

H&S

TWO SPEED GEARBOX

Heavy Duty 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.

MODEL 175

PARTS & OPERATOR'S

INSTRUCTIONS

8-1-2011

Manufactured By

H&S MANUFACTURING CO., INC.

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

MARSHFIELD, WISCONSIN 54449

H&S MODEL 175 SPREADER PARTS AND OPERATOR'S MANUAL

CONTENTS

Warranty & Warranty Registration Card	1-2
Dealer Pre-Delivery & Delivery Checklist	3
Be Alert Symbol	5
Explanation of Safety Signs	6
Danger - Warning Signs	7-8
Warning - Owner Must Read and Understand	9
Operation - Attaching to Tractor - Loading	10
Spreading - Adjustments	11
Adjustments - Beater Control	12-13
Lubrication Guide	13-14-15
PTO & Beater Instructions	15
Optional Equipment	16
Instructions for Ordering Parts - About Improvements	16
Service Notes	17
Decal Location & Identification	18-19
Figure 1 - Beater & Pan Assembly - Description	20-21
Figure 2 - Spindle, Hub & Box Parts - Description	22-23
Figure 3 - Front Shield & Drive Assembly - Description	24-25
Figure 4 - Back Shields & Drive Assembly - Description	26-27
Figure 5 - Hydraulic Tailgate - Description	28-29
Figure 6 - Apron Chain Assembly - Description	30
Figure 7 - Hydraulic Cylinder	31
Figure 8 - Gearbox - Description	32-33
Figure 9 - PTO Assembly - Description	34
Figure 10 - Optional Top Beater - Description	35
Service Notes	36
SPECIFICATIONS	INSIDE BACK COVER

AFTER COMPLETION, DEALER SHOULD REMOVE AND RETAIN FOR RECORDS

**H&S
DEALER PRE-DELIVERY CHECK LIST**

After the Manure Spreader 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 and gearbox filled to proper level – See lubrication guide in this manual.
- All mechanisms are operating trouble free.
- All roller chains are at proper tension.
- Apron chains are adjusted properly.
- 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)

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 Manure Spreader 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 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 he reads and understands all operating and service instructions.
- Record Serial Number on Page 16 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.

(Remove Dealers File Copy At Perforation)



**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.



WARNING



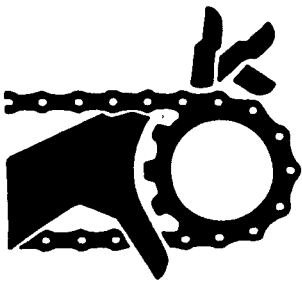
CAUTION



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.



! WARNING

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

1494A



! WARNING

DO NOT GO NEAR LEAKS

- 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.

11599

! DANGER



ROTATING DRIVELINE CONTACT CAN CAUSE DEATH KEEP AWAY!

DO NOT OPERATE WITHOUT-

- ALL DRIVELINE, TRACTOR AND EQUIPMENT SHIELDS IN PLACE.
- DRIVELINES SECURELY ATTACHED AT BOTH ENDS.
- DRIVELINE SHIELDS THAT TURN FREELY ON DRIVELINE.

1494L

! 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

DO NOT REMOVE SHIELDS ROTATING PARTS INSIDE

12794



! WARNING

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

71494A

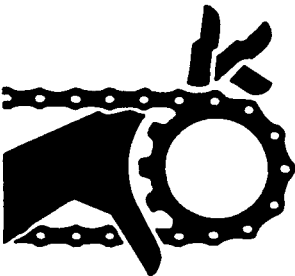
! WARNING

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

! WARNING



DO NOT REMOVE SHIELDS

MOVING PARTS INSIDE

1494K

! DANGER



NO STEP-STAY CLEAR

9194A

! DANGER



NEVER ALLOW RIDERS ON THIS MACHINE

9194B

! DANGER



STAY CLEAR OF END GATE ARMS

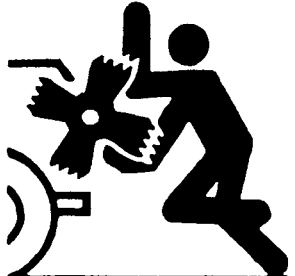
111593C

! WARNING



DO NOT CLEAN OR WORK ON THIS MACHINE WITHOUT FIRST DISENGAGING POWER AND SHUTTING OFF TRACTOR ENGINE.

1494J



! DANGER

STAY CLEAR OF BEATER IF TRACTOR OR PTO IS RUNNING BEATER SHUT OFF COULD ACCIDENTALLY BE ENGAGED

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

KEEP CLOTHING, YOURSELF AND OTHERS WELL CLEAR

111593A

H&S MODEL 175 MANURE SPREADER



W A R N I N G

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 power takeoff, stop the tractor engine 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 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.

NEVER hook up 1000 RPM tractor to the spreader.

H&S Mfg. Co. always takes the operator and his safety into consideration and guards exposed moving parts for his 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.

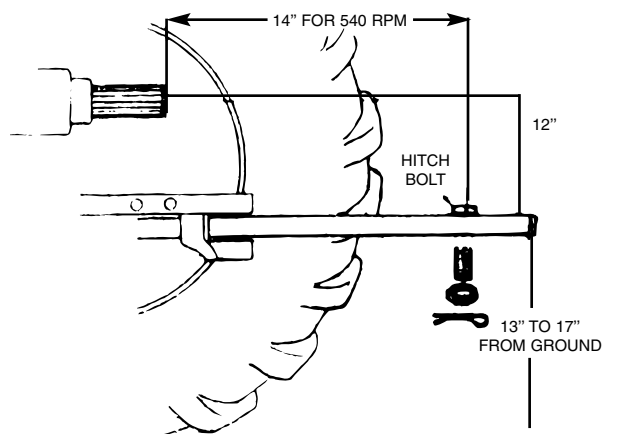
Study The Above Safety Rules
ATTENTION - BE ALERT - YOUR SAFETY IS INVOLVED

OPERATION

1. Check for proper assembly and adjustment and make sure that all bolts are tightened. Securely retighten after a few hours of operation, as bolts can loosen up on new machinery. Check wheel bolts upon delivery and periodically thereafter. Wheel bolts should be tightened at 85-95 ft./lbs. of torque.
2. Check the tires and inflate to the recommended pressure (9:00 x 20.0 tires to 40-60 pounds, 16.5 x 16.1 tires to 36 pounds).
3. Adjust the tractor hitch and attach the spreader to the tractor as described in the following sections.
4. Attach the speed control/beater engage and disengage rope to a convenient point on the tractor.
5. Lubricate the machine completely and check the oil level of gearbox.
6. Before operation, run machine slowly to make sure that the spreader is operating and lubricated properly.

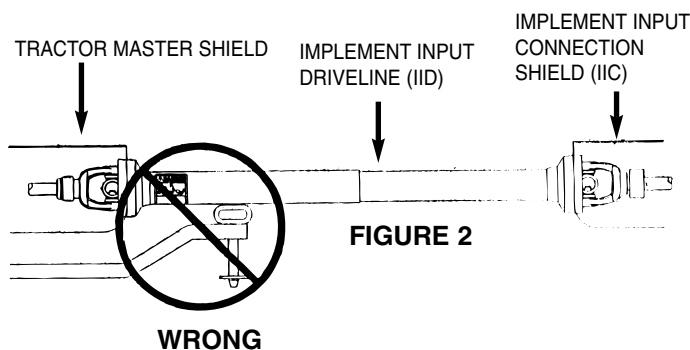
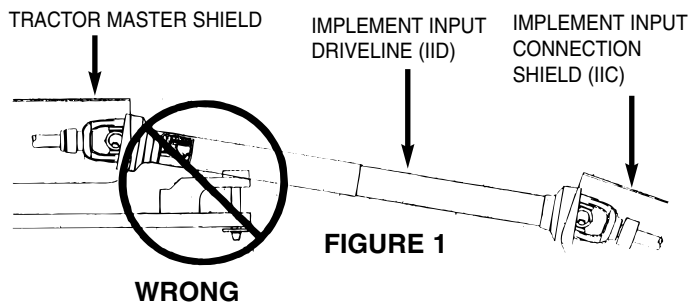
TRACTOR HITCH

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 14 inches, 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.



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]



ATTACHING TO THE TRACTOR

1. Fasten the spreader hitch to the drawbar with a **hitch pin that cannot bounce out**. Use 1" diameter hitch pin to pull spreader.
 2. Remove the weight from the jack (jack is not to be used when spreader is loaded). Remove jack from pipe mount and place on convenient storage mount located on top of left hitch channel. This allows protection of jack from tractor tires during turns.
 3. Slide spring loaded locking collar on PTO yoke rearward, and slide 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.
- Be certain to disconnect all sources of power before servicing. Keep pant cuffs and other loose clothing away from all chain and gear drives as well as the other moving parts. Keep off the equipment when in use, and keep all safety shields in place. Do not attempt to clean, grease or lubricate while the machine is running. Never allow riders in or on the machine.

LOADING

In freezing weather, make certain that hydraulic tail gate (if equipped with one) is not frozen to the sides or on the floor of the spreader. Make sure the apron chain is not frozen to the spreader floor or any lumps of manure are frozen to the floor.

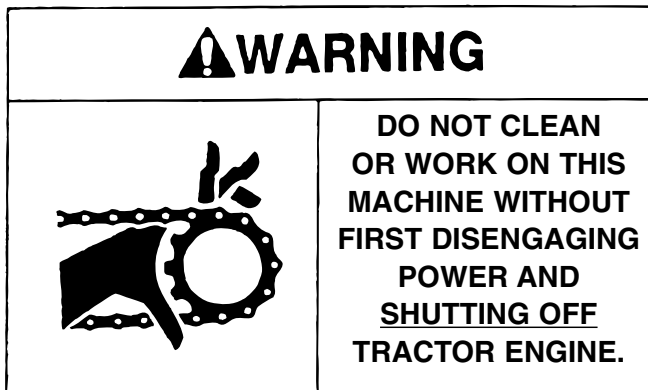
Begin loading the spreader at the front end and work toward the rear until loading is completed. Loading this way permits the material to be spread uniformly. Loading front to rear is particularly important when the spreader is loaded by a mechanical loader because this type of load requires more power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

When hauling extremely heavy material with a large portion of dirt, it may be necessary to reduce the load size to prevent excessive shear bolt breakage. Never dump material onto the beater. Do not use extra sideboards. Do not overload spreader. Overloading decreases spreading effectiveness. Do not load more than 15 inches above the beater.

SPREADING

NOTE: Two speed apron drive and beater engage/disengage mechanisms are contained in a single gearbox at rear of spreader. This gearbox is controlled by one rope leading to the tractor.

1. When ready to unload, before engaging PTO, make sure that the gearbox is in the “low” position, with the shifter dog all the way to the “low” side of the indicator slot.
2. Raise the hydraulic endgate (if so equipped).
3. Engage the PTO slowly.
4. The apron speed may be increased from 4-1/2 fpm to 8-1/2 fpm (at 540 RPM) by pulling once on the control rope until the shifter dog stops and locks into the “high speed” position. The beater will continue to operate in this position.
5. When the spreader is almost empty, the bed can be cleaned out by again, pulling once on the control rope until the shifter dog locks into the “clean-out/beater disengage” position. The beater will stop, and the apron will continue to run in the “high” speed position, thus saving unloading time.



