



Diamond Chain Harrow Assembly and Parts Manual

Model 50

Revised F February 2017

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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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Section 1

Unpacking

Unpacking

We recommend the use of suitable lifting equipment



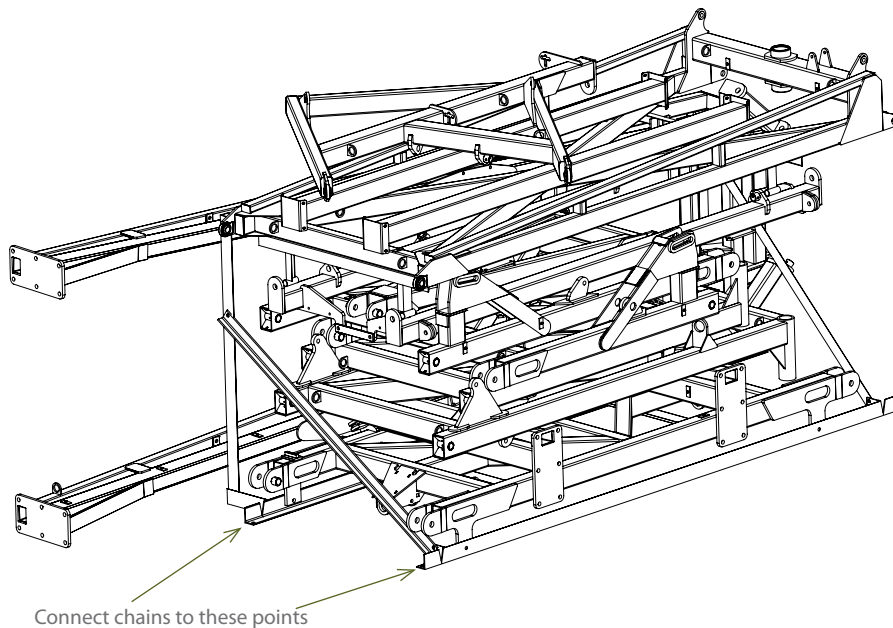
- Before opening shipping container inspect exterior for any damage. Remove seal and open container doors.

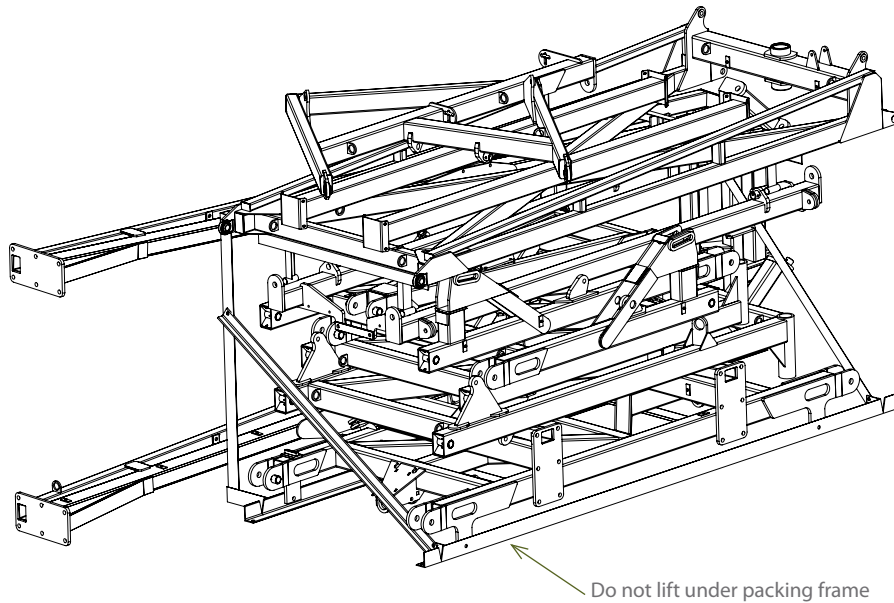


CAUTION

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





CAUTION

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



CAUTION

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



CAUTION

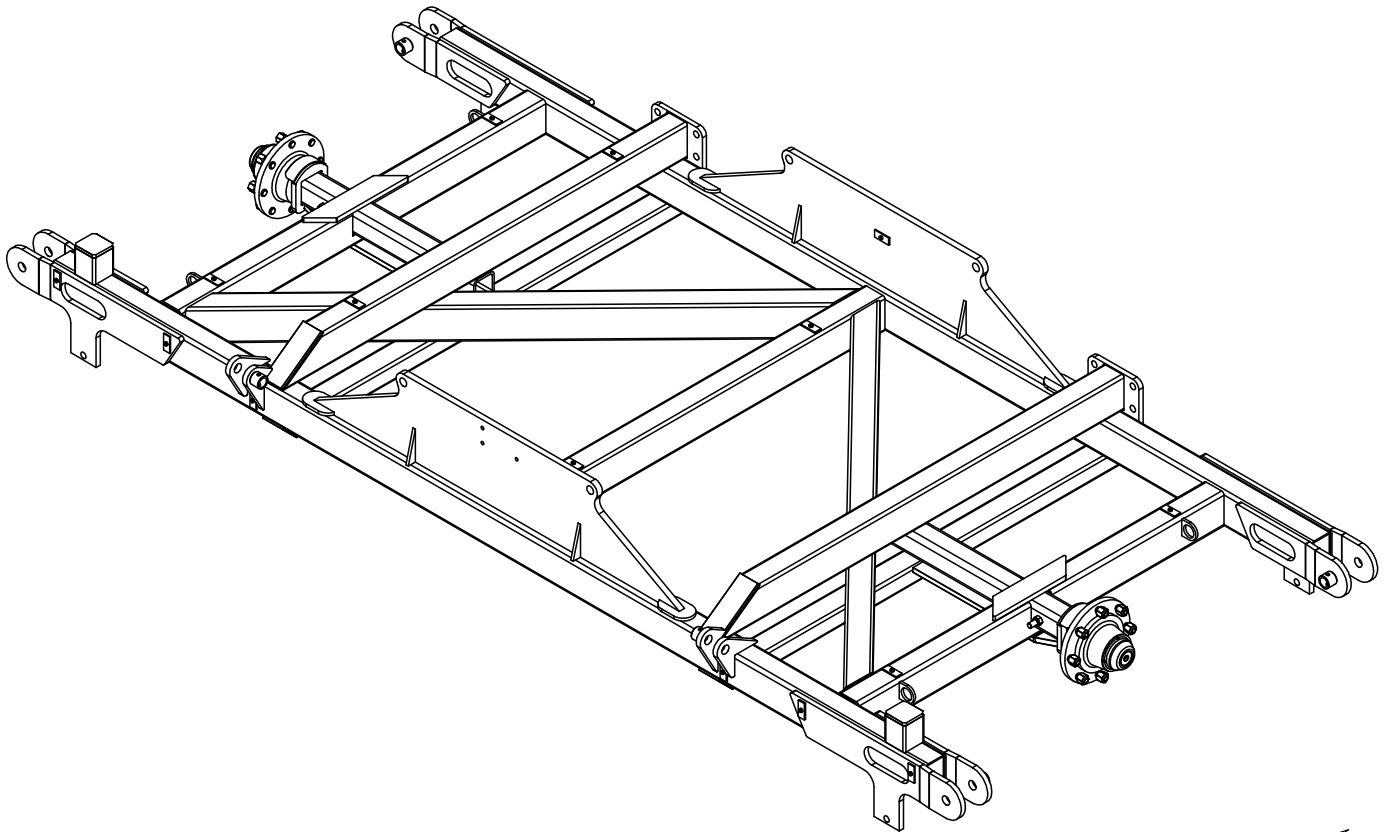
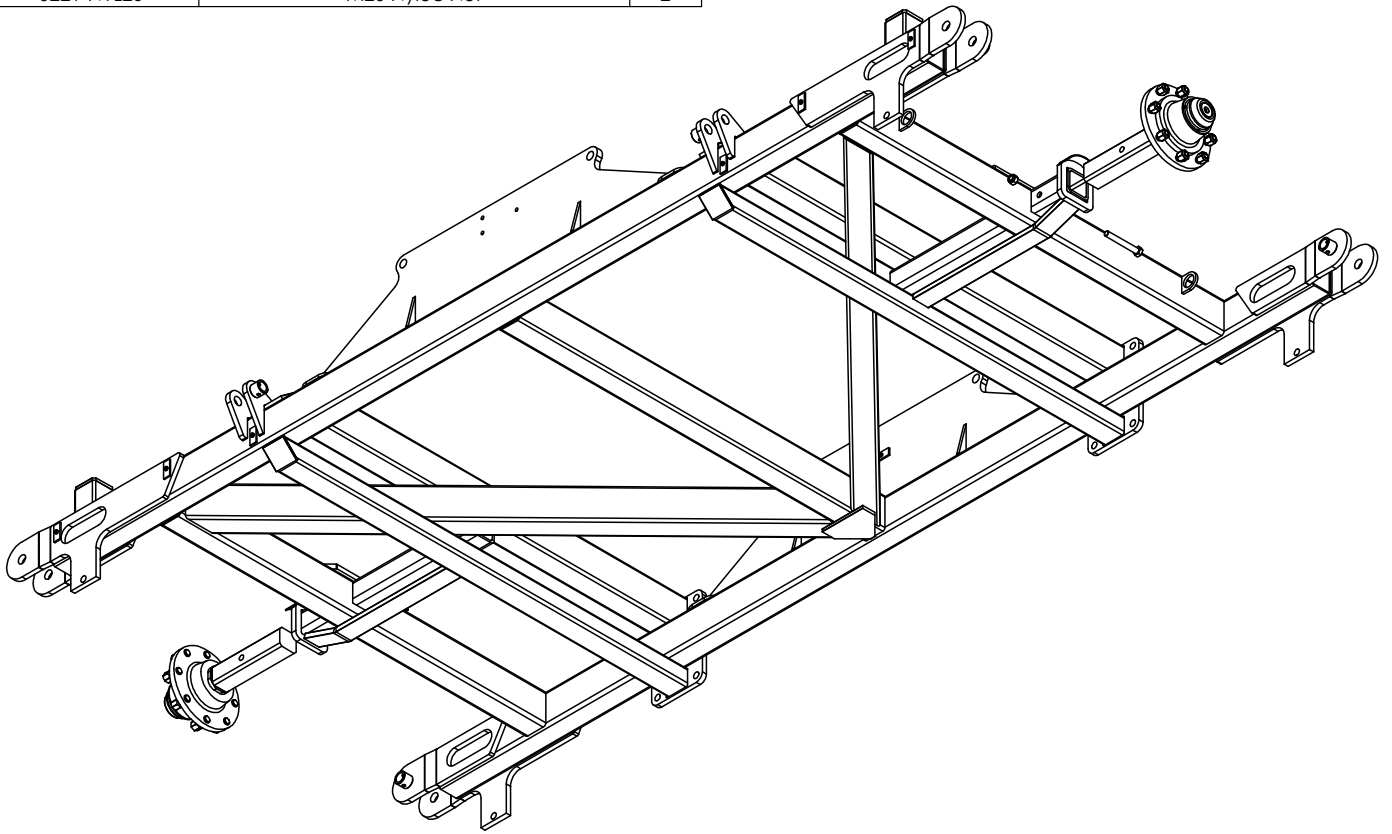
To avoid falling or moving components, before cutting straps attach slings or chains to individual pieces and only cut the straps holding the piece to be lifted.

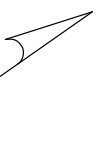
- Remove boxes from rear of container one at a time using a forklift truck. Each box weighs approximately 2600 lbs (1200 kg)
- Cut straps holding bundles and separate parts and place in assembly area
- Identify parts for each machine by serial no. or description and separate. Open parts box and check 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

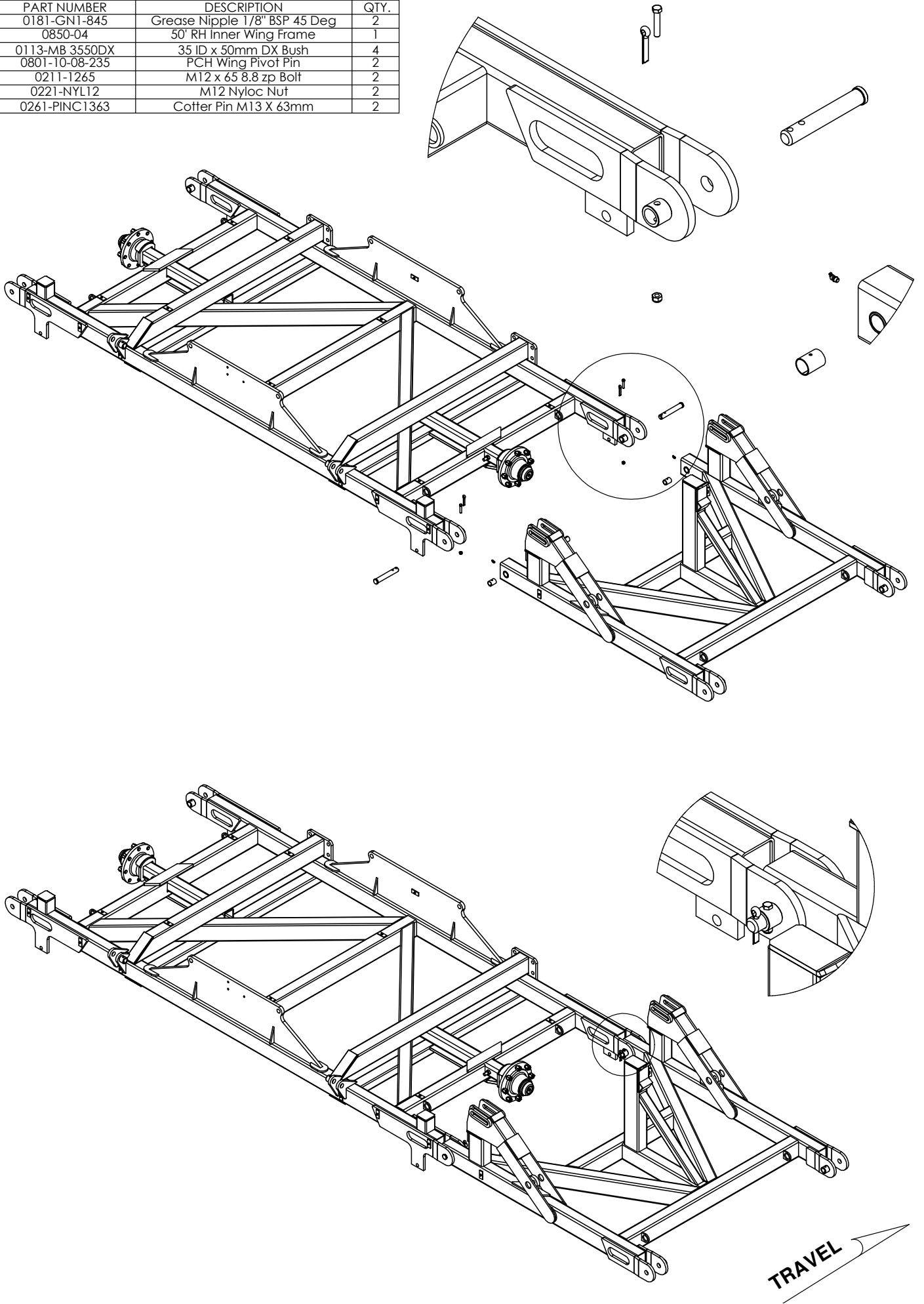
Parts

| PART NUMBER | DESCRIPTION | QTY. |
|-------------|---|------|
| 0860-01 | 60' / 50' Centre Frame | 1 |
| 0733-90 | 90 Series Stub Axle (Stub and Hub Complete) | 2 |
| 0211-20150 | M20 x 150 8.8 zp Bolt | 2 |
| 0221-NYL20 | M20 Nyloc Nut | 2 |

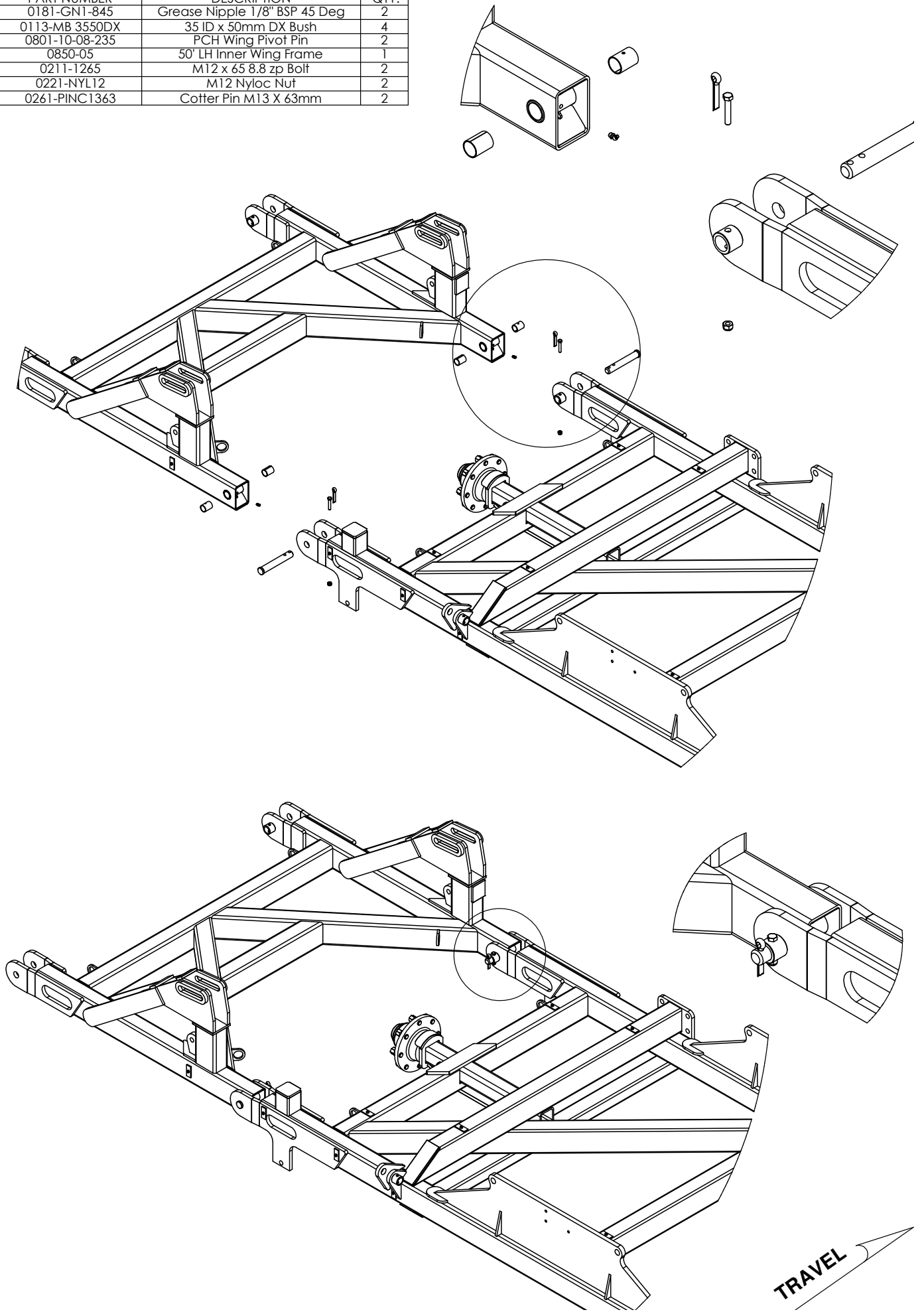


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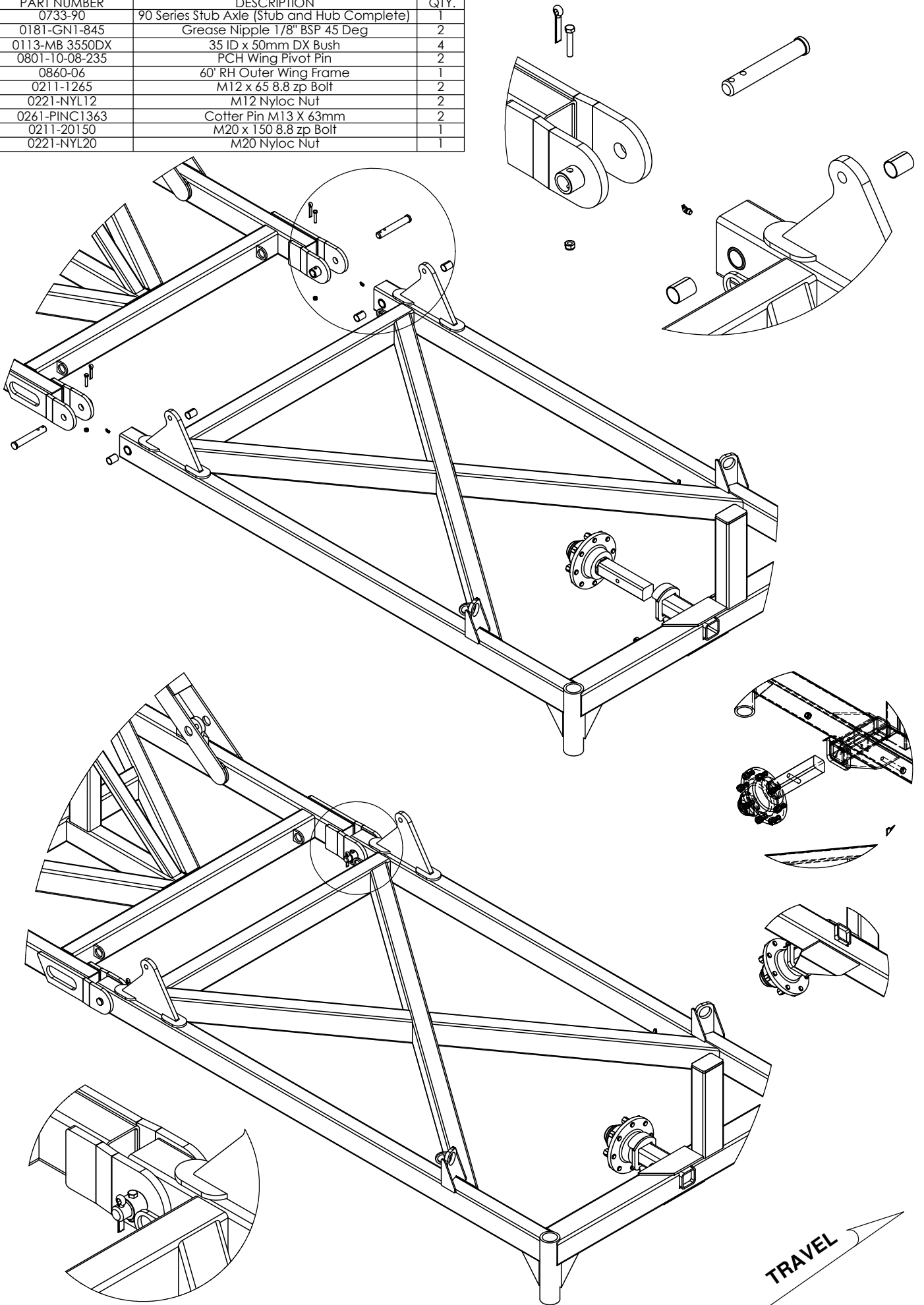
| PART NUMBER | DESCRIPTION | QTY. |
|----------------|-------------------------------|------|
| 0181-GN1-845 | Grease Nipple 1/8" BSP 45 Deg | 2 |
| 0850-04 | 50" RH Inner Wing Frame | 1 |
| 0113-MB 3550DX | 35 ID x 50mm DX Bush | 4 |
| 0801-10-08-235 | PCH Wing Pivot Pin | 2 |
| 0211-1265 | M12 x 65 8.8 zp Bolt | 2 |
| 0221-NYL12 | M12 Nyloc Nut | 2 |
| 0261-PINC1363 | Cotter Pin M13 X 63mm | 2 |



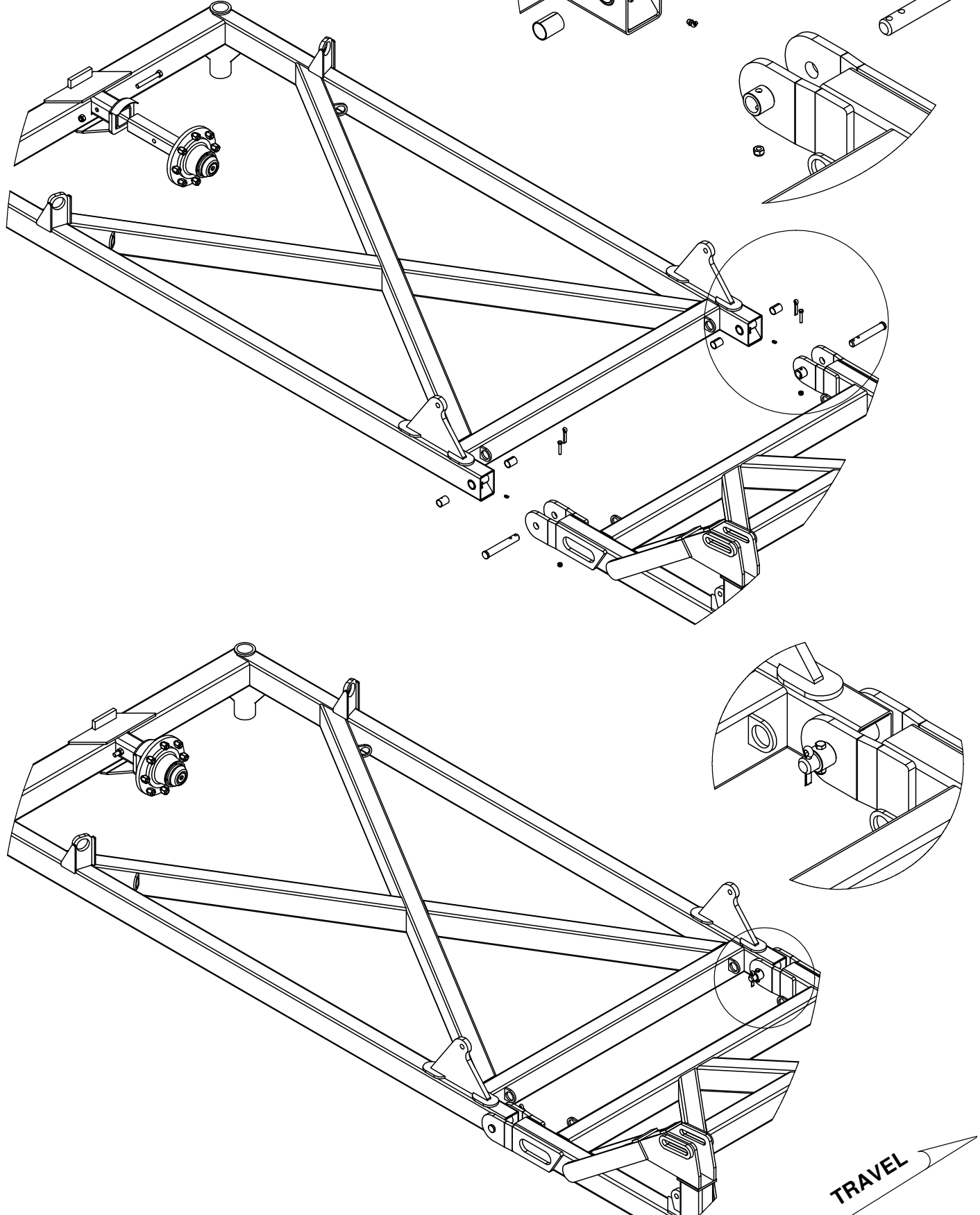
| PART NUMBER | DESCRIPTION | QTY. |
|----------------|-------------------------------|------|
| 0181-GN1-845 | Grease Nipple 1/8" BSP 45 Deg | 2 |
| 0113-MB 3550DX | 35 ID x 50mm DX Bush | 4 |
| 0801-10-08-235 | PCH Wing Pivot Pin | 2 |
| 0850-05 | 50' LH Inner Wing Frame | 1 |
| 0211-1265 | M12 x 65 8.8 zp Bolt | 2 |
| 0221-NYL12 | M12 Nyloc Nut | 2 |
| 0261-PINC1363 | Cotter Pin M13 X 63mm | 2 |



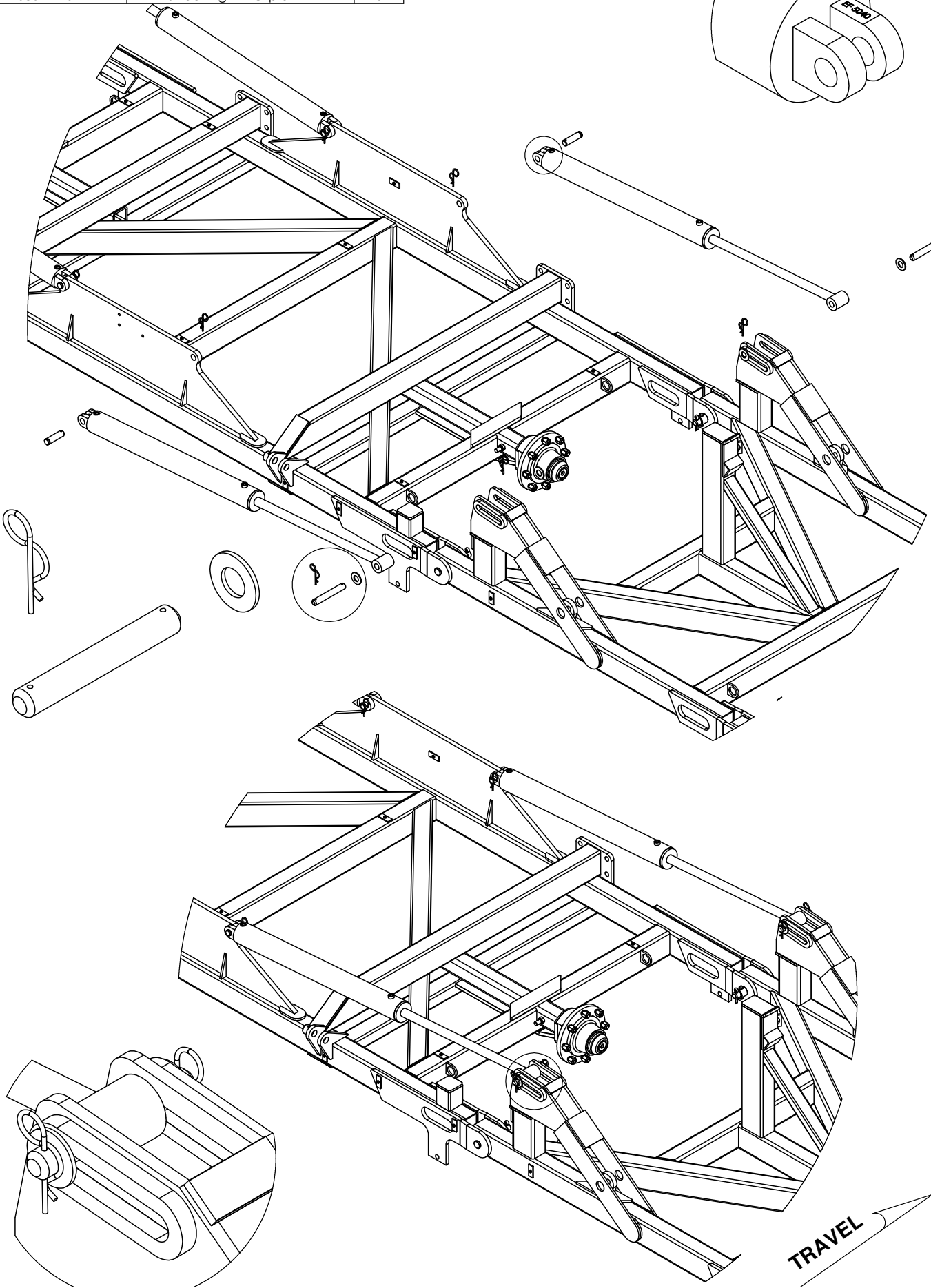
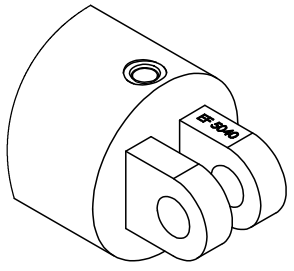
| PART NUMBER | DESCRIPTION | QTY. |
|----------------|---|------|
| 0733-90 | 90 Series Stub Axle (Stub and Hub Complete) | 1 |
| 0181-GN1-845 | Grease Nipple 1/8" BSP 45 Deg | 2 |
| 0113-MB 3550DX | 35 ID x 50mm DX Bush | 4 |
| 0801-10-08-235 | PCH Wing Pivot Pin | 2 |
| 0860-06 | 60° RH Outer Wing Frame | 1 |
| 0211-1265 | M12 x 65 8.8 zp Bolt | 2 |
| 0221-NYL12 | M12 Nyloc Nut | 2 |
| 0261-PINC1363 | Cotter Pin M13 X 63mm | 2 |
| 0211-20150 | M20 x 150 8.8 zp Bolt | 1 |
| 0221-NYL20 | M20 Nyloc Nut | 1 |



| PART NUMBER | DESCRIPTION | QTY. |
|----------------|---|------|
| 0733-90 | 90 Series Stub Axle (Stub and Hub Complete) | 1 |
| 0181-GN1-845 | Grease Nipple 1/8" BSP 45 Deg | 2 |
| 0113-MB 3550DX | 35 ID x 50mm DX Bush | 4 |
| 0801-10-08-235 | PCH Wing Pivot Pin | 2 |
| 0211-1265 | M12 x 65 8.8 zp Bolt | 2 |
| 0221-NYL12 | M12 Nyloc Nut | 2 |
| 0261-PINC1363 | Colter Pin M13 X 63mm | 2 |
| 0211-20150 | M20 x 150 8.8 zp Bolt | 1 |
| 0221-NYL20 | M20 Nyloc Nut | 1 |
| 0860-07 | 60' LH Outer Wing Frame | 1 |

