

The background of the entire page is a repeating pattern of diamond-shaped metal studs, characteristic of a truck's diamond plate surface. 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

TABLE OF CONTENTS

HT25KX INSTRUCTION MANUAL

SECTION 100 DESCRIPTION & SPECIFICATIONS

I19230	INSTALLATION DIMENSIONS - HT25KX
I19233	CAPACITY CHART - ET/HT25K(X) 10-16-20 FT
I19288	TYPICAL SERVICE BODY REINFORCEMENT
19411	INSTALLATION DRAWING - 17350 MOUNTING PEDESTAL
14510	INSTALLATION DRAWING - 17350 MOUNTING PEDESTAL
I23960	INSTALLATION DIMENSIONS - 23960 MANUAL OUTRIGGER FOLD AWAY TYPE
I23961	INSTALLATION DIMENSIONS - 23961 MANUAL OUTRIGGER SIDE BRACKET
I23962	INSTALLATION DRAWING - 23962 OUTRIGGER SERIES
22458	INSTALLATION DIMENSIONS - 23962-P-II & 23962-PM-II MANUAL OUTRIGGER
22459	INSTALLATION DIMENSIONS - 23962-CD-II CRANKDOWN OUTRIGGERS
22429	INSTALLATION DIMENSIONS - 23962-PH-II HYDRAULIC OUTRIGGERS
22573	INSTALLATION DIMENSIONS - 23962-PHX-II HYDRAULIC OUTRIGGERS

SECTION 150 SAFETY

15394	VEHICLE & CRANE ELECTRICAL HAZARD INFORMATION
920612	SAFETY & HAZARDS - GENERAL
I19217	WINCH SAFETY WARNINGS
19471	HT25KX DECAL PLACEMENT

SECTION 200 INSTALLATION

I19212a	HT25KX CRANE INSTALLATION
I19212b	HT25KX CRANE INSTALLATION
I19205a	HT25K(X) OPERATION & MAINTENANCE INSTRUCTIONS
I19205b	HT25K(X) OPERATION & MAINTENANCE INSTRUCTIONS
I19205c	HT25K(X) OPERATION & MAINTENANCE INSTRUCTIONS
22328	EXPLANATION OF HYDRAULIC VALVE SYSTEM
I19232	PTO SYSTEM INSTALLATION
I19213	HT25KX HOSE INSTALLATION
22447	HOSE BRACKET LOCATIONS - 23962-PH-II HYDRAULIC OUTRIGGERS
22574	HOSE BRACKET LOCATIONS - 23962-PHX-II HYDRAULIC OUTRIGGERS
22336	HYDRAULIC SYSTEM CONFIGURATION - 23962-PH-II / 23962-PHX-II HYD OUTRIGGERS
22575	BULKHEAD FITTINGS LAYOUT - 23962-PHX-II HYDRAULIC OUTRIGGERS
I19218	CABLE INSTALLATION
I25618	INSTALLATION DRAWING - PENDANT CORD SUPPORT
▲ 20420	INSTALLATION DRAWING - 20381 ADJUSTABLE BOOM REST - ET/HT25 HT40/50

