

OPERATOR'S MANUAL FOR HYDRA-LIFT DRUM KARRIERS - Serial # 0802 to ____ (MMYY)

The letter A in the model number indicates that the unit is for 55 gallon standard steel drum (22½" diameter).

Model Number	Dispensing Height* Max.	Capacity		Capacity		Tilt Control
		Full Drum		Drum Half Full		
400A-60	60" (152cm)	800 Lb. (363kg)	800 Lb. (363kg)	500 Lb. (227kg)	500 Lb. (227kg)	Hand Crank
400A-72	72" (183cm)	800 Lb. (363kg)	800 Lb. (363kg)	500 Lb. (227kg)	500 Lb. (227kg)	Chain Wheel, 7' Chain
400A-84	84" (213cm)	800 Lb. (363kg)	800 Lb. (363kg)	500 Lb. (227kg)	500 Lb. (227kg)	Chain Wheel, 9' Chain
400A-96	96" (244cm)	750 Lb. (340kg)	750 Lb. (340kg)	375 Lb. (170kg)	375 Lb. (170kg)	Chain Wheel, 12' Chain

* Dispensing height is distance from the floor to bottom of drum held horizontally. Tilting the drum below horizontal will reduce this distance.

A. IMPORTANT:

- Review the Material Safety Data Sheet(s) for the material(s) in the drum(s) and take all necessary precautions. Safety shoes, work gloves, hard hat and other personal protective devices are recommended.
- Please read all instructions *thoroughly* before attempting to operate your new MORSE drum handler.
- Model 400 series Hydra-Lift Karriers have a maximum capacity and size ratings as listed above. **DO NOT** exceed these ratings. Exceeding these ratings or handling drums other than those mentioned above is unsafe and could result in equipment damage, excessive wear, or make the unit awkward or dangerous to handle.
- Hydra-Lift Karriers are intended for lifting, moving, and holding drums for tilting, pouring or dumping. Drums may be lifted upright to or from the floor or other suitable surface on dollies, scales, etc.
- When loading, unloading, operating, or maintaining your MORSE drum handler, always use care and good judgment. Maintain secure footing and a firm hold. Keep hands and loose clothing away from all moving parts. Never allow anyone to be below any part of a raised drum handler or drum. Read operating instructions and review the pictures in the sales brochure before operation.

B. OPERATING INSTRUCTIONS:

- Roll the assembled Hydra-Lift Karrier to the drum.
- Position the drum holder (Saddle Assembly #49) to meet the middle of the drum between its ribs. The cinch chain (#47) can be kept from dragging on the floor by hanging it on the pin at the front of the gear block.
- Roll forward to mate the drum holder squarely and tightly to the drum. If necessary, turn drum tilt control (#23 or 24) to adjust attitude of the drum holder band to fit flush to the drum.
- Secure the drum: Drape the cinch chain across the face of the drum and engage a link into the slot on the ratchet (#56). Turn ratchet handle clockwise to tighten the chain. If ratchet turns to the extent that the pawl (#58) is beyond the last ratchet tooth and the chain is not tight, back up and try putting the next link in the slot. The chain should tighten as the ratchet turns and be held tight by the teeth of the ratchet and pawl. See page 5 (#52) for how it might look when it's tight.
- Pump the lever handle (#5) (or operate the power lift) to raise the drum enough to clear the floor.
- Move the Hydra-Lift with the drum to the dispensing area. NOTE: DO NOT TRANSPORT WITH A RAISED DRUM. TRANSPORT THE DRUM UPRIGHT AT A HEIGHT CLEAR OF THE FLOOR. DO NOT ALLOW THE DRUM TO IMPACT ON FLOOR, POURING STATION, ETC. OR A SPILL OR DAMAGE COULD OCCUR.
- Raise the drum (hand pump or power lift) to the desired pouring height. Drum attitude may be adjusted during the lift. (Turn the crank, the chain wheel, or use the power tilt control). This is especially important when lifting an open drum.
- Use the tilt control to tilt the drum as necessary for pouring or draining, etc.
NOTE: Before releasing your grip on the two sides of the pull chain loop, "tie-off" the chain by engaging it into the pin at the corner of the overhead assembly (#18), or before releasing your grip on the hand crank (#23), pull out the crank stop pin (#36) to block the crank from spinning freely.
- The screw-down floor lock may be used if there is a tendency for the unit to roll while in use.
- To lower the drum, open release valve slowly, a part of a turn. Allow the drum to descend at a controlled rate. The valve may be reclosed to hold the drum at any height.
- Lower the drum to the floor in an upright position before disconnecting cinch chain to release the drum.