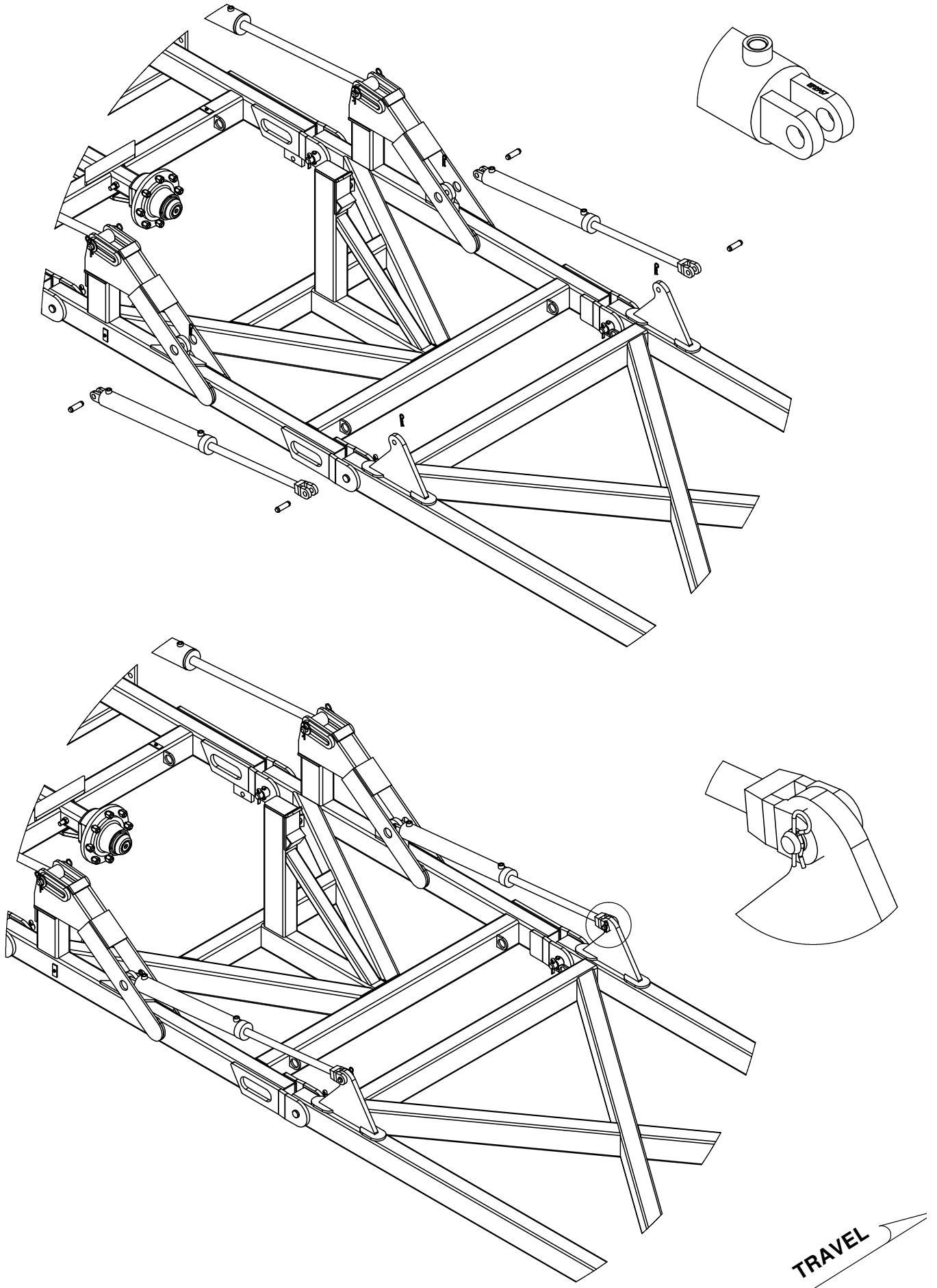


| PART NUMBER | DESCRIPTION | QTY. |
|-----------------|----------------------------------|------|
| 0311-2960 | 4" x 36" Hydraulic Cylinder | 2 |
| 0801-44102956-2 | Cylinder Pin 1 1/4" x 116mm | 2 |
| 0801-44102956-1 | Cylinder Pin 1 1/4" x 220mm 4140 | 2 |
| 0232-11-4 FW | Washer Flat 1 1/4" | 4 |
| 0801-KE012 | S Locking Pin Clip 5mm | 6 |

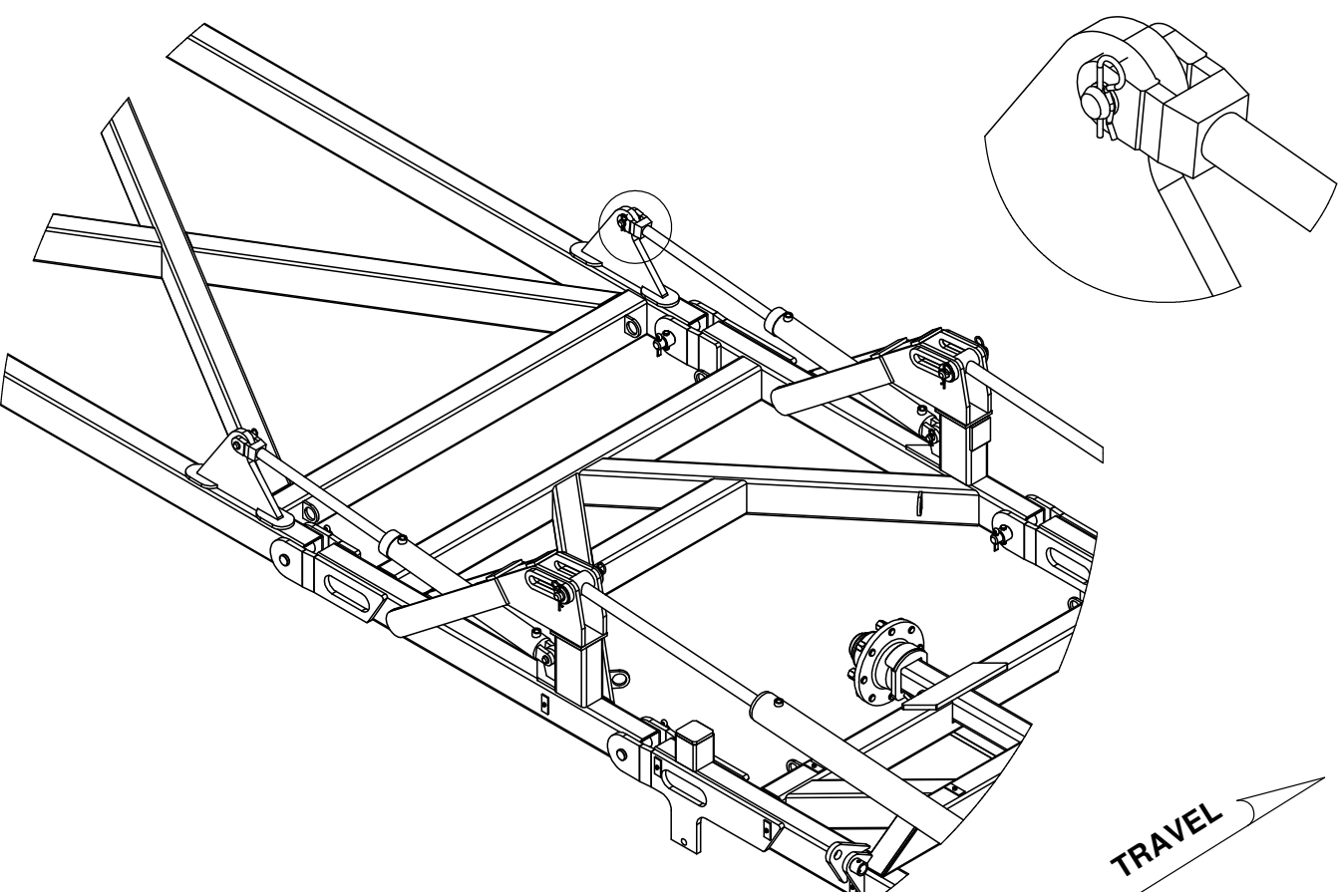
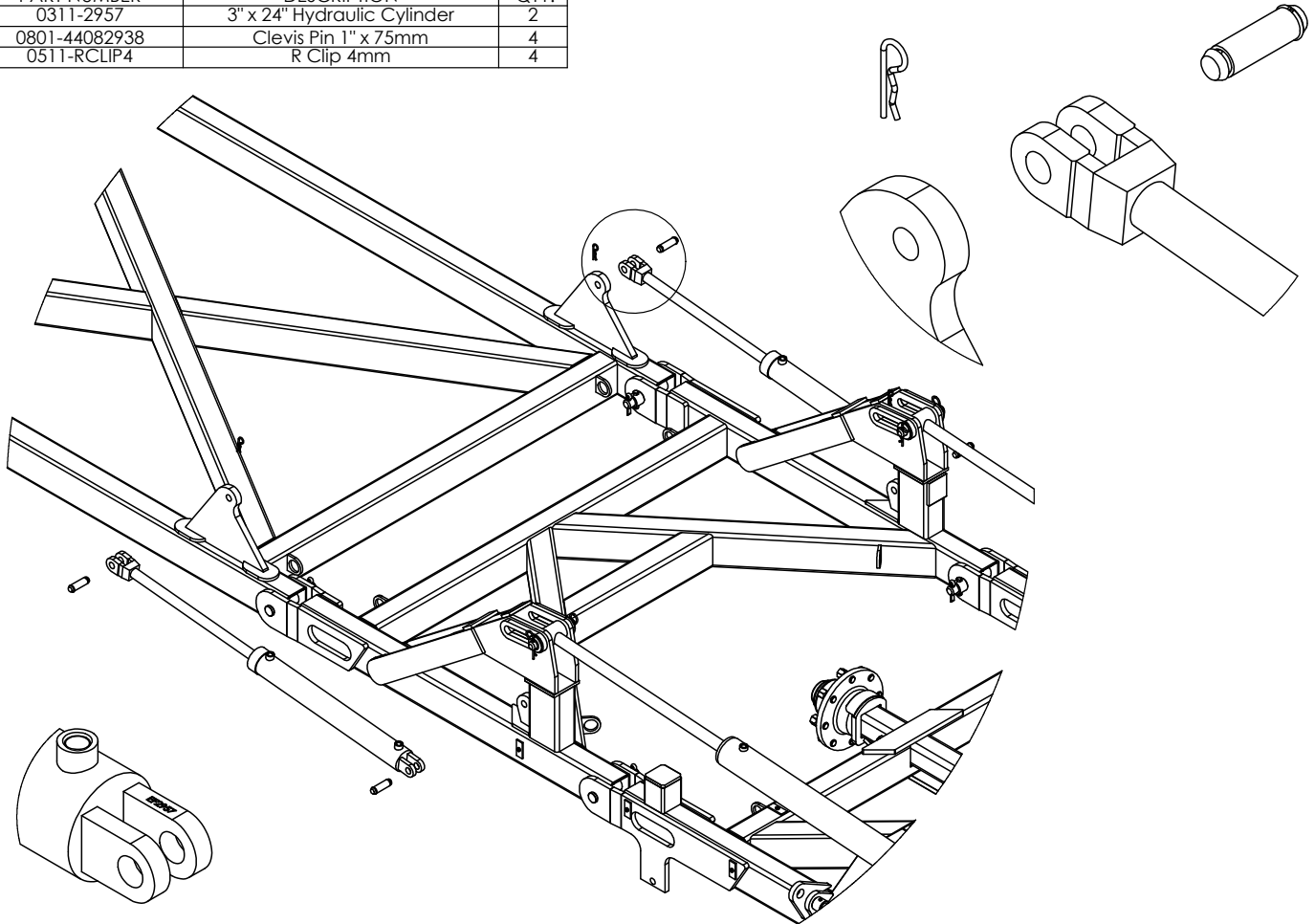


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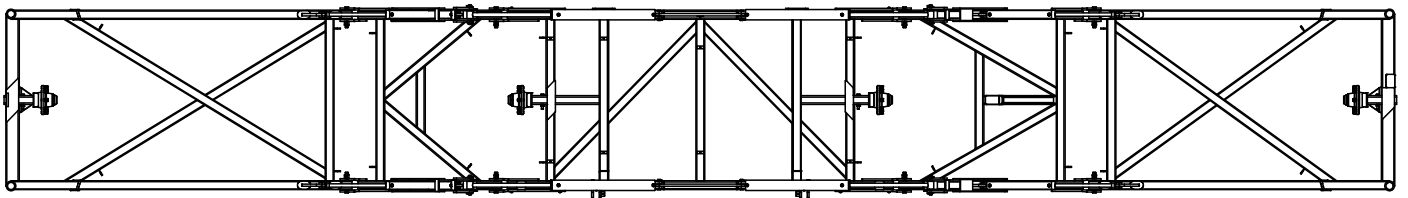
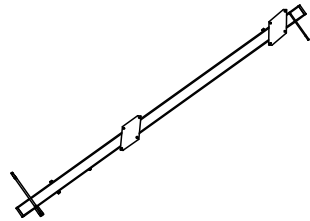
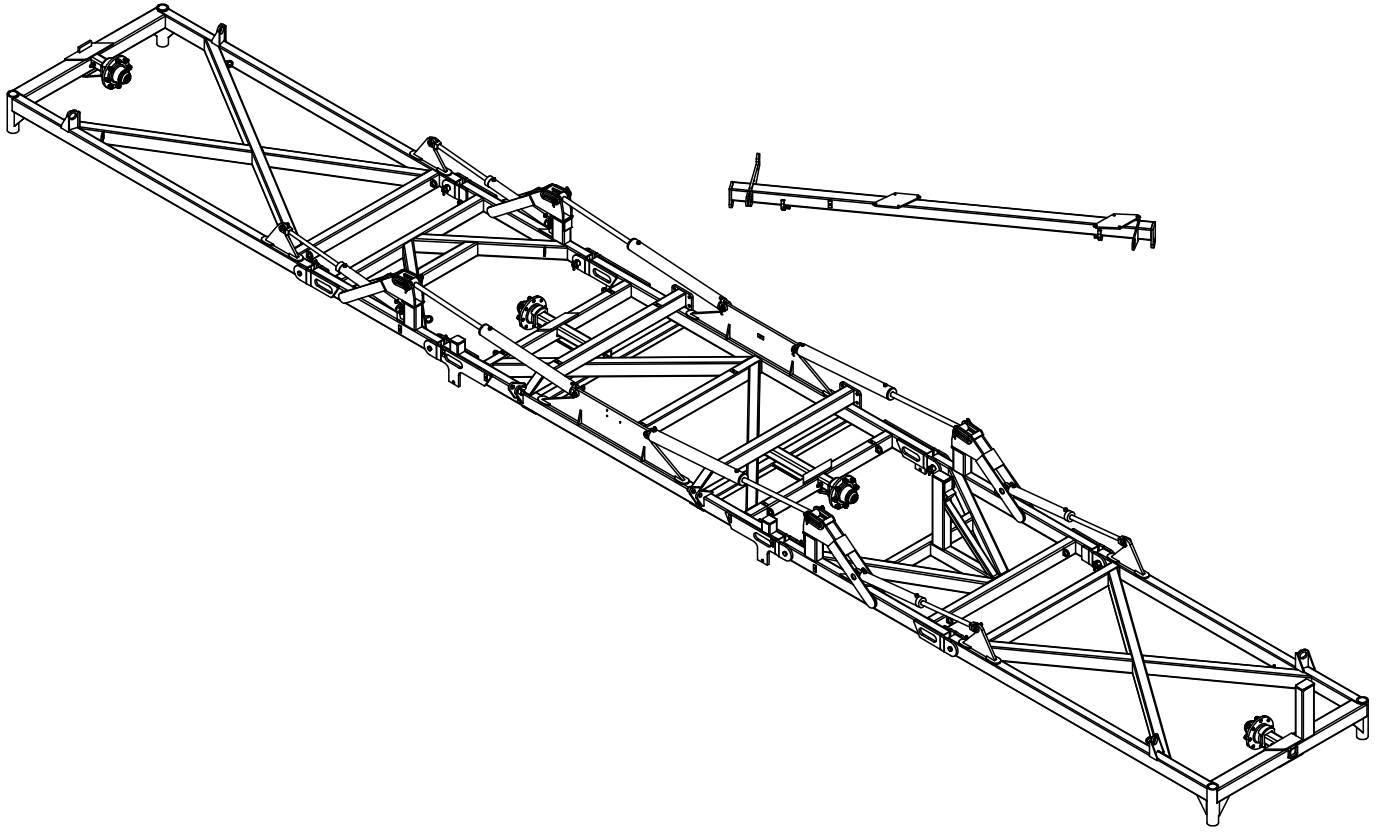
| PART NUMBER | DESCRIPTION | QTY. |
|---------------|-----------------------------|------|
| 0311-2957 | 3" x 24" Hydraulic Cylinder | 2 |
| 0801-44082938 | Clevis Pin 1" x 75mm | 4 |
| 0511-RCLIP4 | R Clip 4mm | 4 |



| PART NUMBER | DESCRIPTION | QTY. |
|---------------|-----------------------------|------|
| 0311-2957 | 3" x 24" Hydraulic Cylinder | 2 |
| 0801-44082938 | Clevis Pin 1" x 75mm | 4 |
| 0511-RCLIP4 | R Clip 4mm | 4 |

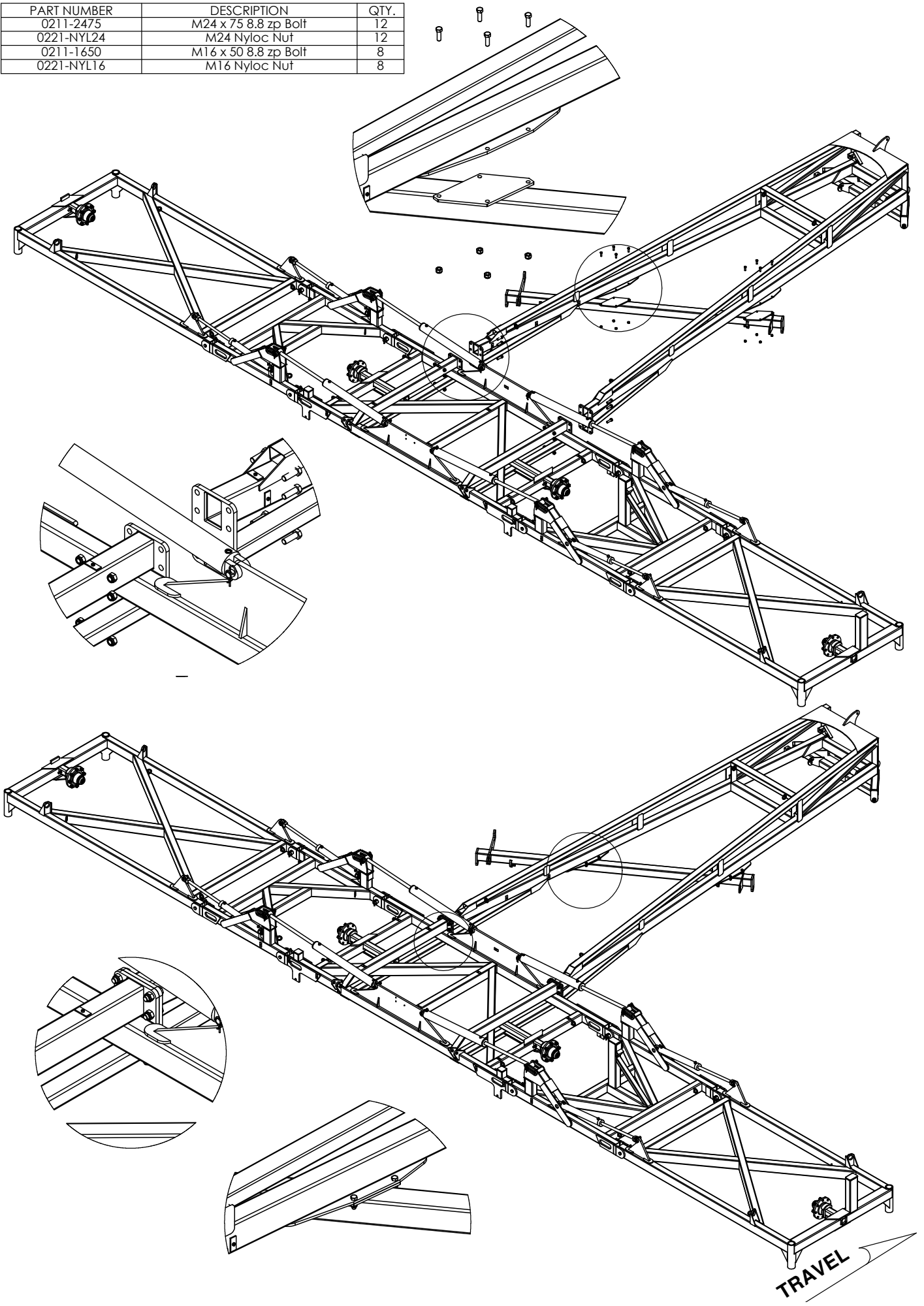


| PART NUMBER | DESCRIPTION | QTY. |
|-------------|-----------------------|------|
| 0850-02 | 50' Front A-Frame | 1 |
| 0810-28-60 | 50 & 60' Front Module | 1 |

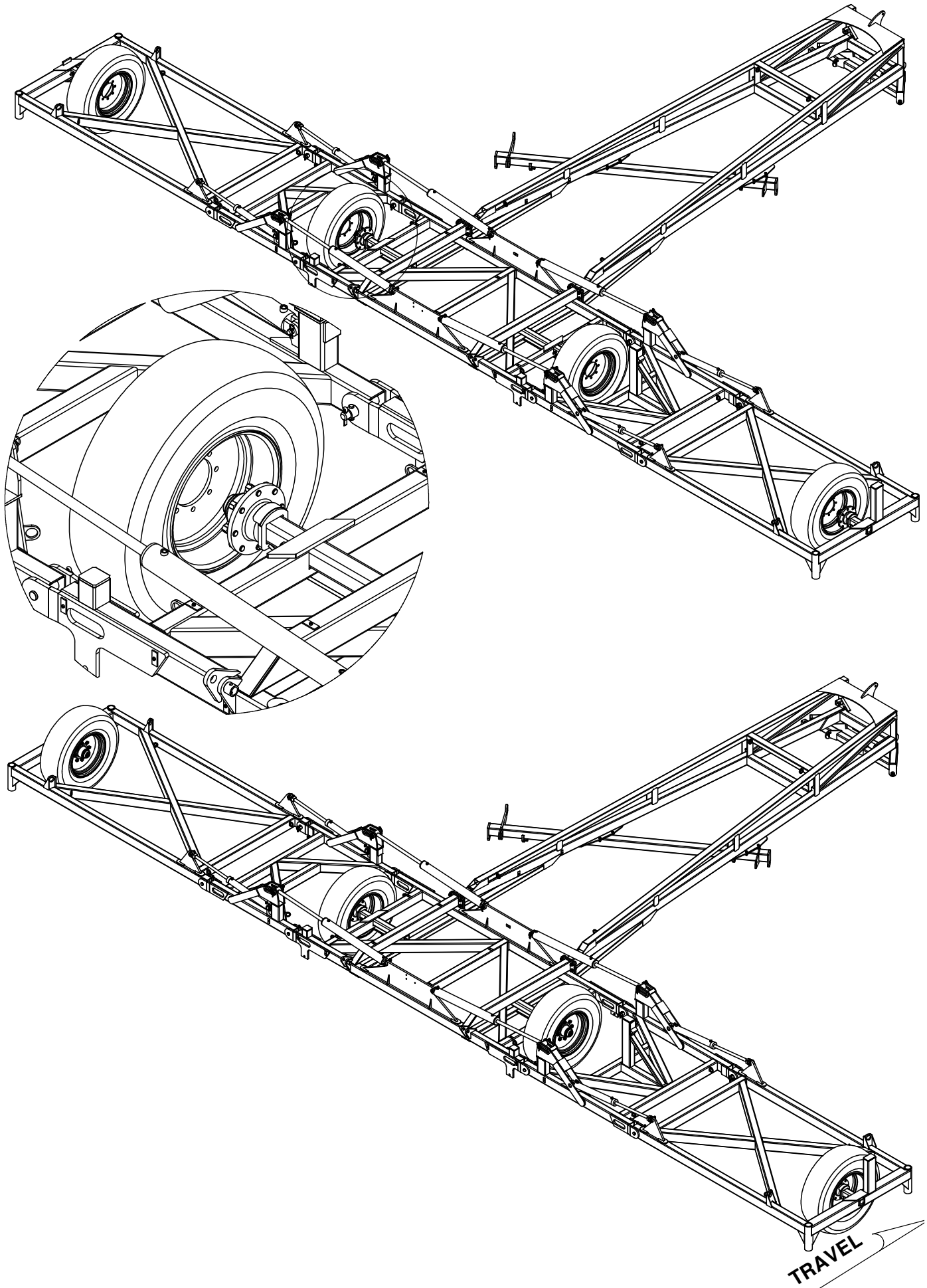


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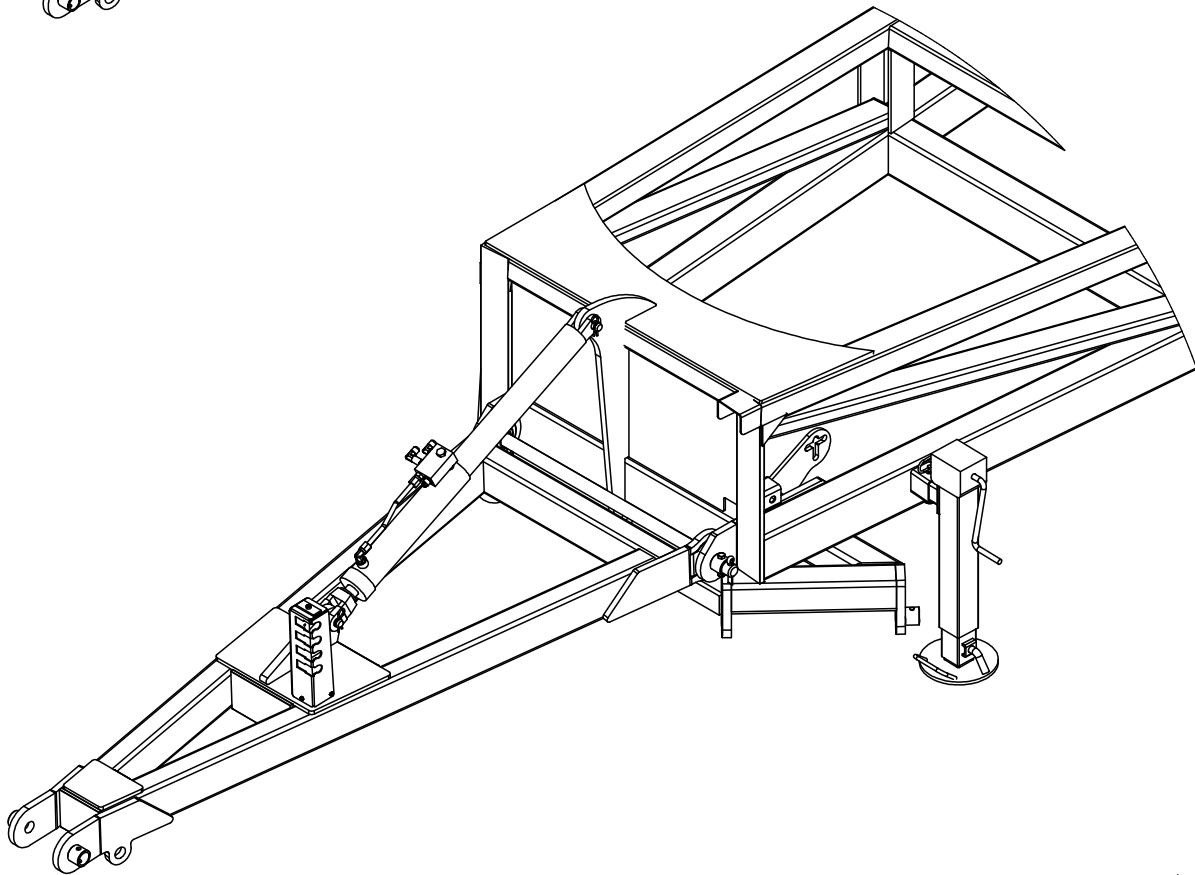
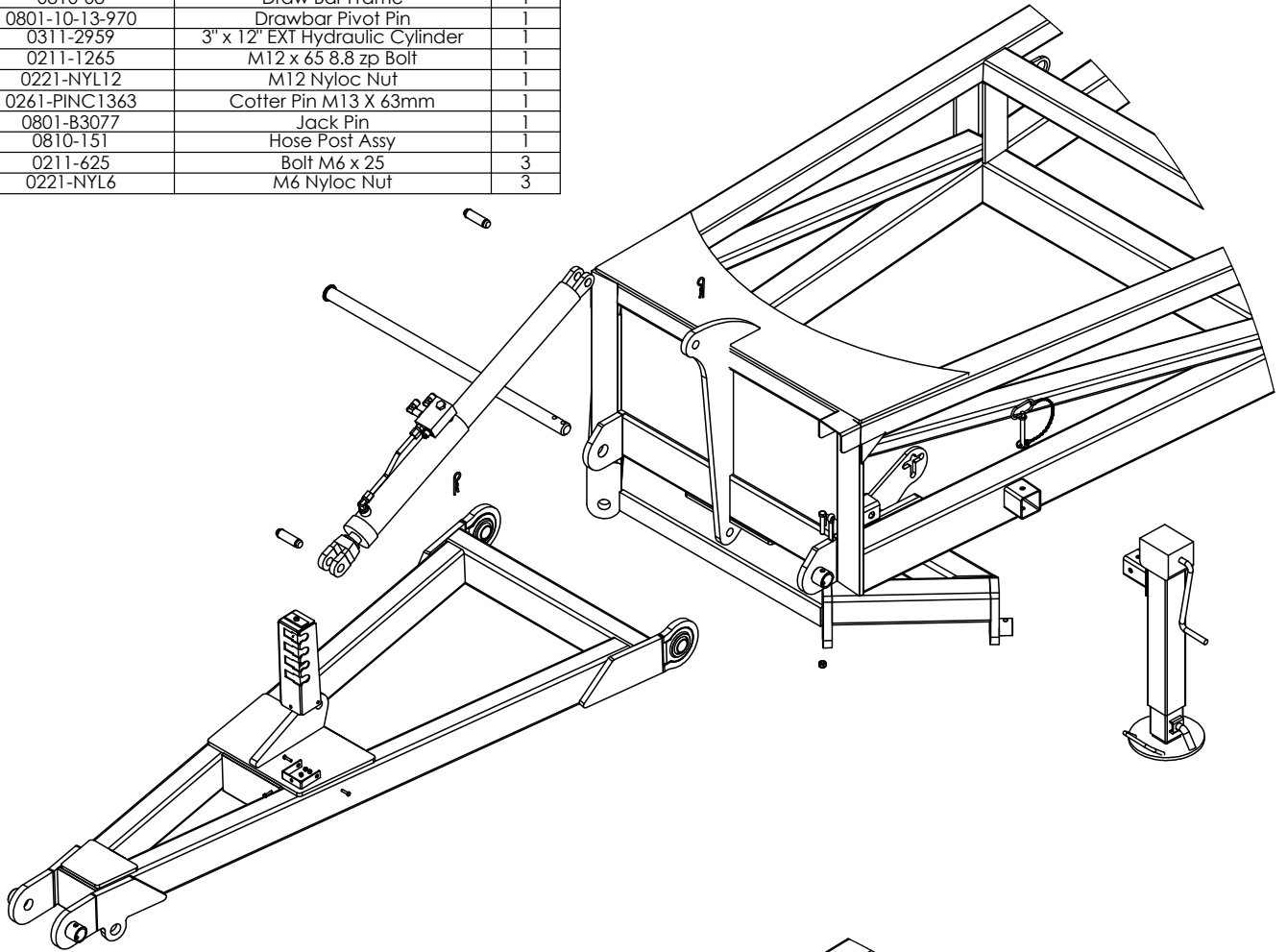
| PART NUMBER | DESCRIPTION | QTY. |
|-------------|----------------------|------|
| 0211-2475 | M24 x 75 8.8 zp Bolt | 12 |
| 0221-NYL24 | M24 Nyloc Nut | 12 |
| 0211-1650 | M16 x 50 8.8 zp Bolt | 8 |
| 0221-NYL16 | M16 Nyloc Nut | 8 |



| PART NUMBER | DESCRIPTION | QTY. |
|-------------------|-----------------------|------|
| 0751-15.5-80-24TR | 15/80/24 Tyre and Rim | 4 |

