

Diamond Chain Harrow Assembly and Parts Manual

Model 45

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Thank you for choosing a Kelly Engineering product

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

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

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

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Contents

| | Page no |
|---------------------------------------|-----------|
| Section 1: Unpacking | 4 |
| Section 2: Parts | 7 |
| Section 3: Diagrams and charts | 52 |
| Overview | 53 |
| Chains | 54 |
| Hydraulics | 55 |
| Hose map | 56 |
| Hose layout | 57 |
| Wiring diagram | 58 |
| Mounting swivels | 59 |
| Fitting cast link retaining pins | 60 |
| Specifications | 61-62 |
| Section 4: Operation | 63 |
| Basic operation and chain tension | 64 |
| Module and chain tension | 65 |
| Correct working height | 66 |

Section 1

Unpacking

Unpacking

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



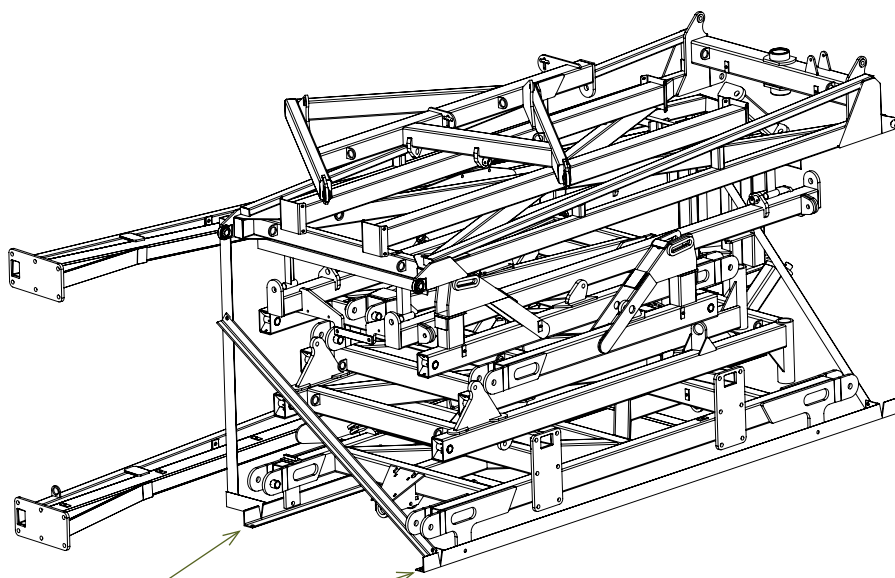
- Before opening shipping container inspect exterior for any damage. Remove seal and open container doors.



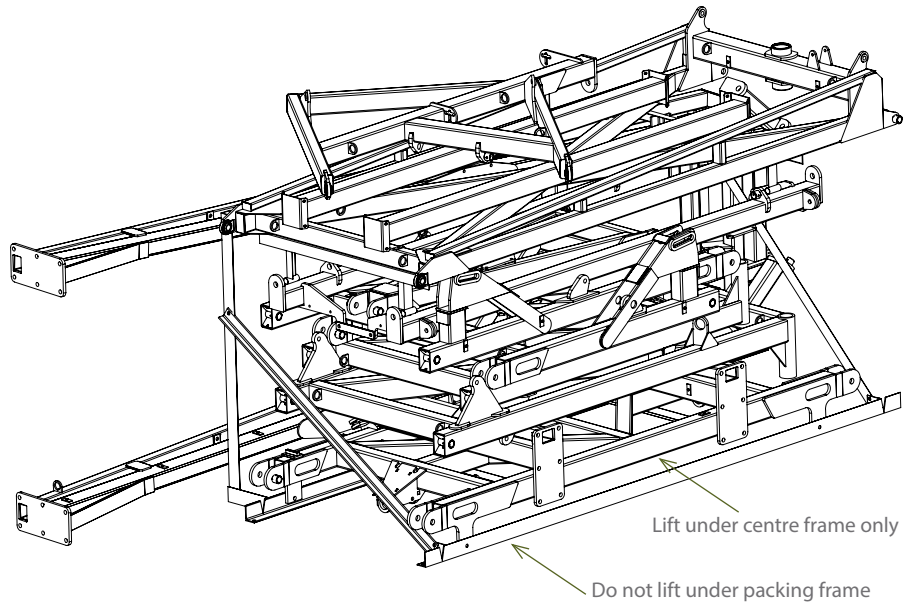
CAUTION

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

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



Connect chains to these points



CAUTION

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



CAUTION

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



CAUTION

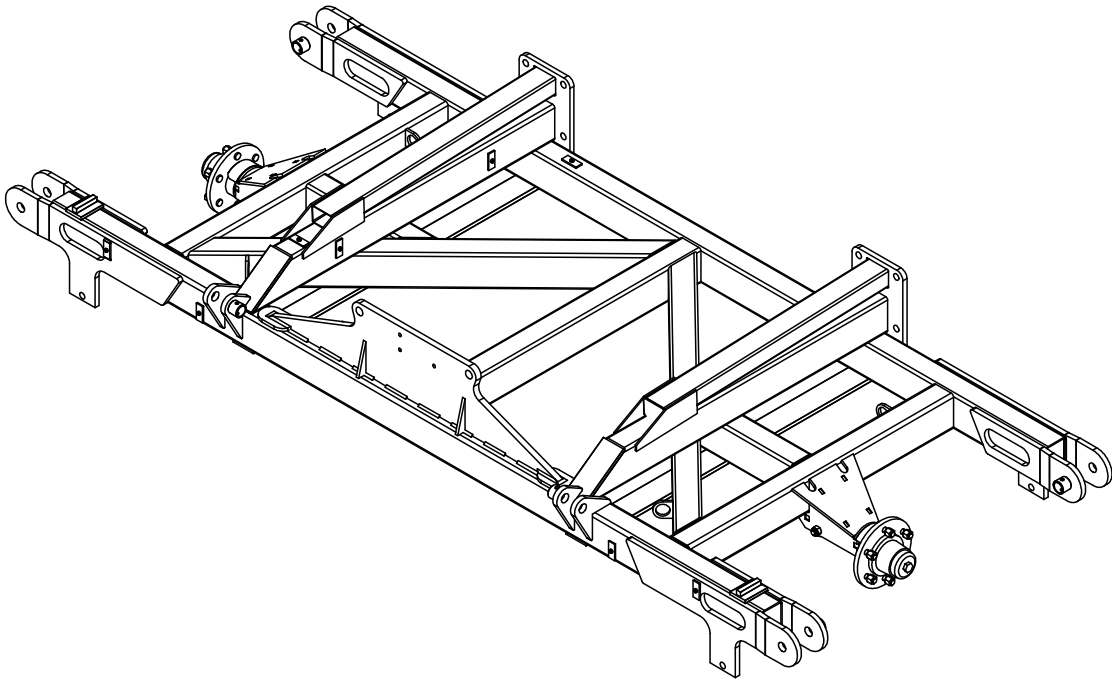
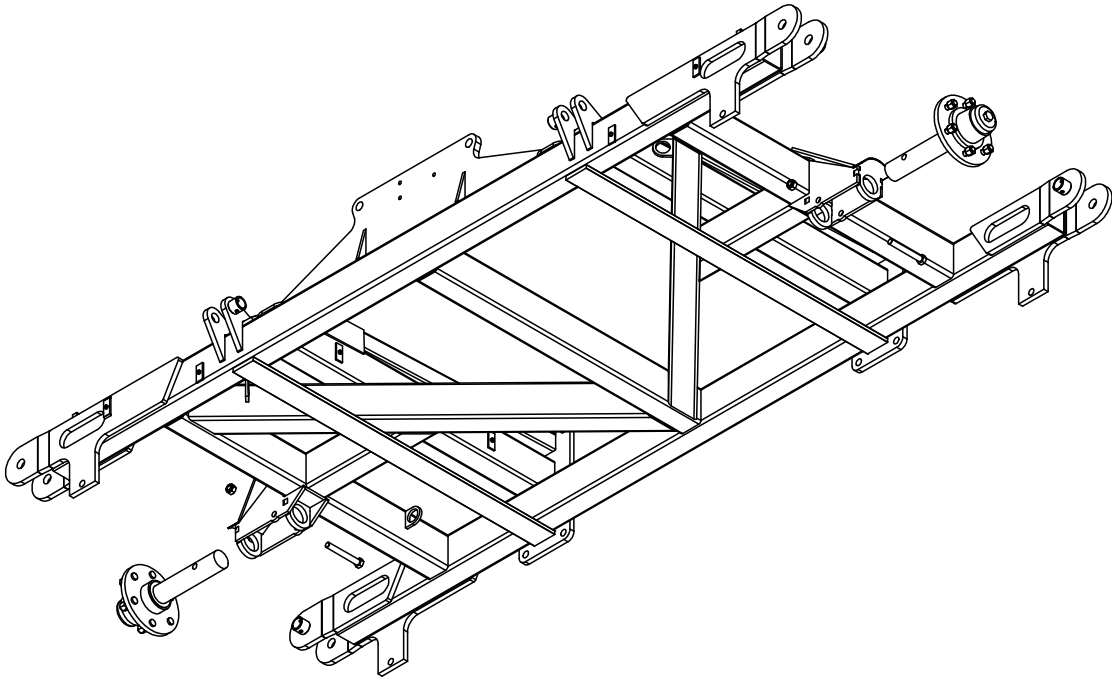
To avoid falling or moving components, before cutting straps attach slings or chains to individual pieces and only cut the straps holding the piece to be lifted.

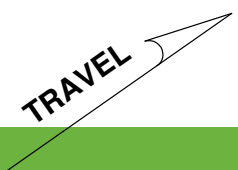
- Remove boxes from rear of container one at a time using a forklift truck. Each box weighs approximately 2600 lbs (1200 kg)
- Identify parts for each machine by serial no. or description and separate. Open parts box and check that all parts are accounted for against checklist
- Cut straps holding bundles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

Section 2

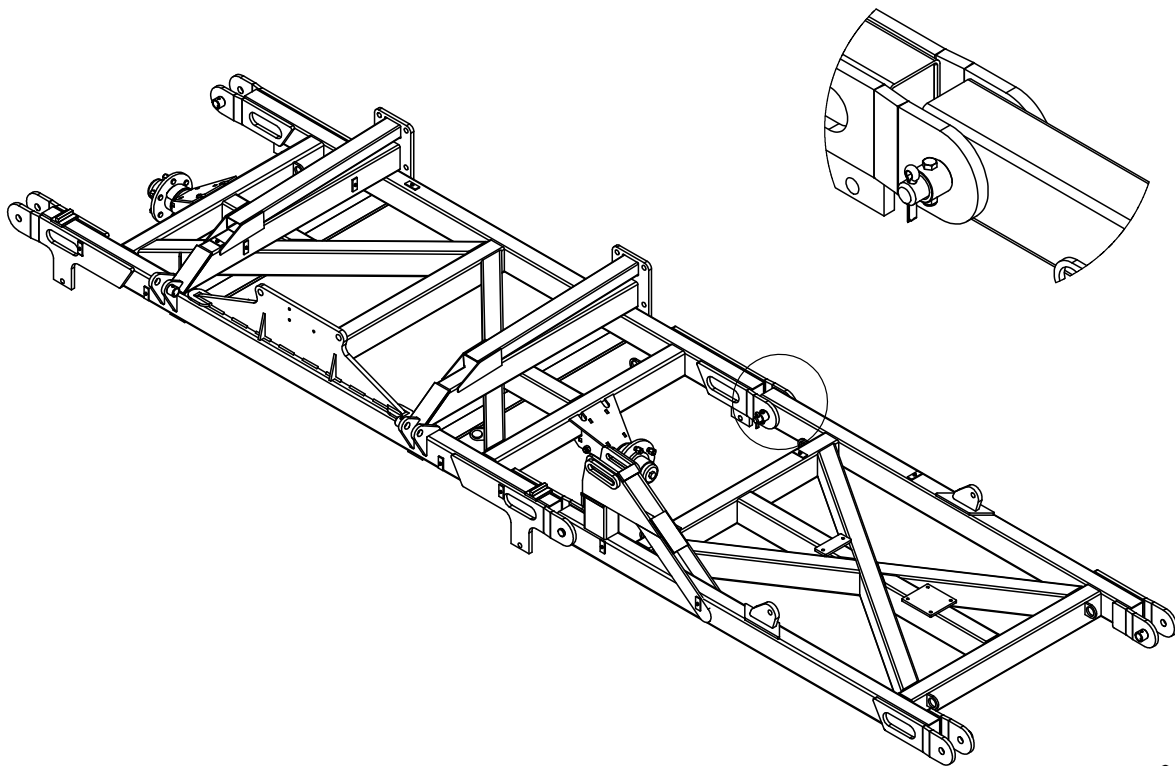
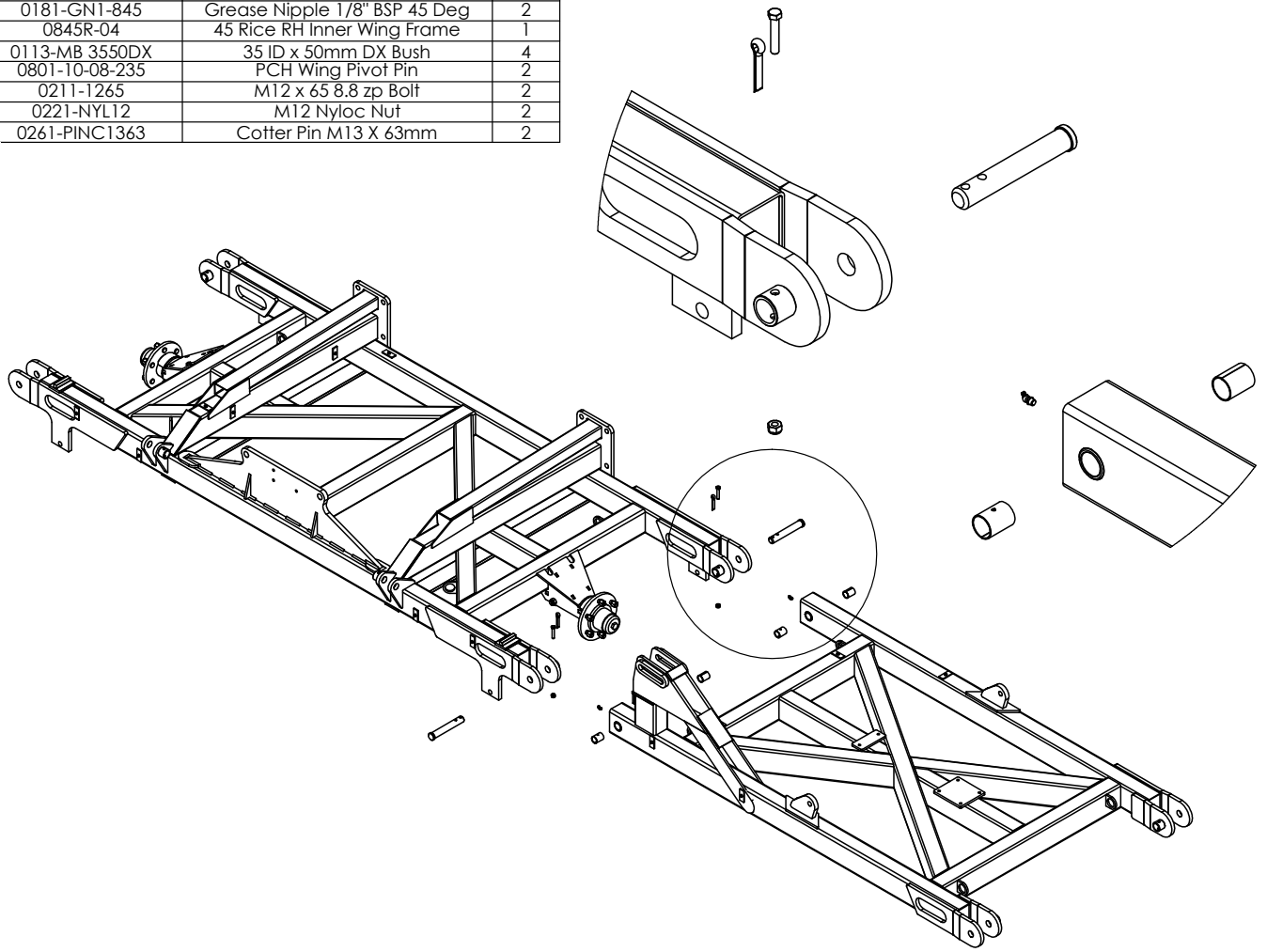
Parts

| PART NUMBER | DESCRIPTION | QTY. |
|------------------|--|------|
| 0845-01 | 45'/45R Centre Frame | 1 |
| 0733-SH275966205 | 2.75"R 6 Tonne on 205mm PCD Hub Complete | 2 |
| 0211-20150 | M20 x 150 8.8 zp Bolt | 2 |
| 0221-NYL20 | M20 Nyloc Nut | 2 |



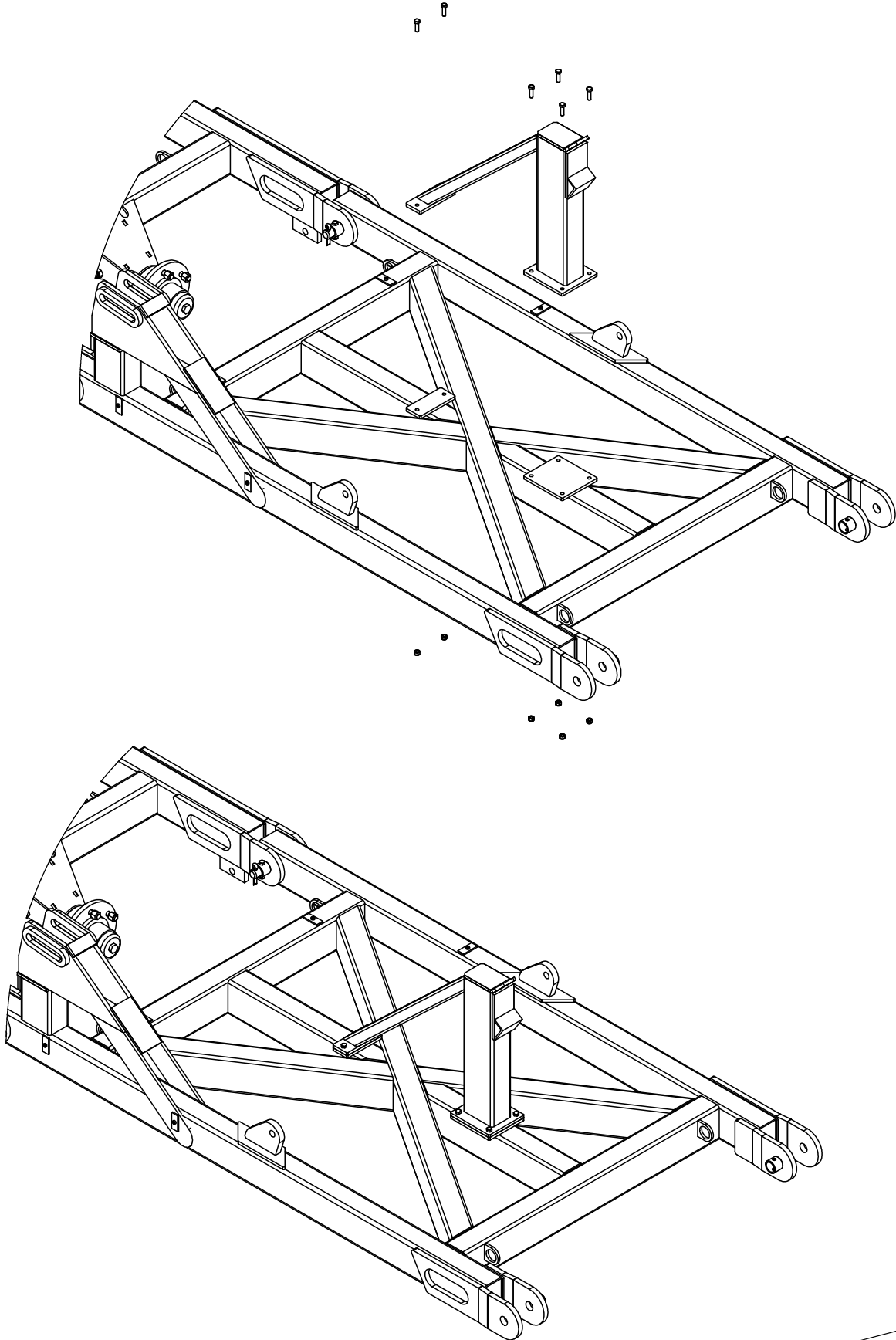
TRAVEL 

| PART NUMBER | DESCRIPTION | QTY. |
|----------------|-------------------------------|------|
| 0181-GN1-845 | Grease Nipple 1/8" BSP 45 Deg | 2 |
| 0845R-04 | 45 Rice 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 |

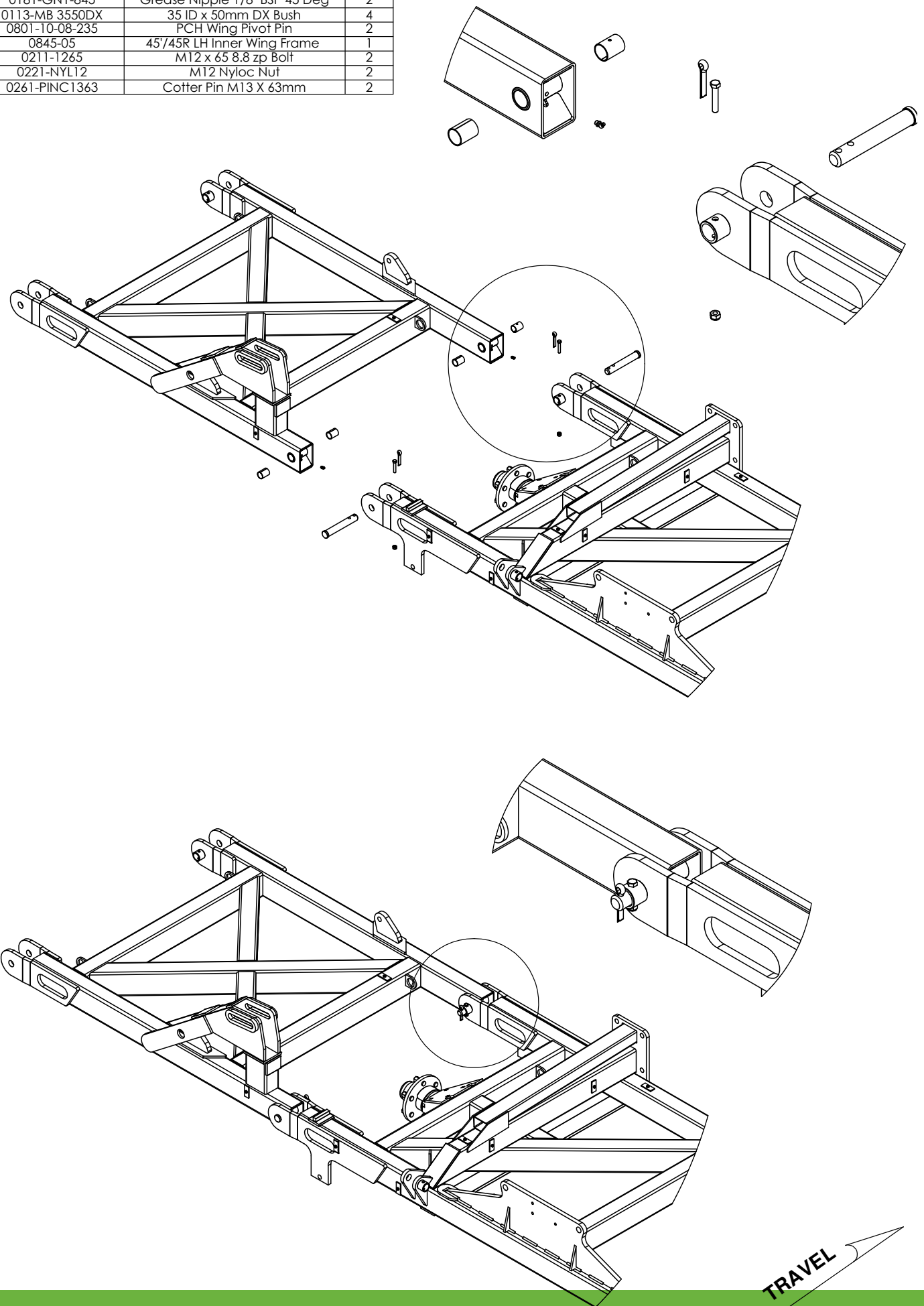


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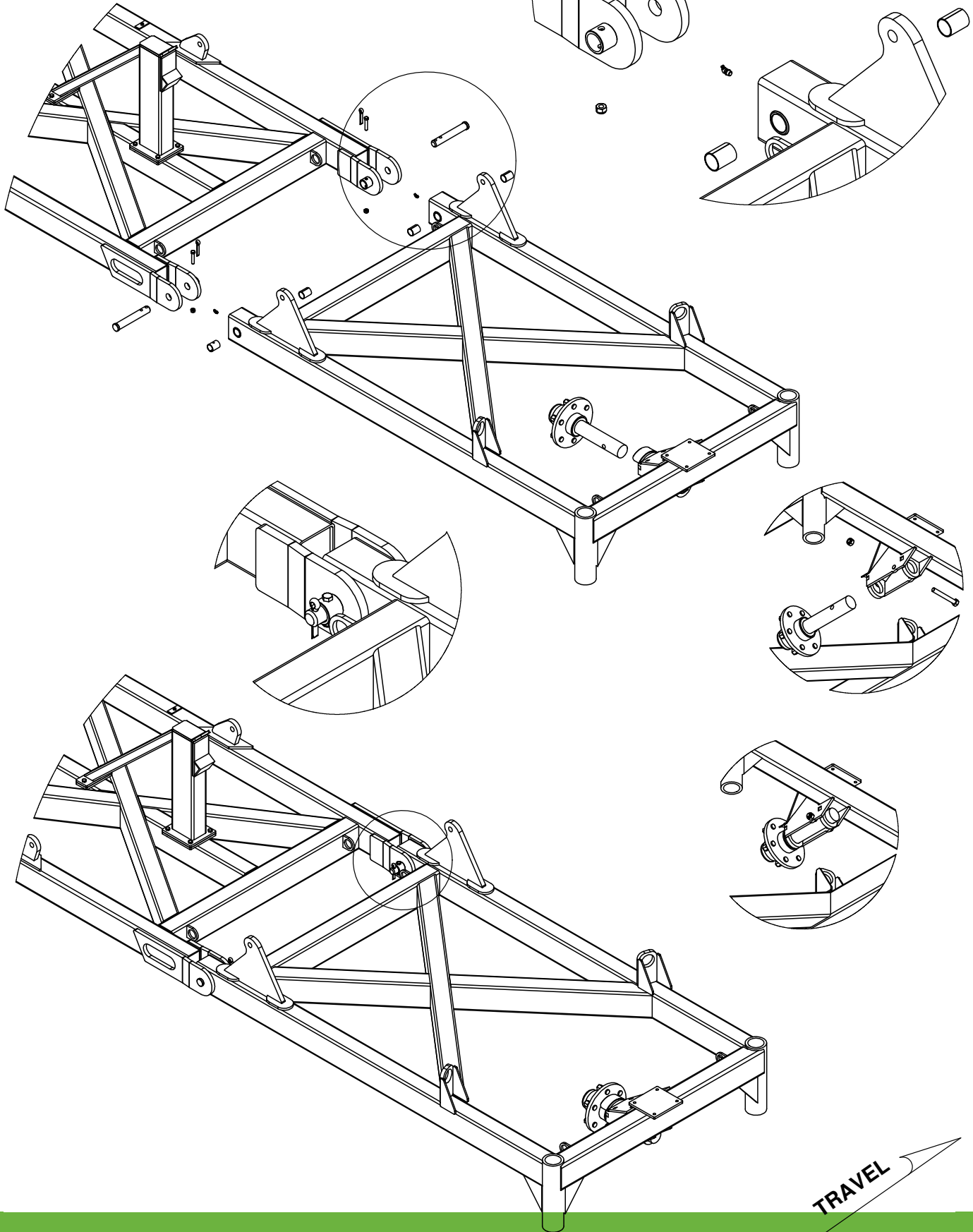
| PART NUMBER | DESCRIPTION | QTY. |
|-------------|----------------------|------|
| 0845R-04P | 45R Inner Wing post | 1 |
| 0211-T240 | M12 x 40 8.8 zp Bolt | 6 |
| 0221-NYL12 | M12 Nyloc Nut | 6 |



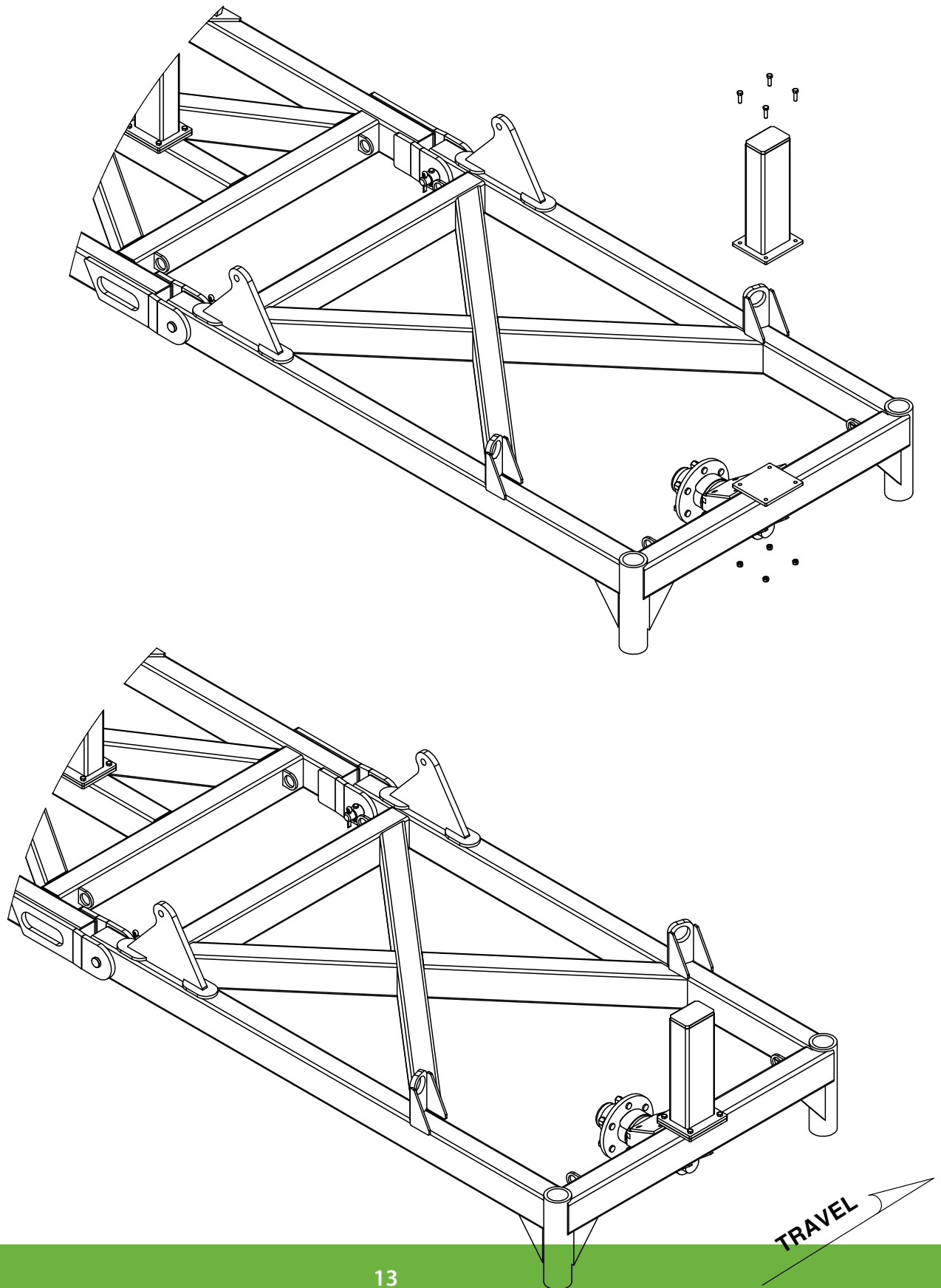
| PART NUMBER | DESCRIPTION | QTY. |
|----------------|-------------------------------|------|
| 0181-GN1-845 | Grease Nipple 1/8" BSP 45 Deg | 2 |
| 0113-MB 3550DX | 35 ID x 50mm DX Bush | 4 |
| 0801-10-08-235 | PCH Wing Pivot Pin | 2 |
| 0845-05 | 45°/45R LH Inner Wing Frame | 1 |
| 0211-1265 | M12 x 65 8.8 zp Bolt | 2 |
| 0221-NYL12 | M12 Nyloc Nut | 2 |
| 0261-PINC1363 | Cotter Pin M13 X 63mm | 2 |



