



Hard Hose Drag Reel

4000M / 4500M



OPERATOR'S, PARTS and MAINTENANCE MANUAL
2024 Edition

TR-MAN-4500M



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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 – 4500M Hard Hose Drag Reel

img-00202-A

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.

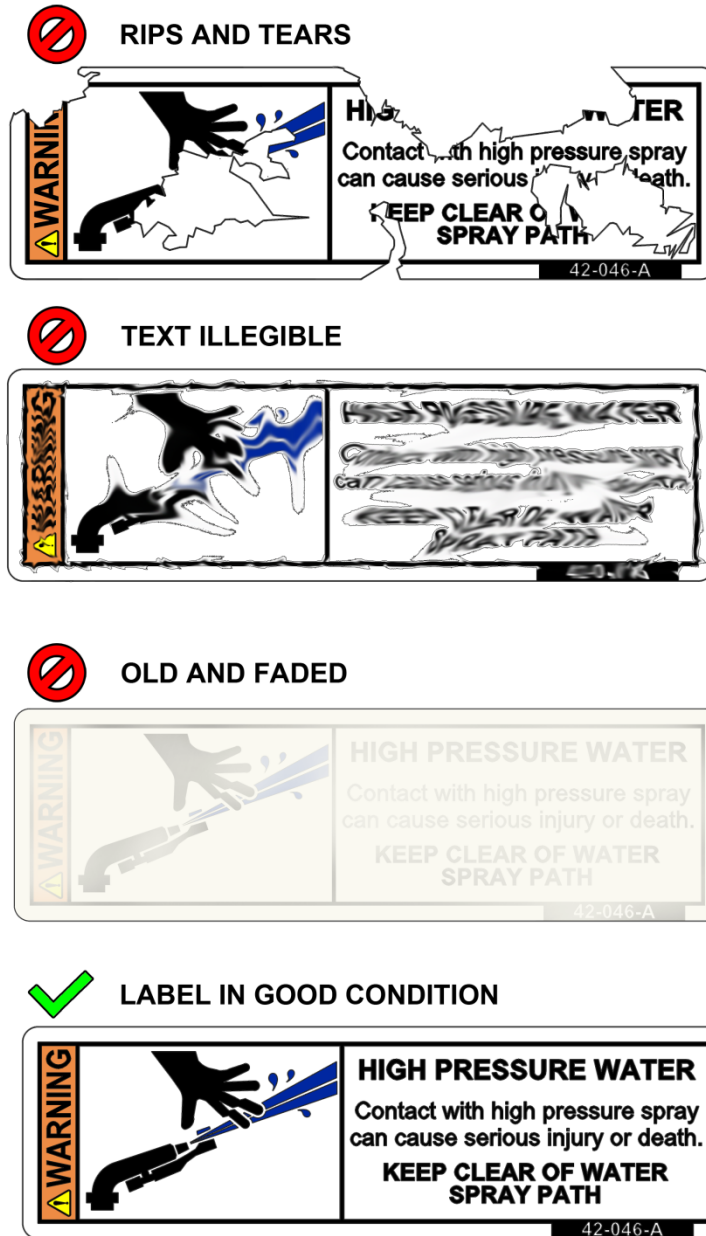


Figure 5 - Replace Decals

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 18). This will allow the hose to be pulled to the furthest point during your first pull.

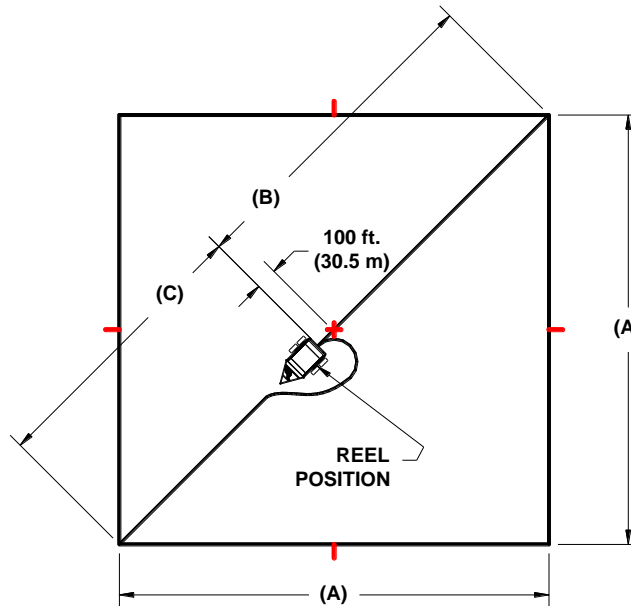


Figure 6 - Reel Position

img-00120-A

Maximum	4000M	4500M
Application Area (per set-up)	99 acres	70 acres
(A)	2078 ft.	1753 ft.
(B) Usable Hose Length.	1520 ft.	1290 ft.
(C)	1420 ft.	1190 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.

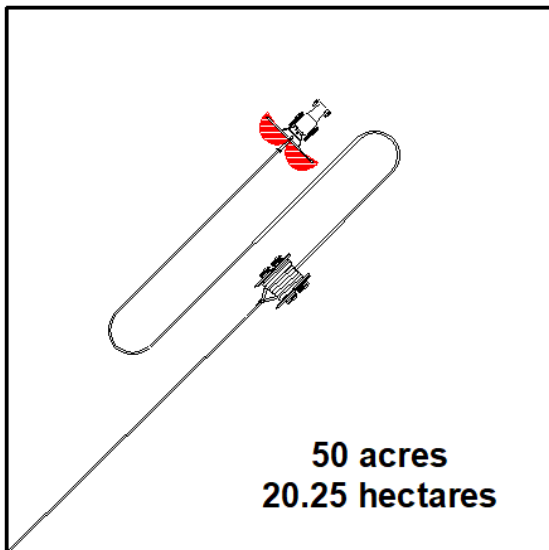


Figure 7 - One Set-up

img-00121

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

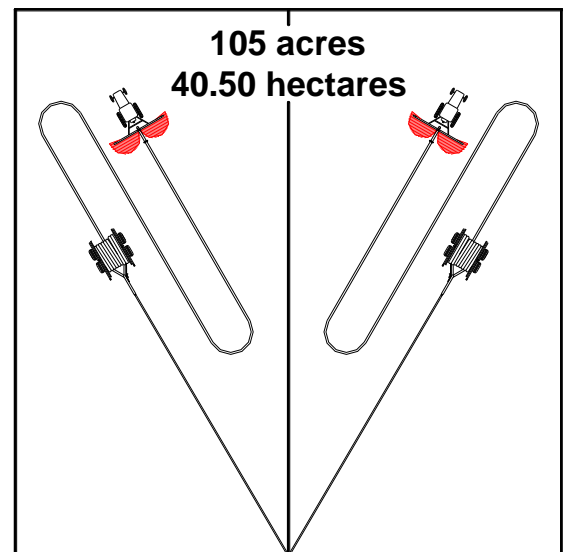


Figure 8 - Two Set-ups

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.

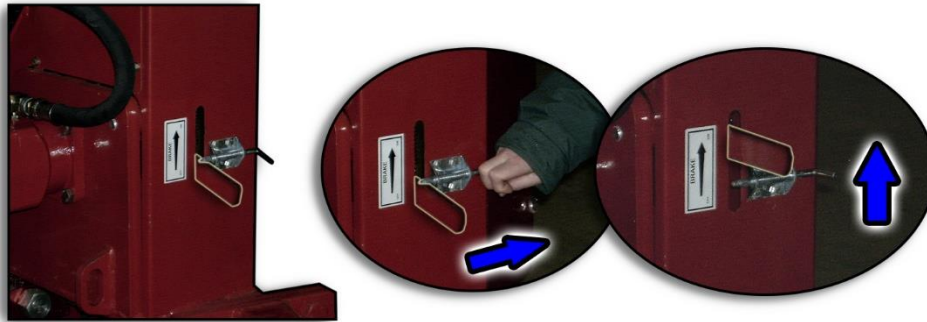


Figure 9 - Engage Brake Prior to Transport

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.

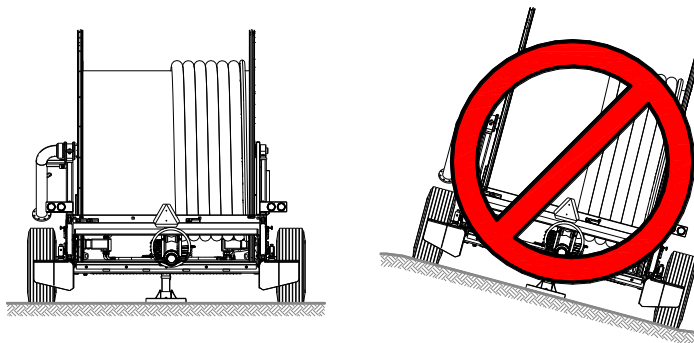


Figure 10 - Work on firm and level ground (image exaggerated)

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.

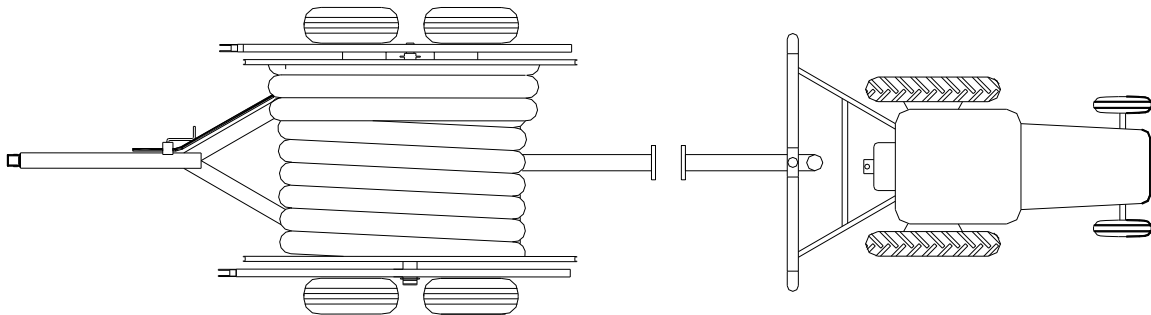


Figure 11 - Position Tractor

img-00043

Step 7

Remove the hose flag from the hose end.

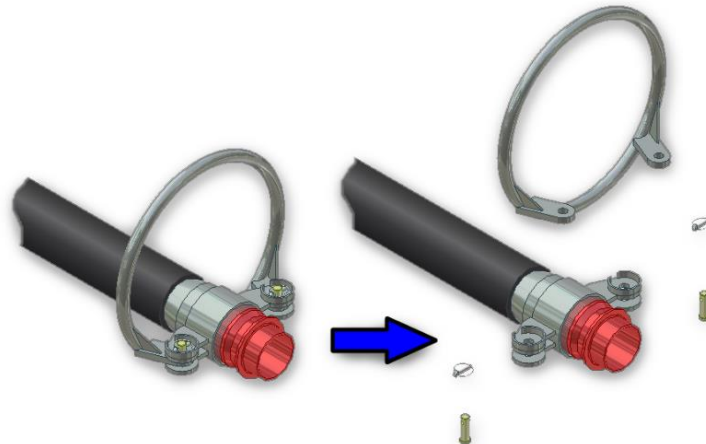


Figure 12 - Remove Hose Flag

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.

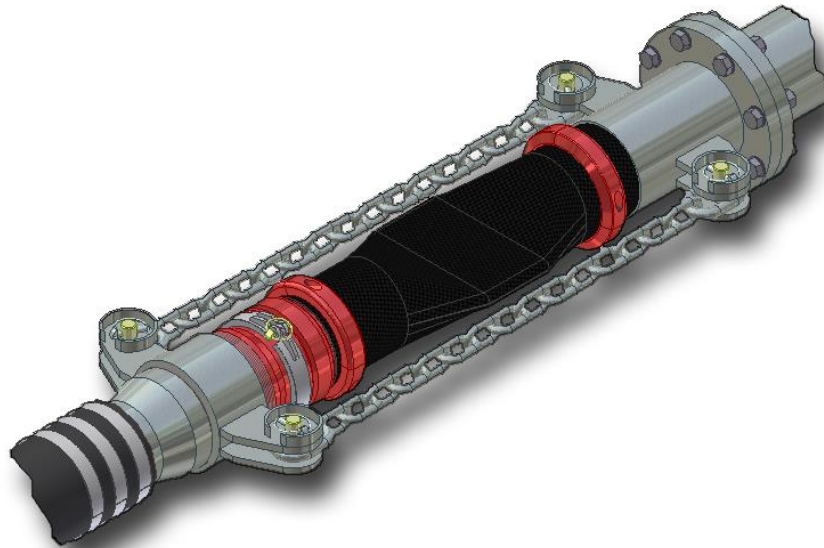


Figure 13 - Connect Chains

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.

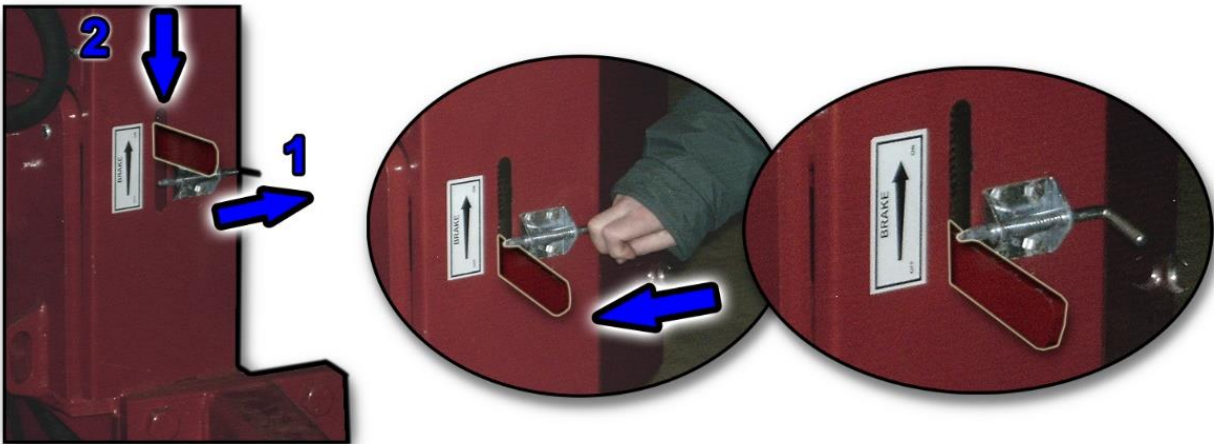


Figure 14 - Disengage Drum Brake

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.

