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## HT40KX / Prop Ctrl / W/ Eng Ctrls (HR\* AAC-00\*\*)

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MFG., INC.  
CINCINNATI, OHIO

TITLE	DATE	SECTION
TABLE OF CONTENTS	9-26-12C	-
HT40KX (HR* AAC-0**)	SUPPCEDES 9-18-09B	22935

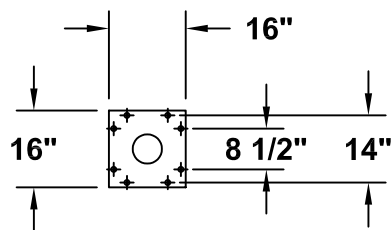


# **SECTION 100**

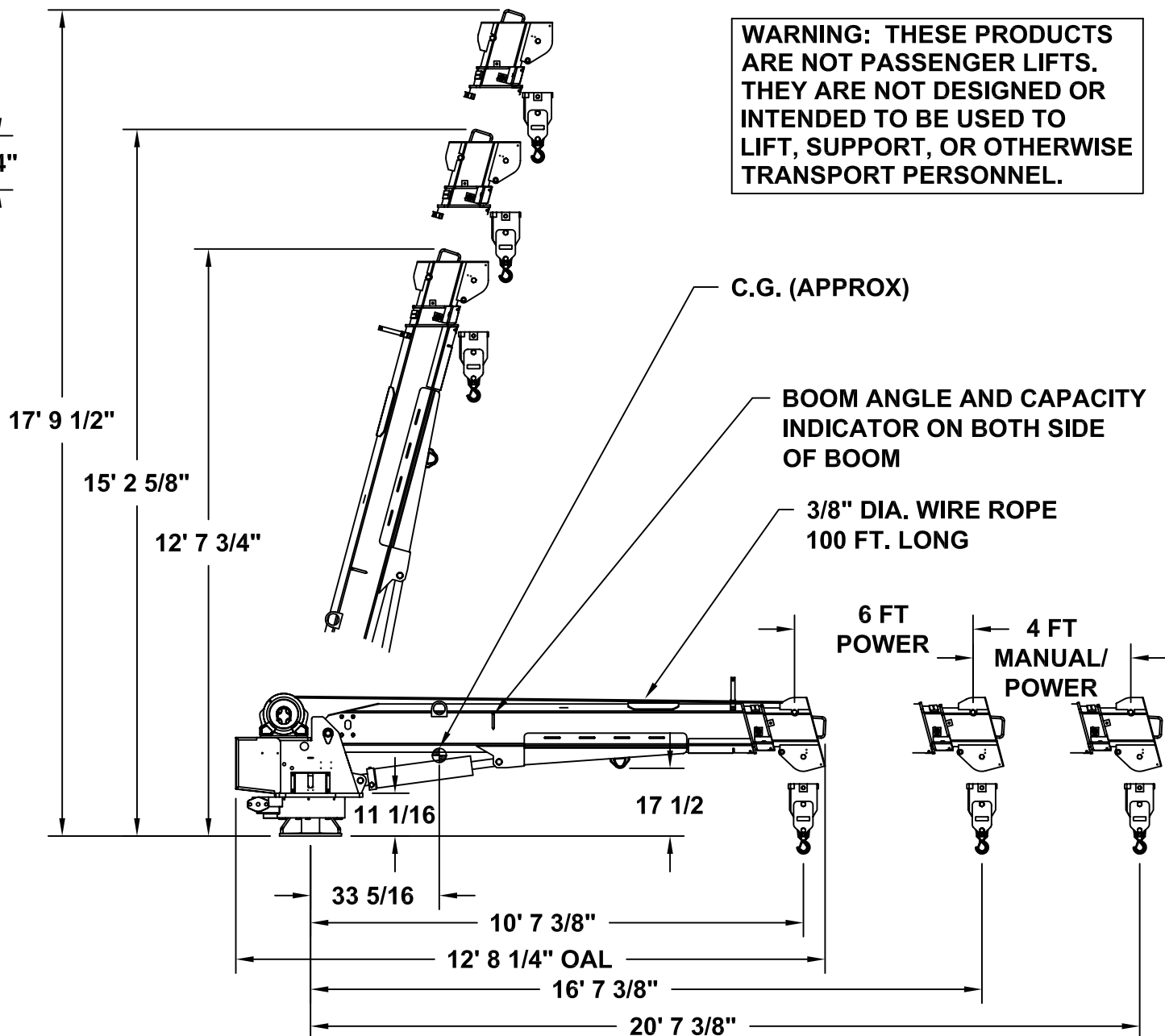
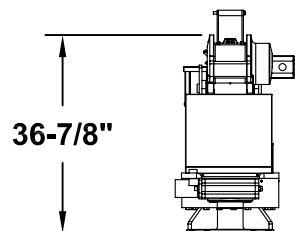
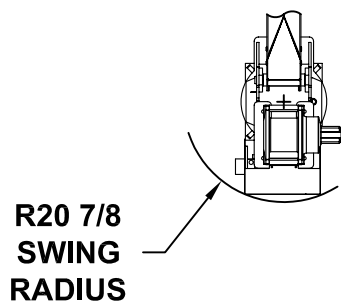
## **DESCRIPTION**

### **&**

## **SPECIFICATIONS**



**BASE MOUNTING  
DIMENSIONS**



**WARNING: THESE PRODUCTS  
ARE NOT PASSENGER LIFTS.  
THEY ARE NOT DESIGNED OR  
INTENDED TO BE USED TO  
LIFT, SUPPORT, OR OTHERWISE  
TRANSPORT PERSONNEL.**



MANUFACTURING, INC.  
CINCINNATI, OHIO

**TITLE  
INSTALLATION DWG**

**HT40KX, HT50KX - 10-16-20**

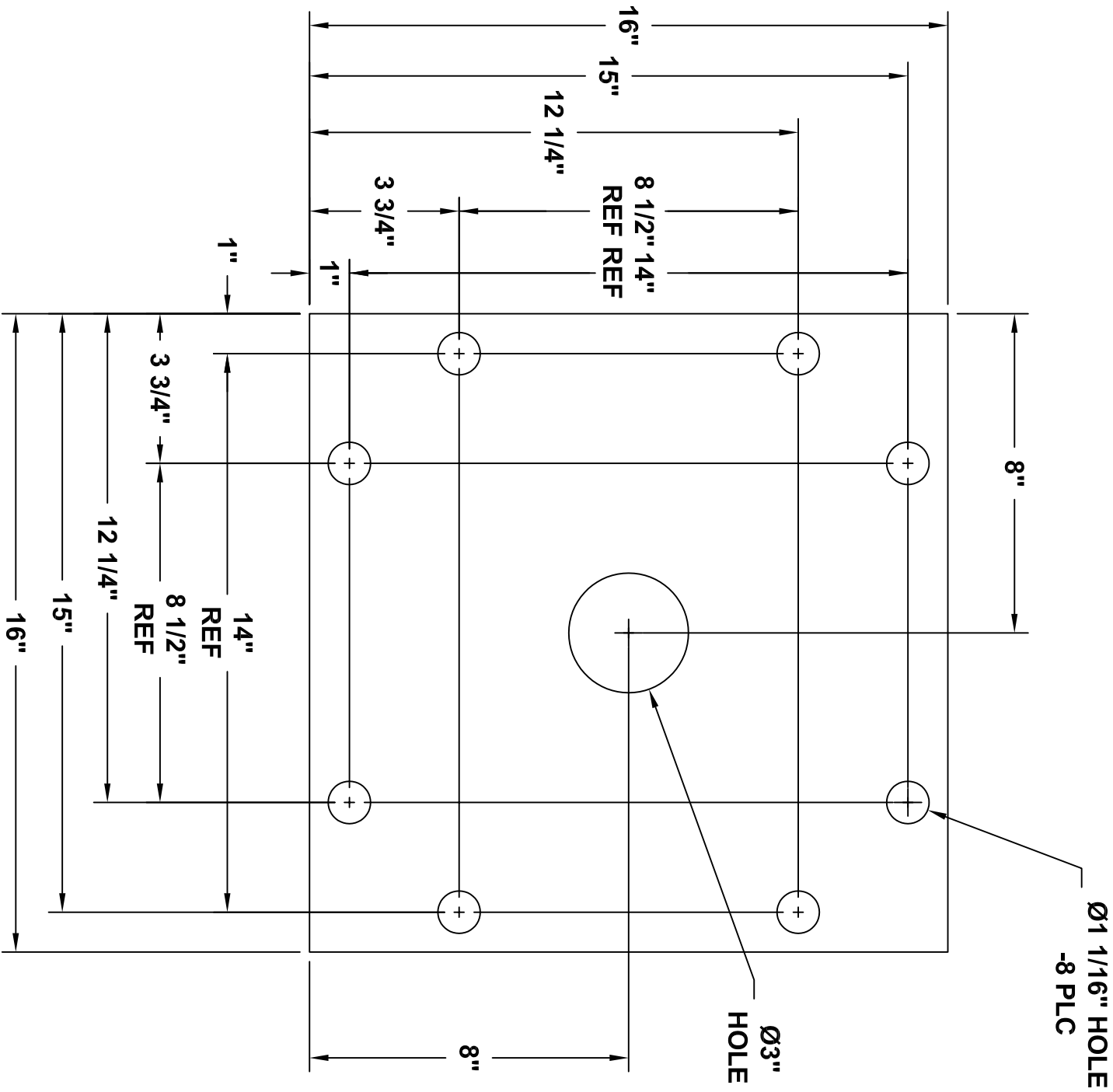
**DATE  
7-9-08A**

**SUPERSEDES  
9-4-07**

**SECTION  
C100**

**22912**

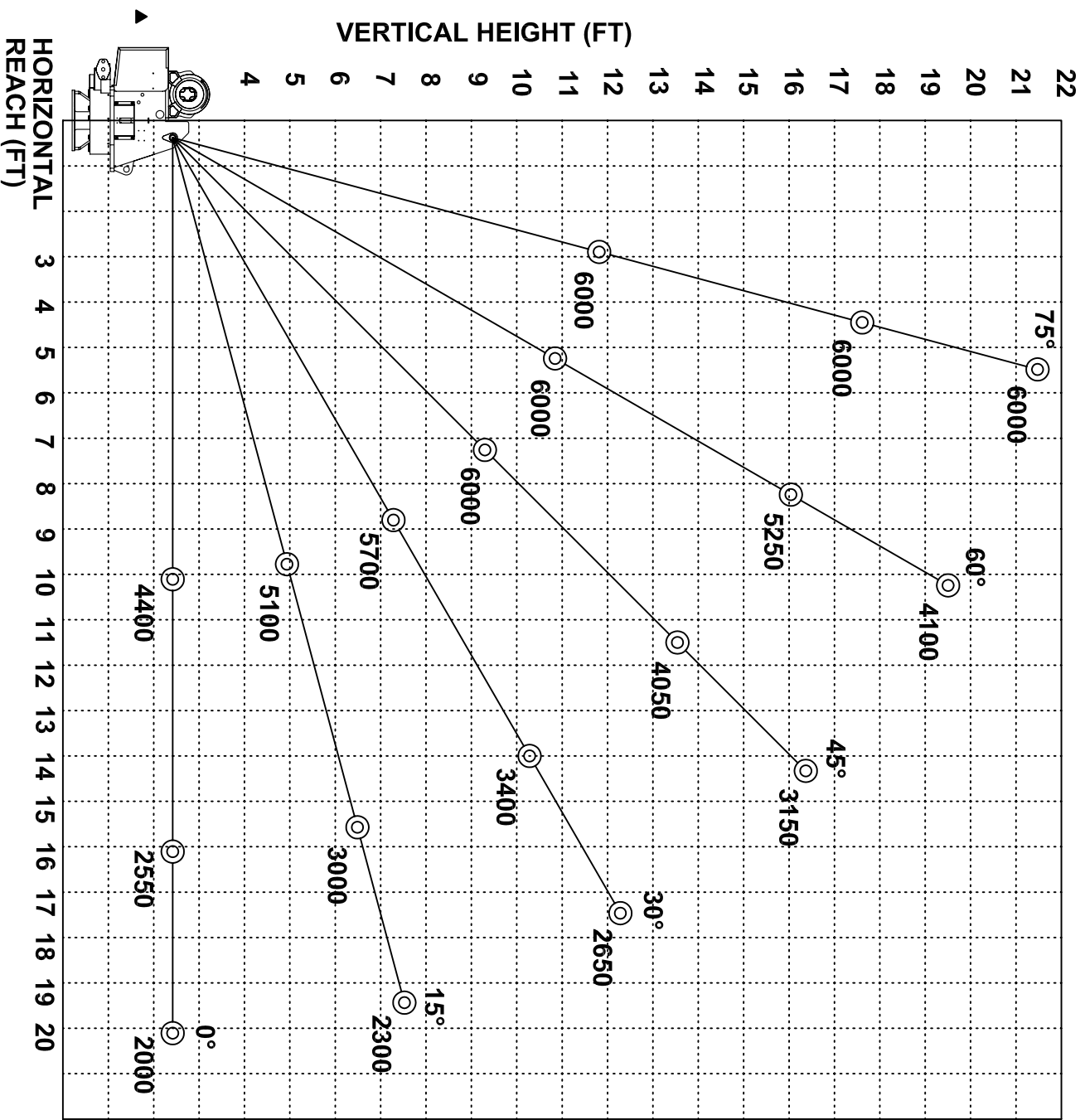
# HT40/50KX BASE MOUNTING DIMENSIONS



MFG., INC.  
CINCINNATI, OHIO

TITLE	DATE	SECTION
▲ BASE MOUNTING DIM	3-3-05F	C100
HT40/50KX	SUPERSEDES 5-20-03E	18353

# HT40KX - 10-16-20 BOOM MAXIMUM CAPACITY CHART



MUST USE SNATCH BLOCK  
FOR LOADS OF 3000 LBS.  
AND GREATER



# **SECTION 150**

## **SAFETY**

# VEHICLE & CRANE MOUNTED ELECTRICAL HAZARD SIGN APPLICATION & INFORMATION

ET & HT CRANE SERIES



▲ SIGN NO. 15393A 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.

REQUIRED MINIMUM CLEARANCES REFERRED TO ON SIGN NO. 15401

REQUIRED CLEARANCES FROM OVERHEAD HIGH-VOLTAGE LINES

NOMINAL VOLTAGE (KV) (PHASE TO PHASE)	MINIMUM REQUIRED CLEARANCE (FEET) *
0 - 50	10
over 50 - 200	15
over 200 - 350	20
over 350 - 500	25
over 500 - 750	35
over 750 - 1000	45

REQUIRED CLEARANCES FROM ENERGIZED HIGH-VOLTAGE CONDUCTORS  
(WHILE IN TRANSIT)

NOMINAL VOLTAGE (KV) (PHASE TO PHASE)	MINIMUM REQUIRED CLEARANCE (FEET) *
0 - 0.75	4
over 0.75 - 50	6
over 50 - 345	10
over 345 - 750	16
over 750 - 1000	20

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



MFG., INC.  
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TITLE	DATE	SECTION
INSTALLATION DWG	5-15-02H	C150
ET & HT CRANE SERIES	SUPERCEDES 5-13-97G	15394

**CRANE SAFETY AND HAZARDS**

HT25KX, HT40KX, HT50KX

**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**

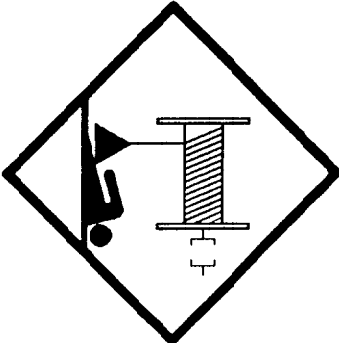
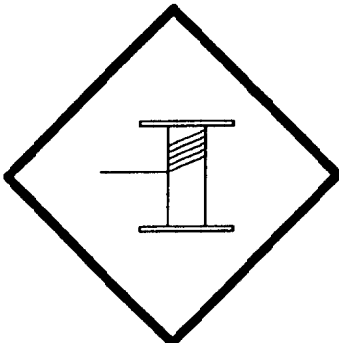
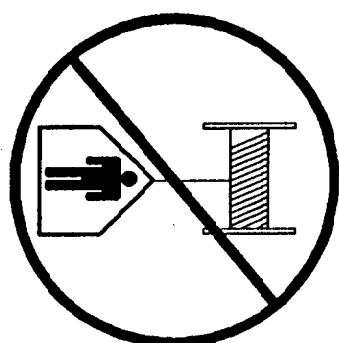
- 1. YOU HAVE BEEN TRAINED IN THE SAFE OPERATION OF THIS CRANE  
AND
- 2. YOU KNOW AND FOLLOW THE SAFETY AND OPERATING RECOMMENDATIONS CONTAINED IN THE MANUFACTURERS MANUALS, YOUR EMPLOYER'S WORK RULES, AND APPLICABLE GOVERNMENT REGULATIONS. AN UNTRAINED OPERATOR SUBJECTS HIMSELF AND OTHERS TO DEATH 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 10 FEET BETWEEN ANY PART OF THE CRANE, LOADLINE, OR LOAD, AND ANY ELECTRICAL LINE OR APPARATUS CARRYING UP TO 50,000 VOLTS. ADDITIONAL CLEARANCE IS 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.

