



1991

H-4290 BALE MOVER

ASSEMBLY • OPERATOR • PARTS MANUAL



P.O. BOX 307
VONDA, Saskatchewan
S0K 4N0
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TO THE OWNER:

Congratulations on the purchase of your new LAURIER 14 BALE MOVER.

Constructed of the finest quality materials, your LAURIER 14 BALE MOVER is engineered and designed to do normal operations effectively and efficiently, and to provide you with years of dependable service.

Be sure to read the instructions in this manual for adjusting and operating your LAURIER 14 BALE MOVER. A few moments to acquaint yourself with the LAURIER 14 BALE MOVER and its maintenance requirements will save you precious time in the field and protect your machinery investment. Should you in time, need replacement parts, please consult the parts list in this manual, and contact your LAURIER DEALER.

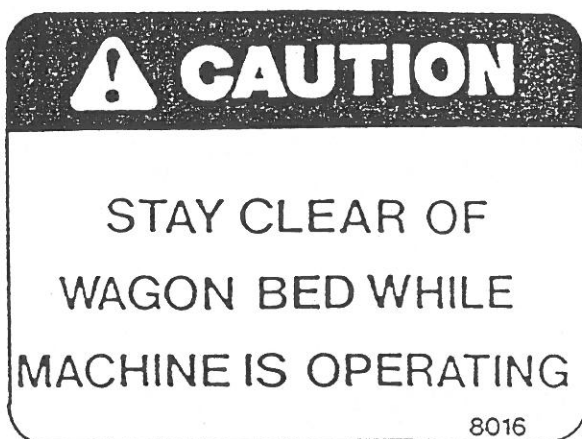
HIGH LINE MFG. INC.

It is the policy of HIGH LINE MFG. INC. to improve its products whenever it is possible and practical. We reserve the right to make changes or add improvements, at any time, without incurring any obligation to make such changes on machines previously sold.

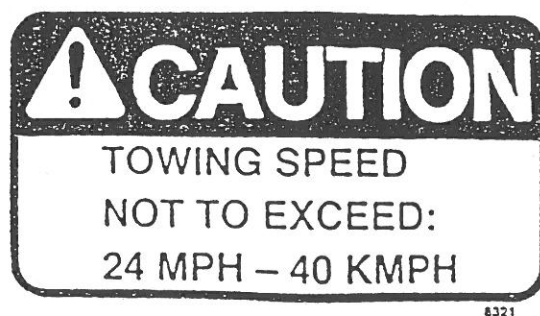
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NOTE: Serial Number H4471 and Up JUNE 1990



LEFT SIDE OF FRONT SUB FRAME



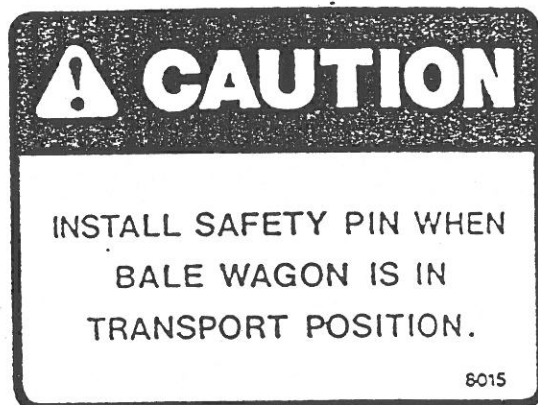
RIGHT SIDE OF FRONT SUB FRAME



RIGHT SIDE OF FRONT SUB FRAME



LEFT SIDE OF FRONT SUB FRAME



ON OUTSIDE BED RAILING



ON RIGHT A-FRAME HITCH

Specifications

SHIPPING WEIGHT ----- 7500 lbs.
 TOTAL LENGTH ----- 42'
 BED LENGTH ----- 37'
 TOTAL WIDTH ----- 15'
 BED WIDTH ----- 11'
 TOTAL HEIGHT ----- 9'2"
 BED HEIGHT ----- 2'8"
 GROUND CLEARANCE ----- 14"

 MAXIMUM CAPACITY ----- 14 - 5 Ft. Bales
 CONVEYOR CHAIN ----- Heavy Duty ASA 2062, 1 1/2 Pitch
 TIRES ----- 8 - 9.5L x15x8 ply c/w tube & 40 PSI Highway Service
 UNDERCARRIAGE ----- 2 - four wheel oscillating tandems
 HORSEPOWER REQUIRED --- 90 Horsepower
 HYDRAULIC OUTLETS ----- 2

Assembly

1. SITE SELECTION

Prior to assembly, select an area which is clean, level and large enough to accomodate assembled Bale Mover.

2. ORIENTATION

Left and right are determined when standing behind the machine facing the direction of travel.

3. REQUIRED TOOLS AND EQUIPMENT

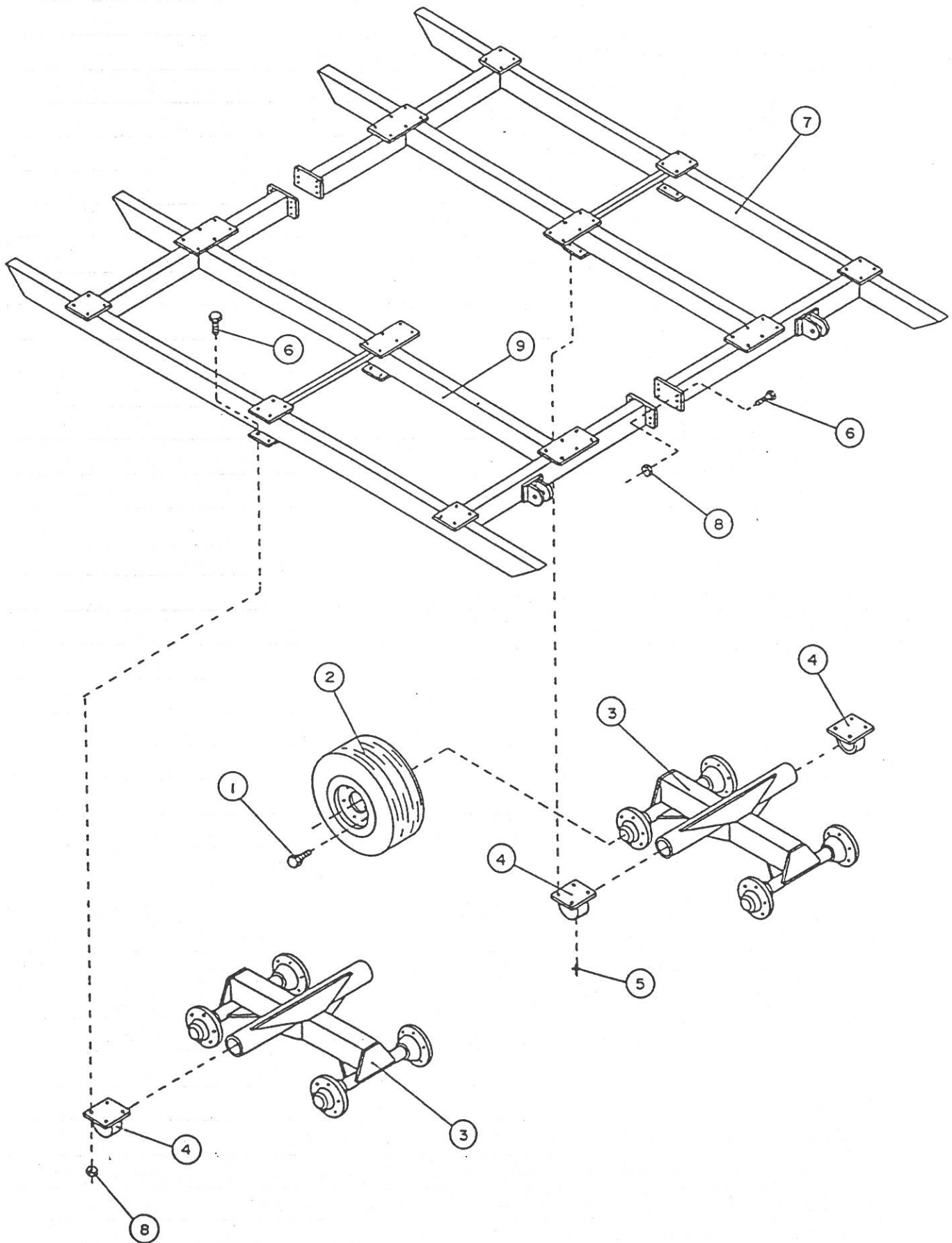
Before beginning assembly of the Bale Mover, have the following equipment on hand:

1. Fork lift or hoisting equipment with lifting capacity of 500 lbs.
2. Wrenches: 1/2, 9/16, 3/4, 7/8, 15/16, 1, 1 1/4".
3. Wire cutters
4. Pliers
5. Ball peen hammer
6. Pry Bar
7. Aligning bar

CAUTION: SOME BALE MOVER COMPONENTS ARE EXTREMELY HEAVY.
HAVE HOISTING EQUIPMENT AVAILABLE WITH A LIFTING
CAPACITY OF 500 POUNDS FOR ASSEMBLY OF PARTS.

4. Open packing case and check contents against parts list in this book.
5. Before beginning to assemble Bale-Mover ensure that all parts are accounted. Check against parts list in this book.

Main Sub Frame

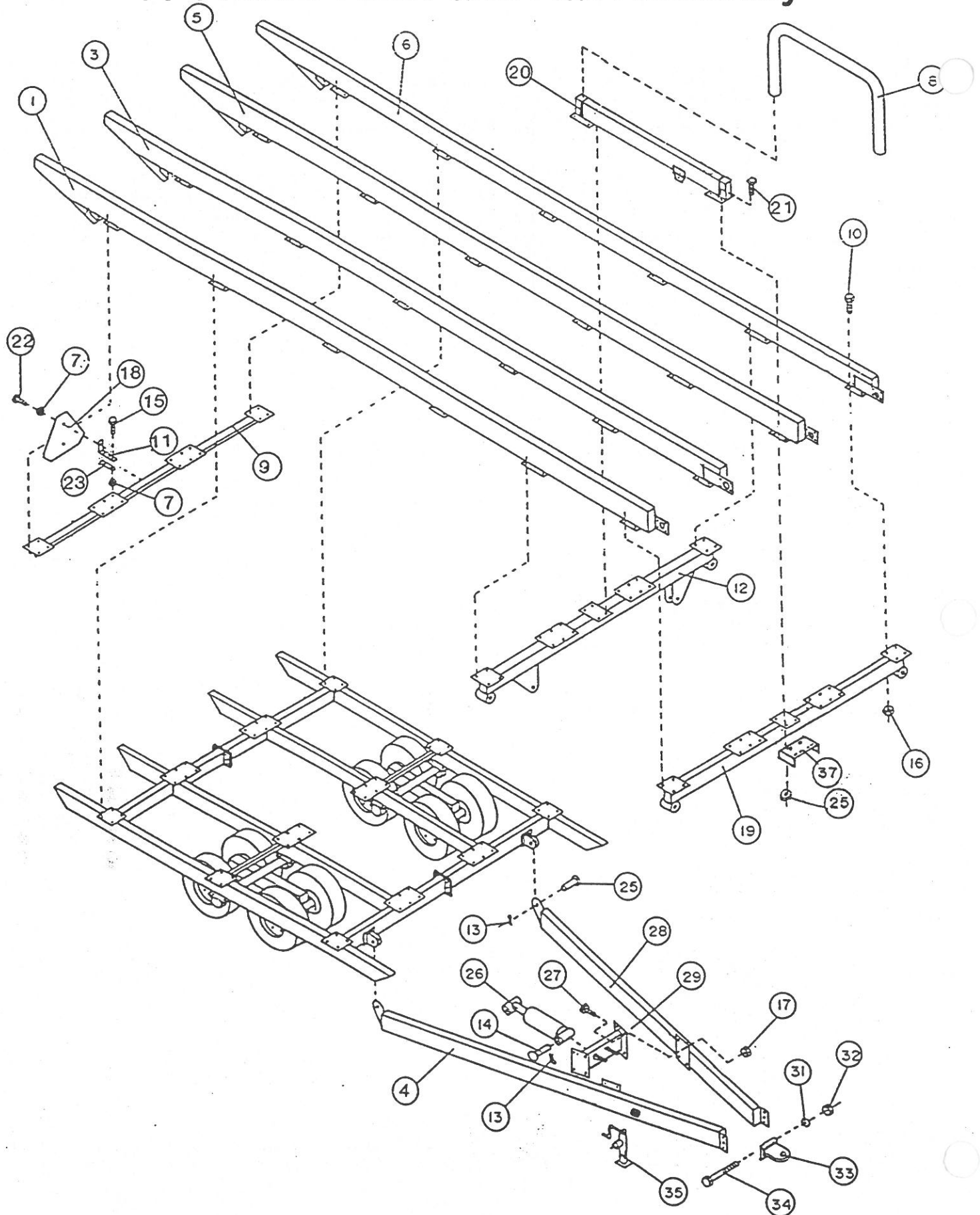


ASSEMBLY OF OSCILLATING TANDEMS TO SUB FRAME

To assemble oscillating tandems to sub frame.

With sub frame bolted together, raise one end of frame with enough clearance to roll complete tandem axle with wheels and pockets mounted. Line up to sub frame plate and fasten with 1/2" x 1 1/2" bolt and locknut. Install grease nipple #5.