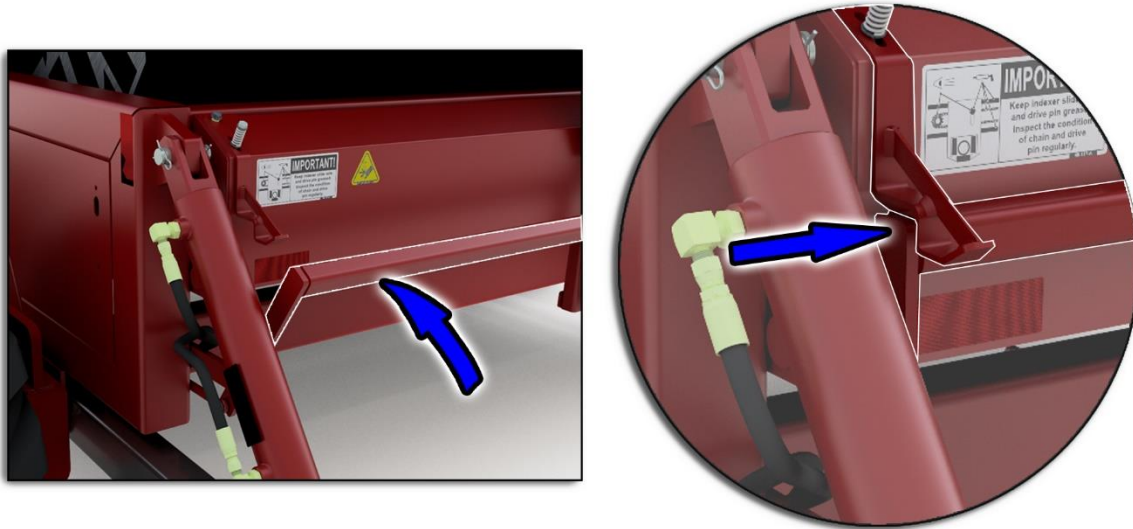


Figure 15 - Raise Stop Bar

img-00129

Step 3

Switch the cooling system valve to the unwind position.

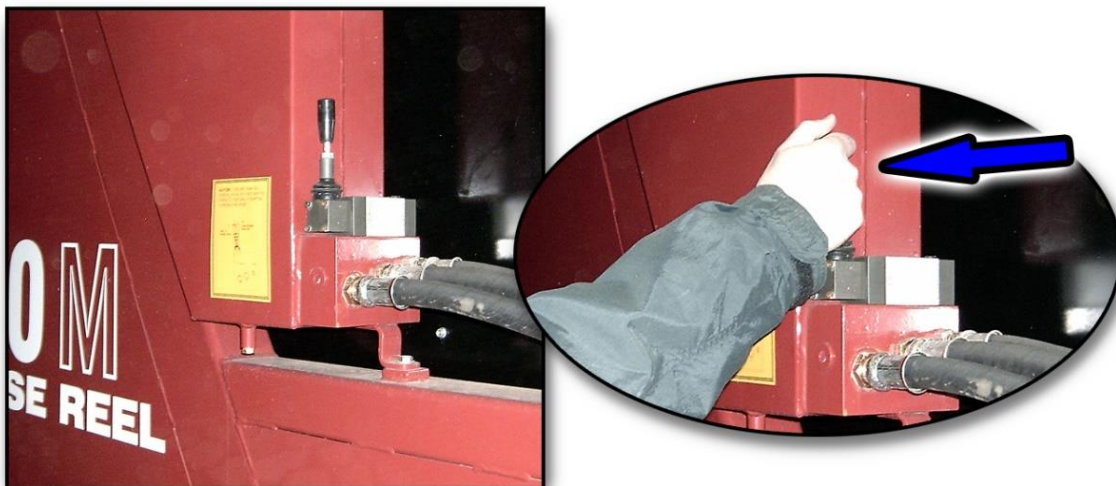


Figure 16 - Set Valve to Unwind Position

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.

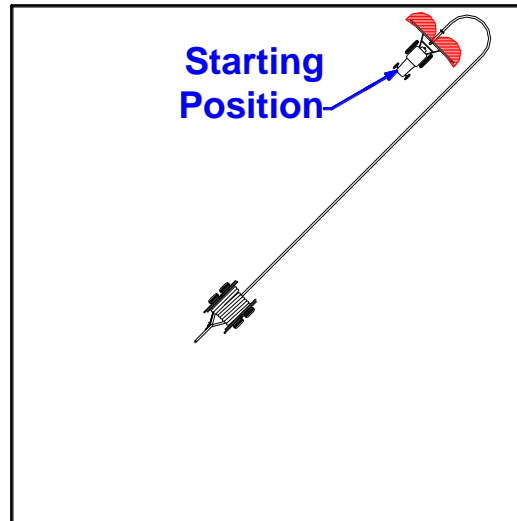


Figure 17 - Starting Position

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

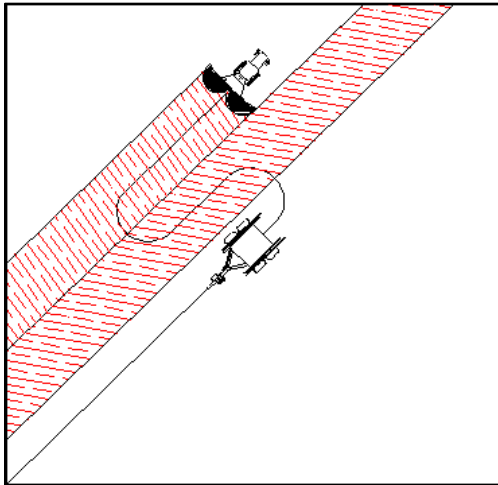
Begin pumping the liquid slowly. You must allow the system to purge the air within the hose before raising the system to the desired operating pressure. Once the liquid reaches the applicator, the driver should start moving to distribute the liquid. At this point you can increase the pump rpm raising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

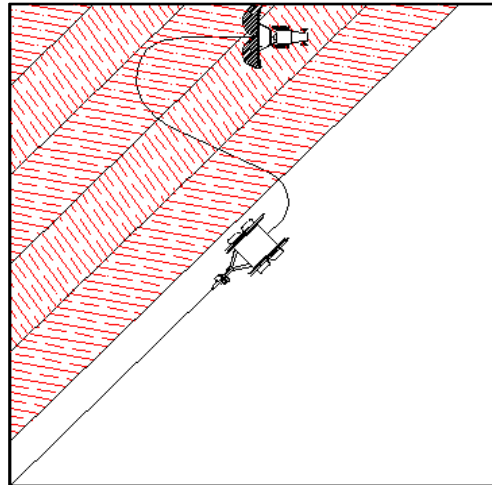
Application Pattern

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.



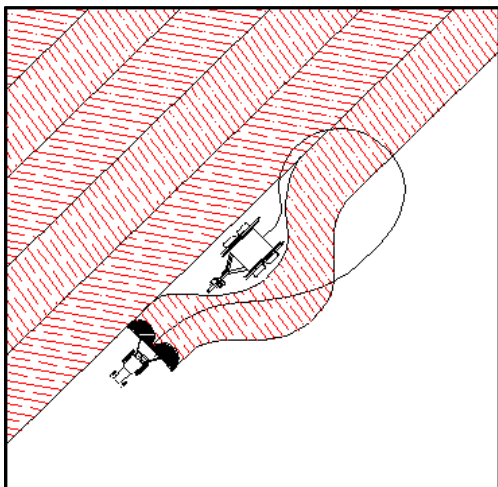
img-00035

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



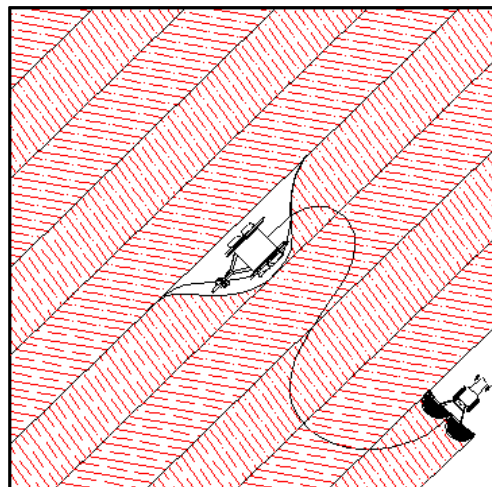
img-00036

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.

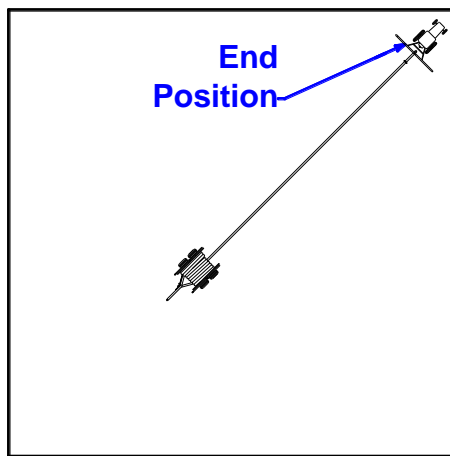
- Ø 6” hose contains approximately 1 ½ US Gallons per foot
- Ø 8” hose contains approximately 2 ⅔ US Gallons per foot

	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

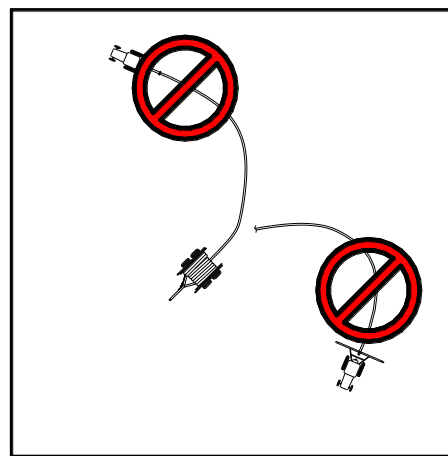
Failure to compensate for the remaining fluid can result in over application of fluid.

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.

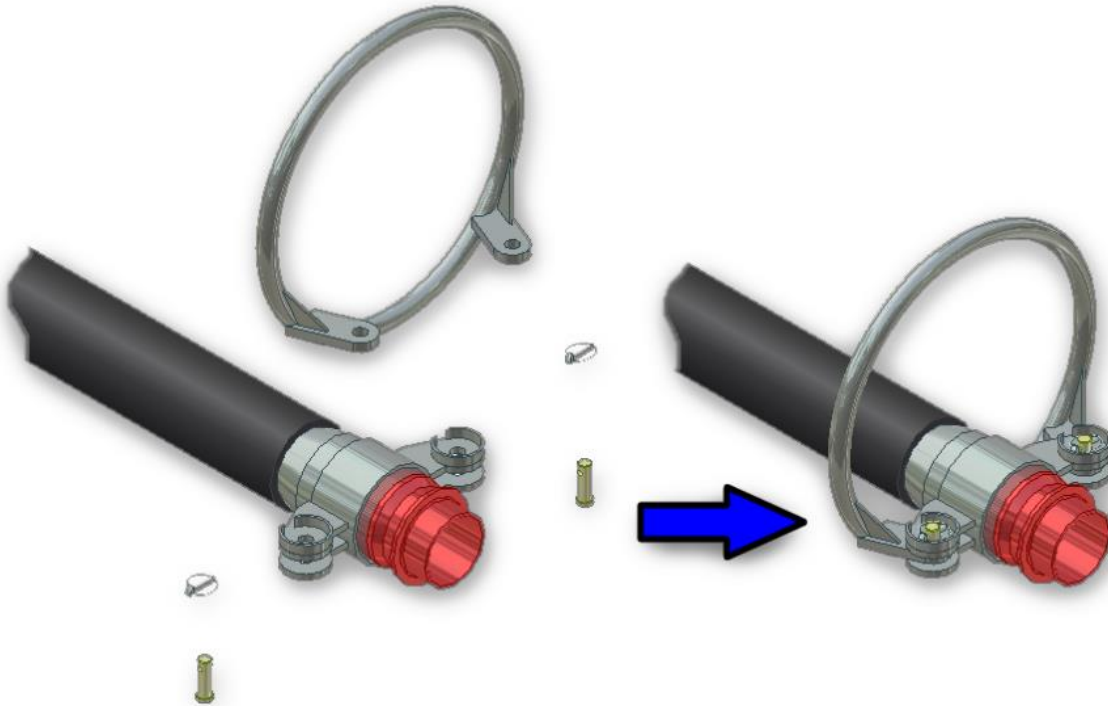


Figure 20 - Re-install Hose Flag

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 tractor's hydraulic supply.

Step 5

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

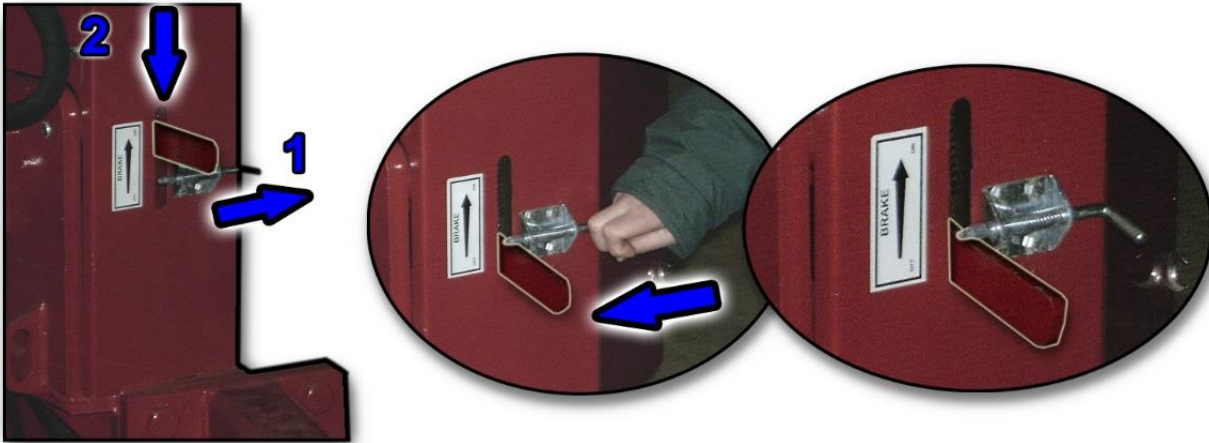


Figure 21 - Release Drum Brake

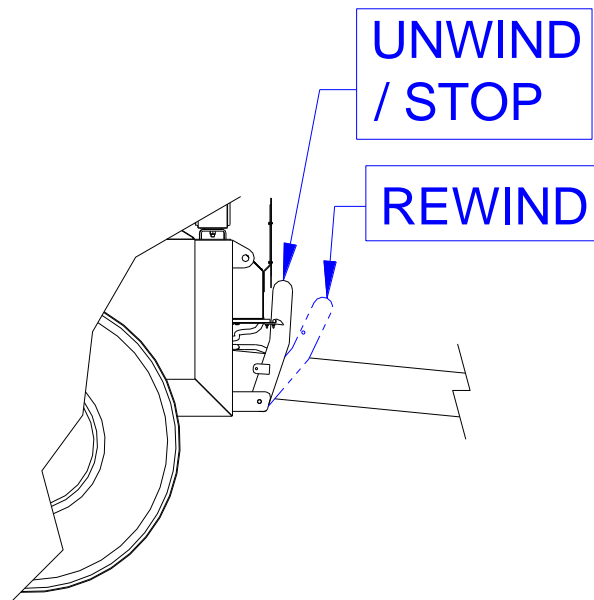
img-00127



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 59.

