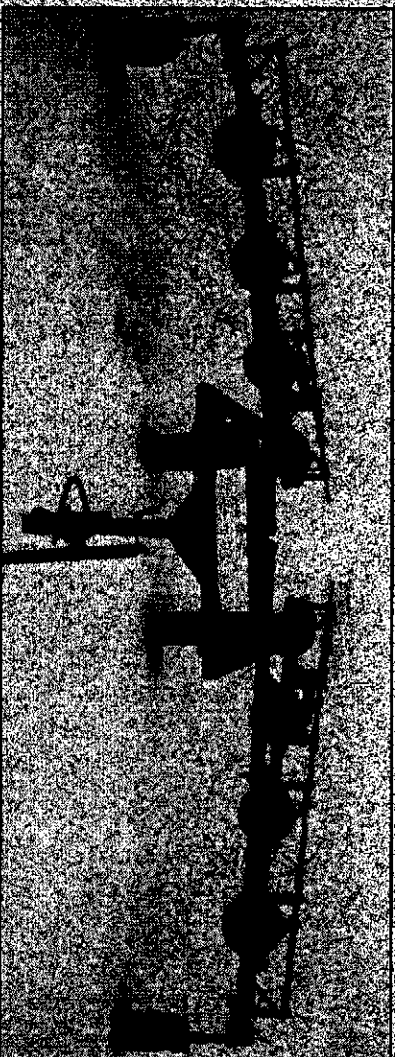


H&S

EIGHT WHEEL BI-FOLD RAKE



⚠ 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 & PARTS LIST

10-4-01

Manufactured by

H&S MANUFACTURING CO., INC.

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

MARSHFIELD, WISCONSIN 54449

H&S BI-FOLD RAKE

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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 limited labor, two years parts. 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 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.

WARRANTY REGISTRATION

Date of Purchase _____
Purchaser _____ Address _____
City _____ State _____ Zip _____
Product _____ Model # _____ Serial # _____
Dealer _____ Address _____
City _____ State _____ Zip _____

FILL OUT AND MAIL
IMMEDIATELY TO MAKE
WARRANTY EFFECTIVE

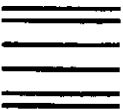


Signature of original buyer

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



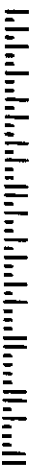
BUSINESS REPLY MAIL

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

- All grease fittings have been lubricated - see lubrication guide in this manual.
- All mechanisms are operating trouble free.
- Rake wheels touch ground in unison when lowered into raking position.
(rake sitting level)
- All bolts and fasteners are tight.
- All decals are in place and legible.

(Dealer's Name)

Model Number

(Signature of Pre-Delivery Inspector)

(Inspection Date)

Serial Number

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 Bi-Fold Rake 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 raking and windrow width adjustments.
- Explain to customer that regular lubrication is required for proper operation and long life of machine. Show customer the lubrication section of this Manual.
- Give the customer Owner's Manual and make sure he reads and understands all operating and service instructions.
- Record Serial Number on Page 15 of this Manual.
- Have customer sign a completed "Warranty Registration," and mail it promptly.