 VENTURO MFG., INC. CINCINNATI, OHIO	TITLE	DATE	SECTION
	INSTALLATION DWG	5-13-97A	C150
	HYDRAULIC CRANES	SUPPCEDES 6-12-92	920612

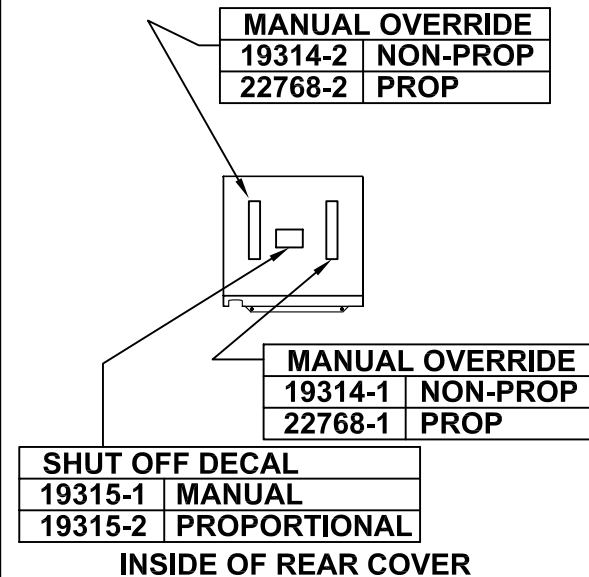
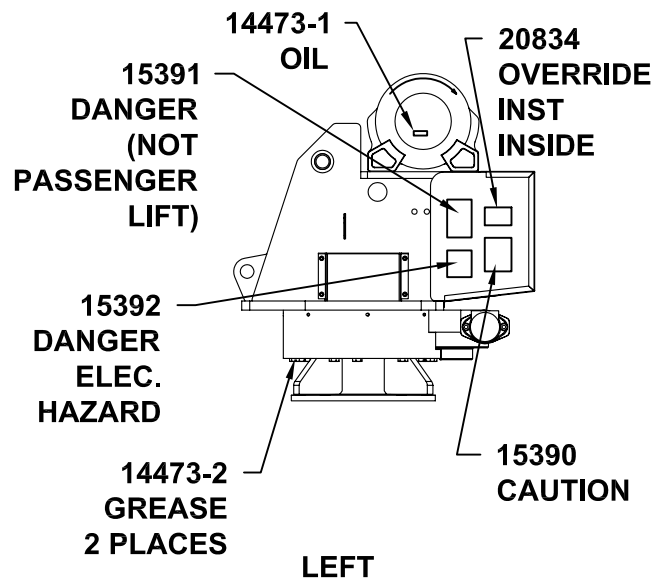
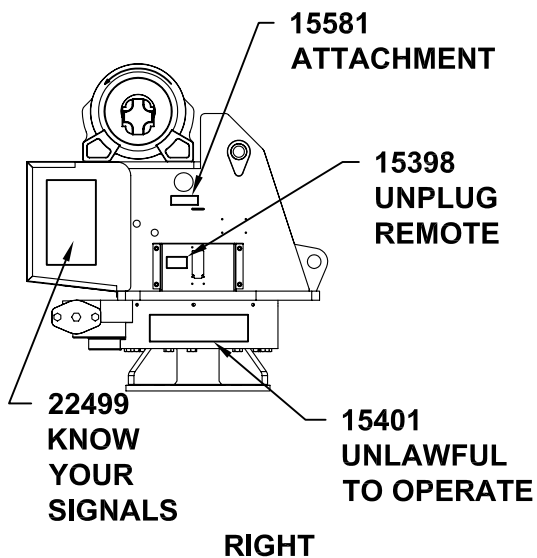
# WINCH SAFETY WARNINGS

	<p><b>⚠ DANGER</b></p> <p>DO NOT DISENGAGE WINCH UNDER LOAD</p>
	<p><b>⚠ DANGER</b></p> <p>THE LAST FIVE WRAPS OF WIRE ROPE MUST BE LEFT ON THE DRUM TO ASSIST THE WIRE ROPE CLAMP IN HOLDING THE LOAD</p>
	<p><b>⚠ WARNING</b></p> <p>WINCHES ARE NOT TO BE USED FOR THE LIFTING OR MOVING OF PERSONS</p>



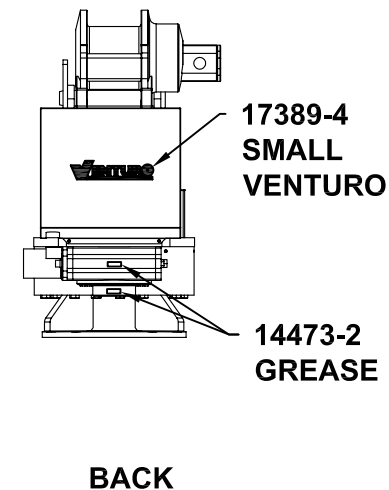
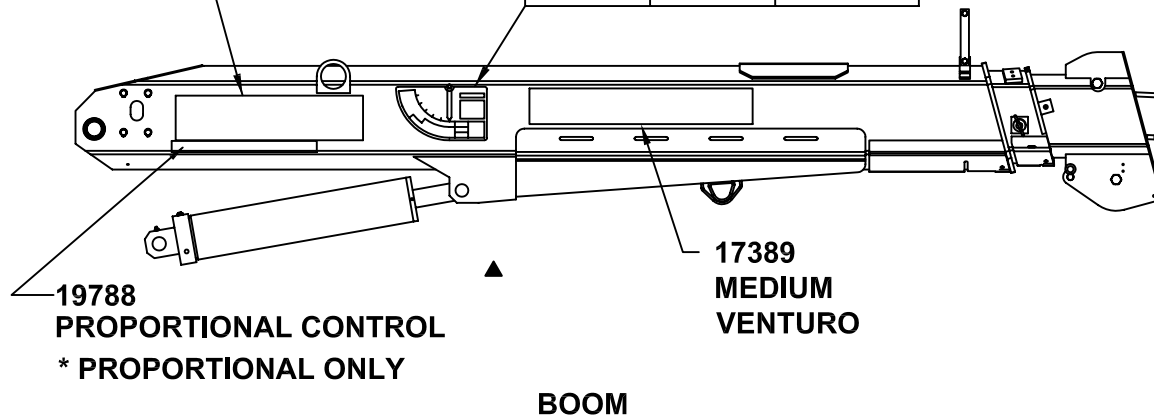
MFG., INC.  
CINCINNATI, OHIO

TITLE	DATE	SECTION
INSTALLATION DWG	5-26-98B	C150
HT CRANES	SUPERCEDES 10-17-97A	119217



MODEL NO.
19746 - HT40
19747 - HT50

CAPACITY		
DECAL	MODEL	PART NO.
RIGHT	HT40	22342-1
LEFT	HT40	22342-2
RIGHT	HT50	22352-1
LEFT	HT50	22352-2



MANUFACTURING, INC.  
CINCINNATI, OHIO

TITLE  
DECAL PLACEMENT

HT40/50KX

DATE  
10-23-08E

SUPERSEDES  
9-5-07D

SECTION  
C150

22171

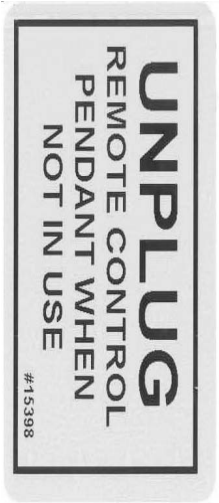
PART NO.: 15398

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

DECAL: MANUAL OVERRIDE (NON-PROP)

FUNCTION: To inform the operator of manual override locations.

QUANTITY: 1

PLACEMENT: Inside of rear cover.



PART NO.: 19314-2

DECAL: MANUAL OVERRIDE (NON-PROP)

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: 22768-1

DECAL: MANUAL OVERRIDE

FUNCTION: To inform the operator of  
manual override locations.

QUANTITY: 1

PLACEMENT: Inside rear cover.



PART NO: 22768-2

DECAL: MANUAL OVERRIDE

FUNCTION: To inform the operator of  
manual override locations.

QUANTITY: 1

PLACEMENT: Inside rear cover.



TITLE		DATE	SECTION
DECAL DRAWING & LIST		12-14-05B	C150
HT40/50KX	SUPPERSEDES	9-9-05A	22181B



MFG., INC.  
CINCINNATI, OHIO

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 - NDT 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.



**CAUTION**

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 THE OPERATING INSTRUCTIONS LOCATED ON CRANE FOR OPERATING (LOAD) LIMITATIONS.

4. DO NOT OPERATE, WALK OR STAND BENEATH BOOM OR A SUSPENDED LOAD.

5. UNPLUG PENDANT AND SHUT OFF MASTER IN USE SWITCH WHEN CRANE NOT IN USE.

6. 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.

**DANGER**

THIS MACHINE IS NOT INSULATED













**ELECTROCUTION HAZARD**

MAINTAIN SAFE CLEARANCES FROM OVERHEAD POWER LINES AND APPARATUS. YOU MUST ALLOW FOR SWAY, SAG, AND LOWING, ROCKING, SAG AND ELECTRICAL LINE TENSION FROM CONTACT WITH OR PROXIMITY TO AN ELECTRICALLY CHARGED CONDUCTOR.

YOU MUST MAINTAIN A CLEARANCE OF AT LEAST 10 FEET FROM ANY ELECTRICAL LINE OR POLE. MAINTAIN A MINIMUM CLEARANCE OF 10 FEET ADDITIONAL CLEARANCE IS REQUIRED FOR EVERY ADDITIONAL 30,000 VOLTS OR LESS.

DEATH OR SERIOUS INJURY WILL RESULT FROM CONTACT OR INADEQUATE CLEARANCE.

**KNOW YOUR SIGNALS**

 <p>STOP SIGNAL SOUND THE BELL AND THE RED LIGHT AND 2-3 SECS.</p>	 <p>HOIST SIGNAL SOUND THE BELL AND THE RED LIGHT AND 2-3 SECS.</p>	 <p>LOWER SIGNAL SOUND THE BELL AND THE RED LIGHT AND 2-3 SECS.</p>
 <p>STOP SIGNAL SOUND THE BELL AND THE RED LIGHT AND 2-3 SECS.</p>	 <p>HOIST SIGNAL SOUND THE BELL AND THE RED LIGHT AND 2-3 SECS.</p>	 <p>LOWER SIGNAL SOUND THE BELL AND THE RED LIGHT AND 2-3 SECS.</p>
 <p>STOP SIGNAL SOUND THE BELL AND THE RED LIGHT AND 2-3 SECS.</p>	 <p>HOIST SIGNAL SOUND THE BELL AND THE RED LIGHT AND 2-3 SECS.</p>	 <p>LOWER SIGNAL SOUND THE BELL AND THE RED LIGHT AND 2-3 SECS.</p>
 <p>STOP SIGNAL SOUND THE BELL AND THE RED LIGHT AND 2-3 SECS.</p>	 <p>HOIST SIGNAL SOUND THE BELL AND THE RED LIGHT AND 2-3 SECS.</p>	 <p>LOWER SIGNAL SOUND THE BELL AND THE RED LIGHT AND 2-3 SECS.</p>



PART NO: 20834

DECAL: FOR MANUAL OVERRIDE

FUNCTION: To inform the operator of locations of manual override instructions.

QUANTITY: 1

PLACEMENT: Left side of rear cover.



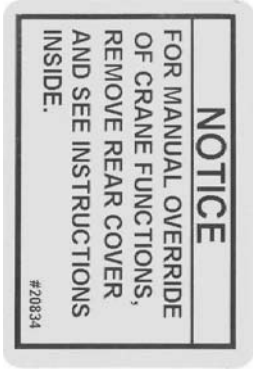
PART NO: 17389-4

DECAL: SMALL VENTURO

FUNCTION: To show manufacturer of crane.

QUANTITY: 1

PLACEMENT: Rear cover.



TITLE	DATE	SECTION
DECAL DRAWING & LIST	9-11-06A	C150
HT40/50KX	<small>SUPERSEDES</small> 12-15-05	22181D

# SECTION 200

## INSTALLATION



## CRANE INSTALLATION

HT40KX, HT50KX

### 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 HT 40KX is 45,000 ft. lbs. and for the HT50KX is 55,000 ft. lbs.

The maximum vertical load for the HT40KX is 7900 lbs. and for the HT50KX is 9900 lbs.

### CRANE MOUNTING

The crane base plate or mounting pedestal must be bolted to the body reinforcing plate with eight (8) grade five (5) bolts of 1" dia. with either coarse or fine threads. A 7" 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 and a return 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 22182 (proportional) using the angle bulkhead fittings also furnished in the installation kit.

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 Ventura'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	DATE	SECTION
INSTALLATION DWG	5-13-05	C200
HT40KX, HT50KX	- <small>SUPERCEDES</small>	22172

# 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	3/8"	1/2"
RETURN	1/2"	5/8"
SUCTION	3/4"	1-1/4"

# RESERVOIR

The PTO reservoir should have a capacity of 10 gallons (non-proportional) or 25 gallons (proportional) fitted with 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 2.5 GPM for the HT40KX standard (non-proportional), 12.0 GPM for the HT40KX proportional, 3.0 GPM for the HT50KX standard or 12.0 GPM for the HT50KX 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 (10 gallon reservoir 20 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	DATE	SECTION
INSTALLATION DWG	11-4-08B	C200
HT40KX, HT50KX	<small>SUPERCEDES</small> 2-20-06A	22173

## CRANE OPERATION AND MAINTENANCE INSTRUCTIONS

HT40KX, HT50KX

### 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 3000 lbs.-HT40KX or 4000 lbs.-HT50KX 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	DATE	SECTION
INSTALLATION DWG	8-12-99B	C200
HT40KX, HT50KX	<small>SUPERCEDES</small> 7-17-97	22345a

## 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 8 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.

For crane models HT25 serial numbers 80157, HT40 serial numbers 84092 and HT50 serial numbers 85086 and below, the Overload system is inoperative if the boom elevation is at the bottom or top limit of travel. To relieve this condition, raise or lower the boom slightly before lifting the load. Cranes with serial numbers above the aforementioned have been modified to allow the Overload system to remain active at the top of boom travel.

## 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/overhaul weight 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 22449 for replacement parts and configuration information.

## TELESCOPIC HEXAGONAL BOOM

The hexagonal shaped boom shall telescope to provide a horizontal reach range of 10 ft. to 20 ft. using a hydraulic power extension cylinder with a 10 ft. stroke. See page 22930. A 6 ft. hydraulic ▲ power extension and a 4 ft. manual extension section is also available. See page22917.

## 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

TITLE	DATE	SECTION
INSTALLATION DWG	11-4-08F	C200
HT40KX, HT50KX	<small>SUPERCEDS</small> 3-4-03E	22345b

3. Set the vehicle parking brake and put the vehicle transmission in "park" if it is an automatic.
4. Deploy the outriggers to help stabilize the vehicle against rocking or overturning when lifting with the crane.

## PREPARATION FOR TRAVEL

1. Return the outriggers 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.

<u>Temp Range (°F)</u>	<u>Winch Hydraulic Oil</u>
120 to 10	SAE 50
40 to -25	75W90
30 to -50	Conoco DN600 or equivalent

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.



