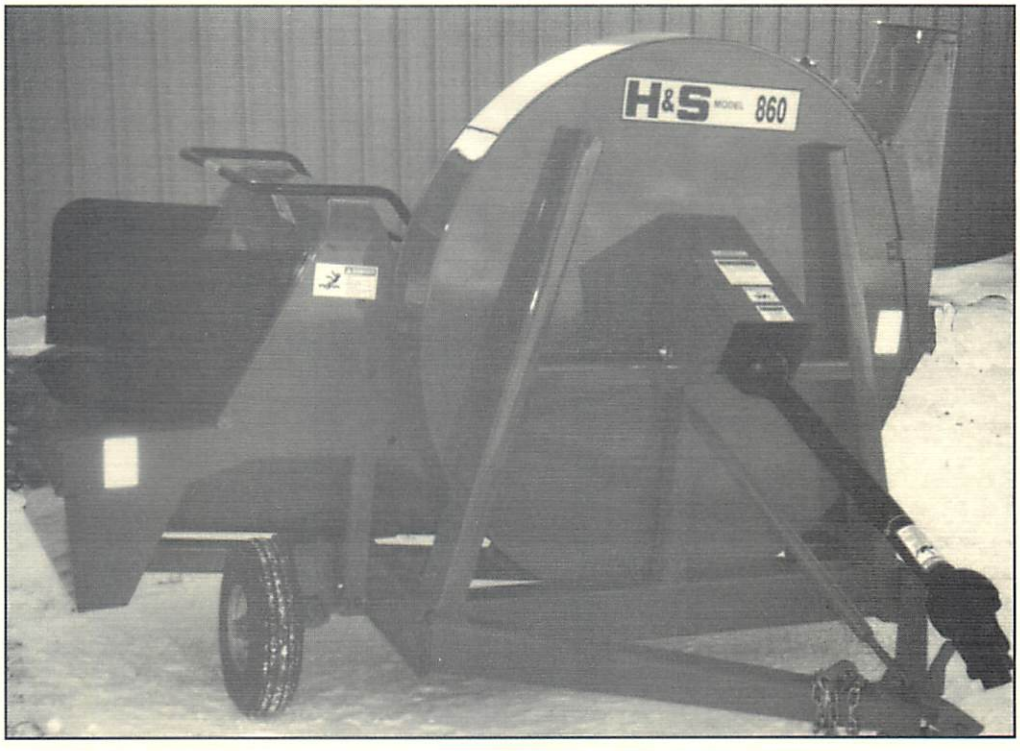
H&S

860

Forage Blower



WARNING READ AND UNDERSTAND THIS MANUAL BEFORE OPERATING THIS EQUIPMENT.

UNSAFE OPERATION OR MAINTENANCE OF THIS EQUIPMENT CAN RESULT IN SERIOUS INJURY OR DEATH.

OPERATOR'S MANUAL

and

PARTS LIST

10-26-99

Manufactured By

H&S MANUFACTURING CO., INC.

P.O. BOX 768 • (715) 387-3414 FAX (715) 384-5463

MARSHFIELD, WISCONSIN 54449

H&S
H&S 860 FORAGE BLOWER

CONTENTS

WARRANTY

Mr. Owner: Before Operating–Read and Understand Operating and Safety Instructions
H&S Manufacturing Co., Inc. truly believes you have made a wise choice and a sound and lasting investment. Many years of development have made available these quality machines to assure you the performance and reliability you need. **We ask you to read the following agreement and warranty as this unit is subject to this warranty and agreement and no other.**

THE H&S WARRANTY

H&S Manufacturing Co., Inc. warrants this unit to be free from breakage or malfunctions due to defects in material and or workmanship for a period of one year from date of original sale on parts and labor. Should such breakage or malfunction occur within warranty period the liability of H&S, its employees, agents, authorized distributors, and dealers (Hereinafter collectively referred to as sellers) is hereby expressly limited to repairing or, at its option, replacing free of charge at its factory, any such defective part or parts. Sellers liability is further expressly limited with respect to components manufactured by others, such as universal joints, bearings, detachable link and roller chains, tires, belts or trade accessories, to the extent of such warranties as are extended thereon to sellers by these manufacturers.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY OR APPLICABLE FOR ANY PARTICULAR PURPOSE, AND THE OBLIGATION AND LIABILITY OF SELLERS UNDER THIS WARRANTY, DOES NOT EXTEND TO LOSS OF CROPS, LOSS BECAUSE OF DELAY IN HARVESTING OR ANY EXPENSE OR LOSS INCURRED FOR LABOR, SUPPLIES, SUBSTITUTE MACHINERY OR RENTAL MACHINERY, TRANSPORTATION OR OTHER CHARGES, OR ANY OTHER INDIRECT OR CONSEQUENTIAL LOSS.

H&S Mfg. Co., Inc. reserves the right to make changes in design and components or material or to utilize available materials which It deems satisfactory, in order to improve its products. Also H&S reserves the right to make changes in the construction or design of any parts without any incurring obligations to install these improvements or changes on previously delivered units.

This warranty shall be void if any part or parts not manufactured or supplied by H&S are used either in servicing and maintaining the unit, and sellers obligation to repair or replace parts are then voided. This warranty shall be void if in the judgement of H&S, repairs are made in such a manner to affect this unit in a materially adverse manner or if this unit is operated unsafely or while in a state of disrepair.

The terms and conditions of this warranty cannot be altered, modified, or waived by any seller without the expressed, written consent of an officer of H&S Mfg. Co., Inc.

NOTICE

H&S Manufacturing Co., Inc. disclaims any liability for the operation of the equipment with the safety guards removed or modified. The nature of this product requires that it be operated in a safe way only, and in good repair by qualified persons. Each purchaser, through the process of purchasing this equipment, agrees with H&S Manufacturing Co., Inc. to operate it in a safe manner and in accordance with applicable state and federal laws and agrees to indemnify and hold harmless H&S Manufacturing Co., Inc. from any loss to any person or persons caused by purchaser's failure to do so. Each purchaser further agrees to bring to the attention this notice to each subsequent purchaser, and to obtain his agreement thereto as a condition of resale or transfer.

IMPORTANT

TO MAKE THIS WARRANTY EFFECTIVE, THE OWNERS WARRANTY REGISTRATION FURNISHED WITH EACH MACHINE MUST BE FILLED OUT AND SENT TO H&S MANUFACTURING CO., INC. IF PURCHASER DOES NOT ACCEPT THIS WARRANTY AND AGREEMENT, HE MAY RESCIND THE SALE BY NOTIFYING ANY OF THE SELLERS IN WRITING OF THAT FACT WITHIN TEN DAYS FROM DATE OF SALE AND/OR PRIOR TO ANY USE OF THE EQUIPMENT WITHIN THIS 10 DAYS.

FB-2/97

FILL OUT AND MAIL IMMEDIATELY TO MAKE WARRANTY EFFECTIVE

WARRANTY REGISTRATION

Date of Purchase _____

Purchaser _____ Address _____

City _____ State _____ Zip _____

Product _____ Model # _____ Serial # _____

Dealer _____ Address _____

City _____ State _____ Zip _____

_____

Signature of original buyer

IMPORTANT!

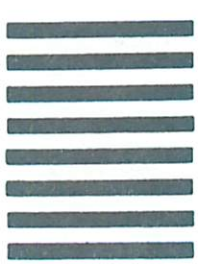
Tear on dotted line, provide the information requested on the card. The H&S Warranty is valid **"only"** after this card is received and recorded at H&S Mfg. Co. Mail at once. No postage is required in the U.S.A.

This Is Your Warranty Card
Please Fill Out
And Mail Immediately

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL
FIRST CLASS MAIL Permit No. 195 Marshfield, WI 54449

POSTAGE WILL BE PAID BY ADDRESSEE



H&S Manufacturing Co., Inc.
PO Box 768
Marshfield WI 54449-9963

AFTER COMPLETION, DEALER SHOULD REMOVE AND RETAIN FOR RECORDS

H&S
DEALER PRE-DELIVERY CHECK LIST

After the Forage Blower has been completely set-up, check to be certain it is in correct running 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.

- ❑ PTO Shields turn freely.
- ❑ All Shields and Guards are in place and fastened.
- ❑ All grease fittings have been lubricated.
  See lubrication guide in this manual.
- ❑ All mechanisms are operating trouble free.
- ❑ All belts are at proper tension.
- ❑ All bolts and fasteners are tight.
- ❑ All decals are in place and legible.

_____ _____
(Dealer's Name) Model Number

_____
Serial Number

_____ _____
(Signature of Pre-Delivery Inspector) (Inspection Date)

(Remove Dealers File Copy At Perforation)

DEALER DELIVERY CHECK LIST

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

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

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

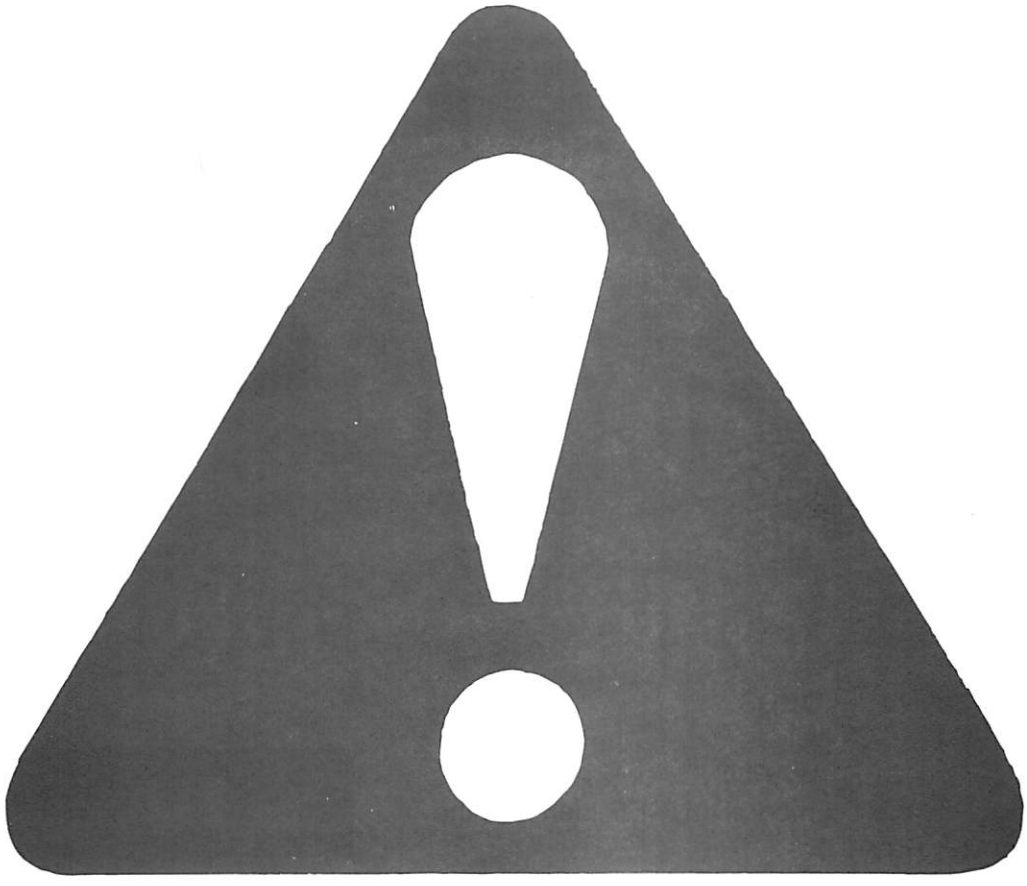
- ❑ Explain to the customer that the pre-delivery inspection was made.
- ❑ Explain to the customer all the safety precautions they must exercise when operating this unit.
- ❑ Explain to customer that regular lubrication is required for proper operation and long life of machine. Show customer the lubrication section of Owner's Manual.
- ❑ Give the customer Owner's Manual and make sure he reads and understands all operating and service instructions.
- ❑ Record Serial Number on Page 32 of this Manual.
- ❑ Have customer sign a completed "Warranty Registration," and mail it promptly.

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.



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.

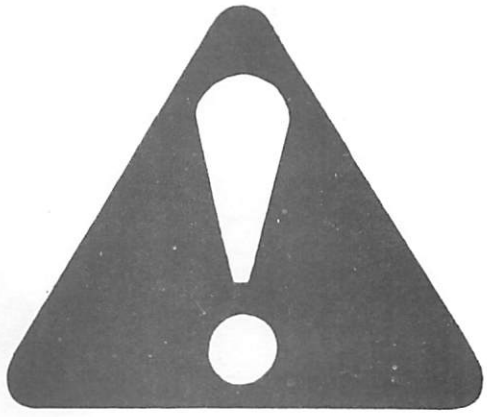
TRACTORS
This operator's manual uses the term "Tractor" when identifying the power source.

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 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.

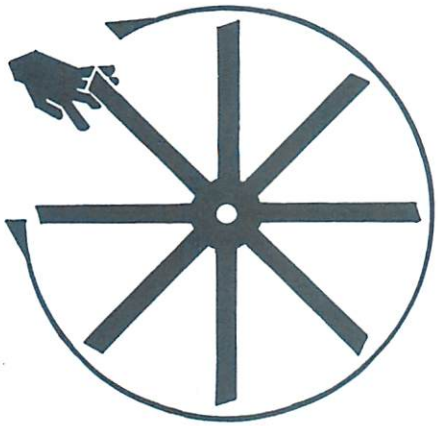
General precautions are listed on CAUTION safety signs.

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.

⚠ DANGER



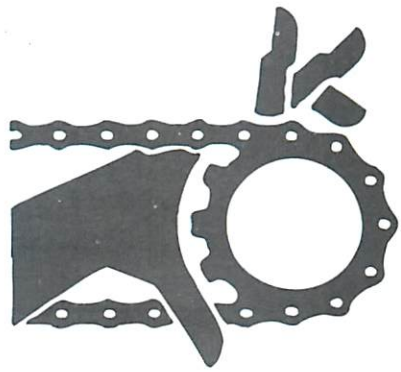
ROTATING BLADES
INSIDE FAN HOUSING

INJURY CAN RESULT EVEN WHEN BLOWER IS DISCONNECTED FROM POWER SOURCE

MOVEMENT OF BLADES WILL RESULT IN SERIOUS INJURY OR LOSS OF LIMB

1697A

⚠ WARNING



ROTATING PARTS
INSIDE THIS OPENING.

SHUT OFF POWER SOURCE AND WAIT FOR ALL MOTION TO STOP BEFORE CLEANING OR SERVICING.

1697E

⚠ DANGER

- KEEP HANDS & FEET OUT OF HOPPER
- SHUT OFF AUGER WHEN NOT FEEDING MATERIAL
- NEVER CLIMB ONTO OR OVER THE MACHINE
- CONTACT WITH MOVING AUGER WILL RESULT IN SERIOUS INJURY OR DEATH

1697F

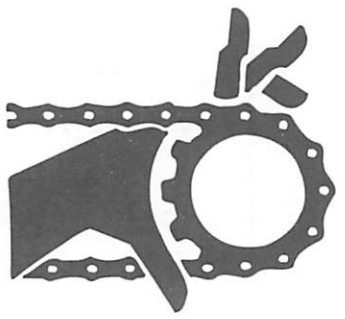
WARNING

DO NOT OPERATE THIS EQUIPMENT IF THIS DECAL IS EXPOSED. REPLACE SAFETY SHIELDS. 1697D

WARNING

TO AVOID PERSONAL INJURY, IMPLEMENT HITCH MUST BE CONNECTED TO TRACTOR DRAWBAR DURING OPERATION.

1697B



1494A

WARNING

DO NOT OPERATE THIS EQUIPMENT IF THIS DECAL IS EXPOSED. REPLACE SAFETY SHIELDS.

DANGER

5896B

ROTATING DRIVELINE
CONTACT CAN CAUSE DEATH

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.

5896A

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. KNOW HOW TO STOP FORAGE BLOWER BEFORE STARTING IT.

SHUT OFF BAR ONLY STOPS AUGER – FORAGE BLOWER FAN WILL CONTINUE TO OPERATE.

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

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

DO NOT step up on machine at any time.

WARNING It is strongly recommended that the safety chain be attached between the implement and tractor at all times. In case the tractor hitch pin is lost during transportation, the chain is intended to keep the separated implement from running freely and causing damage or injury.

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.

Check frequently to be assured that the shut off mechanism for auger is in proper operating condition.

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 or any moving parts. Stay clear of moving parts at all times.

NEVER start forage blower until all guards and safety shields are secured in place.

NEVER hook up 1000 RPM tractor to the forage blower.

WARNING

SAFETY *(Continued)*

SPECIAL SILO CAUTION
With Operator's Safety in mind, H&S cautions anyone who plans to enter a silo, that fermenting silage can (and may at the time) be giving off dangerous toxic gases. Thus, the Company recommends that:

BEFORE you enter the silo, that you run the Forage Blower empty for a few minutes to help ventilate and force fresh air into the silo. Good safety practices dictate also that you **NEVER** enter the silo alone. **BE SURE** someone else is around to help you out in an emergency. Keep **ALL** doors, windows or openings free of obstructions to promote fresh air circulation while inside the silo.

Some photographs used in this manual may show doors, guards and shields open or removed for illustration purposes **ONLY. BE SURE** that all doors, guards and shields are in their proper operating positions and securely attached **BEFORE** operating unit.

DO NOT attempt to hand feed or kick any crop or material into this machine.

DO NOT step on or attempt to cross over any part of the unit without first exercising this MANDATORY SAFETY SHUT-DOWN PROCEDURE;

1. Disengage the tractor PTO.

2. Shut off the tractor engine and keep the tractor transmission in park and/or the brake pedals locked to prevent any tractor movement.

3. Remove the ignition key and take it with you when leaving the tractor seat.

4. Wait for all movement to stop.

ONLY when you have taken these precautions can you be sure it is safe to proceed. Failure to follow the above procedures, could lead to death or serious bodily injury.

H&S Mfg. Co. always takes the operator and their safety into consideration when designing its machinery and guards exposed moving parts for their protection. However, some areas can **NOT** be guarded or shielded in order to assure proper operation. In addition, this Operator's Manual and Decals on the machine warn of further danger and should be read and observed closely.

