HIGHLINE MFG. INC.

1999

XL-6084

Assembly-Operator Parts Manual

MADE IN CANADA

Report: BM081R
Date: 1/27/99
Time: 16:28:50
By: TERRYM @ QPADEV0006

CMS Bill of Materials - Single Level BOM Report

[redacted]
Customer:

Customer Part #:
ECN #:
Eng. Drwg. #:
Location:
Revision: A 1/27/99
Size:

Seq/Line	Component Part #	Description	Quantity Per	Units	Engineering Drawing/Loc/Size/Item	Stock Type	ECN#	Vendor #	Stock Loc.
10- 1	30294	SCREW,TEK,1/4X1	2.0000	EA		P			WRH
10- 2	31649	ELEC,CLAMP,CABLE,1/2	1.0000	EA		P			WRH
10- 3	31650	ELEC,CLAMP,CABLE,3/4	1.0000	EA		P			WRH
10- 4	30526	ELEC,LIGHT,RED&AMBER,LEFT	1.0000	EA		P			WRH
10- 5	30527	ELEC,LIGHT,RED&AMBER,RIGHT	1.0000	EA		P			WRH
10- 6	31535	BOLT,HEX,1/4X1-1/2,UNC,GR5,ZP	8.0000	EA		P			WRH
10- 7	31686	BOLT,U,1/8X6X5	4.0000	EA		P			WRH
10- 8	31174	NUT,NYLOCK,1/4,UNC,ZP	8.0000	EA		P			WRH
10- 9	31176	NUT,NYLOCK,3/8,UNC,ZP	8.0000	EA		P			WRH
10- 10	31351	WASHER,FLAT,3/8,ZP	8.0000	EA		P			WRH
10- 11	31613	TIE,CABLE,NYLON,BLCK,11-1/2,40	5.0000	EA		P			WRH
10- 12	48109	BRACKET,LIGHT,RIGHT,RP	1.0000	EA		M			WRH
10- 13	48110	BRACKET,LIGHT,LEFT,RP	1.0000	EA		M			WRH
10- 14	48108	ELEC,HARNESS,LIGHTS,XL6084	1.0000	EA		M			WRH

ORIGINAL

FOR PRODUCTION USE

NOTES:

Highline Mfg. [illegible] claims proprietary rights to the material disclosed herein. This drawing is issued for e[illegible]ering information only. It may not be reproduced nor the information herein be used for any purpose without written permission from Highline Mfg. Inc.

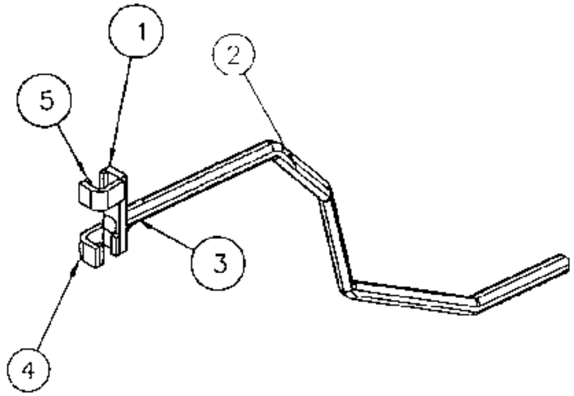
The equipment shown is protected by patents

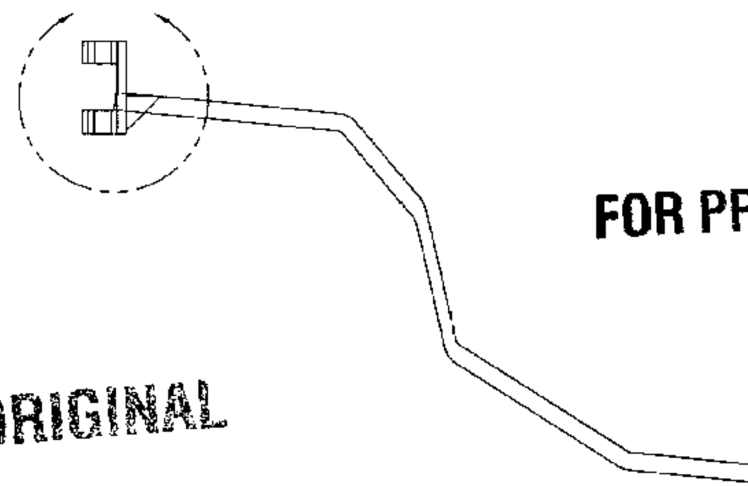
Def	Tolerances:
1. [illegible]	.X = ± .050 .XX = ± .020 .XXX = ± .005 FRACTIONAL = ± 1/16"

2. ANGLES ± 1/2°
3. CONCENTRICITY .010 TIR
4. MACHINE FINISH 125 MICRO INCH RMS
5. MACHINE INTERNAL RADII .015
6. BREAK SHARP CORNERS

DIMS ARE IN INCHES

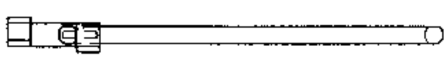
THIRD ANGLE PROJECTION

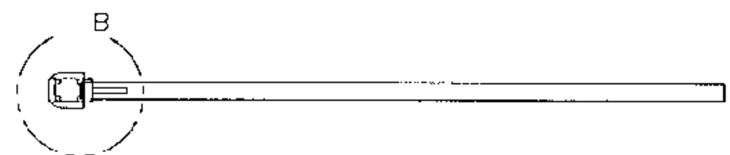


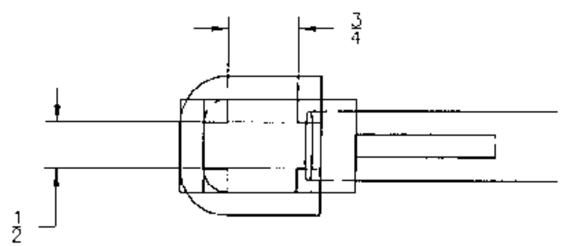


FOR PRODUCTION USE

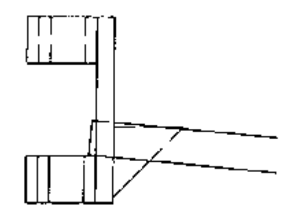
ORIGINAL







VIEW B



VIEW A

REVISIONS			
LTR	DESCRIPTION	DATE	CHANGED BY
A	INITIAL RELEASE	26 SEPT 98	BJW
B	REPLACES COMPONENTS WITH NEW REVISION	26 JAN 99	BJW
C	REPLACED COMPONENTS WITH NEW REVISION	28 JAN 99	BJW
D			
E			
F			

Engineering: SJT		Date:
Drawn By: BJW		26 SEPT 98
Page: 1 of 1	Size: A	MAT'L
Scale: 1:8		

Models: ROCK PICKER

Description: TOOL,ROCK PICKER

HIGHLINE MFG INC.

Dwg No: 70179

Rev: B

Report: BM6
Date: 7/08/98
Time: 15:27:20
By: RJB @ QPADEV0011

CMS Bill of Materials - Single Level BOM Jrt

Parent Part #: 70002
ARM,HITCH
Customer:

Customer Part #:
ECN #:
Eng. Drwg. #:
Location:

Revision: A 7/14/97
Size:

Seq/Line	Component Part #	Description	Quantity Per	Units	Engineering Drawing #	Stock Type	ECN#	Vendor #	Stock Loc.
10- 1	E2105	ANGLE,CLEVIS,ARM,HITCH	2.0000	EA		M			WRH
10- 2	E2222	TUBE,ARM,HITCH	1.0000	EA		M			WRH
10- 3	E2224	BUSHING,ARM,HITCH	1.0000	EA		P			WRH
10- 4	E2229	CAP,R,1/4X5-1/2X1-3/4	1.0000	EA		P			WRH
10- 5	E2234	GUSSET,T,1/2X4X3	2.0000	EA		M			WRH
10- 6	E2241	BAR,STOP,ARM,HITCH	1.0000	EA		M			WRH
10- 7	E3017	GUSSET,T,1/4X3-1/2X1-3/4	2.0000	EA		M			WRH
10- 8	E3018	GUSSET,HITCH	1.0000	EA		P			WRH
10- 9	E3019	GUSSET,R,3/4X5-1/8X3	1.0000	EA		M			WRH
10- 10	E4556	LUG,ARM,HITCH	1.0000	EA		P			WRH
10- 11	31016	BOLT,HEX,1/2X1-1/2,UNC,GR5,ZP	1.0000	EA		P			WRH

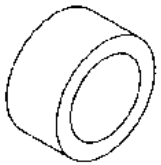
JUL 09 1998

ORIGINAL

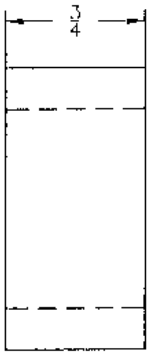
FOR PRODUCTION USE

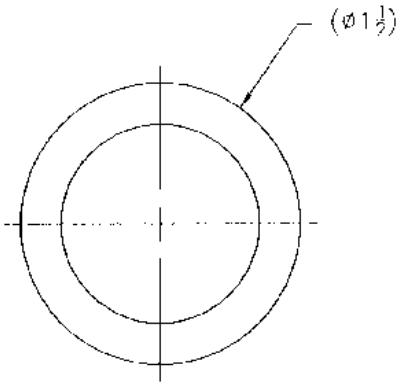
NOTE: CASE HARDENING REQUIRED

Unless Otherwise Specified Tolerances:
ALL DIMS .X ± .020
.XX ± .010
.XXX ± .005
FRACTIONAL ± 1/16"
2 ANGLES ± 1/2°
3 CONCENTRICITY .010 TIR
4 MACHINE FINISH 125 MICRO INCH RMS
5 MACHINE INTERNAL RADII 015
6 BREAK SHARP CORNERS
DIMS ARE IN INCHES
THIRD ANGLE PROJECTION



XL-78
E4527





ORIGINAL

REVISIONS			
LTR	DESCRIPTION	DATE	CHANGED BY
A	INITIAL RELEASE	16 AUG 96	
B	CHANGED MATERIAL TO .240 WALL	20 NOV 97	
C			
D			
E			
F			

