



HT66KX

HTBABA-P***

INSTALLATION & OWNER'S MANUAL

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VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE

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DATE

12-11-18P

SUPERSEDES

05-23-18N

SECTION

-

27320

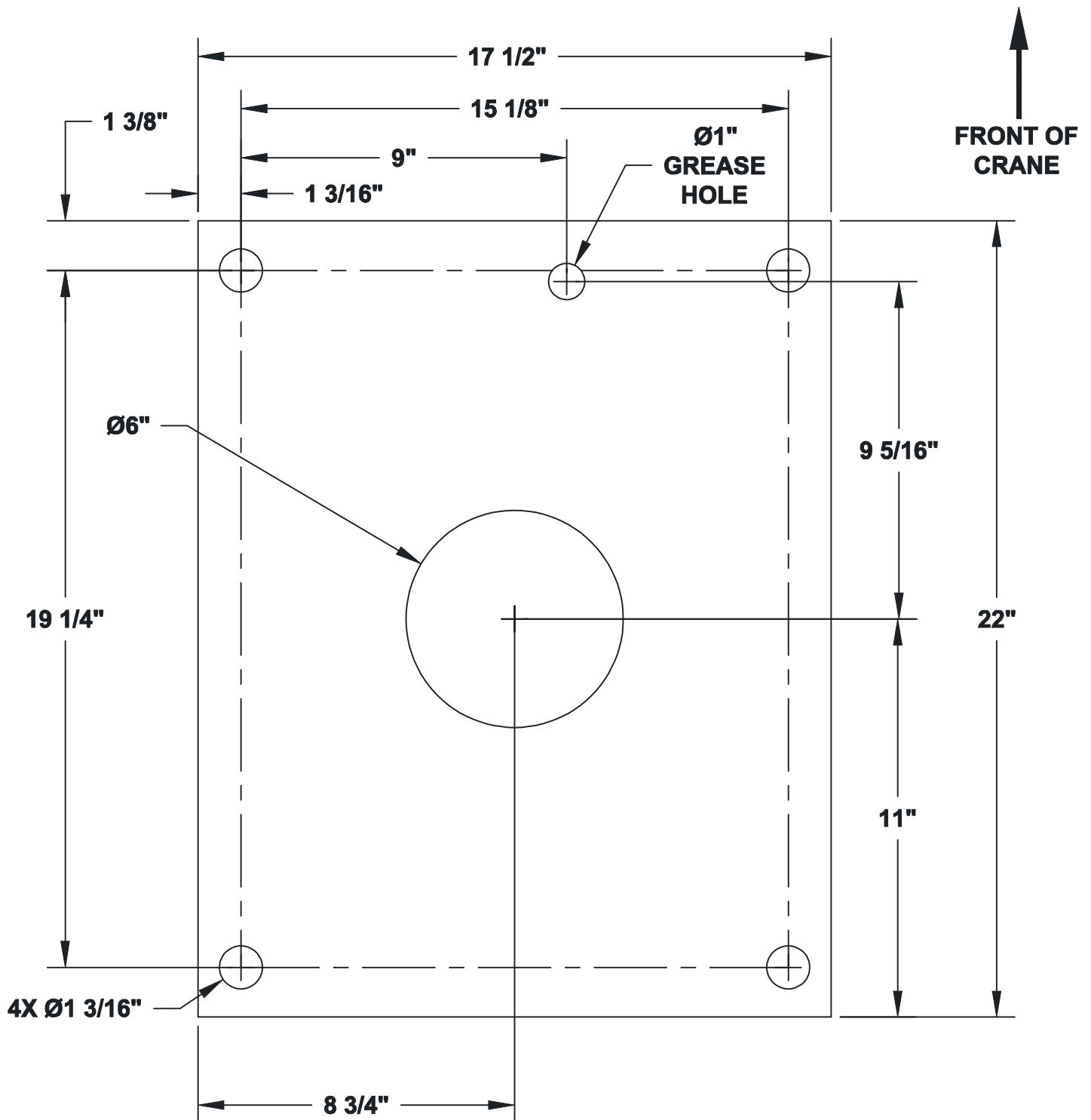
SECTION 100

DESCRIPTION

&

SPECIFICATIONS

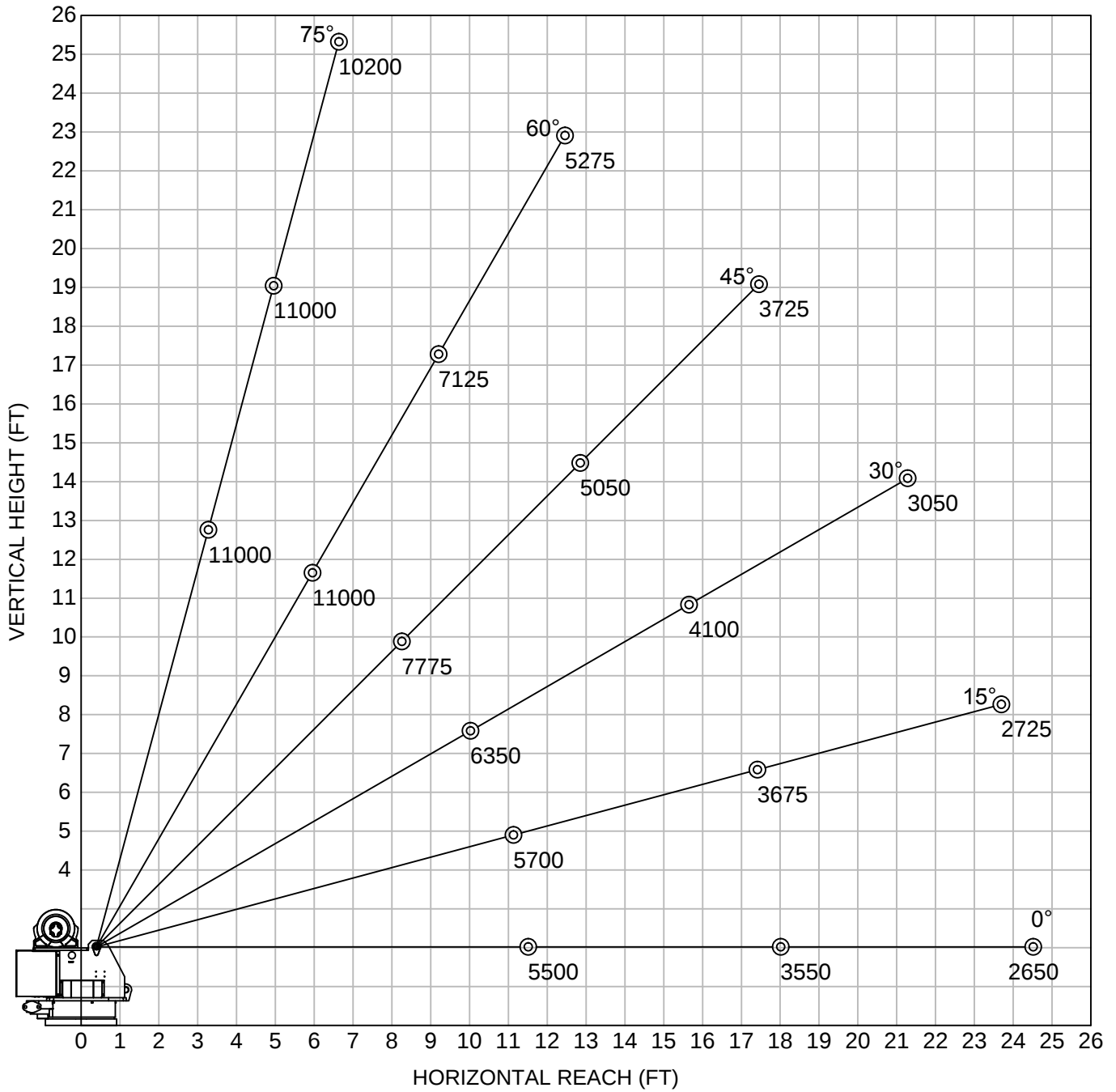
HT66KX BASE MOUNTING DIMENSIONS



HT66KX, 12'-18.5'-25' BOOM

▲ CRANE SERIAL NUMBER: _____

MAXIMUM LOAD CAPACITY CHART



WEIGHT OF LOAD HANDLING DEVICES ARE PART OF THE LOAD AND MUST BE DEDUCTED FROM THE GROSS CAPACITY.

LOAD BLOCK USAGE

1 PART LINE FOR LOADS LESS THAN 5500 LBS

2 PART LINE FOR LOADS OF 5500 LBS AND GREATER

WEIGHT OF LOAD BLOCK = 66 LBS



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CINCINNATI, OHIO

TITLE
MAXIMUM LOAD CAPACITY
HT66KX, 12'-18.5'-25' BOOM

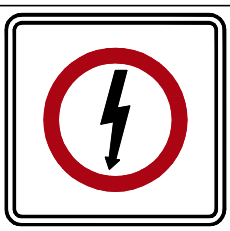
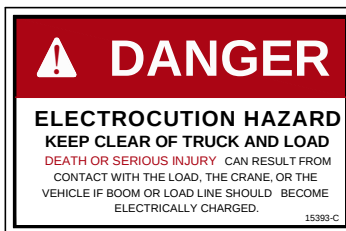
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05-03-16B
SUPERSEDES
04-30-13A

SECTION
C100
27561

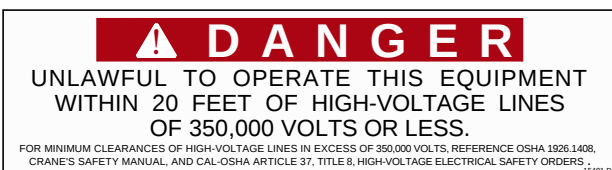
SECTION 150

SAFETY

VEHICLE & CRANE MOUNTED ELECTRICAL HAZARD SIGN APPLICATION & INFORMATION



SIGN NO. 15393 DISPLAYS THE INTERNATIONAL SYMBOL FOR ELECTRICITY AND WARNS OF DANGER FROM AN ELECTRICALLY CHARGED VEHICLE, CRANE, OR LOAD. FOUR ARE RECOMMENDED (ONE FOR EACH SIDE AND ONE FOR EACH END OF VEHICLE) TO BE APPLIED IN LOCATIONS WHICH ARE READILY VISIBLE TO GROUND PERSONNEL.



SIGN NO. 15401 PROVIDES ADDITIONAL WARNING OF LEGAL REQUIREMENTS WHEN OPERATING NEAR HIGH VOLTAGE LINES. THIS SIGN IS PLACED ON THE CONTROL PENDANT SIDE OF BOOM.

Table A - Minimum Clearance Distances

Voltage (nominal, kV, alternating current)	Minimum clearance distance (feet) *
Up to 50.....	10
over 50 - 200.....	15
over 200 - 350.....	20
over 350 - 500.....	25
over 500 - 750.....	35
over 750 - 1000.....	45
Over 1000.....	(as established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution).

Table T - Minimum Clearance Distances While Traveling With No Load

Voltage (nominal, kV, alternating current)	While traveling - minimum clearance distance (feet) *
0 - 0.75.....	4
over 0.75 - 50.....	6
over 50 - 345.....	10
over 345 - 750.....	16
over 750 - 1000.....	20
Over 1000.....	(as established by the utility owner/operator or registered professional engineer who is a qualified person with respect to electrical power transmission and distribution).

* NOTE: ENVIRONMENTAL CONDITIONS SUCH AS FOG, SMOKE, OR PRECIPITATION MAY REQUIRE INCREASED CLEARANCES



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TITLE	DATE	SECTION
HAZARD APPS & INFO	02-21-14M	C150
ET/HT CRANES	SUPERSEDES 12-20-13L	15394

CRANE SAFETY AND HAZARDS

HT SERIES CRANES

CAUTIONS

1. INSPECT VEHICLE AND CRANE, INCLUDING OPERATION, PRIOR TO USE DAILY.
2. DO NOT USE THIS EQUIPMENT EXCEPT ON SOLID, LEVEL SURFACE WITH CRANE MOUNTED ON FACTORY-RECOMMENDED TRUCK.
3. BEFORE OPERATING THE CRANE, REFER TO MAXIMUM LOAD (CAPACITY) CHART ON CRANE FOR OPERATING (LOAD) LIMITATIONS.
4. DO NOT OPERATE, WALK, OR STAND BENEATH BOOM OR A SUSPENDED LOAD.
5. ATTACH PENDANT CORD SUPPORT SNAP TO ATTACHMENT POINT BEFORE PLUGGING IN PENDANT.
6. UNPLUG PENDANT AND DISENGAGE PTO SYSTEM WHEN CRANE NOT IN USE.
7. FOR TRAVEL, BOOM MUST BE IN STOWED POSITION.

DANGER

- THIS CRANE IS NOT A PASSENGER LIFT
- IT IS NOT DESIGNED OR INTENDED TO BE USED TO LIFT, SUPPORT, OR OTHERWISE TRANSPORT PERSONNEL.

YOU MUST NOT OPERATE THIS CRANE UNLESS

1. YOU HAVE BEEN TRAINED IN THE SAFE OPERATION OF THIS CRANE
AND
2. YOU KNOW AND FOLLOW THE SAFETY AND OPERATING RECOMMENDATIONS CONTAINED IN THE MANUFACTURER'S MANUALS, YOUR EMPLOYER'S WORK RULES, AND APPLICABLE GOVERNMENT REGULATIONS. AN UNTRAINED OPERATOR SUBJECTS HIMSELF AND OTHERS TO DEATH OR SERIOUS INJURY.

ELECTROCUTION HAZARD

- THIS MACHINE IS NOT INSULATED.
- MAINTAIN SAFE CLEARANCES FROM ELECTRICAL LINES AND APPARATUS.
- YOU MUST ALLOW FOR BOOM SWAY, ROCK OR SAG, AND ELECTRICAL LINE AND LOADLINE SWAYING.
- THIS LIFTING DEVICE DOES NOT PROVIDE PROTECTION FROM CONTACT WITH OR PROXIMITY TO AN ELECTRICALLY CHARGED CONDUCTOR.
- YOU MUST MAINTAIN A CLEARANCE OF AT LEAST 20 FEET BETWEEN ANY PART OF THE CRANE, LOADLINE, OR LOAD, AND ANY ELECTRICAL LINE OR APPARATUS CARRYING UP TO 350 kV (SEE NEW CHART). ADDITIONAL CLEARANCES ARE REQUIRED FOR VOLTAGES IN EXCESS OF 50,000 VOLTS. REFER TO DRAWING 15394 FOR ADDITIONAL INFORMATION.
- **DEATH OR SERIOUS INJURY** WILL RESULT FROM CONTACT OR INADEQUATE CLEARANCE.



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TITLE

CRANE SAFETY & HZRDS

DATE

02-21-14D

SECTION

C150

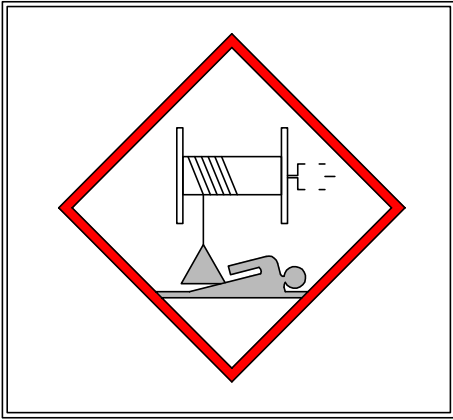
HYDRAULIC CRANES

SUPERSEDES

04-04-12C

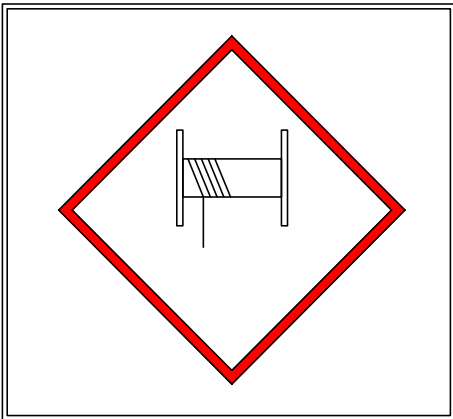
920612

WINCH SAFETY WARNINGS



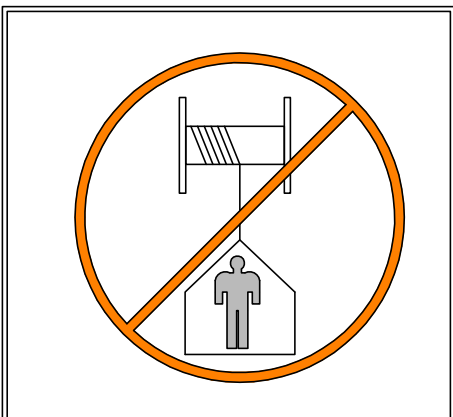
DANGER

- DO NOT DISENGAGE WINCH UNDER LOAD



DANGER

- THE LAST [5] (DEAD) WRAPS OF WIRE ROPE MUST BE LEFT ON TO ASSIST WIRE ROPE CLAMP IN HOLDING LOAD



WARNING

- Winches are not to be used to lift, support, or otherwise transport personnel



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TITLE
WINCH SAFETY
HT CRANES

DATE
02-21-14D
SUPERSEDES
04-04-12C

SECTION
C150
19217

PART NO.: 15398

DECAL: UNPLUG REMOTE CONTROL

FUNCTION: To inform the operator to unplug remote control when not being used.

QUANTITY: 1

PLACEMENT: Right side of housing.



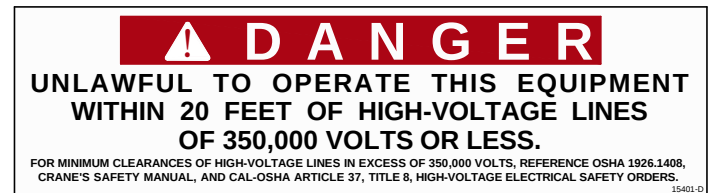
PART NO.: 15401

DECAL: UNLAWFUL TO OPERATE

FUNCTION: To inform the operator of proper operation in vicinity of power lines.

QUANTITY: 1

PLACEMENT: Right side of housing.



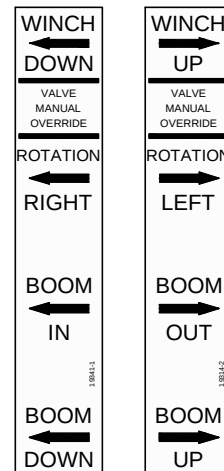
PART NO.: 19314-1 [LEFT] & -2 [RIGHT]

DECAL: MANUAL OVERRIDE (NON-PROP)

FUNCTION: To inform the operator of manual override locations.

QUANTITY: 1 EACH

PLACEMENT: Inside of rear cover.



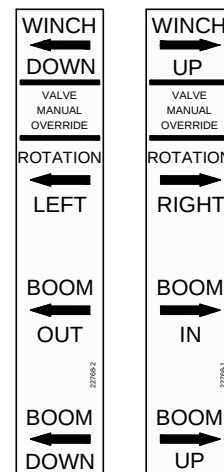
PART NO.: 22768-1 [LEFT] & -2 [RIGHT]

DECAL: MANUAL OVERRIDE (PROPORTIONAL)

FUNCTION: To inform the operator of manual override locations.

QUANTITY: 1

PLACEMENT: Inside of rear cover.



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
DECAL DRAWING & LIST

HT40/50KX

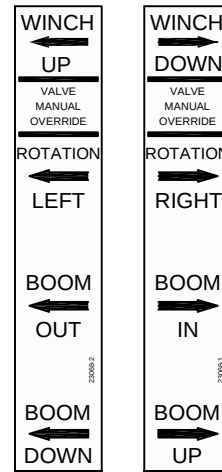
DATE
02-21-14D

SUPERSEDES
11-29-12C

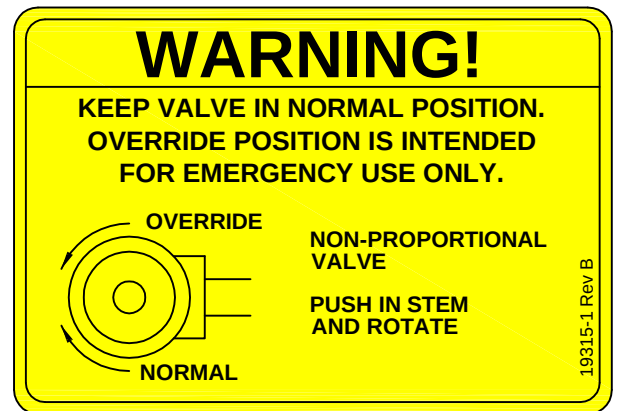
SECTION
C150

22181A

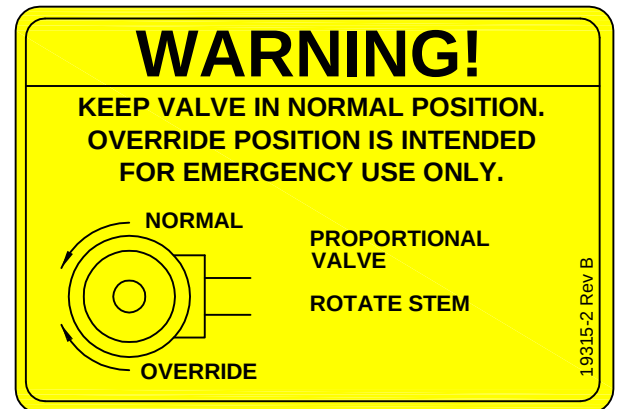
▲
 PART NO.: 23068-1 [LEFT] & -2 [RIGHT]
 DECAL: MANUAL OVERRIDE (HT66KXX ONLY)
 FUNCTION: To inform the operator of manual override locations.
 QUANTITY: 1
 PLACEMENT: Inside of rear cover.



PART NO.: 19315-1
 DECAL: SHUT OFF (NON-PROPORTIONAL)
 FUNCTION: To show the operator how to override master shut off valve.
 QUANTITY: 1
 PLACEMENT: Inside rear cover.



PART NO.: 19315-2
 DECAL: MANUAL OVERRIDE (PROPORTIONAL)
 FUNCTION: To show the operator how to override proportional valve.
 QUANTITY: 1
 PLACEMENT: Inside rear cover.