6. When spreader is empty, SHUT OFF PTO. With the PTO off, pull the control rope once again, and release it. The shifter will return to the “low” position, ready to begin unloading the next load. **DO NOT SHIFT FROM CLEAN OUT TO LOW POSITION WITH THE PTO RUNNING.**
7. Do not operate the spreader with a PTO speed greater than 540 RPM unless the necessary sprocket change has been made.

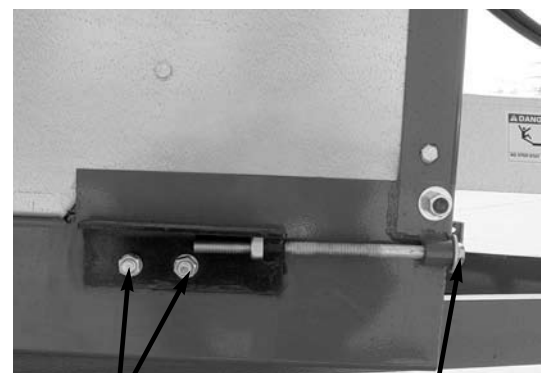
ADJUSTMENTS

FAILURE TO FOLLOW THE RECOMMENDED ADJUSTMENTS WILL VOID WARRANTY

APRON

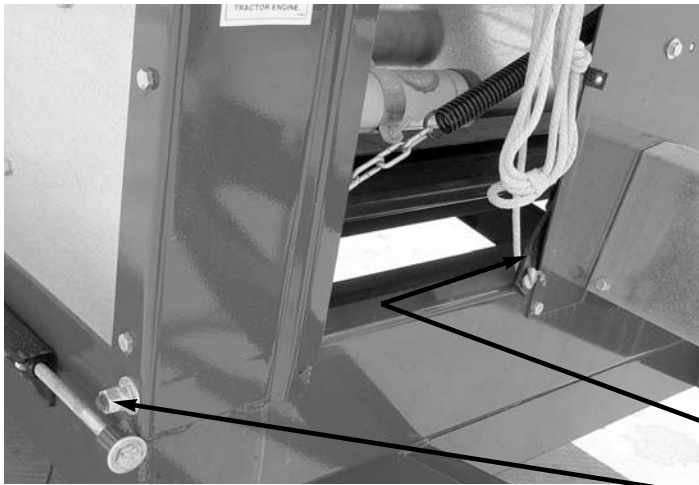
1. Adjust the apron by loosening the mounting bolts on the chain slides on the outside of the frame. Mounting bolts shown in the drawing.
2. Tighten the adjusting bolts until the apron has no sag between the rear drive sprockets and chain slides under spreader.

NOTE: Tighten the adjusting bolts (on each front corner) equally on each side so that the apron slats run parallel with the ends of the bed. The apron will be damaged if the machine is operated with one end of the apron slats running ahead of the opposite end. Do not tighten the apron chains excessively.



MOUNTING BOLTS

ADJUSTING BOLT



DRIVE CHAIN

To adjust front drive chain, slightly loosen bolts holding pillow block bearing at rear of front jack shaft. Loosen jam nut on tightener rod. Turn adjusting nut (located at the right hand front side of spreader) clockwise. There should be 1/2" deflection at the center of the drive chain. Over tightening or too loose of a chain will result in excessive wear on the bearing, chain and sprockets. Retighten bolts holding bearing. Recheck chain for tension. Retighten jam nut.

BEARING

TIGHTENER BOLT

Shields Removed For Clarity

ADJUSTING WHEEL HUBS

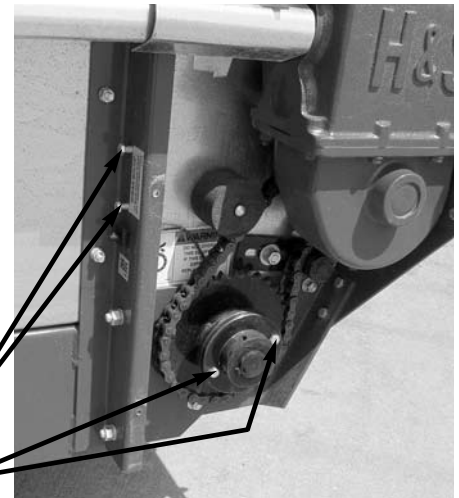
To adjust wheel hubs, tighten the castellated nut on the spindle to the point where there is no end-play and a slight drag on the bearings. Replace the cotter key with a new one of the correct size.

APRON WORM DRIVE CHAIN

The main apron drive chain is kept tight with a nylon roller type adjustable tightener. Periodically check tension on chain. Chain is properly adjusted when there is 1/8" deflection in center of chain. Also check tightener for wear and replace when necessary.

SHEAR BOLTS (Apron Drive)

The main apron is protected by two shear bolts located on the drive sprocket on the main conveyor drive shaft at the rear of the spreader. Two spare shear bolts are provided. Shearing of the bolts is normally due to the apron being frozen fast to the floor or the slats catching on manure that is frozen to the floor. In some cases, the bolt will shear due to the spreader being overloaded. Always determine the cause of the failure and eliminate the cause before installing new shear bolts. Always use H&S shear bolts, part number D31, when replacing shear bolts.



REPLACEMENT SHEAR BOLTS

SHEAR BOLTS

Shields Removed for Clarity



SHEAR BOLTS (Main Drive)

The beater and apron drive are protected by one shear bolt located on the front end of the side drive shaft (left side of spreader). Two spare shear bolts are provided. Shearing of the bolts is normally due to foreign objects in the manure or **starting the spreader PTO too quickly** with high tractor RPM's. Always use H&S shear bolts, part number D31, when replacing shear bolts.

SHEAR BOLT

SPARE SHEAR BOLTS

Shields Removed for Clarity

APRON SPEED AND BEATER CONTROL

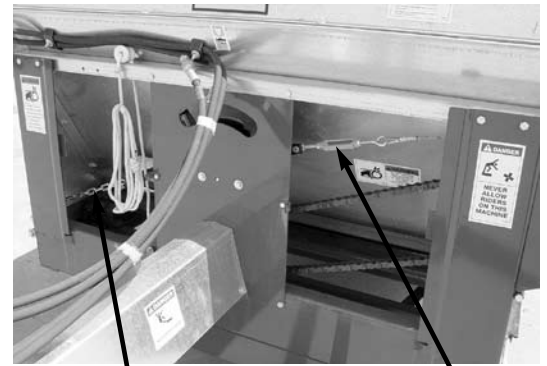
One cable controls the beater and apron drive two speed gearbox. To compensate for wear or stretching of this cable adjust turnbuckle behind shield at left hand front of spreader. Refer to drawing to properly adjust manure spreader. Position speed control in HI Speed. Measurement (A) is 2-1/2 inches. This is factory set and should not be changed. Do not move bracket or collar on control rod. The distance between collar and face of gearbox should be as follows for the different speeds: (distance B)

LO Speed: 0" (tight against gearbox)

HI Speed: 7/16-1/2"

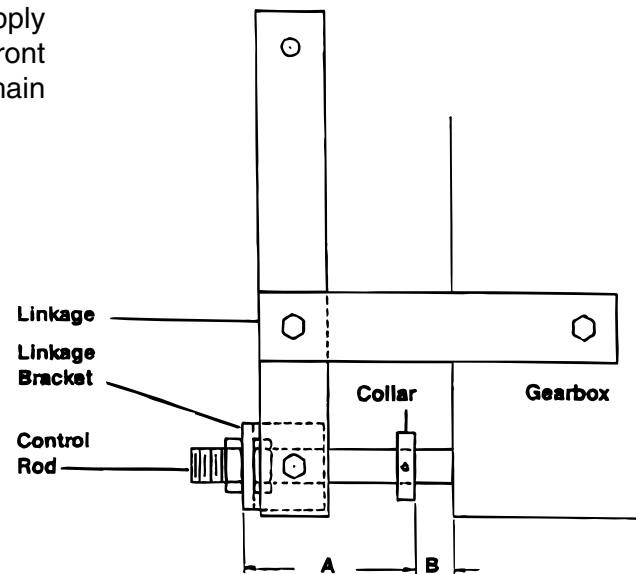
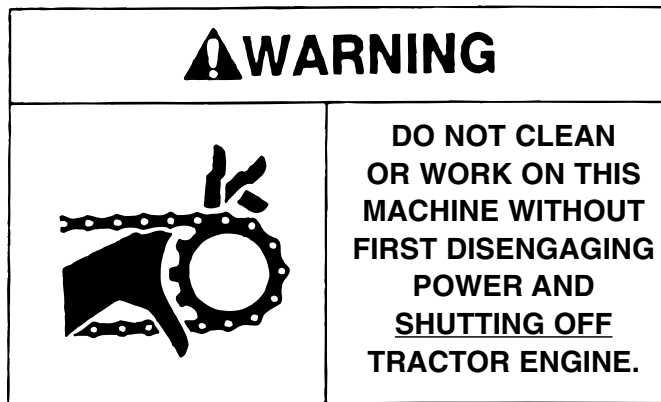
CLEAN OUT: 3/4-1 1/16"

If Collar on control rod does not pull tight to gearbox in LO Speed, after Hi Speed has been properly adjusted, apply more tension to return spring behind shield at right hand front of spreader. To adjust spring, hook end of spring one chain link shorter on spring attaching chain.



Attaching Chain

Turnbuckle



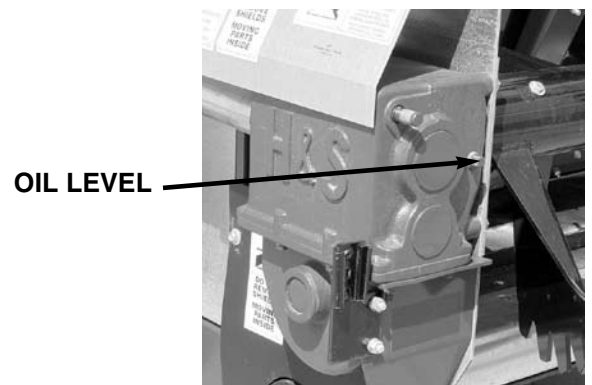
LUBRICATION GUIDE

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

GEARBOX – Before using your new machine, check the oil in the main apron drive and beater drive gearbox. Keep the gearbox filled to the oil plug on the rear of the gearbox as shown with Mobilube SHC 75W90 (Or Equivilant) gear lube.

DRIVE CHAINS – Lubricate the drive chains with a light machine oil. Keep chains aligned with sprockets, this will lengthen the life of the sprockets and chain. Lubricate chains often.

GREASE FITTINGS – There are eleven grease fittings on the spreader, thirteen, if equipped with hydraulic endgate. If these are lubricated properly and often enough, it will prolong the life of the spreader. (Grease every 20 hours, also before storage 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. (See page 14 for grease zerk location.)



