



**OPERATOR'S / PARTS
MANUAL**



Auto-Load Round Bale Handler
Models

P-6810	P-6812	P-6816
P-6810M	P-6812M	P-6816M



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TABLE OF CONTENTS

Section	Item	Page
1	Introduction	5
2	Safety	6
	General Safety	6
	Safety in Operation	6
	Safety with Maintenance	6
	Safety in Transport	6
	Safety in Storage	6
3	Decals	7
	Safety Decals	7
	Maintenance Decals	8
4	Start-up	9
	Basic Start-up Procedures	9
	Adjustments	10
	Operation	11
5	Maintenance	14
6	Storage	15
7	Specifications	16
8	Parts List	17
	Auto-Load Round Bale Handler P-6810 and P-6810M	17
	Auto-Load Round Bale Handler P-6812 and P-6812M	20
	Auto-Load Round Bale Handler P-6816 and P-6816M	23
	Option 3e rangée de balles pour tous les modèles	26
	Electric system P-6810, P-6812 and P-6816	28
	Electrique schema "LADDER" diagram	30
	Hydraulic system: P-6810	31
	Hydraulic system: P-6810M and third bale row option	33
	Hydraulic system: P-6812	35
	Hydraulic system: P-6812M and third bale row option	37
	Hydraulic system P-6816	39
	Hydraulic system: P-6816M and third bale row option	41
	Hydraulic system for third bale row on P-6810, P-6812 and P-6816	43
	Cylinder 30AT20	45
	Cylinder 30BC28	46
	Cylindre 35BS35	47
	Cylindre 40AG60	48
	Cylinder 30FT84	49
	Cylinder 30TR12	50
	Selector valve # 190-11911	51
	Hubs H8001 H10000	52
9	Torque Chart	53
10	Warranty	54

INTRODUCTION

CONGRATULATIONS!

Thank you for choosing PRONOVOST. We are confident this equipment will meet your requirements in terms of quality, performance and reliability.

This manual was prepared to assist you in the safe operation of your new Auto-Load Round Bale Handler. It contains important information which will help you achieve excellent returns with your round bale handler for years to come.

Please read this manual completely before operating this equipment and keep it for future reference.

Before using the equipment, you or any other person who will be operating the Round Bale Handler must be familiarized with the safety recommendations. Please read carefully and be sure to understand and follow all recommendations and procedures.

In this manual, the right and left sides of the equipment are identified while standing behind the machine and facing it.

If you require additional information on your Round Bale Handler, please contact your PRONOVOST Dealer.

NOW take a moment to enter the model, serial number and the date of purchase of your Auto-Load Round Bale Handler in the space provided.

When ordering parts from your Dealer, please refer to these numbers for a fast and efficient service. Use PRONOVOST replacement parts.

The model and serial numbers are on the nameplate shown on Figure 1.



Figure 1

MODEL: _____ ✍

SERIAL NO.: _____ ✍

DATE OF PURCHASE: _____ ✍

SAFETY

GENERAL SAFETY

WHEN YOU SEE THIS SYMBOL

2



ATTENTION!

**BE ALERT
YOUR SAFETY IS INVOLVED**

This symbol "**SAFETY ALERT**" is used in this manual and on the safety decals on the Round Bale Handler. It warns you of the possibility of danger. Carefully read, understand and follow all safety recommendations before operating the unit.

- 1) Careful operation is the best assurance against accidents. Carefully read this manual and follow all recommendations before operating your Round Bale Handler. It is the owner's responsibility to make sure that anyone who will operate the unit will read this manual before operating the equipment.
- 2) Never let a child nor unauthorized persons operate the machine.
- 3) Do not modify the equipment. Any non authorized modification may affect the efficiency and/or safety of the equipment.
- 4) Never operate the Round Bale Handler with defective parts or if damaged in any way. Have it repaired before operating.
- 5) Make sure all fasteners are in place and properly secured or tightened. Refer to torque chart on page 53.
- 6) Hydraulic fluids under pressure can damage your skin. Do not use your hands to locate a leak. Gloves must be worn.

SAFETY IN OPERATION

- 1) Be sure there are no obstructions around the equipment and that no one stands near the machine when in operation or unloading.
- 2) Be careful when adjusting equipment with engine running.
- 3) Keep your body, hands, feet, hair and clothing away from moving parts.
- 4) Do not stand nor allow anyone to stand under elevated parts of the machine.
- 5) When not in use, always lock the loading arms with the pin provided. (Figure 10, page 9)

SAFETY WITH MAINTENANCE

- 1) Perform maintenance according to the recommendations contained in this manual.
- 2) Stop engine and relieve all hydraulic pressures before doing inspection, maintenance or repairs.
- 3) Regularly check hydraulic lines and fittings for leaks. Replace if necessary.
- 4) If you must perform work under the raised platform, **always block it in position in a safe manner.**

SAFETY IN TRANSPORT

- 1) Check local regulations for the transport of your Round Bale Handler on the road.
- 2) Be alert when pulling the Round Bale Handler on the road. Do not allow anyone to stand on it while in motion.
- 3) Be careful while backing-up.

SAFETY IN STORAGE

- 1) Lower the loading arm to avoid any accidental crushing.

DECALS

SAFETY DECALS

The safety decals are affixed wherever special safety precautions are indicated. Locate them on the machine and read them carefully. If a decal is damaged, lost or illegible, install a new one. Each decal is identified with a letter and part number. The following photos indicate where each one must be installed.

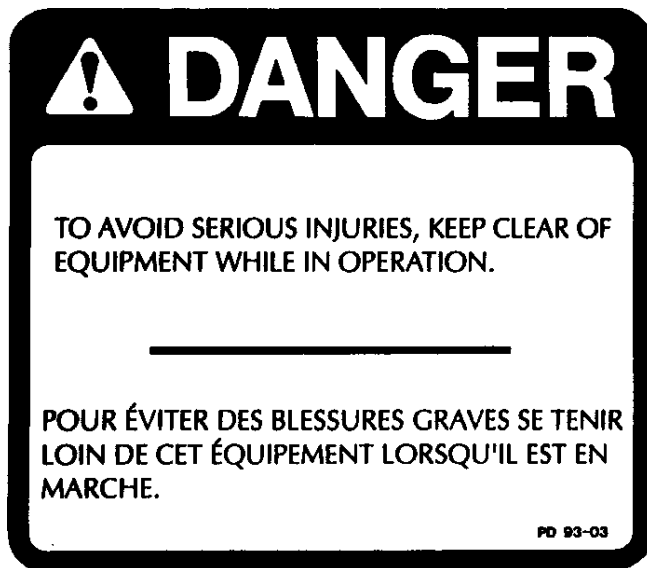


Figure 2
Decal A

Part no.: A101

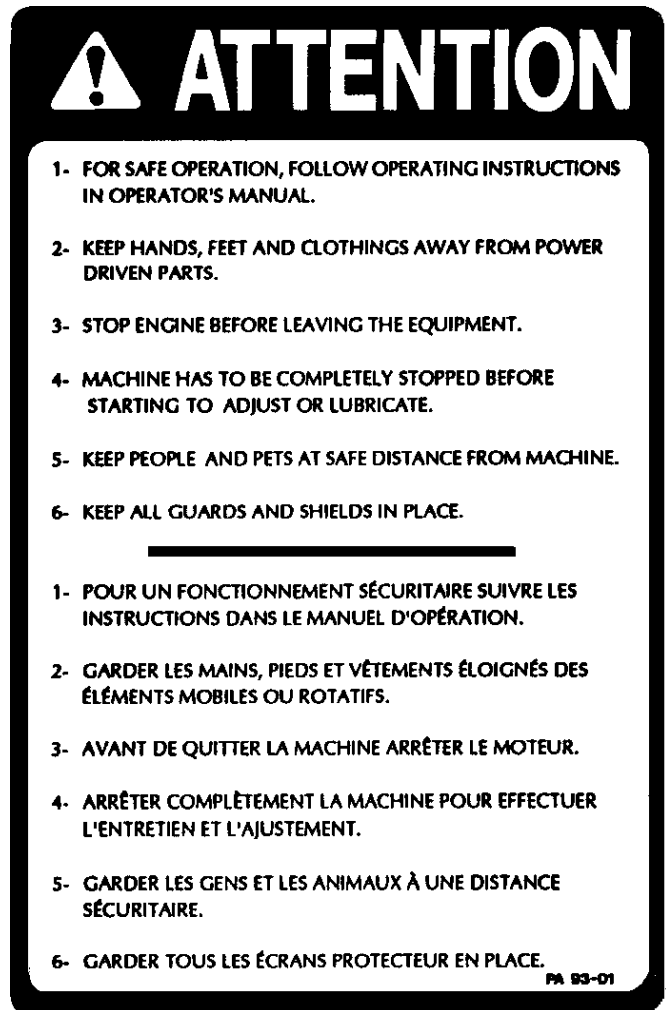


Figure 4
Decal B

Part no.: A102



Figure 3



Figure 5

3

DECALS (cont'd)



Figure 6
Decal C

Part no.: A103

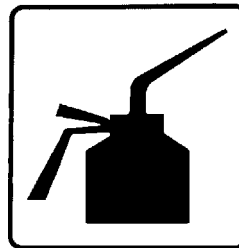
MAINTENANCE DECALS

The maintenance decals indicate the points requiring lubrication. Refer to the maintenance section for more details.

3



Figure 7



Part no.: A105



Part no.: A106

Figure 8

START-UP

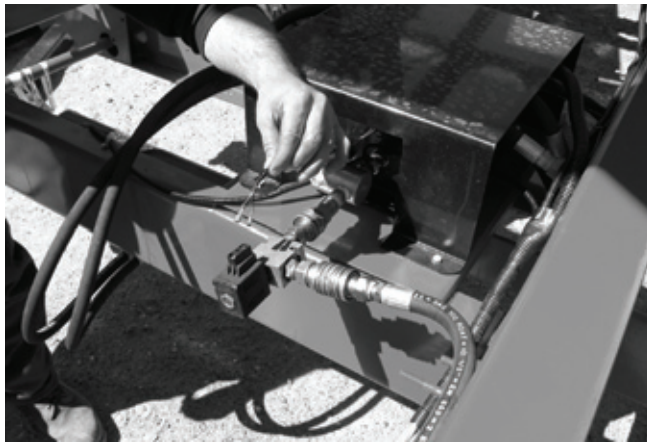


Figure 9

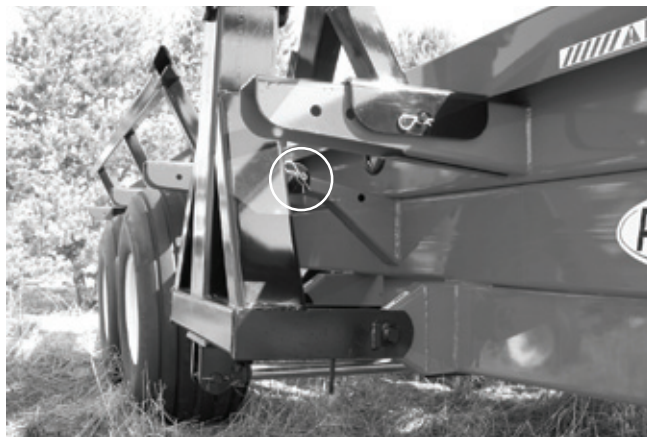


Figure 10

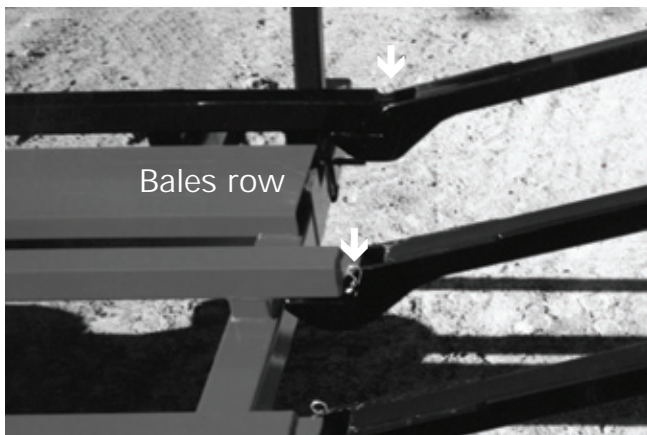


Figure 11

BASIC START-UP PROCEDURES

- 1) Oil flow recommended 15 to 18 gal. US / min.
- 2) Lubricate all points with a good quality multi use grease.
- 3) Adjust tire pressure according to manufacturer's recommendation.
- 4) Install all hydraulic hoses and fittings compatible with your equipment.

Models P-6810, P-6812 & P-6816 only.

- 5) If your tractor is equipped with a closed center hydraulic system, the conversion kit P-6890CF must be installed. A plug-in solenoid valve is provided as an option and must be connected to the hydraulic circuit and to the electric circuit. (Figure 9). **Note:** If the tractor's hydraulics are load sensing, this option is not required.

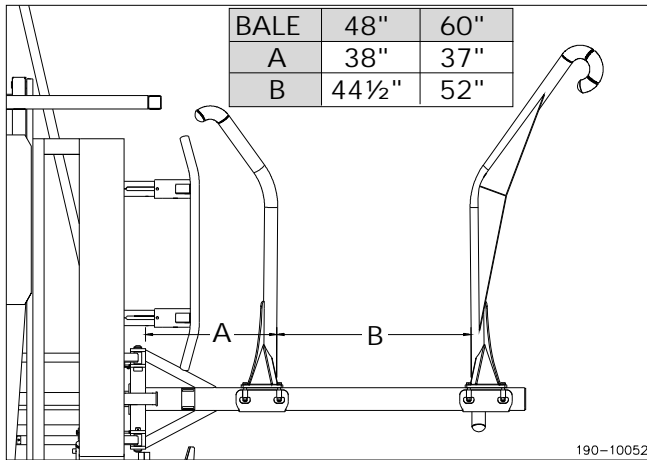
- 6) Hook up the Round Bale Handler to the tractor and connect the hydraulic hoses as indicated in page 31, 33,35, 37, 39 or 41.

Models P-6810, P-6812 & P-6816 only.

- 7) Install the control module in a convenient location near the tractor seat, usually on the right hand side.
- 8) Operate all hydraulic functions in order to purge the system. **Do not forget to remove the pin locking the loading arm in the upright position (Figure 10) and assure there is no one within 10 feet of the loading area.**
- 9) Check the oil level in the tractor's hydraulic oil reservoir.
- 10) Install hinged bale slides. Insert the bolts so that the nuts are toward the outer side of the bale row to prevent the bale twine from snagging on the nuts (Figure 11).
- 11) Although it is possible to transport an additional bale in the loading arm, **its weight must not exceed 2000 lbs.**

4

START-UP (cont'd)



4 Figure 12

ADJUSTMENTS

LOADING ARMS (Patented)

- 1) Adjust the opening and position of the loading arms according to recommendations (Figure 12). The dimensions given are to be used as a guide only since they may vary according to the bale size, weight and degree of softness.

SIDE RAILS

- 1) Adjust the side rails position according to the bale size and configuration (Figure 13). This adjustment is to prevent the rocking of the bales from side to side during transportation.

BALE RAM

Models P-6810, P-6812 & P-6816 only.

- 1) The length of stroke is factory set for the longest bale dimension (5 1/2'); the travel limit switch in position A. Although the stroke can be shortened to further increase the efficiency of the machine while handling shorter bales (4'); put the travel limit switch in position B as shown (Figure 14).

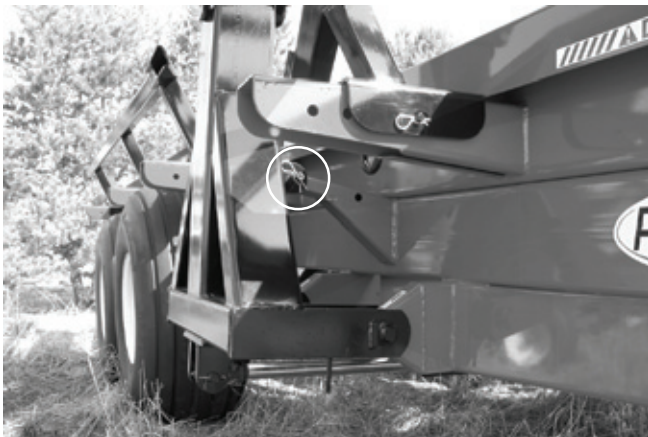


Figure 13

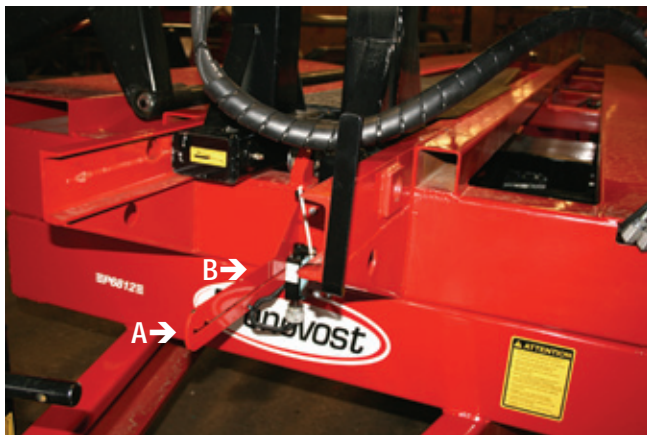


Figure 14

START-UP (cont'd)



Figure 15



Figure 16

ADJUSTMENTS (cont'd)

Models P-6810M, P-6812M & P-6816M only.

- 2) The length of stroke is factory set for the longest bale dimension (5 1/2'); the travel limit pin in position A. Although the stroke can be shortened to further increase the efficiency of the machine while handling shorter bales (4'); put the travel limit pin in position B as shown (Figure 15).

SWIVEL HITCH ASSEMBLY

- 1) Adjust the swivel hitch assembly to keep the machine parallel with the ground. Three sets of bolt holes are provided (Figure 16) to keep the machine level in operation.

4

START-UP (cont'd)

4

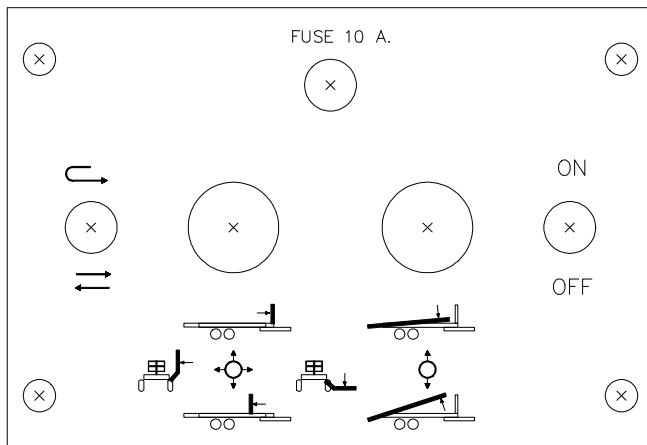


Figure 17

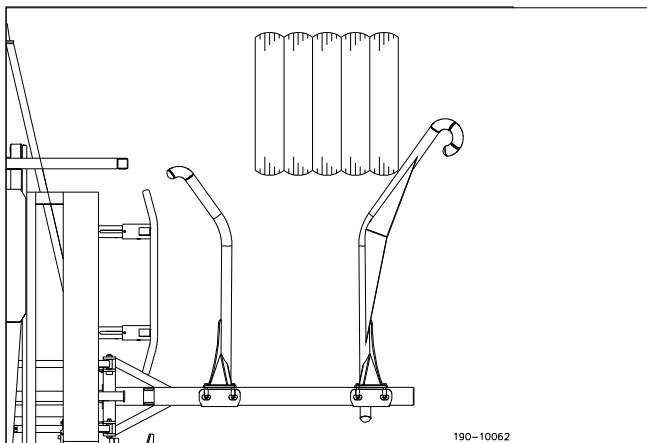


Figure 18

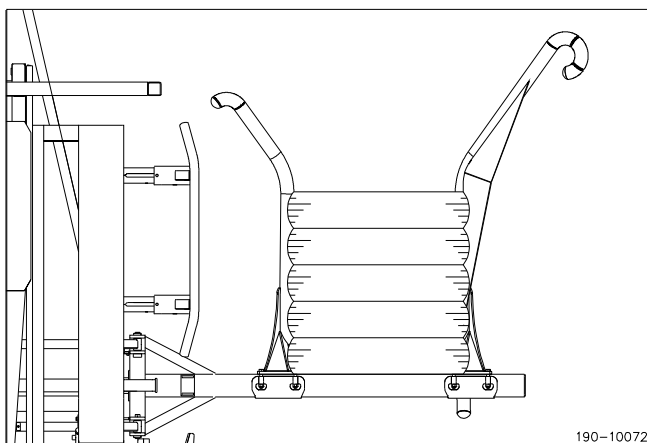


Figure 19

OPERATION

Models P-6810, P-6812 & P-6816 only.

