Pequea Vertical Beater Spreader

Models VHS-600

Operator's Manual

THIS MANUAL MUST BE READ AND UNDERSTOOD BEFORE ANYONE OPERATES THIS MACHINE!

Manual#990138
Revised 06/03/2025

In Order to register and qualify this Vertical Beater Spreader for warranty, please visit the website for filling out a form. The dealer can also assist in this warranty registration process. The website to this form is:https://www.pequea.com/parts-service/

To the Owner:

Thank You for choosing a quality product from Pequea Machine, Inc. We strive to give you the best equipment and the best level of service of any company. With a little care and maintenance, this machine will do your work for you for many years. In this manual, we make an effort to get you better acquainted with the machine so you can achieve maximum performance. We design and build all of our equipment with the end user in mind so we welcome any suggestions or ideas for improvement. Please note that it is within our rights to make changes or improvements to our equipment without updating the equipment that was manufactured before the change took place.

Please take a few minutes to fill out the area below. This information will be valuable to you when ordering parts or requesting service from your dealer.

Dealer Name:_____

Dealer Phone Number:_____

Service Manager/Technician:_____

Model# and Description:_____

Serial Number:_____

Date of Purchase:_____

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INTRODUCTION

At Pequea, we have a strong commitment to ensuring farmers can access the best agriculture technology in the industry. You put in hard work and long days, so we do what we can to offer new products that help farms save time, money, and resources, while increasing their yield. We've refined our products over the years with upgrades and innovations to treat your land with the respect it deserves, using feedback from actual farmers and our engineering team. Whether you purchase a hay tedder, spreader, trailer, or any of our other fine products, Pequea – and the agricultural equipment suppliers we work with – are here for you with the quality you're searching for to keep your farm running.

Like all Pequea products, we manufacture our manure spreaders in our New Holland Pennsylvania facility, using quality components and expert craftsmanship every step of the way.

Pequea is more than just an agricultural machinery manufacturer. We provide parts, service, and support for your new equipment. This manual is provided to all new owners of the ***Vertical Beater Spreader VHS-600*** to make you aware of all maintenance expectations, safety concerns, and issues you may encounter when owning this piece of equipment. Be sure to keep this manual for future references. Please review all instructions carefully, taking special note of all safety notifications. Should you have any questions related to your new equipment, please contact your dealer prior to proceeding.

Key Features

- This spreader has Corten Steel Box and Crossmembers. Corten material is resitant to rust. It forms an oxidation layer over the steel which inhibits deeper rust penetration.

-The Heavy Duty Pintle Chain with Stainless Pins is strong and also resistant to stretching and wear. Instead of a single point of contact (log chain), the wear is spread out over the entire surface of the pin diameter.

-Hydraulically fully adjustable Floor Speed 0-15 ft/min.

-Automatic torque limiter Power Take-Off (PTO) clutch. The slip clutch on the rear PTO of the machine has a mechanism that “cuts out” when excessive torque is transmitted through the driveline. There are no shear bolts required. When the PTO speed is idled down and reduced to a lower speed, the torque limiter re-engages.

Serial Number

The spreader’s serial number can be found on the inside of the tongue directly under the driveline. Please use this number when requesting service, seeking information, or ordering parts. For the operator’s convenience, space to record the serial number, model number, purchase date, and dealer has been provided inside the front cover of this manual.

Figure 1

SPECIFICATIONS

Specifications	VHS-600
Beater Type	Vertical
Struck Level Capacity	405 cu. ft.
Heaped Capacity	605 cu. ft.
Max Payload Load	17 Tons (34,000 lbs)
Tongue Weight	1207 lb. + Payload x 0.24
Hopper Construction	Corten Steel (Corrosion Resistant)
Overall Length	28 ft.
Inside Box Length	204” - 217”
Inside Box Depth	52”
Inside Box Width At Floor	59”
Box width at top flare	86”
Loading Height	96”
Overall Height With Endgate Down (front shield)	10’9”
Overall Height With Endgate Up	14’6”
Loading Height	96”
Overall Tread Width (outside of tires)	112”
Unit Weight	13,300 lbs
PTO Speed	1000 rpm (1-3/8 spline)
Beater Speed	420 rpm
Beater Diameter	30”
Tires	560/60R 22.5 Flotation
Hydraulic Requirement	2 sets of remotes
Min Hydraulic Pressure and flow for Apron Drive	10 GPM @ 2000 psi
Apron Floor Chain Type	WH124 Engineering Class Pintle Chain w/Stainless Steel Pins (Rated 50,000 lb per Strand)
MIN PTO Power	150 HP
PTO Type	80 deg CV Joint on tractor side

SAFETY FIRST!!

This symbol precedes specific safety instructions throughout this manual. When reading the manual, pay close attention to the information that follows this symbol.

FAILURE TO FOLLOW INSTRUCTIONS IN THIS MANUAL COULD RESULT IN PERSONAL INJURY OR DEATH. READ THE ENTIRE MANUAL BEFORE OPERATING THE SPREADER.

Keep hands, feet and clothing away from the machine's Power Take-Off (PTO) shaft and any other moving parts until the machine has been shut down and the power source has been locked out.

Do not adjust, unclog, lubricate, or service the spreader until it has been shut down.

Be certain all bystanders and animals are a safe distance away before performing maintenace or operating the spreader.

Never allow anyone to ride on the tractor or the spreader.

When transporting follow the tractor and spreader weight ratio standards bases on ASABE S648-4.1. For unbraked spreaders where the spreader weight is no more than 1.5x the tractor weight, the max towing speed is 20MPH. Where the weight of the spreader exceeds 1.5 times the weight of the tractor, an optional braking system is required on the spreader. Do not tow a load that is twice the weight of the tractor. Use additional caution when towing loads on rough terain, turns, and declines.

Do not overload the spreader more than the rated weight capacity (see spec table Pg 4)

Stay clear of rotation beaters on the rear of the machine. Rotation beaters will cause severe injury or death. Shut down tractor and disconnect PTO before going near or servicing the beaters. Stay back at least 300 ft from the rear of the machine while in operation.

Be constantly aware of the ends of the machine to avoid collision with other objects.

When transporting the machine on public roads, use the proper reflectors, lights, and slow moving vehicle signs required by local government agencies. Pequea will not be liable for any traffic violations.

Be careful around hydraulic hoses and fittings. Never go near hydraulic leaks. High pressure leaks can puncture skin and cause serious injury or death!

Keep hands and Body away from the Apron Chain and sprockets. Keep shields in place. The chain has extreme force and the sprocket shafts have high torque. This machine will dismantle objects or body parts if care is not taken

Be sure to connect the Spreader Safety Chain Securely to the Tractor While in Use. Failure to do so, can result in a runaway spreader.

POWER SOURCE SAFETY

PTO shield chains must be attached to the tractor and/or the tedder to keep the shield from rotating.

Do not overextend the PTO Shaft

SAFETY

Safety Decals and Reflectors

Safety decals and reflectors are for the safety of yourself and others, and must be heeded at all times. If any decals are missing, faded, or damaged in any way, please contact your dealer for replacements immediately. Shown below are some of the decals used.

S#1

REDUCE SPEEDS WHEN TOWING LOADS

Braking to stop towed loads from transport speeds can cause the towed load to swerve and upset. Reduce speed if towed load weighs more than the tractor and is not equipped with brakes.

Follow recommended speed-weight ratio guidelines:

- Maximum speed is 20 mph (32km/h) when towing loads equal to or less than the tractor.
- Maximum speed is 10 mph (16km/h) when towing loads more than equal and up to double than the tractor.
- Do no tow loads exceeding double the tractor weight
- Use additional caution when towing loads unde the adverse surface conditions, when turning, and on inclines

S#2

SERVICE SPREADER SAFELY

- To help prevent personal injury caused by unexpected movement, be sure to service spreader on level surface.
- If spreader is connected to tractor, disengage PTO, engage parking brake and/or place transmission in "PARK", shut off engine and remove key
- If spreader is detached from tractor, block wheels and use safety stands to prevent movement.
- Replace all shields after lubricating or servicing.

S#3

USE SAFETY CHAIN

- A safety chain will help control drawn equipment should it accidentally seperate from the drawbar
- Using the appropriate adapter parts, attach the chain to the tractor drawbar support or other specified anchor location. Provide only enough slack in the chain to permit turning
- See your Pequea dealer for a chain with a strength equal to or greater than the gross weight of the towed machine. Do not use safety chain for towing.

S#4

PREPARE FOR EMERGENCIES

- Be prepared if a fire starts
- Keep a first aid kit and fire extinguisher handy.
- Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.

S#5

PARK SPREADER SAFELY

Park spreader on a level surface and block wheels.

Close endgate.

Secure jackstand with pin.