Study The Above Safety Rules
ATTENTION - BE ALERT - YOUR SAFETY IS INVOLVED

SET-UP

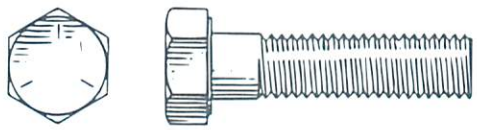
Remove all wires. Sort out all hardware by sizes and types in a convenient and orderly manner.

Lubricate all bearings and moving parts as you proceed, and see that they work freely.

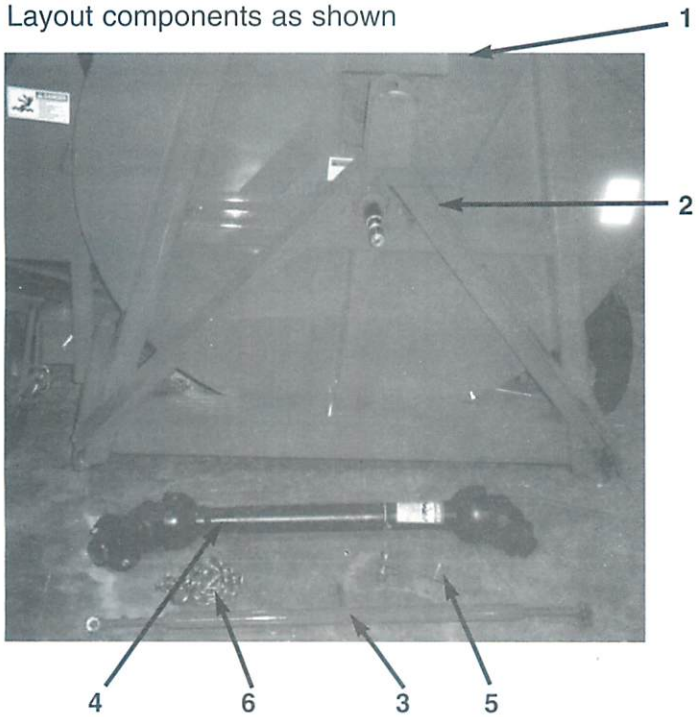
Clean the rotor shaft. Remove shear bolts from the assembly if shipped installed. Coat shaft and shear faces of the universal joint assembly and pack area between bushings in the yoke assembly with a good quality grease to equivalent No. 2 multi-purpose lithium grease.

Bolts must be used in the holes in which they are found, or in the parts to which they are attached unless otherwise shown.

GR.5 bolts furnished with this machine are identified by three lines on the head.

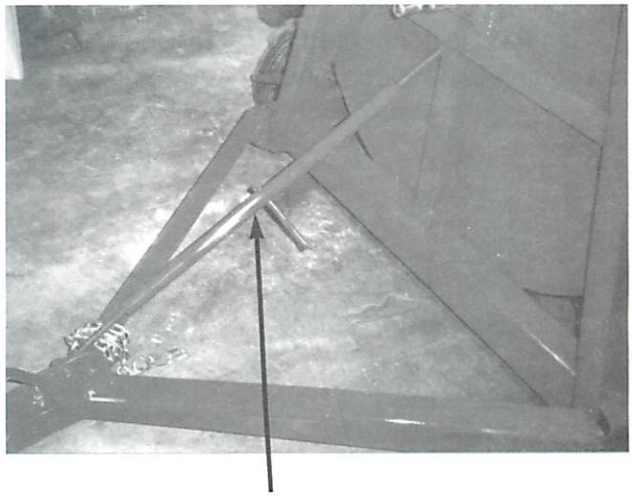


Layout components as shown



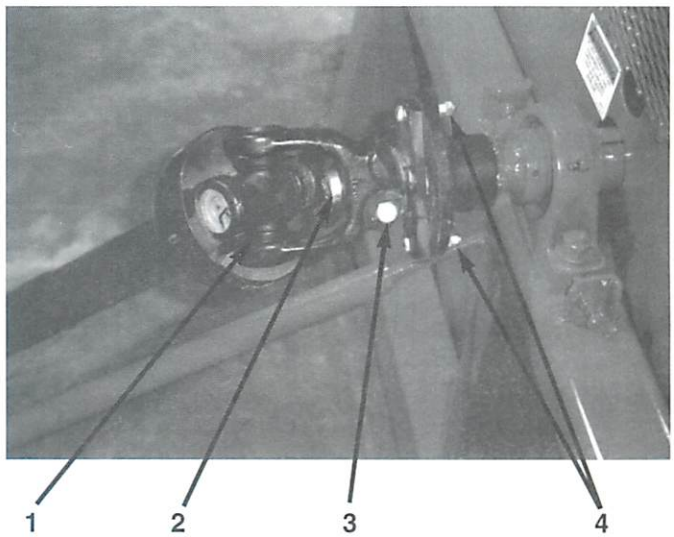
1. Shield
2. Tongue
3. Hitch adjusting turnbuckle
4. Implement drive line
5. PTO holder
6. Safety Chain

Lower tongue and attach hitch adjusting turnbuckle to tongue and frame. PTO holder can be mounted at the same time. (See Next Page)



Hitch adjusting turnbuckle

Attach yoke and shear hub assembly to rotor spline and secure with implement drive lock bolt.



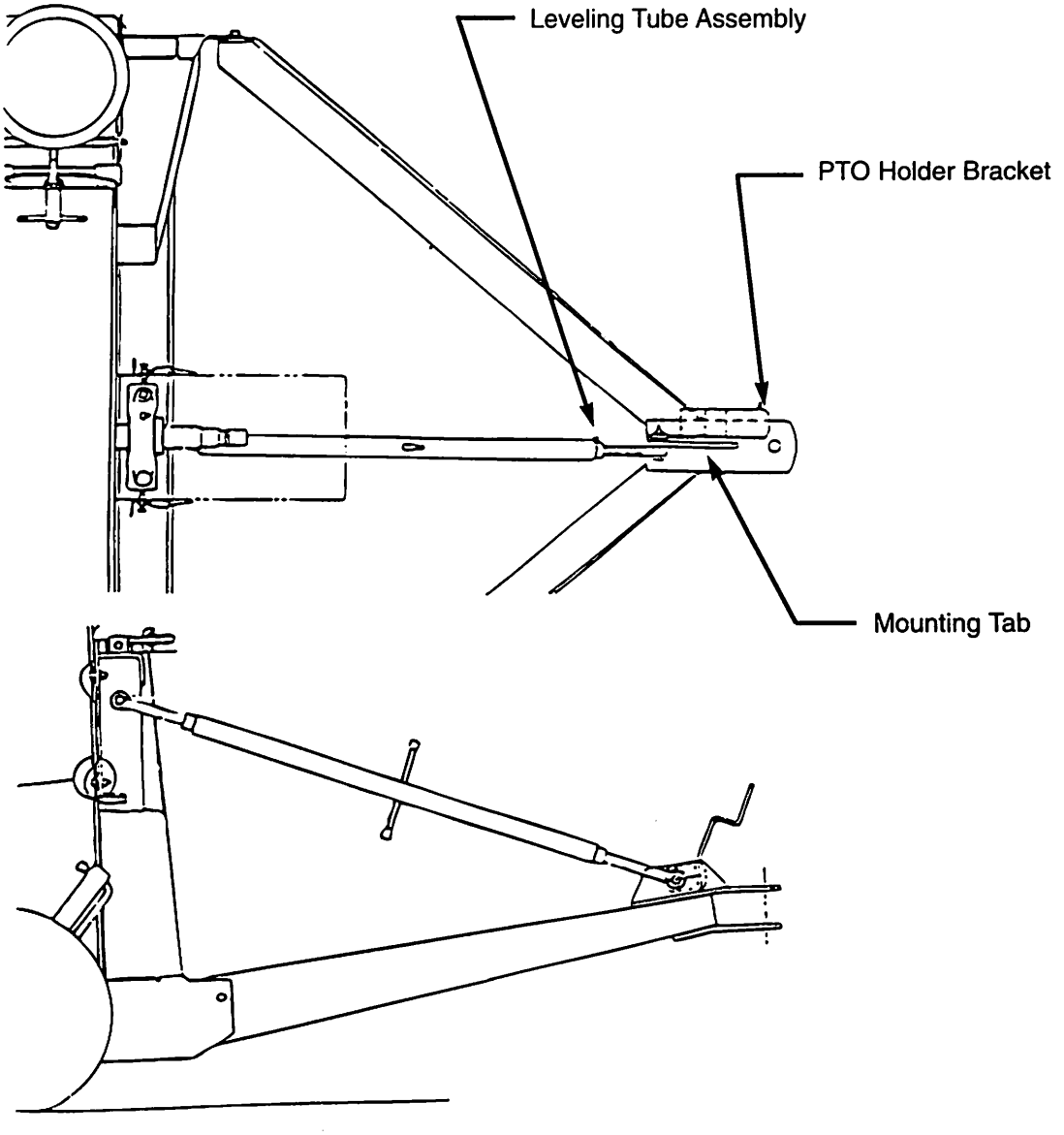
1. Implement drive yoke assembly
2. Rotor splined shaft
3. Implement drive lock bolt, 1/2" x 3" GR.5 w/lock nut
4. Shear bolts

INSTALLING PTO HOLDER ON HITCH OF 860 BLOWER

1. Remove cloth bag from Auger Hopper containing the Safety Chain and PTO Holder Bracket.

2. See Illustration. Install bottom end of Leveling Tube Assembly to Hitch Assembly on right side of Mounting Tab using 5/8" x 2-1/2" bolt. Add PTO Holder on left side of Mounting Tab using 5/8" Flat Washer on each side of PTO Holder Bracket, secure with 5/8" Lock Nut.

3. When PTO is connected to tractor, the PTO holder may be folded back onto the Frame. For storage when transporting fold holder forward and hang the yoke of PTO onto the PTO holder.



H&S 860 FORAGE BLOWER

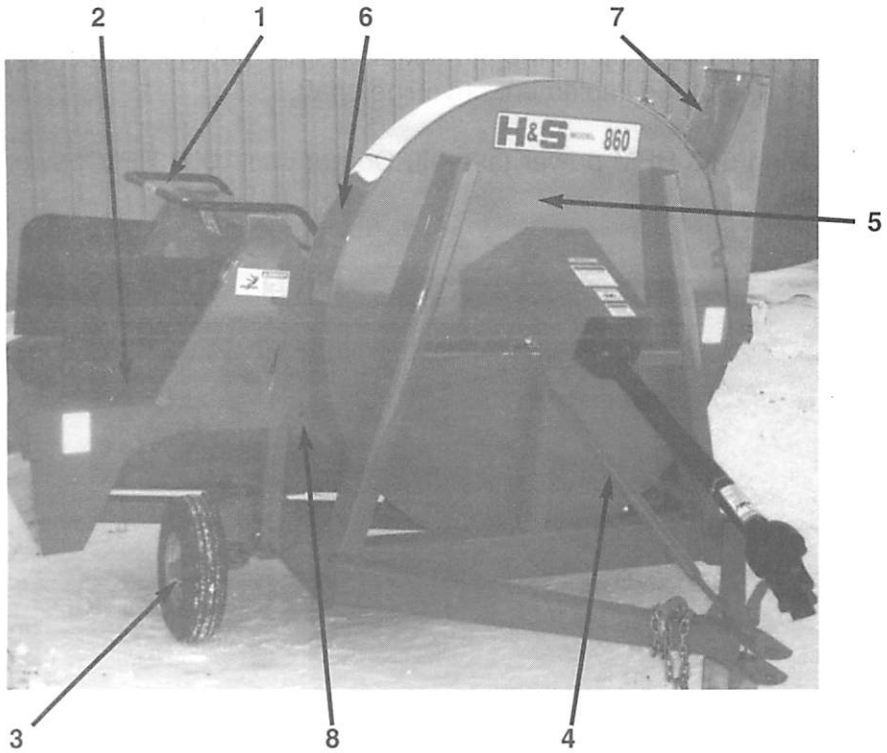
Your new H&S Forage Blower has been manufactured of the finest quality materials and components. The performance you get from your machine is largely dependent upon how well you read and understand this manual and apply this knowledge. There is a right and a wrong way to do everything. Please do not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

ADJUSTMENT AND OPERATION

The forage blower is a high capacity power take-off driven machine is designed to handle dry and semi-cured material, or silage.

The material is fed into the hopper through the feed auger to the fan. The fan blows the material into the silo or barn.

The auger control lever on the machine allows the operator to disengage the feed auger.



1. **Auger control lever**
2. **Auger (not seen)**
3. **Adjustable wheels**
4. **Hitch adjusting turnbuckle**
5. **Blower housing**
6. **Adjustable housing band**
7. **Blower outlet**
8. **Water inlet flange**

⚠ WARNING

TO AVOID PERSONAL INJURY, IMPLEMENT HITCH MUST BE CONNECTED TO TRACTOR DRAWBAR DURING OPERATION.

1697B

NOTE: When you are standing behind the forage blower looking forward (direction of road travel), the right hand and left hand of the forage blower are the same as your right hand and left hand. If instructions or parts lists call for hardened bolts, they are identified as Grade 5 by three lines on the head.

ADJUSTMENT AND OPERATION *(Continued)*

ATTACHING THE BLOWER TO THE TRACTOR

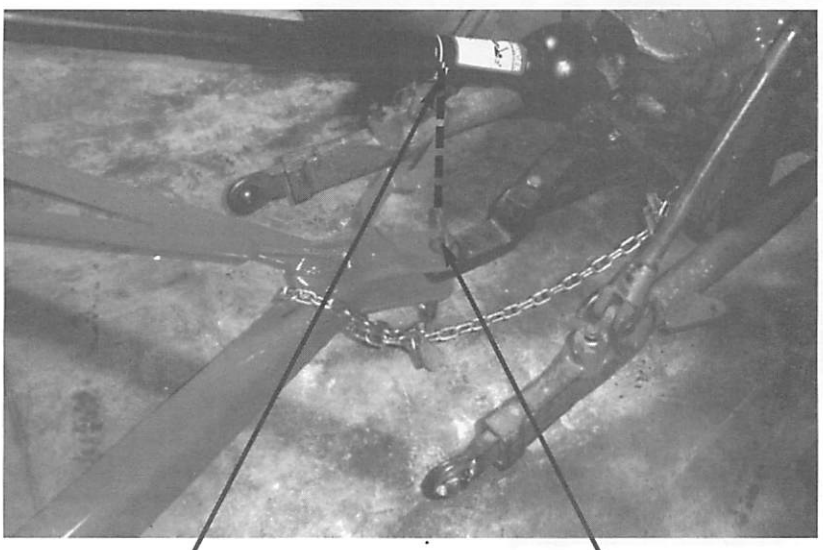
Back the tractor to the blower, then connect the tongue to the drawbar (or drawbar extension plate, if used). The correct horizontal distance between the hitch point and the end of the PTO shaft is 14 inches.

Shut off the tractor engine and be sure power take-off is disengaged.

Connect the front implement drive line yoke to the tractor power take-off shaft. Make sure the safety locking pin is in place. **NOTE:** For best operation, the tractor power take-off shaft and the blower rotor shaft must be in line and parallel.

A decal "stripe" is provided on the PTO shield as a check to insure that the drawbar setting is correct. When properly hitched, the stripe will be directly above the hitch pin. If the pin and stripe are not in line, recheck the 14 inch distance between the hitch pin and end of the implement drive line shaft.

The forage blower is for use with tractors having 540 RPM power take-off. Do not use 1000 RPM power take-off. 60 minimal PTO h.p. is recommended.



1. Decal on PTO
2. Hitch pin

HITCH SAFETY CHAIN

When transporting on the highway, the safety chain (provided) must be used.

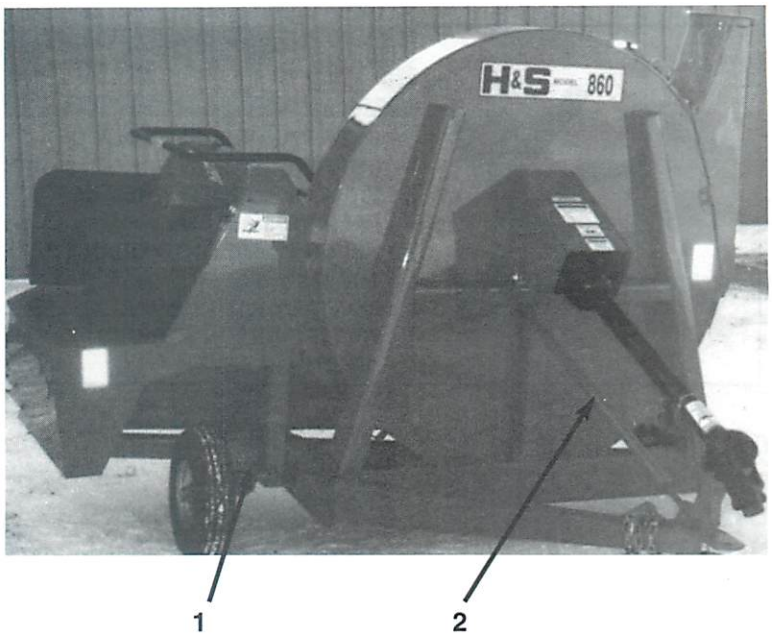
In addition to the safety chain, a safety hitch pin is recommended.

After attaching the safety chain, make a trial run by driving the tractor to the right and to the left for a short distance to check the safety chain adjustment. If necessary, readjust to eliminate tight or loose chain.

TRANSPORT

When transporting the blower, turn both wheel adjusting cranks to the maximum clockwise position. This allows for maximum ground clearance.

The blower should be tilted slightly forward (toward the towing vehicle) for transport. This is done by turning the hitch adjusting turnbuckle clockwise. Drive at a reasonable speed (not to exceed 20 m.p.h.) to maintain complete control of the machine at all times.



1. Wheel crank
2. Hitch adjusting turnbuckle

ADJUSTING THE HOPPER HEIGHT

The height of the hopper can be adjusted by turning the wheel adjusting cranks clockwise to raise the hopper or counterclockwise to lower the hopper.

NOTE: Both wheels are individually adjustable.

