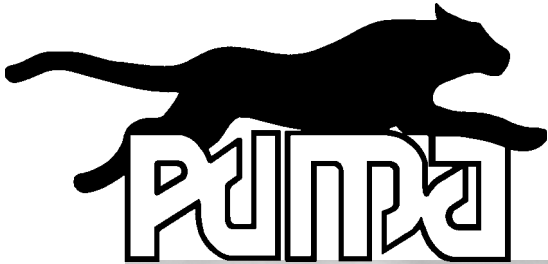


Pronovost



OPERATOR'S / PARTS MANUAL



Dump Trailer Model

PUMA-358M

PUMA-558

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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 Dump Trailer. It contains important information which will help you achieve excellent returns with your PRONOVOST Dump Trailer for years to come.

Please read this manual before operating your Trailer and keep it for future reference.

Before using this equipment, you or any other person who will be using it must familiarize yourself with the safety recommendations, the operating and safety instructions. Please read carefully and be sure to understand and follow all recommendations and procedures.

In this manual, the right and left sides are identified while standing at the rear end of the equipment and facing it.

If you require additional information on your Dump Trailer, please contact your PRONOVOST Dealer.

NOW take a moment to enter the model, serial number and the date of purchase of your Trailer in the space provided below.

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

The model and serial numbers are on the name plate shown on Fig. 1.



Figure 1

MODEL: _____ ✍

SERIAL NO: _____ ✍

DATE OF PURCHASE: _____ ✍

SAFETY

GENERAL SAFETY

2

WHEN YOU SEE THIS SYMBOL



ATTENTION!

**BE ALERT
YOUR SAFETY IS INVOLVED**

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

- 1) Careful operation is the best assurance against accidents. Carefully read this manual and follow all recommendations before operating this equipment. It is the owner's responsibility to make sure that anyone who will operate the Trailer will read this manual before operating the equipment.
- 2) Do not modify the equipment. Any non authorized modification may affect the efficiency and/or safety of the equipment.
- 3) Never operate the equipment with defective parts or if damaged in any way. Have it repaired before using it.
- 4) Make sure all fasteners are in place and properly secured or tightened. Refer to torque chart on page 25.
- 5) Hydraulic fluids under pressure can damage your skin. Do not use your hands to locate a leak.
- 6) Battery (with 12V hydraulic system) contains

sulfuric acid. Avoid contact with skin, eyes or clothing.

SAFETY IN OPERATION

- 1) **WARNING!** Do not overload your trailer, do not exceed the load capacity indicated in the specifications on page 13.
- 2) Be sure there are no obstructions around the equipment and that no one stands near the equipment when in use.
- 3) Do not operate an engine in a confined or non ventilated area.
- 4) Do not perform any adjustments, cleaning, maintenance or repairs with the engine running on the towing vehicle. Preferably remove the key from the ignition.
- 5) Be careful when backing-up, make sure you have good visibility.
- 6) Check if coupler is well attached to the towing ball. Make sure they are the same size.
- 7) Check if the safety chains are crossed under the pole and are attached to the vehicle.
- 8) Make sure the suspension, brakes and lights are all functioning properly.
- 9) Do not forget to unlock the proper panel lock before dumping.
- 10) Always travel at a safe operating speed following regulations and common sense.
- 11) Check battery charge regularly to insure proper functioning of emergency brakes. Ideal charge: 12.66 volts.

SAFETY (cont'd)

SAFETY WITH MAINTENANCE

- 1) Perform maintenance according to recommendations contained in this manual.
- 2) **Before performing any work under the raised platform, always install the safety prop provided.**
- 3) If the trailer is hooked up to the vehicle while performing maintenance work, make sure the engine is not running and preferably remove the ignition key.

SAFETY IN TRANSPORT

- 1) Be alert while driving on the road. Never carry passengers in the trailer.

2

DECALS

SAFETY DECALS

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

3

⚠ ATTENTION

- 1-FOR SAFE OPERATION, FOLLOW INSTRUCTIONS IN OPERATOR'S MANUAL.
 - 2-KEEP AWAY FROM TRAILER WHEN HOPPER IS IN OPERATION.
 - 3-IF UNDER TRAILER, PUT SAFETY SUPPORT IN PLACE AND BLOCK THE WHEELS.
 - 4-CHECK ALL BOLTS ON WHEELS AFTER FIRST 5 HOURS OF OPERATION AND THEN EVERY 50 HOURS OF OPERATION.
 - 5-ALWAYS STORE TRAILER WITH BED LOWERED. TO DRAIN WATER FROM BED, PLEASE USE JACK TO INCLINE TRAILER TOWARDS THE REAR.
- 1-Pour un fonctionnement sécuritaire, suivre les instructions dans le manuel d'opération.
- 2-SE TENIR LOIN DE LA REMORQUE LORSQUE LA BENNE EST EN OPÉRATION.
- 3-EN TRAVAILLANT SOUS LA REMORQUE, METTRE LA PATTE DE SÉCURITÉ EN PLACE ET UTILISER DES CALES POUR BLOQUER LES ROUES.
- 4-VÉRIFIER LE SERRAGE DES BOULONS DE ROUES APRÈS LE PREMIER 5 HEURES D'UTILISATION ET ENSUITE À TOUTES LES 50 HEURES D'OPÉRATION.
- 5-TOUJOURS ENTREPOSER VOTRE REMORQUE LA BENNE ABAISSÉE. POUR PERMETTRE L'ÉGOUTTEMENT DE L'EAU, UTILISEZ PLUTÔT LE CRIC POUR INCLINER LÉGÈREMENT LA REMORQUE VERS L'ARRIÈRE.

190-07342

Figure 2
Decal A

Part no.: 190-07342

⚠ ATTENTION

VERIFIER REGULIEREMENT LA CHARGE DE LA BATTERIE POUR S'ASSURER DU BON FONCTIONNEMENT DES FREINS DE SECURITE. IDEALEMENT LA CHARGE DEVRAIT SE SITUER A 12.66 VOLTS.

CHECK BATTERY CHARGE REGULARLY TO INSURE PROPER FUNCTIONING OF EMERGENCY BRAKES. IDEAL CHARGE: 12.66 VOLTS.

