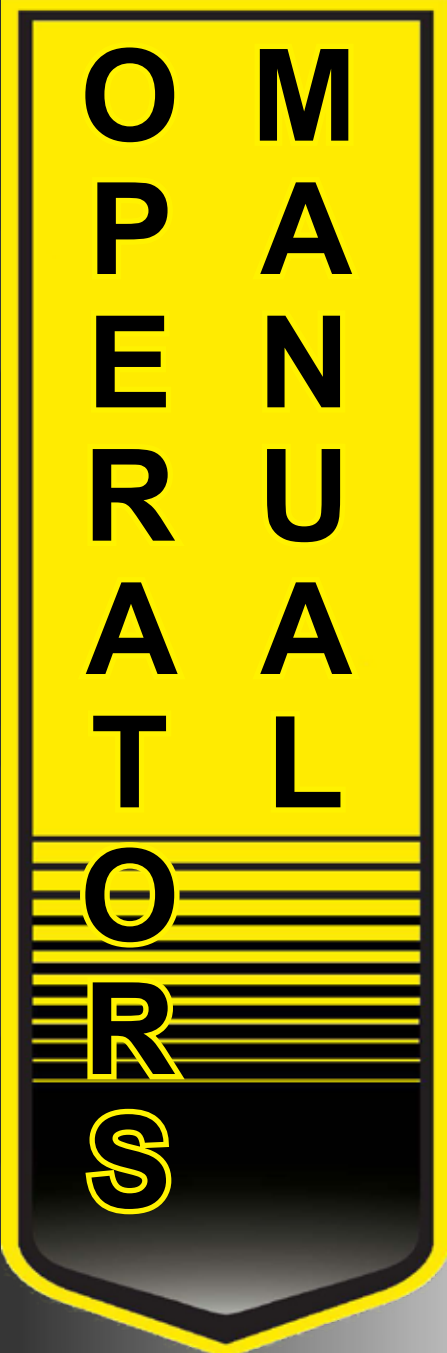




6180 MANURE SPREADER



WARNING

READ AND UNDERSTAND THIS MANUAL BEFORE OPERATING THIS EQUIPMENT. UNSAFE OPERATION OR MAINTENANCE OF THIS EQUIPMENT CAN RESULT IN SERIOUS INJURY OR DEATH.

PS6180 Starting Ser. #221PS80001

Part #92785

Rev. #00

HSMFG122122

STRONG HERITAGE - STRONG PEOPLE - STRONGER FUTURE

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WARRANTY

H&S Manufacturing Co., Inc. ("H&S") warrants this product to be free from defect in material and workmanship. Except as noted below, this warranty term is twelve (12) months on parts and labor from the date of delivery of the product to the original purchaser by an authorized H&S dealer. Under this warranty, H&S will repair or replace, at its option, any covered part which is found to be defective in material or workmanship during the applicable warranty term. In no case will the covered repair cost of a part or parts exceed the replacement cost of that part. In no case, unless pre-authorized by H&S, will a component be replaced versus repaired unless the cost of labor and parts exceeds 75% of the cost of a new component. Warranty repairs must be performed by H&S or a dealer authorized by H&S to sell and/or service the product involved, and will use only new or remanufactured parts or components furnished by H&S. Any warranty repairs needing to be performed by a third party must be pre-authorized by H&S. Standard freight costs will be covered by H&S for any part used to make a warrantable repair, any form of express freight will not be covered unless pre-authorized by H&S. This warranty includes approved parts and labor to repair the product but does not include, and the purchaser is responsible for, any service call and/or transportation of the product to and from the dealer's place of business, for any costs related to travel, for any premium charged for overtime labor requested by the purchaser, and for any service work not directly related to any defect covered under this warranty. This warranty includes only those components of the product manufactured by H&S. Warranty for any component not manufactured by H&S including, but not limited to, engines, batteries, tires, rims, hydraulic motors, pumps, etc. are covered by the warranty, if any, provided separately by their respective manufacturers. H&S reserves the right to request the return of any failed component.

This warranty in all its parts is extended solely to the original purchaser of the product, is terminated upon any subsequent transfer or sale from or by the original purchaser, and extends no third party benefits or rights whatsoever.

The warranty term for any product used in any for hire, rental fleet or rental application, is limited to six (6) months from the date of delivery of the product to the original purchaser by an authorized H&S dealer. This warranty does not include: (1) Any product that has been altered or modified in ways not approved by H&S; (2) Depreciation or damage caused by normal wear, use for which the product was not designed, misuse, improper or insufficient maintenance, improper operation, accident or failure to follow the product Operator's Manual recommendations and product decal recommendations; (3) Normal maintenance parts and service; (4) Repairs made with parts other than those available from H&S or performed by anyone other than H&S or a dealer authorized by H&S to sell and/or service the product involved.

To secure warranty service the purchaser must report the product defect to a dealer authorized by H&S to sell and/or service the product involved within the applicable warranty term together with evidence of the warranty start date and make the product available to that dealer within a reasonable period of time.

Apron chain warranty: H&S offers a limited lifetime warranty on the apron chain extended solely to the original purchaser. This warranty covers only the chain links and no other components welded to the link or associated to the links i.e. Slats. If a connecting link fails only the connecting link will be replaced. If any other chain link breaks both complete apron chains will be replaced. Freight and labor to install the chain is the responsibility of the purchaser and not covered under this limited warranty.

Prorated Scale

Months from purchase date	Parts only coverage %
60	100%
72	90%
84	80%
96	70%
108	60%
120 and after	50%

WARRANTY

For these warranty terms to be in effect the selling authorized H&S dealer and/or the customer must submit the warranty registration to H&S.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE OF THIS WARRANTY. H&S and the companies affiliated with it make no warranties, representations, or promises, express or implied, as to the performance or freedom from defect of its products other than those set forth above and NO IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS OR FITNESS FOR A PARTICULAR PURPOSE IS MADE. IN NO EVENT WILL THE DEALER, H&S OR ANY COMPANY AFFILIATED WITH H&S BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. The ONLY REMEDY the purchaser has in connection with the breach of performance of any warranty on H&S products are those set forth above.

The selling dealer has no authority to make any representation or promise on behalf of H&S, or to modify the terms or limitations of this warranty in any way.

12/21/22

MANUFACTURER'S STATEMENT

Your New H&S Product has been manufactured of the finest quality materials and components. The performance you get from your machine is largely dependent upon how well you read and understand this manual and apply this knowledge. There is a right and a wrong way to do everything. Please do not assume that you know how to operate and maintain your Machine before reading this manual carefully. Keep this manual available for ready reference.

H&S reserves the right to make changes or add improvements to its products at any time without incurring any obligation to make such changes to products previously manufactured. Specifications, statements and descriptions of Products contained in this publication are subject to change without prior notification.

WARRANTY REGISTRATION

- ❖ Date of Purchase: _____
 - ❖ Purchaser Name: _____
 - ❖ Street Address: _____
 - ❖ City: _____
 - ❖ State: _____ Zip: _____
 - ❖ Phone Number: _____
 - ❖ E-mail Address: _____
 - ❖ Product: _____
 - ❖ Model Number: _____
 - ❖ Serial Number: _____
 - ❖ You have received the Operators Manual for this product. Yes _____ No _____
- Interested in receiving the H&S Newsletter? Yes _____ No _____
-

- ❖ Dealer Name: _____
- ❖ Street Address: _____
- ❖ City: _____
- ❖ State: _____ Zip: _____
- ❖ Signature: _____

❖ *All fields must be filled out to insure prompt notification of product and/or warranty updates.*

Please mail the completed WARRANTY REGISTRATION FORM to:
H&S Manufacturing Co., Inc.
2608 S. Hume Ave.
Marshfield, WI 54449

(Remove Copy At Perforation)

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H&S DEALER PRE-DELIVERY CHECKLIST

AFTER COMPLETION, DEALER SHOULD REMOVE AND RETAIN FOR RECORDS

After the Manure Spreader has been completely set up, check to be certain it is in correct operating order before delivering to the customer. The following is a list of points to inspect. Check off each item as you have made the proper adjustments and found the item operating satisfactorily.

