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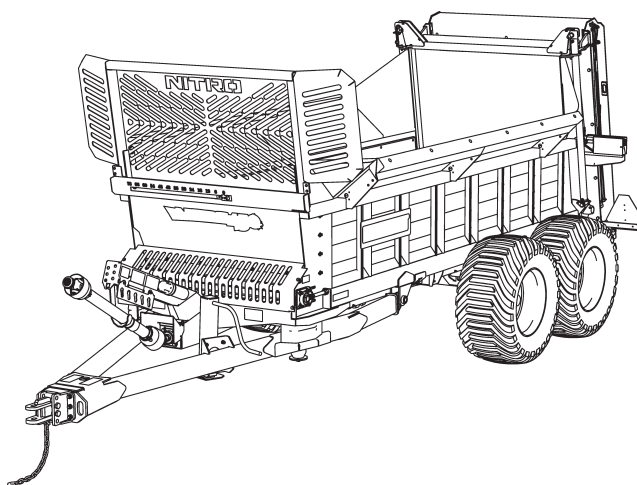
Quick Start Guide

Keep this manual with the machine at all times.



Manure Spreader Option

Athene SL2 Scale



Do not attempt to operate this machine without thoroughly reviewing this manual for safe and proper operation.

Quick Start Guide

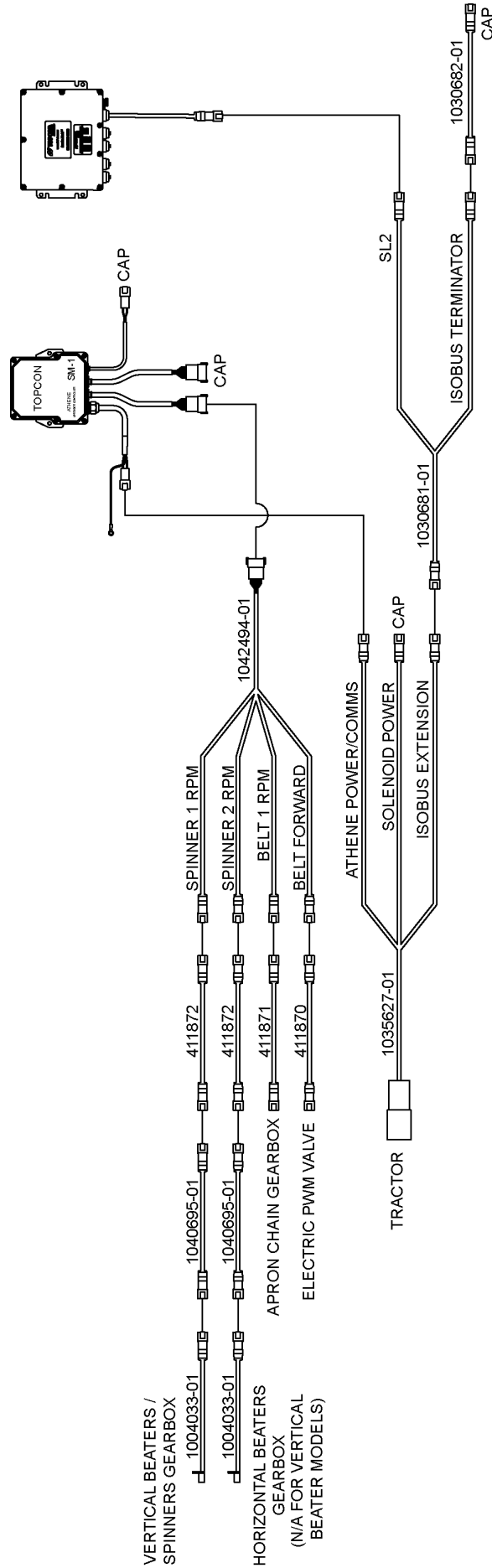
Thank you for choosing the Athene SL2 Scale system for your Tubeline manure spreader. We know that it will give you many years of productive service. This system is designed to ensure consistent material application and provide information about your spreading jobs. Please read and understand this manual and the machine before operating.