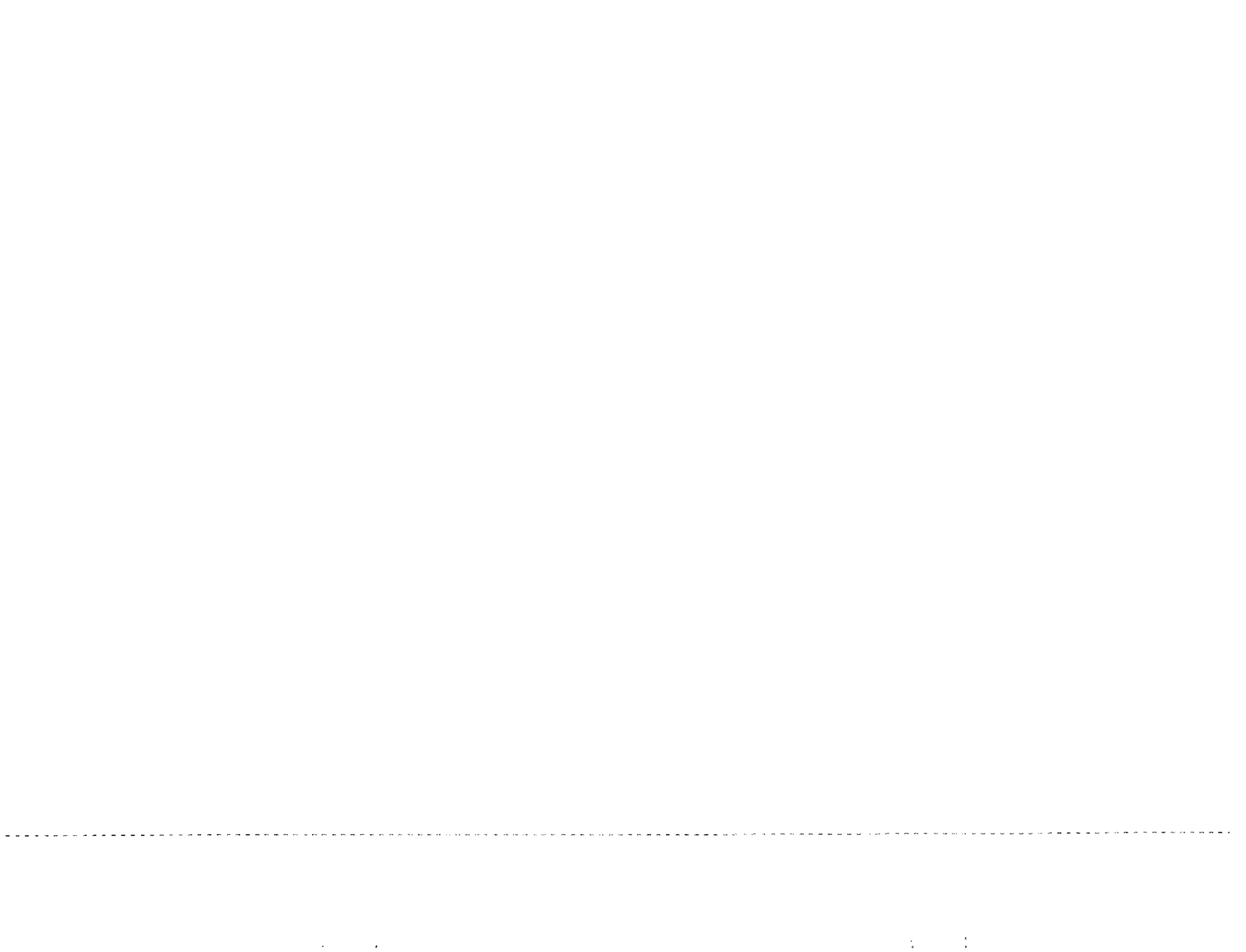
Date Delivered _____

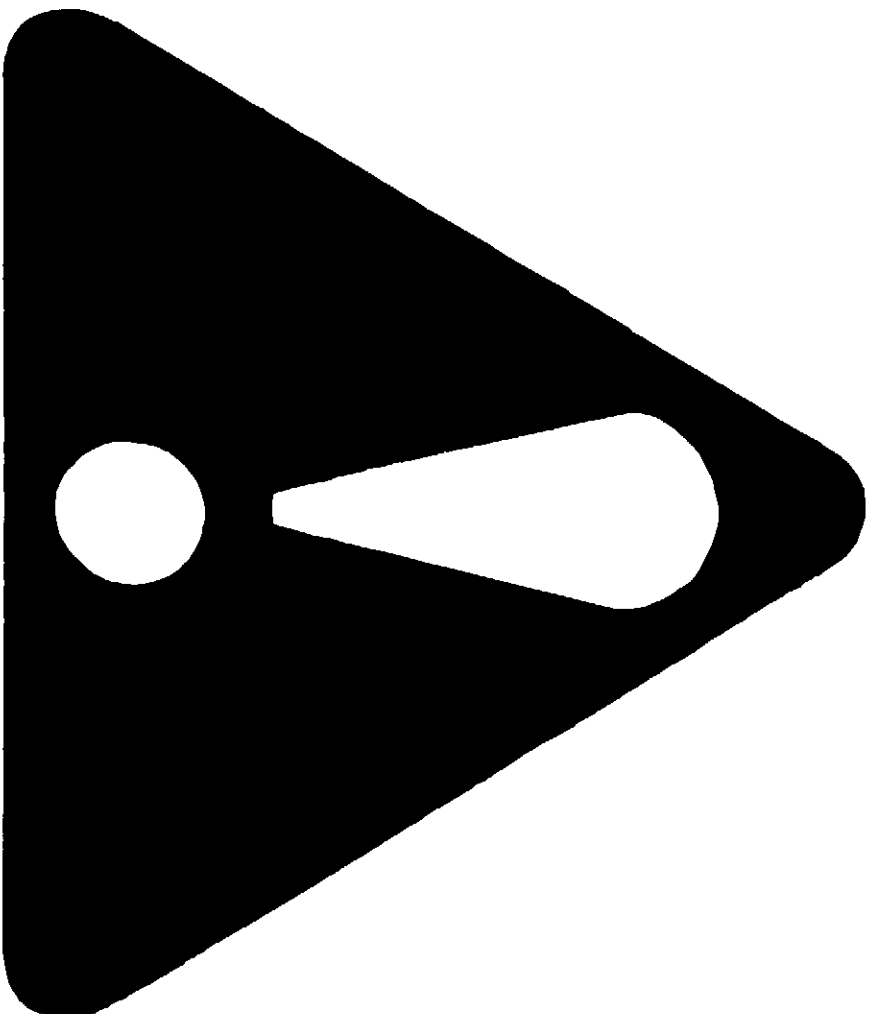
Dealer's Name _____

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

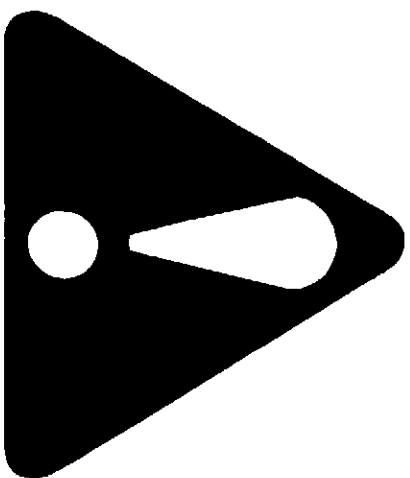
This operator's manual uses the term "Tractor" when identifying the power source for towing and lifting Rake.

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



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.

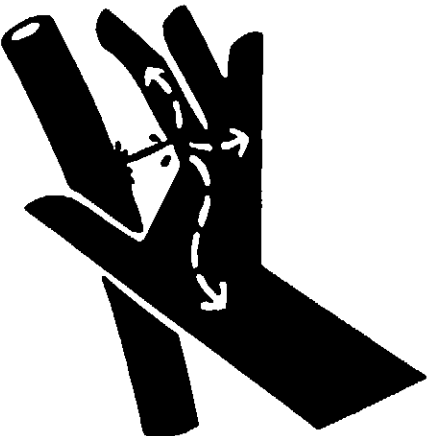
Keep signs in good condition. Immediately replace any missing or damaged signs.

⚠ WARNING

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



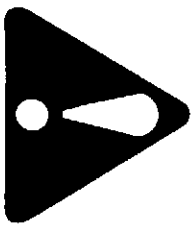
⚠ WARNING

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

H&S BI-FOLD RAKE



WARNING

TO AVOID SERIOUS INJURY OR DEATH

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

DO NOT attempt to perform maintenance or repair with tractor running.

DO NOT step up on machine at any time.

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

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

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

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

STAY CLEAR of hydraulic lines and fittings, they may be under extreme pressure or heat. Stay clear of rake when raising or lowering rake wheels.

Always make sure pins (BFRR26) holding Bi-Fold arms in transport position are securely locked in place.

