

HIGHLINE MFG.
INC.

1999

BALE MOVER 1400

**Assembly-Operator
Parts Manual**

MADE IN CANADA

interoffice memo

Date: 1/26/99

To: Sam - Purchasing, Shan - Production, Kelly - Customer Service, Phil - Sales, Michael - Marketing

Cc: Mario Piche - Engineering Manager, Shane Tulik - Project Engineer

From: Brad Woronluk, Engineering

RE: 1999 Balemover Release

Priority: Urgent

Here are the option kits as follows for the 1999 Balemover Machines for both Highline and Vermeer:

Product	Option Kit	
5BM(99)	45254	Highline
	45255	Vermeer
	40164	Light Kit
7BM(99)	45256	Highline
	45257	Vermeer
	40164	Light Kit
14BM(99)	45258	Highline
	45259	Vermeer
	40169	Light Kit

The Eco's which are in effect to update the 5BM, 7BM, and 14BM, 1999 models are as follows:

#000286

#000287

#000309

#000311

#000293

BJW/BJW

92584 - 1400 Deal
92586 - Pin Strapping 28'

Confidential

1/26/99

NOTES:

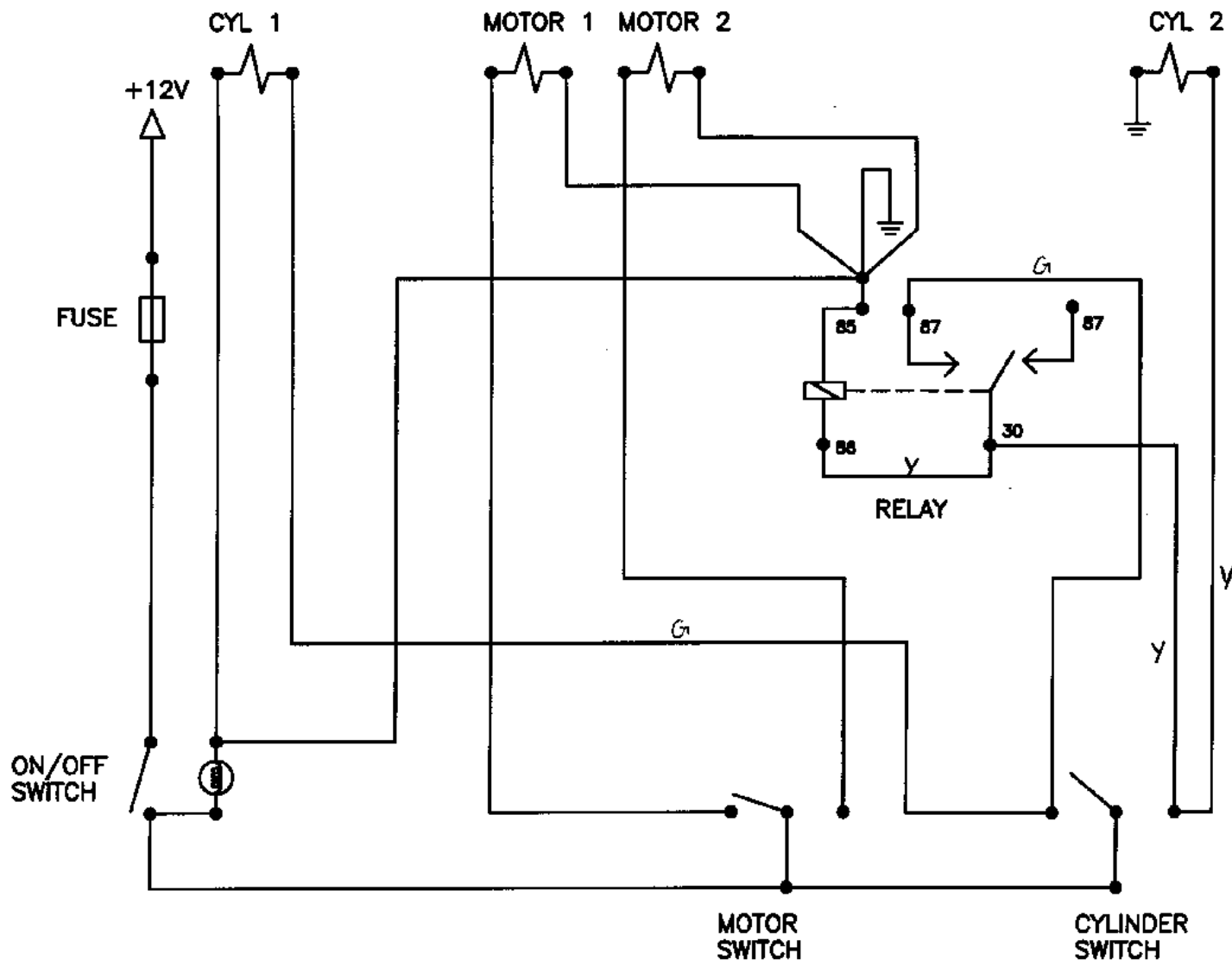
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The equipment shown is protected by patents.

Default Dimensions:

1. LINEAR DIMS. $X = 1/8$ DIA.
2. ANGLES $A = 1/2$
3. CONCENTRICITY .010 DIA
4. MACHINE FINISH 125 MICRO INCH RMS
5. MACHINE INTERNAL RADIUS .010
6. BREAK SHOWN CORNERS

DIMS ARE IN INCHES

THIS FILE PROTECTED

REVISIONS

LTR	DESCRIPTION	DATE	CHANGED BY
A	INITIAL RELEASE	20 JAN 99	BJW
B			
C			
D			
E			
F			

Engineering: SJT

Drawn By: BJW

Page: 1 of 1

Scale: NTS

Size: A

MAT'L

Date:

20 JAN 99

Model:

14 BM

Description:

CONTROL BOX SCHEMATIC 14BM

HIGHLINE

MFG. INC.

Orig. No:

92125

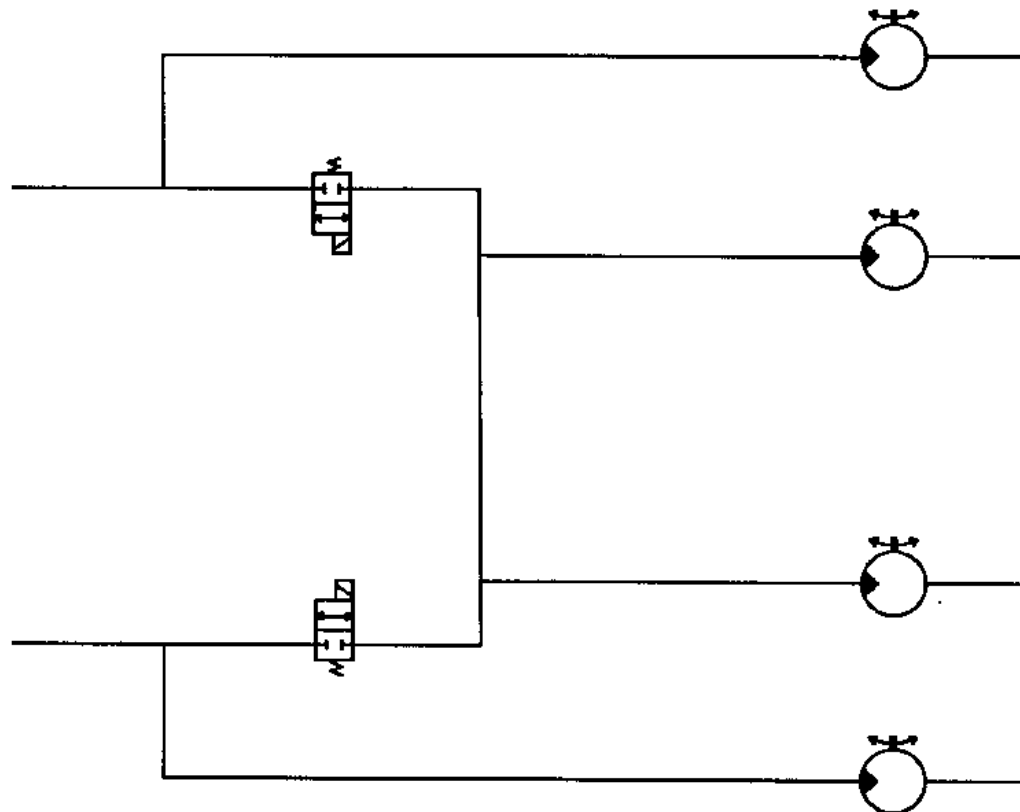
Rev: A

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Default Tolerances:
1. LINEAR DIMS: $\pm .005$
 $\pm .002$
 $\pm .001$
 FRACTIONAL = $\pm 1/16"$
2. ANGLES: $\pm 1/2^\circ$
3. CONCENTRICITY: .010 TIR
4. MACHINE FINISH: 1.00 MICRO INCH RMS
5. MACHINE INTERNAL RAGS: .010
6. BREAK: STAY DIMENSIONS

DIMS ARE IN INCHES



REVISIONS

LTR	DESCRIPTION	DATE	CHANGED BY
A	INITIAL RELEASE	15 JAN 99	BJW
B			
C			
D			
E			
F			

Engineering: SJT

Drawn By: BJW

Page:
1 of 1

Size:
A

Scale: NTS

MAT'L

Date:

15 JAN 99

Model:

14BM

Description:

MOTOR HYDRAULIC SCHEMATIC

HIGHLINE

MFG
INC.

Dep. No:

40093

Rev

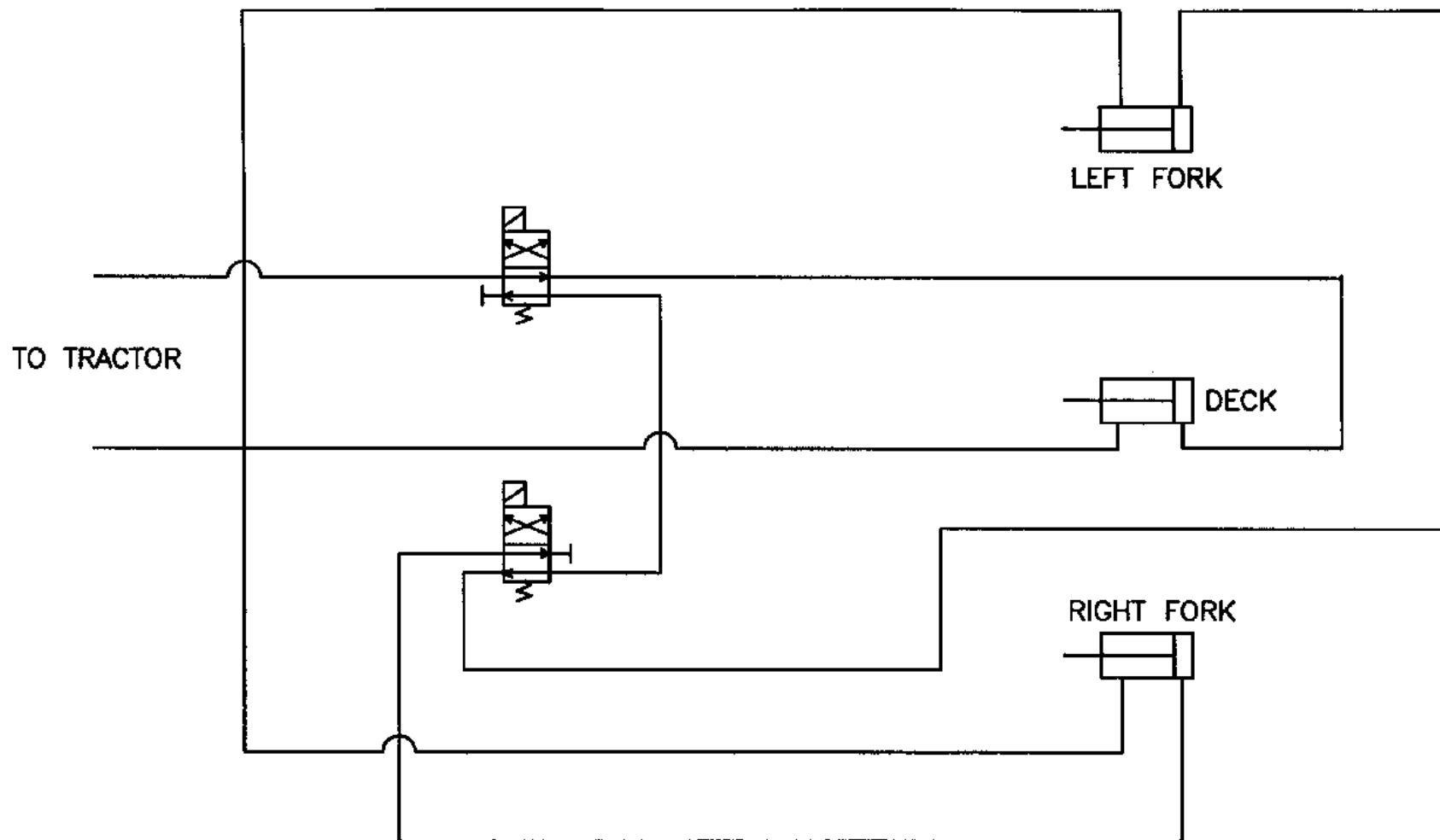
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Default Tolerances:
1. LINEAR DIMS $\pm .005$
2. ANGLES $\pm 1/2^\circ$
3. CONCENTRICITY .015 IN
4. MACHINE FINISH 125 MICRO INCH RMS
5. MACHINE INTERIUM BLADE .250
6. BREAK SHARP CORNERS

DIMS ARE IN INCHES



REVISIONS

LTR	DESCRIPTION	DATE	CHANGED BY
A	INITIAL RELEASE	15 JAN 98	BJW
E	REMOVED A BUMP TO ALLOW AN INTERSECTION	18 JAN 99	BJW
C			
D			
E			
F			

Engineering: SJT		Date: 15 JAN 99
Drawn By: BJW		
Page: 1 of 1	Size: A	MAYL
Scale: NTS		

Model: 14BM		
Description: CYLINDER HYDRAULICS SCHEMATIC		
HIGHLINE MFG INC.	Draw No: 40095	Rev: B