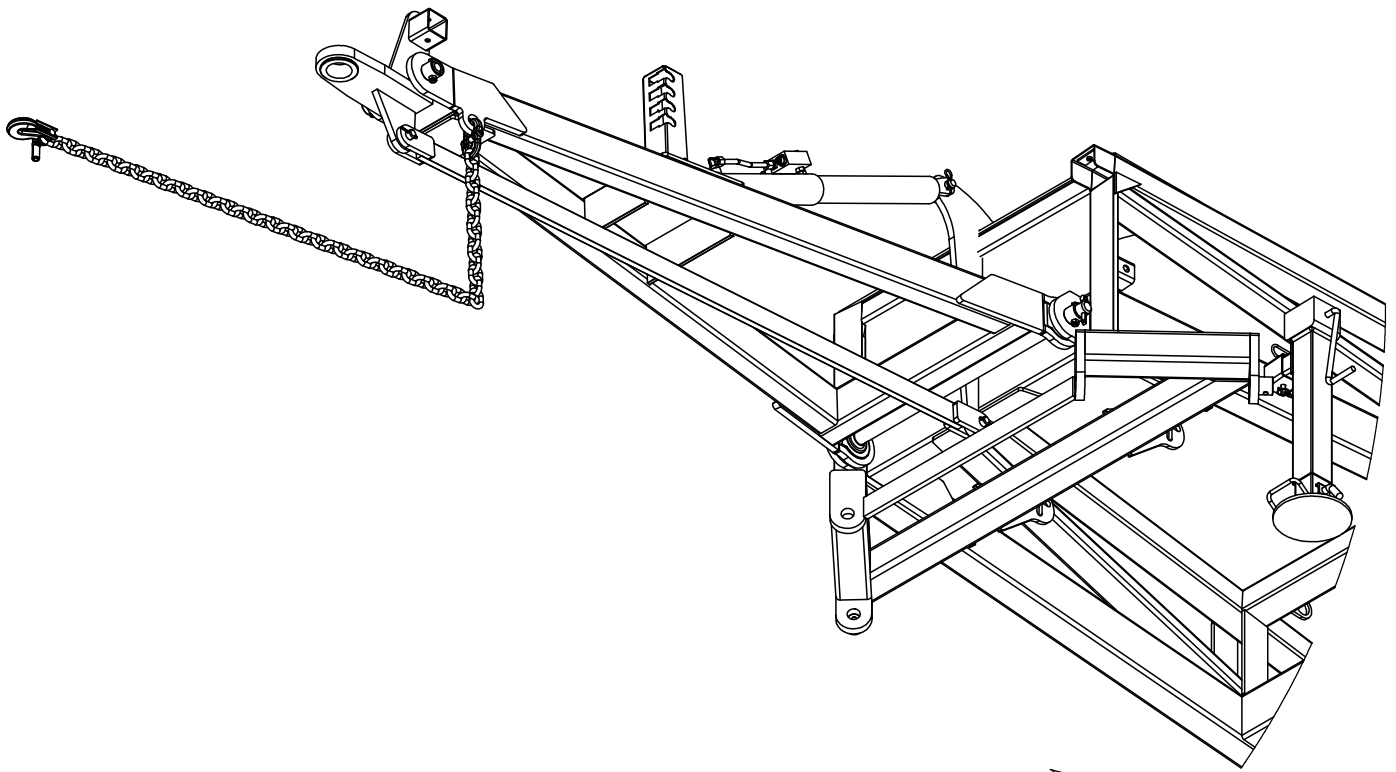
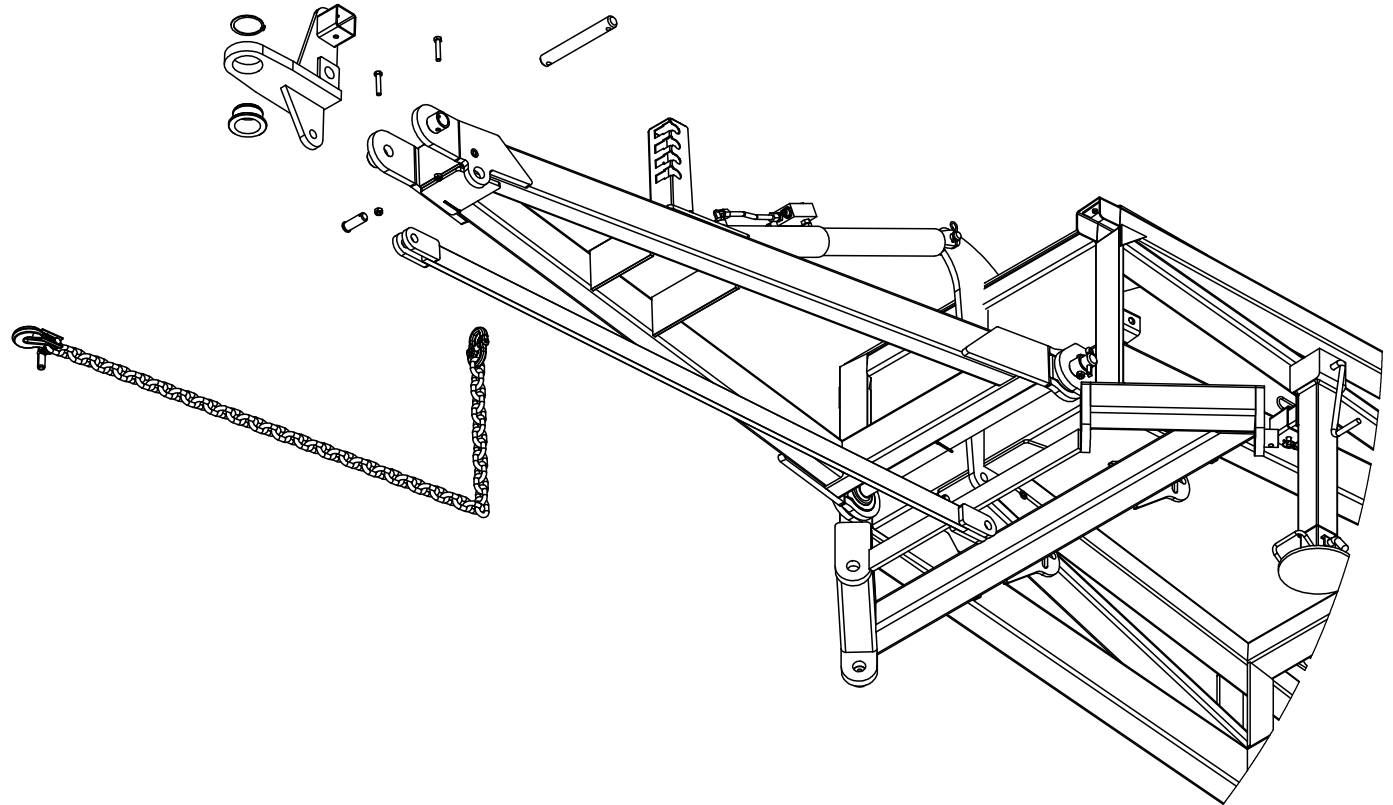


| PART NUMBER | DESCRIPTION | QTY. |
|----------------|---------------------------------|------|
| 0801-44082938 | Clevis Pin 1" x 75mm | 2 |
| 0511-RCLIP4 | R Clip 4mm | 2 |
| 0810-31 | Jack Assy | 1 |
| 0810-08 | Draw Bar Frame | 1 |
| 0801-10-13-970 | Drawbar Pivot Pin | 1 |
| 0311-2959 | 3" x 12" EXT Hydraulic Cylinder | 1 |
| 0211-1265 | M12 x 65 8.8 zp Bolt | 1 |
| 0221-NYL12 | M12 Nyloc Nut | 1 |
| 0261-PINC1363 | Cotter Pin M13 X 63mm | 1 |
| 0801-B3077 | Jack Pin | 1 |
| 0810-151 | Hose Post Assy | 1 |
| 0211-625 | Bolt M6 x 25 | 3 |
| 0221-NYL6 | M6 Nyloc Nut | 3 |



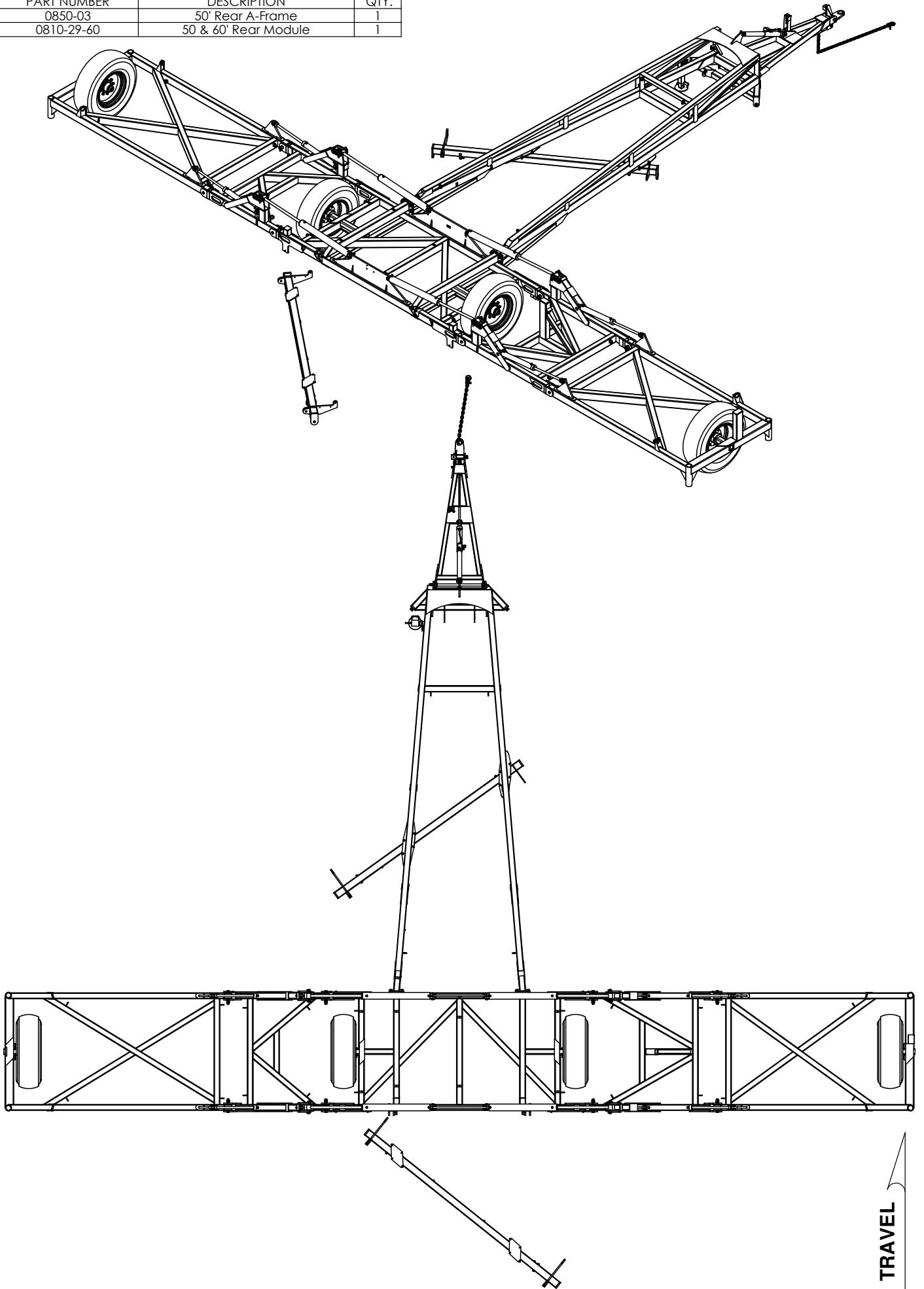
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| PART NUMBER | DESCRIPTION | QTY. |
|------------------|--------------------------------|------|
| 0810-09 | Tow Hitch | 1 |
| 0810-22 | Parallel Arm | 1 |
| 0801-KE-0905-1-C | Hardened Tow Hitch Bush 2 1/4" | 1 |
| 0801-10-06 | Tow Hitch Pin | 1 |
| 0172-D1400-0820 | Circlip External 82mm | 1 |
| 0801-KE-0307-1 | Clevis Pin 25mm x 75mm | 2 |
| 0211-1265 | M12 x 65 8.8 zp Bolt | 2 |
| 0221-NYL12 | M12 Nyloc Nut | 2 |
| 0231-F12 | M12 zp Flat Washer | 2 |
| 0261-PINC550 | Cotter Pin M5 x 50 | 2 |
| 0810-16 | Safety Chain Assembly | 1 |



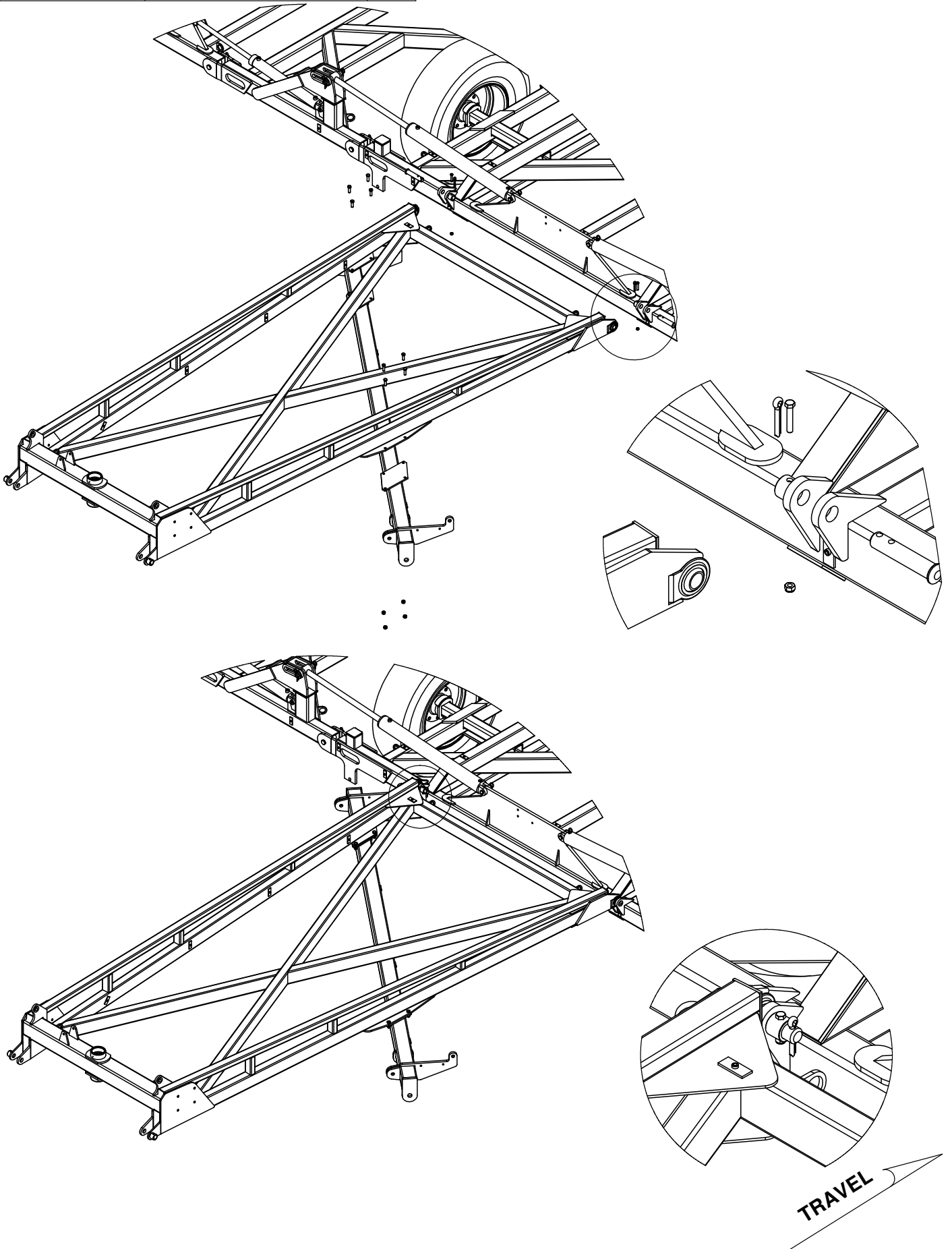
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| PART NUMBER | DESCRIPTION | QTY. |
|-------------|----------------------|------|
| 0850-03 | 50' Rear A-Frame | 1 |
| 0810-29-60 | 50 & 60' Rear Module | 1 |

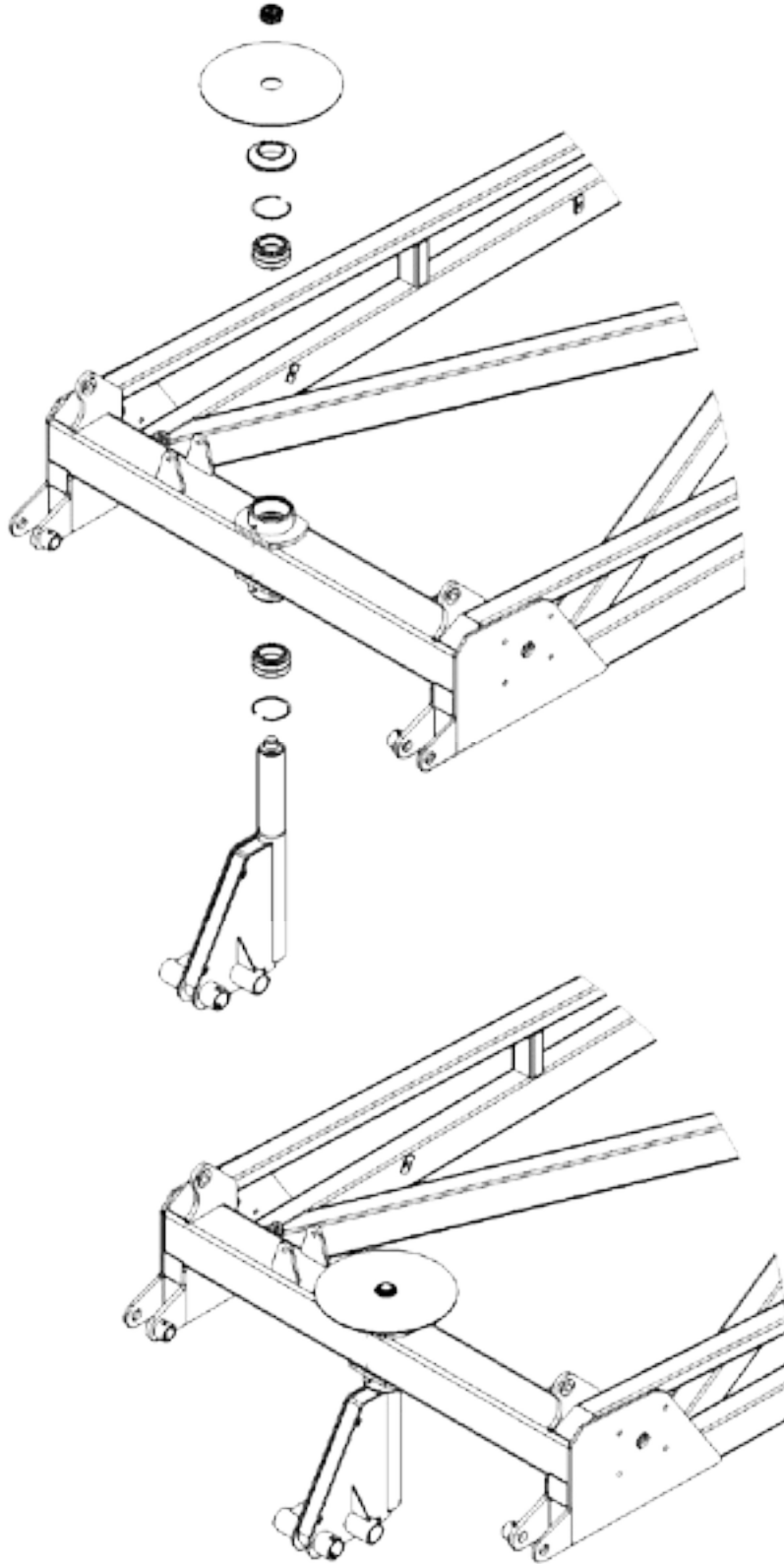


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| PART NUMBER | DESCRIPTION | QTY. |
|----------------|-----------------------|------|
| 0801-10-08-175 | Tail Frame Pivot pin | 2 |
| 0211-1265 | M12 x 65 8.8 zp Bolt | 2 |
| 0221-NYL12 | M12 Nyloc Nut | 2 |
| 0261-PINC1363 | Cotter Pin M13 X 63mm | 2 |
| 0211-1650 | M16 x 50 8.8 zp Bolt | 8 |
| 0221-NYL16 | M16 Nyloc Nut | 8 |

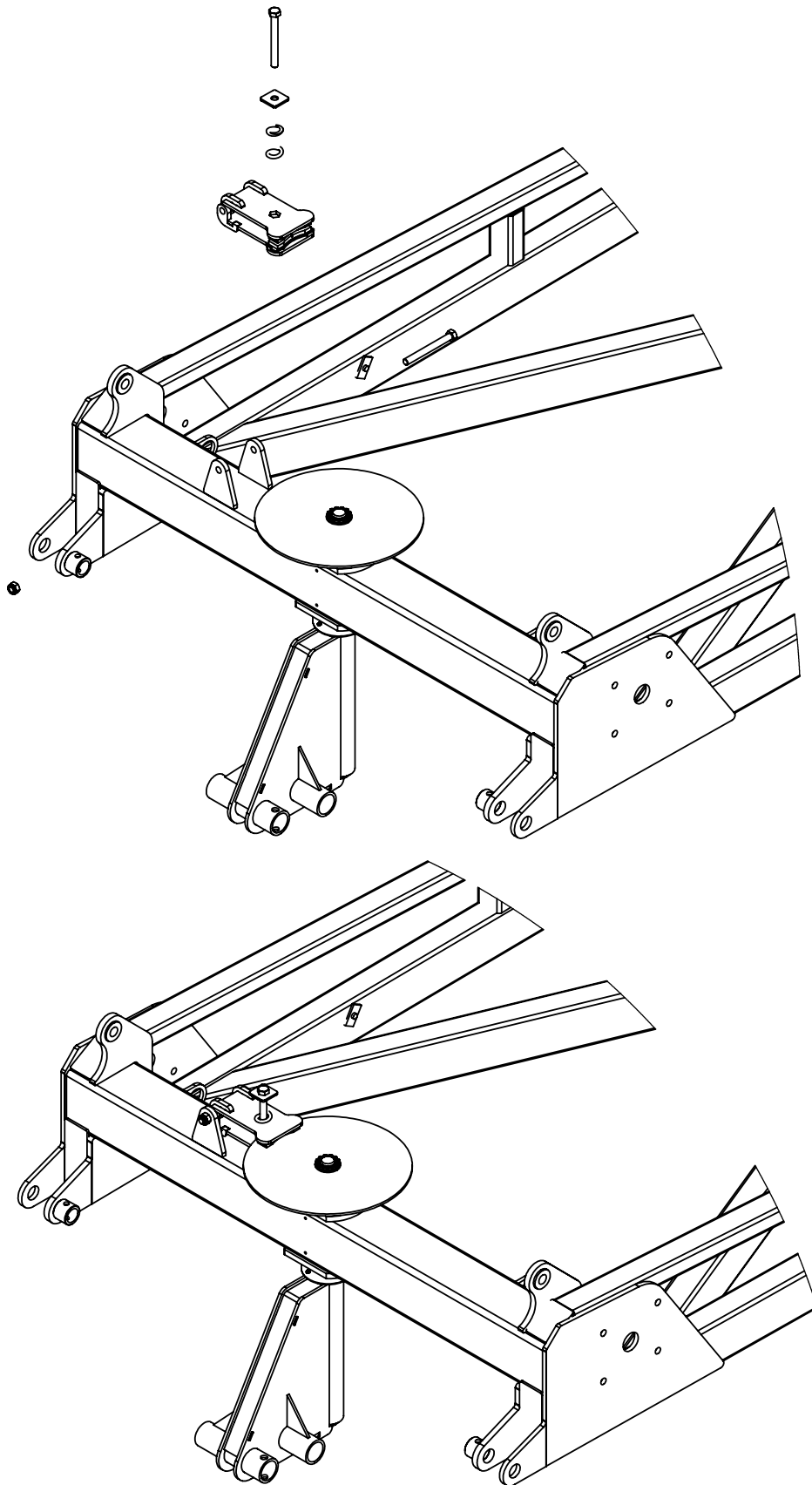


| ITEM NO. | PART NUMBER | DESCRIPTION | QTY. |
|----------|-----------------|-------------------------------------|------|
| 1 | 0113-GE70DO-2RS | Plain Spherical Bearing 70mm | 2 |
| 2 | 0171-J105 | Circlip Internal 105mm | 2 |
| 3 | 0181-GN1-4 | Grease Nipple 1/4" UNF | 2 |
| 4 | 0800-02.1 | Brake Disc | 1 |
| 5 | 0801-KE0705-13 | 70mm Polymer dust cap | 1 |
| 6 | 0801-LOCK01-35 | 35mm Shaft Lock Clamping Element 01 | 1 |
| 7 | 0810-11-70 | 70mm Jockey Wheel | 1 |



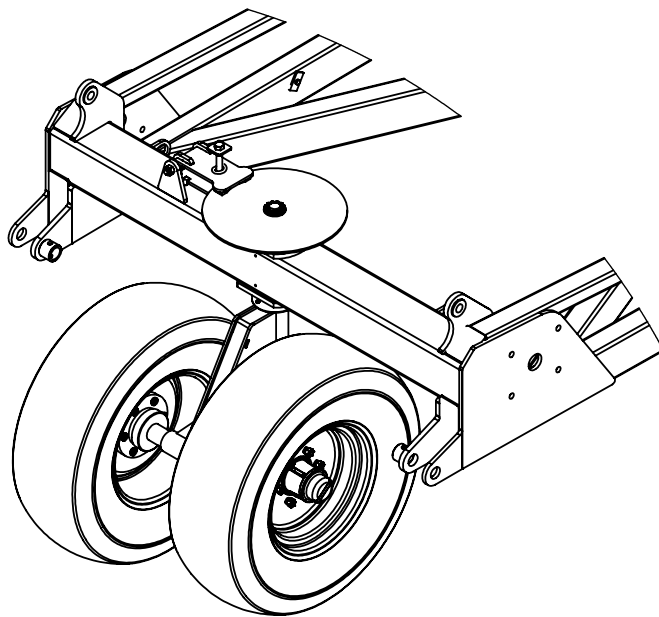
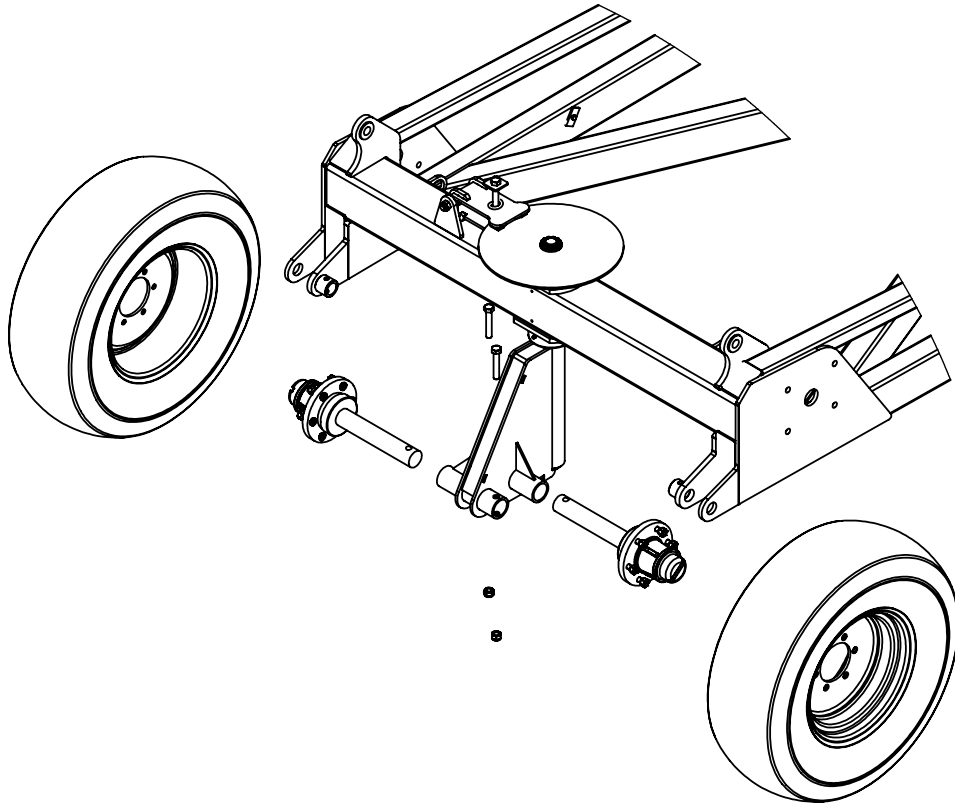
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| ITEM NO. | PART NUMBER | DESCRIPTION | QTY. |
|----------|--------------|-----------------------------|------|
| 1 | 0211-16150 | M16 x 150 grade 8.8 zp Bolt | 2 |
| 2 | 0221-NYL16 | Nyloc Nut M16 | 1 |
| 3 | 0231-SQ16505 | Washer Square M16 x 50 x 5 | 1 |
| 4 | 0801-KE009 | Brake Compression Spring | 1 |
| 5 | 0810-12CAL | Jockey Wheel Brake Caliper | 1 |



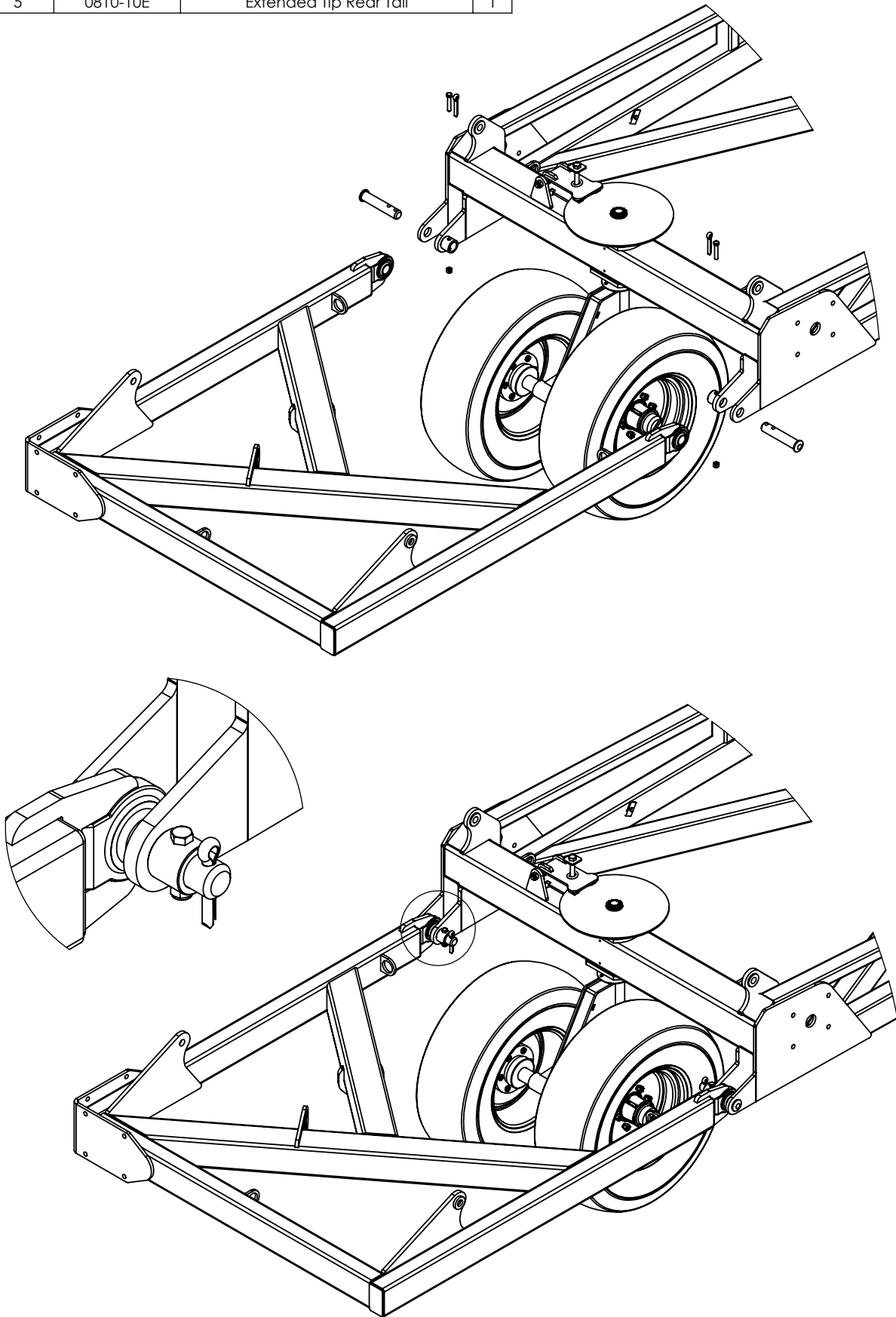
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| ITEM NO. | PART NUMBER | DESCRIPTION | QTY. |
|----------|----------------|-----------------------------------|------|
| 1 | 0211-1690 | M16 x 90 grade 8.8 zp Bolt | 2 |
| 2 | 0221-NYL16 | Nyloc Nut M16 | 2 |
| 3 | 0733-K5083T66S | Axle 2"R 3T 6 on 6" PCD 330 OHF | 2 |
| 4 | 0751-11L15 | 11L15 F3 Tyre on 6 on 6" Stud Rim | 2 |