SECTION 300 MAINTENANCE & SERVICE

14544	ADJUSTMENT OF WORM HEIGHT AND BACKLASH
14553	ADJUSTMENT OF ROTATION WORM END PLAY

TABLE OF CONTENTS

HT25KX INSTRUCTION MANUAL

SECTION 400 REPLACEMENT PARTS

I19239	HT25KX REPLACEMENT PARTS DRAWING
I19240	HT25KX REPLACEMENT PARTS LIST
I19256	18971 - 10-20 FT BOOM ASSEMBLY
20197-2	19197-2 ANTI-TWO-BLOCK SYSTEM REPLACEMENT PARTS
19498	ELECTRICAL SCHEMATIC - STANDARD (NON-PROPORTIONAL)
19508	ELECTRICAL SCHEMATIC - STANDARD (NON-PROP) W/ ENGINE CONTROLS
19499	ELECTRICAL SCHEMATIC - PROPORTIONAL W/ ENGINE CONTROLS
20350	ELECTRICAL SCHEMATIC - STANDARD (NON-PROP) IN-COMPARTMENT CONTROLS
20351	▲ ELECTRICAL SCHEMATIC - STANDARD (NON-PROP) IN-COMPARTMENT CONTROLS - ENG/ START/STOP
20352	ELECTRICAL SCHEMATIC - PROPORTIONAL IN-COMPARTMENT CONTROLS
19501	HYDRAULIC SYSTEM COMPONENTS REPLACEMENT PARTS DRAWING
19502	HYDRAULIC SYSTEM COMPONENTS REPLACEMENT PARTS LIST
19496	HYDRAULIC SYSTEM SCHEMATIC - STANDARD (NON-PROP) HT25KX
