

The background of the entire page is a repeating pattern of diamond-shaped metal studs, characteristic of a truck's diamond plate. In the lower center, there is a faint, light-colored silhouette of a truck-mounted crane. Two black rectangular plates with rounded corners and four silver bolts each are positioned in the upper and middle sections of the page. The top plate contains the Venturo logo and the text 'TRUCK MOUNTED CRANES'. The middle plate contains the model number 'HT25KX' and the text 'INSTALLATION & OWNER'S MANUAL'.

**VENTURO**  
TRUCK MOUNTED CRANES

**HT25KX**

**INSTALLATION & OWNER'S MANUAL**



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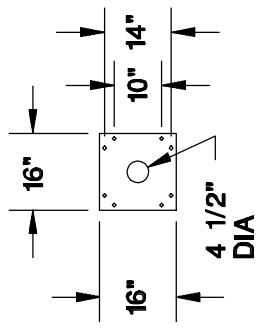
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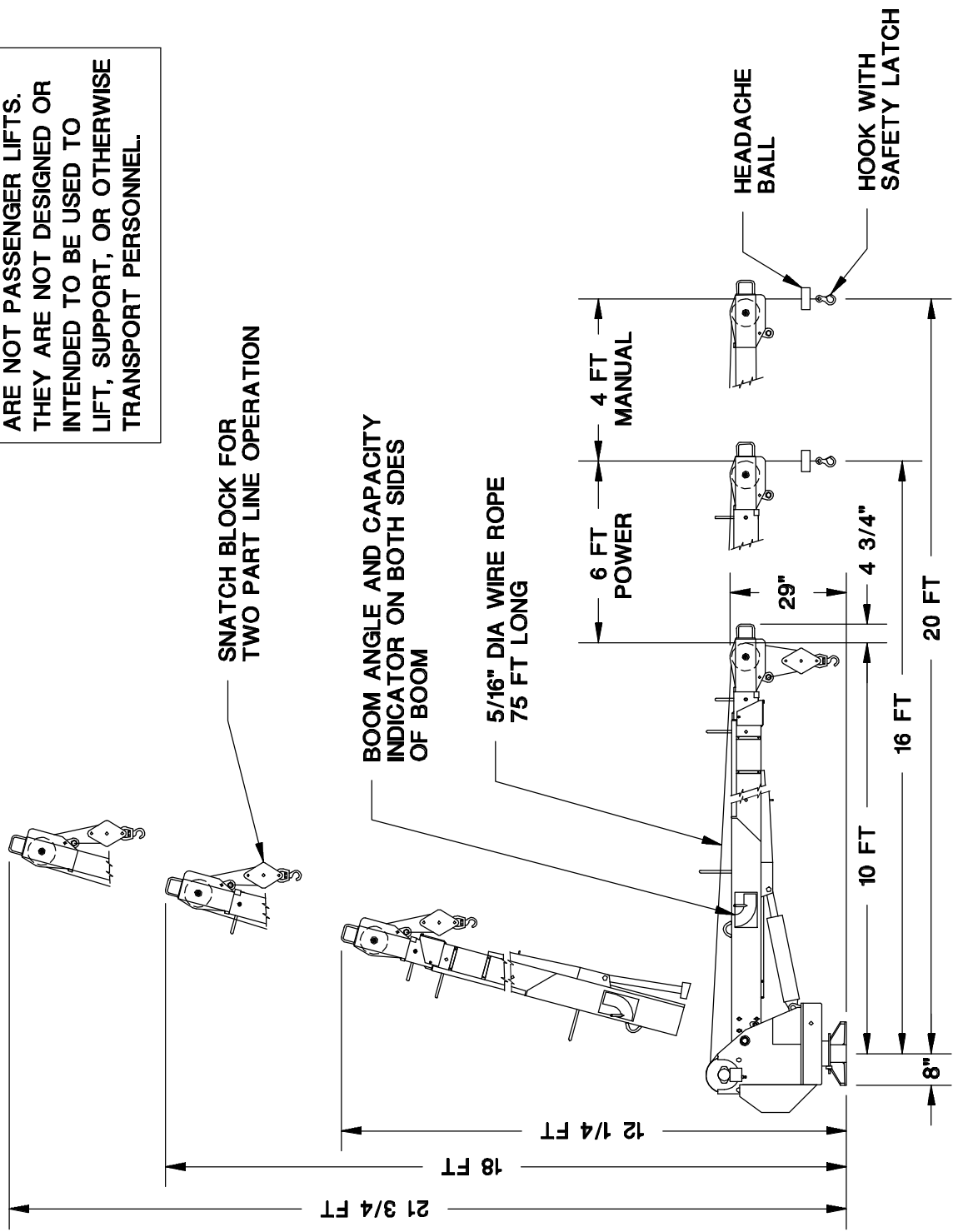
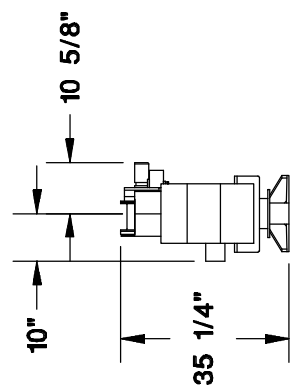
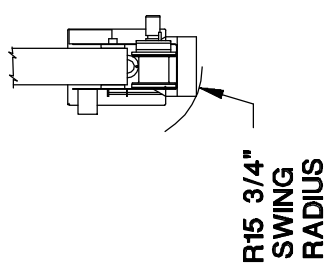




**WARNING: THESE PRODUCTS ARE NOT PASSENGER LIFTS. THEY ARE NOT DESIGNED OR INTENDED TO BE USED TO LIFT, SUPPORT, OR OTHERWISE TRANSPORT PERSONNEL.**



**BASE MOUNTING DIMENSIONS**

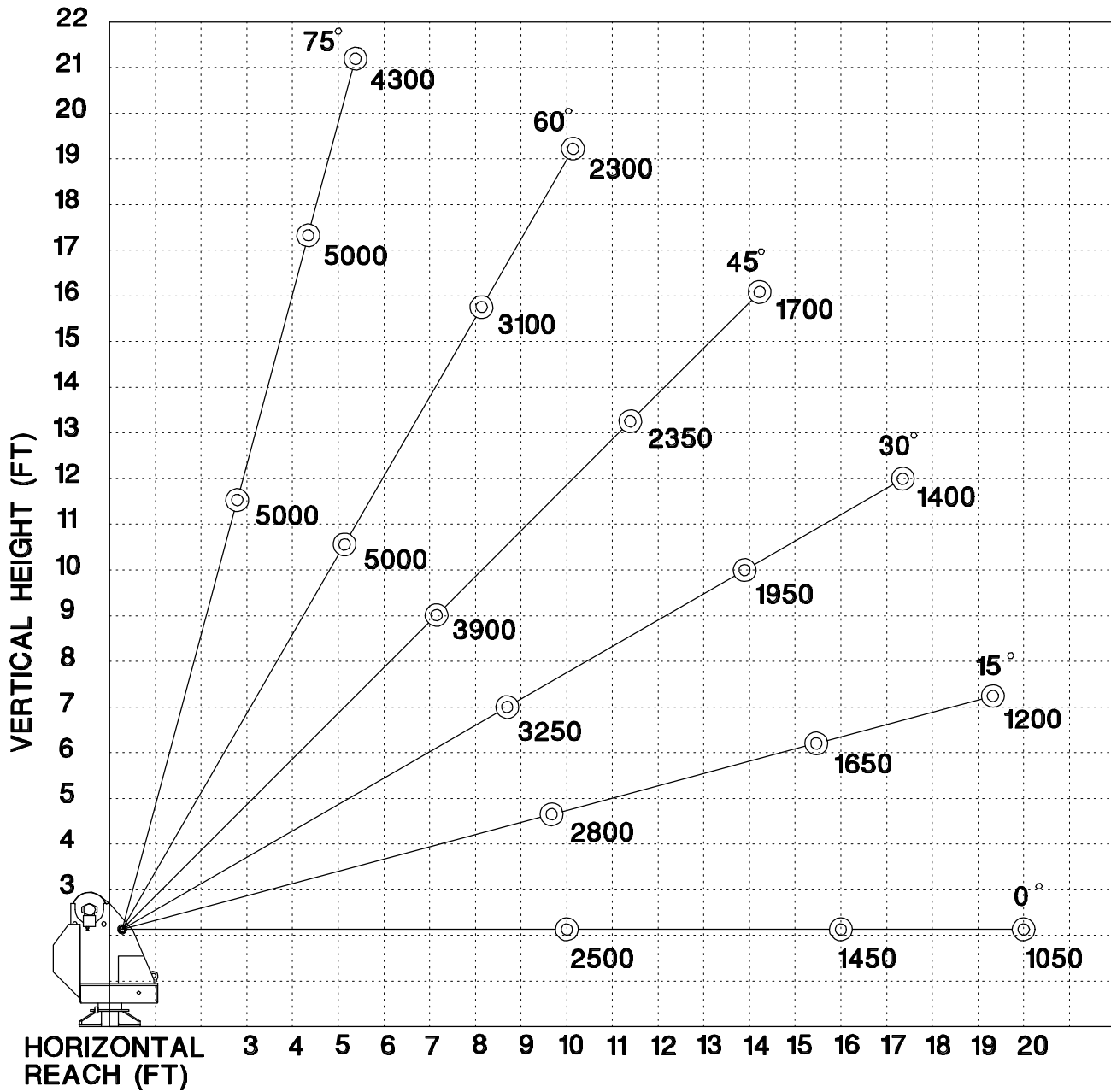


**TITLE**  
**INSTALLATION DRAWING**  
**HT25KX - 10/16/20 BOOM**

**DATE**  
**10-16-97A**  
**SUPERSEDES**  
**7-31-96**

**SECTION**  
**C100**  
**I19230**

## ET/HT25K(X) - 10-16-20 BOOM MAXIMUM CAPACITY CHART

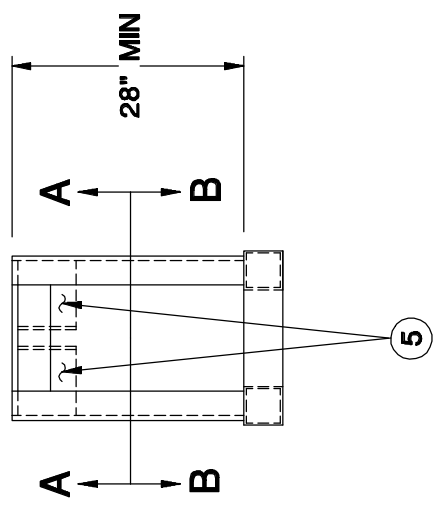
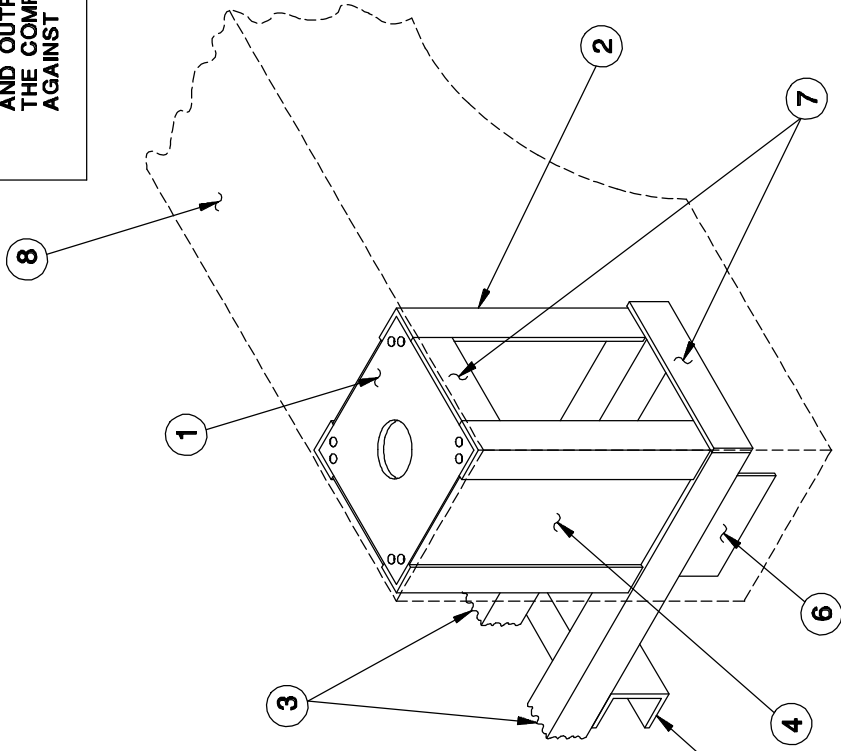
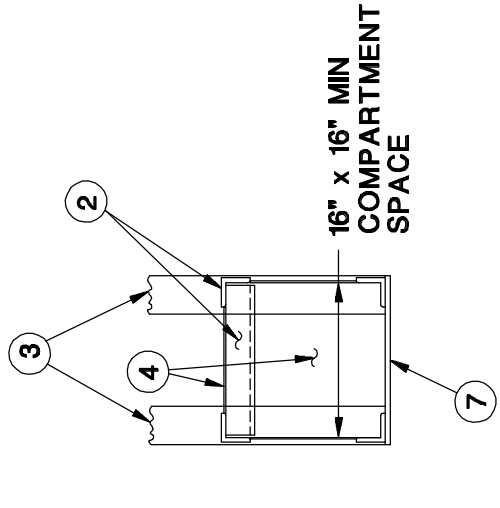
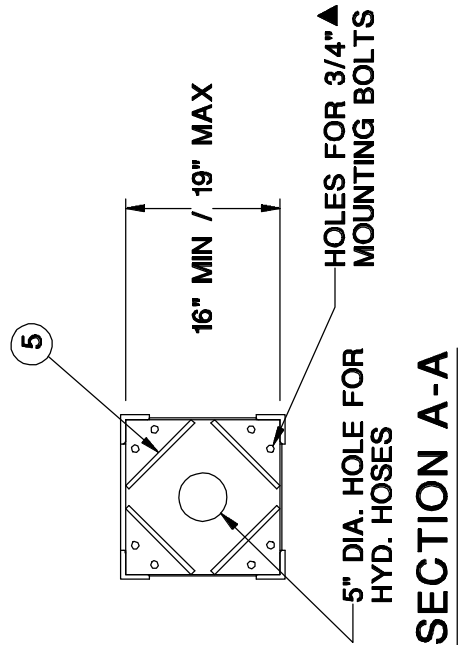


**MUST USE SNATCH BLOCK  
FOR LOADS OF 2500 LBS.  
AND GREATER**



PART	DESCRIPTION	MINIMUM RECOMMENDED MATERIAL SIZE
1	TOP PLATE	1/2" STEEL ▲
2	CORNER POST	3" x 3" x 1/2" STEEL ANGLE
3	CROSS FRAME	4" x 4" x 5/16" SQUARE TUBING
4	SHEAR WEB	3/16" STEEL PLATE
5	TOP PLATE REINFORCEMENT	1/2" x 8" OR 3/4" x 5" STEEL BAR
6	OUTRIGGER REINFORCEMENT PLATE	1/4" THICK STEEL PLATE
7	GUSSET	1/2" x 4" H.R. STEEL
8	BODY TOP REINFORCEMENT	10 GA SMOOTH OR DIAMOND PLATE WITH 1" LIP OVER SIDE OF BODY

IT IS THE SOLE RESPONSIBILITY OF THE INSTALLER TO INSURE THAT THE TOTAL STRUCTURE OF CRANE, TRUCK, AND OUTRIGGERS ARE STRUCTURALLY SOUND AND THAT THE COMPLETED VEHICLE HAS SUFFICIENT STABILITY AGAINST OVERTURNING.



**TYPICAL SERVICE BODY REINFORCEMENT**

	TITLE	INSTALLATION DWG	DATE	10-12-98B	SECTION	C100
		HT25K(X)	SUPERSEDES	10-16-97A		I19288

'A'  
DIM

17350  
DASH NO.

36"

-36

CONSULT VENTURO FOR  
OTHER (OPTIONAL) HEIGHTS

17350 PEDESTAL SHOWN MOUNTED ON RIGHT REAR  
CORNER OF FLAT BED AS TYPICAL OF POSSIBLE  
MOUNTING POSITIONS; MAY ALSO BE MOUNTED  
BEHIND CAB.

MASTER DISCONNECT SWITCH - LOCATION TO  
SUIT

13/16" DIA HOLES  
3/4" BOLT - 8 REQ'D

WARNING: THESE PRODUCTS ARE  
NOT FOR USE WITH PASSENGER  
LIFTS. THEY ARE NOT DESIGNED  
OR INTENDED TO BE USED WITH  
DEVICES THAT LIFT, SUPPORT OR  
OTHERWISE TRANSPORT PERSONNEL.

SEE 14510 FOR  
REINFORCING  
DETAILS

'A'

10"

14"

16"

17350

MOUNTING PEDESTAL

TITLE  
INSTALLATION DRAWING

DATE  
11-5-97

SECTION  
C100

MANUFACTURING, INC.  
CINCINNATI, OHIO

ET/HT25K(X)

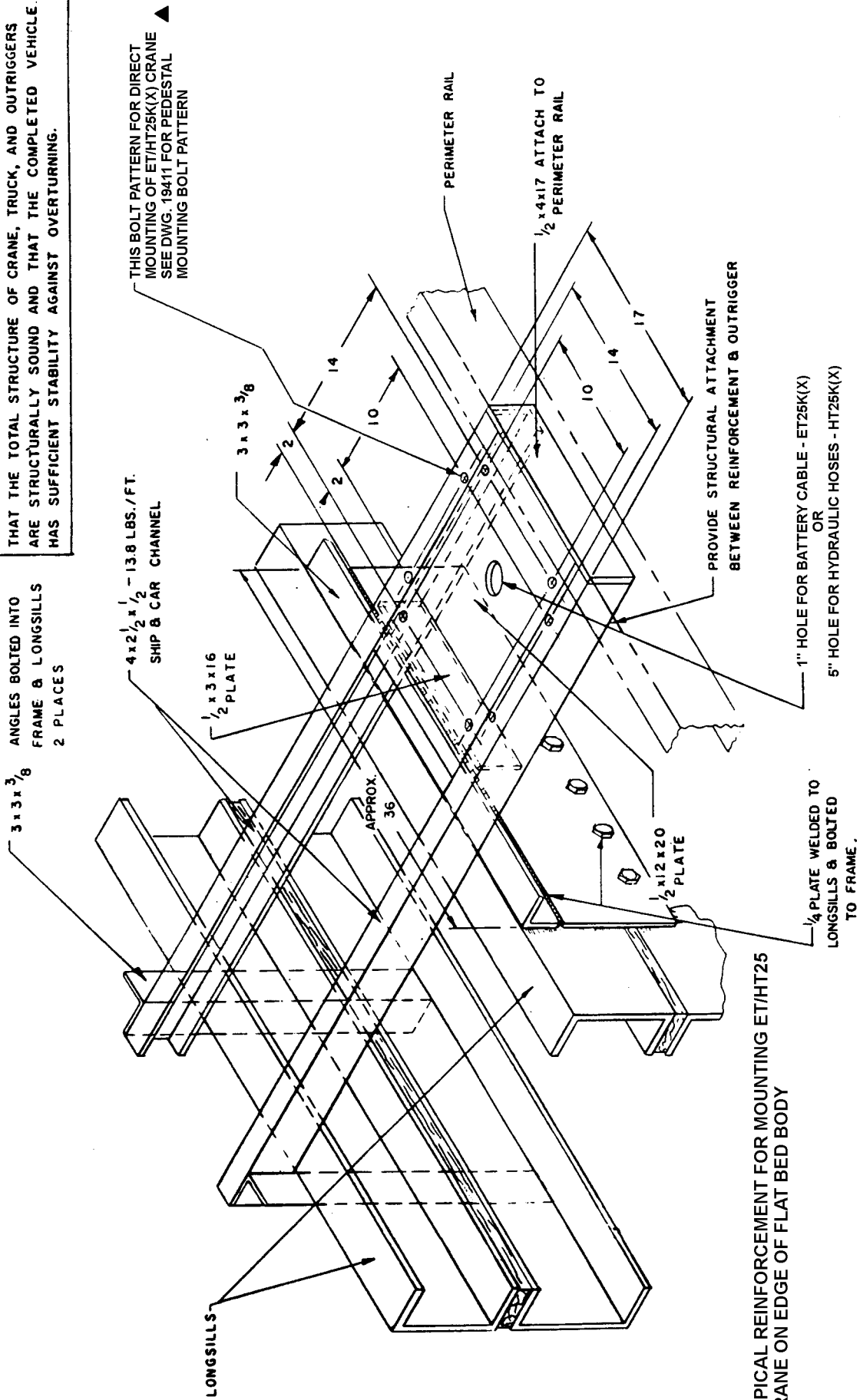
SUPERSEDES  
-

19411



IT IS THE SOLE RESPONSIBILITY OF THE INSTALLER TO INSURE THAT THE TOTAL STRUCTURE OF CRANE, TRUCK, AND OUTRIGGERS ARE STRUCTURALLY SOUND AND THAT THE COMPLETED VEHICLE HAS SUFFICIENT STABILITY AGAINST OVERTURNING.