PART NO.: 20834
 DECAL: MANUAL OVERRIDE NOTICE
 FUNCTION: To inform the operator of manual override locations.
 QUANTITY: 1
 PLACEMENT: Inside rear cover.



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 CINCINNATI, OHIO

TITLE
 DECAL DRAWING & LIST
 HT40/50KX

DATE
 08-21-14F
 SUPERSEDES
 02-21-14E

SECTION
 C150
 22181B

PART NO.: 15390

DECAL: CAUTION - INSPECT VEHICLE & CRANE

FUNCTION: To inform the operator of key operating requirements.

QUANTITY: 1

PLACEMENT: Left side of rear cover.



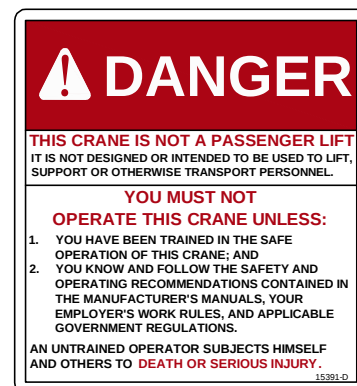
PART NO.: 15391

DECAL: DANGER - NOT PASSENGER LIFT

FUNCTION: To inform the operator not to lift, support or transport personnel, and to ensure that crane operator is adequately trained.

QUANTITY: 1

PLACEMENT: Left side of rear cover.



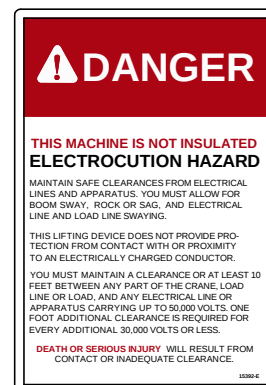
PART NO.: 15392

DECAL: DANGER - ELECTROCUTION HAZARD

FUNCTION: To inform the operator that the machine (crane) represents an electrocution hazard should it come too near or in contact with electrical voltage source.

QUANTITY: 1

PLACEMENT: Left side of rear cover.



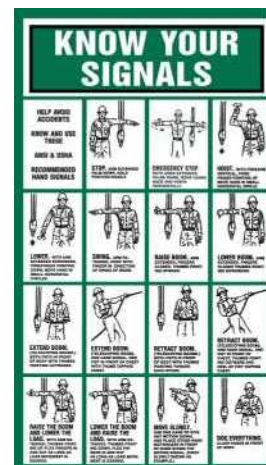
PART NO.: 22499

DECAL: KNOW YOUR SIGNALS

FUNCTION: To inform the operator of proper signals.

QUANTITY: 1

PLACEMENT: Right side of rear cover.



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CINCINNATI, OHIO

TITLE
DECAL DRAWING & LIST
HT40/50KX

DATE
02-21-14E
SUPERSEDES
11-29-12D

SECTION
C150
22181C

PART NO.: 17389

DECAL: MEDIUM VENTURO

FUNCTION: Branding.

QUANTITY: 1

PLACEMENT: Rear cover.



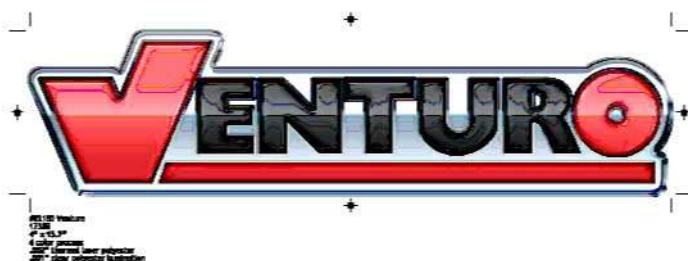
PART NO.: 22496

DECAL: LARGE VENTURO

FUNCTION: Branding.

QUANTITY: 2

PLACEMENT: Boom.



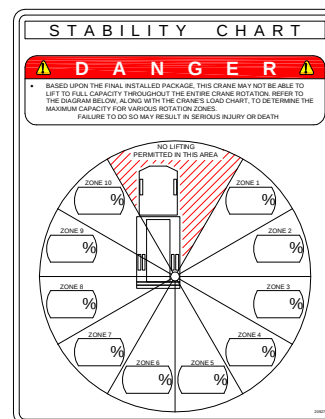
PART NO.: 20927

DECAL: CRANE STABILITY

FUNCTION: To inform the operator of the crane's lifting capacity throughout the entire rotation.

QUANTITY: 1

PLACEMENT: In prominent location, so it is easily seen and readily identifiable.



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CINCINNATI, OHIO

TITLE
DECAL DRAWING & LIST
HT40/50/66 SERIES

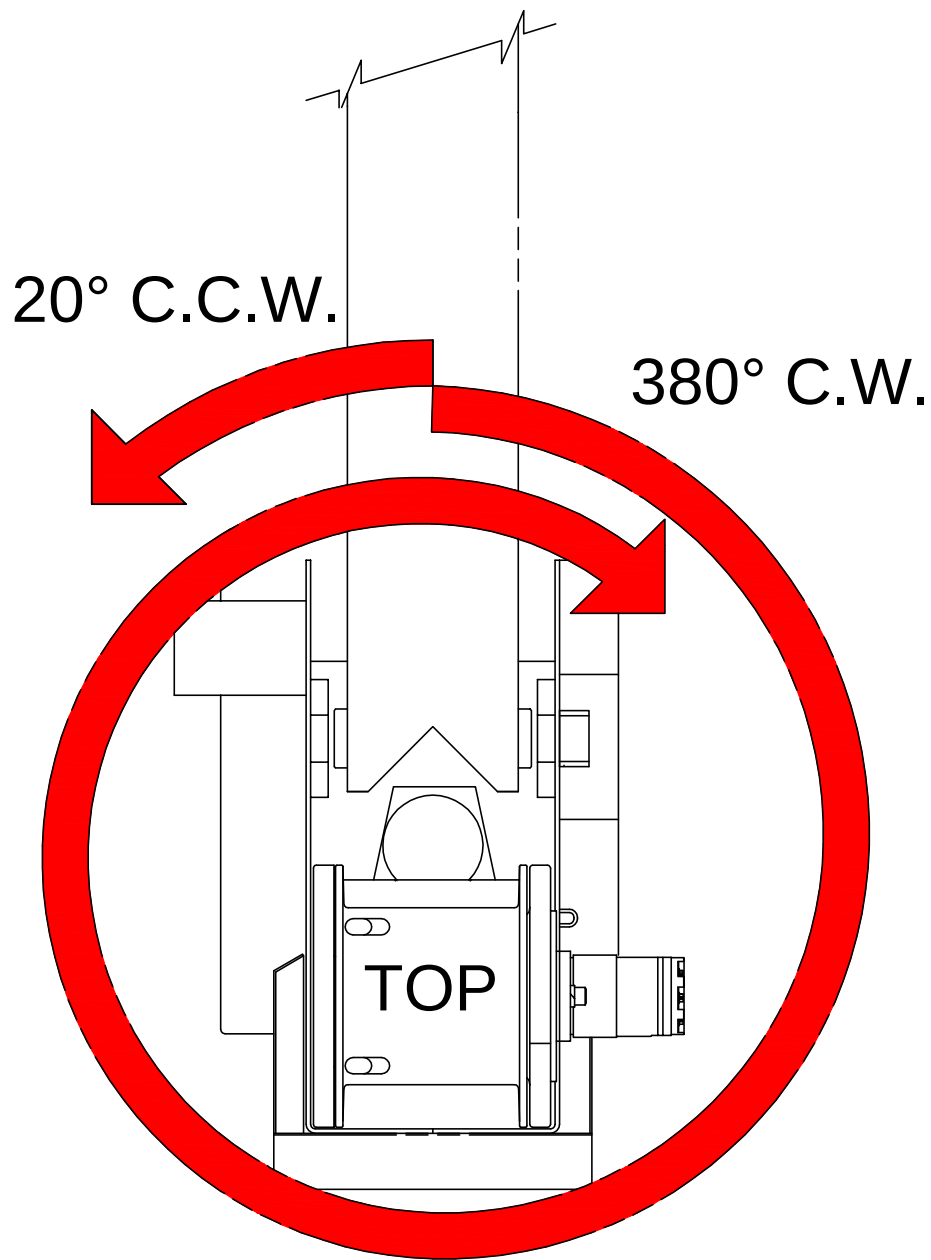
DATE
12-11-18J
SUPERSEDES
08-23-18H

SECTION
C150
22181D

SECTION 200

INSTALLATION





This Venturo crane is shipped with the rotation orientation as shown above. To change the orientation rotate crane base prior to mounting to suit your application.



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE	ROTATION STOP LOCTN
400° ROTATION CRANES	

DATE	02-21-14D
SUPERSEDES	12-14-09C

SECTION	-
20051	

STABILITY TEST - HT66-25' SERIES

Overview

Venturo follows the guidelines of ANSI B30.5 in defining stability. Generally speaking, a truck is considered stable as long as it is not on the verge of tipping - i.e. with the truck level, at least one tire on each corner of the truck must remain in contact with the ground.

It is important to note that nearly every installation is unique and will, therefore, typically require stability testing.

The procedure outlined below follows ANSI's (B30.5 - 5-1.1.1) specified "maximum load rating" of 85% of truck stability.

Testing Procedure

1. Locate the truck on firm, level ground and set parking brake.
2. Fully deploy stabilizers, making sure they are firmly in contact with supportive ground; use stabilizer pads as required. The tires of the truck should remain in full contact with the ground.
3. Inspect wire rope and other key components of crane (consult owners manual for more information).
4. Conduct an operational check of all crane functions.
5. Use a **Test Weight** weighing a **minimum** of **3118 lbs**, (includes load block weight of **67 lbs.**) to a **maximum of 3500 lbs**.
6. Position the boom level and fully retracted.
7. Referring to the Stability Chart (drawing 20907) rotate the crane to a position between 1 and 2 o'clock (truck cab is facing 12 o'clock) to begin testing.
8. Use the winch to lift the Test Weight; DO NOT allow the weight to be more than 6" off the ground at any time during testing (for safety).
9. Extend the boom slowly, until one of two conditions occur: **1)** the boom reaches full extension or **2)** the vehicle begins to be unstable, **whichever occurs first**. Note: If the boom reaches full extension (without an overload or unstable condition) the % of Rated Capacity is 100% for the given ZONE.
10. Use the formula below to determine the **% of Rated Capacity** for each ZONE on the Stability Chart (ref. page 20907).
11. Note: The **"Max Stable Reach in inches"** is measured from the **center of rotation** of the crane housing to the **lifting load hook**.

$$\% \text{ Rated Capacity} = \frac{\text{"Max Stable Reach" in inches}}{299} \times 100$$

Example 1) Max Stable Reach = 299 (inches, full extension) ÷ 299 x 100 = **100** or 100% of Rated Capacity for the given ZONE

Example 2) Max Stable Reach = 291 (inches) ÷ 299 x 100 = **97.32** or 97% (rounded) of Rated Capacity for the given ZONE

12. Record the % of Rated Capacity in the appropriate blank (region) on the Crane Stability page (ref. 20907) and decal.
13. Repeat Steps 7 through 12 for each ZONE on the stability page.



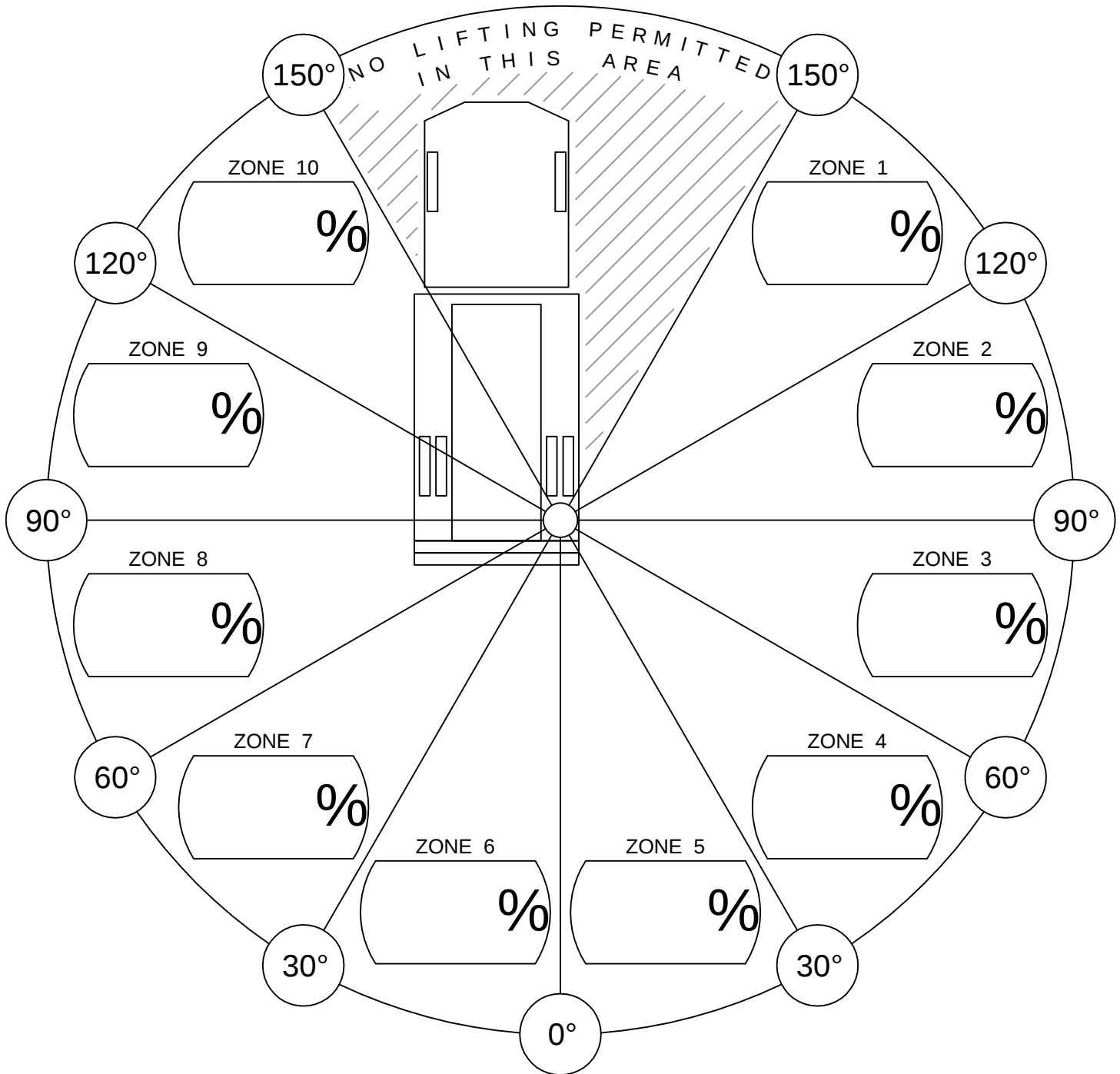
VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
STABILITY TEST
HT66-25' SERIES

DATE
02-25-21C
SUPERSEDES
04-23-20B

SECTION
C200
20906-66

CRANE STABILITY



% of Rated Capacity for each of the 10 regions are provided above.

CONDITIONS:

- STABILIZERS FULLY EXTENDED & DOWN, ON FIRM LEVEL GROUND.



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CINCINNATI, OHIO

TITLE

STABILITY CHART

VENTURO CRANES

DATE

05-11-17F

SUPERSEDES

02-21-14E

SECTION

C200

20907

CRANE INSTALLATION

HT66KX

BODY REINFORCEMENT

The truck body must be reinforced and outriggers provided to withstand the combined loads resulting from lifting and the weight of the crane and boom.

The maximum combined overturning moment for the HT66KX is 66,000 ft. lbs.

The maximum vertical load for the HT66KX is 11,000 lbs.

CRANE MOUNTING

- ▲ The crane base plate or mounting pedestal must be bolted to the body reinforcing plate with four (4) grade eight (8) bolts of 1-1/8" dia. with either coarse or fine threads. A 6" dia. hose clearance hole must be cut in this plate to allow the hoses to swing and coil freely.

ROTATION POSITIONING

The HT cranes are shipped with the boom rotated as shown on drawing 20051. It can be in any position that pleases the user since the boom can always reach the storage and travel position by rotating one way or the other.

HYDRAULIC CONNECTIONS

The crane is furnished with a pressure, return and a case drain hose that come down through the center of the housing. Included in the installation kit are two hydraulic swivels and two more hoses. These hoses and swivels are to be arranged in the compartment or pedestal below the crane as shown on drawing 20698 (non-proportional), or 22913 (proportional) using the angle bulkhead fittings also furnished in the installation kit. The case drain hose must return to the tank unrestricted.

These hoses are to be connected in a relaxed position while the crane is at the midpoint of the 400 degree rotation range -- regardless of the final position of the boom during storage/travel.

The bulkhead fittings may be located on any side of the compartment relative to the middle of rotation position.

NOTE: If you purchased one of Venturo's hydraulic packages (P/N 19294-X.XXX), you will have received our pressure gauge kit. This kit includes a gauge, hose and bulkhead "T" fitting and should be installed on the pressure hose.



MFG., INC.
CINCINNATI, OHIO

TITLE
INSTALLATION DWG

HT66KX

DATE
3-14-11A

SUPERCEDES
1-19-09

SECTION
C200

27324

ELECTRICAL CONNECTIONS

A 25 ft. electrical power lead - intended for 12V DC only - also comes down through the center of the crane base plate with the hoses. This lead should be looped in the compartment so that it remains relaxed throughout the 400 degree rotation of the crane.

A 15amp circuit breaker is mounted on the crane and protects the crane's internal wiring and solenoid coils. The 15amp circuit breaker does not protect the 25 foot electrical power lead. For added protection, the 25 ft. lead can be connected to a 15-20 amp protected circuit that, if possible, is powered only when the vehicle engine is running

HYDRAULIC FLUID

<u>Average Climate</u>	<u>Type of Oil</u>
Cold to Moderate	ISO Grade AW 46
Warm to Hot	ISO Grade AW 68

The fluid should have the highest anti-wear characteristics and treated to inhibit rust and oxidation.

HYDRAULIC HOSES & LINES

The minimum sizes for lines and hoses are as follows:

	NON-PROP	PROP
PRESSURE	N/A	5/8"
RETURN	N/A	3/4"
SUCTION	N/A	1-1/4"

RESERVOIR

The PTO reservoir should have a minimum capacity of 25 gallons; an optional 40 gallon reservoir is available for installations with multiple hydraulic components e.g. crane, outriggers, air compressor etc. The reservoir should be fitted with a 100 mesh suction screen, 10 micron return line filter and filler/breather cap.

PTO PUMP

The PTO pump should be sized to allow an engine idle speed range that will deliver approximately 12.0 GPM for the HT66KX proportional. The crane's relief pressure is set at 3000 psi.

PTO START-UP

Before connecting the PTO system to the crane pressure and return hoses, connect the PTO pressure and return lines together at the bulkhead. Operate the PTO system for about two (2) minutes per gallon of reservoir capacity (25 gallon reservoir 50 minutes) to flush out the lines and filter all the fluid several times.

ENGINE START/STOP & THROTTLE CONTROL

If your crane was purchased with optional engine start/stop and throttle control, refer to drawing 22615 in the replacement parts section for further information.



MFG., INC.
CINCINNATI, OHIO

TITLE
INSTALLATION DWG

HT66KX

DATE
5-25-11A

SUPERCEDES
1-19-09

SECTION
C200

27325

CRANE OPERATION AND MAINTENANCE INSTRUCTIONS

HT66KX

SAFETY

Before operating this crane, read and understand these instructions, the 920612 Crane Safety and Hazards Information Sheet, and review all safety & instruction labels on the crane.

CRANE INSPECTION

Before operating this crane, inspect for wear, damage, or oil leakage. After the wire rope has been run out, check for wear, kinks, and broken strands. Check the hook and safety latch for damage. Correct any problems before using the crane.

CAPACITY

Before operating this crane, review the capacity charts on the sides of the boom to relate the load to be lifted to the boom length and angle. The boom angle is shown by a gravity arrow.

SNATCH BLOCK

If the load exceeds 5500 lbs. or if reduced winching speed for better control of smaller loads is required, use the snatch block to rig the crane for two part line operation.

CONTROLS

This crane is operated by a remote control pendant. The pendant should be unplugged and stored in a compartment when the crane is not in use.

Before plugging the pendant in, inspect the plug, socket, cord, pendant head, and switches for damage. Actuate all four switches both ways to verify that they all have the same feel and sound and that they return to the center position.

Plug the pendant into the socket on the right side of the crane and snap the strain relief tether to the crane housing.

PTO SYSTEM

Check the hydraulic fluid level in the PTO system reservoir. Engage PTO and set the engine idle speed to provide the desired hydraulic flow rate per the PTO system instructions. A lower idle setting may be used for more delicate spotting of loads if required.

CRANE OPERATION

Use "Winch Down" to release tension on the wire rope to unhook it from the storage tie down position.

Use "Boom Up" to elevate the boom from the boom rest position.

Avoid repeated rapid reversals of the control switches. This can cause the load to swing.

Check all control functions to see that they are working as described in the following section.



MFG., INC.
CINCINNATI, OHIO

TITLE
INSTALLATION DWG

HT66KX

DATE
1-19-09

SUPERCEDES
-

SECTION
C200

27326

CONTROL FUNCTIONS

WINCH "UP" and "DOWN" - Raises and lowers the load with the winch.

BOOM "UP" and "DOWN" - Raises and lowers the boom elevation angle. The boom elevates from 4 degrees below horizontal to 75 degrees above horizontal.

BOOM "OUT" and "IN" - Extends and retracts the boom. The boom hydraulic extension stroke is 6 ft. or 10 ft.

ROTATION "L" and "R" - Controls the left and right direction of the crane rotation. The crane rotation is limited to 400 degrees.

POWER - (Non Proportional Systems) Energizes safety shutoff valve. See page 22328 for detailed operations instructions and warnings.

TRIGGER (Proportional Systems Only) - Varies the flow rate delivered to the crane valve. The farther the trigger is pulled, the faster the selected crane function operates.

