

# Cadman

IRRIGATION & AGRICULTURAL MACHINERY



## 1100 / 1250 Mini-Travellers



## OPERATOR'S, PARTS, and MAINTENANCE MANUAL 2011 Edition

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# Cadman

IRRIGATION & AGRICULTURAL MACHINERY



## TR-MAN-1100

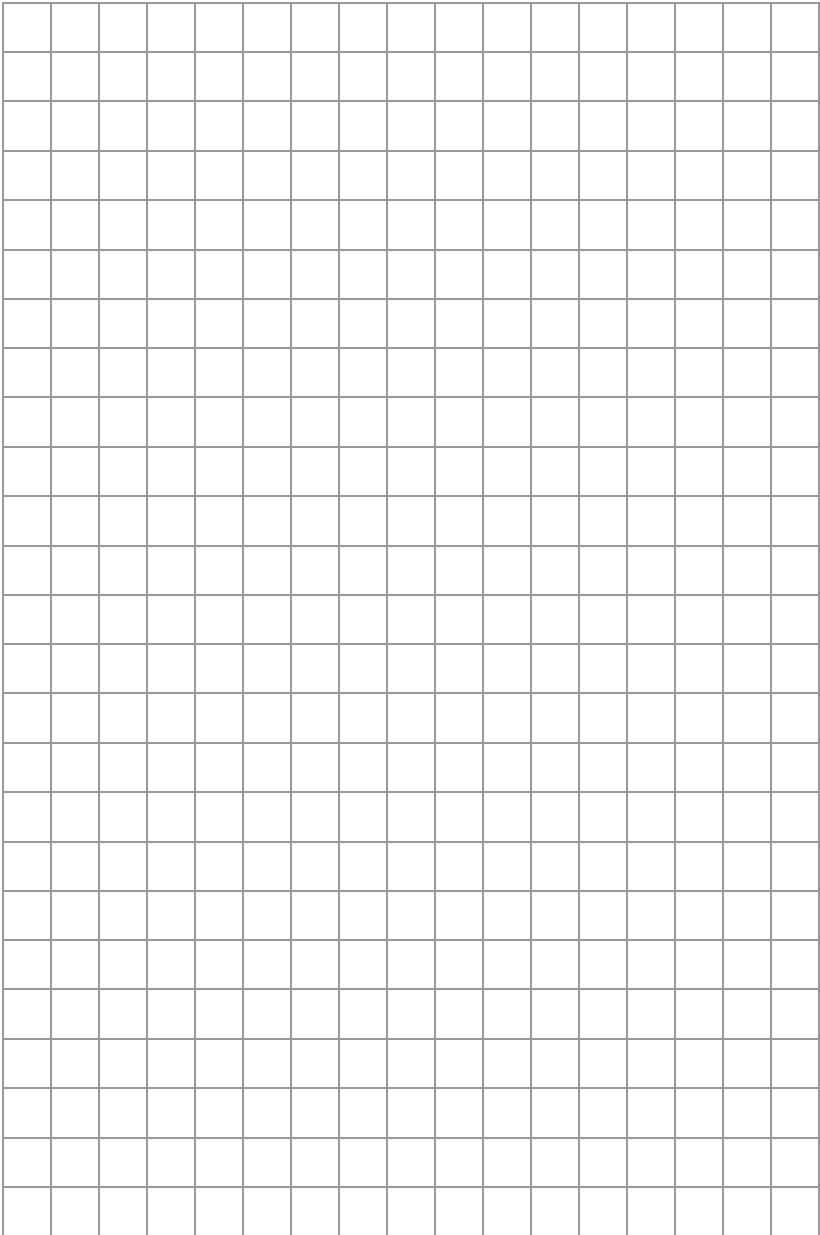
Operator's Manual - Mini-Travellers

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Revision:

## Table of Contents

Table of Contents .....	1
Cadman Mini-Travellers .....	3
Warranty Policy .....	4
Safety Precautions .....	5
Safety Decals .....	6
Planning Your Application .....	8
Equipment Set-up .....	13
Beginning Irrigation.....	21
Completing Irrigation .....	24
Battery Exchange/Charging .....	25
Booster Pump Option.....	27
Parts Section.....	31
Required Maintenance.....	56
Indexer Adjustment Instructions .....	59
Appendix A – Sprinkler Data.....	62
Technical Specifications .....	63
Useful Information .....	64





## Cadman Mini-Travellers

We would like to thank you for purchasing your new **Cadman Mini-Traveller**. You have purchased a product of superior quality that will serve your needs for a long time provided you follow this manual and safety procedures.



Figure 1 – Cadman Mini-Travellers

img-00451

**BEFORE** operating your new **Cadman Mini-Traveller**, inspect the machine for any damage or parts which 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.
- **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.

## Safety Precautions



Please take the time to read and understand this manual so that unnecessary errors and risks are avoided. If you have any questions or concerns, please contact **Cadman Power Equipment Limited** or your local dealer/distributor.

- **DO NOT** move or operate this machine until you have read and understand the instructions in this manual.
- **NEVER** allow untrained persons to operate this machine.
- **DO NOT** attempt to service this machine while it is in operation.
- **MAKE CERTAIN** all mechanical tension has been released and the battery is disconnected before attempting any service on the machine.
- **MAKE CERTAIN** all water pressure has been released before removing supply lines or adjusting sprinkler. Pressurized water can be trapped within the supply hose when the automatic sprinkler shut off is engaged.
- **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.
- **STAY CLEAR** of power lines, contact with power lines with irrigation water WILL result in the machine being a conductor of electricity.
- **DO NOT** remove or alter any shielding on this machine.
- **BE CERTAIN** that the machine is securely anchored (using stabilizers) 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.
- **REGULAR INSPECTION** of your pipe 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 certain you fully understand and abide by the given instructions or warnings.

## Safety Decals

Cadman Power Equipment Limited has determined the potential hazards and has labeled the machine accordingly. The safety decals on this machine are intended to warn the operator of potential hazards.



Figure 2 - Signal Word Panels

img-00340

Each safety decal on this machine contains a Signal Word Panel which indicates the degree of hazard. Definitions of the Signal Words are as noted below...

- **DANGER** - an imminently hazardous situation that, if not avoided, **WILL** result in death or serious injury.
- **WARNING** - a potentially hazardous situation that, if not avoided, could result in death or serious injury, and include hazards that are exposed when guards are removed.
- **CAUTION** - a potentially hazardous situation that, if not avoided, may result in minor or moderate injury.

It is important that these decals are properly maintained.

- keep all safety decals legible (remove dirt or debris)
- replace any damaged or illegible decals
- replace any missing decals
- if applicable, install the current safety decal specified by **Cadman Power Equipment Limited** on any components installed during repair



Figure 3 – Replace Decal

img-00131-A



**Location of Safety Labels**

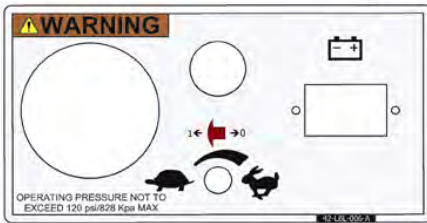


1



2

3



4



5



Figure 4 - Safety Labels

img-00453

For part numbers and quantities required please refer to the decal listing on page 50.

To obtain the required replacement safety decals contact **Cadman Power Equipment Limited**. Re-install all decals in the proper location on the machine.

## 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.

### Step 1 - Field Preparation:

Determine the depth of application in inches.

- Irrigating deeper than the root zone is considered over watering. The most common depth for turf is between 0.2 – 0.3 inches (5 – 7.5 mm).

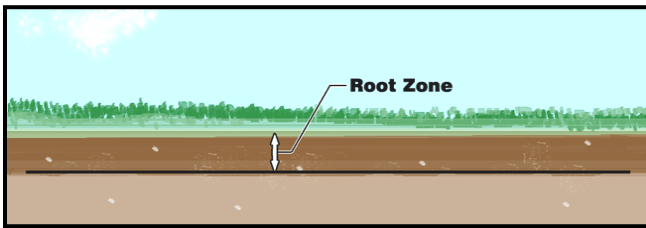


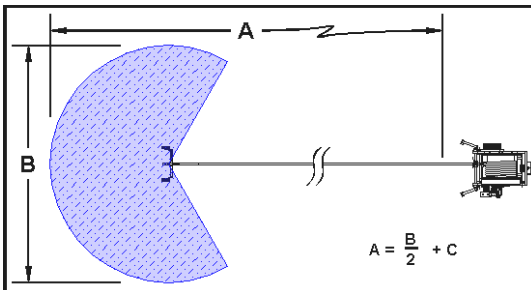
Figure 5 - Root Zone - Depth of Application

img-00197

### Step 2

Divide your field into the least number of sections to obtain complete coverage.

- First determine the area you plan to irrigate. If your field width is greater than what can be achieved with one (1) pull you will be required to divide the field into the least number of sections to reduce setup time. Use your sprinkler performance data tables to determine the coverage of your **Cadman Mini-Traveller**. The sprinkler should be set up so that the spray diameter is covered plus sufficient overlap (beyond the edge of the crop) to provide adequate watering at the edge of the field.



Hose Length "C"

Model	Feet	Meters
1100	250	76.2
1250	230	70.1

Figure 6 - Reel Coverage

img-00193



**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.**

- Customize your application by choosing the right nozzle and pressure combination to accommodate the area to be irrigated. Changing the nozzle size and adjusting the water pressure can improve your irrigation plan. See the next step.
- Avoid quarter circle (partial pattern) operations while irrigating. During quarter circle operation, sprinkler thrust tends to steer the sprinkler cart in the direction of the water being thrown. Reduce the size of the sprinkler nozzle and water pressure to reduce the diameter of spray. Remember the retrieve rate WILL require adjustment to accommodate the reduced flow.

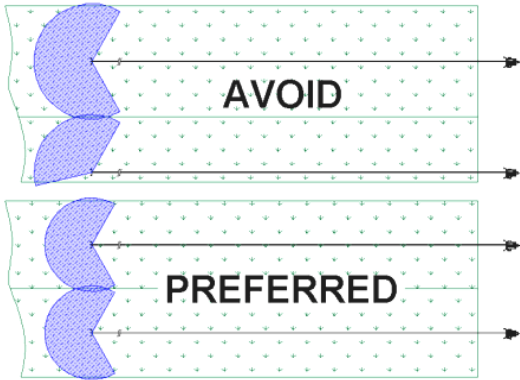
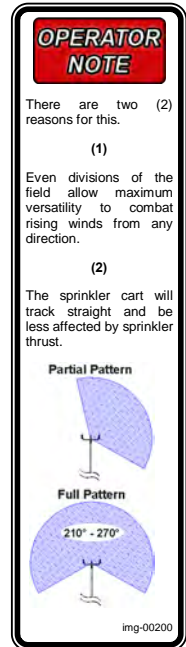


Figure 7 - Avoid Quarter Circle Applications

img-00199

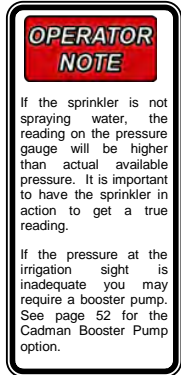
- If conditions dictate that a quarter circle (partial pattern) pass is unavoidable, prepare the travel lane with a shallow trench for the hose to follow. Adding extra weight to the rear of the sprinkler cart is also beneficial. If these preparations are not possible or prove inadequate you must adjust your set up to allow for a full spray pattern.
- During normal operation, (full pattern the sprinkler operates to both sides of the cart) sprinkler thrust will correct this steering action automatically. The side to side movement of the cart should be no more than the width of the carts rear tube. (where hose and sprinkler cart are connected)
- Cadman Power Equipment Limited does **NOT** recommend a curved hose pull out. This puts the equipment into a situation where it could become damaged. If a curved pull is necessary, pull a minimum of **50 feet (15.25 m)** of hose straight out from the machine prior to beginning a long gradual curve. The arc or curve must **NOT** form a ninety degree (90°) bend.



## Step 3A

Complete the following steps to determine your retrieve rate (desired width).