Report: BM081R
 Date: 6/07/99
 Time: 14:24:01
 By: JEFT @ QPADEV000C

CMS Bill of Materials Single Level BOM Report
 =====

Page: 1

Parent Part #: 45258
 *KIT,OPTICN,HIGHLINE,14BM
 Customer:

Customer Part #:
 ECN #:
 Eng. Drwg. #:
 Location:
 Revision: D 4/27/99
 Size:

Seq/Line	Component	Part #	Description	Quantity Per	Units	Engineering Drawing/Loc/Size/Itm	Stock Type ECN#	Vendor #	Stock Loc.
10-	1	92556	DECAL,CAUTION,#8014	2.0000	EA		P		WRH
10-	2	92559	DECAL,CAUTION,#8021	1.0000	EA		P		WRH
10-	3	92563	DECAL,CAUTION,#8015	2.0000	EA		P		WRH
10-	4	92583	DECAL,HIGHLINE,3-1/2	4.0000	EA		P		WRH
10-	5	92585	DECAL,HIGHLINE,700	4.0000	EA		P		WRH
10-	6	92586	DECAL,PINSTRIPPING,7	62.0000	FT		P		WRH
10-	7	92147	DECAL,BOX,CONTROL	1.0000	EA		P		WRH
10-	8	45253	MANUAL,OPERATING,14BM (99)	1.0000	EA		M		WRH
10-	9	92562	DECAL,WARNING,HITCH,JACK	1.0000	EA		P		WRH

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Warranty

HIGHLINE Mfg. Inc. warrants its products to the original owner for a period of two years from date of purchase, subject to the following provisions:

- 1st year Warranty covers Parts & Labor
- 2nd year Warranty covers Parts Only
- Warranty registration must be submitted to HIGHLINE Mfg. Inc. within 30 days of purchase.
- Highline Mfg. Inc. is not liable for any damages to this equipment resulting from use of this equipment that is inconsistent with this manual and such is not covered under this warranty.
- Warranty will be void, and Highline Mfg. Inc. will not be liable in any way, if the equipment is used for any other purpose than the intended agricultural application.
- All warranty service must be handled through an authorized HIGHLINE Mfg. Inc. dealer. At the time of requesting warranty service, the purchaser must present evidence of the delivery date of the equipment. The purchaser shall pay any premium for requested overtime, any charge for making service calls, and any charges incurred in transporting the equipment to and from the location of the warranty service. Freight costs associated with warranty repairs are not reimbursable.
- Any labor subject to warranty must be authorized by a HIGHLINE Mfg. Inc. Representative, before work is started.
- Warranty will be void if any component of this equipment is altered or modified in any way, unless written permission is given by HIGHLINE Mfg. Inc.
- Equipment used for rental, custom work, industrial or construction use will not be warranted by Highline Mfg. Inc.
- HIGHLINE Mfg. Inc. will not assume any responsibility for any damage occurring to equipment which this equipment may be attached.
- Warranty terms and conditions are subject to provincial and state legislation.
- Warranty is limited to the Purchase price paid for the equipment, up to the Manufacturers suggested retail price. **ANY LIABILITY RESULTING FROM THE WORKMANSHIP OF THIS EQUIPMENT** is limited to the purchased price paid. Highline Mfg. Inc. assumes no responsibility whatsoever for liability resulting from the misuse or improper operation and maintenance of this equipment.

Presidents Message

The 1400 Bale Mover, a proven name in the bale handling field is manufactured by **HIGHLINE Mfg Inc.** The 1400 Bale Mover was designed to work in the most difficult of bale handling situations. A little time and effort spent in proper maintenance will assure the performance and durability of your bale mover.

This operator manual has been prepared to provide information necessary for the safe and efficient operation of your bale mover. In it you will find safety procedures, maintenance routines and detailed parts diagrams.

In order to maintain high standards, changes or improvements are made from time to time. **HIGHLINE Mfg Inc.** reserves the right to make those changes and add improvements when practical to do so without incurring any obligation to make such changes and improvements on machines sold previously.

Should the need arise, this manual will assist you in acquiring replacement parts. Should your dealer not have the parts you require in stock, the dealer will be happy to order them for you. If you should find that you require information not covered in this manual, feel free to consult **HIGHLINE Mfg Inc.** or your local dealer.

HIGHLINE Mfg Inc. thanks and congratulates you for selecting a 1400 Bale Mover as the machine for your bale handling needs.



Raymond Bussiere
President

Safety Precautions

CAREFUL OPERATION IS THE BEST INSURANCE AGAINST AN ACCIDENT

- Always disengage PTO and hydraulic motors before dismounting tractor.
- Keep yourself and others clear of rotating parts to prevent injury.
- Never allow anyone to stand near the bale mover while loading or unloading bales.
- Never attempt to manually remove bales from rails while hydraulic motors are engaged. Disconnect hydraulic motors before cleaning the bale mover.
- Remove transport locks before lowering forks. To remove transport locks, raise forks to slacken transport chain and remove transport pin. **DO NOT** lower forks when transport locks are in position otherwise sever damage **WILL** occur.
- Relieve pressure in hydraulic lines before disconnecting lines or performing maintenance on the hydraulic system.

14 Bale Mover (99) Packaging List

Page 1 of 4

LEGEND: QTY: Quantity.

M/B/H: Miscellaneous/Bolts/Hydraulics

CRT/PCK: Crate/Packaging

F: on the frame

Initials	QTY	PART NO.	DESCRIPTION	CRT/PCK	M/B/H
	64	91061	BOLT, WHEEL, 9/16	C	B
	2	91608	PIN, HAIR, 1/8X2-1/2	C	B
	8	31182	PIN, COTTER, 1/4X2-1/2	C	B
	4	30207	ZERK, 1/4-28, GF641, STRAIGHT		B
	8	31041	BOLT, HEX, 3/4X3, UNC, GR5, ZP	C	B
	14	31052	BOLT, HEX, 5/8X2, UNC, GR5, ZP	C	B
	16	31051	BOLT, HEX, 5/8X1-1/2, UNC, GR5, ZP	C	B
	8	31175	NUT, NYLOCK, 3/4, UNC, ZP	C	B
	46	31178	NUT, NYLOCK, 5/8, UNC, ZP	C	B
	16	31238	WASHER, FLAT, 3/4, ZP	C	B
	4	30269	BOLT, U, 5/8X6X4-3/8	C	B
	166	31016	BOLT, HEX, 1/2X1-1/2, UNC, GR5, ZP	C	B
	2	E3764	TETHER, CABLE, SHIELD, SMALL	C	B
	8	31070	BOLT, HEX, 1/2X2, UNC, GR5, ZP	C	B
	189	31173	NUT, NYLOCK, 1/2, UNC, ZP	C	B
	4	40121	PIN, SPROCKET, REAR	C	B
	4	30197	PIN, SPRING, 3/16X1-1/2	C	B
	4	92024	DRV, BUSHING, 2232400-24	C	B
	4	32071	WASHER, FLAT, 1-1/4IDX1-7/8OD	C	B
	16	31020	BOLT, HEX, 1/2X2-3/4, UNC, GR5, ZP	C	B
	4	31030	BOLT, HEX, 1/4X2, UNC, GR5, ZP	C	B
	8	31174	NUT, NYLOCK, 1/4, UNC, ZP	C	B
	19	31236	WASHER, FLAT, 1/2, ZP	C	B
	4	31240	WASHER, FLAT, 5/8, ZP	C	B
	24	31237	WASHER, FLAT, 1/4, ZP	C	B
	18	31033	BOLT, 1/4" X 3/4", PLTD.	C	B
	16	31593	CLIP, AUTOMOTIVE, 1/4, GR5, ZP	C	B
	4	31043	BOLT, HEX, 3/8X1, UNC, GR5, ZP	C	B
	4	31176	NUT, NYLOCK, 3/8, UNC, ZP	C	B
	6	31177	NUT, NYLOCK, 5/16, UNC, ZP	C	B
	6	31239	WASHER, FLAT, 5/16, ZP	C	B
	2	31038	BOLT, HEX, 1X7-1/2, UNC, GR5, ZP	C	B
	8	31053	BOLT, HEX, 5/8X1-3/4, UNC, GR5, ZP	C	B
	2	31162	NUT, HEX, 1, UNC, GR5, ZP	C	B
	6	31243	WASHER, LOCK, 1, ZP	C	B
	4	31241	WASHER, FLAT, 7/16, ZP	C	B
	2	31031	BOLT, HEX, 1/4X2-1/2, UNC, GR5, ZP	C	B
	2		Cylinder Pins		
	4		Cotter Pins		

14 Bale Mover (99) Packaging List

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Initials	Quantity	Part #	Description	CRT/PCK	M/B/H
	2	30145	HYD,FIT,ELBOW,10MBX-8MJ90	C	H
	2	30146	HYD,HOSE,1/2X33,8FJX-8FJ90	C	H
	2	30147	HYD,HOSE,1/2X52,8FJ90TL	C	H
	2	30148	HYD,HOSE,1/2X72,8FJX-8FJ90	C	H
	2	30149	HYD,HOSE,1/2X108,8FJX-8MP	C	H
	1	30150	HYD,FIT,ADAPTER,8FJX-8MJ-8MJ	C	H
	1	30313	HYD,FIT,TEE,8MJ-8MJ-8MJ	C	H
	2	30152	HYD,FIT,ADAPTER,8MB-8FJX	C	H
	6	30204	HYD,FIT,ADAPTER,10MB-8MJ	C	H
	4	30209	HYD,FIT,PIONEER,MALE,8FP	C	H
	2	30214	HYD,FIT,TEE,8MB-8MJ-8MJ	C	H
	4	92184	HYD,MOTOR,45CUIN,2000PSI	C	H
	2	92070	HYD,VALVE,SOLENOID	C	H
	4	30212	HYD,FIT,ELBOW,8MP-8MJ90	C	H
	1	90313	HYD,HOSE,3/8X18,8FJX-8FJX	C	H
	2	30200	HYD,FIT,PLUG,8MB	C	H
	6	30210	HYD,CLAMP,HOSE,1/2	C	H
	4	30211	HYD,FIT,ELBOW,8MB-8MJ90	C	H
	2	30215	HYD,FIT,ADAPTER,8MB-8MJ	C	H
	1	30216	HYD,FIT,CROSS,8MJ	C	H
	1	90103	HYD,CYL,3.5X16,1.5,8FP	C	H
	2	90120	HYD,CYL,3.5X13,1.5,8FP	C	H
	2	90223	HYD,HOSE,3/8X58,8MJ-8MP	C	H
	1	30583	HYD,HOSE,3/8X30,8FJXTL	C	H
	2	90243	HYD,HOSE,3/8X44,8FJX-8MJ	C	H
	2	90245	HYD,HOSE,3/8X28,8FJX-8MJ	C	H
	1	90271	HYD,HOSE,3/8X42,8FJX-8FJX	C	H
F	2	90421	HYD,LINE,STEEL,1/2X.049,8FJ	C	H
F	1	90422	HYD,LINE,STEEL,1/2X.049,8FJ	C	H
F	1	90423	HYD,LINE,STEEL,1/2X.049,8FJ	C	H
F	1	90424	HYD,LINE,STEEL,1/2X.049,8FJ	C	H
F	1	90425	HYD,LINE,STEEL,1/2X.049,8FJ	C	H
	2	92089	HYD,VALVE,SOLENOID	C	H
	1	30580	HYD,FIT,ELBOW,8MP-6MJ90	C	H
	1	32035	HYD,FIT,TEE,8MPR-8MJ	C	H
	1	31271	HYD,VALVE,CHECK,PILOT,POC1-10	C	H
	1	32079	HYD,FIT,ELBOW,6MB-8MJ90	C	H
	1	30582	HYD,HOSE,3/8X14.5,8FJX,6FJX	C	H
	1	30581	HYD,FIT,ADAPTER,6FJX-6MB	C	H
	1	32056	HYD,FIT,ELBOW,4MB-6MJ90	C	H

14 Bale Mover (99) Packaging List

Initials	Quantity	Part #	Description	CRT/PCK	M/B/H
	4	45243	POCKET, BEAM WALKING	C	M
F	2	45247	SUSP, AXLE, ASSEMBLY, 14BM	P	M
F	8	40122	TIRE, COMPLETE	P	M
F	1	45246	FRAME, MAIN, LEFT	P	M
F	1	45245	FRAME, MAIN, RIGHT	P	M
	1	40105	FRAME, SUB, SIGN, SMV	C	M
	2	40003	PIN, HITCH SUB FRAME	C	M
F	1	40062	HITCH, A-FRAME, LEFT	P	M
F	1	40063	HITCH, A-FRAME, RIGHT	P	M
	1	40487	HITCH, CROSSMEMBER	C	M
	1	40142	HITCH, TONGUE, DOUBLE	C	M
	1	92088	JACK, 7000LBX15	C	M
F	1	40144	RAIL, OUTSIDE, LEFT	P	M
F	1	40145	RAIL, INSIDE, LEFT	P	M
F	1	40146	RAIL, INSIDE, RIGHT	P	M
F	1	40147	RAIL, OUTSIDE, RIGHT	P	M
F	1	40006	FRAME, SUB, REAR	P	M
F	1	45235	FRAME, SUB, FRONT	P	M
F	1	40143	FRAME, MIDDLE	P	M
F	1	40486	TUBE, DECK, CYL	C	M
	2	40140	BRACKET, CYLINDER	C	M
	1	E4740	BRACKET, SOLENOID, HYD	C	M
F	4	45244	BEAM, SUPPORT, FRAME	P	M
	1	30206	HYD, HOSE, HOLDER, 1/2	C	M
	1	92028	SIGN, SLOW MOVING	C	M
	2	92061	BUMPER, RUBBER	C	M
F	1	E4779	TUBE, DIVIDER, BALE	C	M
	2	40008	PIN, ARM, PIVOT	C	M
	4	40010	PIN, ARM, SIDE, PIVOT	C	M
F	1	45237	ARM, PIVOT, LEFT	P	M
F	1	45236	ARM, PIVOT, RIGHT	P	M
F	1	40148	ARM, SLIDE, PIVOT, LEFT	P	M
F	1	40149	ARM, SLIDE, PIVOT, RIGHT	P	M
	2	40019	PIN, TRANSPORT	C	M
F	1	40151	FORK, RIGHT	P	M
F	1	40152	FORK, RIGHT, 1/4 TURN	P	M
F	1	40153	FORK, LEFT, 1/4 TURN	P	M
F	1	40154	FORK, LEFT	P	M
	2	30217	CHAIN, TRANSPORT	C	M
	2	40088	BUMPER, BALE	C	M
	4	40118	MOUNT, BUMPER, BALE	C	M
	2	40115	TIGHTENER, MOTOR, LEFT	C	M
	2	40116	TIGHTENER, MOTOR, RIGHT	C	M

