# TABLE OF CONTENTS VC 628 / 5520 / 6620 MANUAL

PAGE	DESCRIPTION REF. NO.	
1	READ THIS FIRST	416756
2	IMPORTANTWARNING	
3	WARNING AND CAUTION DECAL LOCATIONS	416128
4	DECAL DRAWINGS & LIST	628820
5	VC 628 CAPACITIES	628020
6	VC 5520 CAPACITIES	552010
, 7	VC 6620 CAPACITIES	662052
8	VC 5520/6620 MOUNTING DIMENSIONS	662053
9	VC 628/6628 MOUNTING DIMENSIONS	628021
10	HOIST LIFTING HOLE LOCATIONS	662864
11	MOUNTING INSTRUCTIONS	
12	REAR HINGE TO BED MOUNTING ILLUSTRATION	662861
13	MOUNTING INSTRUCTIONS	
14	MOUNTING INSTRUCTIONS	
15	MOUNTING INSTRUCTIONS	
16	MOUNTING INSTRUCTIONS	
17	LIFTING ANGLE INSTALLATION	
18	CABLE / HANDLE ASSEMBLY INSTRUCTIONS	
19	PTO PUMP CABLE INSTALLATION	
20	DIRECT MOUNT ("SPLIT") PUMP CONFIG. & REPLACEMENT PARTS LIST	
21	BI-ROTATIONAL PUMP INSTALLATION	
22	SPDG HOSE CON. DIAGRAM VC628	
23	SPDG HOSE CON. DIAGRAM VC5520, VC6620, VC6628	
24	HOIST MAINTENANCE AND OPERATION	
25	GREASE POINTS FOR HOISTS	
26	BODY PROP OPERATION	
27	RESERVOIR FILLING	
28	HYDRAULIC POWER UNIT GROUNDING	
29	MONARCH ES POWER UNIT (40058M/MHD) INSTALLATION	
30	MONARCH ES POWER UNIT (40058M/MHD) W/ PUSH BUTTON INSTALL	
31	MONARCHED POWER UNIT (416081M)	
32	MONARCH ED POWER UNIT (416081M) W/ PUSH BUTTON	
33	WILLIAMS PTO WARNING	
34	VC 628 REPLACEMENT PARTS DWG	
35	VC 628 REPLACEMENT PARTS LIST	
36	VC 5520/6620 REPLACEMENT PARTS DWG	
<b>▲</b> 37	VC 5520/6620 REPLACEMENT PARTS LIST	
38	REPLACEMENT PARTS DRAWING & LIST (40058M/MHD POWER UNIT)	
39	REPLACEMENT PARTS DWG - 416081M ED POWER UNIT	
40	PTO PUMP CABLE REPLACEMENT PARTS DRAWING & LIST	
41	WARRANTY POLICY	12-00073

#### -P DECALS AND PACKAGE INCLUDES:

15254 CAUTION STAND CLEAR 2 PCS. 416052 CAUTION DECAL 2 PCS. 416084 SAFETY PROP DECAL 1 PC. 6066 PLASTIC BAG 1 PC.

VENCO MANUFACTURING, INC.	TABLE OF CONTENTS	9-1-05G	SECTION	
MAROLAGIORING, INC.	VC 628 - VC 6620	8-12-05F	628031	

# READ THIS FIRST

BE SURE TO DO THE FOLLOWING AND YOU WILL AVOID THE MOST COMMON INSTALLATION MISTAKES.

1. HOIST MUST BE LEVEL SEE PAGE: 416086, 416272.

2. MUST HAVE 2" SPACE SEE PAGE: 416086.

3. SUFFICIENT OVERHANG SEE PAGE: 520069, 620010, 620103, 620104, 628020, 552010, 662052 OR 662851.

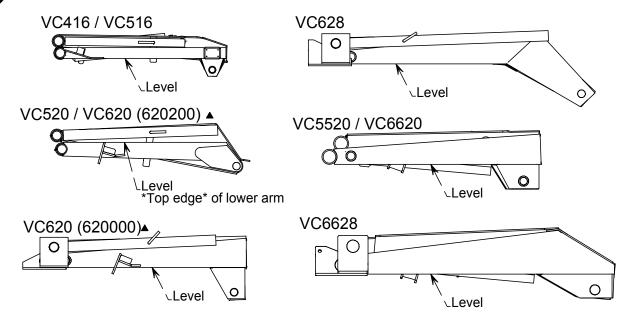
4. USE PUMP WHICH MEETS VENCO SPECIFICATION SEE PAGE: 416811.

VENCO MANUFACTURING, INC.	CAUTION NOTE	12-15-04	SECTION _
WEIGH MARKET ACTORING, INC.	-	SUPERCEDES =	416756

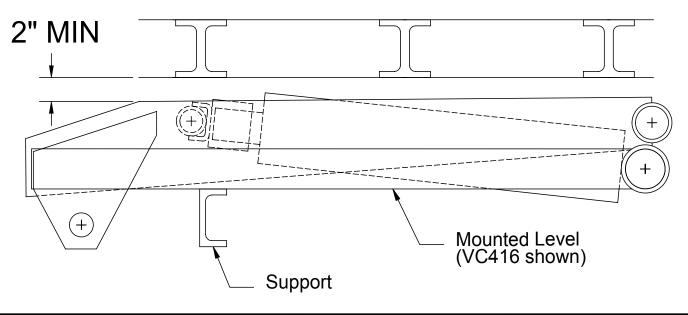
# IMPORTANT WARNING

\* All VENCO Conversion Hoists - VC416 thru VC6628 \*

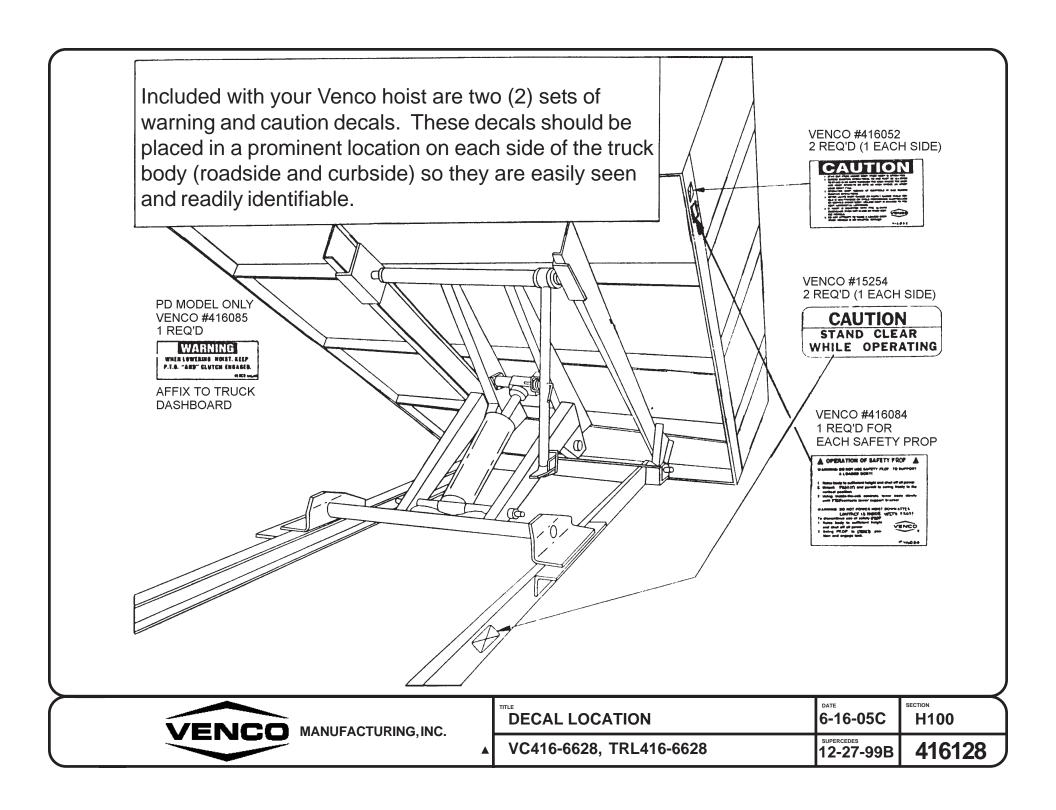
When installing the hoist, be sure to keep the hoist on a horizontal plane - LEVEL - with the truck frame.



A minimum clearance of 2" is required between the hoist (upper arm) and the body cross members in order to prevent a mechanical lockout.



VENCO MANUFACTURING, INC.	TITLE IMPORTANT WARNING	<sub>БАТЕ</sub> 6-12-03F	SECTION H150
WANDFACTORING, INC.	VENCO HOISTS	SUPERSEDES 11-7-02E	416086



PART NO.: 416052

DECAL: **CAUTION STAY CLEAR** 

FUNCTION: To provide operator with a

summary of key hoist operating

procedures.

2 QUANTITY:

PLACEMENT: One on each side of body.

PART NO.: 416084

DECAL: SAFETY PROP OPERATION

**FUNCTION:** To inform the operator of proper

operation of safety prop.

QUANTITY: 1 For each safety prop.  $\triangle$ 

PLACEMENT: On side of body closest to safety

prop(s).

PART NO.: 15254

DECAL: **CAUTION STAND CLEAR** 

FUNCTION: To inform the operator to

stay clear of body / hoist.

QUANTITY: 2

PLACEMENT: One on each side of truck frame.

PART NO 416085

DECAL: WARNING WHEN LOWERING

FUNCTION: To inform the operator to keep

P.T.O. and clutch engaged when

lowering the hoist.

QUANTITY: 1

PLACEMENT: Affixed to truck dashboard.



- DURING DUMPING OPERATIONS, NO ONE MUST BE ALLOWED TO STAND IN OR MOVE THROUGH THE AREA WHERE THE BODY AND HOIST OPERATE OR INTO AN AREA WHERE AN UPSET
- OPERATOR MUST REMAIN AT CONTROLS IN CAB DURING DUMPING OPERATIONS.
- NEVER LEAVE BODY RAISED OR PARTLY RAISED WHILE VEHICLE
  IS UNATTENDED OR WHILE PERFORMING MAINTENANCE
  OR SERVICE UNDER BODY, UNLESS BODY IS BRACED TO
  PREVENT ACCIDENTAL LOWERING.
  IF HOIST IS EQUIPPED WITH PTO, ALWAYS
  DISENGAGE WHEN NOT IN USE OR WHEN

LOAD MIGHT FALL

VENCO\* MOVING VEHICLE.
DO NOT ATTEMPT TO RAISE A LOADED BODY

WHEN VEHICLE IS ON UNLEVEL GROUND

416052

#### A OPERATION OF SAFETY PROP A

WARNING: DO NOT USE SAFETY PROP TO SUPPORT A LOADED BODY!

- Raise body to sufficient height and shut off all power.
   Unlock PROP(S) and permit to swing freely to the
   vertical and services.
- vertical position.

  3. Using inside-the-cab controls, lower body slowly until PROP contacts lower support bracket.

WARNING: DO NOT POWER HOIST DOWN AFTER CONTACT IS MADE WITH PROP!

- To discontinue use of safety PROP
- Raise body to sufficient height and shut off all power.
   Swing PROP to STORED pos-
- ition and engage lock.









SECTION 8-29-05B SUPERSEDES

628820 VC416-6628, TRL416-6628│ 8-15-05A

## **VENCO HOIST MODEL VC 628**

CAPACITIES ARE BASED ON WATER LEVELS AND UNDIMINISHING LOADS.
DUE TO THE VARIATIONS IN TRUCK EQUIPMENT AND CAB-AXLE LENGTHS (CA),
THE DATA PROVIDED ON THIS PAGE IS TO BE USED AS A QUIDELINE ONLY.

DUMP CLASS: 50 CONVERSION CLASS: E WEIGHT: 825 LBS.