- 1) First familiarize yourself with the controls and their functions. (Figure 17)
 - 2) Remember that the Round Bale Handler is designed and built to turn the bales and load them non stop, consequently, the direction of travel will usually be the same as the baler's.
 - 3) When ready for the first bale, lower the loading arm to just a few inches above the ground, slow down this is a practice round, line up the machine so that the outer corner of the bale will touch at approximately 1/3 to 1/2 way up the angled part of the outer arm. (Figure 18)
 - 4) Raise the loading arm as soon or slightly before the bale reaches the bottom of the "U". (Figure 19)
 - 5) Keep raising the bale until it drops onto the platform. Do the same for loading the second row. Then start lowering the loading arm in order to disengage the limit switch (there is a limit switch installed on the machine, preventing the bale ram and the dumping platform from being activated if the loading arm isn't lowered enough).
- ### Models P-6810, P-6812 & P-6816 only.
- 6) Momentarily actuate the ram control lever (ram switch in the "AUTO" position). The ram will index the two bales toward the rear and will automatically return to the front position.
 - 7) Once accustomed to the machine and its operation, you will notice that by slightly altering the alignment of the bale relative to the outside loading arm, you will be able to turn it and load it much more rapidly. In this case, the bale should hit the loading arm slightly closer to the heel.

START-UP (cont'd)



Figure 20

- 8) When the first pair of bales loaded reach the bale supports at the extreme rear end of the platform, an indicator will pop out on the front corner of the platform opposite from the loading arm. (Figure 20)
- 9) To unload the bales, simply back up to the area where you wish to deposit the bales, open up the loading arm slightly to clear the platform. Raise the platform fully, then slowly move forward.

MAINTENANCE

The Auto-Load Round Bale Handler is designed to save you energy, time and money, take care of it, protect your investment.

- 1) Wipe off all grease fittings with a clean cloth before adding grease to avoid injecting contaminants.
- 2) Repair or replace damaged grease fittings.
- 3) Lubricate all grease fittings every 20 hours of operation. (Do not forget the Bale Ram, 4 bronze bushings).
- 4) Open, clean and lubricate wheel bearings once a year.
- 5) Check nuts and bolts once a year. If necessary, use torque chart page 53.
- 6) Check all bolts on wheels after the first 5 hours of operation and then every 50 hours.
- 7) Check tire pressure every 50 hours. Adjust according to manufacturer's recommendations indicated on the tires.
- 8) Keep your equipment clean, it is good practice.

5

STORAGE

- 1) Store the Auto-Load Round Bale Handler in a cool, dry place.
- 2) Keep tires off the ground and cover them if left exposed to the sun.
- 3) Keep all piston rods in the retracted position (the loading arm must be lowered). This will assure better protection against the elements.
- 4) Clean your Auto-Load Round Bale Handler.
- 5) Thoroughly inspect all parts of the Round Bale Handler. Replace or repair worn or defective parts.
- 6) Touch-up or repaint if necessary.
- 7) Lubricate all points before storage.

SPECIFICATIONS

MODELS	P-6810M	P-6810	P-6812M	P-6812	P-6816M	P-6816
Total capacity 12 tons ¹ (GVWR)	Standards tires 16.5L16.1 with wheels W14C16.1 (280 x 404 mm)				---	
Total capacity 16 tons ¹ (GVWR)	---		Optionals tires 21.5L16.1 with wheels W16C16.1 (403 x 404 mm)		Standards tires 21.5L16.1 with wheels W16C16.1 (403 x 404 mm)	
Total capacity 20 tons (GVWR)	---				Optionals tires 21.5L16.1FI with wheels W16C16.1 (403 x 404 mm)	
Total capacity 20 tons (GVWR) and high flotation	---				Optionals tires 500/45-22.5 with wheels W16C16.1 (403 x 404 mm)	
Sides adjustable to bales ø	4' to 5 1/2' std. (6' opt.) ● 1.2 to 1.7 m std. (1.8 m opt.)					
Bales length	4' to 5 1/2' std. ● 1.2 to 1.7 m					
Wheels (number of bolts)	8 bolts					
Number of bales 4' long	Std. 10 (2 rows of 5 bales) opt. add 1 row of 4 bales		Std. 12 (2 rows of 6 bales) opt. add 1 row of 5 bales		Std. 16 (2 rows of 8 bales) opt. add 1 row of 7 bales	
Number of bales 5' long	Std. 8 (2 rows of 4 bales) opt. add 1 row of 3 bales		Std. 10 (2 rows of 5 bales) opt. add 1 row of 4 bales		Std. 12 (2 rows of 7 bales) opt. add 1 row of 6 bales	
Overall length	27' 6" ● 8.38 m		31' 10" ● 9.70 m		39' 10" ● 12.14 m	
Overall width	8' 6" à 10' 0" ● 2.59 à 3.05 m					
Platform height	44 5/8" ● 1133 mm		45 1/2" ● 1156 mm (tires std)		47 1/4" ● 1200 mm (tires std)	
	---		47 1/4" ● 1200 mm (tires opt.)		47 1/4" ● 1200 mm (tires opt.)	
Dumping angle	35 degrees					
Tread width (c/c)	83 1/2" ● 2121 mm		80 1/2" ● 2045 mm			
Hitch weight (empty)	1500 lbs approx.		1800 lbs approx.		2800 lbs approx.	
	681 kg. approx.		818 kg. approx.		1270 kg. approx.	
Swivel hitch	Std.					
Automatic return of bale ram	not available	Std	not available	Std	not available	Std
Remote control	not available	Std	not available	Std	not available	Std
Axle	Tandem					
Hub (capacity)	8000 lbs (3636 kg)		10000 lbs ● 4545 kg			
Spindles (diameter)	3" ● 73 mm		3 1/4" ● 83 mm			
Recommended tractor	80 HP		100 HP		125 HP	
Total weight	6500 lbs approx.		7500 lbs approx.		10500 lbs approx.	
	2948 kg approx.		3402 kg approx.		4763 kg approx.	

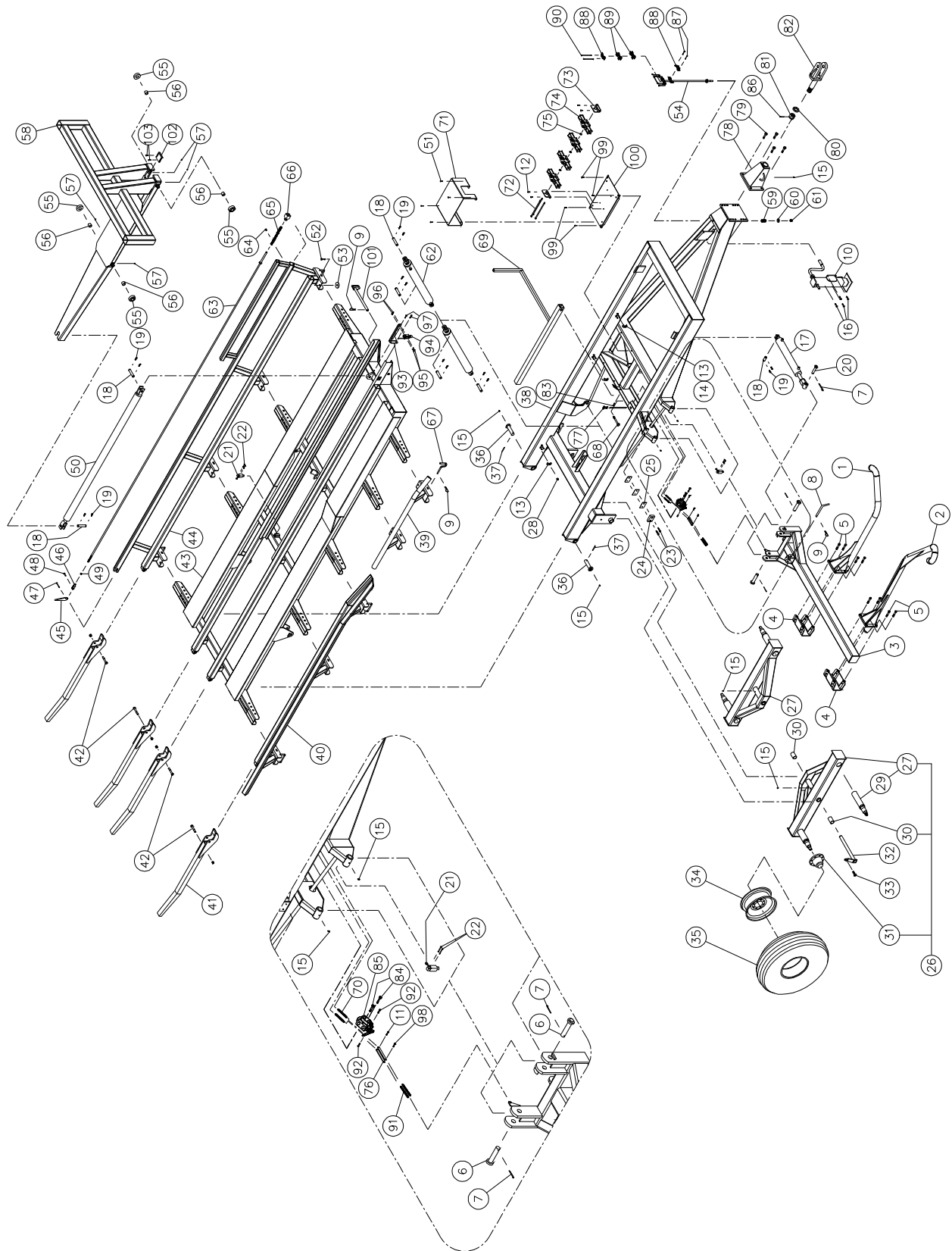
¹For speeds not exceeding 10 MPH.

Design and specifications subject to change without notice.

7

AUTO-LOAD ROUND BALE HANDLER P-6810 & P-6810M

170-04435



AUTO-LOAD ROUND BALE HANDLER P-6810 & P-6810M (cont'd)

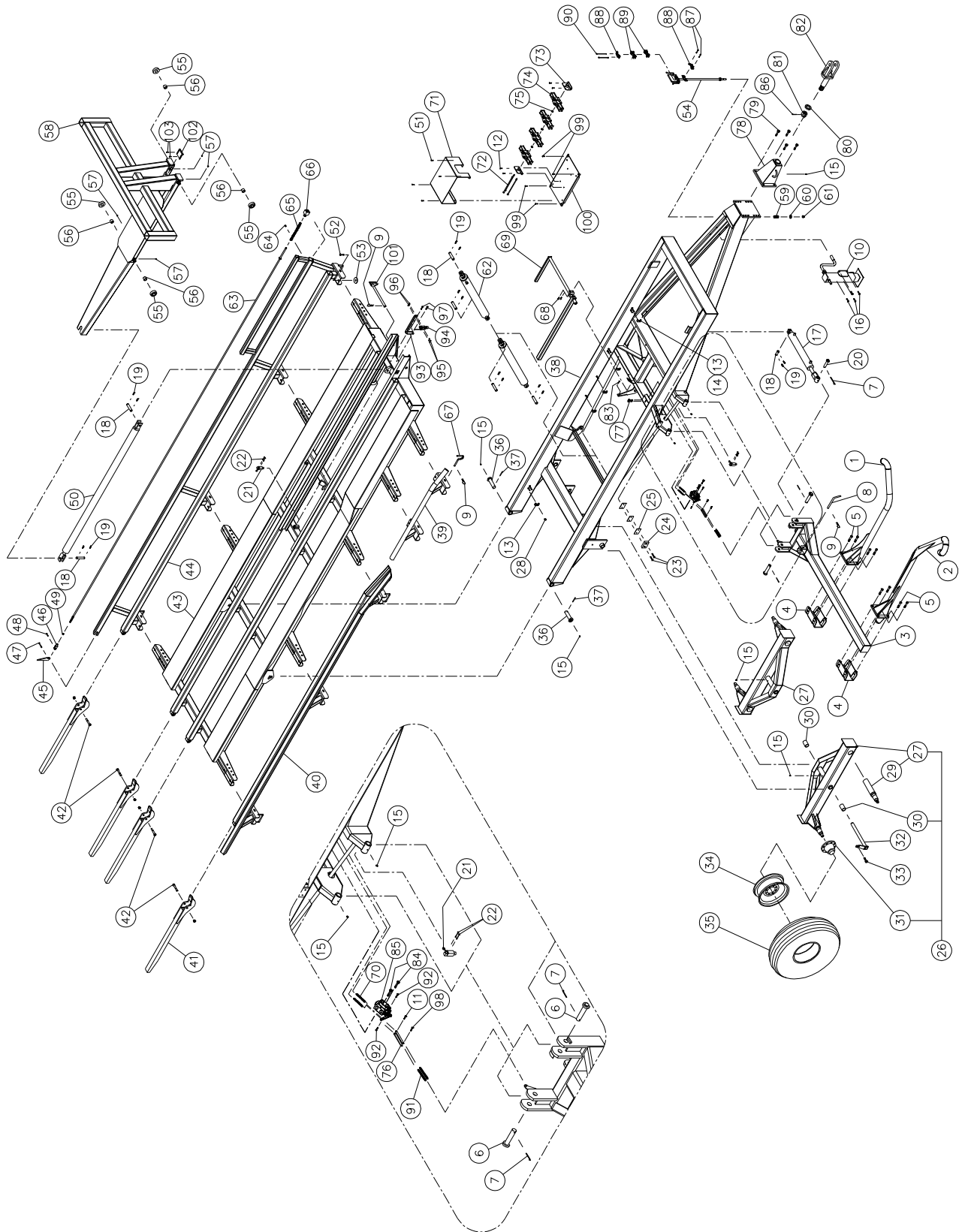
REF.	PART #	DESCRIPTION	QTY	
			P-6810	P-6810M
1	110-27063	Inner arm	1	1
2	120-00124	Outer arm	1	1
3	110-00383	Loading arm support	1	1
4	110-27103	Back plate	2	2
5	319-46491	Plow bolt (dome head) 3/4" NC x 4 1/2" lg + nylon locknut	7	7
6	110-00411	Clevis pin 1 1/4" dia. x 6 3/8" lg	2	2
7	Std.	Cutter pin 1/4" dia. x 2" lg	3	3
8	150-00271	Pin	1	1
9	Std.	Hitch pin clip 5/32"	10	11
10	110-20563	Jack 12000 lbs (drop leg)	1	1
11	300-34310	Bolt 5/16" NC x 1 1/2" lg + nylon locknut & flat washer (2)	-	1
12	300-32250	Bolt 1/4" NC x 1" lg + nylon locknut	4	-
13	140-00481	Collar 3" lg	11	11
14	140-04801	Collar 4 1/2" lg.	-	2
15	Std.	Grease fitting 1/4-28 droit	7	7
16	300-40310	Bolt 1/2" NC x 1 1/2" lg + nylon locknut	4	4
17	30AT20	Cylinder	1	1
18	150-01841	Clevis pin 1" dia. x 3 1/8" lg	7	7
19	Std.	Hairpin cotter	14	14
20	110-00431	Clevis pin 1" dia. x 5 3/8" lg	1	1
21	32254	Loading arm stopper	2	-
22	322-20310	Square head bolt 10-24 x 1 1/2" lg	6	-
23	327-36310	Hexagonal socket set screw 3/8" NC x 1 1/2" lg	2	2
24	190-00071	Loading arm stopper	1	1
25	140-04671	Spacer	as required	
26	110-33981	Tandem assembly	2	2
27	110-33982	Tandem frame	2	2
28	346-34000	Nylon locknut 5/16" NC	11	13
29	150-09931	Axle (welded)	4	4
30	160-00661	Bushing 1 3/4" d.i. x 2" d.e. x 3" lg	4	4
31	36132	Hub H-8001 assembly	4	4
32	110-27111	Clevis 1 3/4" dia. x 22 1/8" lg	2	2
33	302-46310	Bolt 3/4" NF x 1 1/2" lg + locktite	2	2
34	W14C16.1-1.5N	Rim 16.1 x 14-8 bolts	4	4
35	PN-165161	Tire 16.5 x 16.1 - 10 plys	4	4
36	110-00391	Clevis pin 1 1/2" dia. x 6 1/2" lg	2	2
37	Std.	Cotter pin 1/4" dia. x 2 1/2" lg	2	2
38	120-06171	Frame P-6810	1	1
39	120-06263	Front rail (right side)	1	1
40	120-06242	Rear rail (right side)	1	1
41	110-34011	Rear fork	4	4
42	300-46520	Bolt 3/4-NC x 5" + flat washer + nylon locknut	4	4
43	120-06191	Platform for P-6810	1	1
44	120-06231	Left rail	1	1
45	130-00702	Load indicator lever	1	1
46	51435	Yoke 1/2" NF + nut	1	1
47	300-34400	Bolt 5/16" NC x 3" lg + nylon locknut	1	1
48	Std.	Clevis + cotter pin 3/32" dia. x 3/4" lg	1	1
49	336-40000	Nut 1/2" NC	1	1
50	30FT84	Cylinder	1	1
51	300-36250	Bolt 3/8" NC x 1" lg + nylon locknut	4	Opt.
52	300-40325	Bolt 1/2" NC x 1 3/4" lg + nylon locknut	9	9
53	130-57741	Retaining washer	9	9
54	110-36211	Hoses support	1	1
55	130-00591	Pusher wheel	4	4