Engineering: SJT
Drawn By: RJB
Date: 16 AUG 96

Page: 1 of 1
Size: A
Scale: 1:1

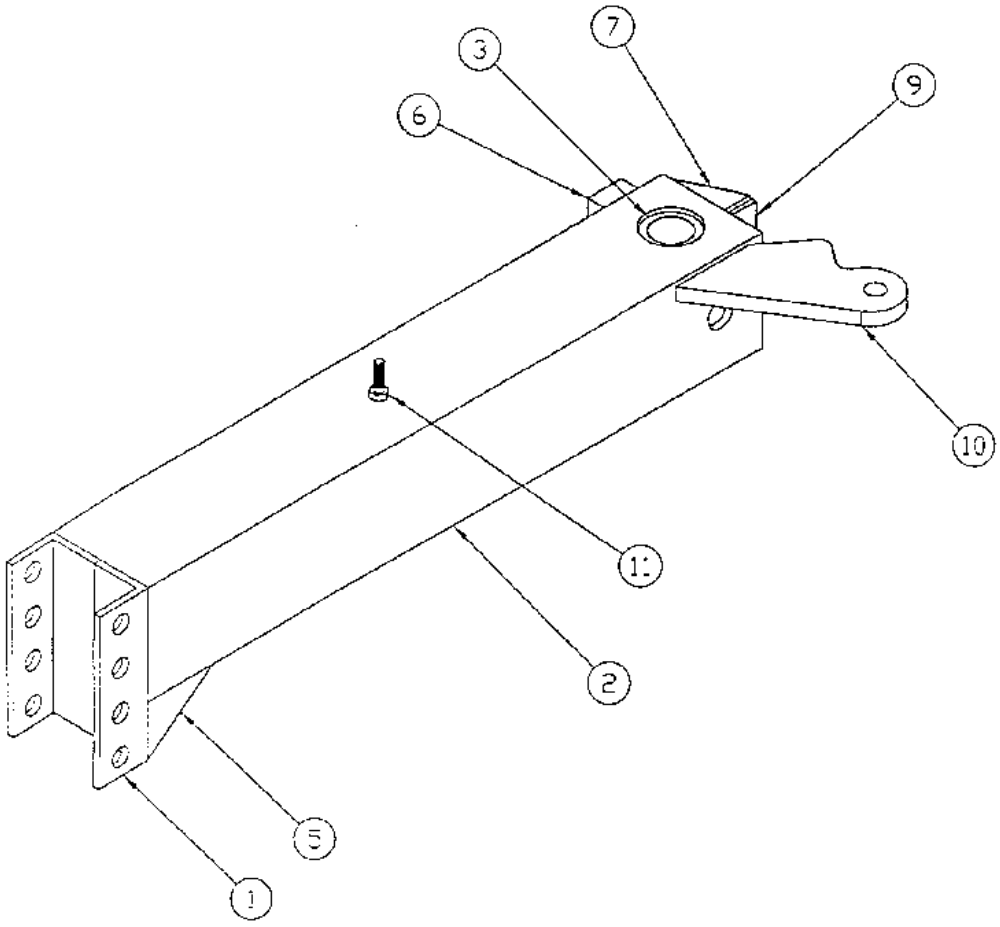
MAT'L
TUBING,SMLS,1-1/2X.240
C1026

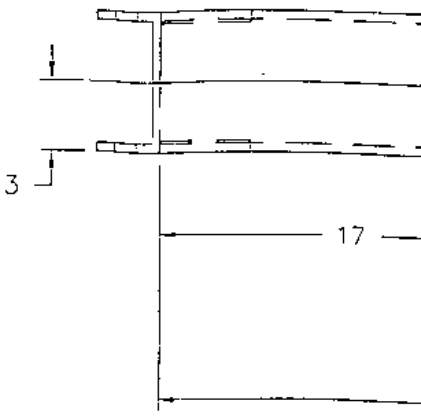
Models:
XL-6084

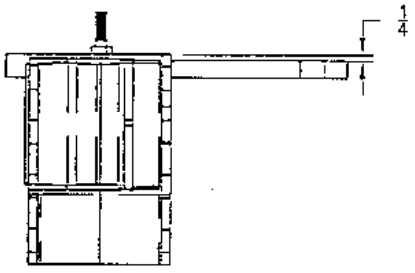
Description:
BUSHING,LUG,CYLINDER

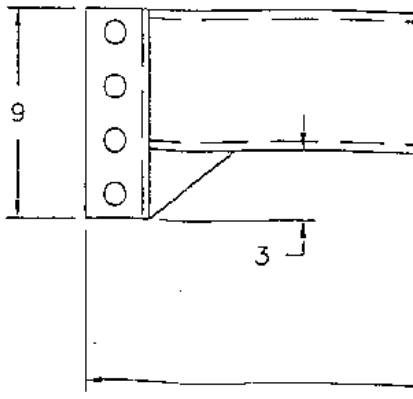
HIGHLINE MFG INC.

Dwg No: E2644
Rev: B









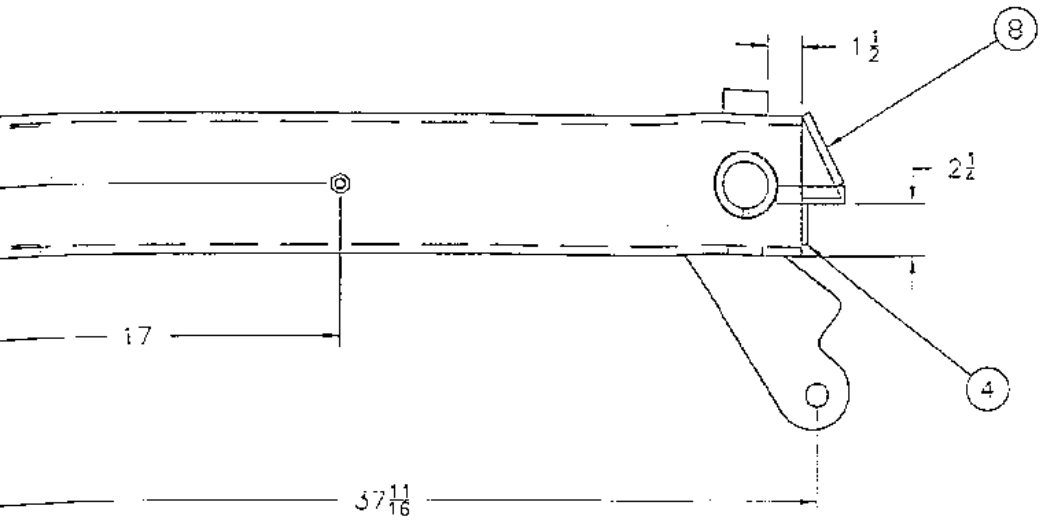
REVISIONS		
LTR	DESCRIPTION	DATE
A	INITIAL RELEASE	07 FEB
B	NEW TITLEBLOCK, MOVED BALLOONS	09 JUL
C		
D		
E		
F		

Default Tolerances:

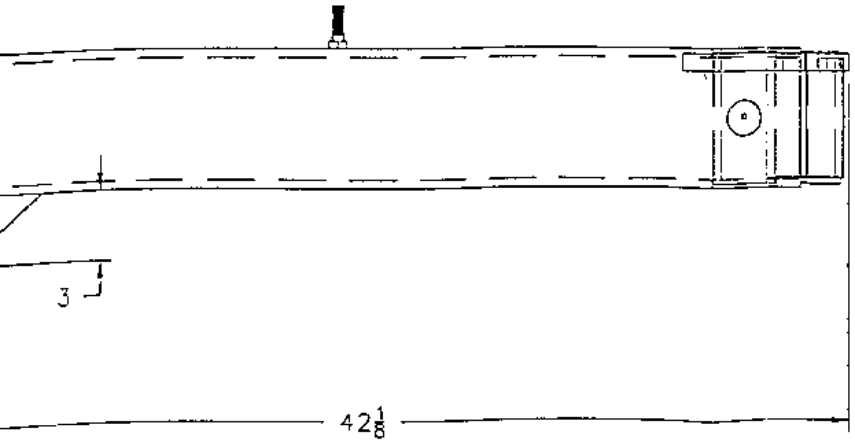
1. LINEAR DIMS
2. ANGLES ± 1/2°
3. CONCENTRICITY DIA FIM
4. MACHINE FINISH 125 MICRO INCH RMS
5. MACHINE INTERNAL RADII 015
6. BREAK SHARP CORNERS

DIMS ARE IN INCHES

THIRD ANGLE PROJECTION



FOR PRODUCTION USE



ORIGINAL

	DATE	CHANGED BY
	07 FEB 97	MGG
	09 JUL 98	RJB

Engineering: SJT

Drawn By: MGG

Date: 19 AUG 96

Page: 1 of 1

Size: B

Scale: 1:4

MATL

Models: RP

Description: ARM,HITCH

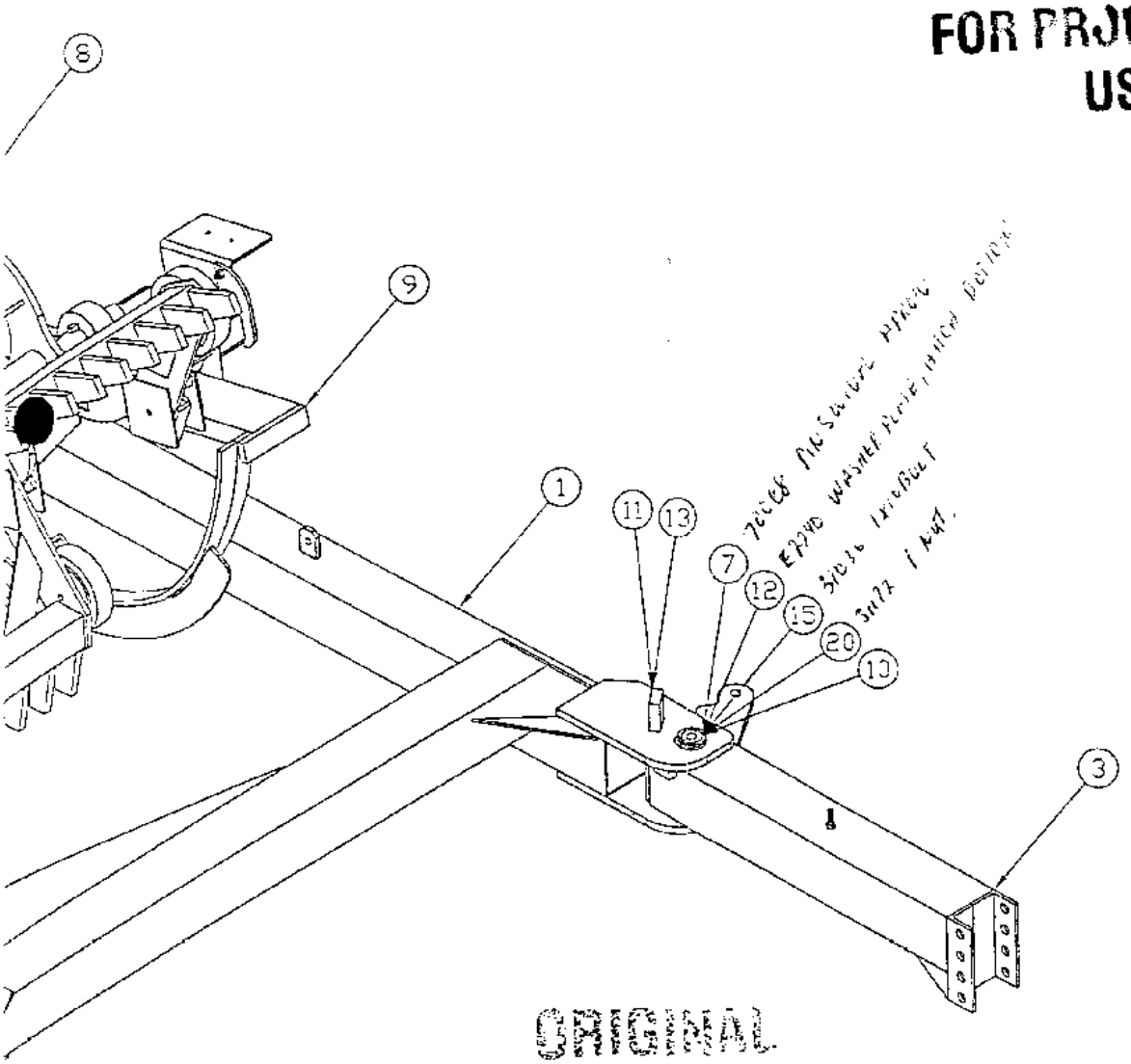
HIGHLINE MFG INC.