POWER SOURCE: PD - POWER TAKE OFF DOUBLE ACTING

**ADDITIONAL DATA:** 

SINGLE CYLINDER (6" BORE x 28" STROKE)

CA: 72"-162"

DUMP ANGLE: 40° - 50° MOUNTING HEIGHT REQ'D: 8"

•	MOUNTING HEIGHT REQ'D: 8"						
	CONVERSION APPLICATIONS VC 628						
BODY	CA	REAR O.H.	40° (TON)	45° (TON)	50°(TON)		
12'	72"	43"	39.0	34.5	30.6		
12'	84"	31"	27.6	24.4	21.7		
13'	84"	43"	32.3	28.6	25.4		
13'	102"	25"	21.3	18.9	16.8		
13'	108"	19"	19.2	17.0	15.1		
13'	114"	13"	17.4	15.4	13.7		
13'	120"	7"	15.9	14.1	12.5		
14'	102"	37"	24.1	21.3	19.0		
14'	108"	31"	21.3	18.9	16.8		
14'	114"	25"	19.2	17.0	15.1		
14'	120"	19"	17.4	15.4	13.7		
14'	124"	15"	16.4	14.5	12.9		
14'	126"	13"	15.9	14.1	12.5		
15'	108"	43"	24.1	21.3	19.0		
15'	114"	37"	21.3	18.9	16.8		
15'	120"	31"	19.2	17.0	15.1		
15'	124"	27"	18.0	15.9	14.1		
15'	126"	25"	17.4	15.4	13.7		
15'	138"	13"	14.7	13.0	11.5		
16'	114"	49"	24.1	21.3	18.9		
16'	120"	43"	21.3	18.9	16.8		
16'	124"	39"	19.8	17.6	15.6		
16'	126"	37"	19.2	17.0	15.1		
16'	138"	25"	15.9	14.1	12.5		
16'	144"	19"	14.7	13.0	11.5		
16'	150"	13"	13.7	12.1	10.7		
16'	156"	7"	12.7	11.3	10.0		
18'	126"	61"	24.1	21.3	19.0		
18'	132"	55"	21.3	18.9	16.8		
18'	138"	49"	19.2	17.0	15.1		
18'	144"	43"	17.4	15.4	13.7		
18'	150"	37"	15.9	14.1	12.5		
18'	156"	31"	14.7	13.0	11.5		
18'	162"	25"	13.6	12.1	10.7		

DUMP APPLICATIONS VC 628						
BODY   CA   REAR O.H.   40° (TON)   45° (TON)   50° (TON)						
9'	-	12"	-	-	21.9	
10'	-	12"	-	-	19.2	
12'	-	12"	-	-	15.3	



VC 628 HOIST	SUPERSEDES 6-2-03A	628020
TITLE CAPACITY CHART	<sub>дате</sub> 3-10-05В	SECTION H100

## **VENCO HOIST MODEL VC 5520**

CAPACITIES ARE BASED ON WATER LEVELS AND UNDIMINISHING LOADS. DUE TO THE VARIATIONS IN TRUCK EQUIPMENT AND CAB-AXLE LENGTHS (CA), THE DATA PROVIDED ON THIS PAGE IS TO BE USED AS A QUIDELINE ONLY.

DUMP CLASS: 60 CONVERSION CLASS: F WEIGHT: 930 LBS.

POWER SOURCE: PD - POWER TAKE OFF DOUBLE ACTING

**ADDITIONAL DATA:** 

**DUAL CYLINDERS (5" BORE x 20" STROKE)** 

CA: 84"-156"

DUMP ANGLE: 40° - 50°

▲ MOUNTING HEIGHT REQ'D: 8.5"

CONVERSION APPLICATIONS VC 5520					
BODY	CA	REAR O.H.	40° (TON)	45° (TON)	50°(TON)
12'	84"	30"	31.1	27.6	26.2
12'	102"	12"	21.8	19.3	18.3
12'	114"	0"	18.2	16.1	15.3
13.5'	102"	30"	25.6	22.7	21.6
13.5'	114"	18"	20.7	18.4	17.4
13.5'	124"	8"	17.9	15.9	15.1
13.5'	132"	0"	16.1	14.3	13.6
14'	108"	30"	24.2	21.5	20.3
14'	114"	24"	21.8	19.3	18.3
14'	132"	6"	16.8	14.9	14.1
15'	114"	36"	24.2	21.5	20.4
15'	124"	26"	20.4	18.1	17.2
15'	132"	18"	18.2	16.1	15.3
15'	150"	0"	14.5	12.9	12.2
16'	108"	54"	31.1	27.6	26.2
16'	114"	48"	27.2	24.2	22.9
16'	120"	42"	24.2	21.5	20.3
16'	124"	38"	22.5	20.0	19.0
16'	132"	30"	19.8	17.6	16.7
16'	138"	24"	18.2	16.1	15.3
18'	138"	48"	21.8	19.3	18.3
18'	144"	42"	19.8	17.6	16.7
18'	150"	36"	18.2	16.1	15.3

DUMP APPLICATIONS VC 5520						
BODY	CA	REAR O.H.	40° (TON)	45° (TON)	50° (TON)	
11'	Ī	12"	-	1	20.4	
12'	Ī	12"	-	-	18.3	
13'	_	12"	-	-	16.7	
14'	-	12"	-	-	15.3	

VENCO MANUFACTURING, INC.	CAPACITY CHART	3-10-05C	H100
	VC 5520 HOIST	SUPERSEDES 6-2-03B	552010

## **VENCO HOIST MODEL VC 6620**

CAPACITIES ARE BASED ON WATER LEVELS AND UNDIMINISHING LOADS.
DUE TO THE VARIATIONS IN TRUCK EQUIPMENT AND CAB-AXLE LENGTHS (CA),
THE DATA PROVIDED ON THIS PAGE IS TO BE USED AS A QUIDELINE ONLY.

DUMP CLASS: 50 CONVERSION CLASS: G WEIGHT: 965 LBS.

POWER SOURCE: PD - POWER TAKE OFF DOUBLE ACTING

**ADDITIONAL DATA:** 

**DUAL CYLINDERS (6" BORE x 20" STROKE)** 

CA: 84"-156"

**DUMP ANGLE: 40° - 50°** 

**MOUNTING HEIGHT REQ'D: 8.5"** 

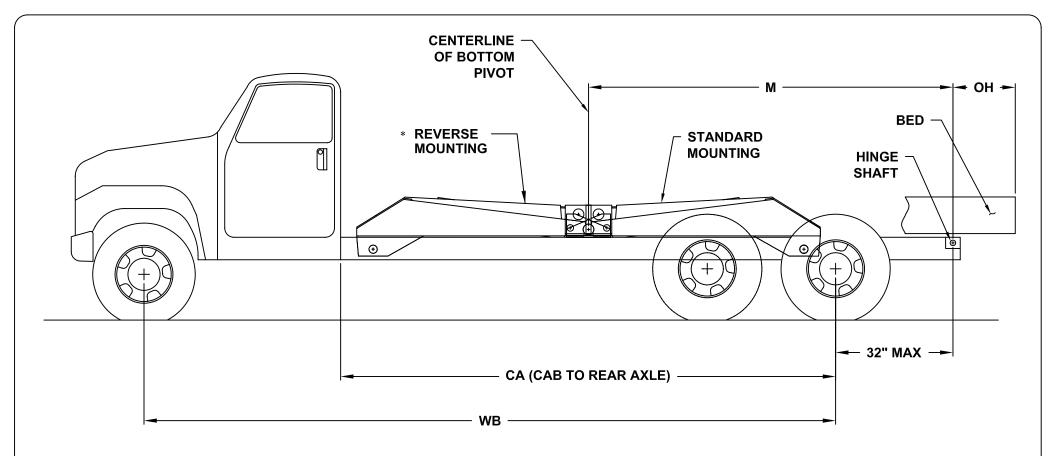
**A** 

CONVERSION APPLICATIONS VC 6620					
BODY	CA	REAR O.H.	40° (TON)	45° (TON)	50°(TON)
12'	84"	30"	44.8	39.7	37.7
12'	102"	12"	31.3	27.8	26.4
12'	114"	0"	26.13	23.2	22.0
13.5'	102"	30"	36.9	32.7	31.0
13.5'	114"	18"	29.8	26.5	25.1
13.5'	124"	8"	25.7	22.9	21.7
13.5'	132"	0"	23.2	20.6	19.5
14'	108"	30"	34.8	30.9	29.3
14'	114"	24"	31.3	27.8	26.4
14'	132"	6"	24.1	21.4	20.3
15'	114"	36"	34.8	30.9	29.3
15'	124"	26"	29.4	26.1	24.7
15'	132"	18"	26.1	23.2	22.0
15'	150"	0"	20.9	18.5	17.6
16'	108"	54"	44.8	39.7	37.7
16'	114"	48"	39.2	34.8	33.0
16'	120"	42"	34.8	30.9	29.3
16'	124"	38"	32.4	28.8	27.3
16'	132"	30"	28.5	25.3	24.0
16'	138"	24"	26.1	23.2	22.0
18'	138"	48"	31.3	27.8	26.4
18'	144"	42"	28.5	25.3	24.0
18'	150"	36"	26.1	23.2	22.0
20'	150"	60"	31.3	27.8	26.4
20'	156"	54"	28.5	25.3	24.0

	DUMP APPLICATIONS VC 6620						
BODY	BODY CA REAR O.H. 40° (TON) 45° (TON) 50° (TON)						
11'	•	12"	-	-	29.3		
12'	-	12"	-	-	26.4		
13'	-	12"	-	-	24.4		
14'	-	12"	-	-	22.0		

VENCO.	MANUFACTURING, INC.

VC 6620 HOIST	SUPERSEDES 6-2-03B	662052
TITLE CAPACITY CHART	DATE 3-10-05C	SECTION H100



# **VC 5520 AND VC 6620 HOISTS**

## STANDARD MOUNTING

DUMP ANGLE	М
40°	106.5"
45°	94"
50°	84"

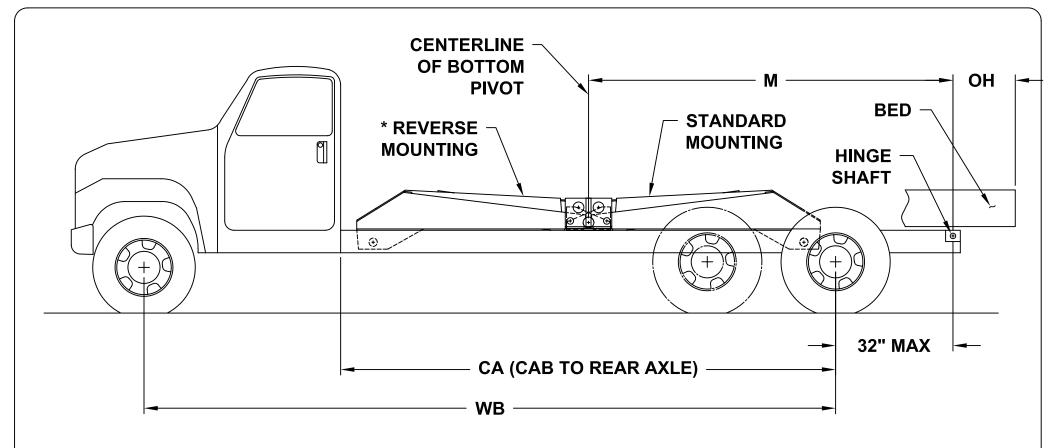
FIGURE 1.C

## \*REVERSE MOUNTING

DUMP ANGLE	M
40°	98.5"
45°	93"
50°	81"



MOUNTING DIMENSIONS	3-10-05A	H100
VC 5520 / VC 6620 HOIST	SUPERSEDES 9-30-98	662053



# **VC 628 AND VC 6628 HOISTS**

## STANDARD MOUNTING

DUMP ANGLE	М
40°	146"
45°	130-1/2"
50°	118-1/4"