AUTO-LOAD ROUND BALE HANDLER P-6810 & P-6810M

REF.	PART #	DESCRIPTION	QTY	
			P-6810	P-6810M
56	160-00811	Bushing 1 1/4" i.d. x 1 1/2" o.d. x 1 1/4" lg	4	4
57	Std.	Grease fitting 1/8 NPT elbow 90 deg.	4	4
58	120-06282	Pusher	1	1
59	190-10001	Compression spring	1	1
60	376-44000	Flat washer 5/8"	1	1
61	346-44000	Nylon locknut 5/8" NC	1	1
62	30BC28	Cylinder	2	2
63	110-34111	Rod for load indicator	1	1
64	300-34220	Bolt 5/16" NC x 3/4" lg	1	1
65	190-11841	Compression spring 1 3/16" o.d. x 5 1/2" lg	1	1
66	110-00521	Load indicator	1	1
67	150-00281	Pin	9	9
68	300-46490	Bolt 3/4" NC x 4 1/2" lg + nylon locknut	1	1
69	110-34121	Safety prop	1	1
70	Std.	Spring 5/64" wire x 1/2" o.d. x 4 7/8" lg	-	2
71	130-58282	Valve shroud	1	opt.
72	110-20501	Threaded rod 3/8" NC x 9" lg + 2 nylon locknut	3	-
72	110-20491	Threaded rod 3/8" NC x 11 1/2" lg + 2 nylon locknut		
		for third row option (3)	opt.	-
73	130-00732	Solenoid valve support	2	-
74	18019	Solenoid valve	3	-
74	18019	Additional solenoid valve for third row option (1)	opt.	-
75	QR-4021	Quad ring	2	-
75	QR-4021	Additional quad ring for third row option (1)	opt.	-
76	140-24901	Valve connector	-	2
77	300-34250	Bolt 5/16" NC x 1" lg + lock nut + nylon locknut	-	2
78	120-00141	Hitch assy.	1	1
79	300-46400	Bolt 3/4" NC x 3" lg + nylon locknut	4	4
80	130-21111	Flat washer 1 13/16" i.d. x 3" o.d.	1	1
81	357-62000	Castle nut 1 3/4" -5 NC	1	1
82	110-00491	Swivel hitch	1	1
83	300-36250	Bolt 3/8" NC x 1" lg + 2 nuts (thin)	1	1
84	300-36400	Bolt 3/8" NC x 3" lg + nylon locknut	-	2
85	190-11911	Two position selector valve 3/4" NPT (see page 50)	-	1
86	Std.	Cotter pin 1/4" x 3 1/2" lg.	1	1
87	300-32310	Bolt 1/4" NC x 1 1/2" lg + nylon locknut	2	2
88	140-21201	Collar	2	2
89	110-35801	Collar	1	2
90	300-32430	Bolt 1/4" NC x 3 1/2" lg + nylon locknut	2	-
90	300-32520	Bolt 1/4" NC x 5" lg + nylon locknut	-	2
91	190-02351	Spring 3/4" diameter x 4 1/2" lg	-	2
92	300-32250	Bolt 1/4" NC x 1" lg + nylon locknut & flat washer (2)	-	2
93	130-91581	Stopper support	1	-
94	36169	Stopper with plastic rod	1	-
95	322-20340	Round head square drive machine screws 10 x24 2" lg	2	-
96	360-10000	Wings nut 10-24	2	-
97	300-36220	Bolt 3/8" NC x 3/4" lg + spring washer	2	-
98	300-34250	Bolt 5/16" NC x 1" lg + nylon locknut	-	1
99	300-36325	Bolt 3/8" x 1 3/4" lg + nylon locknut & flat washer	4	-
100	130-58132	Plate for electric valve	1	-
101	110-48121	Travel limit pin for 48" bales	-	1
102	130-91571	Stopper	-	1
103	300-32220	Bolt 1/4" NC x 3/4" lg + spring washer & flat washer	2	2
104	304-46490	Bolt 3/4" NC x 4 1/2" lg GR8 + nylon locknut	1	1
105	160-25691	Spacer 3/4" i.d. x 1 3/16" o.d. x 3/8" lg	1	1

AUTO-LOAD ROUND BALE HANDLER P-6812 & P-6812M

170-04495



AUTO-LOAD ROUND BALE HANDLER P-6812 & P-6812M (cont'd)

REF.	PART #	DESCRIPTION	QTY	
			P-6812	P-6812M
1	110-27063	Inner arm	1	1
2	120-00124	Outer arm	1	1
3	110-00383	Loading arm support	1	1
4	110-27103	Back plate	2	2
5	319-46491	Plow bolt (dome head) 3/4" NC x 4 1/2" lg + nylon locknut	7	7
6	110-00411	Clevis pin 1 1/4" dia. x 6 3/8" lg	2	2
7	Std.	Cutter pin 1/4" dia. x 2 « lg	3	3
8	150-00271	Pin	1	1
9	Std.	Hitch pin clip 5/32"	10	11
10	110-20563	Jack 12000 lbs (drop leg)	1	1
11	300-34310	Bolt 5/16" NC x 1 1/2" lg + nylon locknut & flat washer (2)	-	-
12	300-32250	Bolt 1/4" NC x 1" lg + nylon locknut	4	4
13	140-00481	Collar 3" lg	15	15
14	140-04801	Collar 4 1/2" lg	-	2
15	Std.	Grease fitting 1/4-28 straight	7	7
16	300-40310	Bolt 1/2" NC x 1 1/2" lg + nylon locknut	4	4
17	30AT20	Cylinder	1	1
18	150-01841	Clevis pin 1" dia. x 3 1/8" lg	7	7
19	Std.	Hairpin cotter	14	14
20	110-00431	Clevis pin 1" dia. x 5 3/8" lg	1	1
21	32254	Interrupteur de fin de course	2	-
22	322-20310	Square head bolt 10-24 x 1 1/2" lg	6	-
23	327-36310	Hexagonal socket set screw 3/8" NC x 1 1/2" lg	2	2
24	190-00071	Loading arm stopper	1	1
25	140-04671	Spacer	as required	
26	110-35441	Tandem assembly	2	2
27	110-35442	Tandem frame	2	2
28	346-34000	Nylon locknut 5/16" NC	15	17
29	150-10291	Axle (welded)	4	4
30	160-00661	Bushing 1 3/4" i.d. x 2" o.d. x 3" lg	4	4
31	36133	Hub H-10000 assembly	4	4
32	110-27111	Clevis 1 3/4" dia. x 22 1/8" lg	2	2
33	302-46310	Bolt 3/4" NF x 1 1/2" lg + locktite	2	2
34	W14C16.1-1.5N	Rim 16.1 x 14-8 bolts	4	4
34	W16C16.1-1.5N	Rim 16.1 x 16-8 bolts	Opt.	Opt.
35	PN-165161	Tire 16.5 x 16.1 - 10 plis	4	4
35	PN-215161	Tire 21.5 x 16.1 - 10 plis	Opt.	Opt.
36	110-00391	Clevis pin 1 1/2" dia. x 6 1/2" lg	2	2
37	Std.	Cotter pin 1/4" dia. x 2 1/2" lg	2	2
38	120-06351	Frame P-6812	1	1
39	120-06263	Front rail (right side)	1	1
40	120-06631	Rear rail (right side)	1	1
41	110-06471	Rear fork	4	4
42	300-46520	Bolt 3/4-NC x 5" + flat washer + nylon locknut	4	4
43	120-06361	Frame for P-6812	1	1
44	120-06381	Left rail	1	1
45	130-00702	Load indicator lever	1	1
46	51435	Yoke 1/2" NF + nut	1	1
47	300-34400	Bolt 5/16" NC x 3" lg + nylon locknut	1	1
48	Std.	Clevis + cotter pin 3/32" dia. x 3/4" lg	1	1
49	336-40000	Nut 1/2" NC	1	1
50	30FT84	Cylinder	1	1
51	300-36250	Bolt 3/8" NC x 1" lg + nylon locknut	4	Opt.
52	300-40325	Bolt 1/2" NC x 1 3/4" lg + nylon locknut	9	9
53	130-57741	Retaining washer	9	9



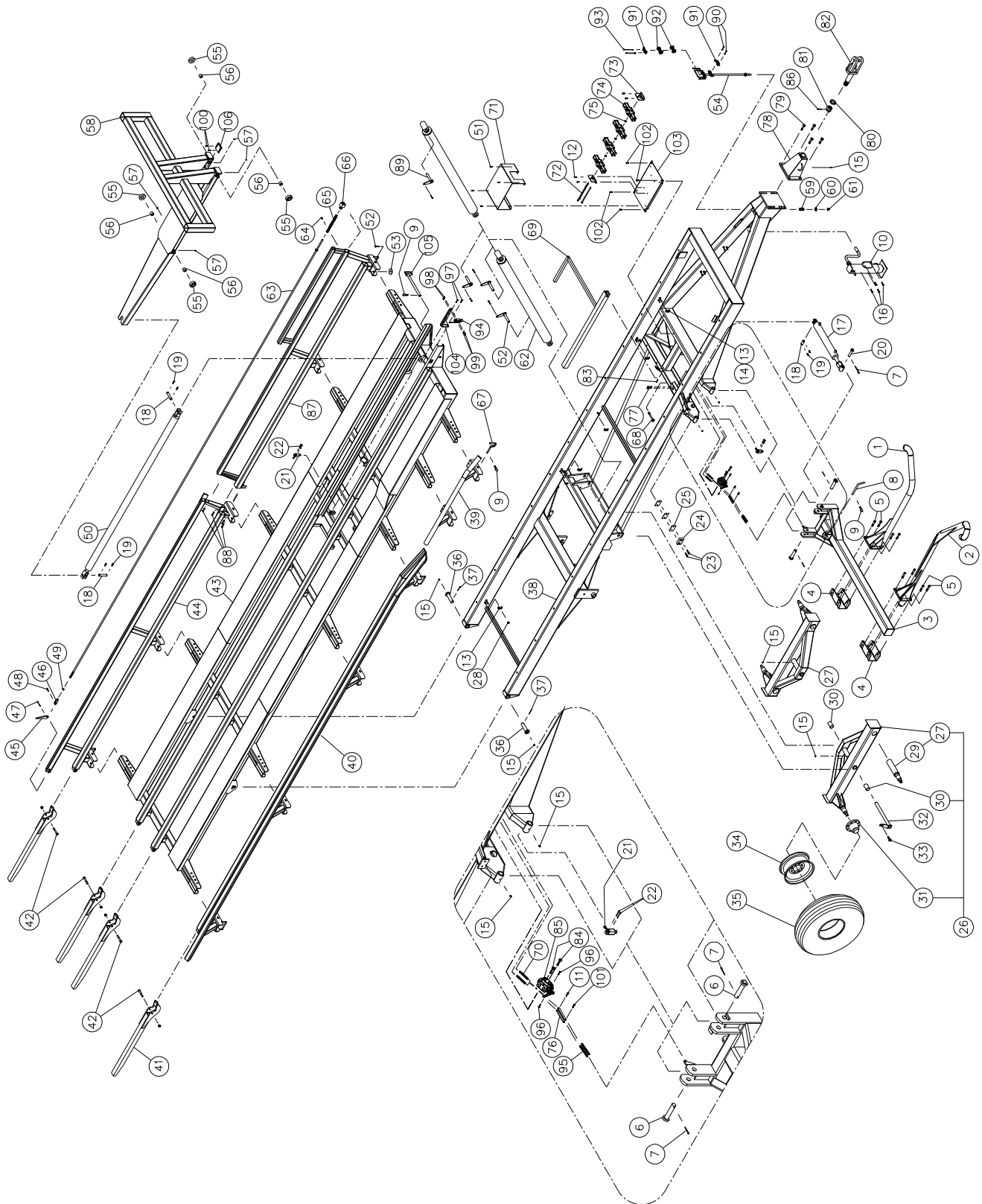
AUTO-LOAD ROUND BALE HANDLER P-6812 & P-6812M (cont'd)

REF.	PART #	DESCRIPTION	QTY	
			P-6812	P-6812M
54	110-36211	Hoses support	1	1
55	130-00591	Pusher wheel	4	4
56	160-00811	Bushing 1 1/4" i.d. x 1 1/2" o.d. x 1 1/4" lg	4	4
57	Std.	Grease fitting 1/8 NPT elbow 90 deg.	4	4
58	120-06282	Pusher	1	1
59	190-10001	Compression spring	1	1
60	376-44000	Flat washer 5/8"	1	1
61	346-44000	Nylon locknut 5/8" NC	1	1
62	35BS35	Cylinder	2	2
63	110-34871	Rod for load indicator	1	1
64	300-34220	Bolt 5/16" NC x 3/4" lg	1	1
65	190-11841	Compression spring 1 3/16" o.d. x 5 1/2" lg	1	1
66	110-00521	Load indicator	1	1
67	150-00281	Pin	9	9
68	300-40310	Bolt 1/2" NC x 1 1/2" lg + nylon locknut	2	2
69	110-40081	Safety prop	1	1
70	Std.	Spring 5/64" wire x 1/2" o.d. x 4 7/8" lg	-	2
71	130-58282	Valve shroud	1	Opt.
72	110-20501	Threaded rod 3/8" NC x 9" lg + 2 nylon locknut	3	-
72	110-20491	Threaded rod 3/8" NC x 11 1/2" lg + 2 nylon locknut for third row option (3)	Opt.	-
73	130-00732	Solenoid valve support	2	-
74	18019	Solenoid valve	3	-
74	18019	Additional solenoid valve for third row option (1)	Opt.	-
75	QR-4021	Quad ring	2	-
75	QR-4021	Additional quad ring for third row option (1)	Opt.	-
76	140-24901	Valve connector	-	2
77	300-34250	Bolt 5/16" NC x 1" lg + lock nut + nylon locknut	-	2
78	120-00141	Hitch assy.	1	1
79	300-46400	Bolt 3/4" NC x 3" lg + nylon locknut	4	4
80	130-21111	Flat washer 1 13/16" i.d. x 3" o.d.	1	1
81	357-62000	Castle nut 1 3/4" -5 NC	1	1
82	110-00491	Swivel hitch	1	1
83	300-36310	Bolt 3/8" NC x 1 1/2" lg + 2 nuts (thin)	1	1
84	300-36400	Bolt 3/8" NC x 3" lg + nylon locknut	-	2
85	190-11911	Two position selector valve 3/4" NPT (see page 50)	-	1
86	Std.	Cotter pin 1/4" x 3 1/2" lg	1	1
87	300-32310	Bolt 1/4" NC x 1 1/2" lg + nylon locknut	2	2
88	140-21201	Collar	2	2
89	110-35801	Collar	1	2
90	300-32430	Bolt 1/4" NC x 3 1/2" lg + nylon locknut	2	-
90	300-32520	Bolt 1/4" NC x 5" lg + nylon locknut	-	2
91	190-02351	Spring 3/4" diameter x 4 1/2" lg	-	2
92	300-32250	Bolt 1/4" NC x 1" lg + nylon locknut & flat washer (2)	-	2
93	130-91581	Stopper support	1	-
94	36169	Stopper with plastic rod	1	-
95	322-20340	Round head square drive machine screws 10 x24 2" lg	2	-
96	360-10000	Wings nut 10-24	2	1
97	300-36220	Bolt 3/8" NC x 3/4" lg + spring nut	2	1
98	300-34250	Bolt 5/16" NC x 1" lg + nylon locknut	-	1
99	300-36325	Bolt 3/8" x 1 3/4" lg + nylon locknut & flat washer	4	-
100	130-58132	Plate for electric valve	1	-
101	110-48121	Travel limit pin for 48" bales	-	1
102	130-91571	Stopper	-	1
103	300-32220	Bolt 1/4" NC x 3/4" lg + spring washer & flat washer	2	2
104	304-46490	Bolt 3/4" NC x 4 1/2" lg GR8 + nylon locknut	1	1
105	160-25691	Spacer 3/4" i.d. x 1 3/16" o.d. x 3/8" lg	1	1



AUTO-LOAD ROUND BALE HANDLER P-6816 & P-6816M

170-04565



AUTO-LOAD ROUND BALE HANDLER P-6816 & P-6816M (cont'd)

REF.	PART #	DESCRIPTION	QTY	
			P-6816	P-6816M
1	110-27063	Inner arm	1	1
2	120-00124	Outer arm	1	1
3	110-00383	Loading arm support	1	1
4	110-27103	Back plate	2	2
5	319-46491	Plow bolt (dome head) 3/4" NC x 4 1/2" lg + nylon locknut	7	7
6	110-00411	Clevis pin 1 1/4" dia. x 6 3/8" lg	2	2
7	Std.	Cotter pin 1/4" dia. x 2 « lg	3	3
8	150-00271	Pin	1	1
9	Std.	Hitch pin clip 5/32"	12	13
10	110-35291	Jack 12000 lbs (drop leg)	1	1
11	300-34310	Bolt 5/16" NC x 1 1/2" lg + nylon locknut & flat washer (2)	-	1
12	300-32250	Bolt 1/4" NC x 1" lg + nylon locknut	4	-
13	140-00481	Collar 3" lg	19	19
14	140-04801	Collar 4 1/2" lg.....	2	4
15	Std.	Grease fitting 1/4-28 droit.....	7	7
16	300-40310	Bolt 1/2" NC x 1 1/2" lg + nylon locknut	4	4
17	30AT20	Cylinder	1	1
18	150-01841	Clevis pin 1" dia. x 3 1/8" lg	3	3
19	Std.	Hairpin cotter	6	6
20	110-00431	Clevis pin 1" dia. x 5 3/8" lg	1	1
21	32254	Loading arm stopper	2	-
22	322-20310	Square head bolt 10-24 x 1 1/2" lg.....	6	-
23	327-36310	Hexagonal socket set screw 3/8" NC x 1 1/2" lg	2	2
24	190-00071	Loading arm stopper	1	1
25	140-04671	Spacer	as required	
26	110-35441	Tandem assembly	2	2
27	110-35443	Tandem frame	2	2
28	346-34000	Nylon locknut 5/16" NC.....	19	21
29	150-10291	Axle (welded)	4	4
30	160-00661	Bushing 1 3/4" i.d. x 2" o.d. x 3" lg.....	4	4
31	36133	Hub H-10000 assembly	4	4
32	110-27111	Clevis 1 3/4" dia. x 22 1/8" lg	2	2
33	302-46310	Bolt 3/4" NF x 1 1/2" lg + locktite	2	2
34	W16C16.1-1.5N	Rim 16.1 x 16-8 bolts	4	4
35	PN-215161	Tire 21.5 x 16.1 - 10 plys.....	4	4
35	PN-215161FI	Tire 21.5 x 16.1 - 10 plys.....	opt.	opt.
36	110-00391	Clevis pin 1 1/2" dia. x 6 1/2" lg	2	2
37	Std.	Cotter pin 1/4" dia. x 2 1/2" lg	2	2
38	120-06421	Frame P-6816	1	1
39	120-06263	Front rail (right side)	1	1
40	120-06492	Rear rail (right side)	1	1
41	110-06471	Rear fork	4	4
42	300-46520	Bolt 3/4-NC x 5" + flat washer + nylon locknut	4	4
43	120-06431	Platform for P-6816	1	1
44	120-06471	Rear rail (left side)	1	1
45	130-00702	Load indicator lever	1	1
46	51435	Yoke 1/2" NF + nut.....	1	1
47	300-34400	Bolt 5/16" NC x 3" lg + nylon locknut	1	1
48	Std.	Clevis + cotter pin 3/32" dia. x 3/4" lg	1	1
49	336-40000	Nut 1/2" NC	1	1
50	30FT84	Cylinder	1	1
51	300-36250	Bolt 3/8" NC x 1" lg + nylon locknut	4	opt.
52	300-40325	Bolt 1/2" NC x 1 3/4" lg + nylon locknut	15	15
53	130-57741	Retaining washer	11	11
54	110-36211	Hoses support	1	1
55	130-00591	Pusher wheel.....	4	4
56	160-00811	Bushing 1 1/4" i.d. x 1 1/2" o.d. x 1 1/4" lg	4	4



