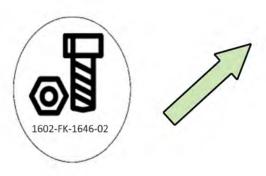


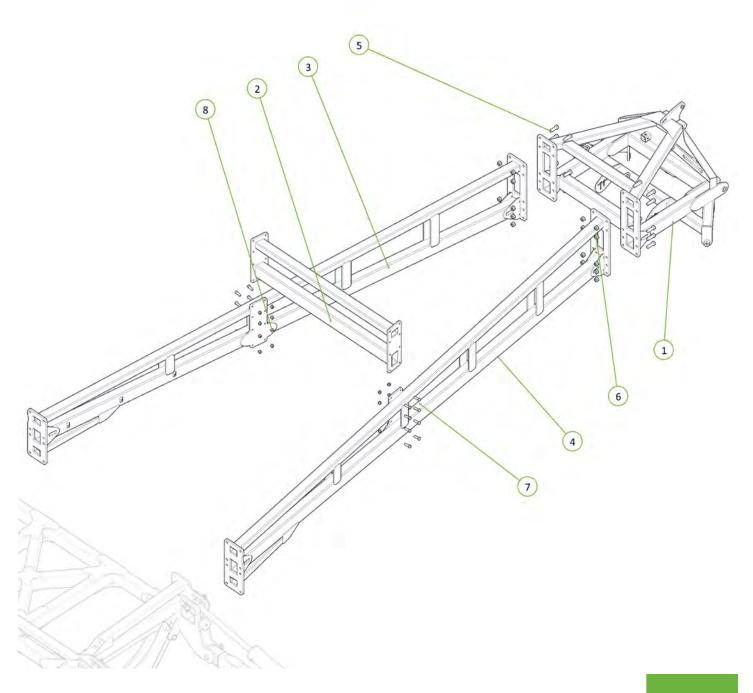
| Item No. | Description                                      | Qty | Number     |
|----------|--|-----|------------|
| 1        | 3" Bore x 24" Stroke 1.5" Rod Cylinder Side Port | 2   | 0311-324SP |





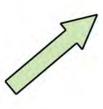
| Item No. | Description                           | Qty | Number     |
|----------|---------------------------------------|-----|------------|
| 1        | 46' Front A-Frame Front Section Frame | 1   | 1646-02F   |
| 2        | 46' Front A-Frame Brace Section Frame | 1   | 1646-02B   |
| 3        | 46' Front A-Frame LH Section Frame    | 1   | 1646-02L   |
| 4        | 46' Front A-Frame RH Section Frame    | 1   | 1646-02R   |
| 5        | M24 x 75 grade 8.8 zp Bolt            | 20  | 0211-2475  |
| 6        | Nyloc Nut M24                         | 20  | 0221-NYL24 |
| 7        | M16 x 55 grade 8.8 zp Bolt            | 16  | 0211-1655  |
| 8        | Nyloc Nut M16                         | 16  | 0221-NYL16 |

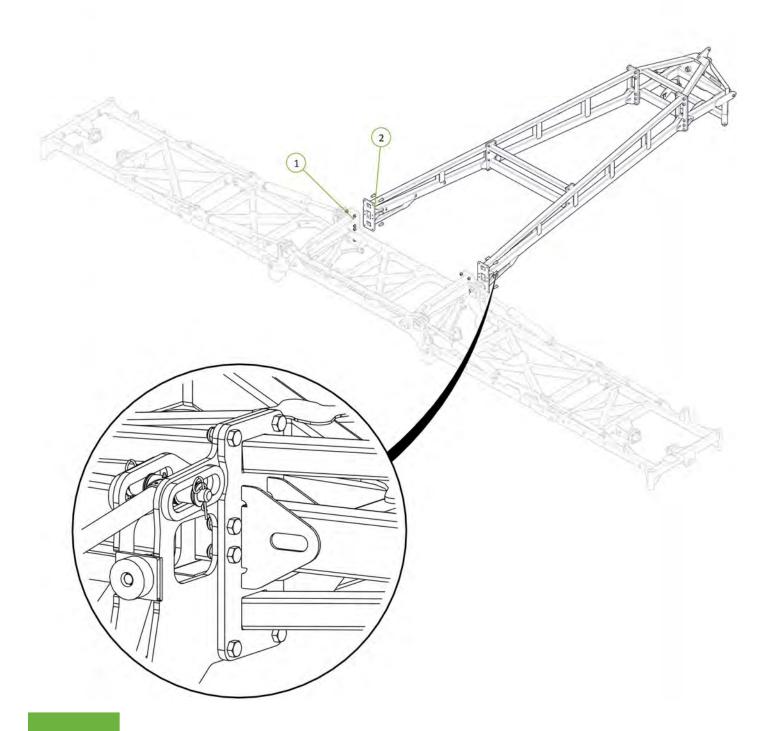




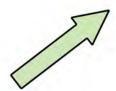
| Item No. | Description                | Qty | Number     |
|----------|----------------------------|-----|------------|
| 1        | Nyloc Nut M24              | 16  | 0221-NYL24 |
| 2        | M24 x 65 grade 8.8 zp Bolt | 16  | 0211-24    |

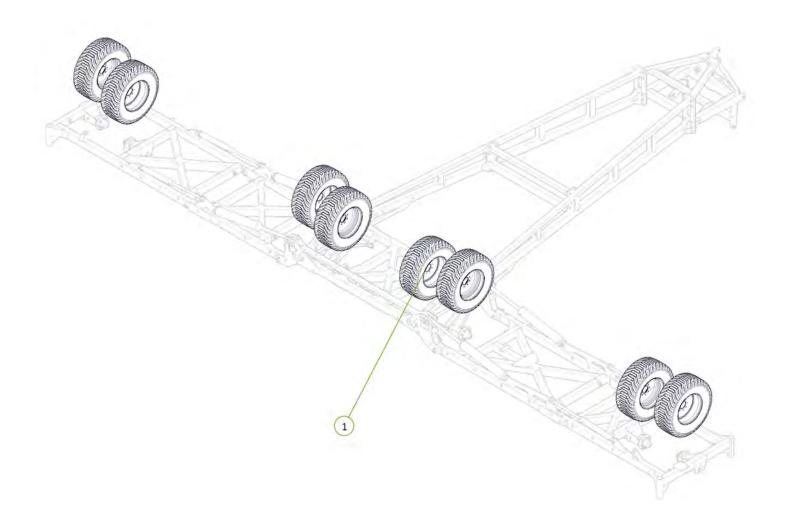






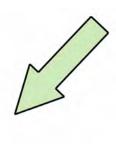
| Item No. | Description                         | Qty | Number             |
|----------|-------------------------------------|-----|--------------------|
| 1        | 400/60-22.5 Tyre on 8 on 8" PCD Rim | 8   | 0751-400-60-22.5TR |

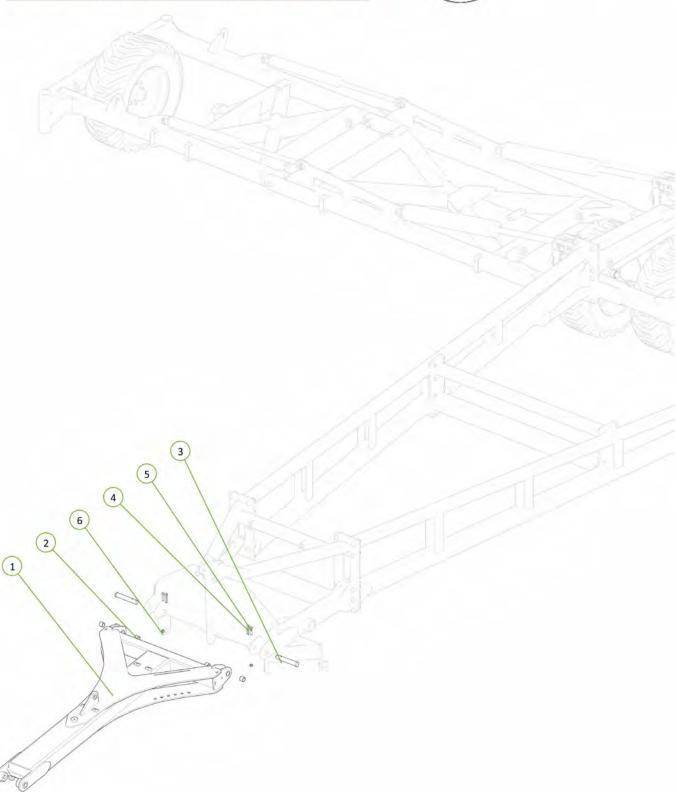




| Item No. | Description                | Qty | Number         |
|----------|----------------------------|-----|----------------|
| 1        | Drawbar                    | 1   | 1610-08        |
| 2        | 35 ID x 30mm DU Bush       | 4   | 0113-MB 3530DU |
| 3        | PCH Wing Pivot Pin         | 2   | 0801-10-08-235 |
| 4        | Cotter Pin M13 x 63        | 2   | 0261-PINC1363  |
| 5        | M12 x 65 grade 8.8 ZP Bolt | 2   | 0211-1265      |
| 6        | Nyloc Nut M12              | 2   | 0221-NYL12     |

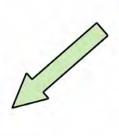


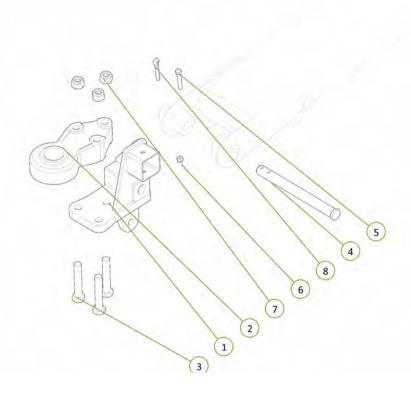




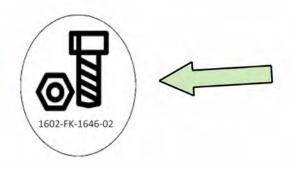
| Item No. | Description                                   | Qty | Number              |
|----------|---|-----|---------------------|
| 1        | Tow Hitch For Bull Pull Swivel Hitch          | 1   | 0810-09-BP          |
| 2        | Bull Pull Swivel Hitch CAT 4 wt 1-1/2' Insert | 1   | 0801-BPF-CAT-4JDF-2 |
| 3        | 1" UNF x 5-1/2" Grade 8 ZP Bolt               | 3   | 0213-1 51-2         |
| 4        | Drawbar Tow Hitch Pin                         | 1   | 1601-P35-370        |
| 5        | M12 x 75 grade 8.8 ZP Bolt                    | 1   | 0211-1275           |
| 6        | Nyloc Nut M12                                 | 1   | 0221-NYL12          |
| 7        | Nyloc Nut 1" UNF                              | 3   | 0223-NYL1           |
| 8        | Cotter Pin M13 x 63                           | 1   | 0261-PINC1363       |

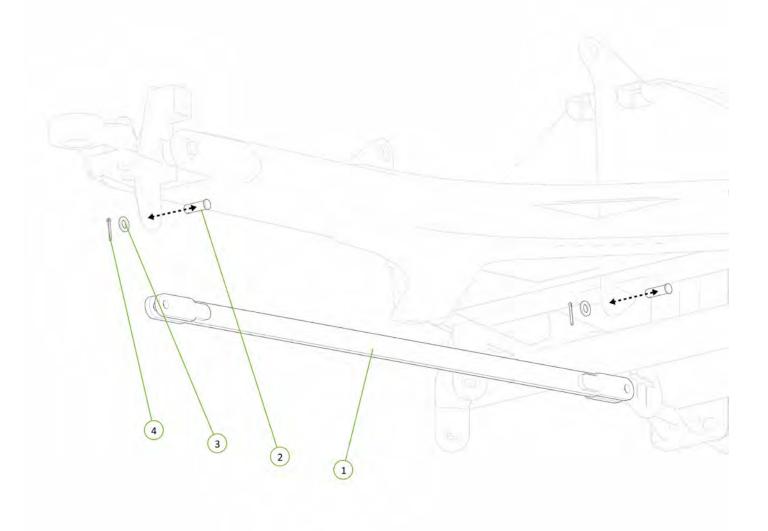






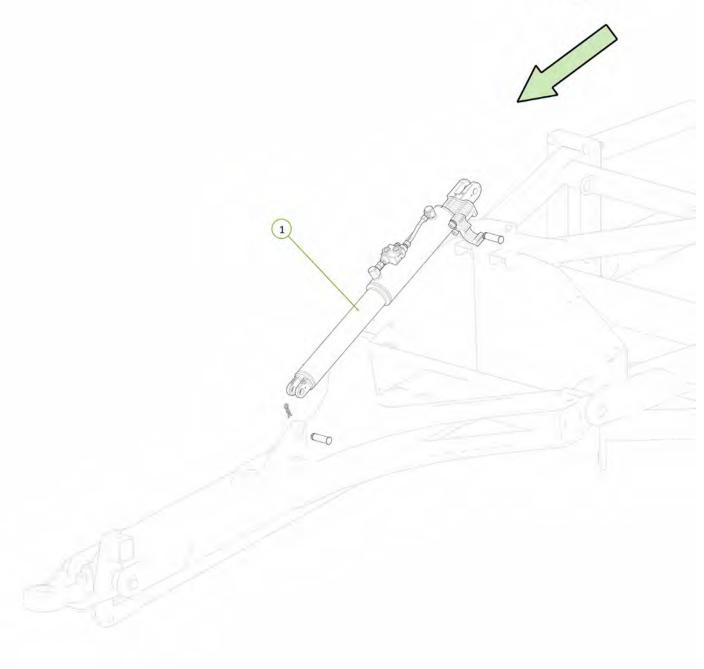
| Item No. | Description            | Qty | Number        |
|----------|------------------------|-----|---------------|
| 1        | Parallel Arm           | 1   | 1610-22       |
| 2        | Clevis Pin 25mm x 75mm | 2   | 0801-KE0307-1 |
| 3        | Washer Flat M24        | 2   | 0231-F24      |
| 4        | Cotter Pin M6 x 50mm   | 2   | 0261-PINC650  |





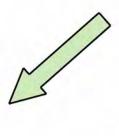
| Item No. | Description  | Qty | Number      |
|----------|--|-----|-------------|
| 1        | 4" Bore 12" Stroke 1.75" Rod Extended Hydraulic Cylinder | 1   | 0311-412EXT |

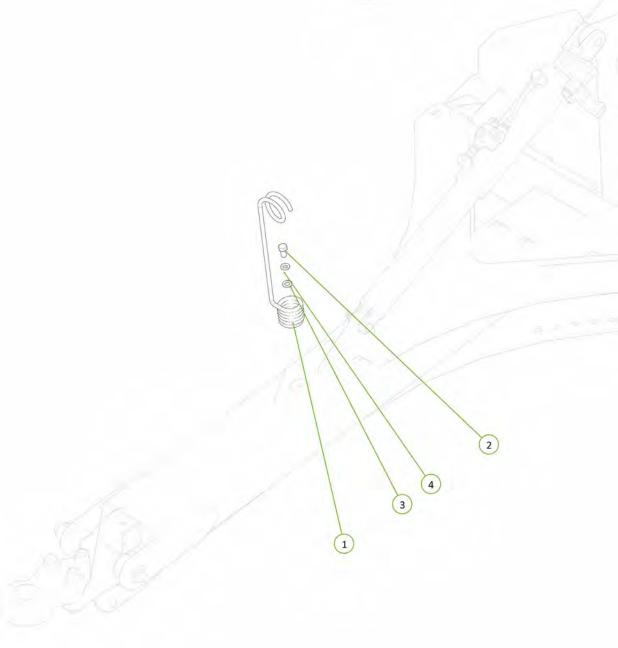




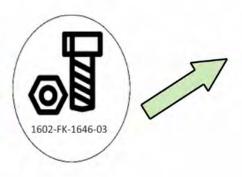
| Item No. | Description                | Qty | Number           |
|----------|----------------------------|-----|------------------|
| 1        | Hose Post Spring           | 1   | 1601-CDB-00-0012 |
| 2        | M16 x 35 grade 8.8 zp Bolt | 1   | 0211-1635        |
| 3        | Washer Flat M16    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

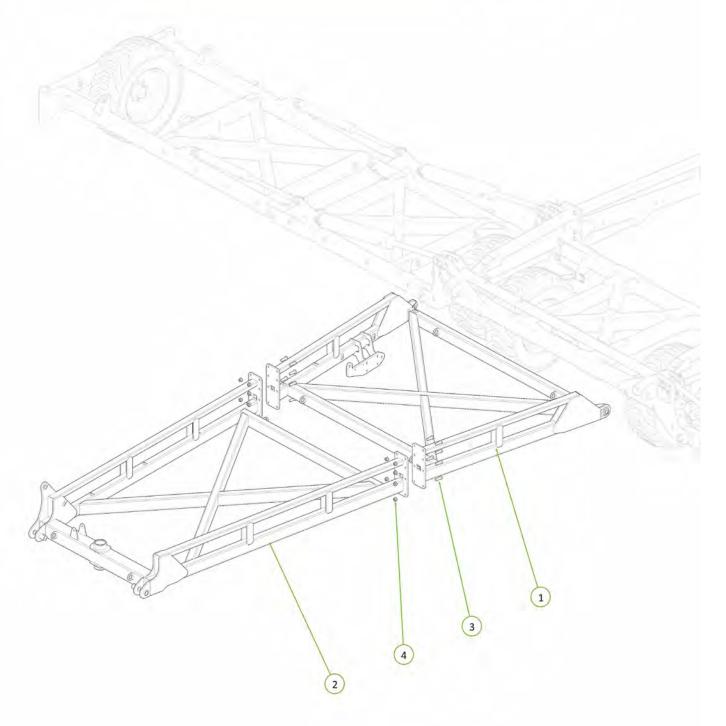






| Item No. | Description                               | Qty | Number     |
|----------|---|-----|------------|
| 1        | Rear A-Frame Front Section                | 1   | 1646-03-1  |
| 2        | Rear A-Frame Rear Section Single King Pin | 1   | 1646-03S-2 |
| 3        | M20 x 60 grade 8.8 ZP Bolt                | 16  | 0211-2060  |
| 4        | Nyloc Nut M20                             | 16  | 0221-NYL20 |

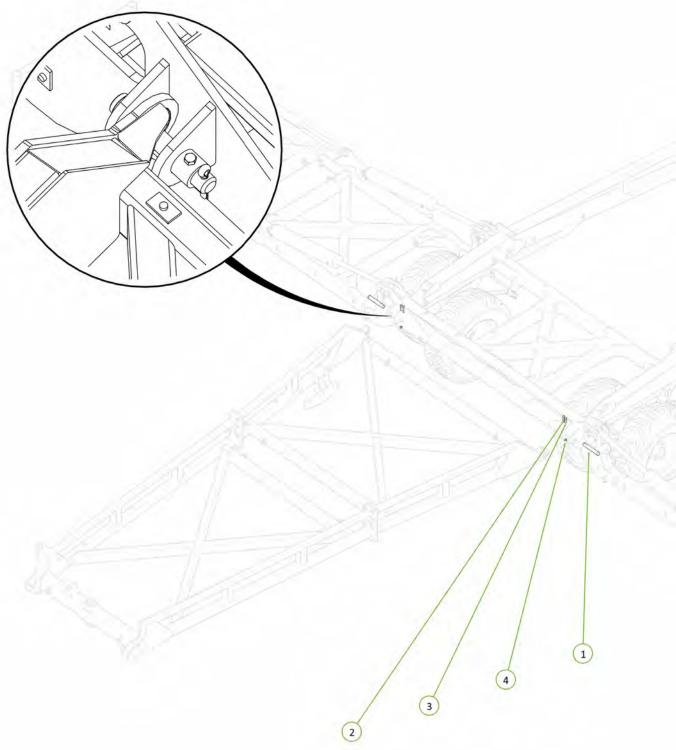




| Item No. | Description                | Qty | Number         |
|----------|----------------------------|-----|----------------|
| 1        | PCH Wing Pivot Pin         | 2   | 0801-10-08-235 |
| 2        | Cotter Pin M13 x 63        | 2   | 0261-PINC1363  |
| 3        | M12 x 65 grade 8.8 ZP Bolt | 2   | 0211-1265      |
| 4        | Nyloc Nut M12              | 2   | 0221-NYL12     |

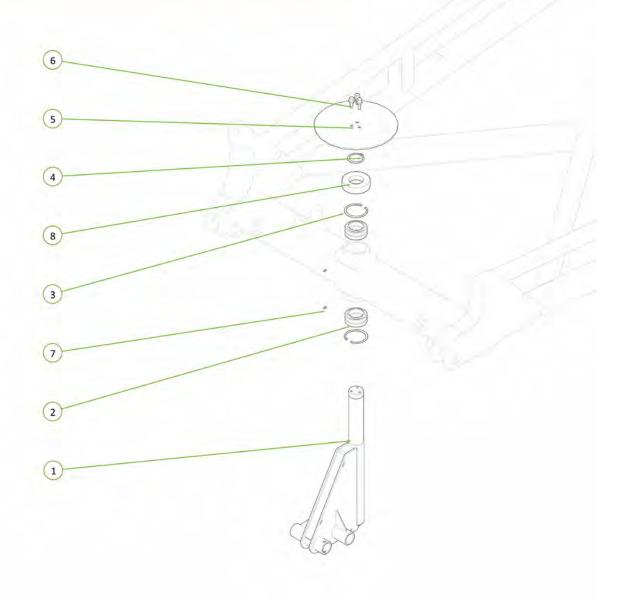


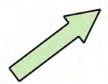




| Item No. | Description                                     | Qty | Number          |
|----------|---|-----|-----------------|
| 1        | Jockey Wheel                                    | 1   | 1610-11-70      |
| 2        | Plain Spherical Bearing 70mm                    | 1   | 0113-GE70DO-2RS |
| 3        | Circlip Internal 105mm                          | 2   | 0171-J105       |
| 4        | Circlip External 70mm                           | 1   | 0172-D1400-70   |
| 5        | Brake Disc                                      | 1   | 1600-405        |
| 6        | M12 x 24 Wheel Bolt                             | 3   | 0216-WB1224     |
| 7        | Grease Nipple 1/4" UNF                          | 2   | 0181-GN1-4      |
| 8        | Bolt on Brake Disc Dust Cap 70 ID x 135 OD x 35 | 1   | 1601-DC7013535  |

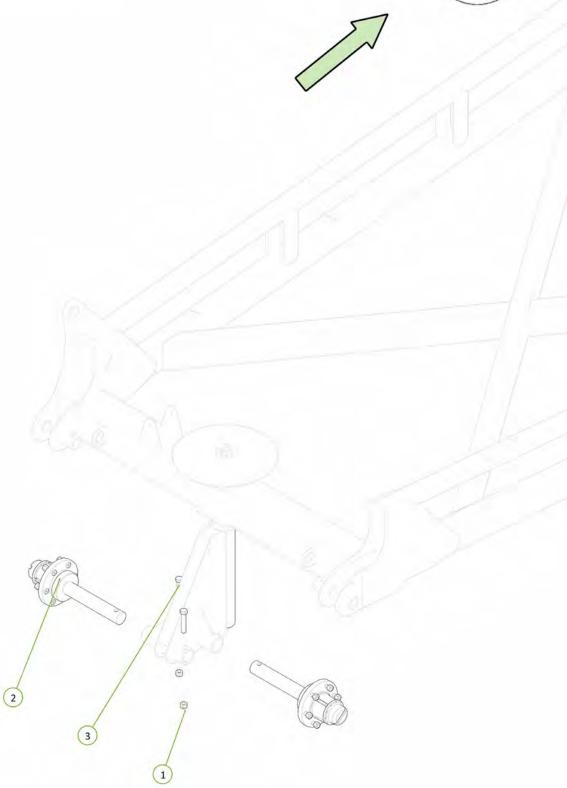


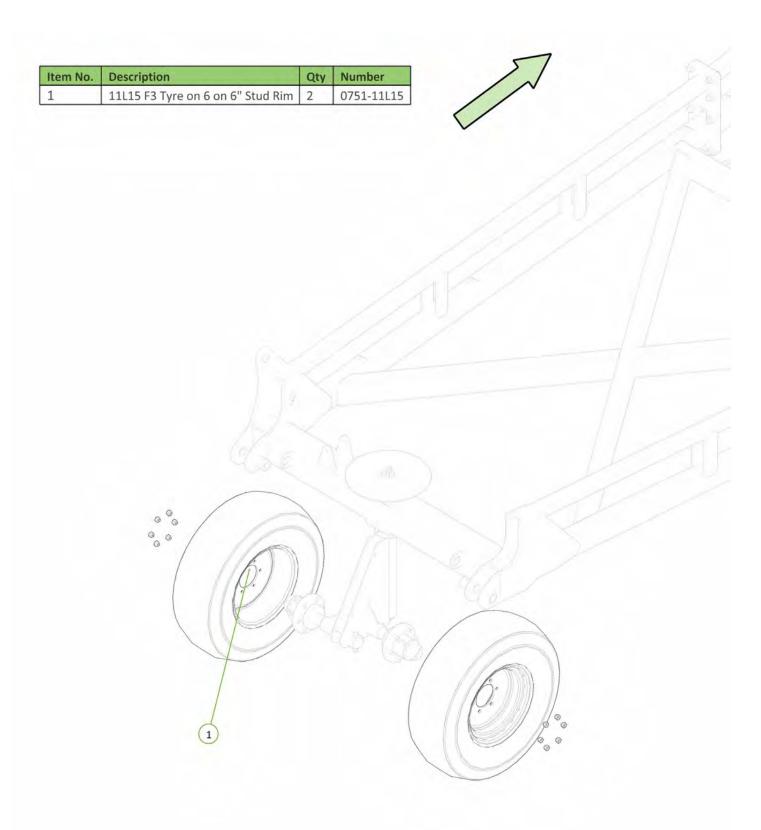




| Item No. | Description                                      | Qty | Number         |
|----------|--|-----|----------------|
| 1        | Nyloc Nut M16                                    | 2   | 0221-NYL16     |
| 2        | Axle 2"R 3T 6 on 6"PCD 330 OHF Complete Assembly | 2   | 0733-K5083T66S |
| 3        | M16 x 90 grade 8.8 zp Bolt                       | 2   | 0211-1690      |



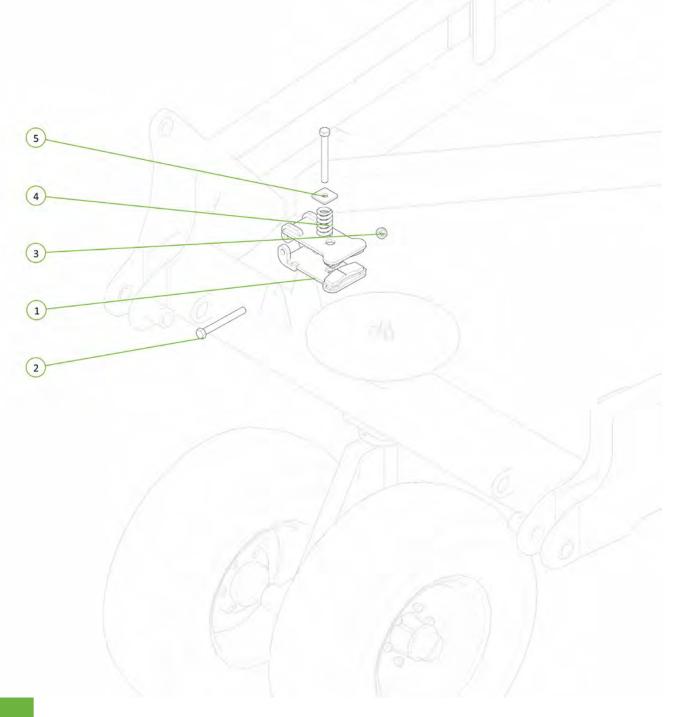




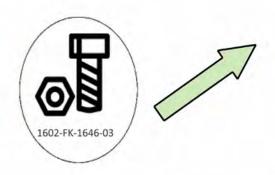
| Item No. | Description                 | Qty | Number       |
|----------|-----------------------------|-----|--------------|
| 1        | Jockey Wheel Brake Caliper  | 1   | 0810-12CAL   |
| 2        | M16 x 150 grade 8.8 zp Bolt | 2   | 0211-16150   |
| 3        | Nyloc Nut M16               | 1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

