VENCO®

HOISTS

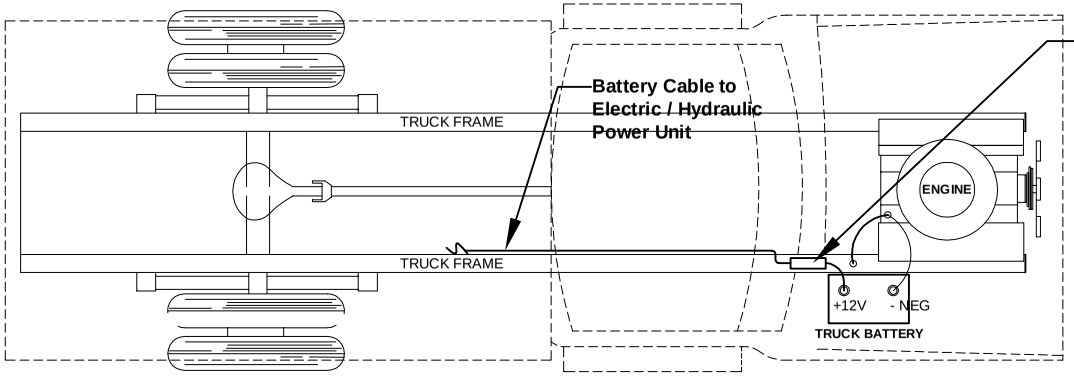
INSTALLATION & OWNER'S MANUAL

Sold and Serviced by:

12110 BEST PLACE • CINCINNATI, OHIO 45241 • PHONE 1-800-226-2238 • FAX 1-513-326-5427
www.venturo.com

ELECTRICAL CONNECTIONS - HYDRAULIC POWER UNITS

+12 Volt Power Connection:

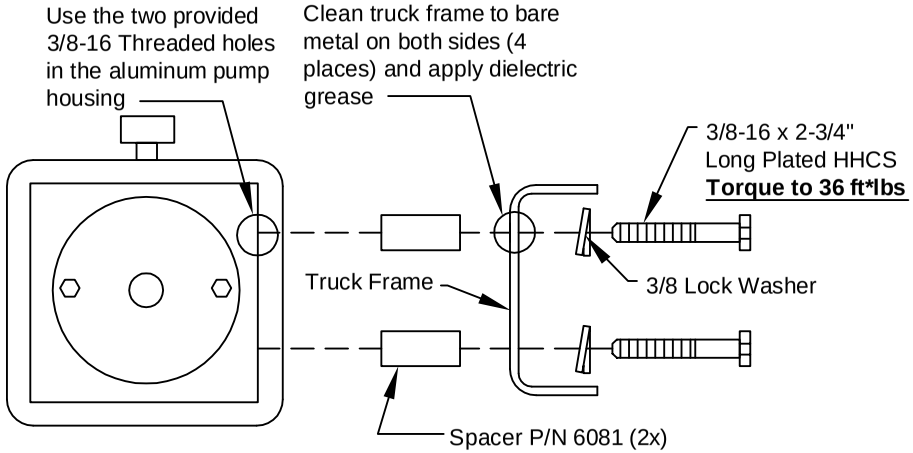


****IMPORTANT****
Locate the circuit breaker as close as practical to the battery for best protection of the battery cable servicing the electric / hydraulic power unit.

****NOTE****
Amp-draw of the electric / hydraulic power unit can be as high as ***230amps*** under normal conditions. The amp rating of the circuit breaker should be sized appropriately.

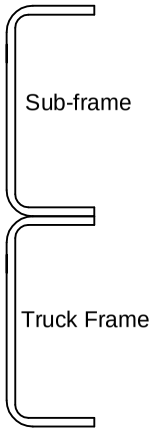
Grounding: Hydraulic power units WILL run with a poor ground connection, BUT the service life of the motor and control valve coils WILL be greatly reduced unless a proper ground connection is made - see illustrations below.

Non Sub-frame Grounding

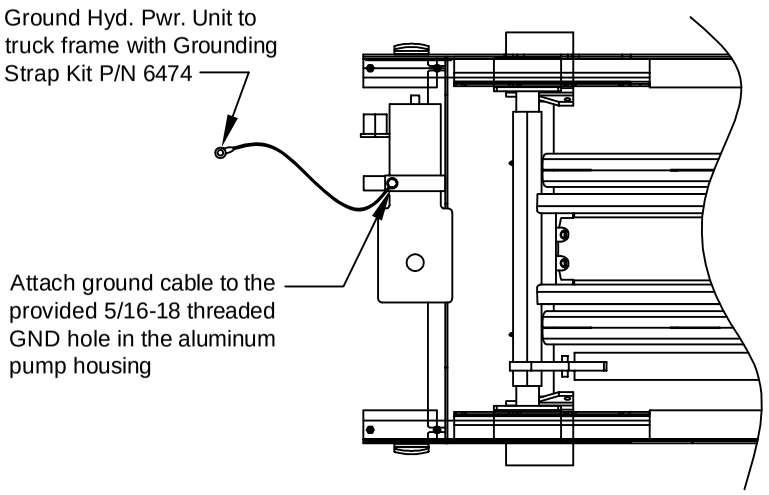


DO NOT APPLY THREAD LOCK LIQUIDS TO BOLT THREADS, AS THEY WILL INSULATE THE BOLTS FROM THE ALUMINUM PUMP HOUSING.

Sub-frame Grounding



Profile View



Top View

VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE	DATE	SECTION
ELECTRICAL CONNECTIONS - HYD PWR UNITS	09-23-20D	-
ALL ELECTRIC HOIST APPLICATIONS	SUPERSEDES 06-16-20C	6368

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, 628020, 552010, 662052 OR 662851.

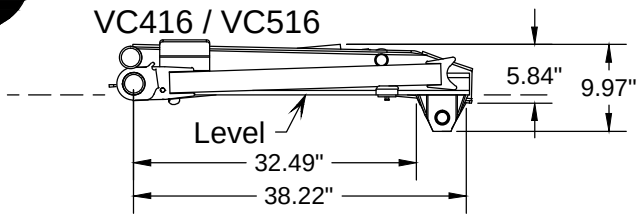
4. USE PUMP WHICH MEETS VENCO SPECIFICATION
   SEE PAGE: 416138.

!! IMPORTANT WARNING !!

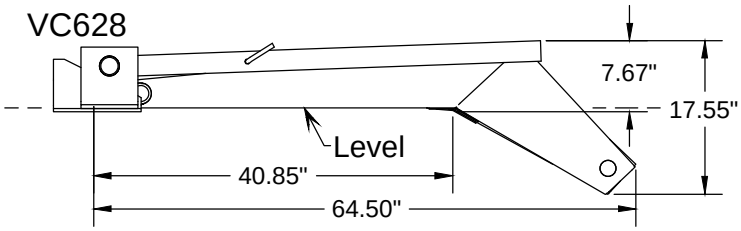
* ALL VENCO CONVERSION HOISTS → VC416 THRU VC6628 *

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

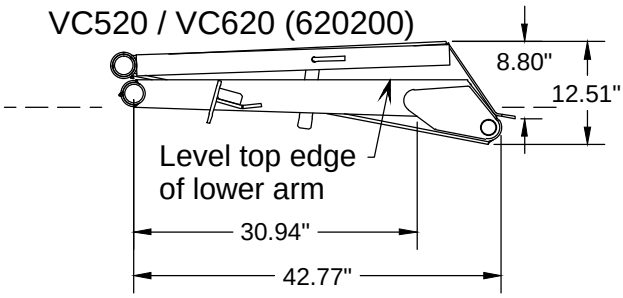
VC416 / VC516



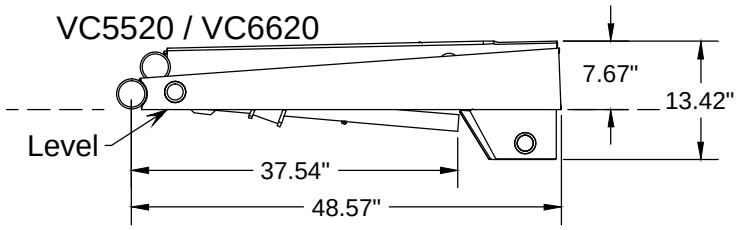
VC628



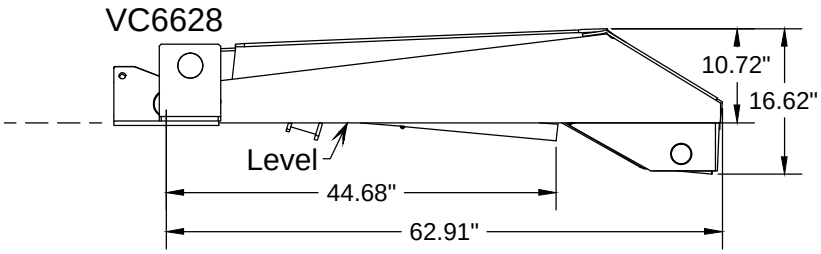
VC520 / VC620 (620200)



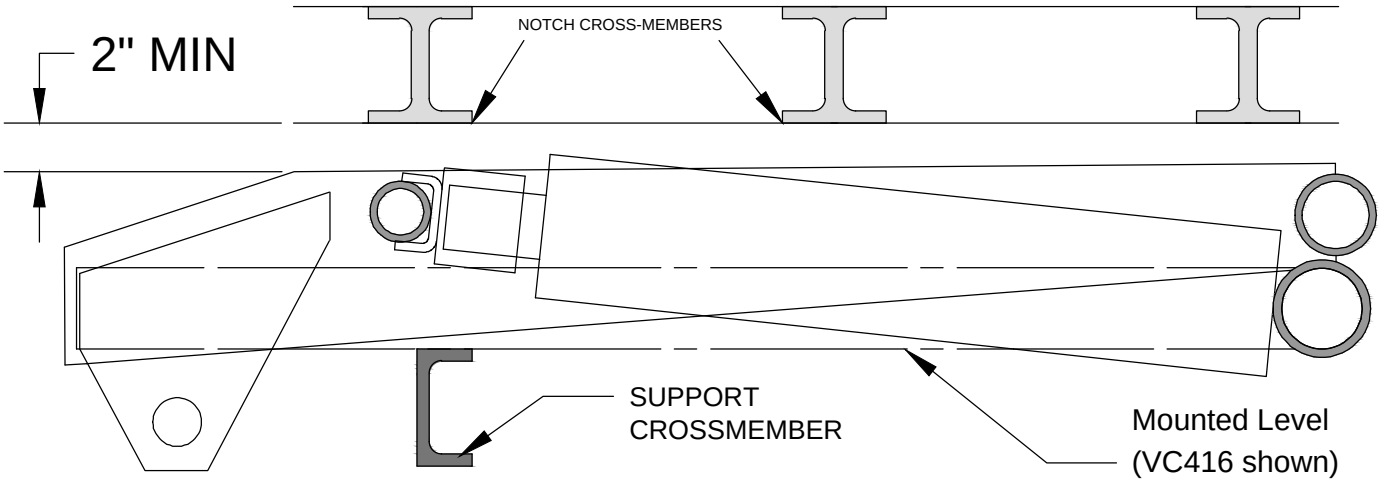
VC5520 / VC6620



VC6628



2 !! IMPORTANT !!
A minimum clearance of 2" is required between the hoist (upper arm) and the body cross-members in order to prevent a mechanical lockout. If clearance is less than 2", then cross-members must be notched above arms.



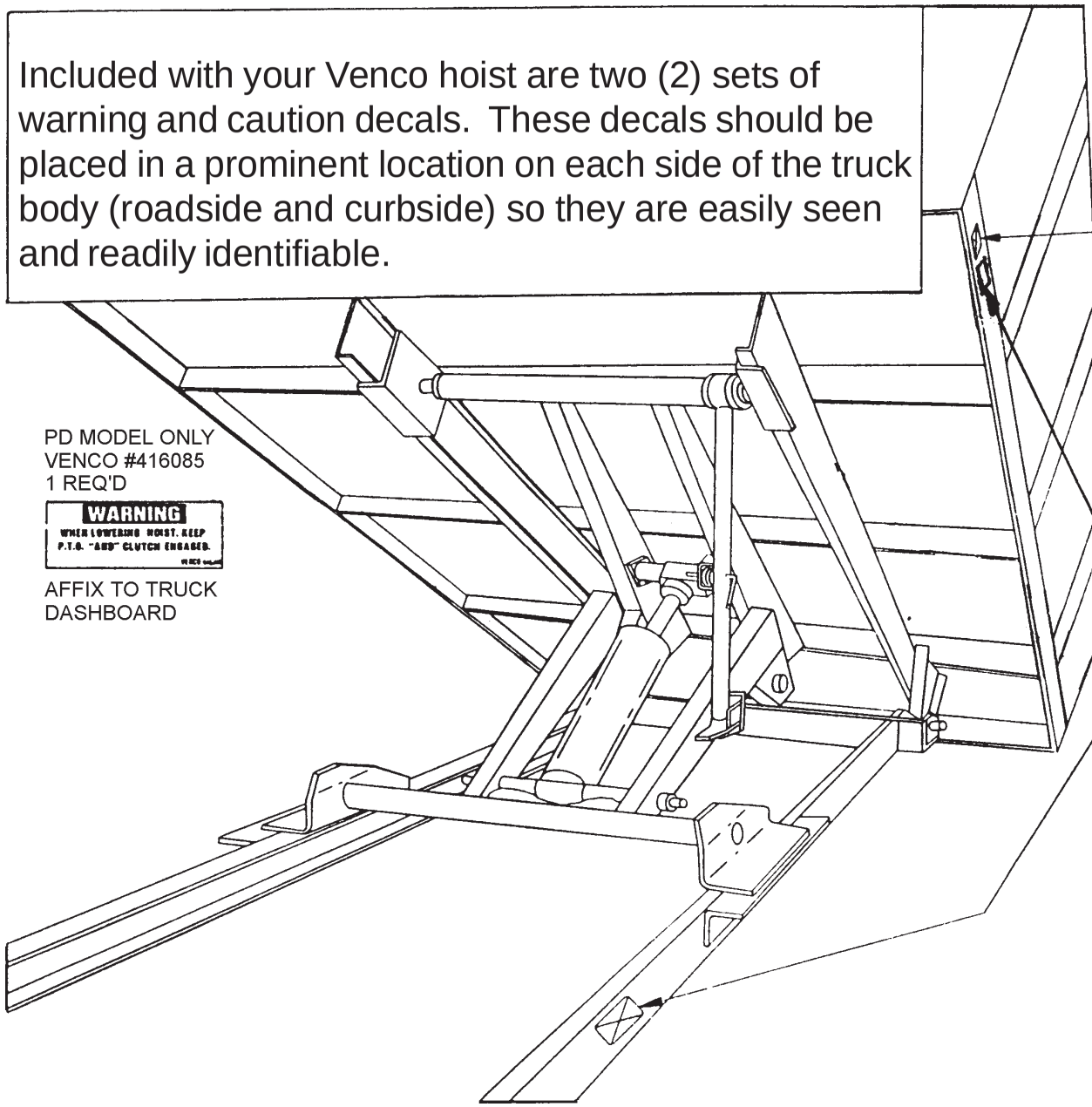
!! IMPORTANT !!
THE HOIST SCISSOR MUST BE SUPPORTED WITH A CHASSIS-MOUNTED SUPPORT CROSSMEMBER. IF THE TRUCK CHASSIS DOES NOT HAVE A CROSSMEMBER TO SUPPORT THE HOIST IN A 'LEVEL' POSITION, THE INSTALLER 'MUST' INSTALL A SUPPORT CROSSMEMBER AS SHOWN ABOVE.

VENCO®

VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE	DATE	SECTION
IMPORTANT WARNING	12-08-20P	H200
VENCO HOISTS	SUPERSEDES 11-05-15N	416086

Included with your Venco hoist are two (2) sets of warning and caution decals. These decals should be placed in a prominent location on each side of the truck body (roadside and curbside) so they are easily seen and readily identifiable.



