



Kelly



Assembly Manual

Revision C

For Serial numbers \geq KS-115004
For Machines Built after 01/07/2014

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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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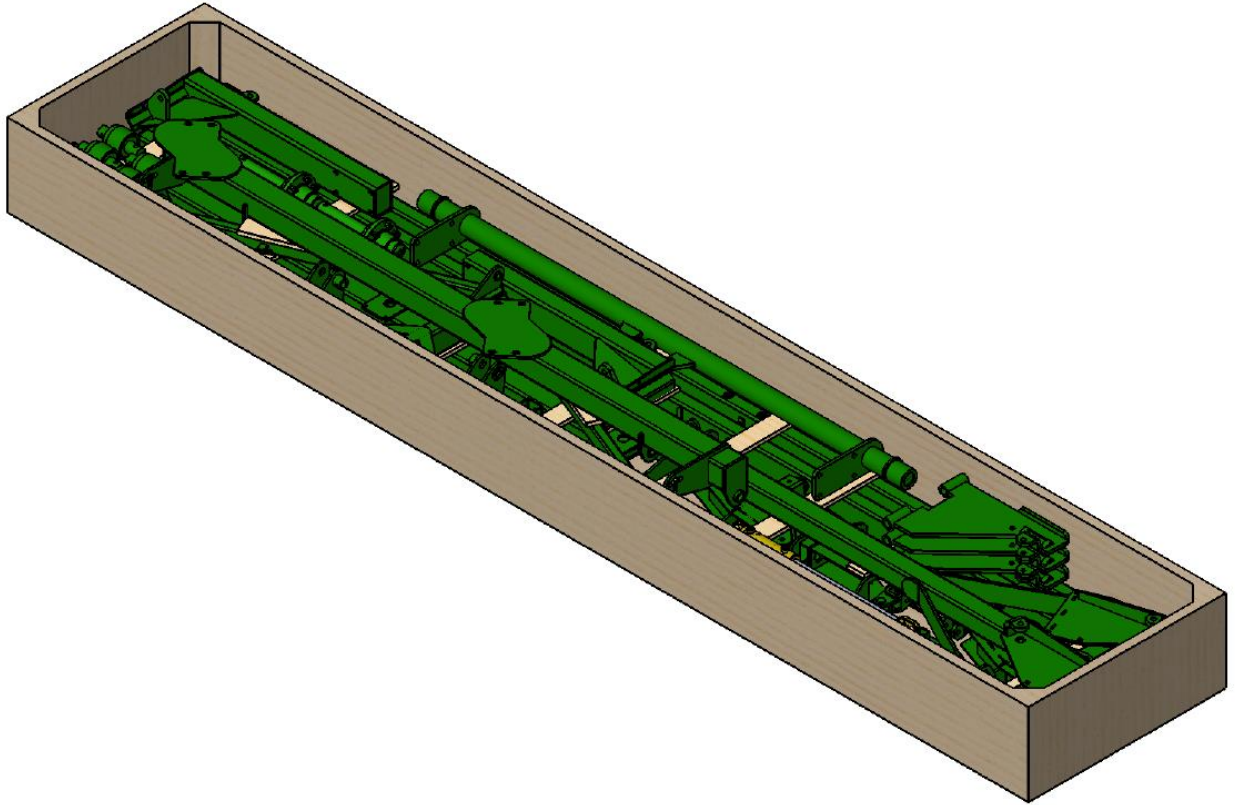
Email: hoodco@hoodco.com

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Section 1

Unpacking



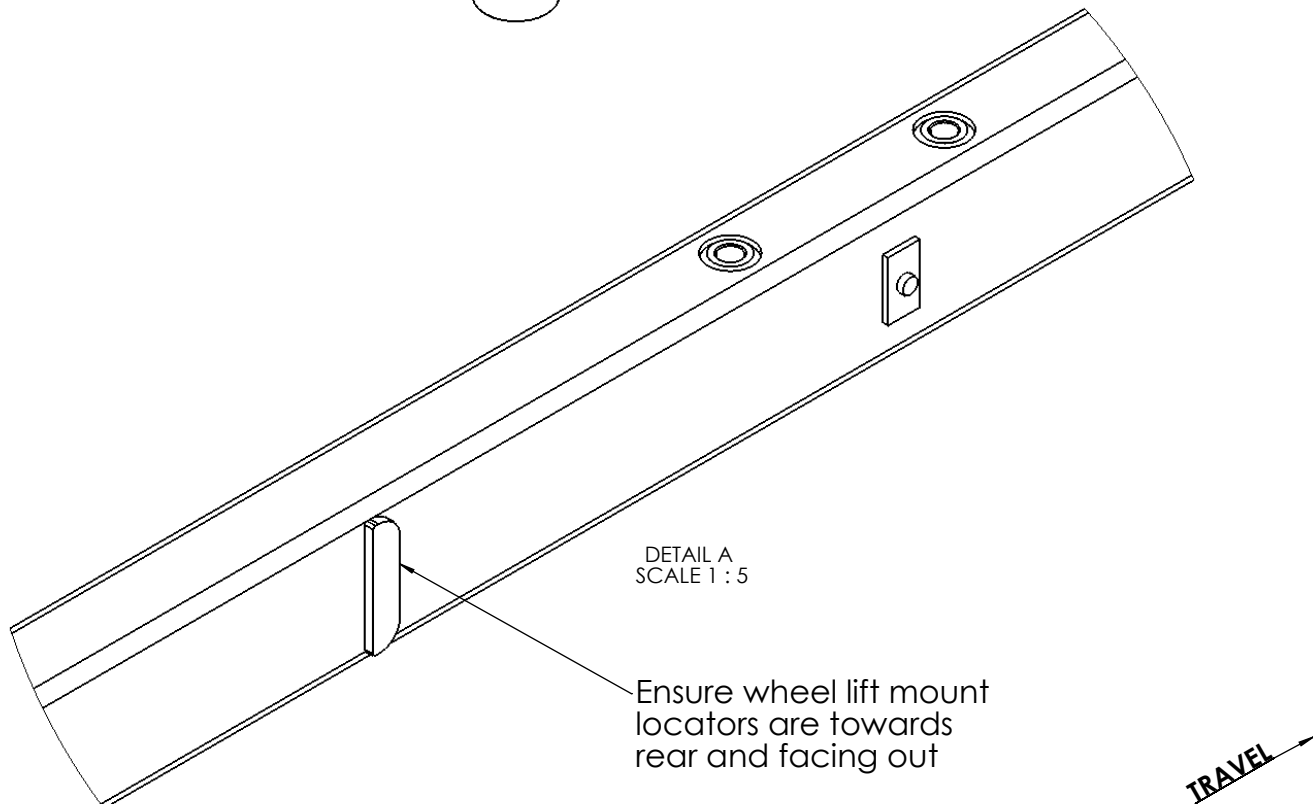
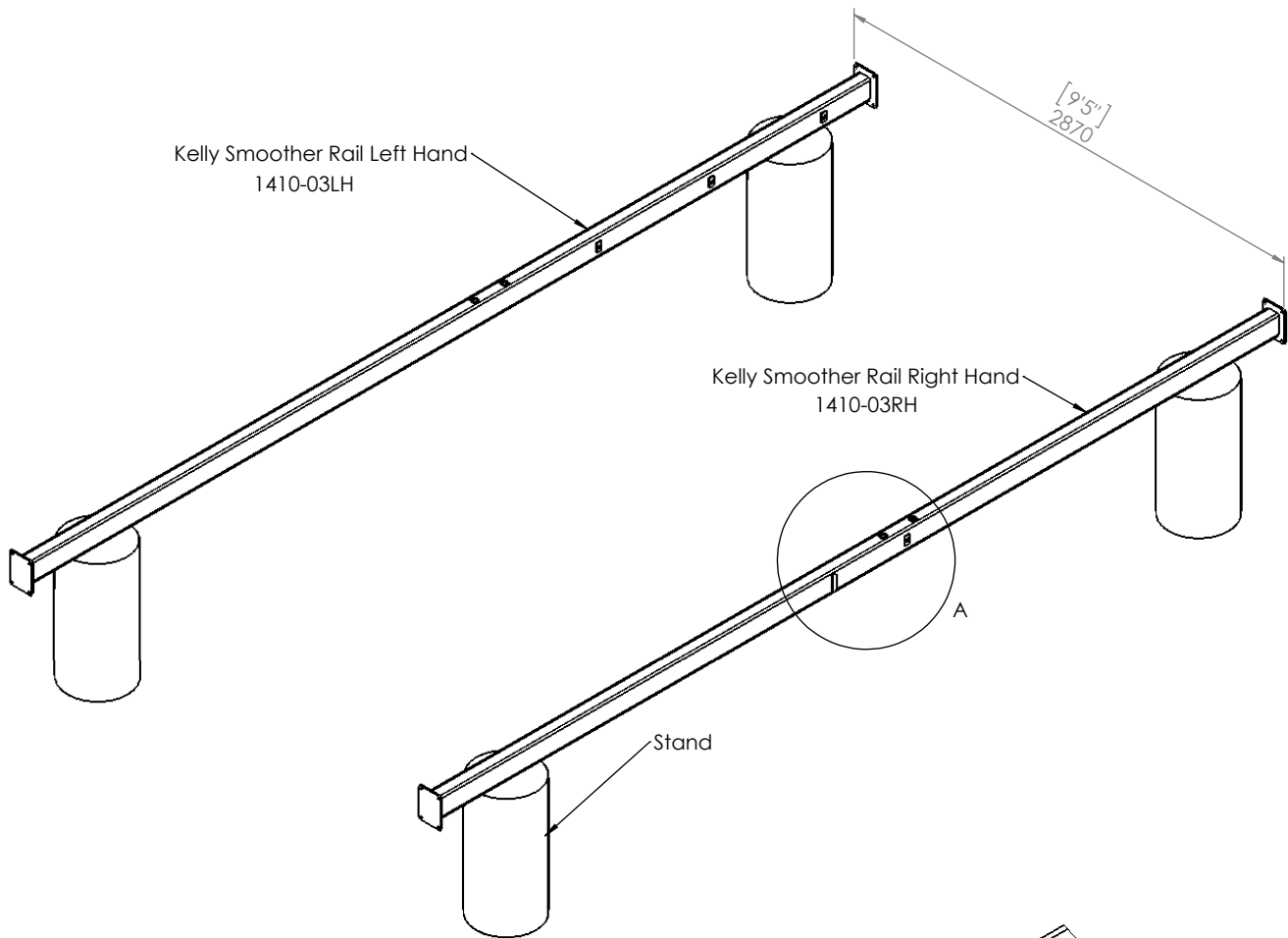
CAUTION

- Use appropriate lifting equipment to unpack frame work from crate
- Once all parts have been identified machine is ready for assembly
- Read assembly instructions before proceeding

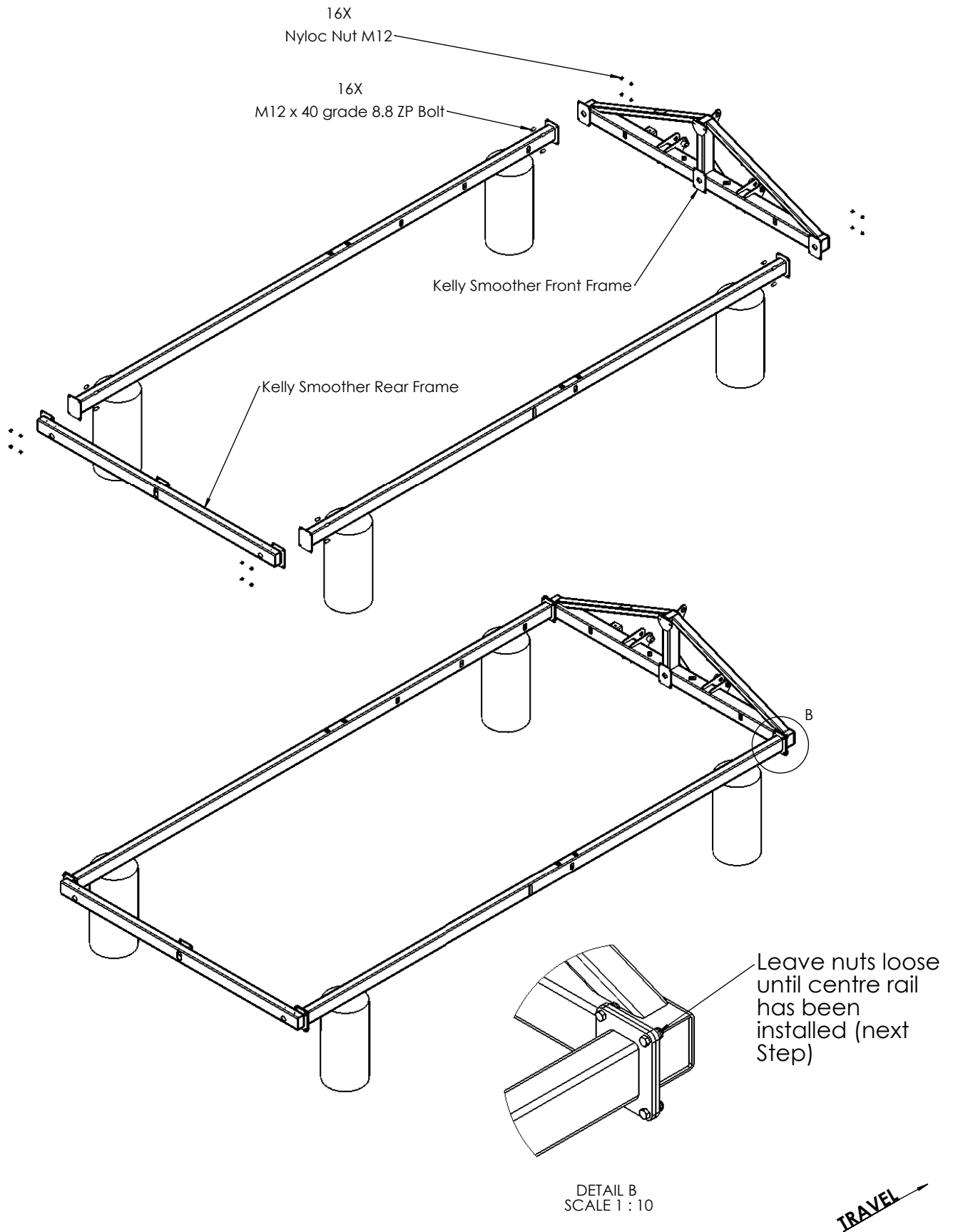
Section 2

Assembly Step by Step

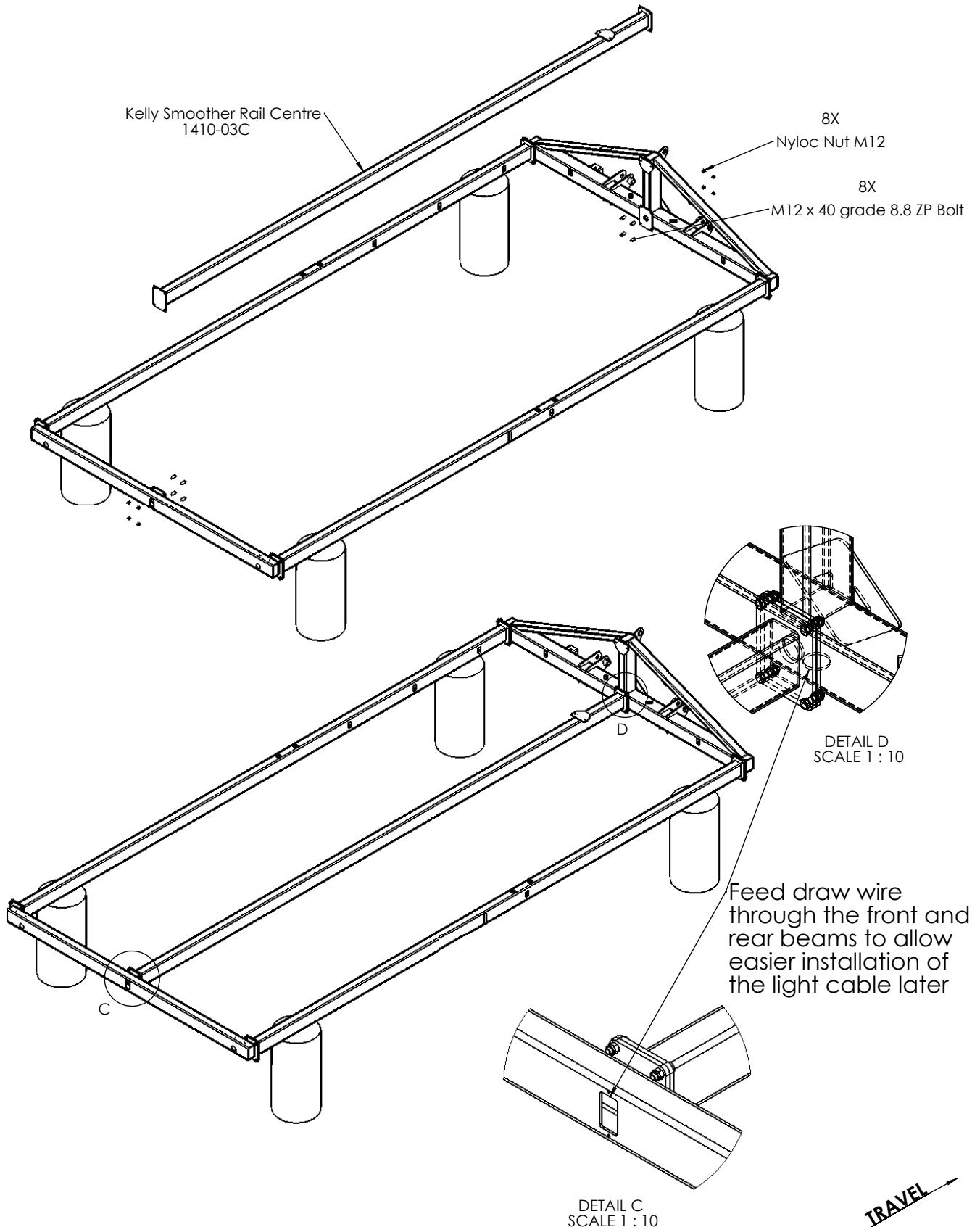
Step 1: Place the two side rails on suitable stands (approximately 800 - 900mm (2' 6" - 3') High and with a SWL of at least 500kg (1000Lb)) as shown below



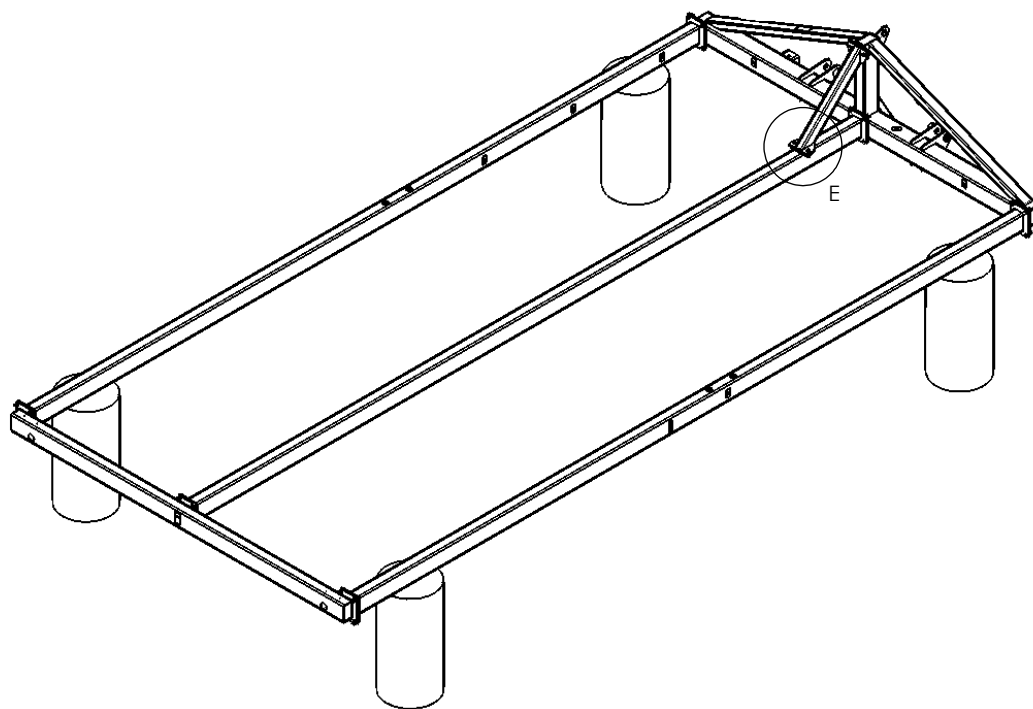
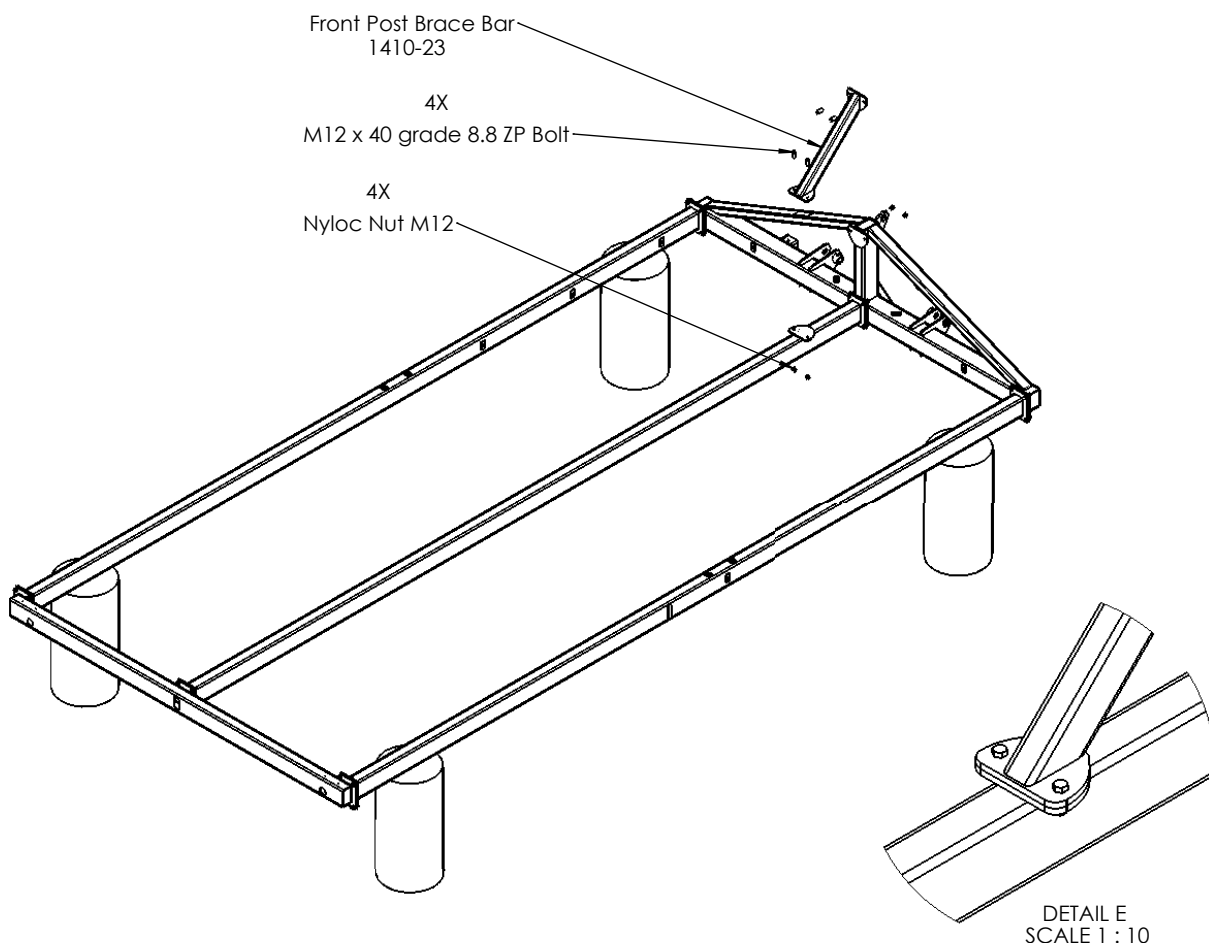
Step 2: Using appropriate lifting equipment lift the front and rear frames into position and attach with the supplied bolts. Leaving the bolts loose until the centre rail is in place (next step). Use Bolt kit Bag 1 and 2