- Manure spreader was not damaged in shipment. Check for dents and loose or missing parts. Report damage immediately to H&S Manufacturing Co., Inc.
- All bolts and fasteners are tight.
- Manure spreader has been correctly assembled according to instructions in this manual.
- All grease fittings have been lubricated. Gearbox is filled to proper level.
- Hoses and fittings are properly attached and there are no visible leaks.
- Guards and shields are secure.
- Wheels are properly mounted to torque specifications.
- Tires are inflated to correct pressure.
- Decals are in place and legible.

Connect the manure spreader onto a proper horsepower tractor and attach the PTO and connect the lights. Connect the hydraulic hoses to the tractor remote outlets. Run the manure spreader and make sure all components operate properly.

- PTO guard turns freely.
- Hydraulic end gate operates smoothly.
- Hydraulic system does not leak under pressure.
- Lights and wiring functioning properly.
- Implement and all components are functioning properly.

Model Number _____ Serial # _____

Dealer's Name _____

Inspection Date _____

Signature of Pre-Delivery Inspector _____

(Remove Dealer File Copy At Perforation)

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DEALER DELIVERY CHECKLIST

AFTER COMPLETION, DEALER SHOULD REMOVE AND RETAIN FOR RECORDS

This checklist that follows is an important reminder of valuable information that should be passed on to the customer at the time this Manure Spreader is delivered.

Check off each item as you explain it to the customer.

This delivery checklist, when properly filled out and signed, assures the customer that the pre-delivery service was satisfactorily performed.

- Explain to the customer that the pre-delivery inspection was made.
- Explain to the customer all the safety precautions they must exercise when operating this unit.
- Explain recommended loads for different types of materials.
- Explain to customer that regular lubrication is required for proper operation and long life of machine.
- Show customer the lubrication section of Owner's Manual.
- Give the customer Owner's Manual and make sure they read and understand all operating and service instructions.
- Have the customer sign a completed "Warranty Registration" and mail it.

Date Delivered _____

Dealer's Name _____

By _____

Signature of Original Buyer _____

Note: Warranty is not valid until warranty card is completed and returned to H&S Mfg. Co., Inc.

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SAFETY INFORMATION



**BE
ALERT!**

**YOUR SAFETY
IS INVOLVED.**

THIS SYMBOL IS USED THROUGHOUT THIS BOOK WHENEVER YOUR PERSONAL SAFETY IS INVOLVED. TAKE TIME TO BE CAREFUL. REMEMBER: THE CAREFUL OPERATOR IS THE BEST OPERATOR. MOST ACCIDENTS ARE CAUSED BY HUMAN ERROR. CERTAIN PRECAUTIONS MUST BE OBSERVED TO PREVENT THE POSSIBILITY OF INJURY OR DAMAGE.

H&S MANUFACTURING CO., INC.

SAFETY INFORMATION

RECOGNIZE SAFETY INFORMATION

This is the safety alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices.



UNDERSTAND SIGNAL WORDS

A signal word - DANGER, WARNING, or CAUTION - is used with the safety alert symbol. DANGER identifies the most serious hazards.



Safety signs with signal word DANGER or WARNING are typically near specific hazards.



WARNING

General precautions are listed on CAUTION safety signs.



CAUTION



FOLLOW SAFETY INSTRUCTIONS

Carefully read all safety messages in this manual, and all safety signs on your machine. Follow all recommended precautions and safe operating procedures.

Keep signs in good condition. Immediately replace any missing or damaged signs.

OBSERVE MAXIMUM TRANSPORT SPEED

The maximum transport speed for this implement is 32 km/h (20 mph).

Some tractors are capable of operating at speeds that exceed the maximum transport speed of this implement. Regardless of the maximum speed capability of the tractor being used to tow this implement, do not exceed the implement's maximum transport speed.

Exceeding the implement's maximum transport speed can result in:

- * Loss of control of the tractor/implement combination
- * Reduced or no ability to stop during braking
- * Implement tire failure
- * Damage to the implement structure or its components

Use additional caution and reduce speed when towing under adverse surface conditions, when turning, and when on inclines.

Do not attempt transport if the fully loaded implement weighs more than 1.5 times the weight of the tractor.



SAFETY DECALS

	<p style="text-align: center;">! WARNING</p> <p style="text-align: center;">DO NOT OPERATE THIS EQUIPMENT IF THIS DECAL IS EXPOSED. REPLACE SAFETY SHIELDS.</p> <p style="text-align: right; font-size: small;">1494A</p>
---	---

	<p style="text-align: center;">! WARNING</p> <p style="text-align: center;">DO NOT GO NEAR LEAKS</p> <ul style="list-style-type: none"> • High pressure oil easily punctures skin causing serious injury, gangrene or death. • If injured, seek emergency medical help. Immediate surgery is required to remove oil. • Do not use finger or skin to check for leaks. • Lower load or relieve hydraulic pressure before loosening fittings. <p style="text-align: right; font-size: small;">11599</p>
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	<p style="text-align: center;">! WARNING</p> <p style="text-align: center;">DO NOT REMOVE SHIELDS ROTATING PARTS INSIDE</p> <p style="text-align: right; font-size: small;">12794</p>
---	---

	<p style="text-align: center;">! WARNING</p> <p style="text-align: center;">DO NOT OPERATE THIS EQUIPMENT IF THIS DECAL IS EXPOSED. REPLACE SAFETY SHIELDS.</p> <p style="text-align: right; font-size: small;">71494A</p>
---	--

<p style="margin: 0;">! DANGER</p>

<p style="text-align: center;">ROTATING DRIVELINE CONTACT CAN CAUSE DEATH KEEP AWAY!</p> <p style="text-align: center;">DO NOT OPERATE WITHOUT-</p> <ul style="list-style-type: none"> • ALL DRIVELINE, TRACTOR AND EQUIPMENT SHIELDS IN PLACE. • DRIVELINES SECURELY ATTACHED AT BOTH ENDS. • DRIVELINE SHIELDS THAT TURN FREELY ON DRIVELINE. <p style="text-align: right; font-size: x-small;">1494L</p>

<p style="margin: 0;">! WARNING</p>

<p style="text-align: center;">DO NOT CLEAN OR WORK ON THIS MACHINE WITHOUT FIRST DISENGAGING POWER AND SHUTTING OFF TRACTOR ENGINE.</p> <p style="text-align: right; font-size: x-small;">1494J</p>

SAFETY DECALS

⚠ DANGER



**NEVER
ALLOW
RIDERS
ON THIS
MACHINE**

9194B

⚠ WARNING



**DO NOT
REMOVE
SHIELDS
MOVING
PARTS
INSIDE**

1494K

⚠ CAUTION



PINCH POINT

51010



1906F

⚠ DANGER

KEEP OUT
 DISENGAGE ALL POWER AND
 SHUT OFF TRACTOR ENGINE
 BEFORE ATTEMPTING TO
 ENTER OR CLEAN SPREADER

FAILURE TO HEED THIS
 WARNING MAY RESULT IN
 PERSONAL INJURY OR DEATH

⚠ WARNING



CRUSHING HAZARD

TO PREVENT SERIOUS INJURY OR DEATH:

KEEP HANDS AND BODY OUT OF HITCH
 AREA WHEN ATTACHING TOWING VEHICLE.

KEEP BODY CLEAR OF CRUSH POINT
 BETWEEN TOWING VEHICLE AND LOAD.

KEEP FEET AND LEGS CLEAR FROM UNDER
 TONGUE AREA IN CASE OF POSSIBLE JACK
 FAILURE.

82602

⚠ WARNING

HELP AVOID INJURY

- READ & UNDERSTAND THE OPERATORS MANUAL PROVIDED WITH THIS MACHINE. IF MISPLACED CALL H & S MANUFACTURING AT 715-387-3414 WITH MODEL AND SERIAL NUMBER.
- UNDERSTAND ALL SAFETY WARNINGS AND FUNCTION OF CONTROLS.
- KEEP SAFETY DEVICES IN PLACE AND WORKING.
- KEEP YOURSELF AND OTHERS WELL CLEAR OF MOVING PARTS.
- DISCONNECT ALL POWER BEFORE SERVICING OR CLEANING THIS MACHINE.
- DO NOT EXCEED 20 MPH

72203A

SAFETY DECALS

⚠ DANGER



**STAY CLEAR OF
BEATER IF
TRACTOR OR
PTO IS RUNNING.**

**MANURE AND
FOREIGN OBJECTS
CAN BE THROWN
CONSIDERABLE
DISTANCES.**

**FAILURE TO HEED
THIS WARNING MAY
RESULT IN
PERSONAL INJURY
OR DEATH.**

**KEEP CLOTHING,
YOURSELF, AND
OTHERS WELL
CLEAR.** 86060

⚠ WARNING



**STAY
CLEAR**

1906C

⚠ DANGER



NO STEP-STAY CLEAR

9194A

SAFETY INFORMATION

TRACTOR:

This operator's manual uses the term "Tractor" when identifying the power source.