190-04731

Figure 3
Decal B

Part no.: 190-04731

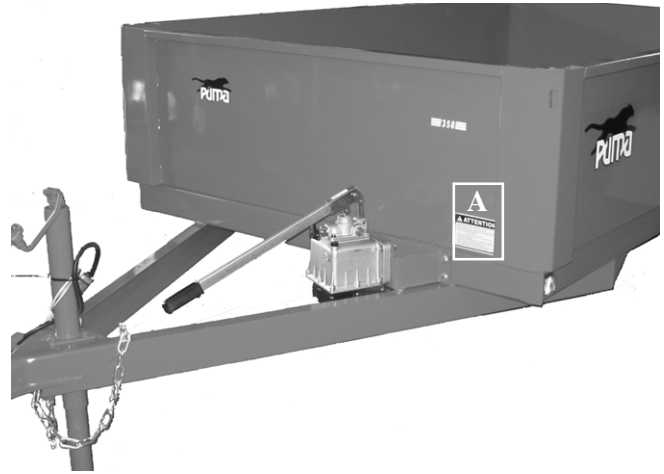


Figure 4 (PUMA-358M)

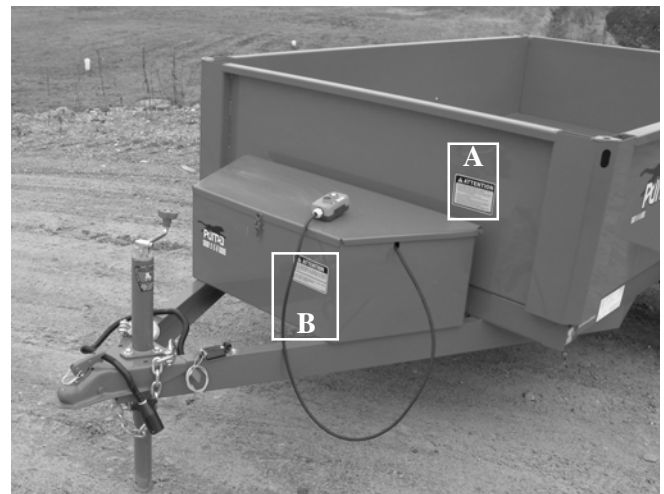


Figure 5 (PUMA-558)

DECALS

MAINTENANCE DECALS

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



Figure 6

Part no.: A 105



Figure 7

Part no.: A 106

START-UP

BASIC START-UP PROCEDURES

- 1) Lubricate all grease fittings with a good quality multiuse grease.
- 2) Lubricate panel release mechanism with good quality oil.
- 3) Adjust tire pressure to manufacturer's specifications.
- 4) Install wheels on hubs.
- 5) Install panels.
- 6) Verify for adequate tightness of all fastening devices. Refer to torque chart on page 25.
- 7) Check oil level in hydraulic reservoir. Use DEXTRON III or equivalent.
- 8) Check battery charge regularly to insure proper functioning of emergency brakes. Ideal charge: 12.66 volts.
- 9) Do not forget to unlock the proper panel lock before dumping.

4

MAINTENANCE

Before performing any work under the raised platform, always install the safety prop provided.

- 1) Wipe off all grease fittings with a clean cloth before adding grease in order to avoid injecting dirt or sand.
- 2) Repair or replace damaged grease fittings.
- 3) Lubricate all grease fittings every 20 hours of operation.
- 4) Check if the hub caps are always in place.
- 5) Check all bolts on wheels after first 5 hours of operation and then every 50 hours of operation.
- 6) Lubricate panel release mechanism every 20 hours of operation.
- 7) Check tire pressure every 50 hours of operation, adjust according to recommendation indicated on the tires.
- 8) Check brakes once a year and adjust or repair if necessary.
- 9) Open, clean and lubricate wheel bearings once a year.
- 10) Check all nuts and bolts once a year. If necessary use torque chart on page 25.
- 11) Check oil level in hydraulic reservoir. Use DEXTRON III or equivalent.
- 12) Check battery charge regularly to insure proper functioning of emergency brakes. Ideal charge: 12.66 volts.

STORAGE

- 1) Store in a cool, dry place.
- 2) Install wooden blocks under the axles to keep the tires off the ground and cover them if left exposed to the sun.
- 3) Keep all piston rods in the retracted position. This will assure better protection against the elements.
- 4) Clean your trailer.
- 5) Thoroughly inspect all parts of the trailer. Replace or repair worn or defective parts.
- 6) Touch-up or repaint if necessary.
- 7) Lubricate all points before storage.