3 x 3 x 3/8 ANGLES BOLTED INTO FRAME & LONGSILLS 2 PLACES

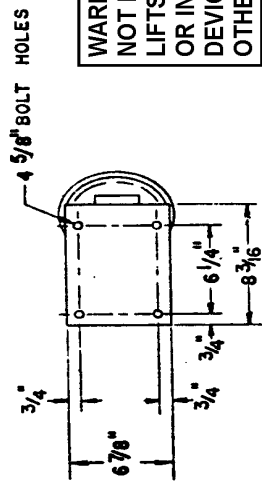


TYPICAL REINFORCEMENT FOR MOUNTING ET/HT25 CRANE ON EDGE OF FLAT BED BODY

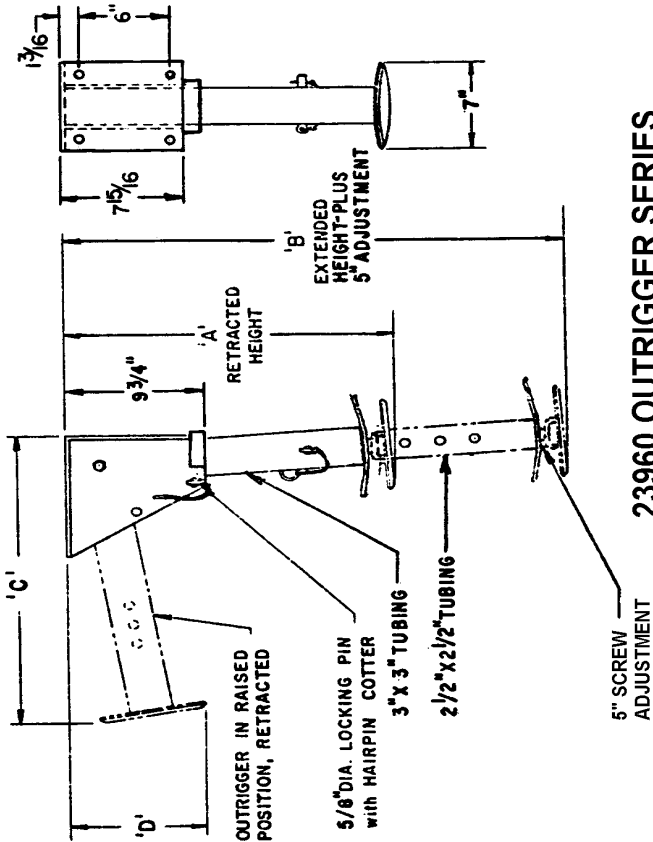
TITLE	INSTALLATION DRAWING		SECTION
	ET25K(X), HT25K(X)		C100
DATE	4-8-99K		SUPERCEDES
	11-2-98J		14510

VENTURO  
MANUFACTURING, INC.  
CINCINNATI, OHIO

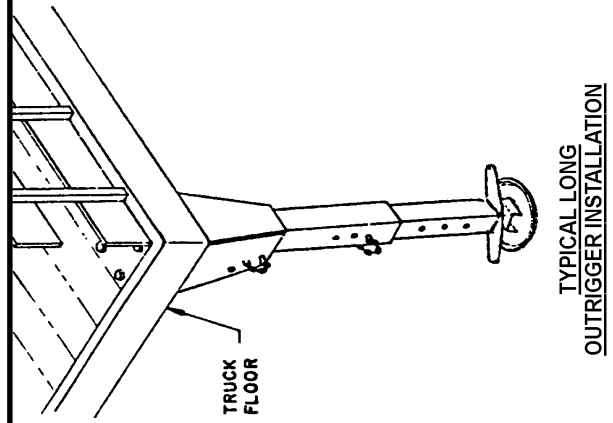
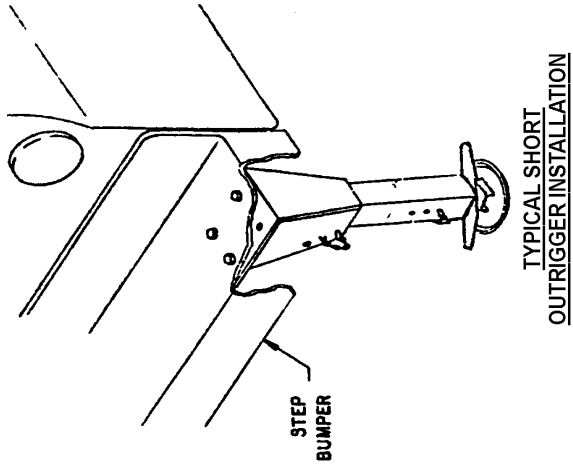
PART NO.	DESCRIPTION	'A'	'B'	'C'	'D'
23960-1	SHORT OUTRIGGER	20 1/2"	28 1/2"	21"	7 1/4"
23960-2	LONG OUTRIGGER	28 1/2"	44 1/2"	29"	10 1/2"



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



**23960 OUTRIGGER SERIES  
ET/HT25 SERIES CRANES**

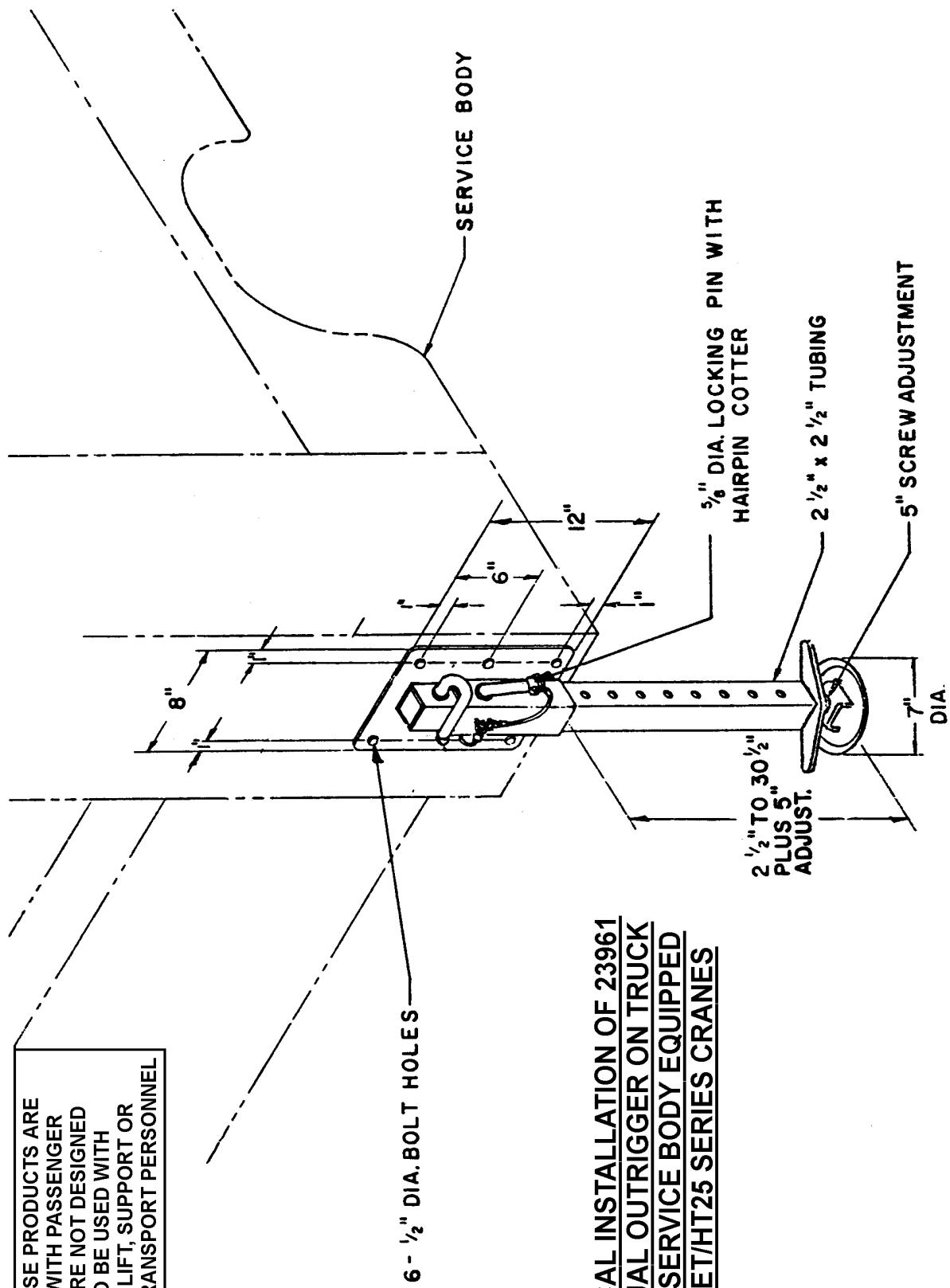


TITLE	INSTALLATION DRAWING	DATE	4-29-98C	SECTION	C100
	ET10K(X), ET25K(X), HT25KX	SUPERCEDES	7-27-83B		I23960

MANUFACTURING, INC.  
CINCINNATI, OHIO

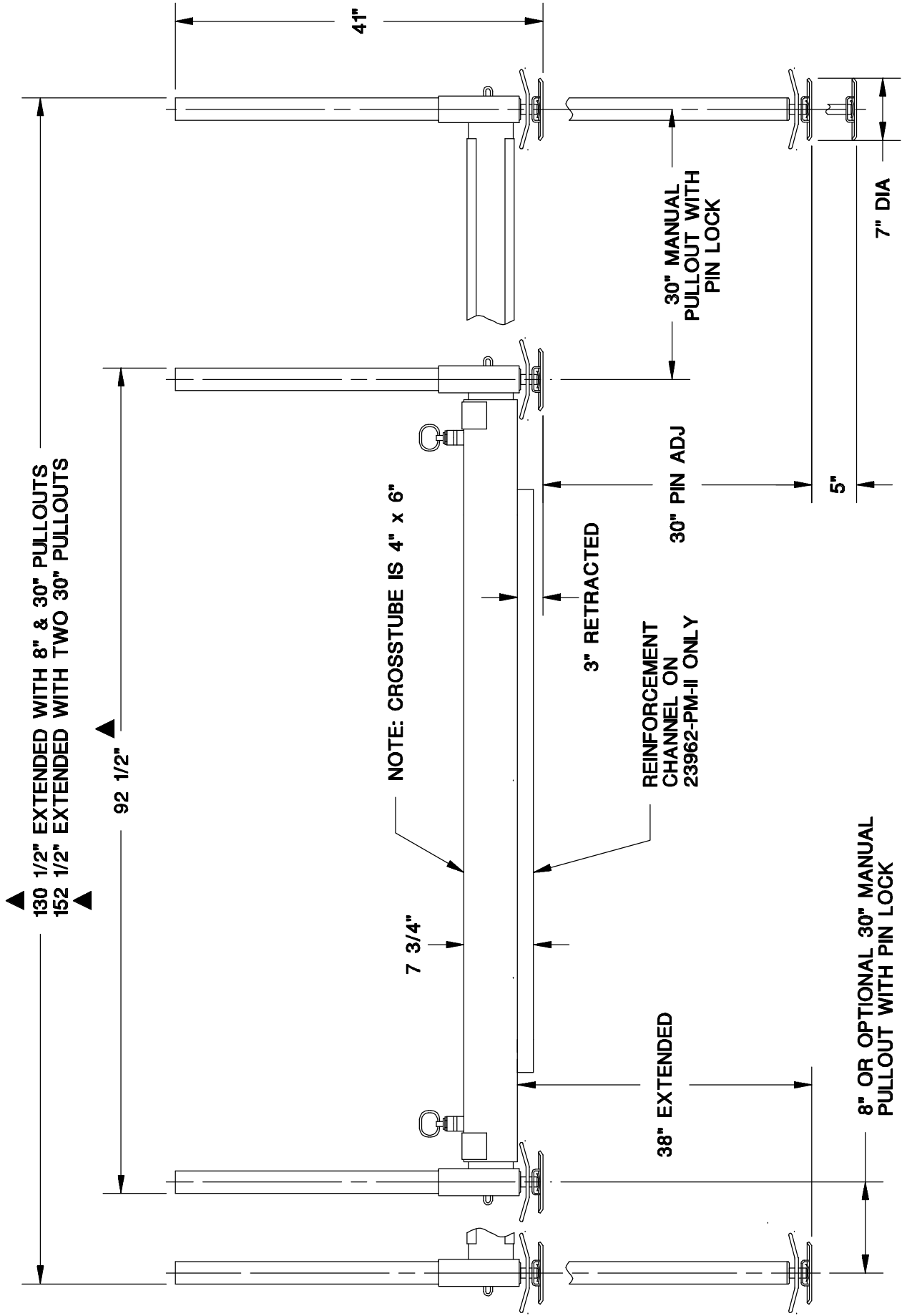


WARNING: THESE PRODUCTS ARE NOT FOR USE WITH PASSENGER LIFTS. THEY ARE NOT DESIGNED OR INTENDED TO BE USED WITH DEVICES THAT LIFT, SUPPORT OR OTHERWISE TRANSPORT PERSONNEL

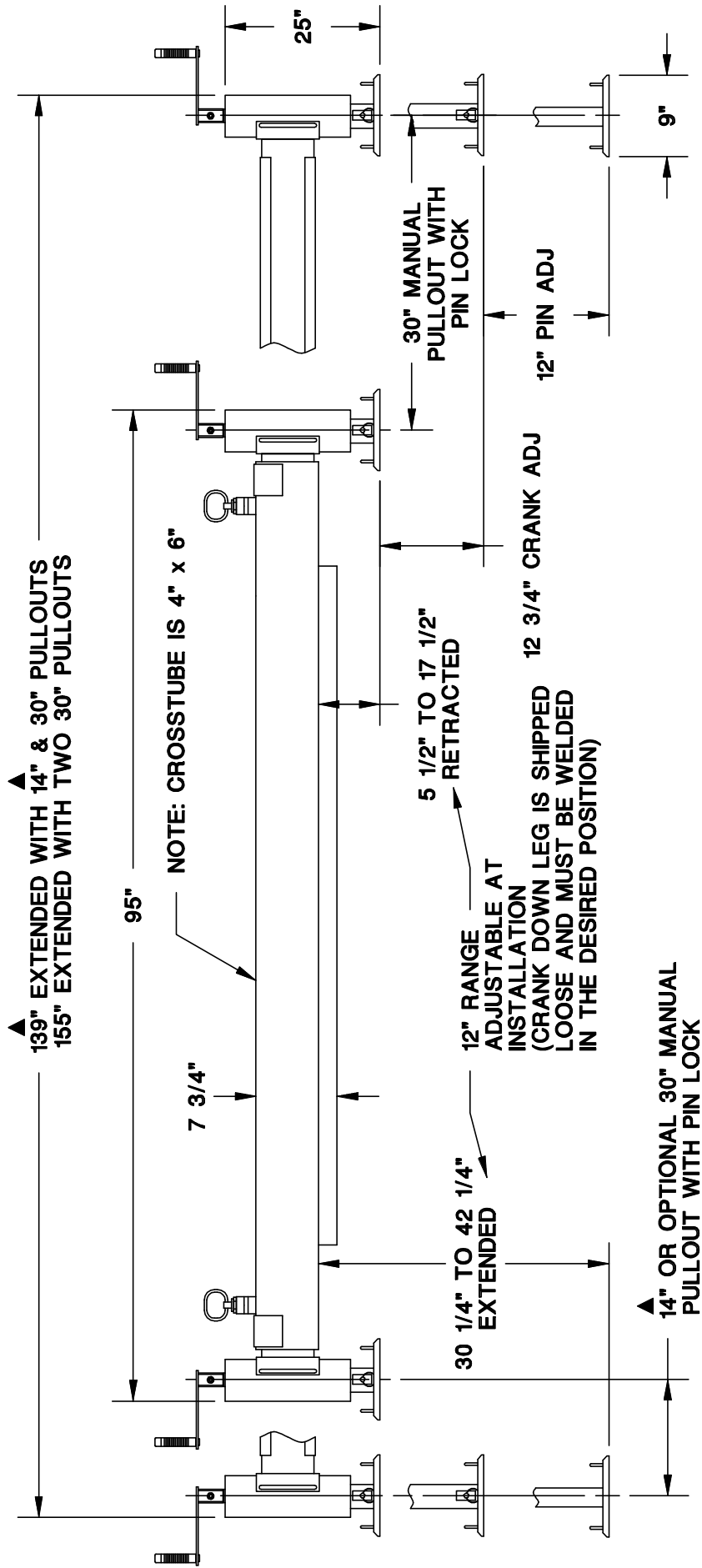


**TYPICAL INSTALLATION OF 23961  
MANUAL OUTRIGGER ON TRUCK  
WITH SERVICE BODY EQUIPPED  
WITH ET/HT25 SERIES CRANES**

<b>VENTURO</b> MANUFACTURING, INC. CINCINNATI, OHIO	TITLE	INSTALLATION DRAWING	DATE	SECTION
		ET10K(X), ET25K(X), HT25KX	4-29-98D SUPERCEDES 7-27-83C	C100 I23961



<b>VENTURO</b> MANUFACTURING, INC. CINCINNATI, OHIO	<b>TITLE</b> INSTALLATION DWG		<b>DATE</b> 1-20-99B	<b>SECTION</b> C100
	23962-P-II & 23962-PM-II MANUAL O.R.		<b>SUPERSEDES</b> 10-16-97A	<b>22458</b>



TITLE  
**INSTALLATION DWG**

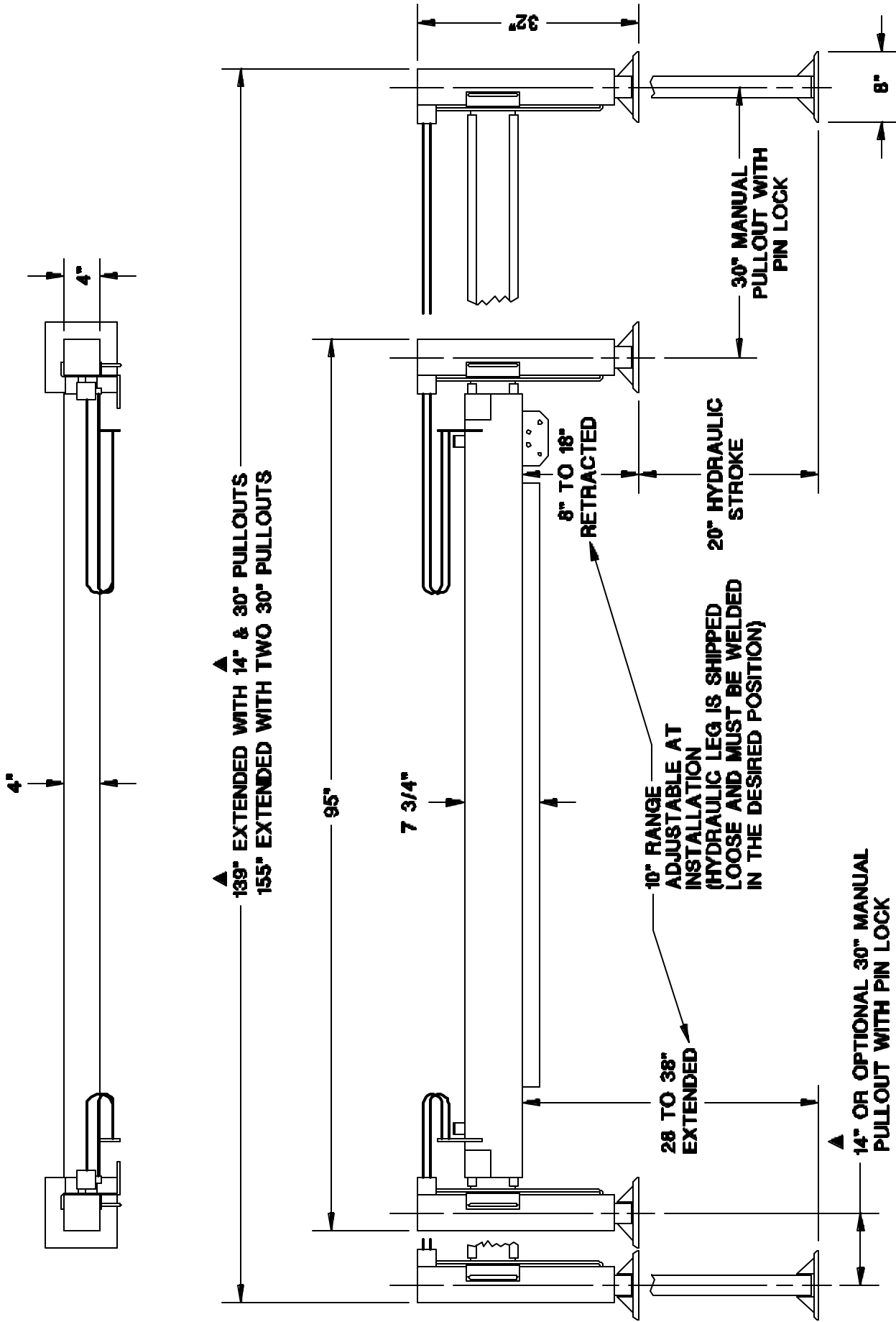
DATE  
**7-30-99D**

SUPERSEDES  
**1-19-99C**

SECTION  
**C100**

**23962-CD-II CRANKDOWN OUTRIGGERS**

**22459**

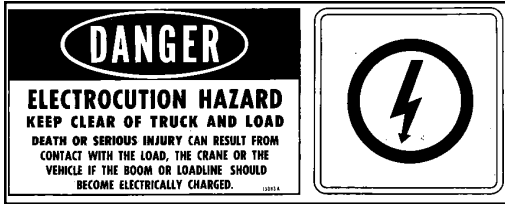


<b>VENTURO</b> MANUFACTURING, INC. CINCINNATI, OHIO	TITLE <b>INSTALLATION DWG</b>	DATE <b>7-30-99C</b>	SECTION <b>C100</b>
	23962-PH-II (22403)	SUPERSEDES <b>1-19-99B</b>	<b>22429</b>

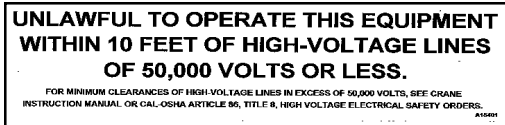


# VEHICLE & CRANE MOUNTED ELECTRICAL HAZARD SIGN APPLICATION & INFORMATION

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



TITLE <b>INSTALLATION DWG</b>	DATE <b>5-13-97G</b>	SECTION <b>C150</b>
<b>ET &amp; HT CRANE SERIES</b>	SUPERCEDES <b>7-15-96F</b>	<b>15394</b>

# 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 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

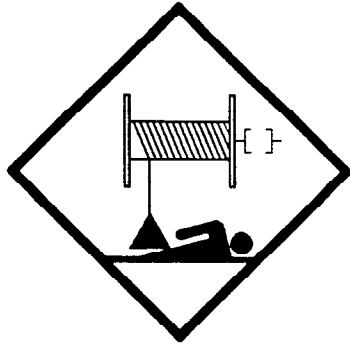
- THIS MACHINE IS NOT INSULATED.
- MAINTAIN SAFE CLEARANCES FROM ELECTRICAL LINES AND APPARATUS.
- YOU MUST ALLOW FOR BOOM SWAY, ROCK OR SAG, AND ELECTRICAL LINE AND LOADLINE SWAYING.
- THIS LIFTING DEVICE DOES NOT PROVIDE PROTECTION FROM CONTACT WITH OR PROXIMITY TO AN ELECTRICALLY CHARGED CONDUCTOR.
- YOU MUST MAINTAIN A CLEARANCE OF AT LEAST 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.