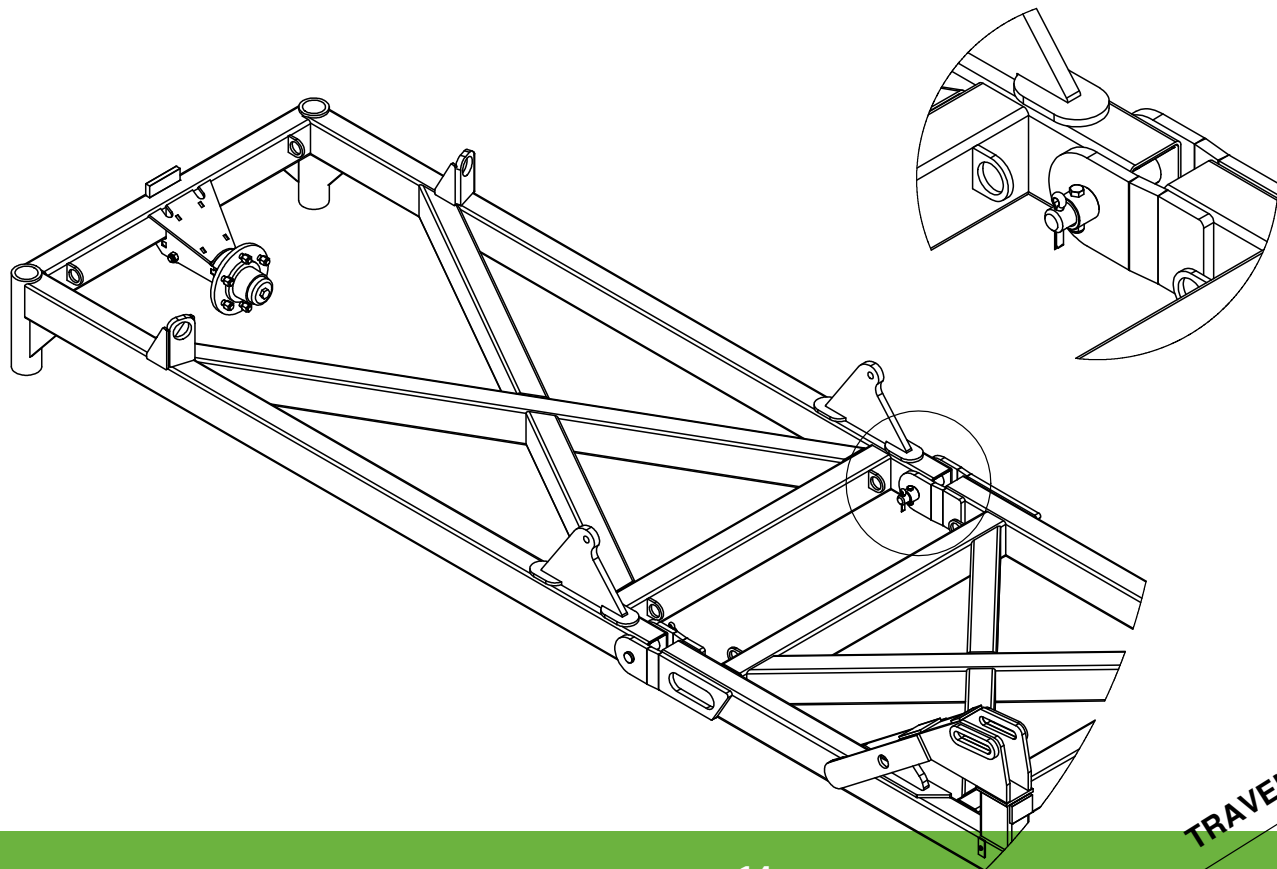
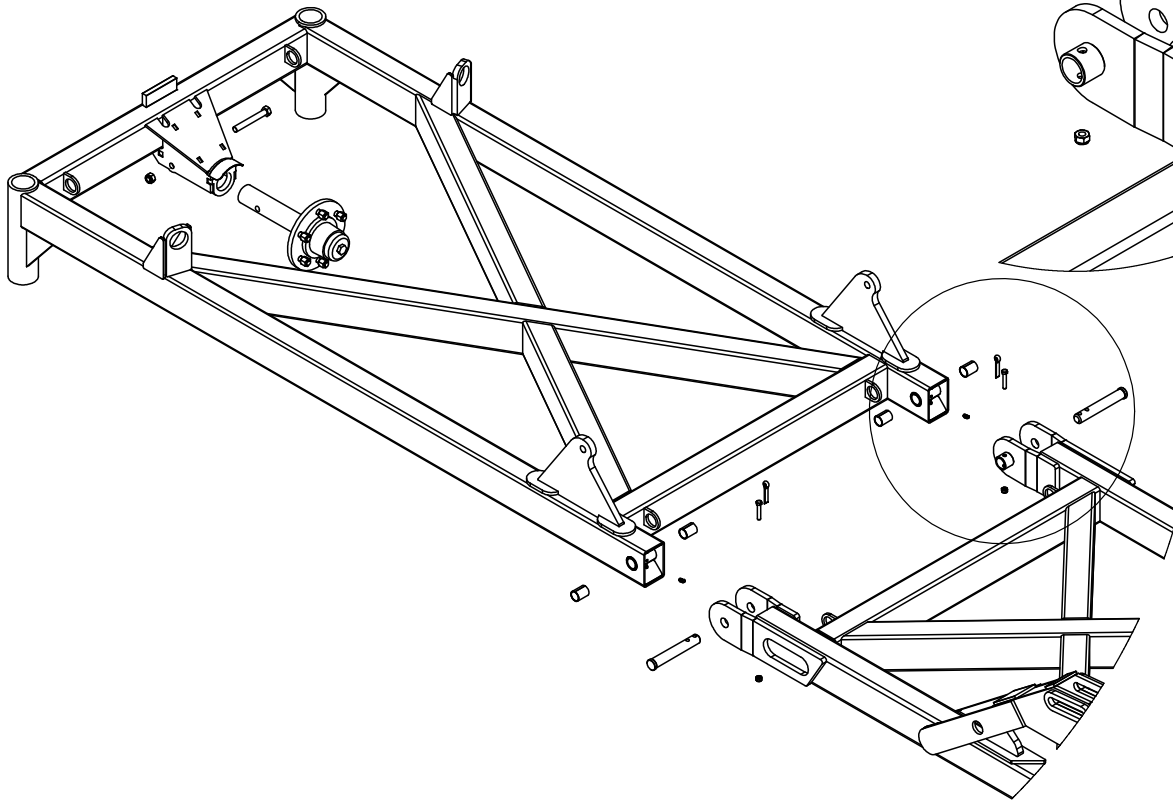
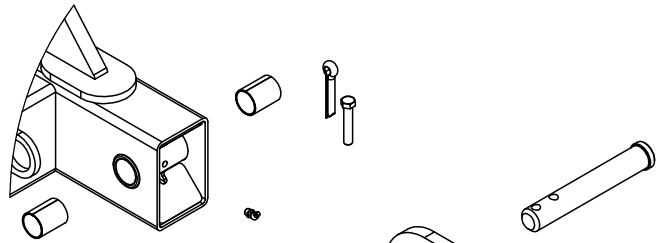
| PART NUMBER | DESCRIPTION | QTY. |
|------------------|--|------|
| 0733-SH275966205 | 2.75"R 6 Tonne on 205mm PCD Hub Complete | 1 |
| 0181-GN1-845 | Grease Nipple 1/8" BSP 45 Deg | 2 |
| 0113-MB 3550DX | 35 ID x 50mm DX Bush | 4 |
| 0801-10-08-235 | PCH Wing Pivot Pin | 2 |
| 0845R-06 | 45 Rice RH 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 |



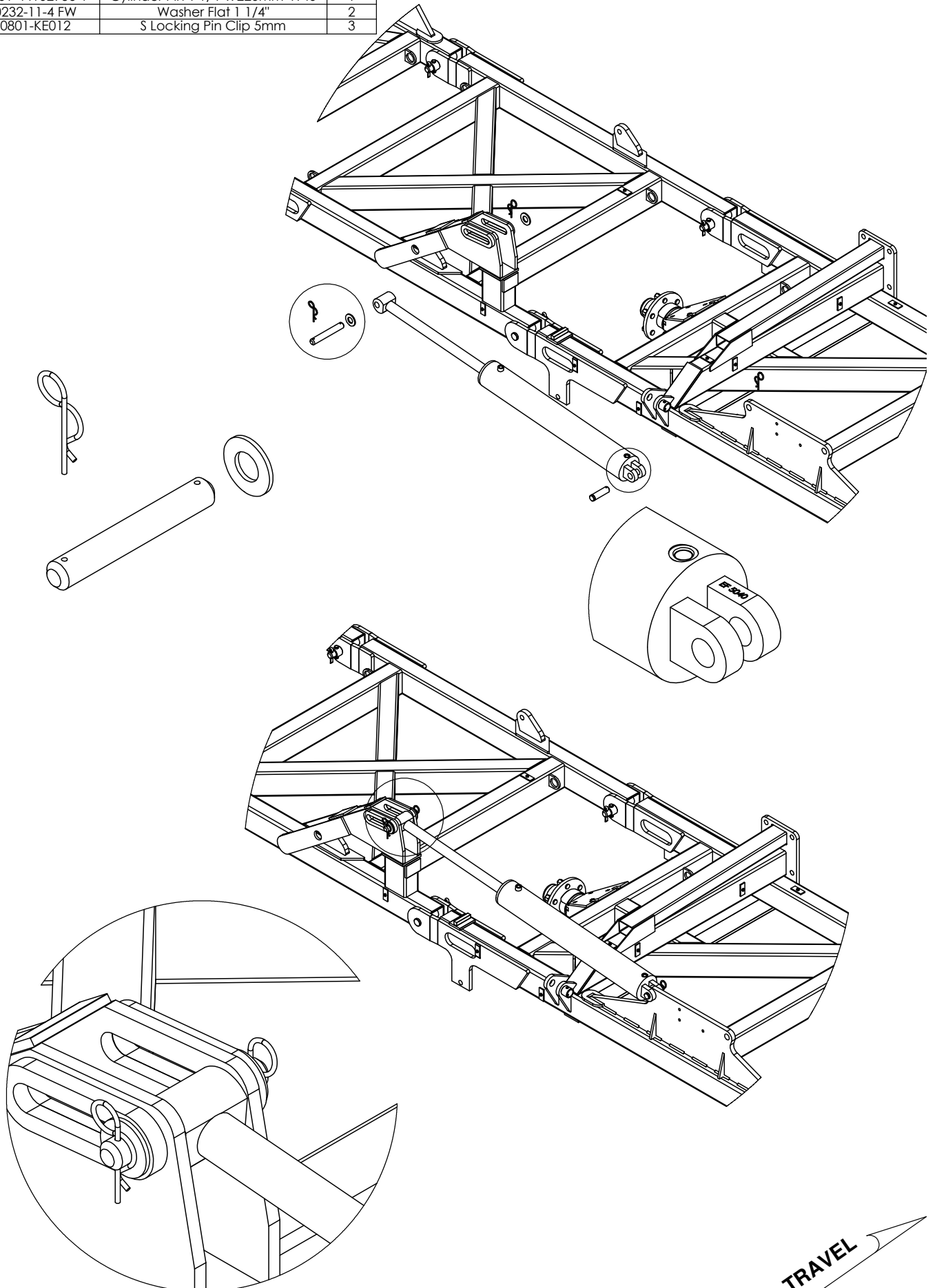
| PART NUMBER | DESCRIPTION | QTY. |
|-------------|----------------------|------|
| 0845R-06P | 45R Outer Wing Post | 1 |
| 0211-T240 | M12 x 40 8.8 zp Bolt | 4 |
| 0221-NYL12 | M12 Nyloc Nut | 4 |



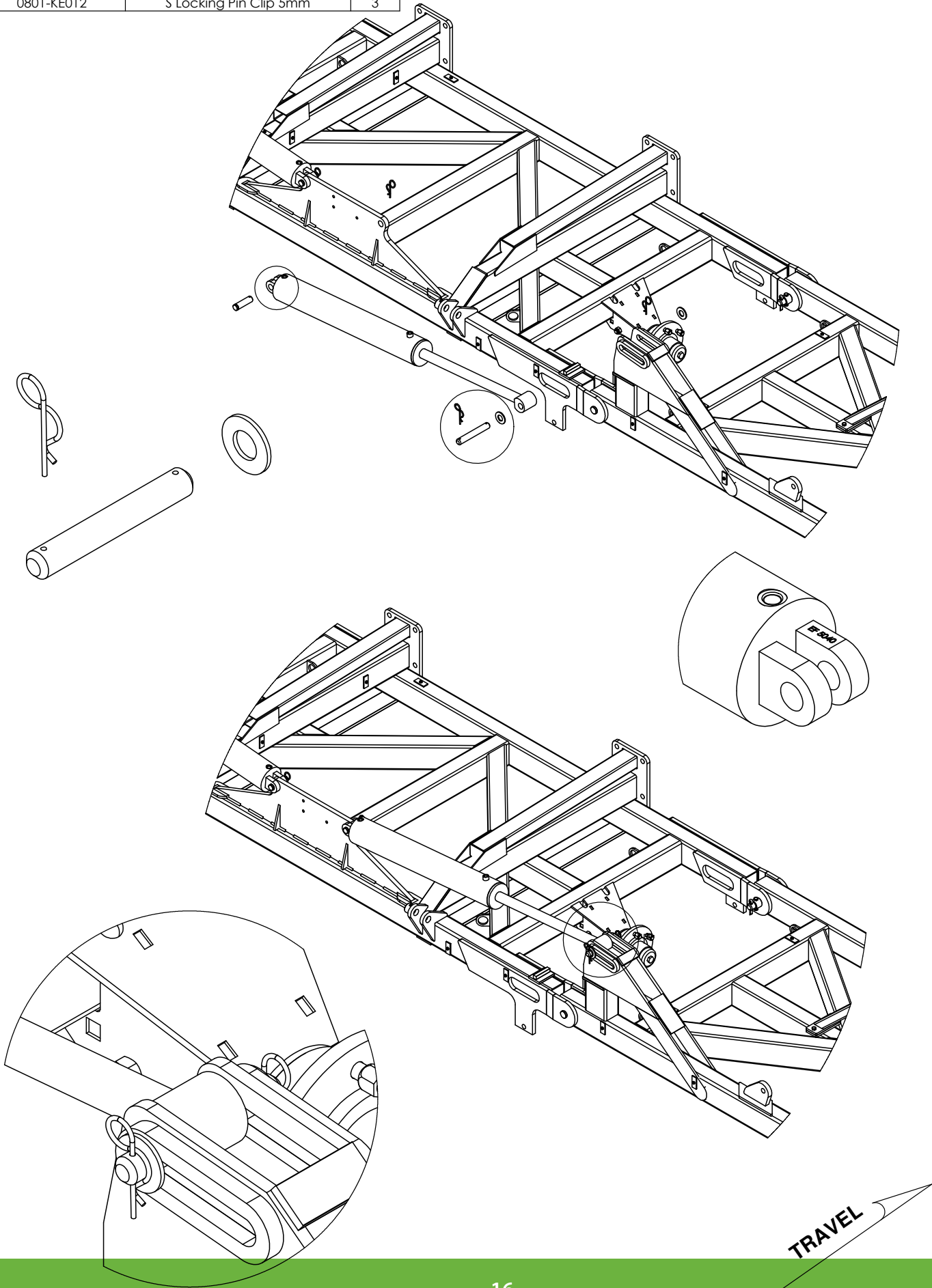
| PART NUMBER | DESCRIPTION | QTY. |
|------------------|--|------|
| 0733-SH275966205 | 2.75"R 6 Tonne on 205mm PCD Hub Complete | 1 |
| 0181-GN1-845 | Grease Nipple 1/8" BSP 45 Deg | 2 |
| 0113-MB 3550DX | 35 ID x 50mm DX Bush | 4 |
| 0801-10-08-235 | PCH Wing Pivot Pin | 2 |
| 0211-1265 | M12 x 65 8.8 zp Bolt | 2 |
| 0221-NYL12 | M12 Nyloc Nut | 2 |
| 0261-PINC1363 | Cotter Pin M13 X 63mm | 2 |
| 0211-20150 | M20 x 150 8.8 zp Bolt | 1 |
| 0221-NYL20 | M20 Nyloc Nut | 1 |
| 0845-07 | 45/45R LH Outer Wing Frame | 1 |



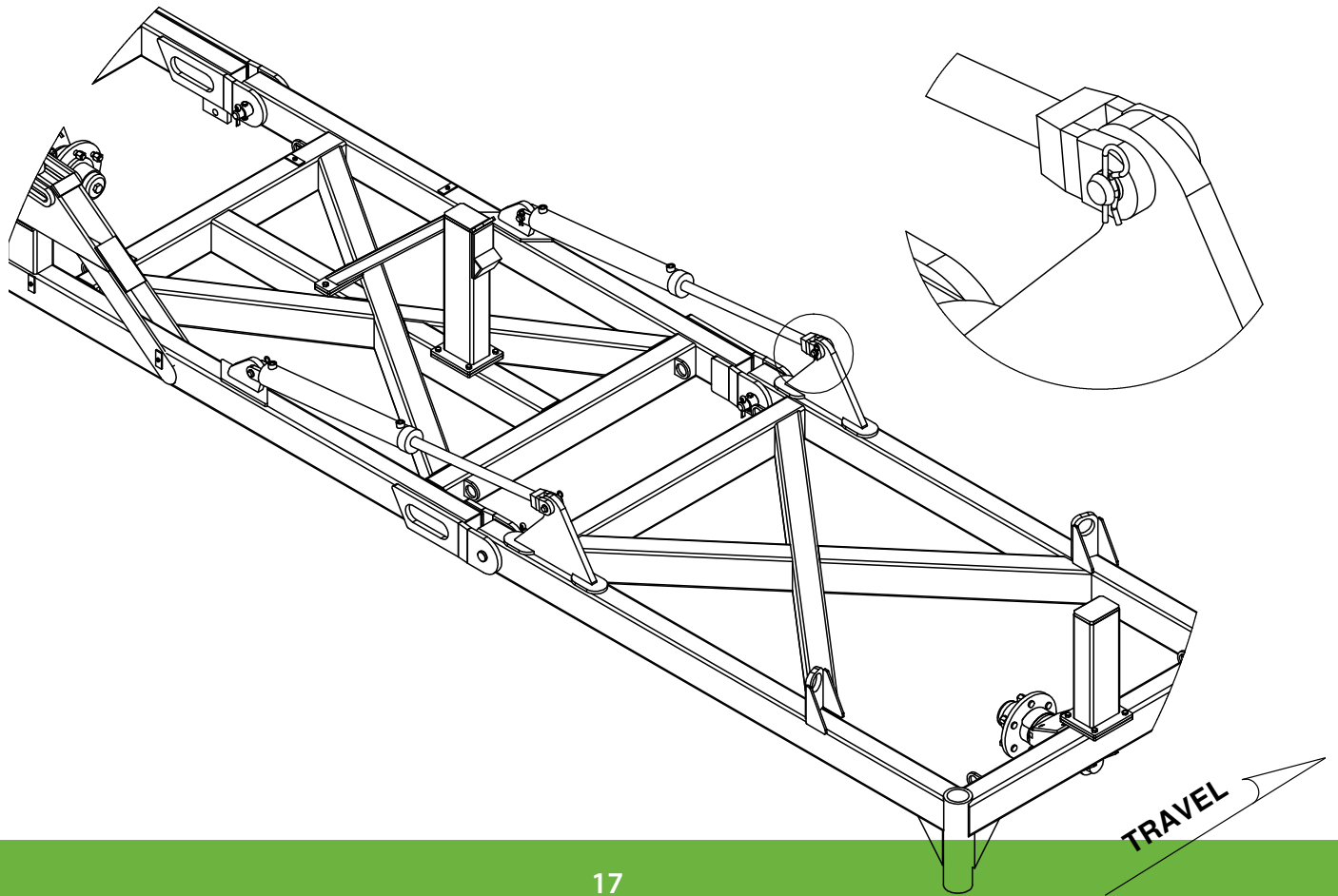
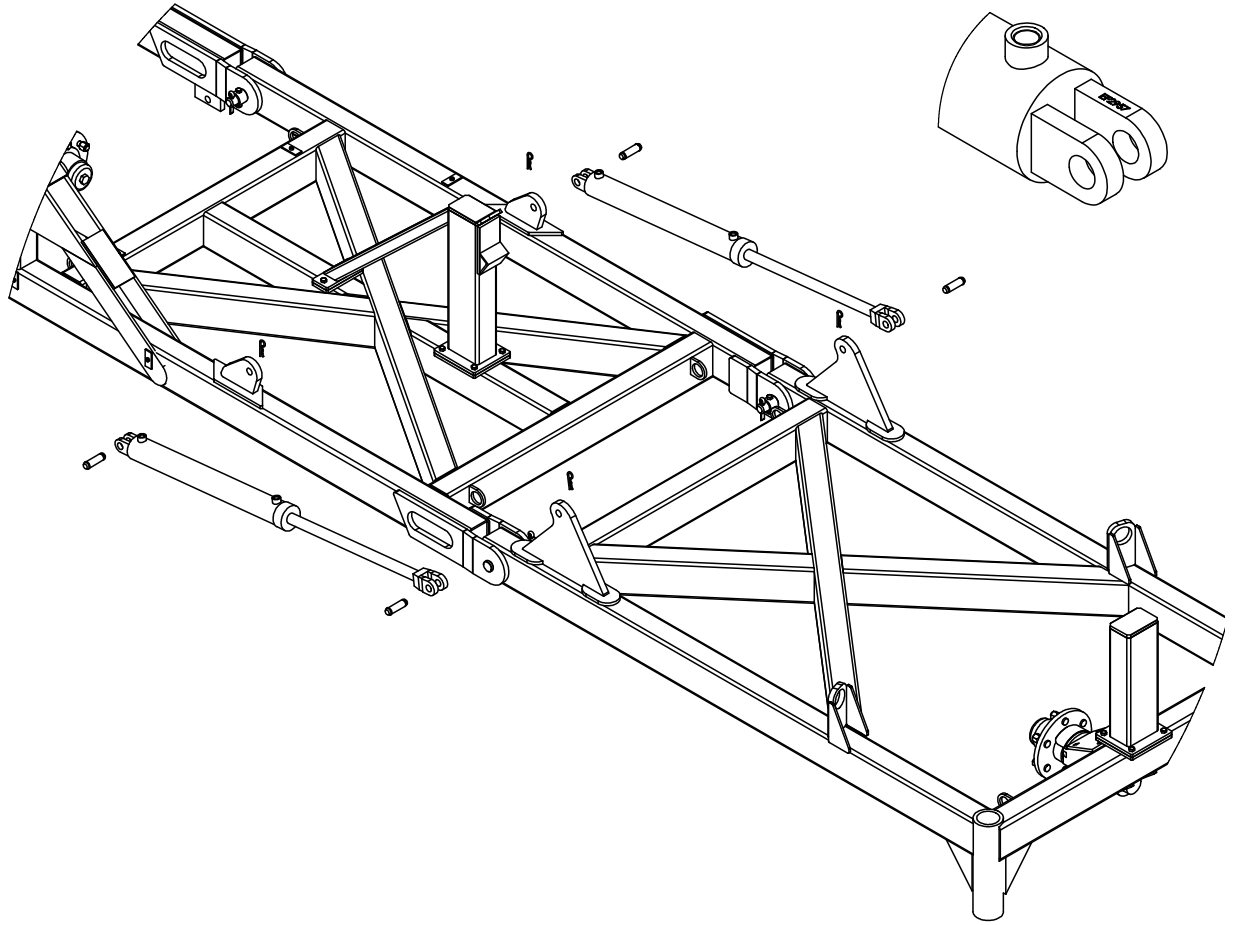
| PART NUMBER | DESCRIPTION | QTY. |
|-----------------|----------------------------------|------|
| 0311-5040 | 5" x 30" Hydraulic Cylinder | 1 |
| 0801-44102956-2 | Cylinder Pin 1 1/4" x 116mm | 1 |
| 0801-44102956-1 | Cylinder Pin 1 1/4" x 220mm 4140 | 1 |
| 0232-11-4 FW | Washer Flat 1 1/4" | 2 |
| 0801-KE012 | S Locking Pin Clip 5mm | 3 |



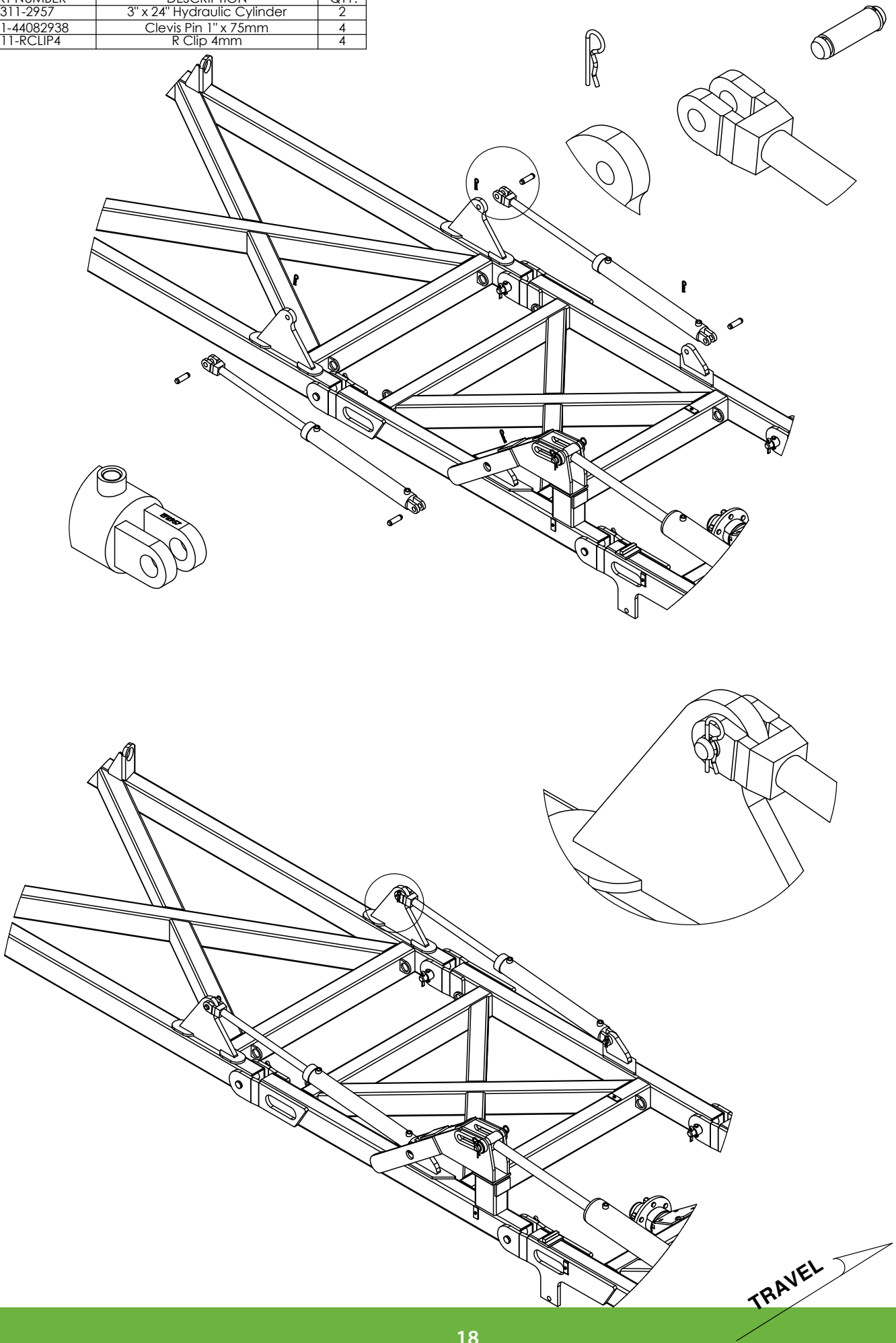
| PART NUMBER | DESCRIPTION | QTY. |
|-----------------|----------------------------------|------|
| 0311-5040 | 5" x 30" Hydraulic Cylinder | 1 |
| 0801-44102956-2 | Cylinder Pin 1 1/4" x 116mm | 1 |
| 0801-44102956-1 | Cylinder Pin 1 1/4" x 220mm 4140 | 1 |
| 0232-11-4 FW | Washer Flat 1 1/4" | 2 |
| 0801-KE012 | S Locking Pin Clip 5mm | 3 |