LUBRICATION GUIDE *(Continued)*

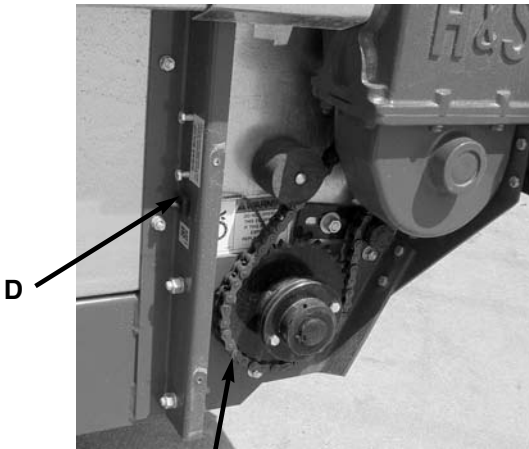
GREASE ZERK LOCATION

- A. (3) PTO shaft
- B. (2) Front jack shaft bearings
- C. (2) Side shaft
- D. (2) Rear drive shaft (LH side is a remote fitting)
- E. (1) Rear drive shaft shear sprocket
- F. (1) Beater bearing (RH side)
- G. (2) Hydraulic endgate arms (if equipped with hydraulic endgate)

NOTE: Shields removed in some pictures for clarity. DO NOT OPERATE WITH SHIELDS REMOVED.

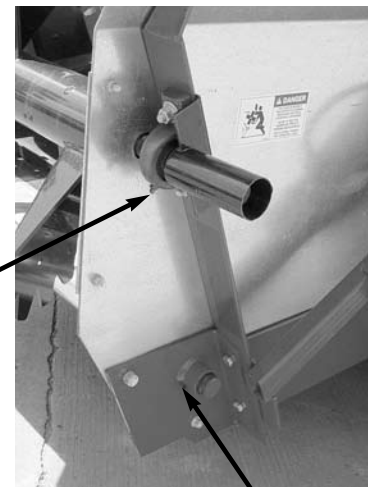


A B (Under Shield) C (Behind Shield)



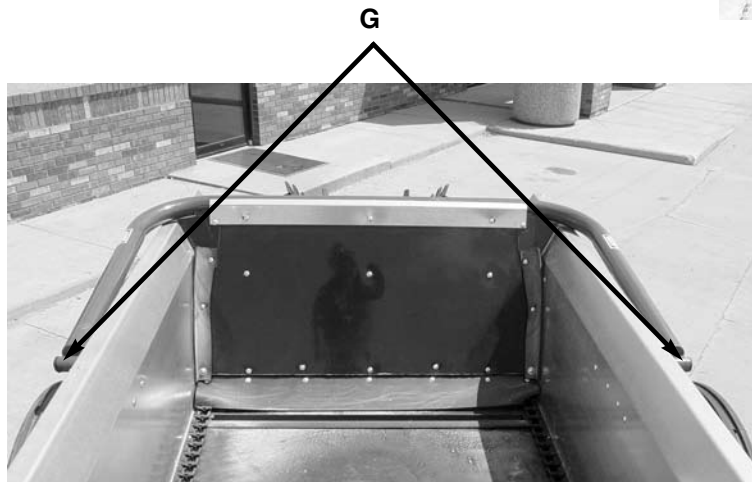
D

E



F

D



G

LUBRICATION GUIDE (Continued)

! DANGER



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

- ALL DRIVELINE, TRACTOR AND EQUIPMENT SHIELDS IN PLACE.
- DRIVELINES SECURELY ATTACHED AT BOTH ENDS.
- DRIVELINE SHIELDS THAT TURN FREELY ON DRIVELINE.

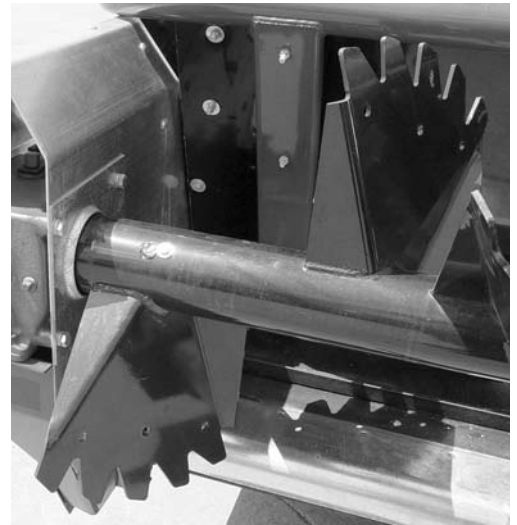
PTO ASSEMBLY – Care must be taken to keep the male and female driving elements well lubricated and free sliding. Failure to observe this precaution will result in excessive pressure being required to collapse or extend the assembly while subject to operating torque. This excessive force may damage or displace the jackshaft 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. Care should also be taken to be certain 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 train.



! DANGER

**STAY CLEAR OF BEATER IF
TRACTOR OR PTO IS RUNNING
BEATER SHUT OFF COULD
ACCIDENTALLY BE ENGAGED**

**FAILURE TO HEED THIS
WARNING MAY RESULT IN
PERSONAL INJURY OR DEATH
KEEP CLOTHING, YOURSELF
AND OTHERS WELL CLEAR**



BEATER

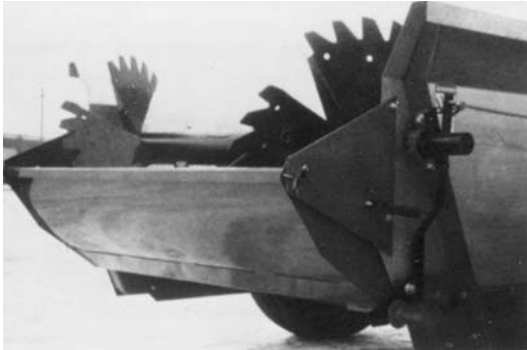
As the beater paddles are welded to the beater tube, replacement of these paddles, should it be necessary, should be performed by authorized service personnel who are competent welders. H&S does provide replacement tips to be welded onto beater paddles. Initial addition of Beater Tips should be installed as a complete set to maintain beater balance. Holes are provided in the original beater paddle to accommodate the replacement tips. Always use H&S special grade 5 bolts, washers, and nuts when replacing tips. Use H&S part number R10 (1/2" GR.5 bolt), R35 (1/2" lock washer), and R11 (1/2" GR. C, top lock nut). Torque to 60 foot lbs.

When transporting on the highway, regularly clean the reflective tape at the rear of the spreader. There is a holder provided for your SMV sign.

OPTIONAL EQUIPMENT

REAR PAN/SEMI-LIQUID HYDRAULIC ENDGATE

The rear pan shown below is optional equipment on the Model 175 and the semi-liquid hydraulic endgate (pictured below right) is also optional. Rear pan and hydraulic endgate may be used together on this model.



REAR PAN



HYDRAULIC ENDGATE

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 center bearing post below the PTO shaft.
2. All reference to left or right apply to the machine as viewed from the rear.
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)

H&S Mfg. Co.
MARSHFIELD, WIS.

MOD. NO.

SER. NO.

PLEASE RECORD NUMBERS FOR YOUR UNIT FOR QUICK REFERENCE

ABOUT IMPROVEMENTS

H&S IS CONTINUALLY STRIVING TO IMPROVE ITS' 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.

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.

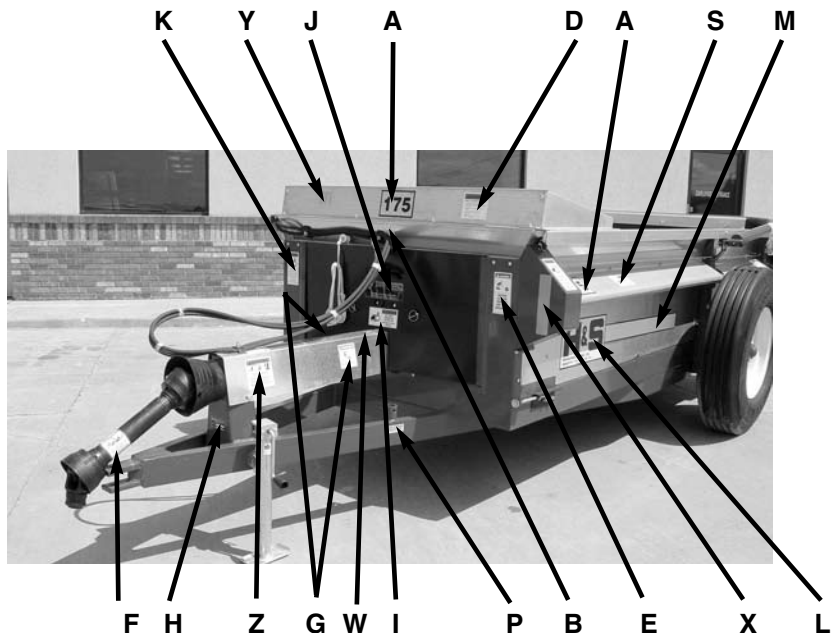
Listed below are the decals on your Manure Spreader. These decals may be ordered individually by part number or by ordering a complete set.

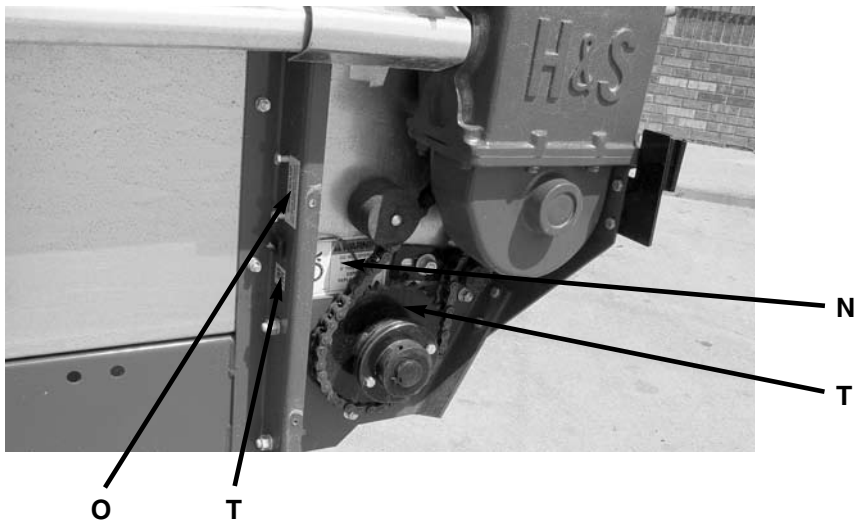
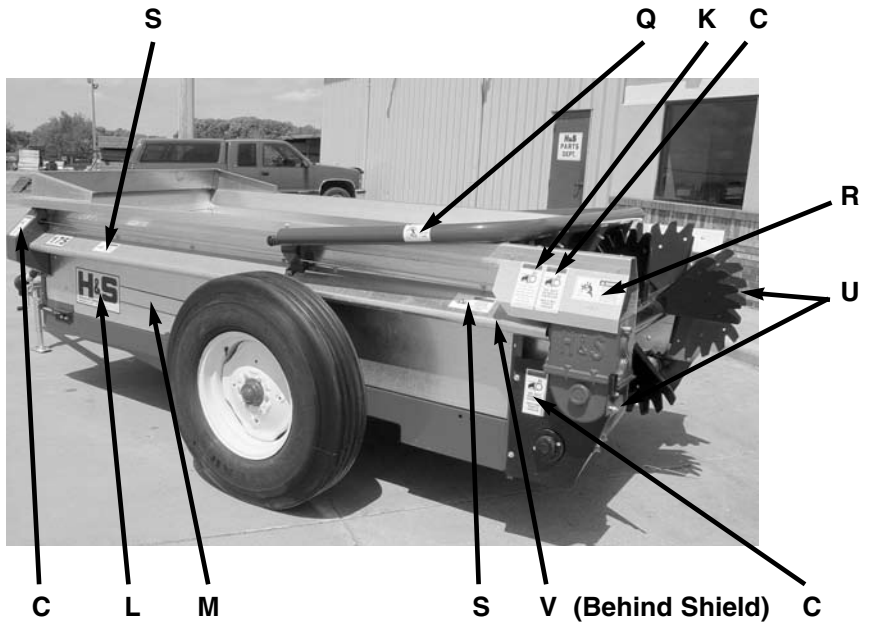
ITEM	PART NO.	DESCRIPTION
A	11590A	(3) Model 175
B	FEMA	
C	1494K	(3) Warning - Do Not Remove Shields
D	72203A	Warning - Help Avoid Injury
E	9194B	Danger - Never Allow Riders
F	Weasler	Danger - Rotating Driveline (H&S Decal 1494L)
G	9194A	(2) Danger - No Step
H		Serial Number
J	82793	Beater Apron Control
K	1494J	(2) Warning - Do Not Clean or Work
L	B17	(2) H&S Decal (9x17)
M	11590E	(2) Yellow Stripe
N	1494A	(3) Warning - Do Not Operate
O	112-11176	(2) Shear Bolts
P	71188B	Jack Storage Position
Q	111593C	(2) Warning - Stay Clear of Endgate (If So Equipped)
R	111593A	(2) Danger - Stay Clear of Beater
S	12794	(2) Warning - Do Not Remove Shields
T	093020	(2) Grease
U		(2) Red Reflector
V	71494A	Warning - Do Not Operate
W	11599	Warning - Stay Clear of Leaks
X		Amber Reflective
Y	H&S	Patent Numbers
Z	82602	Warning - Crushing Hazard
	62003-175	Complete Set of Decals - Model 175