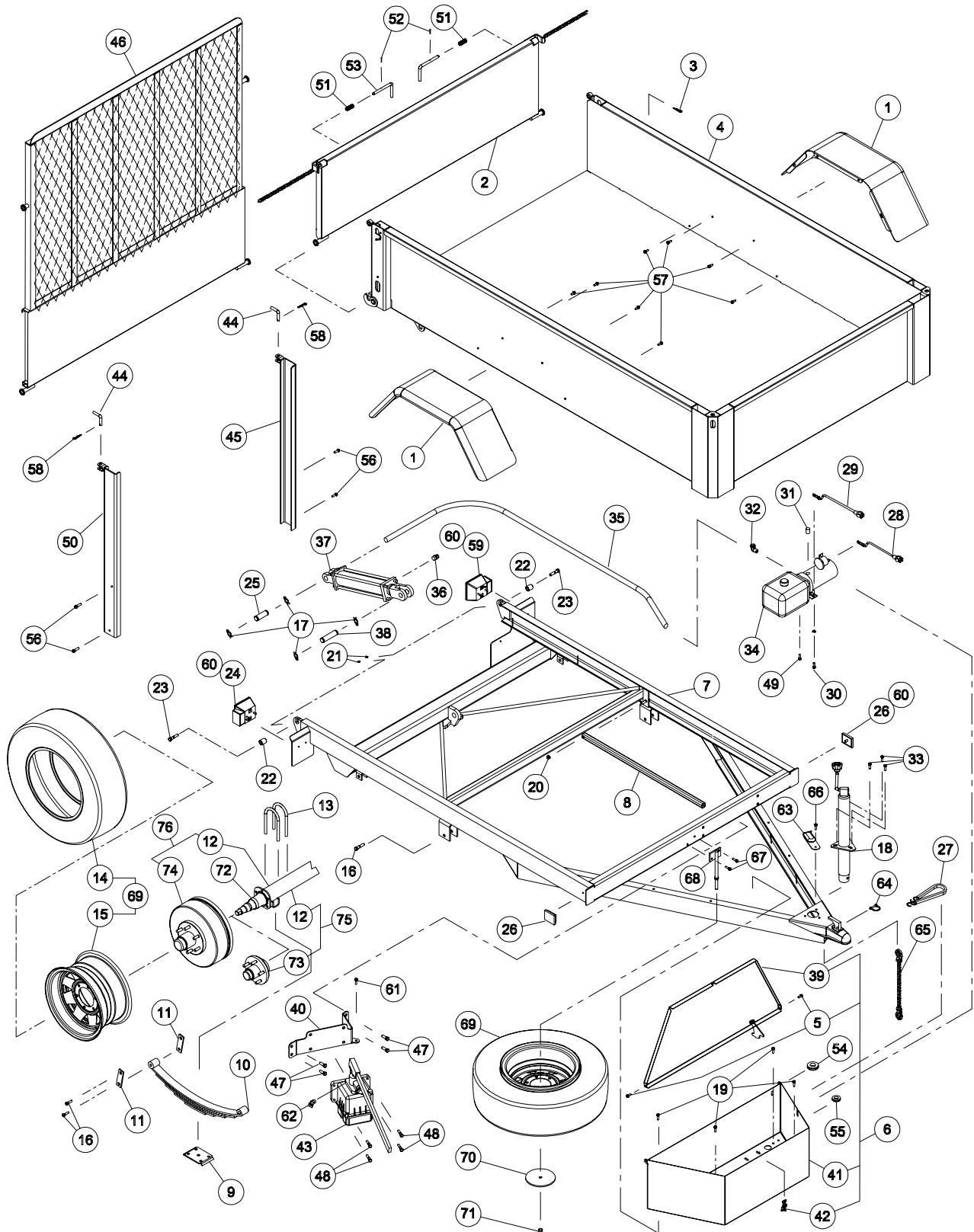
SPECIFICATIONS

MODEL	PUMA-358M	PUMA-558
Gross vehicle weight rating	2 860 lbs	5 000 lbs
Box (interior dimensions)	60" x 96"	
Side and front panel	18" x 14G (soudés)	
Back panel (removable)	18" x 14G	
opening from top or bottom	Yes	
Optional back panel	Expanded metal panel with ramp integrated (light equipment)	
Free height (maximum lift)	14"	14½"
Platform height	25"	25½"
Overall length	143"	
Overall width	80"	
Overall height (box down)	std. panel 43"	std. panel 43½"
Overall height (max lift)	opt. panel 86"	opt. panel 86½"
Overall height at max. lift	99"	99½"
Thread width c/c	71"	70"
Dumping angle	47 degrees	
Suspension	Leaf springs	
Wheels	2	
Wheel dimensions	14" x 6" (5 bolts)	15" x 6" (6 bolts)
Tires (standard)	ST205/75D14	ST225/75D15
Hitch	"A" frame hitch - Ball 2"	
Jack	2 000 lbs	
Electric brakes	Optional	Standard
Brake away kit	Included with electric brakes option	Standard
Light system (12V)	Standard	
Oil volume required	.8 gal US / 3 l	.8 gal US / 3 l
Cylinder	1 x single action ⇒ 3" ø x 12" stroke	
Battery 12 volts	-	Not provided
Standard hydraulic pump	Manual	Electric 12V in tool box + hand held switch + 20' lead
Optional hydraulic pump	-	
Spare wheel	Option	
Stake pockets	4 x (2" x 4")	
Safety chains	Standard	
Total weight approximate	972 lbs	1 117 lbs

Design and specifications subject to change without notice.

TRAILER PUMA-358M & PUMA-558

170-03801



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TRAILER PUMA-358M & PUMA-558 (cont'd)

REF.	PART #	DESCRIPTION	QTY	
			358M	558
1	130-43241	Fender	2	2
2	110-26881	Rear panel	1	1
3	Std.	Hitch pin clip 1/8"	1	1
4	120-05181	Platform	1	1
5	300-34220	Bolt 5/16" NC x 3/4" lg + nylon locknut	opt.	2
6	110-29621	Box	opt.	1
7	120-05301	Frame Puma-558	-	1
7	120-05191	Frame Puma-358M	1	-
8	160-15461	Safety support	1	1
9	51599	Spring back plate	2	2
10	51600	Springs 5000 lbs	-	2
10	54010	Springs 3000 lbs	2	-
11	51601	Pivot plates	4	4
12	110-30961	Axle assembly 3000 lbs (up to serial # 9583)	1	-
12	110-30962	Axle assembly 3000 lbs (from serial # 9584 and up)	1	-
12	110-30921	Axle assembly 5000 lbs (up to serial # 9583)	-	1
12	110-30923	Axle assembly 5000 lbs (from serial # 9584 and up)	-	1
13	54142	«U» bolt 1/2" NF x 3" x 6 1/2" + 2 nylon locknut	4	4
14	PN-22575D15	Road tire ST225/75D15	-	2
14	PN-20575D14	Road tire ST205/75D14	2	-
15	RM-1566	Rim 15" x 6" x 6 bolts	-	2
15	RM-1465	Rim 14" x 6" x 5 bolts	2	-
16	300-44400	Bolt 5/8" NC x 3" lg + nylon locknut	6	6
17	Std.	Hairpin cotter	4	4
18	54076	Jack 2000 lbs for «A» frame hitch	1	1
19	300-34250	Bolt 5/16" NC x 1" lg + flat washer + nylon locknut	opt.	4
20	346-38000	Nylon locknut 7/16" NC	1	1
21	Std.	Grease fitting 1/4"-28 straight	2	2
22	160-16561	Bushing	2	2
23	300-38355	Bolt 7/16" NC x 2 1/4" lg + 2 flat washer + nylon locknut	2	2
24	54101	Red signal light	-	1
25	150-01841	Clevis pin 1" x 3 1/8"	1	1
26	52077	Yellow signal light	-	2
27	Std.	Rubber band 15"	opt.	1
28	51607	Battery cable 10"	opt.	1
29	51631	Battery cable 15"	opt.	1
30	300-36280	Bolt 3/8" NC x 1 1/4" lg + 1 tooth lock washer + 1 flat washer and nylon locknut	opt.	1
31	C3159-4	1/4" NPT plug	opt.	1
32	9355-6x6	Elbow 45 deg. 3/8" male - female 3/8" swivel	opt.	1
33	300-36250	Bolt 3/8" NC x 1" + lock washer + nylon locknut	3	3
34	54079	Electric hydraulic pump	opt.	1
35	190-08111	Hose 3/8" x 108" lg + 1 x 6U106 + 1 x 6U108	1	-
36	54002	Vent plug 1/2" NPT	1	1
37	30TR12	Cylinder 3" x 12" stroke	1	1
38	150-06931	Clevis pin 1" x 4 1/8"	1	1
39	110-26922	Box cover	opt.	1
40	110-29761	Manual pump mounting plate	1	-
41	110-26923	Box	opt.	1



