

**HIGH EFFICIENCY
MAST #23
S30TT W/ & W/O POWER
TILT & SIDE SHIFT
PARTS CATALOG**

**S/N -020-29000 AND UP
021-4000 AND UP
031-13050 AND UP**

**DATE JAN 15, 1991
GOES WITH PUBLICATION (PDMM-0005 (MODEL 020 AND 021)
(PDMM-0007 (MODEL 031)**

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THE RAYMOND CORPORATION

ELEVATING SECTION
Figure 132-832- (S) Std.
932-832- (L) C.S.
132-839- (C) Std. 3" Underclearance
932-839- C.S. 3" Underclearance

Item No.	Qty.	Part Number	Description	Item No.	Qty.	Part Number	Description
1	2	735-010-020	Ring Adapter	43	1	828-000-662/	Mast Inner Tele Weldment
2	2	632-001-023/002	Anchor Chain	44	REF	781-004-000/	Front Cylinder Assembly (Std.)
3	2	123-001-198	Nut Spherical	45	REF	*828-000-626/	Front Cylinder Assembly (C.S.)
4	2	780-001-080	Roller Stud Stop	46	REF	828-000-663/	Back Cylinder Assembly (Std.)
5	2	772-127	Lockwasher 5/8	47	2	*828-000-625/	Back Cylinder Assembly (C.S.)
6	2	710-358	Hex Hd. Cap Screw 5/8-18 x 1 1/4	48	8	828-000-511	Cover Plate
7	14	449-015	Bearing Mast Roller	49	1	710-129	Hex Hd. Cap Screw 3/8-16 x 7/8
8	AR	780-001-090	Spacer Track Roller	50	2	828-000-504	L.H. Block Anchor Assembly
9	AR	780-001-091	Spacer Track Roller	51	1	828-000-510	R.H. Block Anchor Assembly
10	AR	771-039	Shim	52	2	828-000-506	Anchor
11	AR	850-415	Spacer	53	1	760-026	Lock Nut 7/16-20
12	4	771-116	Flat Washer 1/4	54	1	828-000-507/	Chain Staging Installation
13	4	715-016	Fl. Soc. Hd. Screw 10-32 x 1/2	55	3	828-000-541	Capture Plate
14	2	750-034	Nut 1/2-13	56	3	702-166	Fl. Hd. Mach. Screw 12-24 x 1
15	2	710-249	Hex Hd. Cap Screw 1/2-13 x 1 3/4	57	3	774-214	Lockwasher #12 Countersunk Ext. Tooth
16	2	812-002-864	Stop Block	58	2	870-677/001	Pulley
17	2	760-229	Nut 1/2-20	59	2	715-035	Soc. Hd. Set Screw 3/8-16 x 1 1/4
18	2	710-257	Hex Hd. Cap Screw 1/2-20 x 2 1/2	60	AR	771-033	Flat Washer 1"
19	4	411-075	Bumper	61	1	828-001-140	Spacer Sheave
20	AR	771-053	Flat Washer	62	1	710-276	Hex Hd. Cap Screw 1/2-13 x 4 1/2
21	4	750-006	Nut 1/4-20	63	1	760-034	Lock Nut 1/2-13
22	REF	828-000-523/002	Pulley Bracket Assembly	64	REF	828-000-523/003	Pulley Bracket Assembly
23	1	780-020-050	Cylinder Mounting Adapter	65	2	401-505	Sheave Chain Guide
24	1	780-002-040	Cylinder Mounting Plate	66	2	810-132	Snap Ring
25	2	820-001-131	Sleeve	67	2	464-061	Washer Bearing
26	2	771-025	Flat Washer 1/2	68	2	828-000-501	Anchor
27	2	715-038	Hex Hd. Cap Screw 1/2-20 x 1 1/4	69	1	*041-708-010/049	Hose Assembly (Std. & C.S.)
28	2	760-141	Flex Lock Nut 5/8-18	70	2	040-908-010/022	Hose Assembly (3" Underclearance)
29	2	780-002-060	Stud-Bearing Mounting	71	2	*123-001-197	Carriage Stop Assembly
30	2	780-002-061	Sleeve Roller Stud	72	2	*623-003-030	Half Shaft Sub-Assembly
31	2	715-046	Fl. Soc. Hd. Screw 5/8-11 x 1 1/4	73	2	*623-003-040	Half Shaft Sub-Assembly
32	1	030-906-009/431	Hose Assembly	74	2	*710-246	Hex Hd. Cap Screw 1/2-13 x 1 1/2
33	2	623-003-201	Carriage Stop	75	2	*750-434	Jam Nut 1/2-13
34	2	726-025	Cone Pt. Soc. Hd. Set screw				
35	2	710-402	Hex Hd. Cap Screw 5/8-11 x 7 1/2				
36	2	773-023	Lockwasher 3/8				
37	2	760-243	Lock Nut 5/8-11				
38	1	828-000-717	Cylinder Bracket Weldment				
39	4	710-145	Hex Hd. Cap Screw 3/8-24 x 2 (Std.)				
40	4	710-144	Hex Hd. Cap Screw 3/8-24 x 2 (C.S. & 3" Underclearance)				
41	1	760-019	Nut 3/8-24				
42	1	*828-000-613/	Mast Main Frame Weldment (Std. & C.S.)				
	1	*828-000-916/	Mast Main Frame Weld. (3" Underclearance)				
	1	828-000-614/	Mast Outer Tele Weldment				