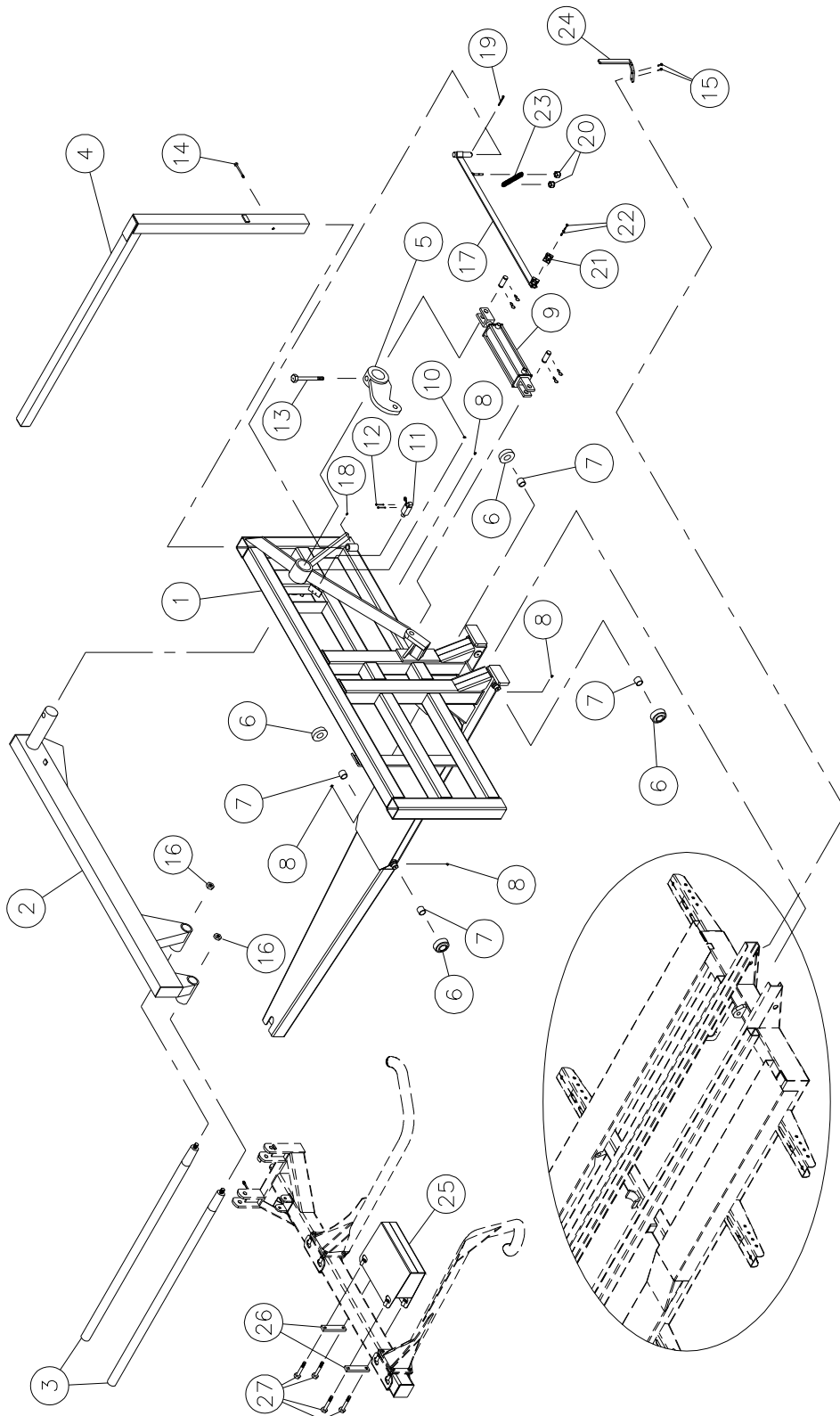
AUTO-LOAD ROUND BALE HANDLER P-6816 & P-6816M (cont'd)

REF.	PART #	DESCRIPTION	QTY	
			P-6816	P-6816M
57	Std.	Grease fitting 1/8 NPT elbow 90 deg.	4	4
58	120-06282	Pusher	1	1
59	190-10001	Compression spring	1	1
60	376-44000	Flat washer 5/8"	1	1
61	346-44000	Nylon locknut 5/8" NC	1	1
62	40AG60	Cylinder	2	2
63	110-35391	Rod for load indicator	1	1
64	300-34220	Bolt 5/16" NC x 3/4" lg	1	1
65	190-11841	Compression spring 1 3/16" o.d. x 5 1/2" lg	1	1
66	110-00521	Load indicator	1	1
67	150-00281	Pin	11	11
68	300-46490	Bolt 3/4" NC x 4 1/2" lg + nylon locknut	1	1
69	110-35221	Safety prop	1	1
70	Std.	Spring 5/64" wire x 1/2" o.d. x 4 7/8" lg	-	2
71	130-58282	Valve shroud	1	opt.
72	110-20501	Threaded rod 3/8" NC x 9" lg + 2 nylon locknut	3	-
72	110-20491	Threaded rod 3/8" NC x 11 1/2" lg + 2 nylon locknut		
		for third row option (3)	opt.	-
73	130-00732	Solenoid valve support	2	-
74	18019	Solenoid valve	3	-
74	18019	Additional solenoid valve for third row option (1)	opt.	-
75	QR-4021	Quad ring	2	-
75	QR-4021	Additional quad ring for third row option (1)	opt.	-
76	140-24901	Valve connector	-	2
77	300-34250	Bolt 5/16" NC x 1" lg + lock nut + nylon locknut	-	2
78	120-00141	Hitch assy.	1	1
79	300-46400	Bolt 3/4" NC x 3" lg + nylon locknut	4	4
80	130-21111	Flat washer 1 13/16" i.d. x 3" o.d.	1	1
81	357-62000	Castle nut 1 3/4" -5 NC	1	1
82	110-00491	Swivel hitch	1	1
83	300-36280	Bolt 3/8" NC x 1 1/4" lg + 2 thin nuts	1	1
84	300-36400	Bolt 3/8" NC x 3" lg + nylon locknut	-	2
85	190-11911	Two position selector valve 3/4" NPT (see page 50)	-	1
86	Std.	Cotter pin 1/4" x 3 1/2" lg	1	1
87	120-06481	Front rail (left side)	1	1
88	300-38250	Bolt 7/16" NC x 1" lg + nylon locknut	4	4
89	110-35401	Clevis pin 1 1/4" x 7 1/16" lg	4	4
90	300-32310	Bolt 1/4" NC x 1 1/2" lg + nylon locknut	2	2
91	140-21201	Collar	2	2
92	110-35801	Collar	1	2
93	300-32430	Bolt 1/4" NC x 3 1/2" lg + nylon locknut	2	-
93	300-32520	Bolt 1/4" NC x 5" lg + nylon locknut	-	2
94	36169	Stopper with plastic rod	1	-
95	190-02351	Spring 3/4" diameter x 4 1/2" lg	-	2
96	300-32250	Bolt 1/4" NC x 1" lg + nylon locknut & flat washer (2)	-	2
97	300-36220	Bolt 3/8" NC x 3/4" lg + spring washer	2	-
98	360-10000	Wings nut 10-24	2	-
99	322-20340	Round head square drive machine screws 10 x24 2" lg	2	-
100	300-32220	Bolt 1/4" NC x 3/4" lg + spring washer & flat washer	2	2
101	300-34250	Bolt 5/16" NC x 1" lg + nylon locknut	-	1
102	300-36325	Bolt 3/8" x 1 3/4" lg + nylon locknut & flat washer	4	-
103	130-58132	Plate for electric valve	1	-
104	130-91581	Stopper support	1	-
105	110-48121	Travel limit pin for 48" bales	-	1
106	130-91571	Stopper	-	1
107	304-46490	Bolt 3/4" NC x 4 1/2" lg GR8 + nylon locknut	1	1
108	160-25691	Spacer 3/4" i.d. x 1 3/16" o.d. x 3/8" lg	1	1



OPTION 3^e ROW

110-36502

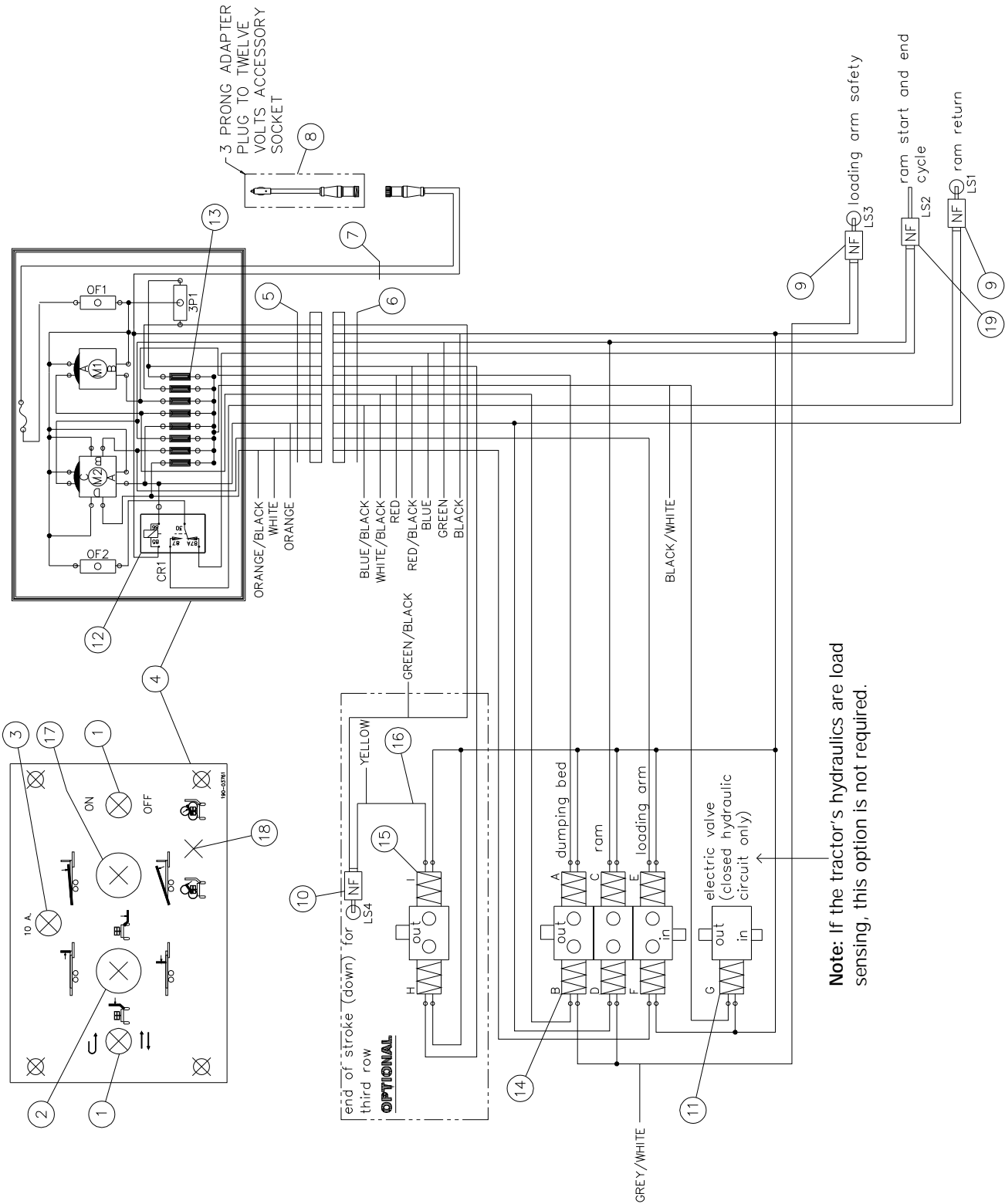


OPTION 3^e ROW

REF.	PART #	DESCRIPTION	QTY
1	120-06592	Pusher option third row of bales	1
2	110-03831	Loading arm for third row of bales	1
3	150-12151	Forks for third row of bales (2)	2
4	110-03851	Third bale guard rail	1
5	110-04761	Third row lever	1
6	130-00591	Pusher wheel	4
7	160-00811	Bushing 1 1/4" i.d. x 1 1/2" o.d. x 1 1/4" lg	4
8	Std.	Grease fitting 1/8" NPT 90°	4
9	30TR12	Cylinder 30TR12r	1
10	Std.	Grease fittingr 1/4-28 elbow 90°	2
11	32254	Limit switch (1)	opt.
12	322-20310	Square headed 10-24 NC x 1 1/2" lg (2)	opt.
13	306-50640	Bolt 1" NC x 7" lg + nylon locknut	1
14	300-38490	Bolt 7/16" NC x 4 1/2" lg + nylon locknut	1
15	300-32250	Bolt 1/4" NC x 1" lg + nylon locknut + flat washer	2
16	338-51000	Nut 3/4" NF	2
17	110-36532	Hoses support	1
18	300-32250	Bolt 1/4" x 1" lg + nylon locknut + flat washer	2
19	Std.	Cutter pin 3/16" x 2"	1
20	346-36000	Nylon locknut 3/8"	2
21	140-13071	Hose fastener	1
22	300-32250	Bolt 1/4" NC x 1" lg + nylon locknut	2
23	190-08211	Extension spring 7/8" o.d. x 5 1/2" lg	1
24	130-91591	Hoses stopper	1
25	110-40571	Stopper for 4' bale on manual auto-load	1
26	140-23841	Back plate for stopper on manual auto-load	2
27	300-46490	Bolt 3/4" NC x 4 1/2" lg + nylon	4

ELECTRIC SYSTEM P-6810 P-6812 & P-6816

170-02253R1

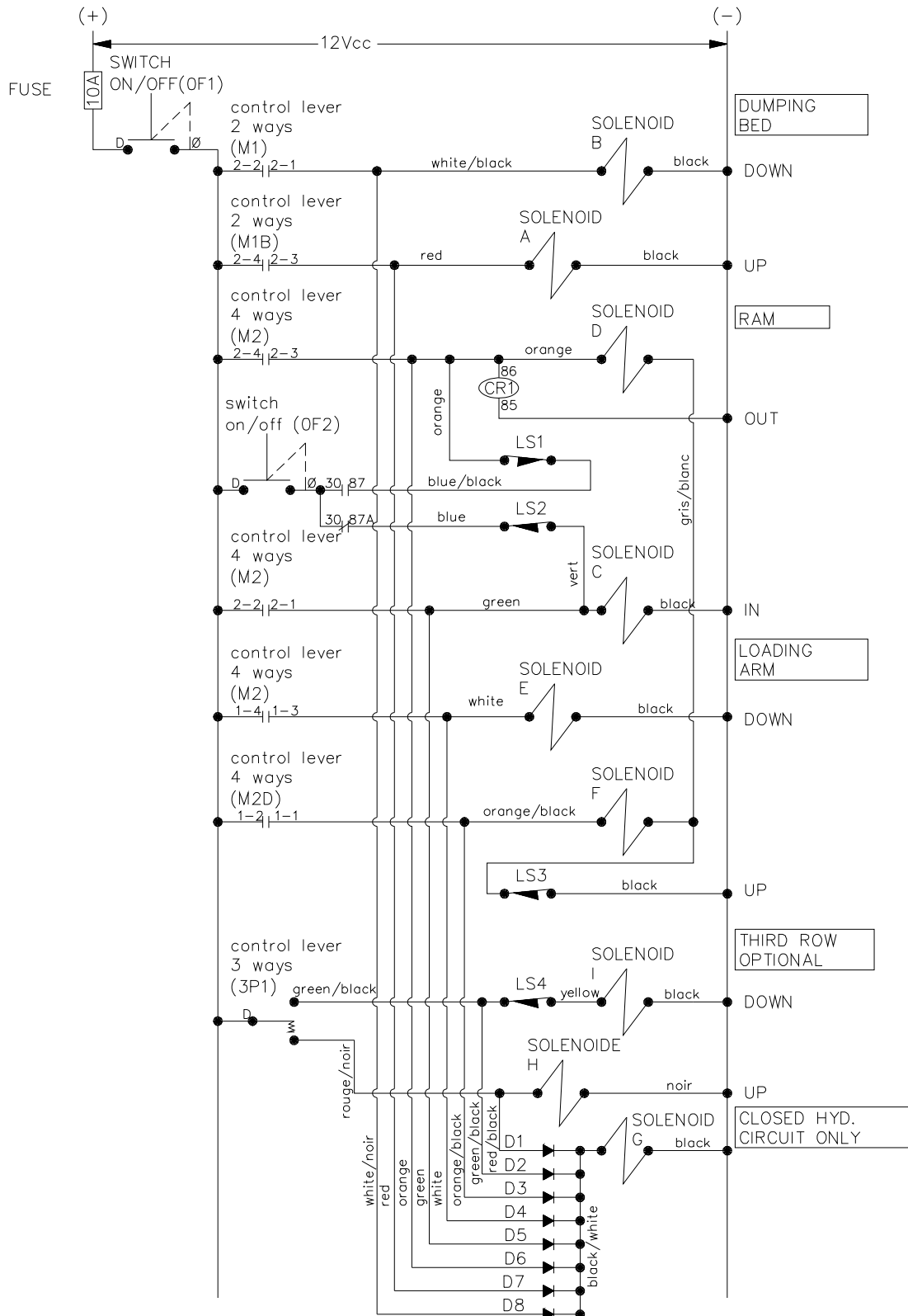


ELECTRIC SYSTEM P-6810 P-6812 & P-6816 (cont'd)

REF.	PART #	DESCRIPTION	QTY
1	36100	Switch on-off	2
2	36101	Control lever 4 ways	1
3	18005	Fuse holder 10A	1
4	36102	Control box	1
5	36142	Harness 12 wires 16GA (12'6" lg)	1
6	36143	Harness 12 wires 16GA (15'6" lg)	1
7	36144	Harness 12 wires 16GA (5'6" lg) (black: 21'6", orange and blue/black: 49', green and blue: 58').	1
8	36145	12V accessories socket	1
9	18017	Limit switch	2
10	18017	Limit switch	opt.
11	36112	Two way valve (closed circuit)	opt.
12	36108	5 connector relay	1
13	36109	Single way diode	8
14	18019	Solenoid valve	3
15	18019	Solenoid valve	opt.
16	190-10121	Harness 16GA yellow (415" lg for P-6810)	opt.
16	190-10131	Harness 16GA yellow (492" lg for P-6812)	opt.
16	190-10141	Harness 16GA yellow (684" lg for P-6816)	opt.
17	36113	Control lever 2 ways	1
18	36146	Switch 3 way	opt.
19	36169	Stopper with plastic rod	1

ELECTRIC SCHEMA "LADDER" DIAGRAM

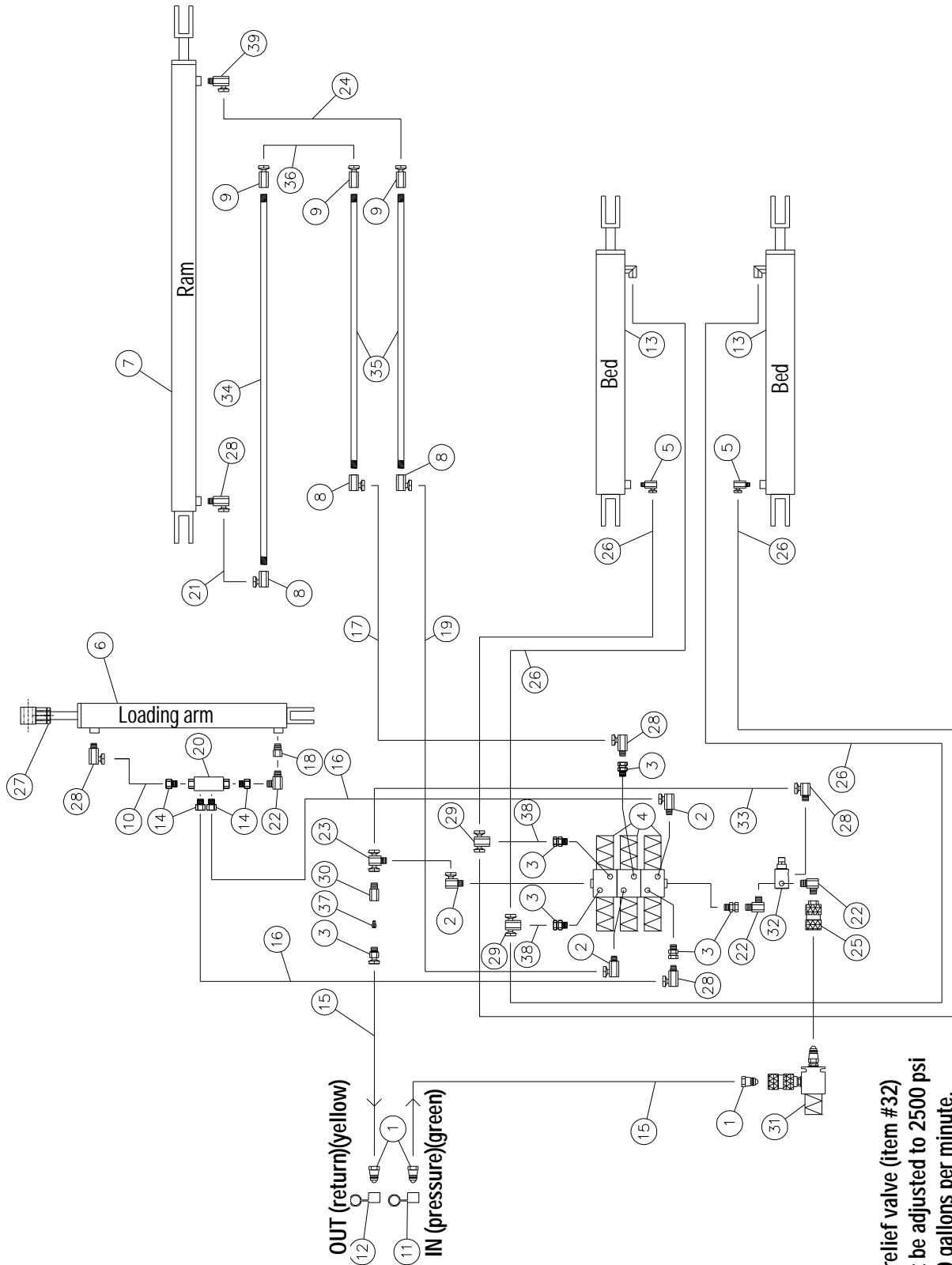
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HYDRAULIC SYSTEM P-6810

170-04593R1



The relief valve (item #32) must be adjusted to 2500 psi at 20 gallons per minute.