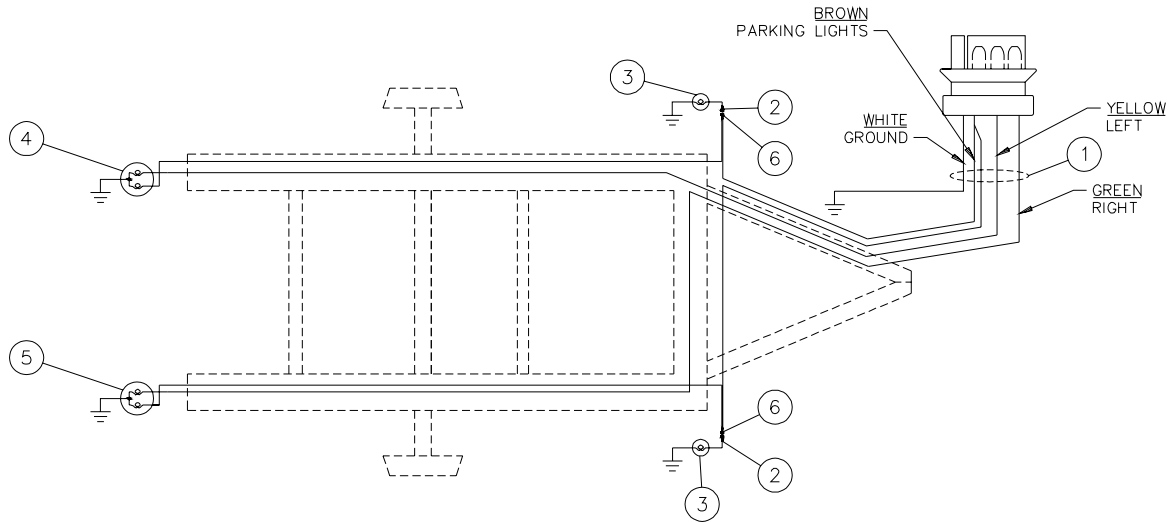
TRAILER PUMA-358M & PUMA-558 (cont'd)

REF.	PART #	DESCRIPTION	QTY	
			358M	558
42	8376	Clamp fastener (welded)	opt.	1
43	53056	Manual hydraulic pump	1	-
44	150-06922	Lock for expanded metal panel (2)	opt.	opt.
45	110-27641	Left attachment for expanded metal panel (1)	opt.	opt.
46	110-27151	Expanded metal panel (1)	opt.	opt.
47	300-38310	Bolt 7/16" NC x 1 1/2" lg + flat washer + nylon locknut	4	-
48	300-36325	Bolt 3/8" NC x 1 3/4" lg + nylon locknut	4	-
49	300-36250	Bolt 3/8" NC x 1" lg + 1 flat washer + nylon locknut	opt.	1
50	110-27642	Right attachment for expanded metal panel (1)	opt.	opt.
51	54143	Compression spring 7/8" x 2"	2	2
52	Std.	Roll pin 1/8" x 1"	2	2
53	150-06861	Rear panel lock	2	2
54	54140	Grommet 1"	opt.	1
55	51141	Grommet 1/2"	opt.	1
56	300-36250	Bolt 3/8" NC x 1" lg + nylon locknut (4)	opt.	opt.
57	300-34220	Bolt 5/16" NC x 3/4" lg + 2 flat washer + nylon locknut	8	8
58	Std.	Hitch pin clip 1/8" (2)	opt.	opt.
59	54102	Red signal light with license plate	-	1
60	53060	Road lights c/w harness	1	-
61	300-34250	Bolt 5/16" NC x 1" lg + flat washer + nylon locknut	1	-
62	9385-06-06	Elbow 45 deg. 3/8" female - 3/8" female swivel	1	-
63	52069	Emergency brake switch	-	1
64	Std.	Lock pin 1/4" X 1 3/8"	1	1
65	53067	Chain 1/4" + 2 hooks	1	1
66	300-32250	Bolt 1/4" NC x 1"lg. + flat washer + nylon locknut	-	1
67	300-34250	Bolt 5/16" NC x 1"lg + nylon locknut (2)	opt.	opt.
68	110-30821	Support for spare tire	opt.	opt.
69	PNA-22575D15	Road tire assembly ST225/75D15 (spare tire optional)	-	2
69	PNA-20575D14	Road tire assembly ST205/75D14 (spare tire optional)	2	-
70	130-51651	Plate for spare tire	opt.	opt.
71	362-40000	Nut 1/2"-20 NF	opt.	opt.
72	110-30771	Stub axle 3500 lbs (welded)	2	-
72	110-30781	Stub axle 5000 lbs (welded)	-	2
73	54150	Hub assembly, 1750 lbs	2	-
74	54149	Hub and drum assembly with brake	-	2
75	110-30972	Axle assembly with hub 3000 lbs (up to serial # 9583)	1	-
75	110-30974	Axle assembly with hub 3000 lbs (from serial # 9584 and up)	1	-
76	110-30952	Axle assembly with hub and electric brakes (up to serial # 9583)	-	1
76	110-30954	Axle assembly with hub and electric brakes (from serial # 9584 and up)	-	1