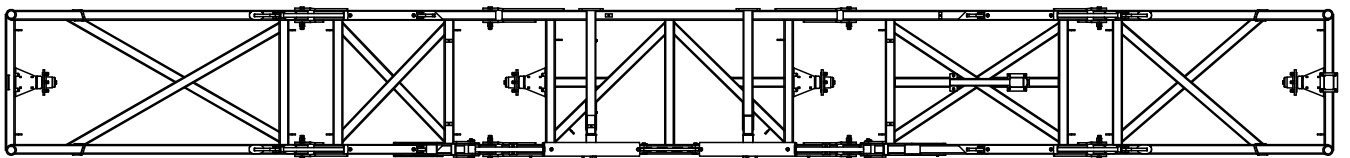
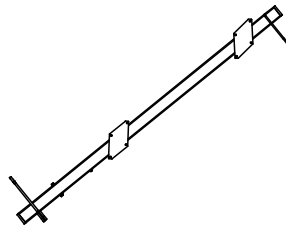
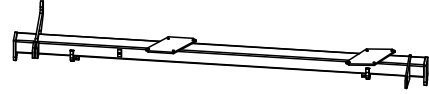
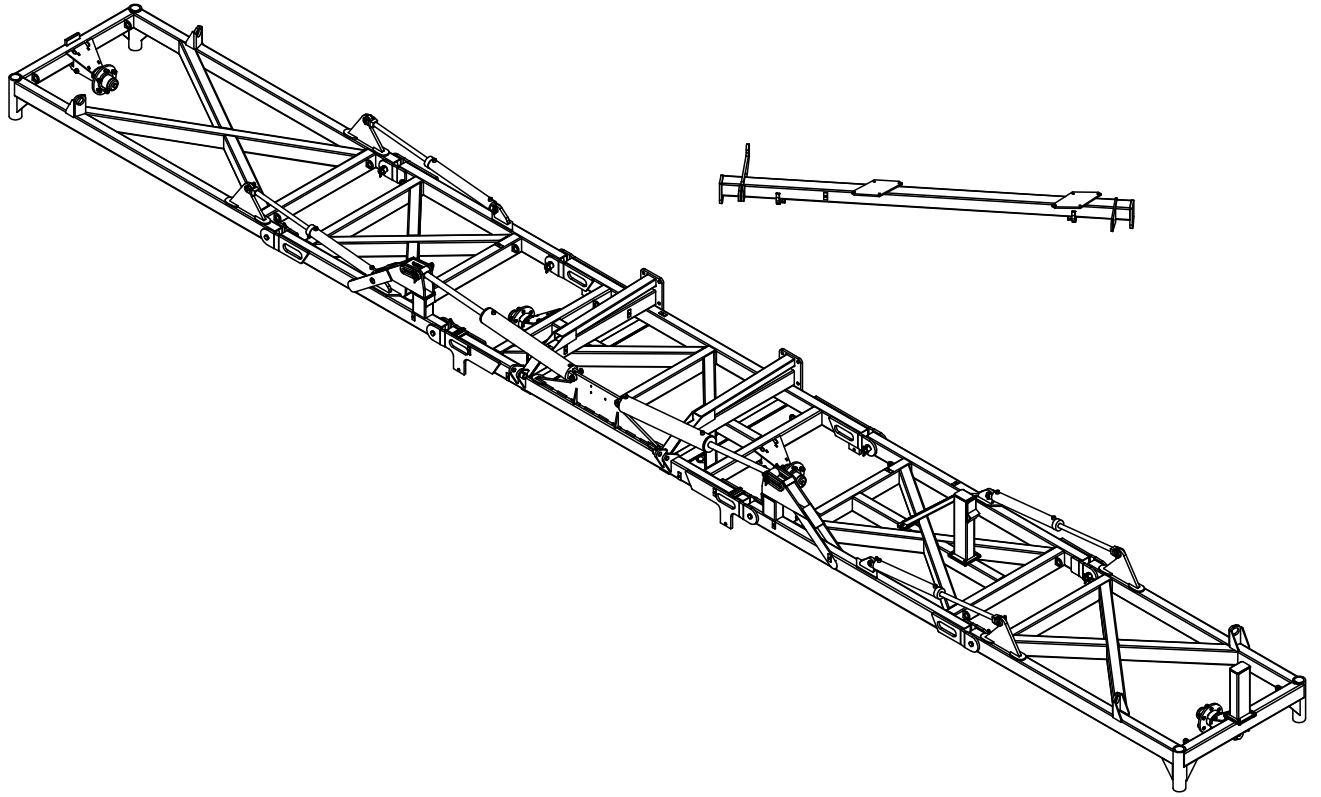
| PART NUMBER | DESCRIPTION | QTY. |
|---------------|-----------------------------|------|
| 0311-2957 | 3" x 24" Hydraulic Cylinder | 2 |
| 0801-44082938 | Clevis Pin 1" x 75mm | 4 |
| 0511-RCLIP4 | R Clip 4mm | 4 |



| 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 |

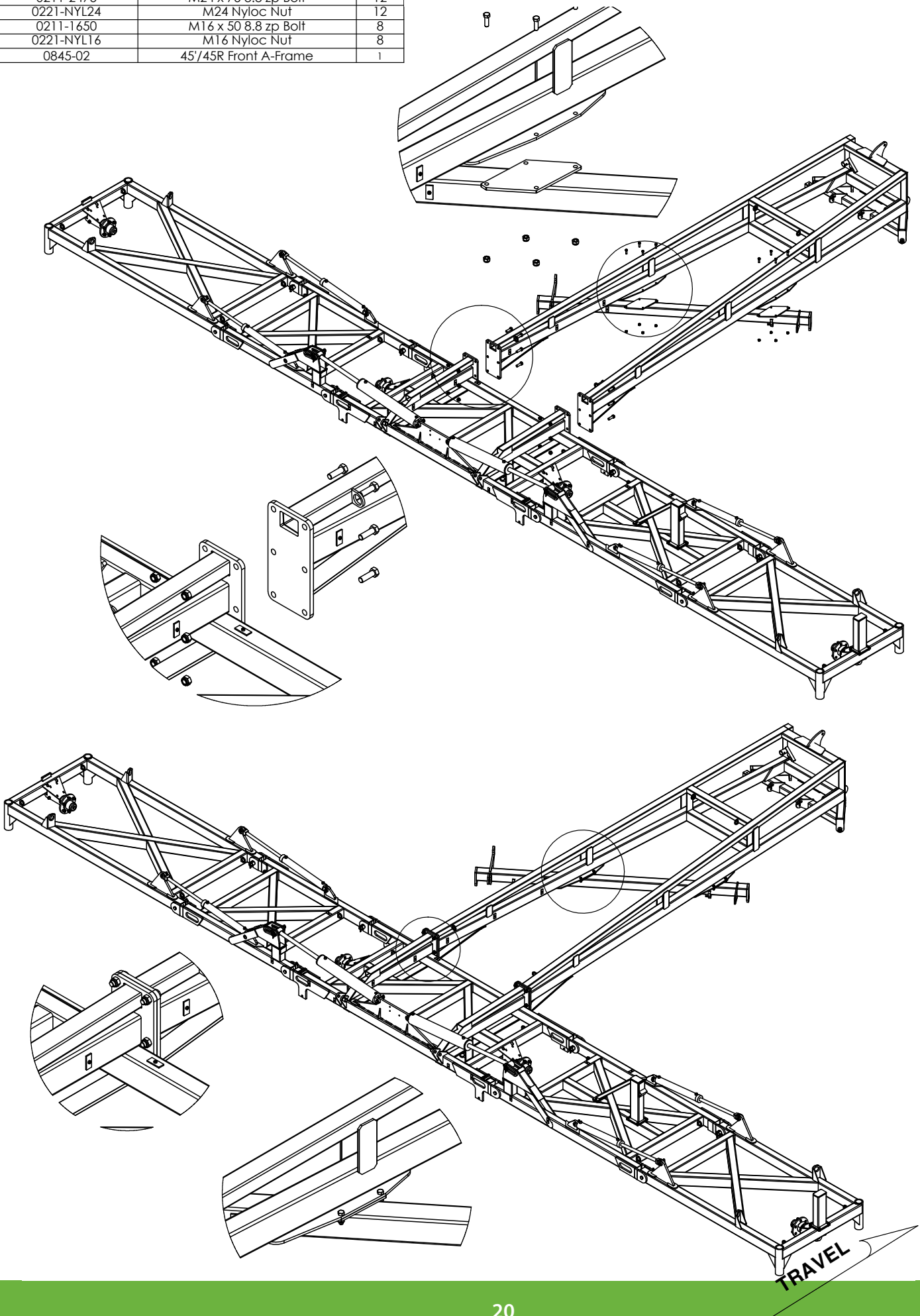


| PART NUMBER | DESCRIPTION | QTY. |
|---------------|-----------------------|------|
| 0810-28-40&45 | 40 & 45' Front Module | 1 |

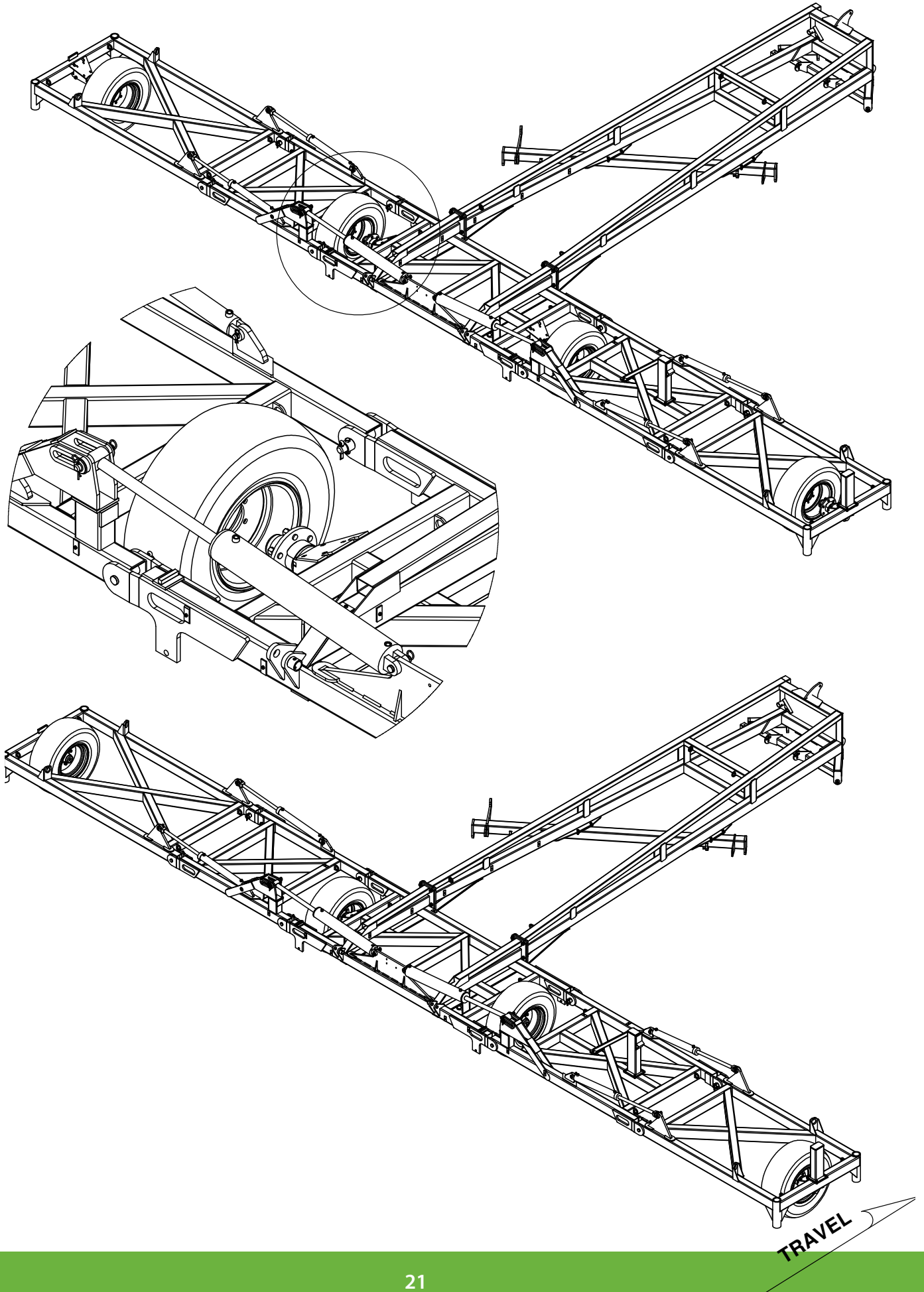


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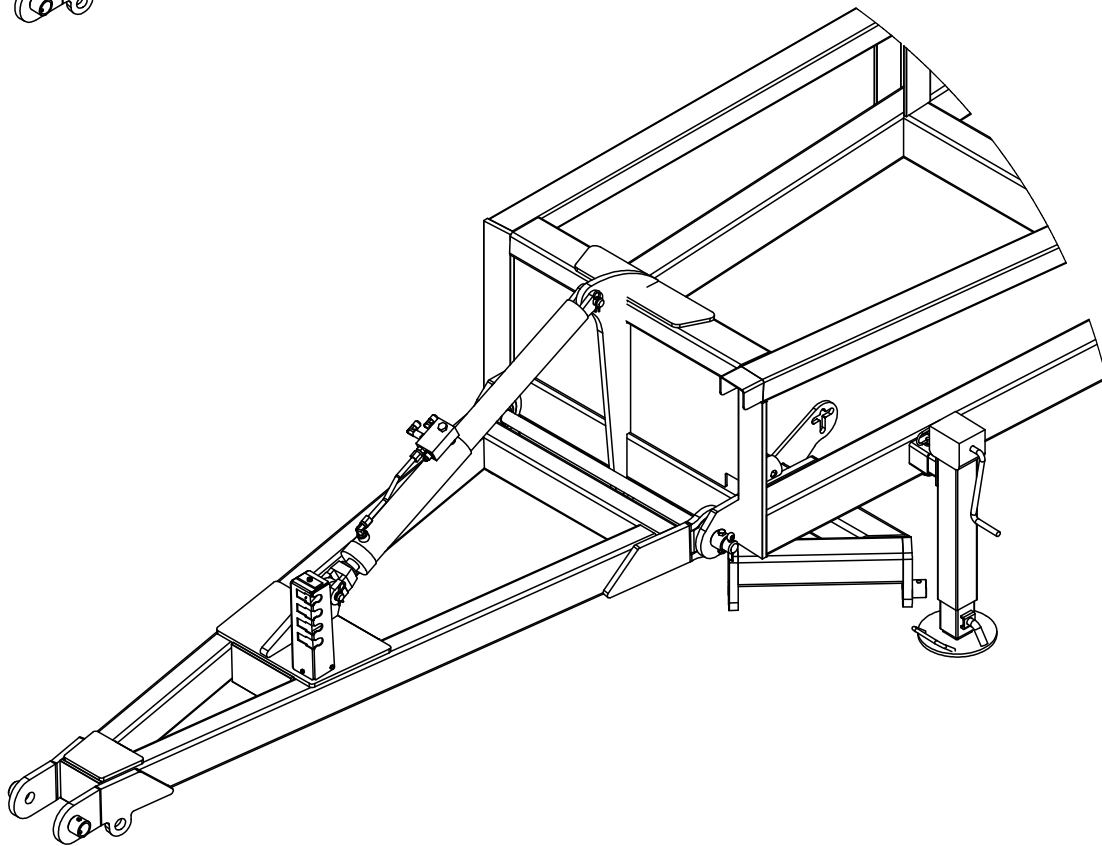
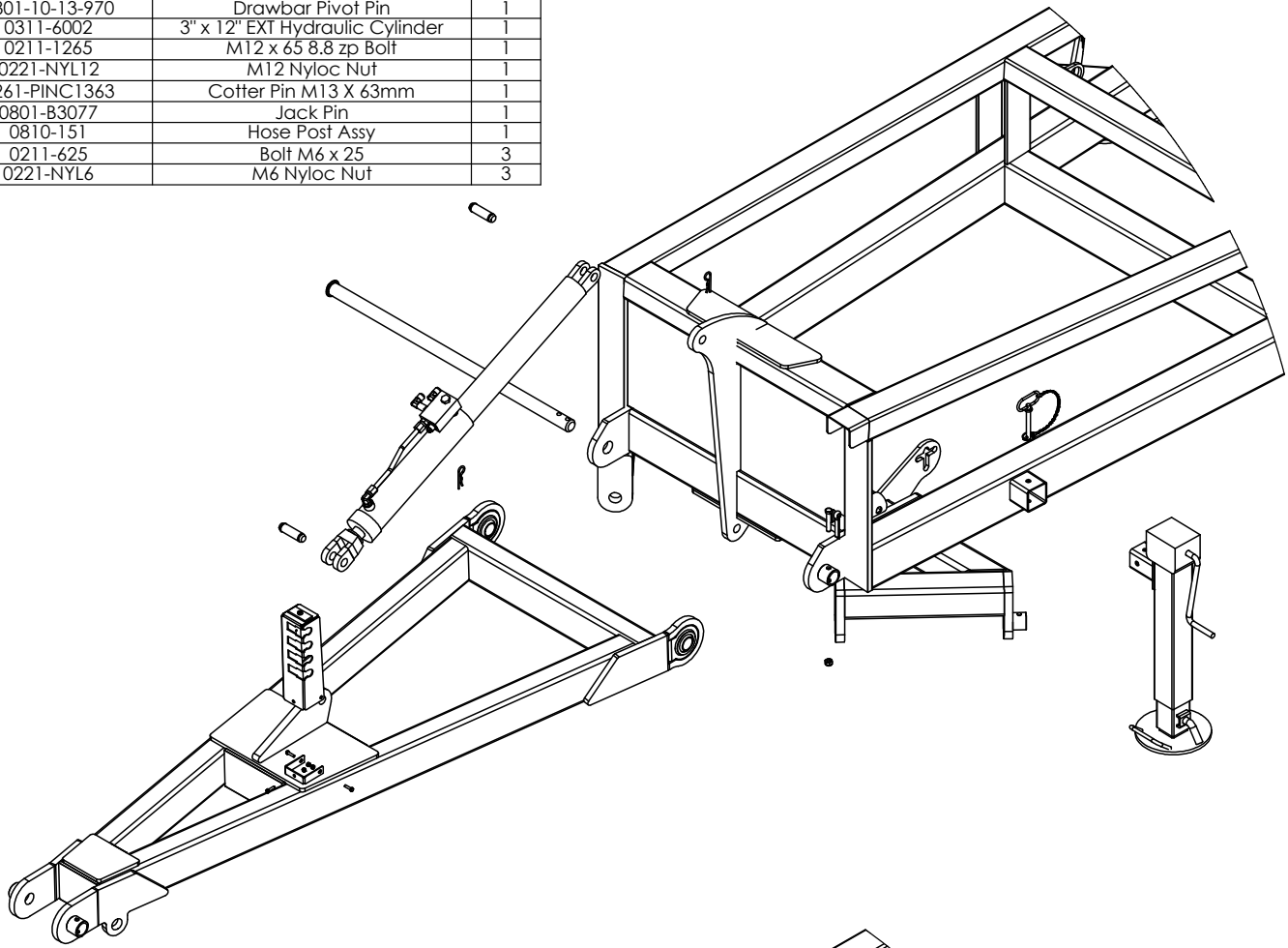
| PART NUMBER | DESCRIPTION | QTY. |
|-------------|----------------------|------|
| 0211-2475 | M24 x 75 8.8 zp Bolt | 12 |
| 0221-NYL24 | M24 Nyloc Nut | 12 |
| 0211-1650 | M16 x 50 8.8 zp Bolt | 8 |
| 0221-NYL16 | M16 Nyloc Nut | 8 |
| 0845-02 | 45/45R Front A-Frame | 1 |



| PART NUMBER | DESCRIPTION | QTY. |
|-------------------|----------------------------------|------|
| 0751-15.0-70-18TR | 15.0/70/18 Tyre and Rim Complete | 4 |

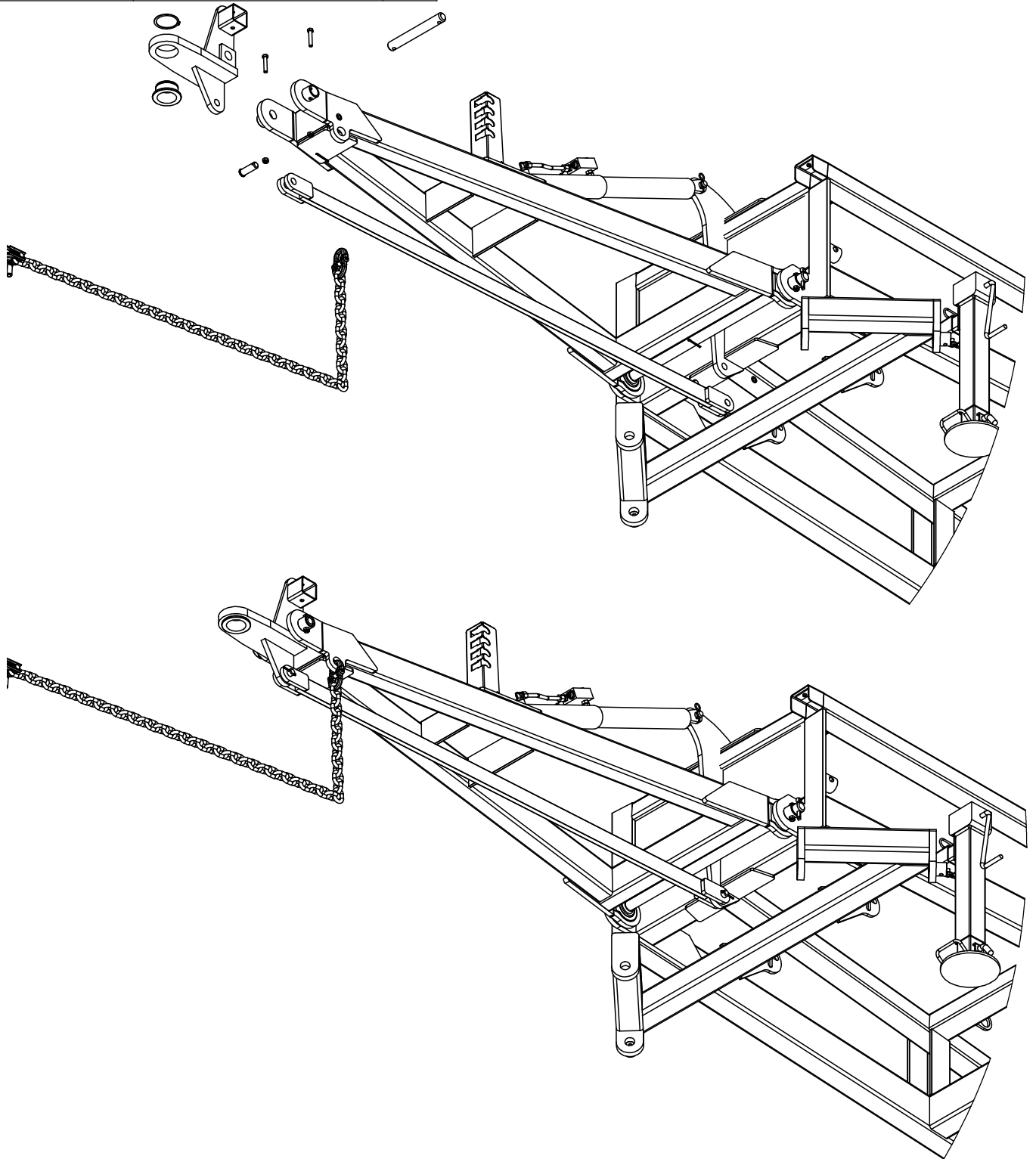


| PART NUMBER | DESCRIPTION | QTY. |
|----------------|---------------------------------|------|
| 0801-44082938 | Clevis Pin 1" x 75mm | 2 |
| 0511-RCLIP4 | R Clip 4mm | 2 |
| 0810-31 | Jack Assy | 1 |
| 0810-08 | Draw Bar Frame | 1 |
| 0801-10-13-970 | Drawbar Pivot Pin | 1 |
| 0311-6002 | 3" x 12" 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 |

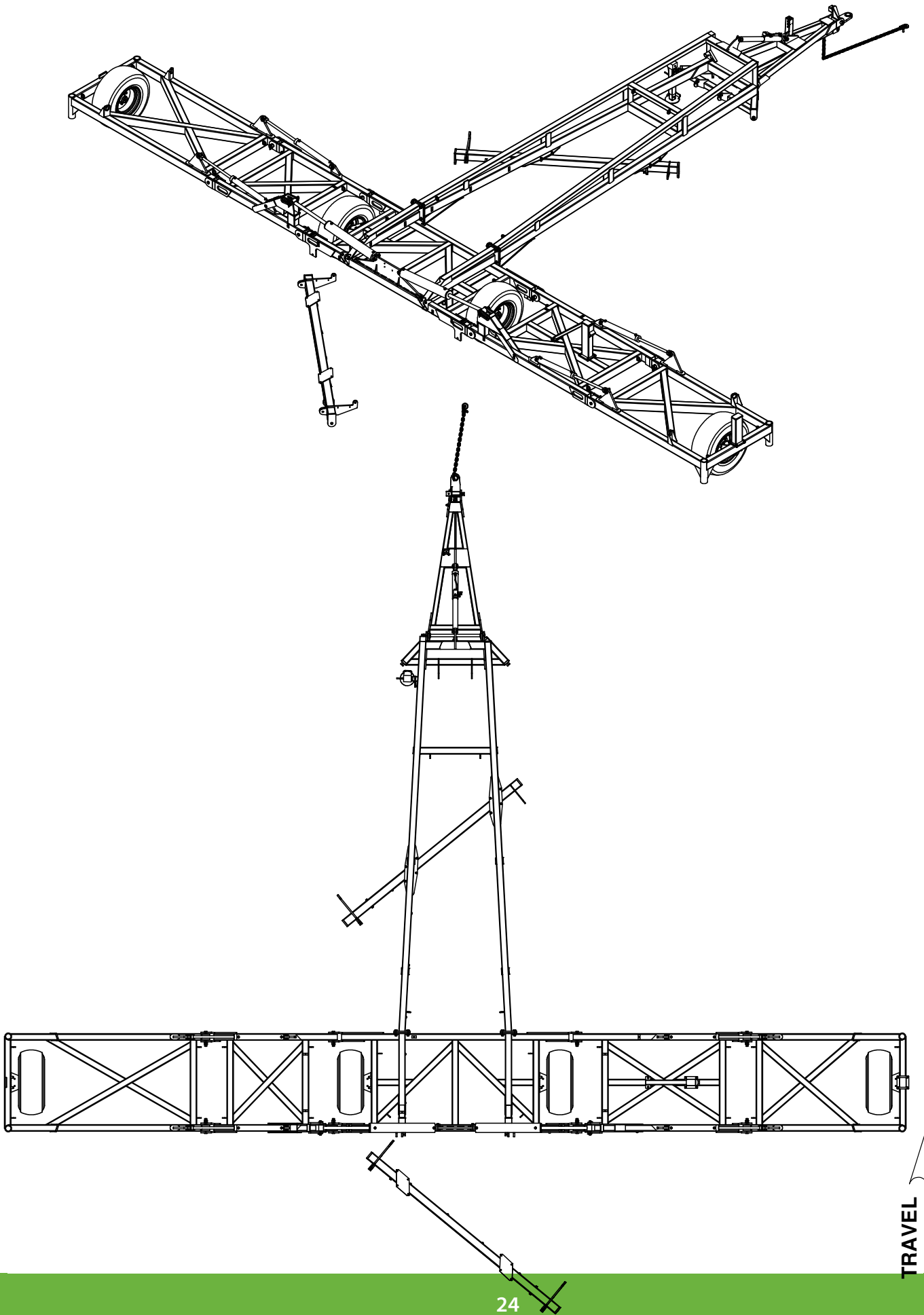


TRAVEL

| PART NUMBER | DESCRIPTION | QTY. |
|------------------|--------------------------------|------|
| 0810-09 | Tow Hitch | 1 |
| 0810-22 | Parrallel 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 |

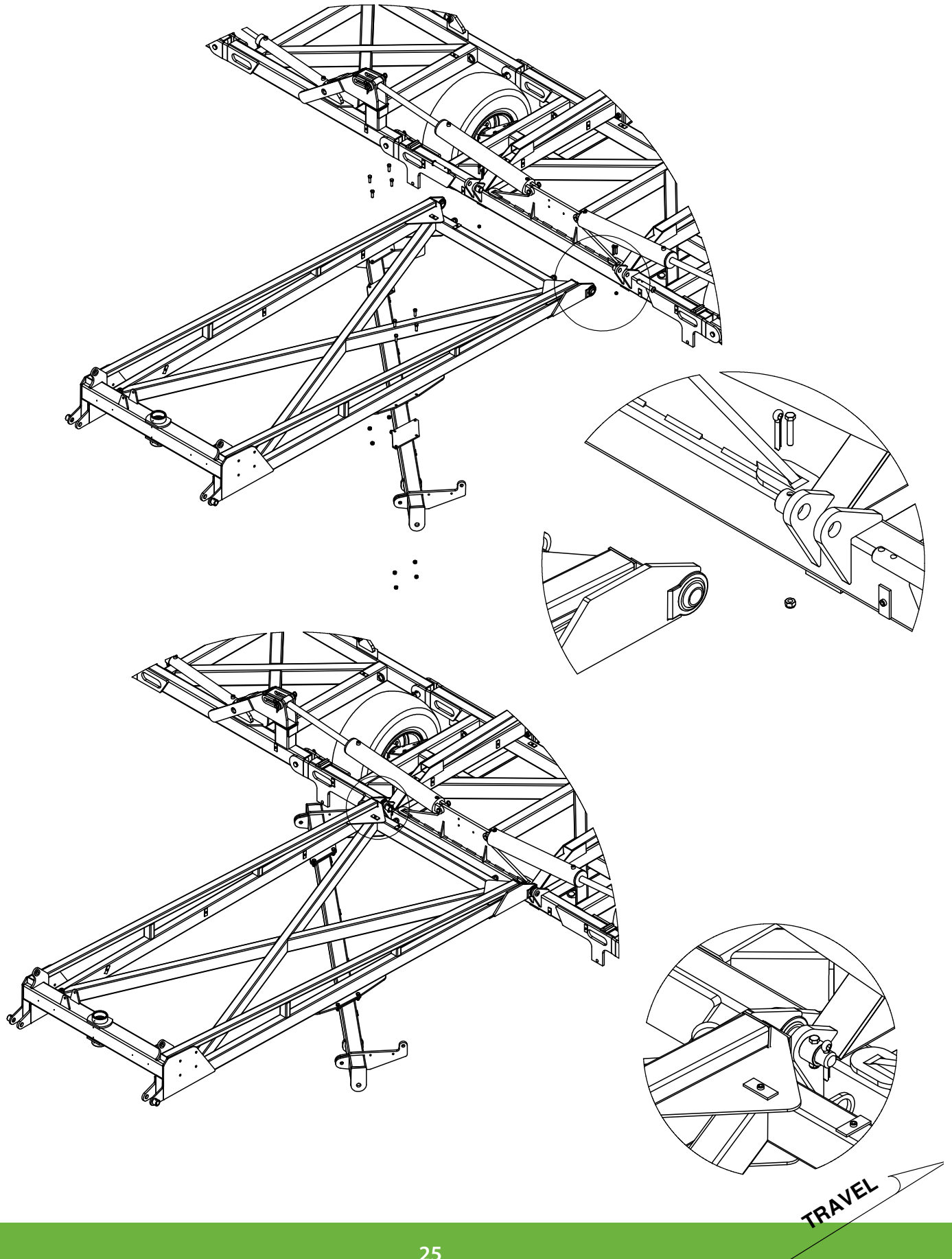


| PART NUMBER | DESCRIPTION | QTY. |
|---------------|----------------------|------|
| 0810-29-40&45 | 40 & 45' Rear Module | 1 |