C. MAINTENANCE:

- Grease wheel bearings periodically. Oil or grease all moving parts including: the three clevis pins (#9) and the surfaces of the boom which contact the inside of the mast cap, the hinge pin (#53), the pump handle-socket linkage, the gears and sprockets in the tilt drive, and the ratchet and pawl.
- Information for hydraulic components is provided on other sheets.
- Periodically inspect all framework and parts for signs of wear, fatigue or loose hardware, etc. Replace, tighten or adjust as necessary to maintain proper function and prevent failures.

D. PARTS INFORMATION

Worn or damaged parts must be properly replaced with the correct, genuine Morse parts. See parts list and diagram on pages 3-5.

ASSEMBLY INSTRUCTIONS

Serial # 0802 to ____ (MMYY)

Step #1: Place tower on floor, push-handle down. See figure 1.

Step #2: Attach each leg using two 3/8-16x3" grade 5 bolts, flat washers, and lock nuts as shown. Wheels should be parallel when assembled properly. See figures 1 & 2.

Please unpack and identify the following parts:

- 1 ea. Tower with hydraulic pump and cylinder, etc.
- 2 ea. Legs with wheels
- 1 ea. Overhead assembly with drum holder, etc.
- 1 ea. Package with hardware

NOTE: The clevis pins and mating surfaces at their joints should be coated with grease during assembly.

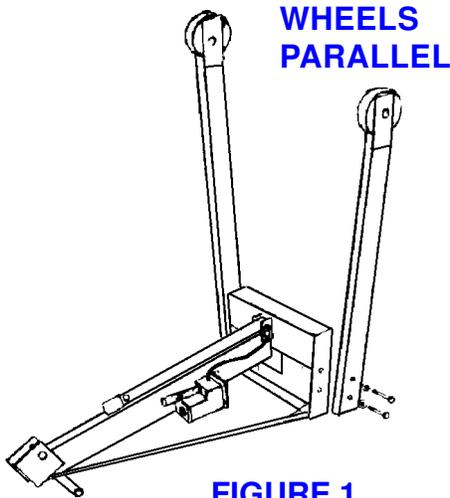


FIGURE 1.

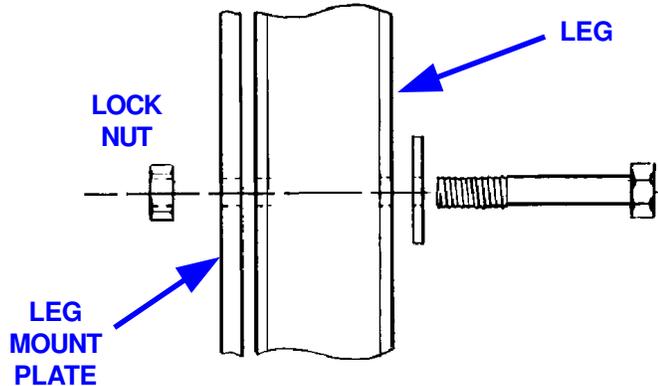


FIGURE 2.

Step #3: Tip the tower up so it stands on the casters and wheels.

Step #4: Lift overhead assembly into position. A drift pin can help align the holes. Insert a greased clevis pin (Part 138-P) through mast cap and boom. Install a 5/8" washer and 3/16" Sel-Lok pin in the end of the clevis pin. See figure 3.

Step #5: Next, connect the cylinder to the overhead assembly: Align ram eye with holes in boom clevis plates and insert a greased clevis pin with four 5/8" washers. Place another washer on outer end of clevis pin and drive a 3/16" roll pin into the hole at the end of clevis pin. See figure 4.

STEP 4.