C#1

⚠ CAUTION

- Wear close fitting clothing and safety equipment appropriate for the job.
- Prolonged exposure to loud noise can cause impairment or loss of hearing
- Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfrotable loud noises
- Operating equipment safely requires full attention of the operator. Do not wear radio or music headphones while operating machine.

D#1

⚠ DANGER ⚠

STAY CLEAR OF ROTATING BEATER

- Rotating beater can entangle or strike causing personal injury or death.
- Do not clean out or service spreader while beater is rotating
- Disconnect PTO driveline and make sure all parts have stopped rotating before cleaning or servicing
- **Do not cut or weld vertical beater attachment. Serious injury or death could occur when operating**

D#2

⚠ DANGER ⚠

ROTATING DRIVELINE
CONTACT CAN CAUSE DEATH
KEEP AWAY!
DO NOT OPERATE WITHOUT

- **All Driveline Guards, Tractor And Equipment Shields In Place.**
- **Drivelines Securely Attached At Both Ends.**
- **Driveline Guards That Turn Freely On Driveline**

D#3

⚠ DANGER ⚠

KEEP SHIELDS IN PLACE

- **Do not operate spreader without safety shields in place.**
- **Rotating parts can crush or dismember causing death or personal injury**
- **Disconnecting PTO Driveline and hydraulic lines from tractor before removing shields for adjustment or service**

W#1

⚠ WARNING

STAY CLEAR OF RAISED ENDGATE

- Contact with a lowering endgate can cause personal injury or death.
- Lower endgate and disconnect hydraulic lines before servicing or adjusting

W#2

⚠ WARNING

THROWN OBJECTS

Do not operate near people. Debris can be thrown a long distance.

W#3

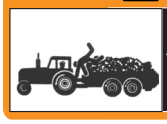
⚠ WARNING

- **Read operators manual before beginning use of machine.**
- **Do not remove shields.**
- **Never allow riders on machine.**
- **Do not attempt to repair, adjust or perform maintenance while PTO is attached to the tractor.**
- **Do not approach machine while in operation.**

PEQ004

W#4

⚠ WARNING



KEEP RIDERS OFF MACHINE

- Riders are subject to injury such as being struck by foreign objects and being thrown off the machine. Riders also obstruct the operator's view resulting in the machine operated in an unsafe manner.

W#5

⚠ WARNING

USE SAFETY LIGHTS AND DEVICES

- Slow moving tractors, self propelled equipment and towed implements or attachments can create a hazard when driven on public roads. Avoid personal injury or death resulting from collisions with a vehicle
- Flashing warning lights and turn signals are reccomended whenever driving on public roads, use the devices provided with your machine

W#6

⚠ WARNING

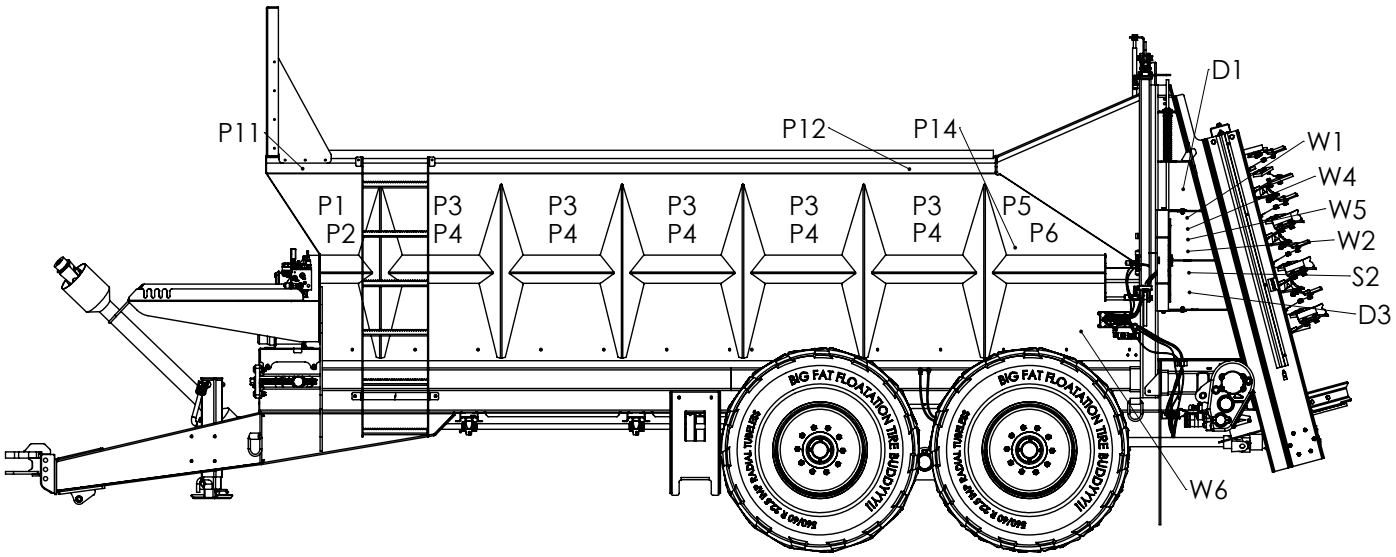
High-Pressure Hydraulic fluid leaks can penetrate skin resulting in serious injury, gangrene, or death.

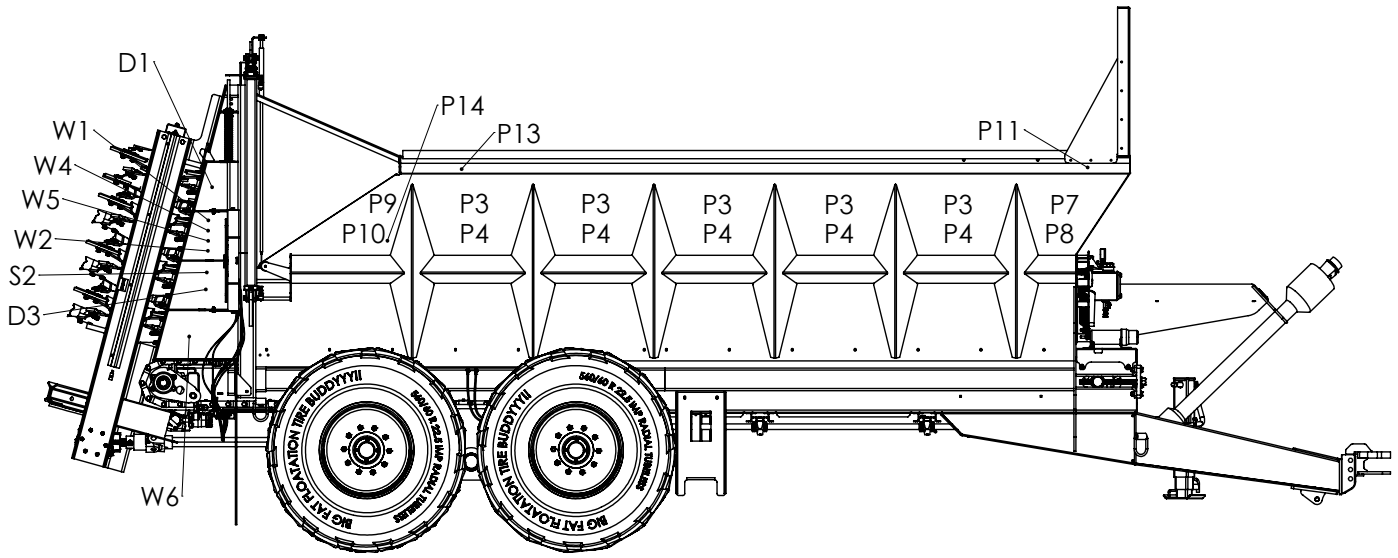
- Check for leaks with cardboard; never use hand.
- Before loosening fittings: lower load, release pressure, and be sure oil is cool.
- Consult physician immediately if skin penetration occurs.