A-Frame Hitch and Rail Assembly



A-FRAME HITCH TO SUB FRAME

1. Position Right #4 and Left #28 A-Frame Hitches to sub frames. Secure with 1 1/4" x 3" pins #25 and cotter pins #13.
2. Assemble hitch cross member #29 to left and right hitches with 5/8" x 1 1/2" bolt #27 and locknut #17.
NOTE: CROSS MEMBER BOLTS IN FRONT OF BRACKET ON HITCH.
CAUTION: WHEN BOLTING PREASSEMBLED VALVE ASSEMBLY TO HITCH CROSS MEMBER. EXTREME CAUTION MUST BE TAKEN SO AS NOT TO DAMAGE HOSES OR LINES.
3. Install hitch plate #33 on lower holes to left and right hitches using 1" x 7 1/2" bolt #34, lockwasher #31 and nut #32.
4. Tighten bolts on hitch cross member.
5. Install hitch jack #35 to right A-Frame hitch.

INSTALLATION OF RAILS

NOTE: Rails are identified by part numbers painted on front of rails.

#1 Outside Right Part #40069
#3 Inside Right Part #40068
#5 Inside Left Part #40067
#6 Outside Left Part #40066

1. With hoisting equipment, place rails on sub frame and fasten with 1/2 x 1 1/2" bolt #10 and locknut #16.
2. For inside rails, place them closest to the outside frame, on bolting plates. Secure them with 1/2 x 1 1/2" : #10 and locknut #16.

CAUTION: DUE TO LENGTH OF RAILS, TO AVOID DAMAGE AND PERSONAL INJURY, CAUTION SHOULD BE EXERCISED WHEN LIFTING MEMBERS INTO PLACE.

INSTALLATION OF 4 x 6 CROSS MEMBER

1. Place 4 x 6 cross member #12 onto A-Frame hitch with square pocket towards front. Secure to bolting plates on rails with 1/2 x 1 1/2" bolts #10 and locknut #16.

INSTALLATION OF 3 x 6 CROSS MEMBER

- NOTE: To install 3 x 6 cross member left A-Frame hitch in a horizontal position with the sub frame. This will facilitate installation of rails.
2. Place deck cylinder tube #20 in between #12 and #19 cross members. Fasten with 1/2" x 1 1/2" bolts. Cylinder lug should be 24" from front plate.
 3. Install grease fittings to cross members.

INSTALLATION OF CHANNEL CROSS MEMBER

1. Place channel cross member #9 under rails with bolting plates upwards. Secure to plates on rails with 1/2 x 1 1/2" #10 and locknut #16.
2. Bolt slow moving vehicle sign #43 to brackets #41 and #23 to centre of cross member #40 with 1/4" x 2 1/4" bolts.

INSTALLATION OF BALE DIVIDER

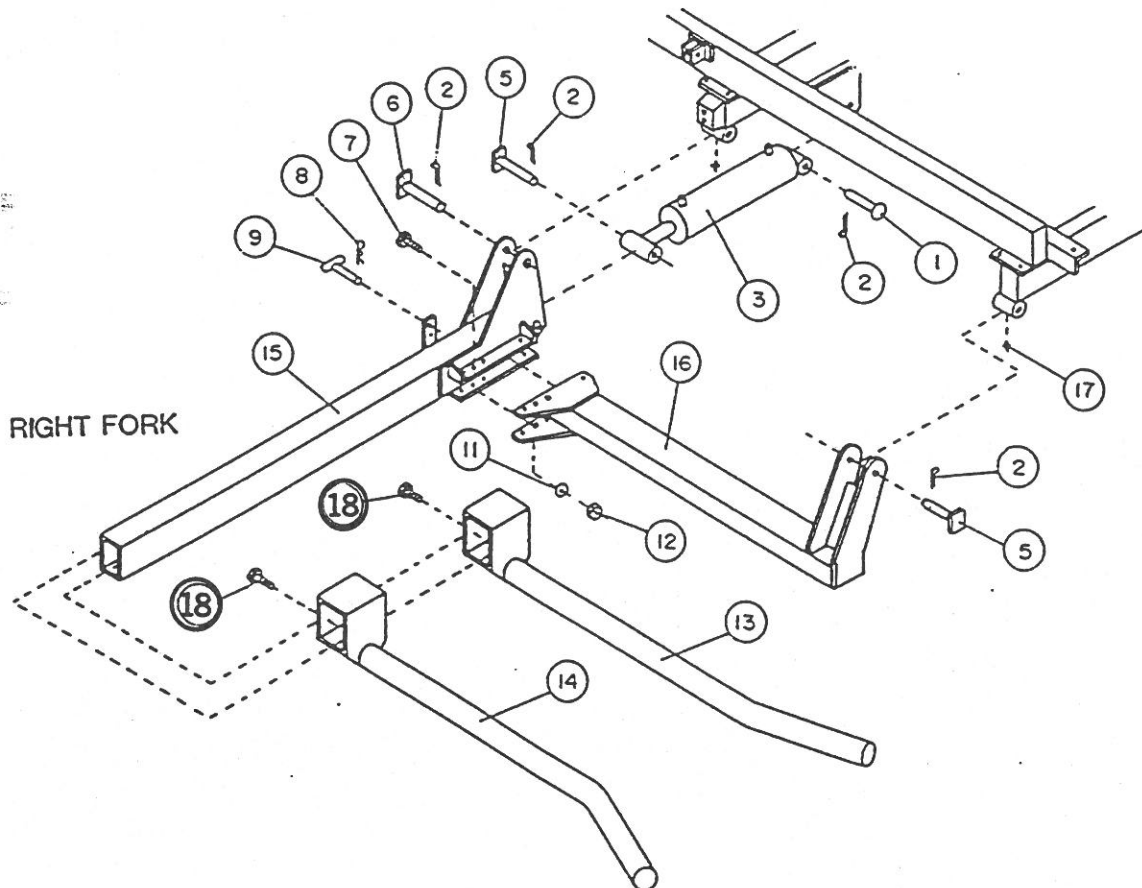
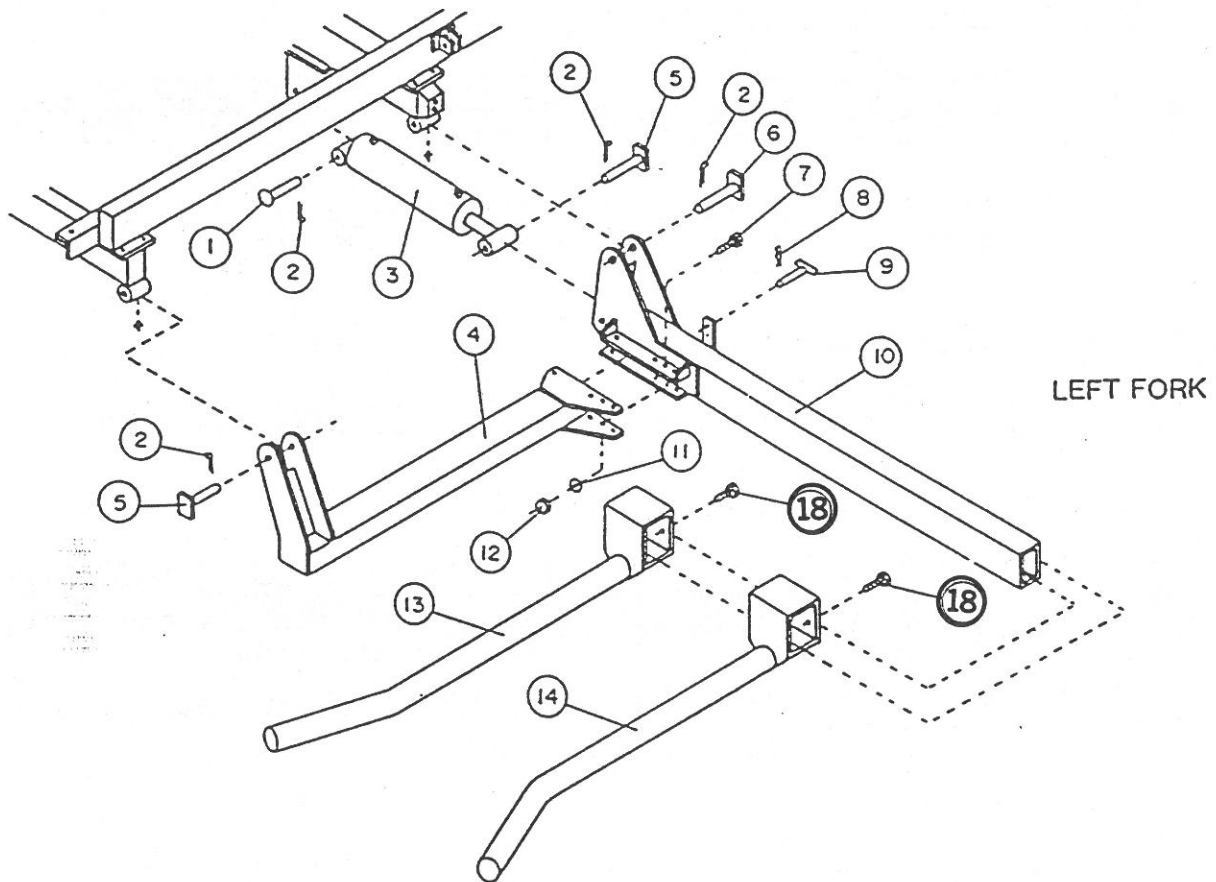
1. Place bale divider #8 in pockets on bale divider tube #20.

INSTALLATION OF TILT CYLINDER

1. Install 3" x 16" cylinder #26 to A-Frame hitch cross member #29. Secure cylinder to cross member with 1" x 6" pin #14 and cotter pin #13. Make sure port holes are in down position.

NOTE: Restricted elbow should be installed in bottom port of cylinder.

Fork Assembly



INSTALLATION OF BALE FORK FRAME TO SUB FRAME

1. Place pivot slide arm Left #10, part #40017 and Right #15, part #40018 under 4 x 6 cross member. Secure slide arm to cross member with 1 1/4" x 6 3/4" pin #6 and cotter pin #2.
2. Place pivot arm Left #4, part #40011 and Right #16, part #40012 under 3 x 6 cross member. Secure pivot arm to cross member with 1" x 6 3/4" pin #5 and cotter pin #2. Secure right slide arm to right pivot arm with 5/8" x 1 1/2" bolt #7, lockwasher #11 and nut #12. Doing the same to left slide arm and left pivot arm.

INSTALLATION OF FORK TEETH

1. Lift and block pivot slide arm about four to six inches above the ground. Slide left fork #13, part #40023 onto the frame. Tighten 1 x 2" bolt #18. Next slide front fork #14, part #40022 onto the frame. Tighten 1 x 2" bolt #18.
2. To adjust fork teeth place fork in locked transport position. Adjust inside fork tooth 6" higher than outside rail. Tighten bolts. Depending on bale size and conditions adjust outside fork tooth to suit round bale.

FORK CYLINDER INSTALLATION

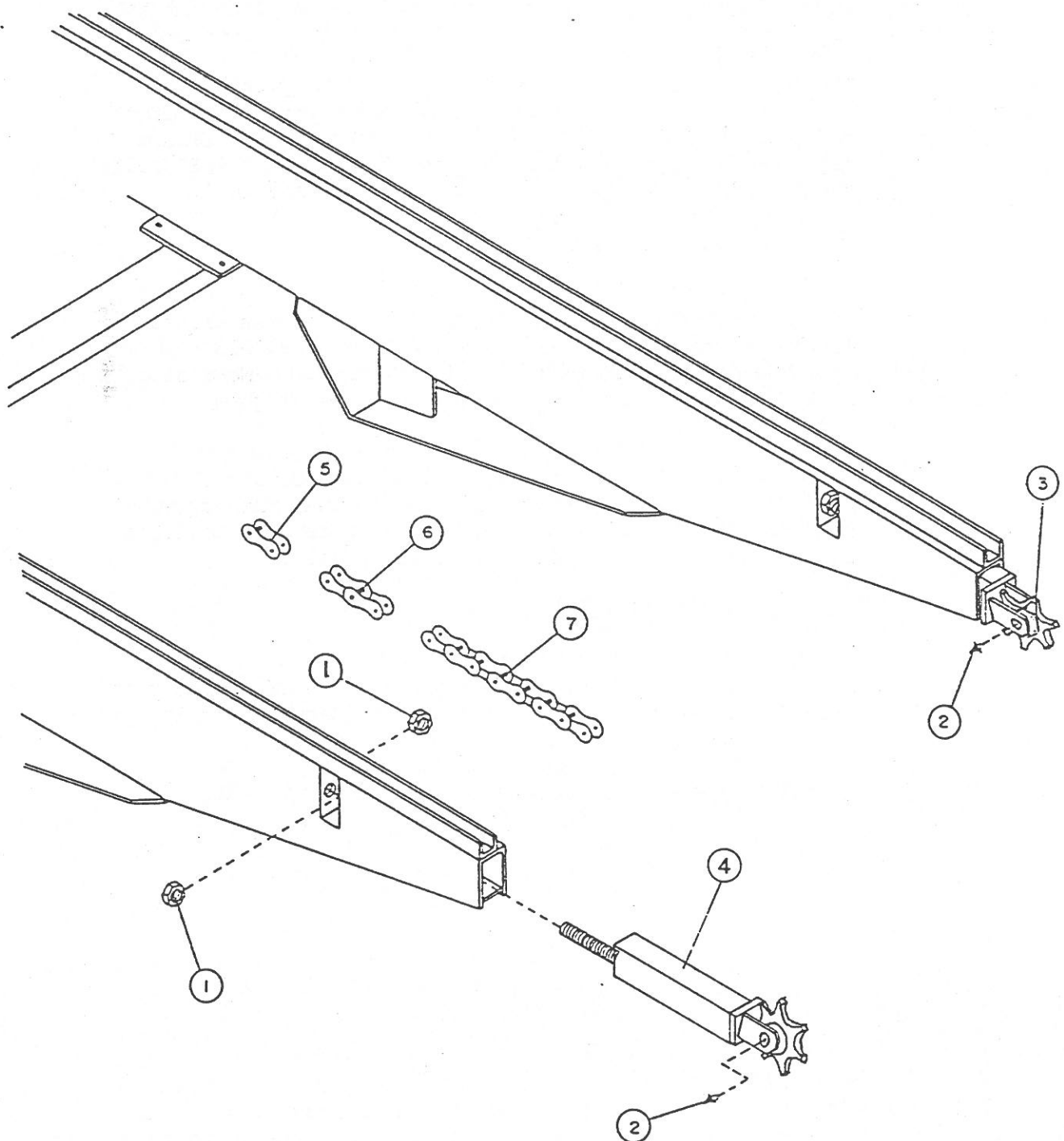
1. Secure 3 1/2" x 13" cylinder #3, base plate of cylinder in cylinder gussets on 4 x 6 cross member. Secure with 1" x 6" pin #1 and cotter pin #2. Ports to be upward.
2. Install cylinder to pivot slide arm and secure with 1" x 6 3/4" pin #5 and cotter pin #2.