Step 8

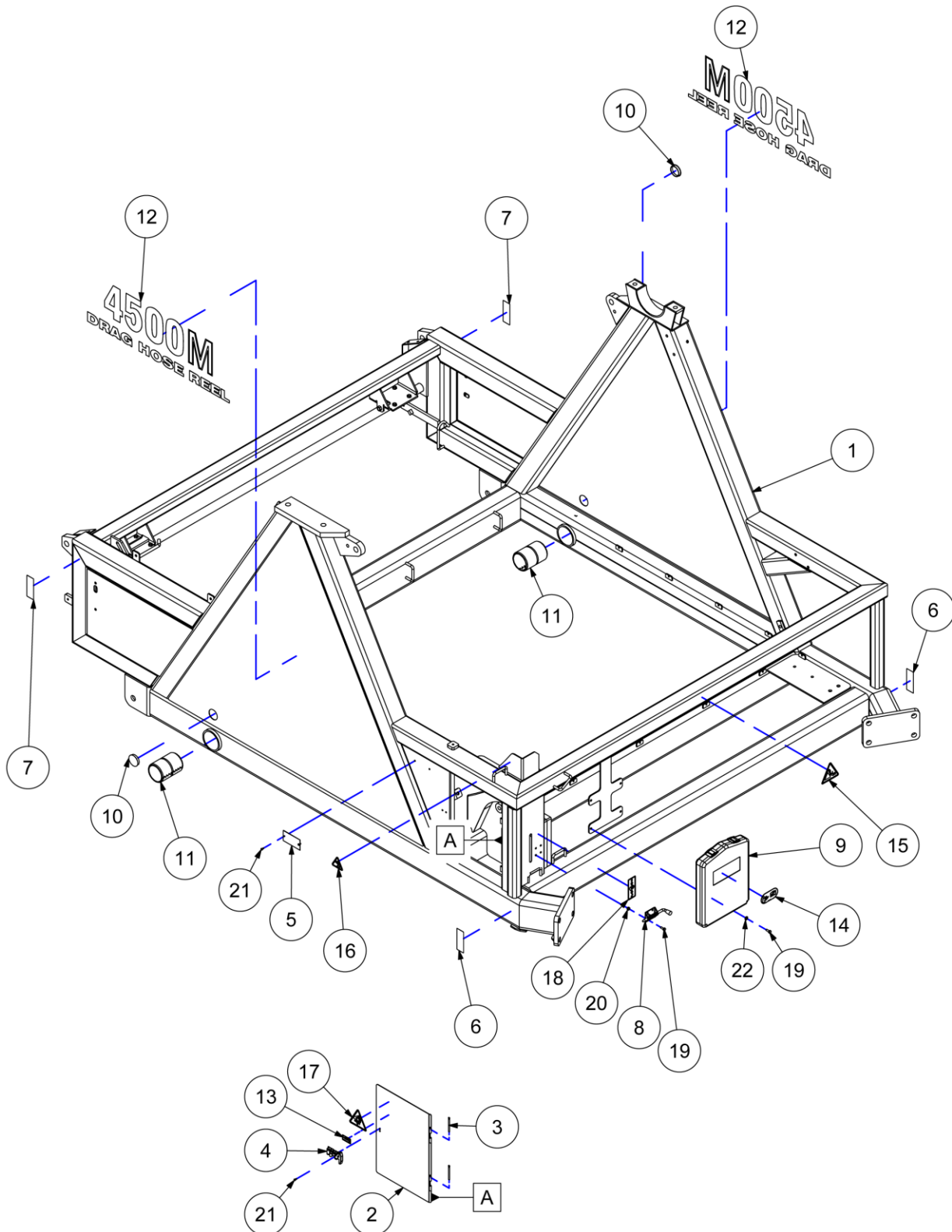
Disconnect the supply line from your machine.

Parts Section

Frame Assembly - Front	25
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Tongue Assembly	29
Walking Beam Assembly	31
Indexing Assembly	33
Indexer Assembly	35
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Cooling System Assembly	45
Hydraulic System - Drive	47
Hydraulic System - Stabilizer	49
Decal / Label Assembly	51

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

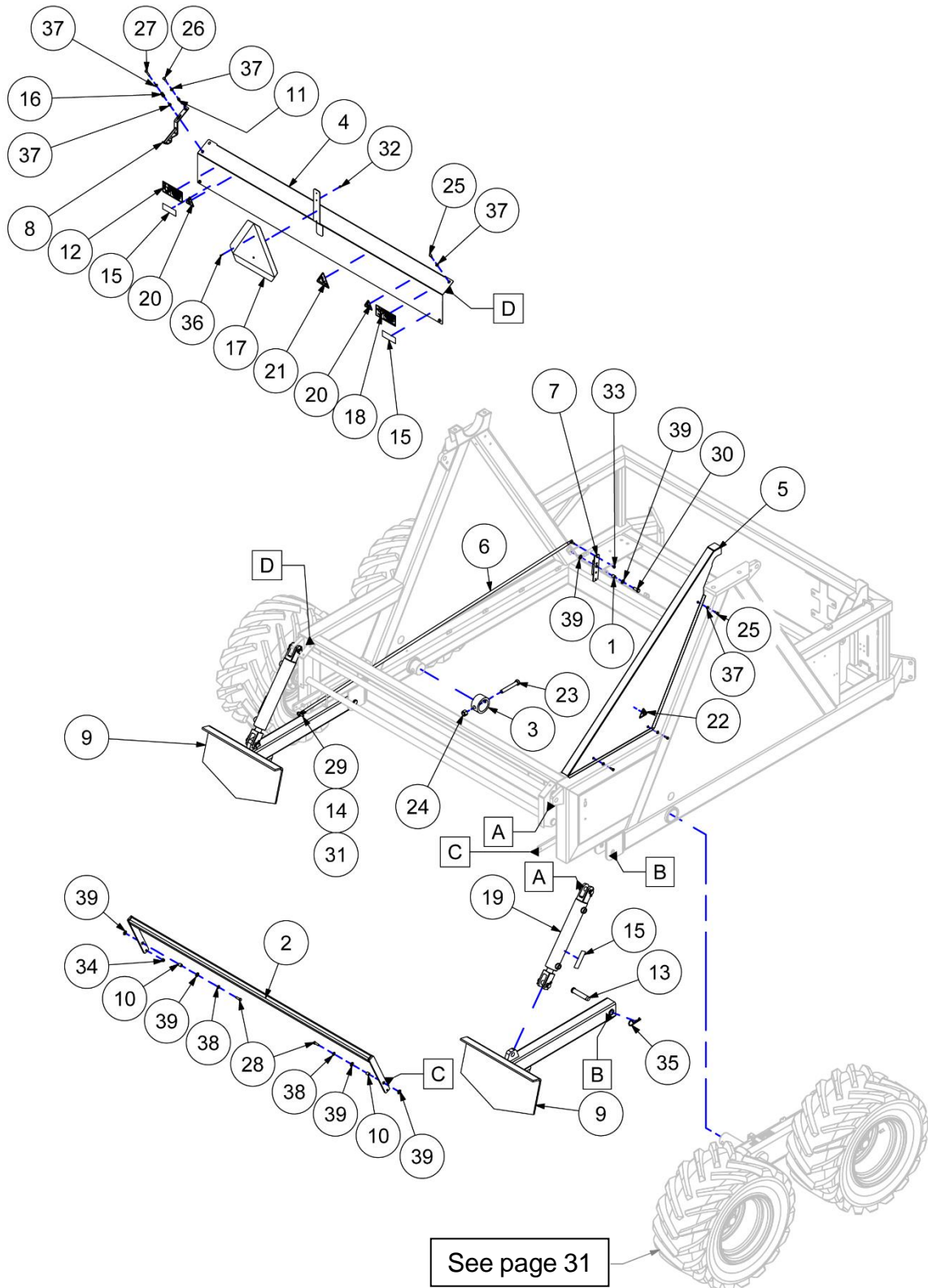
Frame Assembly - Front



Frame Assembly - Front

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	FRAME WELDMENT	16-400-K	1	
2	DRIVE COVER DOOR WELDMENT	16-613-B	1	
3	HINGE PIN - 3/16 X 3.00 BRASS	40-200-C	2	
4	RUBBER LATCH KIT	40-217	1	
5	CADMAN SERIAL NUMBER TAG	40-238-B	1	
6	DECAL - AMBER REFLECTIVE	40-598	2	
7	DECAL - RED REFLECTIVE	40-599	2	
8	SPRING LATCH WITH 3/8 ROD	40-608	1	
9	MANUAL PAK - LARGE	42-071	1	
10	PANEL PLUG - 2.00 BLACK	42-283	2	
11	GREASE GROOVE BUSHING	42-937	2	
12	SIDE FRAME DECAL - 4500M	42-DCL-4500M	2	
13	LABEL - GREASE POINT	42-LBL-115	1	
14	LABEL - MANUALS	42-LBL-118	1	
15	LABEL - ROTATING DRUM	42-LBL-122	1	
16	LABEL - ENTANGLEMENT	42-LBL-123	1	
17	LABEL - ENTANGLEMENT HAZARD	42-LBL-127	1	
18	LABEL - DRUM LOCK	42-LBL-141	1	
19	BOLT - 1/4-20 X 3/4	90-BLT-02520X075	8	
20	NUT LOCK - 1/4-20	90-NUT-LOC025-20	4	
21	RIVET - 3/16 X 3/8	90-RIV-019X038	6	
22	WASHER SAE - 1/4	90-WSR-SAE025	4	

Frame Assembly - Rear



See page 31

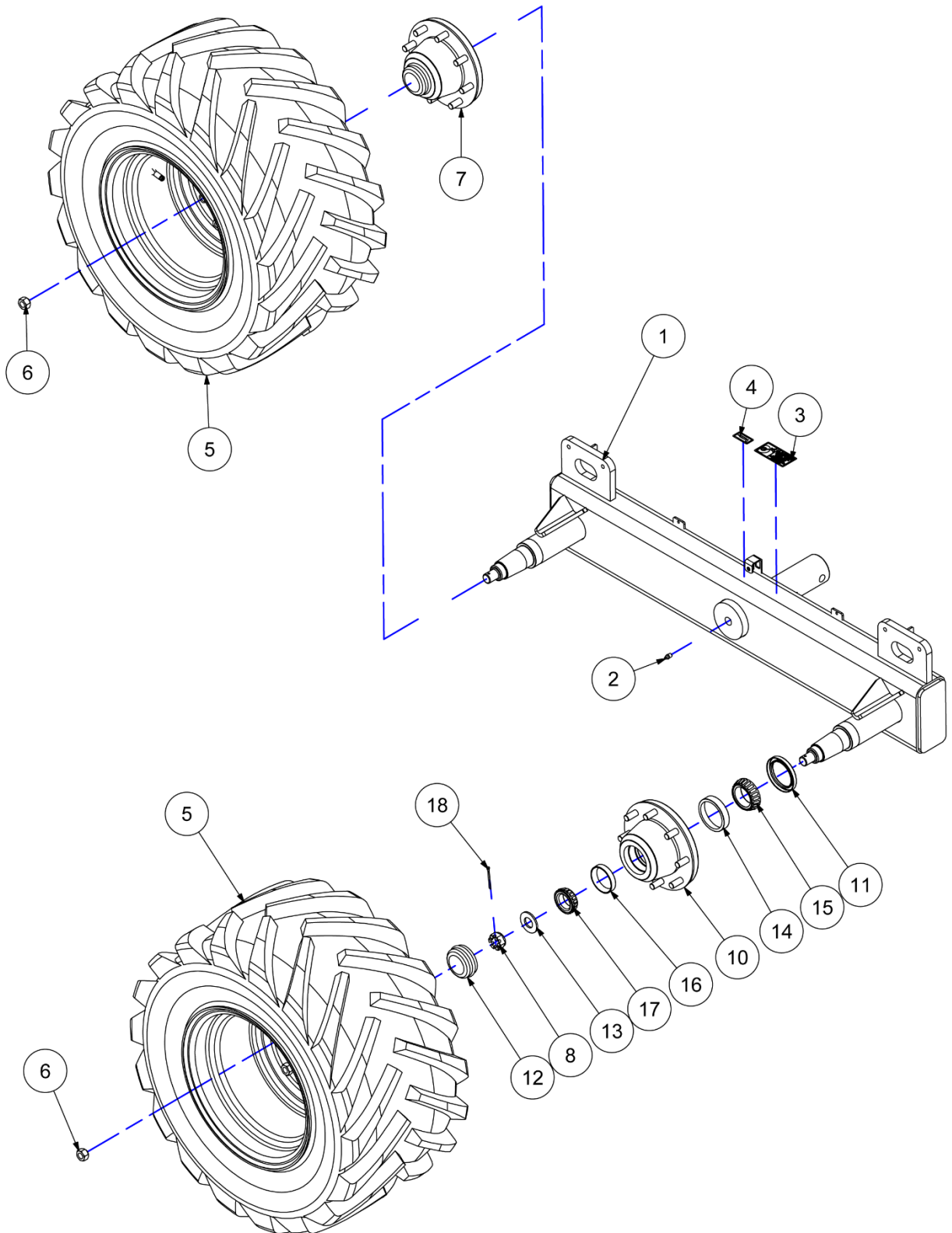
Frame Assembly - Rear

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	OIL BUSH - 1/2 ID X 5/8 OD X 3/4	15-003-B	1	
2	SHUT OFF BAR WELDMENT	16-601	1	
3	PLATED ROCKER AXLE COLLAR	16-606-A	2	
4	INDEXER SHIELD WELDMENT - 4500M	16-607-B	1	
5	IDLER SHIELD PAINTED	16-614-A	1	
6	PUSHROD	16-618	1	
7	PUSHROD BRACKET WLDT	16-619-A	1	
8	RETAINER WELDMENT - SHUTOFF	16-622-C	1	
9	STABILIZER WELDMENT	16-633-A	2	
10	BUSHING - SHUT OFF BAR	16-727	2	
11	SPACER - SHUTOFF BAR RETAINER	16-757	1	
12	LABEL - INDEXER CONDITION	40-115-A	1	
13	CLEVIS PIN - 3/4 X 5 1/4	40-401-C	2	
14	ROD END - 3/8	40-510	1	
15	DECAL - RED REFLECTIVE	40-599	4	
16	SPRING - SAFETY LATCH	40-624	1	
17	SLOW MOVING VEHICLE	40-640	1	
18	LABEL - VERIFY SHUT-OFF	40-833-A	1	
19	RED HYD CYL - 2 1/2 X 14 IN HD	40-HYD-CYL042-RED	2	
20	LABEL - PINCH HAND HAZARD	42-LBL-117	2	
21	LABEL - ROTATING DRUM	42-LBL-122	1	
22	LABEL - ENTANGLEMENT	42-LBL-123	1	
23	BOLT GR.8 - 3/4-10 X 3 1/2	89-BLT-07510X500	2	
24	NUT LOCK GR.8 - 3/4-10	89-NUT-LOC075-10	2	
25	BOLT - 5/16-18 X 3/4	90-BLT-03118X075	6	
26	BOLT - 5/16-18 X 1.00	90-BLT-03118X100	1	
27	BOLT - 5/16-18 X 2.00	90-BLT-03118X200	1	
28	BOLT - 3/8-16 X 1 1/4	90-BLT-03816X125	2	
29	BOLT - 3/8-16 X 1 1/2	90-BLT-03816X150	1	
30	BOLT - 1/2-13 X 1 1/4	90-BLT-05013X125	1	
31	NUT JAM - 3/8-24	90-NUT-JAM038-24	1	
32	NUT LOCK - 10-32	90-NUT-LOC010-32	2	
33	NUT LOCK - 5/16-24	90-NUT-LOC031-24	1	
34	NUT LOCK - 3/8-16	90-NUT-LOC038-16	1	
35	HAIR PIN - 3/16 X 3 3/4 LG.	90-PIN-HP019X375	2	
36	MACH. SCREW PH - 10-32 X 5/8	90-SCR-PHP010-32X063	2	
37	WASHER SAE - 5/16	90-WSR-SAE031	9	
38	WASHER SAE - 3/8	90-WSR-SAE038	3	
39	WASHER SAE - 1/2	90-WSR-SAE050	6	