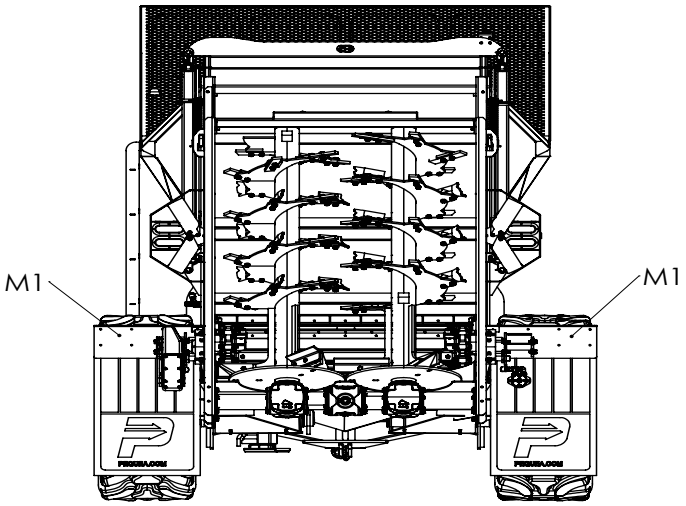
SAFETY

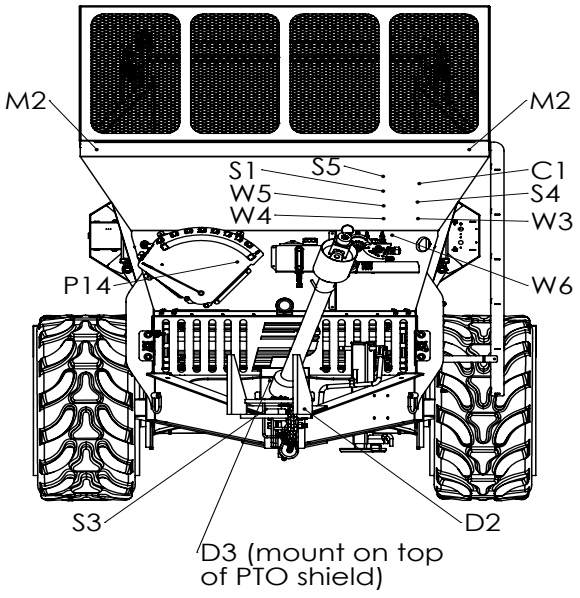
Safety Decals and Reflector Locations

Be sure to place safety decals and reflectors in the appropriate locations, using the diagram on Page 9.


P11
P12
P14
D1
W1
W4
W5
W2
S2
D3
P1
P2
P3
P4
P5
P6
W6


D1
W1
W4
W5
W2
S2
D3
P14
P13
P11
P9
P10
P3
P4
P7
P8
W6


M1
M1


M2
M2
S1
S5
C1
W5
S4
W4
W3
P14
W6
S3
D2
D3 (mount on top
of PTO shield)

PREPPING THE TRACTOR

APPROVED TRACTOR SIZE - VHS600

Tractors with 150 HP PTO rating or larger are approved for operation with the VHS600.

Utility Tractors **DO NOT** meet the requirements for towing. For proper stability, do not tow loads (spreader + payload) that weigh more than twice the tractor weight.

POSITIONING DRAWBAR

Tractor PTO and machine driveline can be damaged if the drawbar length is not properly set.

Adjust drawbar length to 12-16” to help prevent driveline damage. See Figure 2.

Consult the tractor operators manual and the specification table on page 4 for the specification regarding the drawbar weight capacity.

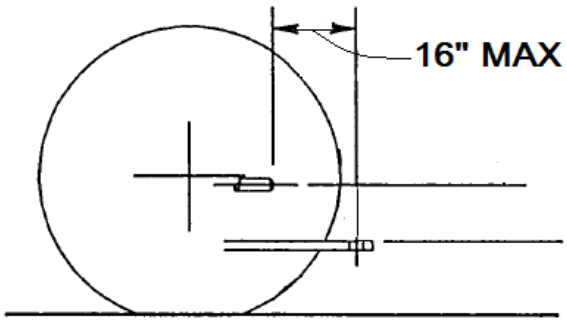


Figure 2

A tractor drawbar support is required on tractors with a drawbar size of 1-1/2” x 3” minimum.

Shortening the drawbar length to a shorter length will help to prevent the drawbar from breaking under load.

TOWING LOADS

Towed loads can swerve or upset when braking at transport speed. If towed load is not equipped with brakes and weighs more than the tractor, you will need to reduce speed.

Recommended Speed-Weight Ratio Guidelines

- Maximum speed is 20 mph (32 km/h) when towing loads equal to or less than the weight of the tractor. (unbraked spreader)

- Reduce speed to 10 mph (16 km/h) when towing loads more than or up to 1.5 times the tractor weight. (unbraked spreader).

- For spreaders equiped with Hydraulic Brakes, the load ratio can be up to 3:1, where the speed is below 20MPH.

- For spreaders equiped with hydraulic brakes and the load ratio 1.5 or less, the max speed can be up to 30 MPH.

- Use additional caution when towing loads under adverse road surface conditions (i.e. slippery or rough), when turning and/or on inclines.

ATTACHING THE SPREADER

Help prevent personal injury caused by unexpected movement of the machine. Engage parking brake and/or place transmission in “PARK”, shut off engine, and remove key before working around hitch.

ATTACHING THE SPREADER

1. Attach with a 1-1/2 in. pin and secure.

Shorten safety chain to allow only enough slack required for turning.

2. Lock safety hook onto chain. (Figure 3 below)

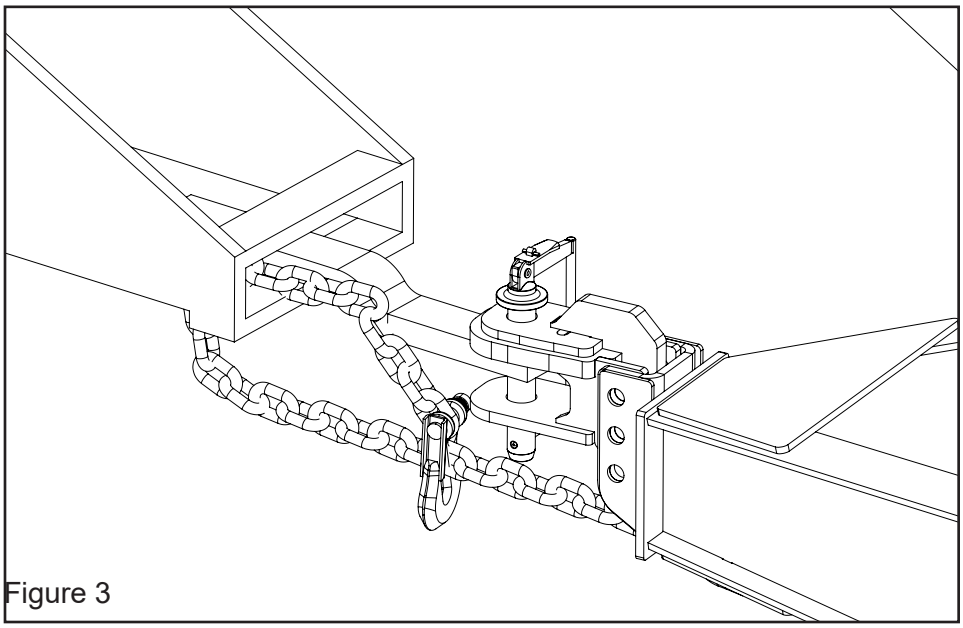


Figure 3

ATTACHING DRIVELINE

Avoid causing damage to shielding. DO NOT use bell on driveline to lift driveline into position.

1. Support driveline, cradling it in your hand.
2. Rotate driveline or tractor PTO to align splines.
3. Pull Locking Collar (Figure 4) on the PTO end and slide the PTO shaft onto the tractor shaft. When the internal locking grooves at the tractor goove, release the collar.
4. Ensure that the shaft is secure by observing that the locking collar snaps back out the whole way and engages the groove with the locking balls.
5. The front PTO CV joint on the tractor side is rated to turn a maximum of 80 deg angle at the joint. DO NOT TURN EXCESSIVELY SHARP TO AVOID PTO DAMAGE.

Figure 4

PREPARING THE SPREADER

LUBRICATING THE MACHINE

Before each use, be sure the machine has been adequately lubricated. (See Lubricating & Maintenance page.)

TIGHTENING WHEEL HARDWARE

Be sure to tighten hardware after initial transport, after one hour of operation, and every fifty hours thereafter. Loose wheel hardware will damage the hub or wheel.

In the sequence shown in figure 4. For 3/4-16 lug nuts tighten to 420 lb-ft of dry torque (320 lb-ft wet).

Tire Size	Wheel Size	Tire Pressure
560/60R22.5	22.5x16	58 psi

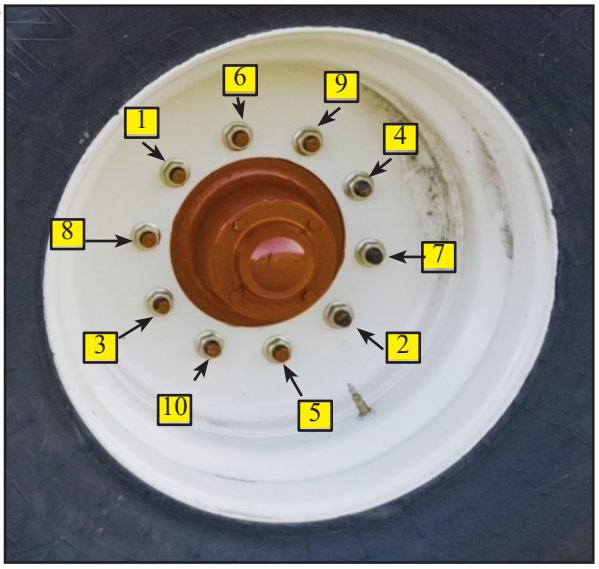


Figure 5

CHECKING TIRES

Check tires daily for damage or noticeably low pressure, repairing any damage as soon as possible. Sunlight and petroleum products or chemicals can also damage tires.