MFG., INC.  
CINCINNATI, OHIO

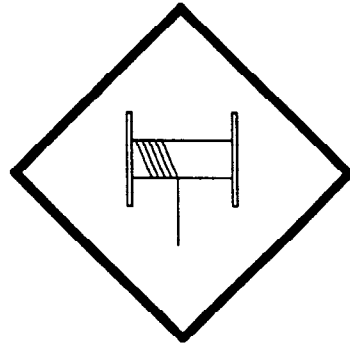
TITLE	INSTALLATION DWG	DATE	5-13-97A	SECTION	C150
	HYDRAULIC CRANES	SUPERCEDES	6-12-92		920612

# WINCH SAFETY WARNINGS



**DANGER**

**DO NOT DISENGAGE  
WINCH UNDER LOAD**



**DANGER**

**THE LAST FIVE  
WRAPS OF WIRE ROPE  
MUST BE LEFT ON  
THE DRUM TO ASSIST  
THE WIRE ROPE CLAMP IN  
HOLDING THE LOAD**



**WARNING**

**WINCHES ARE NOT  
TO BE USED FOR  
THE LIFTING OR  
MOVING OF  
PERSONS**

**VENTURO**

MFG., INC.  
CINCINNATI, OHIO

TITLE  
**INSTALLATION DWG**

**HT CRANES**

DATE  
**5-26-98B**

SUPERCEDES  
**10-17-97A**

SECTION  
**C150**

**119217**

## CRANE INSTALLATION

HT25KX

### 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 HT25KX is 27,000 ft. lbs.

The maximum vertical load is 6500 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 3/4" dia. with either coarse or fine threads. A 4.5" 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 to the middle of the 400 degree rotation travel limit. The location of this middle position relative to the center line of the truck must be decided prior to mounting. It can be in any position that pleases the users 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 quill. These hoses are to be arranged in the compartment or pedestal below the crane as shown on drawing I19213 using the angle bulkhead fittings furnished in the installation kit.

These hoses are to be connected in a relaxed position as shown on I19213, while the crane is at the midpoint of the 400 degree rotation range as received -- 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.

The crane pressure and return hoses have different sizes of SAE 37 degree flare swivel fittings. The smaller swivel is on the pressure hose which has a 3/8 flare. The larger swivel is on the return hose which has a 1/2 flare.



TITLE	INSTALLATION DWG	DATE	10-17-97B	SECTION	C200
	HT25KX	SUPERCEDES	9-25-97A		I19212a

## ELECTRICAL CONNECTIONS

A 25 ft. electrical power lead - intended for 12V DC only - also comes down through the center of the quill 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:

PRESSURE	1/4"
RETURN	3/8"
SUCTION	3/4"

## RESERVOIR

The PTO reservoir should have a capacity of 8 gallons 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 1.5 - 2.0 GPM at 3000 psi. The 2.0 GPM rate should be used for normal crane operation, while the 1.5 GPM should be used for more delicate spotting of loads if required. If hydraulic outriggers are also operated from this PTO pump, a relief valve set at 3000 psi should be used at the pump.

## 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 (in this case 16 minutes) to flush out the lines and filter all the fluid several times.



TITLE  
**INSTALLATION DWG**

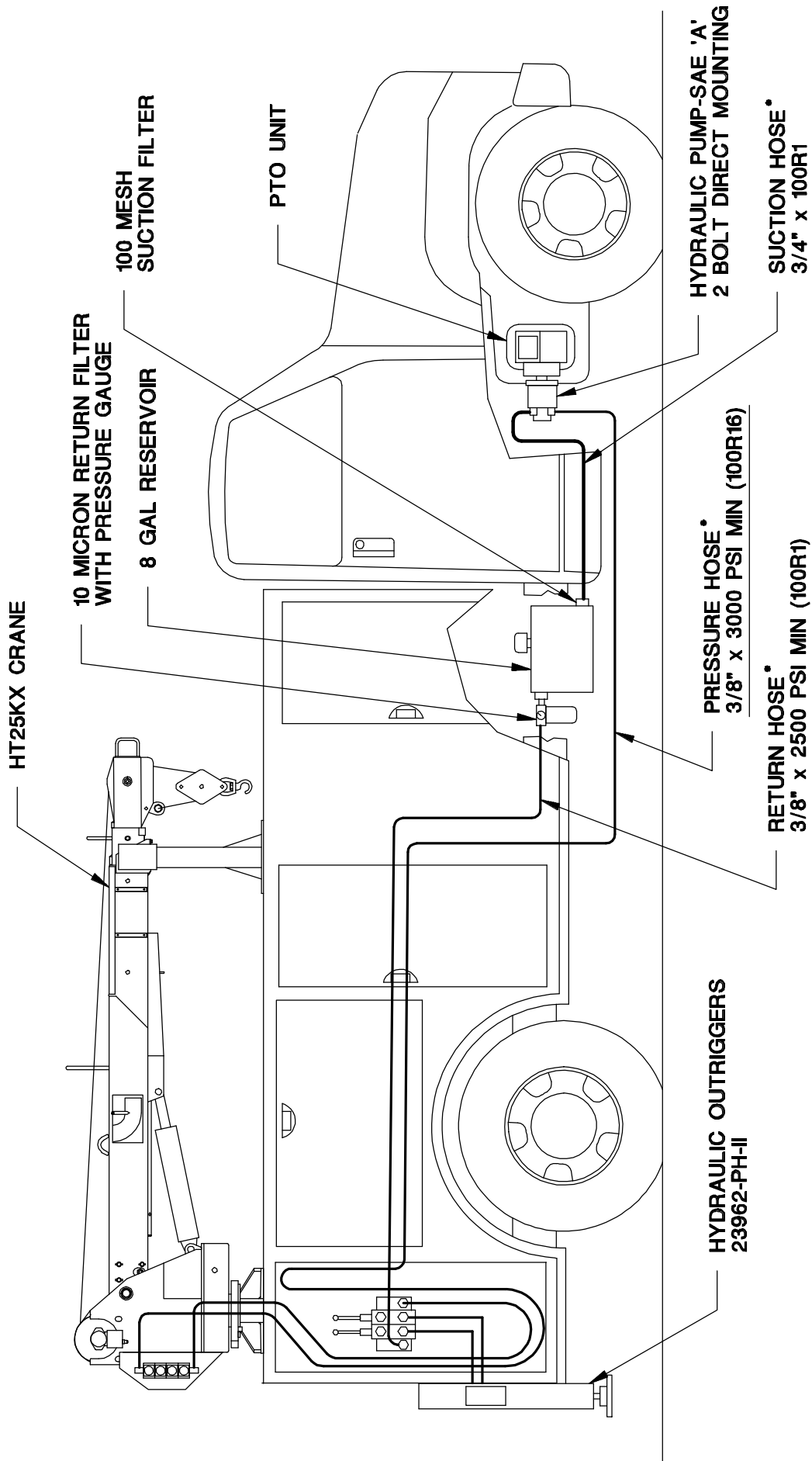
DATE  
**10-17-97B**

SECTION  
**C200**

**HT25KX**

SUPERCEDES  
**9-25-97A**

**119212b**



**HYDRAULIC REQUIREMENTS:**

HT25KX STANDARD - 2.0 GPM @ 3000 PSI (19294-2.64 PTO PACKAGE)

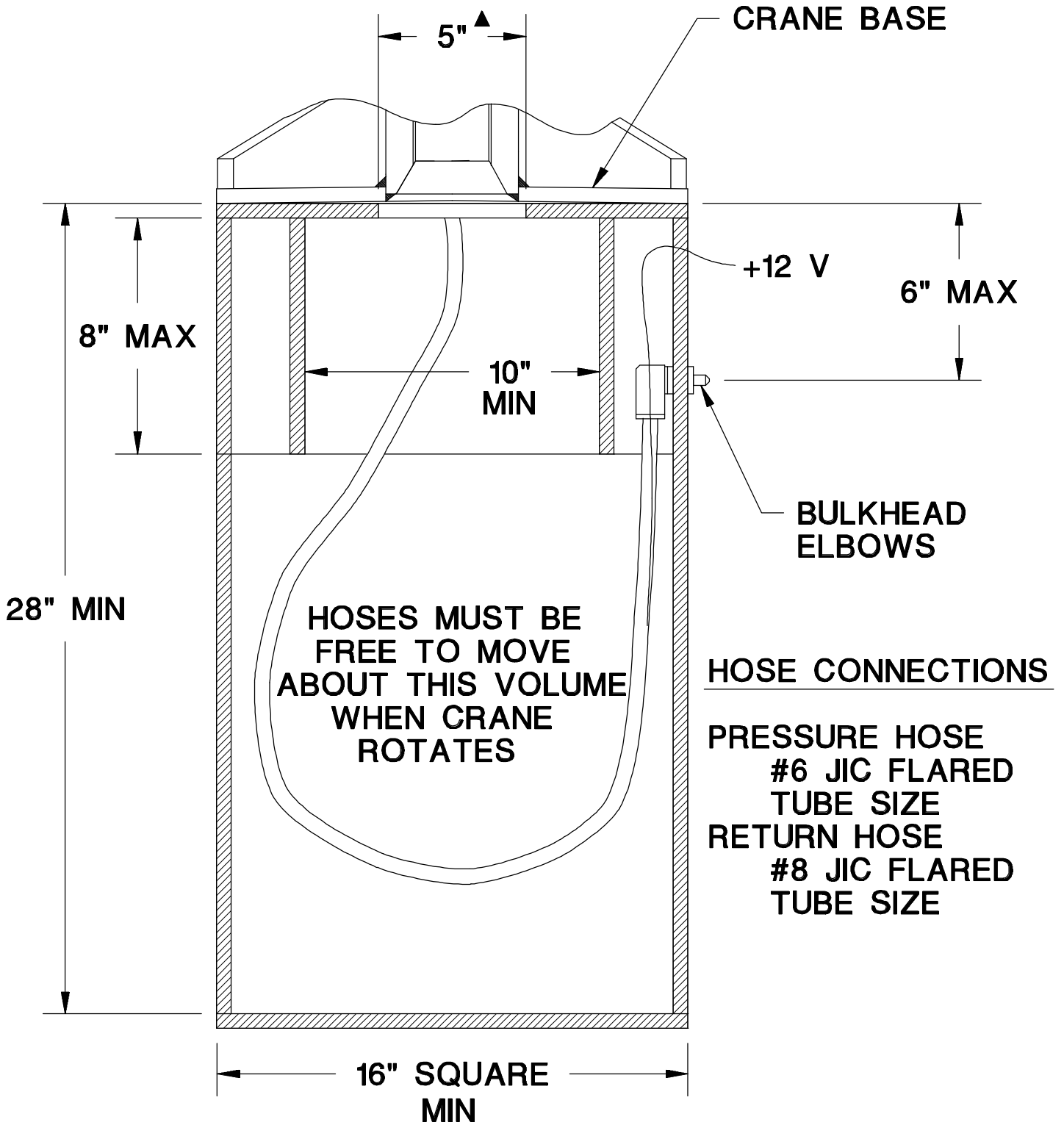
HT25KX PROPORTIONAL - 4.0 GPM @ 3000 PSI (19294-5.00 PTO PACKAGE)

SEE INSTALLATION INSTRUCTIONS I19212 (2 PAGES).

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

<b>VENTURO</b> MANUFACTURING, INC. CINCINNATI, OHIO	<b>TITLE</b> INSTALLATION DWG		<b>DATE</b> 9-26-97	<b>SECTION</b> C200
	PTO INST - HT25		<b>SUPERSEDES</b> 4-1-97	<b>I19232</b>

**CRANE AND HOSE INSTALLATION  
HT25K(X)**

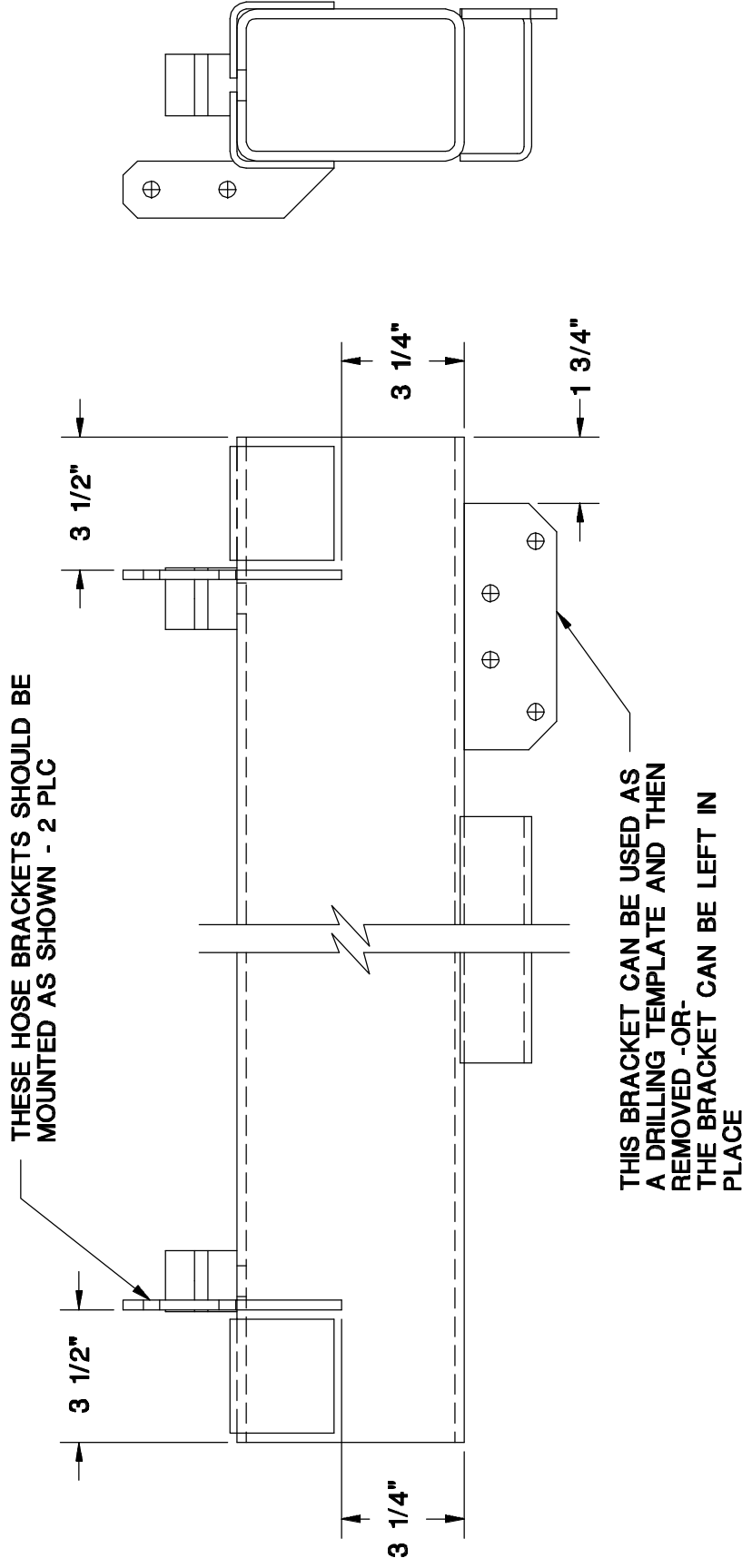


**HOSE CONNECTIONS**

**PRESSURE HOSE  
#6 JIC FLARED  
TUBE SIZE  
RETURN HOSE  
#8 JIC FLARED  
TUBE SIZE**

TITLE <b>INSTALLATION DWG</b>	DATE 10-12-98D	SECTION C200
HT25K(X)	SUPERSEDES 10-16-97C	<b>119213</b>

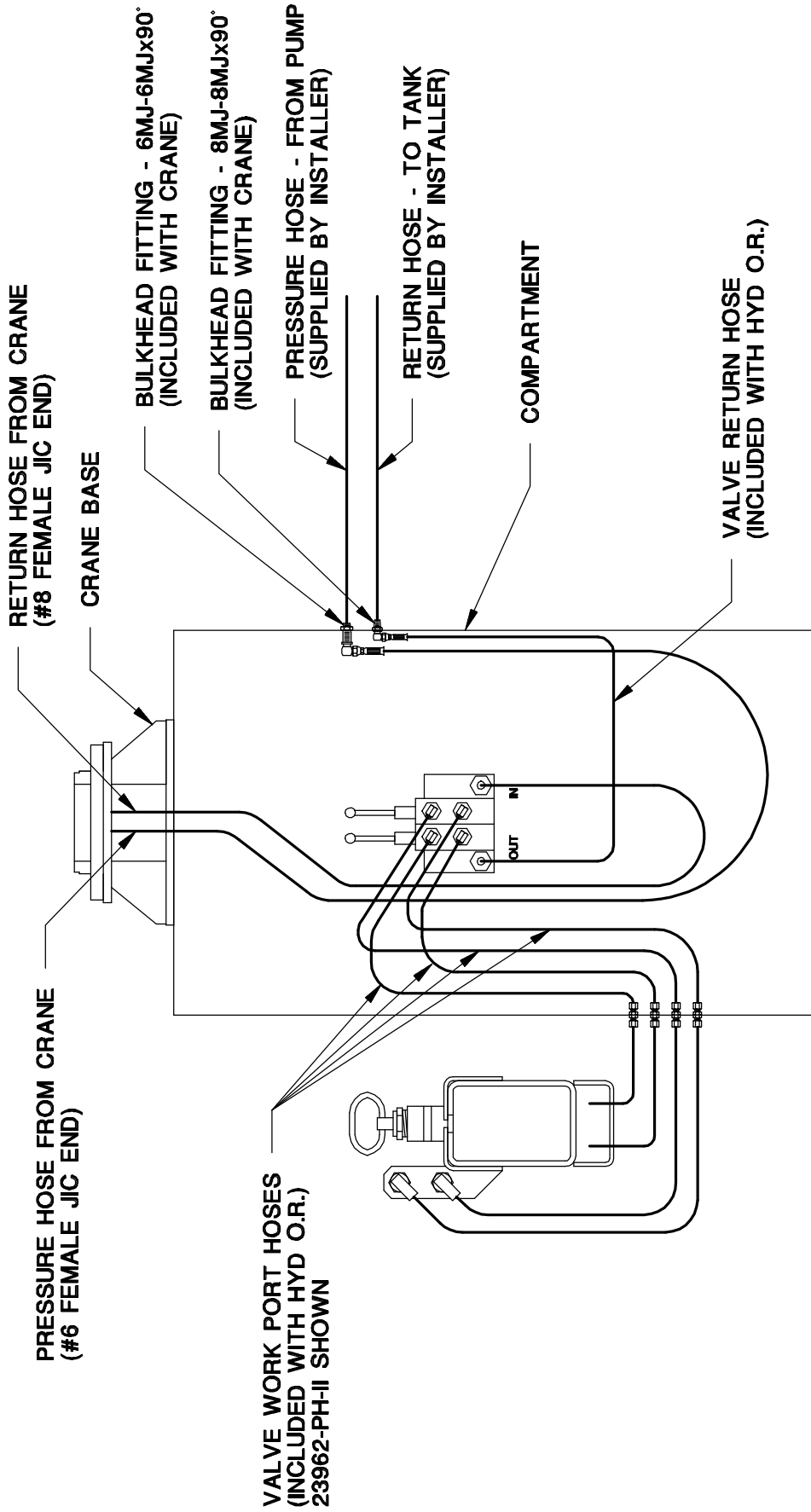
# HOSE BRACKET LOCATIONS - 23962-PH-II





# TYPICAL HYDRAULIC OUTRIGGER INSTALLATION

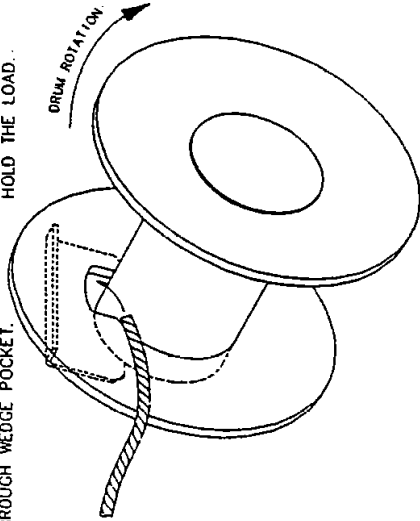
SEE 22428/22576 REPLACEMENT PARTS DRAWING FOR ADDITIONAL INFORMATION



<b>VENTURO</b> MANUFACTURING, INC. CINCINNATI, OHIO	<b>TITLE</b> INSTALLATION DRAWING		<b>DATE</b> 4-7-99A	<b>SECTION</b> C200
	23962-PH-II/23962-PHX-II OUTRIGGERS		<b>SUPERSEDES</b> 6-25-97	<b>22336</b>

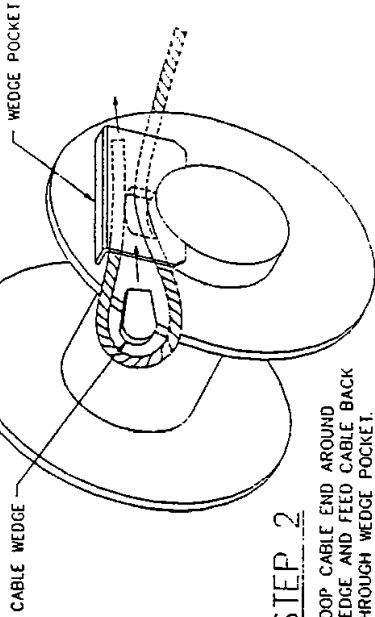
**STEP 1**

INSERT CABLE END INTO POCKET OPENING AND THROUGH WEDGE POCKET.