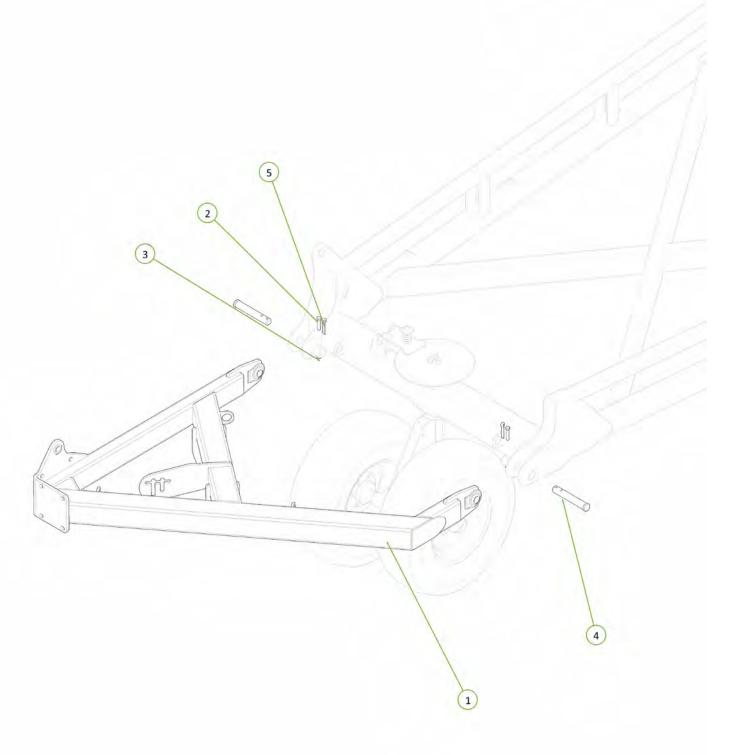




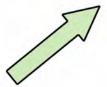


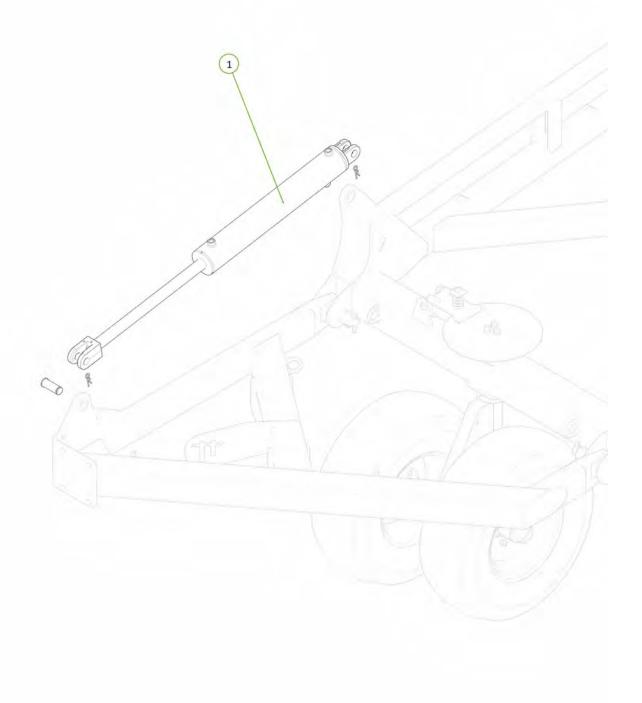
| Item No. | Description                | Qty | Number         |  |
|----------|----------------------------|-----|----------------|--|
| 1        | Rear Tail                  | 1   | 1610-10S-REM   |  |
| 2        | M12 x 65 grade 8.8 ZP Bolt |     | 0211-1265      |  |
| 3        | Nyloc Nut M12              | 2   | 0221-NYL12     |  |
| 4        | PCH Wing Pivot Pin         | 2   | 0801-10-08-235 |  |
| 5        | Cotter Pin M13 x 63        | 2   | 0261-PINC1363  |  |





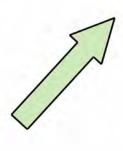
| Item No. | Description                                     | Qty | Number   |
|----------|---|-----|----------|
| 1        | 4" Bore 24" Stroke 1.75" Rod Hydraulic Cylinder | 1   | 0311-424 |

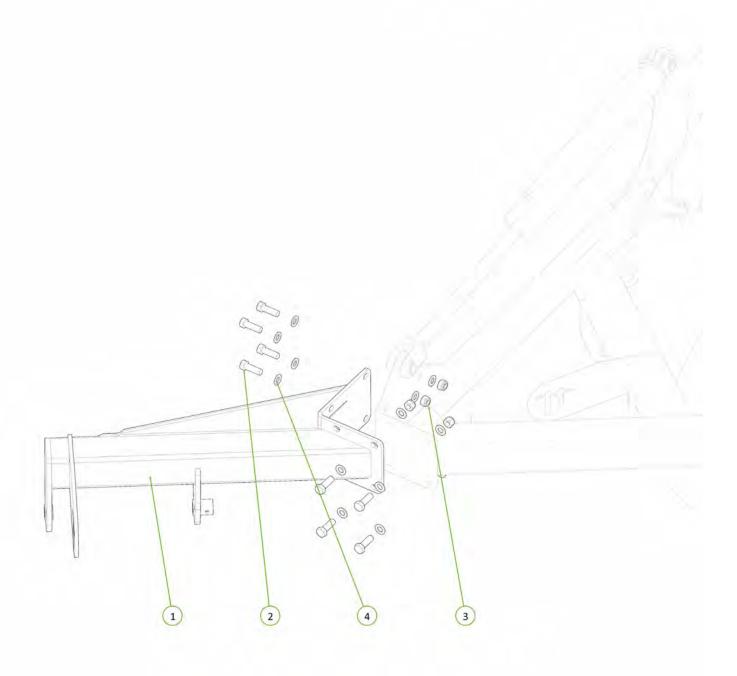




| Item No. | Description                | Qty | Number     |
|----------|----------------------------|-----|------------|
| 1        | Rear Tail Tip              | 1   | 1610-10SE  |
| 2        | M20 x 60 grade 8.8 ZP Bolt | 8   | 0211-2060  |
| 3        | Nyloc Nut M20              | 8   | 0221-NYL20 |
| 4        | Washer Flat M20            | 16  | 0231-F20   |

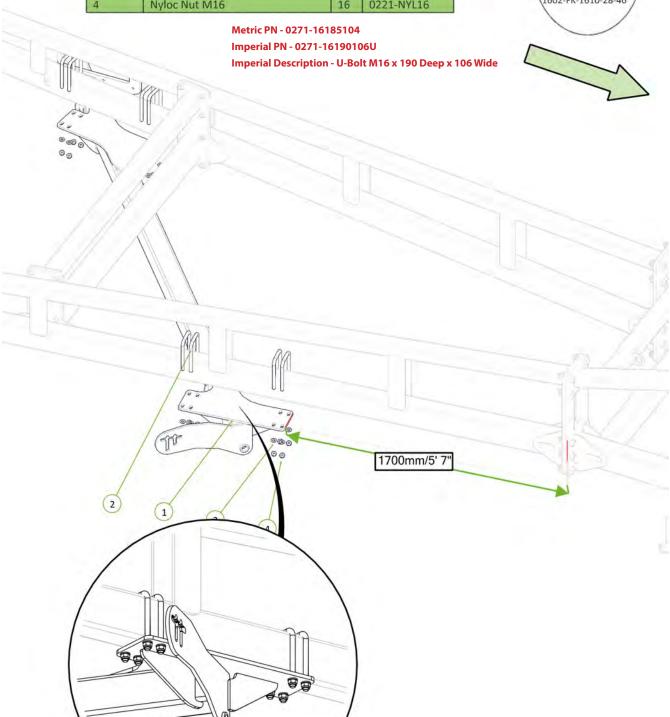


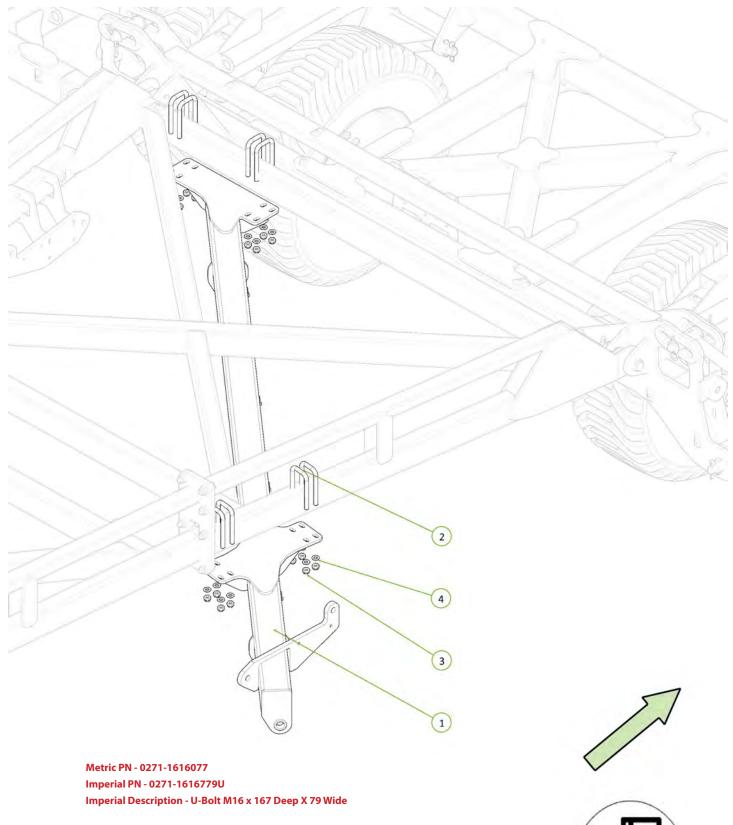




| Item No. | Description                      | Qty | Number        |
|----------|----------------------------------|-----|---------------|
| 1        | 46' Front Module Frame           | 1   | 1610-28-46    |
| 2        | U-Bolt M16 x 185 Deep X 104 Wide | 8   | 0271-16185104 |
| 3        | Washer Flat M16                  | 16  | 0231-F16      |
| 4        | Nyloc Nut M16                    | 16  | 0221-NYL16    |

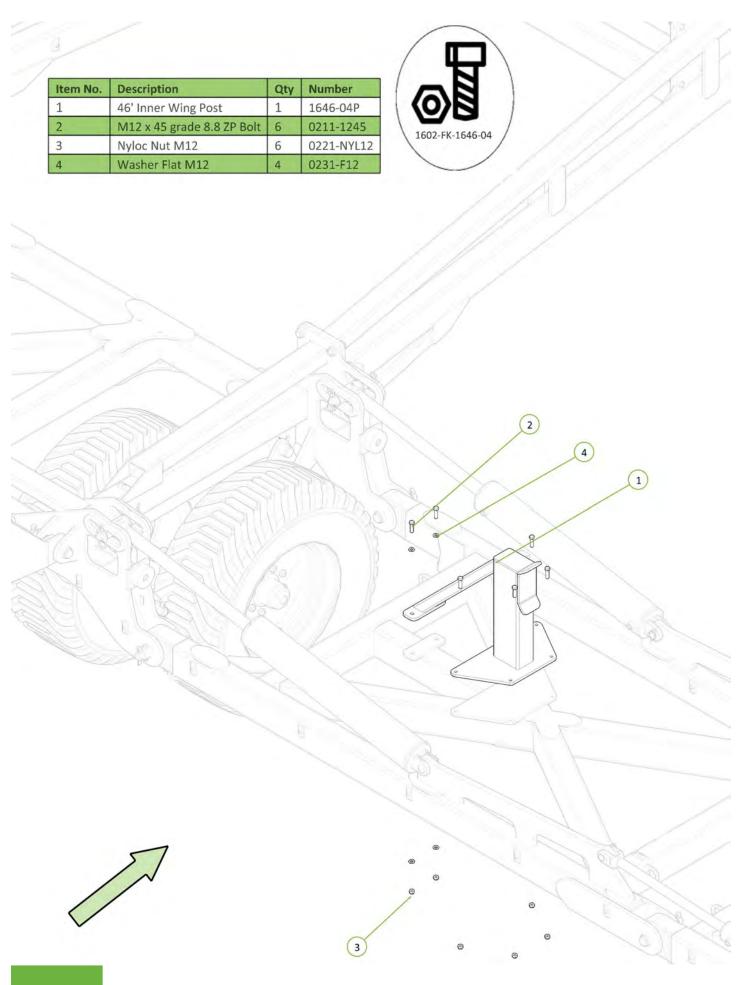






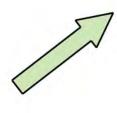
| Item No. | Description                     | Qty | Number       |
|----------|---------------------------------|-----|--------------|
| 1        | 46' Rear Module Frame           | 1   | 1610-29-46   |
| 2        | U-Bolt M16 x 160 Deep X 77 Wide | 8   | 0271-1616077 |
| 3        | Nyloc Nut M16                   | 16  | 0221-NYL16   |
| 4        | Washer Flat M16                 | 16  | 0231-F16     |

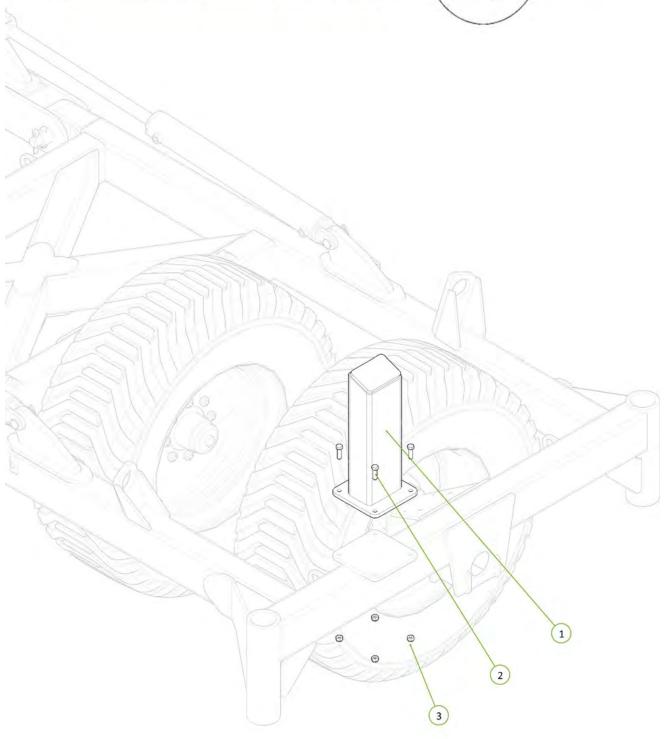




| Item No. | Description                | Qty | Number     |  |
|----------|----------------------------|-----|------------|--|
| 1        | 46' Outer Wing Post        | 1   | 1646-06P   |  |
| 2        | M12 x 40 grade 8.8 ZP Bolt | 4   | 0211-1240  |  |
| 3        | Nyloc Nut M12              | 4   | 0221-NYL12 |  |

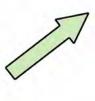


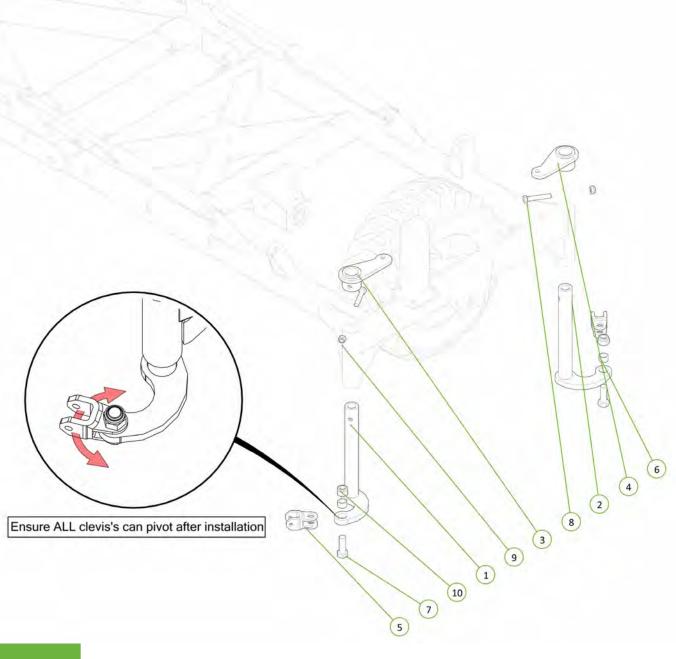


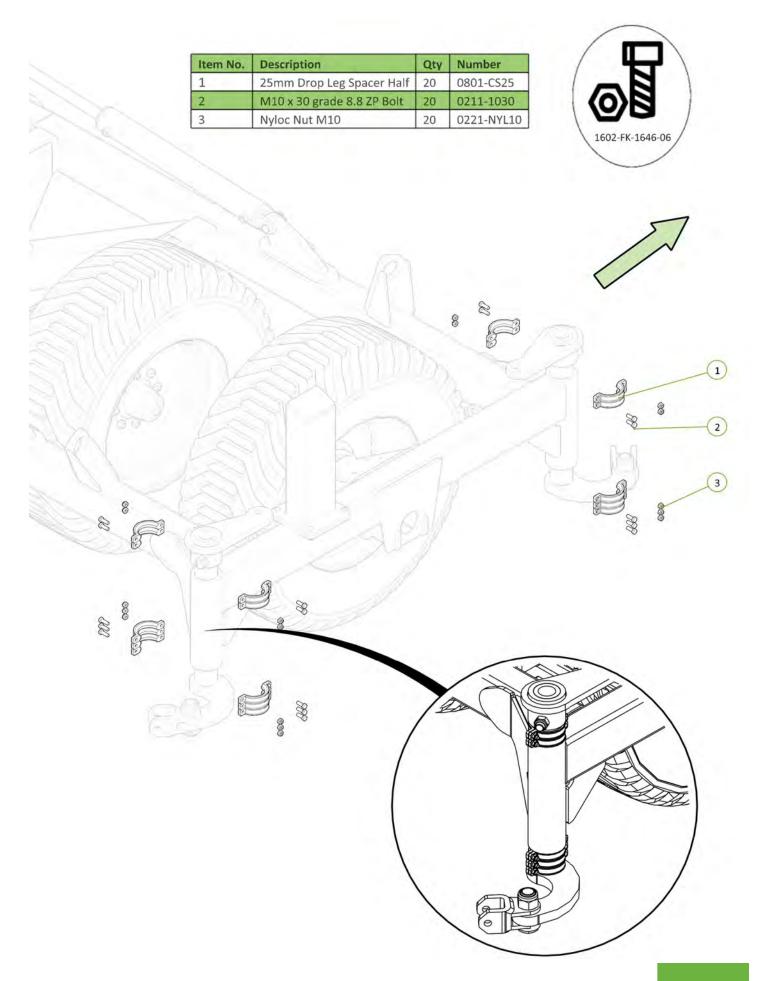


| Item No. | Description                  | Qty | Number         |  |
|----------|------------------------------|-----|----------------|--|
| 1        | LH Dropleg No Clevis         |     | 0810-24F       |  |
| 2        | RH Dropleg No Clevis         |     | 0810-25F       |  |
| 3        | LH Chain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

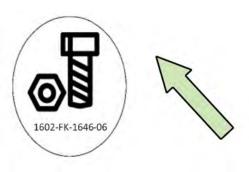


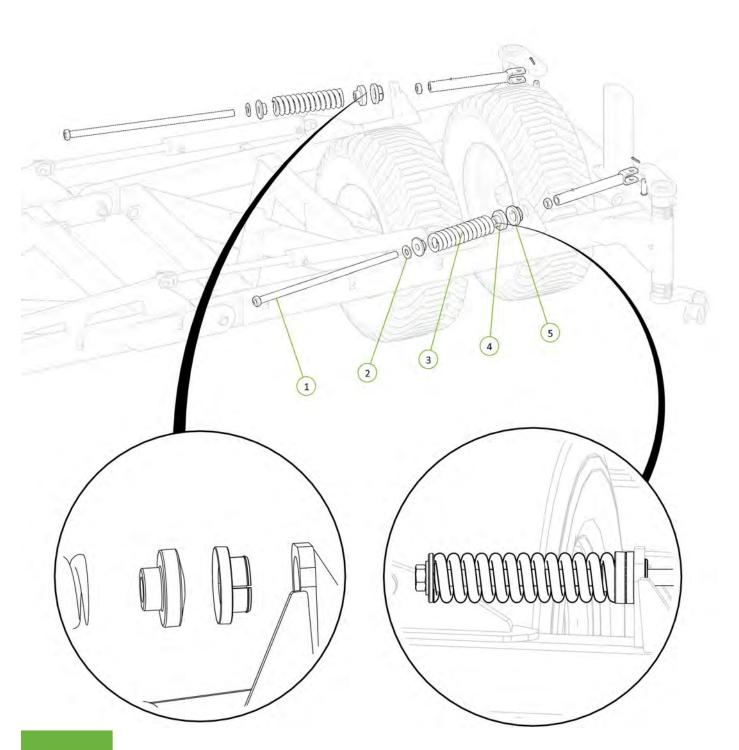






| Item No. | Description                    | Qty | Number        |
|----------|--------------------------------|-----|---------------|
| 1        | Chain Tension Adjustor         | 2   | 0802-PCHTA    |
| 2        | WASHER HIGH TENSILE 1 1/4"     | 2   | 0232-HT11-4   |
| 3        | 20mm Compression Spring, Black | 2   | 0801-XK9261S  |
| 4        | Tensioner Cup - Male           | 2   | 0801-KE0805-3 |
| 5        | Tensioner Cup-Female           | 2   | 0801-KE0805-4 |

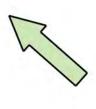


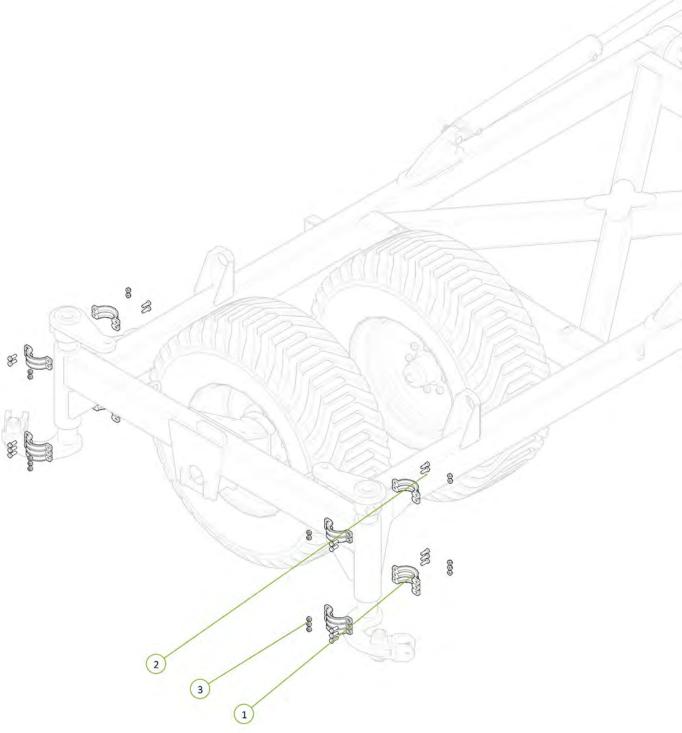


| R   | H Dropleg No Clevis          | Qty | Number      |
|-----|------------------------------|-----|-------------|
| R   | in Dropleg No Clevis         | 1   | 0810-24F    |
|     | RH Dropleg No Clevis         | 1   | 0810-25F    |
| 1.0 | RH Chain Adjusting Lug       | 1   | 0810-27     |
|     | H Chain Adjusting Lug        | 1   | 0810-26     |
|     | Stainless Steel Wear Bush    | 2   | 1501-365033 |
|     | Forged Clevis 21mm Bolt Hole |     | 0801-FC21   |
|     | M36 x 105 grade 8.8 ZP Bolt  | 2   | 0211-36105  |
|     | M24 x 140 grade 8.8 zp Bolt  | 2   | 0211-24140  |
|     | Nyloc Nut M24                | 2   | 0221-NYL24  |
| 100 | Nyloc Nut M36                | 2   | 0221-NYL36  |
|     |                              | 1   |             |

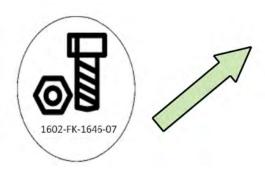
| Item No. | Description                | Qty | Number     |
|----------|----------------------------|-----|------------|
| 1        | 25mm Drop Leg Spacer Half  | 20  | 0801-CS25  |
| 2        | M10 x 30 grade 8.8 ZP Bolt | 20  | 0211-1030  |
| 3        | Nyloc Nut M10              | 20  | 0221-NYL10 |

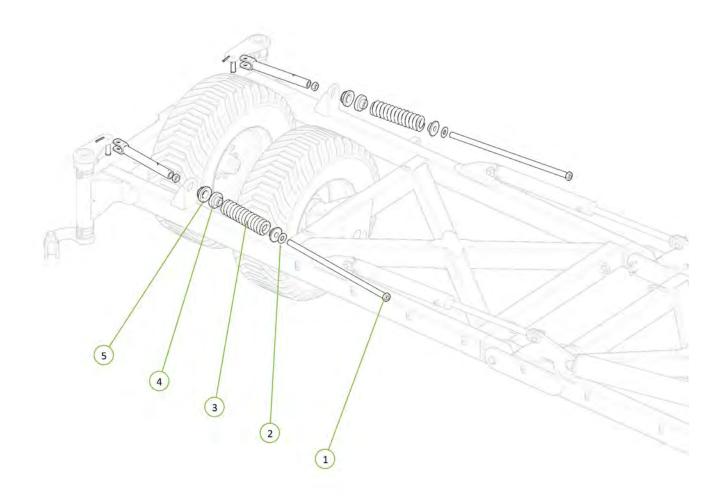


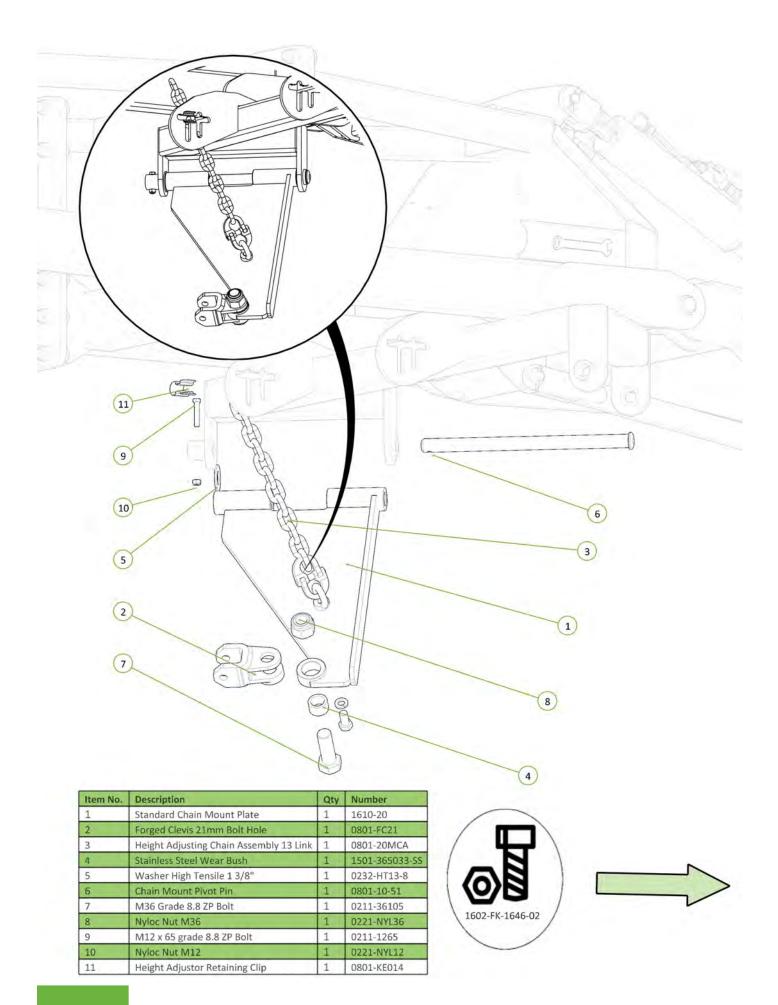


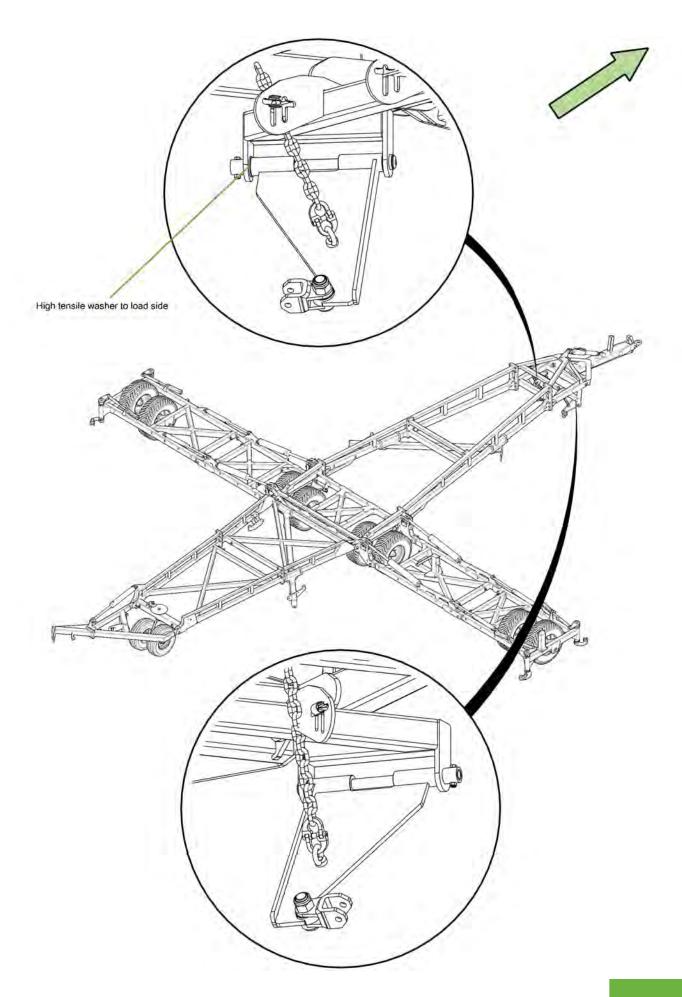


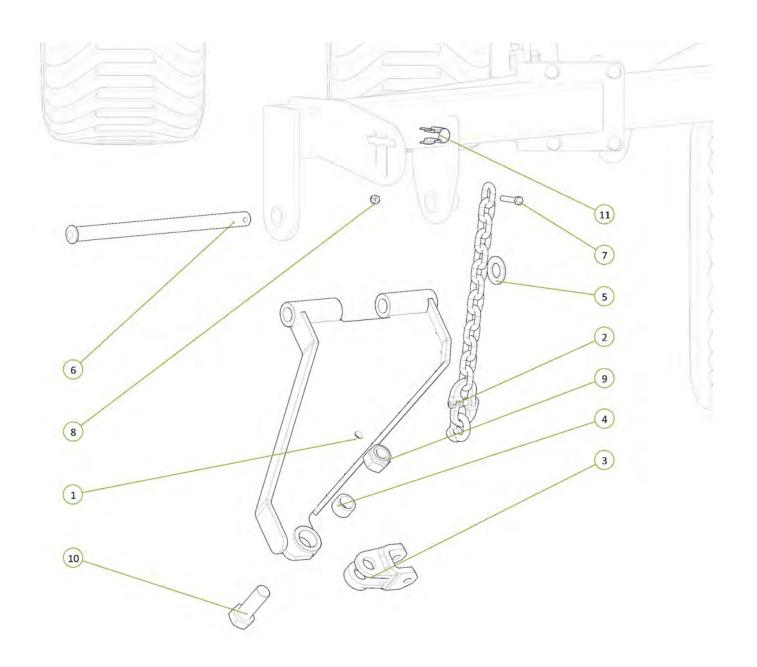
| Item No. | Description                    | Qty | Number        |
|----------|--------------------------------|-----|---------------|
| 1        | Chain Tension Adjustor         | 2   | 0802-PCHTA    |
| 2        | WASHER HIGH TENSILE 1 1/4"     |     | 0232-HT11-4   |
| 3        | 20mm Compression Spring, Black |     | 0801-XK9261S  |
| 4        | Tensioner Cup - Male           | 2   | 0801-KE0805-3 |
| 5        | Tensioner Cup-Female           | 2   | 0801-KE0805-4 |



