



Hard Hose Drag Reel

4600M / 5000M-XL / 5100M / 5100M-XL / 5500M



OPERATOR'S, PARTS and MAINTENANCE MANUAL
2024 Edition

TR-MAN-5155M

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This image shows a full page of blank graph paper. The grid consists of thin, light gray horizontal and vertical lines that intersect to form small squares across the entire surface. There are no margins, text, or other markings on the paper.

Hard Hose Drag Reel

We would like to thank you for purchasing your new **Cadman Hard Hose Drag Reel**. You have purchased a product of superior quality that will serve your needs for a long time as long as you follow this manual and safety procedures.



Figure 1 – 5500M Hard Hose Drag Reel

img-01606

BEFORE operating your new **Cadman Hard Hose Drag Reel**, inspect the machine for any damage or parts that may have come loose during shipping. **REPORT ANY DAMAGE TO CADMAN POWER EQUIPMENT LIMITED OR YOUR LOCAL DEALER IMMEDIATELY.**



Warranty Policy

CADMAN POWER EQUIPMENT LIMITED warrants that each machine it manufactures shall be free from defects in materials and workmanship. The terms of this warranty are as follows:

- All components manufactured by **CADMAN POWER EQUIPMENT LIMITED** shall be warranted for a period of one (1) year from the date of delivery, except the frame and hose drum structures which shall be warranted for a period of three (3) years.
- The polyethylene hose used on **CADMAN HARD HOSE DRAG REELS** will be warranted for a period of five (5) years from the date of delivery, on a pro-rated basis. The schedule for the polyethylene hose warranty is as follows:

1st to 10th month from the date of delivery is **100%**

11th to 60th month from the date of delivery, the warranty shall diminish from **100%** to **0%** at a rate of **2%** per month.

- **CADMAN POWER EQUIPMENT LIMITED** makes no warranty whatsoever in regard to tires, engines, and other trade accessories used on its equipment. The customer shall rely solely on the warranties offered (if any) by the respective manufacturer of these trade accessories.

The sole obligation to **CADMAN POWER EQUIPMENT LIMITED** under this warranty is limited to the repair or replacement of any part it manufactured, which, in the judgment of **CADMAN POWER EQUIPMENT LIMITED**, failed under normal and proper use and maintenance due to defective materials or workmanship. All freight charges incurred shall be the sole responsibility of the customer.

CADMAN POWER EQUIPMENT LIMITED and its dealers (**who are neither authorized nor qualified to undertake any obligations on behalf of CADMAN POWER EQUIPMENT LIMITED**) **DO NOT**, under any circumstances, accept any responsibility for any losses or costs incurred due to parts failure and/or delays during the parts replacement process.

This warranty will be considered void if any alterations or modifications have been made to the machine without the express written consent of **CADMAN POWER EQUIPMENT LIMITED** outlining the nature and the extent of such modifications.

CADMAN POWER EQUIPMENT LIMITED, whose policy is one of continuous improvement, reserves the right to change specifications and designs without notice or incurring obligation.

The warranties expressed herein are non-transferable and replace any other warranties, either written or verbal, which may have been given or implied.

When Applying Liquid Manure

Current and pending laws in agricultural regions of North America change the ways in which the agricultural community needs to manage their liquid animal waste products. As a manufacturer of agricultural equipment, we feel it necessary to make you aware that the municipal, regional and state governing bodies in your area may have created new laws or updated current laws for nutrient handling practices and procedures. The changes in these laws typically target run-off prevention and soil nutrient loading.

Run off may result from several factors. Some (but not all) of the factors are:

Incorrect application

Difficult application areas containing steep hills or other features that may make run off more likely to happen

Changes in weather that would allow run off to happen (sudden storms just before or just after applying, ground frost, etc....)

Constant watch must be kept and immediate action taken when needed to prevent run off from happening.

Soil nutrient loading depends on several variables. Some (but not all) of these variables are:

The type of crop(s) being grown

The type of soil the crop(s) are growing in

Nutritional value of what you are applying

Nutritional needs of the crop(s) and soil they are growing in

Application timing, nutritional value of what you are applying, and the type of soil will determine the intake rate at which liquid may be applied. Soil analysis taken at appropriate times will help you create a correct application plan for your crop(s). In addition; local colleges, universities, and agricultural extension services are a good source of information. They may be able to help you create an application program that will help prevent problems with your application.

CADMAN POWER EQUIPMENT LIMITED is unable to provide up-to-date recommendations for the laws you must follow in your area. It is your responsibility to make yourself aware of and follow the law in your area. Please contact your local agricultural representative to obtain the latest information for legal handling and application of nutrient.

Safety Precautions

Please take the time to read and understand this manual to avoid errors and unnecessary risks. If you have any questions or concerns, please contact **CADMAN POWER EQUIPMENT LIMITED** or your local dealer/distributor.

FAILURE TO FOLLOW ALL SAFETY INSTRUCTIONS CAN RESULT IN DEATH OR SERIOUS INJURY FOR YOU AND/OR ANY SPECTATORS.

- DO NOT** move or operate this machine until you have read and understand these instructions in this manual.
- NEVER** allow untrained persons to operate this machine.
- DO NOT** perform service this machine while it is in operation.
- MAKE SURE** all mechanical and hydraulic tension has been released before attempting any service on the machine.
- CHECK** all fasteners (nuts and bolts) regularly for tightness.
- PERFORM REQUIRED MAINTENANCE** as prescribed or as necessary to keep this machine in safe operating condition.
- KEEP ALL SPECTATORS** at a safe distance.
- STAY CLEAR** of high-pressure supply lines, especially when first pressurizing the system.
- DO NOT** remove or alter any shielding on this machine.
- MAKE SURE** that the machine is securely anchored (using a tractor) before unwinding the hose.
- KEEP CLEAR** of all moving parts.
- NEVER** tow this machine at speeds greater than **10 mph [16 km/h]** and be certain the tow vehicle has adequate braking capacity to maintain safe control at all times.
- NEVER** tow this machine with the hose loaded with fluid.
- BE AWARE** of any obstacles (i.e. mail boxes, fence posts, and other equipment) that you may encounter when transporting the machine.
- REGULAR INSPECTION** of your pipe/hose couplings, tubing and gaskets should be a part of your regular set-up routine. Any defective parts **MUST** be replaced or repaired before the machine is put into service.



This symbol, the safety-alert symbol, indicates a hazard. When you come across the safety-alert symbol in this manual, make sure you fully understand and abide by the given instructions or warnings.

Safety Decals

Cadman Power Equipment Limited has determined the potential hazards on your Hard Hose Drag Reel and has labeled the machine accordingly. The safety decals on this machine are there to warn operators of potential hazards. Each safety decal on this machine contains a Signal Word Panel which shows the degree of hazard. Definitions of the Signal Words are as noted below.



Figure 2 - Danger Decal

img-00340-A

DANGER - an immediate, hazardous situation that if not avoided, **WILL RESULT IN DEATH OR SERIOUS INJURY**.



Figure 3 - Warning Decal

img-00340-B

WARNING - a potentially hazardous situation that if not avoided could result in death or serious injury. This includes hazards that are exposed when guards are removed.



Figure 4 - Caution Decal

img-00340-C

CAUTION - a potentially hazardous situation that if not avoided may result in minor or moderate injury.

Safety Decals Continued

All safety decals must be clean, clear, and easy to read.

Replace any decal that is not in good condition.

Replace any missing decals; it is important to double check that all labels are on your machine, especially if you have modified your machine or have had your machine serviced.

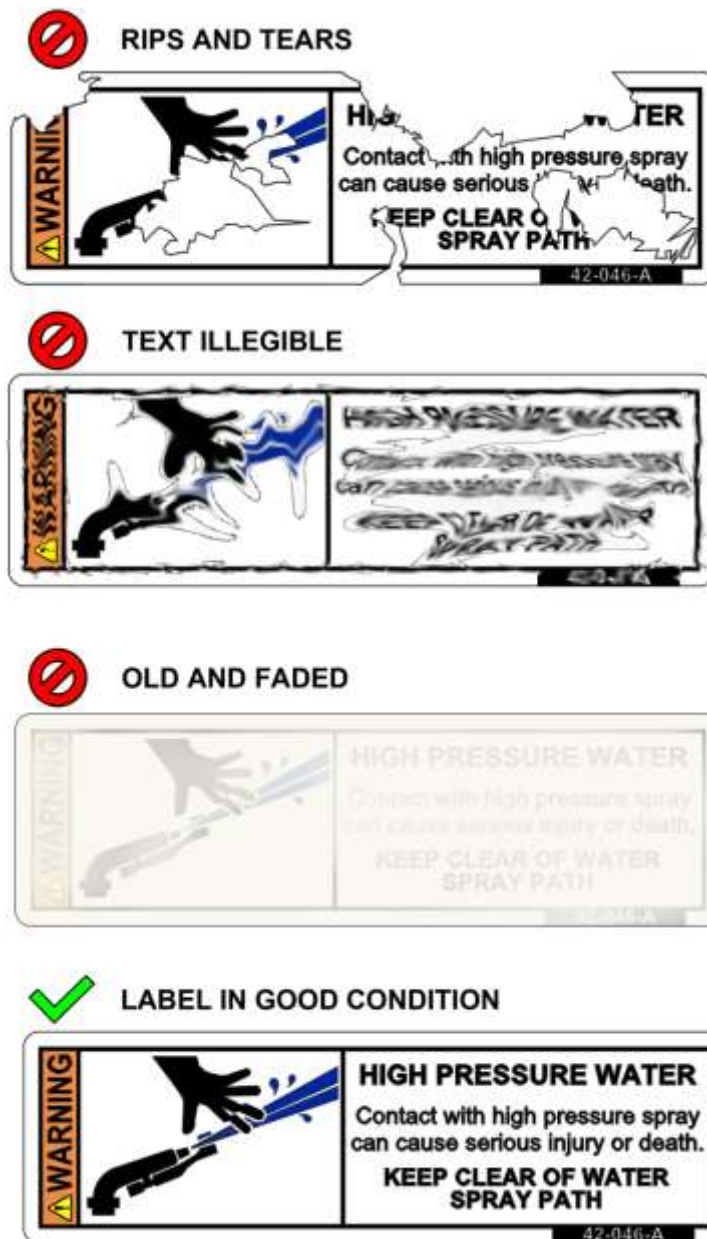


Figure 5 - Replace Decals

img-00131-B

Planning Your Application

You will benefit from having an accurate plan to follow before you set-up or operate your equipment. When creating your plan, remember that a properly planned field layout will cover the most area with the least amount of set-up time.

Using the chart below you can:

1. **Divide your field into the least number of sections to obtain complete coverage.** If the area you plan to cover is larger than the maximum area that your **Cadman Hard Hose Drag Reel** will cover (see chart below), you will need to have at least two (2) sections.
2. **Determine the best position for your reel in each section.** It is usually best to position your reel near the center of each section and use a zigzag pattern (see the section "Application Pattern" on page 17). This will allow the hose to be pulled to the furthest point during your first pull.

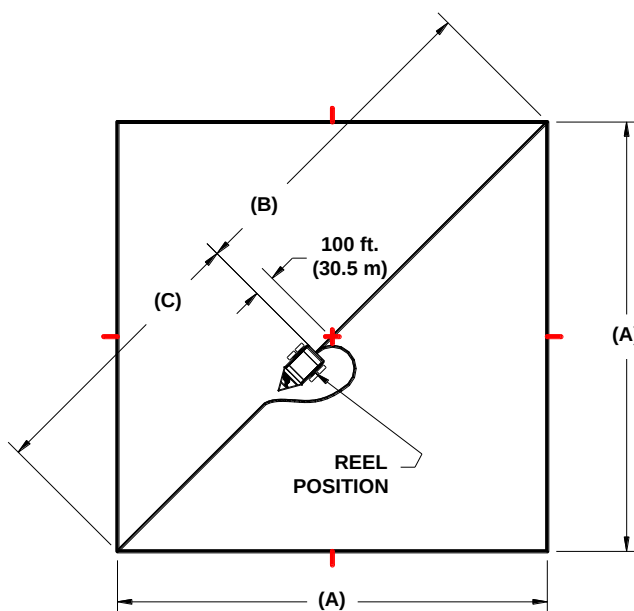


Figure 6 - Reel Position

img-00120-A

Maximum	4600M	5000M-XL	5100M	5100M-XL	5500M
Application Area (per set-up)	99 acres	80 acres	80 acres	120 acres	99 acres
(A)	2078 ft.	1867 ft.	1867 ft.	2291 ft.	2078 ft.
(B) Usable Hose Length.	1520 ft.	1370 ft.	1370 ft.	1670 ft.	1520 ft.
(C)	1420 ft.	1270 ft.	1270 ft.	1570 ft.	1420 ft.



You **MUST** leave a **MINIMUM** of 50 ft (15.25 m) of hose at the rear of the machine at all times. This will help reduce the risk of kinking the hose behind the reel.



You **MUST** leave as a **MINIMUM** one (1) coil of hose on the drum at all times. Failure to do so **WILL** result in hose damage.

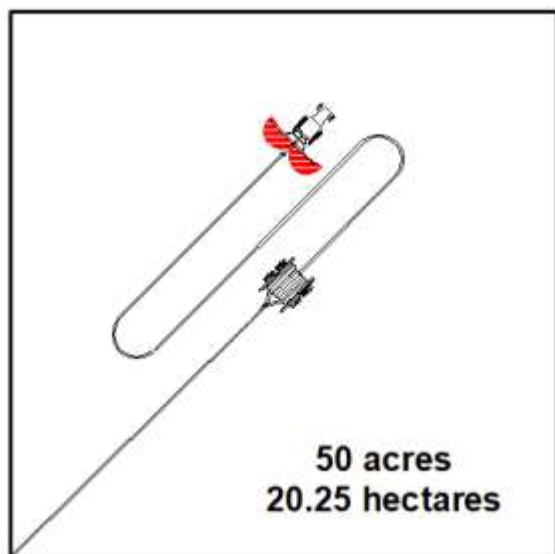


Figure 7 - One Set-up

img-00121

- Square field, smaller than maximum application area
- Reel is positioned approximately in the center of the field
- Complete coverage, one set-up

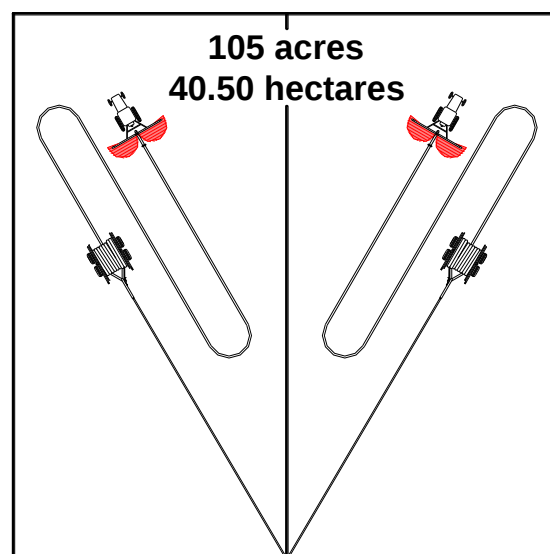


Figure 8 - Two Set-ups

img-00122

- Square field, larger than maximum application area
- Field has been split into two (2) sections
- Complete coverage, two set-ups

Equipment Set-up

Step 1

Following your plan, tow the machine to the first section.



Figure 9 - Engage Brake Prior to Transport

img-00126



It is important to verify that the drum brake is engaged prior to moving your Cadman Hard Hose Drag Reel. Failure to do so can result in equipment damage.

Step 2

Park the reel approximately 100 ft. (30.5m) from the center of the field. (Refer to Figure 6 on page 9.) Face the hose end of the machine toward the furthest corner.

Keep the chassis of the machine on firm and level ground. A **Cadman Hard Hose Drag Reel** has a high center of gravity.

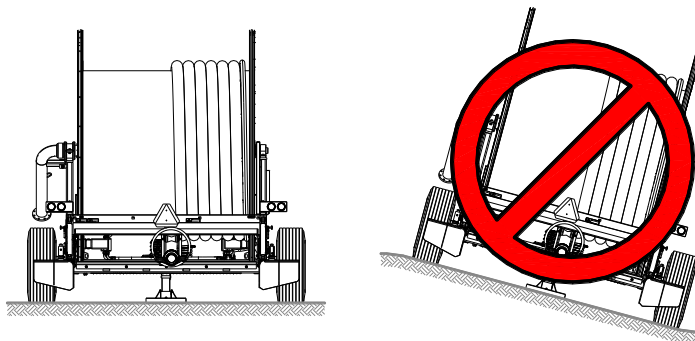


Figure 10 - Work on firm and level ground (image exaggerated)

img-00119

It is essential that it be operated from a stable position to prevent roll over.

Step 3

Stabilize your reel by fully extending the hydraulic stabilizer legs.

Step 4

Level your machine using the tongue jack.

Step 5

Connect the main supply line to your reel.

Step 6

Disconnect the hydraulic hosing and unhitch your tractor. Position your tractor, (with the applicator attached) at the rear of the reel.

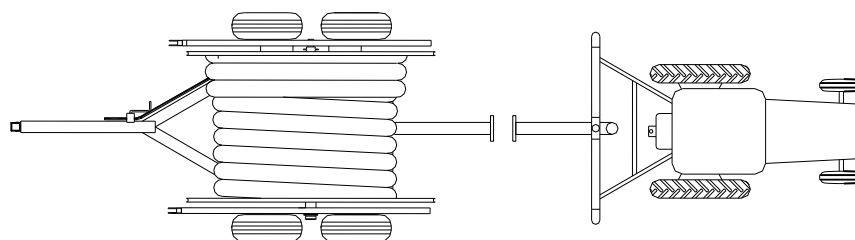


Figure 11 - Position Tractor

img-00043

Step 7

Remove the hose flag from the hose end.



Figure 12 - Remove Hose Flag

img-00123

Step 8

Connect the soft hose from your reel, using the ringlock clamp, to the hose elbow on drawbar of your tractor. Secure both tow chains. When properly set, the hose should not be stressed during operation.