ELECTRIC CIRCUIT PUMA-358M

170-04101

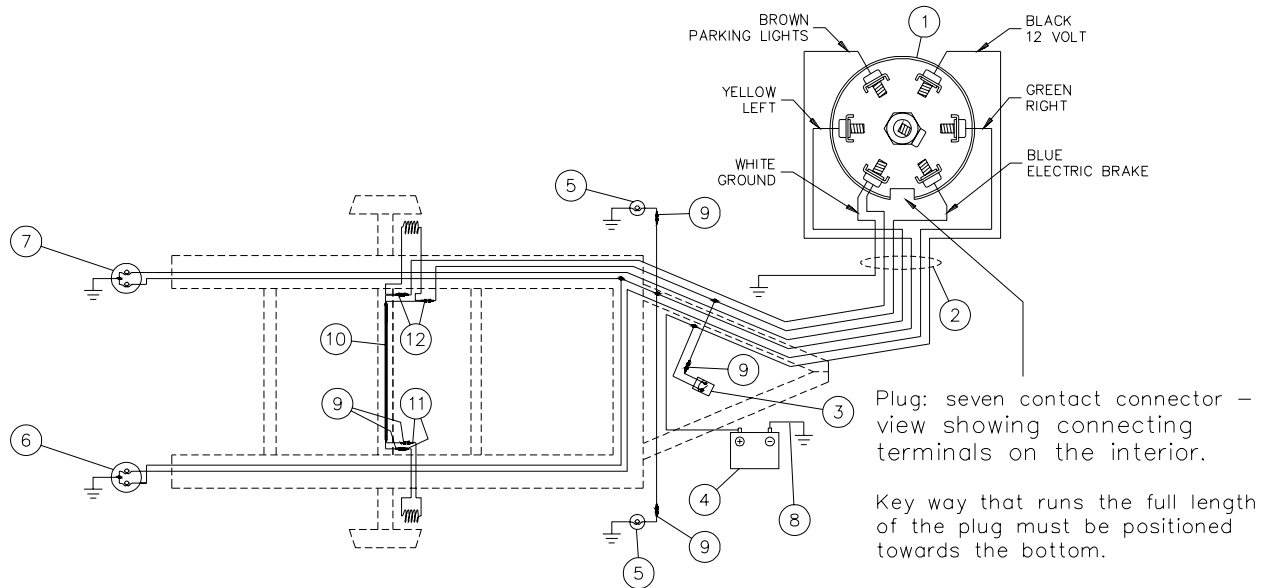


REF.	PART #	DESCRIPTION	QTY
1	54104	Harness	1
2	54144	Male connector (16-14GA)	2
3	52077	Yellow parking light	2
4	54102	Red parking and signal light with license plate light	1
5	54101	Red parking and signal light	1
6	54147	Female connector (12-10GA)	2

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ELECTRIC CIRCUIT PUMA-558

170-04091

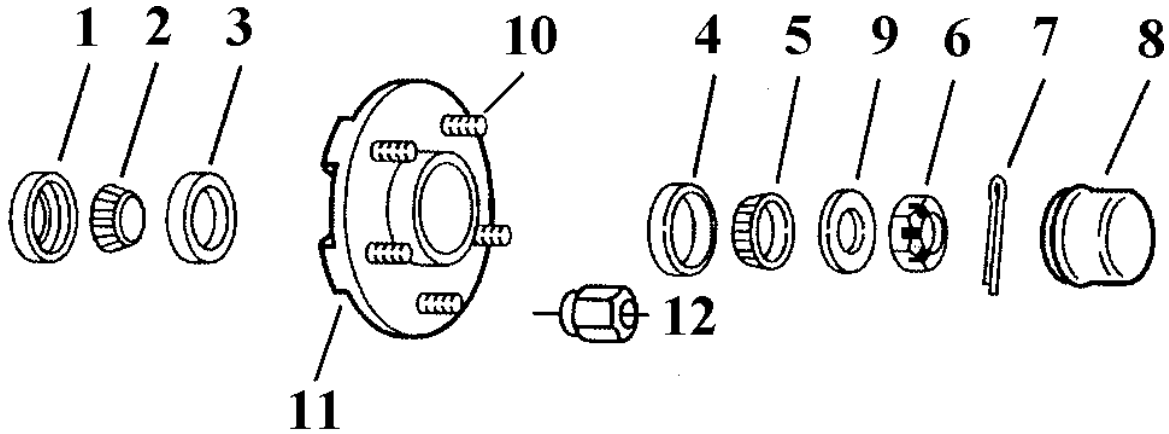


REF.	PART #	DESCRIPTION	QTY
1	52065	Connector 7 poles	1
2	54087	PUMA-558 conductor cable kit (including #1 and 5 x #11).....	1
3	52069	Emergency brake switch	1
4	—	Battery 12 volts 850 Amp required	-
5	52077	Yellow parking light	2
6	54101	Red parking and signal light	1
7	54102	Red parking and signal light with license plate light	1
8	51631	Battery cable 4 GA. x 15" lg	1
9	54144	Male connector (16-14GA)	5
10	190-08341	Cable 14GA 2-conductors x 74" lg	1
11	54145	Female connector (16-14GA)	2
12	54146	Male connector (12-10GA)	2

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HUB 545, 1750 lbs

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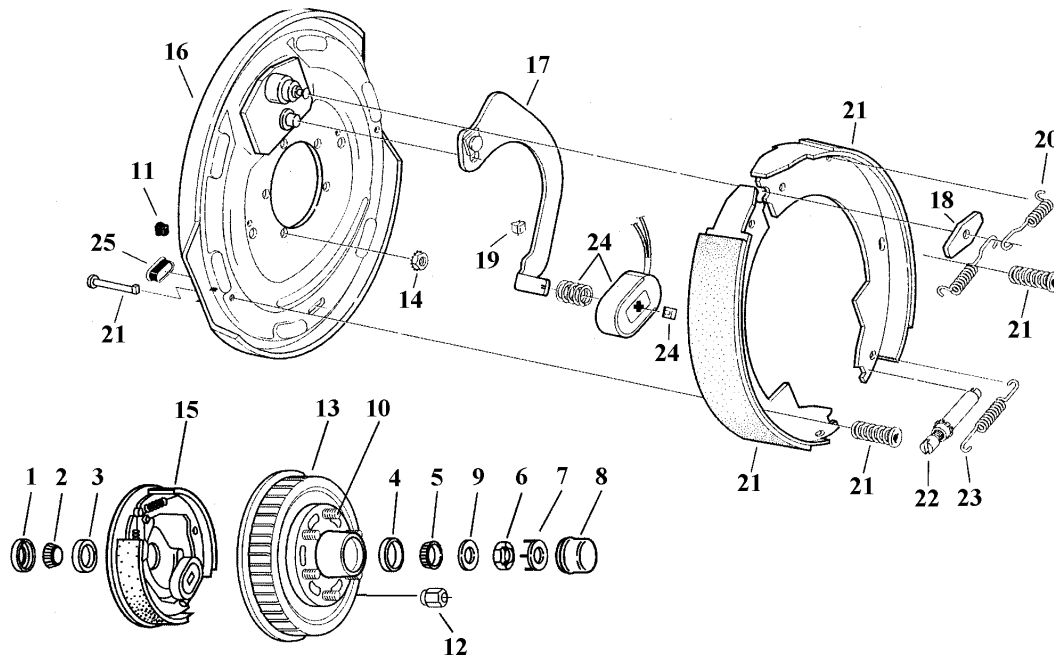


REF.	PART #	DESCRIPTION	QTY/HUB PUMA-358M
1	51535	Grease seal CR17415	1
2	L68149	Roller bearing (cone)	1
3	L68111	Roller bearing (cup)	1
4	L44610	Roller bearing (cup)	1
5	L44649	Roller bearing (cone)	1
6	51529	Spindle nut 1"NF.....	1
7	Std.	Cotter pin 5/32" x 1 3/4"	1
8	54105	Grease cap	1
9	54106	Spindle washer	1
10	54111	1/2"-20 pressed wheel stud	5
11	54110	Hub 1750 lbs	1
12	362-40000	1/2-20 60 deg cone nut	5

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HUB AND DRUM 655, ELECTRIC BRAKES 12x2"