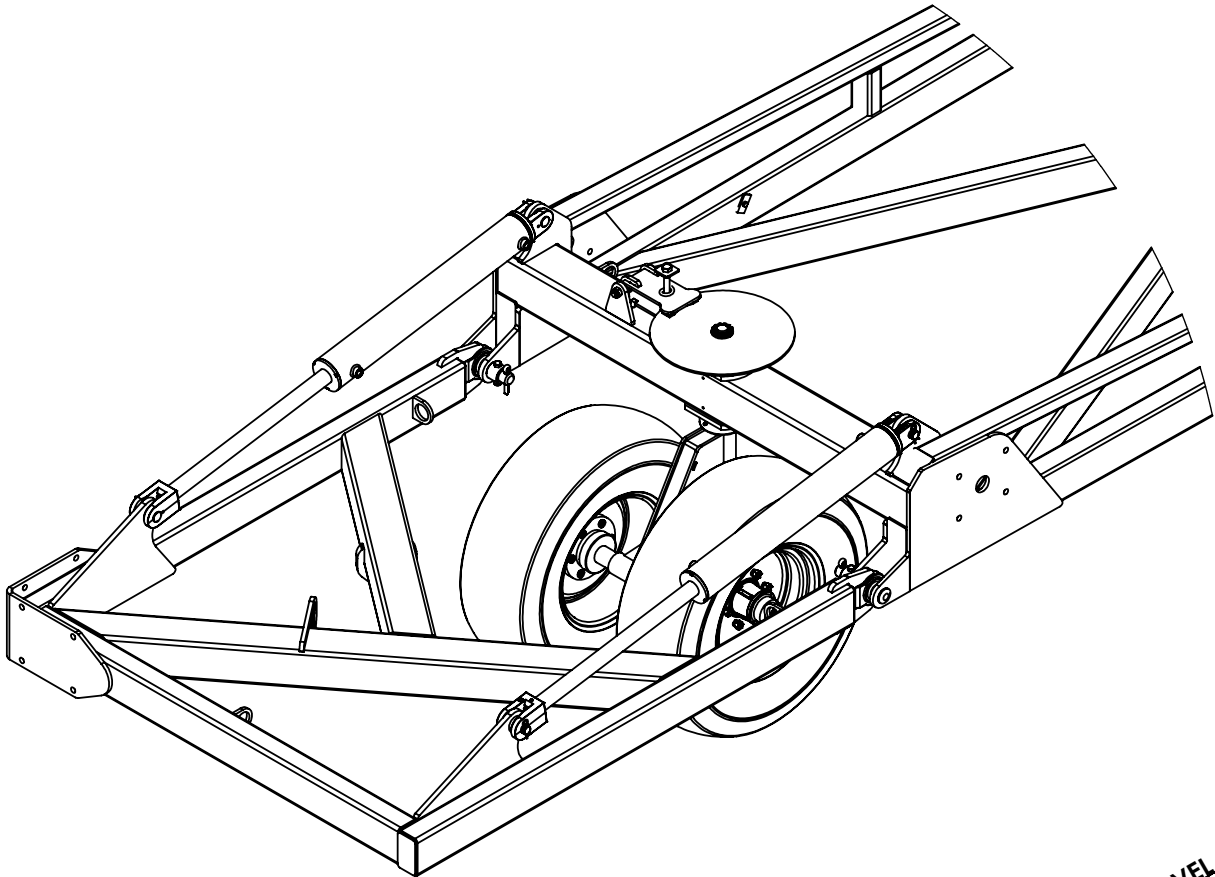
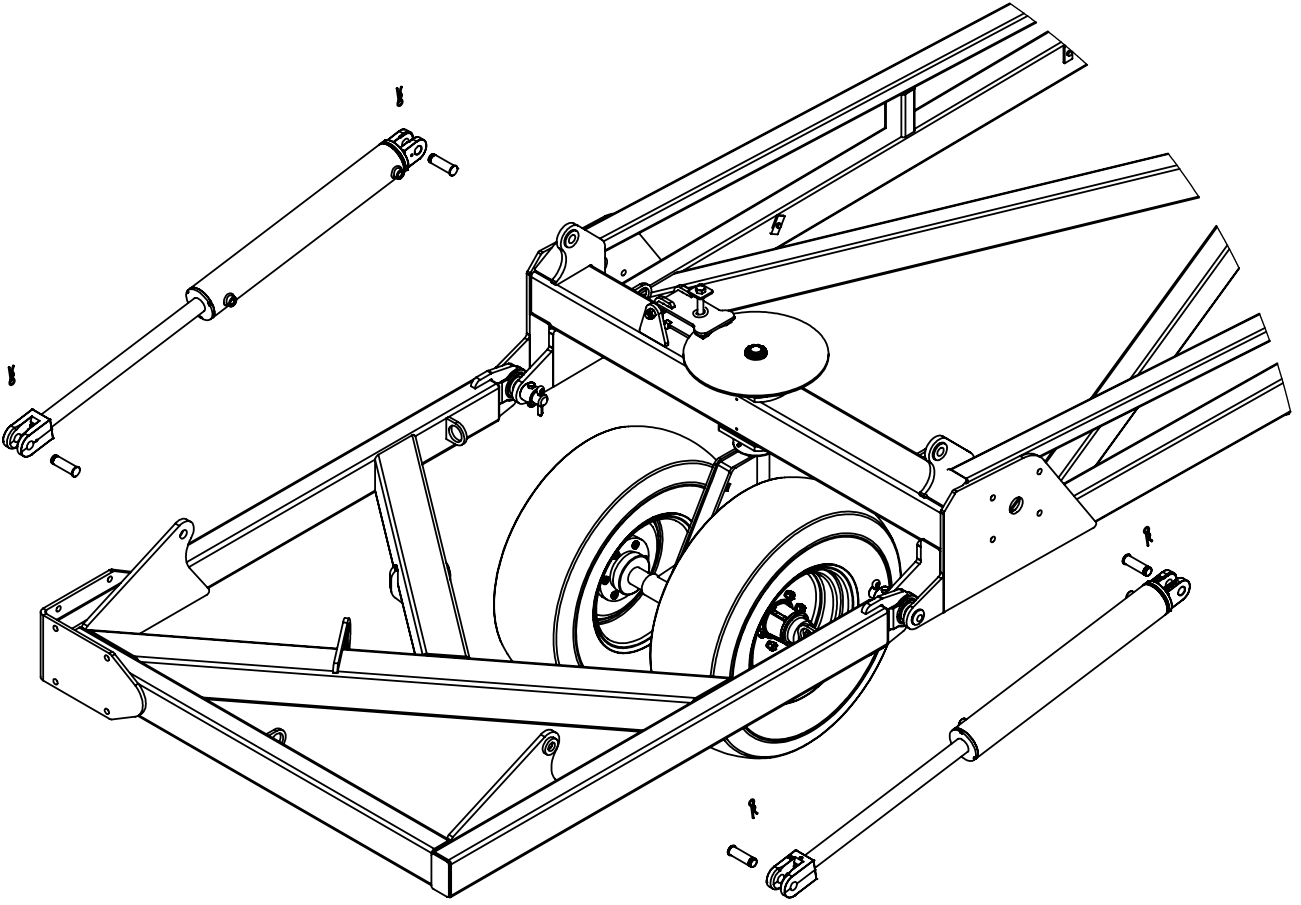


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| ITEM NO. | PART NUMBER | DESCRIPTION | QTY. |
|----------|----------------|----------------------------|------|
| 1 | 0211-1265 | M12 x 65 grade 8.8 ZP Bolt | 2 |
| 2 | 0221-NYL12 | Nyloc Nut M12 | 2 |
| 3 | 0261-PINC1363 | Cotter Pin M13 x 63 |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

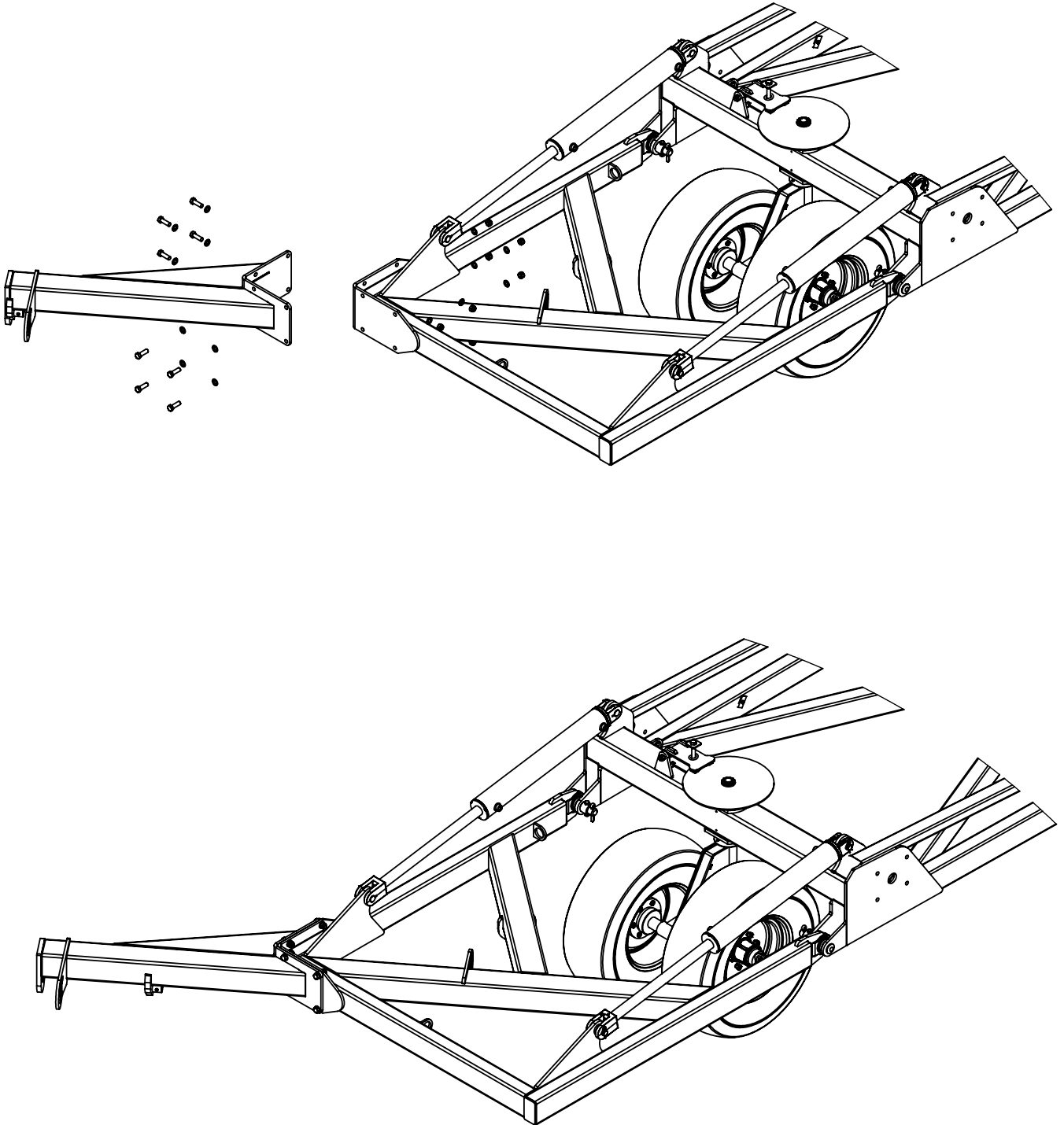


| ITEM NO. | PART NUMBER | DESCRIPTION | QTY. |
|----------|-------------|---|------|
| 1 | 0311-3524SP | 3.5" Bore 24" Stroke 1.75" Rod Hydraulic Cylinder | 2 |

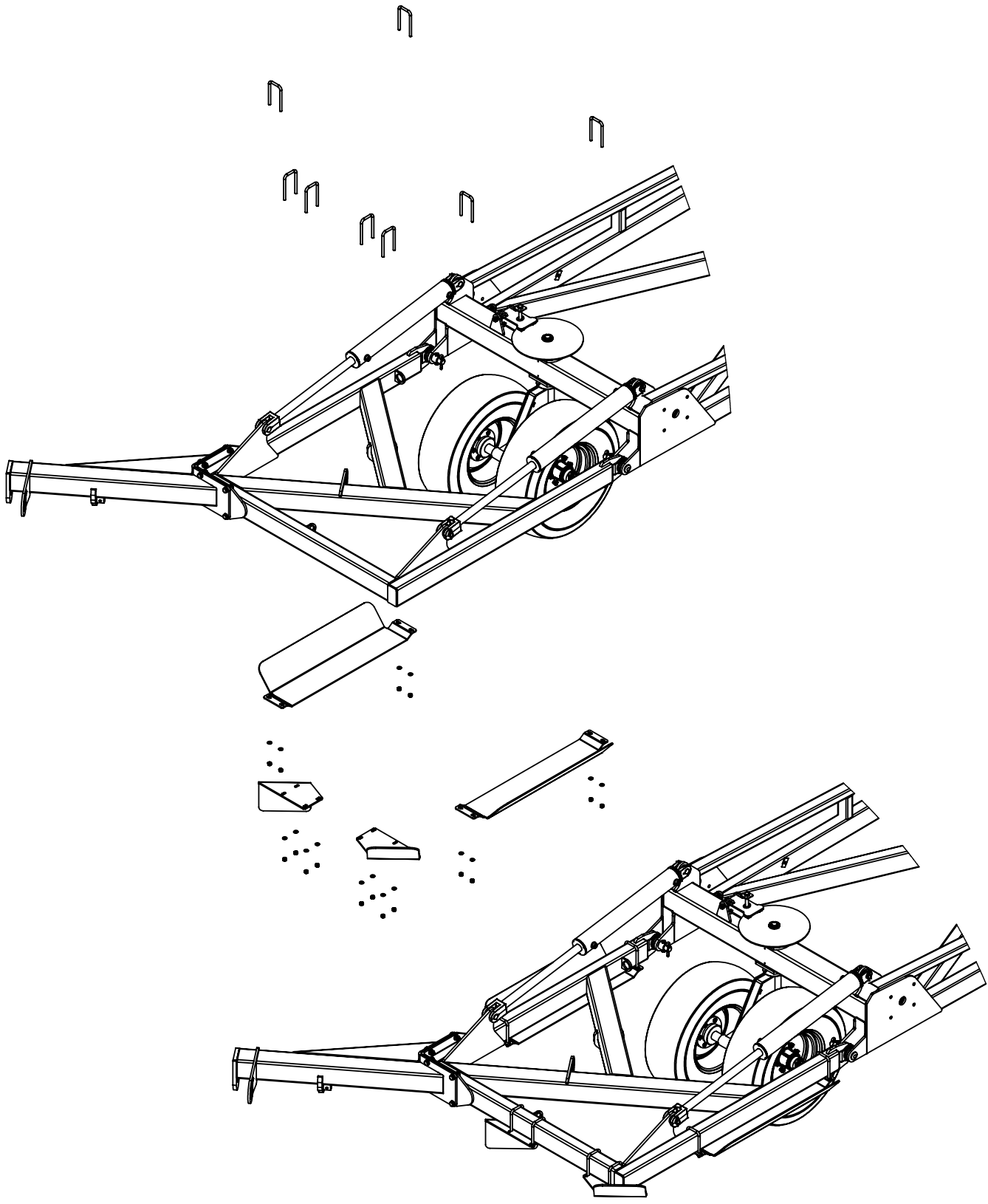


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| ITEM NO. | PART NUMBER | DESCRIPTION | QTY. |
|----------|-------------|-------------------------------|------|
| 1 | 0211-1650 | M16 x 50 grade 8.8 zp Bolt | 8 |
| 2 | 0221-NYL16 | Nyloc Nut M16 | 8 |
| 3 | 0231-F16 | Washer Flat M16 | 16 |
| 4 | 0810-10ET | Extended Tip Tail Bolt On Tip | 1 |

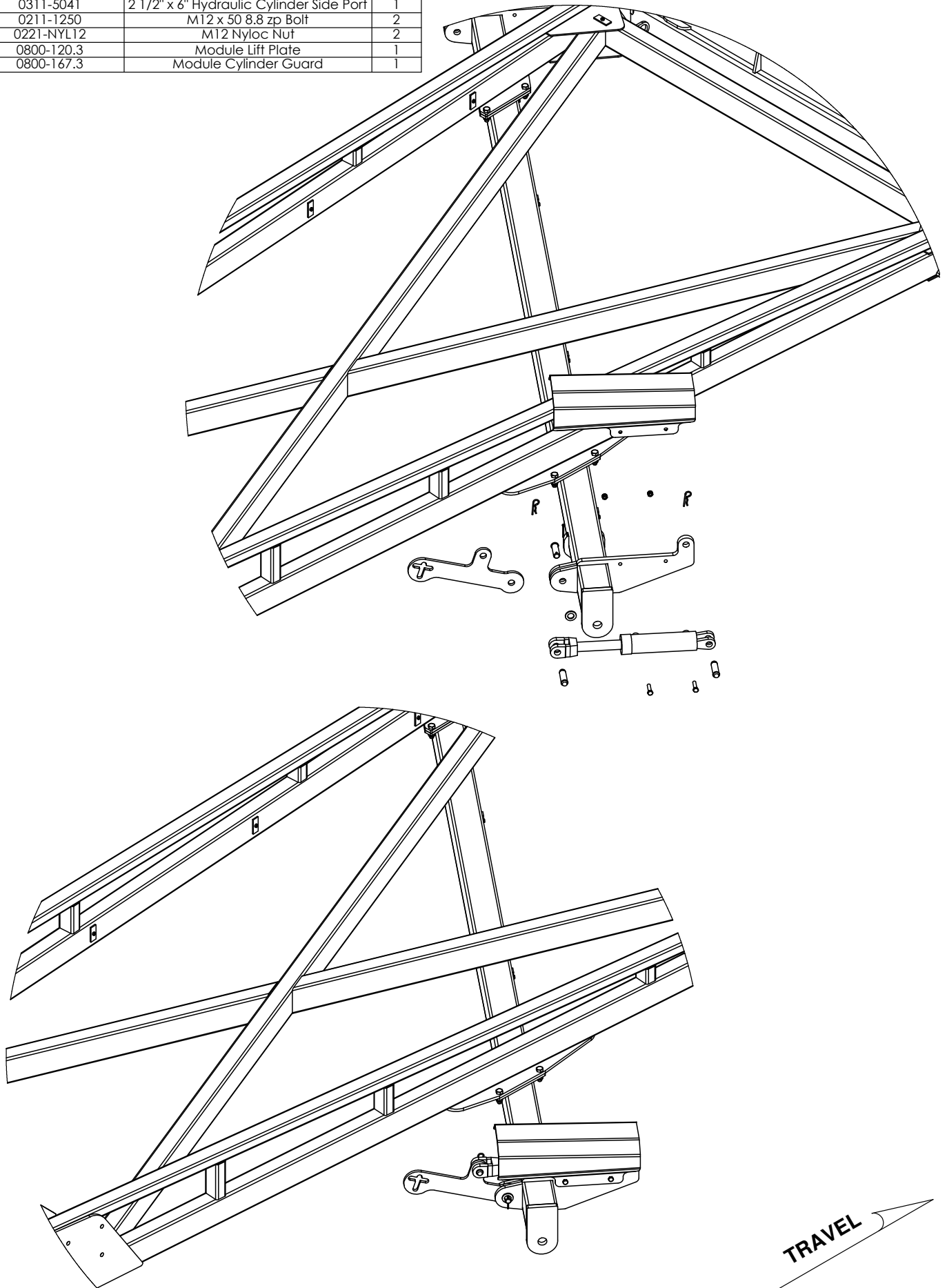


| ITEM NO. | PART NUMBER | DESCRIPTION | QTY. |
|----------|--------------|---------------------------------|------|
| 1 | 0221-NYL12 | Nyloc Nut M12 | 16 |
| 2 | 0231-F12 | Washer Flat M12 | 16 |
| 3 | 0271-1215577 | U-Bolt M12 x 155 Deep x 77 Wide | 8 |
| 4 | 0800-220.1 | Tail Chain Stop Guard | 1 |
| 5 | 0800-235 | Rear Tail Guard | 2 |
| 6 | 0800-498 | Angled Chain Gaurd | 1 |

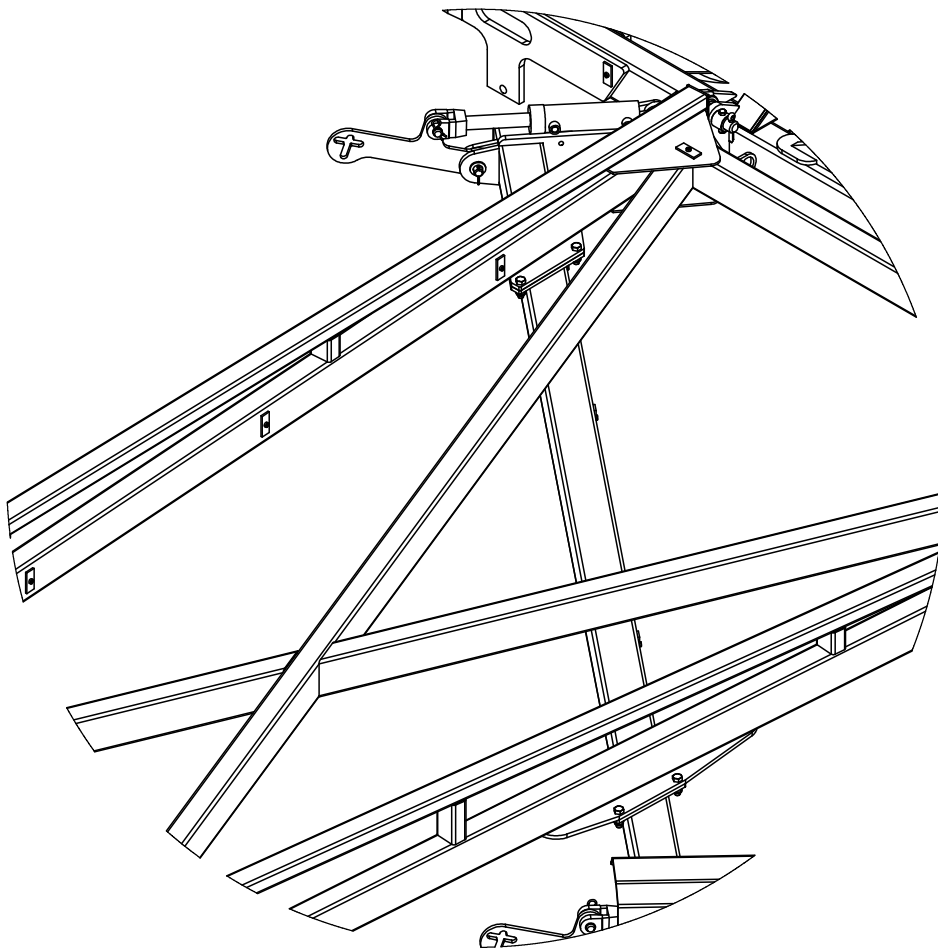
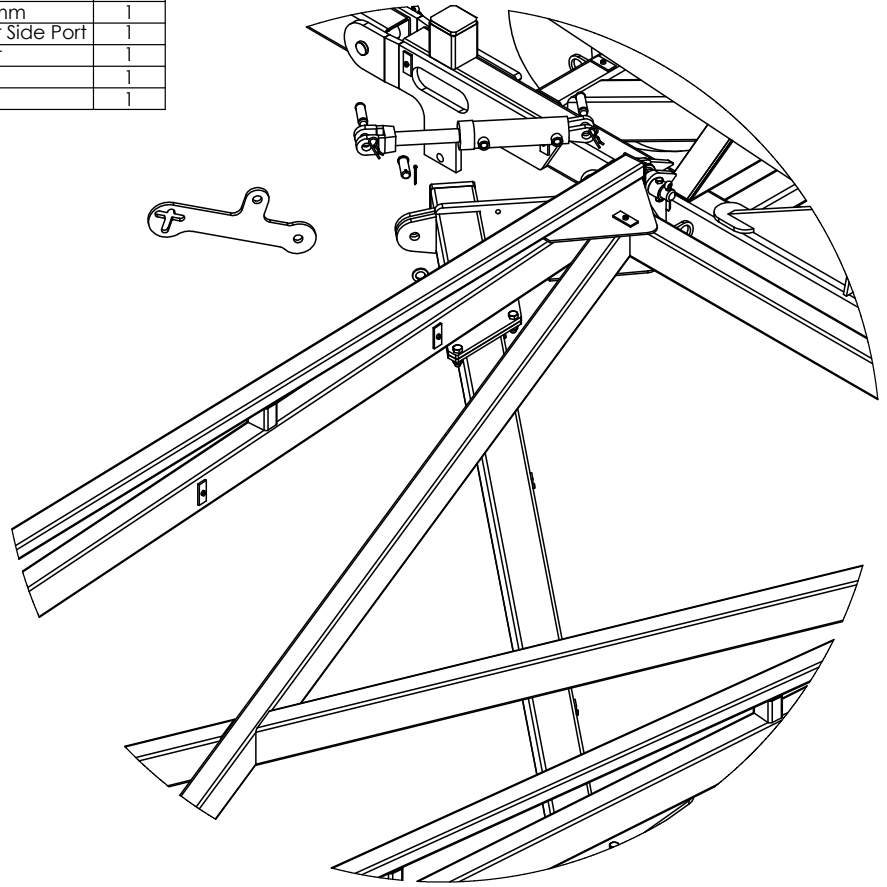


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| PART NUMBER | DESCRIPTION | QTY. |
|----------------|--|------|
| 0801-44082938 | Clevis Pin 1" x 75mm | 2 |
| 0511-RCLIP4 | R Clip 4mm | 2 |
| 0801-KE-0307-1 | Clevis Pin 25mm x 75mm | 1 |
| 0231-F12 | M12 zp Flat Washer | 1 |
| 0261-PINC550 | Cotter Pin M5 x 50 | 1 |
| 0311-5041 | 2 1/2" x 6" Hydraulic Cylinder Side Port | 1 |
| 0211-1250 | M12 x 50 8.8 zp Bolt | 2 |
| 0221-NYL12 | M12 Nyloc Nut | 2 |
| 0800-120.3 | Module Lift Plate | 1 |
| 0800-167.3 | Module Cylinder Guard | 1 |

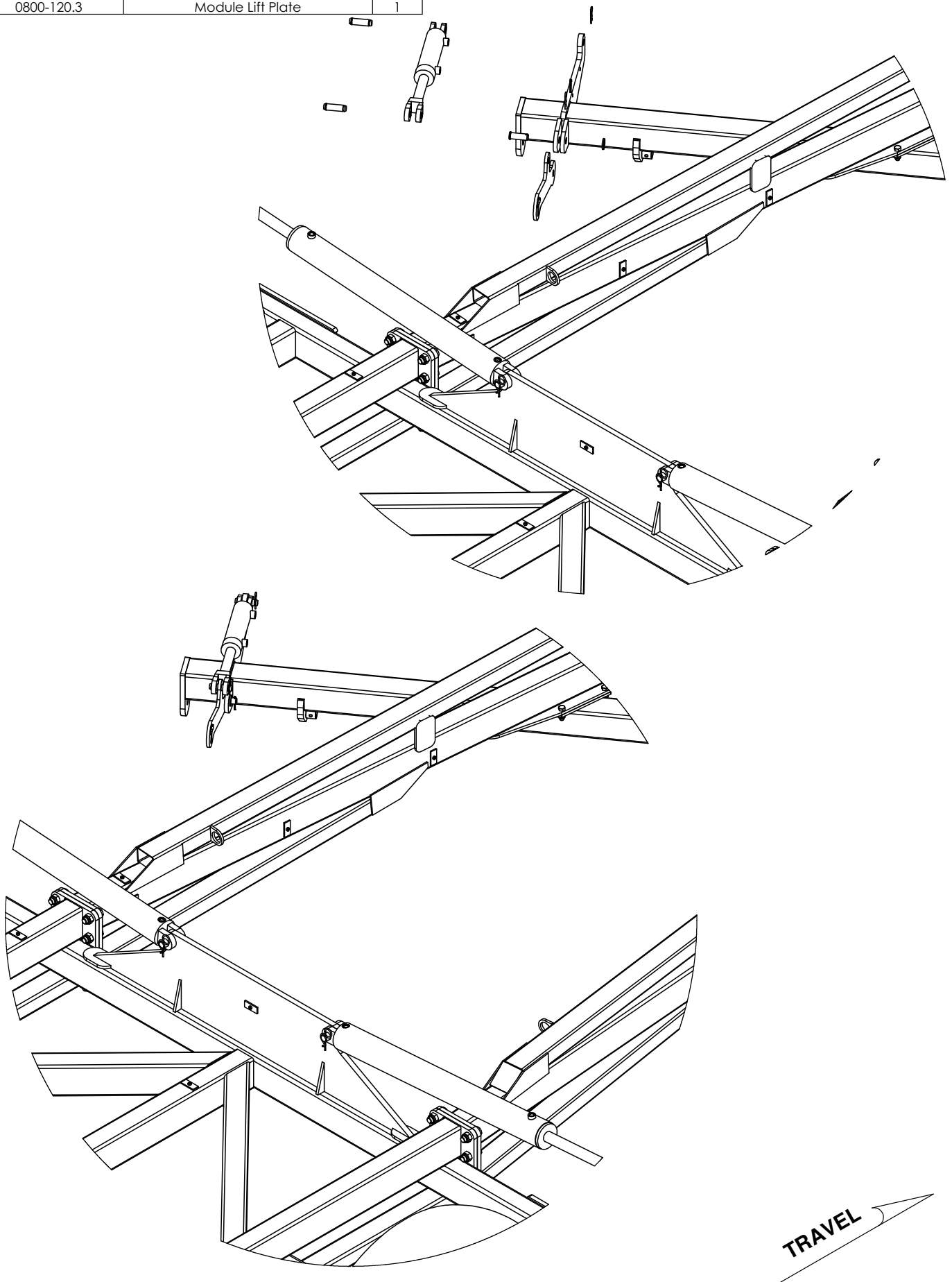


| PART NUMBER | DESCRIPTION | QTY. |
|----------------|--|------|
| 0801-44082938 | Clevis Pin 1" x 75mm | 2 |
| 0511-RCLIP4 | R Clip 4mm | 2 |
| 0801-KE-0307-1 | Clevis Pin 25mm x 75mm | 1 |
| 0311-5041 | 2 1/2" x 6" Hydraulic Cylinder Side Port | 1 |
| 0231-F12 | M12 zp Flat Washer | 1 |
| 0261-PINC550 | Cotter Pin M5 x 50 | 1 |
| 0800-120.3 | Module Lift Plate | 1 |



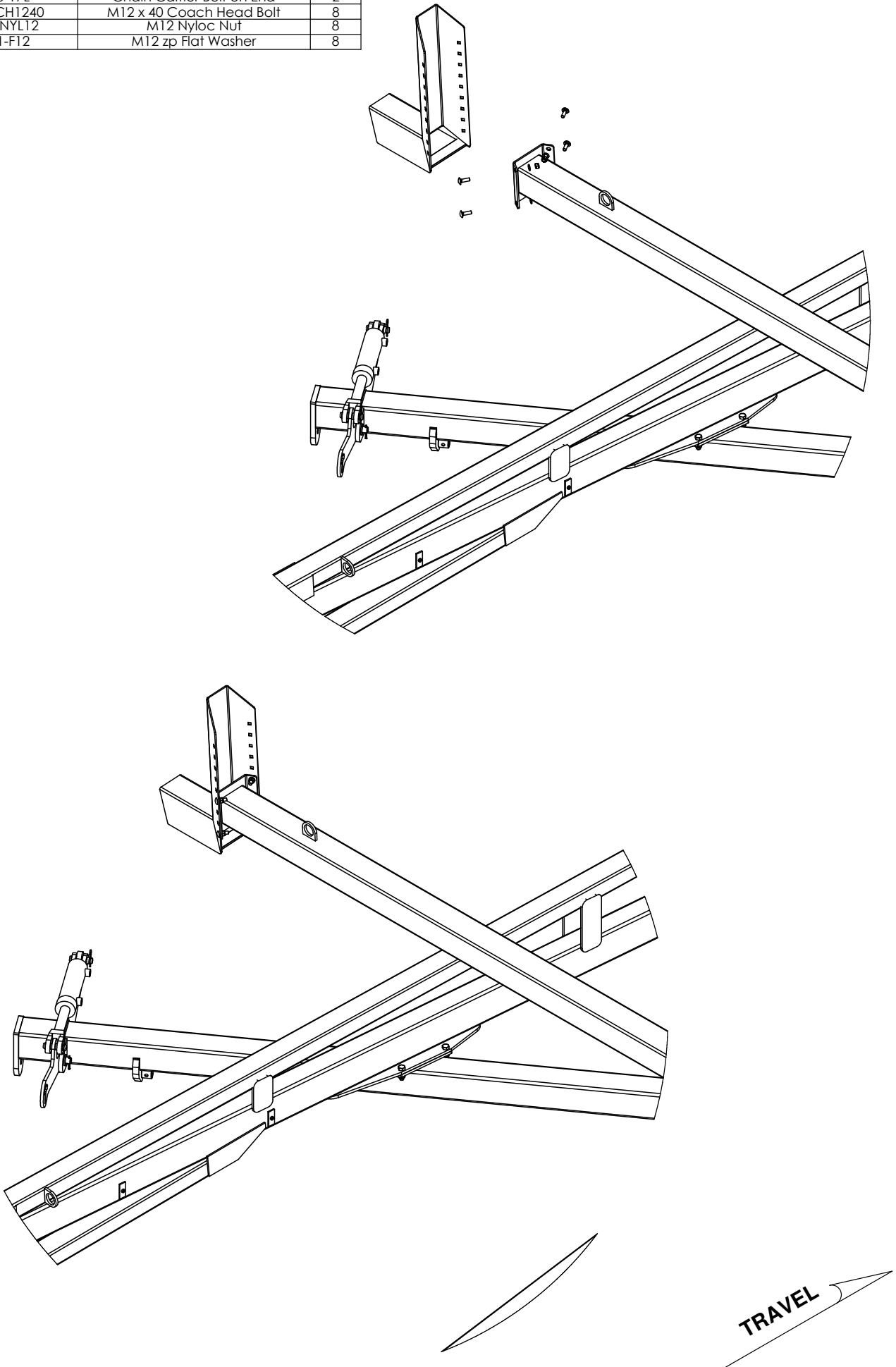
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| PART NUMBER | DESCRIPTION | QTY. |
|----------------|--|------|
| 0801-44082938 | Clevis Pin 1" x 75mm | 2 |
| 0511-RCLIP4 | R Clip 4mm | 2 |
| 0801-KE-0307-1 | Clevis Pin 25mm x 75mm | 1 |
| 0311-5041 | 2 1/2" x 6" Hydraulic Cylinder Side Port | 1 |
| 0231-F12 | M12 zp Flat Washer | 1 |
| 0261-PINC550 | Cotter Pin M5 x 50 | 1 |
| 0800-120.3 | Module Lift Plate | 1 |