Paint - H & S Red

ZX21
ZX22
ZX23

Gallon
Quart
Pint





Shields Removed for Clarity

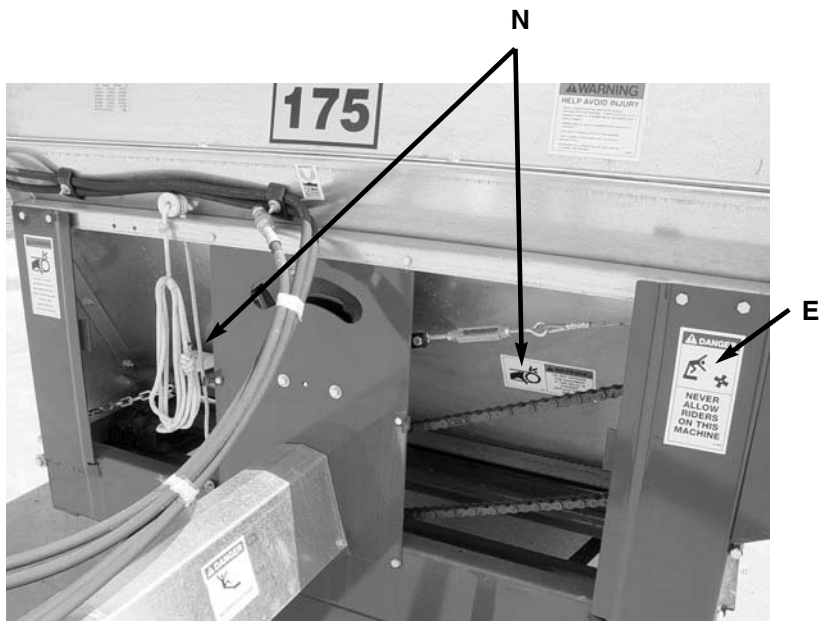


FIGURE 1

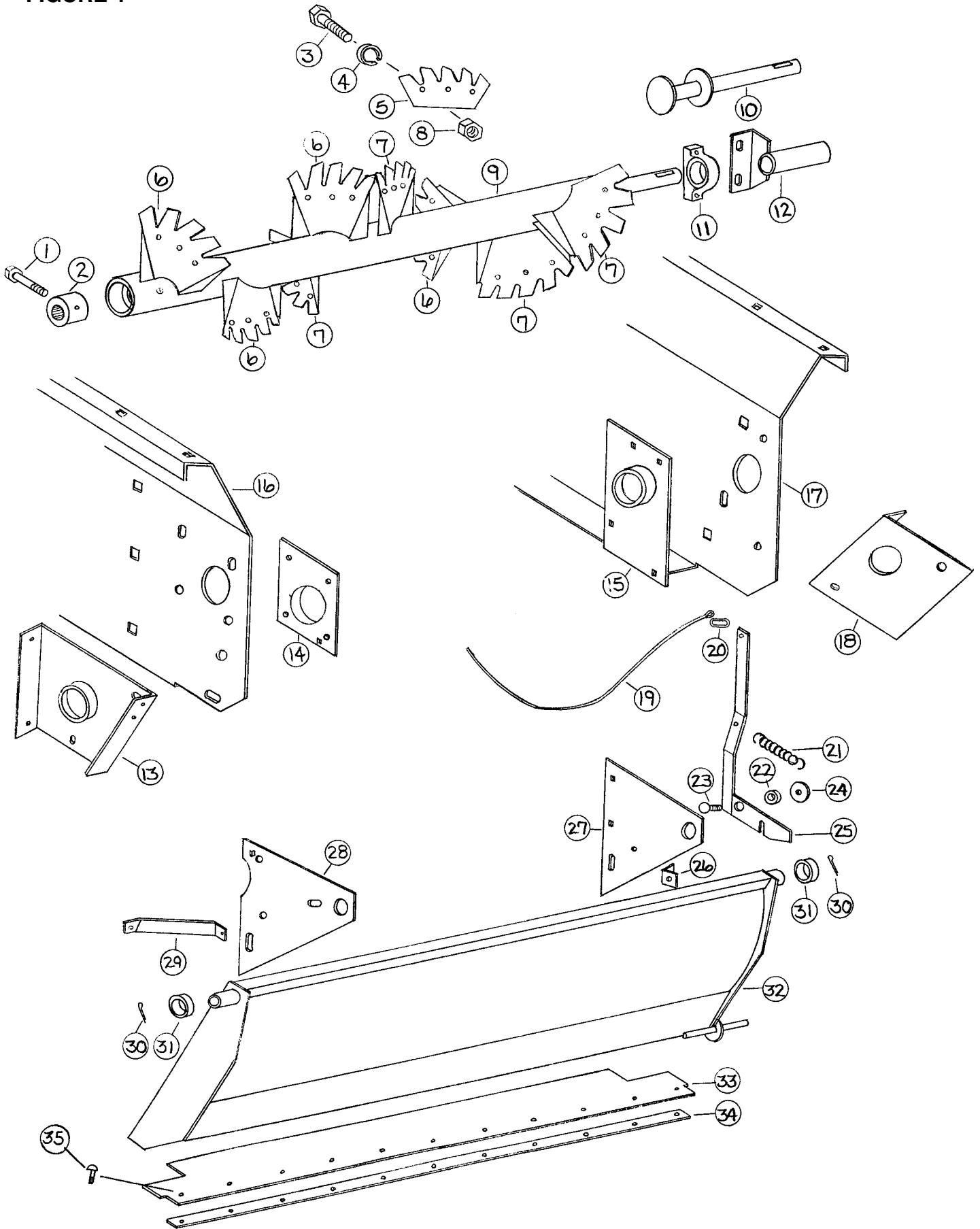


FIGURE 1
H&S MODEL 175
BEATER AND PAN ASSEMBLY

ITEM	PART #	DESCRIPTION
1	YBHH10130	BOLT, 5/16" X 5" GR. 5
2	23N2	SPLINED BEATER INSERT
3	YBHH16045	BOLT, 1/2" X 1-1/4" GR. 5
4	YWLO16005	WASHER, LOCK, 1/2"
5	17G2	REPLACEMENT BEATER COMB
6	17G3	LH BEATER BLADE
7	17G4	RH BEATER BLADE
8	YNTL16005	HEX NUT, TOP LOCK, 1/2"-13
9	17G5	BEATER
10	17G6	BEATER STUB SHAFT
11	17G7	PILLOW BLOCK BEARING
12	17G8	STUB SHAFT SHIELD
13	17G9	LH DRIVE SHAFT MOUNT
14	17G10	LH ANTI-WRAP GUARD
15	17G11	RH ANTI-WRAP GUARD
16	17G12	LH SIDE PANEL
17	17G13	RH SIDE PANEL
18	17G14	RH DRIVE SHAFT MOUNT
19	17G15	PAN TRIP ROPE
20	R31	CLIP
21	R27	SPRING
22	23N23	SPACER
23	YBCR16010	CARR. BOLT, 1/2" X 1-1/2" GR. 5
24	YWFL16005	WASHER, FLAT, 1/2" USS
25	17G16	PAN TRIP LEVER
26	R26	ANGLE
27	17G17	RH PAN SUPPORT
28	17G18	LH PAN SUPPORT
29	17G19	PAN BRACE
30	YPCT06020	COTTER PIN, 3/16" X 2"
31	F112	SPACER
32	17G20	PAN
33	17G21	PAN RUBBER FLAP
34	17G22	PAN STRAP
35	YBCR08010	CARR. BOLT, 1/4" X 1-1/2"