Dwg No: 70002

Rev: B

Default Tolerances:
1. LINEAR DIMS X.X ± .030
X.XX ± .005
FRACTIONAL ± 1/16"
2. ANGLES ± 1/2°
3. CONCENTRICITY .010 TIR
4. MACHINE FINISH 125 MICRO INCH RMS
5. MACHINE MATERIAL PASS BY
6. BREAK SHARP CORNERS
DIMS ARE IN INCHES
THIRD ANGLE PROJECTION

FOR PRODUCTION USE



ORIGINAL

DATE	CHANGED BY
09 JUL 98	RJB

Engineering: SJT
Date: JUL 09 1998
Drawn By: RJB 09 JUL 98
Page: 1 of 1
Size: A
Scale: 1:16
MATL

Models: XL6084
Description: ASSEMBLY,PRE-PAINT

HIGHLINE MFG INC.
Dwg No: 70132
Rev: A

Parent Part #: [redacted] HITCH, SWING HYD, OPTIONAL 1

Customer:

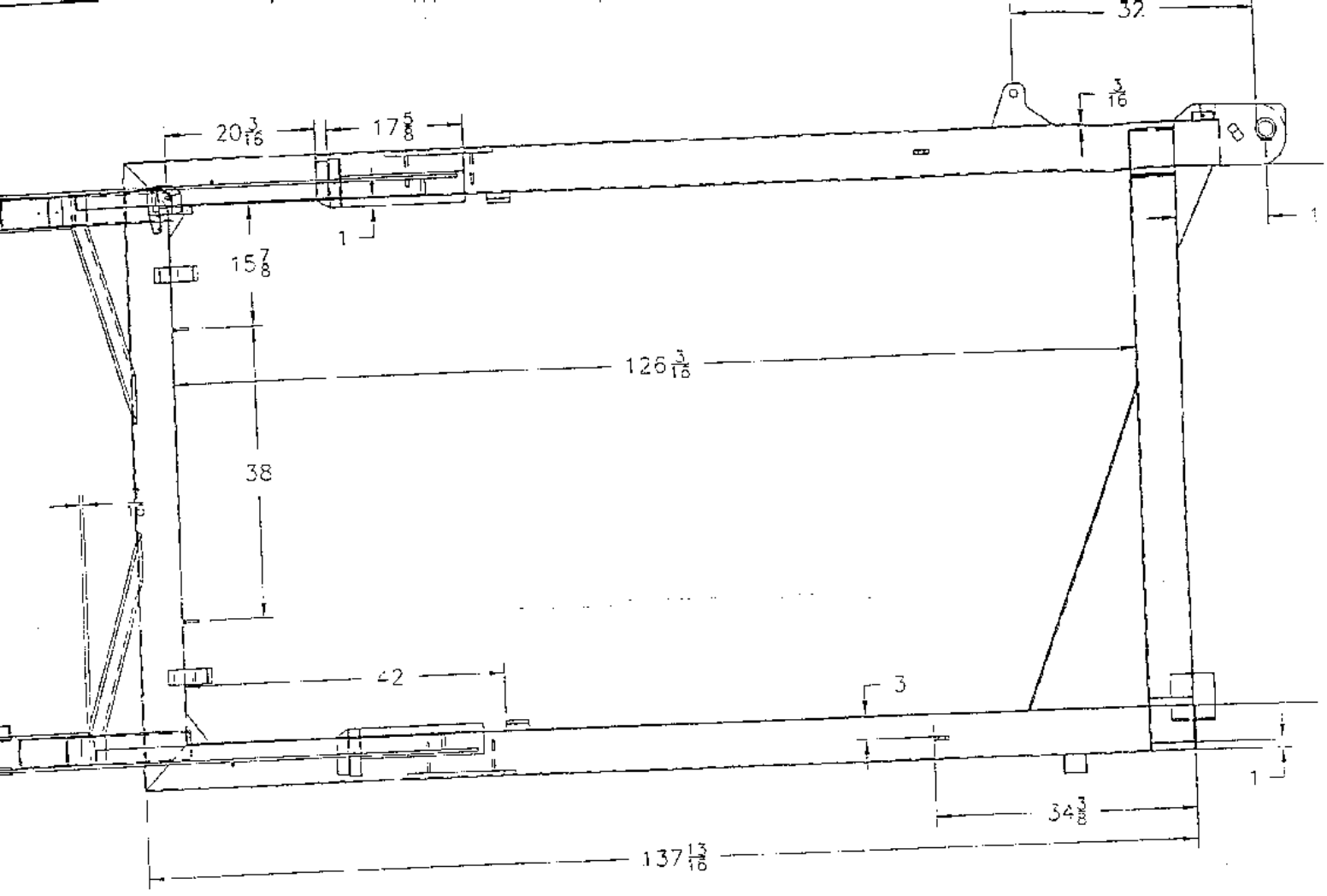
Customer Part #:
ECN #:
Eng. Drwg. #:
Location:

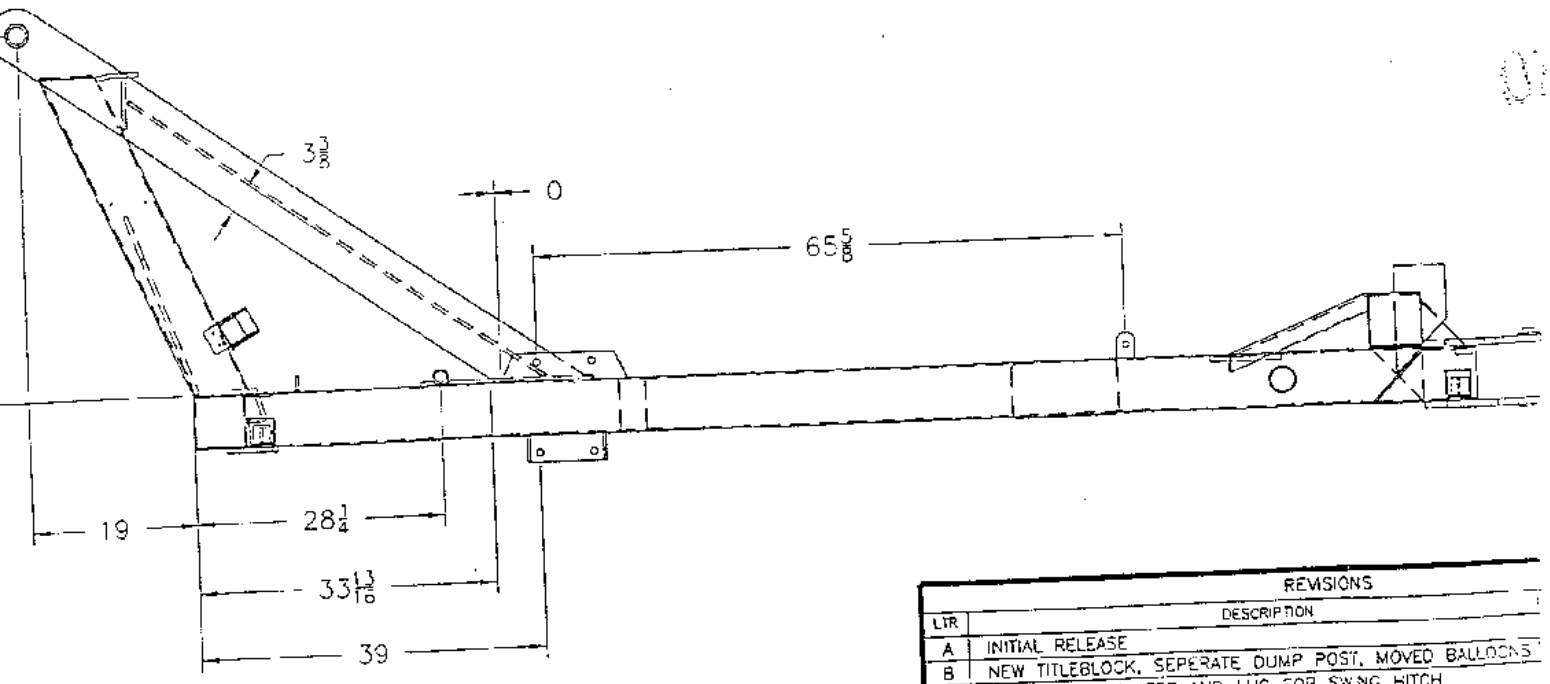
Revision: B 2/11/99
Size:

Seq/Line	Component Part #	Description	Quantity Per	Units	Engineering Drawing/Loc/Size/Itm	Stock Type	ECN#	Vendor #	Stock Loc.
10- 1	32247	HYD,CYL,3X14,1.25,8FP	1.0000	EA		P			WRH
10- 2	E4625	LUG,CYL,SWING HITCH	1.0000	EA		P			WRH
10- 3	30212	HYD,FIT,ELBOW,8MP-8MJ90	2.0000	EA		P			WRH
10- 4	30209	HYD,FIT,PIONEER,MALE,8FP	2.0000	EA		P			WRH
10- 5	30219	HYD,HOSE,3/8X96,8FJX-8MP	2.0000	EA		P			WRH

ORIGINAL

FOR PRODUCTION





REVISIONS	
LTR	DESCRIPTION
A	INITIAL RELEASE
B	NEW TITLEBLOCK, SEPERATE DUMP POST, MOVED BALLOONS
C	ADDED WEAR PLATES AND LUG FOR SWING HITCH
D	
E	
F	

Table of Contents

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 then 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.
- A HIGHLINE MFG. INC. Representative must authorize any labor subject to warranty, before work is started.
- Warranty will be void if any component of this equipment is altered or modified in any way, unless written HIGHLINE MFG. INC gives permission.
- 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.

President's Message

HIGHLINE Mfg Inc manufactures the XL-6084, a proven name in the rock-picking field. The XL-6084 rock picker was designed to work in the most difficult of rock picking situations. A little time and effort spent in proper maintenance will assure the performance and durability of your rock picker.

This operator manual has been prepared to provide information necessary for the safe and efficient operation of your rock picker. 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 XL-6084 rock picker, as the machine for your rock picking needs.

Raymond Bussière
President

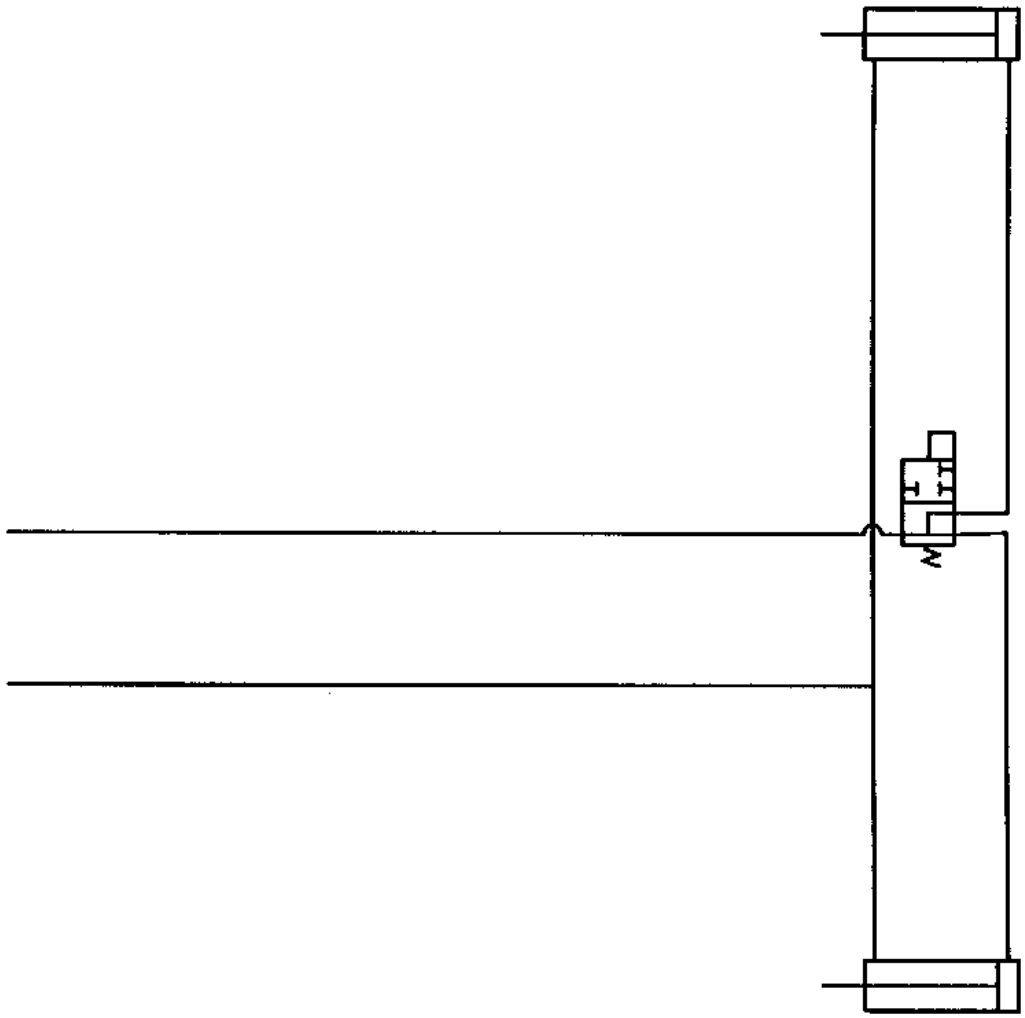
P.O. Box 307, Vonda, Saskatchewan, S0K 4N0, Canada
Phone: 1-800-665-2010, Fax (306) 258-2010

NOTES:

Default Tolerances:

1. LINEAR (mm) X = ± .020, XX = ± .250, XXX = ± .2500, FRACTIONAL = ± 1/16"
2. ANGLES ± 1/2°
3. CONCENTRICITY .010 TIR
4. MACHINE FINISH 125 MICRO INCH RMS
5. MACHINE INTERNAL RADII .010
6. BREAK SHARP CORNERS

DIMS ARE IN INCHES



REVISIONS			
LTR	DESCRIPTION	DATE	CHANGED BY
A	INITIAL RELEASE	16 JAN 99	BJW
B			
C			
D			
E			
F			

Engineering: SJT

Drawn By: BJW

Date: 15 JAN 99

Pages: 1 of 1

Size: A

Scale: NTS

MATL

Models: XL6084

Description: HYDRAULIC CYLINDER SCHEMATIC

HIGHLINE MFG INC.