14 Bale Mover (99) Packaging List

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Initials	Quantity	Part #	Description	CRT/PCK	M/B/H
	8	91508	CHAIN,C2062H X 304PI 37FT	C	M
	4	92023	DRV,SPROCKET,60,7TOOTH,1-1/2	C	M
	4	92063	DRV,SPROCKET,60,10TOOTH,1-1/4	C	M
	4	E4803	PLATE,FACE,GUARD	C	M
	2	E4810	HOUSING,GUARD,BM,LEFT	C	M
	2	E4802	HOUSING,GUARD,BM,RIGHT	C	B
	1	92077	HARNESS,EXTENSION	C	M
	1	92125	BOX,CONTROL	C	M
	1	92220	ALUMINUM, PLATE, BOX, CONTROL	C	M

VERMEER LIGHT PARTS

Initials	Quantity	Part #	Description	CRT/PCK	M/B/H
	1		Front Part of Harness		
	4		Grommets		
	8		Cable Ties		
	2		Bolt, U, ¼ x 1 ½ x 2 ¼		
	8		½ Lock Nuts		
	12		¼ x 1 ½ Bolts		
	4		Bolt, U, ½ x 3 x 9		
	16		¼ Lock Nut		
	1		Right Light Mount		
	1		Left Light Mount		
	1		Left Light		
	1		Right Light		
	1		Middle Light		
	1		Middle Light Bracket		

1.0 Pre-delivery & Installation Instructions

1.1 General Description of 1400 Bale Mover

The 1400 Bale Mover is 16' 9" wide and a length of 43'5". One set of hydraulic lines is required for engaging hydraulic motors, and one set of hydraulic lines is required for operation of forks and deck cylinder. The 1400 Bale Mover may either load or unload bales for easy transport and organization of bales.

1.2 Pre-Delivery Check List

The following is a list of parts required is enclosed, if the 1400 Bale Mover has not been assembled prior to delivery. If any parts are not included contact your authorized Highline dealer or **HIGHLINE Mfg Inc.**

2.0 Operating Instructions

2.1 Pre-start instructions

Transport chains need to be removed before operation of the forks. To remove transport chains, raise forks slightly and remove transport pins. DO NOT lower forks when transport chains are in position otherwise severe damage WILL occur.

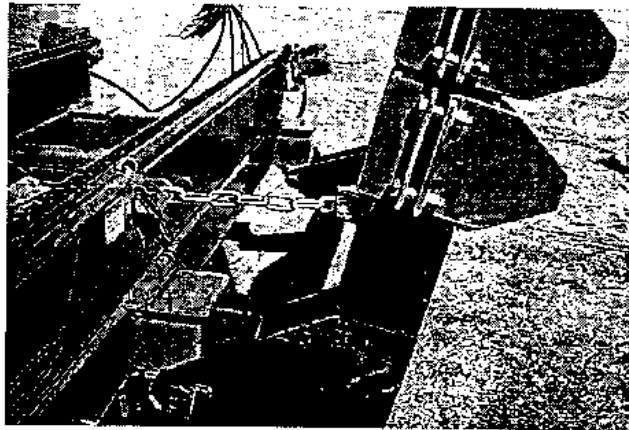


Figure 1. Locks in Transport Position

2.2 Transporting Instructions

To ensure safe transport of the 1400 Bale Mover, forks should be in the transport position with the transport chains in place. To put transport chains in place, raise the forks until the transport pin can be put in place safely. Lower forks to take the slack up in the transport chains.

2.3 Bale Size Adjustment

The bale size is adjustable through the fork adjusting plate. By moving the forks (Figure 2) to adjust for the correct size of bale.

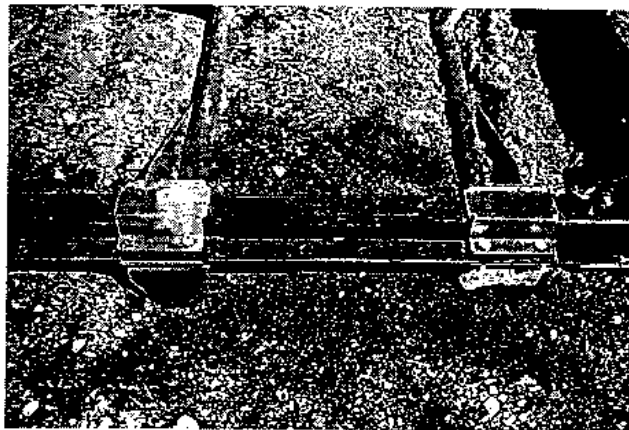


Figure 2. Fork Adjusting

2.4 Field Instructions

For proper operation, the 1400 Bale Mover should run at a field speed of 3-4 mph (4.8-6.5 km/h). When picking bales, a full stop is not required. Bales are picked and placed on the bed continuously by lifting the bale into position and moving the preceding bales back to fit the new bale on.

3.0 Maintenance Instructions

To ensure long operating life of your 1400 Bale Mover, follow this maintenance procedure.

- Periodically check tire air pressure to maintain equal tire pressure. The operating tire pressure should be 90 psi
- Periodically check all bolts for tightness.
- Periodically check chain tightner. The chain should appear to be 2 inches off the bottom of the rail
- Grease the following points as described.

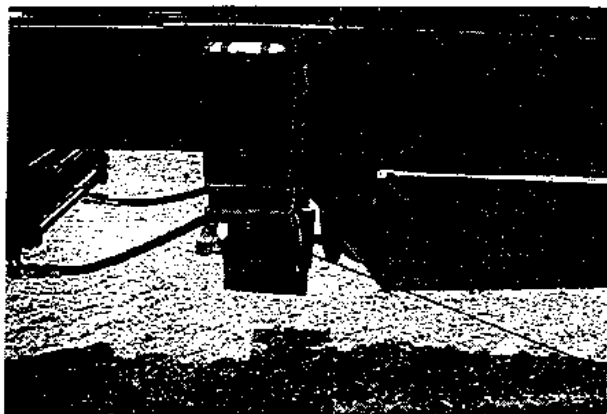
3.1 Grease Locations



Grease No	Description	Frequency
1	Arm, Pivot, Left	Daily
2	Arm, Pivot, Right	Daily

2

Figure 3. Pivot Arm Grease Location



Grease No	Description	Frequency
3	Arm, Slide, Pivot, Left	Daily
4	Arm, Slide, Pivot, Right	Daily

4

Figure 4. Pivot Slide Arm Grease Location

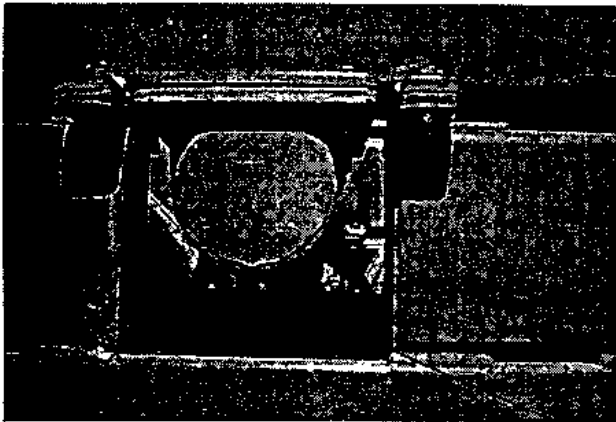


Figure 5. Oscillating Tandem Grease Location

Grease No	Description	Frequency
5	Pocket, Beam Walking, Left, Outside	Daily
6	Pocket, Beam Walking, Left, Inside	Daily
7	Pocket, Beam Walking, Right, Inside	Daily
8	Pocket, Beam Walking, Right, Outside	Daily

8

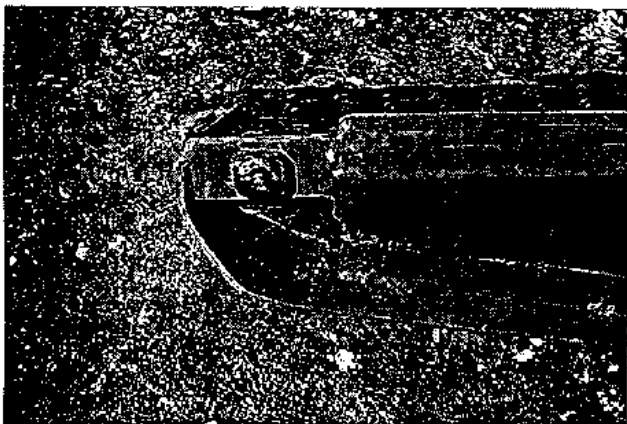


Figure 6. Rear Sprocket Pin

Grease No	Description	Frequency
9	Pin, Sprocket, Rear, Left, Outside	Weekly
10	Pin, Sprocket, Rear, Left, Inside	Weekly
11	Pin, Sprocket, Rear, Right, Inside	Weekly
12	Pin, Sprocket, Rear, Right, Outside	Weekly

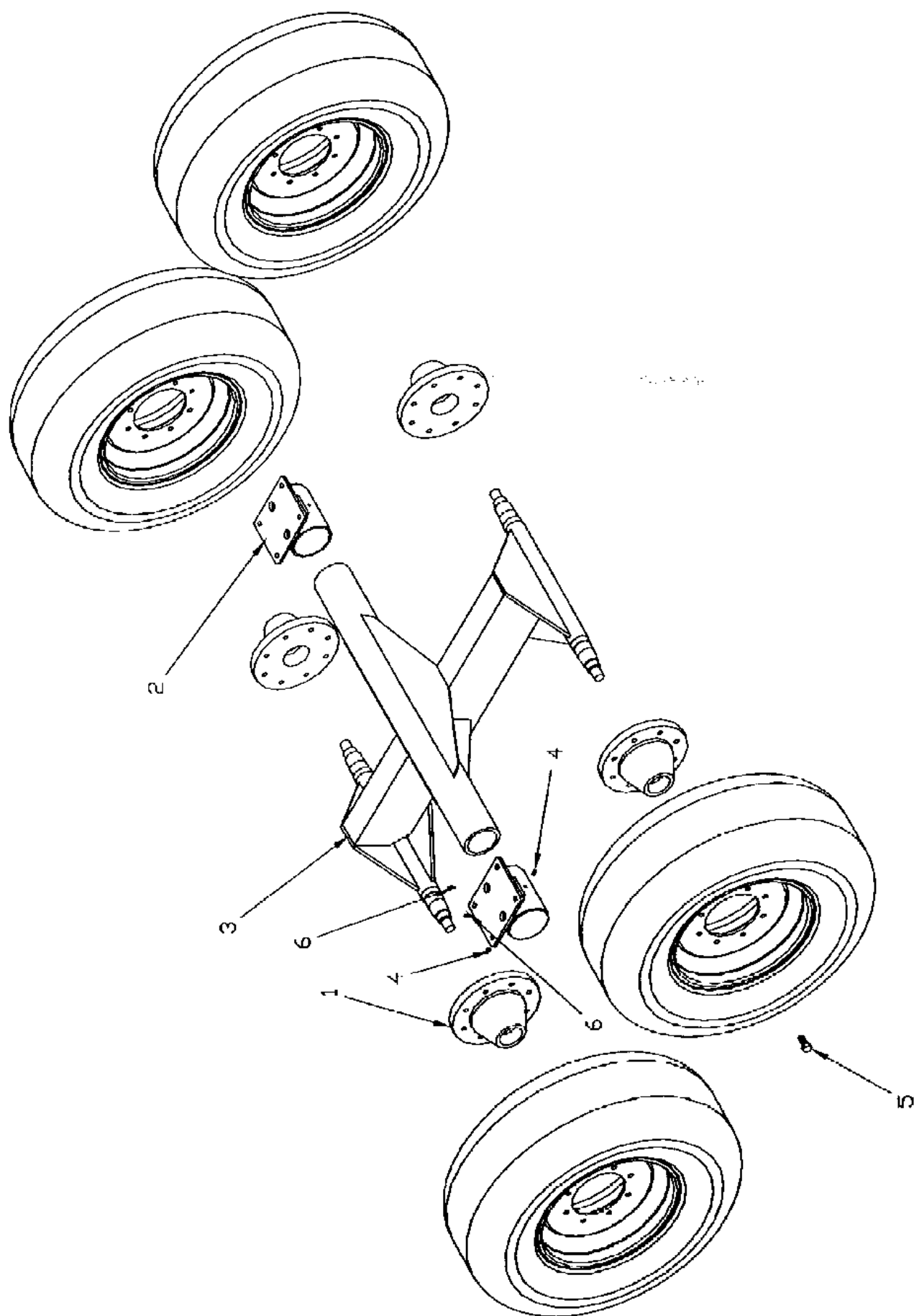
12

Note: Wheel bearings should be repacked yearly.

