

OPERATOR'S MANUAL FOR 456 SERIES HYDRA-LIFT DRUM ROTATOR

Serial # 13299 - 206719

A. IMPORTANT:

1. 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.
2. Please read all instructions *thoroughly* before attempting to operate your new MORSE drum rotator.
3. The 456 Series has a maximum liquid capacity rating of 1,000 Lb. (454 kg), and dry load capacity of 400 Lb. (181 kg). It is designed to rotate a steel drum 6" - 26" in diameter up to 40" long. **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, motor overload and shortened service life of transmission components.
4. When loading, unloading, operating, or maintaining your MORSE drum rotator, 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 near a rotating drum. Read operating instructions and review the pictures in the sales brochure before operation.

Morse rotators comply with OSHA only when they are installed in accordance with OSHA subpart O, 1910.212 - "General requirements for all machines."

B. ASSEMBLY INSTRUCTIONS

1. Remove the four bolts from the floor mount angles and remove the rotator from the shipping pallet.
2. Position the rotator in the desired location and bolt to floor using floor mount angle
3. Remove the red shipping plug from the hydraulic reservoir and install the supplied black breather.
4. For AC electric units, the main power must be wired into the control box. See wiring diagram included inside the control box.
 - 456 Series models ordered with a non-explosion proof AC motor (i.e. 456-1-115) have the control box factory wired to the motor.
 - Units ordered with an explosion proof motor (i.e. 456-E3-230), have no wiring from the NEMA 7/9 control box to the motor. Please consult an electrician to complete the wiring.

Rotators equipped with an air motor (i.e. 456-A), feature an onboard filter/regulator/lubricator with a 3/8" NPT shutoff on the inlet where a quick coupling can be installed for connecting an air line. Air requirements are 40 psi, 40 scfm. *Operating the air motor at higher pressures will reduce the life of the air motor and power transmission components.*

DANGER - Stay Clear of Rotating Drum. NEVER allow anyone to be near any part of the rotating drum or drum holder. Operator should remain near the push button station and others should stay clear of the rotator.

C. OPERATING INSTRUCTIONS:

1. Raise the "TILT" lever on the right side to tilt the load plate to floor level.
2. Place a drum onto load plate with a drum truck or below-the-hook lifter as shown below.
3. Tilt the drum into the horizontal position by lowering the "TILT" lever.
4. After ensuring that the area around the rotator is clear, raise the "ROLL" lever to begin rotation.
5. The rotation speed can be varied with the flow control valve (item 47). Turn the valve clockwise to increase speed up to 20 RPM, counterclockwise to decrease speed down to 5 RPM. (RPM is based on a 55 gallon steel drum, 22-1/2" diameter.)



Loading drum onto Model 456 with Morse Model 160 Drum Truck



Loading drum onto Model 456 with Morse Model 90 Verti-Karrier



Tilt drum from vertical to horizontal position with powered hydraulics



Rotate drum

D. MAINTENANCE:

1. Pillow block bearings are equipped with grease fitting and should be lubricated periodically. High pressure grease guns are not recommended, as their force may damage seals.
2. Motors have permanently lubricated ball bearings.
3. Periodically inspect all moving parts, framework, and contact areas for signs of wear or loosening. Tighten, adjust, or replace parts as necessary to prevent failure and maintain proper function.
4. Inspect the hydraulic system for oil drips, hose damage, or other signs of wear. Inspect the level and condition of hydraulic fluid. (See hydraulic pump specification sheet.) Replace any parts that show signs of wear.