Turning the wheel adjusting crank on both wheels counterclockwise to the maximum position will allow the blower frame to rest on the ground.

LEVELING THE BLOWER

The blower should be level while operating to insure good material flow through the hopper.

To level the machine before or after, turn the adjusting turnbuckle clockwise or counterclockwise respectively.

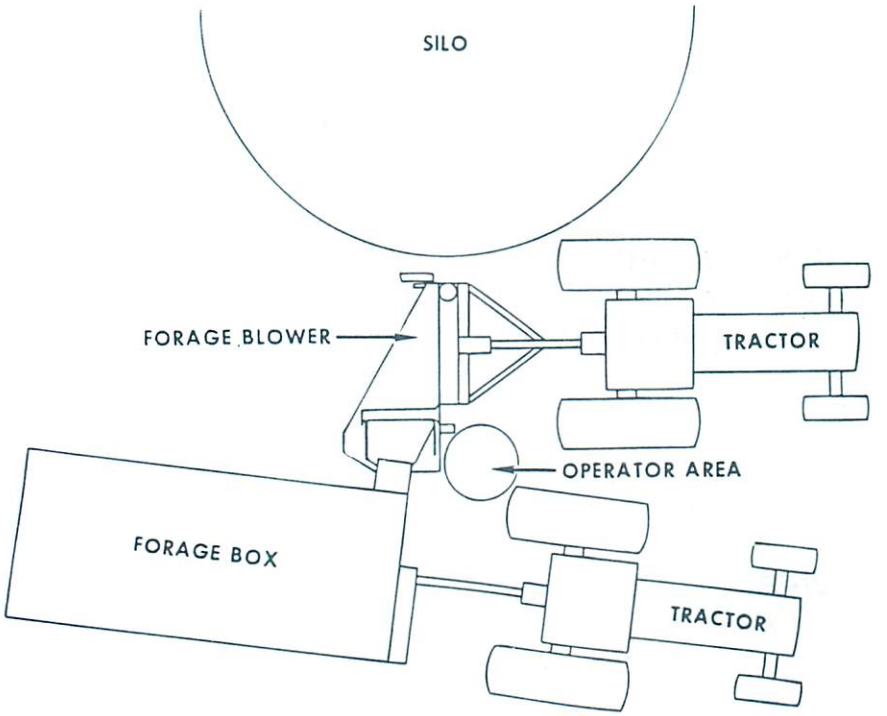
To level the machine left or right, adjust the height of either of the carrying wheels, or trench or block as required.

WARNING: Travel speed should be such that complete control and machine stability is maintained at all times. Where possible, avoid operating near ditches, embankments and holes. Reduce speed when turning, crossing slopes, and on rough, slick, or muddy surfaces.

ACCESS TO OPERATOR AREA

For safe operation of the blower, it is imperative to set up your operation similar to that shown. Walkway clearance between tractors must be maintained for easy access to the operator's area. NEVER CROSS OVER POWER DRIVELINES OR THE HOPPER TO REACH THE OPERATOR'S AREA. **Serious injury or death could result.**

NOTE: The forage blower must be pinned to the tractor drawbar during blowing operations.



ROTATING THE BLOWER OUTLET

The direction of discharge can be changed by rotating the rotor housing band and outlet. Measure the gap space between the ends of the band. Loose the band clamp and rotate the band to the position desired. After tightening the housing band, be sure the grooves along each edge of the band are firmly seated on the side sheets. It may be necessary to tap the edges of the band lightly while tightening to seat the band properly. Recheck the gap space, and if greater than previous measurement, clean out grooves to seat properly.

NOTE: It is important that the grooves in the band be completely free of foreign material and firmly seated on the side sheets. If this is not done, paddle tip clearance will be changed and the blower performance adversely affected.

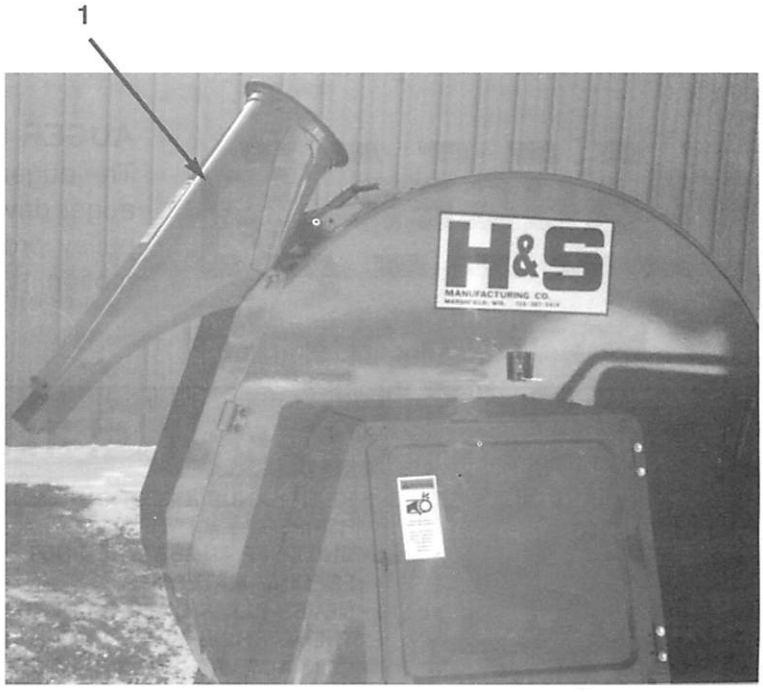
OPERATING THE FORAGE BLOWER

Always keep blower hitch pinned to tractor drawbar.

STARTING AND STOPPING BLOWER

Start the tractor and select a low throttle position. Engage the power take-off drive slowly to make sure the blower operates freely. Advance the throttle to provide 540 RPM power take-off speed.

Inspection of the paddles can be made by removing the two bolts at the bottom of the blower outlet and swinging the assembly up on its top hinge. The outlet may be removed by taking out the hinge pin if maintenance is necessary.

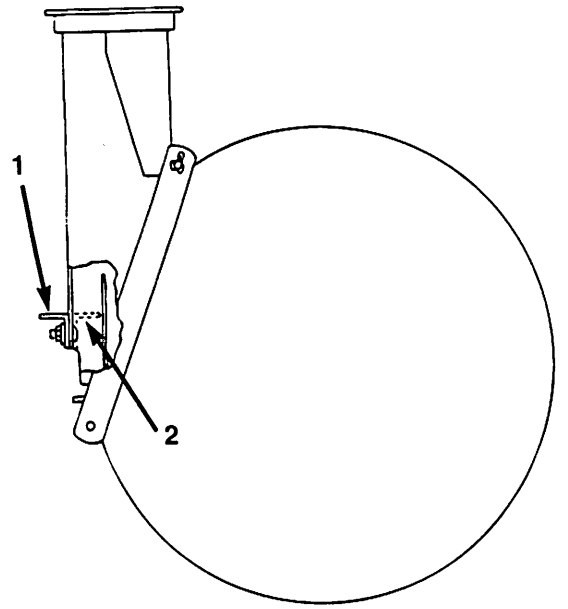


1. Blower outlet

OPERATING THE FORAGE BLOWER

It is important that a tractor of adequate horsepower be used that will maintain the power take-off speed while operating. This is especially true when blowing materials, such as wilted hay or when blowing into higher silos. 60 minimal power take-off horsepower recommended.

Except in an emergency, allow sufficient time for the crop to blow from the fan and pipe before disengaging tractor power take-off clutch to stop the blower.



1. Air control baffle
2. Baffle inside air inlet

BLOWER FAN SPEED

The blower is designed to operate at a power take-off speed of 540 RPM, under load. Tractor power, type of crop, moisture content and condition of pipe will affect capacity and operating results.

AIR CONTROL BAFFLE

When blowing shelled or ground ear corn, high back pressure in the blower pipe may cause some crop to discharge out the transition air inlet. If this happens, remove the air control baffle and install inside the air inlet as shown.

AUGER CONTROL LEVER

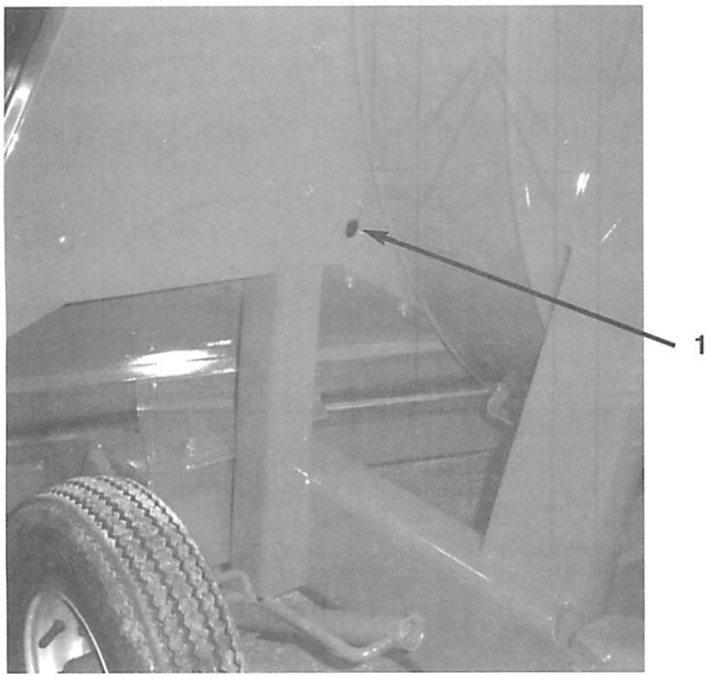
The auger control lever is used to engage or disengage the auger drive belt. When the lever is moved upward, the idler pulley presses against the drive belt to start the auger in motion.

NOTE: Maintain uniform feeding into the hopper for best performance.

ADDING WATER

At a time when the moisture content in most crops reaches 40 to 60 percent, it will give up some very sticky plant juices. These juices will cause a gum deposit on any surface they come in contact with. A gum build-up inside the housing or pipe will definitely reduce the blowing efficiency of the machine. A ticking noise, while operating, may result from the paddle tips striking a very heavy gum build-up inside the blower housing.

To remove or prevent plant gum build-up, attach a water hose with shut off valve to the flange provided in the hopper and inject a spray of water into blower with the crop. Use only enough water to keep the inside of the blower housing and the fan free of gum buildup.



1. Water inlet flange

To reduce friction heat when blowing an excessive dry crop, water can be added.

The increase in crop moisture content due to this addition of water is very small. For example, if a total of 5 U.S. gallons of water is added while elevating a 4 ton load of a 50 percent moisture crop, the increase in average moisture content will be only 1/4 of one percent.

Begin feeding the crop through the blower before turning the water on and turn the water off before the unloading is complete. Plugging in the pipe can occur if water enters before the crop.

While water is generally added for removing plant gum, it has been found that water can also be added to improve blowing performance when working with a difficult crop, even though there are no visible gum deposits.

CONNECTING BLOWER PIPE

Assemble each length of blower pipe together with bolts, lock washer and nuts. The shorter lengths of pipe or telescoping sections should be assembled at the lower end in case a change in the final length is necessary.

To avoid clogging the pipes, the inside section of the telescoping section must be assembled toward the blower. **NOTE:** Material must always be moved from smaller diameter pipe into the larger end.

Never use an elbow at the blower outlet. If elbows are used, install them close to the discharge end of the blower pipe. Solid elbows are preferred to the flexible type. Bolt elbows together to hold alignment.

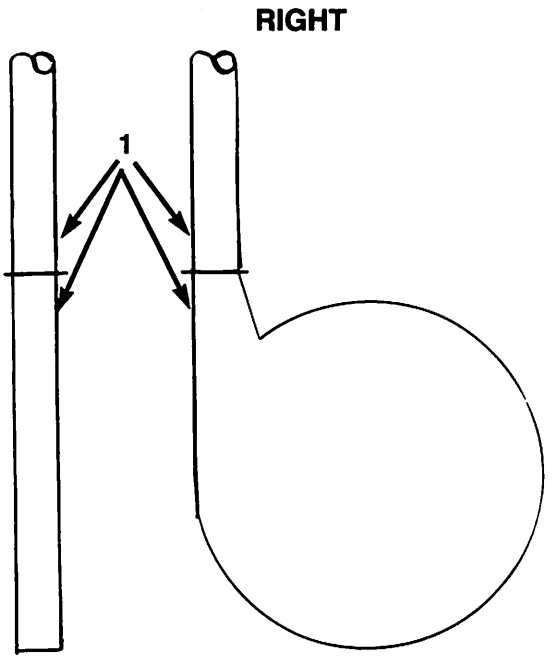
After the pipe assembly is finished, raise the pipe with a rope and pulley at the top of the silo. Fasten one end of the rope securely to the center of the assembled pipe and a guide rope about 8-feet from the top, then raise the pipe into position.

With the pipe in position, tie the lifting rope to the silo. Be sure the upper end of the pipe is securely fastened to the silo. THE PIPE MUST BE IN AS STRAIGHT A LINE AS POSSIBLE FROM BLOWER UPWARD TO MAINTAIN PEAK CAPACITY OF THE SYSTEM.

The underside of the distributor elbow should not rest against the edge of the silo. Provide a minimum of 8-inches of clearance so that the crop will flow unobstructed into the silo. Any cross bracing of the distributor elbow which might interfere with material flow should be relocated. At highest material flow rates, a distributor can cause pipe blockage if material flow is restricted.

NOTE: Anything that restricts material flow can cause pipe blockage at high material flow rates.

Make sure all pipes are securely fastened together before starting blower.



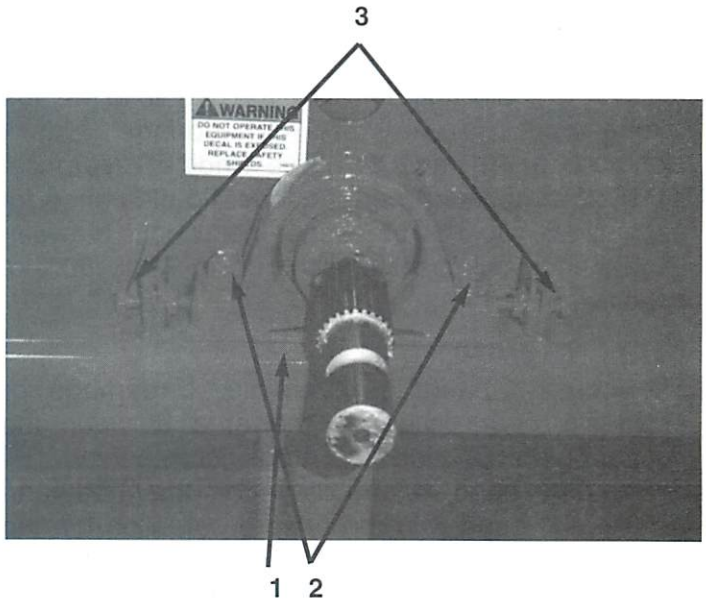
1. Straight

MAINTENANCE

Adjust by moving the bearing mounting sideways. Loosen the jam nuts and turn the adjusting screws. Adjust both bearings equally to maintain uniform clearance between side sheet and rotor paddles.

Clearance between paddles and side sheets must be a minimum of 15/16 inch at rear and 1-7/32 inch at front. If this is not true, make sure the shim arrangement is equal on both sides and the bearing mounting adjustment is the same on both sides.

After adjustments are made, torque the rotor bearing mounting bolts to 140 to 160 foot pounds.



1. Shims **2. Rotor bearing mounting bolts**
3. Adjusting screws

ROTOR PADDLE

The rotor housing band must be fully seated on the blower side sheets while gauging or adjusting paddle clearance. If a machine has been used, disassemble the housing band from the machine, remove all material deposit from the housing band grooves and reinstall the band.

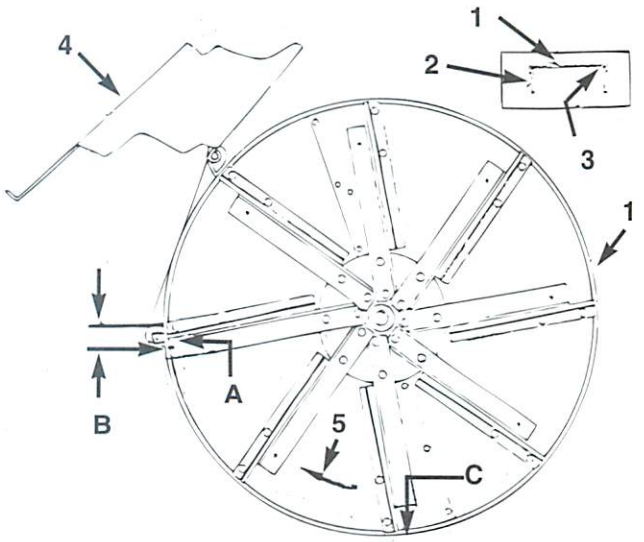
All paddles must be the same length. Adjust as required. See "Paddle Replacement".

The correct clearance dimensions and gauging locations are shown in the illustration under **"Paddle Clearance".** Clearance at "C" can be checked from the hopper inlet. Clearance at "A" can be checked by opening the housing outlet. Determine the longest paddle and measure the clearance at both locations.

PADDLE CLEARANCE

To adjust the clearance, loosen the two rotor bearing mounting bolts on each bearing mounting. Check the clearance "C" at the bottom of the housing. This clearance must be 1/32-1/16 inches. Adjust if necessary by adding or removing shims located under the rotor bearing cartridges. SHIMS MUST BE ADDED OR REMOVED EQUALLY FROM BOTH SIDES.