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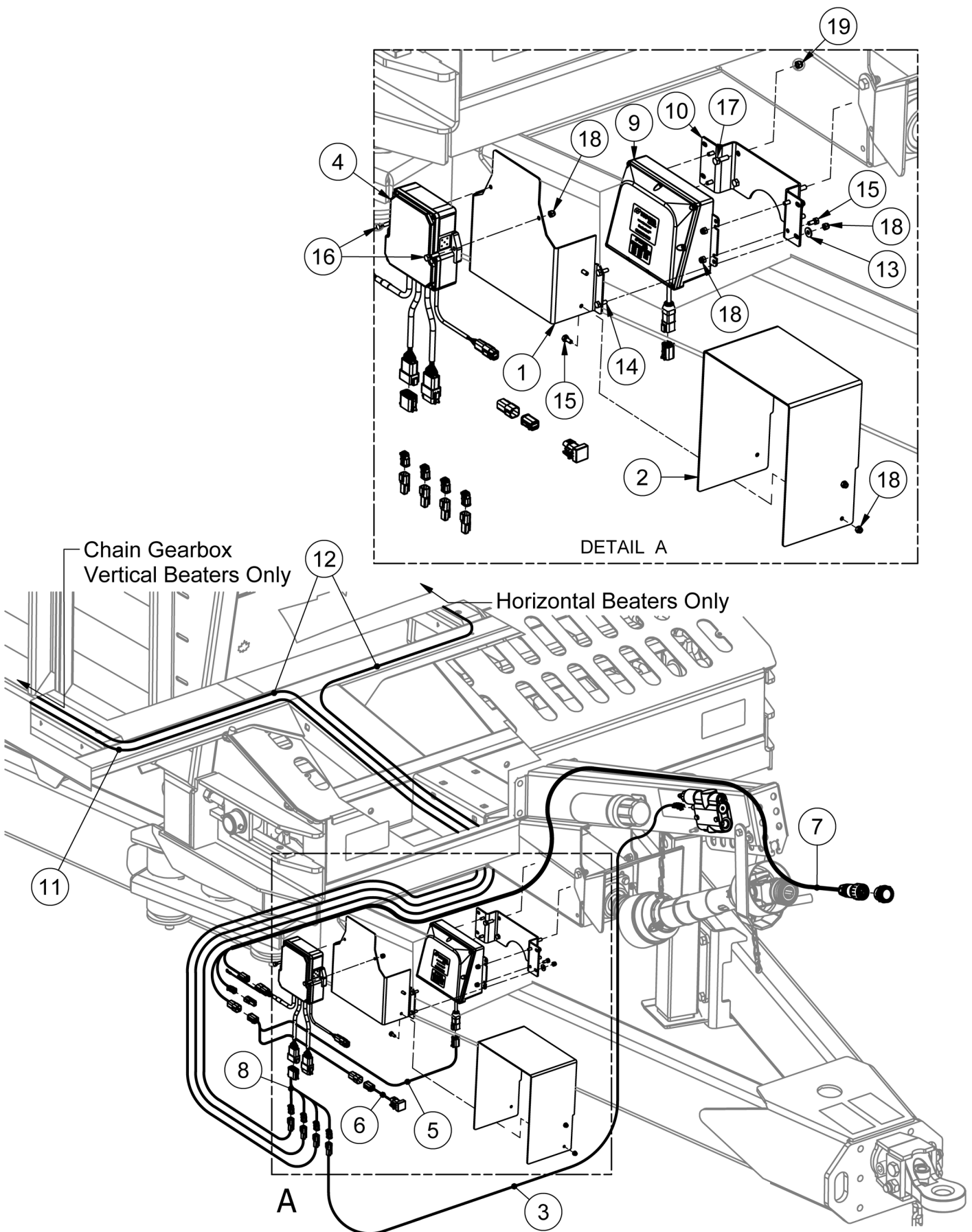
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Section 1: Athene SL2 Parts