4.0 Parts Information

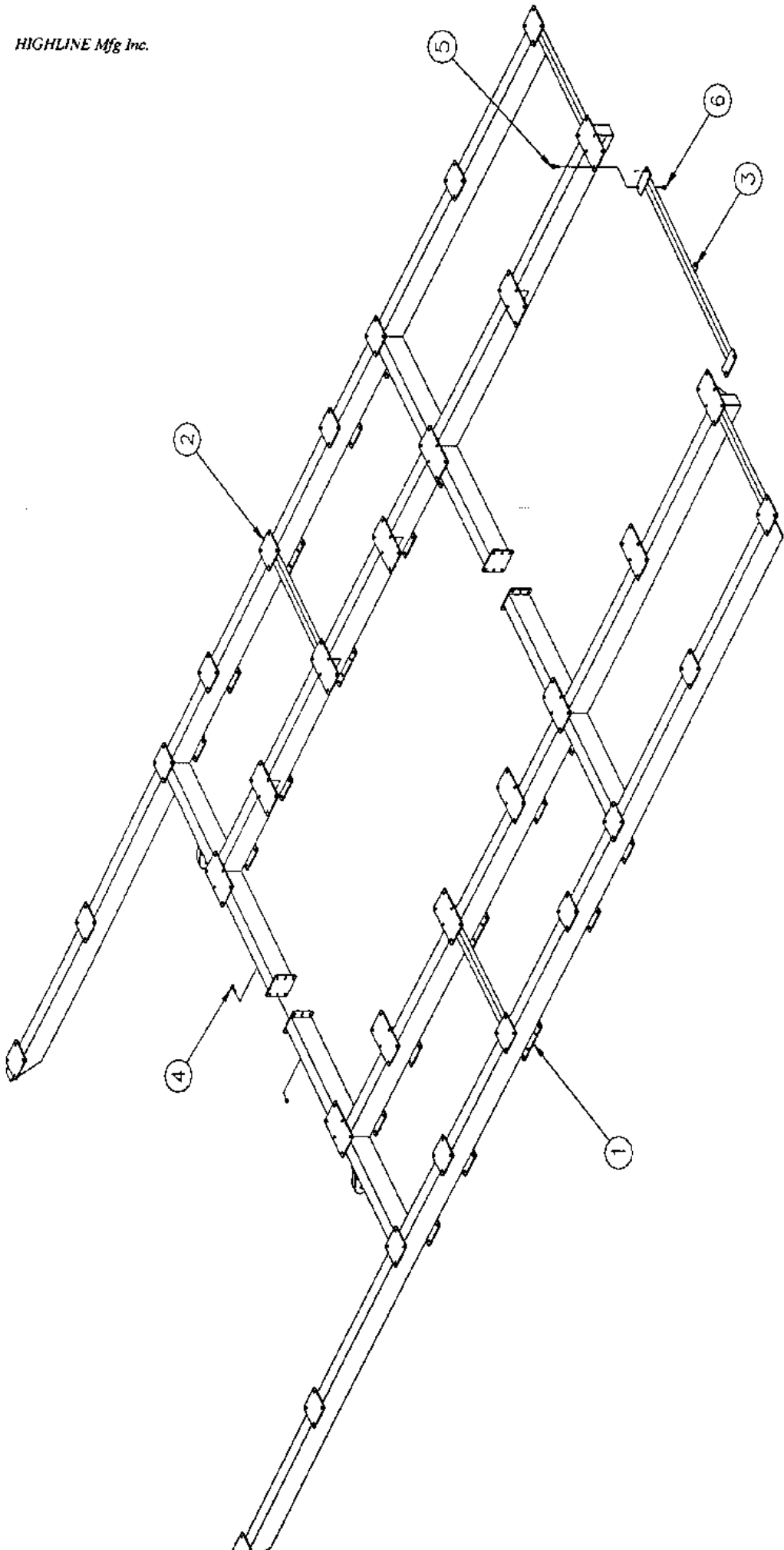
4.1 Tandem

Item	Part No.	Description	Quantity
1	30102	Hub, 8 Bolt, 5000 lbs, Complete	8
2	45243	Pocket, Beam Walking	4
3	45242	Beam, Walking, Main	2
4	91704	Zerk, Grease, 1/4-28, 90 Degree	8
5	91061	Bolt, Wheel, 9/16"	64
6	30207	Zerk, Grease, 1/4-28	8
7	40122	Assembly, Wheel, Complete	8
	30100	Tire, 11L-15FI, 12 Ply	
	30104	Rim, 15 x 8 x 8, 1.5 Off, 6000#	
	31270	Valve, Stem	



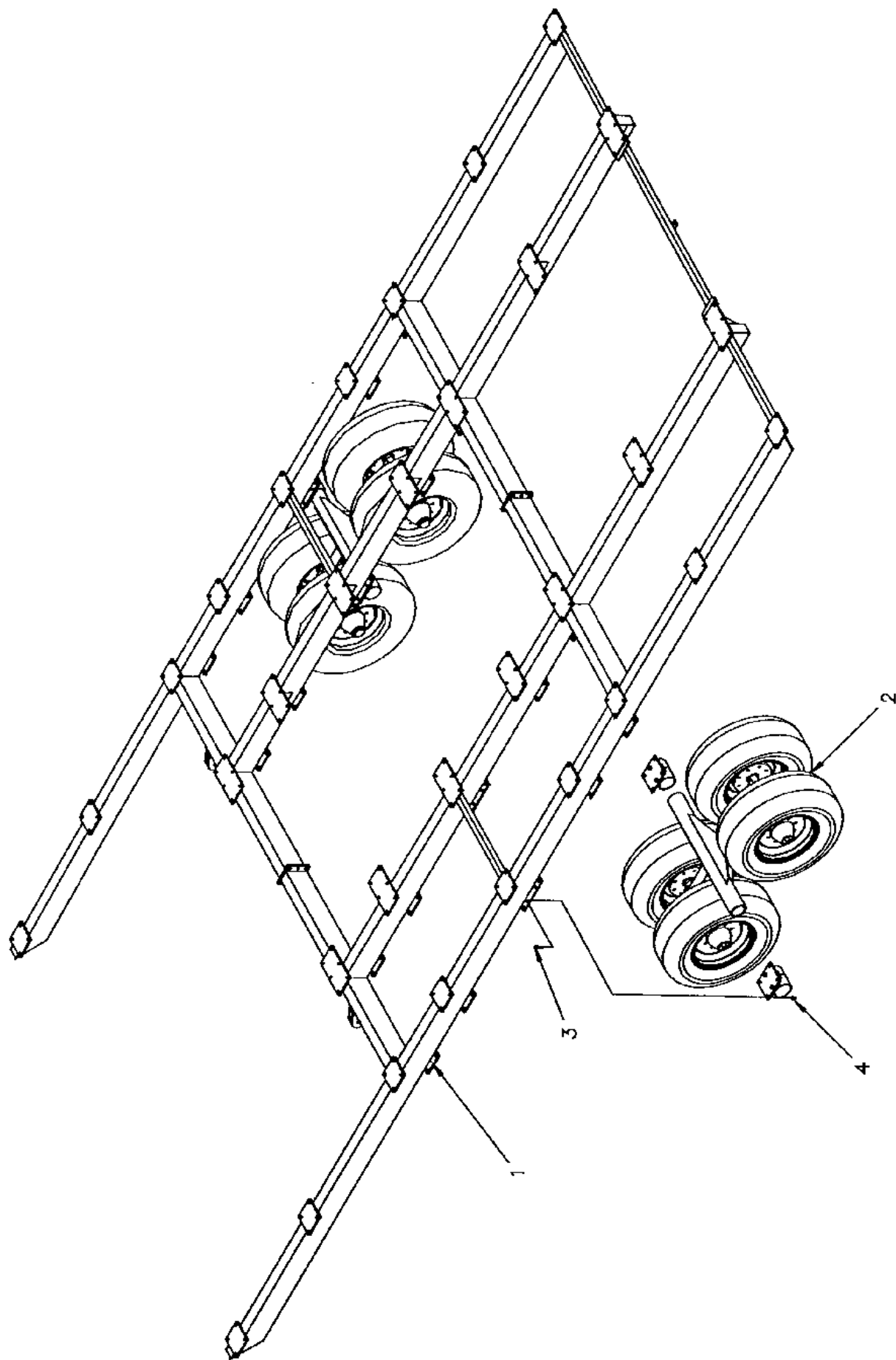
4.2 Subframe

Item	Part No.	Description	Quantity
1	45246	Subframe, Main, Left	1
2	45245	Subframe, Main, Right	1
3	40105	Crossmember, Sign, Slow Moving	1
4	31016	Bolt, 1/2" x 1 1/2", Pltd.	12
5	31017	Bolt, 1/2" x 1 3/4", Pltd.	4
6	31173	Nut, Nylock, 1/2"	16



4.3 Tandem and Subframe

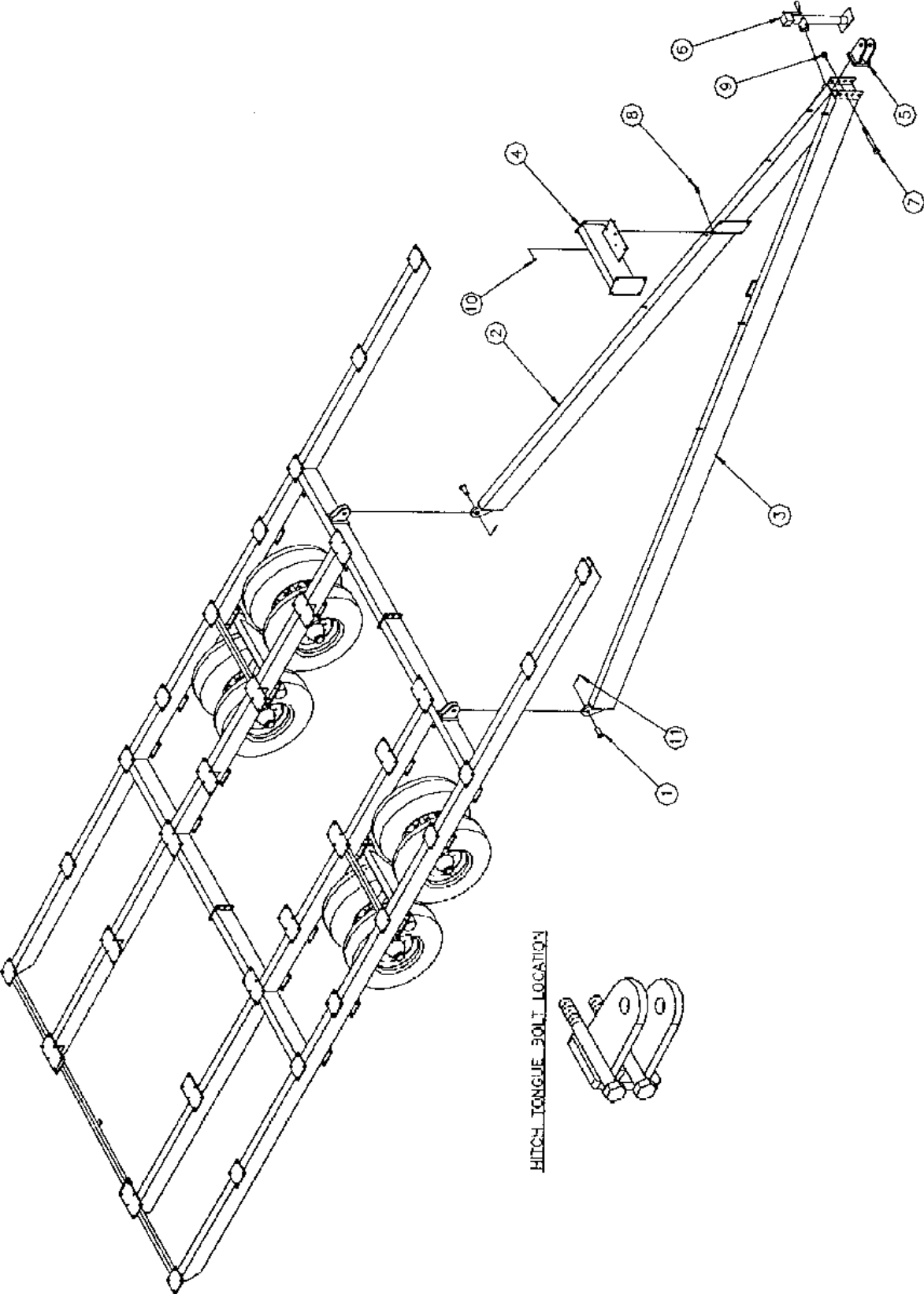
Item	Part No.	Description	Quantity
1		Assembled Subframes	1
2		Assembled Tandems	2
3	31016	Bolt, 1/2" x 1 1/2", Pltd.	16
4	31173	Nut, Nylock, 1/2"	16



4.4 Hitch

Item	Part No.	Description	Quantity
1	40003	Pin, Hitch, Subframe	2
2	40062	Hitch, A-Frame, Left	1
3	40063	Hitch, A-Frame, Right	1
4	40487	Crossmember, Hitch	1
5	40142	Hitch, Tongue, Double	1
6	92088	Jack, Sidewind, 7000 lbs. x 15"	1
7	31038	Bolt, 1" x 7 1/2", Pltd	2
8	31052 ³	Bolt, 5/8" x 2", Pltd. 1 3/4	8
9	31172 ⁶²	Nut, Nylock, 1" ^{HEX NUT}	2
10	31178	Nut, Nylock, 5/8"	8
11	31182	Cotterpin, 1/4" x 2 1/2"	2
	31243	LOCK WADDER	2

NOTE: Place hitch crossmember in place leaving bolts loose.
Insert double tongue hitch and tighten making sure angles are flush.