Tongue Assembly

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	TONGUE JACK WELDMENT	06-691-B	1	
2	TONGUE WELDMENT	16-100-D	1	
3	HOSE CLAMP - 4 1/2 TONGUE MOUNT	16-656	6	
4	HOSE HOLDER	16-657	1	
5	SAFETY CHAIN RETAINER	17-213	1	
6	PAINTED HITCH	40-402-RED	1	
7	CLEVIS	40-403	1	
8	DECAL - AMBER REFLECTIVE	40-598	2	
9	SAFETY CHAIN - 20 000 LBS	40-674	1	
10	LABEL - GREASE POINT	42-LBL-115	1	
11	LABEL - MAX TOW SPEED	42-LBL-119	1	
12	BOLT GR.8 - 3/4-10 X 3.00	89-BLT-07510X300	8	
13	BOLT GR.8 - 3/4-10 X 6.00	89-BLT-07510X600	3	
14	NUT LOCK GR.8 - 3/4-10	89-NUT-LOC075-10	11	
15	WASHER SAE GR.8 - 3/4	89-WSR-SAE075	18	
16	BOLT - 1/2-13 X 3/4	90-BLT-05013X075	1	
17	BOLT - 1/2-13 X 1 1/4	90-BLT-05013X125	6	
18	BOLT FLG - 5/16-18 X 1 1/4	90-BLT-F03118X125	12	
19	NUT LOCK - 1/2-13	90-NUT-LOC050-13	6	
20	WASHER LOCK - 1/2	90-WSR-LOC050	1	
21	WASHER SAE - 1/2	90-WSR-SAE050	12	
22	JACK FOOT - WELDMENT	C3-641-B	1	

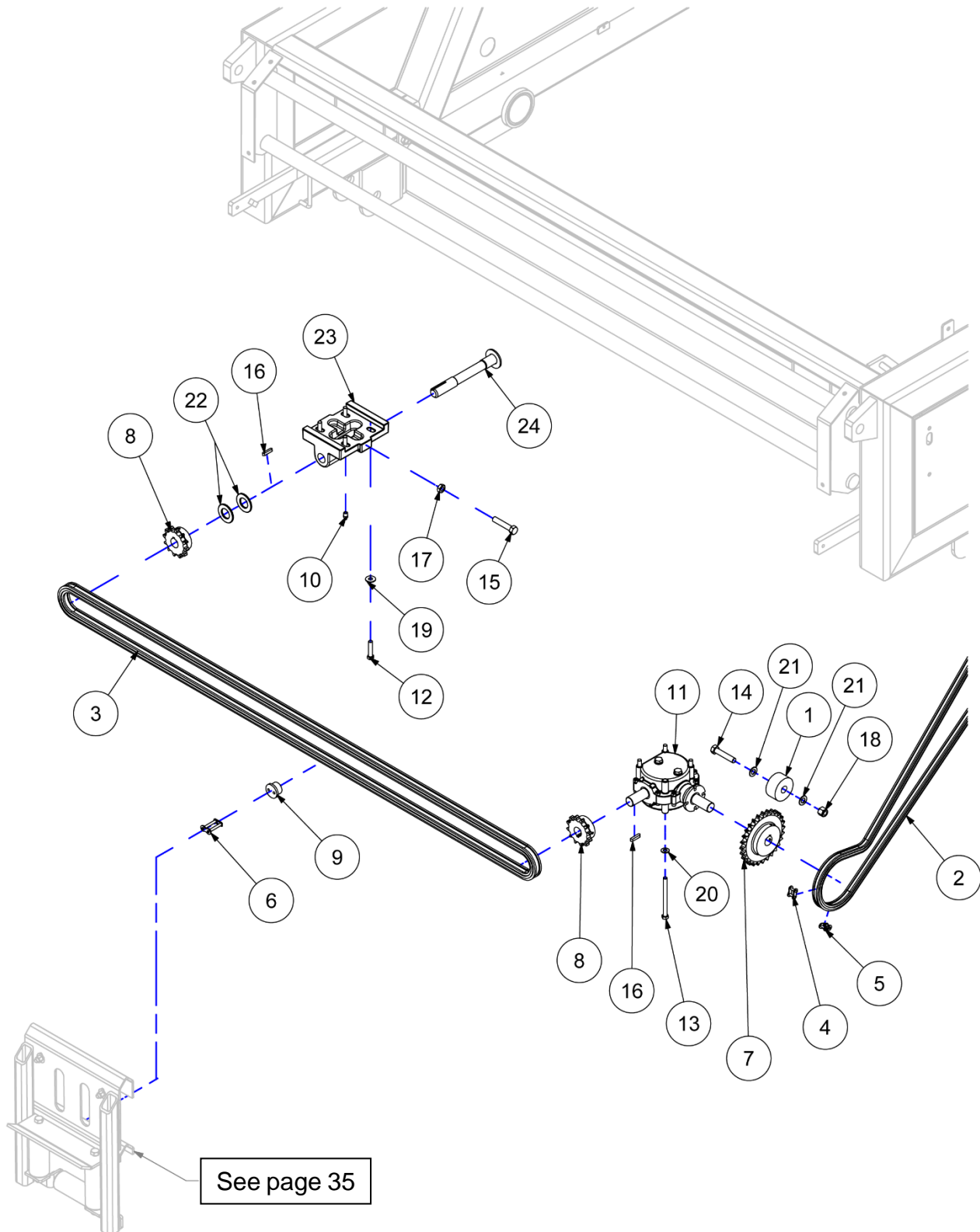
Walking Beam Assembly



Walking Beam Assembly

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	WALKING BEAM AXLE	16-602-A	1	
2	GREASE FITTING - 1/8 NPT	40-001	1	
3	LABEL - TORQUE WHEELS	42-035	1	
4	LABEL - GREASE POINT	42-LBL-115	1	
5	WHEEL ASY - 16.5 - 16.1 10 PLY	55-077	2	
6	NUT LUG - 5/8-18	55-147	16	
7	8000 SERIES HUB ASSY - 8 BOLT	55-265	2	
8	SPINDLE NUT - 100-14	55-034	1	
9	NUT LUG - 5/8-18	55-147	8	
10	HUB BARE - 8000 LBS HUB	55-265-001	1	
11	GREASE SEAL - 8000 LBS HUB	55-265-27361	1	
12	DUST CAP - 8000 LBS HUB	55-265-D8000	1	
13	RETAINING WASHER	55-265-EM0800	1	
14	INNER CUP - 8000 LBS HUB	55-265-JLM506810	1	
15	INNER CONE - 8000 LBS HUB	55-265-JLM506849	1	
16	OUTER CUP - 8000 LBS HUB	55-265-LM501310	1	
17	OUTER CONE - 8000 LBS HUB	55-265-LM501349	1	
18	COTTER PIN - 5/32 X 2.00 LG	90-PIN-CT016X200	1	

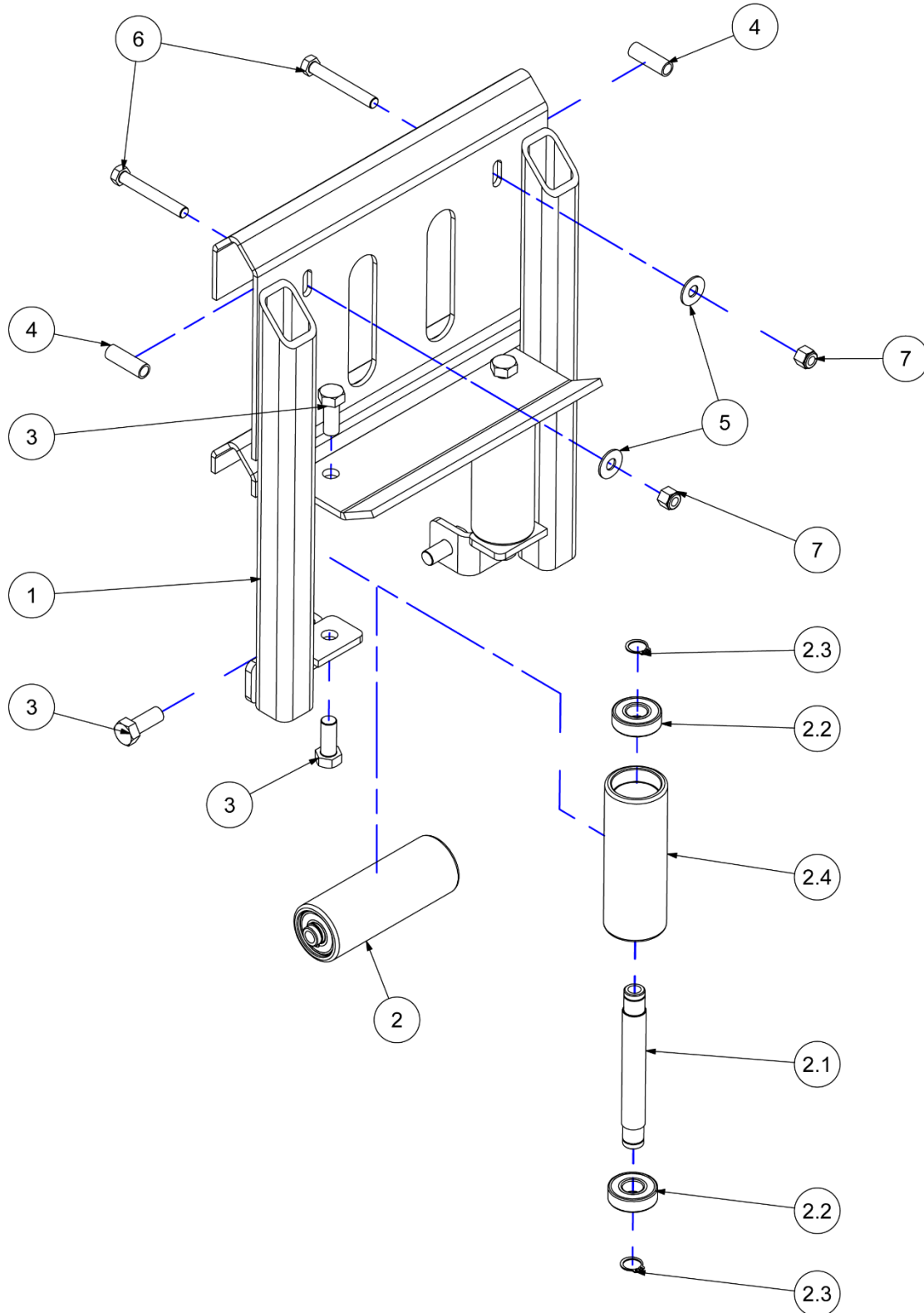
Indexing Assembly



Indexing Assembly

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	IDLER WHEEL - RUB BLOCK	08-653	1	
2	NO. 50 CHAIN 156.25" LONG	10-CHN-50-1X156	1	
3	NO. 60 CHAIN 133.5" LONG	10-CHN-60-1X133.5	1	
4	CONNECTING LINK - 50	10-LNK-50CONN	1	
5	OFFSET LINK - 50	10-LNK-50OFFSET	1	
6	LINK CONNECTING - 60-2	10-LNK-60-2CONN	1	
7	SPROCKET - 50B28 X 1.00 BORE	10-SPT-50B28X100	1	
8	SPROCKET - 60B12 X 1.00 BORE	10-SPT-60B12X100	2	
9	INDEXER DRIVE BUTTON - 60 PL	15-041	1	
10	GREASE FITTING - 1/8 NPT	40-001	1	
11	RIGHT ANGLE GEARBOX - INDEXER	40-084	1	
12	BOLT - 3/8-16 X 1 3/4	90-BLT-03816X175	4	
13	BOLT - 3/8-16 X 4 1/2	90-BLT-03816X450	4	
14	BOLT - 1/2-13 X 2 1/2	90-BLT-05013X250	1	
15	BOLT FT - 1/2-13 X 2 1/2	90-BLT-FT05013X250	1	
16	KEY - 1/4 SQ. X 1 1/4 LG	90-KEY-SQ025X125	3	
17	NUT JAM - 1/2-13	90-NUT-JAM050-13	1	
18	NUT LOCK - 1/2-13	90-NUT-LOC050-13	1	
19	WASHER FLAT - 3/8	90-WSR-FLT038	4	
20	WASHER SAE - 3/8	90-WSR-SAE038	4	
21	WASHER SAE - 1/2	90-WSR-SAE050	2	
22	WASHER SAE - 1.00	90-WSR-SAE100	2	
23	INDEXER IDLER - MACHINED	C3-303	1	
24	IDLER SHAFT - INDEXER	C3-626-B	1	