Athene SL2 Wiring Connections



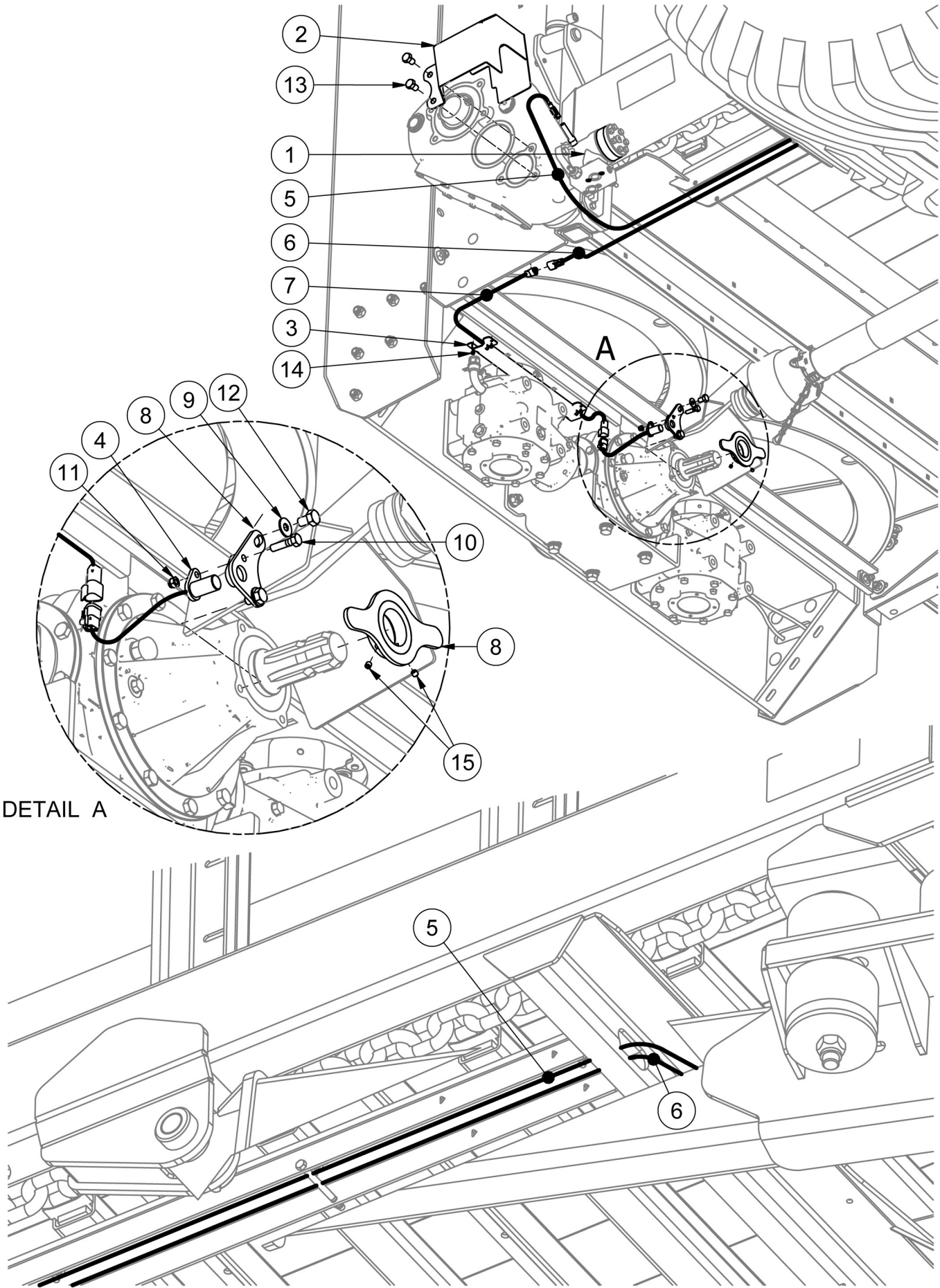
Athene SL2 Parts - Front



Athene SL2 Parts - Front

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	45491	Athene SL2 Mount
2	1	45626	Athene Cover ASM
3	1	48060	Hrns - Belt Fwd Pwm Ext 10M for Athene System
4	1	48064	ECU, Athene Module, Spreader Ctrl for Athene System
5	1	48065	Hrns Athene SL2 Interface for Athene System
6	1	48066	Hrns Athene Isobus Terminator for Athene System
7	1	48067	Hrns Athene Power/Comms 7.5M for Athene System
8	1	48068	Hrns Athene 1.8m Single Sys/Dual Spinner for Athene System
9	1	48070	SL2210 ISO 8TB/R/S for Athene System
10	1	49258	Athene SL2 Stand Off Mount
11	1	48061	Hrns - Athene Belt RPM EXT 10M for Athene System
12	2	48062	Hrns - Athene Spinner RPM EXT 10M for Athene System
13	4	FW 1/4	Flatwasher - 1/4" Zinc Plated USS
14	4	HB1/4-20X0.75Z5	Hex Bolt 1/4-20x3/4 Grade 5 Zinc Plated Hex Cap Screw
15	7	HB1/4-20X0.625Z5	Hex Bolt 1/4-20x5/8 Grade 5 Zinc Plated Hex Cap Screw
16	2	HB1/4-20X1Z5	Hex Bolt 1/4-20x1 Grade 5 Zinc Plated Hex Cap Screw
17	4	HB5/16-18X1Z5	Hex Bolt 5/16-18x1 Grade 5 Zinc Plated Hex Cap Screw
18	14	LN1/4-20NCZ5	LN 1/4-20 Zinc Plated Nylon Insert Lock Nut
19	6	LN5/16-18NCZ5	LN 5/16-18 Zinc Plated Nylon Insert Lock Nut

