M0117

OPERATOR & PARTS MANUAL

ECONO-FOLD PLANTER

WARNING

THIS MACHINE HAS BEEN DESIGNED AND BUILT WITH YOUR SAFETY IN MIND. ANY ALTERATION TO THE DESIGN OR CONSTRUCTION MAY CREATE SAFETY HAZARDS. DO NOT MAKE ANY ALTERATIONS OR CHANGES TO THE EQUIPMENT, BUT IF ANY ALTERATIONS OR CHANGES ARE MADE YOU MUST FOLLOW ALL APPROPRIATE SAFETY STANDARDS AND PRACTICES TO PROTECT YOU AND OTHERS NEAR THIS MACHINE FROM INJURY.

DANGER

THIS PLANTER IS DESIGNED TO BE DRIVEN BY GROUND TIRES ONLY. THE USE OF HYDRAULIC, ELECTRIC OR PTO DRIVES MAY CREATE SERIOUS SAFETY HAZARDS TO YOU AND THE PEOPLE NEAR BY. IF YOU INSTALL SUCH DRIVES YOU MUST FOLLOW ALL APPROPRIATE SAFETY STANDARDS AND PRACTICES TO PROTECT YOU AND OTHERS NEAR THIS PLANTER FROM INJURY.

TO THE OWNER

We at Kinze Manufacturing wish to thank you for your patronage and appreciate you confidence in Kinze farm machinery. Your Kinze Planter has been carefully designed and sturdily built to provide years of dependable operation in return for your investment.

This manual has been prepared to aid you in the assembly, operation, and maintenance of the planter. Refer to it when necessary to maintain the machine in efficient operating condition.

Throughout this manual the symbol ⚠ and the words, **Note, Caution** and **Warning** are used to call your attention to important safety information. The definition of each of these terms used, follows:

NOTE: Indicates a special point of information

CAUTION: Indicates that a failure to observe can cause damage to the machine or equipment.

⚠ **WARNING:** Indicates that a failure to observe can cause damage to eqiupment and/or personal injury.

This manual is applicable to:

Econo-Fold Planter-Model Number EF

Serial Number 1000 and on.

Record the model number and serial number of your planter with date purchased below:

Date Purchased _____

Serial Number _____

Model Number _____

NEW MACHINE WARRANTY

No warranties express or implied are made or will be deemed to have been made by Kinze of the products sold under this Agreement except as follows:

Kinze warrants to the original purchaser for use that if any part of the product proves to be defective in material or workmanship within one year from date of original purchase, and is reported to Kinze within 10 days after such defect is discovered, Kinze will (at our option) either replace or repair said part. Return of the defective part to Kinze and submission of a completed warranty request must be accomplished within 30 days of the date that the replacement is made available.

This warranty does not apply to damage resulting from misuse, neglect, accident or improper installation or maintenance. A part will not be considered defective if it substantially fulfills performance specifications. Labor, shipping, field service, travel or administrative expenses incurred in connection with warranty replacements are not covered. Tires are not warranted by Kinze Manufacturing, Inc. and such claims must be pursued through the tire manufacturer's warranty.

Kinze warrants all replacement parts for a period of 90 days from date of purchase by the customer. Parts warranty is subject to the same provisions, restrictions and exclusions as new machine warranty and carries the same return and reporting requirements.

The foregoing warranty is exclusive and in lieu of all other warranties or merchantability, fitness for purpose and of any other type, whether express or implied. Kinze neither assumes nor authorizes anyone to assume for it any other obligation or liability other than stated above, and will not be liable for consequential damages. Purchaser accepts these terms and warranty limitations unless the product is returned within the fifteen days for full refund of purchase price.

Kinze reserves the right to make changes or to add improvements at any time without notice or obligations.

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INTRODUCTION

The Econo-Fold Planter is available with a choice of 8 row narrow, 8 row wide and 12 row narrow row spacings. For information on installation of heavy duty coulters and row units refer to the Kinze Row Unit Manual.

General Information

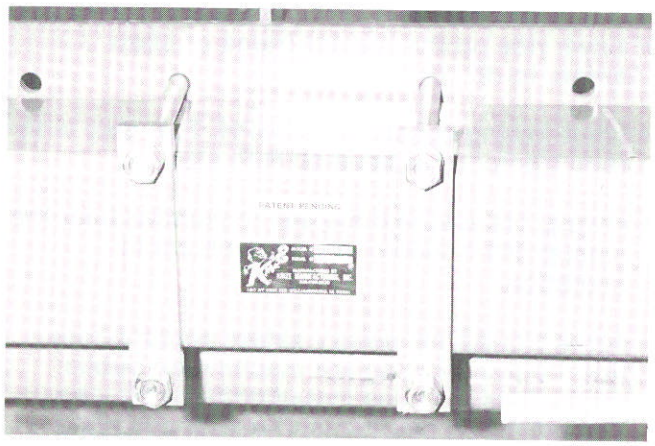
The information and photos used in this manual were current at the time of printing. However, due to Kinze's continual attempt to improve its product, in-line production changes may cause your machine to appear slightly different in detail. Kinze Manufacturing reserves the right to change specifications or design without notice and without incurring obligation to install the same on machines previously manufactured.

Right hand or left hand as used thoughout this manual is determined by facing in the direction the machine will travel when in use, unless otherwise stated.

Serial Number

The serial number provides important information about your planter and may be required to obtain the correct replacement part.

The serial number plate is located on the planter frame to be readily available. It is suggested that the serial number and purchase date also be recorded in the space provided on the inside front cover of this manual. Always provide the serial number and model number to your Kinze dealer when ordering parts or anytime correspondence is made with Kinze Manufacturing.

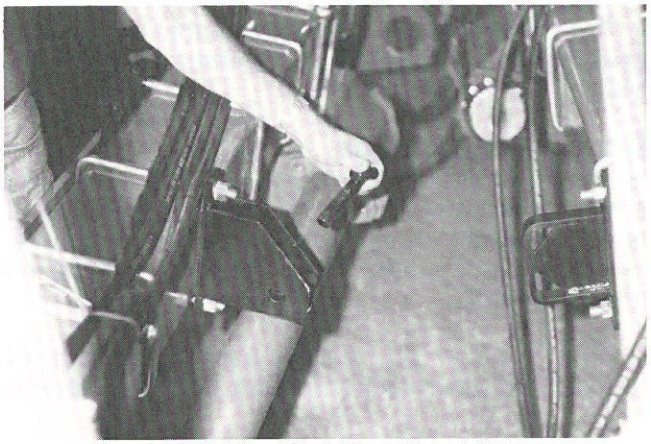


SAFETY PRECAUTIONS ⚠

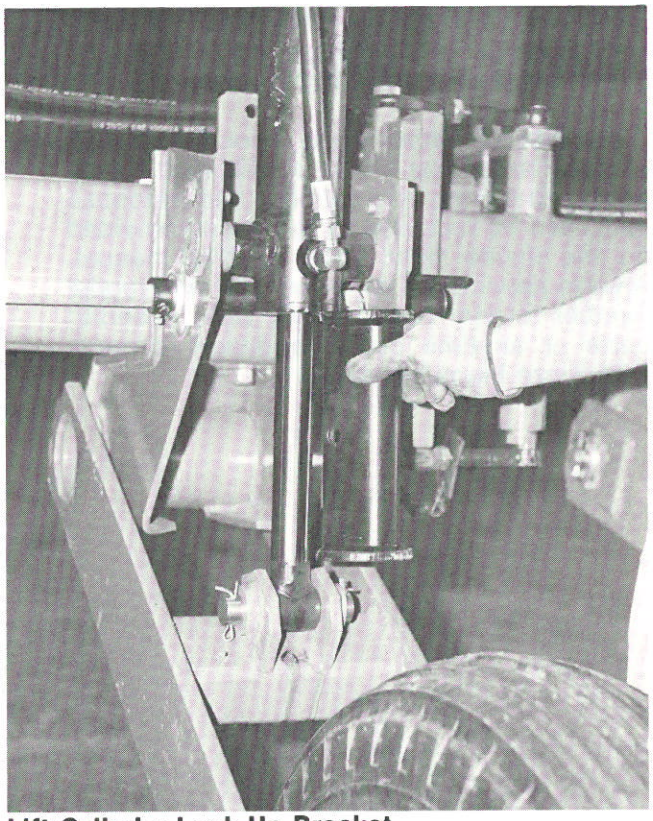
Safe and careful operation of the tractor and planter at all times will contribute significantly to the prevention of accidents.

Since a large portion of farm accidents occur as a result of fatigue or carelessness, safety practices should be of utmost concern. Read and understand the instructions provided in this manual as well as those provided in your row unit operator's manual. Listed below are a few other safety suggestions that should become common practice.

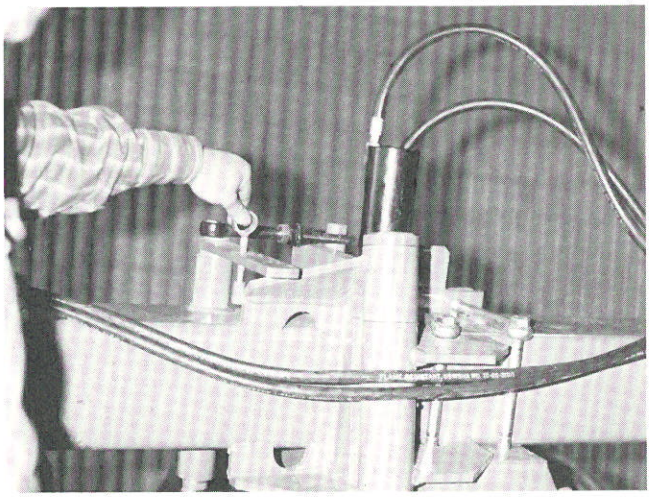
- Never permit any persons other than the operator to ride on the tractor.
- Never ride on the planter frame or allow others to do so.
- Limit towing speeds to 15 MPH. Tow only with farm tractor of at least 50 H.P. size.
- Always make sure there are no persons near the planter when marker assemblies are in operation.
- Always make necessary safety preparations prior to transporting the machine on public roads. This includes installing Slow Moving Vehicle (SMV) emblem and use of adequate lights or safety warnings after dark, except where prohibited by law.
- Watch for obstructions such as wires, tree limbs, etc., when folding marker assemblies.
- Always secure transport safety latches on wings before towing planter.
- Always install all cylinder lock up brackets before towing the planter or working under the unit.
- Always secure wing safety latches before operating the planter.



Transport Safety Latch



Lift Cylinder Lock Up Bracket



Wing Safety Latch

OPERATION

The following information is general in nature and was written to aid the operator in preparation of the tractor and planter for use, and to provide general operating procedures. The operator's experience, familiarity with the machine and the following information should combine for effcient planter operation and good working habits. The operators manual for the row units used with your Kinze Planter should also be readily available and consulted for planter operation.

Initial Preparation of the Planter

Lubricate the planter and row units per the lubrication information in this manual and the Row Unit Operator's Manual. Make sure all tires have been properly inflated. Check all drive chains for proper tension and lubrication.

Tractor Preparation and Hookup

1. Adjust tractor drawbar so that it is 13 to 17 inches above the ground. Then adjust the drawbar so that the hitch pin hole is directly below the center line of the PTO shaft. Make sure the drawbar is in a stationary position.

2. Back tractor to planter and connect with hitch pin. Make sure hitch pin is secured with locking pin or cotter pin.

3. Connect hydraulic hoses to tractor ports in a sequence which is both familiar and comfortable to the operator.

⚠ Before applying pressure to the hydraulic system, make sure all connections are tight and that hoses and fittings have not been damaged. Hydraulic fluid escaping under pressure can have sufficient force to penetrate skin, causing injury or infection.

IMPORTANT: Always wipe hose ends to remove any dirt before connecting couplers to tractor ports.

4. Raise jack stand and remount horizontally on storage bracket.

5. Lower planter to the planting position and check tongue for levelness. If tongue slopes up or down, disconnect planter and adjust hitch clevis up or down as necessary.

Leveling The Planter

For proper operation of the planter and row units, it is important that the unit operates level.

Unless the tractor drawbar is adjustable for height, the fore and aft level adjustment must be maintained by the position of the hitch clevis. Three holes in the tongue hitch bracket allow the clevis to be raised or lowered. When installing clevis mounting bolt, tighten hex nut to proper torque setting.

Always check fore and aft levelness with the planter lowered to proper operating depth. Then sight across tongue or place a bubble level on the tongue and frame.

In order to maintain lateral levelness, it is important that tire pressure be maintained at pressures specified.

Tire Pressure

Tire pressure should be checked regularly and maintained as follows:

Drive Gauge 7.50 x 20" 6 Ply 40 lbs. PSI

IMPORTANT: Tire pressure must be correctly maintained in all drive wheel tires to insure levelness and proper operation of planter. All rate charts are based on rolling radius of 7.50 x 20" tires inflated 40 PSI.

OPERATION

Hydraulic Marker Operation

⚠ WARNING: Always stand clear of the gauge marker assembly and blade when it is in operation.

CAUTION: The flow controls should be properly adjusted before the marker assembly is first put into use to prevent equipment damage.

To properly match the marker cylinder speed to your tractor's hydraulic system, loosen the lock nut which secures the knurled adjustment knob in place. To increase the cylinder speed turn the valve counterclockwise, opening the valve. To decrease the cylinder speed turn the valve clockwise.

NOTE: Marker speed will decrease with cold oil supply. Make sure that all adjustments are made with warm oil. Do not overtighten locknut.

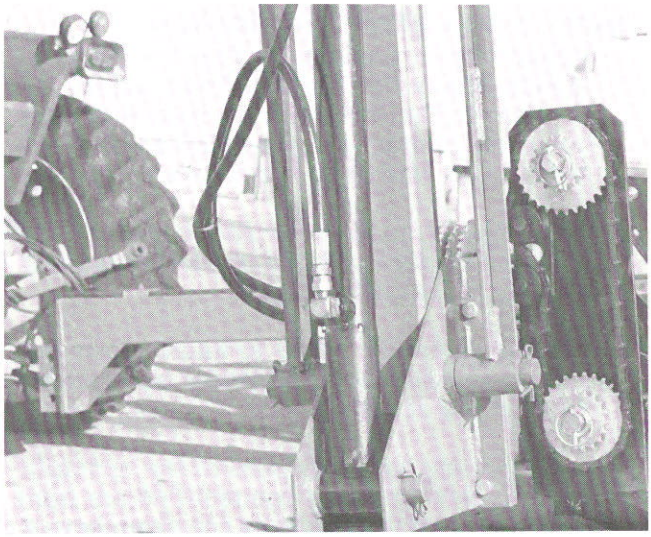
Marker Adjustment

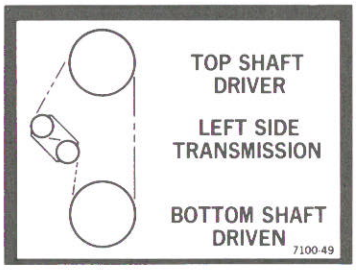
We recommend a field test be made to insure the markers are properly adjusted. After the field test is made, make any minor adjustments necessary.

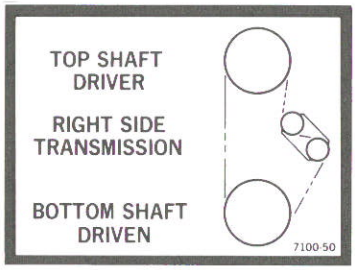
Transmission Adjustment

The transmission is designed to allow simple rapid changes in sprocket combination to obtain the desired planting population. Since both the transmission drive shaft and row unit drive shaft are hexagonal in shape, the sprockets need only be slid into alignment with the idlers after first removing the lynch pins. A combination of small sprockets may require shortening drive chain.

A decal positioned next the transmission provides proper chain routing. The planting rate charts found at the end of this section will aid you in selecting the correct sprocket combinations. After positioning both sprockets, replace the lynch pins. Then restore tension on the drive chain.







OPERATION

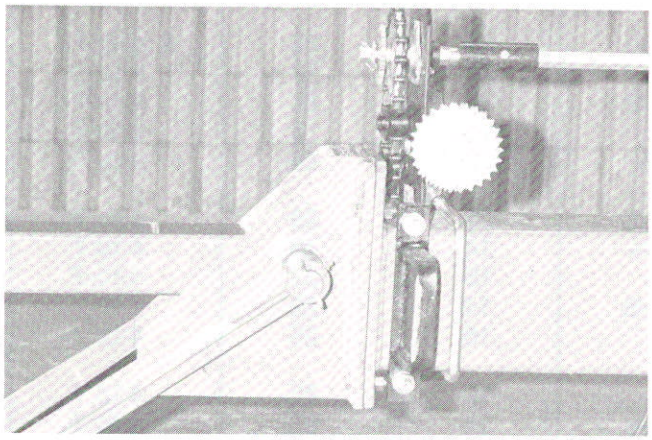
Tractor Speed

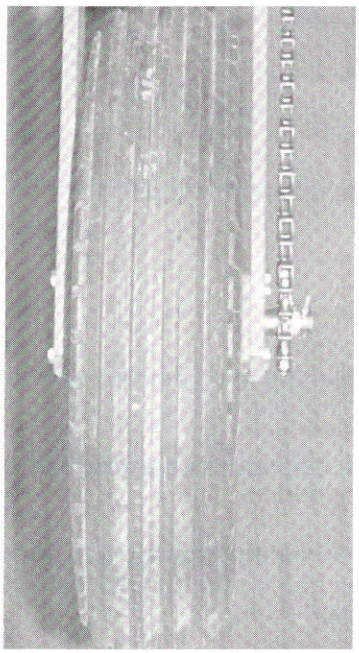
Planters are designed to operate within a speed range of 2 to 7 M.P.H. Optimum speed for most conditions is 5 to 6 M.P.H. Rate charts provided in this manual and in the Kinze Row Unit Manual are based on this optimum speed. Variations in ground speed will produce variations in rates. Corn meter populations will tend to be disproportionately higher at high ground speeds. While soybean and sorghum seed cup populations will tend to be disproportionately lower.

We recommend a field test be made to insure proper seed placement and operation of row units.

Shear Pin Protection

The planter drive line is protected with a shear pin on each transmission and each drive wheel. If the seed meters on the row units fail to operate, check the shear pins.





Transporting The Planter

⚠ Always make necessary safety preparations prior to transporting the planter on public roads. This includes installing a Slow Moving Vehicle (SMV) emblem and use of adequate lights or safety warning after dark.

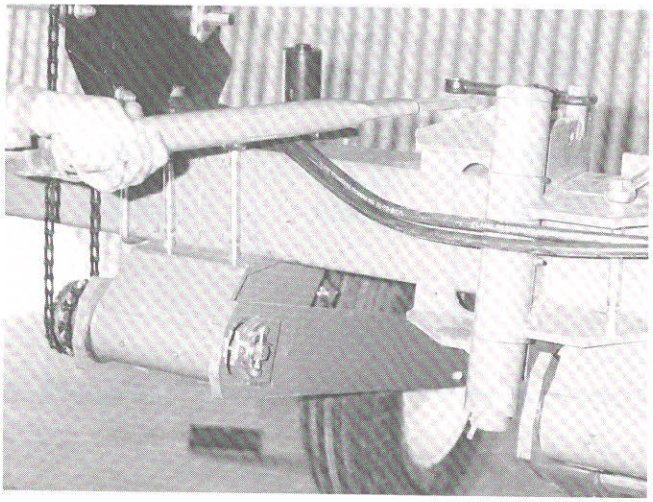
Always install cylinder lock up bracket on lift cylinders and secure transport safety latches on wings before towing planter.