Step 3: Using appropriate lifting equipment lift the centre rail into position and attach with the supplied bolts. For machines supplied with a light kit a draw wire is supplied and installed through the centre or the centre rail, draw this wire through the attaching plates to allow drawing the light kit cable through later. Use bolt kit bag 1 and 2

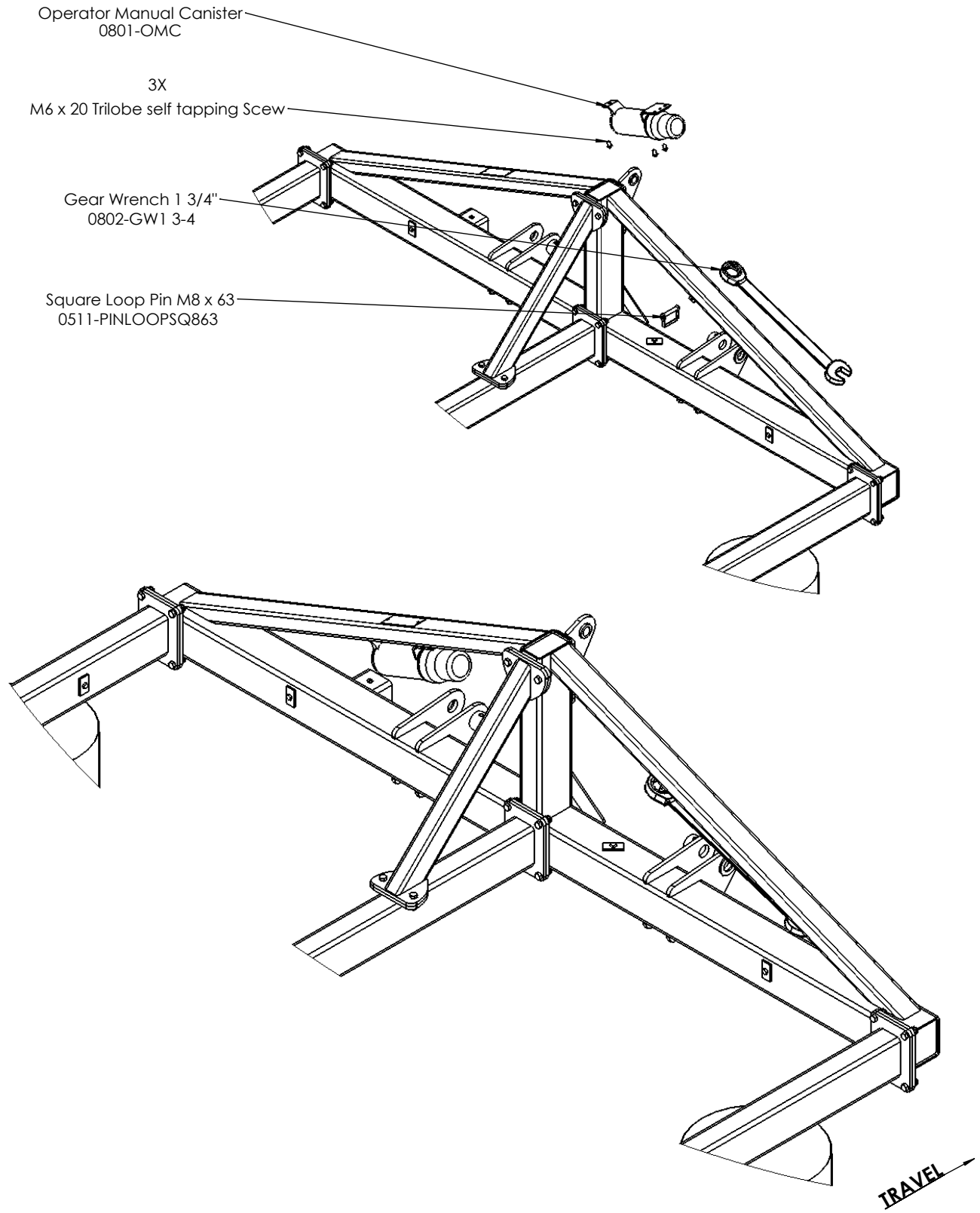


Step 4: Position the front post brace bar in place and attach with the supplied bolts. Use bolt kit bag 1 and 2

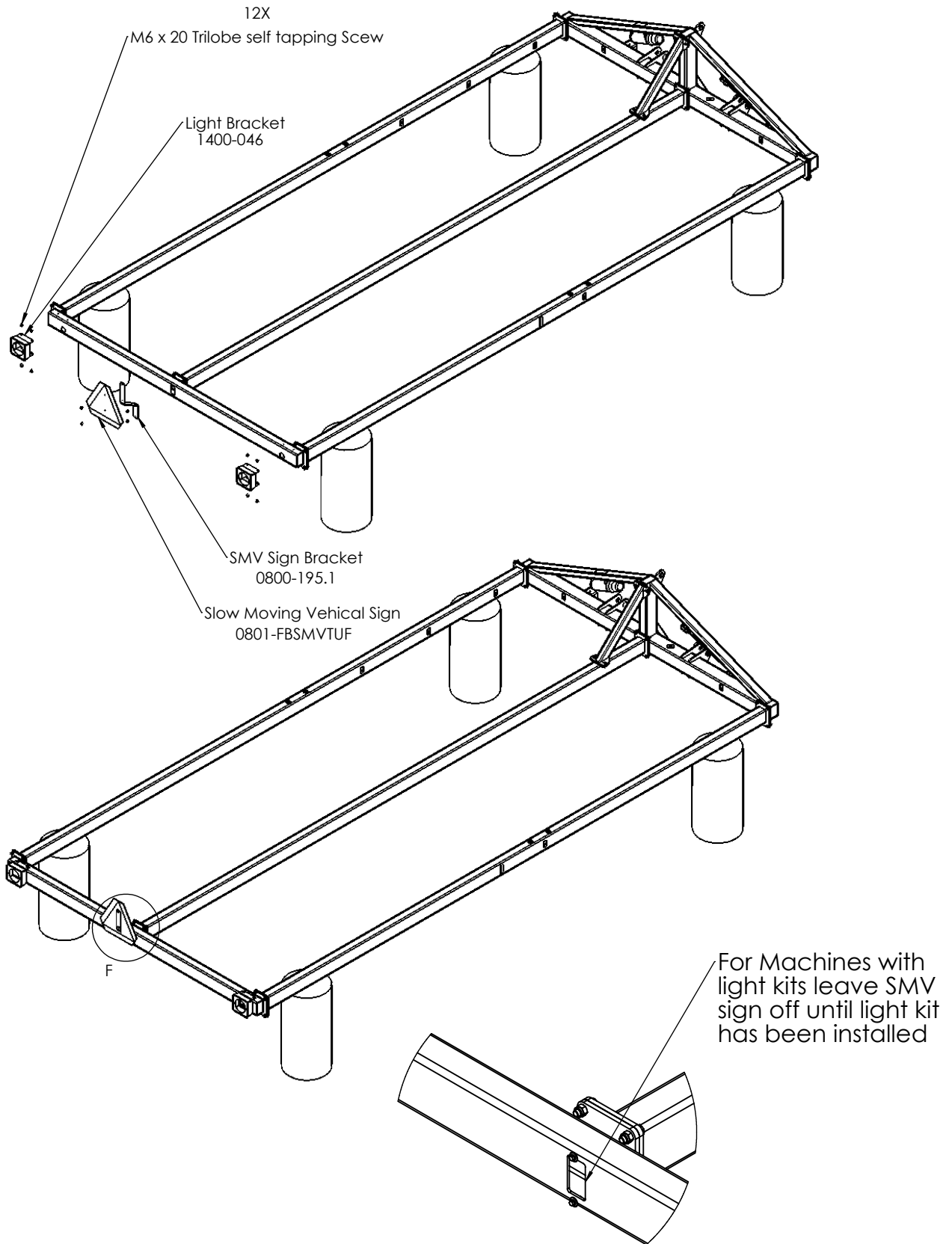


TRAVEL →

Step 5: Using the supplied self tapping bolts and loop pin attach the operator manual canister and the chain adjusting gear wrench. Use bolt kit bag 1



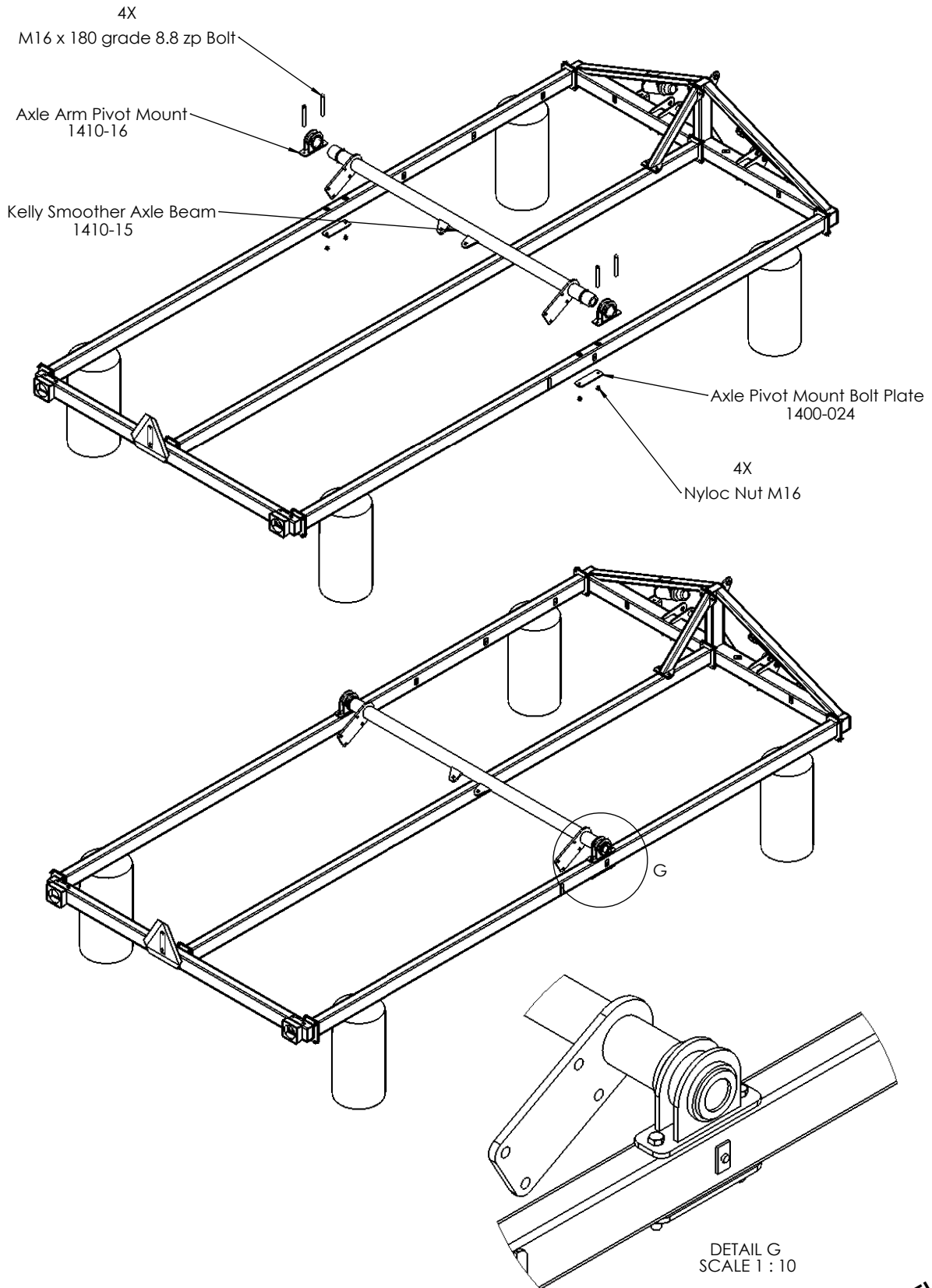
Step 6: Using the supplied self tapping bolts to attach the light brackets and the SMV sign and bracket. (on machined supplied with a light kit leave SMV bracket off until after light kit has been installed to allow cable to be drawn through centre rail). Use bolt kit bag 1



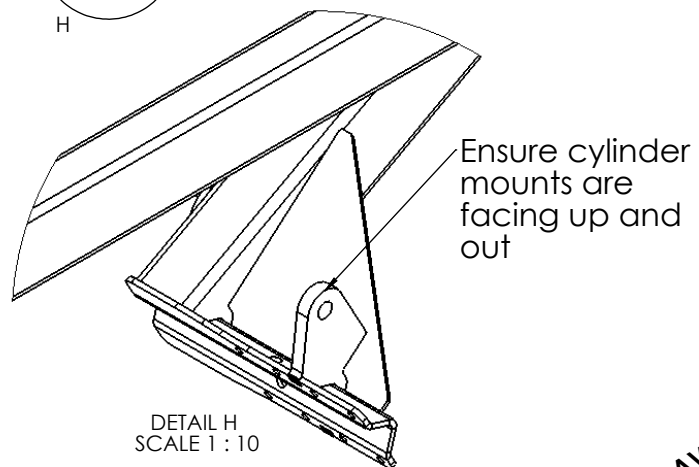
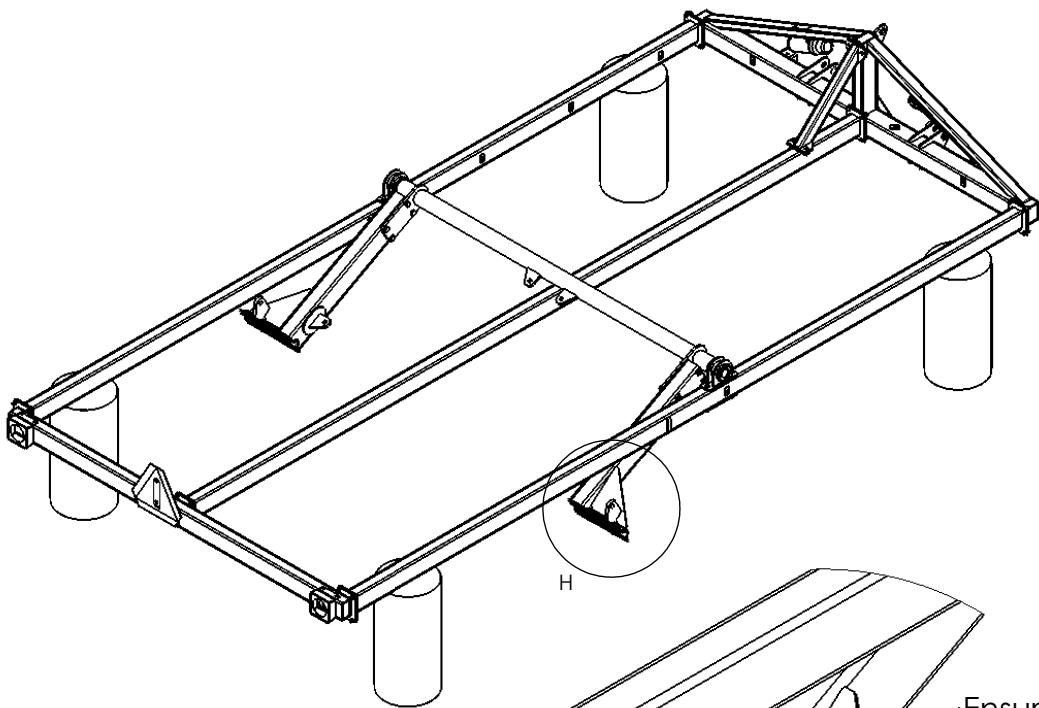
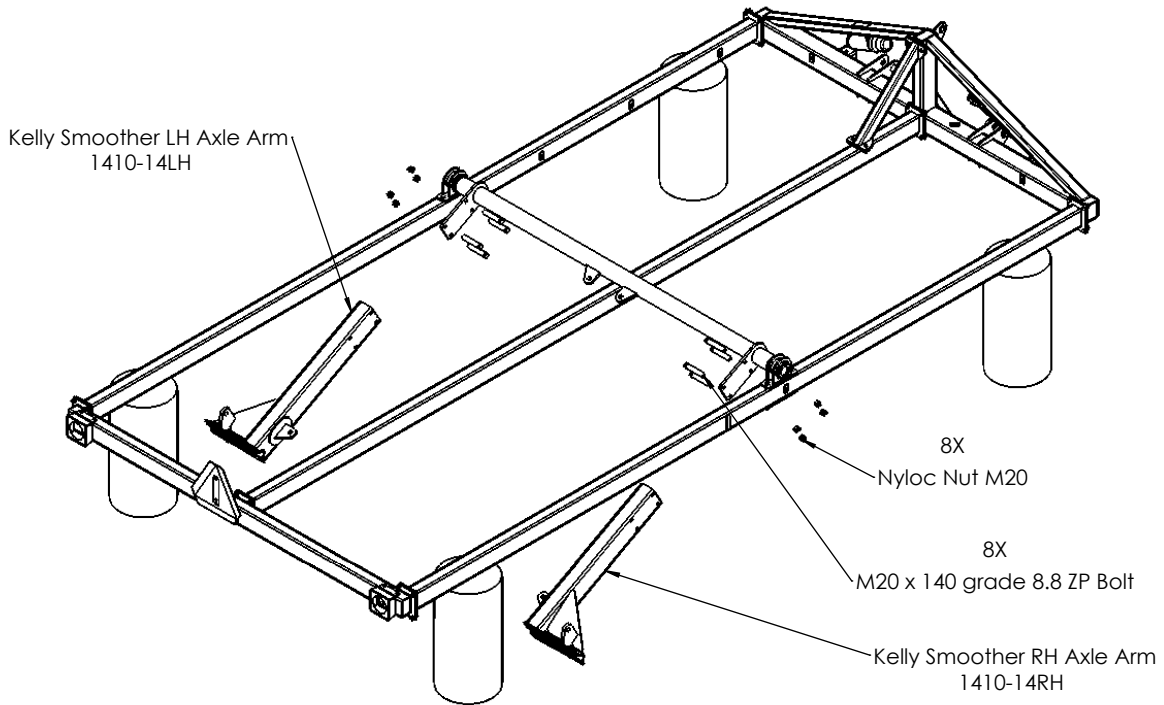
DETAIL F
SCALE 1 : 10

TRAVEL →

Step 7: Using appropriate lifting equipment lift the axle beam into position and install the pivot mounts using the bolts supplied. Use bolt kit bag 7



Step 8: Using appropriate lifting equipment lift the axle arms into position and install using the bolts supplied. (Ensuring hydraulic cylinder mounts are facing up and out as shown below). Use bolt kit bag 6