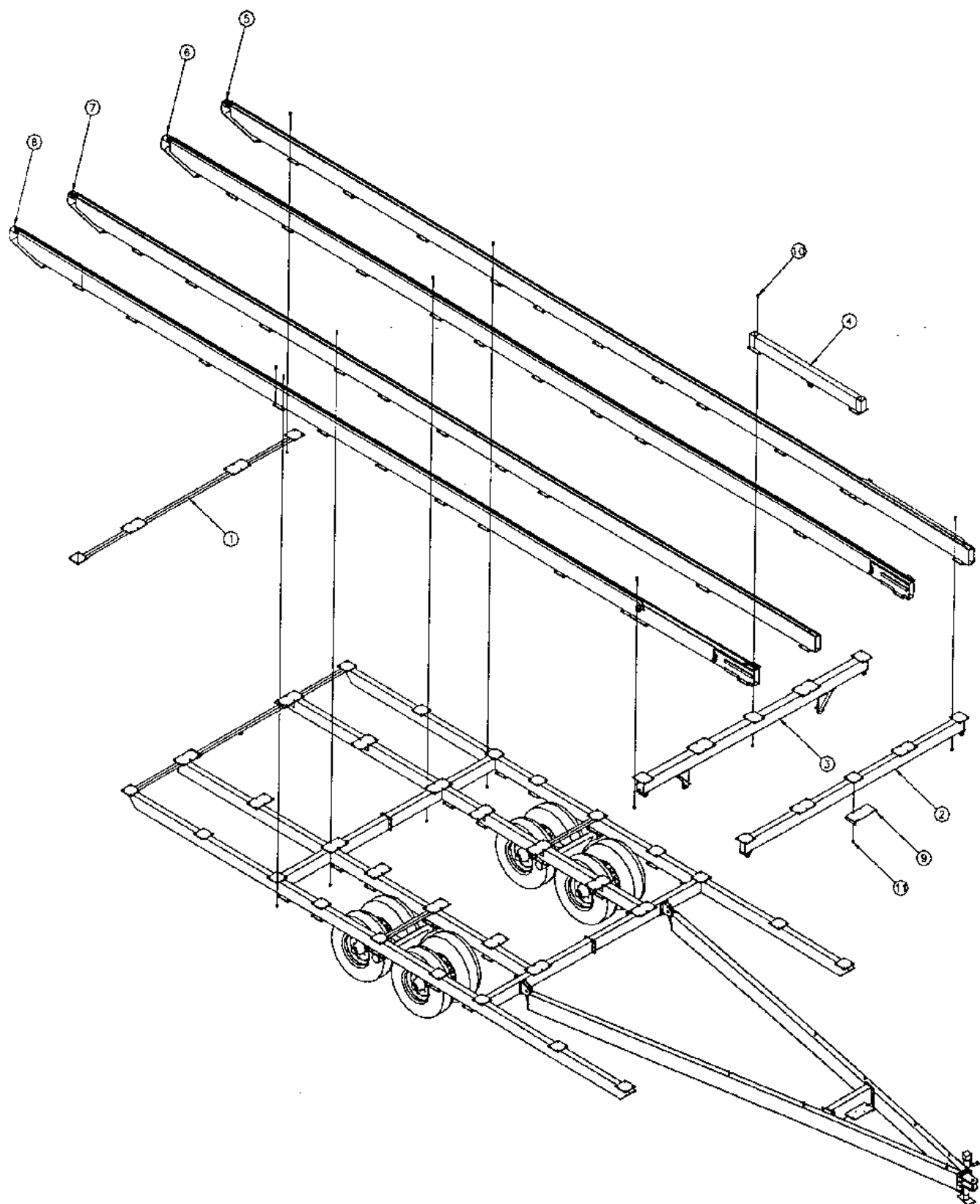
4.5 Rail and Crossmember Subframe

Item	Part No.	Description	Quantity
1	40006	Subframe, Rear	1
2	45235	Subframe, Front	1
3	40143	Subframe, Middle	1
4	40486	Tube, Deck, Cylinder	1
5	40144	Rail, Outside, Left	1
6	40145	Rail, Inside, Left	1
7	40146	Rail, Inside, Right	1
8	40147	Rail, Outside, Right	1
9	E4740	Guard, Support, Hydraulic	1
10	31016	Bolt, 1/2" x 1 1/2", Pltd.	184
11	31173	Nut, Nylock, 1/2"	184

40140 BACKET, CYL

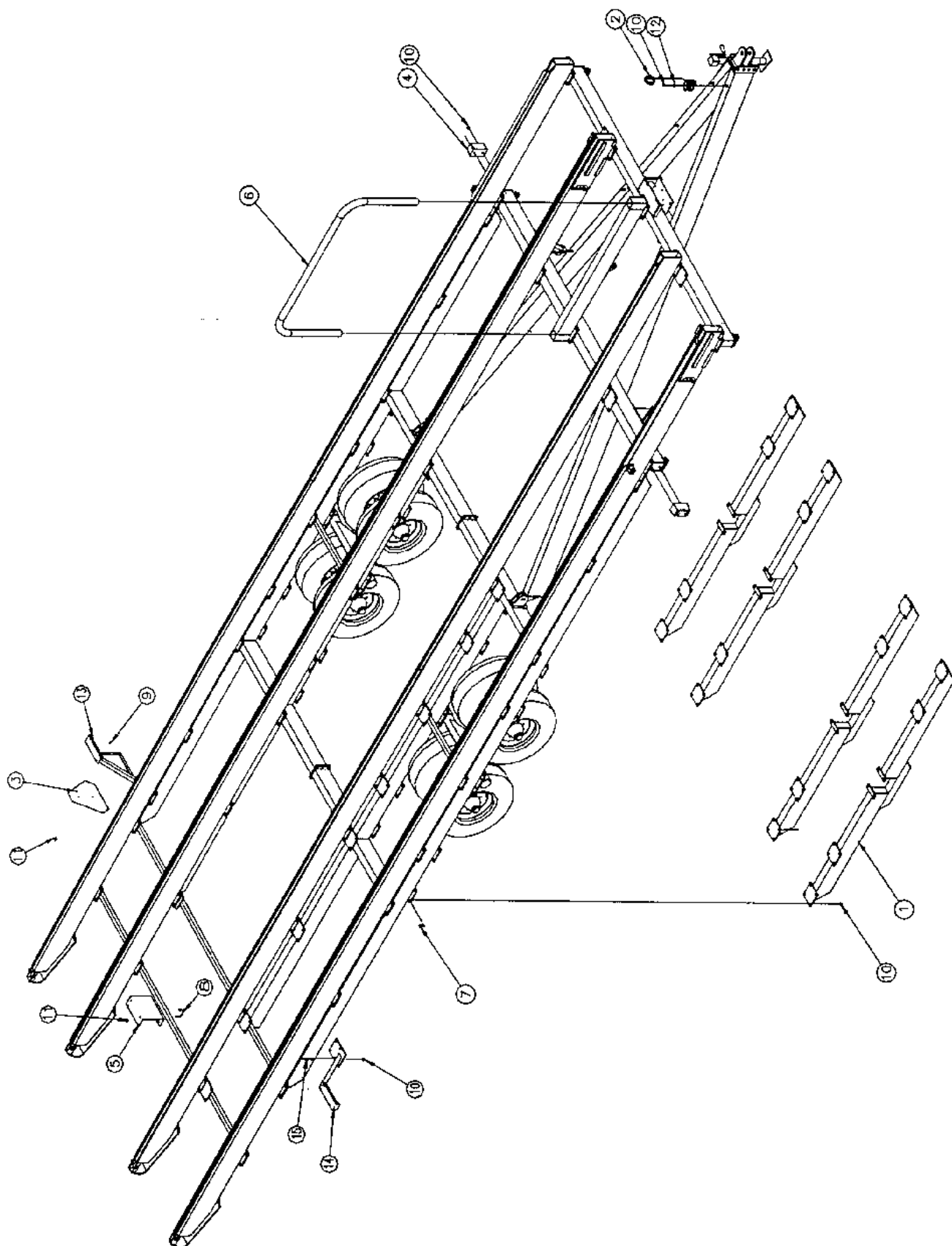
Note: Install all rails on subframe leaving bolts loose.
 Install front crossmembers leaving bolts loose.
 Install cylinder deck tube leaving bolts loose.
 Install deck cylinder in the fully closed position between the hitch and deck tube.
 Lift hitch until front of the bale mover is fully supported then tighten all bolts.

31052	5/8 x 2 Deck	12
31178	5/8 Lock	12



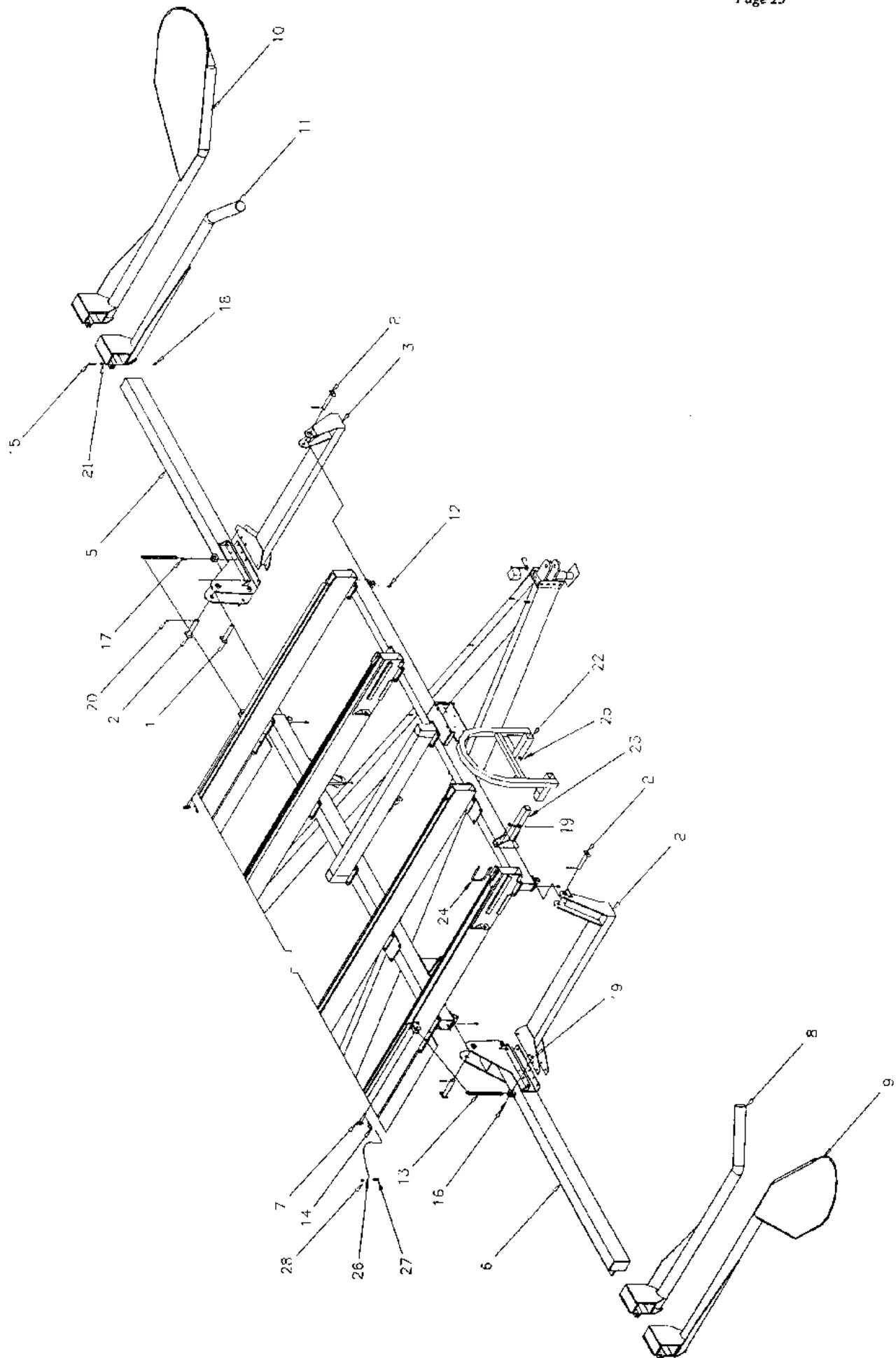
4.6 Subframe Supports

Item	Part No.	Description	Quantity
1	45244	Beam, Support, Frame	4
2	30206	Holder, Hose, Hydraulic, 1/2"	1
3	92028	Sign, Vehicle, Moving, Slow	1
4	92061	Bumper, Rubber	2
5	E4814	Bracket, Light, Middle	1
6	E4779	Divider, Bale	1
7	31016	Bolt, 1/2" x 1 1/2", Pltd.	100
8	31663	Bolt, U, 1/4 x 1-1/2 x 2-1/4, 1	2
9	31029	Bolt, 1/4" x 1", Pltd.	14
10	31173	Nut, Nylock, 1/2"	113
11	31174	Nut, Nylock, 1/4"	18
12	31236	Washer, Flat, 1/2", Pltd	1
13	40162	Mount, Light, BM, Left	1
14	40161	Mount, Light, BM, Right	1
15	31061	Bolt, U, 1/2 x 3 x 9	4



4.7 Forks

Item	Part No.	Description	Quantity
1	40008	Pin, Arm, Pivot	2
2	40010	Pin, Arm, Side, Pivot	4
3	45237	Arm, Pivot, Left	1
4	45236	Arm, Pivot, Right	1
5	40148	Arm, Slide, Pivot, Left	1
6	40149	Arm, Slide, Pivot, Right	1
7	40019	Pin, Lock, Safety	2
8	40151	Fork, Right	1
9	40152	Fork, Right, 1/4 Turn	1
10	40153	Fork, Left, 1/4 Turn	1
11	40154	Fork, Left	1
12	30207	Zerk, Grease, 1/8-28	4
13	30217	Chain, Transport, Bale Mover	2
14	91608	Hairpin, 1/8" x 2 1/2"	2
15	31041	Bolt, 3/4" x 3", Pltd.	8
16	31052	Bolt, 5/8" x 2", Pltd.	2
17	31051	Bolt, 5/8" x 1 1/2", Pltd	16
18	31175	Nut, Nylock, 3/4"	8
19	31178	Nut, Nylock, 5/8"	26
20	31182	Cotterpin, 1/4" x 2 1/2"	6
21	31238	Washer, Flat 3/4	16
22	40088	Bumper, Front	2
23	40118	Mount, Bumper	4
24	30269	Bolt, U, 5/8 x 6 x 4-3/8	4
25	31016	Bolt, 1/2 x 1-1/2	4
26	13764	Tether	2
27	31333	Bolt, 1/2 x 2	2
28	31173	Nut, Nylock, 1/2	2



4.8 Chain Tightner and Chain

Item	Part No.	Description	Quantity
1	40115	Slide, Mount, Motor, Left	2
2	40116	Slide, Mount, Motor, Right	2
3	40121	Pin, Sprocket, Rear	4
4	30197	Pin, Roll, 3/16" x 1 1/2"	4
5	30207	Zerk, Grease, 1/4"-28	4
6	91508	Chain, C2062H x 304PI	8
7	91510	Chain.Link, Connecting	8
8	92023	Sprocket, Rear	4
9	92024	Bushing, Brass	4
10	31159	Nut, Acme, 1" - 5 RH	8
11	31243	Washer, Lock, 1", Pltd.	4

Part No.	Description
91517	Chain, C2062H x 304PI, per/foot

Note:

Install inside motor hydraulic fittings before installing chain and chain tightners.