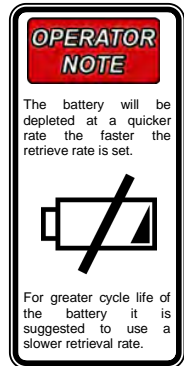
- Determine what inlet pressure is available while the sprinkler is working.
- Using Table 1 or Table 2 on page 11, find the closest width to what is required. Be sure the inlet pressure shown for that row is equal to or less than your available pressure.
- The width noted in Table 1 and Table 2 are wetted areas. This means the sprinkler will project water approximately 25% further than listed. This allows for proper coverage. For actual spray diameter of the sprinkler refer to **Appendix A – Sprinkler Data** on page 62.
- Read nozzle size from the Table.
- Choose the application depth, then read your retrieve rate in inches per minute.



### Example 1:

Using an 1100 traveller with an inlet pressure of 35 psi, determine retrieve rate required to apply 1/2" to a 75 ft wide area.

- 6 mm - 33 PSI - 76' width - 4.3 inches/minute
- 7 mm - 35 PSI - 78' width - 5.5 inches/minute
- 9 mm - 34 PSI - 78' width - 8.1 inches/minute



## Step 3B

Complete the following steps to determine your retrieve rate (known nozzle size).

- Determine what inlet pressure is available while the sprinkler is working.
- Using Table 1 or Table 2 on page 11, find the nozzle and pressure combination you are using.
- Choose the application depth, then read your retrieve rate in inches per minute.
- The width noted in Table 1 and Table 2 are wetted areas. This means the sprinkler will project water approximately 25% further than listed. This allows for proper coverage. For actual spray diameter of the sprinkler refer to **Appendix A – Sprinkler Data** on page 62.

### Example 2:

Using a 1250 traveller with a 10 mm nozzle and an inlet pressure of 80 psi, determine retrieve rate required to apply 3/4" to the irrigated area.

From Table 2, the following combination is identified:

- 10 mm - 81 PSI - 115' width - 7.3 inches/minute



**Keep in mind that the charts should be used as a guide only. Always check the actual application amount with rain gauges to confirm your retrieve rate is correct.**

## 1100 SIME - Funny

Nozzle Size	Inlet Pressure PSI	Wetted Area		Retrieve Rate in Inches/Minute			
		Width'	Length'	Application Depth			
				1/4"	1/2"	3/4"	1"
5 mm	24	66	283	6.2	3.1	2.1	1.6
	31	70	285	6.3	3.2	2.1	1.6
	47	78	289	7.0	3.5	2.3	1.7
	63	86	293	7.6	3.8	2.5	1.9
6 mm	45	68	284	8.4	4.2	2.8	2.1
	33	76	288	8.6	4.3	2.9	2.2
	49	86	293	9.2	4.6	3.1	2.3
	56	91	296	10.1	5.0	3.4	2.5
7 mm	27	73	286	10.4	5.2	3.5	2.6
	35	78	289	10.9	5.5	3.6	2.7
	51	89	294	11.9	5.9	4.0	3.0
	70	97	298	12.7	6.3	4.2	3.2
9 mm	34	78	289	16.1	8.1	5.4	4.0
	44	86	293	16.8	8.4	5.6	4.2
	66	99	298	18.3	9.2	6.1	4.6
	88	102	301	19.9	9.9	6.6	5.0

Table 1 - 1100 SIME - Funny

## 1250 SIME - K1

Nozzle Size	Inlet Pressure PSI	Wetted Area		Retrieve Rate in Inches/Minute			
		Width'	Length'	Application Depth			
				1/4"	1/2"	3/4"	1"
8 mm	25	82	271	12.2	6.1	4.1	3.0
	34	90	275	13.0	6.5	4.3	3.2
	51	100	280	14.0	7.0	4.7	3.5
	69	108	284	15.0	7.5	5.0	3.8
9 mm	28	86	273	14.6	7.3	4.9	3.7
	37	92	276	15.7	7.9	5.2	3.9
	55	102	281	17.3	8.6	5.8	4.3
	74	110	285	18.4	9.2	6.1	4.6
10 mm	31	90	275	17.3	8.6	5.8	4.3
	41	94	277	19.0	9.5	6.3	4.8
	61	108	284	20.2	10.1	6.7	5.0
	81	115	288	21.9	11.0	7.3	5.5
12 mm	39	90	275	25.0	12.5	8.3	6.3
	52	100	280	25.9	12.9	8.6	6.5
	77	110	285	28.6	14.3	9.5	7.1
	102	123	292	29.6	14.8	9.9	7.4

Table 2 - 1250 SIME - K1

## Step 4

Determine the best position for your reel in each section.

- The best start position for your reel is at the center of the furthest section away from the source of water. By doing this your subsequent setups will not require additional water source changes.



**Ensure you abide by local by-laws and regulations for water usage. Cadman Power Equipment Limited recommends that you consult with your local water authority.**

- Where field conditions permit, always attempt to pull the hose either up or down sloping terrain instead of operating on the side of a hill. If a side hill condition is unavoidable, provide a hilled trench as a guide for the hose and add extra weight to the sprinkler cart to prevent upset.



**The hose will slide down the hill if a trench is not created. The hose will become much heavier once water is introduced. Failing to provide a trench will result in serious equipment damage and could result in you and/or your spectators being injured.**

- Obstacles will play a big part in the planning process. If an obstacle interferes with the area to be irrigated an adjustment to the plan will be required.



Figure 8 - Obstacles in Plan

img-00234



**The hose will naturally take the shortest path (a straight line). Without resistance such as a contour, trench or a furrow the hose will tend to straighten. The sprinkler cart will make contact with any obstacle if there is no resistance. Failure to provide a form of resistance will result in serious equipment damage and could result in you and/or your spectators being injured.**

## Equipment Set-up

Now that you have created a plan you are ready to set up your **Cadman Mini-Traveller** in the field. Complete the following instructions to prepare for irrigation.

### Step 1

Following your plan, choose transport configuration. Choose from hand operation or towable operation.

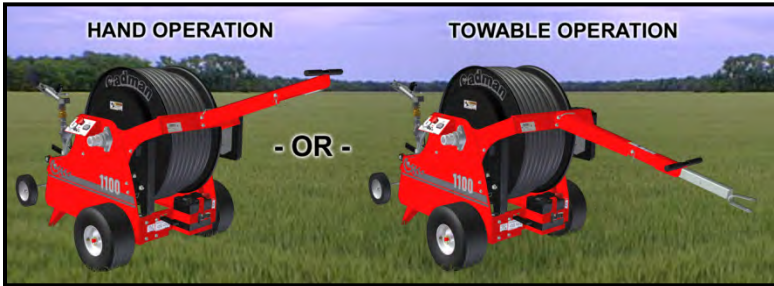


Figure 9 - Choose Transport Configuration

img-00467



Ensure that the quick pins have been properly reinstalled prior to moving your machine. Failure to reinstall quick pins may result in equipment damage and/or personal injury.

### Step 2

Engage the drive system then tow the machine to the first section.

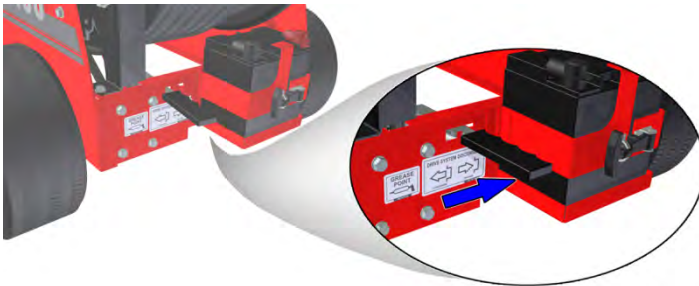


Figure 10 - Engage Drive System Prior to Transport

img-00455

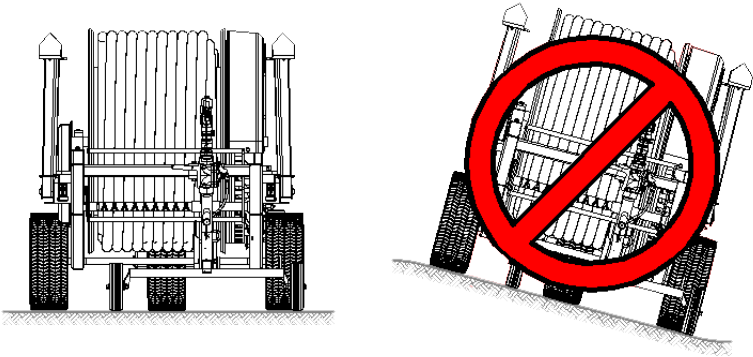


It is important to verify that the drive system is engaged prior to moving your Cadman Mini-Traveller. Failure to do so can result in equipment damage.

**Step 3**

To allow for better coverage, park the reel 5 ft. (1.5 m) minimum from the beginning of the section to be irrigated.

Keep the machine on firm and level ground.



*Figure 11 - Work on Firm and Level Ground (image exaggerated)*

*img-00330*

**Step 4**

Disconnect your machine from the towing vehicle. (If applicable)



## Step 5

Ensure the ground where the machine is set up is soft enough for the stabilizer feet to penetrate the surface. The machine may require anchoring if the ground is too hard.



Figure 12 - Engage Stabilizer Feet

img-00456



Failure to engage stabilizer feet will result in serious equipment damage and potential for injuries to you and/or spectators.

## Step 6

Disengage the Drive System.

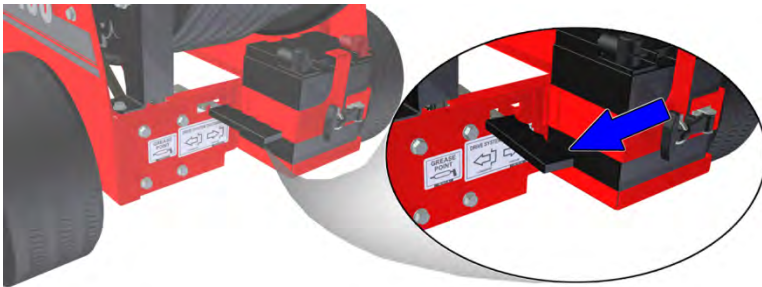


Figure 13 - Disengage Drive System

img-00457

**Step 7**

Lower the sprinkler cart from the transport bracket. Simply lift the sprinkler cart using the handle. Lower the sprinkler cart to the ground.



Figure 14 - Lower Sprinkler Cart

img-00458



### Step 8

Tow the sprinkler cart to the start point of irrigation. Always leave a minimum of one (1) wrap of hose on the drum. When pulling the hose out keep it straight. If obstacles require you to change your path, make the change gradual.

The hose will naturally take the shortest path. Without resistance such as a contour, trench or a furrow the hose will tend to straighten. You may have to adjust your irrigation plan to accommodate for obstacles. (Refer to “**Planning Your Application**” on page 8.)

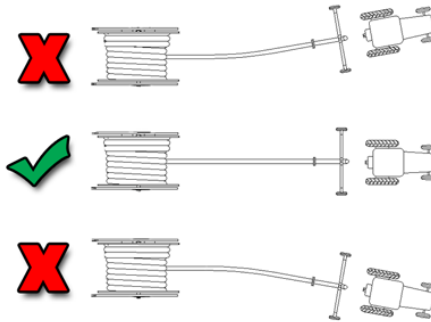


Figure 15 - Pull Out Hose Straight

img-00244



**DO NOT** exceed 3 mph (5 km/h) while pulling out the hose. **DO NOT** stop suddenly at the end of your travel lane. **Slow gradually** when nearing the end of the pull. Keep spectators away from the machine while pulling out the hose. Failure to follow these instructions may result in serious equipment damage and potential for injuries to you and/or spectators.

### Step 8

Verify the sprinkler set up is correct. Install the correct nozzle and tighten the nozzle cone. Also at this time, set the part circle stops on the sprinkler. The sprinkler should be set behind the cart so that the travel path remains dry until the cart passes.

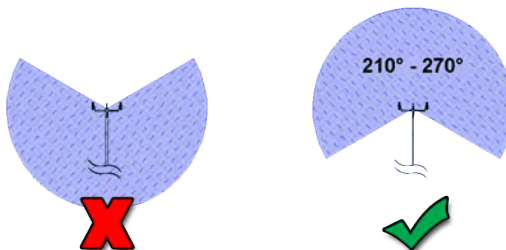


Figure 16 - Correct Pray Setting

img-00201

## Step 9

Your **Cadman Mini-Traveller** is equipped with an auto sprinkler shut off system. This system will stop the flow of water to the sprinkler at the end of each retrieve cycle.