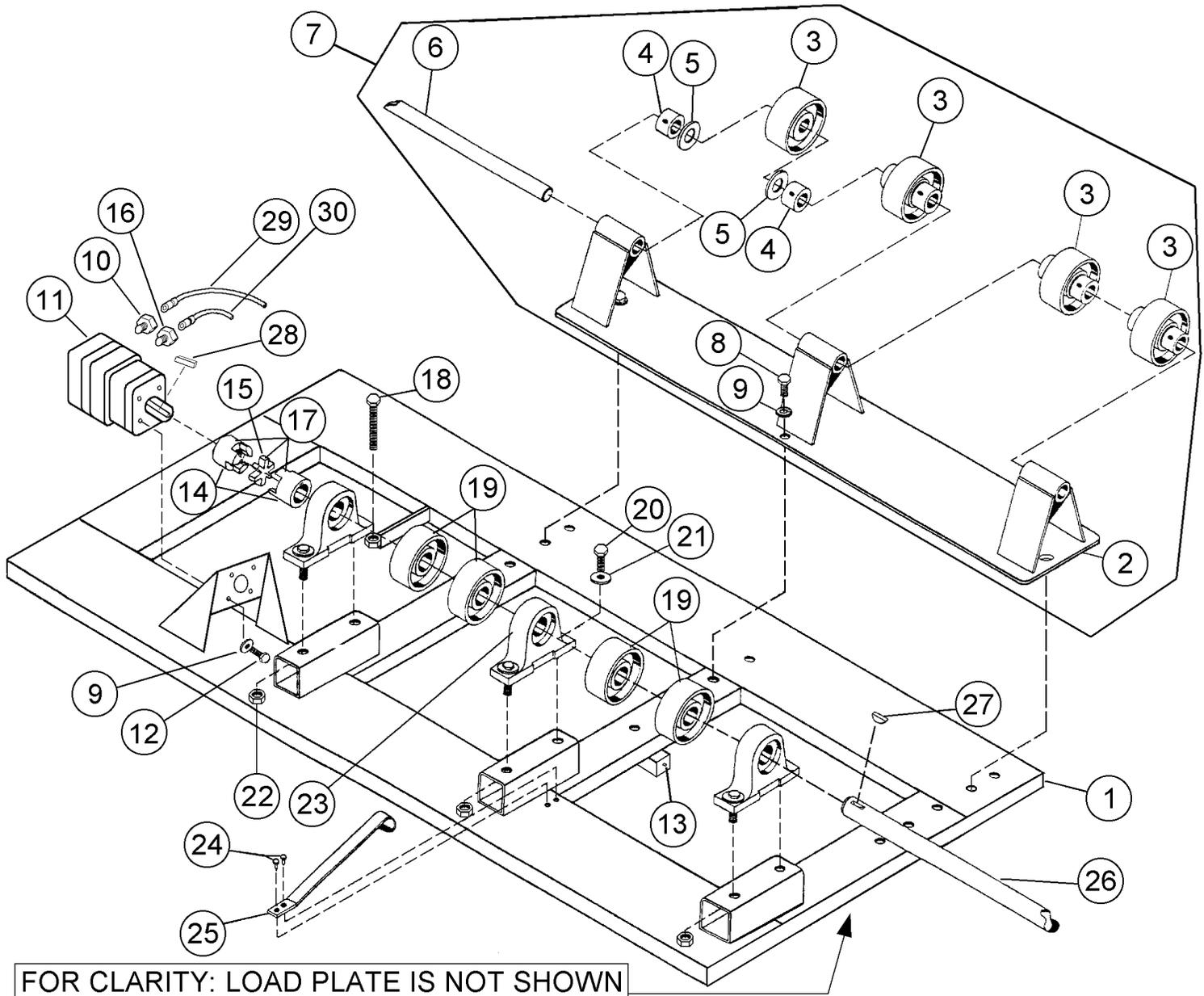
PARTS LIST FOR 456 SERIES HYDRA-LIFT DRUM ROTATOR
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ITEM	MODEL SUFFIX	QTY	P/N	DESCRIPTION
1		1	1202-P	TILT BED WELD, 456
2		1	295-P	IDLER PLATE, 5154
3		4	292-P	WHEEL, IDLER, 6" W/ 3/4" BRG
4		8	15-P	COLLAR, 3/4" ID
5		8	55-P	3/4 SAE FL WASHER
6		1	301-P	IDLER SHAFT, 3/4" X 38" 5154
7		1	295CPT-P	IDLER PLATE CPT, 1-5154
8		3	1657-P	3/8 - 16 X 3/4 HHCS GR2 STL
9		11	1474-P	3/8 SPLIT LOCK WASHER
10		1	2175-P	HYD FITTING 1/2 X 3/8 PUSH LOK
11		1	351-P	MOTOR, HYDRAULIC HYD
12		6	1572-P	3/8 - 16 X 1" HHCS GR 2 STL
13		4	33-P	ALEMITE GREASE FITTING
14		2	1665-P	COUPLING BODY HALF, 1" BORE
15		1	305-P	SPIDER, BUNAN, 5154
16		1	2120-P	HYD FITTING 0103-8-4, 456 400
17		1	2808-P	COUPLING CPT, 1" TO 1"
18		1	1315-P	3/8 - 16 X 2-3/4 HHCS GR 2 STL
19		4	291-P	WHEEL, DRIVE, 6" , 1" BORE
20		8	1464-P	3/8 - 16 X 1-1/4 HHCS GR 2 STL