The clearance "A" must be 3/32-5/32 inch. This is measured at "B", 4-inches below the end of the housing band. **The clearance at "A" must always be greater than clearance "C".**



1. Housing band **4. Housing outlet**
2. Side sheet **5. Direction of travel**
3. Side sheet properly seated

MAINTENANCE *(Continued)*

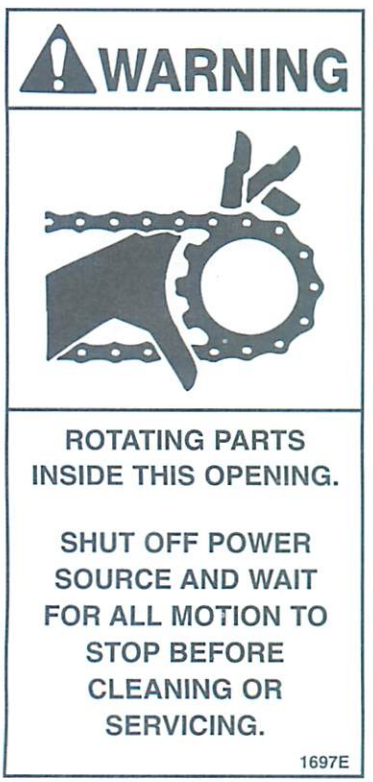
PADDLE REPLACEMENT

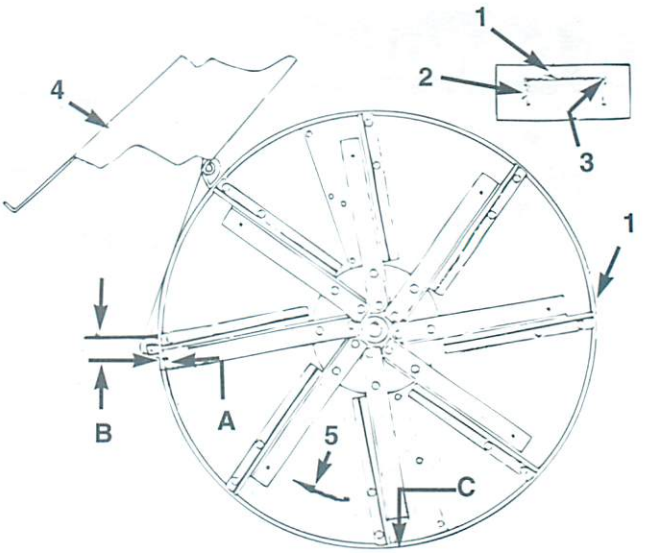
To replace a paddle, remove the carriage bolts holding the paddle to the arm and back sheet. Bolt a new paddle in place. Using the paddle on each side as a clearance guide, adjust new paddle squarely at "C" for the same clearance between tip and housing band. Holding the paddle to the arm torque bolts to 140 to 160 foot pounds. Torque bolts between paddles and backsheet to 70 to 80 foot pounds.

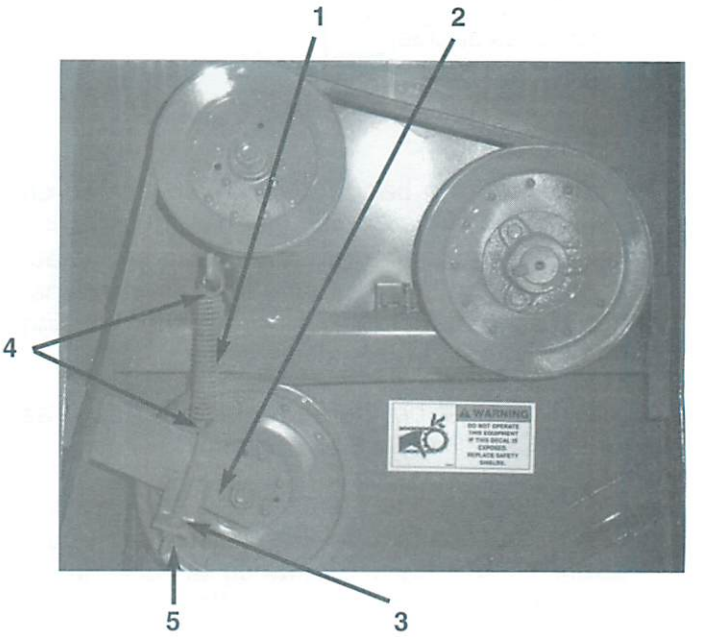
When replacing three or more paddles on rotar at one time, loosely bolt all paddles to arms and adjust as follows: Place a 1/16 shim (approximately 2" x 6" to support full width of blade) at "C", tap each blade firmly against shim and tighten bolts. Rotate to accessible position and holding the paddle to the arm torque bolts to 140-160 foot pounds. Check clearance at "C" and "A". See Paddle Clearance. **NOTE:** For optimum performance, tip clearance for each paddle must be the same. Install bolts between paddle and backsheet and torque to 70 to 80 foot pounds.

HOUSING BAND

The housing band is reversible. If damage or excessive wear occurs in the area between the hopper inlet "C" and the transition opening "B" remove the band, externally repair the area, and reinstall the band with the repaired area on the top side of the blower housing.







1. Idler spring
2. Idler arm
3. Locking nut
4. 6-11/16-inches
5. Adjusting nut

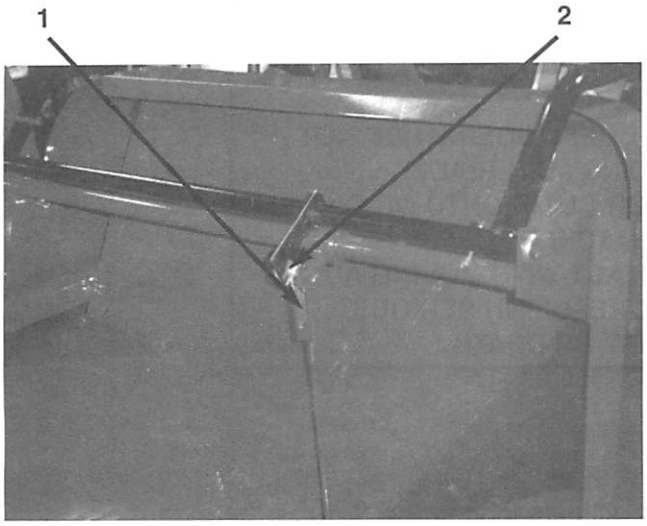
AUGER DRIVE BELTS

Belt Tension–Drive Shaft

Tension of the auger drive shaft belt is changed by increasing or decreasing spring tension on the idler arm. To increase belt tension, loosen lock nut and turn adjusting nut clockwise. To decrease tension turn adjusting nut counter clockwise. A spring length of 6-11/16 inches will give proper tension. After adjusting tighten lock nut.

BELT TENSION–AUGER DRIVE

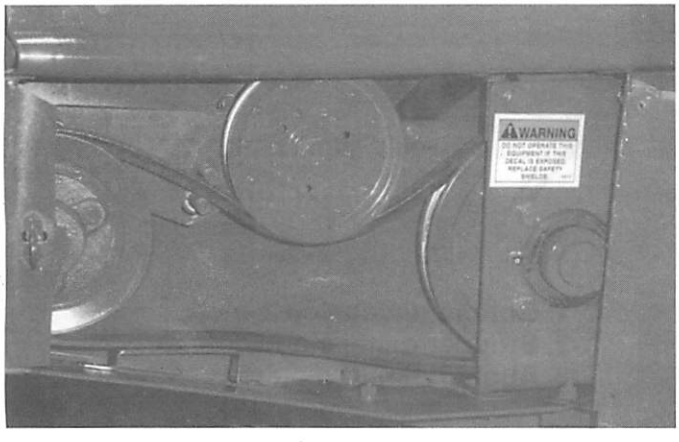
Tension of the auger drive belt is changed by adjusting the clutch compression rod yoke. Remove the pin and turn the yoke clockwise to decrease tension and counter clockwise to increase tension.



1. Clutch compression rod yoke
2. Pin

AUGER DRIVE BELTS

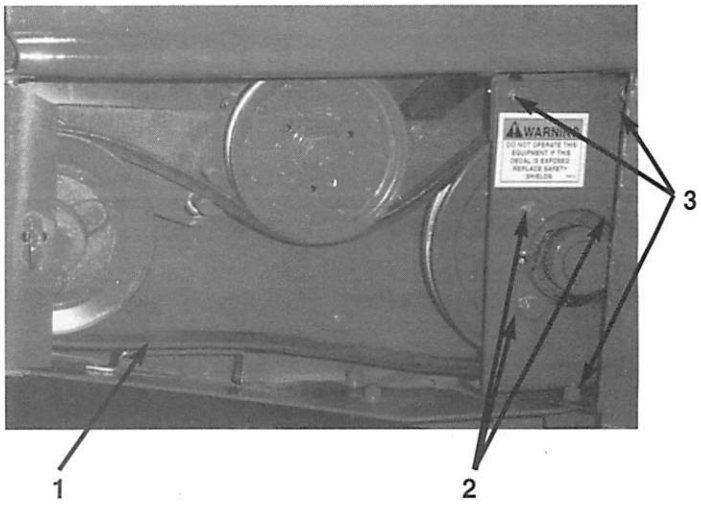
The belt is properly tensioned when a force of 7-10 lb.-ft. is needed to pull the handle into the disengaged position.



BELT REPLACEMENT

To replace auger drive shaft belt, remove tension from idler arm, remove old belt and replace with new. Adjust belt tension as shown under **Belt Tension - Drive Shaft.**

To replace auger drive belt disengage auger to relieve tension on the belt. Remove outer bearing nuts and bearing support plate. Remove old belt and replace with new. Replace support plate and bearing nuts. Adjust belt tension as shown under **Belt Tension - Auger Drive.**



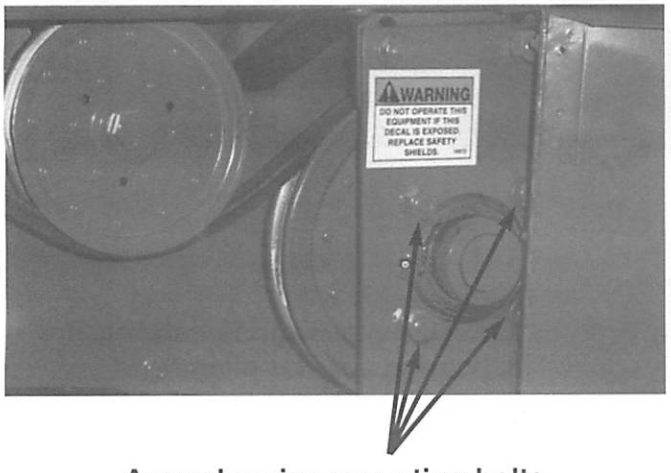
1. Auger drive belt
2. Auger outer bearing nuts
3. Bearing support plate nuts

MAINTENANCE *(Continued)*

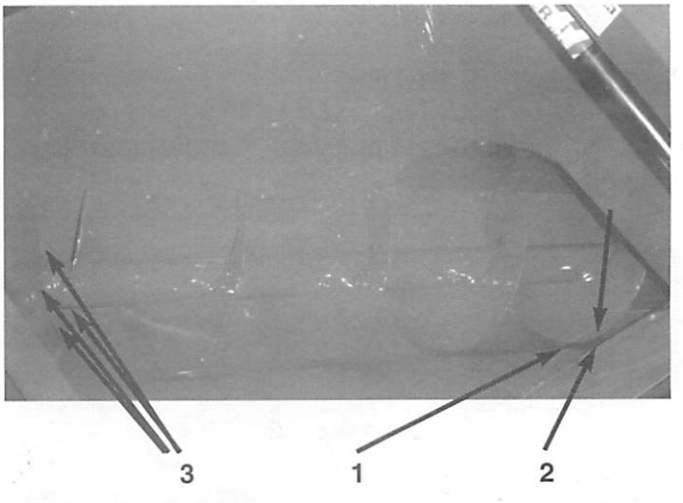
NOTE: After replacing the auger drive belt, check the auger clearance. Refer to the instructions under "Auger Clearance". This should be done before retightening the auger shaft outer bearing nuts

AUGER CLEARANCE

Should it become necessary to adjust the auger clearance, slightly loosen the 8 auger bearing mounting bolts and adjust the auger clearance to approximately 1-inch at the bottom of the auger and 5/8-inch at the stripper. These measurements are made at the end opposite the auger bearings and one auger flight back from the end.



Auger bearing mounting bolts



1. Bottom dimension 1-inch
2. Stripper dimension 5/8-inch
3. Auger bearing mounting bolts

Retighten the bearing mounting bolts after the adjustment is made.

MAINTENANCE *(Continued)*

GENERAL

Due to the flammable nature of the crop materials encountered by hay harvesting machines, fire risks are high. The risk can be minimized by frequent removal of accumulated crop material from the machine (and tractor) and checking for overheated machine components. Be sure to stop the machine and shut off the engine before this is done.

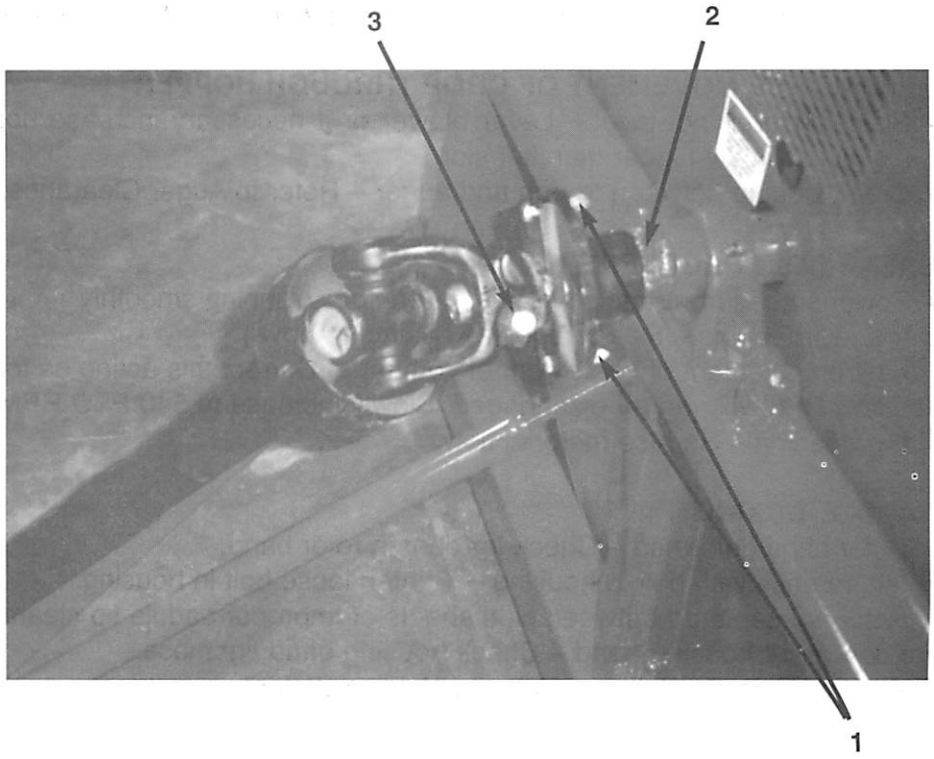
TIRES

Proper air pressure is the most important factor in satisfactory performance and maintenance of tires. Under inflation will damage the tire and over inflation adversely affects the floating characteristics of the machine. Correct inflation is 90 psi.

SHEAR BOLTS

The H&S 860 forage blower main drive is protected against shock or overloads by two shear bolts. If the bolts shear, determine and correct the cause for shearing before replacing the shear bolts.

To replace the shear bolts, first remove the remaining pieces of the sheared bolts, if any. Align the holes in the yoke and hub and replace the sheared bolts with 5/16"x2" hex head machine bolts (GR.5). Place one hex nut on each bolt, just tight enough to keep the parts together. Secure with a second nut on each bolt.



1. **Shear bolts**
2. **Rotor splined shaft**
3. **Implement drive lock bolt**

TROUBLESHOOTING

Most forage blower difficulties are caused by improper adjustments or insufficient power take-off speed. When you encounter trouble, make a systematic check of forage blower adjustment, using the following chart as a guide. If blower difficulties cannot be corrected by making the adjustments given in this manual, contact your H&S Dealer.

BLOWER PIPE PLUGGED OR FALLOUT FROM CENTER FILL
Possible Cause & Remedy

- Air door not operating – Check for free movement. Lubricate hinge.
- Blower operating below 540 RPM – Check tractor speed under load. If 540 RPM cannot be maintained, it may be necessary to utilize a larger h.p. tractor.
- Blower pipe not properly aligned – Check for proper line-up of blower with blower pipe.
- Blower pipe wrong size or damaged – Check pipe for dents, tears, bends or mismatch of pipe diameters and connections.
- Plant gum accumulation on blower parts – Refer to "Adding Water".
- Distributor braces or supports constricting flow – Check distributor elbow for braces that interfere with material flow. (At highest flow rates, the distributor itself may cause plugging.)
- Blower pipe slanted excessively – Pipe should be as nearly vertical as possible or expect reduced capacity.
- Housing band not properly seated – Check band around complete circumference of front and rear side sheets to be sure they are properly seated in band grooves.
- Improper paddle tip clearance – Refer to Rotor Paddle and Paddle Clearance.
- Inadequate venting of silo – Provide more opening into top of silo to allow air to escape.
- Overloading – Reduce material flow.

IRREGULAR FEEDING

- Forage Box feeds irregularly – Set wagon cross conveyor at higher speed and reduce bed chain speed.
- Forage Box placement – Position Forage Box so cross conveyor places material at center of hopper.

AUGER NOT FUNCTIONING PROPERLY

- Auger stops or no over center effort when clutching – Refer to Auger Belt Tension.

RESTRICTIVE MOVEMENT OF CROP THROUGH HOPPER

- Blower hopper not level – Lever blower or if necessary increase hopper slope by raising right side of machine slightly higher than left side.
- Crop wedging between trough and auger – Refer to Auger Clearance.

SHEAR BOLT PROBLEMS

- Power surges from tractor – Be sure tractor is running smoothly.
- Irregular feeding – See "Irregular Feeding" (Above).
- Fast engagement of implement drive shaft – Correct this action as follows: Engage power take-off shaft at low RPM with auger disengaged. Slowly increase to 540 PTO RPM.
- Overloading – Reduce material flow.