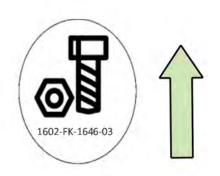


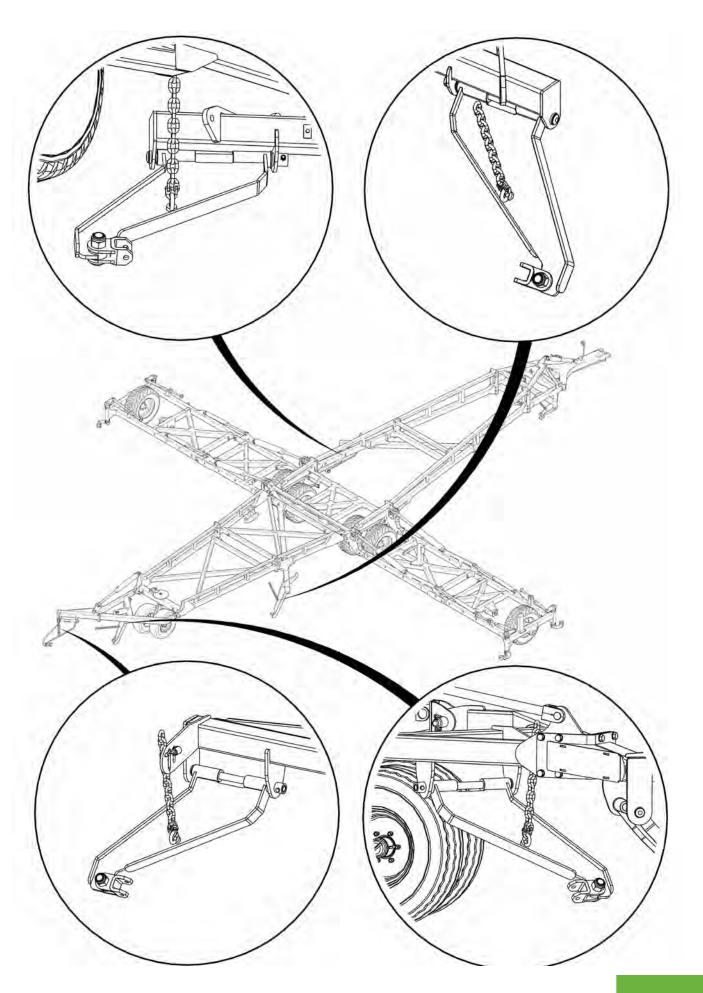


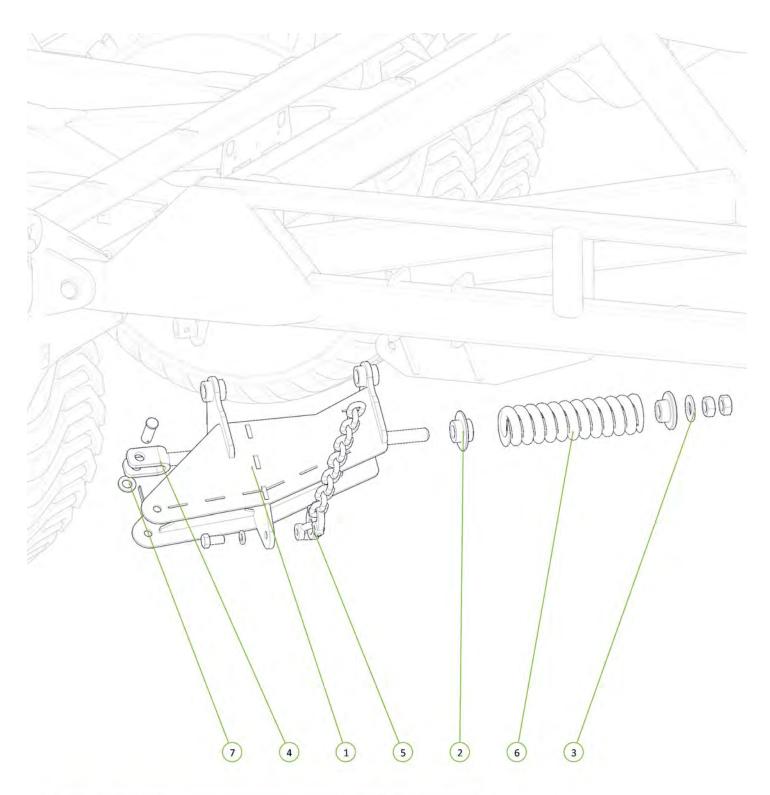




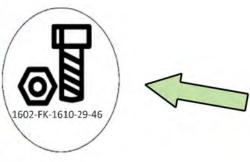
| Item No. | Description                             | Qty | Number         |
|----------|---|-----|----------------|
| 1        | 1 Extended Chain Mount Plate            |     | 1610-21        |
| 2        | Height Adjusting Chain Assembly 13 Link | 1   | 0801-20MCA     |
| 3        | Forged Clevis 21mm Bolt Hole            | 1   | 0801-FC21      |
| 4        | Stainless Steel Wear Bush               |     | 1501-365033-SS |
| 5        | Washer High Tensile 1 3/8"              |     | 0232-HT13-8    |
| 6        | Chain Mount Pivot Pin                   |     | 0801-10-51     |
| 7        | M12 x 65 grade 8.8 ZP Bolt              |     | 0211-1265      |
| 8        | Nyloc Nut M12                           | 1   | 0221-NYL12     |
| 9        | Nyloc Nut M36                           | 1   | 0221-NYL36     |
| 10       | M36 x 105 grade 8.8 zp Bolt             | 1   | 0211-36105     |
| 11       | Height Adjustor Retaining Clip          | 1   | 0801-KE014     |

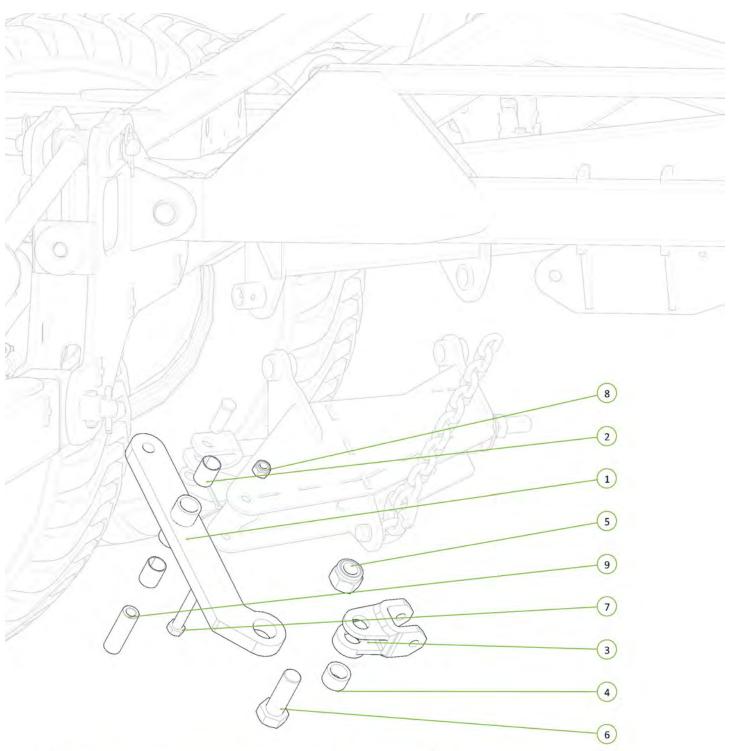




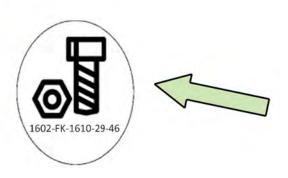


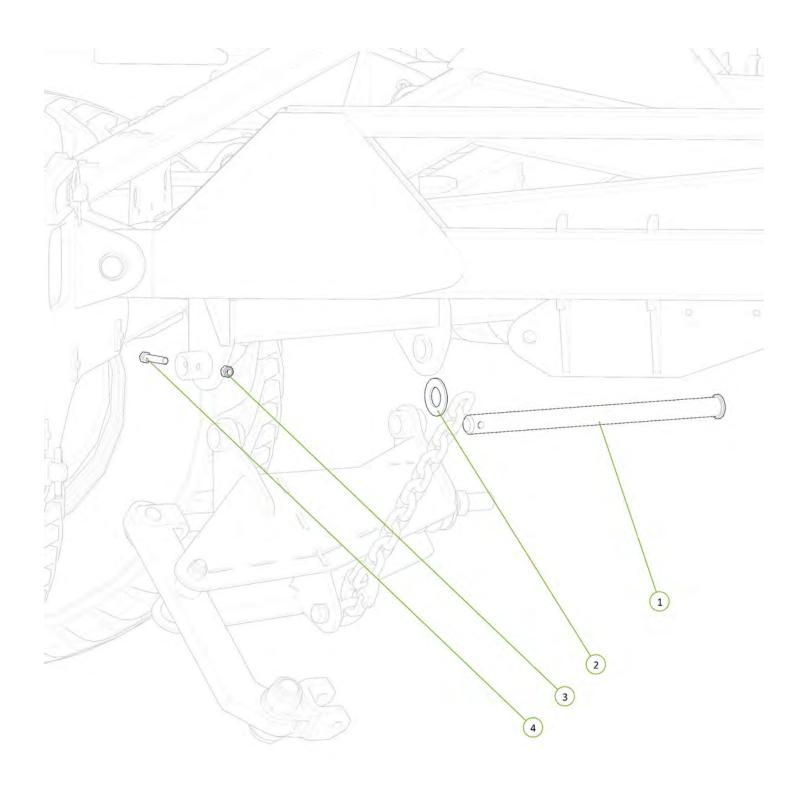
| Item No. | Description                             | Qty | Number        |
|----------|---|-----|---------------|
| 1        | Front Module Tension Body               | 1   | 0810-103F     |
| 2        | Rigid Spring Locator                    | 1   | 0801-10-S2L   |
| 3        | Washer High Tensile 1 1/4"              | 1   | 0232-HT11-4   |
| 4        | Module Tension Rod Assembly             | 1   | 0810-105A     |
| 5        | Height Adjusting Chain Assembly 13 Link | 1   | 0801-20MCA    |
| 6        | Heavy Duty Coil Spring 24mm             | 1   | 0801-K2455350 |
| 7        | Washer Flat M24                         | 1   | 0231-F24      |





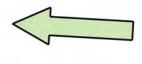
| Item No. | Description                  | Qty | Number         |
|----------|------------------------------|-----|----------------|
| 1        | Module Tension Arm           | 1   | 0810-104       |
| 2        | 35 ID x 50mm DU Bush         | 2   | 0113-MB 3550DU |
| 3        | Forged Clevis 21mm Bolt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

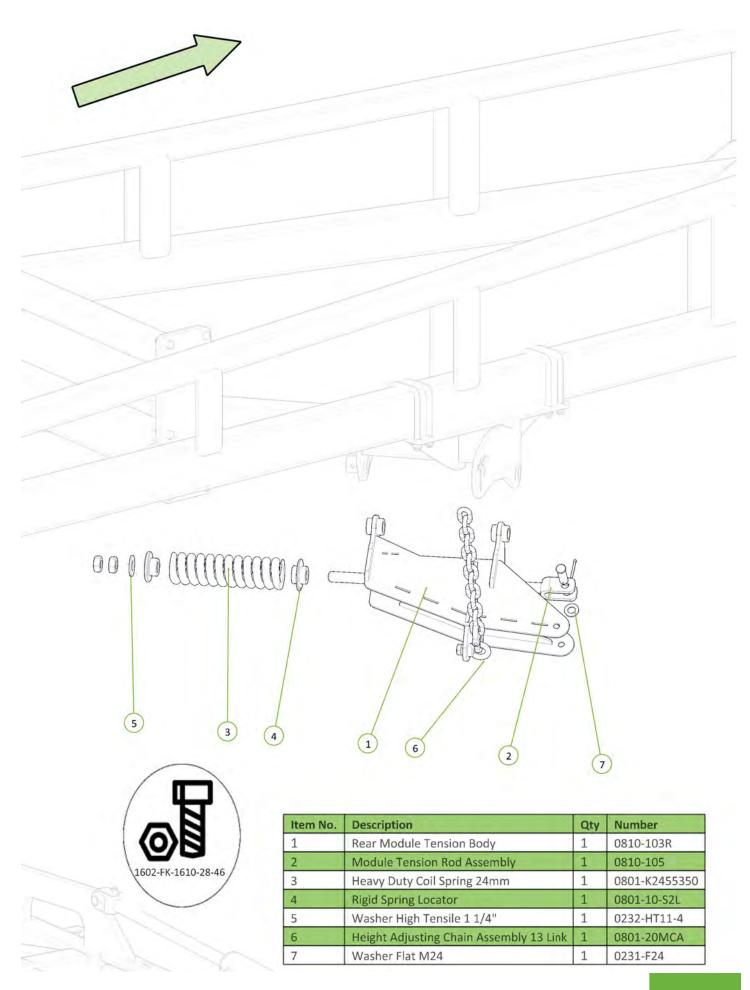


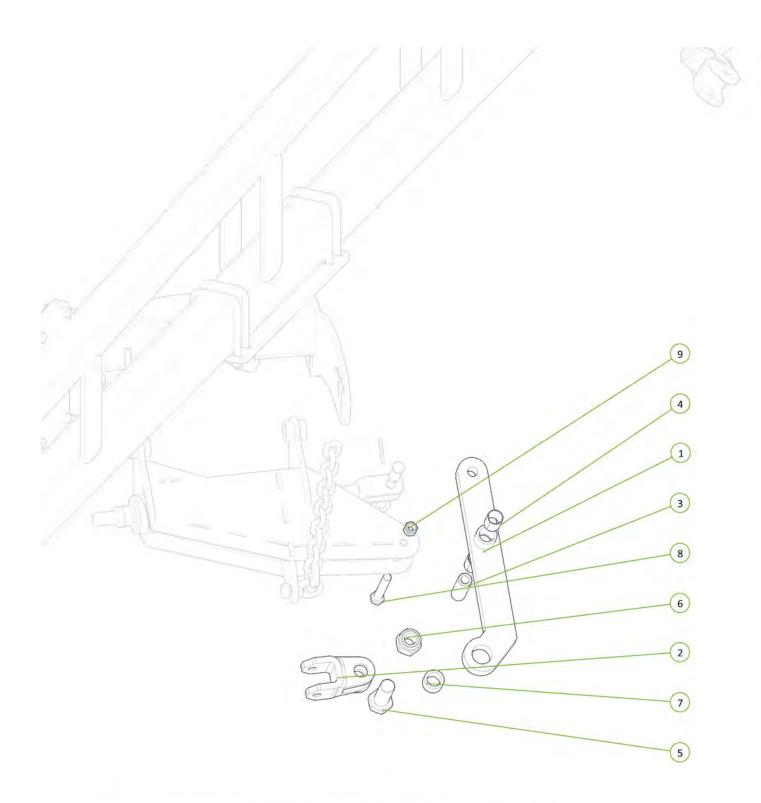


| Item No. | Description                | Qty | Number      |
|----------|----------------------------|-----|-------------|
| 1        | Chain Mount Pivot Pin      | 1   | 0801-10-51  |
| 2        | Washer High Tensile 1 3/8" | 1   | 0232-HT13-8 |
| 3        | Nyloc Nut M12              | 1   | 0221-NYL12  |
| 4        | M12 x 65 grade 8.8 ZP Bolt | 1   | 0211-1265   |



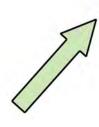


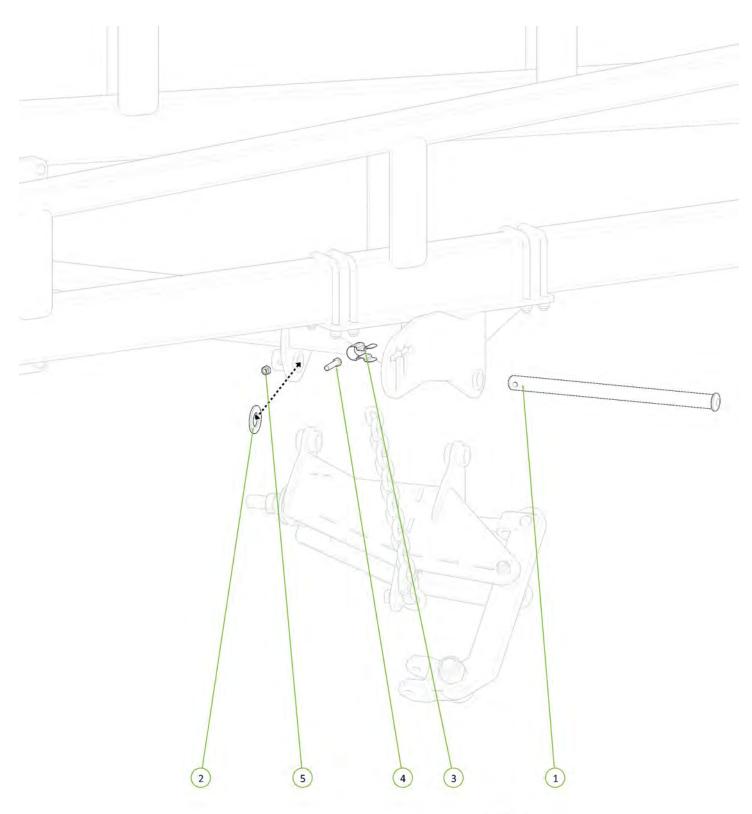




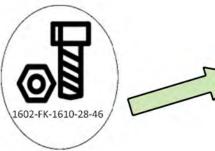
| Item No. | Description                  | Qty | Number         |
|----------|------------------------------|-----|----------------|
| 1        | Module Tension Arm           | 1   | 0810-104       |
| 2        | Forged Clevis 21mm Bolt Hole | 1   | 0801-FC21      |
| 3        | Module Pivot Arm Bush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

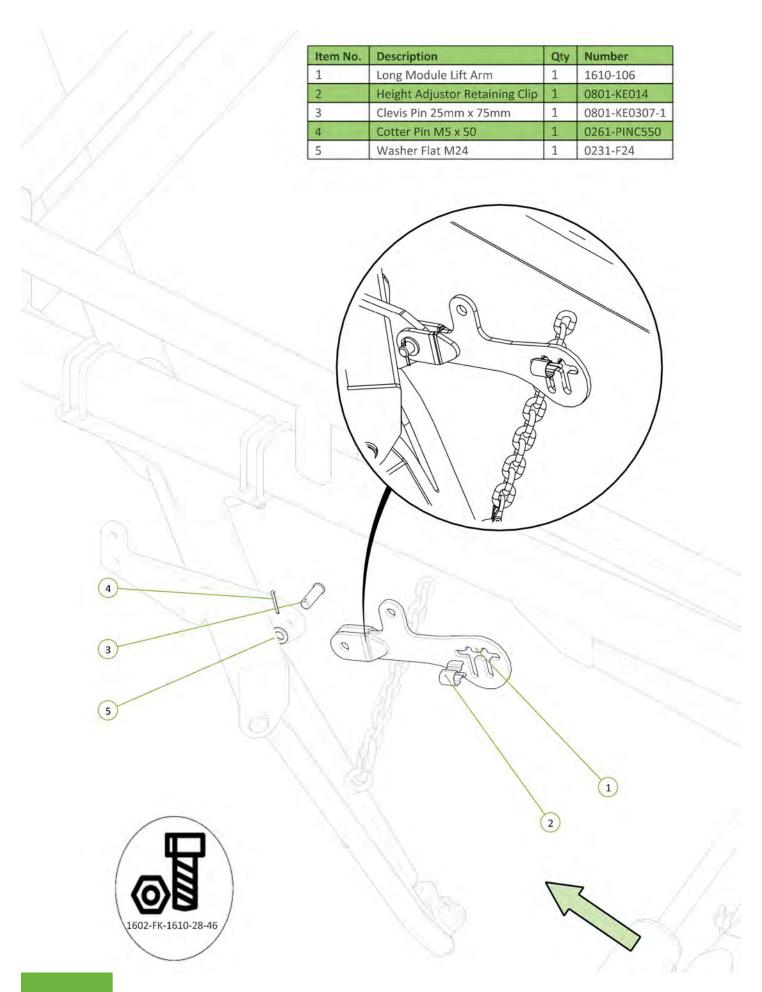


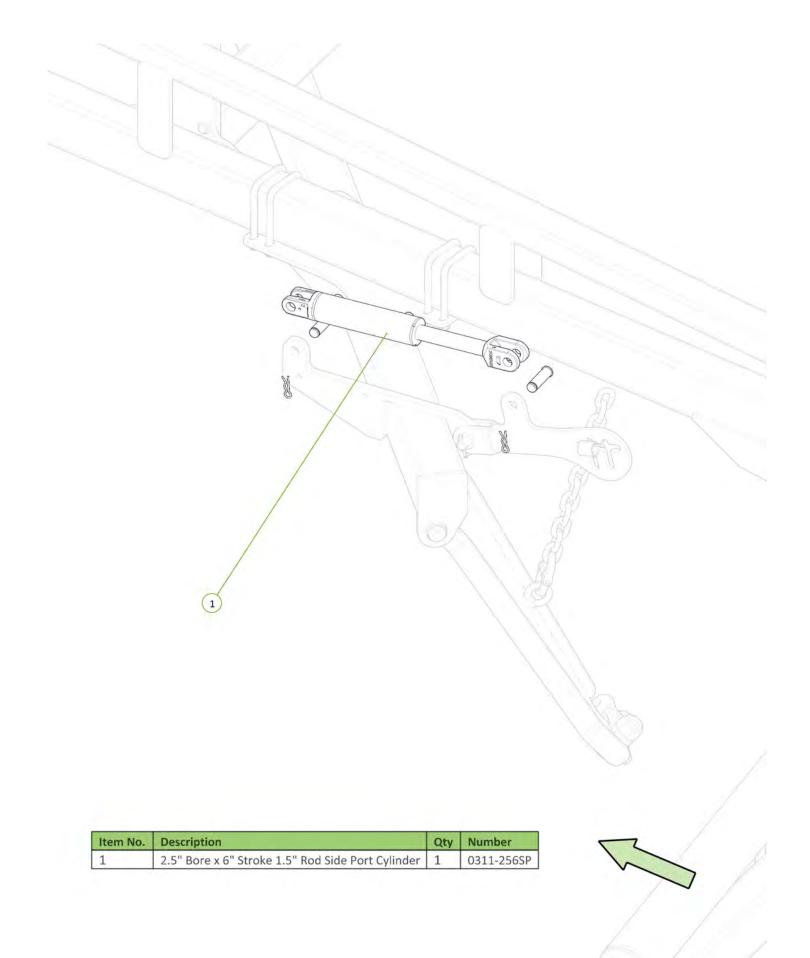


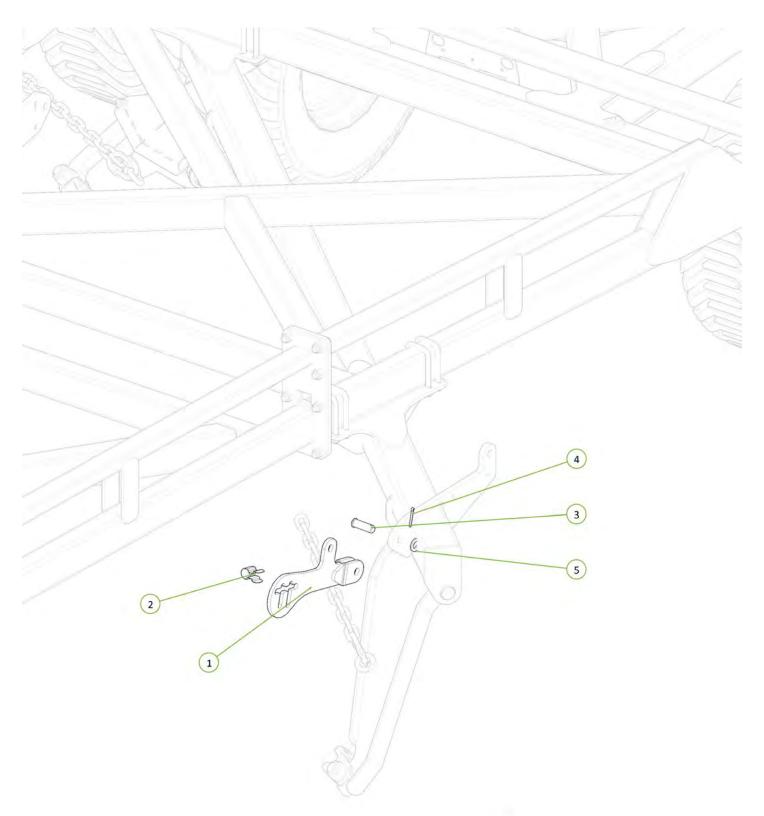


| Item No. | Description                    | Qty | Number      |
|----------|--------------------------------|-----|-------------|
| 1        | Chain Mount Pivot Pin          | 1   | 0801-10-51  |
| 2        | Washer High Tensile 1 3/8"     | 1   | 0232-HT13-8 |
| 3        | Height Adjustor Retaining Clip | 1   | 0801-KE014  |
| 4        | M12 x 65 grade 8.8 ZP Bolt     | 1   | 0211-1265   |
| 5        | Nyloc Nut M12                  | 1   | 0221-NYL12  |