**CAUTION:**

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

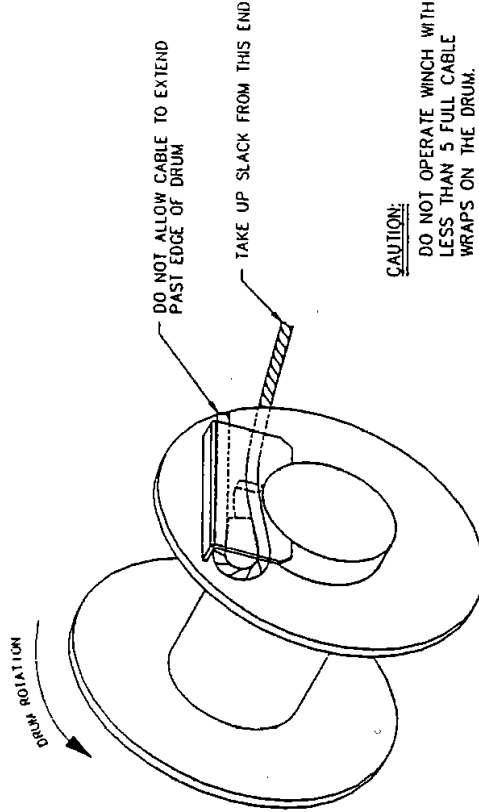


**STEP 2**

LOOP CABLE END AROUND WEDGE AND FEED CABLE BACK THROUGH WEDGE POCKET.

**STEP 3**

ONCE SLACK IS TAKEN UP, THE CABLE IS PROPERLY INSTALLED.



# CABLE INSTALLATION



MANUFACTURING, INC.  
CINCINNATI, OHIO

TITLE  
**INSTALLATION DWG**

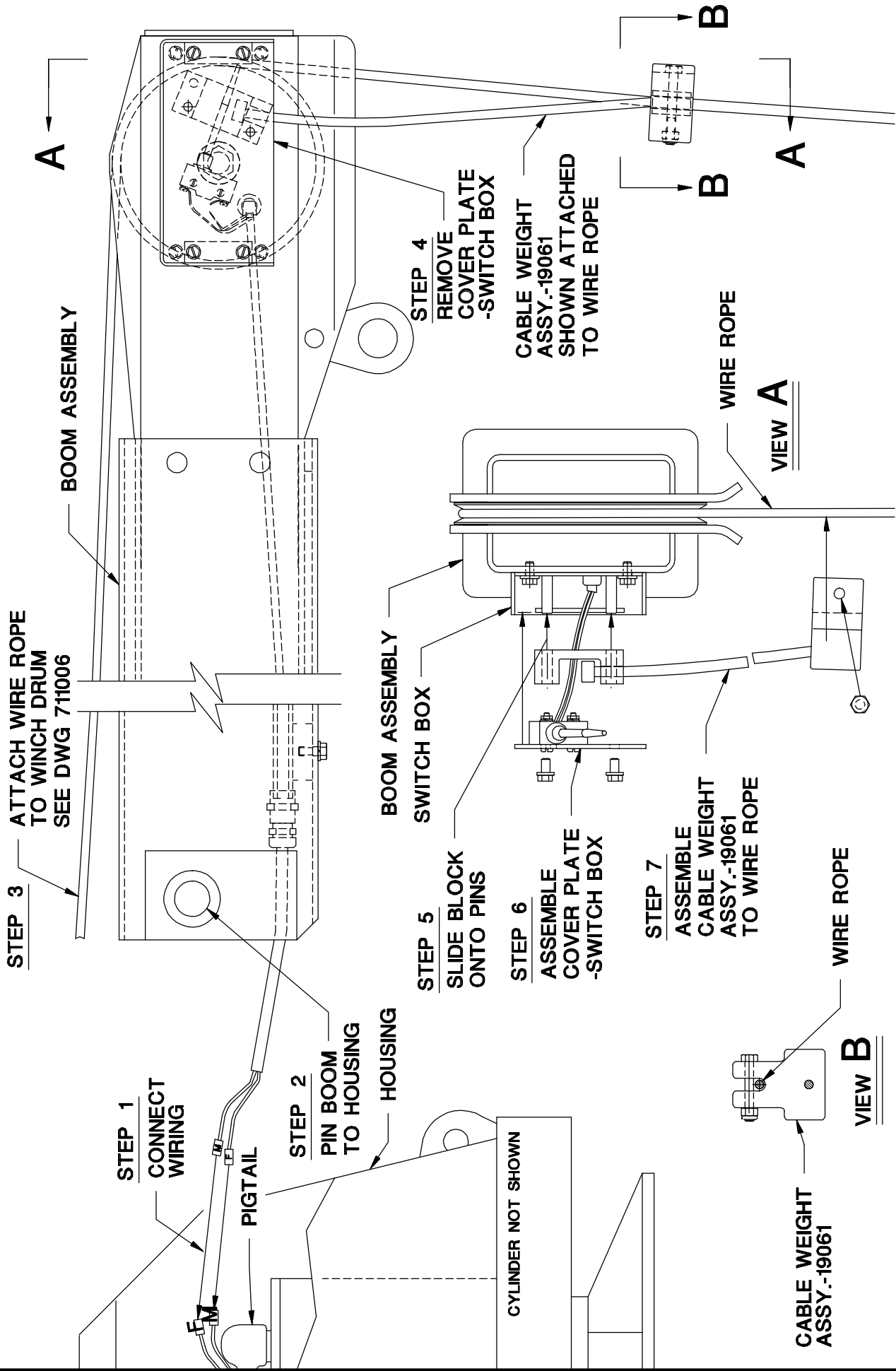
**HT25KX**

DATE  
**10-17-97A**

SUPERCEDES  
**7-29-96**

SECTION  
**C200**

**I19218**



TITLE  
INSTALLATION DRAWING

DATE  
10-16-97A

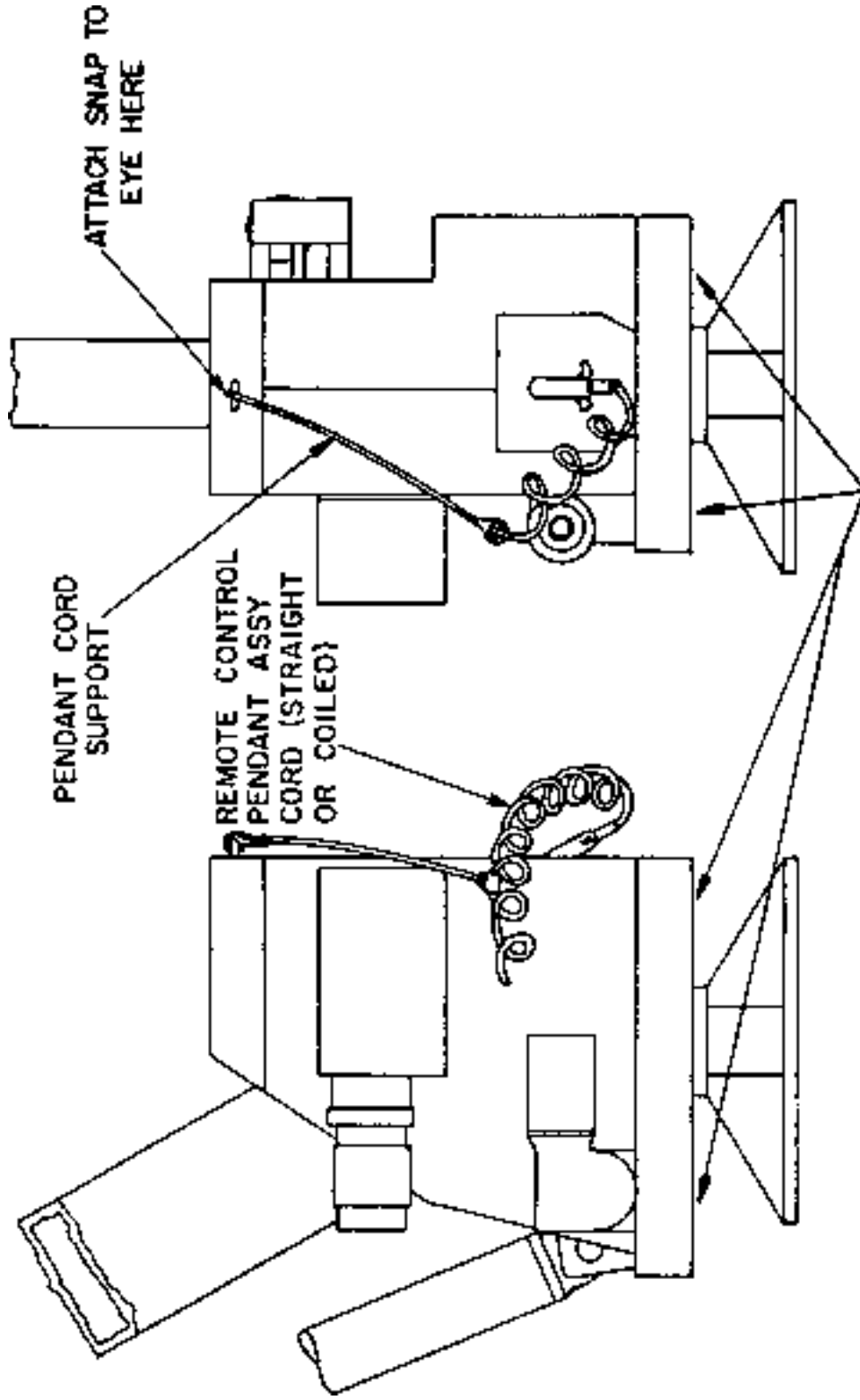
SECTION  
C200

SUPERSEDES  
1-22-96

ANTI-2-BLOCK - ET/HT25

119090

**VENTURO**  
MANUFACTURING, INC.  
CINCINNATI, OHIO



**CAUTION: KEEP PENDANT CORD AWAY FROM THIS AREA**

**PENDANT CORD SUPPORT REDUCES STRAIN ON PLUG & HELPS KEEP THE CORD AWAY FROM THE AREA BETWEEN CRANE LOWER HOUSING & BASE**

<b>VENTURO</b> MANUFACTURING, INC. CINCINNATI, OHIO	<b>TITLE</b> PENDANT CORD SUPPORT ET & HT CRANE SERIES		<b>DATE</b> 5-26-98C <small>SUPPERCEDES</small> 7-13-92B	<b>SECTION</b> C200
	<b>I25618</b>			

# CRANE OPERATION AND MAINTENANCE INSTRUCTIONS

HT25KX

## 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 2500 lbs. or 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 half-link located just above the socket.

## PTO SYSTEM

Check the hydraulic fluid level in the PTO system reservoir. Engage PTO and set the engine idle speed to provide a 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**

**HT25KX**

DATE  
**10-17-97B**

SUPERCEDES  
**9-25-97A**

SECTION  
**C200**

**I19205a**

## 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.

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 SN: 80125 & UP) - Energizes safety shutoff valve. See page 22328 for detailed operating 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.

The Overload Sensing 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.

## 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 19050 for parts breakdown and configuration information.

## MANUAL TELESCOPIC BOOM

The 10 to 20 ft. boom has a 4 ft. manual telescoping section in addition to the 6 ft. power extension. A pin locks the manual extension into either the extended or retracted position.

## 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.
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.



MFG., INC.  
CINCINNATI, OHIO

TITLE  
**INSTALLATION DWG**

**HT25KX**

DATE  
**4-14-98D**

SUPERCEDES  
**10-17-97C**

SECTION  
**C200**

**119205b**

## 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.

Temp Range (F)	Winch Hydraulic Oil
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
- Elevation cylinder tail clevis
- Rotation worm shaft - each side of lower part of crane housing
- Rotation shaft bearing - near elevation cylinder lower pivot

The rotation drive chain should be oiled lightly (DO NOT GREASE).

The lower quill bearing is self lubricating.

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

Check electrical connections for looseness and corrosion.



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TITLE  
**INSTALLATION DWG**

**HT25KX**

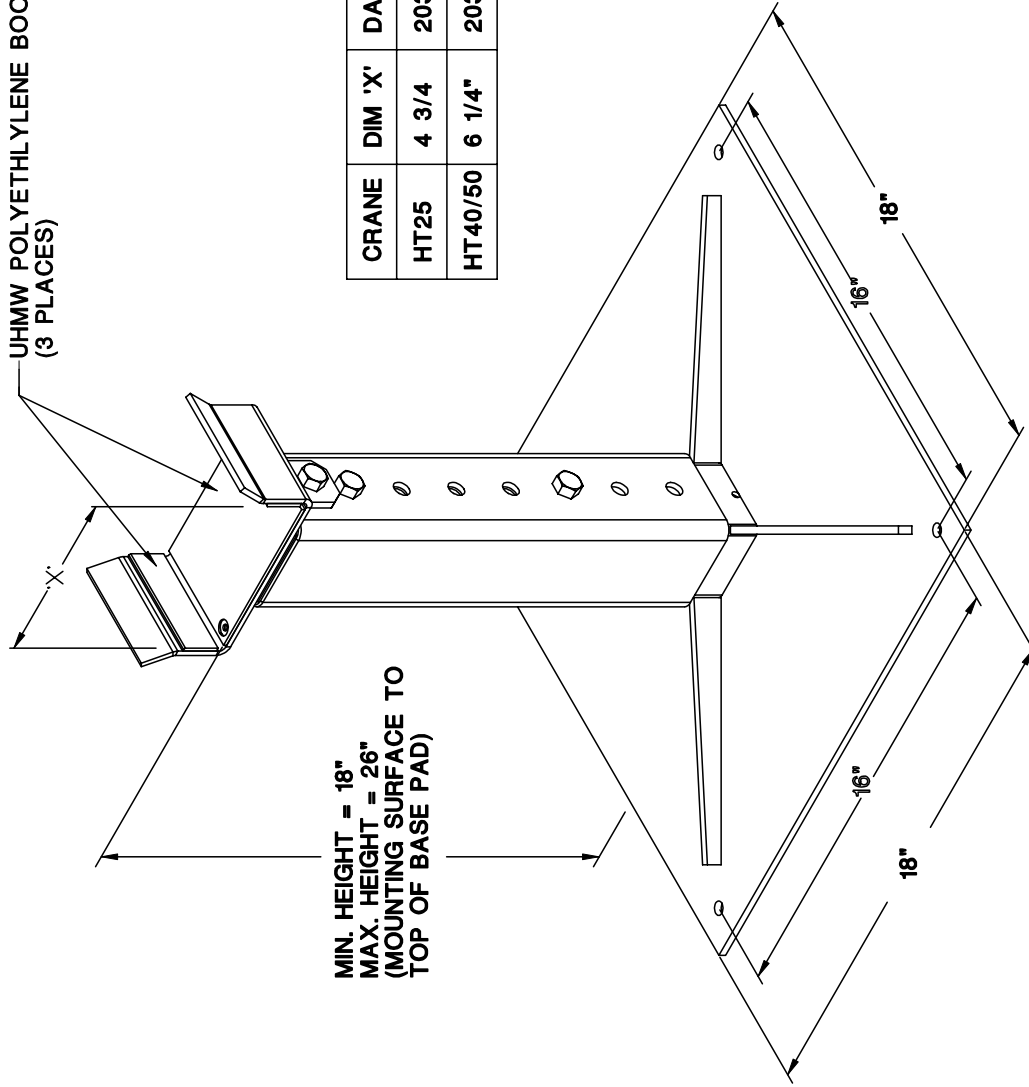
DATE  
**4-17-98C**

SUPERCEDES  
**10-17-97B**

SECTION  
**C200**

**119205c**

UHMW POLYETHYLENE BOOM PADS  
(3 PLACES)



MIN. HEIGHT = 18"  
MAX. HEIGHT = 26"  
(MOUNTING SURFACE TO  
TOP OF BASE PAD)