Dwg. No: 70082

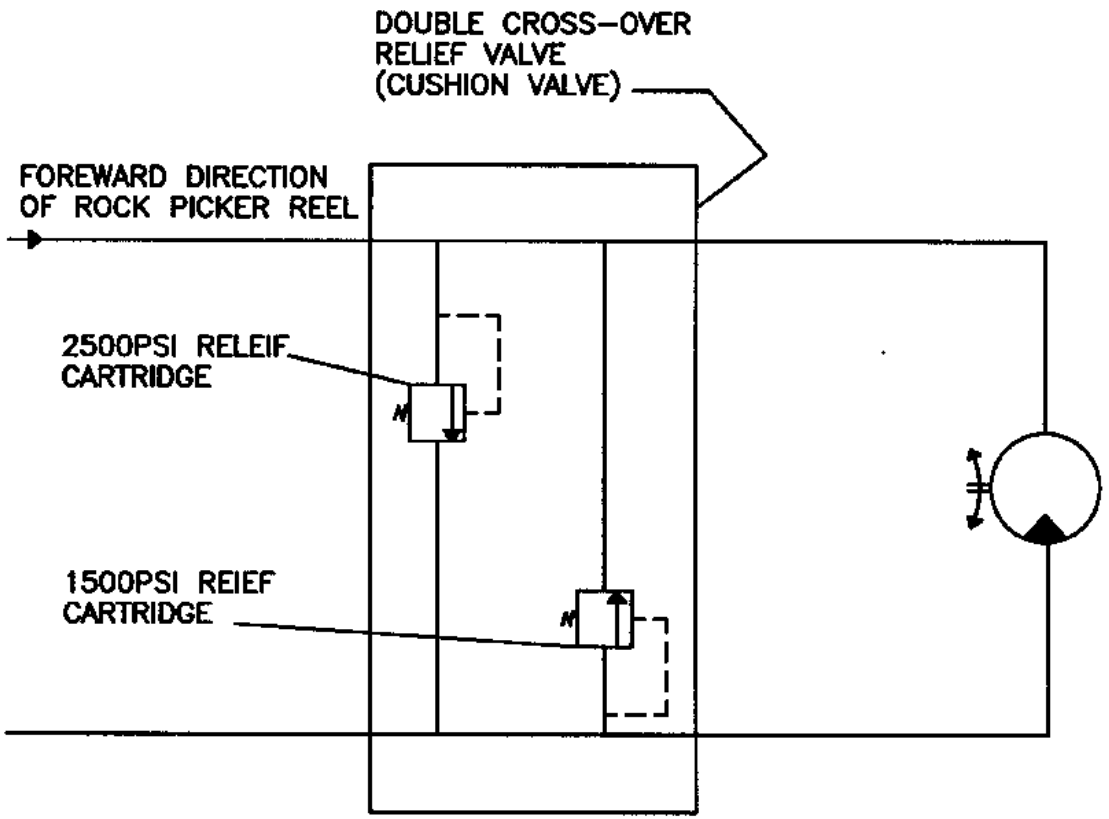
Rev: A

NOTES:

Default Tolerances:

1. LINEAR DIMS. X.xx ± .050, XX.x ± .020, XXX ± .005, FRACTIONAL ± 1/16"
2. ANGLES ± 1/2°
3. CONCENTRICITY .010 TIR
4. MACHINE FINISH 125 MICRO INCH RMS
5. MACHINE INTERNAL RADII .015
6. BREAK SHARP CORNERS

DIMS ARE IN INCHES



REVISIONS			
LTR	DESCRIPTION	DATE	CHANGED BY
A	INITIAL RELEASE	14 JAN 99	BJW
B	ADJUSTED ARROWS IN VALVE	18 JAN 99	BJW
C			
D			
E			
F			

Engineering: SJT

Drawn By: BJW

Date: 15 JAN 99

Page: 1 of 1

Size: A

Scale: NTS

MATL

Models: RP

Description: HYDRAULIC MOTOR ASSEMBLY

HIGHLINE MFG INC.

Dwg. No: 70083

Rev: B

Safety Precautions

CAREFUL OPERATION IS THE BEST INSURANCE AGAINST AN ACCIDENT

- Always disengage PTO and hydraulic motors before dismounting tractor.
- Do not operate unless guards are in place.
- Keep yourself and others clear of rotating parts to prevent injury.
- Never allow anyone to stand near rock picker while dumping or picking rocks.
- Never attempt to manually remove rocks from tynes while hydraulic motor is engaged.
- Lower transport locks before raising bucket. To remove transport locks, raise apron slightly and lower brackets. **DO NOT** lift bucket 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.

1.0 Pre-Delivery & Installation Instructions

1.1 General Description of XL-6084 Rock Picker

The XL-6084 rock picker covers a width 60" wide and has a dumping height of 84". One set of hydraulic lines is required for dumping and lowering the picker's collecting apron. The rock picker may either be PTO or hydraulic driven however the hydraulic driven reel may be reversed if the rock picker becomes plugged.

1.2 Pre-Delivery Check List

The following is a list of parts required if the XL-6084 rock picker has not been assembled prior to delivery. If any parts are not included contact your authorized Highline dealer or HIGHLINE Mfg Inc.

Quantity	Description	Part No.
1	XL-6084 Rock Picker	
2	Tire Assy,16.5l x 16.1 Tire	70080
2	Axle Assembly	70130
8	Bolt, Hex, ¾" x 2 ½", UNC, Grade 5	31040
8	Nut, Nylock, ¾", UNC	31175
8	Washer, Lock, ¾" Plated	31246

2.0 Operating Instructions

2.1 Field Preparation

Field preparation plays a major role affecting the picking performance of the XL-6084. For best picking conditions, the field should be cultivated prior to picking. This operation brings stones to the surface and buries field residue.

2.2 Pre-Start Instructions

Transport locks need to be lowered before operation. To lower transport locks, raise apron slightly and lower transport locks towards the front of the machine. DO NOT lower apron when transport locks are in position otherwise severe damage WILL occur.

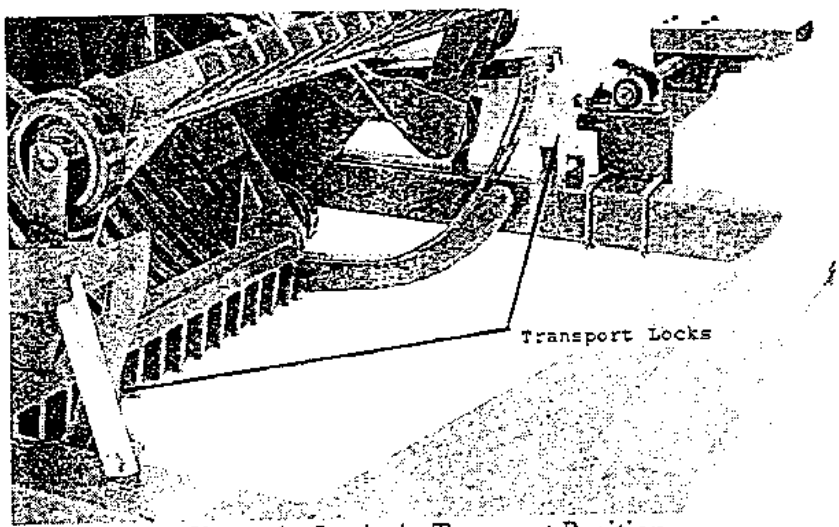


Figure 1. Locks in Transport Position

2.3 Transporting Instructions

To ensure safe transport of the XL-6084 rock picker, the transport locks and reel should be raised to prevent the apron from dragging. To put transport locks in place, raise the apron until the transport locks catch on the reel frame. To lower transport locks, raise apron until locks are free and turn them forward..

For road transport, the hitch may be turned to reduce the travel width of the rock picker. To change the position of the hitch, the wedge is removed and the hitch is positioned for field or transport position. The wedge is then placed back into position and ready for field or transport.

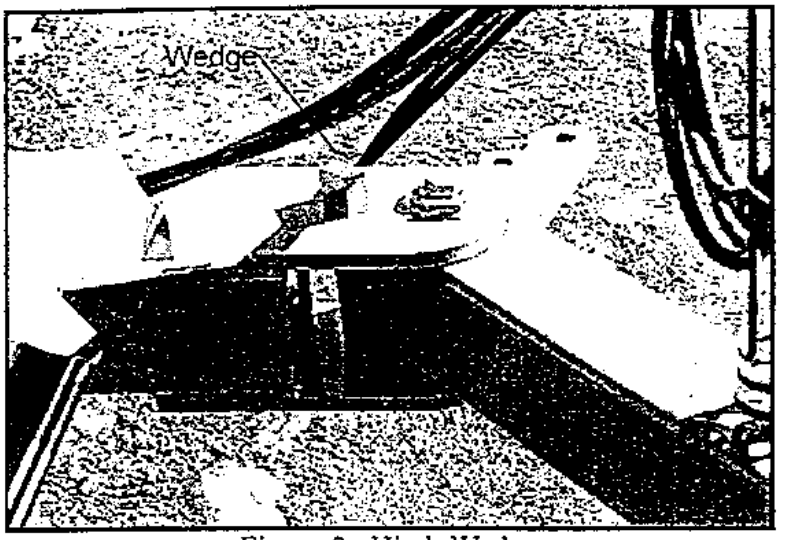


Figure 2. Hitch Wedge

2.4 Apron Height Adjustment & Bucket Dumping

The apron (Figure 3) height is adjustable through the hydraulic cylinders. By lowering the cylinders completely, the apron will be at its lowest picking level. The working height of the apron will depend upon the soil conditions and the size of rocks. By extending the cylinder, the apron will lower. Extending the cylinder more will raise the bucket into dumping position.