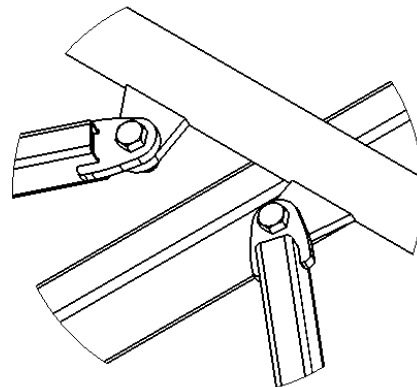
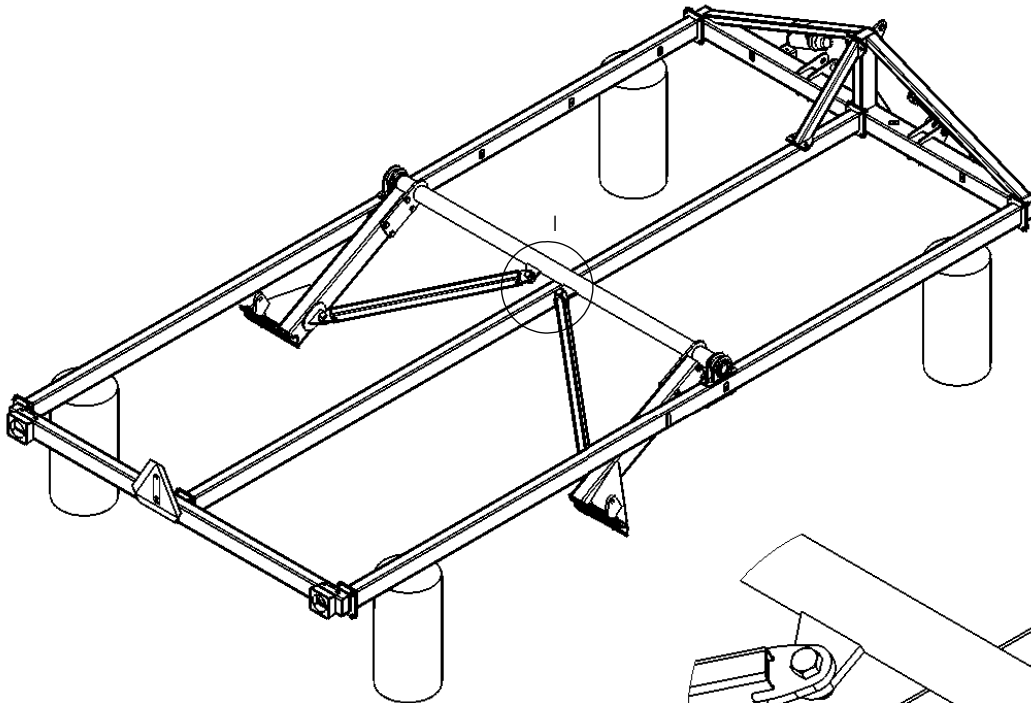
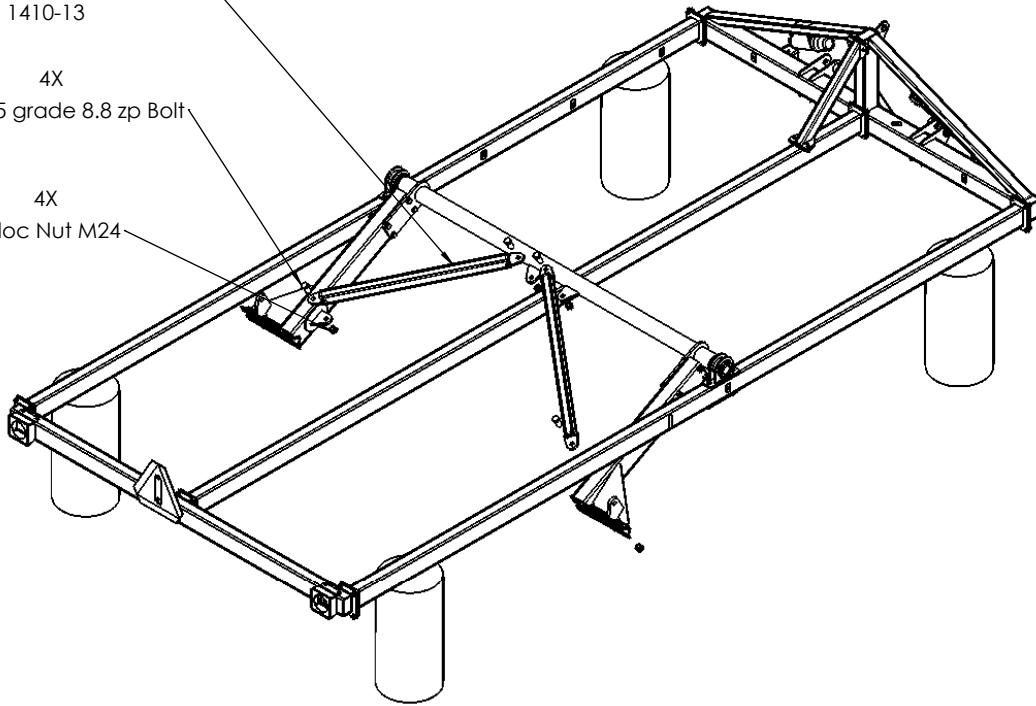
TRAVEL →

Step 9: Position the axle brace arm in place and attach with the supplied bolts. Use bolt kit bag 6

Kelly Smoother Axle Brace Arm
1410-13

4X
M24 x 65 grade 8.8 zp Bolt

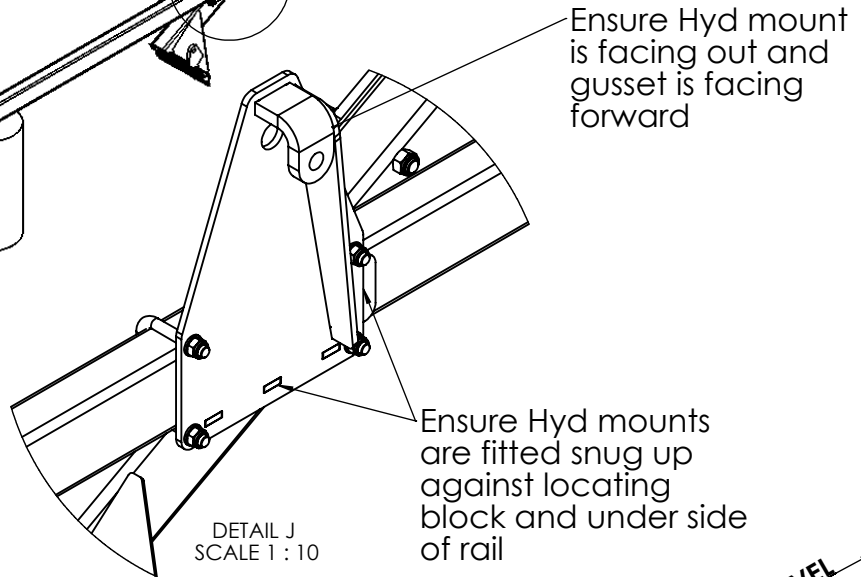
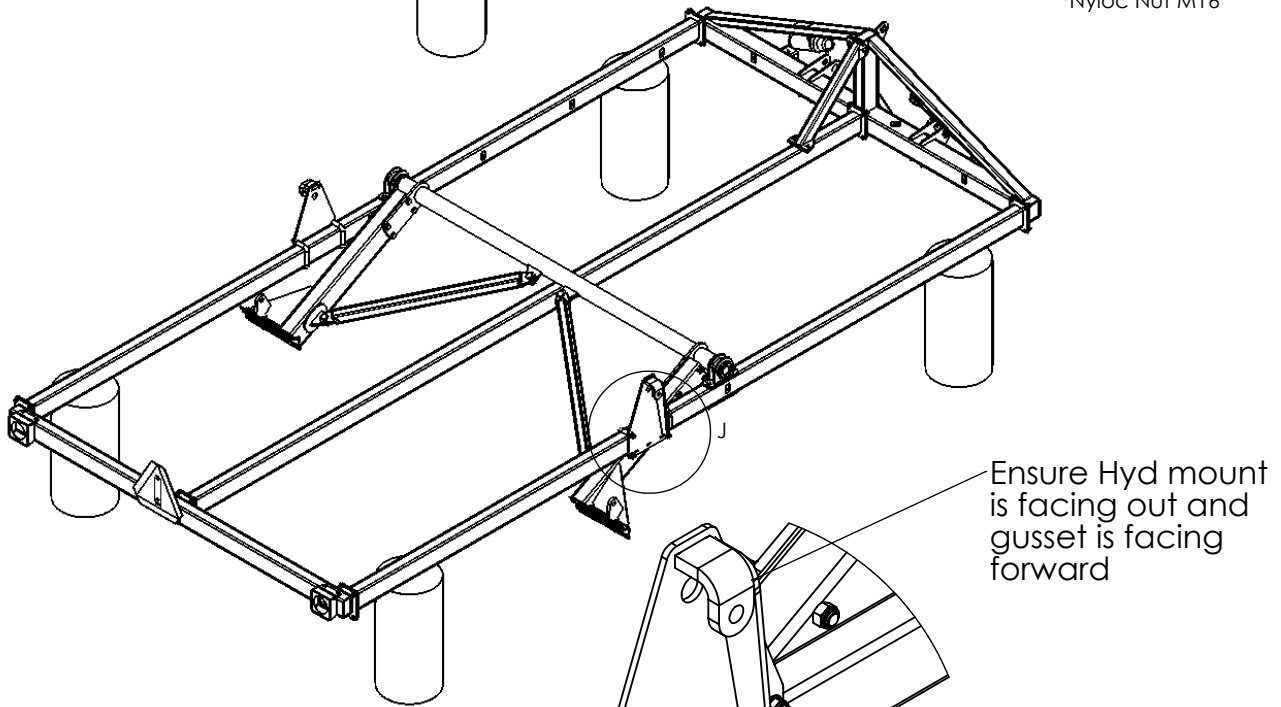
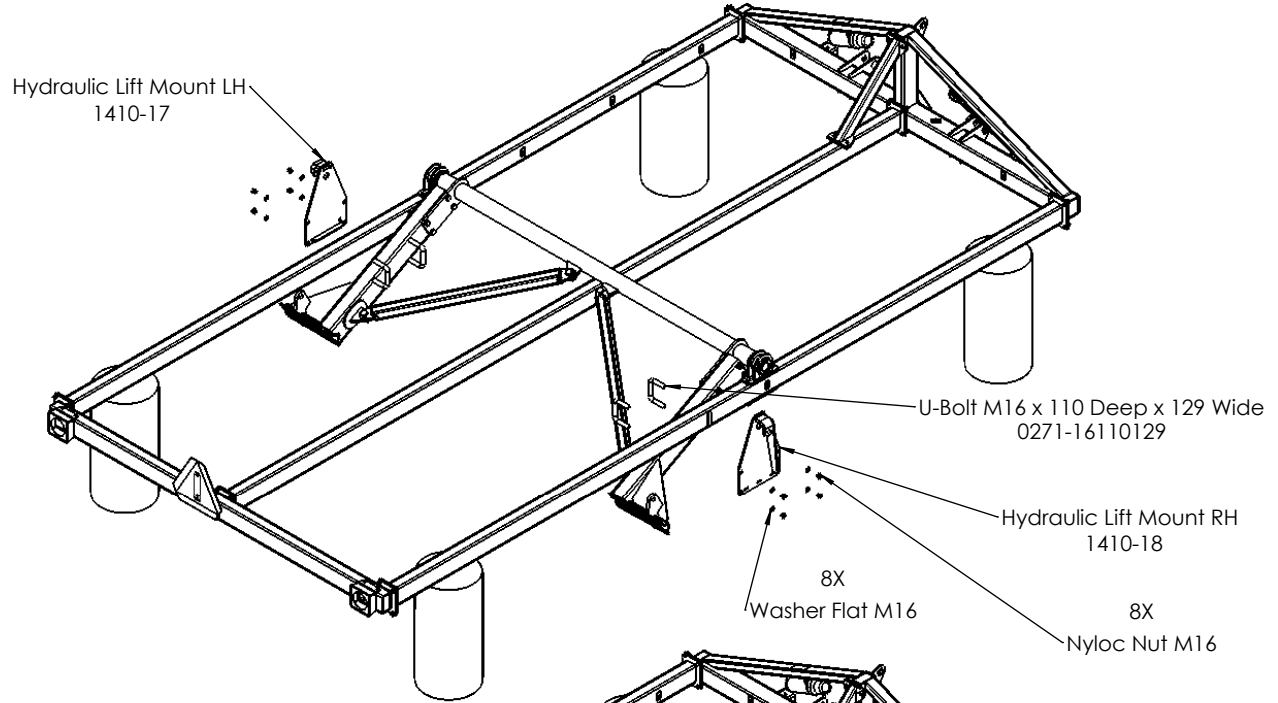
4X
Nyloc Nut M24



DETAIL I
SCALE 1 : 10

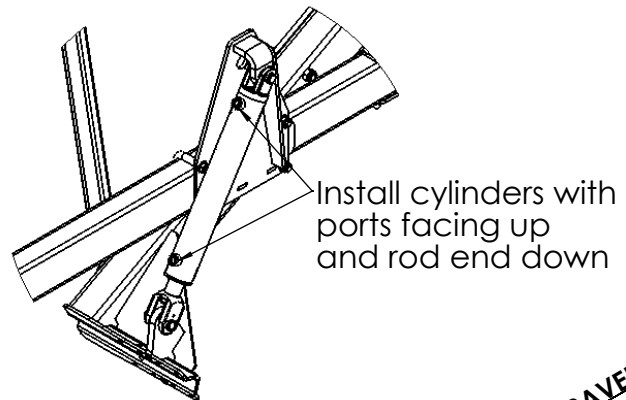
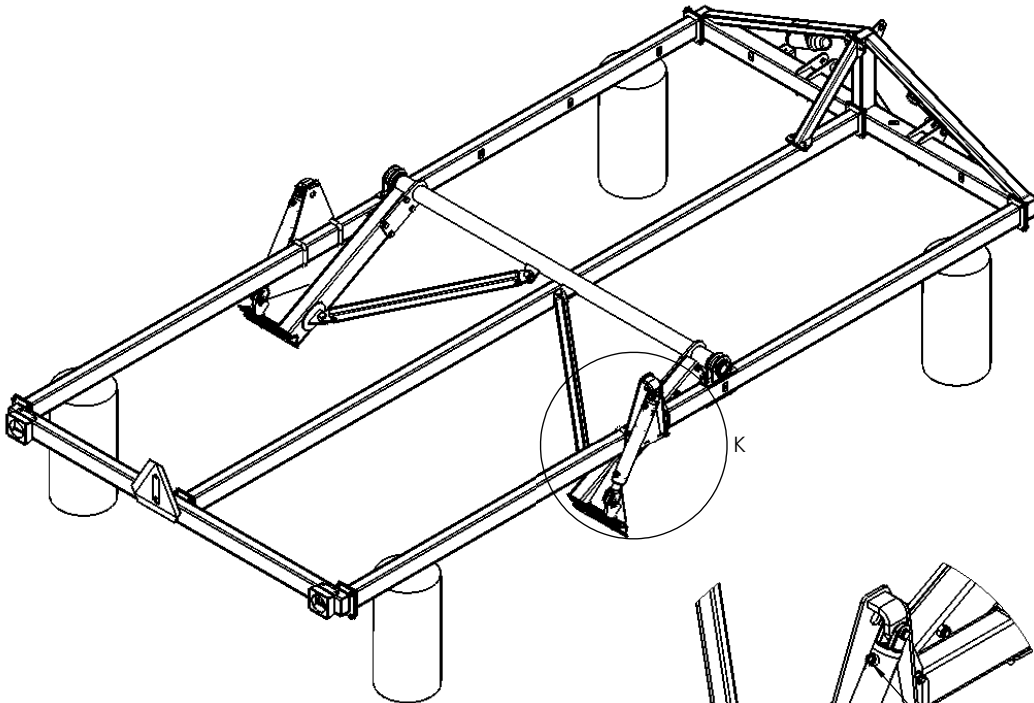
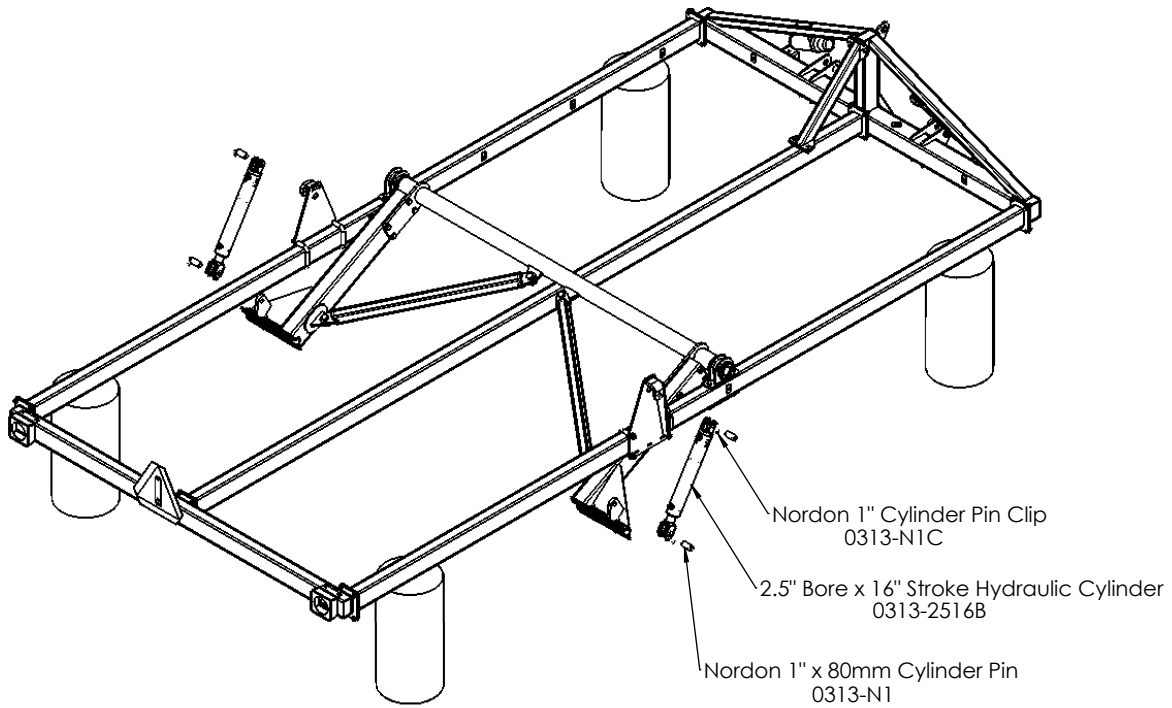
TRAVEL →

Step 10: Position the hydraulic lift mounts in place and attach with the supplied U-bolts. (Ensure tab on back of mounts is positioned hard up against under side of rail and mounts are pushed up against locating blocks). Use bolt Kit Bag 8



TRAVEL →

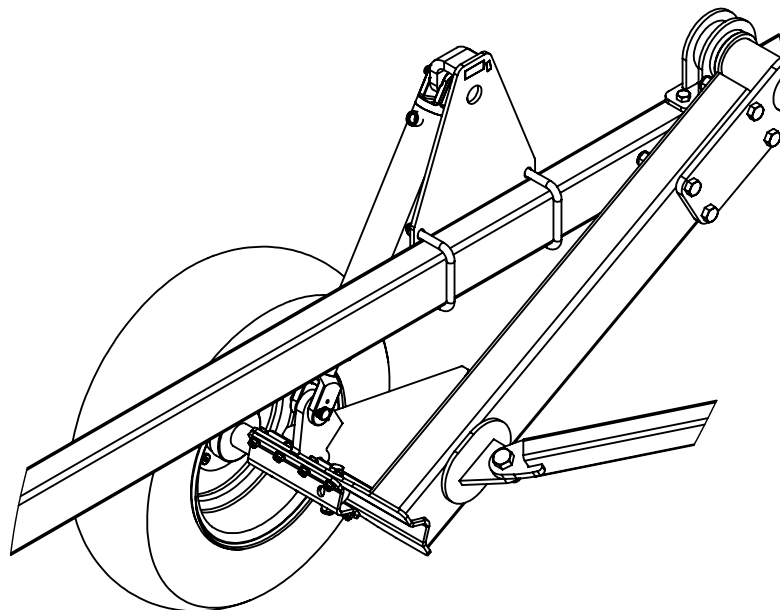
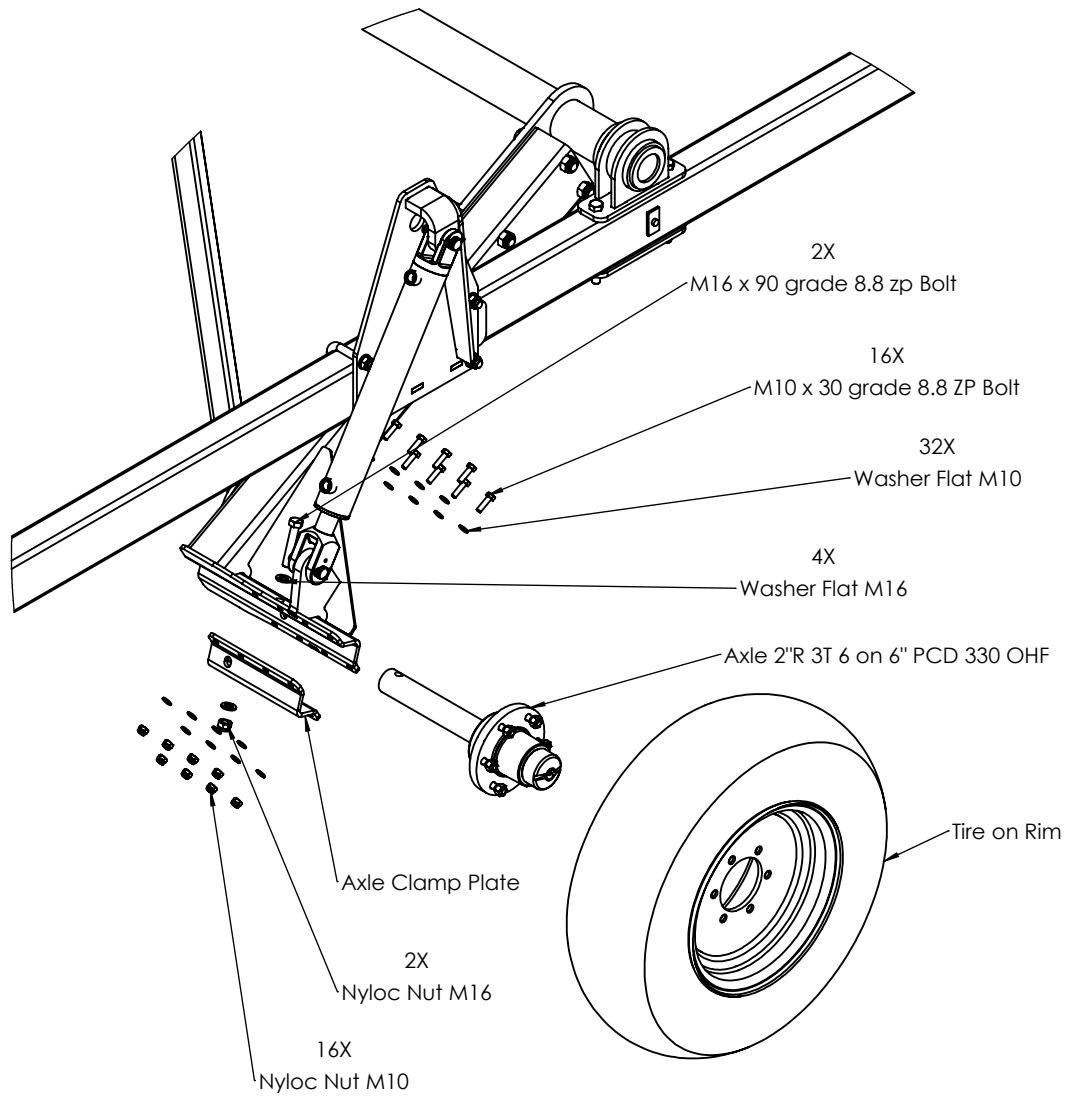
Step 11: Install the 2.5" Bore x 16" Stroke Hydraulic Cylinders using the pins and clips supplied. Install with ports facing up and rod end facing down.