NOTE: Install restricted elbow to rod end of cylinder.

NOTICE TO LAURIER BALE MOVER OWNERS

Pins #5 and #6 might be longer than they require to be. They can pull back past the stop allowing them to turn in the side plates, thus causing premature wear. If this situation exists on your bale mover, shims should be added between cotter pin and side plate to prevent pin from pulling back.

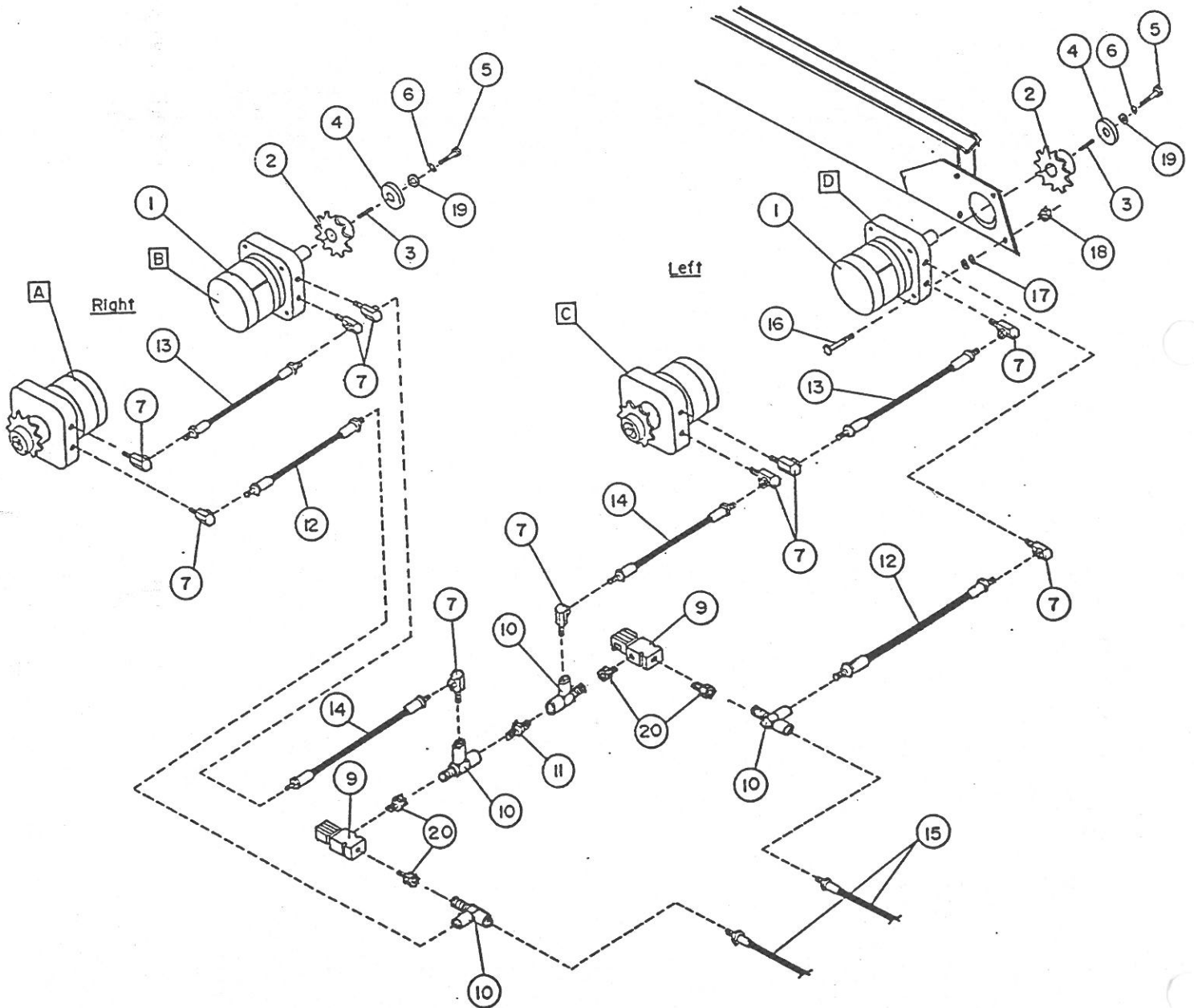
Chain Tightener



ROLLER CHAIN INSTALLATION

1. To install roller chains, refer to drawing on opposite page.
2. Thread all chain tighteners into rail and tighten with 5/8" nut #1 to other side of plate.
3. Insert into entire length of rail either fish line or 1/4" rod. Unroll chain length #7 on the rail channel from the rear, unrolling towards the front. Fasten the roller chain to the fish line and proceed to pull chain through. Unroll #7 roller chain on top of rails. Secure both ends with a connecting link #6 or half link #5.
4. To adjust the roller chain on each rail, grasp the chain on centre and lift. The chain should have an 8" lift, or check inside tubing and chain should be lifted about 2" from bottom of tube. To adjust, move chain tightener in direction which is needed.

Hydraulic Motors



HYDRAULIC MOTORS

1. Secure hydraulic motor #1 to rails #40066 to 40069, as shown on page 7, complete with 1/2" x 2 1/2" bolts #16, and 1/2" locknut #18.

NOTE: The 1/2" washers #17 are supplied to shim motor to centre sprocket with channel, if required.

2. Place sprockets #2 and keystock #3 on shaft of hydraulic motor. Install end washer #4, 5/8" flatwasher #19, 5/8" lockwasher #6 and bolt 5/8" x 1" NF #5.
3. Install swivel elbow #7 to all motors.

CARTRIDGE VALVE ASSEMBLY

1. Secure street tees to both ports of cartridge valve.
2. Attach two street tees with 1/2" adaptor #11. These tees also have swivel elbow #8 in the last port.
3. Cartridge valve is secured to guard #40076 as shown on page 7.

HYDRAULIC HOSES

1. Secure hose #13 to top port of motor A, opposite end to bottom port of motor B.
2. Secure hose #12 to bottom port of motor A, opposite end to right side of street tee #10.
3. Secure hose #14 to top port of motor B, opposite end to swivel elbow #8.
4. Secure hose #13 to top port of motor C, opposite end to bottom port of motor D.
5. Secure hose #12 to top port of motor D, opposite end to left side of street tee #10.
6. Secure hose #14 to bottom port of motor C, opposite end to swivel elbow #8.
7. Hose #15 attaches to front street tees #10, then to tractor.



INSTALLATION of HYDRAULIC HOSE and LINES

NOTE: When finished installing hydraulic hoses and lines to preassembled valve assembly, make sure to follow set-up as shown on opposite page. If set-up is done improper, hydraulic will not work.

1. Install hydraulic lines #18 and #19 along front of left A-Frame hitch. Placing hydraulic lines #19 just in front of A-Frame cross member. Attach hydraulic lines #19 to flare adaptor #15 on far valve assembly. Attach hydraulic lines #18 to flare adaptor #16 which in turn is connected to cartridge valve #17. Fasten the two hoses #20 to hydraulic line #18 and #19.
2. Secure swivel elbows #3 to left and right fork cylinder #1. Elbows should be facing down cylinder as shown. Attach hoses #4 and #5 to swivel elbows with longer hoses to top ports. Lay hydraulic lines #6 and #21 for left side along A-Frame hitch, #6 lines to the cross #16 that is attached to the cartridge valve. The hydraulic hose #4 and #5 attach to the lines #6, #7 and #21. Install line #7 to port B. Install #21 to Port A and #19 line to Port T.
3. Secure swivel elbows #2 and #3 to tilt deck #8 with swivel elbows restrictor #2 in bottom port. Connect preassembly hoses #9 and #10 under cross member #11, the shorter hose #10 going to the Port P of solenoid. the longer hose #9 is connected to swivel elbow #3 and is attached to cartridge valve #17 side port.

PRE-OPERATION ASSEMBLY

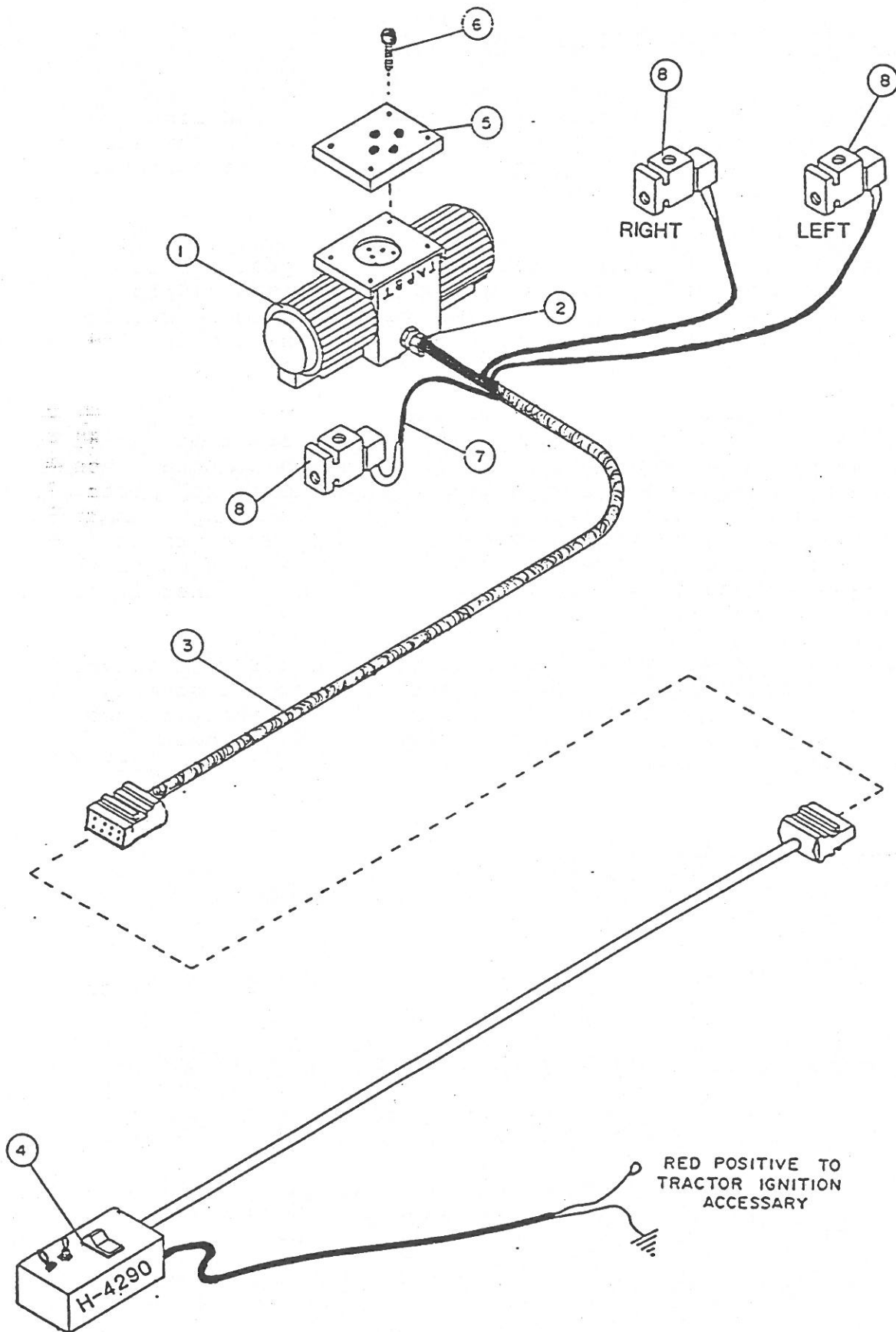
CAUTION: To fill hydraulic hoses and cylinders with oil, proceed as follows:

1. Install fittings to hose ends. Connect hydraulic hoses to tractor.
2. With forks still in down position, carefully operate controls allowing oil to flow to each fork cylinder.

IMPORTANT: While raising mover bed or fork lift, check all hoses and cylinders for leaks, etc.