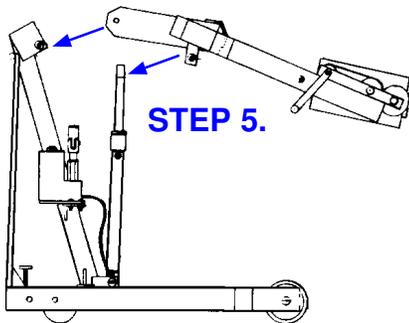


FIGURE 3.

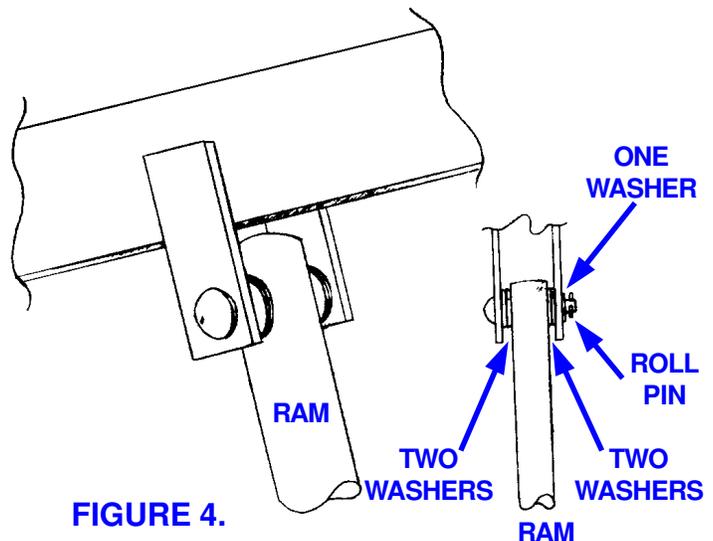


FIGURE 4.

Step #6: Remove sealing plug from the top of hydraulic reservoir and fill reservoir with included container of hydraulic fluid. Replace sealing plug with the included breather plug. Your Hydra-Lift Karrier is now ready for service. Please refer to the operating and maintenance instructions provided.

PARTS LIST FOR MANUAL TILT MODELS - Serial # 0802 to ____ (MMYY)

ITEM NUMBER	MODEL	MODEL LETTER SUFFIX	QTY. REQ'D PER UNIT	PART NUMBER	DESCRIPTION
1	400A		4	1521-P	3/8 - 16 X 3" HHCS GR 5 STL
2	400A		8	1166-P	WASHER, 3/8 USS 1" OD
3	400A		9	1169-P	3/8 - 16 REV HEX LOC NUT
4	400A	60, 72	2	134-P	LEG WELDMENT, 400A-60, 72
4	400A	84	2	134-84-P	LEG WELDMENT, 400A-84
4	400A	96	2	134-96-P	LEG, 400A-96 TYPE
5	400A		1	96CP13-23	HANDLE, LEVER W/ GRIP, STAR
6	400A		8	215-P	5/16 - 18 X 5/8 HHCS GR 2
7	400A		8	491-P	5/16 - 18 REV HEX LOC NUT
8	400A		1	96MK1939-P	PUMP, HYD, HAND STAR
9	400A		3	138-P	CLEVIS PIN 5/8 X 3"
10	400A		4	1572-P	3/8 - 16 X 1" HHCS GR 2 STL
11	400A		1	3610-P	HYD FIT, MALE ELBOW, SAE
12	400A		2	705-P	PUSH-ON HUB CAP, 3/4"
13	400A		2	704-P	AXLE, 3/4", USE WITH PUSH-ON
14	400A		2	87-P	WHEEL, MORTUF, 8", 3/4" BRG
15	400A		2	86-P	CASTER, SWIVEL, 4"
16	400A	60, 72	1	135-P	TOWER WELDMENT, 400A-60, 72
16	400A	84	1	135-84-P	TOWER WELDMENT, 400A-84
16	400A	96	1	135-96-P	TOWER WELDMENT, 400A-96
17	400A	60	1	790-60-P	OVERHEAD WELDMENT, 400A-60
17	400A	72	1	790-72-P	OVERHEAD WELDMENT, 400A-72
17	400A	84	1	790-84-P	OVERHEAD WELDMENT, 400A-84
17	400A	96	1	790-96-P	OVERHEAD WELDMENT, 400A-96
18 see Note #1	400A	60	1	791-60-P	OVERHEAD ASM CPT, 400A-60
18 see Note #1	400A	72	1	791-72-P	OVERHEAD ASM CPT, 400A-72
18 see Note #1	400A	84	1	791-84-P	OVERHEAD ASM CPT, 400A-84
18 see Note #1	400A	96	1	791-96-P	OVERHEAD ASM CPT, 400A-96
19	400A		1	766-P	HYD HOSE ASM, 12"
20	400A		7	17-P	WASHER, 5/8 SAE FL 1-5/16 OD
21	400A	72, 84, 96	4	64-P	ROLL PIN, 3/16 X 1-1/4
21	400A	60	3	64-P	ROLL PIN, 3/16 X 1-1/4
22	400A		1	781-P	CYLINDER, 1.5 X 22.625", SAE
23	400A	60	1	5-P	HAND CRANK, 400, 405
24	400A	72, 84, 96	1	1303-P	POCKET CHAIN WHEEL, 3/4 BORE
25	400A	72, 84, 96		1301-P	PULL CHAIN, POCKET, PER FT
26	400A	72	1	3-72-P	PULL CHAIN, POCKET, 7' LENGTH
26	400A	84	1	3-84-P	PULL CHAIN, POCKET, 9' LENGTH
26	400A	96	1	3-185-P	PULL CHAIN, POCKET, 12' LENGTH
27	400A	72, 84, 96	1	1304-P	GUIDE, POCKET CHAIN WHEEL
28	400A	60	2	735-P	KEY, WOODRUFF, SIZE 9, ASA606
28	400A	72, 84, 96	1	735-P	KEY, WOODRUFF, SIZE 9, ASA606
29	400A	72, 84, 96	1	1411-P	SPACER, FOR SHAFT W/ 12T