Indexer Assembly

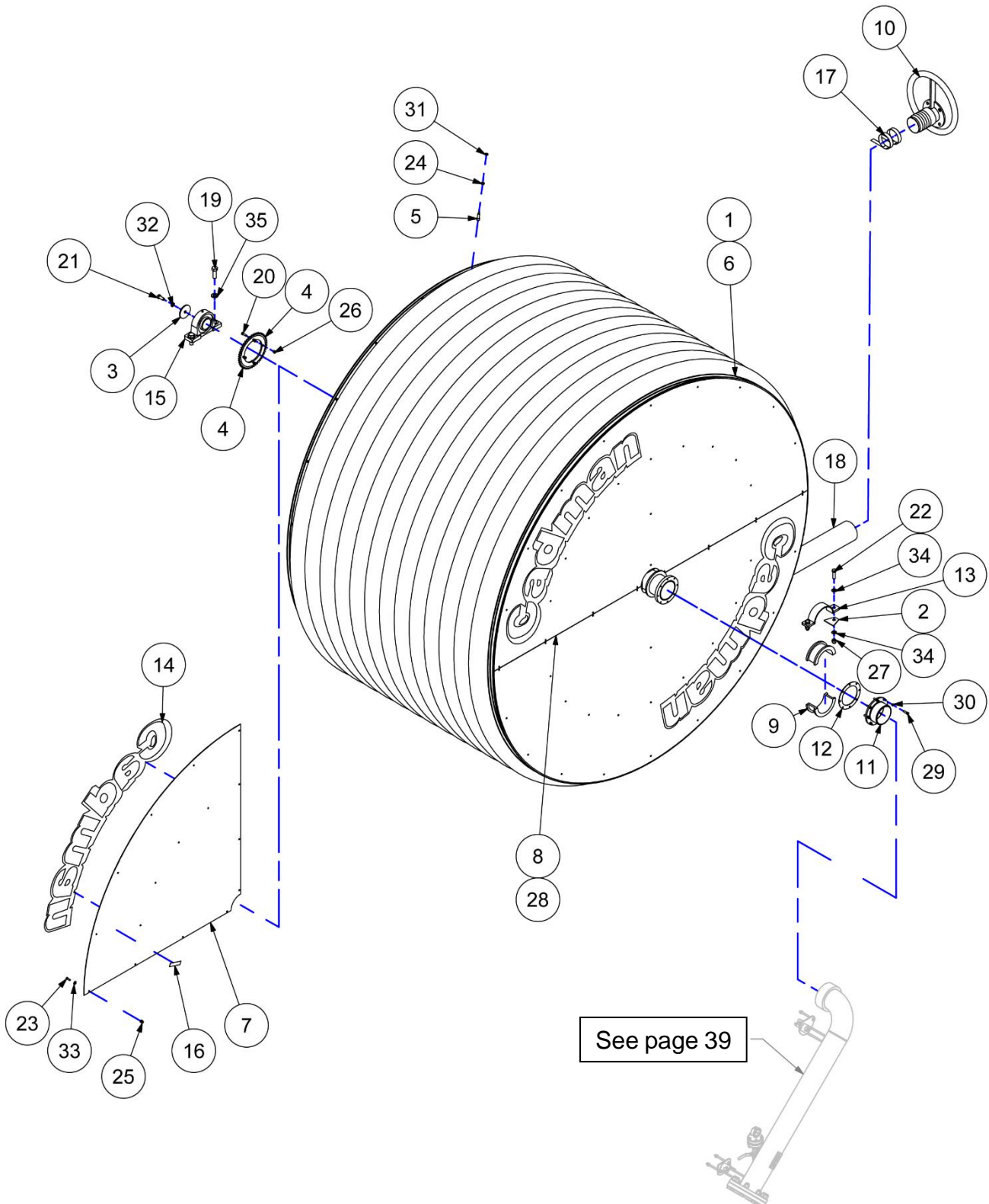




Indexer Assembly

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	HOSE GUIDE WELDMENT	06-622-C	1	
2	ROLLER ASSEMBLY - 6.00 GUIDE	15-019	3	
2.1	ROLLER SHAFT - 6"	15-019-F	1	
2.2	BEARING - 6203	15-018-C	2	
2.3	SNAP RING	15-018-D	2	
2.4	6 IN. ROLLER BODY	15-019-G	1	
3	BOLT - 1/2-13 X 1 1/4	90-BLT-05013X125	6	
4	WIRE LOOM	40-108	2	
5	WASHER FLAT - 3/8	90-WSR-FLT038	2	
6	BOLT - 3/8-16 X 2 3/4	90-BLT-03816X275	2	
7	NUT LOCK - 3/8-16	90-NUT-LOC038-16	2	

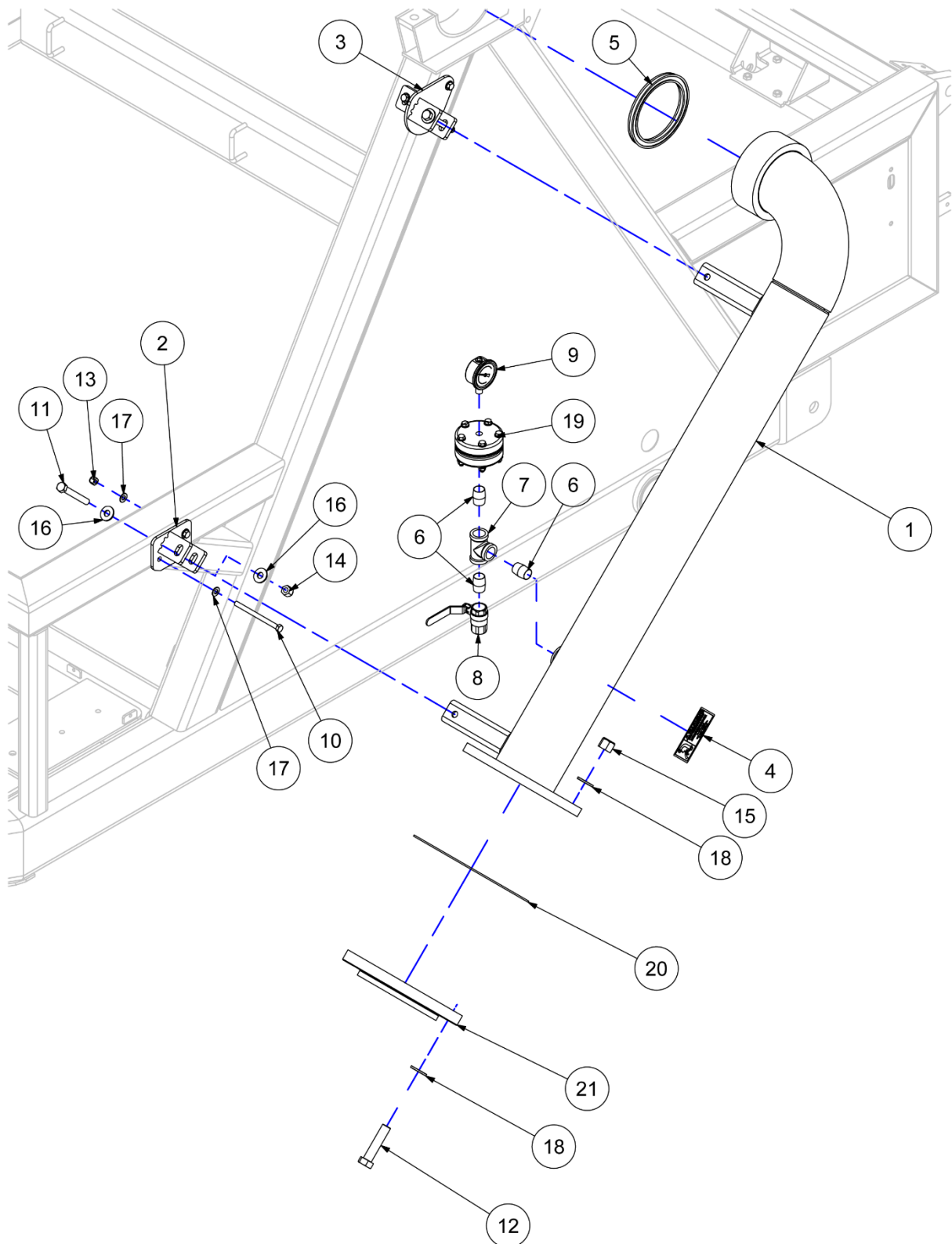
Drum Assembly



Drum Assembly

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	HOSE BARB - 4.00	01-516	1	4000M
↳	HOSE BARB - 4 1/2	04-673-A	1	4500M
2	ANTI ROTATION PLATE	05-621-A	1	
3	RETAINING PLATE - BEARING	05-622	1	
4	SPROCKET - 50A48 X 6.50 P.B.	10-086	1	4000M
↳	SPROCKET - 50A50 X 6.50 P.B.	10-087	1	4500M
5	DRUM DRIVE LUG - 80 CHAIN	15-040-B	20	
6	MANURE REEL DRUM	16-500-H	1	
7	DRUM QUARTER SKIN	16-598-A	2	
8	DRUM HALF SKIN	16-599-A	3	
9	DRUM BEARING - 4500 NARROW	16-639-000	1	
10	MARKER FLAG/BARB WLDT	16-641	1	4000M
↳	MARKER FLAG/BARB WLDT	16-642	1	4500M
11	BOLT ON INLET TUBE	16-649-000	1	
12	GASKET - BOLT ON INLET	16-650-000	1	
13	SADDLE CAP - NARROW DRUM	16-651-000	1	
14	DRUM DECAL - 3750XL - 5000SILVER	40-307-S	4	
15	PILLOW BLOCK - 3.00 RED	40-410-RED	1	
16	VINYL FOAM TAPE - 1.00	42-297	56	
17	CLAMP BAND IT - 6.00 SS	50-016	4	
18	5.00 OD x 4.00 ID x 1550 FT HOSE	50-062-1550	1	4000M
↳	5.45 OD x 4.50 ID x 1320 FT HOSE	52-011-1320	1	4500M
19	BOLT GR.8 - 7/8-9 X 2 1/2	89-BLT-08809X250	2	
20	BOLT - 3/8-16 X 1 1/4	90-BLT-03816X125	4	
21	BOLT - 5/8-11 X 1 1/2	90-BLT-06311X150	1	
22	BOLT - 5/8-11 X 2 1/4	90-BLT-06311X225	2	
23	BOLT PLASTIC - 5/16-18 X 1.00	90-BLT-PL03118X100	16	
24	NUT JAM - 1/2-13	90-NUT-JAM050-13	20	
25	THREADED INSERT - 5/16-18 SHORT	90-NUT-KTR03118S	16	
26	NUT LOCK - 3/8-16	90-NUT-LOC038-16	4	
27	NUT LOCK - 5/8-11	90-NUT-LOC063-11	2	
28	RIVET - 3/16 X 7/16 BLACK	90-RIV-019X045BLK	100	
29	SCREW SOCKET - 3/8-16 X 1 1/4	90-SCR-SH03816X125	8	
30	WASHER LOCK - 3/8 HIGH COLLAR	90-WSR-LOC038HC	8	
31	WASHER LOCK - 1/2	90-WSR-LOC050	20	
32	WASHER LOCK - 5/8	90-WSR-LOC063	1	
33	WASHER FLAT - 5/16" NYLON BLK	90-WSR-PL031X088	16	
34	WASHER SAE - 5/8	90-WSR-SAE063	4	
35	WASHER SAE - 7/8	90-WSR-SAE088	2	

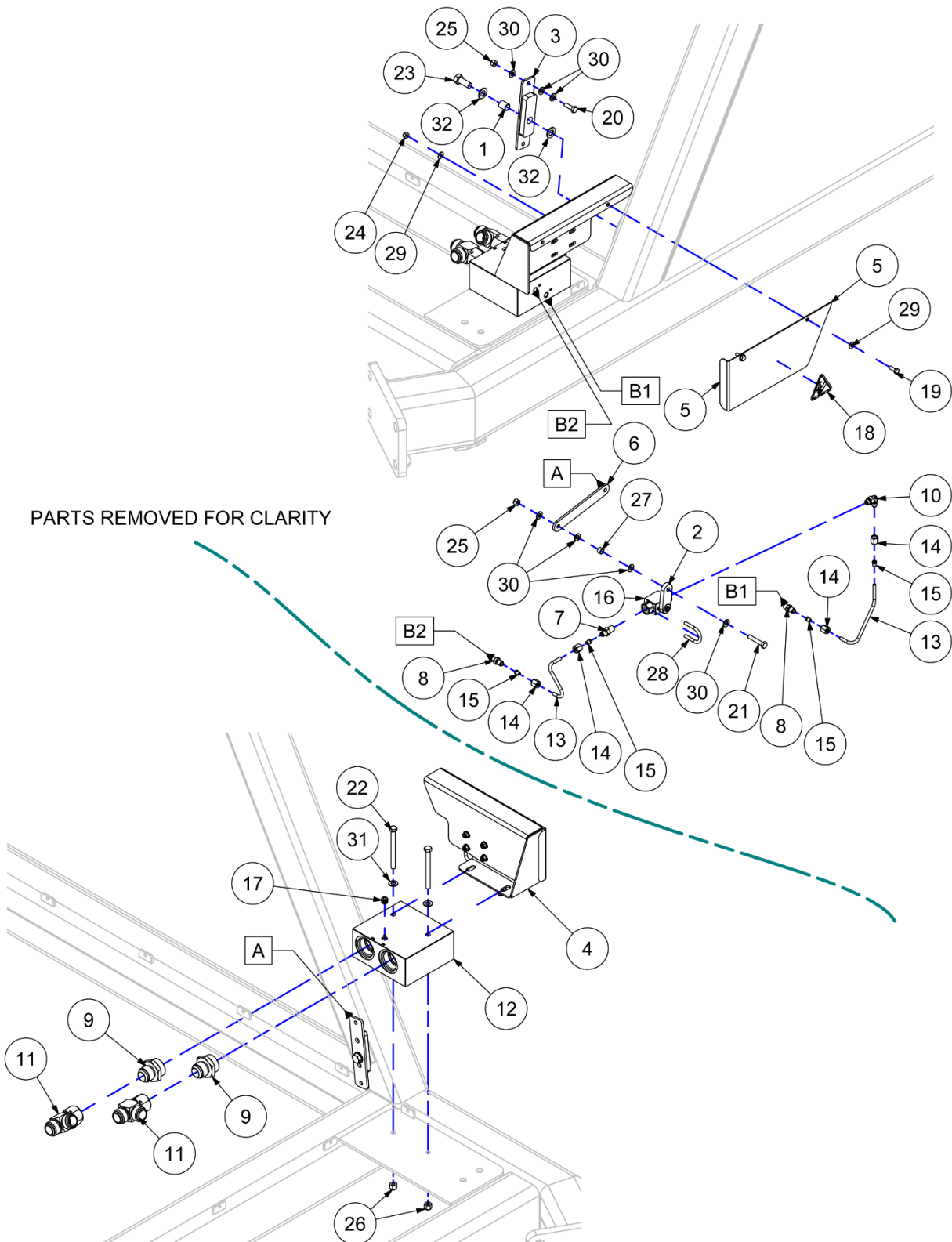
Inlet Plumbing Assembly



Inlet Plumbing Assembly

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	INLET ELBOW WELDMENT	16-608-E	1	
2	MOUNT - LOWER INLET PLUMBING	16-636-000	1	
3	MOUNT - UPPER INLET PLUMBING	16-637-000	1	
4	LABEL - HIGH PRESS SPRAY	40-049-A	1	
5	SEAL - 5.50" INLET ELBOW	40-404	1	
6	NIPPLE CLOSE - 3/4 NPT GALV	40-NPT-NPLC075G	3	
7	TEE - 3/4 NPTF GALV	40-NPT-TEE075G	1	
8	BALL VALVE - 3/4 NPTF X NPTF	40-NPT-VLV075BLLFF	1	
9	GAUGE - 0-160 PSI WET	45-017	1	
10	BOLT - 3/8-16 X 5.00	90-BLT-03816X500	5	
11	BOLT - 1/2-13 X 4.00	90-BLT-05013X400	2	
12	BOLT - 3/4-10 X 3 1/4	90-BLT-07510X325	8	
13	NUT LOCK - 3/8-16	90-NUT-LOC038-16	5	
14	NUT LOCK - 1/2-13	90-NUT-LOC050-13	2	
15	NUT LOCK - 3/4-10	90-NUT-LOC075-10	8	
16	WASHER FLAT - 1/2	90-WSR-FLT050	4	
17	WASHER SAE - 3/8	90-WSR-SAE038	10	
18	WASHER SAE - 3/4	90-WSR-SAE075	16	
19	GAUGE PROTECTOR KIT 3/4-1/4	IR-GAU-PROTECT-KIT	1	
20	GASKET - 6" FLANGE - 8 BOLT	IR-GKT-FL6	1	
21	FLANGE - 6 NPT THRD. COMPANION	IR-TFL-6	1	