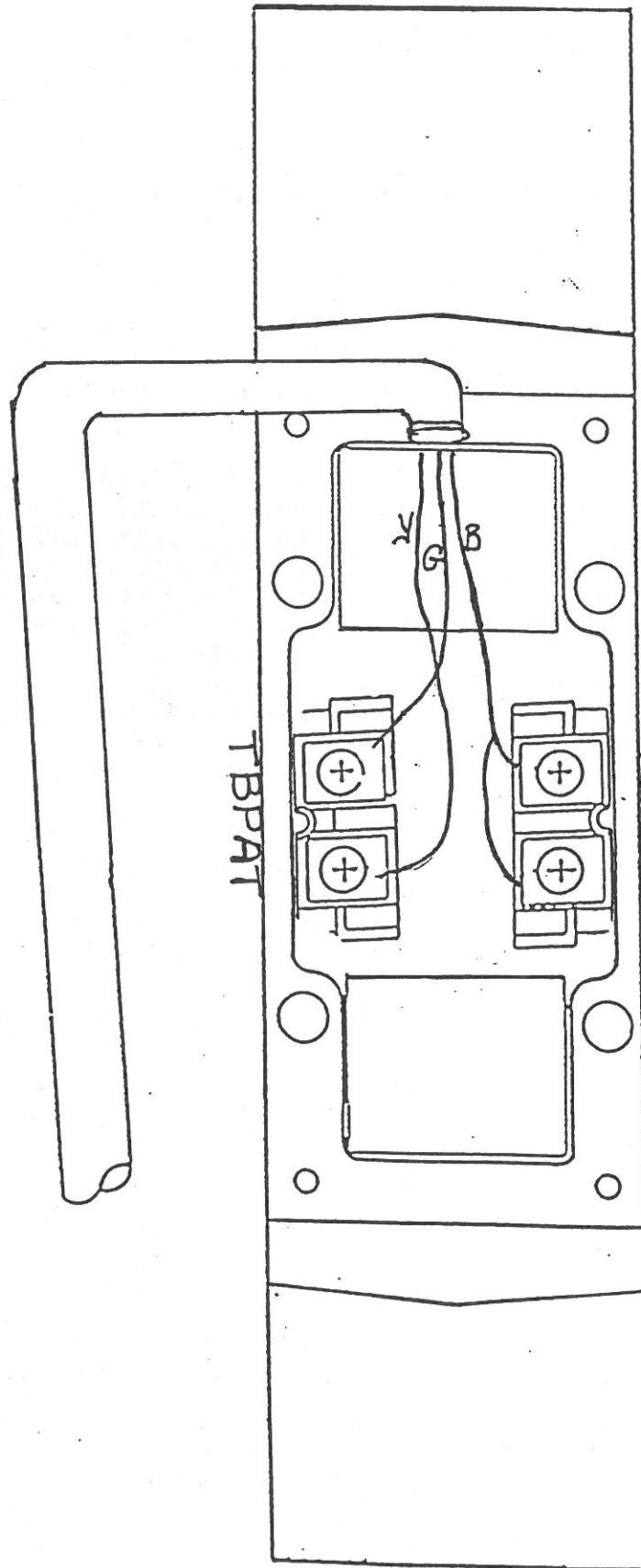
3. Before disconnecting hydraulic hoses, raise bale forks to the transport position. Install safety pins.

Electrical System



ELECTRICAL SYSTEM

1. Attach solenoid valve sub plate #5 to solenoid #1 with allen set screw #6.
2. Electrical harness is a 4 cord system.
 - The first cord goes to valve #1 as assembly shown on page 21. (The first cord has three wires) This is preassembled in the factory before shipping.
 - The next two cords operate the chains. The cords are attached to two different cartridge valves #8. The shorter cord with black (ground) and red wire go to the left cartridge which operate the right hand chain. The orange (ground) and white wires go to the right cartridge valve which operate the left hand chains. The longer cord with red and black wires are attached to the middle cartridge valve.
3. Electrical harness #3 is plugged into the electrical harness with control #4.



NOTE View From Underside Of Machine

Trouble Shooting



<u>SYMPTON</u>	<u>PROBABLE CAUSE</u>	<u>REMEDY</u>
1. Loads only 14 Bales or less	*Reversing too far leaving gap between bales *Depending on bale type	*Pack bales on mover closer *Will accept 14-5' bales
2. Strings cut when unloading	*Tractor chain speed not synchronized	*Keep tractor and chain speed constant
3. Chain falls from track	*Chain not tight enough *Forks too low	*Tighten chain as on Page 14 *Raise inside lift fork so bale will clear outside rail when loading
4. Chains twist or lean	*Pressure from bales caused by side loading	*Straighten with bar *Raise lower fork so bale will clear side rail
5. Bed deck does not raise	*Low oil *Poor electrical connection *Needs cyliner seal kit *Too may bales in front of deck	*Check tractor reservoir *Check wiring *Replace kit in cylinder *Move bales to rear of deck than raise deck
6. Switches work in opposite direction	*Improper hydraulic hook-up *Improper electrical hook-up	*Reverse hydraulic lines from tractor outlet *Check manual and colour codes on wires to solenoid

OPERATION

- A. Operate Bale Mover only from tractor.
- B. The model H-4290 LAURIER BALE MOVER is designed for maximum work efficiency with minimum operator fatigue. An unfamiliar operator should spend time to learn the operating characteristics of the machine. A period of careful practice is recommended which will reward you with safe and efficient operation.
- C. The tractor should be of 90 HP class or larger and must have a good hydraulic working system, 2000 PSI with 15-20 gallons per minute.

MODE OF OPERATION

The H-4290 LAURIER BALE MOVER is designed to pick up and transport 14 - 5 foot bales. Follow the mode of operation below.

CAUTION: BEFORE OPERATING HYDRAULICS, REMOVE LIFT FORK SAFETY PINS, ONLY IF CYLINDERS ARE LOADED WITH OIL.

1. Approach the round bale with the right fork in the lowered position. Advance till the bale rests firmly between the lift fork teeth. Raise the fork, until the bale falls onto the mover bed.
2. Roll back loaded bales just far enough to make space to load next bale. Repeat Step 1.
3. The loading of one side then the other side is possible with electrical controls which control each side separately.

TRANSPORTING BALES

To transport loaded Bale Mover.

CAUTION: WHEN TRANSPORTING BALE MOVER ON PUBLIC ROADS OR HIGHWAY, BE SURE TO INSTALL LIFT FORK SAFETY PINS. BE SURE THAT THE MACHINE IS EQUIPPED WITH A SLOW MOVING SIGN THAT IS CLEARLY VISIBLE FROM THE REAR.

UNLOADING BALES

IMPORTANT: Depending on bale size, in some cases, to enable the loaded bale to move past the forks, the forks may have to be lowered slightly.

CAUTION: BE SURE TO REMOVE LIFT FORK SAFETY PINS BEFORE OPERATING HYDRAULICS.

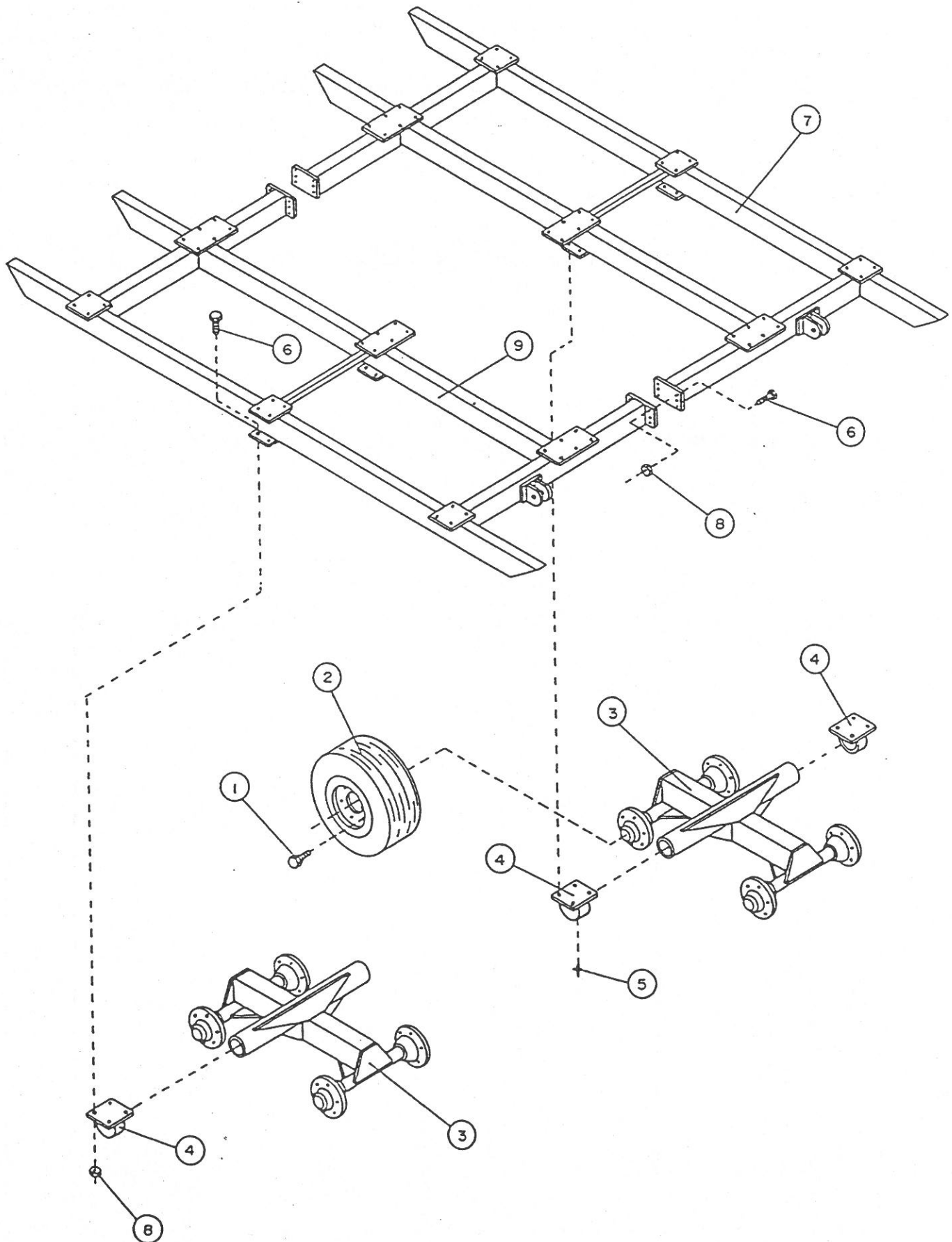
1. Set the toggle switches to the center position on your control panel. Raise the mover bed to full extended height.
2. Engage motors and advance tractor at the ground speed equal to the chain speed.

IMPORTANT: THE SPEED OF TRACTOR ADVANCEMENT AND CHAIN SPEED MUST BE KEPT CONSTANT, OTHERWISE THE DRIVE CHAIN WILL CAUSE IMPROPER BALE SPACING.

PARTS CATALOGUE

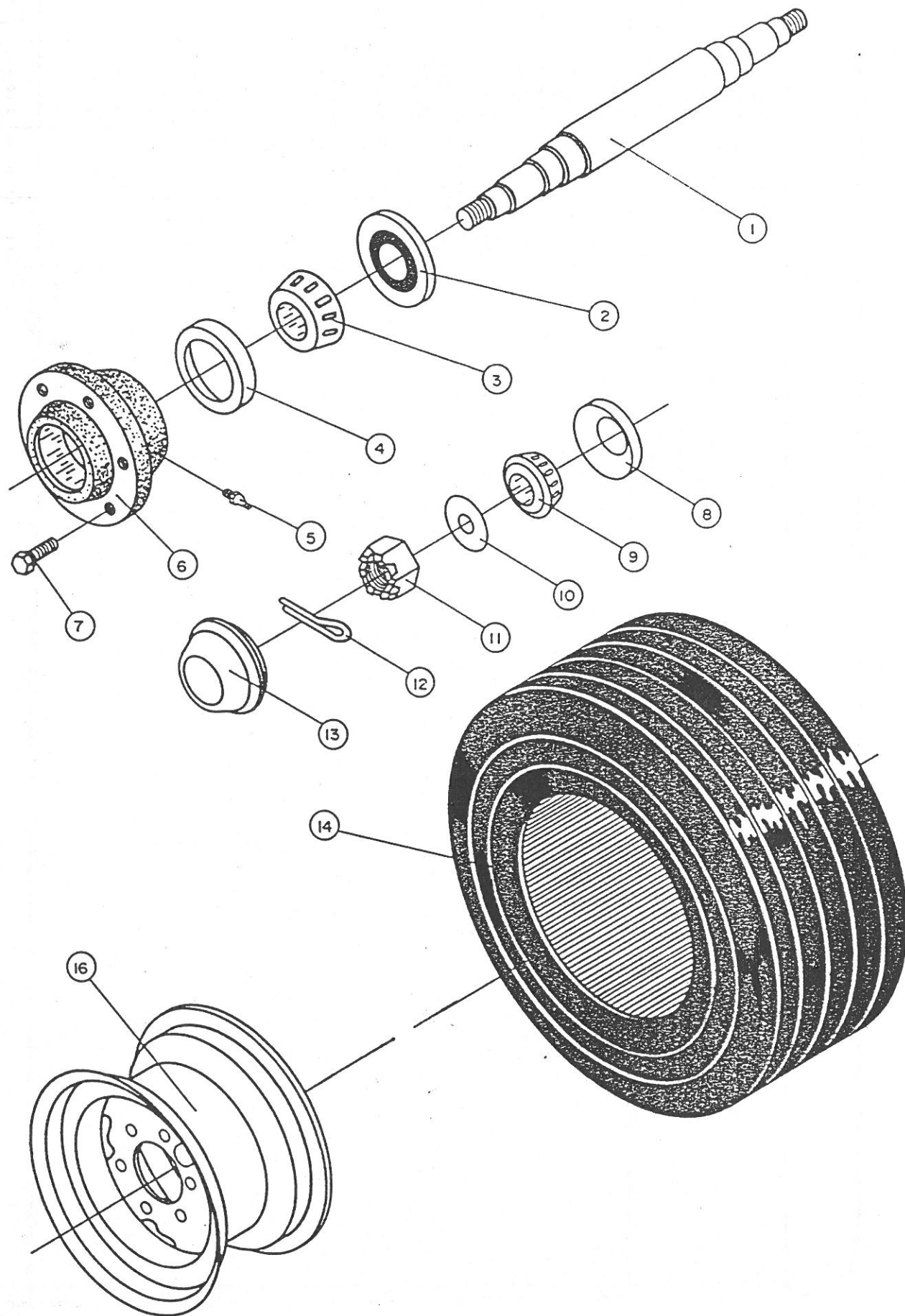
<u>ITEM</u>	<u>PAGE</u>
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Main Sub Frame