**When the Auto Shut off System is used, there WILL be a pressure spike within the supply circuit. Take the appropriate precautions to prevent equipment damage and/or injury to you and/or spectators.**

**If you do not have appropriate precautions in place (i.e. automatic pump shut down) DO NOT use this feature!**

### Disabled

If you would like to disable the automatic water shut off, turn the ball valve to the off position. Water will continue to flow once the sprinkler cart has been retrieved. No further sprinkler cart adjustments are required.

### Enabled

The valve trigger should be pulled away from the valve and valve button pushed in towards the hose end of the sprinkler cart. Turn the ball valve to the open position. This will allow water flow to the sprinkler. When the sprinkler cart has been retrieved the valve trigger will shift the water shut off valve and stop the flow of water to the sprinkler.

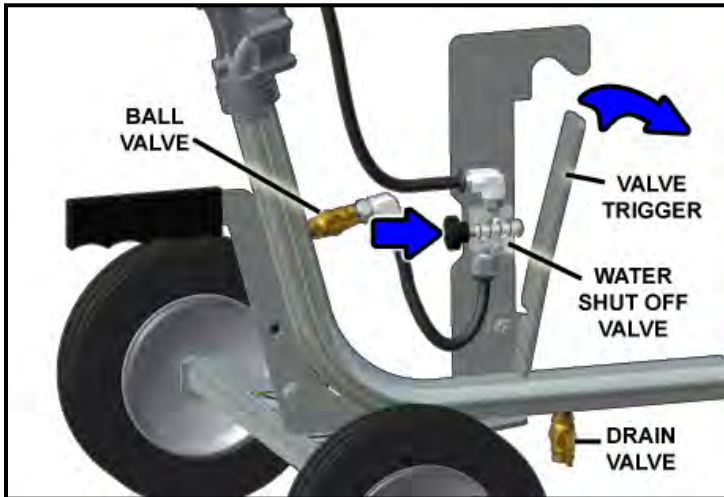


Figure 17 - Water Shut Off Valve

img-00459

## Step 10

Return to the machine and inspect the hose remaining on the drum. The hose should be tightly coiled and not loose. If the hose is loose, tighten the coils so that they form a neatly packed spool. Rotate the drum if necessary.



Figure 18 - Spool Condition

img-00245

## Step 11

Inspect the indexer. The hose should travel in a straight line through the hose guide. If the hose is angled through the indexer refer to the "Indexer Adjustment Instructions" found on page 59.

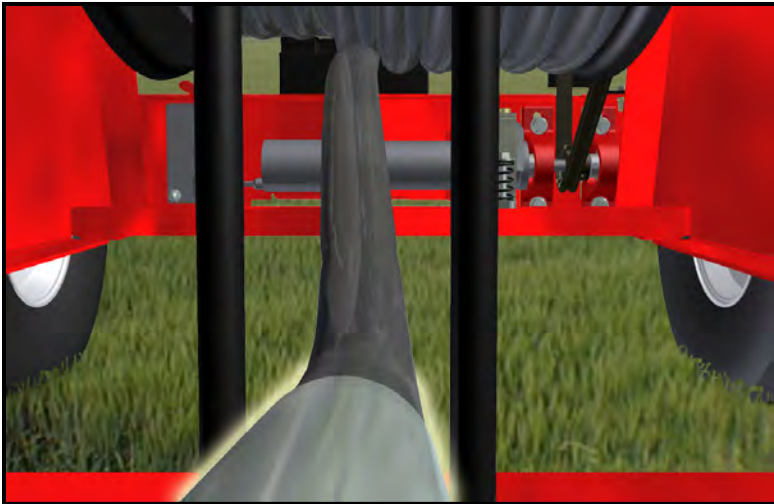


Figure 19 - Indexer / Hose Alignment

img-00460



## Beginning Irrigation

Once you have successfully set up your **Cadman Mini-Traveller** you can begin irrigating.

### Step 1

Clear the area of operation of spectators prior to starting irrigation.



Figure 20 - Clear Irrigation Zone

img-00336



The irrigation sprinkler projects a large volume of pressurized water. Contact with the sprinkler's discharge will result in injury. Avoid the area where irrigation is taking place.

### Step 2

Connect the main water supply line to your machine. Make sure the hose sweeps in a gentle arc away from the control area of the machine.



Figure 21 - Supply Layout

img-00461

### Step 3

**GRADUAL** pressurization of the system may now begin. Keep the pressure low (under 20 psi [138 bar]) until **ALL** air is purged from the system and a steady stream is flowing from the sprinkler nozzle. **AFTER** all the air is purged from the system, pressure may be slowly raised up to the maximum operating pressure of 120 psi (8.3 bar).

Now you are ready to begin the hose retrieval.

### Step 4

Set the speed control to minimum. Pull the power switch on (red button).

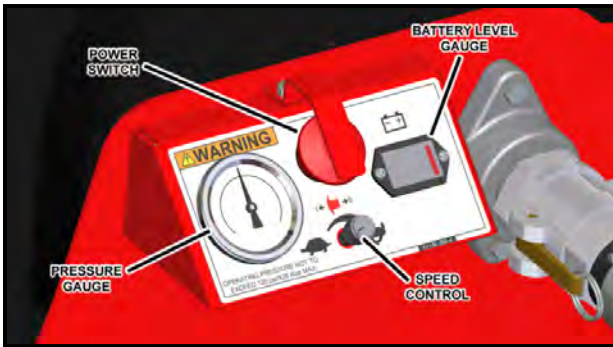


Figure 22 - Control Panel

img-00462

### Step 5

Once the power is on, engage the drive system. The clutch will only engage when drive pins are lined up. It may be necessary to allow the drive motor to rotate slowly while applying a small amount of pressure on the engagement handle. When the drive pins line up, the clutch will engage.

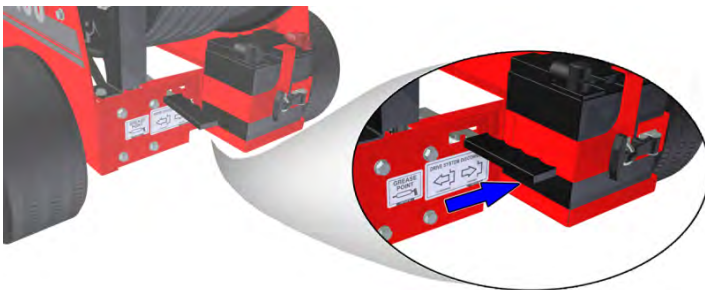


Figure 23 - Engage Drive System

img-00455



## Step 6

Set the desired retrieval speed by rotating the speed control knob.



Figure 24 - Adjust Retrieval Speed

img-00463



**Retrieval speed can be confirmed by measuring the amount of hose retrieved in one minute using a measuring tape and a wax marker.**

## Step 7

Once the machine starts to retrieve the hose you must test the Shut off System to verify it is in working order. Rotate the shut off bar to actuate the Shut off System. If the retrieval stops, release the shut off bar to continue the retrieval. If not, stop use of the machine and contact Cadman Power Equipment Limited or your local dealer for further instructions.

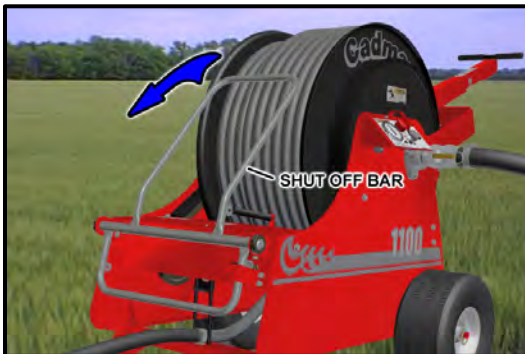


Figure 25 - Verify Shut off System

img-00464

## Completing Irrigation

### Step 1

Once the sprinkler cart has returned to the traveller, turn off the water supply. Depressurize the supply line.



**Water under pressure can be very dangerous. Please use proper methods to bleed the supply line prior to disconnecting from the traveller. Failure to properly bleed the pressure can result in equipment damage and potential for injuries to you and/or spectators.**

### Step 2

Disconnect the supply line and then prepare the machine for transport by engaging the drive system.

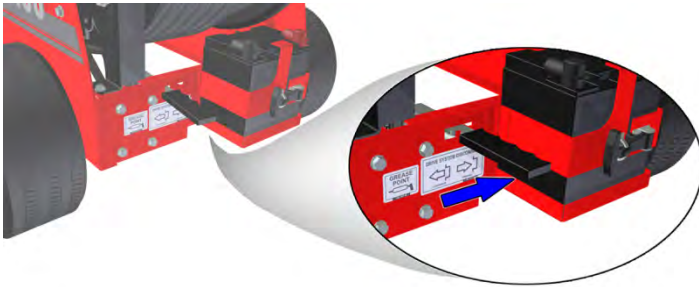


Figure 26 - Engage Drive System

img-00455



**DO NOT move your Cadman Mini-Traveller without properly preparing it for transport. Failure to engage the drive system and lifting the sprinkler cart will result in equipment damage and may result in injury to you and/or spectators.**

### Step 3

Complete any required maintenance as prescribe in the "Required Maintenance" section found on page 56.

## Battery Exchange/Charging

The battery level gauge shows the charge state of the battery. There are different states of the LED display.

- 1 Only when the battery is properly charged is the right-most LED lit.
- 2 As the battery's state-of-charge decreases, successive LEDs light up, only one on at a time.
- 3 The 2nd-from-left LED flashes, indicating "energy reserve" (70% depth of discharge).
- 4 The 2 left-most LEDs alternately flash, indicating "empty" (80% depth of discharge).

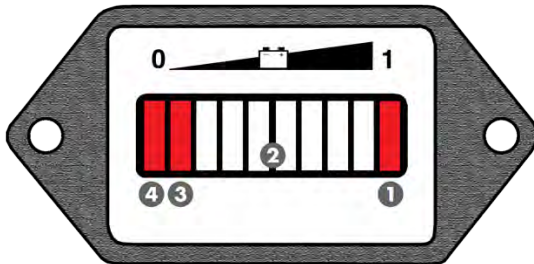


Figure 27 - Battery Level Gauge

img-00478

When the battery reaches ④ (70% of discharge), **Cadman Power Equipment Limited** recommends that it be exchanged with the secondary (back-up) battery. Complete the following step and abide by safety warnings/precautions.



**Running the charge level below 70% can reduce the battery life or even make it inoperable.**

**Never connect Battery Charger directly to the machine. Connecting the charger to the machine WILL result in equipment damage and potential for personal injury. Fire may also occur resulting in equipment/property damage.**

**Due to the high chance of water being near the machine due to its designed purpose it is important never to charge the battery while it is installed on the machine.**

### Step 1

Ensure machine is powered off by pushing the main power switch (red button) to the off position.

## Step 2

Remove the discharged battery by disconnecting the power plug, and then open the battery retainer. Carefully lift the battery out of the tray.



**Only use the red plug handle to disconnect the battery. Never pull directly on the wires. Failure to use the handle may result in battery and/or equipment damage as well as a potential for personal injury.**

## Step 3

Install the freshly charged battery, and close the battery retainer. Then connect the battery connector.

## Step 4

Bring the battery to your charging station. This area must be a well ventilated area. Use the supplied battery charger (p/n 42-302-KIT) only. Ensure that the charger is plugged into a 110 volt outlet that has been properly installed with a ground according to your local electrical code. Now connect the battery until the charged LED is on. Once the battery has been charged, disconnect the charger from the outlet.



Figure 28 - Supplied Battery Charger

img-00479

### LED Indicators

**POWER ON (green) LED:** Indicates the charger is connected to AC power source and is receiving power.

**CHARGED (red) LED:** Indicates the battery is fully charged and the charger is in the maintain mode.



**Never alter the cord or plug that is provided with this charging unit. An improper connection can result in a risk of electrical shock and/or electrocution. Never leave the charger plugged in without a battery connected being charged.**

It is preferred not to use an extension cord, however if required use an extension cord with a wire no smaller than 18 gauge (0.82 mm<sup>2</sup>). Using a wire smaller than 18 gauge (0.82 mm<sup>2</sup>) can result in fire.