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ELEVATING CYLINDER - FRONT
Figure 781-004-000/ (N)

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<u>Item No.</u>	<u>Qty.</u>	<u>Part Number</u>	<u>Description</u>
1	1	030-906-009/431	Hose Assembly
2	2	123-001-049	Pulley Bracket Assembly
3	2	771-235	Spacer
4	1	530-727/02	Seal Repair Kit: Includes 1 Packing O-Ring, 1 Oil Seal, 1 Piston Seal, 1 Back-Up Ring, and 2 Snap Rings
	1	530-727/01	Seal Repair Kit (Cold Storage): Includes 1 Oil Seal, 1 Packing, 1 Adapter 1 Packing Back-Up Ring, 1 Snap Ring
5	1	123-001-106	Pulley Shaft
6	1	123-001-107	Pulley Bracket Mach.
7	2	710-134	Hex Hd. Cap Screw 3/8-16 x 1 1/4
8	1	724-259	Soc. Hd. Set Screw 8-32 x 3/8
9	1	781-004-131	Sheave
10	2	123-001-198	Spherical Lock Nut 3/4-16
11	1	530-633	Oil Seal
12	3	531-025	Fiber Washer
13	3	623-005-120	Back-Up Ring
14	3	623-005-121	Double Gland Seal
15	2	624-001-117	Adapter (4000#) - Remove for 2" Lowered Hieght
16	2	624-004-040	Tubing Assembly (4000 lb. only)
17	2	+ +624-009-010/	Lift Chain Assembly (4000#)
	2	680-821	Connecting Link 3/4
	1	681-030	Bulk Chain - Specify Length
	8	771-053	Flat Washer 1/4
18	2	+ +628-000-063/	Lift Chain Assembly (2 & 3000#)
	2	680-821	Connecting Link 3/4
	1	681-030	Bulk Chain - Specify Length
	8	771-053	Flat Washer 1/4
19	3	714-017	Soc. Hd. Cap Screw 10-24 x 3/4
20	1	715-033	But. Hd. Cap Screw 5/16-24 x 3/8
21	1	714-038	Hex Hd. Cap Screw 1/2-20 x 1 1/4
22	2	735-010-020	Adapter (Remove for 1 1/2" Lowered Height
23	1	760-141	Lock Nut 5/8-16 (4000#)
24	1	760-149	Lock Nut 5/8-16 (2 & 3000#)
25	1	771-025	Flat Washer 1/2
26	4	722-123	Lockwasher 3/8
27	2	780-004-050	Tubing Assembly (2 & 3000#)
28	1	780-004-100	Retaining Ring
29	1	780-004-110	Piston
30	2	780-020-100	Chain Anchor
31	1	810-028	Snap Ring
32	2	781-004-131	Sheave
33	1	830-151	Spring

+ + When ordering, give truck model, serial number, complete part name and OACH; or find complete part number on truck's Quality Assurance Sheet.