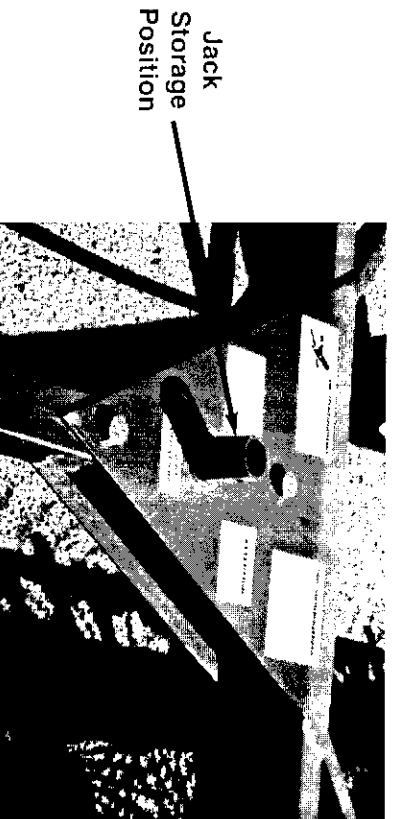
H&S Mfg. Co. always takes the operator and his safety into consideration and guards exposed moving parts for his protection. However, some areas cannot be guarded or shielded in order to assure proper operation. In addition, the operators manual and decals on the machine itself warn you of further danger 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.
3. Adjust tractor hitch (13 to 17 inches above ground) and attach rake to tractor with a hitch pin that cannot bounce out.
4. Remove weight from lift jack. Remove jack from pipe mount and place on convenient storage mount located on hitch gusset near main frame of rake.
5. Connect hydraulic hose from rake to single or double acting valve on the tractor.
6. Lubricate the machine completely.
7. On all rake wheels, tooth bolts must be torqued to 40 ft. lbs. to help prevent excessive tooth breakage. Re-torque rake tooth bolts after the first 100 acres. (Part No. T175) Check periodically thereafter.



ADJUSTMENTS

HITCH

There are ten different positions to adjust the hitch on your new Bi-Fold Rake.

Adjustment of individual rake wheels should not have to be changed as these are preset at the factory.

Adjust hitch so main frame of rake is approximately two inches lower than width adjustment tube when rake is opened to raking position. This clearance is necessary to allow main frame to vary in height when road wheel passes over an obstacle without affecting ground contact of rake wheels.

TRANSPORT LOCK

Located at the front of each bank of rake wheels on the lift tube is the transport lock pin. This pin should be in the transport hole (A) when rake is not being used or is being transported. This will ensure rake wheels will not drop or lower during transport.

When you are ready to rake, completely raise rake wheels with hydraulic cylinders. Remove lock pin from transport hole and place in convenient storage hole (C) at the end of lift tube. Open rake to desired raking width and lower wheels until cylinders are completely collapsed. Rake wheels will now be on the ground and you are ready to rake. In this position, rake wheels have the widest floatation range both up and down for raking on hilly or uneven ground. On flat level ground, you may experience excess ground pressure on the rake wheels. This pressure can be eliminated by placing lock pin in the second hole (B) from end of lift pipe. In this position downward movement of rake wheels is lessened.

Raking with one side only can be accomplished by leaving opposite side of rake in transport position. Width adjustment pin must be in transport position so rake cannot unfold. Transport lock pin must be in transport hold so rake wheels cannot lower.

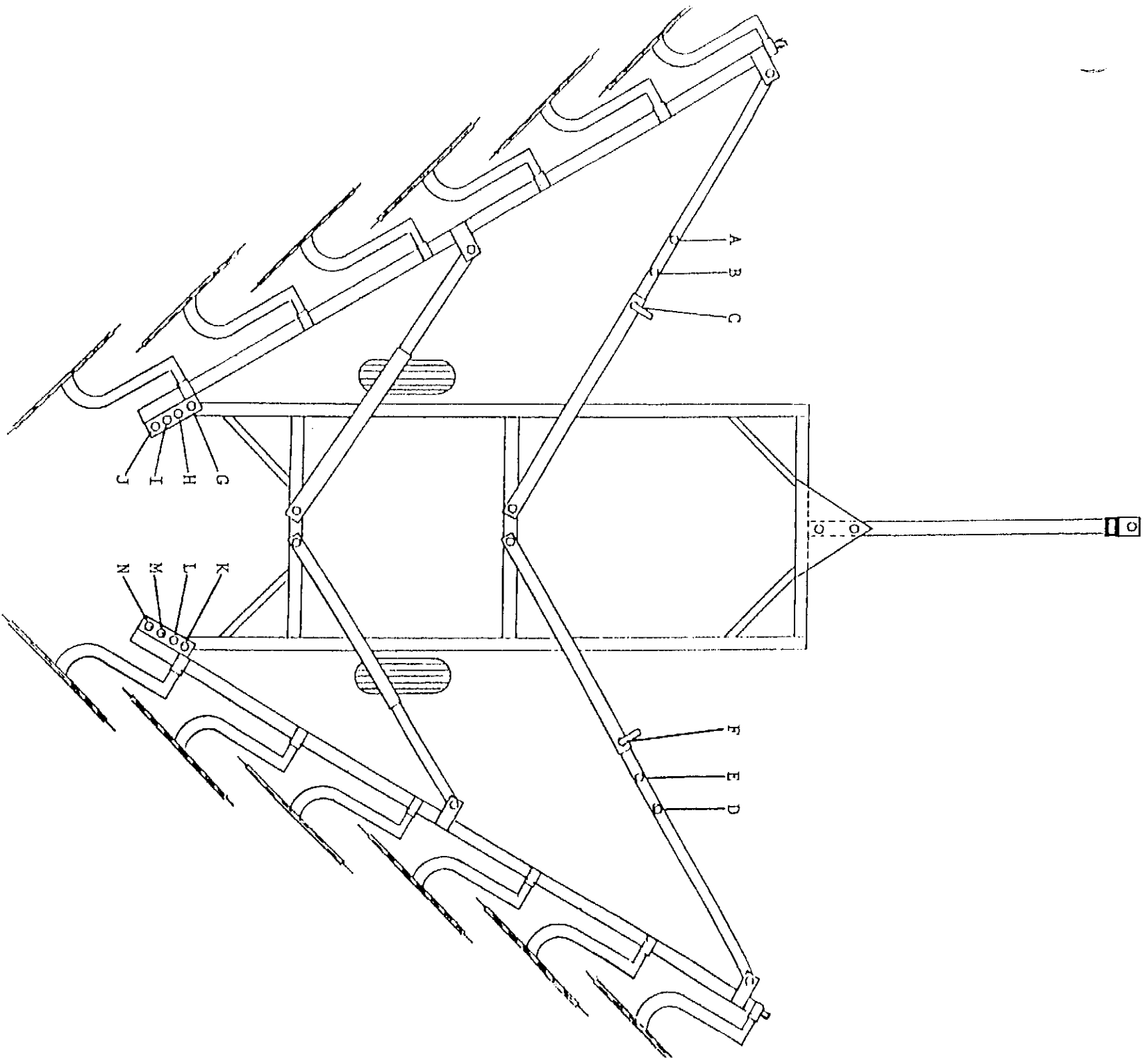


RAKING AND WINDROW WIDTHS

Listed below are numerous raking and windrow widths at which your Bi-Fold Rake can be set. These widths are only a guide, as type, density, and length of hay and heights of stubble will cause these measurements to vary. In heavy dense hay, windrow width will be approximately the width listed in the chart below. In lighter hay windrow widths can vary up to approximately twelve inches narrower than listed. The widths listed below are measured from the point at which the rake wheel teeth strike the ground.