Folding The Planter Wings

The Econo-Fold Planter is equipped with hinged wings that fold manually to obtain a narrower width for transporting the planter.

To fold the wing remove pin from the locking pin are. Using the special handle tool which is stored on the tongue of the planter, rotate the locking pin to release the eye bolt and nut located on the top and bottom side of the planter frame. The eye bolt and nut located on the bottom of the frame is secured to the planter with a chain, but the eye bolt and nut located on the top of the frame must be stored in a safe location while the planter wing is folded. Swing the wing forward and secure in safety latch using pin and clip.

Fold other wing in the same manner.



NOTE: The 8R30 and 8R Wide planters are equipped with a triple folding marker in which the 3rd stage must be folded manually before the wings are folded for transport. The 12R30 planter is equipped with a triple folding marker in which chain tension automatically folds the third stage of the marker assembly.

OPERATION

PLANTING RATE FOR PLATELESS CORN METERS

Seed Populations Per Acre			Average Seed Placement In Inches	Sprocket Combinations		Recommended Speed Range In MPH
30 Inch Rows	36 Inch Rows	38 Inch Rows		Drive Sprocket	Driven Sprocket	
56,200	46,800	44,300	3-3/4	30	14	2 to 3
48,700	40,600	38,510	4-¼	26	14	2 to 3½
43,700	36,400	34,500	4 ¾	30	18	3 to 4
41,300	34,400	32,600	5 1/8	22	14	3 to 4½
37,800	31,600	29,900	5 ½	26	18	3 to 4½
35,700	29,800	28,200	5 7/8	30	22	3 to 5
32,100	26,800	25,400	6 ½	22	18	3 to 5½
30,700	25,800	24,400	6 ¾	26	22	3 to 6
30,100	25,200	23,900	7	30	26	3 to 6
29,950	24,950	23,700	7 1/8	16	14	3 to 6
27,800	23,200	21,950	7 ½	30	28	4 to 6½
26,200	21,900	20,600	8	22	22	4 to 7
24,300	20,300	19,200	8 5/8	26	28	4 to 7
23,300	19,400	18,400	9	16	18	4 to 7
22,200	18,500	17,600	9½	22	26	4 to 7
20,700	17,200	16,300	10 1/8	22	28	4 to 7
20,400	16,900	16,100	10 ¼	14	18	4 to 7
19,100	15,900	15,100	11	16	22	4 to 7
16,700	13,950	13,200	12 5/8	14	22	4 to 7
16,200	13,500	12,800	13	16	26	4 to 7
14,950	12,500	11,900	14	16	28	4 to 7
14,200	11,800	11,200	14 7/8	14	26	4 to 7
13,200	10,950	10,400	16	14	28	4 to 7

Above chart for planters equipped with 7.50-20 inch drive tires and 30:24 drive/driven sprocket ratios. Recommended tire pressure 40 PSI.

IMPORTANT: The above sprocket combinations are best for average conditions. Changes in sprocket combinations may be required to obtain desired planting population.

The size and shape of seeds will effect the planting rate. Medium round corn is generally the most preferred while small flat is the least desirable. Higher than optimum speeds may result in population rate increases or higher incedents of doubles and triples, particularly with the small flat seeds.

IMPORTANT: To prevent planting miscalculations, make field checks to be sure you are planting at the desired rate.

OPERATION

PLANTING RATE FOR PLATELESS SOYBEAN METERS

Approximate Pounds Per Acre		Sprocket Combinations		Recommended Speed Range In MPH
Rows		Drive Sprocket	Driven Sprocket	
30"	36"-40"			
125	98	30	14	3 to 5
110	88	26	14	3 to 5
100	80	30	18	3 to 5
96	76	22	14	3 to 5
92	73	26	18	3 to 5
86	68	30	22	3 to 5
78	61	22	18	3 to 5½
75	59	26	22	3 to 6
72	58	30	26	3 to 6
71	57	16	14	3 to 6
67	53	30	28	4 to 6½
63	50	22	22	4 to 7
58	46	26	28	4 to 7
55	44	16	18	4 to 7
54	43	22	26	4 to 7
50	40	22	28	4 to 7
49	39	14	18	4 to 7
48	38	16	22	4 to 7
43	34	14	22	4 to 7
41	33	16	26	4 to 7
40	32	16	28	4 to 7
37	30	14	26	4 to 7
35	28	14	28	4 to 7

Above chart for planters equipped with 7.50-20 inch drive tires and 30:24 drive/driven sprocket ratios. Recommended tire pressure 40 PSI.

IMPORTANT: Soybean rates may vary widely depending upon size of the seed. The above chart was developed using uniform soybeans sized to 2,600 seeds per pound and should be used only as a guide for initial planter settings.

IMPORTANT: To prevent planting miscalculations, make field checks to be sure you are planting at the desired rate.

PLANTING RATE FOR PLATELESS REGULAR RATE SORGHUM METERS

Approximate Pounds Per Acre		Sprocket Combinations		Recommended Speed Range In MPH
30 Inch Rows	36 Inch To 40 Inch Rows	Drive Sprocket	Driven Sprocket	
21.0	16.7	30	14	2 to 3
17.5	13.9	26	14	2 to 3½
16.2	12.9	30	18	3 to 4
15.1	12.0	22	14	3 to 4½
13.8	10.9	26	18	3 to 4½
12.9	10.2	30	22	3 to 5
11.8	9.4	22	18	3 to 5½
11.2	8.9	26	22	3 to 6
11.1	8.8	30	26	3 to 6
10.9	8.6	16	14	3 to 6
10.0	7.9	30	28	4 to 6½
9.6	7.6	22	22	4 to 7
9.1	7.2	26	28	4 to 7½
8.8	7.0	16	18	4 to 8
8.5	6.7	22	26	4 to 8
8.0	6.3	22	28	4 to 8
7.9	6.3	14	18	4 to 8
7.6	6.0	16	22	4 to 8
7.0	5.6	14	22	4 to 8
6.8	5.4	16	26	4 to 8
6.3	5.0	16	28	4 to 8
6.2	4.9	14	26	4 to 8
5.9	4.7	14	28	4 to 8

Above chart for planters equipped with 7.50-20 inch drive tires and 30:24 drive/driven sprocket ratios. Recommended tire pressure 40 PSI.

IMPORTANT: To prevent miscalculations, make field checks to be sure you are planting at the desired rate.

PLANTING RATE FOR PLATELESS LOW RATE SORGHUM METERS

Approximate Pounds Per Acre		Sprocket Combinations		Recommended Speed Range In MPH
30 Inch Rows	36 Inch to 40 Inch Rows	Drive Sprocket	Driven Sprocket	
6.2	4.9	30	14	2 to 3
5.4	4.3	26	14	2 to 3½
4.8	3.8	30	18	3 to 4
4.6	3.6	22	14	3 to 4½
4.2	3.3	26	18	3 to 4½
4.0	3.1	30	22	3 to 5
3.6	2.8	22	18	3 to 5½
3.4	2.7	26	22	3 to 6
3.4	2.7	30	26	3 to 6
3.3	2.6	16	14	3 to 6
3.1	2.4	30	28	4 to 6½
2.9	2.3	22	22	4 to 7
2.7	2.1	26	28	4 to 7
2.6	2.1	16	18	4 to 7
2.5	2.0	22	26	4 to 7
2.3	1.8	22	28	4 to 7
2.3	1.8	14	18	4 to 7
2.1	1.7	16	22	4 to 7
1.9	1.5	14	22	4 to 7
1.8	1.4	16	26	4 to 7
1.7	1.3	16	28	4 to 7
1.6	1.2	14	26	4 to 7
1.5	1.2	14	28	4 to 7

Above chart for planters equipped with 7.50-20 inch drive tires and 30:24 drive/driven sprocket ratios. Recommended tire pressure 40 PSI.

IMPORTANT: To prevent planting miscalculation, make field checks to be sure you are planting at the desired rate.

OPERATION

PLANTING RATE FOR PLATE TYPE DRIVE

Seed Population and Drilling Distance - 16 Cell Plate

Seed Populations Per Acre				Average Seed Placement In Inches	Sprocket Combinations		Recommended Speed Range In MPH
30"	36"	38"	40"		Drive Sprocket	Driven Sprocket	
30,500	25,400	24,000	22,900	6-3/4	30	14	2 to 3
26,400	22,000	20,900	19,800	8	26	14	2 to 3-1/2
23,700	19,700	18,700	17,800	8-3/4	30	18	3 to 4
22,400	18,600	17,700	16,800	9-1/4	22	14	3 to 4-1/2
20,600	17,100	16,200	15,400	10-1/4	26	18	3 to 5
19,400	16,100	15,300	14,500	10-3/4	30	22	3 to 5
17,400	14,500	13,700	13,000	12	22	18	3 to 6
16,800	14,000	13,300	12,600	12-1/2	26	22	3 to 6
16,400	13,700	13,000	12,300	12-3/4	30	26	3 to 6
16,300	13,500	12,800	12,200	13	16	14	3 to 6
15,200	12,700	12,000	11,400	13-3/4	30	28	4 to 6-1/2
14,200	11,800	11,200	10,700	14-3/4	22	22	4 to 7
13,200	11,000	10,400	9,900	15-3/4	26	28	4 to 7-1/2
12,600	10,500	10,000	9,500	16-1/2	16	18	4 to 8
12,000	10,000	9,500	9,000	17-1/2	22	26	4 to 8
11,200	9,300	8,800	8,400	18-3/4	22	28	4 to 8
11,000	9,200	8,700	8,300	19	14	18	4 to 8
10,900	9,000	8,200	7,800	20-1/4	16	22	4 to 8
9,000	7,500	7,100	6,800	23	14	22	4 to 8
8,700	7,300	6,900	6,600	24	16	26	4 to 8
8,100	6,800	6,400	6,100	25-3/4	16	28	4 to 8
7,700	6,400	6,000	5,700	27-1/4	14	26	4 to 8
7,100	5,900	5,600	5,300	29-1/2	14	28	4 to 8

For 32-inch rows, multiply plant population per acre in 30-inch row spacing column by 0.9375.
For 34-inch rows, multiply plant population per acre in 30-inch row spacing column by 0.8824.
For 32 cell seed plate, multiply population by 2; divide drilling distance by 2.
For 48 cell seed plate, multiply population by 3; divide drilling distance by 3.
For 64 cell seed plate, multiply population by 4; divide drilling distance by 4.

Above chart for planters equipped with 7.50-20 inch drive tires and 30:24 drive/driven sprocket ratios. Recommended tire pressure 40 PSI.

IMPORTANT: The above sprocket combinations are best for average conditions. Changes in sprocket combinations may be required to obtain desired planting population.

The size and shape of seeds will effect the planting rate. Medium round corn is generally the most preferred while small flat is the least desirable. Higher than optimum speeds may result in population rate increases or higher incedents of doubles and triples, particularly with the small flat seeds.

IMPORTANT: To prevent planting miscalculations, make field checks to be sure you are planting the desired rate.

PLANTING RATE FOR PLATE TYPE DRIVE

Seed Population and Drilling Distance - 24 Cell Plate

Seed Populations Per Acre				Average Seed Placement In Inches	Sprocket Combinations		Recommended Speed Range In MPH
30"	36"	38"	40"		Drive Sprocket	Driven Sprocket	
45,700	38,100	36,100	34,300	4-1/2	30	14	2 to 3
39,700	33,100	31,300	29,800	5-1/4	26	14	2 to 3-1/2
35,500	29,600	28,000	26,600	6	30	18	3 to 4
33,500	27,900	26,500	25,100	6-1/4	22	14	3 to 4-1/2
30,800	25,700	24,300	23,100	6-3/4	26	18	3 to 5
29,100	24,300	23,000	21,800	7-1/4	30	22	3 to 5
26,100	21,800	20,600	19,600	8	22	18	3 to 6
25,200	21,000	19,900	18,900	8-1/4	26	22	3 to 6
24,600	20,500	19,400	18,400	8-1/2	30	26	3 to 6
24,400	20,300	19,300	18,300	8-1/2	16	14	3 to 6
22,900	19,100	18,100	17,200	9-1/4	30	28	4 to 6-1/2
21,300	17,800	16,800	16,000	9-3/4	22	22	4 to 7
19,800	16,500	15,600	14,900	10-1/2	26	28	4 to 7-1/2
19,000	15,800	15,000	14,200	11	16	18	4 to 8
18,000	15,000	14,200	13,500	11-1/2	22	26	4 to 8
16,800	14,000	13,200	12,600	12-1/2	22	28	4 to 8
16,600	13,800	13,100	12,400	12-1/2	14	18	4 to 8
15,500	12,900	12,300	11,600	13-1/2	16	22	4 to 8
13,600	11,300	10,700	10,200	15-1/2	14	22	4 to 8
13,100	10,900	10,300	9,800	16	16	26	4 to 8
12,200	10,100	9,600	9,100	17-1/4	16	28	4 to 8
11,500	9,600	9,100	8,600	18-1/4	14	26	4 to 8
10,700	8,900	8,400	8,000	19-1/2	14	28	4 to 8

For 12 cell seed plate, divide population by 2; multiply drilling distance by 2.
For 36 cell seed plate, multiply population by 1.5; divide drilling distance by 1.5.

Above chart for planters equipped with 7.50-20 inch drive tires and 30:24 drive/driven sprocket ratios. Recommended tire pressure 40 PSI.

IMPORTANT: The above sprocket combinations are best for average conditions. Changes in sprocket combinations may be required to obtain desired planting populations.

The size and shape of seeds will effect the planting rate. Medium round corn is generally the most preferred while small flat is the least desirable. Higher than optimum speeds may result in population rate increases or higher incedents of doubles and triples, particularly with the small flat seeds.

IMPORTANT: To prevent planting miscalculations, make field checks to be sure you are planting at the desired rate.

OPERATION

DRY INSECTICIDE APPLICATION RATES

Clay Granules Approximate Rate In Pounds Per Acre At 5 MPH			
Meter Setting	30 Inch Rows	36 Inch Rows	38 Inch Rows
10	4.1	3.4	3.3
12	5.4	4.5	4.3
14	6.8	5.7	5.4
16	8.1	6.8	6.5
18	9.4	7.9	7.5
20	10.7	9.0	8.5
22	12.1	10.1	9.6
24	13.4	11.2	10.6
26	14.7	12.3	11.6
28	16.1	13.4	12.7
30	18.1	15.1	14.3
32	20.1	16.8	15.8
34	22.7	19.0	18.0
36	25.4	21.2	20.1

Sand Granules Approximate Rate In Pounds Per Acre At 5 MPH			
Meter Setting	30 Inch Rows	36 Inch Rows	38 Inch Rows
6	4.8	4.0	3.8
8	6.8	5.7	5.4
10	8.6	7.2	6.8
12	10.5	8.7	8.3
14	12.1	10.1	9.6
16	13.7	11.4	10.8
18	16.1	13.4	12.7
20	18.5	15.4	14.6
22	21.4	17.9	16.9
24	24.1	20.1	19.1
26	28.1	23.4	22.2

Variations in pounds per acre may occur with changes in seed planting rates.

Rate is affected by changes in temperture and climatic conditions. Changes in speed or field conditions may also affect metering rates.

IMPORTANT: To prevent application miscalculations, make field checks to be sure you are applying at the desired rate.

OPERATION

DRY HERBICIDE APPLICATIONS RATES

Clay Granules Approximate Rate In Pounds Per Acre At 5 MPH			
Meter Setting	30 Inch Rows	36 Inch Rows	38 Inch Rows
6	4.1	3.4	3.3
8	5.4	4.5	4.3
10	6.7	5.6	5.3
12	8.1	6.7	6.4
14	9.4	7.9	7.5
16	10.7	8.1	8.6
18	12.1	10.1	9.6
20	13.4	11.2	10.6
22	14.4	12.3	11.7
24	16.1	14.5	12.7
26	18.7	15.6	14.8
28	20.4	17.1	16.2
30	23.4	19.5	18.5

Variations in pounds per acre may occur with changes in seed planting rates.

Rate is affected by changes in temperature and climatic conditions. Changes in speed or field conditions may also affect metering rates.

IMPORTANT: To prevent application miscalculations, make field checks to be sure you are applying at the desired rate.

LUBRICATION

The following chart shows the location of all lubrication points. Proper lubrication of all moving parts will help insure efficient operation of your Kinze planter and prolong the life of friction producing parts. Thos parts equipped with frease fittings should be lubricated at the frequency indicated with an SAE multipurpose type grease. Be sure to clean the fitting thoroughly before using grease gun. The frequency of lubrication recommended is based on normal operating conditions. Severe or unusual conditions may require more frequent attention.

Refer to your Row Unit Manual for lubrication of all row units.

Sealed Bearings

A number of sealed bearings are used on your Kinze Planter to provide trouble free operation. These are located in such areas as the drive shaft, row units, and transmission bearings. Sealed bearings are lubricated for life, and due to the seals, relubrication is not practical.

Drive Chains

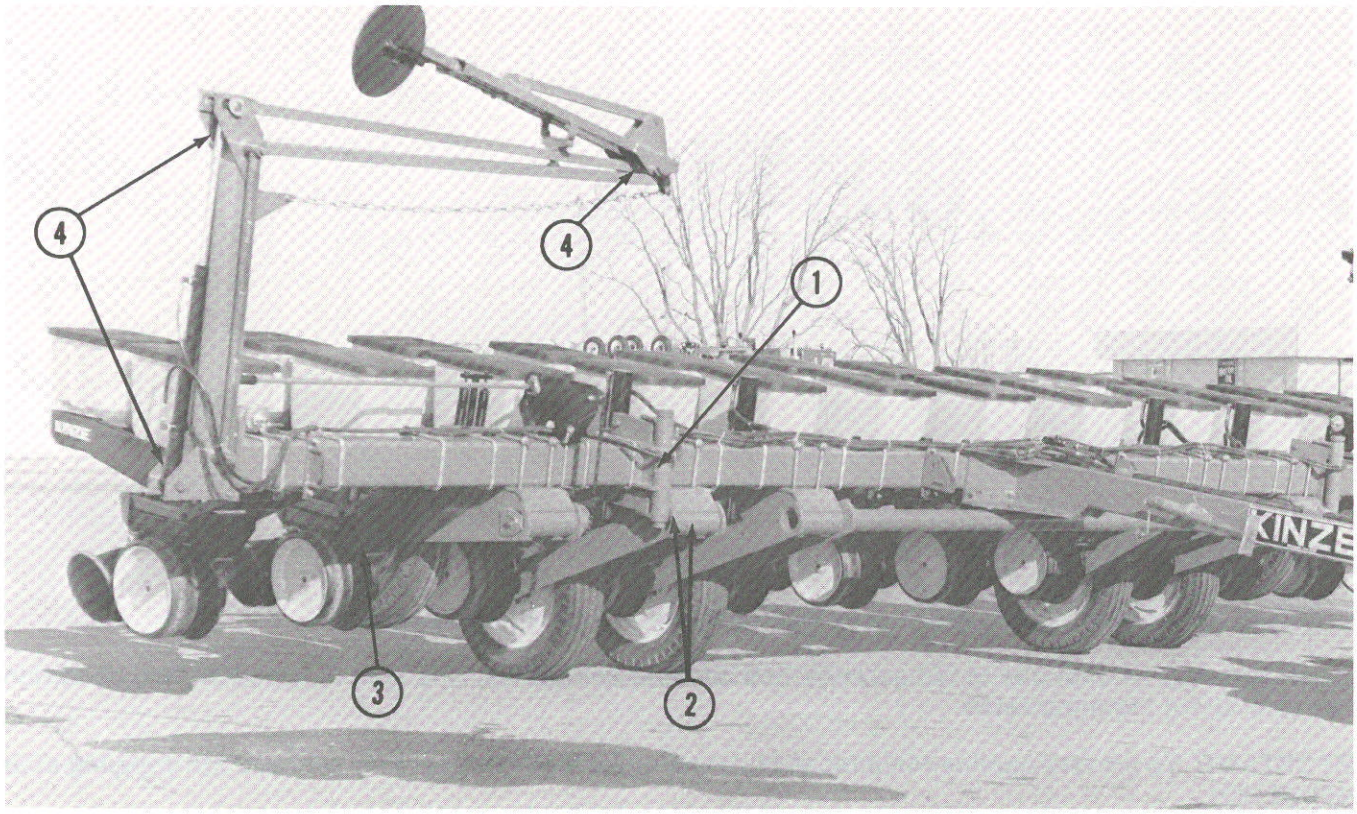
The transmission and drive chains should be lubricated approximately every 8-10 hours with a quality engine oil or equivalent SAE 10 weight oil. A good quality spray lubricant may also be used for periodic chain lubrication. Extreme operating conditions such as dirt, temperature, or speed may require more frequent lubrication. If any of the chains become stiff, it should be removed and soaked and washed in solvent to loosen and remove dirt from the joints. Then soak the chain in oil so the lubricant can penetrate between the rollers and bushings.