MFG., INC.  
CINCINNATI, OHIO

TITLE	DATE	SECTION
INSTALLATION DWG	2-3-09A	C200
HT40KX, HT50KX, HT66KX	<small>SUPERCEDES</small> 5-13-05	22174

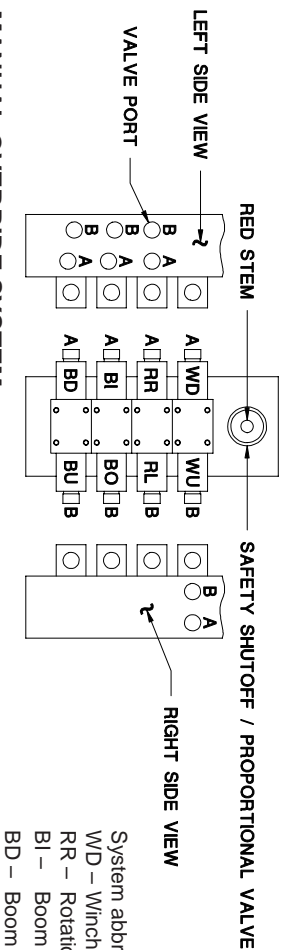


## EXPLANATION OF HYDRAULIC VALVE SYSTEM

### OVERVIEW

Venturo's hydraulic cranes are available in two general configurations: Proportional and Non-proportional. The **Non-proportional** configuration utilizes a safety shutoff valve which, when **not** actuated, allows hydraulic fluid to bypass the valve bank and return to tank; the crane will not function when the safety shutoff valve is not actuated. When the safety shutoff valve is actuated (control pendant energizes the coil or the coil is manually overridden), hydraulic fluid cycles through the valve bank and allows the crane to function. The **Proportional** configuration utilizes a proportional valve which in its fully closed and fully opened positions functions similarly to the safety shutoff valve, but adds the ability to operate the crane at any speed in between these two extremes.

In both the Non-proportional and Proportional configurations, the four crane functions (winch, rotation, boom elevation, and boom extension) are controlled by four separate valve sections. Each valve section has two solenoid coils (and two 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 the associated manual override lie on the same side of the valve bank (both "push").



### 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:**
- (1) Override the safety shutoff or proportional valve by turning the red stem on the valve as stated below.

#### Non-proportional system:

For override operation, press stem in and rotate counterclockwise until it stops.  
To return to normal operation, press stem in and rotate clockwise until it stops.

#### Proportional system:

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 counterclockwise until it stops.

- (2) 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 press firmly inward. For example, pushing the stem labeled A on the first bank (refer to the illustration) will actuate winch down.

**WARNING!** For normal crane operation, the safety shutoff or proportional valve must be in the "normal" position (as described above). Test the crane before each use by placing the power toggle switch or trigger in the "OFF" position and testing each crane function *using the manual overrides*. If any crane function operates, verify that the red stem on the safety shutoff or proportional valve is in the normal position then retest.

### EMERGENCY STOP

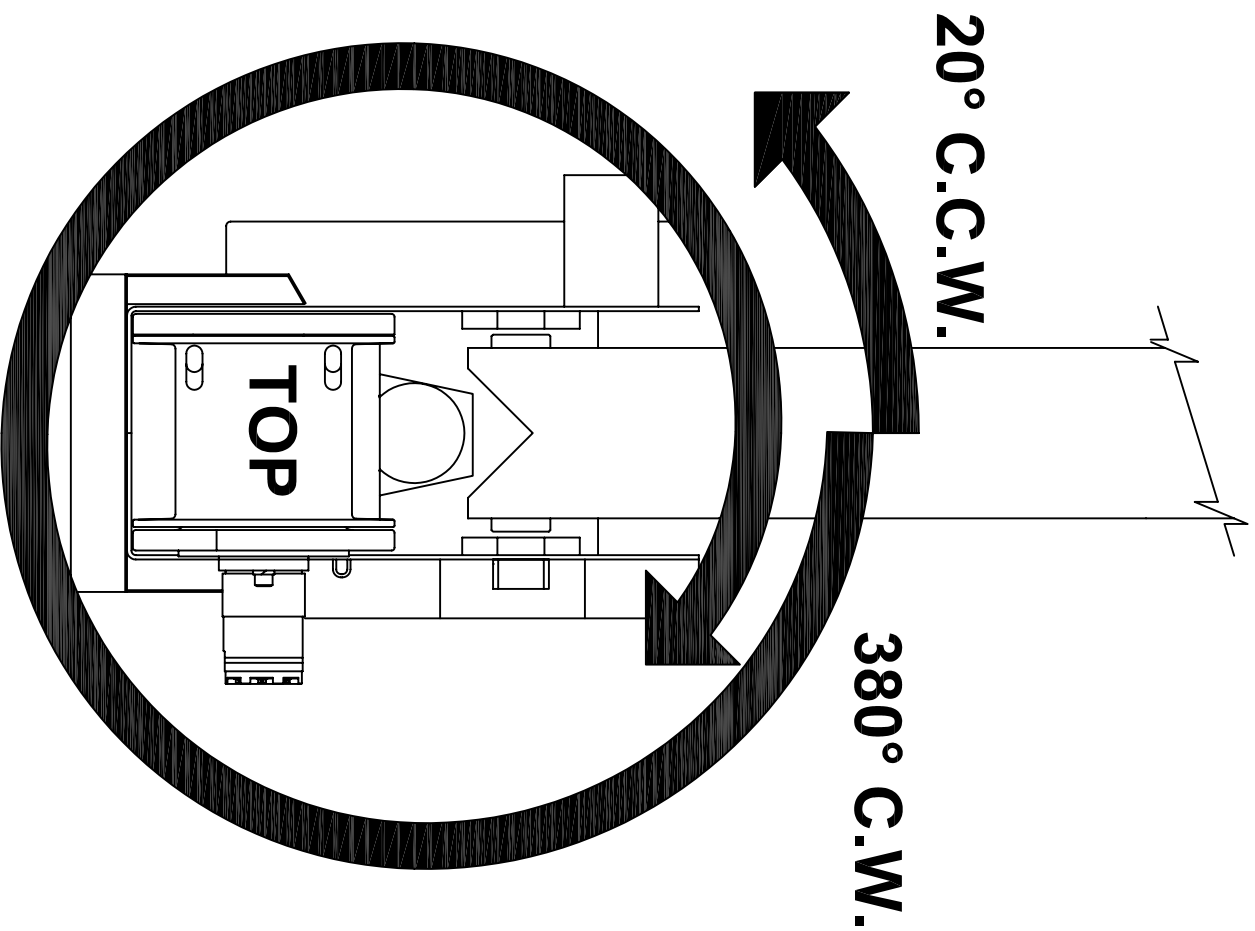
In the unlikely event that a function of the crane does not stop once the function's toggle switch is released, the **Non-proportional** crane can be stopped by simply toggling the power switch to the off (emergency stop) position and the **Proportional** crane can be stopped by releasing the trigger.

**VENTURO**

MFG., INC.  
CINCINNATI, OHIO

TITLE	DATE	SECTION
HYDRAULIC SYSTEM	12-14-09C	C200
HT SERIES CRANES ▲	SUPERCEDES 9-24-03B	22328





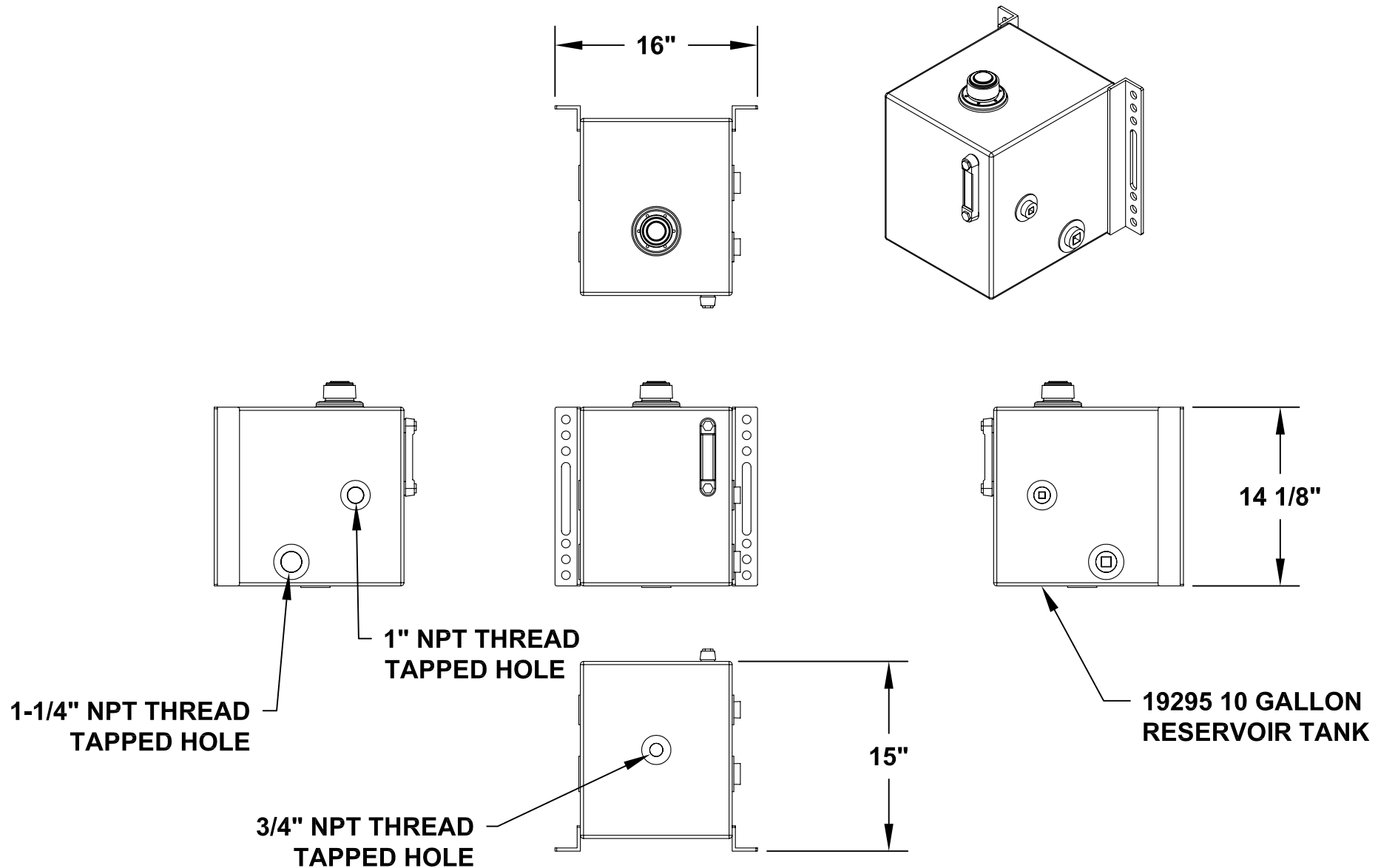
**This Venturo crane is shipped with the rotation orientation as shown above. To change the orientation rotate crane base prior to mounting to suit your application.**