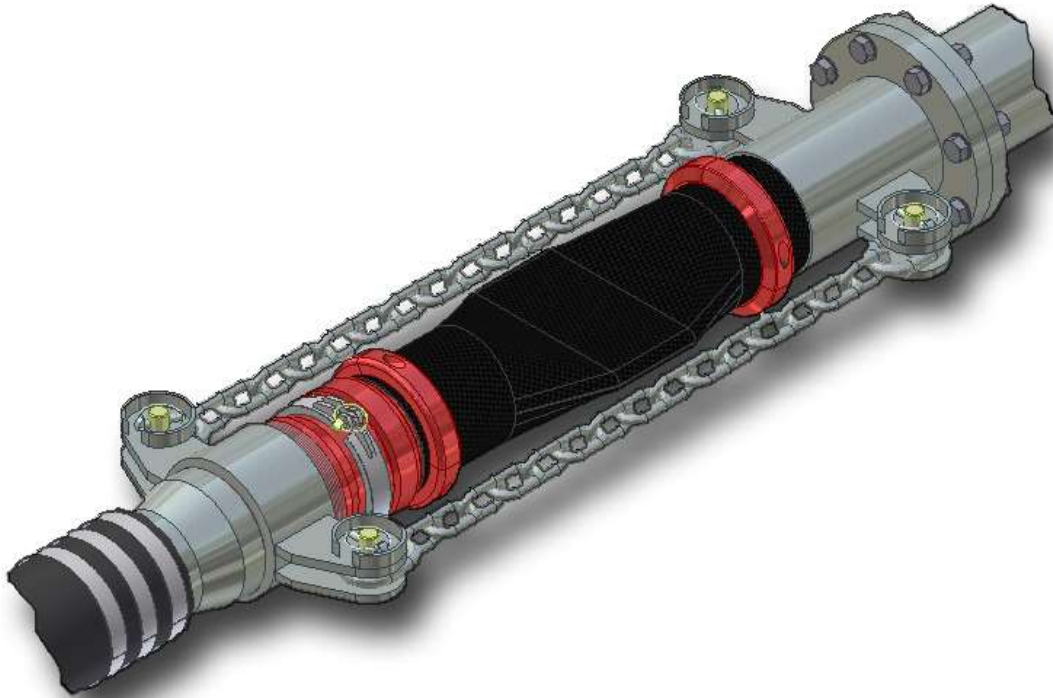


Figure 13 - Connect Chains

img-00144-A

Beginning Your Application

Once you have set-up your Cadman Hard Hose Drag Reel you can start the application process. It is important to complete the following steps...

Step 1

Release the brake to allow the drum to rotate during hose pull-out.



Figure 14 - Disengage Drum Brake

img-00127



IMPORTANT! Failure to complete Step 1 WILL result in serious equipment damage.

Step 2

Raise the stop bar located at the rear of the machine. Ensure that the latch is fully engaged.



Figure 15 - Raise Stop Bar

img-00129

Step 3

Switch the cooling system valve to the unwind position.



Figure 16 - Set Valve to Unwind Position

img-00128

Step 4

Pull out the hose toward the furthest corner as laid out in your plan (refer to section "Planning Your Application" found on page 9). As you approach the corner look at the reel to see how much hose remains. As a minimum you require one (1) coil of hose to remain on the drum at all times. Once you have determined there is enough hose, continue to the corner and make your first turn.

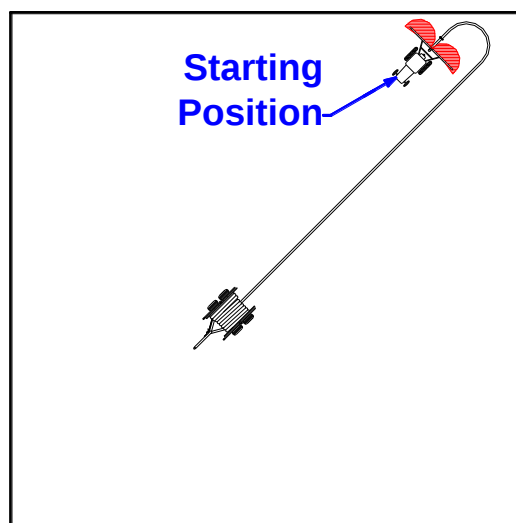


Figure 17 - Starting Position

img-00047

Step 5

Now engage the brake so that the drum will no longer rotate. By locking the drum, you will prevent the hose from being pulled off the drum connection. Obstacles (hills, rocks, etc.) in the field can cause the hose to pull out if the drum is not locked.



Figure 18 - Engage Brake Prior to Transport

img-00126

Step 6

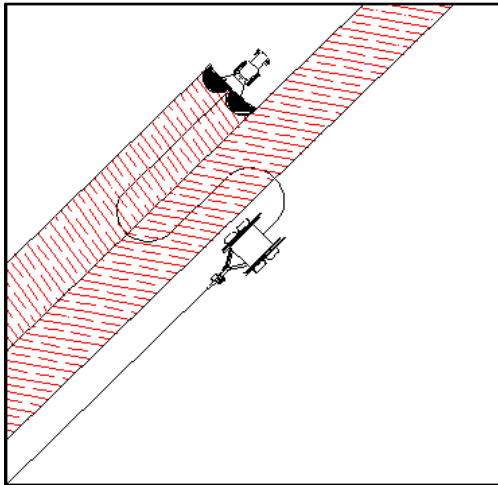
Begin pumping the liquid slowly. You must allow the system to purge the air within the hose before raising the system to the desired operating pressure. Once the liquid reaches the applicator, the driver should start moving to distribute the liquid. At this point you can increase the pump rpm raising the operating pressure to the desired level.



Pressurizing your Cadman Hard Hose Drag Reel must be done slowly and cautiously to purge all the air from the system. Air must be purged before bringing the system up to full operating pressure.

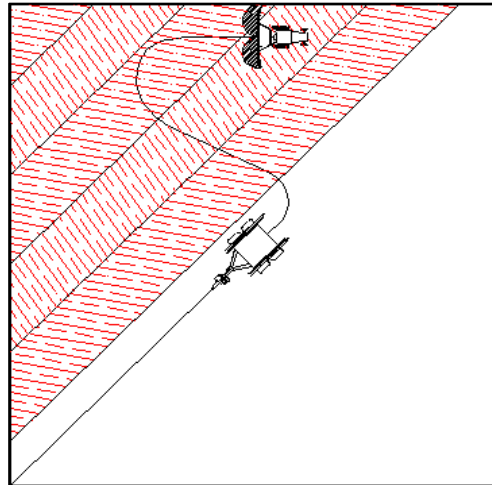
Application Pattern

There are a number of hose drag patterns that can be used during your application. **Cadman Power Equipment Limited** has found the zigzag pattern to be one of the best methods. Although we recommend this method, you are not limited to using it. Follow the instructions below if you are going to use the zigzag method.



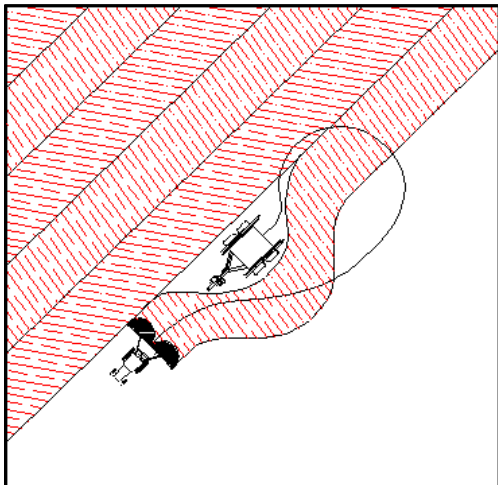
img-00035

1. Using a zigzag pattern cover the first half of your section while working away from the reel.



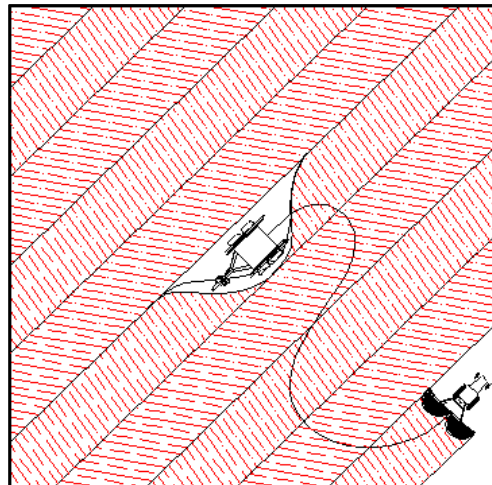
img-00036

2. When you have completed the first half, drive along the outside to the second half.



img-00037

3. Cover the second half in a similar fashion, using a zigzag pattern and working away from the reel.



img-00038

4. Finish covering the entire section. Signal the pump operator when you are finished applying

OPERATOR NOTE

Where field conditions permit, always attempt to pull the hose either up or down sloping terrain instead of operating across a side hill.

Always turn away from the reel. Failure to do this could cause you to get "trapped" by the drag hose.

Be aware of obstacles in the field. Proper application planning should take into consideration any obstacles that could hinder your application.

Keeping your **Cadman Hard Hose Drag Reel** clean will dramatically prolong its life.

Cleaning of the hose, as well as cleaning the exterior of the **Hard Hose Drag Reel** is highly recommended after each use.

Finishing an Application

Step 1

When you are nearing complete coverage of a section, signal the operator to shut down the pump. Start the hose blow out procedure. Continue to move the applicator through the field until flow to the applicator has stopped.



The hose is a high volume “Receiver Tank” containing a large amount of fluid. Be sure to allow enough spreading area to properly apply the hose content.

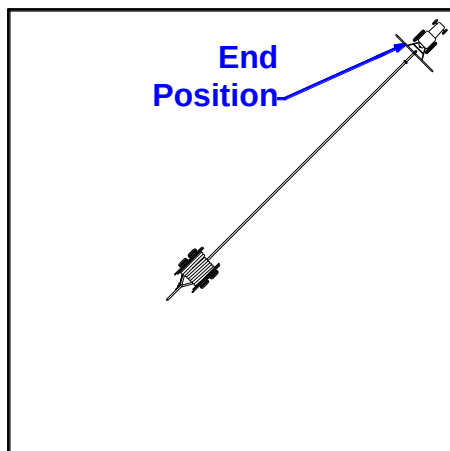
- Ø 6" hose contains approximately 1 ½ US Gallons per foot
- Ø 8" hose contains approximately 2 ⅔ US Gallons per foot

	660	1320	1980	2640	3300	3960	4620	5280	5940	6600	Feet
Ø 6"	969	1939	2908	3877	4847	5816	6785	7755	8724	9693	US Gal
Ø 8"	1723	3447	5170	6893	8616	10340	12063	13786	15509	17233	US Gal

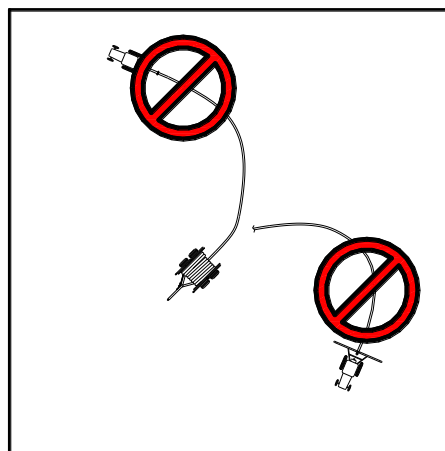
Failure to compensate for the remaining fluid can result in over application of fluid.

Step 2

Drag the hard hose so that it is back at the original start position. Disconnect the applicator from the hard hose by uncoupling the ringlock fitting.



CORRECT



INCORRECT

Figure 19 - Return to End Position

img-00125

Step 3

Re-install hose flag to hose end.

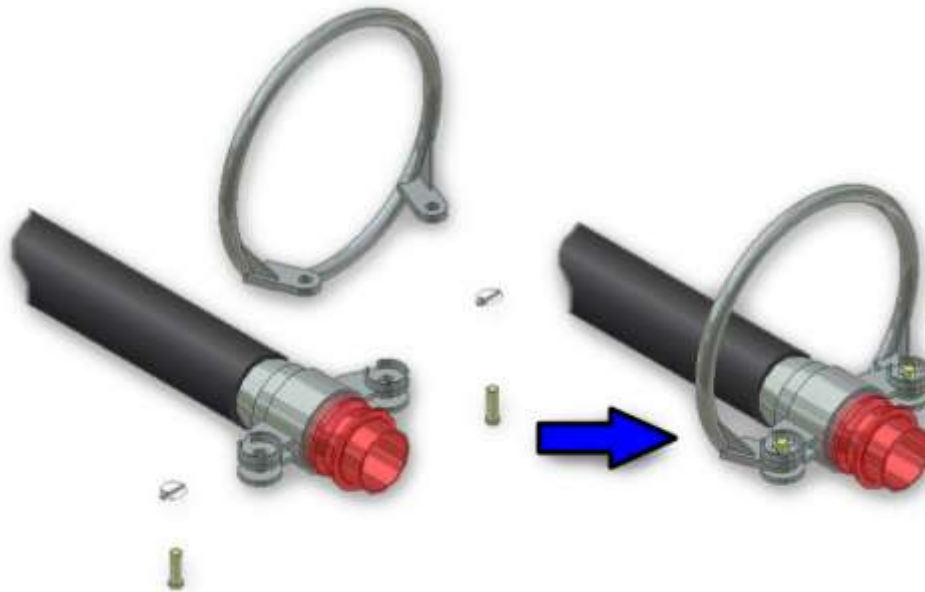


Figure 20 - Re-install Hose Flag

img-00124



DO NOT under any circumstances rewind the hose without the flag installed. Rewinding the hose without the flag installed will cause extensive damage to your machine.

Step 4

Move the tractor to the front and re-hitch the machine. Connect the hydraulic lines to the tractors hydraulic supply.

Step 5

Fully release the drum brake and secure with the spring latch to prevent the brake from being re-applied.



Figure 21 - Release Drum Brake

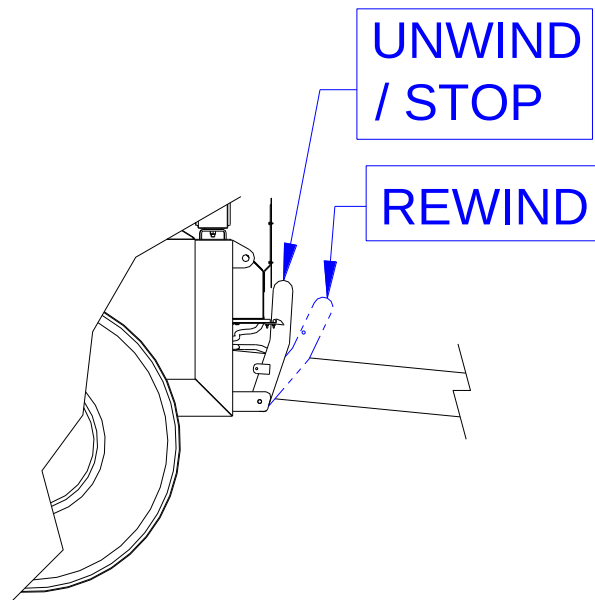
img-00127



DO NOT under any circumstances rewind the hose without the brake released. Rewinding the hose without the brake released will cause extensive damage to your machine.

Step 6

Start the retrieve cycle. Immediately check to see that the shut-off mechanism is working properly.



- Verify the shut off bar is in the rewind position.
- Engage the tractor hydraulics to begin the hose rewind.
- Raise the shut-off bar to the STOP (vertical) position. This should stop the rotation of the drum.
- If the drum does not stop, immediately stop the rewind cycle by disengaging the tractors hydraulic system. Check the valve linkage is installed correctly.
- If valve adjustment was required, re-test the retrieve cycle.

Figure 21 - Shut-off Bar Detail

img-00130.wmf



If for any reason the shut-off system failed, major damage could result. Check the automatic shut-off system before every retrieve cycle. Never operate the machine if you discover a problem.

Step 7

With the shut-off system working properly, check the hose indexing system. The hose should be tightly wound together. If the hose is improperly indexing, you will notice the hose trying to climb up on itself or leave large gaps. If this happens, check the indexer adjustment as shown on page 62.

Step 8

Disconnect the supply line from your machine.

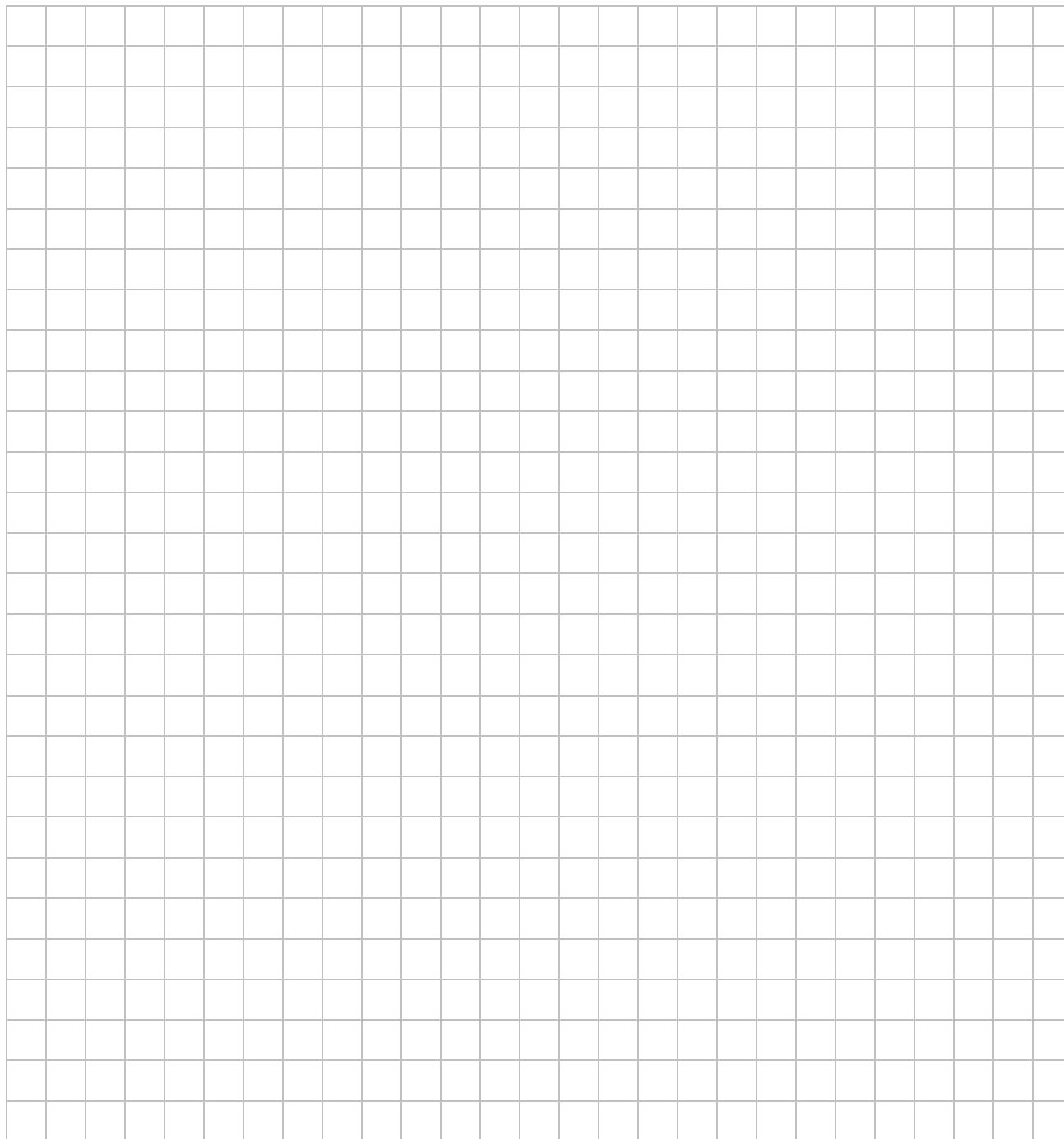


Step 9

When the hose is fully recoiled, set the drum brake, lift the hydraulic stabilizer legs, disengage the tractor hydraulics and raise the tongue jack.