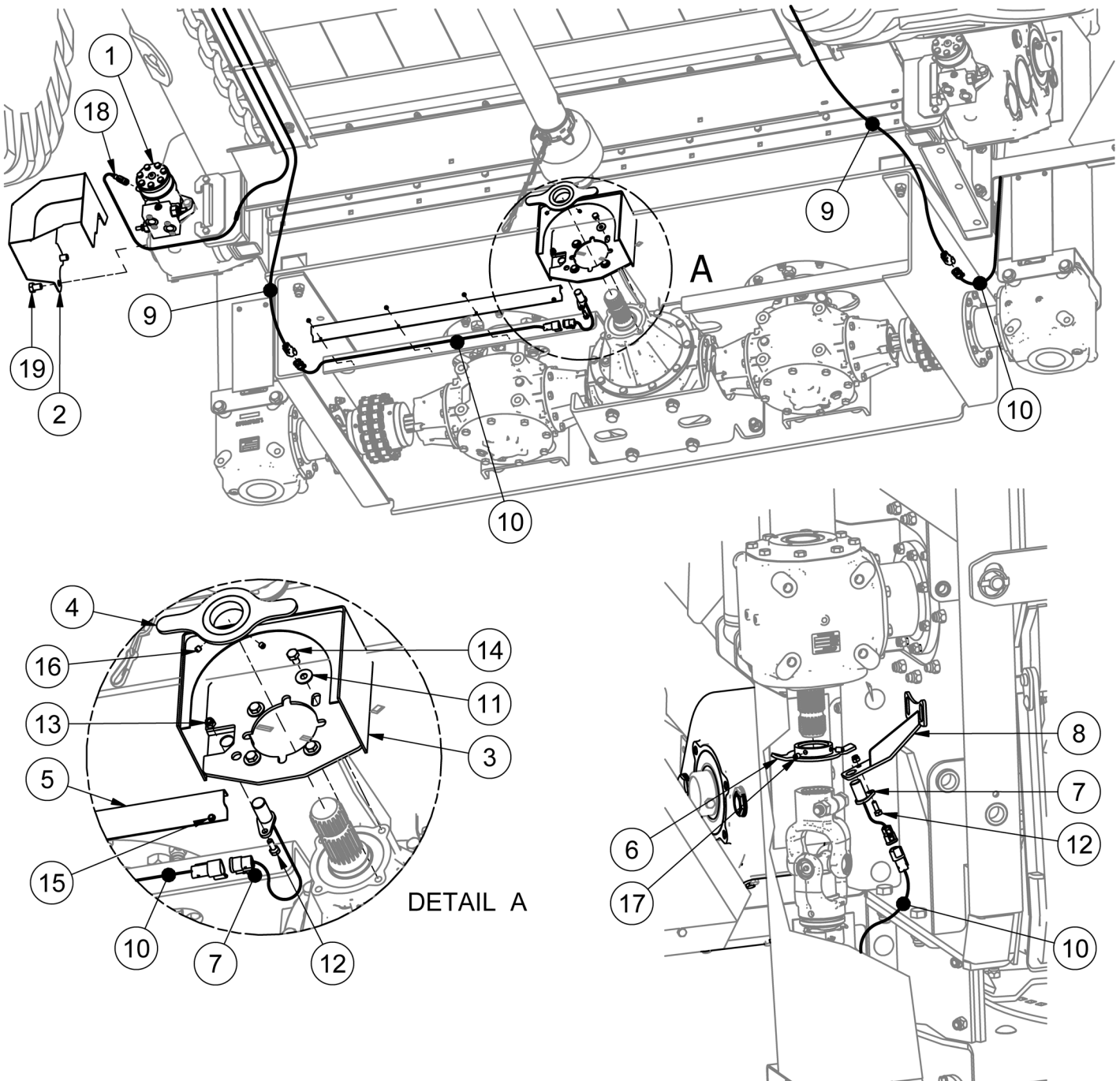
Athene SL2 Parts - Vertical Beaters



Athene SL2 Parts - Vertical Beaters

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	40718	HP 160cc Hyd Motor w/ Speed Sensor and Relief Valve
2	1	42415	Sensor Shield
3	1	43111	Wire Guard
4	1	46648	Sensor Hall Effect Proximity Deutsch for Athene System
5	1	48061	Hrns - Athene Belt RPM EXT 10M for Athene System
6	1	48062	Hrns - Athene Spinner RPM EXT 10M for Athene System
7	1	48069	Hrns - Athene Spinner RPM EXT for Athene System
8	1	50212	BG140 Athene Sensor Mount Kit
9	2	FW 5/16	Flatwasher - 5/16" Zinc Plated USS
10	1	HB5/16-18X1.25Z5	Hex Bolt 5/16-18x1 1/4 Grade 5 Zinc Plated Hex Cap Screw
11	1	LN1/4-20NCZ5	LN 1/4-20 Zinc Plated Nylon Insert Lock Nut
12	2	M10X16X1.5	Metric Bolt
13	2	M14X20X2	Metric Bolt
14	4	MS 8 X 0.25 SDS	Machine Screw - 3/16 x 1/4 Hex Washer Head Self Drilling Screw Zinc
15	2	SS1/4-20CX0.25CP	Allan Head Set Screw, 1/4-20 x 1/4