Wheel Bearings

Wheel bearings should be repacked with clean heavy duty axle grease approximately once a year or at the beginning of each planting season. This applies to all transport wheels and marker hubs. Follow the procedure outlined for wheel bearing replacement with the exception that bearings and bearing caps are reused.

Lubrication Chart

Ref. No.	Description	No. of Zerks	Frequency
1.	Wing Hinge	1 Per Side	10 Hours
2.	Wheel Module Pivot	2 Per Module	10 Hours
3.	Flange Bearing (Wheel Modules)	4	10 Hours
4.	Marker Assembly, 8R30 and Wide	3 Per Marker	10 Hours
	Marker Assembly, 12R30	7 Per Marker	10 Hours



MAINTENANCE

Mounting Bolts and Hardware

Before operating the planter for the first time, check to be sure all nuts and bolts are tight. Check all nuts and bolts again after approximately the first 50 hours of operation and at the beginning of each planting season thereafter.

All bolts used on the Kinze planter are Grade 5 (high strength) unless otherwise noted. Refer to the torque value chart in the Assembly Section of this manual when tightening bolts.

NOTE: Overtightening bolts can cause as much damage as undertightening. Tightening a bolt beyond the recommended range can reduce its shock load capacity.

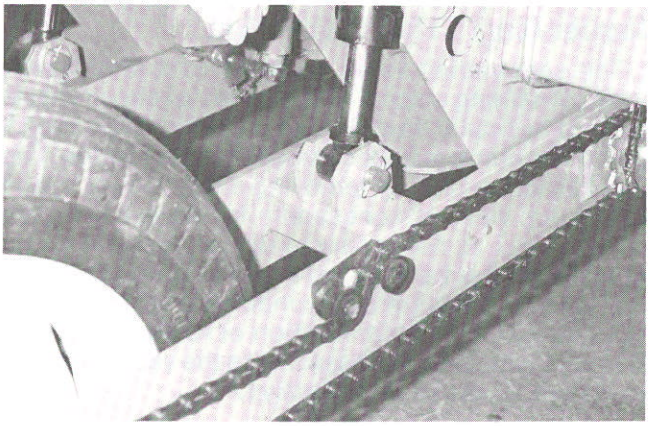
Chain Tension Adjustment

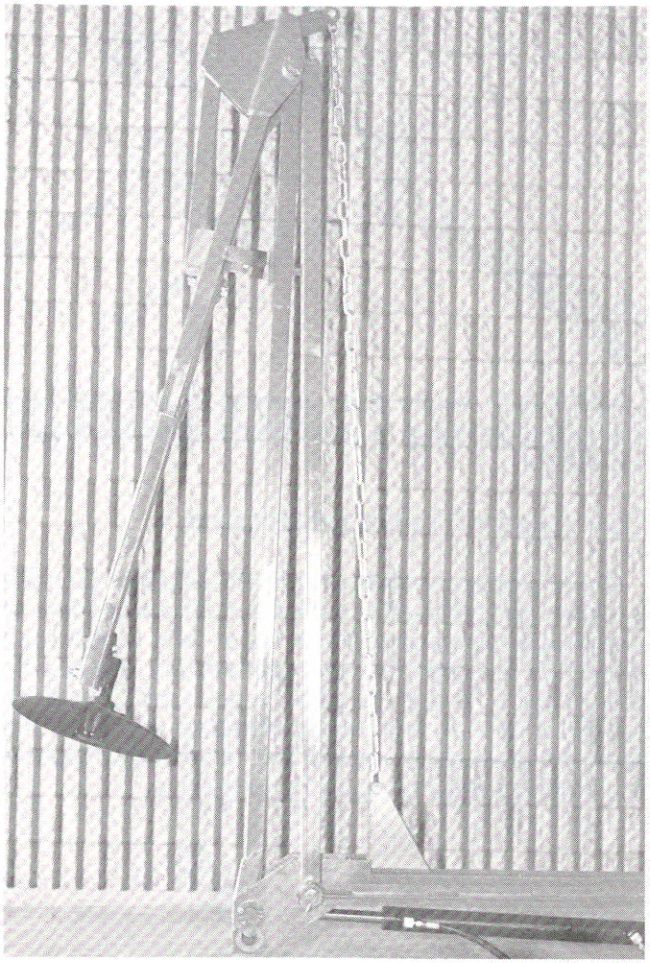
The drive chain from the drive gauge wheel to the module counter shaft as well as the drive chain in the seed drive transmission is equipped with an idler assembly which is held in a fixed position with a carriage bolt. To increase tension loosen nut and pivot idler assembly against the chain to obtain sufficient tension on the longest span. Retighten hex nut.

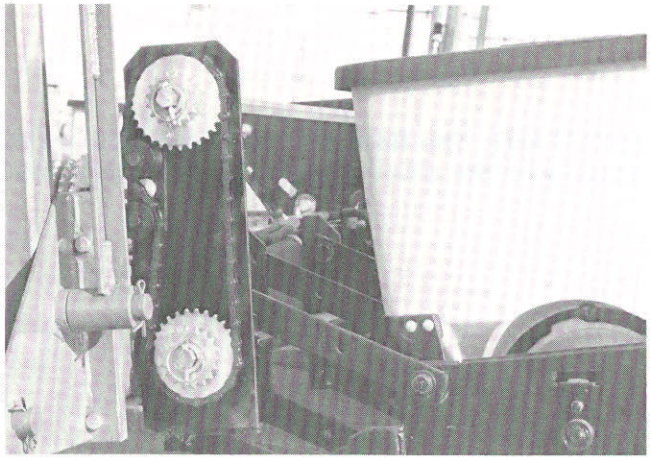
See decal located on planter for seed transmission chain routing.

The drive chain from the module counter shaft to the main drive shaft is equipped with an idler sprocket. To adjust tension loosen sprocket mounting hardware and move idler sprocket against the chain to obtain proper adjustment. Retighten hardware.

On planters equipped with markers that have chain linkage for folding the 3rd stage of the marker, this adjustment is critical. Adjust chain with the 2nd stage of the marker in the vertical position and the 1st stage in the horizontal position. Chain must be adjusted so the 3rd stage of the marker is pulled out as soon as the 2nd stage begins outward travel. The chain will stretch and need to be readjusted with usage. It may be necessary to twist the chain for a finer adjustment.

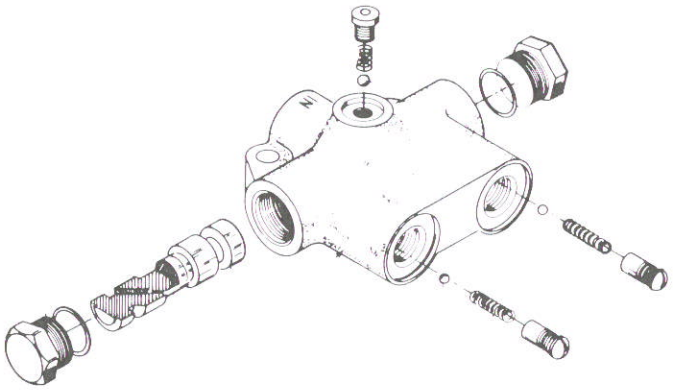






Sequencing Valve Inspection

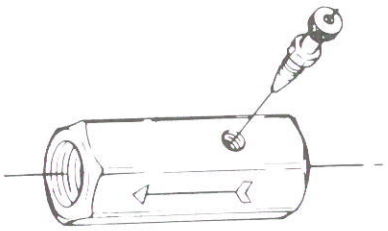
The sequencing valve consists of a chambered body containing a spool and a series of check valves to direct hydraulic flow. Should the valve malfunction, the components may be removed for inspection. The spool is accessable by removing either side plug and one check valve is accessable from the top of the valve body. It is necessary to disconnect the outlet hoses from the back of the valve to gain access to the remaining retainers and check valves. Inspect all parts for pitting, contamination or foreign material. Also check seating surfaces inside the valve. Replace any parts found to be defective.



IMPORTANT: Make sure correct check ball and spring are installed in each check valve bore upon reassembly.

Flow Control Valve Inspection

The flow control valves should be adjusted for raise and lower speed as part of the assembly procedure or upon initial operation. If the valve fails to function properly or requires frequent adjustment, the needle valve should be removed for inspection. Check for foreign material and contamination on both the valve and the seating area of the valve body. Replace any components found to be defective.



IMPORTANT: The flow control valves must be installed with the arrows pointed toward the tractor.

Wheel or Marker Bearing Lubrication or Replacement

1. Raise tire clear of ground and remove wheel or marker disk.
2. Remove hub cap from hub. (Where applicable)
3. Remove cotter pin, axle nut(s) and washer. (Where applicable)
4. Slide hub from axle or spindle.
5. Remove bearing cups and discard if bearings are being replaced. Clean hub and dry.
6. Press in new bearing cups with thickest edge facing in.
7. Pack bearings with heavy duty wheel bearing grease thoroughly forcing grease between roller cone and bearing cage. Also fill the space between the bearing cups in the hub with grease.
8. Place inner bearing in place and press in new grease seal.
9. Clean axle or spindle and install hub.
10. Install outer bearing, washer or outer seal and slotted hex nut. Tighten slotted hex nut while rotating hub until there is some drag. This assures that all bearing surfaces are in contact. Back off slotted nut to nearest locking slot and install cotter pin. On hub assemblies assembled with jam nuts instead of slotted hex nut, reinstall and tighten jam nuts.
11. Fill hub caps approximately 3/4 full of wheel bearing grease and install on hub.
12. Install wheel or disk on hub and tighten evenly and securely.

Storage

Store the planter in a dry sheltered area if possible.

Remove all trash that may be wrapped on sprockets or shafts and remove dirt that can draw and hold moisture.

Clean all drive chains and coat with a rust preventative spray, or better yet, remove chains and submerge in oil.

Lubricate planter and row units at all lubrication points.

If possible, remove weight from all tires, particularly if the unit is stored outdoors, in which case it is best to remove wheels and tires for storage in a cool dry area.

Inspect the planter and row units for parts that are in need of replacement and order during the "off" season.

Make sure all seed, herbicide and insecticide hoppers are empty and clean.

Clean seed meters and store in a dry area.

ASSEMBLY

The following instructions are provided for assembly of the Kinze Econo-Fold planter. Please read through the instructions prior to assembly. Becoming familiar with the procedures before actual set up will facilitate smoother assembly and possibly save time by eliminating backtracking. Although there may be procedures for assembly other than those shown, caution should be taken to avoid unnecessary risk.

Prior to starting, inspect all components for possible damage incurred during shipment. Notify the freight or carrier agent immediately of any damage found. Any parts shortages should be noted and reported to Kinze Manufacturing, Inc. immediately.

Since the assembly instructions which follow are written for several sizes and configurations of units, they are divided into major components which are interchangeable. The interchangeability designed into each Kinze planter simplifies assembly as well as operation, service and parts availability for any size and model unit.

Hardware

All bolts furnished with the planter are SAE Grade 5 unless otherwise noted. All bolts are distinguished by the radial lines on the bolt head. (See chart).

In many cases bolts have been pre-installed in the holes in which they go during assembly. It is suggested that bolts be left somewhat loose until parts have been assembled. This especially applies to bearing flanges, idlers, etc. Then tighten all bolts to the torque value specified below unless otherwise noted.

DRY TORQUE VALUES - FT. LBS.

Bolt Diameter	Grade 2 No. Radial Lines	Grade 5 Three Radial Lines
5/16"	11	17
3/8"	23	35
1/2"	55	85
5/8"		170
3/4"		360
1"		670
1 1/4"		910

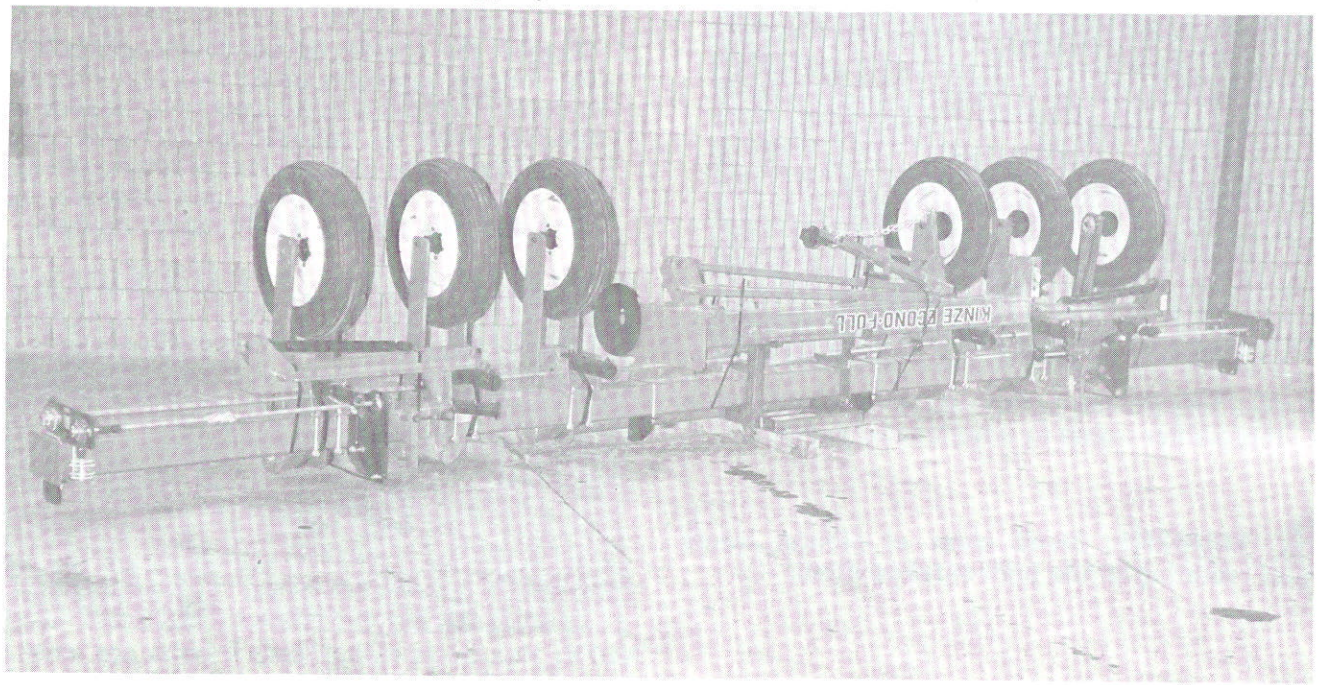
NOTE: Bolts having lock nuts should be tightened to approximately 50% of amounts shown in above chart. Also bolts lubricated prior to installation should be torqued to 70% of value shown on chart.

FRAME ASSEMBLY

Each Bundle should contain:

A. Basic frame assembly
B. Tongue
C. Two marker assemblies
D. Two marker blades
E. Shipping stand

Also open the two boxes containing the hydraulic hoses and hardware.



ASSEMBLY

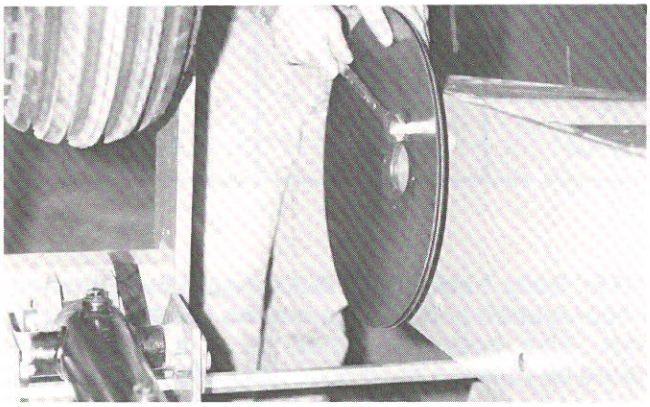
1. Place the partially assembled planter shipping bundle in your selected assembly area.

CAUTION: Do not cut bands supporting wheel modules until frame has been lowered to the horizontal position.

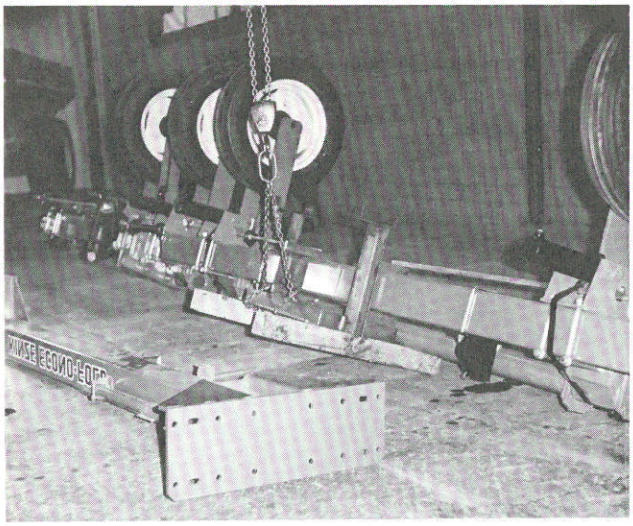
2. Unband the planter shipping bundle and inspect for damage.

⚠ WARNING: Use caution when cutting bands. Support markers so they cannot fall when bands are cut.