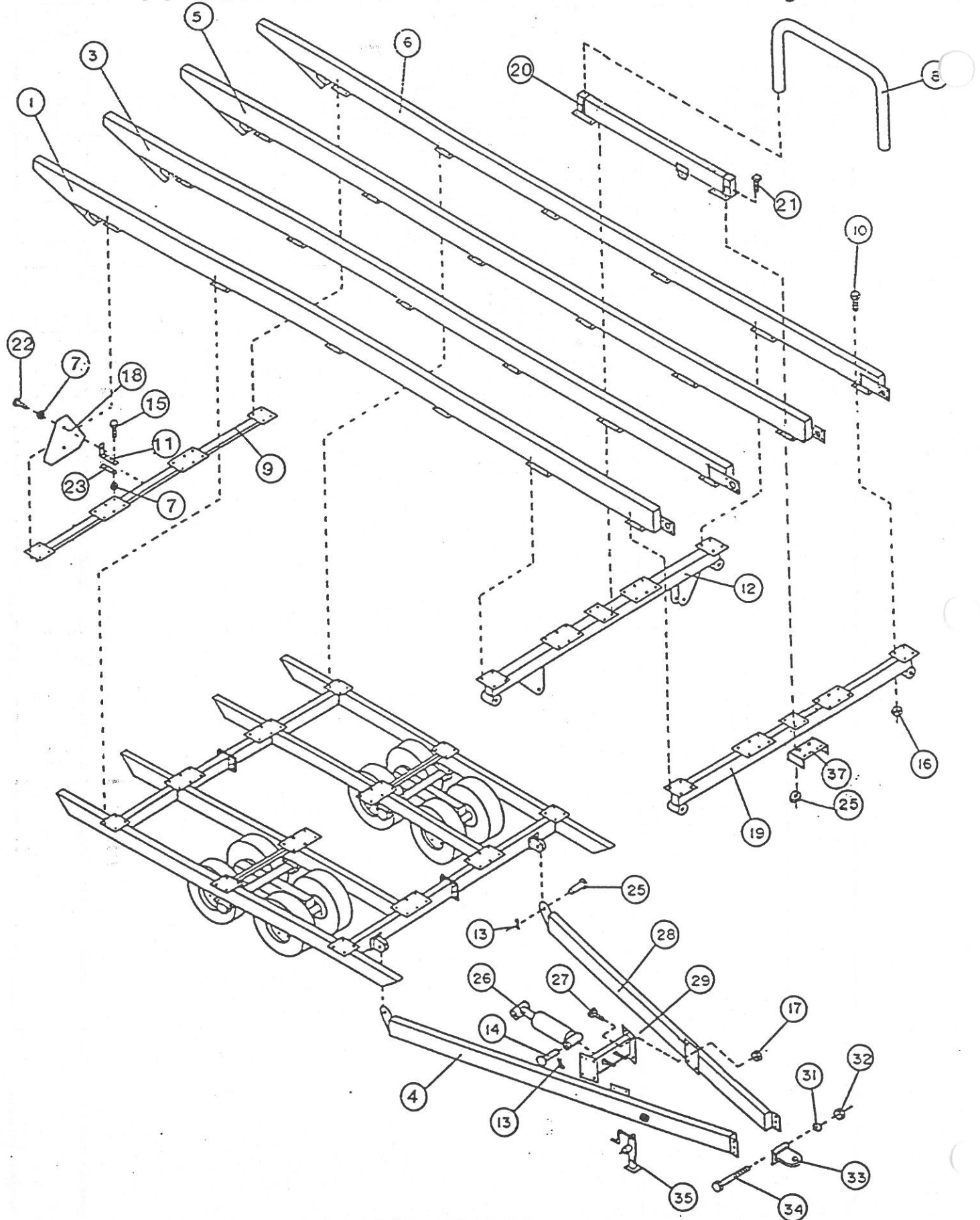
ITEM	PART NUMBER	DESCRIPTION	QTY
1	91061	9/16" Wheel Bolts	48
2	91008	11-15lt 8ply Farm Hiway Service Tire	8
3	40025	Walking Beam	2
4	40024	Walking Beam Pockets	4
5	91700	Grease Nipple 1/8" NPT Straight	4
6	B5C0824P	Bolt 1/2" x 1 1/2"	28
7	40060	Left Main Sub Frame	1
8	LN5C08P	Locknut 1/2"	28
9	40061	Right Main Sub Frame	1

618 Hub and Spindle



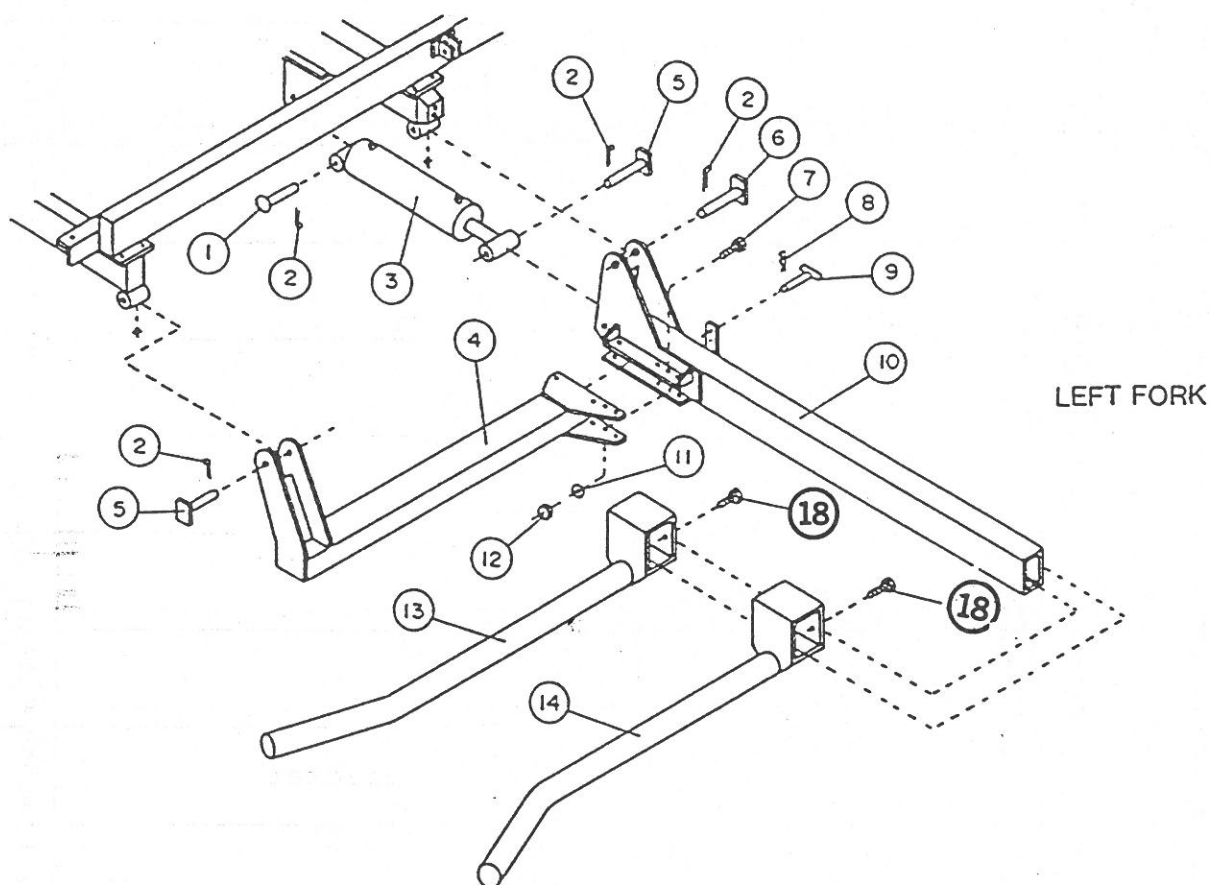
ITEM	PART NUMBER	DESCRIPTION	Nº
1	91255	2" Dia Dual Spindle x 25"	1
2	91091	618 Seal	2
3	91171	618 Inner Cone LM25580	2
4	91151	618 Inner Race LM25520	2
5	91700	Grease Nipple 1/8" NPT Straight	2
6	91071	618 Hub	2
7	91061	Wheel Bolt 9/16"	12
8	91131	618 Outer Race LM48510	2
9	91111	618 Outer Cone LM48548	2
10	91190	Washer Hub	2
11	91210	Castlelated Nut	2
12	CP0324	Cotter Pin 3/16" x 1 1/2"	2
13	91231	618 Dust Cap	2
14	91008	11-151t 8ply Farm Hiway Service	2
16	91050	15" x 8" x 6 Wheel Rim	2

A-Frame Hitch and Rail Assembly

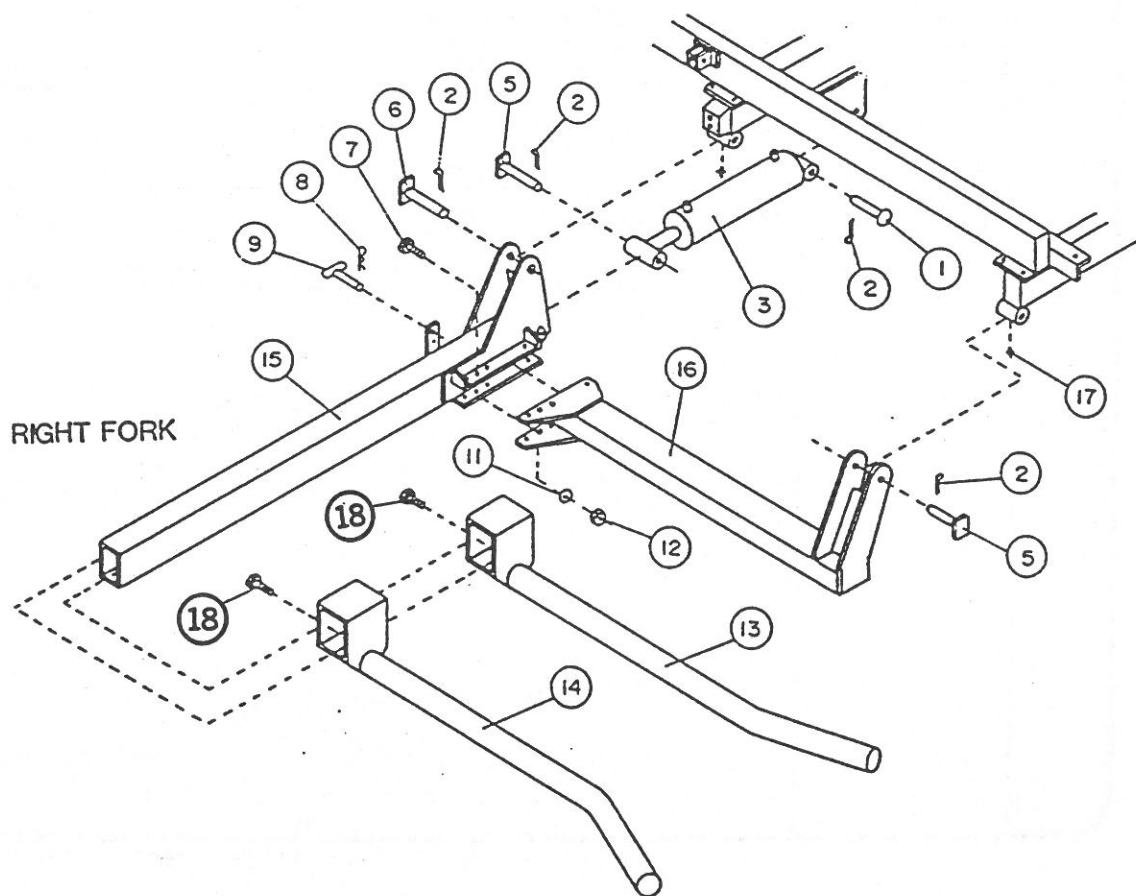


ITEM	PART NUMBER	DESCRIPTION	QTY
1	40069	Right Outside Rail	1
3	40068	Right Inside Rail	1
4	40063	Right A-Frame Hitch	1
5	40067	Left Inside Rail	1
6	40066	Left Outside Rail	1
7	LN5C04P	Locknut 1/4"	4
8	40075	Bale Divider	1
9	40006	Rear Channel Cross Member	1
10	B5C0824P	1/2 X 1 1/2" Bolt	96
11	40040	Slow Moving Sign Bracket	1
12	40064	4" x 6" Cross Member	1
13	CP0440	Cotter Pin 1/4" x 2 1/2"	4
14	40009	Cylinder Bracket Pin	2
15	B5C0436P	Bolt 1/4" x 2 1/4"	2
16	LNC08P	1/2" Locknut	96
17	LN5C08P	Locknut 1/2"	9
18	92028	Slow Moving Sign	1
19	40065	3" x 6" Cross Member	1
20	40072	Bale Divider Tube	1
21	B5C0824P	Bolt 1/2" x 1 1/2"	8
22	B5C0412P	Bolt 1/4" x 3/4"	2
23	40054	Slow Moving Sign Bottom Bracket	1
			8
25	40003	A-Frame Hitch Pin 1 1/4" x 3"	2
26	90109	Cylinder 3" x 16"	1
27	B5C1024P	Bolt 5/8" x 1 1/2"	8
28	40062	Left A-Frame Hitch	1
29	40071	A-Frame Centre Member	1
30	92003	Serial Number Plate	1
31	W16P	Lockwasher 1"	2
32	N5C16P	Nut 1"	2
33	45058	Hitch Tongue	1
34	B5C16120P	Bolt 1" x 7 1/2"	2
35	92033	Hitch Jack (5000 lbs)	1
			1
37	40076	Hydraulic Support Guide	1
	45060	Double Hitch Tongue (Optional)	