TO PREVENT SERIOUS INJURY OR DEATH

BEFORE YOU ATTEMPT TO OPERATE THIS EQUIPMENT, READ AND STUDY THE FOLLOWING INFORMATION. IN ADDITION, MAKE SURE THAT EVERY INDIVIDUAL WHO OPERATES OR WORKS WITH THIS EQUIPMENT, WHETHER FAMILY MEMBER OR EMPLOYEE, IS FAMILIAR WITH THESE SAFETY PRECAUTIONS. KNOW HOW TO STOP UNLOADING MECHANISM BEFORE STARTING IT.

If the machine becomes clogged, disengage the PTO. Stop the tractor engine, remove ignition key, and allow all mechanisms to stop before cleaning or working on the machine.

"Never allow riders" in or on the machine.

DO NOT get off the tractor while the spreader is in operation.

DO NOT attempt to perform maintenance or repair with tractor running and PTO or hydraulic lines hooked up.

DO NOT step up on machine at any time.

NEVER manually feed material into the beaters.

DO NOT allow minors to operate or be near the machine.

DO NOT ALLOW PERSONNEL OTHER THAN THE QUALIFIED OPERATOR NEAR THE MACHINE.

Before starting tractor, be sure PTO shields turn freely and PTO is securely locked to tractor.

DO NOT clean, adjust, or lubricate the machine when any part is in operation.

Keep hands, feet, and clothing away from beaters when they are revolving.

Loose or floppy clothing should not be worn by the operator.

Be sure the machine is clear of people, tools, and other objects before engaging PTO.

DO NOT step over power take off shaft. Stay clear of PTO at all times.

NEVER start manure spreader until all guards and safety shields are secured in place.

STAY CLEAR of Hydraulic Lines. They may be under extreme pressure or heat.

H&S always takes the operator and their safety into consideration and guards exposed moving parts for their protection. However, some areas cannot be guarded or shielded in order to assure proper operation. In addition, the operators manual and decals on the machine itself warn you of further danger and should be read and observed closely.

Study The Above Safety Rules

ATTENTION - BE ALERT - YOUR SAFETY IS INVOLVED

CAP SCREW TORQUE VALUES

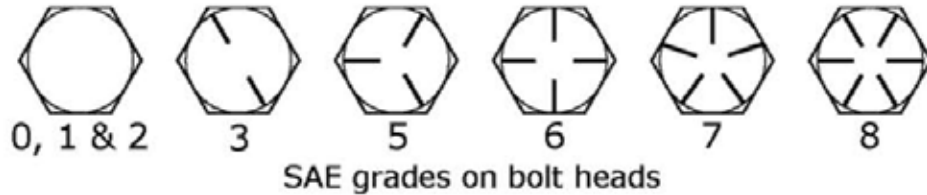
The specifications below are the torque values for fasteners as it adheres to the SAE torque value standards. All fasteners should be torqued to the proper values found in the figures below unless otherwise specified by the engineering drawing.

Lubed torque would be any fastener that has grease, liquid Loctite, oil, etc. on the threads.

Dry torque would be any fastener which has threads that are clean and dry and do not have any liquid Loctite or grease on them.

Hex Head Fasteners

The figure shown below shows how to determine what grade a fastener is.



Diam & Thrds Per Inch	SUGGESTED ASSEMBLY TORQUE VALUES						WORKING TORQUE			
	SAE GRADE 2 -6"		SAE GRADE 5		SAE GRADE 8		18-8 SS	316 SS	BRASS	SILICON BRONZE
	Dry FT. LB.	LUB FT. LB.	Dry FT. LB.	LUB FT. LB.	Dry FT.LB.	LUB FT. LB.	IN LBS	IN LBS	IN LBS	IN LBS
1/4-20	5.5	4.2	8	6.3	12	9	75.2	78.8	61.5	68.6
1/4-28	6.3	4.7	10	7.2	14	10	94.0	99.0	77.0	87.0
5/16-18	11	8	17	13	24	18	132	138	107	123
5/16-24	12	9	19	14	27	20	142	147	116	131
3/8-16	20	15	30	23	45	35	236	247	192	219
3/8-24	23	17	35	25	50	35	259	271	212	240
7/16-14	32	24	50	35	70	50	376	393	317	349
7/16-20	36	27	55	40	80	60	400	418	327	371
1/2-13	50	35	75	55	110	80	517	542	422	480
1/2-20	55	40	85	65	120	90	541	565	443	502
9/16-12	70	55	110	80	150	110	682	713	558	632
9/16-18	80	60	120	90	170	130	752	787	615	697
5/8-11	100	75	150	110	210	160	1110	1160	907	1030
5/8-18	110	85	170	130	240	180	1244	1301	1016	1154
3/4-10	175	130	260	200	380	280	1530	1582	1249	1416
3/4-16	200	140	300	220	420	310	1490	1558	1220	1382
7/8-9	170	125	430	320	600	450	2328	2430	1905	2140
7/8-14	180	140	470	350	670	500	2318	2420	1895	2130
1-8	250	190	640	480	910	680	3440	3595	2815	3185
1-14	280	210	720	540	1020	760	3110	3250	2545	2885

SET-UP & ASSEMBLY



WARNING: Some photographs used in the following pages show guards or shields removed for clarification. Never operate machine until these guards or shields are in proper operating position.

NOTE: Determine right or left side of the Manure Spreader by viewing it from the rear. If instructions or parts lists call for hardened bolts, refer to the Cap Screw Torques Value page to identify.

PREPARING MANURE SPREADER

The Manure Spreader may be shipped without the wheels/tires installed.

1. Attach the wheels with tires, using the lug nuts furnished and torque the mounting hardware to the appropriate torque. Wheel bolts should be tightened at 340 ft/lbs. of torque.
2. Check the tires and inflate to the recommended pressure.
(700/50R-26.5 tires to 35 psi)
3. Check for proper assembly and adjustment and make sure that all bolts are tightened.
4. Securely retighten after a few hours of operation, as bolts can loosen up on new machinery.
5. Lubricate the machine completely, check the oil level of the gearbox, fill if necessary.

TRANSPORTING

TRANSPORT LIGHTING & REFLECTORS

When transporting on the highway, connect the spreader to the tractor with a lighting power cord. The lighting system is to be connected to the 7 pin power receptacle (per SAEJ560B) on your tractor. If your tractor is not equipped with the proper receptacle, see your tractor dealer for details. Make sure lights are functioning properly. Regularly clean the reflective tape at the rear of the spreader. There is a holder provided for your SMV sign.

SAFETY CHAIN (Optional)

Follow state and local regulations regarding use of a safety chain and transport lighting when towing farm equipment on public highways. A proper safety chain should be used to retain the safety connection between the towing and towed machines, in the event of separation of the primary attaching system. Check with local law enforcement agencies for your own particular regulations. Unless otherwise prohibited, use a slow-moving vehicle emblem. Never tow the manure spreader on a public highway at a speed greater than 20 mph (32 kph).