MFG., INC.  
CINCINNATI, OHIO

TITLE	DATE	SECTION
ROTATION STOP LOCATION	1-30-09B	-
ET25KX, HT CRANES	SUPERSEDES 7-31-02A	<b>20051</b>

# 19295 10 GALLON HYDRAULIC TANK



MANUFACTURING, INC.  
CINCINNATI, OHIO

TITLE

**10 GALLON HYDRAULIC TANK**

-

DATE

**3-17-06**

SUPERSEDES

-

SECTION

-

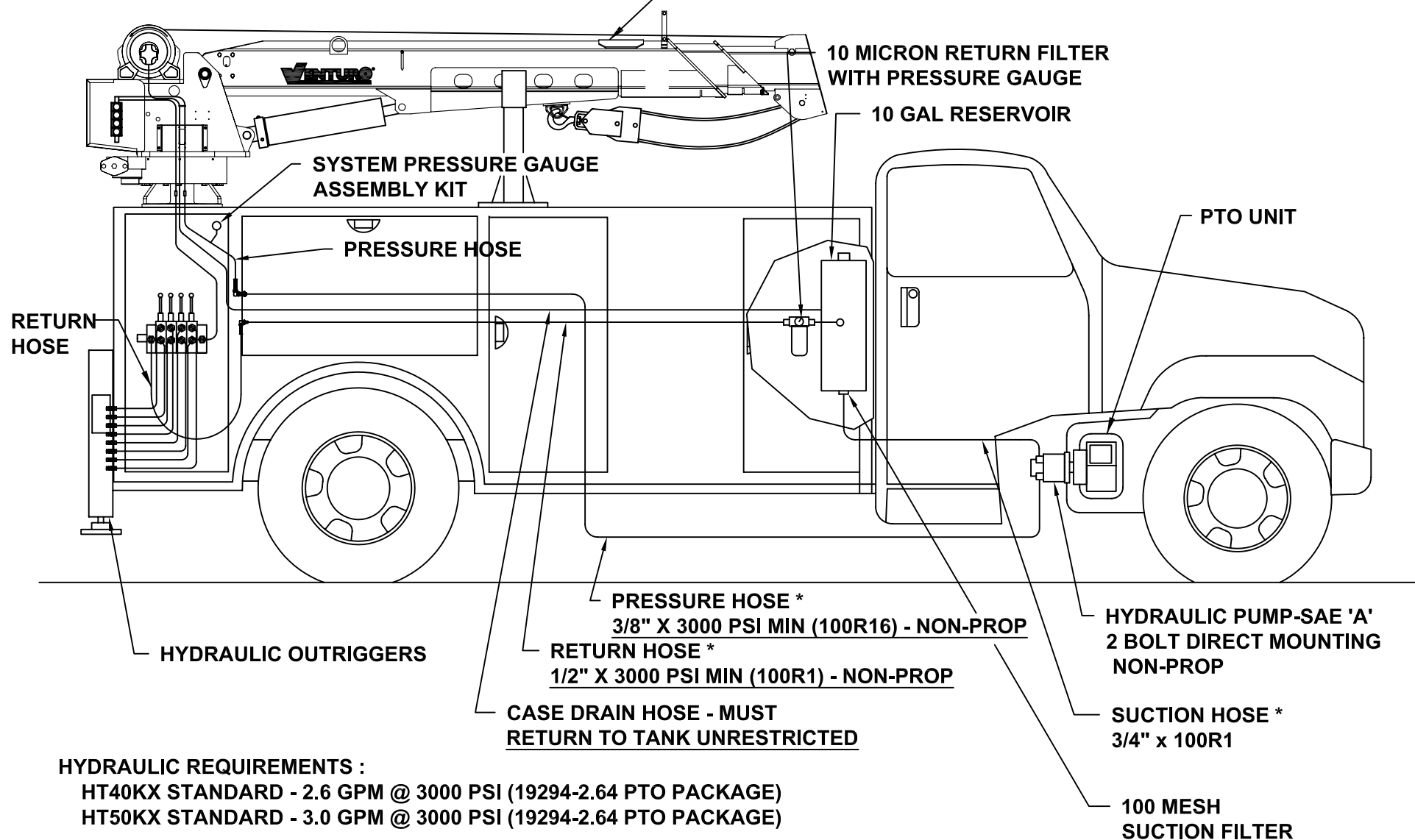
**22826**



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

**HT40/50KX NON-PROPORTIONAL CRANE**

**FOR INFORMATION ON OUR  
PTO PACKAGES REFERENCE 22448**



**HYDRAULIC REQUIREMENTS :**

**HT40KX STANDARD - 2.6 GPM @ 3000 PSI (19294-2.64 PTO PACKAGE)**

**HT50KX STANDARD - 3.0 GPM @ 3000 PSI (19294-2.64 PTO PACKAGE)**

**SEE INSTALLATION INSTRUCTIONS 22344 (2 PAGES).**

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



MANUFACTURING, INC.  
CINCINNATI, OHIO

TITLE  
**INSTALLATION DWG**

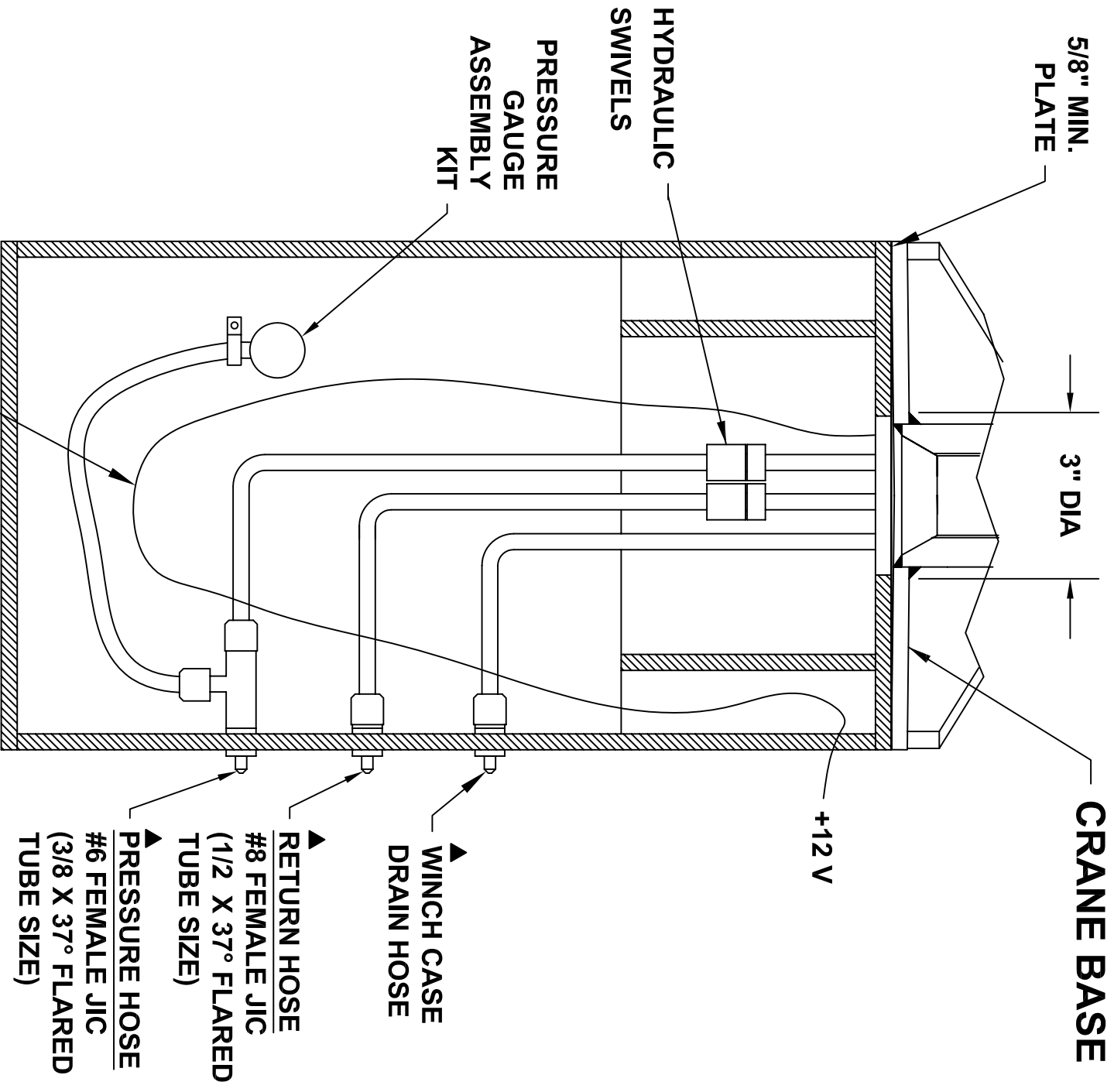
**PTO INST - HT40/50 (NON-PROPORTIONAL)**

DATE  
**7-21-08A**

SUPERSEDES  
**11-29-07**

SECTION  
**C200**

**22887**



 <p>MFG., INC. CINCINNATI, OHIO</p>	<p>TITLE</p> <p><b>CRANE &amp; HOSE INST.</b></p> <p>HT40/50KX - NON-PROP</p>	<p>DATE</p> <p>11-29-07E</p> <p>SUPERSEDES 10-5-06D</p>	<p>SECTION</p> <p>C200</p> <p><b>20698</b></p>
------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------	-------------------------------------------------------------	------------------------------------------------

# WIRE ROPE INSTALLATION

STEP 1: UNWIND COIL OF WIRE ROPE BY 'ROLLING' ALONG THE FLOOR. THIS WILL PREVENT 'KINKING'.

STEP 2: INSERT WIRE ROPE END THROUGH ANTI-TWO-BLOCK WEIGHT.

STEP 3: INSERT WIRE ROPE END INTO POCKET OPENING ON WINCH AND THROUGH WEDGE POCKET AS SHOWN IN (FIG 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 (3) TURNS OF WIRE ROPE ON THE WINCH DRUM WHILE UNDER LOAD.

NOTE: <sup>▲</sup> SOME WINCHES WILL BE SUPPLIED WITH A HEX NUT IN LIEU OF A WEDGE FOR INSTALLING THE WIRE ROPE.

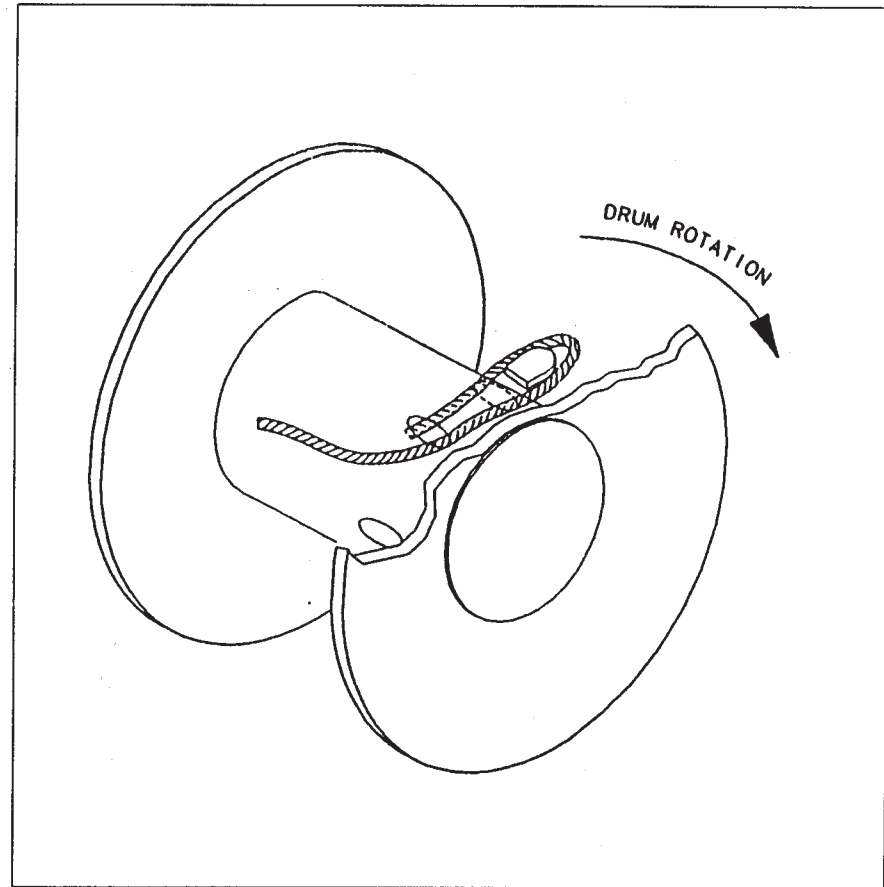


FIG 1



MANUFACTURING, INC.  
CINCINNATI, OHIO

TITLE  
**WIRE ROPE INSTALLATION DRAWING**  
**ET8K AND LARGER CRANES**

DATE  
**8-18-09G**  
SUPERCEDES  
**2-26-08F**

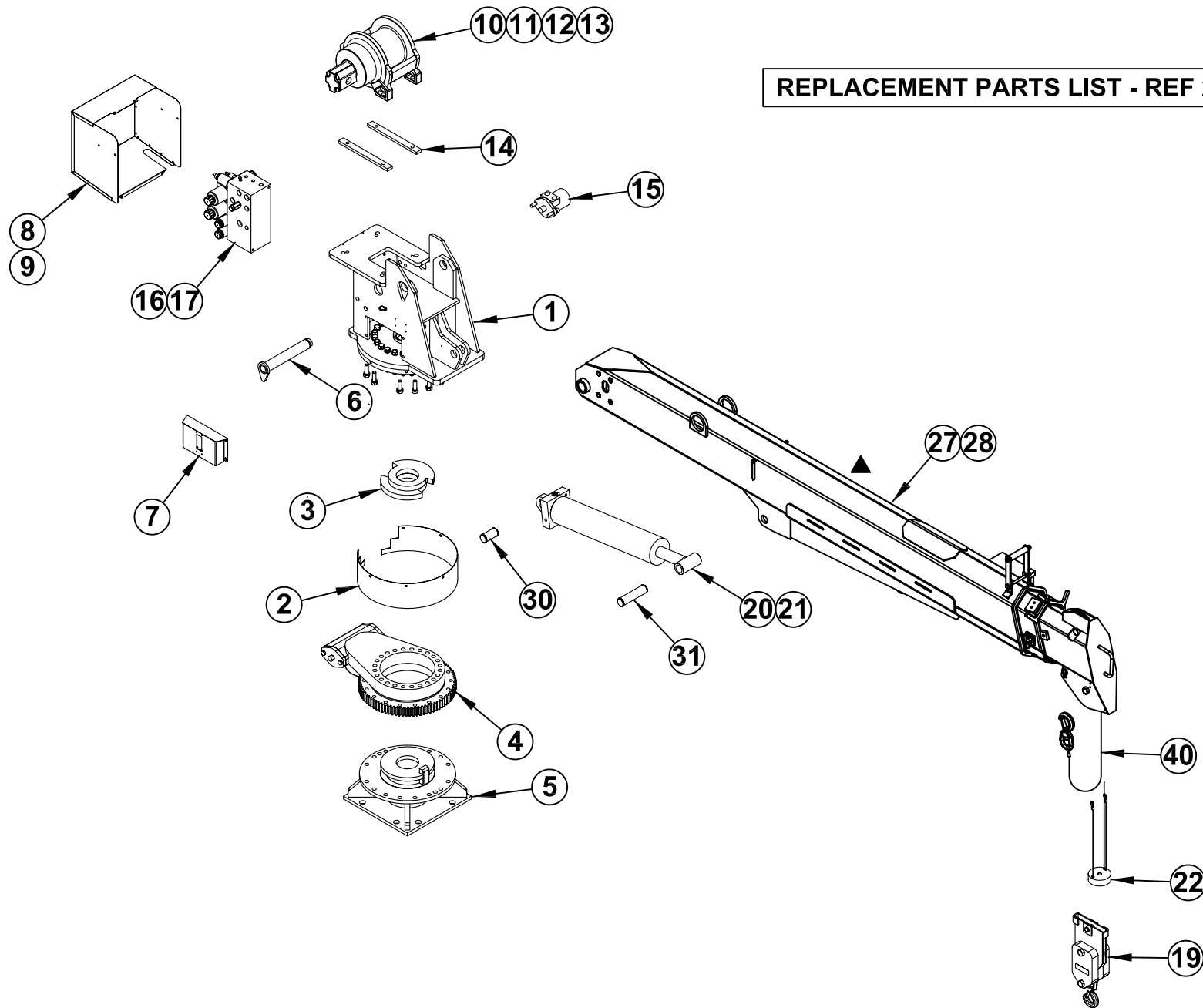
SECTION  
**C200**  
**22245**

# SECTION 400

## PARTS



# REPLACEMENT PARTS LIST - REF 22915



MANUFACTURING, INC.  
CINCINNATI, OHIO

TITLE

REPLACEMENT PARTS

HT40KX, HT50KX

DATE

10-24-08B


SUPERSEDES

7-21-28A

SECTION

C400

22914

ITEM #	PART #	DESCRIPTION	ITEM #	PART #	DESCRIPTION
1	22840	HOUSING WELDED ASSEMBLY	41	-	-
2	22726	OUTERRING	42	-	-
3	22702	ROTATION STOP RING WELDED ASSEMBLY	43	-	-
4	22704	SLEWING RING	44	-	-
5	22710	PEDESTAL WELDED ASSEMBLY	45	-	-
6	22721	PIVOT PIN MAIN BOOM PIVOT	46	-	-
7	22715	SIDE COVER	47	-	-
8	22841	REAR HYD. VALVE COVER - NON-PROP.	48	-	-
9	22842	REAR HYD. VALVE COVER - PROP.	49	-	-
10	22828	WINCH - 3000 LB (SINGLE LINE) - HT40KX - NON-PROP	50	-	-
11	22829	WINCH - 3000 LB (SINGLE LINE) - HT40KX - PROP	51	22920	FIELD SERVICE LABEL KIT - HT40KX NON-PROP.
12	22909	WINCH - 4000 LB (SINGLE LINE) - HT50KX - NON-PROP	52	22921	FIELD SERVICE LABEL KIT - HT40KX PROPORTIONAL
13	22830	WINCH - 4000 LB (SINGLE LINE) - HT50KX - PROP	53	22924	FIELD SERVICE LABEL KIT - HT50KX NON-PROP.
14	21940	WINCH SPACER (HT40KX ONLY)	54	22925	FIELD SERVICE LABEL KIT - HT50KX PROPORTIONAL
15	19177	HYDRAULIC ROTATION MOTOR	55	-	-
16	22501	HYDRAULIC VALVE ASSEMBLY - NON-PROP	56	-	-
17	22736	HYDRAULIC VALVE ASSEMBLY - PROP.	57	-	-
18	-	-	58	-	-
19	17770	HEADACHE BALL ASSEMBLY	59	-	-
20	21747 ▲	ELEV. CYL. 4.5" BORE x 2" ROD x 19.63" STROKE	60	-	-
21	22022-1	ELEV. C YL. 5" BORE x 2" ROD x 19.63" STROKE	61	-	-
22	19377-3	19377-1 ANTI-2-BLOCK WEIGHT ASSEMBLY	62	-	-
23	-	-	63	-	-
24	-	-	64	-	-
25	-	-	65	-	-
26	-	-	66	-	-
27	21420	BOOM ASSEMBLY - HT40/50KX	67	-	-
28	21410	BOOM ASSEMBLY - HT40/50KXX	68	-	-
29	-	-	69	-	-
30	22256	ELEVATION CYLINDER PIN - INBOARD	70	-	-
31	22257	ELEVATION CYLINDER PIN - OUTBOARD	71	-	-
32	-	-	72	-	-
33	-	-	73	-	-
34	-	-	74	-	-
35	-	-	75	-	-
36	-	-	76	-	-
37	-	-	77	-	-
38	-	-	78	-	-
39	-	-	79	-	-
40	17094-3/8-100	WIRE ROPE ASSEMBLY - 3/8" x 100 FT	80	-	-
		 ITEM NOT SHOWN ON REPLACEMENT PARTS DRAWING  REPLACEMENT PARTS DWG REF 22914			