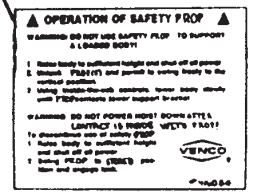
VENCO #416052
2 REQ'D (1 EACH SIDE)

VENCO #15254
2 REQ'D (1 EACH SIDE)

PD MODEL ONLY
VENCO #416085
1 REQ'D

AFFIX TO TRUCK
DASHBOARD

VENCO #416084
1 REQ'D FOR
EACH SAFETY PROP



VENCO MANUFACTURING, INC. ▲	TITLE: DECAL LOCATION	DATE: 6-16-05C	SECTION: H100
	VC416-6628, TRL416-6628	SUPERCEDES: 12-27-99B	416128

PART NO.: 416052

DECAL: CAUTION STAY CLEAR

FUNCTION: To provide operator with a summary of key hoist operating procedures.

QUANTITY: 2

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. ▲

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.

VENCO HOIST MODEL VC 520 (NON-SUBFRAME)

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 GUIDELINE ONLY.

DUMP CLASS: 40
CONVERSION CLASS: D
WEIGHT: 445 LBS
POWER SOURCE: PD - POWER TAKE OFF DOUBLE ACTING
ES - ELECTRIC SINGLE ACTING
ED - ELECTRIC DOUBLE ACTING
ADDITIONAL DATA:
SINGLE CYLINDER (5" BORE x 20" STROKE)
CA: 84"-138"
DUMP ANGLE: 40°-50°
MOUNTING HEIGHT REQ'D: 7-1/2"
▲

CONVERSION APPLICATIONS VC 520 WITHOUT SUBFRAME					
BODY	CA	REAR O.H.	40° (TON)	45° (TON)	50°(TON)
12'	84"	30"	16.2	14.5	13.1
13'	84"	42"	18.9	16.9	15.3
13'	102"	24"	12.6	11.3	10.2
13'	108"	18"	11.3	10.1	9.2
14'	102"	36"	14.2	12.7	11.4
14'	108"	30"	12.6	11.3	10.2
14'	114"	24"	11.3	10.1	9.2
14'	120"	18"	10.3	9.2	8.3
14'	124"	14"	9.7	8.7	7.8
14'	126"	12"	9.5	8.4	7.6
15'	102"	48"	16.2	14.5	13.1
15'	108"	42"	14.2	12.7	11.4
15'	120"	30"	11.3	10.1	9.2
15'	124"	26"	10.6	9.5	8.6
15'	126"	24"	10.3	9.2	8.3
15'	138"	12"	8.7	7.8	7.0

DUMP APPLICATIONS VC 520 WITHOUT SUBFRAME					
BODY	CA	REAR O.H.	40° (TON)	45° (TON)	50° (TON)
8'	-	12"	18.9	16.9	15.3
9'	-	12"	16.2	14.5	13.1
10'	-	12"	14.2	12.7	11.4

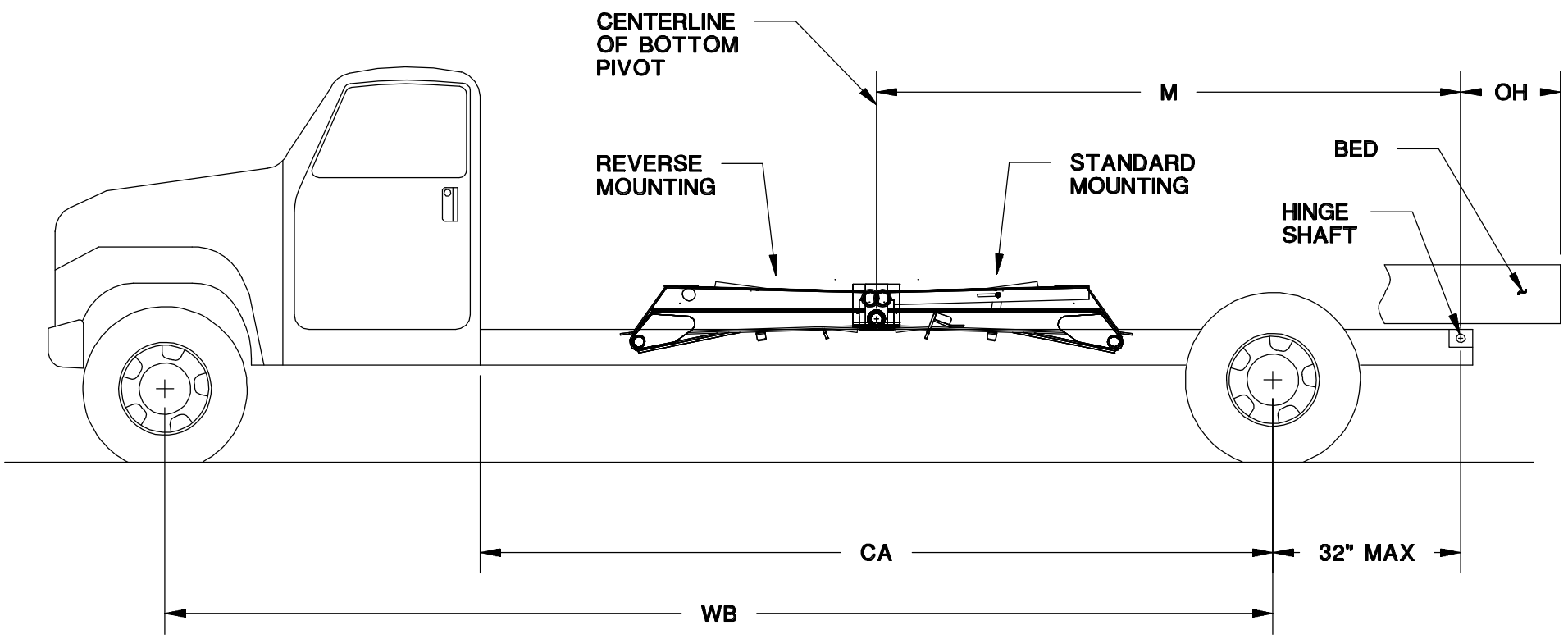
VENCO HOIST MODEL VC 520 WITH SUBFRAME

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 GUIDELINE ONLY.

DUMP CLASS: 40
CONVERSION CLASS: D
WEIGHT: 675 LBS
POWER SOURCE: PD - POWER TAKE OFF DOUBLE ACTING
ES - ELECTRIC SINGLE ACTING
ED - ELECTRIC DOUBLE ACTING
ADDITIONAL DATA:
SINGLE CYLINDER (5" BORE x 20" STROKE)
CA: 84"-138"
DUMP ANGLE: 45°-50°
MOUNTING HEIGHT REQ'D: ▲
▲ SUB FRAME HEIGHT - 4-1/2"
▲ MOUNTING HEIGHT ABOVE SUB FRAME - 6-3/4"

CONVERSION APPLICATIONS VC 520 WITH SUBFRAME					
BODY	CA	REAR O.H.	45° (TON)	47° (TON)	50°(TON)
12'	84"	30"	14.7	14.1	13.2
13'	84"	42"	17.1	16.4	15.4
13'	102"	24"	11.4	11.0	10.3
13'	108"	18"	10.3	9.9	9.2
14'	102"	36"	12.8	12.3	11.5
14'	108"	30"	11.4	11.0	10.3
14'	114"	24"	10.3	9.9	9.2
14'	120"	18"	9.3	9.0	8.4
14'	124"	14"	8.8	8.5	7.9
14'	126"	12"	8.6	8.2	7.7
15'	102"	48"	14.7	14.1	13.2
15'	108"	42"	12.8	12.3	11.5
15'	120"	30"	10.3	9.9	9.2
15'	124"	26"	9.6	9.3	8.7
15'	126"	24"	9.3	9.0	8.4
15'	138"	12"	7.9	7.6	7.1

DUMP APPLICATIONS VC 520 WITH SUBFRAME					
BODY	CA	REAR O.H.	45° (TON)	47° (TON)	50° (TON)
8'	-	12"	17.1	16.4	15.4
9'	-	12"	14.7	14.1	13.2
10'	-	12"	12.8	12.3	11.5



VC 520 HOIST (NON-SUBFRAME)

STANDARD / REVERSE MOUNTING

DUMP ANGLE	M
40˚	105"
45˚	94"
50˚	85"

FIGURE 1.A

VENCO MANUFACTURING, INC.	TITLE MOUNTING DIMENSIONS	DATE 11-16-98	SECTION H100
	VC 520 HOIST	SUPERSEDES -	520603

HOIST MOUNTING INSTRUCTIONS (VC 520 NON-SUBFRAME ONLY)

Refer to drawings 520601 or 520603 (on the preceding pages).

CAUTION

If the distance between the center 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).

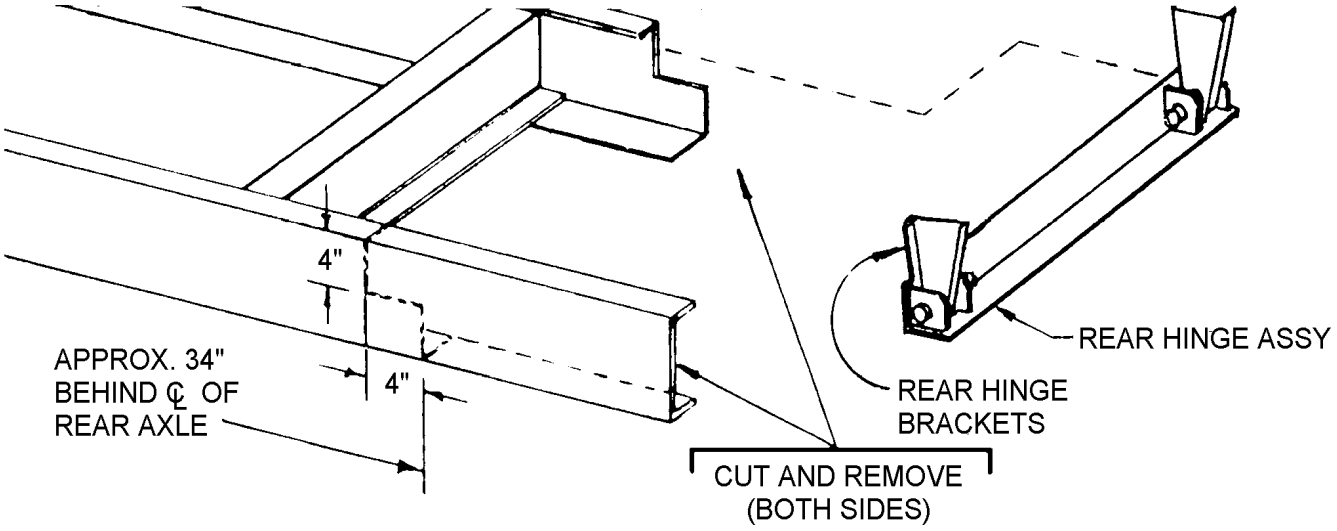


Figure 2 - Frame Modification and Rear Hinge Attachment

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 lower pivot is referred to as the "M" dimension. The table on drawing 520603 provides 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 (toward cab) decreases dump angle and increases capacity. A backward movement increases dump angle and decreases capacity (see dwg. 520601).

HOIST MOUNTING INSTRUCTIONS (VC 520 / 620 NON-SUBFRAME ONLY)

E. After the hoist is positioned, place the mounting angles (Figure 3) under the lower pivot angles and against the truck frame. Clamp securely in place. Drill though the frame and install the mounting angle with two (2) 1/2" x 1-1/2" hex head cap screws, lock washers, and hex nuts, and four flatwashers (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 lower pivot angles.

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

F. Weld each end of the lower pivot angle to its mounting angle as shown in Figure 3. Note the welding symbols. Do not weld to the truck frame.

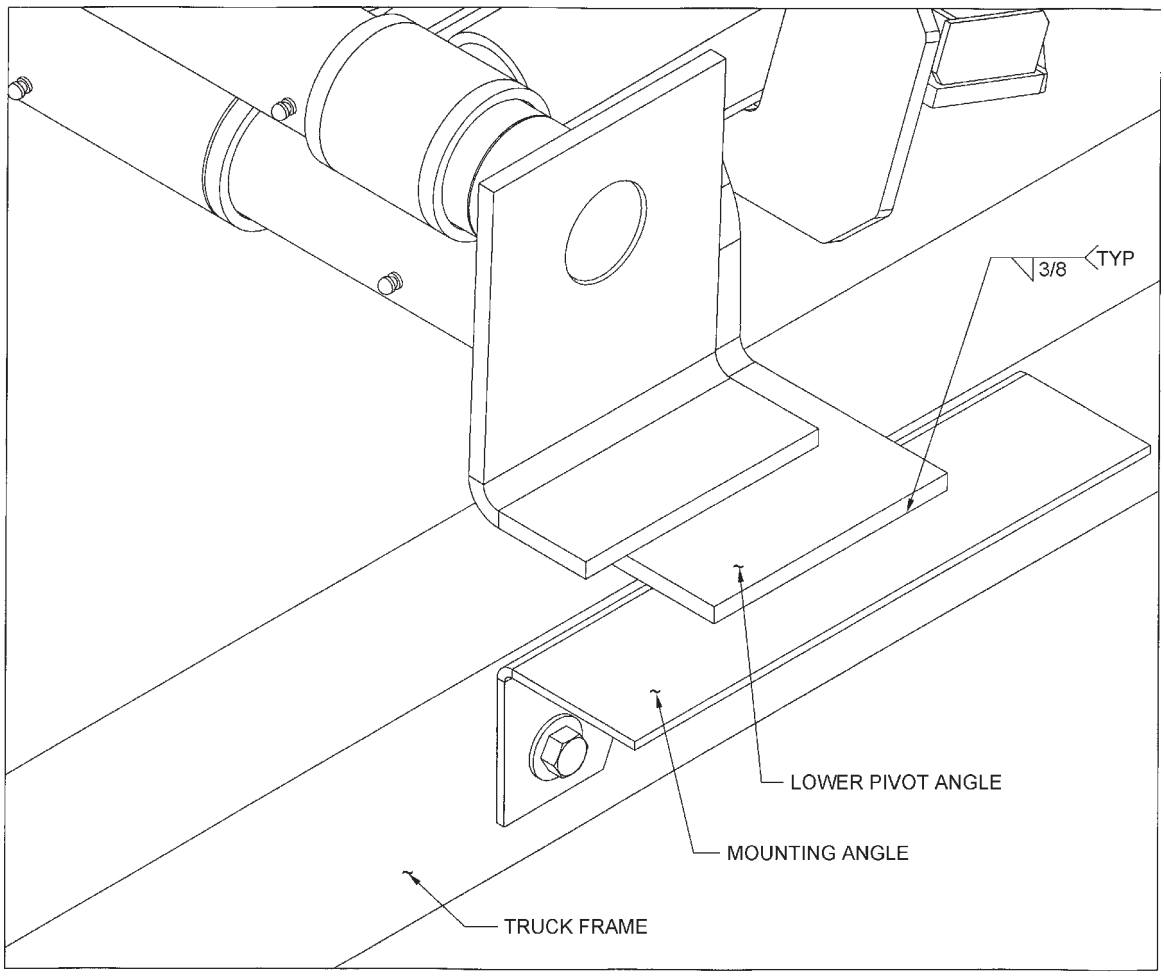


Figure 3 - Mounting Angle Assembly

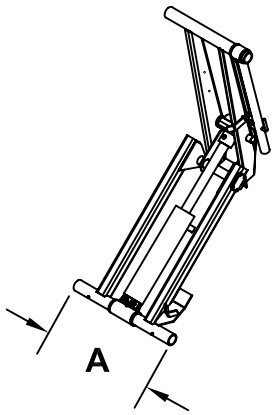
II A. STANDARD HOIST MOUNTING INSTRUCTIONS

1. Moving the hoist along the truck frame forward or rearward will affect the hoist's performance. A forward movement will reduce the dump angle and increase capacity. A backward movement will increase dump angle and decrease capacity.
2. The VC520 Hoist is designed for 34" to 29.5" frame widths. The hoist is shipped from the factory for mounting on 34" O.D. frames. For a frame width O.D. smaller than 34", the following parts will have to be shortened as noted below.