PADDLE TICKING

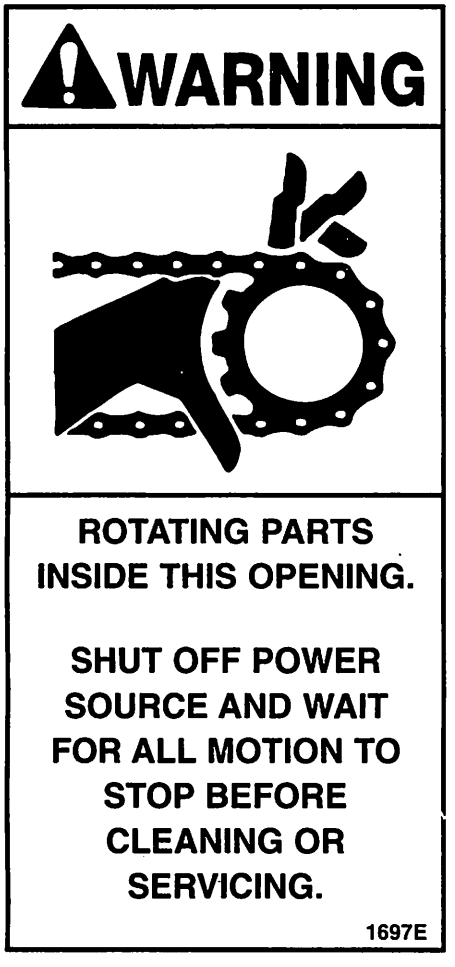
- Rotor band deformed – Check for dent in rotor band.
- Interference with bolt in housing – Tighten loose bolt in housing.
- Rotor not centered between side sheets or improper paddle tip clearance – Refer to Rotor Paddle.
- Loose rotor housing band – Check housing band tightness.
- Plant gum accumulation – Refer to "Adding Water".

TROUBLESHOOTING *(Continued)*

EXCESSIVE POWER REQUIREMENTS
- Rotor not properly adjusted – Refer to Rotor Paddle.
- Plant gum accumulation – Refer to "Adding Water".

MACHINE VIBRATION
- Rotor out of balance – Rebalance rotor. Check for loose paddle.
- Bent auger shaft – Check auger for varying clearance. Straighten shaft or replace auger.

LUBRICATION GUIDE



GENERAL

Regular and sufficient lubrication increases the life of your machine and saves you time and money in terms of operating efficiency and service parts.

Completely lubricate your H&S forage blower according to the following lubrication guide before operating for the first time. Thereafter, lubricate at the specified intervals.

The hourly interval recommended is based on normal conditions; severe or unusual conditions may require more frequent lubrication.

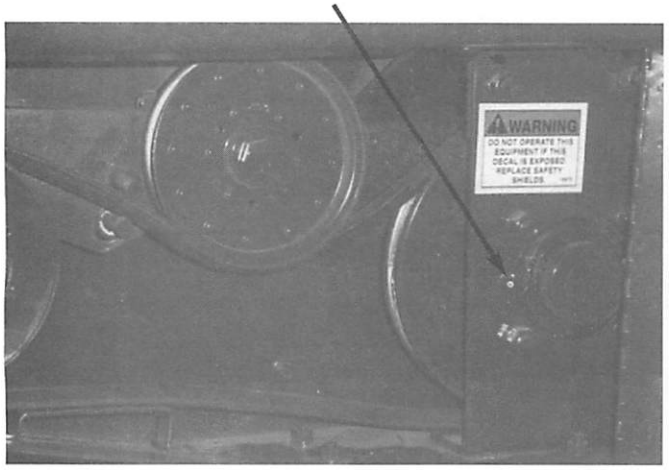
Check the spinner power take-off shield to see that the bearings turn freely and that the shield freely telescopes.

Lubricate all grease zerks with the equivalent of No. 2 multi-purpose lithium grease at 50 hour intervals.

Lubricate auger clutch hinge and air door hinge periodically with SAE 10, 20 or 30 oil.

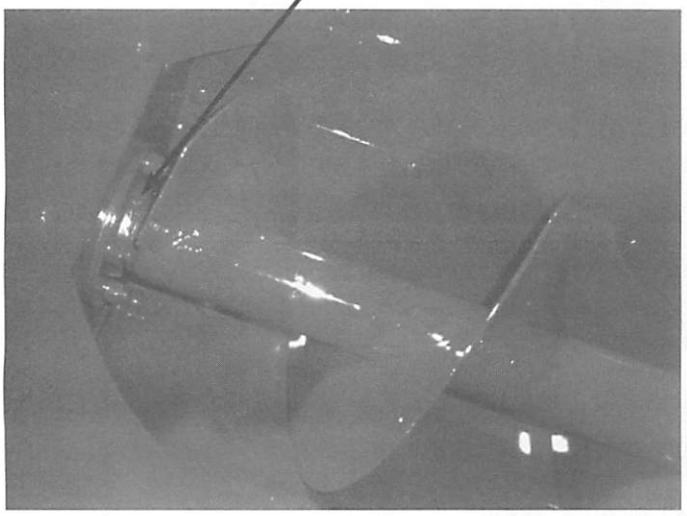
LUBRICATION GUIDE *(Continued)*

Auger Bearing



Rotor Bearing and Auger Drive Shaft

Auger Bearing



Rotor Bearing

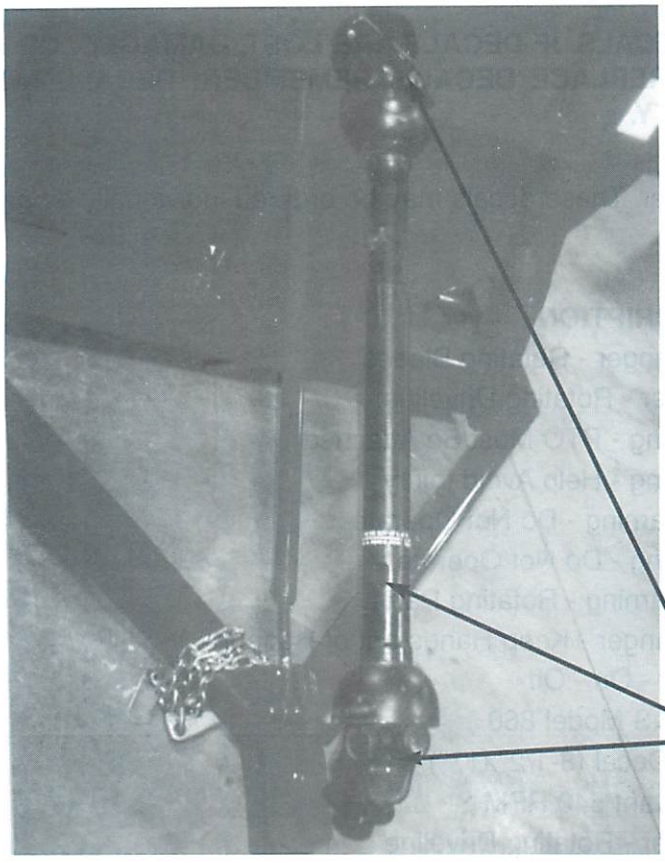
Clutch and Auger Drive Shaft (Oil Periodically)

Carrier Bearing

LUBRICATION GUIDE *(Continued)*

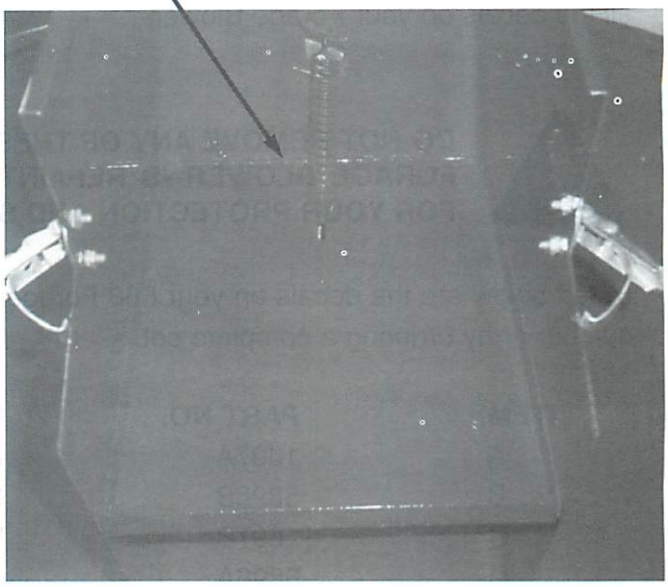
IMPLEMENT DRIVE SHAFT

NOTE: Shaft must be totally collapsed to gain access to shaft fitting.



GREASE ZERKS

Air Door Hinge (Oil Periodically)



STORAGE

Shelter the machine in a dry place.

Clean the machine of all dirt, trash, and excess grease. If left on, it will hold moisture and thus cause serious damage from rust.

Disengage the auger drive belt.

Repaint any bare or rusted spots.

Apply a light coating of oil on all exposed metal wearing parts.

Make a list of any service parts needed and order these early. This will give your H&S Dealer ample time to provide the parts and give you sufficient time to install them before the next harvest season.

BEFORE STARTING THE FORAGE BLOWER AFTER STORAGE

Adjust the drive belt for proper tension.

Make sure that all bolts and nuts are properly tightened. This can save wasted time and needless expense.

Lubricate the machine thoroughly in accordance with the instructions under "Lubrication".

Check air pressure in tires. Correct air pressure is 90 psi.

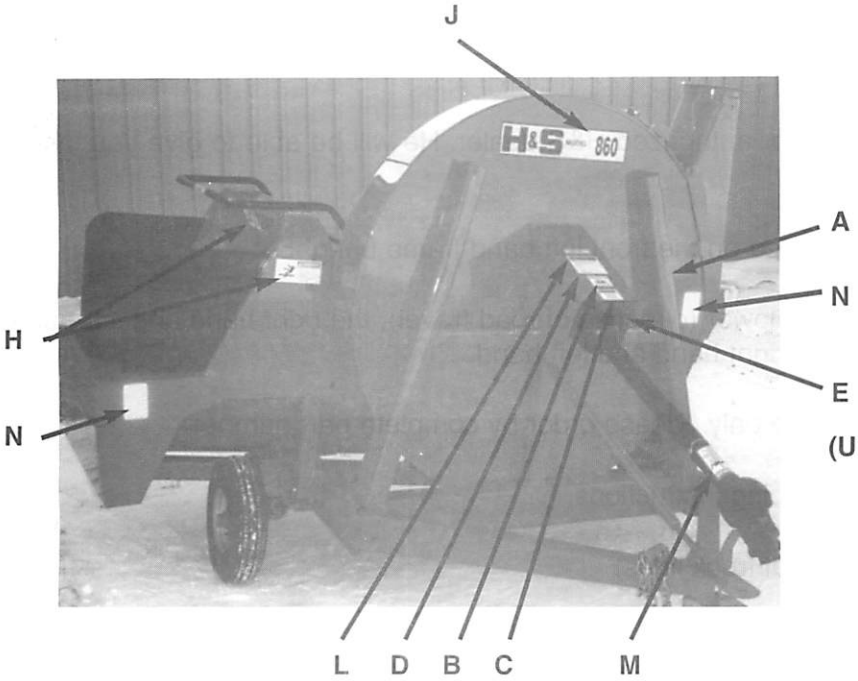
DECAL LOCATION

Your H&S 860 Forage Blower was manufactured with operator safety in mind. Located on the Forage Blower are various decals to aid in operation, and warn of danger or caution areas. Pay close attention to all the decals on your Forage Blower.

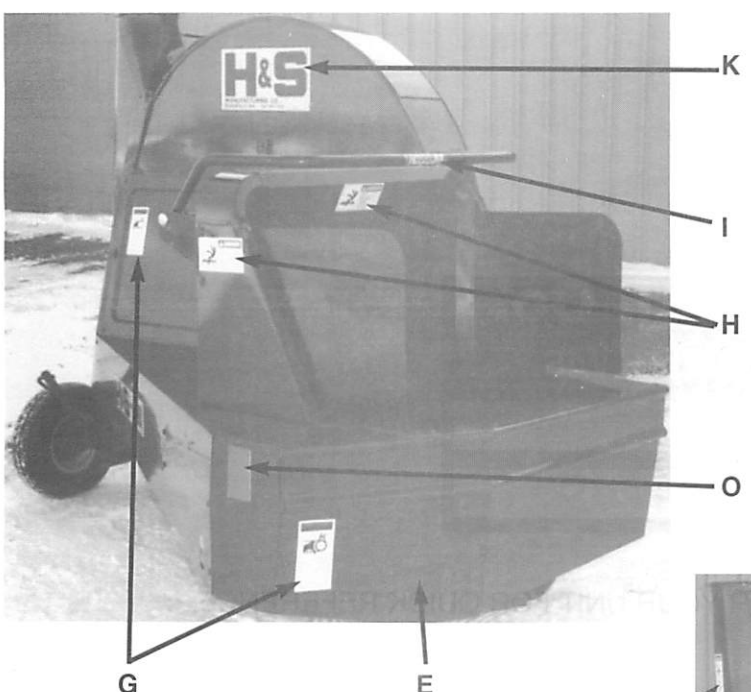
DO NOT REMOVE ANY OF THESE DECALS. IF DECALS ARE LOST, DAMAGED, OR IF FORAGE BLOWER IS REPAINTED, REPLACE DECALS. REMEMBER: DECALS ARE FOR YOUR PROTECTION AND SAFETY.

Listed below are the decals on your 860 Forage Blower. These decals may be ordered individually by part number or by ordering a complete set.

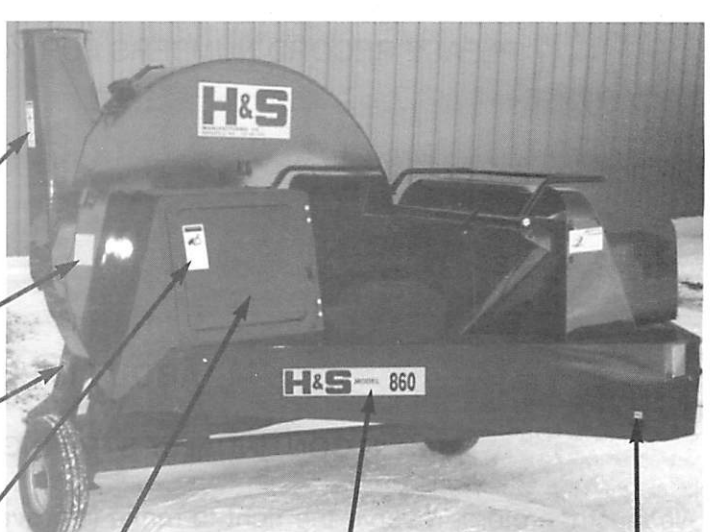
ITEM	PART NO.	DESCRIPTION
A	1697A	(2) Danger - Rotating Blades
B	5896B	Danger - Rotating Driveline
C	1697B	Warning - PTO Must Be Attached
D	5896A	Warning - Help Avoid Injury
E	1697D	(2) Warning - Do Not Operate
F	1494A	Warning - Do Not Operate
G	1697E	(2) Warning - Rotating Parts
H	1697F	(3) Danger - Keep Hands out of Hopper
I	1697G	Auger - On - Off
J	1697H	(2) H&S Model 860
K		H&S Decal (8-1/2"x17")
L	1697C	Important 540 RPM
M	Weasler	Danger - Rotating Driveline
N		(2) Amber Reflector
O		(2) Red Reflector
P		Serial Number
Q	71188C	Grease
	111698-860	Complete Set of Decals



(Under Shield)



(Behind Door)



(Behind Door)

INSTRUCTIONS FOR ORDERING PARTS

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

1. Model & Serial Number - Both can be located on the front left hand frame upright.

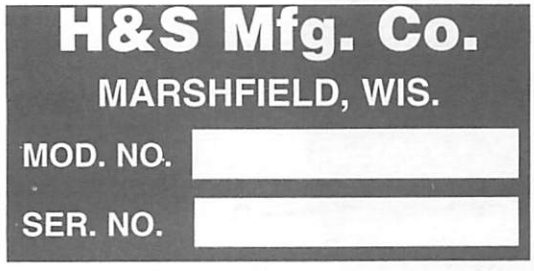
2. When you are standing behind the forage blower (direction of road travel), the right hand and left hand of the forage blower are the same as your right hand and left hand.