Fork Assembly



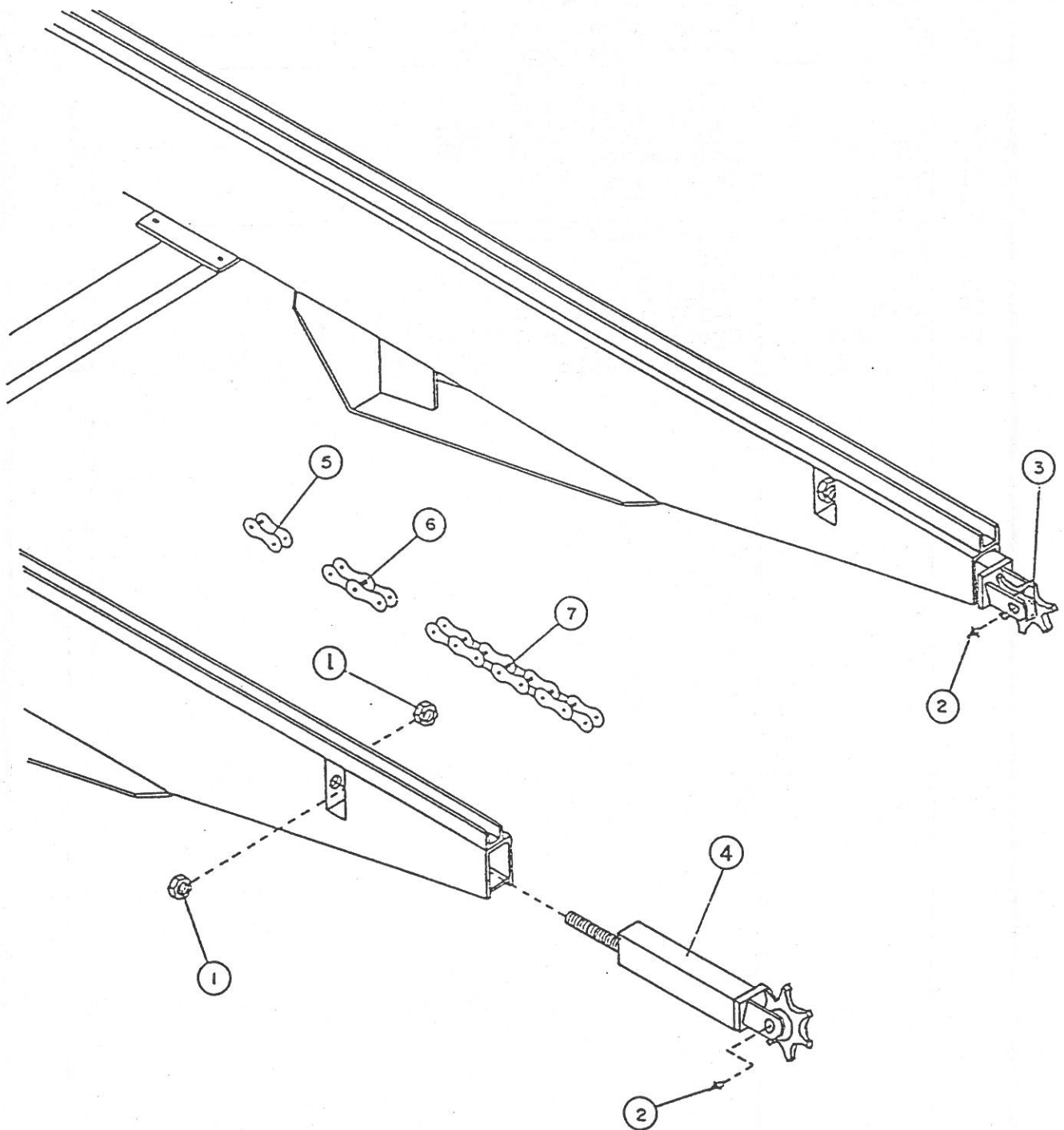
LEFT FORK



RIGHT FORK

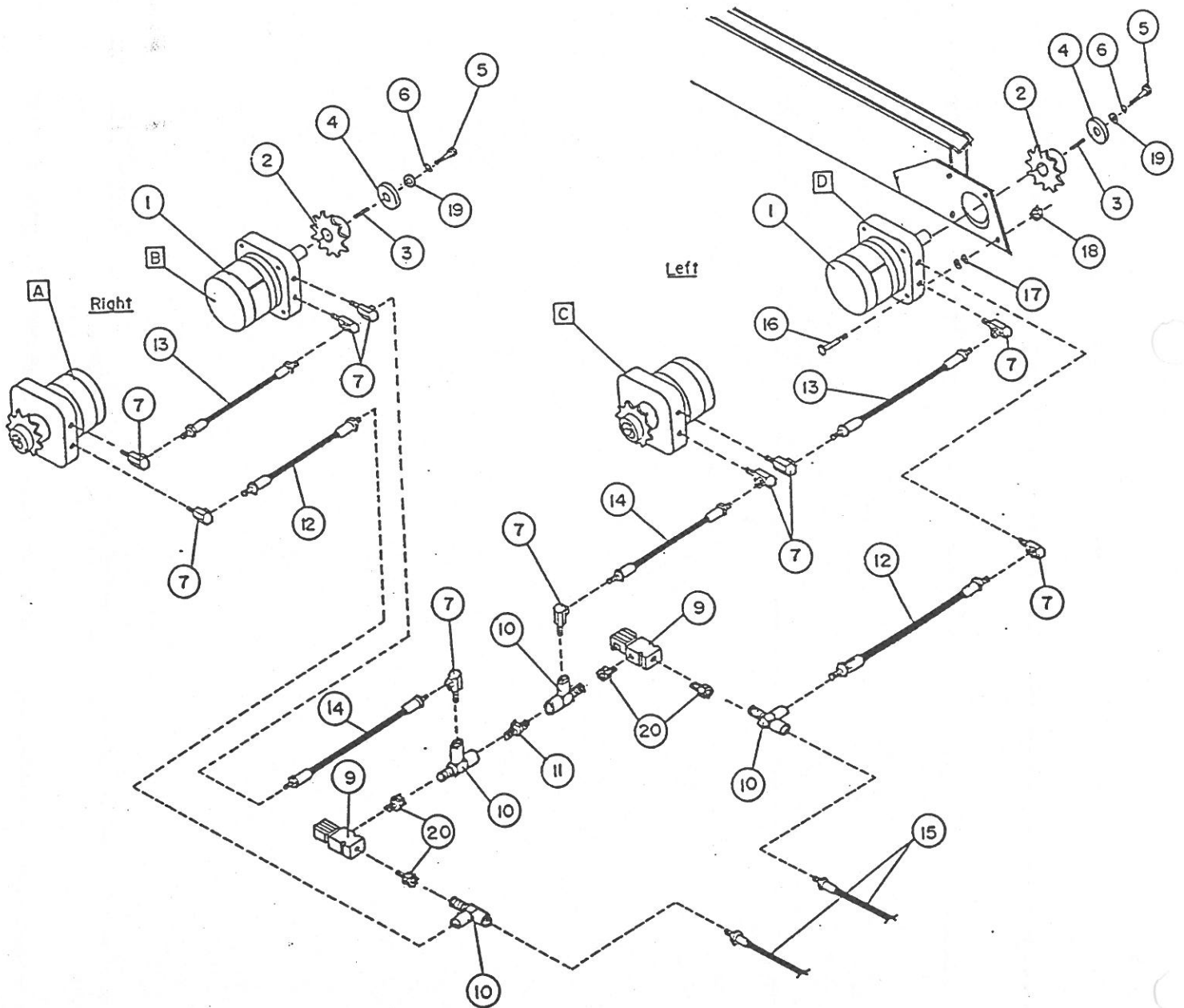
ITEM	PART NUMBER	DESCRIPTION	QTY
1	40009	Cylinder Bracket Pin	2
2	CP0440	Cotter Pin 1/4" x 2 1/2"	8
3	90108	Cylinder 3 1/2" x 13" Barrel	2
4	40011	Left Pivot Arm	1
5	40008	Front Pivot Arm Pin	4
6	40010	Pivot Slide Arm Pin	2
7	B5C1024P	Bolt 5/8" x 1 1/2"	12
8	HP40	Hair Pin Clip 2 1/2"	2
9	40019	Pivot Slide Arm Lock Pin	2
10	40017	Left Pivot Slide Arm	1
11	W10P	Lockwasher 5/8"	16
12	N5C10P	Nut 5/8"	16
13	40022	Right Fork Tooth	2
14	40023	Left Fork Tooth	2
15	40018	Right Pivot Slide Arm	1
16	40012	Right Pivot Arm	1
17	91700	Grease Nipple 1/8" NPT Straight	4
18	B5C1632P	1 1/2" x 2" Bolt	4

Chain Tightener



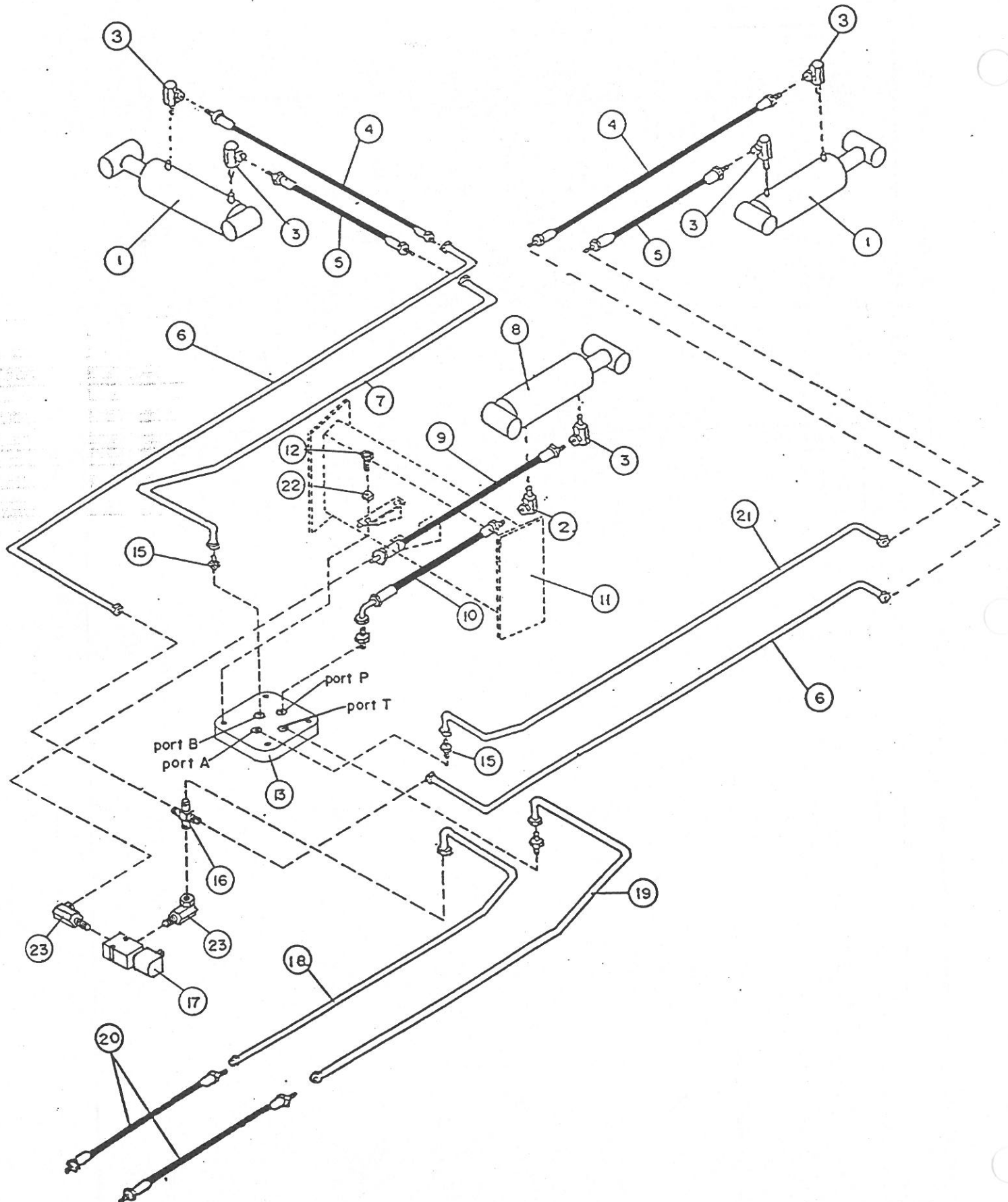
ITEM	PART NUMBER	DESCRIPTION	NO
1	N5C10P	Nut 5/8"	4
2	91700	Grease Nipple 1/8" NPT Straight	4
3	40073	Right Chain Tightener	2
4	40074	Left Chain Tightener	2
5	91511	2062 Half Link	*
6	91510	2062 Connecting Link	*
7	91508	2062 Chain c/w Connecting Link	8
		* As Required	