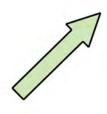


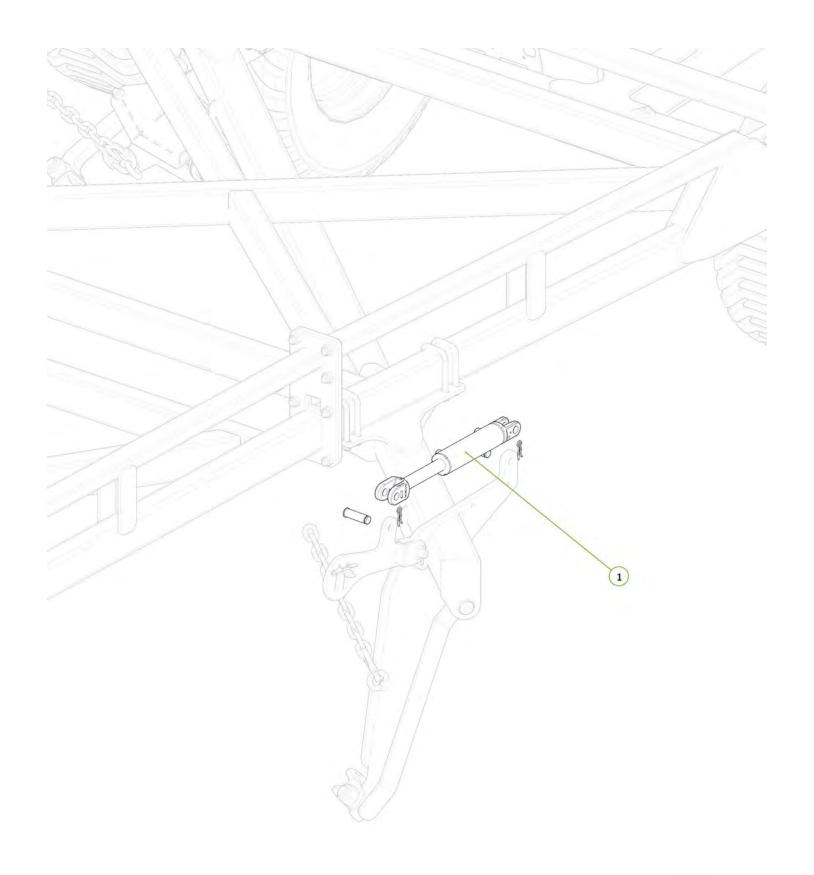




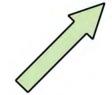
| Item No. | Description                    | Qty | Number        |
|----------|--------------------------------|-----|---------------|
| 1        | Long Module Lift Arm           | 1   | 1610-106      |
| 2        | Height Adjustor Retaining Clip | 1   | 0801-KE014    |
| 3        | Clevis Pin 25mm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





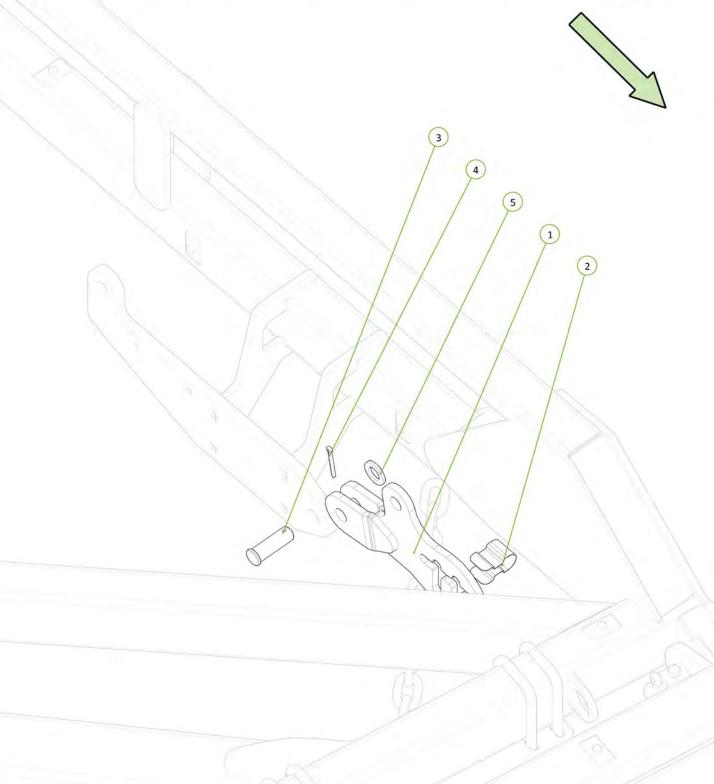


| Item No. | Description                                       | Qty | Number     |
|----------|---|-----|------------|
| 1        | 2.5" Bore x 6" Stroke 1.5" Rod Side Port Cylinder | 1   | 0311-256SP |

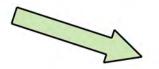


| Item No. | Description                    | Qty | Number        |
|----------|--------------------------------|-----|---------------|
| 1        | Short Module Lift Arm          | 1   | 1610-107      |
| 2        | Height Adjustor Retaining Clip | 1   | 0801-KE014    |
| 3        | Clevis Pin 25mm x 75mm         | 1   | 0801-KE0307-1 |
| 4        | Cotter Pin M5 x 50             | 1   | 0261-PINC550  |
| 5        | Washer Flat M24                | 1   | 0231-F24      |





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





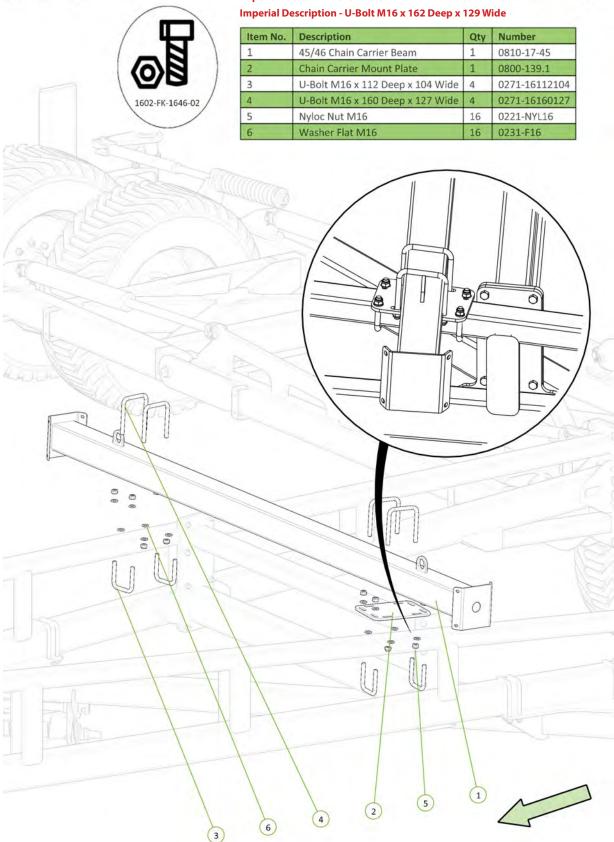
Metric PN - 0271-16112104

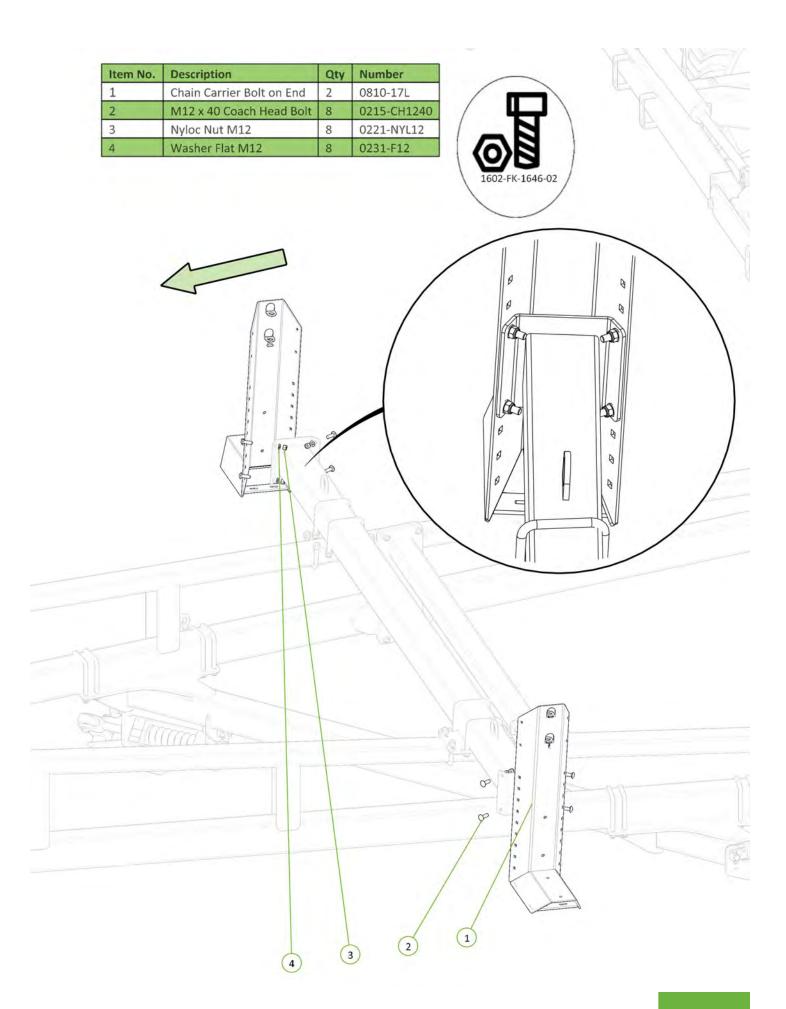
Imperial PN - 0271-16114106U

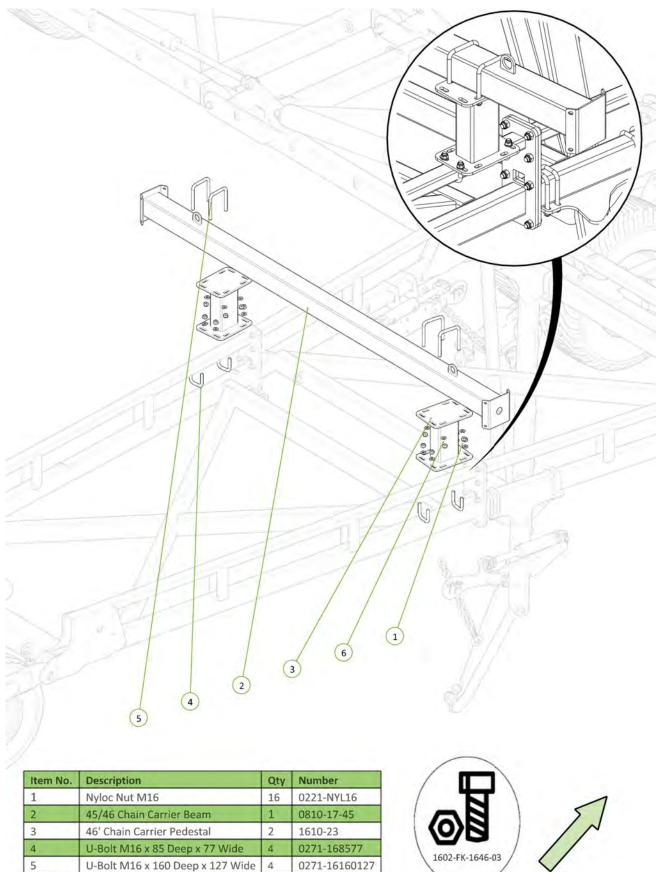
Imperial Description - U-Bolt M16 x 114 Deep x 106 Wide



Imperial PN - 0271-16162129U







16

0231-F16

Metric PN - 0271-168577 Imperial PN - 0271-168779U

Imperial Description - U-Bolt M16 x 87 Deep x 79 Wide

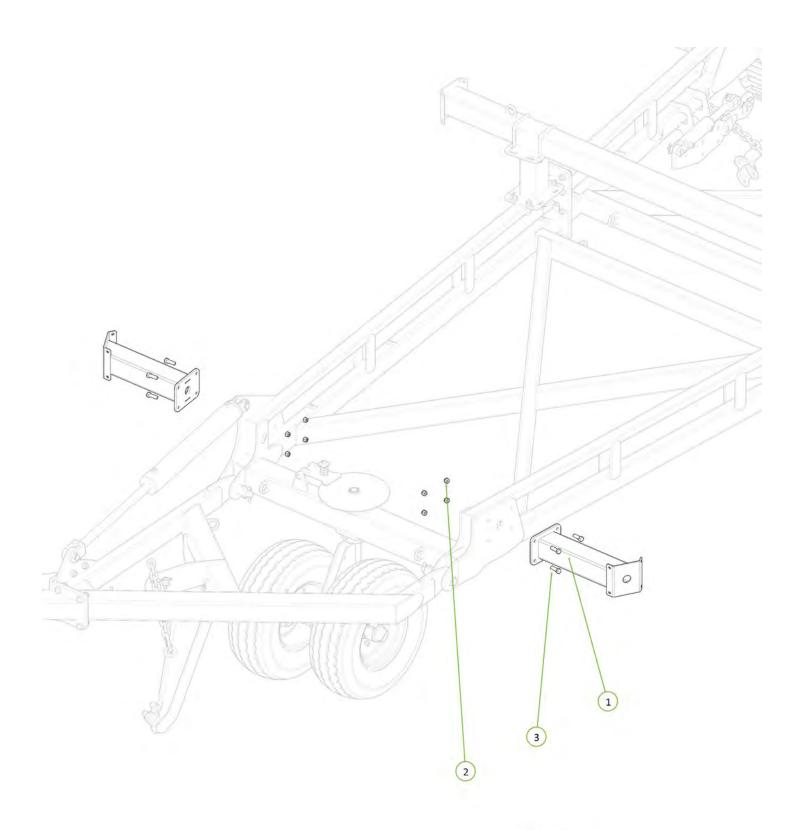
Washer Flat M16





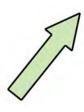
Metric PN - 0271-16160127 Imperial PN - 0271-16162129U

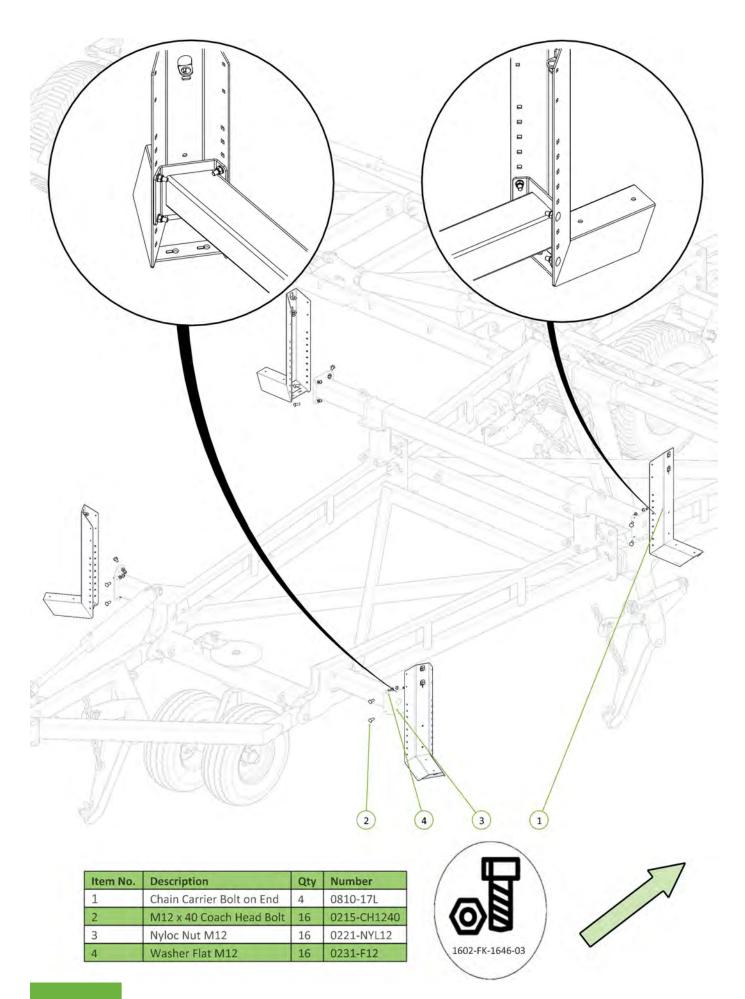
Imperial Description - U-Bolt M16 x 162 Deep x 129 Wide



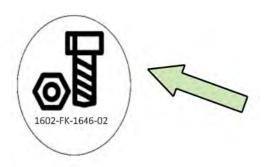
| Item No. | Description                | Qty | Number     |
|----------|----------------------------|-----|------------|
| 1        | 46 Outrigger               | 2   | 1610-109   |
| 2        | Nyloc Nut M16              | 8   | 0221-NYL16 |
| 3        | M16 x 50 grade 8.8 zp Bolt | 8   | 0211-1650  |





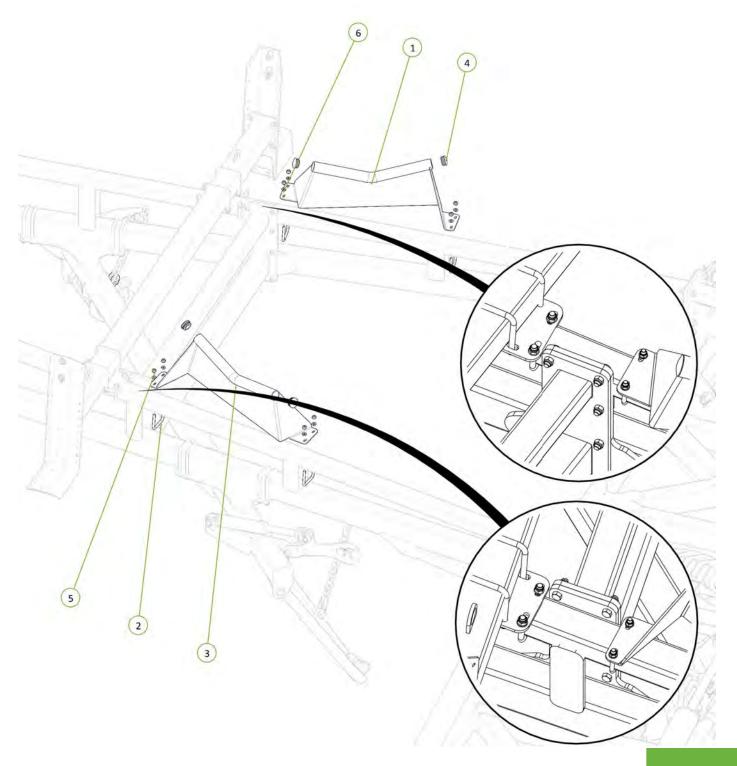


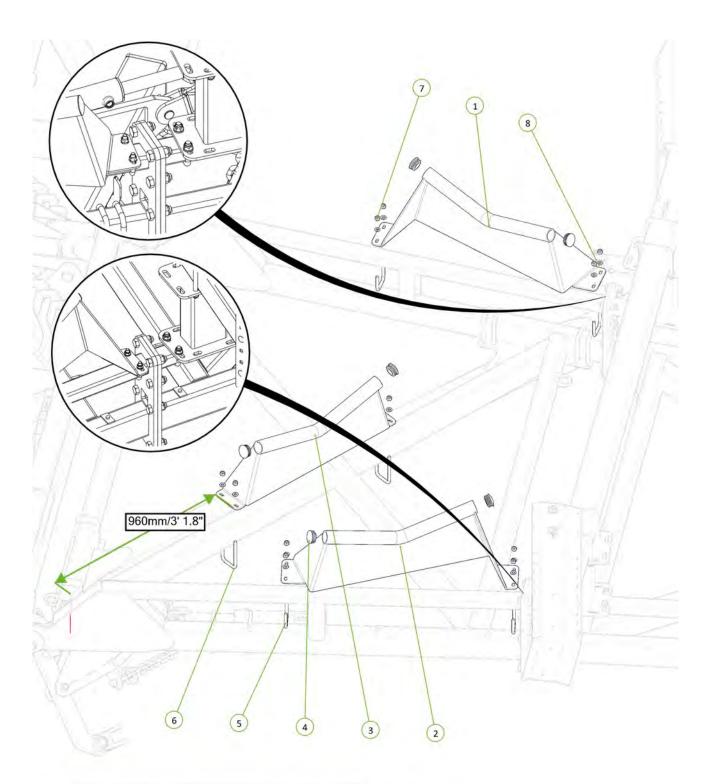
| Item No. | Description                      | Qty | Number         |
|----------|----------------------------------|-----|----------------|
| 1        | Rignt Hand Off Set M             | 1   | 0810-18R       |
| 2        | U-Bolt M12 x 105 Deep x 104 Wide | 4   | 0271-12105104  |
| 3        | Left Hand Off Set M              | 1   | 0810-19L       |
| 4        | Round Tube Insert 60.3 x 3.2-5mm | 4   | 0264-RTRi-5584 |
| 5        | Nyloc Nut M12                    | 8   | 0221-NYL12     |
| 6        | Washer Flat M12                  | 8   | 0231-F12       |



Metric PN - 0271-12105104 Imperial PN - 0271-12107106U

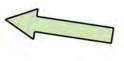
Imperial Description - U-Bolt M12 x 107 Deep x 106 Wide





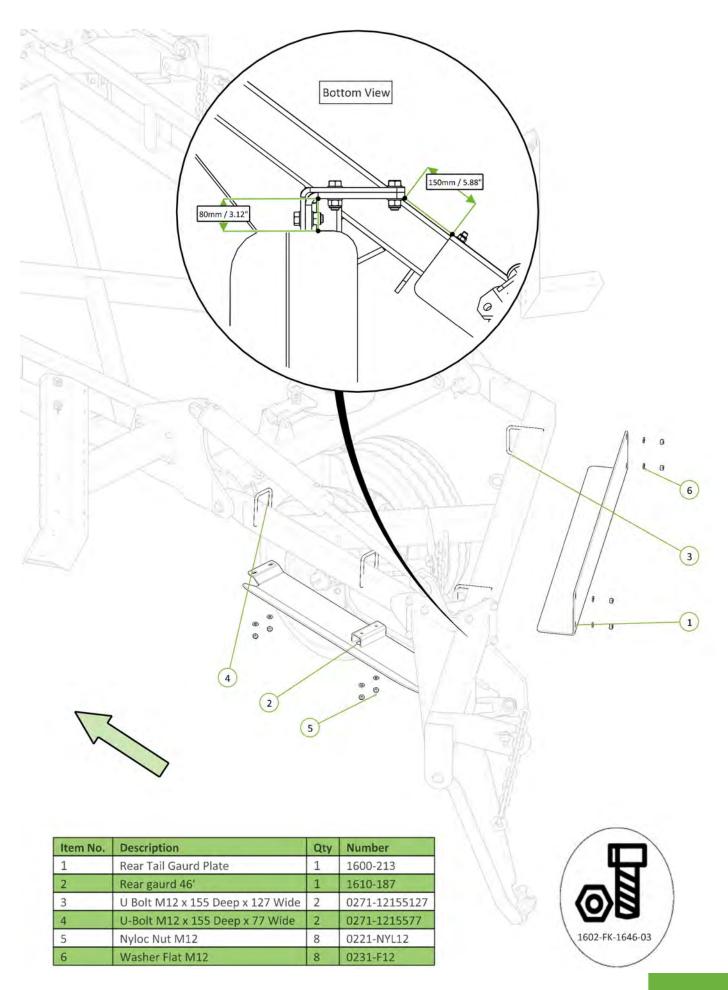
| Item No. | Description                      | Qty | Number         |
|----------|----------------------------------|-----|----------------|
| 1        | Left Hand Off Set M              | 1   | 0810-19L       |
| 2        | Right Hand Off Set M             | 1   | 0810-18R       |
| 3        | Rear M                           | 1   | 0810-19        |
| 4        | Round Tube Insert 60.3 x 3.2-5mm | 6   | 0264-RTRi-5584 |
| 5        | U-Bolt M12 x 80 Deep x 77 Wide   | 4   | 0271-128077    |
| 6        | U-Bolt M12 x 155 Deep x 77 Wide  | 2   | 0271-1215577   |
| 7        | Nyloc Nut M12                    | 12  | 0221-NYL12     |
| 8        | Washer Flat M12                  | 12  | 0231-F12       |

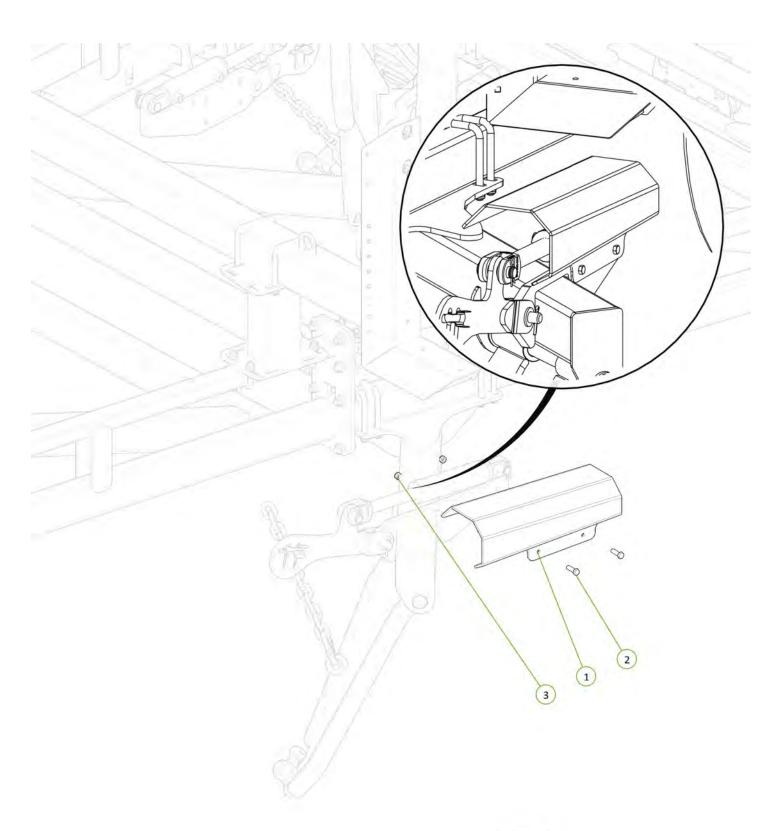




Metric PN - 0271-128077 Imperial PN - 0271-128279U

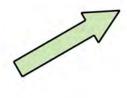
Imperial Description - U-Bolt M12 x 82 Deep x 79 Wide

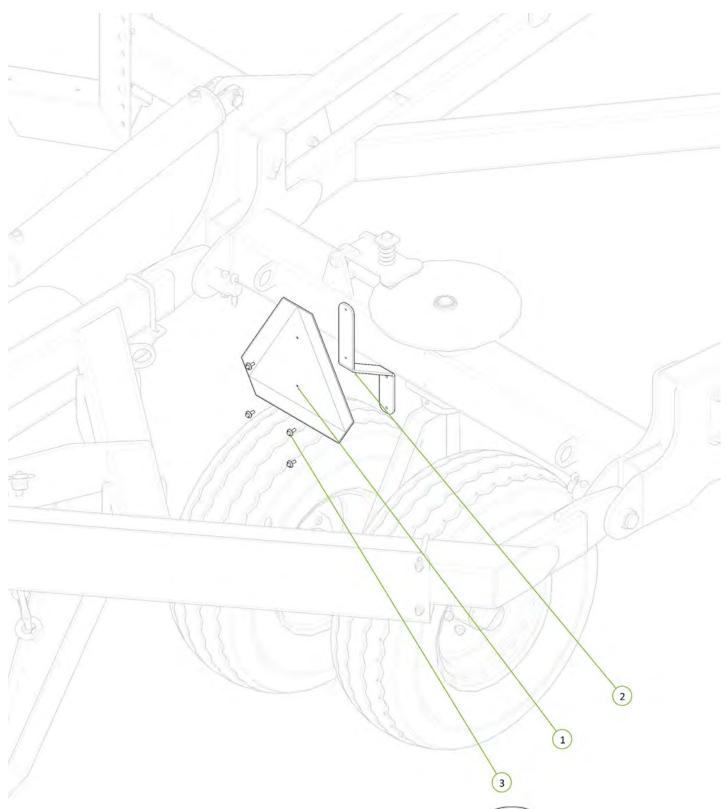




| Item No. | Description                | Qty | Number     |
|----------|----------------------------|-----|------------|
| 1        | Module Cylinder Guard      | 1   | 0800-167.3 |
| 2        | M12 x 40 grade 8.8 ZP Bolt | 2   | 0211-1240  |
| 3        | Nyloc Nut M12              | 2   | 0221-NYL12 |

