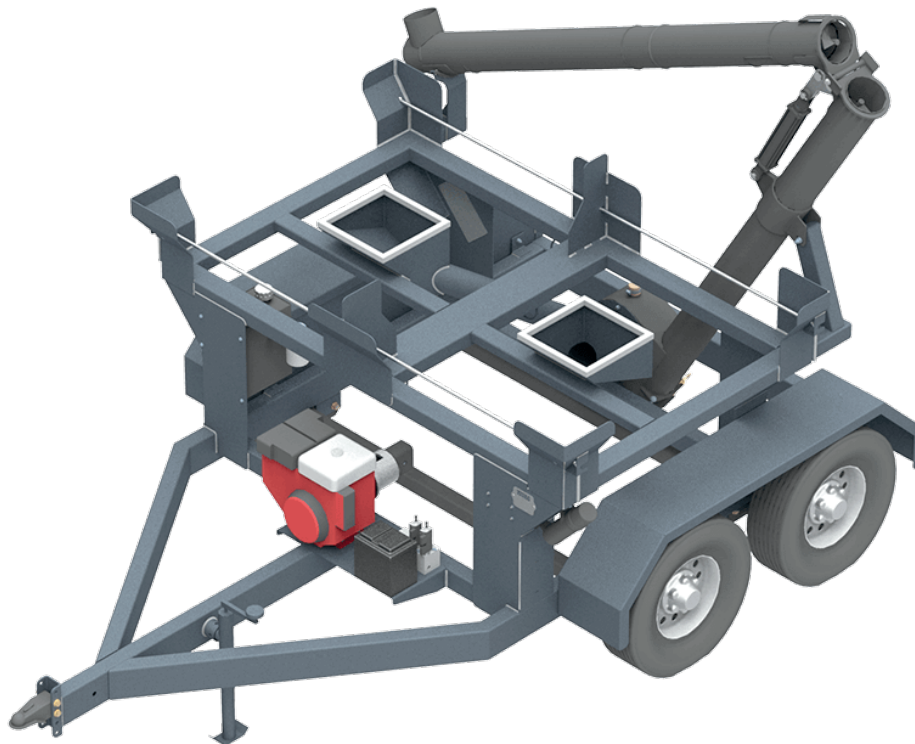


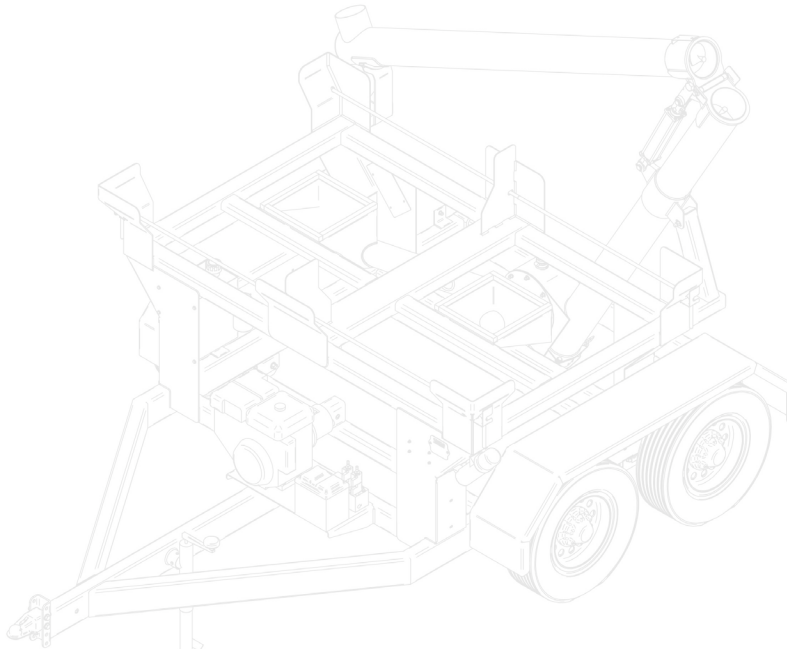


# DEFENDER SERIES SEED TENDERS



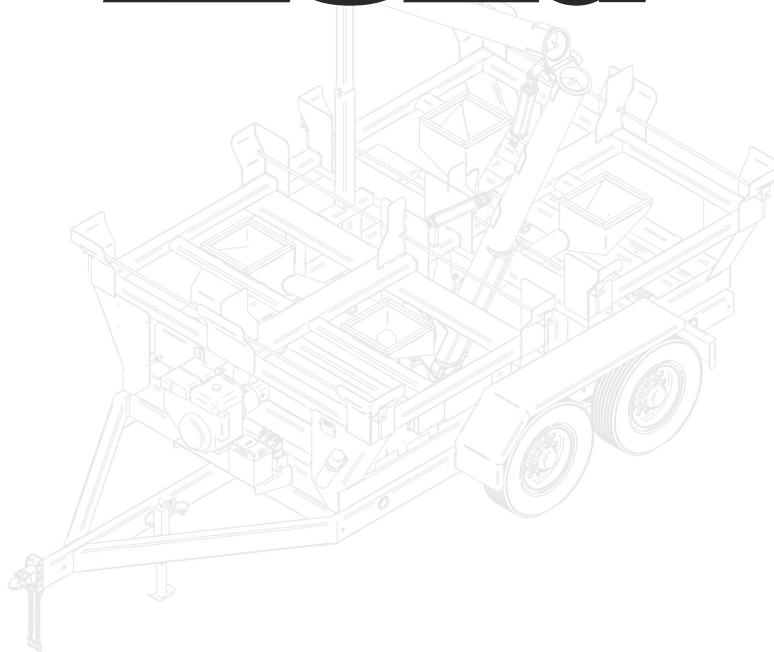
## OWNER'S MANUAL

SAFETY ■ OPERATION ■ MAINTENANCE

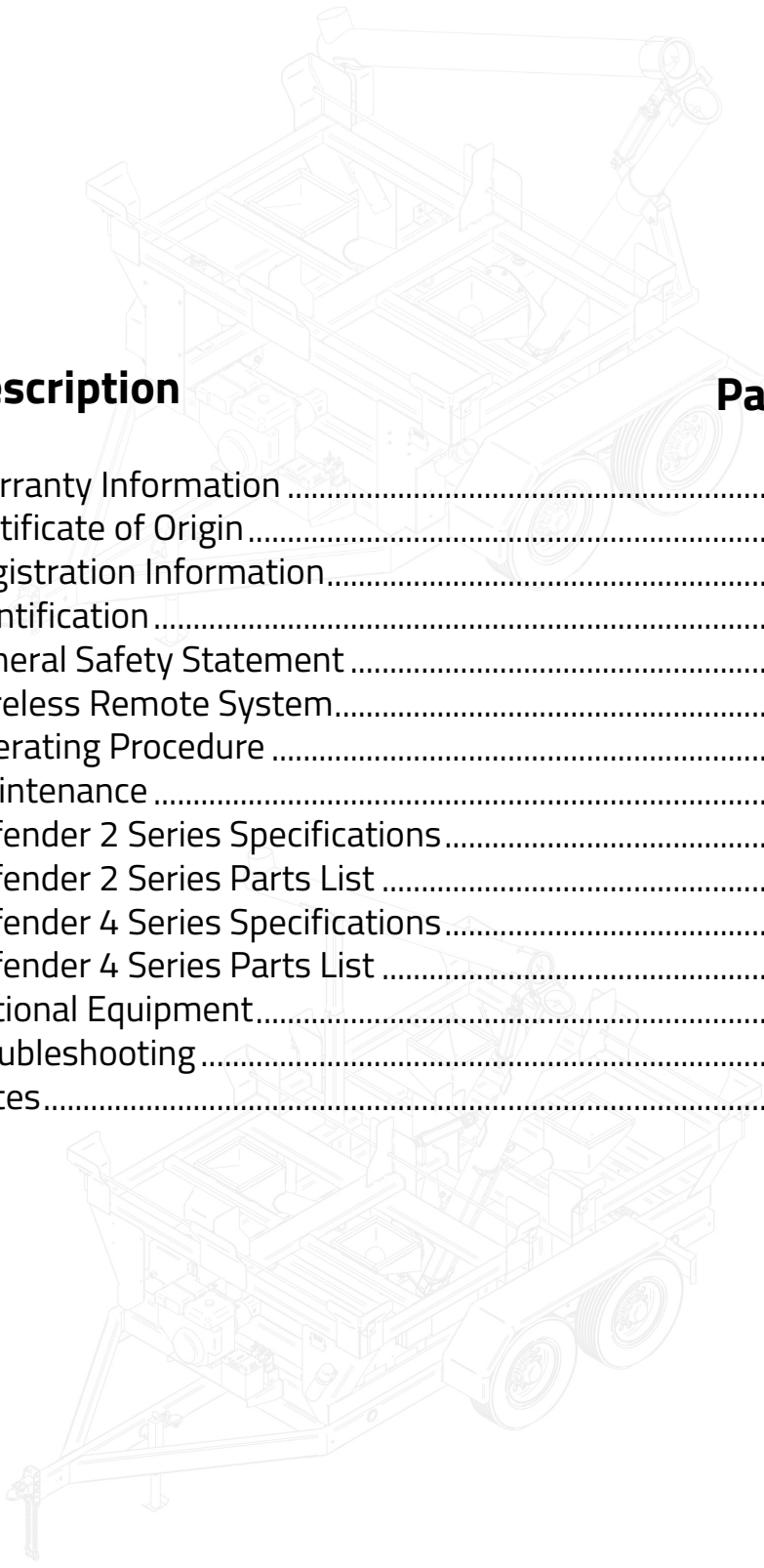


**DEFENDER™**

**TRUAG®**



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## WARRANTY INFORMATION

TruAG ("TruAG") warrants all products manufactured by TruAG, to be free of defects in material or workmanship under normal usage and conditions. This will extend for a period of twelve (12) months from the date of sale to the original end user. Some components may have warranty periods longer than twelve (12) months, please contact your TruAG dealer for additional warranty information for applicable circumstances.

TruAG reserves the right to deny any warranty submissions associated to but not limited to the following: defects not caused from defective material or manufacturing, improper setup, unapproved product, or exceeding the maximum allowable rating applied to the equipment.

TruAG assumes no responsibility for field modifications which create performance, structural or storage quality problems. Warranty becomes void upon welding or cutting on any major structural or folding components. Modifications to the original design will nullify any product warranty that might otherwise have been available.

TruAG will not cover any failed components resulting from operator negligence such as excessive speed or incidental contact resulting in damage to the equipment under the factory warranty. Common wear components are not covered under warranty nor components that fail due to excessive wear resulting from lack of routine maintenance. Warranty does not include components that have been adversely affected by harmful corrosive chemicals that come into contact with the equipment.

TruAG does not cover tires or any damages to components or equipment incurred from tires either during transportation or field usage. TruAG is not responsible for damages incurred on third party components used on or in conjunction with the equipment, service repair labor, associated rental charges from failure, or loss of crop.

All factory mandatory repairs and/or Service Bulletin updates should be performed by factory authorized dealers or their designated qualified technicians. Any repairs that are not performed by the approved personnel that incur failure will be subject to warranty denial and TruAG retains authority to either administer or decline payment for any of the outside services performed to return to the equipment to the proper working condition.

All delivery and shipment charges, to and from TruAG facilities, and/or it's approved dealers, will be the responsibility of the purchaser. Any expenses incurred by the purchaser without prior written authorization from an authorized employee of TruAG shall be the sole responsibility of the purchaser.

Warranty submissions must be returned within forty five (45) days of the initial failure by the supporting dealer to the factory in order to be considered for coverage. The equipment serial number and original purchase date must be accompanied with failed components as well as verification of the warranty registration form in order to be eligible for coverage. If warranty is unapproved, the factory will contact the selling dealer on how to proceed.



## CERTIFICATE OF ORIGIN

345 Burnetts Rd. | West Lafayette, IN 47906 | 765.429.6200 | sales@truag.com | truag.com

# ***TRUAG TRAILER IDENTIFICATION INFO***

### DEALER/CUSTOMER INFORMATION

Dealer: \_\_\_\_\_

Sold To: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

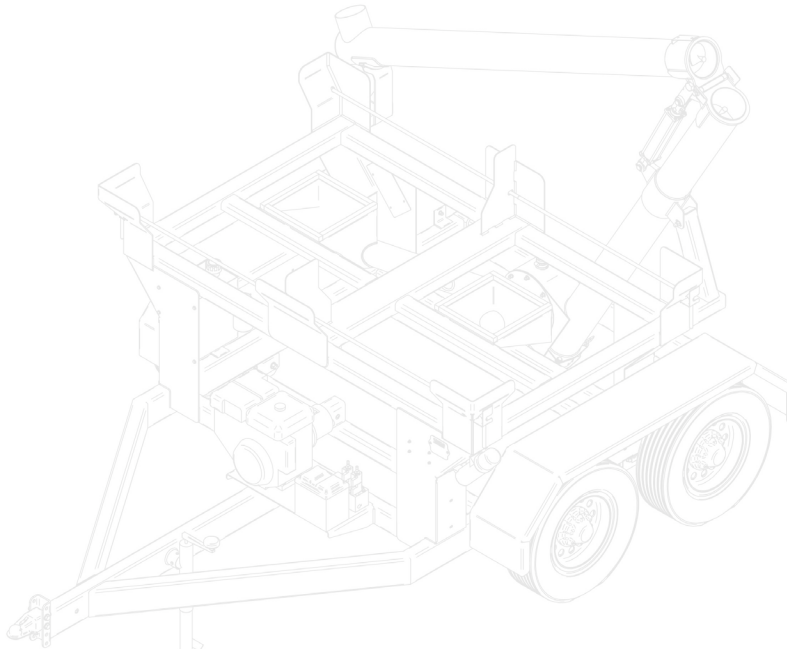
\_\_\_\_\_

### TRAILER INFORMATION

Trailer Model #: \_\_\_\_\_

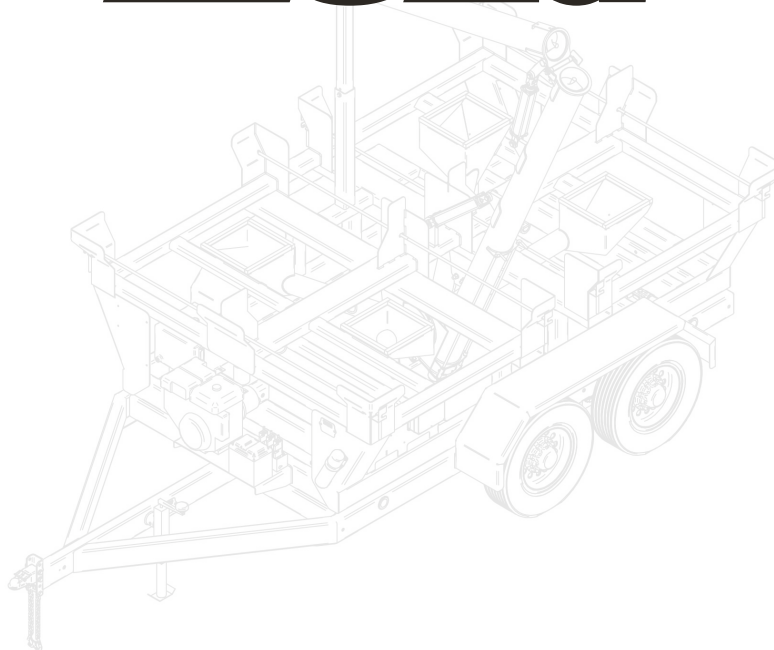
Trailer Serial #: \_\_\_\_\_

*Please email this form to sales@truag.com with subject "Trailer Identification" or fax this form to 765-742-4211, to attention of your Dealer Sales & Development Manager.*



**DEFENDER™**

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## REGISTRATION INFORMATION

345 Burnetts Rd. | West Lafayette, IN 47906 | 765.429.6200 | sales@truag.com | truag.com

# TRUAG PRODUCT REGISTRATION FORM

### CUSTOMER INFORMATION

Contact Name: \_\_\_\_\_

Date: \_\_\_\_\_ Phone: \_\_\_\_\_

Email: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_

Zip: \_\_\_\_\_ Country: \_\_\_\_\_

### DEALER INFORMATION

Dealer Name: \_\_\_\_\_

Email: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_

Zip: \_\_\_\_\_ Country: \_\_\_\_\_

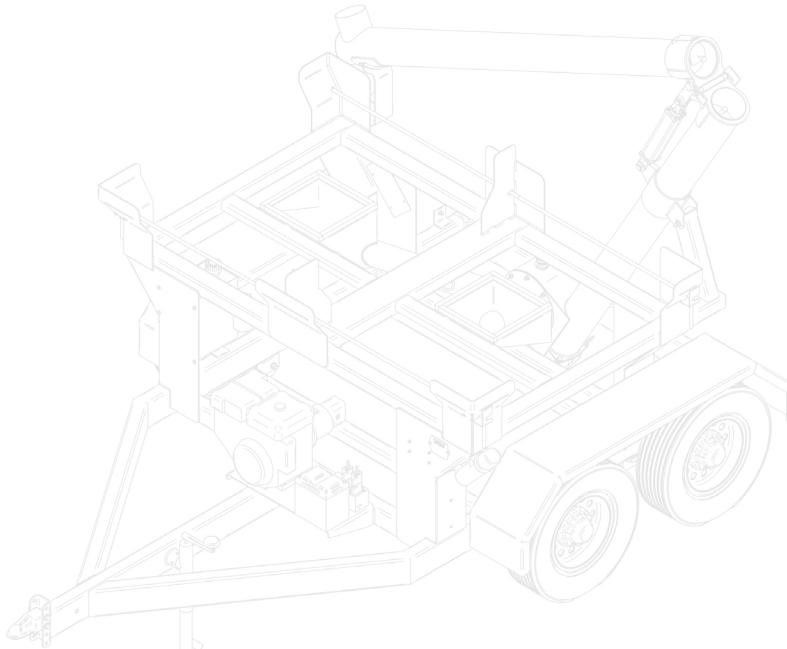
### UNIT INFORMATION

Model: \_\_\_\_\_ Serial #: \_\_\_\_\_

Delivery Date: \_\_\_\_\_

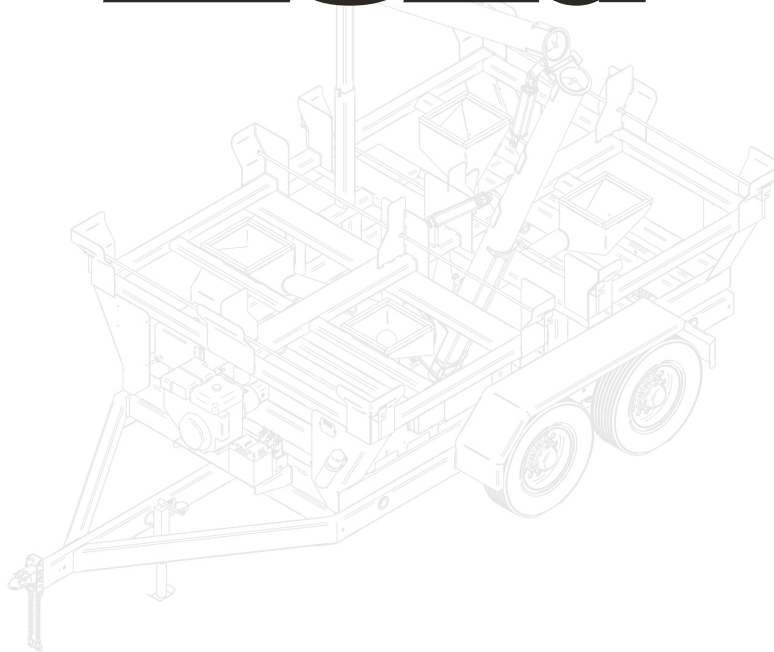
**BE SURE TO COMPLETE & SUBMIT YOUR TRUAG PRODUCT REGISTRATION  
WITHIN 14 DAYS OF PURCHASE TO VALIDATE YOUR WARRANTY.**

*Please email this form to sales@truag.com with subject "Product Registration" or fax this form to 765-742-4211,  
to attention of your Dealer Sales & Development Manager.*



**DEFENDER™**

**TRUAG®**



# IDENTIFICATION

Your Seed Tender is identified by several unique numbers. Please record this information in the space provided & refer to them when ordering replacement parts or submitting a warranty claim. The Seed Tender Serial # & Model are located on front right panel right of the motor see Figure 1. The Trailer Serial # can be found in front of the jack stand see Figure 2.