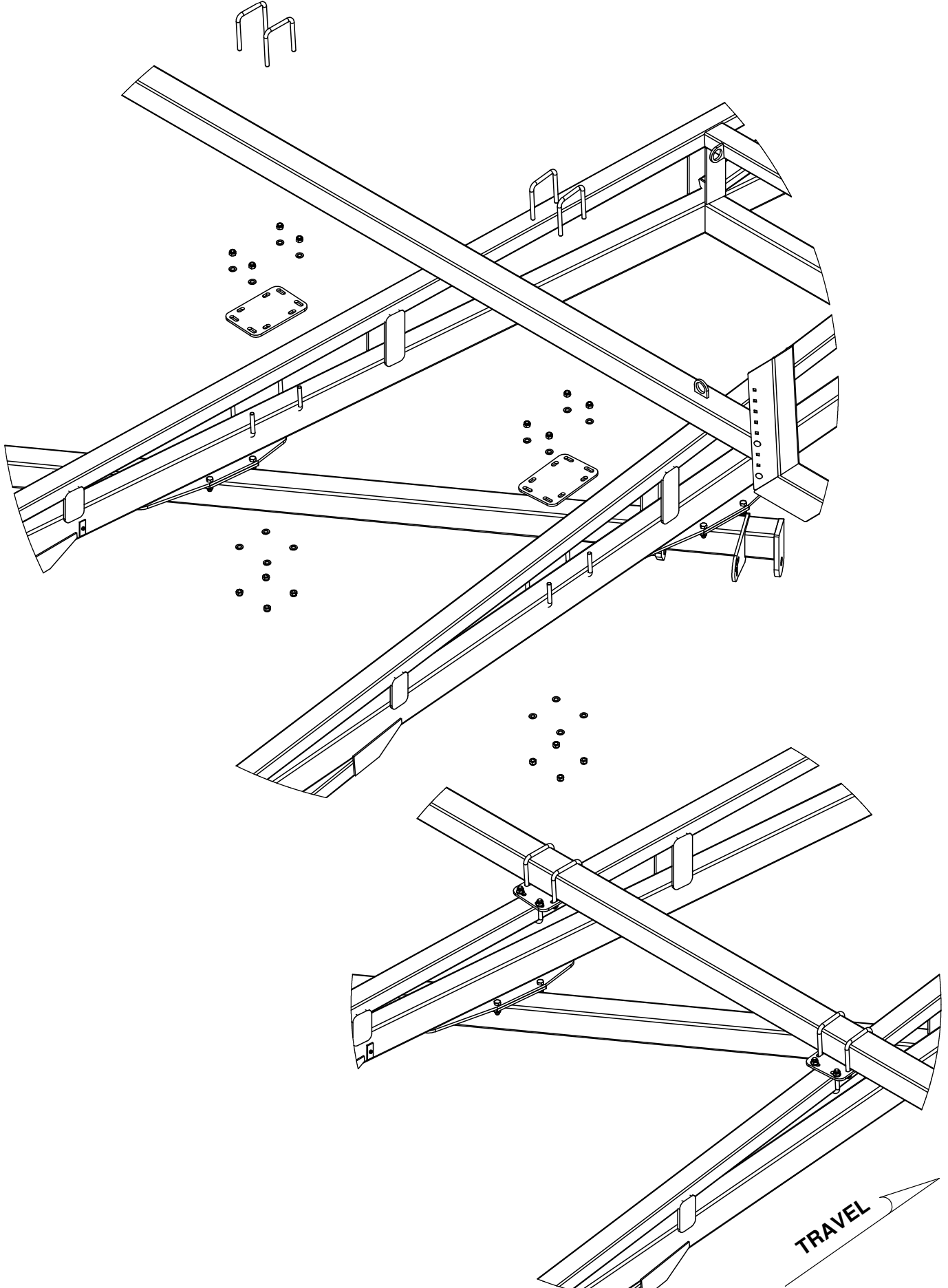


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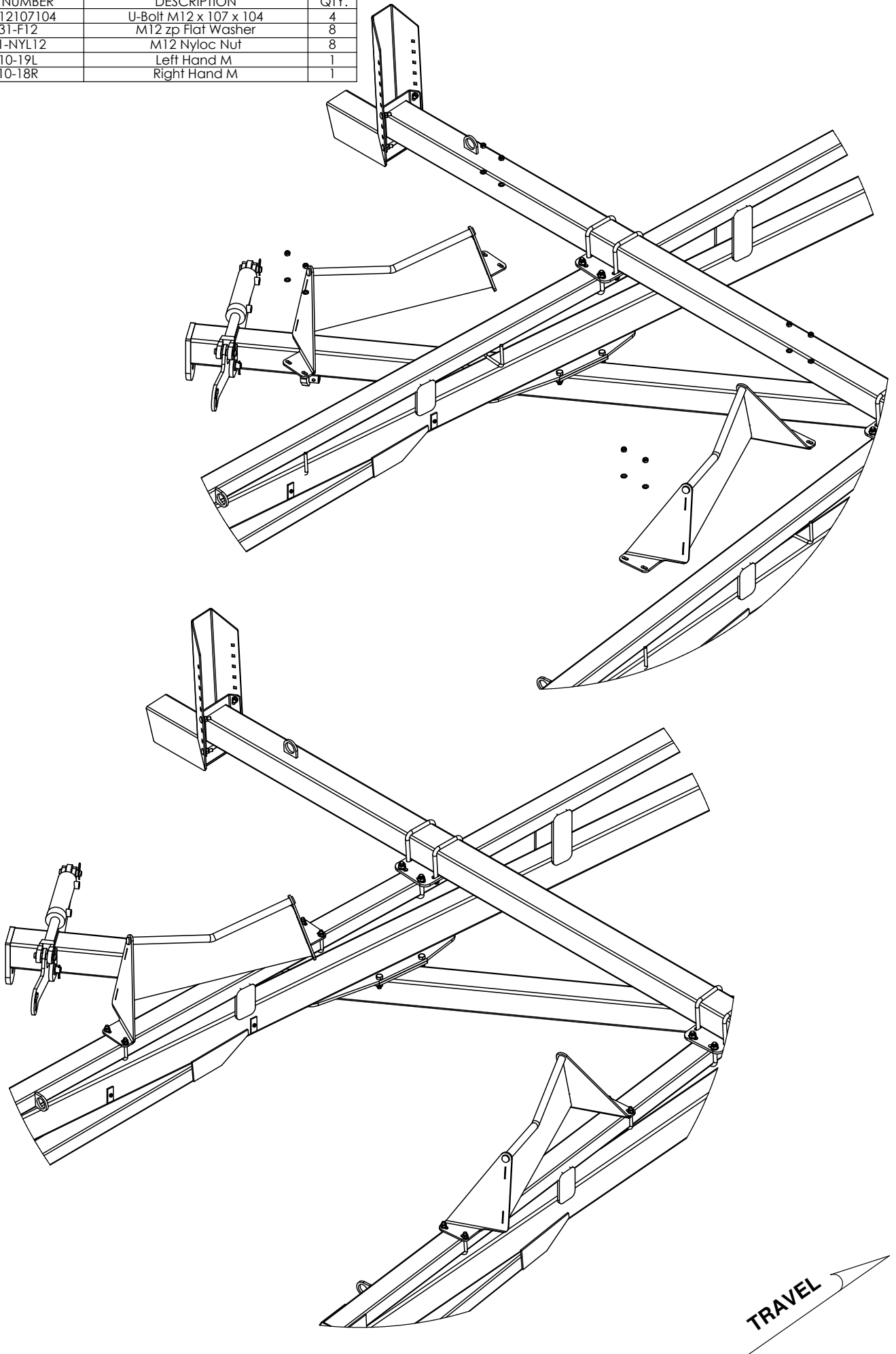
| PART NUMBER | DESCRIPTION | QTY. |
|---------------|---------------------------|------|
| 0810-17-50&60 | 50/60' Chain Carrier Beam | 1 |
| 0810-17L | Chain Carrier Bolt on End | 2 |
| 0215-CH1240 | M12 x 40 Coach Head Bolt | 8 |
| 0221-NYL12 | M12 Nyloc Nut | 8 |
| 0231-F12 | M12 zp Flat Washer | 8 |



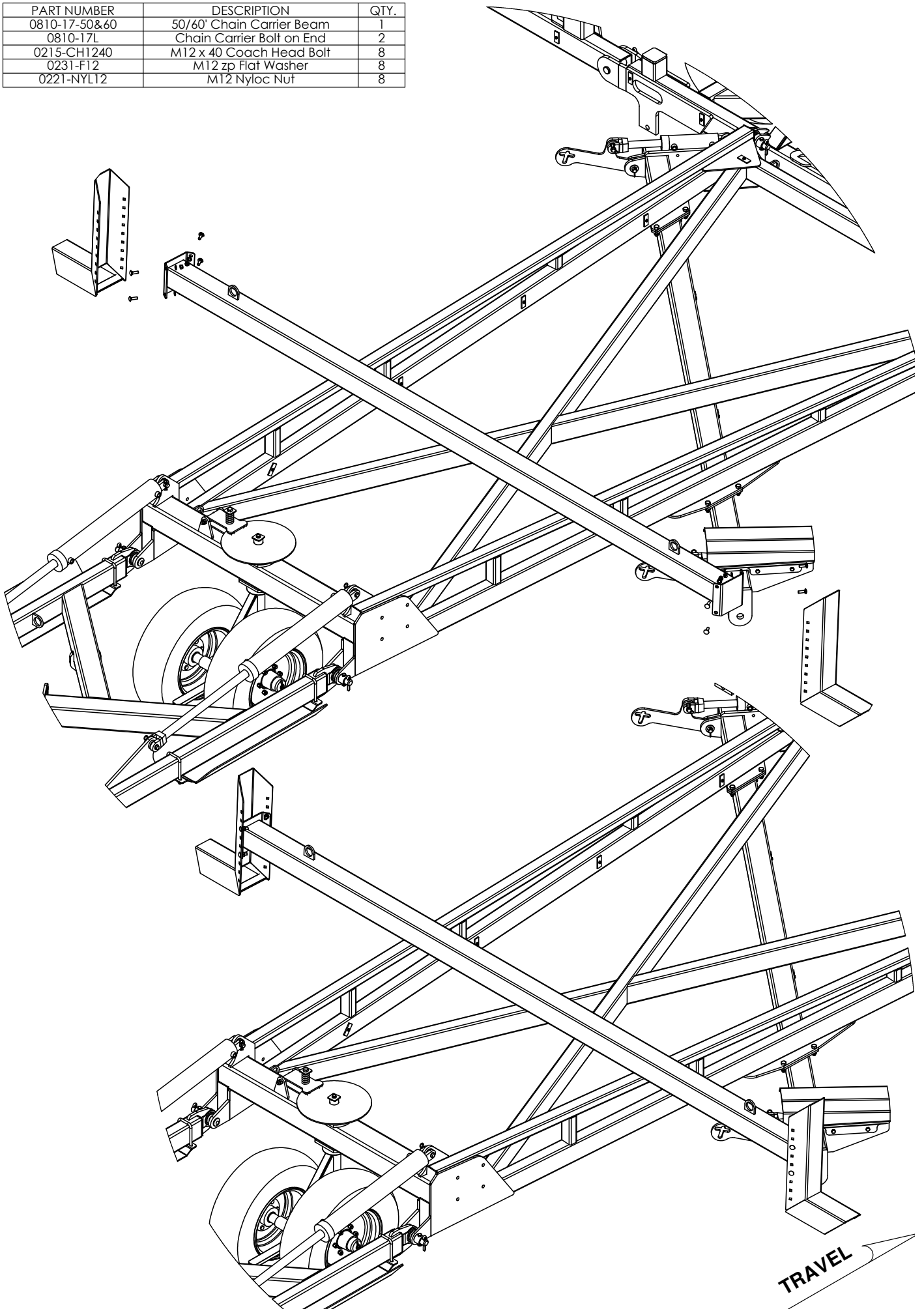
| PART NUMBER | DESCRIPTION | QTY. |
|---------------|---------------------------|------|
| 0800-139.1 | Chain Carrier Mount Plate | 2 |
| 0271-16112104 | U-Bolt M16 x 112 x 104 | 4 |
| 0271-16160127 | U-Bolt M16 x 160 x 127 | 4 |
| 0231-F12 | M12 zp Flat Washer | 16 |
| 0221-NYL16 | M16 Nyloc Nut | 16 |



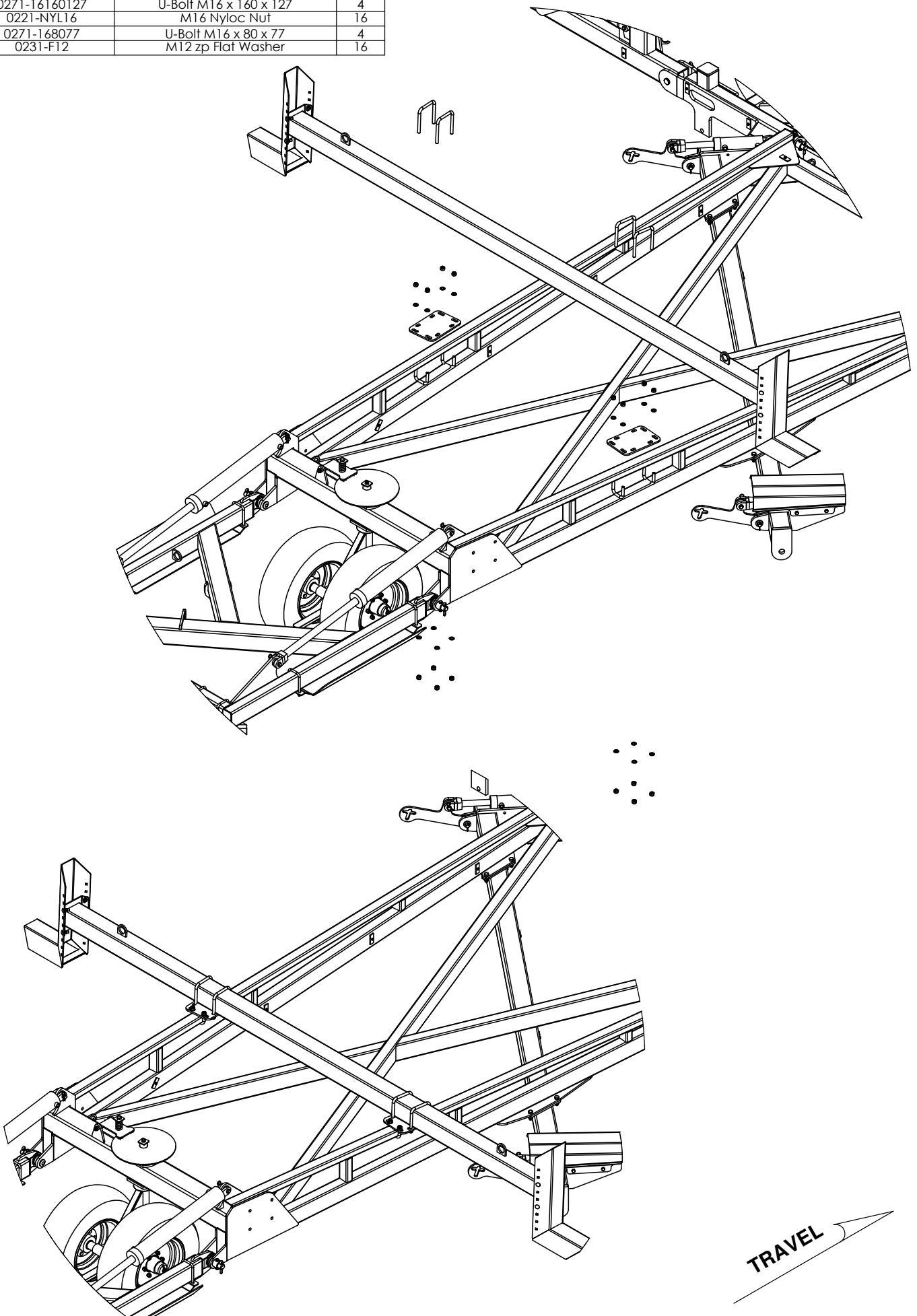
| PART NUMBER | DESCRIPTION | QTY. |
|---------------|------------------------|------|
| 0271-12107104 | U-Bolt M12 x 107 x 104 | 4 |
| 0231-F12 | M12 zp Flat Washer | 8 |
| 0221-NYL12 | M12 Nyloc Nut | 8 |
| 0810-19L | Left Hand M | 1 |
| 0810-18R | Right Hand M | 1 |



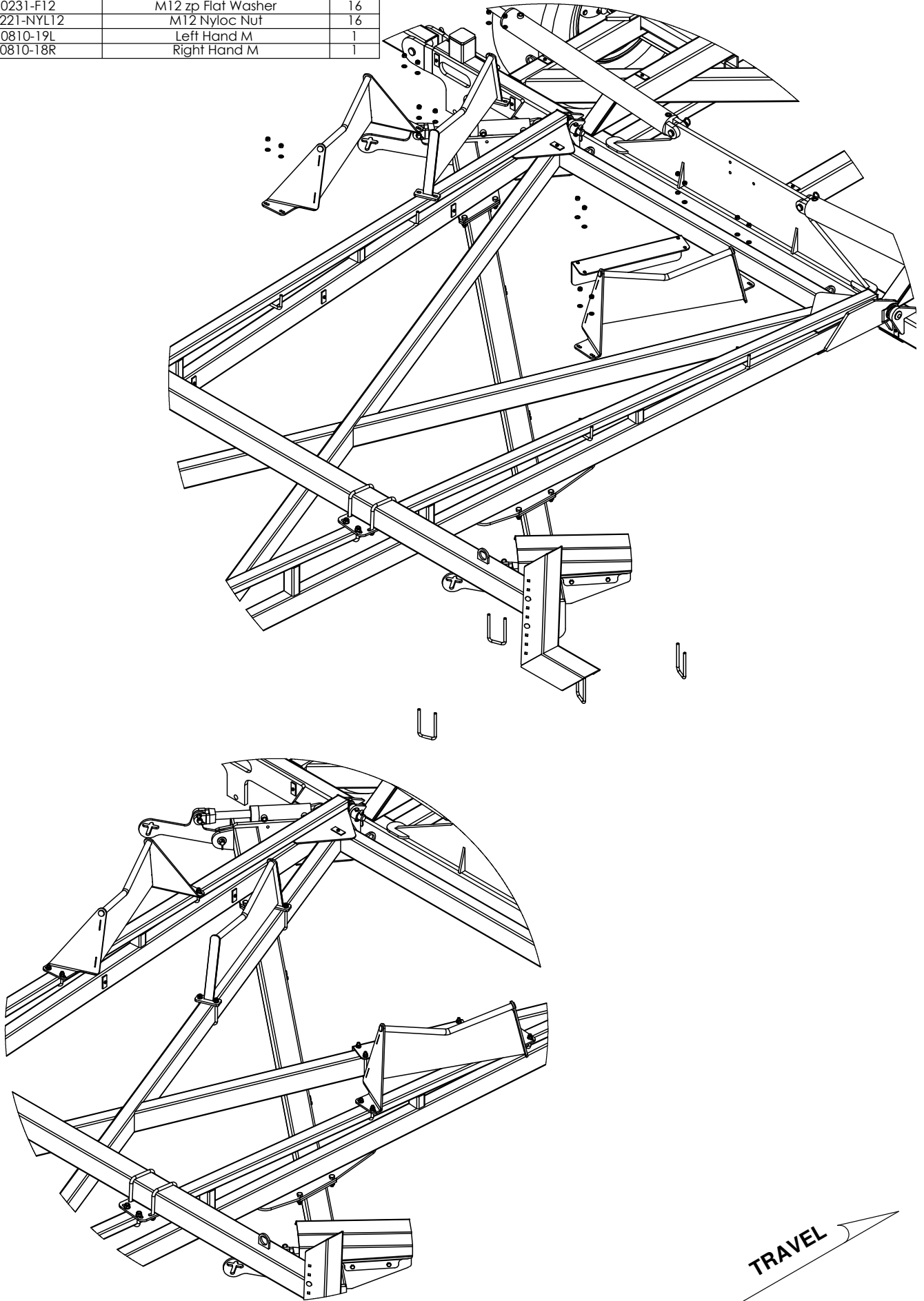
| PART NUMBER | DESCRIPTION | QTY. |
|---------------|---------------------------|------|
| 0810-17-50&60 | 50/60' Chain Carrier Beam | 1 |
| 0810-17L | Chain Carrier Bolt on End | 2 |
| 0215-CH1240 | M12 x 40 Coach Head Bolt | 8 |
| 0231-F12 | M12 zp Flat Washer | 8 |
| 0221-NYL12 | M12 Nyloc Nut | 8 |



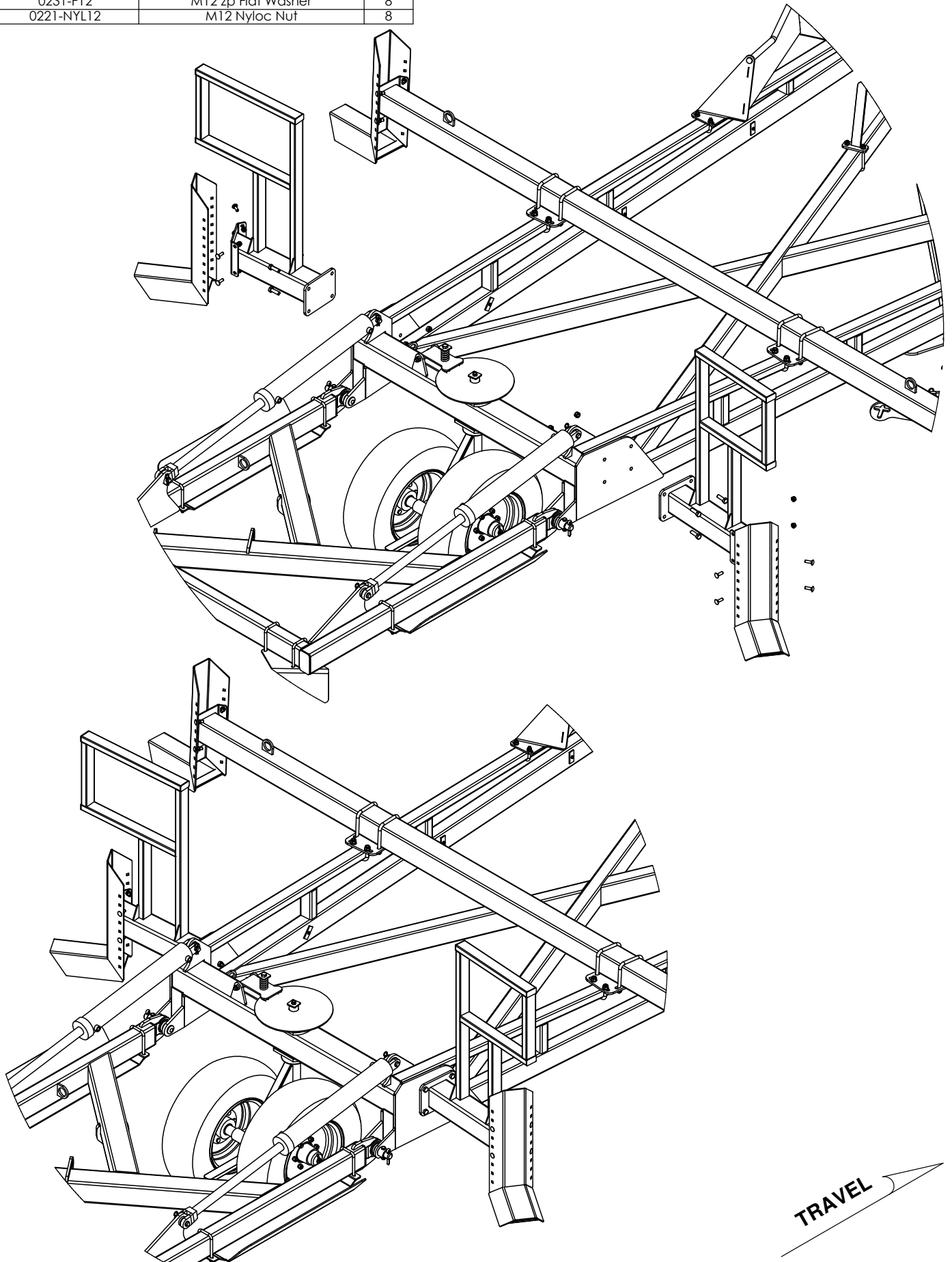
| PART NUMBER | DESCRIPTION | QTY. |
|---------------|---------------------------|------|
| 0800-139.1 | Chain Carrier Mount Plate | 2 |
| 0271-16160127 | U-Bolt M16 x 160 x 127 | 4 |
| 0221-NYL16 | M16 Nyloc Nut | 16 |
| 0271-168077 | U-Bolt M16 x 80 x 77 | 4 |
| 0231-F12 | M12 zp Flat Washer | 16 |



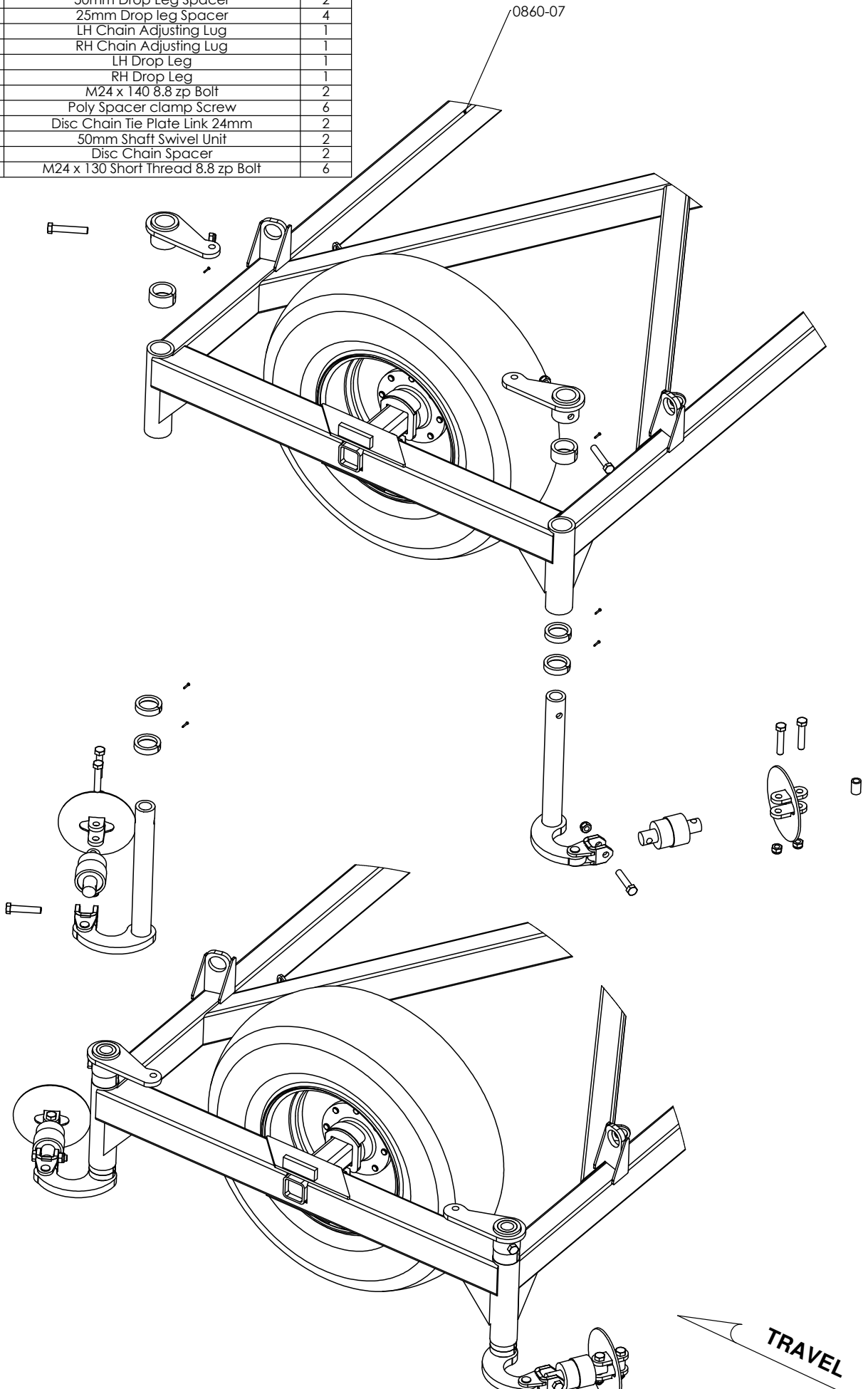
| PART NUMBER | DESCRIPTION | QTY. |
|--------------|------------------------|------|
| PC10-19 | Rear Frame M | 1 |
| 0271-1215577 | U-Bolt M12 x 155 x 77 | 4 |
| 0800-228.1 | 60' Rear A-Frame Guard | 1 |
| 0271-128077 | U-Bolt M12 x 80 x 77 | 4 |
| 0231-F12 | M12 zp Flat Washer | 16 |
| 0221-NYL12 | M12 Nylac Nut | 16 |
| 0810-19L | Left Hand M | 1 |
| 0810-18R | Right Hand M | 1 |



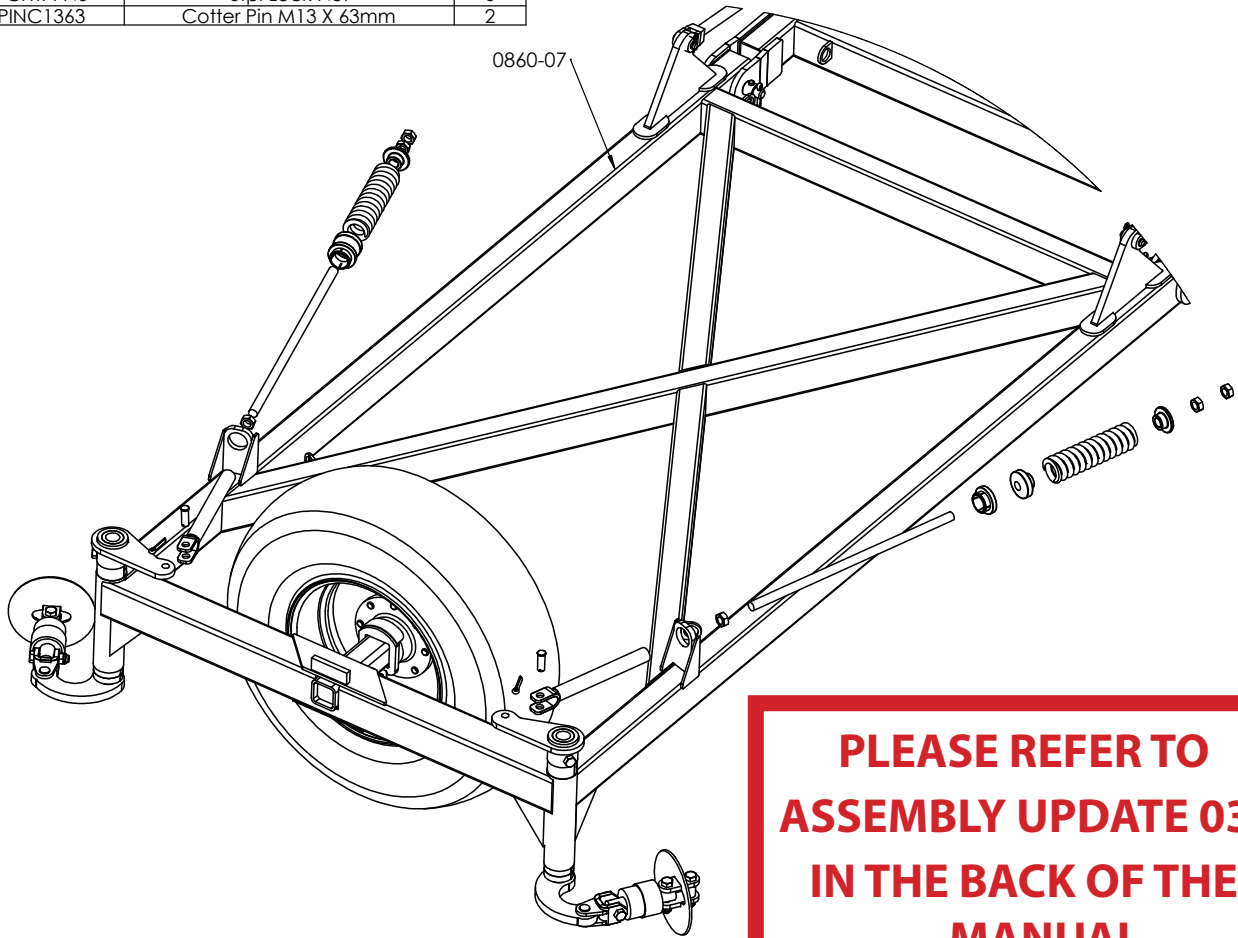
| PART NUMBER | DESCRIPTION | QTY. |
|-------------|---------------------------------|------|
| 0810-109R | RH Outrigger With OS Sign Frame | 1 |
| 0810-109L | LH Outrigger With OS Sign Frame | 1 |
| 0810-17L | Chain Carrier Bolt on End | 2 |
| 0211-1650 | M16 x 50 8.8 zp Bolt | 8 |
| 0221-NYL16 | M16 Nyloc Nut | 8 |
| 0215-CH1240 | M12 x 40 Coach Head Bolt | 8 |
| 0231-F12 | M12 zp Flat Washer | 8 |
| 0221-NYL12 | M12 Nyloc Nut | 8 |