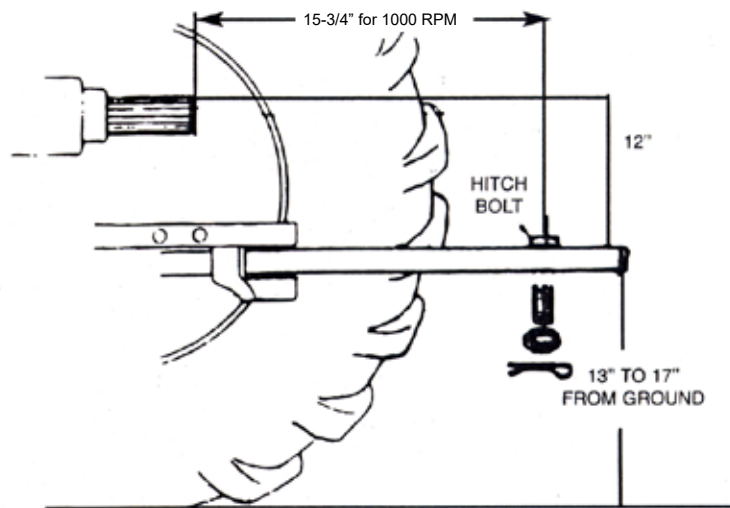
1. The chain is sufficiently slack to allow turns and movements of either the tractor or the manure spreader, without placing tension on the chain.
2. The chain is of sufficient strength to hold the decoupled implement (and its load) and tow it to the shoulder.

PREPARING FOR OPERATION

TRACTOR CONNECTIONS

Tractor Hitch

Fasten the spreader hitch to the drawbar with a **hitch pin with a safety locking device**. Use 1-1/2" diameter hitch pin to pull spreader. Remove the weight from the jack (jack is not to be used when spreader is loaded). The hitch of the spreader is designed for a standardized tractor hitch. Adjust the drawbar so that it is 13 to 17 inches above the ground. Extend or shorten it so that the horizontal distance from the end of the tractor power takeoff shaft to the center of the hitch pin hole is 15-3/4" for 1000 PTO as shown in drawing. An improperly located hitch point may cause damage to the universal joints of the power takeoff. Secure the drawbar so that the hitch pin hole is directly below the power drive line.



Hydraulics

The spreader requires a 4-hose hook-up;

1. Connect the set of hydraulic hoses which operates the Manure Spreader hydraulic apron drive from the spreader to a double acting valve on the tractor.
2. Connect the set of hydraulic hoses which operate the hydraulic endgate to another double acting valve on the tractor.
3. **The hydraulic endgate must be raised completely prior to activating hydraulics for the apron.**
4. Operate the tractor valve to fill the hydraulic lines and operate the cylinders. Add hydraulic fluid to the tractor system, as required.

Note: Before operation, run the machine slowly to make sure that the Manure Spreader is operating and lubricated properly.

PREPARING FOR OPERATION

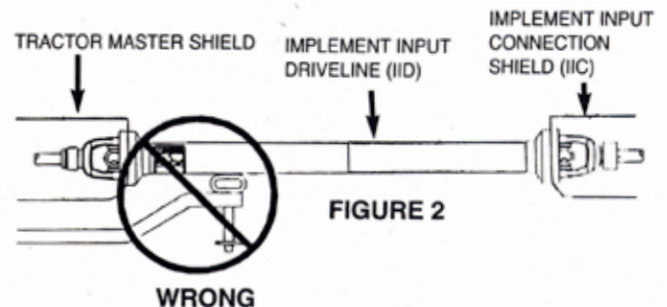
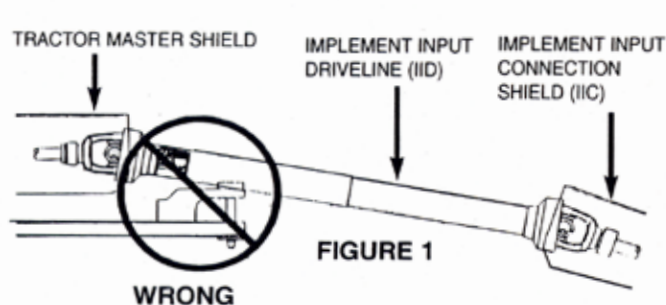
PTO ASSEMBLY

Attach the PTO of the spreader to the tractor by sliding the spring loaded locking collar on PTO yoke rearward, then sliding it onto the tractor PTO shaft. Release spring loaded collar. Be sure the pins fall into the groove of the tractor PTO shaft and collar snaps forward into locking position.

CAUTION: Do not use a steel hammer to aid in joining PTO parts.

Keep the male and female driving elements well lubricated and free sliding. Failure to observe this precaution will result in excessive pressure being required to collapse or extend the assembly while subject to operating torque. This excessive force may damage or displace the main shaft bearings. DO NOT lubricate the shield surfaces. The shield surfaces must be kept dry, as dirt accumulation on them will quickly cause these units to bind and not rotate. Be sure that the rotating integral shields are not dented or damaged, as this also will result in excessive force being applied against the jackshaft. Damaged shields also cause obvious difficulties when installing the assembly. If at any time the shields do not turn freely, they should be checked to determine the cause, and repaired or cleaned. To avoid damage to the main drive bearings, avoid turning sharp corners while PTO is running. Start and Stop PTO slowly to avoid damage to the drive line.

If this implement is attached to a tractor with a clevis hitch (hammer-strap) style drawbar, the hammer-strap must be removed to prevent damage to the IID guarding and the IID telescoping members. [See Figure 1]



If this implement is attached to a tractor with an offset in the drawbar, be certain it is in the down position to prevent damage to the IID guarding and the IID telescoping members. [See Figure 2]

Before operation, run machine slowly to make sure that the spreader is operating and lubricated properly.

OPERATION

EMERGENCY SHUTDOWN

If a foreign object becomes lodged in the beater area and disengages the torque limiting clutch, stop the hydraulic drive apron and disengage the PTO. Stop the tractor engine, remove the ignition key, and allow all mechanisms to stop before cleaning or working on the spreader.

LOADING

Begin loading the spreader at the front end and work toward the rear until loading is completed. Loading this way permits the material to be spread uniformly. Loading front to rear is particularly important when the spreader is loaded by a mechanical loader because this type of load requires more power to spread than other loads.

When hauling extremely heavy materials with a large portion of dirt, it may be necessary to reduce the loadsize to prevent the torque limiting clutch from disengaging. Do not use extra sideboards. Do not overload spreader. Overloading decreases spreading effectiveness.

WINTER OPERATION

In freezing weather, make certain that the apron chain is not frozen to the floor, or the hydraulic gate is not frozen to the track uprights or the floor of the spreader.

SPREADING

Before beginning to spread, make sure that the knob on the selector valve is in the "FORWARD" position.

1. Engage the tractor PTO slowly. The beater is always in the engaged position, therefore, engaging the tractor PTO will automatically start the beaters.
2. Raise the hydraulic gate by engaging the tractor hydraulics.

Note: The hydraulic gate can be used for metering loose material, but must always be raised completely for pen pack material prior to activating the hydraulics for the main apron.

3. Engage the tractor hydraulic lever into the detent position to operate the hydraulic drive main apron.
4. Control the variable speed main apron by using the cab-mounted electric control.
5. When the spreader is completely empty, return the apron speed indicator to the stop position and engage the tractor hydraulics to close the hydraulic gate.

OPERATION

OPTIONAL - REVERSING THE MAIN APRON

If the manure spreader is equipped with an optional reversing valve that allows the operator to reverse the main apron if a problem arises such as an obstruction in the beater area, follow the steps below.

IMPORTANT

NEVER REVERSE APRON CHAIN WHEN SPREADER IS FULLY LOADED

APRON REVERSING INSTRUCTIONS

- Before REVERSING the main apron chain, disengage the PTO and hydraulic apron drive.
- Place the apron direction control lever in the neutral position.
- Engage ONLY the HYDRAULIC APRON DRIVE.
- Adjust the electronic speed control to the 25 - 40 setting.
- Hold the apron direction control lever in the reverse position until the material or obstruction has cleared the beater area ensuring that the load does not jam into the front of the box.
- Place the apron direction control lever in the neutral position.
- Clear any obstructions from the vertical beater area.
- Caution must be taken to make sure that everyone is clear and of proper distance from the vertical beater discharge area.
- Engage the tractor PTO to start the vertical beaters.
- Disengage the PTO and return the apron direction control lever to the unloading position.



CAUTION: DO NOT RUN THE APRON CHAIN IN REVERSE LONGER THAN NECESSARY AS DAMAGE COULD ACCUR IF THE LOAD IS BACKED INTO THE FRONT OF THE MANURE SPREADER. FAILURE TO COMPLY COULD DAMAGE THE MACHINE AND VOID THE WARRANTY.