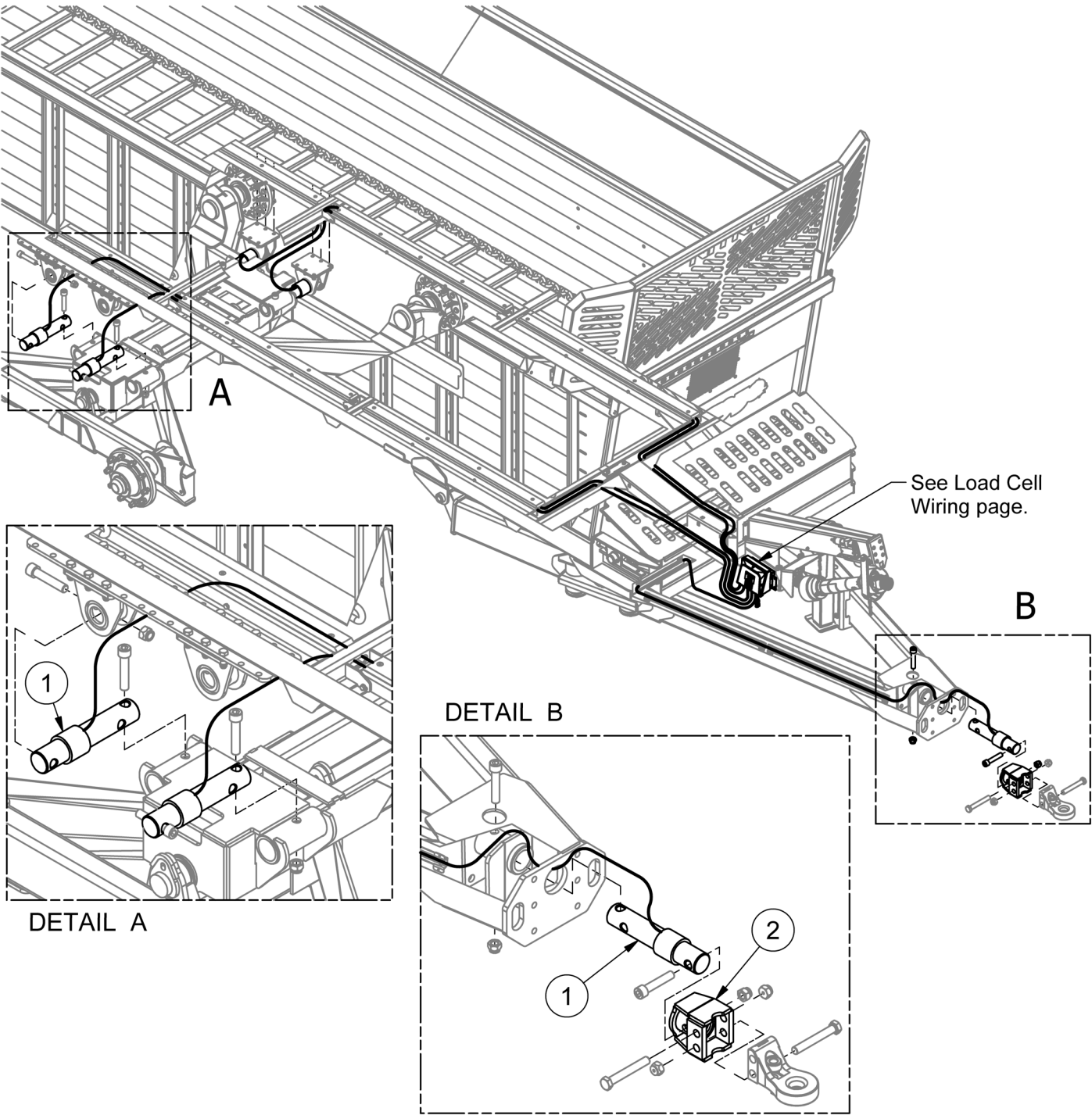
Athene SL2 Parts - Horizontal Beaters



Athene SL2 Parts - Horizontal Beaters

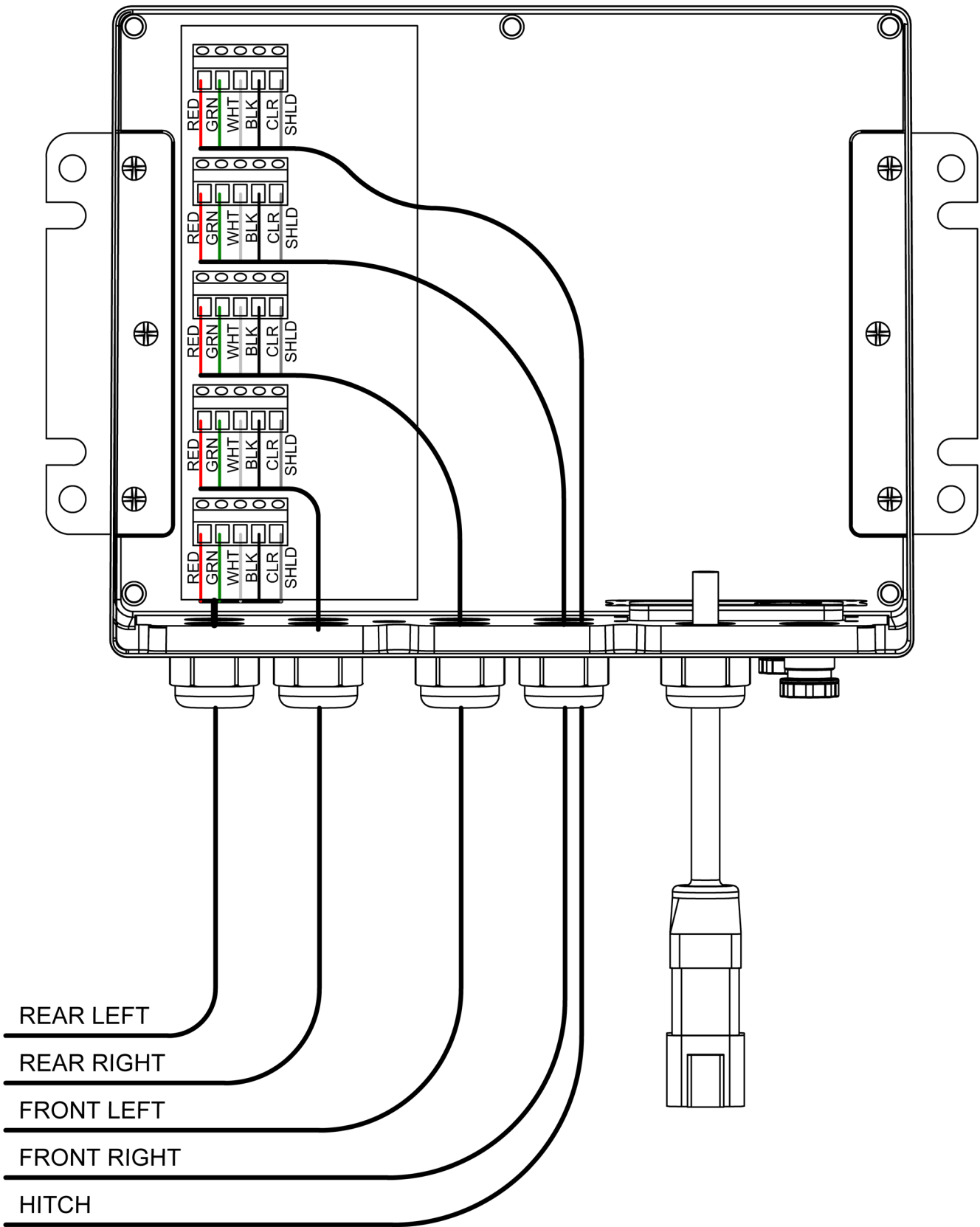
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	40718	HP 160cc Hyd Motor w/ Speed Sensor and Relief Valve
2	1	42415	Sensor Shield
3	1	45480	Sensor Cover
4	1	45650	Spinner Speed Detector ASM
5	1	45659	Cable Protector
6	1	46363	Beater Speed Detector
7	2	46648	Sensor Hall Effect Proximity Deutsch for Athene System
8	1	46651	Mounting Bracket
9	2	48062	Hrns - Athene Spinner RPM EXT 10M for Athene System
10	2	48069	Hrns - Athene Spinner RPM EXT for Athene System
11	4	FW 5/16	Flatwasher - 5/16" Zinc Plated USS
12	2	HB1/4-20X0.75Z5	Hex Bolt 1/4-20x3/4 Grade 5 Zinc Plated Hex Cap Screw
13	6	LN1/4-20NCZ5	LN 1/4-20 Zinc Plated Nylon Insert Lock Nut
14	4	M8X14X1.25	Metric Bolt
15	4	MS 8 X 0.25 SDS	Machine Screw - 3/16 x 1/4 Hex Washer Head Self Drilling Screw Zinc
16	2	SS1/4-20CX0.25CP	Allan Head Set Screw, 1/4-20 x 1/4
17	2	SS5/16-18CX0.5CP	Allan Head Set Screw, 5/16-18 x 1/2
18	1	48061	Hrns - Athene Belt RPM EXT 10M for Athene System
19	2	M14X20X2	Metric Bolt