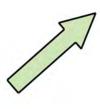






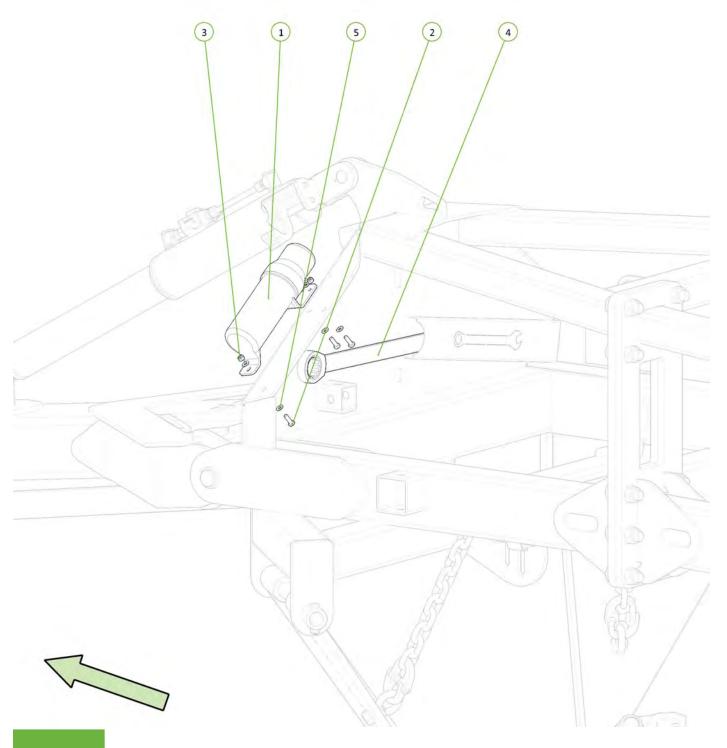
| Item No. | Description                       | Qty | Number          |
|----------|-----------------------------------|-----|-----------------|
| 1        | Slow Moving Vehical Sign          | 1   | 0801-FBSMVTUF   |
| 2        | SMV Sign Bracket - Fold           | 1   | 0800-195.1      |
| 3     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



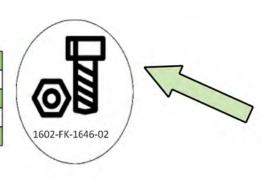


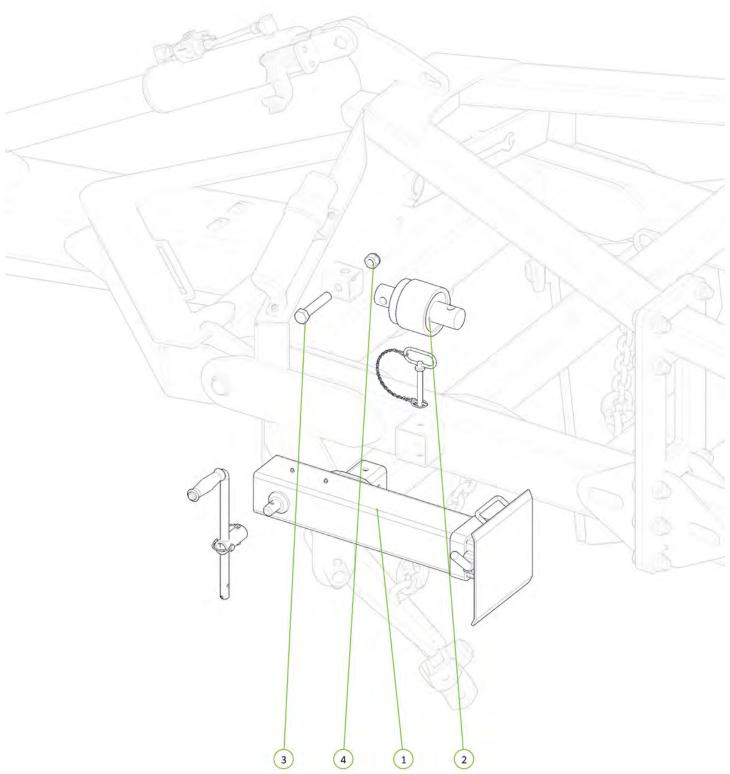
| Item No. | Description               | Qty | Number       |
|----------|---------------------------|-----|--------------|
| 1        | Operator Manual Cannister | 1   | 0801-OMC-1   |
| 2        | M8 x 25 grade 8.8 ZP Bolt | 3   | 0211-825     |
| 3        | Nyloc Nut M8              | 3   | 0221-NYL8    |
| 4        | Gear Wrench 1 3/4"        | 1   | 0802-GW1 3-4 |
| 5        | Washer Flat M8            | 6   | 0231-F8      |



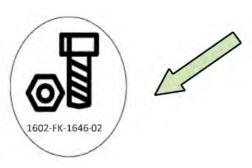


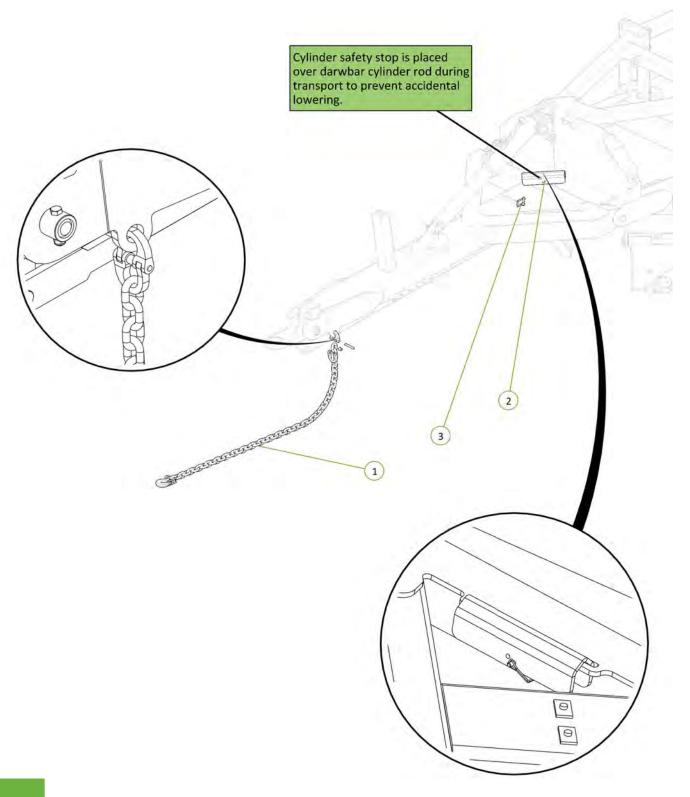
| Item No. | Description                               | Qty | Number        |
|----------|---|-----|---------------|
| 1        | Heavy Duty Jack Assembly                  | 1   | 0810-37A      |
| 2        | 20mm Bolt Swivel Unit                     | 1   | 0802-PCHB55   |
| 3        | M20 x 110 grade 10.9 ZP Short Thread Bolt | 1   | 0211-20110 ST |
| 4        | Nyloc Nut M20                             | 1   | 0221-NYL20    |



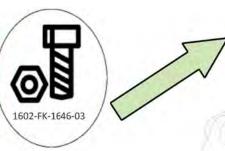


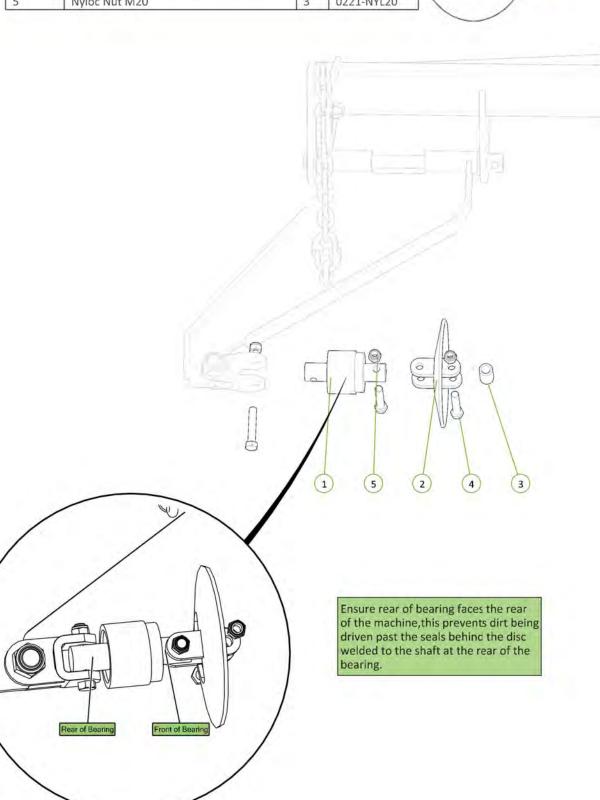
| Item No. | Description             | Qty | Number            |
|----------|-------------------------|-----|-------------------|
| 1        | Safety Chain Assembly   | 1   | 0810-16           |
| 2        | Cylinder Safety Stop    | 1   | 0800-212.1        |
| 3        | Square Loop Pin M8 x 63 | 1   | 0511-PINLOOPSQ863 |

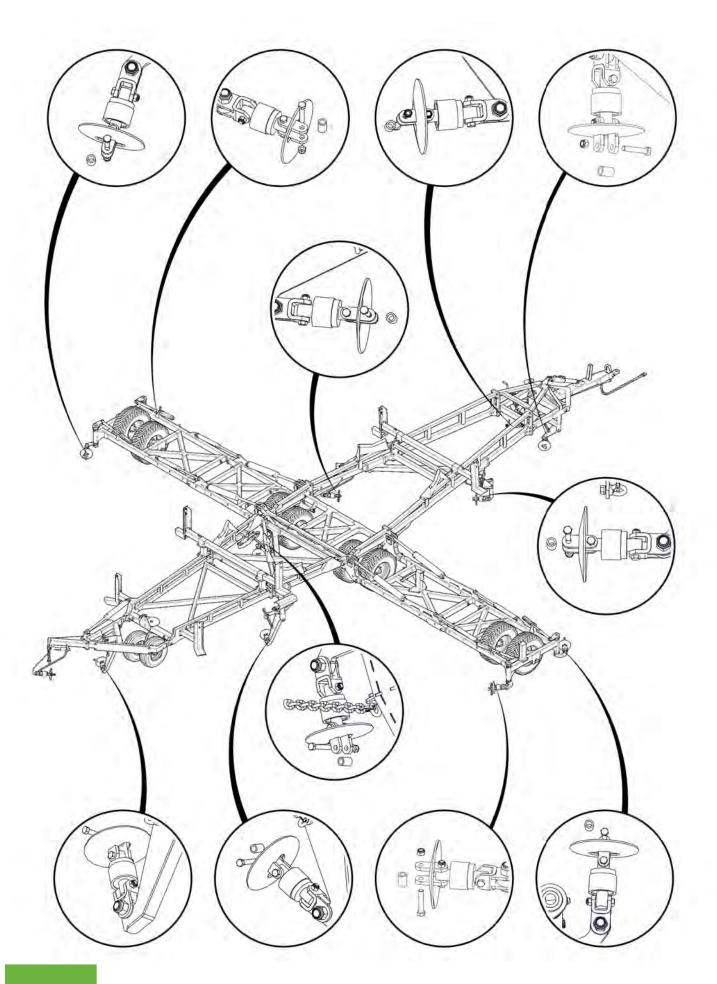


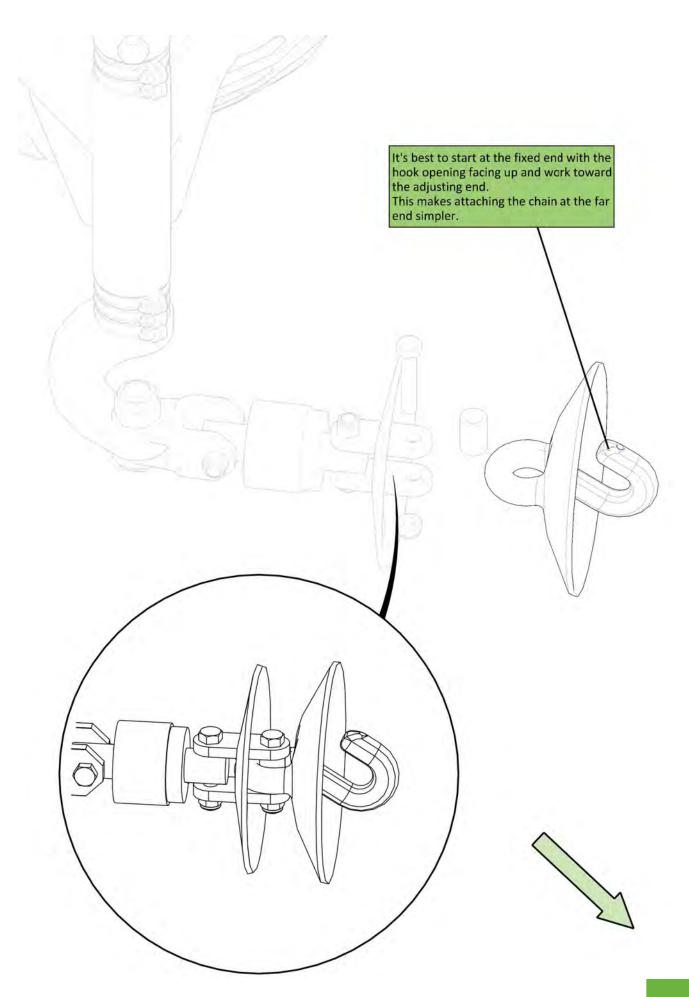


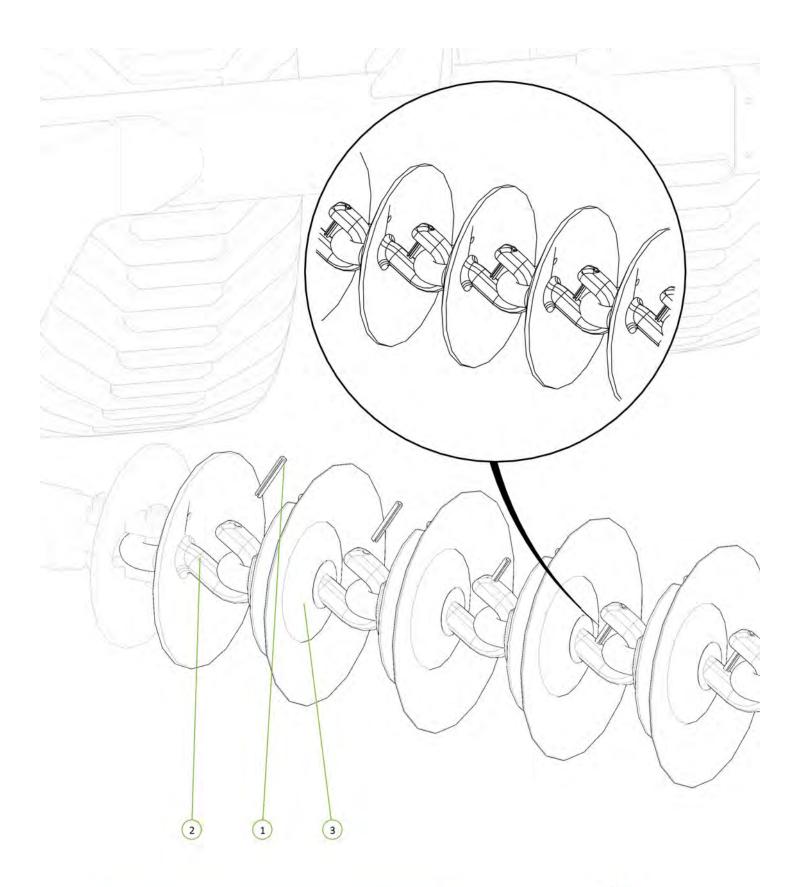
| Item No. | Description                               | Qty | Number        |
|----------|---|-----|---------------|
| 1        | 20mm Bolt Swivel Unit                     | 1   | 0802-PCHB55   |
| 2        | Disc Chain Tie Plate Link 20mm            | 1   | 0802-DCTP-20  |
| 3        | Tie Plate Bush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





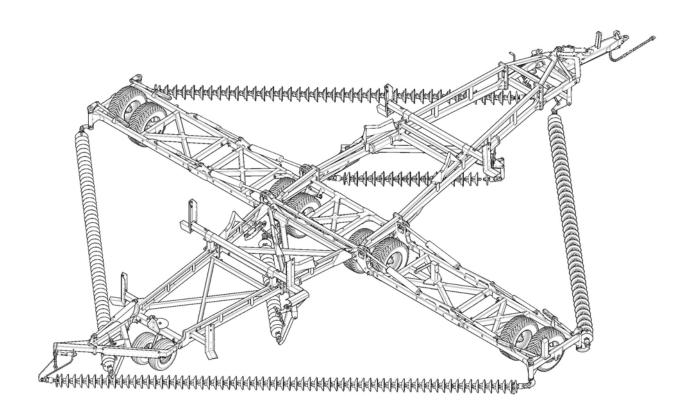






| Item No. | Description                    | Qty | Number        |
|----------|--------------------------------|-----|---------------|
| 1        | Roll Pin Zinc Plated 3/8" x 3" | 1   | 0262-3-8X3    |
| 2        | CL1-B Chain Disc Link          | 1   | 0803-CL1      |
| 3        | CL2-Link Assembly              | 1   | 0803-CL2-Link |



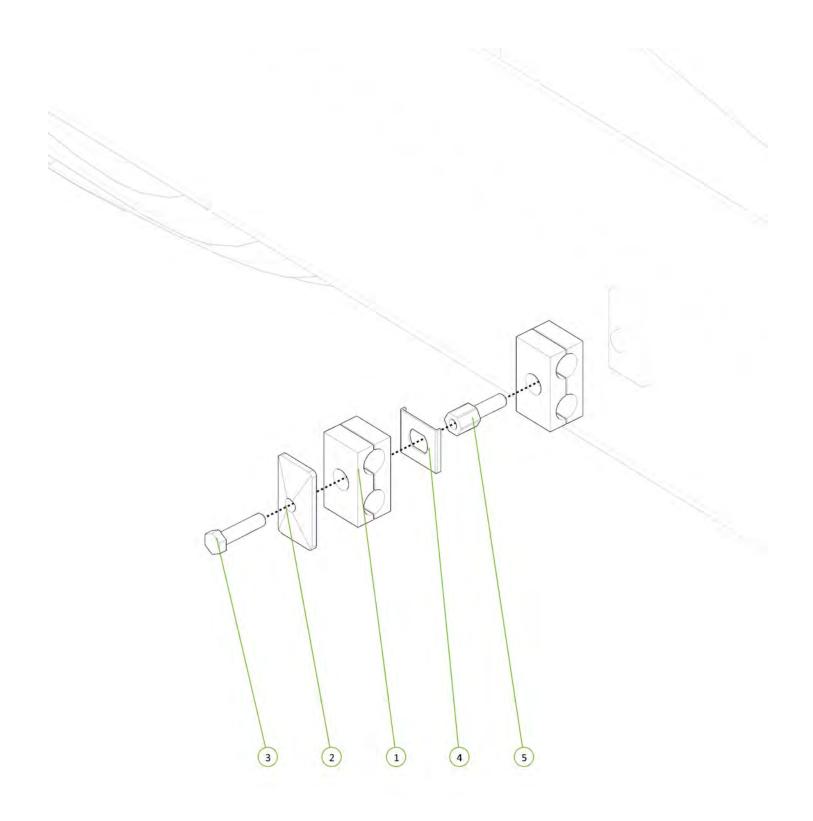




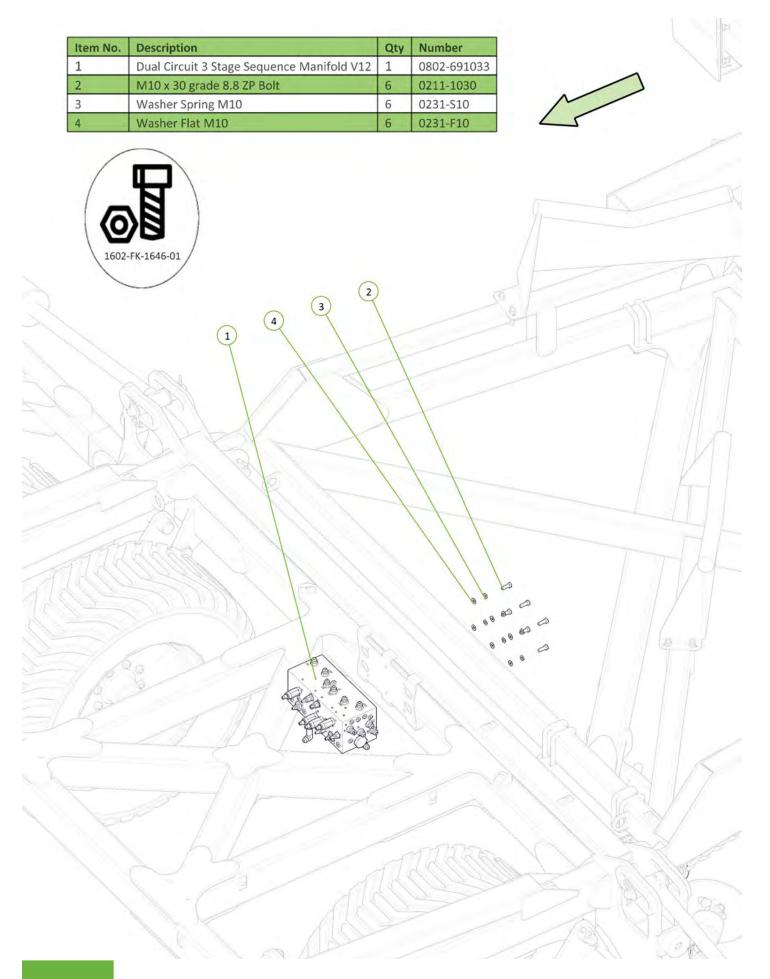
## **Section 3**Hydraulic Setup

## Please note Start at page 103 for machines that are part assembled on delivery

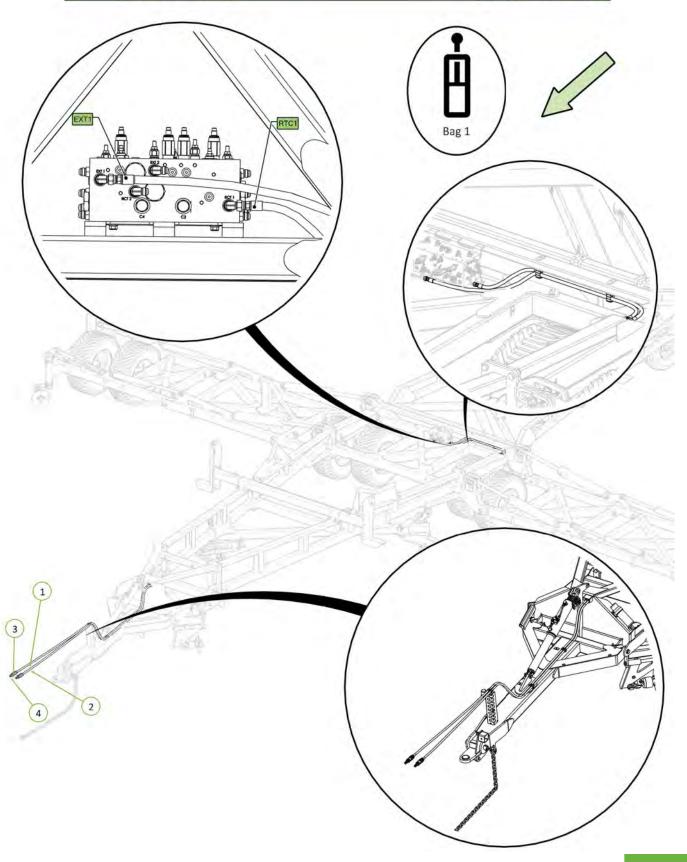


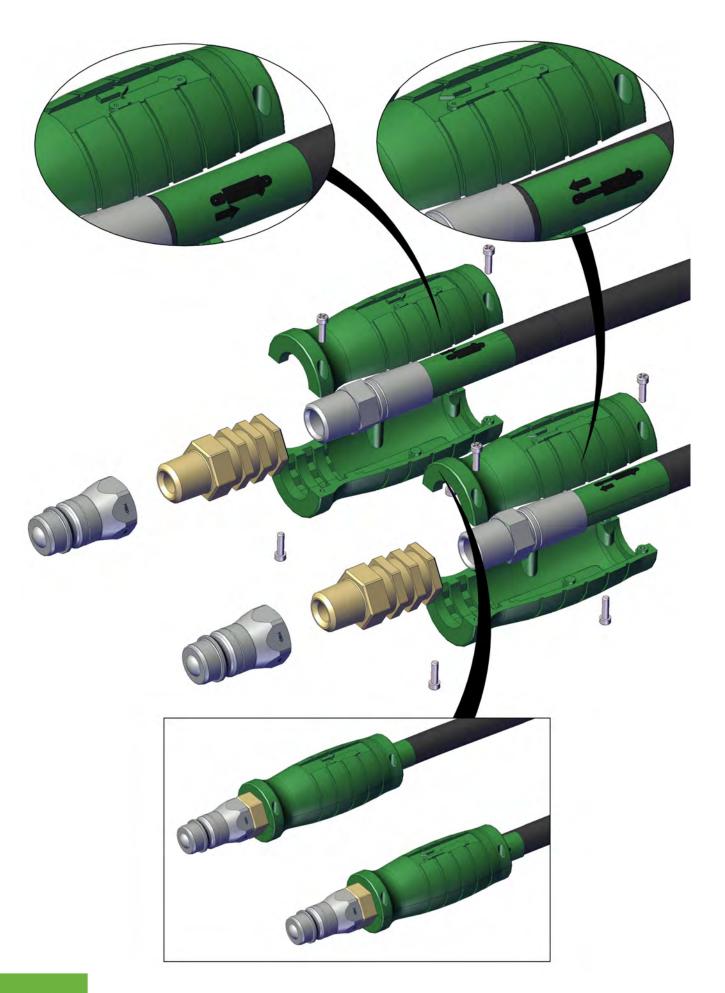


| Item No. | Description                            | Qty | Number          |
|----------|--|-----|-----------------|
| 1        | RCD Double Clamp Jaws 17mm             | 2   | 0325-RCD-17J    |
| 2        | RCD Double Clamp Top Plate No 2        | 1   | 0325-RCD-2PT    |
| 3        | RCD Double Clamp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

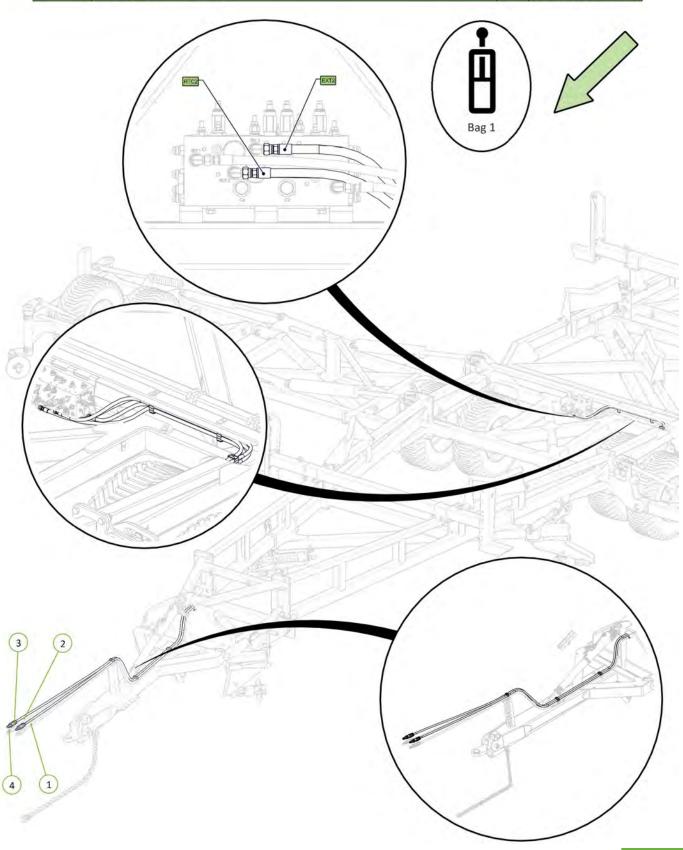


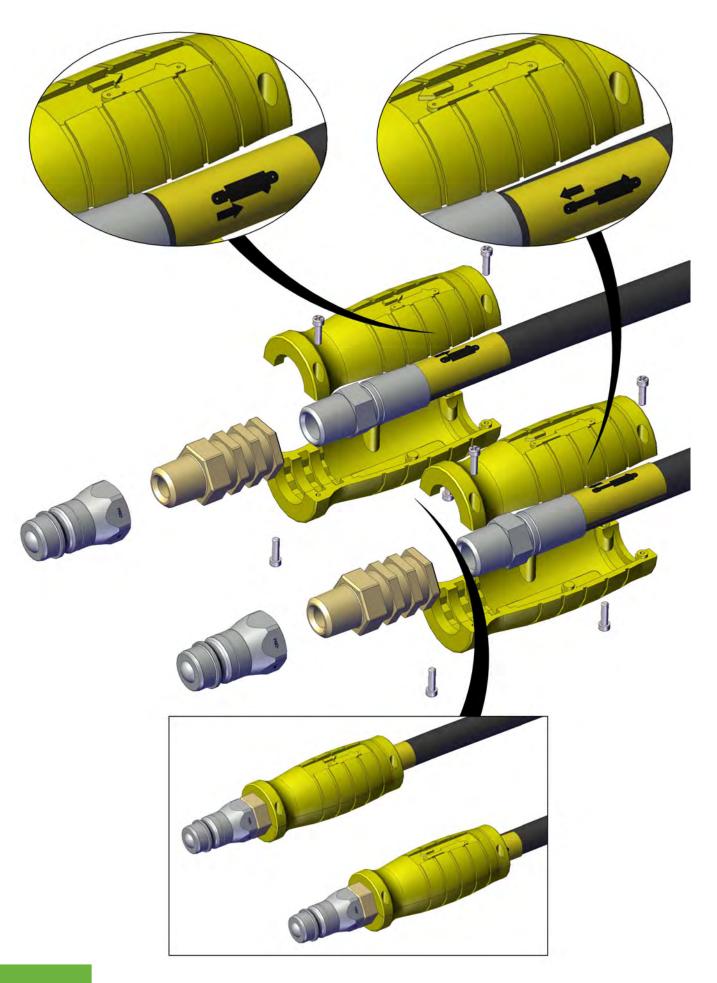
| Item No. | Description   | Qty | Number           |
|----------|---|-----|------------------|
| 1        | TRACTOR TO SEQUENCE VALVE EXT1 PORT FITTED WITH GREEN EXT DECAL | 1   | H46-01-GE-EXT1   |
| 2        | TRACTOR TO SEQUENCE VALVE RCT1 PORT FITTED WITH GREEN RET DECAL | 1   | H46-01-GR-RCT1   |
| 3        | Green 1/2" NPT Hydra Grip Pair (Extend/Ret)                     | 1   | 0325-HG-PT25E24R |
| 4        | BSPP QRC Ball Male Tip  | 2   | 0325-R91-08M     |