SERVICING

NOTE: Be certain to disconnect all sources of power before servicing. Keep pant cuffs and loose clothing away from all drives as well as the other moving parts. Keep off the equipment when in use, and keep all shields in place. Do not attempt to clean, grease or lubricate while the machine is running.

Never allow riders in or on the machine.

DRIVELINE PROTECTION TORQUE LIMITER DISCONNECT CLUTCH

The driveline is protected by a Torque Limiter Disconnect Clutch located in the PTO driveline before the gearbox of the spreader. Disconnect of the clutch during operation is normally due to large frozen chunks of manure, foreign objects (rocks, chunks of wood etc.) in the manure, running the spreader apron too fast when unloading long straw and pen-packed material, or STARTING THE SPREADER PTO TOO QUICKLY WITH HIGH TRACTOR RPM. Always determine the reason for the disconnect and eliminate the problem before re-engaging the PTO.

BEATER

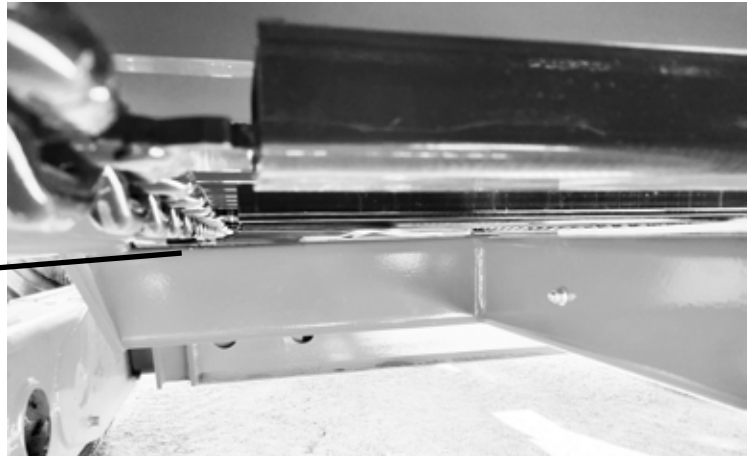
When replacing the beater paddles, always use H&S special grade bolts, washers, and nuts and torque to the recommendations in the bolt torque chart of this manual.

ADJUSTMENTS

MAIN APRON ADJUSTMENT

Tighten the two adjusting bolts on both sides (1 on each front corner of the spreader - see circled area in the pictures below) equally so that when properly tensioned, the apron chain on each side should sit 1/16" above the center driveshaft support cross member.

The apron will be damaged if the machine is operated with one end of the apron slats running ahead of the opposite end.

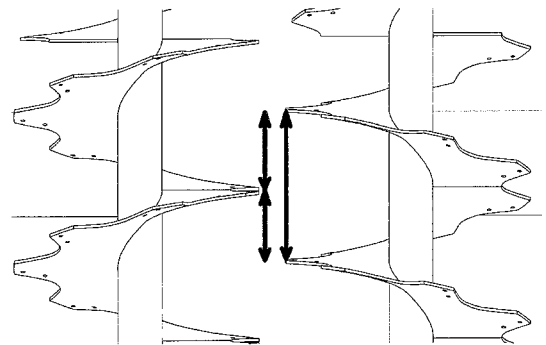


TIMING OF BEATERS

The vertical beaters on the manure spreader are preset from the factory. If it becomes necessary to service the beater assembly, the beaters must be timed so the flighting of the opposite beater is about halfway between the beater being timed.

To time the beaters;

1. Remove the top shield and bearing support from both beaters.
2. Lift/raise the beater up off of the gearbox splined shaft.
3. Rotate the beater so the flighting of the opposite beater is about halfway between the beater being timed.
4. Lower the beater on the splined shaft
5. Replace the bearing support and top shield.



ADJUSTMENTS

BEATER REMOVAL

The beater attachment can easily be removed for various reasons such as manure stock piling.

1. Remove bolts, nuts and lockwashers at the same location on each side (A).
2. Disconnect the quick disconnect PTO from the gearbox under the rear of the manure spreader and remove the rear half of the PTO.
3. The remaining portion of the rear PTO has a roll pin that must be removed to slide the front portion off of the PTO from the shaft.
4. After removal of both PTO halves, slide them together and store them in a safe place.
5. Securely attach a lifting chain to the lifting eyes at the top of the beater assembly (B).
6. Lift the beater assembly gently until alignment pegs are clear of the alignment holes.
7. Store the beater assembly on level ground with blocking as not to damage the drive system.



WHEEL HUBS

To adjust the wheel hubs, tighten the castellated nut on the spindle to the point where there is no end-play and a slight drag on the bearings. Replace the cotter key with a new one of the correct size.

OPTIONAL EQUIPMENT

ELECTRIC ADJUST HYDRAULIC VARIABLE SPEED APRON CONTROL

The optional electric adjust valve allows you to adjust your apron speed from the tractor cab if the tractor is not equipped with a variable speed on the flow control.

MAIN APRON REVERSING VALVE KIT

The optional reversing valve allows the operator to reverse the main apron if a problem arises such as an obstruction in the beater area

4-WHEEL ELECTRIC-OVER-HYDRAULIC DISC BRAKES

The brake system is electric-over-hydraulic (brake fluid) only. The controller must be located on the tractor for the brakes to operate. If the tractor is set up with the #4 pin in the seven in plug as being brakes (per new ASABE standard) it will be activated when the user pushes the brake pedal. The braking force can be adjusted by pressing the plus or minus on the gain of the controller.

For tractors that do not have this feature, the handset is used to apply the brakes.

ELECTRONIC SCALES & COMPONENTS

Model: Digi-Star GT400

An optional factory installed Digi-Star GT400 scale system is available for accurate weight measurement of the manure spreader load.

Model: Digi-Star NT560

An optional factory installed Digi-Star NT560 scale system is available for accurate weight measurement and displaying actual tons per acre. The Indicator has GPS capability and stores pounds of manure spread on individual fields.



HYDRAULIC ACTUATOR LIGHT COVERS

The optional light covers are hydraulically linked to the hydraulic end gate so that when the end gate is raised, the cover closes over them to protect them from debris. When the end gate is closed, the light covers open.

LUBRICATION GUIDE

GENERAL INFORMATION

IMPORTANT: *Catch and dispose of fluid per local waste disposal regulations whenever service is performed on hydraulic components, valves, cylinders, hoses, etc.*

The operator should become familiar with all lubrication points and establish a systematic routine to ensure complete and quick lubrication of the machine.

GREASING

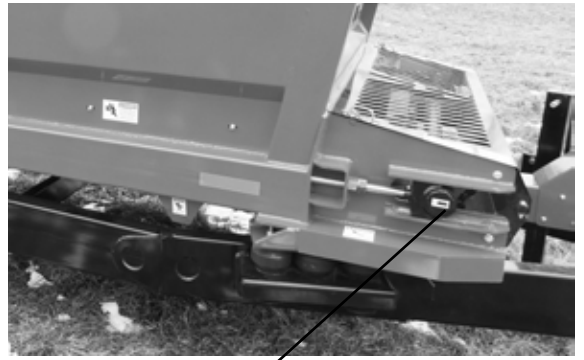
There are numerous grease fittings on the spreader. If these are lubricated properly and often enough, it will prolong the life of the spreader. (Grease every 20 hours, **also before and after power washing.**) Make certain that the grease fittings are free of paint and dirt, force a high-quality grease into them until the grease comes out around the shaft on the sleeve-type bearings. On the sealed ball bearings, grease should be added slowly until a slight bead forms at the seals indicating the correct amount of lubricant. Wipe off excess grease to prevent the accumulation of chaff and grit around the bearings.

PTO ASSEMBLY

Keep the male and female driving elements well lubricated and free sliding. Failure to observe this precaution will result in excessive pressure being required to collapse or extend the assembly while subject to operating torque. This excessive force may damage or displace the main shaft bearings. **DO NOT** lubricate the shield surfaces. The shield surfaces must be kept dry, as dirt accumulation on them will quickly cause these units to bind and not rotate. Be sure that the rotating integral shields are not dented or damaged, as this also will result in excessive force being applied against the jackshaft. Damaged shields also cause obvious difficulties when installing the assembly. If at any time the shields do not turn freely, they should be checked to determine the cause, and repaired or cleaned. To avoid damage to the main drive bearings, avoid turning sharp corners while PTO is running. Start and Stop PTO slowly to avoid damage to the drive line.