Use the illustration on the opposite page for reference.

Position of Rear Holes Left Side	Position of Rear Holes Right Side	Position of Front Holes Left Side	Position of Front Holes Right Side	Raking Width	Windrow Width
J	N	A	D	11'6"	75"
		A	E	12'8"	72"
		A	F	13'10"	69"
		B	E	13'10"	66"
		B	F	15'	64"
		C	F	16'2"	58"
J	M	A	D	11'10"	70"
		A	E	13'2"	68"
		A	F	14'2"	64"
		B	E	14'2"	64"
		B	E	14'2"	64"
		B	F	15'3"	62"
		C	F	16'4"	58"
		A	D	12'4"	70"
		A	E	13'6"	67"
J	L	A	E	13'8"	62"
		B	D	14'8"	58"
		C	E	14'7"	60"
		C	D	15'7"	57"
		A	D	12'8"	68"
		B	D	13'10"	64"
		C	D	14'10"	60"
		B	E	14'10"	58"
		A	D	12'8"	72"
I	M	A	D	13'9"	65"
		A	E	14'10"	60"
		A	F	15'10"	54"
		B	F	16'8"	51"
		C	F	12'8"	68"
		A	D	13'10"	65"
I	L	A	E	14'10"	59"
		B	E	14'6"	60"
		C	D	15'8"	56"
		C	E	12'11"	63"
		A	D	14'1"	60"
		B	D	15'	55"
H	L	A	D	13'	66"
		A	E	14'	62"
		B	E	15'	58"
H	K	A	D	13'4"	57"
		A	D	14'3"	52"
		B	D	13'6"	59"
G	K	A	D		



GAUGE WHEELS

Outboard gauge wheels are standard equipment on the eight wheel and twelve wheel Bi-Fold Rake. These wheels assist in supporting the rake wheel beams and allow the rake wheels to better follow the contour of the ground when operating on rough or sloping ground. Adjust hitch so main frame of rake is approximately two inches lower than width adjustment tube when rake is opened to raking position. This clearance is necessary to allow main frame to vary in height when road wheel passes over an obstacle without affecting ground contact of rake wheels.

Gauge wheels must be tilted up on their mounting brackets for transport. This eliminates undue stress on gauge wheels and rake arm beams when moving through ditches, etc.

GAUGE WHEEL BRAKE

Located at the top of the gauge wheel pivot spindle is an adjustable brake. Adjust brake by tightening bolt (A). Brake should have enough tension to prevent zig zag motion at raking speeds, but still allow wheel to pivot when making corners.

OPTIONAL EQUIPMENT

CENTER KICKER WHEEL

An optional center kicker wheel is available for the Bi-Fold Rake. If hay is laying out flat, this extra wheel allows you to raise the hay laying in the center of the rake out of stubble for easier baler pick up. Controlled with a hydraulic cylinder, the kicker wheel will raise when hydraulics are activated to raise left and right hand banks of rake wheels.



Working position



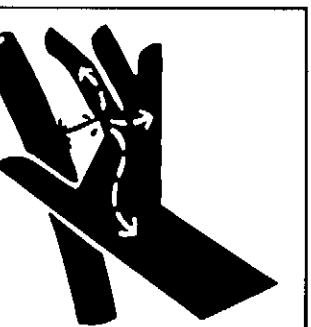
Transport Position



Working Position



2" Clearance



!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.



Transport Position

LUBRICATION GUIDE

GREASE FITTINGS

There are twelve grease fittings on your H&S Bi-Fold Rake. Thirteen fittings if equipped with optional center kicker wheel. If these are lubricated properly and often enough it will prolong the life of the Bi-Fold Rake. Grease daily during normal use and before and after storage. Use a good grade of high quality grease. Make sure grease comes out around the shaft on the sleeve type bearings. Wipe off excess grease to prevent accumulation of chaff or grit around the bearings.

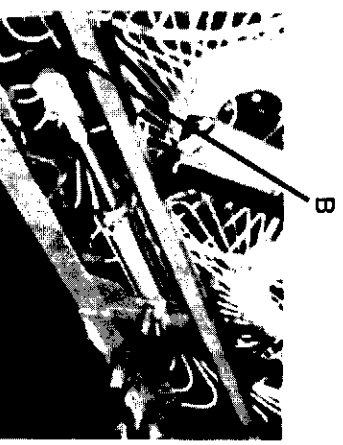
LOCATION

Listed and shown below are the description and location of the grease fittings.

- A. (8) one on each rake wheel arm
- B. (2) one on each hydraulic lift bracket
- C. (2) one on each gauge wheel swivel point

(OPTIONS)