DETAIL K
SCALE 1 : 20

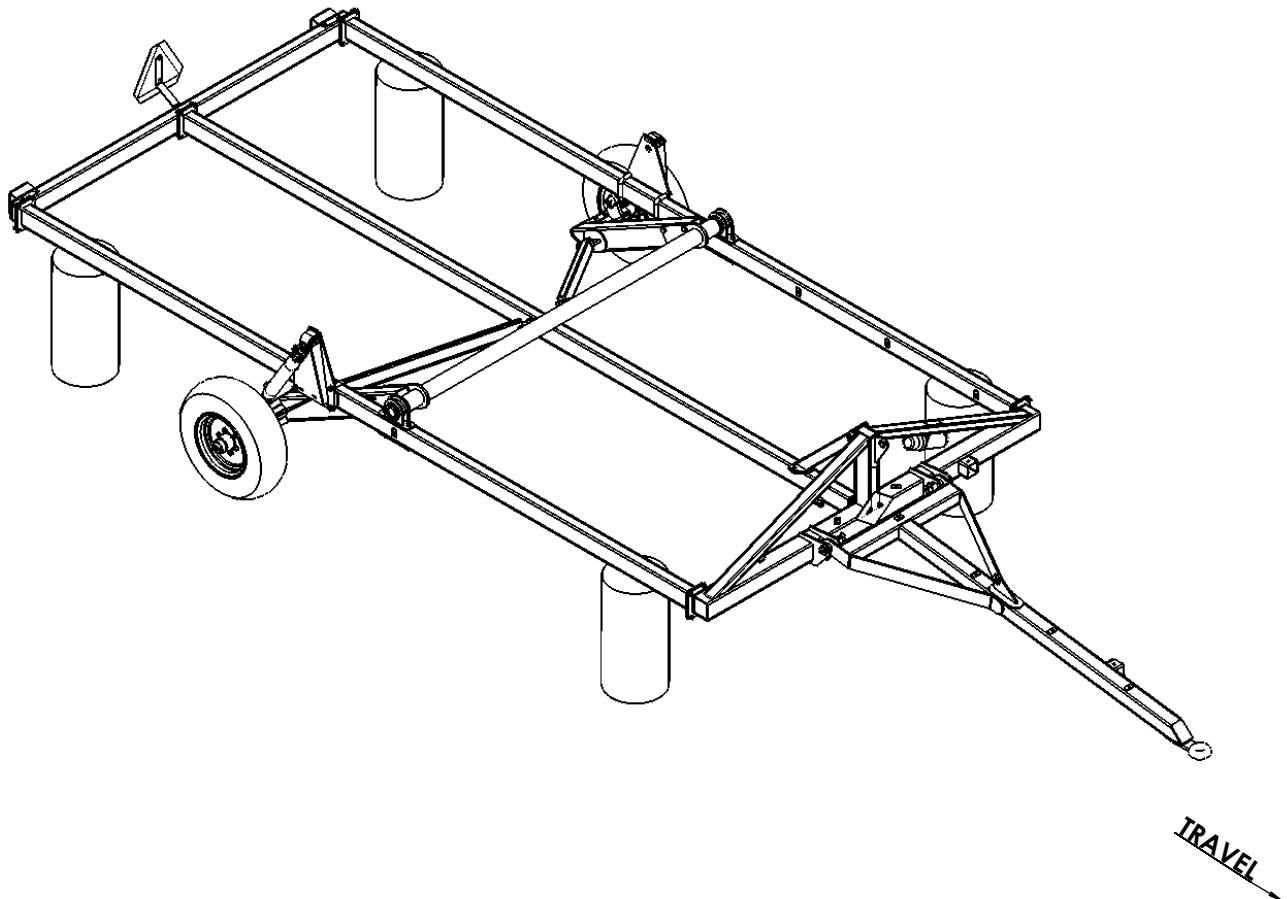
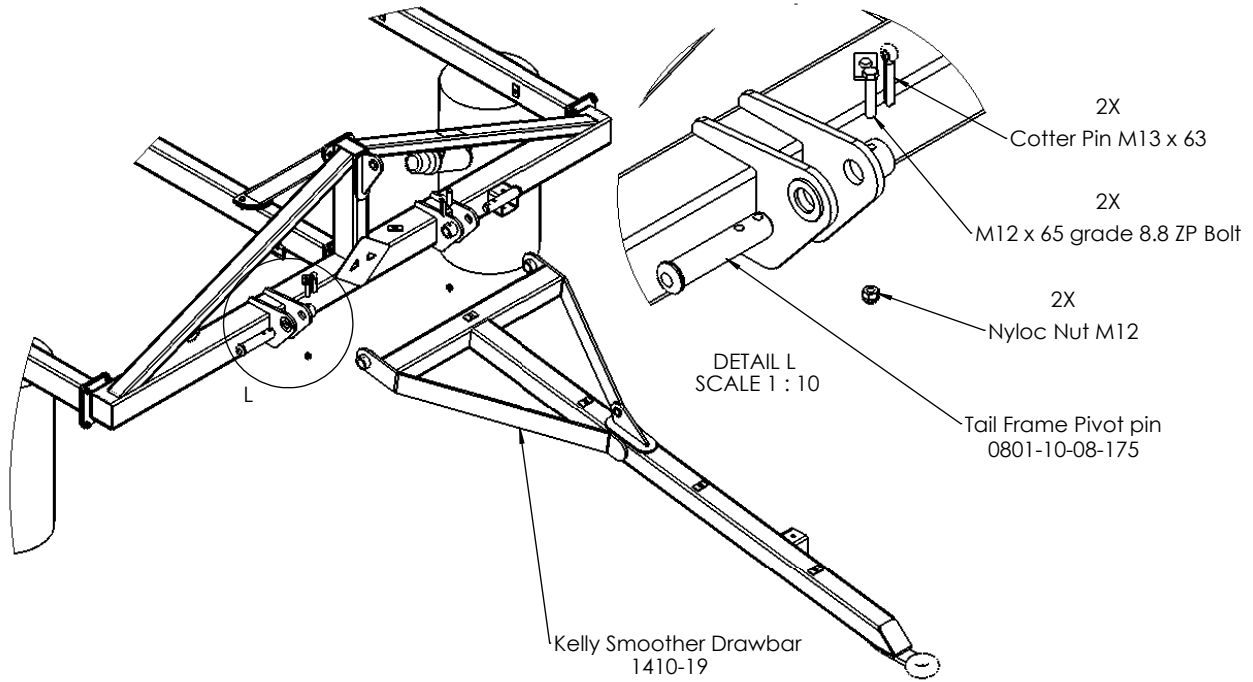
TRAVEL →

Step 12: Install the axles and wheels using the axle clamp plates and bolts provided. Fit all bolts loosely before finally tightening. Use bolt kit bag 6

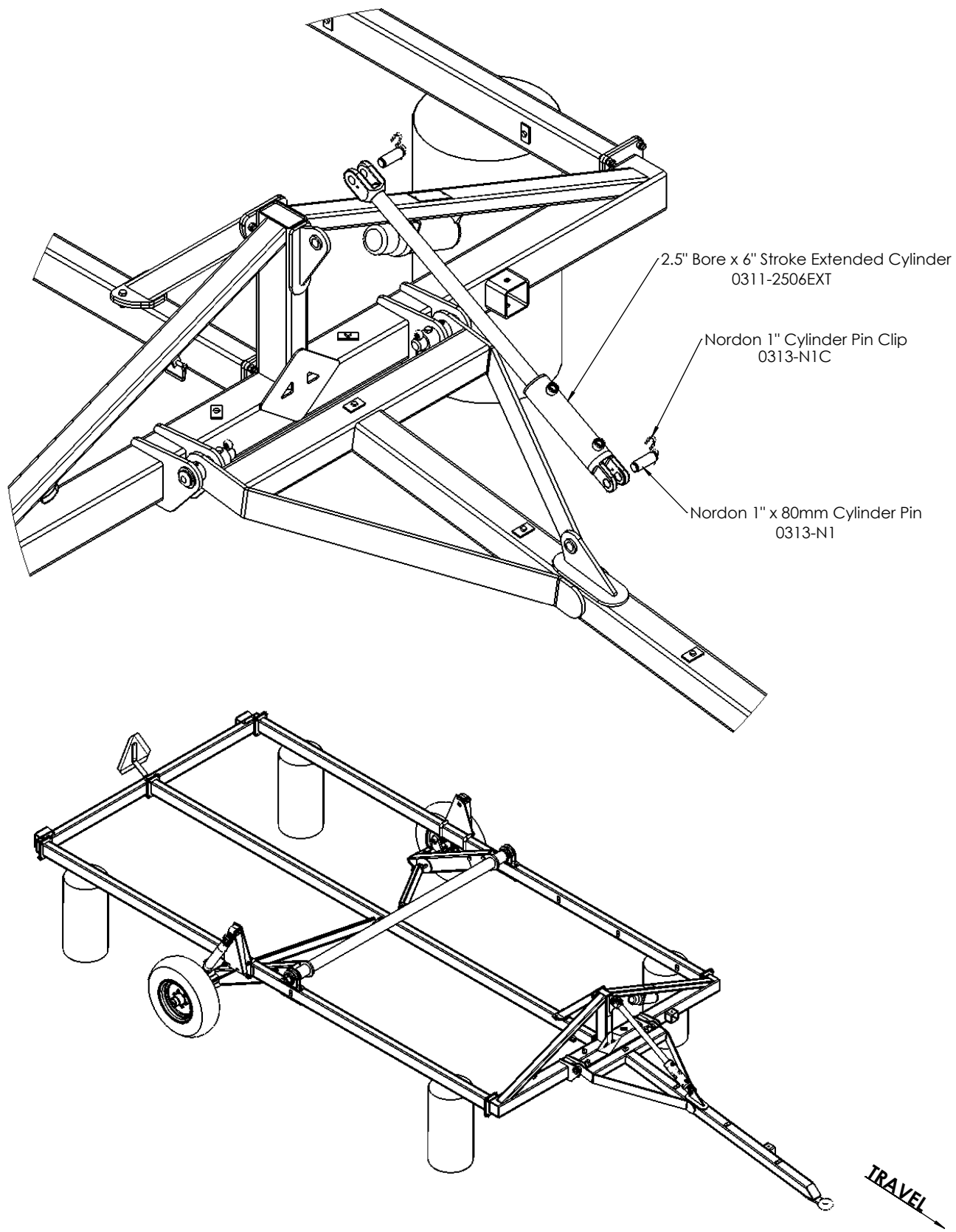


TRAVEL →

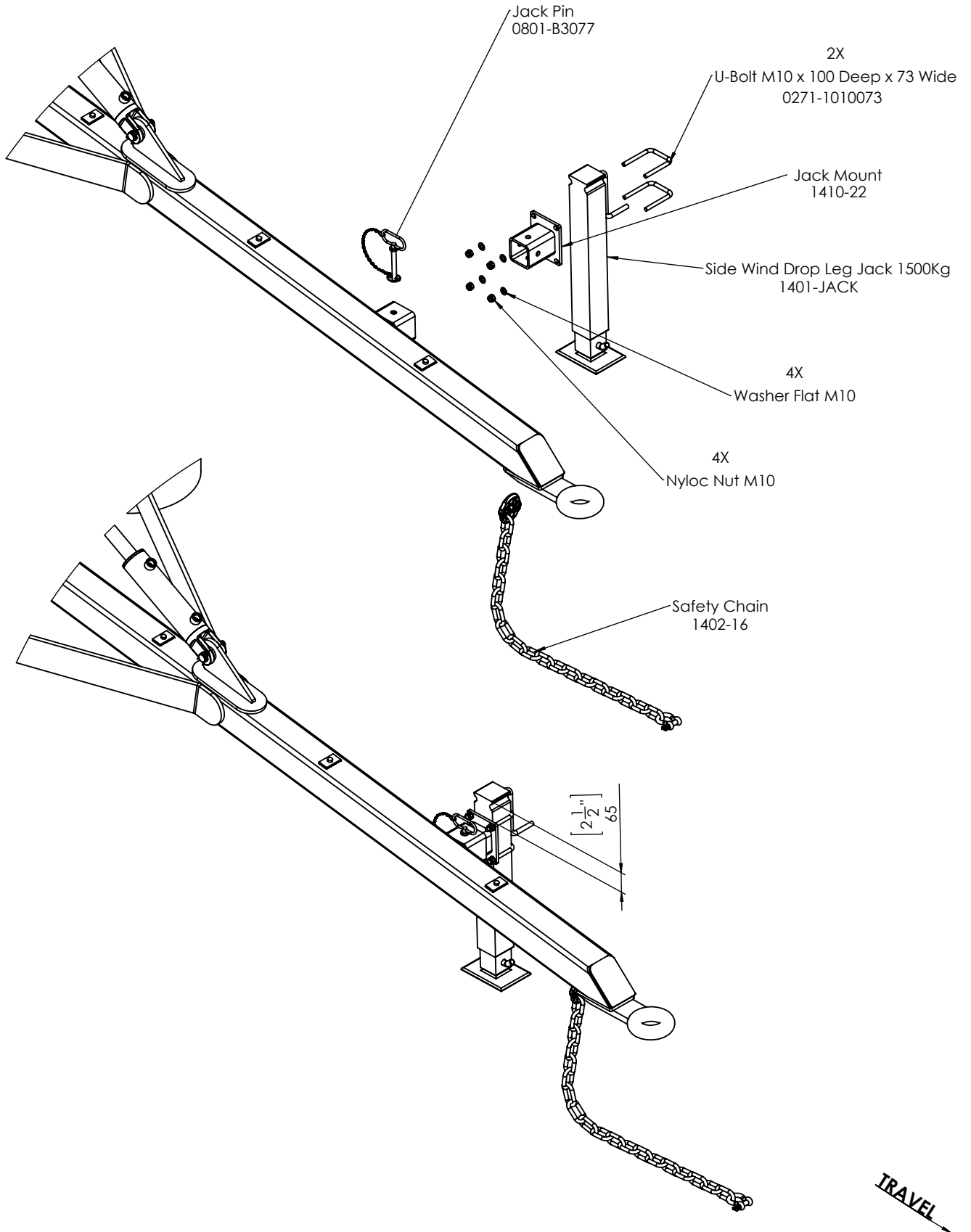
Step 13: Using appropriate lifting equipment lift the Drawbar into position and install using the pins, bolts and cotter pin supplied. (Ensuring hydraulic cylinder mount is facing up as shown below). Use bolt kit bag 1



Step 14: Install the 2.5" Bore x 6" Stroke Extended Cylinder using the pins and clips supplied. Install with ports facing up and rod end facing up.

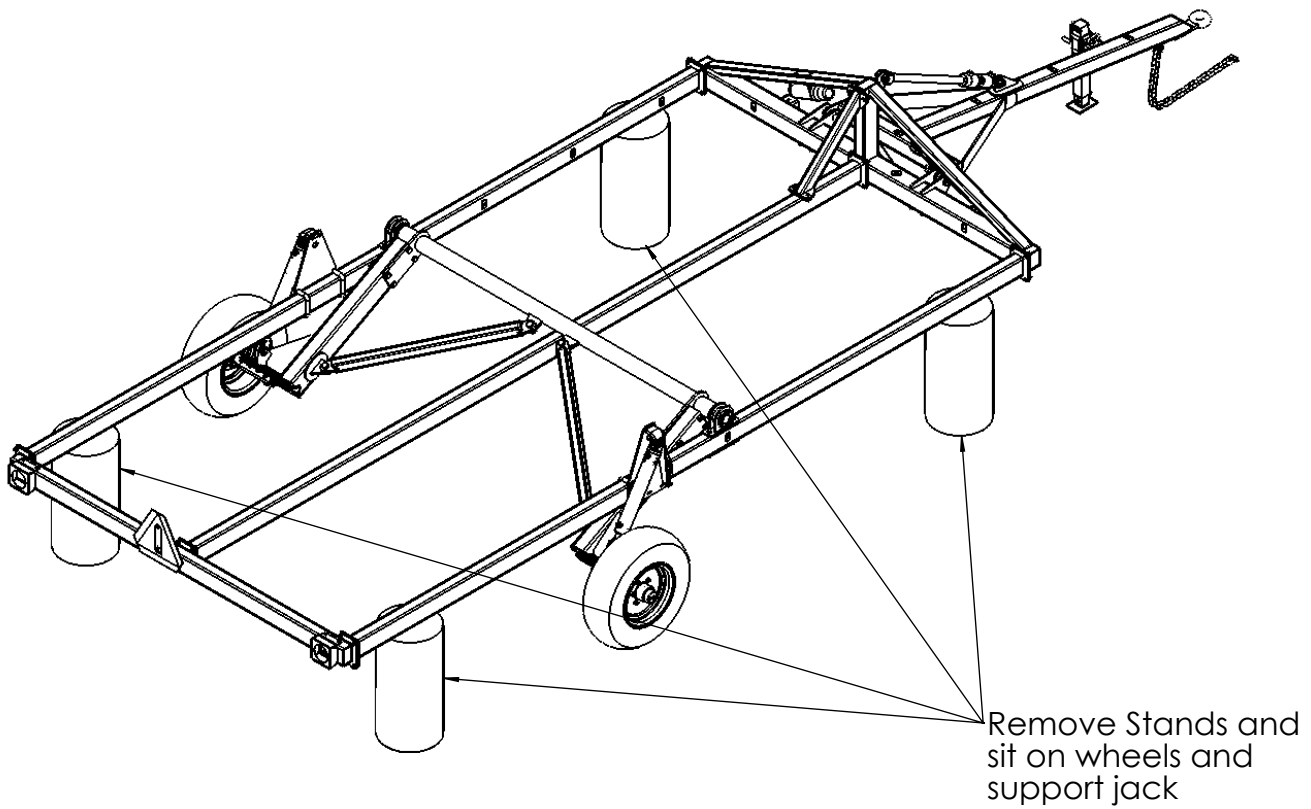


Step 15: Install the jack mount on the jack using the U-bolts provided. Install jack and mount into the receiver with the jack pin. Attach the safety chain using the supplied chain connector. Use bolt kit bag 10

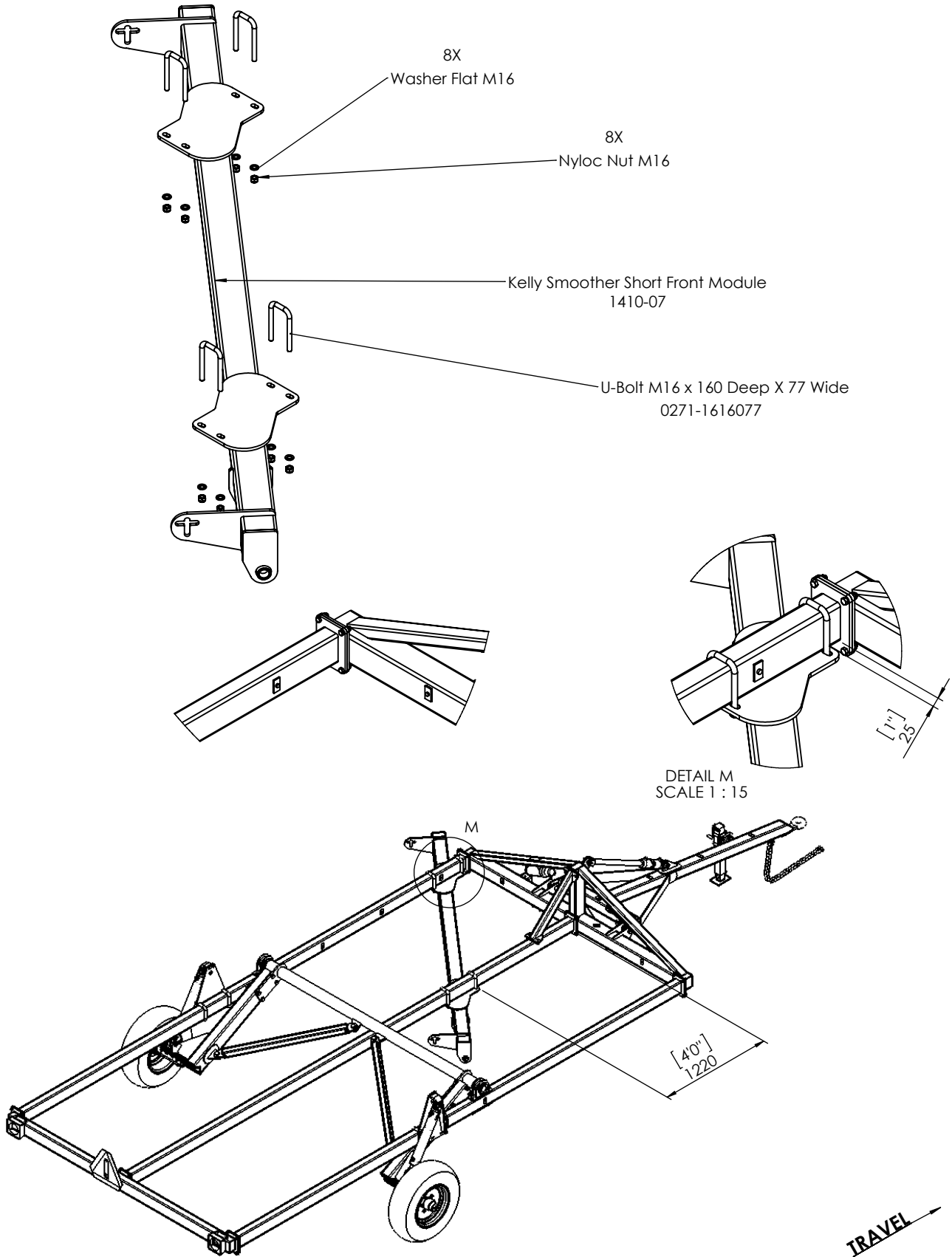


Step 16: Using appropriate lifting equipment lift the machine and remove the stands.