LUBRICATION GUIDE



(1) Zerk on each end of front idler shaft



Remote Zerks
(5) for the main drive shaft bearings under the spreader



Remote Zerks
Top LH Zerk - Left Side Tandem Pivot
Bottom LH Zerk - Right Side Tandem Pivot
Top Center Zerk - Rear Drive Shaft Bearing
Bottom RH Zerk - Left Side Drive Shaft Bearing
Top RH Zerk - Right Side Drive Shaft Bearing



Remote Zerks
(2) Zerks for Vertical Beater Top Bearings

Remote Zerks
(2) Zerks on Torque Limiting Clutch
(Driveline PTO under rear of spreader)

DECAL LOCATION

Your H&S Manure Spreader was manufactured with operator safety in mind. Located on the manure spreader are various decals to aid in operation, and warn of danger or caution areas. Pay close attention to all decals on your Manure Spreader.

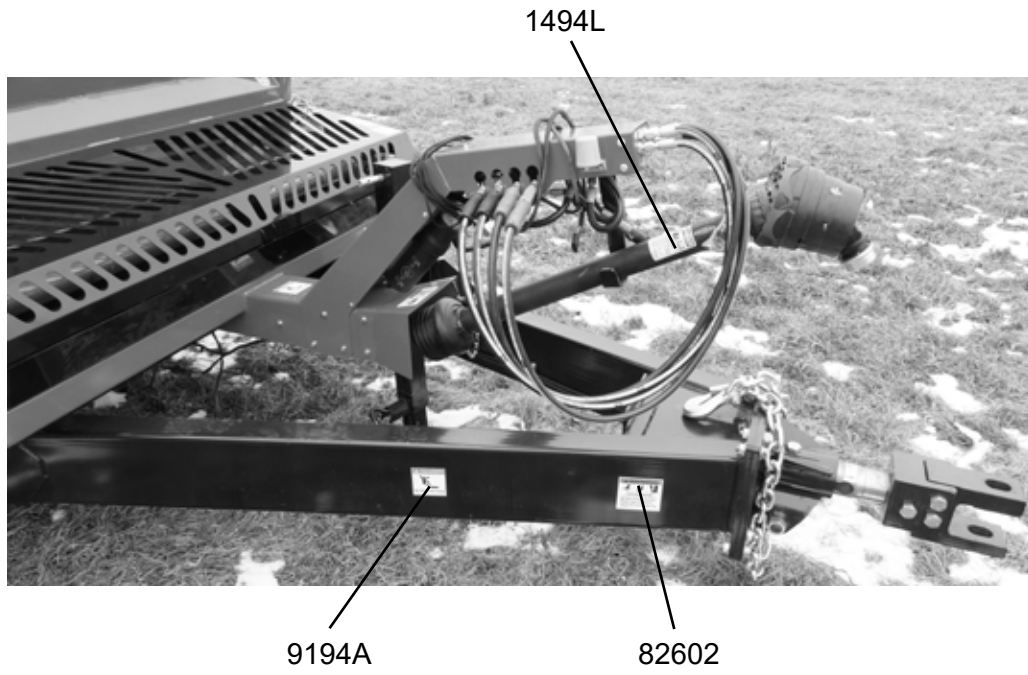
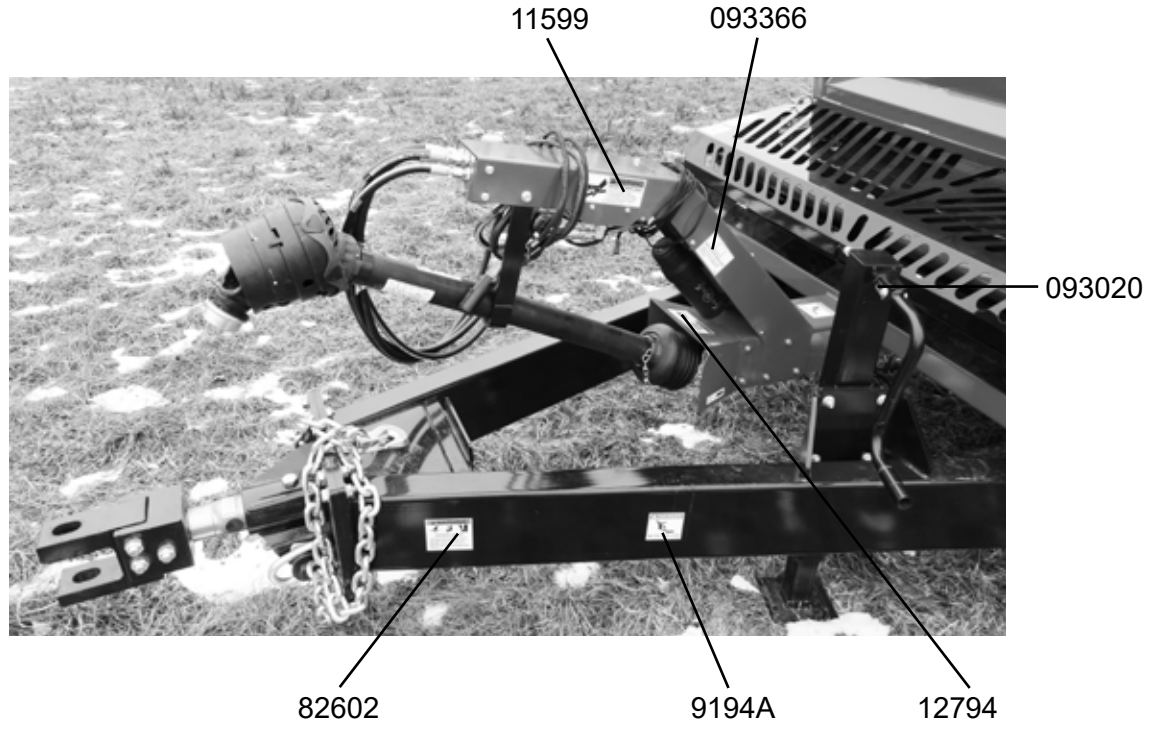


DO NOT REMOVE ANY OF THESE DECALS. IF DECALS ARE LOST, DAMAGED, OR IF MANURE SPREADER IS REPAINTED, REPLACE DECALS. REMEMBER: DECALS ARE FOR YOUR PROTECTION AND INFORMATION.