FIGURE 2

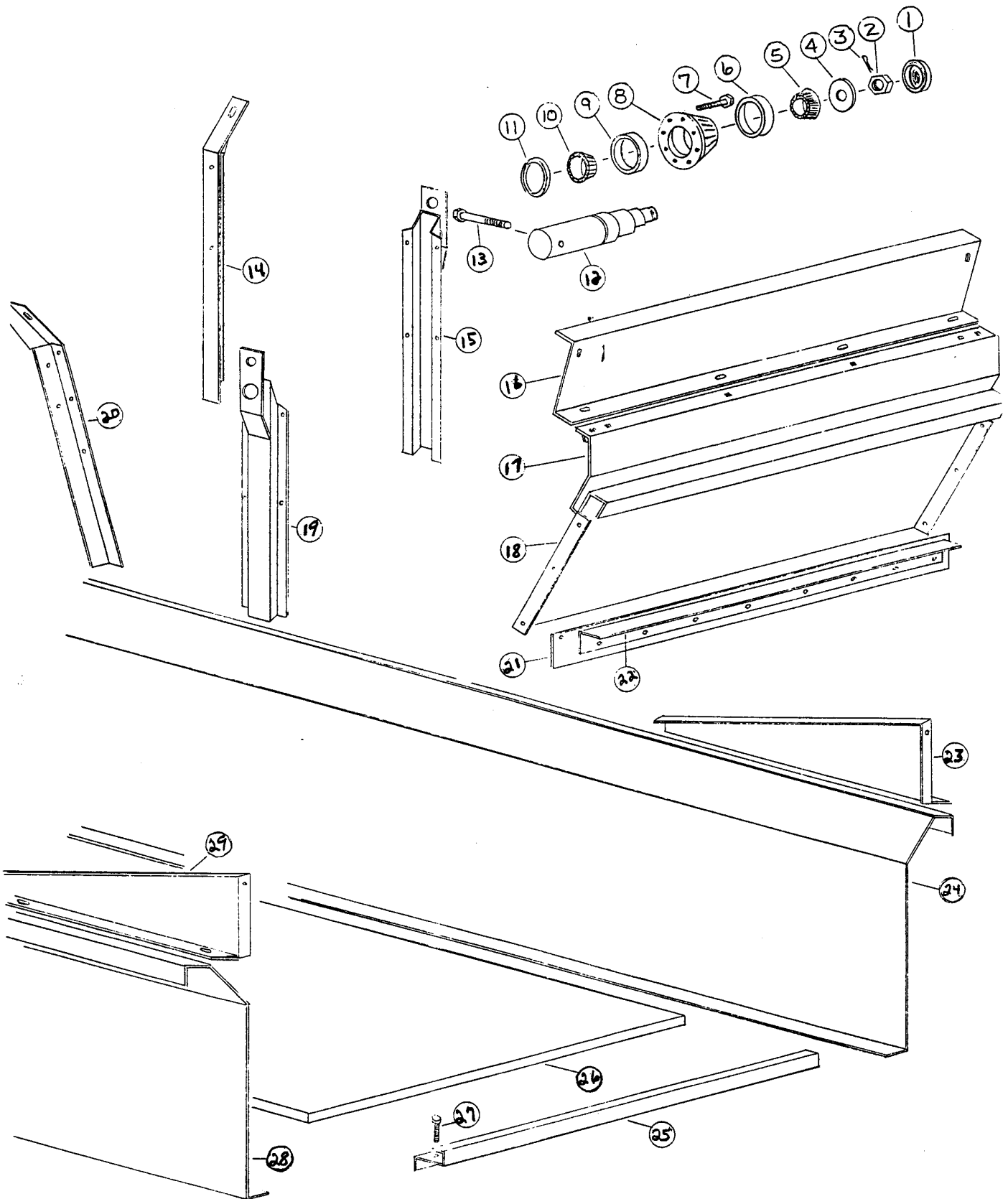
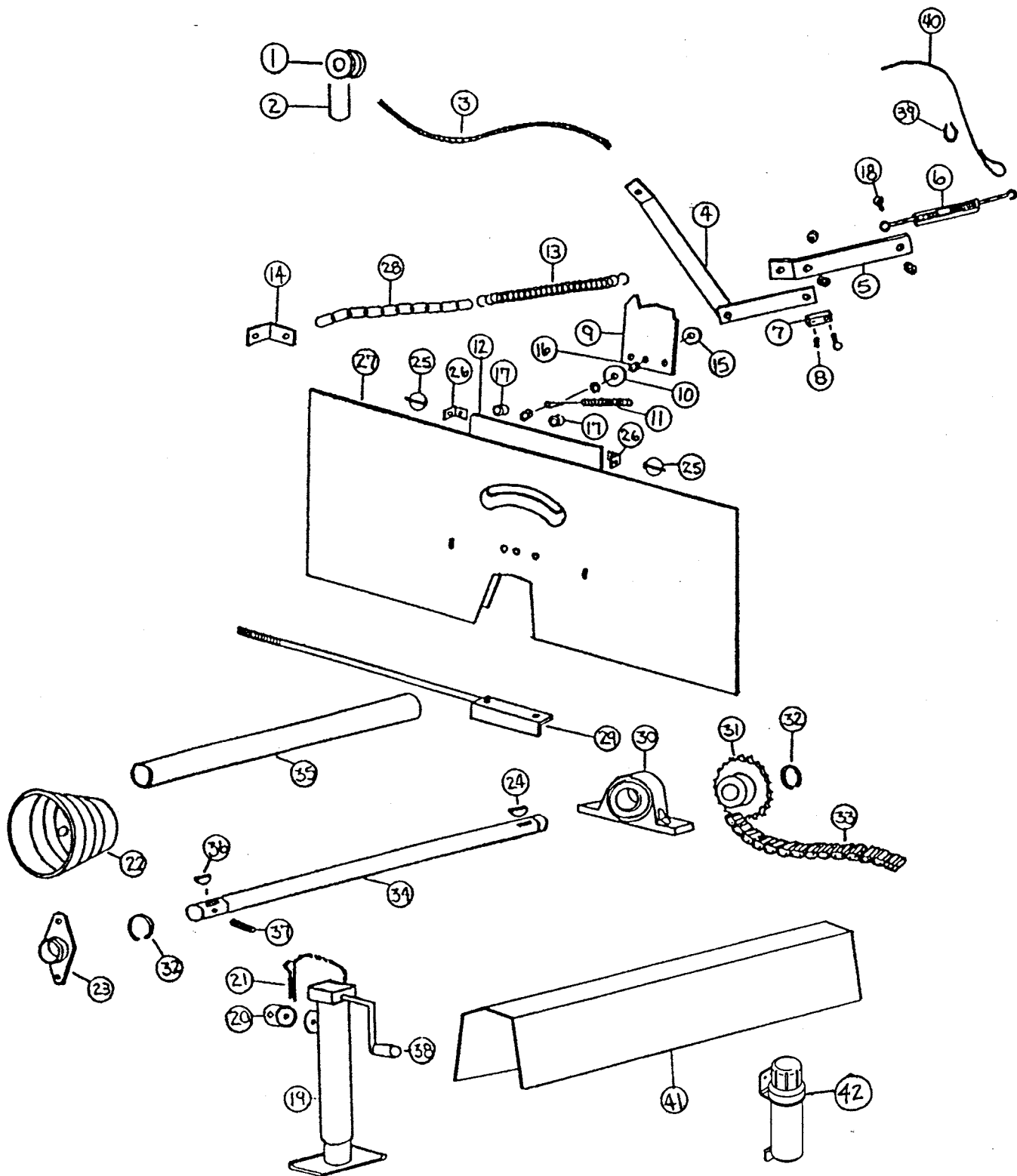


FIGURE 2
H&S MODEL 175
SPINDLE, HUB AND BOX PARTS

ITEM	PART #	DESCRIPTION
1	17G144	HUB CAP
2	YNSL28005	HEX NUT, SLOTTED, 7/8"-14
3	YPCT05020	COTTER PIN, 5/32" X 1-3/4"
4	YWFL28005	WASHER, FLAT, 7/8" USS
5	17G145	OUTER BEARING
6	17G146	OUTER RACE
7	17G147	HUB BOLT
8	17G148	HUB
9	17G149	INNER RACE
10	17G150	INNER BEARING
11	17G151	SEAL
12	17G152	SPINDLE RIGHT HAND
*	17G153	SPINDLE LEFT HAND
13	YBHH16130	BOLT, 1/2" X 4" GR. 5
14	17G24	LH BACK STAKE
15	17G25	LH SIDE STAKE
16	17G26	FRONT SPLASH
17	17G27	FRONT FLARE
18	17G28	FRONT PANEL
19	17G25	RH SIDE STAKE
20	17G29	RH BACK STAKE
21	17G30	FRONT RUBBER
22	17G31	ANGLE FOR RUBBER
23	17G32	SPLASH GUARD SIDE LH
24	17G12	LH SIDE PANEL
25	17G33	FRONT POLY FLOOR HOLD DOWN
26	17G158	POLY FLOOR
27	YBCR12015	CARR. BOLT, 3/8" X 1-1/2" GR. 5
28	17G13	RH SIDE PANEL
29	17G36	SPLASH GUARD SIDE RH
*	17G154	HUB ASSEMBLY COMPLETE
*	17G38	COMPLETE FRAME
*	17G155	WHEEL 7 X 20
*	17G156	TIRE 8.25 X 20