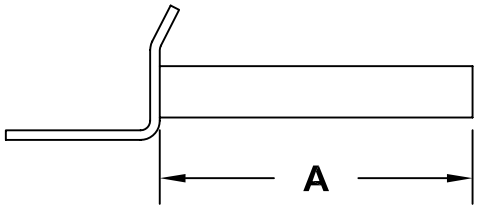
QTY.	PART NO.	DESCRIPTION
1	520540	Lower Pivot Tube
2	520563	Lower Pivot Assy.
2	520562	Upper Lift Shaft Assy.

* - Original length shipped from factory

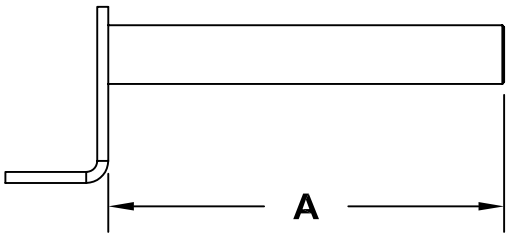
Lower Pivot Tube 520540	
Frame Width	Dim A.
34	27-3/4"*
31.3	25-1/16"
29.5	23-1/4"



Lower Pivot Assy. 520563	
Frame Width	Dim A.
34	12-1/4"*
31.3	10-7/8"
29.5	10"



Upper Lift Shaft Assy. 520562	
Frame Width	Dim A.
34	13-1/2"*
31.3	12-1/2"
29.5	11-5/8"



HOIST MOUNTING INSTRUCTIONS (VC 520 WITH SUBFRAME ONLY)

Refer to drawing 520602 (on the preceding pages).

A. Position the hoist into the front half of the subframe by inserting the two lower pivot angles into the lower pivot tube on the scissors and then positioning that assembly inside the front half of the subframe. The two holes on each lower pivot angle should match up with a set of holes on the subframe mounting brace. The front set of holes on the subframe corresponds to a dump angle of 45 degrees, the middle to 47 degrees, and the rear to 50 degrees. See Dwg. 520607 for subframe features.

   NOTE: If any dump angle other than 50 degrees is desired, an additional crossmember will be required to support the rear knuckle of the scissors.

B. Fasten the lower pivot angles to the subframe using two (2) 1/2" x 1-1/2" hexhead cap screws, lockwashers, and nuts, and four (4) flatwashers (both sides). See Dwg. 520608 Figure 4a.

C. Position the hoist with the subframe front section onto the truck frame.

   NOTE: The front crossmember of the front section has only been tack welded into place. This was done to provide you with the flexibility to move the front crossmember and power unit, if desired. When the crossmember is where you want it, fully weld it into place.

D. Place the rear section of the subframe onto the truck frame.

   NOTE: A distance of less than 38" should be maintained between the center of the rear hinge and the center of the rear axle. If this distance exceeds 38", additional reinforcement of the truck frame may be necessary.

E. Trim off any truck frame that extends beyond the rear hinge.

F. Fasten the rear half of the subframe to the truck by welding the two frame tie down brackets onto the subframe, drilling corresponding holes through the truck frame, and using two (2) 1/2" x 1-1/2" hexhead cap screws, lockwashers, and nuts, and four (4) flatwashers (both sides). The tie down brackets should be located as close as possible to the rear hinge to insure stability.

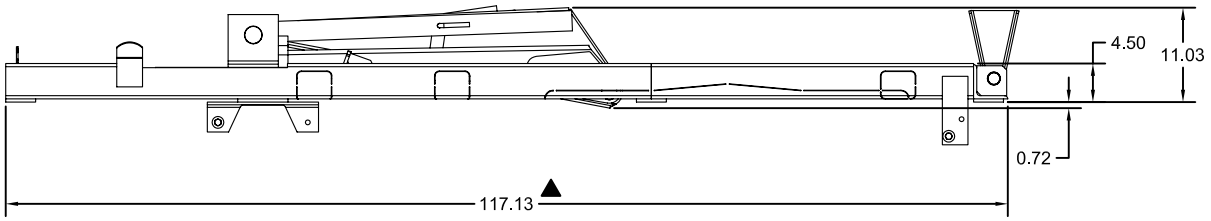
G. Fasten the two halves of the subframe together by welding the tabs extending from the rear half into the front half.

H. After the two halves are welded together, place the mounting angles under the lower pivot angles and against the truck frame. Clamp them securely in place. Drill through the frame and install the mounting angle with two (2) 1/2" x 1-1/2" hex head cap screws, lock washers, and hex nuts, and four (4) flatwashers (both sides). See Figure 5.

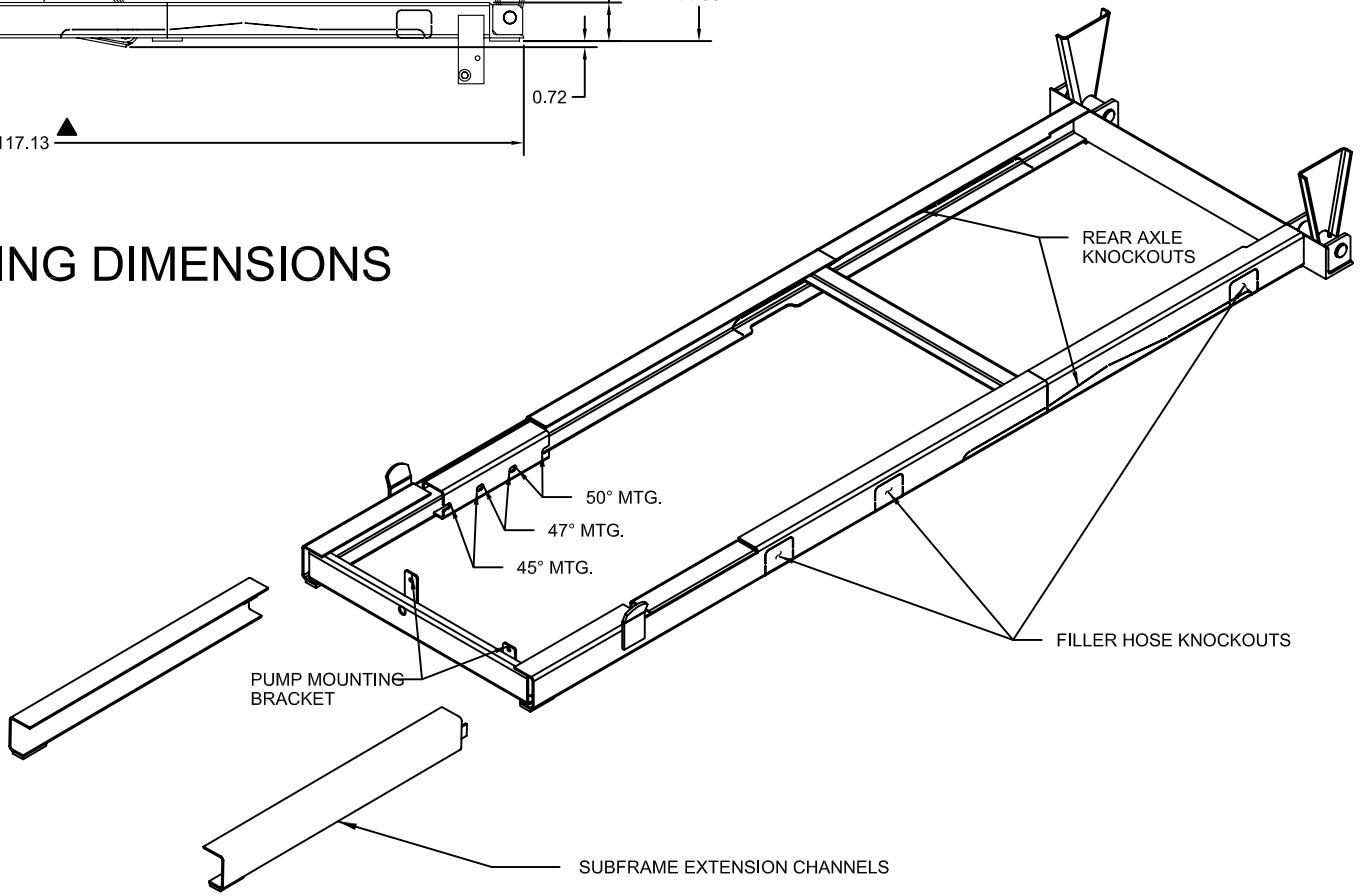
   NOTE: Do not weld the mounting angles to the truck frame. This may void the truck warranty.

I. Weld each end of the lower pivot angle to its mounting angle as shown in Dwg. 520608 Figure 4b. Note the welding symbols. Do not weld to the truck frame.

520 & 620 SUBFRAME FEATURES
(520501)



MOUNTING DIMENSIONS



VENCO MANUFACTURING, INC.	TITLE SUBFRAME FEATURES	DATE 1-11-05C	SECTION H200
	VC 520 / 620	SUPERSEDES 8-26-03B	**520607**

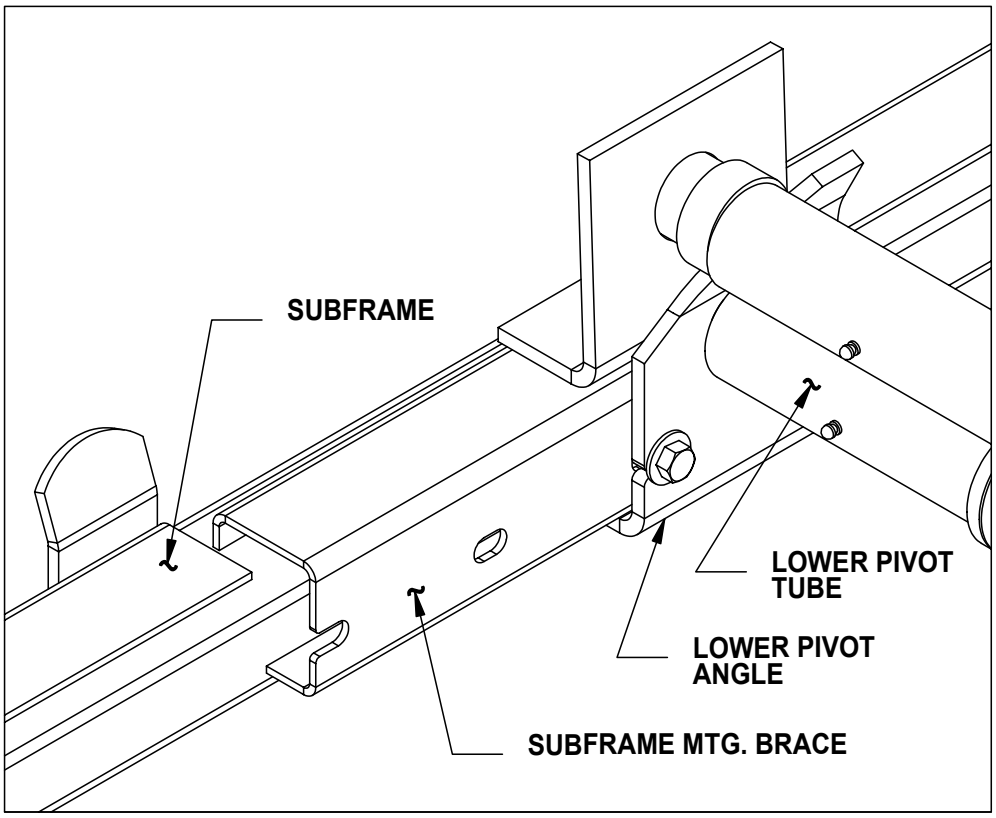


FIGURE 4a

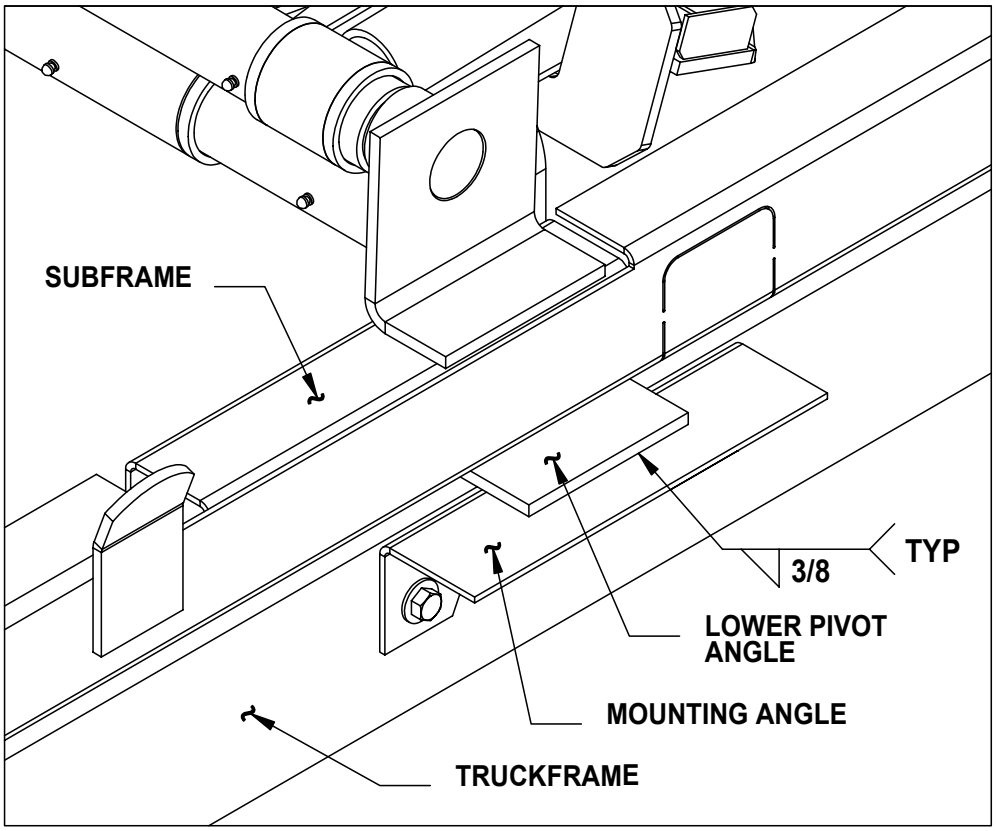
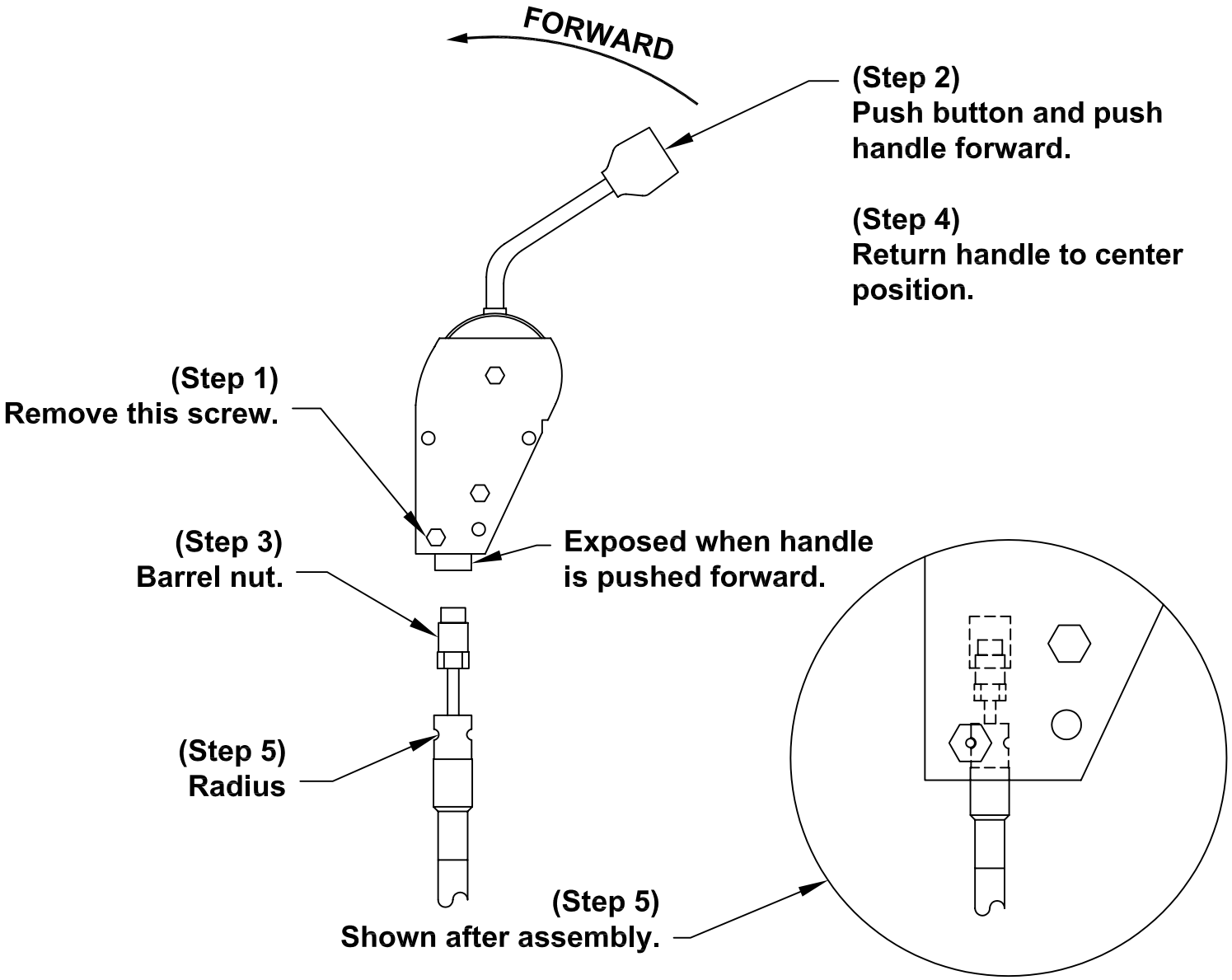