3. Parts should not 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 –

FIGURE 1
H&S 860 BLOWER
ROTOR HOUSING

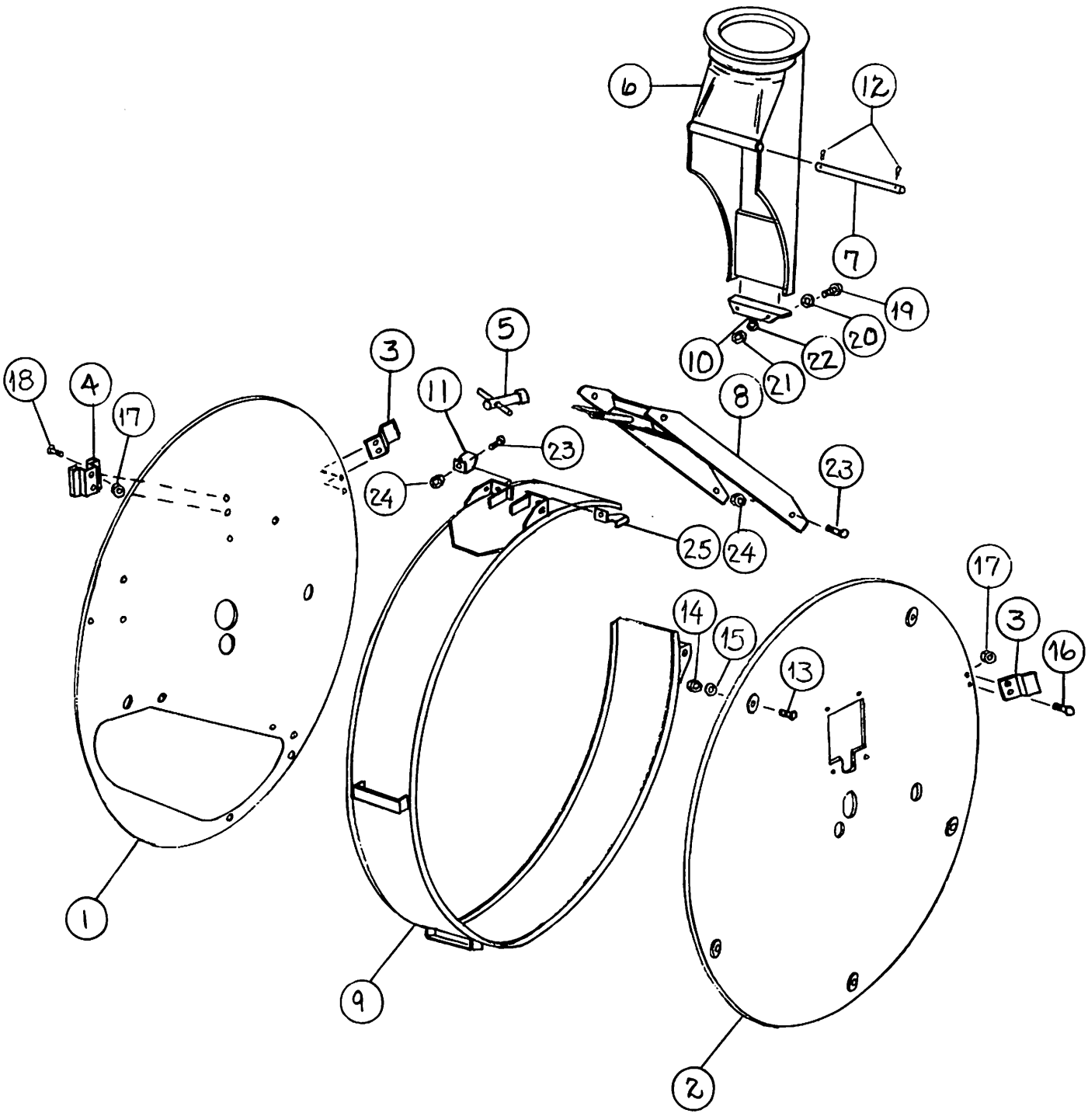


FIGURE 1
H&S 860 BLOWER
ROTOR HOUSING

ITEM	PART NO.	DESCRIPTION
1.	450340P	Rear Rotor Plate
2.	450460P	Front Rotor Plate
3.	450750P	Retaining Support
4.	F97	SMV Mounting Bracket
5.	450940P	Scroll Adjusting Nut
6.	450490P	Blower Chute
7.	450990P	Hinge Pin
8.	450500P	Transition Base
9.	450680P	Rotor Housing Band
10.	450280P	Transition Air Angle
11.	450300P	Rear Support
12.	X43	Cotter Pin 1/8" x 1"
13.	RG135	Bolt 1/2" x 1" GR.5
14.	R29	Hex Nut 1/2"
15.	R35	Lock Washer 1/2"
16.	HSB41	Carriage Bolt 5/16" x 3/4" GR.5
17.	HSB1	Hex Serrated Flange Nut 5/16"
18.	HSB2	Carriage Bolt 5/16" x 1/2" GR.2
19.	HSB3	Carriage Bolt 3/8" x 3/4" GR.5
20.	HSB4	Washer 13/32" x 13/16" x 3/32" Hardened
21.	K60	Hex Nut 3/8"
22.	R68	Lock Washer 3/8"
23.	BFR247	Carriage Bolt 3/8" x 1" GR.5
24.	HSB5	Hex Serrated Flange Nut 3/8"
25.	450290P	Front Support

NOTE: * (Means Not Shown)

FIGURE 2
H&S 860 BLOWER
ROTOR

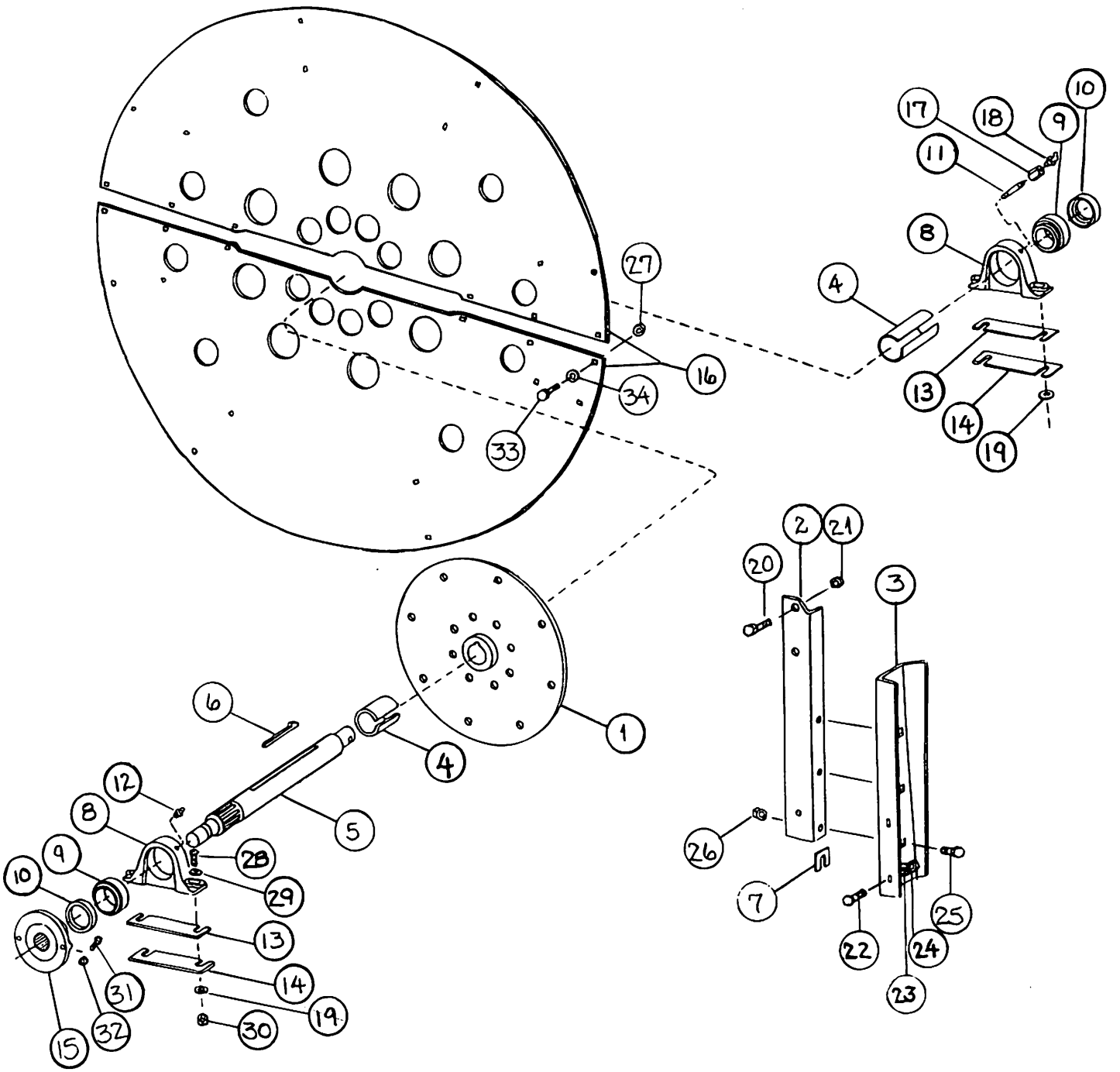


FIGURE 2
H&S 860 BLOWER
ROTOR

ITEM	PART NO.	DESCRIPTION
1.	450480P	Hub
2.	450510P	Rotor Angle
*	HSB6	Hex Bolt (Special) 3/8" x 1-1/2" GR.5
*	K93	Hex Lock Nut 3/8"
*	HSB7	Flat Washer 13/32" x 1-1/2" x 7/64"
3.	450450P	Rotor Blade
4.	450580P	Rotor Spacer
*	HSB8	Washer 2-1/16" x 2-15/16" x 1-1/16"
5.	450610P	Rotor Shaft
6.	HSB9	Square Tapered Key 1/2" x 4"
7.	HSB64	Shim .010
7.	HSB65	Shim .030
8.	450720P	Bearing Pillow Block Complete
9.	451080P	Rotor Bearing W/Collar Below
10.	451080P	Bearing Collar W/Bearing Above & Set Screw
11.	450020P	Pipe Reducer 3/4" Male x 1/8" Female
12.	HSB10	Grease Fitting 90 Degree - 1/8" PT x 27/32"
13.	450600P	Rotor Bearing Bar 1.50 mm
14.	450590P	Rotor Bearing Bar 0.30 mm
15.	450620P	Shear Bolt Hub
16.	450120P	Rotating Back Plate
17.	HSB42	Pipe Coupling 1/8"
18.	HSB11	Grease Fitting 65 Degree - 1/8" PT x 7/8"
19.	HSB12	Washer 11/16" x 1-3/4" x 3/16" Hardened
20.	HSB13	Bolt 3/4" NF x 2-1/4" GR.5
21.	T133	Lock Nut 3/4" NF
22.	HSB14	Carriage Bolt 1/2" x 1-1/4" GR.5
23.	HSB15	Washer 17/32" x 1-1/16" x 3/32"
24.	9S17	Lock Nut 1/2"
25.	HSB16	Carriage Bolt 5/8" x 1-1/2" GR.5
26.	HSB47	Lock Nut 5/8"
27.	K93	Lock Nut 3/8"
28.	T62	Bolt 5/8" x 1-1/2" GR.5
29.	HSB46	Washer 21/32" x 1-5/16" x 3/16"
30.	HSB47	Lock Nut 5/8"
31.	12V126	Bolt 5/16" x 2" GR.5
32.	T116	Nut 5/16"
33.	HSB3	Carriage Bolt 3/8" x 3/4" GR.5
34.	HSB17	Washer 13/32" x 13/16" x 1/16"

NOTE: * (Means Not Shown)

FIGURE 3
H&S 860 BLOWER
HOPPER AND SUPPORTS

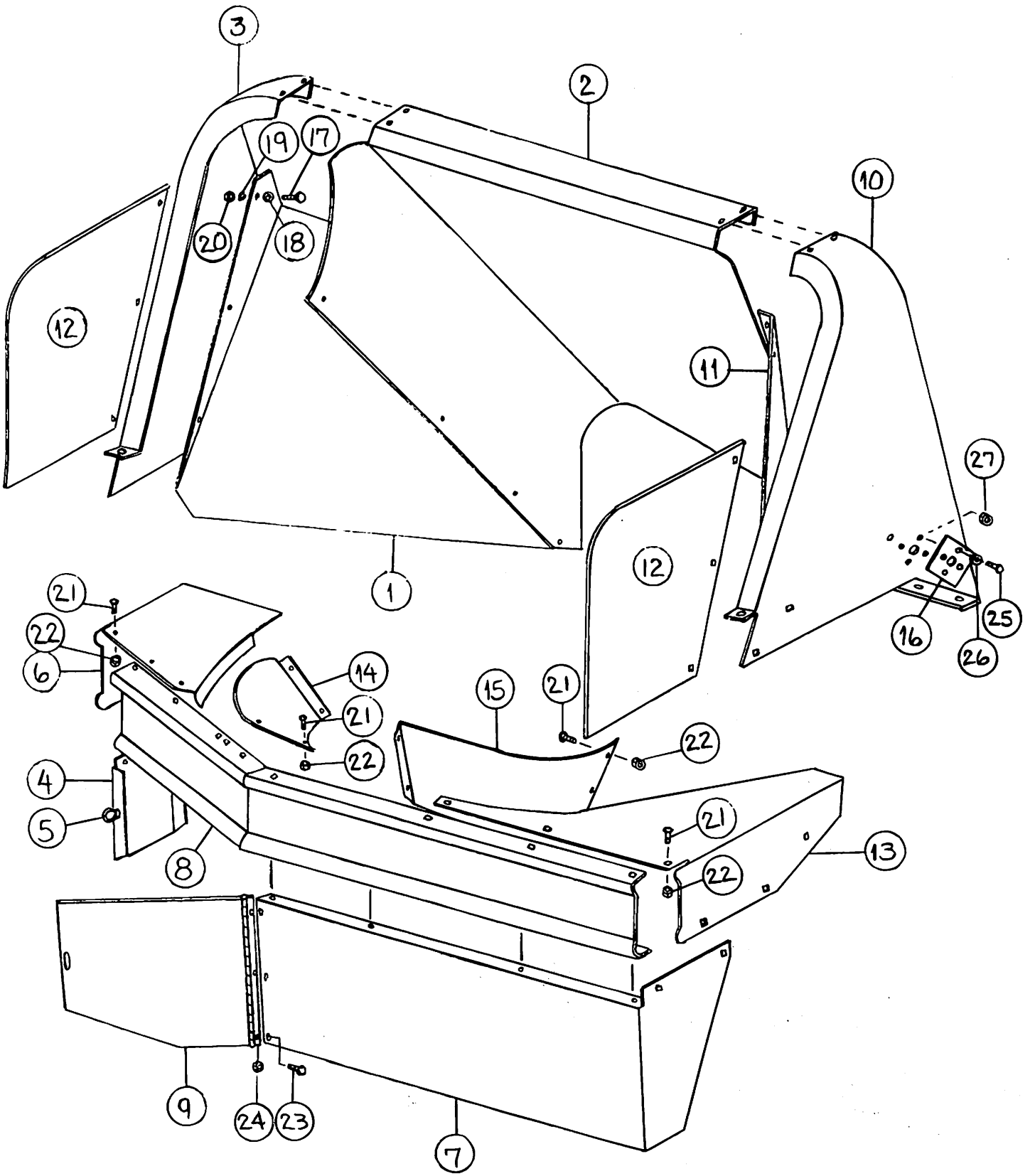


FIGURE 3
H&S 860 BLOWER
HOPPER AND SUPPORTS

ITEM	PART NO.	DESCRIPTION
1.	450390P	Upper Hopper Support
*	HSB41	Carriage Bolt 5/16" x 3/4" GR.5
*	HSB1	Hex Serrated Flange Nut 5/16"
2.	450430P	Upper Hopper Back Support
*	HSB41	Carriage Bolt 5/16" x 3/4" GR.5
*	HSB2	Carriage Bolt 5/16" x 1/2" GR.2
*	HSB1	Hex Serrated Flange Nut 5/16"
3.	450310P	Upper Rear Support (Includes Decal)
*	HSB41	Carriage Bolt 5/16" x 3/4" GR.5
*	HSB1	Hex Serrated Flange Nut 5/16"
4.	450840P	Lower Rear Support
*	HSB41	Carriage Bolt 5/16" x 3/4" GR.5
*	HSB18	Washer 11/32" x 11/16" x 1/16"
*	RGB39	Lock Washer 5/16"
*	T116	Nut 5/16"
5.	451090P	Door Latch
*	HSB18	Washer 11/32" x 11/16" x 1/16"
6.	450850P	Upper Rear Support
7.	450770P	Front Shield Support
*	HSB3	Carriage Bolt 3/8" x 3/4" GR.5
*	HSB5	Hex Serrated Flange Nut 3/8"
8.	450780P	Bumper Support
*	X111	Bolt 3/8" x 1" GR.5
*	HSB17	Washer 13/32" x 13/16" x 1/16"
*	HSB48	Carriage Bolt 5/16" x 1/2" GR.5
*	HSB41	Carriage Bolt 5/16" x 3/4" GR.5
*	HSB1	Hex Serrated Flange Nut 5/16"
9.	450170P	Door (Includes Decal)
10.	450320P	Upper Front Support (Includes Decal)
*	80N57	Bolt 3/8" x 3/4" GR.5
*	HSB5	Hex Serrated Flange Nut 3/8"
*	HSB2	Carriage Bolt 5/16" x 1/2 GR.2
*	HSB1	Hex Serrated Flange Nut 5/16"
11.	450030P	Inner Baffle Support
*	HSB57	Bolt 5/16" x 3/4" GR.5
*	RGB39	Lock Washer 5/16"
*	HSB18	Washer 11/32" x 11/16" x 1/16"
*	451240P	J-Type Nut 5/16"
*	HSB41	Carriage Bolt 5/16" x 3/4" GR.5
*	HSB48	Carriage Bolt 5/16" x 1/2" GR.5
*	HSB1	Hex Serrated Flange Nut 5/16"
12.	450440P	Deflector Sheet
13.	450860P	Front Upper Corner Support
14.	450740P	Left-Hand Filler Support
15.	450730P	Right-Hand Filler Support
16.	450370P	Water Inlet Flange
17.	HSB57	Bolt 5/16" x 3/4" GR.5
18.	HSB18	Washer 11/32" x 11/16" x 1/16"
19.	RGB39	Lock Washer 5/16"
20.	451240P	J-Type Nut 5/16"
21.	HSB2	Carriage Bolt 5/16" x 1/2" GR.2
22.	HSB1	Hex Serrated Flange Nut 5/16"
23.	HSB19	Bolt 1/4" x 1/2" GR.5
24.	HSB20	Hex Serrated Flange Nut 1/4"
25.	T43	Bolt 1/4" x 3/4" GR.5
26.	K84	Lock Washer 1/4"
27.	HSB21	Nut 1/4"

NOTE: * (Means Not Shown)