## TRAILER INFORMATION

Purchase Date: \_\_\_\_\_

Model: \_\_\_\_\_

Trailer/Top Serial #: \_\_\_\_\_

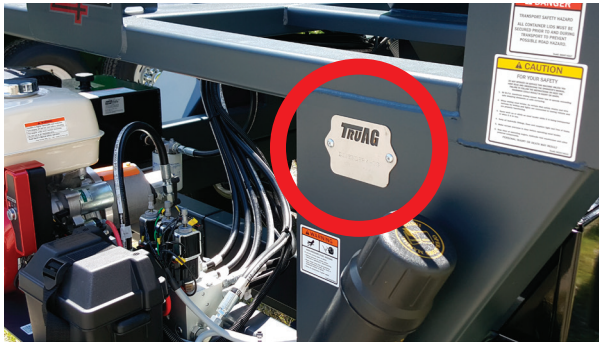


FIGURE 1. TOP SERIAL # LOCATION.




FIGURE 2. TRAILER SERIAL # LOCATION.

## GENERAL SAFETY STATEMENT



### BE ALERT!

Watch for this  symbol. It calls attention to important information concerning your personal safety. It means "ATTENTION", "CAUTION", "WARNING", "DANGER", & "BE ALERT – YOUR SAFETY IS INVOLVED". Read the information that follows & be aware of the possibility of personal injury or death.

It is your responsibility as an owner, operator, or supervisor to know & instruct anyone using or near this equipment at the time of assignment, & at least annually thereafter, of the proper operation, precautions, & safety hazards that exist during the operation & servicing of this equipment in accordance with OSHA regulations.

## SAFETY IS NO ACCIDENT!

The following safety instructions, combined with general safety & common sense, will save you from unnecessary exposure to personal hazard & save your equipment from unnecessary damage. Review this manual at least once each year with new &/or experienced operators.

- Read & understand the Owner's Manual prior to operating this Seed Tender. Failure to do so is considered a misuse of the equipment.
- Make sure Seed Tender is secure prior to operation.
- Always keep children & unauthorized persons away from the Seed Tender when in operation.
- Make sure everyone that is not directly involved with the operation is out of the work area prior to beginning operation of the Seed Tender.
- Make sure all safety devices are in place & functional prior to beginning operation of the Seed Tender.
- Shut off power to adjust, service, or clean the Seed Tender.
- Visually inspect the Seed Tender periodically during operation for leaks & signs of excessive vibration, loose fasteners, & unusual noises.
- Keep all persons and objects clear of auger while auger is in motion.
- Be aware of high-pressure fluid hazards.
- Keep all persons and objects clear of machine and pinch points while any part of this machine is in motion.

## SAFETY CONTINUED



**⚠ DANGER**

**⚠ NOTICE**

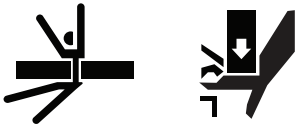
**⚠ DANGER**



**⚠ DANGER**

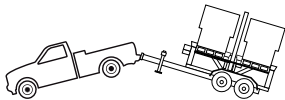


**⚠ WARNING**



**⚠ CAUTION**

TIPPING HAZARD



- Always utilize ball hitch coupler clamp, latch, safety pin, safety chains, & wire harness for brakes & lights when towing. Be certain that all are functional prior to towing.
- Do not exceed the MAX tow speed of 30 MPH. Never tow at speeds exceeding safe stopping distances or safe cornering.
- Never work or climb on the seed tender while it is being transported or when it is in use.
- Do not operate auger in folded/transport position.
- Unload rear containers first to prevent dangerous tipping from load transfer.
- Always have unit properly connected to a tow vehicle before loading or unloading containers or product.
- All container lids & lock rods must be secured prior to & during transport to prevent possible road hazard.
- Wear proper hand & eye protection when dealing with high pressure hydraulic systems.
- Wear clothing & Personal Protective Equipment (PPE) appropriate for the job.
- Relieve pressure on system prior to repairing, adjusting, or disconnecting hydraulic hoses.
- Read & understand enclosed Engine Manual before operating the Honda Motor.



# WIRELESS REMOTE SYSTEM



FIGURE 2.1 STANDARD REMOTE



FIGURE 2.2 PREMIUM REMOTE

## WIRELESS REMOTE CONTROL COMMANDS

See Figures 2.1 & 2.2 regarding the Handheld Wireless Remote Control Unit. Press the RED button when finished to turn the Handheld Unit off, otherwise it will still be sending out a signal looking for the base unit. This will cause the batteries to drain prematurely. Note that pressing the Auto button toggles the auger on and off in the forward direction and will start the unload process for auto unloading when programmed with Premium Scales.



Manually Reverses Auger.



Manually Runs Auger Forward For Unloading



Folds Upper Auger.



Unfolds Upper Auger.



Raises Entire Auger Assembly.



Lowers Entire Auger Assembly.



Zeros The Scale.



View The Gross Weight.



View &amp; Preset A Seed Dispense Weight Amount.



View The Net Weight.



View &amp; Set The Tare Weight.



Pressed Together With Rev Button To Manually Reverse The Auger.



Resets the "Auto" dispense amount to begin a new 'Auto Unload' Process.



Toggles Auger On/Off Forward. Starts/Stops the 'Auto Unload' Process.



Reduce Engine Speed.



Increase Engine Speed.



Stop Engine.



Used For Setting Individual Bin Numbers &amp; Weights In Bin 'Auto Dispense' Mode.



Start Engine.

## REPLACEMENT REMOTES

MODEL	REMOTE PART #
Defender 2	28953-9120
Defender 2E	28953-9120
Defender 2S (w/o scales)	28953-9120
Defender 2S (w/ scales)	30356-9020
Defender 2SE (w/o scales)	28953-9120
Defender 2SE (w/ scales)	30356-9020
Defender 4 (w/o scales)	30356-9020
Defender 4 (w/ scales)	30356-9020

# OPERATING PROCEDURE

## LOADING POLY-BOXES



*Failure to remove both driver & passenger side lock rods will result in damage to the Seed Tender, lock rod, or bulk poly-box.*

## LOADING POLY-BOXES\*



*Load front of Seed Tender first, then the rear. Failure to do so could cause the Seed Tender to tip backwards.*

*\*DEFENDER 4 ONLY*

## LOADING BULK POLY-BOXES

1. Remove outer & inner lock rods on both the driver & passenger side of the Seed Tender
2. Using a forklift or other lifting vehicle, pick up the bulk poly-box with the slide gate & locking mechanism facing the forklift. Allow distance between the box & the mast of the forklift for the box to be safely lifted & put on the Seed Tender without causing damage to the corner guides.
3. Slowly lift & carefully place bulk poly-box on the Seed Tender.
4. Replace all lock rods & ensure that they are all in the locked position.

## OPERATING THE SEED TENDER

1. Start the engine, see enclosed engine manual. Let the engine warm up prior to use. During this time look over hydraulic components to ensure there are no leaks.
2. Turn on the Wireless Receiver by flipping the switch to the ON position as shown below.



FIGURE 3.1 TRUAG PREMIUM RECIEVER SHOWN

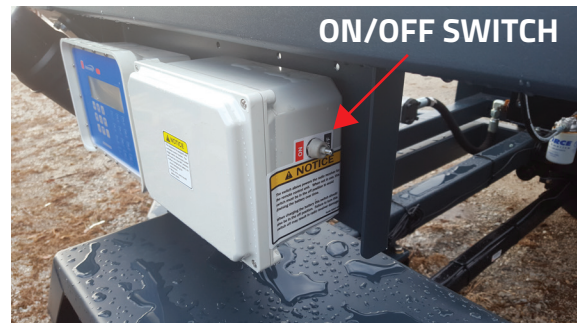


FIGURE 3.2 POWER ON/OFF



FIGURE 3.3 TRUAG 4-FUNTION RECIEVER

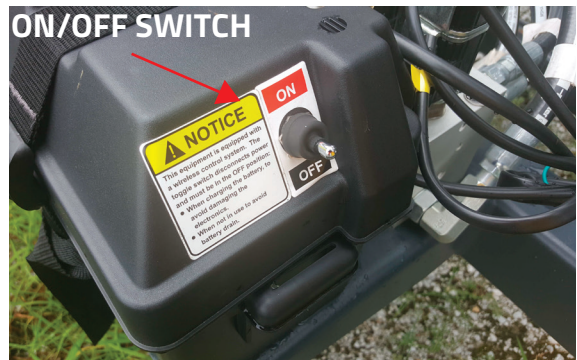


FIGURE 3.4 POWER ON/OFF

# OPERATING PROCEDURE

## BEWARE



*Beware of overhead power lines or other obstructions when unfolding the Upper Auger to prevent bodily harm or damage to equipment.*

## UNLOCKING AUGER



*Press the Auger Up button before folding the auger out.*

## UNLOADING BULK BOXES\*



*Unload rear bulk poly-boxes before the front to prevent a tipping hazard.*

*\*DEFENDER 4 ONLY*



3. Premium Scales Only - Press & hold the RED power button on hand-held remote until the remote screen comes on.
4. Standard Model - Remote is synced & ready for use after power at the battery box is turned on.
5. Unfold the upper auger by pressing the Unfold Auger Button.  Make sure upper & lower auger mating faces are secured together tightly before unloading any product.
6. Open slide gate on the desired bulk poly-box.
7. Unhook the spout & place in the desired box on the planter.
8. With the spout in one hand & the remote in the other, manually unload by pressing the FWD button , see Figure 4. The auger will only run as long as this button is pressed. When FWD button is released the auger stops.
- \*For units with scales see page 16 for auto unload procedure*
9. When finished, replace & lock the spout then fold the top auger back into transport position.





FIGURE 4. USING REMOTE

# OPERATING PROCEDURE

## UNLOADING BULK BOXES



*Failure to remove both the driver & passenger side lock rods could result in damage to the Seed Tender, lock rods or bulk poly-box.*

10. Fold the upper auger back by pressing the Fold Upper Auger  until it sets in the cradle, see Figure 5.
11. Lock the auger into the transport position by pressing the Lower Auger  button, as shown in Figure 5.



**AUGER REST**

FIGURE 5. AUGER REST

## UNLOADING BULK POLY-BOXES

1. Remove outer and inner lock rods, see Figure 6, on both the driver and passenger side of the Seed Tender.
2. Using a forklift or other lifting vehicle, slowly pick up the bulk poly-box. Allow distance between the box and the mast of the forklift for the box to be safely lifted and removed from the Seed Tender without causing damage to the corner guides.

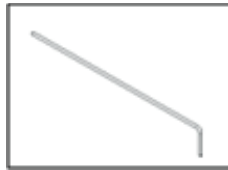


FIGURE 6. LOCK RODS


# OPERATING PROCEDURE


## AUTO DISPENSE REFERENCE SHEET

### ENTERING DISPENSE WEIGHT


1. Press .

2. Set DISPENSE WEIGHT.


Press   to increase/decrease value.

Press  to move over a digit.

Press   to increase/decrease value.  
(ex: Dispense weight set at 50 lbs)

Press  to accept entered dispense weight.

3. Default PREACT WGT appears on display.  
(ex: Preact weight set at 10 lbs)

Press  to accept preact weight.

### EX. DISPLAY ON REMOTE

DISP? 00050  
SETUP = ACCEPT

DISP? 00050  
SETUP = ACCEPT

DISP? 00050  
SETUP = ACCEPT

PREACT WGT: 010  
SETUP = CHANGE

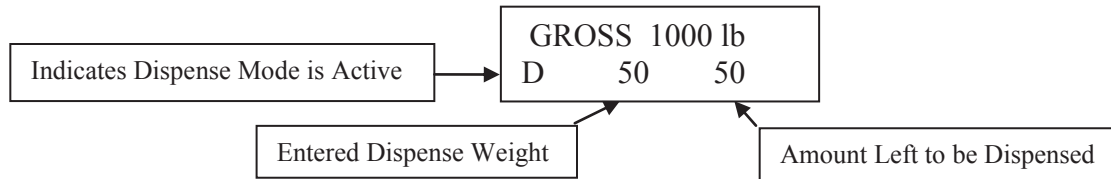


# OPERATING PROCEDURE

## AUTO DISPENSE REFERENCE SHEET

### OPERATION

CURRENT DISPLAY:



1. To start **DISPENSING**, press



- Auger will STOP AUTOMATICALLY when the amount left to be dispensed is equal to the PREACT WEIGHT value. (ex. Auger Stops with 10 lbs left to dispense due to preact weight being set at 10 lbs)
- Amount left to be dispensed will continue to decrease until seed stops flowing down the spout.

GROSS 1000 lb  
D 50 10

GROSS 950 lb  
D 50 0

2. To **REPEAT** with same dispense weight, press



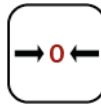
GROSS 950 lb  
D 50 50

- To change dispense weight press



and complete the “Entering Dispense Weights” instructions.

3. To **EXIT** Auto Dispense Mode, press



Standard weight display will return to the remote.

### ADJUSTING PREACT WEIGHT

This setting compensates for the seed that is still exiting the telescoping spout after the auger has stopped. Adjusting the PREACT WEIGHT per each seed type, weight, etc. insures accuracy and repeatability of desired dispense weight in each hopper. If the PREACT is not adjusted the system will continue to over or under load the hoppers.

Incorrect Dispense Amount	Solution	Gross Dispensed - Preset = Change in PREACT Value
Amount Dispensed is LARGER than Amount Preset	Increase PREACT WGT	Preset: 50 lbs, Gross Disp.: 55 lbs, PREACT: 10 lbs $55\text{lbs} - 50\text{lbs} = 5\text{lbs}$ Increase PREACT to 15lbs
Amount Dispensed is SMALLER than Amount Preset	Decrease PREACT WGT	Preset: 50 lbs, Gross Disp.: 45 lbs, PREACT: 10 lbs $45\text{lbs} - 50\text{lbs} = -5\text{lbs}$ Increase PREACT to 10lbs

# MAINTENANCE

## LOADING BULK POLY-BOXES

The Seed Tender is equipped with a Honda engine that powers the hydraulic pump for the hydraulic system. The owner's manual & warranty information are included with your paperwork.

## AXLES & SUSPENSION

The Seed Tender is equipped with torsion axles. A copy of the original equipment axle manufactures manual & warranty information containing the procedure for axle lubrication & maintenance schedule are included with your paperwork.

## HYDRAULIC OIL FILTER

The oil filter should be replaced annually or when flow restriction or filter damage is evident. Use the following procedure when changing the oil filter.

1. Take precautions to ensure safety, including wearing proper PPE.
2. Relieve pressure on hydraulic system & hoses prior to removing.
3. Place an appropriate hydraulic oil container underneath the oil filter to contain any spilled fluid.
4. Slowly remove filter by turning in a counter-clockwise motion.
5. Empty remaining oil into appropriate hydraulic oil container.
6. Install new oil filter by turning in a clockwise motion. See filter instructions for additional installation information.
7. Remove container & dispose of oil filter & any oil in a manner consistent with local, state & federal regulations.



# MAINTENANCE

## BATTERY

*It is recommended that the battery be disconnected after the planting season is complete.*

## BATTERY CHARGING



*Switch the power on/off switch to the off position prior to applying a secondary voltage to the battery.*



## AUGER CLEAN OUT



*Failure to ensure that the Seed Tender is fully shut down could result in damage or bodily harm.*

## WIRELESS REMOTE & RECEIVER

The Seed Tender is equipped with a Wireless Remote & Receiver that controls the fold, unfold, and unload functions of the auger. The specific owner's manual & warranty information are included with this manual.

## BATTERY

When done using the Seed Tender for the planting season, it is recommended that the battery be disconnected to enhance overall battery life & eliminate battery drain & terminal corrosion.