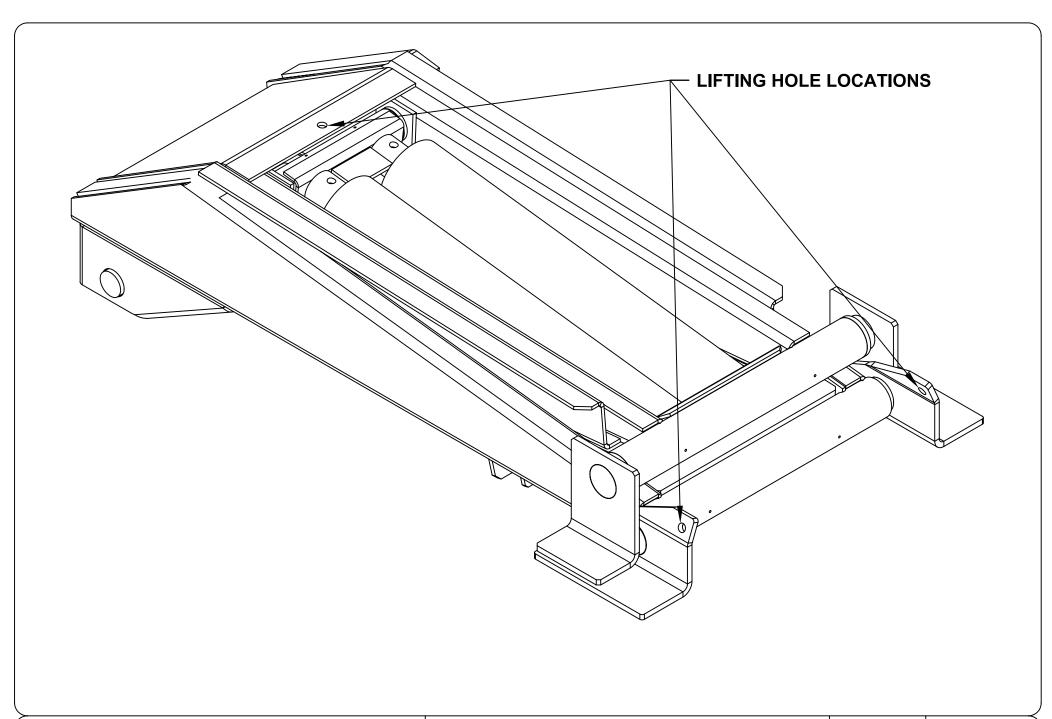
FIGURE 1.B

## \*REVERSE MOUNTING

DUMP ANGLE	M
40°	140"
45°	129"
50°	115"



MOUNTING DIMENSIONS	3-10-05A	SECTION H100
VC 628 / VC 6628 HOIST	SUPERSEDES 9-30-98	628021





TITLE	DATE	SECTION
HOIST LIFTING HOLE LOCATIONS	3-11-05A	-
	SUPERSEDES	CC00C4
VC 6620 - VC 6628	2-6-02	662864

## HOIST MOUNTING INSTRUCTIONS

Refer to drawings 520071, 662053, or 628021 (on the preceding pages).

#### **CAUTION**

If the distance between the centers of the rear axle and the rear hinge assembly exceeds 38", additional reinforcement of the truck frame is necessary.

- A. Mark the location for the rear hinge. Ideally this location will be immediately behind a truck cross member approximately 34" behind the center of the rear axle on a single axle truck.
- B. Cut a 90° slot in each side of the frame as shown in Figure 2.
- C. Position the angle iron frame of the rear hinge assembly in the truck frame cut outs. Make sure the rear hinge assembly is properly positioned on the truck frame. Weld all around truck frame rear hinge assembly joint (both sides). See installation drawing 662861 on the following page for information regarding the mounting of the rear hinge brackets to the body.

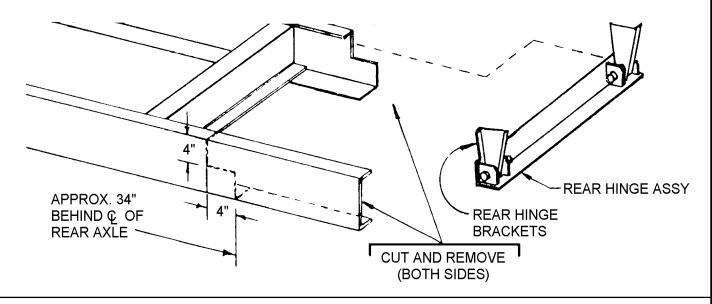
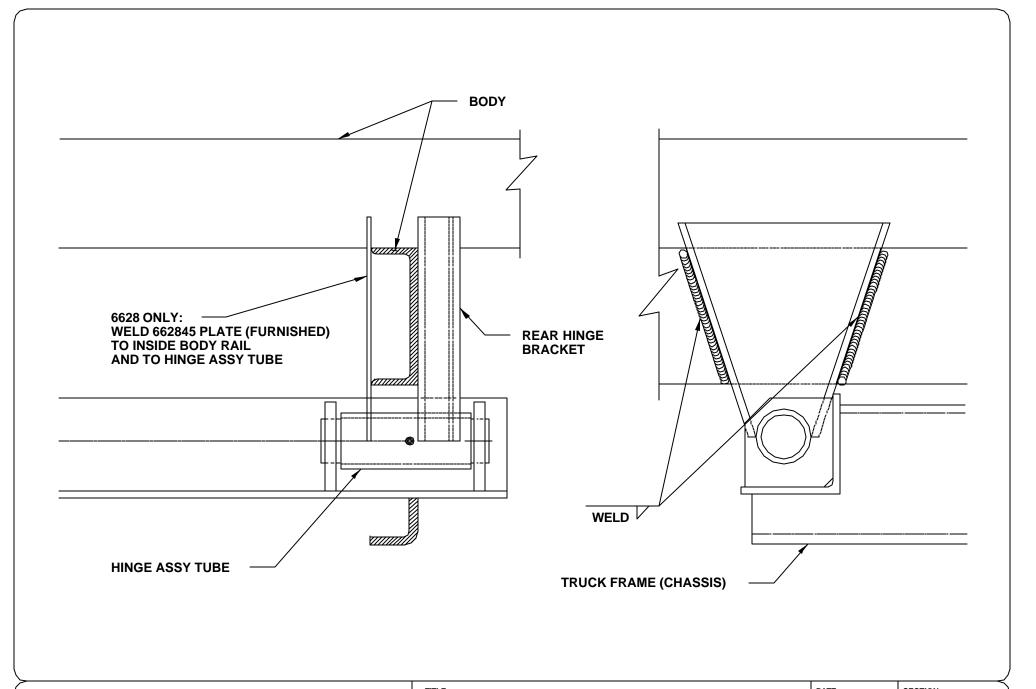


Figure 2 - Frame Modification and Rear Hinge Attachment

D. Locate the hoist on the truck frame, making sure to center and square the hoist to the truck frame. The VC Hoist is designed to rest on the truck frame. A section of the hoist extends below the truck frame level. Therefore, the hoist may have to be moved slightly forward or backward to avoid frame crossmembers. The distance between the rear hinge assembly center and the hoist center is referred to as the "M" dimension. The tables on drawings 520071, 662053, and 628021 provide the dump angles associated with various "M" dimensions.

Note: Moving the hoist along the truck frame will affect the hoist's performance. A forward movement decreases dump angle and increases capacity. A backward movement increases dump angle and decreases capacity.

VENCO MANUFACTURING, INC.	MOUNTING INSTR.	10-27-97B	H200
	VC 520 - VC 6628	9-4-97A	520072





REAR HINGE TO BED MTG. INSTR.	6-28-97A	H200
VC 520 - VC 6628	10-23-97	662861

E. After the hoist is positioned, place the mounting angles (Figure 4) under each side of the hoist saddle and against the truck frame. Clamp securely in place. Drill though the frame (17/32") and install the mounting angle with three (3) 1/2" x 1-1/2" Grade 8 hex head cap screws, lock washers, and hex nuts (both sides).

NOTE: The hoist mounting bracket must sit flush on the truck frame. If rivet head interference is encountered, use a filler block or countersink clearance holes in the bottom of the hoist saddle.

Do not weld the hoist mounting bracket to the truck frame. This may void the truck warranty.

F. Weld each end of the hoist saddle to its mounting angle as shown in Figure 4. Note the welding symbols. Do not weld to the truck frame.

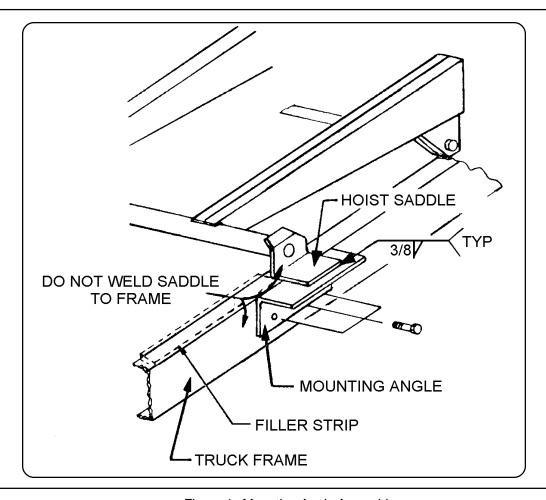


Figure 4 - Mounting Angle Assembly

VENCO MANUFACTURING, INC.	MOUNTING INSTR.  DATE 9-4-97A  H200		
	VC 520 - VC 6628	3-15-90	520074

- G. Install the PTO pump per the following instructions and per the pump manufacturer's instructions.
  - 1. See Figure 5. Position and bolt each pump bracket to the pump and secure with the 3/8 x 1-1/4" bolts and hex nuts (VC-520 requires only 2 pump brackets).
  - 2. Position the pump assembly with brackets and securely clamp to the frame on the same side that the transmission mounted PTO shaft is located.
    - Note: Position the pump brackets as high on the truck frame as possible when mounting the pump.
  - 3. Two (2) 17/32" holes need to be drilled in the pump brackets and truck frame (Figure 5). Mark the hole locations as close to the truck frame flanges as possible. Drill 17/32" holes and install the 1/2" x 1-1/2" hex head cap screws with lockwashers and hex nuts.

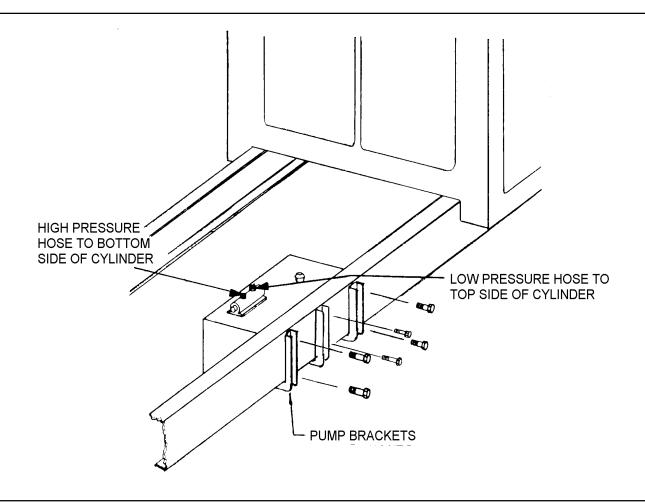


Figure 5 - Pump Installation

VENCO MANUFACTURING, INC.	MOUNTING INSTR.	9-4-97A	H200
MANUFACTORING, INC.	VC 520 - VC 6628	3-15-90	520075

- 4. Install the truck PTO assembly using the manufacturer's instructions.
- 5. Determine the exact length "L" of the drive shaft (Figure 6). The drive shaft should be kept as short and level as possible.
- 6. Cut the 7/8" square drive shaft to the length that was determined in the previous steps.
- 7. The supplied U-joint (with the 1" round x 7/8" square slip yoke) fits on the pump drive shaft. The U-joint for the PTO is not furnished.
- 8. Trial fit each U-joint to the hex drive shaft and trial fit the drive shaft assembly to the pump and PTO. At this point, mark the set screw locations of the PTO U-joint on the square drive shaft. Disassemble the drive shaft assembly and countersink the drive shaft at the marked locations.
- 9. Assemble each U-joint to the hex drive shaft and install the drive shaft assembly. After installing, secure the PTO U-joint to the drive shaft using 3/8" x 5/8" drilled hex head set screw (furnished). Safety wire all (3) screws to insure that they do not loosen.
- 10. For additional pump and drive shaft mounting instructions, refer to the manufacturer's instructions included with the pump. Refer to Figures 6 and Dwg. 520078.