FIGURE 4b

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.



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

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.

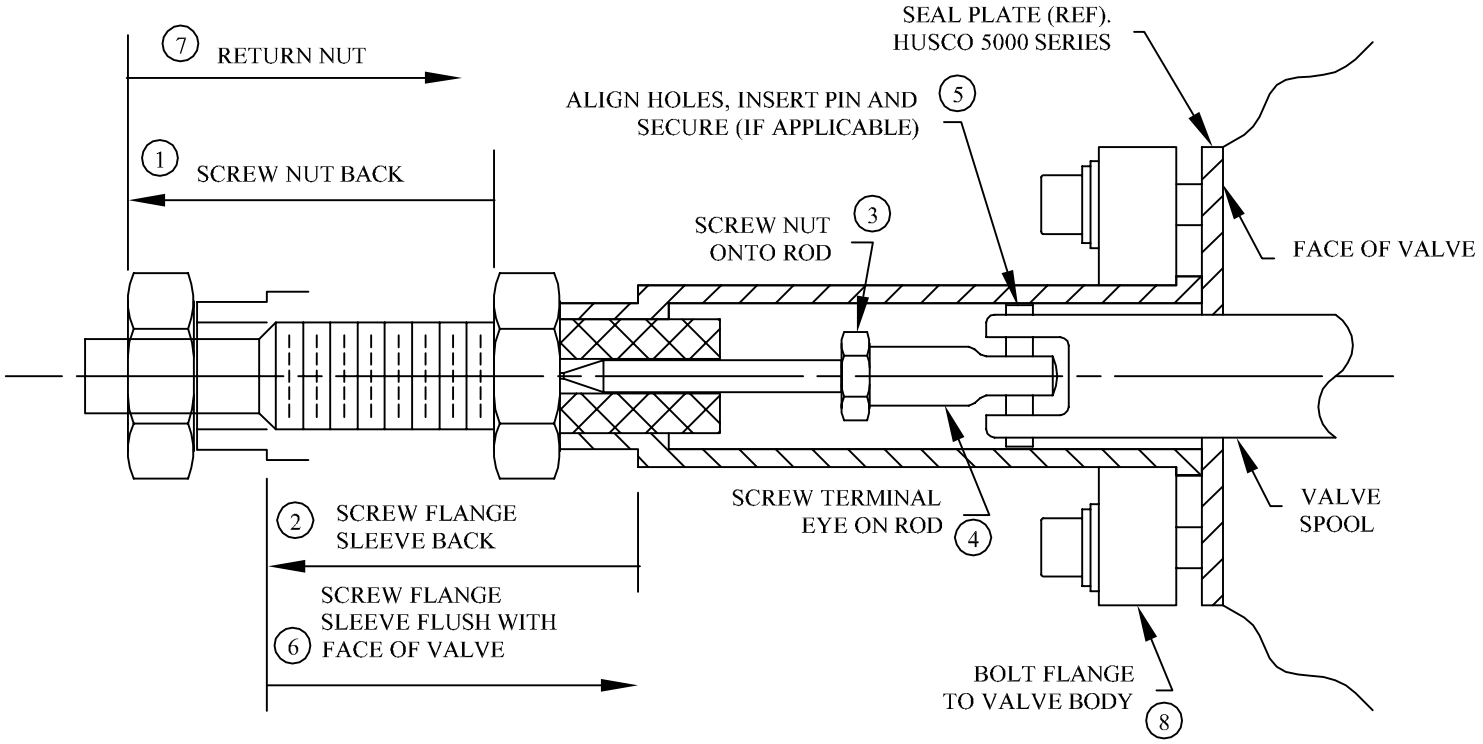
4. Thread terminal eye onto threaded rod and bottom against jam nut, turn to align with spool slot and secure jam nut against terminal eye.

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.

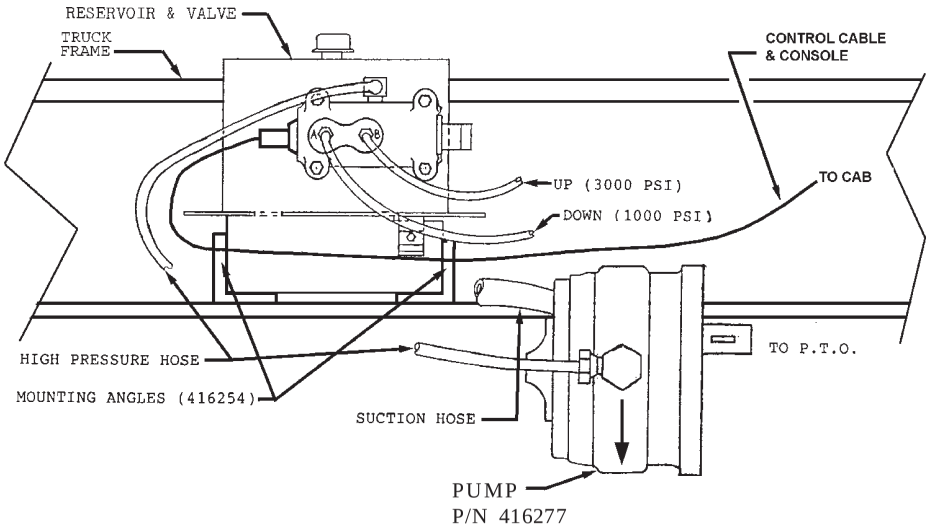
7. Tighten the .750-16 UNF jam nut against the sleeve to lock in position.

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.



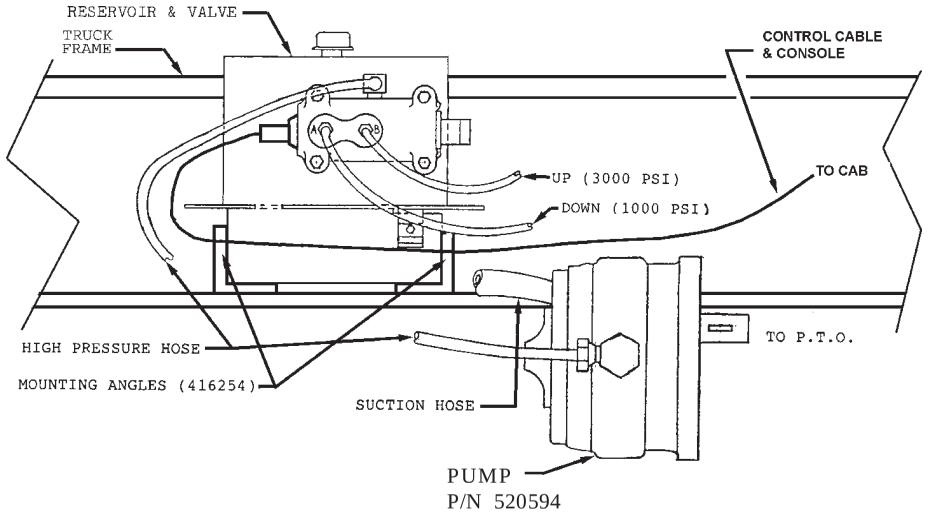
VENCO MANUFACTURING, INC.	TITLE	DATE	SECTION
	PTO PUMP CABLE INSTALL	5-11-04	-
	VC416 - 6628	SUPERSEDES -	416755

DIRECTIONAL PUMP CONFIGURATION FOR VC416 - VC620



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

BI-ROTATIONAL PUMP CONFIGURATION FOR VC628 & UP

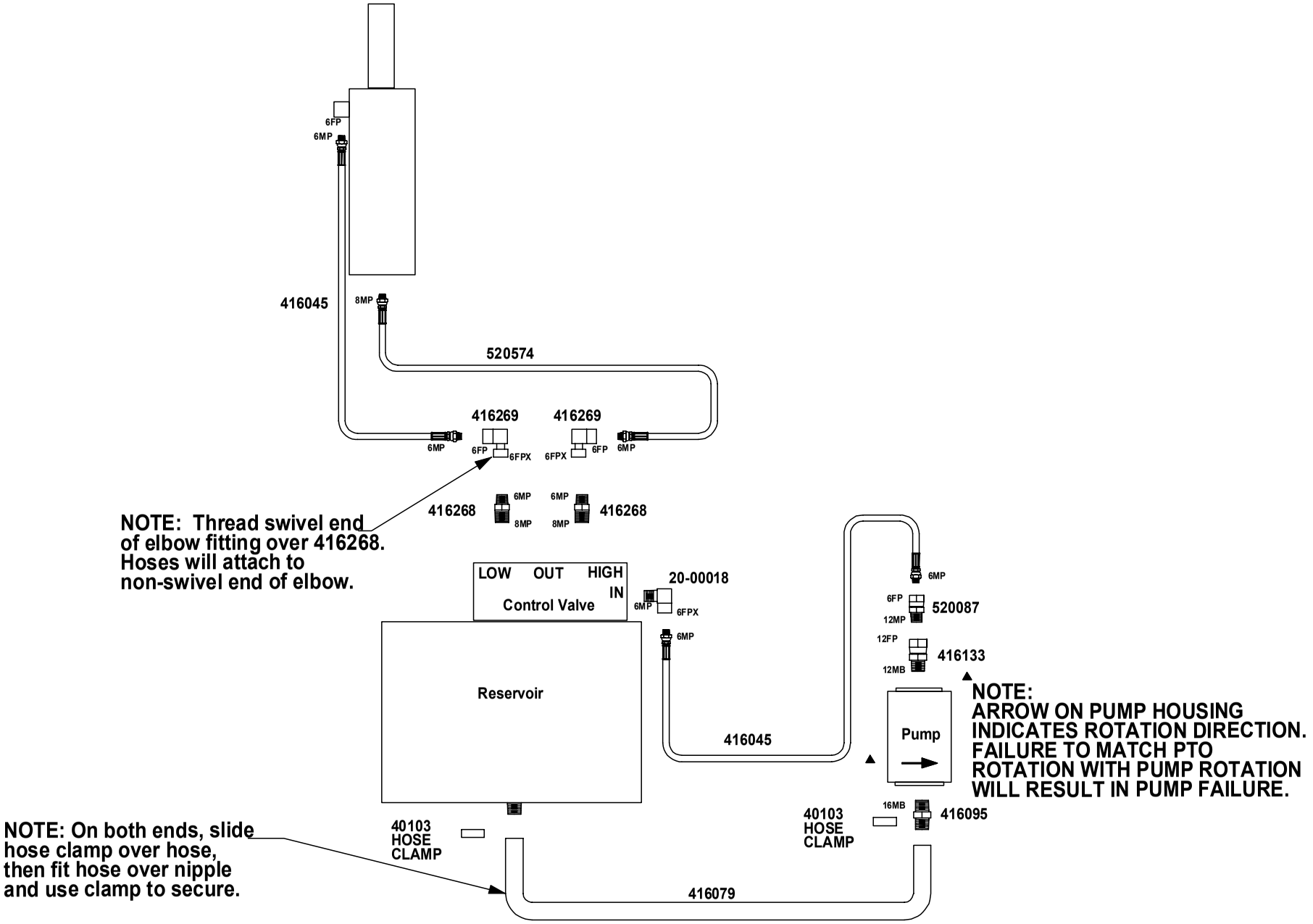


NOTE: FOR BI-ROTATIONAL PUMP MOUNTING AND HOSE CONNECTION INFORMATION, SEE DRAWING 416812.

Model	VC416	VC516	VC520	VC620	VC628	VC5520	VC6620	VC6628
Control Cable & Console	620125 - Curved 620124 - Straight							
Up Hose	416044 ▲		▲ 520574			▲ (2) 520574		
Down Hose	416045				628041	(2) 416045		(2) 628041
High Pressure Hose	416045							
Suction Hose	416079				520088F			
Pump/Valve/Tank	620011 (9 QUART)				662077 (21 QUART)			
Pump (Only)	416277				520594			
Mounting/Spline Information	SAE "A" 2 BOLT MOUNTING FLANGE, 5/8"-9 SPLINE SHAFT, CCW ROTATION				SAE "B" 2 BOLT MOUNTING FLANGE, 7/8"-13 SPLINE SHAFT			

VENCO MANUFACTURING, INC.

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



VENCO MANUFACTURING, INC.

TITLE	DATE	SECTION
SPDG HOSE CONNECTION DIAGRAM	4-15-04B	-
VC520, VC620	SUPERSEDES 2-24-04A	520573

Williams® Machine & Tool Co.

MANUFACTURERS OF HYDRAULIC PISTON PUMPS

⚠ CAUTION

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.

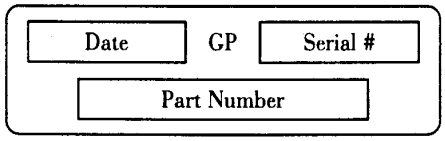
Example: GP1538 CCW. The CCW indicates a counter-clockwise rotation.

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

HOIST MOUNTING INSTRUCTIONS (Continued)

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

The VC 520 with subframe requires a minimum of 9-1/2" clearance above the truck frame.

The VC 520 (non-subframe) requires a minimum of 7-1/2" clearance above the truck frame.

Note: If the hoist needs to be mounted higher due to interference between the hoist knuckle and the truck frame, additional clearance above the truck frame will be required.

Example (**Non-subframe model**):
Assuming that a 7-1/2" clearance is required and 6" long beams are on the truck body, a liner of at least 1-1/2" net will be required to obtain the minimum clearance required to mount the hoist.
6" + 1-1/2" = 7-1/2" min.

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

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

K. Place the rear hinge brackets in the vertical position (Dwg. 520604 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. See installation drawing 662861 for more information regarding the mounting of the rear hinge brackets to the body.