PARTS LIST FOR MANUAL TILT MODELS - Serial # 0802 to ____ (MMYY)

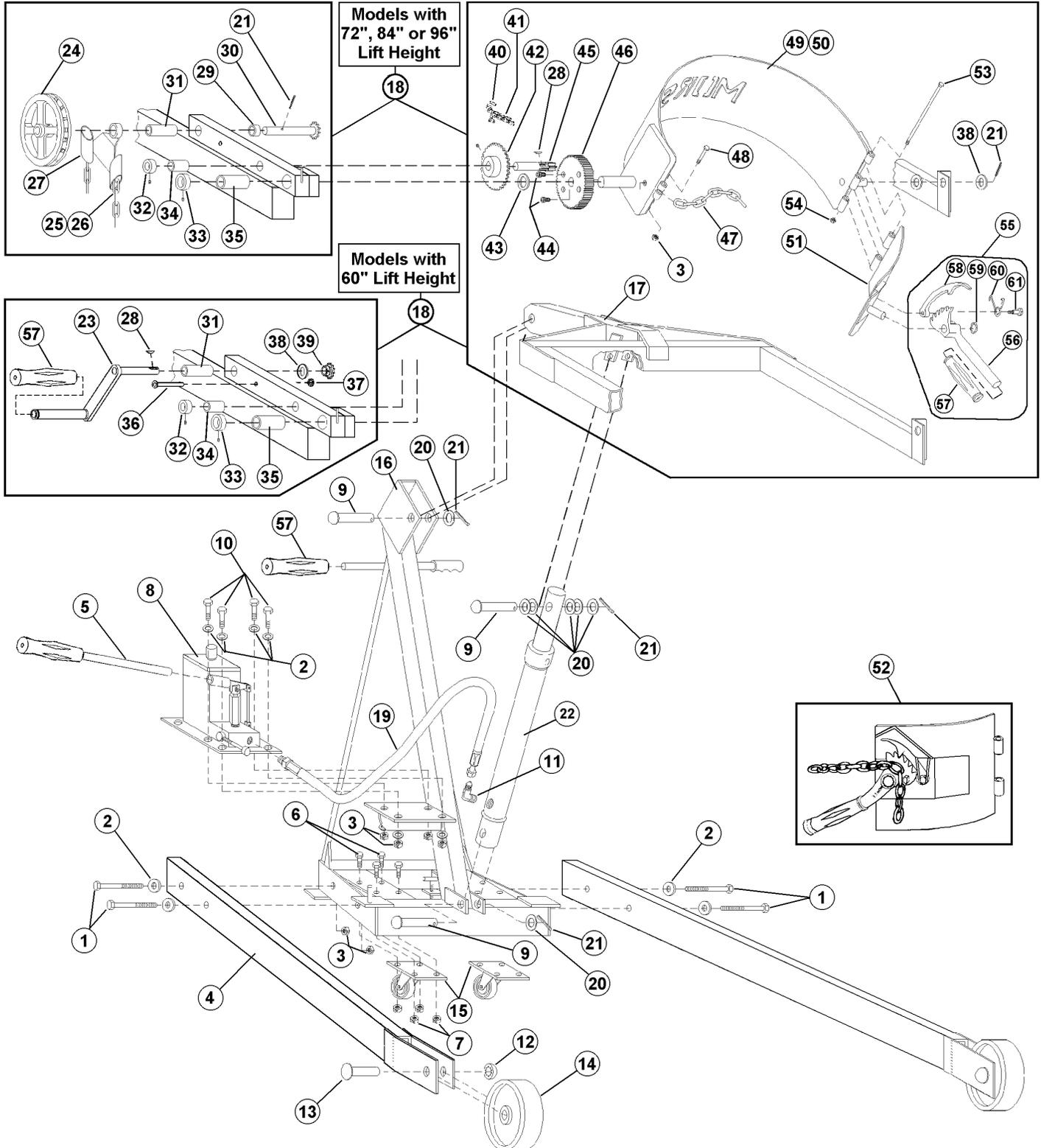
ITEM NUMBER	MODEL	MODEL LETTER SUFFIX	QTY. REQ'D PER UNIT	PART NUMBER	DESCRIPTION
30	400A	72, 84, 96	1	1302-P	SHAFT W/ 12T SPROCKET, POCKET
31	400A		1	19-P	BEARING, 3/4" ID X 2-1/2"
32	400A		1	15-P	COLLAR, 3/4" ID
33	400A		1	16-P	COLLAR, 1" ID
34	400A		1	7-P	BEARING, 3/4" ID X 1-1/2"
35	400A		1	18-P	BEARING, 1" ID X 2-1/2"
36	400A	60	1	100-P	STOP PIN, HAND CRANK, 1/2"
37	400A	60	1	718-P	PUSH NUT, 1/2"
38	400A	60	3	55-P	WASHER, 3/4 SAE FL 1-1/2 OD
38	400A	72, 84, 96	2	55-P	WASHER, 3/4 SAE FL 1-1/2 OD
39	400A	60	1	11-P	SPROCKET, #35 12T, 3/4" BORE
40	400A		1	795-P	LINK, MASTER, #35 CHAIN
41	400A		1	12-P	CHAIN, ROLLER, #35 W/ M LINK
42	400A		1	13-P	SPROCKET #35 36T, 3/4" BORE
43	400A		1	29-P	SPACER, SPUR GEAR .15"
44	400A		2	22-P	3/8 - 24 X 5/8" SHCS STL
45	400A		1	14-P	GEAR, PINION, 7 TOOTH
46	400A		1	23-P	GEAR, SPUR, 72T, 1" HOLE