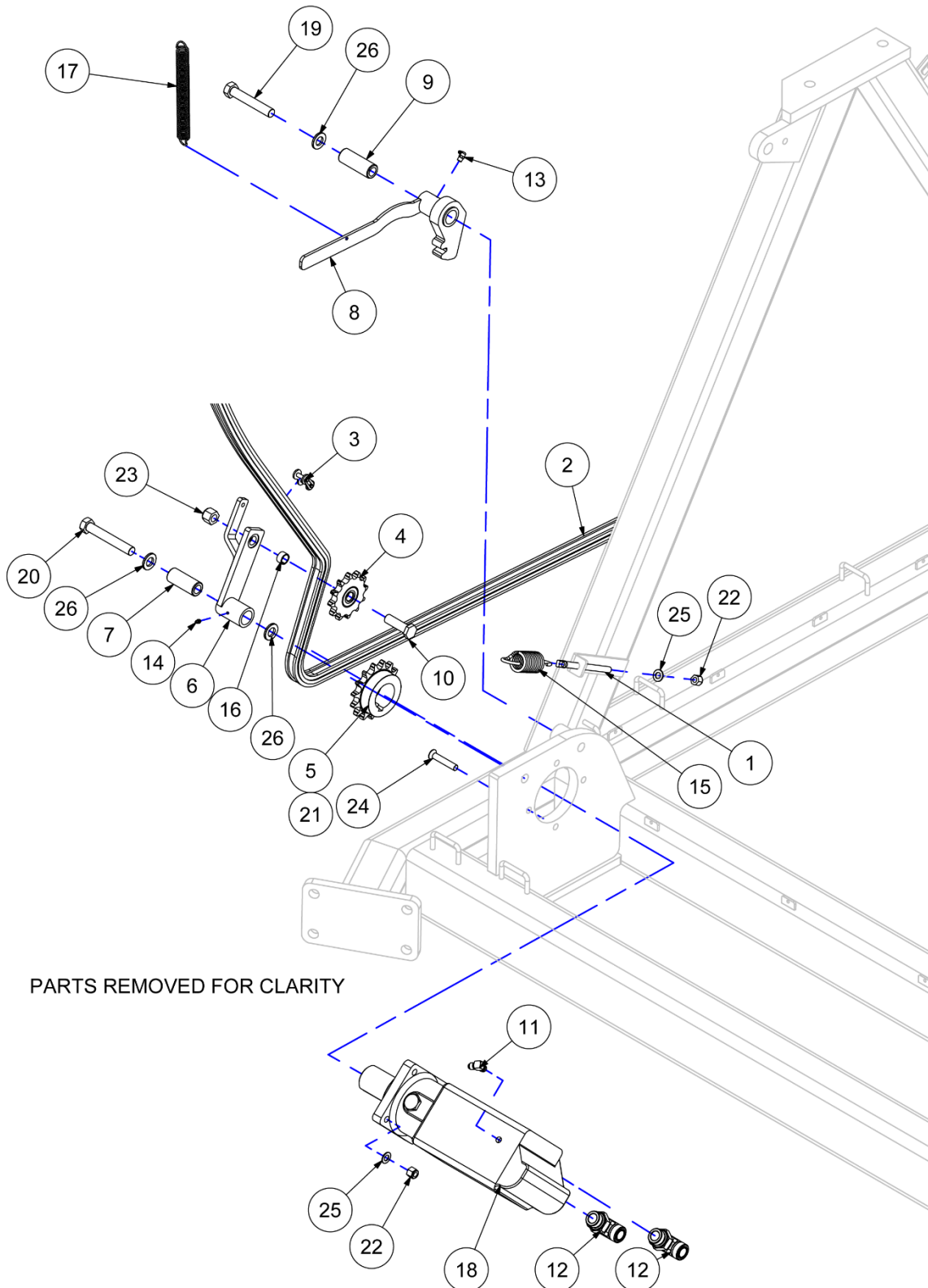
Drive Assembly – L.H.



Drive Assembly – L.H.

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	OIL BUSH - 1/2 ID X 5/8 OD X 3/4	15-003-B	1	
2	VALVE HANDLE	16-612	1	
3	PUSHROD BRACKET WLDT	16-619-A	1	
4	VALVE COVER WLDT	16-629-C	1	
5	VALVE COVER - FRONT	16-635-A	1	
6	LINKAGE - SHUT OFF VALVE	16-652	1	
7	ADAPTER - 04 JICM X 04 NPTM	25-WHD-5205X04	1	
8	ADAPTER - 04 JICM X 04 SAEM	25-WHD-5315X4X4	2	
9	ADAPTER - 16 JICM X 20 SAEM	25-WHD-5315X16X20	2	
10	ELBOW - 04 JICM X 04 SAEM X 90	25-WHD-5515X4	1	
11	SW. RUN TEE - 16JICX16JICX16JIC	25-WHD-6602X16X16X16	2	
12	HYDRAULIC VALVE MANIFOLD	40-568-C	1	
13	1/4 X .049 WALL SS PIPE	40-HYD-025PIPX049SS	24	
14	JIC NUT - 04 SS	40-HYD-NUTJIC-04	4	
15	JIC SLEEVE - 04 SS	40-HYD-SLVJIC-04	4	
16	BALL VALVE - 1/4 IN. HIGH PRESS.	40-HYD-VLV025BLLFF	1	
17	PLUG - 1/4 NPT SOCKET HEAD	40-NPT-PLG025ASH	1	
18	LABEL - PINCH HAND HAZARD	42-LBL-117	1	
19	BOLT - 1/4-20 X 3/4	90-BLT-02520X075	2	
20	BOLT - 5/16-18 X 1.00	90-BLT-03118X100	1	
21	BOLT - 5/16-18 X 1 1/2	90-BLT-03118X175	1	
22	BOLT - 3/8-16 X 4.00	90-BLT-03816X400	2	
23	BOLT - 1/2-13 X 1 1/4	90-BLT-05013X125	1	
24	NUT LOCK - 1/4-20	90-NUT-LOC025-20	4	
25	NUT LOCK - 5/16-18	90-NUT-LOC031-18	2	
26	NUT LOCK - 3/8-16	90-NUT-LOC038-16	2	
27	SPACER - 3/8 ID X 1/2 OD X 5/16	90-SPR-037X050X031	1	
28	U-BOLT ROUND - 1/4-20 X 2.00	90-UBT-RND02520X200	2	
29	WASHER SAE - 1/4	90-WSR-SAE025	6	
30	WASHER SAE - 5/16	90-WSR-SAE031	7	
31	WASHER SAE - 3/8	90-WSR-SAE038	2	
32	WASHER SAE - 1/2	90-WSR-SAE050	2	

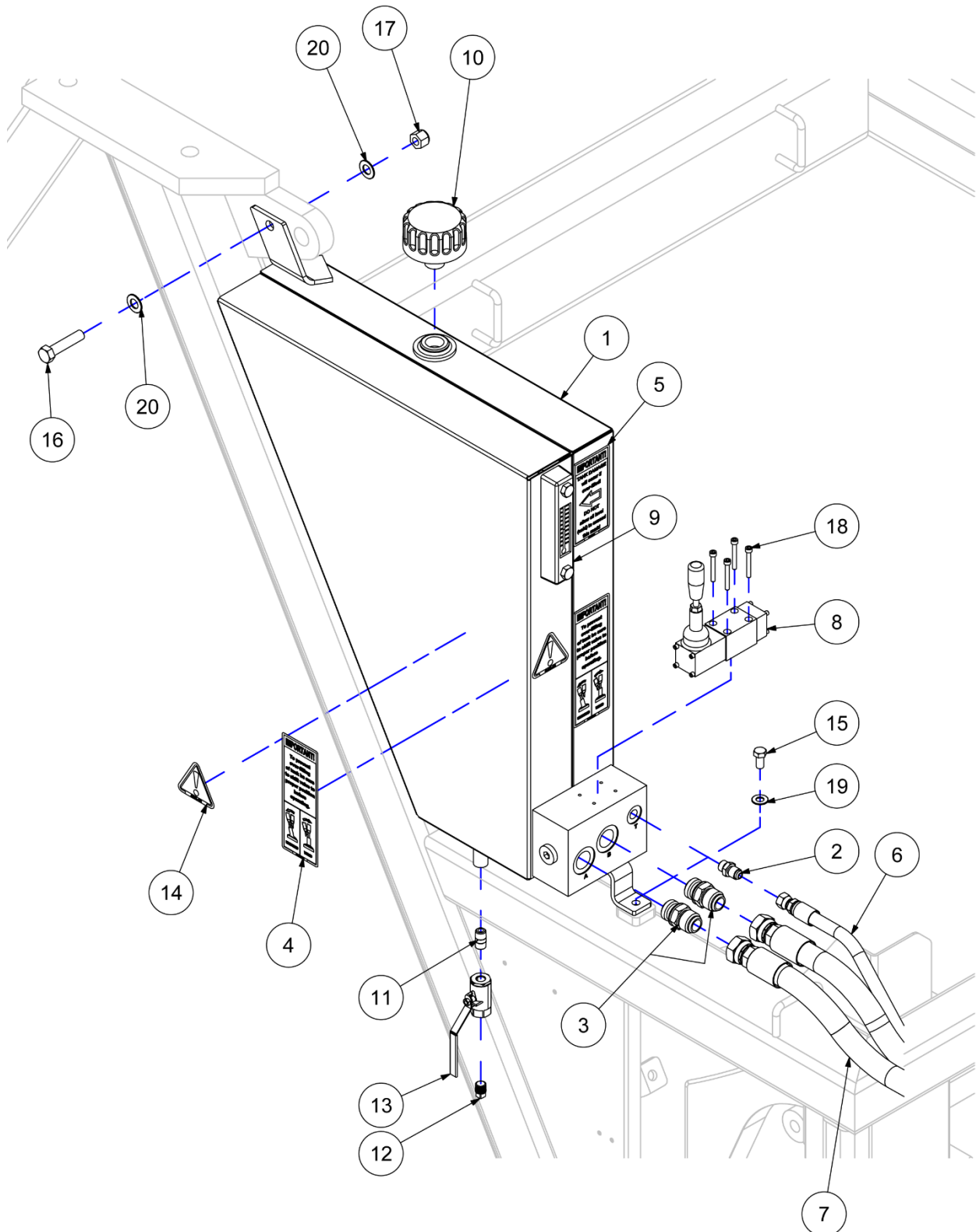
Drive Assembly – R.H.



Drive Assembly – R.H.

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	ROD - SPRING - ADJUSTING	06-635-B	1	
2	ROLLER CHAIN - 80S X 372 LINKS	10-CHN-80S372	1	
3	LINK CONNECTING - 80	10-LNK-80CONN	1	
4	SPROCKET - 80-12 X 3/4 IDLER	10-SPT-80-12IDLER	1	
5	SPROCKET - 80 B 15 TOOTH	10-SPT-80B15X225	1	
6	IDLER ARM	16-610-A	1	
7	IDLER BUSHING - 1.25 IN X 2 LG.	16-611-B	1	
8	DRUM LOCK - UNPAINTED	16-624-E	1	
9	BRAKE DOG BUSHING	16-640-A	1	
10	BOLT MODIFIED - 3/4-10 X 2 1/2	16-690-000	1	
11	ELBOW - 06 JICM X 06 SAEM X 90	25-WHD-5515X6	1	
12	BRANCH TEE - 16JICX16SAEX16JIC	25-WHD-5715X16	2	
13	GREASE FITTING - 1/8 NPT X 90°	40-001-90	1	
14	GREASE FITTING - 1/4-28	40-001-02528	1	
15	SPRING - 1 3/4 X 5 EXT. (IDLER)	40-056	1	
16	SPACER - 3/4 ID X 1/2 LG.	40-110	1	
17	SPRING EXTENSION - 1 1/16 X 7.00	40-229	1	
18	HYDRAULIC MOTOR - 10000 SERIES	40-526-A-RED	1	
19	BOLT - 3/4-10 X 4 1/2	90-BLT-07510X450	1	
20	BOLT - 3/4-10 X 5.00	90-BLT-07510X500	1	
21	KEY - 1/2 SQ. X 2.00	90-KEY-SQ050X200	1	
22	NUT LOCK - 1/2-13	90-NUT-LOC050-13	5	
23	NUT LOCK - 3/4-10	90-NUT-LOC075-10	1	
24	SCREW FLATHEAD - 1/2-13 X 2 3/4	90-SCR-FH05013X275	4	
25	WASHER SAE - 1/2	90-WSR-SAE050	5	
26	WASHER SAE - 3/4	90-WSR-SAE075	3	