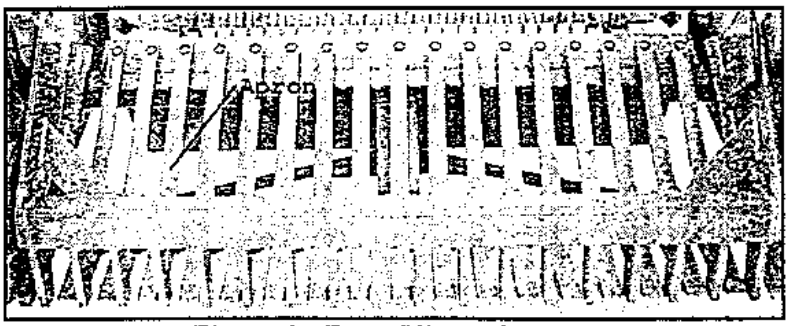


Figure 3. Front View of Apron

2.5 Field Instructions

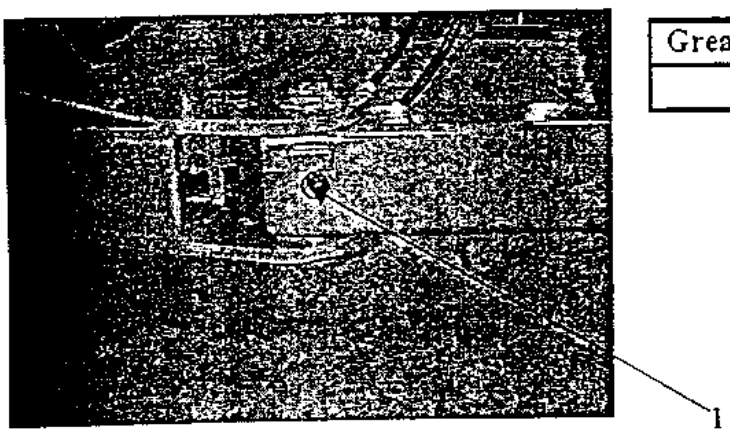
For proper operation, the XL-6084 should run at a field speed of 3-4 mph (4.8-6.5 km/h) and the reel rotating at 35 rpm. When picking large rocks, field speed should be decreased to reduce possible damage of large impacts. The operating height of the apron varies depending on the size of stones picked. For small stones, the apron should be as low as possible to the ground and be raised to a suitable level for larger stones.

3.0 Maintenance Instructions

To ensure long operating life of your XL-6084 Rock Picker, follow this maintenance procedure.

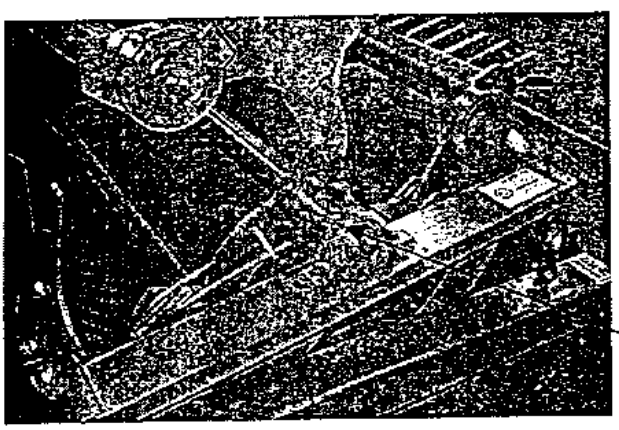
- Ensure tire air pressure is maintained at 23 psi. Tire air pressure fluctuation may result in tire damage.
- Check gear box oil and add #90 gear oil if needed
- Periodically check all bolts and set screws for tightness.
- Grease the following points as described.

3.1 Grease Locations



Grease No	Description	Frequency
1	Hitch Pivot	Monthly

Figure 4. Hitch Grease Location



Grease No	Description	Frequency
2	Reel Bearings	Yearly

Figure 5. Reel Greasing Locations

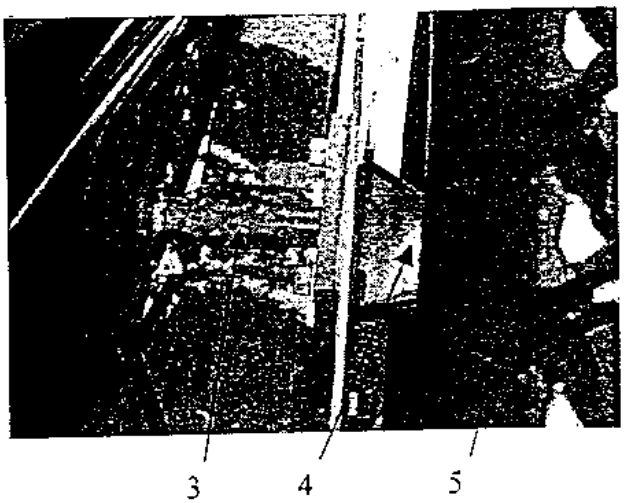


Figure 6. Apron & Tire Maintenance Locations

Grease No	Description	Frequency
3	Apron Pivot	Daily
4	Wheel Hub	4 Times/Year
5	Tire Pressure	23 psi

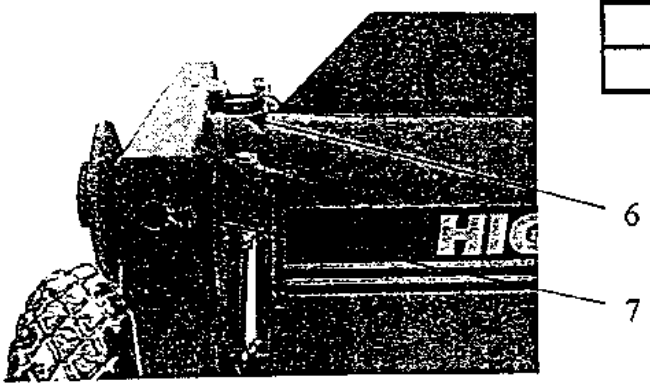


Figure 7. Dump Mechanism Grease Locations

Grease No	Description	Frequency
6	Front Bucket Pivot	Daily
7	Bucket Dump Pivot	Daily

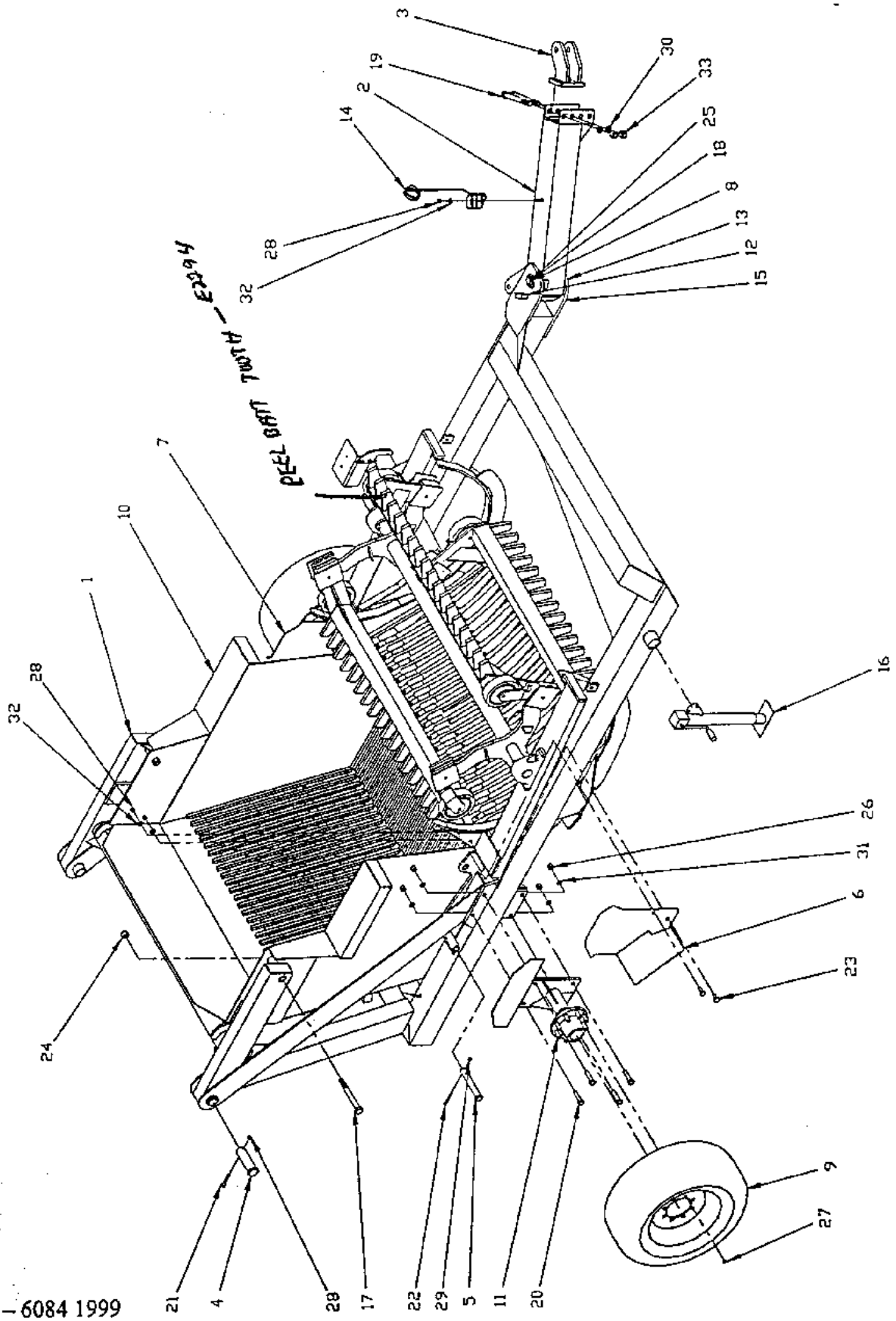
4.0 Parts Information

4.1 Main Assembly

Item	Part No.	Description	Quantity
1	70001	Dump, Bucket	1
2	70002	Arm, Hitch	1
3	70003	Hitch, Clevis	1
4	70025	Pin, Dump	2
5	70027	Pin, Apron	2
6	70051	Guard, Cylinder, Dump, Right	1
7	70052	Guard, Cylinder, Dump, Left	1
8	70068	Pin, Hitch	1
9	70080	Tire Assy, 16.5in, 6 Ply	2
10	70148	Bucket	1
11	70155	Axle, Assembly	2
12	E2233	Wedge	1
13	E2240	Washer, Hitch, Bottom	1
14	30206	Holder, Hose, Hydraulic, ½"	1
15	91609	Pin, Hitch, 5/32"	1
16	92095	Jack, Sidewind, 5000 Lbs. x 15 in	1
17	31035	Bolt, Hex, 1 ¼ x 8, UNC, Gr5, Pltd	2
18	31036	Bolt, Hex, 1 x 10, UNC, Gr5, Pltd	1
19	31038	Bolt, Hex, 1 x 7 ½, UNC, Gr5, Pltd	2
20	31040	Bolt, Hex, ¾ x 2 ½, UNC, Gr5, Pltd	8
21	31021	Bolt, Hex, ½ x 3, UNC, Gr5, Pltd	2
22	31045	Bolt, Hex, 3/8 x 2 ½, UNC, Gr5, Pltd	2
23	31010	Bolt, Carr, ½ x 2 ½, UNC, Gr5, Pltd	4
24	31171	Nut, Nylock, 1 ¼	2
25	31172	Nut, Nylock, 1	1
26	31167	Nut, Hex, ¾	8
27	32319	Nut, Wheel, 5/8"	16
28	31173	Nut, Nylock, ½	7
29	31176	Nut, Nylock, 3/8	2
30	31243	Washer, Lock, 1	2
31	31246	Washer, Lock, ¾	8
32	31236	Washer, Flat, ½	4
33	31162	Nut, Hex, 1, UNC, Pltd	2

Part No.	Description	Qty
32324	Tire, 16.5L x 16.1, 6 Ply	1
32325	Rim, w14x 16.1	1
32327	Hub, Complete, HA817-3	1
70080	Tire, Assy, 16.5in, 6ply	