MANUFACTURING, INC.  
CINCINNATI, OHIO

TITLE

REPLACEMENT PARTS

HT40KX, HT50KX

DATE

3-24-09B

SUPERCEDES

7-21-08A

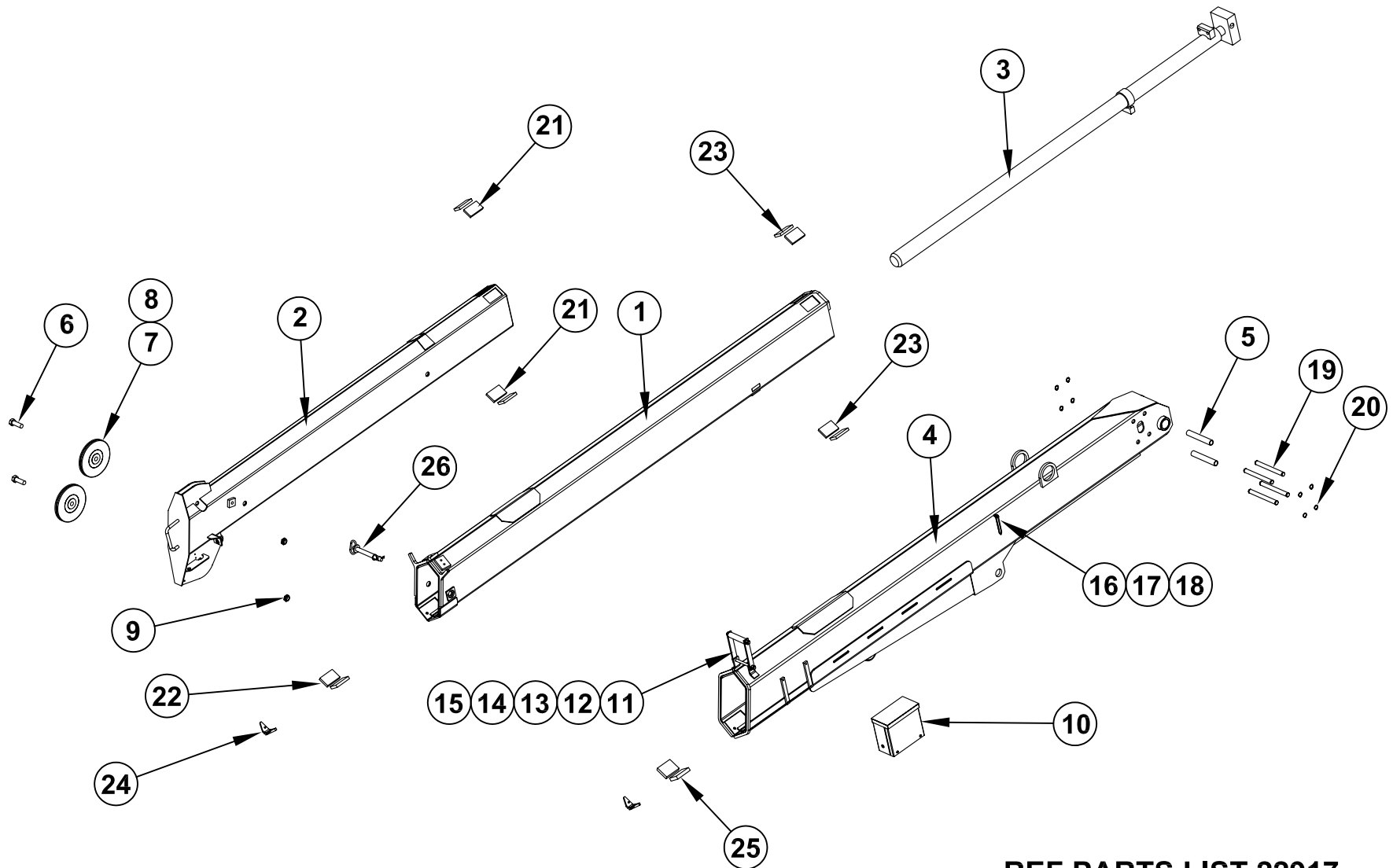
SECTION

C400

22915



# 21420 BOOM PARTS DRAWING (POWER / MANUAL)



REF PARTS LIST 22917



MANUFACTURING, INC.  
CINCINNATI, OHIO

TITLE

**21420 BOOM PARTS DRAWING**

**HT40/50KX - HEX BOOM**

DATE

**3-19-08A**

SUPERSEDES

**9-10-07**

SECTION

**C400**

**22916**

# 21420 BOOM PARTS LIST

▲	26	1	14600	HITCH PIN ASSEMBLY
	25	2	U063X2.50	UHMW 063X2.50
	24	2	23183	V-BLOCK SLIDER
	23	4	U044X2.13	UHMW 044X2.13
	22	2	U050X2.13	UHMW 050X2.13
	21	4	U044X1.88	UHMW 044X1.88
	20	8	ISRNG-075	RETAINING RING - 3/4" SHAFT DIA.
	19	4	22255	EXTENSION CYLINDER THRUST PIN
	18	2	!ANUT-02520S	ACORN NUT 1/4-20 STAINLESS
	17	2	13459-2	BOOM ARROW 4-7/16 LONG
	16	2	22490	SPACER, BOOM ARROW 1/2" O.D.
	15	2	!LNUT-04414	NYLON INSERT LOCK NUT - 7/16-14
	14	1	!HHCS04414550	HEX HEAD CAP SCREW - 7/16-14 X 5-1/2 LG
	13	1	21560	ROLLER,UHMW GUIDE
	12	1	21936	FLAT,MOUNT;WIRE ROPE GUIDE
	11	1	21935	WIRE-ROPE GUIDE WELDED
	10	1	22685	ANTI 2 BLOCK CORD REEL ASSEMBLY
	9	2	!LNUT-07510	LOCKNUT 3/4-10
	8	2	23929	SPACER - 23927 & 23928 POLY SHEAVES
	7	2	23928	BOOM SHEAVE WITH BUSHING
	6	2	17059-1	SHEAVE AXLE
	5	2	24535	THRUST ROLLER
	4	1	27207	PRIMARY BOOM WELDED ASSEMBLY
	3	1	22032-H	EXTENSION CYLINDER
	2	1	27214	TERTIARY BOOM ASSEMBLY
	1	1	27212	SECONDARY BOOM TUBE WELDED ASSEMBLY
	ITEM NO.	QTY.	PART NUMBER	DESCRIPTION

REF PARTS DRAWING 22916



MANUFACTURING, INC.  
CINCINNATI, OHIO

TITLE

REPLACEMENT PARTS LIST

HT40/50KX

DATE

10-27-09B

SUPERSEDES

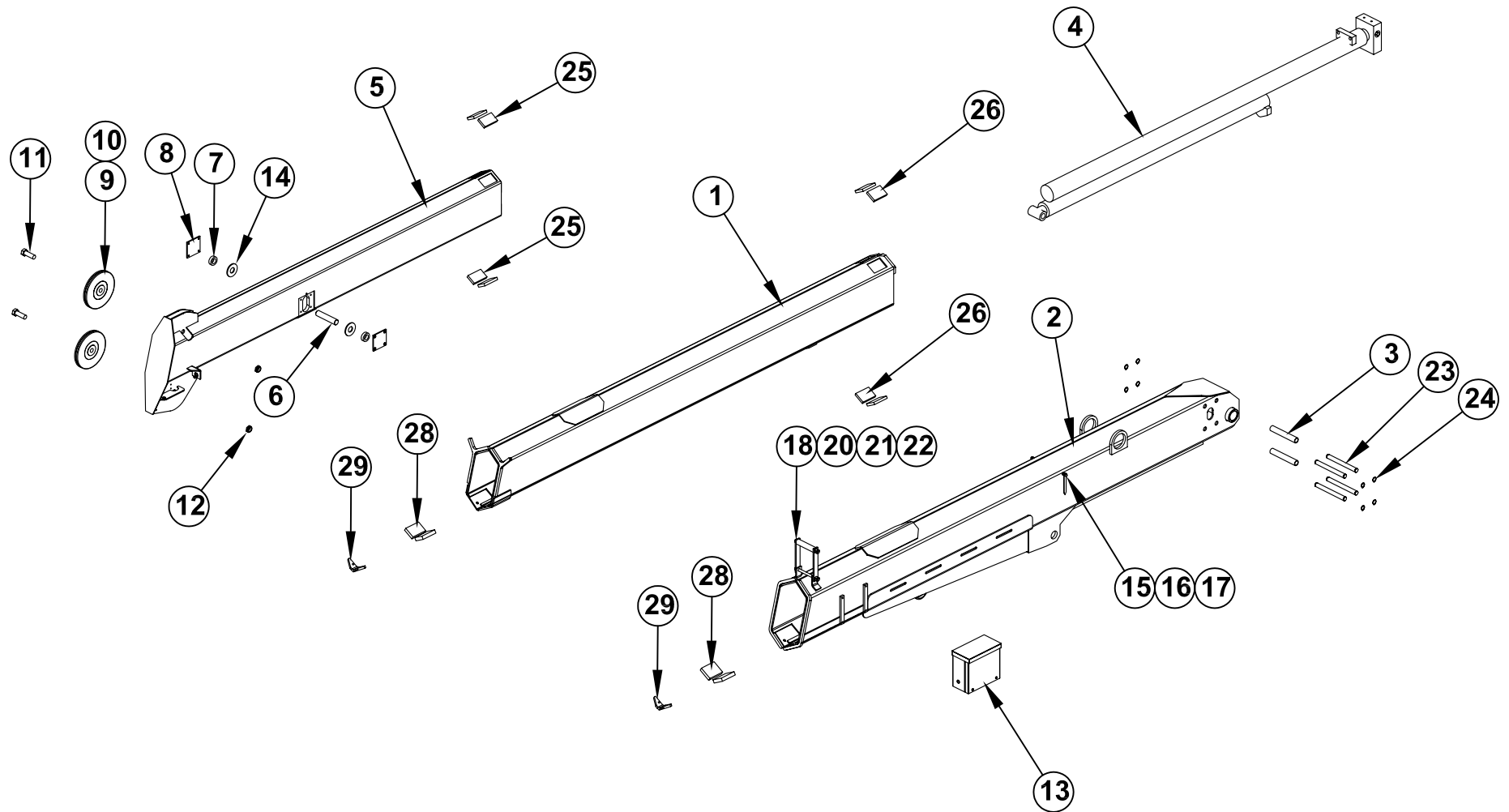
3-19-08A

SECTION

C400

22917

# 21410 BOOM PARTS DRAWING (FULL POWER)



REF. PARTS LIST 22931



MANUFACTURING, INC.  
CINCINNATI, OHIO

TITLE

21410 BOOM PARTS DRAWING

HT40/50KXX BOOM

DATE

6-3-08A

SUPERSEDES

9-25-07

SECTION

C400

22930

# 21410 BOOM PARTS LIST

29	2	23183	V-BLOCK SLIDER
28	2	U063X2.50	UHMW 063X2.50
27	2	U063X2.13	UHMW 063X2.13
26	4	U044X2.13	UHMW 044X2.13
25	4	U044X1.88	UHMW 044X1.88
24	8	ISRNG-075	RETAINING RING - 3/4" SHAFT DIA.
23	4	22255	EXTENSION CYLINDER THRUST PIN
22	2	!LNUT-04414	NYLON INSERT LOCK NUT - 7/16-14
21	1	21560	ROLLER,UHMW GUIDE
20	1	!HHCS04414550	HHCS - 7/16-14 X 5-1/2 LG
19	1	21936	FLAT,MOUNT;WIRE ROPE GUIDE
18	1	21935	WIRE-ROPE GUIDE WELDED
17	2	!ANUT-02520S	ACORN NUT 1/4-20 STAINLESS
16	2	13459-2	BOOM ARROW 4-7/16 LONG
15	2	22490	SPACER, BOOM ARROW 1/2" O.D.
14	2	!FWSH-100	FLAT WASHER - 1"
13	1	22685	ANTI 2 BLOCK CORD REEL ASSEMBLY
12	2	!JNUT-07510N	NYLON LOCK-JAMNUT 3/4-10
11	2	17059-1	SHEAVE AXLE
10	2	23929	SPACER - 23927 & 23928 POLY SHEAVES
9	2	23928	BOOM SHEAVE WITH BUSHING
8	2	23116	PIN BLOCK REINFORCING
7	2	21428	BUSHING
6	1	21405	PIN - CYLINDER
5	1	21416	TERTIARY BOOM ASSEMBLY
4	1	21744	EXTENSION CYLINDER
3	2	24535	THRUST ROLLER
2	1	27207	PRIMARY BOOM WELDED ASSEMBLY
1	1	27209	SECONDARY BOOM WELDED ASSEMBLY
ITEM NO.	EXPLODED/QTY.	PART NUMBER	DESCRIPTION

REF PARTS DRAWING 22930

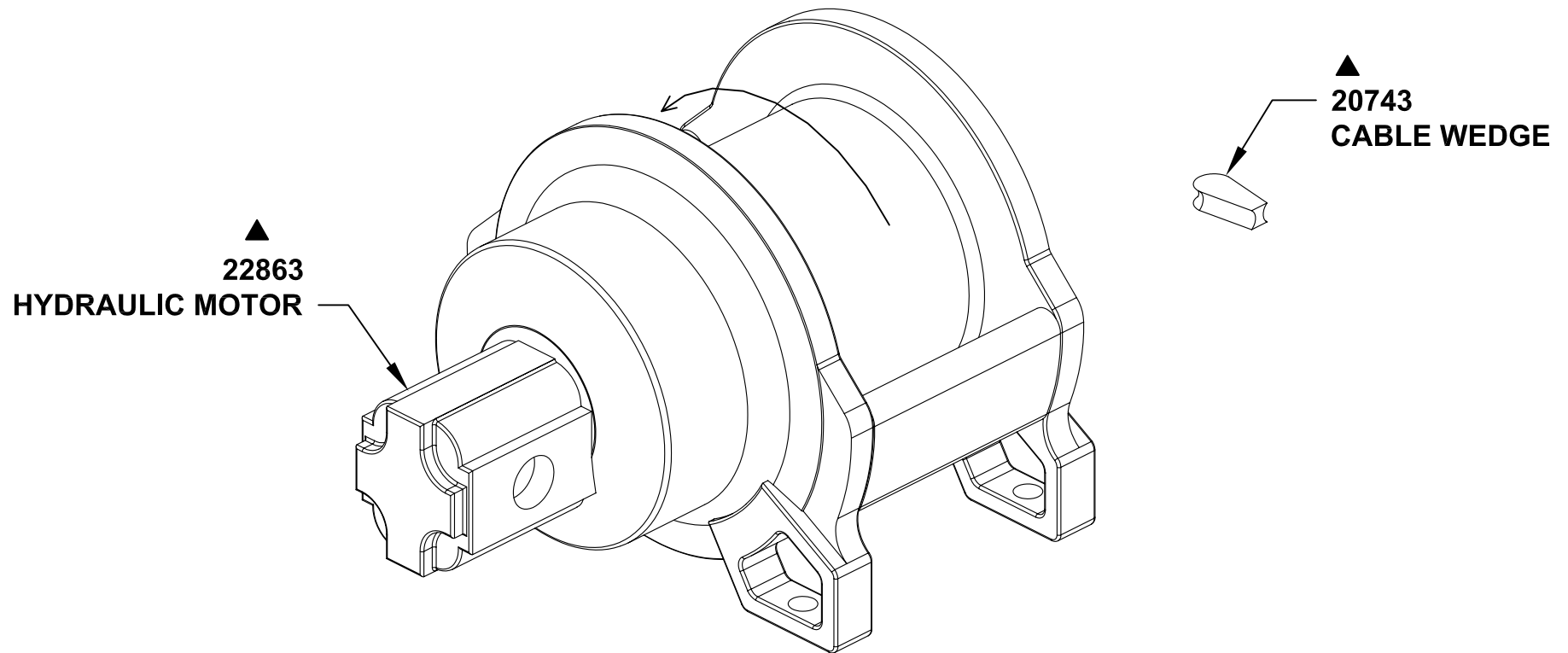


TITLE  
**REPLACEMENT PARTS LIST**  
**HT40/50KXX**

DATE  
**10-1-09B**  
SUPERSEDES  
**6-3-08A**

SECTION  
**C400**  
**22931**

# REPLACEMENT PARTS 22828 WINCH



▲  
WINCH SERVICE KIT P/N: 21381  
▲  
MOTOR SERVICE KIT P/N 22902



MANUFACTURING, INC.  
CINCINNATI, OHIO

TITLE

REPLACEMENT PARTS DRAWING

22828 WINCH

DATE

7-21-08A

SUPERSEDES

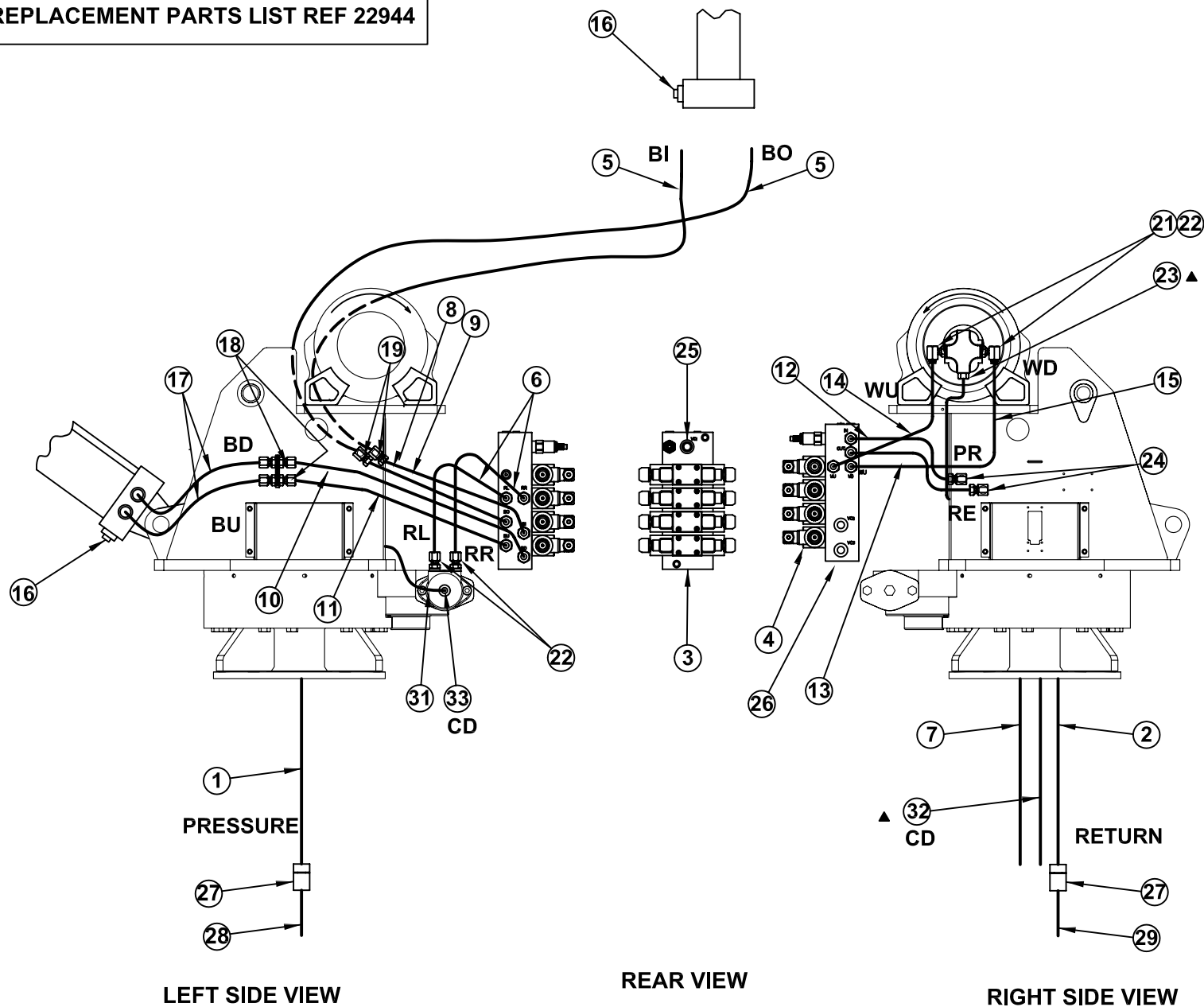
11-29-07

SECTION

-

22884

# REPLACEMENT PARTS LIST REF 22944



CD	CASE DRAIN
RR	ROTATION RIGHT
RL	ROTATION LEFT
BO	BOOM OUT
BI	BOOM IN
BU	BOOM UP
BD	BOOM DOWN
PR	PRESSURE
RE	RETURN
WU	WINCH UP
WD	WINCH DOWN