**If jump starting or charging the battery, you must remove the battery from the tender & charge completely disconnected from all electrical components. Failure to do so could result in damage to the wireless receiver which will not be covered under warranty.**

## AUGER CLEAN OUT

The auger should be cleaned out anytime a seed variety is changed & at the end of the planting season. The clean-out hatch is located at the base of the lower auger, see Figure 7. Use the following procedure when cleaning out the auger.



**LOCK PIN**

**CLEAN OUT HATCH**

FIGURE 7. AUGER CLEAN OUT.

# MAINTENANCE



FIGURE 8.1 AUGER VALVE ADJUSTMENT

1. Take precautions to insure safety. Ensure that the Seed Tender is fully shut off and that all moving parts are no longer moving.
2. Open Clean-out by lifting the RIGHT Lock Pin and using the LEFT Hinge Pin to swing the clean-out door open.
3. Remove any remaining seed or debris from the auger by starting the engine and gently reversing the auger. An optional lid can be used to contain any excess seed.
4. Shut the engine off check that all moving parts have stopped. Close the clean-out door by using the LEFT Hinge Pin to swing the door closed and lock the clean-out door by reinserting the RIGHT Lock Pin.

## HYDRAULIC CYLINDER VALVE SPEED ADJUSTMENT

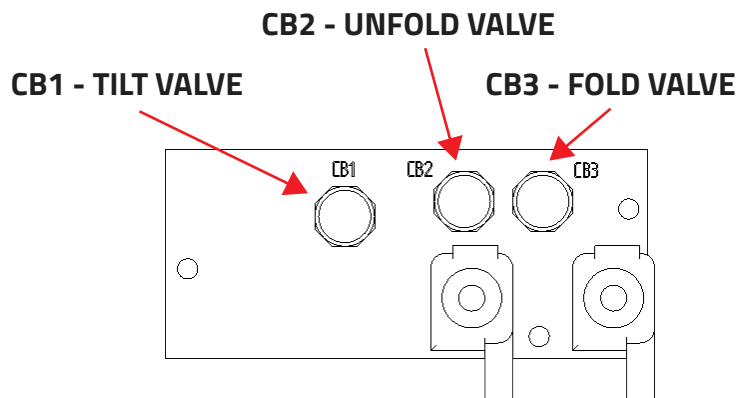


FIGURE 8.2 AUGER VALVE ADJUSTMENT

## WIRELESS REMOTE & RECEIVER

See Figure 8.2 and follow the steps below to adjust the speed of the Fold/Unfold function of the Seed Tender.

### **SLOWING DOWN UNFOLD SPEED**

1. Loosen jam nut on CB #2.
2. Using an allen wrench, turn set-screw **COUNTER CLOCK-WISE** while unfolding the upper auger. Adjust until desired speed is reached.

# MAINTENANCE

3. Relieve pressure on hydraulic system & hoses prior to removing.

## SLOWING DOWN UNFOLD SPEED

1. Loosen jam nut on CB #3.
2. Using an allen wrench, turn set-screw **COUNTER CLOCK-WISE** while folding the upper auger. Adjust until desired speed is reached.
3. Tighten jam nut.

## LOWER AUGER VALUE ADJUSTMENT



*Only adjust this setting if the Lower Auger is creeping downward in the infolded position.*

## LOWER AUGER VALVE ADJUSTMENT

Follow the steps below to adjust the Tilt function of the Seed Tender. Only adjust this setting if the Lower Auger is creeping downward in the unfolded position.

1. Loosen jam nut on CB #1.
2. Using an allen wrench, turn set-screw **CLOCK-WISE** until the creeping stops.
3. Unload some seed through the auger to ensure that the creeping has ceased.
4. Tighten jam nut.

## MANUAL OVERRIDE



*The safety latch must first be lifted in order to operate the manual override function.*

## MANUAL OVERRIDE OF SOLENOIDS

The Defender Series Seed Tender hydraulic system has a manual override system, see Figure 10. This was implemented that in case of remote failures, receiver failures, and/or electrical component problems, the hydraulics can still be operated. On each of the solenoids, on top of the aluminum hydraulic valve assembly, are

**CONTINUE ON NEXT PAGE>>**

# MAINTENANCE

push/pull switches that engage or disengage the spool for that hydraulic function. The safety latch must first be lifted, (see arrow in Figure 10) they raise or lower the spool to engage the hydraulic function

It is recommended to use these only when the remote is not present or an electrical system failure.

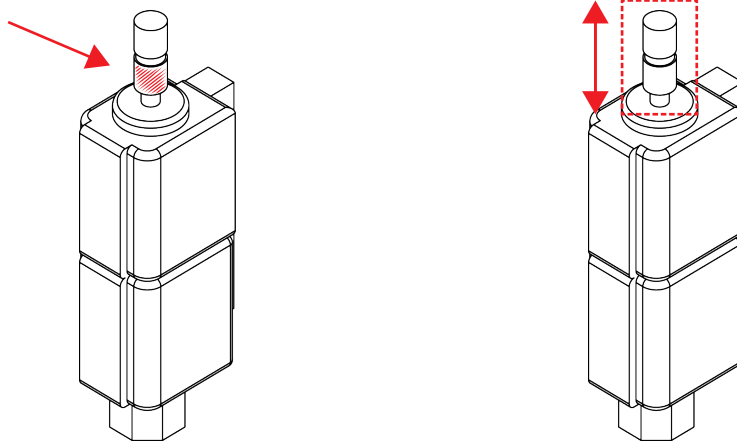
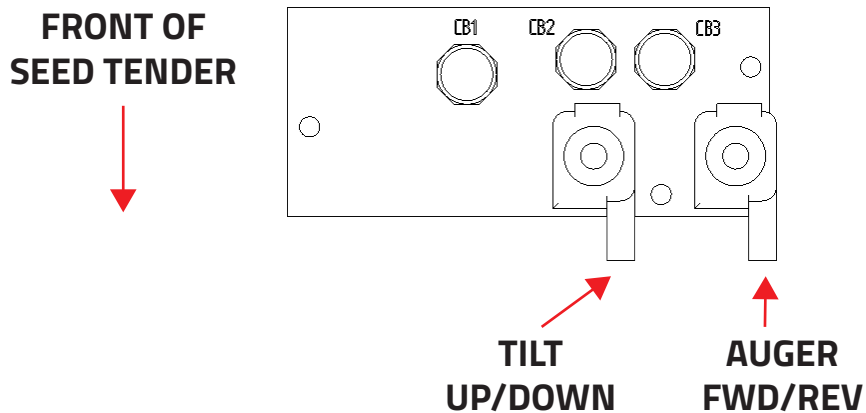
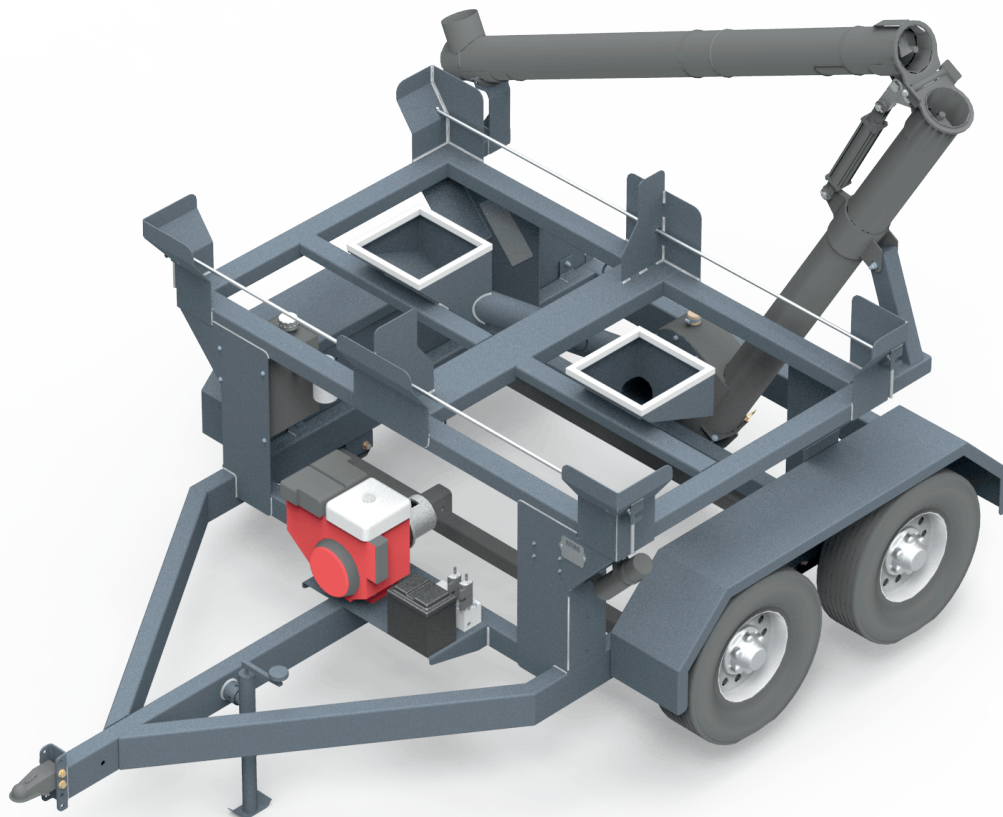


FIGURE 9A. RAISE LOWER SAFETY LATCH. FIGURE 9B. RAISE/LOWER SPOOL.

FIGURE 10. AUGER VALVE ADJUSTMENT



# DEFENDER 2 SERIES SEED TENDERS



## DEFENDER 2, DEFENDER 2S DEFENDER 2E, DEFENDER 2SE & DEFENDER 2 TOP

SPECIFICATIONS ■ PARTS LIST

## DEFENDER 2 SERIES - SPECIFICATIONS

ENGINE	
Type	Honda 9.0 HP w/ Electric Start
Fuel Type	Gasoline
Oil Capacity	1 Quart
Change Oil	Annually
Oil Type	10W-30

HYDRAULIC	
Oil Type	AW46
Capacity	5 Gallon
Change Oil	Every 4,000 HRS
Filter	25 Micron
Fold Cylinder	2-1/2" Bore x 12" Stroke

TRAILER	
Tires	ST225/75D15 LRD
Tire Pressure	65 PSI
Axel Type	Torsion
Axel Capacity	6,000 lbs Each
Coupler	2-5/16" Ball
Jack	7,000 lbs Top Wind

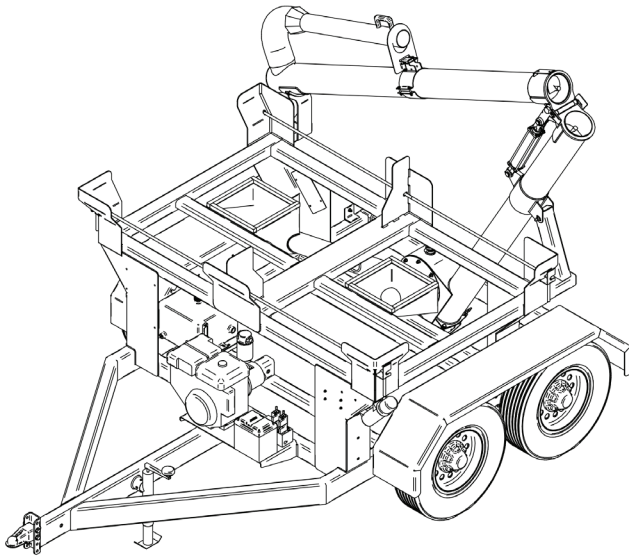
OVERALL	
Length	12'-11" Standard    17'-10" Extended
Width	8'7"
Weight (Curb)	4,300 lbs Standard    4,700 Extended

OVERALL	
Length	12'-11" Standard    17'-10" Extended
Width	8'7"
Weight (Curb)	4,300 lbs Standard    4,700 Extended

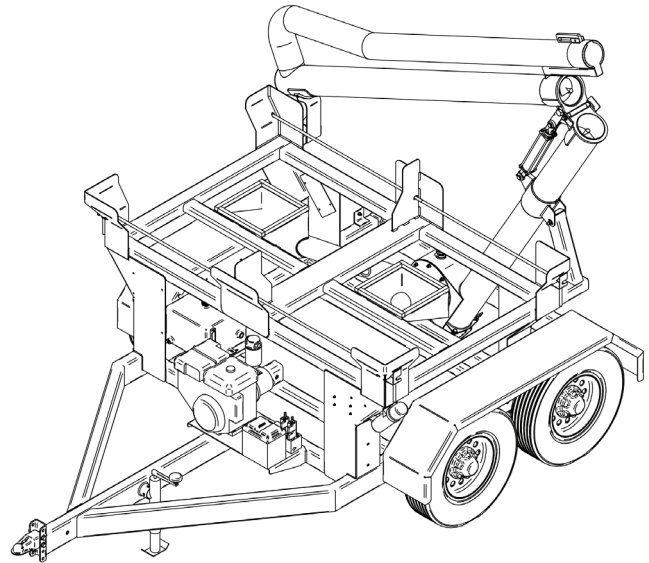


# DEFENDER 2 SERIES - SPECIFICATIONS

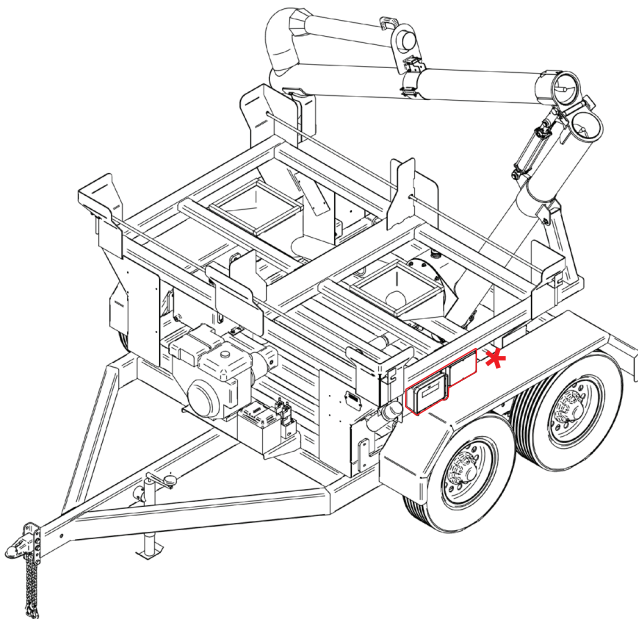
## DEFENDER 2 & 2S MODELS



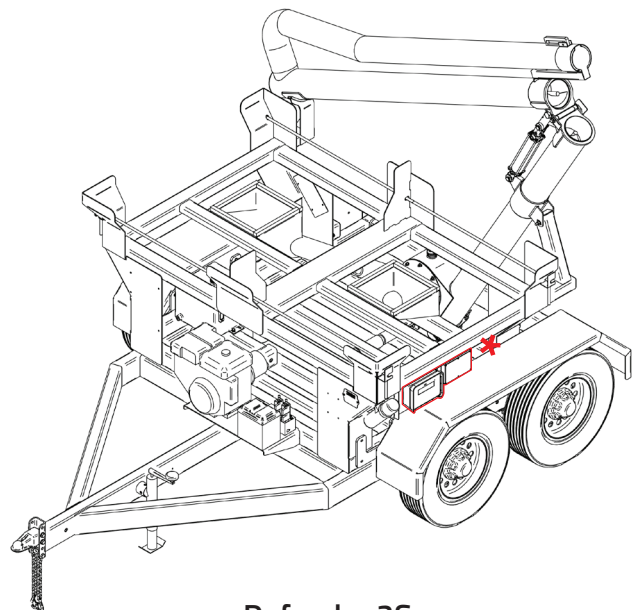
Defender 2 w/ 4ft Spout



Defender 2 w/  
3 Stage Telescoping Spout



Defender 2S w/ 4ft Spout



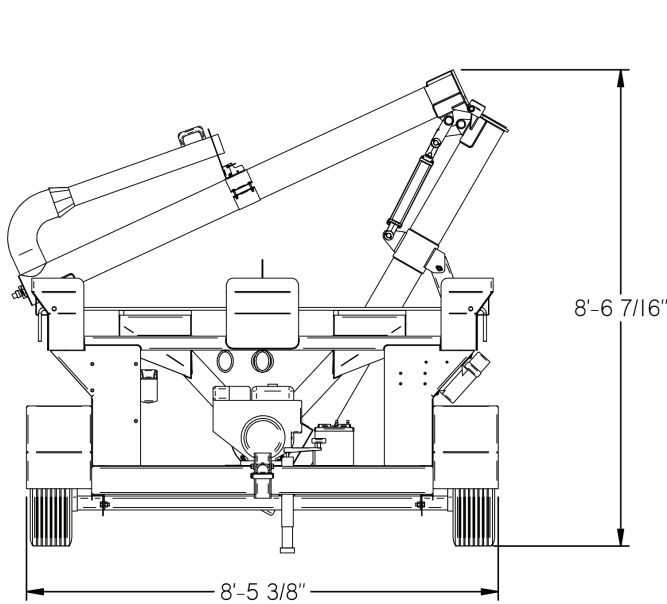
Defender 2S  
w/ 3 Stage Telescoping Spout