OVERLOAD SENSING SYSTEM

This crane is equipped with an Overload Sensing System. If the capacity of the crane is exceeded, the "Winch Up", "Boom Down", and "Boom Out" functions will be shut down. The "Winch Down", "Boom Up", and "Boom In" functions will continue to operate and can be used to relieve the overload condition. The "Rotation" function also will continue to operate.

TWO-BLOCK SENSING SYSTEM

This crane is equipped with an anti two-block device that is mounted at the tip of the boom. If the snatch block contacts the device the "Winch Up", "Boom Down", and "Boom Out" functions are disabled. The "Winch Down", "Boom Up", and "Boom In" functions will continue to operate and can be used to relieve the two-block condition. Refer to Drawing 27335 for replacement parts and configuration information.

TELESCOPIC HEXAGONAL BOOM

The hexagonal shaped boom shall telescope to provide a horizontal reach range of 12 ft. to 25 ft. using a hydraulic power extension cylinder with a 13 ft. stroke. See page 27330.

TRUCK SETUP & OUTRIGGERS

1. The truck should be parked on ground that is as level and as firm as possible when using the crane.
2. The center of the crane should be positioned close enough to the job so that it can be operated at a reach that puts the load within the rated capacity of the crane.



MFG., INC.
CINCINNATI, OHIO

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INSTALLATION DWG

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CRANE OPERATION AND MAINTENANCE INSTRUCTIONS, PAGE 3

HT40/50KX

3. Set the vehicle parking brake and put the vehicle transmission in "park" if it is an automatic.
4. Fully deploy stabilizers to help stabilize vehicle against rocking or overturning.
5. Use stabilizers to level vehicle only. Tires must maintain contact with ground.

PREPARATION FOR TRAVEL

1. Return the stabilizers to the stowed position. Install and secure all pins.
2. Stow the crane boom in the boom support.
3. Hook the winch line to a tie down point on the body or pedestal and apply tension.
4. Disengage the PTO pump and idle speed control.
5. Unplug the control pendant and store in a body compartment or the cab.

MAINTENANCE

The crane requires only periodic lubrication. As a standard procedure, this can be done at the time the vehicle is serviced.

The winch planetary gearbox lube should be maintained at the level plug.

To ensure optimal winch performance, the following lube schedule and lube specifications should be followed:

Initial Change - after 6 weeks or 10 hours of operation.

Periodic Change - on an annual basis or every 50 hours of operation.

Temp Range (°F)	Winch Gear Oil
120° to 10°	High quality SAE 90 gear lubricant oil
Severe Duty	Swepeco #201 multi-purpose gear oil

Service grease fittings and rotation gear with molybdenum-disulfide graphite-filled lithium-based extreme pressure grease.

Grease fitting locations:

- Boom pivot at rear of boom
- Speed reducer (2 fittings)
- Elevation cylinder tail clevis
- Bottom of Swing Bearing (2 fittings)

Remove rear cover and check all hydraulic tube and hose fittings for tightness.

Check electrical connections for looseness and corrosion .



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE	DATE	SECTION
CRANE OP / MNTNC INST	02-21-14E	C200
HT40/50KX	SUPERSEDES 11-29-12D	22174

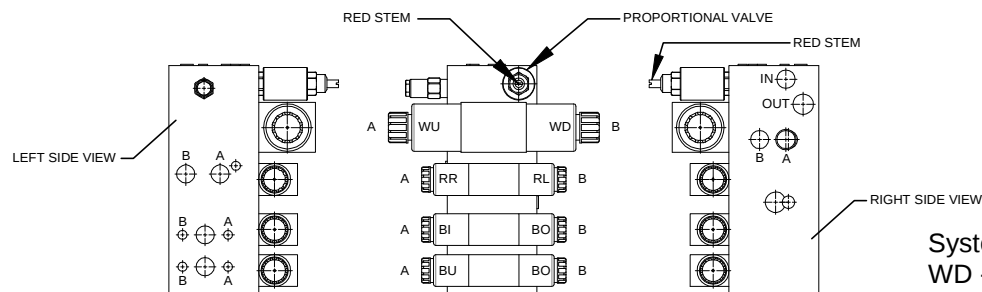
EXPLANATION OF HYDRAULIC VALVE SYSTEM

HT40/50/66KX, PROPORTIONAL ONLY

OVERVIEW

This proportional crane utilizes a proportional valve, which controls the rate at which the hydraulic fluid flows through the valve bank. When the proportional valve is fully closed, hydraulic fluid bypasses the valve bank and returns directly to the tank. When the proportional valve is fully open, hydraulic fluid cycles through the valve bank and allows the crane to function at full speed. When the proportional valve is at any setting between, a portion of the fluid is allowed through the valve bank, with the remainder returning to the tank.

The four [4] crane functions (winch, rotation, boom elevation, and boom extension) are controlled by four [4] separate valve sections. Each valve section has two [2] solenoid coils (and tow [2] manual overrides) which control the direction that the function operates (e.g. winch up vs. winch down). For a given crane function and direction (e.g. winch up), the solenoid coil and associated manual override reside on the same side of the valve bank (both "push").



System abbreviations are as follows:

WD - Winch Down	WU - Winch Up
RR - Rotation Right	RL - Rotation Left
BI - Boom In (Ext.)	BO - Boom Out (Ext.)
BD - Boom Down (Elev.)	BU - Boom Up (Elev.)

MANUAL OVERRIDE SYSTEM

Should an electrical failure occur, your Venturo crane can be operated manually.

The manual overrides are intended for emergency use only and should not be used for normal operation.

To operate in manual override mode:

- Override the proportional valve by turning the red stem on the valve as stated below
 - For override operation, rotate stem clockwise (the farther the stem is turned the faster the crane will operate)
 - To return to normal operation, rotate the stem counter-clockwise until it stops
- Determine the coil / override associated with the function you wish to operate, then insert a small diameter object (an Allen wrench works well) into the detent on the end of the valve stem and firmly press inward. For example, pushing the stem labeled 'A' on the first bank (refer to illustration) will actuate winch up



W A R N I N G



- For normal crane operation, the proportional valve must be in the 'normal' position (as described above). To verify 'normal' operation, you may set the pendant (or radio) control aside and actuate a single crane function by pushing inward on any of the manual override pins, located at the ends of each function control valve. If that function operates, the proportional valve is still in manual override. Check the position of the proportional valve's red stem to insure that it is fully counter-clockwise.

EMERGENCY STOP

In the unlikely event that a function of the crane does not stop once the function's toggle switch is released, the proportional crane can be stopped by releasing the trigger.



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CINCINNATI, OHIO

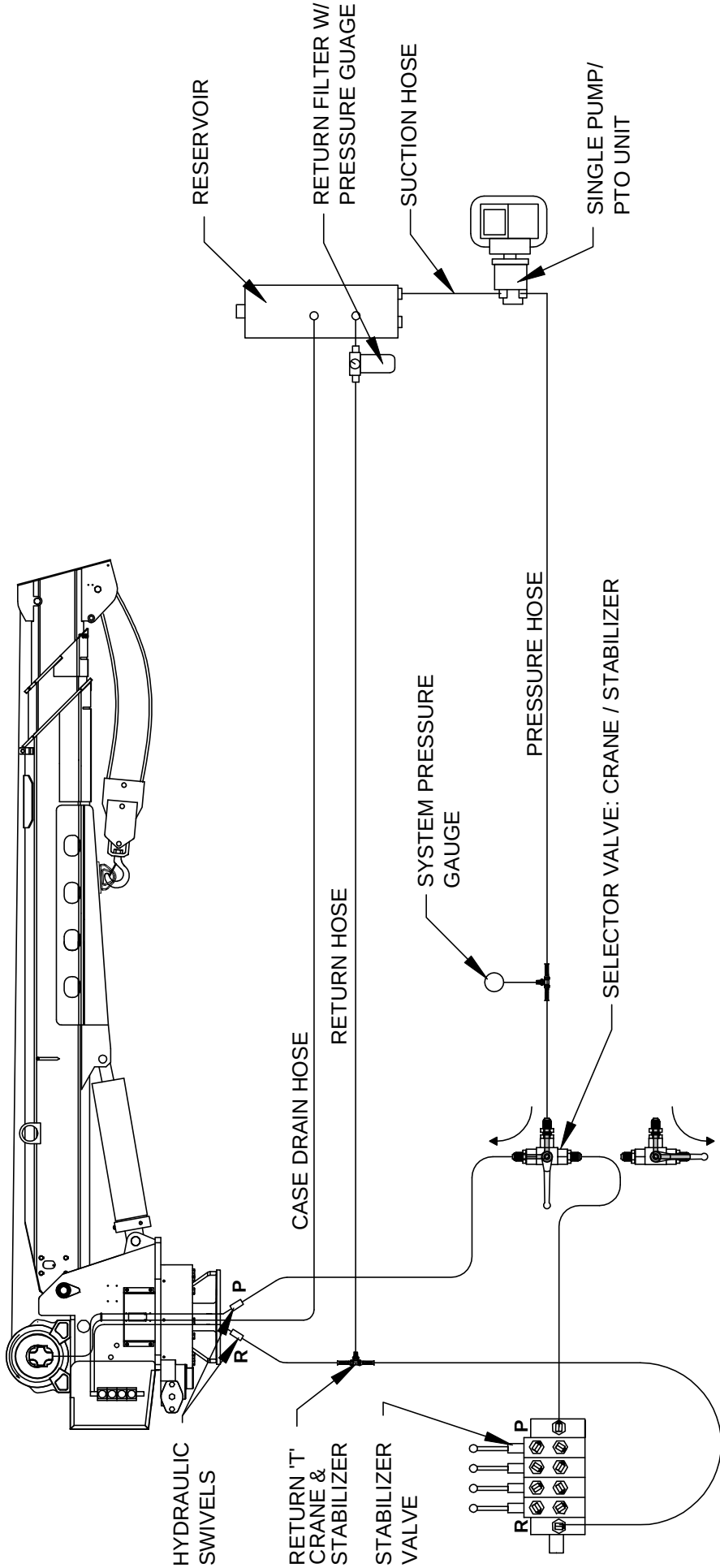
TITLE
HYDRAULIC SYSTEM
HT40/50/66KX; PROP

DATE
02-21-14D
SUPERSEDES
05-25-11C

SECTION
C200

22168

HYDRAULIC CIRCUIT CONNECTION GUIDE - SINGLE PUMP (NO COMPRESSOR) (REFER TO SECTION 200 FOR MORE INFORMATION, INCLUDING HOSE SPECIFICATIONS)



CAUTION

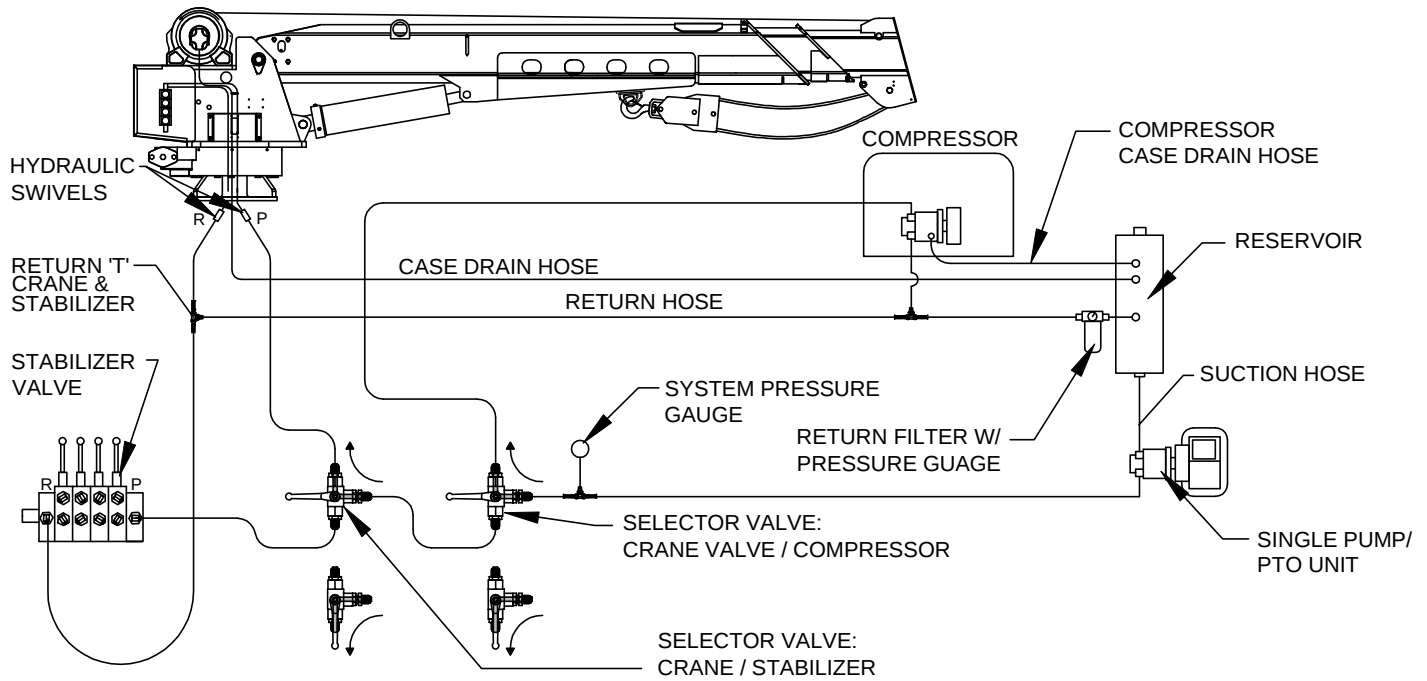
- SELECTOR VALVE MUST BE 'NON-CLOSED CENTER TRANSITION' TYPE.

CAUTION

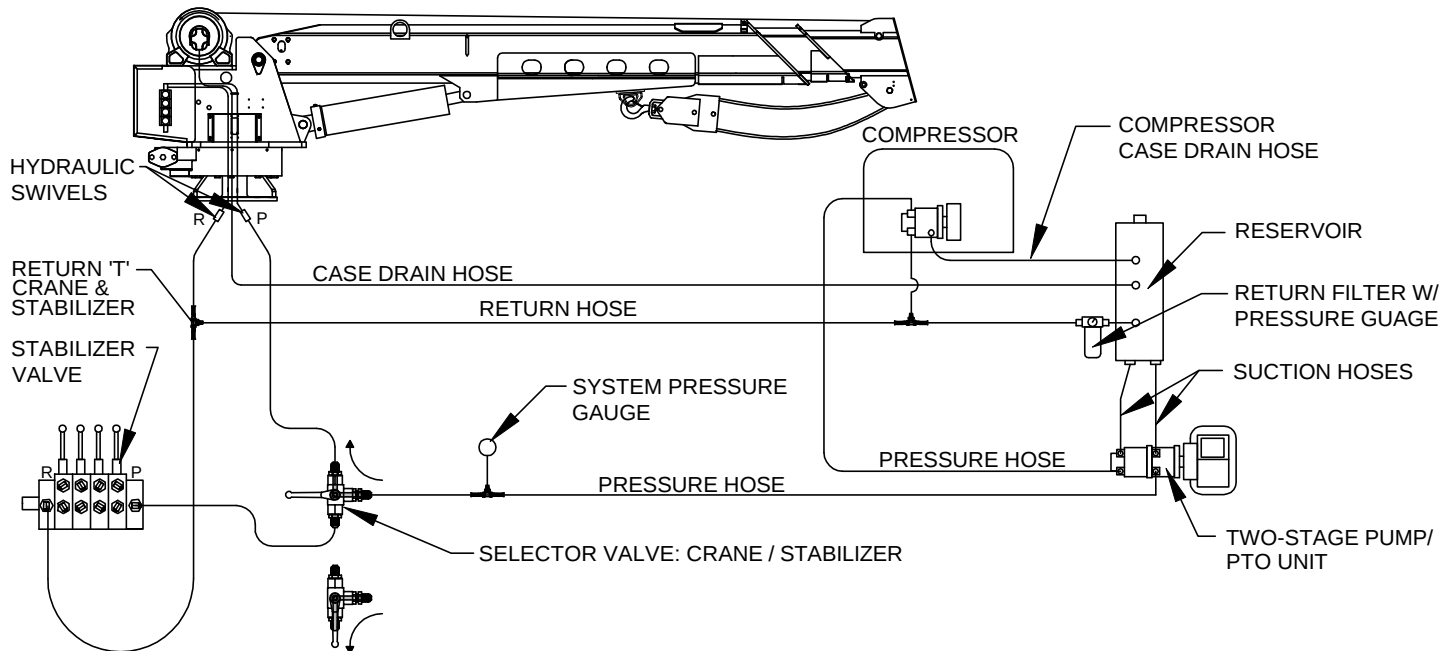
- THE CASE DRAIN LINE FROM THE WINCH MUST HAVE AN UNRESTRICTED PATH TO TANK/ RESERVOIR.

	TITLE		SECTION	
	CONNECTION GUIDE, PAGE 1 / 2		C200	
	HT CRANES		23015	
VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO		DATE	02-21-14B	SUPERSEDES
			04-19-12A	

HYDRAULIC CIRCUIT CONNECTION GUIDE - SINGLE PUMP W/ COMPRESSOR



HYDRAULIC CIRCUIT CONNECTION GUIDE - TWO-STAGE PUMP W/ COMPRESSOR



CAUTION

- SELECTOR VALVE MUST BE 'NON-CLOSED CENTER TRANSITION' TYPE.

REFER TO SECTION 200
FOR MORE
INFORMATION,
INCLUDING HOSE
SPECIFICATIONS



CAUTION

- THE CASE DRAIN LINE FROM THE WINCH MUST HAVE AN UNRESTRICTED PATH TO TANK/ RESERVOIR.

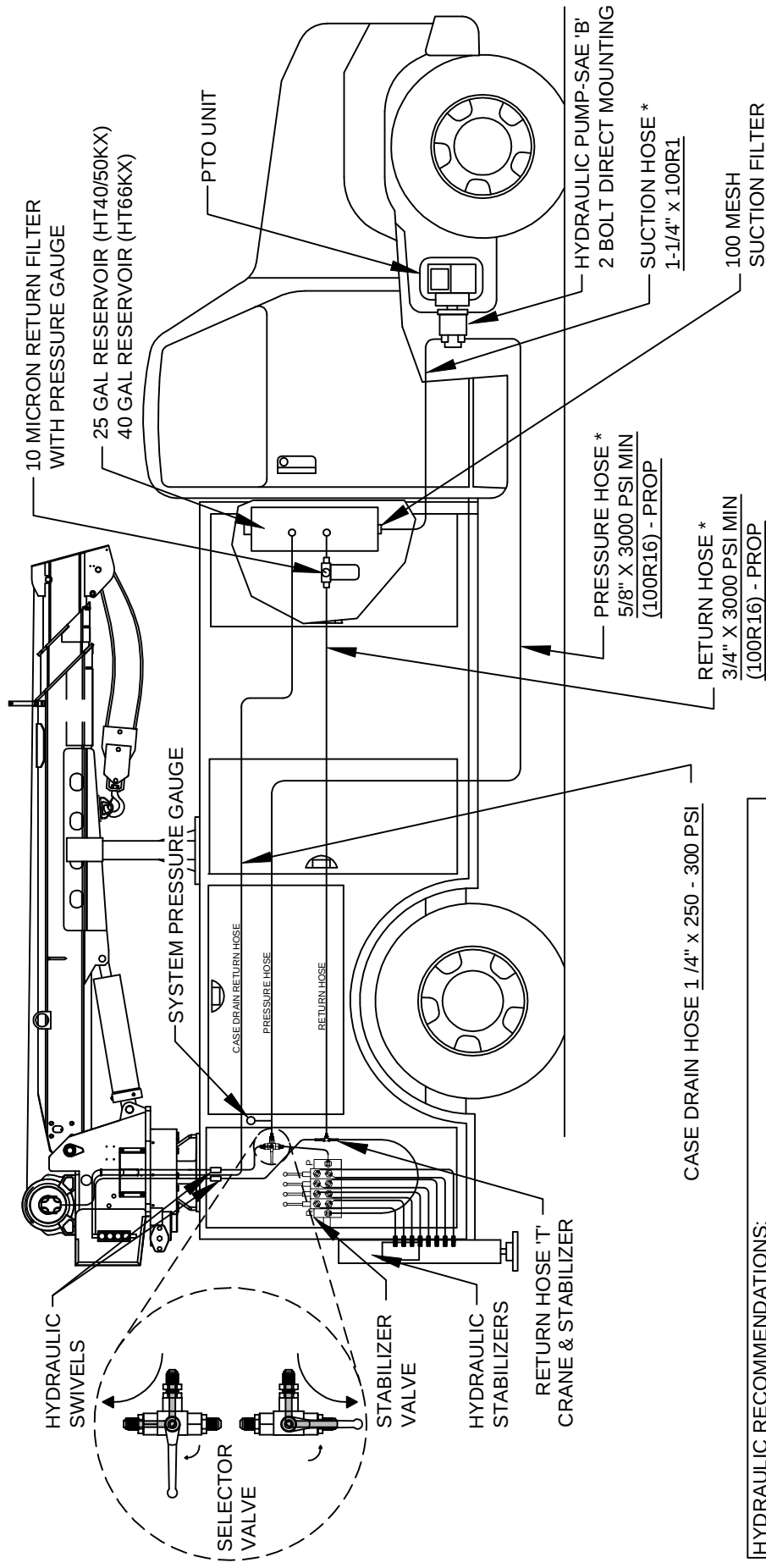


VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
CNNCTN GDE, PAGE 2/2
HT CRANES

DATE
02-21-14B
SUPERSEDES
04-19-12A

SECTION
C200
23014



HYDRAULIC RECOMMENDATIONS:

HT40KX PROPORTIONAL - 12.0 GPM @ 3000 PSI (22784 PTO PACKAGE)
 HT50KX PROPORTIONAL - 12.0 GPM @ 3000 PSI (22784 PTO PACKAGE)
 HT66KX PROPORTIONAL - 12.0 GPM @ 3000 PSI (22998 PTO PACKAGE)

CAUTION

- SELECTOR VALVE MUST BE 'NON-CLOSED CENTER TRANSITION' TYPE.

REFER TO SECTION 200 FOR MORE INFORMATION ON INSTALLING HYDRAULIC COMPONENTS.