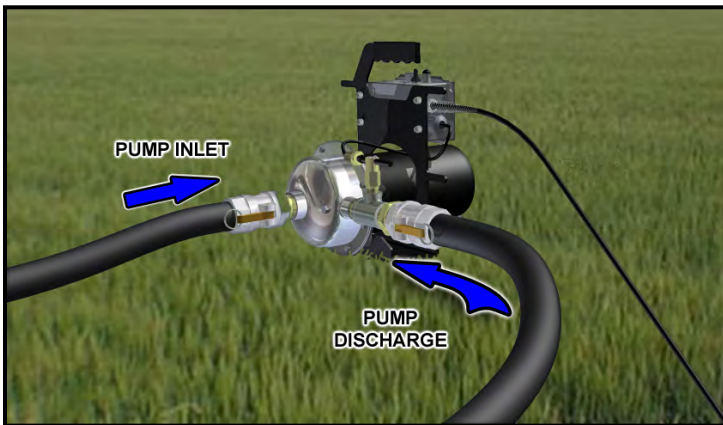
**Never smoke or allow a spark or open flame in the vicinity of a battery. The gasses discharged during charging and regular operation are very explosive. Failure will result in an explosion resulting in fire and personal injury.**

## Booster Pump Option

In some cases you may be required to use a booster pump to increase water flow or pressure for your irrigation needs. **Cadman Power Equipment Limited** offers a booster pump package to meet your requirements. To operate your booster pump complete the following instructions:

### Step 1

Place the booster pump on dry stable ground. Connect your water supply to the booster pump suction. Then connect the booster pumps discharge to the inlet feeder pipe of the traveller.



*Figure 29 - Connect Water Supply*

*img-00465*

## Step 2

Connect the power cord to a Ground Fault Circuit Interrupted (GFCI) protected outlet.



**Failure to connect this equipment to a proper GFCI protected circuit could result in serious injury or death to you and/or spectators. It is recommended that a certified electrician verify the GFCI circuit is properly installed.**

Press the green RESET button on the power plug to connect power. A red mechanical indicator will show that the circuit is powered (live).

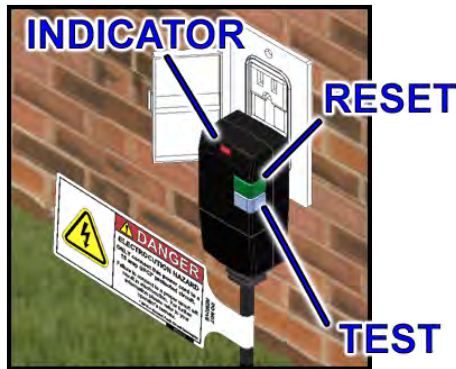


Figure 30 - Power Plug

img-00360

## Step 3

Press the blue TEST button on the power plug. This should immediately disconnect power to the circuit. The mechanical indicator should now show a black window.



**If the circuit is not disconnected, STOP and disconnect the power plug from the GFCI outlet and discontinue operation of this equipment, for further information contact Cadman Power Equipment Limited or your dealer. Failure to discontinue operation of this equipment could result in equipment damage and may result in serious injury to you and/or spectators.**

## Step 4

Prime the pump by filling the casing and suction line with water.



**WARNING: DO NOT run the pump before priming it, the seal and impeller could become permanently damaged.**

## Step 5

Turn the power switch to **ON**. Press and hold the **BY-PASS** switch until a stable flow is achieved.

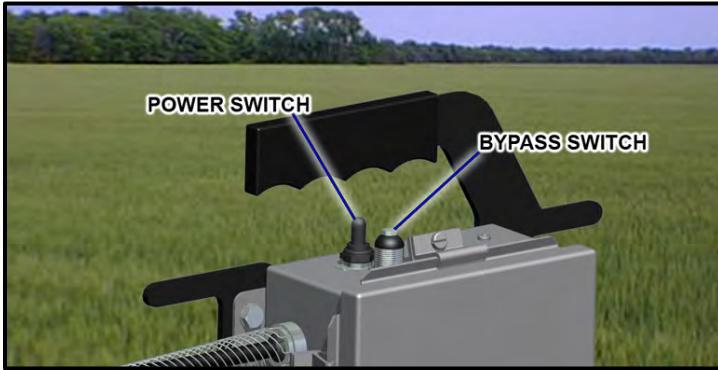


Figure 31 - Booster Pump Switch Layout

img-00474



If you are using the automatic sprinkler shut off system the booster pump will automatically shut down. The pump is equipped with a flow switch that will cut power to the unit.







# Parts Section

**Frame Assembly**.....32

**Frame Assembly Continued**.....34

**Drum Assembly** .....36

**Indexing System** .....38

**Drive System**.....40

**Control Panel** .....42

**Power Supply System** .....44

**Wiring Assembly** .....46

**Sprinkler Cart Assembly** .....48

**Decals**.....50

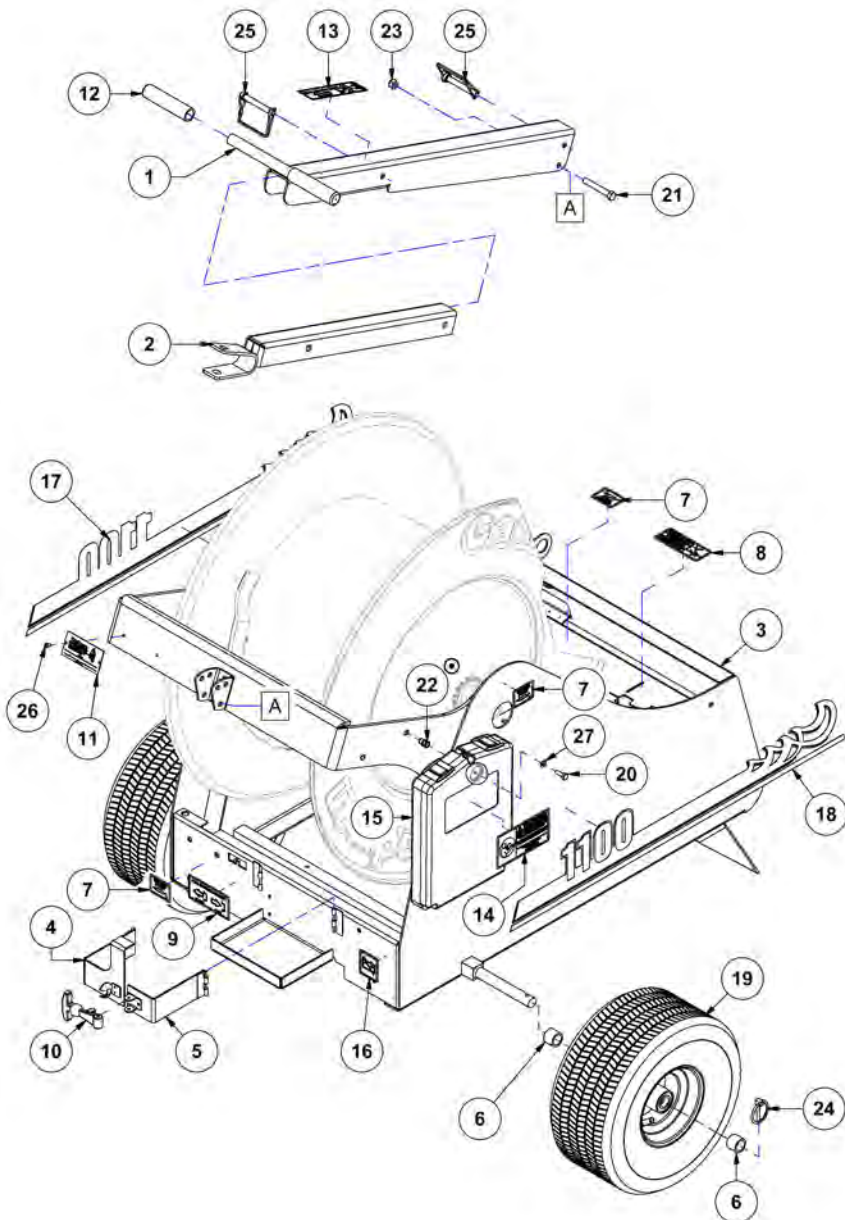
**Booster Pump** ○ .....52

**Booster Pump Wiring** ○ .....54

**Symbol Legend**

↳	Model Variations
•	Standard Equipment
○	Optional Equipment
◆	Complete Assembly
⊙	Special Tool Required
AR	As Required
N/A	Not Available

**Frame Assembly**



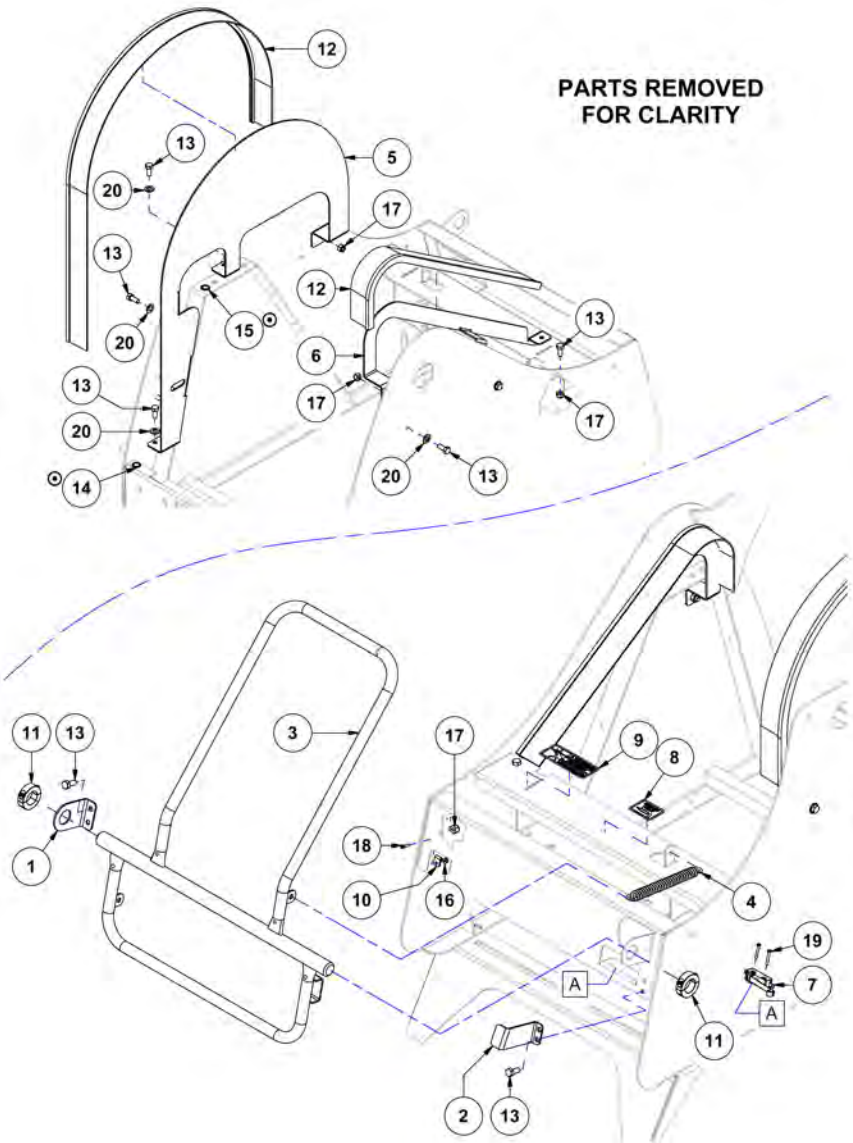


### Frame Assembly

Item	Description	Part Number	Qty
1	HANDLE WELDMENT	33-204-A	1
2	TONGUE EXTENDABLE WELDMENT	33-207-A	1
3	MAIN FRAME WELDMENT	33-400-	1
4	BATTERY RETAINER WELDMENT	33-415-C	1
5	BATTERY GATE WELDMENT	33-417-B	1
6	SPACER - WHEEL <i>(if equipped)</i>	33-702	4
7	LABEL - GREASE POINT	40-041-A	3
8	LABEL - ENTANGLEMENT	40-051-A	1
9	LABEL - DRIVE DISCONNECT	40-151-A	1
10	RUBBER LATCH KIT	40-217	1
11	CADMAN SERIAL NUMBER TAG	40-238	1
12	HAND GRIP - 0.75 X 4.00	42-019	2
13	LABEL - MAX TOW SPEED	42-033-A	1
14	LABEL - OPERATOR MANUAL	42-050-A	1
15	MANUAL PAK - SMALL	42-070	1
16	LABEL - DISCONNECT	42-LBL-007	1
17	DECAL - 1100 SIDE FRAME	42-LBL-1100-LH	1
↳	DECAL - 1250 SIDE FRAME	42-LBL-1250-LH	1
18	DECAL - 1100 SIDE FRAME	42-LBL-1100-RH	1
↳	DECAL - 1250 SIDE FRAME	42-LBL-1250-RH	1
19	WHEEL AND RIM ASSEMBLY	55-162	2
20	BOLT - 1/4-20 X 0.75	90-BLT-02520X075	2
21	BOLT - 3/8-16 X 2 1/2	90-BLT-03816X250	1
22	THREADED INSERT - 1/4-20 LONG	90-NUT-HTR02520L $\odot$	2
23	NUT LOCK - 3/8-16	90-NUT-LOC038-16	1
24	PIN LYNCH - 3/16"	90-PIN-LYNCH019	2
25	QUICK PIN - 3/8 X 2 1/2 LG.	90-PIN-Q038X250	2
26	RIVET - 3/16 X 3/8 IN.	90-RIV-019X038	2
27	WASHER SAE - 1/4	90-WSR-SAE025	2