**\*Defender 2S model is scale ready**

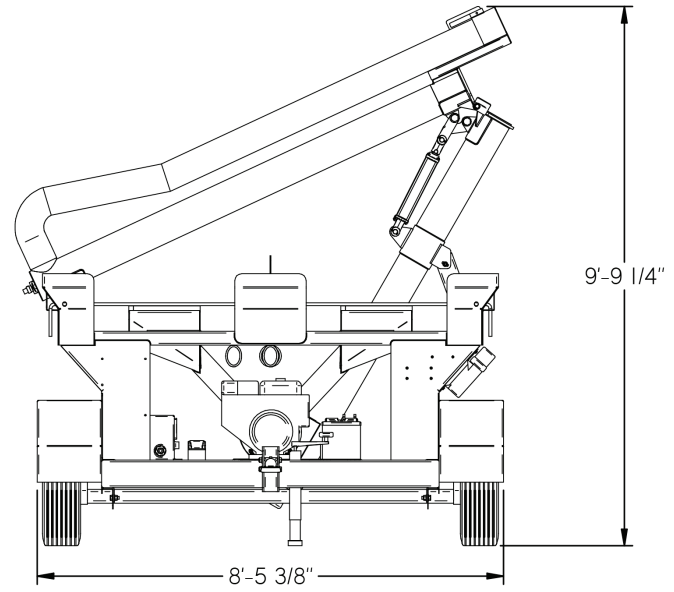


# DEFENDER 2 SERIES - SPECIFICATIONS

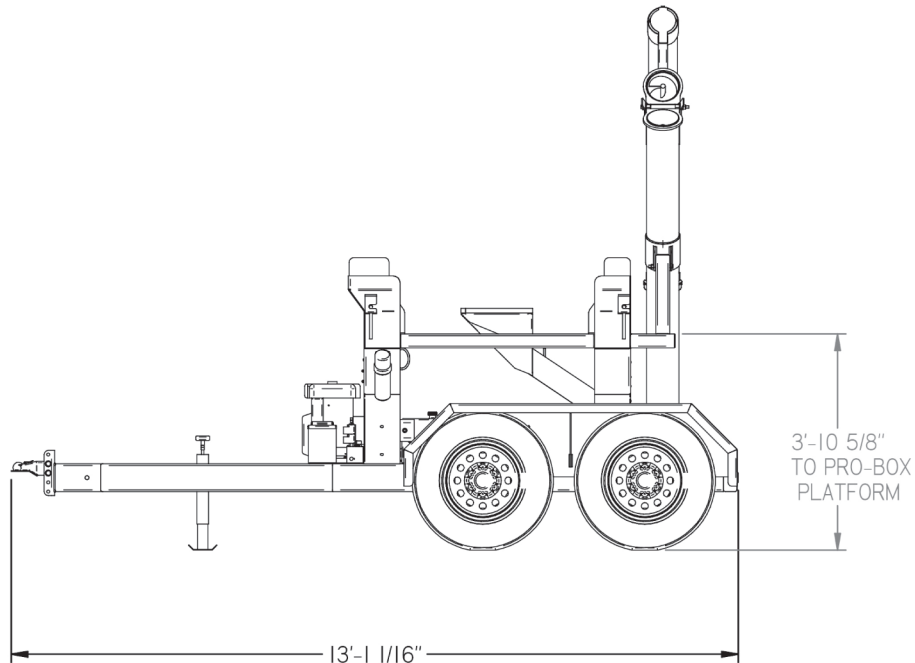
## DEFENDER 2 & 2S MODELS



Front View w/ 4 FT Spout



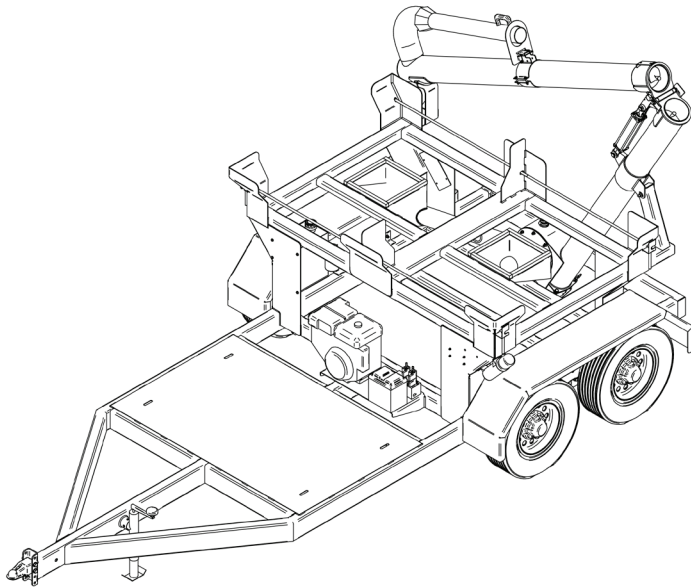
Front View w/ 3 Stage Telescoping Spout



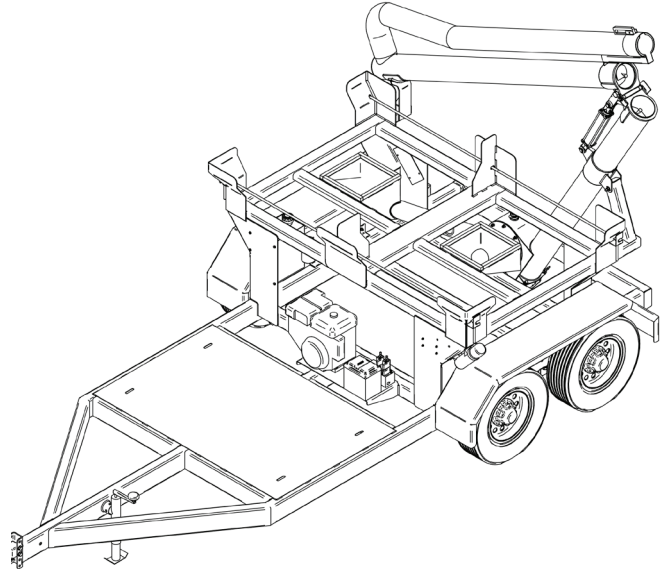
Side View

# DEFENDER 2 SERIES - SPECIFICATIONS

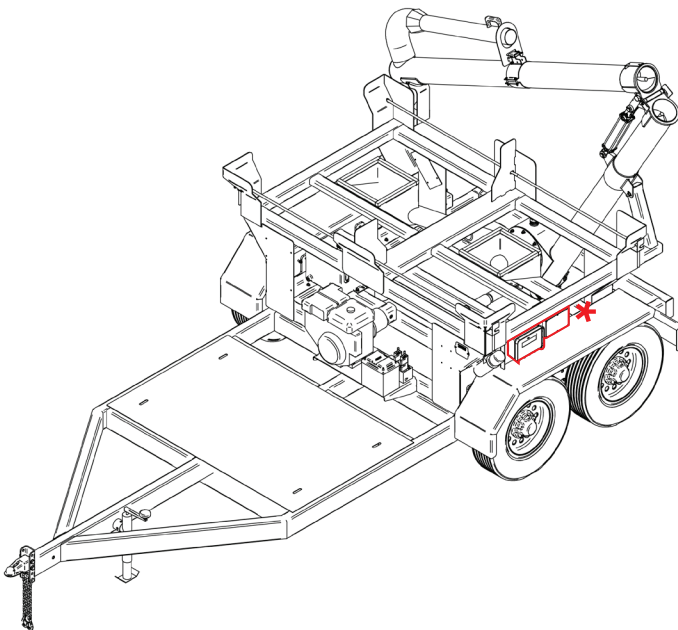
## DEFENDER 2E & 2SE MODELS



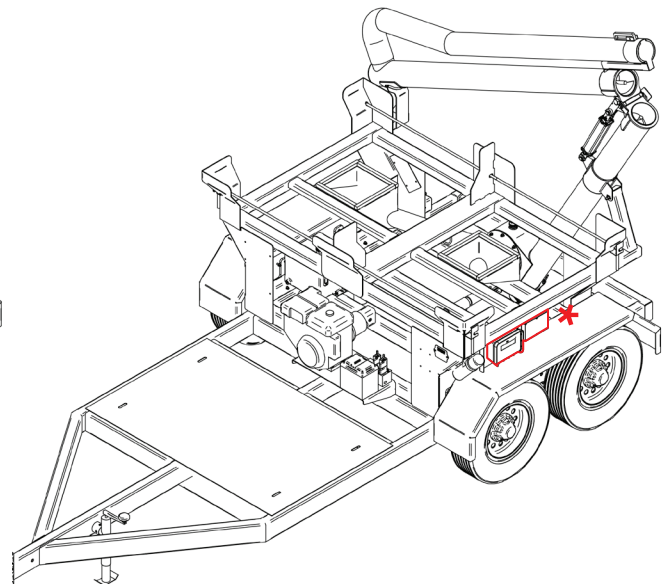
Defender 2E w/ 4ft Spout



Defender 2E w/  
3 Stage Telescoping Spout



Defender 2SE w/ 4ft Spout

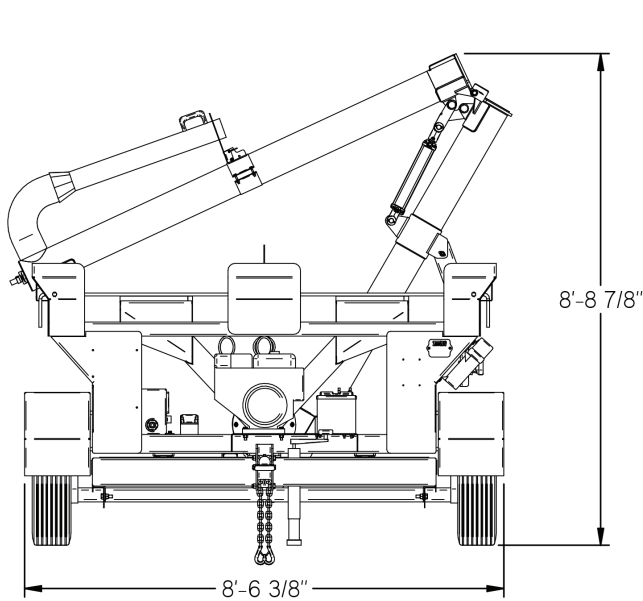


Defender 2SE  
w/ 3 Stage Telescoping Spout

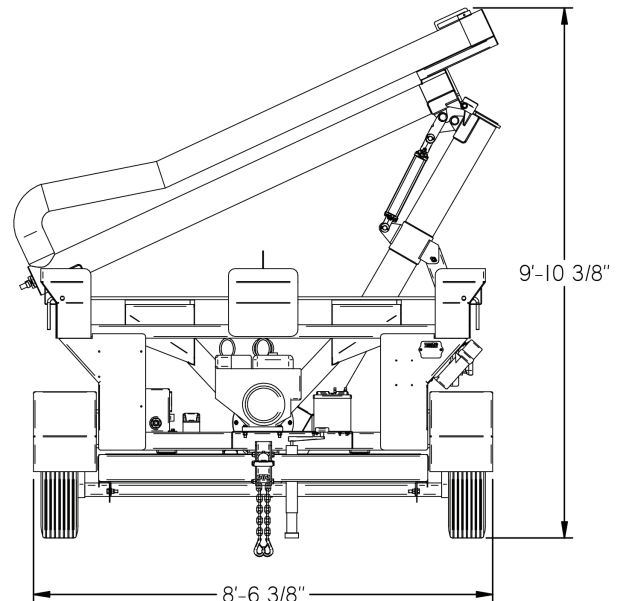
**\*Defender 2SE model is scale ready**

# DEFENDER 2 SERIES - SPECIFICATIONS

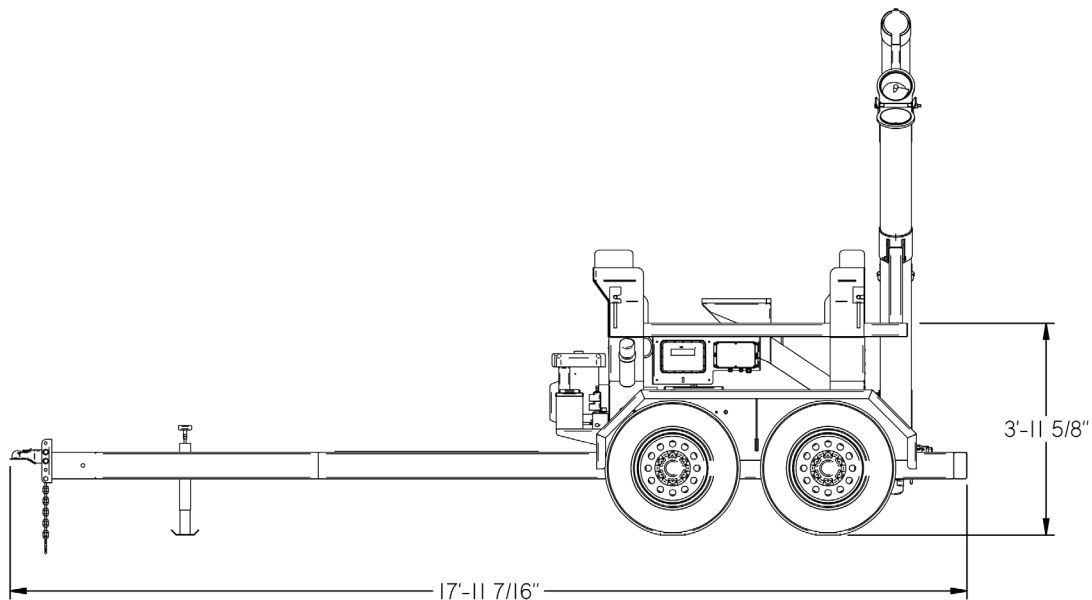
## DEFENDER 2E & 2SE MODELS



Front View w/ 4 FT Spout



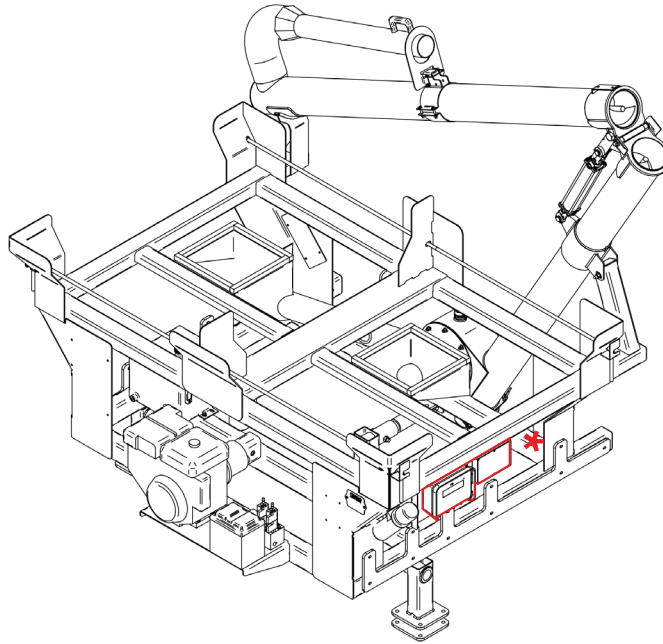
Front View w/ 3 Stage Telescoping Spout



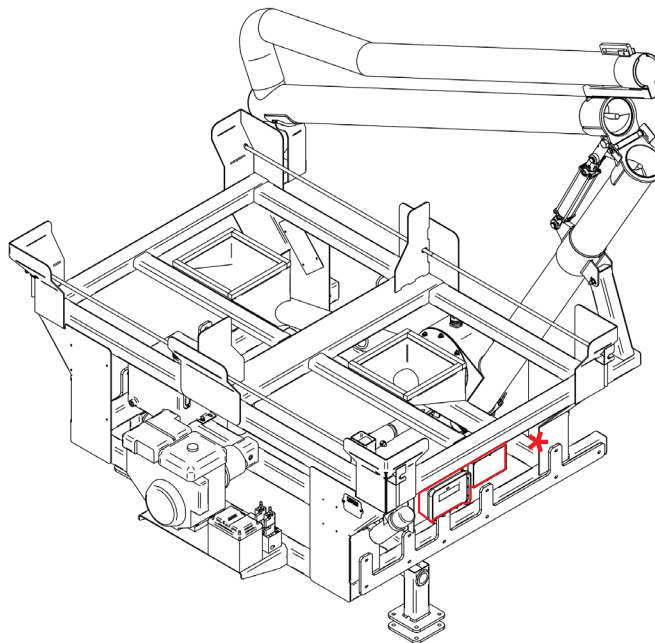
Side View

# DEFENDER 2 SERIES - SPECIFICATIONS

## DEFENDER 2S TOP MODEL



Defender 2 Top w/ 4ft Spout

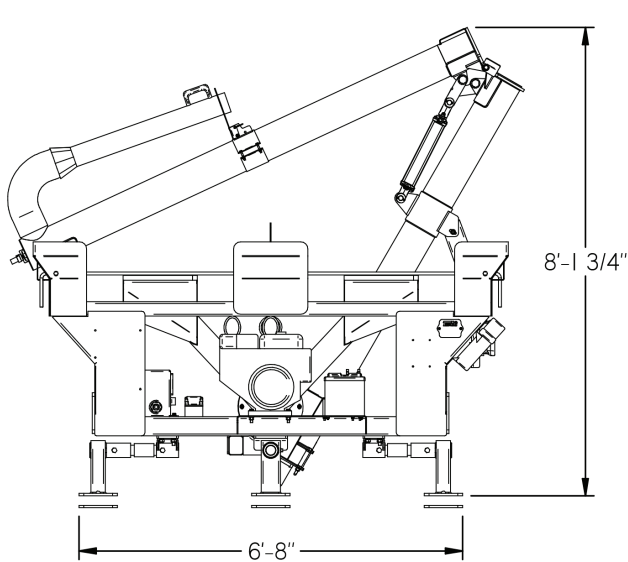


Defender 2 Top  
w/ 3 Stage Telescoping Spout

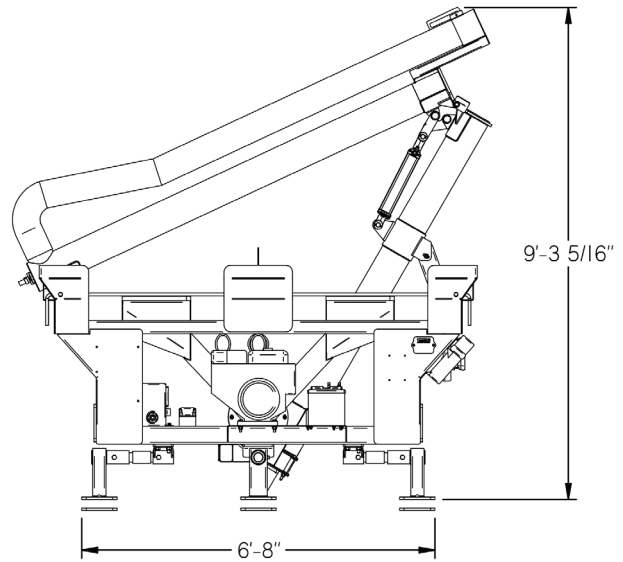
**\*Defender 2S Top model is scale ready**