HYDRAULIC SYSTEM P-6810

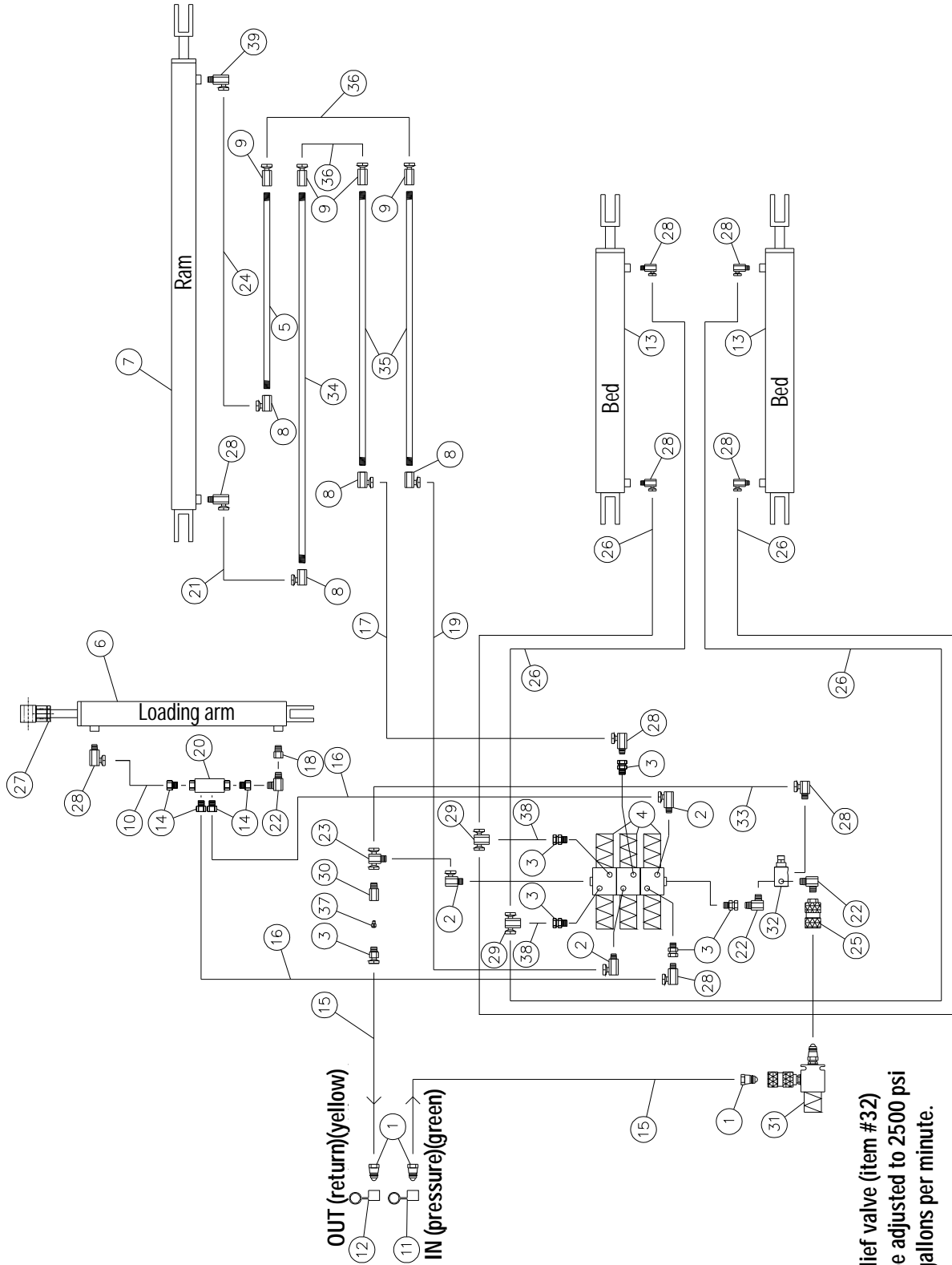
REF.	PART #	DESCRIPTION	QTY
1	S71-4	Quick coupler 1/2" male	3
2	9515x8x8	Fitting 3/4" ORB male x 1/2" NPSM female 90° swivel	3
3	9315x8x8	Fitting 3/4" ORB male x 1/2" NPSM female straight swivel	6
4	18019	Solenoid valve	3
5	9405x6x6	Fitting 3/8" NPSM x 3/8" NPTF 90° swivel	2
6	30AT20	Arm cylinder	1
7	30FT84	Ram cylinder	1
8	9455x8x6	Fitting 3/8" NPTF x 1/2" NPTF 90° swivel	3
9	9255x8x6	Fitting 3/8" NPTF x 1/2" NPTF straight swivel	3
10	190-06131	Hose 1/2" x 9 1/2" lg + 2 fittings 8U108	1
11	36140	Female cap (green).....	1
12	36139	Female cap (yellow)	1
13	30BC28	Dumping cylinder	2
14	3269x10x8	Fitting 7/8" ORB male x 1/2" NPTF female	4
15	190-09561	Hose 1/2" x 204" lg + 2 fittings 8U108	2
16	190-09621	Hose 1/2" x 30" lg + 2 fittings 8U108	2
17	190-10171	Hose 1/2" x 17" lg + 2 fittings 8U108	1
18	190-06121	Restrictor 1/8"	1
19	190-10181	Hose 1/2" x 16" lg + 2 fittings 8U108	1
20	36137	Stop valve	1
21	190-09611	Hose 1/2" x 27" lg + 2 fittings 8U108	1
22	3529x8x8	Fitting 1/2" NPTF male x 1/2" NPTF male 90°	3
23	9457x8x8	Fitting en «T» 1/2" NPSM female swivel x 1/2" NPTF male.....	1
24	190-09651	Hose 1/2" x 98" lg + 2 fittings 8U108	1
25	S75-4	Quick coupler 1/2" female	1
26	190-10231	Hose 3/8" x 50" lg + 2 fittings 6U106	4
27	190-00241	Locknut 1 1/2" - 12 x 1/2" lg.....	1
28	9405x8x8	Fitting 1/2" NPSM femelle tournant x 1/2" NPTF mâle 90°	5
29	9456x6x6	"T" fitting 3/8" NPSM female swivel x 3/8" NPTF female	2
30	6621	Fitting 08 ORB female x 1/2" NPTF male	1
31	110-00651	Valve for closed center hydraulic system	opt.
32	RL50-1500	Relief valve	1
33	190-03671	Hose 1/2" x 22" lg + 2 fittings 8U108	1
34	160-22511	Hydraulic line 3/8" x 142" lg	1
35	160-23281	Hydraulic line 3/8" x 79" lg.....	2
36	190-00132	Hose 1/2" x 18" lg + 2 fittings 8U108	1
37	190-11051	Restrictor (hole 1/32")	1
38	190-11081	Hose 3/8" x 18" lg + fitting 6U106 + fitting 6U108	2
39	9405x8x6	Fitting 1/2" NPSM female swivel x 3/8" NPTF male 90°	1

HYDRAULIC SYSTEM P-6810M & THIRD ROW OPTION

REF.	PART #	DESCRIPTION	QTY	
			P-6810M	OPTION
1	S71-4	Quick coupler 1/2" male	6	2
2	190-10231	Hose 3/8" x 50" lg + 2 fittings 6U106	4	-
3	190-04531	Hose 1/2" x 232" lg + 2 fittings 8U108	3	-
4	190-10201	Hose 1/2" x 196" lg + 2 fittings 8U108	1	2
5	9405x8x8	Fitting 1/2" NPSM female swivel x 1/2" NPTF male 90°	5	-
6	30AT20	Arm cylinder	1	-
7	30FT84	Ram cylinder	1	-
8	9455x8x6	Fitting 1/2" NPSM female swivel x 3/8" NPTF female 90°	2	-
9	9255x8x6	Fitting 1/2" NPSM female swivel x 3/8" NPTF female straight	4	6
10	160-22511	Hydraulic line 3/8" x 142" lg	1	-
11	160-23091	Ligne hydraulique 3/8" x 156 3/8" lg	-	2
12	160-23281	Hydraulic line 3/8" x 79" lg	2	2
13	30BC28	Dumping cylinder	2	-
14	9455x6x6	Fitting 3/8" NPSM female swivel x 3/8" NPTF female	-	2
15	190-10191	Hose 1/2" x 46" lg + 2 fittings 8U108	1	-
16	190-11911	Two position selector valve 3/4" NPT (see p. 51)	1	-
17	190-04561	Hose 1/2" x 212" lg + 2 fittings 8U108	1	-
18	190-09611	Hose 1/2" x 27" lg + 2 fittings 8U108	1	-
19	190-09651	Hose 1/2" x 98" lg + 2 fittings 8U108	1	-
20	190-00132	Hose 1/2" x 18" lg + 2 fittings 8U108	1	2
21	190-03721	Lock nut 1 1/2" -12 x 1/2" lg	1	-
22	190-10211	Hose 1/2" x 40" lg + 1 fitting 8U108 + 1 fitting 8U106	1	-
23	3159x12	Plug 3/4" NPT male	2	-
24	9405x08x12	Fitting 1/2" NPSM female swivel x 3/4" NPTF male 90°	2	-
25	36139	Female cap (yellow)	2	-
26	36140	Female cap (green)	2	-
27	36138	Female cap (red)	2	-
28	9456x6x6	Fitting en «T» 3/8" NPSM female swivel x 3/8" NPTF female	2	-
29	9405x6x6	Fitting 3/8" NPSM female swivel x 3/8" NPTF male 90°	2	-
30	30TR12	Cylinder for 3 rd row option	-	1
31	190-10221	Hose 1/2" x 232" lg + 1 fitting 8U108 + 1 fitting 8U106	1	-
32	36141	Female cap (blue)	-	2
33	190-10012	Hose 3/8" x 87" lg + 1 fitting 6U106 + 1 fitting 6U108	-	2
34	3529x8x8	Fitting 1/2" NPTF male x 1/2" NPTF male 90°	-	2
35	9456x8x8	"T" fitting 1/2" NPSM female swivel x 1/2" NPTF female	-	2
36	190-11112	Hose 3/8" x 7" lg + 1 fittings 6U108 + 1 fitting 6UP08	-	1
37	6618	Check valve (without hole)	-	1
38	6621	Fitting 08 ORB female x 1/2" NPTF male	-	1
39	3109x12x08	Reducer fitting 3/4" NPTF x 1/2" NPTF female	2	-
40	9405x8x6	Fitting 1/2" NPSM female swivel x 3/8" NPTF male 90°	1	-
41	9315x8x8	Fitting 08 ORB male x 1/2" NPSM female swivel	-	1

HYDRAULIC SYSTEM P-6812

170-04613R1



The relief valve (item #32) must be adjusted to 2500 psi at 20 gallons per minute.

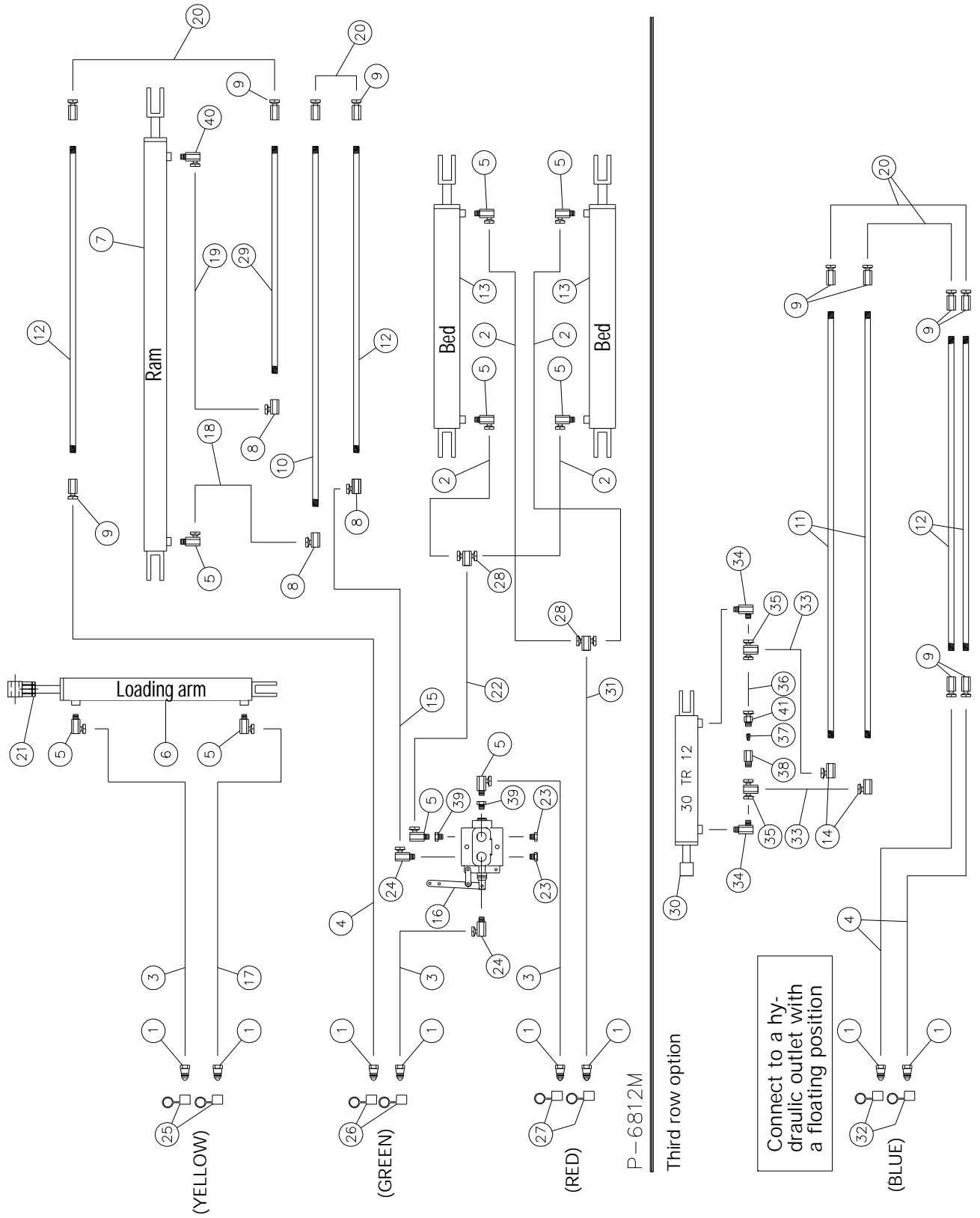


HYDRAULIC SYSTEM P-6812

REF.	PART #	DESCRIPTION	QTY
1	S71-4	Quick coupler 1/2" male	3
2	9515x8x8	Fitting 3/4" ORB male x 1/2" NPSM female swivel 90°	3
3	9315x8x8	Fitting 3/4" ORB male x 1/2" NPSM female swivel droit	6
4	18019	Solenoid valve	3
5	160-22491	Ligne hydraulique 3/8" x 70 1/4" lg	1
6	30AT20	Arm cylinder	1
7	30FT84	Ram cylinder	1
8	9455x8x6	Fitting 1/2" NPSM female swivel x 3/8" NPTF female 90°	4
9	9255x8x6	Fitting 1/2" NPSM female swivel x 3/8" NPTF female droit	4
10	190-06131	Hose 1/2" x 9 1/2" lg + 2 fittings 8U108	1
11	36140	Female cap (green)	1
12	36139	Female cap (yellow)	1
13	35BS35	Dumping cylinder	2
14	3269x10x8	Fitting 7/8" ORB male x 1/2" NPTF female	4
15	190-09561	Hose 1/2" x 204" lg + 2 fittings 8U108	2
16	190-09621	Hose 1/2" x 30" lg + 2 fittings 8U108	2
17	190-10171	Hose 1/2" x 17" lg + 2 fittings 8U108	1
18	190-06121	Restrictor 1/8"	1
19	190-10181	Hose 1/2" x 16" lg + 2 fittings 8U108	1
20	36137	Stop valve	1
21	190-09611	Hose 1/2" x 27" lg + 2 fittings 8U108	1
22	3529x8x8	Fitting 1/2" NPTF male x 1/2" NPTF male 90°	3
23	9457x8x8	Fitting en «T» 1/2" NPSM female swivel x 1/2" NPTF male	1
24	190-09721	Hose 1/2" x 45 1/2" lg + 2 fittings 8U108	1
25	S75-4	Fitting rapide 1/2" female	1
26	190-10241	Hose 3/8" x 99" lg + 1 fitting 6U108 & 1 fitting 6U106	4
27	190-00241	Locknut 1 1/2" - 12 x 1/2" lg	1
28	9405x8x8	Fitting 1/2" NPSM female swivel x 1/2" NPTF male 90°	9
29	9456x6x6	"T" fitting 3/8" NPSM female swivel x 3/8" NPTF female	2
30	6621	Fitting 08 ORB female x 1/2" NPTF male	1
31	110-00651	Valve for closed center hydraulic system	opt.
32	RL50-1500	Relief valve	1
33	190-03671	Hose 1/2" x 22" lg + 2 fittings 8U108	1
34	160-22111	Hydraulic line 3/8" x 180 5/8" lg	1
35	160-23291	Hydraulic line 3/8" x 117 3/8" lg	2
36	190-00132	Hose 1/2" x 18" lg + 2 fittings 8U108	2
37	190-11051	Restrictor (hole 1/32")	1
38	190-11081	Hose 3/8" x 18" lg + 1 fitting 6U106 + fitting 6U108	2
39	9405x8x6	Fitting 1/2" NPSM female swivel x 3/8" NPTF male 90°	1