Athene SL2 Parts - Load Cells



ITEM	QTY	PART NUMBER	DESCRIPTION
1	5	48071	Cell - 2.875 DB-21 HT for Athene System
2	1	36241	Load Cell Hitch

Athene SL2 - Load Cell PCB Wiring



Section 2: Athene SL2 Quick Start Guide

Connect the manure spreader ISOBUS plug to the tractor ISOBUS plug. Press the power button to turn on the Athene monitor. **NOTE:** Display may vary from shown images but functionality is identical.



From Home Screen, press Cycle button to reach Settings Main Menu.

Valve Calibration

This procedure sets the minimum and maximum PWM to move the spreader apron chain.

NOTE: If you enter this area you MUST complete the full calibration to exit and retain the settings.

1. From the Settings Main Menu (Fig.1) select Factory/Channels/Valve Setup button (A). The Belt Valve Setup screen (Fig.2) summarizes the current valve settings.
2. Select Valve Auto Cal (B), set the engine to normal operating rpm and press **ENTER** (C) to start the calibration procedure (Fig.3).
3. With Min Duty (D) selected (highlighted green), by observing the Live Feedback rpm value (E), adjust the apron chain with % arrows (F) until it is on the threshold of moving.
4. Press **ENTER** to set the minimum PWM output.
5. With Max Duty (G) highlighted, increase the belt speed with % arrows (F) to the maximum it can go.
6. Press **ENTER** to set the maximum PWM output.

The Belt Valve Setup screen will now display a summary of the newly set values.