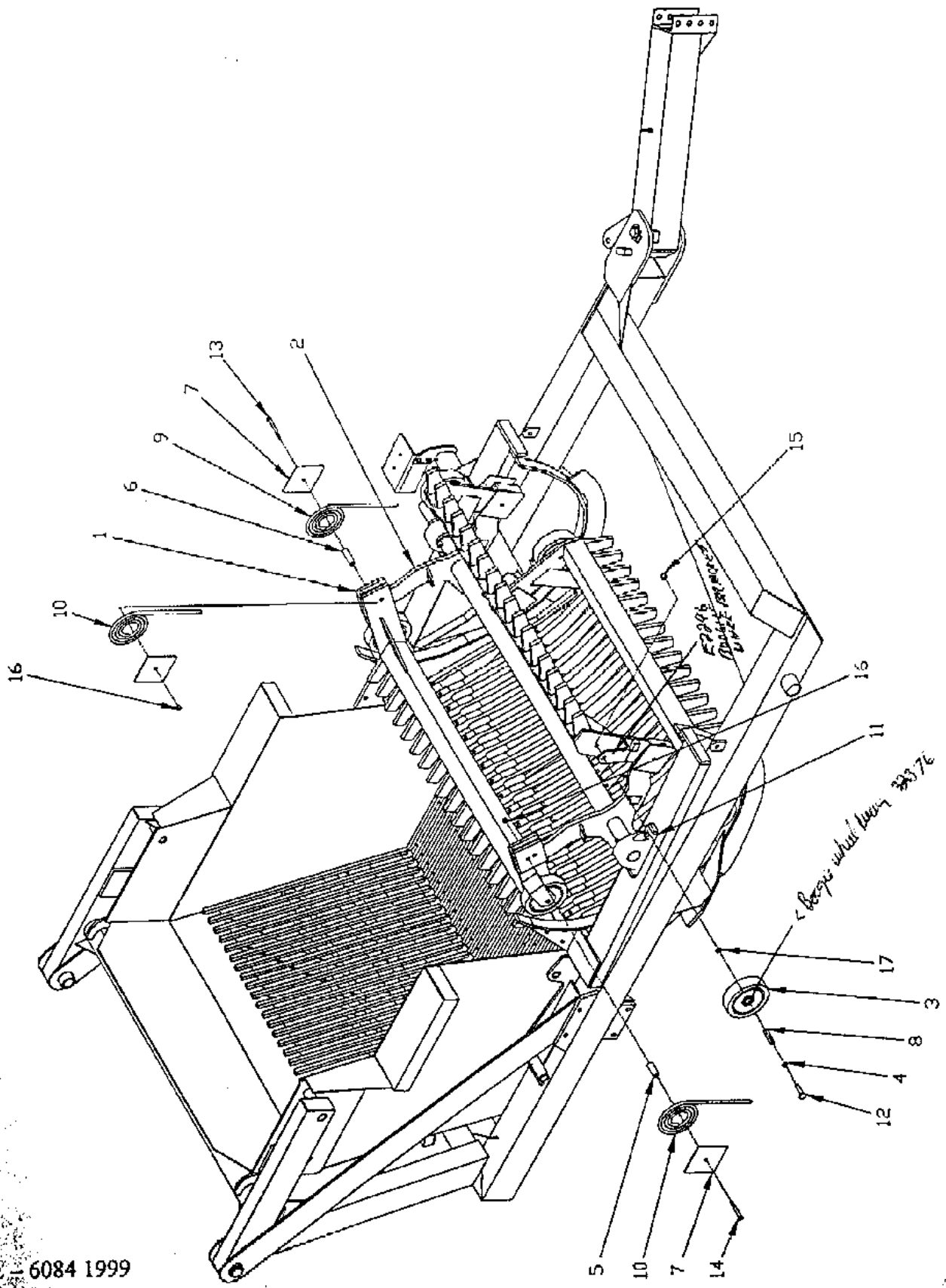
Main Assembly Drawing



4.2 Reel Assembly

Item	Part No.	Description	Quantity
1	70006	Bat, Reel	3
2	70029	Reel	1
3	70106	Wheel, Bogey, Complete	6
4	E2304	Bushing, Wheel, Bogey	6
5	E2306	Bushing, Bat, Reel, Right	3
6	E2307	Bushing, Bat, Reel, Left	3
7	E2314	Plate, Retainer, Spring	9
8	E4627	Bushing, Wheel, Bogey	6
9	32362	Spring, Reel, Left	3
10	32363	Spring, Reel, Right	6
11	32373	Drv, Brg, Pillow, 2-7/16	2
12	31642	Bolt, Carr, 5/8 x 5, UNC, GR5, Pltd.	6
13	31644	Bolt, Hex, 9/16 X 5, UNC, GR8, Pltd	3
14	31645	Bolt, Hex, 9/16 X 4, UNC, GR8, Pltd	3
15	31178	Nut, Nylock, 5/8", UNC	6
16	31646	Nut, Nylock, 9/16", UNC, GRC	9
17	E4626	Bushing, Wheel, Inside	6

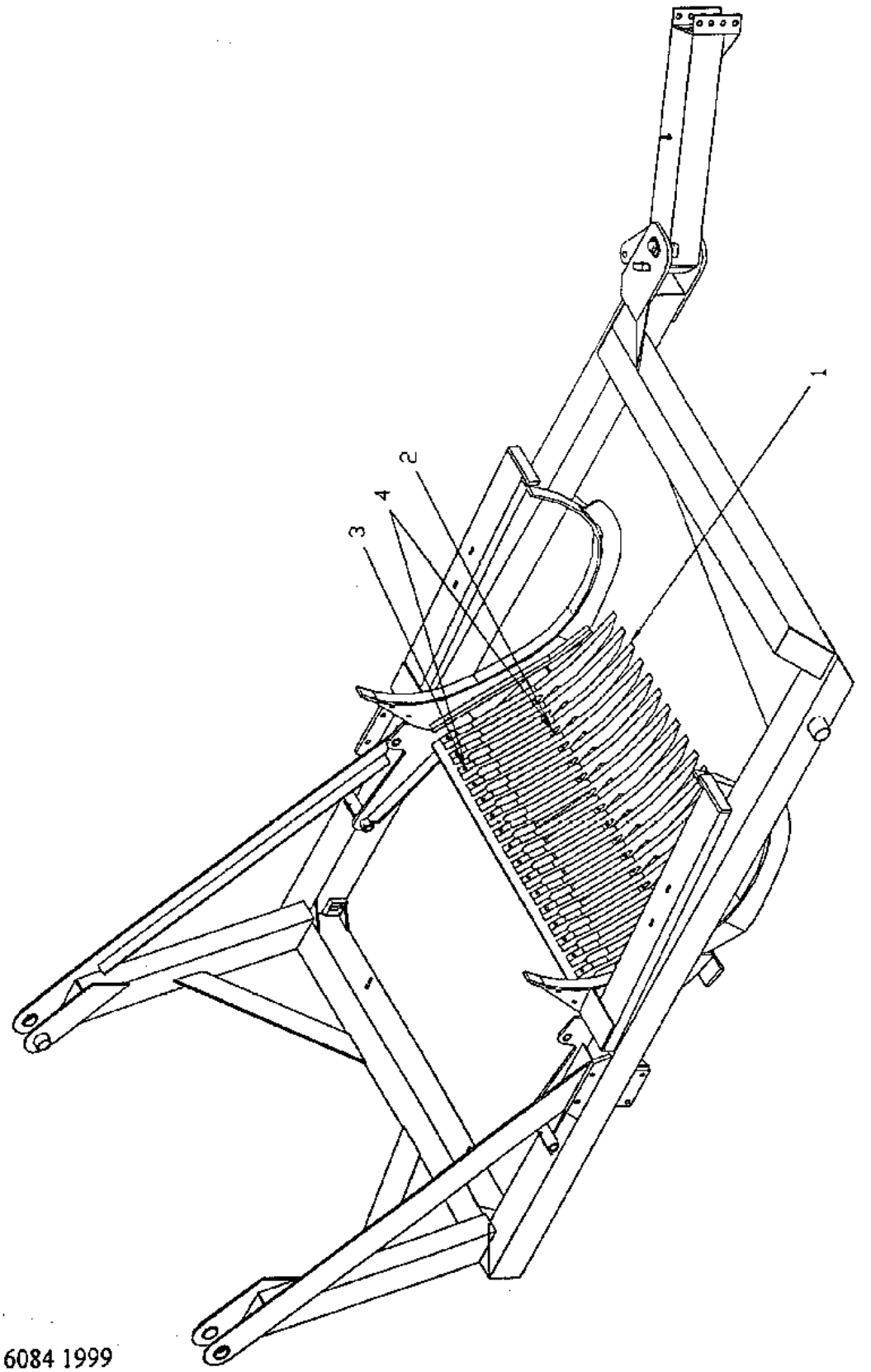
Reel Assembly Drawing



4.3 Apron Assembly

Item	Part No.	Description	Quantity
1	32466M	Tyne, Apron, 65-45-12	17
2	31024	Bolt, Hex, ½ x 3 ½, UNC, Gr8	17
3	31019	Bolt, Hex, ½ x 2 ½, UNC, Gr8	17
4	31647	Nut, Nylock, ½, UNC, GrC	34

Apron Assembly Drawing

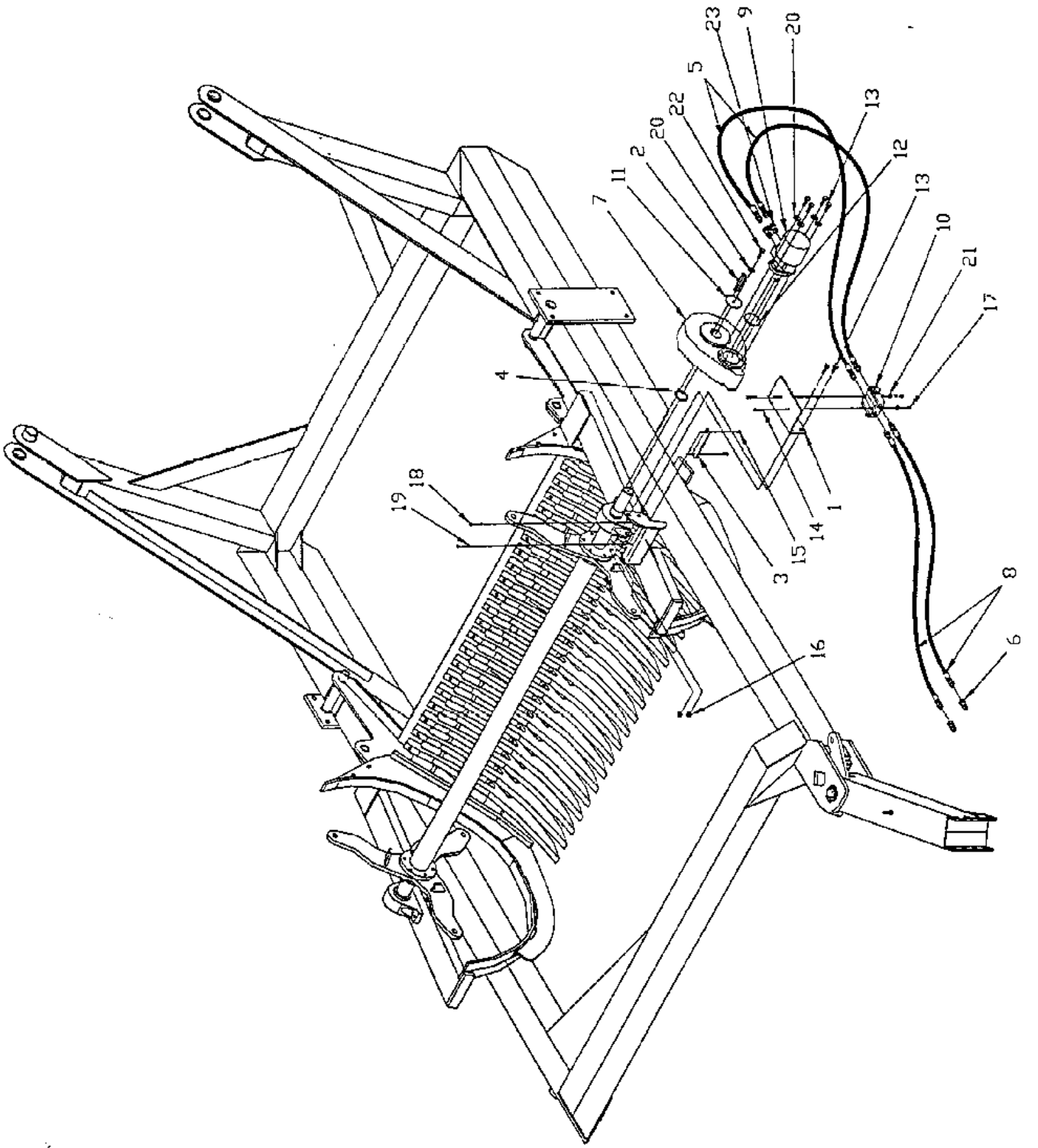


5.0 Hydraulic Systems

5.1 Motor Hydraulics

Item	Part No.	Description	Quantity
1	E2339	Anchor, Valve, Cushion, Hydraulic	1
2	E3045	Key, Drive, Reel	1
3	E4502	Bumper, Mount, Hydraulic	1
4	E4571	Bushing, Reel, Gearbox	1
5	30586	Hose, Hydraulic, ½ x 20, 8MP-8FJX	2
6	30209	Hydraulic, Tip, Pioneer, ½, 8FP	2
7	32209	Gearbox, Complete, 590	1
8	32583	Hose, Hydraulic, ½ x 144, 8MP-8MP	2
9	32644	Motor, Hydraulic RE18080500	1
10	32660	Hydraulic, Valve, Cushion, DXV50	1
11	32734	Washer, Flat, 3 1/8 x ½	1
12	32786	Hydraulic, O-Ring, 151	1
13	31016	Bolt, Hex, ½ x 1 ½, UNC, Pltd	6
14	31048	Bolt, Hex, 5/16 x 2 ½, UNC, Pltd	2
15	31060	Bolt, Stove, ¼ x 1, UNC, Pltd	2
16	31173	Nut, Nylock, ½	2
17	31177	Nut, Nylock, 5/16	2
18	31310	Nut, Nylock, ¼	2
19	31245	Washer, Lock, ¼	2
20	31236	Washer, Flat, ½	5
21	31244	Washer, Lock, 5/16	2
22	31069	Bolt, Hex, 1/2x1, UNC, Pltd	1
23	30204	Hyd, Fit, Adapter, 10MB-8MJ	2
	32647	SEAL KIT	1