* HOSES AND FITTINGS BETWEEN PUMP, RESERVOIR, AND CRANE NOT INCLUDED.

CAUTION

- THE CASE DRAIN LINE FROM THE WINCH MUST HAVE AN UNRESTRICTED PATH TO TANK/ RESERVOIR.



VENCO VENTURO INDUSTRIES LLC
 CINCINNATI, OHIO

TITLE
 HYDRAULIC COMPONENT INSTALLATION

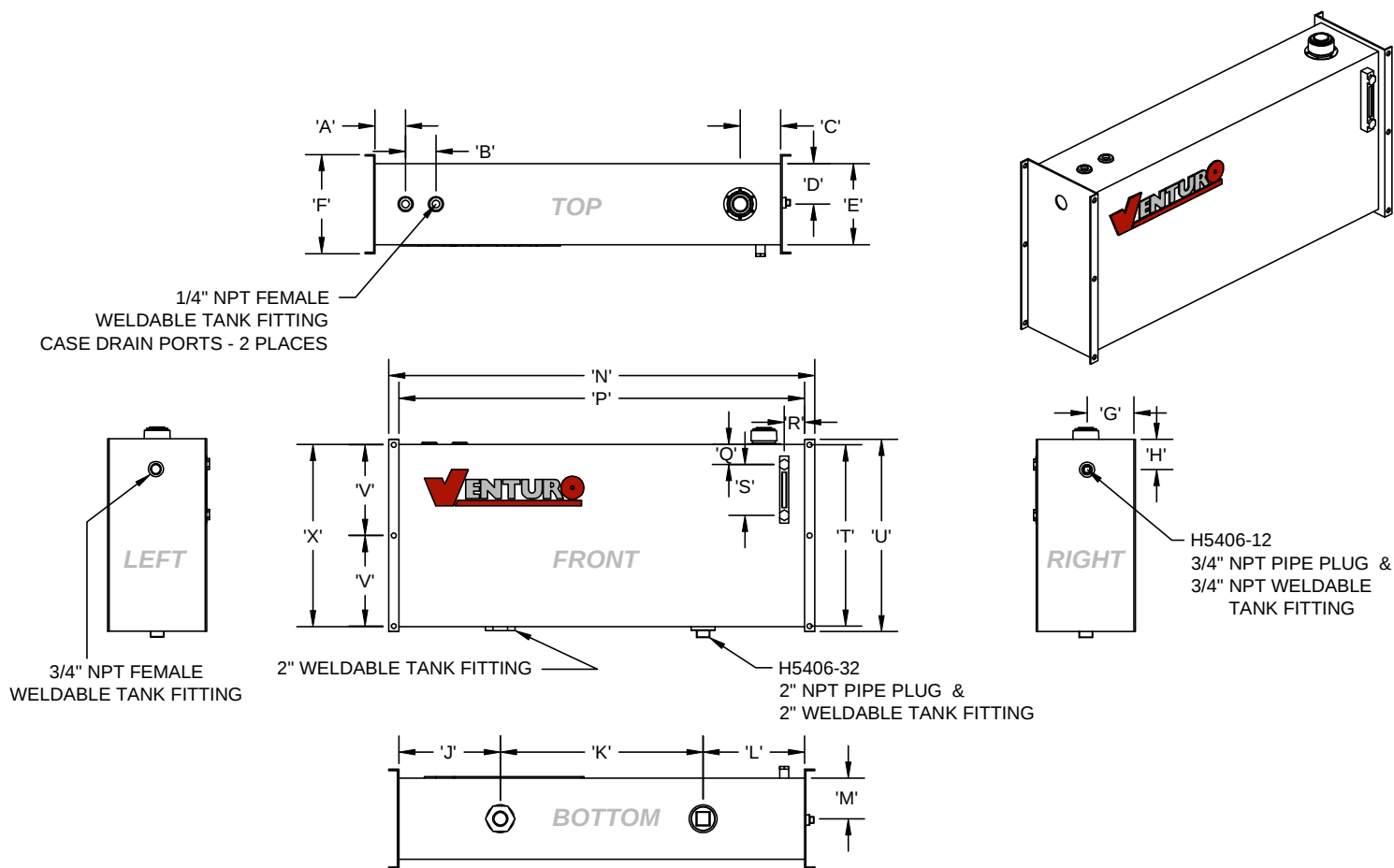
DATE
 05-07-14E

SECTION
 C200

HT40/50/66KX, PROPORTIONAL

SUPERSEDES
 02-21-14D

22883



ILLUSTRATIONS FOR REFERENCE ONLY!
- COMPONENT LOCATIONS MAY DIFFER -

HYD. TANK DIMENSION (HTD) CHART			
DIMENSION	PART NO.	22786 (25 GAL.)	22999 (40 GAL.)
'A'		3"	3"
'B'		3"	3"
'C'		4"	4"
'D'		4"	5.5"
'E'		8"	11"
'J'		5"	6"
'K'		30"	30"
'L'		5"	6"
'M'		4"	5.5"
'P'		40"	42"
'Q'		2"	2"
'R'		2"	2"
'S'		5"	5"
'X'		18"	20"

MEASUREMENTS EXCLUDE MOUNTING APARATUSES

MOUNTING DIMENSION (TMD) CHART			
DIMENSION	PART NO.	22786 (25 GAL.)	22999 (40 GAL.)
'F'		9.75"	12"
'G'		4.875"	6"
'H'		3"	3"
'N'		42"	44"
'T'		17.875"	19.875"
'U'		19"	21"
'V'		8.938"	9.938"

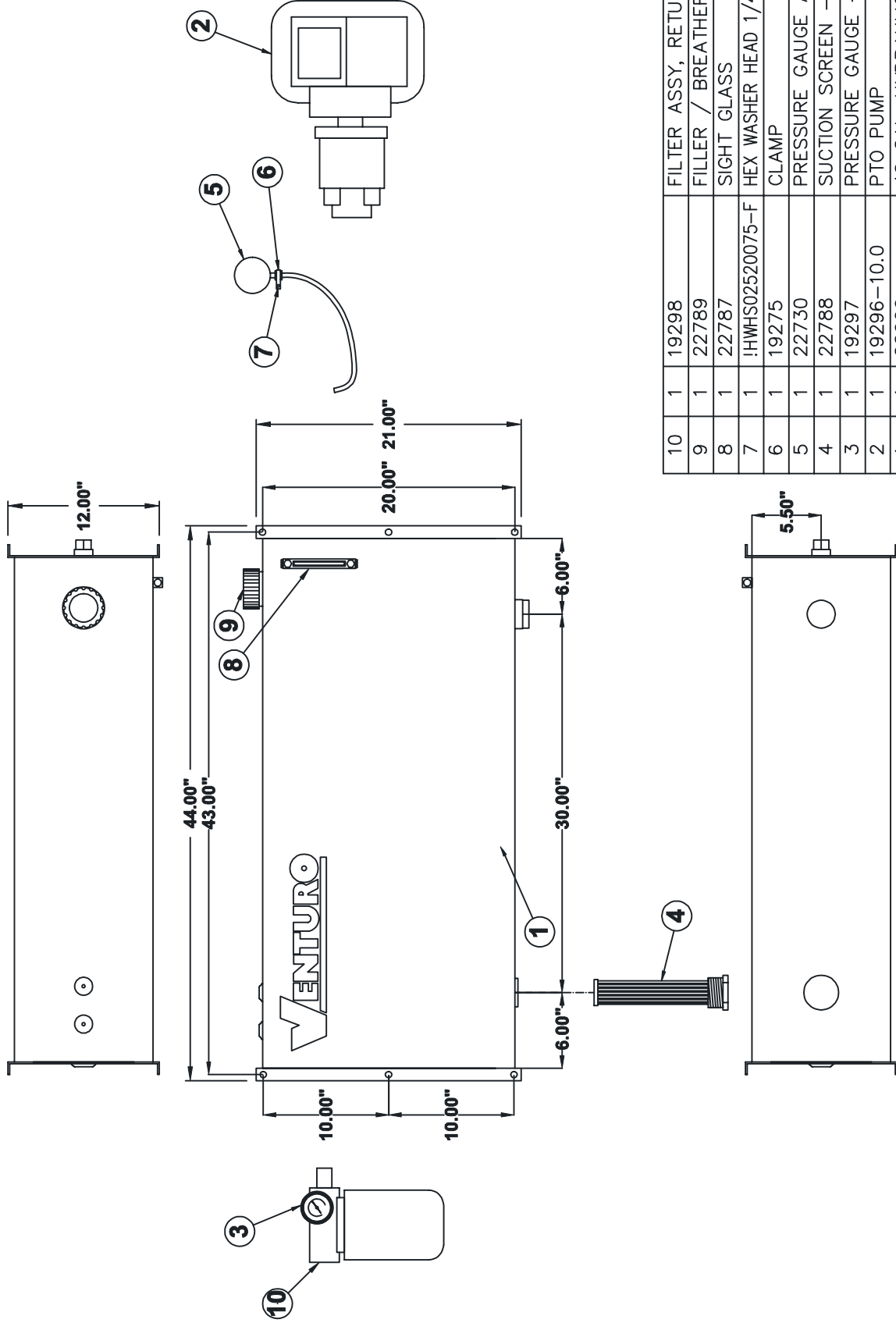
MEASUREMENTS INCLUDE MOUNTING APARATUSES



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE	DATE	SECTION
RESERVOIR DIMENSIONS	02-21-14E	C200
HYD. TANKS (25/40 GAL.)	SUPERSEDES 06-04-13D	22825

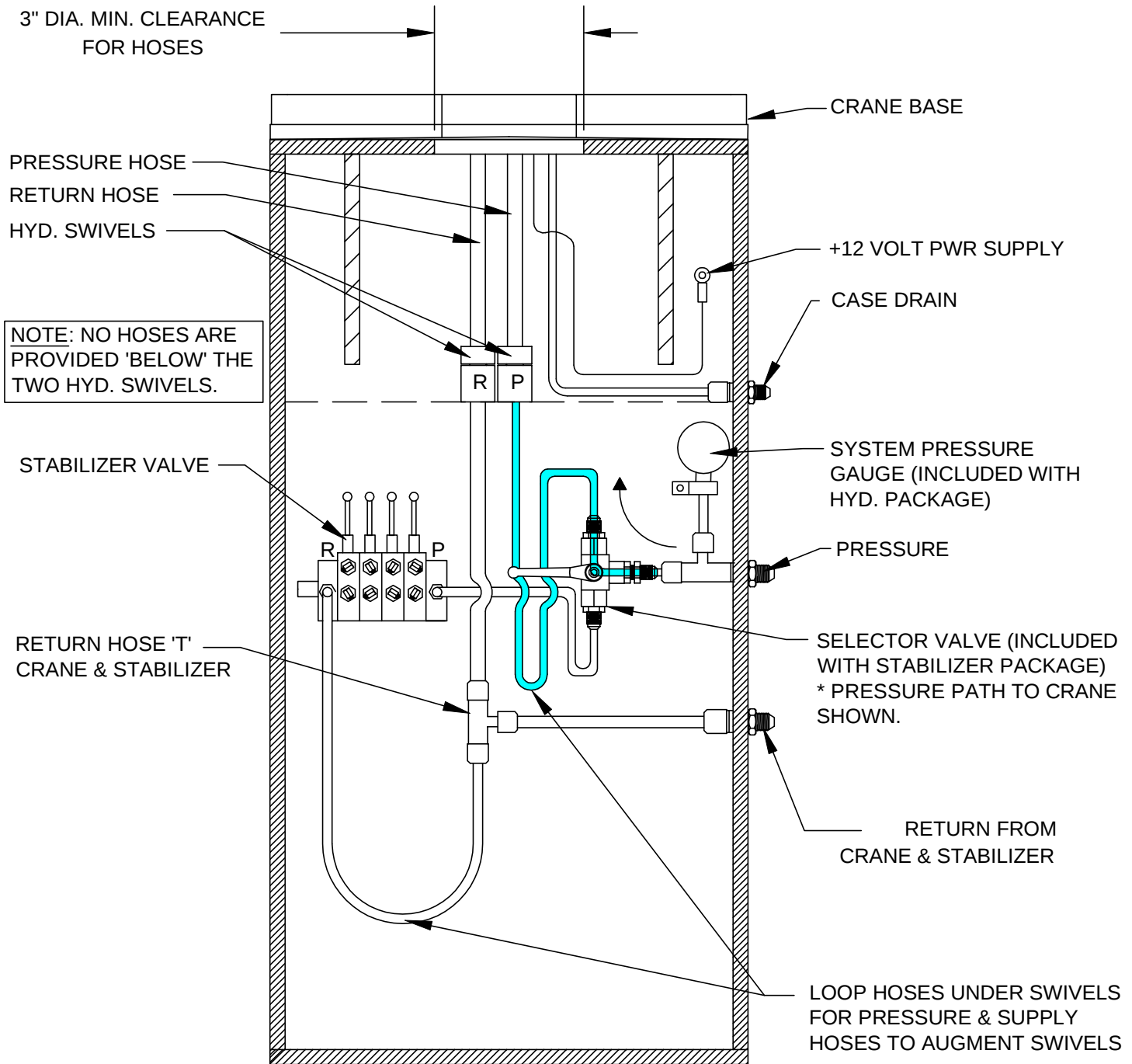
22998 RESERVOIR KIT



10	1	19298	FILTER ASSY, RETURN - 100 MESH
9	1	22789	FILLER / BREATHER CAP ASSEMBLY
8	1	22787	SIGHT GLASS
7	1	!HWH02520075-F	HEX WASHER HEAD 1/4-20 X 3/4 SELF TAPPING
6	1	19275	CLAMP
5	1	22730	PRESSURE GAUGE ASSEMBLY
4	1	22788	SUCTION SCREEN - 100 MESH
3	1	19297	PRESSURE GAUGE - RETURN
2	1	19296-10.0	PTO PUMP
1	1	22999	40 GAL. HYDRAULIC TANK
ITEM	QTY	PART NUMBER	DESCRIPTION

VENTURO MANUFACTURING, INC. CINCINNATI, OHIO	TITLE		DATE	SECTION
	PTO REPLACEMENT PARTS DRAWING		5-25-11A	-
	HT66KX		SUPSEDES	23002
		5-25-10		

RECOMMENDED SUPPLY & RETURN HOSE CONNECTIONS CRANE & STABILIZERS



CAUTION

- SELECTOR VALVE MUST BE 'NON-CLOSED CENTER TRANSITION' TYPE VALVE.



CAUTION

- CASE DRAIN MUST RETURN DIRECTLY TO RESERVOIR WITHOUT RESTRICTION.



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
CONNECTIONS GUIDE

HT CRANES

DATE
02-21-14F

SUPERSEDES
10-24-12E

SECTION
C200

22913

WIRE ROPE INSTALLATION

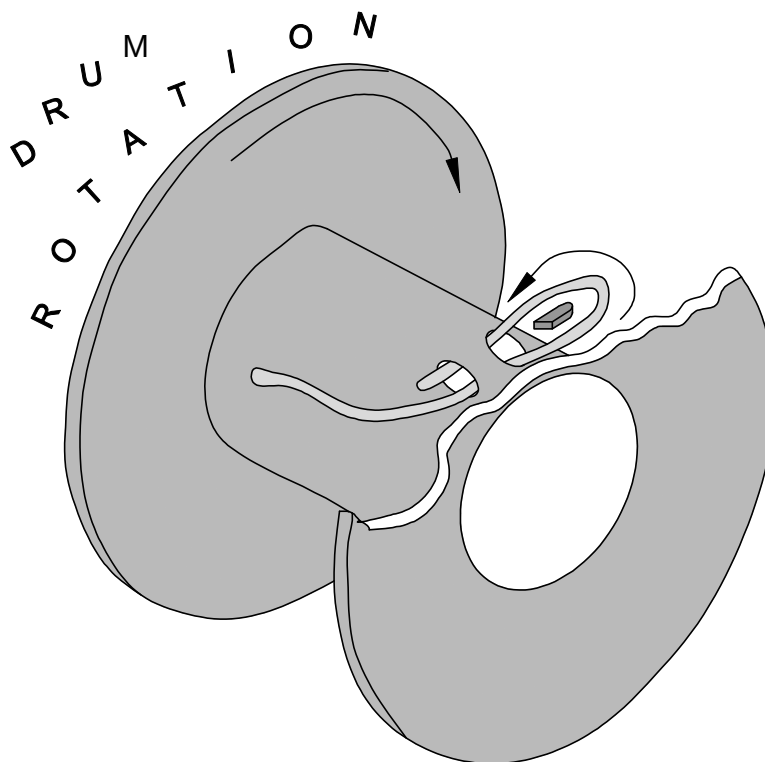


FIG. 1

- STEP 1: UNWIND COIL OF WIRE ROPE BY 'ROLLING' ALONG THE FLOOR. THIS WILL PREVENT 'KINKING'.
- STEP 2: INSERT WIRE ROPE END UP THROUGH ANTI-2-BLOCK (A2B) CAGE ASSEMBLY, BETWEEN CHEEK PLATES, OVER THE TOP SHEAVE, AND THROUGH WIRE ROPE GUIDE.
- STEP 3: INSERT WIRE ROPE END INTO POCKET OPENING ON WINCH, WRAP AROUND WEDGE, AND BACK THROUGH POCKET OPENING AS SHOWN IN FIGURE 1.



CAUTION

- IF THE WIRE ROPE IS NOT INSTALLED FOR THE CORRECT DRUM ROTATION, THE WINCH BRAKE VALVE WILL NOT HOLD THE LOAD.



CAUTION

- THERE MUST ALWAYS BE AT LEAST [5] DEAD WRAPS OF WIRE ROPE ON THE WINCH DRUM WHILE UNDER LOAD.

NOTE: SOME WINCHES MAY BE SUPPLIED WITH A HEX NUT IN LIEU OF A WEDGE FOR INSTALLING THE WIRE ROPE.



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE

WIRE ROPE INSTALLTN

DATE

02-21-14K

SECTION

C200

ET6K & LARGER CRANES

SUPERSEDES

12-26-13J

22245

SECTION 300

MAINTENANCE

&

SERVICE

MAINTENANCE OVERVIEW INFORMATION

MAINTENANCE

The crane requires only periodic lubrication. As a standard procedure, this can be done at the time the vehicle is serviced.

GENERAL

Inspect wire rope for any evidence of kinks or fraying. Ensure that lifting hook of wire rope shows no evidence of damage and is functioning normally.

Inspect headache ball ("load block") for any signs of damage or excessive wear.

Service all grease fitting locations.

Inspect hydraulic hoses and hydraulic fittings for hydraulic leaks.

Inspect electrical connections for any looseness or corrosion.

Inspect bolts and verify all are tight, paying particular attention to winch, rotation system, and mounting base bolts.

Inspect all pins and snap rings for proper fit and function.

Inspect sheaves for excessive wear or play.

WINCH

Perform a basic inspection of the winch with each use, monitoring for unusual noise or hydraulic leaks.

The winch planetary gearbox lube (SAE 90) should be maintained at the level plug (final base relief valve port) which is approximately half-full point.

To ensure optimal winch performance, the following oil change schedule should be followed:

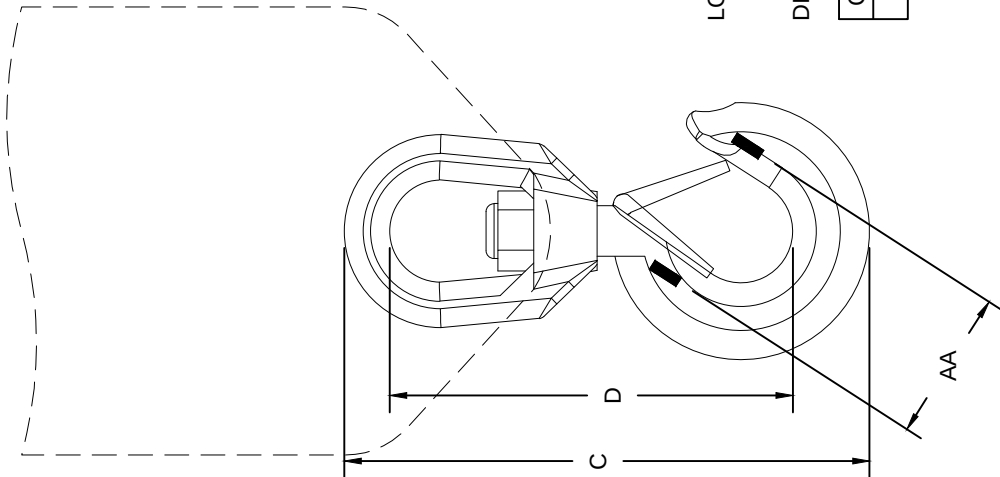
Initial Change - after the initial 100 hours of operation or two months.

Periodic Change - after every 1000 hours of operation or two years .