Figure 6

TRANSPORTING

USE A SAFETY CHAIN

A safety chain will help control drawn equipment should it accidentally separate from the drawbar while transporting. Using the appropriate adapter parts, attach the chain to the tractor drawbar support or other specified anchor location. Provide only enough slack in the chain to permit turning. The chain needs a strength rating equal to or greater than the gross weight of the towed machine. See Figure 3 for illustration of the Safety Chain.

LIGHTING

The VHS600 is equipped with accessory lights and devices to provide adequate warning to operators of other vehicles. Check your local government regulations - these lights are to be used, day or night, when transporting on road or highway. If you require replacement lighting kits, contact your Pequea dealer for availability. Flaps are used to prevent manure or materials from building up on the lighting surface while spreading. For the lights to be visible, the endgate must be down the whole way.

FIELD TRANSPORT

Never allow passengers on the spreader or the tractor.

Avoid tight turns to reduce the risk of loss of control or damage of rubbing of the tractor tire and the frame. The CV joint that is on the tractor side of the PTO shaft is is rated for turning at a maximum of 80 degrees. DO NOT TURN EXCESSIVELY SHARP TO AVOID PTO DAMAGE.

Be fully aware of the extended height of the endgate in the field. Be mindful especially around treelines at the edge of fields. The endgate is not intended to push into branches or other objects.

Remain fully aware of the width and length of the spreader in relation to the objects you are passing, either stationary or moving.

Never travel at speeds over 10 MPH in the field when loaded.

For level or rolling terrain, tractor weight must be at least 50% of gross loaded spreader weight. For hilly terrain, road travel, or other adverse conditions, tractor weight must be equal to, or more than the gross loaded spreader weight.

PREOPERATING CHECKS

1. Be sure spreader does not contain any foreign objects or loose hardware on web slats.
2. Visually Check the Apron Chain Condition and oil if necessary.
3. Check for correct hydraulic hookup. Raise endgate fully. Engage the beaters. Engage the apron chain. With no load on the apron chain, look at the pressure gauge and make sure that it is reading less than 500 psi.
4. Disengage the apron chain, disengage the beaters.
5. Close endgate.

LOADING THE SPREADER

CAUTION: Objects like rocks, timbers, or other solid objects can damage the spreader and could also be thrown great distances, potentially injuring anyone standing in the vicinity.

Begin loading near the spreader axle. Load in a way to avoid too little or too much tongue weight. Distrubute the load evenly.

Close Endgate Before Loading. This helps to avoid loading manure against the beater when endgate is raised.

RAISE ENDGATE

Damage will be caused if the apron chain is run with the endgate closed. Be sure to raise endgate when running to avoid contact with the apron chain.

The endgate prevents solid material from being piled tight against the beater and also closes off the back end to contain manure with high liquid content. If solid matter is piled too high, large clumps may be thrown out during first few turns of beater, which is not optimal.

Figure 7

PREPARE TO UNLOAD THE SPREADER

CAUTION: Be sure no one is near spreader and tractor before operating.

Start beater by engaging PTO slowly at low engine RPM. Increase to “PTO RATED” speed for best spreading results.

CAUTION: The apron chain should not be engaged without running the beaters - this may damage the spreader.

UNLOADING SPREADER USING METERING VALVE

Rate of spread is affected by both ground speed and unload speed, set floor speed on the spreader with the control knob on the front of the manifold. Experience will help you determine both gear selection and manifold control knob setting.

When spreader is empty, disengage apron chain, disengage PTO, and lower endgate.

CLEANING SPREADER IN COLD WEATHER

Cleaning is only necessary during long periods of below freezing temperatures, as frozen material may build up on steel surfaces. This can effect the beater performance or prevent them from moving.

To clean, remove material along edges of apron chain and remove material buildup from the endgate panel after operation.

ENDGATE HEIGHT INDICATOR

Figure 8

Figure 8: The arrow indicates the gate height measured in feet. The arrow indicates the distance from the bottom of the endgate to the floor. Regularly check that when the endgate is lowered, the indicator arrow reads zero, and when fully raised, it reads 4 feet.

CONTROLS

OPERATING THE BEATER

If there is any load in the spreader box, Do not operate the apron chain without running the beaters. This may damage the spreader. To start beater, engage PTO lever slowly, at low engine rpm. Disengage the PTO to stop the beater. Be sure to operate the tractor engine at “PTO RATED” speed for best spreading results. Be Aware that the Beaters will continue to coast and spin after turning off the PTO shaft due to the overrunning clutch on the driveline. These are a rotating mass and will continue to spin for some time before coming to a stop. CHECK THAT THE BEATERS HAVE STOPPED SPINNING BEFORE GOING NEAR THE MACHINE.

OPERATING THE ENDGATE

Damage will be caused if the apron chain is run with the endgate closed. Be sure to raise endgage when running to avoid contact with the apron chain.

The endgate is operated with the second auxiliary control valve lever.

Figure 9

OPERATING APRON CHAIN

To run apron chain, lock hydraulic control lever in operating position on tractor. The apron chain can be run with a tractor with “open center” or “closed center” hydraulics. There is a knob on the hydraulic manifold on the spreader that can be switched for either type of tractor. See Figure 11.

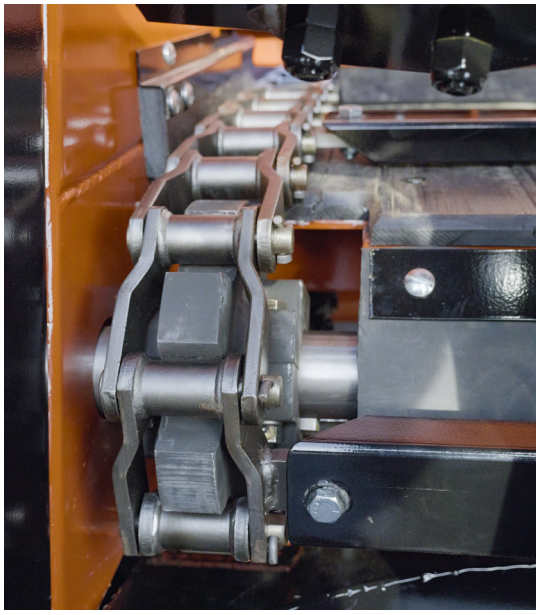


Figure 10: Shows apron Chain from rear of the machine

Consult the tractor specifications to find out what type of system the tractor has. Open center hydraulics output a constant flow with pressure being intermittent. Meanwhile a closed center hydraulic system puts out constant pressure and the flow is intermittent. See your tractor’s operating manual for information on how to control flow rates of your hydraulic system.

There is a hydraulic pressure gauge sticking out the top of the manifold. This reads the pressure leading to the apron drive hydraulic motors. (Figure 11)

Maximum hydraulic oil flow through the spreader apron chain motor is 10gpm at the maximum floor speed of 15 ft/min. The relief valve is factory set at 2100 psi. Adjustment beyond this value will cause excessive stress on the mechanical parts between the hydraulic motor and the apron chain. ADJUSTING BEYOND THE FACTORY PRESSURE SETTING WILL VOID THE WARRANTY OF THESE PARTS.

MANIFOLD FUNCTIONS

Forward Apron Floor Speed Adjustment (0-15 ft/min)

Apron Motor Pressure Guage

Apron Motor Pressure Relief (Apron Forward Relief). Factory Set to 2100 psi. CW to increase and CCW to decrease. **DO NOT** TAMPER UNLESS INSTRUCTED BY FACTORY

Apron Pressure Relief (reverse direction). Factory Set to 1000 PSI.