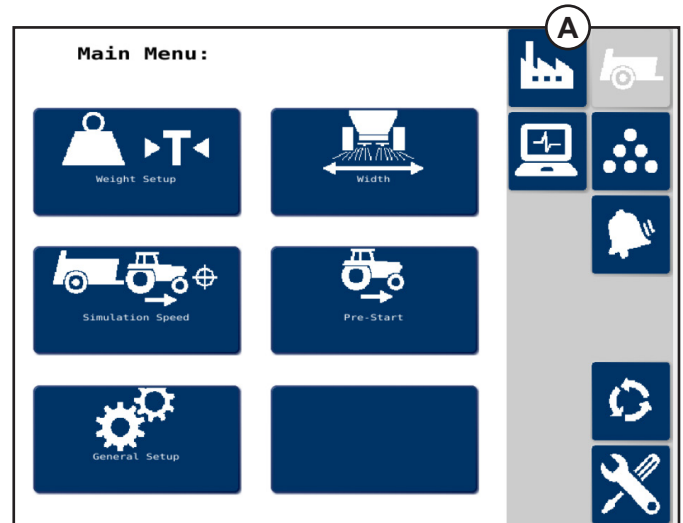


Fig.1

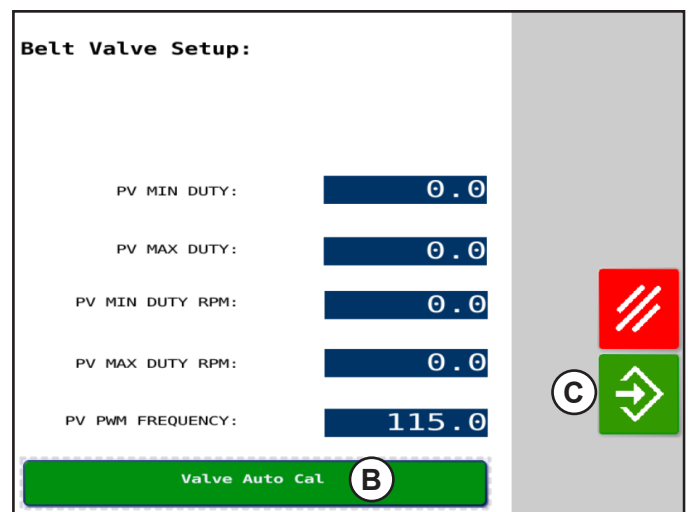


Fig.2

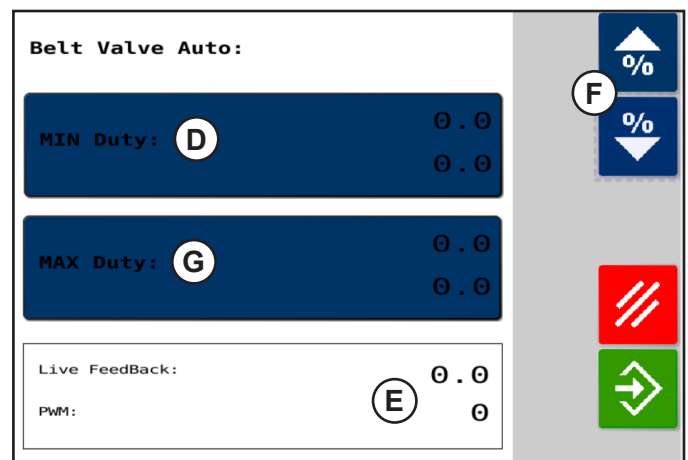


Fig.3

Width - Offset

Set the full working width of the spreader from your universal monitor. The set value can be viewed on the Athene screen by going to Settings Main Menu (Fig.1) selecting Width (A) to view Width screen (Fig.2).

Press Offsets (B) to view Geometry Offset page (Fig.3).

NOTE: These values should only be adjusted via the universal terminal.

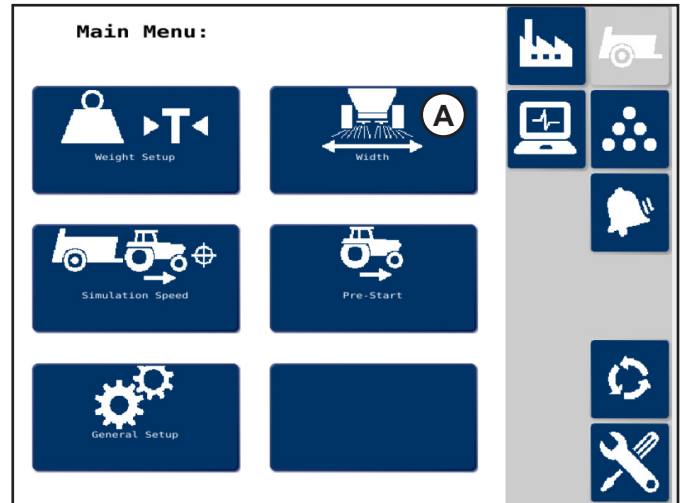


Fig.1

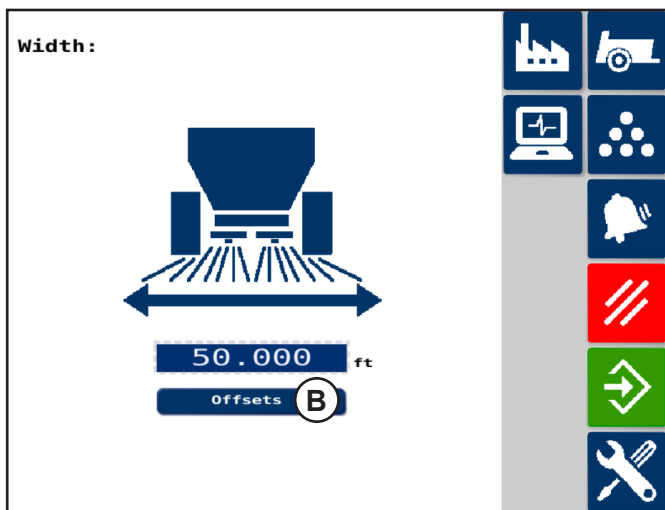


Fig.2

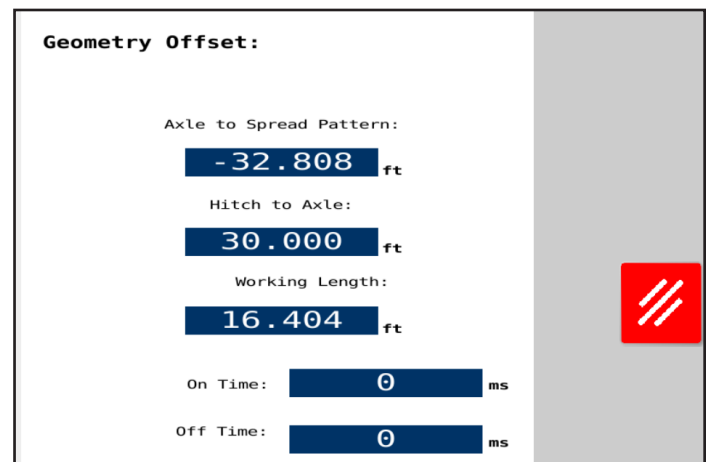


Fig.3

Product Type Setup

The system can store 10 different products with customizable names.