HYDRAULIC SYSTEM COMPONENTS - HT40/50KX NON-PROP CRANES  
REPLACEMENT PARTS LIST

ITEM	PART NUMBER	DESCRIPTION
1	22820	PRESSURE HOSE
2	22821	RETURN HOSE
3	22501	VALVE BANK - HT40KX, HT50KX
4	22523	VALVE ASSEMBLY (VALVE BLOCK, VALVE, COIL, & HARDWARE)
5	22362	COIL ONLY
	22363	EXTENSION CYLINDER HOSE
6	22811	HYD TUBING - ROTATION
7	22903	HOSE - CASE DRAIN
8	22812	HYD TUBING - BOOM OUT
9	22813	HYD TUBING - BOOM IN
10	22815	HYD TUBING - BOOM DOWN
11	22814	HYD TUBING - BOOM UP
12	22853	HOUSING PRESSURE HOSE
13	22854	HOUSING RETURN HOSE
14	22837	HOSE - WINCH UP
15	22838	HOSE - WINCH DOWN
16	20893	COMMAND AND CONTROL VALVE (ELEVATION & EXTENSION CYLINDERS)
17	22382	ELEV CYLINDER HOSE - 22" x 6MBX x 6FJX
18	H2700LN-0606	HYD BULKHEAD 6MJ-6MJ
19	▲H6500-0606	HYD ELBOW FITTING 6MJ-6FX-90 DEG.
20	-	-
21	H6801-0608	HYD ELBOW 8MO-6MJ X 90°
22	H6410-1608	REDUCER - EXPANDER 16MO-8FO
23	H6801-0404	HYD ELBOW 4MJ-4MO X 90°
24	H2701LN-0808	HYD BULKHEAD UNION ELBOW WITH LOCK NUT - 8MJ X 90°
25	22503	MASTER BYPASS VALVE AND COIL
26	22312-X.XX	PRIORITY FLOW CART (X.XX REFER TO CHART BELOW)
27	20684	LIVE CONTINUOUS HYDRAULIC SWIVEL
28	20687	PRESSURE HOSE - COMPARTMENT SIDE
29	20688	RETURN HOSE - COMPARTMENT SIDE
30	H6500-0606	HYD ELBOW FITTING 6MJ-6FX-90
31	▲ 22952	CASE DRAIN HOSE - 13" LONG
32	▲ 22953	CASE DRAIN HOSE - 30" LONG
33	▲ H6801-0404	HYD ELBOW 4MJ-4MO
34	▲ H2603-040404	HYD TEE - 4MJ-4MJ-4MJ

REPLACEMENT PARTS DWG REF 22943

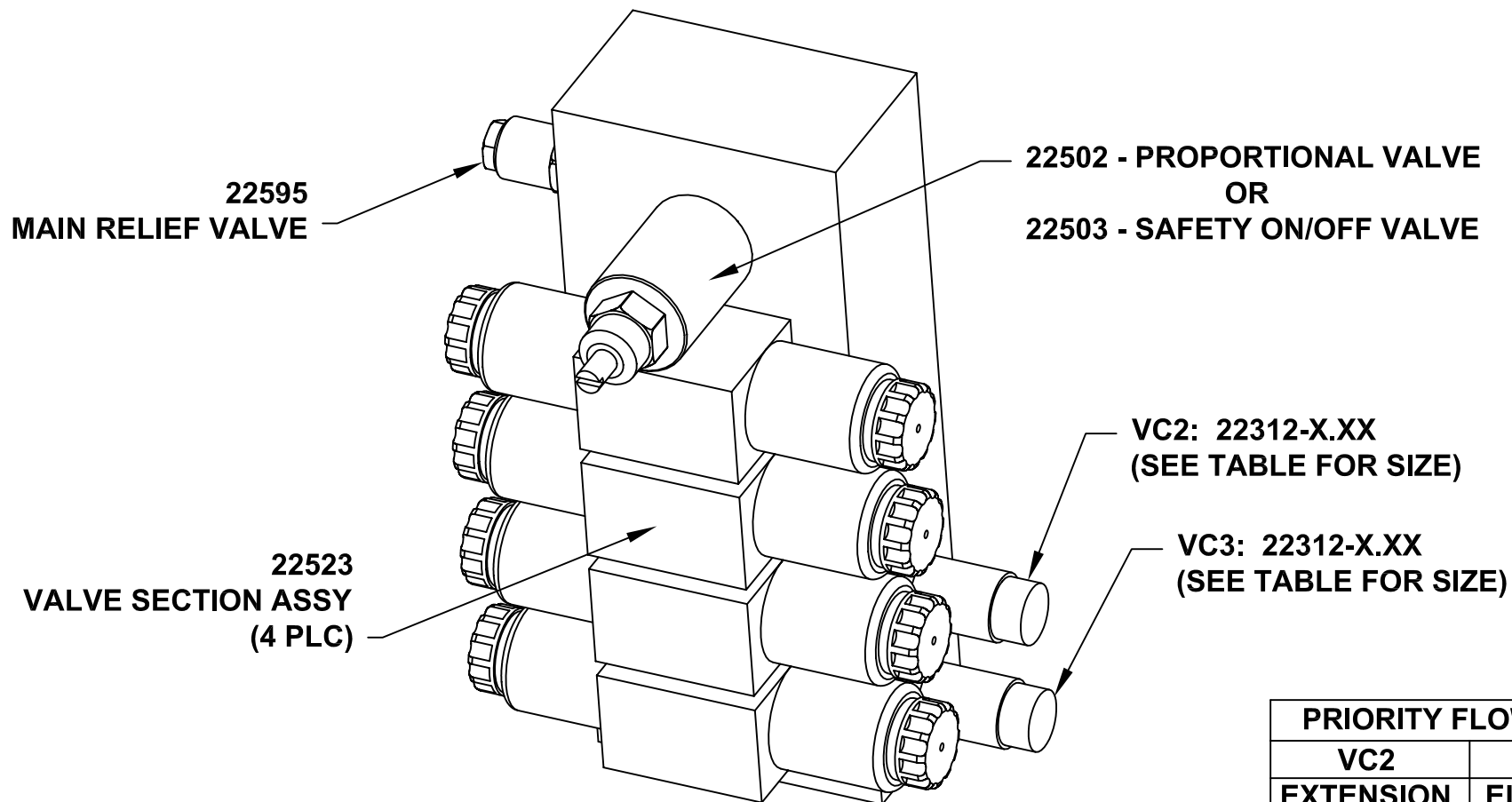
HT40	EXTENSION	1.25
	ELEVATION	1.75
HT50	EXTENSION	1.25
	ELEVATION	2.25



MFG., INC.  
CINCINNATI, OHIO

TITLE	DATE	SECTION
REPL. PARTS LIST	12-16-08C	C400
HT40/50KX - NON-PROP.	SUPERCEDS 11-4-08B	22944

# 22501 HYDRAULIC VALVE MANIFOLD REPLACEMENT PARTS



	PRIORITY FLOW VALVE	
	VC2	VC3
	EXTENSION	ELEVATION
HT25/30 NON-PROP	1.00	1.00
HT25/30 PROP	2.25	2.25
HT40 NON-PROP	1.25	1.75
HT50 NON-PROP	1.25	2.25



MANUFACTURING, INC.  
CINCINNATI, OHIO

TITLE

**22501 REPLACEMENT PARTS**

**HT25/30/40/50**

DATE

**9-17-09**

SUPSEDES

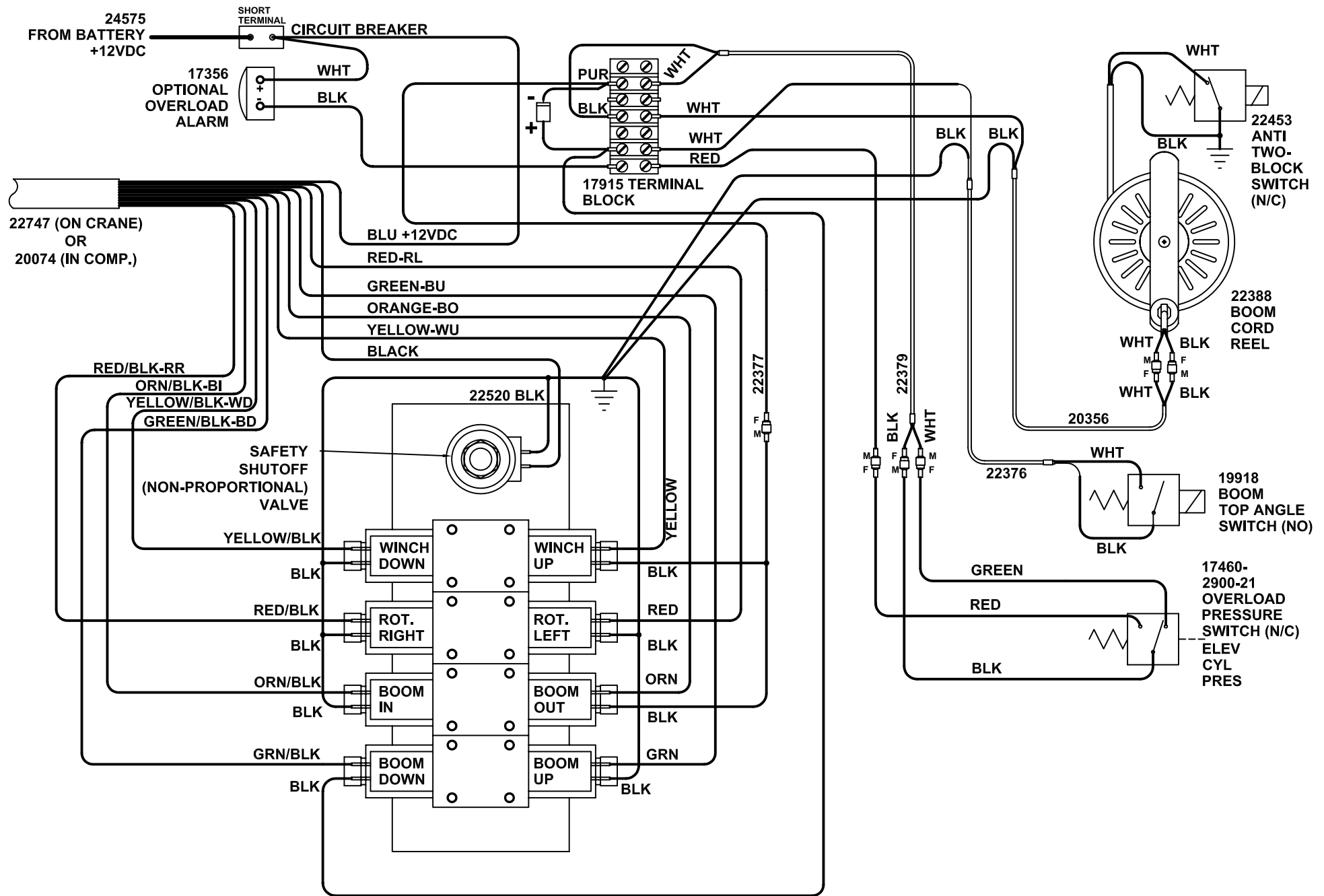
-

SECTION

-

**22939**





MANUFACTURING, INC.  
CINCINNATI, OHIO

# TITLE WIRING DIAGRAM

HT40KX, HT50KX - 4 FUNCTION STD.