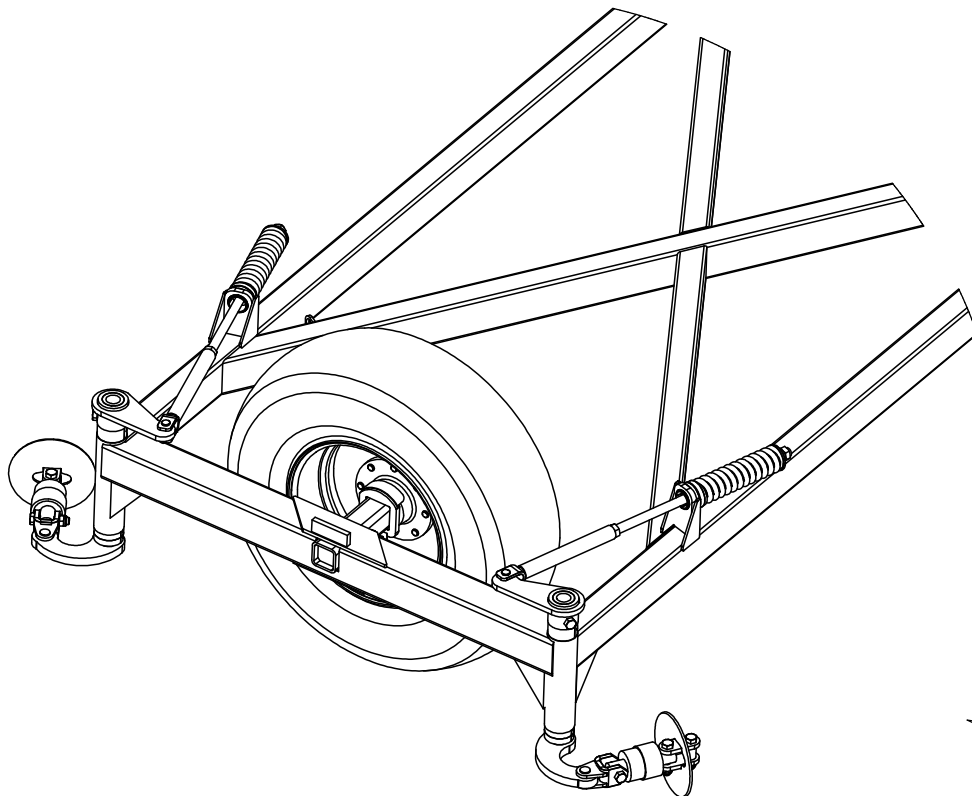
| PART NUMBER | DESCRIPTION | QTY. |
|-----------------|------------------------------------|------|
| 0221-NYL24 | M24 Nyloc Nut | 8 |
| 0801-PS50 | 50mm Drop Leg Spacer | 2 |
| 0801-PS25 | 25mm Drop leg Spacer | 4 |
| 0810-26 | LH Chain Adjusting Lug | 1 |
| 0810-27 | RH Chain Adjusting Lug | 1 |
| 0810-24-60 | LH Drop Leg | 1 |
| 0810-25-60 | RH Drop Leg | 1 |
| 0211-24140 | M24 x 140 8.8 zp Bolt | 2 |
| 0243-STSG1.25ZP | Poly Spacer clamp Screw | 6 |
| 0802-DCTP-24 | Disc Chain Tie Plate Link 24mm | 2 |
| 0802-PCHB553 | 50mm Shaft Swivel Unit | 2 |
| 0801-PCDCS55 | Disc Chain Spacer | 2 |
| 0211-24120ST | M24 x 130 Short Thread 8.8 zp Bolt | 6 |



| PART NUMBER | DESCRIPTION | QTY. |
|----------------|-----------------------------|------|
| 0801-KE-0307-1 | Clevis Pin 25mm x 75mm | 2 |
| 0801-XK9261S | 20mm Compression Spring | 2 |
| 0801-KE0805-3 | Tensioner Cup Male | 2 |
| 0801-KE0805-4 | Tensioner Cup Female | 2 |
| 0801-PCHTA-B6 | 6tpi 1.25" Tension Bolt | 2 |
| 0801-PCHTA-BC | Tension Assembly Body | 2 |
| 0801-PCHTA-SB | Steel Spring Retaining Bush | 2 |
| 0801-PCHTA-N6 | 6tpi Lock Nut | 6 |
| 0261-PINC1363 | Cotter Pin M13 X 63mm | 2 |

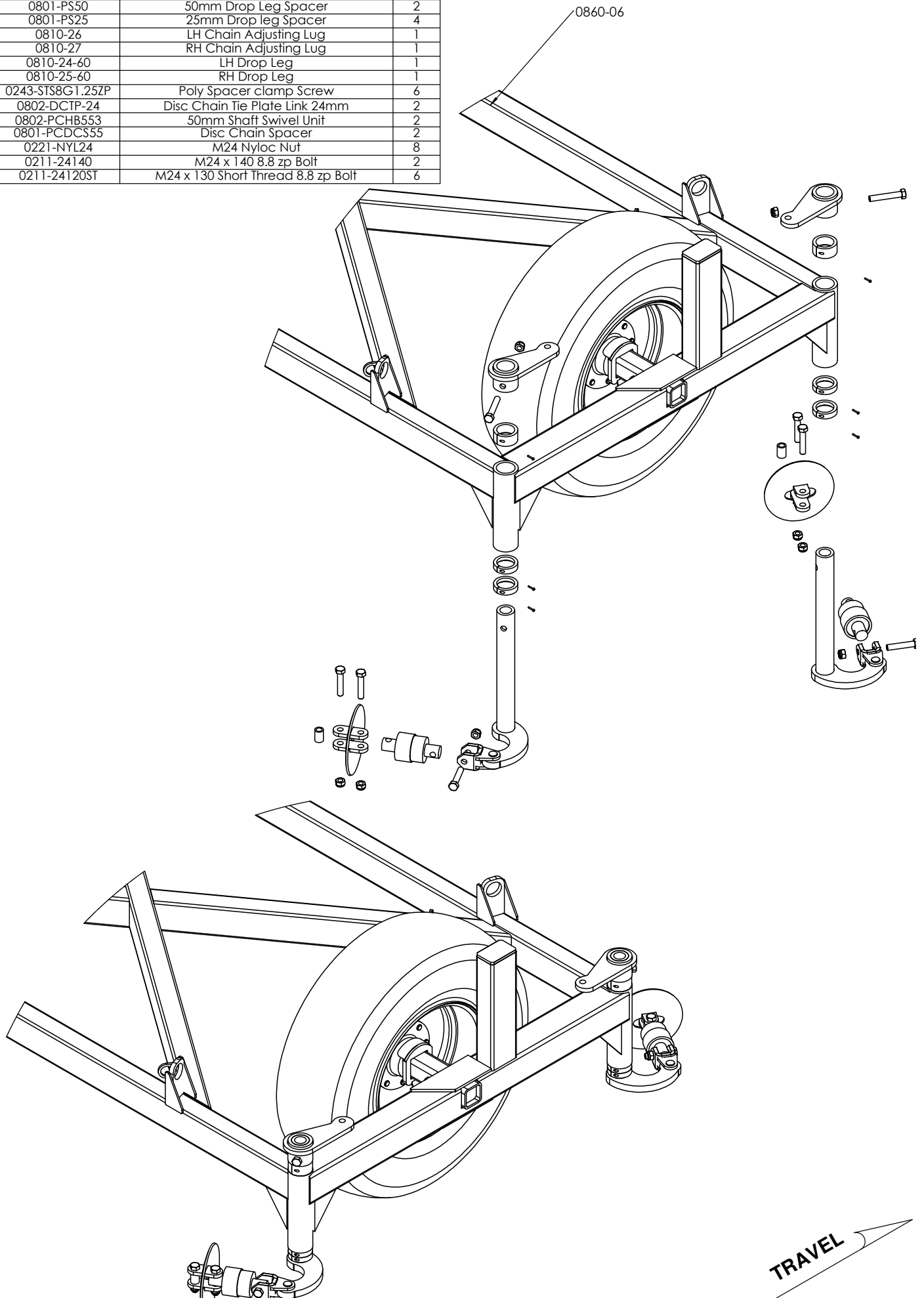


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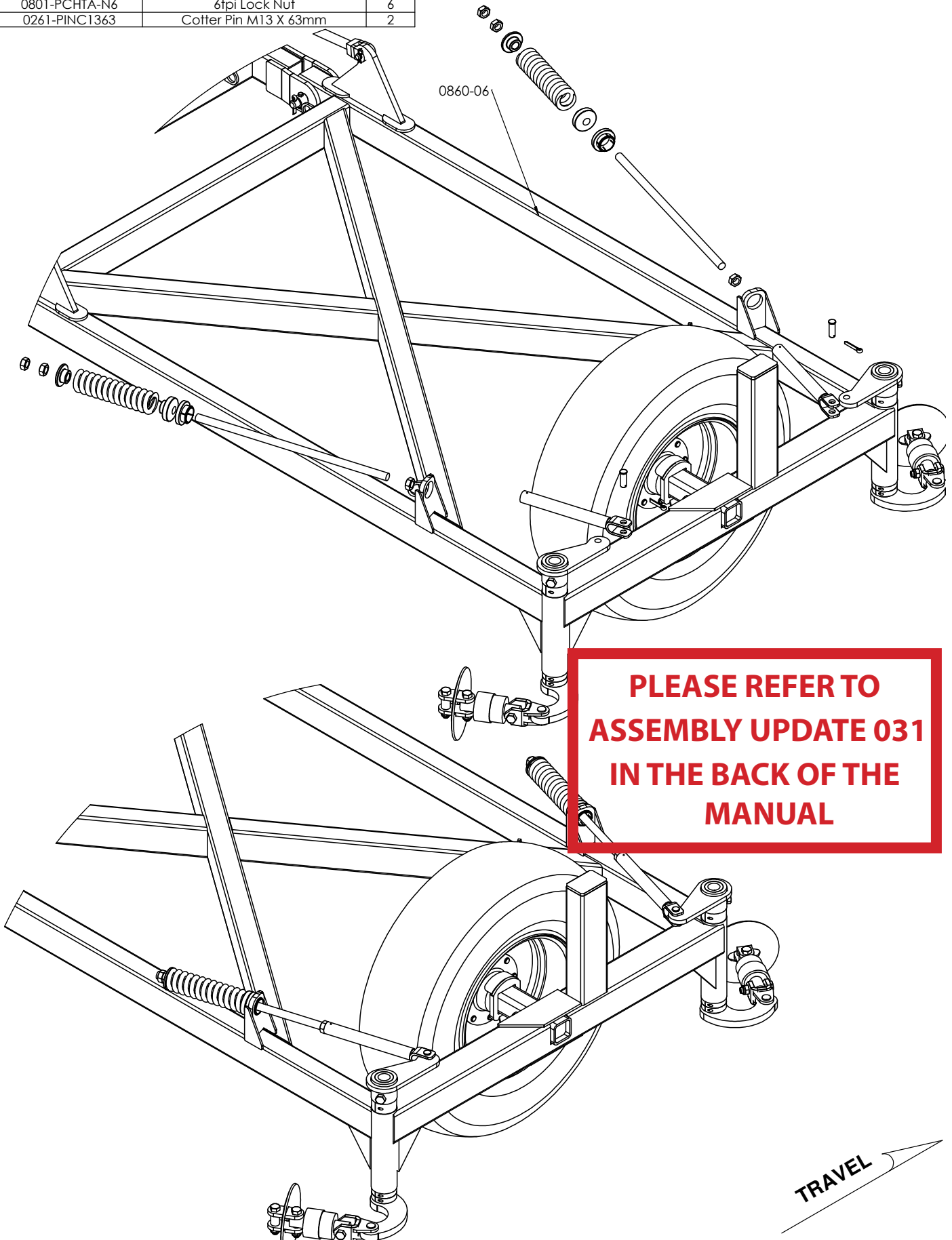


TRAVEL

| PART NUMBER | DESCRIPTION | QTY. |
|------------------|------------------------------------|------|
| 0801-PS50 | 50mm Drop Leg Spacer | 2 |
| 0801-PS25 | 25mm Drop leg Spacer | 4 |
| 0810-26 | LH Chain Adjusting Lug | 1 |
| 0810-27 | RH Chain Adjusting Lug | 1 |
| 0810-24-60 | LH Drop Leg | 1 |
| 0810-25-60 | RH Drop Leg | 1 |
| 0243-ST58G1.25ZP | Poly Spacer clamp Screw | 6 |
| 0802-DCTP-24 | Disc Chain Tie Plate Link 24mm | 2 |
| 0802-PCHB553 | 50mm Shaft Swivel Unit | 2 |
| 0801-PCDCS55 | Disc Chain Spacer | 2 |
| 0221-NYL24 | M24 Nyloc Nut | 8 |
| 0211-24140 | M24 x 140 8.8 zp Bolt | 2 |
| 0211-24120ST | M24 x 130 Short Thread 8.8 zp Bolt | 6 |



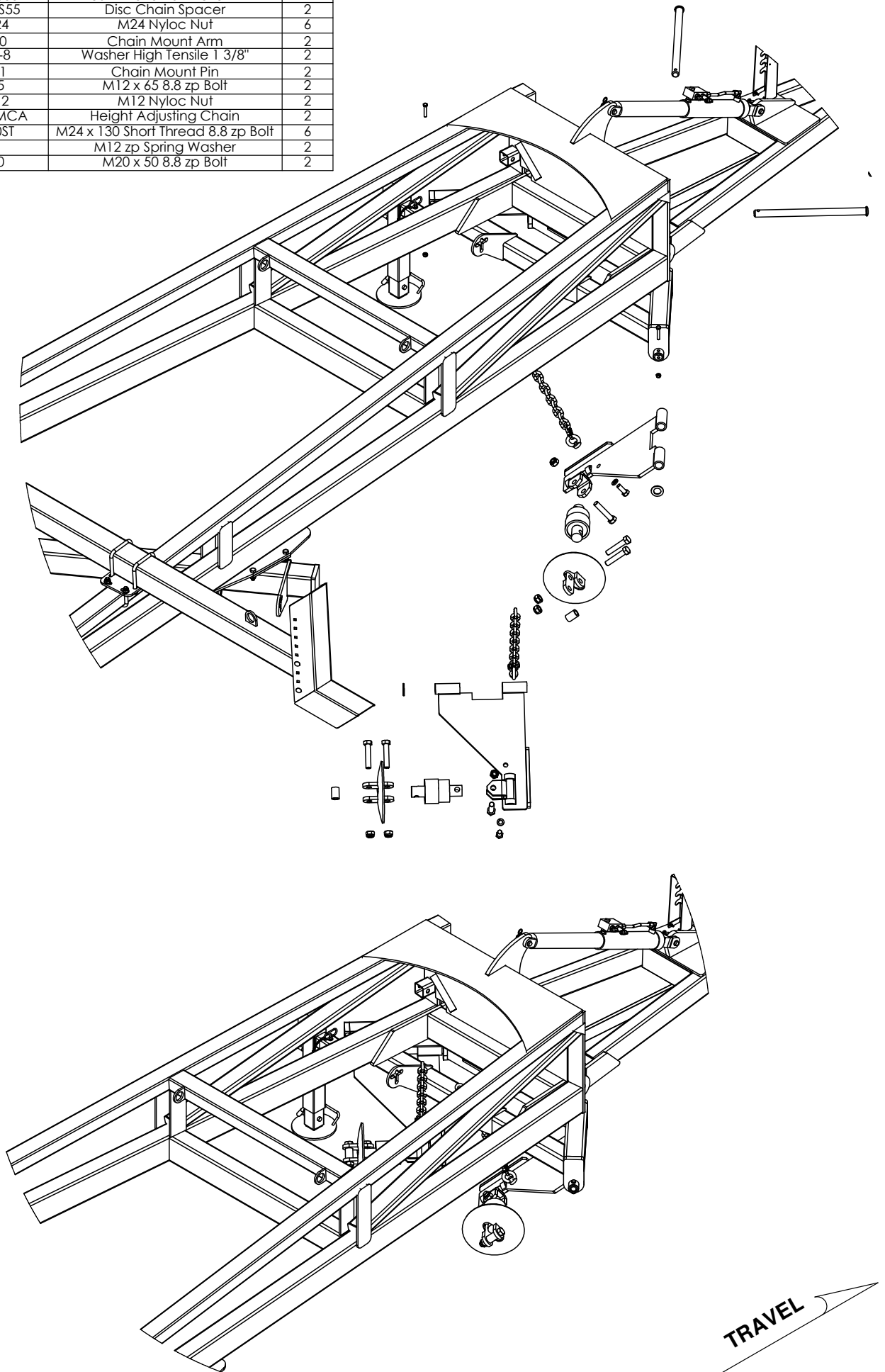
| PART NUMBER | DESCRIPTION | QTY. |
|----------------|-----------------------------|------|
| 0801-KE-0307-1 | Clevis Pin 25mm x 75mm | 2 |
| 0801-XK9261S | 20mm Compression Spring | 2 |
| 0801-KE0805-3 | Tensioner Cup Male | 2 |
| 0801-KE0805-4 | Tensioner Cup Female | 2 |
| 0801-PCHTA-B6 | 6tpi 1.25" Tension Bolt | 2 |
| 0801-PCHTA-BC | Tension Assembly Body | 2 |
| 0801-PCHTA-SB | Steel Spring Retaining Bush | 2 |
| 0801-PCHTA-N6 | 6tpi Lock Nut | 6 |
| 0261-PINC1363 | Cotter Pin M13 X 63mm | 2 |



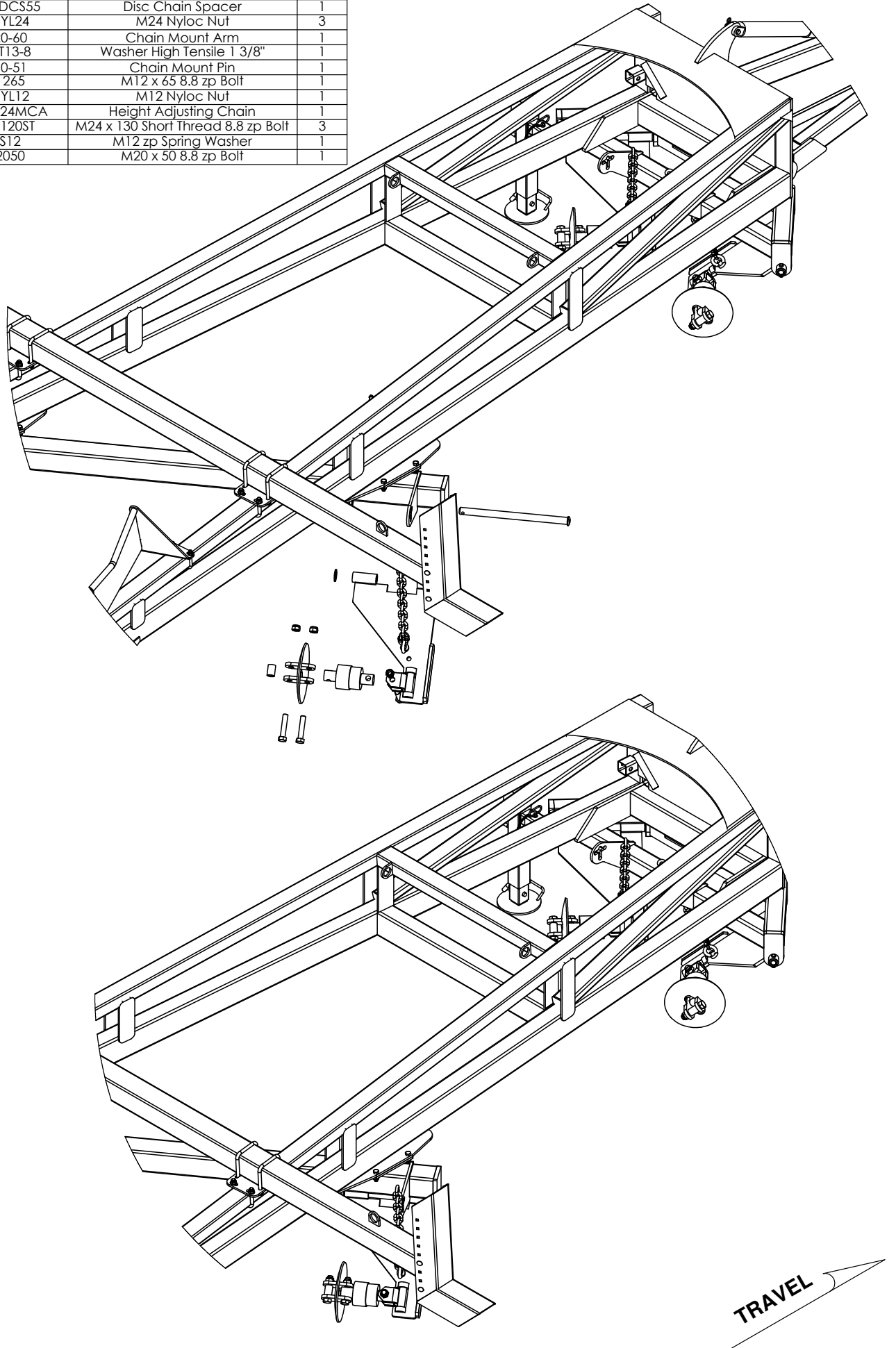
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TRAVEL →

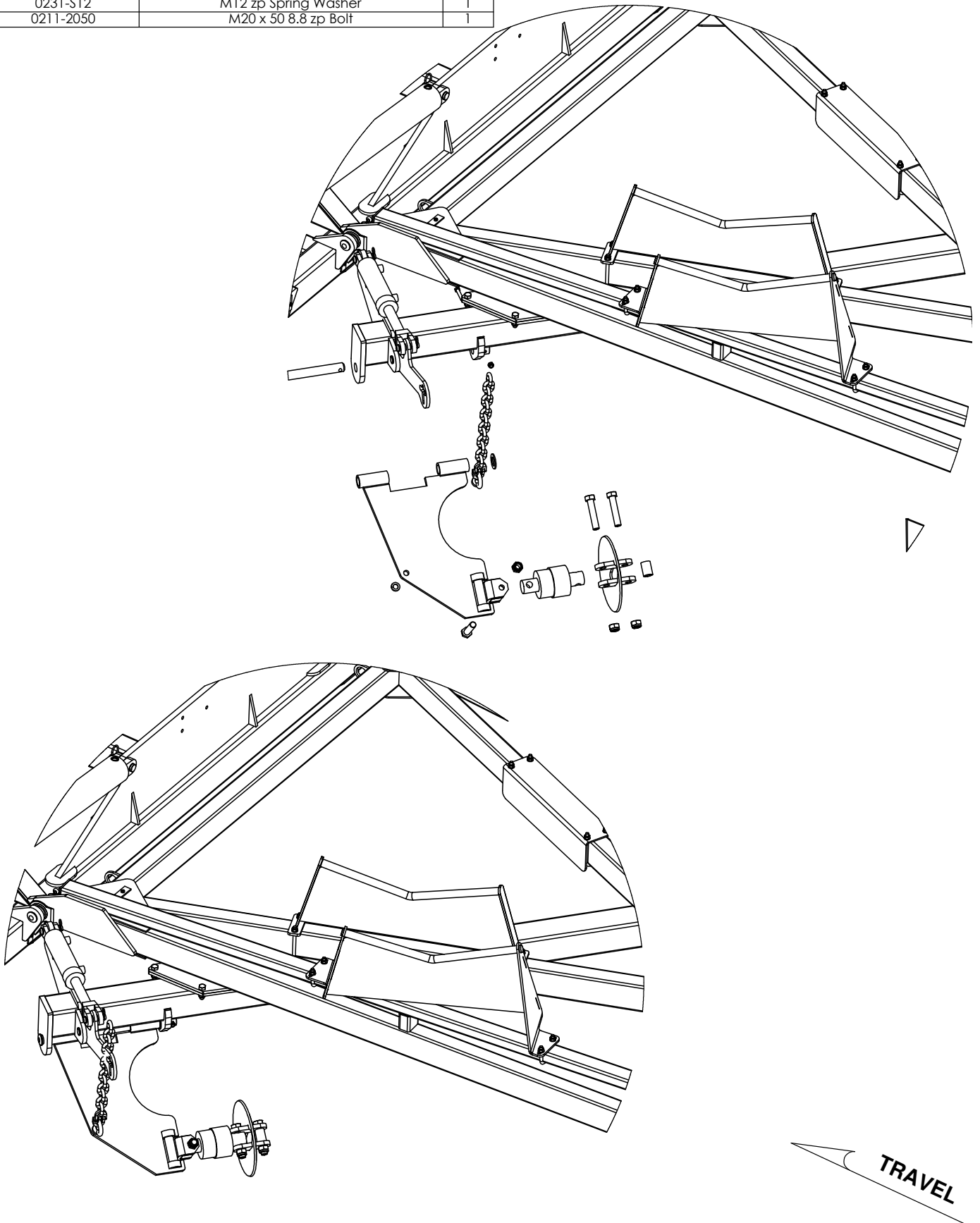
| PART NUMBER | DESCRIPTION | QTY. |
|---------------|------------------------------------|------|
| 0802-DCTP-24 | Disc Chain Tie Plate Link 24mm | 2 |
| 0802-PCHB553 | 50mm Shaft Swivel Unit | 2 |
| 0801-PCDCS55 | Disc Chain Spacer | 2 |
| 0221-NYL24 | M24 Nyloc Nut | 6 |
| 0810-20-60 | Chain Mount Arm | 2 |
| 0232-HT13-8 | Washer High Tensile 1 3/8" | 2 |
| 0801-10-51 | Chain Mount Pin | 2 |
| 0211-T265 | M12 x 65 8.8 zp Bolt | 2 |
| 0221-NYL12 | M12 Nyloc Nut | 2 |
| 0801-PCH24MCA | Height Adjusting Chain | 2 |
| 0211-24120ST | M24 x 130 Short Thread 8.8 zp Bolt | 6 |
| 0231-S12 | M12 zp Spring Washer | 2 |
| 0211-2050 | M20 x 50 8.8 zp Bolt | 2 |



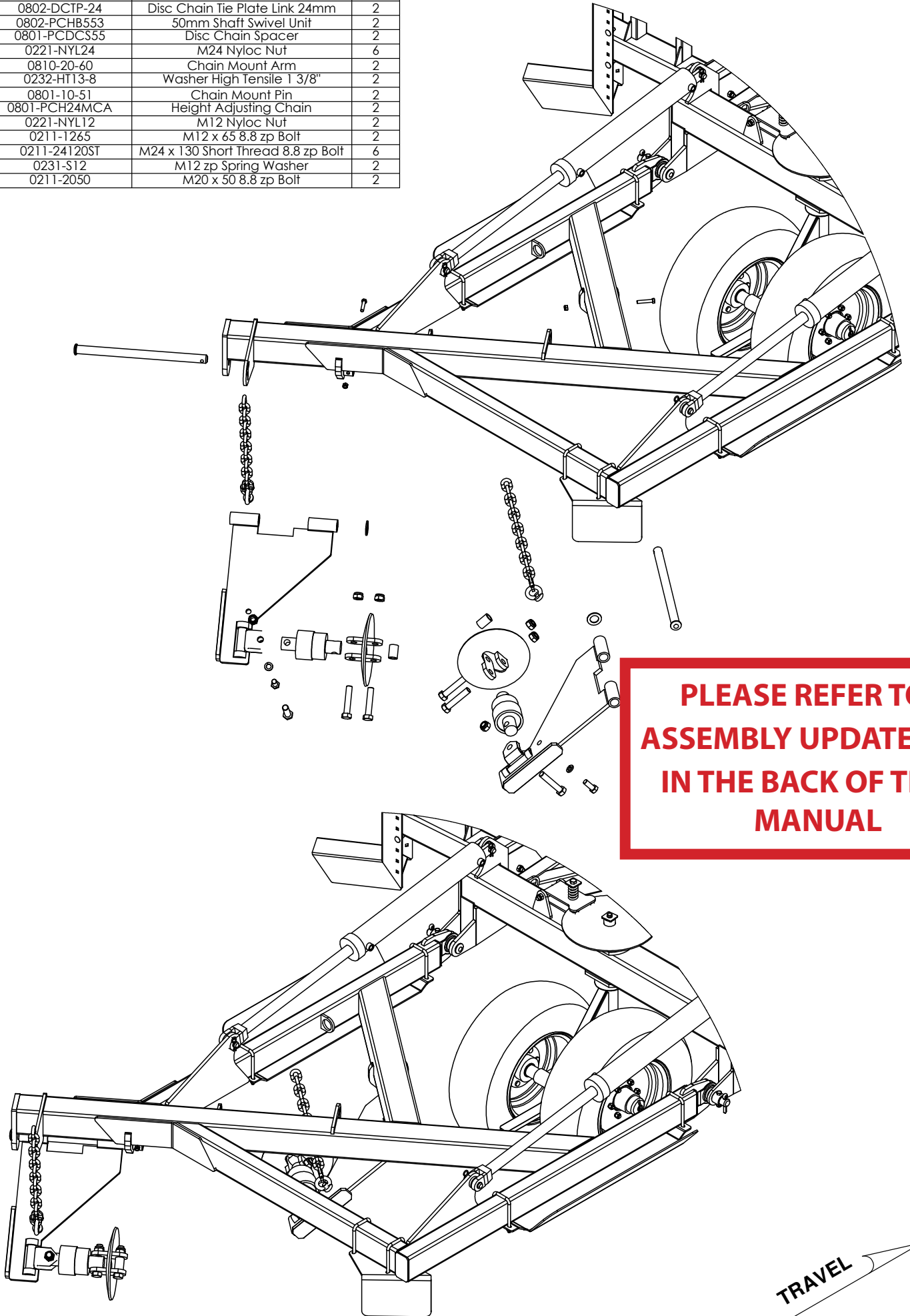
| PART NUMBER | DESCRIPTION | QTY. |
|---------------|------------------------------------|------|
| 0802-DCTP-24 | Disc Chain Tie Plate Link 24mm | 1 |
| 0802-PCHB553 | 50mm Shaft Swivel Unit | 1 |
| 0801-PCDCS55 | Disc Chain Spacer | 1 |
| 0221-NYL24 | M24 Nyloc Nut | 3 |
| 0810-20-60 | Chain Mount Arm | 1 |
| 0232-HT13-8 | Washer High Tensile 1 3/8" | 1 |
| 0801-10-51 | Chain Mount Pin | 1 |
| 0211-T265 | M12 x 65 8.8 zp Bolt | 1 |
| 0221-NYL12 | M12 Nyloc Nut | 1 |
| 0801-PCH24MCA | Height Adjusting Chain | 1 |
| 0211-24120ST | M24 x 130 Short Thread 8.8 zp Bolt | 3 |
| 0231-S12 | M12 zp Spring Washer | 1 |
| 0211-2050 | M20 x 50 8.8 zp Bolt | 1 |



| PART NUMBER | DESCRIPTION | QTY. |
|---------------|--------------------------------------|------|
| 0802-DCTP-24 | Disc Chain Tie Plate Link 24mm | 1 |
| 0802-PCHB553 | 50mm Shaft Swivel Unit | 1 |
| 0801-PCDCS55 | Disc Chain Spacer | 1 |
| 0221-NYL24 | M24 Nyloc Nut | 3 |
| 0232-HT13-8 | Washer High Tensile 1 3/8" | 1 |
| 0801-10-51 | Chain Mount Pin | 1 |
| 0801-PCH24MCA | Height Adjusting Chain | 1 |
| 0810-33 | Reducing Chain Mount Arm 20mm Clevis | 1 |
| 0211-1265 | M12 x 65 8.8 zp Bolt | 1 |
| 0221-NYL12 | M12 Nyloc Nut | 1 |
| 0211-24120ST | M24 x 130 Short Thread 8.8 zp Bolt | 3 |
| 0231-S12 | M12 zp Spring Washer | 1 |
| 0211-2050 | M20 x 50 8.8 zp Bolt | 1 |