Step 10

Tow the reel to the next set-up location and reconnect the supply line as required.

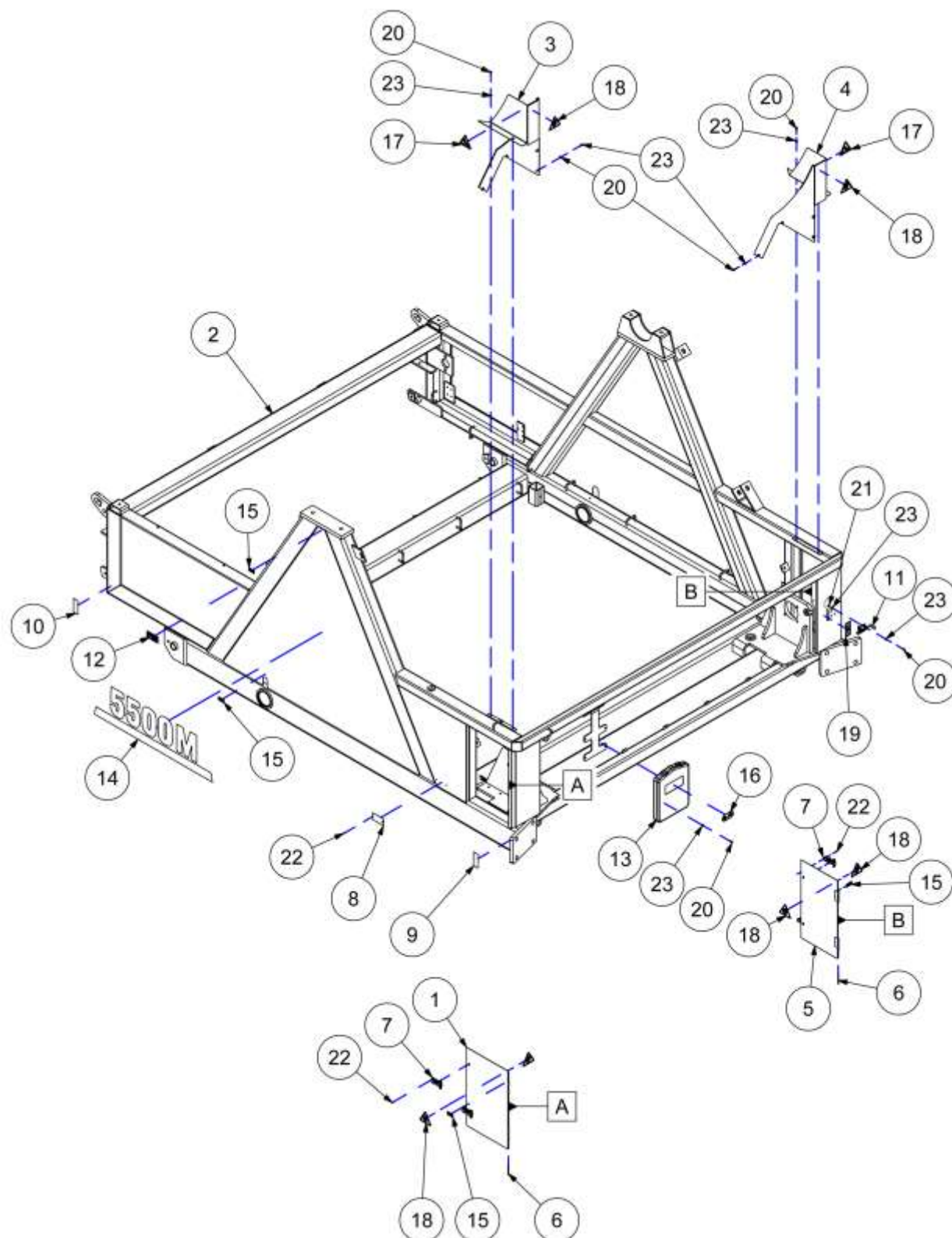


Parts Section

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Decal/Label Assembly	54

LEGEND			
●	Standard Equipment	↩	Model Variance
◆	Full Assembly	AR	As Required
◇	Optional Equipment	NS	Not Shown

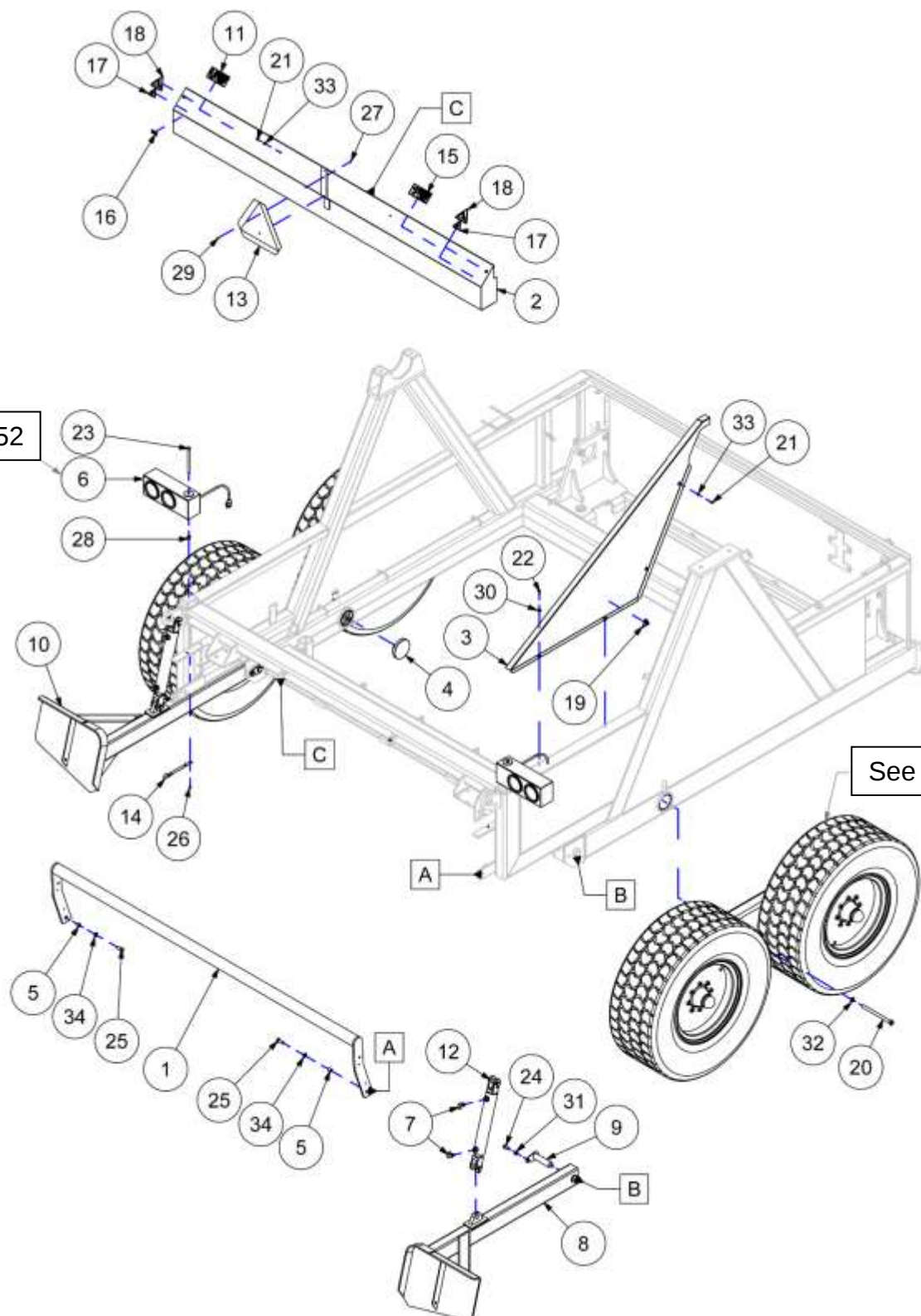
Frame Assembly - Front



Frame Assembly - Front

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	DRIVE COVER DOOR	22-030	1	
2	FRAME - 5500M	22-400-F	1	
↳	FRAME - 4600M/5100M	26-400-E	1	
3	UPPER CHAIN GUARD - R.H.	22-615-B	1	
4	UPPER CHAIN GUARD - L.H.	22-618-B	1	
5	DRIVE COVER DOOR	22-624	1	
6	HINGE PIN - 3/16 X 3.00 BRASS	40-200-C	4	
7	RUBBER LATCH KIT	40-217	4	
8	CADMAN SERIAL NUMBER TAG	40-238-B	1	
9	DECAL - AMBER REFLECTIVE	40-598	2	
10	DECAL - RED REFLECTIVE	40-599	2	
11	SPRING LATCH WITH 3/8 ROD	40-608	1	
12	LABEL - TORQUE WHEELS	42-035	2	
13	MANUAL PAK - LARGE	42-071	1	
14	DECAL - 4600M SIDE FRAME	42-DCL-4600M-A	2	
↳	DECAL - 5000M-XL SIDE FRAME	42-DCL-5000M-XL-A	2	
↳	DECAL - 5100M SIDE FRAME	42-DCL-5100M-A	2	
↳	DECAL - 5100M-XL SIDE FRAME	42-DCL-5100M-XL	2	
↳	DECAL - 5500M SIDE FRAME	42-DCL-5500M-C	2	
15	LABEL - GREASE POINT	42-LBL-115	5	
16	LABEL - MANUALS	42-LBL-118	1	
17	LABEL - ROTATING DRUM	42-LBL-122	2	
18	LABEL - ENTANGLEMENT HAZARD	42-LBL-127	6	
19	LABEL - DRUM LOCK	42-LBL-141	1	
20	BOLT - 1/4-20 X 3/4	90-BLT-02520X075	20	
21	NUT LOCK - 1/4-20	90-NUT-LOC025-20	4	
22	RIVET - 3/16 X 3/8	90-RIV-019X038	18	
23	WASHER SAE - 1/4	90-WSR-SAE025	24	

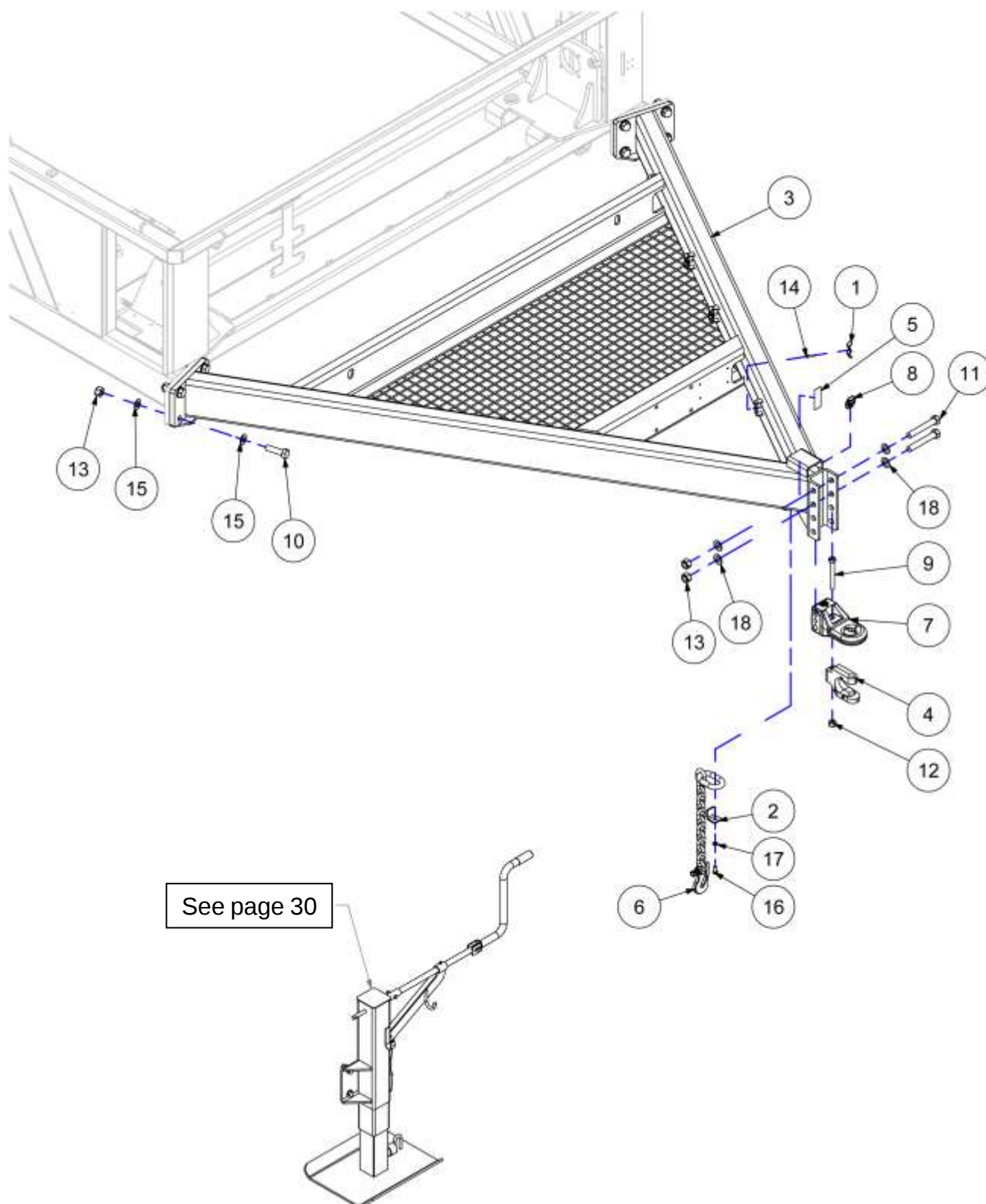
Frame Assembly - Rear



Frame Assembly - Rear

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	SHUT OFF BAR	22-614-C	1	
2	INDEXER SHIELD	22-616-A	1	
3	IDLER SHIELD - PAINTED	22-619-A	1	
4	AXLE RETAINER PAINTED	22-625	2	
5	SHUT OFF BAR BUSHING - PLATED	22-629	2	
6	TURN SIGNAL HOUSING ASSEMBLY	22-645-A	2	
7	ELBOW - 06 JICM X 08 SAEM X 90	25-WHD-5515X6X8	4	
8	STABILIZER WELDMENT - RIGHT	26-606-A	1	
9	STABILIZER PIN WELDMENT	26-607	2	
10	STABILIZER WELDMENT - LEFT	26-609-A	1	
11	LABEL - INDEXER CONDITION	40-115-A	1	
12	RED HYD CYL - 2 1/2 X 14 IN HD	40-525-A-RED	2	
13	SLOW MOVING VEHICLE	40-640	1	
14	SPRING FASTENER	40-769	1	
15	LABEL - VERIFY SHUT-OFF	40-833-A	1	
16	LABEL - GREASE POINT	42-LBL-115	1	
17	LABEL - PINCH HAND HAZARD	42-LBL-117	2	
18	LABEL - ROTATING DRUM	42-LBL-122	2	
19	LABEL - ENTANGLEMENT	42-LBL-123	1	
20	BOLT GR.8 - 3/4-10 X 10.00	89-BLT-07510X1000	2	
21	BOLT - 5/16-18 X 3/4	90-BLT-03118X075	8	
22	BOLT - 3/8-16 X 3/4	90-BLT-03816X075	2	
23	BOLT - 1/2-13 X 7 1/2	90-BLT-05013X750	2	
24	BOLT - 5/8-11 X 1.00	90-BLT-06311X100	2	
25	BOLT - 5/8-11 X 1 1/2	90-BLT-06311X150	2	
26	BOLT FLG - 1/4-20 X 1/2	90-BLT-F02520X050	2	
27	NUT LOCK - 10-32	90-NUT-LOC010-32	2	
28	NUT LOCK - 1/2-13	90-NUT-LOC050-13	2	
29	MACH. SCREW PH - 10-32 X 5/8	90-SCR-PHP010-32X063	2	
30	WASHER FLAT - 3/8	90-WSR-FLT038	2	
31	WASHER LOCK - 5/8	90-WSR-LOC063	2	
32	WASHER LOCK - 3/4	90-WSR-LOC075	2	
33	WASHER SAE - 5/16	90-WSR-SAE031	8	
34	WASHER SAE - 5/8	90-WSR-SAE063	2	