3. Remove the markers from the shipping stand.

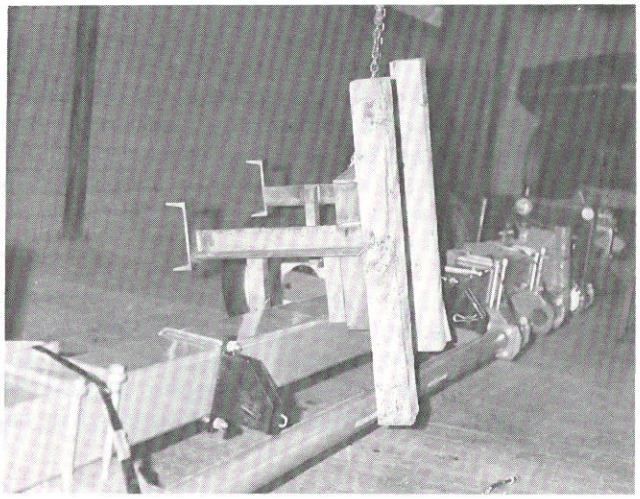


NOTE: Unbolt marker blades from the hitch before taking the hitch off of the shipping stand.



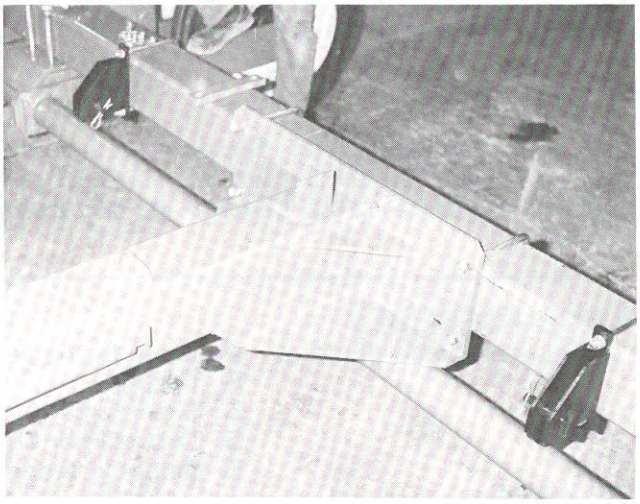
4. By lifting the front of the shipping stand, rotate the planter frame to a horizontal position.

⚠ WARNING: Stand clear of planter frame when rotating to the horizontal position.

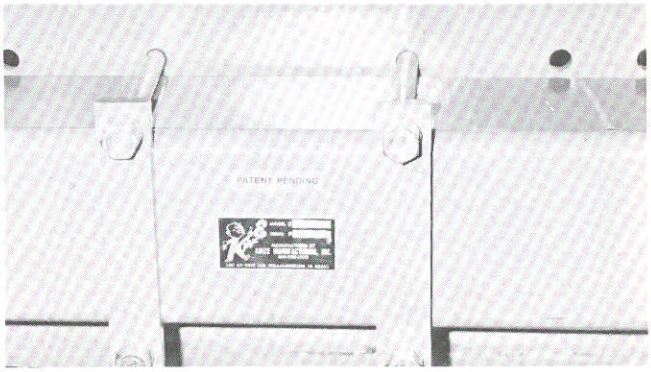


5. Remove shipping stand from the planter frame and store for return to Kinze.

6. Cut shipping bands on wheel modules.



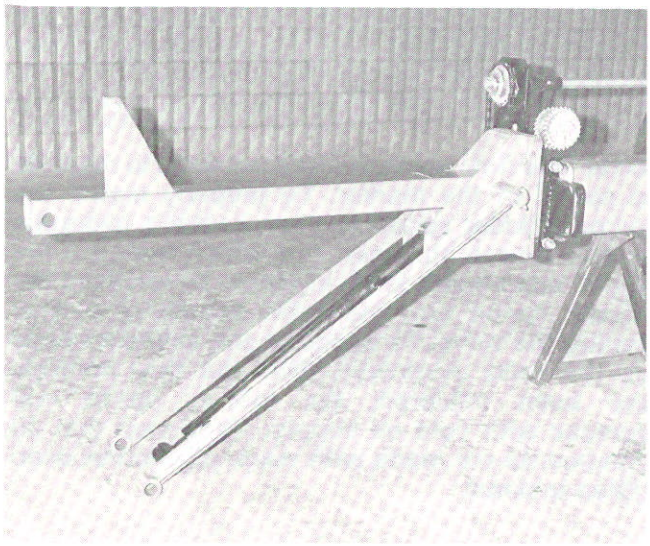
7. Support the planter frame, center and bolt on the tongue assembly using two 7" x 7" x 3/4" U-bolts. Tighten U-bolts evenly to assure the tongue draws up securely to the frame. Complete the tongue installation by adding the four 3/4" x 9 1/2" cap screws, lock washers, hex nuts and two 1 3/4" x 9 3/4" mounting bars.



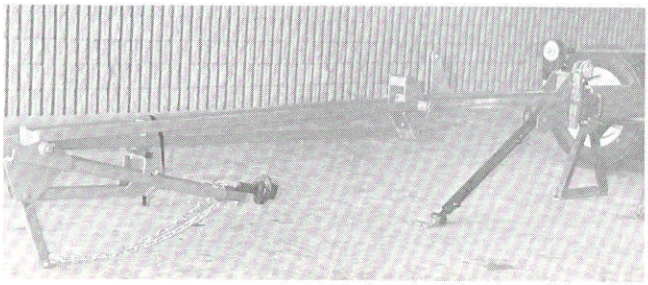
NOTE: Hex bolts rather than U-bolts are used to mount the inside angle-iron support for the center row units.

8. Remove the jackstand from the storage position and place it on the tongue to support the planter.

9. Mount marker mount and first stage assembly to the planter frame using four 1/2" x 1 3/4" grade 5 cap screws, lock washers and hex nuts per marker.

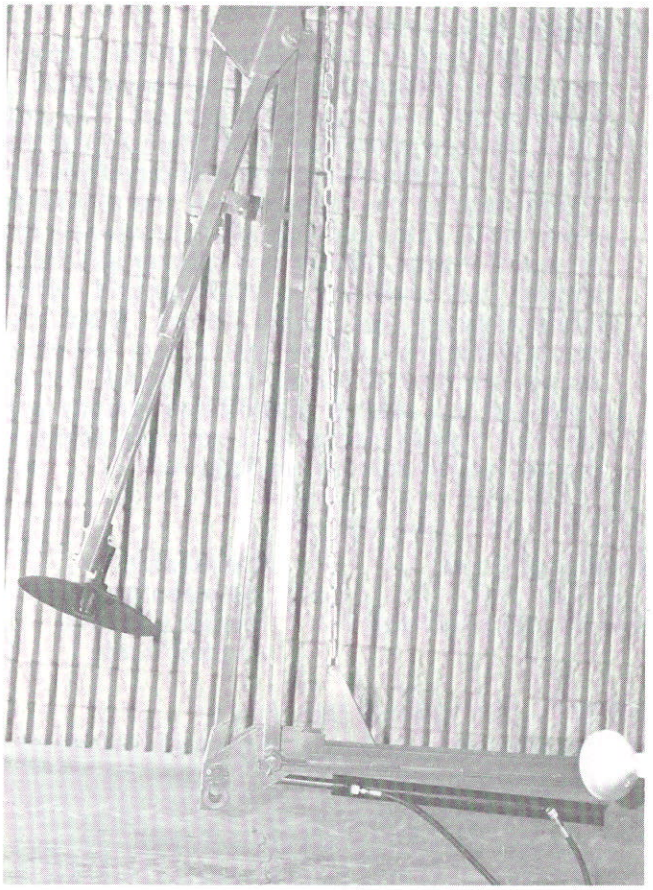


10. Mount second and third stage of marker assembly to first stage. Right and left is determined by the hub spindle projecting forward. On 12 row 30 models install chain between first stage and third stage of marker assembly.

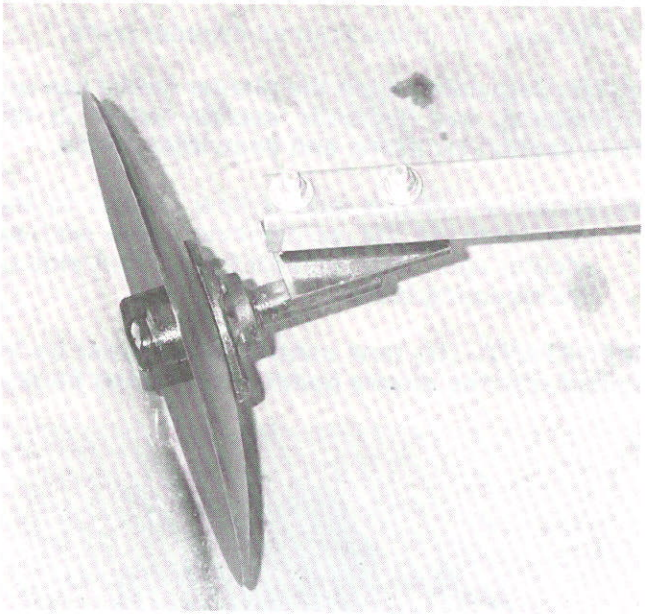


NOTE: Chain adjustment is critical. Adjust chain with the second stage of the marker in the vertical position and the first stage in the horizontal position. Chain must be adjusted so the third stage of the marker is pulled out as soon as the second stage begins outward travel. Chain will stretch and need to be readjusted with usage. It may be necessary to twist the chain for a finer adjustment.

NOTE: Do not connect the rod end of the cylinder to the second stage until the hydraulic hoses have been assembled and cycled.



11. Attach the 16" disc to the hub using the preinstalled bolts. Be sure to alternate bolts while tightening to avoid distorting the disc's shape or breaking the marker hub.

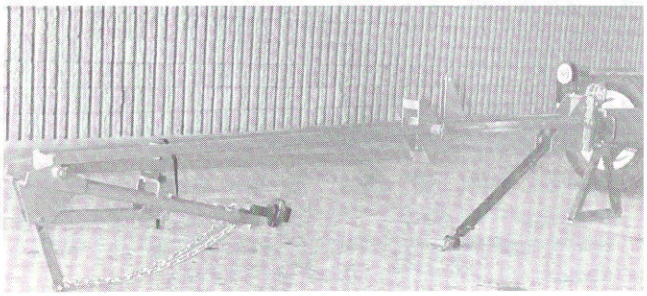


NOTE: The marker disc is installed so the concave side of the disc is outward to throw dirt away from the grease seals. The spindle bracket is slotted so the hub and blade can be angled to throw more or less dirt.

12. **Marker Adjustment**
To determine the correct length at which to set the marker assemblies, multiply the number of rows by the row spacing in inches. This provides the total planting width. Then adjust the marker extension so that the distance from the marker disc to the center line of the planter is equal to the total planting width previously obtained. Both the planter and marker assembly should be lowered to the ground when measurements are being taken. Also, the measurement should be taken from the point where the disc contacts the ground. Adjust right and left marker assemblies equally and securely tighten clamping bolts. An example of marker length adjustment follows:

Number of Rows X Row Spacing (Inches)	=	Dimension between planter center line and marker blade

8 x 30" = 240" Marker Dimension

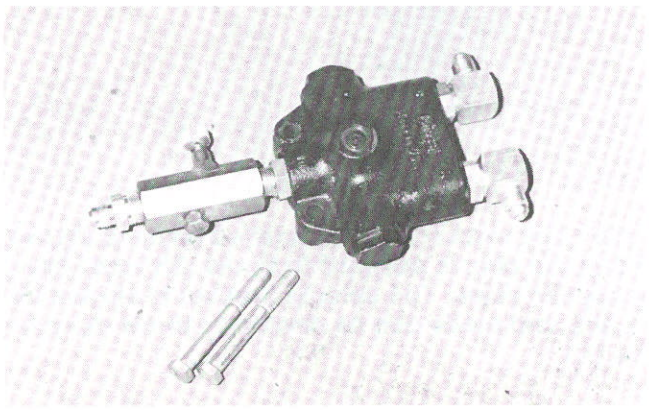


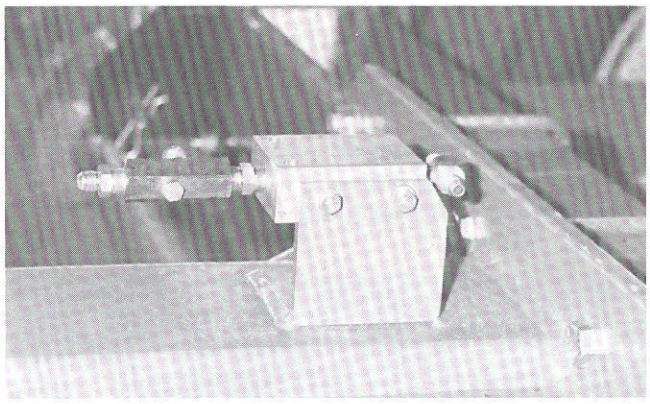
13. Remove the plugs from all cylinder ports.

NOTE: Depending upon the planter model you are assembling, see hydraulic section pages in the parts section for fitting and hose information.

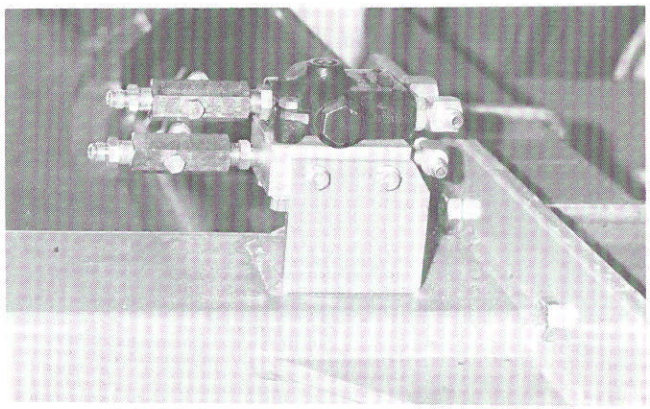
14. Install an adapter and a flow control to the front side of the sequencing valve and an adapter and a flow control to the front side of the mounting block.

IMPORTANT: The flow control valves must be installed with the arrows pointed toward the tractor.



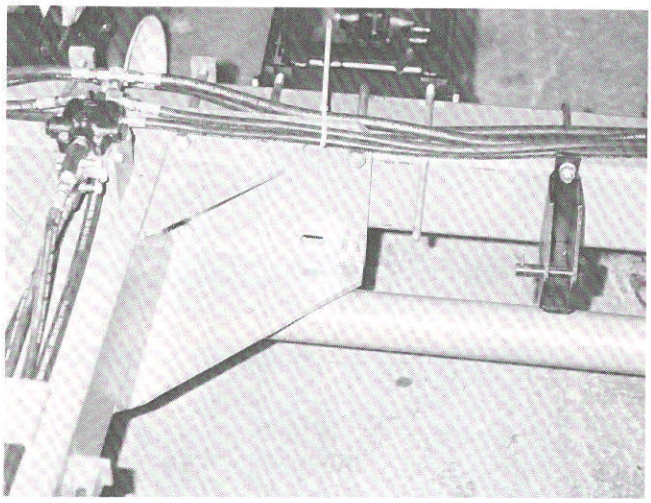


NOTE: The flow control valves are used to regulate the speed of the marker. To properly match the marker cylinder speed to your tractor's hydraulic system, loosen the lock nut which secures the knurled adjustment knob in place. To increase the cylinder speed turn the valve counter-clockwise opening the valve. To decrease the cylinder speed turn the valve clockwise. After the flow controls have been adjusted, the marker speed will decrease with cold oil supply. Make sure that all adjustments are made with warm oil. Do not overtighten locknut.



15. **Mount mounting block on tongue using two 3/8" x 1 1/4" cap screws and lock washers. Mount sequencing valve to mounting block with two 3/8" x 3" cap screws, lock washers and hex nuts. The sequencing valve is used to alternate the marker raise and lowering automatically.**

16. **Install hoses and fittings and secure hydraulic hoses to planter with hose clamps and nylon tie straps.**

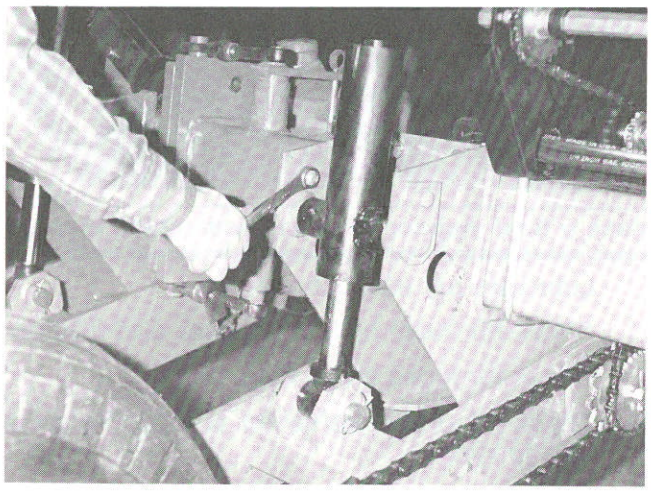


17. **Install customer supplied coupler on tractor end of each hose. The couplers installed must be the SAE type to match the tractor being used.**

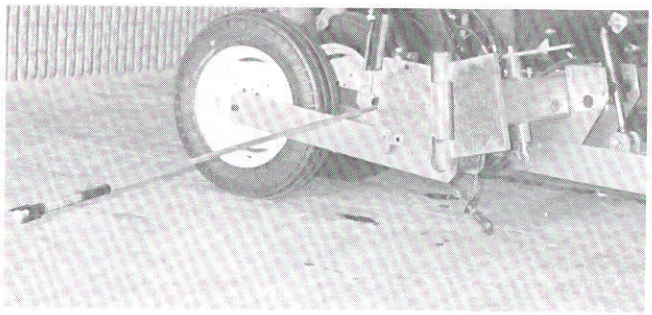
18. **Prime the hydraulic system**

CAUTION: Disconnect the rod end of both marker cylinders before cycling the cylinders. The flow control valves must be adjusted to prevent damage to the marker assembly. Loosen the lock nut on each knurled adjustment knob and screw the adjustment all the way closed. Cycle the hydraulic systems several times with the cylinder rods disconnected to purge all air from the hydraulic system. After the cylinders are operating smoothly, attach the rod end of each cylinder.

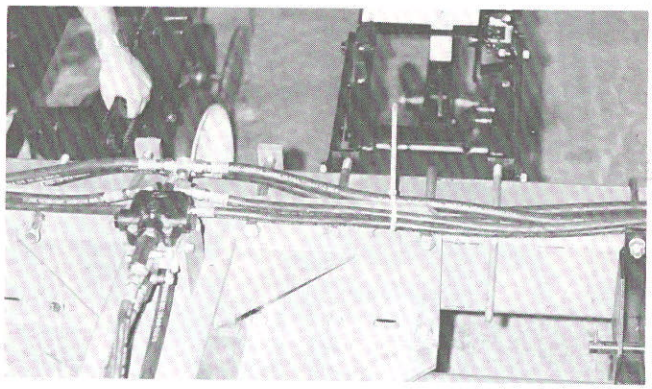
⚠ **WARNING: Always stand clear of the marker assemblies when in operation.**



19. Raise the planter and mount the top end of the spring canister on each drive gauge wheel using two cylinder pins mounted to the module with 1/2" x 1 1/2" cap screws, lock washers and hex nuts.



20. Before mounting the row units, remove the drill shafts on the planter frame. Remove the drill shaft from the folding wing first.
    A. Remove drill shaft sprocket on the transmission.
    B. Loosen lock collar.
    C. Push roll pin out and remove drill shaft coupler, spacer and shaft.
    D. Release the folding wing latch and fold to transport position.
    E. Loosen lock collars and slide inside drill shaft out.