- D. one on center kicker wheel pivot



H&S BI-FOLD RAKE DECAL LOCATION

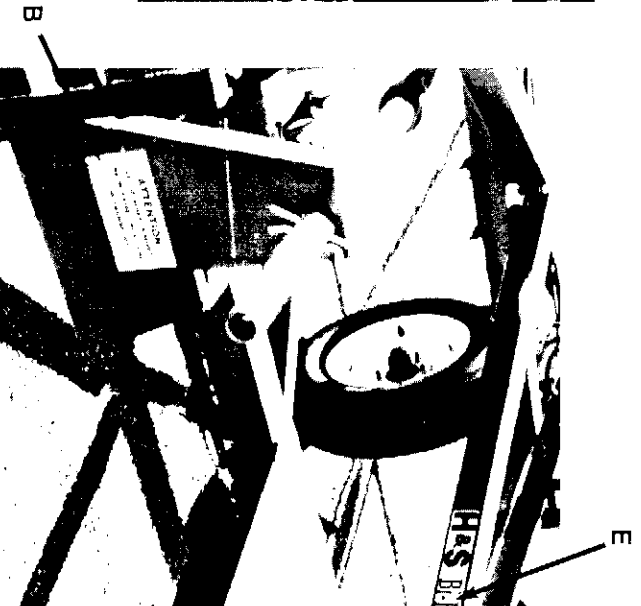
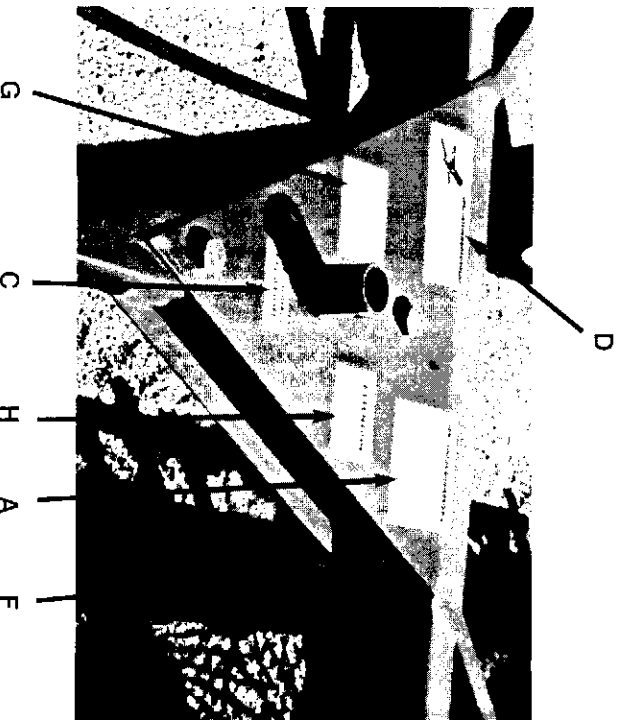
Your H&S Bi-Fold Rake was manufactured with operator safety in mind. Located on the Bi-Fold Rake are various decals to aid in operation, and warn of danger or caution areas. Pay close attention to all decals.



DO NOT REMOVE ANY OF THESE DECALS. IF DECALS ARE LOST, DAMAGED, OR IF YOUR BI-FOLD RAKE IS REPAINTED, REPLACE ALL DECALS. REMEMBER: DECALS ARE FOR YOUR PROTECTION AND INFORMATION.

Listed below are the decals on your H&S Bi-Fold Rake. These decals may be ordered by part number, or by ordering a complete set.

ITEM	PART NO.	DESCRIPTION
A	5896A	Warning - Help Avoid Injury
B	11591	Attention: Gauge Wheels (2)
C	7188B	Jack Position
D	11599	Warning - Do Not Go Near Leaks
E		H&S Bi-Fold Rake (4)
F		Model - Serial Number
G	BFR	Patent Numbers
H	12197A	Attention: Raise Rake Wheels
I	112699	(2) Red Reflectors Complete Set of Decals



INSTRUCTIONS FOR ORDERING PARTS

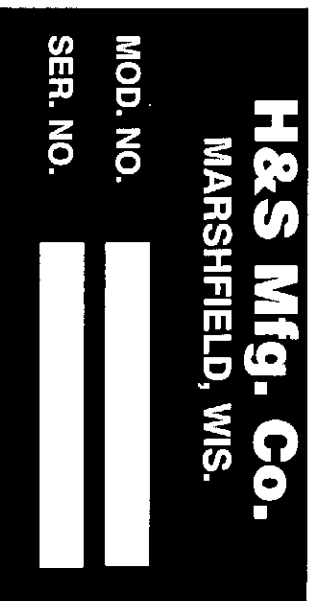
All service parts should be ordered through your authorized H&S dealer. He will be able to give you faster service if you will provide him with the following.

1. Model - H&S Bi-Fold Rake
Serial Number - Serial number is located on the front main frame cross tubing left side of hitch.
2. Complete parts number and description, as shown in parts lists.
3. 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)

VIA Parcel Post



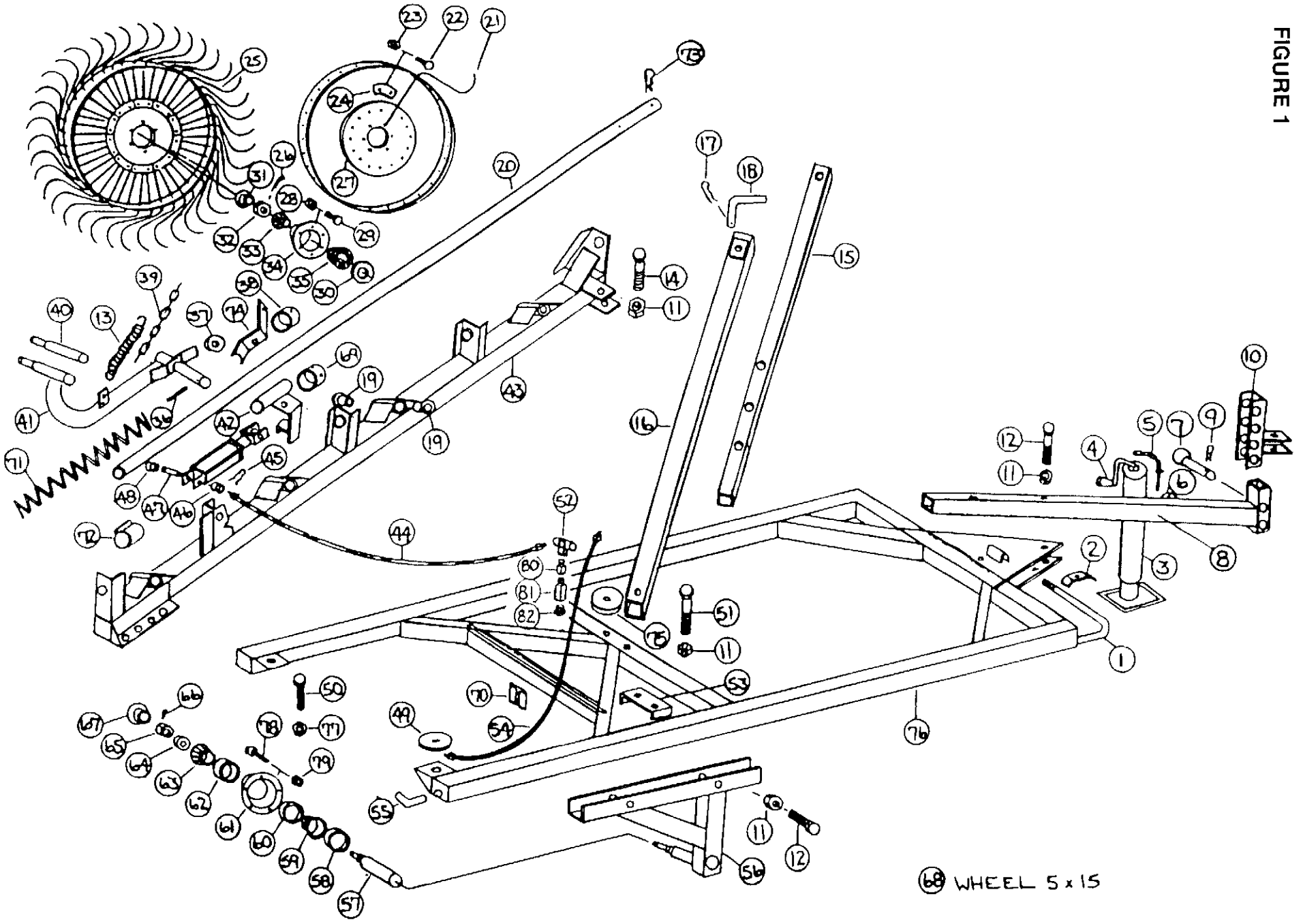
PLEASE RECORD NUMBERS FOR YOUR UNIT FOR QUICK REFERENCE