# DEFENDER 2 SERIES - SPECIFICATIONS

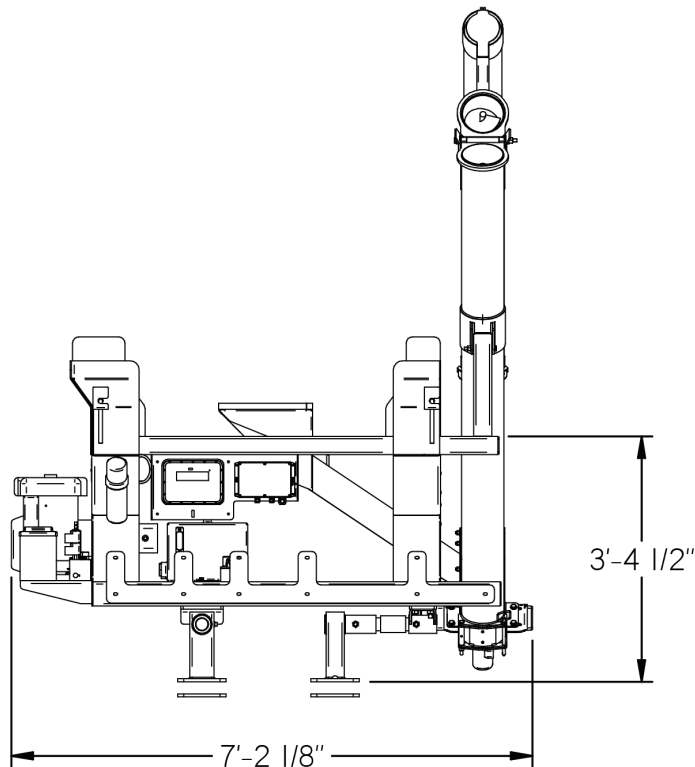
## DEFENDER 2S TOP MODEL



Front View w/ 4 FT Spout



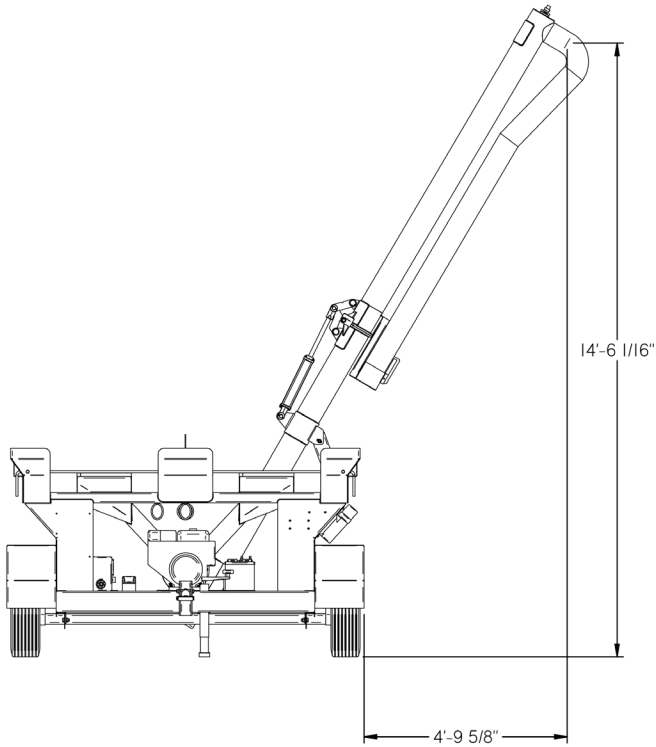
Front View w/ 3 Stage Telescoping Spout



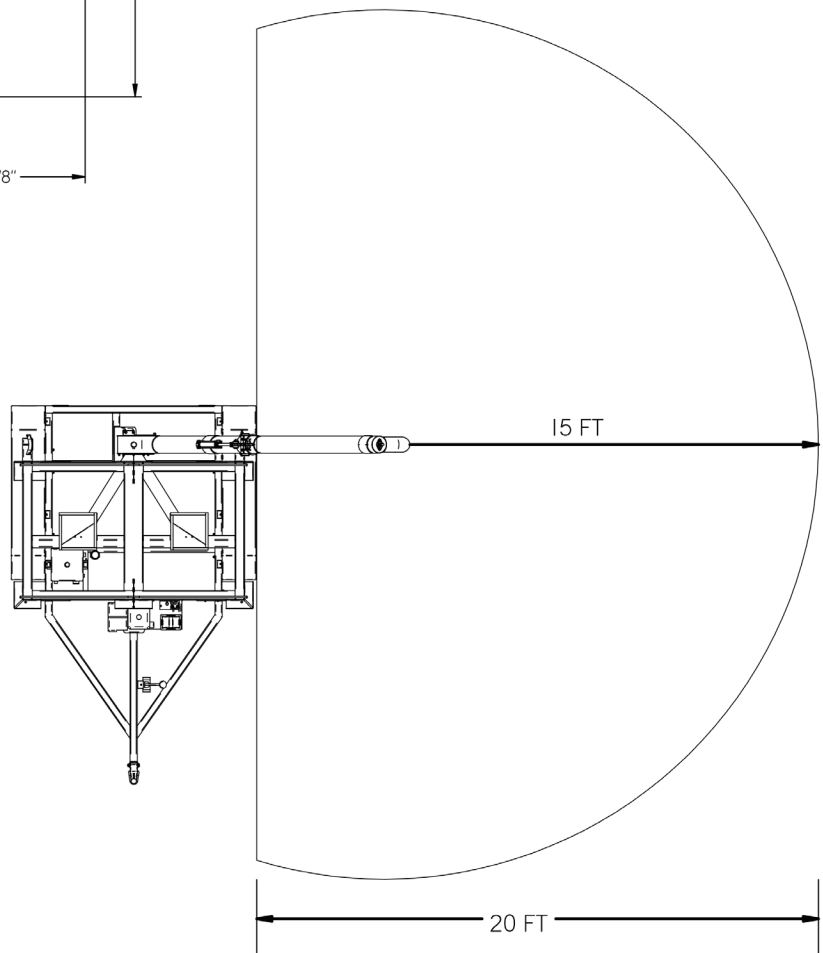
Side View

# DEFENDER 2 SERIES - SPECIFICATIONS

## DEFENDER 2 AUGER REACH



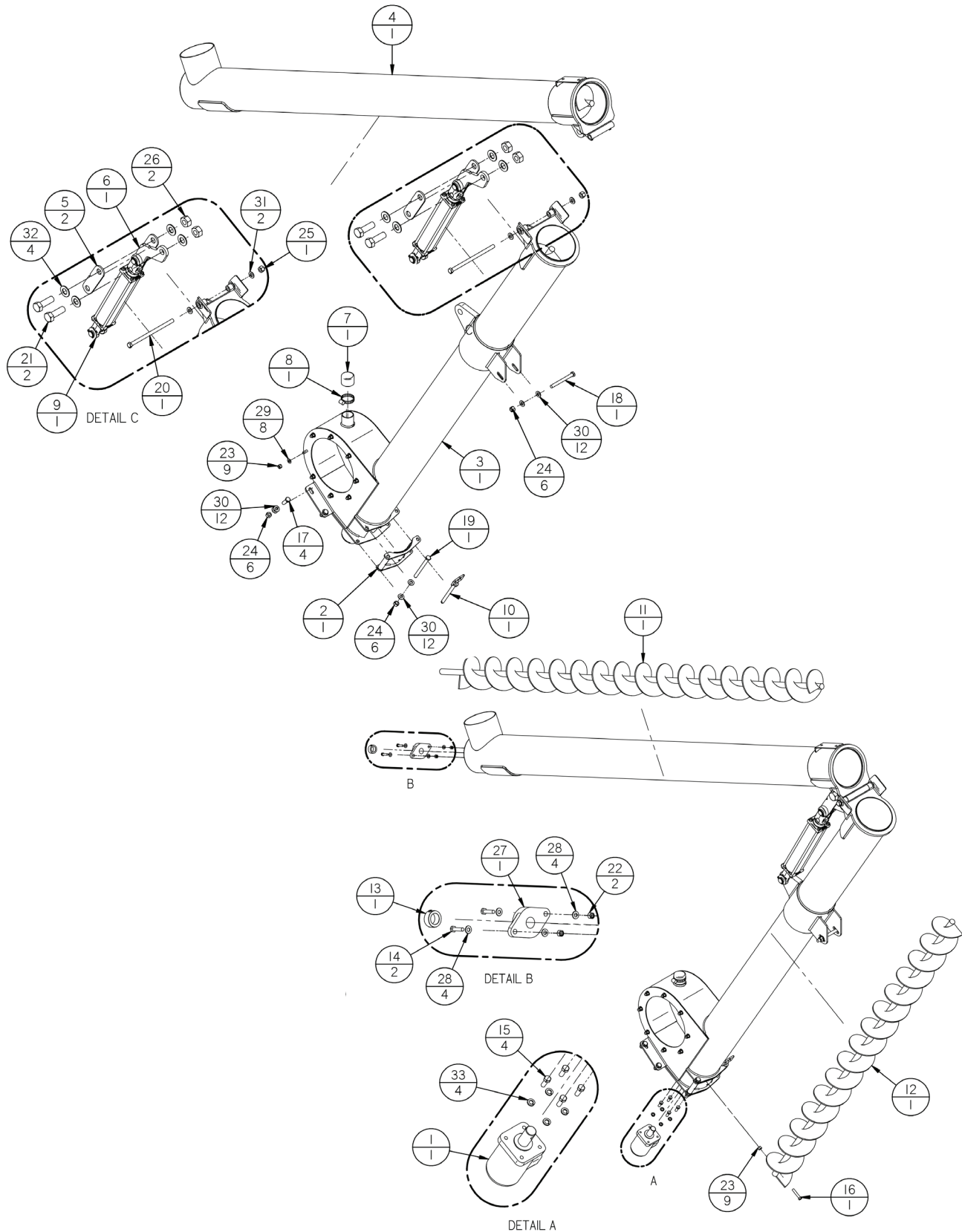
Front View Auger Reach



Top View Auger Reach

## DEFENDER 2 SERIES - PARTS LIST

## AUGER ASSEMBLY





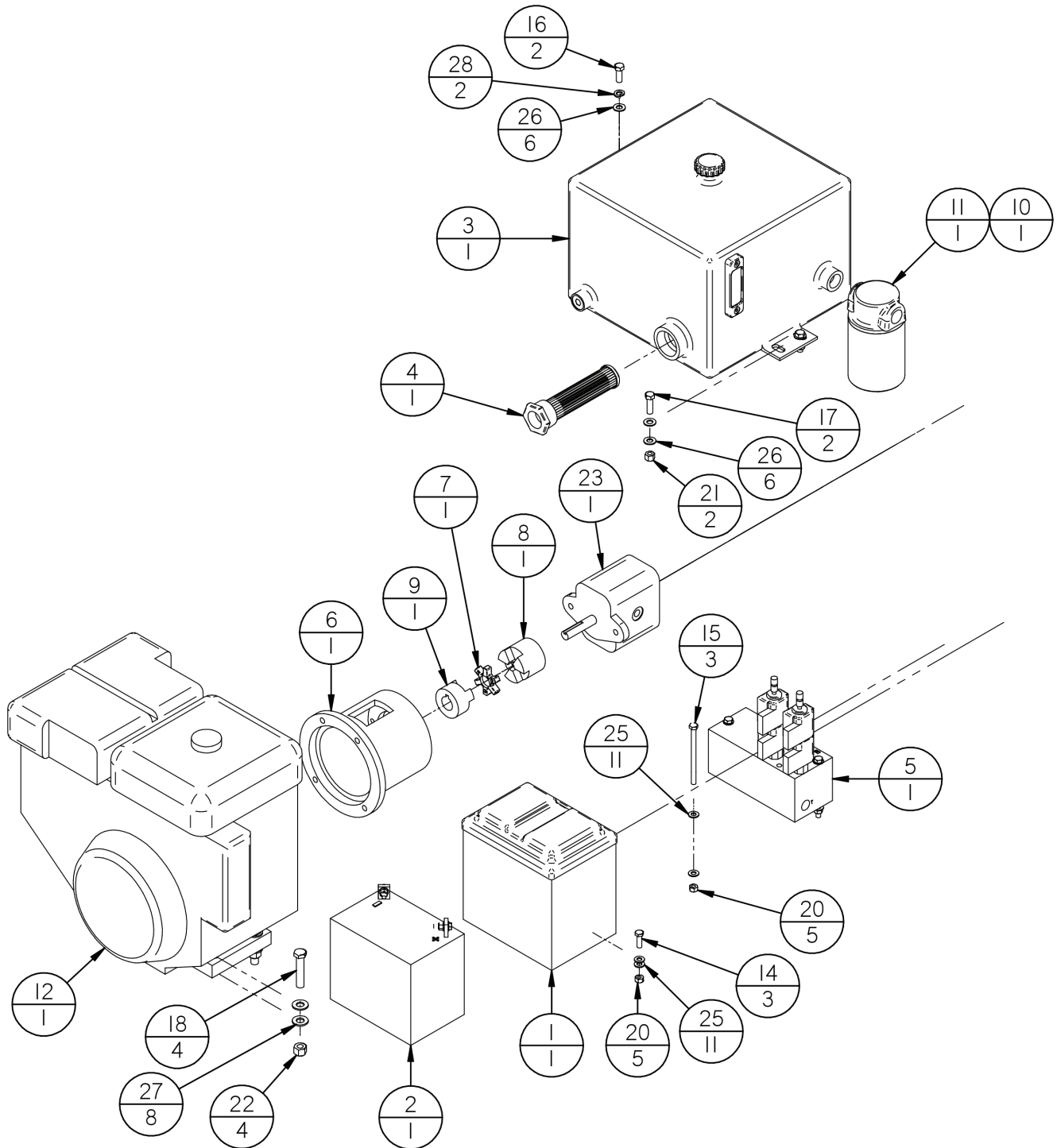
# DEFENDER 2 SERIES - PARTS LIST

## AUGER ASSEMBLY

ITEM #	PART #	DESCRIPTION	QTY
1	28041-9039	Hydraulic Motor	1
2	30356-0009	Cleanout Door Weldment	1
3	30636-0003	Fixed Lower Auger Weldment	1
4	30636-0005	Upper Auger Weldment	1
5	30636-1030	Straight Linkage Bar	2
6	30636-1031	Z Linkage Bar	1
7	30636-9004	Seed Treater Round Tube Cap	1
8	30636-9005	Hose Clamp	1
9	30356-9008	2 1/2 x 12 Tie Rod Cylinder	1
10	30636-9003	Clean Out Door Hitch Pin	1
11	30636-9001	Poly-Cupped Auger - Top (6 IN x 101 IN)	1
12	30636-9002	Poly-Cupped Auger - Bottom (6 IN x 91 IN)	1
13	30356-9010	Shaft Collar - 1 IN	1
14	HHCS-0.313-18x 1.25-GR5-ZINC	5/16"-18 HHCS x 1.25" Long - Gr. 5 - Zinc Plated	2
15	HHCS-0.375-16x1.00-GR5-ZINC	3/8"-16 HHCS x 1.00" Long - Gr.5 - Zinc Plated	4
16	HHCS-0.375-16x2.00-GR5-ZINC	3/8"-16 HHCS x 2.00" Long - Gr.5 - Zinc Plated	1
17	HHCS-0.500-13x1.50-GR5-ZINC	1/2"-13 HHCS x 1.50" Long - Gr.5 - Zinc Plated	4
18	HHCS-0.500-13x5.00-GR5-ZINC	1/2"-13 HHCS x 5.00" Long - Gr.5 - Zinc Plated	1
19	HHCS-0.500-13x6.00-GR5-ZINC	1/2"-13 HHCS x 6.00" Long - Gr. 5 - Zinc Plated	1
20	HHCS-0.562-12x10.0-GR8-ZINC	9/16"-12 HHCS x 10.0" Long - Gr.5 - Zinc Plated	1
21	HHCS-1.000-8x3.00-GR5-ZINC	1"-8 HHCS x 3.00" Long - Gr.5 - Zinc Plated	2
22	NUT-NYLOCK-0.313-18-GR5-ZINC	5/16"-18 Nylock Nut - Gr.5 - Zinc Plated	2
23	NUT-NYLOCK-0.375-16-GR5-ZINC	3/8"-16 Nylock Nut - Gr.5 - Zinc Plated	9
24	NUT-NYLOCK-0.500-13-GR5-ZINC	1/2"-13 Nylock Nut - Gr.5 - Zinc Plated	6
25	NUT-NYLOCK-0.562-12-GR5-ZINC	9/16"-12 Nylock Nut - Gr.5 - Zinc Plated	1
26	NUT-NYLOCK-1.000-8-GR5-ZINC	1"-8 Nylock Nut - Gr.5 - Zinc Plated	2
27	28041-9044	Flange Bearing	1
28	WASHER-FLAT-0.313-GR5-SAE-ZINC	5/16" SAE Flatwasher	4
29	WASHER-FLAT-0.375-GR5-SAE-ZINC	3/8" SAE Flatwasher - Zinc Plated	8
30	WASHER-FLAT-0.500-GR5-SAE-ZINC	1/2" SAE Flatwasher	12
31	WASHER-FLAT-0.562-GR5-SAE-ZINC	9/16" SAE Flatwasher	2
32	WASHER-FLAT-1.000-GR5-SAE-ZINC	1" SAE Flatwasher	4
33	WASHER-LOCK-0.375-SPLIT-ZINC	3/8" Split Lock Washer - Zinc Plated	4