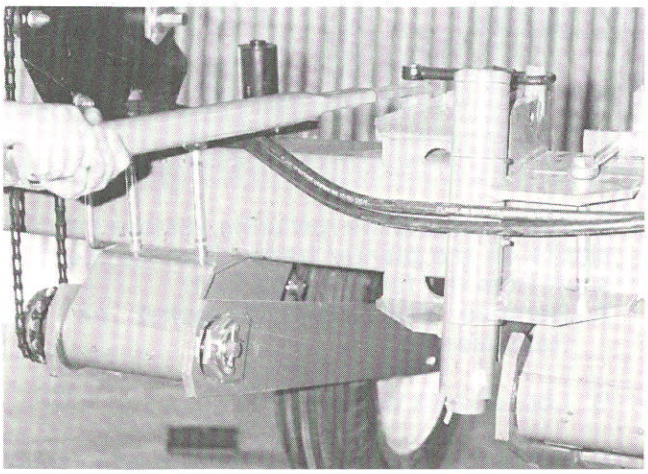


21. Install the two center row units first. Holes are provided in the hitch to accomodate bolting on the inside row units.

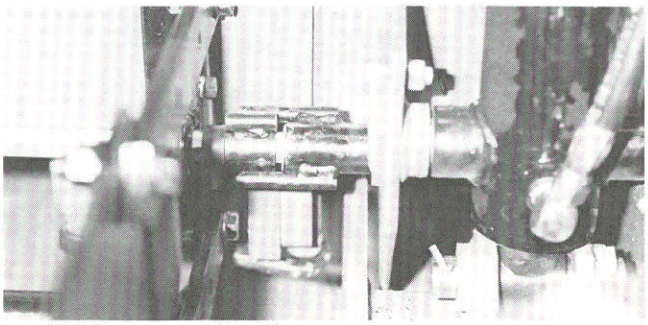
22. Install the remaining row units on the center planter frame section and install lock collar and drill shaft with coupler, spring and spacer.

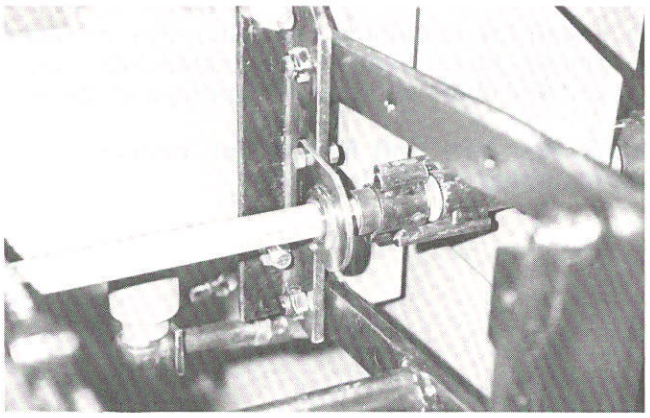
NOTE: See Row Unit Manual for additional row unit mounting instructions.

23. Return the folding wing to the operating position and secure with the folding wing latch.

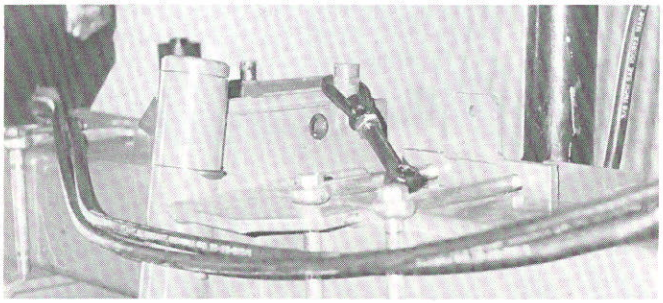


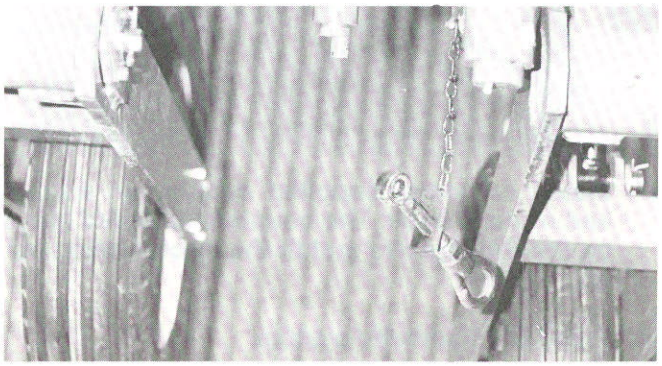
24. Mount row units on folding wing and insert drill shaft. Install drill shaft coupler and spacer and secure with roll pin. On the L.H. wing the spacer will be butted against a hanger bearing which is mounted to the planter with a special support angle which replaces the standard R.H. row unit support. On the R.H. wing the spacer will be butted against the row unit hanger bearing sprocket.





25. Tighten lock collars and install drill shaft sprockets on transmission.





26. Adjust folding wing latch on each wing so wings are held tightly against center section of planter.

27. Adjust transport lock latch on each wing and planter center section so they match up.

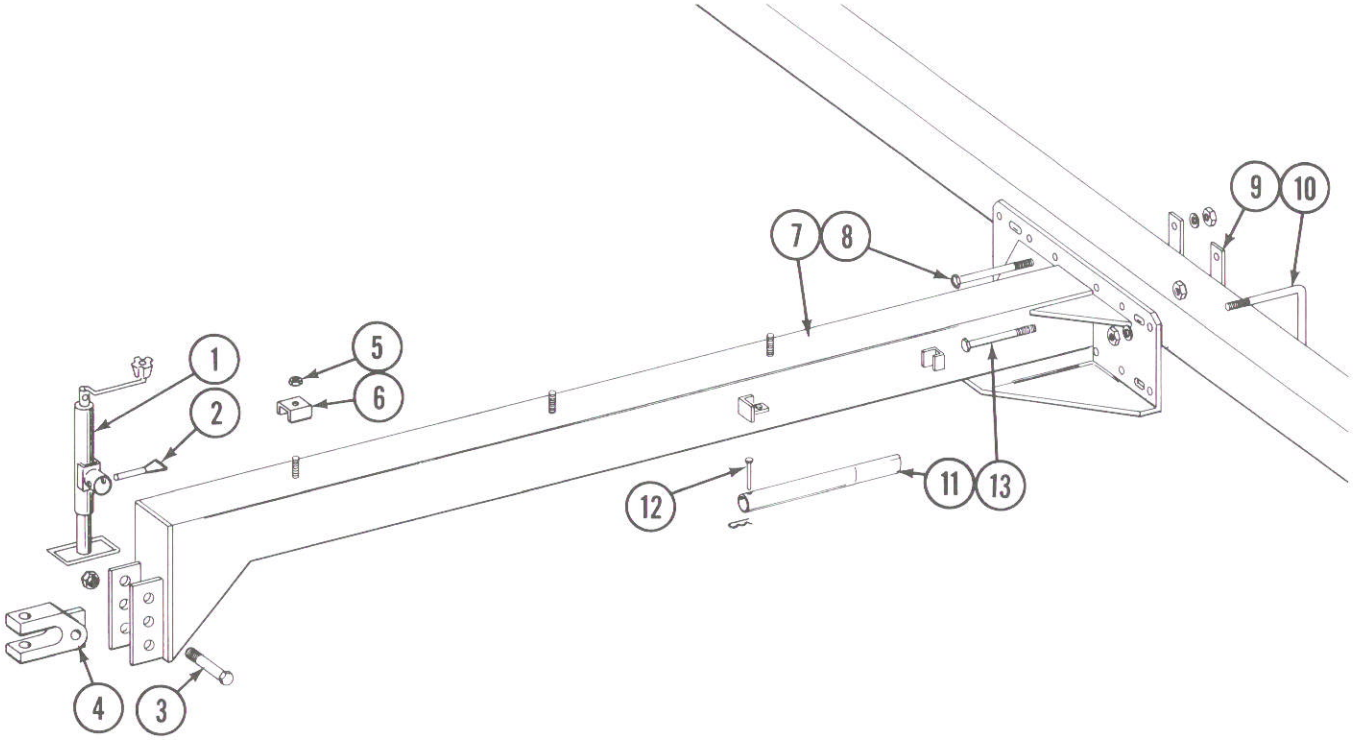
NOTE: We recommend rechecking all bolts after the first day of operation.

Make a final inspection of the assembled planter

- ☐ Lubricate per instructions.
- ☐ Check for loose hydraulic hoses and fittings.
- ☐ Check for loose bolts, nuts, etc.
- ☐ Check all drive chains for proper alignment and tension.
- ☐ Make sure all drive shafts and idlers rotate freely and do not bind.
- ☐ Make sure all row units are mounted properly and that they are squared on the frame.
- ☐ Cycle all hydraulics to insure all the air has been purged from the hydraulic system.

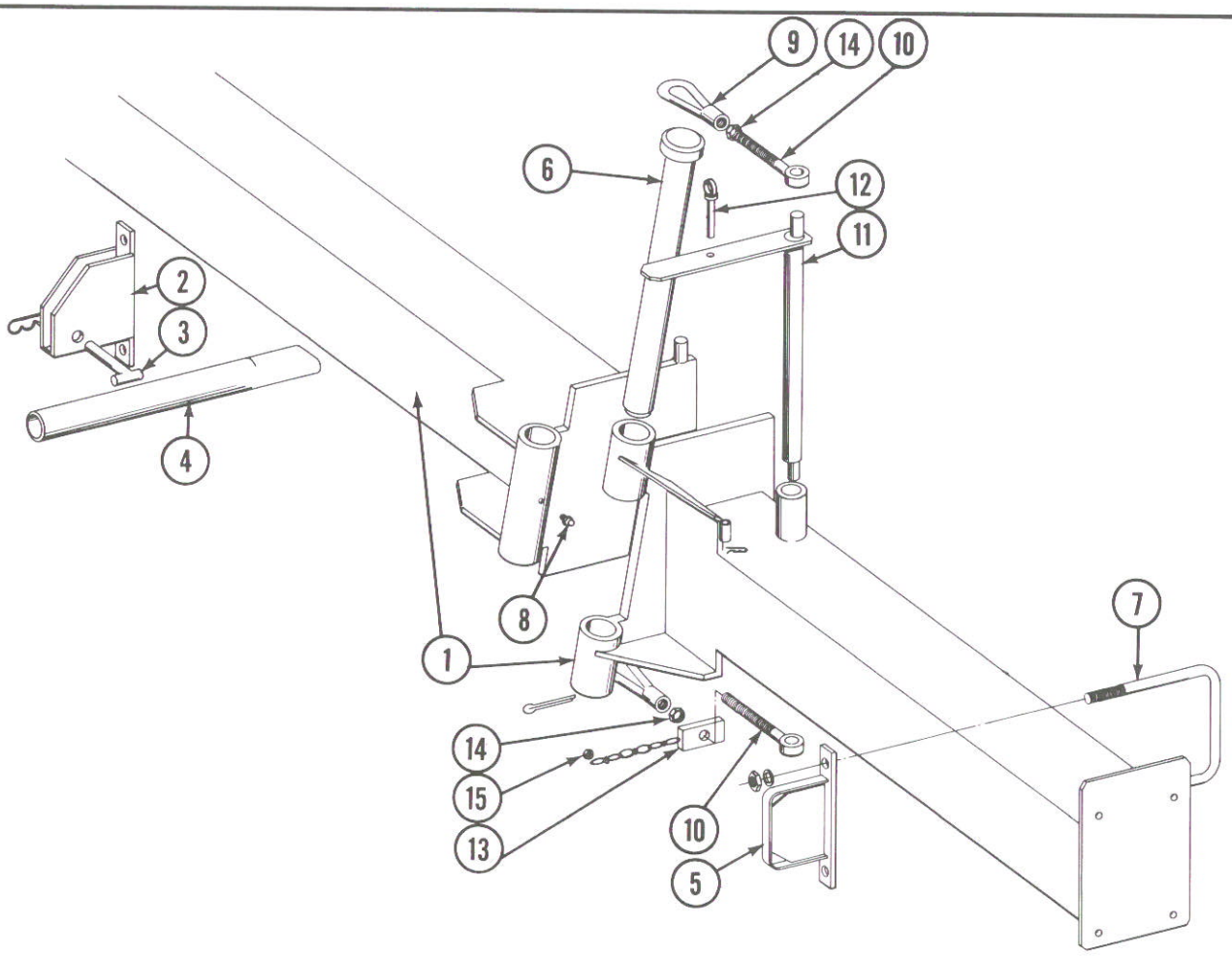
PARTS LIST INDEX

TONGUE ASSEMBLY



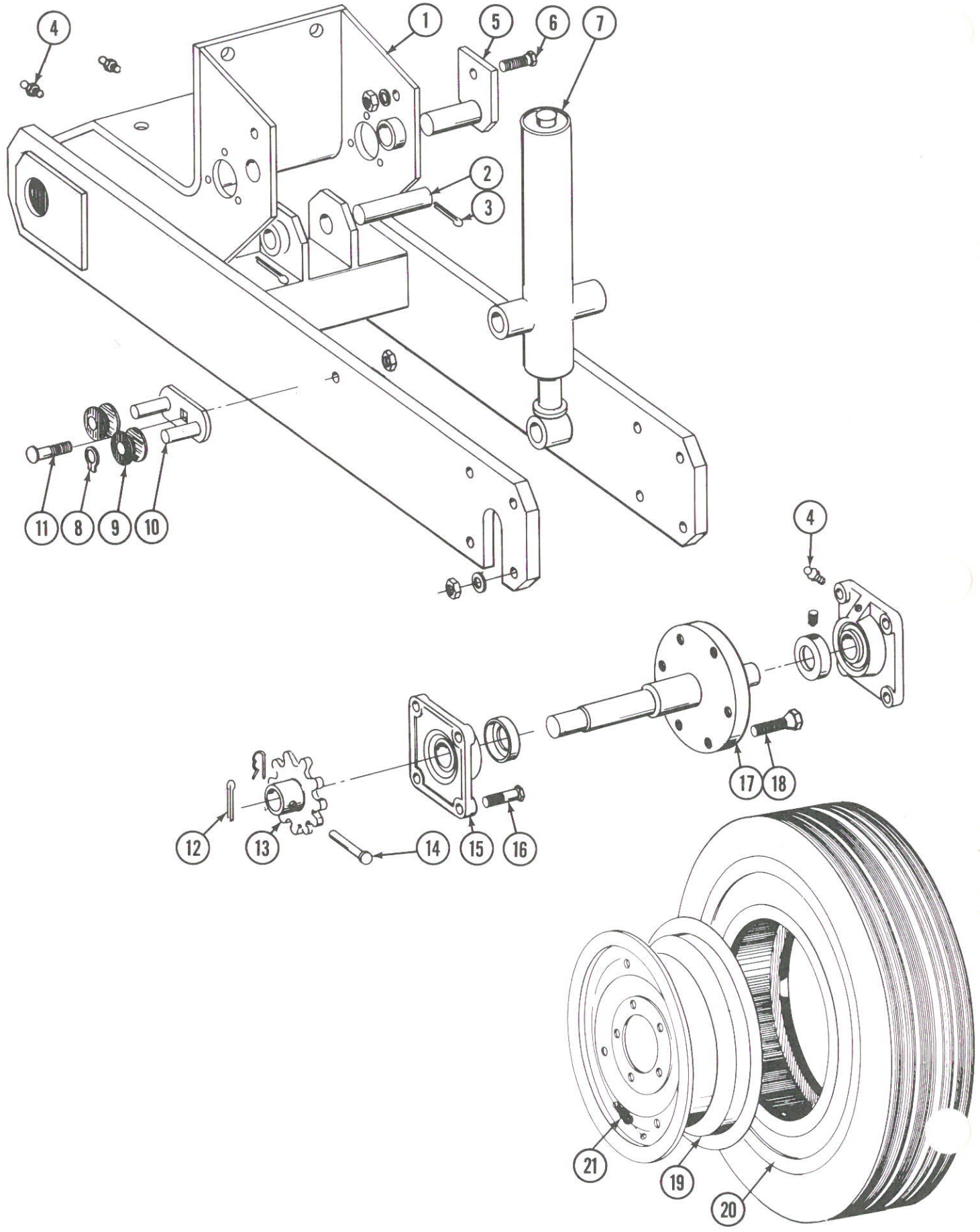
ITEM	PART NO.	DESCRIPTION
1.	4100-2	Jack
2.	R255	Repair Kit (Chain and pin)
3.	10169	HHCS, 1 1/4" - 7 x 6"
	10157	Lock Nut, 1 1/4" - 7
4.	B156	Clevis
5.	10111	Lock Nut, 1/2" - 13
6.	D740	Clamp
7.	A2163	Hitch
	A2251	Hitch, Extended, Optional, 8R Wide Models
8.	10059	HHCS, 3/4" - 10 x 9 1/2"
	10231	Lock Washer, 3/4"
	10105	Hex Nut, 3/4" - 10
9.	D2713	Bar
10.	D1748	U-Bolt, 7" x 7" x 3/4" - 10
	10231	Lock Washer, 3/4"
	10105	Hex Nut, 3/4" - 10
11.	D2751	Handle
12.	10549	Clevis Pin, 3/8" x 4"
	10670	Hairpin Clip
13.	10152	HHCS, 5/8" - 11 x 9"
	10107	Lock Nut, 5/8" - 11

FRAME ASSEMBLY



ITEM	PART NO.	DESCRIPTION
1.	A2214	Frame, 236 11/16", 8R30
	A2215	Frame, 289 15/16", 8R Wide
	A2198	Frame, 356 7/16", 12R30
2.	A2149	Latch Transport
3.	A2153	Pin, 3 3/4"
	10671	Hairpin Clip 3/16" x 3 1/4"
4.	D2751	Handle
5.	A2150	Latch, Transport
6.	A2174	Pin,
	10461	Cotter Pin, 3/8" x 3"
7.	D1114	U-Bolt, 7" x 7" x 5/8" - 11
	10230	Lock Washer, 5/8"
	10104	Hex Nut, 5/8" - 11
8.	10641	Fitting, Grease
9.	D2744	Eye Nut
10.	D2743	Eye Bolt
11.	A2222	Pin, Locking, R.H.
	A2221	Pin, Locking, L.H. (Shown)
12.	A2223	Pin
	10670	Hairpin Clip, No. 3
13.	A2224	Chain Weld
14.	10176	Jam Nut, 3/4" - 16 NF
15.	10109	Lock Nut, 5/16" - 18