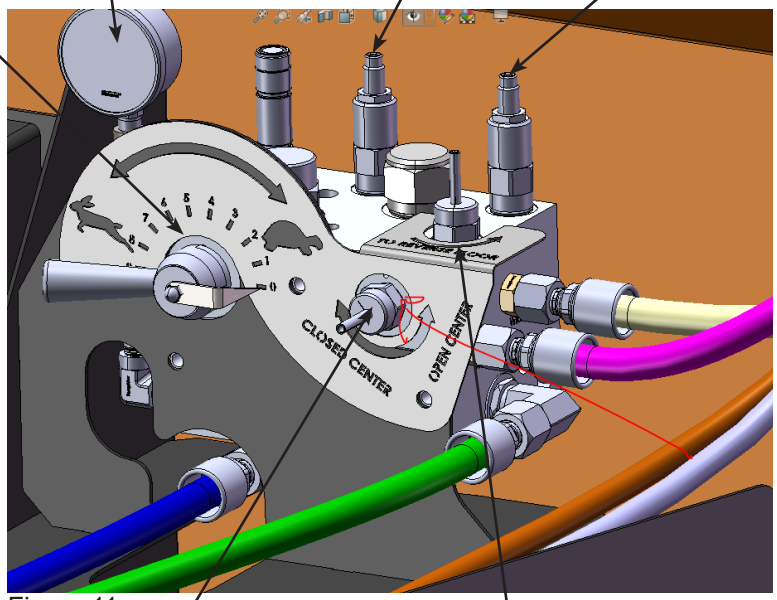


Figure 11

Knob to adjust from a tractor with open center hydraulics (CCW) to closed center hydraulics (CW).

Knob to Allow Reverse of Floor Chain. (USE WITH CAUTION) By default, this knob should be set to not allow reversal of the apron chain. If the chain needs to be reversed, then it needs to be manually positioned by rotating CCW. This will allow the floor to run in reverse.

TRACTOR HYDRAULICS AND ADJUSTMENT CONTROLS

CONTROL CHAIN SPEED - ADJUSTING HYDRAULIC MANIFOLD VALVE

The minimum required hydraulic oil flow through the spreader apron drive circuit (larger hose set) is 10 gpm at the highest speed setting. For the most efficient hydraulic setup, it is reqired to know if the tractor being used has a closed center hydraulic system or an open center hydraulic system. There is a knob on the manifold that can be rotated for each type of tractor hydraulics. For an open center system, rotate the knob Counter Clockwise. For a closed center system, rotate the knob Clockwise. This will ensure that the oil is not being overheated by continually going over the relief valve. See Figure 11 for further illustration of the knob Location.

SETTING TRACTOR HYDRAULIC SPEED ENDGATE OPERATION

Adjust selective control valve lever to provide correct operating speed. Excessive speed while operating can cause damage. If one cylinder moves excessively faster than the other, stop opperation and troubleshoot the problem before forcing the cylinders and causing damage.

It should take approximately 10-15 seconds to fully extend or retract the cylinder. (See your tractor’s operating manual).

TRACTOR TRANSMISSION/HYDRAULIC OIL LEVEL

For proper usage, cycle all hydraulic cylinders fully two or three times and fully retract all cylinders. Be sure to check transmission/hydraulic oil level in tractor. (See your tractor’s operating manual.) Assuming that the hoses and cylinders are full of oil to start, the oil draw from the tractor reservoir is approximately 2 gallons. Check the tractor hydraulic oil levels with the cylinders fully extended and retracted to ensure oil levels are ok.

DETACHING

DETACHING SPREADER

1. Secure jack stand in lift position.
2. Detach safety chain.
3. Remove hitch pin.
4. Disconnect hoses. Store on spreader.
5. Disconnect electrical harness.

Figure 12: Detaching the spreader

DETACHING DRIVELINE

1. Support driveline and pull the collar on the PTO yoke end. Then slide the PTO shaft off of the tractor shaft.
2. Place the PTO shaft into the pto holder stand as shown in Figure 12.
3. Replace any tractor PTO shields.

LUBRICATION AND MAINTENANCE

LUBRICATING AND MAINTAINING SPREADER

Assist in averting personal injury resulting from unforeseen machine movement. If the spreader is hooked up to the tractor, deactivate the PTO, apply the parking brake, shift the transmission to “PARK”, turn off the engine, and remove the key. If the spreader is disconnected, secure the wheels with blocks and employ safety stands.

Re-install all shields following lubrication or maintenance procedures.

MAINTAINANCE INTERVALS

The suggested intervals are determined under typical conditions. However, severe or uncommon conditions might necessitate more frequent maintenance.

SELECTING GREASE

The recommended grease type is: NLGI#2 High Temperature Grease with Extreme Pressure (EP) Performance with 3 to 5% molybdenum disulfide.

MAINTENANCE LOG

A simple maintenance log can be beneficial. Below is a blank version. Additional space is provided in the back of the manual.

Date	Maintenance Type	Comments

LUBRICATION AND MAINTENANCE

SERVICE INTERVALS

Change beater and apron gearbox oil every 5,000 loads

EVERY 8 Hours

- Check beater gear case oil level
- Check Apron Gearbox oil level
- Check tire air Pressure
- Check for leaking hydraulic hoses
- Check for gearbox oil leaks
- Lubricate walking beam pivots (figure 16).
-Lubricate Beater Top Bearings (figure 15).

EVERY 50 HOURS

- Adjust apron chain tension
- Grease the apron chain drive bearings
- Tighten wheel hardware
- Lubricate driveline PTO shaft

EVERY 250 HOURS

- Lubricate Driveline Ball Bearings (4x)
- Lubricate Apron Chain Drive Bearings

CHECKING TIRES

Check tires daily for damage or noticeably low pressure, repairing any damage as soon as possible. Sunlight and petroleum products or chemicals can also damage tires.

Tire Size	Wheel Size	Tire Pressure
560/60-R22.5 Floatation	22.5x16	58 psi

TIGHTENING WHEEL HARDWARE

Operating the spreader with loose wheel hardware will damage the hub or wheel. Tighten hardware after initial transport, after one hour of operation, and every fifty hours thereafter.

Tighten to 420 lb-ft (dry) or 320 lb-ft (Lub). Tighten in the sequence shown in Figure 5.

LUBRICATION AND MAINTENANCE

CHECK GEAR CASE OIL LEVEL

With spreader on level ground, check oil level at the sight glass on the center gearcase. While on level ground, the oil should be in the center of the sight glass. Check Oil Level Daily

Add recommend oil as needed. Oil type should be 80W90 GL-5 Gear Oil. To add oil, remove fill cap at the top of the gearcase “B”. Use a funnel to fill the gearbox with oil up to the middle of the sight glass

Drain and replace the oil every 5000 loads.

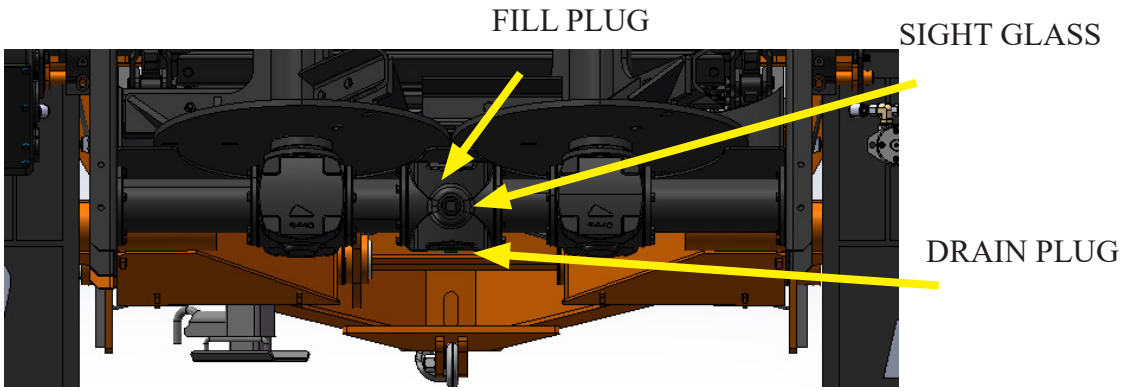


Figure 13

LUBRICATE APRON GEARBOX

With spreader on level ground, check oil level at the sight glass on both Apron Chain Drive Gearboxes. The oil should reach the center of the sight glass plug. Add recommend oil as needed. Oil type is 80W90 GL-5 Gear Oil. To add oil, remove fill cap and fill.

Drain and replace the oil every 5000 loads.