Hydraulic Motors



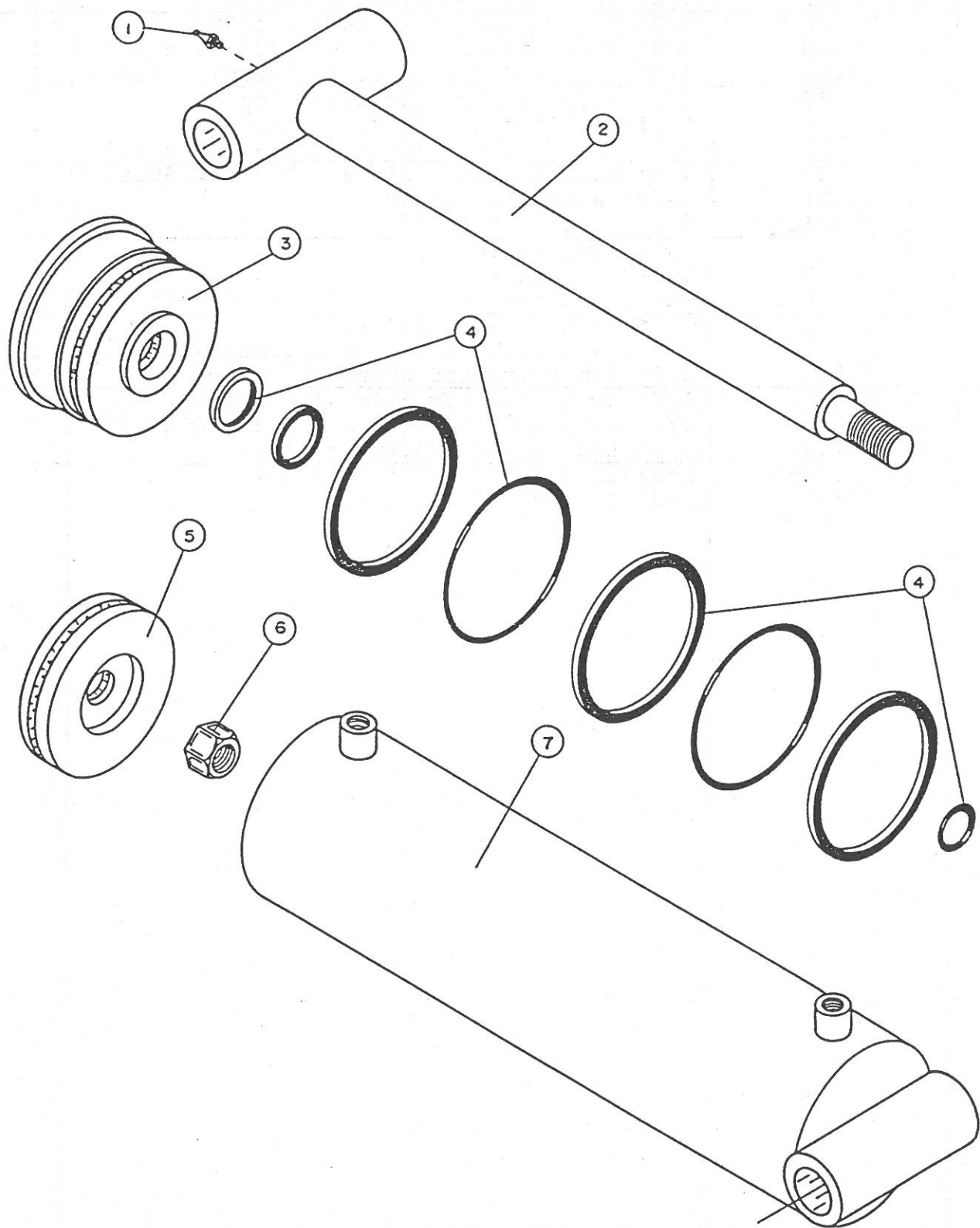
ITEM	PART NUMBER	DESCRIPTION	Nº
1	92066	Hydraulic Motor	
2	92063	C-2062 - 10 Tooth Sprocket	4
3	40078	5/16" Keystock	4
4	40077	End Washer	4
5	92067	Bolt 5/8" x 1" NF	4
6	W10P	5/8" Lockwasher	4
7	60UB1008	90° Swivel Elbow 60UB1008	4
8	60UA0808	90° Swivel Elbow 1/2" 60UA0808	8
9	92070	Cartridge Valve 1/2" ORB (Normally Closed)	2
10	25VK08	1/2" Street Tee M-F-F 25VK08	2
11	24SA08	1/2" Adaptor 24SA08	4
12	90233	1/2" Hose 1 Wire 1/2" MB x 1/2" MB x 60"	1
13	90232	1/2" Hose 1 Wire 1/2" MB x 1/2" MB x 60"	2
14	90234	1/2" Hose 1 Wire 1/2" MB x 1/2" MB x 28½"	2
15	90231	1/2" Hose 1 Wire 1/2" MB x 1/2" MB x 36"	2
16	B5C0840P	1/2" Hose 1 Wire 1/2" MB x 1/2" MB x 108"	2
17	FW08P	Bolt 1/2" x 2 1/2"	16
18	LN5C08P	Flat Washer 1/2"	*
19	W10P	Locknut 1/2"	16
20	60SB0808	Lockwasher 1/2"	16
		1/2" Adaptor 60SB0808	4
		*As Required	

Hydraulic System



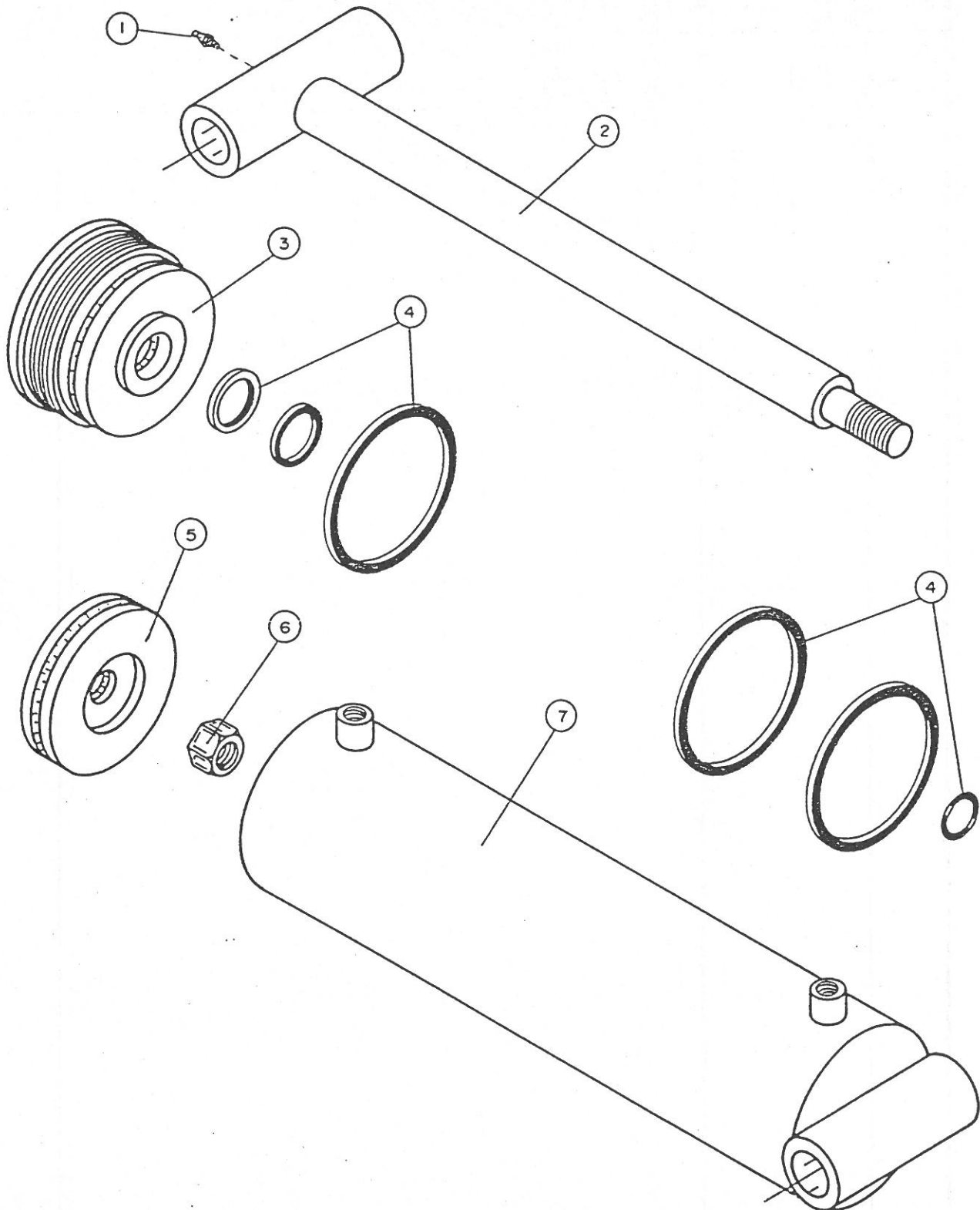
ITEM	PART NUMBER	DESCRIPTION	Nº
1	90108	Cylinder 3 1/2" x 13" Barrel (CTD)	2
2	61UA0808	1/2" x 90° Swivel Elbow (Restricted)	1
3	60UA0808	1/2" x 90° Swivel Elbow 60UA0808	5
4	90228	3/8" Hose 1 Wire 1/2" MB x 1/2" MJ x 43"	2
5	90222	3/8" Hose 1 Wire 1/2" MB x 1/2" MJ x 28"	2
6	90421	1/2" Left and Right Outer Hydraulic Lines	2
7	90425	1/2" Right Inner Hydraulic Line	1
8	90109	Cylinder 3" x 16" Barrel (Ram)	1
9	90229	3/8" Hose 1 Wire 1/2" MB x 1/2" MB x 32"	1
10	90224	3/8" Hose 1 Wire 1/2" MB x 1/2" NJ-90Tx23"	1
11	40071	A-Frame Centre Member	1
12	B5C0528P	Bolt 5/16" x 1 3/4"	4
13	92034	Valve Sub Plate	1
14	92038	Solenoid Valve	1
15	848FS0808	Flare Adaptor 848FS0808 1/2" JIC-1/2" NPT	4
16	92070	1/2" Tube Cross 852-FS-08	1
17	92070	Cartridge Valve 1/2" ORB (Normally Closed)	1
18	90423	1/2" Inner Tractor Hydraulic Line	1
19	90422	1/2" Outer Tractor Hydraulic Line	1
20	90223	3/8" Hose 1 Wire 1/2" MJ x 1/2" MB x 58"	2
21	90424	1/2" Left Inner Hydraulic Line	1
22	LN5C05P	Locknut 5/16"	4
23	60UB0808	1/2" 90° Swivel Elbow 60UB0808	2

3 x 16 Cylinder (CTD)



ITEM	PART NUMBER	DESCRIPTION	Nº
1	91700	Grease Nipple 1/8" NPT Straight	1
2	90646	Cylinder Shaft c/w Tube End	1
3	90666	3" Cylinder Screw on End Cap	1
4	90684	3" Seal Kit SKC30-150A	1
5	90705	3" Cylinder Piston	1
6	90720	Piston Nut	1
7	90747	3" x 16" Cylinder Screw on tube (Tube End)	1
	90107	3" x 16" Cylinder Complete (Tube Ends)	*
*As Required			