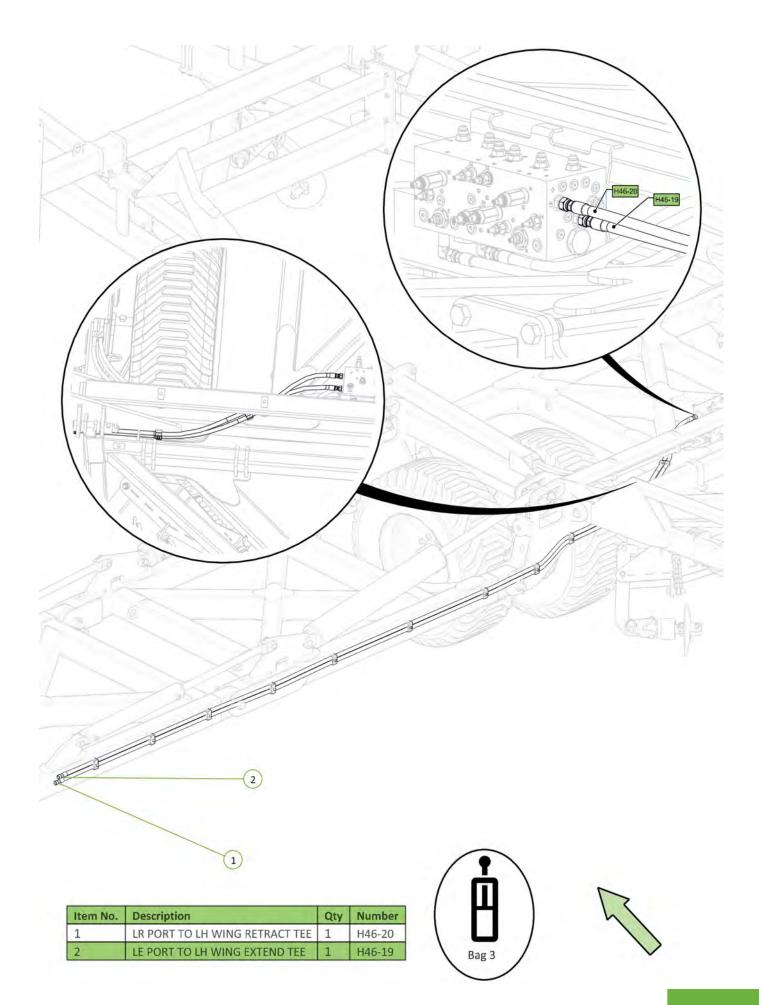


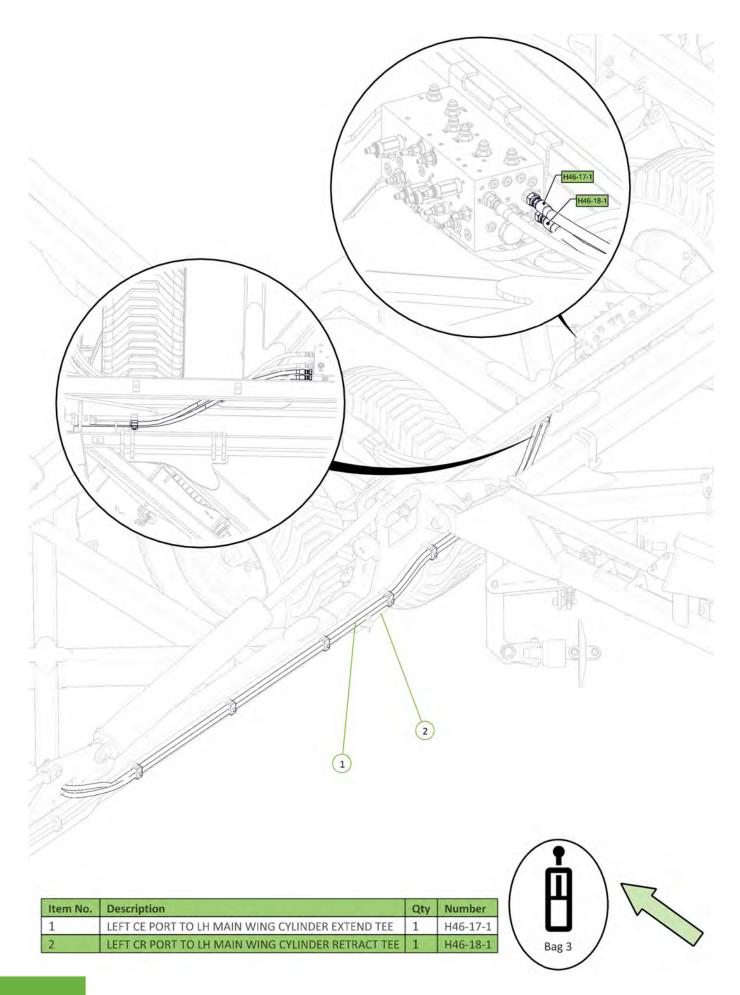


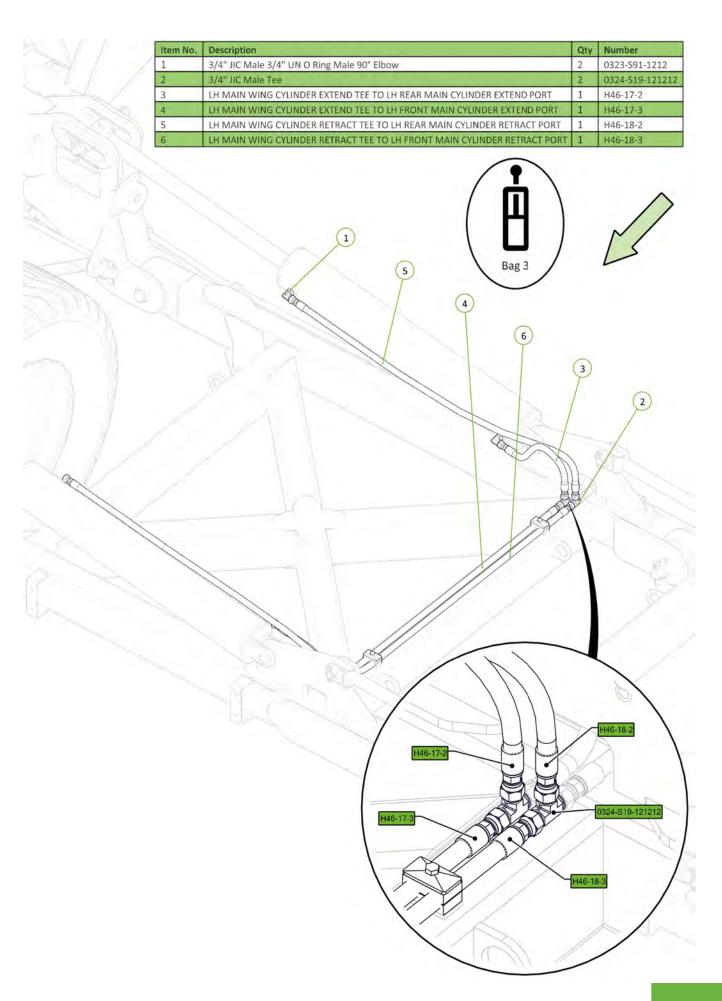
| Item No. | Description  | Qty | Number           |
|----------|--|-----|------------------|
| 1        | TRACTOR TO SEQUENCE VALVE ECT2 PORT FITTED WITH YELLOW RET DECAL | 1   | H46-01-YR-RCT2   |
| 2        | TRACTOR TO SEQUENCE VALVE EXT2 PORT FITTED WITH YELLOW EXT DECAL | 1   | H46-01-YE-EXT2   |
| 3        | Yellow 1/2" NPT Hydra Grip Pair (Extend/Ret)                     | 1   | 0325-HG-PT25E25R |
| 4        | BSPP QRC Ball Male Tip   | 2   | 0325-R91-08M     |



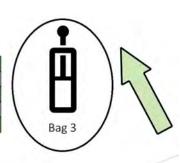


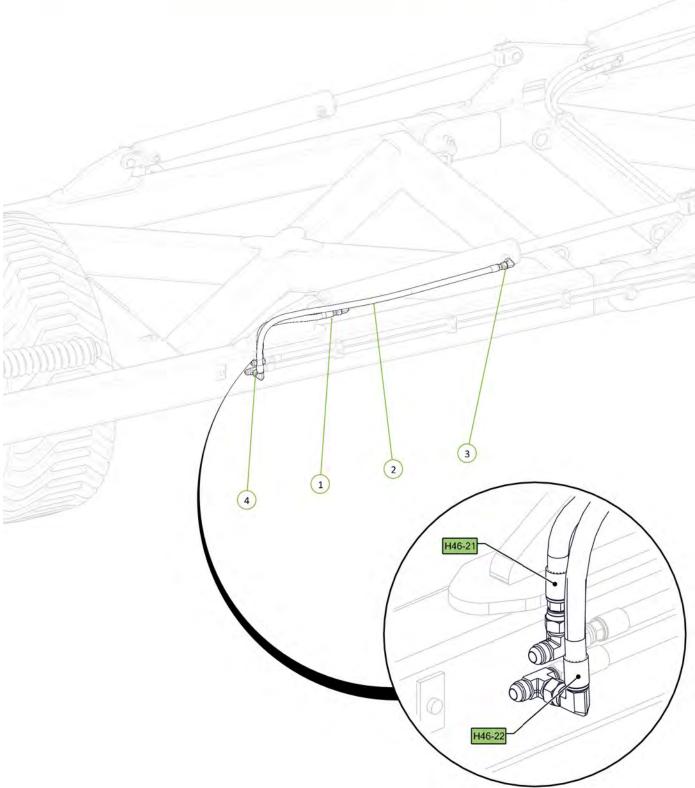




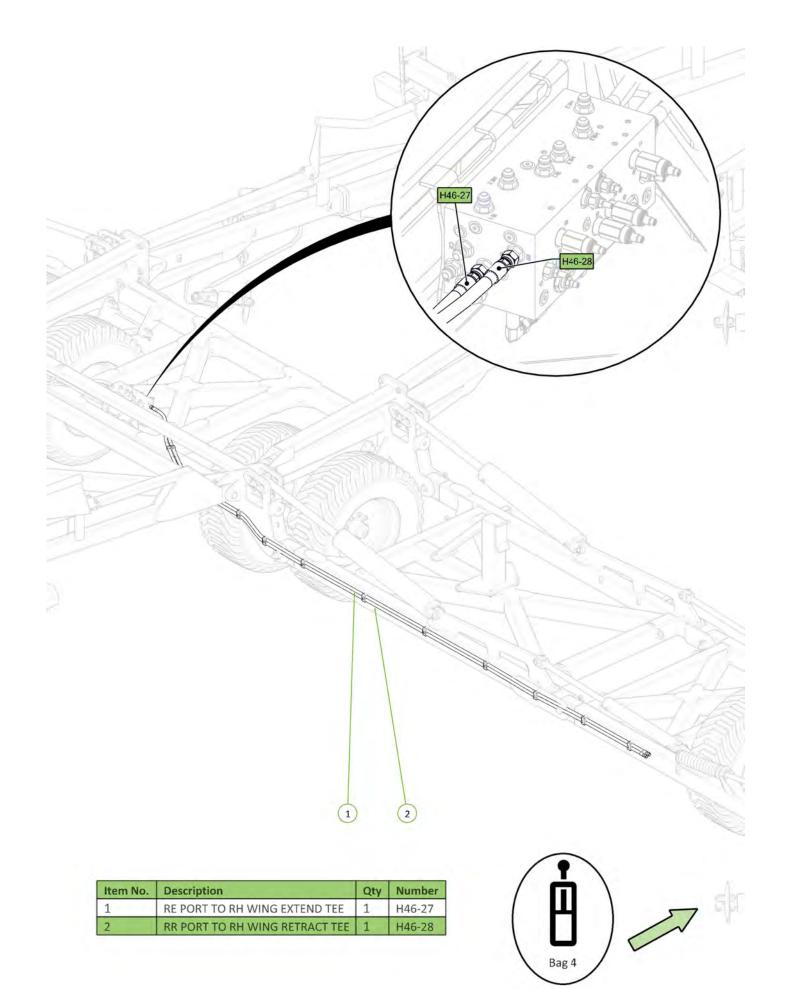


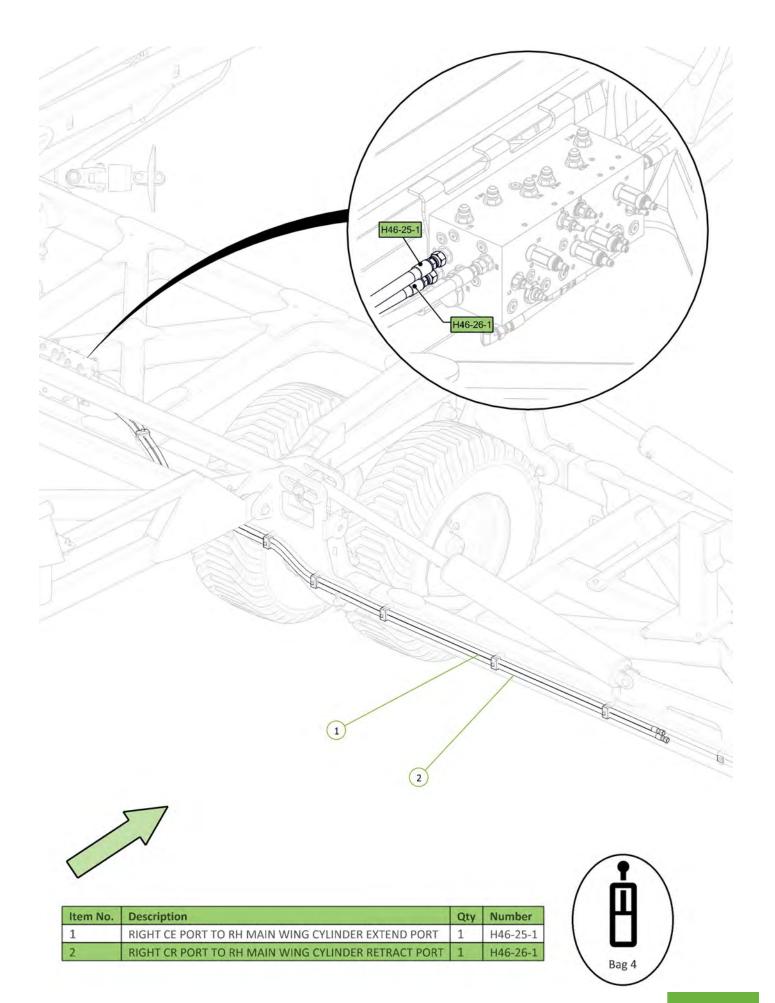
| Item No. | Description   | Qty | Number          |
|----------|---|-----|-----------------|
| 1        | LH WING EXTEND TEE TO LH REAR OUTER WING CYLINDER EXTEND PORT   | 1   | H46-21          |
| 2        | LH WING RETRACT TEE TO LH REAR OUTER WING CYLINDER RETRACT PORT | 1   | H46-22          |
| 3        | JIC/UNO 90 Elbow  | 2   | 0323-591-1212   |
| 4        | JICM JICM JICM TEE  | 2   | 0324-S19-121212 |

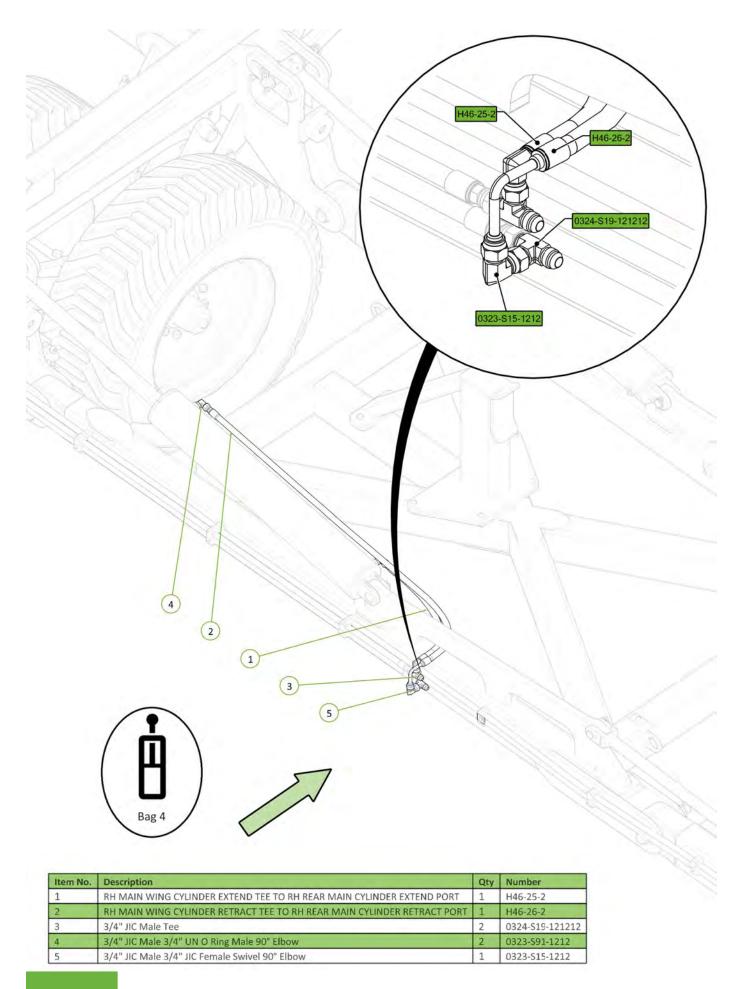


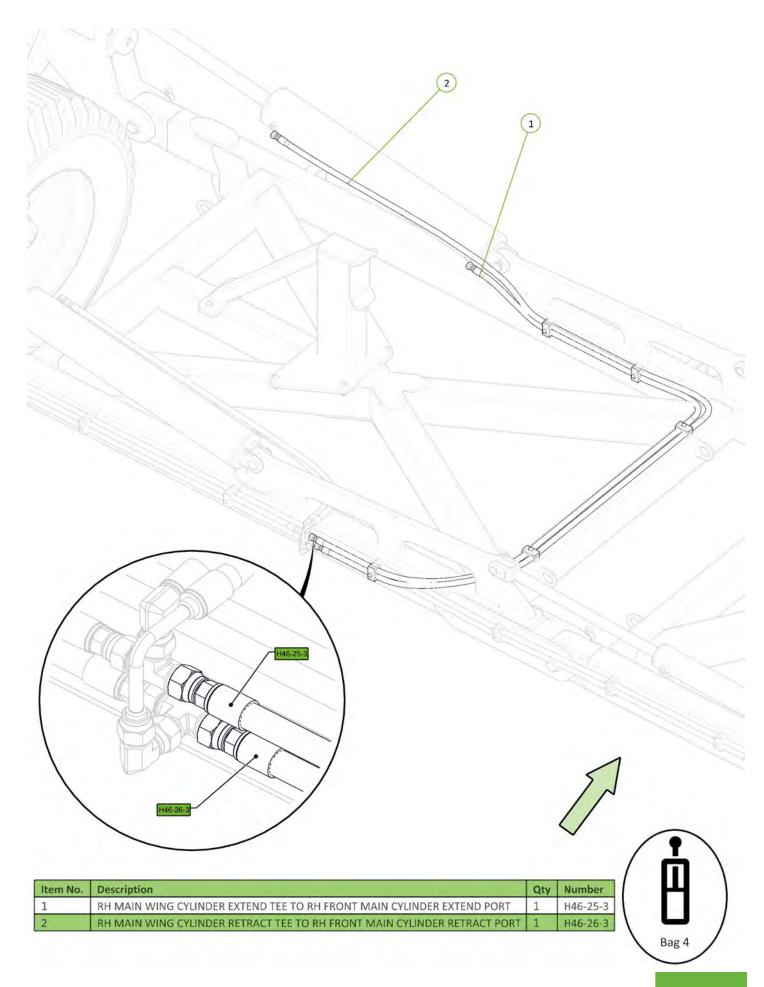


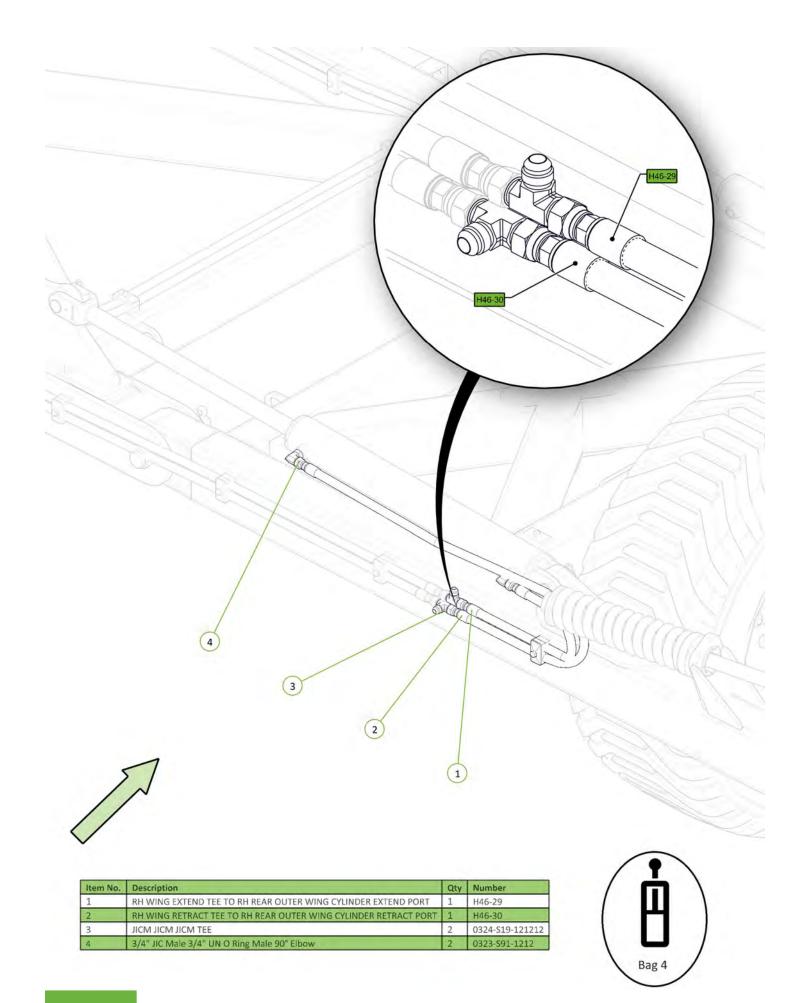
| No. | Description  |                 | Qty  | Number I                |
|-----|--|-----------------|------|-------------------------|
|     | LH WING EXTEND TEE TO LH FRONT OUTER WING CYLINDER EX                  |                 |      | 1140-23                 |
|     | LH WING RETRACT TEE TO LH FRONT OUTER WING CYLINDER R JIC/UNO 90 Elbow | ETRACT PORT   1 | _    | H46-24<br>0323-S91-1212 |
|     |  |                 |      | Bag 3                   |
|     |  |                 | *    |                         |
| 7   |  |                 |      |                         |
|     |  |                 | 46-2 |                         |
|     | V  |                 |      |                         |