DRIVE WHEEL MODULE

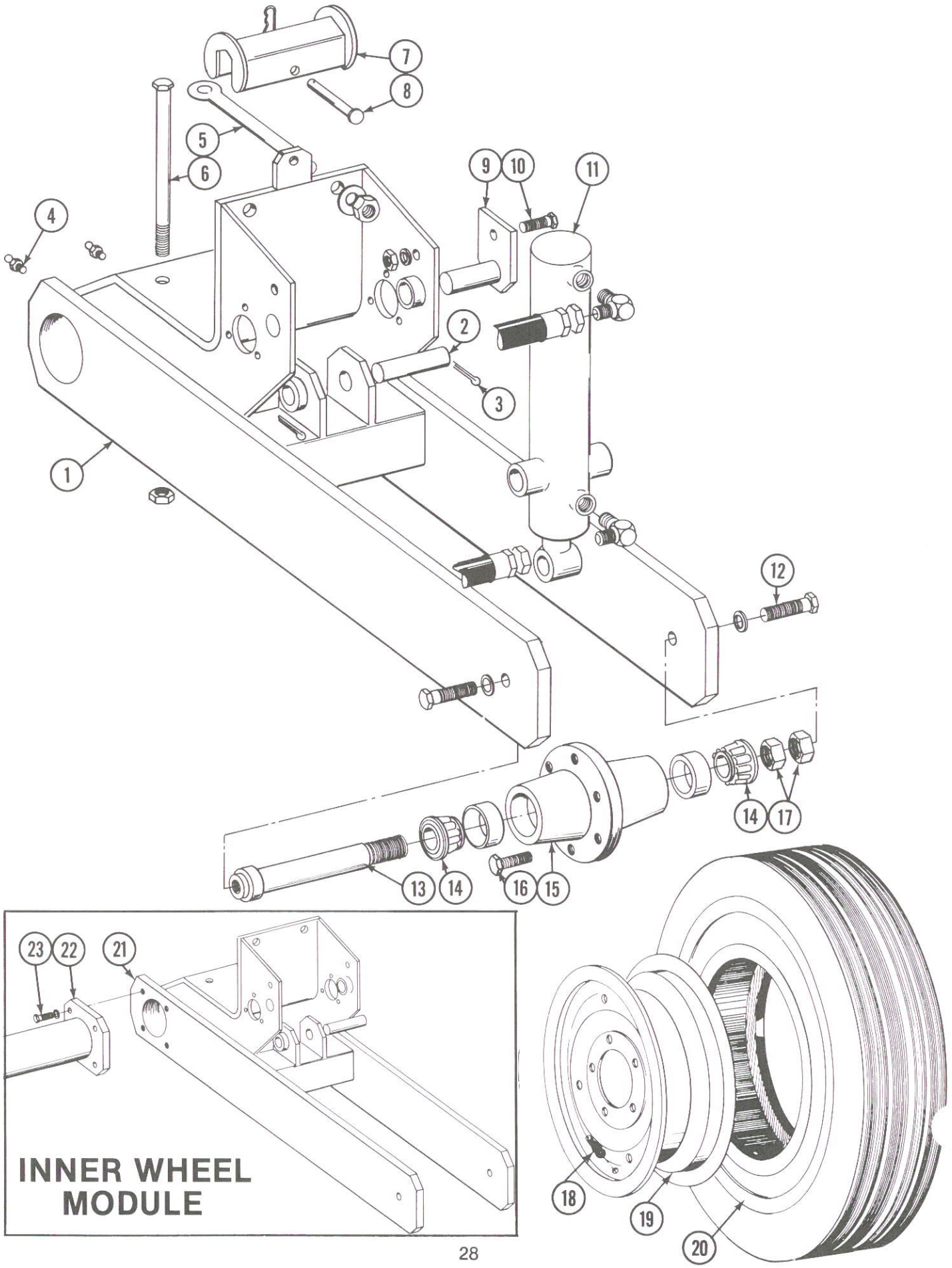


DRIVE WHEEL MODULE

ITEM	PART NO.	DESCRIPTION	
1.	A2211	Module and Bearing Plate Assembly	
	A2212	Module and Bearing Plate Assembly	(Shown)
2.	D826	Pin	
3.	10460	Cotter Pin, 1/4" x 2"	
4.	10641	Fitting, Grease	
5.	A2152	Pin, Cylinder	
6.	10017	HHCS, 1/2"-13 x 1 1/2"	
	10228	Lock Washer, 1/2"	
	10102	Hex Nut, 1/2"-13	
7.	A2169	Canister Assembly, Down Pressure	
8.	10435	Ring	
9.	D1067	Spool	
10.	A288	Bracket	
11.	10313	Carriage Bolt, 1/2"-13 x 1 1/2"	
	10088	Carriage Bolt, 1/2"-13 x 1 1/2", L.H. Thread	
	10102	Hex Nut, 1/2"-13	
	10086	Hex Nut, 1/2"-13 L.H. Thread	
12.	10460	Cotter Pin, 1/4" X 2"	
13.	2500-23	Sprocket, 12T	
14.	10566	Clevis Pin, 5/16" x 2 1/4"	
	10455	Cotter Pin, 1/16" x 1/2"	
15.	A450	Bearing w/Lock Collar, 1 1/2"	
	R266	Lock Collar	
16.	10016	HHCS, 1/2"-13 x 2"	
	10228	Lock Washer, 1/2"	
	10102	Hex Nut, 1/2"-13	
17.	A2156	Spindle	
18.	R270	Bolt, Lug	
19.	A2142	Rim, 20 x 5.50F	
20.	D2648	Tire, 7:50 x 20", 6 Ply Tubeless	
21.	D1165	Valve Stem	

A.	A289	Idler Assembly (Items 8 thru 10))
B.	A2207	Tire and Wheel Assembly (Items 19 thru 21)

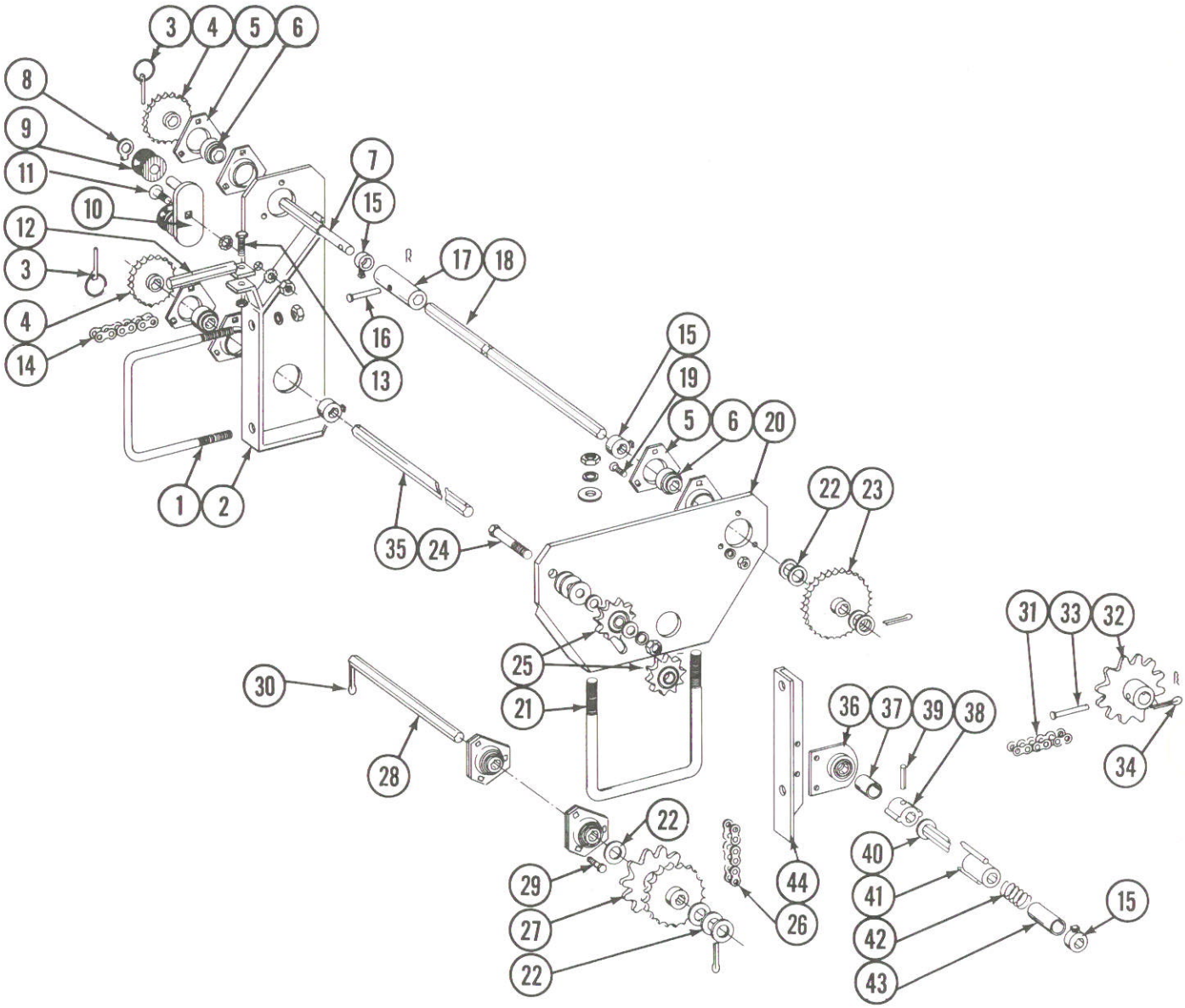
LIFT WHEEL MODULE



LIFT WHEEL MODULE

ITEM	PART NO.	DESCRIPTION
1.	A2182	Module, Outer Lift Wheel
2.	D826	Pin
3.	10460	Cotter Pin, 1/4" x 2"
4.	10641	Fitting, Grease
5.	D830	Bolt, Eye, 3/4" - 10 x 9"
	10231	Lock Washer, 3/4"
	10105	Hex Nut, 3/4" - 10
6.	10030	HHCS, 3/4" - 10 x 9"
	10112	Lock Nut, 3/4" - 10
7.	A2201	Lock-up
8.	10561	Clevis Pin, 1/2" x 3"
	10670	Hairpin Clip, No. 3
9.	A2152	Pin, Cylinder
10.	10017	HHCS, 1/2" - 13 x 1 1/2"
	10228	Lock Washer, 1/2"
	10102	Hex Nut, 1/2" - 13
11.	A921	Cylinder, 3" x 10"
12.	10026	HHCS, 3/4" - 10 x 2"
	10231	Lock Washer, 3/4"
13.	A2155	Spindle
14.	A895	Bearing Cone
15.	A2148	Hub w/Cups, 6 Bolt
	R434	Cup
16.	R270	Lug Bolt, 9/16" - 18
17.	10087	Jam Nut, 1 1/2" - 12
18.	D1165	Valve Stem
19.	A2142	Rim, 20 x 5.50F
20.	D2648	Tire, 7:50 x 20", 6 Ply Tubeless
21.	A2185	Module, Inner Lift Wheel, L.H.
	A2186	Module, Inner Lift Wheel, R.H. (Shown)
22.	A2187	Tube, Torque, 47", 8R30
	A2188	Tube, Torque, 64", 8R Wide
	A2189	Tube, Torque, 107", 12R30
23.	10007	HHCS, 5/8" - 11 x 1 1/2"
	10230	Lock Washer, 5/8"
A.	A2207	Tire and Wheel Assembly (Items 18 thru 20)

TRANSMISSION AND DRIVE LINE

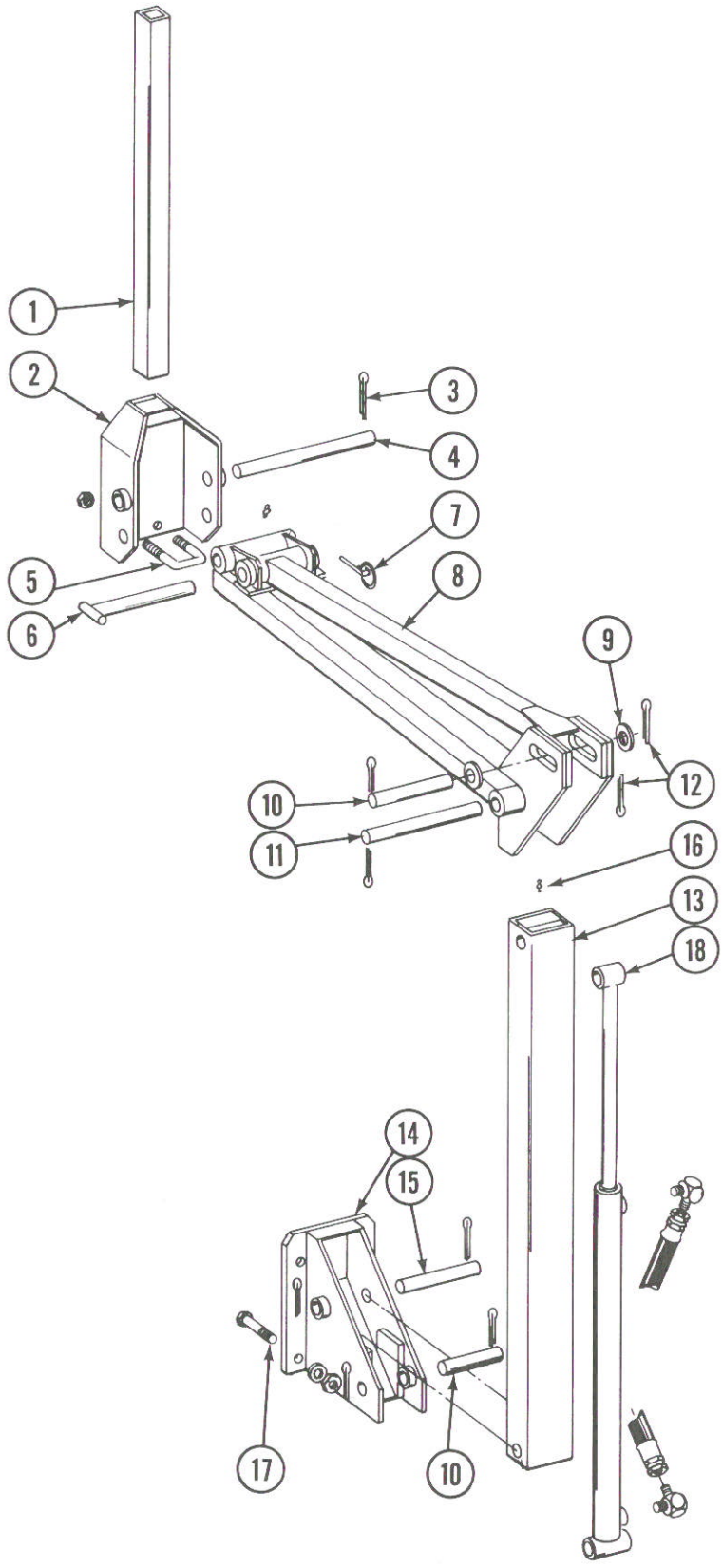


ITEM	PART NO.	DESCRIPTION
1.	D1114	U-Bolt, 7" x 7" x 5/8"-11
	10230	Lock Washer, 5/8"
	10104	Hex Nut, 5/8"-11
2.	A1729	Transmission Side Plate (Shown)
	A2202	Transmission Side Plate
3.	D2558	Pin, Lynch, 1/4"
4.	2500-1	Sprocket, 14T
	2500-2	Sprocket, 22/26T
	2500-3	Sprocket, 16/30T
	2500-6	Sprocket, 18/28T
5.	3400-1	Flangette
6.	2100-3	Bearing, 7/8 Hex Bore
7.	D2543	Shaft
8.	10435	Ring
9.	D1067	Spool
10.	A288	Bracket
11.	10313	Carriage Bolt, 1/2"-13 x 1 1/2"
	10527	Lock Washer, Internal-External, 1/2"
	10102	Hex Nut, 1/2"-13
A.	A289	Idler Assembly (Items 8 thru 10)

TRANSMISSION AND DRIVE LINE

ITEM	PART NO.	DESCRIPTION
12.	A1786	Rod, Sprocket Storage
13.	10019	HHCS, 5/16"-18 x 1"
	10109	Hex Lock Nut, 5/16"-18
14.	3300-40	Chain, No. 2040, 40 Pitch Including Connector Link
	R194	Connector Link, No. 2040
15.	A271	Lock Collar
16.	10558	Clevis Pin, 5/16" x 1 3/4"
	10456	Cotter Pin, 1/8" x 3/4"
17.	D2567	Coupler
18.	D2548-28.5	Drive Shaft, 7/8 Hex, R.H. and L.H., 8R30
	D2548-35	Drive Shaft, 7/8 Hex, R.H. and L.H., 8R Wide
	D2548-58.5	Drive Shaft, 7/8 Hex, R.H. and L.H. 12R30 (Where Applicable)
	D914-46	Drive Shaft, 7/8 Hex, R.H. and L.H., 12R30 (Where Applicable)
19.	10303	Carriage Bolt, 5/16"-18 x 1"
	10232	Lock Washer, 5/16"
	10106	Hex Nut, 5/16"-18
20.	A2172	Plate, Bearing Support, R.H.
	A2173	Plate, Bearing Support, L.H.
21.	D1114	U-Bolt, 7" x 7" x 5/8"-11
	10217	Flat Washer, 5/8" USS
	10230	Lock Washer, 5/8"
	10104	Hex Nut, 5/8"-11
22.	10233	Machinery Bushing (As Required)
23.	2500-14	Sprocket, 24T
24.	10009	HHCS, 5/8"-11 x 2 1/2"
	10205	Washer, 5/8" SAE
	10107	Lock Nut, 5/8"-11
25.	A268	Sprocket
26.	3300-76	Chain, No. 2040, 76 Pitch Including Connector Link
	R194	Connector Link, No. 2040
27.	2500-24	Sprocket, 30/12T
28.	D2707	Shaft, 7/8" x 15 1/2"
29.	10019	HHCS, 5/16"-18 x 1"
	10232	Lock Washer, 5/16"
30.	10460	Cotter Pin, 1/4" x 2"
31.	3200-80	Chain, No. 2050, 80 Pitch Including Connector Link
	R195	Connector Link, No. 2040
32.	2500-23	Sprocket, 12T
33.	10566	Clevis Pin, 5/16" x 2 1/4"
	10455	Cotter Pin, 1/16" x 1/2"
34.	10460	Cotter Pin, 1/4" x 2"
35.	D2753	Drill Shaft, Wing, 7/8 Hex, 51" R.H. and L.H., 8R30
	D2754	Drill Shaft, Wing, 7/8 Hex, 64 1/2", R.H. and L.H., 8R Wide
	D2720	Drill Shaft, Wing, 7/8 Hex, 81", R.H. and L.H., 12R30
36.	A2180	Bearing, 7/8" Hex Hanger, L.H. Side
	A1720	Bearing and Sprocket, 7/8" Hex Hanger, R.H. Side
37.	D1199-3	Spacer, 5/8", 8R30 and 12R30
	D1199-5	Spacer, 5", 8R38
	D1199-6	Spacer, 1 1/4", 8R38 and 8R36
38.	A2171	Coupler
39.	10602	Pin, Spring, 1/4" x 1 1/2"
40.	A2192	Drill Shaft, Main Frame, 7/8" Hex, 60", R.H., 8R30
	A2193	Drill Shaft, Main Frame, 7/8 Hex, 49", L.H., 8R30
	A2194	Drill Shaft, Main Frame, 7/8 Hex, 73", R.H., 8R Wide
	A2195	Drill Shaft, Main Frame, 7/8 Hex, 63", L.H., 8R Wide
	A2190	Drill Shaft, Main Frame, 7/8 Hex, 90", R.H., 12R30
	A2191	Drill Shaft, Main Frame, 7/8 Hex, 79", L.H., 12R30
41.	A2170	Coupler
42.	D2599	Spring
43.	D1199-7	Spacer, 5 1/2"
44.	D2298	Support, Special (L.H. Wing Only)