21		10	1166-P	WASHER, 3/8" USS
22		7	1169-P	3/8 - 16 REV HEXLOC NUT
23		3	297-P	BEARING, 1", PILLOW BLOCK
24		2	213-P	DRIVE SCREW, #7 X 5/16"
25		1	217-P	GROUNDING STRAP, 5154
26		1	299-P	DRIVE SHAFT, 1-5154
27		1	736-P	KEY, WOODRUFF, SIZE 15, ASA808
28		1	2656-P	1/4 SQUARE KEY X 1"
29		1	2177-P	RETURN HOSE, PUSH LOK, 79" 456
30		1	2810-P	HYD HOSE ASM, 75-1/4", 456
31		1	1204-P	BASE WELD, 456
32	-1,-1-230	1	290-1-2P	MOTOR, 1HP, 1PH, 56C, TEFC
32	-3,-460	1	290-3-2P	MOTOR, 1HP, 3PH, 56C, TEFC
32	-A	1	290-A-2P	MOTOR, AIR 2HP, 56C
32	-E1,-E1-230	1	290-E1-2P	MOTOR, 1HP, 1PH, 56C, EXP
32	-E3,-E460	1	290-E3-2P	MOTOR, 1HP, 3PH, 56C, EXP
33		2	2809-P	HYD HOSE ASM, 21", 456
34		1	M404-456-P	HYD POWER PACK, 456
35		1	2178-P	RETURN HOSE, PUSH LOK 17", 456
36	-3,-460	1	2790-P	WIRE, 14 AWG, 16"
36	-1,-1-230	1	3184-P	WIRE, 14 AWG, 12"
37	ALL AC NON EXP	1	2788-P	POLY FLEX CONDUIT, 1/2", 3'
38	ALL AC NON EXP	1	2789-P	CONDUIT FITTING, 90 DEG POLY