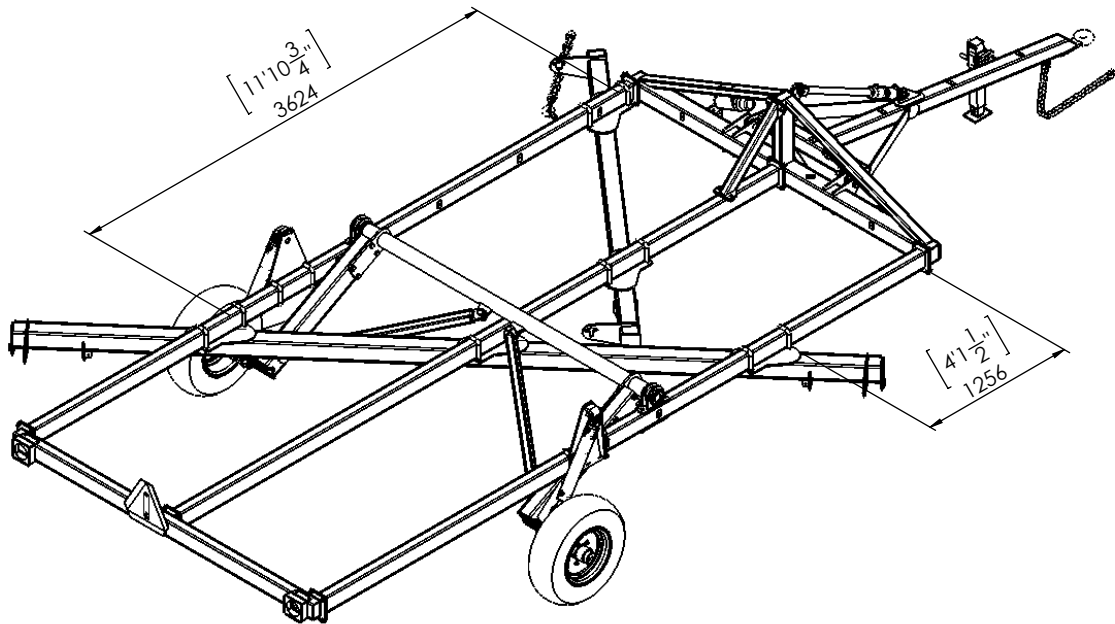
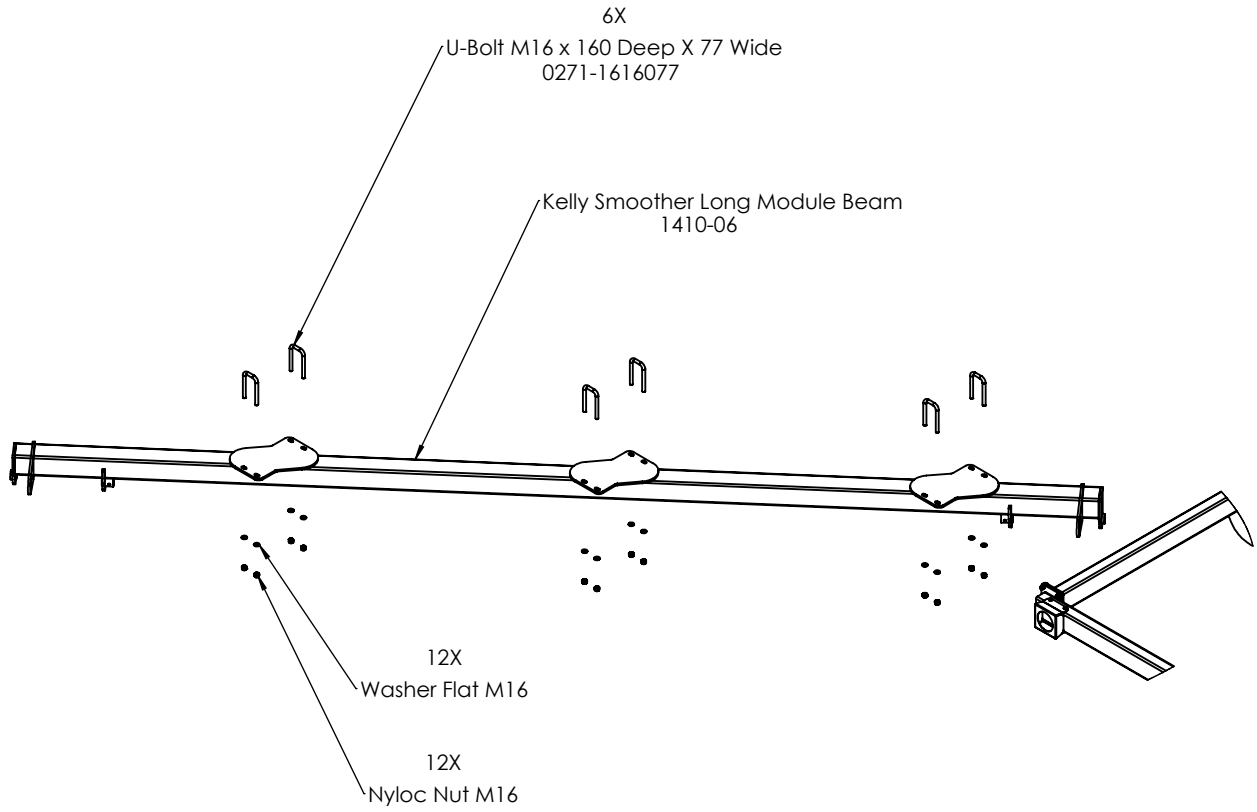
Alternatively if suitable lifting equipment is not available the machine hydraulics can be connected as per page 34-37 and the machine can be raised using the hydraulics to remove the stands.



Step 17: Using appropriate lifting equipment lift the short front module into position and attach with the U-Bolts supplied. Use bolt kit bag 4

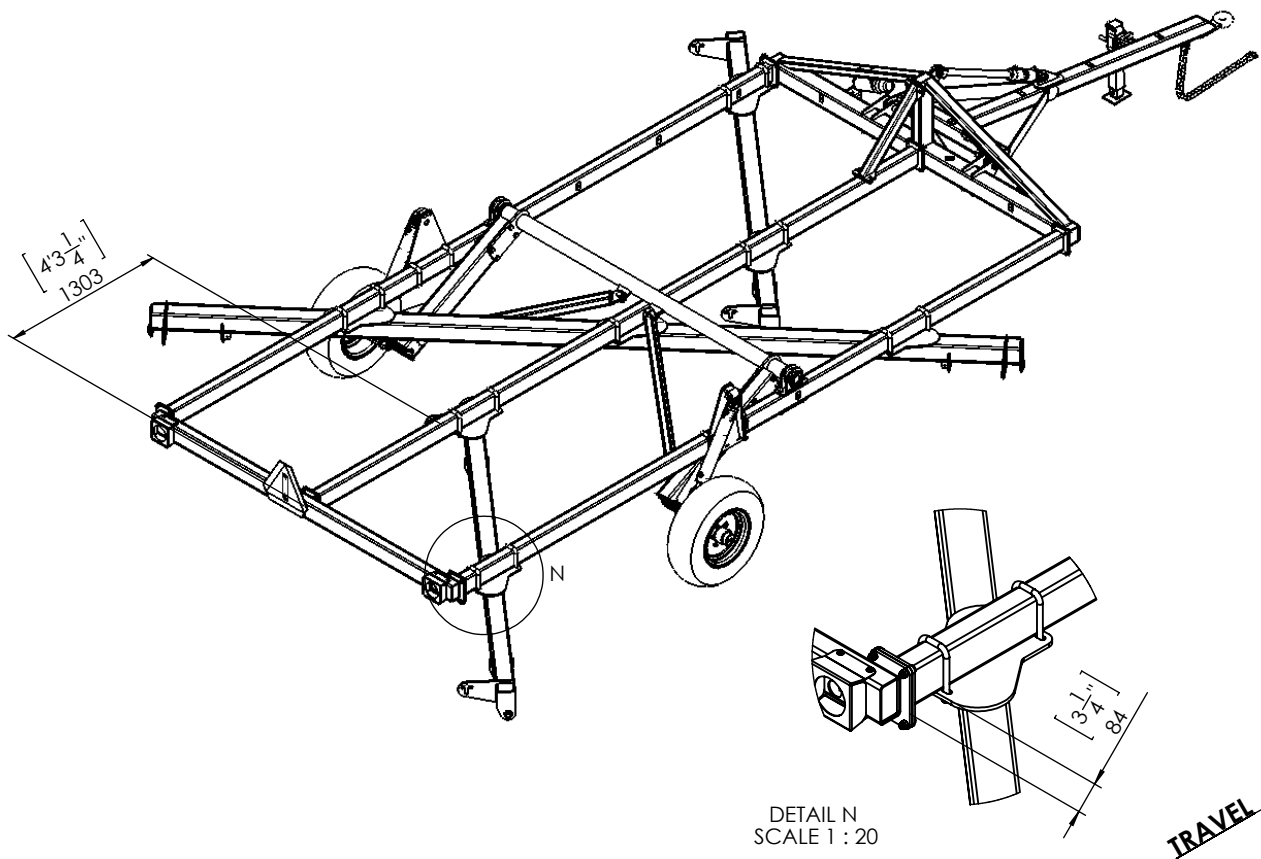
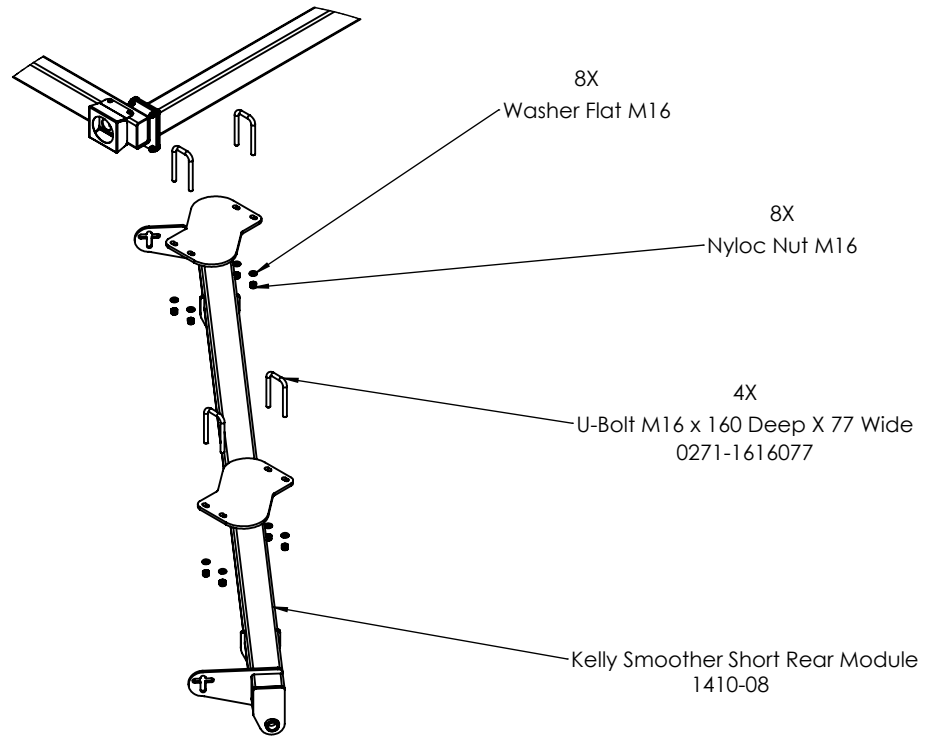


Step 18: Using appropriate lifting equipment lift the long module beam into position and attach with the U-Bolts supplied. Use bolt kit bag 3

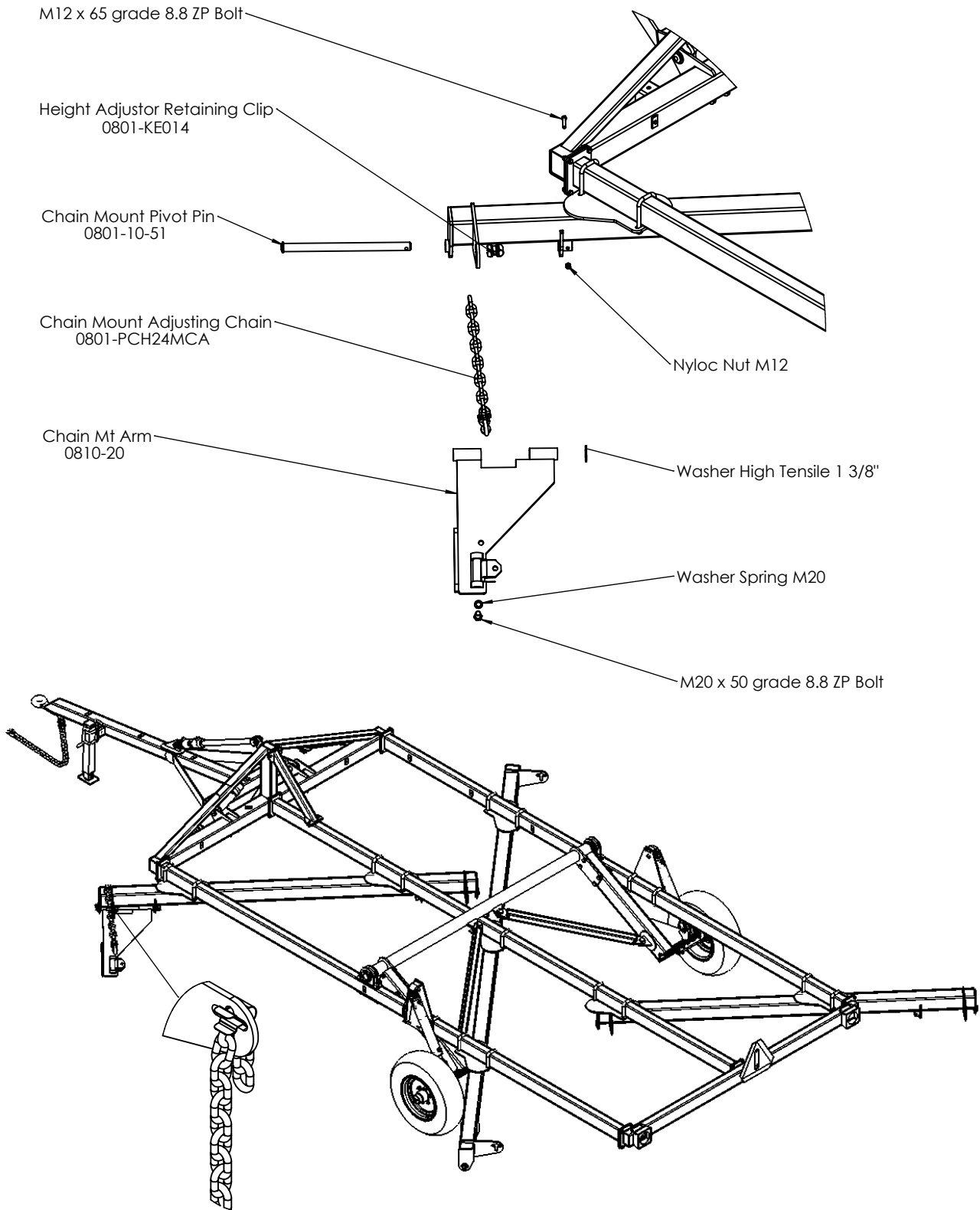


TRAVEL →

Step 19: Using appropriate lifting equipment lift the short rear module into position and attach with the U-Bolts supplied. Use bolt kit bag 5



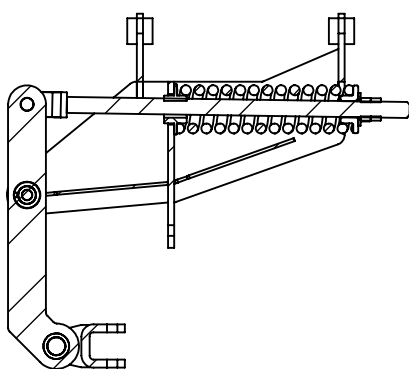
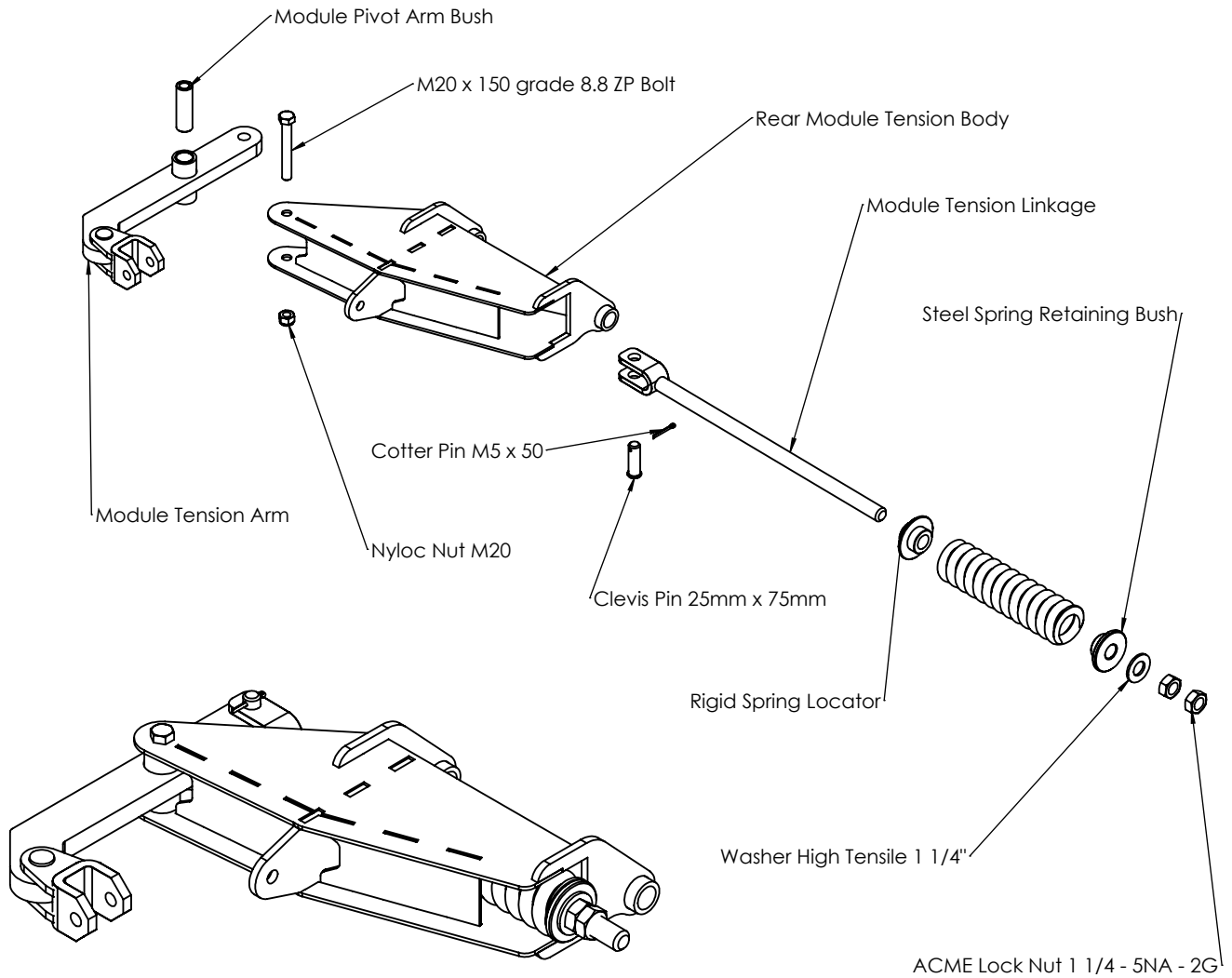
Step 20: Install the front chain mount plate and adjusting chain using the pin and bolts supplied. Use bolt kit bag 3



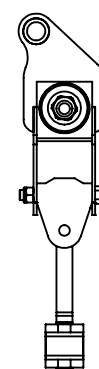
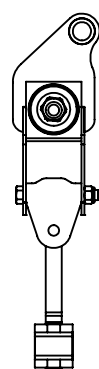
Fit adjusting chain through key hole in plate, using the supplied retaining clip to hold in place

← TRAVEL

Step 21: Assemble the 3 chain tension assemblies shown below, 2 required with the "rear" body (for the short front and short rear modules) and one required with the "front" body (for the long middle module).