47	400A		1	180-P	CHAIN, CINCH, 3/16 ALLOY 33 LK
48	400A		1	82-P	3/8 - 16 X 2-1/4 HHCS GR 2 STL
49 see Note #2	400A		1	725A-P	SADDLE ASM CPT, 285A, 400
50					SADDLE WELDMENT (NOT SOLD SEPARATELY)
51	400A		1	731-P	RATCHET HINGE PLATE ONLY 1/4 A
52	400A		1	726-P	RATCHET HINGE PLATE CPT 1/4" A
53	400A		1	1296-P	1/4 - 20 X 7-1/2 HHCS GR 5 STL
54	400A		1	1297-P	1/4 - 20 REV HEX LOC NUT
55	400A		1	165KIT-P	KIT, RATCHET CHAIN TIGHTENER
56	400A		1	165-P	RATCHET, MALLEABLE, FOR SADDLE
57	400A	72, 84, 96	3	136-P	HANDLE GRIP, 7/8" X 4-3/4"
57	400A	60	4	136-P	HANDLE GRIP, 7/8" X 4-3/4"
58	400A		1	168-P	PAWL, WITH DRILLED HOLE
59	400A		1	710-P	RETAINER, RATCHET PUSH ON 3/4"
60	400A		1	169-P	PAWL SPRING
61	400A		1	170-P	3/8" DIA X 5/8" SHOULDER SCREW

NOTE #1: "Overhead Assembly Complete" includes the overhead weldment #17, saddle assembly complete #49, tilt gear assembly #23 or #24 with related parts and #31 through 46, etc., all factory assembled.