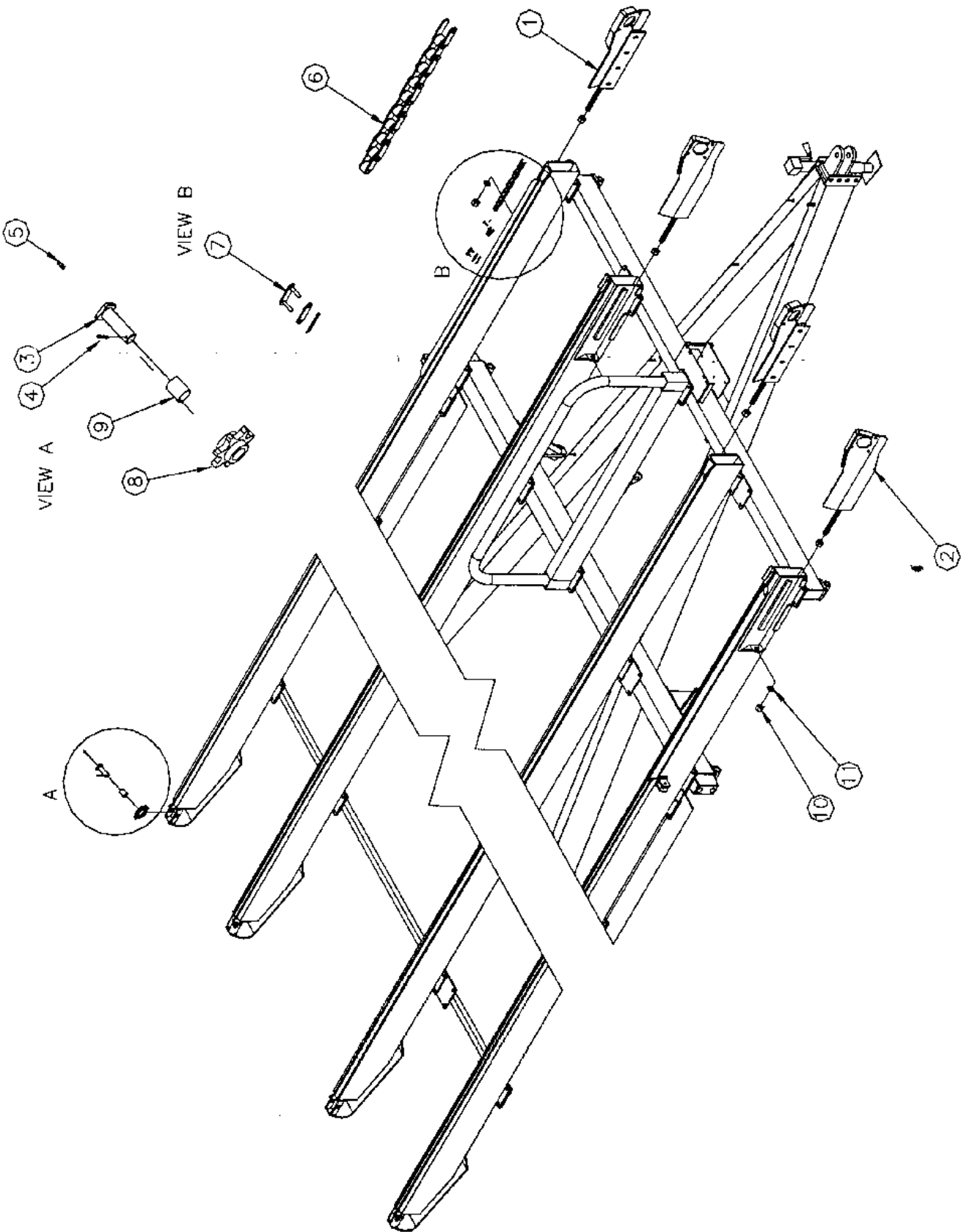
The motors have to be loosened so that the fittings can be turned into place.

The fittings go in the back port of the motors.

Chain is fed from the back of the machine.

This is accomplished by feeding a piece of wire from the front through the tube and pulling the chain through.

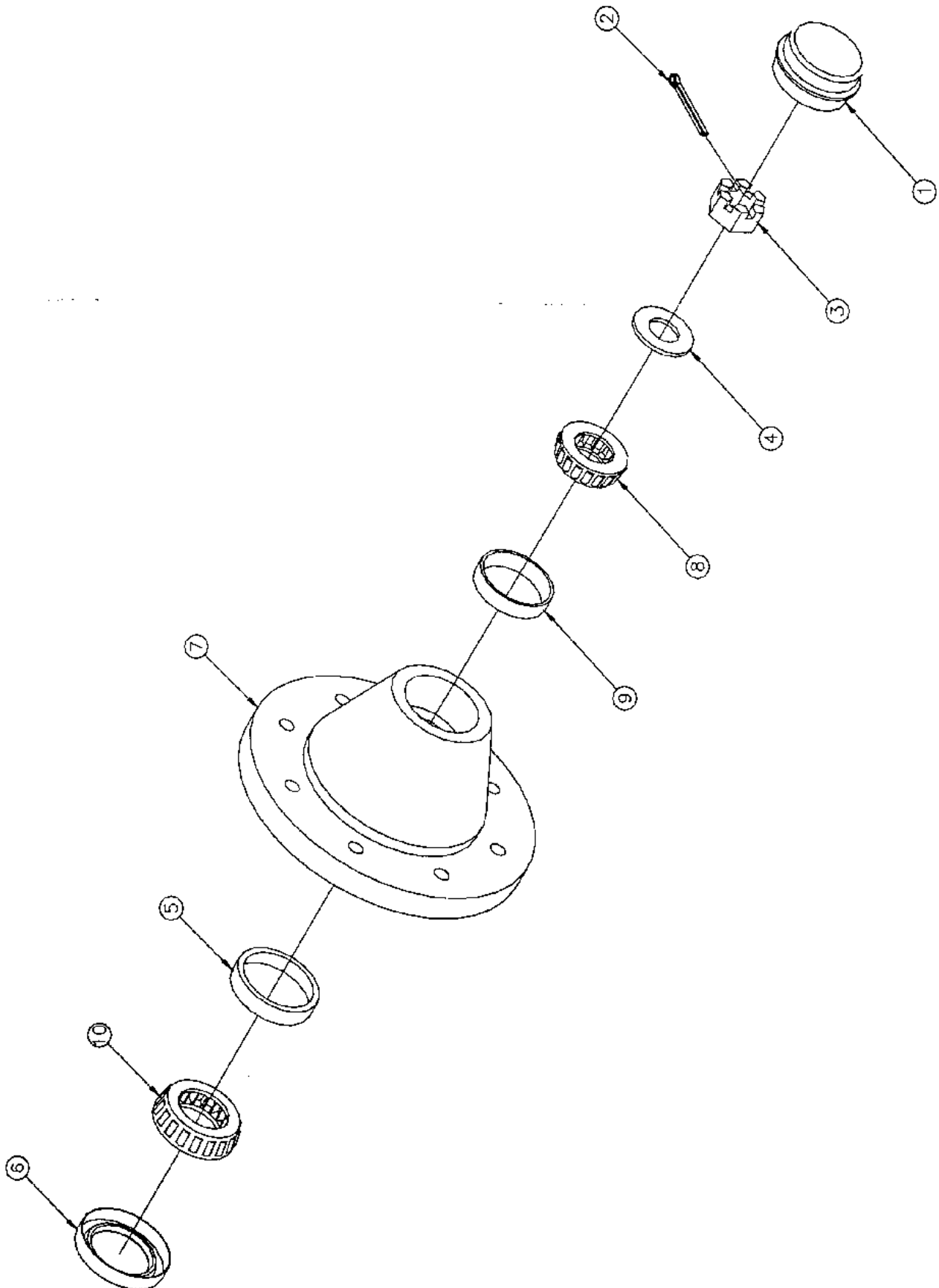
This can be accomplished by one person, but two people would make the operation easier.



4.9 Hub

Item	Part No.	Description	Quantity
1	30220	Cap, Dust	1
2	30221	Cotterpin, 3/16" x 1 3/4"	1
3	30222	Nut, Slotted, 1 1/4"	1
4	30223	Washer, Flat, 1" SAE	1
5	30226	Race, Inner	1
6	30228	Seal, Grease	1
7	30229	Hub, 8-Bolt	1
8	91111	Bearing, Outer	1
9	91131	Race, Outer	1
10	91133	Bearing, Inner	1

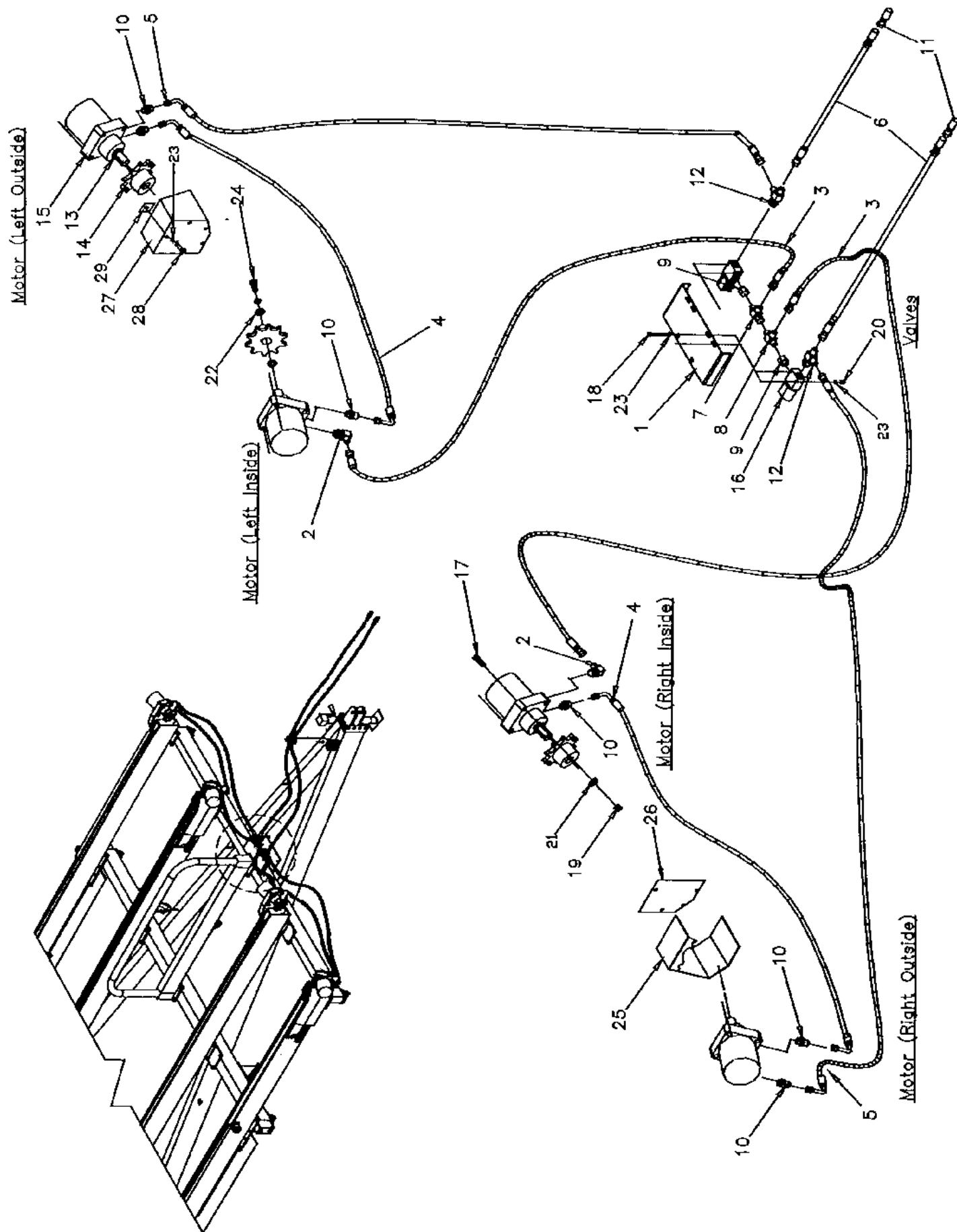
Note: Wheel bearings should be repacked yearly.