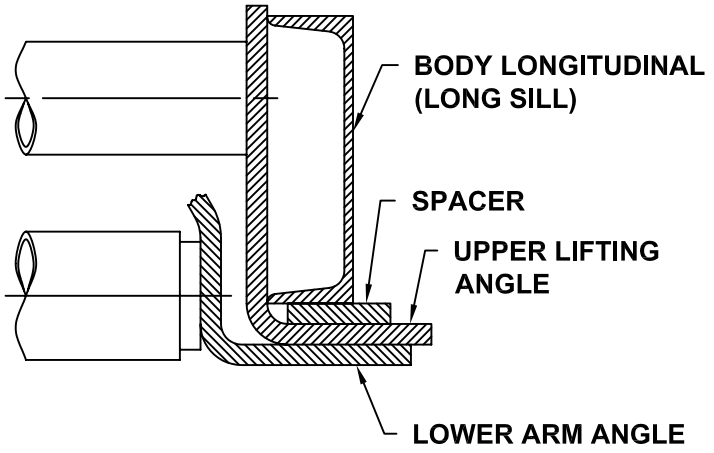
▲

L. **Refer to Drawing 520093 on the following page**. Make sure that the dump body longitudinals are resting flush on the top of 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, and reinforcement plates (if used). **Be sure that your installation follows the method shown on the following page - Drawing 520093.**▲

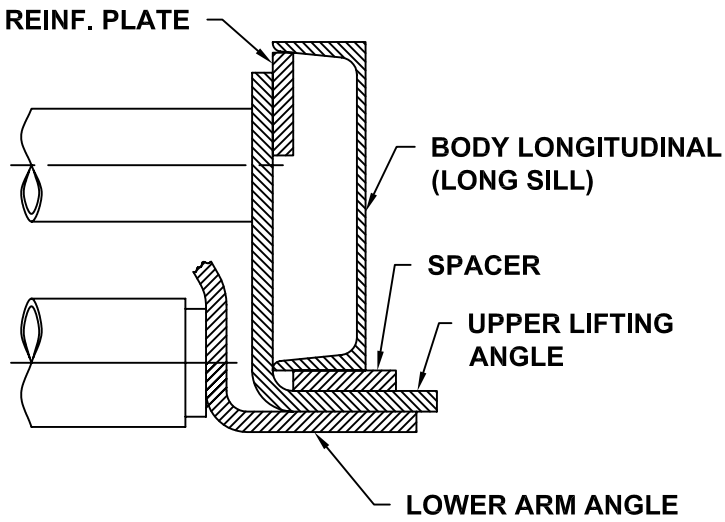
Note: Step "L" (above) is a critical installation procedure that must be carefully followed to ensure a successful hoist installation. Deviation from the suggested installation method may result in damage to the hoist.

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.

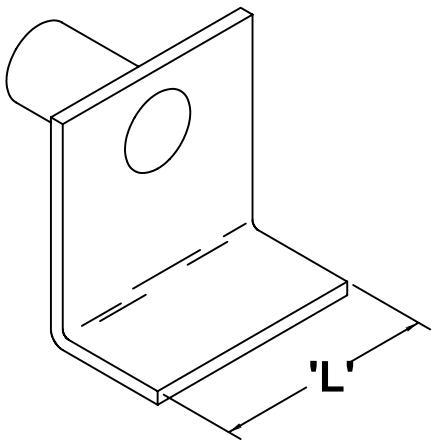
SITUATION A:
LIFTING ANGLE FULLY ENVELOPS BODY LONG SILL.



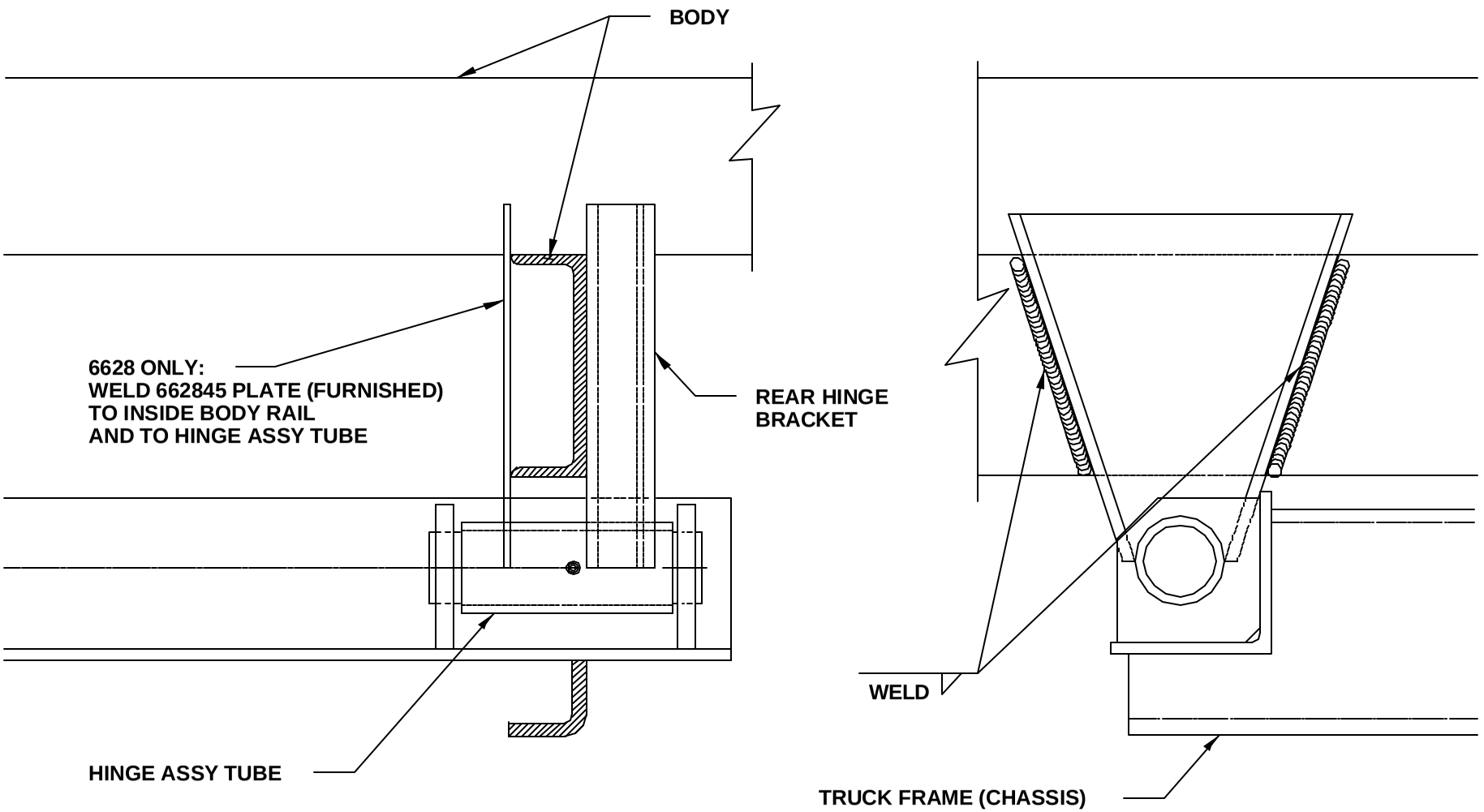
SITUATION B:
LIFTING ANGLE DOES NOT ENVELOP BODY LONG SILL AND A REINFORCEMENT PLATE IS REQUIRED.



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



VENCO MANUFACTURING, INC.	TITLE: INST. INSTRUCTIONS	DATE: 4-28-05B	SECTION: H200
▲	VC416-6628, TRL313-6628	SUPERSEDES: 3-21-05A	520093



VENCO MANUFACTURING, INC.

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

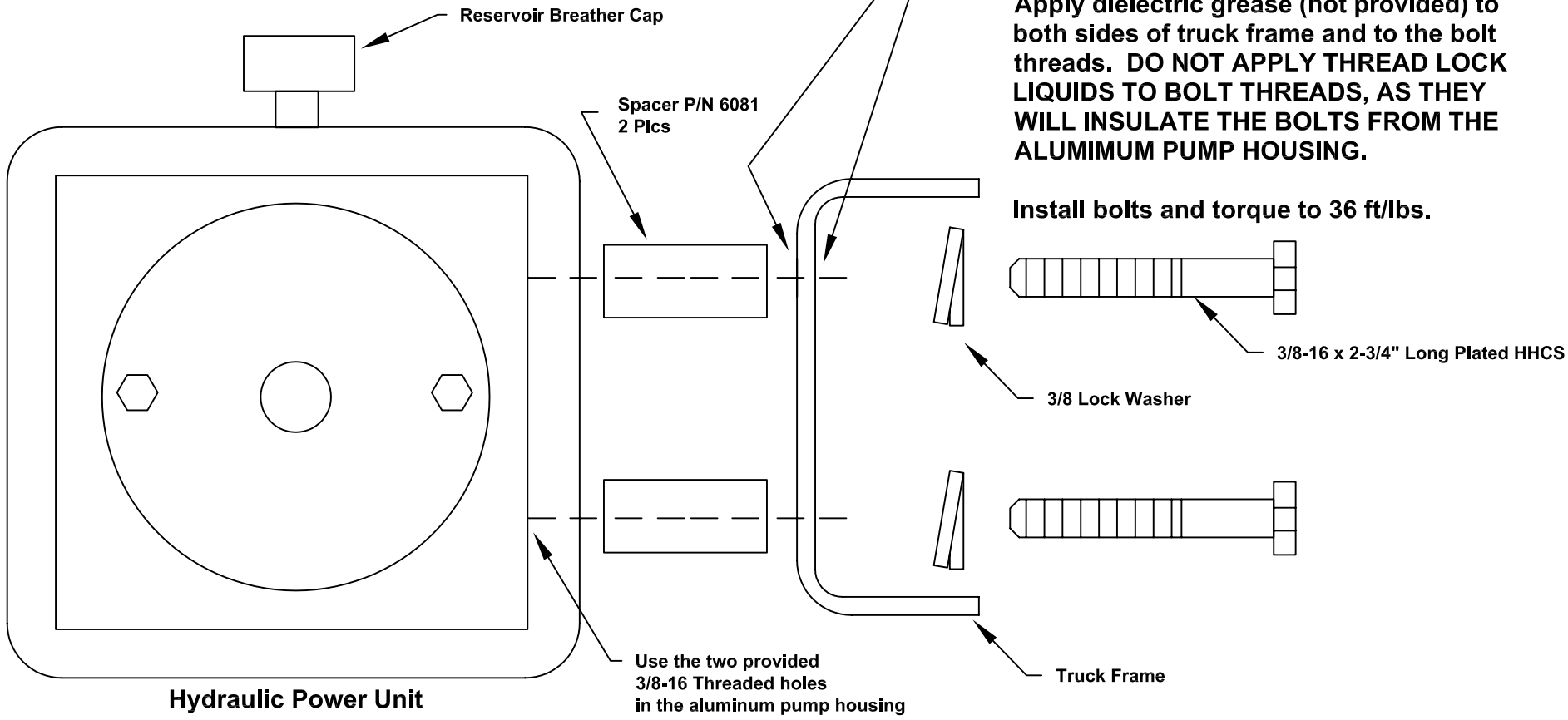
	HOIST MODEL(S) →	VP/VC6	TRL313	VC416, TRL416	VC516, TRL516	VC520, TRL520	VC620, TRL620	VC628, TRL628
	ES/ED Hyd Pwr Unit Part Number	6426 / 6425	40058M / 416081M	40058M / 416081M	40058M / 416081M	40058M / 416081M	40058MHD / 416081M	40058MHD / 416081M
	Reservoir Capacity (Quarts)	3.4 / 3.4	4.6 / 3.4	4.6 / 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 down position, add the indicated indicated amount (Quarts) of hydraulic fluid.	2	2	3.5	3.5	3.5	3.5	3.5
2b	Raise hoist one-quarter of the way (approximately 12° dumping angle) and add the indicated amount (Quarts) of hydraulic fluid.	-	-	-	1	1.5	2	3
2c	Raise hoist one-half 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 three-quarters of the way (approximately 36° dumping angle) and add the indicated amount (Quarts) of hydraulic fluid.	-	-	-	1	1.5	2	3
2e	Raise hoist completely (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

VENCO MANUFACTURING, INC.

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

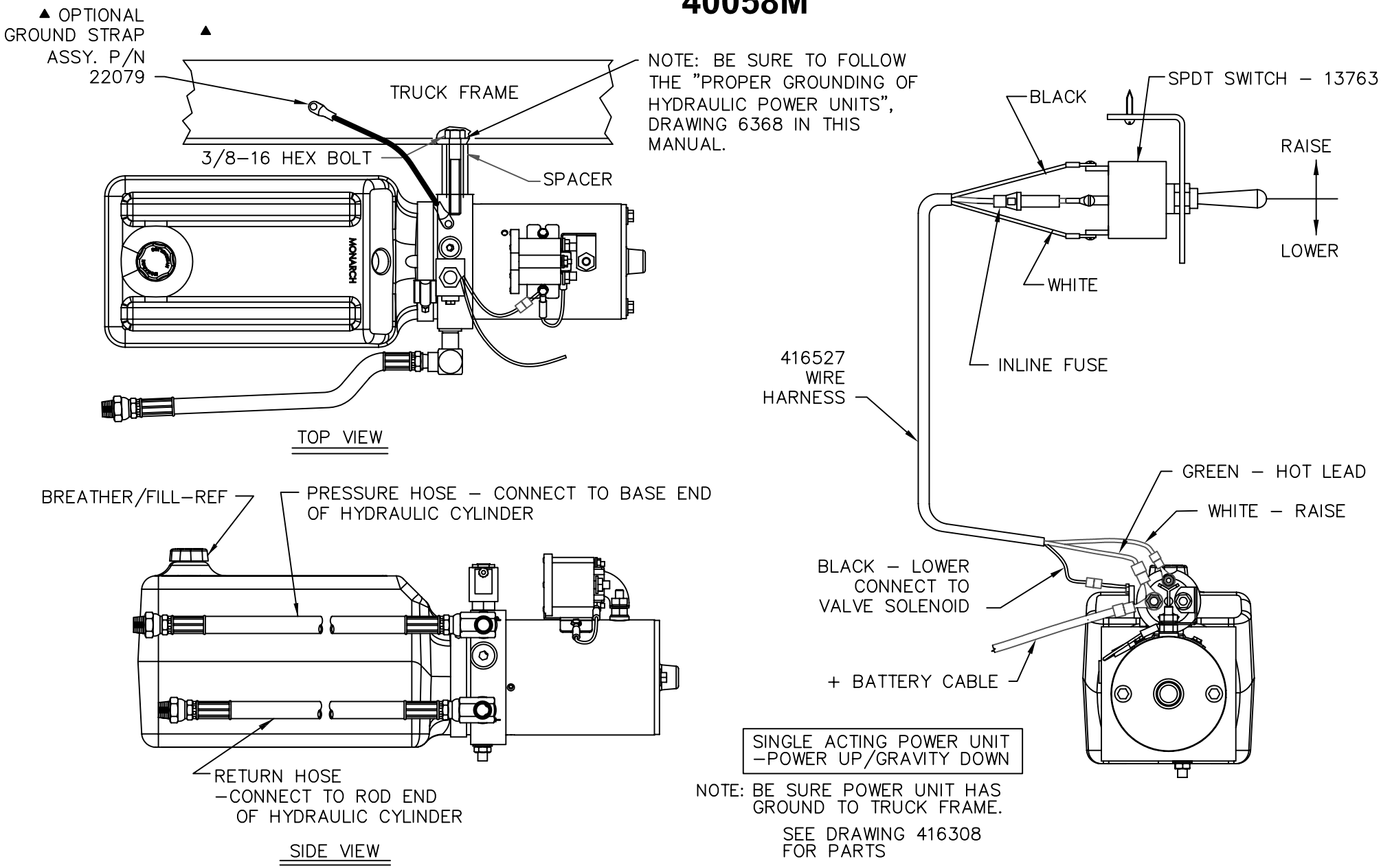
Proper Grounding of Hydraulic Power Units - IMPORTANT!!!