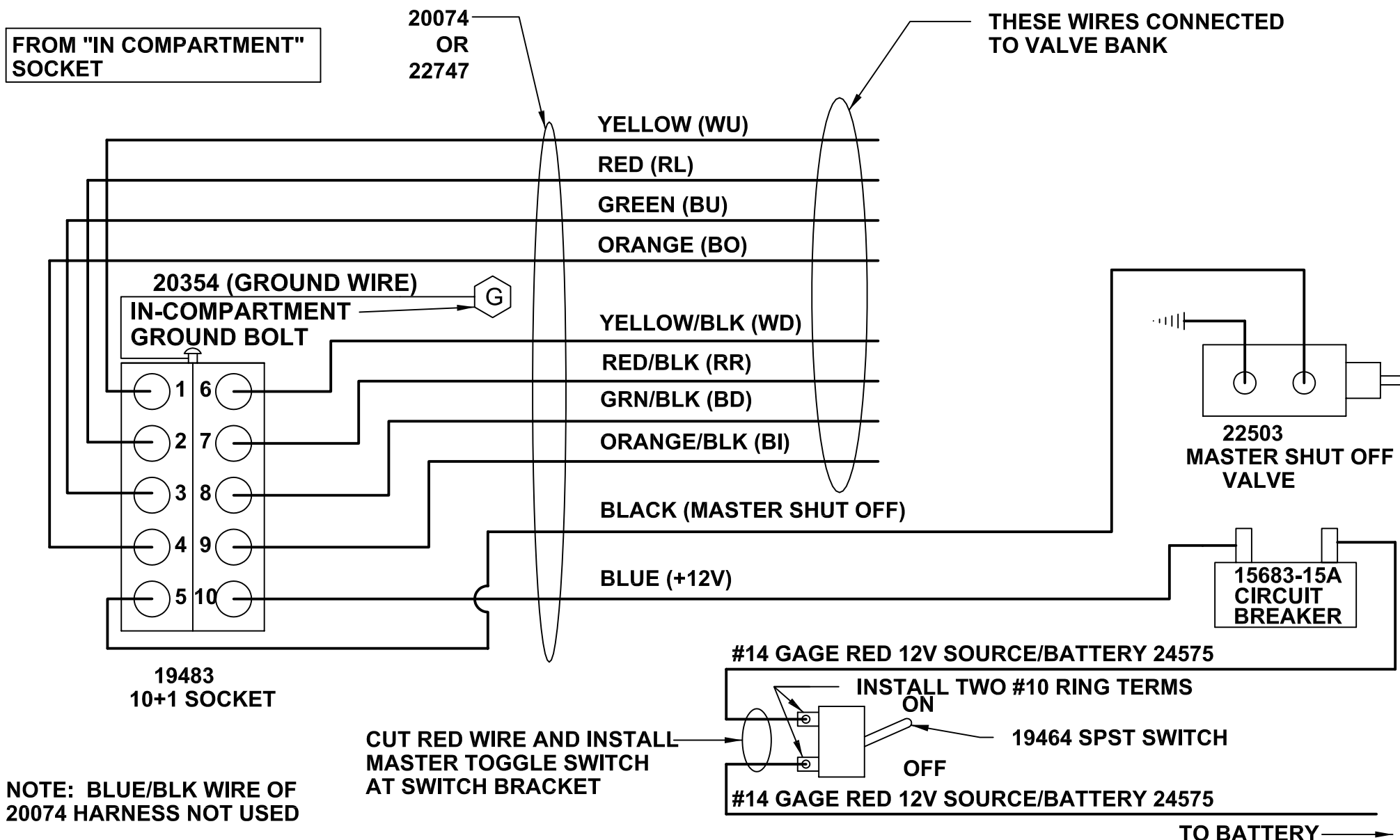
DATE  
5-16-05

SUPERSEDES  
-

SECTION  
C400

**22180**

# NON-PROPORTIONAL CONTROL SOCKET WIRING



MANUFACTURING, INC.  
CINCINNATI, OHIO

TITLE

**NON-PROP W/ IN-COMPARTMENT CTRLS**

**HT40/50 CRANES**

DATE

**5-27-05**

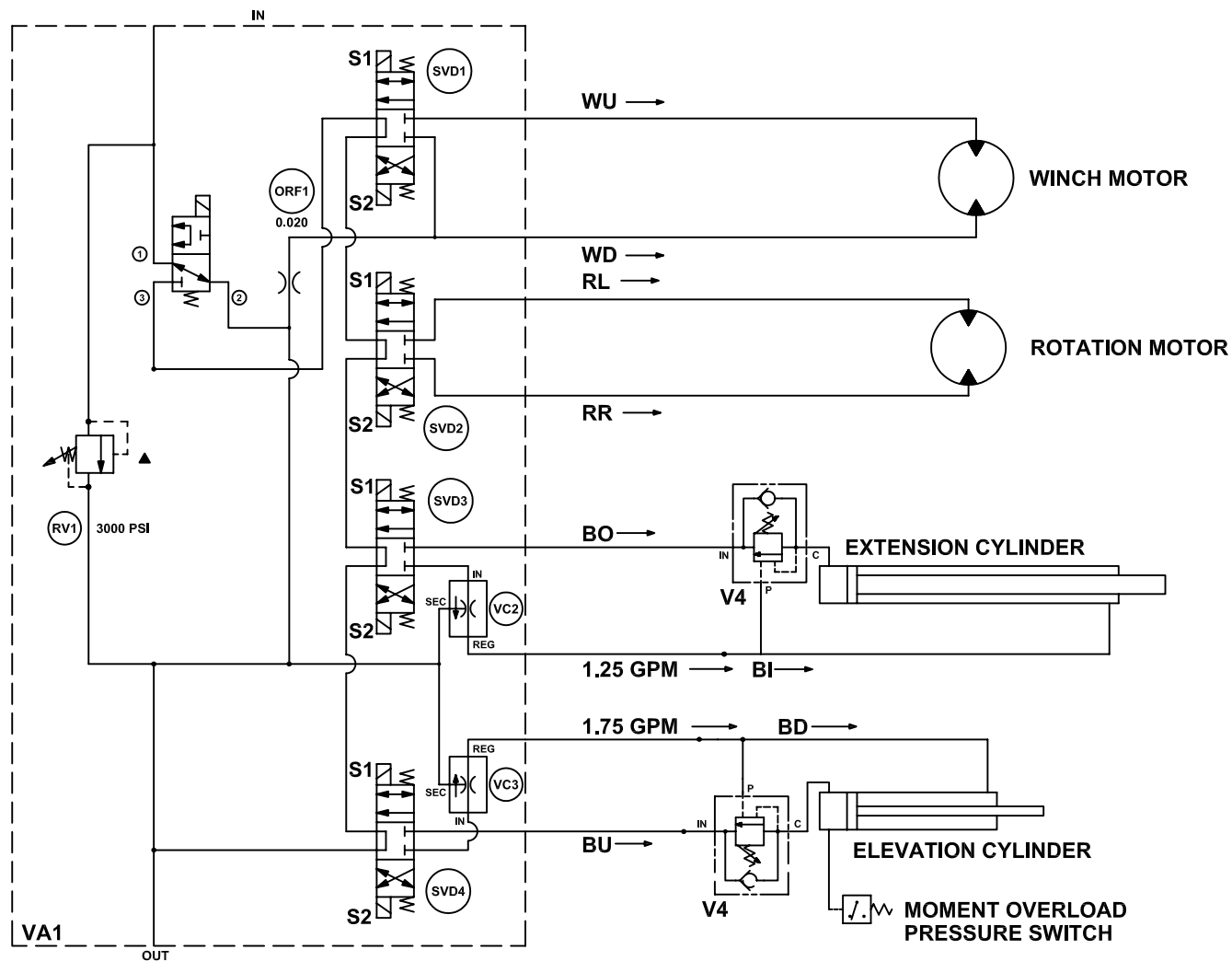
SUPERSEDES

-

SECTION

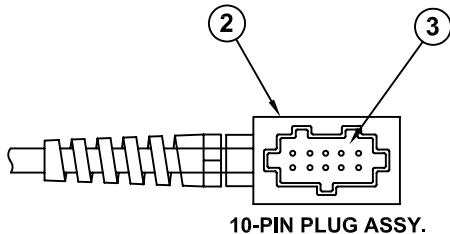
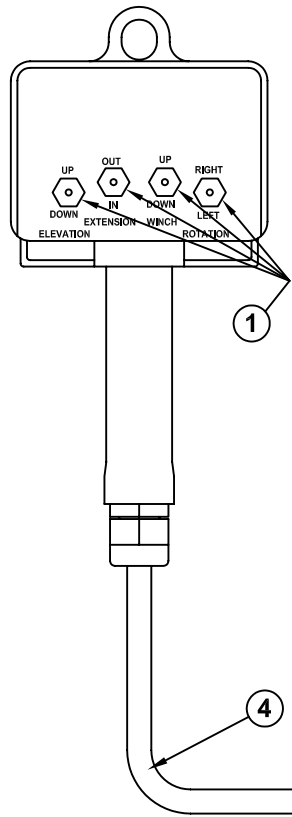
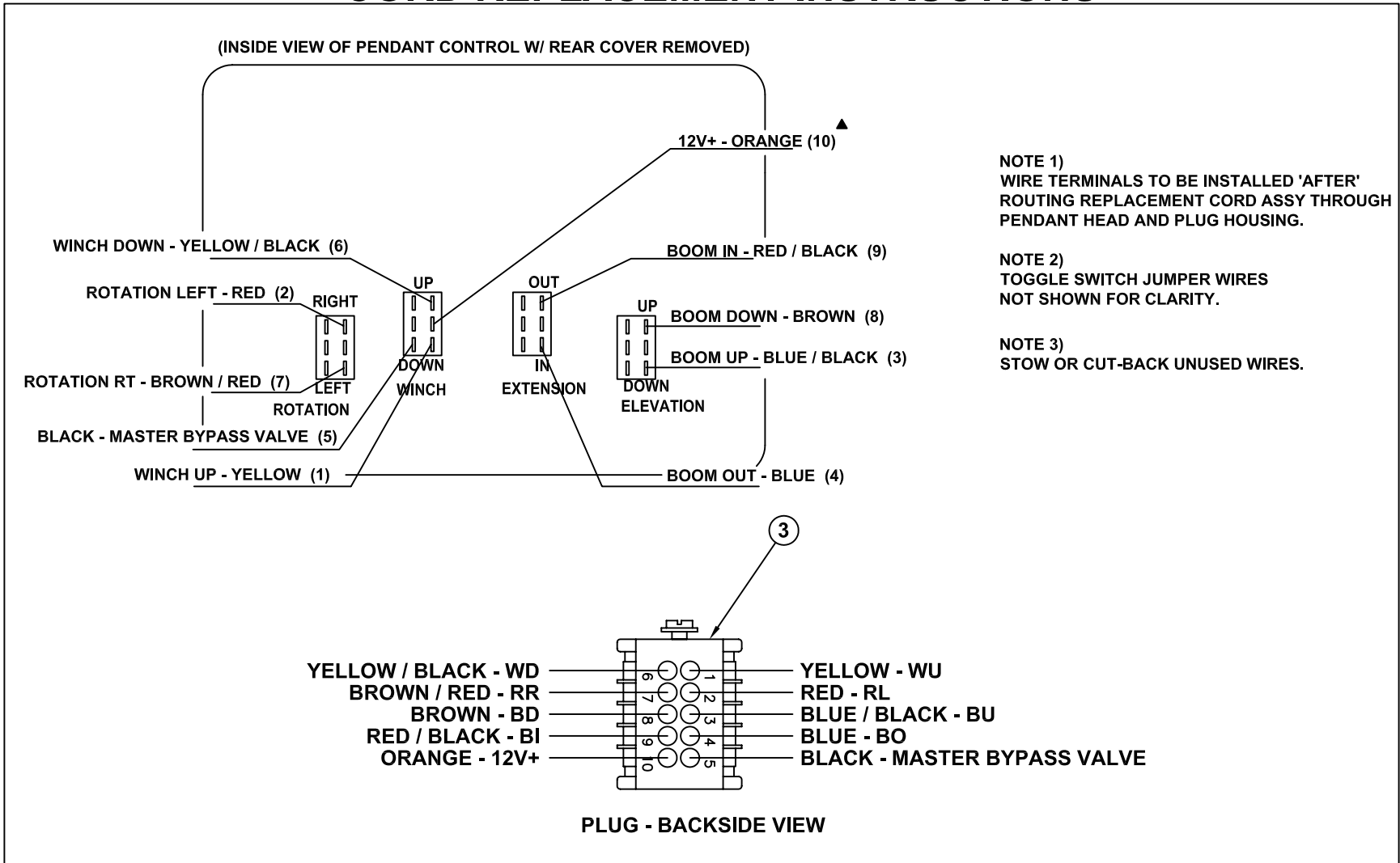
-

**22191**



- |      |                                             |
|------|---------------------------------------------|
| VA1  | CONTROL VALVE ASSY                          |
| RV1  | INLET RELIEF VALVE (3000 PSI)               |
| SVD1 | 3 POSITION-4 WAY VALVE                      |
| SVD2 | 3 POSITION-4 WAY VALVE                      |
| SVD3 | 3 POSITION-4 WAY VALVE                      |
| SVD4 | 3 POSITION-4 WAY VALVE                      |
| V4   | COUNTERBALANCE CARTRIDGE VALVE              |
| VC1  | PROPORTIONAL CONTROL VALVE (SIMPLIFIED REP) |
| VC2  | PRIORITY FLOW REGULATOR VALVE               |
| VC3  | PRIORITY FLOW REGULATOR VALVE               |

# CORD REPLACEMENT INSTRUCTIONS



4	1	22135	CORD ASSY. KIT
3	1	19427	MALE INSERT - 10 + 1 POLE
2	1	19426	PLUG CASE - 10 + 1 POLE
1	4	22152	DPDT MOMENTARY SWITCH
ITEM	QTY	PART NO.	DESCRIPTION



MANUFACTURING, INC.  
CINCINNATI, OHIO

TITLE

REPLACEMENT PARTS DRAWING

22062 PENDANT (STANDARD CTRL)

DATE

10-6-11C

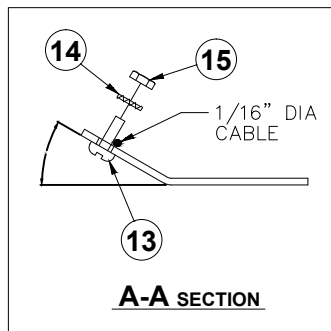
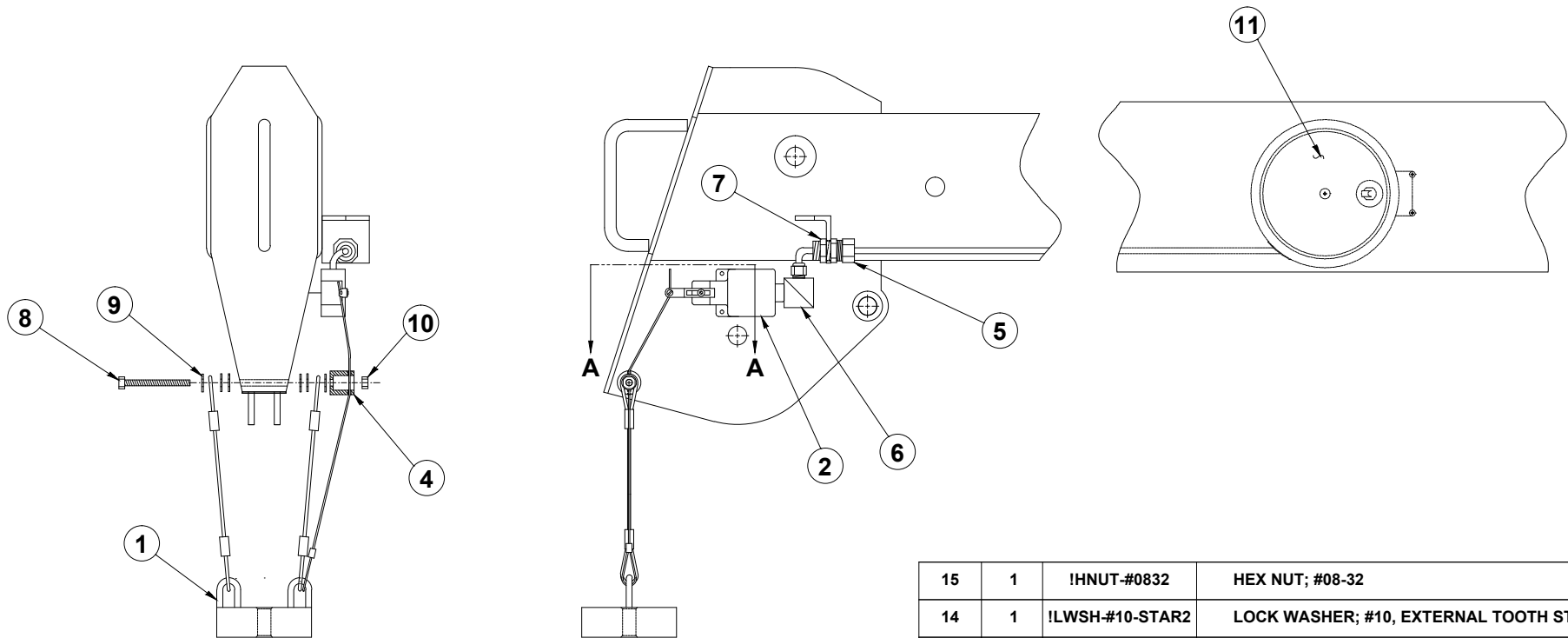
SUPERSEDES

8-15-11B

SECTION

C400

22078



NOTE: PARTS SEE 22450 (NO DASH) KIT

15	1	!HNUT-#0832	HEX NUT; #08-32
14	1	!LWSH-#10-STAR2	LOCK WASHER; #10, EXTERNAL TOOTH STAR
13	1	!PHCS#0832038	PAN HEAD CAP SCREW; #08-32 x 3/8"
12	-	-	-
11	1	26577-1-20	CORD REEL ASSY - LEFT HAND (STANDARD)
10	1	!LNUT-02520	LOCK NUT; 1/4-20, NYLON INSERT
9	6	!FWSH-025	FLAT WASHER; 1/4"
8	1	!HHCS02520275-5	HEX HEAD CAP SCREW; 1/4-20 x 2 3/4", GR. 5
7	1	PL-20-469	LOCKNUT; 1/2" - CONDUIT
6	1	19060	STRAIN RELIEF 90°
5	1	22455	STRAIGHT STRAIN RELIEF (1/2" PIPE)
4	1	22454	DELTRIN BLACK CABLE GUIDE - A2B
3	-	-	-
2	1	22453	MICROSWITCH
1	1	19377-3	WEIGHT ASSY
ITEM	QTY	PART NO.	DESCRIPTION



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE  
REPL PARTS DWG - LH CORD REEL