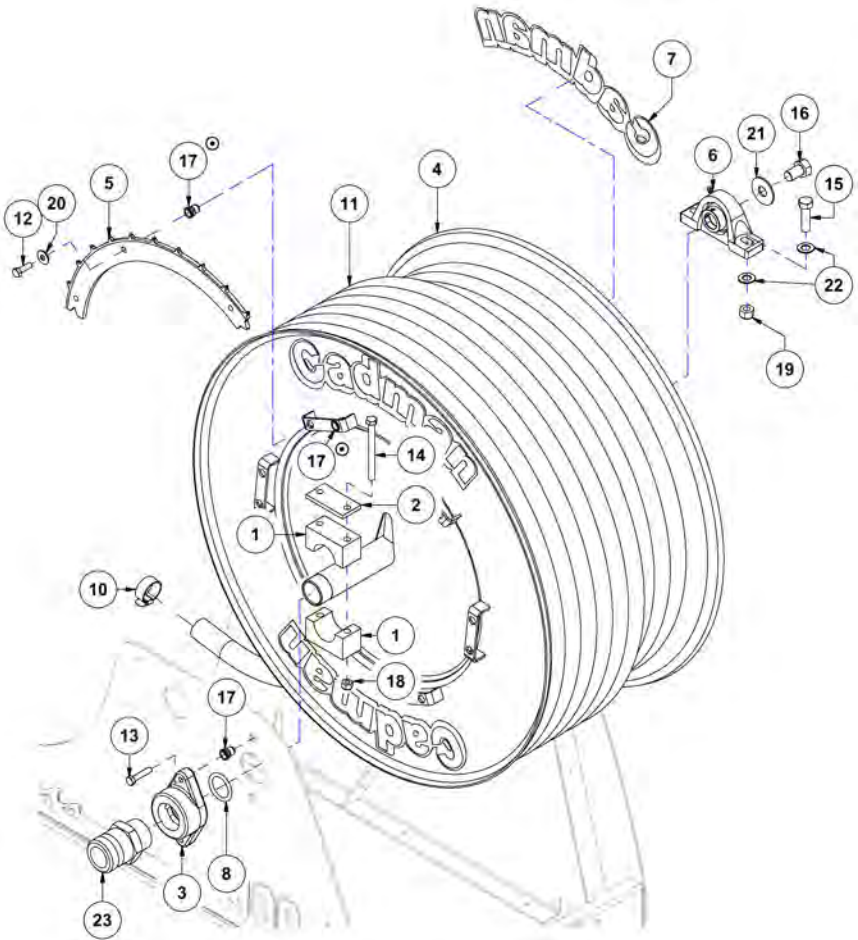


## Frame Assembly Continued





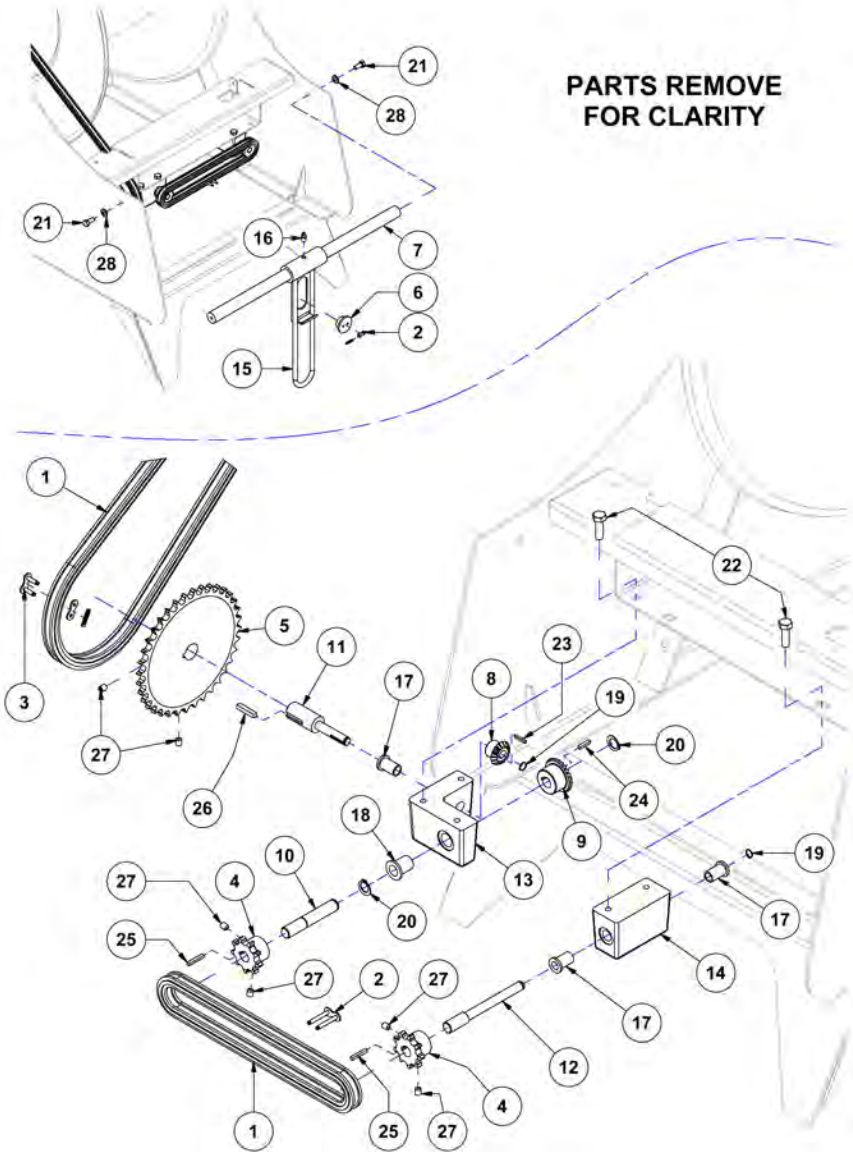
## Drum Assembly



## Drum Assembly

Item	Description	Part Number	Qty
1	BEARING	27-606-C	2
2	BEARING BLOCK PLATE	27-634	1
3	HOUSING - SWIVEL MACHINE	33-326	1
4	DRUM WELDMENT - 1100	33-509-C	1
↳	DRUM WELDMENT - 1250	33-515	1
5	GEAR SEGMENT - DRIVE	33-625-A	3
6	PILLOW BLOCK BEARING - 1.00"	40-143	1
7	DECAL - 1100 DRUM	42-031-1100	4
8	O-RING - 1 5/8 ID X 2 OD X 3/16 W	42-037	1
9	GEAR CLAMP - TRITON HS-16 (NOT SHOWN)	50-085	1
10	BAND IT CLAMP - 3 IN	50-103	1
11	HOSE - 1.1" I.D. X 1.3" O.D. X 250'	50-116-1100	1
↳	HOSE - 1.24" I.D. X 1.45" O.D. X 230'	50-116-1250	1
12	BOLT - 5/16-18 X 1.00	90-BLT-03118X100	9
13	BOLT - 5/16-18 X 1 1/2	90-BLT-03118X150	2
14	BOLT - 3/8-16 X 4.00	90-BLT-03816X400	2
15	BOLT - 1/2-13 X 1 3/4	90-BLT-05013X175	2
16	BOLT - 5/8-11 X 1.00	90-BLT-06311X100	1
17	THREADED INSERT - 5/16-18 SHORT	90-NUT-HTR03118S	14
18	NUT LOCK - 3/8-16	90-NUT-LOC038-16	2
19	NUT LOCK - 1/2-13	90-NUT-LOC050-13	2
20	WASHER FLAT - 5/16	90-WSR-FLT031	9
21	WASHER FLAT - 5/8	90-WSR-FLT063	1
22	WASHER SAE - 1/2	90-WSR-SAE050	4
23	CAM LOCK - F150	IR-CAM-150.F	1