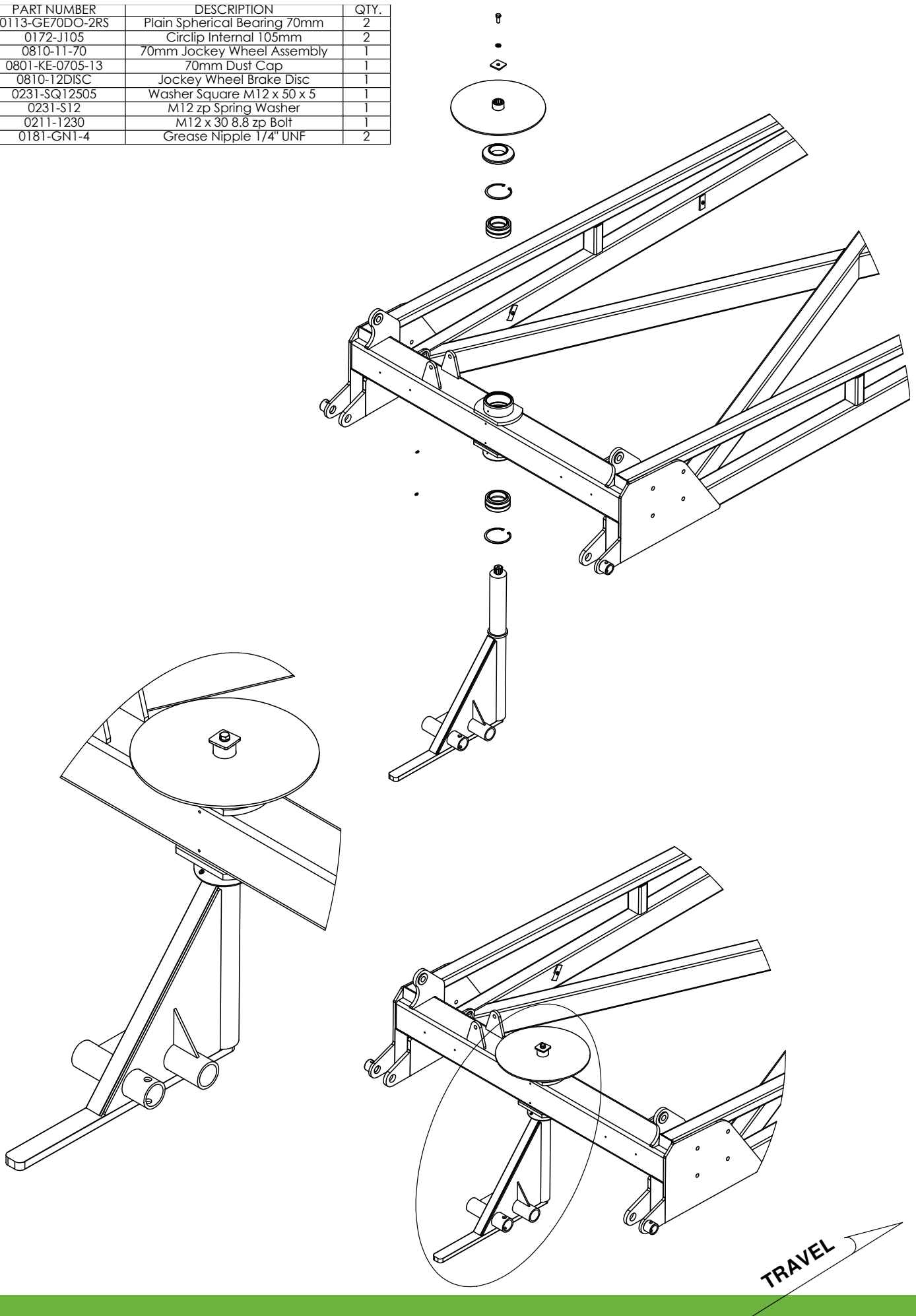


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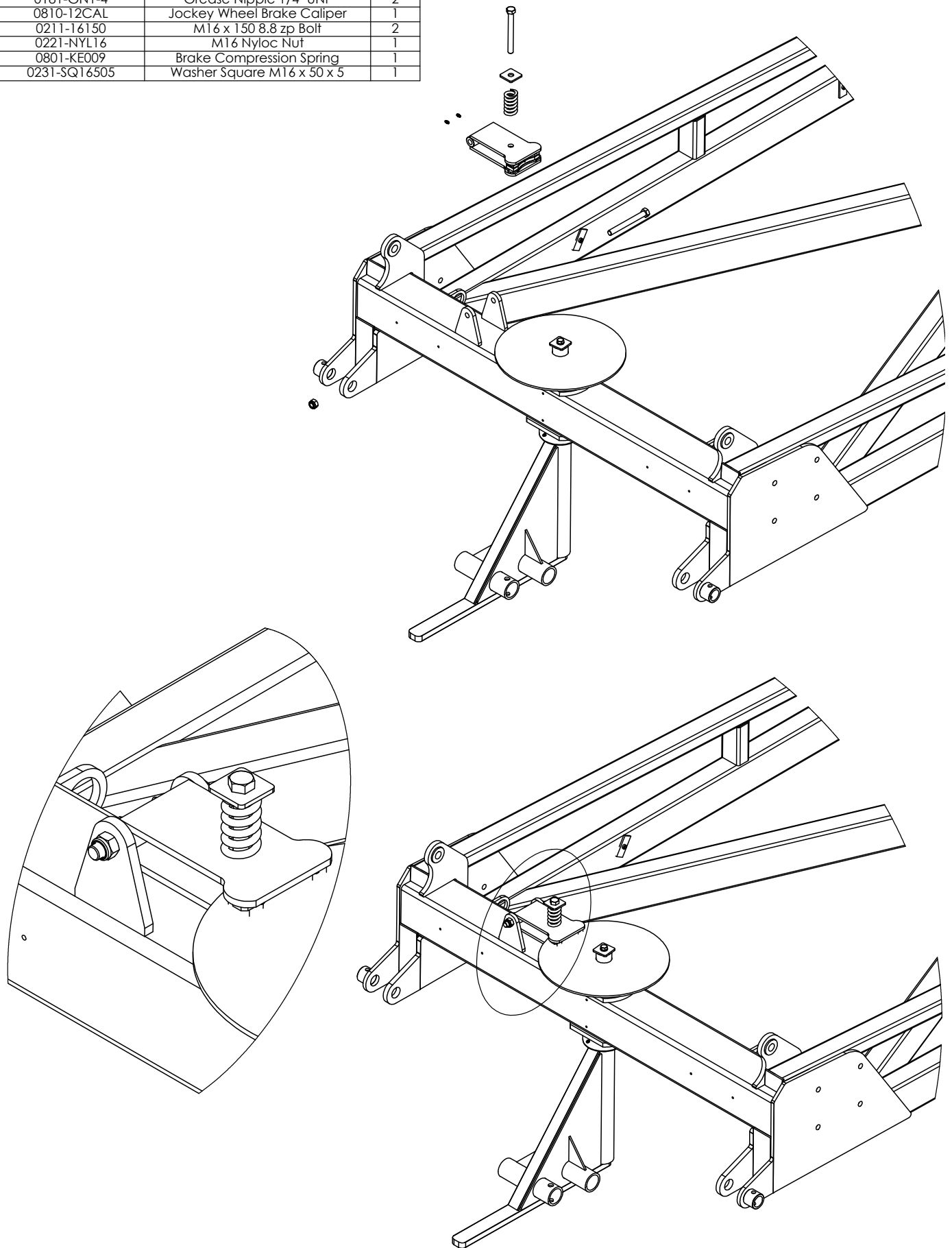
| PART NUMBER | DESCRIPTION | QTY. |
|----------------|-----------------------|------|
| 0801-10-08-175 | Tail Frame Pivot pin | 2 |
| 0211-1265 | M12 x 65 8.8 zp Bolt | 2 |
| 0221-NYL12 | M12 Nyloc Nut | 2 |
| 0261-PINC1363 | Cotter Pin M13 X 63mm | 2 |
| 0211-1650 | M16 x 50 8.8 zp Bolt | 8 |
| 0221-NYL16 | M16 Nyloc Nut | 8 |
| 0845-03 | 45°/45R Rear A-Frame | 1 |



| PART NUMBER | DESCRIPTION | QTY. |
|-----------------|------------------------------|------|
| 0113-GE70DO-2RS | Plain Spherical Bearing 70mm | 2 |
| 0172-J105 | Circlip Internal 105mm | 2 |
| 0810-11-70 | 70mm Jockey Wheel Assembly | 1 |
| 0801-KE-0705-13 | 70mm Dust Cap | 1 |
| 0810-12DISC | Jockey Wheel Brake Disc | 1 |
| 0231-SQ12505 | Washer Square M12 x 50 x 5 | 1 |
| 0231-S12 | M12 zp Spring Washer | 1 |
| 0211-1230 | M12 x 30 8.8 zp Bolt | 1 |
| 0181-GN1-4 | Grease Nipple 1/4" UNF | 2 |

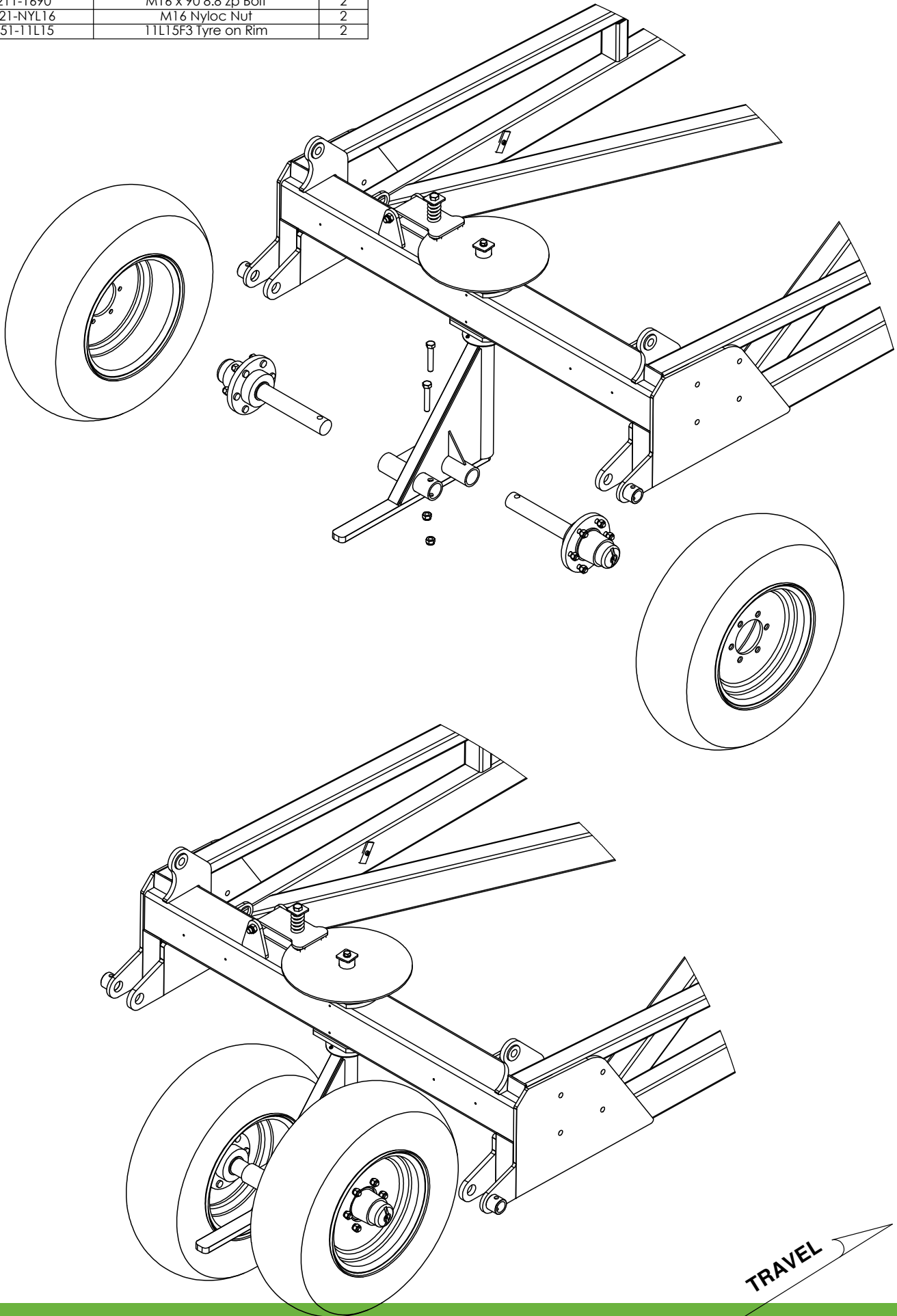


| PART NUMBER | DESCRIPTION | QTY. |
|--------------|----------------------------|------|
| 0181-GN1-4 | Grease Nipple 1/4" UNF | 2 |
| 0810-12CAL | Jockey Wheel Brake Caliper | 1 |
| 0211-16150 | M16 x 150 8.8 zp Bolt | 2 |
| 0221-NYL16 | M16 Nyloc Nut | 1 |
| 0801-KE009 | Brake Compression Spring | 1 |
| 0231-SQ16505 | Washer Square M16 x 50 x 5 | 1 |

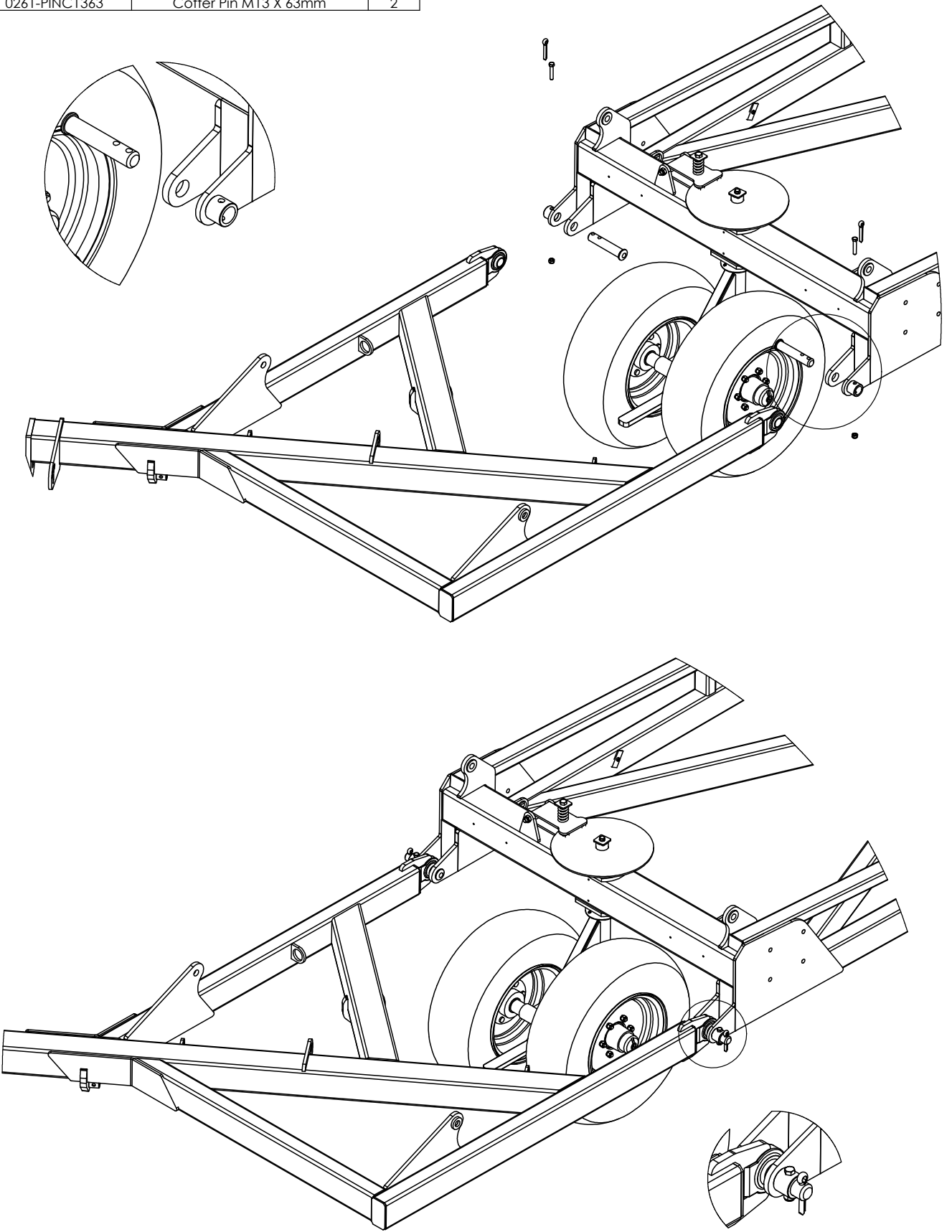


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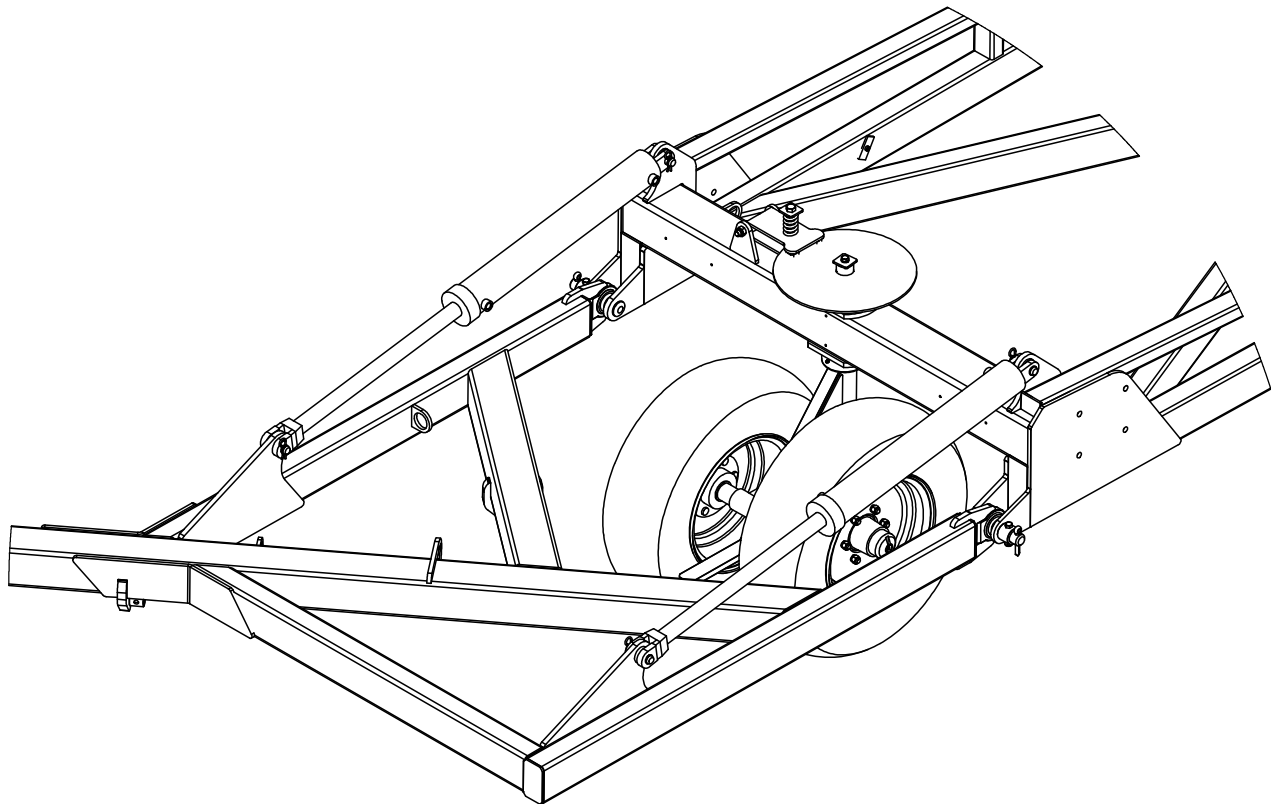
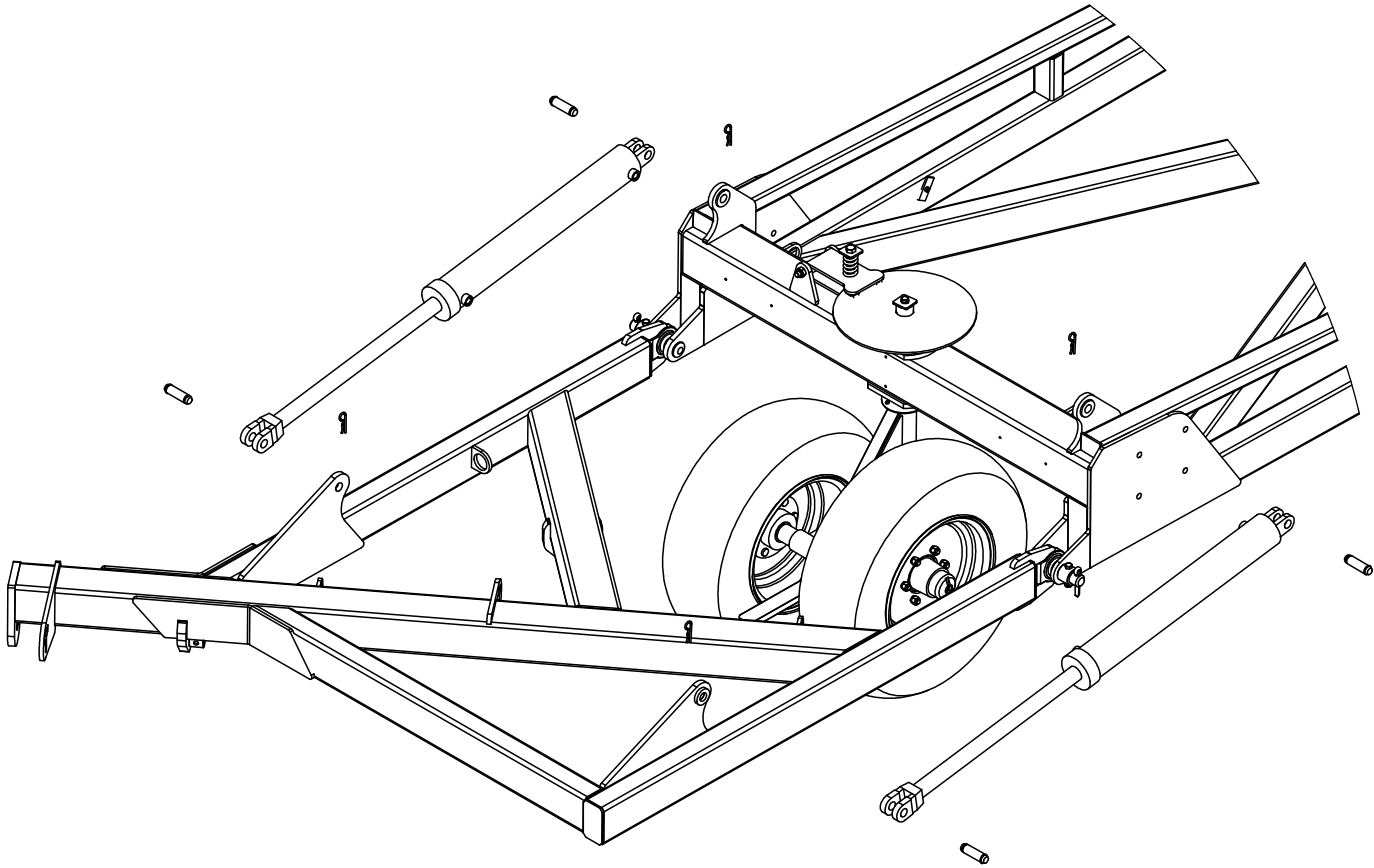
| PART NUMBER | DESCRIPTION | QTY. |
|---------------|---------------------------------|------|
| 0733-K503T66S | Axle 2"R 3T 6 on 6" PCD 330 OHF | 2 |
| 0211-1690 | M16 x 90 8.8 zp Bolt | 2 |
| 0221-NYL16 | M16 Nyloc Nut | 2 |
| 0751-11L15 | 11L15F3 Tyre on Rim | 2 |



| 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 |

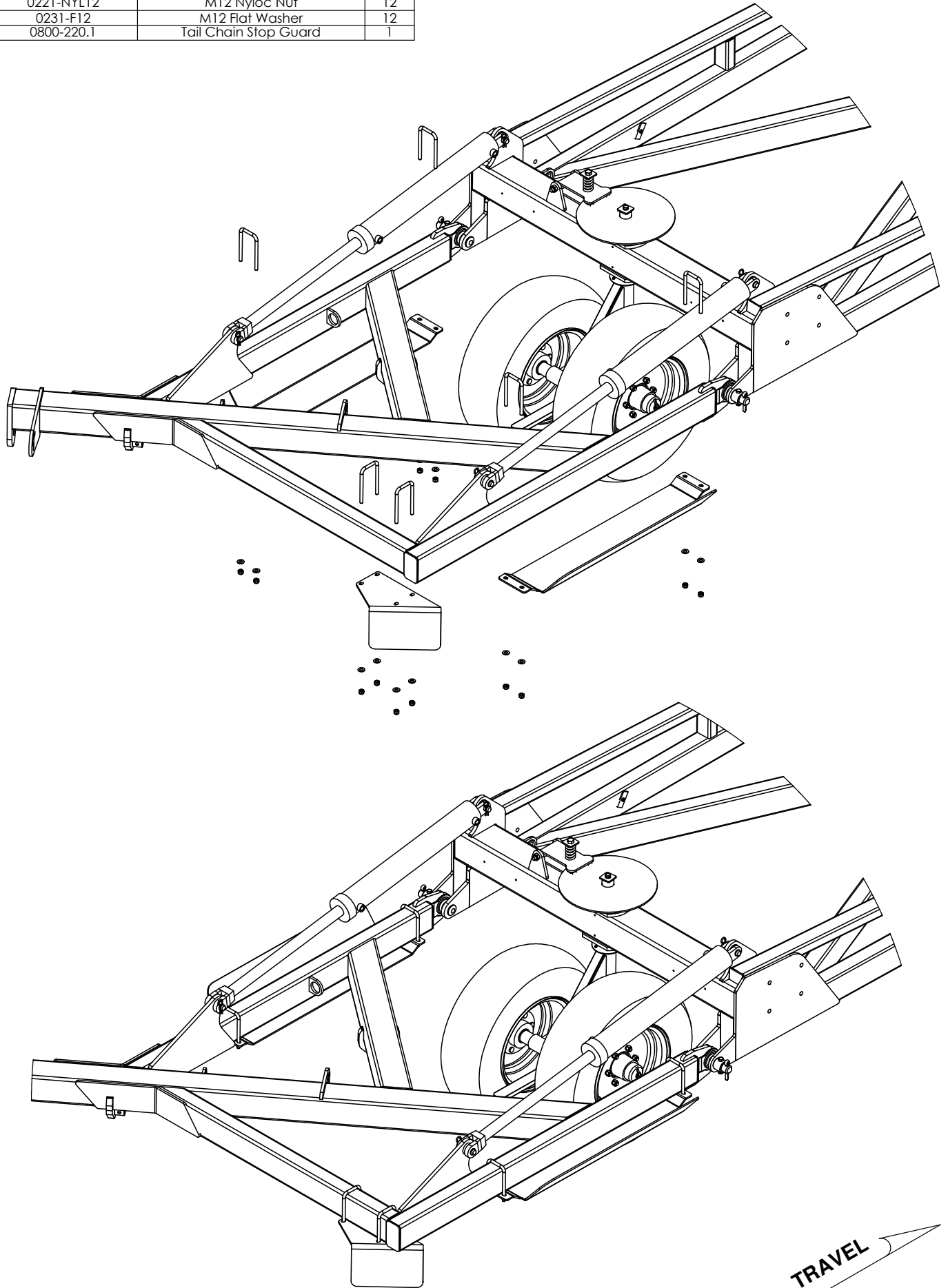


| PART NUMBER | DESCRIPTION | QTY. |
|---------------|-----------------------------------|------|
| 0801-44082938 | Clevis Pin 1" x 75mm | 4 |
| 0511-RCLIP4 | R Clip 4mm | 4 |
| 0311-2958 | Hyd Cylinder 3.5" x 24" Side Port | 2 |

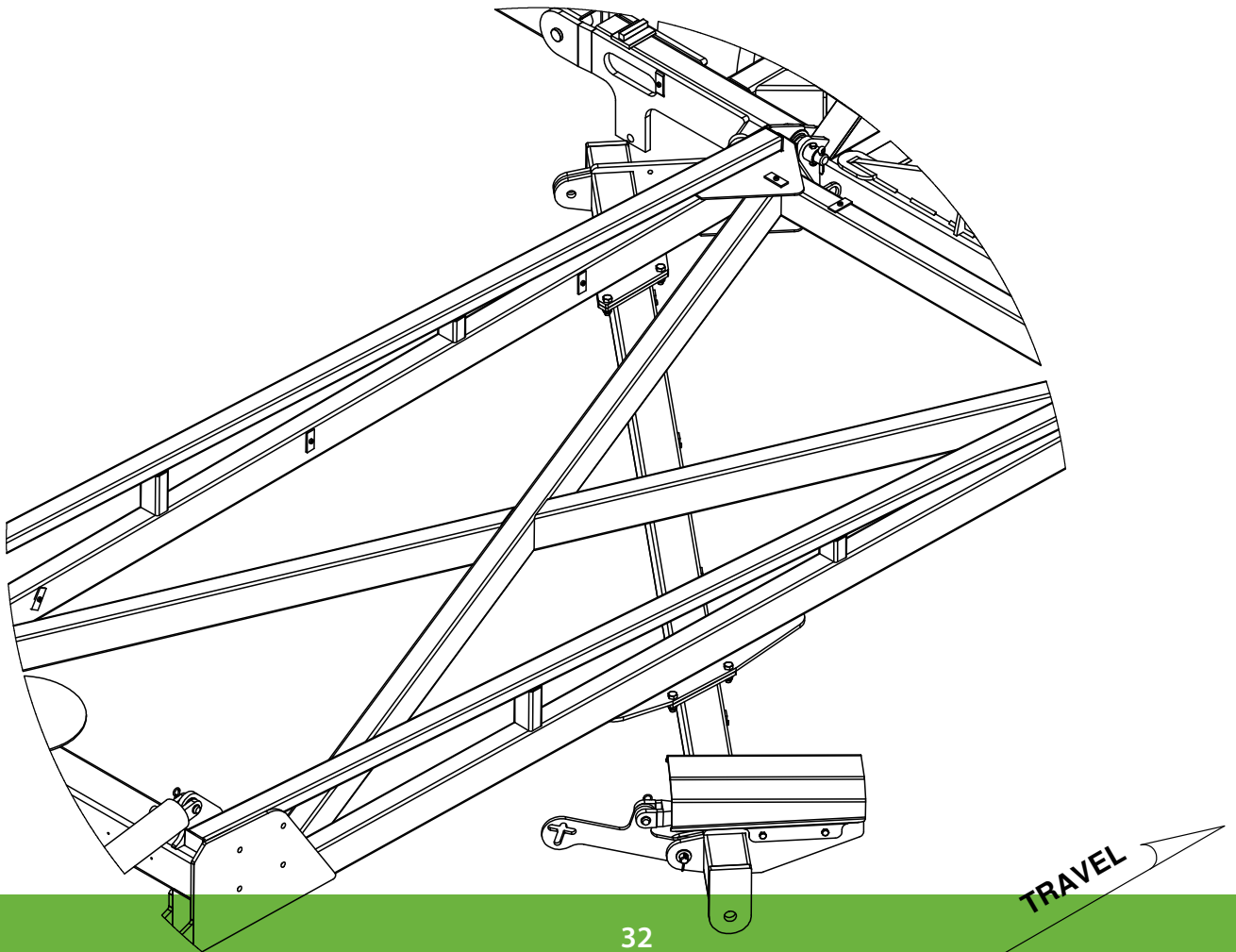
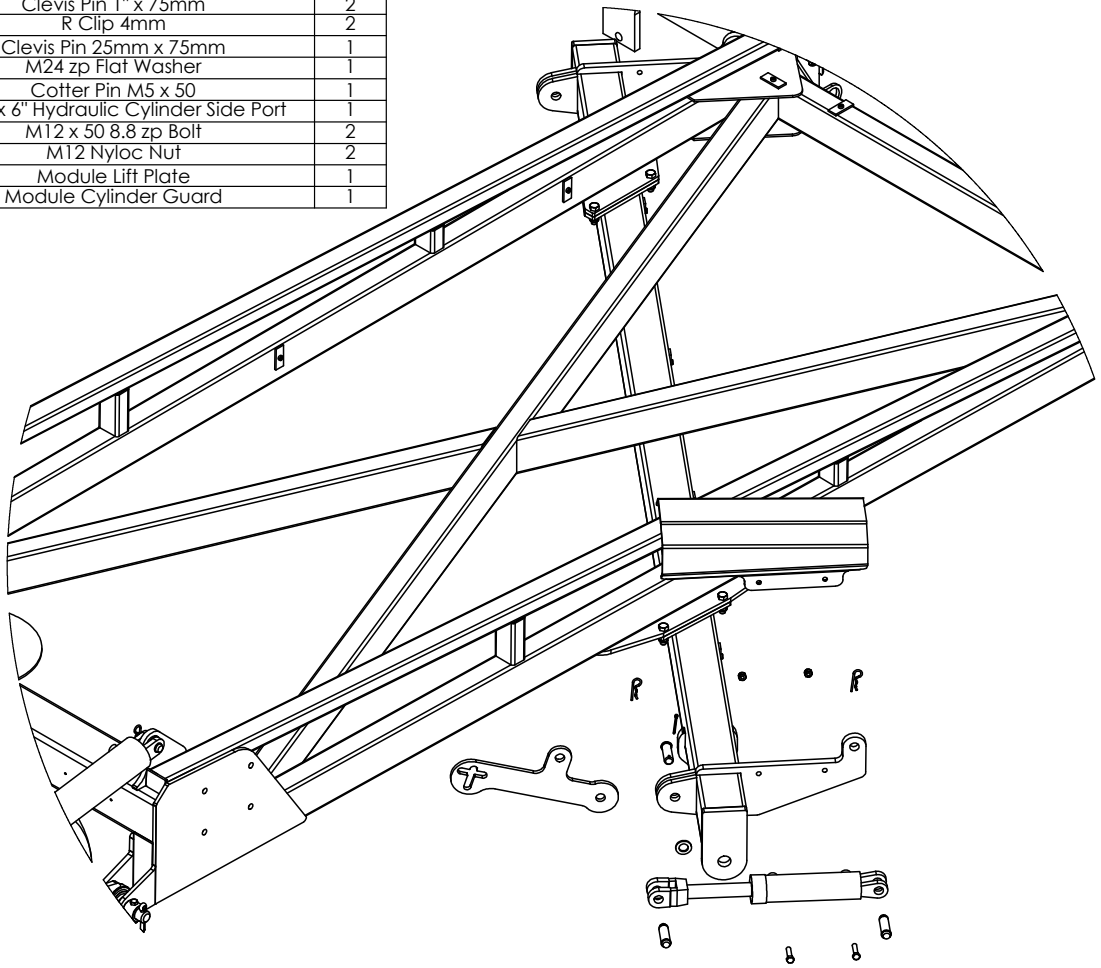