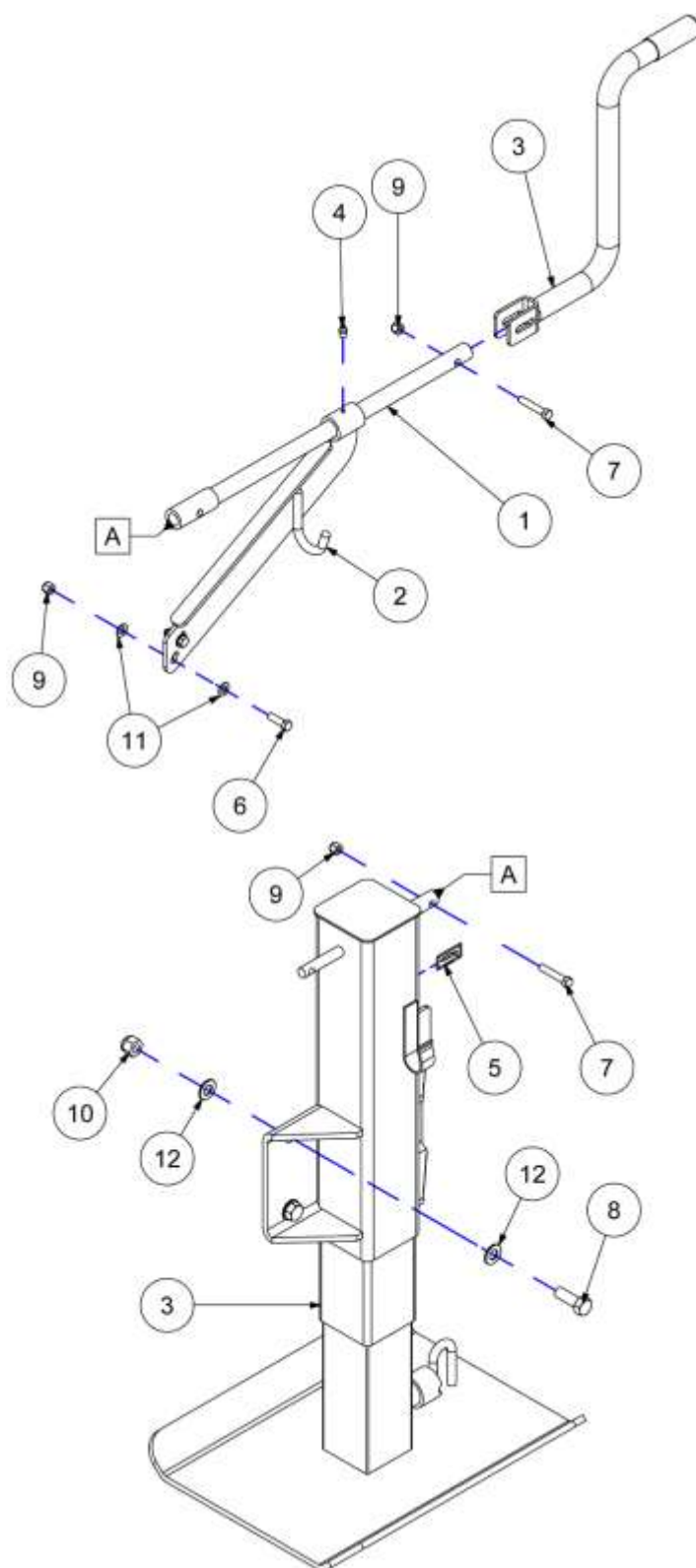
Tongue Assembly



Tongue Assembly

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	HOSE CLAMP ("BUTTERFLY" CLAMP)	16-632	4	
2	SAFETY CHAIN RETAINER	17-213	1	
3	TONGUE WELDMENT - 5500M	22-200-E	1	
↳	TONGUE WELDMENT - 4600M/5100M	26-200-C	1	
4	PAINTED CLEVIS KIT	40-403-RED	1	
5	DECAL - AMBER REFLECTIVE	40-598	2	
6	SAFETY CHAIN - 30 000 LBS	40-623	1	
7	RED CATEGORY 3 HITCH	40-752-RED	1	
8	LABEL - MAX TOW SPEED	42-LBL-119	1	
9	BOLT GR.8 - 3/4-10 X 6.00	89-BLT-07510X600	1	
10	BOLT GR.8 - 1.00-08 X 3 1/2	89-BLT-10008X350	8	
11	BOLT GR.8 - 1.00-08 X 6 1/2	89-BLT-10008X650	2	
12	NUT LOCK GR.8 - 3/4-10	89-NUT-LOC075-10	1	
13	NUT LOCK GR.8 - 1.00-08	89-NUT-LOC100-8	10	
14	SCREW CAP GR.8 - 5/16-18 X 1 1/4	89-SCR-SH03118X125	4	
15	WASHER SAE GR.8 - 1.00	89-WSR-SAE100	16	
16	BOLT - 1/2-13 X 1.00	90-BLT-05013X100	1	
17	WASHER LOCK - 1/2	90-WSR-LOC050	1	
18	WASHER SAE - 1.00	90-WSR-SAE100	4	

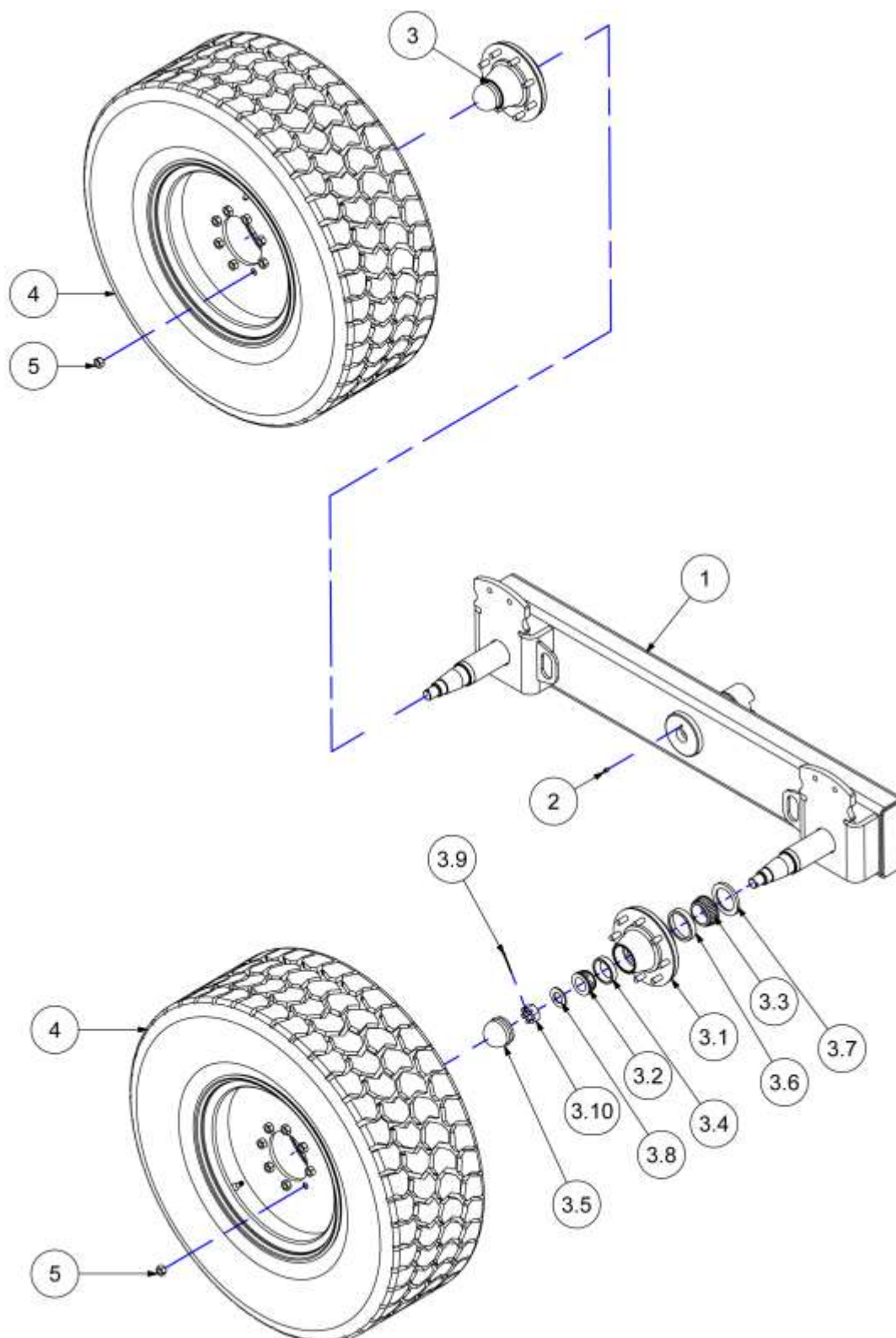
Tongue Jack Assembly



Tongue Jack Assembly

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	HANDLE EXTENSION - 5500M	22-647	1	
↳	HANDLE EXTENSION - 4600M/5100M	26-614	1	
2	HANDLE SUPPORT - 5500M	22-648	1	
↳	HANDLE SUPPORT - 4600M/5100M	26-613	1	
3	TONGUE JACK WELDMENT	26-612	1	
4	GREASE FITTING - 1/8 NPT	40-001	1	
5	LABEL - GREASE POINT	42-LBL-115	1	
6	BOLT - 3/8-16 X 1 1/4	90-BLT-03816X125	2	
7	BOLT - 3/8-16 X 2.00	90-BLT-03816X200	2	
8	BOLT - 5/8-11 X 1 3/4	90-BLT-06311X175	4	
9	NUT LOCK - 3/8-16	90-NUT-LOC038-16	4	
10	NUT LOCK - 5/8-11	90-NUT-LOC063-11	4	
11	WASHER SAE - 3/8	90-WSR-SAE038	4	
12	WASHER SAE - 5/8	90-WSR-SAE063	8	

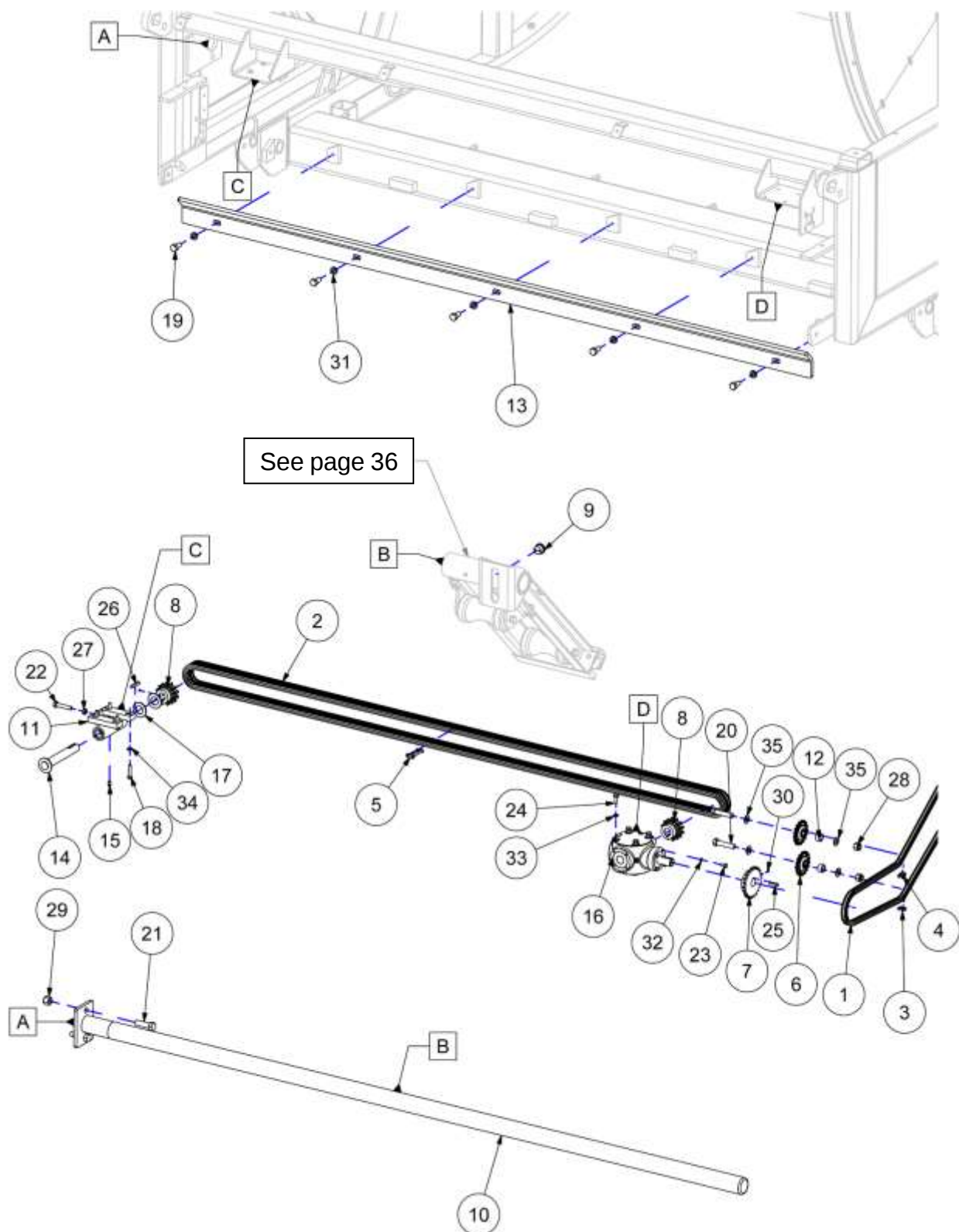
Walking Beam Assembly



Walking Beam Assembly

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	WALKING BEAM AXLE	22-606-NB	1	
2	GREASE FITTING - 1/8 NPT	40-001	1	
3	HUB ASS'Y - 10000 SERIES 8 BOLT	55-099	2	
3.1	HUB BARE - 55-009	55-136	1	
3.2	ROLLER BEARING OUTER	55-132	1	
3.3	ROLLER BEARING INNER	55-131	1	
3.4	OUTER CONE	55-130	1	
3.5	DUST CAP	55-109	1	
3.6	INNER CONE	55-129	1	
3.7	GREASE SEAL	55-133	1	
3.8	RETAINING WASHER	55-099-9	1	
3.9	COTTER PIN - 5/32 X 2.00 LG	90-PIN-CT016X200	1	
3.10	CASTLE NUT	55-134	1	
4	WHEEL ASSY - 445/65R22.5	55-127	2	
↳	WHEEL ASS'Y - 385/65R22.5	55-128	2	4600M/5100M
5	NUT LUG - 5/8-18	55-147	16	

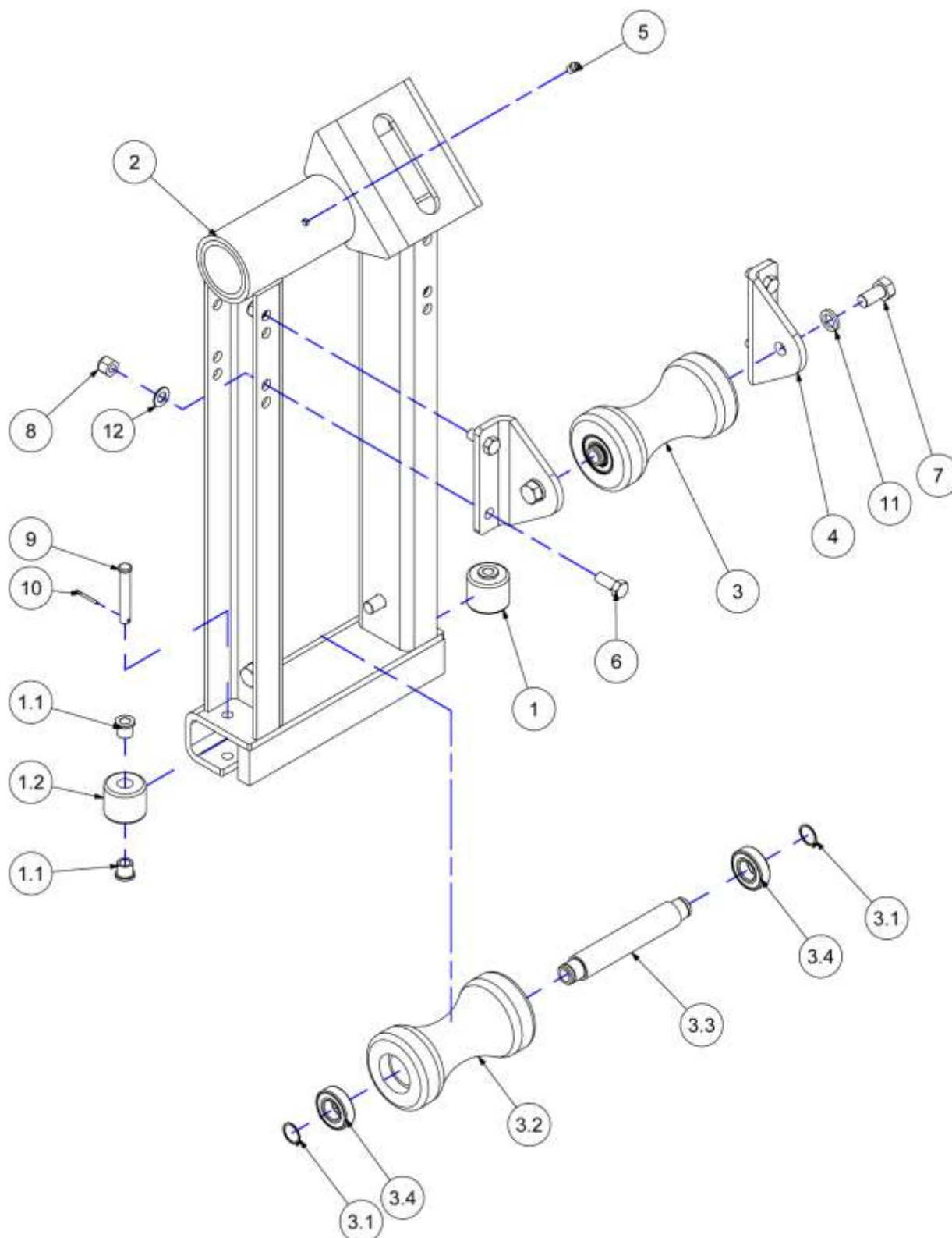
Indexing Assembly



Indexing Assembly

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	50 RIVETED ROLLER CHAIN/ FOOT	10-CHN-50-1RIV-FT	28	ft
2	60-2 RIVETED ROLLER CHAIN/FOOT	10-CHN-60-2RIV-FT	15.5	ft
3	CONNECTING LINK - 50	10-LNK-50CONN	1	
4	OFFSET LINK - 50	10-LNK-50OFFSET	1	
5	LINK CONNECTOR - 60-3 W/CLIP	10-LNK-60-3CONN	1	
6	SPROCKET - 50-17 AETNA IDLER	10-SPT-50-17IDLER	2	
7	SPROCKET - 50B22 X 30MM KS	10-SPT-50B22XM30	1	
8	SPROCKET - D60B12 X 30MM	10-SPT-D60B12XM30	2	
9	INDEXER DRIVE BUTTON - 60 PL	15-041	1	
10	INDEXER BAR WELDMENT	22-607	1	
11	INDEXER IDLER BLOCK	22-612	1	
12	IDLER SPACER - PLATED	22-628	2	
13	HOSE GUIDE RAIL	22-631	1	
14	INDEXER IDLER SHAFT	22-746-D	1	
15	GREASE FITTING - 1/8 NPT	40-001	1	
16	BONDIOLI 2020 GEARBOX	40-862	1	
17	WASHER SAE GR.8 - 1 1/8	89-WSR-SAE113	2	
18	BOLT - 3/8-16 X 1 3/4	90-BLT-03816X175	4	
19	BOLT - 5/8-11 X 1 1/4	90-BLT-06311X125	5	
20	BOLT - 5/8-11 X 3.00	90-BLT-06311X300	2	
21	BOLT - 3/4-10 X 2 1/2	90-BLT-07510X250	2	
22	BOLT FT - 1/2-13 X 2 1/2	90-BLT-FT05013X250	1	
23	BOLT - M8-125 X 25MM	90-BLT-M08125X020	4	
24	BOLT - M10-150 x 25mm	90-BLT-M10150X025	4	
25	KEY - 5/16 SQ. X 1 3/8 LG	90-KEY-SQ031X138	2	
26	KEY - 5/16 X 5/16 X 2 LONG	90-KEY-SQ031X200	1	
27	NUT JAM - 1/2-13	90-NUT-JAM050-13	1	
28	NUT LOCK - 5/8-11	90-NUT-LOC063-11	2	
29	NUT LOCK - 3/4-10	90-NUT-LOC075-10	2	
30	SCREW SET - 1/4-20 X 1/4	90-SCR-ST02520X025	6	
31	WASHER LOCK - 5/8	90-WSR-LOC063	5	
32	WASHER LOCK - M08	90-WSR-LOCM08	4	
33	WASHER LOCK - M10	90-WSR-LOCM10	4	
34	WASHER SAE - 3/8	90-WSR-SAE038	4	
35	WASHER SAE - 5/8	90-WSR-SAE063	4	