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.



VENCO MANUFACTURING, INC.	TITLE HYDRAULIC POWER UNIT GROUNDING	DATE 6-3-05	SECTION -
	VP6, VC416/516, VC520/620, VC628, TRL HOISTS	SUPERSEDES -	6368

40058M



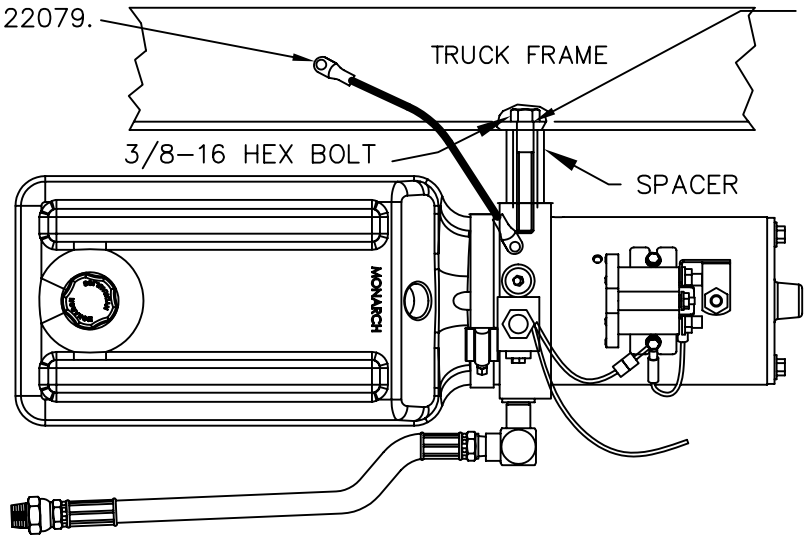
VENCO MANUFACTURING, INC.	TITLE 40058M / 40058MHD POWER UNIT	DATE 6-6-05A	SECTION H200
	VC416/516/520/620/628	SUPERSEDES 12-2-04	416810

40058M WITH MONARCH PUSH BUTTON CONTROL

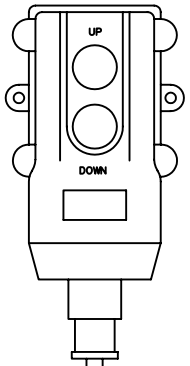
▲ OPTIONAL GROUNDING STRAP ASSY P/N 22079.

▲

▲ NOTE: BE SURE TO FOLLOW THE "PROPER GROUNDING OF HYDRAULIC POWER UNITS", DRAWING # 6368, IN THIS MANUAL.

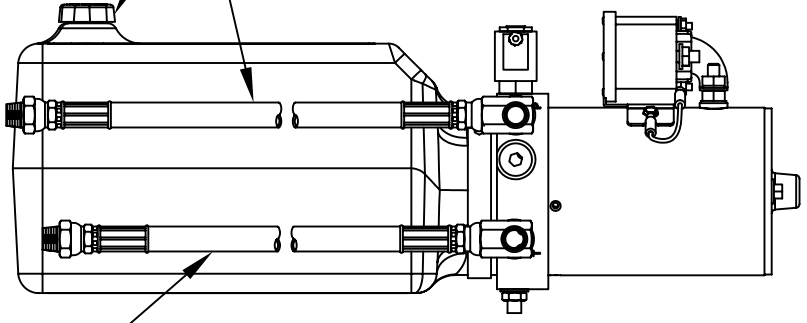


TOP VIEW



BREATHER/FILL – REF

PRESSURE HOSE – CONNECT TO BASE END OF HYDRAULIC CYLINDER



RETURN HOSE – CONNECT TO ROD END OF HYDRAULIC CYLINDER

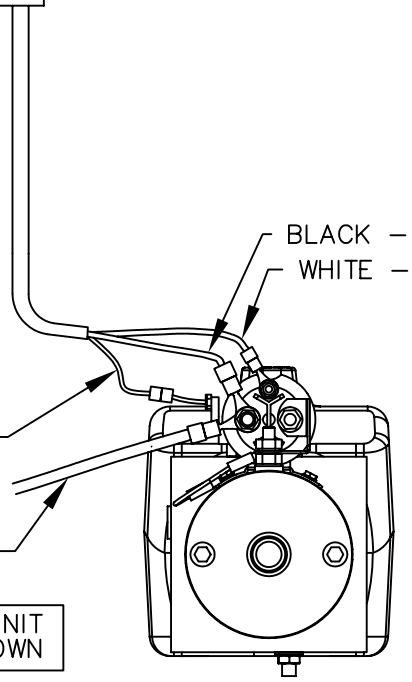
SIDE VIEW

BLACK – HOT LEAD

WHITE – RAISE HOIST

GREEN – LOWER HOIST CONNECT TO VALVE SOLENOID

+ BATTERY CABLE



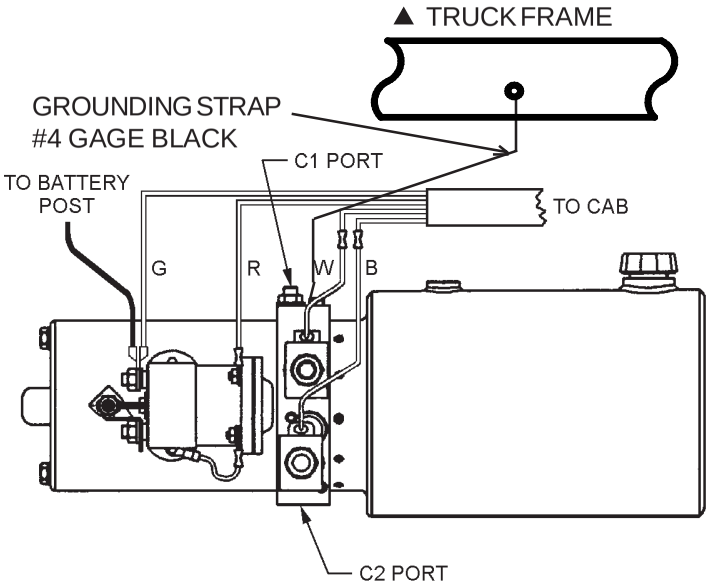
SINGLE ACTING POWER UNIT –POWER UP/GRAVITY DOWN

NOTE: BE SURE POWER UNIT HAS GROUND TO TRUCK FRAME.

SEE DRAWING 416308 FOR PARTS

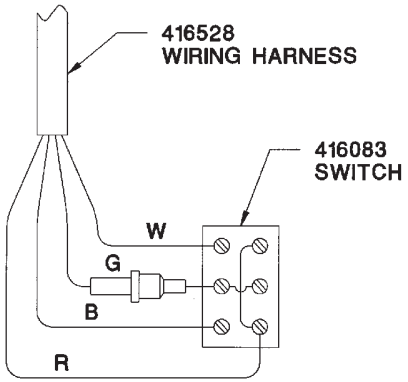
VENCO MANUFACTURING, INC.	TITLE 40058M / 40058MHD POWER UNIT	DATE 6-6-05C	SECTION H200
	VC416-628, TRL416-628	SUPERSEDES 4-29-05B	416809

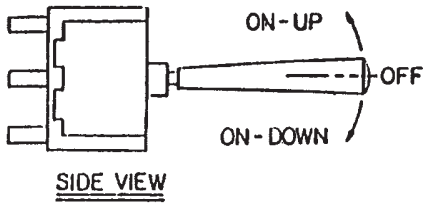
416081M



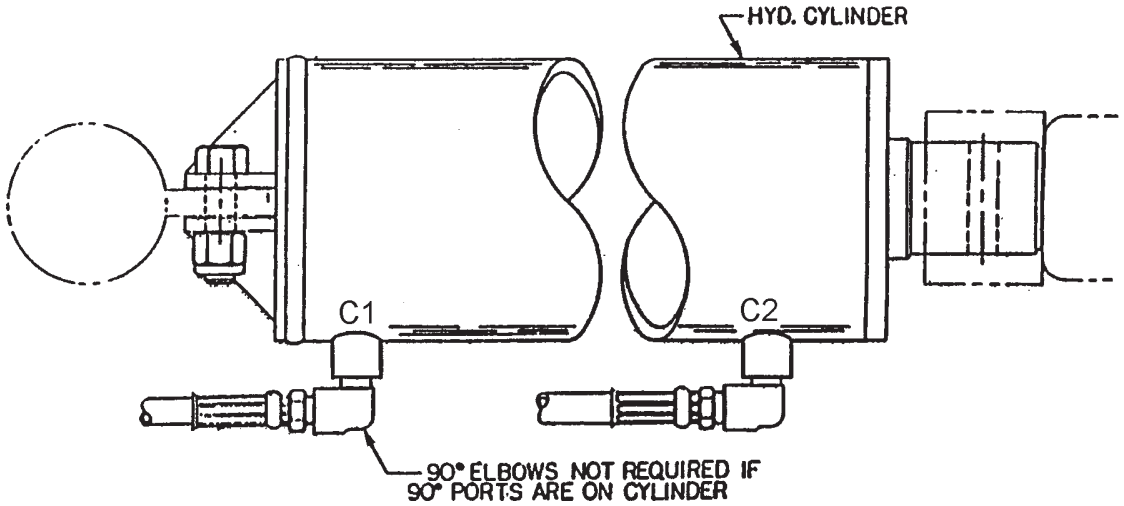
ELECTRICAL
W - WHITE WIRE
B - BLACK WIRE
G - GREEN WIRE
R - RED WIRE

HYDRAULICS
C1 - FULL END CYL
C2 - ROD END CYL





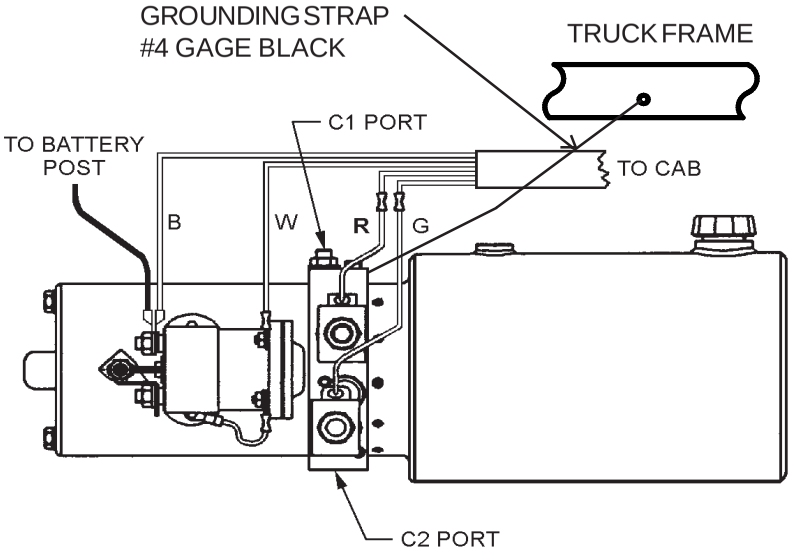
NOTE: ENERGIZING 'B' COIL SENDS FLOW TO 'C1' PORT
ENERGIZING 'W' COIL SENDS FLOW TO 'C2' PORT

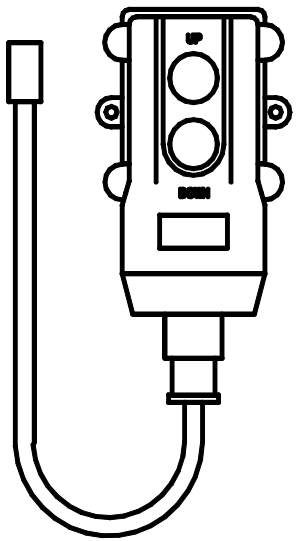


VENCO MANUFACTURING, INC.

TITLE	DATE	SECTION
416081 ED POWER UNIT	12-1-04D	-
VC416/516, VC520/620	SUPERCEDES 2-15-99C	416306

416081M WITH MONARCH PUSH BUTTON CONTROL

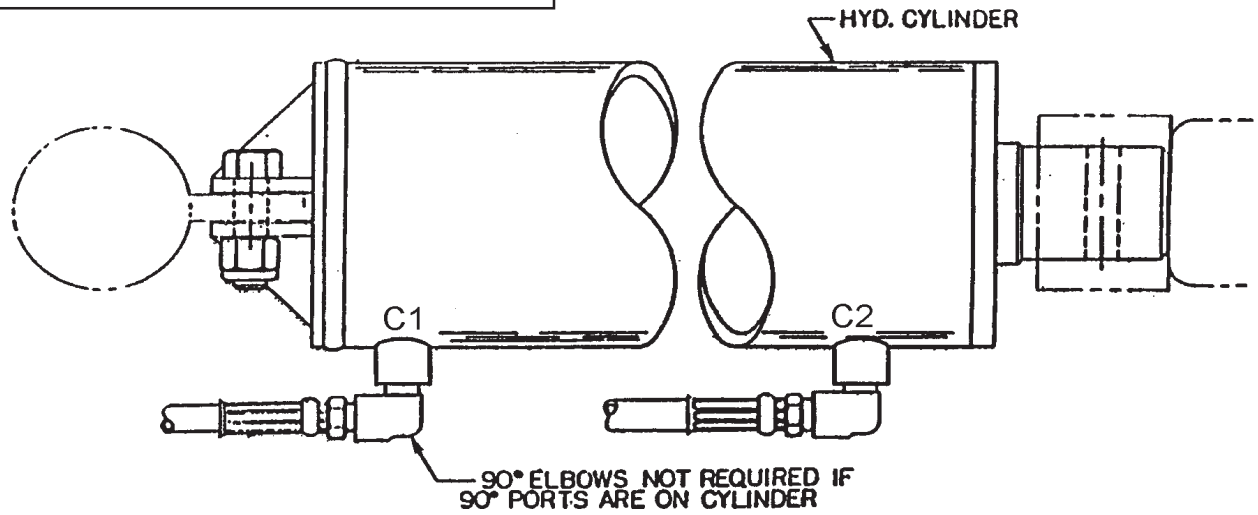




ELECTRICAL
W - WHITE WIRE
B - BLACK WIRE
G - GREEN WIRE
R - RED WIRE

HYDRAULICS
C1 - FULL END CYL
C2 - ROD END CYL

NOTE: ENERGIZING 'G' COIL SENDS FLOW TO 'C1' PORT (HOIST UP)
ENERGIZING 'R' COIL SENDS FLOW TO 'C2' PORT (HOIST DOWN)



VENCO MANUFACTURING, INC.

TITLE	DATE	SECTION
416081M ED POWER UNIT	4-20-05F	-
VC416/516, VC520/620	SUPERCEDES 12-1-04E	416307

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:

1. 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 centered, the hoist will stop 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 lower the hoist, push the pump knob in.