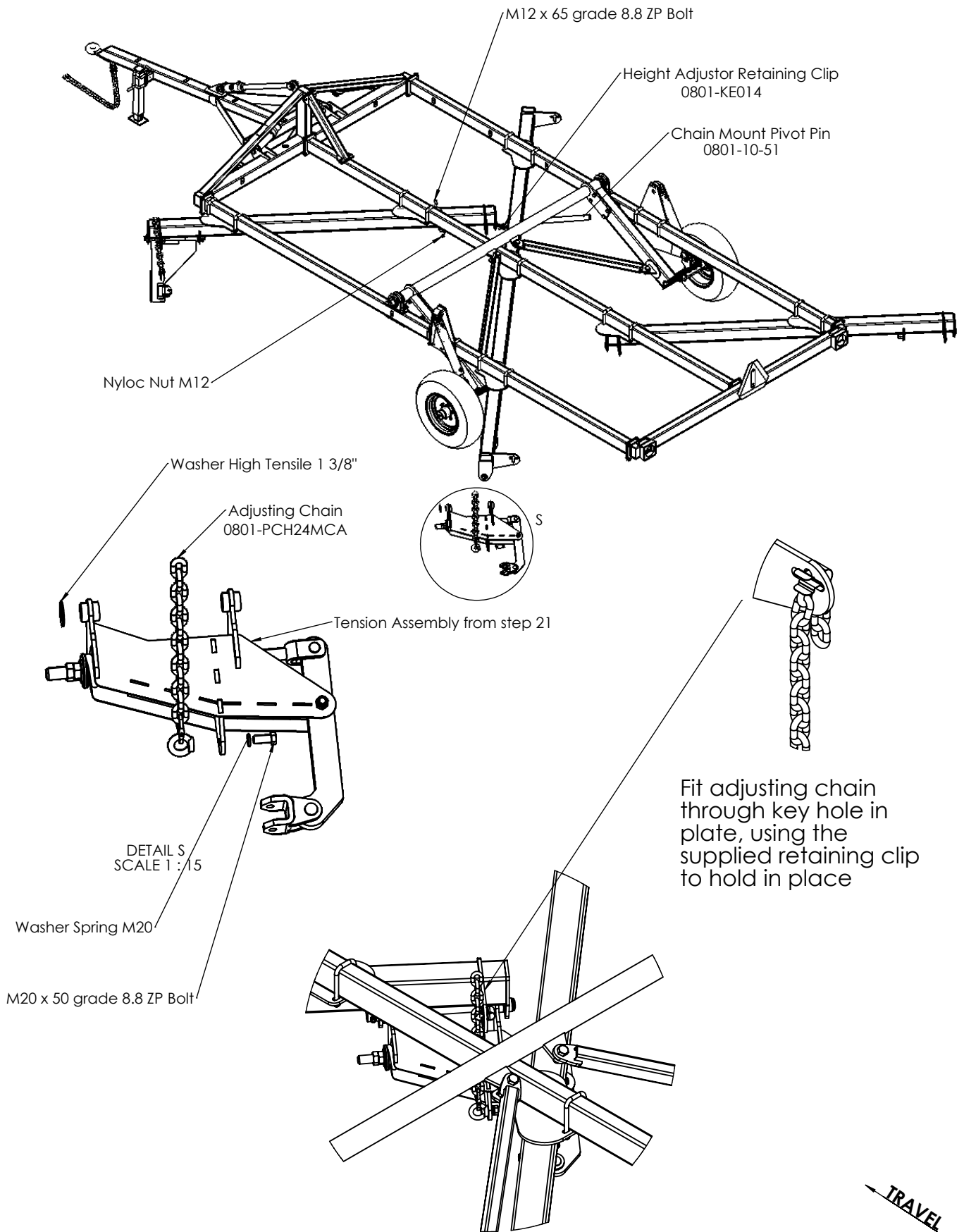


Rear module tension assembly used on both short modules

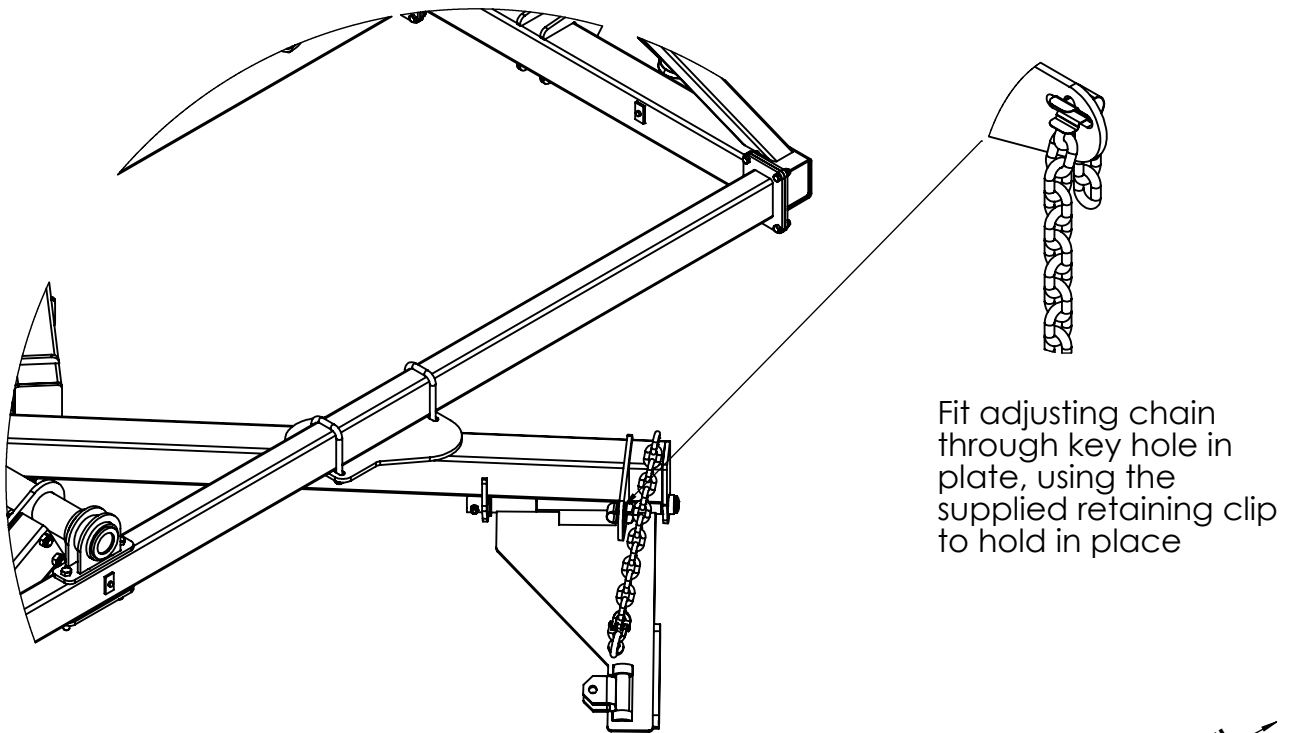
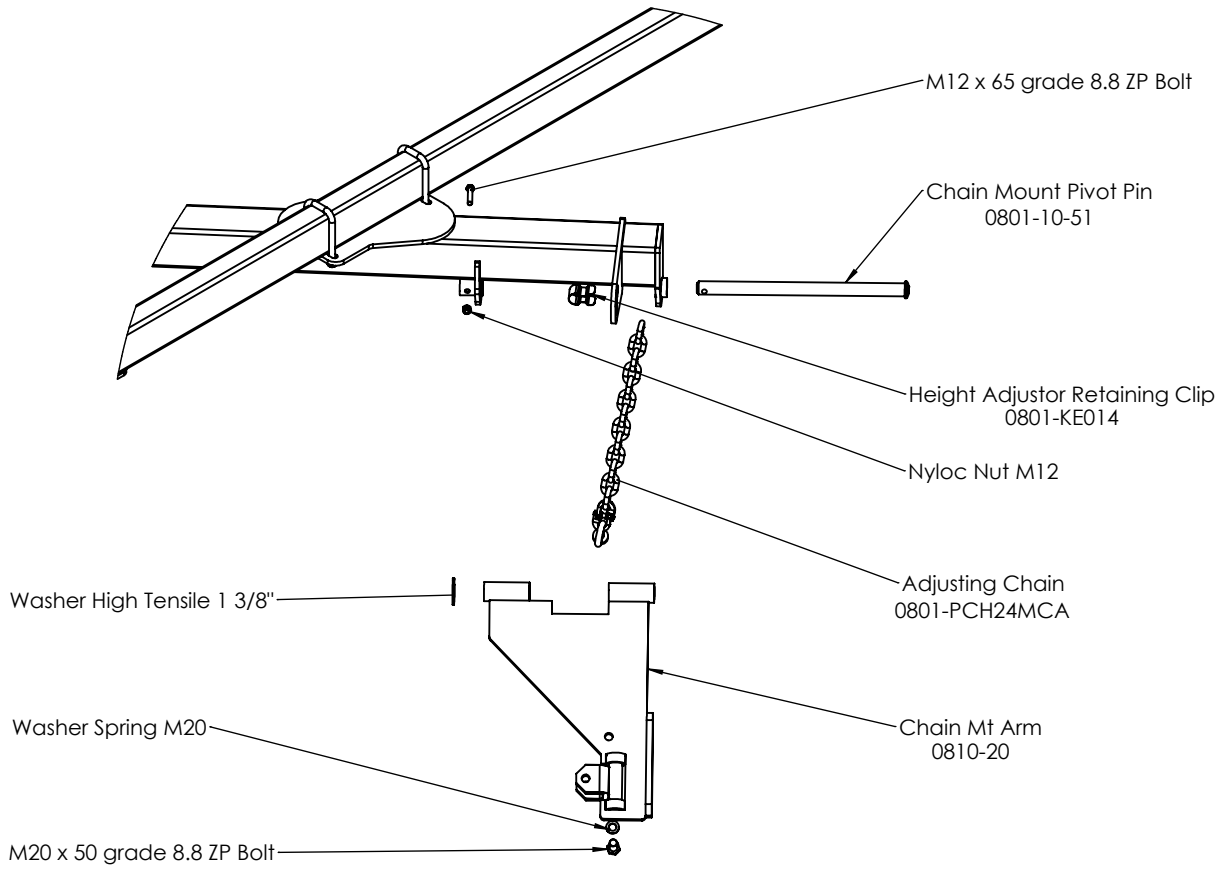


Front module tension assembly used on long module

Step 22: Install one of the rear module tension assemblies from step 21 and the adjusting chain using the pin and bolts provided. Use bolt kit bag 3

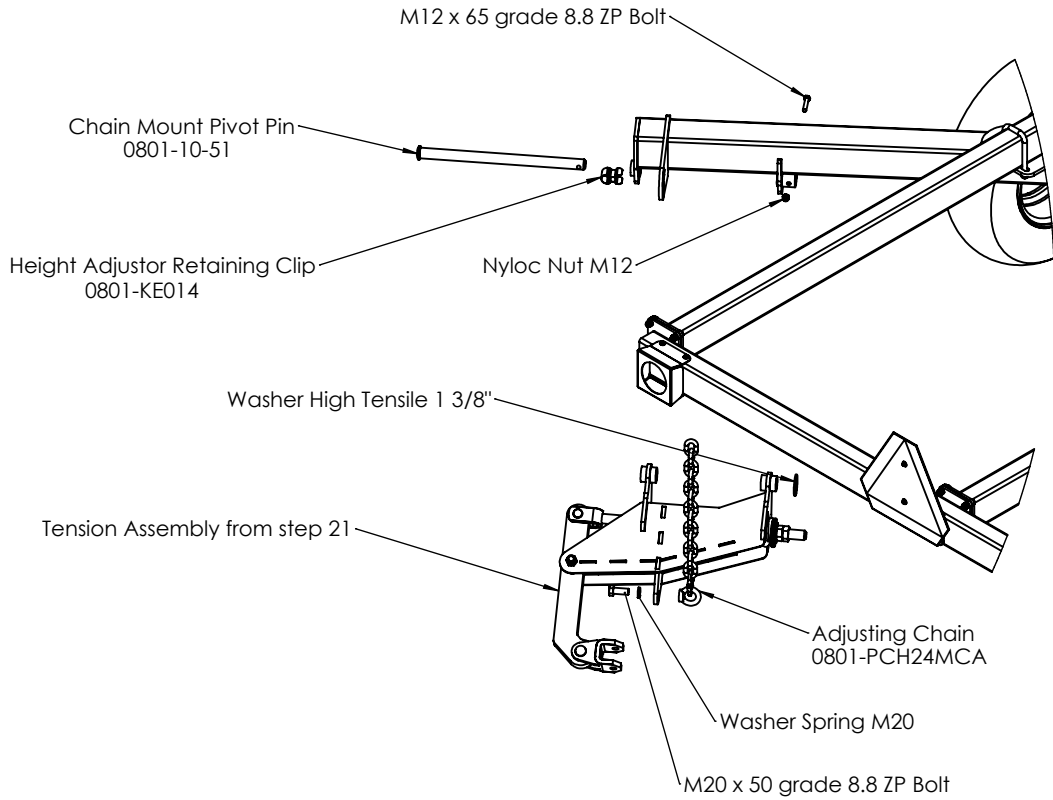


Step 23: Install the Middle chain mount plate and adjusting chain using the pin and bolts supplied. Use bolt kit bag 4

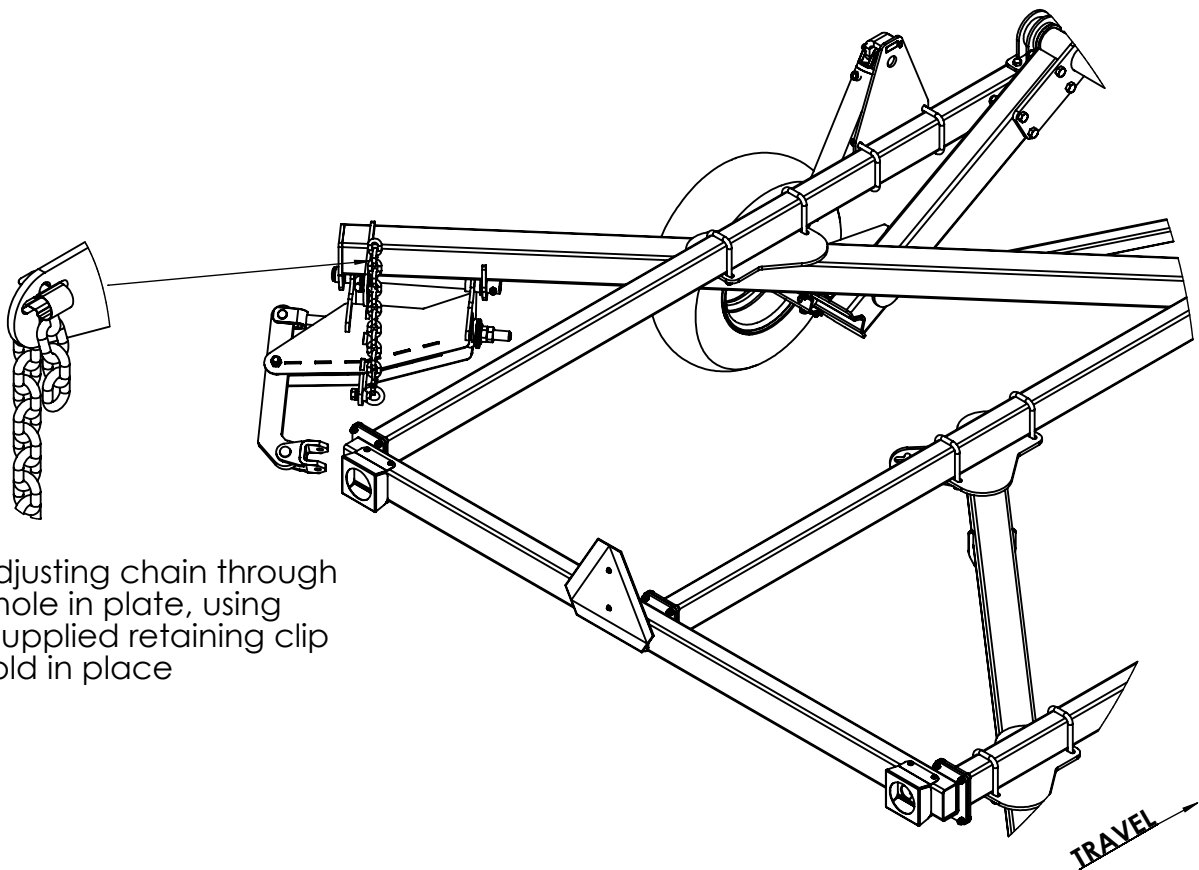


TRAVEL →

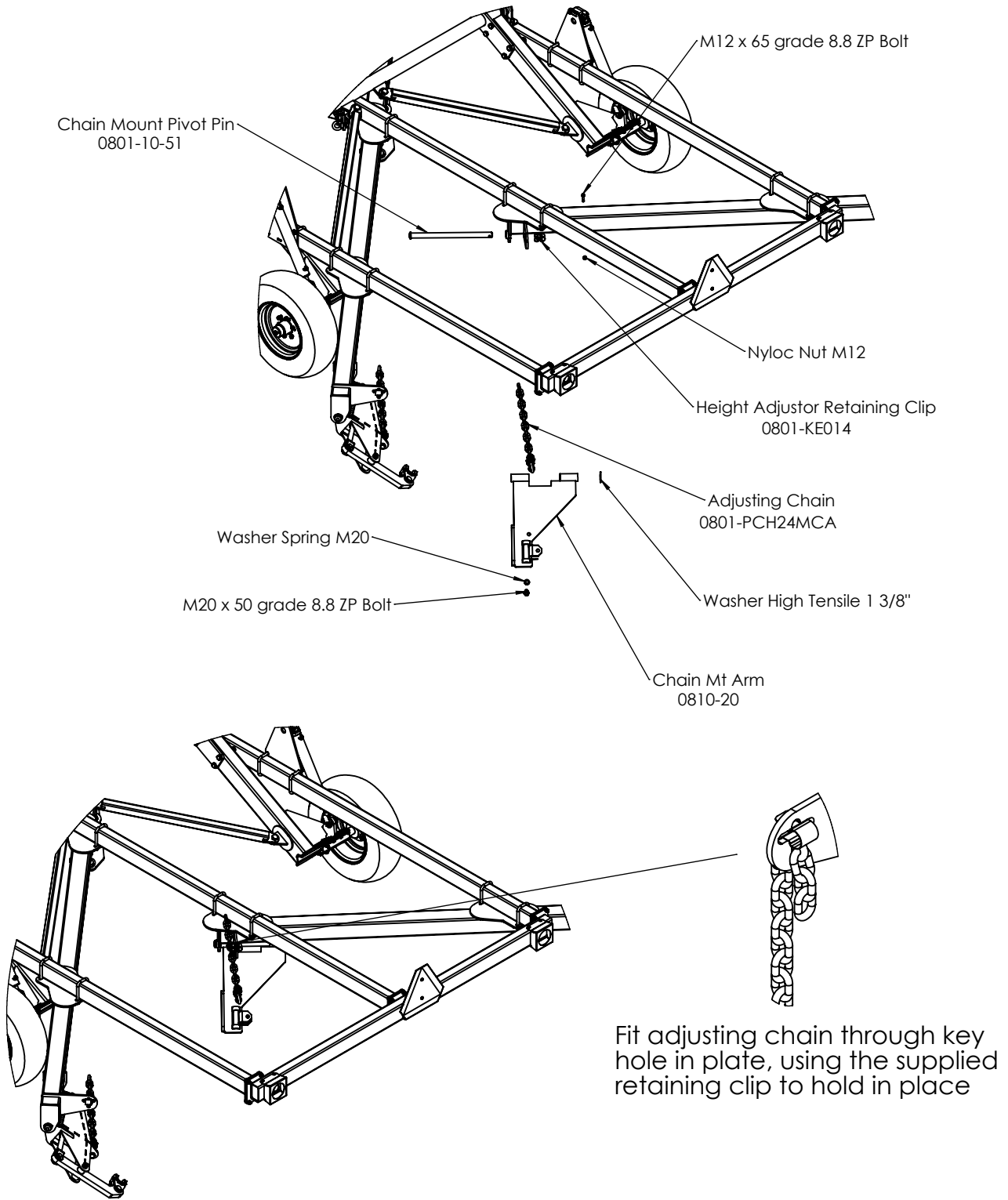
Step 24: Install the front chain tension assembly from the step 21 and the adjusting chain using the pin and bolts provided. Use bolt kit bag 4



Fit adjusting chain through key hole in plate, using the supplied retaining clip to hold in place

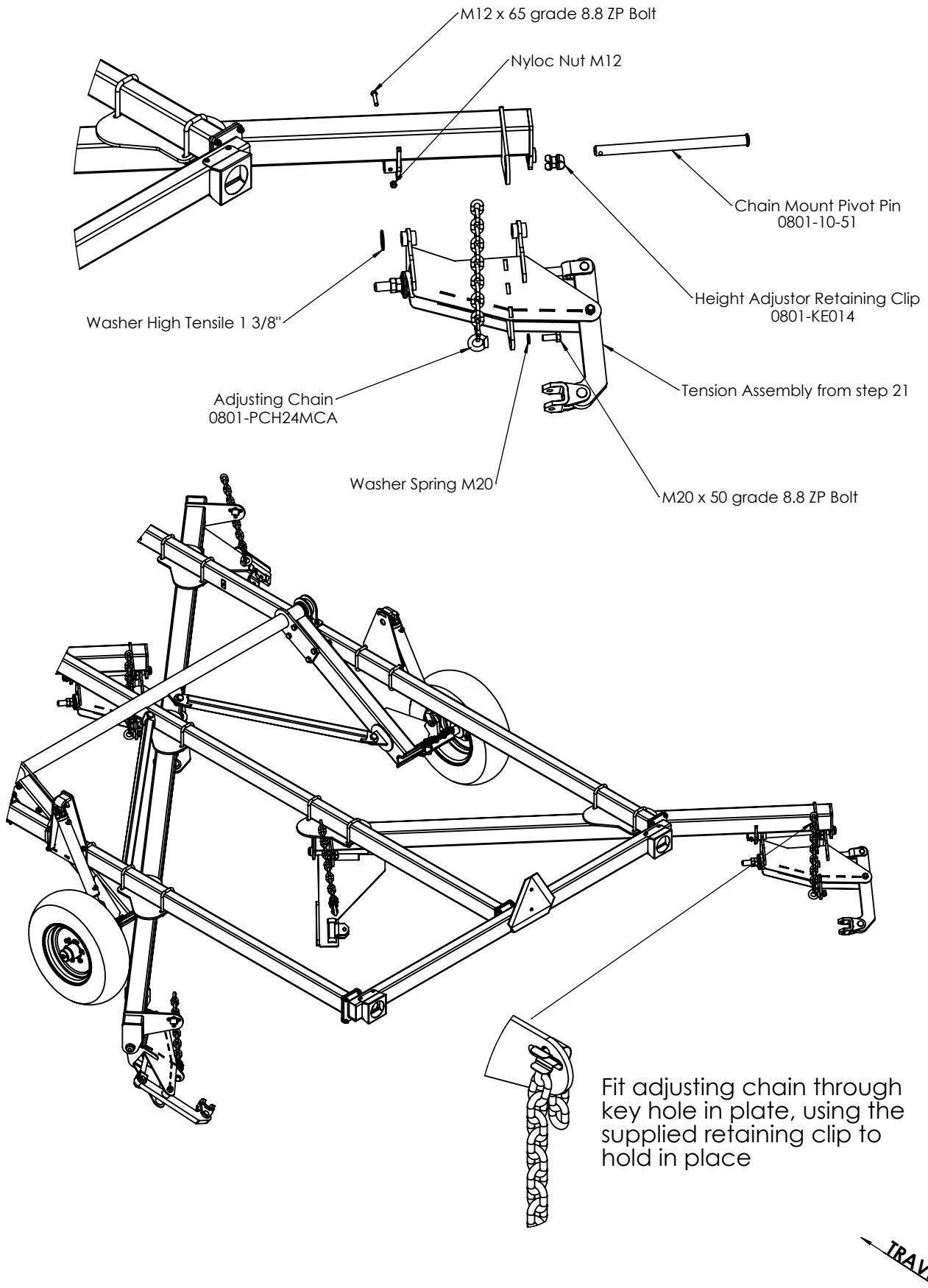


Step 25: Install the rear chain mount plate and adjusting chain using the pin and bolts supplied. Use bolt kit bag 5