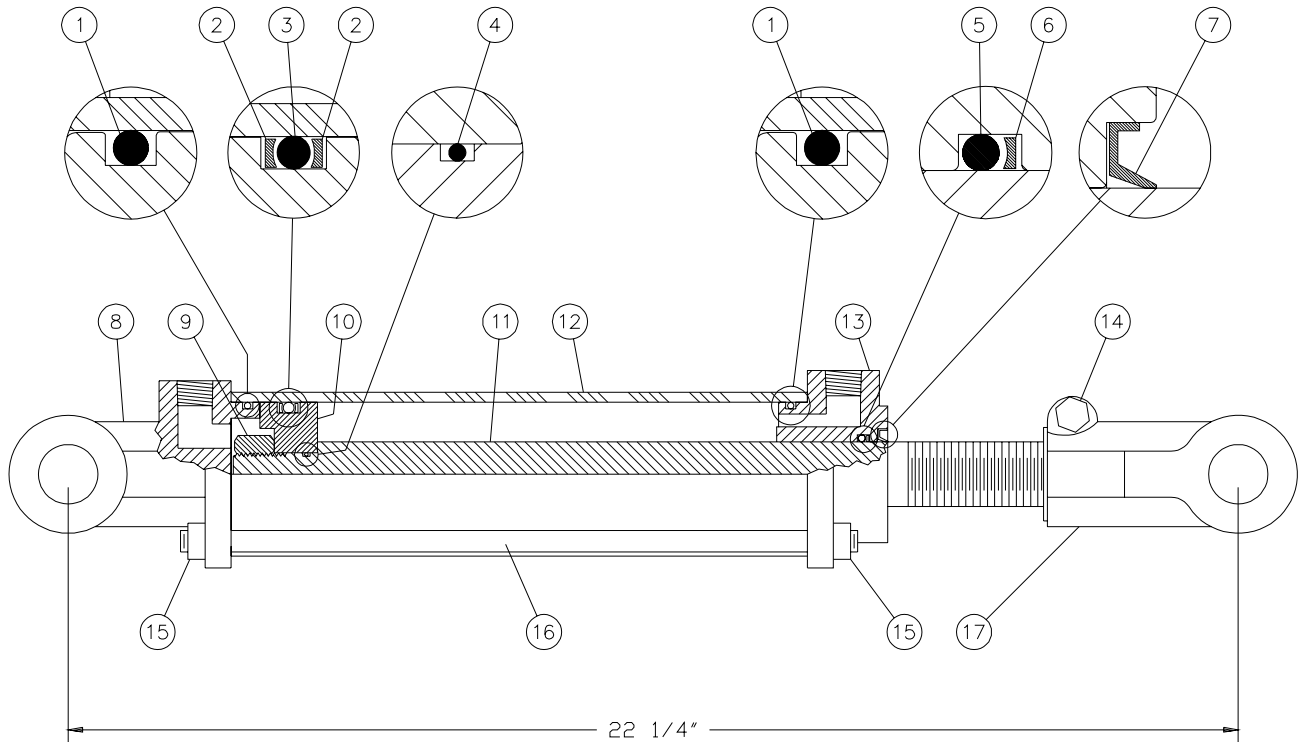
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REF.	PART #	DESCRIPTION	QTY/ASS'Y
			PUMA-558
1	54125	Grease seal	1
2	25580	Roller bearing (cone)	1
3	25520	Roller bearing (cup)	1
4	15245	Roller bearing (cup)	1
5	15123	Roller bearing (cone)	1
6	54139	Lock nut 1" NF	1
7	54138	Retaining washer	1
8	54126	Grease cap	1
9	54106	Spindle washer	1
10	54127	1/2"-20 x 2 1/2" lg pressed wheel stud	6
11	54123	Wire grommet	1
12	362-40000	1/2-20 60 deg cone nut	6
13	54128	Hub and drum 3000 lbs	1
14	54136	Nut washer assembly 1/2-20	5
15	54129	Electric brake 12 x 2 (left)	1
15	54130	Electric brake 12 x 2 (right)	1
16	54131	Backing plate assembly	1
17	54132	LH actuating lever arm	1
17	54133	RH actuating lever arm	1
18	54115	Washer	1
19	54116	Wire clip	2
20	54117	Retractor spring	2
21	54134	Shoe & lining kit	1
22	54119	Adjuster assembly	1
23	54120	Adjusting screw spring	1
24	54135	Magnet kit containing	1
25	54122	Adjuster slot plug	1

CYLINDER 30TR12

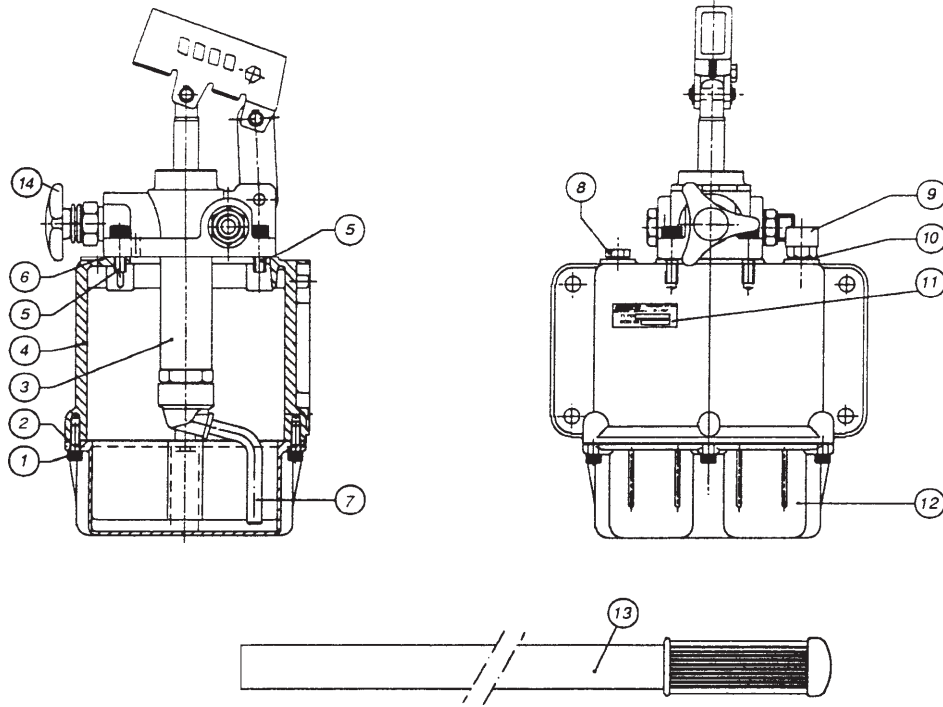
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REF.	PART #	DESCRIPTION	QTY
1	See RK30TR	O-ring.....	2
2	See RK30TR	Back-up ring.....	2
3	See RK30TR	O-ring.....	1
4	See RK30TR	O-ring.....	1
5	See RK30TR	O-ring.....	1
6	See RK30TR	Back-up ring.....	1
7	See RK30TR	Wiper.....	1
8	---	Yoke (for 3" tube).....	1
9	338-46000	Nut 3/4" NF.....	1
10	---	Piston 3" ø.....	1
11	---	Piston rod 1 1/4".....	1
12	---	Cylinder body 3" ø.....	1
13	---	Cylinder head (for 3" tube).....	1
14	300-36355	Bolt 3/8" NC x 2 1/4" + nut.....	1
15	336-36000	Nut 3/8" NC.....	8
16	Std.	Threaded rod 3/8" NC.....	4
17	---	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