Indexer Assembly



Indexer Assembly

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	TRACK ROLLER ASSY	15-163	2	
1.1	OILITE BUSHING - 1/2" ID FLANGED	40-233	2	
1.2	ROLLER - PLATED	15-161	1	
2	HOSE GUIDE WELDMENT	22-602-A	1	
3	HOSE GUIDE ROLLER ASSY	22-630	2	
3.1	RETAINING RING - 1 IN. EXTERNAL	40-762	2	
3.2	HOSE GUIDE ROLLER	22-603-B	1	
3.3	ROLLER SHAFT	22-605-B	1	
3.4	CAM BEARING	40-216-BRG6205	2	
4	ROLLER MOUNT BRACKET	26-608-A	2	
5	GREASE FITTING - 1/8 NPT	40-001	1	
6	BOLT - 1/2-13 X 1 1/4	90-BLT-05013X125	4	
7	BOLT - 5/8-11 X 1 1/4	90-BLT-06311X125	4	
8	NUT LOCK - 1/2-13	90-NUT-LOC050-13	4	
9	CLEVIS PIN - 1/2 X 3.00 USEABLE	90-PIN-CL050X300	2	
10	COTTER PIN - 1/8 X 1.00	90-PIN-CT013X100	2	
11	WASHER LOCK - 5/8	90-WSR-LOC063	4	
12	WASHER SAE - 1/2	90-WSR-SAE050	4	



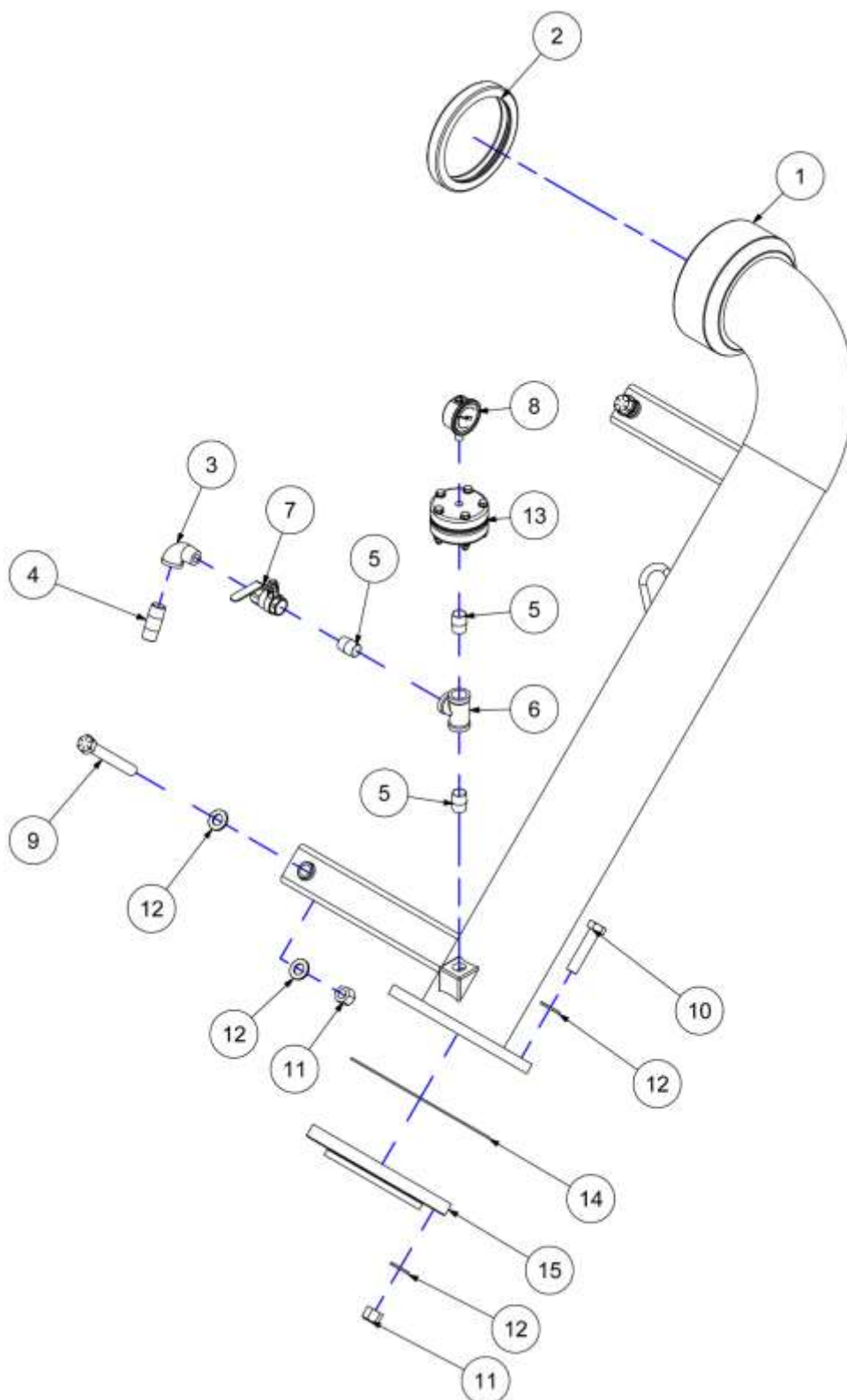
This diagram illustrates the exploded view of a Cadman wheel assembly. The central component is the wheel rim (3), which features the 'Cadman' logo. The assembly includes various components such as the hub (1), spokes (2), and the tire (4). The diagram also shows the mounting hardware, including the axle (5), bearings (6, 7), and the mounting bracket (8). The exploded view shows the relative positions of these components, with dashed lines indicating the assembly path. The 'Cadman' logo is visible on the rim and the mounting bracket.

See page 40

Drum Assembly

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	SPROCKET - 50A48 X 6.50 P.B.	10-086	1	5100M/5500M
↳	SPROCKET - 50A47 X 6.50 P.B.	10-070	1	4600M
↳	SPROCKET - 50A46 X 6.50 P.B.	10-069	1	5000M-XL
2	SPOOL DRIVE LUG - 5/8-11	15-120	48	
3	DRUM WELDMENT	22-500-G	1	5500M
↳	DRUM WELDMENT	22-540-D	1	5000M-XL
↳	DRUM WELDMENT	26-500-H	1	4600M/5100M
↳	DRUM WELDMENT	26-550-D	1	5100M-XL
4	CENTRE SKIN	22-560-A	4	
5	DRUM SKIN	22-561-A	24	
6	BEARING CAP WELDMENT	22-601-A	1	
7	ANTI-ROTATION PLATE	22-633	1	
8	CLEVIS PIN - 1.00 X 2 1/32	22-634	2	
9	HOSE END - 5500M NO MARKER	22-644	1	5500M
↳	HOSE END - 5000M-XL NO MARKER	22-665	1	5000M-XL
↳	HOSE END - 5100M NO MARKER	26-604	1	5100M
↳	HOSE END - 4600M NO MARKER	26-610	1	4600M
10	BEARING RETAINER PLATE	22-649	1	
11	SHUT OFF RING	26-605	1	
12	DRUM BEARING - 5500M (CUT PAIR)	40-745-A-CUT	1	
13	PILLOW BLOCK BEARING - 3 1/2"	40-751	1	
14	VINYL FOAM TAPE - 1.00	42-297	72	
15	CADMAN DECAL - R52" SILVER	42-DCL-013	4	
16	CLAMP BAND-IT - 7.00 SS	50-072	6	
17	PE HOSE - 6.75 OD X 5.50 ID X 1650FT	52-013-1650	1	5500M
↳	PE HOSE - 5.60 OD X 4.60 ID X 1550FT	52-017-1550	1	4600M
↳	PE HOSE - 6.43 OD X 5.00 ID X 1000FT	52-016-1000	1	5000M-XL
↳	PE HOSE - 6.18 OD X 5.10 ID X 1400FT	52-015-1400	1	5100M
↳	PE HOSE - 6.18 OD X 5.10 ID X 1700FT	52-015-1700	1	5100M-XL
18	BOLT GR.8 - 1.00-08 X 3.00	89-BLT-10008X300	2	
19	BOLT - 3/8-16 X 1 1/4	90-BLT-03816X125	4	
20	BOLT - 5/8-11 X 1 3/4	90-BLT-06311X175	1	
21	BOLT - 3/4-10 X 3.00	90-BLT-07510X300	2	
22	BOLT PLASTIC - 5/16-18 X 1.00	90-BLT-PL03118X100	15	
23	NUT JAM - 5/8-11	90-NUT-JAM063-11	48	
24	THREADED INSERT - 5/16-18 SHORT	90-NUT-KTR03118S	15	
25	NUT LOCK - 3/8-16	90-NUT-LOC038-16	4	
26	NUT LOCK - 3/4-10	90-NUT-LOC075-10	2	
27	LYNCH PIN - STANDARD	90-PIN-LYNCH	2	
28	RIVET - 3/16 X 7/16 BLACK	90-RIV-019X045BLK	381	
29	WASHER LOCK - 5/8	90-WSR-LOC063	49	
30	WASHER FLAT - 5/16 NYLON	90-WSR-PL031X075	15	
31	WASHER SAE - 3/4	90-WSR-SAE075	4	
32	WASHER SAE - 1.00	90-WSR-SAE100	2	

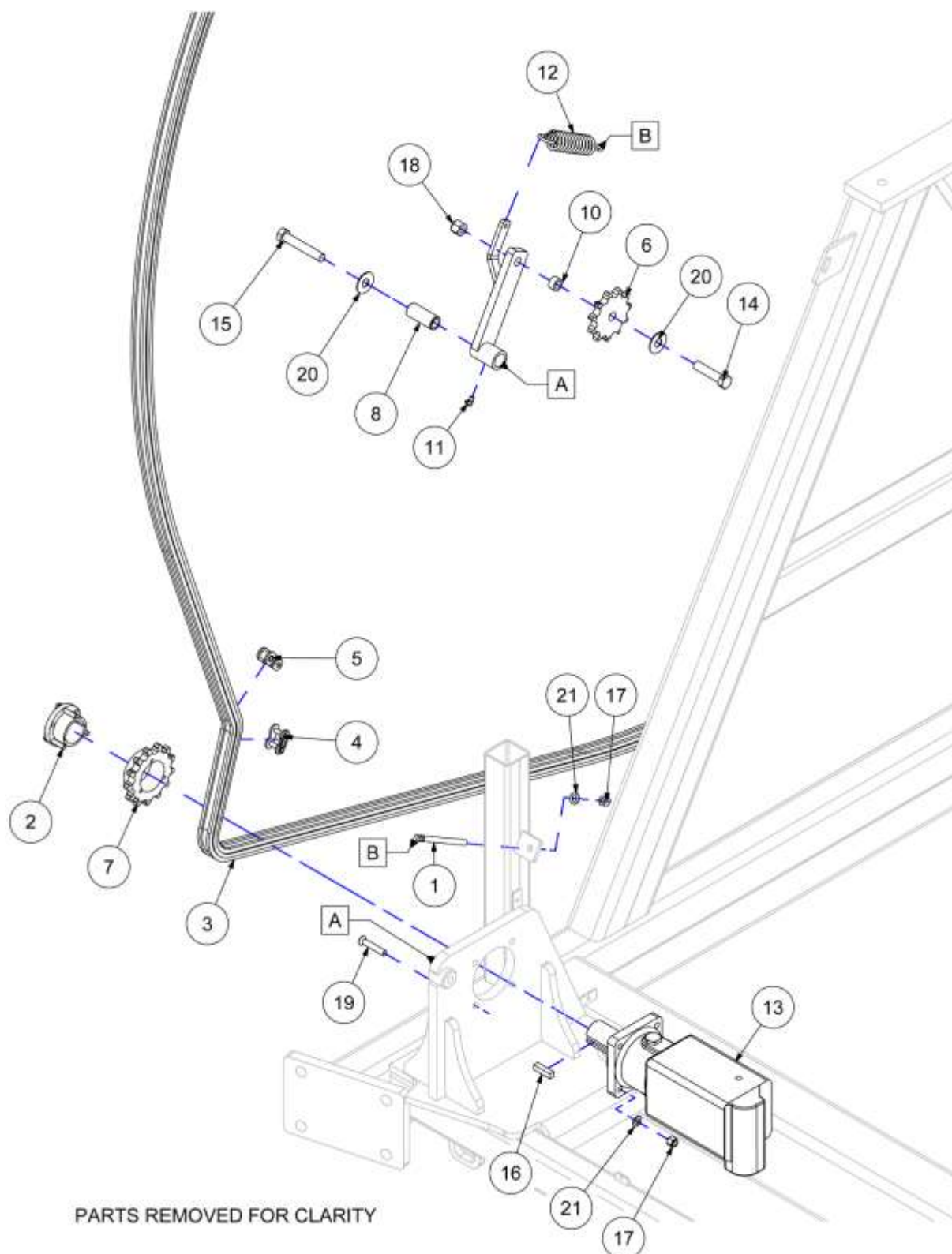
Inlet Assembly



Inlet Assembly

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	INLET ELBOW	22-600-A	1	
2	INLET ELBOW SEAL	40-757	1	
3	ELBOW STREET 90° - 3/4" NPT GALV	40-NPT-ELS075X90G	1	
4	NIPPLE - 3/4 NPT X 2 1/2 GALV.	40-NPT-NPL075X250G	1	
5	NIPPLE CLOSE -3/4 NPT GALV	40-NPT-NPLC075G	3	
6	TEE - 3/4 NPTF GALV	40-NPT-TEE075G	1	
7	BALL VALVE - 3/4 NPTF X NPTF	40-NPT-VLV075BLLFF	1	
8	GAUGE - 0-160 PSI WET	45-017	1	
9	BOLT GR.8 - 3/4-10 X 6.00	89-BLT-07510X600	2	
10	BOLT - 3/4-10 X 3 1/4	90-BLT-07510X325	8	
11	NUT LOCK - 3/4-10	90-NUT-LOC075-10	10	
12	WASHER SAE - 3/4	90-WSR-SAE075	20	
13	GAUGE PROTECTOR KIT 3/4-1/4	IR-GAU-PROTECT-KIT	1	
14	GASKET - 6" FLANGE - 8 BOLT	IR-GKT-FL6	1	
15	FLANGE - 6 NPT THRD. COMPANION	IR-TFL-6	1	

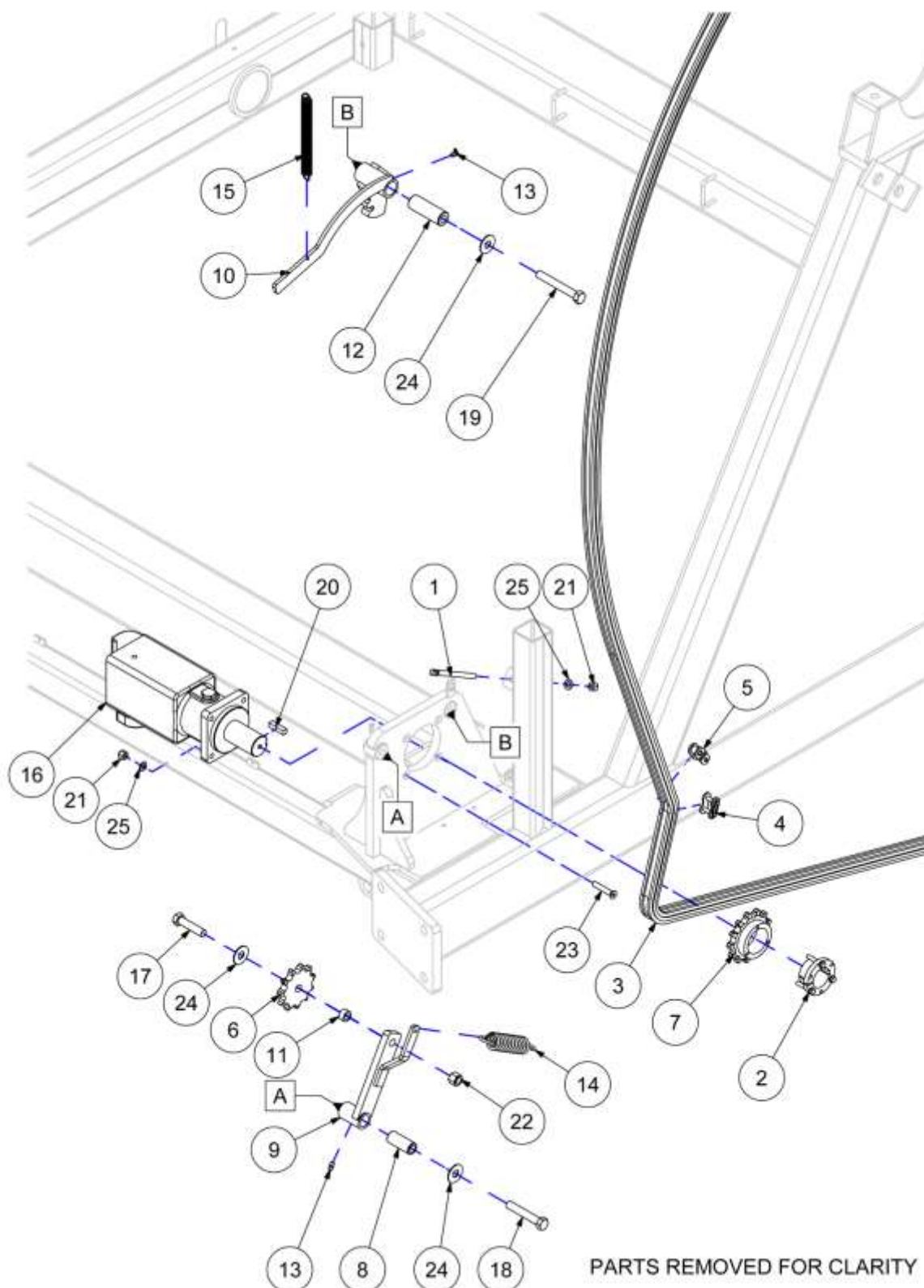
Drive Assembly (R.H.)