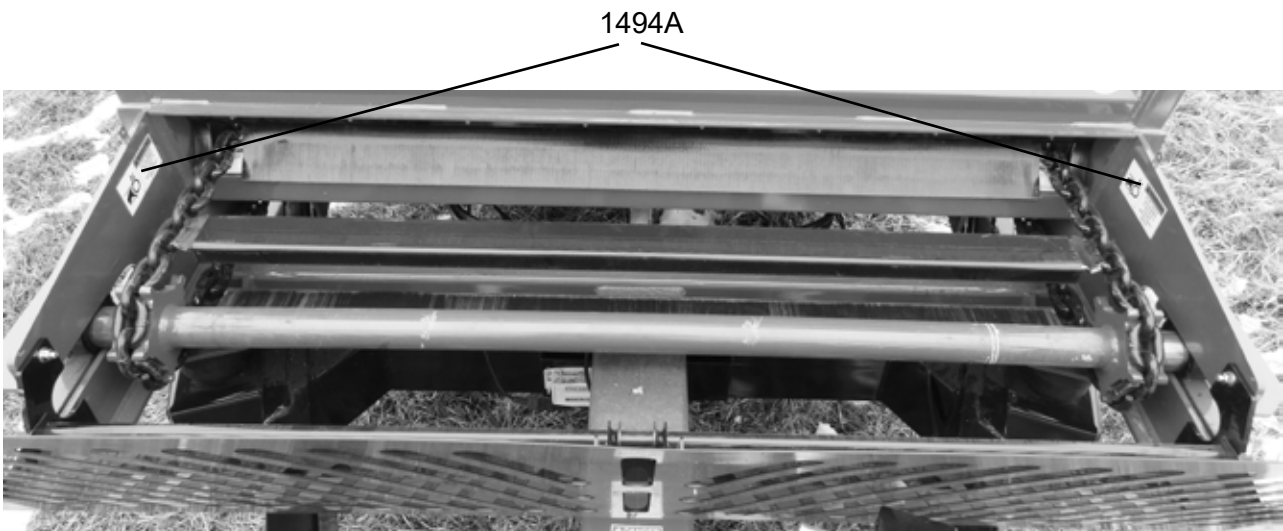
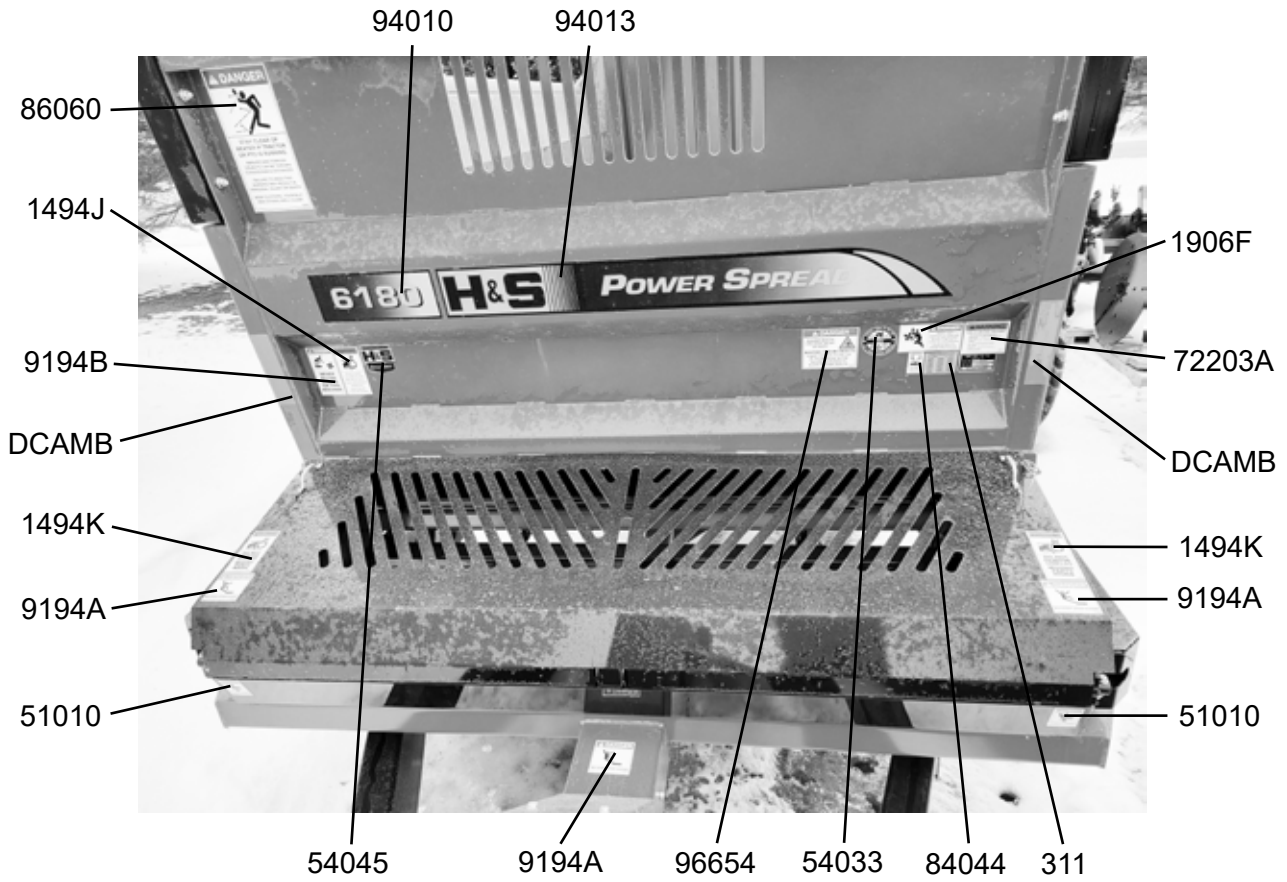
Listed below are the decals on your Manure Spreader. These decals may be ordered individually by part number or by ordering a complete set.

<u>PART #</u>	<u>QTY</u>	<u>DESCRIPTION</u>
311	1	Patent Number
1494A	2	Warning - Do Not Operate
1494J	3	Warning - Do Not Clean or Work
1494K	2	Warning - Do Not Remove Shields
1494L	1	Danger - Rotating Driveline
1906C	2	Warning - Stay Clear
1906F	6	Danger - Keep Out
51010	4	Caution - Pinch Point
71494A	1	Warning - Do Not Remove Shields(Only on Vertical Beater Spreader)
94011	1	Power Spread Decal - Left Side
94012	1	Power Spread Decal - Right Side
94013	1	Power Spread Decal - Front
94008	2	Model Decal - Left Side
94009	1	Model Decal - Right Side
94010	1	Model Decal - Front
9194B	1	Danger - Never Allow Riders
9194A	7	Danger - No Step
11599	5	Warning - Stay Clear of Leaks
12794	2	Warning - Do Not Operate
54033	1	Made in USA 3"
54044	1	FEMA Decal
54045	1	H&S Since 1967
72203A	1	Warning - Help Avoid Injury
82602	2	Warning - Crushing Hazard
84044	1	FEMA
86060	3	Danger - Stay Clear of Beater
96654	1	Danger - Beaters Throw Objects
093020	3	Grease Fitting
093366	1	Operators Manual
DCAMB	6	Amber Reflector
DCRED	2	Red Reflectors
JD5922	2	Orange Non Reflective Decal