# DEFENDER 2 SERIES - PARTS LIST

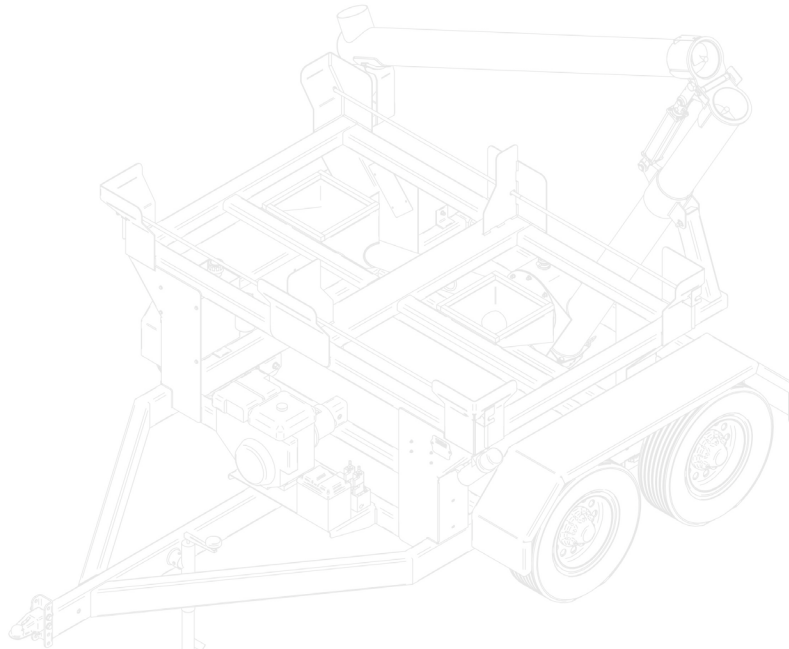
## ENGINE CONTROL SYSTEM



# DEFENDER 2 SERIES - PARTS LIST

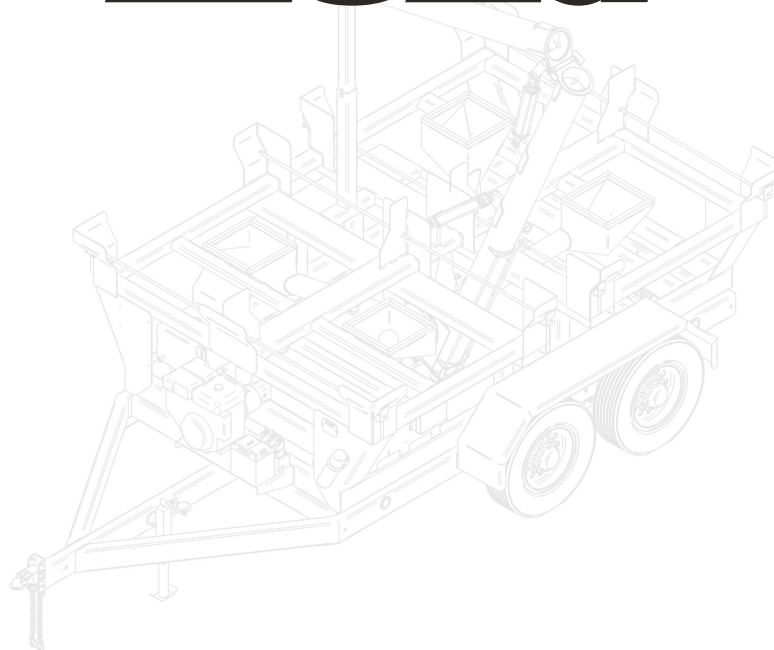
## ENGINE CONTROL SYSTEM

ITEM #	PART #	DESCRIPTION	QTY
1	28041-9046	Battery Box	1
2	28041-9059	12V Battery	1
3	30356-9022	Hydraulic Reservoir - 5 GAL	1
4	28041-9045	Tank Strainer	1
5	30636-9007	Hydraulic Valve Assembly - 2 Function	1
6	30356-9027	Hydraulic Pump Bracket	1
7	30356-9024	Lovejoy Spider Coupling	1
8	30356-9025	Coupler - 5/8 IN Shaft	1
9	30356-9026	Lovejoy Coupler - 1 IN Shaft	1
10	28041-9020	Hydraulic Oil Filter	1
11	30356-9028	Hydraulic Filter Head	1
12	30636-9008	Honda GX240 Engine	1
13	HHCS-0.250-20x 1.00-GR5-ZINC	1/4"-20 HHCS x 1.00" Long - Gr. 5 - Zinc Plated	2
14	HHCS-0.313-18x 1.00-GR5-ZINC	5/16"-18 HHCS x 1.00" Long - Gr. 5 - Zinc Plated	3
15	HHCS-0.313-18x4.50-GR5-ZINC	5/16"-18 HHCS x 4.50" Long - Gr. 5 - Zinc Plated	3
16	HHCS-0.375-16x1.00-GR5-ZINC	3/8"-16 HHCS x 1.00" Long - Gr.5 - Zinc Plated	2
17	HHCS-0.375-16x1.25-GR5-ZINC	3/8"-16 HHCS x 1.25" Long - Gr. 5 - Zinc Plated	2
18	HHCS-0.500-13x2.50-GR5-ZINC	1/2"-13 HHCS x 2.50" Long - Gr. 5 - Zinc Plated	4
19	NUT-NYLOCK-0.250-20-GR5-ZINC	1/4"-20 Nylock Nut - Gr.5 - Zinc Plated	2
20	NUT-NYLOCK-0.313-18-GR5-ZINC	5/16"-18 Nylock Nut - Gr.5 - Zinc Plated	5
21	NUT-NYLOCK-0.375-16-GR5-ZINC	3/8"-16 Nylock Nut - Gr.5 - Zinc Plated	2
22	NUT-NYLOCK-0.500-13-GR5-ZINC	1/2"-13 Nylock Nut - Gr.5 - Zinc Plated	4
23	28041-9040	Hydraulic Pump	1
24	WASHER-FLAT-0.250-GR5-SAE-ZINC	1/4" SAE FLAT WASHER ZINC PLATED	4
25	WASHER-FLAT-0.313-GR5-SAE-ZINC	5/16" SAE Flatwasher	11
26	WASHER-FLAT-0.375-GR5-SAE-ZINC	3/8" SAE Flatwasher - Zinc Plated	6
27	WASHER-FLAT-0.500-GR5-SAE-ZINC	1/2" SAE Flatwasher	8
28	WASHER-LOCK-0.375-SPLIT-ZINC	3/8" Split Lock Washer - Zinc Plated	2

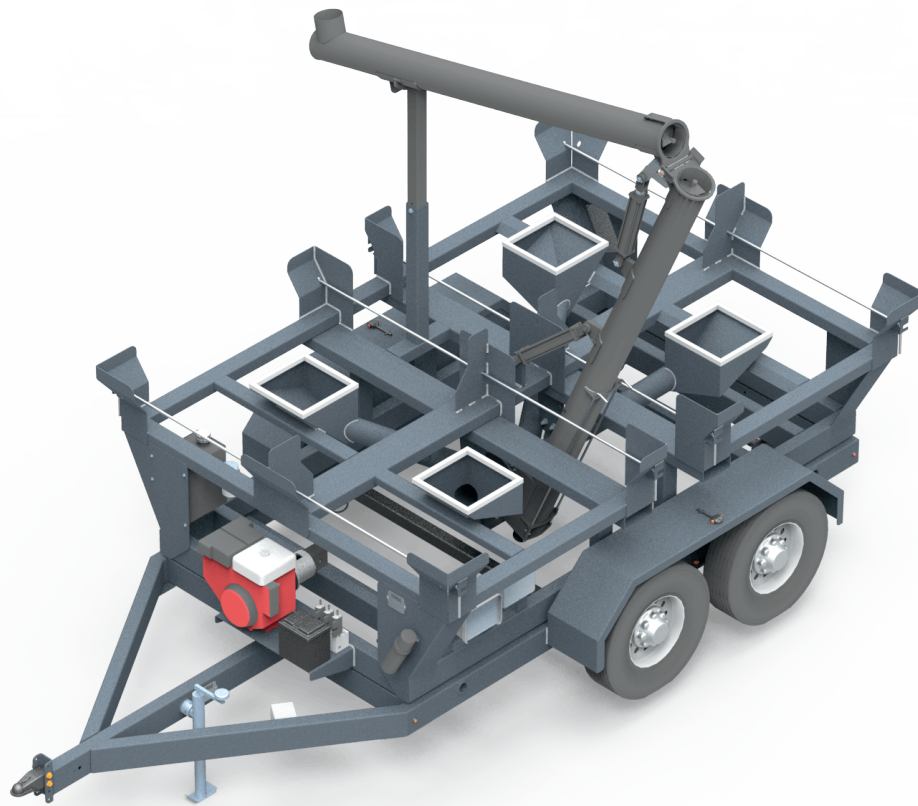


**DEFENDER™**

**TRUAG®**



# DEFENDER 4 SERIES SEED TENDERS



## DEFENDER 4, DEFENDER 4 TOP SPECIFICATIONS ■ PARTS LIST

## DEFENDER 4 SERIES - SPECIFICATIONS

ENGINE	
Type	Honda 13.0 HP w/ Electric Start
Fuel Type	Gasoline
Oil Capacity	1 Quart
Change Oil	Annually
Oil Type	10W-30

HYDRAULIC	
Oil Type	AW46
Capacity	5 Gallon
Change Oil	Every 4,000 HRS
Filter	25 Micron
Fold Cylinder	2-1/2" Bore x 12" Stroke

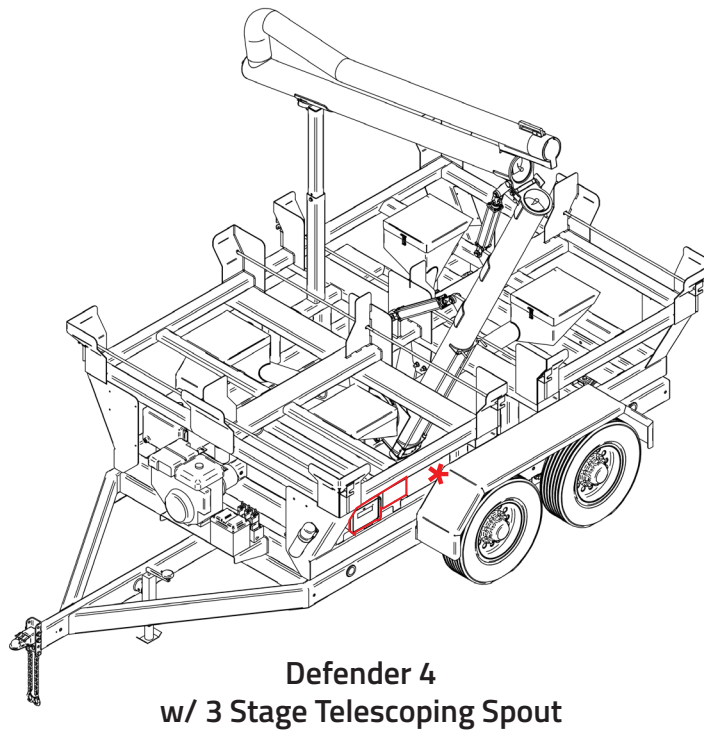
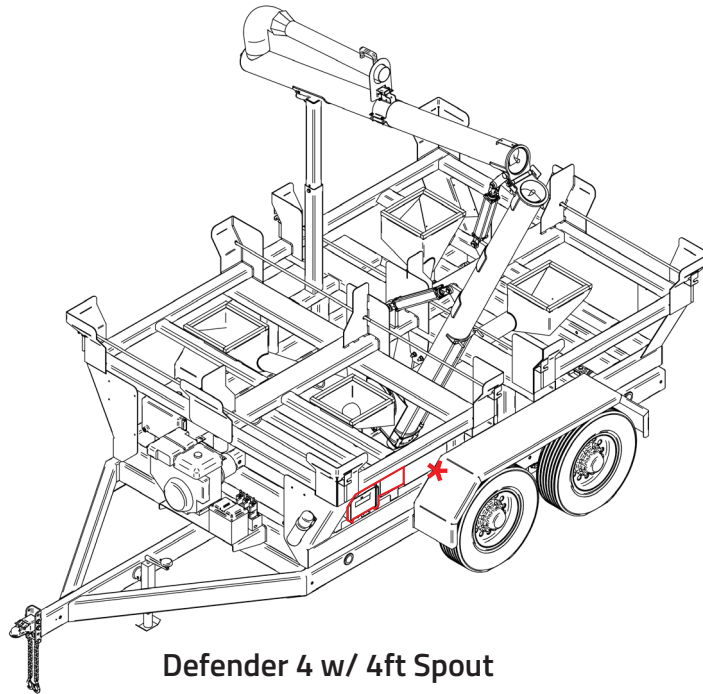
TRAILER	
Tires	ST235/85D16 LRE
Tire Pressure	80 PSI
Axel Type	Torsion
Axel Capacity	7,000 lbs Each
Coupler	2-5/16" Ball
Jack	7,000 lbs Top Wind

