

# HT8 TEDDER OPERATOR'SMANUAL





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

Revision #02 HT8 Starting Serial #021HT08001

HSMFG1019

Part #76937

Manufactured By H&S MANUFACTURING CO., INC.

2608 S. Hume Ave. (715) 387-3414 FAX (715) 384-5463 MARSHFIELD, WISCONSIN 54449

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#### H&S 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 labor, and twenty-four (24) months on parts 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. Warranty service must be performed by H&S or a dealer authorized by H&S to sell and/or service the product involved, which will use only new or remanufactured parts or components furnished by H&S. This warranty includes approved parts and labor to fix 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 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.

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 commercial, custom, for hire or rental application, is limited to six (6) months from the date of delivery of the product to the original purchaser or the first day of service, whichever comes first, by an authorized H&S dealer.

For commercial, custom for hire, or rental application, warranty is limited to 6 months from the date of delivery to the original purchaser, or the first day in service, whichever is earlier.

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.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE OF THIS WARRANTY. H&S and the companies affiliated with it makes 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.

11/14/18

## 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.

# 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
*	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

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# **DEALER PRE-DELIVERY CHECK LIST**

#### AFTER COMPLETION, DEALER SHOULD REMOVE AND RETAIN FOR RECORDS

After the Tedder 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.

	Tedder was not damaged in shipment. Check for dents and loose or missing parts. Report damage immediately to H&S Manufacturing Co., Inc.
	Tedder has been correctly assembled according to instructions in this manual. Wheel nuts and all other fasteners are tightly secured.
	All bolts and fasteners are tight.
	All grease fittings have been lubricated. See Lubrication Chapter of this manual for details.
	PTO Shields slide freely.
	All Shields and Guards are in place and fastened.
	All mechanisms are operating trouble free.
	Belts are properly adjusted.
	Tires are inflated to correct pressure.
	Decals are in place and legible.
Mode	el Number
Seria	al Number
Deal	er's Name
Inspe	ection Date
Sign	ature of Pre-Delivery Inspector

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# **DEALER DELIVERY CHECK LIST**

#### AFTER COMPLETION, DEALER SHOULD REMOVE AND RETAIN FOR RECORDS

This check list that follows is an important reminder of valuable information that should be passed on to the customer at the time this Tedder is delivered.

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

This delivery check list, 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 the proper adjustment for proper material fluffing.
	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.
	Record Serial Number on page 20 of this Manual.
	Have the customer sign a completed "Warranty Registration", and mail it.
Date	Delivered
Deale	er's Name
By _	

Signature of Original Buyer

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# 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.

#### **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 single 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.

General precautions are listed on CAUTION safety signs.



#### 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 m.p.h.).

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 implements 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.















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STAY CLEAR OF REEL AND ALL ROTATING PARTS WHEN TRACTOR IS RUNNING OR PTO IS ENGAGED. <u>FAILURE</u> <u>TO HEED MAY RESULT IN</u> SERIOUS INJURY OR DEATH.





OR WORK ON THIS MACHINE WITHOUT FIRST DISENGAGING POWER AND <u>SHUTTING OFF</u> TRACTOR ENGINE.



IS EXPOSED. REPLACE SAFETY SHIELDS. FAILURE TO HEED MAY RESULT IN SERIOUS INJURY OR DEATH







TRACTORS This operators manual uses the term "Tractor" when identifying the power source.

# WARNING

#### 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.

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

Stop the tractor engine, remove ignition key, and allow all mechanisms to stop before cleaning, working, or adjusting on machine.

DO NOT attempt to perform maintenance or repair with tractor running & PTO hooked up.

**DO NOT** step up on machine at any time.

**NEVER** manually feed material into the reel.

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 slide 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 REEL WHEN IT IS 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.

**NEVER** start the Hay Tedder until all guards and safety shields are secured in place.

**DO NOT** adjust reel when machine is running.

**DO NOT** adjust ground height with the tractor running.

**NEVER** hook up 1000 RPM tractor to the Hay Tedder.

H&S Manufacturing always takes the operator and his 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.