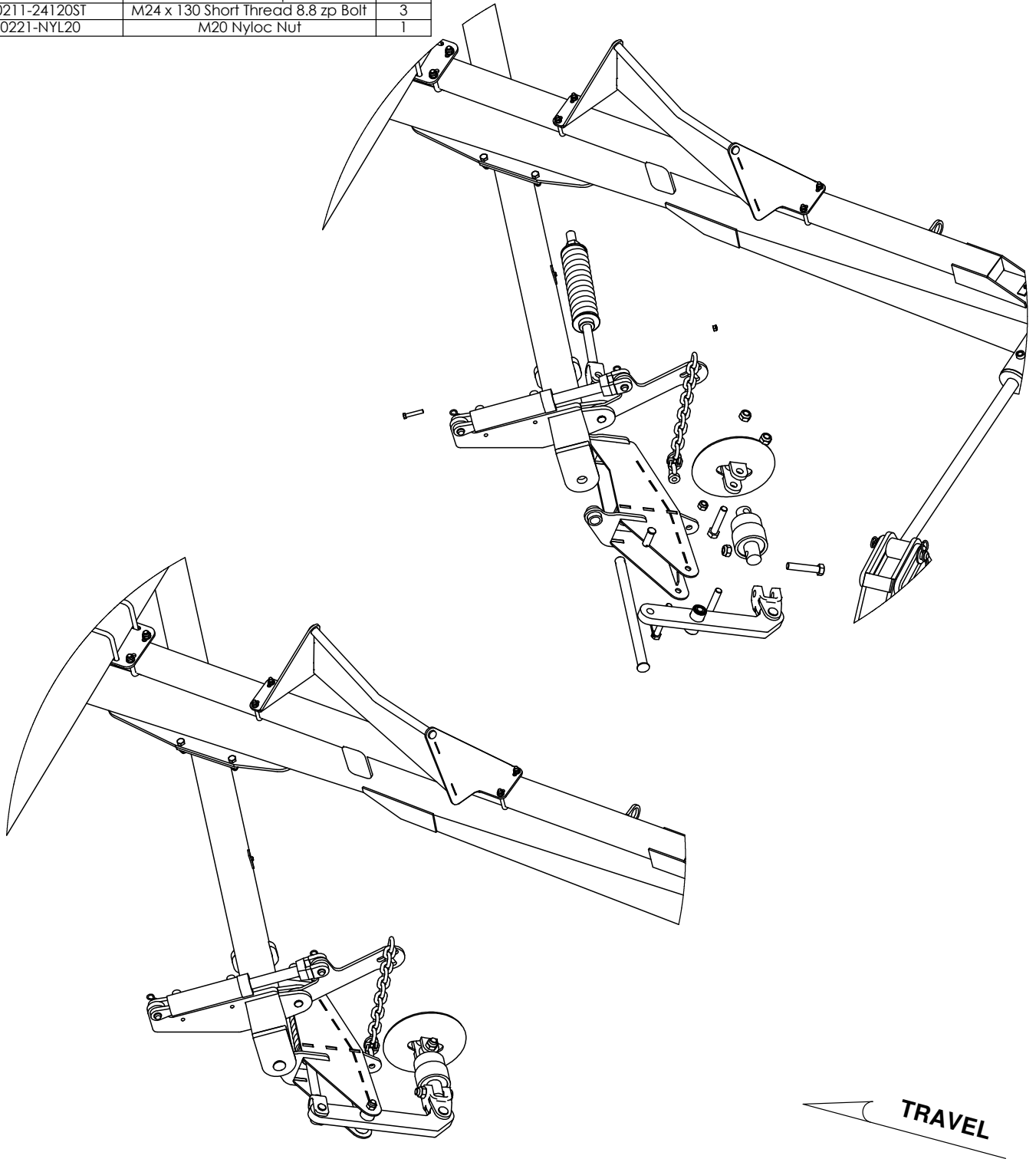
| PART NUMBER | DESCRIPTION | QTY. |
|---------------|------------------------------------|------|
| 0802-DCTP-24 | Disc Chain Tie Plate Link 24mm | 2 |
| 0802-PCHB553 | 50mm Shaft Swivel Unit | 2 |
| 0801-PCDCS55 | Disc Chain Spacer | 2 |
| 0221-NYL24 | M24 Nyloc Nut | 6 |
| 0810-20-60 | Chain Mount Arm | 2 |
| 0232-HT13-8 | Washer High Tensile 1 3/8" | 2 |
| 0801-10-51 | Chain Mount Pin | 2 |
| 0801-PCH24MCA | Height Adjusting Chain | 2 |
| 0221-NYL12 | M12 Nyloc Nut | 2 |
| 0211-1265 | M12 x 65 8.8 zp Bolt | 2 |
| 0211-24120ST | M24 x 130 Short Thread 8.8 zp Bolt | 6 |
| 0231-S12 | M12 zp Spring Washer | 2 |
| 0211-2050 | M20 x 50 8.8 zp Bolt | 2 |



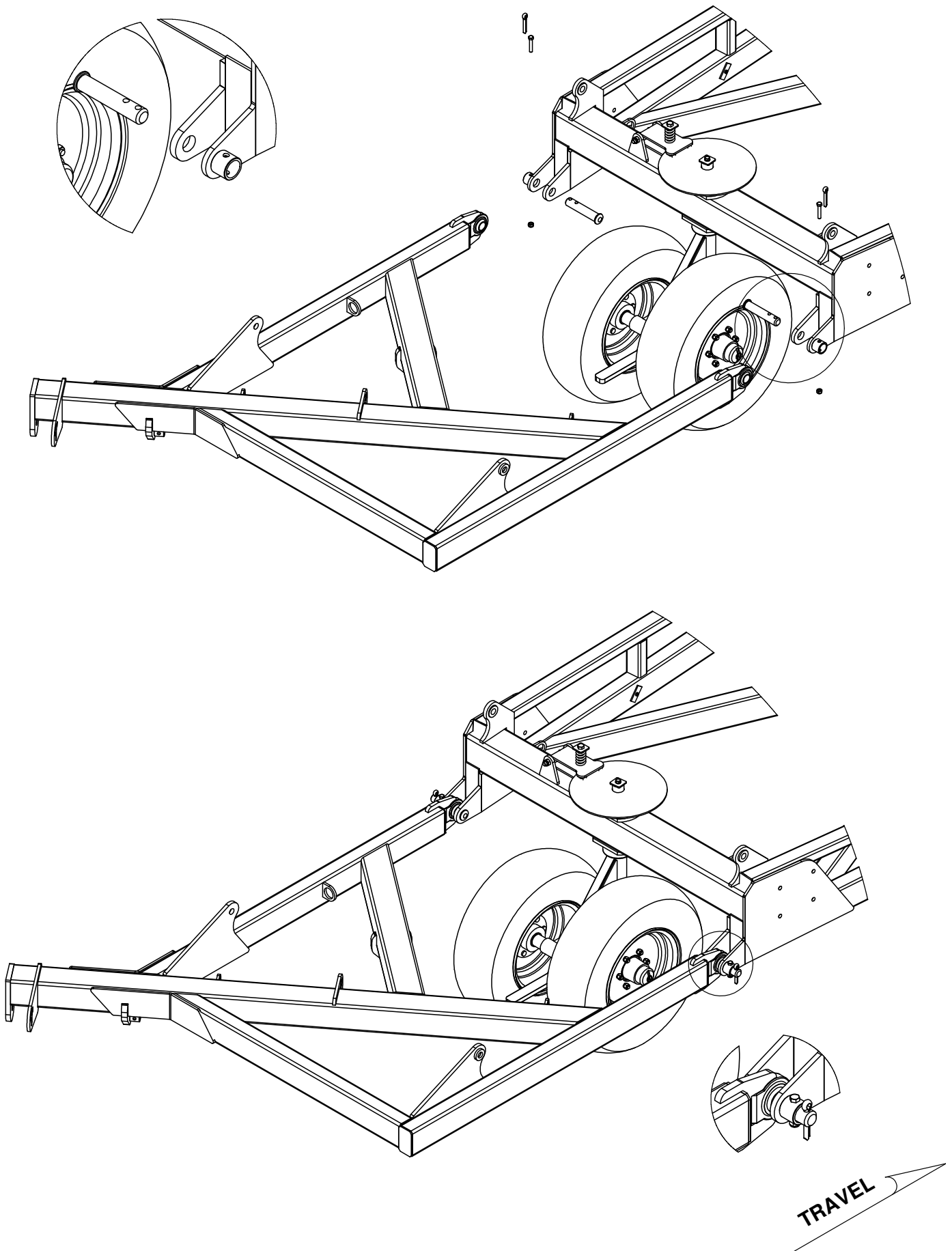
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| PART NUMBER | DESCRIPTION | QTY. |
|----------------|------------------------------------|------|
| 0113-MB 3550DX | 35 ID x 50mm DX Bush | 2 |
| 0801-KE-0307-1 | Clevis Pin 25mm x 75mm | 1 |
| 0802-DCTP-24 | Disc Chain Tie Plate Link 24mm | 1 |
| 0802-PCHB553 | 50mm Shaft Swivel Unit | 1 |
| 0801-PCDCS55 | Disc Chain Spacer | 1 |
| 0221-NYL24 | M24 Nyloc Nut | 3 |
| 0801-XK9261S | 20mm Compression Spring | 1 |
| 0801-PCHTA-SB | Steel Spring Retaining Bush | 1 |
| 0801-PCHTA-N6 | 6tpi Lock Nut | 2 |
| 0232-HT13-8 | Washer High Tensile 1 3/8" | 1 |
| 0801-10-51 | Chain Mount Pin | 1 |
| 0810-103F | Front Module Tension Body | 1 |
| 0810-104-50-60 | 40/45' Module Tension Arm | 1 |
| 0810-105 | Module Tension Linkage | 1 |
| 0801-PCH24MCA | Height Adjusting Chain | 1 |
| 0801-10-S2L | Rigid Spring Locator | 1 |
| 0261-PINC550 | Cotter Pin M5 x 50 | 1 |
| 0801-10-110 | Module Pivot Arm Bush | 1 |
| 0211-1265 | M12 x 65 8.8 zp Bolt | 1 |
| 0221-NYL12 | M12 Nyloc Nut | 1 |
| 0211-20150 | M20 x 150 8.8 zp Bolt | 1 |
| 0211-24120ST | M24 x 130 Short Thread 8.8 zp Bolt | 3 |
| 0221-NYL20 | M20 Nyloc Nut | 1 |

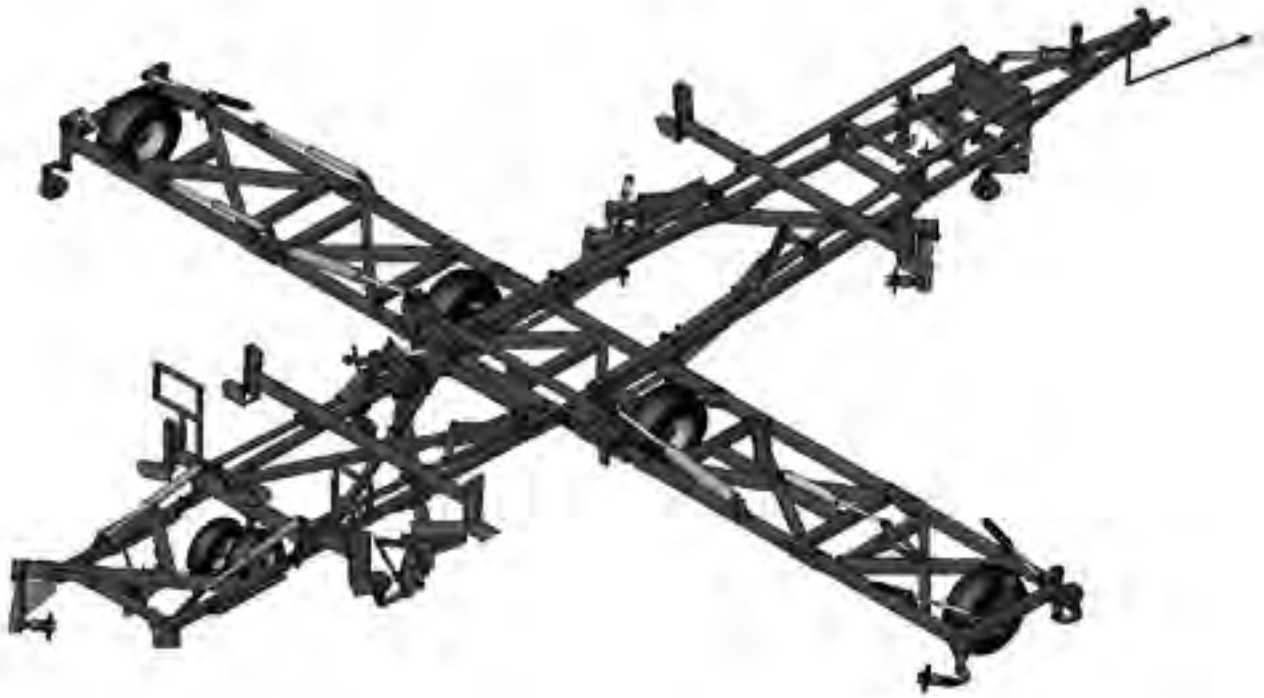


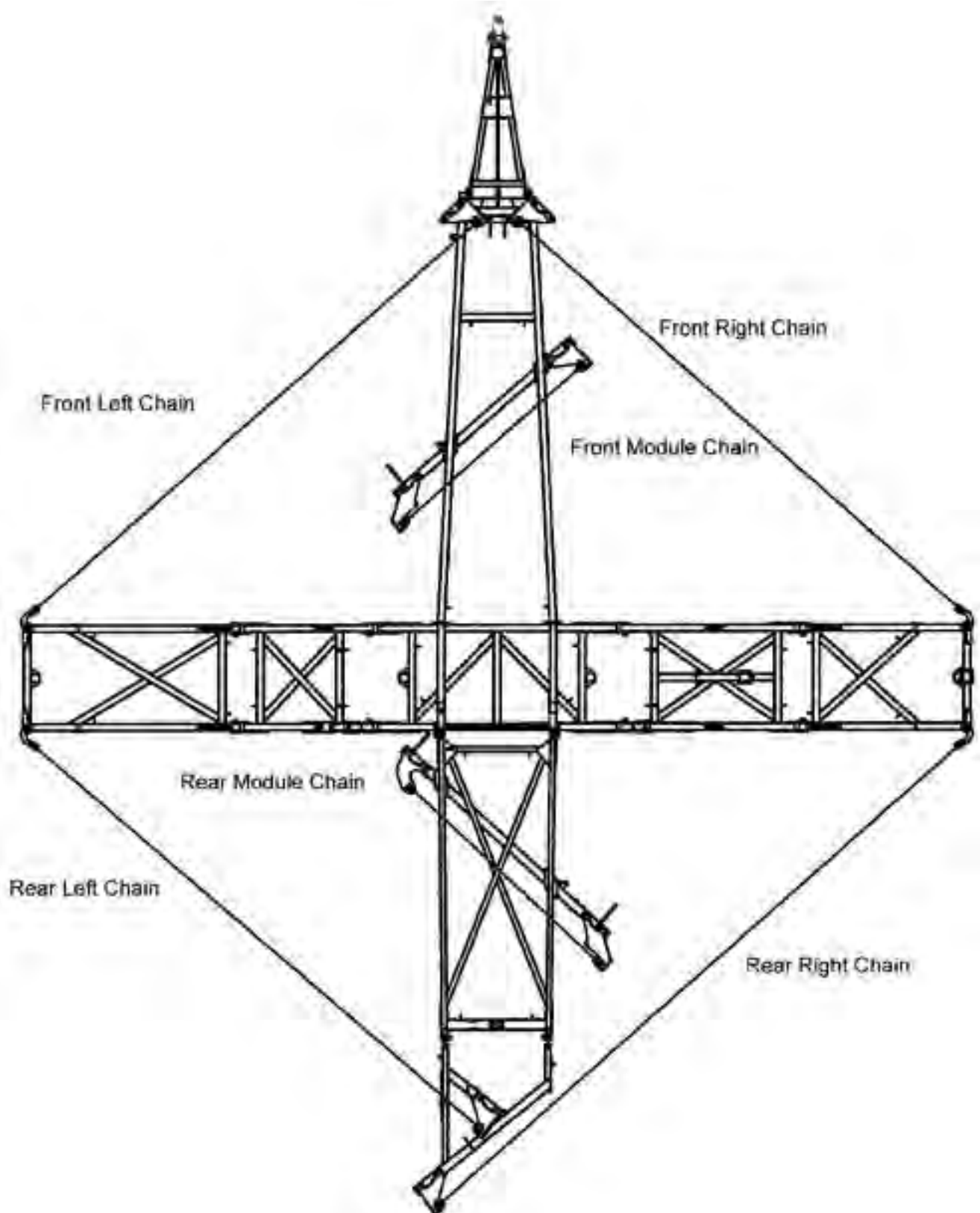
| PART NUMBER | DESCRIPTION | QTY. |
|----------------|-----------------------|------|
| 0801-10-08-175 | Tail Frame Pivot pin | 2 |
| 0810-10 | Rear Tail | 1 |
| 0211-1265 | M12 x 65 8.8 zp Bolt | 2 |
| 0221-NYL12 | M12 Nyloc Nut | 2 |
| 0261-PINC1363 | Cotter Pin M13 X 63mm | 2 |



Section 3

Diagrams and charts





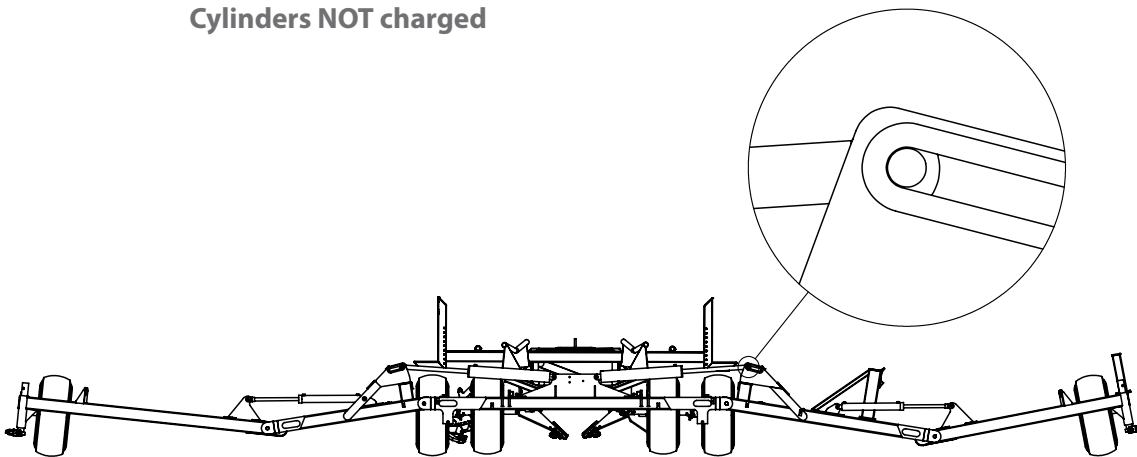


Before folding the machine for the first time, ensure all hydraulic cylinders are charged with oil.

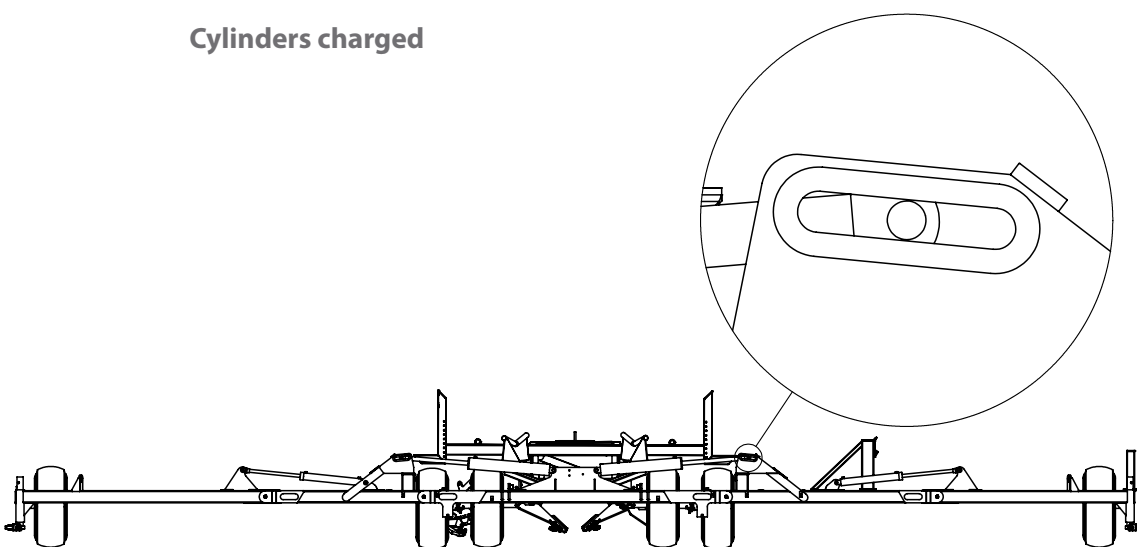
To do this, run the hydraulics through the unfold sequence until the outer wings are straight and the centre cylinders are centred in the slots. (It may take a few minutes for the cylinders to charge completely).

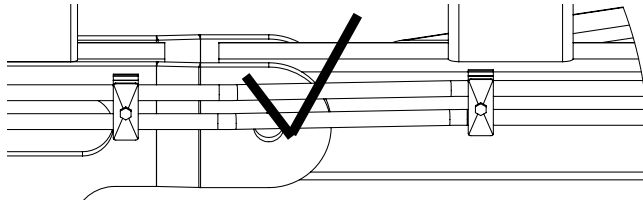
Failure to do this could result in severe personal injury and/or damage to the machine.

Cylinders NOT charged

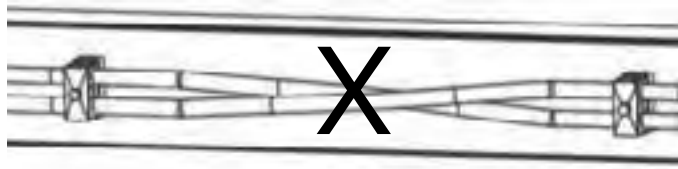


Cylinders charged

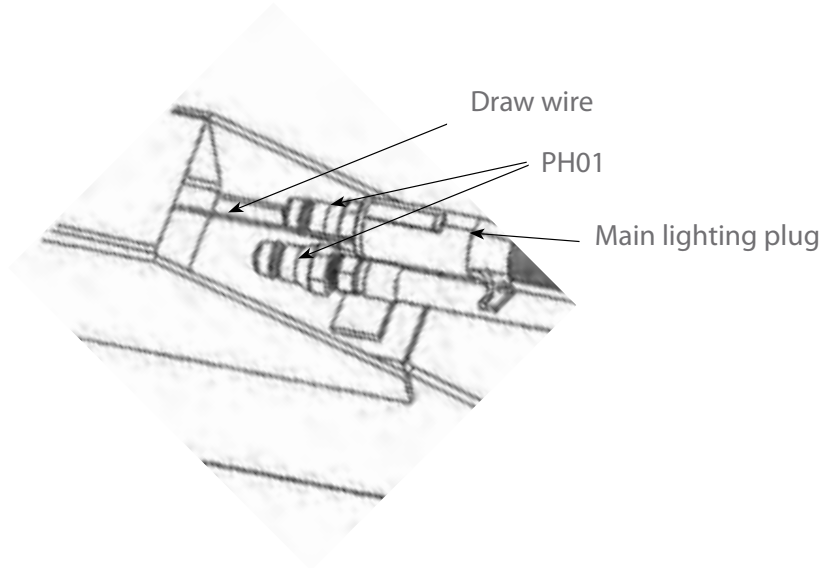




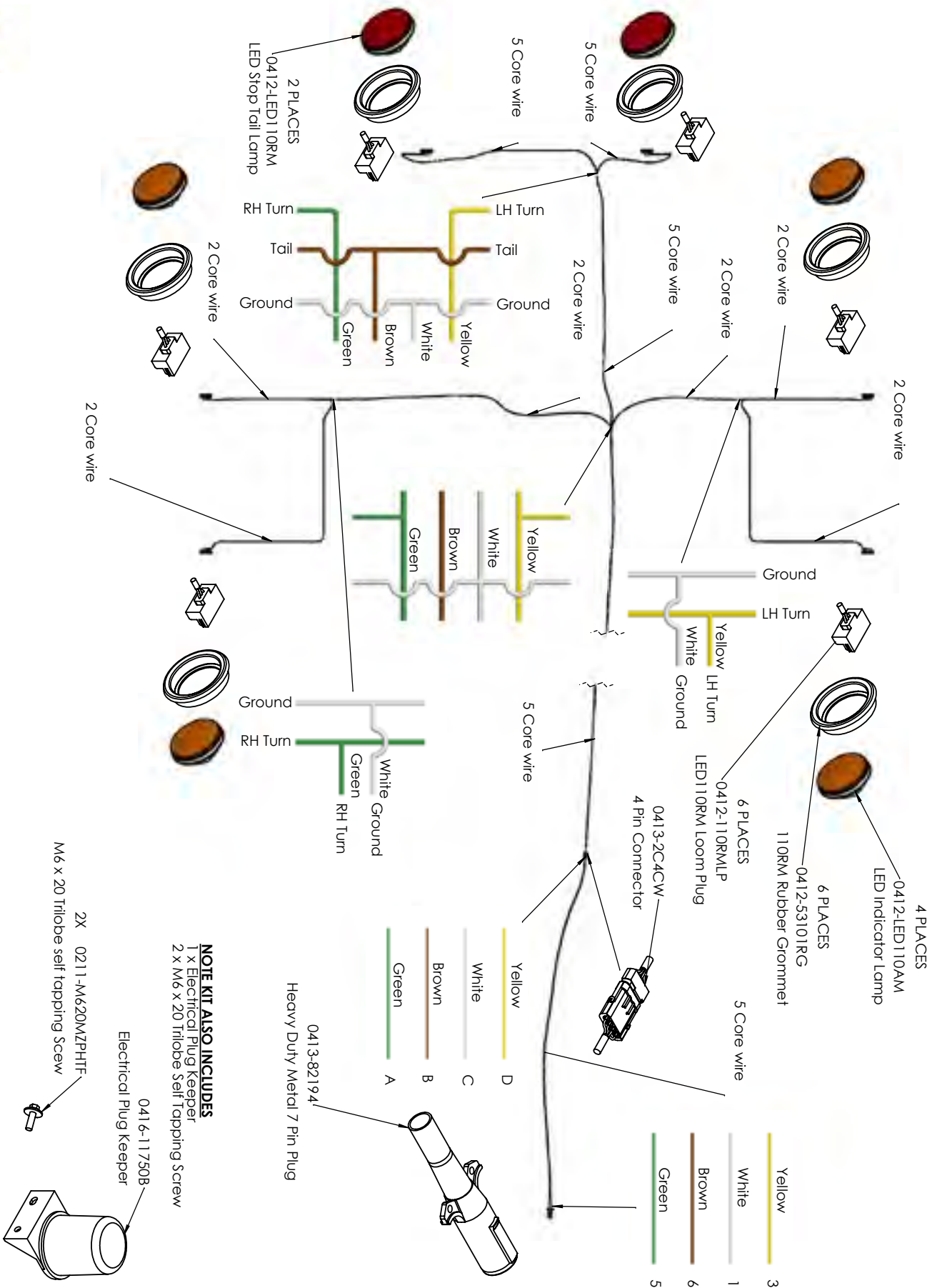
Correct layout of hoses



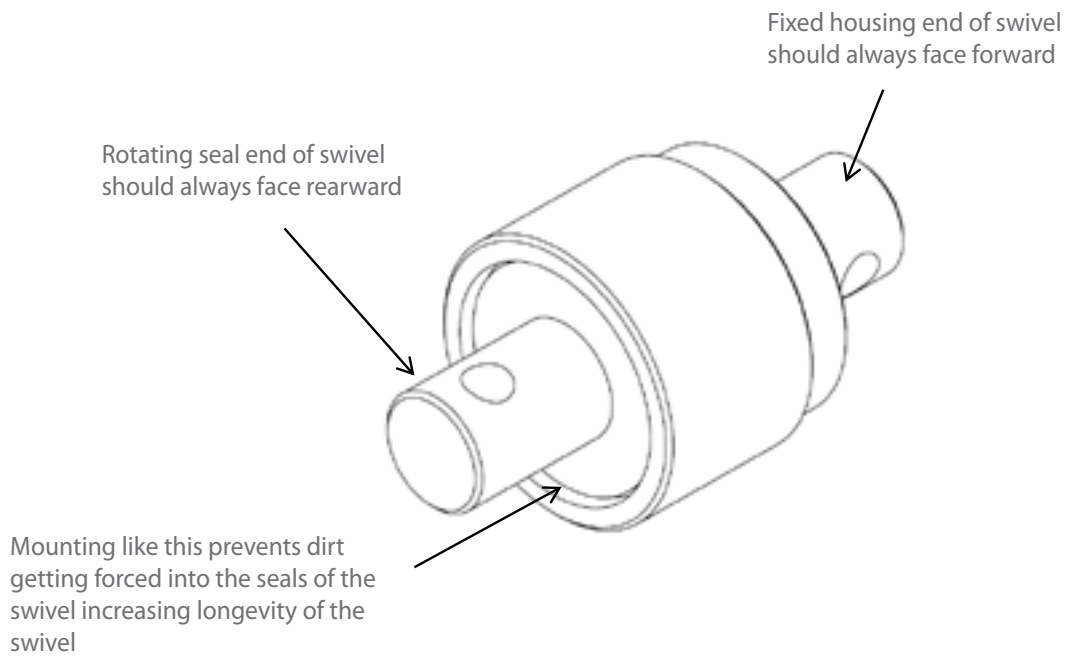
Avoid crossovers



Wiring diagram

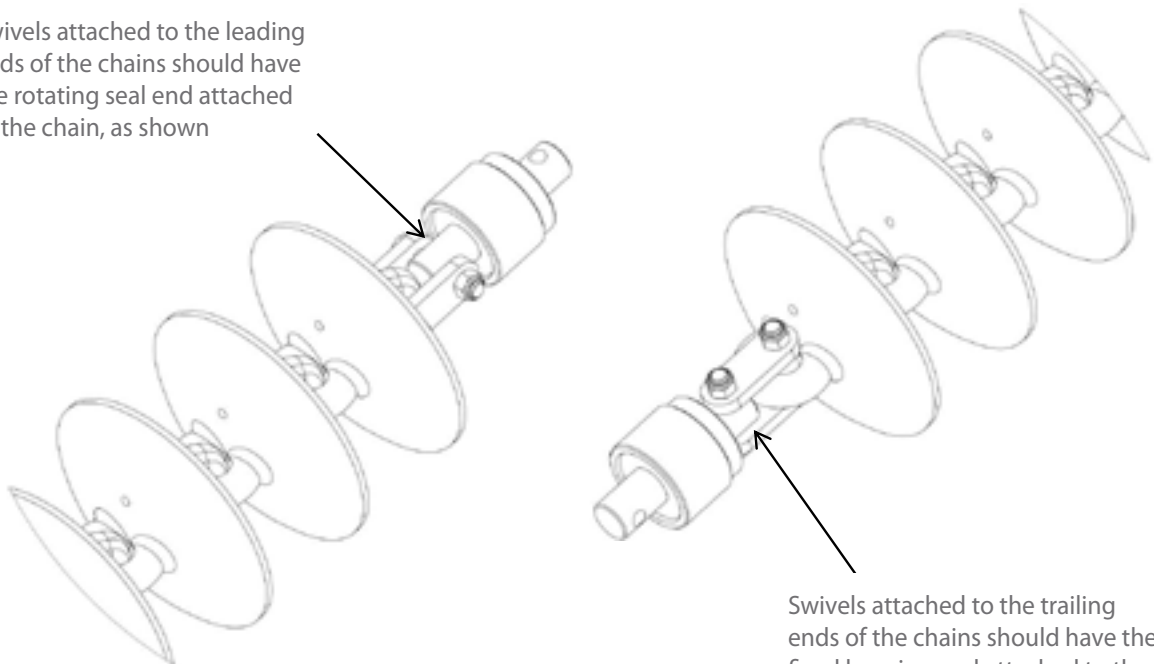


Mounting swivels



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

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 | 50'/15m |
| Working width | 48.5'/14.8m |
| Transport width | 17'/5.2m |
| Transport height | 15'/3.5m |
| Transport length | 62'/19.0m |

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 |
| Ft lb | 255 | 265 | 90 | 100 | 22 | 36 | 55 | 32 | 48 | 140 | 190 | 270 | 300 | 350 |
| Nm | 345 | 360 | 125 | 140 | 30 | 50 | 75 | 44 | 65 | 190 | 260 | 370 | 406 | 475 |

[1] When fitting a wheel & tire to a hub, 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

| Model | | Length | CL2 | CL1 | W36 | R300 | SD49 | Prickle chain |
|------------|---------------|-------------|---|-----|-----|------|------|---------------|
| | | | CL2 disc chain also requires CL1 disc chain | | | | | |
| 50' | Front right | 30'/9.0m | CL2 - 42 CL1 - 2 | 57 | 56 | 74 | 74 | 103 |
| | Front left | 30'/9.0m | CL2 - 42 CL1 - 2 | 57 | 56 | 74 | 74 | 103 |
| | Rear right | 35'/10.7m | CL2 - 41 CL1 - 14 | 70 | 69 | 92 | 92 | 127 |
| | Rear left | 30'/9.0m | CL2 - 42 CL1 - 2 | 58 | 58 | 76 | 76 | 106 |
| | Modules front | 10.3'/3.15m | CL2 - 12 CL1 - 3 | 19 | 19 | 25 | 25 | 35 |
| | Modules rear | 10.3'/3.15m | CL2 - 13 CL1 - 2 | 19 | 19 | 25 | 25 | 35 |