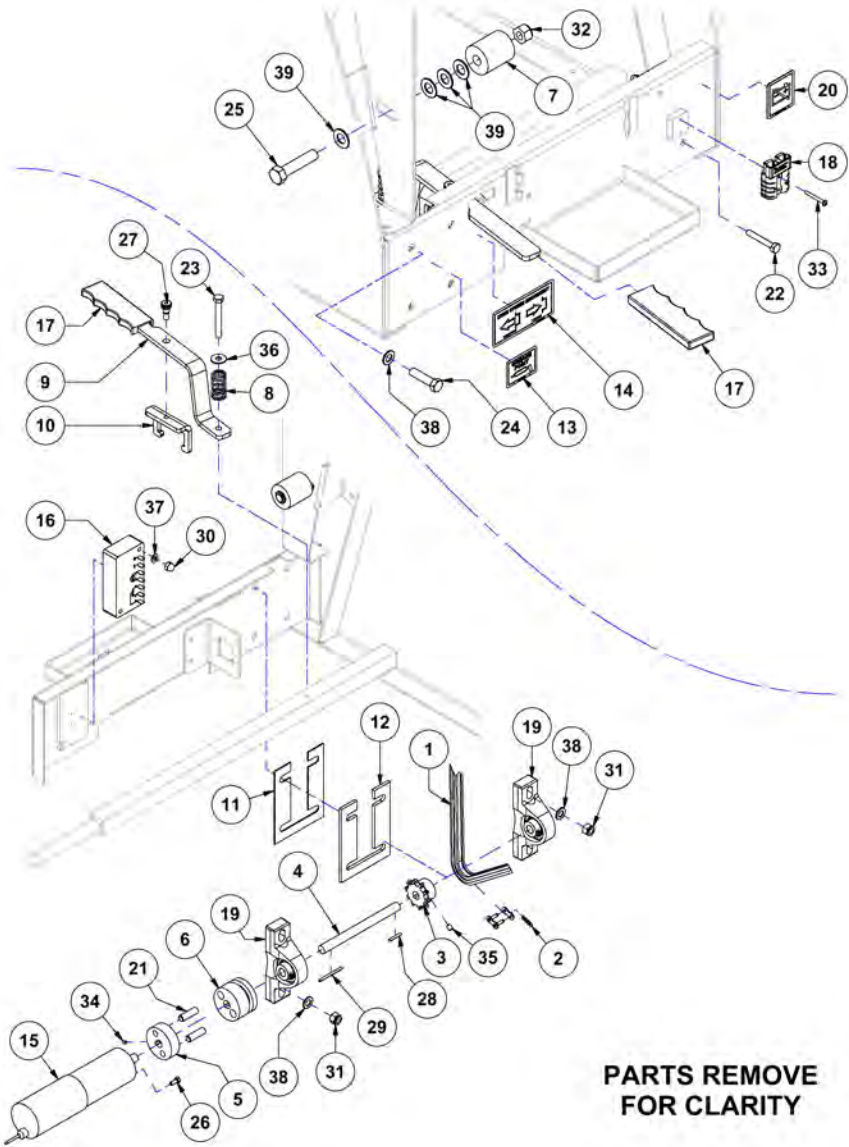
## Indexing System







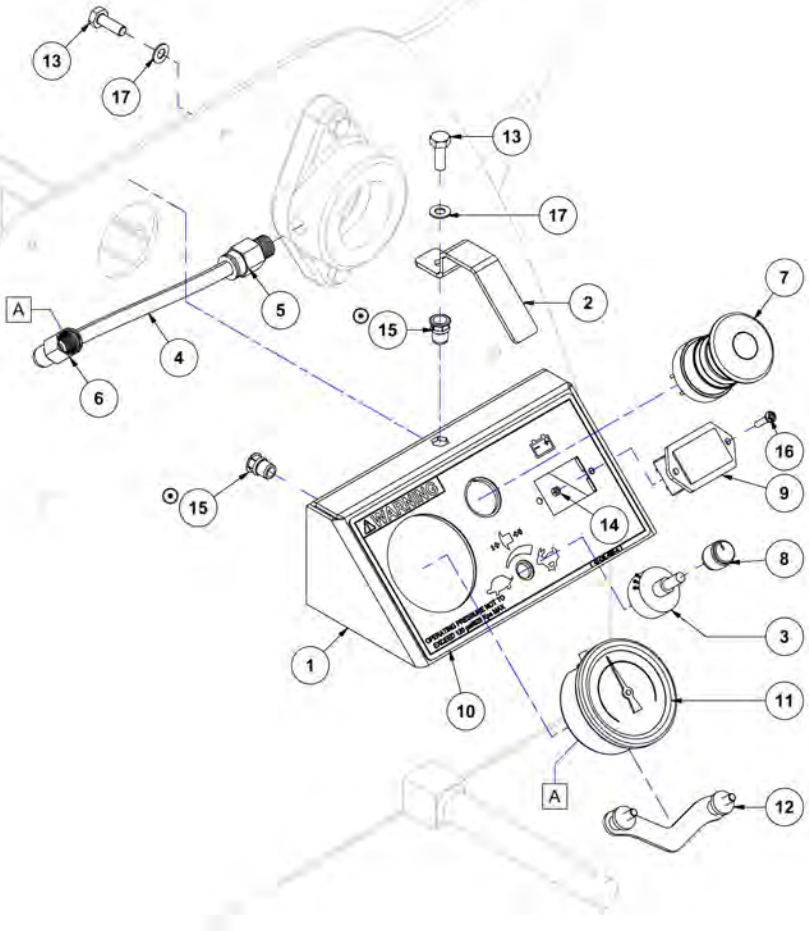
## Drive System



**PARTS REMOVE  
FOR CLARITY**



## Control Panel

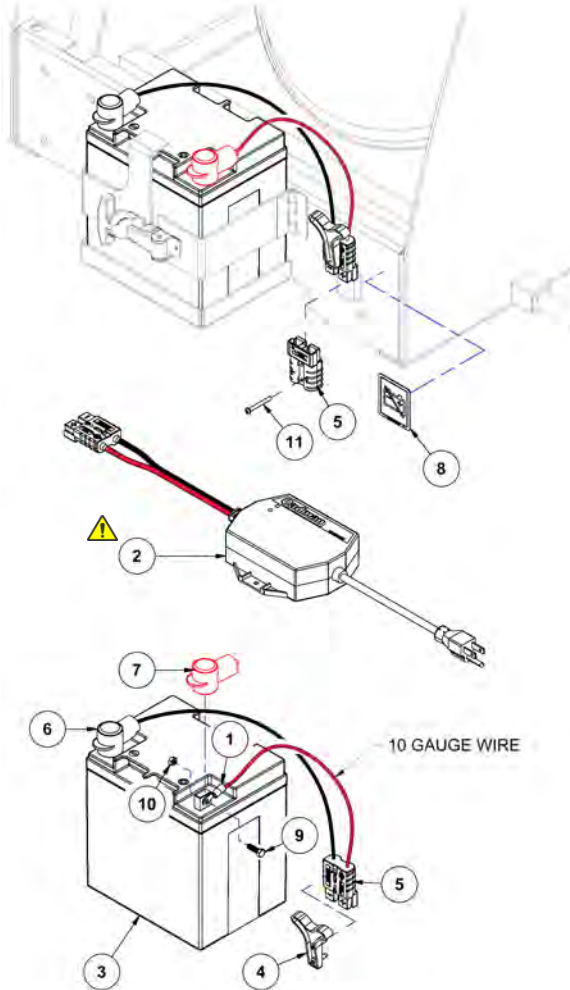




## Control Panel

Item	Description	Part Number	Qty
1	PANEL - GAUGE	33-409-A	1
2	COVER - SWITCH	33-423	1
3	POTENTIOMETER - 10K	33-617	1
4	HOSE - 3/8" BLACK POLYETHYLENE	40-HHZ-0167	7
5	ADAPTER - 1/4-NPT-M X 3/8 TUBE	40-NPT-PL025X038	1
6	ADAPTER - 1/4-NPT-M X 3/8 TUBE X 90°	40-NPT-PL025X038X90	1
7	SWITCH - EMERGENCY STOP	42-268	1
8	KNOB - SPEED CONTROL	42-308	1
9	GAUGE - BATTERY FUEL	42-312	1
10	LABEL - CONTROL	42-LBL-006-A	1
11	GAUGE - 0-160 PSI WET	45-059	1
12	GAUGE CLAMP ASSEMBLY	45-060	1
13	BOLT - 1/4-20 X 3/4	90-BLT-02520X075	3
14	NUT HEX - #06-32	90-NUT-HEX006-32	2
15	THREADED INSERT - 1/4-20 SHORT	90-NUT-HTR02520S Ⓞ	3
16	SCREW MACHINE - 6-32 X 5/8 PAN PHILLIPS	90-SCR-PHP006-32X063	2
17	WASHER SAE - 1/4	90-WSR-SAE025	3
18	WIRING HARNESS <i>(NOT SHOWN) SEE PAGE 46</i>	42-331	1

## Power Supply System



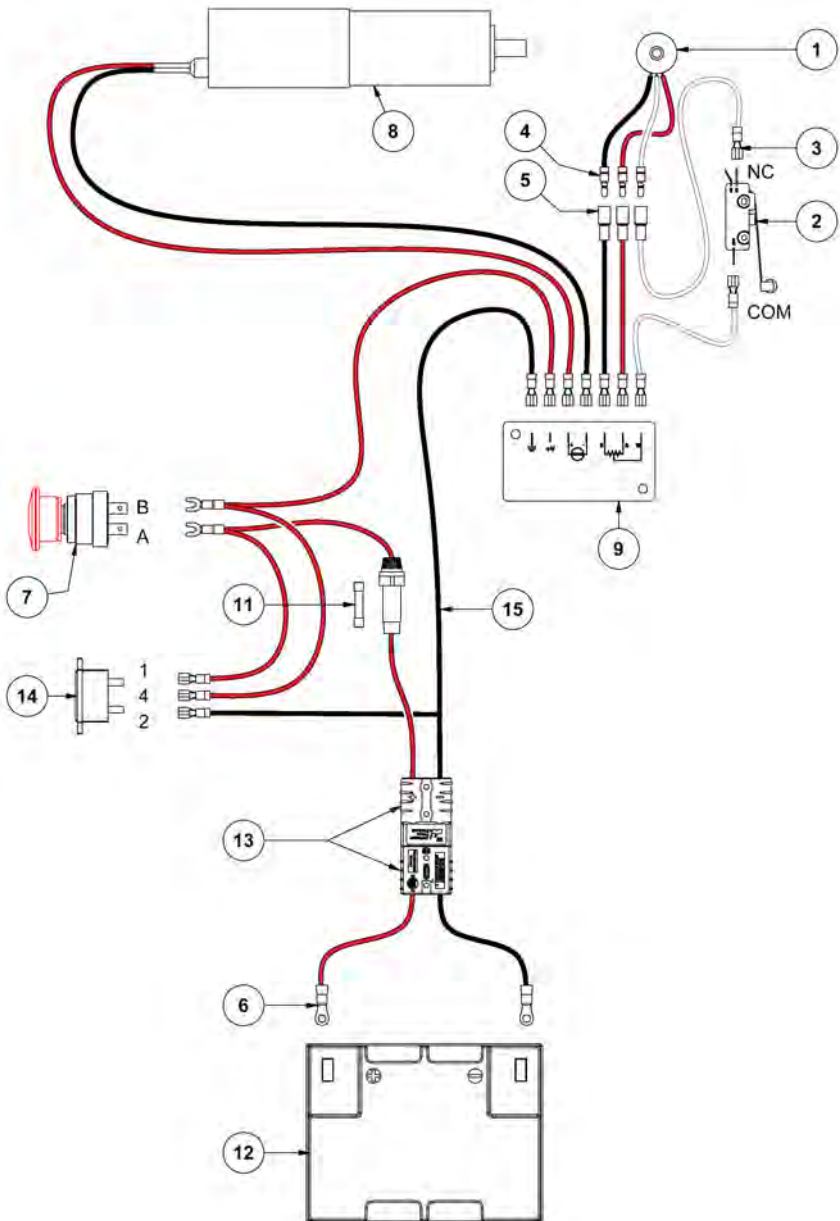
**WARNING:**

Never Connect Battery Charger directly to machine. Connecting the charger to the machine **WILL** result in equipment damage and potential for personal injury. Fire may also occur resulting in equipment/property damage.





### Wiring Assembly

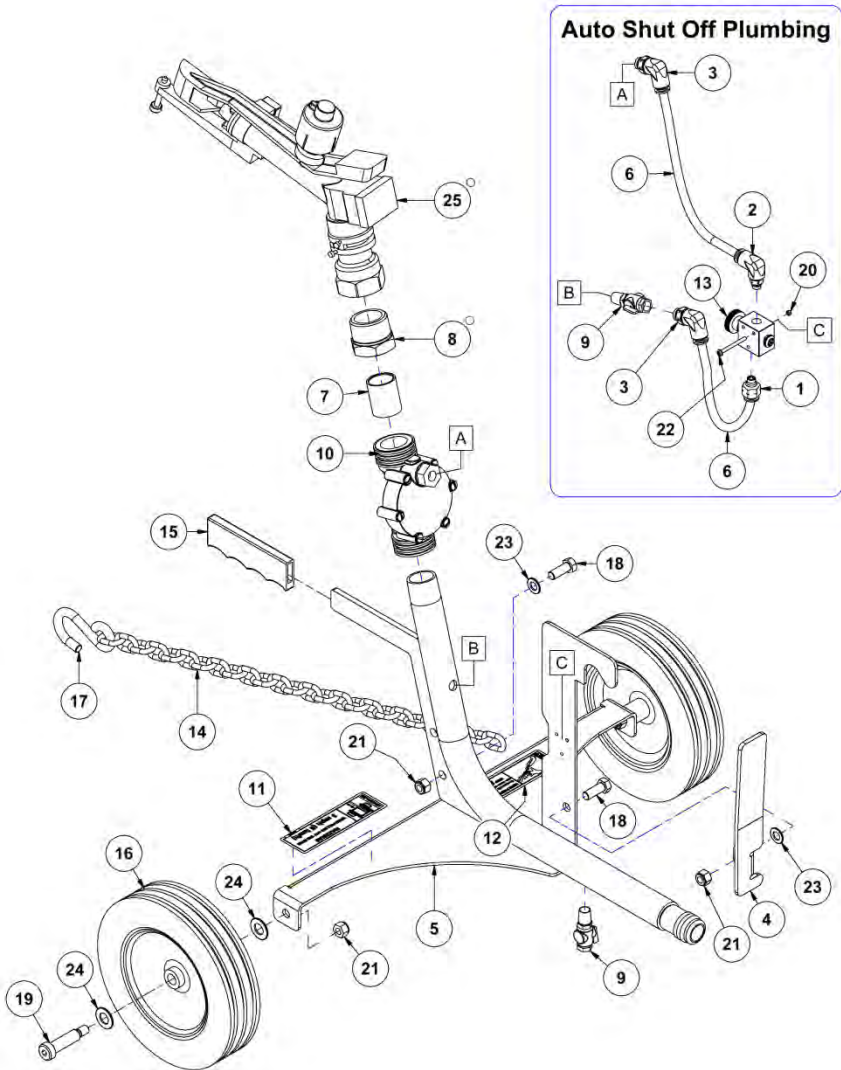








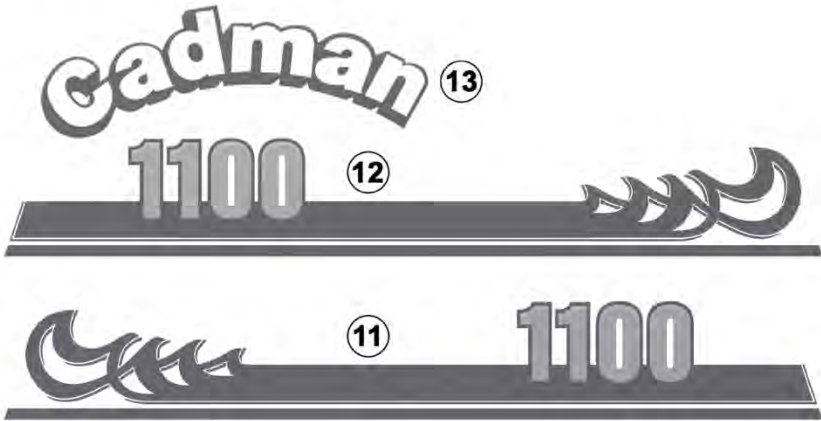
## Sprinkler Cart Assembly







Decals



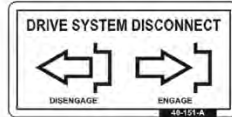
10



4



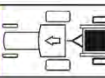
3



1



**CAUTION**



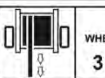
**MAXIMUM TOWING SPEED**  
10 mph (16 km/h)