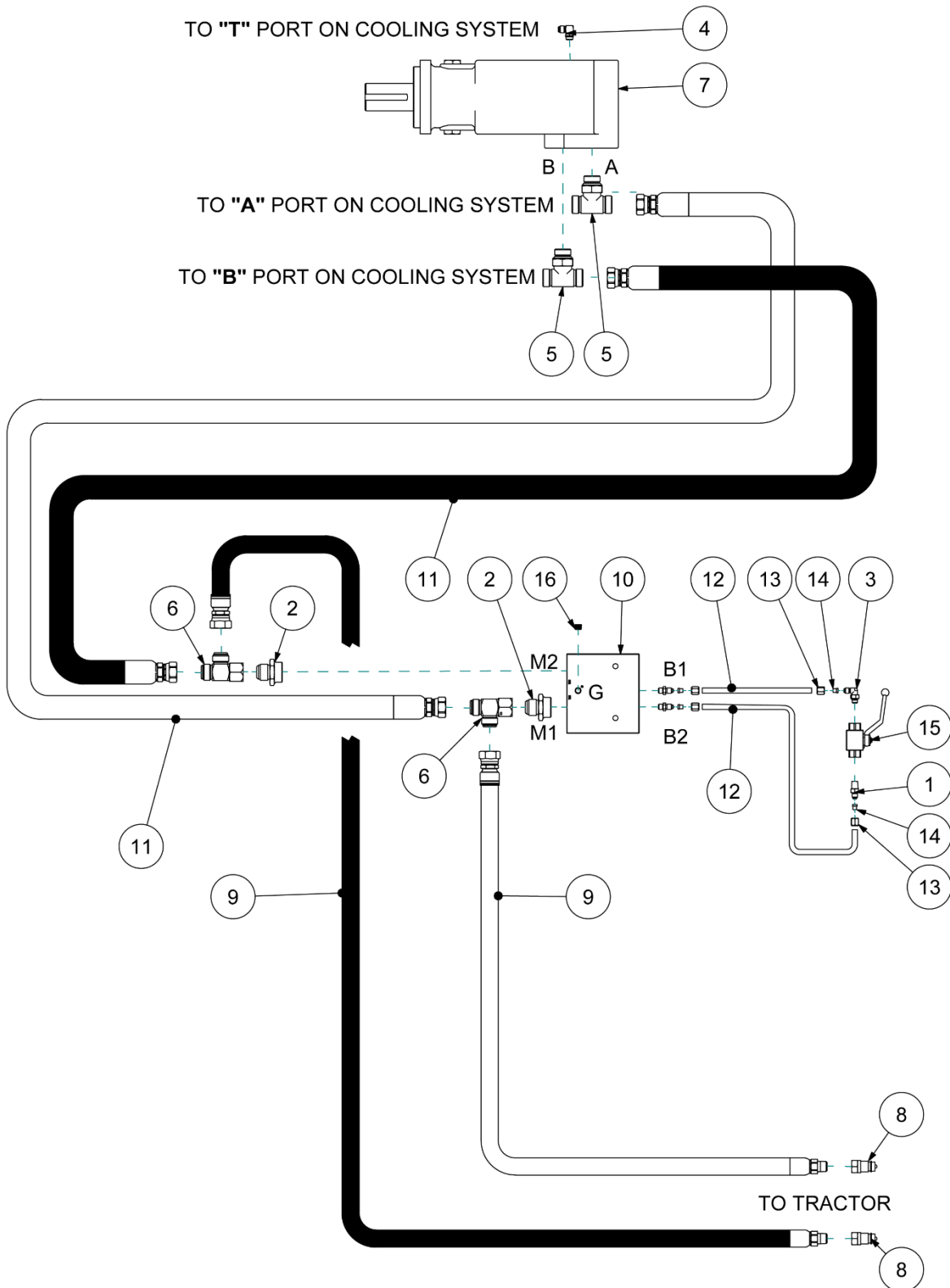
Cooling System Assembly



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-0557	1	
7	HYDRAULIC HOSE - 3/4 X 62 CUT	40-HHZ-0558	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 2 1/4	90-BLT-05013X225	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	

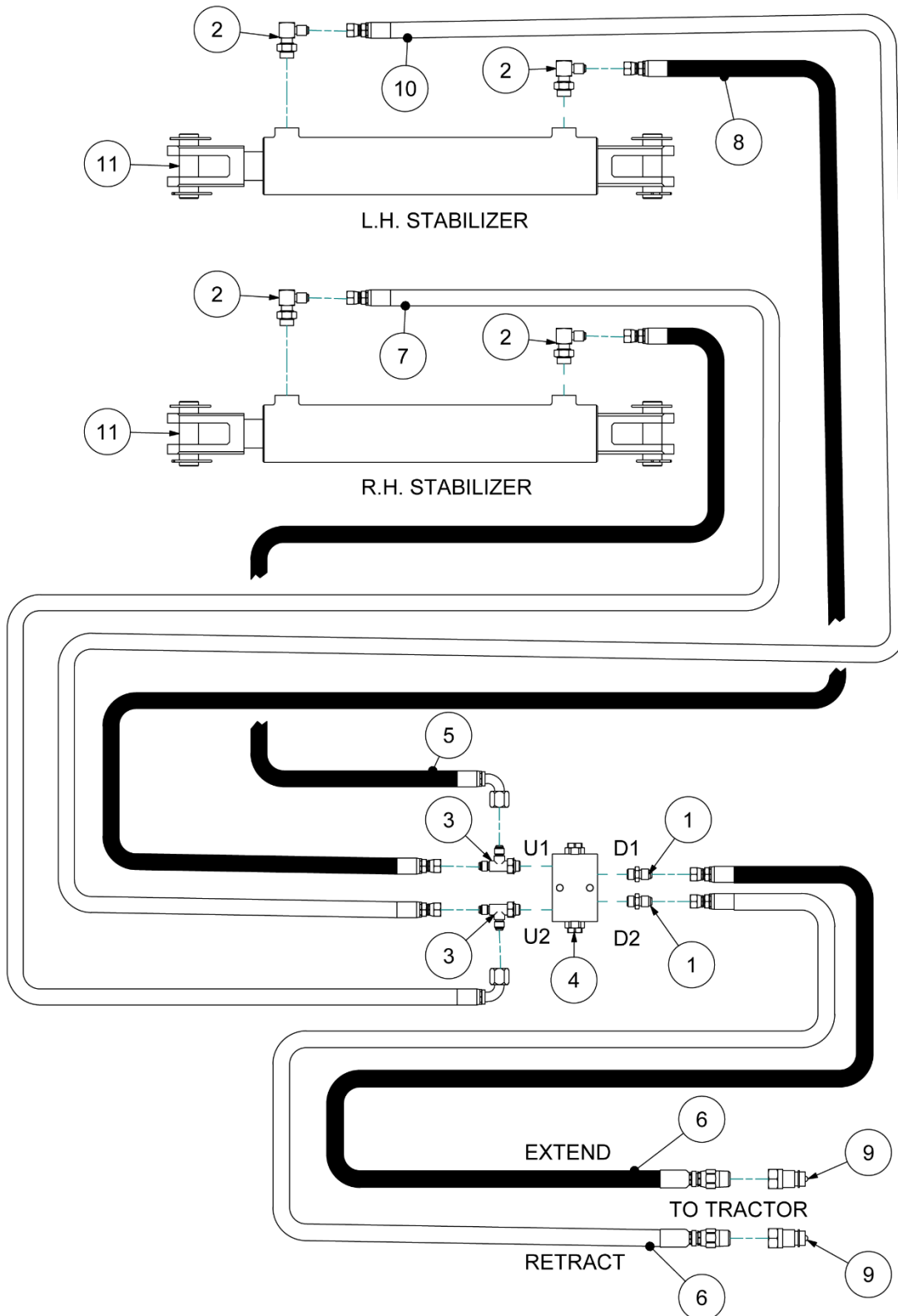
Hydraulic System - Drive



Hydraulic System - Drive

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	ADAPTER - 04 JICM X 04 NPTM	25-WHD-5205X04	1	
2	ADAPTER - 16 JICM X 20 SAEM	25-WHD-5315X16X20	2	
3	ELBOW - 04 JICM X 04 SAEM X 90	25-WHD-5515X4	1	
4	ELBOW - 06 JICM X 06 SAEM X 90	25-WHD-5515X6	1	
5	BRANCH TEE - 16JICX16SAEX16JIC	25-WHD-5715X16	2	
6	SW. RUN TEE - 16JICX16JICX16JIC	25-WHD-6602X16X16X16	2	
7	HYDRAULIC MOTOR - 10000 SERIES	40-526-A-RED	1	
8	HYDRAULIC COUPLER TIP	40-563	2	
9	HYDRAULIC HOSE - 3/4 X 168"	40-564	2	
10	HYDRAULIC VALVE MANIFOLD	40-568-C	1	
11	HYDRAULIC HOSE - 1.0 X 45 1/2CUT	40-HHZ-0556	2	
12	PIPE - 1/4 X .049 WALL SS	40-HYD-025PIPX049SS	23	
13	JIC NUT - 04 SS	40-HYD-NUTJIC-04	4	
14	JIC SLEEVE - 04 SS	40-HYD-SLVJIC-04	4	
15	BALL VALVE - 1/4 IN. HIGH PRESS.	40-HYD-VLV025BLLFF	1	
16	PLUG - 1/4 NPT SOCKET HEAD	40-NPT-PLG025ASH	1	

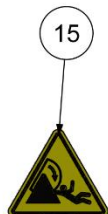
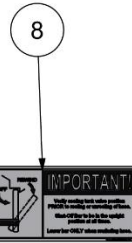
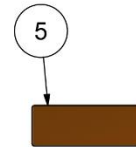
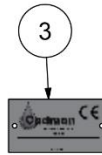
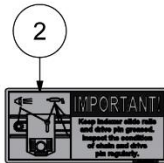
Hydraulic System - Stabilizer



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	HYDRAULIC HOSE - 3/8 X 140"	40-420	1	
6	HYDRAULIC HOSE - 3/8 X 230"	40-558	2	
7	HYDRAULIC HOSE - 3/8 X 138"	40-559-B	1	
8	HYDRAULIC HOSE - 3/8 X 59"	40-561	1	
9	HYDRAULIC COUPLER TIP	40-563	2	
10	HYDRAULIC HOSE - 3/8 X 55"	40-HHZ-0190	1	
11	RED HYD CYL - 2 1/2 X 14 IN HD	40-HYD-CYL042-RED	2	

Decal / Label Assembly



Decal / Label Assembly

ITEM	DESCRIPTION	PART NUMBER	QTY	NOTES
1	LABEL - HIGH PRESS SPRAY	40-049-A	1	
2	LABEL - INDEXER CONDITION	40-115-A	1	
3	CADMAN SERIAL NUMBER TAG	40-238-B	1	
4	DRUM DECAL - 3750XL - 5000SILVER	40-307-S	4	
5	DECAL - AMBER REFLECTIVE	40-598	4	
6	DECAL - RED REFLECTIVE	40-599	8	
7	LABEL - PREVENT OVER-FILL	40-832-A	1	
8	LABEL - VERIFY SHUT-OFF	40-833-A	2	
9	LABEL - TANK DAMAGE	40-919	1	
10	LABEL - TORQUE WHEELS	42-035	2	
11	SIDE FRAME DECAL - 4500M	42-DCL-4500M-A	2	
↳	SIDE FRAME DECAL - 4000M	42-DCL4000M	2	
12	LABEL - GREASE POINT	42-LBL-115	5	
13	LABEL - PINCH HAND HAZARD	42-LBL-117	3	
14	LABEL - MAX TOW SPEED	42-LBL-119	1	
15	LABEL - ROTATING DRUM	42-LBL-122	2	
16	LABEL - ENTANGLEMENT	42-LBL-123	1	
17	LABEL - ENTANGLEMENT HAZARD	42-LBL-127	1	
18	LABEL - DRUM LOCK	42-LBL-141	1	
19	LABEL - ALERT SYMBOL	42-LBL-172	2	

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	<p>Check sidewall tire for operating pressure and use tire pressure gauge to see if inflation is correct.</p> <p>Do not lower the tire pressure below the tire's recommended level. Do not overinflate tires.</p> <p> 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.</p>
Inspect all wheel nuts (See Star Pattern for Tightening Wheel Nuts, Page 58)	<p>Check and see if wheel nuts are tight. If they need to be tightened then tighten them with a torque wrench to:</p> <p style="text-align: center;">110 ft•lbs [149 N•m]</p> <p>Do not operate the drag reel if the wheel nuts are loose.</p> <p> 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.</p>
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 56
Lubricate all grease fittings	Using a grease gun, lubricate each grease fitting with an appropriate amount of acceptable grease. (See Lubricants) Figure 57