ABOUT IMPROVEMENTS

H&S MFG. CO. 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.

FIGURE 1



68 WHEEL 5 x 15

FIGURE 1
8 WHEEL BI-FOLD RAKE ASSEMBLY

NO.	PART NO.	DESCRIPTION	NO.	PART NO.	DESCRIPTION
1.	BFR86	Hyd. Pipe	43.	BFR289	Rake Beam LH
2.	23N67	Hose Clamp	*	BFR290	Rake Beam RH
3.	BFR2	Clamp	44.	BFR46	Hyd. Hose
4.	BFR3	Jack Handle	45.	T144	Clip Pin
5.	BFR4	Jack Pin & Chain	46.	BFR47	Spacer
6.	12N14	Jack Mount	47.	T143	Hydraulic Cylinder Pin
7.	BFR5	Hitch Pin	48.	BFR47	Spacer
8.	BFR6	Pole	49.	BFR48	Poly Washer
9.	BFR7	Hair Pin	50.	HE8	3/4" x 2-1/4" Bolt Gr. 5
10.	BFR129	Hitch	51.	BFR107	3/4" x 8" Bolt Gr. 5
11.	HE7	Lock Nut	52.	BFR74	Tee
12.	HE6	3/4" x 4-1/2" Bolt Gr. 5	53.	BFR51	Pivot Point Plate
13.	BFR138	Spring	54.	BFR53	Hyd. Hose
14.	BFR23	3/4" x 4" Bolt Gr. 5	55.	HE59	3/8" Elbow
15.	BFR87	Inner Sleeve	56.	BFR148	RH Axle Assembly
16.	BFR88	Outer Sleeve	*	BFR149	LH Axle Assembly
17.	ES7	Hair Pin	57.	BFR56	Spindle
18.	BFR26	Pin	58.	BFR57	Seal
19.	BFR27	Bronze Bushing	59.	BFR58	Inner Bearing
20.	BFR145	Lifting Pipe	60.	BFR59	Inner Race
21.	T176	Rake Wheel Tooth	61.	BFR60	Hub
22.	T175	10mm x 25mm Carr. Bolt	62.	BFR61	Outer Race
23.	T166	10mm Nut	63.	BFR62	Outer Bearing
24.	T178	Rake Tooth Clip	64.	BFR63	Washer
25.	T174	LH Rake Wheel or Kicker	65.	BFR64	Nut
*	BFR31	RH Rake Wheel	66.	BFR65	Cotter Pin
26.	T169	Cotter Pin	67.	BFR66	Hub Cap
27.	T179	Rake Wheel Center	68.	BFR67	Wheel 5 x 15
28.	T166	10mm Nut	69.	BFR83	Hyd. Lift Clamp
29.	T168	10mm x 25mm Bolt	70.	F97	SMV Holder
30.	T163	Seal	71.	BFR84	Compression Spring
31.	T173	Hub Cap	72.	BFR34	Pipe Clamp
32.	T172	Nut	73.	BFR137	Hair Pin
33.	T170	Outer Bearing	74.	BFR136	Spring Bracket
*	T171	Outer Race	75.	BFR108	Sleeve Pivot Washer
34.	BFR32	Rake Wheel Hub	76.	BFR150	Main Frame
35.	T164	Inner Bearing	77.	BFR127	3/4" Nylon Lock Nut
*	T165	Inner Race	78.	BFR143	Stud Bolt
36.	3G22	Roll Pin	79.	BFR144	Nut
37.	BFR33	Washer	80.	BFR555	Adapter
38.	BFR82	Pipe Clamp	81.	BFR554	Flow Valve
39.	BFR140	Chain	82.	JB82	Bushing 1/2" to 3/8"
40.	BFR36	Rake Wheel Spindle	*	BFR154	RH Outer Sleeve
41.	BFR37A	Rake Arm LH	*	BFR75	Hub Assembly Road Wheel
*	BFR38A	Rake Arm RH	*	BFR76	Hub Assembly Rake Wheel
42.	BFR39	Hyd. Lift Bracket LH	*	BFR128	Tire 205 x 15
*	BFR40	Hyd. Lift Bracket RH			