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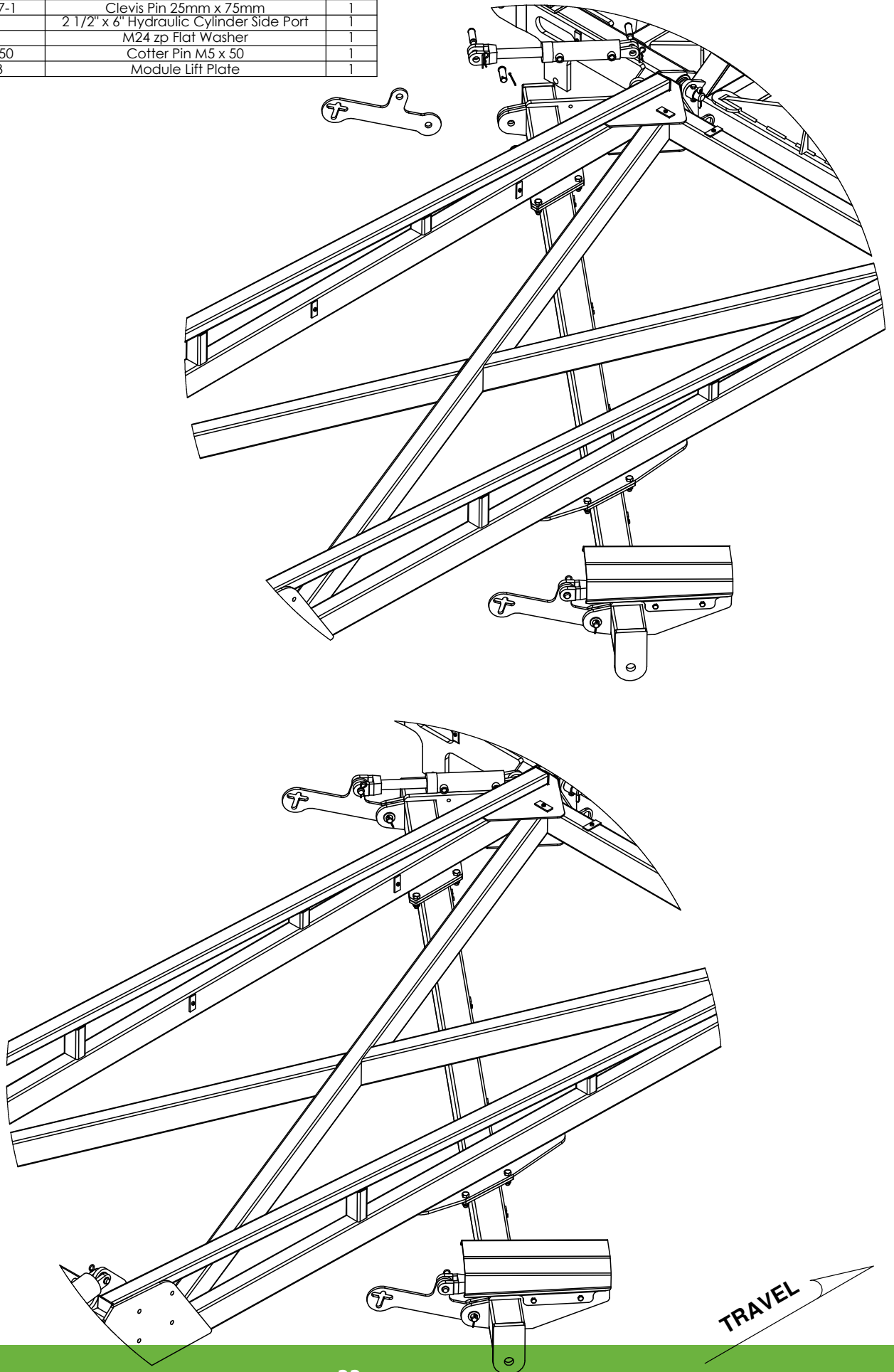
| PART NUMBER | DESCRIPTION | QTY. |
|--------------|-----------------------|------|
| 0800-235 | Rear Tail Guard | 2 |
| 0271-1215577 | U-Bolt M12 x 155 x 77 | 6 |
| 0221-NYL12 | M12 Nyloc Nut | 12 |
| 0231-F12 | M12 Flat Washer | 12 |
| 0800-220.1 | Tail Chain Stop Guard | 1 |



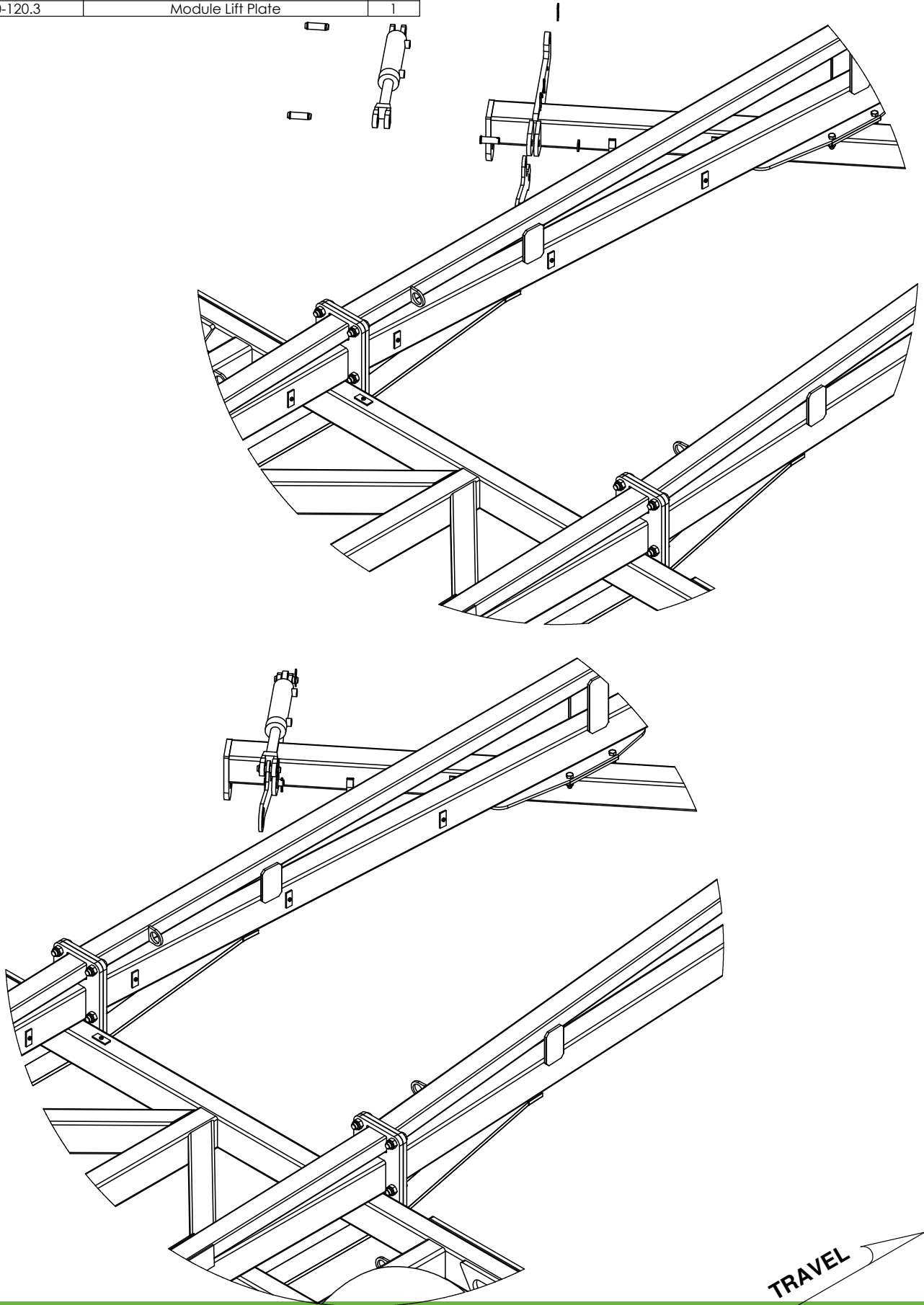
| PART NUMBER | DESCRIPTION | QTY. |
|----------------|--|------|
| 0801-44082938 | Clevis Pin 1" x 75mm | 2 |
| 0511-RCLIP4 | R Clip 4mm | 2 |
| 0801-KE-0307-1 | Clevis Pin 25mm x 75mm | 1 |
| 0231-F24 | M24 zp Flat Washer | 1 |
| 0261-PINC550 | Cotter Pin M5 x 50 | 1 |
| 0311-5041 | 2 1/2" x 6" Hydraulic 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 |



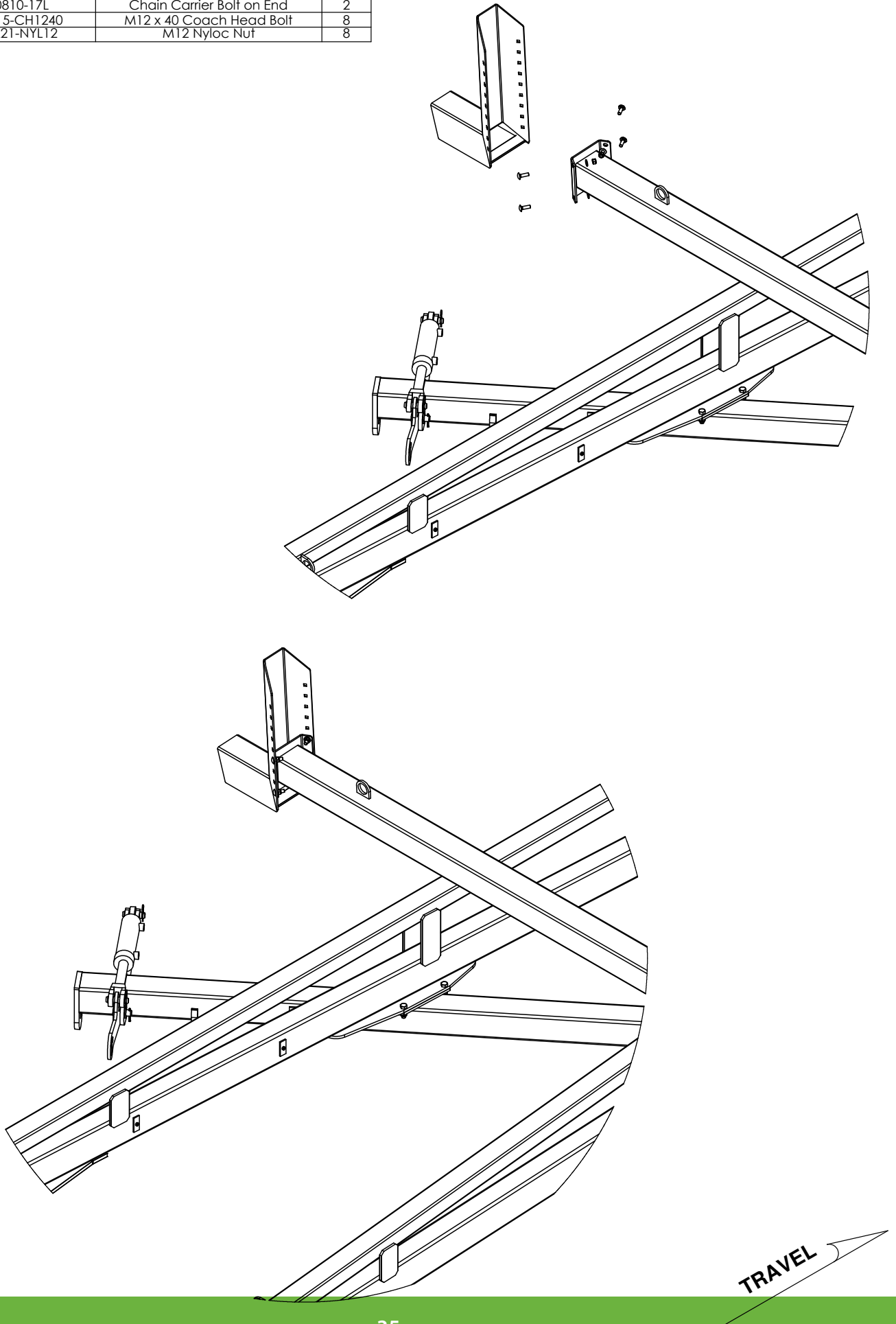
| PART NUMBER | DESCRIPTION | QTY. |
|----------------|--|------|
| 0801-44082938 | Clevis Pin 1" x 75mm | 2 |
| 0511-RCLIP4 | R Clip 4mm | 2 |
| 0801-KE-0307-1 | Clevis Pin 25mm x 75mm | 1 |
| 0311-5041 | 2 1/2" x 6" Hydraulic Cylinder Side Port | 1 |
| 0231-F24 | M24 zp Flat Washer | 1 |
| 0261-PINC550 | Cotter Pin M5 x 50 | 1 |
| 0800-120.3 | Module Lift Plate | 1 |



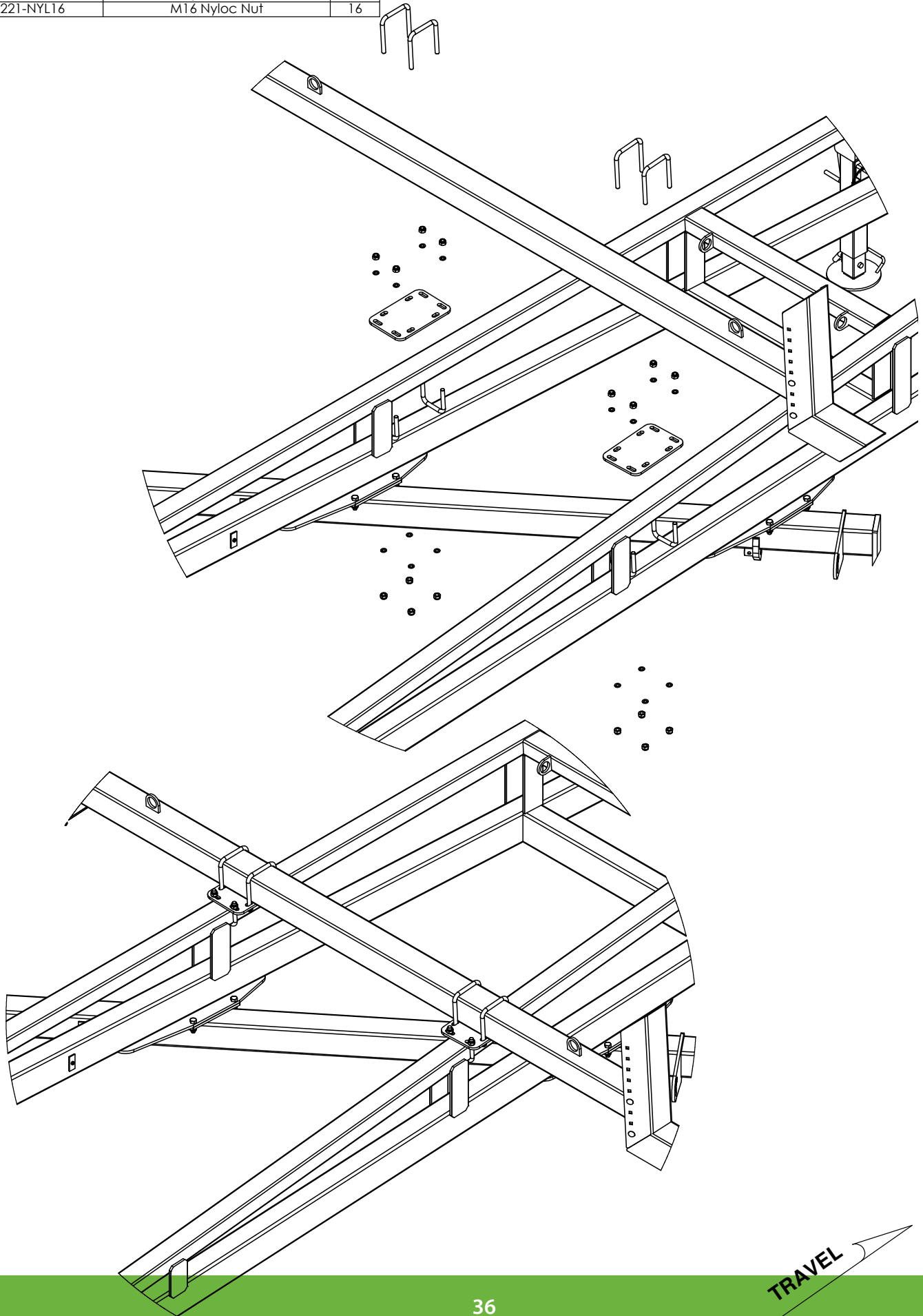
| PART NUMBER | DESCRIPTION | QTY. |
|----------------|--|------|
| 0801-44082938 | Clevis Pin 1" x 75mm | 2 |
| 0511-RCLIP4 | R Clip 4mm | 2 |
| 0801-KE-0307-1 | Clevis Pin 25mm x 75mm | 1 |
| 0311-5041 | 2 1/2" x 6" Hydraulic Cylinder Side Port | 1 |
| 0231-F24 | M24 zp Flat Washer | 1 |
| 0261-PINC550 | Cotter Pin M5 x 50 | 1 |
| 0800-120.3 | Module Lift Plate | 1 |



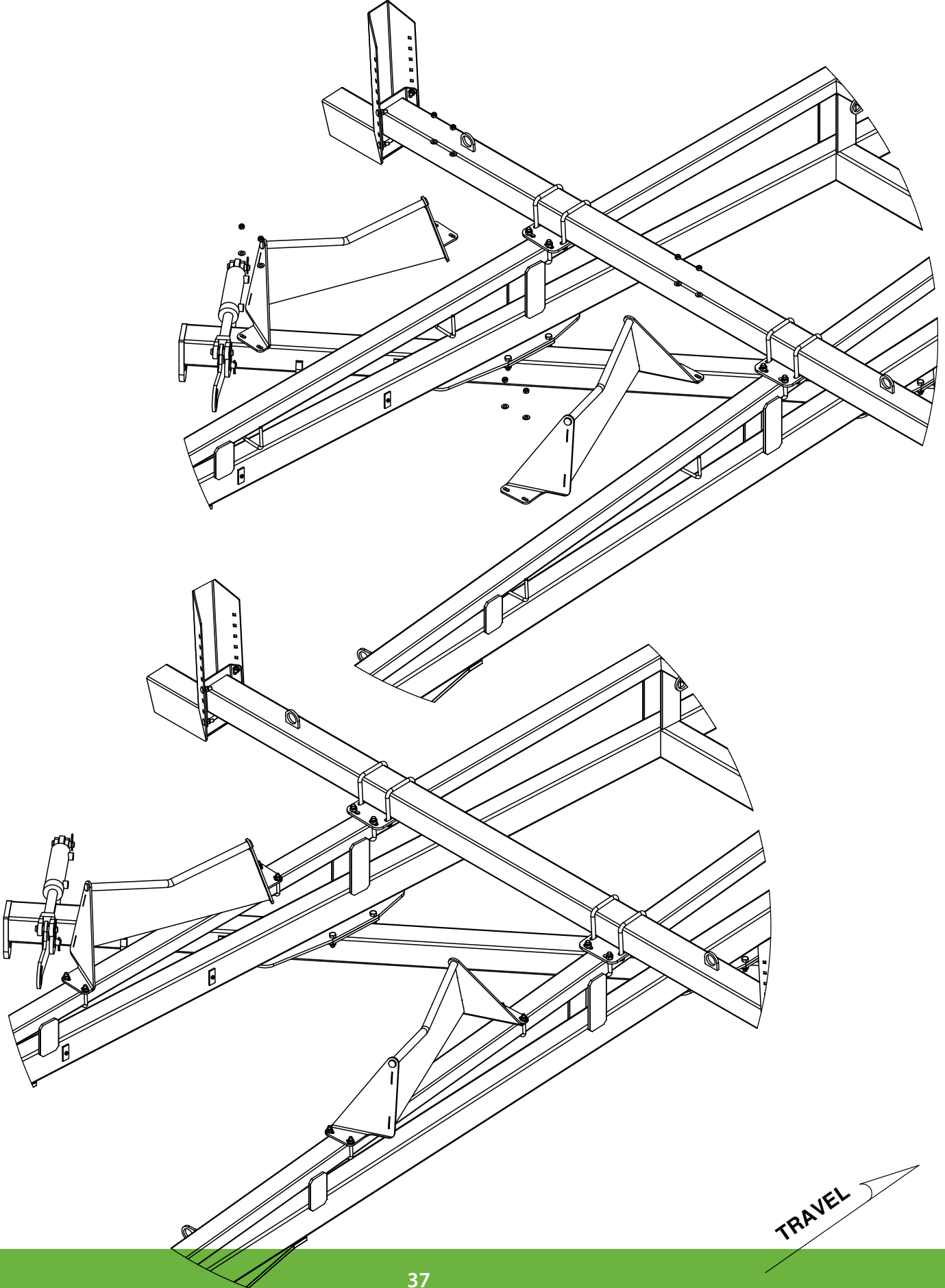
| PART NUMBER | DESCRIPTION | QTY. |
|-------------|---------------------------|------|
| 0231-F12 | M12 Flat Washer | 8 |
| 0810-17-45 | 45° Chain Carrier Beam | 1 |
| 0810-17L | Chain Carrier Bolt on End | 2 |
| 0215-CH1240 | M12 x 40 Coach Head Bolt | 8 |
| 0221-NYL12 | M12 Nyloc Nut | 8 |



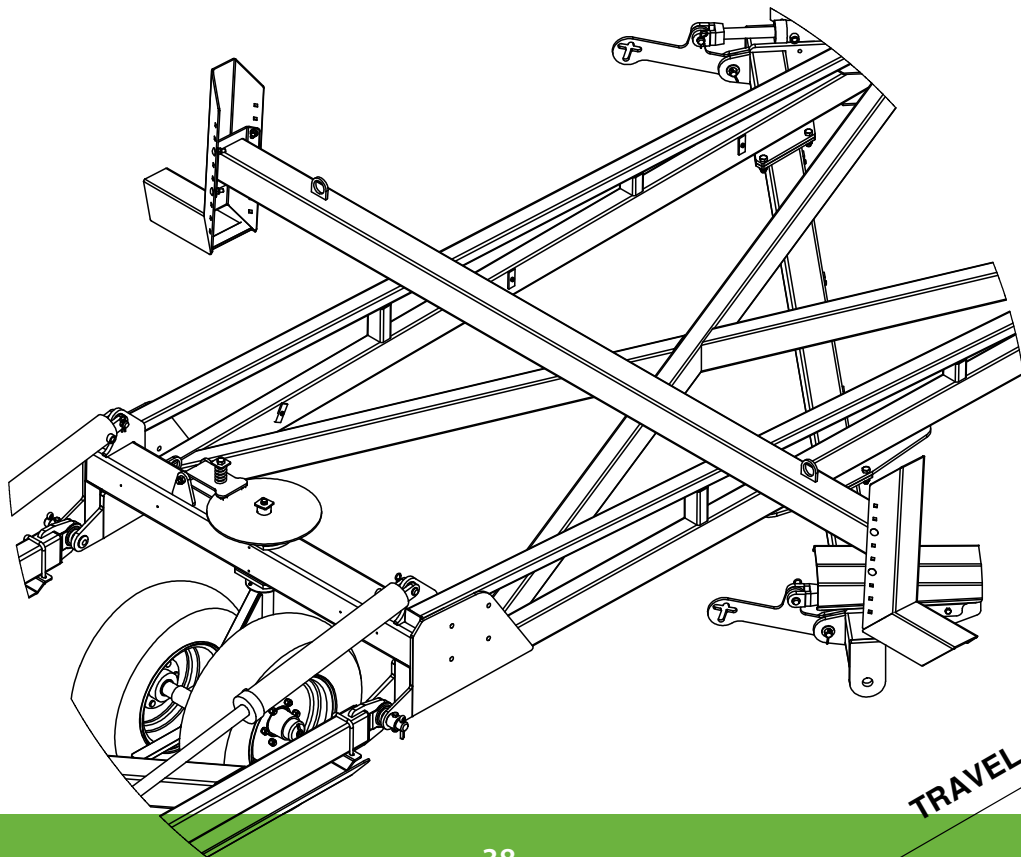
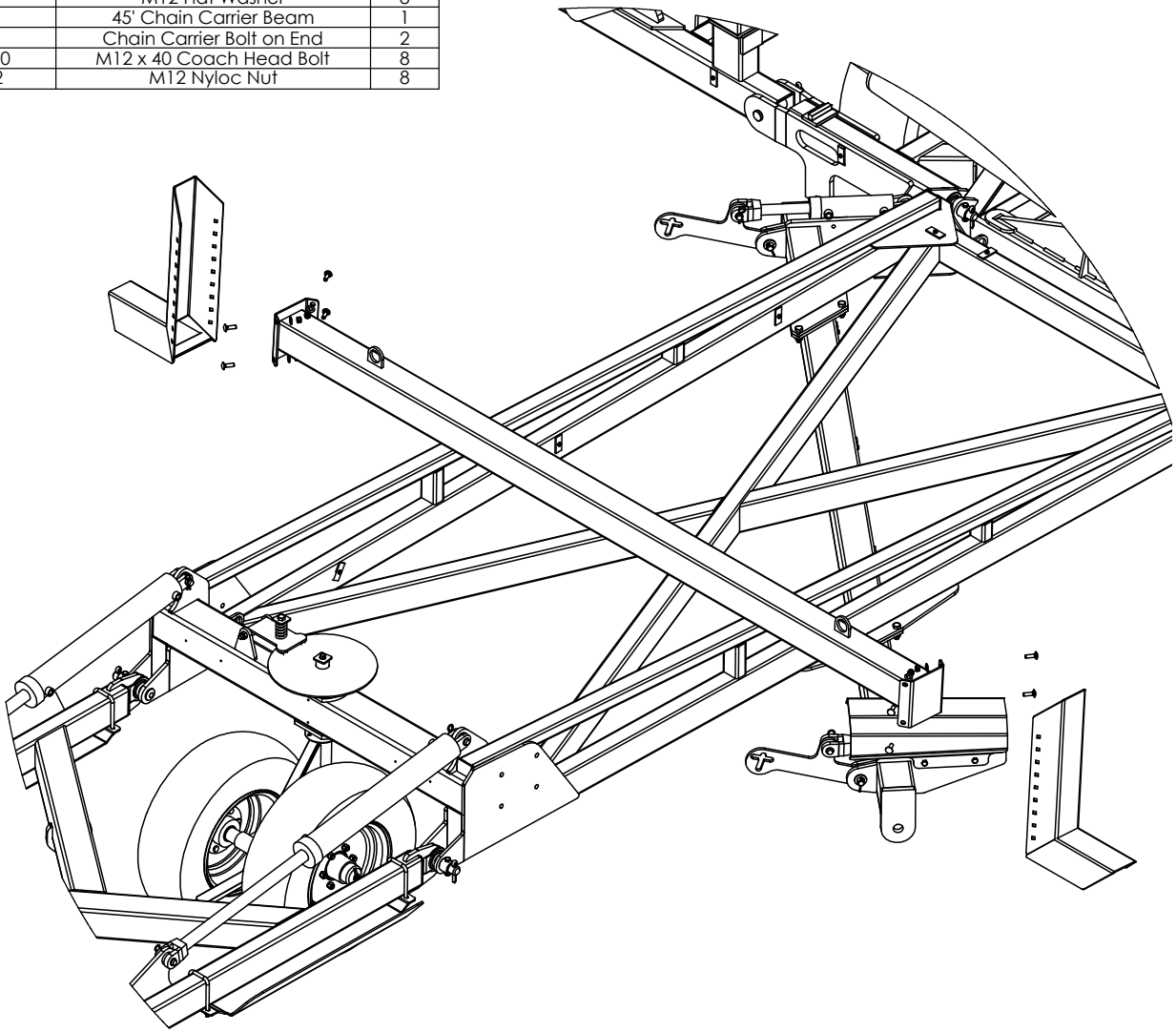
| PART NUMBER | DESCRIPTION | QTY. |
|---------------|---------------------------|------|
| 0800-139.1 | Chain Carrier Mount Plate | 2 |
| 0271-16112104 | U-Bolt M16 x 112 x 104 | 4 |
| 0271-16160127 | U-Bolt M16 x 160 x 127 | 4 |
| 0231-F12 | M12 zp Flat Washer | 16 |
| 0221-NYL16 | M16 Nyloc Nut |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