OVERALL	
Length	205
Width	101-3/8"
Weight (Curb)	4,440 lbs

BATTERY	
Series	U1
Voltage	12
CCA / CA	300 / 375

# DEFENDER 4 SERIES - SPECIFICATIONS

## DEFENDER 4 MODEL

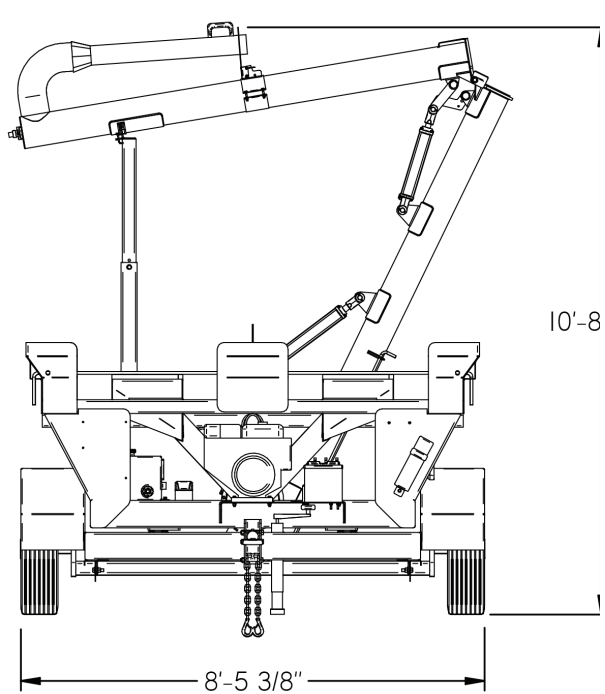


**\*Defender 4 model is scale ready**

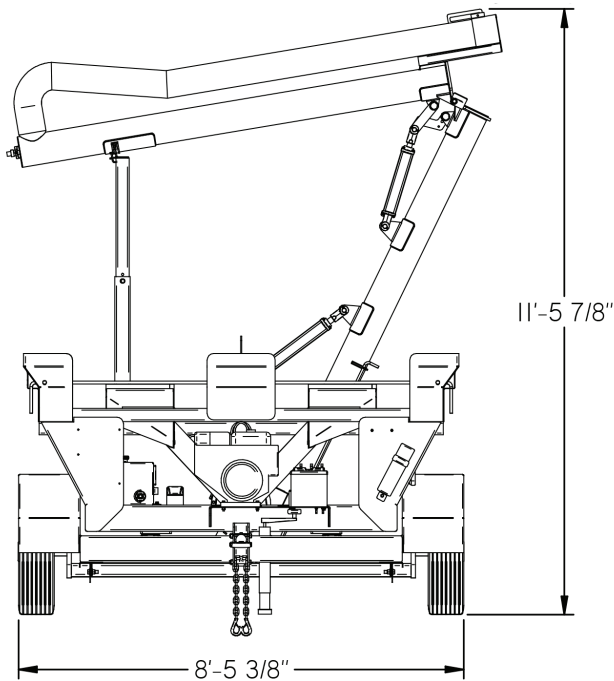


# DEFENDER 4 SERIES - SPECIFICATIONS

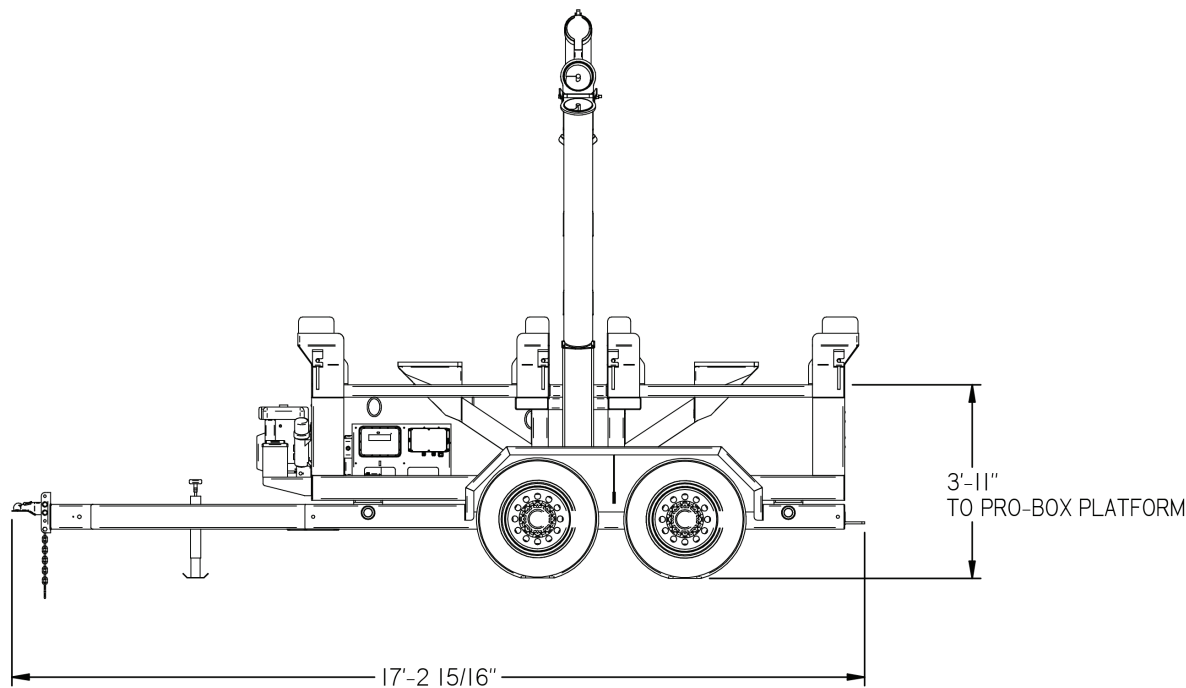
## DEFENDER 4 MODEL



Front View w/ 4 FT Spout



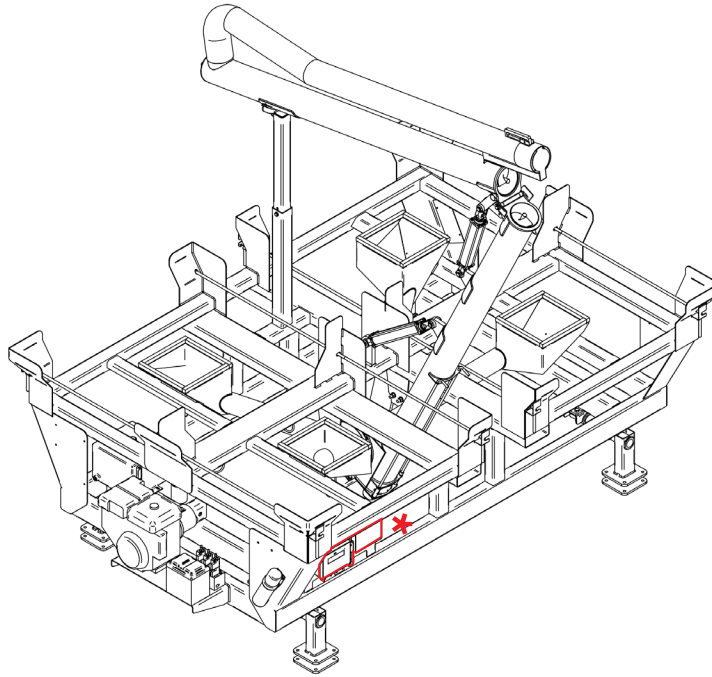
Front View w/ 3 Stage Telescoping Spout



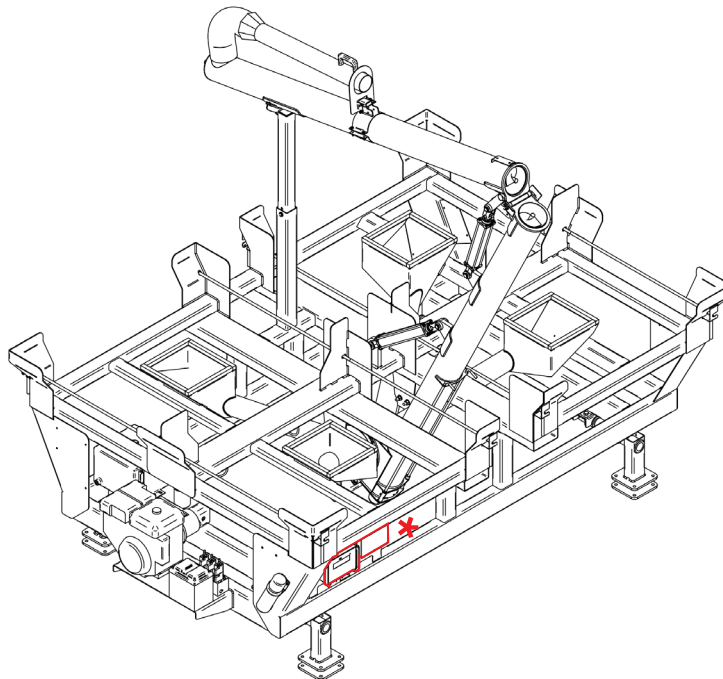
Side View

# DEFENDER 4 SERIES - SPECIFICATIONS

## DEFENDER 4 TOP MODEL



Defender 4 Top w/ 4ft Spout

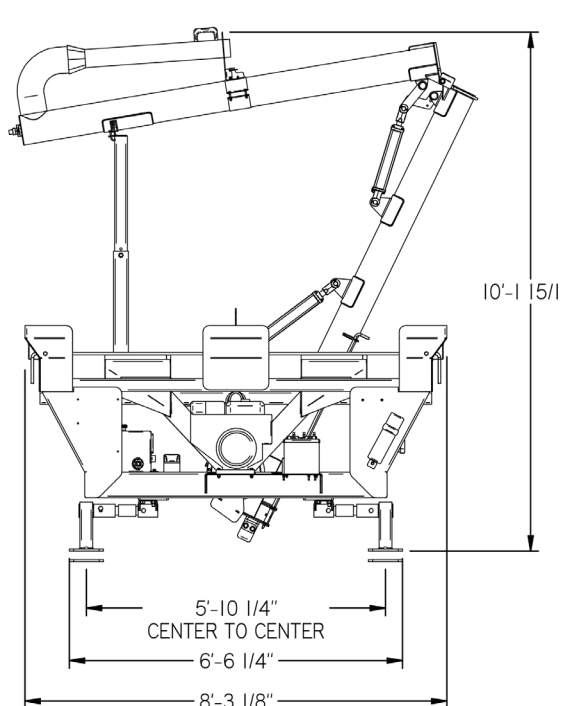


Defender 4 Top  
w/ 3 Stage Telescoping Spout

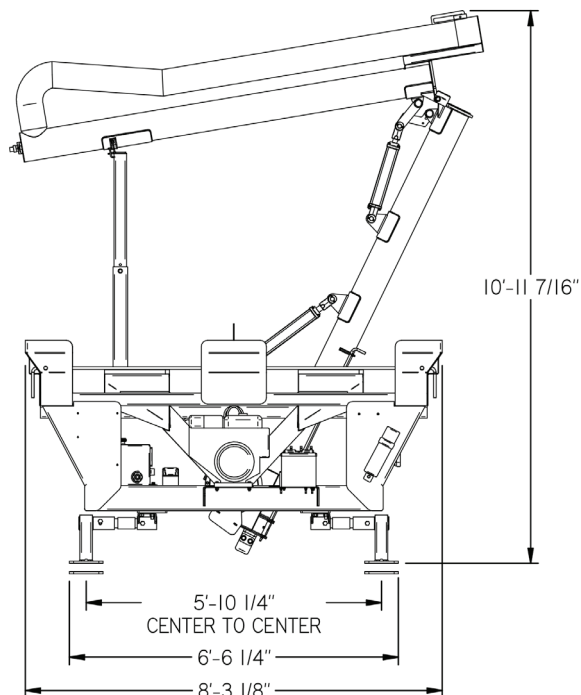
**\*Defender 4 Top model is scale ready**