FIGURE 4
H&S 860 BLOWER
AUGER AND DRIVE

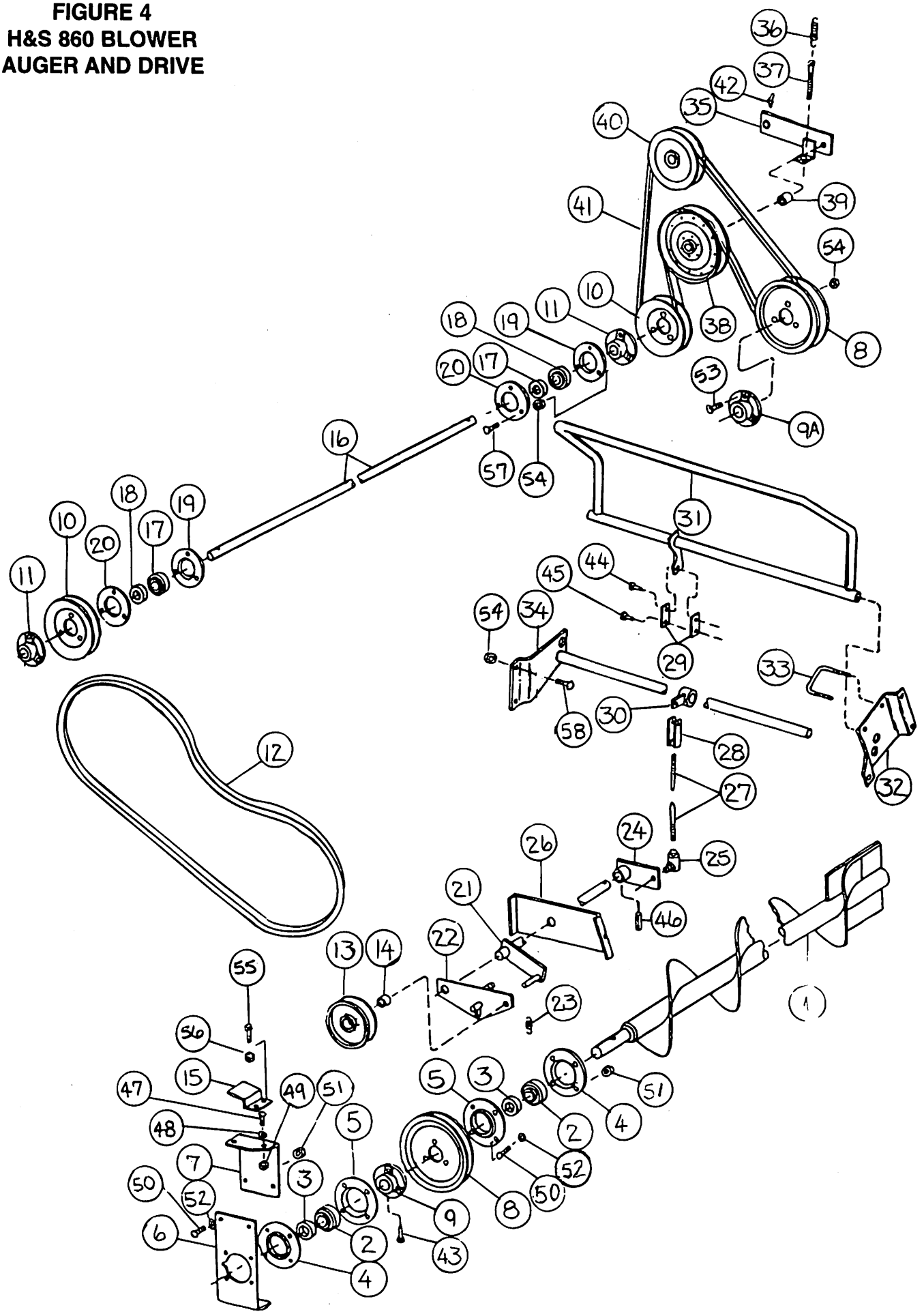


FIGURE 4
H&S 860 BLOWER
AUGER AND DRIVE

ITEM	PART NO.	DESCRIPTION
1.	450900P	Auger - Drive
2.	450930P	Drive Bearing
3.	451100P	Bearing Lock Collar w/Set Screw
4.	450960P	Flange - With Lube Fitting
5.	450970P	Flange - .149", Non - Re-lube
6.	450570P	Auger Support
7.	450330P	Upper Bearing Support
8.	450690P	Pulley - Driven Replaces 148183C1 Pulley
9.	450870P	Hub - Pulley
9A.	450910P	Hub - Keyed, 1-1/2" Shaft
9B.	HSB22	Key - Woodruff, 5/16" x 2-1/8"
10.	450700P	Auger Pulley
11.	450880P	Hub - Keyed, 1-1/8" Shaft
*	HSB62	Pin Headed 3/8" x 2-1/2"
*	17G141	Bolt 3/8" x 1-1/4" GR.5
*	HSB5	Hex Serrated Flange Nut 3/8"
12.	450950P	Auger Drive Belt
13.	450920P	Idler - Flat 5-1/2" Diameter
*	HSB23	Bolt 5/8" x 3" GR.5
*	HSB24	Washer 21/32" x 1-5/16" x 3/32"
*	T69	Lock Washer 5/8"
*	T68	Nut 5/8"
14.	451110P	Drive Spacer
15.	451120P	Belt Support
16.	450890P	Rod - Auger Drive
17.	451130P	Ball Bearing
18.	451140P	Lock Collar - with Set Screw
19.	451150P	Bearing Flange W/Lube Fitting
20.	451160P	Bearing Flange W/Out Lube Fitting
21.	450820P	Idler Control
*	HSB15	Washer 17/32" x 1-1/16" x 3/32"
*	X43	Cotter Pin 1/8" x 1'
*	HSB25	Washer 1-3/16" x 2-1/2" x 1/8"
*	HSB50	Cotter Pin 1/4" x 2"
22.	450220P	Idler Arm
23.	451170P	Auger Spring
24.	450830P	Control Arm
25.	451180P	Ball Joint 3/8"
*	HSB26	Nut 3/8" NF
26.	450090P	Idler Control Bracket
*	HSB1	Hex Serrated Flange Nut 5/16"
27.	450800P	Compression Rod
*	HSB26	Nut 3/8" NF
28.	450240P	Auger Yoke
29.	450250P	Auger Bar
30.	450260P	Control Arm

NOTE: * (Means Not Shown)

ITEM	PART NO.	DESCRIPTION
31.	450810P	Auger Control Handle
*	HSB51	Cotter Pin 1/8" x 2-3/4"
*	HSB52	Cotter Pin 1/4" x 1-3/4"
32.	450790P	Inner Handle Support
*	HSB5	Hex Serrated Flange Nut 3/8"
33.	451290P	Auger U-Bolt
*	K60	Nut 3/8"
34.	450270P	Pivot Tube
35.	450710P	Idler Arm
*	HSB27	Washer 13/16" x 1-15/32" x 1/8"
*	HSB53	Cotter Pin 3/16" x 1-1/4"
36.	450980P	Auger Spring
37.	450230P	Auger Eyebolt
*	K60	Nut 3/8"
38.	451010P	Belt Idler Pulley - 8-3/4" OD Flat
*	HSB28	Bolt 5/8" x 2-1/2" GR.5
*	HSB29	Washer 21/32" x 1-5/16" x 5/32" Hardened
*	T69	Lock Washer 5/8"
*	T68	Nut 5/8"
39.	HSB30	Spacer 7/8" x 1/2"
40.	451230P	V-Belt Idler Pulley
*	BFR438	Bolt 5/8" x 2" GR.5
*	HSB29	Washer 21/32" x 1-5/16" x 5/32" Hardened
*	T69	Lock Washer 5/8"
*	T68	Nut 5/8"
41.	450100P	Jackshaft Drive Belt
42.	HSB31	Grease Fitting 45 Degree - 1/4-28 Taper x 13/16"
43.	HSB32	Clevis Pin 3/8" x 2-1/2" Hardened
*	HSB54	Cotter Pin 1/8" x 3/4"
44.	HSB58	Headed Pin 1/2" x 1" GR.2
*	HSB55	Cotter Pin 3/16" x 1"
45.	HSB59	Headed Pin 1/2" x 1-1/2" GR.2
*	HSB55	Cotter Pin 3/16" x 1"
46.	HSB49	Roll Pin 3/16" x 2"
47.	80N57	Bolt 3/8" x 3/4" Hex GR.5
48.	HSB5	3/8" Flange Nut
49.	B68	3/8" Lock Washer
50.	HSB33	Bolt 1/2" x 1-1/4" Carr. GR.5
51.	R29	1/2" Nut
52.	R35	1/2" Lock Washer
53.	X111	3/8" x 1" Hex GR.5
54.	HSB5	3/8" Flange Nut
55.	HSB57	5/16" x 3/4" Carr. GR.5
56.	HSB1	5/16" Glange Nut
57.	BFR247	3/8" x 1" Carr. GR.5
58.	HSB3	3/8" x 3/4" Carr. GR.5

FIGURE 5
H&S 860 BLOWER
MAIN FRAME AND HITCH ASSEMBLY

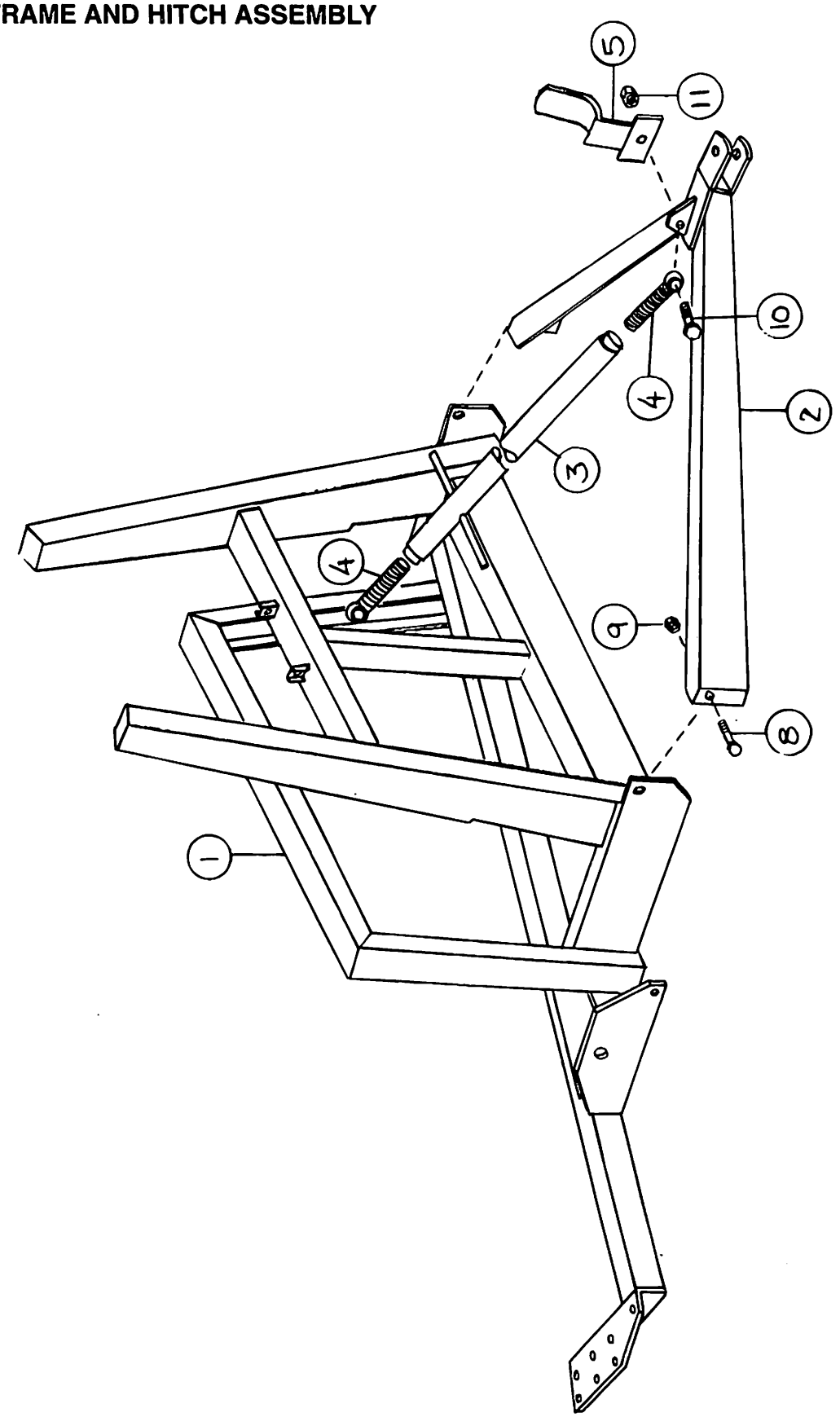


FIGURE 5
H&S 860 BLOWER
MAIN FRAME AND HITCH ASSEMBLY

ITEM	PART NO.	DESCRIPTION
1.	450470P	Main Frame
*	HSB60	Bolt 3/8" x 1-3/4" GR.5
*	K60	Nut 3/8"
2.	450560P	Main Frame Hitch
3.	450520P	Leveling Crank
4.	450530P	Eyebolt W/Left-Hand Threads
4.	450540P	Eyebolt W/Right-Hand Threads
5.	451190P	Shaft Support Bracket
6.	HSB28	Bolt 5/8" x 2-1/2" GR.5 (Not Shown)
7.	HSB24	Washer 21/32" x 1-5/16" x 3/32" (Not Shown)
8.	HSB33	Bolt 1/2" x 1-1/4" GR.5
9.	9S17	Lock Nut 1/2"
10.	BFR438	Bolt 5/8" x 2" GR.5
11.	HSB47	Lock Nut 5/8"

NOTE: * (Means Not Shown)

FIGURE 6
H&S 860 BLOWER
WHEELS

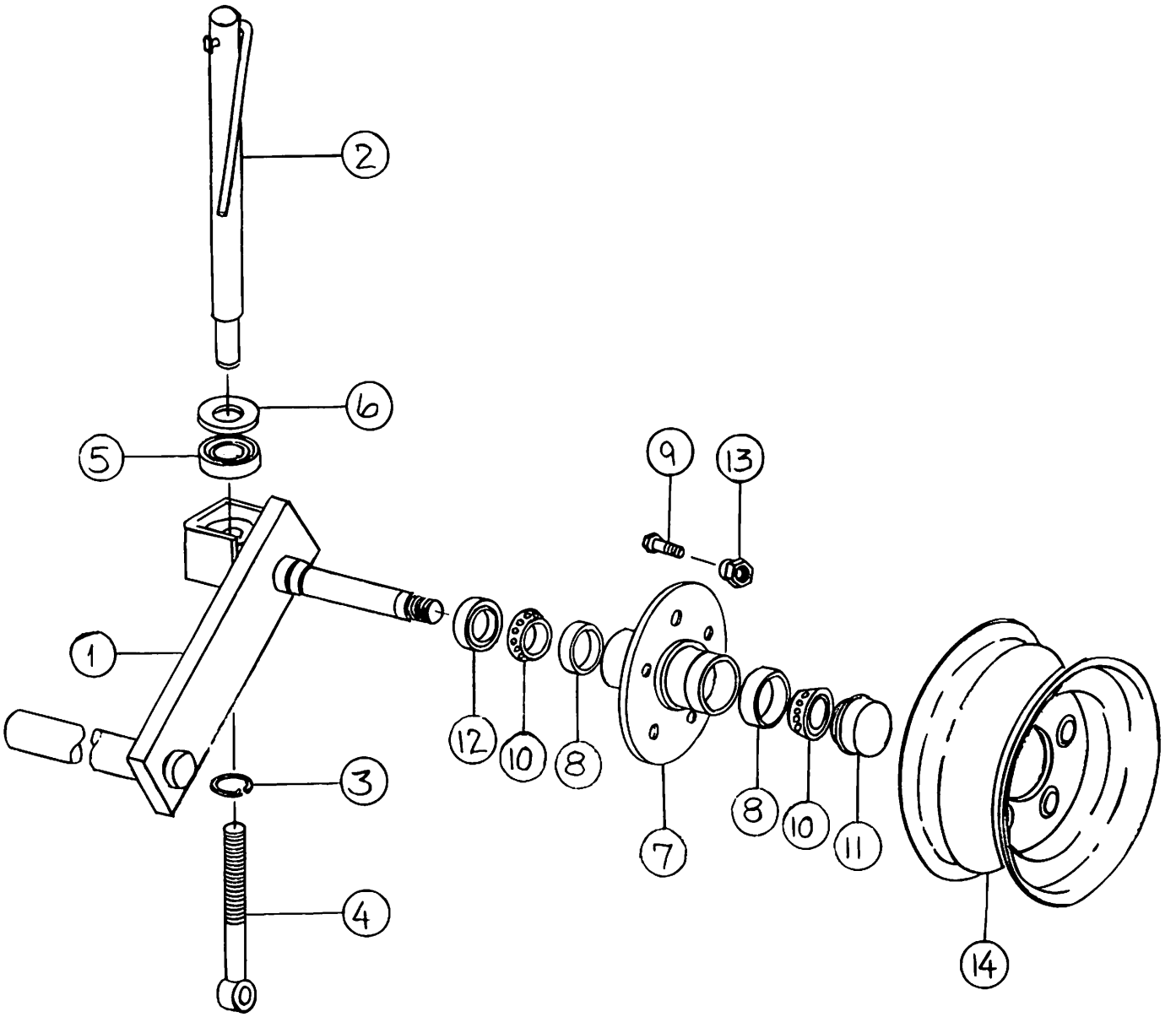


FIGURE 6
H&S 860 BLOWER
WHEELS

ITEM	PART NO.	DESCRIPTION
1.	450200P	Wheel Axle
*	HSB34	Washer 1-13/32" x 2-1/4" x 5/32"
*	HSB35	Washer 1-13/32" x 2-1/4" x 3/64"
*	HSB50	Cotter Pin 1/4" x 2"
*	HSB36	Washer 25/32" x 1-1/2" x 1/8"
*	T35	Slotted Nut 3/4" NF
*	HSB56	Cotter Pin 1/8" x 1-1/2"
2.	450110P	Wheel Crank
*	HSB37	Washer 1-1/32" x 1-3/4" x 1/16"
3.	HSB61	External Retaining Ring - No. 100
4.	450540P	Eyebolt - Right - Hand Threads
*	HSB38	Carriage Bolt 5/8" x 2" GR.5
*	HSB39	Washer 21/32" x 1" x 7/64"
*	HSB47	Lock Nut 5/8"
5.	450550P	Thrust Bearing
6.	451300P	Cupped Washer
7.	451200P	Wheel Hub
8.	451310P	Tapered Roller Bearing Cup
9.	CAT128A	Stud
10.	451330P	Tapered Roller Bearing Cone
11.	451340P	Hub Cap
12.	451350P	Seal - Wheel
13.	451360P	Wheel Mounting Nut - 1/2"-20 NF 60 Degree
14.	450210P	Axle Wheel - Rim Complete W/Tire
15.	450010P	Complete Hub Assembly

NOTE: * (Means Not Shown)