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

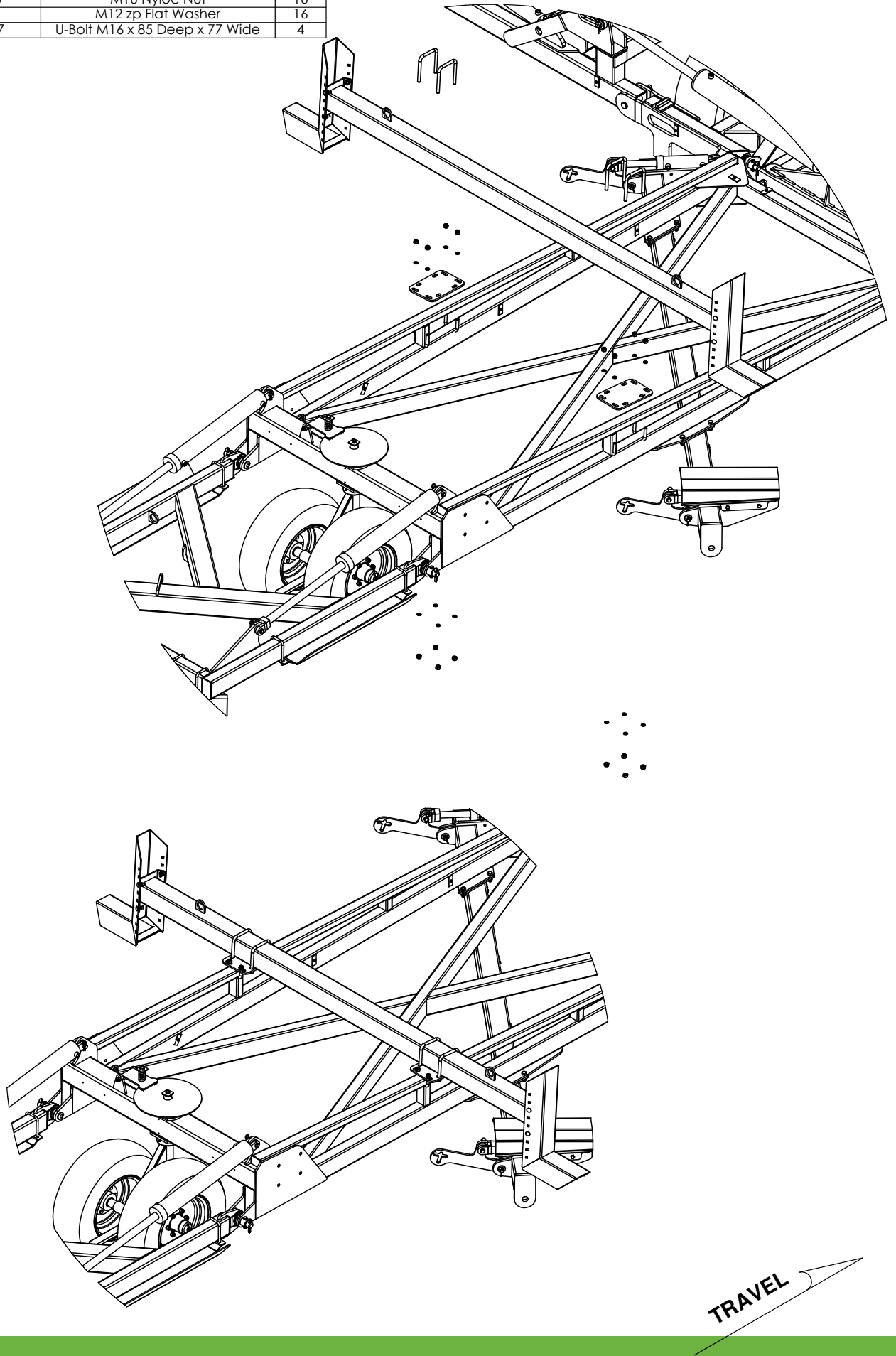


| PART NUMBER | DESCRIPTION | QTY. |
|-------------|---------------------------|------|
| 0231-F12 | M12 Flat Washer | 8 |
| 0810-17-45 | 45' Chain Carrier Beam | 1 |
| 0810-17L | Chain Carrier Bolt on End | 2 |
| 0215-CH1240 | M12 x 40 Coach Head Bolt | 8 |
| 0221-NYL12 | M12 Nyloc Nut | 8 |

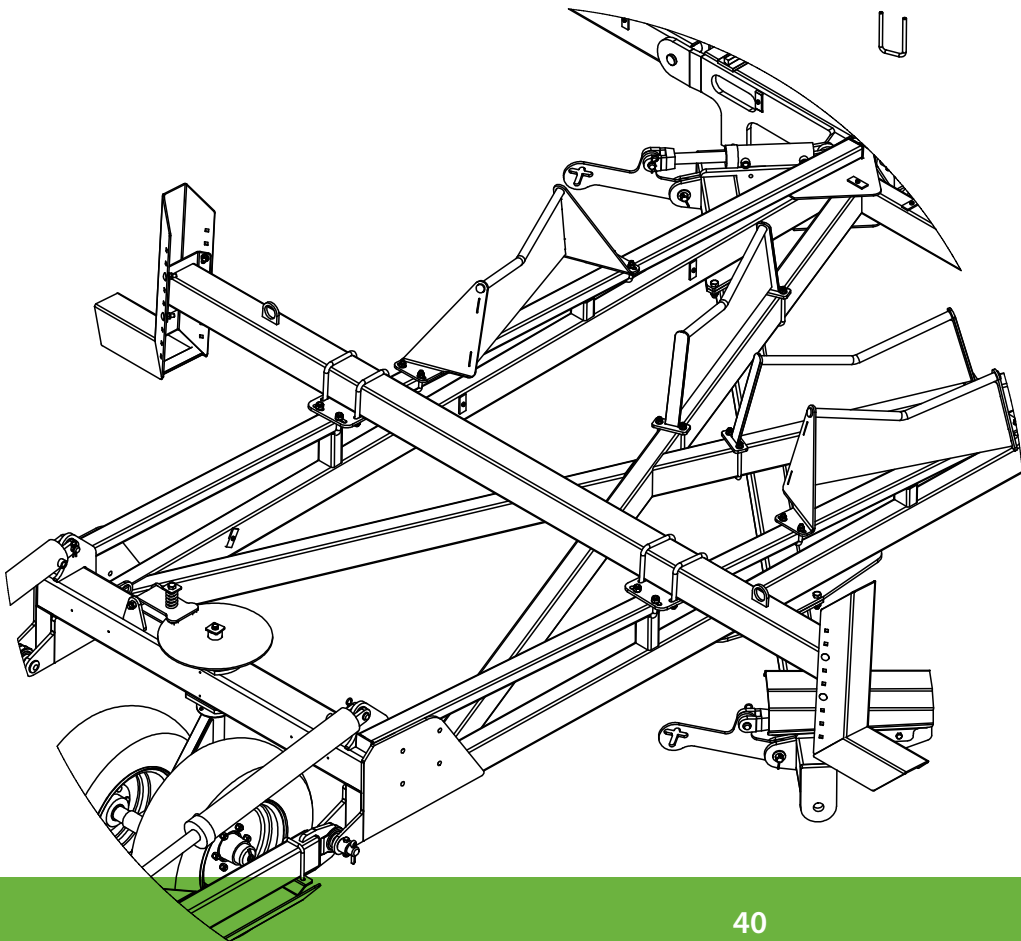
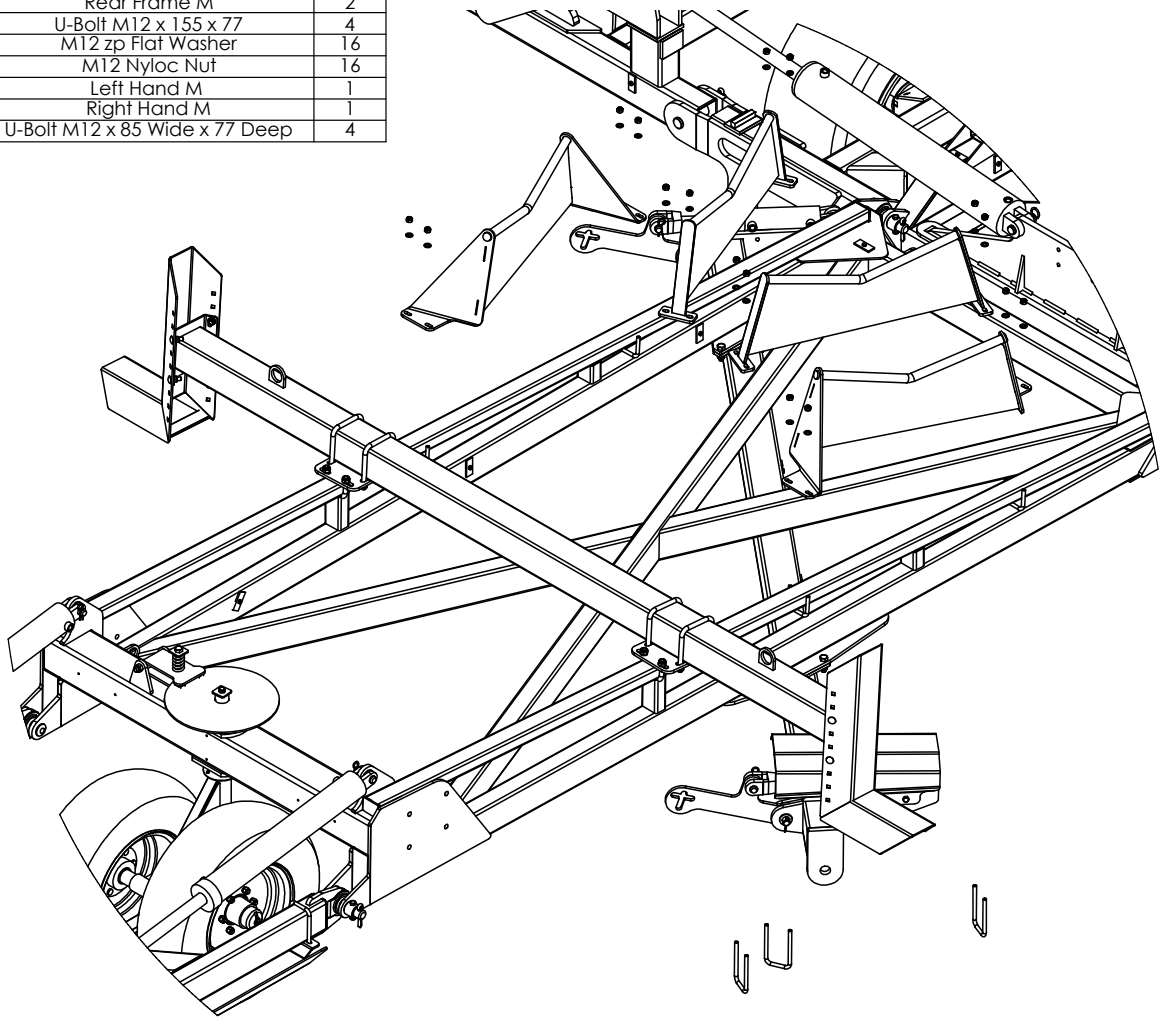


TRAVEL

| 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 |
| 0231-F12 | M12 zp Flat Washer | 16 |
| 0271-168577 | U-Bolt M16 x 85 Deep x 77 Wide | 4 |

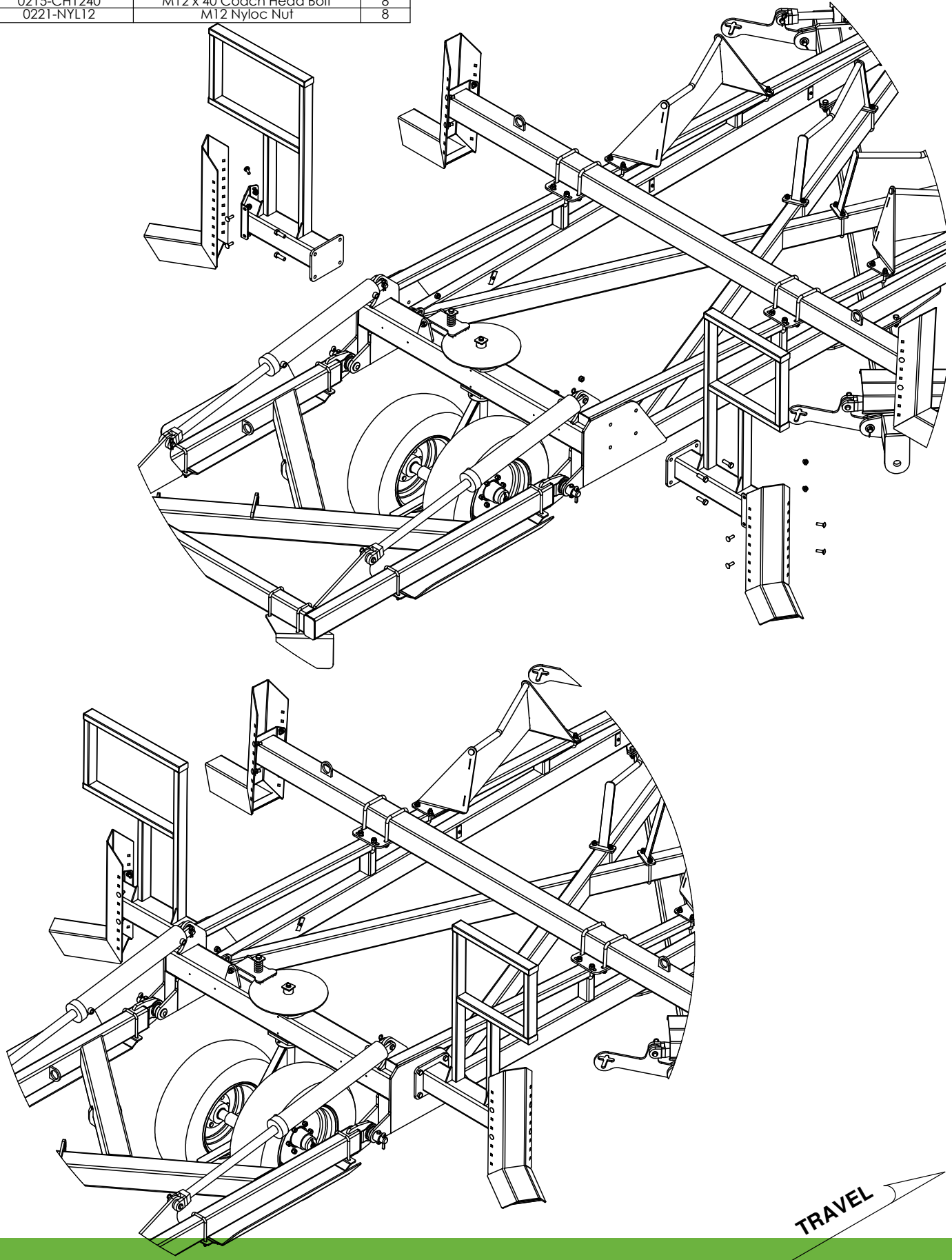


| PART NUMBER | DESCRIPTION | QTY. |
|--------------|--------------------------------|------|
| PC10-19 | Rear Frame M | 2 |
| 0271-1215577 | U-Bolt M12 x 155 x 77 | 4 |
| 0231-F12 | M12 zp Flat Washer | 16 |
| 0221-NYL12 | M12 Nyloc Nut | 16 |
| 0810-19L | Left Hand M | 1 |
| 0810-18R | Right Hand M | 1 |
| 0271-128577 | U-Bolt M12 x 85 Wide x 77 Deep | 4 |

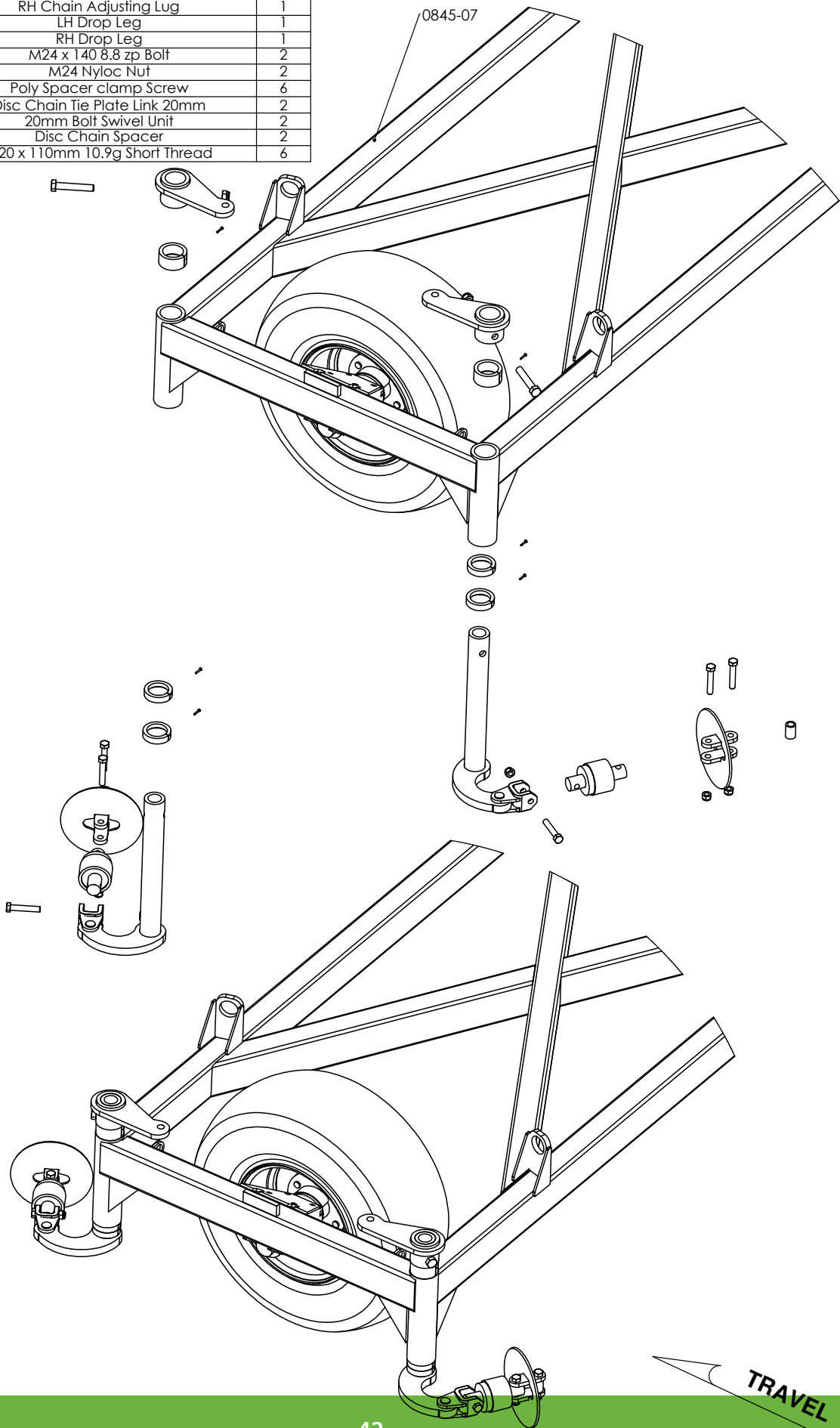


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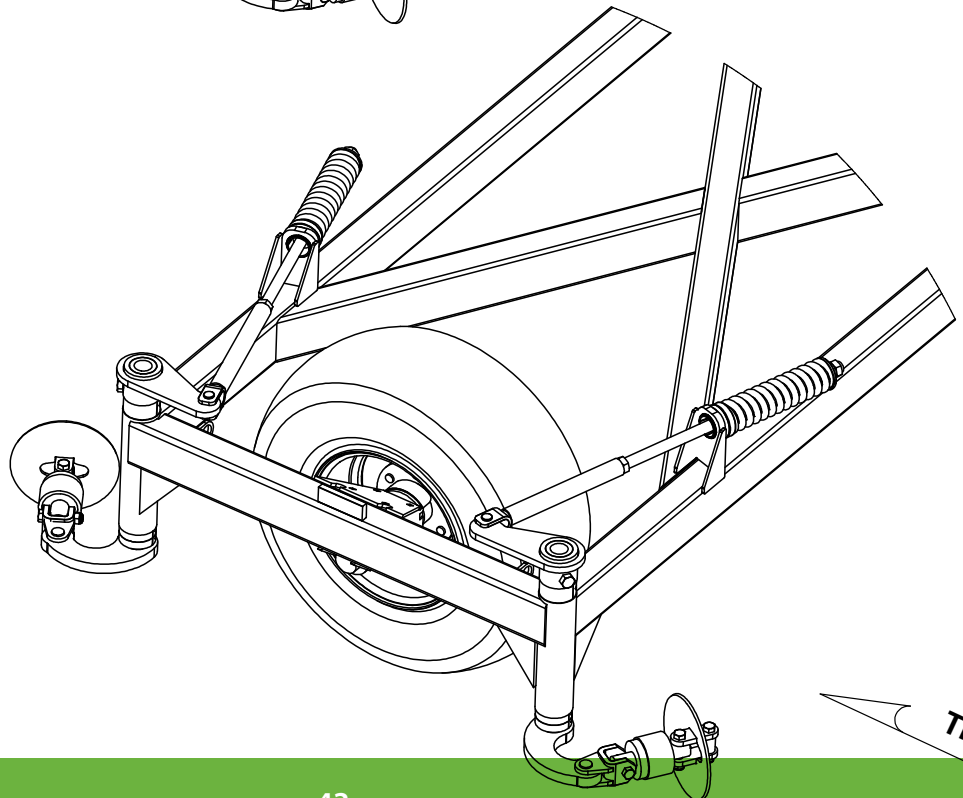
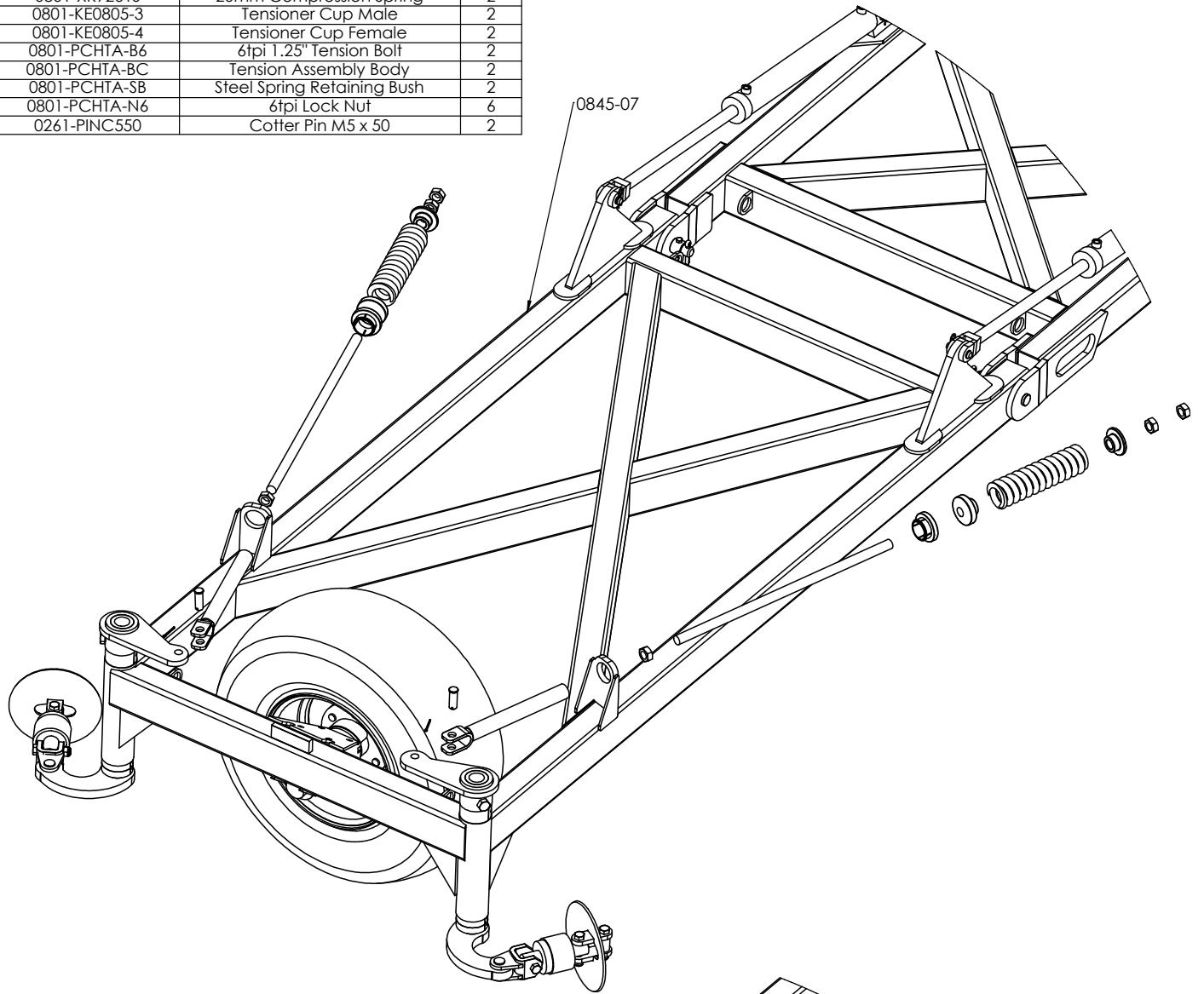
| PART NUMBER | DESCRIPTION | QTY. |
|-------------|---------------------------------|------|
| 0810-109R | RH Outrigger With OS Sign Frame | 1 |
| 0810-109L | LH Outrigger With OS Sign Frame | 1 |
| 0231-F12 | M12 Flat Washer | 8 |
| 0810-17L | Chain Carrier Bolt on End | 2 |
| 0211-1650 | M16 x 50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



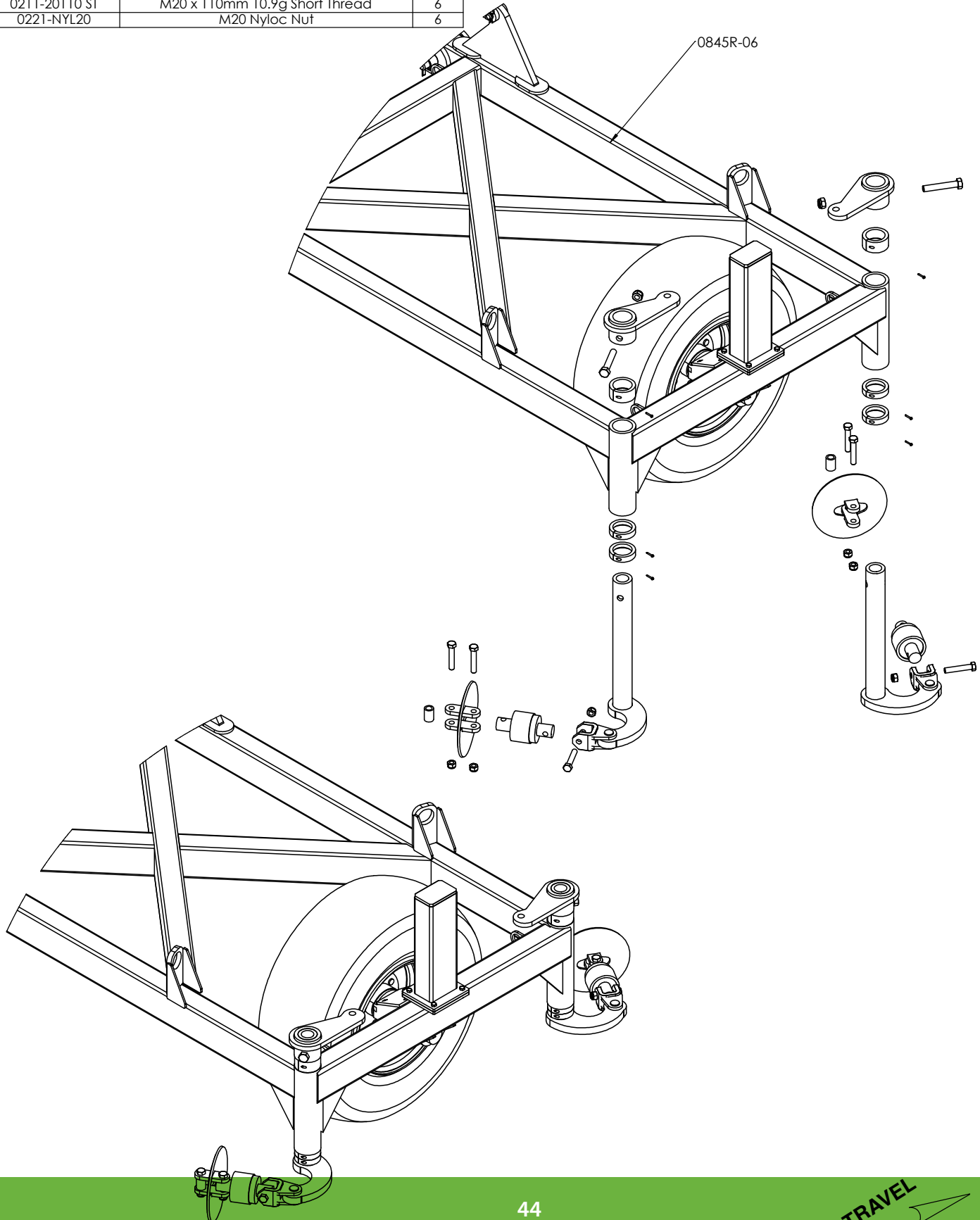
| PART NUMBER | DESCRIPTION | QTY. |
|-----------------|--------------------------------|------|
| 0221-NYL20 | M20 Nyloc Nut | 6 |
| 0801-PS50 | 50mm Drop Leg Spacer | 2 |
| 0801-PS25 | 25mm Drop leg Spacer | 4 |
| 0810-26 | LH Chain Adjusting Lug | 1 |
| 0810-27 | RH Chain Adjusting Lug | 1 |
| 0810-24 | LH Drop Leg | 1 |
| 0810-25 | RH Drop Leg | 1 |
| 0211-24140 | M24 x 140 8.8 zp Bolt | 2 |
| 0221-NYL24 | M24 Nyloc Nut | 2 |
| 0243-STSG1.25ZP | Poly Spacer clamp Screw | 6 |
| 0802-DCTP-20 | Disc Chain Tie Plate Link 20mm | 2 |
| 0802-PCHB55 | 20mm Bolt Swivel Unit | 2 |
| 0801-PCDCS55 | Disc Chain Spacer | 2 |
| 0211-20110 ST | M20 x 110mm 10.9g Short Thread | 6 |