CRANE	DIM 'X'	DASH No.
HT25	4 3/4	20381-1
HT40/50	6 1/4"	20381-2

WITH SINGLE ACTING  
ELEVATION CYLINDER  
MECHANICAL DEVICE IS  
NEEDED TO SECURE  
BOOM

TITLE

INSTALLATION DRAWING

20381 ADJ. BOOM REST - ET/HT25, HT40/50

SECTION

-

DATE

5-7-01A

SUPERSEDES

2-5-01

20420

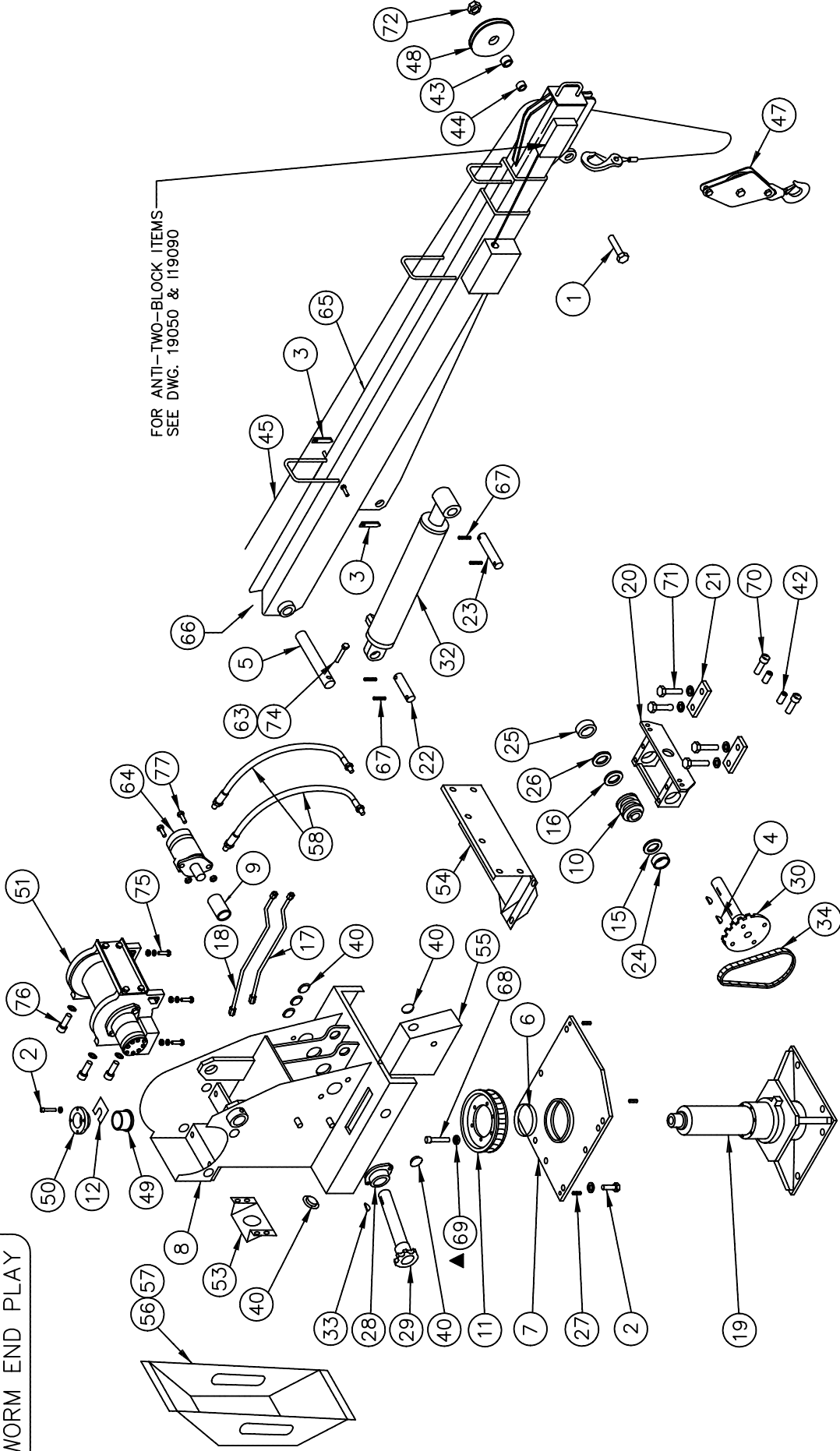


SERVICE INSTRUCTIONS

14544 ADJUSTMENT OF  
WORM HEIGHT  
AND BACKLASH

14553 ADJUSTMENT OF  
WORM END PLAY

REFER TO REPLACEMENT PARTS LIST I19240 FOR HT25KX CRANE



ITEM #	PART #	DESCRIPTION	ITEM #	PART #	DESCRIPTION	ITEM #	PART #	DESCRIPTION
1	18994	SHEAVE AXLE - MODIFIED HEX HEAD CAP SCREW - 3/4"-10	41	15253	WASHER PLATE			
2	IHHCS05013125-5	HEX HEAD CAP SCREW - 1/2"-13 x 1 1/4" GRADE 5	42	25593	SET SCREW - 1/2"-20 x 1"			
3	13459-2	ARROW	43	15808	BEARING - 1 1/4" ID x 1 5/8" OD x 11/16" LONG			
4*	15245	WOODRUFF KEY - 5/16" x 1 1/8" (MODIFIED)	44	15809	SPACER - 3/4" ID x 1 1/4" OD x 21/32" LONG			
5	13918	PIVOT PIN, BOOM - 1 1/2" OD x 11 3/4"	45	25810-5/16-75	WIRE ROPE ASSY - 5/16" x 75 FT			
6	13978	LOWER BEARING	46	-----	-----			
7	18891	BEARING PLATE	47	23169	SWIVEL SNATCHBLOCK ASSEMBLY			
8	18914	WELDED HOUSING ASSY	48	23911	SHEAVE (INCLUDES ITEMS 1, 43, 44, 71 & 72)			
9	14084	COUPLING	49	18069	FLANGED BEARING - 2" BORE x 3" OD FLANGE			
10	14142-4	WORM - SINGLE THREAD RH	50	18068	BEARING HOUSING - 1 1/8" LONG			
11	14143-4	WORM GEAR - 48T, 4 PITCH	51	19180	HYDRAULIC WINCH			
12*	14159	SHIM - 1 1/2" SQ x .015", .042", .105"	52	18067	BEARING AND HOUSING ASSY (ITEMS 49, 50)			
13*	15675	SHIM - 1 1/4" ID x .015", .031"	53	19185	BRACKET - PENDANT SOCKET			
14	17356	OVERLOAD ALARM	54	26272-2/3	FRONT COVER (-2) AND LOWER COVER (-3)			
15	14191-1	BALL THRUST BEARING - 2" ID x 3 11/32" OD	55	19198	CHAIN COVER			
16	14191-2	BALL THRUST BEARING - 1 1/2" ID x 2 19/32" OD	56	19227	REAR COVER - SERIAL NO. 80110 - 80127 ONLY			
17	19178	HYD TUBE ASSEMBLY - ROTATION BOTTOM	57	22325	REAR COVER - SERIAL NO. 80128 & UP			
18	19179	HYD TUBE ASSEMBLY - ROTATION TOP	58	19237	HYDRAULIC HOSE - ELEV CYL - SN: 80110 - 80127			
19	18880	QUILL ASSEMBLY (DOES NOT INCLUDE 18888 STOPRING)	59	19503	HYDRAULIC HOSE - ELEV CYL - SN: 80128 & UP			
20	14242	HOUSING, WORM GEAR	60^	19238	HYDRAULIC HOSE - EXT CYL - SN: 80110 - 80127			
21	14245	WASHER PLATE	61	19504	HYDRAULIC HOSE - EXT CYL - SN: 80128 & UP			
22	18727	PIVOT PIN, CYL TAIL - 1 1/4" OD x 3 3/16" LONG	62	-----	-----			
23	18728	PIVOT PIN, CYL ROD - 1 1/4" OD x 5 3/16" LONG	63	-----	-----			
24	14341-1	BUSHING - 2" ID x 2 1/4" OD x 1" LONG	64	19177	HYDRAULIC MOTOR - ROTATION			
25	14341-2	BUSHING - 1 1/2" ID x 1 3/4" OD x 1" LONG	65	18971	BOOM ASSY - 10/20 FT (COMPLETE ASSY)			
26*	14344	SHIM WASHER - 1 1/2" ID x 2 1/8" OD x .005", .015", .031" THK	66	18969-1	EXTENSION CYLINDER			
27*	14353	GROOVED PIN - 1/2" OD x 1 1/2" LONG	67	IRPIN-025175	ROLL PIN - 1/4" DIA x 1 3/4"			
28	14356	FLANGE MOUNTED BALL BEARING - 1" BORE	68	18927	SOCKET HEAD CAP SCREW - 1/2"-13 x 3" LONG			
29	14377	SPROCKET AND SHAFT ASSEMBLY (10T SPROCKET)	69	IHWSH-050-LOCK	HI-COLLAR LOCK WASHER - 1/2"			
30	14384	SPROCKET AND SHAFT ASSEMBLY (40T SPROCKET)	70	ISHCS05020125	SOCKET HEAD CAP SCREW - 1/2"-20 x 1 1/4" LONG			
31^	14426	HEADACHE BALL ASSEMBLY - 9LBS	71	IHHCS06311175	HEX HEAD CAP SCREW - 5/8"-11 x 1 3/4"			
32	18930-1	ELEVATION CYLINDER	72	ILNUT-075010	LOCK NUT - 3/4"-10			
33	26404	WOODRUFF KEY - 1/4 X 1 (MODIFIED)	73	HEL4MP-4FX-90	SWIVEL ADAPTER - 90 DEGREE BOW - 1/4 NPT			
34	14481	ROTATION DRIVE CHAIN	74	IHHCS03824275-8	HEX HEAD CAP SCREW - 3/8"-24 x 2 3/4" GRADE 8			
35	14776	GROMMET - 5/8" ID x 7/8" OD x 3/16" GROOVE	75	IHHCS03816150	3/8-16 x 1-1/2 HEX HD CAP SCREW W/ NUT & L.W.			
36^	19176	HYDRAULIC HOSE ASSY. - WINCH UP	76	IHHCS03816100	3/8-16 x 1 HEX HD CAP SCREW W/ LOCK WASHER			
37^	19182	HYDRAULIC TUBE ASSY. - WINCH DOWN	77	IHHCS05013175	1/2-13 x 1-3/4 HEX HD CAP SCREW & NUT, L.W., F.W.			
38^	19170	VALVE BANK ASSY.	*	16476	SHIM, PIN, & KEY KIT (INCLUDES * ITEMS)			
39	-----	-----		22493^	FIELD SERVICE LABEL KIT - HT25KX NON-PROP.			
40	RL-644	SNAP IN PLUG - 1" DIA HOLE		22493-1^	FIELD SERVICE LABEL KIT - HT25KX PROPORTIONAL			
				22493-2^	FIELD SERVICE LABEL KIT - HT25KX NON-PROP.			
				22493-3^	FIELD SERVICE LABEL KIT - HT25KX PROPORTIONAL			

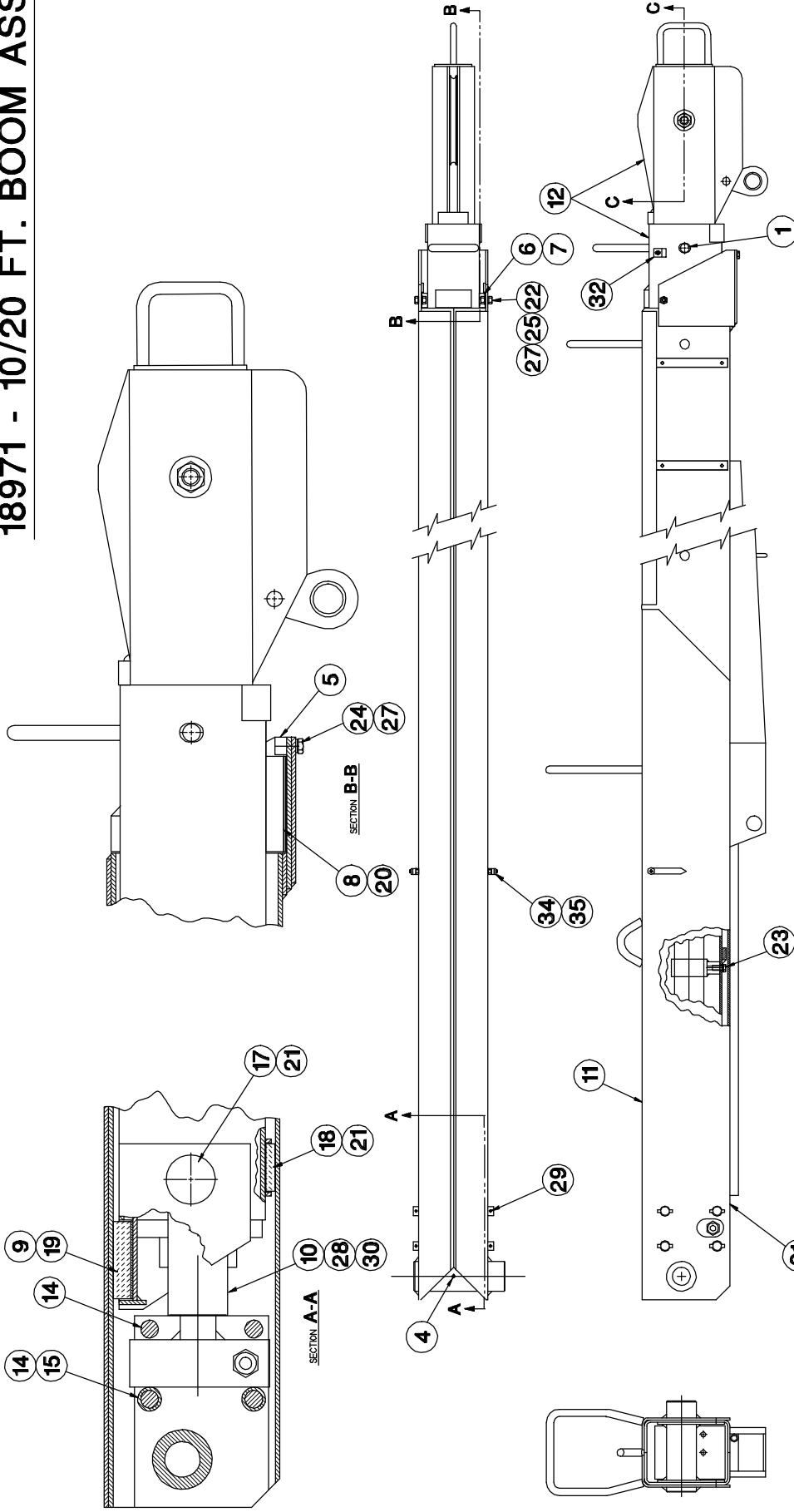
^ - ITEMS NOT SHOWN ON DRAWING I19239

FOR ANTI-TWO-BLOCK ITEMS SEE DWG. 19050 (SN: 80110 - 80127) & 19197-2 (SN: 80128 - UP)

SERIAL NO. 80110 & UP

 <b>VENTURO</b> MANUFACTURING, INC. CINCINNATI, OHIO	TITLE	REPLACEMENT PARTS	SECTION	C420
		HT25KX	DATE	5-25-99D
			SUPERSEDES	2-5-99C
				<b>I19240</b>

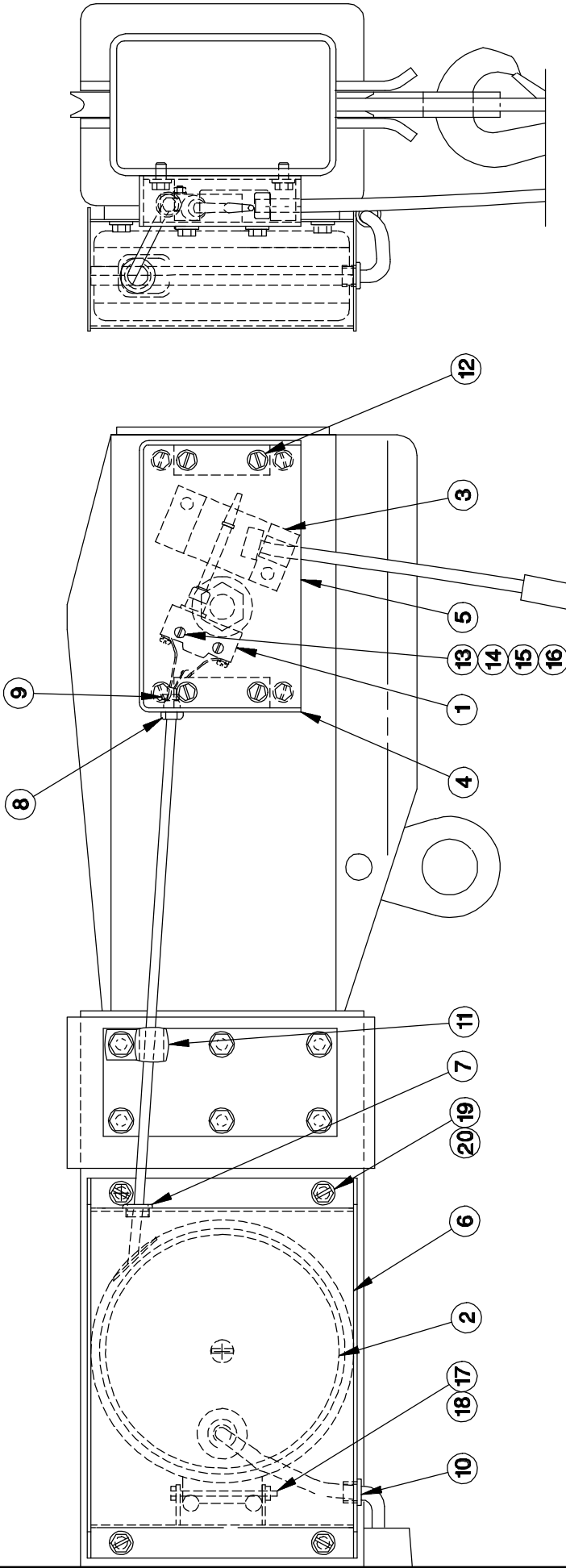
# 18971 - 10/20 FT. BOOM ASSY



ITEM	QTY	PART NO.	DESCRIPTION
1	1	26216-3	BEARING PAD-LOWER REAR
17	2	26216-1	BEARING PAD-SIDE REAR
18	1	23911	SHEAVE
19	2	16996	ROLLER
20	4	26214	THRUST PIN
21	1	17059-6	SHEAVE AXLE
22	1	18972	SECONDARY BOOM ASSEMBLY
23	1	18972	PRIMARY BOOM ASSEMBLY
24	1	18959-1	EXTENSION CYLINDER & VALVE ASSY
25	1	18959	BEARING PAD-LOWER REAR
26	1	18957	BEARING PAD-SIDE FRONT
27	2	18955	SHM 24 Gg X 1 1/4 X 3 1/2
28	1	18955	BEARING RETAINER BAR
29	1	1ZERK02528	GREASE FITTING
30	1	15809	SHEAVE SPACER
31	2	15808	SHEAVE BEARING
32	1	14183-2	LOCK PIN
33	1	22480	SPACER - BOOM ARROW
34	2	13459-2	ARROW
35	2	18050	ANTI-TWO-BLOCK SYSTEM (NOT SHOWN)
36	1	18275	CABLE CLAMP 3/4"
37	1	18269	CABLE CLAMP 1/4"
38	2	SOC HD CAP SCR 1/2-13 X 2 LG	
39	8	RPN026125	ROLL PIN 1/4 X 1 1/4 LG
40	2	LWSH0504C	H-COLLAR LOCK WASHER 1/2
41	2	LWSH038	LOCK WASHER 3/8
42	2	HNLUT07510	SELF LOCKING NUT 3/4-10
43	2	HNLUT03816	HEX NUT 3/8-16
44	2	HCS0382400-8	HEX HD CAP SCR 3/8-24 X 1 LG GR2
45	2	HCS0386075	HEX HD CAP SCR 3/8-16 X 3/4 LG GR2
46	2	HCS03880683	HEX HD CAP SCR 3/8-16 X 5/8 LG GR2
47	2	26428	SHIM -20-24 Gg, -21-18 Gg, -22-14 Gg
48	2	26428	SHIM -11-18 Gg, -12-14 Gg, -13-12 Gg
49	2	26428	SHIM -1-18 Gg, -2-14 Gg, -3-12 Gg

TITLE	DATE	SECTION
18971 - 10/20 FT. BOOM ASSY	10-15-97A	C400
ET/HT25KX	9-30-96	119256

**VENTURO** MANUFACTURING, INC.  
CINCINNATI, OHIO



REF - CABLE WEIGHT (19061)  
 5/16"-18 x 2" HHCS AND  
 5/16"-18 x NYLON INSERT HEX NUT  
 ITEMS INCLUDED IN INSTAL. KIT

NOTES:  
 - MICRO-SWITCH WIRED NC  
 - SEE WIRING DIAGRAM I19095

ITEM	QTY	PART NO.	DESCRIPTION
20	4	LWSH-031	LOCK WASHER - 5/16"
19	4	HHCS0318050-5	HEX HEAD CAP SCREW - 5/16"-18 x 1/2"
18	1	LNUT-#0632	NYLON LOCK NUT - #6-32
17	1	HHCS#0632250	HEX HEAD CAP SCREW - #6-32 x 2 1/2"
16	2	FWSH-#06	FLAT WASHER - #6
15	2	LWSH-#06	LOCK WASHER - #6
14	2	HNUT-#0632	HEX NUT - #6-32
13	2	SNMCS#0632100	PAN HEAD MACH SCREW - #6-32 x 1"
12	8	HWSH#02520050-F	HEX WASHER HEAD SCREW - 1/4"-20 x 1/2" SELF TAPPING
11	1	PL-20-247	HD CABLE CLAMP 3/4" WIDE W/ 5/16" HOLE
10	1	15-00054	SNAP BUSHING - 3/8" LD.
9	1	-	WIPE TE
8	1	19062	STRAIN RELIEF
7	1	19063	SNAP BUSHING - 1/2" LD.
6	1	19058	COVER-REEL
5	1	19067	COVER - SWITCH BRACKET
4	1	19055	SWITCH BRACKET
3	1	19054	UHMV BLOCK
2	1	17759	CORD REEL - MODIFIED
1	1	PL-262	MICRO-SWITCH

**VENTURO** MANUFACTURING, INC.  
 CINCINNATI, OHIO

TITLE: **REPLACEMENT PARTS DRAWING**

DATE: **5-26-98B**

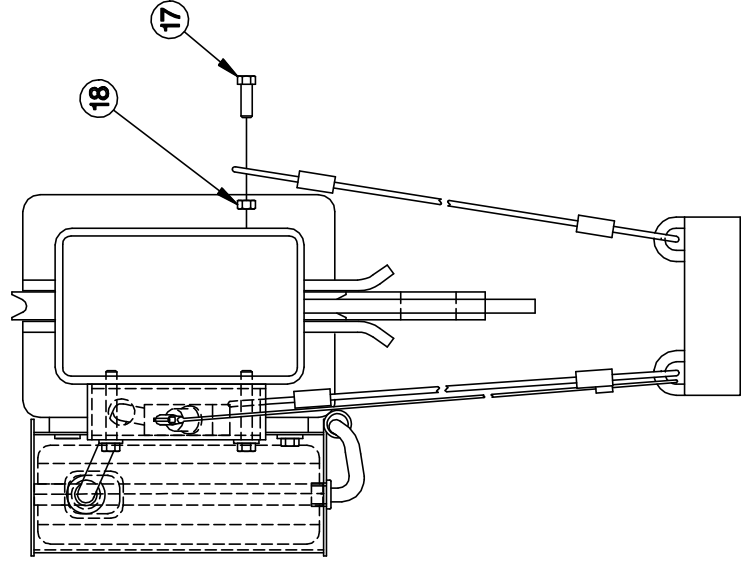
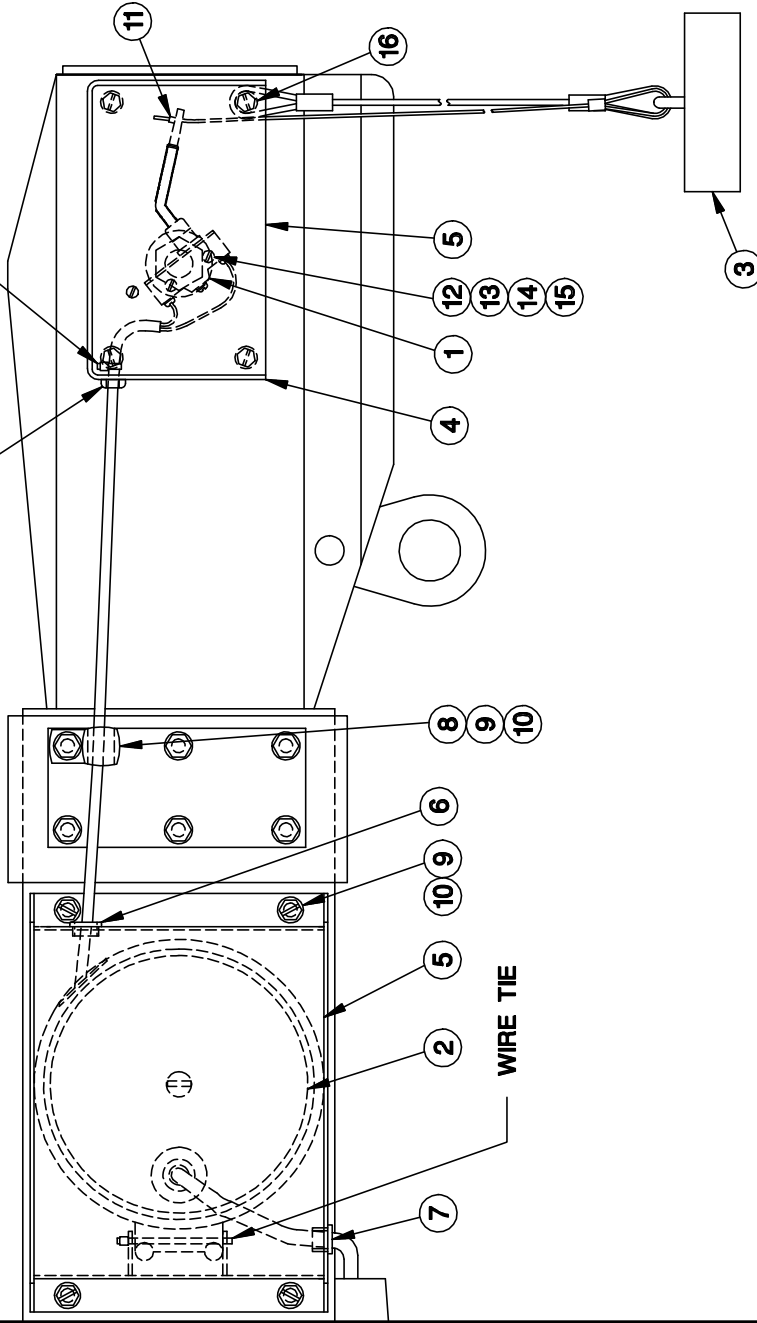
SECTION: **C400**