# DEFENDER 4 SERIES - SPECIFICATIONS

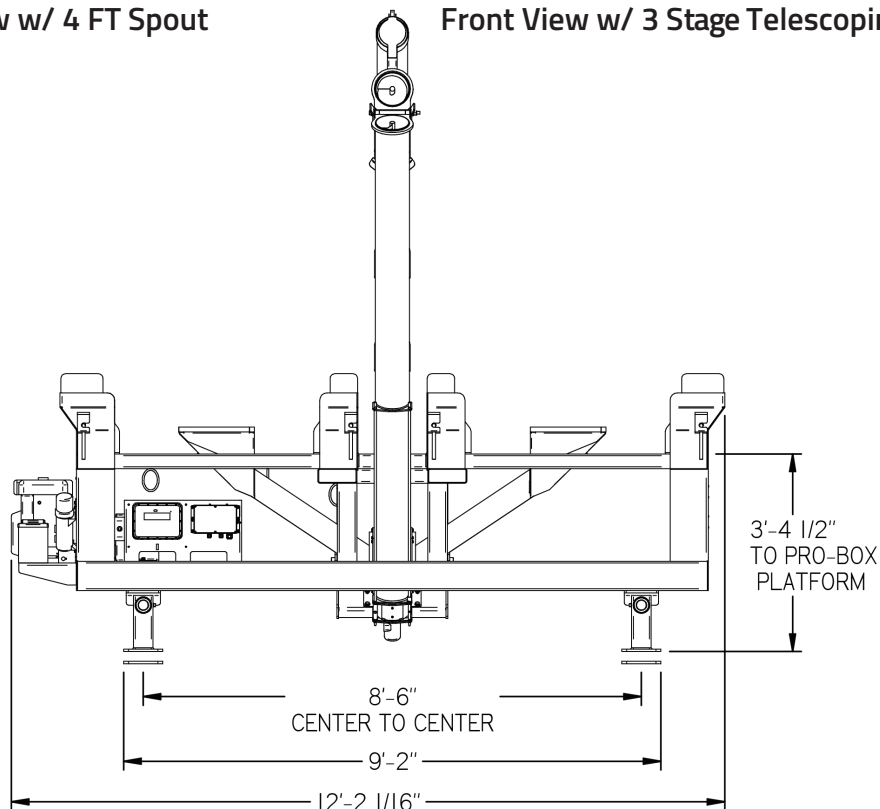
## DEFENDER 4 TOP MODEL



Front View w/ 4 FT Spout



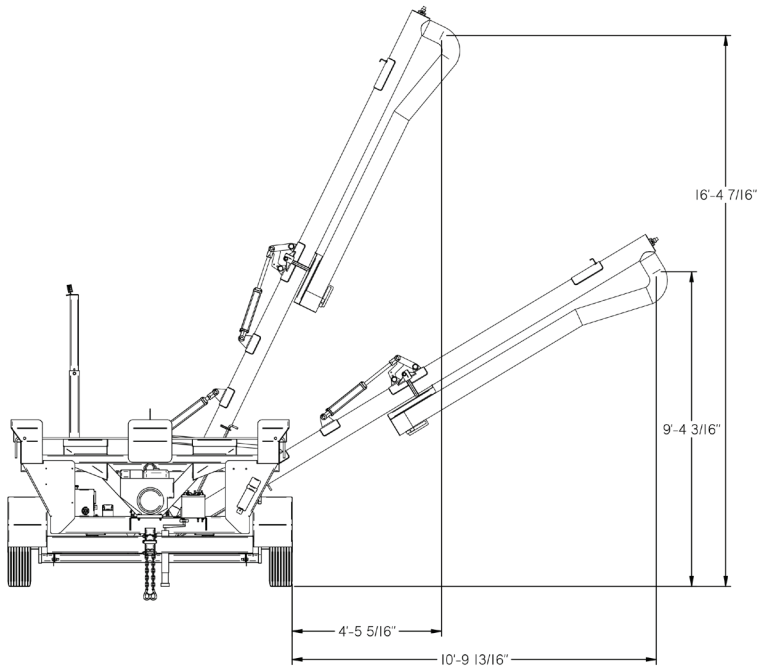
Front View w/ 3 Stage Telescoping Spout



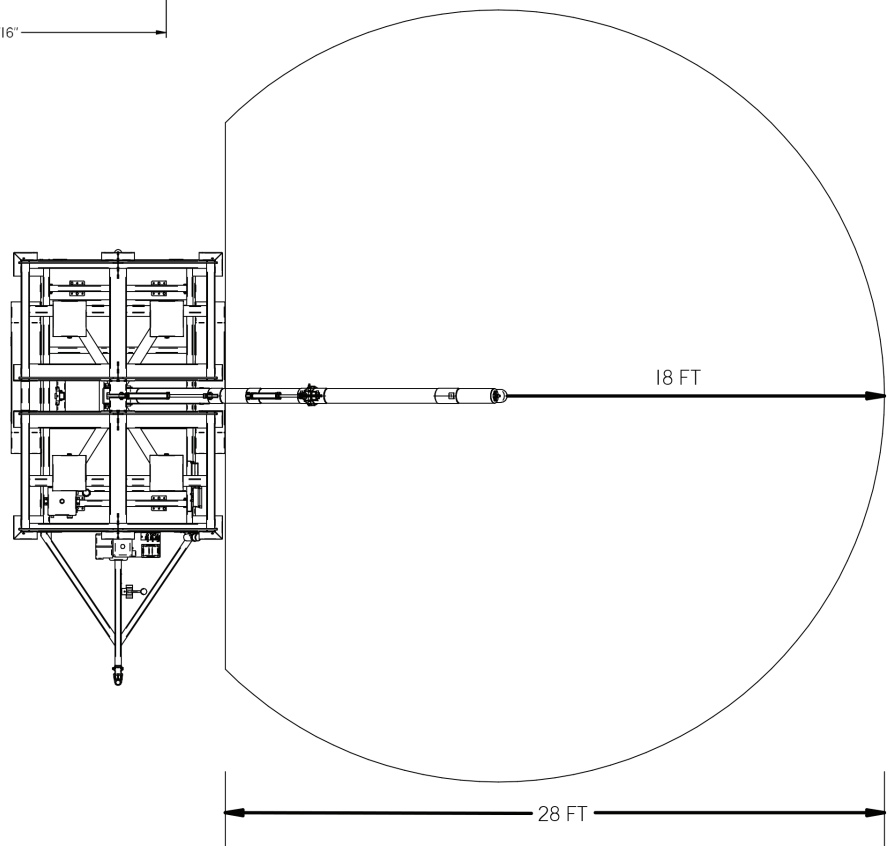
Side View

# DEFENDER 4 SERIES - SPECIFICATIONS

## DEFENDER 4 AUGER REACH



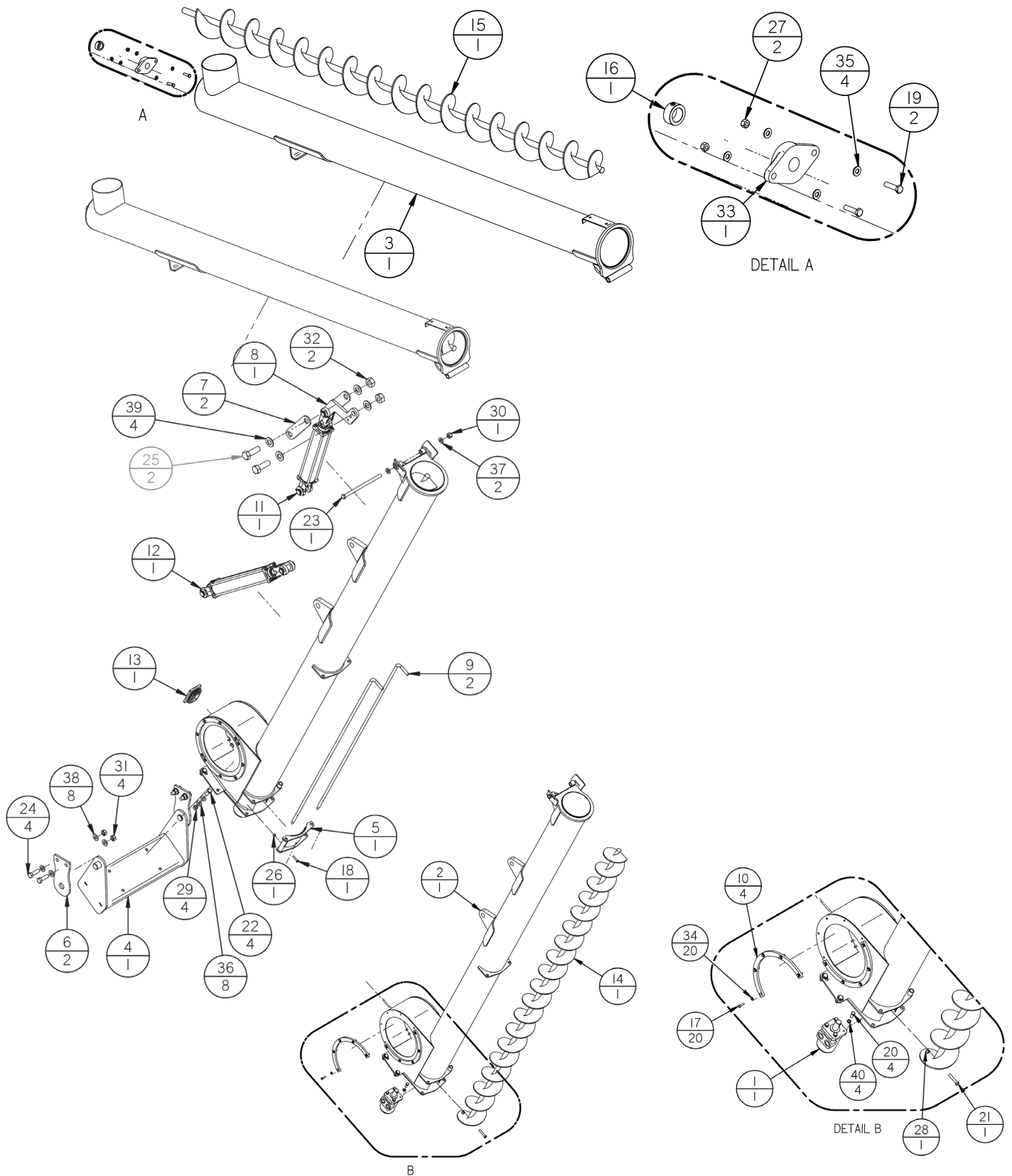
Front View Auger Reach



Top View Auger Reach

# DEFENDER 4 SERIES - PARTS LIST

## AUGER ASSEMBLY



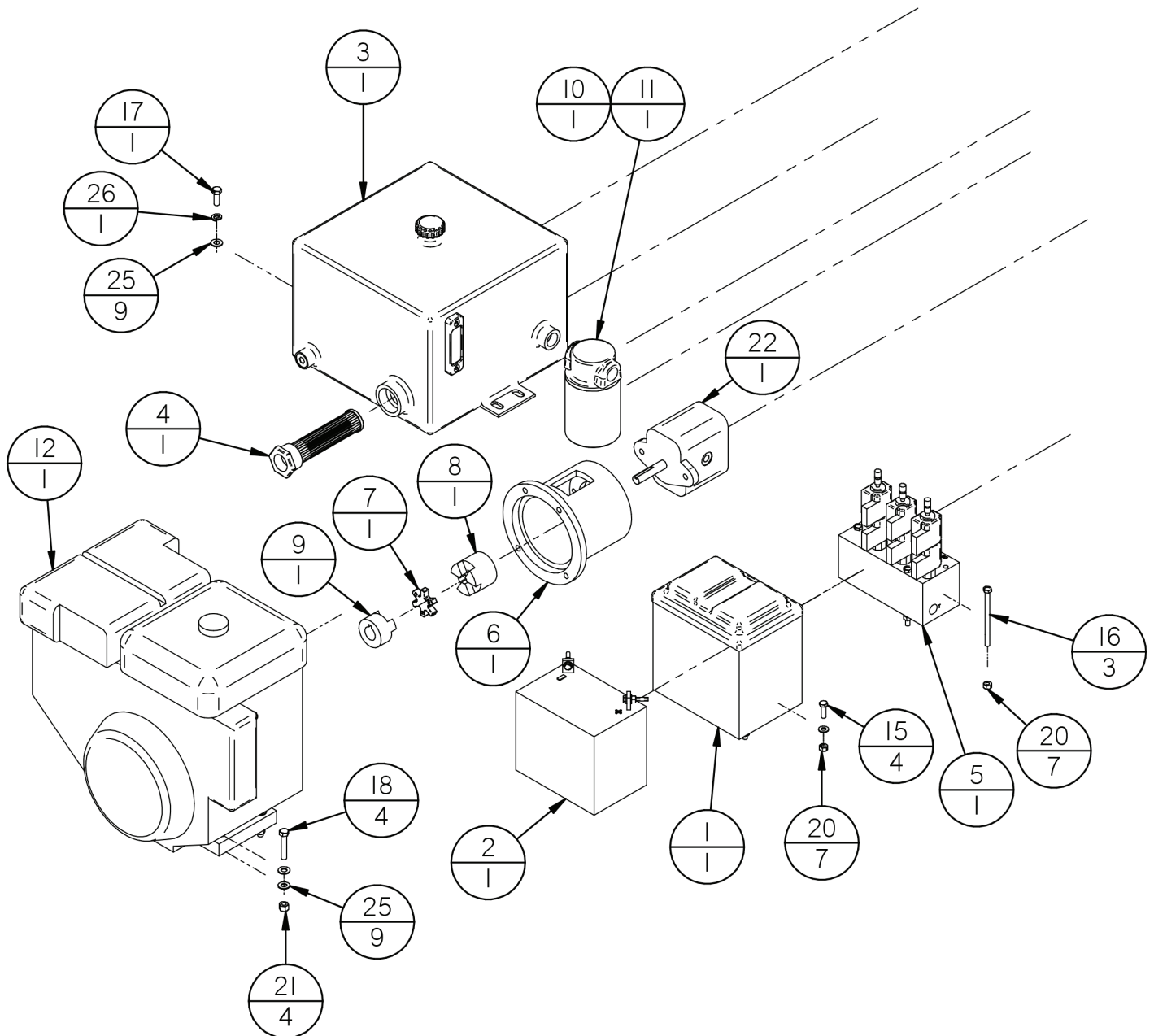
# DEFENDER 4 SERIES - PARTS LIST

## AUGER ASSEMBLY

ITEM #	PART #	DESCRIPTION	QTY
1	28041-9039	Hydraulic Motor	1
2	30356-0003	Lower Auger Weldment	1
3	30356-0004	Upper Auger Weldment	1
4	30356-0005	Lower Auger Cradle	1
5	30356-0009	Cleanout Door Weldment	1
6	30356-1078	Auger Pivot Mount Plate	2
7	30356-1093	Straight Linkage Bar	2
8	30356-1095	Z Linkage Bar	1
9	30356-1106	Cleanout Door Rod	2
10	30356-1210	UHMW Pivot Gasket	4
11	30356-9008	2 1/2 x 12 The Rod Cylinder	1
12	29846-9002	2 1/2 x 16 The Rod Cylinder	1
13	30356-9023	Rectangular Plug - 4" x 3", Snap-In, Black	1
14	28041-9047	Poly-Cupped Auger - Bottom (6 IN x 111 IN)	1
15	28041-9048	Poly-Cupped Auger - Top (6 IN x 97 IN)	1
16	30356-9010	Shaft Collar - 1 IN	1
17	HHCS-0.250-20x 1.00-GR5-ZINC	1/4"-20 HHCS x 1.00" Long - Gr. 5 - Zinc Plated	20
18	HHCS-0.250-20x 1.25-GR5-ZINC	1/4"-20 HHCS x 1.25" Long - Gr. 5 - Zinc Plated	1
19	HHCS-0.313-18x 1.25-GR5-ZINC	5/16"-18 HHCS x 1.25" Long - Gr. 5 - Zinc Plated	2
20	HHCS-0.375-16x1.00-GR5-ZINC	3/8"-16 HHCS x 1.00" Long - Gr.5 - Zinc Plated	4
21	HHCS-0.375-16x2.00-GR5-ZINC	3/8"-16 HHCS x 2.00" Long - Gr.5 - Zinc Plated	1
22	HHCS-0.500-13x1.50-GR5-ZINC	1/2"-13 HHCS x 1.50" Long - Gr.5 - Zinc Plated	4
23	HHCS-0.562-12x10.0-GR8-ZINC	9/16"-12 HHCS x 10.0" Long - Gr.5 - Zinc Plated	1
24	HHCS-0.625-11x2.00-GR5-ZINC	5/8"-11 HHCS x 2.00" Long - Gr.5 - Zinc Plated	4
25	HHCS-1.000-8x3.00-GR5-ZINC	1"-8 HHCS x 3.00" Long - Gr.5 - Zinc Plated	2
26	NUT-NYLOCK-0.250-20-GR5-ZINC	1/4"-20 Nylock Nut - Gr.5 - Zinc Plated	1
27	NUT-NYLOCK-0.313-18-GR5-ZINC	5/16"-18 Nylock Nut - Gr.5 - Zinc Plated	2
28	NUT-NYLOCK-0.375-16-GR5-ZINC	3/8"-16 Nylock Nut - Gr.5 - Zinc Plated	1
29	NUT-NYLOCK-0.500-13-GR5-ZINC	1/2"-13 Nylock Nut - Gr.5 - Zinc Plated	4
30	NUT-NYLOCK-0.562-12-GR5-ZINC	9/16"-12 Nylock Nut - Gr.5 - Zinc Plated	1
31	NUT-NYLOCK-0.625-11-GR5-ZINC	5/8"-11 Nylock Nut - Gr.5 - Zinc Plated	4
32	NUT-NYLOCK-1.000-8-GR5-ZINC	1"-8 Nylock Nut - Gr.5 - Zinc Plated	2
33	28041-9044	Top Auger Bearing	1
34	WASHER-FLAT-0.250-GR5-SAE-ZINC	1/4" SAE FLAT WASHER ZINC PLATED	20
35	WASHER-FLAT-0.313-GR5-SAE-ZINC	5/16" SAE Flatwasher	4
36	WASHER-FLAT-0.500-GR5-SAE-ZINC	1/2" SAE Flatwasher	8
37	WASHER-FLAT-0.562-GR5-SAE-ZINC	9/16" SAE Flatwasher	2
38	WASHER-FLAT-0.625-GR5-SAE-ZINC	5/8" SAE Flatwasher	8
39	WASHER-FLAT-1.000-GR5-SAE-ZINC	1" SAE Flatwasher	4
40	WASHER-LOCK-0.375-SPLIT-ZINC	3/8" Split Lock Washer - Zinc Plated	4

# DEFENDER 4 SERIES - PARTS LIST

## ENGINE CONTROL SYSTEM





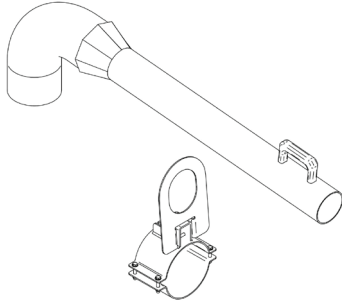
# DEFENDER 4 SERIES - PARTS LIST

## ENGINE CONTROL SYSTEM

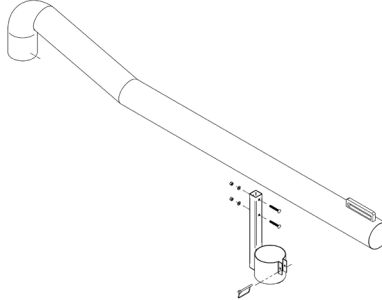
ITEM #	PART #	DESCRIPTION	QTY
1	28041-9046	Battery Box	1
2	28041-9059	12V Battery	1
3	30356-9022	Hydraulic Reservoir - 5 GAL	1
4	28041-9045	Tank Strainer	1
5	28041-9026	Hydraulic Valve Assembly - 3 Function	1
6	30356-9027	Hydraulic Pump Bracket	1
7	30356-9024	Lovejoy Spider Coupling	1
8	30356-9025	Coupler - 5/8 IN Shaft	1
9	30356-9026	Lovejoy Coupler - 1 IN Shaft	1
10	28041-9020	Hydraulic Oil Filter	1
11	30356-9028	Hydraulic Filter Head	1
12	30356-9029	Honda GX390 Engine	1
13	HHCS-0.250-20x 1.00-GR5-ZINC	1/4"-20 HHCS x 1.00" Long - Gr. 5 - Zinc Plated	1
14	HHCS-0.250-20x 1.50-GR5-ZINC	1/4"-20 HHCS x 1.50" Long - Gr. 5 - Zinc Plated	2
15	HHCS-0.313-18x 1.00-GR5-ZINC	5/16"-18 HHCS x 1.00" Long - Gr. 5 - Zinc Plated	4
16	HHCS-0.313-18x4.50-GR5-ZINC	5/16"-18 HHCS x 4.50" Long - Gr. 5 - Zinc Plated	3
17	HHCS-0.375-16x1.00-GR5-ZINC	3/8"-16 HHCS x 1.00" Long - Gr.5 - Zinc Plated	1
18	HHCS-0.375-16x2.00-GR5-ZINC	3/8"-16 HHCS x 2.00" Long - Gr.5 - Zinc Plated	4
19	NUT-NYLOCK-0.250-20-GR5-ZINC	1/4"-20 Nylock Nut - Gr.5 - Zinc Plated	3
20	NUT-NYLOCK-0.313-18-GR5-ZINC	5/16"-18 Nylock Nut - Gr.5 - Zinc Plated	7
21	NUT-NYLOCK-0.375-16-GR5-ZINC	3/8"-16 Nylock Nut - Gr.5 - Zinc Plated	4
22	28041-9040	Hydraulic Pump	1
23	WASHER-FLAT-0.250-GR5-SAE-ZINC	1/4" SAE FLAT WASHER ZINC PLATED	6
24	WASHER-FLAT-0.313-GR5-SAE-ZINC	5/16" SAE Flatwasher	4
25	WASHER-FLAT-0.375-GR5-SAE-ZINC	3/8" SAE Flatwasher - Zinc Plated	9
26	WASHER-LOCK-0.375-SPLIT-ZINC	3/8" Split Lock Washer - Zinc Plated	1

## OPTIONAL EQUIPMENT

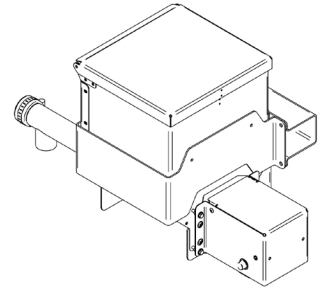
**4' SPOUT & HOLDER FOR  
PLANTING SYSTEMS**



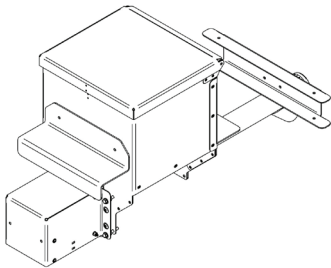
**3 STAGE X 19'  
TELESCOPING SPOUT KIT**



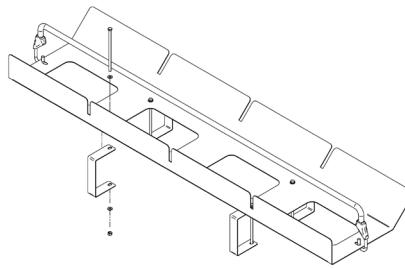
**DEFENDER 2  
DRY SEED TREATER**



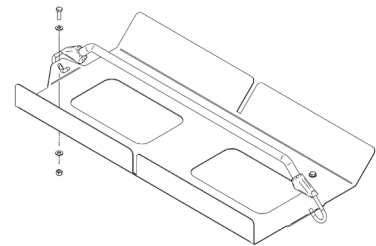
**DEFENDER 4  
DRY SEED TENDER**



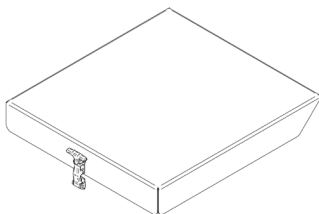
**4 BOX LID HOLDER**



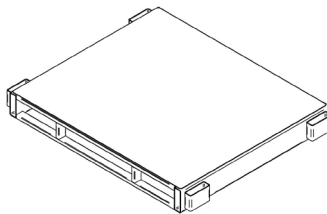
**2 BOX LID HOLDER**



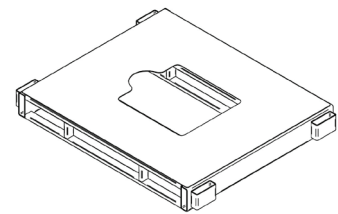
**LID ASSEMBLY**



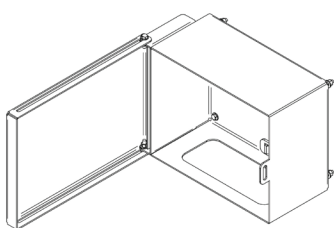
**CLOSED CENTER  
SEED CADDY SKID**



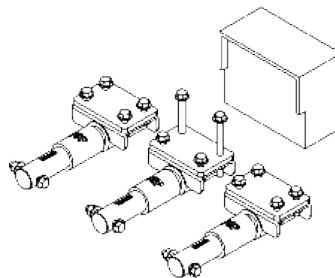
**OPEN CENTER  
SEED CADDY SKID**



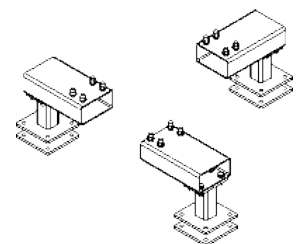
**SCALE SECURITY  
COVER ASSEMBLY**



**SCALE SYSTEMS**



**STAND-OFF LEGS FOR  
PERSONAL TRAIL MOUNTING**



# TROUBLESHOOTING

TruAG strives to produce tough & reliable products. Our products have features that are designed to greatly improve performance & life expectancy, while increasing efficiency. However, improper use &/or neglect of these features can result in high maintenance costs, premature failure, &/or poor performance. Below is a list of potential field problems with probable causes & remedies. This guide will help to ensure that your equipment will live up to the TruAG name.

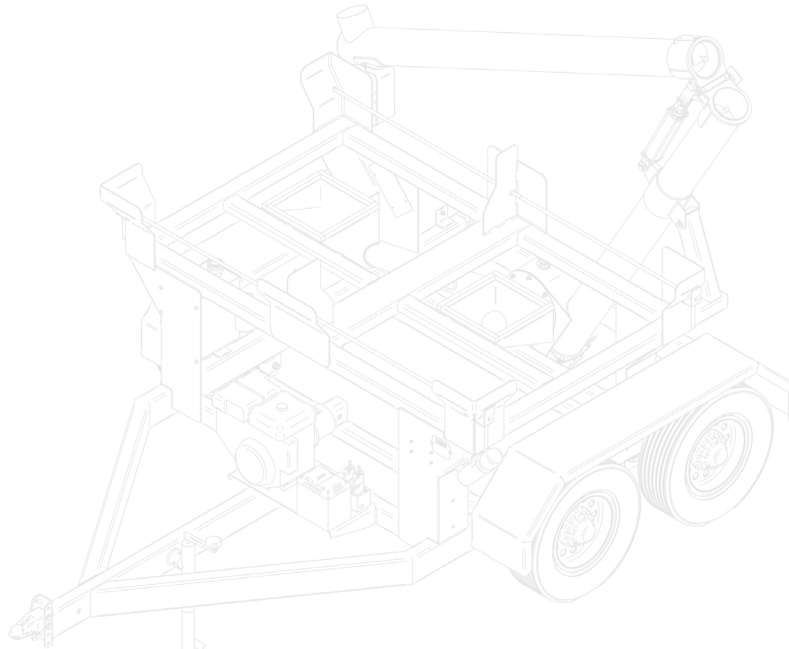
POTENTIAL PROBLEM	PROBABLE CAUSES	SOLUTIONS
Wireless Receiver Not Turning On	Poor Connection At 12V Battery Dead Battery	Check for good connection & that the battery terminals are clean. Test battery & replace if necessary.
Wireless Receiver Not Responding	Base Remote Not Turned On	Press red button on wireless remote.
	Wireless Remote Not Synchronized With Receiver	Turn unit off by pressing red button. Disconnect spade terminal on red wire. Wait 20 seconds. Reconnect spade terminal & immediately press & hold green button on remote for 10 seconds.
	Batteries In Handheld Remote Are Dead	Replace batteries. Check to ensure proper polarity when installing the new batteries.
Remote Syncs Up, But Functions Are No Responding	Poor Ground Connection	Check for good connections at battery, that the terminals are clean & the solenoid connections are good.
	Connectors Are Not Secured At The Solenoid	Remove connector & reinstall until the connector locks with mating connector on solenoid.
	Debris In Connector	Remove connector & clean w/ electrical connection cleaner. Clean both the male & female ends.
Upper Auger Folds/ Unfolds To Fast	Counter Balance Valve Not Adjusted Properly	Adjust fold/unfold valve, see page 18.
Lower Auger Settles Downward In Unfold	Counter Balance Valve Not Adjusted Properly	Adjust tilt up/tilt down valve, see page 19.
Position Functions Performing Opposite Of Remote	Connectors Reversed	Swap connectors from top to bottom on solenoid controlling particular function.

NOTES



# NOTES





**DEFENDER™**

**TRUAG®**