FIGURE 7
H&S 860 BLOWER
AUGER TROUGH AND SUPPORTS

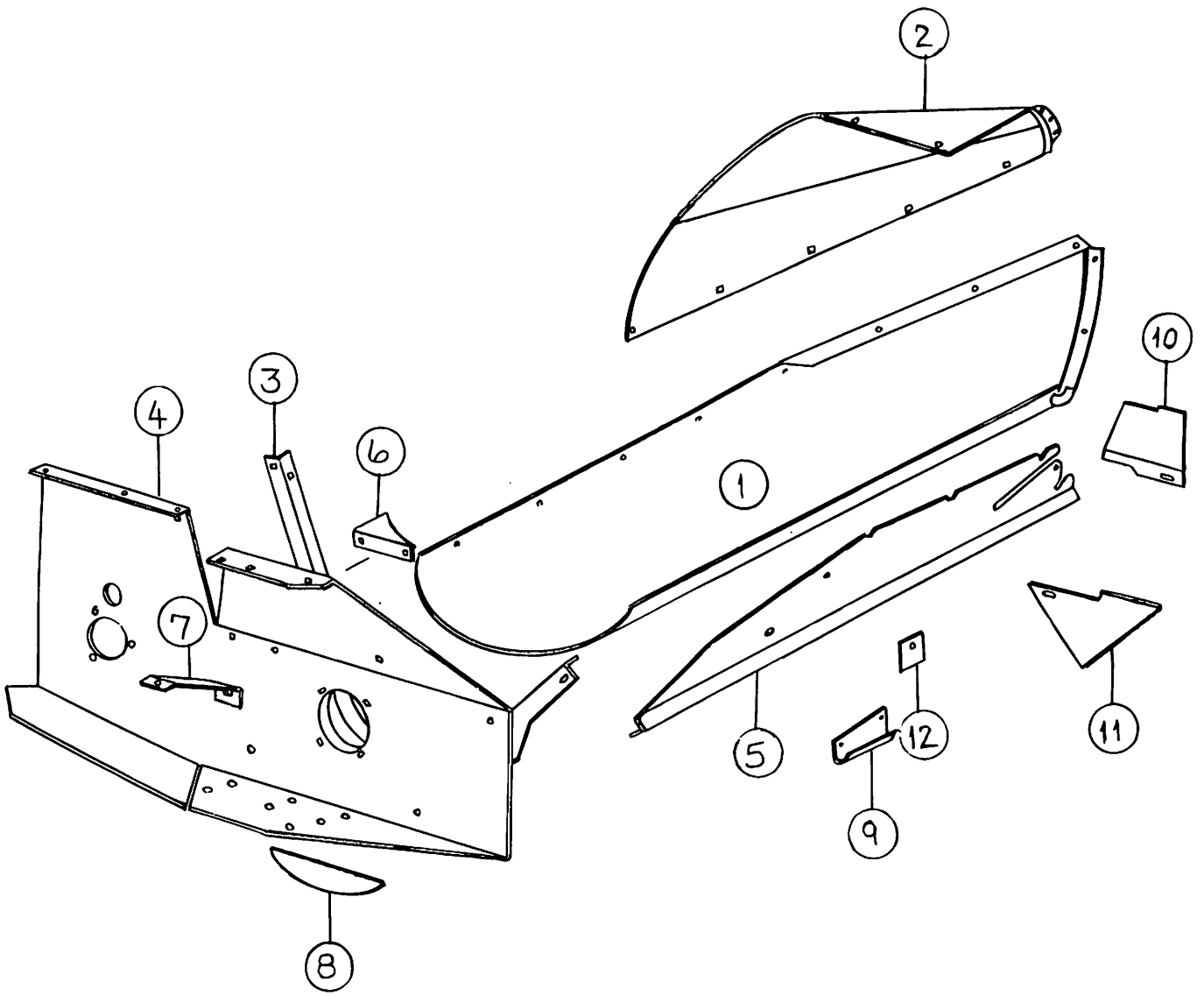


FIGURE 7
H&S 860 BLOWER
AUGER TROUGH AND SUPPORTS

ITEM	PART NO.	DESCRIPTION
1.	450420P	Lower Inlet Support
*	HSB41	Carriage Bolt 5/16" x 3/4" GR.5
*	HSB2	Carriage Bolt 5/16" x 1/2" GR.2
*	HSB1	Hex Serrated Flange Nut 5/16"
*	HSB3	Carriage Bolt 3/8" x 3/4" GR.5
*	HSB5	Hex Serrated Flange Nut 3/8"
2.	450630P	Upper Inlet Support
*	HSB3	Carriage Bolt 3/8" x 3/4" GR.5
*	HSB5	Hex Serrated Flange Nut 3/8"
3.	450400P	Outer Support
*	80N57	Bolt 3/8" x 3/4" GR.5
*	HSB17	Washer 13/32" x 13/16" x 1/16"
*	HSB5	Hex Serrated Flange Nut 3/8"
4.	450640P	Hopper End Support
*	BFR247	Carriage Bolt 3/8" x 1" GR.5
*	HSB17	Washer 13/32" x 13/16" x 1/16"
*	B68	Lock Washer 3/8"
*	K60	Nut 3/8"
*	HSB41	Carriage Bolt 5/16" x 3/4" GR.5
*	HSB1	Hex Serrated Flange Nut 5/16"
5.	450130P	Stripper Support
*	HSB41	Carriage Bolt 5/16" x 3/4" GR.5
*	HSB2	Bolt 5/16" x 1/2" GR.2
*	HSB1	Hex Serrated Flange Nut 5/16"
6.	450140P	Filler Support
*	HSB2	Carriage Bolt 5/16" x 1/2" GR.2
*	HSB1	Hex Serrated Flange Nut 5/16"
7.	450760P	Bumper Support
8.	450350P	Trough Filler Sheet
9.	450360P	Hopper Support
*	HSB33	Bolt 1/2" x 1-1/4" GR.5
*	HSB40	Washer 9/16" x 1-3/8" x 7/64"
*	R35	Lock Washer 1/2"
*	R29	Nut 1/2"
10.	450190P	Upper Filler Plate
11.	450380P	Lower Filler Plate
12.	451210P	Filler Plate

NOTE: * (Means Not Shown)

FIGURE 8
H&S 860 BLOWER
SHIELDS

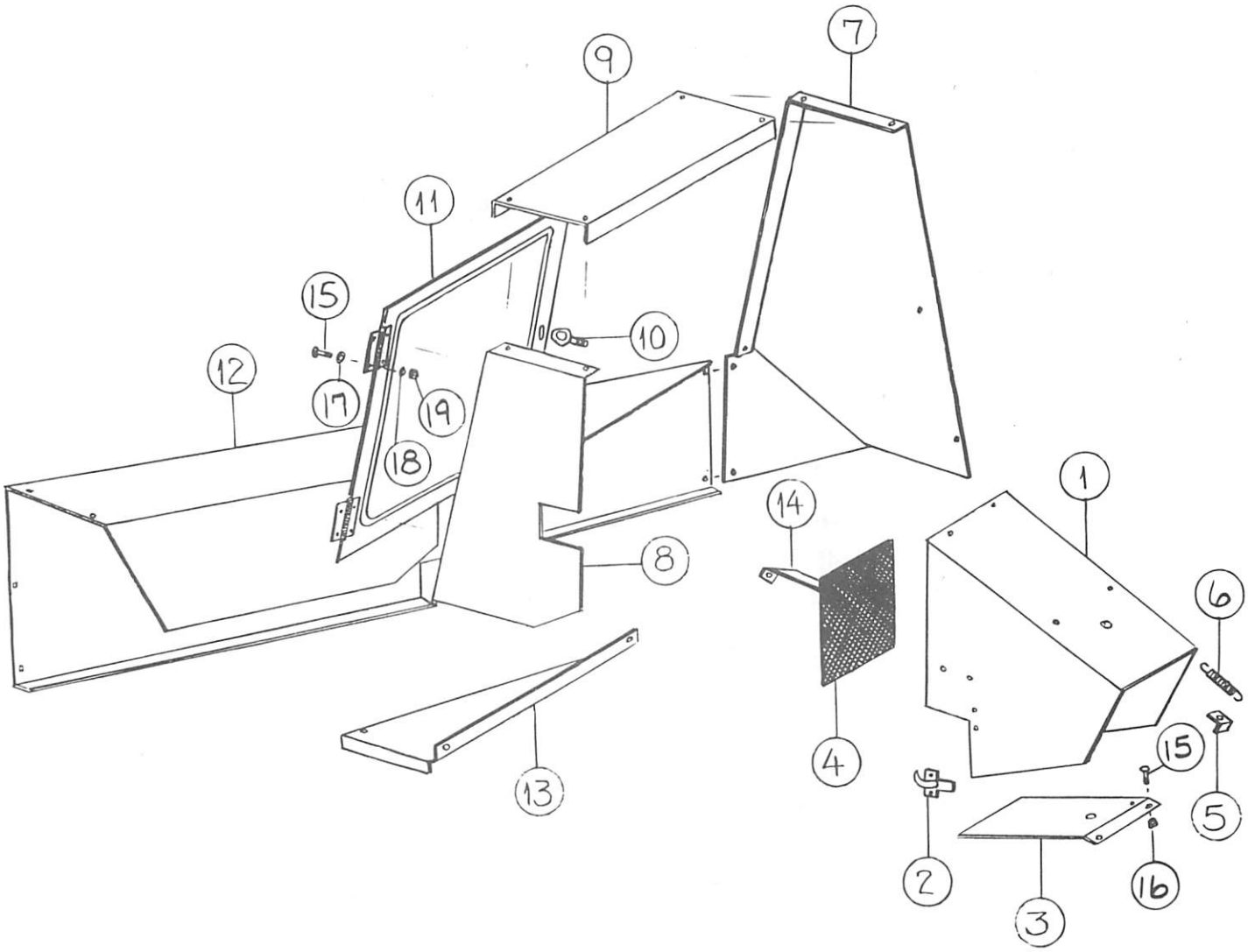


FIGURE 8
H&S 860 BLOWER
SHIELDS

ITEM	PART NO.	DESCRIPTION
1.	450160P	Blower Shield - (Includes Decals)
*	T43	Bolt 1/4" x 3/4" GR.5
*	HSB43	Washer 9/32" x 5/8" x 1/16"
*	K84	Lock Washer 1/4"
2.	451000P	Latch for Hinge
*	HSB44	Machine Screw - Pan Phillips, No. 10 NC x 1/2"
*	HSB45	Lock Washer, No. 10
3.	450660P	Air Door
4.	450670P	Air Inlet Screen
*	K84	Lock Washer 1/4"
*	HSB43	Washer 9/32" x 5/8" x 1/16"
*	T43	Bolt 1/4" x 3/4" GR.5
5.	450650P	Spring Support
*	HSB19	Bolt 1/4" x 1/2" GR.5
*	HSB20	Hex Serrated Flange Nut 1/4"
6.	451211P	Spring - Shields
7.	450060P	Support - Box End
*	HSB57	Bolt 5/16" x 3/4" GR.5
*	HSB1	Hex Serrated Flange Nut 5/16"
8.	450070P	Support - Box Inside
*	HSB57	Bolt 5/16" x 3/4" GR.5
*	HSB18	Washer 11/32" x 11/16" x 1/16"
*	HSB1	Hex Serrated Flange Nut 5/16"
9.	450080P	Support - Box Top
*	HSB2	Carriage Bolt 5/16" x 1/2" GR.2
*	HSB48	Bolt 5/16" x 1/2" GR.5
*	HSB41	Carriage Bolt 5/16" x 3/4" GR.5
*	HSB1	Hex Serrated Flange Nut 5/16"
10.	451090P	Door Latch
11.	450180P	Door - (Includes Decal)
12.	450040P	Drive Shaft Shield
*	HSB2	Carriage Bolt 5/16" x 1/2" GR.2
*	HSB41	Carriage Bolt 5/16" x 3/4" GR.5
*	HSB48	Bolt 5/16" x 1/2" GR.5
*	HSB57	Bolt 5/16" x 3/4" GR.5
*	HSB18	Washer 11/32" x 11/16" x 1/16"
*	HSB1	Hex Serrated Flange Nut 5/16"
13.	450050P	Corner Cover Support
*	HSB2	Carriage Bolt 5/16" x 1/2" GR.2
*	HSB48	Bolt 5/16" x 1/2" GR.5
*	HSB18	Washer 11/32" x 11/16" x 1/16"
*	HSB1	Hex Serrated Flange Nut 5/16"
14.	451220P	Shield Support
15.	HSB19	Bolt 1/4" x 1/2" GR.5
16.	HSB20	Hex Serrated Flange Nut 1/4"
17.	HSB43	Washer 9/32" x 5/8" x 1/16"
18.	K84	Lock Washer 1/4"
19.	HSB21	Nut 1/4"

NOTE: * (Means Not Shown)

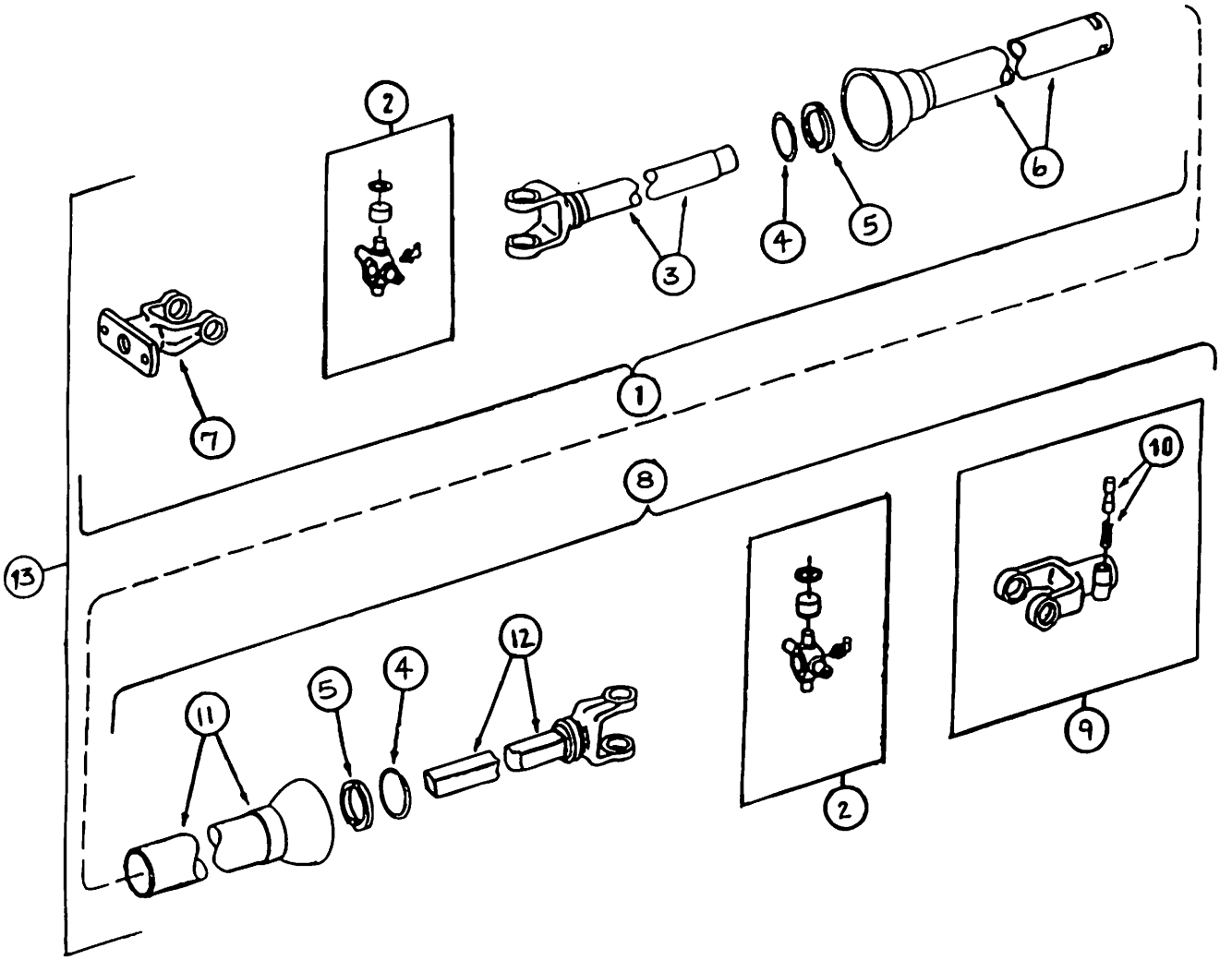


FIGURE 9
H&S 860 BLOWER
IMPLEMENT INPUT DRIVE

ITEM	PART NO.	DESCRIPTION
1.	92-18996	Joint & Tube Half Assembly W/Guard
2.	03-10050	55R Cross & Bearing Kit
3.	98-18996	Yoke, Tube & Slip Sleeve
4.	24-10046	Retaining Ring
5.	19-11105	Nylon Repair Kit
6.	96-18996	Inner Guard
7.	55051-1582	Yoke
8.	93-18996	Joint & Shaft Half Assembly W/Guard
9.	55051-1109	Q.D. Yoke Assembly
10.	26-10806	Q.D. Repair Kit
11.	97-18996	Outer Guard
12.	99-18996	Yoke & Shaft
13.	HSB63	Complete PTO

NOTE: * (Means Not Shown)

H&S 860 SPECIFICATIONS

*Capacity (haylage)	Up to 110 tons/hr.
(corn silage)	Up to 180 tons/hr.
*Blowing Height (haylage)	Over 100 ft.
Blower Housing	60 inch diameter, 9 inch wide
Blower Outlet	9 inch diameter inside
Height to Outlet	67-74 inch
Number of Paddles	8
Tip Speed at 540 RPM	141 ft./sec.
Hopper Auger	12 inch diameter, 50 inch long
Hopper Dimension	37 inch wide
Hopper Height from Ground	20.6-27.7 inch
Tires: Size	4.80-8 "C" Load Range
Pressure	90 PSI
Weight	1615 lbs.
Length	107.7 inch
Width	99.6 inch

* Capacity and height will depend on tractor horsepower, type of crop, moisture content, length of cut and general maintenance of pipes and spouts.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

Warranty

One Year-Parts & Limited Labor

H&S MANUFACTURING CO. INC.

2608 S. Hume Ave.
P.O. Box 768 – Telephone (715) 387-3414
FAX (715) 384-5463
MARSHFIELD, WI 54449

MEMBER FEMA

H&S WAREHOUSE Rt. #5 and 76
P.O. Box 1260 – Telephone (716) 736-7595
FAX (716) 736-7596
RIPLEY, NY 14775

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