5

2



**IMPORTANT**



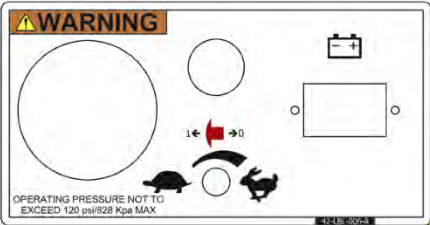
**MAXIMUM WHEN PULLING OUT THE HOSE**  
3 mph (5 km/h)

6

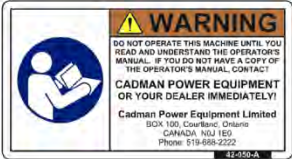
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9



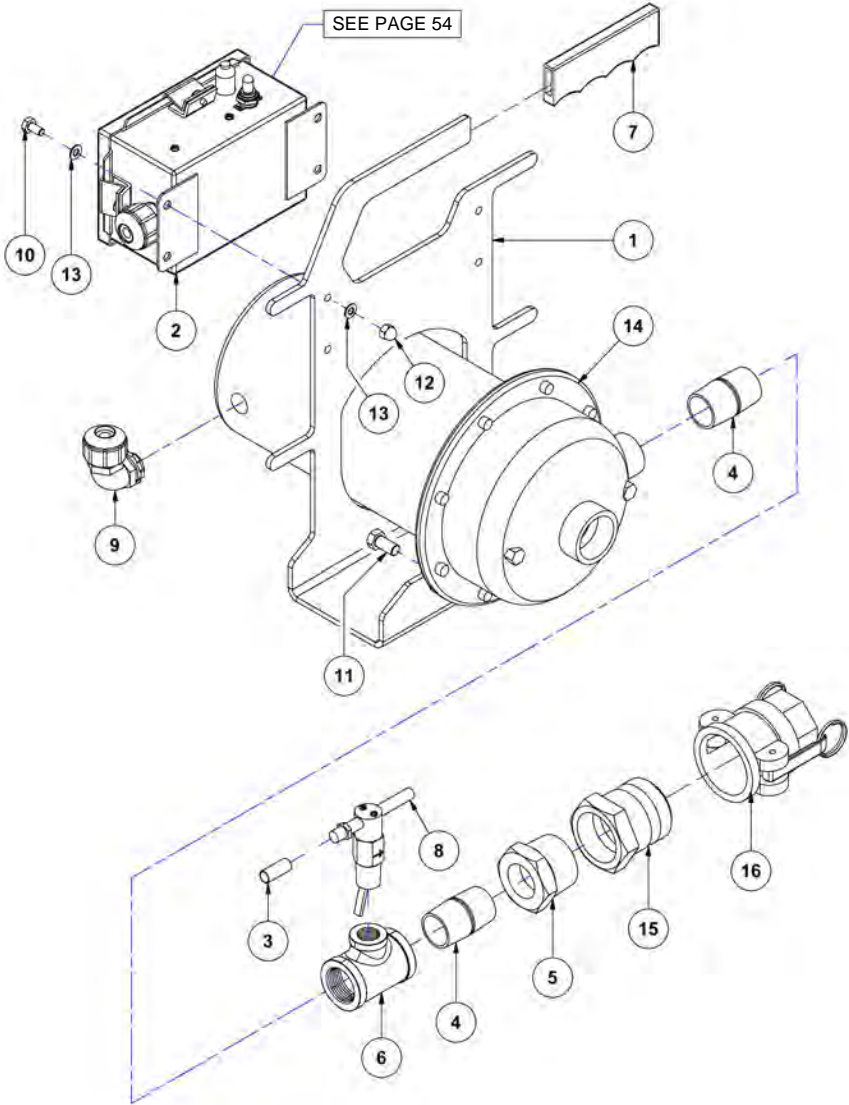
8







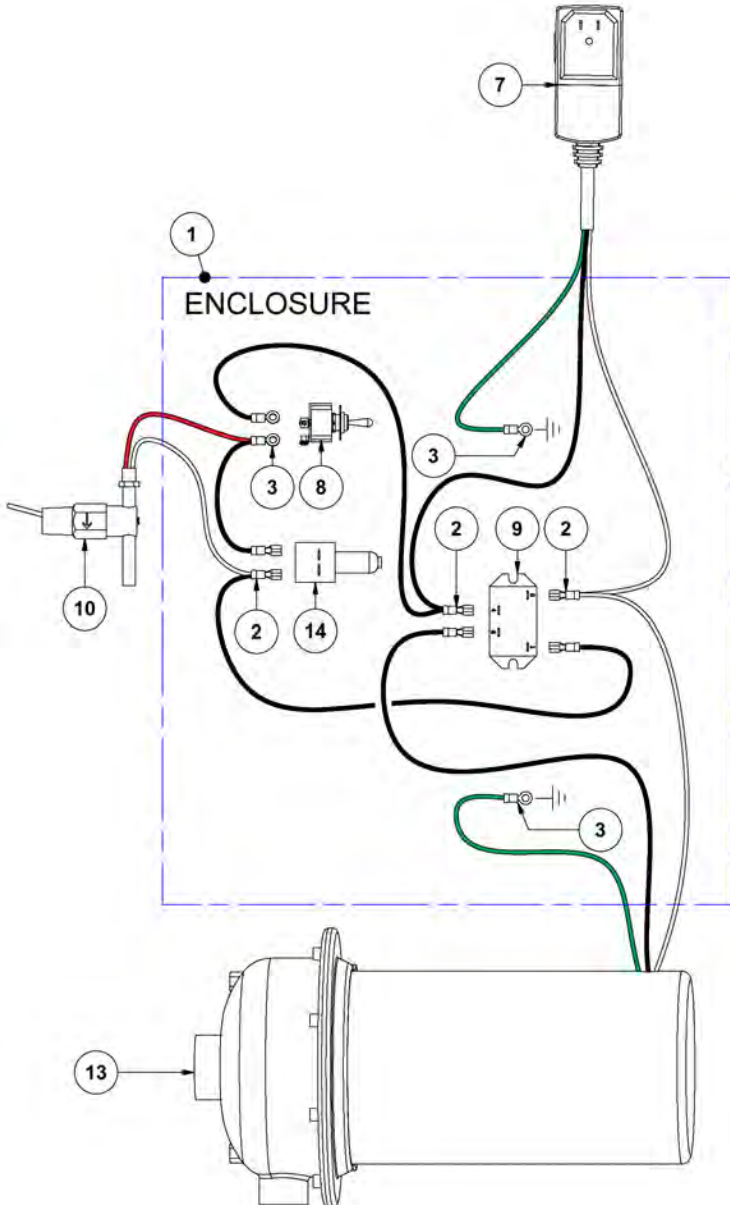
## Booster Pump ○







### Booster Pump Wiring ○







## Required Maintenance

Prevention of mechanical failure is the goal of any good maintenance schedule. The secret to preventing unwanted down time is to adhere to a maintenance schedule suited to the way you use the equipment. Your maintenance schedule should include the following minimum requirements:



**ONLY perform maintenance when the machine is shut down with the battery removed and is in a non-loaded condition. This means that no water is being pumped through the reel, all water pressure has been appropriately bled, and all mechanical tension has been released from the hose rewind system.**

### Each Use



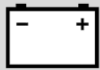
Maintenance Item	Figure	Procedure
Visually inspect equipment		Walk around the unit and inspect for loose, missing or damaged items. Replace missing or damaged items and tighten loosened items.
Lubricate the following	Figure 33	<ul style="list-style-type: none"> <li>• Indexer chain</li> <li>• Gear box</li> <li>• Wheel axles on main chassis</li> <li>• All grease points</li> </ul>
Maintain tire pressure		Using a tire pressure gauge, check the pressure of each tire and add or remove air to achieve the manufacturer's recommended pressure posted on the tire sidewall. <b>⚠ DO NOT LOWER TIRE PRESSURE BELOW THE RECOMMENDED LEVEL. A lower pressure than the recommended pressure could result in the tire separating from the rim.</b>
Check battery level		Check battery level to ensure there is enough charge to complete the required cycles.

Table 3 - Required Maintenance - Each Use

### Every 100 Hours

Maintenance Item	Figure	Procedure
Adjust, if necessary, the tension of the drive and indexer chain	Figure 32 & Page 59	Remove protective shield. The indexer chain is properly tensioned when it has no visible slack. Adjustments are made by moving the idler wheel (rub block) towards the chain. Replace the shield before operating this machine.
Lubricate the following	Figure 33	<ul style="list-style-type: none"> <li>• Indexer chain</li> <li>• Gear box</li> <li>• Wheel axles on main chassis</li> <li>• All grease points</li> </ul>

Table 4 – Every 100 Hours of Use

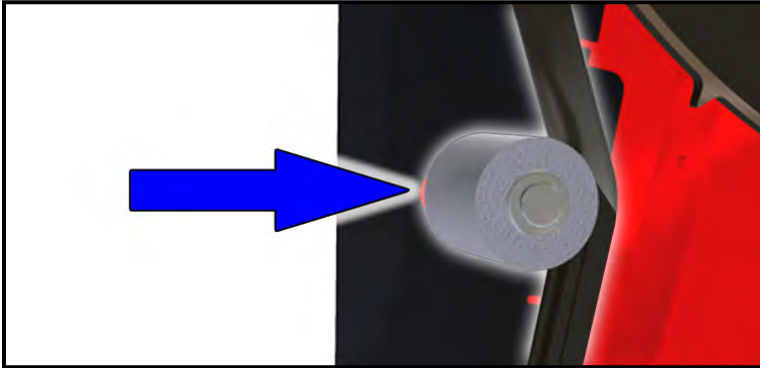


Figure 32 - Adjust Drive Chain

img-00469

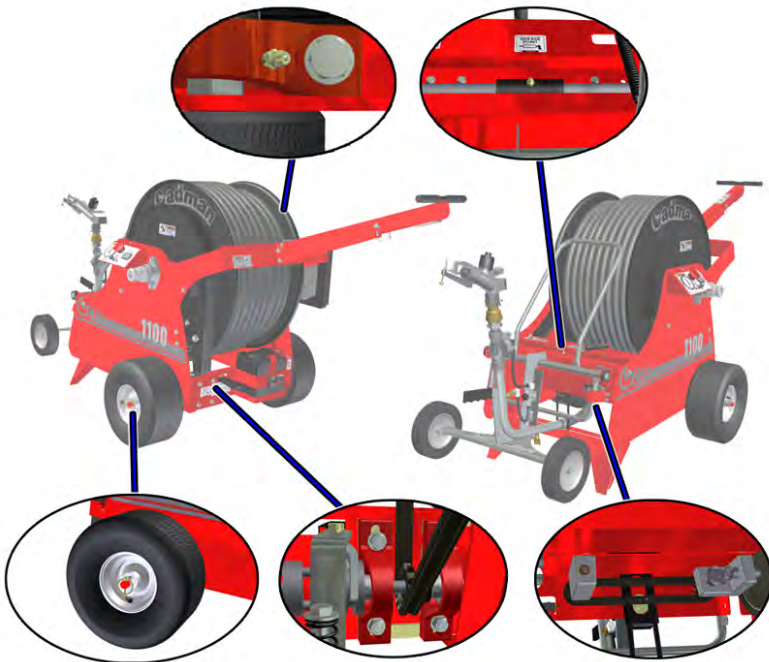


Figure 33 - Lubrication Points

img-00468

### Before Storing



You **MUST** properly empty your Cadman Mini-Traveller before storing the machine for long periods of time. Failure to properly clean out the hose could result in the hose being plugged with sediment.