5.0 Hydraulics

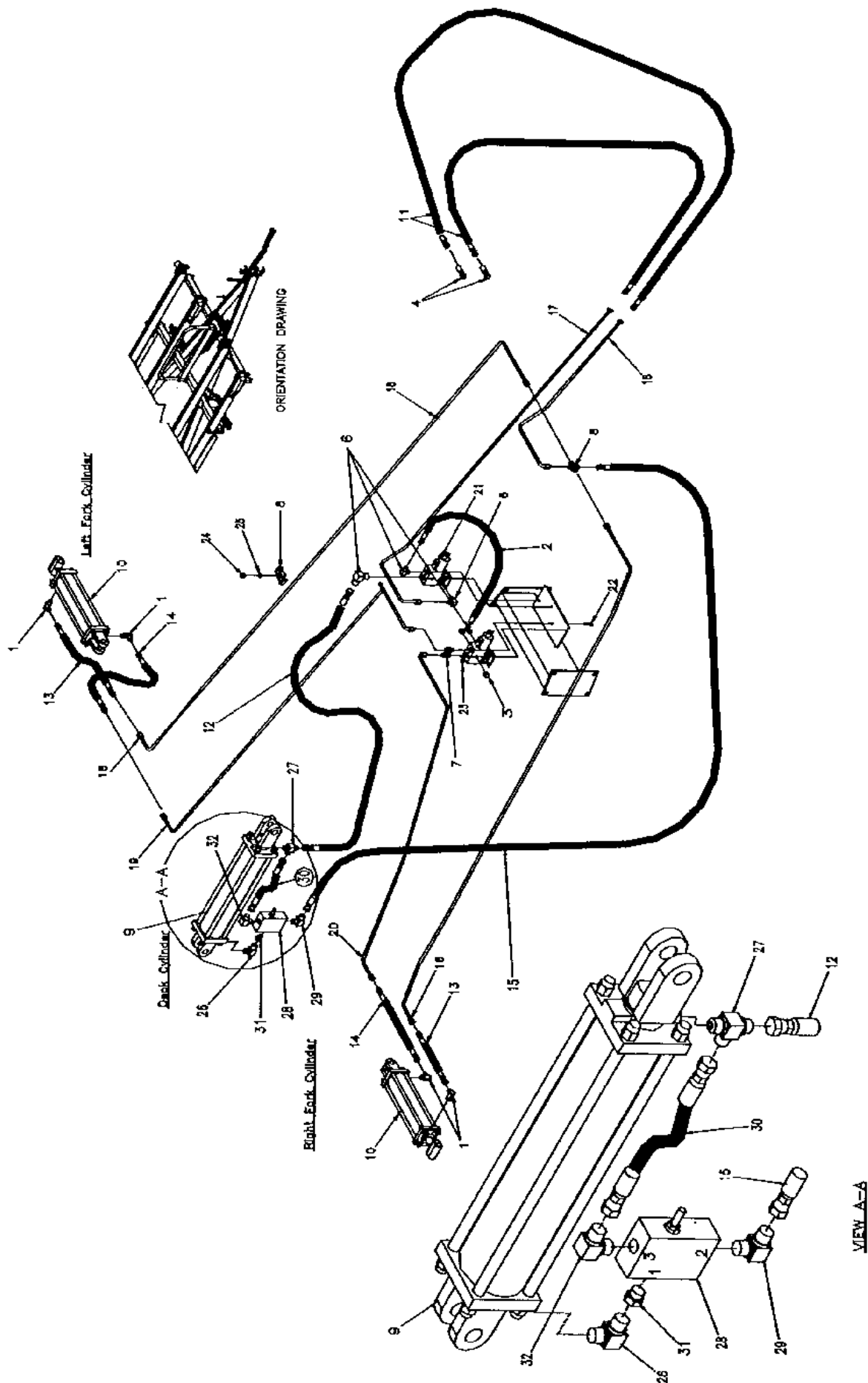
5.1 Motor Hydraulics

Item	Part No.	Description	Quantity
1	E4740	Guard, Support, Hydraulic	1
2	30145	Fitting, Hyd, 10MBX-8MJ90	2
3	30146	Hose, 1/2" x 33", 8FJX-8FJ90T	2
4	30147	Hose, 1/2" x 52", 8FJ90TL	2
5	30148	Hose, 1/2" x 72", 8FJX-8FJ90TL	2
6	30149	Hose, 1/2" x 108", 8FJX-8MP	2
7	30150	Fitting, Hyd, 8FJXR-8MJT	1
8	30313	Fitting, Hyd, 8MJT	1
9	30152	Fitting, Hyd, 8MB-8FJX	2
10	30204	Fitting, Hyd, 10MB-8MJ	6
11	30209	Tip, Male, Pioneer, 1/2"	2
12	30214	Fitting, Hyd, 8MBR-8MJT	2
13	32071	Washer, Motor, 1 1/4" ID x 1 7/8" OD	4
14	92063	Sprocket, Motor	4
15	92184	Motor, Hydraulic	4
16	92070	Valve, Solenoid	2
17	31020	Bolt, 1/2" x 2 3/4", Pltd.	16
18	31030	Bolt, 1/4" x 2", Pltd.	4
19	31173	Nut, Nylock, 1/2"	16
20	31174	Nut, Nylock, 1/4"	4
21	31236	Washer, Flat, 1/2", Pltd.	16
22	31240	Washer, Flat, 5/8", Pltd.	4
23	31237	Washer, Flat, 1/4", Pltd.	24
24	31181	Bolt, Hex, 5/8 x 1-1/2"	4
25	E4802	Housing, Guard, BM, Right	2
26	E4803	Plate, Face, Guard	4
27	E4810	Housing, Guard, BM, Left	2
28	31029	Bolt, Hex, 1/4 x 1	16
29	31593	Clip, Automotive, 1/4	16



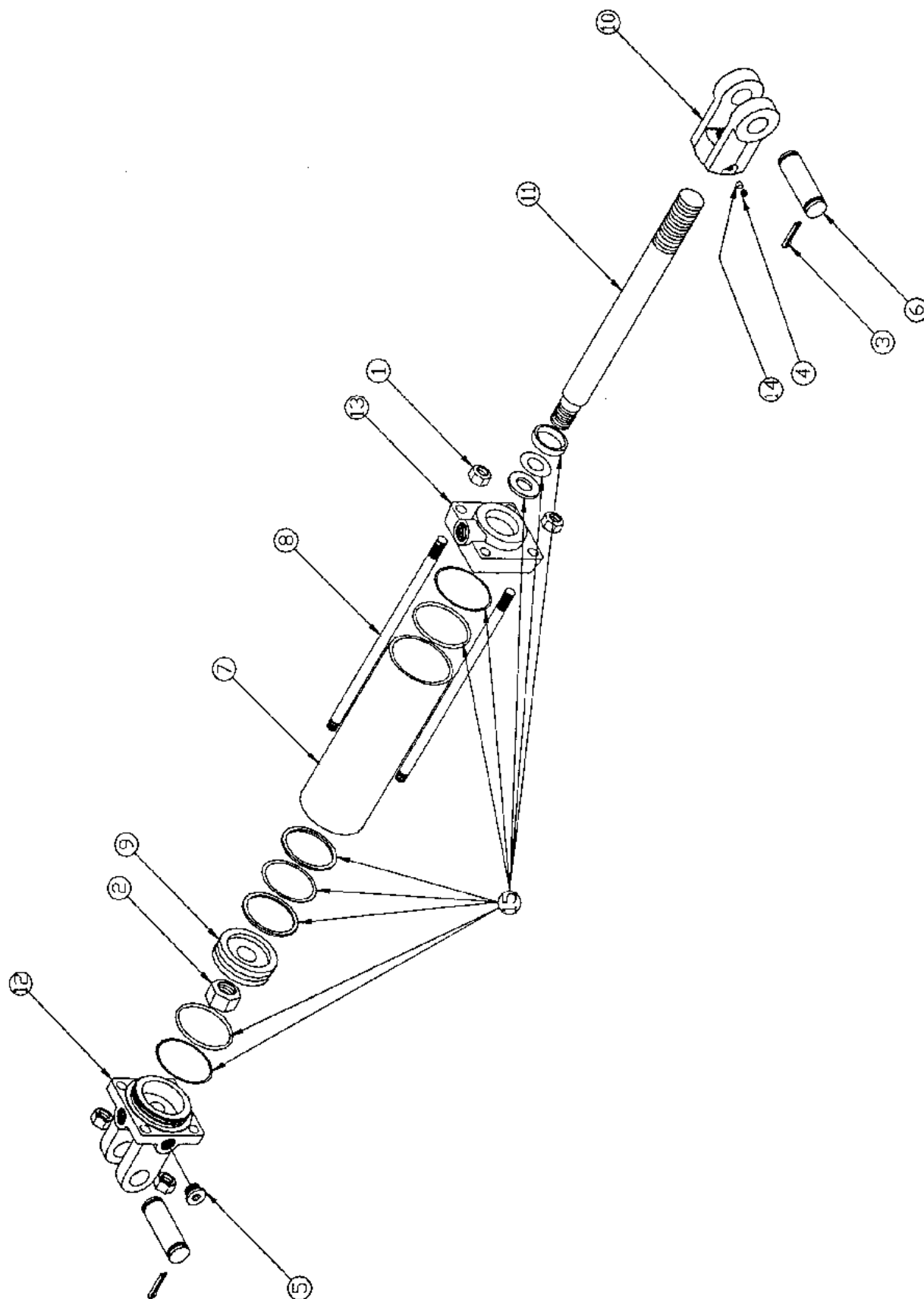
5.2 Cylinder Hydraulics

Item	Part No.	Description	Quantity
1	30212	Fitting, Elbow, 8MP-8MJ90	4
2	90313	Hose, 3/8 x 18, 8FJX	1
3	30200	Fitting, Plug, 8MB	2
4	30209	Fitting, Pioneer, Male, 8FP	2
5	30210	Hose Clamp	6
6	30211	Fitting, Elbow, 8MB-8MJ90	4
7	30215	Fitting, Adapter, 8MB-8MJ	2
8	30216	Fitting, Cross, 8MJ	1
9	90103	Cylinder, 3-1/2 x 16	1
10	90120	Cylinder, 3-1/2 x 13	2
11	90223	Hose, 3/8 x 58, 8MJ-8MP	2
12	30583	Hose, 3/8 x 30, 8FJXTL	1
13	90243	Hose, 3/8 x 44, 8FJX-8MJ	2
14	90245	Hose, 3/8 x 28, 8FJX-8MJ	2
15	90271	Hose, 3/8x42, 8FJX	1
16	90421	Hydraulic Steel Line	2
17	90422	Hydraulic Steel Line	1
18	90423	Hydraulic Steel Line	1
19	90424	Hydraulic Steel Line	1
20	90425	Hydraulic Steel Line	1
21	92089	Solenoid Valve	2
22	31043	Bolt, Hex, 3/8x1, Unc, Gr5	4
23	31176	Nut, Nylock, 3/8	4
24	31177	Nut, Nylock, 5/16	6
25	31239	WWasher, Flat, 5/16	6
26	30580	Fitting, Elbow, 8MP-6MJ90	1
27	32035	Fitting, Tee, 8MPR-8MJ	1
28	31271	Pilot Check Valve	1
29	32079	Fitting, Elbow, 6MB-8MJ90	1
30	30582	Hose, 3/8"x14.5", 8FJX-6FJX	1
31	30581	Fitting, Adapter, 6FJX-6MB	1
32	32056	Fitting, Elbow, 4MB-6MJ90	1



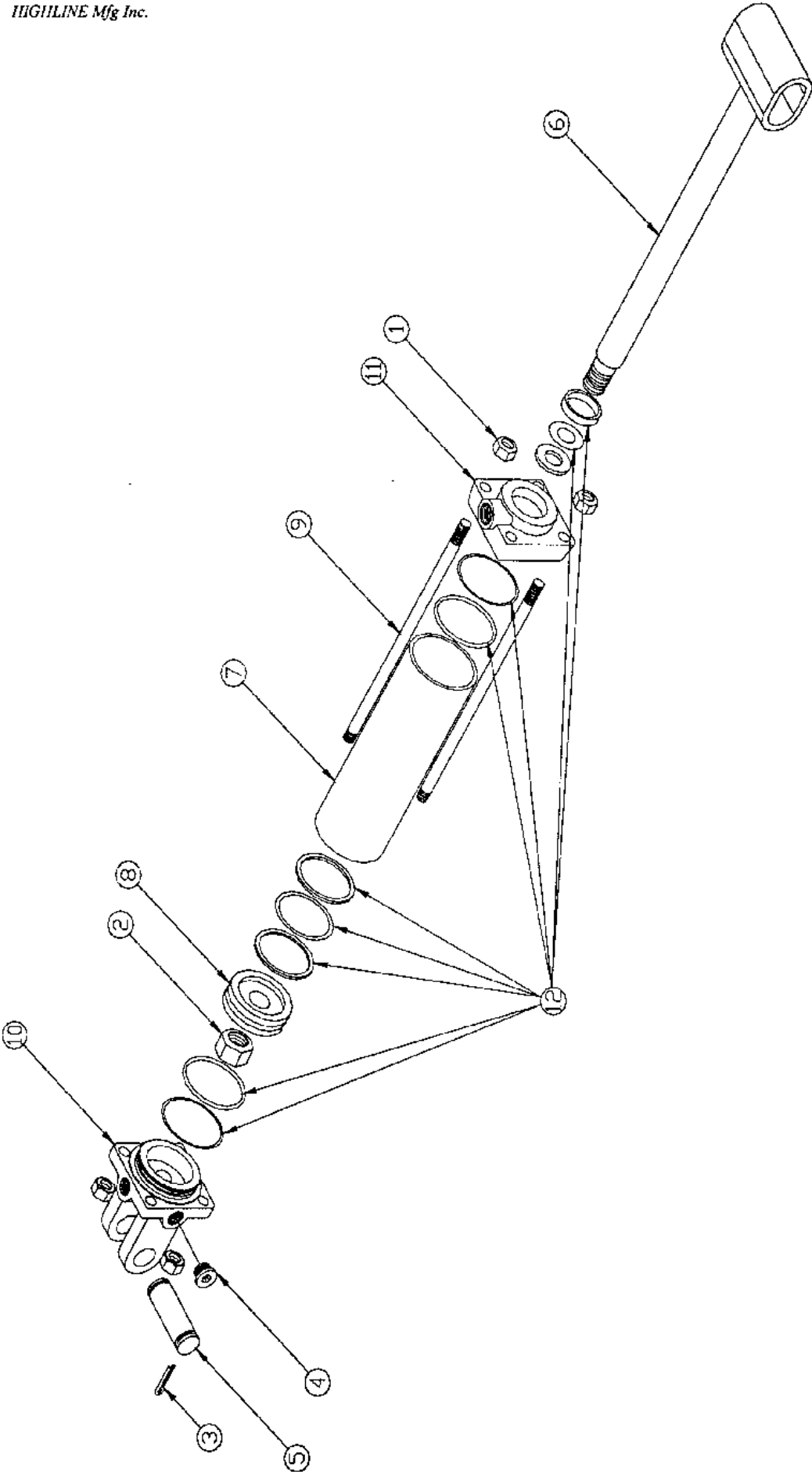
5.3 3 1/2 x 16, 1 1/2 Rod

Item	Part No.	Description	Quantity
1	30236	Nut, Hex, 5/8" UNF Grade 5	8
2	30237	Nut, Hex, 1"-14 UNS Grd 5 Phosphate	1
3	30238	Cotterpin, Hammerlock, 3/16" x 1 1/2"	4
4	30239	Screw, Set, Sckt, 3/8"UNC x 1/2" Knur	1
5	30240	Fitting, Plug, 1/2"-14 NPTF Dry Seal	1
6	30241	Pin, 1" Dia, H5552	2
7	30246	Tube, Cyl., 3 1/2" x 16", H6206	1
8	30249	Rod, Tie, 5/8" x 16", H6746	4
9	30251	Piston, 3 1/2" Dia, H6888	1
10	30253	Clevis, Rod, 1-1/4, 1" Pin	1
11	30252	Rod, 1 1/2" x 16"	1
12	30258	Cap, Clevis, 3 1/2" NPTF	1
13	30259	Cap, Rod, 3 1/2" x 1 1/2" NPTF	1
14	30261	Lock, Thread, Nylon	1
15	30263	Kit, Repair, 3 1/2" Cyl.	1