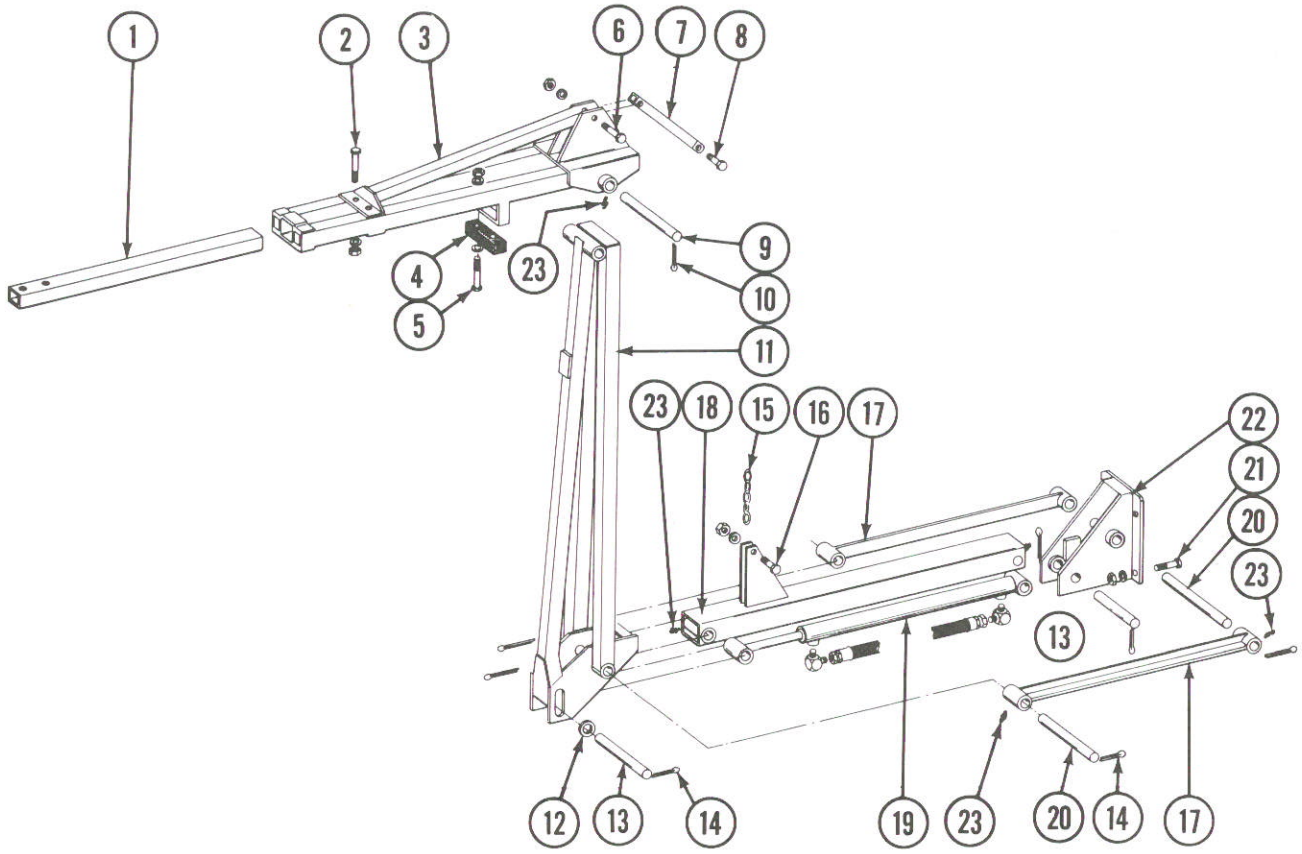
MARKER ASSEMBLY, 8R30 AND WIDE



MARKER ASSEMBLY, 8R30 AND WIDE

ITEM	PART NO.	DESCRIPTION
1.	D453-2	Tube, Extension, 40", 8R30
	D453-4	Tube, Extension, 60", 8R Wide
2.	A2205	Marker Weld
3.	10463	Cotter Pin, 1/4" x 1 1/2"
4.	D2697	Pin
5.	D2721	U-Bolt, 2" x 3" x 1/2"-13
	10111	Lock Nut, 1/2"-13
6.	A2204	Pin, Tee
7.	D2558	Pin, Lynch
8.	A2199	Marker Weld, 8R30
	A2200	Marker Weld, 8R Wide
9.	10226	Flat Washer, 1 1/2"
10.	D1701	Pin
11.	D1702	Pin
12.	10460	Cotter Pin, 1/4" x 2"
13.	A2158	Marker Link
14.	A827	Bracket
15.	D653	Pin
16.	10641	Fitting, Grease
17.	10039	HHCS, 1/2"-13 x 1 3/4"
	10228	Lock Washer, 1/2"
	10102	Hex Nut, 1/2"-13
18.	A2151	Cylinder, 2" x 20"

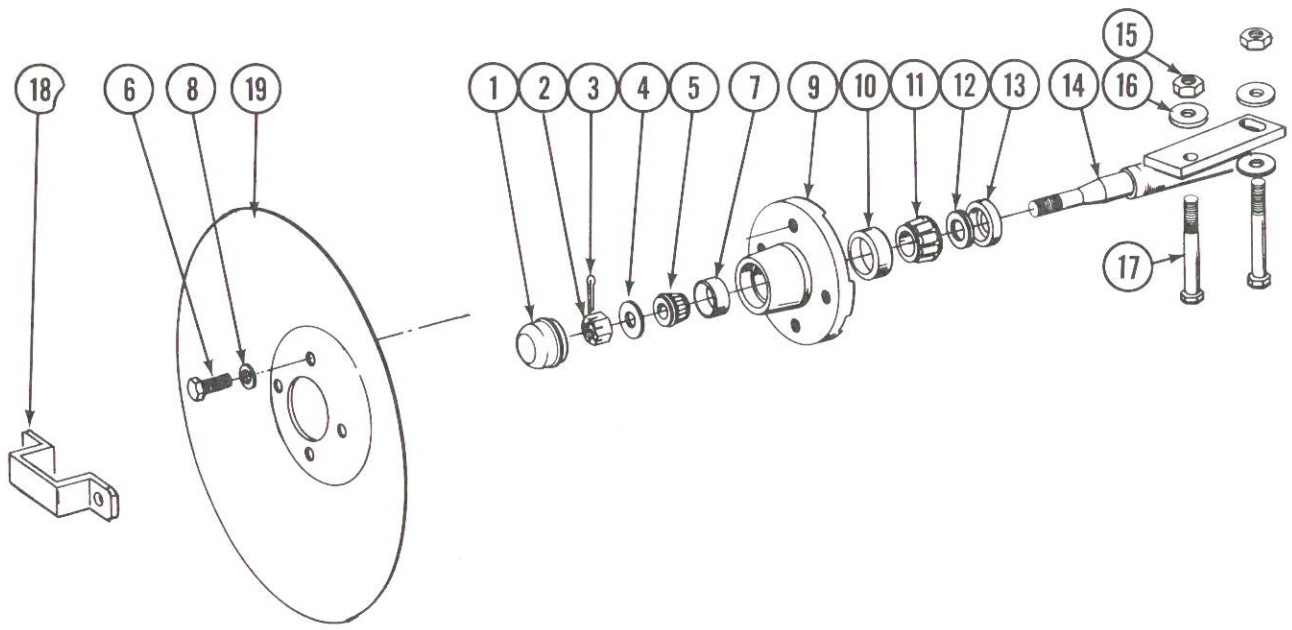
MARKER ASSEMBLY, 12R30



MARKER ASSEMBLY, 12R30

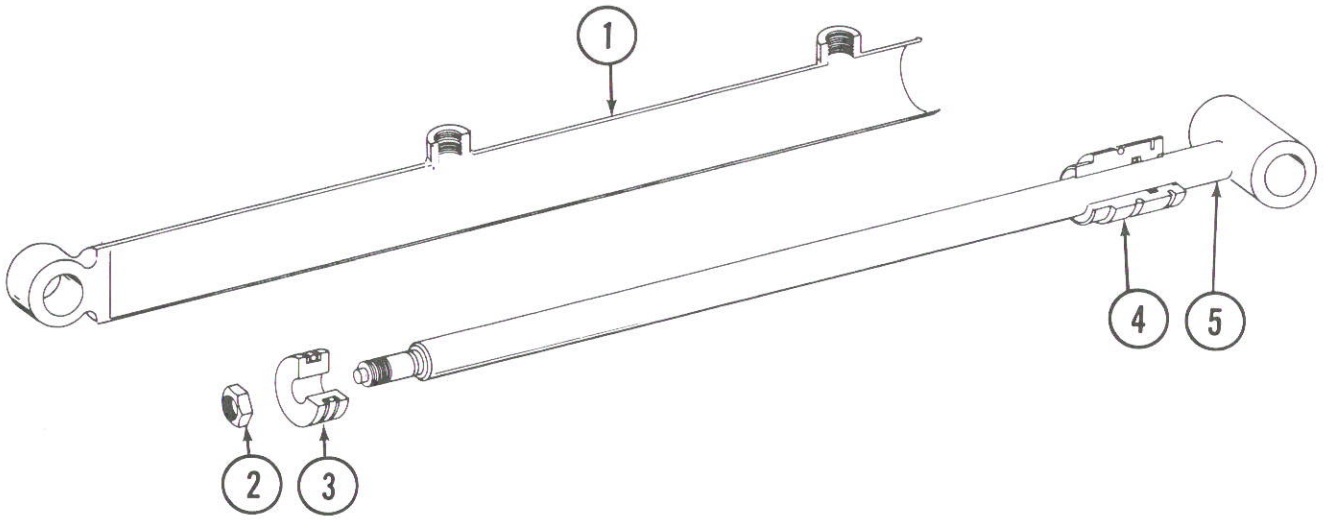
ITEM	PART NO.	DESCRIPTION
1.	D453-2	Tube, Extension, 40"
2.	10033	HHCS, 1/2"-13 x 3 1/2"
	10228	Lock Washer, 1/2"
	10102	Hex Nut, 1/2"-13
3.	A2166	Marker Weld
4.	D2698	Stop, Rubber
5.	10047	HHCS, 3/8"-16 x 1 3/4"
	10210	Flat Washer, 3/8" USS
	10229	Lock Washer, 3/8"
	10101	Hex Nut, 3/8"-16
6.	10038	HHCS, 1/2"-13 x 3"
	10111	Lock Nut, 1/2"-13
7.	A2145	Arm Weld, Linkage
8.	10016	HHCS, 1/2"-13 x 2"
	10111	Lock Nut, 1/2"-13
9.	D2697	Pin
10.	10463	Cotter Pin, 1/4" x 1 1/2"
11.	A2165	Marker Weld
12.	10226	Flat Washer, 1 1/4"
13.	D1701	Pin
14.	10460	Cotter Pin, 1/4" x 2"
15.	3302-4	Chain
16.	10039	HHCS, 1/2"-13 x 1 3/4"
	10111	Lock Nut, 1/2"-13
17.	A2162	Bar
18.	A2154	Link
19.	A2151	Cylinder, 2" x 20"
20.	D2681	Pin
21.	10039	HHCS, 1/2"-13 x 1 3/4"
	10228	Lock Washer, 1/2"
	10102	Hex Nut, 1/2"-13
22.	A827	Bracket
23.	10641	Fitting, Grease

MARKER HUB ASSEMBLY



ITEM	PART NO.	DESCRIPTION
1.	D840	Hub Cap
2.	10725	Hex Nut, Slotted, 5/8" - 18
3.	10470	Cotter Pin, 5/32" x 1"
4.	10724	Washer, 5/8"
5.	A257	Bearing, Outer
6.	10722	HHCS, 1/2" - 20 x 1"
7.	R151	Cup, Outer
8.	10228	Lock Washer, 1/2"
9.	A167	Hub w/Cups
10.	R150	Cup, Inner
11.	A245	Bearing Inner
12.	A899	Seal, Rubber
13.	A243	Seal, Grease
14.	A1677	Spindle Weld, L.H., Less Hardware (Shown)
	A1676	Spindle Weld, R.H., Less Hardware
15.	10102	Hex Nut, 1/2" - 13
16.	10168	Machinery Bushing, 1/2" x 7 Ga.
17.	10033	HHCS, 1/2" - 13 x 3 1/2"
18.	D2597	Retainer
19.	D746	Disc, 16"
A.	A1679	Hub and Spindle Assembly L.H. (Items 1-14)
	A1678	Hub and Spindle Assembly R.H. (Items 1-14)

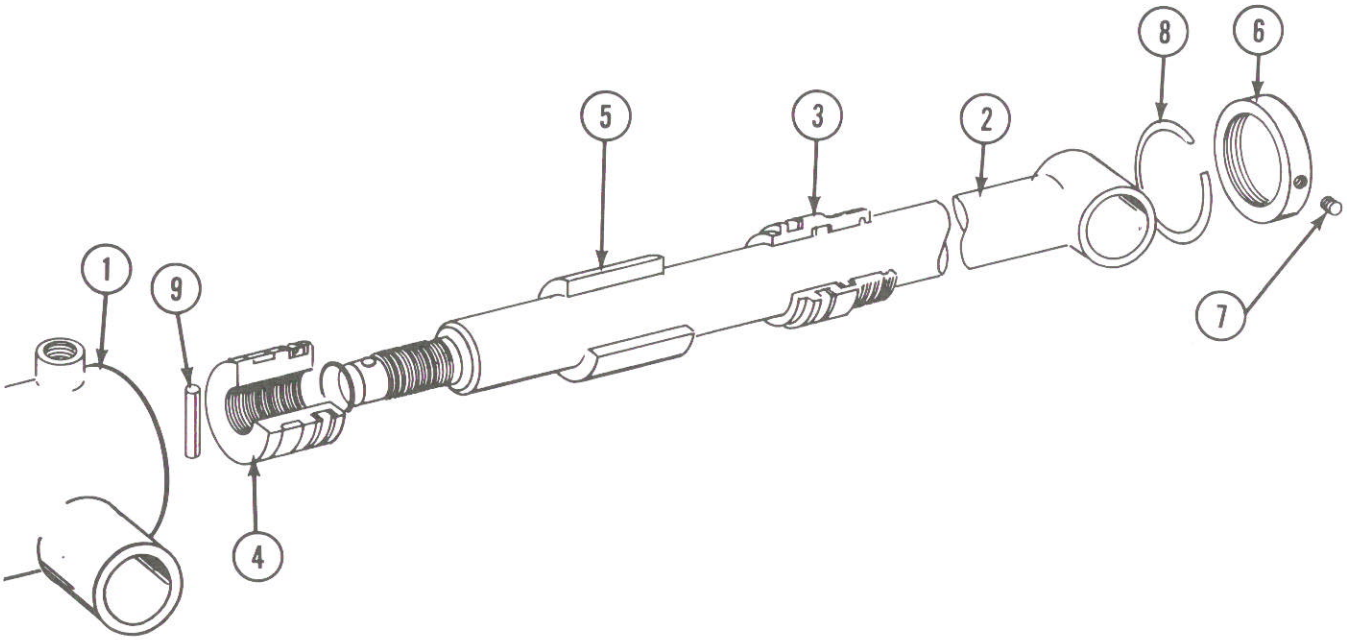
MARKER CYLINDER



ITEM	PART NO.	DESCRIPTION
1.	R601	Tube Assembly
2.	R366	Nut, 3/4 - 16 NF
3.	R365	Piston
4.	R552	Head Gland
5.	R551	Shaft Assembly
*A.	A2151	Cylinder Assembly, 2" x 20" w/Extended Case
	R368	Seal Kit Includes (1) O-Ring, 614 I.D. x .754 O.D. (1) O-Ring, 1.109 I.D. x 1.387 O.D. (2) O-Ring, 1.600 I.D. x 2.200 O.D. (1) Back Up Washer, 1 1/8" I.D. x 1 3/8" O.D. (1) Rod Wiper 2" I.D. (1) Retaining Ring Internal 2" (2) Back Up Washer 1 5/8" I.D. x 2" O.D.

*To identify - 13118 Stamped On Barrel.

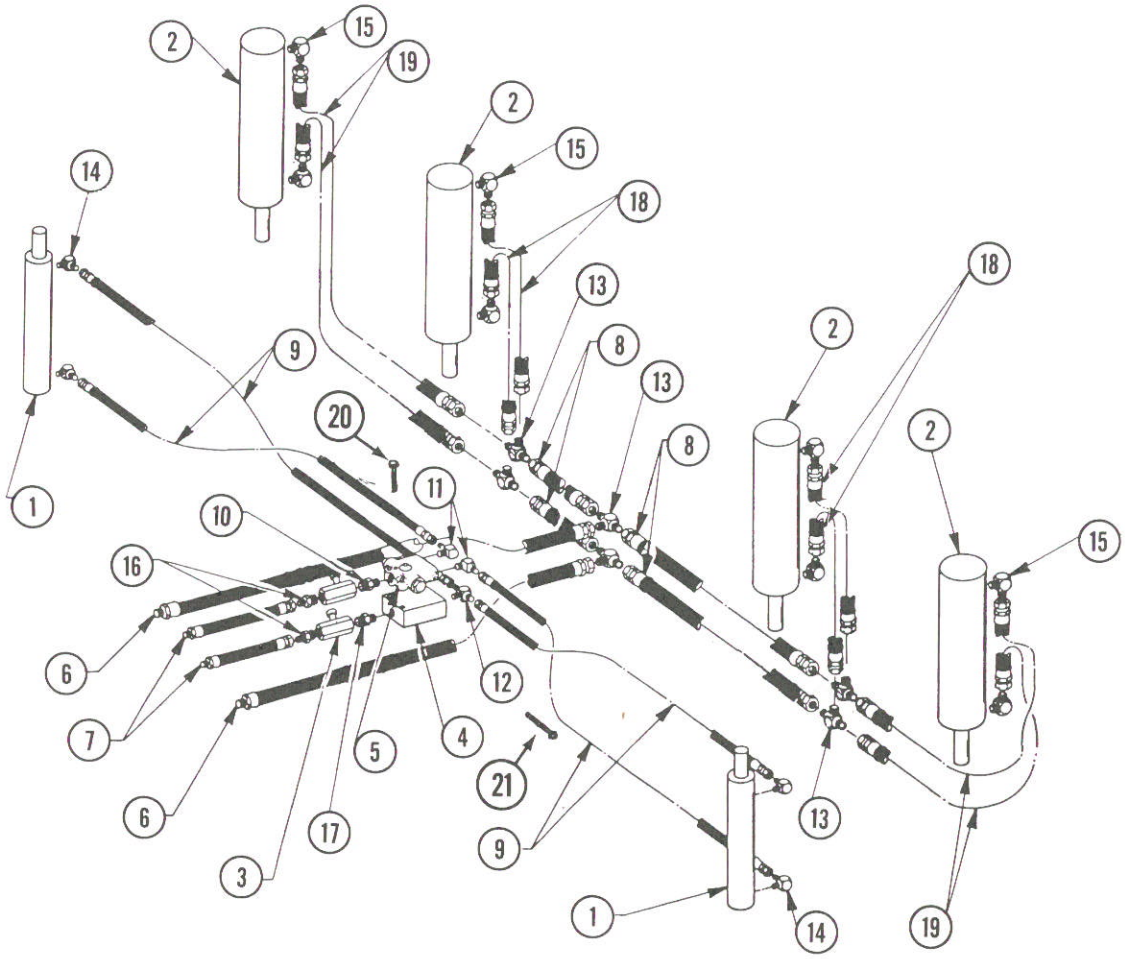
LIFT CYLINDER



ITEM	PART NO.	DESCRIPTION
1.	R521	Tube Assembly
2.	R520	Shaft Assembly
3.	R128	Head Gland
4.	R129	Piston
5.	R130	Stroke Collar
6.	R131	Head Gland Nut
7.	10114	Set Screw, No. 10-32 x ¼
8.	R132	Wire Ring
9.	10604	Roll Pin
	R133	Seal Kit
*A.	A921	Cylinder Assembly Complete, 3"x10"