SUPERSEDES: **5-8-96A**

**19050 ANTI-TWO-BLOCK SYSTEM**

**19050**

WIRE TIE  
CABLE & CUT  
OFF STEM



ITEM	QTY	PART NO.	DESCRIPTION
11	1	19302	SET COLLAR
10	5	ILWSH-031	LOCK WASHER - 5/16"
9	5	IHCS0318050-5	HEX HEAD CAP SCREW - 5/16-18 x 1/2"
8	1	19275	CABLE CLAMP - 3/4" x 13/32" HOLE
7	2	19270	SNAP BUSHING - 3/8" I.D.
6	1	19063	SNAP BUSHING - 1/2" I.D.
5	1	19058	COVER - CORD REEL
4	1	19338	SWITCH BRACKET
3	1	19377-2	CABLE WEIGHT ASSY
2	1	22388-1	CORD REEL ASSY
1	1	19376	LIMIT SWITCH

ITEM	QTY	PART NO.	DESCRIPTION
18	1	IHNUT-02520	HEX NUT - 1/4-20
17	1	IHCS02520075-5	HEX HEAD CAP SCREW - 1/4-20 x 3/4" GR. 5
16	4	IHCS02520175	HEX HEAD CAP SCREW - 1/4-20 x 1 3/4"
15	2	ILWSH-#06	LOCK WASHER - #6
14	2	IFWSH-#06	FLAT WASHER - #6
13	2	IHNUT-#0632	HEX NUT - #6-32
12	2	IPHMS#632125	PAN HEAD MACHINE SCREW - #6-32 x 1 1/4"

**VENTURO** MANUFACTURING, INC.  
CINCINNATI, OHIO

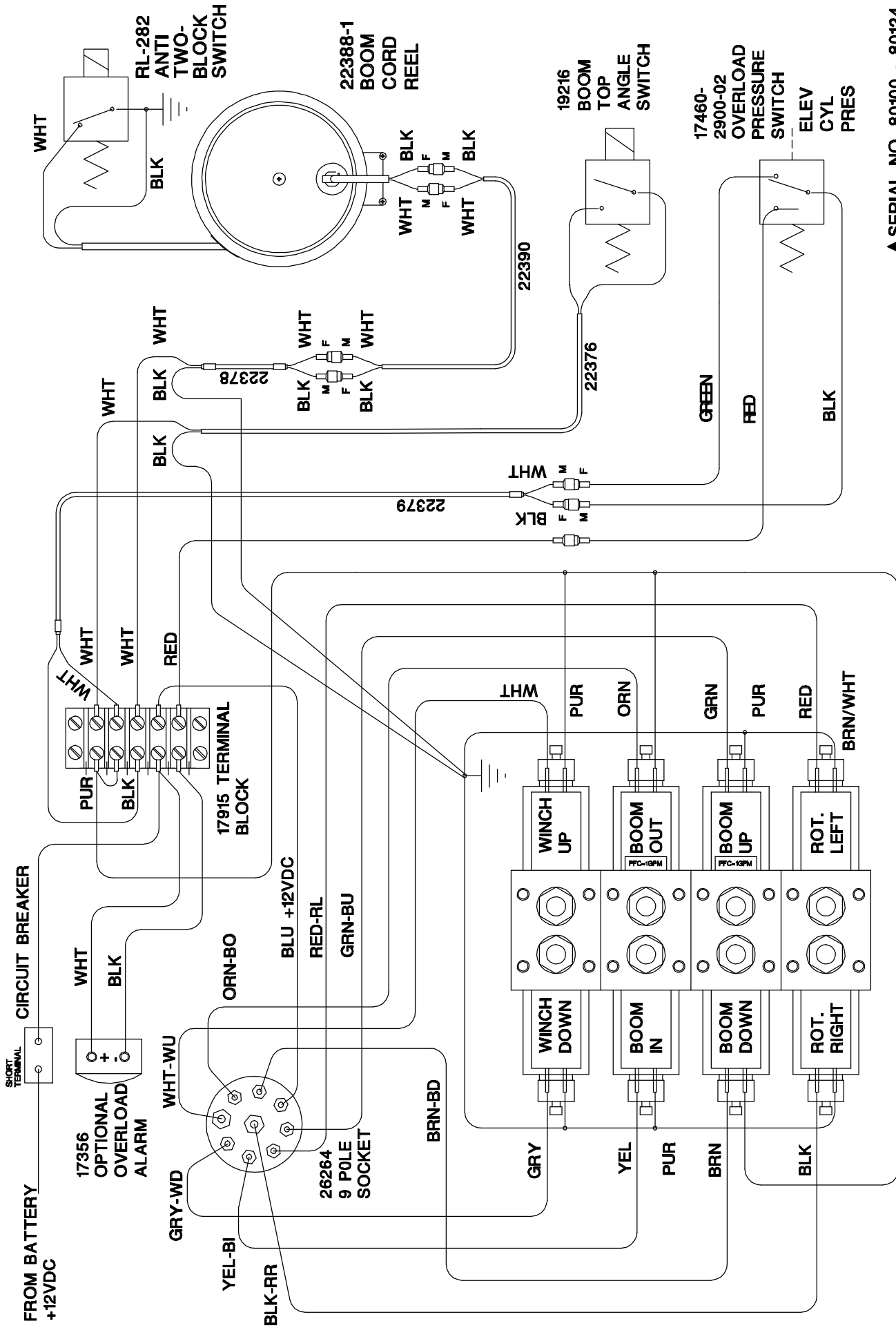
**TITLE**  
REPLACEMENT PARTS DWG

**DATE**  
5-21-99C

**SECTION**  
C400

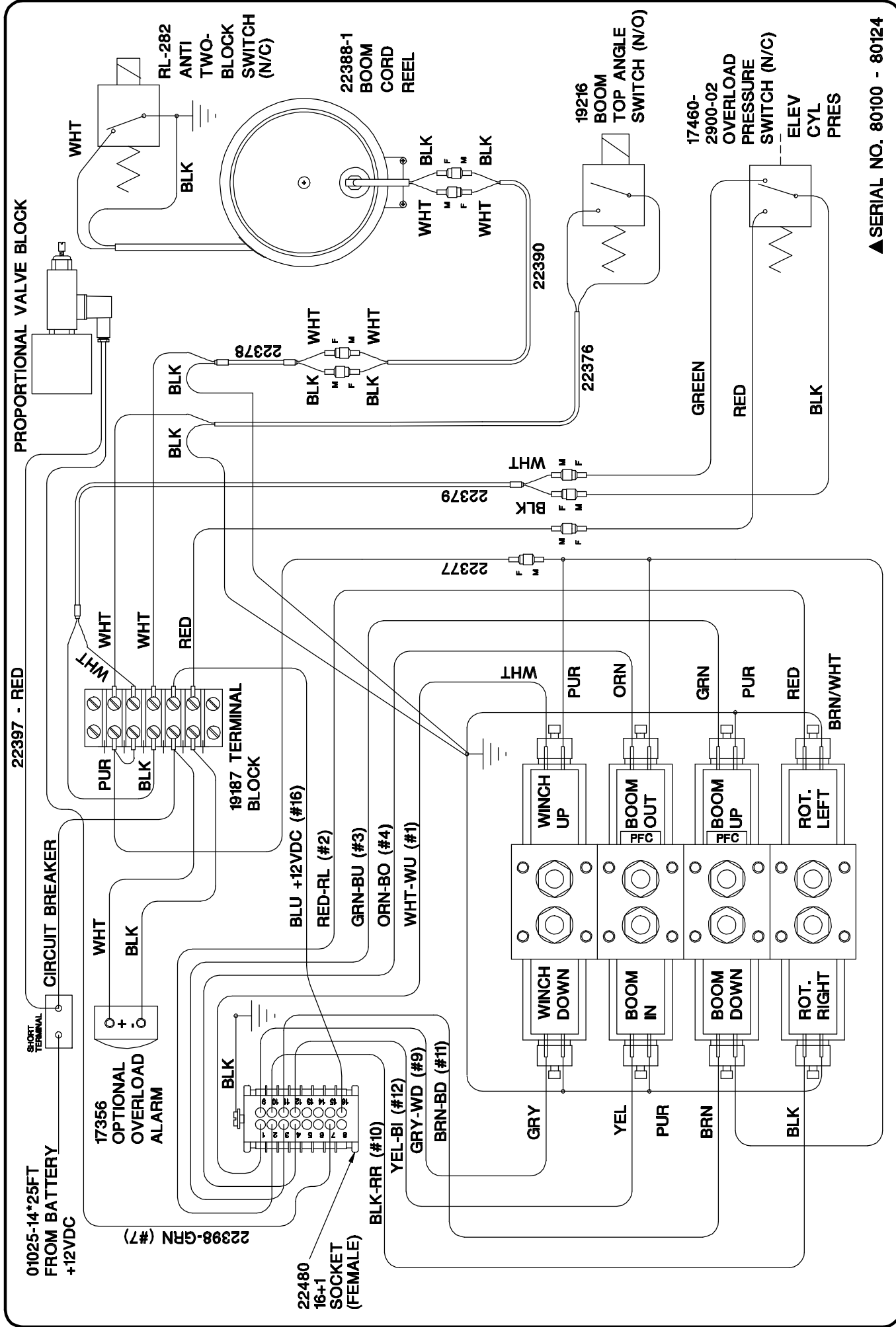
**SUPERSEDES**  
2-5-99B

**19197-2**



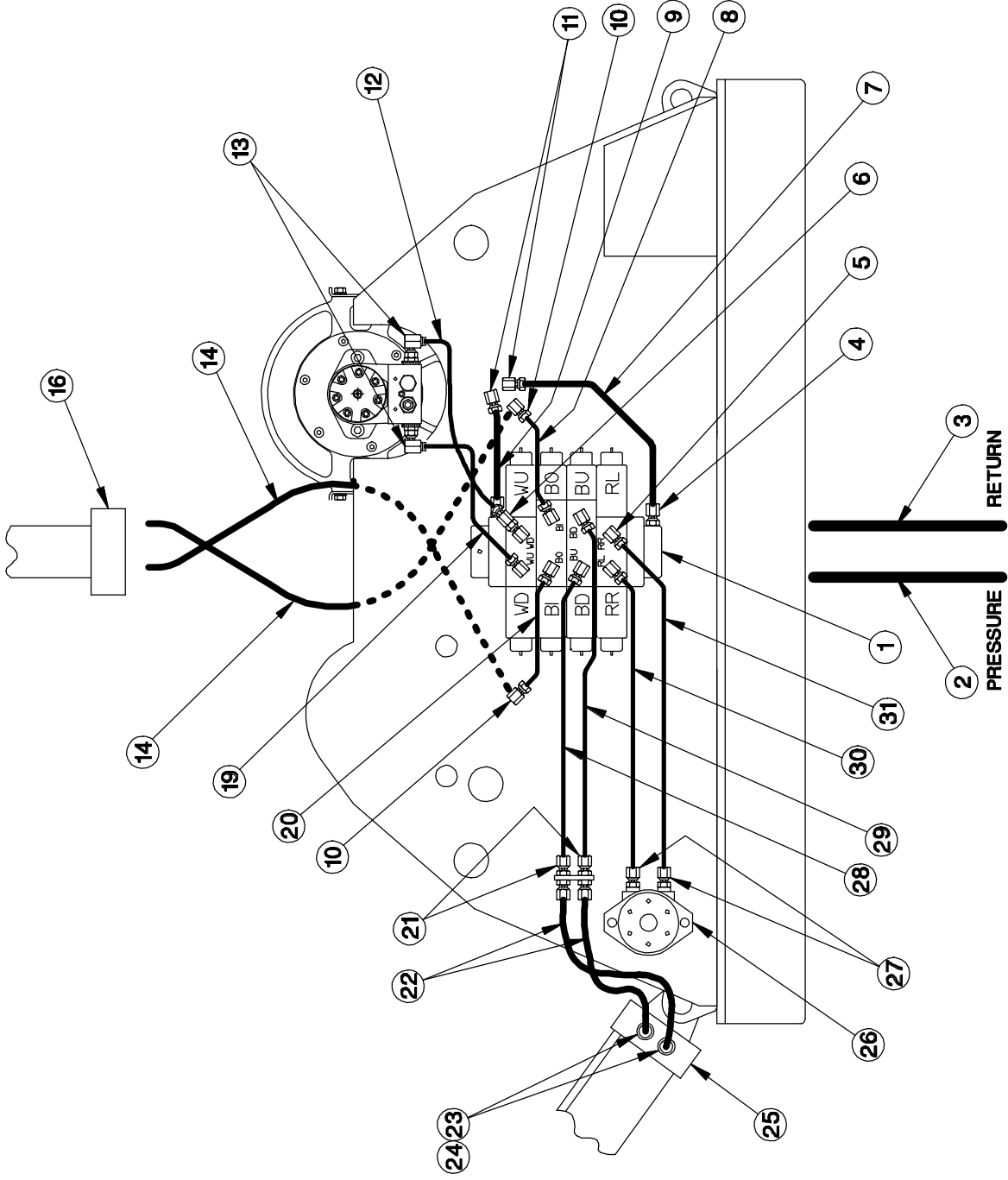
▲ SERIAL NO. 80100 - 80124

<b>VENTURO</b> MANUFACTURING, INC. CINCINNATI, OHIO	<b>TITLE</b> WIRING DIAGRAM	
	<b>DATE</b> 4-14-98G	<b>SECTION</b> C400
<b>HT25KX</b>		<b>SUPERSEDES</b> 10-15-97F
		<b>118939</b>



▲ SERIAL NO. 80100 - 80124

<b>VENTURO</b> MANUFACTURING, INC. CINCINNATI, OHIO	<b>TITLE</b> WIRING DIAGRAM	
	<b>DATE</b> 4-14-98B	<b>SECTION</b> C400
<b>HT25KX - PROPORTIONAL</b>		<b>SUPERSEDES</b> 12-10-97A
		<b>19372</b>



LEFT SIDE VIEW      REAR VIEW      RIGHT SIDE VIEW


▲ SERIAL NO. 80100 - 80124

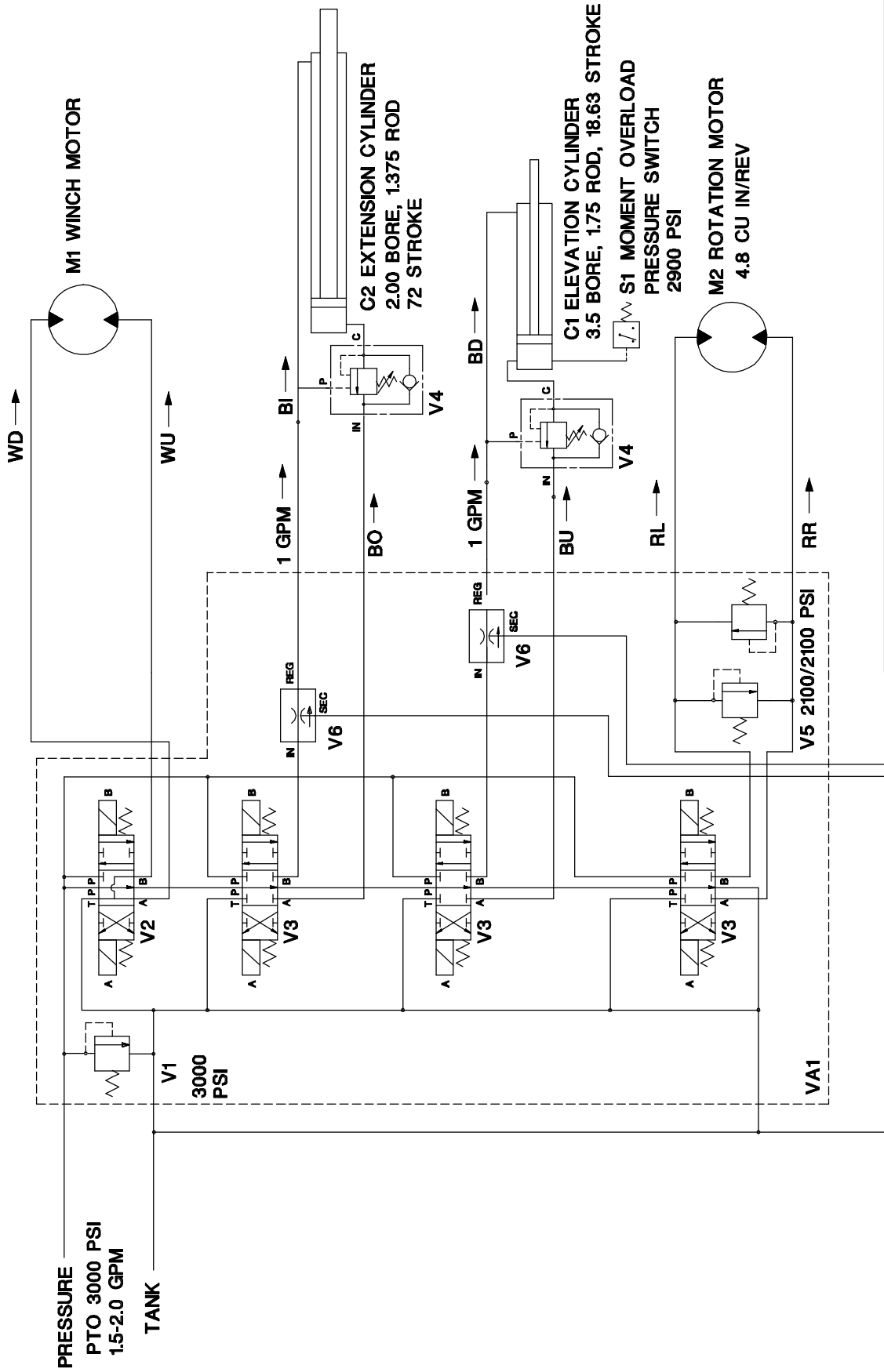
<b>VENTURO</b> MANUFACTURING, INC. CINCINNATI, OHIO	TITLE <b>INSTALLATION DWG</b>		DATE <b>4-14-98B</b>	SECTION <b>C400</b>
	HT25KX		SUPERSEDES <b>9-15-97A</b>	<b>119292</b>



ITEM #	PART #	DESCRIPTION	ITEM #	PART #	DESCRIPTION
1	19170	VALVE BANK	41	-	-
2	19214	PRESSURE HOSE WITH 6FJ END	42	-	-
3	19215	RETURN HOSE WITH 8FJ END	43	-	-
4	HNPL6MJ-6MO	HYD NIPPLE 6MJ-6MO (USED AT TOP OF VALVE ALSO)	44	-	-
5	HELB6MO-4MJ-90	HYD ELBOW 6MO-4MJ x 90 DEG (8 PLC)	45	-	-
6	HELB4MJ-4FJX-45	HYD ELBOW 4MJ-4FJX x 45 DEG	46	-	-
7	19207	HYD TUBING - VALVE BANK RETURN	47	-	-
8	19303	HYD TUBING - EXTENSION CYL RETRACT (BOOM IN)	48	-	-
9	19206	HYD TUBING - VALVE BANK SUPPLY	49	-	-
10	HBLK4MJ-4MJ-90	HYD BULKHEAD 4MJ-4MJ x 90 DEG	50	-	-
11	HBLK6MJ-6MJ-90	HYD BULKHEAD 6MJ-6MJ x 90 DEG	51	-	-
12	19176	HYD HOSE - WINCH DOWN	52	-	-
13	HELB8MO-4MJ-90	HYD ELBOW 8MO-4MJ x 90 DEG	53	-	-
14	19238-21.5	HYD HOSE - EXTENSION CYLINDER	54	-	-
15	-	-	55	-	-
16	18969-1	EXTENSION CYLINDER	56	-	-
17	-	-	57	-	-
18	-	-	58	-	-
19	19181	HYD TUBING - WINCH UP	59	-	-
20	19304	HYD TUBING - EXTENSION CYL EXTEND (BOOM OUT)	60	-	-
21	HBLK4MJ-4MJ	HYD BULKHEAD 4MJ-4MJ STRAIGHT	61	-	-
22	19237	HYD HOSE - ELEVATION CYLINDER	62	-	-
23	HRDB6MO-4FP	HYD REDUCING BUSHING 6MO-4FP	63	-	-
24	-	-	64	-	-
25	18930-1	ELEVATION CYLINDER	65	-	-
26	19177	HYD ROTATION MOTOR	66	-	-
27	HNPL10MO-4MJ	HYD NIPPLE 10MO-4MJ	67	-	-
28	19208	HYD TUBING - ELEVATION CYL EXTEND (BOOM UP)	68	-	-
29	19209	HYD TUBING - ELEVATION CYL RETRACT (BOOM DOWN)	69	-	-
30	19178	HYD TUBING - ROTATION LEFT	70	-	-
31	19179	HYD TUBING - ROTATION RIGHT	71	-	-
32	-	-	72	-	-
33	-	-	73	-	-
34	-	-	74	-	-
35	-	-	75	-	-
36	-	-	76	-	-
37	-	-	77	-	-
38	-	-	78	-	-
39	-	-	79	-	-
40	-	-	80	-	-