5.4 3 1/2 X 13, 1 1/2 Rod

Item	Part No.	Description	Quantity
1	30236	Nut, Hex, 5/8" UNC Grade 5	8
2	30237	Nut, Hex, 1"-14 UNS Grd 5 Phosphate	1
3	30238	Cotterpin, Hammerlock, 3/16" x 1 1/2"	2
4	30240	Fitting, Plug, 1/2"-14 NPTF Dry Seal	1
5	30241	Pin, 1" Dia, H5552	1
6	30242	Rod, 1 1/2" x 13", Weldment	1
7	30245	Tube, Cyl., 3 1/2" x 13", H6203	1
8	30251	Piston, 3 1/2" Dia, H6888	1
9	30255	Rod, Tie, 5/8" x 13", Special	4
10	30258	Cap, Clevis, 3 1/2" NPTF	1
11	30259	Cap, Rod, 3 1/2" x 1 1/2" NPTF	1
12	30263	Kit, Repair, 3 1/2" Cyl.	1



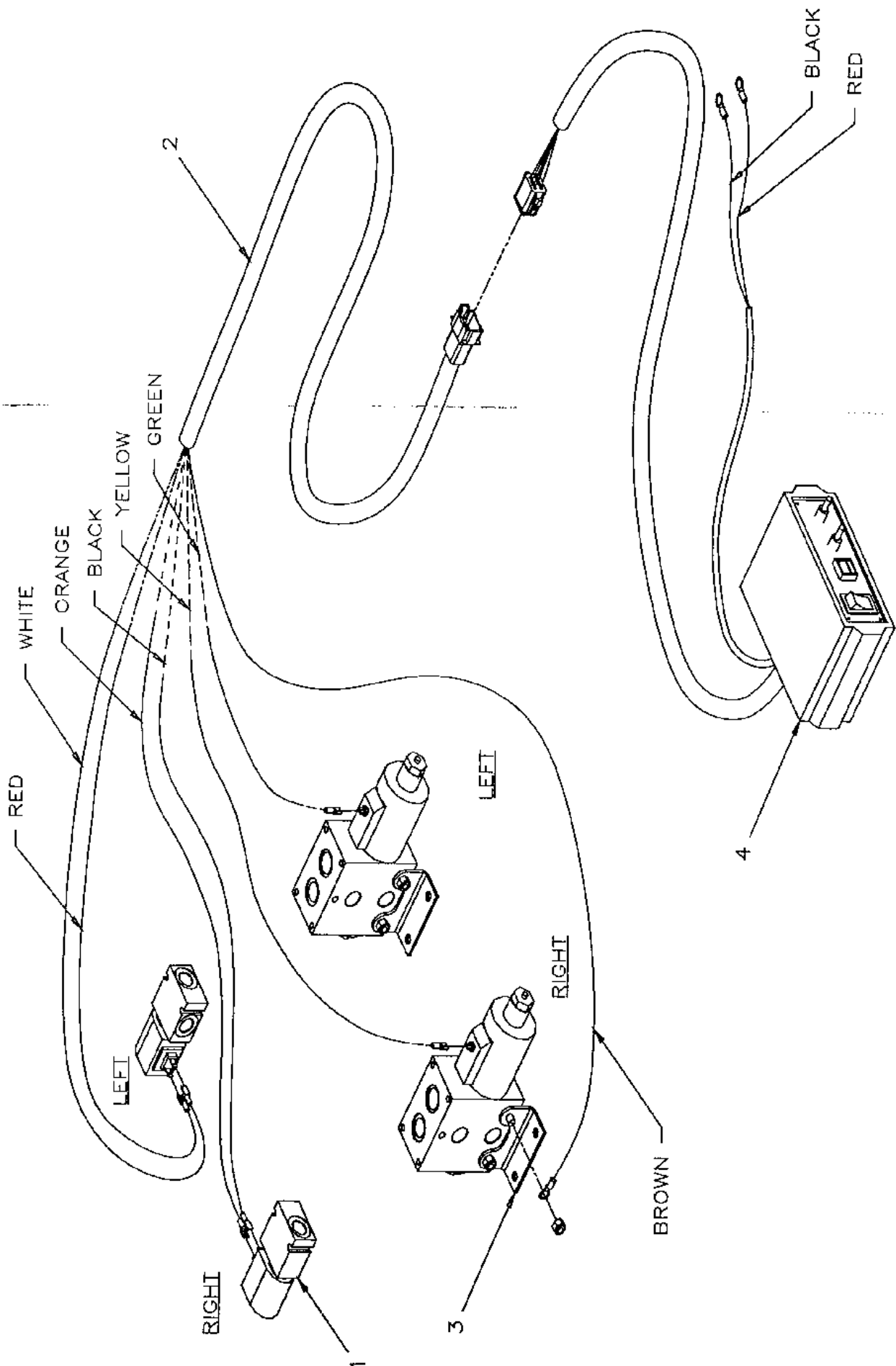
6.0 Electrical

6.1 Electrical Schematic

Item	Part No.	Description	Quantity
1	92070	Valve, Solenoid	1
2	92077	Harness, Extension, 14BM	1
3	92089	Valve	1
4	92125	Box, Control, 1400BM (1994)	1

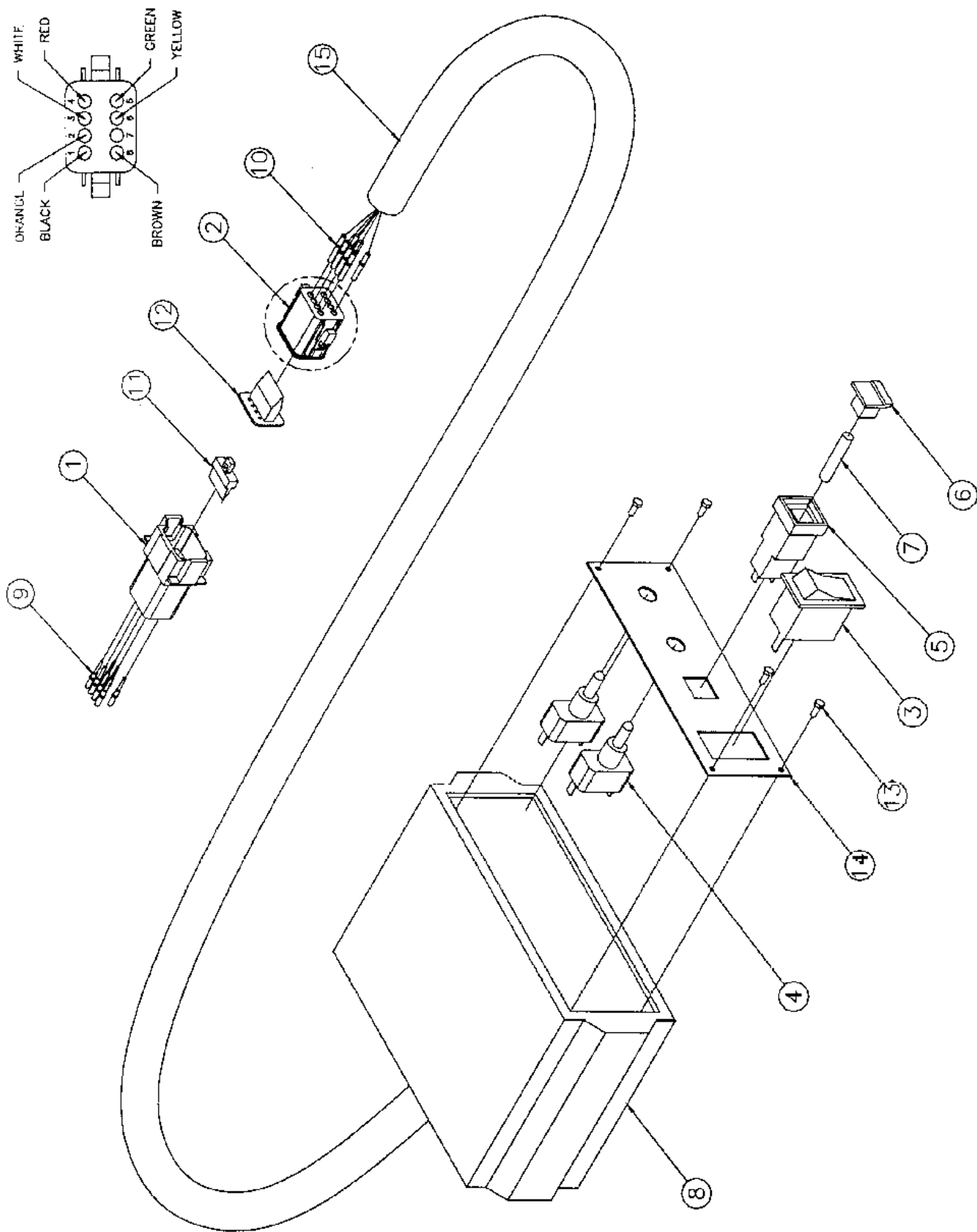
Note: Black wire from control box to tractor ground

Red wire from control box to tractor ignition accessory.



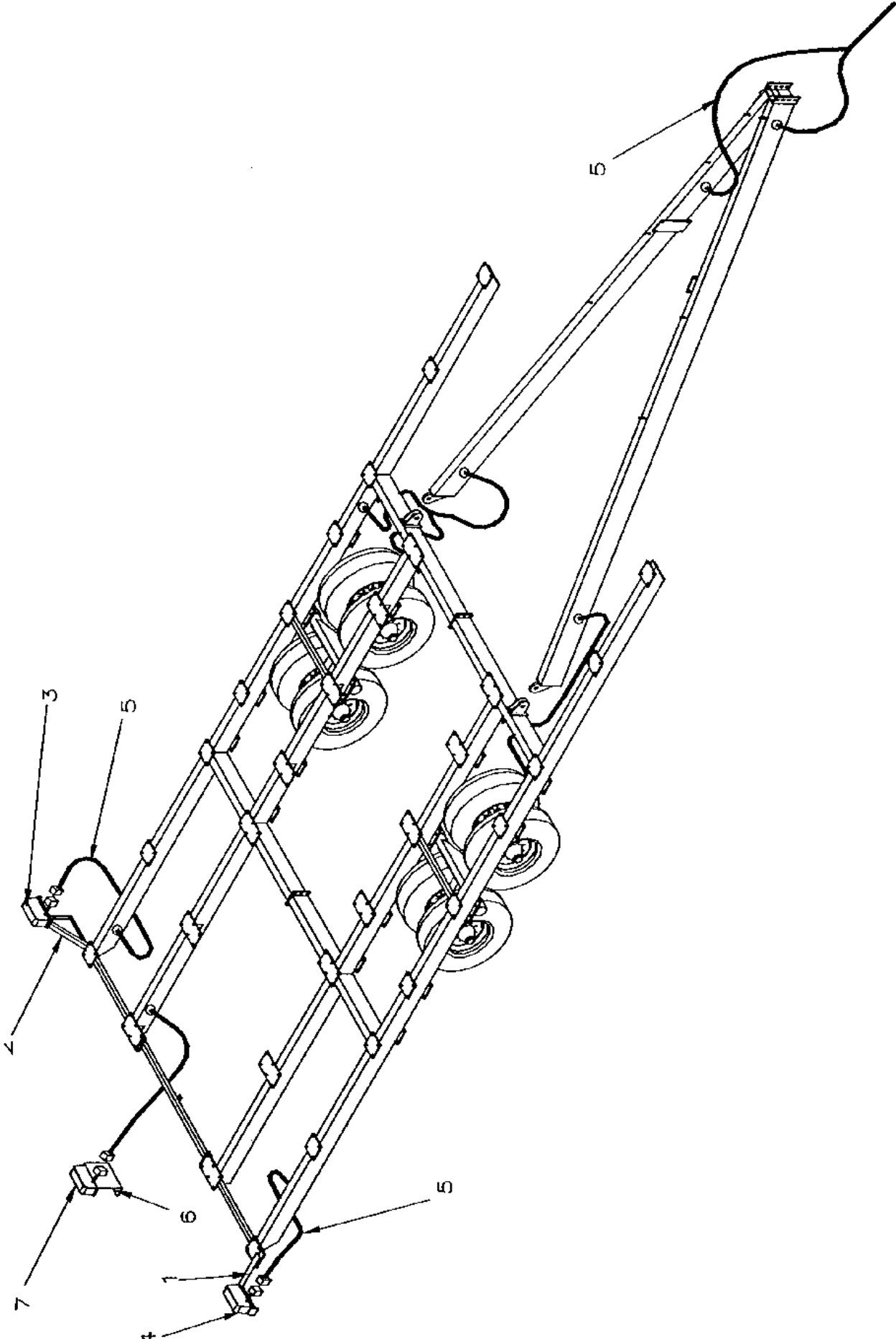
6.2 Control Box and Wiring Harness

Item	Part No.	Description	Quantity
1	92104	Electrical, Plug Male	1
2	92106	Electrical, Plug Female	1
3	92107	Switch, On/Off	1
4	92108	Switch, Toggle	2
5	92138	Fuse, Body	1
6	92139	Fuse, Cap	1
7	92140	Fuse, 20 Amp	1
8	92146	Enclosure, Plastic	1
9	92157	Pin, Male Plug	7
10	92158	Socket, Female Plug	7
11	92161	Wedge, Locking, Male Plug	1
12	92162	Wedge, Locking, Female Plug	1
13	92164	Screw, Tapping, #4 x 1/4	4
14	92220	Plate, Face, Box, Control	1
15		Wiring, Box, Control, 6 ft	1



6.3 Lights

Item	Part No.	Description	Quantity
1	40161	Right Light Mount	1
2	40162	Left Light Mount	1
3	30562	Left Light	1
4	30527	Right Light	1
5	40168	Light Harness	1
6	E4814	Middle Light Bracket	1
7	31664	Middle Light	1



7.0 Specifications

Weight	Approximately 9700 lbs. (4410 kg)
Total Length	43'5"
Bed Length	37'
Total Width	16'9"
Bed Width	11'2"
Total Height	9'2"
Bed Height	3'3"
Ground Clearance	13 1/2"
Maximum Capacity	14 – 2200lb Bales Max 30800lb Payload
Chain & Sprocket	Heavy Duty ASA 2062, 1 1/2 Pitch
Tires	Goodyear, 11L-15FI, F Ply Farm Highway Service
Undercarriage	2 – 4 wheel oscillating tandems
Horsepower Required	100 Horsepower
Hydraulic Outlets	2
Hydraulic Pressure	2500 psi.(17240 kPa)