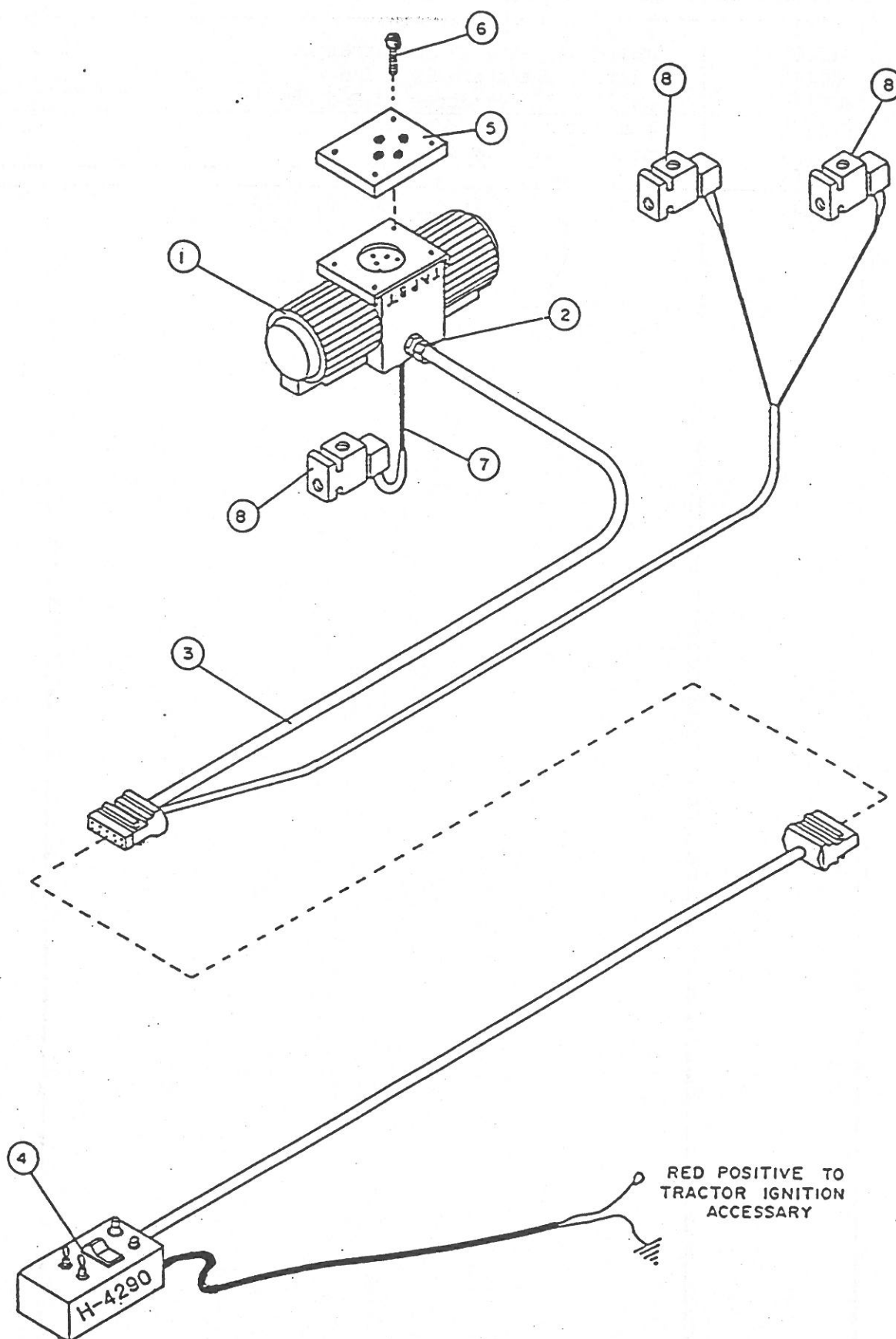
3 1/2 x13 Cylinder (CTD)



ITEM	PART NUMBER	DESCRIPTION	Nº
1	91700	Grease Nipple 1/8" NPT Straight	1
2	90645	Cylinder Shaft c/w Tube End	1
3	90662	3 1/2" Cylinder Screw on End Cap	1
4	90680	Seal Kit 3 1/2" SKC35-69A	1
5	90700	Piston 3 1/2" Cylinder	1
6	90720	Piston Nut	1
7	90746 90108	3 1/2" x 13 Cylinder Screw on Tube 3 1/2" x 13 Cylinder Complete (Tube Ends)	1 *
*As Required			

Electrical System

1990



ITEM	PART NUMBER	DESCRIPTION	QTY
1	92038	Single Solenoid	1
2	92040	Electrical Adaptor CG50-A350	1
3	92041	Electrical Harness	1
4	92049	Electrical Harness c/w Control	1
5	92034	Valve Sub Plate	1
6	S5C0424P	Allan Set Screw RD-HD 1/4" x 1 1/2"	4
7	92043	Plastic Hose & Connectors	1
8	92070	Cartridge Valve (Normally Closed) 1/2" ORB	3

ITEM	PART NUMBER	DESCRIPTION	QTY
1	92038	Single Solenoid	1
2	92040	Electrical Adaptor CG50-A350	1
3	92077	14BM Implement Harness (Field)	1
4	92075	14BM Control(Field) W/ Control Harness	1
5	92034	Valve Sub Plate	1
6	S5C0424P	Allan Set Screw RD-HD 1/4" x 1 1/2"	4
8	92070	Cartridge Valve (Normally Closed) 1/2" ORB	3
	92073	14BM Control(Field) W/ Harnesses	1

Part Index

PART #	PAGE	ITEM	DESCRIPTION
40003	30	25	A-Frame Hitch Pin 1 1/4" x 3"
40004	30	33	Hitch Plate
40006	30	9	Rear Channel Cross Member
40008	32	5	Front Pivot Arm Pin
40009	30	14	Cylinder Bracket Pin
40009	32	1	Cylinder Bracket Pin
40010	32	6	Pivot Slide Arm Pin
40011	32	4	Left Pivot Arm
40012	32	16	Right Pivot Arm
40017	32	10	Left Pivot Slide Arm
40018	32	15	Right Pivot Slide Arm
40019	32	9	Pivot Slide Arm Lock Pin
40020	30	36	Jack Plate c/w Stub
40022	32	13	Right Fork Tooth
40023	32	14	Left Fork Tooth
40024	26	4	Walking Beam Pockets
40025	26	3	Walking Beam
40040	30	11	Slow Moving Sign Bracket
40054	30	23	Slow Moving Sign Bottom Bracket
40060	26	7	Left Main Sub Frame
40061	26	9	Right Main Sub Frame
40062	30	28	Left Main Sub Frame
40063	30	4	Right A-Frame Hitch
40064	30	12	4" x 6" Cross Member
40065	30	19	3" x 6" Cross Member
40066	30	6	Left Outside Rail
40067	30	5	Left Insider Rail
40068	30	3	Right Insider Rail
40069	30	1	Right Outside Rail
40070			
40071	30	29	A-Frame Centre Member
40071	38	11	A-Frame Centre Member
40072	30	20	Bale Divider Tube
40074	34	4	Left Chain Tightener
40075	34	3	Right Chain Tightener
40075	30	8	Bale Divider
40076	30	37	Hydraulic Support Guide
40077	36	3	5/16" Key Stock
40078	36	4	End Washer
90108	32	3	Cylinder 3 1/2" x 13"
90108	38	1	Cylinder 3 1/2" x 13"
90108	42	-	Cylinder 3 1/2" x 13"
90109	30	26	Cylinder 3" x 16"
90109	38	8	Cylinder 3" x 16"
90109	40	-	Cylinder 3" x 16"
90222	38	5	3/8" Hose 1Wire 1/2"MB x 1/2"MJ x 28"
90223	38	20	3/8" Hose 1Wire 1/2"MJ x 1/2"MB x 58"
90224	38	10	3/8" Hose 1Wire 1/2"MBx1/2"NJ-90Tx23"
90228	38	4	3/8" Hose 1Wire 1/2"MB x 1/2"MB x 43"
90229	38	9	3/8" Hose 1Wire 1/2"MB x 1/2"MB x 37"
90231	36	15	1/2" Hose 1Wire 1/2"MB x 1/2"MB x108"
90232	36	13	1/2" Hose 1Wire 1/2"MB x 1/2"MB x28 1/2"
90233	36	12	1/2" Hose 1Wire 1/2"MB x 1/2"MB x 60"
90234	36	14	1/2" Hose 1Wire 1/2"MB x 1/2"MB x 36"
90421	36	6	1/2" Left & Right Outer Hyd. Line
90422	38	19	1/2" Outer Tractor Hydraulic Line
90423	38	18	1/2" Inner Tractor Hydraulic Line
90424	38	21	1/2" Left Inner Hydraulic Line
90425	38	7	1/2" Right Inner Hydraulic Line
90500	38	2	1/2" x 90° Swivel Elbow (Restrictor)
90501	36	8	1/2" x 90° Swivel Elbow
90501	38	3	1/2" x 90° Swivel Elbow
90507	36	7	1/2" x 5/8" x 90° Swivel Elbow
90550	38	15	Flare Adaptor
90553	16	16	1/2" Tube Cross
90554	36	11	1/2" Adaptor
90604	36	10	1/2" Street Tee M-F-F
90645	42	2	Cylinder Shaft c/w Tube End
90646	40	2	Cylinder Shaft c/w Tube End
90662	42	3	3 1/2" Cylinder Screw on End Cap
90666	40	3	3" Cylinder Screw on End Cap
90680	42	4	Seal Kit 3 1/2"
90684	40	4	3" Seal Kit

PART #	PAGE	ITEM	DESCRIPTION
90700	42	5	Piston 3 1/2" Cylinder
90705	40	5	3" Cylinder Piston
90720	40	6	Piston Nut
90720	42	6	Piston Nut
90746	42	7	3 1/2" x 13" Cylinder Screw on Tube
90747	40	7	3" x 16" Cylinder Screw on Tube
91008	28	14	11-15L 8ply Farm HiWay Service
91030	26	2	9.5Lx8ply Hi-Way Tire, 8" Wheel Rim
91050	28	16	15" x 8" x 6" Wheel Rim
91061	26	1	9/16" Wheel Bolts
91061	28	7	9/16" Wheel Bolts
91071	28	6	618 Hub
91091	28	2	618 Seal
91111	28	9	618 Outer Cone
91131	28	8	618 Outer Race
91151	28	4	618 Inner Race
91171	28	3	618 Inner Cone
91190	28	10	Washer Hub
91210	28	11	Castelated Nut
91231	28	13	618 Dust Cap
91255	28	1	2" Dia Dual Spindle x 25"
91508	34	7	2062 Chain c/w Connecting Link
91510	34	6	2062 Connecting Link
91511	34	5	2062 Half Link
91700	26	5	Grease Nipple 1/8" NPT Straight
91700	28	5	Grease Nipple 1/8" NPT Straight
91700	32	17	Grease Nipple 1/8" NPT Straight
91700	34	2	Grease Nipple 1/8" NPT Straight
91700	40	1	Grease Nipple 1/8" NPT Straight
91700	42	1	Grease Nipple 1/8" NPT Straight
92003	30	30	Serial Number Plate
92028	30	18	Slow Moving Sign
92033	30	35	Hitch Jack (5000lbs)
92034	44	5	Valve Sub Plate
92034	38	13	Valve Sub Plate
92036	38	17	Cartridge Valve (Normally Closed)
92036	30	9	Cartridge Valve (Normally Closed)
92036	44	8	Cartridge Valve (Normally Closed)
92038	38	14	Solenoid
92038	44	1	Solenoid
92040	44	2	Electrical Adaptor-
92077	44	3	Electrical Harness
92043	44	7	Plastic Hose & Connectors
92075	44	4	Electrical Harness & Control
92063	36	6	C-2062-10Tooth Sprocket
92066	36	1	Hydraulic Motor
B5C0412P	30	22	Bolt 1/4" x 3/4"
B5C0436P	30	15	Bolt 1/4" x 2 1/4"
B5C0528P	38	12	Bolt 5/16" x 1 3/4"
B5C0616P	30	10	Bolt 3/8" x 1"
B5C0720P	30	21	Bolt 7/16" x 1 1/4"
B5C0824P	26	6	Bolt 1/2" x 1 1/2"
B5C0840P	36	5	Bolt 1/2" x 2 1/2"
B5C08152P	30	2	Bolt 1/2" x 9 1/2"
B5C1024P	30	27	Bolt 5/8" x 1 1/2"
B5C1024P	32	7	Bolt 5/8" x 1 1/2"
B5C16120P	30	34	Bolt 1" x 7 1/2"
CPO324	28	12	Cotter Pin 3/16" x 1 1/2"
CPO440	30	13	Cotter Pin 1/4" x 2 1/2"
CPO440	32	2	Cotter Pin 1/4" x 2 1/2"
HP40	32	11	Hair Pin Clip 2 1/2"
LN5C04P	30	7	Locknut 1/4"
LN5C05P	38	22	Locknut 5/16"
LN5C06P	30	16	Locknut 3/8"
LN5C07P	30	24	Locknut 7/16"
LN5C08P	26	8	Locknut 1/2"
LN5C08P	30	17	Locknut 1/2"

WARRANTY

High-line Mfg. Inc., as manufacturer, warrants to the original retail purchaser of its products, that they are free from defective material and workmanship. The obligation of High-line Mfg. Inc. under this warranty is limited to the repair or replacement of defective parts or correction of improper workmanship of any part(s) of such machine(s) which shall, within one year from date of original delivery to original retail purchaser, be returned to a High-line Mfg. Inc. factory or designated preauthorized dealer location, transportation charges prepaid, and which High-line Mfg. Inc. will determine to its satisfaction upon examination thereof to have been defective.

This warranty covers the replacement of any defective part for which a standard Laurier warranty claim report has been made out and approved.

This warranty shall not apply to any machine or component thereof which shall have been repaired or altered outside High-line Mfg. Inc. factory or authorized dealer location in any manner contrary to High-line Mfg. Inc. specifications and instructions, or which, has been subjected to misuse, abuse, negligence or accident, or which has not been properly set up and operated in accordance with the recommendations set forth in High-line Mfg. Inc. Owners Manual.

High-line Mfg. Inc. reserves the right to make improvements in design or change in specifications at any time, without incurring any obligation to owners of units previously sold.

This warranty is only effective when the Laurier "Warranty Card" has been completed and returned within 20 days from the time of sale to the original retail purchaser.



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