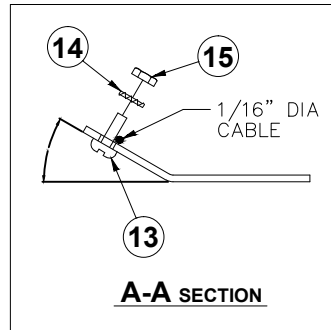
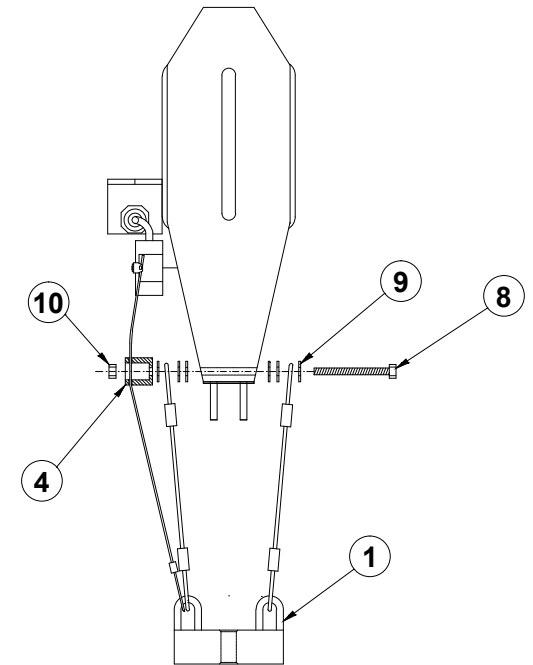
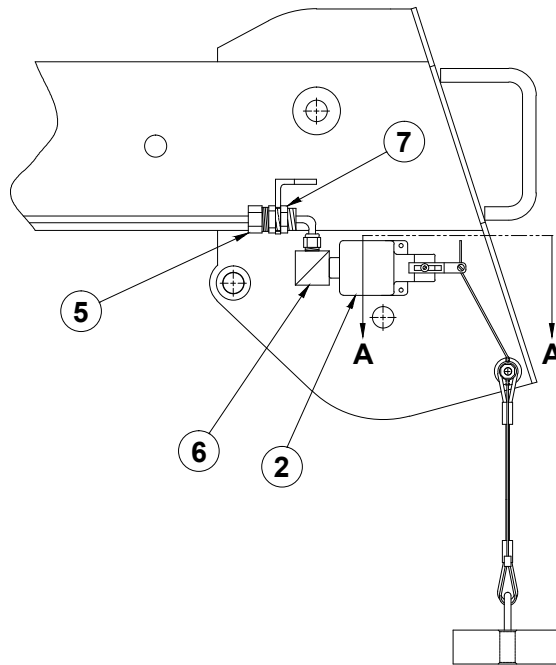
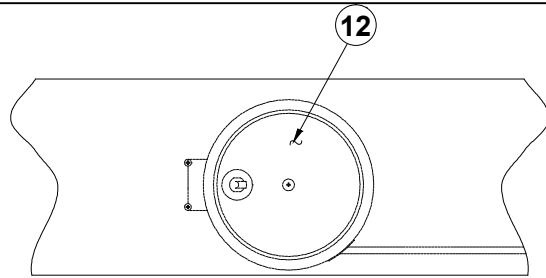
HT40/50 GEN C & PRIOR

DATE  
03-26-25A

SUPERSEDES  
09-11-07

SECTION  
C400

22918



NOTE: PARTS SEE 22450-RH KIT

15	1	!HNUT-#0832	HEX NUT; #08-32
14	1	!LWSH-#10-STAR2	LOCK WASHER; #10, EXTERNAL TOOTH STAR
13	1	!PHCS#0832038	PAN HEAD CAP SCREW; #08-32 x 3/8"
12	1	26577-2-20	CORD REEL & BRACKET ASSY - RIGHT HAND
11	-	-	-
10	1	!LNUT-02520	LOCK NUT; 1/4-20, NYLON INSERT
9	6	!FWSH-025	FLAT WASHER; 1/4"
8	1	!HHCS02520275-5	HEX HEAD CAP SCREW; 1/4-20 x 2 3/4", GR. 5
7	1	PL-20-469	LOCKNUT; 1/2" - CONDUIT
6	1	19060	STRAIN RELIEF 90°
5	1	22455	STRAIGHT STRAIN RELIEF (1/2" PIPE)
4	1	22454	DELTRIN BLACK CABLE GUIDE - A2B
3	-	-	-
2	1	22453	MICROSWITCH
1	1	19377-3	WEIGHT ASSY
ITEM	QTY	PART NO.	DESCRIPTION



VENCO VENTURO INDUSTRIES LLC  
CINCINNATI, OHIO

TITLE  
REPL PARTS DWG - RH CORD REEL

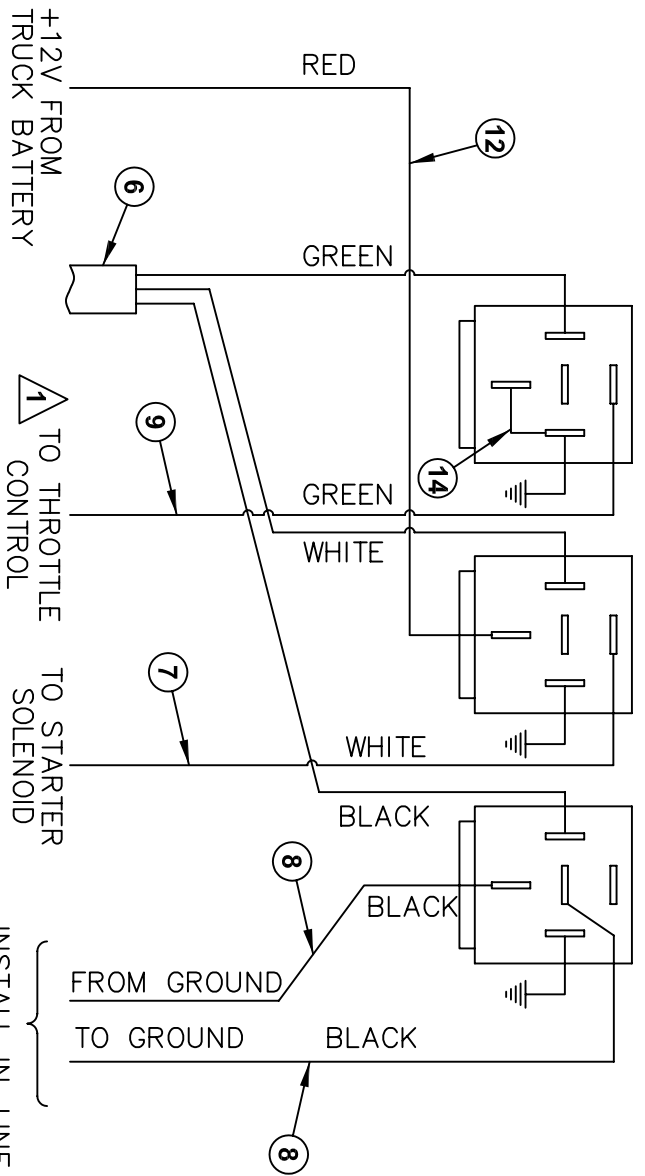
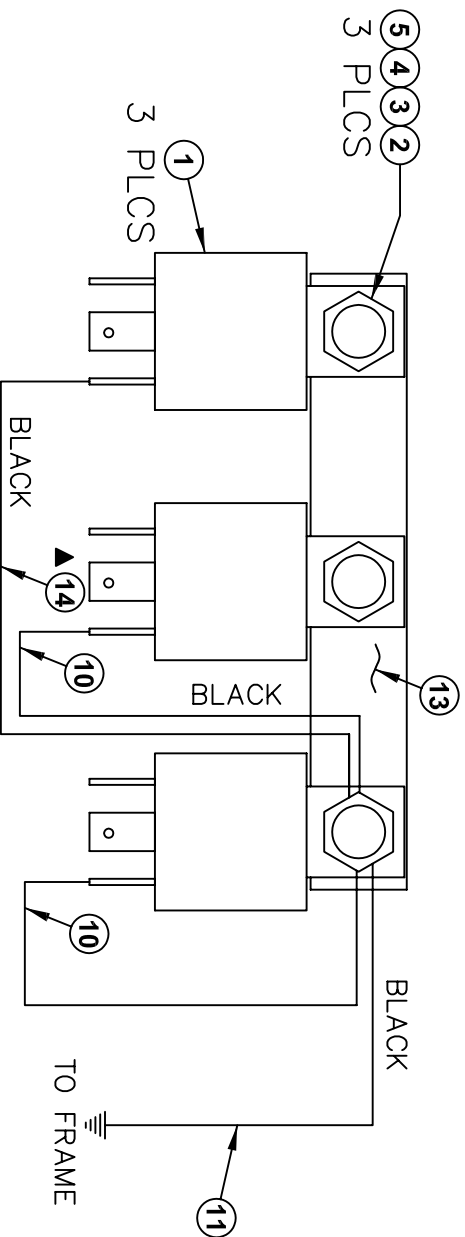
HT40/50 GEN C & PRIOR

DATE  
03-26-25A

SUPERSEDES  
09-11-07

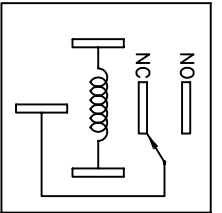
SECTION  
C400

22919



**NOTE:**  
THROTTLE CONTROL IS DESIGNED  
TO PROVIDE A GROUND SIGNAL  
WHEN SWITCH IS ACTIVATED

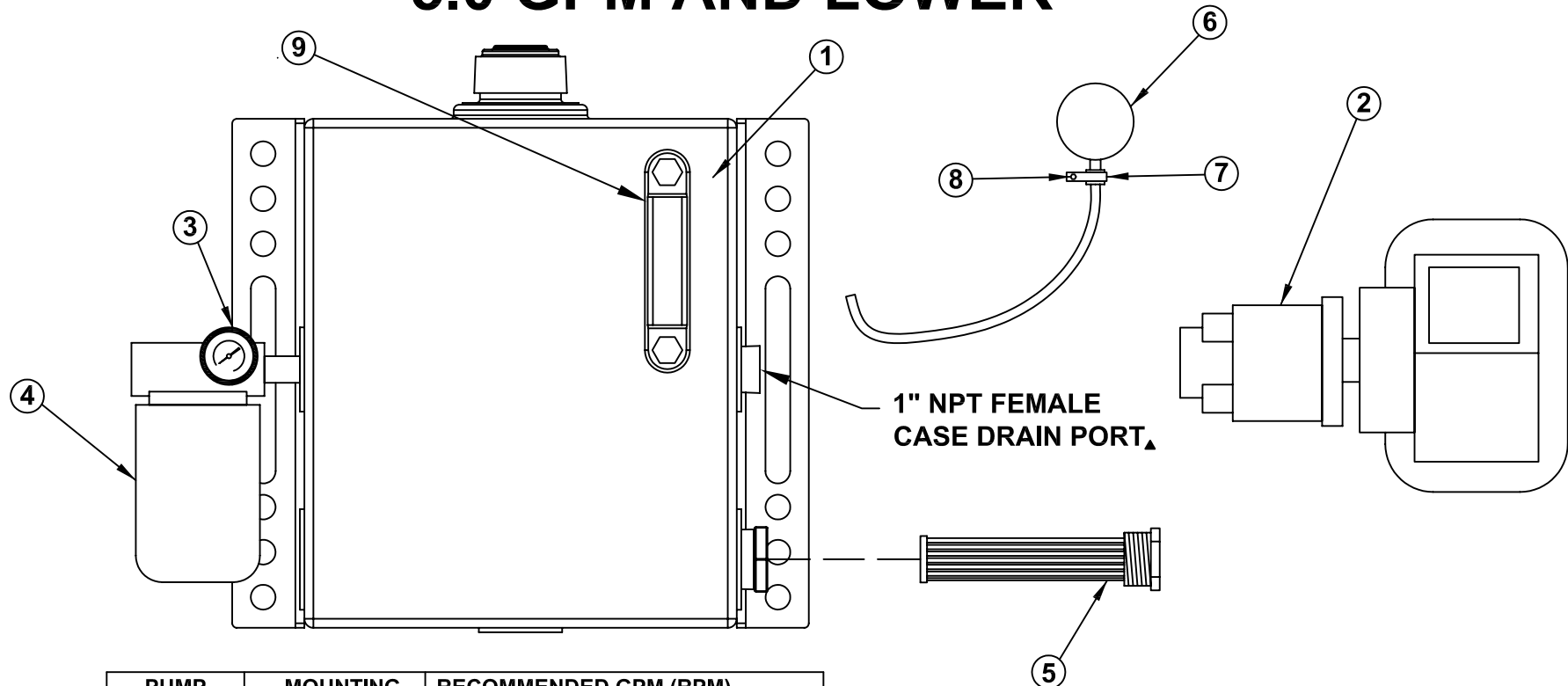
INSTALL IN-LINE  
WITH IGNITION COIL  
(GAS) OR  
FUEL SOLENOID  
(DIESEL).



RELAY  
SCHEMATIC

ITEM	QTY	PART#	DESCRIPTION
1	3	22739 ▲	RELAY
2	3	iPHCS#1024075	#10-24 X 3/4 PHIL PAN HD BOLT
3	3	iLWSH-#10	#10 LOCKWASHER
4	3	iFWSH-025	#10 WASHER
5	3	iHNUT-#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

# 19294 PTO PACKAGES 5.0 GPM AND LOWER



PUMP	MOUNTING	RECOMMENDED GPM (RPM)
19296-1.60	SAE "A" 9 TOOTH SPLINED SHAFT	HT18 - STD. - 1.75 GPM (1110 RPM)
		HT25 - STD. - 2.00 GPM (1250 RPM)
19296-2.64		HT40 - STD. - 2.6 GPM (1000 RPM)
		HT50 - STD. - 3.0 GPM (1150 RPM)
19296-4.00		HT18 - PROP. - 3.5 GPM (875 RPM)
		HT25 - PROP. - 4.0 GPM (1000 RPM)

9	1	22184	SIGHT GLASS
8	1	!HWHS02520075-F	HEX WASHER HEAD 1/4-20 X 3/4 SELF TAPPING
7	1	19275	CLAMP
6	1	22730	PRESSURE GAUGE ASSEMBLY
5	1	19300	SUCTION SCREEN - 100 MESH
4	1	19298	FILTER ASSY, RETURN - 10 MICRON
3	1	19297	PRESSURE GAUGE - RETURN
2	1	SEE CHART	PTO PUMP - HT18/25/40/50KX
1	1	19295	RESERVOIR TANK - 10 GALLON
ITEM	QTY	PART NO.	DESCRIPTION



MANUFACTURING, INC.  
CINCINNATI, OHIO

TITLE  
**REPLACEMENT PARTS DWG**  
**PTO KIT - HT18/25/40/50KX**

DATE  
**11-5-08B**  
SUPERSEDES  
**6-28-05A**

SECTION  
**C400**  
**22744**



HT40KX - NON-PROPORTIONAL  
22766 FIELD SERVICE LABEL KIT

ITEM	PART NUMBER	QTY	DESCRIPTION
1	15581	1	ATTACHMENTDECAL
2	15398	1	UNPLUG PENDANTDECAL
3	19314-1	1	VALVE BANK DECAL - LEFT
4	19314-2	1	VALVE BANK DECAL - RIGHT
5	14473-1	1	OIL DECAL
6	14473-2	4	GREASE DECAL
7	22496	2	VENTURODECAL (LARGE)
8	15401	1	UNLAWFUL TO OPERATEDECAL
9	22342-1	1	HT40KX BOOMCAPACITYDECAL (RIGHT)
10	22342-2	1	HT40KX BOOMCAPACITYDECAL (LEFT)
11	19746	2	HT40KXDECAL
12	15392	1	DANGERELECTROCUTIONHAZARDDECAL
13	15391	1	CRANE NOT PASSENGER LIFTDECAL
14	19315-1	1	SAFETY SHUT OFF HYDRAULIC BANK DECAL
15	15390	1	CAUTION, INSTRUCTIONS DECAL
16	22499	1	KNOW YOUR SIGNALS DECAL
17	22489	1	DECAL PLACEMENT DRAWING
18	20834	1	MANUAL OVERRIDE INSTRUCTIONLOCATIONDECAL
19	▲ 17389-4	1	SMALL VENTURO
20	-	-	-
21	-	-	-
22	-	-	-
23	-	-	-
24	-	-	-
25	-	-	-
26	-	-	-
27	-	-	-
28	-	-	-
29	-	-	-
30	-	-	-
31	-	-	-
32	-	-	-
33	-	-	-
34	-	-	-
35	-	-	-



MFG., INC.  
CINCINNATI, OHIO

TITLE	DATE	SECTION
FIELD SERV. LABEL KIT	9-12-06A	-
HT40KX - NON-PROP.	SUPERCEDS 6-21-06	20843







## **LIMITED WARRANTY POLICY**

This limited policy warrants new products of Venturo be free from defects in material and workmanship for a period of one (1) year 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**

Venturo 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 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 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 Venturo Distributor. No modifications or alterations may be made to any Venturo products without the expressed written consent of the manufacturer. Reinstallation 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 again be instructed as to the safe operation at time of delivery. Maintenance, service, operation and safety warning decals are available on request from Venturo Manufacturing, Inc.

**VENTURO MANUFACTURING, INC**  
DIVISION OF COLLINS ASSOCIATES, INC  
12110 BEST PLACE • CINCINNATI, OHIO 45241  
513.772.8448  
www.venturo.com