Drive Assembly (R.H.)

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	ROD - SPRING - ADJUSTING	06-635-B	1	
2	QD BUSHING - SK 2 1/4 X 1/2 IN	10-BUS-QD225	1	
3	100 - 1R KMC ROLLER CHAIN	10-CHN-100-1R-FT	38.4	
4	LINK CONNTECTING - 100 CHAIN	10-LNK-100CONN	1	
5	OFFSET LINK - 100	10-LNK-100OFFSET	1	
6	IDLER - 100A11 X 20MM X 13/16 TH	10-SPT-100-11IDLER	1	
7	SPROCKET - 100SK13 HARDEN TAPER	10-SPT-100SK13	1	
8	IDLER BUSHING - 1.25 IN X 2 LG.	16-611-A	1	
9	IDLER ARM - PAINTED	22-609	1	
10	IDLER SPACER - PLATED	22-628	1	
11	GREASE FITTING - 1/8 NPT X 90°	40-001-90	1	
12	SPRING - 1 3/4 X 5 EXT. (IDLER)	40-056	1	
13	HYDRAULIC MOTOR - 10000 SERIES	40-526-A-RED	1	
14	BOLT - 3/4-10 X 3 1/4	90-BLT-07510X325	1	
15	BOLT - 3/4-10 X 4 1/2	90-BLT-07510X450	1	
16	KEY - 1/2 SQ. X 2.00	90-KEY-SQ050X200	1	
17	NUT LOCK - 1/2-13	90-NUT-LOC050-13	5	
18	NUT LOCK - 3/4-10	90-NUT-LOC075-10	1	
19	SCREW FLATHEAD - 1/2-13 X 2 3/4	90-SCR-FH05013X275	4	
20	WASHER FLAT - 3/4	90-WSR-FLT075	2	
21	WASHER SAE - 1/2	90-WSR-SAE050	5	

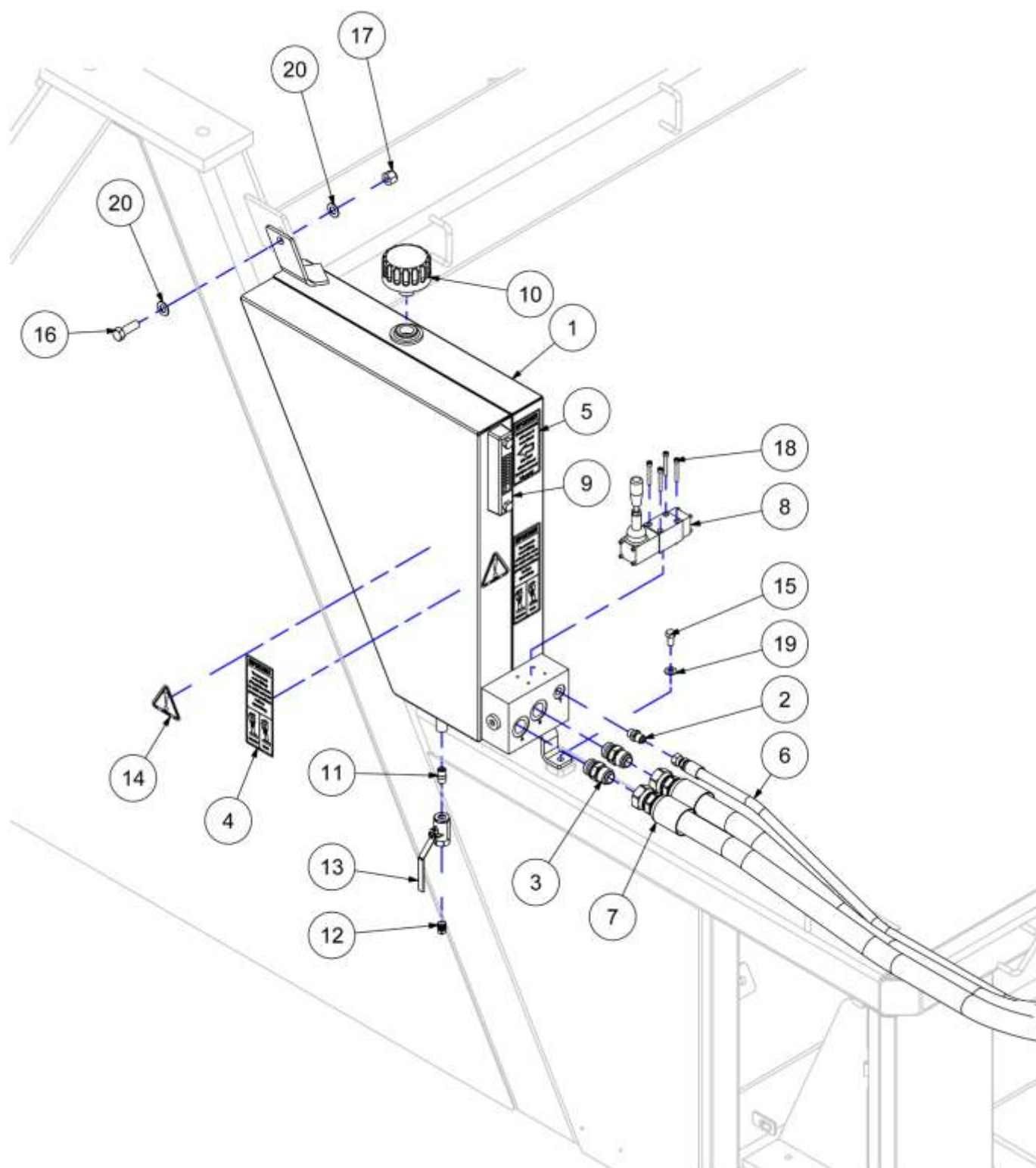
Drive Assembly (L.H.)



Drive Assembly (L.H.)

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	ROD - SPRING - ADJUSTING	06-635-B	1	
2	QD BUSHING - SK 2 1/4 X 1/2 IN	10-BUS-QD225	1	
3	100 - 1R KMC ROLLER CHAIN	10-CHN-100-1R-FT	38.4	
4	LINK CONNTECTING - 100 CHAIN	10-LNK-100CONN	1	
5	OFFSET LINK - 100	10-LNK-100OFFSET	1	
6	IDLER - 100A11 X 20MM X 13/16 TH	10-SPT-100-11IDLER	1	
7	SPROCKET - 100SK13 HARDEN TAPER	10-SPT-100SK13	1	
8	IDLER BUSHING - 1.25 IN X 2 LG.	16-611-A	1	
9	IDLER ARM - PAINTED	22-609	1	
10	DRUM LOCK WELDMENT	22-610-E	1	
11	IDLER SPACER - PLATED	22-628	1	
12	BRAKE DOG BUSHING	22-723-A	1	
13	GREASE FITTING - 1/8 NPT X 90°	40-001-90	2	
14	SPRING - 1 3/4 X 5 EXT. (IDLER)	40-056	1	
15	SPRING EXTENSION - 1 1/16 X 7.00	40-229	1	
16	HYDRAULIC MOTOR - 10000 SERIES	40-526-A-RED	1	
17	BOLT - 3/4-10 X 3 1/4	90-BLT-07510X325	1	
18	BOLT - 3/4-10 X 4 1/2	90-BLT-07510X450	1	
19	BOLT - 3/4-10 X 5 1/2	90-BLT-07510X550	1	
20	KEY - 1/2 SQ. X 2.00	90-KEY-SQ050X200	1	
21	NUT LOCK - 1/2-13	90-NUT-LOC050-13	5	
22	NUT LOCK - 3/4-10	90-NUT-LOC075-10	1	
23	SCREW FLATHEAD - 1/2-13 X 2 3/4	90-SCR-FH05013X275	4	
24	WASHER FLAT - 3/4	90-WSR-FLT075	3	
25	WASHER SAE - 1/2	90-WSR-SAE050	5	

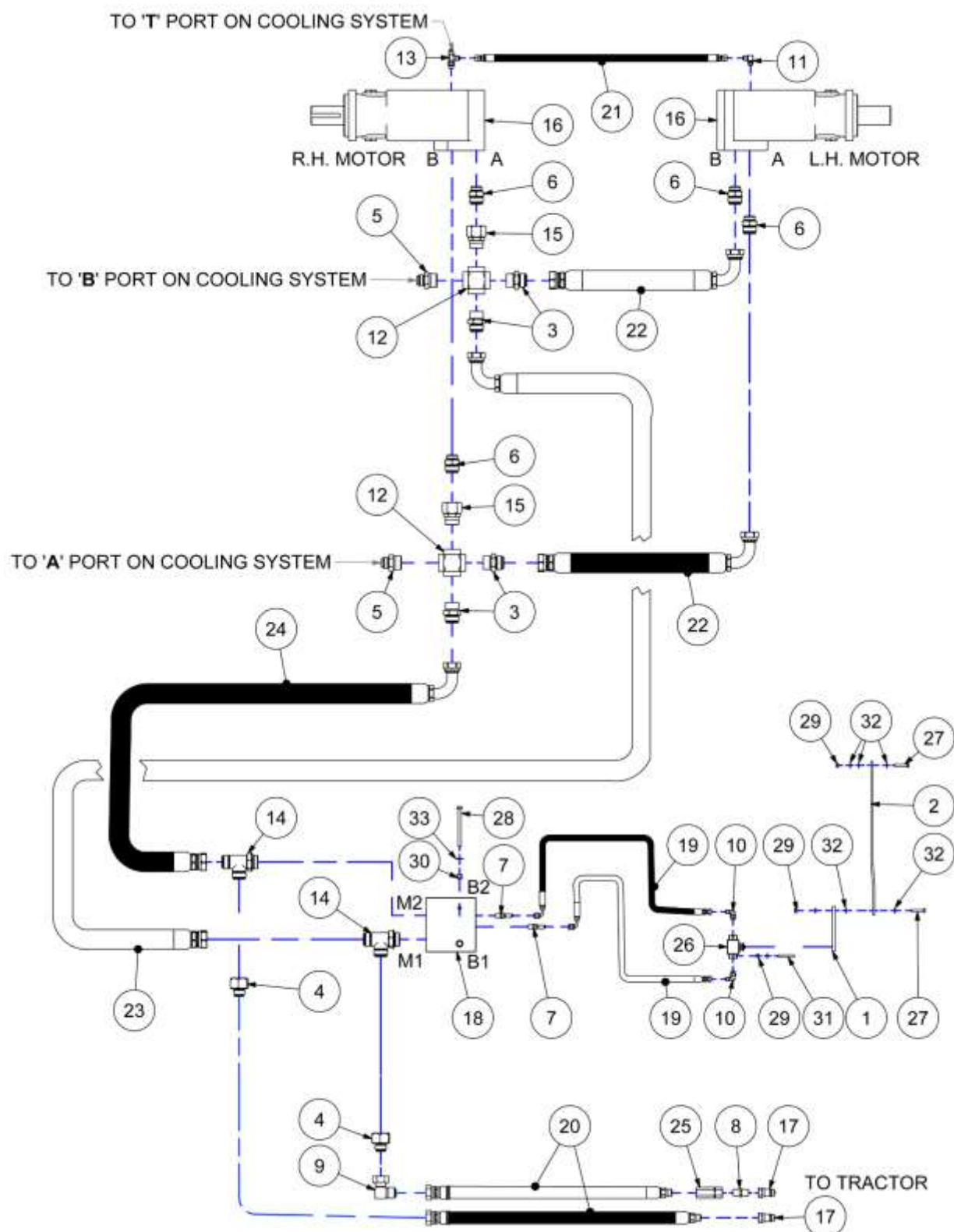
Cooling System Assembly



Cooling System Assembly

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	RESERVOIR- HYDRAULIC OIL	16-644-A	1	
2	ADAPTER - 06 JICM X 06 SAEM	25-WHD-5315X6	1	
3	ADAPTER - 12 JICM X 12 SAEM	25-WHD-5315X12	2	
4	LABEL - PREVENT OVER-FILL	40-832-A	2	
5	LABEL - TANK DAMAGE	40-919	1	
6	HYDRAULIC HOSE - 3/8 X 60 CUT	40-HHZ-0562	1	
7	HYDRAULIC HOSE - 1.00 X 73 CUT	40-HHZ-0563	2	
8	2 POS. DIRECTIONAL VALVE DEDENT	40-HYD-FP3515037	1	
9	HYDTANK LEVEL GAUGE - 5" w/TEMP	40-HYD-LG5	1	
10	FILLER BREATHER - 3/4 NPT MOUNT	40-HYD-SES8P405N12	1	
11	NIPPLE CLOSE - 1/4 NPT GALV.	40-NPT-NPLC025G	1	
12	PLUG - 1/4-NPT	40-NPT-PLG025G	1	
13	BALL VALVE - 1/4 IN F X F	40-NPT-VLV025BLLFF	1	
14	LABEL - ALERT SYMBOL	42-LBL-172	2	
15	BOLT - 3/8-16 X 3/4	90-BLT-03816X075	1	
16	BOLT - 1/2-13 X 1 1/2	90-BLT-05013X150	1	
17	NUT LOCK - 1/2-13	90-NUT-LOC050-13	1	
18	SCREW SOCKET - M5-080 X 40MM	90-SCR-SHM05080X040	4	
19	WASHER SAE - 3/8	90-WSR-SAE038	1	
20	WASHER SAE - 1/2	90-WSR-SAE050	2	