▲ SN: 80110 - 80124

 <b>VENTURO</b> MANUFACTURING, INC. CINCINNATI, OHIO	TITLE	REPLACEMENT PARTS	DATE	4-14-98	SECTION	C400
		HT25KX	SUPERCEDES	10-15-97		I19293



- V1 INLET RELIEF VALVE
- V2 3 POSITION-4 WAY VALVE, AB OPEN TO TANK
- V3 3 POSITION-4 WAY VALVE ALL PORTS BLOCKED
- V4 COUNTERBALANCE CARTRIDGE VALVE
- V5 DUAL CROSSPORT RELIEF VALVE
- V6 PRIORITY FLOW REGULATOR VALVE
- C1 18930-1 ELEVATION CYL
- C2 26203 EXTENSION CYL
- M1 19180 WINCH MOTOR
- M2 19177 ROTATION MOTOR
- S1 17490-2900-02 PRESSURE SWITCH
- VA1 19170 CONTROL VALVE ASSY

▲ SERIAL NO. 80100 - 80124

**VENTURO**  
 MANUFACTURING, INC.  
 CINCINNATI, OHIO

TITLE  
**HYDRAULIC SYSTEM DIAGRAM**

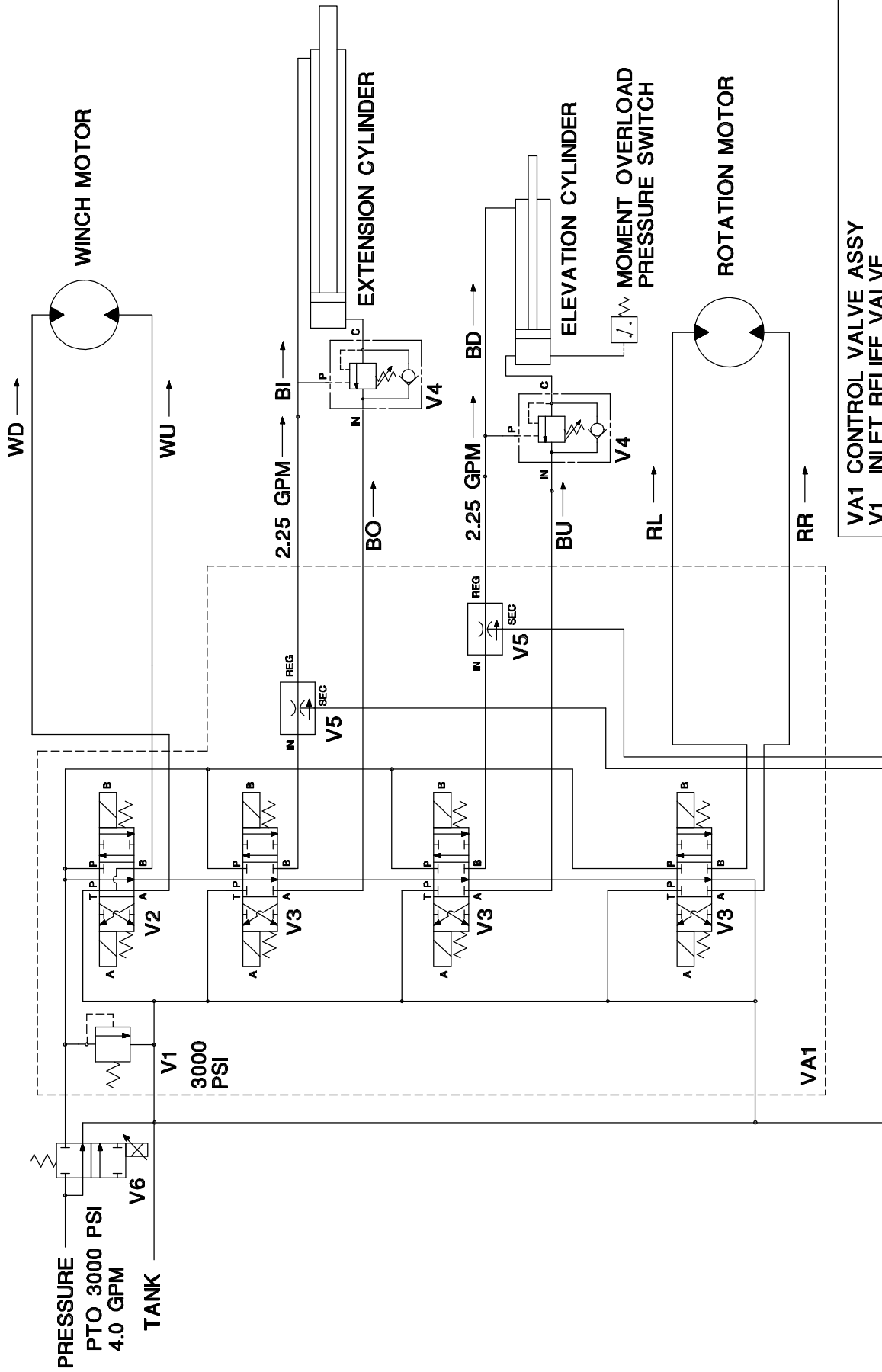
DATE  
**4-14-98C**

SECTION  
**C400**

SUPERSEDES  
**10-17-97B**

HT25KX - 10/20

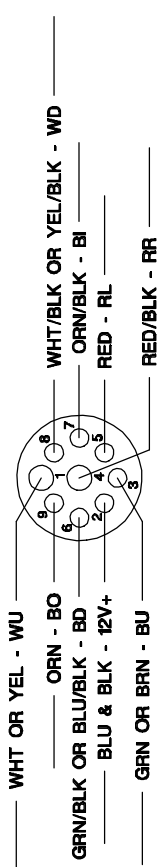
**I19241**



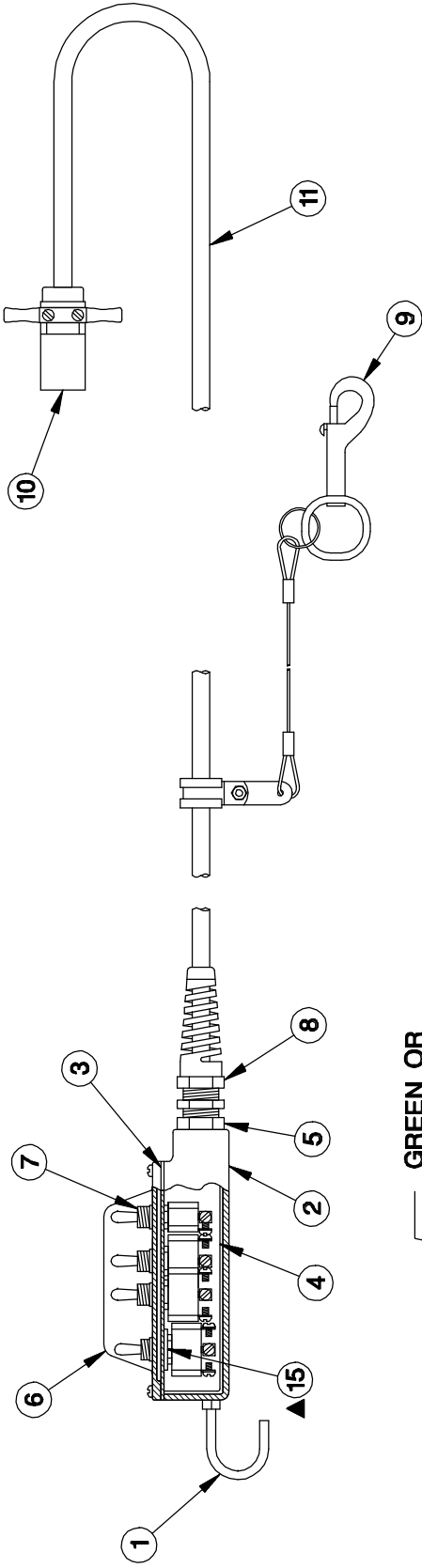
- VA1 CONTROL VALVE ASSY
- V1 INLET RELIEF VALVE
- V2 3 POSITION-4 WAY VALVE, AB OPEN TO TANK
- V3 3 POSITION-4 WAY VALVE ALL PORTS BLOCKED
- V4 COUNTERBALANCE CARTRIDGE VALVE
- V5 PRIORITY FLOW REGULATOR VALVE
- V6 PROPORTIONAL CONTROL VALVE (SIMPLIFIED REP)

▲ SERIAL NO. 80100 - 80124

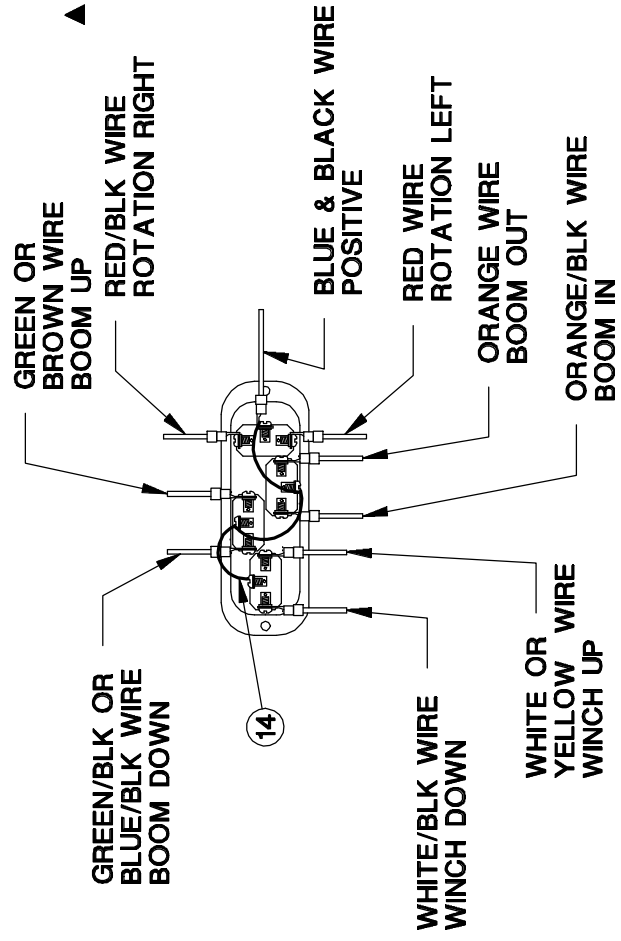
<b>VENTURO</b> MANUFACTURING, INC. CINCINNATI, OHIO	<b>TITLE</b> HYDRAULIC SYSTEM DIAGRAM		<b>DATE</b> 4-14-98B	<b>SECTION</b> C400
	<b>HT25KX - PROPORTIONAL</b>		<b>SUPERSEDES</b> 11-24-97A	<b>19389</b>



PLUG - BACKSIDE VIEW

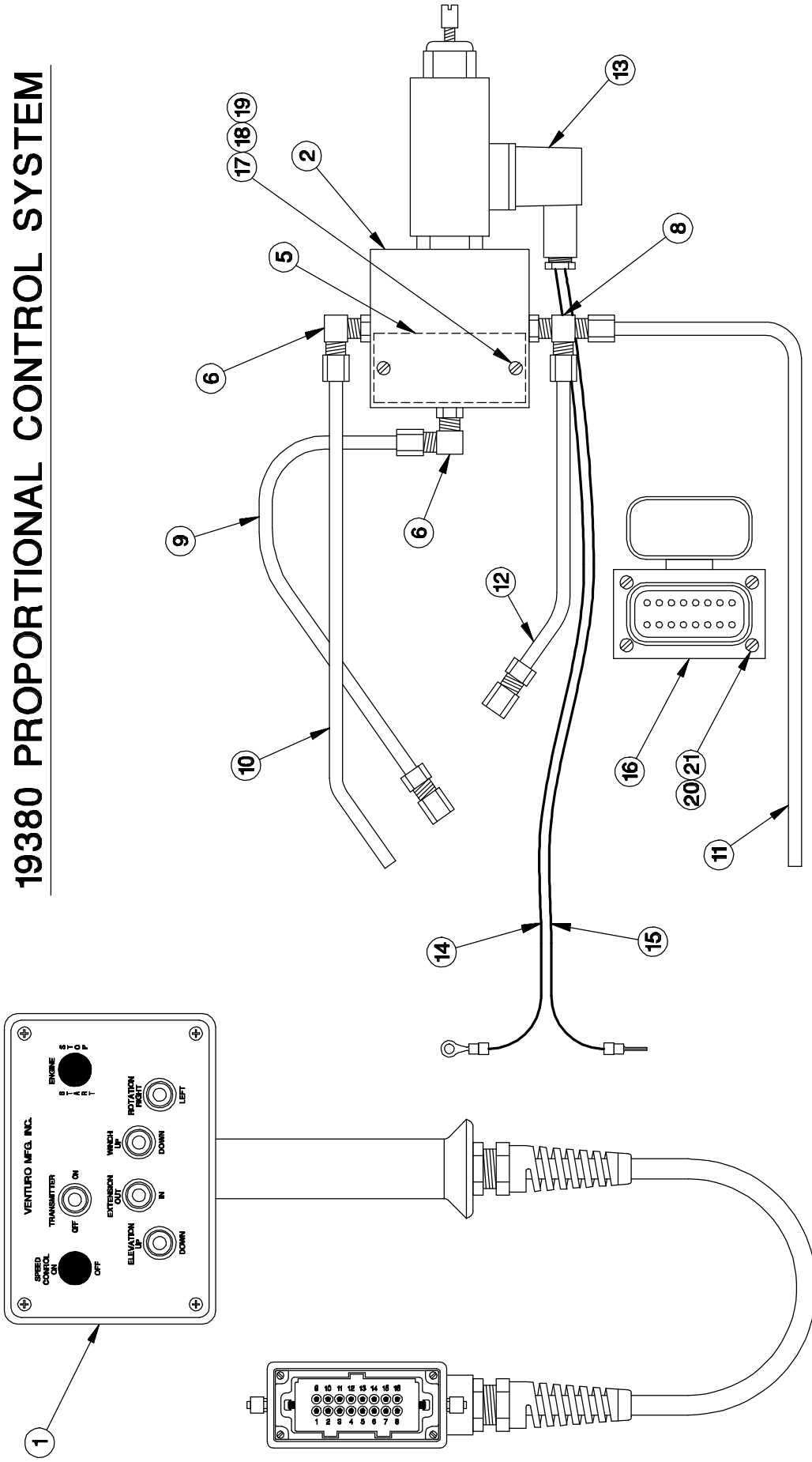


ITEM	QTY	PART NO.	DESCRIPTION
15	1	12534-4	MACHINERY BUSHING - 1/2" I.D. x 7/8" O.D. x 14 GA.
14	1	19307	4SW PENDANT CORD JUMPER
13	2	IPHCS#0832050	PHCS 8-32 x 1/2
12	1	17363	DECAL, CRANE CONTROL
11	1	26262-xx	CORD ASSY (xx = LENGTH IN FT.)
10	1	26263	PLUG - 9 POLE
9	1	15913-2	PHAN, CLAMP AND TETHER ASSY
8	1	25534	PLASTIC 3/4" STRAIN RELIEF
7	4	13763	TOGGLE SWITCH
6	1	17361	PENDANT COVER
5	1	HRDB16MP-12FP	HYD BUSHING
4	1	15629	INSULATOR FOR CONDULET
3	1	25625	GASKET 1"
2	1	25624	ENCLOSURE 1"
1	1	11557	PENDANT HOOK



TITLE		REPL. PARTS DWG.	SECTION
DATE		2-6-98D	C400
SUPERSEDES		12-11-97C	17360
4 FUNCTION CRANES			

# 19380 PROPORTIONAL CONTROL SYSTEM



REPLACEMENT PARTS LIST REF 19379

▲ SERIAL NO. 80100 - 80124

TITLE <b>REPLACEMENT PARTS DRAWING</b>	DATE <b>4-14-98B</b>	SECTION <b>C400</b>
	SUPERSEDES <b>12-1-97A</b>	<b>19378</b>
19380 PROPORTIONAL CONTROL SYS.		

**VENTURO** MANUFACTURING, INC.  
CINCINNATI, OHIO

# 19380 PROPORTIONAL CONTROL SYSTEM REPLACEMENT PARTS LIST

ITEM	PARTNUMBER	DESCRIPTION
1	22460	PENDANT CONTROL ASSEMBLY
2	22331	PROPORTIONAL CONTROL VALVE/BLOCK
3	* 22312-2.25	PRIORITY FLOW CARTRIDGE - 2.25 GPM (ELEVATION)
4	* 22312-2.25	PRIORITY FLOW CARTRIDGE - 2.25 GPM (EXTENSION)
5	22392	SPACER - PROPORTIONAL VALVE
6	HELB6MO-6MJ-90	HYDRAULIC ELBOW - 6MJ-6MO-90°
▲7	-	-
8	HTEE6MJ-6MJ-6MO	HYDRAULIC TEE - 6MO (RUN)-6MJ-6MJ TEE
9	19381	TUBE - MASTER SUPPLY TO PROP-VALVE
10	19382	TUBE - PROP-VALVE TO CRANE VALVE 'IN'
11	19383	TUBE - PROP-VALVE TO CRANE VALVE 'OUT'
12	19384	TUBE - PROP-VALVE TO MASTER RETURN
13	19323	DINCONNECTOR
14	22397	RED WIRE - 36" TWIST/DIP & #10 RING
15	22398	GREEN WIRE - 36" TWIST/DIP & PINTERM
16	22480	SOCKET ASSEMBLY
17	IHHCS02520200	HHCS - 1/4"-20 x 2"
18	ILWSH-025	LOCK WASHER - 1/4"
19	IHNUT-02520	HEX NUT - 1/4"-20
20	IPHCS#0832050	PHCS - 8-32 x 1/2"
21	ILWSH-#08	LOCK WASHER - #8
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-

\*NOT SHOWN ON 19378 PARTS DRAWING

REPLACEMENT PARTS DRAWING REF 19378

▲SERIAL NO. 80100 - 80124



MFG., INC.  
CINCINNATI, OHIO

TITLE  
REPL. PARTS LIST

19380

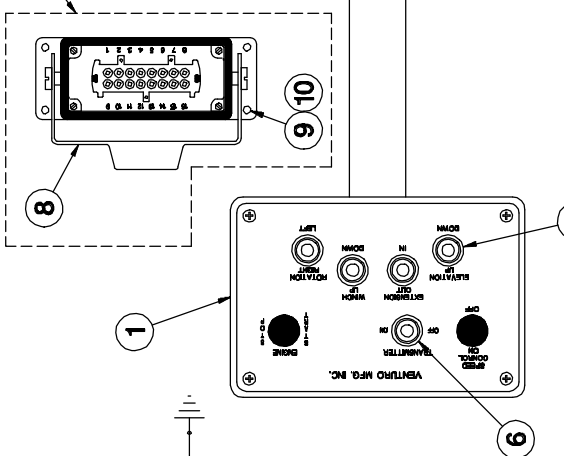
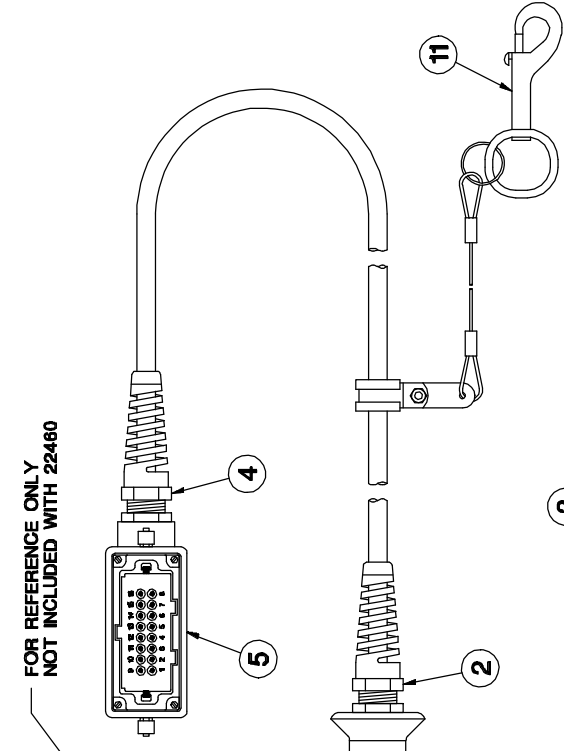
DATE  
4-14-98B