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE	DATE	SECTION
MAINTENANCE INFO	02-21-14C	C300
HT25/30/40/50/66K(X)	SUPERSEDES 04-12-12B	23203

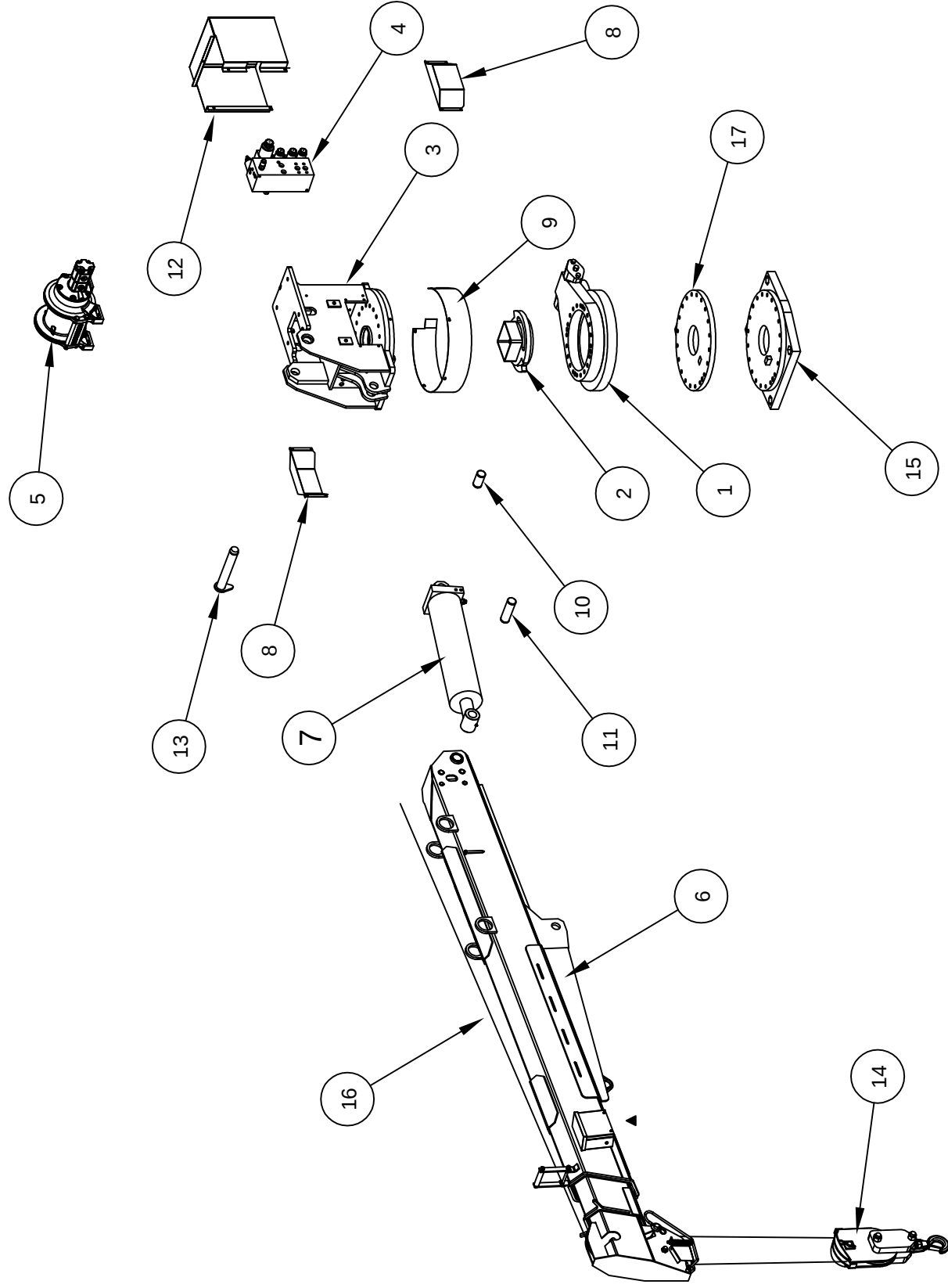
WIRE ROPE ASSEMBLY		LOAD BLOCK ASSEMBLY											
WIRE ROPE: 7/16" DIA, 100' LONG ▲ GAC 6X25 XIP-LHRL-IWRC, SB 20,400 LBS  TERMINATES IN THIMBLE NO HOOK		LOAD BLOCK HOOK: RATING: 5 TONNE (11,023 LBS) DIMENSIONS: <table><tr><td>COLOR</td><td>BRAND</td><td>AA</td><td>C</td><td>D</td></tr><tr><td>GOLD</td><td>CROSBY</td><td>2.50"</td><td>9.69"</td><td>7.50"</td></tr></table>		COLOR	BRAND	AA	C	D	GOLD	CROSBY	2.50"	9.69"	7.50"
COLOR	BRAND	AA	C	D									
GOLD	CROSBY	2.50"	9.69"	7.50"									
VENTURO® Venco VENTURO INDUSTRIES LLC CINCINNATI, OHIO		TITLE WIRE ROPE & HOOK SPECIFICATIONS HT66KX											
		DATE 05-09-16B	SECTION C300										
		SUPERSEDES 11-17-11A	23232										

SECTION 400

PARTS



HT66KXX REPLACEMENT PARTS DRAWING



REF PARTS LIST DRAWING 27329



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
REPLACEMENT PARTS DRAWING

HT66KXX

DATE
12-11-18C

SUPERSEDES
07-29-14B

SECTION
C400

27328

HT66KXX REPLACEMENT PARTS LIST

17	1	27710	SPACER PLATE
16	1	27587-7/16-100	WIRE ROPE ASSEMBLY 7/16" X 100 FT.
15	1	27708	BASE PLATE WELDED ASSEMBLY
14	1	27254	SNATCH BLOCK ASSEMBLY
13	1	22721	PIVOT PIN - MAIN BOOM PIVOT
12	1	27505	REAR COVER
11	1	27503	ELEVATION CYLINDER PIN - OUTBOARD
10	1	27502	ELEVATION CYLINDER PIN - INBOARD
9	1	27406	SLEWING RING COVER
8	2	27400	HOUSING SIDE COVER
7	1	21750	6 X 20.125 CYLINDER
6	1	27260	BOOM FINAL ASSEMBLY
5	1	27274	HYDRAULIC WINCH - HT66
4	1	22736H-1	VALVE MANIFOLD; HI-FLOW, 3000 PSI
3	1	27284	HOUSING WELDED ASSEMBLY
2	1	27296	ROTATION STOP ASSEMBLY
1	1	27275	SLEWING RING
ITEM NO.	QUANTITY	PART NUMBER	DESCRIPTION

REF PARTS DWG 27328



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
REPLACEMENT PARTS LIST

HT66KXX

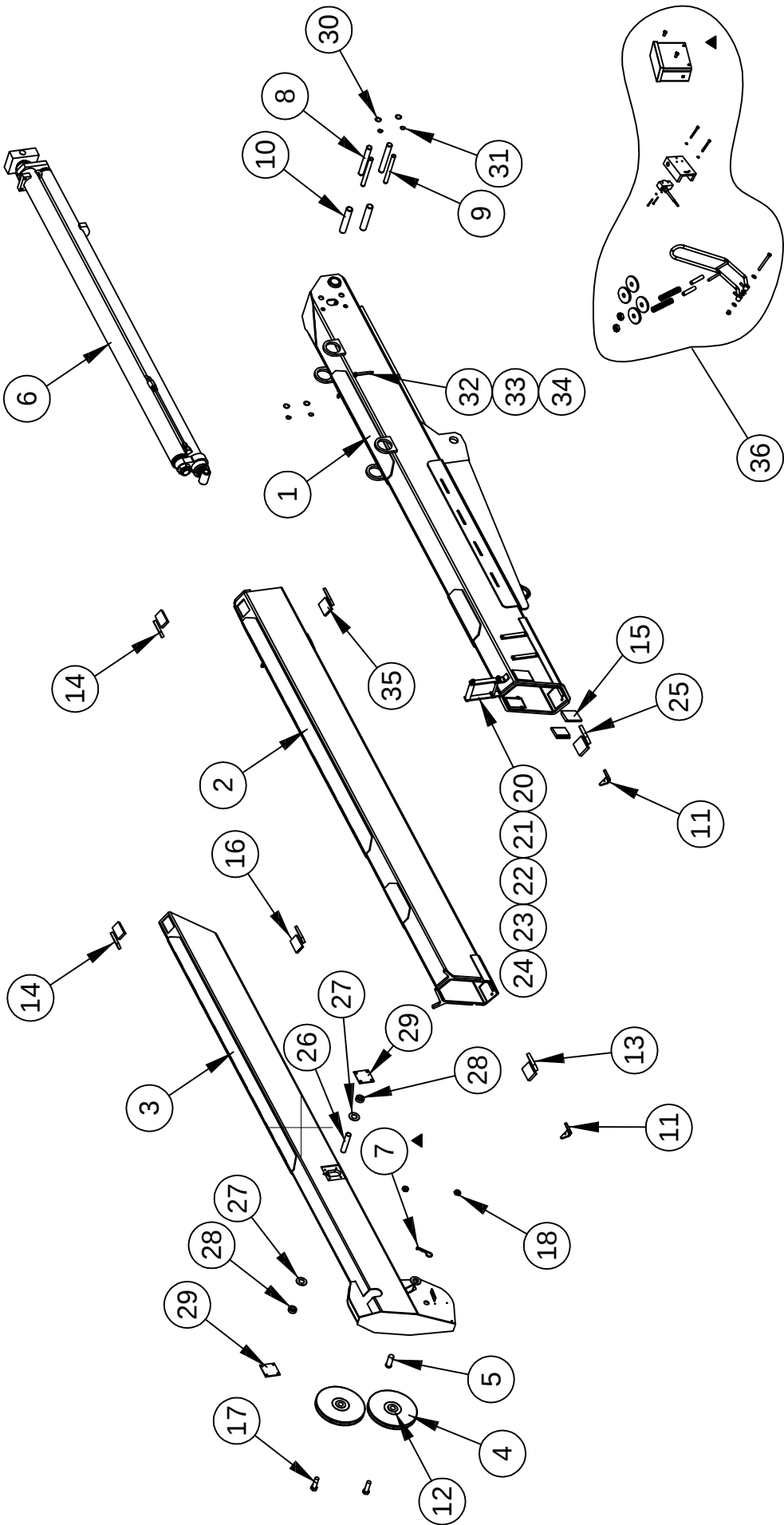
DATE
07-29-14E

SUPERSEDES
04-19-13D

SECTION
C400

27329

27260 BOOM REPLACEMENT PARTS DRAWING



REFERENCE REPLACEMENT PARTS LIST 27331

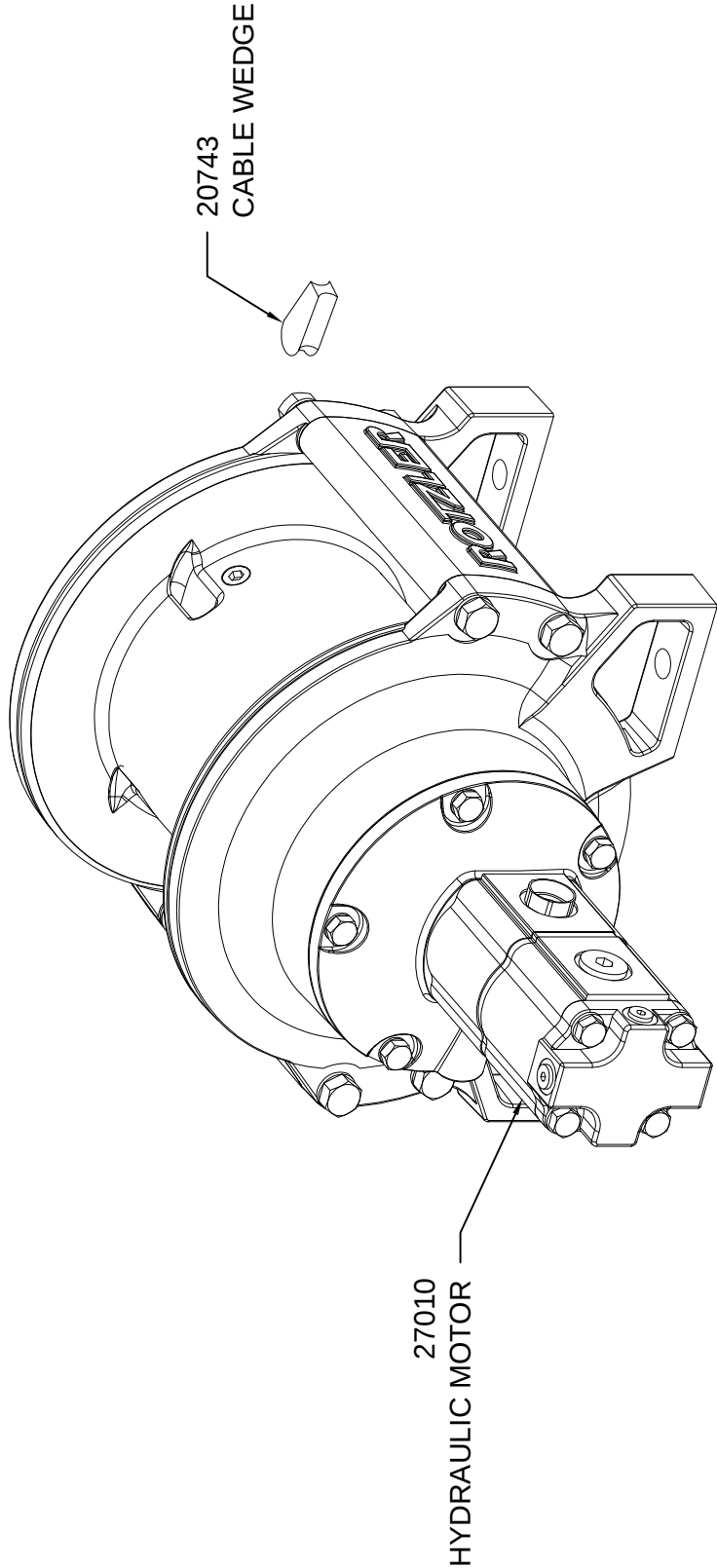
 VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO	TITLE REPLACEMENT PARTS DRAWING		DATE 12-11-18E	SECTION C400
	HT66KX		SUPERSEDES 10-29-12D	27330

27260 BOOM REPLACEMENT PARTS LIST

36	1	21966	ANTI-2-BLOCK MECHANICAL ASSEMBLY
35	2	23217-2	UHMW PAD
34	2	IANUT-02520S	ACORN NUT 1/4-20 STAINLESS
33	2	13459-2	BOOM ARROW 4-7/16 LONG
32	2	22490	SPACER, BOOM ARROW 1/2" O.D.
31	4	!SRNG-075	RETAINING RING - 3/4" SHAFT DIA.
30	4	!SRNG-100	RETAINING RING - 1" SHAFT DIA.
29	2	23116	PIN BLOCK REINFORCING
28	2	21428	BUSHING
27	2	!FWSH-100SAE	FLAT WASHER - 1-1/8 X 2-1/8 X 1/8 THICK
26	1	21405	PIN - CYLINDER
25	2	23217-4	UHMW PAD
24	2	!LNUT-04414	NYLON INSERT LOCK NUT - 7/16-14
23	1	21936	FLAT, MOUNT; WIRE ROPE GUIDE
22	1	21560	ROLLER, UHMW GUIDE
21	1	!HHC S04414550	HHCS - 7/16-14 X 5-1/2 LG
20	1	21935	WIRE-ROPE GUIDE WELDED
19	-	-	-
18	2	!LNUT-07510	LOCK NUT 3/4-10
17	2	17059-2	SHEAVE AXLE
16	2	23217-1	UHMW PAD
15	2	23217-13	UHMW PAD
14	4	23217-11	UHMW PAD
13	2	23217-3	UHMW PAD
12	2	27256	SPACER - FOR 27241 POLY SHEAVES
11	2	23183	V-BLOCK SLIDER
10	2	27283	EXTENSION CYLINDER THRUST ROLLER
9	2	27293	EXTENSION CYLINDER THRUST PIN - FRONT
8	2	27282	EXTENSION CYLINDER THRUST PIN - REAR
7	1	21-08	HAIRPIN COTTER
6	1	21751	EXTENSION CYLINDER
5	1	27272	1X2.5 CLEVIS PIN
4	2	27241	CABLE SHEAVE
3	1	27266	TERTIARY BOOM TUBE WELDED ASSEMBLY
2	1	27264	SECONDARY BOOM WELD ASSEMBLY
1	1	27262	PRIMARY BOOM TUBE WELDED ASSEMBLY
ITEM NO.	EXPLODED/QTY.	PART NUMBER	DESCRIPTION

REF PARTS DRAWING 27330

REPLACEMENT PARTS DRAWING; 27274 WINCH



WINCH SERVICE KIT P/N: 27011

MOTOR SERVICE KIT P/N: 27012 (511 MOTOR)



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
REPLACEMENT PARTS DRAWING

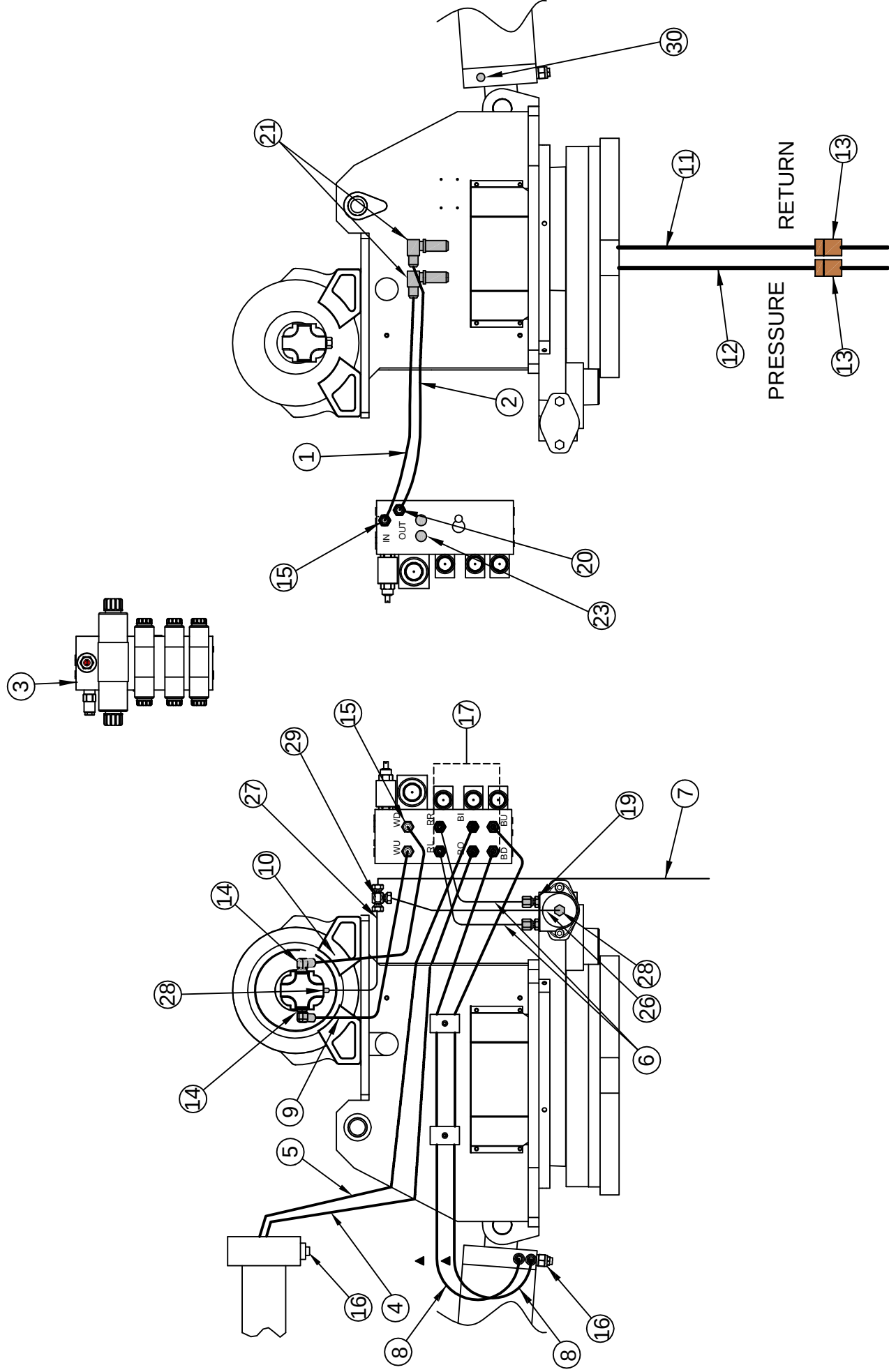
DATE
02-06-19A

SECTION
C400

HT66KX SERIES CRANES

SUPERSEDES
01-22-09

27332



REPLACEMENT PARTS LIST REF 27333



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE

REPLACEMENT PARTS DRAWING

DATE

08-19-14H

SECTION

C400

SUPERSEDES

06-18-13G

HT66KXX PROP. HYD. COMPONENTS

27336

HYDRAULIC SYSTEM COMPONENTS - HT66KX CRANES

REPLACEMENT PARTS LIST

ITEM	PART NUMBER	DESCRIPTION
1	27584	HOSE; PRESSURE
2	27618	HOSE; RETURN
3	22736H-1	VALVE MANIFOLD; HI-FLOW, 3000 PSI
4	27592	▲ HOSE; BOOM OUT
5	27593	▲ HOSE; BOOM IN
6	27598	HOSES; ROTATION LEFT & ROTATION RIGHT
7	22903	HOSE; CASE DRAIN, 96" LONG
8	27663	HOSES; BOOM UP & BOOM DOWN
9	27596	HOSE; WINCH UP
10	27597	HOSE; WINCH DOWN
11	27664	HOSE; RETURN, COMPARTMENT SIDE
12	27665	HOSE; PRESSURE, COMPARTMENT SIDE
13	22764	HYDRAULIC SWIVELS
14	FF6801-0810	HYDRAULIC ELBOW; 8OFS - 10MO, 90°
15	FF6400-0810	HYDRAULIC FITTING; 8OFS - 10MO
16	20893	COMMAND & CONTROL VALVE, ELEV./EXT. CYLINDERS
17	FF6400-0606	HYDRAULIC NIPPLE; 6OFS - 6MO
18	-	-
19	FF6400-0610	HYDRAULIC NIPPLE; 6OFS - 10MO
20	FF6400-0812	HYDRAULIC NIPPLE; 8OFS - 12MO
21	H2701LN-0808	HYDRAULIC BULKHEAD; 90° UNION W/ LOCK NUT
22	-	-
23	H6408-10	PLUG; 10MO
* 24	H304-C-08	CAP; JIC, #8
* 25	H2408-08	PLUG; JIC, #8
26	22952	HOSE; CASE DRAIN, 13" LONG
27	22953	HOSE; CASE DRAIN, 30" LONG
28	H6801-0404	HYDRAULIC ELBOW; 4MJ - 4MO
29	H2603-040404	HYDRAULIC ADAPTER; 4MJ - 4MJ - 4MJ, TEE-SHAPED
30	H5502-0404	HYDRAULIC ADAPTER; 4MP - 4FP, 90°