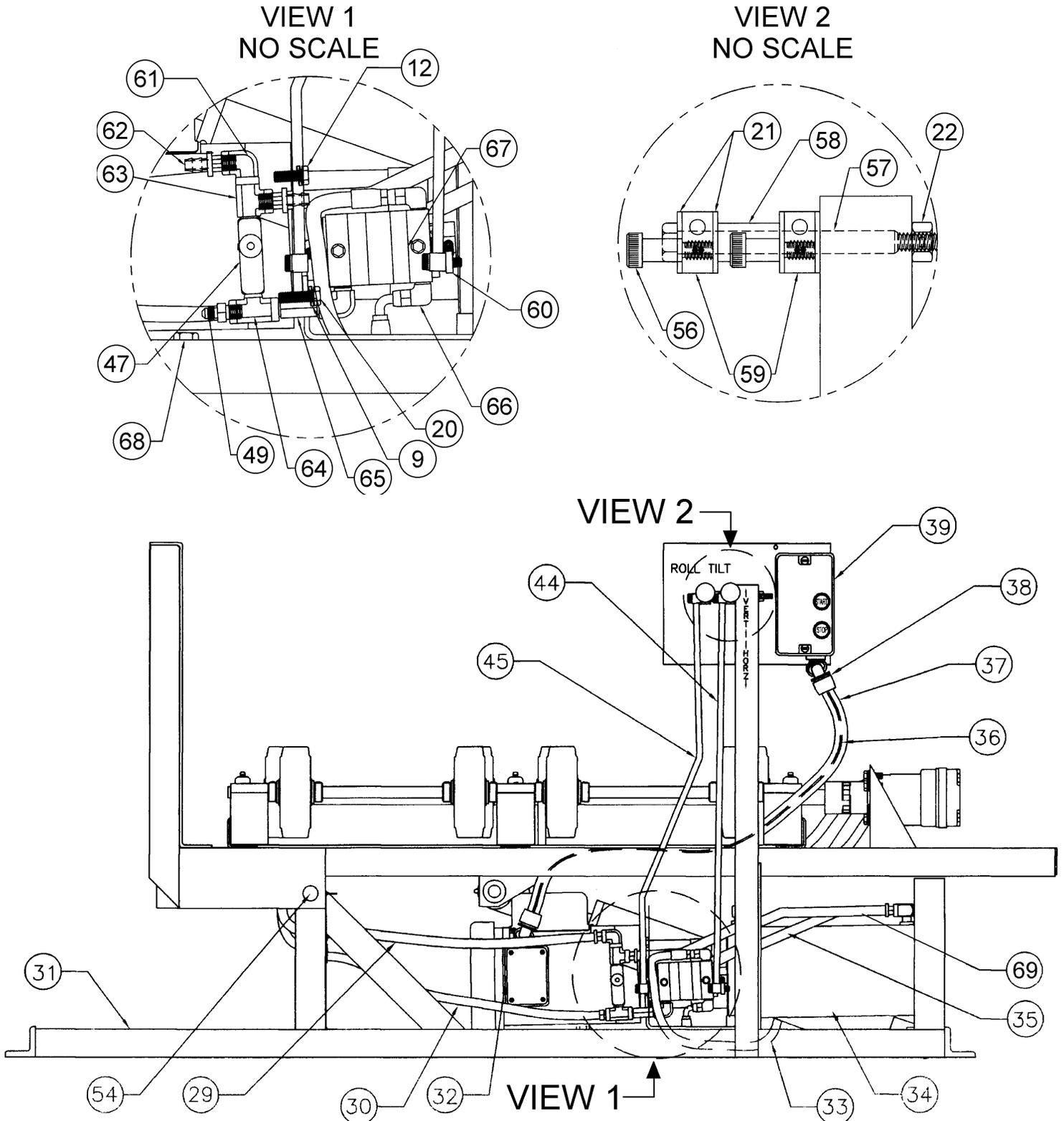
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ITEM	MODEL SUFFIX	QTY	P/N	DESCRIPTION
39	-1	1	1239-P	CONTROL BOX, 456-1
39	-1-230, -1-220-50	1	1240-P	CONTROL BOX, 456-1-230
39	-3, -3-220-50	1	1237-P	CONTROL BOX, 456-3
39	-460, -3-440-50	1	1238-P	CONTROL BOX, 456-460
39	-E1	1	1785-P	CONTROL BOX, 456-E1
39	-E1-230, -E1-220-50	1	1786-P	CONTROL BOX, 456-E1-230
39	-E3, -E3-220-50	1	1256-P	CONTROL BOX, 456-E3 310-E3-460
39	-E460, -E3-440-50	1	1257-P	CONTROL BOX, 456-E460
39	-A	1	90020-P	FRL ASM, KIT, 3/8", REGULATOR
40	ALL AC NON EXP	2	2683-P	10 - 24 X 3/4 SLTD FILL HD M/S
40	ALL AC EXP	2	1641-P	1/4 - 20 X 1-1/4 HHCS GR 2 STL
41	ALL AC NON EXP	2	1869-P	10 - 24 NYLON LOCK NUT
41	ALL AC EXP	2	1297-P	1/4 - 20 REV HEX LOC NUT
42		2	41326-P	ROD, VALVE HANDLE, MONARCH
43		2	41157-P	BALL, PLASTIC, HANDLE, MONARCH
44		1	2812-P	CONTROL PUSH ROD, TILT, 456
45		1	2811-P	CONTROL PUSH ROD, ROLL, 456
46		1	647-P	CYLINDER, 3 X 16" STROKE 456
47		3	339-P	FLOW CONTROL VALVE F-400-B-11
48		2	2119-P	HYD FITTING ELBOW 2101-4-4
49		3	345-P	HYD FITTING, MALE CONNECTOR
50		1	2169-P	CYLINDER PIN, 1" X 2-3/8, 456
51		1	2170-P	CYLINDER PIN, 1 DIA X 3", 456
52		2	1637-P	ROLL PIN, 3/16 X 1-1/2
53		2	1883-P	WASHER, 1" SAE FL 2" OD
54		1	2163-P	HINGE SHAFT, 1" X 25.25, 456
55		2	16-P	COLLAR, 1" ID
56		4	170-P	3/8" DIA X 5/8" SHOULDER SCREW
57		1	2171-P	3/8 - 16 X 4-3/4 HHCS GR 5 STL
58		1	2161-P	BOLT SPACER, CONTROL MOUNT 456
59		2	2174-P	HANDLE HOLDER, 456
60		2	2173-P	BOLT, LINK EYE, 456
61		3	2118-P	HYD FITTING ELBOW 2102-4-4
62		5	1107-P	HYD FITTING 1/4 X 3/8 PUSH LOK
63		2	1105-P	HYD FITTING T ADAPTOR 012T-4-4
64		1	1109-P	HYD FITTING T 212T-4-4
65		1	1182-P	COUPLING 2.5FFF-B X 1/4 BRASS
66		2	765-P	HYD FITTING, MALE ELBOW
67		1	07381-P	VALVE 3-4 WAY ROUND ROUND 456
68		1	2172-P	1/2 - 13 X 1-1/2 HHCS
69		1	3326-P	RETURN HOSE, PUSH LOK 15", 456