SUPERCEDES  
12-1-97A

SECTION  
C400

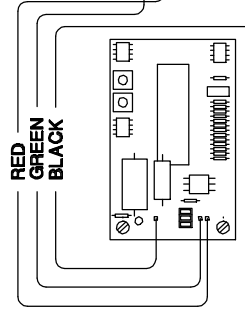
19379

FOR REFERENCE ONLY  
NOT INCLUDED WITH 22460



DOUBLE BACK &  
BUNDLE WITH  
3/4" HEAT SHRINK

PENDANT HEAD - BACKSIDE VIEW



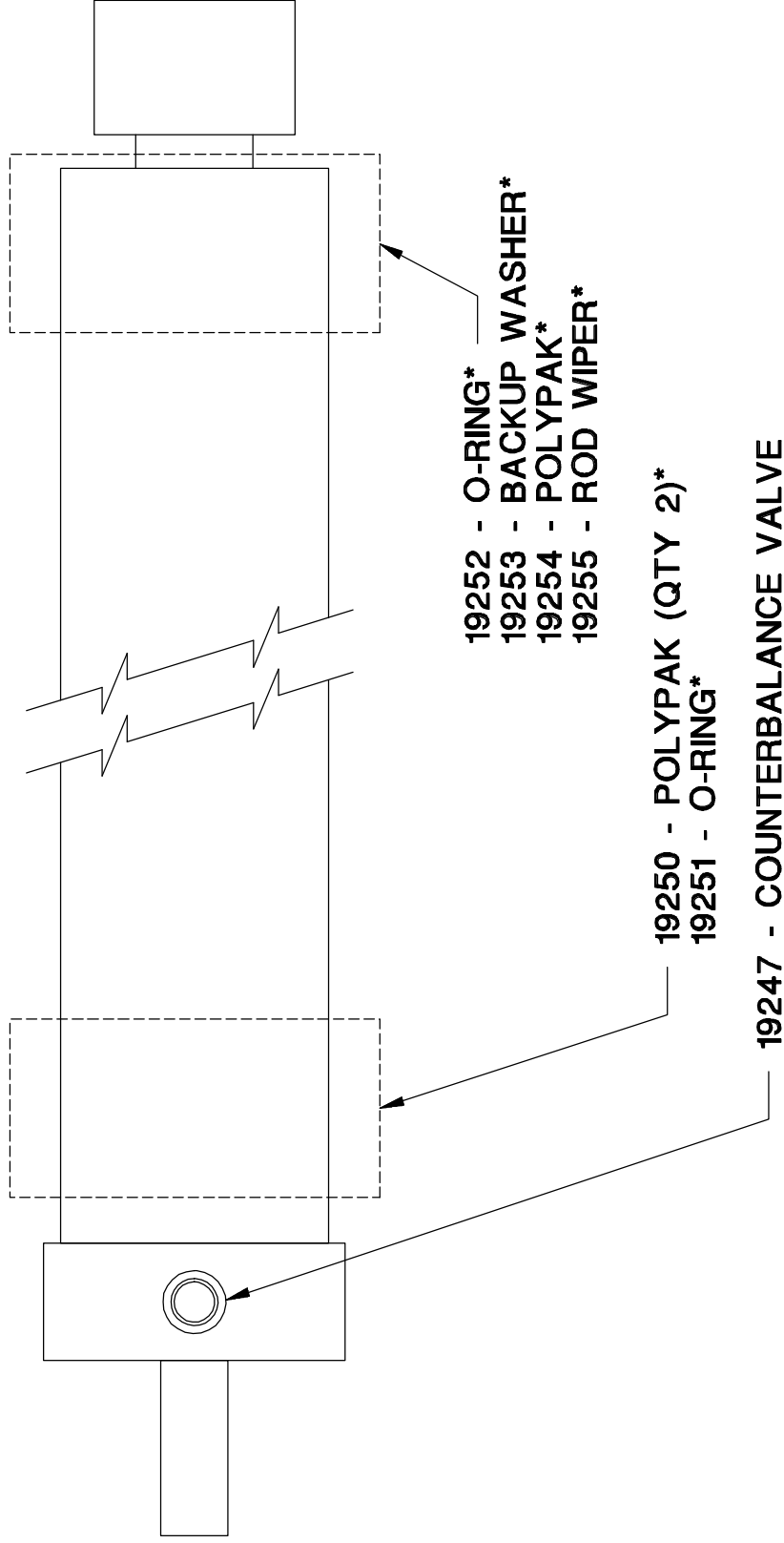
NOTE:  
EXAMPLE OF COLOR CODES:  
•BLU = BLUE WIRE (NO STRIPE)  
•BLU/BLK = BLUE WIRE WITH  
BLACK STRIPE

ITEM	QTY	PART NO.	DESCRIPTION
11	1	15918-1	CLAMP AND TETHER ASSEMBLY
10	-	ILWSH-#08	LOCK WASHER - #8
9	-	IPHCS#0832050	PAN HEAD CAP SCREW - 8-32 x 1/2"
8	-	22480	SOCKET ASSEMBLY
7	4	13763	TOGGLE SWITCH
6	1	22478	POWER SWITCH - DOUBLE POLE SINGLE THROW
5	1	22470	PLUG ASSY - 16+1 POLE
4	1	22313	STRAIN RELIEF - METRIC
3	1	22462	CORD ASSY - 25 FT
2	1	25534	STRAIN RELIEF - 3/4"
1	1	22311	PROPORTIONAL CONTROL PENDANT HEAD


TITLE	DATE	SECTION
REPLACEMENT PARTS DRAWING	8-21-98D	C400
22460 PENDANT (PROPORTIONAL CTRL)	SUPERSEDES 3-12-98C	22460

VENTURO MANUFACTURING, INC.  
CINCINNATI, OHIO

# 18930-1 ELEVATION CYLINDER

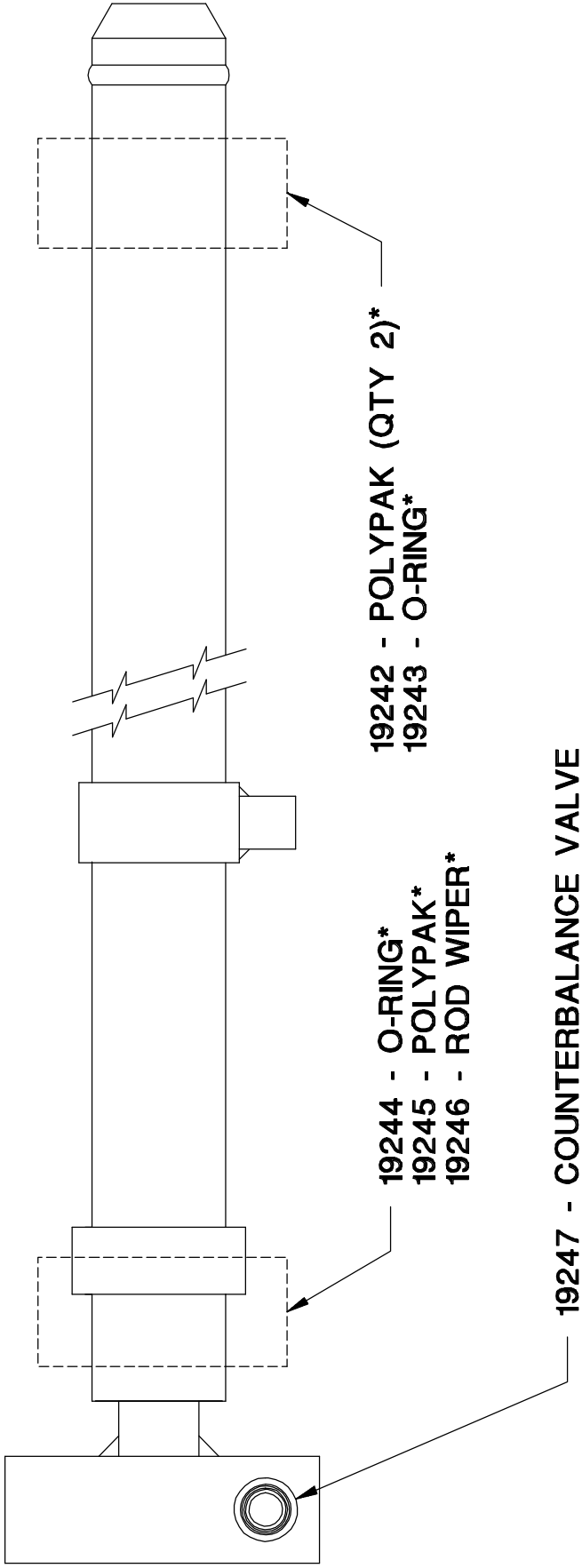


\* ITEMS INCLUDED IN 18930-1-SK SEAL KIT


 MANUFACTURING, INC. CINCINNATI, OHIO	TITLE	DATE	SECTION
	ELEVATION CYLINDER ET/HT25KX	10-15-97A SUPERSEDES 9-21-96	C400 <b>119249</b>

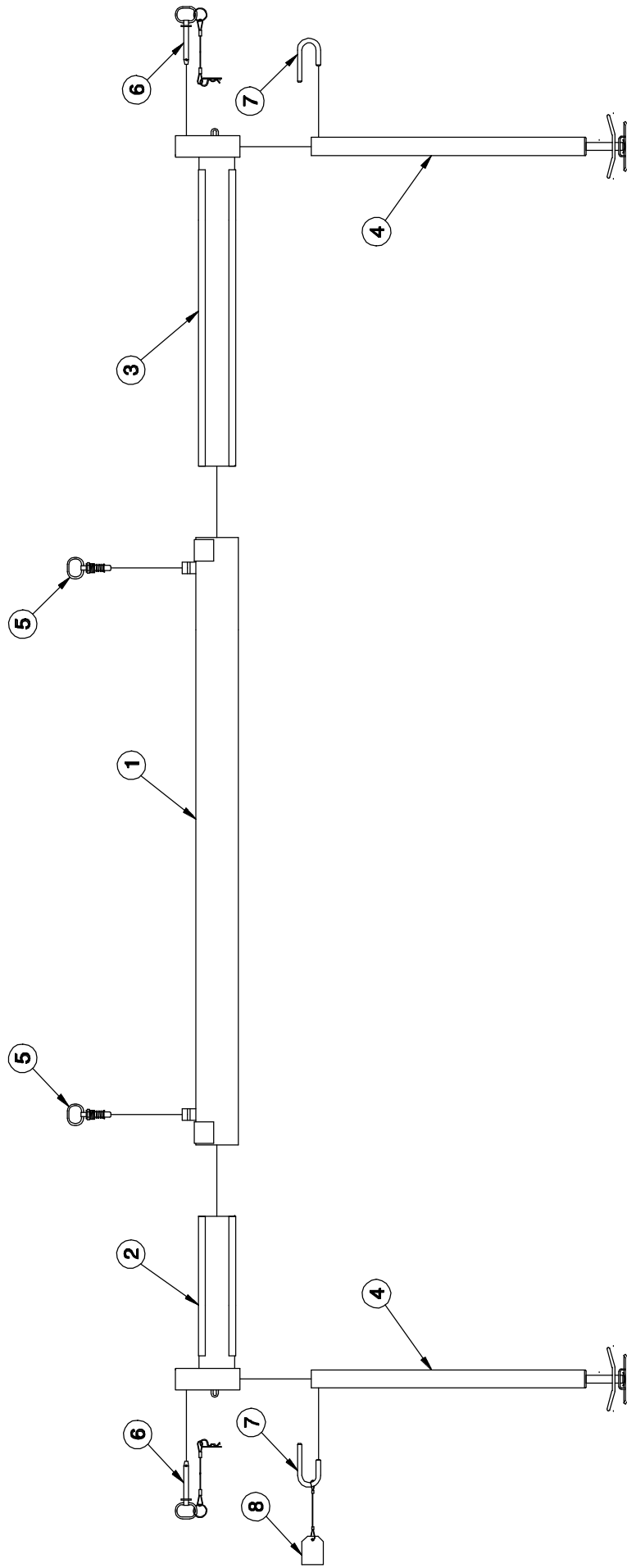


# 18969-1 EXTENSION CYLINDER



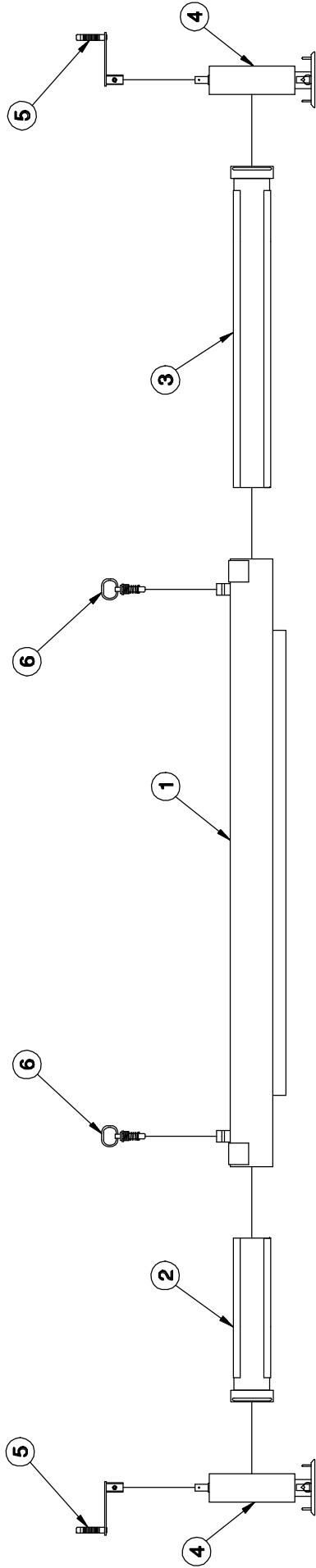
\* ITEMS INCLUDED IN 18969-1-SK SEAL KIT

 <b>VENTURO</b> MANUFACTURING, INC. CINCINNATI, OHIO	TITLE	EXTENSION CYLINDER ET/HT25KX	DATE	10-15-97A SUPERSEDES 9-11-96	SECTION	C400
						<b>119248</b>



ITEM	QTY	PART NO	DESCRIPTION
8	1	14517	TAG - HANDLE INSTALLATION
7	2	23980	OUTRIGER LEG HANDLE
6	2	23976	HITCH PIN WITH LANYARD
5	2	22433	SPRING LOADED PIN ASSY
4	2	24073-4	MANUAL DROP LEG
3	1	22420-2	PULLOUT - LONG
2	1	22420-1	PULLOUT - SHORT
1	1	22425	CROSS TUBE WELDED ASSY

TITLE	DATE	SECTION
REPLACEMENT PARTS DWG & LIST	10-14-97A	C400
23962-P-II MANUAL OUTRIGGERS	SUPERSEDES 7-8-97	22434

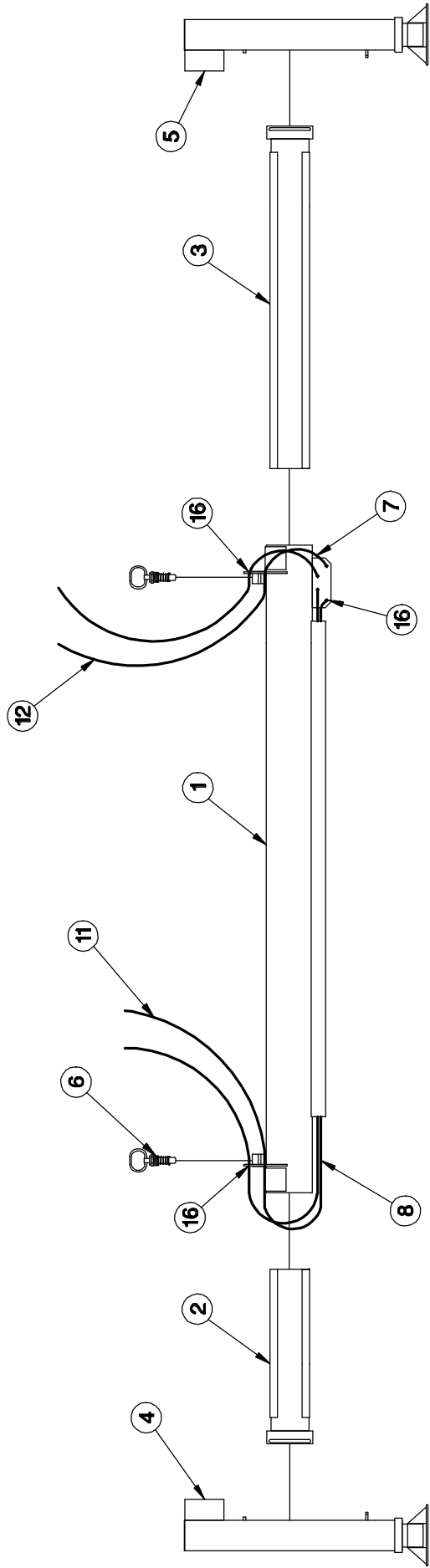


NOTE: CUSTOMER TO WELD (3/16" BEAD) ITEM 4  
 (CRANK DOWN LEG) IN PLACE AFTER ADJUSTING  
 FOR PROPER GROUND CLEARANCE AND TRAVEL

6	2	22433	SPRING LOADED PIN ASSY
5	2	19008	CRANK ASSY - OUTRIGGER
4	2	22440	CRANK DOWN LEG
3	1	22423	PULLOUT - LONG
2	1	22422	PULLOUT - SHORT
1	1	22426	CROSS TUBE WELDED ASSY
ITEM	QTY	PART NO	DESCRIPTION

TITLE		SECTION
REPLACEMENT PARTS DWG & LIST		C400
DATE		SUPERSEDES
7-8-97		-
23962-CD-II HD CRANKDOWN O.R.		22441

**VENTURO**  
 MANUFACTURING, INC.  
 CINCINNATI, OHIO



ITEM	QTY	PART NUMBER	DESCRIPTION
16	8	HBLK4MJ-4MJ-90	HYD BULKHEAD ELBOW - 4MJ-4MJ x 90°
15	1	HTAD8MJ-8MO	HYD TUBE ADAPTER - 8MJ-8MO
14	4	HTAD4MJ-6MO	HYD TUBE ADAPTER - 4MJ-6MO
13	1	22444	TWO FUNCTION VALVE - 2000 PSI RELIEF
12	2	22443	HOSE - 1/4" x 46" x 4FJ-4FJ
11	2	22442	HOSE - 1/4" x 24" x 4FJ-4FJ
10	1	22438	HOSE - 3/8" x 60" x 8MO-8FJ
9	4	22437	HOSE - 1/4" x 48" x 4FJ-4FJx90°
8	2	22436	HOSE - 1/4" x 84" x 4FJ-4FJx90°
7	2	22435	HOSE - 1/4" x 13 1/4" x 4FJ-4FJ
6	2	22433	SPRING LOADED PIN ASSY
5	1	22445-2	HYD LEG ASSY - RIGHT
4	1	22445-1	HYD LEG ASSY - LEFT
3	1	22423	PULLOUT - LONG
2	1	22422	PULLOUT - SHORT
1	1	22427	CROSS TUBE WELDED ASSY
ITEM	QTY	PART NUMBER	DESCRIPTION

TITLE  
**REPLACEMENT PARTS DWG & LIST**

DATE  
**7-5-97**

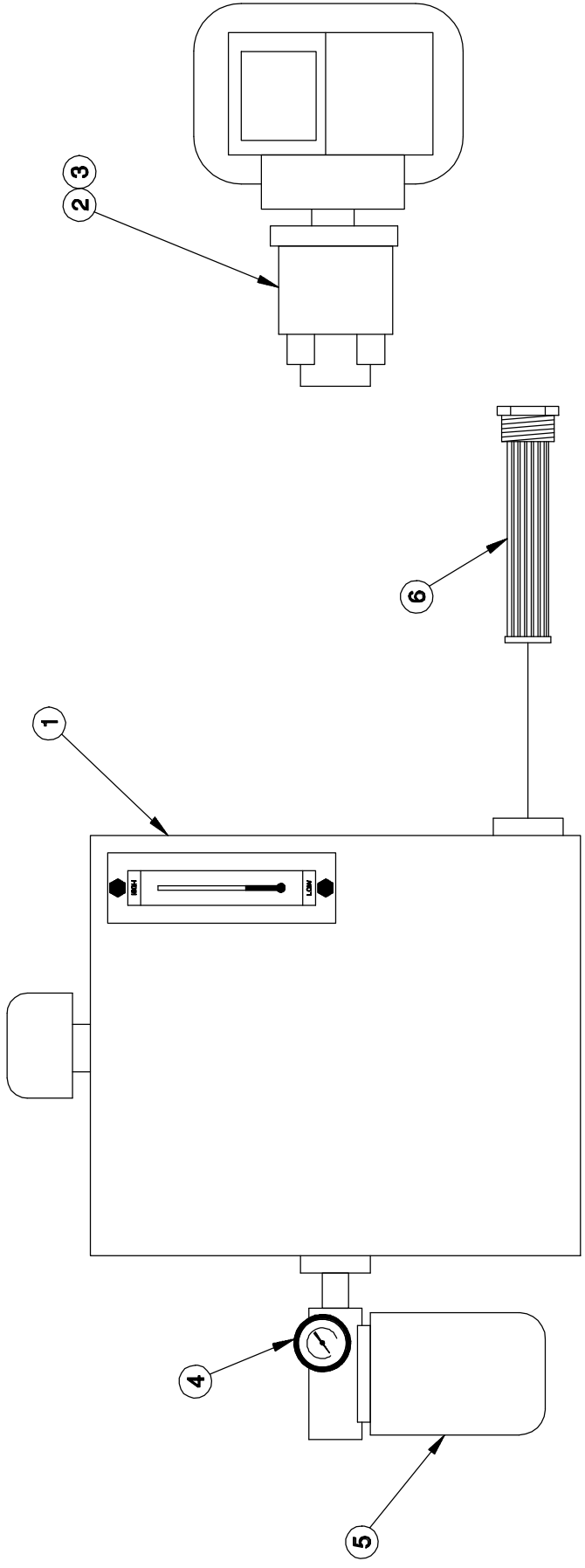
SECTION  
**C400**

SUPERSEDES  
**-**

**22428**

**23962-PH-II HYD. OUTRIGGERS (22403)**

# 19294 PTO PACKAGES



PUMP	MOUNTING	RECOMMENDED RPM
19296-2.64	SAE "A" 9 TOOTH SPLINED SHAFT	HT25 - 800 RPM HT40 - 1000 RPM HT50 - 1150 RPM
19296-5.00	SAE "A" 9 TOOTH SPLINED SHAFT	HT40/50 WITH PROP. CONTROL 1000 - 1200 RPM

6	1	19300	SUCTION SCREEN - 100 MESH
5	1	19298	FILTER ASSY, RETURN - 10 MICRON
4	1	19297	PRESSURE GAUGE - RETURN
3	1	19296-5.00	PTO PUMP - HT40/50KX PROPORTIONAL
2	1	19296-2.64	PTO PUMP - HT25/40/50KX NON-PROP
1	1	19295	RESERVOIR TANK - 10 GALLON

ITEM	QTY	PART NO.	DESCRIPTION
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TITLE		REPLACEMENT PARTS DWG	SECTION
DATE		1-15-98A	C400
SUPERSEDES		7-9-97	22448
PTO KIT - HT25/40/50KX			

**VENTURO**  
 MANUFACTURING, INC.  
 CINCINNATI, OHIO







## **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*  
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