NOTE: * Means Not Shown

FIGURE 2

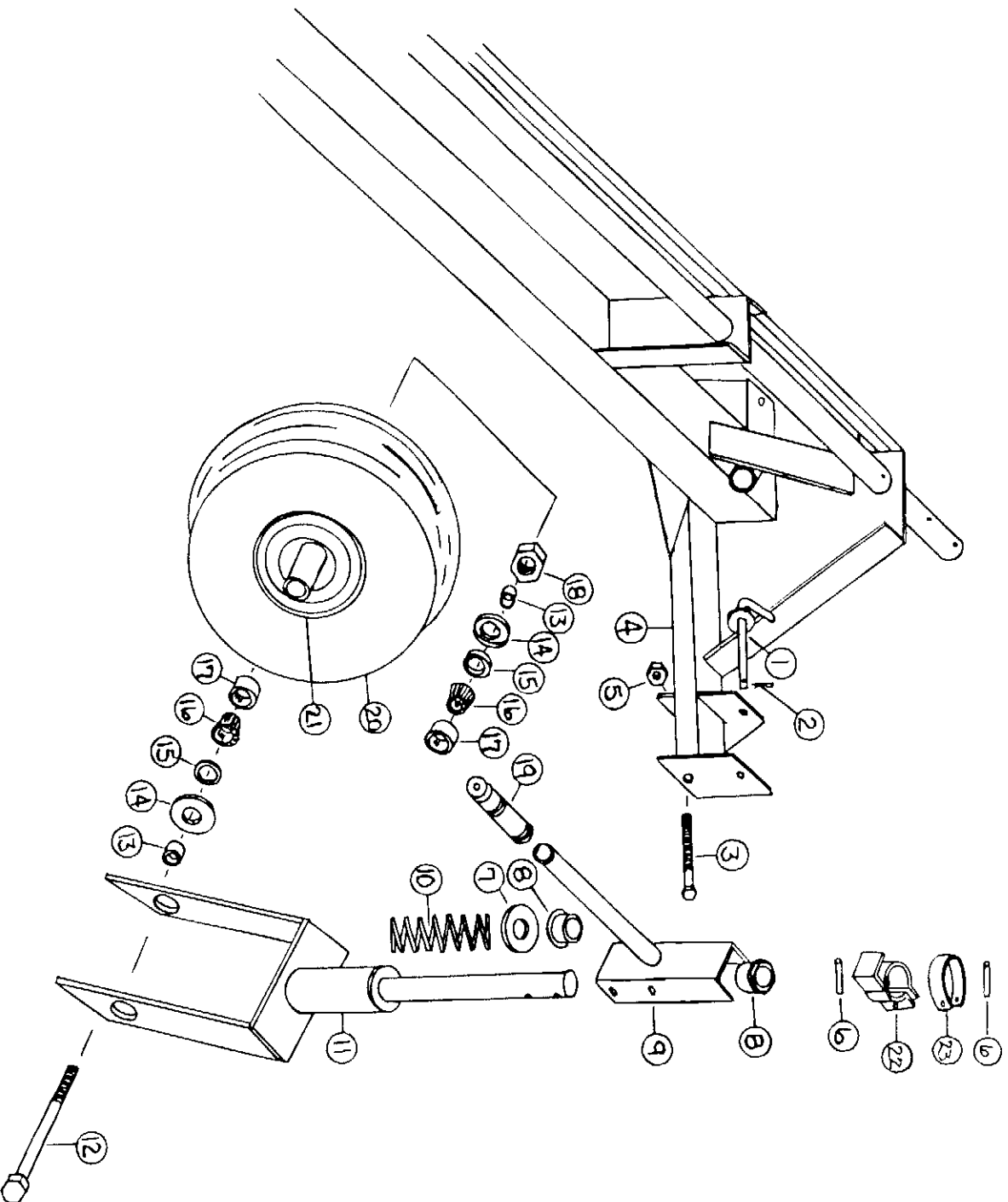
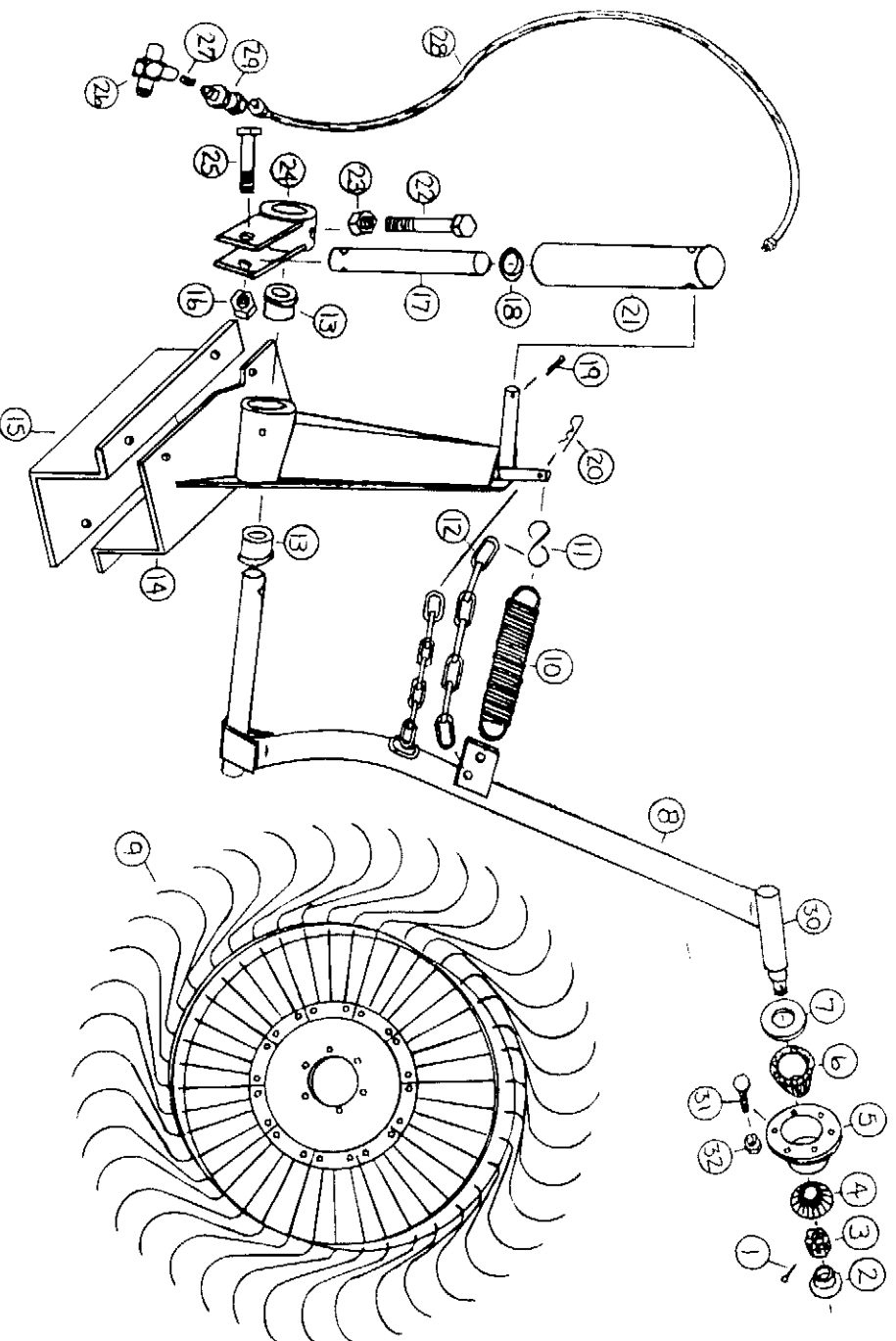