* NOT ILLUSTRATED ON REFERENCE DRAWING 27336



MANUFACTURING, INC.
CINCINNATI, OHIO

TITLE

RPLCMNT PARTS LIST

HT66KX PROPORTIONAL

DATE

06-18-13F

SUPERSEDES

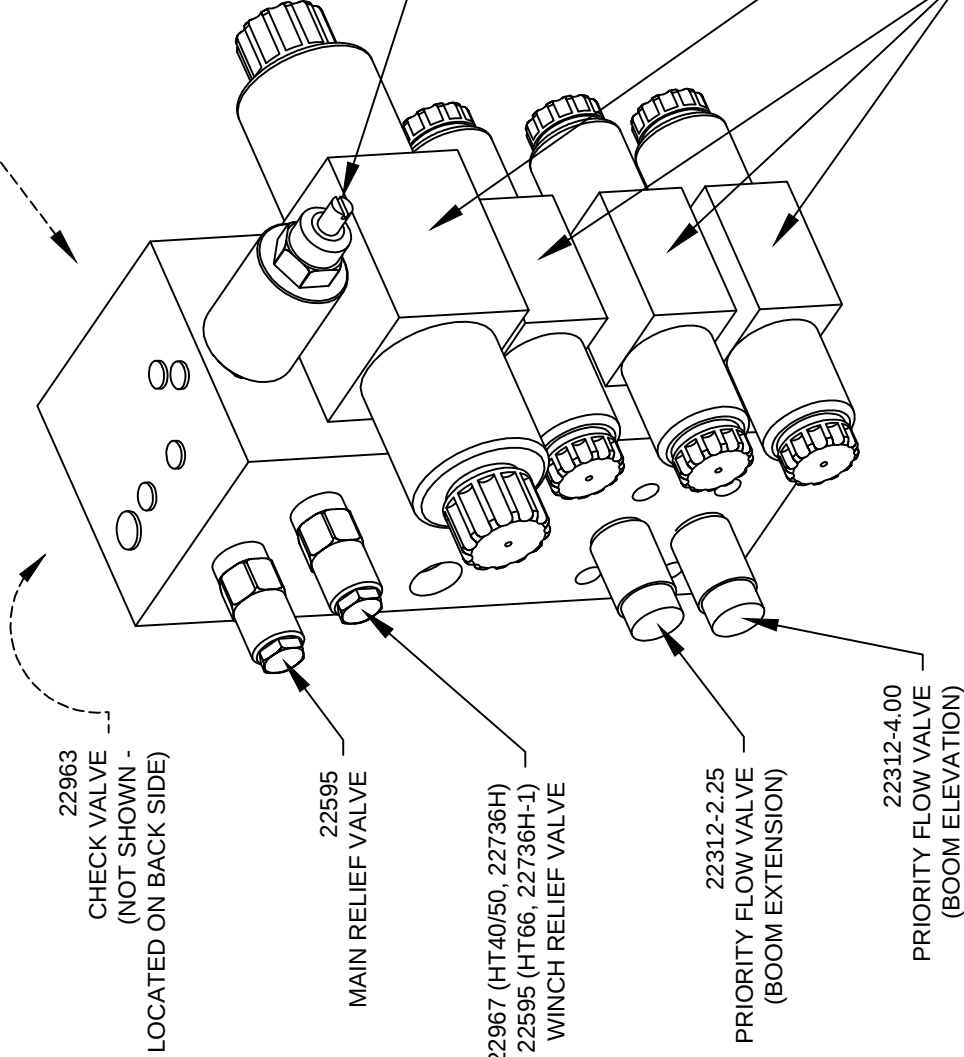
05-09-13E

SECTION

C400

27333

22736 SERIES VALVE MANIFOLD REPLACEMENT PARTS



PRIORITY FLOW VALVE		
VALVE P/N	MANIFOLD	CRANE
22312-6.00	22736H	HT40/50KX
	22736L	
22312-7.50	22736H-1	HT66KX
	22736L-1	
NOT SHOWN - LOCATED ON RIGHT SIDE		

PROPORTIONAL VALVE			
VALVE P/N & DESCRIPTION	MANIFOLD	CRANE MODEL	SERIAL # RANGES
23046 HYDRAFORCE (ROUND COIL)	22736H	HT40KX	100544 - CURRENT
		HT50KX	110346 - CURRENT
	22736H-1	HT66KX	150031 - CURRENT
22966 COMMAND CONTROLS (SQUARE COIL)	22736L	HT40KX	100300 - 100543
		HT50KX	110300 - 110345
	22736L-1	HT66KX	150000 - 150030



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
22736 REPLACEMENT PARTS

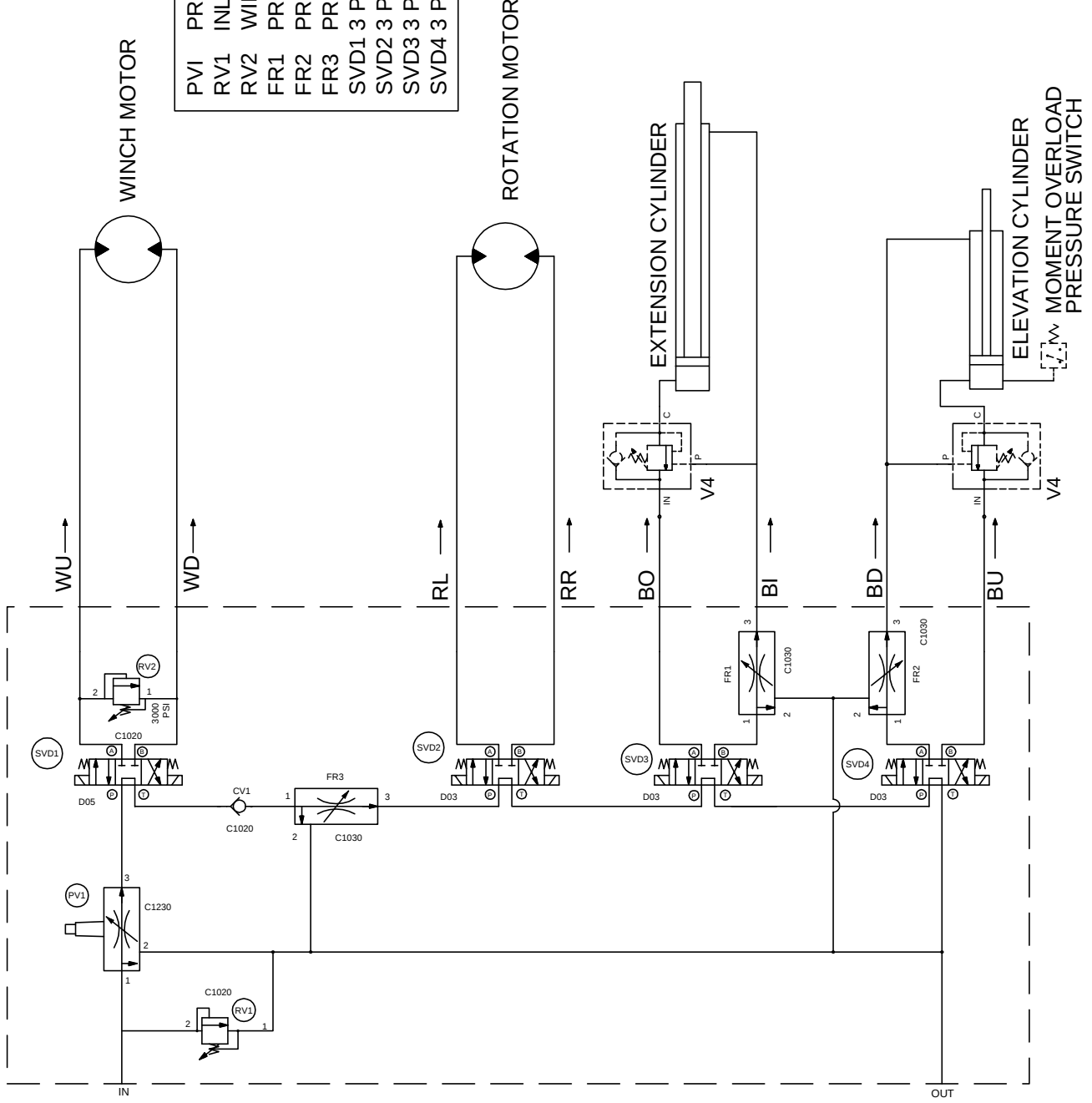
HT40/50/66KX PROPORTIONAL

DATE
11-13-17F

SUPERSEDES
02-21-14E

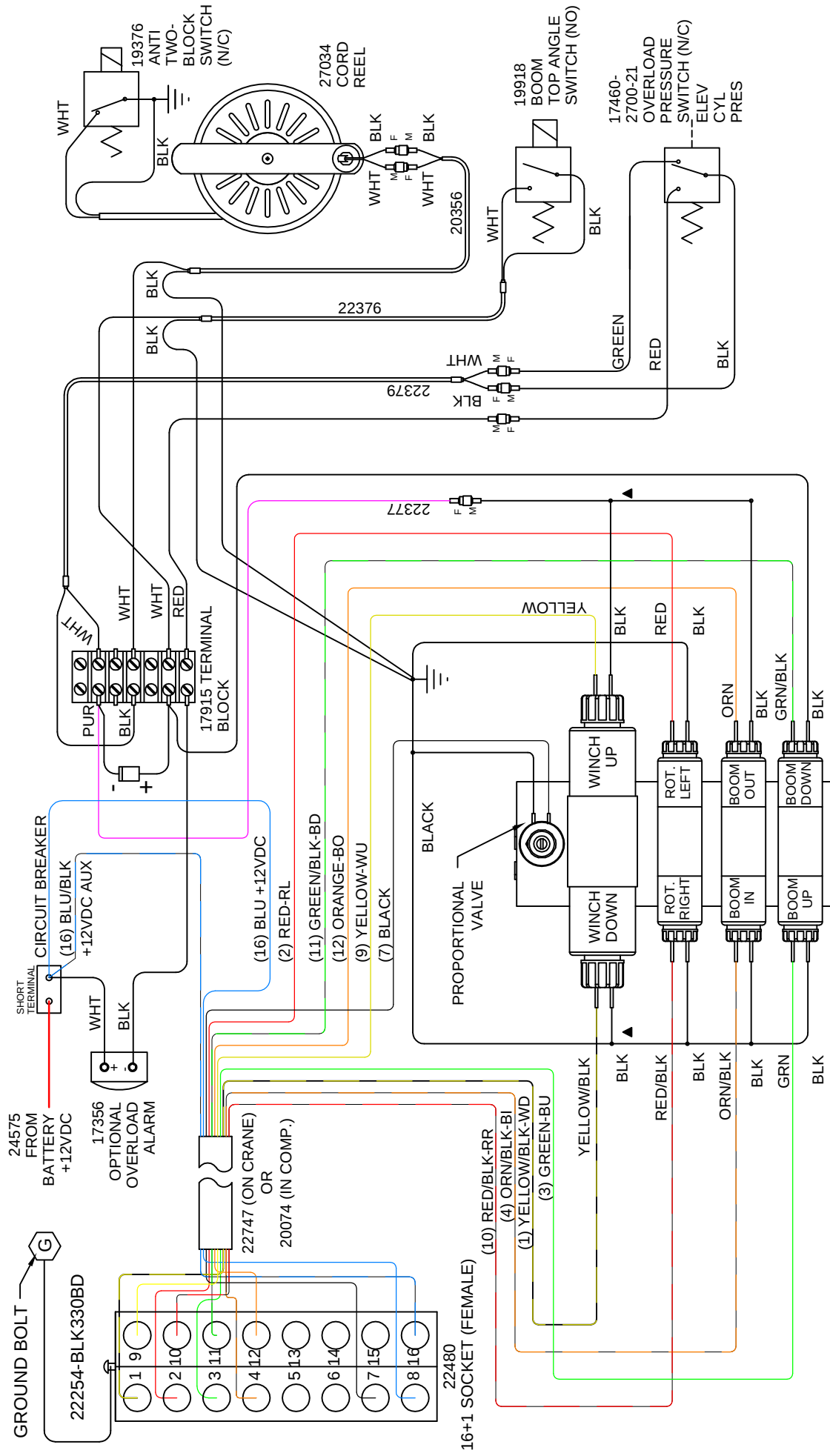
SECTION
C400

22940



- PV1 PROPORTIONAL CONTROL VALVE (SIMPLIFIED REP)
- RV1 INLET RELIEF VALVE (3000 PSI)
- RV2 WINCH RELIEF VALVE
- FR1 PRIORITY FLOW REGULATOR - 2.25 GPM
- FR2 PRIORITY FLOW REGULATOR - 4.00 GPM
- FR3 PRIORITY FLOW REGULATOR - 6.00 GPM
- SVD1 3 POSITION - 4 WAY VALVE
- SVD2 3 POSITION - 4 WAY VALVE
- SVD3 3 POSITION - 4 WAY VALVE
- SVD4 3 POSITION - 4 WAY VALVE

	VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO		TITLE	HYDRAULIC SYSTEM DIAGRAM	
	HT40/50/66KX; PROPORTIONAL		DATE	02-21-14B	SECTION
			SUPERSEDES	11-17-09A	C400
					27352



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

WIRING DIAGRAM

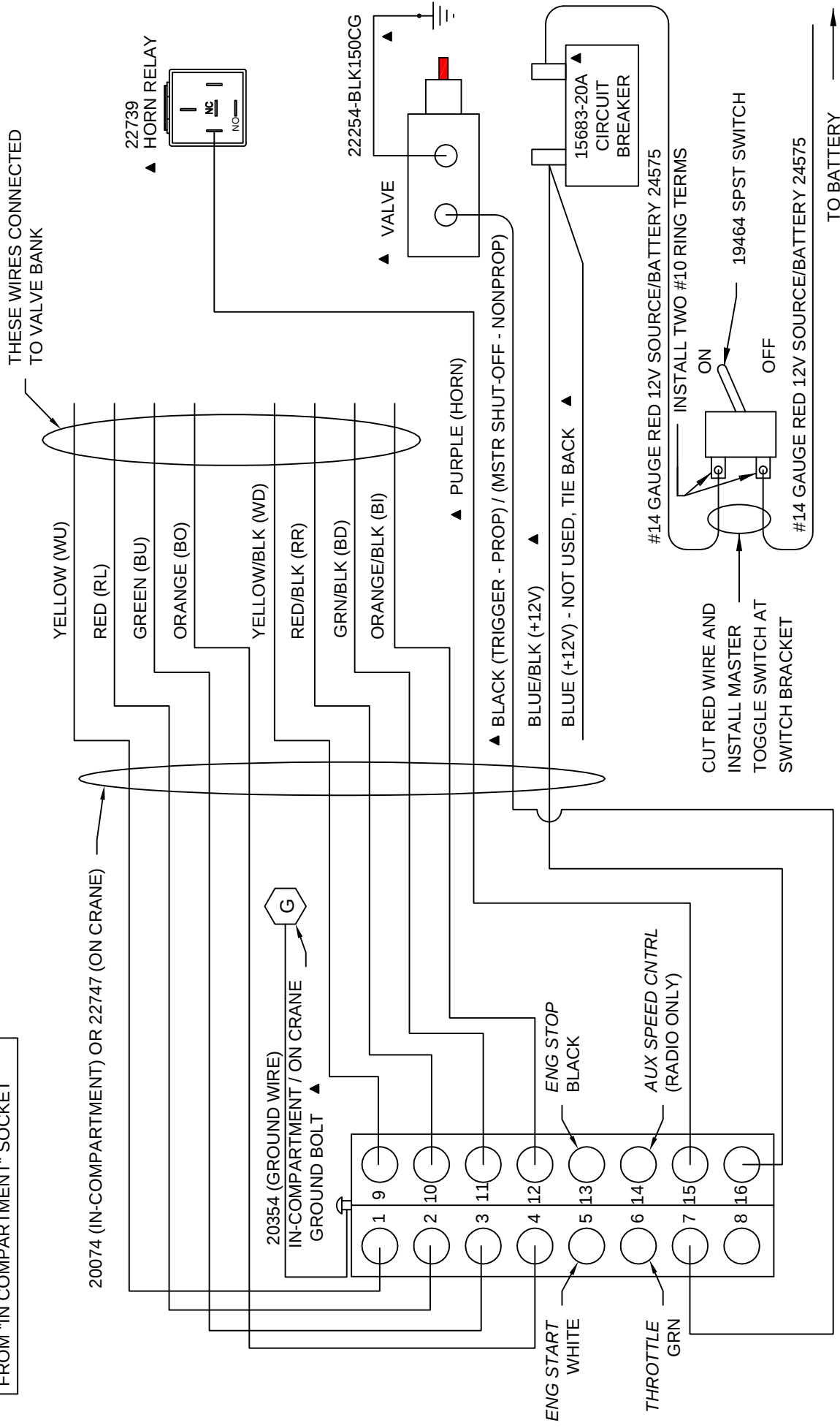
HT66KXX, PROPORTIONAL

DATE	SECTION
08-19-14A	C400
04-08-13	SUPERSEDES

13165

• SOCKET WIRING; 16-PIN, W/ OPTIONAL ENG CONTROLS

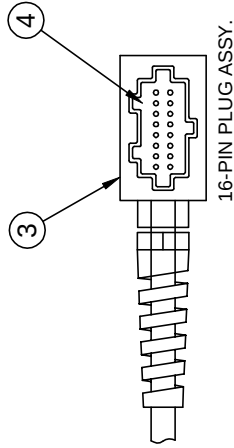
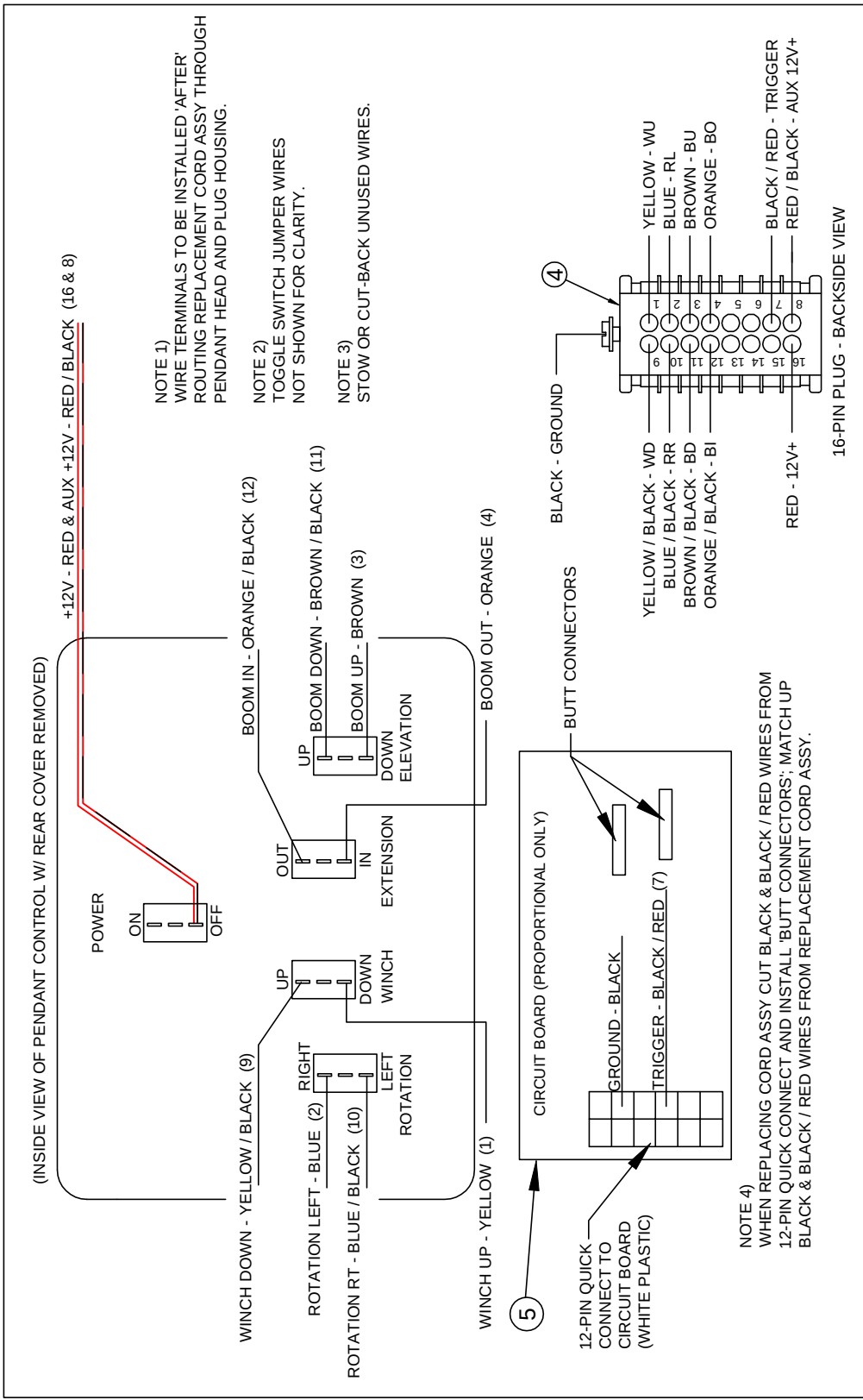
FROM "IN COMPARTMENT" SOCKET



ENGINE CONTROLS (#22616) SOLD AS AN OPTION (NOT INCLUDED WITH CRANE)