NOTE: * MEANS NOT SHOWN

FIGURE 3

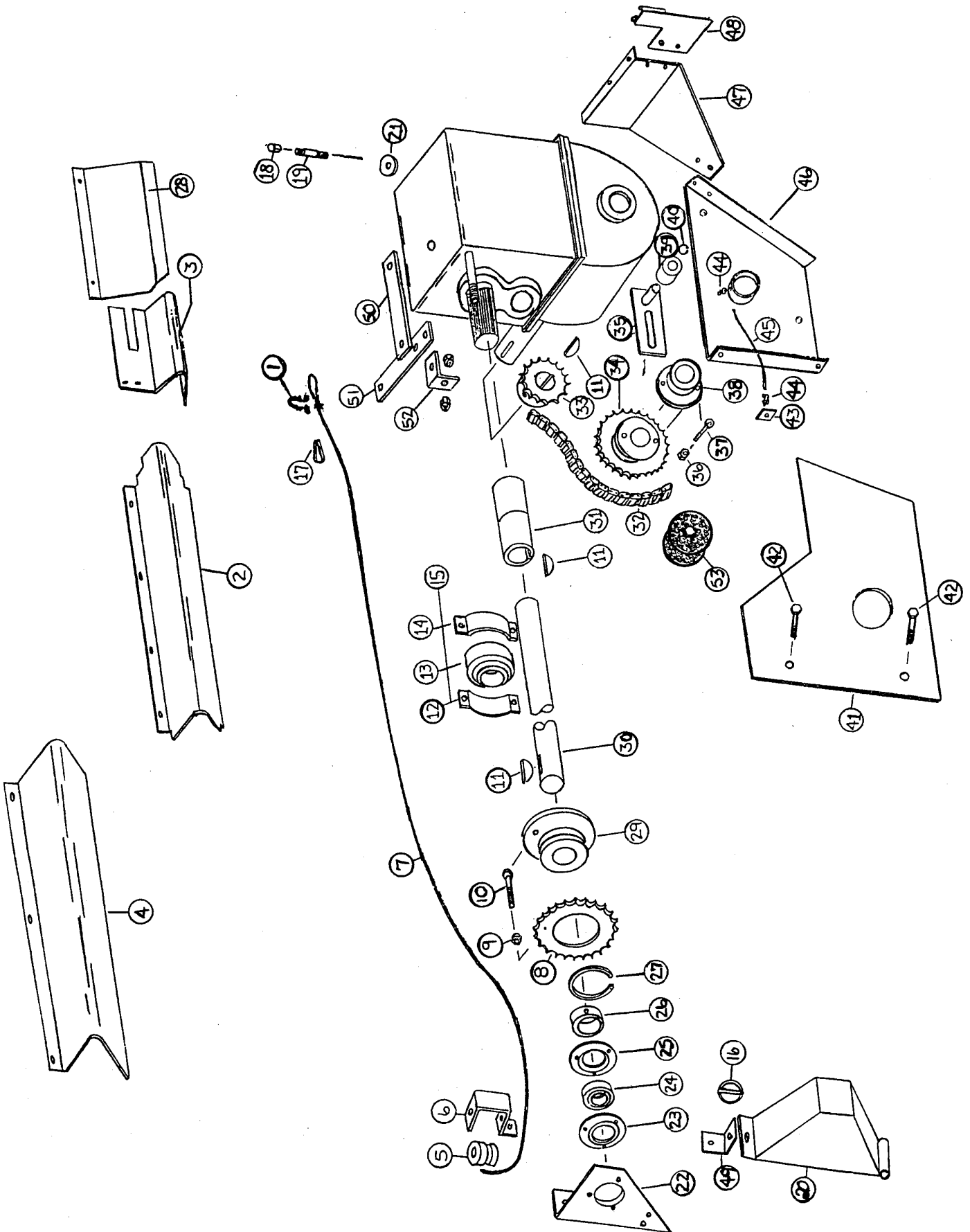


**FIGURE 3
H&S MODEL 175
FRONT SHIELD AND DRIVE ASSEMBLY**

ITEM	PART #	DESCRIPTION
1	F33	CABLE GUIDE
2	YBPU08005	PIPE U BOLT, 1/4"-20 X 3/4" PIPE, 1-1/4" ID, 2-1/4" IL, 1-1/4" THREAD
3	23N183	ROPE
4	23N280	SHIFT LEVER
5	23N281	PIVOT LINK
6	F84	TURNBUCKLE
7	23N282	SHIFTER DOG
8	G89	GREASE ZERK
9	23N283	STOP BRACKET
10	S304	WASHER
11	23N284	SHIFTER DOG SPRING
12	17G172	FRONT PANEL
13	10R14	SPRING
14	17G177	SPRING MOUNT ANGLE
15	S304	WASHER
16	23N297	SPACER
17	ST81	SPACER
18	YBCR12010	CARR. BOLT, 3/8" X 1" GR. 5
19	12N11	JACK
20	12N14	JACK MOUNT
21	12N13	JACK PIN
22	17G45	PTO SHIELD
23	12N29	BEARING
24	5B9	3/8" X 1-1/4" WOODRUFF KEY
25	YPLY08010	LYNCH PIN, 1/4" X 1-1/2"
26	R26	SHIELD BRACKET
27	17G173	FRONT POLY SHIELD
28	17G178	CHAIN
29	17G48	TIGHTENER ROD
30	17G7	PILLOW BLOCK BEARING
31	23N70	25T SPROCKET
32	F73	SNAP RING
33	17G49	#60 CHAIN 116 PITCHES
34	17G50	FRONT SHAFT
35	17G179	FRONT SHAFT PVC GUARD
36	5B10	1/4" X 1" WOODRUFF KEY
37	YPEX10020	EXPANSION PIN, 5/16" X 2-1/4"
38	12N12	HANDLE
39	F44	CABLE LOOP
40	17G174	CABLE
*	12N9	JACK GEAR REPLACEMENT KIT
41	17G157	FRONT SHAFT SHIELD

NOTE: * MEANS NOT SHOWN

FIGURE 4



**FIGURE 4
H&S MODEL 175
BACK SHIELDS AND DRIVE ASSEMBLY**

ITEM	PART #	DESCRIPTION	ITEM	PART #	DESCRIPTION
1	BFR220	CABLE CLAMP	28	17G176	SHIFTER SHIELD
2	17G52	BACK SIDE SHIELD	29	23N190	SHEAR HUB
3	17G175	COUPLER SHIELD	30	17G64	SIDE SHAFT
4	17G54	FRONT SIDE SHIELD	31	17G65	COUPLER
5	F33	SIDE CABLE GUIDE	32	17G66	#60 CHAIN 53 PITCHES
6	17G55	ROPE GUIDE BRACKET	33	17G67	WORM GEAR SPROCKET
7	17G40	CABLE	34	17G68	SHEAR HUB SPROCKET
8	23N191	30T SPROCKET	35	17G69	CHAIN TIGHTENER BRACKET
9	YNTL10005	HEX NUT, TOP LOCK, 5/16"-18	*	17G70	COMPLETE TIGHTENER
10	YBHH10030	BOLT, 5/16" X 1-1/2" GR. 5	36	YNTL10005	HEX NUT, TOP LOCK, 5/16"-18
11	5B9	3/8" X 1-1/4" WOODRUFF KEY	37	YBHH10030	BOLT, 5/16" X 1-1/2" GR. 5
12	12N35	HOLDER	38	17G71	SHEAR HUB
13	12N33	BEARING	39	23N238	CHAIN TIGHTENER ROLLER
14	12N34	BEARING COVER	40	10R32	SNAP RING
15	12N36	COMPLETE BEARING ASSEMBLY	41	17G72	BACK POLY SHIELD
16	YPLY08010	LYNCH PIN, 1/4" X 1-1/2"	42	12V3	5/16" SELF-TAPPING BOLTS
17	F44	CABLE LOOP	43	16V9	GREASE ZERK BLOCK
18	17G58	VENT CAP	44	S47	GREASE LINE FITTING
19	23N288	PIPE NIPPLE	45	17G73	GREASE LINE
20	17G76	SHIELD	46	17G9	LH DRIVE SHAFT MOUNT
21	17G61	WASHER	47	17G74	GEARBOX BRACE
22	17G62	BEARING PLATE	48	17G75	SMV BRACKET
23	F14	BEARING FLANGE	49	23N242	SHIELD ANGLE
24	F115	BEARING (GREASE TYPE)	50	23N289	SHIFTER ROD LEVER FOLCRUM
25	F114A	FLANGE	51	23N290	SHIFTER ROD LEVER
26	F16	LOCK COLLAR	52	23N291	SHIFTER ROD ANGLE
27	23N189	SNAP RING	53	23N258	CHAIN OILER

NOTE: * MEANS NOT SHOWN

FIGURE 5

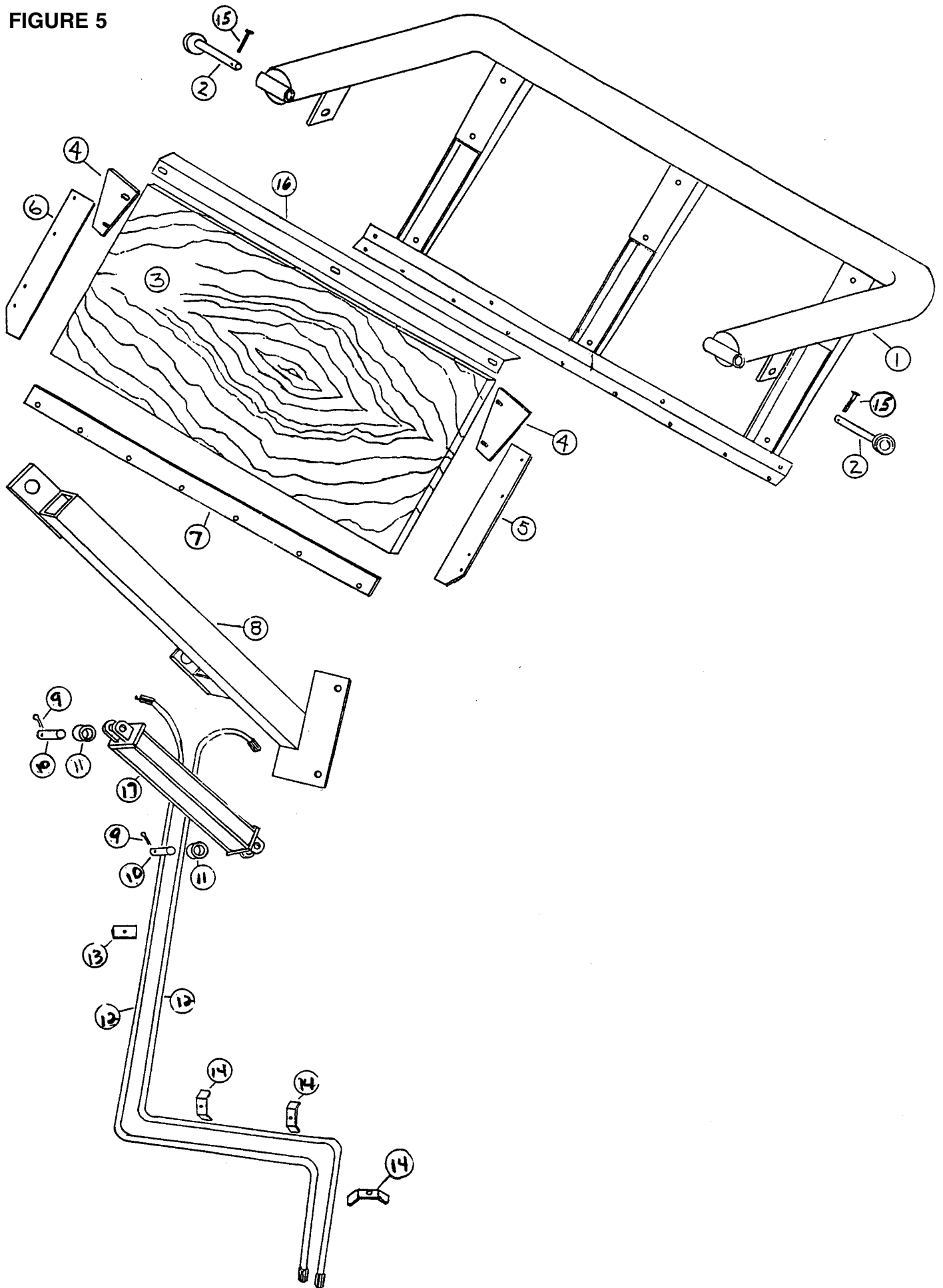


FIGURE 5
H &S MODEL 175
HYDRAULIC TAILGATE

ITEM	PART #	DESCRIPTION
1	17G77	TAILGATE FRAME
2	17G78	TAILGATE PIN
3	17G79	TAILGATE PLYWOOD
4	17G80	TAILGATE CORNER
5	17G81	LH SIDE RUBBER
6	17G82	RH SIDE RUBBER
7	17G83	BOTTOM RUBBER
8	17G84	TAILGATE MOUNTING TUBE
9	YPCT07005	COTTER PIN, 7/32" X 2 "
10	23N107	CYLINDER PIN
11	K132	SPACER
12	23N302	22' HOSE
13	17G87	HOSE BRACKET
14	23N67	HOSE BRACKET
15	YBHH10080	BOLT, 5/16" X 2-1/2" GR. 5
16	17G160	TAILGATE PLYWOOD HOLD DOWN
17	23N111	HYDRAULIC CYLINDER