Table 2 - Each Use



Figure 22 -Grease Indexer Rail Button

img-00181

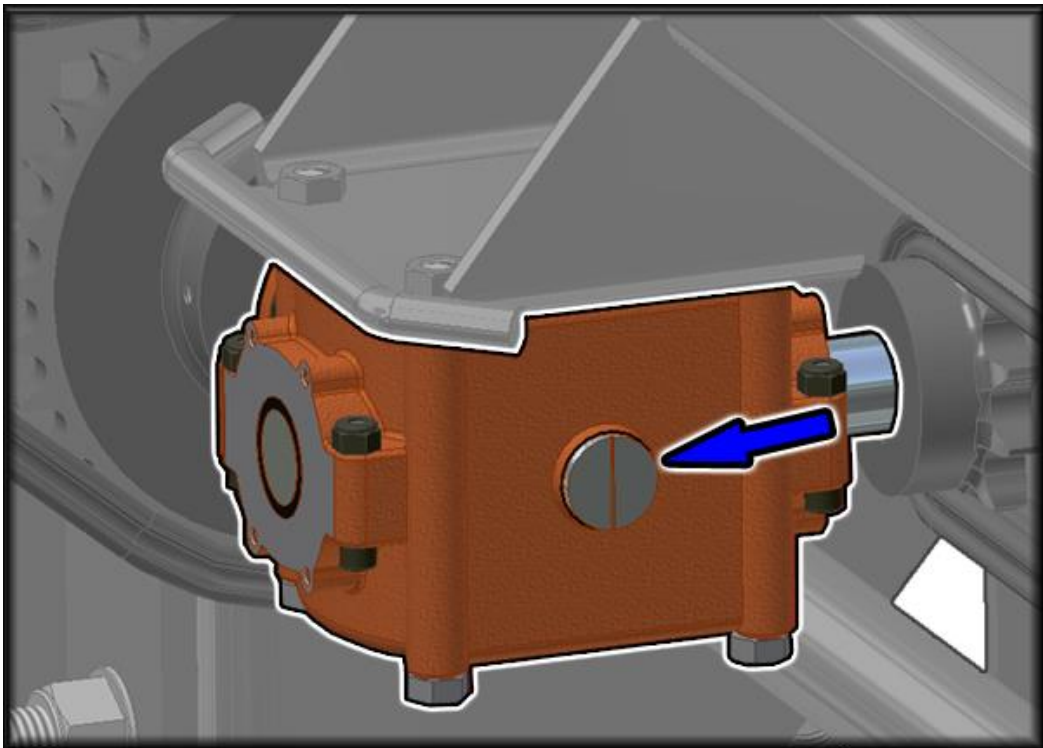


Figure 23 - Indexer Gearbox Oil Filling

img-00203



Figure 24 - Drive Chain Adjuster

img-01610

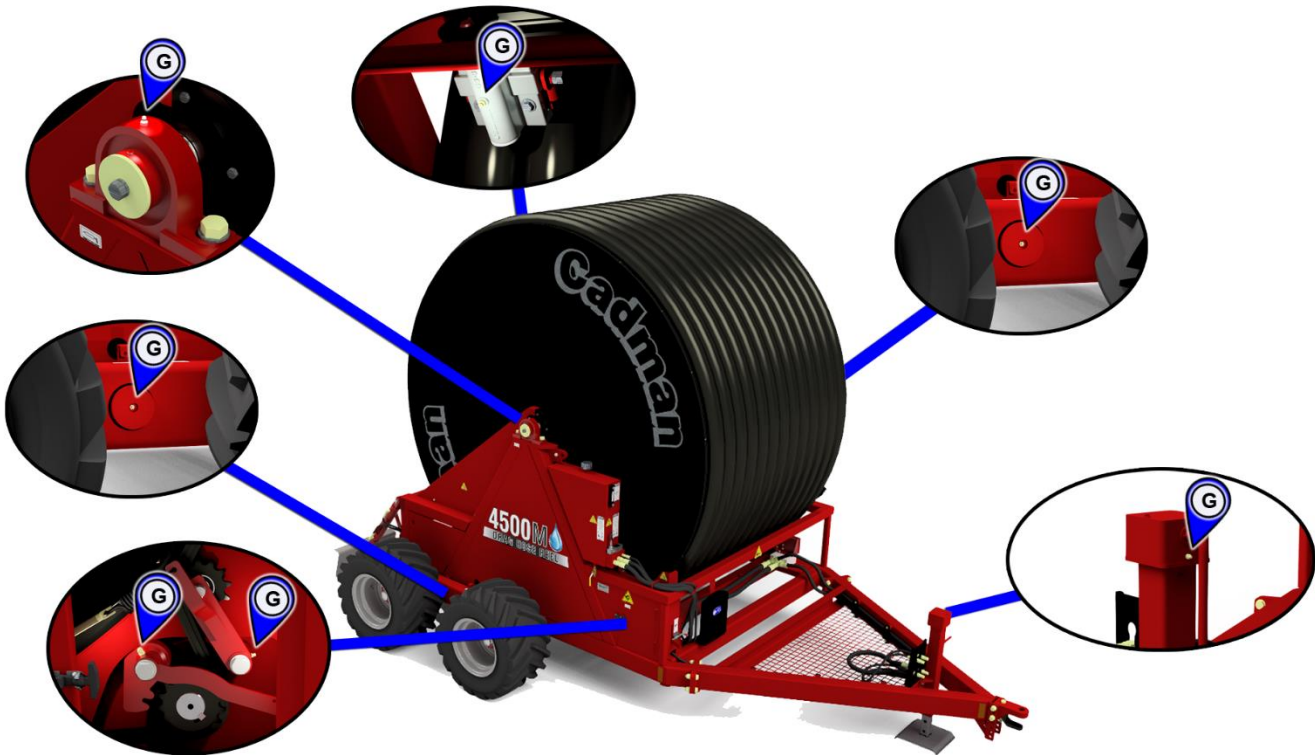


Figure 25 - Grease Points

img-01611

Before Storage



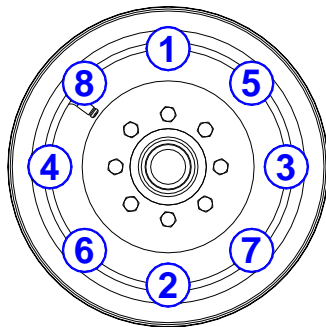
You MUST properly empty and flush your Hard Hose Drag System before storing the machine for more than one day. Failure to properly clean out the hose could result in the hose being plugged with sediment. Make sure the drive brake is applied to prevent hose unspooling.

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 31. 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 56

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. An 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

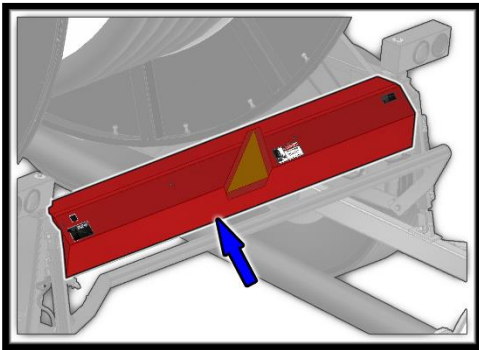
img-00132

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.

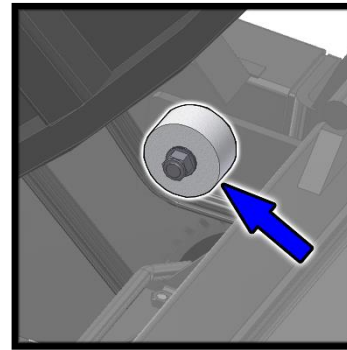


If safety shields are removed you **MUST** properly re-install them before operating the machine.



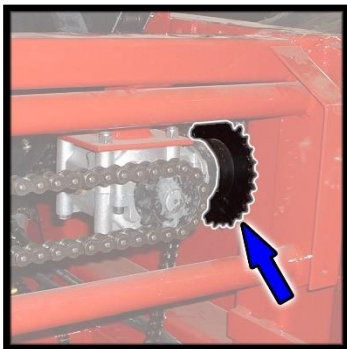
img-00135

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



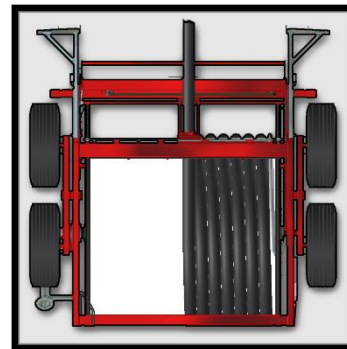
img-00184

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



img-00137

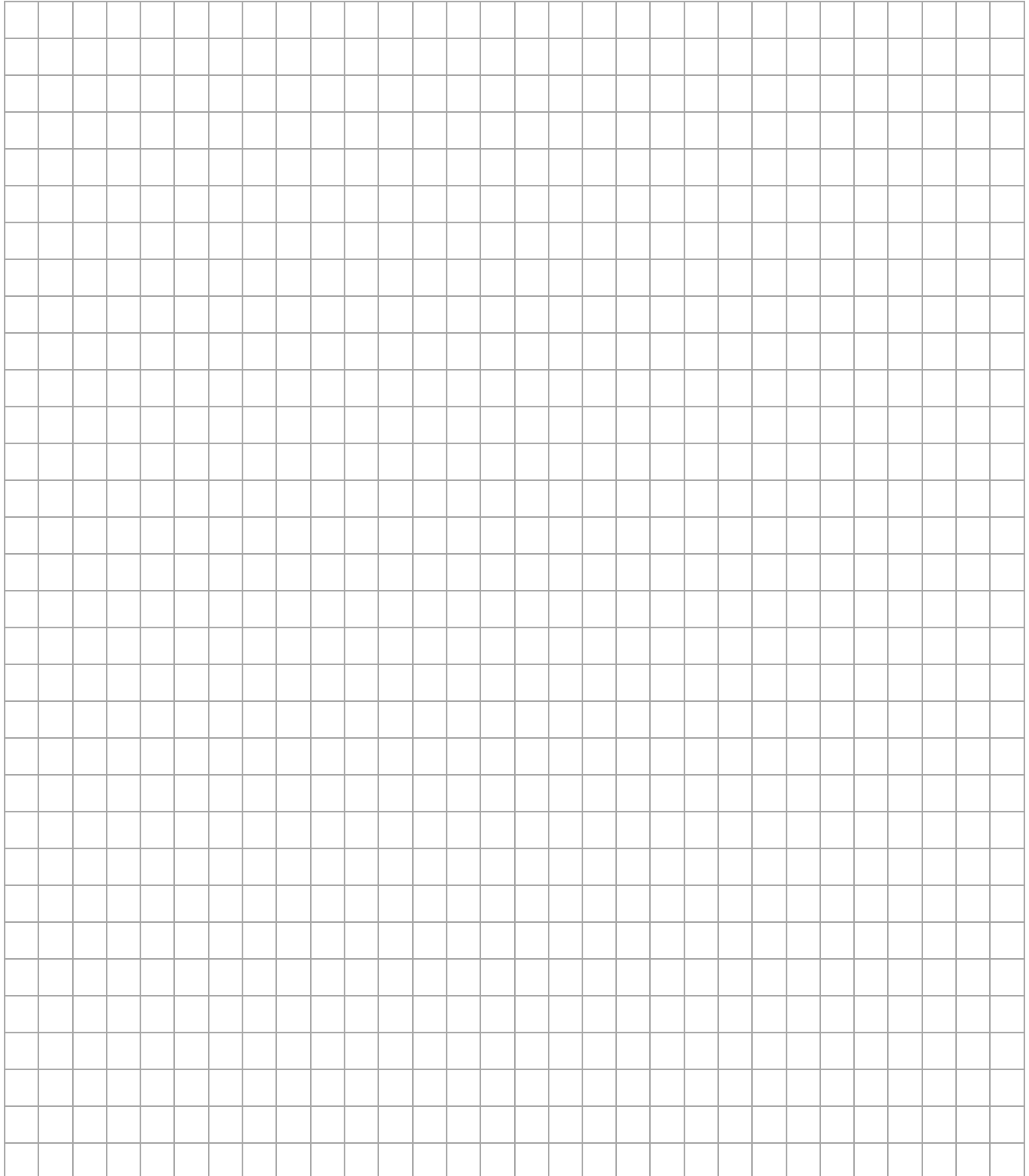
Adjust the position of the hose guide by rotating the sprocket.



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.

When re-installing the chain, hold pressure on the idler wheel by pushing with a wrench on the inside nut. Make sure all the slack from the lower portion of the chain is taken up. Tighten the idler wheel bolt while holding pressure. **Properly re-install all safety shields.**



Hard Hose Drag Reel Dimensions and Weight

The dimensions and weights shown on the following pages are only approximate, and are specific to the 4000M and 4500M.

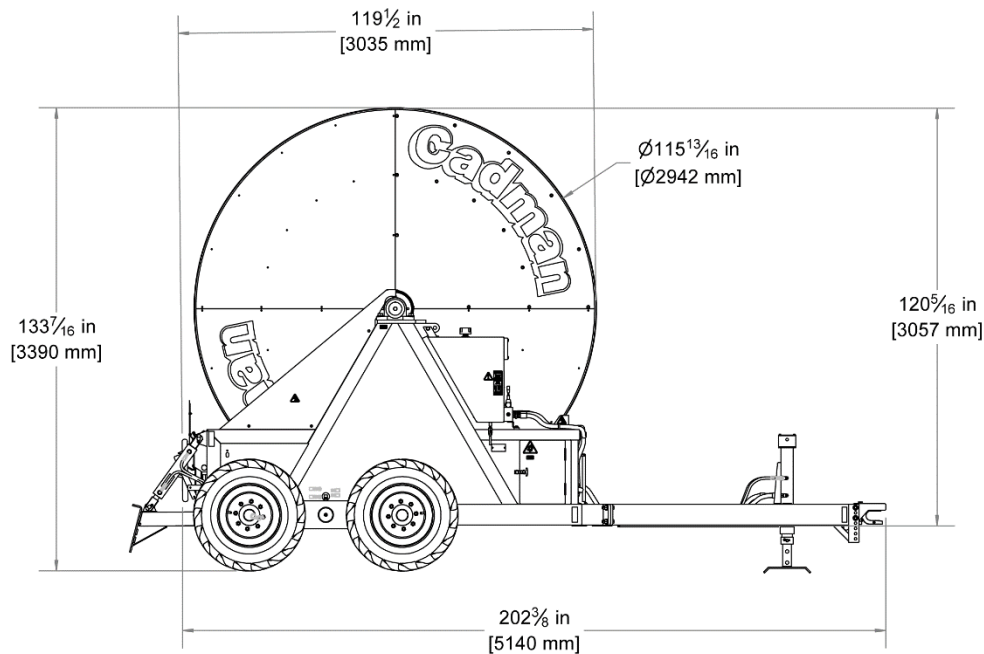
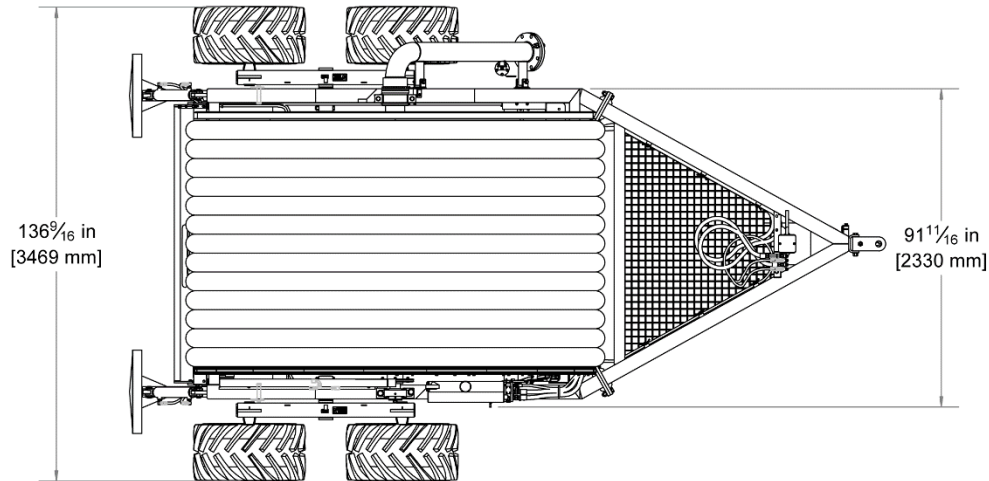


Figure 27 – 4000M and 4500M Overall Dimensions

img-01607

The weight for an empty Cadman 4000M / 4500M is 12,500 lbs (5,670 kg).

Useful Information

LENGTH

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

AREA

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

VOLUME

1 GALLON (US)	= 0.8327	Imperial Gallons
	= 231	Cubic Inches
	= 0.1337	Cubic Feet
	= 8.345	Pounds
1 CUBIC FOOT	= 1728	Cubic Inches
	= 7.48	Gallons (US)
	= 62.4	Pounds
	= 28.32	Liters
1 ACRE INCH	= 27154	Gallons (US)
	= 254	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	