MANUAL PUMP #53056 (106.3.20)

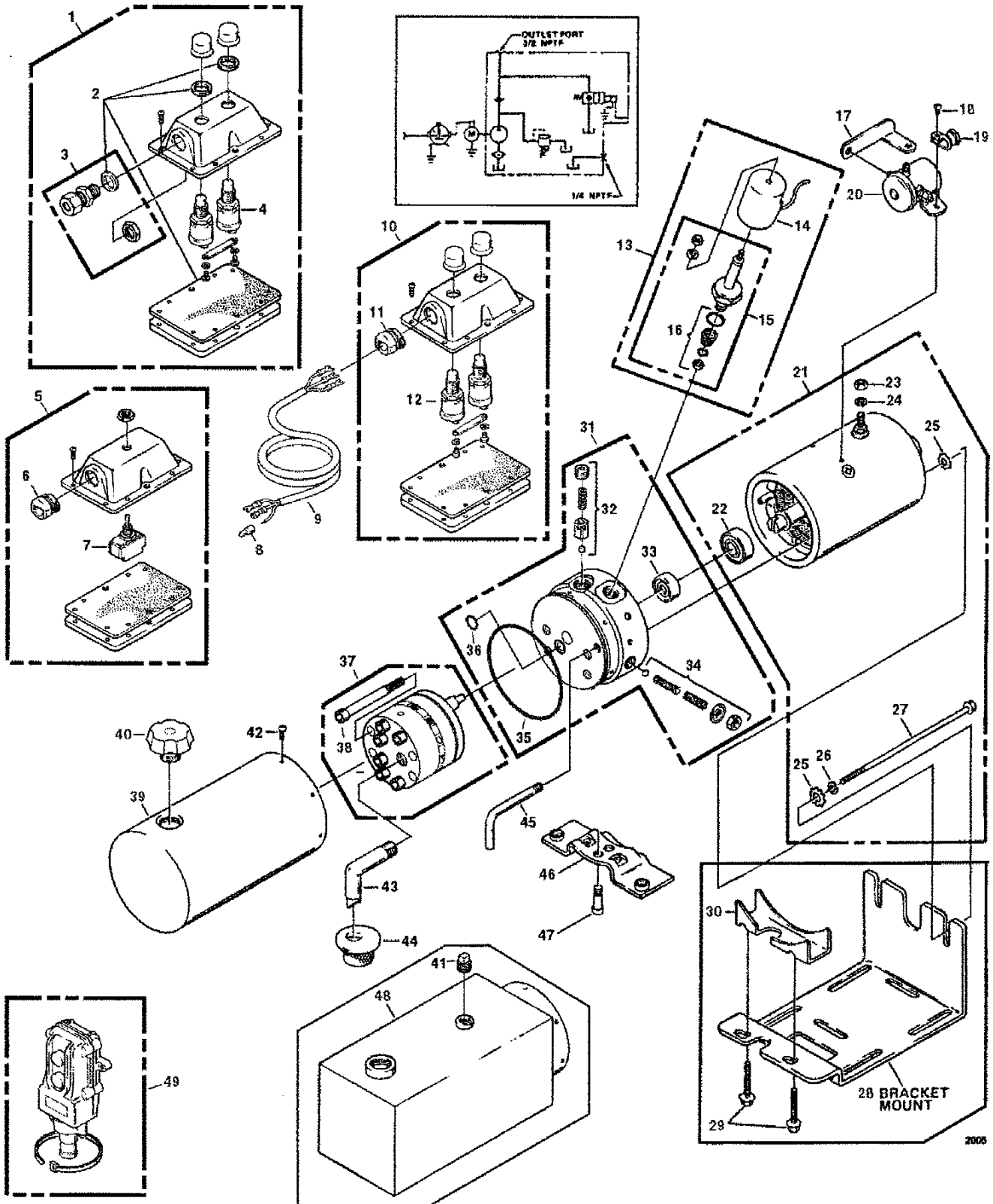


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REF.	PART #	CODE #	DESCRIPTION	QTY
1	53032	502.2.441	Screw for reservoir mounting	8
2	53033	507.3.182	Reservoir gasket	1
3	53034	106.4.29	PMSS 45 Hand-Pump only (no body)	1
4	53035	514.3.89	Pump main body	1
5	53036	502.3.566	Screw M8 x 25	4
6	53037	507.3.208	Pump gasket	1
7	53038	541.4.36	Suction pipe for 3 lt. reservoir	1
8	53039	540.2.49	Oil filler plug	1
9	53040	118.10.106	Breather cap	1
10	53041	116.9.158	Aluminum washer	1
11	53042	513.13.963	Name plate	1
12	53043	514.5.78	Reservoir (3 lt.)	1
13	53044	106.0.78	Lever PM 45	1
14	53057	500.1.99	Relief valve knob	1
NI*	53045	106.900.51	Gasket kit	1
NI*	PHM 3003		Pump #53056 with installation hardware	1

*NI = Not illustrated

ELECTRIC HYDRAULIC PUMP # 54079 (M-319-016-04M***E)



8

ELECTRIC HYDRAULIC PUMP # 54079 (M-319-016-04M***E)

M-319 As provided by MONARCH HYDRAULICS, INC.