FIGURE 2
BI-FOLD CASTER WHEEL

NO.	PART NO.	DESCRIPTION
1.	BFR197	Caster Locking Pin
2.	ES7	Hair Pin
3.	BFR133	Bolt 5/8 - 11 x 4" Gr. 5
4.	BFR151	RH Gauge Bracket
*	BFR152	LH Gauge Bracket
5.	T60	Lock Nut 5/8"
6.	BFR335	Roll Pin 5/16"x2"
7.	BFR98	Tubing End Washer
8.	T79	Bronze Bushing
9.	BFR262	Handle Bracket
10.	BFR213	Spring
11.	BFR264	Complete Fork
12.	BFR50	Bolt 3/4 - 10 x 7" Gr. 5
13.	BFR101	Wheel Bearing Spacer
14.	BFR102	Anti-wrap Cap
15.	BFR103	Seal
16.	T32	Bearing
17.	T33	Race
18.	BFR104	Lock Nut
19.	X41	Handle Grip
20.	BFR105	Tire
21.	BFR106	Wheel
22.	BFR260	Brake Assembly
23.	BFR261	Brake

NOTE: * Means Not Shown

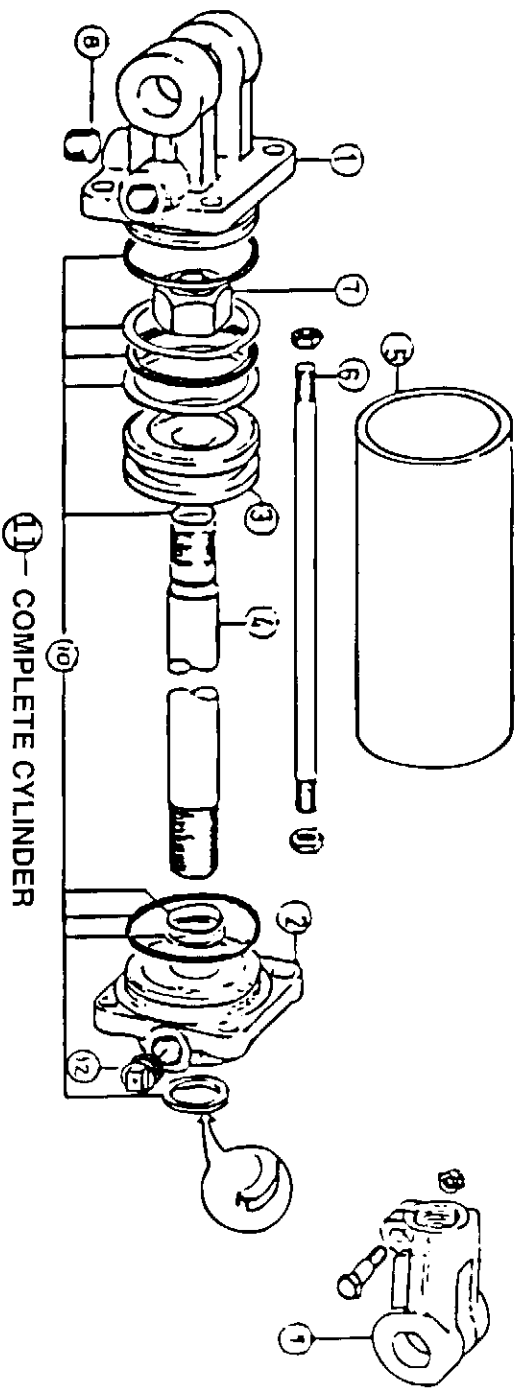
**FIGURE 3
OPTIONAL KICKER WHEEL ASSEMBLY**



NO.	PART NO.	DESCRIPTION	NO.	PART NO.	DESCRIPTION
1	T169	Cotter Pin	17.	BFR114	Piston
2	T175	Hub Cap	18.	BFR115	"O" Ring
3.	T173	Nut	19.	T37	Cotter Pin 1"
4	T170	Outer Bearing	20.	ES7	Hair Pin
	T171	Outer Race	21.	BFR116	Hydraulic Cylinder Tube
5.	BFR32	Rake Wheel Hub	22.	BFR117	3/8-16 x 2-1/2" Gr. 5
6.	T164	Inner Bearing	23.	K93	Lock Nut 3/8-16
	T165	Inner Race	24.	BFR118	Cyl. Lift Bracket
7	T163	Seal	25.	BFR119	1/2-13 x 2-1/4" Gr. 5
8.	BFR109	Kicker Arm Assembly	26.	BFR74	Tee
9	T174	LH Rake or Kicker Wheel	27.	BFR120	Orifice
10	BFR110	Kicker Wheel Spring	28.	BFR121	Hose
11	BFR71	S-Hook	29.	BFR122	Male Adapter Union
12.	BFR111	Chain 18 Links	*	BFR617	Adapter Union W/Orifice
13.	T78	Bushing	30.	BFR36	Spindle
14	BFR112	Lift Tower	31.	T168	10mm x 25mm Bolt
15	BFR113	Bottom Bracket	32.	T166	10mm Nut
16.	9S17	Lock Nut 1/2 x 13			

NOTE: * Means Not Shown

FIGURE 4
BI-FOLD RAKE HYDRAULIC CYLINDER



NO.	PART NO.	DESCRIPTION
1.	23N142	Clevis Cap
2.	23N143	Rod Cap
3.	23N144	Piston
4.	T184	Rod
5.	BFR68	Cylinder Tube
6.	T186	Tie Rod.
7.	23N148	Piston Nut
8.	23N149	Plug
9.	23N150	Rod Clevis
10.	23N151	Seal Kit
11.	BFR69	Complete Cylinder
12.	BFR70	Vent Plug

H&S BI-FOLD RAKE

Your new H&S Bi-Fold Rake 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 Bi-Fold Rake before reading this manual carefully. Keep this manual available for ready reference.

SPECIFICATIONS

Overall Width - Transport	116"
Overall Length - Transport	17' 8"
Width Outside Tires	59-1/2"
Height to Bottom of Frame	26"
Weight	1275 lbs.
Adjustable Hitch	10 Positions
Number of Rake Wheels	8
Number of Teeth per Rake Wheel	40
Overall Diameter of Rake Wheel	55"
Raking Widths	126" - 172"
Windrow Widths	40" - 68"
Swing Away Jack w/Storage Position	Standard
Gauge Wheels (2)	Option
Center Kicker Wheel	Option
Tire Size	15"

Warranty

1st Year - Parts & Limited Labor

2nd Year - Parts

NOTE

Determine right or left side of Bi-Fold Rake 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.

2608 S. Hume Ave.

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P.O. Box 1260 - Telephone (716) 736-7595

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