NOTE#2: "Saddle Assembly Complete" includes the saddle weldment #50 and appropriate attached moving parts, such as #3, 47, 48, 52, 53 & 54.

NOTE #3: Basic models 400A-60, 72, etc. include hand pump hydraulic lift and manually driven geared tilt as pictured. Motor powered hydraulic lift and powered tilt are available options. Power lift is available for retrofit to replace hand pump lift. Contact your dealer for info.

PARTS DIAGRAM FOR MANUAL TILT MODELS - Serial # 0802 to ____ (MMYY) (See Pages 6-7 For Power Tilt Option)



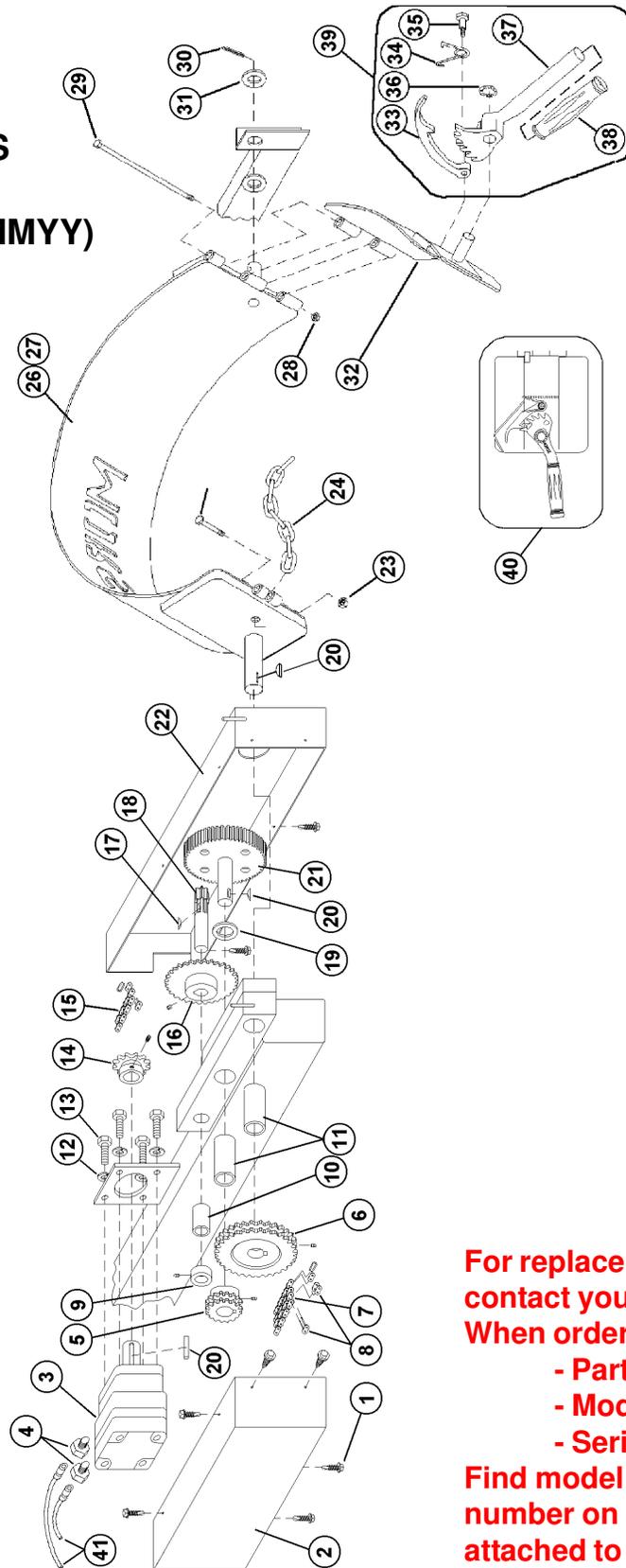
PARTS LIST FOR POWER-TILT MODELS - Serial # 0802 to ____ (MMYY)