   NOTE

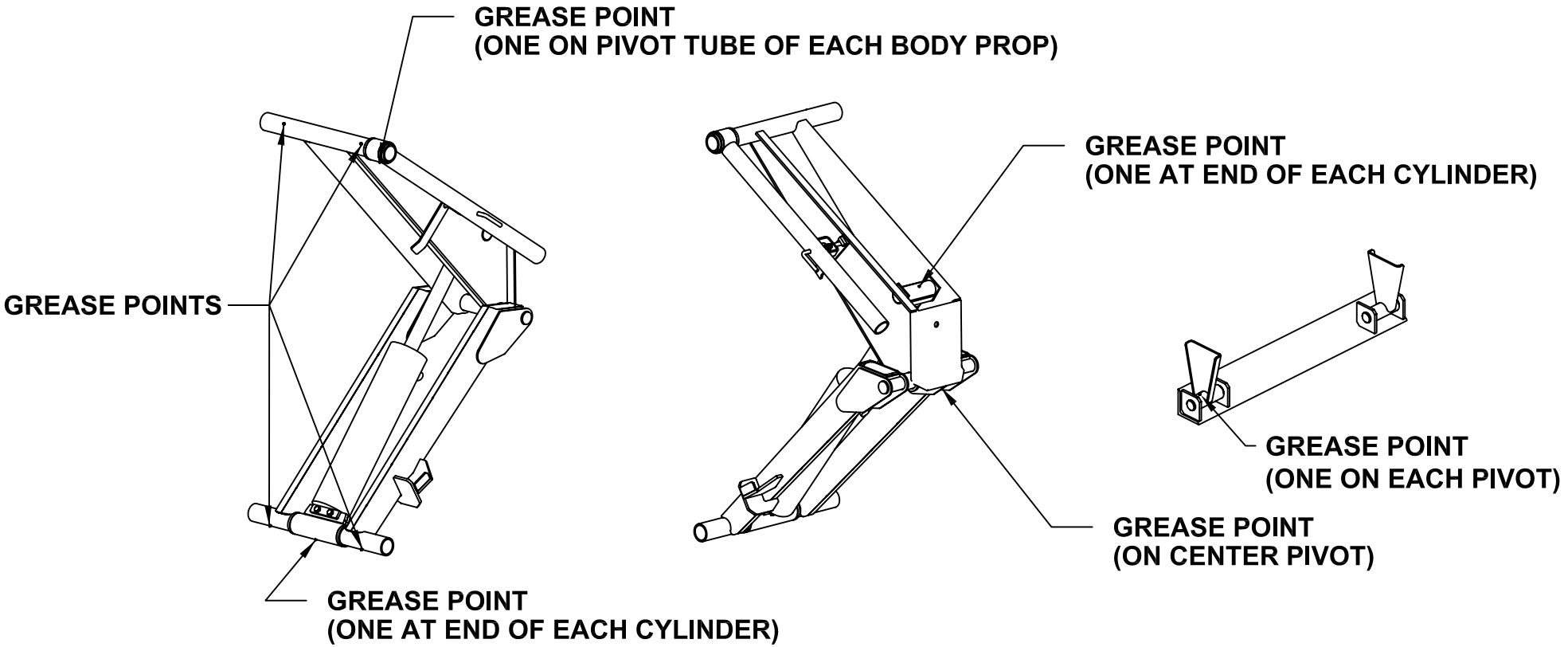
   The Venco Hoists powered by PTO drive pumps must be "powered down". Failure to "power down" will cause the reservoir to overflow.

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.

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

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.

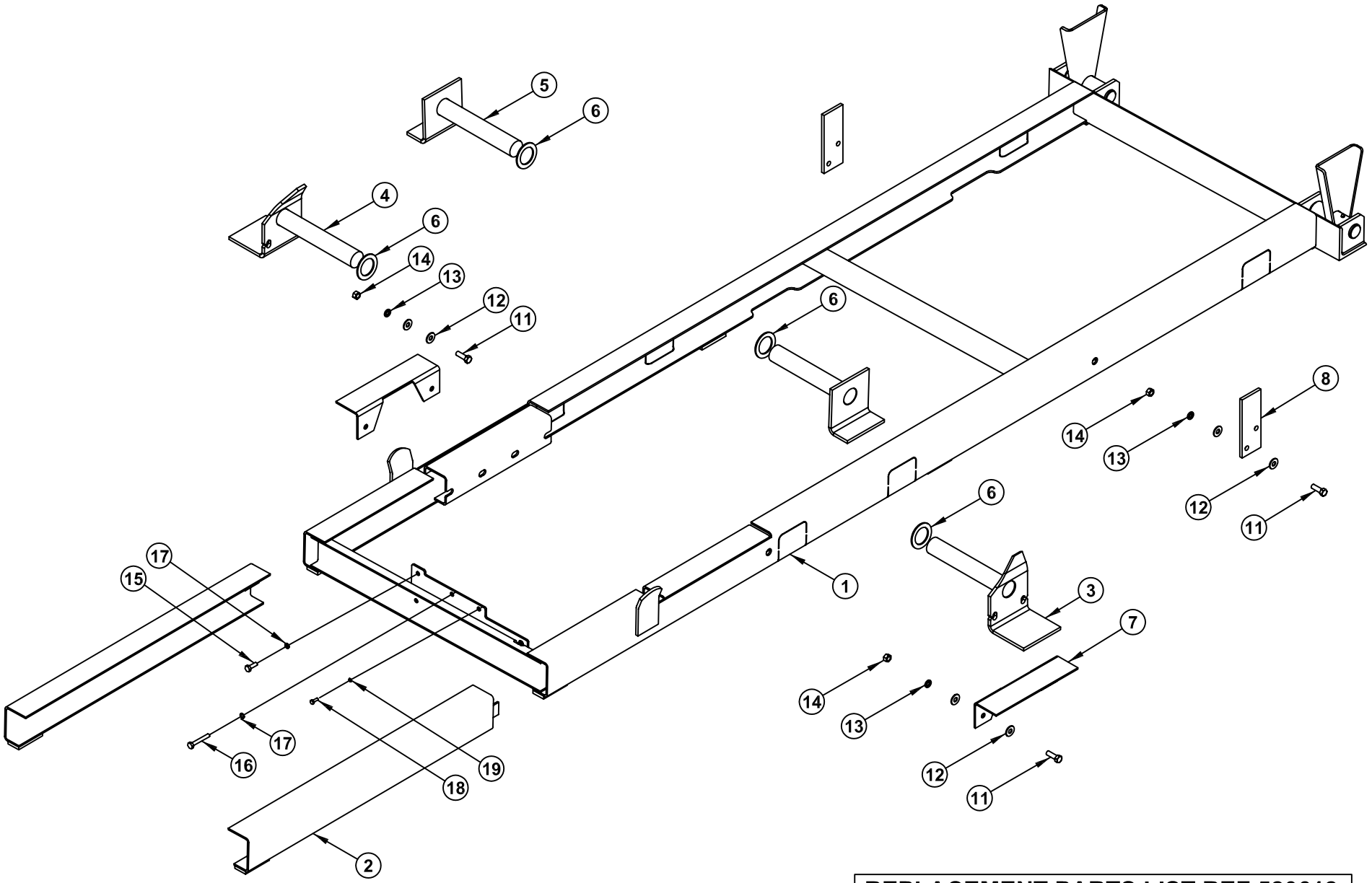
3. On models equipped with a spring-loaded release pin, use a suitable tool to pull out the release pin to release the body prop from the hoist frame. This will release the body prop allowing it to swing downward to a vertical position.

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.



REPLACEMENT PARTS LIST REF 520612

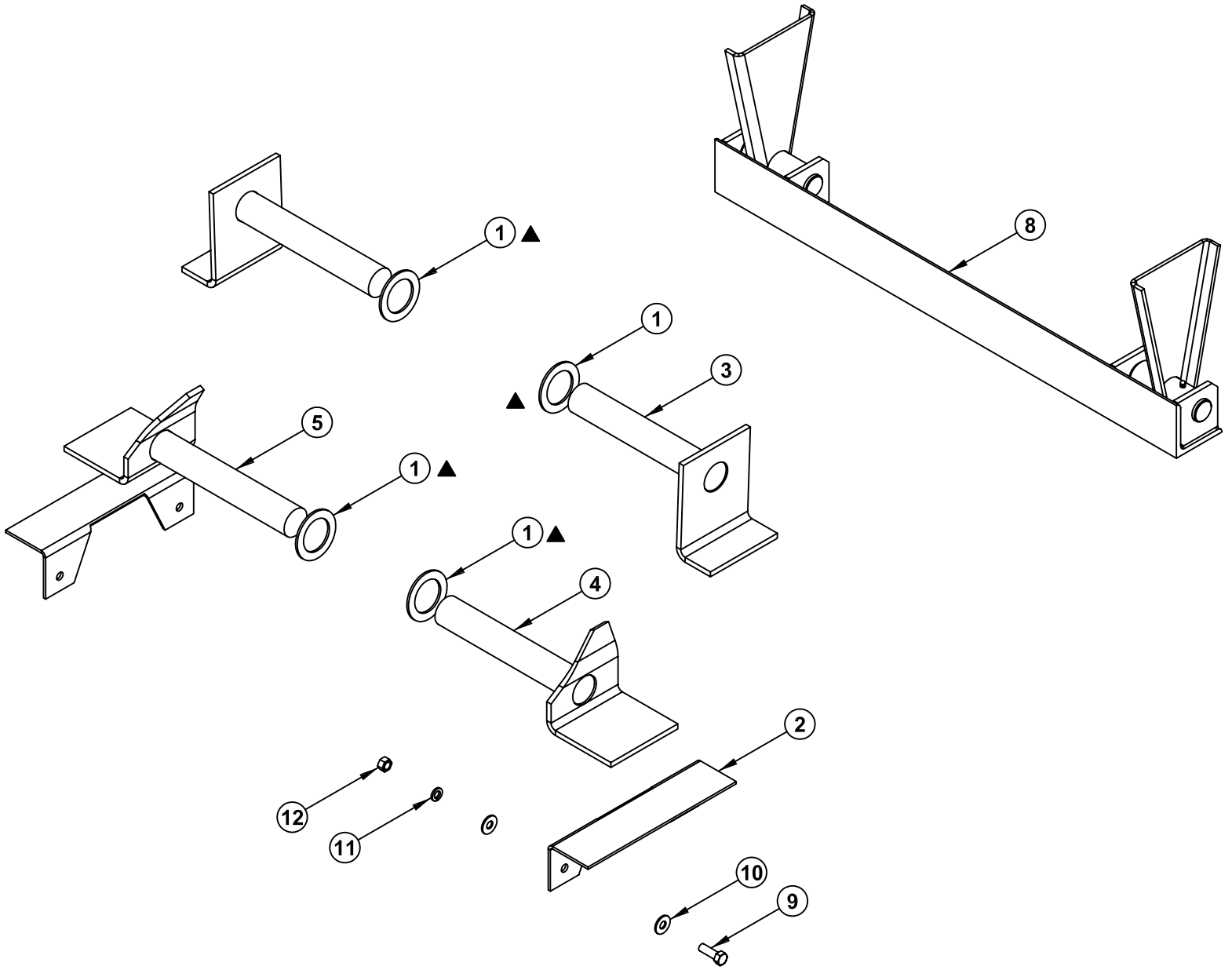
VENCO MANUFACTURING, INC.	TITLE **REPLACEMENT PARTS DRAWING**	DATE **12-20-04B**	SECTION **H200**
	VC 520 WITH SUBFRAME	SUPERSEDES **4-24-03A**	**520611**

VC 520 WITH SUBFRAME
REPLACEMENT PARTS LIST

ITEM	PART NUMBER	QTY	DESCRIPTION
1	520590	1	SUBFRAME WELDED ASSEMBLY
2	520588	-	SUBFRAME EXTENSION KIT (OPTIONAL)
3	520524-1	1	LOWER PIVOT ASSEMBLY - RIGHT
4	520524-2	1	LOWER PIVOT ASSEMBLY - LEFT
5	520527	2	UPPER PIVOT ASSEMBLY
6	▲ 416220	4 ▲	COLLAR - UPPER PIVOT
7	520531	2	FRAME MOUNTING ANGLE
8	520532	2	BRACKET - FRAME TIE DOWN
9	* 520533	1	PRESSURE HOSE - MALE 5' X 3/8"
10	* 416045	1	RETURN HOSE - MALE 7' X 3/8
11	!HHCS05013150	12	HEX HEAD CAP SCREW - 1/2"-13 x 1-1/2" LG.
12	!FWSH-050	24	FLAT WASHER - 1/2"
13	!LWSH-050	12	LOCK WASHER - 1/2"
14	!HNUT-05013	12	HEX NUT - 1/2"-13
15	!HHCS03816075	1	HEX HEAD CAP SCREW - 3/8"-16 x 3/4" LG.
16	!HHCS03816200	1	HEX HEAD CAP SCREW - 3/8"-16 x 2" LG.
17	!LWSH-038	2	LOCK WASHER - 3/8"
18	!HHCS02520075	1	HEX HEAD CAP SCREW - 1/4"-20 x 3/4" LG. (ES ONLY)
19	!LWSH-025	1	LOCK WASHER - 1/4" (ES ONLY)
20	-	-	-
21	-	-	-
22	-	-	-
23	-	-	-
24	-	-	-
25	-	-	-
26	-	-	-
27	-	-	-
28	-	-	-
29	-	-	-
30	-	-	-
31	-	-	-
32	-	-	-
33	-	-	-
34	-	-	-
35	-	-	-

* ITEM NOT SHOWN ON DRAWING

REPLACEMENT PARTS DWG REF 520611



REPLACEMENT PARTS LIST REF 520614

VENCO MANUFACTURING, INC.

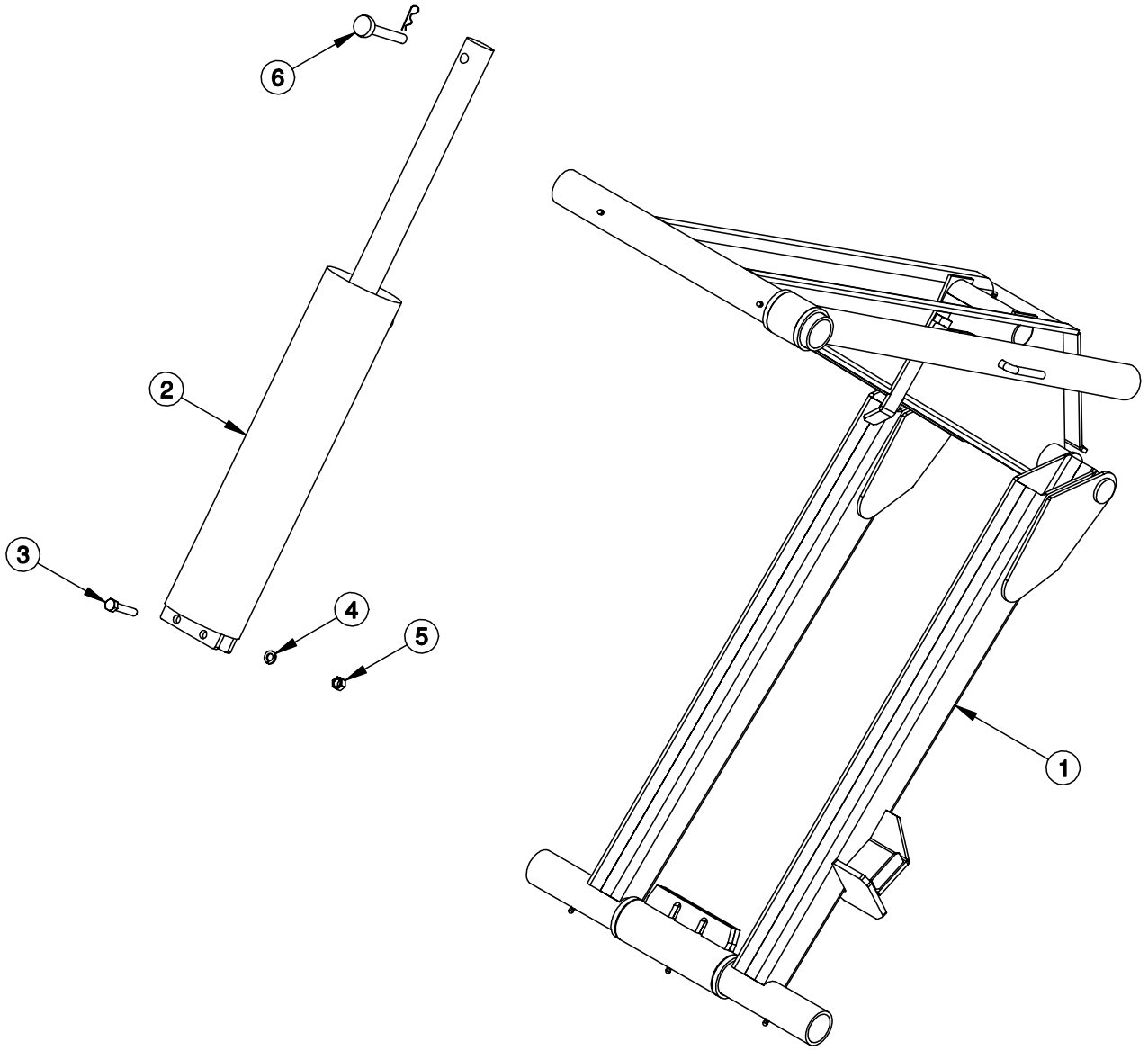
TITLE	DATE	SECTION
REPLACEMENT PARTS DRAWING	12-20-04A	H200
VC 520 (NON-SUBFRAME)	SUPERSEDES 11-17-98	520613