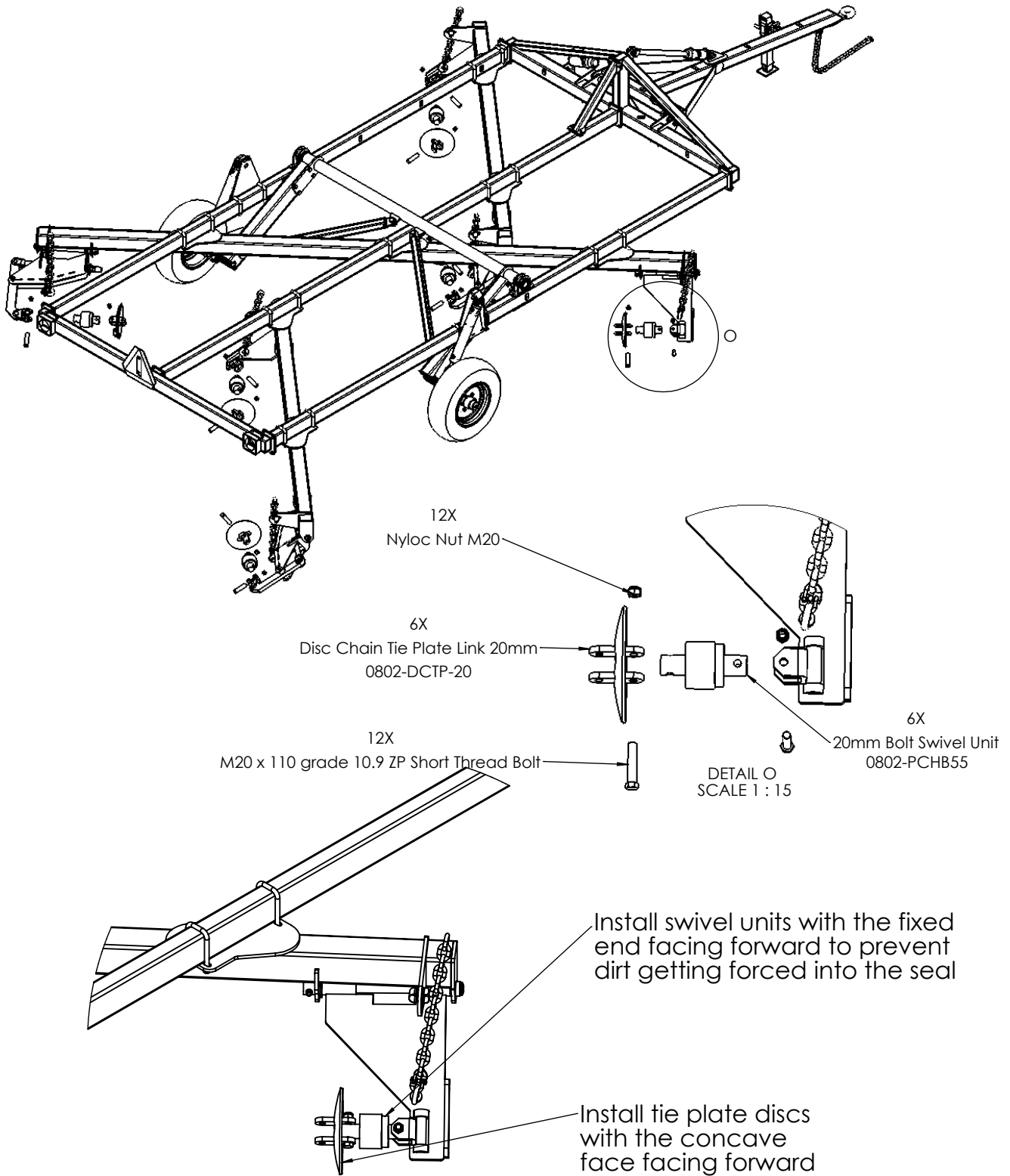


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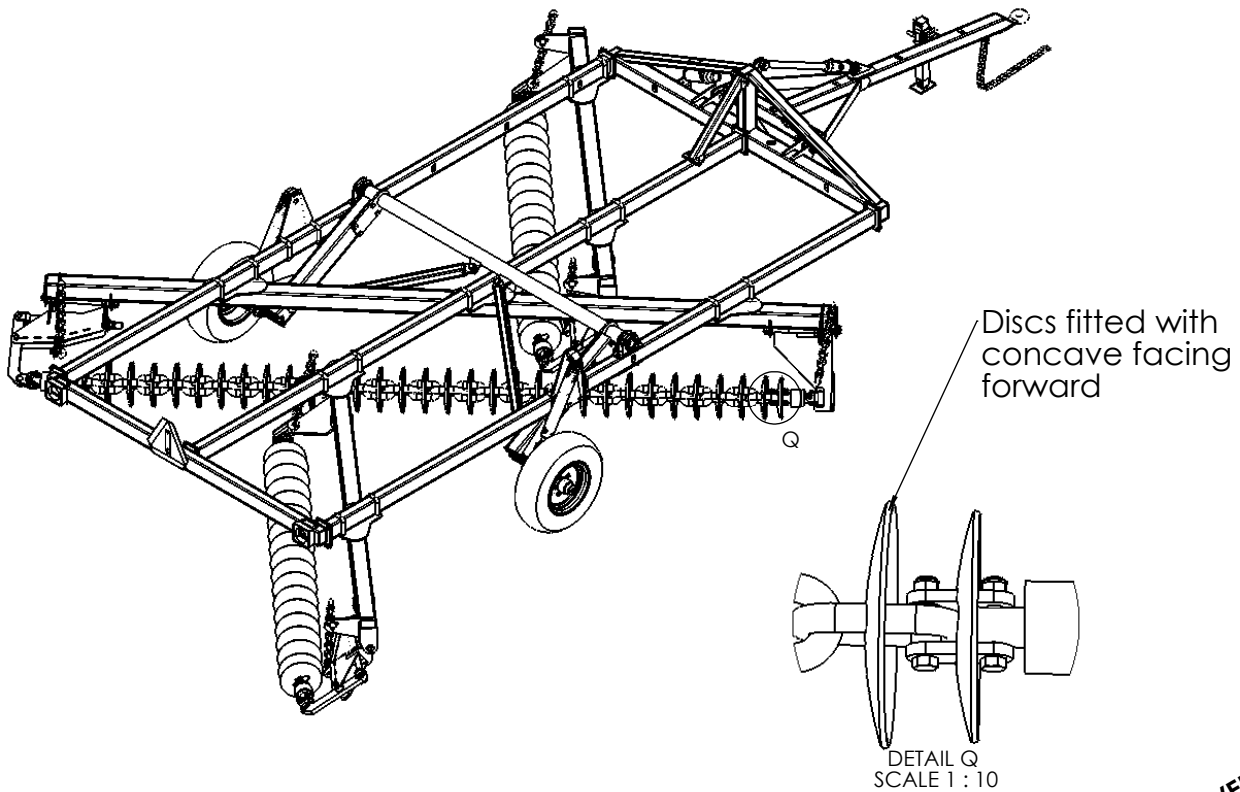
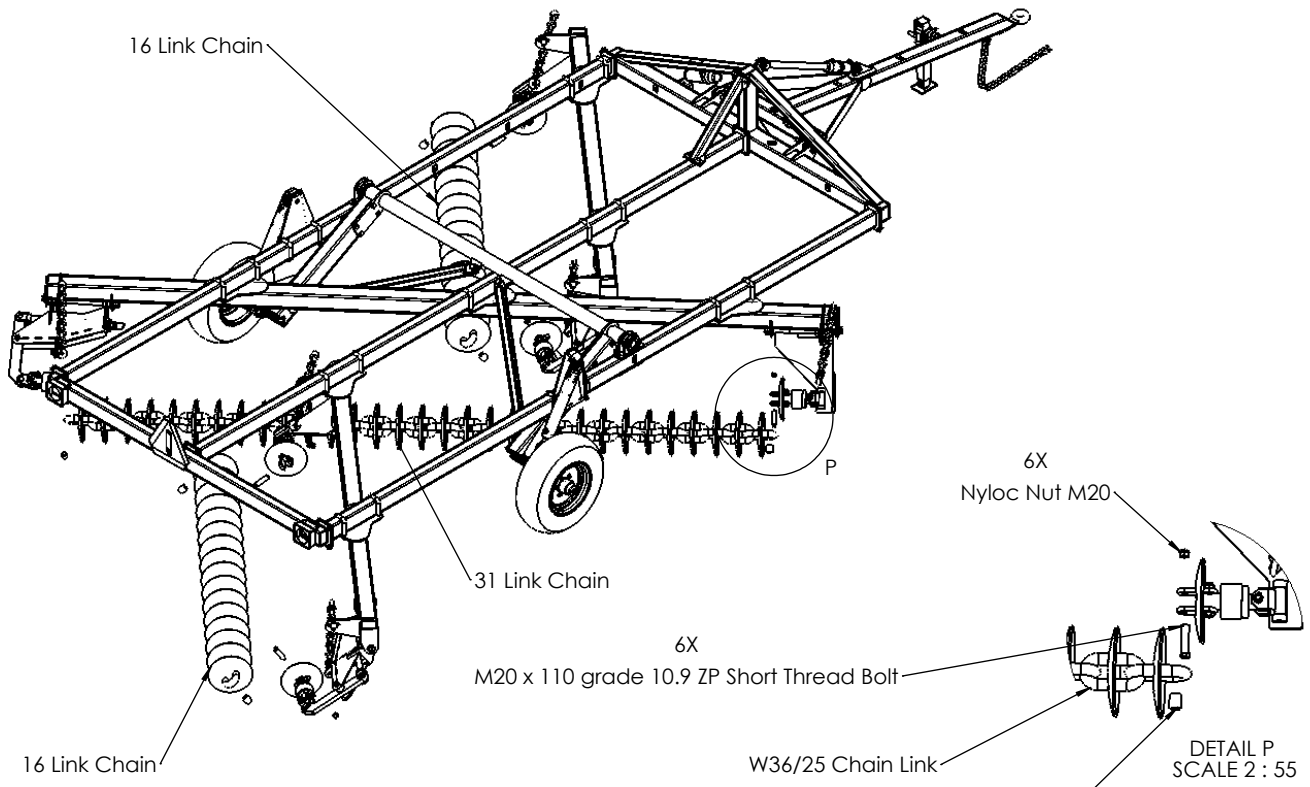
Step 26: Install the rear chain tension assembly from step 21 and the adjusting chain using the pin and bolts provided. Use bolt kit bag 5



Step 27: Install tie plate discs and swivel unit using the bolts supplied. Fit swivel units with the fixed end facing forward to prevent dirt getting forced into the seal of the swivel. Fit the disc chain tie plate discs with the concave face facing forward. Use bolt kit bags 3,4,5

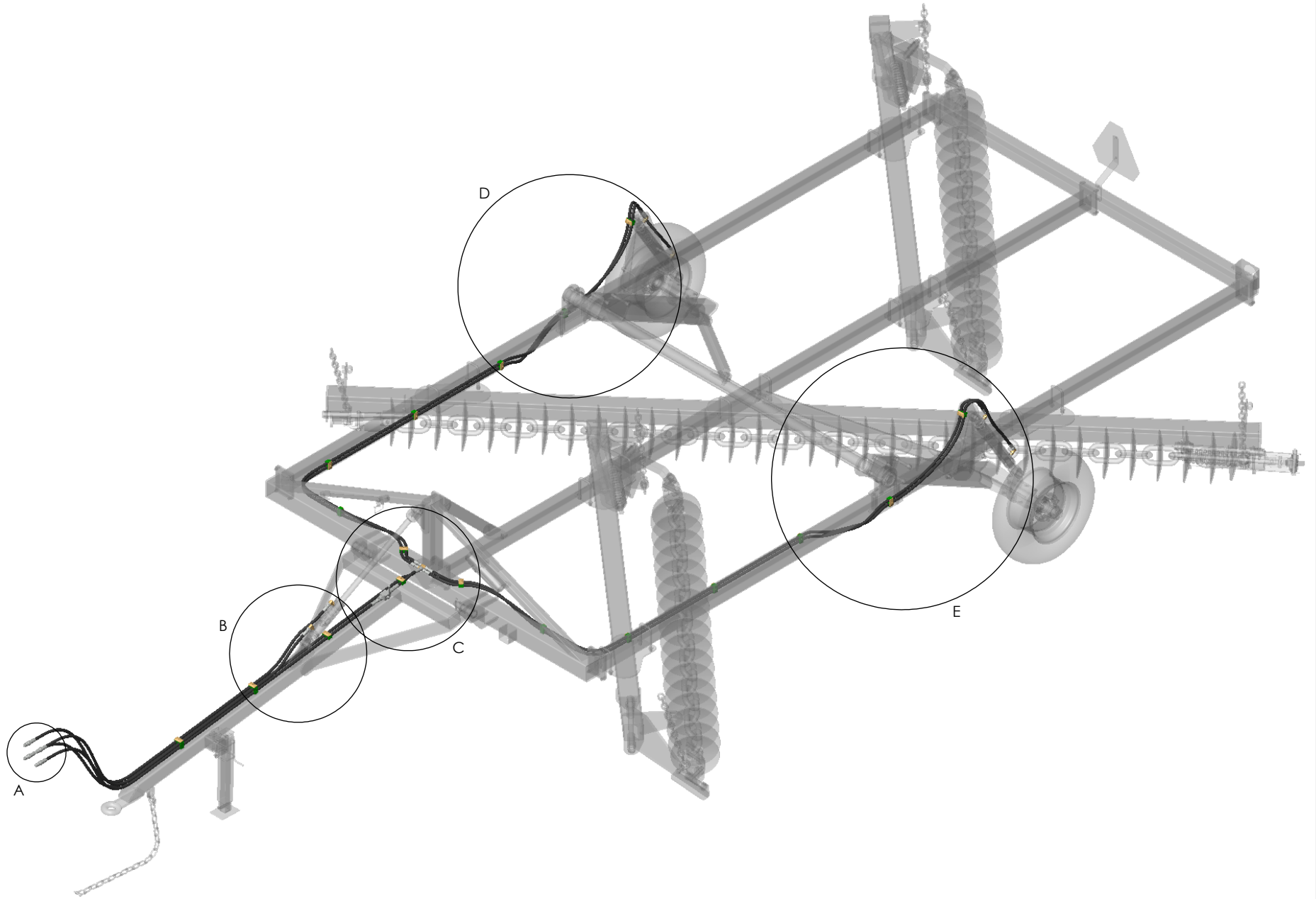


Step 28: Install disc chain lengths with the concave face facing forward

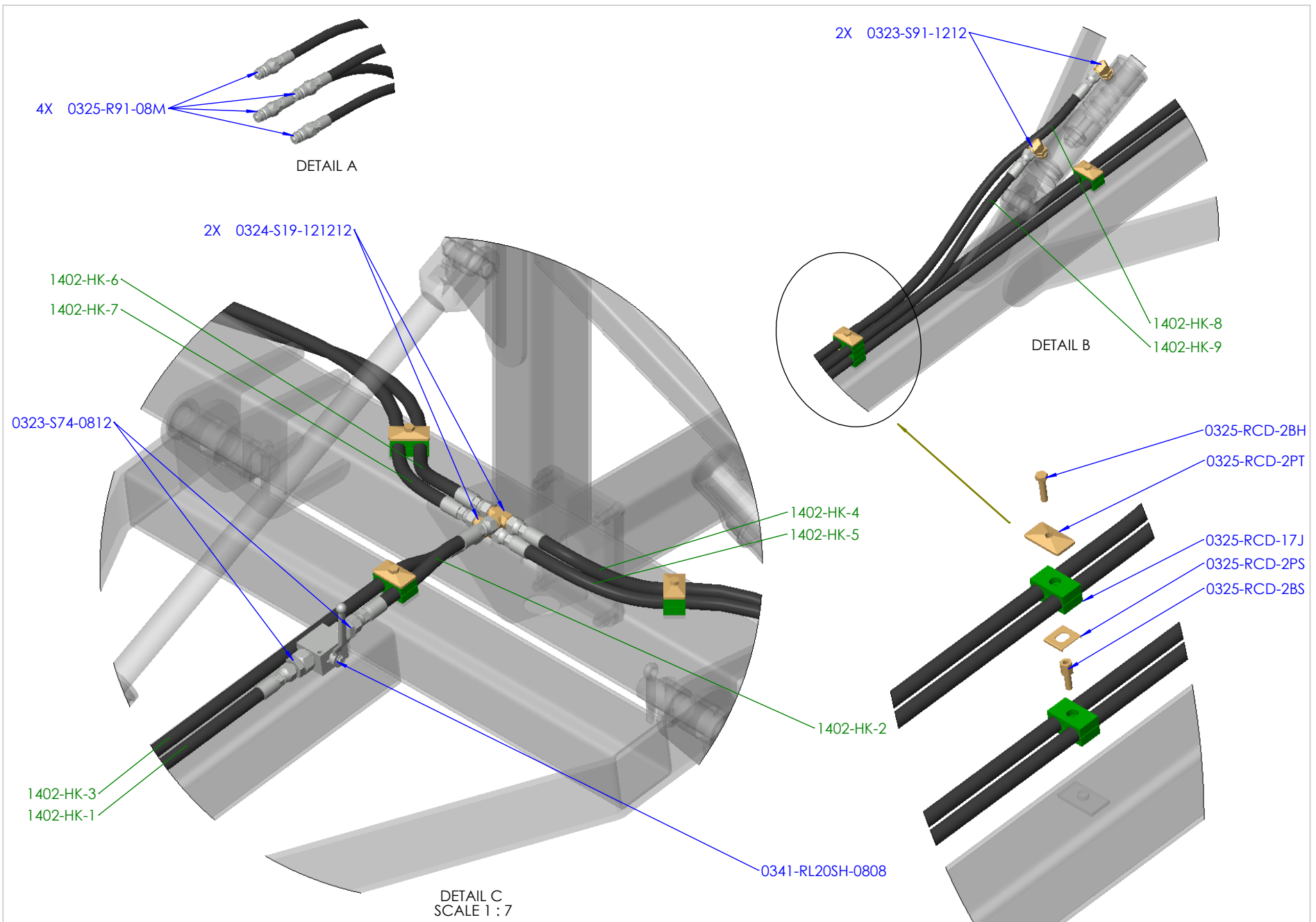


Section 3

Hydraulic set up



Part Number	Description	For Machines Built:	Revision
1402-HK	Kelly Smoother Hydraulic Kit	01/07/2014 (KS-115004) -	B

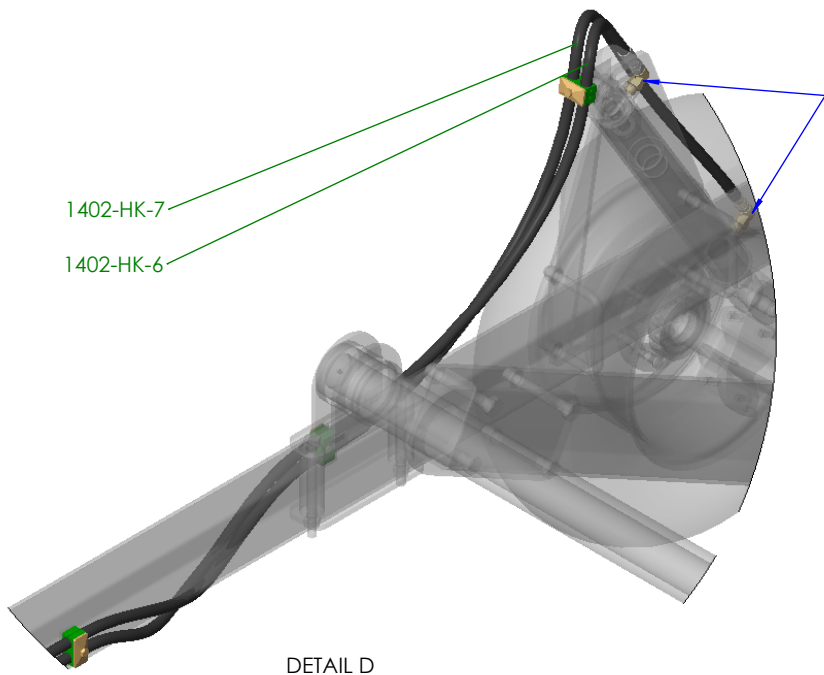


— = Hydraulic Hose Assemblies

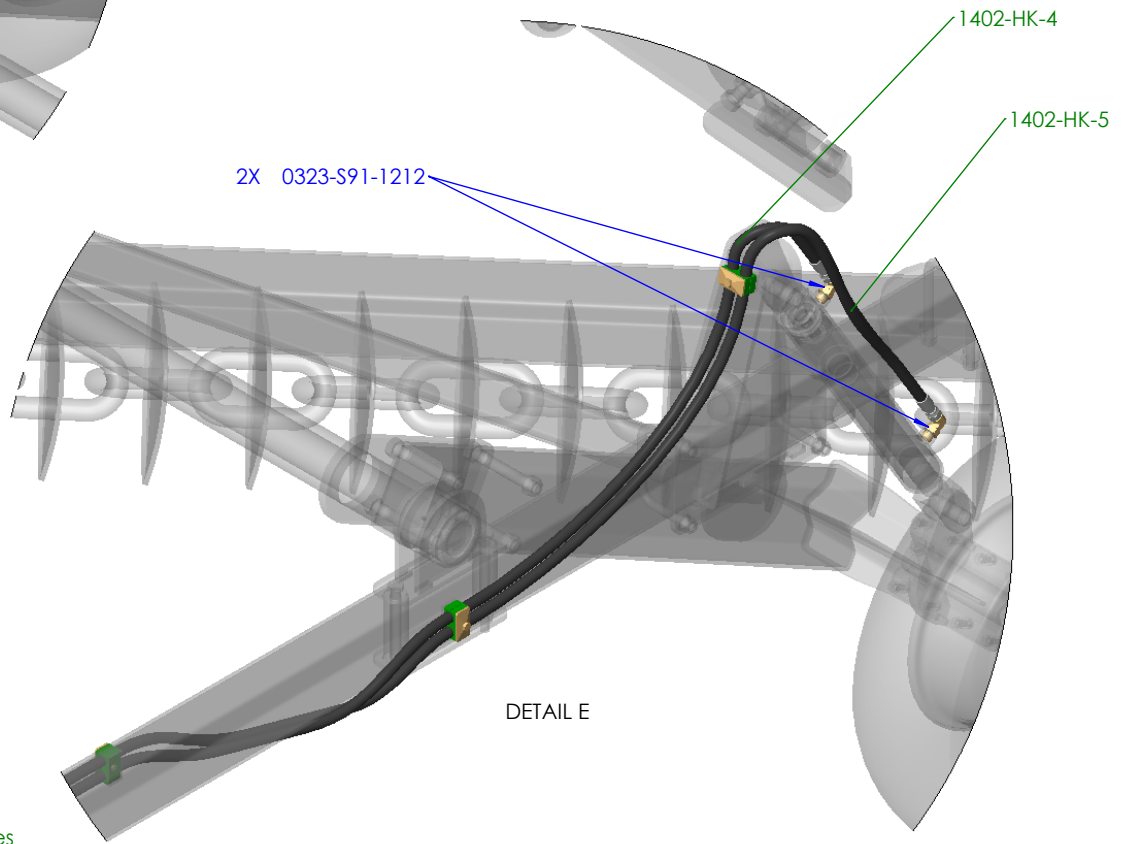
— = Hydraulic Fittings



Part Number	Description	For Machines Built:	Revision
1402-HK	Kelly Smoother Hydraulic Kit	01/07/2014 (KS-115004) -	B