THE RAYMOND CORPORATION

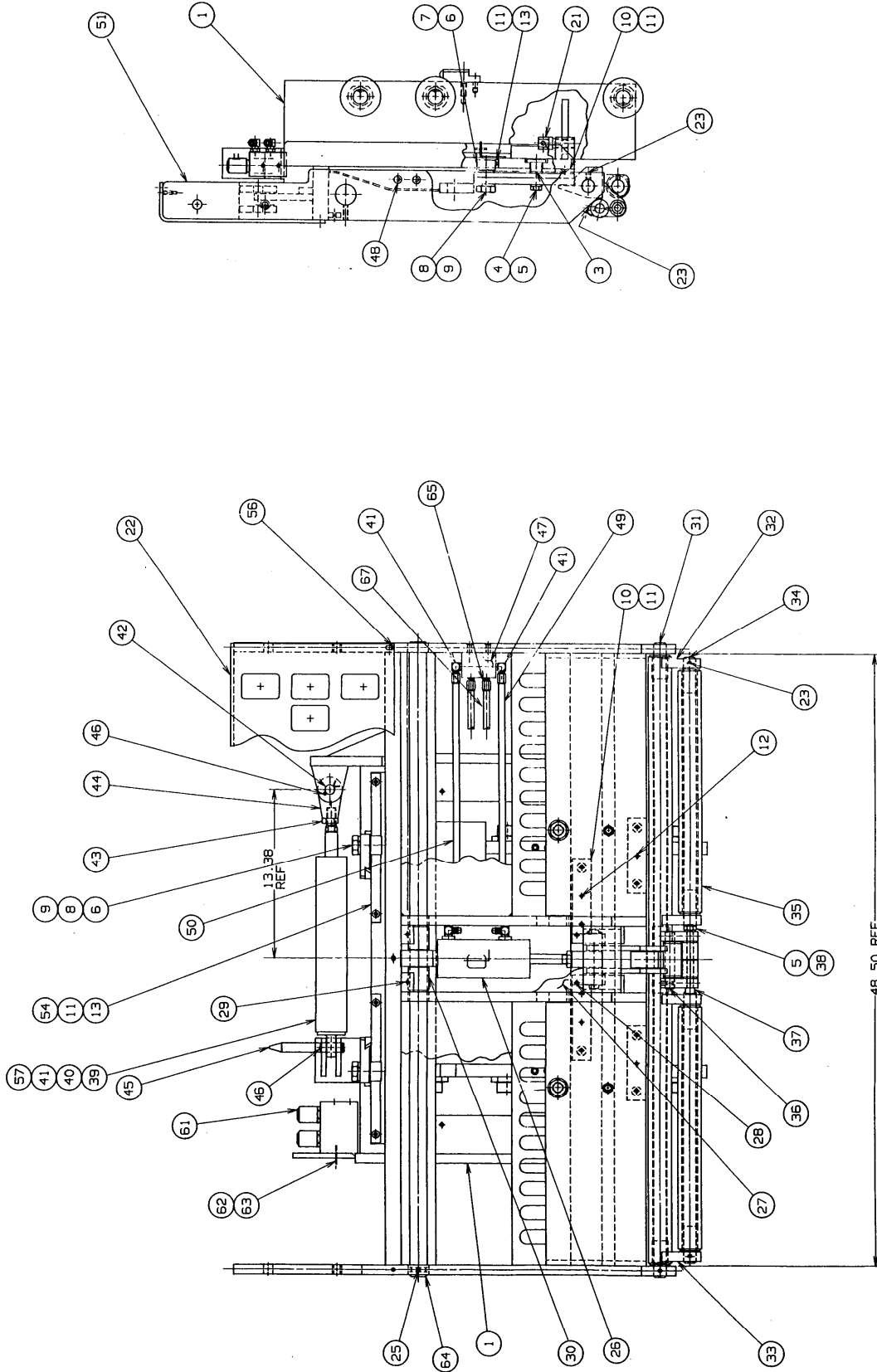
PULLEY BRACKET ASSEMBLY
 Figure 828-000-523/003 (F)

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<u>Item No.</u>	<u>Qty.</u>	<u>Part Number</u>	<u>Description</u>
1	1	828-000-542	Bracket Machining
2	1	828-000-543	Side Plate Weldment
3	1	828-000-544	Side Plate L.H.
4	2	828-000-545	Sheave
5	4	828-000-546	Roller (S/N 29000/4000/13050 to ____)
	4	828-001-508	Roller (S/N ____ and Up)
6	4	715-026	Fl. Hd. Mach. Screw 5/16-18 x 3/4
7	1	401-503	Pulley Assembly
8	2	114-004-030/004	Spacer
10	1	828-000-551	Pulley Shaft
11	2	710-134	Hex Hd. Cap Screw 3/8-16 x 1 1/4
12	2	772-123	Lockwasher 3/8
13	1	726-021	Soc. Hd. Cap Screw 1/4-20 x 5/8