PARTS DIAGRAM FOR 456 SERIES HYDRA-LIFT DRUM ROTATOR
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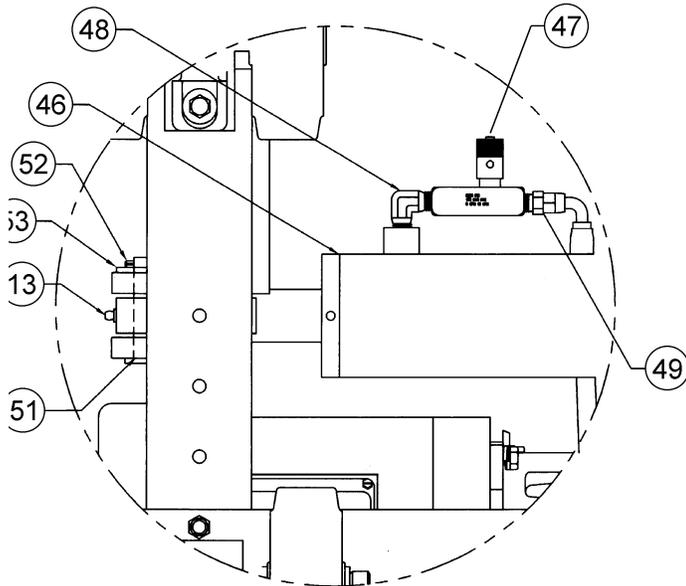