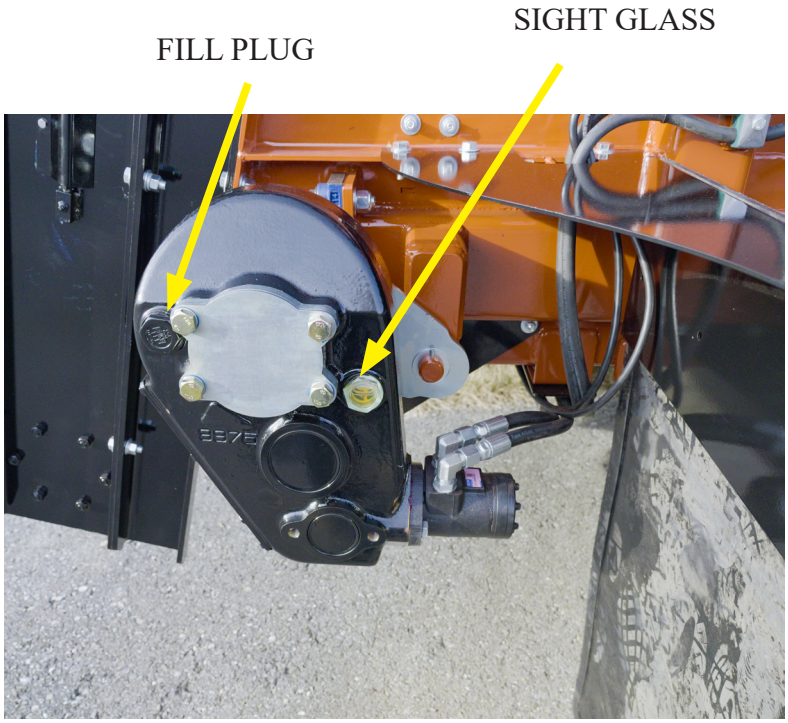


Figure 14

GREASE TOP BEATER BEARINGS

Grease the remote gease lines that supply the two bearings at the top of the vertical beaters every 8 hours of operation. Rear grease bank on beater side panel. There is one on each side of the spreader.

GREASE ZERKS 2x
(LINE GOES TO TOP BEATER BEARINGS)

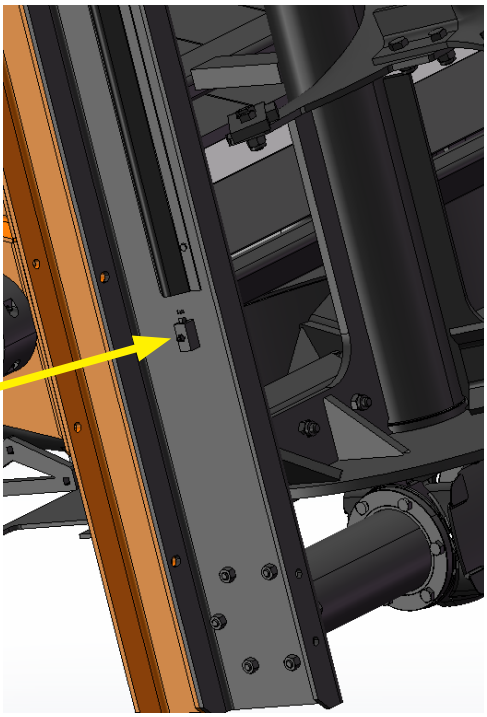


Figure 15: Detaching the spreader

LUBRICATE WALKING BEAM PIVOTS

1. Lubricate grease remote line points (figure 15) on both walking beams (4 zerks) with Moly High Temperature/Extreme Pressure Grease NLGI #2.
2. Pump Grease into fitting until grease can be seen coming out from the bushings.

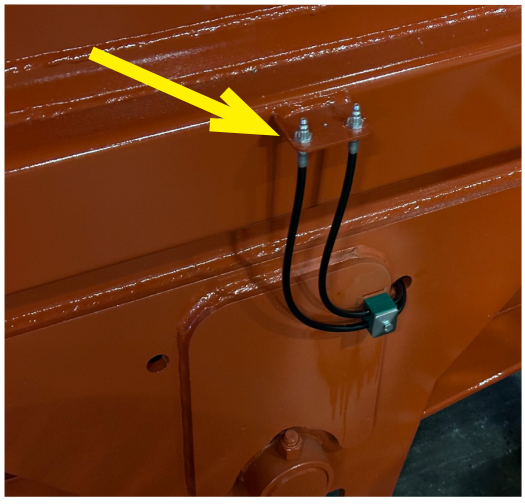


Figure 16: Grease Line Fittings for the Axle Walking Beam Bushings

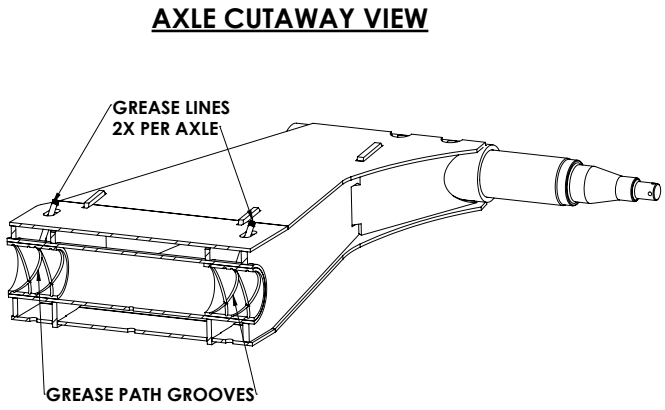


Figure 17: Axle Cutaway showing bushings with grease path

LUBRICATION AND MAINTENANCE

LUBRICATE THE LONG DRIVE SHAFT BEARINGS

-One Flange Bearing on the Front Located near the PTO Connection
-Four 2-bolt Bearings underneath that carry the Drive Shaft.
-Lubricate grease fitting with Moly High Temperature/Extreme Pressure Grease.
-Grease after 250 hrs of use.

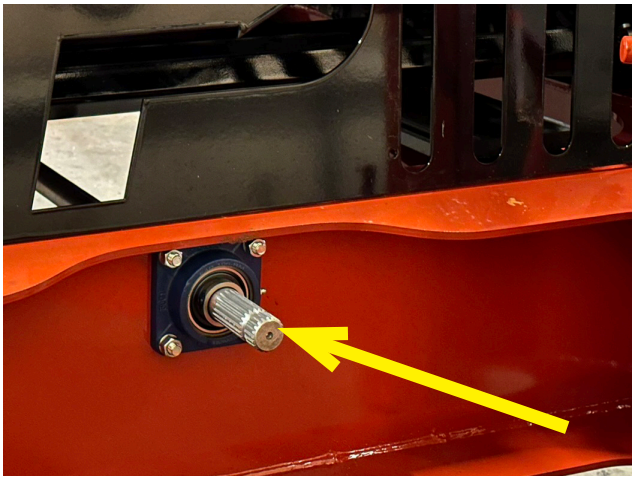


Figure 18: Grease the front bearing. This is shown without the PTO shaft or sheid on for illustration purposes.

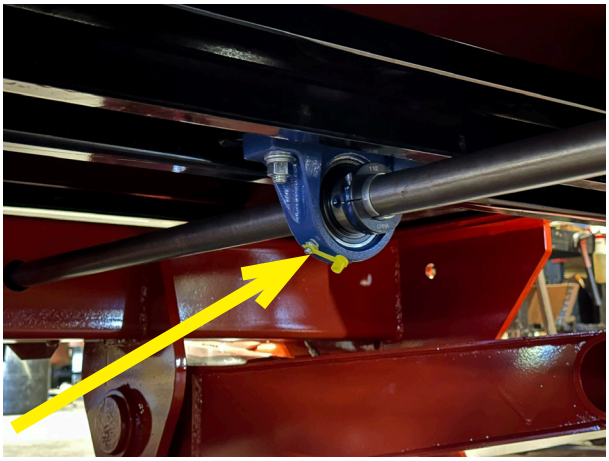


Figure 19: Grease bearing underneath that contains the long driveline. There are 4 bearings.

LUBRICATE HITCH (BULL PULL OPTION ONLY)

Figure 20: Bull Pull optional hitch shown to the left. Lubricate after every 40 hrs of use.

PTO SHAFT TAPERED PIN TORQUE REQUIREMENTS

Figure 21: The front Power Take-Off (PTO) shaft should not be frequently removed. To secure the front PTO tapered pin, tighten the nut on the PTO connected to the 1-3/8” diameter 21 T splined shaft to 110 ft-lb of torque.

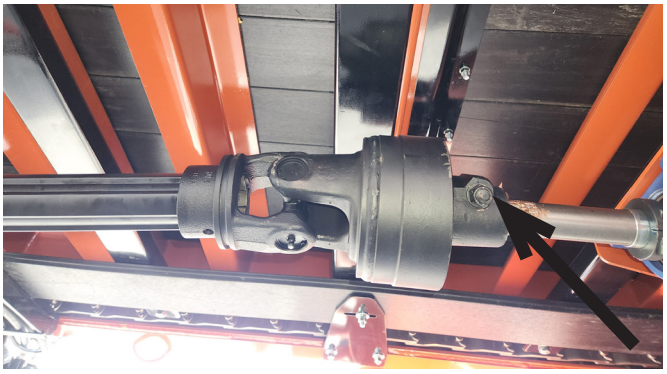


Figure 22: The rear PTO shaft should not be frequently removed. To secure the rear PTO tapered pin on the tractor side connection, tighten the nut on the PTO connected to the 1-3/8” diameter 21 T splined shaft to 110 ft-lb of torque.