1. From the Settings Main Menu (Fig.1) screen, select Products (A).

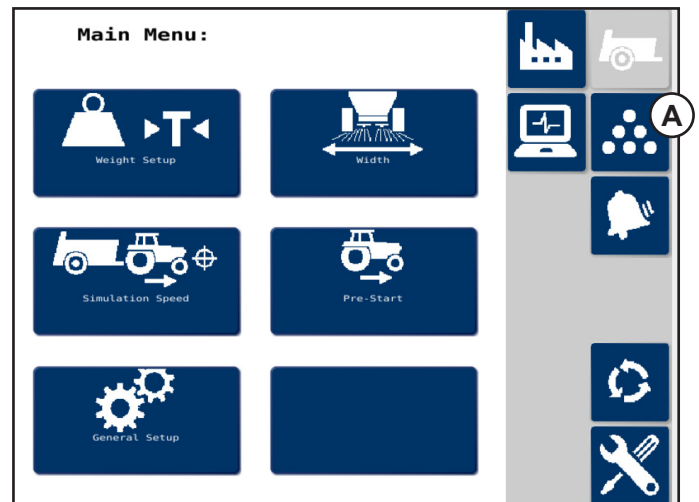


Fig.1

2. Select the Product button **(B)** and the left / right arrows **(C)** to change the selected product.
3. Select the product name to edit the name.
- Rate **(D)**: The rate at which the product is applied.
- T Factor **(E)**: This value is the amount of product spread from the unit per each revolution of the rear apron chain shaft.

Press **ENTER** to save changes and return to Settings Main Menu screen.

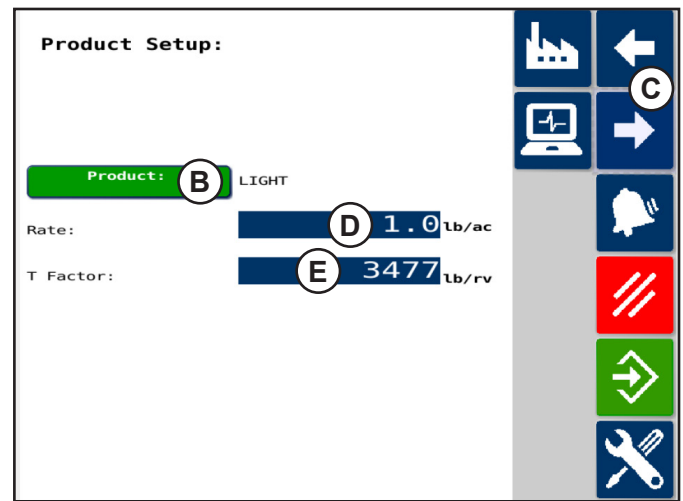


Fig.2

Spreading Operation - Athene

To spread product with the Athene controlled system:

1. Set Athene monitor to Home Screen (Fig.1).

NOTE: To ensure desired spread rate is maintained, ensure Chain Control **(A)** is set to **AUTO**. This will allow the application rate to be maintained by automatically adjusting the apron chain speed to match tractor speed measured via GPS. As a visual cue, the upper middle text will show either **MAN** or **DYN (B)** for AUTO mode.

2. Engage the rear beaters with tractor PTO control.
3. Bring engine up to operating RPM.
4. Extend cylinders until the endgate is opened to the desired height.
5. Turn on the tractor hydraulics used to start the apron chain.
6. Turn Master ON/OFF **(C)** to **ON**.
7. Start driving forward or engage cruise control and begin spreading product.

WARNING: Use ON/OFF button to stop chain after spreader fully unloaded to ensure T-factor value resets for the next load.

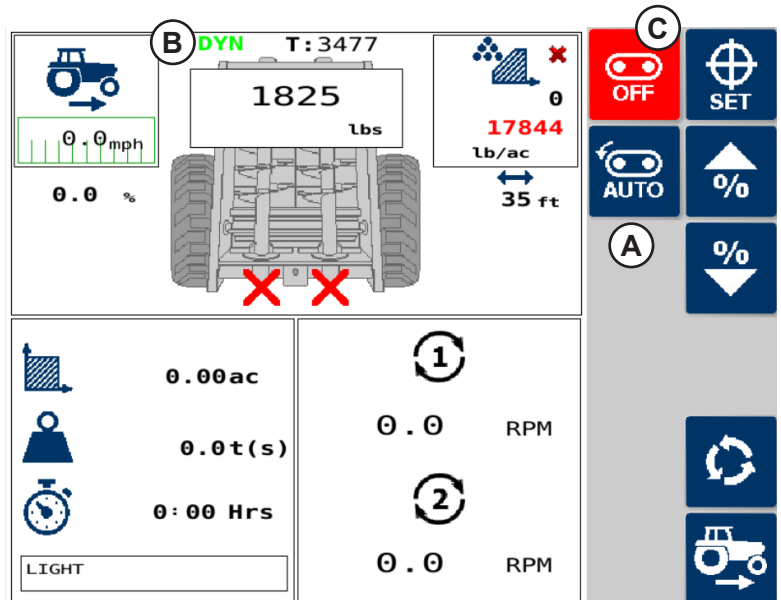


Fig.1

8. Lower endgate to fully closed position.
9. Disengage apron chain hydraulics.
10. Disengage beater PTO.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

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