DETAIL D



DETAIL E

— = Hydraulic Hose Assemblies

— = Hydraulic Fittings



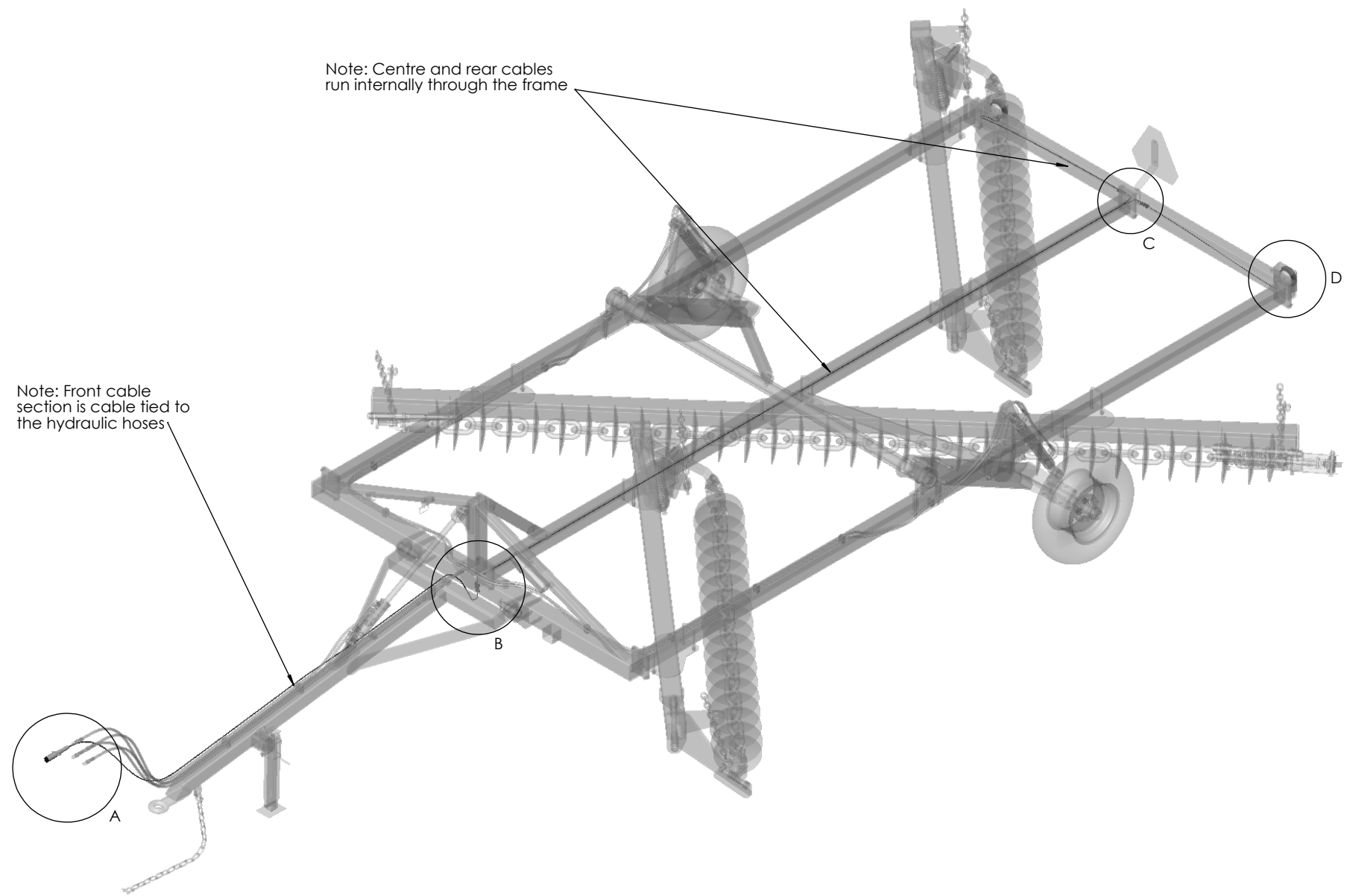
Part Number	Description	For Machines Built:	Revision
1402-HK	Kelly Smoother Hydraulic Kit	01/07/2014 (KS-115004) -	B

Section 4

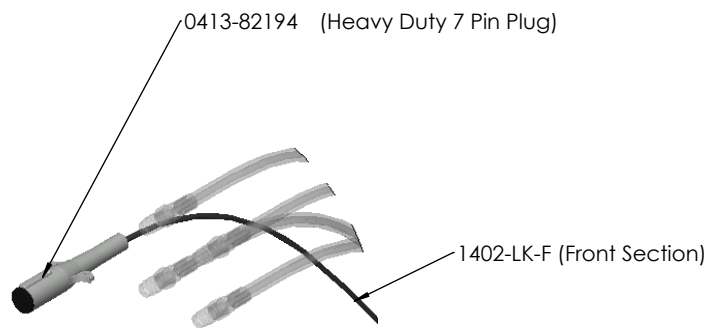
Electrical set up

Note: Centre and rear cables run internally through the frame

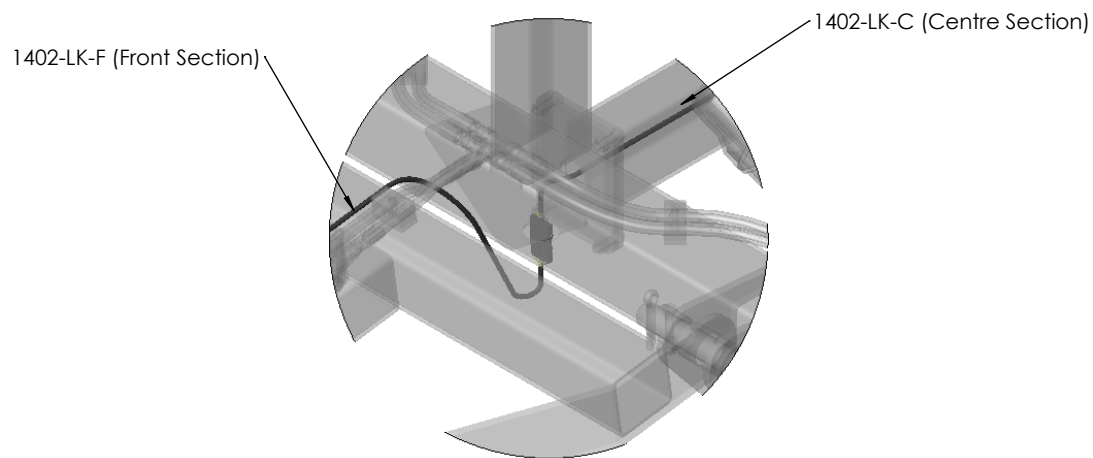
Note: Front cable section is cable tied to the hydraulic hoses



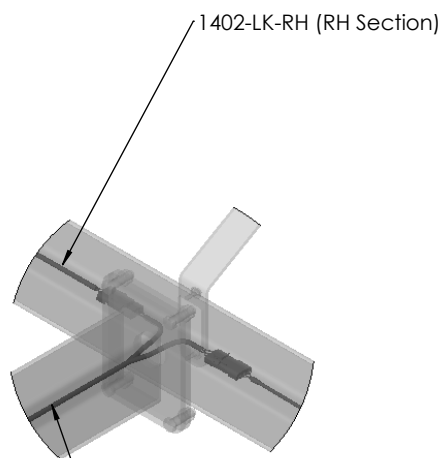
Part Number	Description	For Machines Built:	Revision
1402-LK	Levee Reclaimer Light Kit	01/07/2014 (KS-115004) -	B



DETAIL A

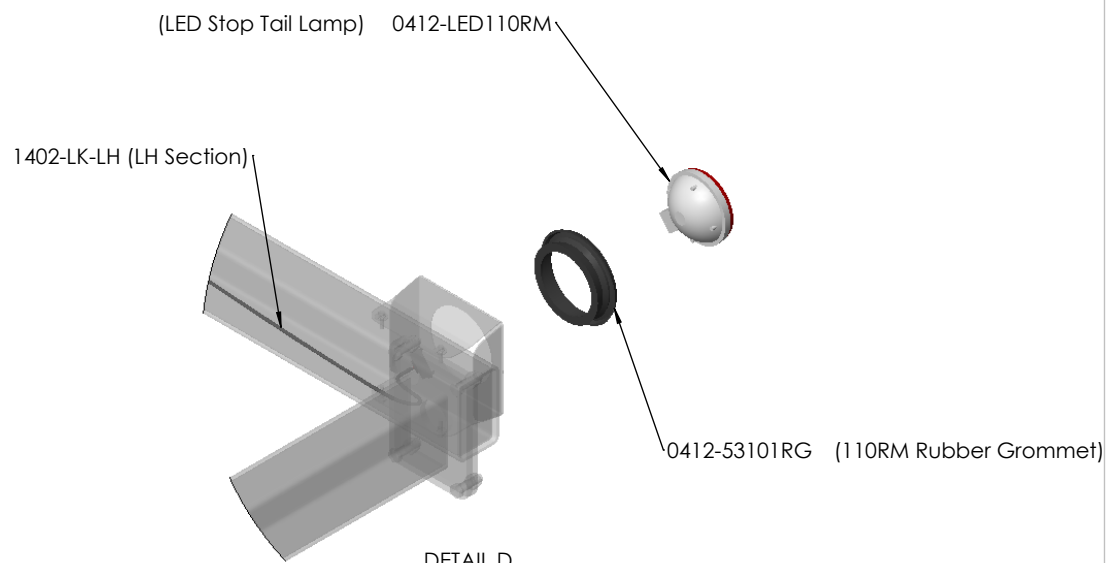


DETAIL B



DETAIL C

1402-LK-C (Centre Section)



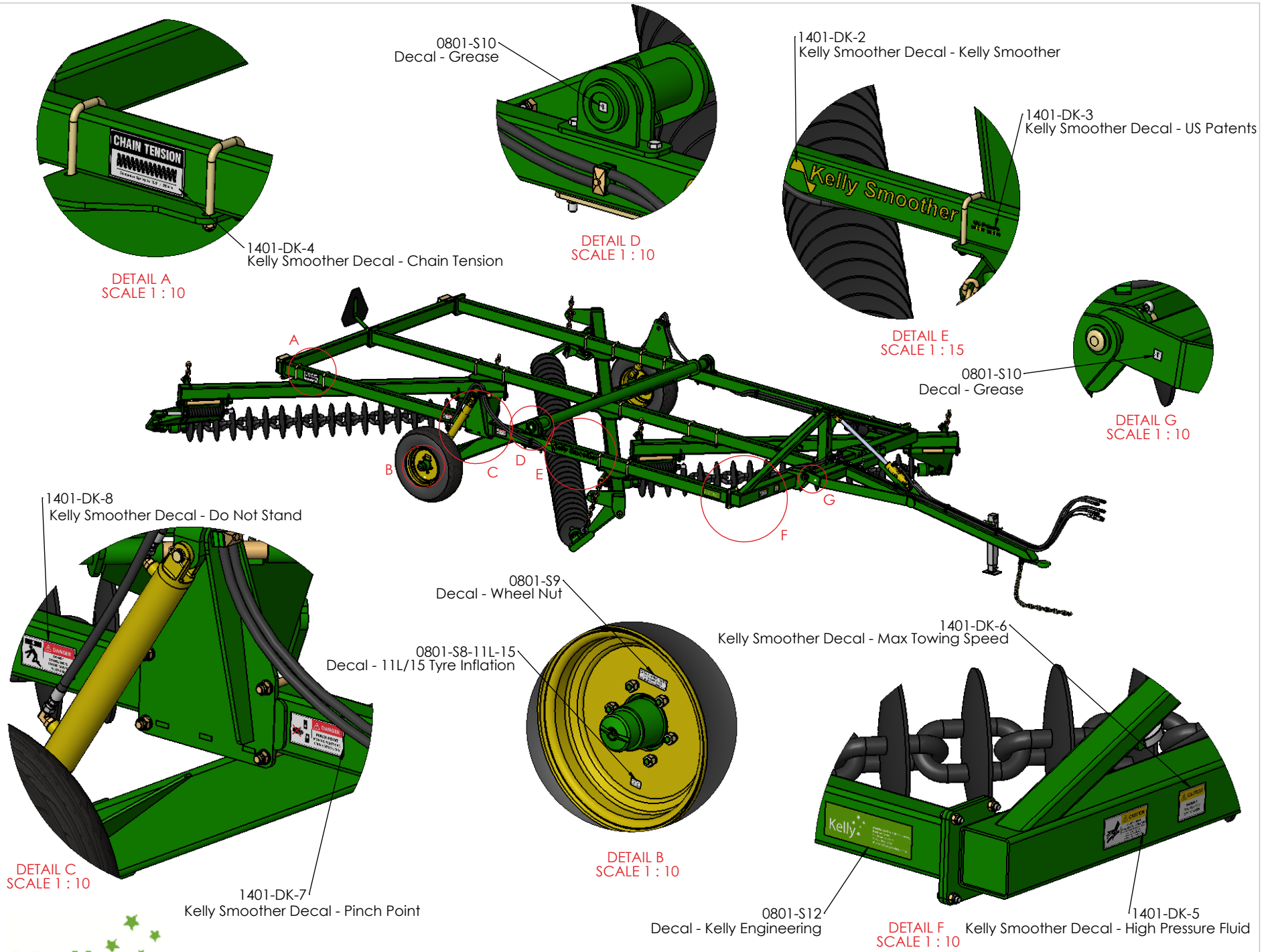
DETAIL D



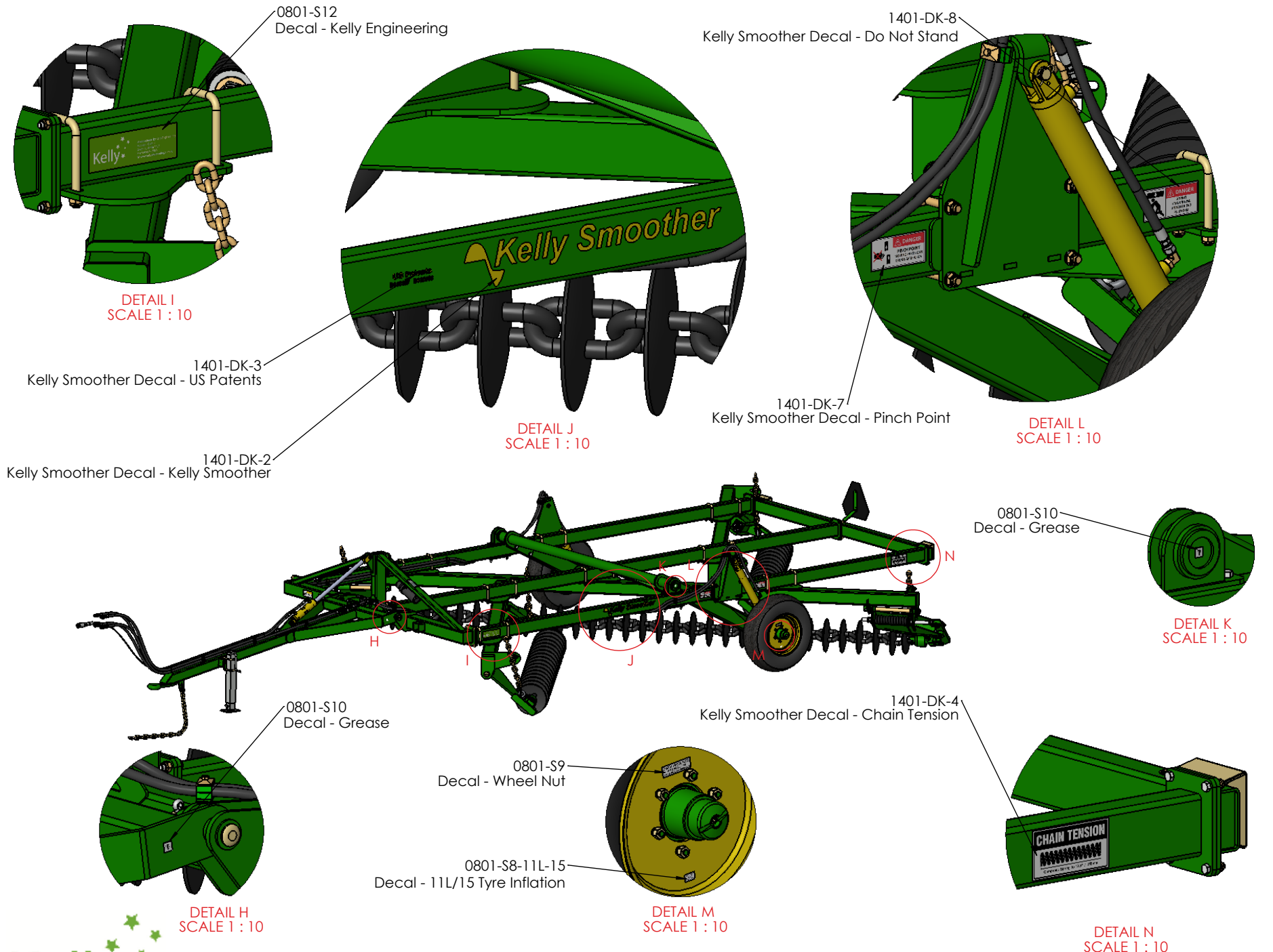
Part Number	Description	For Machines Built:	Revision
1402-LK	Levee Reclaimer Light Kit	01/07/2014 (KS-115004) -	B

Section 5

Decal Placement



Part Number	Description	For Machines Built:	Revision
1402-DK	Kelly Smoother Decal Kit	01/07/2014 (KS-115004)	A



Part Number	Description	For Machines Built:	Revision
1402-DK	Kelly Smoother Decal Kit	01/07/2014 (KS-115004)	A

Section 6

Operation

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

Kelly Smoother specifications

Model	1410-100
Working width	12'/3.6m
Transport width	16'/5m
Transport height	6'/1.8m
Transport length	31'/9.5m

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.

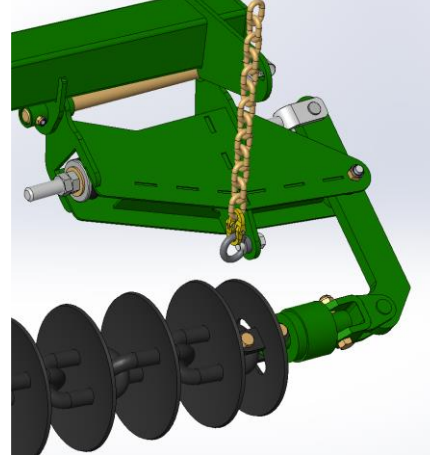
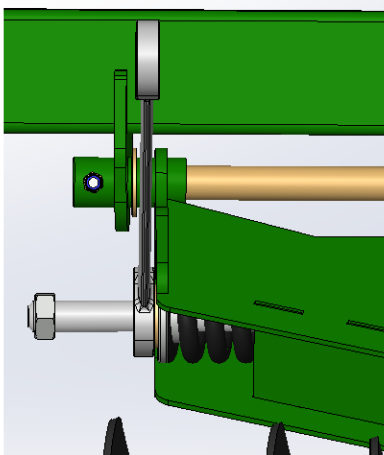
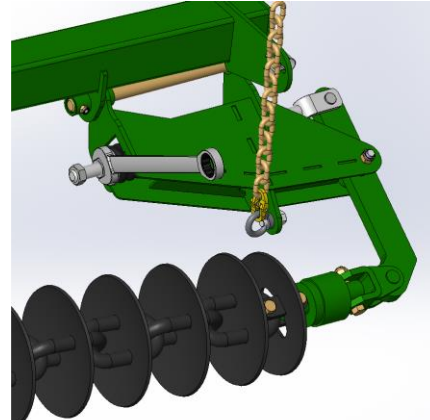
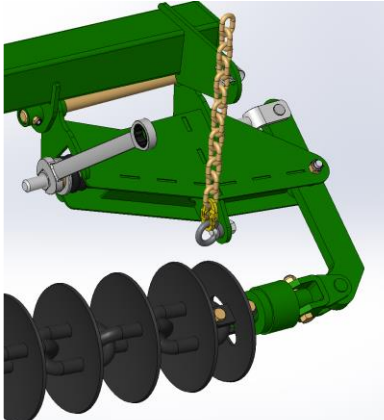
Torque values are for dry threads and surfaces however it is permissible to apply a small amount of anti corrosive oil to the threads.

Chain Tension

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
- Machine damage when folding or unfolding
- Uneven field surface with ridges and furrows being created.