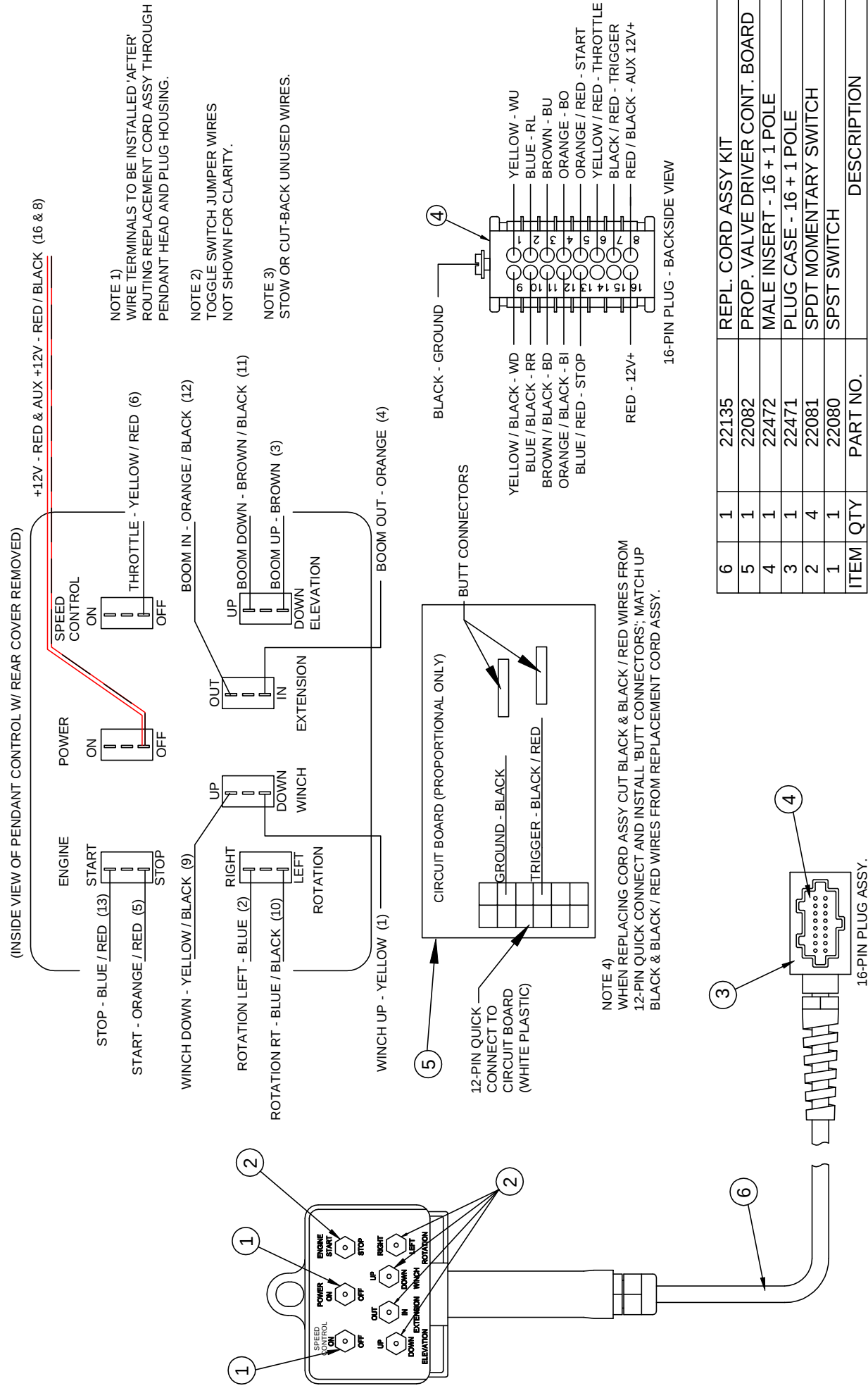
	VENCO VENTURO INDUSTRIES LLC CINCINNATI, OHIO		TITLE	SOCKET WIRING; 16 PIN		DATE	SECTION
	HT CRANES			02-17-15G		C400	
				02-21-14F			
							22125

CORD REPLACEMENT INSTRUCTIONS; 22118 PENDANT



ITEM	QTY	PART NO.	DESCRIPTION
6	1	22135	REPL. CORD ASSY. KIT
5	1	22082	PROP. VALVE DRIVER CONT. BOARD
4	1	22472	MALE INSERT - 16 + 1 POLE
3	1	22471	PLUG CASE - 16 + 1 POLE
2	4	22081	SPDT MOMENTARY SWITCH
1	1	22080	SPST SWITCH

CORD REPLACEMENT INSTRUCTIONS



6	1	22135	REPL. CORD ASSY KIT
5	1	22082	PROP. VALVE DRIVER CONT. BOARD
4	1	22472	MALE INSERT - 16 + 1 POLE
3	1	22471	PLUG CASE - 16 + 1 POLE
2	4	22081	SPDT MOMENTARY SWITCH
1	1	22080	SPST SWITCH
ITEM	QTY	PART NO.	DESCRIPTION

(INSIDE VIEW OF PENDANT CONTROL W/ REAR COVER REMOVED)

Wiring Diagram Components:

- Terminal Block:** +12V - RED & AUX (8 & 16), E-STOP, CB POWER, JUMPER (COMMON).
- Speed Control:** SPEED CONTROL ON/OFF, THROTTLE - BLUE / RED (6).
- Horn:** HORN, ENGINE START, STOP.
- Winch:** WINCH UP - YELLOW (1), WINCH DOWN - YELLOW / BLACK (9), WINCH EXTENSION.
- Rotation:** ROTATION LEFT - BLUE (2), ROTATION RT - BLUE / BLACK (10), ROTATION.
- Boom:** BOOM IN - ORANGE / BLACK (12), BOOM DOWN - BROWN / BLACK (11), BOOM UP - BROWN (3), BOOM OUT - ORANGE (4).

Legend:

- OUTPUT - YELLOW / RED (15)
- STOP - ORANGE / BLUE (13)
- START - ORANGE / RED (5)
- WINCH DOWN - YELLOW / BLACK (9)
- ROTATION LEFT - BLUE (2)
- ROTATION RT - BLUE / BLACK (10)
- WINCH UP - YELLOW (1)
- WINCH EXTENSION
- BOOM IN - ORANGE / BLACK (12)
- BOOM DOWN - BROWN / BLACK (11)
- BOOM UP - BROWN (3)
- BOOM OUT - ORANGE (4)

12-PIN QUICK CONNECT TO CIRCUIT BOARD (WHITE PLASTIC)

- 12V+ - RED
- GROUND - BLACK
- TRIGGER - BROWN / RED (7)

CIRCUIT BOARD (PROPORTIONAL ONLY)

16-PIN PLUG - BACKSIDE VIEW

- YELLOW / BLACK - WD
- BLUE / BLACK - RR
- BROWN / BLACK - BD
- ORANGE / BLACK - BI
- ORANGE / BLUE - STOP
- YELLOW / RED - HORN
- RED - 12V+
- YELLOW - WU
- BLUE - RL
- BROWN - BU
- ORANGE - BO
- ORANGE / RED - START
- BLUE / RED - THROTTLE
- BROWN / RED - TRIGGER
- RED / BLACK - AUX 12V+

16-PIN PLUG ASSY.

Table:

ITEM	QTY	PART N
8	1	2215
7	1	2215
6	1	2213
5	1	2208
4	1	2247
3	1	2247
2	5	2208
1	1	2208

WIRE TERMINALS TO BE INSTALLED 'AFTER'
ROUTING REPLACEMENT CORD ASSY
THROUGH PENDANT HEAD AND PLUG
HOUSING.

STOW OR CUT BACK UNUSED WIRES.

WHEN REPLACING CORD ASSY, CUT BLACK AND BLACK / RED WIRES FROM 12-PIN QUICK CONNECT AND INSTALL 'BUTT CONNECTORS'; MATCH UP BLACK TO BLACK WIRES AND BLACK / RED TO BLACK / RED WIRES FROM REPLACEMENT CORD ASSY.

<u>MODEL</u>	<u>STARTING S/N</u>
HT25K(X)	120300
HT30K(X)	115300
HT40K(X)(X)	100900
HT50K(X)(X)	110600
HT66KXX	150300

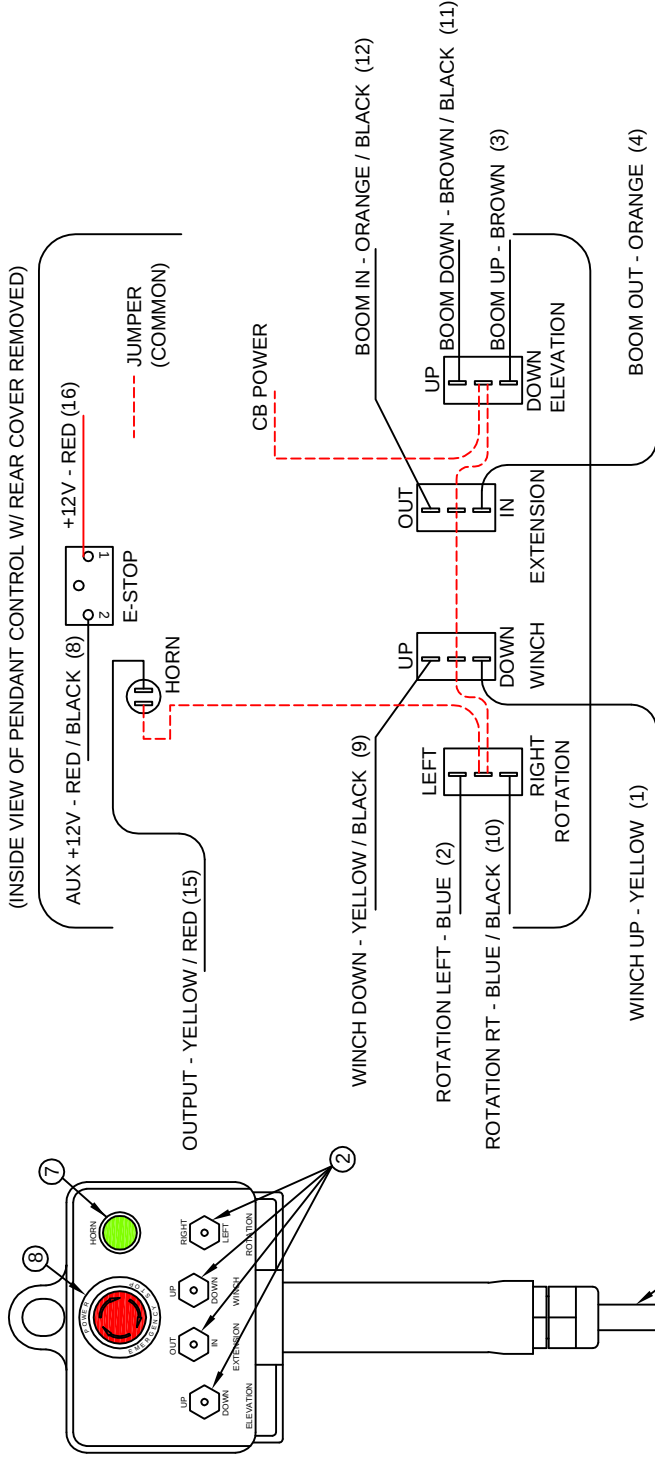
8	1	22156	SWITCH; E-STOP
7	1	22155	SWITCH; PUSHBUTTON, HORN
6	1	22135	KIT; REPLACEMENT CORD ASSY
5	1	22082	CIRCUIT BOARD; PROP VALVE CONTROLLER
4	1	22472	INSERT; MALE, 16 + 1 POLE
3	1	22471	PLUG CASE; 16 + 1 POLE
2	5	22081	SWITCH; SPDT, MOMENTARY
1	1	22080	SWITCH; SPST
ITEM	QTY	PART NO.	DESCRIPTION

TITLE	DATE	SECTION
REPLACEMENT PARTS DWG & LIST	10-03-14	C400
21987 PENDANT; PROP, ENG CNTL, ESTP/HRN	SUPERSEDES -	23072



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

21988 PENDANT; PROP, NO ENG CNTRL, E-STOP / HORN



NOTE 1:

WIRE TERMINALS TO BE INSTALLED 'AFTER' ROUTING REPLACEMENT CORD ASSY THROUGH PENDANT HEAD AND PLUG HOUSING.

NOTE 2:

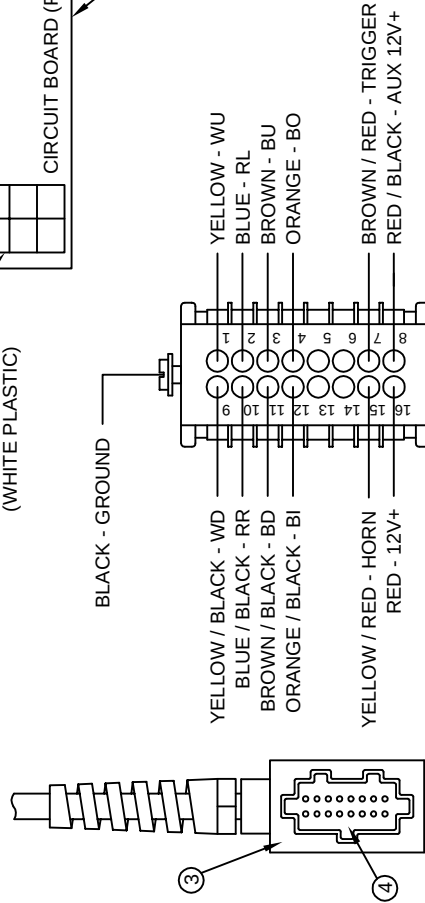
STOW OR CUT BACK UNUSED WIRES.

NOTE 3:

WHEN REPLACING CORD ASSY, CUT BLACK AND BLACK / RED WIRES FROM 12-PIN QUICK CONNECT AND INSTALL 'BUTT CONNECTORS'; MATCH UP BLACK TO BLACK WIRES AND BLACK / RED TO BLACK / RED WIRES FROM REPLACEMENT CORD ASSY.

MODEL

MODEL	STARTING S/N
HT25K(X)	120300
HT30K(X)	115300
HT40K(X)	100900
HT50K(X)	110600
HT66KXX	150300



ITEM	QTY	PART NO.	DESCRIPTION
8	1	22156	SWITCH; E-STOP
7	1	22155	SWITCH; PUSHBUTTON, HORN
6	1	22135	KIT; REPLACEMENT CORD ASSY
5	1	22082	CIRCUIT BOARD; PROP VALVE CONTROLLER
4	1	22472	INSERT; MALE, 16 + 1 POLE
3	1	22471	PLUG CASE; 16 + 1 POLE
2	4	22081	SWITCH; SPDT, MOMENTARY
1	-	-	-

16-PIN PLUG ASSY.

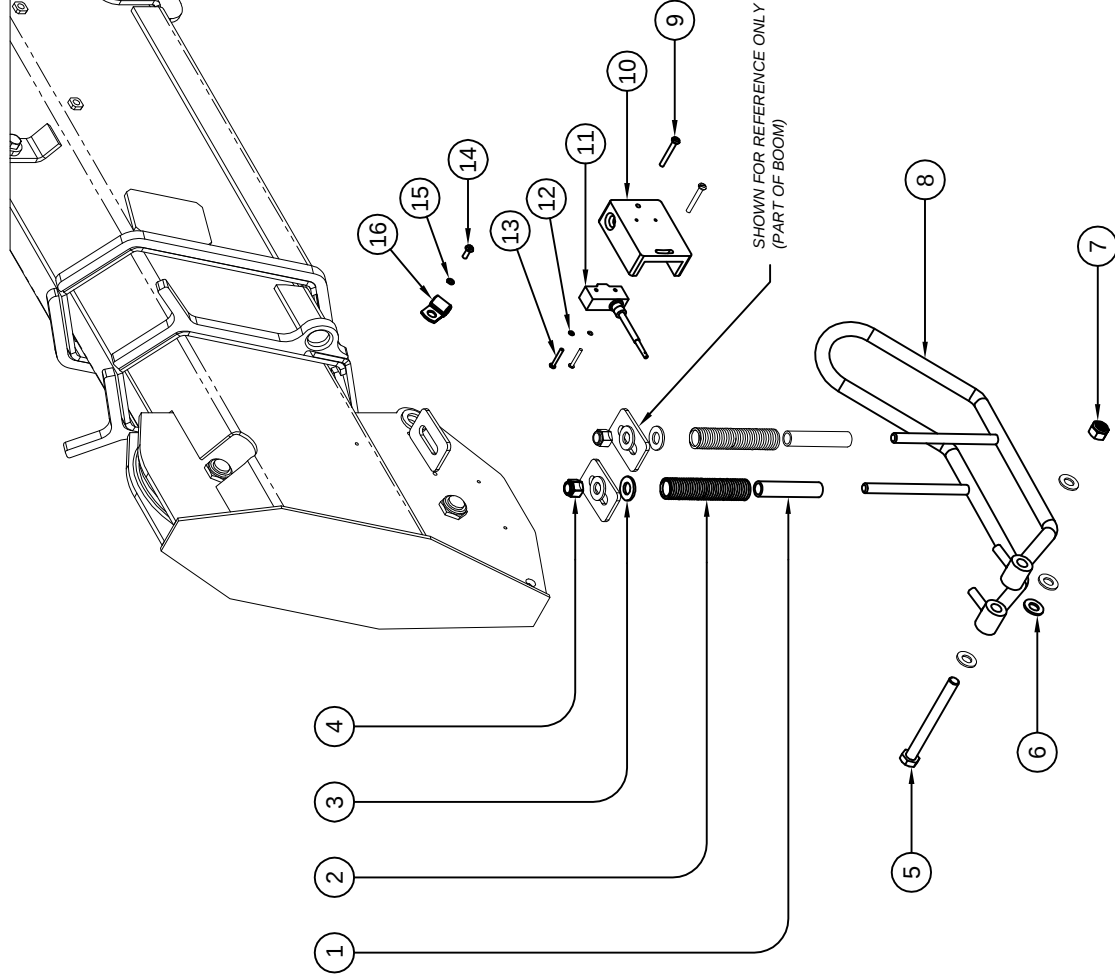
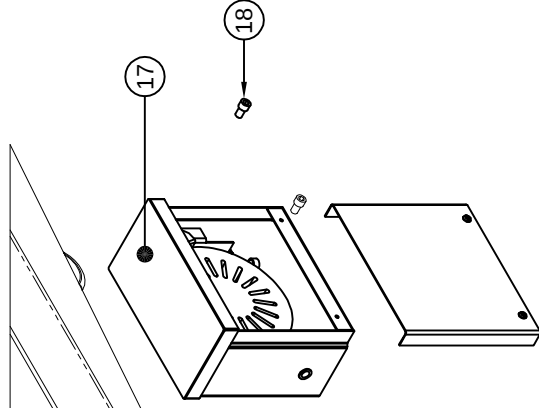
16-PIN PLUG - BACKSIDE VIEW



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

REPLACEMENT PARTS DWG & LIST

TITLE	DATE	SECTION
21988 PNDNT; PROP, NO ENG CNT, ESTP/HRN	10-03-14	C400
21988 PNDNT; PROP, NO ENG CNT, ESTP/HRN	SUPSEDES	23073



FOR RT-HAND MOUNTING, USE CORD REEL 22683-1

ITEM	PART NO.	QTY	DESCRIPTION
1	27579	2	TUBE; SPRING LOCATING
2	27586	2	SPRING; A2B CAGE
3	!FWSH-050SAE	4	FLAT WASHER; 1/2" SAE, GR. 5
4	!JNUT-04414N	2	JAM NUT; 7/16-14, NYLON, GR. 5
5	!HHCSM12175130-8.8	1	HHCS; 12MM-1.75MM X 130MM
6	12534-4	4	BUSHING; 1/2" X 7/8", 14 GA
7	!LNUTM12X175	1	NYLON NUT; 12MM-1.75MM
8	21840	1	CAGE; ANTI-TWO BLOCK
9	!PHPMS#0632125S	2	PHCS; #6-32 X 1-1/4", S/S
10	21237	1	HOUSING; A2B SWITCH
11	19376	1	SWITCH; ANTI-TWO BLOCK
12	!LWSH-#06S	2	LOCK WASHER; #6, S/S
13	!PHPMS#0632100S	2	PHPMS; #6-32 X 1", S/S
14	!PHPMS#1024050S	1	PHPMS; #10-24 X 1/2", S/S
15	!LWSH-#10S	1	LOCK WASHER; #10, S/S
16	19269	1	CLAMP; CABLE, 1/4"
17	22683	1	CORD REEL ASS'Y; A2B
18	!SHCS03118050-SS	2	SHCS; 5/16-18 X 1/2", S/S



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
RPLCMNT PARTS - ANTI-TWO BLOCK

DATE
12-07-18C

SECTION
C400

HT66KX

SUPERSEDES

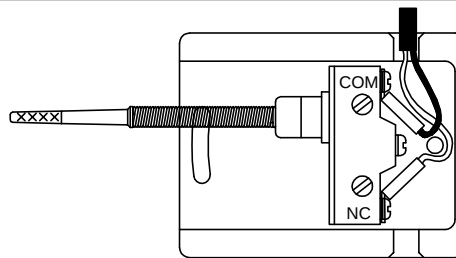
04-20-15B

21967

STEP 1

ANTI-TWO BLOCK (A2B) SWITCH WIRING

Connect the Black wire to the 'COM' (Common) terminal and the White wire to the 'NC' (Normally Closed) terminal. The center terminal is not used.



CUT-AWAY VIEW

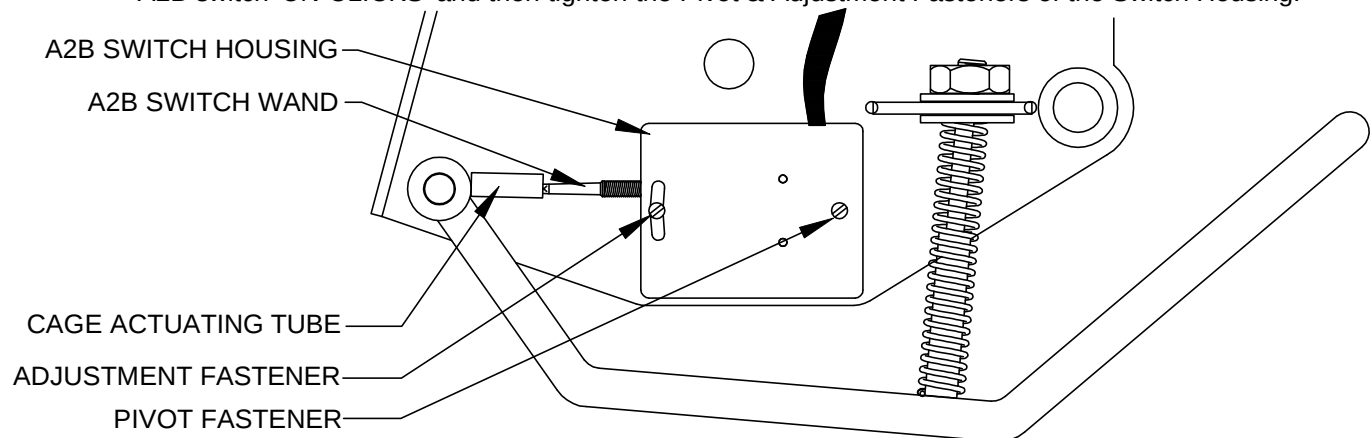
STEP 2

ANTI-TWO BLOCK (A2B) SWITCH ADJUSTMENT

The A2B switch is adjusted by loosening the Pivot & Adjustment Fasteners of the A2B switch housing.