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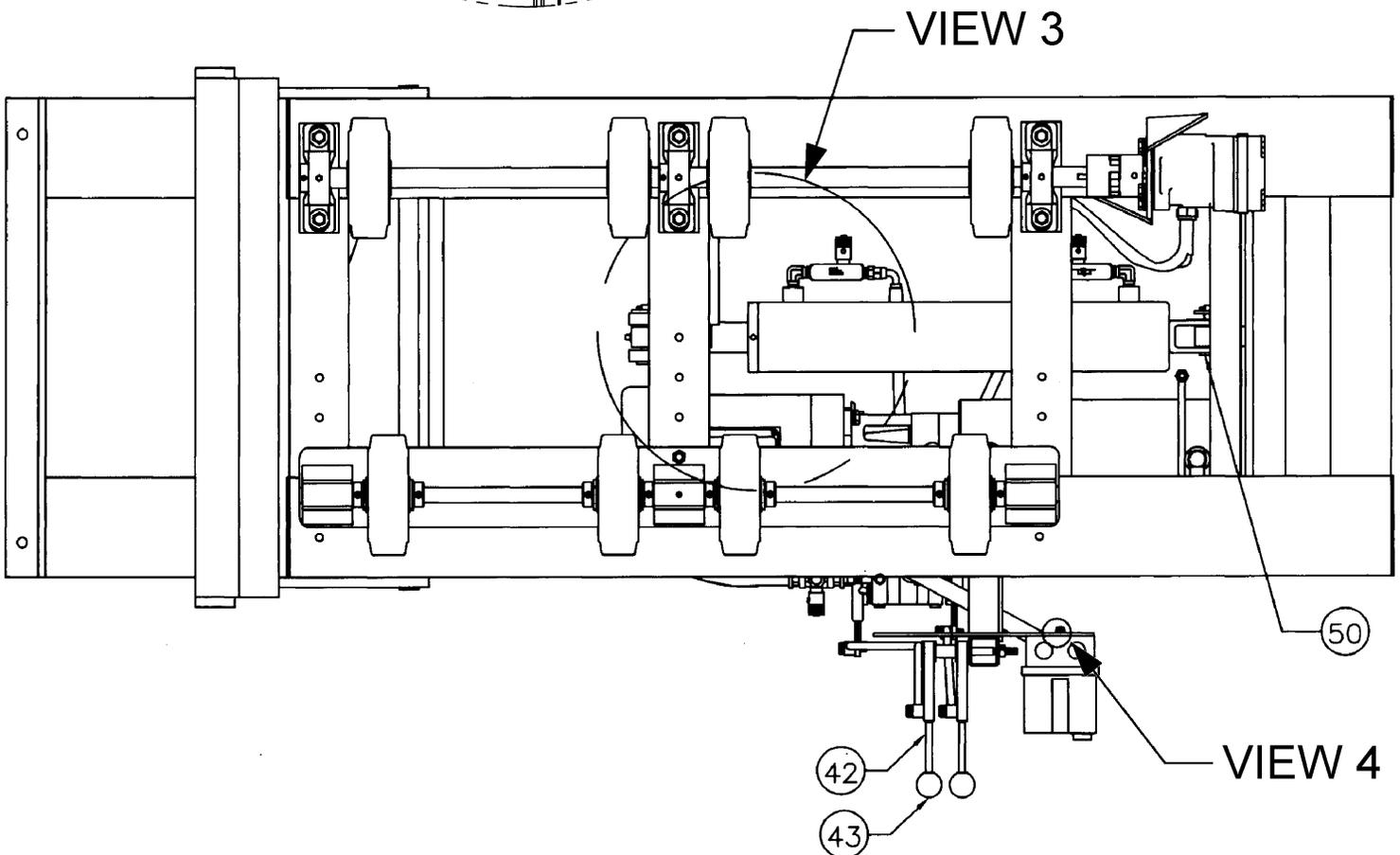
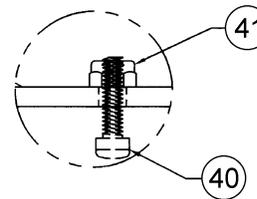