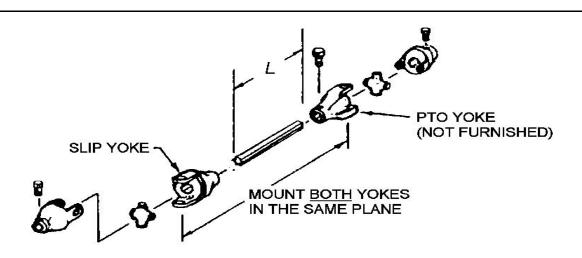


Figure 6 - Drive Shaft Assembly

- H. Install hydraulic hoses per the following instructions:
  - 1. 7' (or 7'-10") hose(s) installation Connect one end of the hose to the front pump port (low pressure). Connect the other end of the hose to the rod end of the hoist cylinder (Figure 5).
  - 2. 5' hose(s) installation Connect one end of the hose to the rear pump port (high pressure). Connect the other end of the hose to the base end of the hoist cylinder (Figure 5).

VENCO MANUFACTURING, INC.	MOUNTING INSTR.	5-20-99D	H200
WANDFACTORING, INC.	VC 520 - VC 6628	11-17-98C	520076

I. Position and secure the filler strips (liner or sleeper) to the truck frame (Figure 4).

The VC 520 and VC 620 require a minimum of 7-1/2" clearance above the truck frame.

The VC 628 requires a minimum of 8" clearance above the truck frame.

The VC 5520 and VC 6620 require a minimum of 8-1/2" clearance above the truck frame.

The VC 6628 requires a minimum of 10-1/2" clearance above the truck frame.

Example: Assuming that a 7-1/2" clearance is required and 5" long beams are on the truck body, a liner of at least 2-1/2" net will be required to obtain the minimum clearance required to mount the hoist. 5" + 2-1/2" = 7-1/2" min.

J. Position the body longitudinals (long beams) onto the truck frame.

Note: At least 2" are required for clearance between the cab and closest point on the truck body.

- K. Place the rear hinge brackets in the vertical position (Figure 2). Weld and/or bolt the brackets to the longitudinals. If bolted, mark and drill each bracket four (4) places (17/32" holes) and secure the brackets to the longitudinals using eight (8) 1/2"-13 x 1-1/2" Grade 8 hex head cap screws, eight (8) 1/2" lockwashers, and eight (8) 1/2"-13 hex nuts.
- L. Refer to Drawing 520093 on the following page. Make sure that the dump body longitudinals are resting flush on the top of the spacers (which are welded to the lifting angles). Weld the top of both lifting angles (the vertical "leg") to the top flanges of the body longitudinals a reinforcement plate may be required to fill the space between the lifting angles and body longitudinals. Weld all around the lifting angles, body longitudinals, spacers, and reinforcement plates (if used). Be sure that your installation follows the method shown on the following page Drawing 520093.

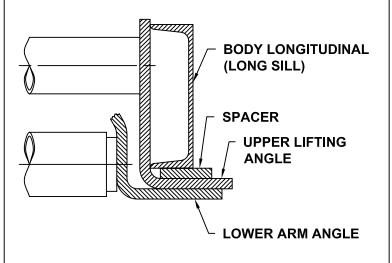
Note: Step "L" (above) is a critical installation procedure that must be carefully followed to ensure a successful hoist installation. Deviation from the suggested installation method may result in damage to the hoist.

VENCO MANUFACTURING, INC.	MOUNTING INSTR.	5-19-98	H200
MAROT ACTORING, INC.	VC 520 - VC 6628	9-4-97	520077

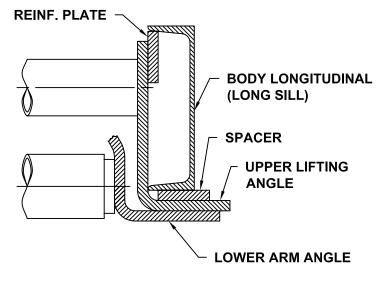
## **IMPORTANT!**

WHEN INSTALLING THE UPPER LIFTING ANGLES, THE GOAL IS TO COMPLETELY "BOX IN" THE LIFTING ANGLE, BODY LONG SILL SPACER, AND REINFORCEMENT PLATE - 100% WELD.

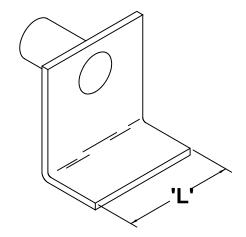
# SITUATION A: LIFTING ANGLE FULLY ENVELOPS BODY LONG SILL.



# SITUATION B: LIFTING ANGLE DOES NOT ENVELOP BODY LONG SILL AND A REINFORCEMENT PLATE IS REQUIRED.



NOTE: THE SPACER AND REINFORCEMNT PLATE SHOULD BE THE LENGTH AS THE LIFTING ARM. SEE 'L' DIMENSION BELOW.

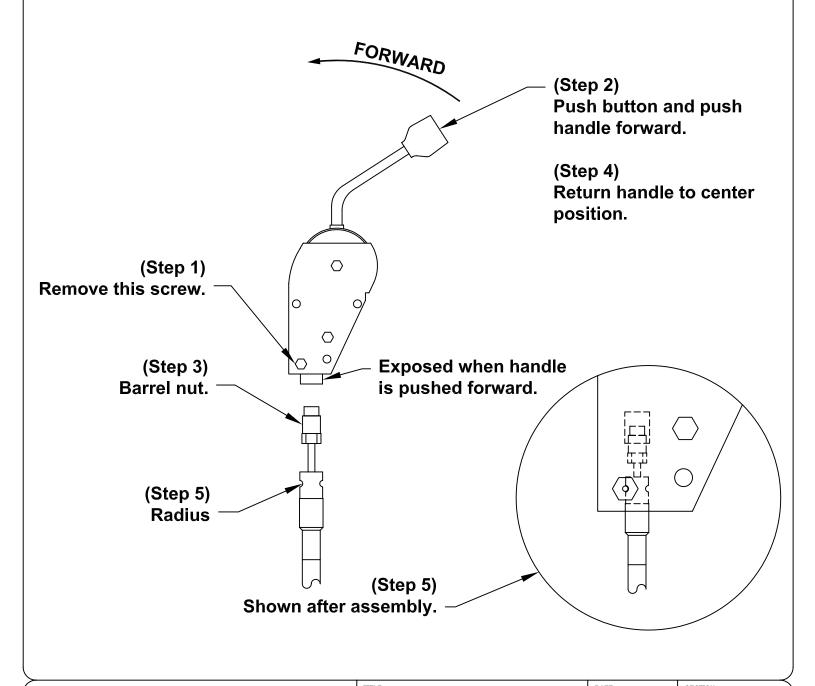


VENCO MANUFAC	TURING, INC.

VC416-6628, TRL313-6628	SUPERSEDES 3-21-05A	520093
INST. INSTRUCTIONS	DATE 4-28-05B	SECTION H200

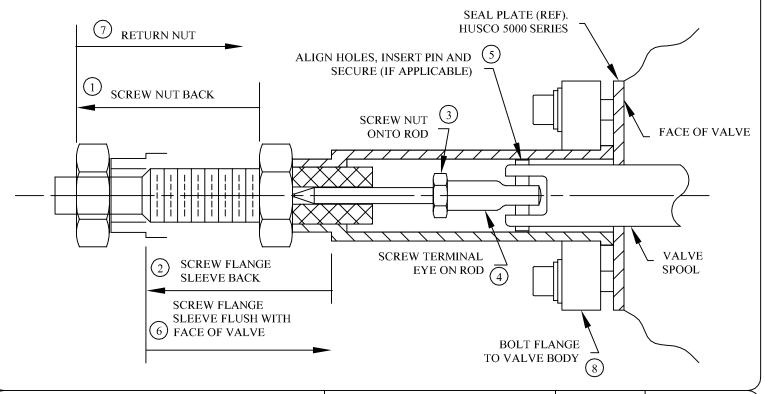
# ATTACHING 620129 CABLE TO 620131 / 2 HANDLE

- Step 1. Remove lowest screw & nut.
- Step 2. Depress red button on top of handle. Push handle forward and hold.
- Step 3. While holding handle, thread "barrel nut" into threaded hole in bottom and tighten.
- Step 4. Release handle. Handle should return to center positon.
- Step 5. Replace screw & nut, making sure that radius on cable end is aligned with screw hole. After tightening screw, move handle forward and backward to make sure cable end is secure in console.



WANDFACTURING, INC.	PTO PUMP CABLE	SUPERSEDES	620246
VENCO MANUFACTURING, INC.	CABLE / HANDLE ASSEMBLY	9-17-04	SECTION

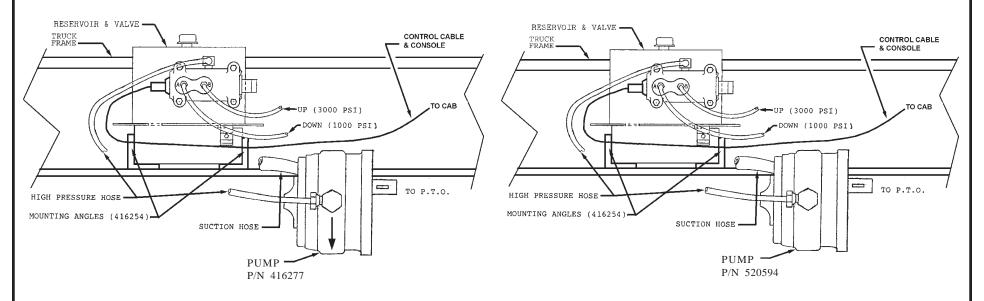
- 1. Thread .750-16 UNF jam nut entire length of threaded hub and onto cable.
- 2. Place flange on sleeve and turn flange/sleeve assembly entire length of threaded hub and onto cable.
- 3. Thread .250-28 UNF jam nut onto threaded rod unitl it bottoms.
- 4. Thread terminal eye onto threaded rod and bottom against jam nut, turn to align with spool slot and secure jam nut against terminal eye.
- 5. Slide terminal eye into slot in spool and align holes. Insert connecting pin and secure with cotter pin (if applicable).
- 6. With cable attached to valve and input device, thread the flange/sleeve assembly onto the threaded hub until it is flush with the valve face. When turning the flange/sleeve assembly, make sure the input device remains in the neutral position.
- 7. Tighten the .750-16 UNF jam nut against the sleeve to lock in position.
- 8. Bring flange into position and bolt assembly to valve housing using two (2) socket head cap screws and two (2) split lockwashers under head and two (2) flat washers under lockwashers. Tighten screws sufficiently to flatten lockwashers or secure flange. Caution any further torquing/overtightening will distort flange.



VENCO MANUFACTURING, INC.	PTO PUMP CABLE INSTALL	5-11-04	SECTION -	
WENCE MAINTACTORING, INC.	VC416 - 6628	SUPERSEDES	416755	

# DIRECTIONAL PUMP CONFIGURATION FOR VC416 - VC620

# BI-ROTATIONAL PUMP CONFIGURATION FOR VC628 & UP



NOTE: ARROW ON PUMP HOUSING INDICATES ROTATION DIRECTION FAILURE TO MATCH PTO ROTATION WITH PUMP ROTATION WILL RESULT IN PUMP FAILURE.

NOTE: FOR BI-ROTATIONAL PUMP MOUNTING AND HOSE CONNECTION INFORMATION, SEE DRAWING 416812.