HIGH EFFICIENCY MAST

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CARRIAGE WITH 48 MAXIMUM
FORK ADJUSTMENT SHOWN

Model 20 - S/N 32335 and Up
Model 21 - S/N 5599 and Up
Model 31 - S/N 15558 and Up
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S30TT W/P.T. & S.S.

CARRIAGE ASSEMBLY
Figure 628-000-315/ (C)

THE RAYMOND CORPORATION

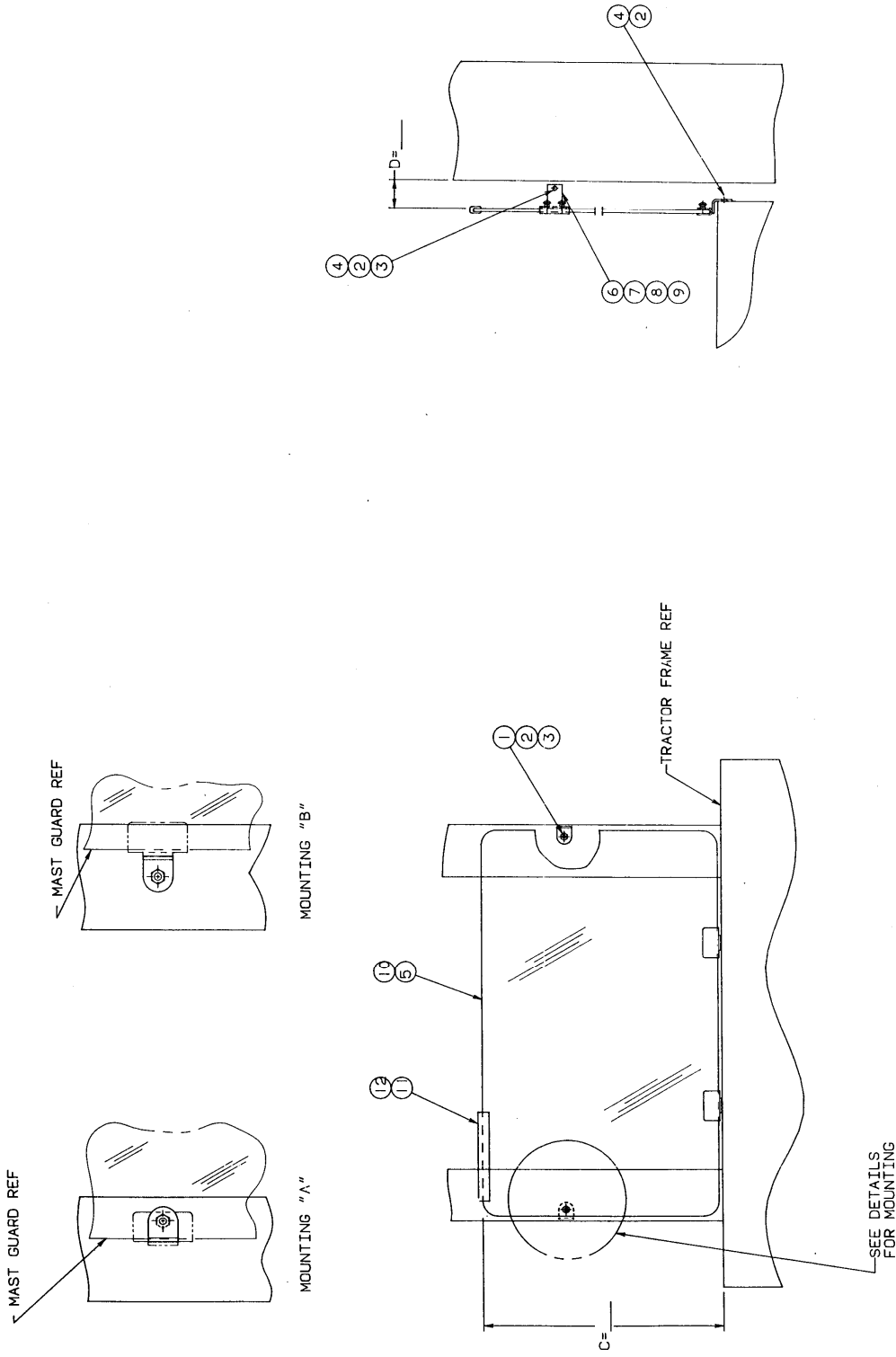
CYLINDER ASSEMBLY
Figure 483-000-000/200