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VIEW 3
NO SCALE

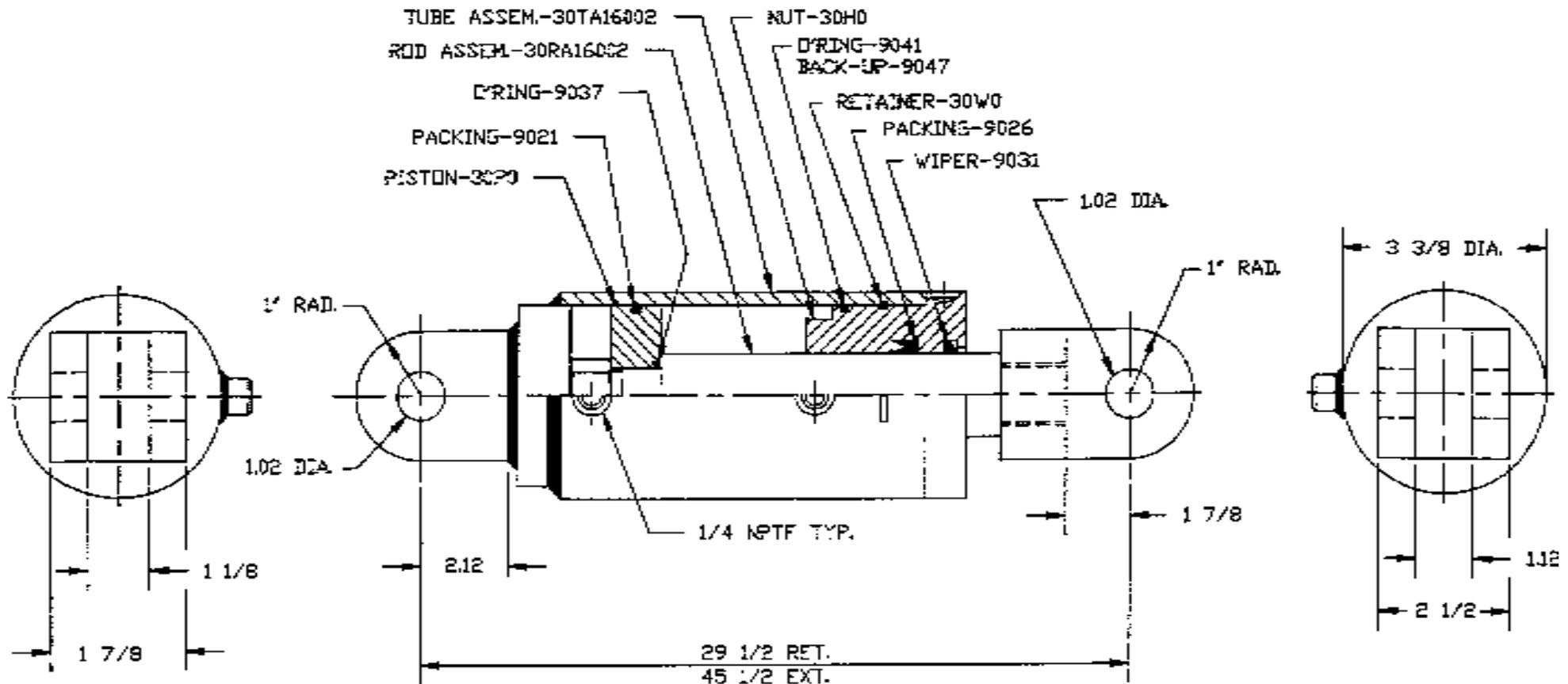


VIEW 4
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VIEW 4

PARTS DIAGRAM FOR 456 SERIES HYDRA-LIFT DRUM ROTATOR
Serial # 13299 - 206719
DOUBLE ACTING CYLINDER FOR USE WITH 456 SERIES



CYLINDER, DOUBLE ACTING
BORE: 3"
STROKE: 16"
ROD: 1-1/2" DIA.