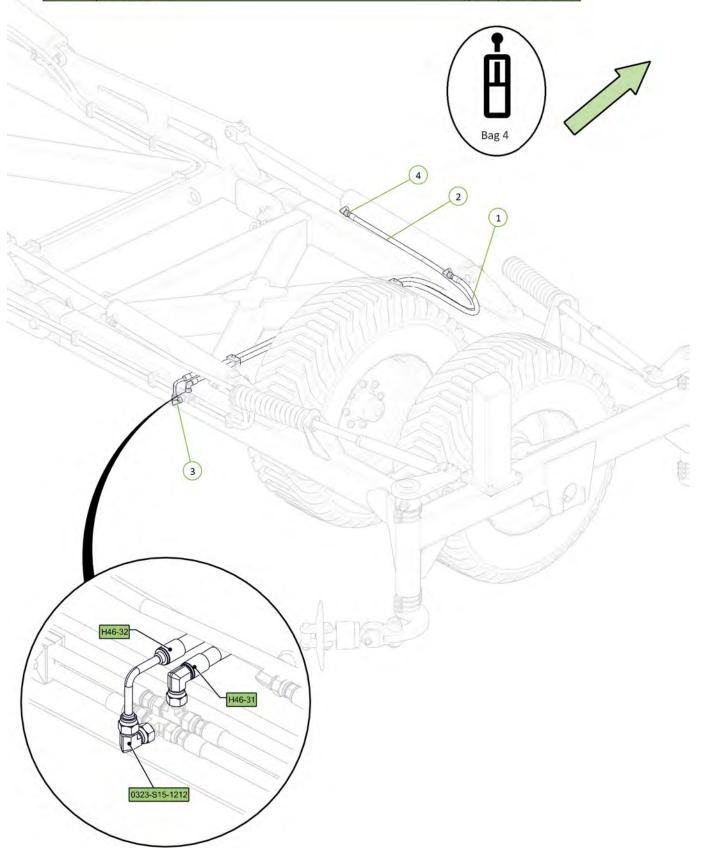


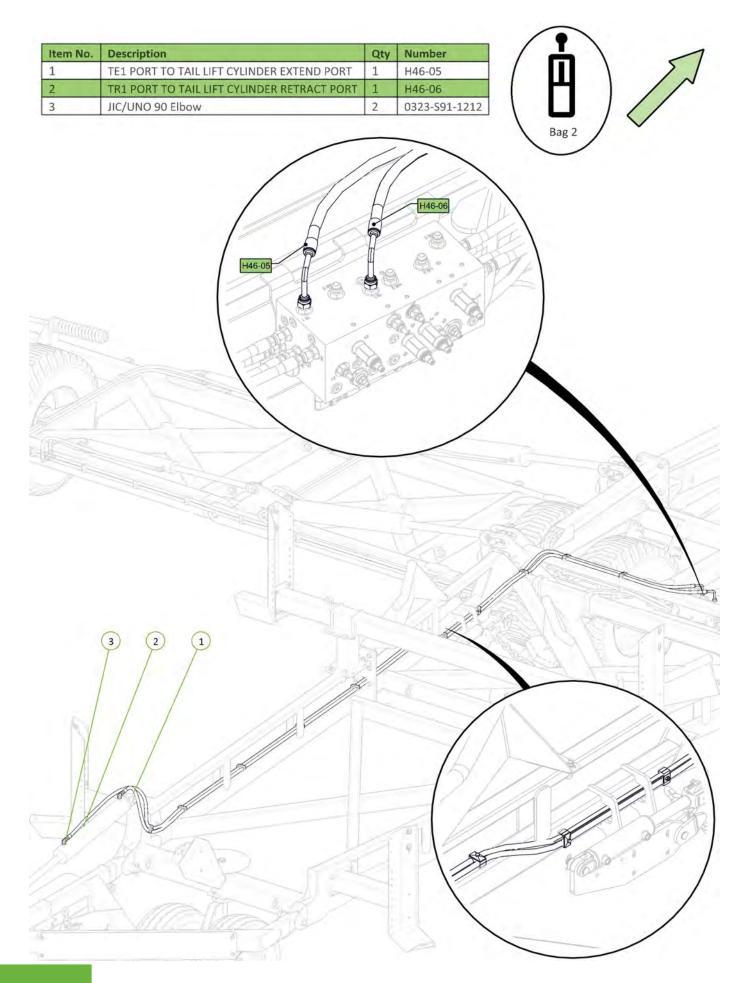


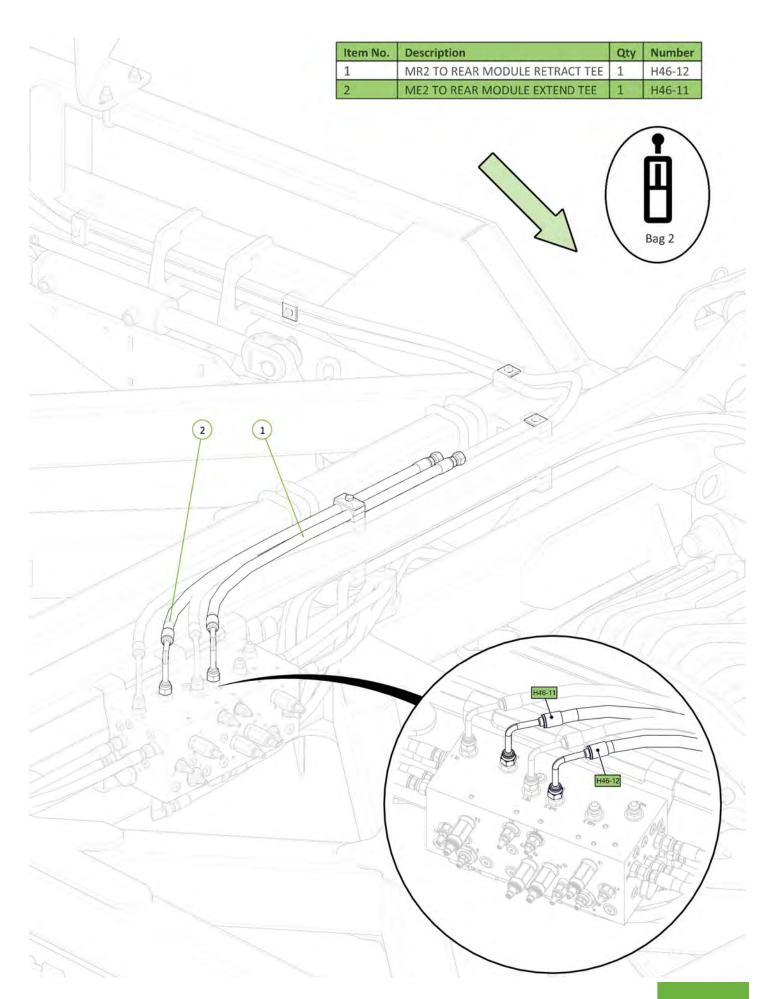




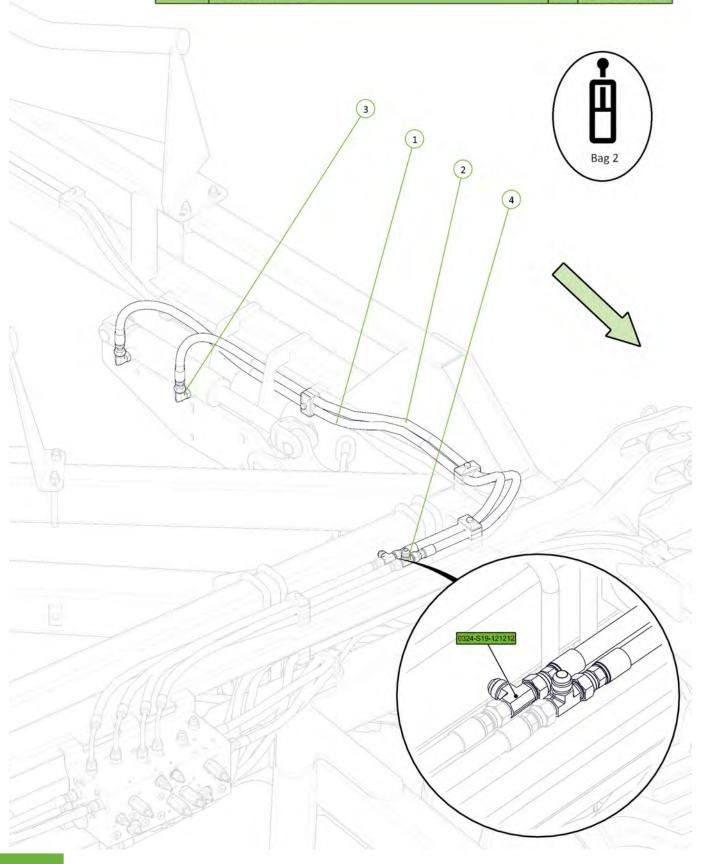
| Item No. | Description  | Qty | Number        |
|----------|--|-----|---------------|
| 1        | RH WING EXTEND TEE TO RH FRONT OUTER WING CYLINDER EXTEND PORT   | 1   | H46-31        |
| 2        | RH WING RETRACT TEE TO RH FRONT OUTER WING CYLINDER RETRACT PORT | 1   | H46-32        |
| 3        | JICM JICFS 90' ELBOW   | 1   | 0323-S15-1212 |
| 4        | JIC/UNO 90 Elbow   | 2   | 0323-591-1212 |

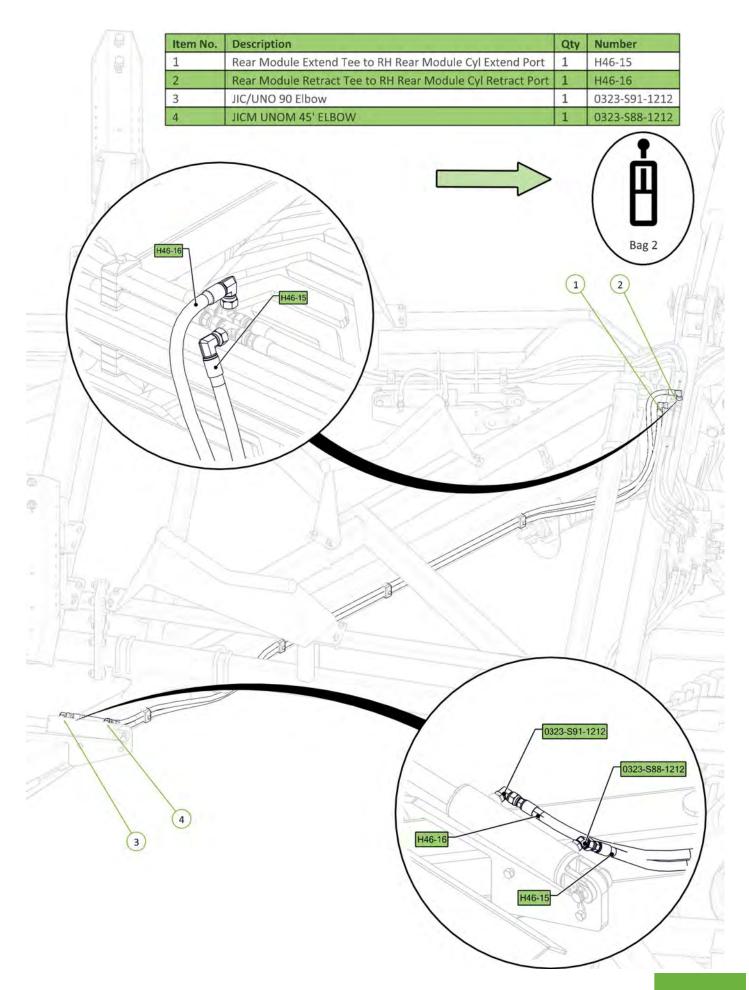


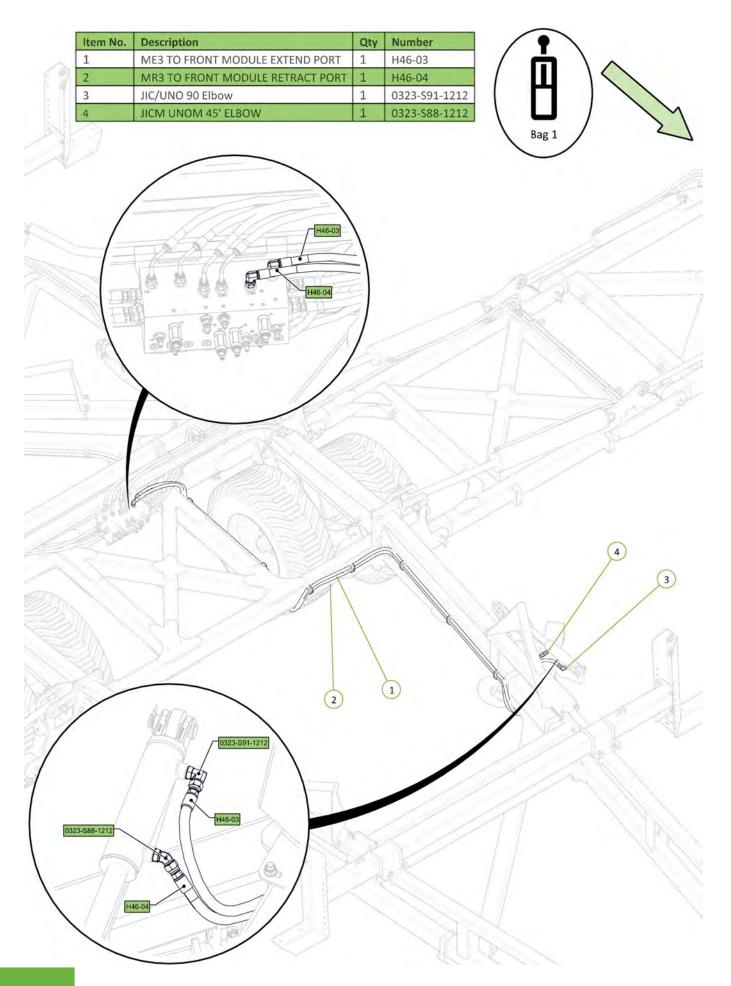




| Item No. | Description  | Qty | Number          |
|----------|--|-----|-----------------|
| 1        | REAR MODULE EXTEND TEE TO LH REAR MODULE CYL EXTEND PORT   | 1   | H46-13          |
| 2        | REAR MODULE RETRACT TEE TO LH REAR MODULE CYL RETRACT PORT | 1   | H46-14          |
| 3        | JIC/UNO 90 Elbow   | 2   | 0323-S91-1212   |
| 4        | JICM JICM JICM TEE   | 2   | 0324-519-121212 |



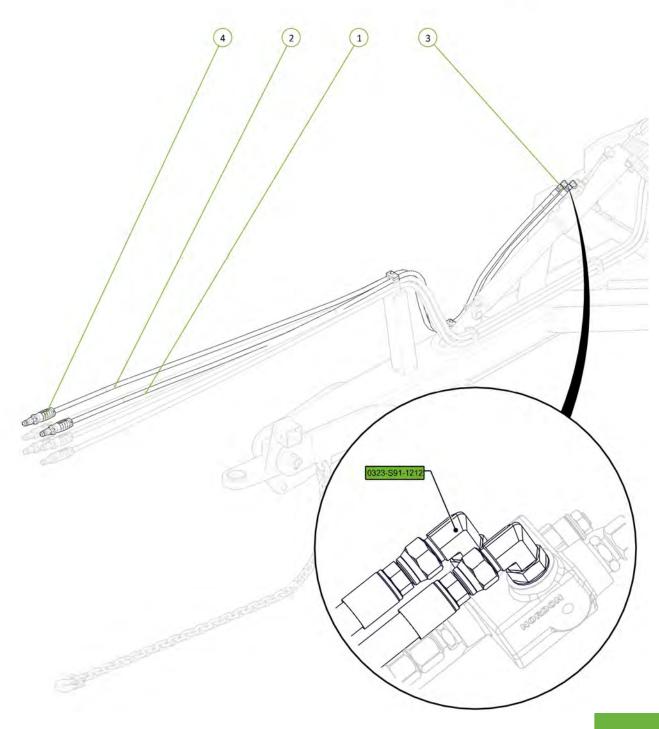




| Item No. | Description   | Qty | Number           |
|----------|---|-----|------------------|
| 1        | TRACTOR TO FRONT LIFT CYLINDER RETRACT PORT FITTED WITH BLUE RET GRIP | 1   | H46-02-BR-RCT    |
| 2        | TRACTOR TO FRONT LIFT CYLINDER EXTEND PORT FITTED WITH BLUE EXT GRIP  | 1   | H46-02-BE-EXT    |
| 3        | JIC/UNO 90 Elbow  | 2   | 0323-S91-1212    |
| 4        | Blue 1/2" NPT Hydra Grip Pair (Extend/Ret)                            | 1   | 0325-HG-PT20E20R |

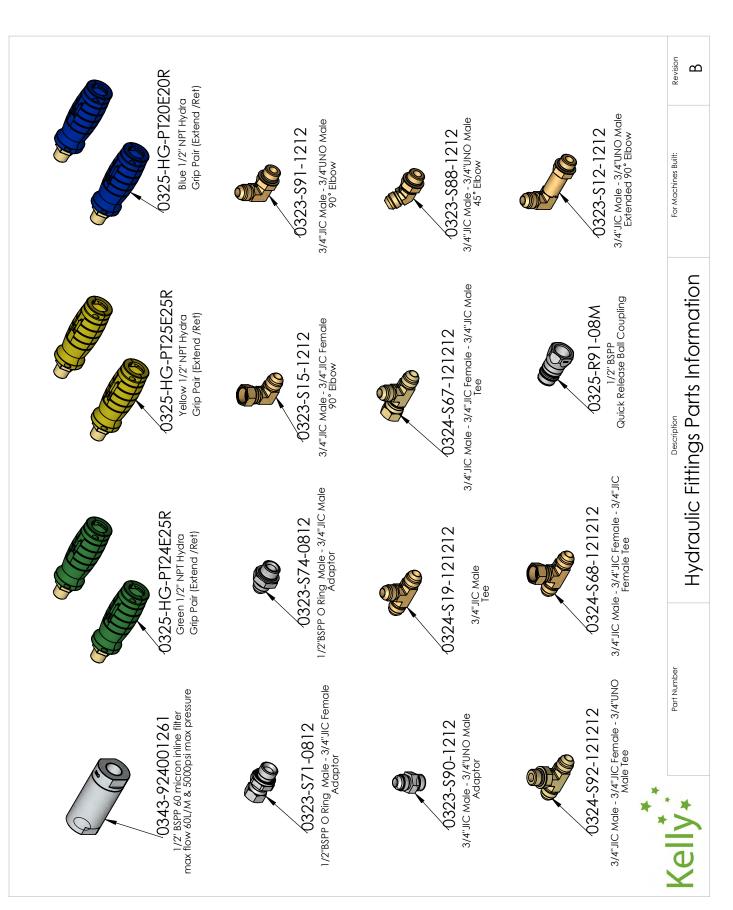




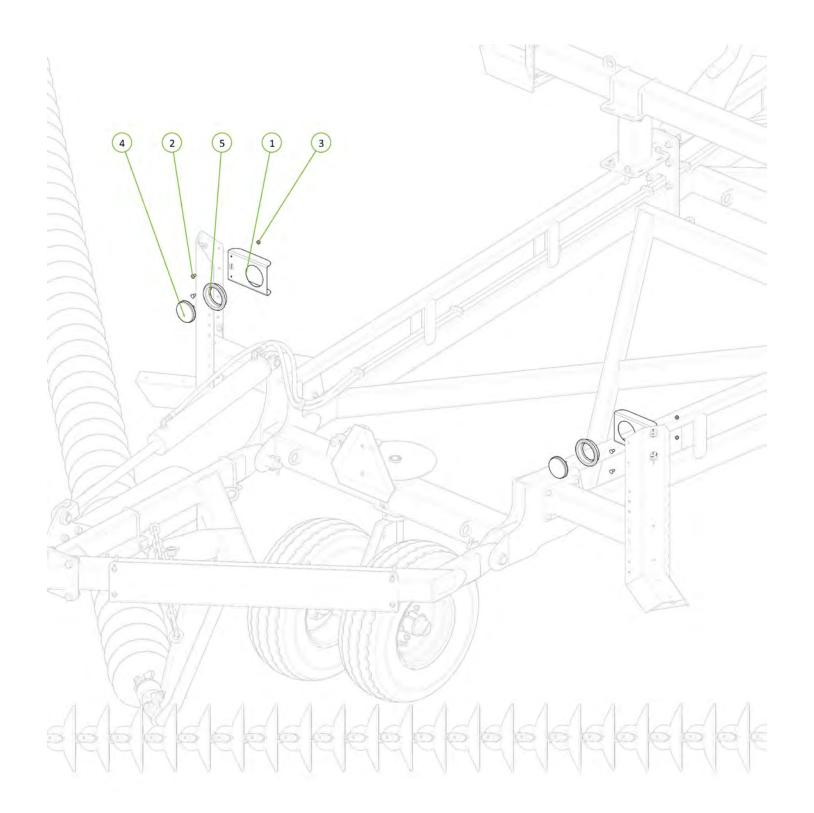




## **Hydraulic Fittings**



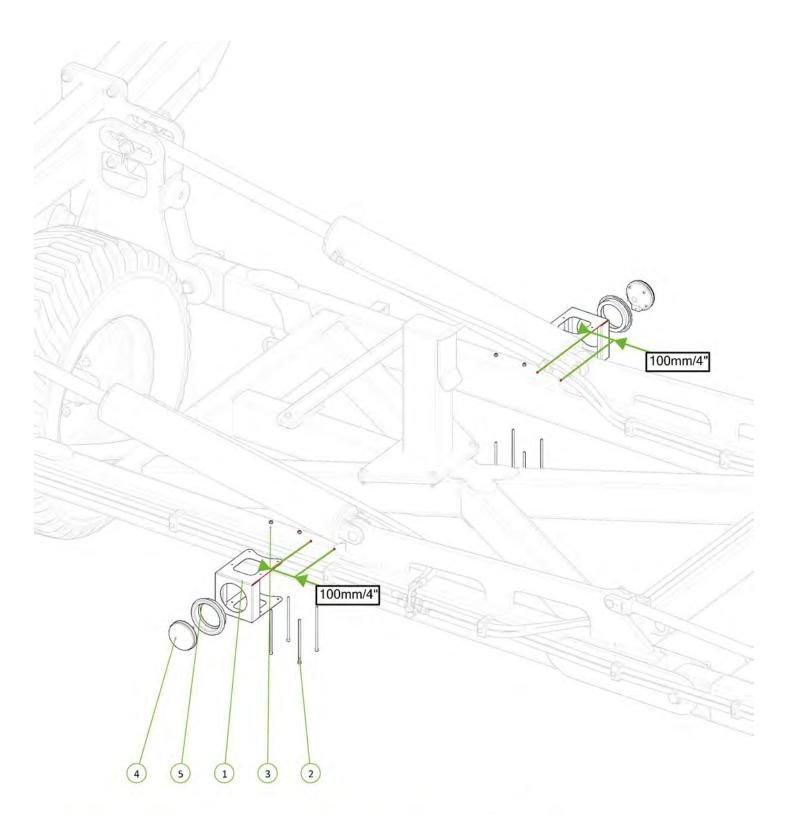
# Section 4 Light Kit



| Item No. | Description             | Qty | Number        |
|----------|-------------------------|-----|---------------|
| 1        | Rear Light Bracket      | 2   | 0800-295      |
| 2        | M8 x 20 Coach Head Bolt | 4   | 0215-CH0820   |
| 3        | Nyloc Nut M8            | 4   | 0221-NYL8     |
| 4        | LED Stop Tail Lamp      | 2   | 0412-LED110RM |
| 5        | 110RM Rubber Grommet    | 2   | 0412-53101RG  |

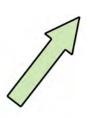


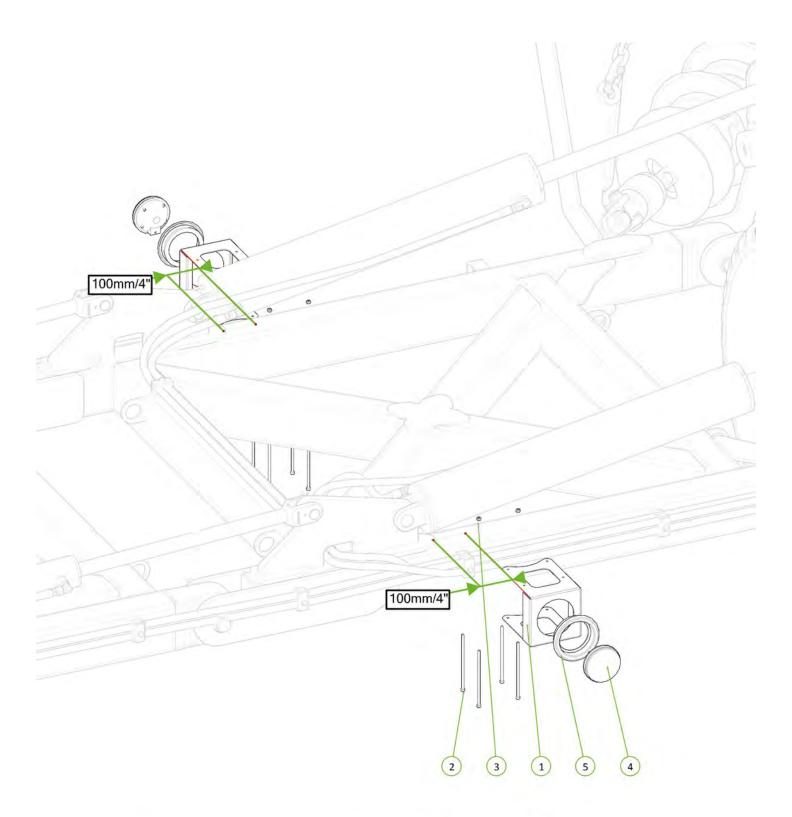




| Item No. | Description                  | Qty | Number        |
|----------|------------------------------|-----|---------------|
| 1        | Wing light bracket           | 2   | 0800-296      |
| 2        | Socket Head Bolt M6 x 170 zp | 8   | 0211-SH6170   |
| 3        | Nyloc Nut M6                 | 8   | 0221-NYL6     |
| 4        | LED Rear Indicator Lamp      | 2   | 0412-LED110AM |
| 5        | 110RM Rubber Grommet         | 2   | 0412-53101RG  |

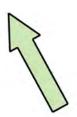




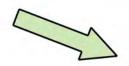


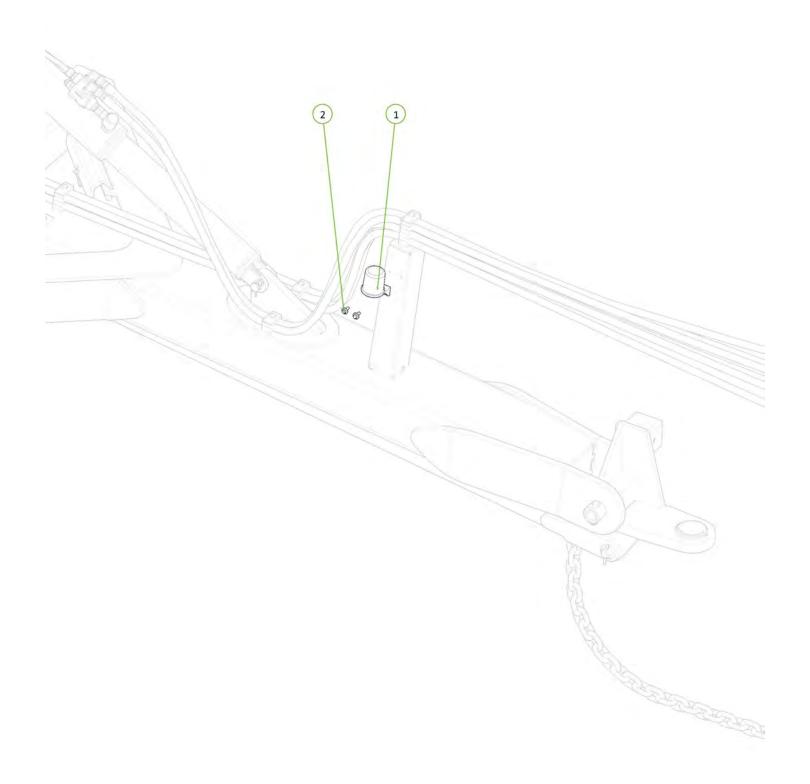
| Item No. | Description                  | Qty | Number        |
|----------|------------------------------|-----|---------------|
| 1        | Wing light bracket           | 2   | 0800-296      |
| 2        | Socket Head Bolt M6 x 170 zp | 8   | 0211-SH6170   |
| 3        | Nyloc Nut M6                 | 8   | 0221-NYL6     |
| 4        | LED Rear Indicator Lamp      | 2   | 0412-LED110AM |
| 5        | 110RM Rubber Grommet         | 2   | 0412-53101RG  |

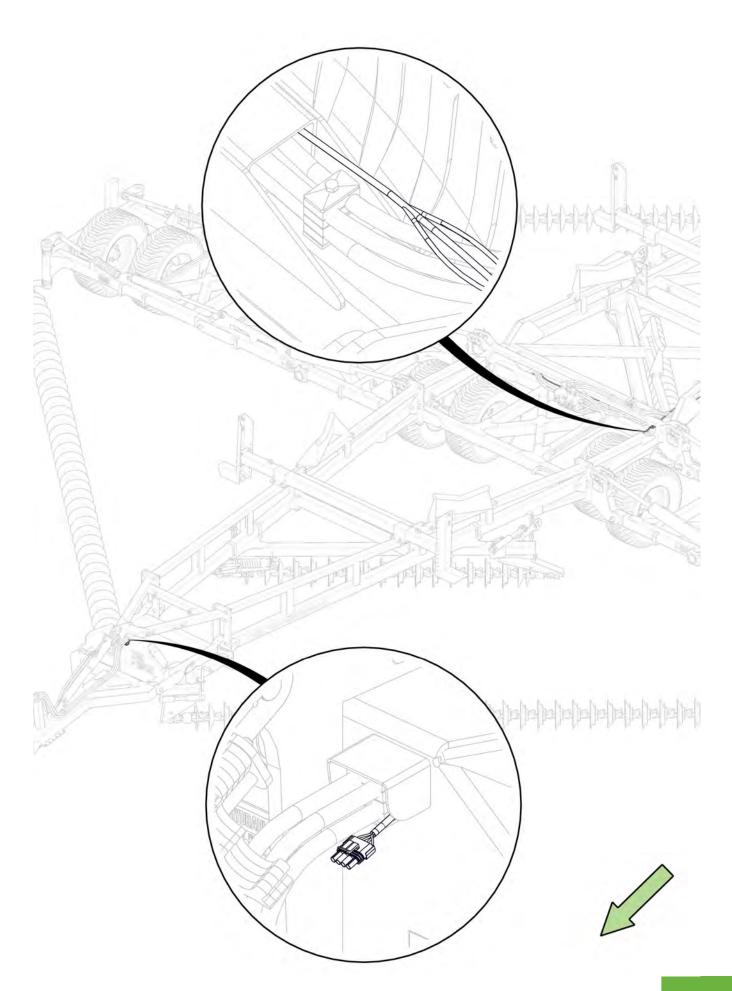


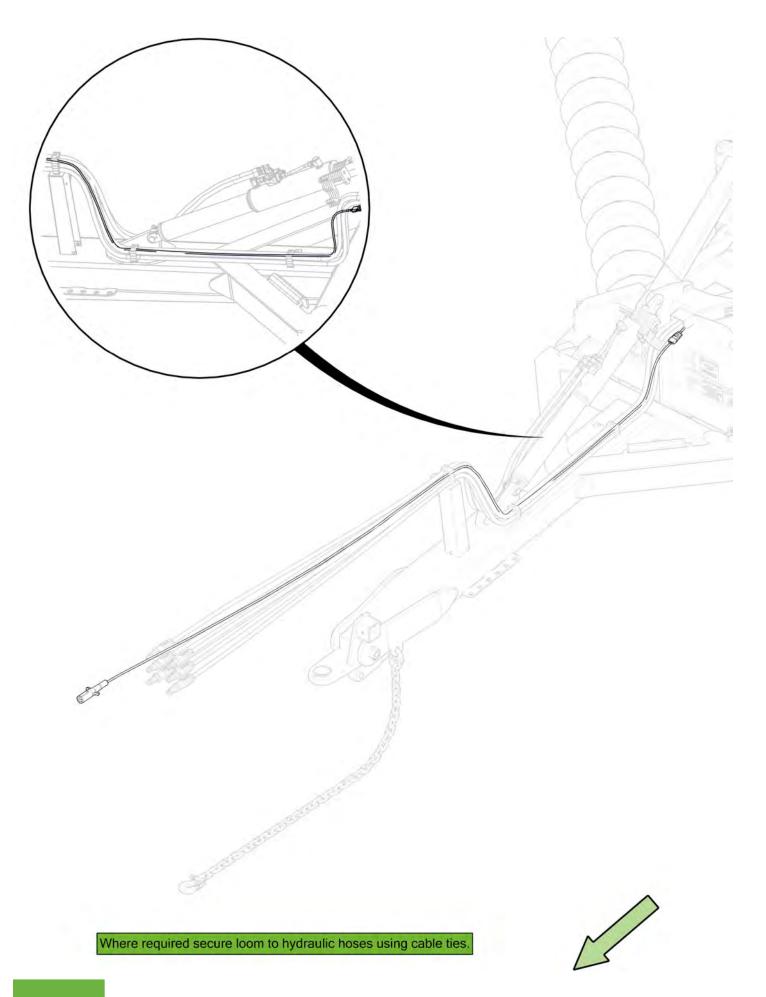


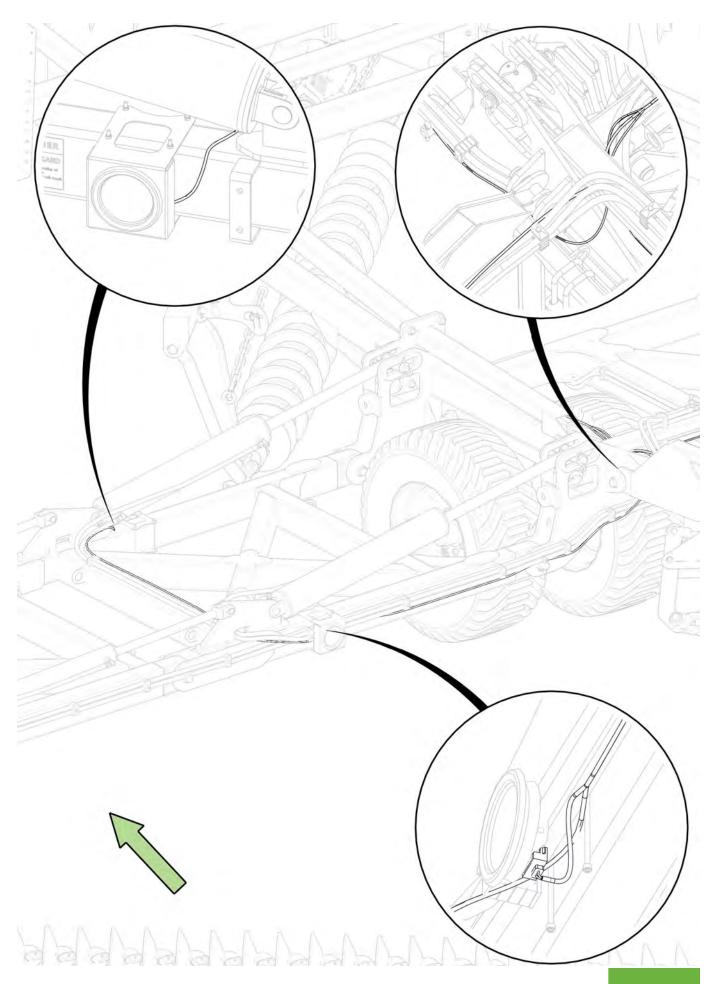
| Item No. | Description                       | Qty | Number          |
|----------|-----------------------------------|-----|-----------------|
| 1        | Electrical Plug Keeper            | 1   | 0416-11750B     |
| 2        | M6 x 20 Trilobe self tapping Scew | 2   | 0211-M620MZPHTF |