VC 520 (NON-SUBFRAME)
REPLACEMENT PARTS LIST

ITEM	PART NUMBER	QTY	DESCRIPTION
1	▲ 416220	4 ▲	COLLAR - UPPER & LOWER PIVOTS ▲
2	520531	2	FRAME MOUNTING ANGLE
3	520562	2	UPPER PIVOT ASSY
4	520563-1	1	LOWER PIVOT ASSEMBLY
5	520563-2	1	LOWER PIVOT ASSEMBLY
6	* 520533	1	PRESSURE HOSE - MALE 5' X 3/8"
7	* 416045	1	RETURN HOSE - MALE 7' X 3/8
8	662057	1	REAR HINGE ASSY
9	!HHCS05013150	4	HEX HEAD CAP SCREW - 1/2"-13 x 1-1/2" LG.
10	!FWSH-050	8	FLAT WASHER - 1/2"
11	!LWSH-050	4	LOCK WASHER - 1/2"
12	!HNUT-05013	4	HEX NUT - 1/2"-13
13	-	-	-
14	-	-	-
15	-	-	-
16	-	-	-
17	-	-	-
18	-	-	-
19	-	-	-
20	-	-	-
21	-	-	-
22	-	-	-
23	-	-	-
24	-	-	-
25	-	-	-
26	-	-	-
27	-	-	-
28	-	-	-
29	-	-	-
30	-	-	-
31	-	-	-
32	-	-	-
33	-	-	-
34	-	-	-
35	-	-	-

* ITEM NOT SHOWN ON DRAWING

REPLACEMENT PARTS DWG REF 520613



REPLACEMENT PARTS LIST REF 520615

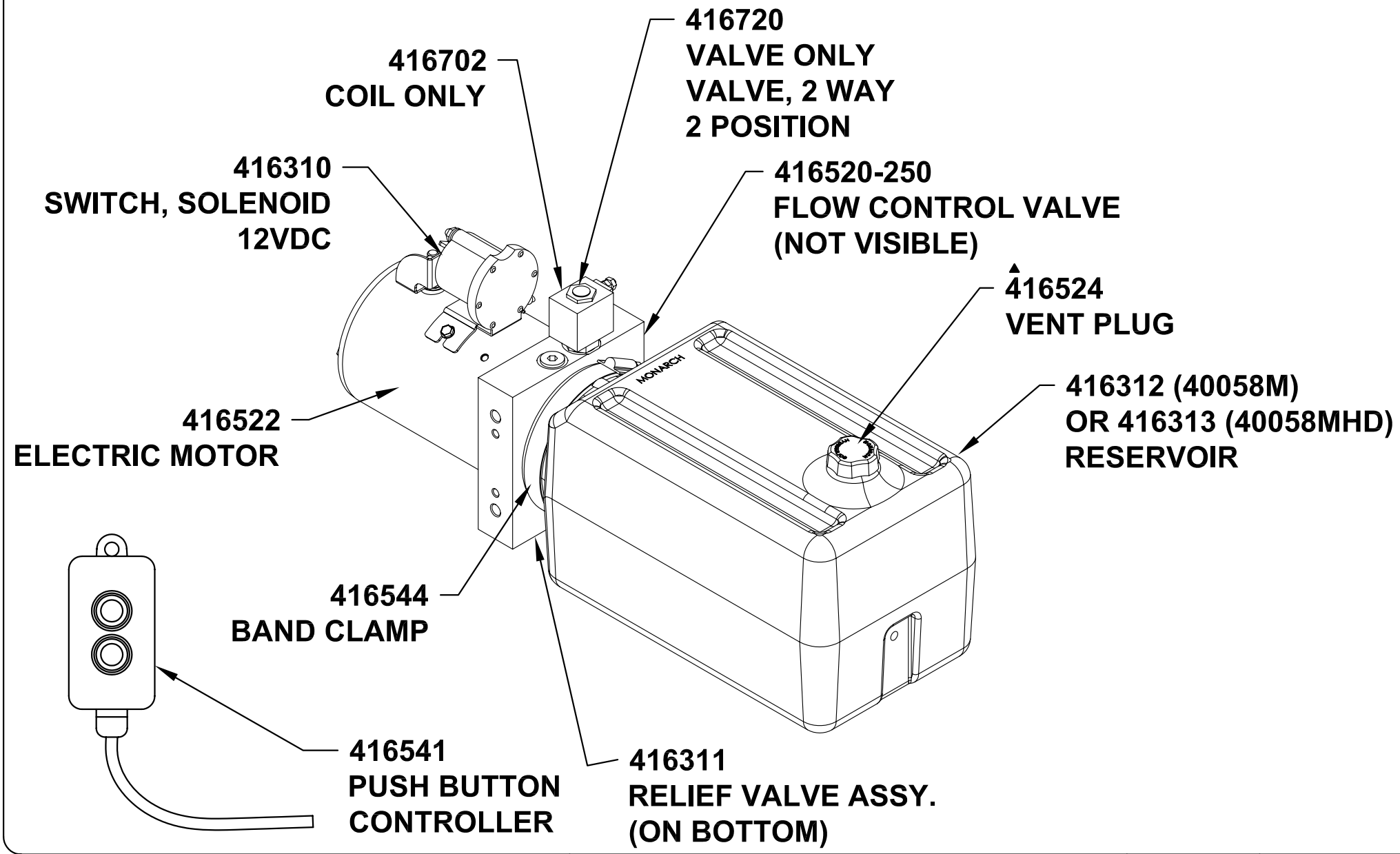
VENCO MANUFACTURING, INC.	TITLE REPLACEMENT PARTS DRAWING	DATE 8-4-00	SECTION H200
	VC 520	SUPERSEDES -	520616

520503
REPLACEMENT PARTS LIST

ITEM	PART NUMBER	QTY	DESCRIPTION
1	520502	1	SCISSORS ASSEMBLY
2	520504	1	HYDRAULIC CYLINDER
3	!HHCS05013275-8	2	HEX HEAD CAP SCREW - 1/2"-13 x 2-3/4" LG. GR. 8
4	!LWSH-050	2	LOCK WASHER - 1/2"
5	!HNUT-05013	2	HEX NUT - 1/2"-13
6	416545	1	5/8 X 3-1/2 CLEVIS PIN ASSEMBLY ▲
7	-	-	-
8	-	-	-
9	-	-	-
10	-	-	-
11	-	-	-
12	-	-	-
13	-	-	-
14	-	-	-
15	-	-	-
16	-	-	-
17	-	-	-
18	-	-	-
19	-	-	-
20	-	-	-
21	-	-	-
22	-	-	-
23	-	-	-
24	-	-	-
25	-	-	-
26	-	-	-
27	-	-	-
28	-	-	-
29	-	-	-
30	-	-	-
31	-	-	-
32	-	-	-
33	-	-	-
34	-	-	-
35	-	-	-

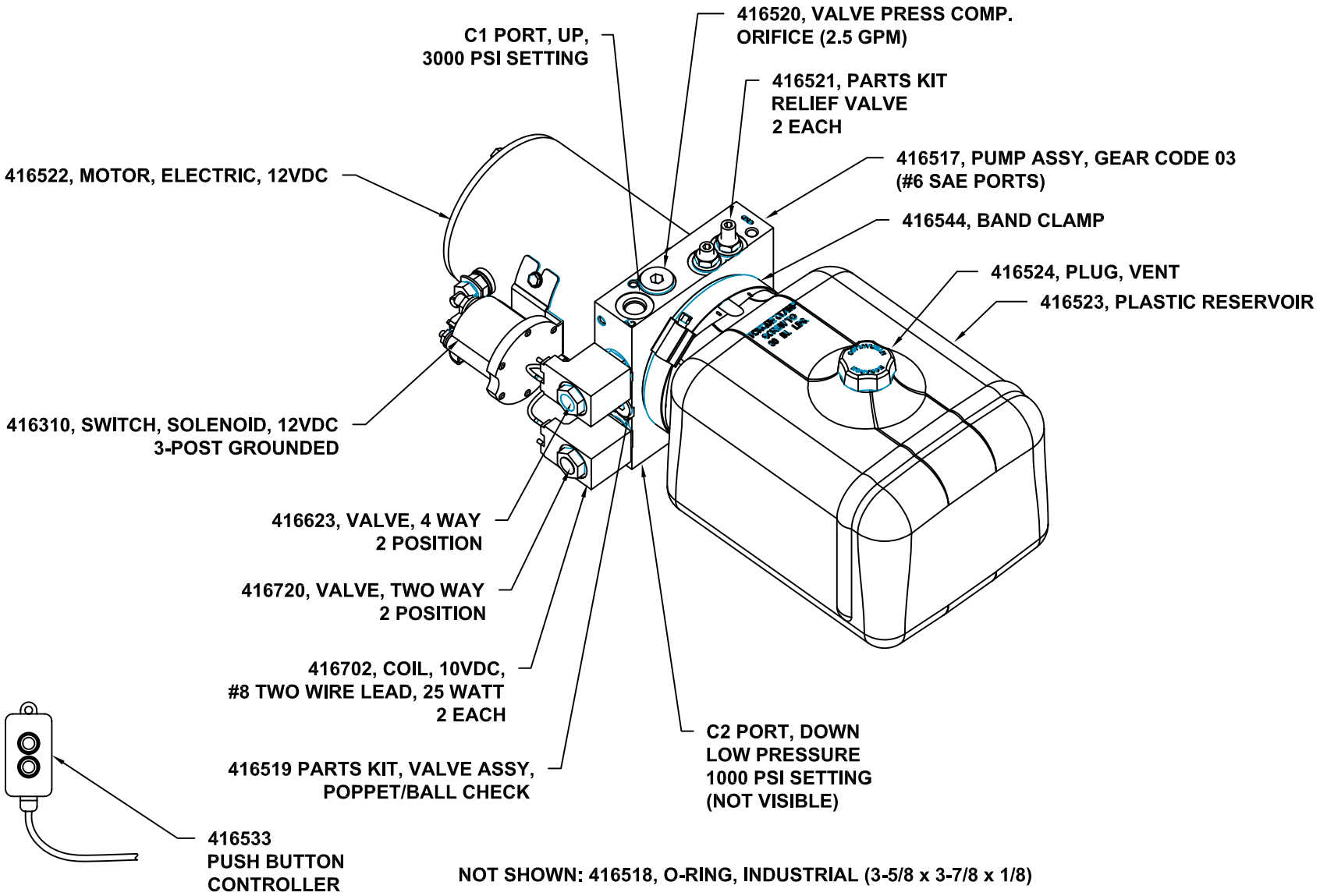
REPLACEMENT PARTS DWG REF 520503

REPLACEMENT PARTS 40058M & 40058MHD



VENCO MANUFACTURING, INC.	TITLE: PARTS LIST & DRAWING	DATE: 12-18-06D	SECTION: -
	40058M & 40058MHD POWER UNITS	SUPERSEDES: 12-11-06C	416308

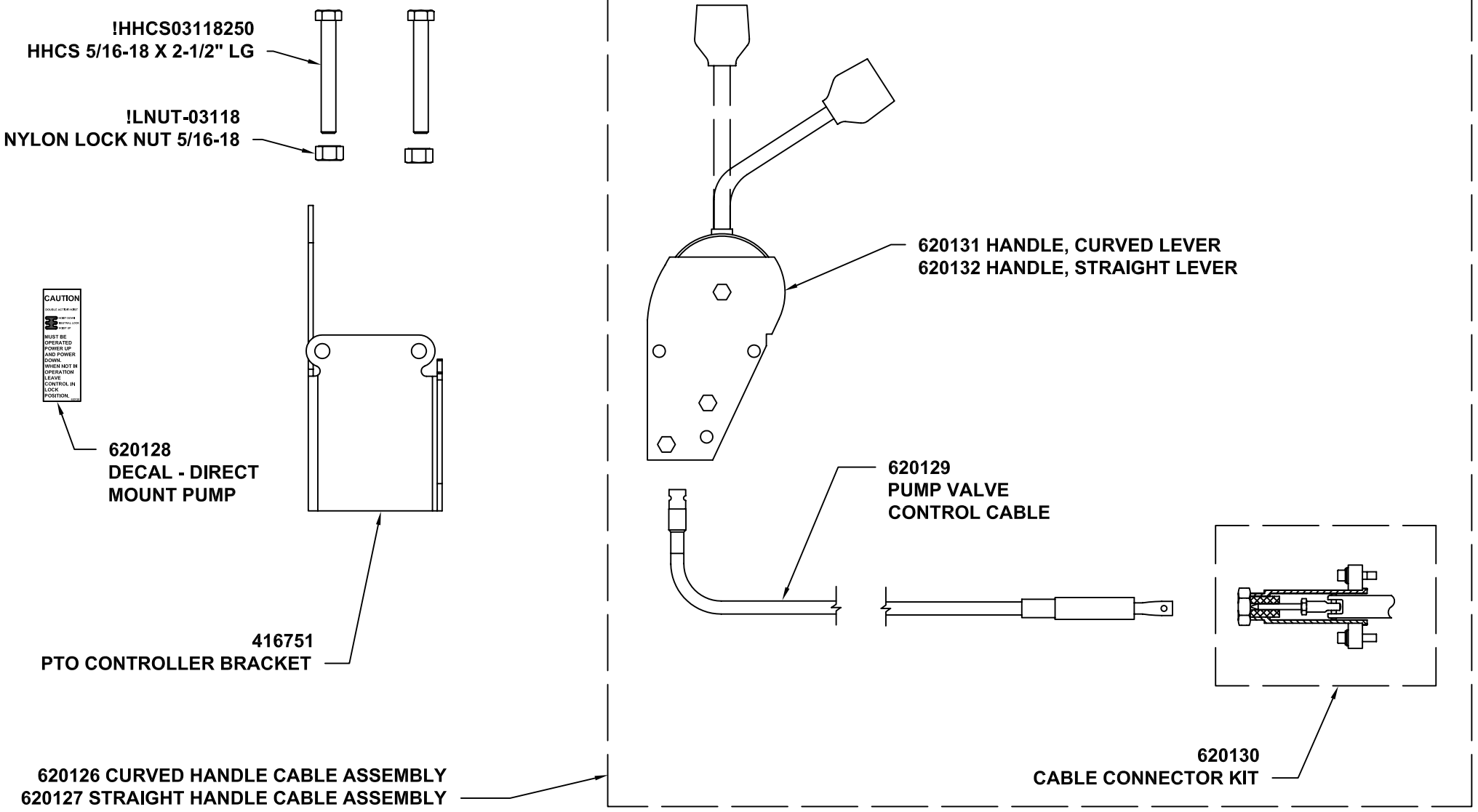
REPLACEMENT PARTS 416081M



NOT SHOWN: 416518, O-RING, INDUSTRIAL (3-5/8 x 3-7/8 x 1/8)

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

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



VENCO MANUFACTURING, INC.	TITLE REPLACEMENT PARTS & DRAWING	DATE 9-16-04	SECTION -
	PTO PUMP CABLE	SUPERSEDES -	620245

VENCO

HOISTS

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
12110 BEST PLACE • CINCINNATI, OHIO 45241
513.772.8448
www.venturo.com