SAE grades on bolt heads

SUGGESTED ASSEMBLY TORQUE VALUES					WORKING TORGUE					
	SAE GRA	ADE 2 -6"	SAE GR	ADE 5	SAE GR	ADE 8	18-8 SS	316 SS	BRASS	SILICON BRONZE
Diam & Thrds Per Inch	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**

**NOTE:** Determine right or left side of the Tedder by viewing it from the rear. If instructions or parts lists call for hardened bolts, refer to bolt torque chart.

- 1. Assemble the Tedder or check the Tedder for proper assembly and adjustment. Make sure that all bolts are tightened.
- 2. Attach the wheels with tires using the lug nuts furnished and torque the mounting hardware to 95 ft./lbs. of torque. Check wheel bolts periodically thereafter.
- 4. Lubricate the Tedder completely (See <u>Lubrication Chapter</u> in This Manual).
- 5. **Re-torque reel tooth bolts after the first 100 acres. Check periodically thereafter.**

#### **GEAR BOX**

Before using your new machine, check the oil in the gear box, keep filled to the center of the shafts. Use 80W-90W gear lube.

# TRANSPORTING

#### **TOWING ON HIGHWAY**

Follow state and local regulations when towing farm equipment on public highways. Never tow the Tedder on a public highway at a speed greater than 20 m.p.h. (32 kph).

#### PTO HOLDER

A convenient bracket is provided to hold PTO when Tedder is not in operation. Locking PTO onto holder will also prevent reel from turning during road travel.



#### **REFLECTORS**

Front amber & rear red reflective decals on the outer edges of the Tedder for safety.



#### SMV BRACKET

An SMV Bracket is provided on the Tedder for attaching an SMV sign for safety.

## PREPARING FOR OPERATION

#### TRACTOR CONNECTIONS

#### **Tractor Hitch**

- 1. The hitch of the Tedder is designed for a standardized tractor hitch.
- 2. 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 14 inches for 540 RPM PTO as shown in the drawing. An improperly located hitch point may cause damage to the universal joints of the power takeoff.
- 3. Secure the drawbar so that the hitch pin hole is directly below the power drive line. Fasten the Tedder to the tractor drawbar with an appropriate hitch pin with safety locking device.



If the Tedder 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 the Tedder 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]

## **OPERATION & ADJUSTMENTS**

#### **EMERGENCY SHUTDOWN**

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

#### **REEL CAM ADJUSTMENT**

Your H&S Tedder delivers outstanding ground speed and yet gently fluffs up the hay. The height of hav pitching can be regulated by moving the adjustment lever (eight different settings), located on the left hand side of the Tedder. While using your H&S Tedder, which is capable of tedding guickly and efficiently, you might want to change the adjustment lever to make it more efficient. As various conditions will effect the efficiency of your Tedder, only with experience will you know how to properly adjust the Tedder. Field conditions, weather conditions, and type and size of windrow or swath are some of the determining factors for proper teeth adjustment, height adjustment, and PTO and ground speed to make your Tedder most efficient in gently picking up and fluffing all the hay.

#### V-BELT ADJUSTMENT

The V-Belts absorb shock and prevent damage to the machine should the reel strike an obstruction. Adjust the belts by loosening the two bearing mounting bolts on each end of the reel.<sup>4</sup> Turn the adjusting bolts on each side of the Tedder 4 equally so the reel runs parallel with the frame. Adjust the belt to about 1/2 inch deflection. Then secure the reel bearing bolts tightly to the frame.

#### REEL HEIGHT ADJUSTMENT

Located between hitch and gearbox mount is the height adjustment rod. This adjustment controls the height of the reel in relation to the ground. Shortening adjustment rod will raise reel, while lengthening it will lower it. A convenient handle is provided to turn adjustment rod.



#### WHEEL BEARING ADJUSTMENT

See Lubrication Chapter for adjustment.