Section 4

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 |
|-------|--------|-----|
| 50 | 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



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

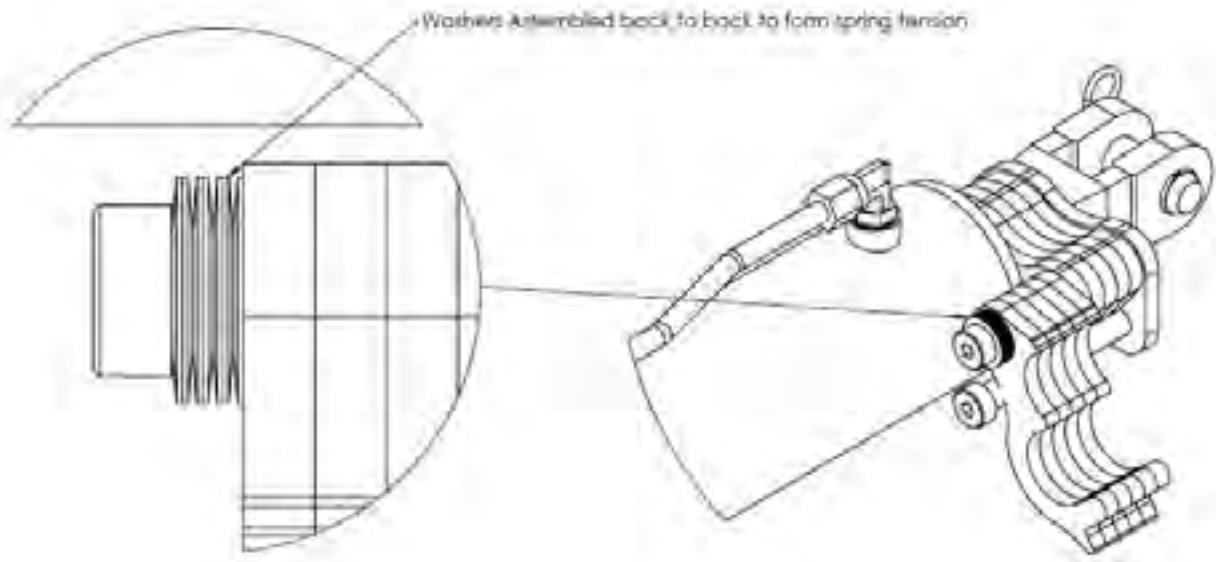
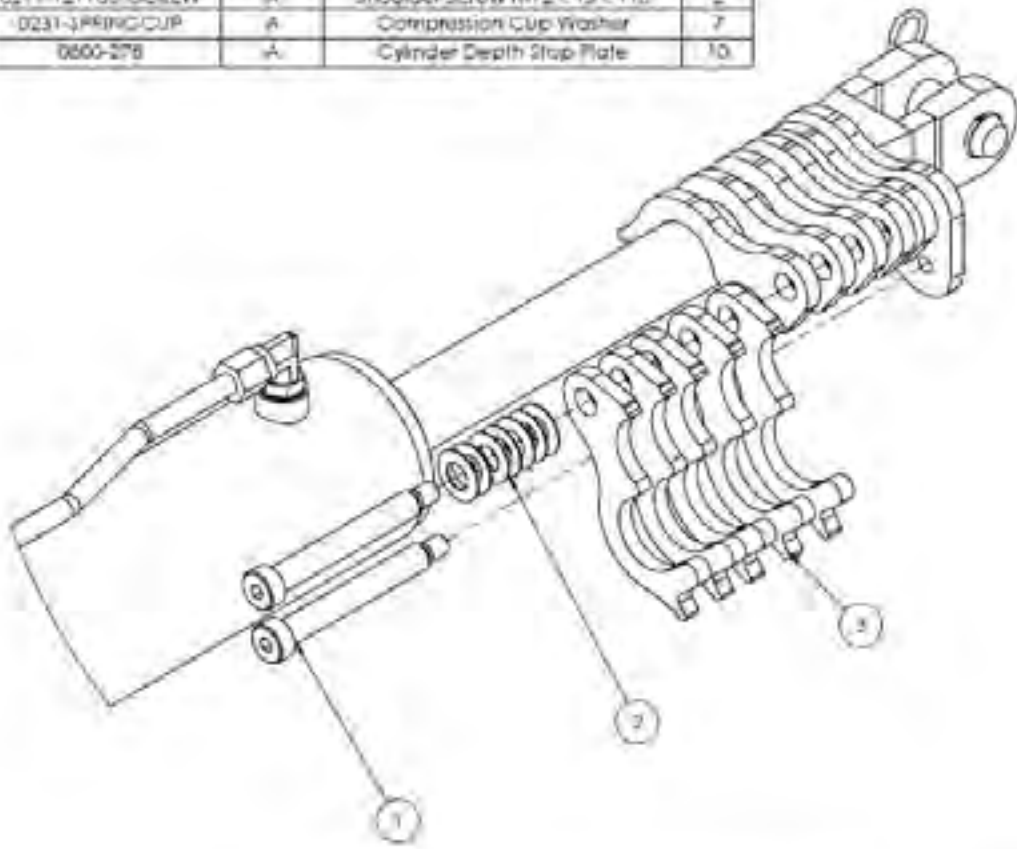
| | |
|---|---|
| 1 | Loosen chain tension completely |
| 2 | Undo self tapping screw from corresponding spacer then prise open the spacer and spring it off of the drop leg tube |
| 3 | Replace it in the selected position after raising or lowering the drop leg |
| 4 | Reinstall the self tapping screw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

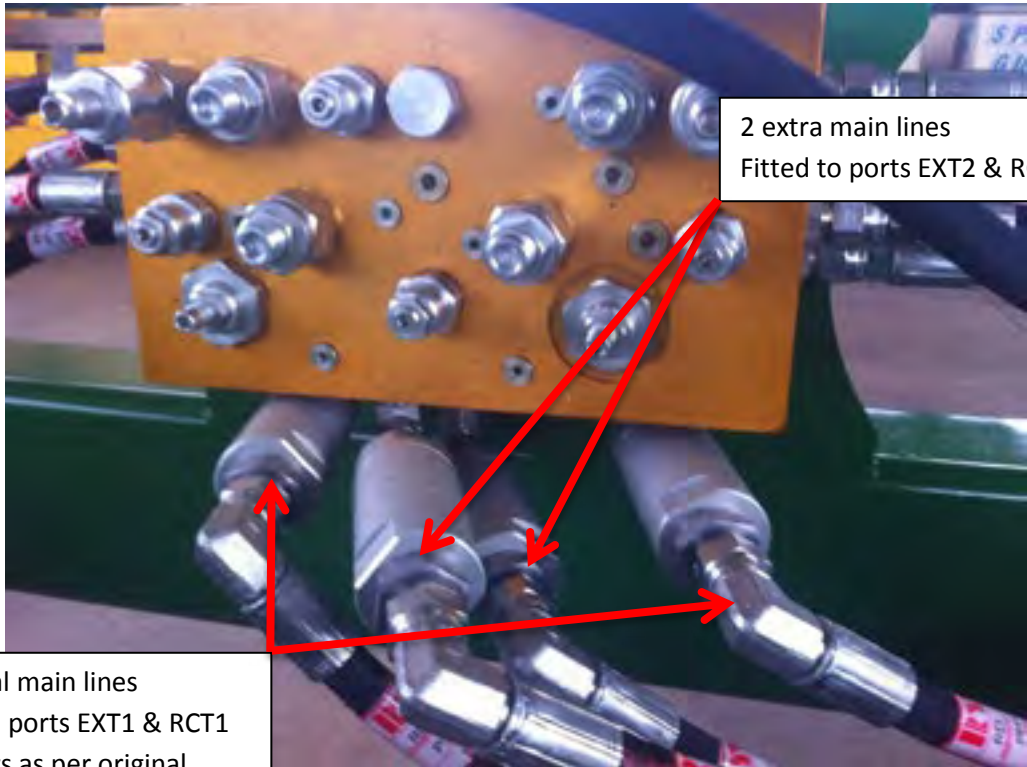


Front Cylinder Depth Stop

| ITEM NO. | PART NUMBER | Revision | DESCRIPTION | QTY. |
|----------|-------------------|----------|--------------------------------|------|
| 1 | 0211-12110SHCSREW | A | Shoulder Screw M12 x 15 R 1 ID | 2 |
| 2 | 0231-3PRINGCUP | A | Compression Cup Washer | 7 |
| 3 | 0600-278 | A | Cylinder Depth Stop Plate | 10 |



Hydraulic Valve Block V8-19



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

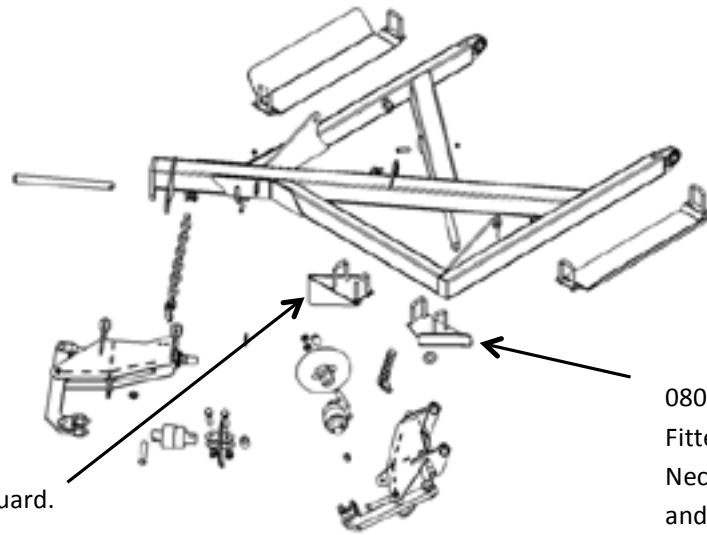


Extra stack clamp added to
mount extra main lines to
existing main lines

New hose mount post with
extra storage points



Chain Tensioners on Rear Tail

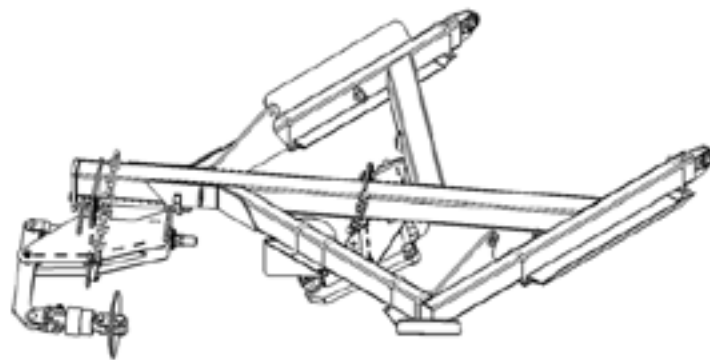


0800-220 Tail Chain Stop Guard.

This is fitted in location shown for 0800-498 on older machines. It may be beneficial to relocate it as shown to help protect the Left Rear Tension Assembly from catching on the discs during transport.

Diag. 1

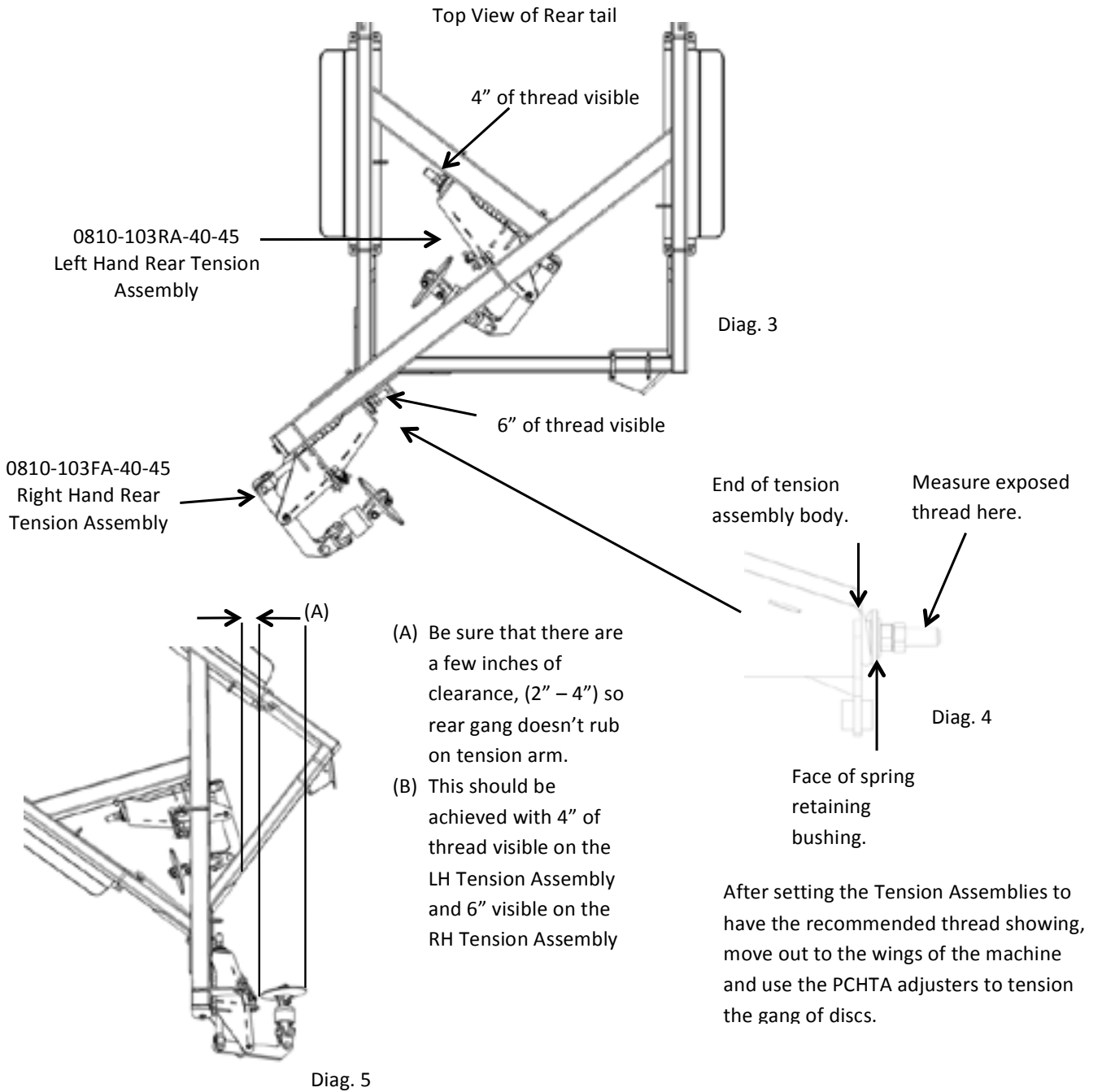
0800-498 Angled Chain Guard. Fitted to newer models. Necessary for Spiked Disc Chain and available as spare part if desired. Supersedes 0800-220 as spare part.



Set height adjusting chain in the 7th link.

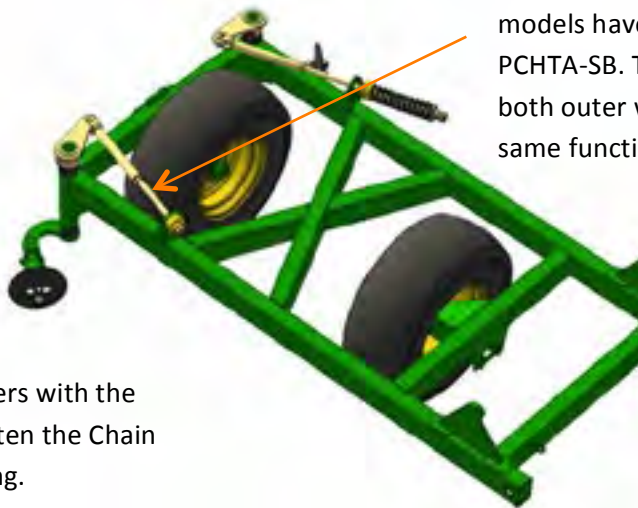
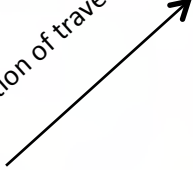
Diag. 2

Chain Tensioners on Rear Tail



Chain Tensioners on Rear Tail

Direction of travel



Please note – Earlier models have Part no 0801-PCHTA-FB (see below) as a stop tube on a long adjusting bolt, more recent models have a short adjusting bolt, 0801-PCHTA-SB. These appear on the rear of both outer wings only. Both serve the same function.

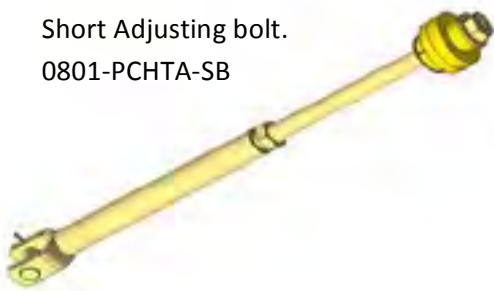
After setting the tail tensioners with the correct thread exposed, tighten the Chain Tension Adjusters on the wing.

Adjust until the chain “springs” back to position when you roll the gang of discs back and forth.

Check the Rear Tension Assemblies to see that the face of the spring retaining bushing is flush with the end of the tension assembly body. (Diag. 4)

Diag. 6

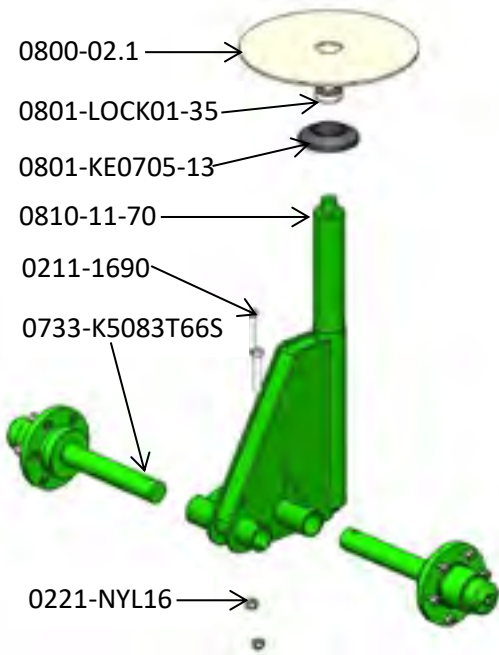
Short Adjusting bolt.
0801-PCHTA-SB



Long Adjusting bolt with spacer tube.
0801-PCHTA-FB



Brake Disc Collar



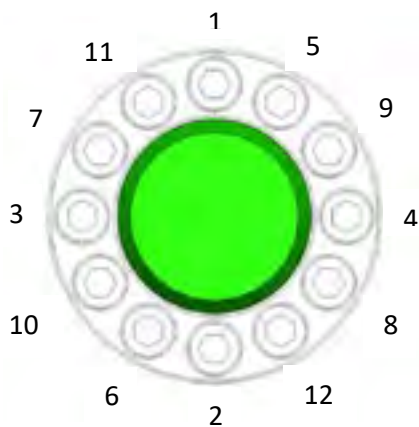
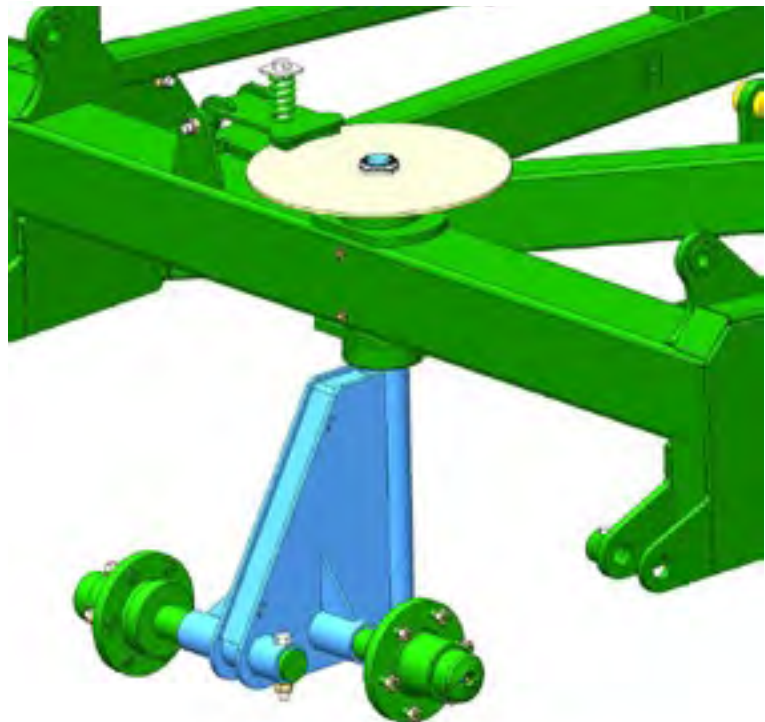
Slide shaft of jockey wheel up through both bearings.

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)

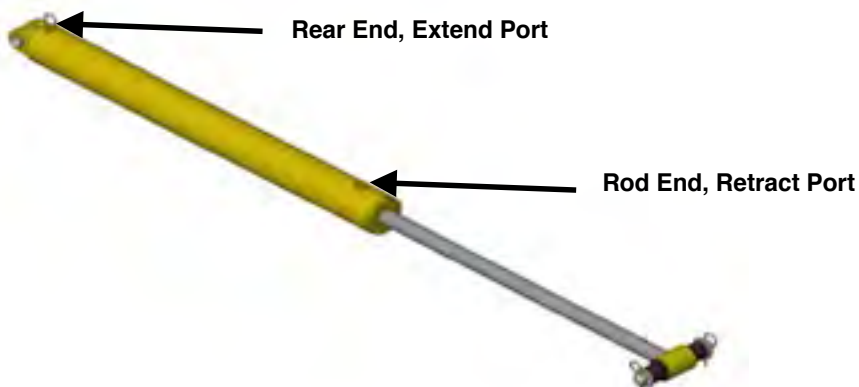
To undo, remove all bolts and gently tap collar with a hammer and collar should become loose.

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.

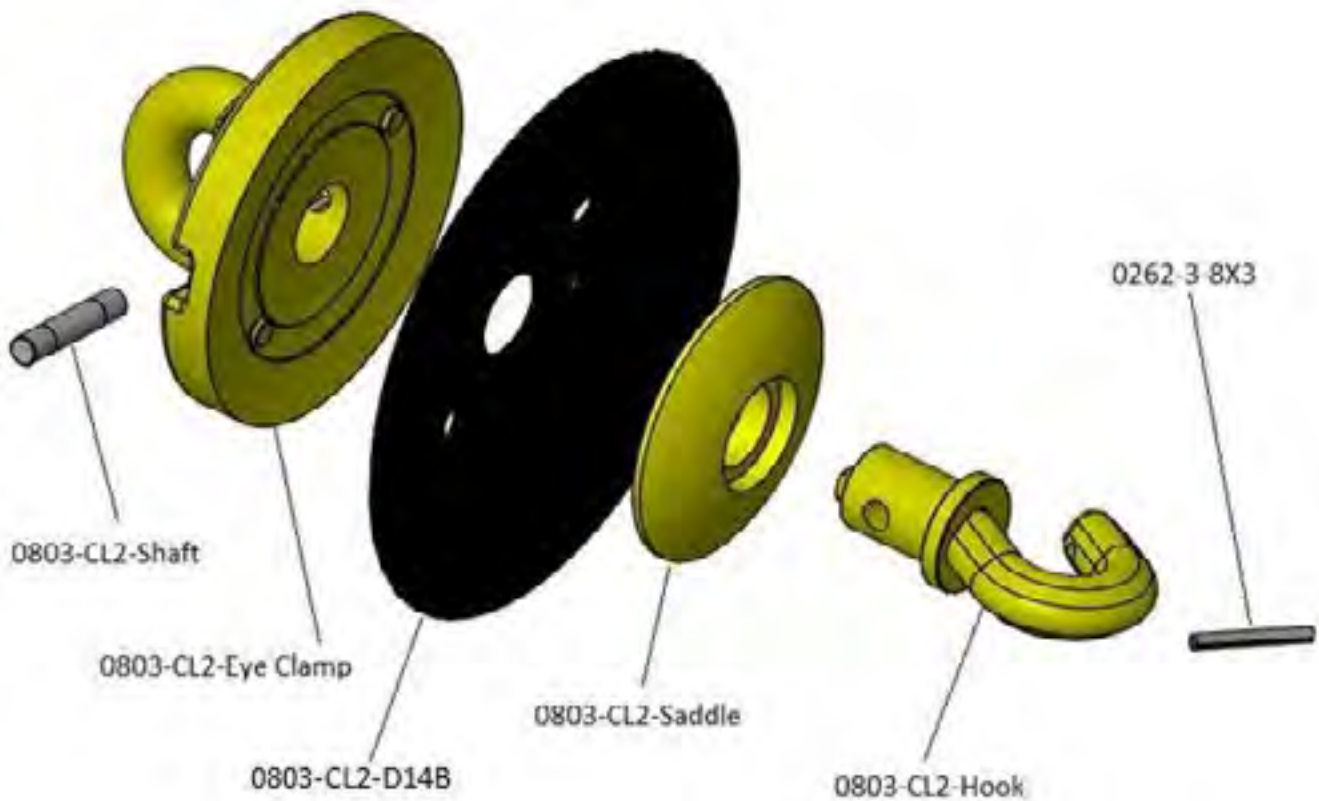
Ports with CR, LR or RR are retract ports (the R denotes Retract) and hoses connected to these must go to the rod end of the cylinder.



CL2 Chain Configuration - All Machines

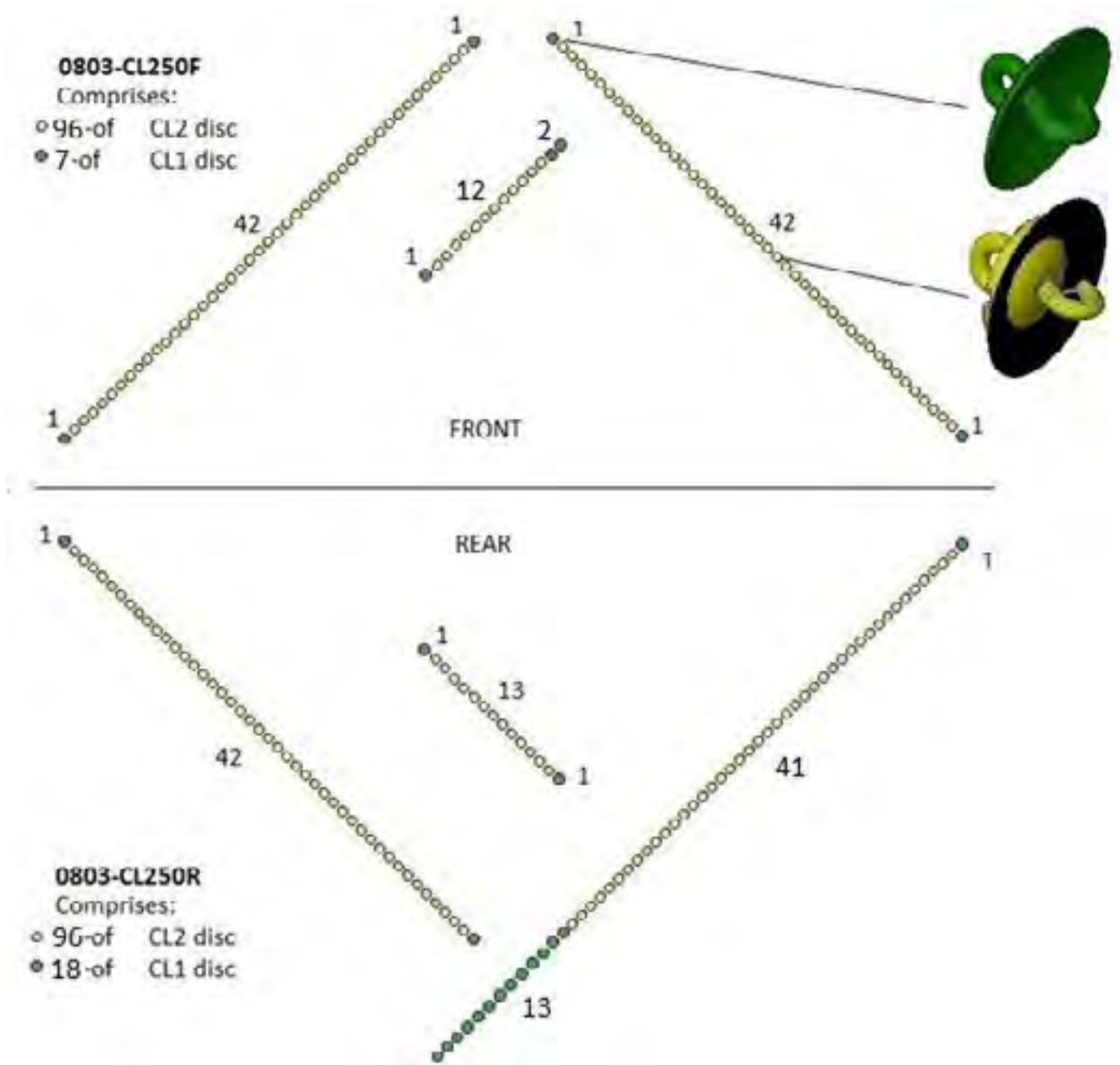


0803-CL2-Link Assembly



CL2 Chain Configuration - 50ft

50' Machine



Please Note

Machines built from serial number 1170126 on will have 3 extra CL1 discs on the rear right chain.

CL2 Disc Change Procedure

This document describes a procedure for the safe changeover of CL2 discs.

NOTE: Each disc weighs 22kg (48lb). Appropriate care must be taken during manual handling

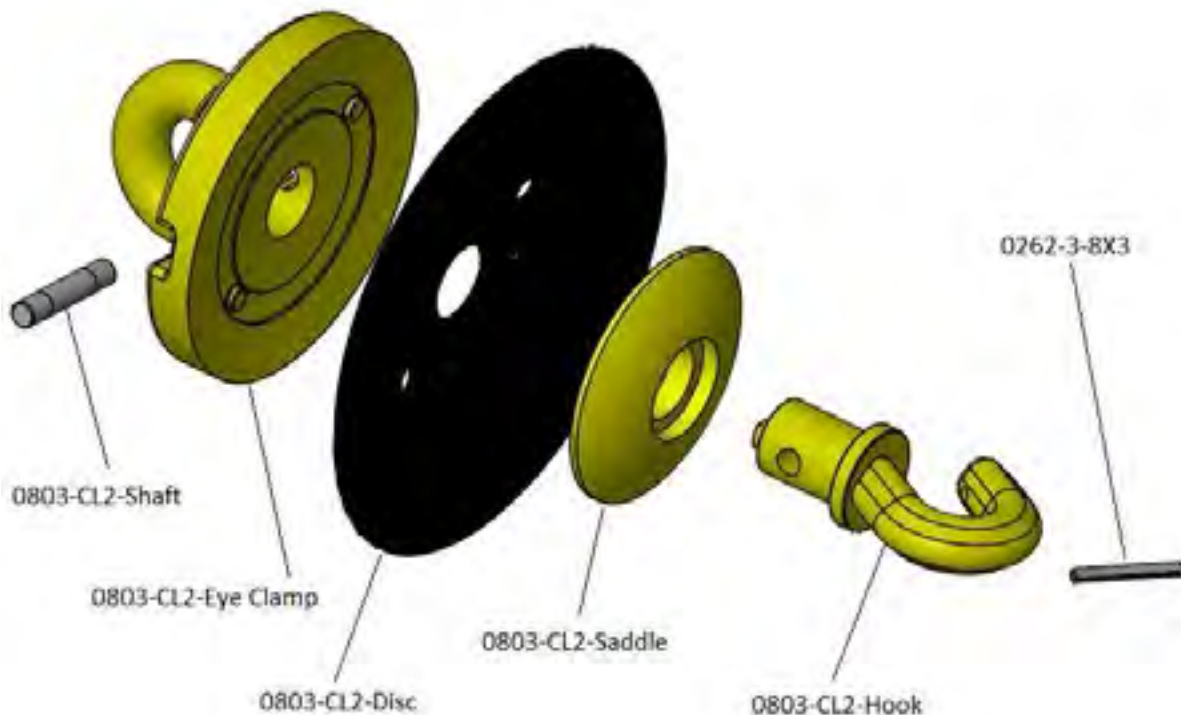


Figure 1: Exploded view of CL2 disc assembly

Changeover procedure as follows:

1. Locate press jig in press (see Figure 2 for orientation).
2. Load disc into press with Hook facing upwards - ensure that Eye Clamp and Hook are secured within the jig with pins supplied
3. Close press, applying force to Saddle (see Figure 3). DO NOT exceed pressure of 9 Tonne (19,800lb)
4. With the clamping force applied, push or tap the shaft with a hammer & drift, and remove from the CL2 Disc assembly
5. Open the press and remove the Disc from the assembly
6. Ensure that all surfaces of the castings are free from debris

CL2 Disc Change Procedure

7. Place replacement disc on to Eye Clamp, ensuring that location holes align with casting lugs
8. Close press and re-apply clamping force. Visually confirm that Hook location hole is properly aligned with Eye Clamp location hole
9. Locate pin within hole and tap gently through both castings
10. Remove clamping force, and remove CL2 assembly from jig
11. CL2 disc is now ready for use. Repeat procedure as necessary



Figure 2: CL2 disc with press jig in Open position

CL2 disc change Procedure



Figure 3: CL2 disc with press jig in Closed position

Chain Carrier Locations