DECAL LOCATION



DECAL LOCATION



DECAL LOCATION



093020

9194A



94008

94011

1906F

DCAMB

51010



1906F

DCAMB

1906C

86060

1494J

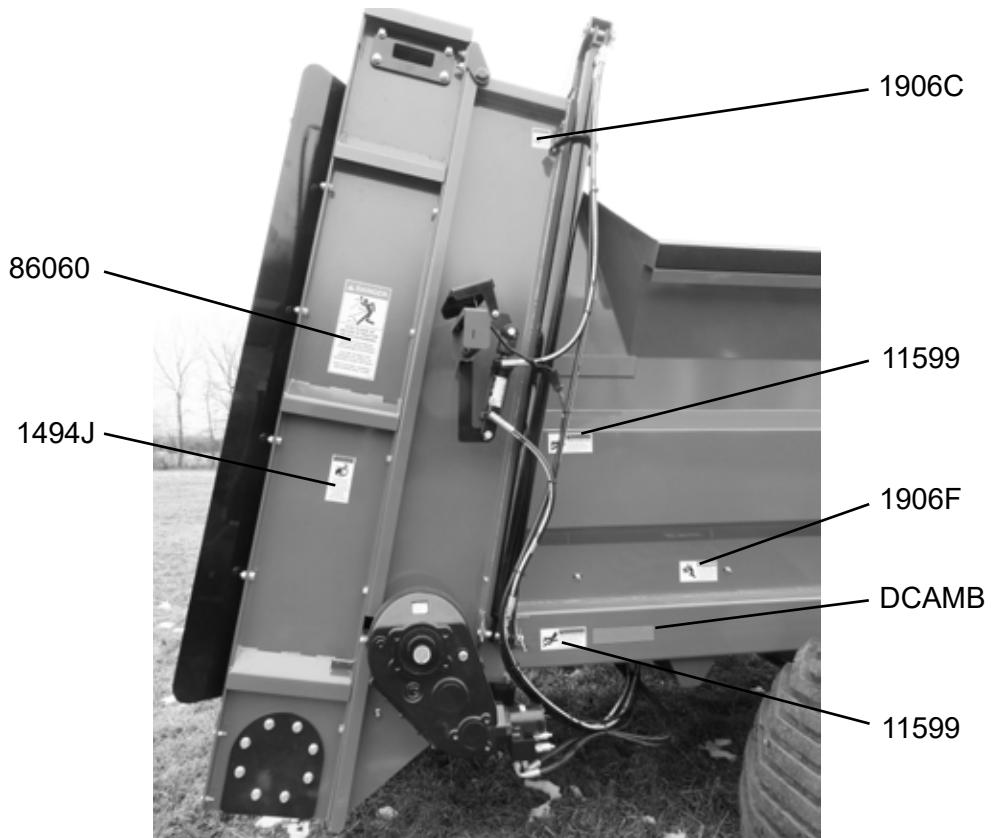
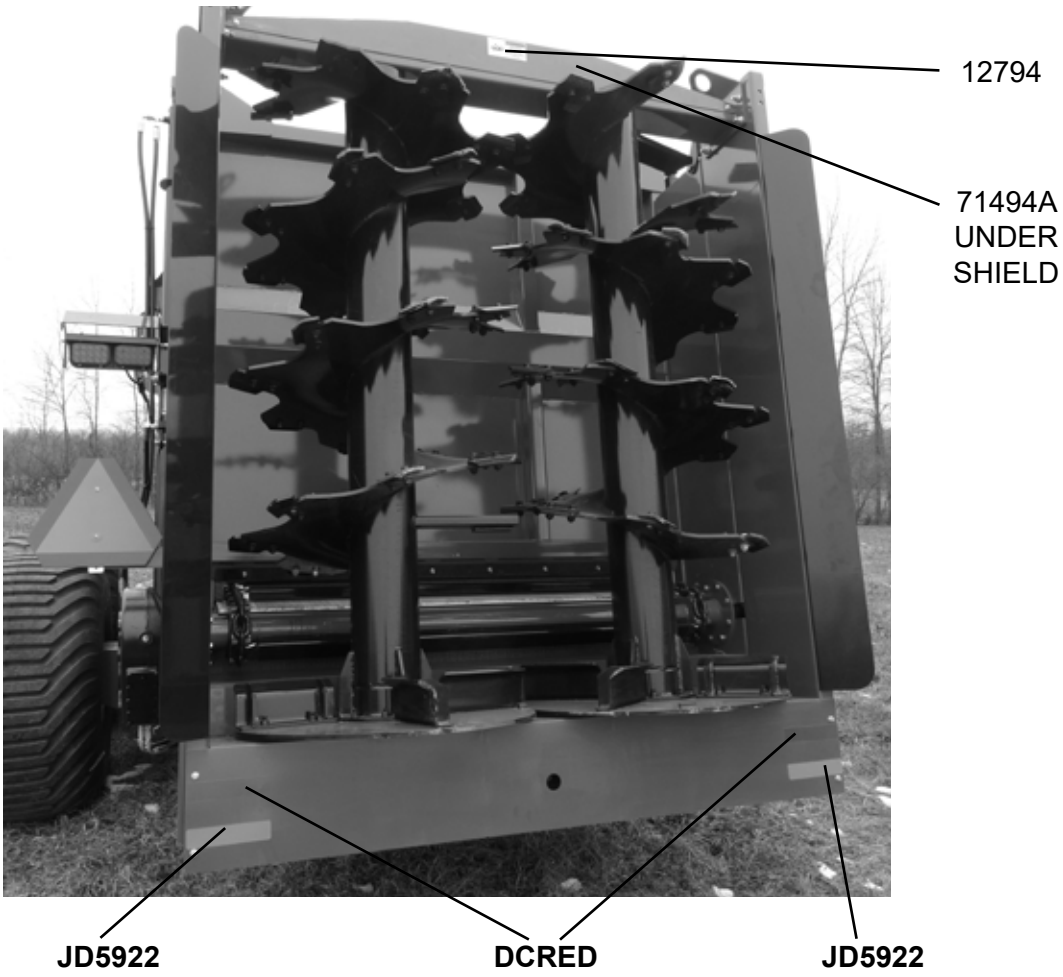
11599

1906F

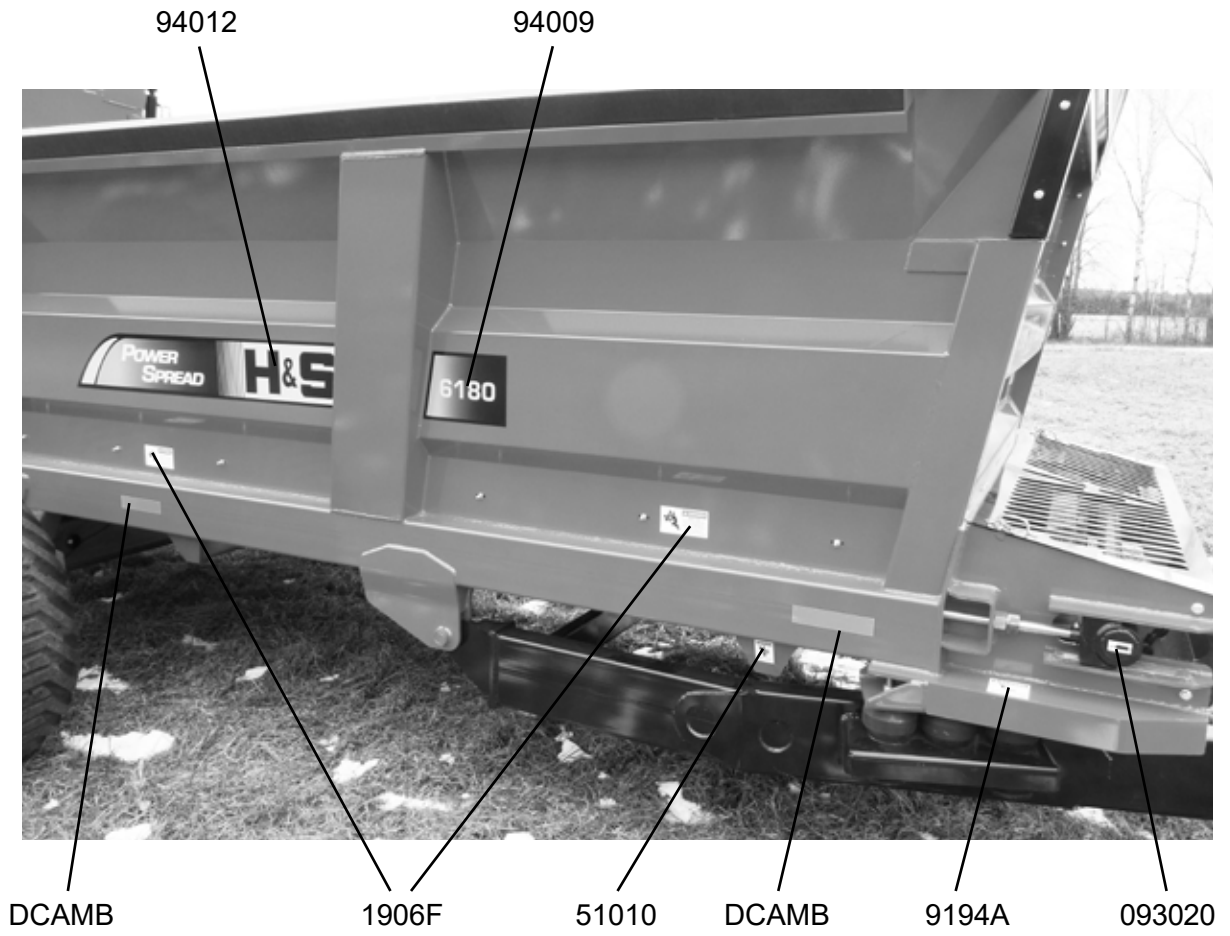
DCAMB

11599

DECAL LOCATION



DECAL LOCATION



TROUBLESHOOTING



WARNING:

MAKE SURE THAT THE TRACTOR IS SHUT OFF AND THE SPREADER CANNOT MOVE BEFORE SERVICING THE MANURE SPREADER. MAINTENANCE AND REPAIR SERVICE WORK TO BE PERFORMED BY A QUALIFIED SERVICE PERSON ONLY.

TROUBLE...	POSSIBLE CAUSE...	POSSIBLE REMEDY...
Beater Will Not Run	Tractor PTO Not Turning	Engage Tractor PTO
Apron Does Not Turn	Tractor Hydraulics Not Engaged	Engage Tractor Hydraulics
	Insufficient Tractor Hydraulic Pressure	Change Tractors

H&S MFG. CO.

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for the

FEMA SEAL OF QUALITY



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