Model	VC416	VC516	VC520	VC620	VC628	VC5520	VC6620	VC6628
Control Cable & Console			62012	5 - Curved	620124 - S	traight		
Up Hose	416	044 🛦		▲ 520574		<b>A</b>	(2) 520574	
Down Hose		416	045		628041	(2) 41	16045	(2) 628041
High Pressure Hose	416045							
Suction Hose	416079 520088F							
Pump/Valve/Tank	620011 (9 QUART)			(9 QUART) 662077 (21 QUART)				
Pump (Only)	416277 520594							
Mounting/Spline Information	SAE "A" 2 BOLT MOUNTING FLANGE, SAE "B" 2 BOLT MOUNTING F		SAE "A" 2 BOLT MOUNTING FLANGE,		LANGE,			
wounting/Spline information	5/8"-9 SPLINE SHAFT, CCW ROTATION			7/8"-13 SPLINE SHAFT				

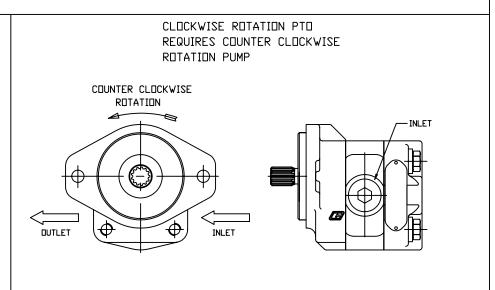


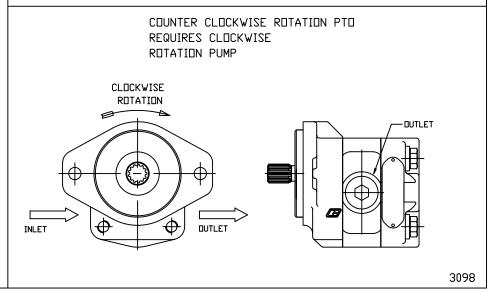
SPLIT PUMP	3-2-06C	H200
VC 416/516, VC 520 - 6628	10-6-05B	416811

# BI-ROTATIONAL PUMP INSTALLATION

TO VERIFY THE INLET PORT ON A
BI-ROTATIONAL PUMP, DETERMINE WHICH
WAY THE SHAFT OF THE PUMP IS GOING
TO TURN FROM THESE TWO SAMPLE DIAGRAMS
AND PLUMB ACCORDINGLY.

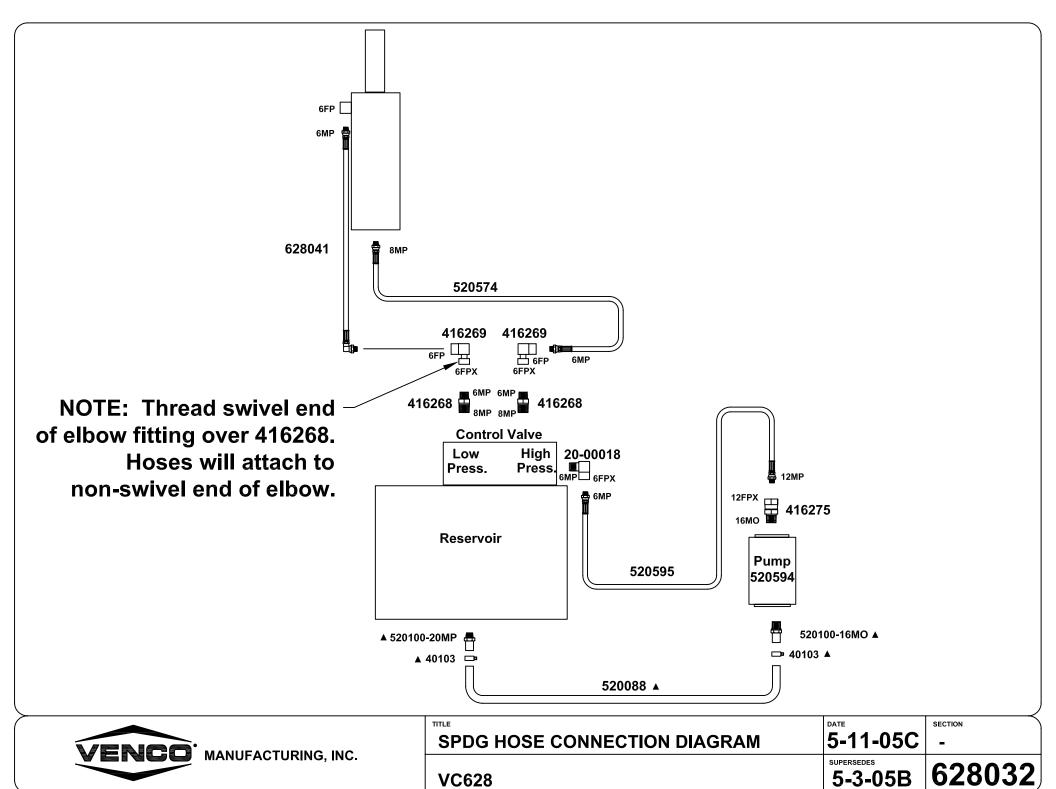
NOTE: DO NOT OPERATE THE PUMP WITHOUT OIL.

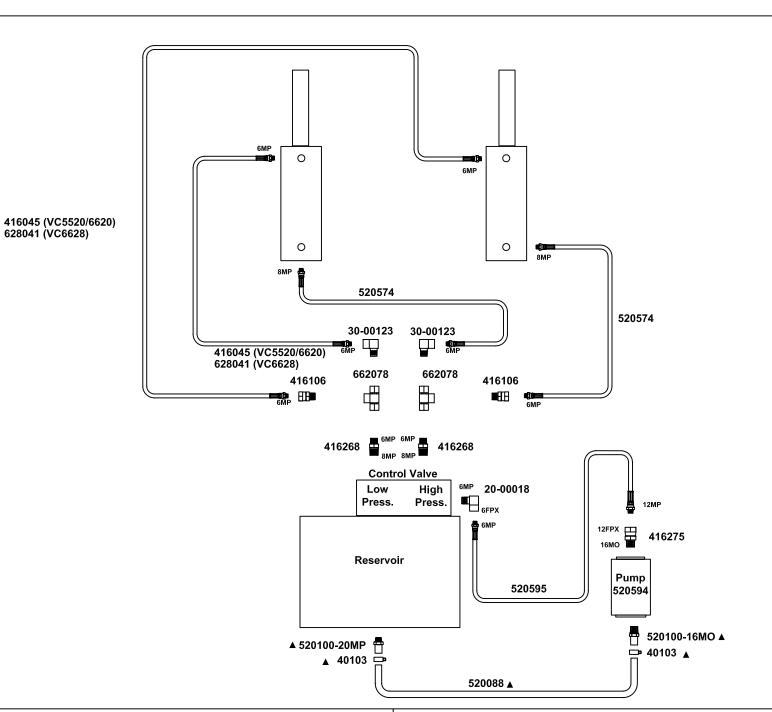






Γ	TITLE	DATE	SECTION
	BI-ROTATIONAL PUMP INSTALLATION	6-2-05	-
Γ	VC416/516. VC 520 - 6628	SUPERSEDES	416812







SPDG HOSE CONNECTION DIAGRAM	5-11-05C	SECTION
VC5520, VC6620, VC6628	5-2-05B	552003

## HOIST MAINTENANCE AND OPERATION INSTRUCTIONS

#### A. Hoist Unit Lubrication

- 1. PTO Driven Pump Tighten and grease (with high quality commercial grade grease) the lube fittings located in the PTO drive shaft assembly.
- 2. Lubricate all grease fittings on the hoist unit.
- 3. Lubricate the rear hinge assembly.
- 4. The hoist system should be serviced at the same time the truck is serviced, and sooner if the hoist unit is performing heavy duty service.
- 5. Pump Reservoir Shall be filled with the recommended oil per the manufacturer's instructions. Periodically check the hydraulic fluid and change when the truck engine oil is changed.

#### B. PTO Pump Operation

With the hoist and body completely installed, cycle the hoist several times to purge the hydraulic system of air. Operate the hoist system per the instructions in this manual and per the PTO manufacturer's instructions.

#### WARNING

Do not operate the pump at more than 1000 RPM. Severe hoist system damage could result. The PTO speed to engine speed is governed by the gear ratio of the PTO drive installed in the truck transmission.

#### **CAUTION**

For long service and safety from VC Hoists, it is important that the following procedure be followed each time the hoist is operated:

- Engage the PTO from the truck cab and adjust the engine speed to obtain the correct PTO and lift speed desired.
- 2. Pull the pump knob out. This will cause the hoist to raise. Refer to Drawing 520078.
- 3. When the hoist has reached its maximum capacity, the pump will bypass through the relief valve. To prevent the pump from bypassing, push the pump knob to the center/middle position. Whenever the pump knob is <u>centered</u>, the hoist will <u>stop</u> moving and hold its position.

#### **CAUTION**

Do not allow the pump to bypass for long periods of time, as this will put stress on the hydraulic and electrical systems of the hoist.

4. To <u>lower</u> the hoist, push the pump knob <u>in</u>.

#### NOTE

The Venco Hoists powered by PTO drive pumps must be "powered down". Failure to "power down" will cause the reservoir to overflow.

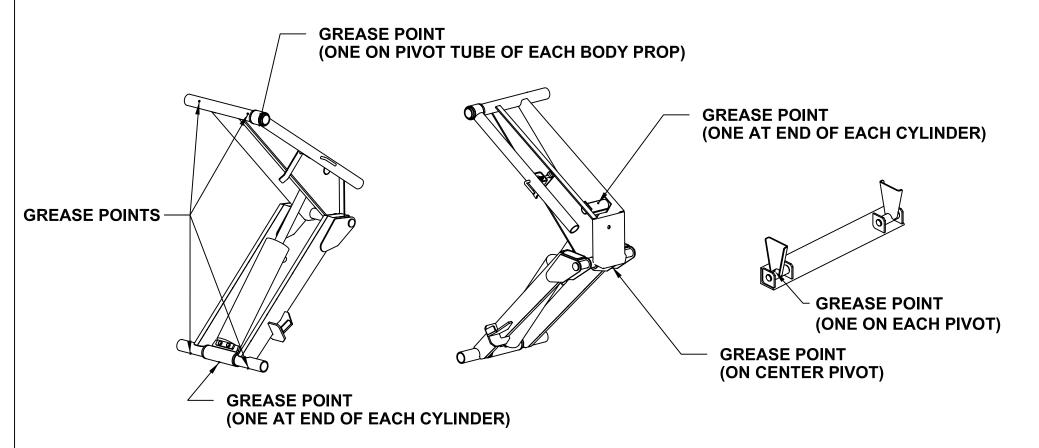
- 5. To lock the hoist against the truck frame when it is in the down position, push the pump knob in. When the pump bypasses, place the knob in the center "hold" position.
- 6. Disengage PTO from transmission per the manufacturer's instructions.

#### WARNING

Do not drive the truck without first disengaging the PTO drive shaft. Failure to disengage the PTO drive shaft may result in severe damage to the pump and pump drive unit.

VENCO MANUFACTURING, INC.	MAINT. & OPER. INSTR.	9-4-97A	H200
WANDI ACTORING, INC.	VC 520 - VC 6628	3-15-90	520079

# **HOIST GREASE POINTS**



TO ENSURE THE RELIABLE PERFORMANCE OF YOUR VENCO HOIST, IT IS NECESSARY THAT YOU GREASE THE HOIST AT THE TIME OF TRUCK SERVICE WITH CHASSIS GREASE.

THE GREASE POINTS FOR THE HOIST SCISSORS AND REAR HINGE ARE SHOWN ABOVE.

ADDITIONAL FITTINGS FOR TWIN CYLINDER HOISTS AND ADDITIONAL BODY PROPS ARE ALSO NOTED.

VENCO.	MANUFACTURING, INC.

TITLE	DATE	SECTION
GREASE POINTS FOR HOISTS	3-11-05A	-
	SUPERSEDES	
VC416/516/520/620/628/5520/6620/6628	9-4-02	<b> 520054</b>

#### **BODY PROP USE AND WARNINGS**

D. Body prop(s): Federal Regulation 1926.601, Paragraph 10, requires the use of a body prop. Accordingly, all Venco Hoist Units will have included as a standard item a body prop (safety strut). See Paragraphs D.1. & D.2. below.

#### **WARNING**

Do not place arms, hands, or any part of the body between the truck longitudinals (long beams) or moving parts to pull the body prop release/locking pin

Do not use the body prop(s) to support a loaded truck body.

Body prop(s) should be free swinging to a vertical position after the locking pin is released.

Read operation of safety strut and caution labels before operating the hoist.