19497	HYDRAULIC SYSTEM SCHEMATIC - PROPORTIONAL CONTROL HT25KX
19485	REPLACEMENT PARTS - 4 FUNCTION PENDANT CONTROL
22582	STANDARD (NON-PROP) W/ ENGINE START / STOP / THROTTLE CONTROL
22460	PROPORTIONAL PENDANT CONTROL REPLACEMENT PARTS
22584	PROPORTIONAL PENDANT CONTROL W/ ENGINE START / STOP / THROTTLE CNTRL
I19249	18930-1 ELEVATION CYLINDER
I19248	18969-1 EXTENSION CYLINDER
22434	REPLACEMENT PARTS - 23962-P-II MANUAL OUTRIGGER
22441	REPLACEMENT PARTS - 23962-CD-II CRANKDOWN OUTRIGGER
22428	23962-PH-II HD HYDRAULIC OUTRIGGERS
22576	23962-PHX-II HD HYDRAULIC OUTRIGGERS
23962-2	INSTALLATION & REPLACEMENT PARTS - STUB OUTRIGGER
22448	19294 PTO PACKAGE
22615	ENGINE START/STOP & THROTTLE CONTROL



MFG., INC.
CINCINNATI, OHIO

TITLE

TABLE OF CONTENTS

DATE

2-8-01J

SECTION

PAGE 2 OF 2

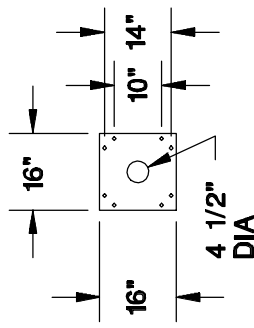
HT25KX

SUPERCEDES

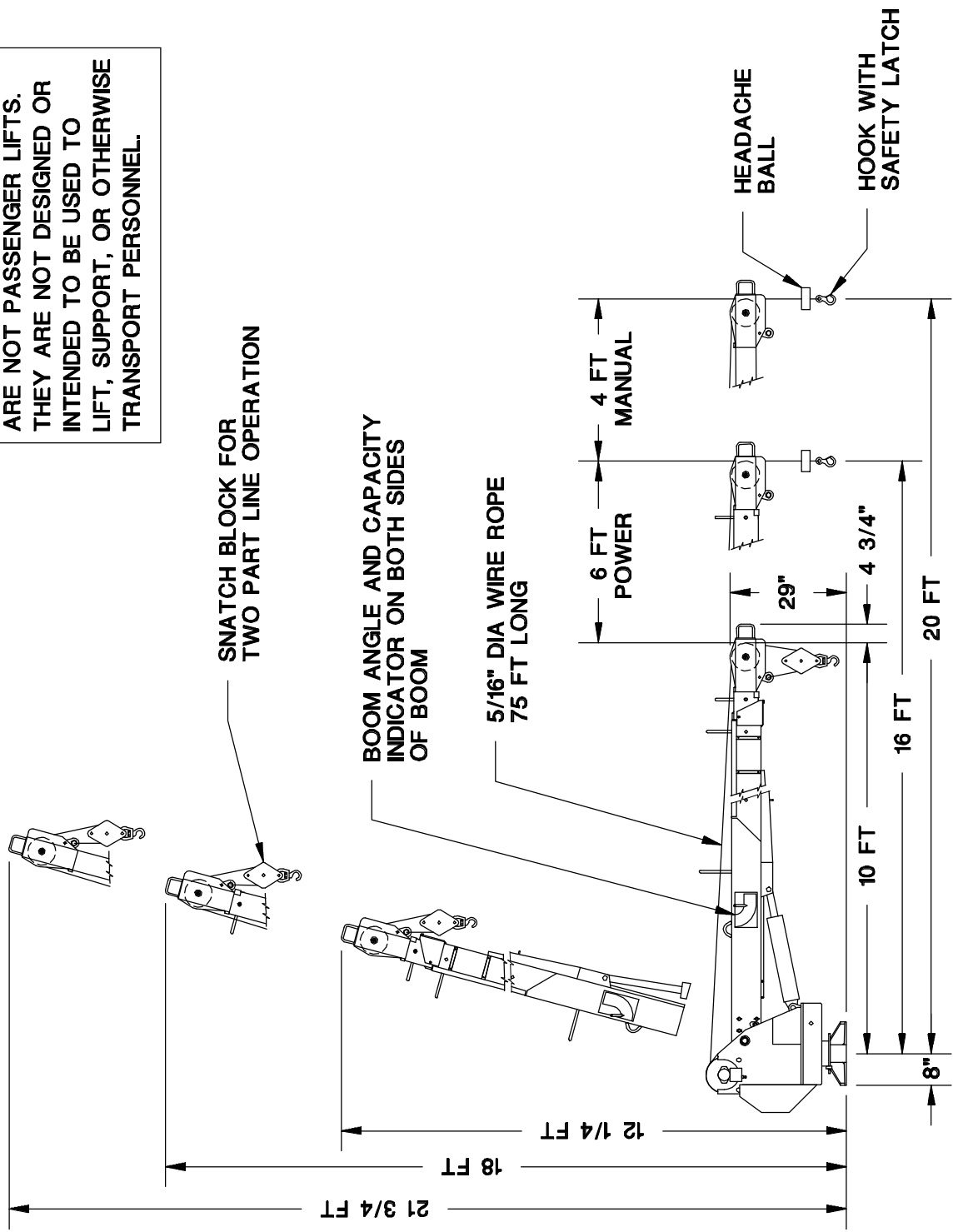
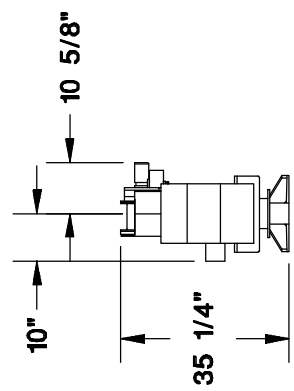
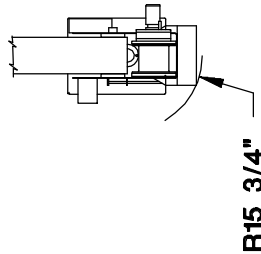
5-26-00H