Once loosened the A2B switch and housing move freely pivoting on the 'Pivot Fastener' allowing the 'Switch Wand' to be adjusted to the 'Cage Actuating Tube'.

With the A2B Switch Wand inserted into the Cage Actuating Tube rotate the A2B switch housing Counter-Clockwise until you hear the 'click' of the A2B switch then rotate Clockwise 'just until' the A2B switch 'UN-CLICKS' and then tighten the Pivot & Adjustment Fasteners of the Switch Housing.

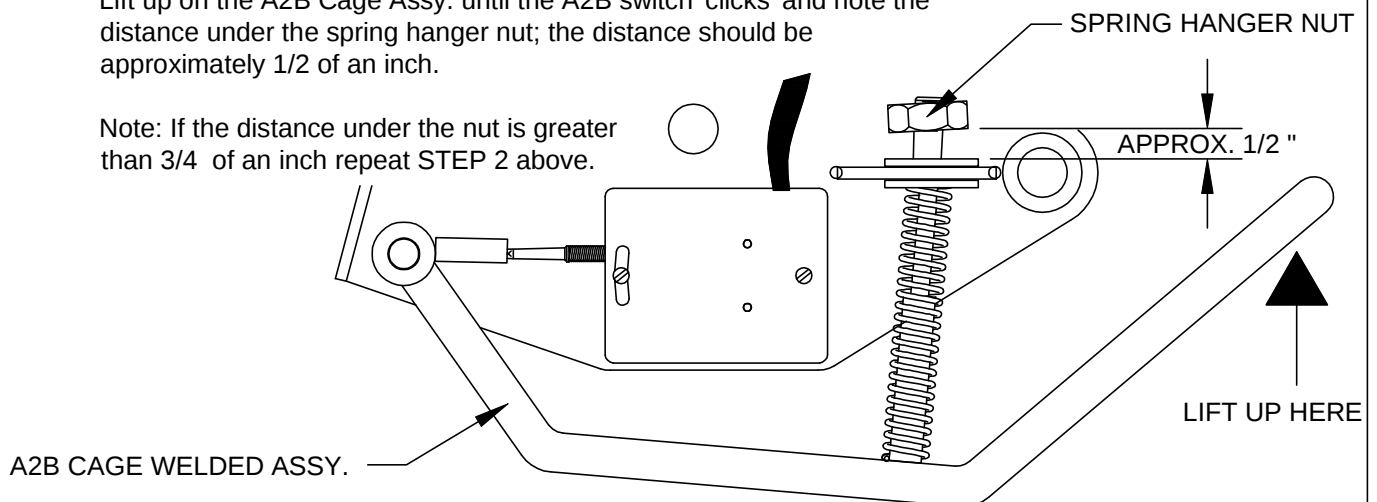


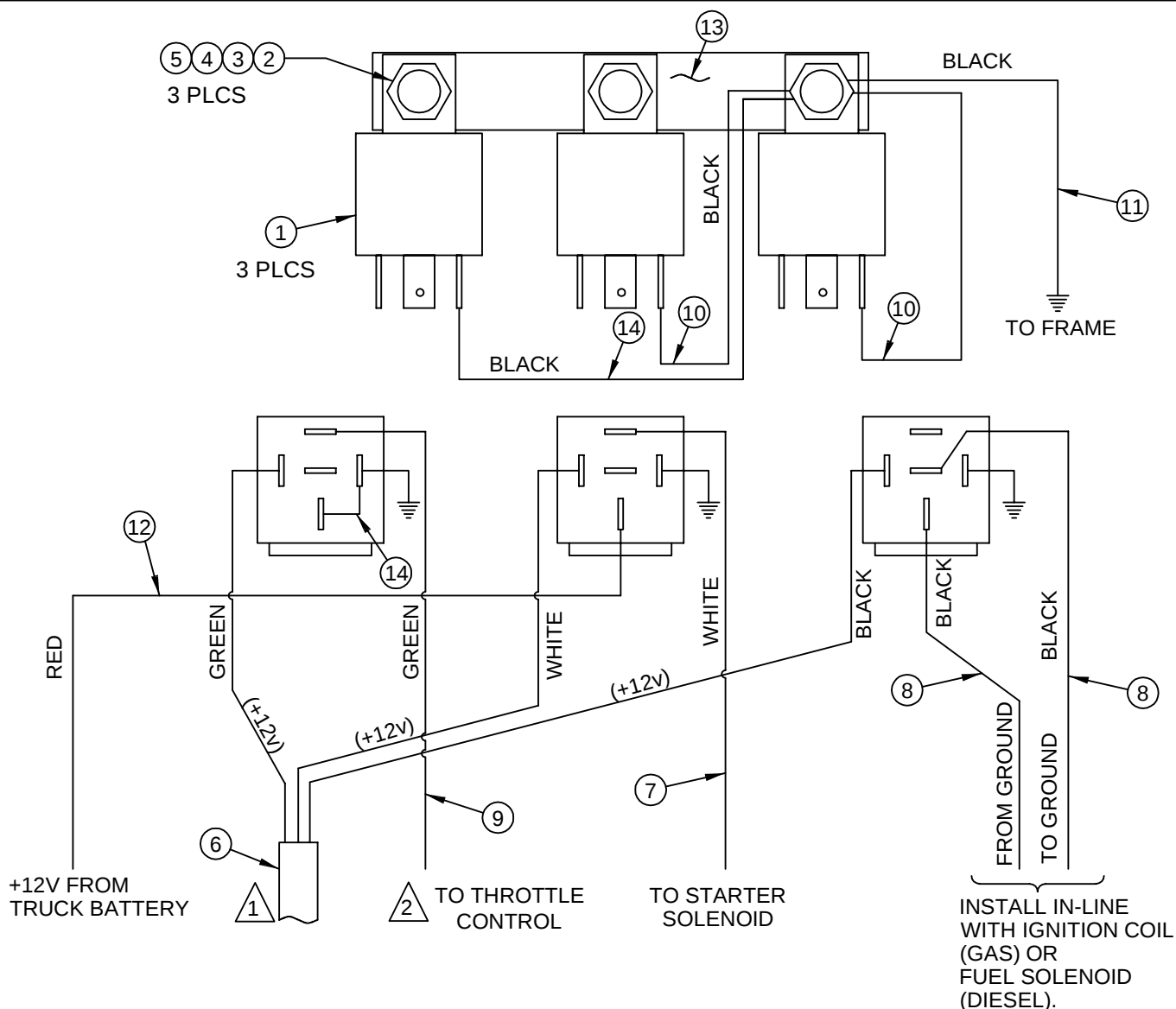
STEP 3

TESTING ADJUSTMENT

Lift up on the A2B Cage Assy. until the A2B switch 'clicks' and note the distance under the spring hanger nut; the distance should be approximately 1/2 of an inch.

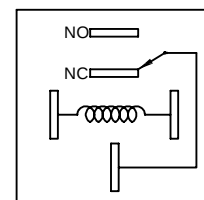
Note: If the distance under the nut is greater than 3/4 of an inch repeat STEP 2 above.





1 USER-CONTROLLED +12V INPUT SIGNALS
FROM HETRONIC VLC SYSTEM OR
ANALOG PENDANT OR RADIO SYSTEM

2 THROTTLE CONTROL IS DESIGNED
TO PROVIDE A GROUND SIGNAL
WHEN RELAY IS ACTIVATED



RELAY
SCHEMATIC

ITEM	QTY	PART#	DESCRIPTION
1	3	22739	RELAY
2	3	!PHCS#1024075	#10-24 X 3/4 PHIL PAN HD BOLT
3	3	!LWSH-#10	#10 LOCKWASHER
4	3	!FWSH-025	#10 WASHER
5	3	!HNUT-#1024	#10 NUT
6	1	22607	WIRE HARNESS - 12/3 SJO
7	1	22609	WHITE - 16 GAGE ELECTRICAL WIRE - 15 FEET LONG
8	2	22610	BLACK - 16 GAGE ELECTRICAL WIRE - 15 FEET LONG
9	1	22611	GREEN - 16 GAGE ELECTRICAL WIRE - 15 FEET LONG
10	2	22612	BLACK - 16 GAGE ELECTRICAL WIRE - 6 INCHES LONG
11	1	22613	BLACK - 16 GAGE ELECTRICAL WIRE - 8 FEET LONG
12	1	22614	RED - 14 GAGE ELECTRICAL WIRE - 15 FEET LONG
13	1	01181	BUSS BAR
14	1	22619	BLACK - 16GA WIRE ASSY - 6" LONG W/ 3 INCH PIGTAIL



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE ENGINE START / STOP
THROTTLE CONTROL

HT CRANES

DATE
06-09-20F

SUPERSEDES
02-21-14E

SECTION
C400

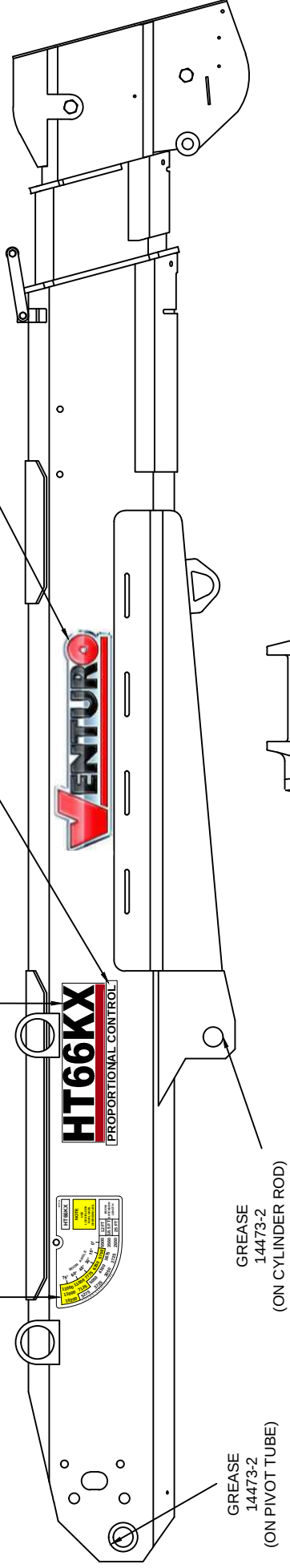
22615

HT66KX CAPACITY DECALS		
RIGHT	LEFT	
20771-1	20771-2	

MODEL NAME, HT66KX
27339 (2)

PROPORTIONAL CONTROL
19788 (2)

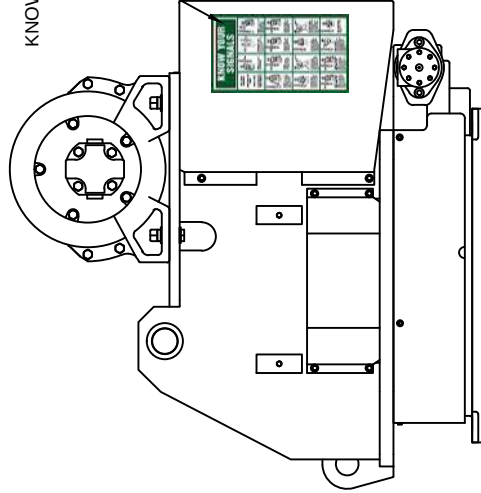
VENTURO (LARGE)
22499 (2)



GREASE
14473-2
(ON PIVOT TUBE)

GREASE
14473-2
(ON CYLINDER ROD)

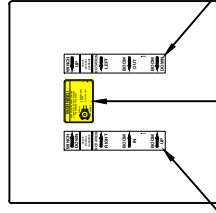
KNOW YOUR SIGNALS
22499



VENTURO (SMALL)
17389-4

GREASE
14473-2 (2)

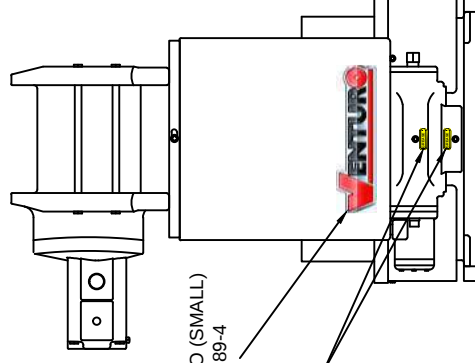
INSIDE THE REAR COVER



MANUAL OVERRIDE (LEFT)
23068-1

VALVE OVERRIDE
19315-2

MANUAL OVERRIDE (RIGHT)
23068-2

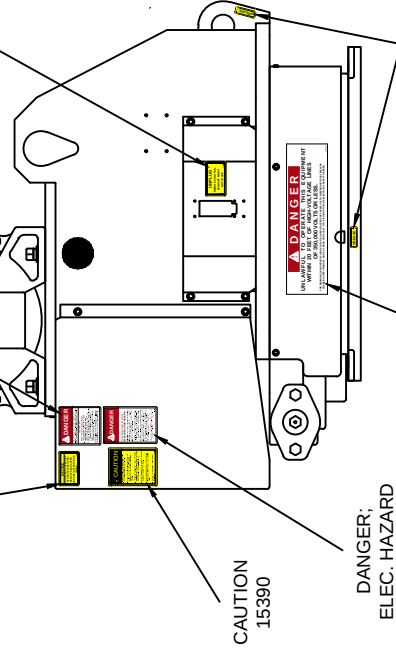


DANGER;
NOT A PASSENGER LIFT
15391

OVERRIDE INSTRUCTIONS
20834

OIL
14473-1

UNPLUG
15398
(ON-CRANE CONTRLS ONLY)



CAUTION
15390

DANGER;
ELEC. HAZARD
15392

DANGER;
UNLAWFUL TO OPERATE
15401

GREASE
14473-2 (2)



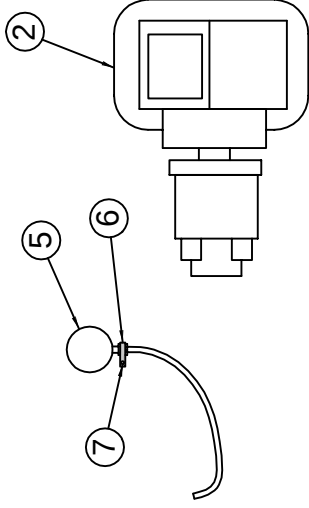
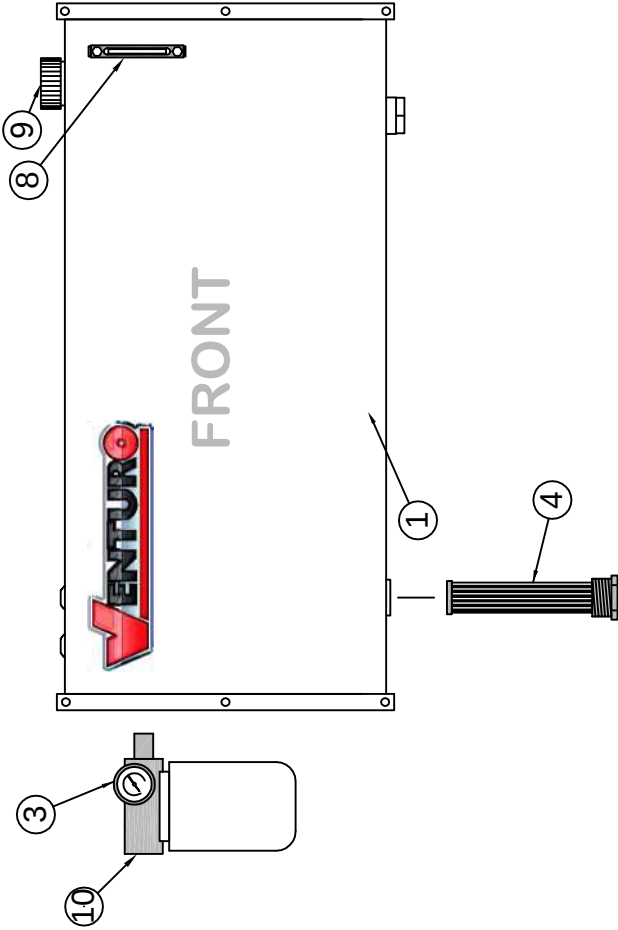
VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
DECAL PLACEMENTS
HT66KX GENERATION A

DATE
08-20-15E
SUPERSEDES
01-09-15D

SECTION
C400

27323



ILLUSTRATIONS FOR REFERENCE ONLY!
- COMPONENT LOCATIONS MAY DIFFER -

19296 PTO CONFIGURATION CHART			
DASH #	MOUNTING	RECOMMENDED GPM (RPM)	
- 1.60	SAE 'A' 9 TOOTH SPLINE SHAFT	HT25/30 - STD. - 2.0 GPM (1250 RPM)	
- 4.00		HT25/30 - PROP.- 4.0 GPM (1000 RPM)	
- 2.64		HT40 - STD. - 2.6 GPM (1000 RPM) HT50 - STD. - 3.0 GPM (1150 RPM)	
- 10.0	SAE 'B' 13 TOOTH SPLINE SHAFT	HT40 - PROP. -10.0 GPM (1000 RPM) HT50 - PROP. -12.0 GPM (1200 RPM)	

10	1	19298	FILTER ASSY, RETURN
9	1	22789	FILLER / BREATHER CAP ASSEMBLY
8	1	22787	SIGHT GLASS
7	1	IHWHS02520075-F	HEX WASHER HEAD 1/4-20 X 3/4 SELF TAPPING
6	1	19275	CLAMP
5	1	22730	PRESSURE GAUGE ASSEMBLY
4	1	22788	SUCTION SCREEN - 100 MESH
3	1	19297	PRESSURE GAUGE - RETURN
2	1	SEE PTO CHART	PTO PUMP
* 1	1	SEE TANK CHART	HYDRAULIC TANK
ITEM	QTY	PART NUMBERS	DESCRIPTION

* REFERENCE DWG #22825 IN SECTION 200



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE

RPLCMNT PARTS DWG/LIST; RESERVIOR KITS

DATE

08-04-15C

SECTION

C400

SUPERSEDES

02-21-14B

HT CRANES; 25/40 GALLON APPLICATIONS

23224

HT66KX FIELD SERVICE LABEL KIT

HT66KX	27337 FIELD SERVICE LABEL KIT (FOR HT66KX GENERATION A)	
	QTY	DESCRIPTION
	2	22496 DECAL; VENTURO LOGO, LARGE
	1	17389-4 DECAL; VENTURO LOGO, SMALL
	2	27339 DECAL; MODEL NAME, HT66KX
	2	19788 DECAL; PROPORTIONAL CONTROL
	1	20771-1 DECAL; BOOM CAPACITY, HT66KX, RIGHT
	1	20771-2 DECAL; BOOM CAPACITY, HT66KX, LEFT
	1	14473-1 DECAL; OIL
	6	14473-2 DECAL; GREASE
	1	17813 DECAL; OVERLOAD SENSING SYSTEM
	1	14459 DECAL; OVERLOAD ALARM SYSTEM (OPTIONAL PART)
	1	22499 DECAL; KNOW YOUR SIGNALS
	1	20834 DECAL; MANUAL OVERRIDE, INSTRUCTIONS
	1	19315-2 DECAL; MANUAL OVERRIDE, SHUTOFF, PROPORTIONAL
	1	23068-1 DECAL; MANUAL OVERRIDE, HT66KX, LEFT
	1	23068-2 DECAL; MANUAL OVERRIDE, HT66KX, RIGHT
	1	27338 IDWG; FIELD SERVICE LABEL KIT, HT66KX
	1	27323 IDWG; DECAL PLACEMENTS, HT66KX
	1	INST-23233 SAFETY MANUAL, VENTURO CRANES
	1	15397 KIT; ACCIDENT PREVENTION SIGNS

HT66KX SERIAL NUMBER RANGE: 150000 - CURRENT

15397 ACCIDENT PREVENTION SIGNS		
QTY	PART	DESCRIPTION
1	15390	DECAL; CAUTION
1	15391	DECAL; DANGER, NOT A PASSENGER LIFT
1	15392	DECAL; DANGER, ELECTROCUTION HAZARD
4	15393	DECAL; DANGER, ELECTRICAL HAZARD
1	15394	IDWG; HAZARDS & INFORMATION
1	15398	DECAL; UNPLUG THE PENDANT
1	15401	DECAL; UNLAWFUL TO OPERATE
1	15513	DECAL; MASTER DISCONNECT, ON/OFF
1	22317	DECAL SHEET; VENTURO, COMPLEMENTARY
1	20927	DECAL; CRANE STABILITY



VENCO VENTURO INDUSTRIES LLC
CINCINNATI, OHIO

TITLE
FIELD SERVICE LABEL KIT
HT66KX

DATE
08-20-15E
SUPERSEDES
01-13-15D

SECTION
C400

27338



VENTURO CRANES LIMITED WARRANTY POLICY

Venturo products are built to last...we guarantee them.

As a purchaser of any new Venturo product covered by warranty, you will receive 1 year of the most complete coverage available...and, at no added cost to you.

1-Year Limited Warranty Policy

This limited policy warrants new products of Venturo to be free from defects in material and workmanship for a period of one (1) year from date of original installation. OEM products or accessories purchased by Venturo as part of or offered with our product will carry the OEM manufacturer's respective warranty. Our 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. There is no warranty of merchantability, fitness for a particular purpose, warranty arising from course of dealing or usage of trade, or any other implied or expressed warranty, except as made specifically herein. This warranty supersedes all previous warranties, written or implied.

Warranty Claims

Venco Venturo Industries LLC 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 Venturo 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, Venturo requires the model and serial number. Only authorized Venturo Distributors can perform warranty. For the name and address of your local Venturo Distributor call the **Warranty Claim Department - 513-772-8448**.

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

VENCO VENTURO INDUSTRIES LLC
12110 BEST PLACE | CINCINNATI, OHIO 45241
P: 800-226-2238 | F: 513-326-5427
www.venturo.com