- 1. The body prop is designed for use only when the truck body is empty. The purpose of the body prop is to provide a safety strut for use when maintenance or inspection are performed on an unloaded truck body in the raised position.
- 2. One (1) body prop shall be furnished for truck bodies up to and including 15 feet. For bodies longer than 15 feet in length, two (2) body props should be used.

Note: For all dump bodies two (2) body props are required.

- On models equipped with a spring-loaded release pin, use a suitable tool to pull out the release pin to release the body prop from the hoist frame. This will release the body prop allowing it to swing downward to a vertical position.
- 4. Make sure that the body prop is aligned with the body prop foot rest (the body prop will be in a vertical position), then allow the truck body to move downward until the body prop is seated in the foot rest. Note: Do not power down after making contact with body prop foot rest.
- 5. To disengage the body prop, raise the truck body until the body prop swings freely away from the foot pad. Using a suitable tool, place the tool in a leverage position on the body prop and propel sharply to the left and upward (or to the right and upward) so that the locking pin can be compressed and seated in the locking pin hole. Make certain the body prop is latched securely before the hoist is operated.

#### WARNING

Use care when reseating the body prop(s) in the locked position.

VENCO MANUFACTURING, INC.	BODY PROP INSTR.	5-24-02C	H200
WEIGH MARKET ACTORING, INC.	VC 520 - VC 6628	5-6-01B	520081

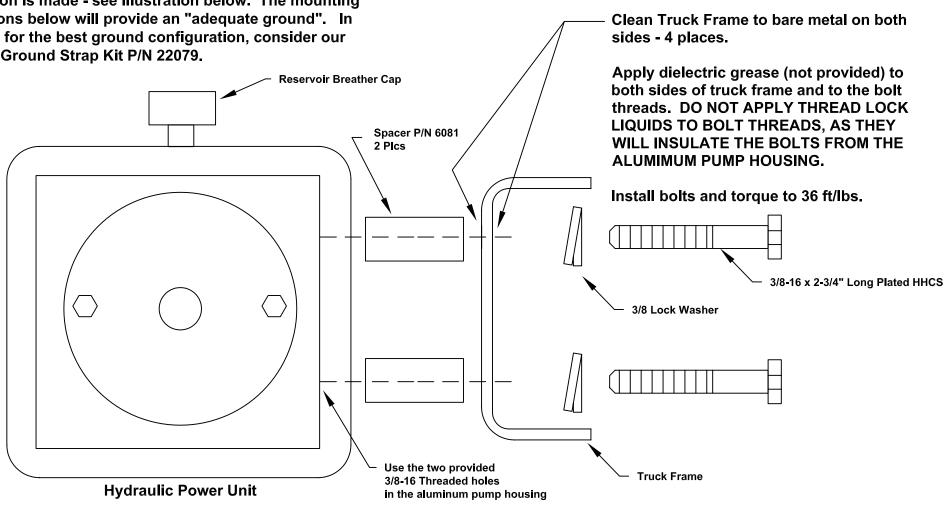
					1			1
	HOIST MODEL(S)	VP/VC6	TRL313	VC416, TRL416	VC516, TRL516	VC520, TRL520	VC620, TRL620	VC628, TRL628
	ES/ED Hyd Pwr Unit Part Number	6426 / 6425	40058M / 416081M	40058M / 416081M	40058M / 416081M	40058M / 416081M	40058MHD / 416081M	40058MHD / 416081M
	Reservoir Capacity (Quarts)	3.4 / 3.4	4.6 / 3.4	4.6 / 3.4	4.6 / 3.4	4.6 / 3.4	5.4 / 3.4	5.4 / 3.4
	Total Hydraulic Fluid Required (Quarts)	4	4	6	8	9	12	15
Step 1	Attach base-end hose to cylinder. Do NOT attach the Rod-end hose at this time.	YES	YES	YES	YES	YES	YES	YES
Step 2	Fill the hydraulic reservoir as recommended below. Use only hydraulic fluid - Tellus 32 or equivalent is recommended.							
2a	With the hoist in the <u>down position</u> , add the indicated indicated amount (Quarts) of hydraulic fluid.	2	2	3.5	3.5	3.5	3.5	3.5
2b	Raise hoist <u>one-quarter</u> of the way (approximately 12° dumping angle) and add the indicated amount (Quarts) of hydraulic fluid.	-	-	-	1	1.5	2	3
2c	Raise hoist <u>one-half</u> of the way (approximately 22-25° dumping angle) and add the indicated amount (Quarts) of hydraulic fluid.	2	2	1.5	1	1.5	2	3
2d	Raise hoist <u>three-quarters</u> of the way (approximately 36° dumping angle) and add the indicated amount (Quarts) of hydraulic fluid.	-	-	-	1	1.5	2	3
2e	Raise hoist <u>completely</u> (45-50° dumping angle) and add the indicated amount (Quarts) of hydraulic fluid. DO NOT "TOP OFF" or you will likely have overflow when the hoist is lowered.	0	0	1	1.5	1	2.5	2.5
Step 3	Attach the remaining hose to the Rod-end of they cylinder (not req'd on VP/VC6 & TRL313 hoists w/ ES hyd pwr unit)	ED ONLY	ED ONLY	YES	YES	YES	YES	YES
					1	ı	I name	OF OTTON



TITLE	DATE	SECTION
FILLING HYDRAULIC RESERVOIR	6-16-05C	-
	SUPERSEDES	440440
VP/VC6-628, TRL313-628	6-18-03B	416140

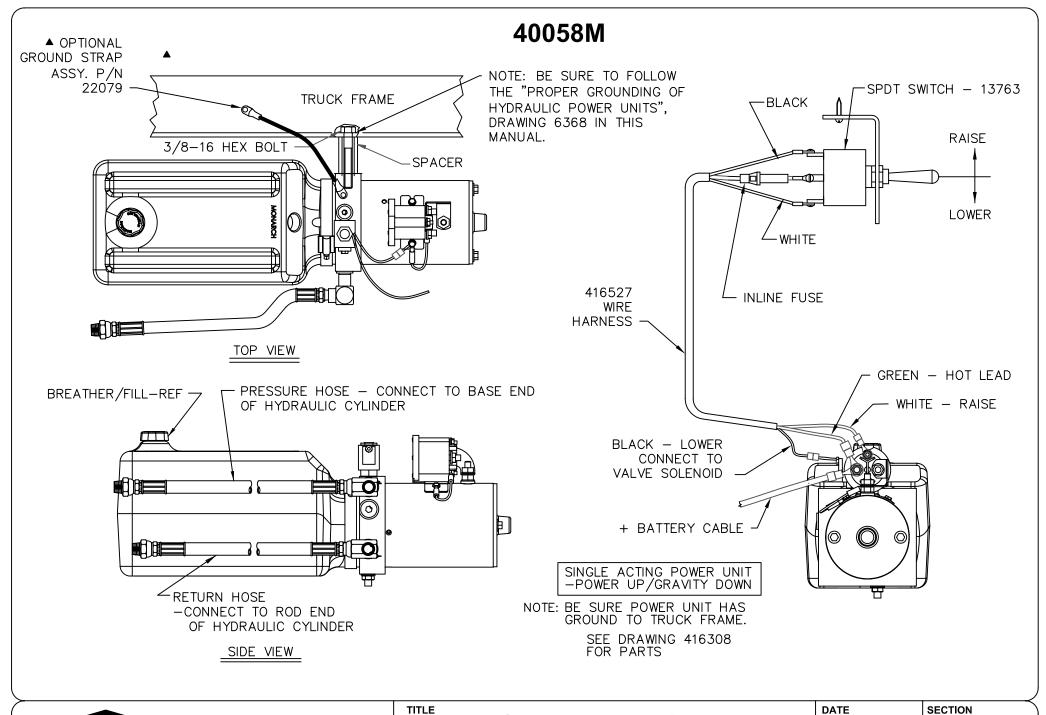
# **Proper Grounding of Hydraulic Power Units - IMPORTANT!!!**

Note: Hydraulic power units WILL run with a poor ground connection, BUT the service life of the motor and control valve coils WILL be greatly reduced unless a proper ground connection is made - see illustration below. The mounting instructions below will provide an "adequate ground". In addition, for the best ground configuration, consider our optional Ground Strap Kit P/N 22079.





TITLE	DATE	SECTION
HYDRAULIC POWER UNIT GROUNDING	6-3-05	-
VP6, VC416/516, VC520/620, VC628, TRL HOISTS	SUPERSEDES	6368
11 0, 10+10/010, 10020/020, 10020, 11(E 1101010		