Motor Hydraulics Drawing

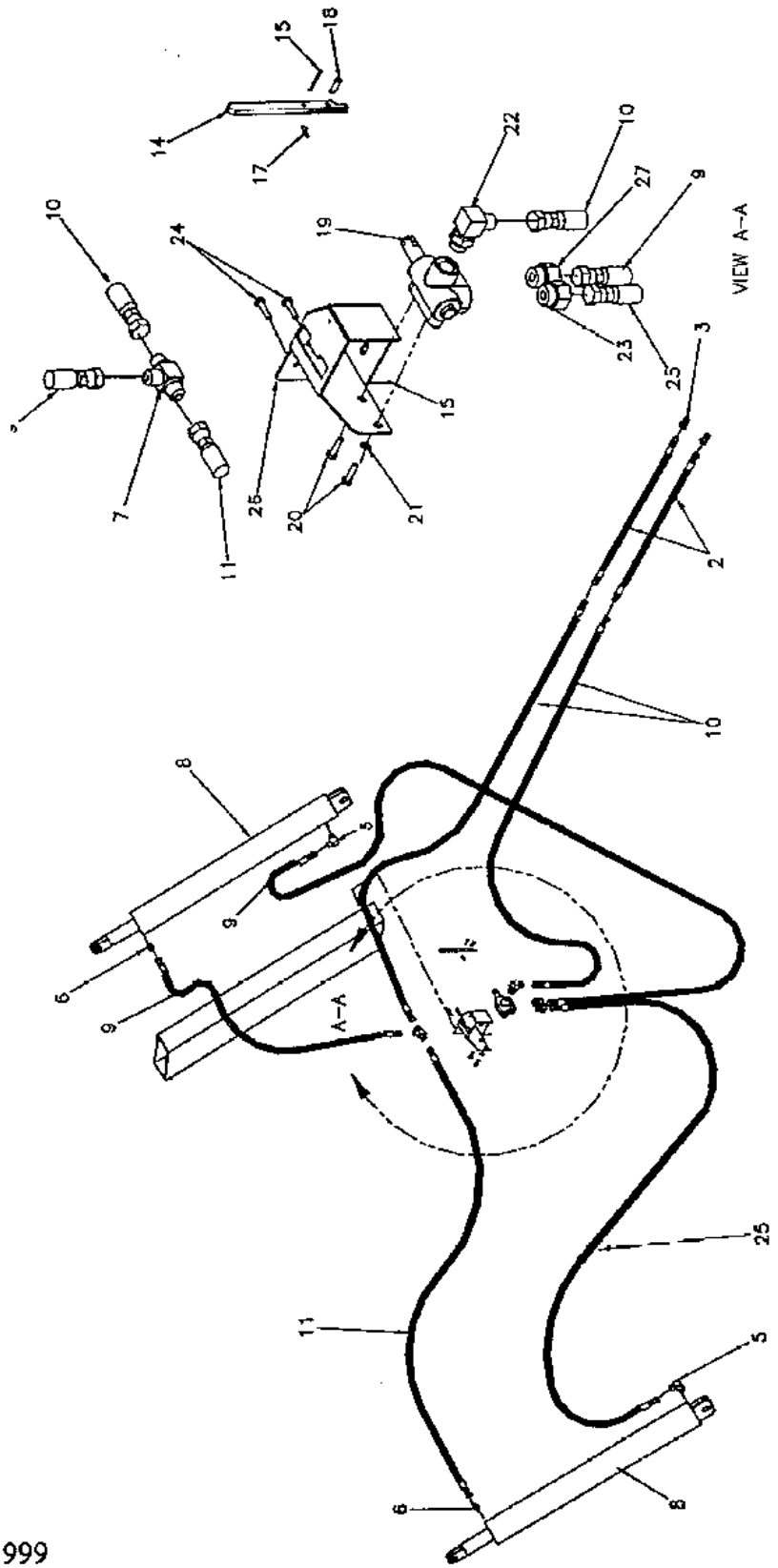


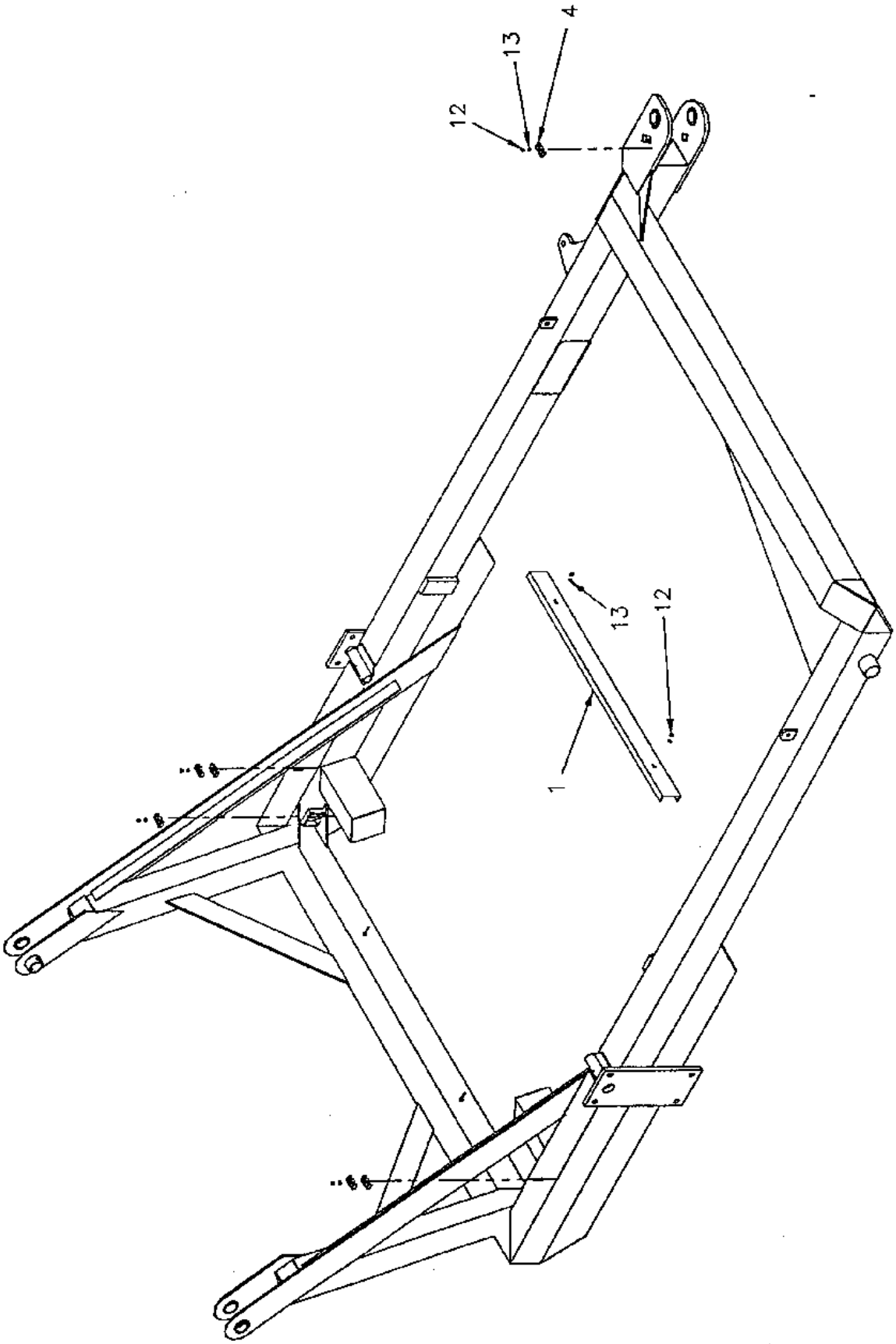
5.2 Cylinder Hydraulics

Item	Part No.	Description	Quantity
1	E2636	Guard, Line, Hydraulic	1
2	30159	Hose, Hydraulic, ½ x 96, 8MP-8MJ	2
3	30209	Hydraulic, Tip, Pioneer, ½, 8FP	2
4	30210	Hydraulic, Clamp, Oil, ½	6
5	30212	Hydraulic, Fitting, Elbow 8MP-8MJ90	2
6	31148	Hydraulic, Fitting, Adapter, 8MP-8MJ	2
7	30151	Hydraulic, Fitting, Tee, 8MJ	1
8	32260	Hydraulic, Cylinder, 3 ½ x 42	2
9	32054	Hose, Hydraulic, 3/8 x 54, 8FJX	2
10	31665	Hyd, Hose, 1/2x156, 8FJX	2
11	32614	Hose, Hydraulic, 3/8 X 108, 8MJ-8FJ	1
12	31177	Nut, Nylock, 5/16	6
13	31239	Washer, Flat, 5/16	6
14	E4637	Handle	1
15	31450	Pin, Cotter, 1/8x1	2
16	31604*	Spring	1
17	31605	Pin, Hair	1
18	31606	Pin, Clevis, 1/4x7/8	1
19	31607	Hyd, Valve, Selector	1
20	31533	Bolt, Hex, 5/16x3/4, Unc, Gr 5	2
21	31346	Washer, Lock, 5/16	2
22	30211	Hyd, Fit, Elbow, 8MB-8MJ90	1
23	30215	Hyd, Fit, Adapter, 8MB-8MJ	1
24	30294	Screw, Tek, 1/4x1	2
25	30561	Hyd, Hose, 3/8x122, 8FJX	1
26	70180	Bracket, Valve, Safety	1
27	30152	Hyd, Fit, Adapter, 8MB-8FJX	1