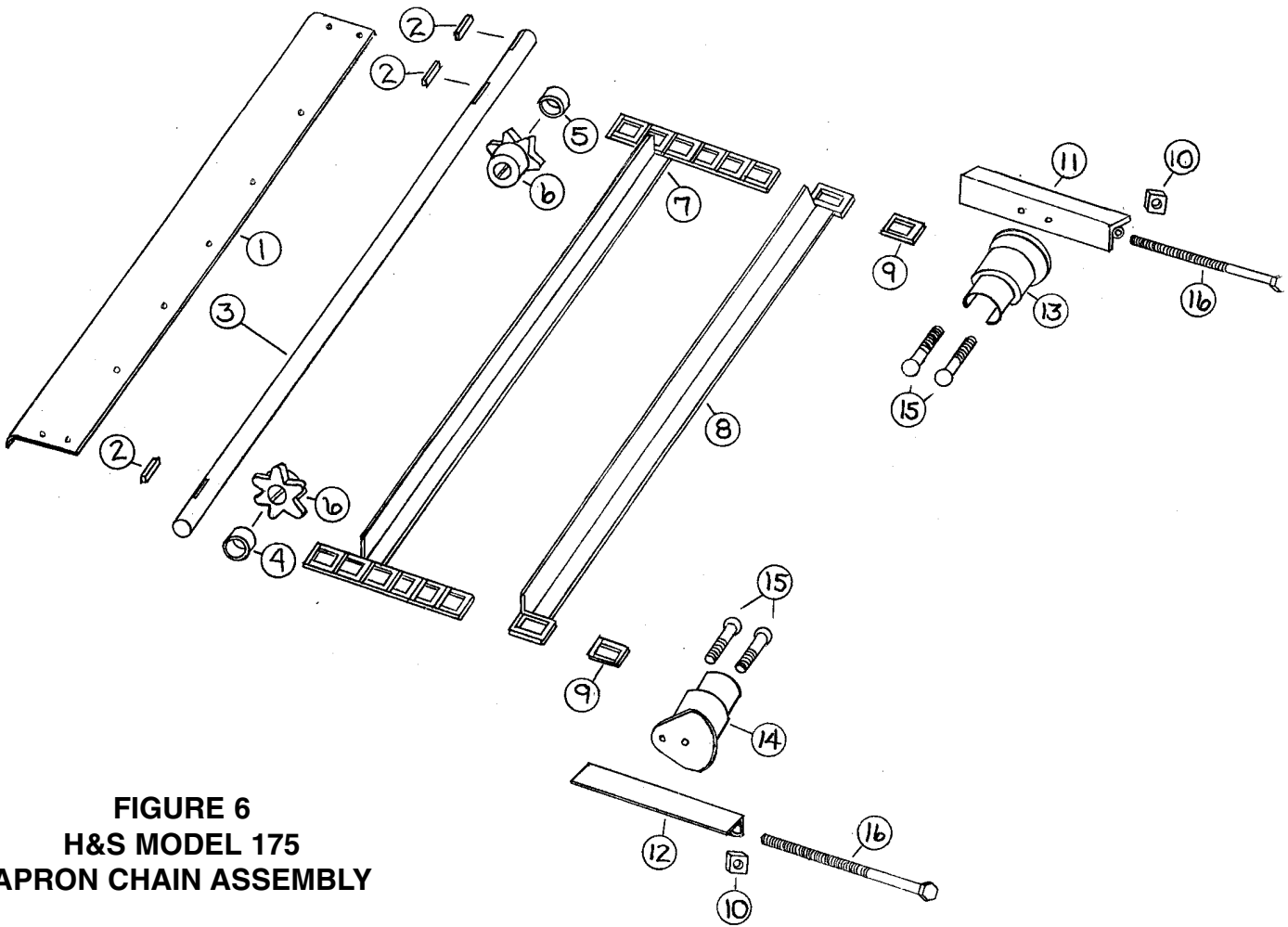


FIGURE 6
H&S MODEL 175
APRON CHAIN ASSEMBLY

ITEM	PART NO.	DESCRIPTION
1.	17G88	Drive Shaft Shield
2.	A32	3/8" x 1-3/8" Sq. Key
3.	17G89	Drive Shaft
4.	17G90	Spacer
5.	17G91	Spacer
6.	23N122	6T Sprocket
7.	17G92	Apron Chain 15 Slats, 188 Links
8.	17G93	Slat w/Att. Links
9.	S55	T-Rod Standard Link
10.	A20	1/2" Sq. Nut
11.	17G94	Chain Slide Angle LH
12.	17G95	Chain Slide Angle RH
13.	17G96	T-Rod Slide LH
14.	17G97	T-Rod Slide RH
15.	17G98	1/2" x 2-1/2" Carriage Bolt GR.5
16.	A7	1/2" x 9-1/2" Bolt

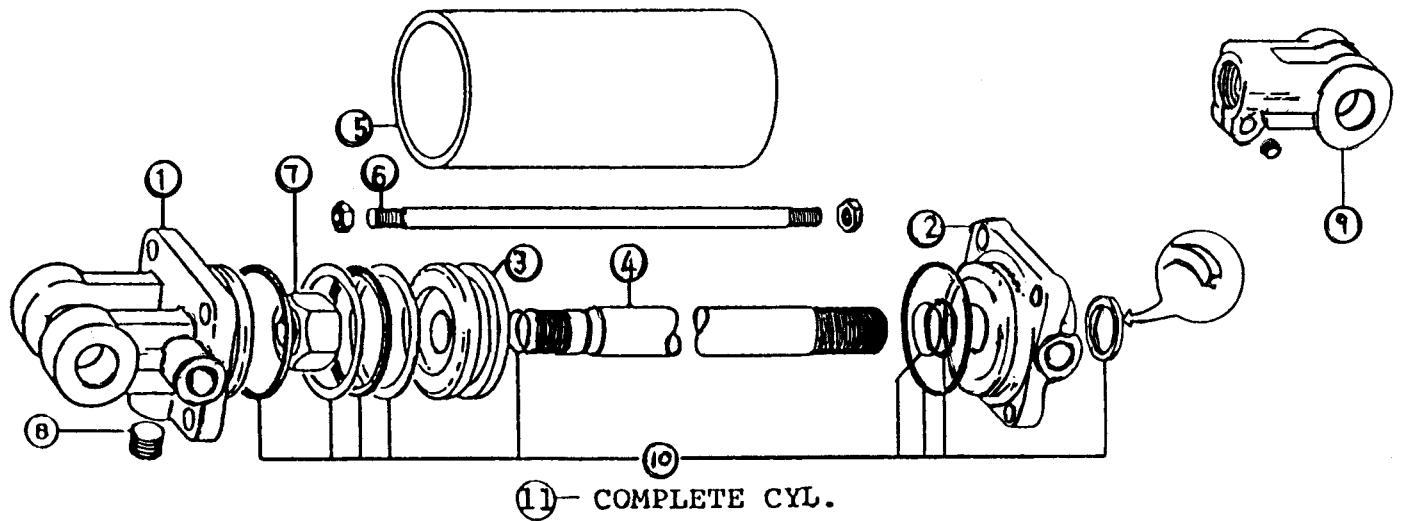
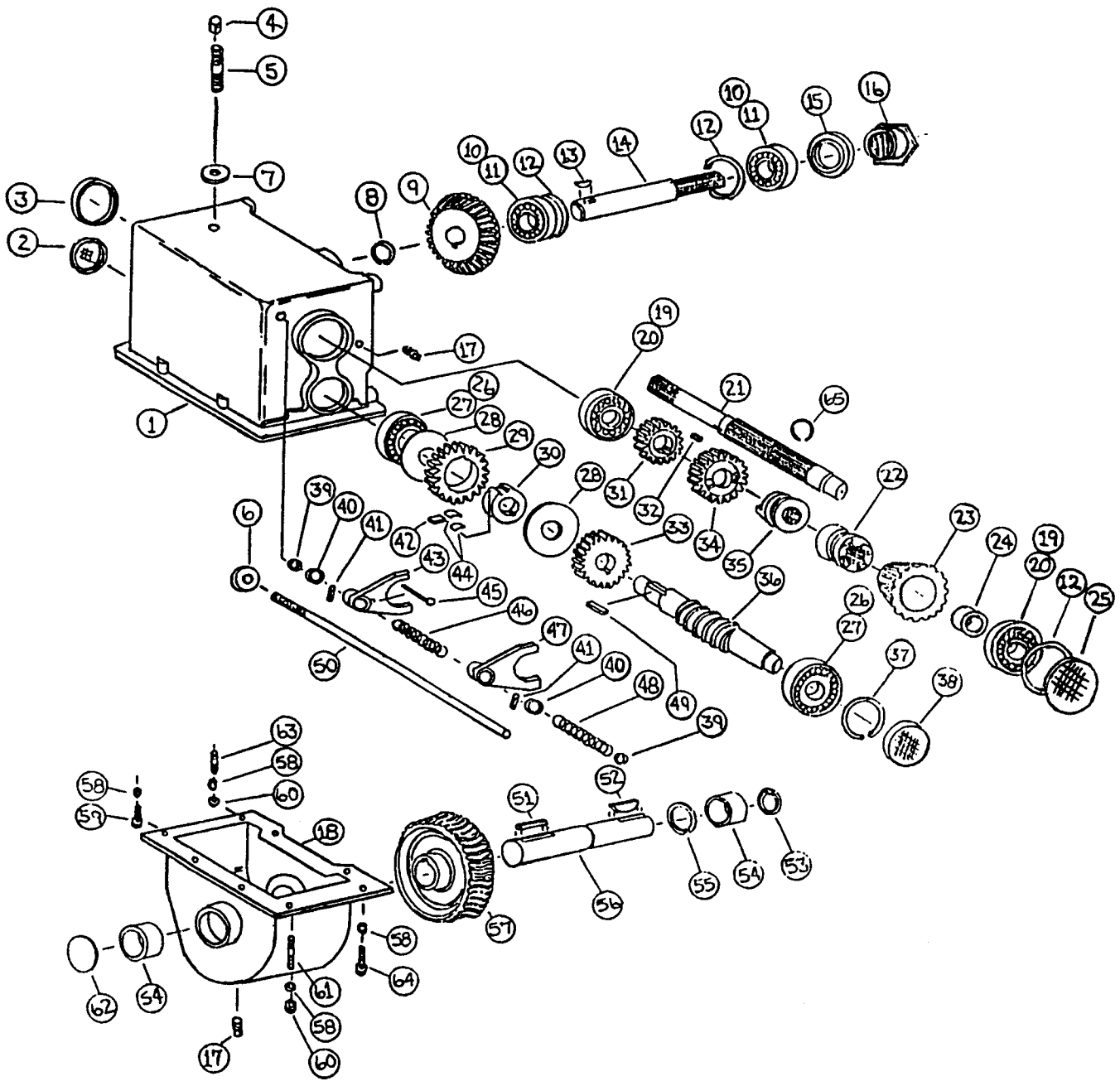


FIGURE 7
H&S MODEL 175
HYDRAULIC CYLINDER

ITEM	PART #	DESCRIPTION
1	23N142A	CLEVIS CAP
2	23N143A	ROD CAP
3	23N144	PISON
4	23N145A	ROD
5	23N146	CYLINDER TUBE
6	23N147	TIE ROD
7	23N148	PISTON NUT
8	23N149	PLUG
9	23N150A	ROD CLEVIS
10	23N151	SEAL KIT
11	23N111A	HYDRAULIC CYLINDER