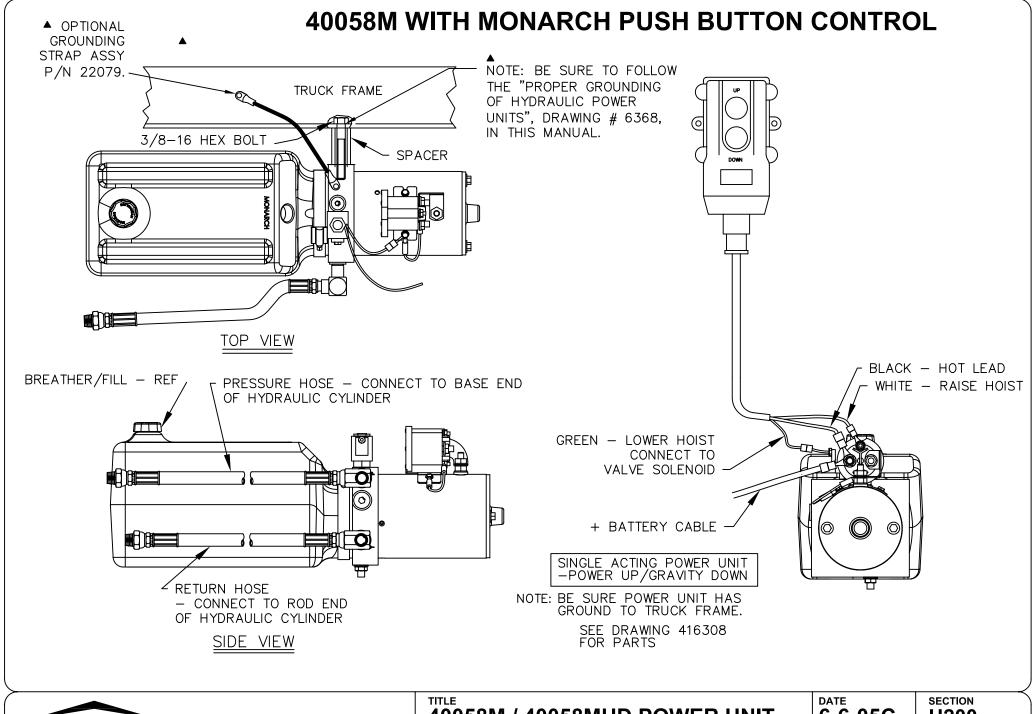




40058M / 40058MHD POWER UNIT 6-6-05A VC416/516/520/620/628

H200 SUPERSEDES **12-2-04** 

416810



VENCO.	MANUFACTURING, INC.
	•

4005	BM / 40058MHD	<b>POWER</b>	UNIT

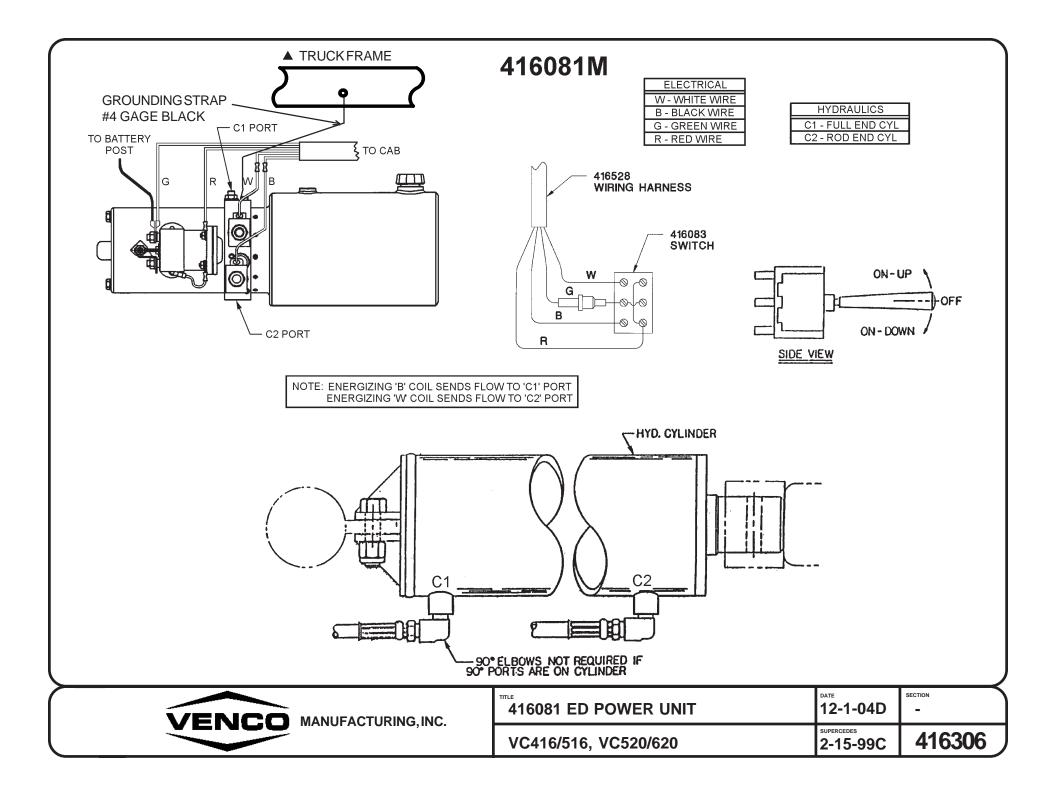
6-6-05C
SUPERSEDES

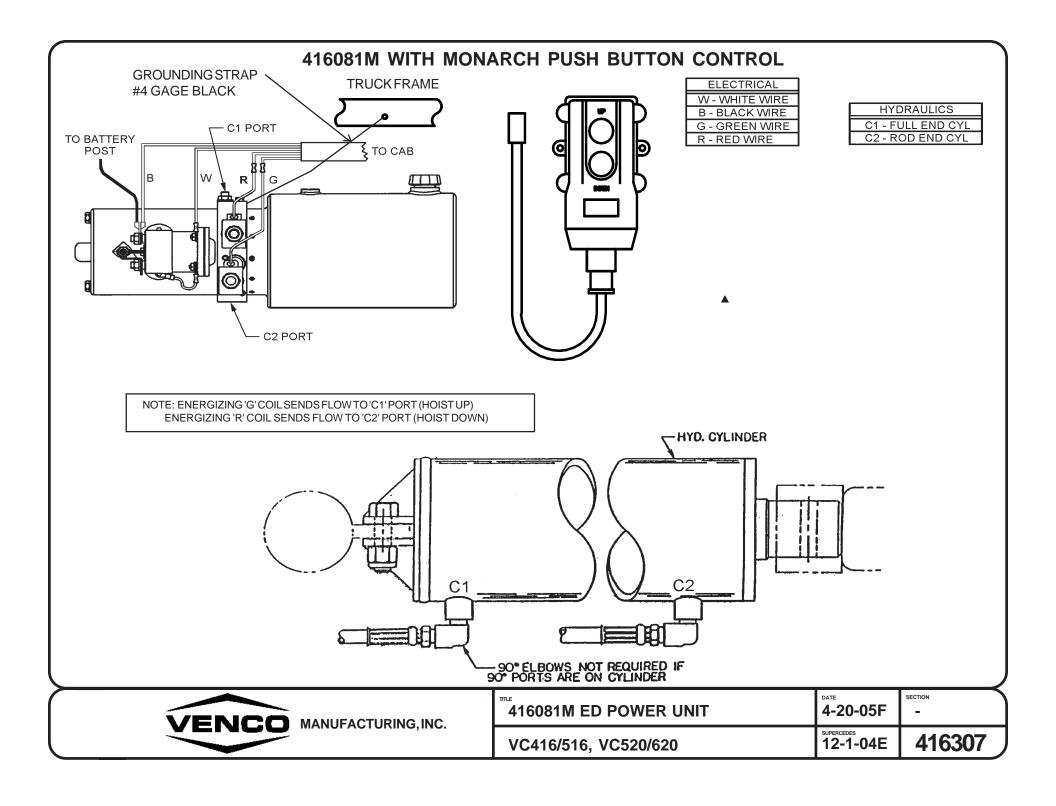
H200

VC416-628, TRL416-628

4-29-05B

416809





# Williams. Machine & Tool Co.

MANUFACTURERS OF HYDRAULIC PISTON PUMPS



The Gear Pump you have purchased is a single rotation Gear Pump. Installation of this Gear Pump into a system that does not match the rotation of the Gear Pump may result in Personal Injury and/or Property Damage.

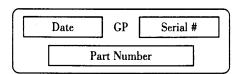
The Gear Pump you have purchased is a single rotation Gear Pump. The direction of rotation can be found by using the Williams Machine and Tool Co.'s Model Number. Directly following the Model Number are the letters CCW or CW. These letters indicate the direction of rotation for the Gear Pump. CCW indicates a counter-clockwise rotation. CW indicates a clockwise rotation. Pump shaft rotation is determined by viewing pump from the shaft end.

Example: GP1538 CCW. The CCW indicates a counter-clockwise rotation.

To verify the direction of rotation of your Gear Pump, perform the following steps:

- 1.) Locate the Part Number on the Gear Pump. The Part Number, Serial Number, and date code are located on the rear of the Gear Pump.
- 2.) Part Numbers ending in an even number are clockwise rotation (CW). Part Numbers ending in an odd number are counter-clockwise rotation (CCW).

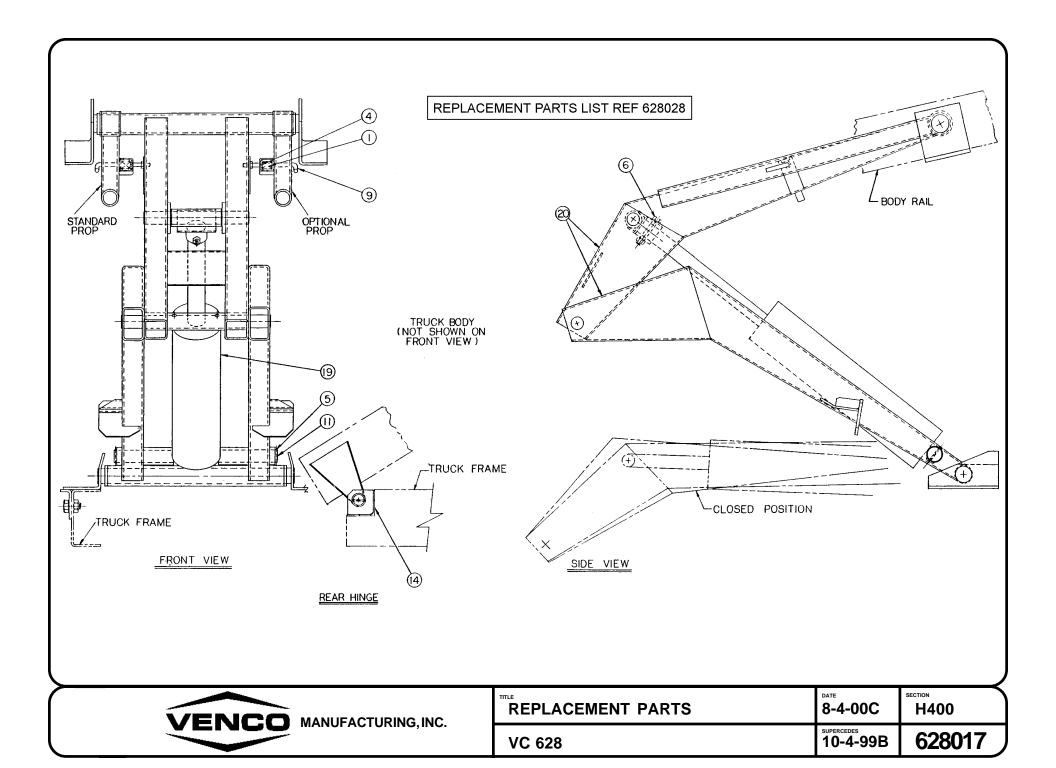
Example: 1830201. The last number is 1 (an odd number). This indicates a counter-clockwise rotation (CCW).



The following chart specifies torque requirements for the SAE O' ring plugs installed into the side or rear ports of the Gear Pump. Any combination of inlet and outlet ports may be used, ie., inlet large rear port, outlet small side port; inlet large side and outlet small rear ports; or both side ports or both rear ports. One inlet and one outlet port must be plugged for proper Gear Pump operation.

PORT SIZE (SAE)	TORQUE (FT. LBS.)		
3/4 - 16	15 - 20		
7/8 - 14	20 - 25		
1-1/16 - 12	30 - 35		
1-5/16 - 12	45 - 50		
1-5/8 - 12	65 - 70		

VENCO MANUFACTURING, INC.	WILLIAMS PTO WARNING	<sup>рате</sup> 7-13-98	H200
MANOT ACTORING, INC.	-	SUPERCEDES -	416287



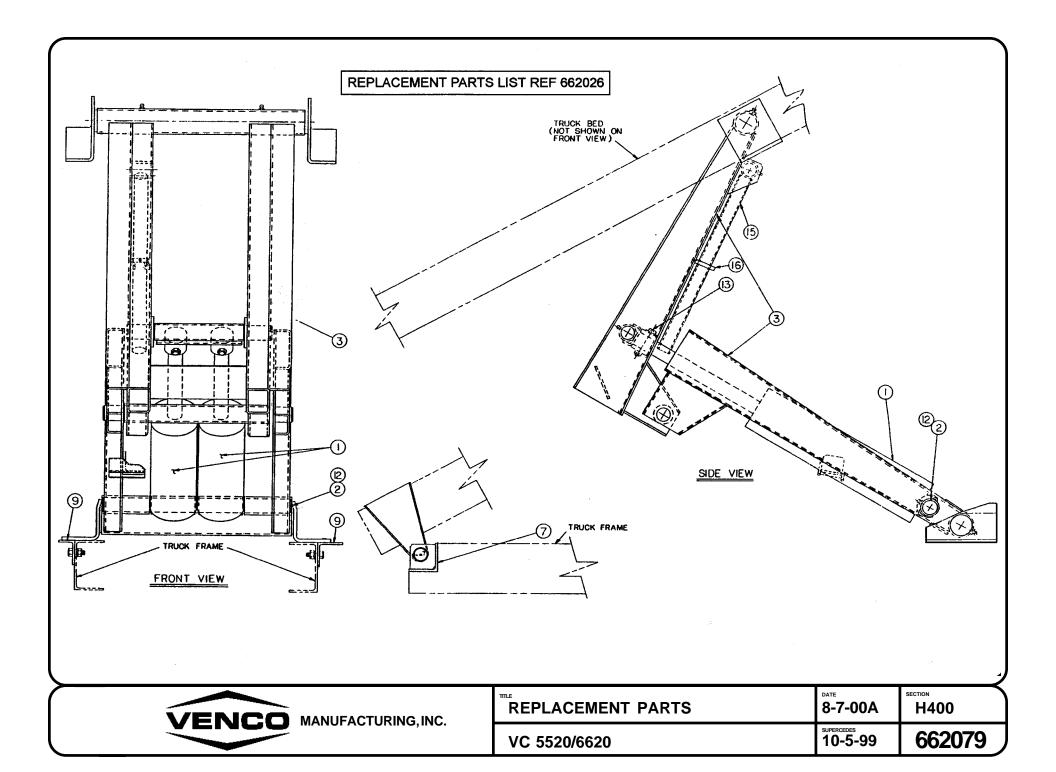
# VC 628 PD REPLACEMENT PARTS LIST

ITEM	QTY	PARTNUMBER	DESCRIPTION
1 *2 *3 4 5	1 2 2 1 2	00170 15254 16-00012 20-00022 416010	SPRING - 11/16" O.D. x 1-3/4" LONG CAUTION - STAND CLEAR DECAL MOUNTING BRACKET - PUMP ROLL PIN - 5/32" DIA x 1" LONG COTTER PIN - 1/4" DIA x 3" LONG
6 7 *8 9 *10	1 - 2 1 2	416545 - 416052 416068-2 416084	5/8 X 3-1/2 X CLEVIS PIN ASSEMBLY ▲ - CAUTION-INSTRUCTIONS DECAL LOCKING PIN - PROP SAFETY PROP DECAL
11 12 13 14 15	1 - - 1	520014 - - 662057-1	LOWER PIVOT SHAFT-CYLINDER  HINGE ASSEMBLY -
*16 *17 *18 19 20	1 1 1 1	520065 620006 620008 628039 628040	HYDRAULIC HOSE - 3/8" x 5' HYDRAULIC P.T.O. PUMP INSTALLATION INSTRUCTIONS HYDRAULIC CYLINDER SCISSORS ASSEMBLY
*21 22 23 24 25	1	628041 - - - -	HYDRAULIC HOSE - 3/8" x 7'-10"
26 27 28 29 30		- - - -	- - - -
31 32 33 34 35		- - - -	- - - -