HYDRAULIC SYSTEM P-6812M & THIRD ROW OPTION

170-04625R1



P-6812M

Third row option

Connect to a hydraulic outlet with a floating position

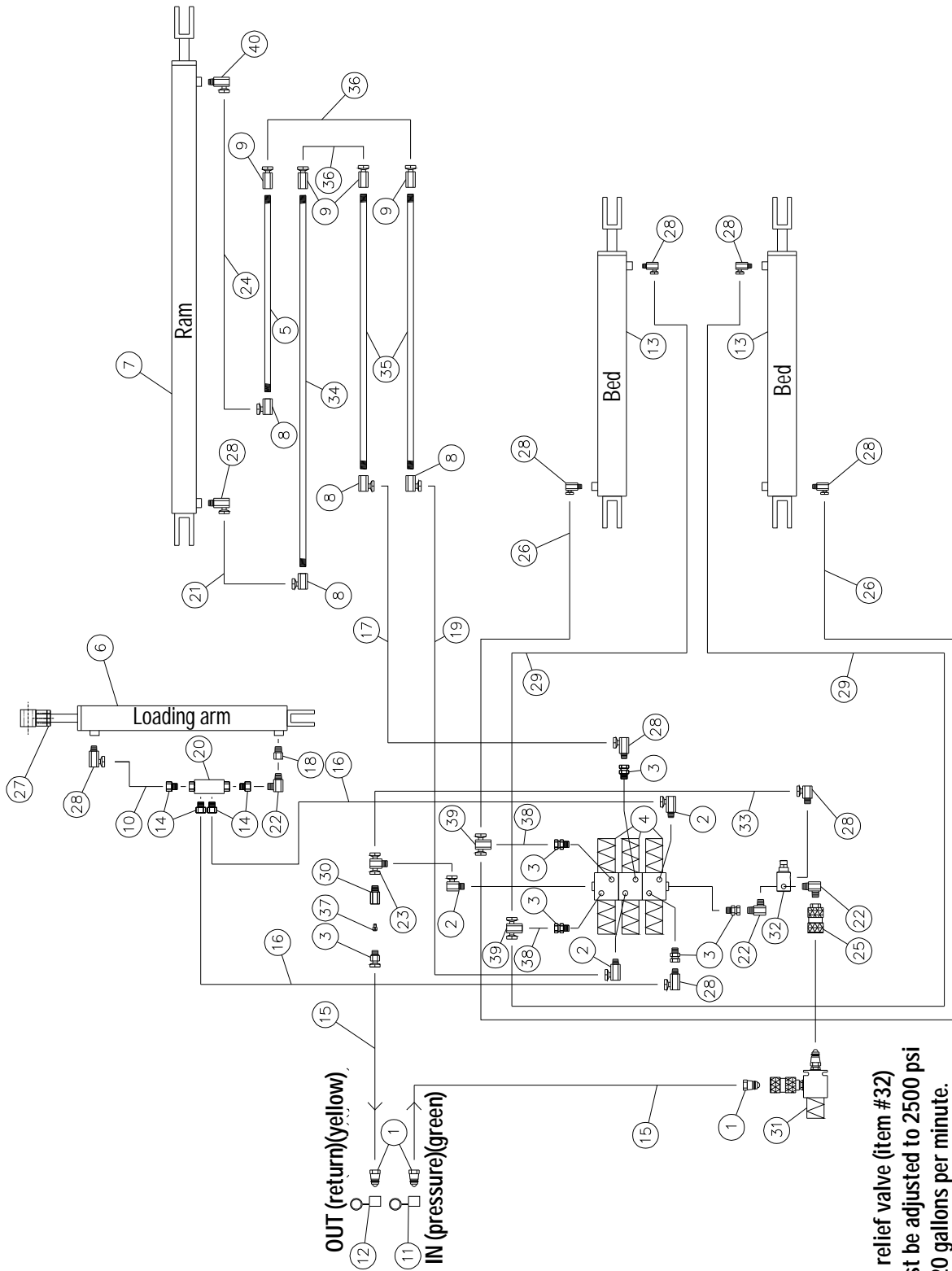


HYDRAULIC SYSTEM P-6812M & THIRD ROW OPTION (cont'd)

REF.	PART #	DESCRIPTION	QTY	
			P-6812M	OPTION
1	S71-4	Quick coupler 1/2" male	6	2
2	190-10241	Hose 3/8" x 99" lg + 1 fitting 6U106 + 1 fitting 6U108	4	-
3	190-04531	Hose 1/2" x 232" lg + 2 fittings 8U108	3	-
4	190-10201	Hose 1/2" x 196" lg + 2 fittings 8U108	1	2
5	9405x8x8	Fitting 1/2" NPSM female swivel x 1/2" NPTF male 90°	10	-
6	30AT20	Arm cylinder	1	-
7	30FT84	Ram cylinder	1	-
8	9455x8x6	Fitting 1/2" NPSM female swivel x 3/8" NPTF female 90°	3	-
9	9255x8x6	Fitting 1/2" NPSM female swivel x 3/8" NPTF female droit	5	6
10	160-22111	Hydraulic line 3/8" x 180 5/8" lg	1	-
11	160-23081	Hydraulic line 3/8" x 195" lg	-	2
12	160-23291	Hydraulic line 3/8" x 117 3/8" lg	2	2
13	35BS35	Dumping cylinder	2	-
14	9455x6x6	Fitting 3/8" NPSM female swivel x 3/8" NPTF female	-	2
15	190-10191	Hose 1/2" x 46" lg + 2 fittings 8U108	1	-
16	190-11911	Two position selector valve 3/4" NPT (see p. 51)	1	-
17	190-04561	Hose 1/2" x 212" lg + 2 fittings 8U108	1	-
18	190-09611	Hose 1/2" x 27" lg + 2 fittings 8U108	1	-
19	190-09721	Hose 1/2" x 45 1/2" lg + 2 fittings 8U108	1	-
20	190-00132	Hose 1/2" x 18" lg + 2 fittings 8U108	2	2
21	190-03721	Lock nut 1 1/2" -12 x 1/2" lg	1	-
22	190-10211	Hose 1/2" x 40" lg + 1 fitting 8U108 + 1 fitting 8U106	1	-
23	3159x12	Plug 3/4" NPT male	2	-
24	9405x08x12	Fitting 1/2" NPSM female swivel x 3/4" NPTF male 90°	2	-
25	36139	Female cap (yellow)	2	-
26	36140	Female cap (green)	2	-
27	36138	Female cap (red)	2	-
28	9456x6x6	"T" fitting 3/8" NPSM female swivel x 3/8" NPTF female	2	-
29	160-22491	Hydraulic line 3/8" x 70 1/4" lg	1	-
30	30TR12	Cylinder for 3 rd row option	-	1
31	190-10221	Hose 1/2" x 232" lg + 1 fitting 8U108 + 1 fitting 8U106	1	-
32	36141	Female cap (blue)	-	2
33	190-10012	Hose 3/8" x 87" lg + 1 fitting 6U106 + 1 fitting 6U108	-	2
34	3529x8x8	Fitting 1/2" NPTF mâle x 1/2" NPTF mâle 90°	-	2
35	9456x8x8	"T" fitting 1/2" NPSM female swivel x 1/2" NPTF female	-	2
36	190-11112	Hose 3/8" x 7" lg + 1 fitting 6U108 + 1 fitting 6UPO8	-	1
37	6618	Check valve (without hole)	-	1
38	6621	Fitting 08 ORB female x 1/2" NPTF male	-	1
39	3109x12x08	Reducer fitting 3/4" NPTF x 1/2" NPTF female	2	-
40	9405x8x6	Fitting 1/2" NPSM female swivel x 3/8" NPTF male 90°	1	-
41	9315x8x8	Fitting 08 ORB male x 1/2" NPSM female swivel	-	1

HYDRAULIC SYSTEM P-6816

170-04633R1



The relief valve (item #32) must be adjusted to 2500 psi at 20 gallons per minute.



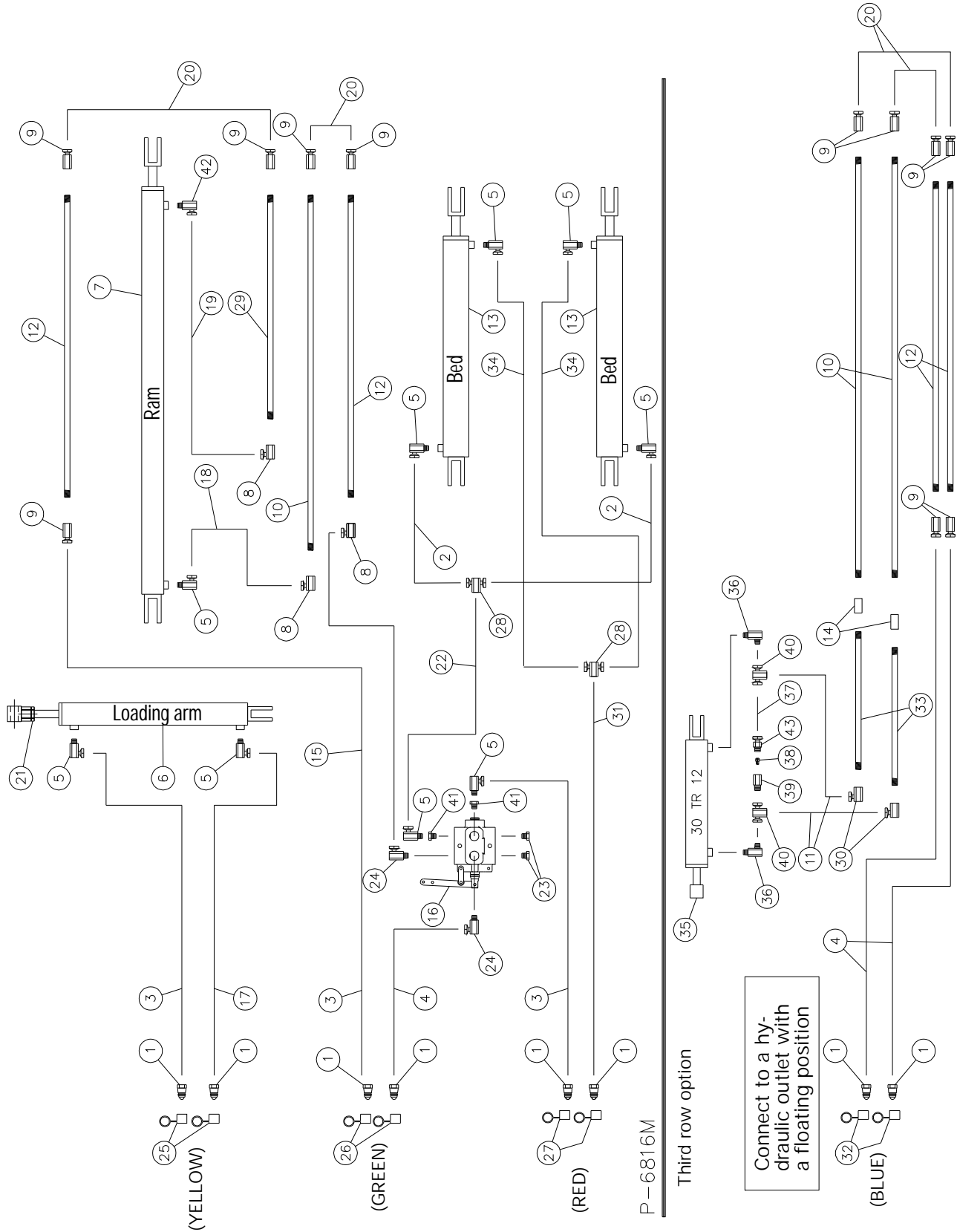
HYDRAULIC SYSTEM P-6816

REF.	PART #	DESCRIPTION	QTY
1	S71-4	Fitting rapide 1/2" male	3
2	9515x8x8	Fitting 3/4" ORB male x 1/2" NPSM female swivel 90°	3
3	9315x8x8	Fitting 3/4" ORB male x 1/2" NPSM female swivel straight	6
4	18019	Solenoid valve	3
5	160-22551	Hydraulic line 3/8" x 183" lg	1
6	30AT20	Arm cylinder	1
7	30FT84	Ram cylinder	1
8	9455x8x6	Fitting 1/2" NPSM female swivel x 3/8" NPTF female 90°	4
9	9255x8x6	Fitting 1/2" NPSM female swivel x 3/8" NPTF female straight	4
10	190-06131	Hose 1/2" x 9 1/2" lg + 2 fittings 8U108	1
11	36140	Female cap (green).....	1
12	36139	Female cap (yellow)	1
13	40AG60	Dumping cylinder	2
14	3269x10x8	Fitting 7/8"ORB male x 1/2" NPTF female	4
15	190-09561	Hose 1/2" x 204" lg + 2 fittings 8U108	2
16	190-09621	Hose 1/2" x 30" lg + 2 fittings 8U108	2
17	190-10171	Hose 1/2" x 17" lg + 2 fittings 8U108	1
18	190-06121	Restrictor 1/8"	1
19	190-10181	Hose 1/2" x 16" lg + 2 fittings 8U108	1
20	36137	Stop valve	1
21	190-09821	Hose 1/2" x 52" lg + 2 fittings 8U108	1
22	3529x8x8	Fitting 1/2" NPTF male x 1/2" NPTF male 90°	3
23	9457x8x8	Fitting en «T» 1/2" NPSM female swivel x 1/2" NPTF male.....	1
24	190-09811	Hose 1/2" x 30" lg + 2 fittings 8U108	1
25	S75-4	Fitting rapide 1/2" female	1
26	190-10251	Hose 3/8" x 162" lg + 1 fitting 6U106 + 1 fitting 6U108	2
27	190-00241	Locknut 1 1/2" - 12 x 1/2" lg.....	1
28	9405x8x8	Fitting 1/2" NPSM female swivel x 1/2" NPTF male 90°	9
29	190-11061	Hose 3/8" x 147" lg + 1 fitting 6U106 + 1 fitting 6U108	2
30	6621	Fitting 08 ORB female x 1/2" NPTF male	1
31	110-00651	Valve for closed center hydraulic system	opt.
32	RL50-1500	Relief valve	1
33	190-03671	Hose 1/2" x 22" lg + 2 fittings 8U108	1
34	160-22561	Hydraulic line 3/8" x 252" lg	1
35	160-23301	Hydraulic line 3/8" x 213 7/16" lg	2
36	190-00132	Hose 1/2" x 18" lg + 2 fittings 8U108	2
37	190-11051	Restrictor (hole 1/32")	1
38	190-11081	Hose 3/8" x 18" lg + 1 fitting 6U106 + 1 fitting 6U108	2
39	9456x6x6	"T" fitting 3/8" NPSM female swivel x 3/8" NPTF female	2
40	9405x8x6	Fitting 1/2" NPSM female swivel x 3/8" NPTF male 90°	1



HYDRAULIC SYSTEM P-6816M & THIRD ROW OPTION

170-04645R1

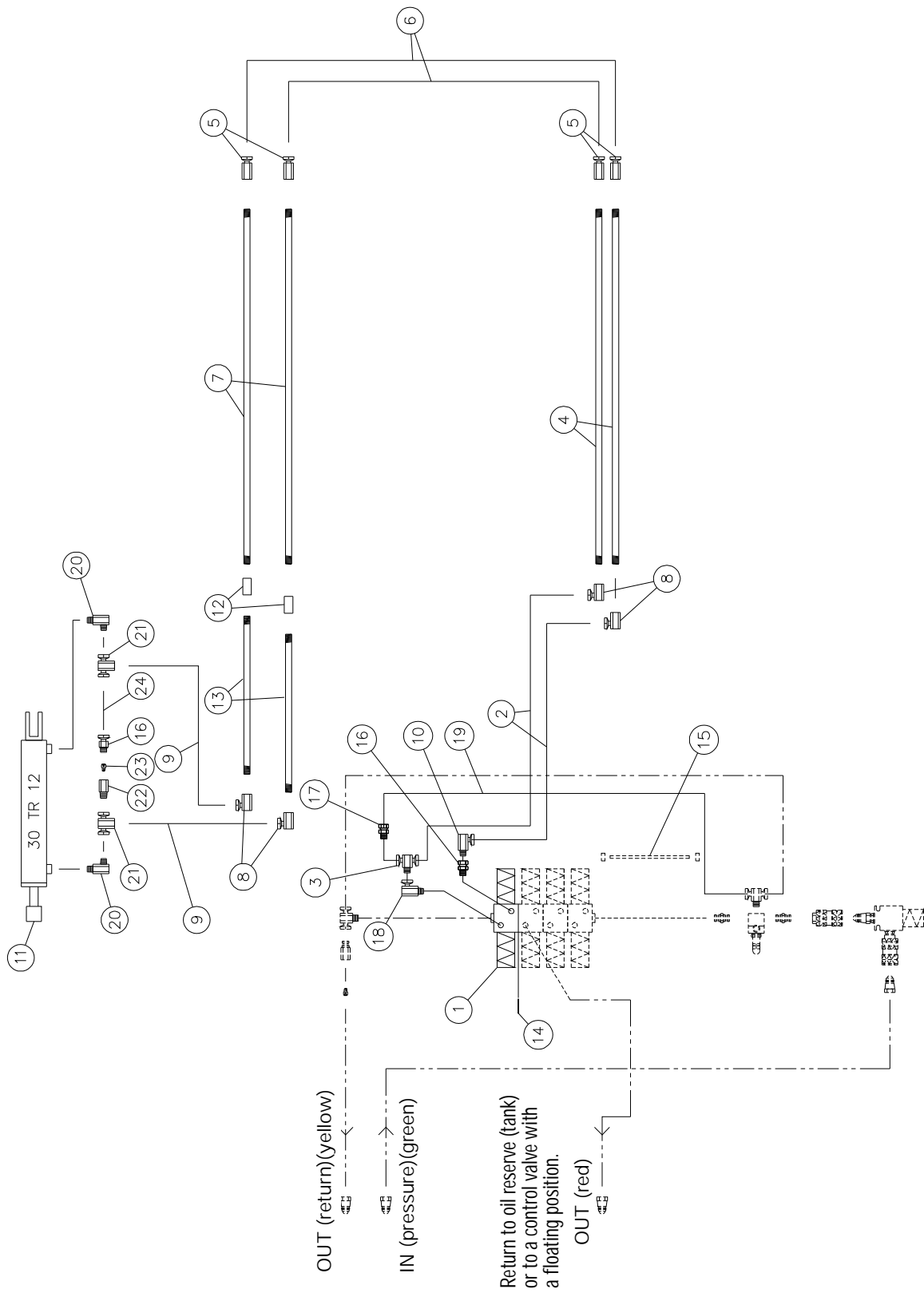


HYDRAULIC SYSTEM P-6816M & THIRD ROW OPTION (cont'd)