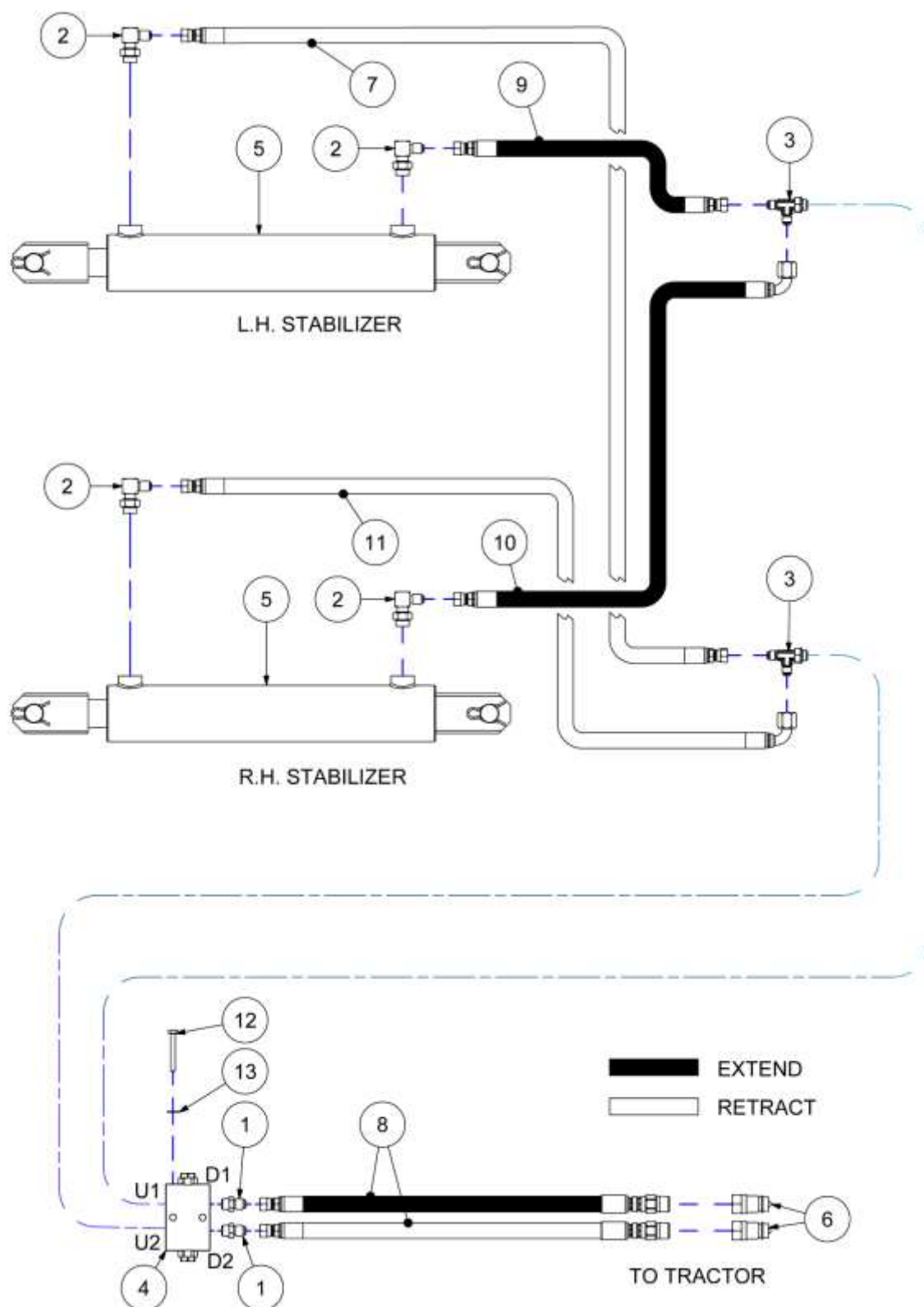
Hydraulic System - Drive



Hydraulic System - Drive

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	VALVE HANDLE	22-657	1	
2	VALVE TIE BAR	22-658	1	
3	ADAPTER - 20 JICM X 20 NPTM	25-WHD-2404X20X20	4	
4	REDUCER - 20 JICF x 16 JICM	25-WHD-5015X20X16	2	
5	ADAPTER - 16 JICM X 20 NPTM	25-WHD-5205X16X20	2	
6	ADAPTER - 20 JICM X 16 SAEM	25-WHD-5315X20X16	4	
7	ADAPTER LONG - 04JICM X 04SAEM	25-WHD-5316X4	2	
8	HEX NIPPLE - 08 NPTM X 08 NPTM	25-WHD-5404X8X8	1	
9	ELBOW - 16 JICM X 16 JICFSW X 90	25-WHD-5506X16	1	
10	ELBOW - 04 JICM X 04 SAEM X 90	25-WHD-5515X4	2	
11	ELBOW - 06 JICM X 06 SAEM X 90	25-WHD-5515X6	1	
12	FEMALE PIPE CROSS - 1 1/4 NPT	25-WHD-5652X20	2	
13	RUN TEE - 06JIC X 06SAE X 06JIC	25-WHD-5716X6	1	
14	RUN TEE - 20JIC X 20JIC X 20SAE	25-WHD-5716X20	2	
15	SW ADAPTER - 20 NPTM X 20 JICF	25-WHD-6505X20X20	2	
16	HYDRAULIC MOTOR - 10000 SERIES	40-526-A-RED	2	
17	HYDRAULIC COUPLER TIP	40-563	2	
18	HYDRAULIC VALVE MANIFOLD	40-568-C	1	
19	HYD HOSE - 1/4 X 129"	40-HHZ-0030	2	
20	HYD HOSE - 3/4 X 196"	40-HHZ-0039	2	
21	HYD HOSE - 3/8 X 98"	40-HHZ-0561	1	
↳	HYD HOSE - 3/8 X 70"	40-HHZ-0569	1	4600M\5100M
22	HYD HOSE - 1 1/4 X 70"	40-HHZ-0564	2	
↳	HYD HOSE - 1 1/4 X 42"	40-HHZ-0570	2	4600M\5100M
23	HYD HOSE - 1 1/4 X 74"	40-HHZ-0565	1	
↳	HYD HOSE - 1 1/4 X 48"	40-HHZ-0571	1	4600M\5100M
24	HYD HOSE - 1 1/4 X 76"	40-HHZ-0566	1	
↳	HYD HOSE - 1 1/4 X 48"	40-HHZ-0571	1	4600M\5100M
25	CHECK VALVE - 1/2 IN-LINE	40-HYD-CV050	1	
26	BALL VALVE - 1/4 IN. HIGH PRESS.	40-HYD-VLV025BLLFF	1	
27	BOLT - 1/4-20 X 1 1/2	90-BLT-02520X150	2	
28	BOLT - 3/8-16 X 4 1/2	90-BLT-03816X450	2	
29	NUT LOCK - 1/4-20	90-NUT-LOC025-20	6	
30	NUT LOCK - 3/8-16	90-NUT-LOC038-16	2	
31	U-BOLT ROUND - 1/4-20 X 2.00	90-UBT-RND02520X200	2	
32	WASHER SAE - 1/4	90-WSR-SAE025	10	
33	WASHER SAE - 3/8	90-WSR-SAE038	2	

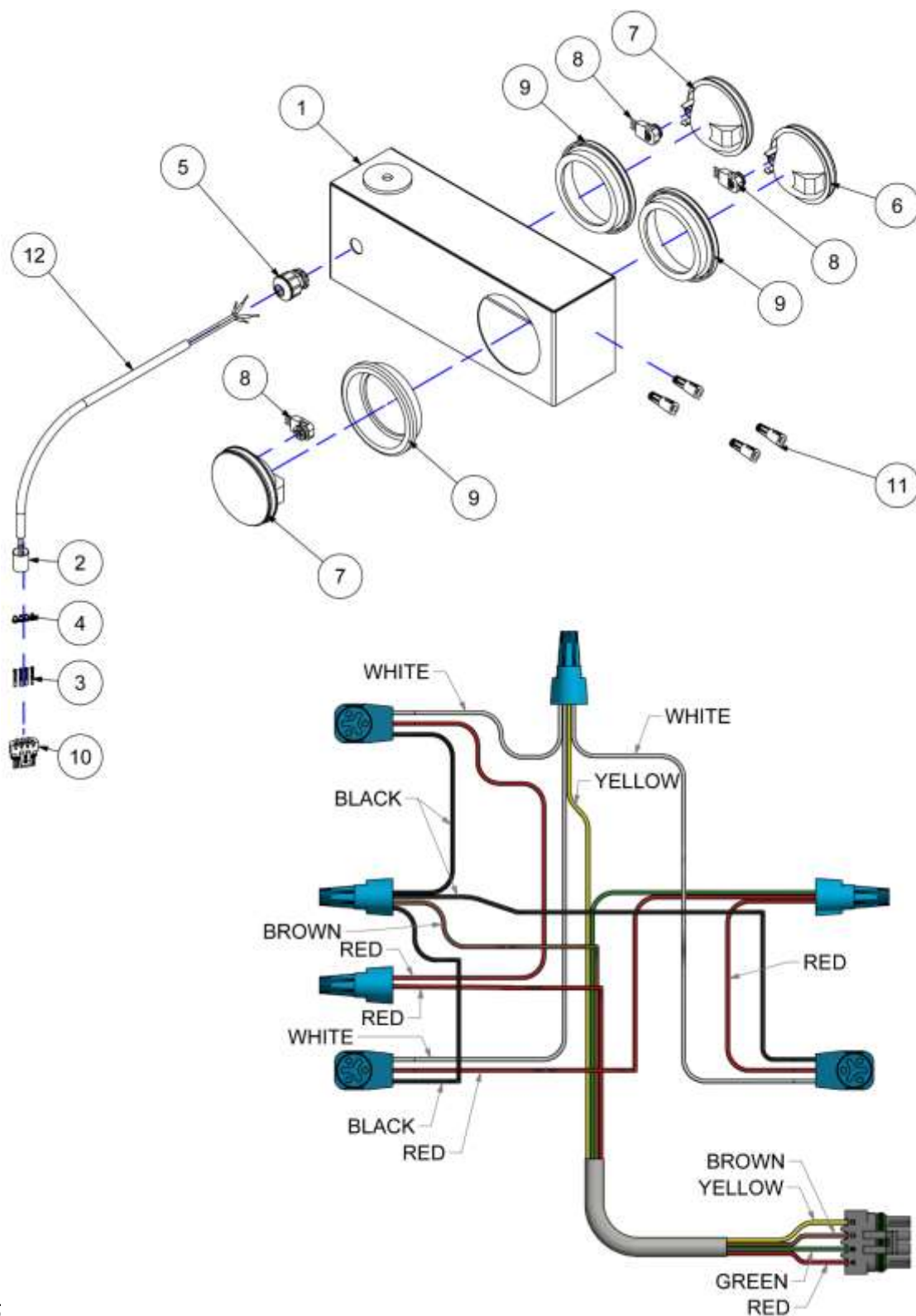
Hydraulic System - Stabilizer



Hydraulic System - Stabilizer

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	ADAPTER - 06 JICM X 06 SAEM	25-WHD-5315X6	2	
2	ELBOW - 06 JICM X 08 SAEM X 90	25-WHD-5515X6X8	4	
3	RUN TEE - 6JICM X 6SAEM X 6JICM	25-WHD-5716X6	2	
4	PILOT OPERATED CHECK VALVE	40-399-A	1	
5	RED HYD CYL - 2 1/2 X 14 IN HD	40-525-A-RED	2	
6	HYDRAULIC COUPLER TIP	40-563	2	
7	HYD HOSE - 3/8 X 60"	40-HHZ-0032	1	
↳	HYD HOSE - 3/8 X 52"	40-HHZ-0168	1	
8	HYD HOSE - 3/8 X 300"	40-HHZ-0035	2	
9	HYD HOSE - 3/8 X 48"	40-HHZ-0173	1	4600M/5100M
↳	HYD HOSE - 3/8 X 52"	40-HHZ-0168	1	
10	HYD HOSE - 3/8 X 178"	40-HHZ-0174	1	
↳	HYD HOSE - 3/8 X 160"	40-HHZ-0149	1	4600M/5100M
11	HYD HOSE - 3/8 X 195"	40-HHZ-0175	1	
↳	HYD HOSE - 3/8 X 160"	40-HHZ-0149	1	4600M/5100M
12	BOLT - 1/4-20 X 2.00	90-BLT-02520X200	2	
13	WASHER SAE - 1/4	90-WSR-SAE025	2	

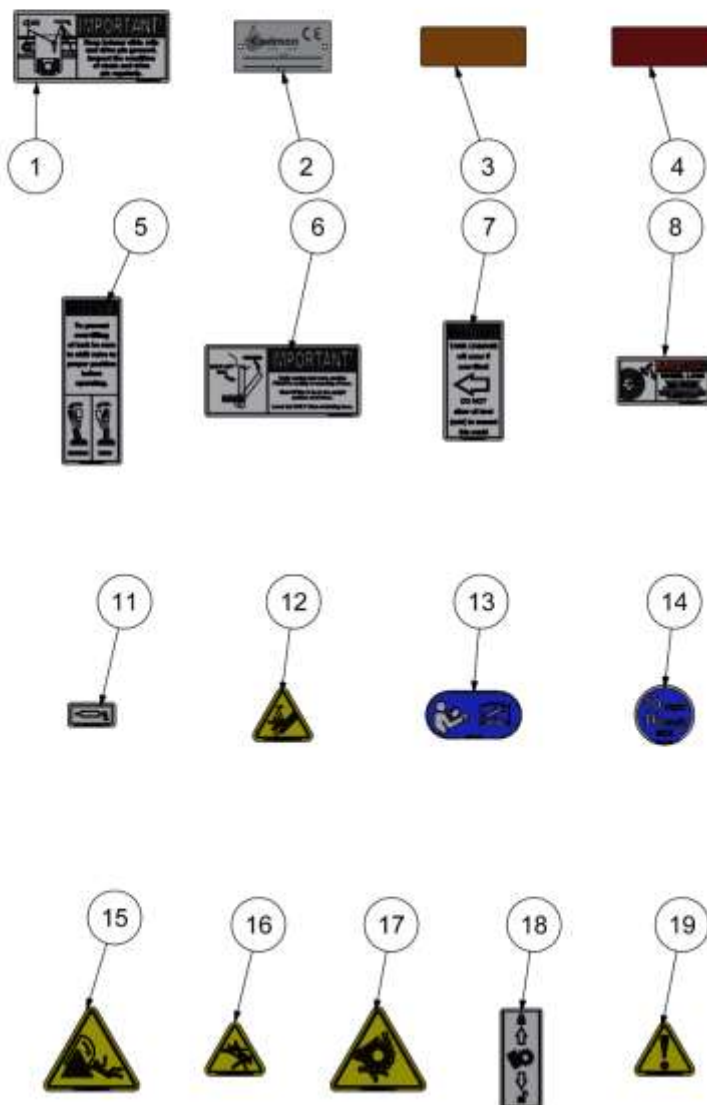
Turn Signal Assembly



Turn Signal Assembly

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	TURN SIGNAL HOUSING	22-613-A	1	
2	HEAT SHRINK TUBING 3/4"	40-234	1	
3	FEMALE TERMINAL - 14 GA.	40-368	4	
4	WIRE SEAL GREY - 16-14 GA.	40-369	4	
5	STRAIN RELIEF CONNECTOR 1/2 IN.	40-533	1	
6	TAIL LAMP - 4 IN. - RED	40-699	1	
7	TAIL LAMP - 4 IN. - YELLOW	40-700	2	
8	PLUG PIG TAIL - 3 WIRE 90 DEG	40-701	3	
9	TAIL LAMP GROMMET	40-702	3	
10	4 WIRE MALE CONNECTOR 7354-1	40-770	1	
11	SMART SEAL CONNECTOR	40-796	4	
12	CABLE - 4-CONDUCTOR	40-798	2	

Decal/Label Assembly





Decal/Label Assembly

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	LABEL - INDEXER CONDITION	40-115-A	1	
2	CADMAN SERIAL NUMBER TAG	40-238-B	1	
3	DECAL - AMBER REFLECTIVE	40-598	4	
4	DECAL - RED REFLECTIVE	40-599	4	
5	LABEL - PREVENT OVER-FILL	40-832-A	2	
6	LABEL - VERIFY SHUT-OFF	40-833-A	1	
7	LABEL - TANK DAMAGE	40-919	1	
8	LABEL - TORQUE WHEELS	42-035	2	
9	CADMAN DECAL - R52" SILVER	42-DCL-013	4	
10	DECAL - 4600M SIDE FRAME	42-DCL-4600M-A	2	
↳	DECAL - 5000M-XL SIDE FRAME	42-DCL-5000M-XL-A	2	
↳	DECAL - 5100M SIDE FRAME	42-DCL-5100M-A	2	
↳	DECAL - 5100M-XL SIDE FRAME	42-DCL-5100M-XL	2	
↳	DECAL - 5500M SIDE FRAME	42-DCL-5500M-C	2	
11	LABEL - GREASE POINT	42-LBL-115	1	
12	LABEL - PINCH HAND HAZARD	42-LBL-117	1	
13	LABEL - MANUALS	42-LBL-118	1	
14	LABEL - MAX TOW SPEED	42-LBL-119	1	
15	LABEL - ROTATING DRUM	42-LBL-122	4	
16	LABEL - ENTANGLEMENT	42-LBL-123	1	
17	LABEL - ENTANGLEMENT HAZARD	42-LBL-127	6	
18	LABEL - DRUM LOCK	42-LBL-141	1	
19	LABEL - ALERT SYMBOL	42-LBL-172	2	



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Required Maintenance

To make sure your Hard Hose Drag Reel performs as intended it is important to follow the maintenance schedule in this manual.



Maintenance must be done only when the drag reel is shut down and is in a non-loaded condition. This means that all mechanical and hydraulic tension has been released from the drag reel.

Performing maintenance on the drag reel during operation may result in serious injury and/or death to operators

Greases and Lubricants

See the following table for the greases and lubricants used for your drag reel.

ITEM	SPECIFICATION
Grease	Any good grade multi-purpose, waterproof grease is compatible with the greasing requirements of your Cadman Hard Hose Reel.
Gearbox	SAE 80W or 90W gear oil.

Table 1 - Grease and Lubricants

Each Use

MAINTENANCE ITEM	PROCEDURE
Visually inspect equipment	Walk around the drag reel and check for loose, missing, and/or damaged items. Replace missing and/or damaged items. Tighten loose items.
Inspect all lubrication points	Check all grease points. Use grease sprinkler to lubricate grease points as needed. Use a brush to apply grease to the indexer rails and drive button. Do not exceed times set in Grease Points Upkeep
Inspect tire pressure	Check sidewall tire for operating pressure and use tire pressure gauge to see if inflation is correct. Do not lower the tire pressure below the tire's recommended level. Do not overinflate tires.  Failure to use recommended tire pressure may result in the tire exploding, or separating from the wheel rim. This may result in serious injury and/or death. This will also damage the traveller.
Inspect all wheel nuts (See Star Pattern for Tightening Wheel Nuts, Page 61)	Check and see if wheel nuts are tight. If they need to be tightened then tighten them with a torque wrench to: 110 ft•lbs [149 N•m] Do not operate the drag reel if the wheel nuts are loose.  Using the drag reel if the wheel nuts are not correctly torqued may result in wheel separation. This may result in serious injury and/or death, and will damage the drag reel.
Adjust, if necessary, the alignment and tension of the drive chains	Remove the guard, and then adjust indexer chain so that it contains no visible slack. Replace the guard when finished. The drive chains (around the drum) are properly tensioned when it has no visible slack and is seating properly onto the drive pegs when the drum rotates. Adjustments are made by turning the locknut (3/4" wrench) on the spring adjustment rod.
Verify man drive chain alignment and tension	Inspect alignment and tension of main drive chain. Adjust if needed.
Lubricate the indexer drive button and slide rails	Inspect alignment and tension of main drive chain. Adjust if needed. Liberally apply acceptable grease along the length of the slide rail and around the drive button. (See Lubricants) Figure 59
Lubricate all grease fittings	Using a grease gun, lubricate each grease fitting with an appropriate amount of acceptable grease. (See Lubricants) Figure 60