Ref. No.	Part No.	Description	No. Req.
1	03406	BOX ASSEMBLY, Push Button (weather proof)	1
2	03690	• PARTS KIT, Gasket's (weather proof)	1
3	03691	• PARTS KIT, Strain Relief (weather proof)	1
4	03368	• SWITCH, Push Button, 2-terminal (weather proof)	2
5	03409	BOX ASSEMBLY, Toggle Switch	1
6	01418	• STRAIN RELIEF (Plastic)	1
7	03393	• SWITCH, Toggle	1
8	01339	TERMINAL, Closed End, connector	1
9	03726	CORD, Harness, 72" 16-3, valve grounded (push button)	1
	03908	CORD, Harness, 72" 16-3, switches grounded (push button)	1
	03730	CORD, Harness, 72" 16-3, valve grounded (toggle & rocker)	1
	03909	CORD, harness, 72" 16-3, switch grounded (toggle & rocker)	1
10	03317	BOX ASSEMBLY, Push Button	1
11	01418	• STRAIN RELIEF (Plastic)	1
12	03313	• SWITCH, Push Button, 2-terminal	2
13	00707	VALVE, 2 Way - 2 Position, 12 VDC, grounded	1
	07236	VALVE, 2 Way - 2 Position, 12 VDC, 2 leads	1
	07158	VALVE, 2 Way - 2 Position, 24 VDC, grounded	1
	07285	VALVE, 2 Way - 2 Position, 24 VDC, 2 leads	1
14	00678	• COIL, 12 VDC, 2 Way - 2 Position, grounded	1
	07303	• COIL, 12 VDC, 2 Way - 2 Position, 2 leads	1
	07301	• COIL, 24 VDC, 2 Way - 2 Position, grounded	1
	00670	• COIL, 24 VDC, 2 Way - 2 Position, 2 leads	1
15	07193	• CARTRIDGE, 2 Way - 2 Position, 12 VDC & 24 VDC	1
16	04745	• PARTS KIT, 2 Way - 2 Position, cartridge	1
17	01349	STRAP, Motor-Solenoid Connecting	1
18	17071	SCREW, Round Head Machine 10-32 x 5/16"	2
19	01076	CLAMP, Cable	1
20	03427	SWITCH, Solenoid, 12 VDC, 3-post grounded to can	1
	03481	SWITCH, Solenoid, 12 VDC, 3-post (coated) grounded to can	1
	03336	SWITCH, Solenoid, 12 VDC 3-post insulated ground	1
	03340	SWITCH, Solenoid, 12 VDC 3-post (coated) insulated ground	1
	03335	SWITCH, Solenoid, 12 VDC 4-post isolated ground	1
	03342	SWITCH, Solenoid, 12 VDC 4-post (coated) isolated ground	1
	03467	SWITCH, Solenoid, 24 VDC, 3 post, grounded to can	1
	03652	SWITCH, Solenoid, 24 VDC, 3 post, (coated) grounded to can	1
	03343	SWITCH, Solenoid, 24 VDC 3-post insulated ground	1
	03344	SWITCH, Solenoid, 24 VDC 3-post (coated) insulated ground	1
21	08111	MOTOR, Electric, 12 VDC	1
	08112	MOTOR, Electric, 12 VDC	1
	08120	MOTOR, Electric, 24 VDC	1

Ref. No.	Part No.	Description	No. Req.
22	02318	• BEARING, Base, motor	1
23	07625	• NUT, Hex 5/16-24	1
24	07781	• WASHER, Lock 5/16"	1
25	07737	• WASHER, Star 1/4"	4
26	07795	• WASHER, Lock 1/4"	2
27	07738	• SCREW, Hex Head Cap 1/4-20 x 6-1/2"	2
FOR FURTHER BREAKDOWN OF MOTOR, SEE MOTOR SECTION			
28	02238	BRACKET, Mounting	1
29	07717	SCREW, Hex Head, thread forming 1/4-20 x 1-3/8"	2
30	01329	ADAPTER, Pump Mounting Bracket	1
31	12459	PUMP ASSEMBLY, Modular	1
32	07526	• PARTS KIT, Valve Assembly, poppet/ball check	1
	02159	• SEAL	1
	03766	• PARTS KIT, Relief Valve	1
	02352	• O-RING, Industrial (3-5/8" x 3-7/8" x 1/8")	1
	00120	• O-RING, Industrial (1/2" x 5/8" x 1/16")	1
	K12171-150	PUMP ASSEMBLY, Modular	1
	K12171-200	PUMP ASSEMBLY, Modular	1
	K12171-250	PUMP ASSEMBLY, Modular	1
	K12171-270	PUMP ASSEMBLY, Modular	1
	K12171-330	PUMP ASSEMBLY, Modular	1
	K12171-380	PUMP ASSEMBLY, Modular	1
	K12171-510	PUMP ASSEMBLY, Modular	1
38	07819	• SCREW, 1/4-20 x 2 3/4 Socket Head Cap (For Pump Assembly -150 & -200)	4
	07818	• SCREW, 1/4-20 x 3 Socket Head Cap (For Pump Assembly -250, -270, -330, -380)	4
	07837	• SCREW, 1/4-20 x 3 1/4 Socket Head Cap (For Pump Assembly -510)	4
39	14076	RESERVOIR, 4-1/2" Dia. x 8", 76 in ³ usable	1
	14070	RESERVOIR, 4-1/2" Dia. x 10", 102 in ³ usable	1
	14071	RESERVOIR, 4-1/2" Dia. x 12", 127 in ³ usable	1
40	01143	PLUG, Vent (plastic)	1
41	01108	PLUG, Square Head, 1/4 NPT	1
42	07703	SCREW, Thread Forming 10-24 x 3/8"	1
43	01209	TUBE, Filter Suction 3/8 NPT 90 Deg.	1
44	01134	SCREEN, Filter (suction)	1
45	13059	TUBE, Return (1/8")	1
46	04559	BRACKET, Plate Mount 5.00" C to C	1
	04560	BRACKET, Plate Mount 3.25" C to C	1
47	07592	SCREW, Socket Head Cap, 3/8-16 x 1	2
48	06678	RESERVOIR, 5" x 5" x 10", 211 in ³ usable	1
	06685	RESERVOIR, 5" x 5" x 12", 249 in ³ usable	1
	06686	RESERVOIR, 5" x 5" x 15", 306 in ³ usable	1
49	03240	BOX ASSEMBLY, Push Button (weather proof)	1






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TORQUE CHART

TORQUE SPECIFICATION TABLE

Thread UNC and UNF		Grade 2 				Grade 5   				Grade 8*   			
Bolt size		Torque				Torque				Torque			
Inches	mm	Pound feet min.	max.	Newton meters min.	max.	Pound feet min.	max.	Newton meters min.	max.	Pound feet min.	max.	Newton meters 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 min.	max.	Newton meters min.	max.	Pound feet min.	max.	Newton meters min.	max.	Pound feet min.	max.	Newton meters 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.

Hydraulic cylinders are covered by the manufacturer 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 the result of an accident, or if is 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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