REF.	PART #	DESCRIPTION	QTY	
			P-6816M	OPTION
1	S71-4	Quick coupler 1/2" male	6	2
2	190-10251	Hose 3/8" x 162" lg + 1 fitting 6U106 + 1 fitting 6U108	2	-
3	190-04531	Hose 1/2" x 232" lg + 2 fittings 8U108	3	-
4	190-10201	Hose 1/2" x 196" lg + 2 fittings 8U108	1	2
5	9405x8x8	Fitting 1/2" NPSM female swivel x 1/2" NPTF male 90°	9	-
6	30AT20	Arm cylinder	1	-
7	30FT84	Ram cylinder	1	-
8	9455x8x6	Fitting 1/2" NPSM female swivel x 3/8" NPTF female 90°	3	-
9	9255x8x6	Fitting 1/2" NPSM female swivel x 3/8" NPTF female straight	5	6
10	160-22561	Hydraulic line 3/8" x 252" lg	1	2
11	190-10012	Hose 3/8" x 87" lg + 1 fitting 6U106 + 1 fitting 6U108	-	2
12	160-23301	Hydraulic line 3/8" x 213 7/16" lg	2	2
13	40AG60	Dumping cylinder	2	-
14	Std.	Union 3/8" NPT	-	2
15	190-10191	Hose 1/2" x 46" lg + 2 fittings 8U108	1	-
16	190-11911	Two position selector valve 3/4" NPT (see p. 51)	1	-
17	190-04561	Hose 1/2" x 212" lg + 2 fittings 8U108	1	-
18	190-09821	Hose 1/2" x 52" lg + 2 fittings 8U108	1	-
19	190-09811	Hose 1/2" x 30" lg + 2 fittings 8U108	1	-
20	190-00132	Hose 1/2" x 18" lg + 2 fittings 8U108	2	2
21	190-03721	Lock nut 1 1/2" -12 x 1/2" lg	1	-
22	190-10211	Hose 1/2" x 40" lg + 1 fitting 8U108 + 1 fitting 8U106	1	-
23	3159x12	Plug 3/4" NPT male	2	-
24	9405x08x12	Fitting 1/2" NPSM female swivel x 3/4" NPTF male 90°	2	-
25	36139	Female cap (yellow)	2	-
26	36140	Female cap (green)	2	-
27	36138	Female cap (red)	2	-
28	9456x6x6	"T" fitting 3/8" NPSM female swivel x 3/8" NPTF female	2	-
29	160-22551	Hydraulic line 3/8" x 183" lg	1	-
30	9455x6x6	Fitting 3/8" NPSM female swivel x 3/8" NPTF female	-	2
31	190-10221	Hose 1/2" x 232" lg + 1 fitting 8U108 + 1 fitting 8U106	1	-
32	36141	Female cap (blue)	-	2
33	160-23101	Hydraulic line 3/8" x 38 3/4" lg	-	2
34	190-11061	Hose 3/8" x 147" lg + 1 fitting 6U106 + 1 fitting 6U108	-	1
35	30TR12	Cylinder for 3 rd row option	-	1
36	3529x8x8	Fitting 1/2" NPTF male x 1/2" NPTF male 90°	-	2
37	190-111112	Hose 3/8" x 7" lg + 1 fittings 6U108 + 1 fitting 6UP08	-	1
38	6618	Check valve (without hole)	-	1
39	6621	Fitting 08 ORB female x 1/2" NPTF male	-	1
40	9456x8x8	"T" fitting 1/2" NPSM female swivel x 1/2" NPTF female	-	2
41	3109x12x08	Reducer fitting 3/4" NPTF x 1/2" NPTF female	2	-
42	9405x8x6	Fitting 1/2" NPSM female swivel x 3/8" NPTF male 90°	1	-
43	9315x8x8	Fitting 08 ORB male x 1/2" NPSM female swivel	-	1

HYDRAULIC SYSTEM FOR 3rd ROW OPTION P-6810, P-6812 & P-6816

170-04721R2

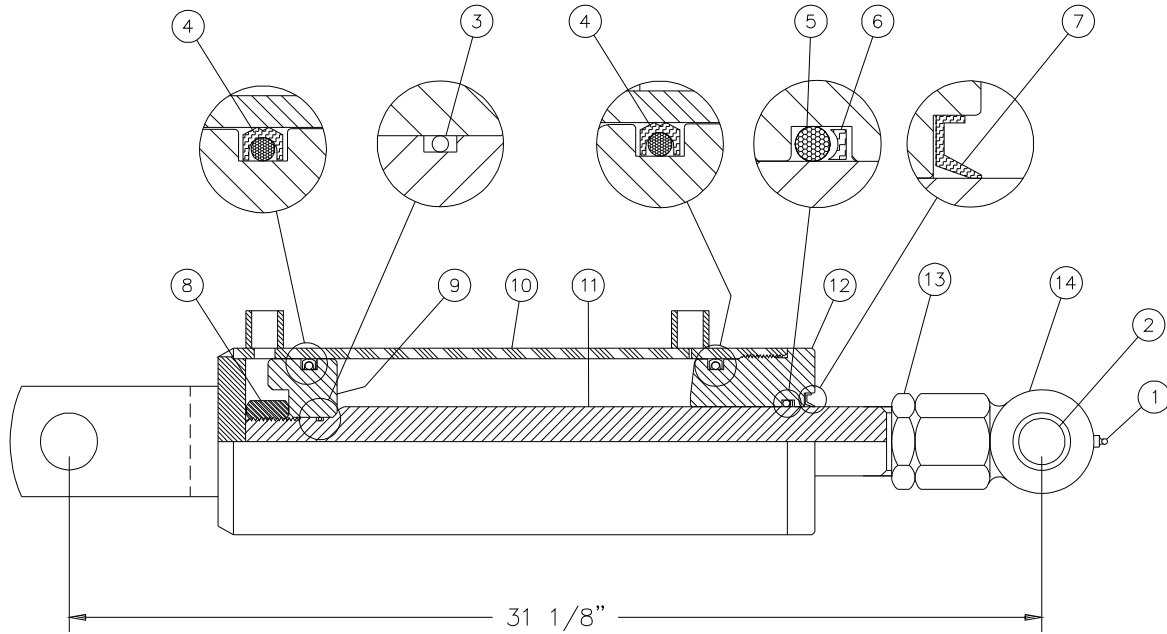


HYDRAULIC SYSTEM FOR 3rd ROW OPTION P-6810, P-6812 & P-6816

REF.	PART #	DESCRIPTION	QTY		
			P-6810	P-6812	P-6816
1	18019	Solenoid valve	1	1	1
2	190-10031	Hose 1/2" x 49" lg + 1 fitting 8U106 + 1 fitting 8U-108	2	2	2
3	15855x8x8x8	"T" 1/2"	1	1	1
4	160-23281	Hydraulic line 3/8" x 79" lg	2	-	-
4	160-23291	Hydraulic line 3/8" x 117 3/8" lg	-	2	-
4	160-23301	Hydraulic line 3/8" x 213 7/16" lg	-	-	2
5	9255x8x6	Fitting 3/8" NPTF x 1/2" NPTF straight swivel	4	4	4
6	190-00132	Hose 1/2" x 18" lg + 2 fitting 8U108	2	2	2
7	160-23091	Hydraulic line 3/8" x 156 3/8" lg	2	-	-
7	160-23081	Hydraulic line 3/8" x 195" lg	-	2	-
7	160-22561	Hydraulic line 3/8" x 252" lg	-	-	2
8	9455x6x6	Fitting 3/8" NPTF x 3/8" NPTF 90° swivel	4	4	4
9	190-10012	Hose 3/8" x 87" lg + 1 fitting 6U106 + 1 fitting 6U108	2	2	2
10	9405x8x8	Fitting 1/2" NPTM x 1/2" NPTF 90° swivel	1	1	1
11	30TR12	Cylinder for 3 rd row option	1	1	1
12	Std.	Union 3/8" NPT	-	-	2
13	160-23101	Hydraulic line 3/8" x 38 3/4" lg	-	-	2
14	QR4021	Quad ring 1 1/32" o.d. x 29/32" i.d. x 1/16"	1	1	1
15	190-00781	Threaded rod 3/8" x 11 1/2" lg	3	3	3
16	9315x8x8	FittingF 3/4"-16 x 1/2"-14	2	2	2
17	HSR882	Modified restrictor à 3/16"	1	1	1
18	9515x8x8	Fitting 3/4"-16 x 1/2"-14	1	1	1
19	190-10041	Hose 1/2" x 36" lg + 2 fitting 8U108	1	1	1
20	3529x8x8	Fitting 1/2" NPTF male x 1/2" NPTF male 90°	2	2	2
21	9456x8x8	"T" fitting 1/2" NPSM female swivel x 1/2" NPTF female	2	2	2
22	6621	Fitting 08 ORB female x 1/2" NPTF male	1	1	1
23	6618	Check valve (without hole)	1	1	1
24	190-11111	Hose 3/8" x 7" lg + 2 fittings 6U108	1	1	1

CYLINDER 30AT20

110-00711



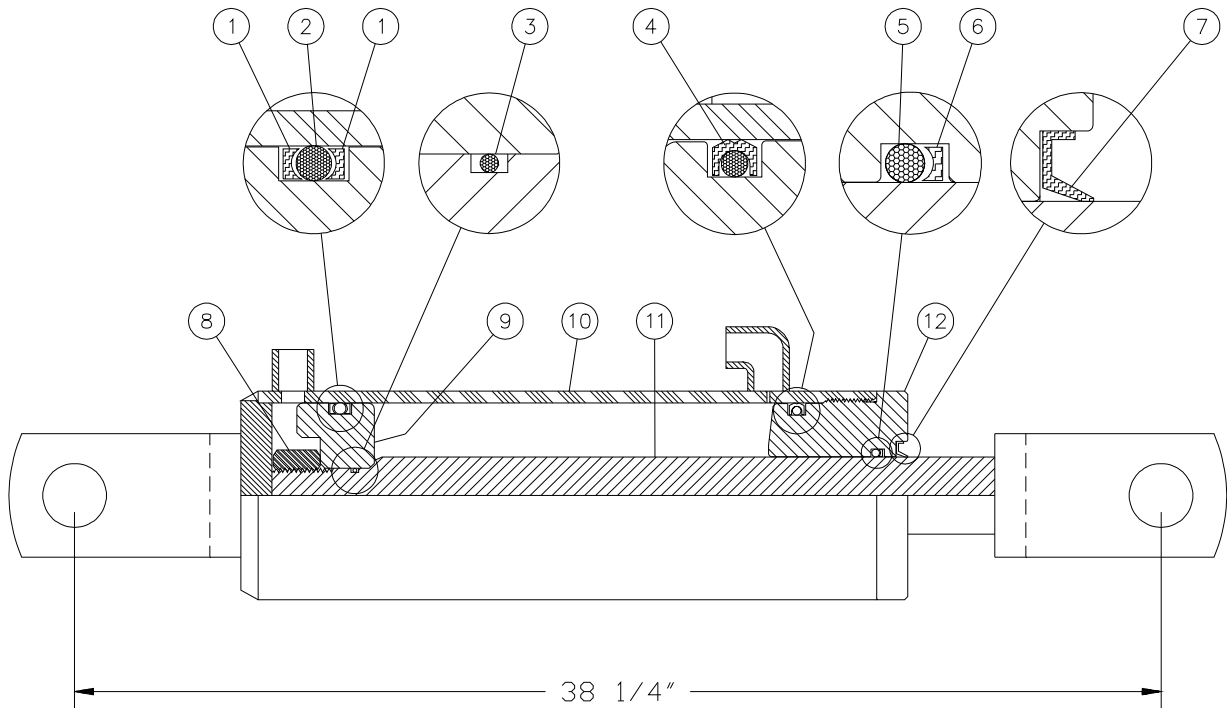
REF.	PART #	DESCRIPTION	QTY
1	Std.	Grease fitting 1/4" - 28 straight	1
2	D-6161	Bushing 1" i.d. x 1 1/4" o.d. x 2 1/2"	1
3	OR-018	O-ring 1/16" x 3/4" x 7/8"	1
4	PSP-334	O-ring 3/16" x 2 5/8" x 3"	2
5	OR-222	O-ring 1/8" x 1 1/2" x 1 3/4"	1
6	BU-222	Back-up 1/8" x 1 1/2" x 1 3/4"	1
7	AR-2269F0	Wiper 1/8" x 1 1/2" x 2"	1
8	Std.	Nut 7/8" - 14NF	1
9	150-06741	Piston 3" dia.	1
10	110-00891	Cylinder body 3" dia.	1
11	D-5000031	Piston rod 1 1/2" x 26 1/8"	1
12	D-5000041	Head 3" dia.	1
13	Std.	Stopper 1 1/2" - 12 x 1 1/2"	1
14	110-14621	Piston rod end 1 1/2" - 12	1
NI*	36172	Repair kit for cylinder (includes # 3, 4, 5, 6, & 7)	1

*NI = Not illustrated

8

CYLINDER 30BC28

170-01911



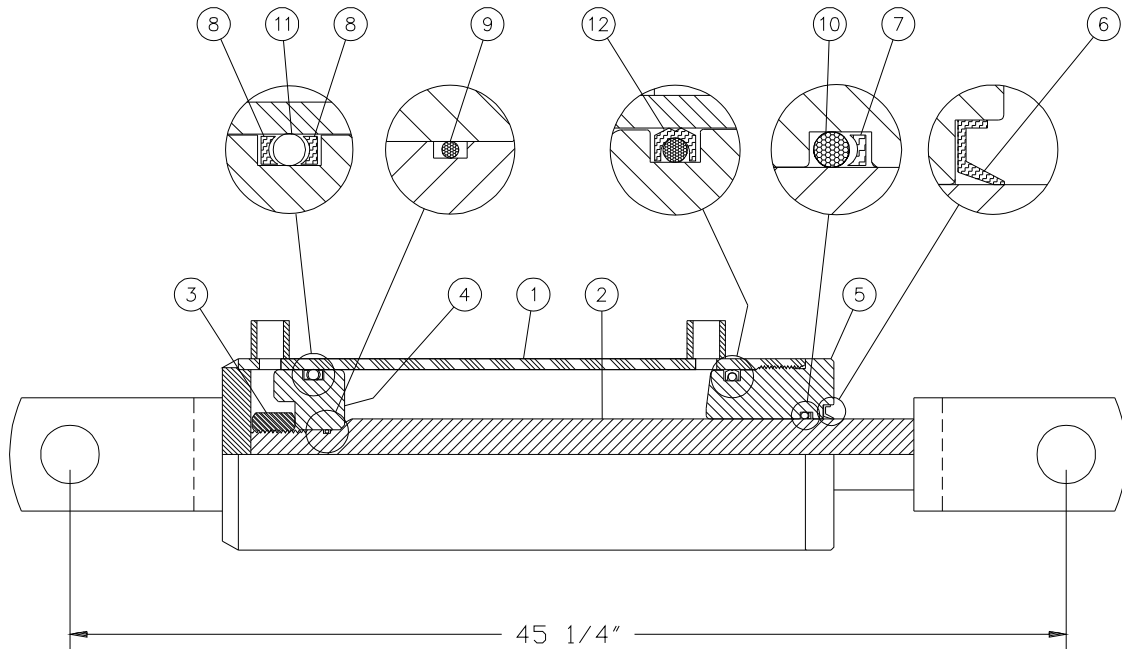
REF.	PART #	DESCRIPTION	QTY
1	BU-334	Back-up 3/16" x 2 5/8" x 3"	2
2	OR-334	O-ring 3/16" x 2 5/8" x 3"	1
3	OR-018	O-ring 1/16" x 3/4" x 7/8"	1
4	PSP-334	O-ring 3/16" x 2 5/8" x 3"	1
5	OR-218	O-ring 1/8" x 1 1/4" x 1 1/2"	1
6	BU-218	Back-up 1/8" x 1 1/4" x 1 1/2"	1
7	CR12330	Wiper 1/8" x 1 1/4" x 1 1/2"	1
8	339-48220	Nut 7/8" NF	1
9	150-02371	Piston 3" dia.	1
10	110-12161	Cylinder body 3" for 30BC28 with 1 fitting 3/8" NPT straight & 1 fitting 3/8" NPT 90 deg.	1
11	110-11641	Piston rod 1 1/4" for 30BC28	1
12	150-02381	Head 3" dia.	1
NI*	51444	Repair kit for cylinder (includes # 1, 2, 3, 4, 5, 6, & 7)	1

*NI = Not illustrated

8

CYLINDER 35BS35

110-36601



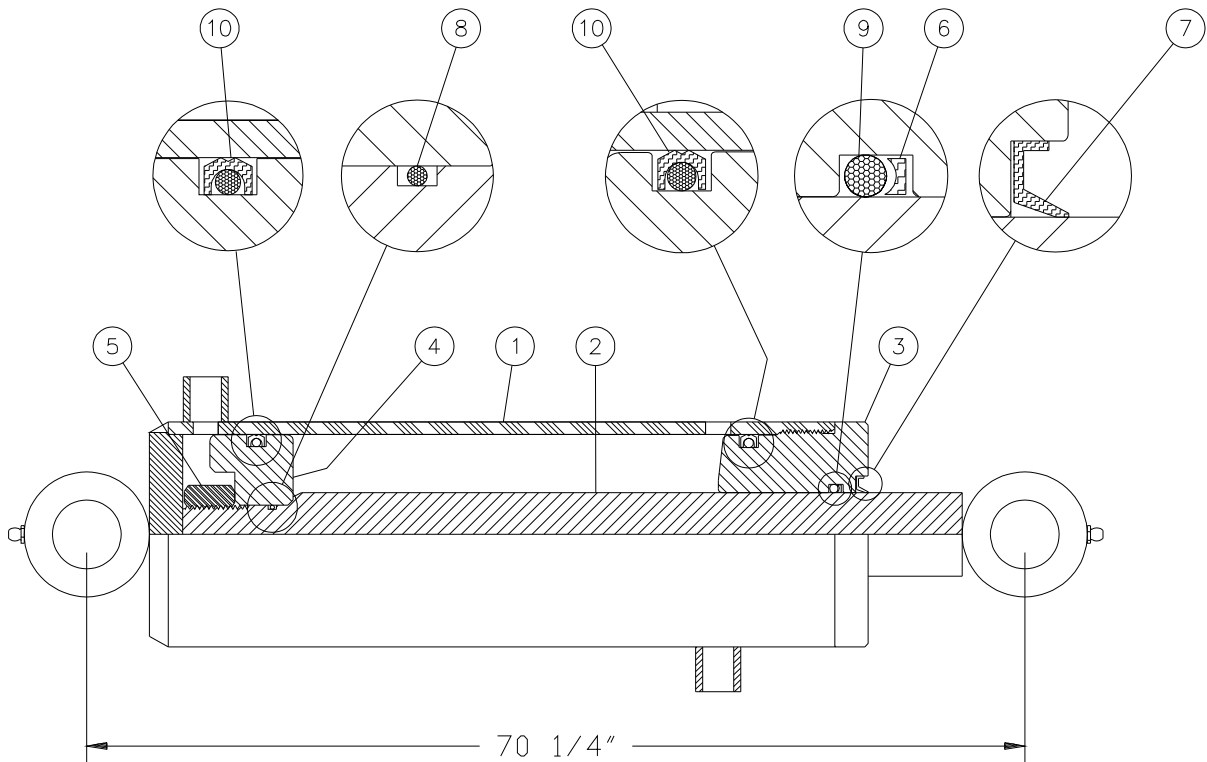
REF.	PART #	DESCRIPTION	QTY
1	110-34881	Cylinder body 3 1/2" dia.	1
2	110-34891	Piston rod 1 1/2" x 43 7/32"	1
3	338-48000	Nut 7/8"-14NF	1
4	D-6113	Piston 3 1/2" dia.	1
5	D-6114	Head 3 1/2" dia.	1
6	AR-2269FO	Wiper 1/8" x 1 1/2" x 1 3/4"	1
7	BU-222	Back-up 1/8" x 1 1/2" x 1 3/4"	1
8	BU-338	Back-up 3/16" x 3 1/8" x 3 1/2"	2
9	OR-018	O-ring 1/16" x 3/4" x 7/8"	1
10	OR-222	O-ring 1/8" x 1 1/2" x 1 3/4"	1
11	OR-338	O-ring 3/16" x 3 1/8" x 3 1/2"	1
12	PSP-338	O-ring 3/16" x 3 1/8" x 3 1/2"	1
NI*	36174	Repair kit for cylinder (includes # 6, 7, 8, 9, 10, 11 & 12)	1