* Not shown – connects between the two cotter pins

Cylinder Hydraulic Drawing




4
13
12
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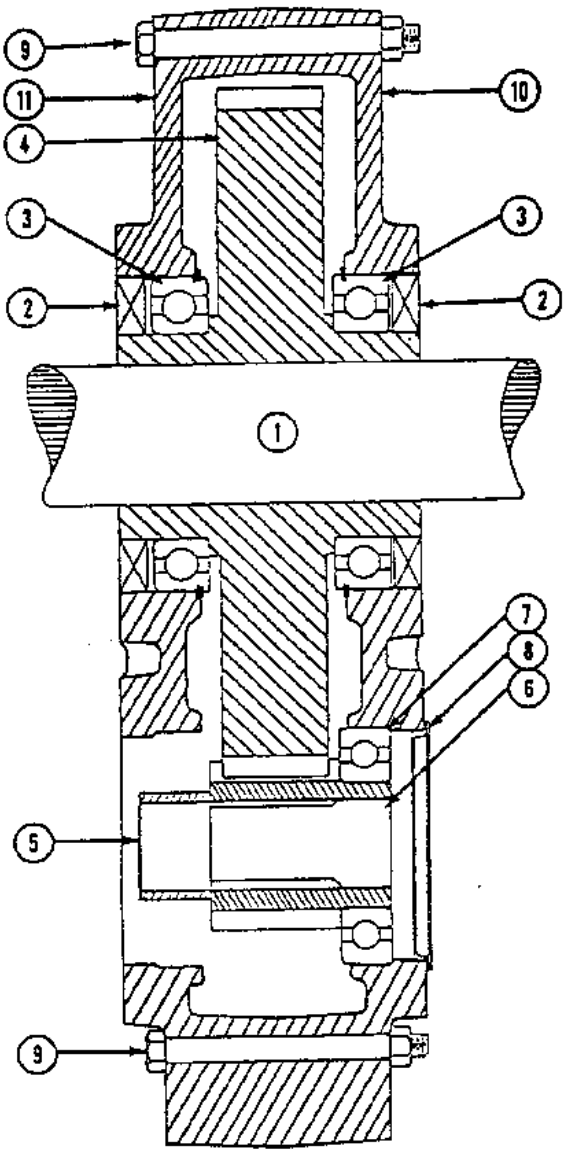
1

6.0 590 Parallel Drive Gearbox

Item	Part No.	Description	Quantity
1	E4561	Shaft, Drive, Reel	1
2	32210	1477 Seal	2
3	32211	1417 Bearing	2
4	32216	58 Tooth Gear	1
5	32214	1821 Spacer	1
6	32215	13 Tooth Pinion	1
7	32212	1418 Bearing	2
8	32213	1154 Cover	1
9	31050	Bolt, Hex, 5/16 x 3, UNC, Gr5 Pltd	12
10	31177	Nut, Nylock, 5/16	12
11	32218	Case, Plain Side	1
12	32217	Case, Hydraulic, Motor Side	1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11
4
3
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10
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7
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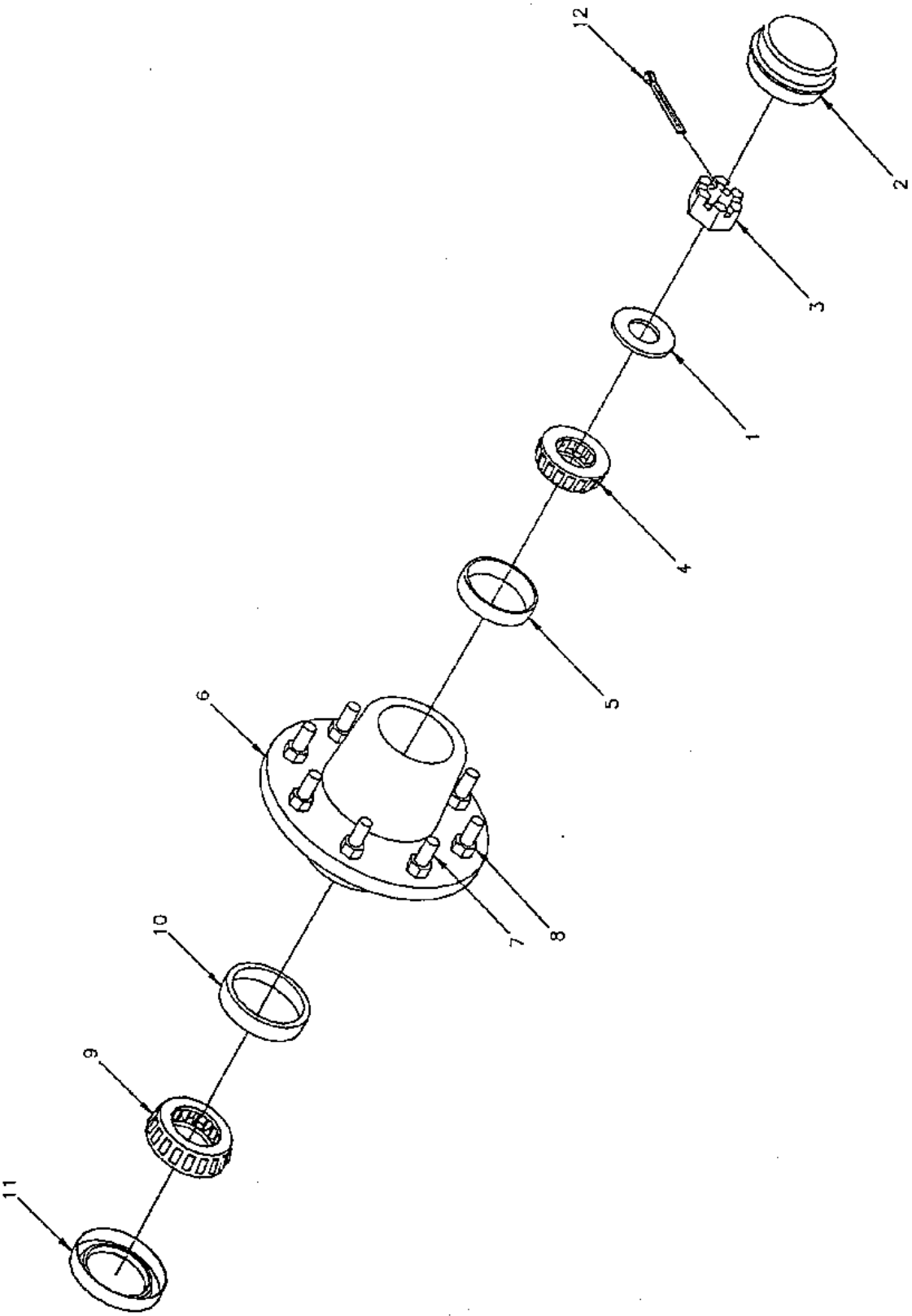
6
5
9

7.0 H817 Hub

Item	Part No.	Description	Quantity -
1	30223	Washer, Flat, 1" SAE	1
2	32313	Cap, Dust	1
3	32314	Nut, Slotted, 1 1/4"-UNF	1
4	32315	Bearing, Outer	1
5	32316	Race, Outer	1
6	32318	Hub, 8-Bolt	1
7	32319	Stud, 5/8 x 2 ¼, UNF, WB46	8
8	32320	Nut, 5/8, UNF, WB18	8
9	32321	Bearing, Inner	1
10	32322	Race, Inner	1
11	32323	Seal, Grease	1
12	31183	Pin, Cotter, 3/16 x 2	1

Hub Drawing

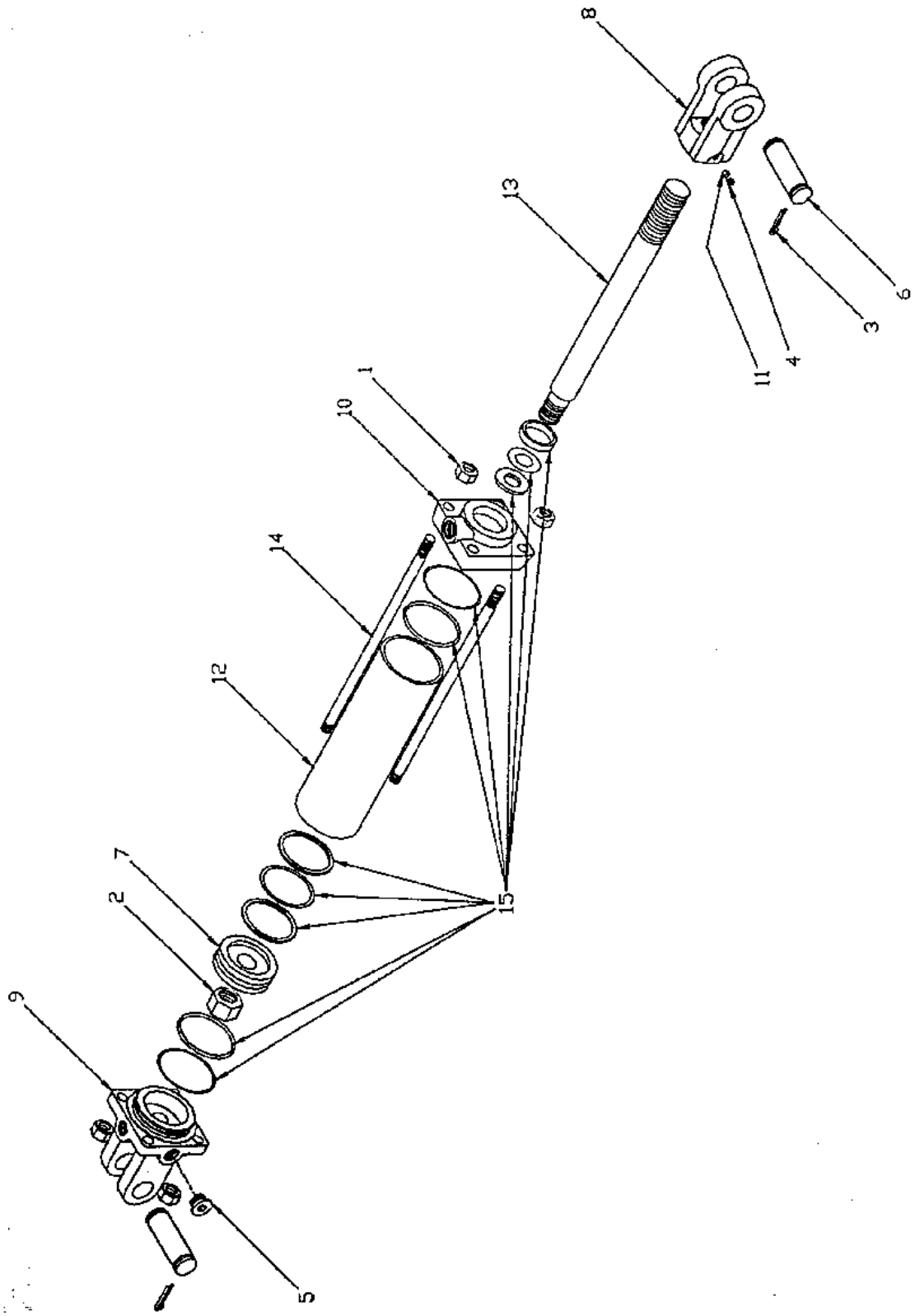


8.0 Cylinders

8.1 3 ½ x 42, 1 1/4 Rod

Item	Part No.	Description	Quantity
1	30236	Nut, Hex, 5/8" UNF Grade 5	8
2	30237	Nut, Hex, 1"-14 UNS Gr 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	30251	Piston, 3 1/2" Dia, H6888	1
8	30253	Clevis, Rod, 1 1/4", 1" Pin	1
9	30258	Cap, Clevis, 3 1/2" NPTF	1
10	30259	Cap, Rod, 3 1/2" x 1 1/2" NPTF	1
11	30261	Lock, Thread, Nylon	1
12	32262	Tube, Cyl., 3 1/2" x 42", H6228 R3	1
13	32265	Rod, 1 1/2" x 42"	1
14	32267	Rod, Tie, 5/8" x 42", H6772	4
15	30263	Kit, Repair, 3 1/2" Cyl.	1

3 ½ X 42 Cylinder Drawing



9.0 Specifications

Weight	Approximately 5200 lbs. (2360 kg)
Total Length	16'3"
Total Width	9'4"
Total Height	6'8"
Picking Width	60"
Dumping Height	Approximately 84"
Ground Clearance	17"
Maximum Capacity	2.4 cubic yards (1.83 m^3)
Tires	16.5L x 16.1 Softrac Tires
Horsepower Required	70 - 135 Horsepower 18 gpm flow required
Hydraulic Outlets	2
Hydraulic Pressure	2500 psi.(17240 KPa)