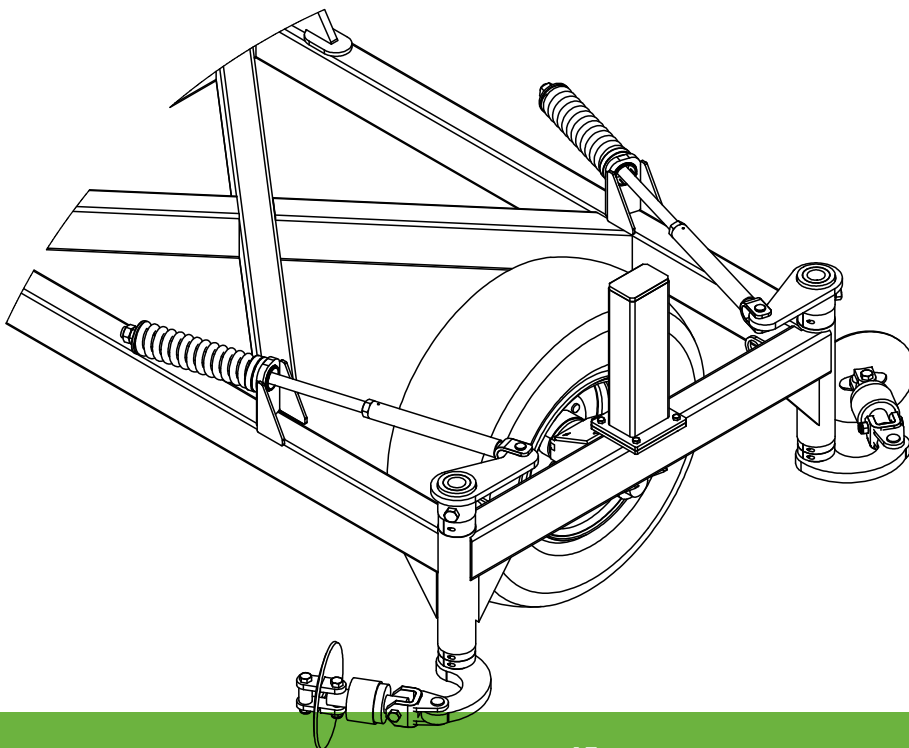
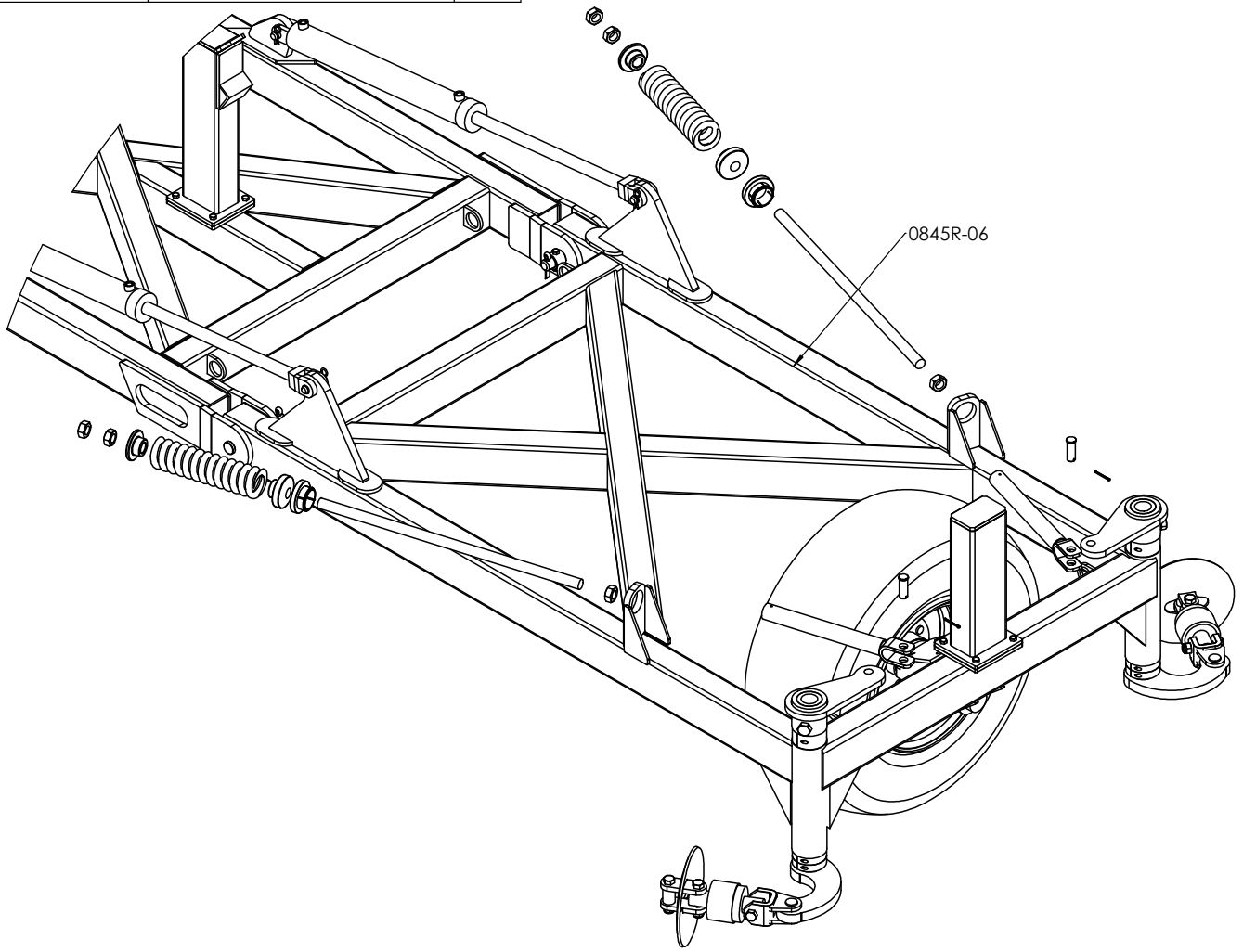
| PART NUMBER | DESCRIPTION | QTY. |
|----------------|-----------------------------|------|
| 0801-KE-0307-1 | Clevis Pin 25mm x 75mm | 2 |
| 0801-XK9261S | 20mm Compression Spring | 2 |
| 0801-KE0805-3 | Tensioner Cup Male | 2 |
| 0801-KE0805-4 | Tensioner Cup Female | 2 |
| 0801-PCHTA-B6 | 6tpi 1.25" 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-PINC550 | Cotter Pin M5 x 50 | 2 |



| 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 | LH Drop Leg | 1 |
| 0810-25 | RH Drop Leg | 1 |
| 0243-ST58G1.25ZP | Poly Spacer clamp Screw | 6 |
| 0802-DCTP-20 | Disc Chain Tie Plate Link 20mm | 2 |
| 0802-PCHB55 | 20mm Bolt Swivel Unit | 2 |
| 0801-PCDCS55 | Disc Chain Spacer | 2 |
| 0211-24140 | M24 x 140 8.8 zp Bolt | 2 |
| 0221-NYL24 | M24 Nyloc Nut | 2 |
| 0211-20110 ST | M20 x 110mm 10.9g Short Thread | 6 |
| 0221-NYL20 | M20 Nyloc Nut | 6 |

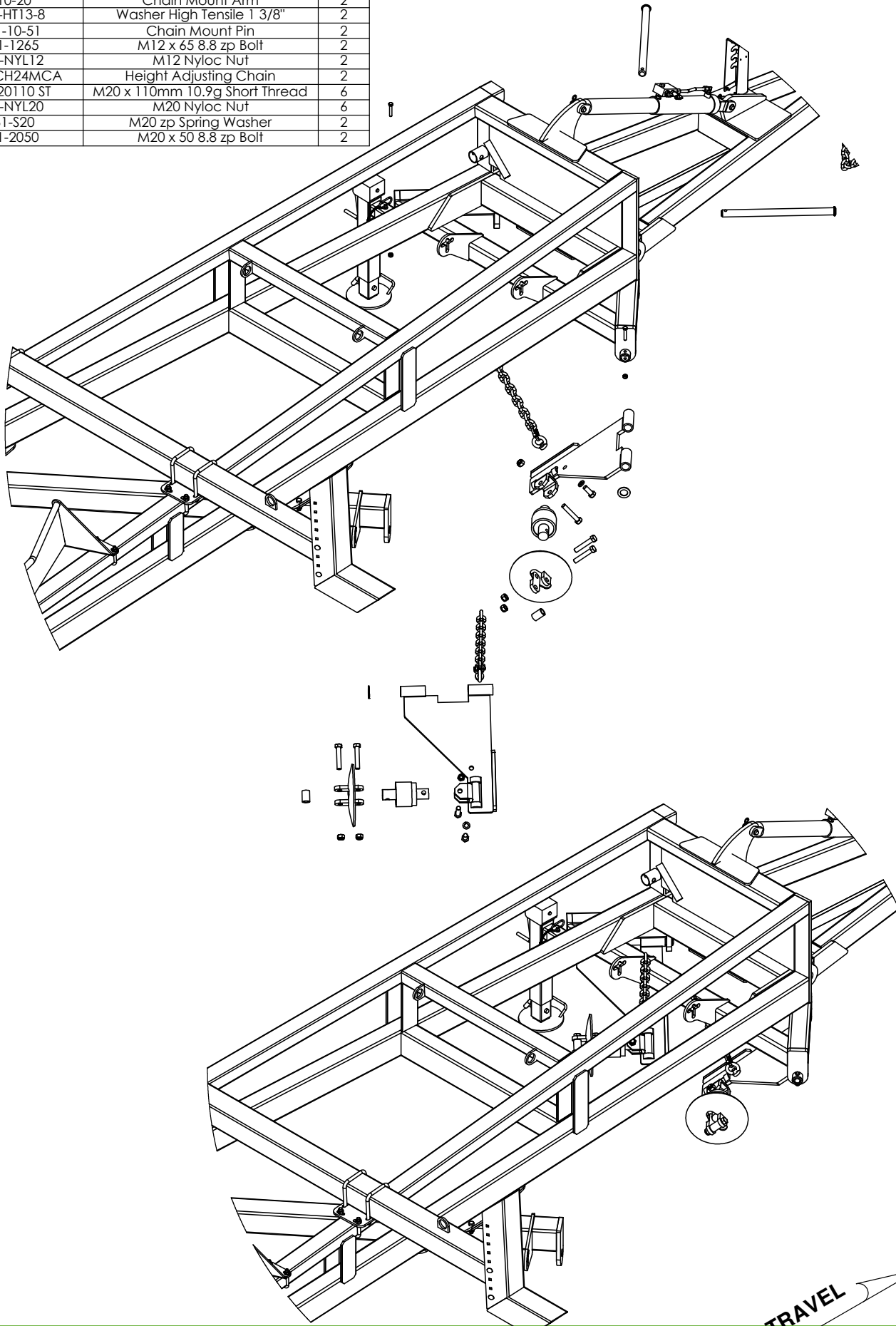


| PART NUMBER | DESCRIPTION | QTY. |
|----------------|-----------------------------|------|
| 0801-KE-0307-1 | Clevis Pin 25mm x 75mm | 2 |
| 0801-XK9261S | 20mm Compression Spring | 2 |
| 0801-KE0805-3 | Tensioner Cup Male | 2 |
| 0801-KE0805-4 | Tensioner Cup Female | 2 |
| 0801-PCHTA-B6 | 6tpi 1.25" 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-PINC550 | Cotter Pin M5 x 50 | 2 |

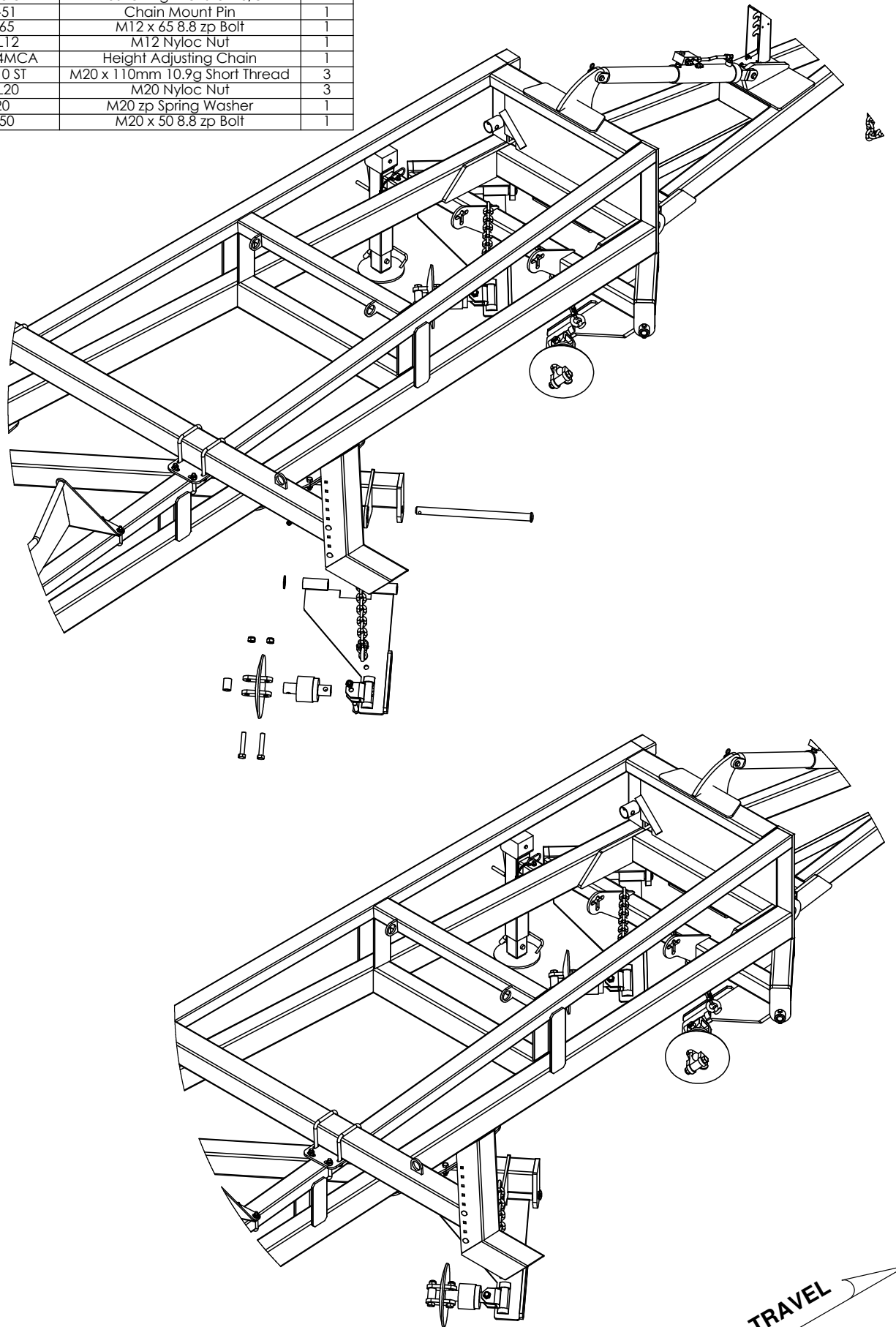


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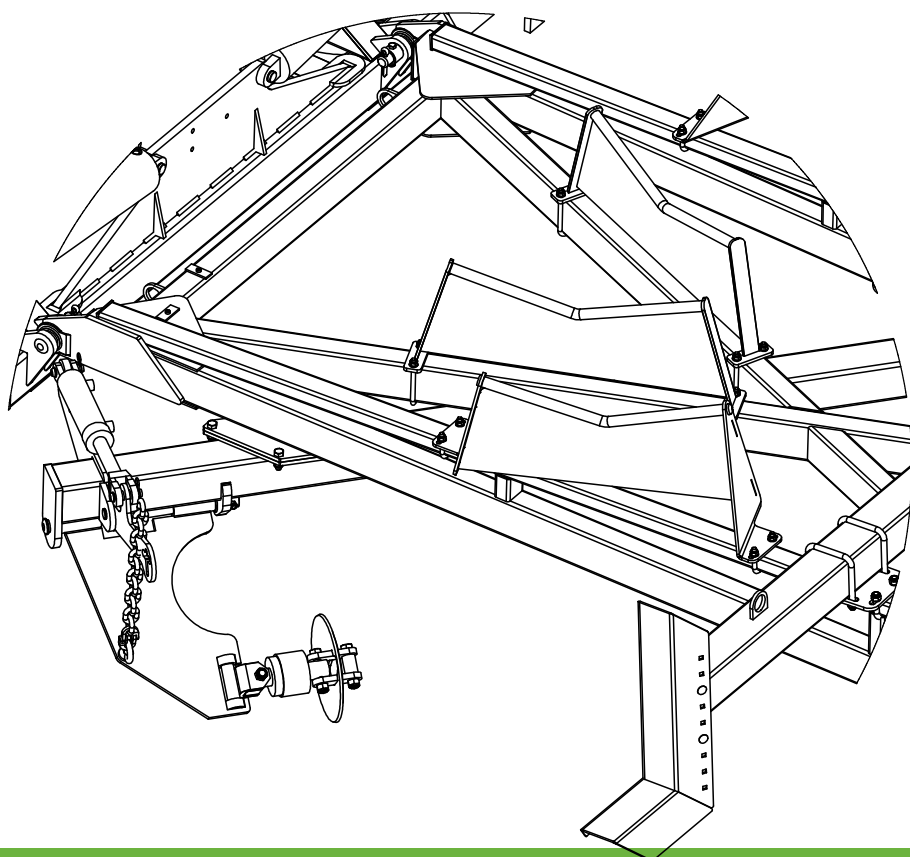
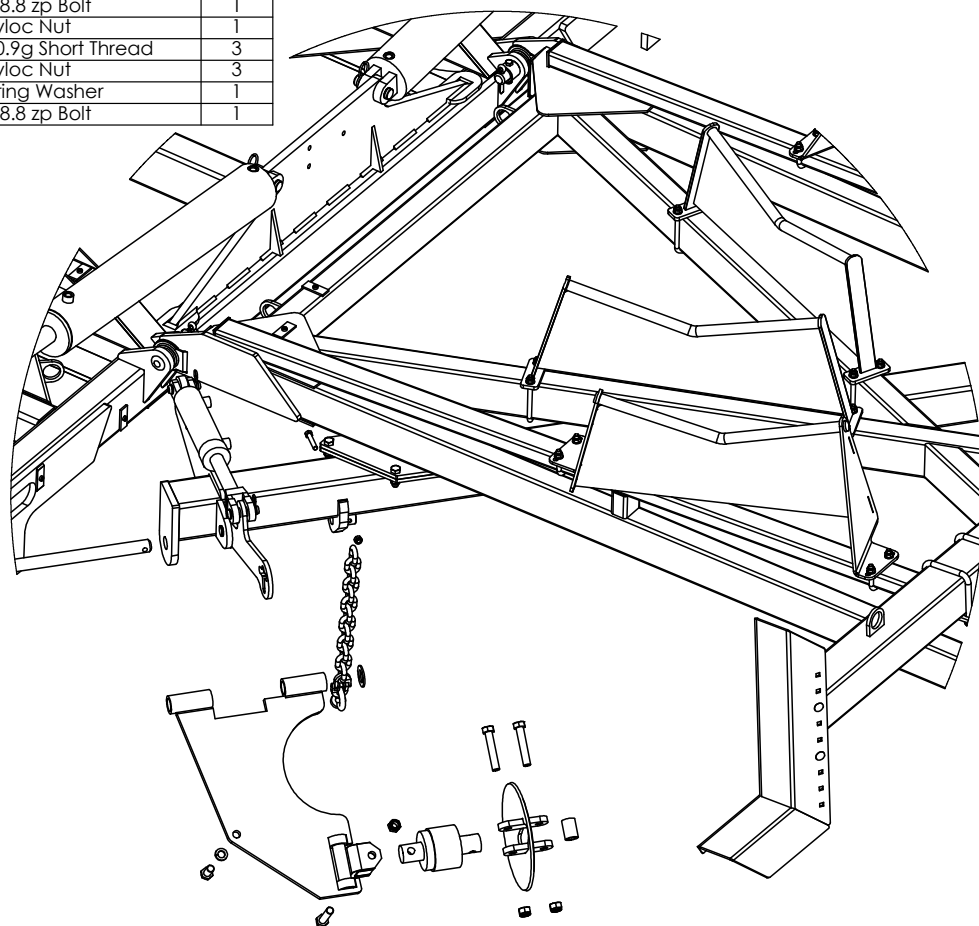
| PART NUMBER | DESCRIPTION | QTY. |
|---------------|--------------------------------|------|
| 0802-DCTP-20 | Disc Chain Tie Plate Link 20mm | 2 |
| 0802-PCHB55 | 20mm Bolt Swivel Unit | 2 |
| 0801-PCDCS55 | Disc Chain Spacer | 2 |
| 0810-20 | Chain Mount Arm | 2 |
| 0232-HT13-8 | Washer High Tensile 1 3/8" | 2 |
| 0801-10-51 | Chain Mount Pin | 2 |
| 0211-1265 | M12 x 65 8.8 zp Bolt | 2 |
| 0221-NYL12 | M12 Nyloc Nut | 2 |
| 0801-PCH24MCA | Height Adjusting Chain | 2 |
| 0211-20110 ST | M20 x 110mm 10.9g Short Thread | 6 |
| 0221-NYL20 | M20 Nyloc Nut | 6 |
| 0231-S20 | M20 zp Spring Washer | 2 |
| 0211-2050 | M20 x 50 8.8 zp Bolt | 2 |



| PART NUMBER | DESCRIPTION | QTY. |
|---------------|--------------------------------|------|
| 0802-DCTP-20 | Disc Chain Tie Plate Link 20mm | 1 |
| 0802-PCHB55 | 20mm Bolt Swivel Unit | 1 |
| 0801-PCDCS55 | Disc Chain Spacer | 1 |
| 0810-20 | Chain Mount Arm | 1 |
| 0232-HT13-8 | Washer High Tensile 1 3/8" | 1 |
| 0801-10-51 | Chain Mount Pin | 1 |
| 0211-1265 | M12 x 65 8.8 zp Bolt | 1 |
| 0221-NYL12 | M12 Nyloc Nut | 1 |
| 0801-PCH24MCA | Height Adjusting Chain | 1 |
| 0211-20110 ST | M20 x 110mm 10.9g Short Thread | 3 |
| 0221-NYL20 | M20 Nyloc Nut | 3 |
| 0231-S20 | M20 zp Spring Washer | 1 |
| 0211-2050 | M20 x 50 8.8 zp Bolt | 1 |

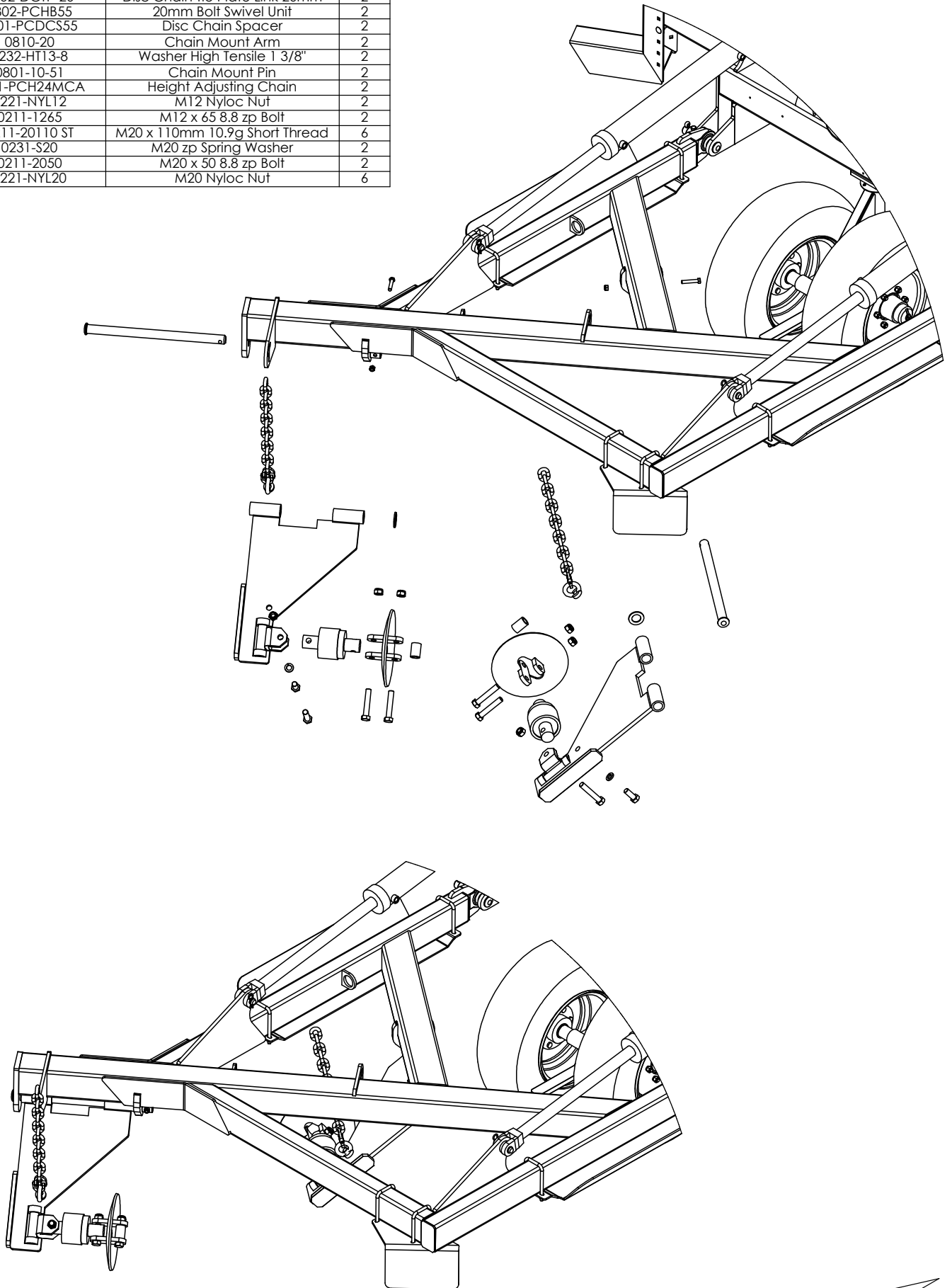


| PART NUMBER | DESCRIPTION | QTY. |
|---------------|--------------------------------------|------|
| 0802-DCTP-20 | Disc Chain Tie Plate Link 20mm | 1 |
| 0802-PCHB55 | 20mm Bolt Swivel Unit | 1 |
| 0801-PCDCS55 | Disc Chain Spacer | 1 |
| 0232-HT13-8 | Washer High Tensile 1 3/8" | 1 |
| 0801-10-51 | 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 |
| 0211-20110 ST | M20 x 110mm 10.9g Short Thread | 3 |
| 0221-NYL20 | M20 Nyloc Nut | 3 |
| 0231-S20 | M20 zp Spring Washer | 1 |
| 0211-2050 | M20 x 50 8.8 zp Bolt | 1 |

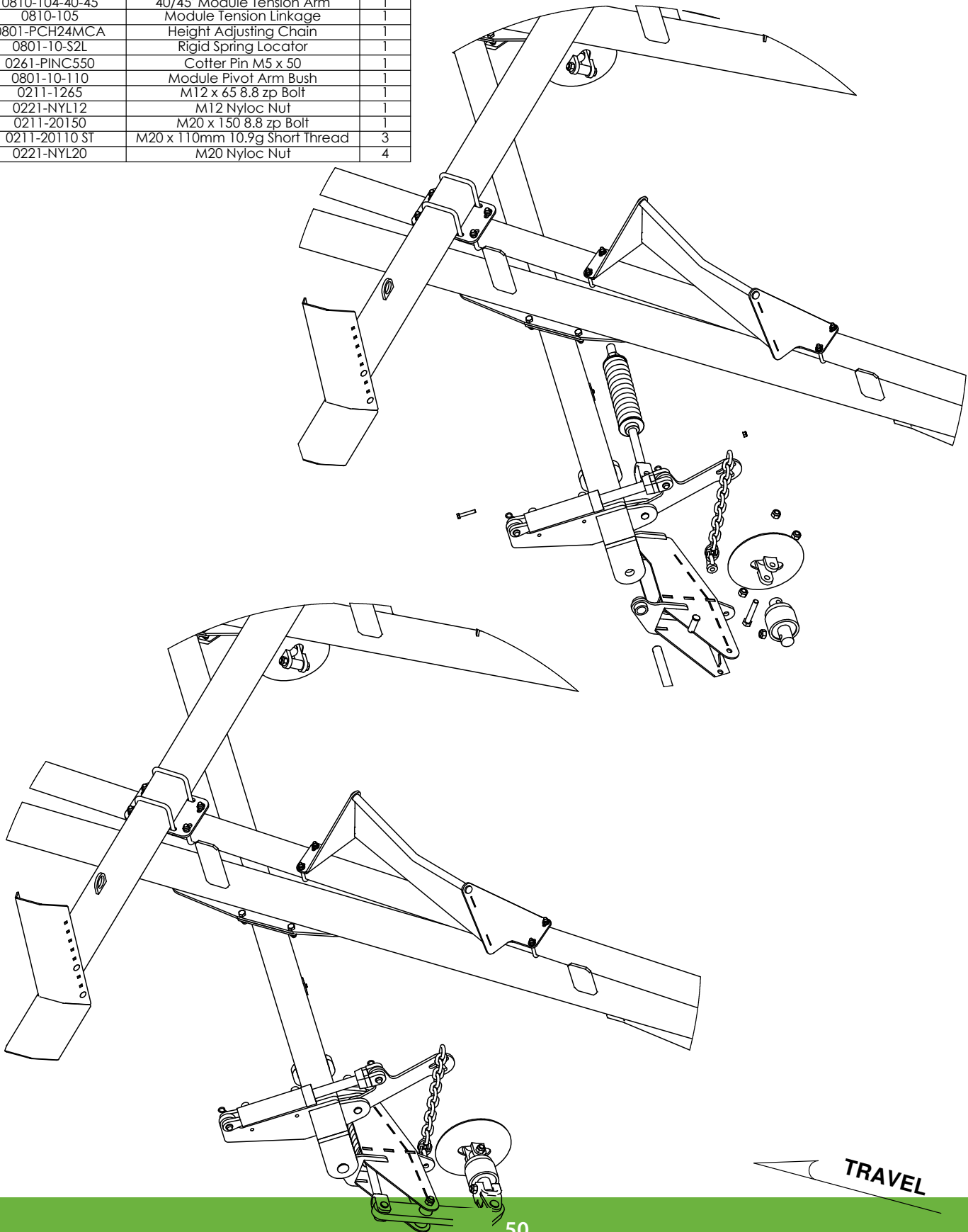


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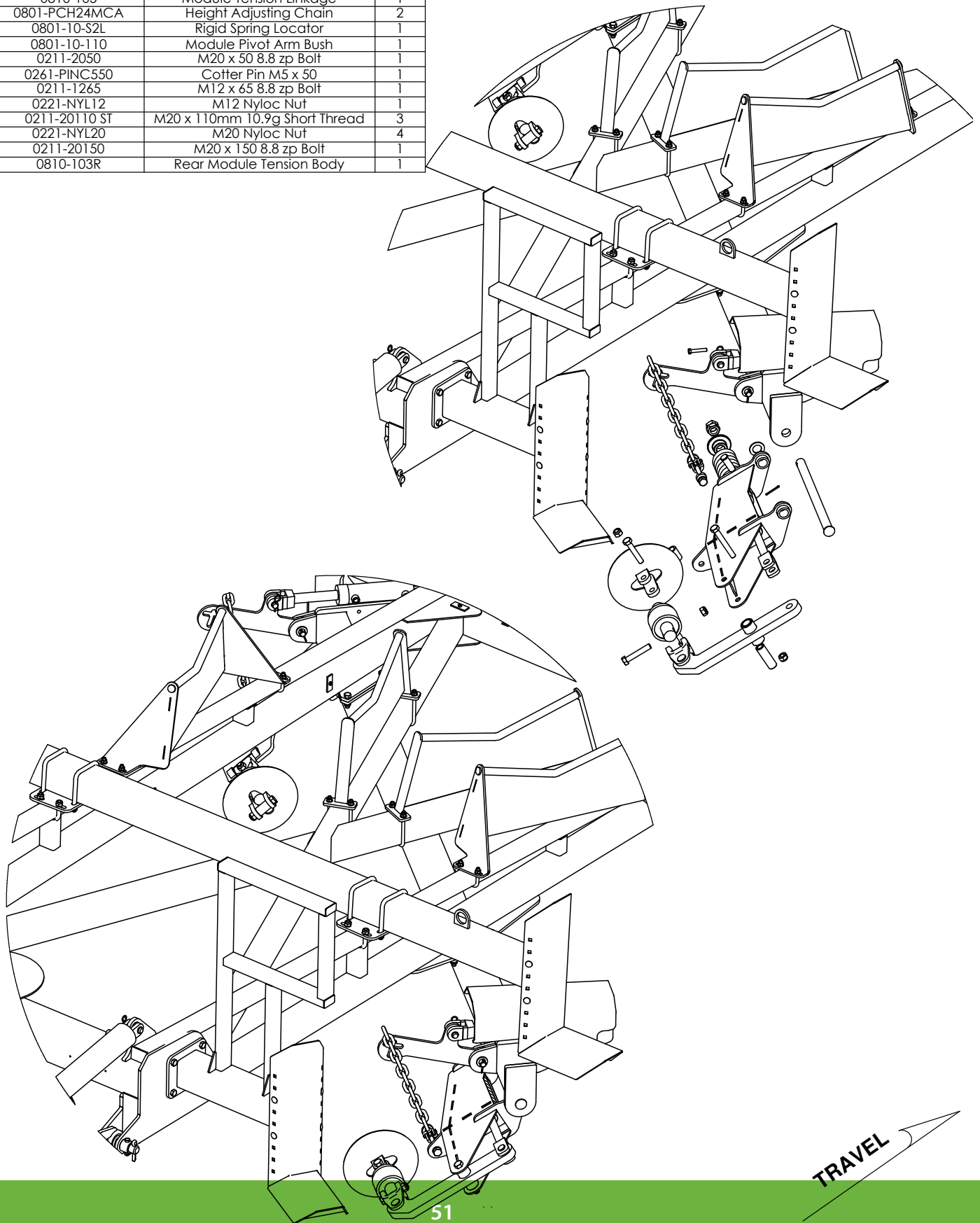
| PART NUMBER | DESCRIPTION | QTY. |
|---------------|--------------------------------|------|
| 0802-DCTP-20 | Disc Chain Tie Plate Link 20mm | 2 |
| 0802-PCHB55 | 20mm Bolt Swivel Unit | 2 |
| 0801-PCDCS55 | Disc Chain Spacer | 2 |
| 0810-20 | Chain Mount Arm | 2 |
| 0232-HT13-8 | Washer High Tensile 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 |
| 0211-20110 ST | M20 x 110mm 10.9g Short Thread | 6 |
| 0231-S20 | M20 zp Spring Washer | 2 |
| 0211-2050 | M20 x 50 8.8 zp Bolt | 2 |
| 0221-NYL20 | M20 Nyloc Nut | 6 |



| 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-20 | Disc Chain Tie Plate Link 20mm | 1 |
| 0802-PCHB55 | 20mm Bolt Swivel Unit | 1 |
| 0801-PCDCS55 | Disc Chain Spacer | 1 |
| 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 |
| 0810-104-40-45 | 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 |
| 0211-20110 ST | M20 x 110mm 10.9g Short Thread | 3 |
| 0221-NYL20 | M20 Nyloc Nut | 4 |