Maintenance Item	Figure	Procedure
Drain the traveller	N / A	For cold climates you must winterize your equipment. All liquid must be drained from the machine. Open the sprinkler cart drain fully. Use compressed air to purge the machine. For further information contact Cadman Power Equipment Limited or your dealer.
Lubricate the following	Figure 33	<ul style="list-style-type: none"> <li>• Indexer chain</li> <li>• Gear box</li> <li>• Wheel axles on main chassis</li> <li>• All grease points</li> </ul>
Remove battery		Remove battery from your equipment and store as per manufacturer's specifications.
Cap all openings	N / A	Once the machine is drained, cap all openings such as water inlet and sprinkler nozzle. This will prevent insects or rodents from blocking the system with debris.

Table 5 - Required Maintenance – Before Storing

### Before Start Up (After long term storage)





Maintenance Item	Figure	Procedure
Review Operator's manual		Review this manual to refresh your memory regarding the proper operation of this machine. This will reduce the potential for equipment damage and user injury.
Charge battery		Charge battery before putting your equipment into service. This will ensure desired operating results.
Maintain tire pressure		Using a tire pressure gauge, check the pressure of each tire and add or remove air to achieve the manufacturer's recommended pressure posted on the tire sidewall.  <b>DO NOT LOWER TIRE PRESSURE BELOW THE RECOMMENDED LEVEL. A lower pressure than the recommended pressure could result in the tire separating from the rim.</b>

Table 6 - Required Maintenance - After Long Term Storage

### Lubricants

**Grease:** Any good grade multi-purpose, waterproof grease is compatible with the greasing requirements of your Cadman Mini-Traveller.

## Indexer Adjustment Instructions

In some cases indexer adjustment may be required. If required simply complete the following instructions to achieve proper indexer adjustment.



**Only perform the indexer adjustment procedure when the hose is pulled out to the base layer. If there are spaces in the base layer you will be required to tighten the coils so that they form a neatly packed spool. Rotate the drum if necessary. In some cases the indexer may not be out of adjustment and will not require any adjustments. If the indexer is still out of alignment continue with the instructions below.**

### Step 1

Remove the indexer chain guard.



Figure 34 - Remove Chain Guard

img-00470

### Step 2

Remove the chain connector link, and then remove indexer chain.

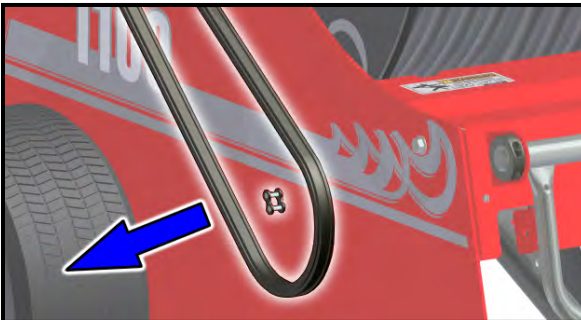


Figure 35 - Remove Indexer Chain

img-00471

### Step 3

Rotate the indexer sprocket until the hose guide is lined up with the hose. Make sure that the hose is directly in the center of the hose guide.

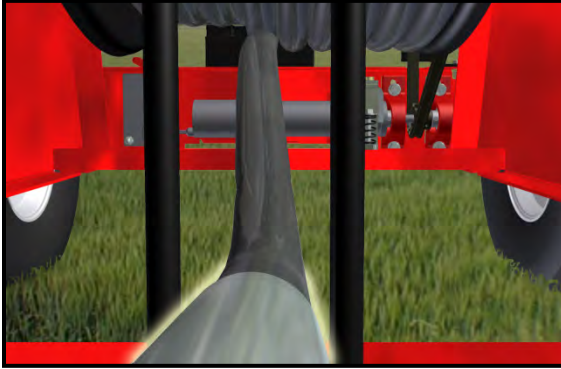


Figure 36 - Align Hose Guide

img-00460



It is **IMPORTANT** that the hose guide is traveling in the same direction as the hose. When rotating the indexer sprocket note the direction of travel for the hose. If the hose guide travels opposite to the hose, equipment damage **WILL** occur.

### Step 4

Re-install the chain and chain connector link.

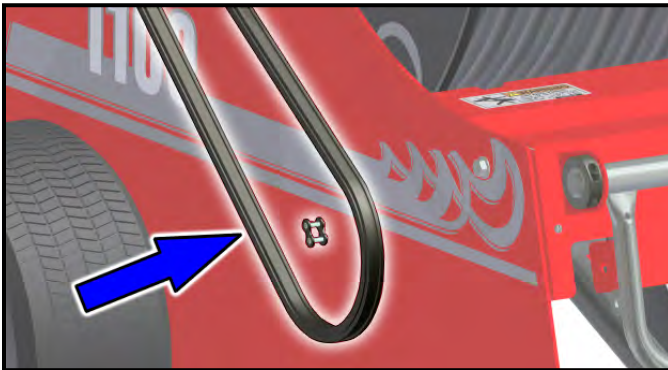
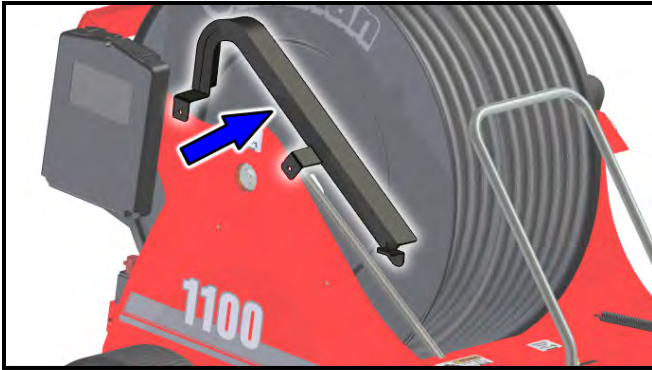


Figure 37 - Re-install Chain and Chain Connector Link

img-00472

### Step 5

Re-install the indexer chain guard.



*Figure 38 – Re-install Indexer Chain Guard*

*img-00473*



**DO NOT** operate this machine without all guards properly installed. Failure to have guards properly installed may result in serious injury to you and/or spectators.

**Appendix A – Sprinkler Data**



1100 Model

SIME – Funny								
PSI	Nozzle 5 mm		Nozzle 6 mm		Nozzle 7 mm		Nozzle 9 mm	
	GPM	DIA.	GPM	DIA.	GPM	DIA.	GPM	DIA.
22	5.3	82'	7.4	85'	9.8	91'	16.4	98'
29	5.8	88'	8.5	95'	11.1	98'	18.8	108'
44	7.1	98'	10.3	108'	13.7	111'	23.0	121'
59	8.5	108'	11.9	114'	15.9	121'	26.4	128'

Table 7 - SIME – Funny (U.S. units) †



1250 Model

SIME – K1								
PSI	Nozzle 8 mm		Nozzle 9 mm		Nozzle 10 mm		Nozzle 12mm	
	GPM	DIA.	GPM	DIA.	GPM	DIA.	GPM	DIA.
22	12.9	102'	16.4	108'	20.1	112'	29.1	112'
29	15.1	112'	18.8	115'	23.3	118'	33.6	125'
44	18.2	125'	23.0	128'	28.3	135'	41.0	138'
59	21.1	135'	26.4	138'	32.8	144'	47.3	154'

Table 8 - SIME – K1 (U.S. units) †

† Table Data taken from manufacturer's literature and depict ideal testing conditions. Pressure (PSI) refers to pressure at nozzle. For every 3° drop of the trajectory angle the throw is reduced by approximately 3 to 4%. Data may change without notice.



## Technical Specifications

Approximate 1100 / 1250 Mini-Traveller Dimensions

**IMPORTANT:** The dimensions shown on the following pages are only approximate. Many varying factors affect these dimensions, for example tire option, hose type, tire inflation etc.

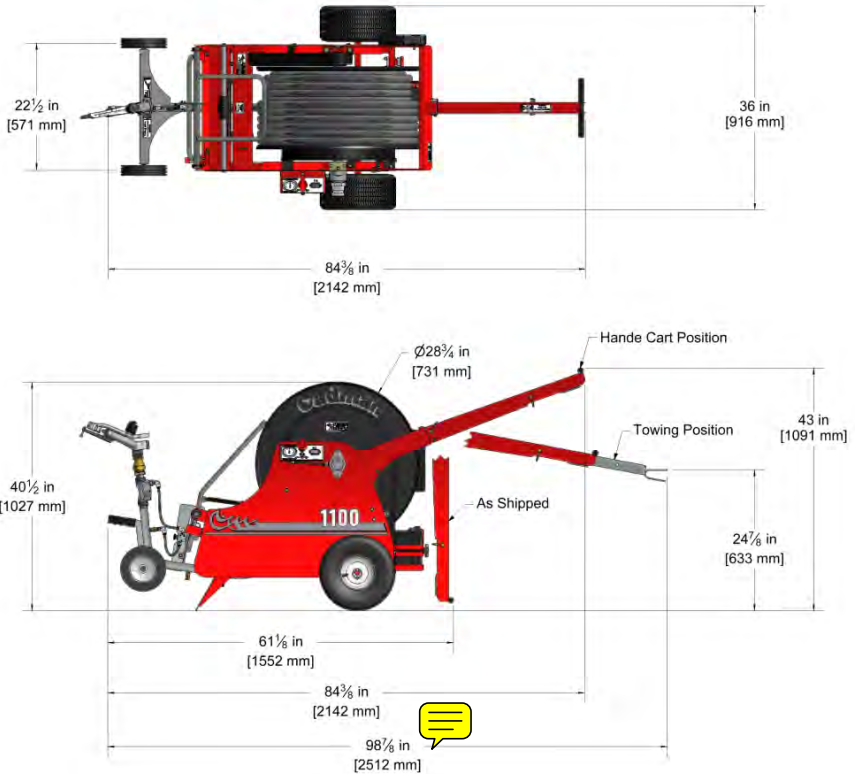


Figure 39 - Overall Dimensions

img-00454

The approximate weight for an empty Cadman 1100 Mini-traveller is 400 lbs [181.5 kg].  
 The approximate weight for an empty Cadman 1250 Mini-traveller is 410 lbs [186.0 kg].

*Note: These weights are as shipped including shipping material.*

**Useful Information**

**Length**

<b>1 FOOT</b>	= 12 = 0.3048	Inches Meter	<b>1 METER</b>	= 39.37 = 3.2808	Inches Feet
<b>1 ROD</b>	= 0.3048 = 16.5 = 5.5 = 5.03	Meter Feet Yards Meters	<b>1 MILE</b>	= 5280 = 1760 = 320 = 1609	Feet Yards Rods Meters

**Area**

<b>1 SQUARE FOOT</b>	= 144 = 0.0929	Square Inches Square Meters
<b>1 SQUARE YARD</b>	= 1296 = 0.8361	Square Inches Square Meters
<b>1 SQUARE METER</b>	= 1549.4 = 10.764	Square Inches Square Feet
<b>1 ACRE</b>	= 43560 = 4047 = 0.4047	Square Feet Square Meters Hectare
<b>1 HECTARE</b>	= 107642.62 = 10000 = 2.47105	Square Feet Square Meters Acres
<b>1 SQUARE MILE</b>	= 640 = 259	Acres Hectares

**Volume**

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

**AREA OF A CIRCLE** = Diameter<sup>2</sup> X 0.7854

**CYLINDER VOLUME (US GAL.)** = Diameter<sup>2</sup> X 0.7854 X Length