\*ITEM NOT SHOWN ON DRAWING

REPLACEMENT PARTS DWG REF 628017 NOTE: PIN FOR MULTI-PIECE HINGE IS 520028

VENCO MANUFACTURING, INC.	REPL. PARTS LIST	4-9-03D	SECTION H400
WANDFACTORING, INC.	VC 628 PD	8-4-00C	628028



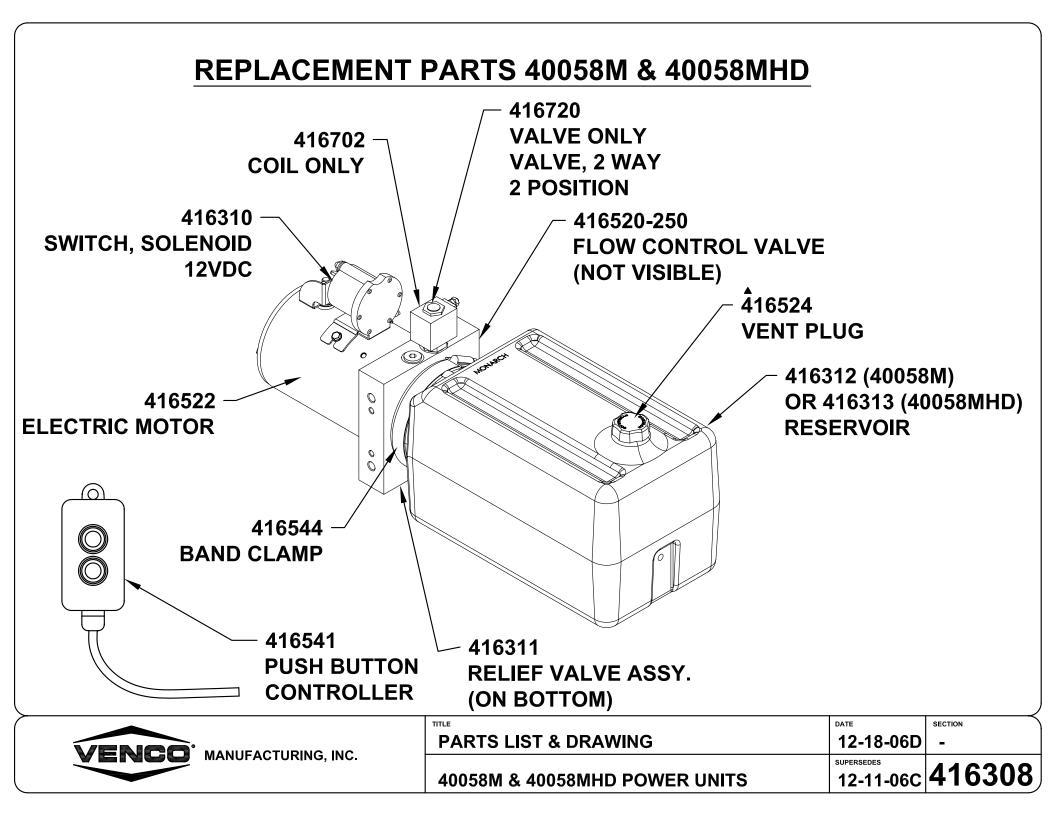
## VC 5520 / VC 6620 REPLACEMENT PARTS LIST

ITEM	QTY	VC 5520	VC 6620	DESCRIPTION
1 2 3 * 4 5	2 1 1 1	520004 662008 662024 620006	620004 662008 662024 662025	CYLINDER - 5" OR 6" BORE x 20" STROKE LOWER CYLINDER PIVOT SHAFT SCISSORS ASSEMBLY PTO PUMP -
6 7 8 9 * 10	- 1 - 2 2	- 662057-1 - 520063 520065	- 662057-1 - 520063 520065	- REAR HINGE ASSEMBLY - MOUNTING ANGLE HYDRAULIC HOSE - 3/8" x 5 FT.
* 11 12 13 14 15	2 2 2 - 1	520067 416010 ▲ 416545 - 662032	520067 416010 ▲ 416545 - 662032	HYDRAULIC HOSE - 3/8" x 7 FT. COTTER PIN - 1/4" X 3"  ▲ 5/8 X 3-1/2 CLEVIS PIN ASSEMBLY - BODY PROP
16 17 18 19 20	1	662046 - - - -	662046	ADJUSTABLE CLIP
21 22 23 24 25		- - - -		- - - -
26 27 28 29 30		- - - -		- - - -
31 32 33 34 35		- - - -		- - - -

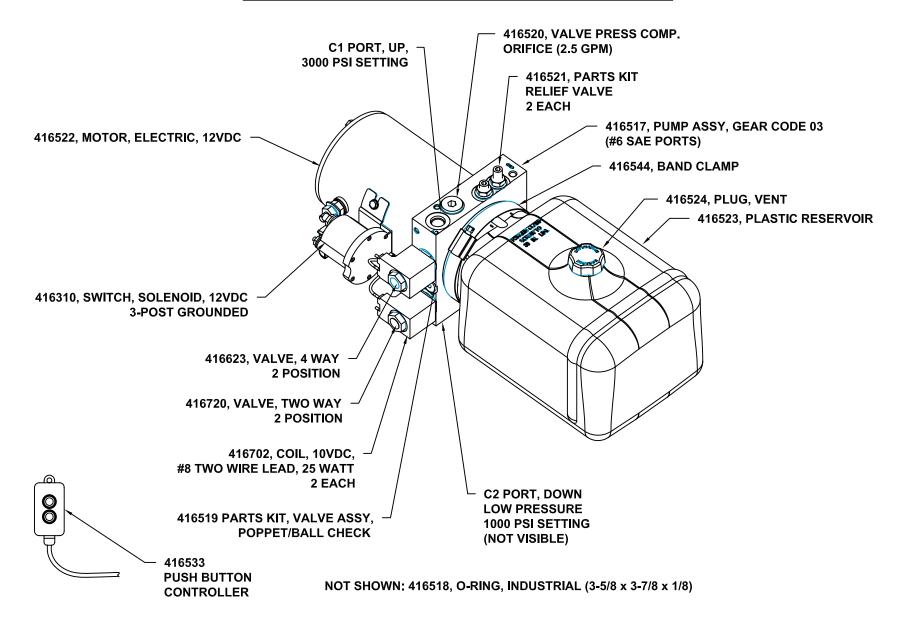
\*ITEM NOT SHOWN ON DRAWING

NOTE: SHAFT FOR MULTI-PIECE HINGE IS 662072

VENCO MANUFACTURING, INC.	REPL. PARTS LIST	<sup>DATE</sup> 4-9-03Е	SECTION H400
CINCINNATI, OHIO	VC 5520 / 6620	3-14-03D	662026

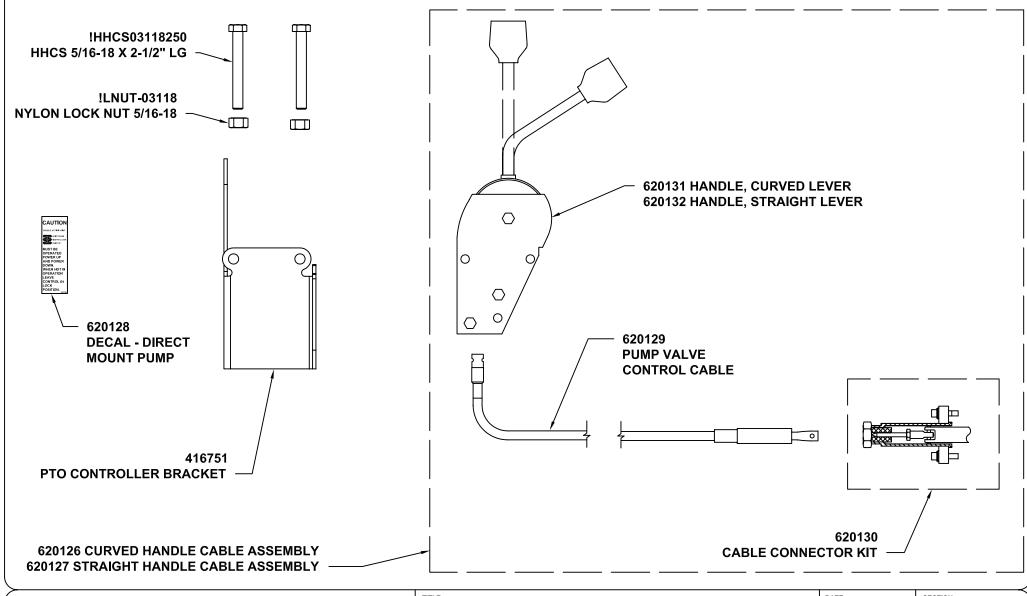


# **REPLACEMENT PARTS 416081M**



VENCO MANUFACTURING, INC.	REPLACEMENT PARTS DRAWING	12-11-06E	SECTION _	
MANUFACTURING, INC.	416081M POWER UNIT	7-27-05D	416508	,

# 620125 CABLE & CONSOLE KIT - CURVED HANDLE 620124 CABLE & CONSOLE KIT - STRAIGHT HANDLE





TITLE	DATE	SECTION
REPLACEMENT PARTS & DRAWING	9-16-04	_
PTO PUMP CABLE	SUPERSEDES	620245



## LIMITED WARRANTY POLICY

This limited policy warrants new products of Venco to be free from defects in material and workmanship for a period of three (3) years from date of original installation. This warranty covers:

- Repair or replacement of product
- · Labor to repair or replace product
- · Freight to return and/or replace product

We shall not be liable for any contingent liabilities arising out of the improper function of any products. Warranty shall become void if the product is improperly installed, modified, damaged, abused or used for application other than intended use.

## WARRANTY CLAIMS

Venco Manufacturing, Inc. will make a good faith effort for prompt correction or other adjustment with respect to any product, which proves to be defective after our inspection and within the warranty period. Before any repairs are attempted or before returning any product, your Venco Distributor is required to obtain a warranty claim number. This number is necessary for any claim to be considered. To obtain a warranty claim number, Venco requires the model and serial number. Only authorized Venco Distributors can perform warranty. For the name and address of your local Venco Distributor call the Warranty Claim Department – 513-772-8448.

**WARNING** – It is the responsibility of the installer to insure the installation is completed according to the manufacturer's recommendations, insure the ultimate user understands how to operate product in a safe manner and understands the need for regular service and maintenance by an authorized Venco Distributor. No modifications or alterations may be made to any Venco products without the expressed written consent of the manufacturer. Reinstallation of any Venco product must be done by an authorized Venco Distributor, to the standards of the industry including maintenance, service and affixing of all instruction, safety and warning decals. Users should again be instructed as to the safe operation at time of delivery. Maintenance, service, operation and safety warning decals are available on request from Venco Manufacturing, Inc.

#### VENCO MANUFACTURING, INC

DIVISION OF COLLINS ASSOCIATES, INC

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