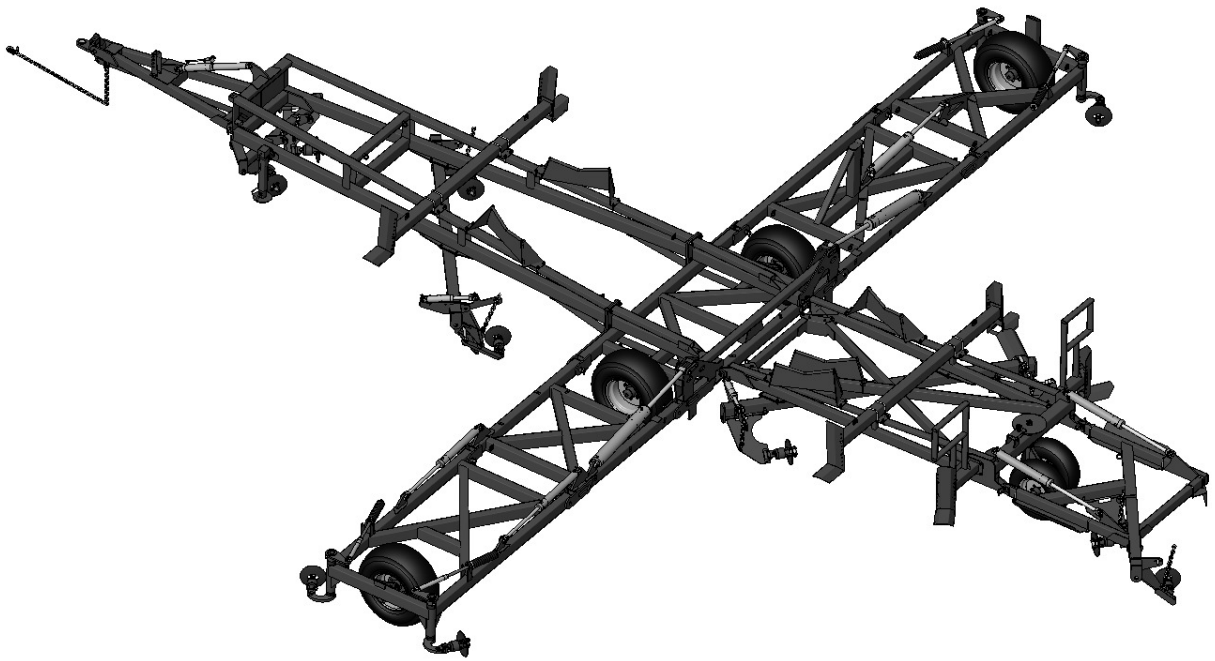
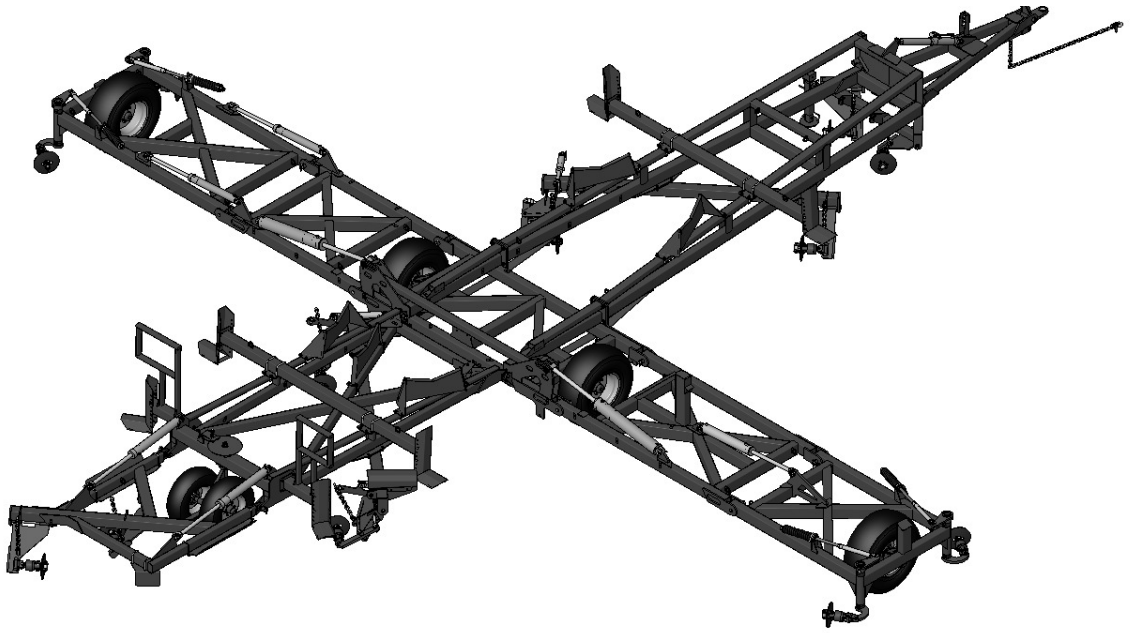


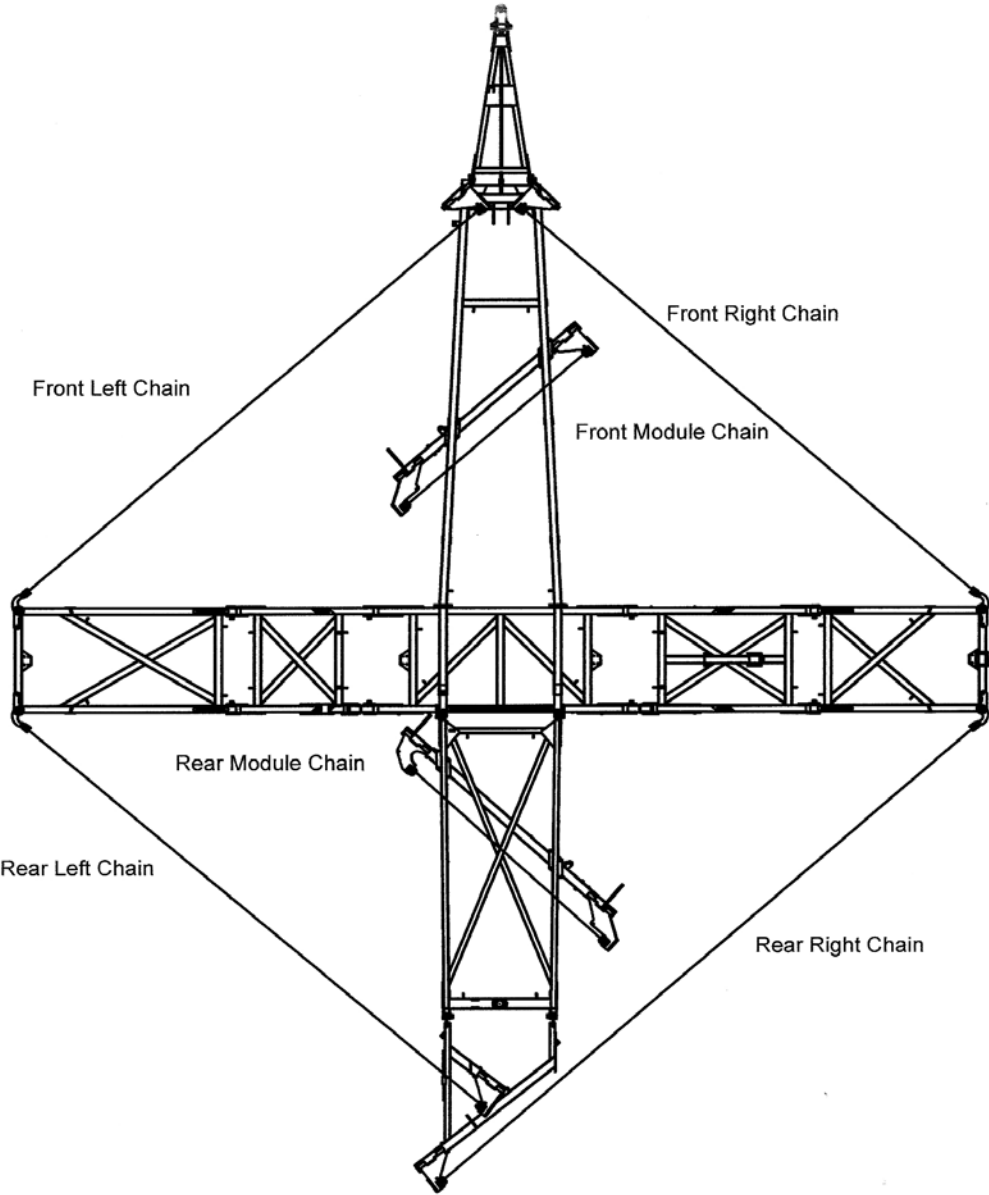
| PART NUMBER | DESCRIPTION | QTY. |
|----------------|--------------------------------|------|
| 0113-MB 3550DX | 35 ID x 50mm DX Bush | 2 |
| 0801-KE-0307-1 | Clevis Pin 25mm x 75mm | 1 |
| 0802-DCTP-20 | Disc Chain Tie Plate Link 20mm | 1 |
| 0802-PCHB55 | 20mm Bolt Swivel Unit | 1 |
| 0801-PCDCS55 | Disc Chain Spacer | 1 |
| 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 |
| 0810-104-40-45 | 40/45° Module Tension Arm | 1 |
| 0810-105 | Module Tension Linkage | 1 |
| 0801-PCH24MCA | Height Adjusting Chain | 2 |
| 0801-10-S2L | Rigid Spring Locator | 1 |
| 0801-10-110 | Module Pivot Arm Bush | 1 |
| 0211-2050 | M20 x 50 8.8 zp Bolt | 1 |
| 0261-PINC550 | Cotter Pin M5 x 50 | 1 |
| 0211-1265 | M12 x 65 8.8 zp Bolt | 1 |
| 0221-NYL12 | M12 Nyloc Nut | 1 |
| 0211-20110 ST | M20 x 110mm 10.9g Short Thread | 3 |
| 0221-NYL20 | M20 Nyloc Nut | 4 |
| 0211-20150 | M20 x 150 8.8 zp Bolt | 1 |
| 0810-103R | Rear Module Tension Body | 1 |



Section 3

Diagrams and charts





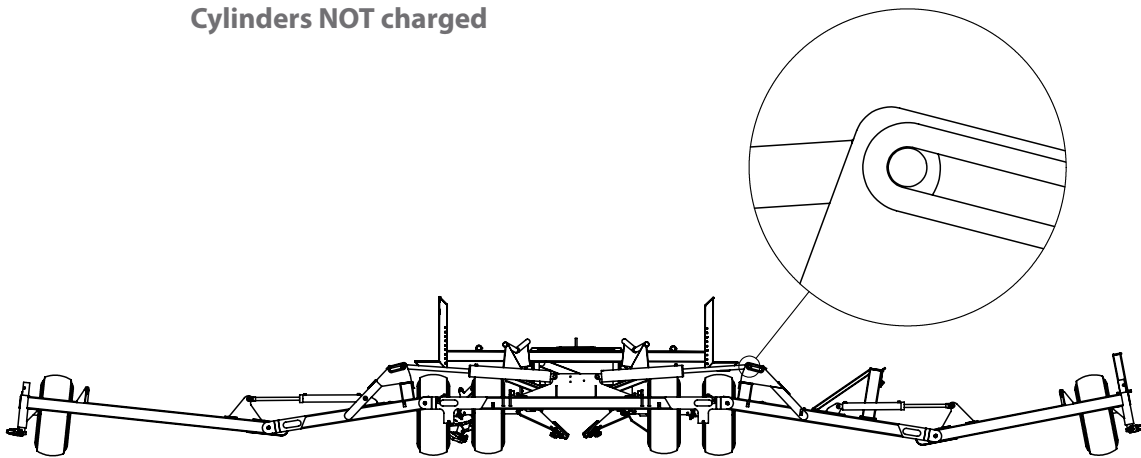


Before folding the machine for the first time, ensure all hydraulic cylinders are charged with oil.

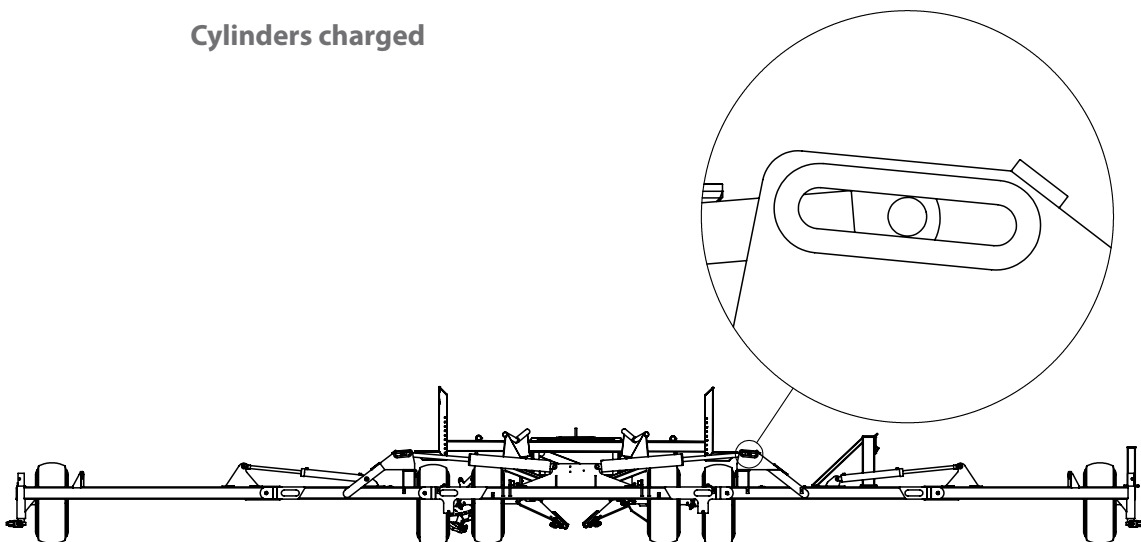
To do this, run the hydraulics through the unfold sequence until the outer wings are straight and the centre cylinders are centred in the slots. (It may take a few minutes for the cylinders to charge completely).

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

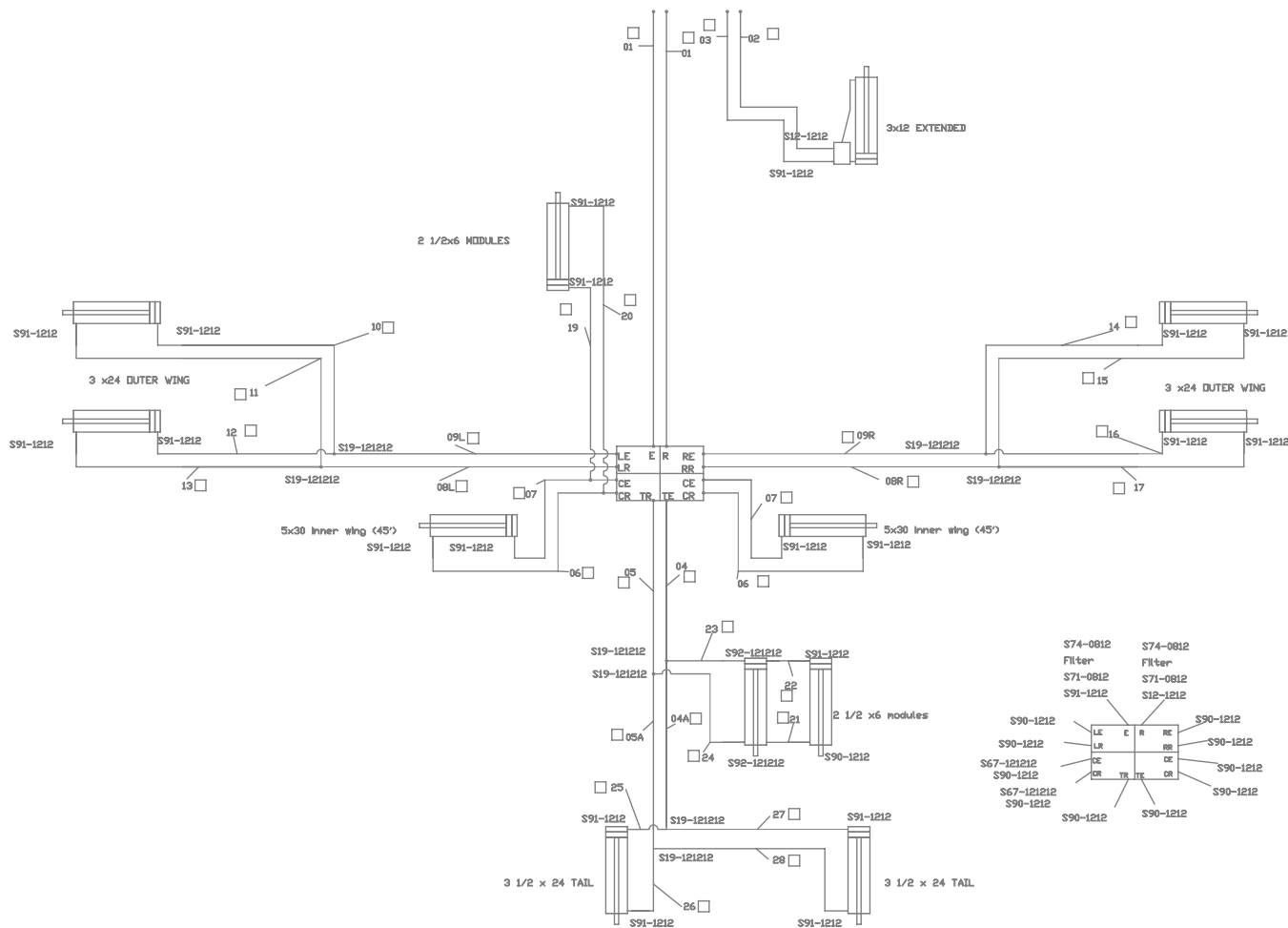
Cylinders NOT charged

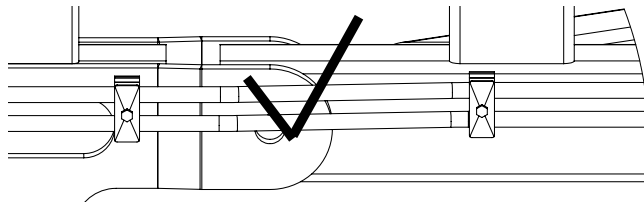


Cylinders charged

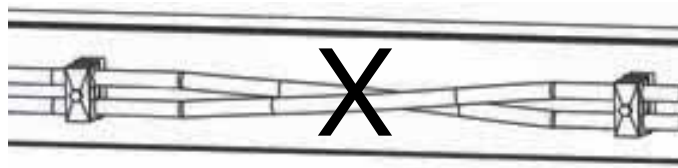
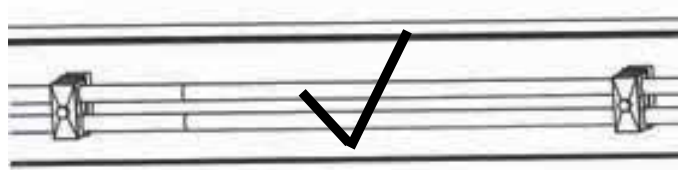


Hose map

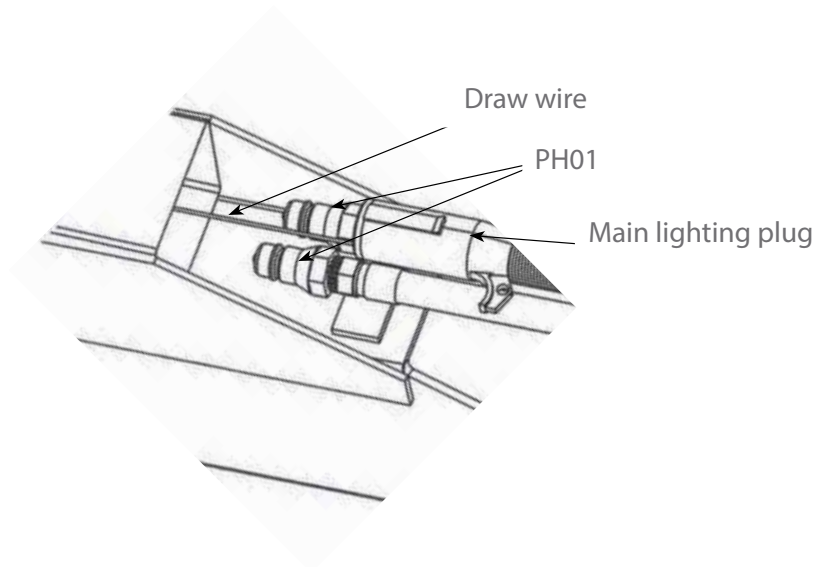




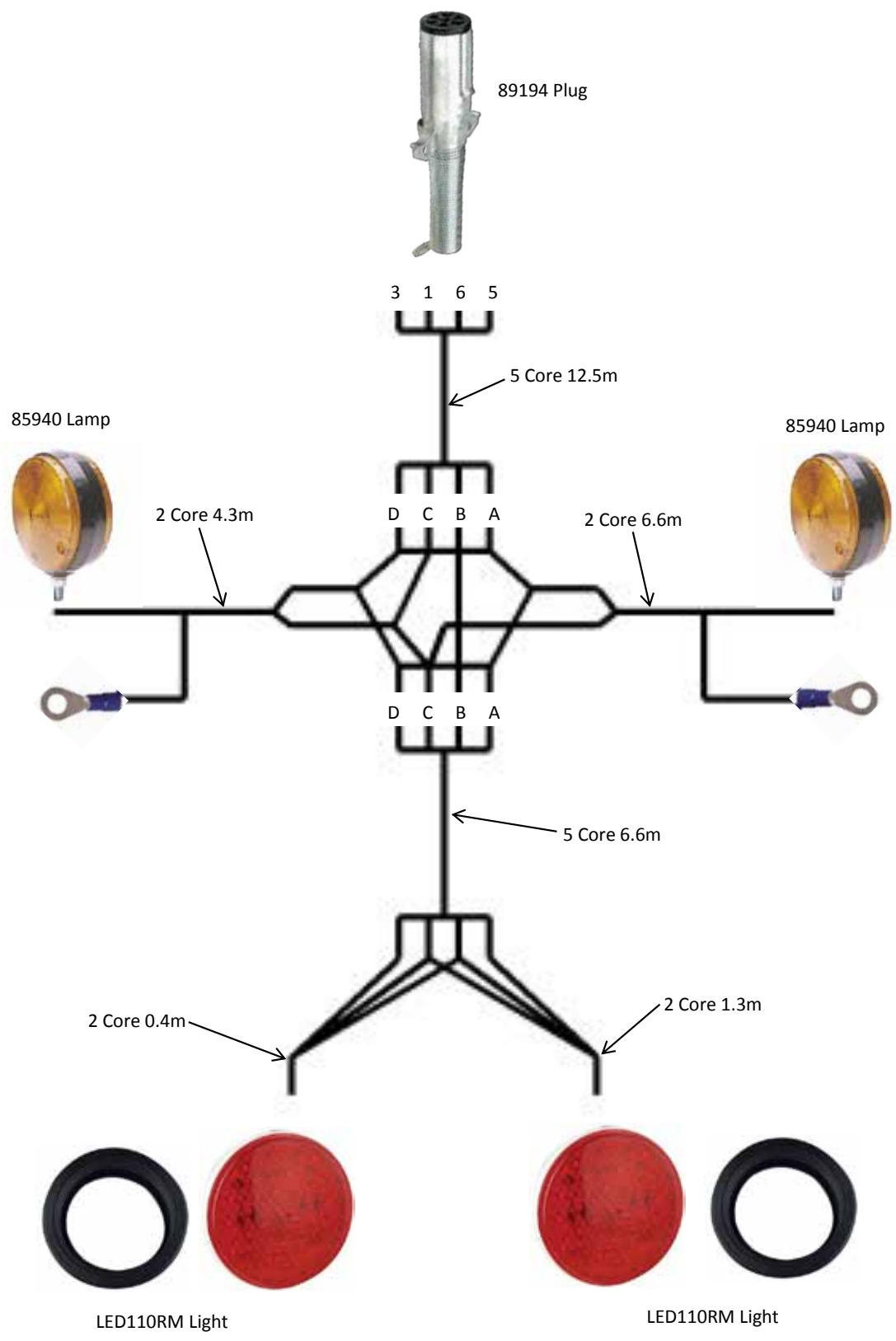
Correct layout of hoses

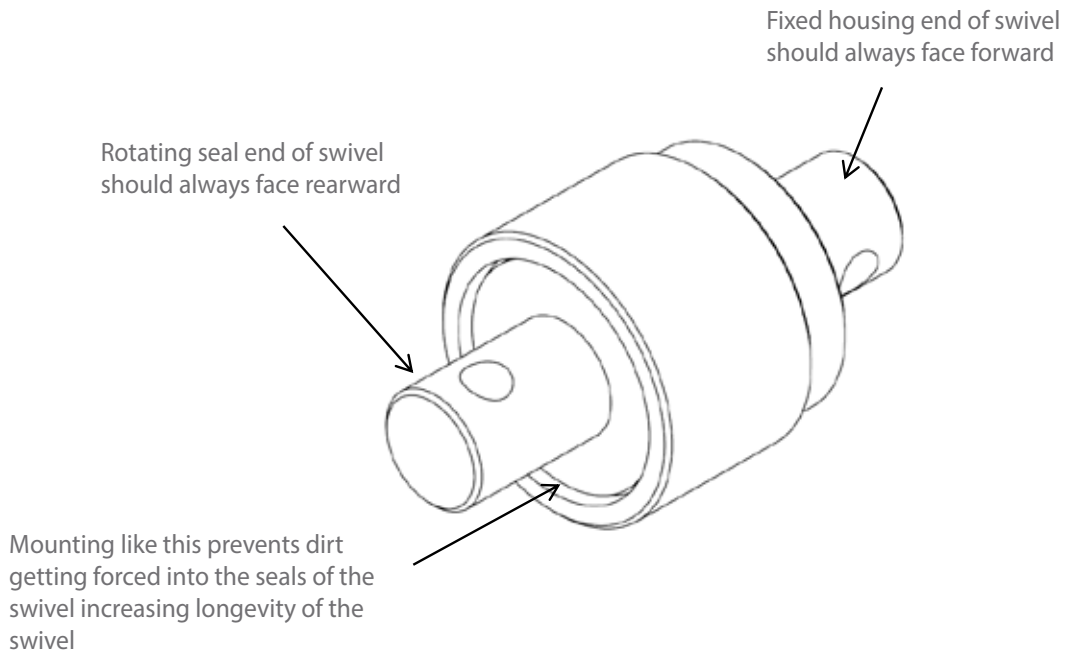


Avoid crossovers



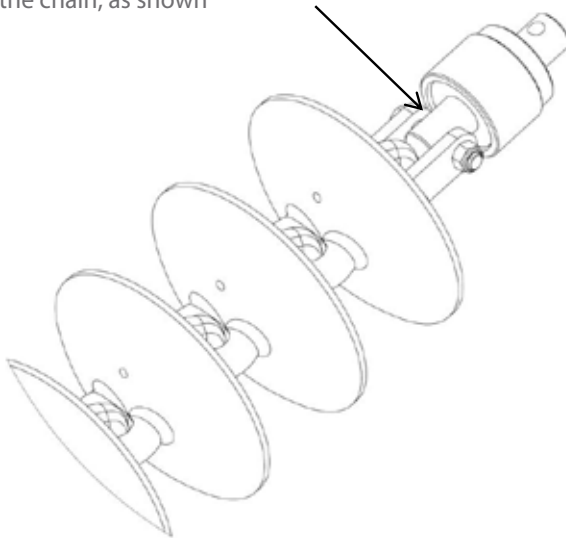
Wiring diagram



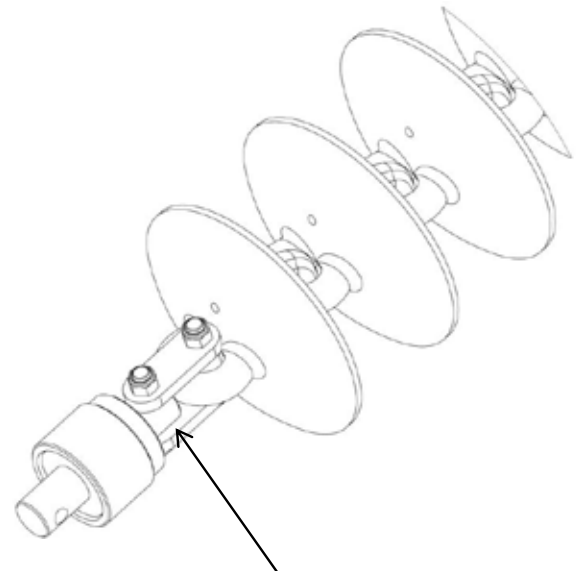


For example

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

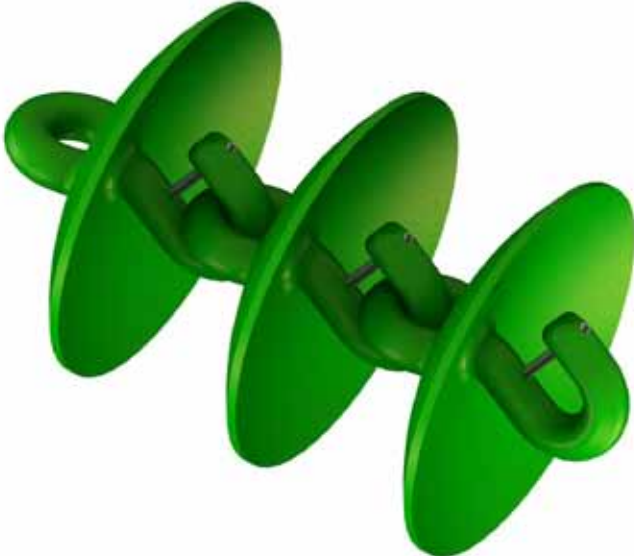


Swivels attached to the trailing ends of the chains should have the fixed housing end attached to the chain, as shown



Fitting cast link retaining pins

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



Operating speeds

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

Tire pressure

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

Chain Harrow specifications

| | |
|-------------------------|------------------|
| Model | 45'/13.5m |
| Working width | 43.5'/13.5m |
| Transport width | 13.5'/4.1m |
| Transport height | 13'/3.9m |
| Transport length | 55'/16.7m |

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 | W36 | Chain type | | |
|------------|---------------|------------|------------|------|----|
| | | | CL1 | R300 | |
| 45' | Front right | 26.6'/8.1m | 47 | 48 | 64 |
| | Front left | 26.6'/8.1m | 47 | 49 | 64 |
| | Rear right | 33'/10.1m | 57 | 59 | 80 |
| | Rear left | 26.6'/8.1m | 47 | 48 | 64 |
| | Modules front | 8.9'/2.7m | 16 | 17 | 21 |
| | Modules rear | 8.9'/2.7m | 16 | 17 | 21 |

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 |
|-------|--------|-----|
| 45 | 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.



Thank you for choosing a Kelly Engineering product

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

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

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