*NI = Not illustrated



CYLINDER 40AG60

110-36611



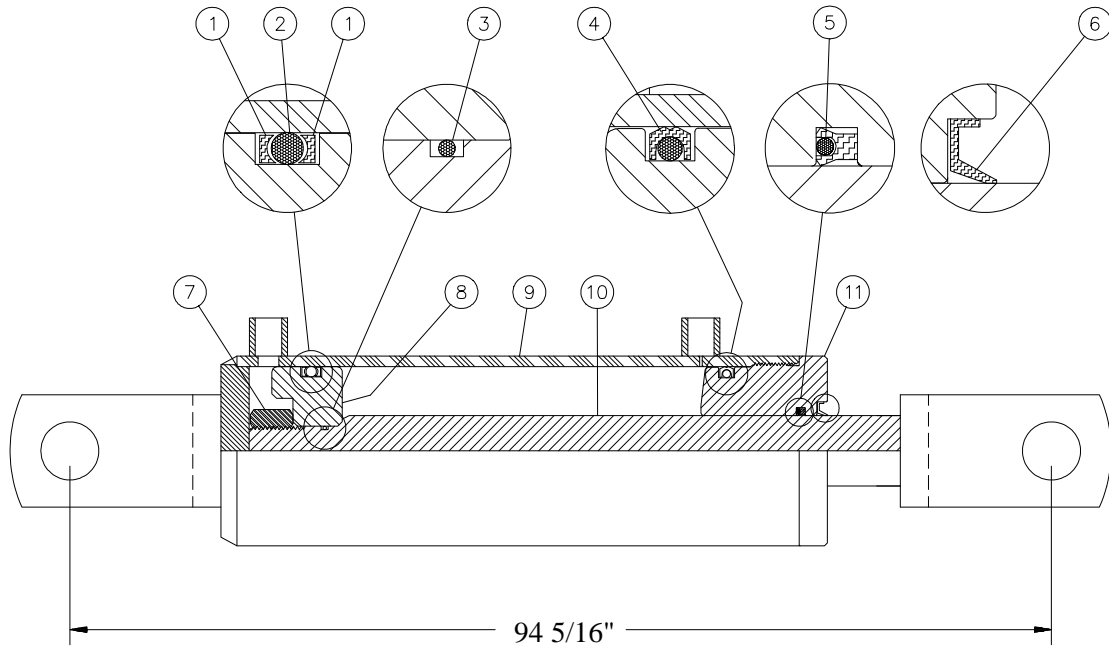
REF.	PART #	DESCRIPTION	QTY
1	110-35321	Cylinder body 4" dia.	1
2	110-35331	Piston rod 2" x 69 9/16"	1
3	150-09661	Head 4" dia.	1
4	150-09651	Piston 4" dia.	1
5	339-54000	Nut 1 1/4" -12 NF	1
6	BU-226	Back-up 1/8" x 2" x 2 1/4"	1
7	CR-19733	Wiper 5/16" x 2" x 2 3/8"	1
8	OR-024	O-ring 1/16" x 1 1/8" x 1 3/16"	1
9	OR-226	O-ring 1/8" x 2" x 2 1/8"	1
10	PSP-342	O-ring 3/16" x 3 5/8" x 4"	2
NI*	36175	Repair kit for cylinder (includes # 6, 7, 8, 9 & 10).....	1

*NI = Not illustrated

8

CYLINDER 30FT84

110-00691



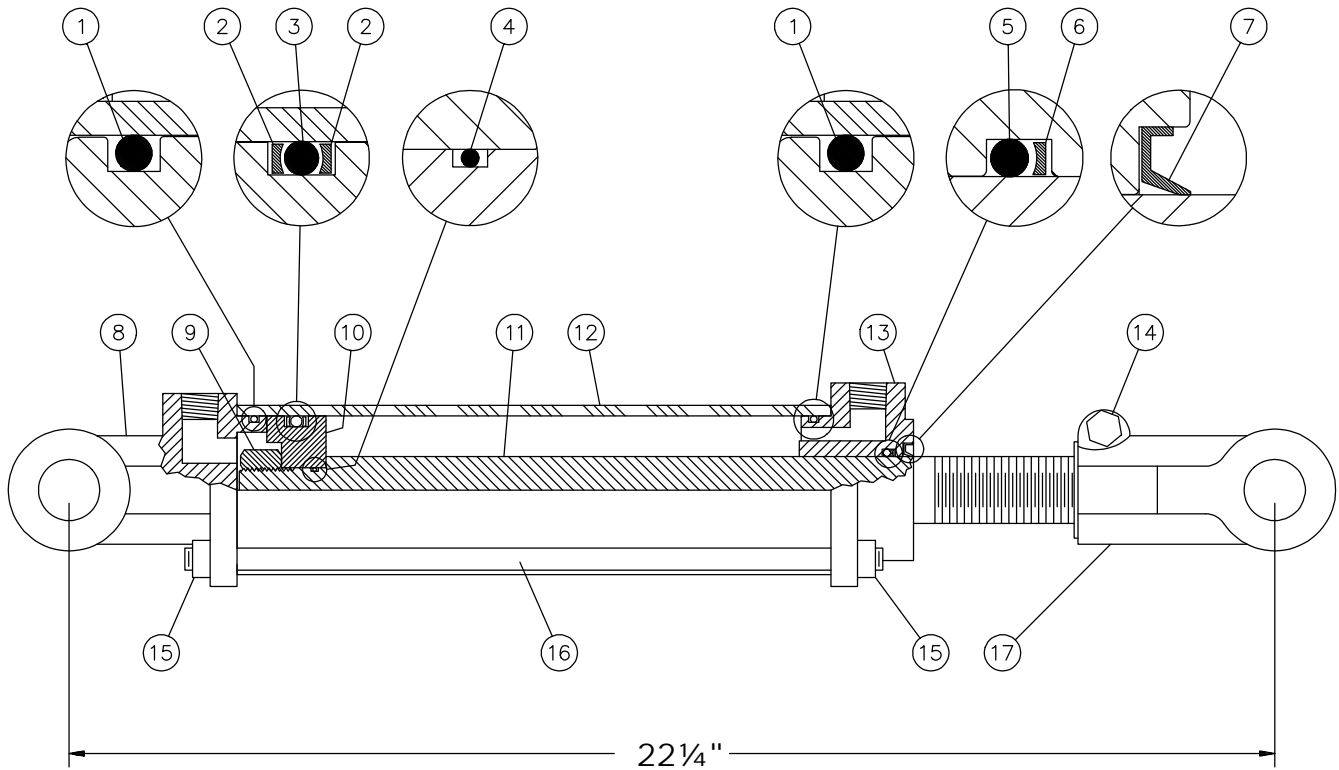
REF.	PART #	DESCRIPTION	QTY
1	BU-334	Back-up ring 3/16" x 2 5/8" x 3"	2
2	OR-334	O-ring 3/16" x 2 5/8" x 3"	1
3	OR-018	O-ring 1/16" x 3/4" x 7/8"	1
4	PSP-334	O-ring 3/16" x 2 5/8" x 3"	1
5	3C-375	U-cup 1 3/4" x 2 1/4"	1
6	CR-17240	Wiper 5/16" x 1 3/4" x 2 1/4"	1
7	Std.	Nut 7/8" - 14NF	1
8	D-6000	Piston 3" dia.	1
9	110-00881	Cylinder body 3" dia.	1
10	D-6126	Piston rod 1 3/4" x 85 9/16"	1
11	D-6106	Head 3" dia.	1
NI*	36176	Repair kit for cylinder (includes # 1, 2, 3, 4, 5 & 6)	1

*NI = Not illustrated



CYLINDER 30TR12

15050



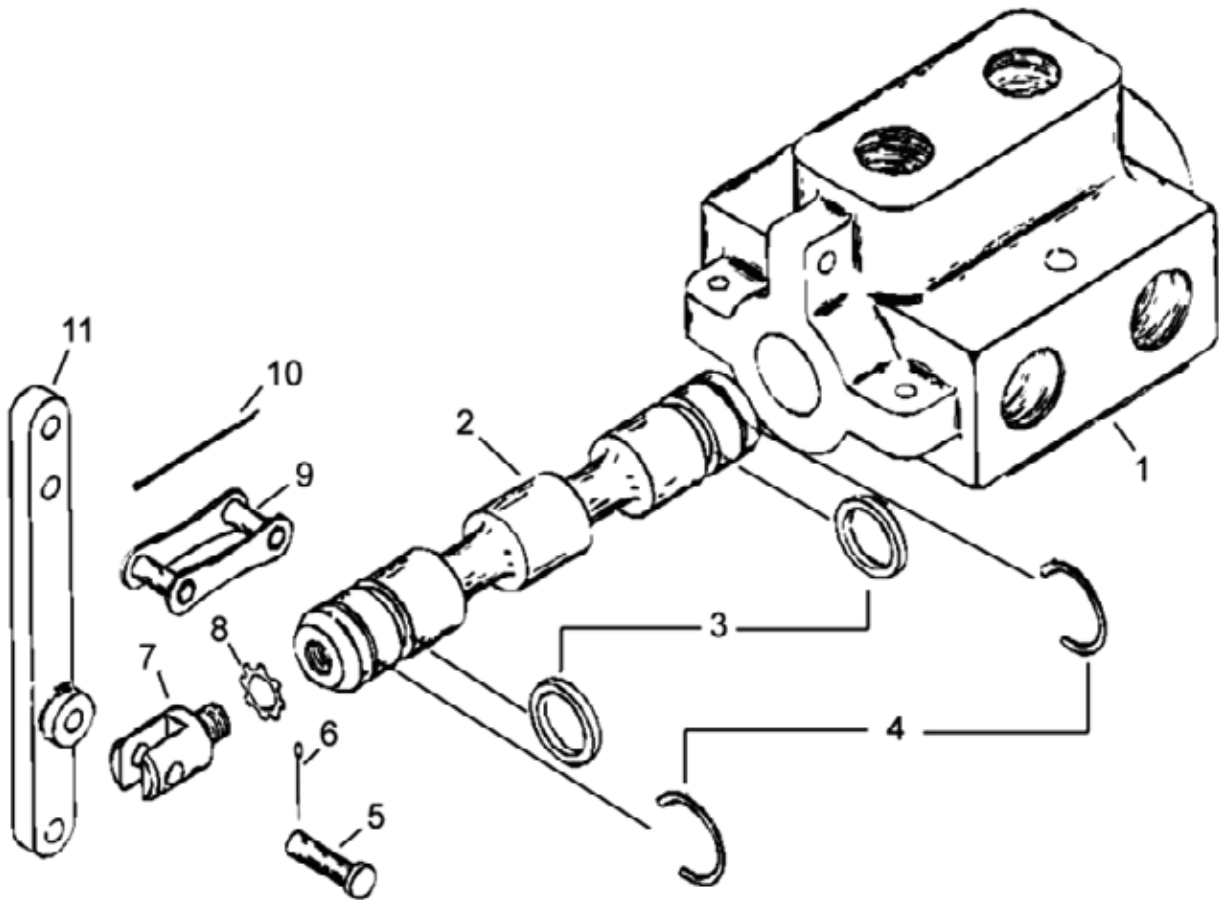
REF.	PART #	DESCRIPTION	QTY
1	See RK30TR	O-ring	2
2	See RK30TR	Back-up ring	2
3	See RK30TR	O-ring	1
4	See RK30TR	O-ring	1
5	See RK30TR	O-ring	1
6	See RK30TR	Back-up ring	1
7	See RK30TR	Wiper	1
8	492402	Yoke (for 3" tube)	1
9	Std.	Nut 3/4" NF	1
10	492432	Piston 3" ø	1
11	492042	Piston rod 1 1/4"	1
12	491742	Cylinder body 3" ø	1
13	492440	Cylinder head (for 3" tube)	1
14	Std.	Bolt 3/8" NC x 2 1/4" + nut	1
15	Std.	Nut 3/8" NC	8
16	Std.	Threaded rod 3/8" NC	4
17	458600	Yoke (for 1 1/4" rod)	1
NI*	8183	Pin 1" ø + cotter pin	2
NI*	RK30TR	Repair kit for cylinder 3" (includes # 1, 2, 3, 4, 5, 6, & 7)	1

*NI = Not illustrated

8

SELECTOR VALVE # 190-11911 (Models «M» only)

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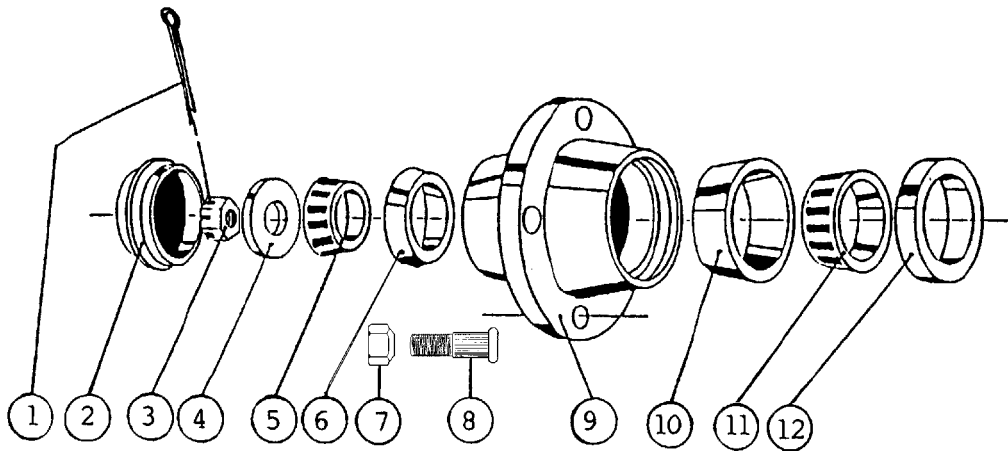


REF.	PART #	DESCRIPTION	QTY
1	---	Valve Housing	1
2	---	Valve Spool	1
3	---	Spool Seal (a)	2
4	---	Snap Ring (a)	2
5	---	Handle Pin (b)	1
6	---	Cotter Pin (b)	1
7	---	Handle Adapter (c)	1
8	---	Lock Washer (c)	1
9	---	Handle Link (b)	1
10	---	Link Cotter Pin (b)	1
11	---	Handle (b)	1
a	36178	Parts for Seal Kit (includes # 3 & 4)	1
b	36179	Parts for Handle Kit (includes # 5, 6, 9, 10 & 11)	1
c	36180	Parts for Clevis Adapter Kit (includes # 7 & 8)	1

Note: Some parts might not be available apart.



HUBS H8001 (36132) H10000 (36133)










REF.	PART #	DESCRIPTION	QTY	
			H-8001	H-10000
1	Std.	Cotter pin 3/16" x 2 1/2"	1	-
1	Std.	Cotter pin 1/4" x 2 1/2"	-	1
2	36114	Dust cap 3.135" ø	1	-
2	36115	Dust cap 3.360" ø	-	1
3	36116	Castle nut 1" - 14	1	-
3	36117	Castle nut 1 1/4" - 12	-	1
4	Std.	Flat washer 1"	1	-
4	Std.	Flat washer 1 1/4"	-	1
5	36118	Roller bearing: cone no. LM 501349	1	-
5	36119	Roller bearing: cone no. 4T-25580	-	1
6	36120	Roller bearing: cup no. LM 501310	1	-
6	36121	Roller bearing: cup no. 4T-25520	-	1
7	36135	Nut 5/8"	8	8
8	36122	Stud 5/8" x 2 1/8"	8	8
9	36123	Hub only H8000	1	-
9	36124	Hub only H10000	-	1
10	36125	Roller bearing: cup no. LM 506810	1	-
10	36126	Roller bearing: cup no. 4T-28921	-	1
11	36127	Roller bearing: cone no. LM 506849	1	-
11	36128	Roller bearing: cone no. 4T-28995	-	1
12	36129	Oil seal no. CR27361	1	-
12	36130	Oil seal no. CR29273	-	1






8

TORQUE CHART

TORQUE SPECIFICATION TABLE

Thread UNC and UNF		Grade 2 				Grade 5   				Grade 8*   			
Bolt size		Torque				Torque				Torque			
Inches	mm	Pound feet		Newton meters		Pound feet		Newton meters		Pound feet		Newton meters	
		min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
1/4	6.35	5	6	6.8	8.13	9	11	12.2	14.9	12	15	16.3	30.3
5/16	7.94	10	12	13.6	16.3	17	20.5	23.1	27.8	24	29	32.5	39.3
3/8	9.53	20	23	27.1	31.2	35	42	47.5	57.0	45	54	61.0	73.2
7/16	11.11	30	35	40.7	47.4	54	64	73.2	86.8	70	84	94.9	113.9
1/2	12.70	45	52	61.0	70.5	80	96	108.5	130.2	110	132	149.2	179.0
9/16	14.29	65	75	88.1	101.6	110	132	149.2	179.0	160	192	217.0	260.4
5/8	15.88	95	105	128.7	142.3	150	180	203.4	244.1	220	264	298.3	358.0
3/4	19.05	150	185	203.3	250.7	270	324	366.1	439.3	380	456	515.3	618.3
7/8	22.23	160	200	216.8	271.0	400	480	542.4	650.9	600	720	813.6	976.3
1	25.40	250	300	338.8	406.5	580	696	786.5	943.8	900	1080	1220.4	1464.5
1 1/8	25.58	-	-	-	-	800	880	1084.8	1193.3	1280	1440	1735.7	1952.6
1 1/4	31.75	-	-	-	-	1120	1240	1518.7	1681.4	1820	2000	2467.9	2712.0
1 3/8	34.93	-	-	-	-	1460	1680	1979.8	2278.1	2380	2720	3227.3	3688.3
1 1/2	38.10	-	-	-	-	1940	2200	2630.6	2983.2	3160	3560	4285.0	4827.4

* Thick nuts must be used with grade 8 bolts.

Size of screw	Thread	Pitch (mm)	Grade 4T  				Grade 7T 				Grade 8T  			
			Torque				Torque				Torque			
			Pound feet		Newton meters		Pound feet		Newton meters		Pound feet		Newton meters	
		min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	
M6	UNC	1.00	3.6	5.8	4.9	7.9	5.8	9.4	7.9	12.7	7.2	10	9.8	13.6
M8	UNC	1.25	7.2	14	9.8	19	17	22	23	29.8	20	26	27.1	35.2
M10	UNC	1.5	20	25	27.1	33.9	34	40	46.1	54.2	38	46	51.5	62.3
M12	UNC	1.75	28	34	37.9	46.1	51	59	69.1	79.9	57	66	77.2	89.4
M14	UNC	2.0	49	56	66.4	75.9	81	93	109.8	126	96	109	130.1	147.7
M16	UNC	2.0	67	77	90.8	104.3	116	130	157.2	176.2	129	145	174.8	196.5
M18	UNC	2.0	88	100	119.2	136	150	168	203.3	227.6	175	194	237.1	262.9
M20	UNC	2.5	108	130	146.3	176.2	186	205	252	277.8	213	249	288.6	337.4
M8	UNF	1.0	12	17	16.3	23	19	27	25.7	36.6	22	31	29.8	42
M10	UNF	1.25	20	29	27.1	39.3	35	47	47.4	63.7	40	52	54.2	70.5
M12	UNF	1.25	31	41	42	55.6	56	68	75.9	92.1	62	75	84	101.6
M14	UNF	1.5	52	64	70.5	86.7	90	106	122	143.6	107	124	145	168
M16	UNF	1.5	69	83	93.5	112.5	120	138	162.6	187	140	158	189.7	214.1
M18	UNF	1.5	100	117	136	158.5	177	199	239.8	269.6	202	231	273.7	313
M20	UNF	1.5	132	150	178.9	203.3	206	242	279.1	327.9	246	289	333.3	391.6

Use the above torques when special torque is not given.

NOTE: These values apply to fasteners as received from supplier, dry, or when lubricated with normal engine oil. They do not apply if extreme pressure lubricants are used.

WARRANTY

PRONOVOST warrants this product to the initial purchaser for the period of one year from the date of purchase against defects in materials and workmanship.

We will replace or repair defective parts free of charge if they are returned to our plant in St-Tite, Quebec, Canada.

Transportation charges are the responsibility of the customer. This warranty is not transferable.

Tires are covered by the manufacturers of these items.

All PRONOVOST spare parts purchased are covered by a three (3) month warranty.

This warranty becomes void and nul if the equipment is modified, breaks down as result of an accident, if not operated according to manufacturer's recommendations, damaged by negligence or if maintenance has not been carried out as specified.

Our obligation is limited to the replacement or repair of the defective part. PRONOVOST accepts no responsibility for direct or indirect consequential damages of any kind.

Ce manuel est aussi disponible en français.
Veuillez téléphoner.



INNOVATION - EXCELLENCE

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