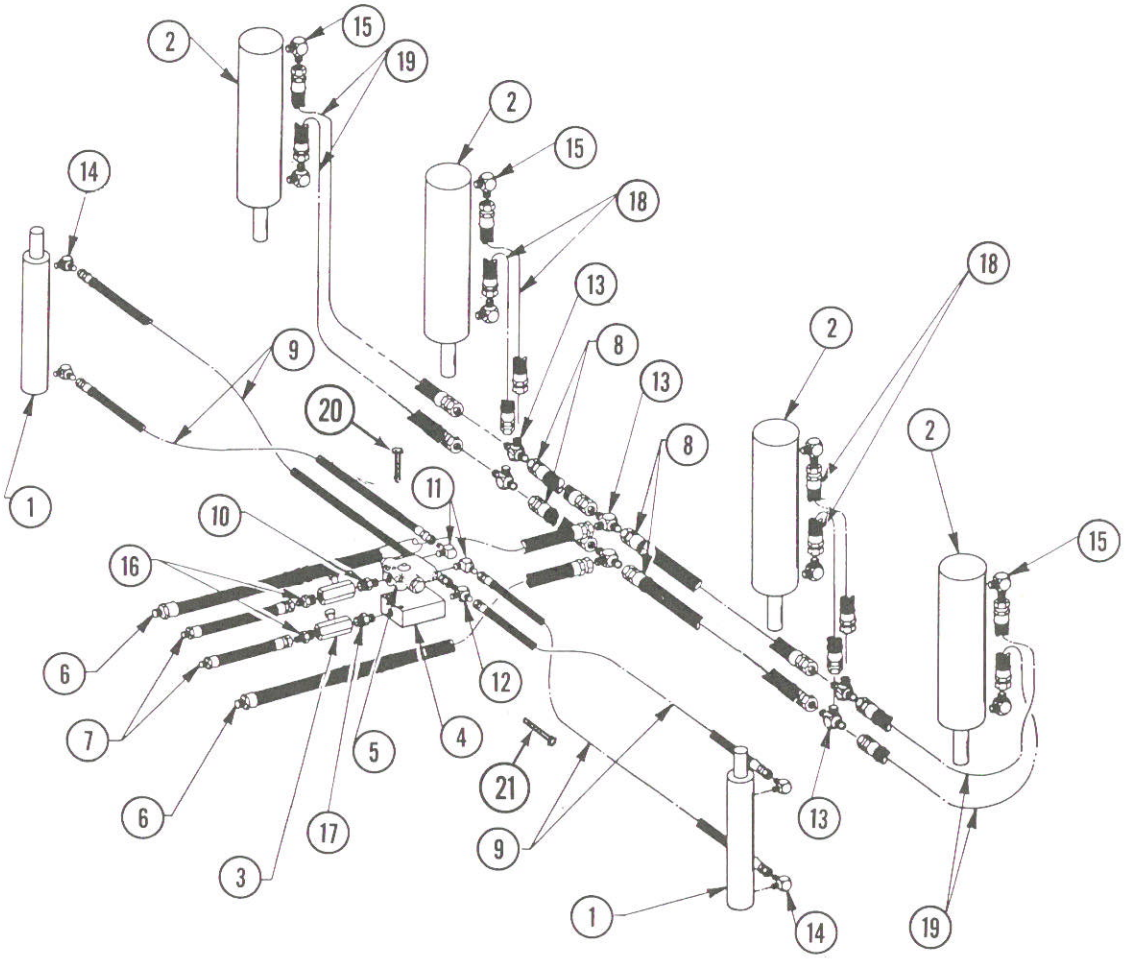
* To identify - 13090 Stamped On Barrel

HYDRAULIC SYSTEM, 8R30



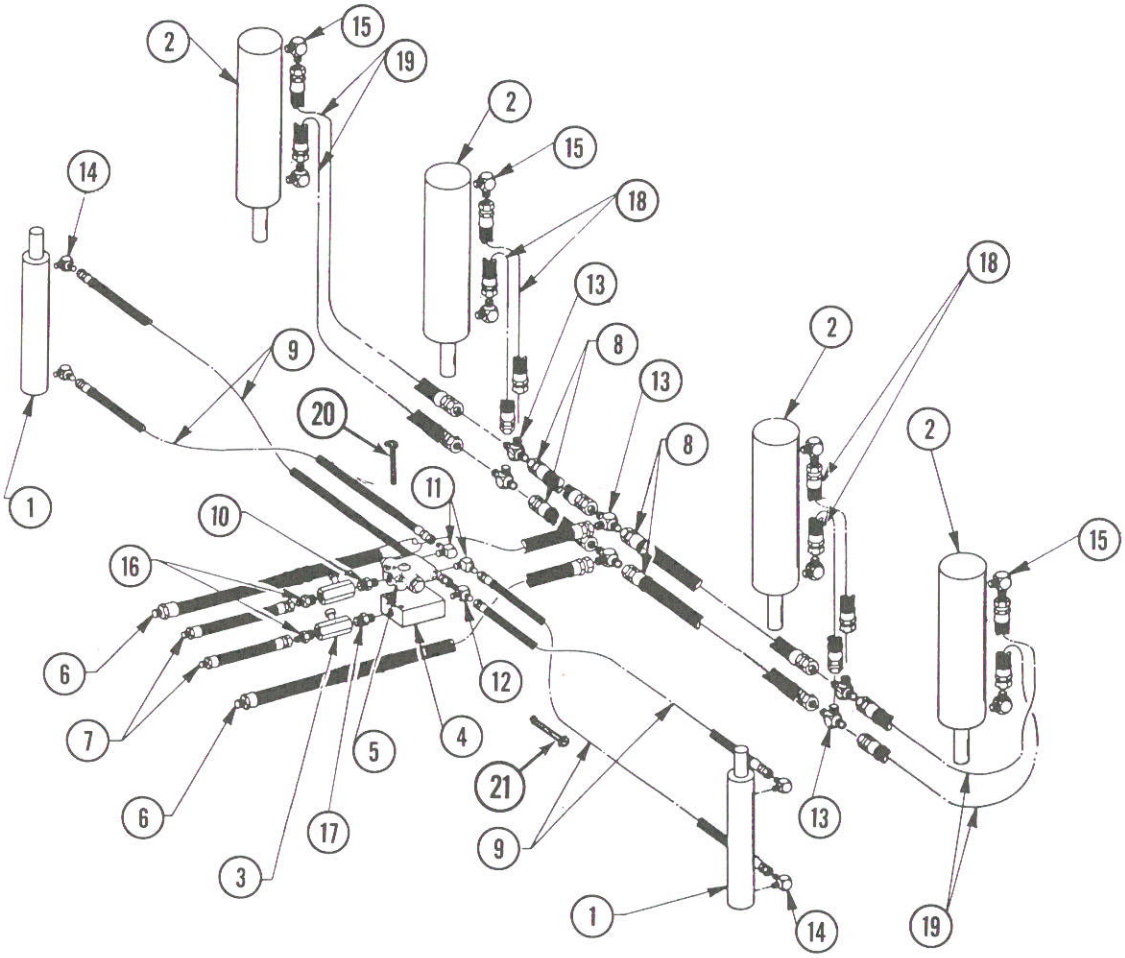
ITEM	PART NO.	DESCRIPTION
1.	A2151	Cylinder, Marker, 2" x 20"
2.	A921	Cylinder, Lift, 3" x 10"
3.	A270	Valve, Flow Control
4.	D2530	Block, Mounting
5.	A282	Valve, Sequencing
6.	A1075	Hose Assembly, 3/8" x 156"
7.	A1128	Hose Assembly, 1/4" x 150"
8.	A1003	Hose Assembly, 3/8" x 27"
9.	A1129	Hose Assembly, 1/4" x 168"
10.	6401-8-6	Adapter, 3/8 MPT to 3/4-16
11.	6801-6-8	Elbow, 90°
12.	2601-6-6	Tee, Run
13.	2603-8	Tee, 3/4-16 JIC
14.	2501-6-8	Elbow, 90°
15.	2501-8-8	Elbow, 90°
16.	2404-6-6	Adapter
17.	5404-6-6	Adapter
18.	A1002	Hose Assembly, 3/8" x 20"
19.	A1019	Hose Assembly, 3/8" x 44"
20.	10062	HHCS, 3/8"-16 x 3"
	10229	Lock Washer, 3/8"
	10101	Hex Nut, 3/8"-16
21.	10004	HHCS, 3/8"-16 x 1 1/4"
	10229	Lock Washer, 3/8"

HYDRAULIC SYSTEM, 8R Wide



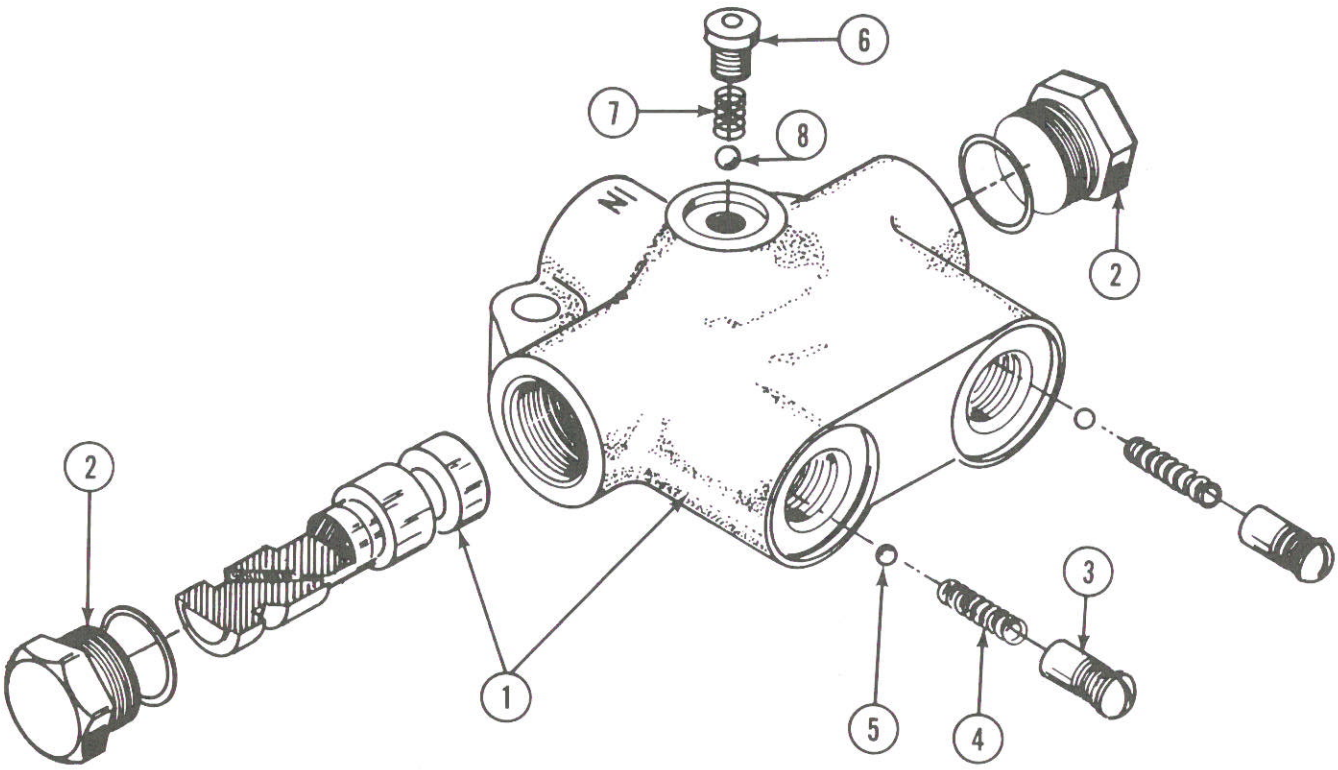
ITEM	PART NO.	DESCRIPTION
1.	A2151	Cylinder, Marker, 2" x 20"
2.	A921	Cylinder, Lift, 3" x 10"
3.	A270	Valve, Flow Control
4.	D2530	Block, Mounting
5.	A282	Valve, Sequencing
6.	A1075	Hose Assembly, 3/8" x 156"
	*A1074	Hose Assembly, 3/8" x 36", Used with extended hitch
7.	A1128	Hose Assembly, 1/4" x 150"
	*A1126	Hose Assembly, 1/4" x 36", Used with extended hitch
8.	A1019	Hose Assembly, 3/8" x 44"
9.	A1117	Hose Assembly, 1/4" x 192"
10.	6401-8-6	Adapter, 3/8 MPT to 3/4-16
11.	6801-6-8	Elbow, 90°
12.	2601-6-6	Tee, Run
13.	2603-8	Tee, 3/4-16 JIC
14.	2501-6-8	Elbow, 90°
15.	2501-8-8	Elbow, 90°
16.	2404-6-6	Adapter
17.	5404-6-6	Adapter
18.	A1002	Hose Assembly, 3/8" x 20"
19.	A1022	Hose Assembly, 3/8" x 60"
20.	10062	HHCS, 3/8"-16 x 3 "
	10229	Lock Washer, 3/8"
	10101	Hex Nut, 3/8"-16
21.	10004	HHCS, 3/8"-16 x 1 1/4"
	10229	Lock Washer, 3/8"
*	5000-8-8	Union, Female, Used on models with extended hitch

HYDRAULIC SYSTEM, 12R30



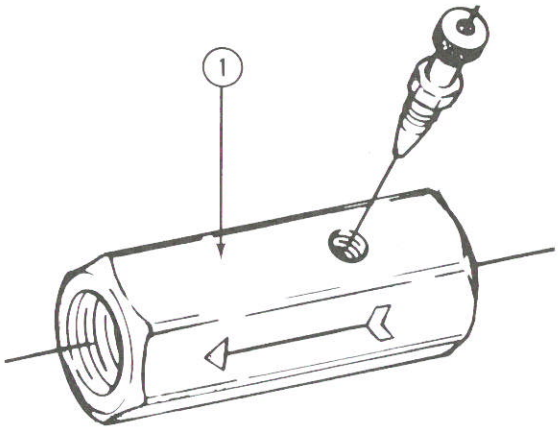
ITEM	PART NO.	DESCRIPTION
1.	A2151	Cylinder, Marker, 2" x 20"
2.	A921	Cylinder, Lift, 3" x 10"
3.	A270	Valve, Flow Control
4.	D2530	Block, Mounting
5.	A282	Valve, Sequencing
6.	A1075	Hose Assembly, 3/8" x 156"
7.	A1128	Hose Assembly, 1/4" x 150"
8.	A1022	Hose Assembly, 3/8" x 60"
9.	A1127	Hose Assembly, 1/4" x 240"
10.	6401-8-6	Adapter, 3/8 MPT to 3/4-16
11.	6801-6-8	Elbow, 90°
12.	2601-6-6	Tee, Run
13.	2603-8	Tee, 3/4-16 JIC
14.	2501-6-8	Elbow, 90°
15.	2501-8-8	Elbow, 90°
16.	2404-6-6	Adapter
17.	5404-6-6	Adapter
18.	A1002	Hose Assembly, 3/8" x 20"
19.	A1019	Hose Assembly, 3/8" x 44"
20.	10062	HHCS, 3/8"-16 x 3"
	10229	Lock Washer, 3/8"
	10101	Hex Nut, 3/8"-16
21.	10004	HHCS, 3/8"-16 x 1 1/4"
	10229	Lock Washer, 3/8"

SEQUENCING VALVE



ITEM	PART NO.	DESCRIPTION
1.		Valve Body and Spool
2.	R271	Plug Assembly, O-Ring Boss
3.	R273	Retainer, Check Valve
4.	R277	Spring, Check Valve
5.	R275	Ball, Check, 3/16" Diameter
6.	R274	Plug Assembly, O-Ring Boss
7.	R278	Spring
8.	R276	Ball, 1/4" Diameter
A.	A282	Sequencing Valve, Complete

FLOW CONTROL VALVE



ITEM	PART NO.	DESCRIPTION
1.	A270	Flow Control Valve Assembly, 3/8" NPT (KLF 375)

DECALS, REFLECTORS AND TIE STRAPS

(1)

⚠ WARNING ⚠

TOW ONLY WITH
FARM TRACTOR

(2)

⚠ CAUTION ⚠

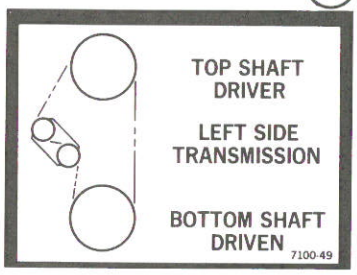
STAND CLEAR
OF MARKERS WHEN
IN OPERATION.

7100-4

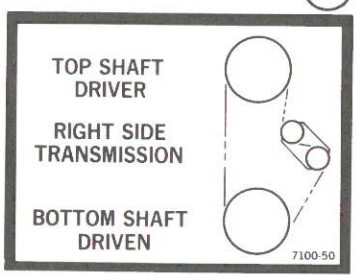
(3)

PATENT PENDING
7100-26

(4)



(5)



(6)

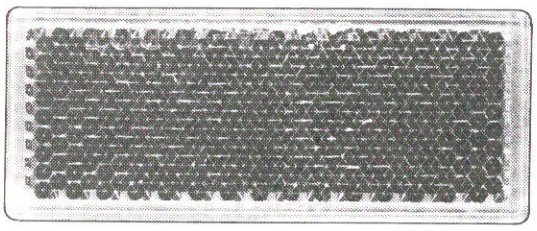
⚠ WARNING ⚠

RAISE PLANTER COMPLETELY AND INSTALL CYLINDER LOCK-UPS BEFORE FOLDING. FOLD ON LEVEL GROUND. SECURE WINGS WITH SAFETY PINS BEFORE TOWING IN FOLDED POSITION.

(7)

ECONO-FOLD

KINZE® (8)



(9)

(10)

(11)

ITEM	PART NO.	DESCRIPTION
1.	7100-3	Decal, Warning
2.	7100-4	Decal, Caution
3.	7100-26	Decal, Patent Pending
4.	7100-49	Decal, Left Side Transmission
5.	7100-50	Decal, Right Side Transmission
6.	7100-51	Decal, Warning
7.	7100-53	Decal, Identification
8.	7100-54	Decal, Kinze
9.	7200-1	Reflector, Red
10.	7200-2	Reflector, Amber
11.	D937	Plate, Serial Number
12.	D1162	Strap, Tie, 28" (Not Shown)
13.	D2117	Strap, Tie, 14 1/2" (Not Shown)

NUMERICAL INDEX