## **LUBRICATION**

Become familiar with all lubrication points and establish a routine to ensure complete lubrication of the Tedder.

#### **GENERAL INFORMATION**

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

#### WHEEL BEARING LUBRICATION/CLEAN/RE-PACK/ADJUSTMENT

#### Grease wheel bearings as needed depending on amount of travel.

Annually disassemble and clean parts in a solvent. Pack bearings with a high grade grease. Reassemble, and tighten nut until a slight drag is felt when wheel is turned. Back nut off and insert cotter pin into first hole that you see as you back the nut off, bend cotter pin over and re-install cap.



#### **GREASE FITTINGS**

If your Tedder is lubricated properly and often enough, it will prolong the life of your rake. Grease daily during normal use and before and after storage and after power washing. Use a good grade of high quality grease. Make sure that grease comes out around the shaft on sleeve type bearings. Wipe off excessive grease to prevent accumulation of chaff or grit around the bearing. Replace any missing or plugged grease fittings.

#### PTO ASSEMBLY

Care must be taken to 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 and extend the assembly while subject to operating torque. This excessive force may damage the PTO assembly. DO NOT lubricate the shield surfaces, the shields must be kept dry, as dirt accumulation on them will cause these units to bind and not slide.

#### LOCATION OF GREASE FITTINGS

- A. (2) One at each end of PTO at U-joint
- C. One on hitch adjustment rod
- D. One on front jack shaft (sealed bearing)
- E. (2) One at each end of reel main shaft (sealed bearing)
- F. (12) One at end of each arm of each reel cross
- G. (12) Three on each set of cam arms
- H. One on cam center bearing

#### **LOCATION**

Shown below is the location of the grease fittings.







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# **DECAL PLACEMENT**

Your H&S Tedder was manufactured with operator safety in mind. Located on the Tedder are various decals to aid in operation, and warn of caution areas. Pay close attention to all decals.



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

Listed below are the decals on your Tedder.

PART #	<b>QUANTITY</b>	DESCRIPTION
311	1	Patent Numbers
1494J	1	Warning-Do Not Clean
1494K	1	Warning-Do Not Remove Shields
1494L	1	DANGER-PTO
1787G	1	PTO Holder
12494D	4	DANGER-Stay Clear of Reel
12494E	1	DANGER-Do Not Shift Lever
12794	1	Warning-Do Not Remove Shields
2495	1	Warning-Keep Children Away
3894	1	Warning-Do Not Operate
32306	1	Complete Set of Decals-7' Tedder
32307	1	Complete Set of Decals-8' Tedder
54033	1	Made in USA 3"
72203A	1	Warning-Help Avoid Injuries
8476	1	7' Hay Tedder RH Side Decal
8477	1	7' Hay Tedder Front Decal
8478	1	8' Hay Tedder RH Side Decal
8479	1	8" Hay Tedder Front Decal
DCAMB	1	Amber Reflector
DCRED	2	Red Reflector

### **DECAL PLACEMENT**







# **INSTRUCTIONS FOR ORDERING PARTS**

All service parts should be ordered through your authorized H&S dealer. They will be able to give you faster service if you will provide them with the following

- 1. Model & Serial number is located on the left front of the main frame of your unit.
- 2. All reference to left or right apply to the machine as viewed from the rear.
- 3. Parts <u>should not</u> be ordered from illustration only. Please order by complete part number.
- 4. If your dealer has to order parts give shipping instructions:

VIA truck - large pieces (please specify local truck lines)

VIA United Parcel Service (include full address)



#### PLEASE RECORD NUMBERS FOR YOUR UNIT FOR QUICK REFERENCE

#### ABOUT IMPROVEMENTS

#### H&S IS CONTINUALLY STRIVING TO IMPROVE IT'S PRODUCTS

We must therefore, reserve the right to make improvements or changes whenever it becomes practical to do so without incurring any obligation to make changes or additions to the equipment previously sold.

# SERVICE NOTES

# PARTS NOTES