Table 2 - Each Use

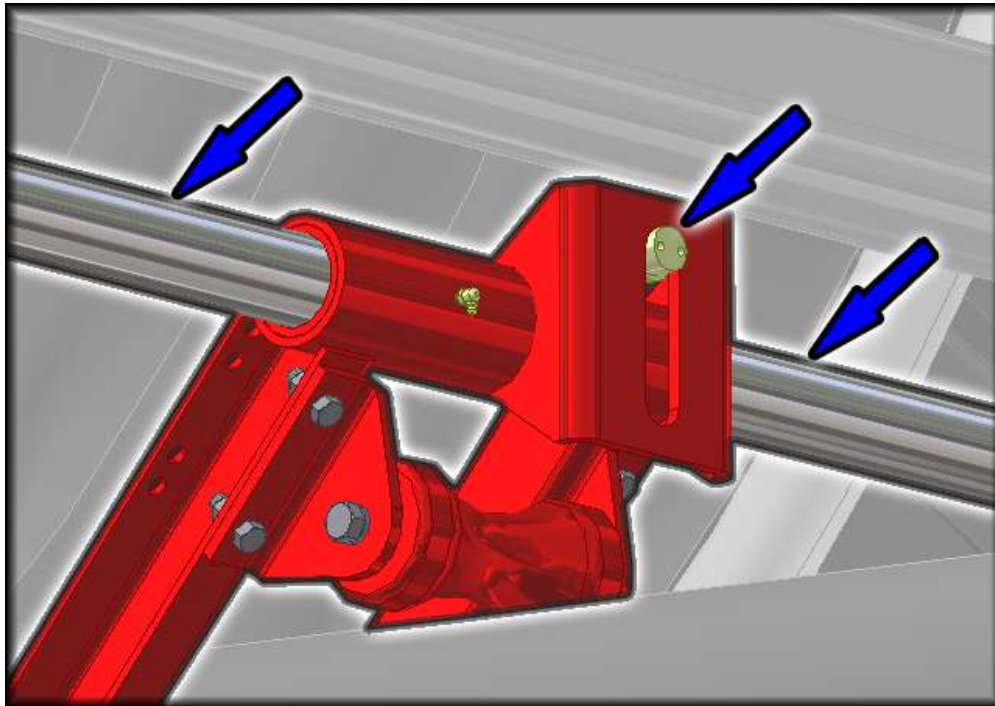


Figure 22 -Grease Indexer Rail Button

img-00141

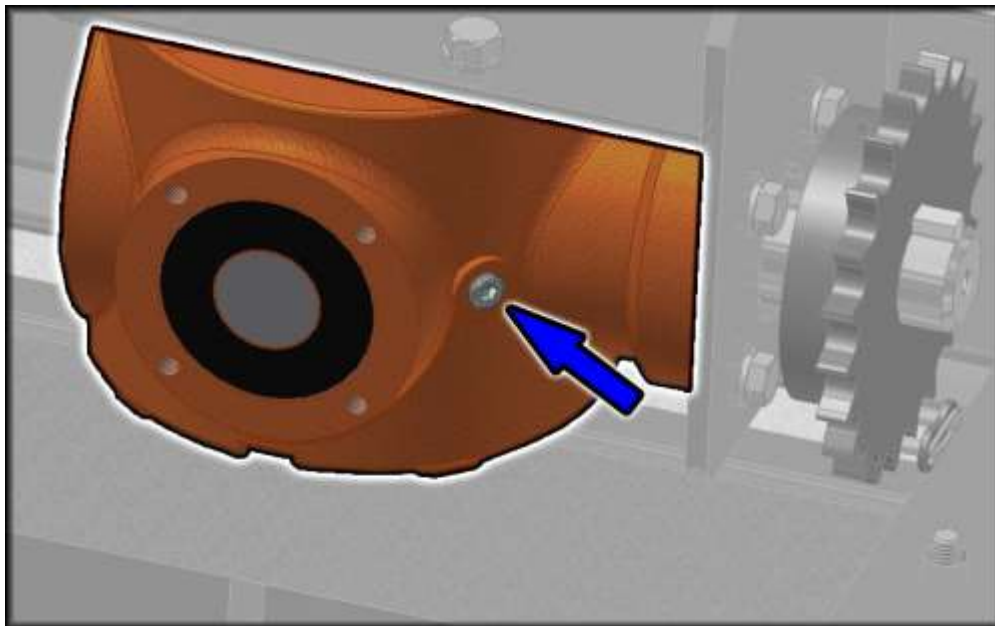


Figure 23 - Indexer Gearbox Oil Filling

img-00142



Figure 24 - Drive Chain Adjuster (both sides)

img-00140

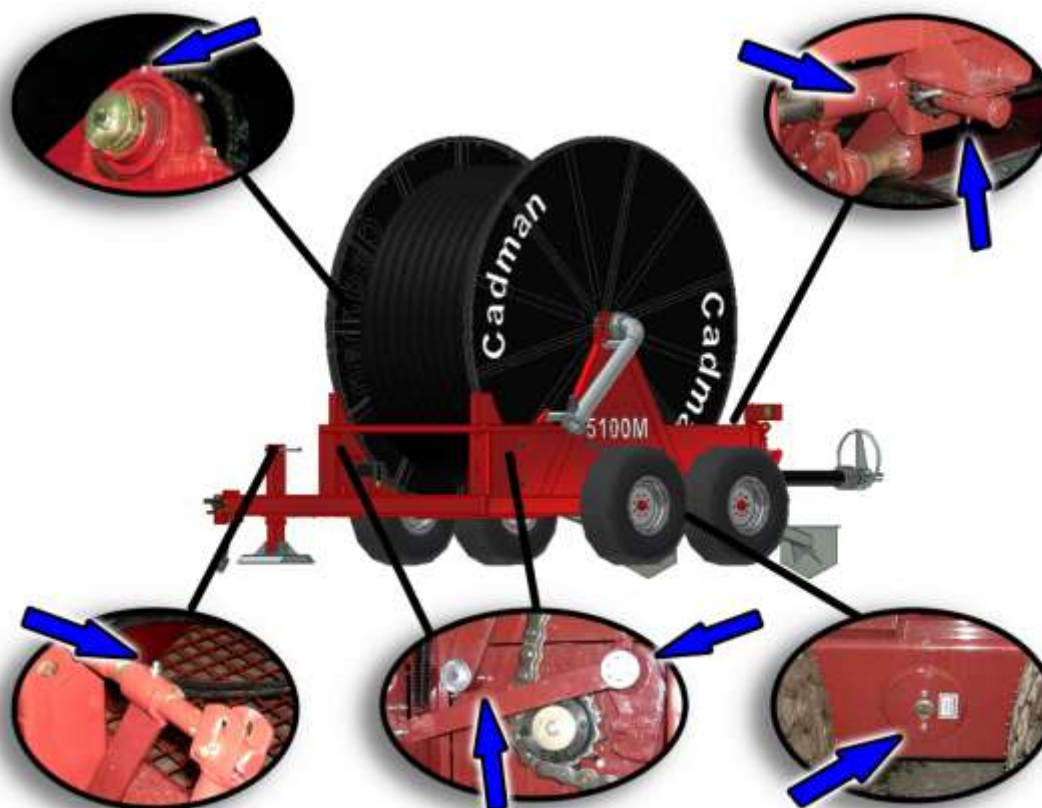


Figure 25 - Grease Points

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Before Storage



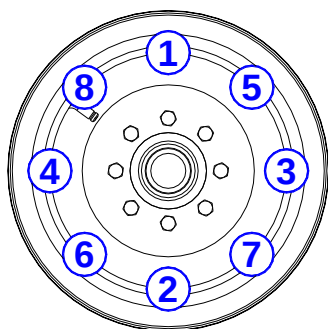
You MUST properly empty and flush your Hard Hose Drag System before storing the machine for more than one day. Failure to properly clean out the hose could result in the hose being plugged with sediment. Make sure the drive brake is applied to prevent hose unspooling.

MAINTENANCE ITEM	PROCEDURE
Drain the hose Drain and clean out the hose.	Use a clean-out ball (sold separately) following the instructions provided with the unit. OR Flush with water (minimum of 2000 gallons (7600 liters)) to completely purge the hose.
Clean the variable speed pulley Clean, inspect and repack the main chassis wheel bearing.	See Walking Beam Assembly on page 32. Replace the seals as required
Lubricate all chains	Use a brush to apply grease to all chains. (see "Lubricants")
Check the oil in the indexer gearbox	Remove the oil plug. Top off or replace the oil as required. The oil should be level with the bottom of the plug hole. (refill capacity = 350mL (12 oz.) approximately) Figure 59

Table 3 - Before Storage

Star Pattern for Tightening Wheel Bolts

Follow the numbered pattern below when tightening your drag reel wheel nuts to their required torque values. After you are finished tightening all nuts to their required values, repeat the numbered pattern to check that all nuts are correctly torqued. A 8-bolt pattern is shown here. For other bolt patterns, do the same procedure.



Failing to use a star pattern will result in some or all of the wheel bolts being torqued incorrectly. This may result in wheel separation, and will cause serious injury and/or death to operators and/or spectators. This will also damage the traveller.

Figure 26 - Tighten Wheel Fasteners

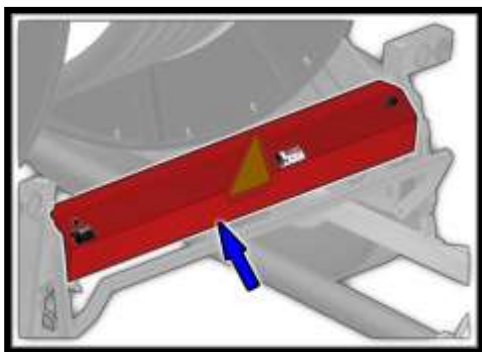
img-00132

Indexing System Adjustment

The indexing should **ONLY** be checked when only the base layer of hose is remaining on the drum. The hose connection should be in the 6 o'clock position (closest to the ground). If gaps exist between the coils of the hose, set the drum brake and manually push the coils together. If the hose does not travel straight off the drum and through the hose guide it must be adjusted using the instructions below.

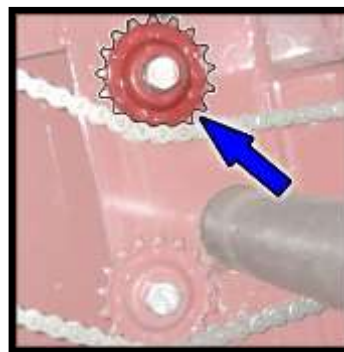


If safety shields are removed you *MUST* properly re-install them before operating the machine.



img-00135

With the brake set and the hose connection (barb on drum) at 6 o'clock, remove the indexer shield.



img-00136

Loosen the top idler gear, and then remove the chain from the sprocket on the gear box.



img-00137

Adjust the position of the hose guide by rotating the sprocket.



img-00138

The hose guide is properly aligned when the hose travels in a straight line through the hose guide and lays flush against the drum elbow or previous coil of hose.

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Hard Hose Drag Reel Dimensions and Weight (1 of 2)

The dimensions and weights shown on the following pages are only approximate, and are specific to the 4600M and 5100M.

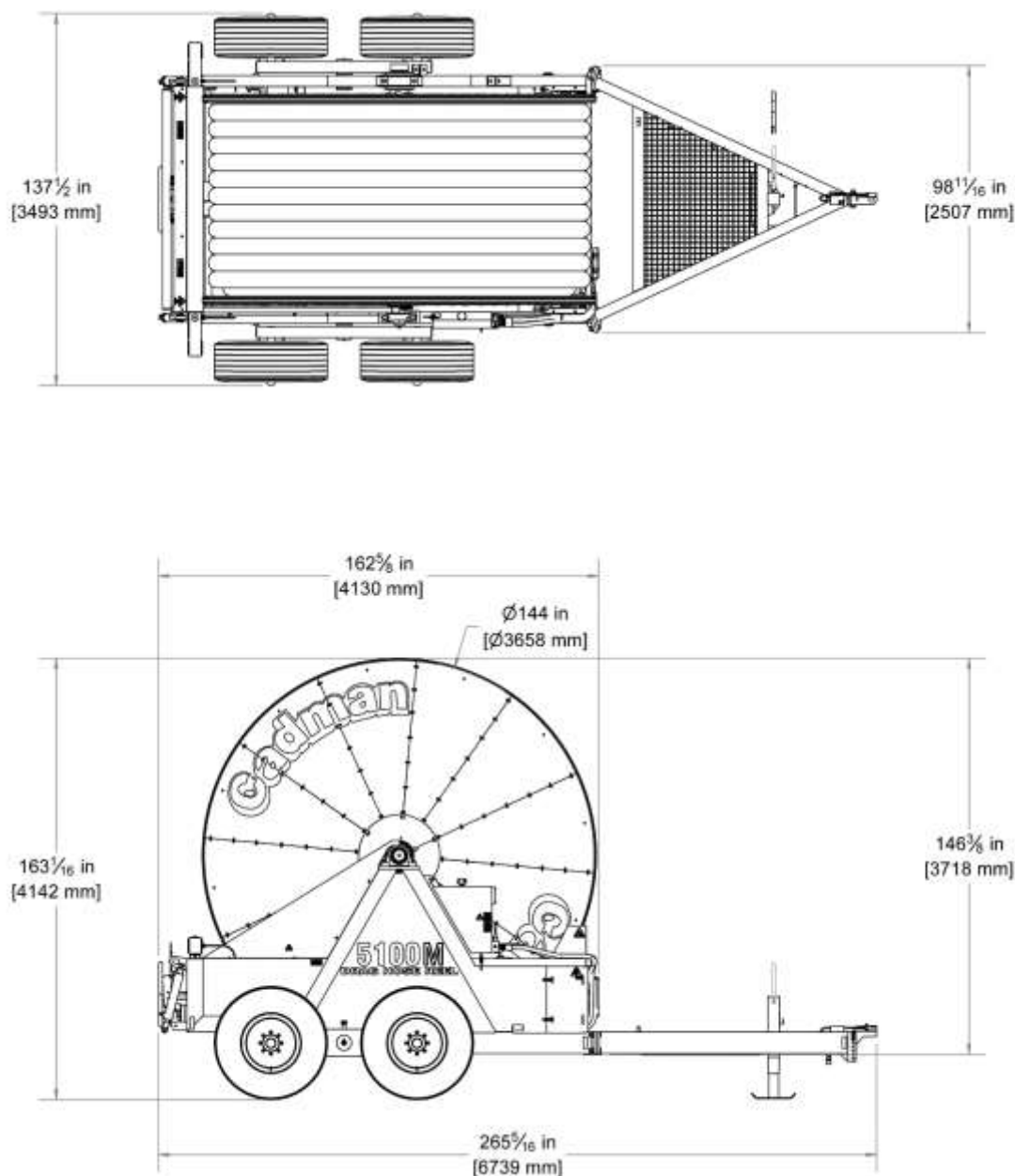


Figure 27 – 4600M and 5100M Overall Dimensions

img-01607

The weight for an empty Cadman 4600M is 17,700 lbs (8,029 kg).

The weight for an empty Cadman 5100M is 18,600 lbs (8,437 kg).

Hard Hose Drag Reel Dimensions and Weight (2 of 2)

The dimensions and weight shown on the following pages are only approximate, and are specific to the 5000M-XL, 5100M-XL and 5500M.

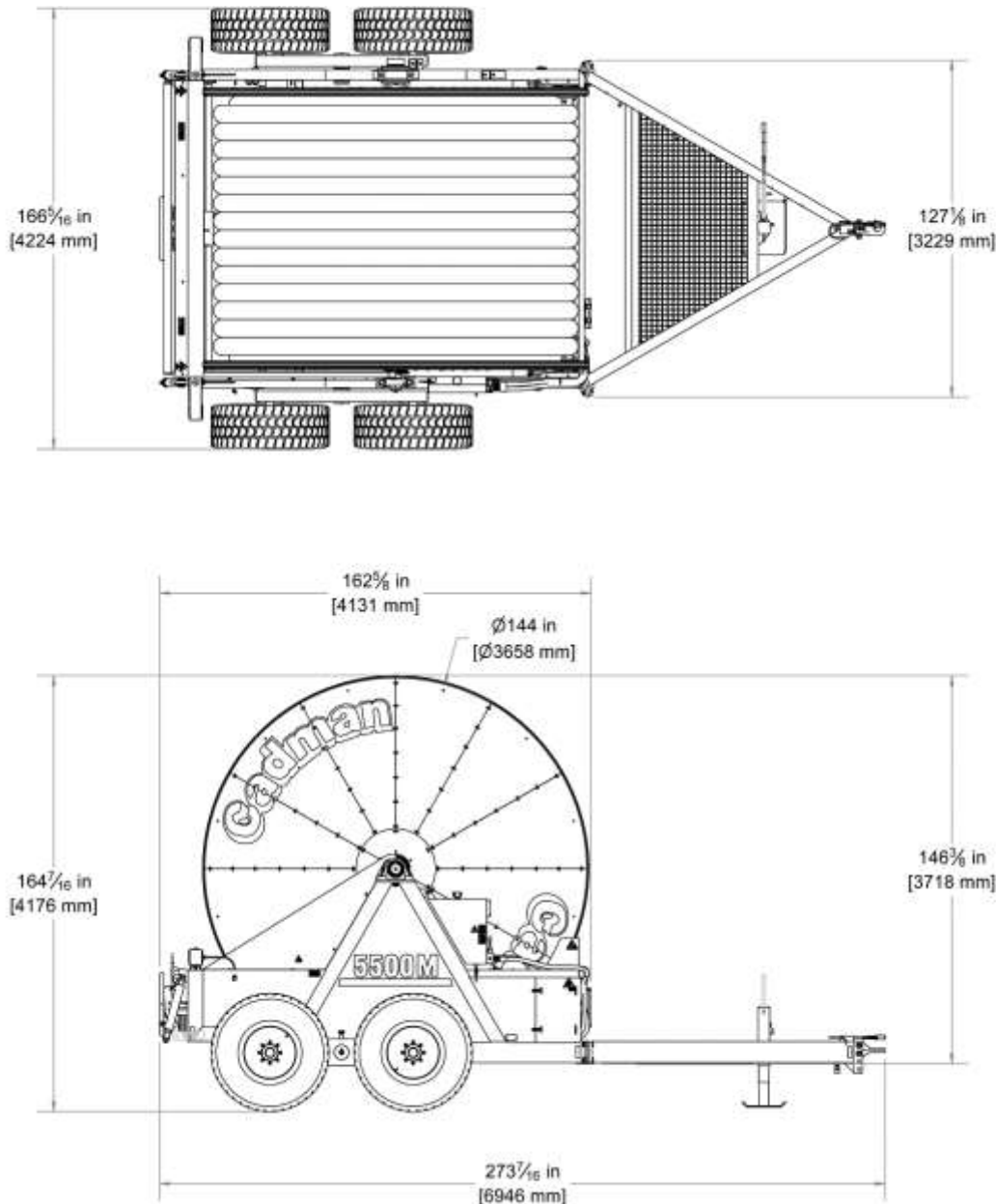


Figure 28 – 5000M-XL, 5100M-XL and 5500M Overall Dimensions

img-01608

The weight for an empty Cadman 5000M-XL is 23,350 lbs (10,600 kg).

The weight for an empty Cadman 5100M-XL is 21,150 lbs (9,600 kg).

The weight for an empty Cadman 5500M is 21,850 lbs (9,950 kg).



Useful Information

LENGTH

1 FOOT	= 12 = 0.3048	Inches Meter	1 METER	= 39.37 = 3.2808	Inches Feet
1 ROD	= 198 = 16.5 = 5.5 = 5.029	Inches Feet Yards Meters	1 MILE	= 5280 = 1760 = 320 = 1609	Feet Yards Rods Meters

AREA

1 SQUARE FOOT	= 144 = 0.0929	Square Inches Square Meters
1 SQUARE YARD	= 1296 = 0.8361	Square Inches Square Meters
1 SQUARE METER	= 1550 = 10.764	Square Inches Square Feet
1 ACRE	= 43560 = 4047 = 0.4047	Square Feet Square Meters Hectare
1 HECTARE	= 107639 = 10000 = 2.47105	Square Feet Square Meters Acres
1 SQUARE MILE	= 640 = 259	Acres Hectares

VOLUME

1 GALLON (US)	= 0.8327 = 231 = 0.1337 = 8.345	Imperial Gallons Cubic Inches Cubic Feet Pounds
1 CUBIC FOOT	= 1728 = 7.48 = 62.4 = 28.32	Cubic Inches Gallons (US) Pounds Liters
1 ACRE INCH	= 27154 = 254	Gallons (US) Cubic Meters / Hectare
AREA OF A CIRCLE		= Diameter x Diameter x 0.7854
CYLINDER VOLUME (US GAL.)		= Diameter (ft.) x Diameter (ft.) x Length (ft.) x 5.8752