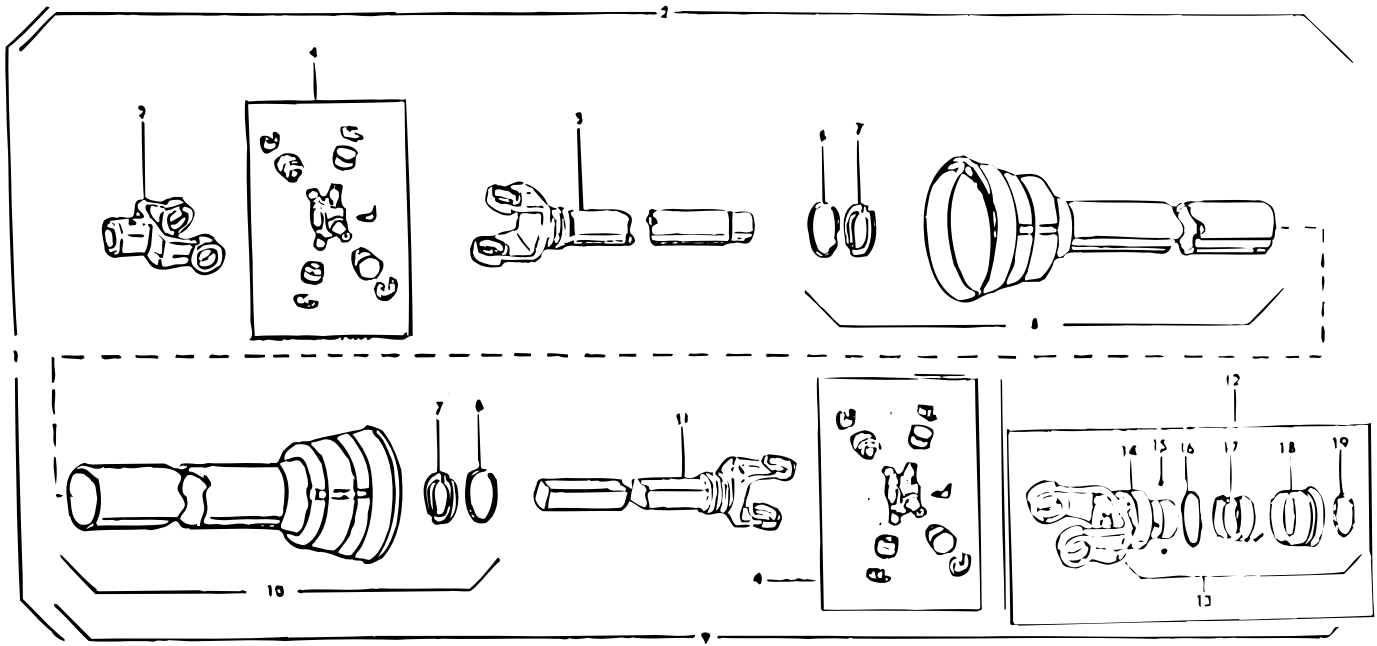
FIGURE 8



**FIGURE 8
H&S MODEL 175
GEARBOX**

ITEM	PART #	DESCRIPTION	ITEM	PART #	DESCRIPTION
1	17G99	UPPER GEAR HOUSING	34	17G118	28T GEAR W/ CLUTCH
2	17G100	CAP	35	17G119	HIGH-SPEED CLUTCH
3	S136	SEAL	36	17G120	WORM SHAFT
4	17G58	VENT CAP	37	3G19	RETAINING RING
5	23N288	PIPE NIPPLE	38	G90	CAP
6	17G171	COLLAR	39	17G121	SEAL
7	17G61	WASHER	40	17G122	SPACER
8	12V62	RETAINING RING	41	17G123	3/16" X 1" ROLL PIN
9	17G101	22T BEVELED GEAR	42	17G124	CLUTCH DOG
10	17G102	RACE 13621	43	17G125	HIGH SPEED SHIFTER YOKE
11	17G103	BEARING 13621	44	17G126	DOG SPRING/LOW SPEED CLUTCH
12	G55	RETAINING RING	45	YBHH08080	BOLT, 1/4" X 3" GR. 2 FULL THREAD
13	G61	3/8" X 1-1/4" HARDENED WOODRUFF KEY	46	17G128	SPRING/BEATER ENGAGE
14	17G104	BEATER OUTPUT SHAFT	47	17G129	BEATER SHIFTER YOKE
15	17G105	SEAL	48	17G130	SPRING/BEATER DISENGAGE
16	17G106	ADJUSTMENT NUT	49	S135	1/4" X 1-1/4" KEY
17	G65	PLUG	50	17G131	SHIFTER ROD
18	17G107	LOWER GEAR HOUSING	51	17G132	5/16" X 2-1/4" KEY
19	G54	RACE 14276	52	5B9	3/8" X 1-1/4" WOODRUFF KEY
20	G18	BEARING 14124	53	17G133	SEAL
21	17G108A	INPUT SHAFT	54	17G134	BUSHING 1-1/2" ID X 1-1/2" LENGTH
22	17G109	BEATER CLUTCH	55	17G135	RETAINING RING
23	17G110	16T BEVELED GEAR W/ CLUTCH	56	17G136	WORM GEAR OUTPUT SHAFT
24	17G111	BUSHING 1-1/2" ID X 1" LENGTH	57	17G137	WORM GEAR
25	G68	CAP	58	YWLO12005	WASHER, LOCK, 3/8"
26	3G18	RACE 15245	59	YBHH12010	BOLT, 3/8" X 1" GR. 5
27	L3G24	BEARING 15113	60	YNHX12005	HEX NUT, 3/8"-16
28	17G112	WASHER	61	17G138	3/8" X 2" STUD
29	17G113	32T GEAR W/ CLUTCH	62	17G139	1-3/4" CAP
30	17G114	GEAR HUB W/ CLUTCH	63	17G140	3/8" X 1-1/2" STUD
31	17G115	20T GEAR	64	YBHH12035	BOLT, 3/8" X 1-1/4" GR. 5
32	17G116	1/4" X 5/8" KEY	65	17G169A	1/8" SNAP RING
33	17G117	24T GEAR	*	17G142	COMPLETE GEARBOX

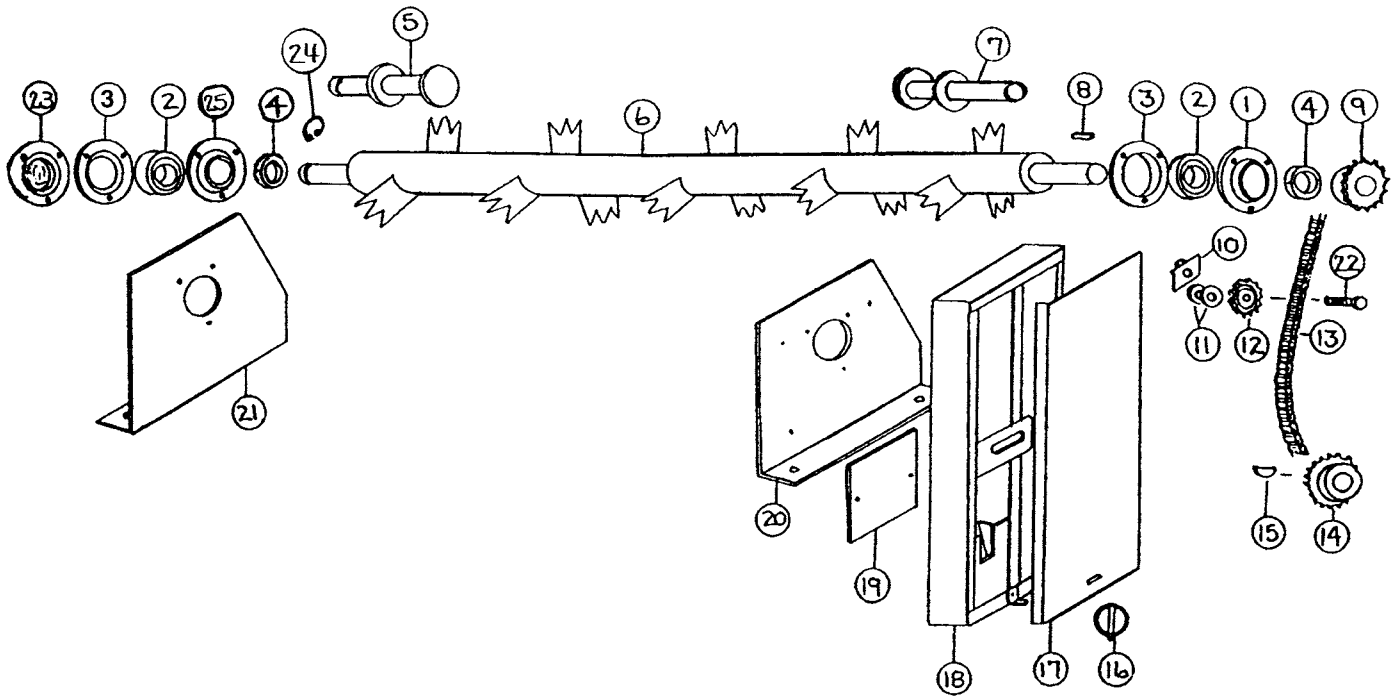
NOTE: * MEANS NOT SHOWN



**FIGURE 9
H&S MODEL 175
PTO ASSEMBLY**

ITEM	PART #	DESCRIPTION
1	23N152	PTO ASSEMBLY COMPLETE W/ SHIELDS
2	23N153	MACHINE HALF PTO W/ SHIELD
3	G1R35	END YOKE MACHINE HALF
4	14NW KIT	REPAIR KIT
5	23N155	YOKE AND TUBE
6	24N26	BEARING RETAINER
7	4N20	NYLON BEARING
8	23N156	INNER GUARD INCLUDING ITEM #6 & #7
9	23N157	TRACTOR HALF PTO W/ SHIELD
10	23N158	OUTER GUARD INCLUDING #6 & #7
11	23N159	YOKE AND SHAFT
12	23N162	LOCK YOKE ASSEMBLY
13	S225	SPRING LOCK REPAIR KIT
14	S226	COVER
15	S212	STAINLESS BALL
16	S227	WASHER
17	S228	SPRING LOCK REPAIR KIT
18	S229	COLLAR ASSEMBLY
19	S215	RETAINING RING
*	S402	PTO SAFETY MANUAL

NOTE: * MEANS NOT SHOWN



**FIGURE 10
H&S MODEL 175
OPTIONAL TOP BEATER**

ITEM	PART #	DESCRIPTION
1	F114A	BEARING FLANGE W/ ZERK 45 DEGREE
2	F115	BEARING
3	F14	BEARING FLANGE
4	F16	LOCK COLLAR
5	23N164	LH STUB SHAFT
6	17G180	2ND BEATER
7	17G186	RH STUB SHAFT
8	G23	5/16" X 1-3/8" SQUARE KEY
9	D18	16T SPROCKET
10	22G34	NUT BRACKET
11	YWFL16005	WASHER, FLAT, 1/2" USS
12	12N42	IDLER SPROCKET
13	22G35	#60 CHAIN 80 PITCHES
14	F13	20T SPROCKET (60B20)
15	5B9	3/8" X 1-1/4" WOODRUFF KEY
16	YPLY08010	LYNCH PIN, 1/4" X 1-1/2"
17	22G36	COVER
18	17G181	SHIELD
19	22G38	SHIELD
20	17G182	RH PANEL
21	17G183	LH PANEL
22	YBHH16080	BOLT, 1/2" X 2-1/2" GR. 5
23	23N308	BEARING FLANGE GUARD
24	F73	SNAP RING
25	F114	FLANGE W/ STRAIGHT ZERK

H&S MODEL 175 MANURE SPREADER

Your new H&S spreader 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 spreader before reading this manual carefully. Keep this manual available for ready reference.

SPECIFICATIONS

MODEL NO.

Top Flare Width	63-1/2"
Inside Width	54"
Inside Length	11'-1"
Inside Depth	25-3/4"
Overall Width W/9:00 x 20 Tires	86-1/2"
Overall Length	17'-8"
Overall Loading Height (Top of Flare)	47-1/2"
Overall Height W/Hyd. Endgate	51"
Diameter of Beater	27"
Weight W/9:00 x 20 Tires	2030 Lbs.
Capacity (Old Rating)	175 Bu.
Capacity - Cu. Ft. Struck Level	105
Rear Hydraulic Endgate	Optional
Semi Liquid Rear Pan	Optional
Upper Beater	Optional
Drive	Two Speed Gearbox
Variable Speed Hydraulic Drive	Not Available
Front Splash Panel	Standard
PTO Speed	540 RPM

NOTE

Determine right or left side of spreader by viewing it from the rear. If instructions or parts lists call for hardened bolts, they are identified with three lines or marks on the head.

H&S MANUFACTURING CO. INC.

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



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

H&S MFG. CO.

products approved

for the

FEMA

SEAL OF QUALITY