Figure 23: The rear PTO shaft should not be frequently removed. To secure the rear PTO tapered pin on the beater side connection, tighten the nut on the PTO connection to the 1-3/4” diameter 6 splined shaft to 162 ft. lb.

MAINTAINING SLIP CLUTCH, BONDIOLLI

The automatic torque limiter is located on the underside of the spreader towards the rear of the machine. The clutch is permanently lubricated and requires zero maintainance. If is is thought that there is a problem with the clutch, consult the dealer or factory.

Figure 24: Automatic torque limiter

MAINTAINING CROSS JOINTS

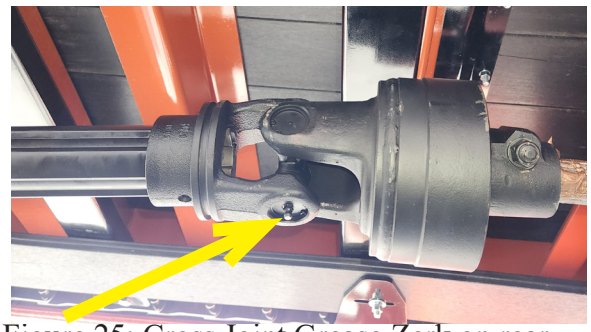


Figure 25: Cross Joint Grease Zerk on rear PTO shaft. Lubricate every 50 hrs with 18 grams of grease NLGI #2

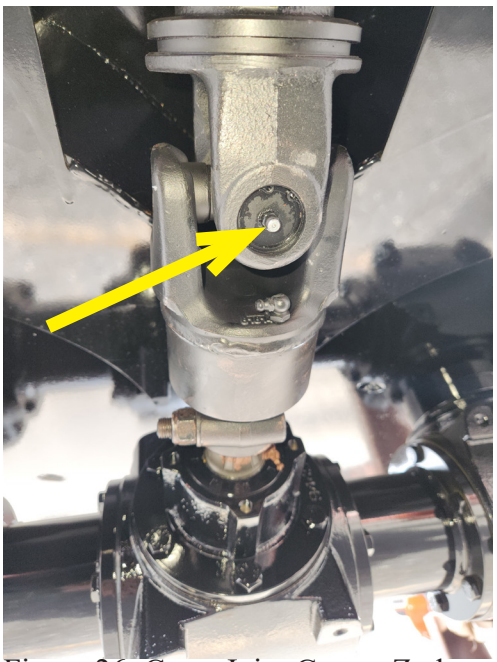


Figure 26: Cross Joint Grease Zerk on the Rear portion of the Rear PTO shaft. Lubricate every 50 hrs with 18 grams of grease NLGI #2

MAINTAINING CROSS JOINTS (CONTINUED)

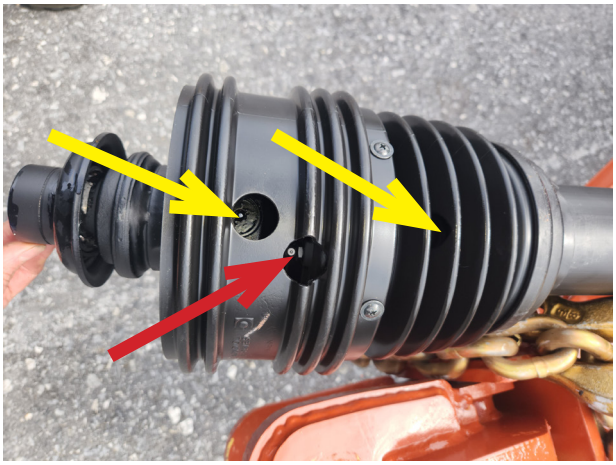


Figure 27: displays the front power take-off (PTO) featuring a CV Joint, which can articulate up to a maximum angle of 80 degrees. Avoid turning beyond this angle of 80 degrees to prevent damage. Lubricate this shaft with NLGI#2 grease. The YELLOW arrows indicate the cross joints, requiring lubrication every 50 hours with 18 grams of grease each. The RED arrow indicates the CV joint grease zerk, necessitating lubrication with 40 grams every 50 hours.

MAINTAINING OVERRUNNING CLUTCH

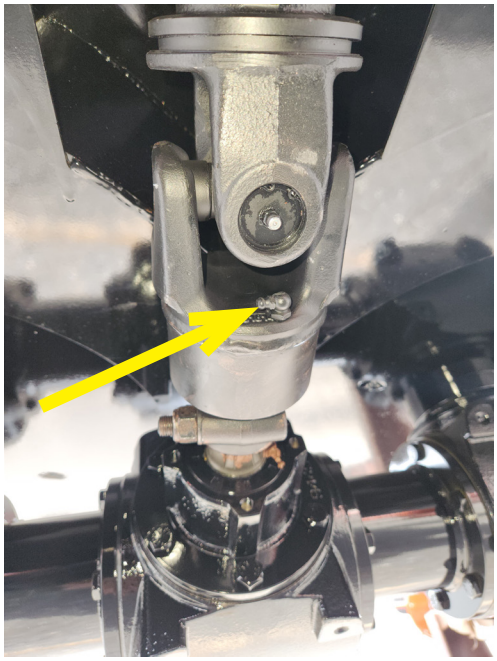


Figure 28: Overrunning clutch. This clutch allows the momentum of the beaters to free wheel after the PTO has been disengaged on the tractor. The grease zerk on the overrunning clutch should be lubricated ever 50 hours with NLGI#2 grease with 5-6 grams of grease.

LUBRICATE CHAIN DRIVE

Before storing for extended periods, make sure to oil the chain. Operate the chain at maximum speed with the ball valve (Figure 30) slightly open. Run the chain and until it's sufficiently lubricated. Figure 31 illustrates the location of the ball valve, which distributes oil to each side of the chain through four lines. The oil emittor fittings are secured onto the front sheet and are adjustable side to side. If needed, use a wrench to adjust the location of the emittors so that the oil is dripping between the links as indicated by the arrows in Figure 29. Plan to utilize roughly one quart of oil per lubrication cycle.

Depending on temperature use the following:

<20 degF SAE#10 20-40 deg F. SAE#20 40-100 deg F. SAE#30 >100 deg F. SAE#40

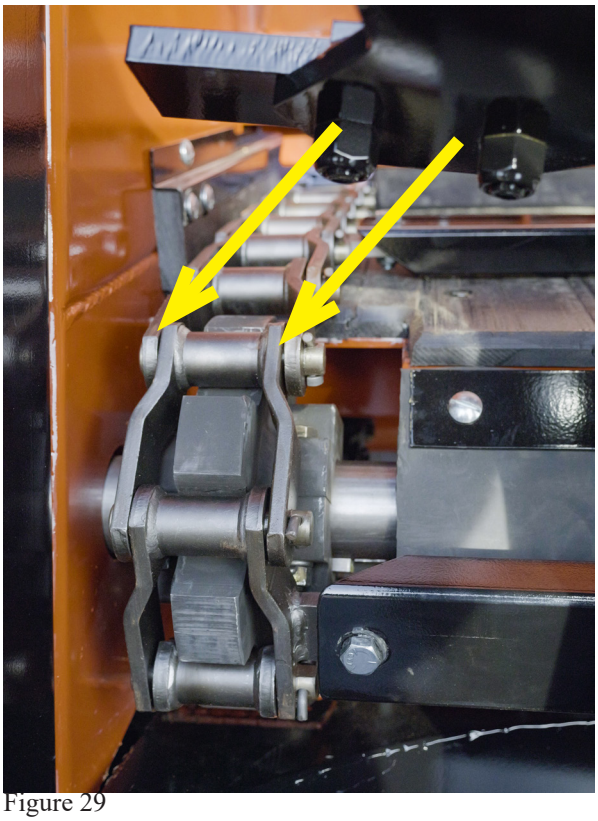


Figure 29

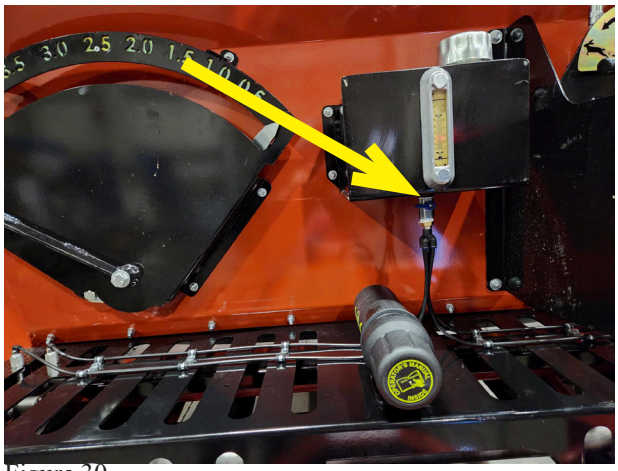


Figure 30

WIRE DIAGRAM

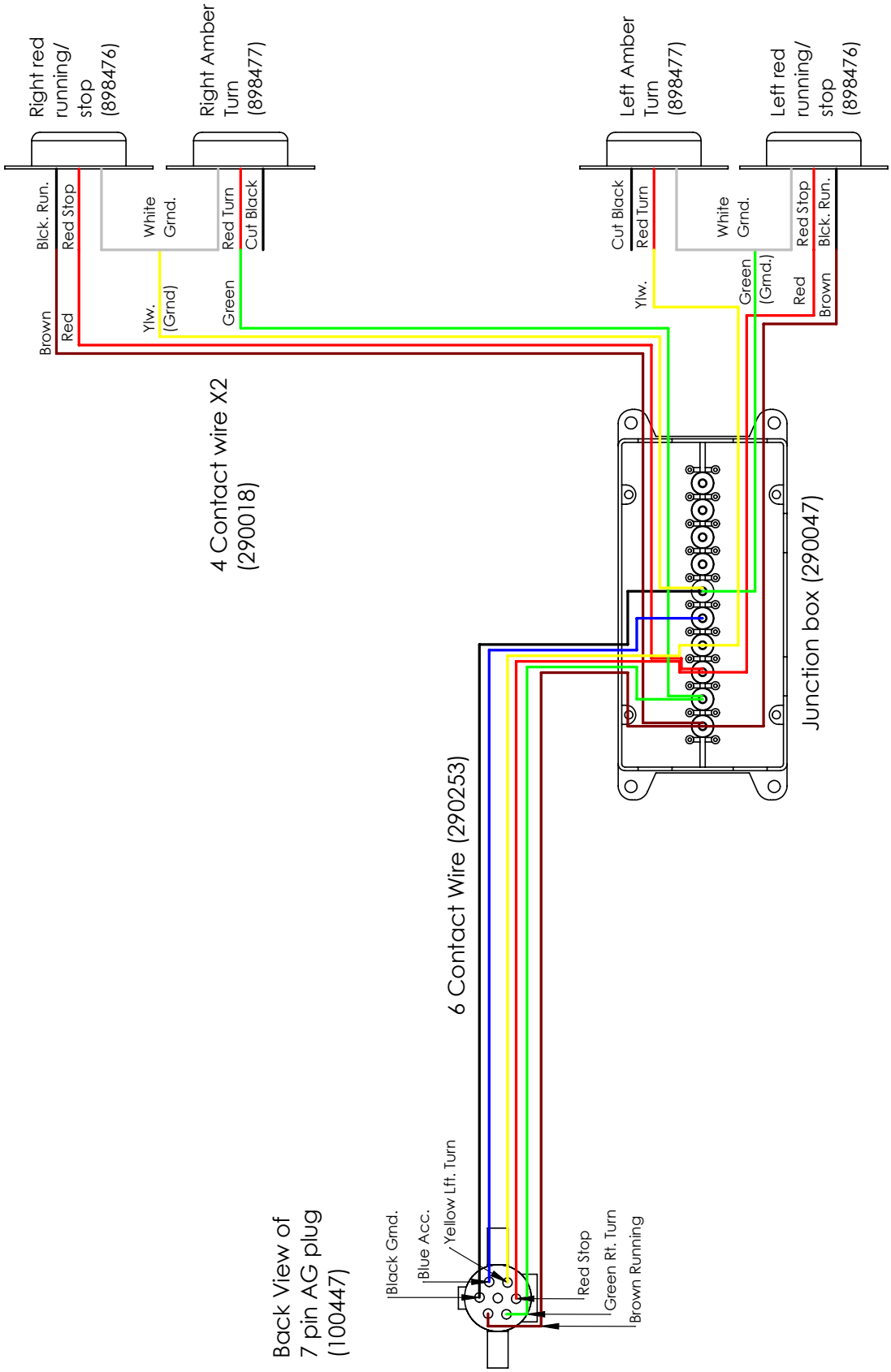
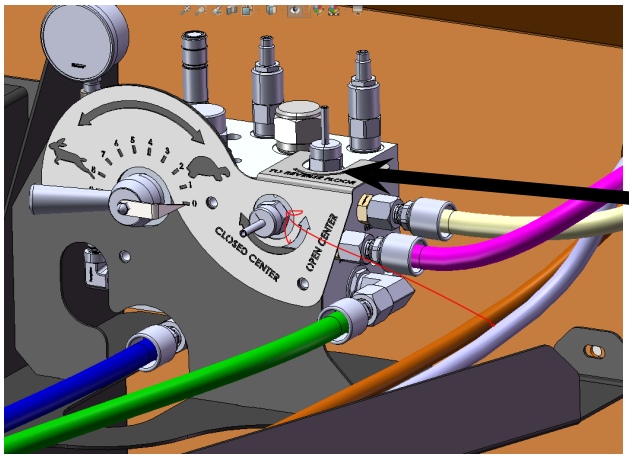


Figure 31

TROUBLESHOOTING

APRON FLOOR NOT MOVING IN REVERSE

By default, the manifold is set to not allow reversal of the apron chain. If the chain needs to be reversed, the knob on the manifold needs to be manuually positioned by rotating counter-clockwise. See page 19, Figure 11 for more information.



MANIFOLD

Knob to Allow Reverse of Floor Chain. (USE WITH CAUTION) By default, this knob should be set to not allow reversal of the apron chain. If the chain needs to be reversed, then it needs to be manually positioned by rotating CCW. This will allow the floor to run in reverse.

Figure 11 (From Pg 19)

TROUBLESHOOTING

Pequea Machine's Limited Warranty

Pequea Machine Company warrants to the original Purchaser all Machinery, Equipment, or Trailers manufactured by it, to be free from defects in material and workmanship under normal use and service. Its obligation under this Warranty shall be limited to replacement or repair of any parts thereof, free of charge to the original Purchaser, at its place of business, provided, however, that the part(s) to be replaced or repaired, shall within one (1) year after delivery to the original Purchaser, be demonstrated to be defective; which determination shall be made by the Company. The said components or parts must be returned through the Selling dealer or distributor directly to the Company with all transportation charges prepaid. Notice of defect shall be furnished in writing to the Seller and to the agent through whom the machinery was received, disclosing in full all known defects and failure in operation and use, and reasonable time shall be given to the Seller to remedy any such defects and failures. Failure to make such trial or give such notice shall be deemed an absolute acceptance by the Buyer and satisfaction in full of this Limited Warranty.

This Warranty does not cover, under any circumstances, any parts, components, or materials which, in the opinion of the Seller and Company, have been subjected to neglect, misuse, alteration, accident, or if repaired, with parts other than those manufactured by and obtained from Pequea Machine Company.
This Warranty does not cover components which are already covered by a separate Warranty provided by the supplier of said parts or components. The Company's obligation under this Warranty is limited to repair or replacement, free of charge to the original Purchaser, of any part which in judgment of the Company is defective. This Warranty does not cover normal wear and tear.

THIS WARRANTY IS MADE EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR USE AND PURPOSE AND OF ALL OTHER OBLIGATIONS OR LIABILITIES ON ITS PART AND ANY IMPLIED WARRANTY. AND IT NEITHER ASSUMES NOR AUTHORIZES ANY OTHER LIABILITY IN CONNECTION WITH A SALE OF THIS MACHINE. THIS WARRANTY SHALL NOT APPLY TO THIS MACHINE OR TO ANY PART THEREOF WHICH HAS BEEN SUBJECT TO ACCIDENT, NEGLIGENCE, ALTERATION, ABUSE, OR MISUSE.

The Company makes no Warranty whatsoever in respect to accessories or parts not supplied by the Company. The term "original Purchaser" as used in this warranty, shall be deemed that person for whom the Machine, Equipment, or Trailer is originally supplied. This Warranty shall apply only within the boundaries of the continental United States.

Under this Warranty, the Company cannot guarantee that existing conditions beyond its control will not affect its ability to obtain materials or manufacture necessary replacement parts.

No one is authorized to alter, modify, or change the terms of this Warranty in any manner.

The Company warrants the Construction of the equipment sold herein and will replace at its expense for a period of (1) year from the date hereof, any parts which prove defective as determined under the terms of this Limited Warranty.

MAINTENANCE LOG (cont')

DATE	MAINTENANCE TYPE	COMMENTS

FARMER'S LOG

200 Jalyn Drive
New Holland PA 17557

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