ITEM NUMBER	MODEL LETTER SUFFIX see note #1	QTY. REQ'D PER UNIT	PART NUMBER	DESCRIPTION
1		9	193-P	SCREW, TEK, 12-14 X 3/4" 3 PT
2		1	1755-P	COVER HALF SQ, NO HOLES 400 PT
3		1	351-P	MOTOR, HYDRAULIC HYD, 400, 456
4		2	2120-P	HYD FITTING 0103-8-4, 456 400
5		1	30-P	SPROCKET #40D 16T, 1" BORE
6		1	32-P	SPROCKET #40D 32T, 1" BORE
7		1	31-P	CHAIN, ROLLER, #40D W/ M. LINK
8		1	796-P	LINK, MASTER, FOR #40D CHAIN
9		1	15-P	COLLAR, 3/4" ID
10		1	7-P	BEARING, 3/4" ID X 1-1/2"
11		2	18-P	BEARING, 1" ID X 2-1/2"
12		4	1474-P	WASHER, 3/8 SPLIT LOCK
13		4	1657-P	3/8 - 16 X 3/4 HHCS GR 2 STL
14		1	1116-P	SPROCKET #35 17T, 1" BORE
15		1	12-P	CHAIN, ROLLER, #35 W/ M LINK
16		1	13-P	SPROCKET #35 36T, 3/4" BORE
17		1	735-P	KEY, WOODRUFF, SIZE 9, ASA606
18		1	14-P	GEAR, PINION, 7 TOOTH
19		1	29-P	SPACER, SPUR GEAR .15"
20		3	736-P	KEY, WOODRUFF, SIZE 15, ASA808
21		1	27-P	SPUR GEAR W/ 1" SHAFT, HD TYPE
22		1	1772-P	COVER HALF SQ, 1 HOLE, 400 PT
23		1	1169-P	3/8 - 16 REV HEX LOC NUT
24		1	180-P	CHAIN, CINCH, 3/16 ALLOY 33 LK
25		1	82-P	3/8 - 16 X 2-1/4 HHCS GR 2 STL
26*		1	745A-P	SADDLE ASM CPT, A-HD, '88
27				SADDLE WELD (NOT SOLD SEPARATELY)
28		1	1297-P	1/4 - 20 REV HEX LOC NUT
29		1	1296-P	1/4 - 20 X 7-1/2 HHCS GR 5 STL
30		1	64-P	ROLL PIN, 3/16 X 1-1/4
31		1	55-P	WASHER, 3/4 SAE FL 1-1/2 OD
32		1	731-P	RATCHET HINGE PLATE ONLY 1/4 A
33		1	168-P	PAWL, WITH DRILLED HOLE
34		1	169-P	PAWL SPRING
35		1	170-P	3/8" DIA X 5/8" SHOULDER SCREW
36		1	710-P	RETAINER, RATCHET PUSH ON 3/4"
37		1	165-P	RATCHET, MALLEABLE, FOR SADDLE
38		1	136-P	HANDLE GRIP, 7/8" X 4-3/4"
39		1	165KIT-P	KIT, RATCHET CHAIN TIGHTENER
40		1	726-P	RATCHET HINGE PLATE CPT 1/4" A
41	60	2	1762-P	HYD HOSE ASM, 60 PT, 71"
41	72	2	1763-P	HYD HOSE ASM, 72 PT, 77"
41	84	2	1764-P	HYD HOSE ASM, 84 PT, 89"
41	96	2	1765-P	HYD HOSE ASM, 96 PT, 101"

* NOTE #1: Saddle Assembly Complete includes the Saddle Weldment (#27) and appropriate attached moving parts: #23, 24, 25, 28, 29, & 40.

PARTS DIAGRAM FOR POWER TILT OPTION

ON MORSE 400 SERIES
HYDRA-LIFT KARRIER
Serial # 0802 to ____ (MMYY)



For replacement parts, please contact your Morse dealer.
When ordering parts, please specify:

- Part number and description,
- Model number
- Serial number

Find model number and serial number on metal name plate attached to Hydra-Lift Karrier.