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<u>Item No.</u>	<u>Qty.</u>	<u>Part Number</u>	<u>Description</u>
1	1	540-047/211	Lock Nut
2	1	838-000-713/213	Piston Assembly: Includes
	1	540-044/01	Piston
	1	540-044/15	O-Ring
	2	540-044/16	Back-Up Ring
3	1	540-044/14	O-Ring
4	1	483-000-000/211	Tube Assembly
5	1	483-000-000/212	Rod
6	1	483-000-000/214	Head Assembly: Includes
	1	530-415	O-Ring
	1	483-000-000/215	O-Ring
	2	483-000-000/216	Rod Wiper
7	1	540-044/12	Lock Ring
8	1	540-044/07	Spacer
9	1	540-044/03	Lock Ring
10	1	*483-000-000/217	Seal Kit: Includes
			4 O-Rings
			2 Back-Up Rings
			2 Rod Wipers
			1 Lock Ring

HIGH EFFICIENCY MAST

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Model 20 - S/N 32245 and Up
Model 21 - S/N 5570 and Up
Model 31 - S/N 15505 and Up

MAST GUARD INSTALLATION
Figure 828-001-007/ (C)
Figure 828-001-400/ (A)

OACH	HOSE & CABLE LENGTHS		
	ITEM #1	ITEM #2	ITEM #3
71	201	190	255
72	204	193	258
73	207	196	261
74	210	199	264
75	213	202	267
76	216	205	270
77	219	208	273
78	222	211	276
79	225	214	279
80	228	217	282
81	231	220	285
82	234	223	288
83	237	226	291
84	240	229	294
85	243	232	297
86	246	235	300
87	249	238	303
88	252	241	306
89	255	244	309
90	258	247	312
91	261	250	315
92	264	253	318
93	267	256	321
94	270	259	324
95	273	262	327
96	276	265	330
97	279	268	333
98	282	271	336
99	285	274	339
100	288	277	342
101	291	280	345
102	294	283	348
103	297	286	351
104	300	289	354
105	303	292	357
106	306	295	360
107	309	298	363
108	312	301	366
109	315	304	369
110	318	307	372
111	321	310	375
112	324	313	378
113	327	316	381
114	330	319	384
115	333	322	387
116	336	325	390
117	339	328	393
118	342	331	396
119	345	334	399
120	348	337	402

Sh. 3 of 3
S30TT
SA30TT
S40TT

HOSE AND CABLE INSTALLATION
Figure 3:28-000-921 / thru 922 / (A)

Model 20 - S/N 29000 to 31918
Model 21 - S/N 4000 to 5407
Model 31 - S/N 13050 to 15206

OACH	HOSE & CABLE LENGTHS		
	ITEM #1	ITEM #2	ITEM #3
121	351	340	405
122	354	343	408
123	357	346	411
124	360	349	414
125	363	352	417
126	366	355	420
127	369	358	423
128	372	361	426
129	375	364	429
130	378	367	432
131	381	370	435
132	384	373	438
133	387	376	441
134	390	379	444
135	393	382	447
136	396	385	450
137	399	388	453
138	402	391	456
139	405	394	459
140	408	397	462
141	411	400	465
142	414	403	468
143	417	406	471
144	420	409	474
145	423	412	477
146	426	415	480
147	429	418	483
148	432	421	486

828-000-845/XXX

828-000-860/XXX

SEE TABLES AT LEFT
FOR HOSE LENGTH

SEE TABLES AT LEFT
FOR CABLE LENGTH

HOSE LENGTH FORMULAE: (TAKEN TO THE NEAREST INCH).

#1 = 3 x OACH - 12

#2 = 3 x OACH - 23

CABLE LENGTH FORMULAE:

#3 = 3 x OACH + 42

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