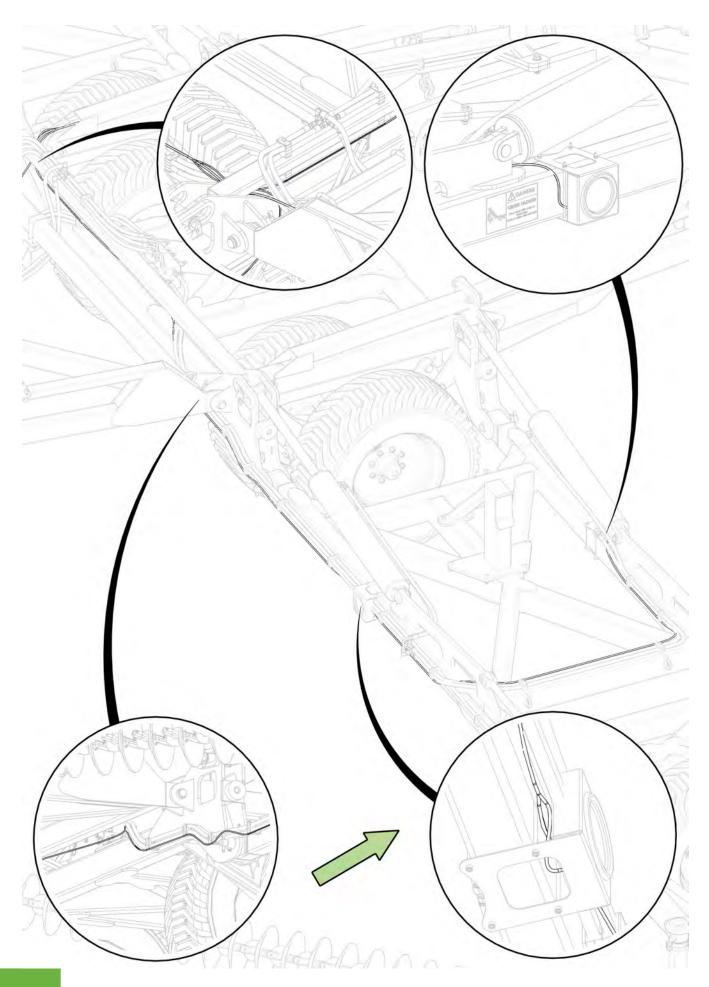


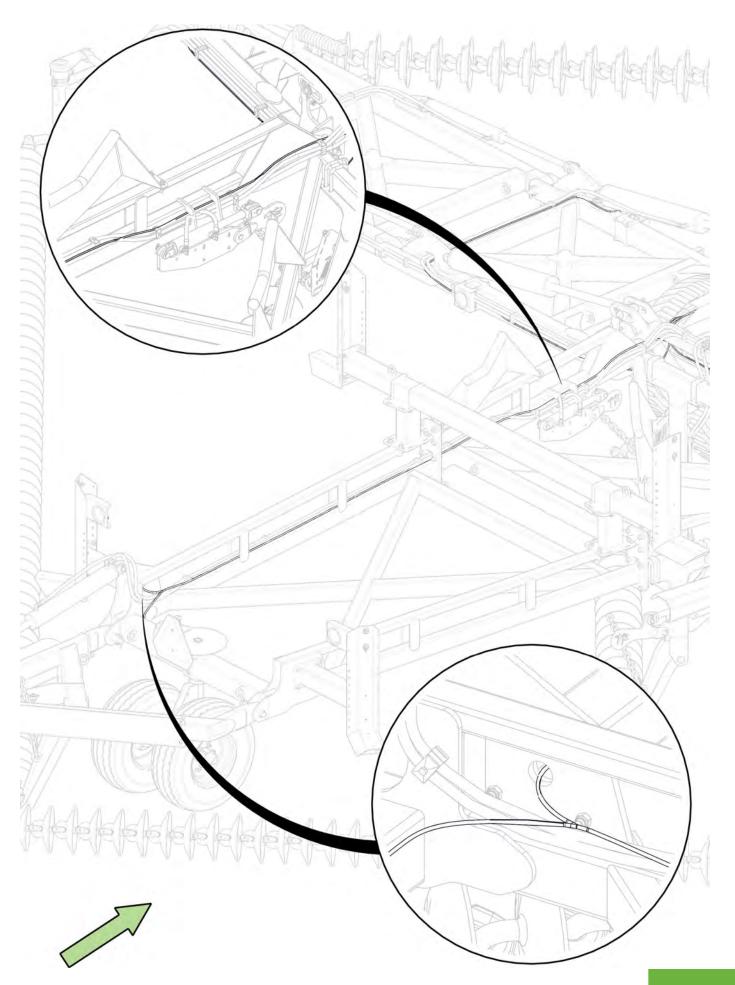


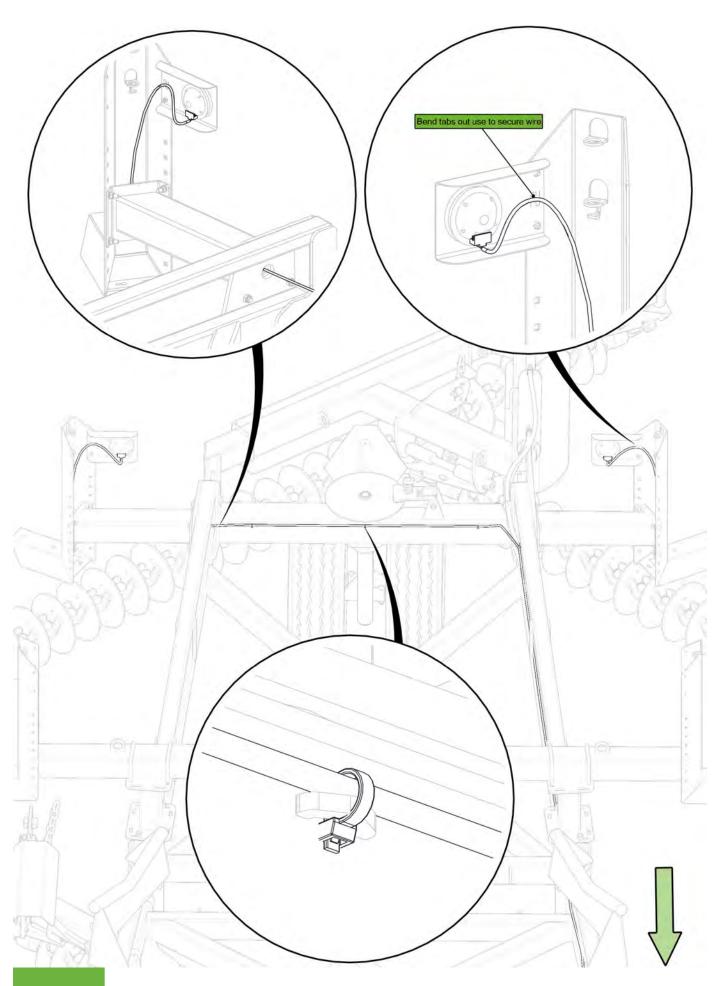


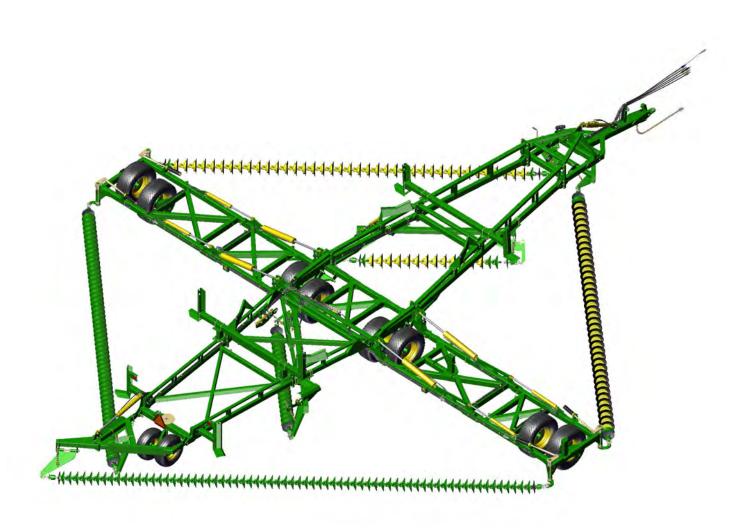




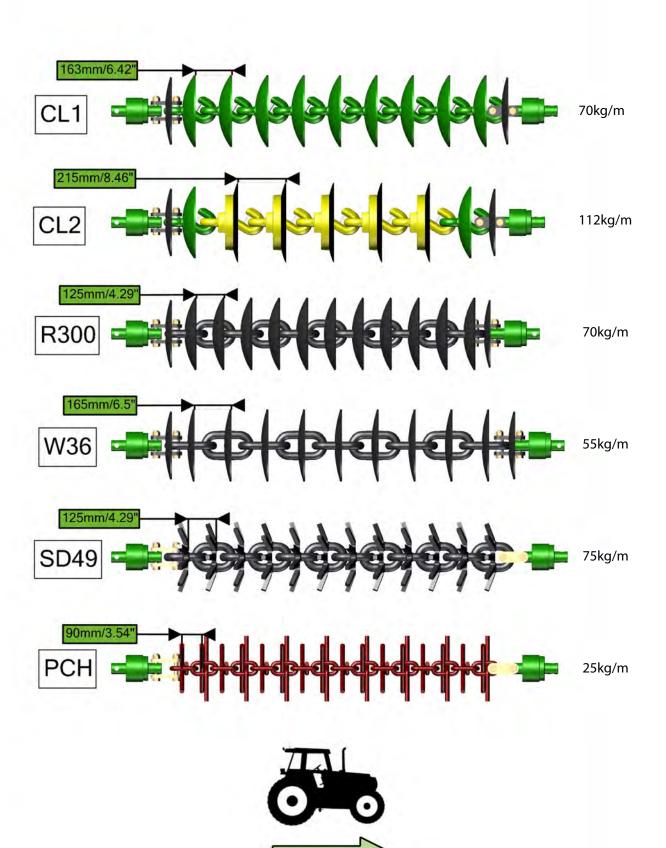






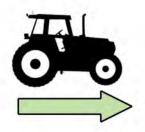


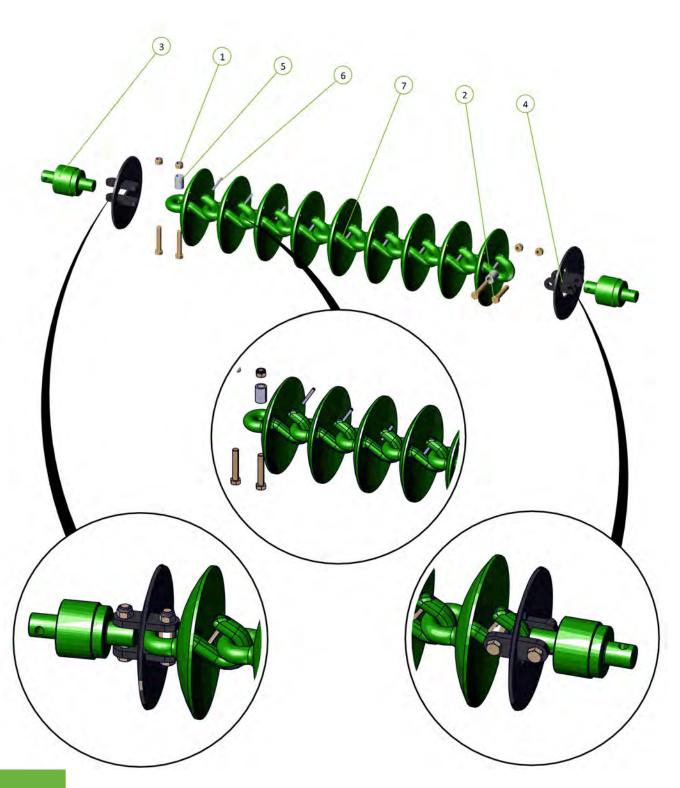
# Section 5 Chain Assembly



# CL1 Disc Chain - CL47/35/7

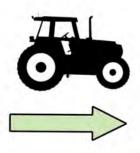
| 1 | D. Teller S. E. C. S. S. Landon                       |                             | Qty |
|---|---|-----------------------------|-----|
|   | Nyloc Nut M20/24                                      | 0221-NYL20/24               | 4   |
| 2 | M20 x 110 / M24 x 120 grade 10.9 ZP Short Thread Bolt | 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   |

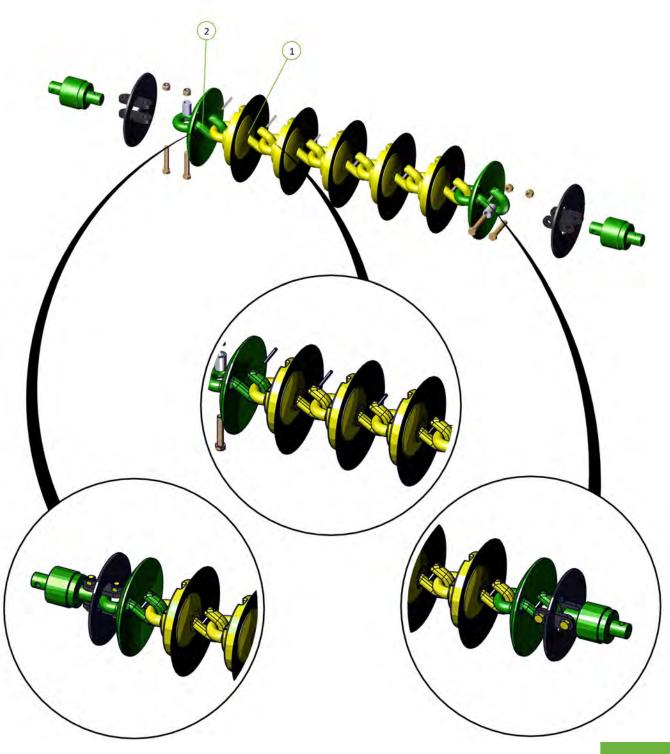


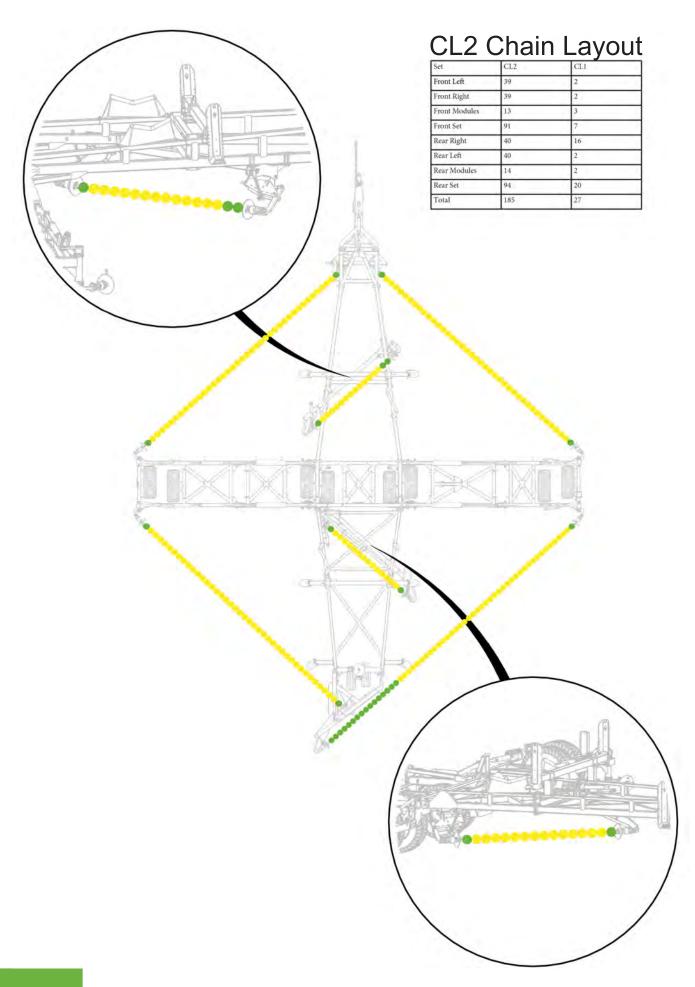


# CL2 Disc Chain - CL75/25/8

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

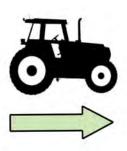


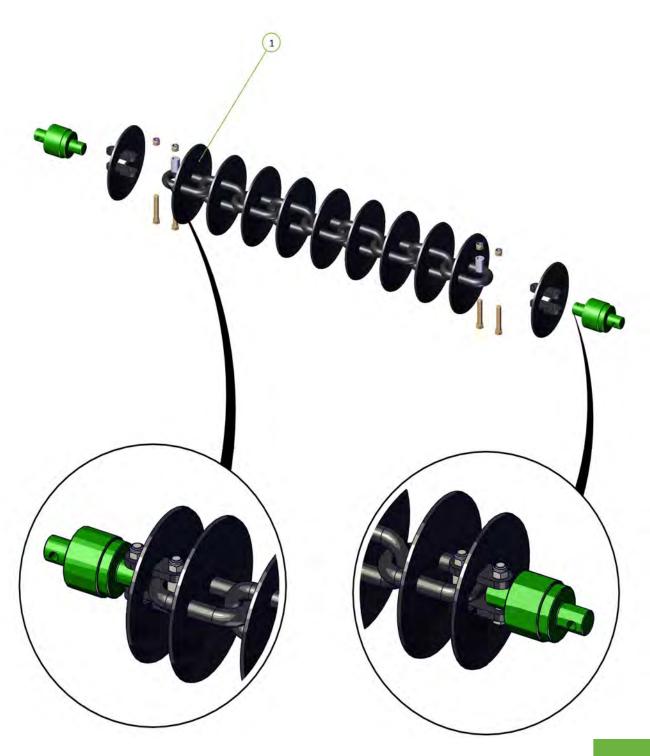




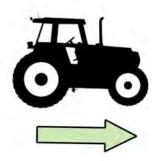
## W36 Disc Chain - W36/25/7

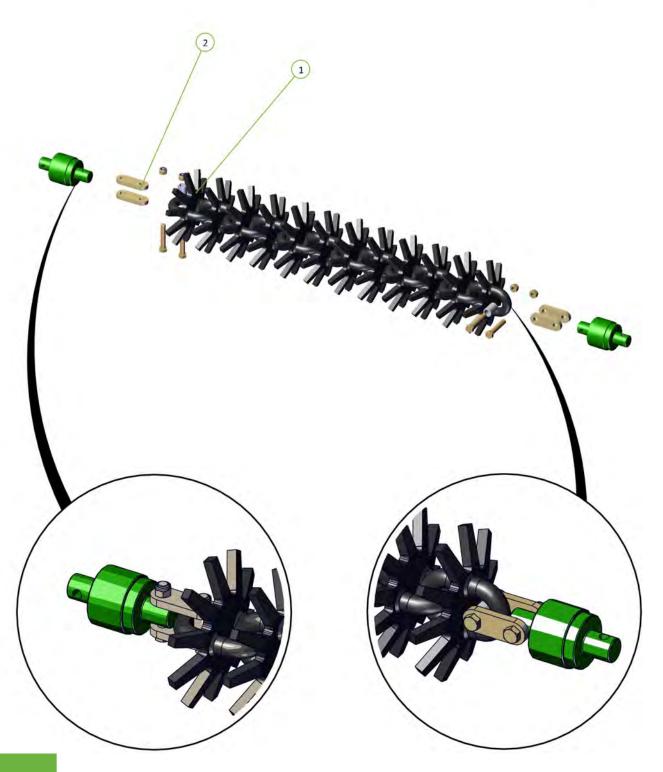
| Item No. | Description       | Number   | Qty |
|----------|-------------------|----------|-----|
| 1        | W36/25 Chain Link | 0803-W36 | 1   |



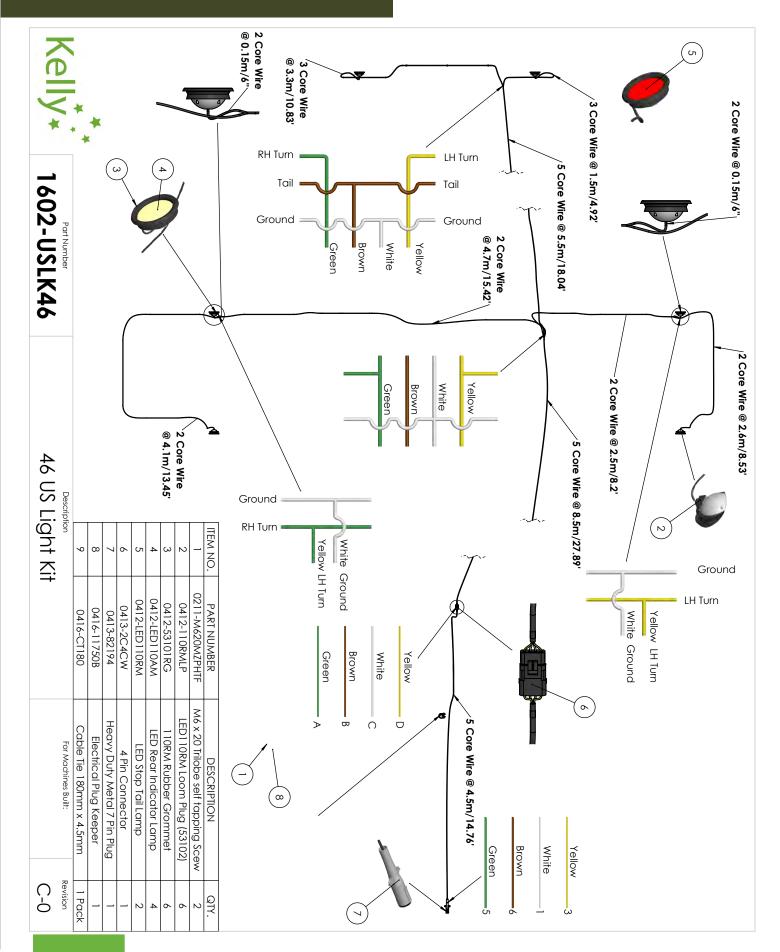


| Item No. | Description                                      | Number                | Qty |
|----------|--|-----------------------|-----|
| 1        | 10 Spike Disc Chain 49/27/5                      | 0803-SD49             | 1   |
| 2        | Tie Plate For 20mm Bolt/ Tie Plate For 24mm Bolt | 0800-83.2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



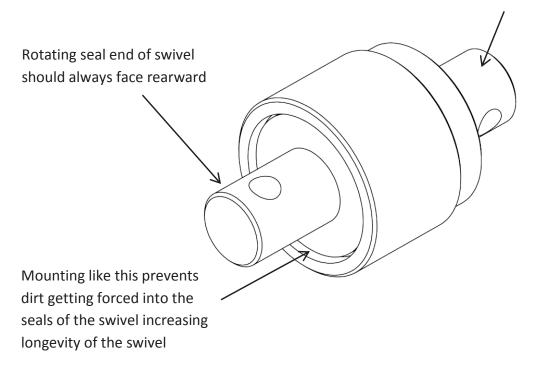


# **Section 6**Diagrams and Charts

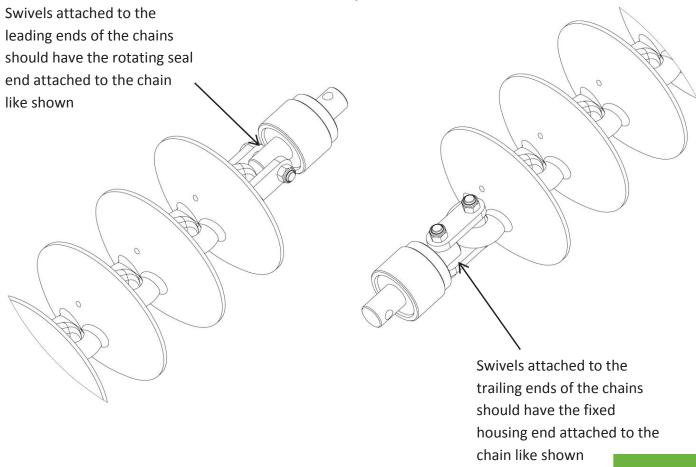


### **Mounting Swivels**

Fixed housing end of swivel should always face forward



### **For Example**



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# **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            | model 46    |
|------------------|-------------|
| Working width    | 46.6′/14.2m |
| Transport width  | 13.1′/4m    |
| Transport height | 13.5′/4.1m  |
| Transport length | 57.7′/17.6m |

| Model       |               | Length             | CL2   | CL1 | W36 | R300 | SD49 | Prickle<br>chain |
|-------------|---------------|--------------------|---|-----|-----|------|------|------------------|
|             |               |                    | CL2 disc<br>chain also<br>requires<br>CL1 disc<br>chain |     |     |      |      |                  |
| Model<br>46 | Front right   | 28.47' /<br>8.67m  | CL2 - 39<br>CL1 - 2                                     | 53  | 52  | 69   | 69   | 96               |
|             | Front left    | 28.44' /<br>8.67m  | CL2 - 39<br>CL1 - 2                                     | 53  | 52  | 69   | 69   | 96               |
|             | Rear right    | 36.28' /<br>11.06m | CL2 - 40<br>CL1 - 16                                    | 68  | 67  | 88   | 88   | 123              |
|             | Rear left     | 29.26' /<br>8.92m  | CL2 - 40<br>CL1 - 2                                     | 55  | 54  | 72   | 72   | 99               |
|             | Modules front | 11.05′/<br>3.37m   | CL2 - 13<br>CL1 - 3                                     | 20  | 20  | 27   | 27   | 37               |
|             | Modules rear  | 11.05′/<br>3.37m   | CL2 - 14<br>CL1 - 2                                     | 20  | 20  | 27   | 27   | 37               |

# **Section 7**

Operation & Assembly Updates

### **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 centerd 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 neccessary.
- 5. Move off with all chains in working position. If neccessary it is acceptabe to raise front A pull to transport height. This will lift the front chains off the ground and reduce the load on the tractor. Lower the front A pull once moving satisfactorily.

#### **Folding:**

- 1. Lower the front A frame to working height.

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

### Setting for correct chain tension

### Wings

Use the spanner supplied. Loosen the lock nut adjacent to the tensioner assembly body.

Turn the tension bolt clockwise to compress the coil spring. Correct tension is acheived 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  |  |  |
|-------|--------|-----|--|--|
| 46    | 12.4   | 315 |  |  |

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









### **Module & Chain Tension**

### **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.