19526b

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

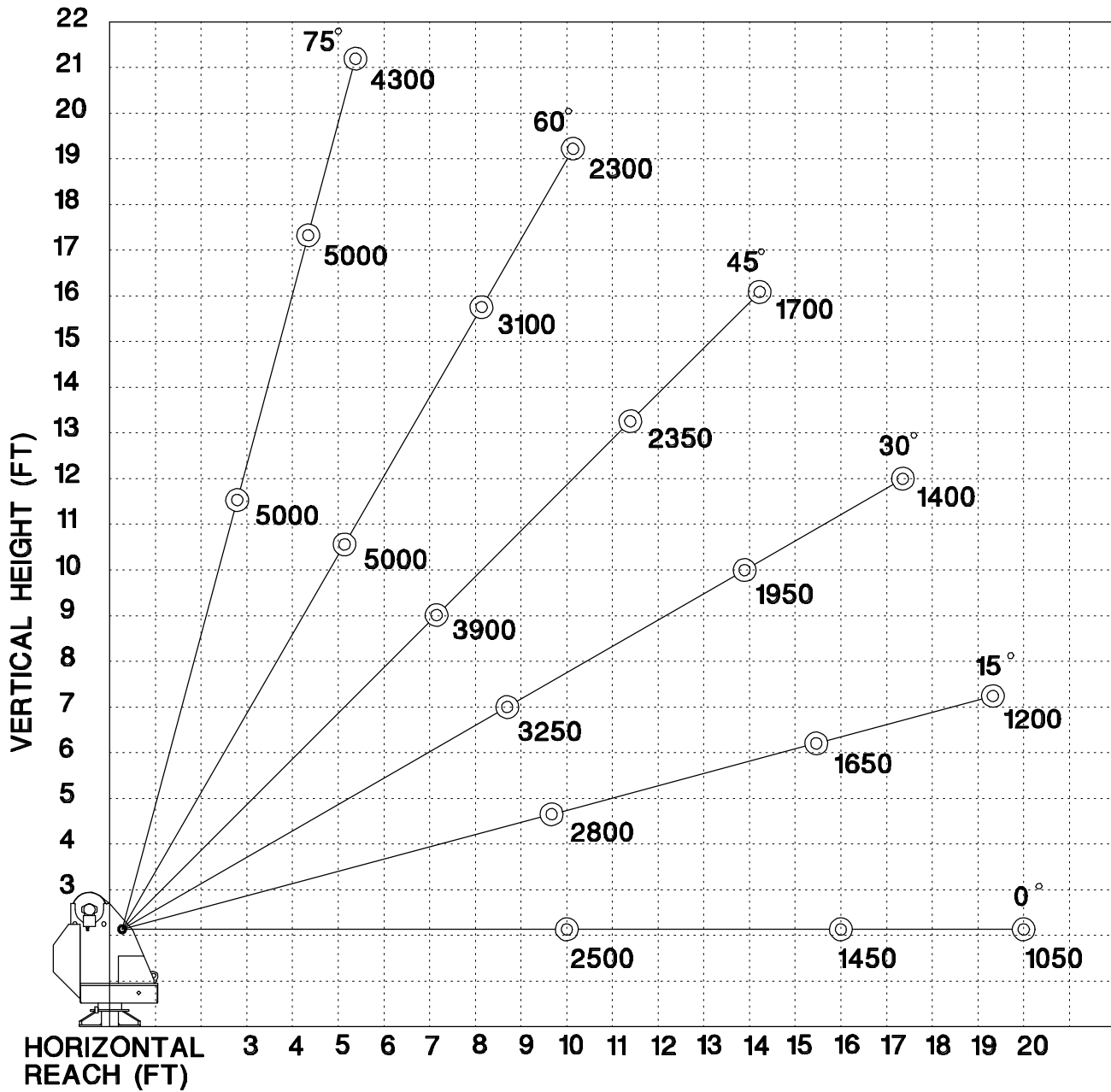


BASE MOUNTING DIMENSIONS



TITLE INSTALLATION DRAWING HT25KX - 10/16/20 BOOM	DATE 10-16-97A	SECTION C100
	SUPERSEDES 7-31-96	119230

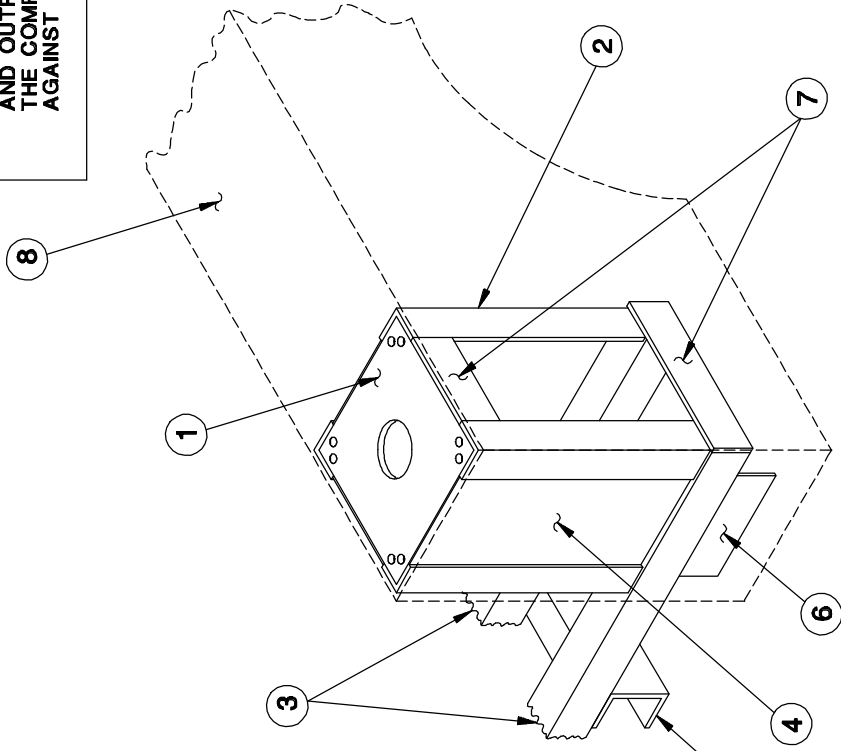
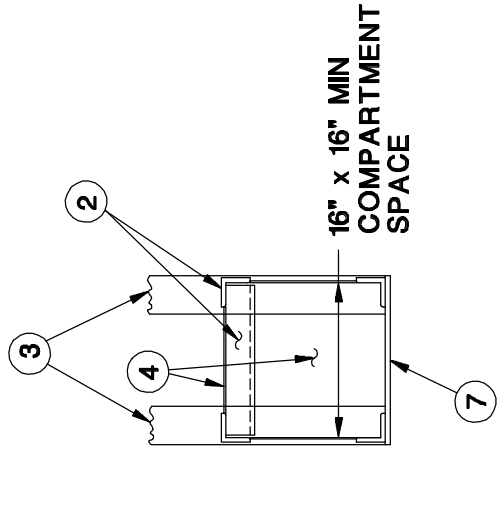
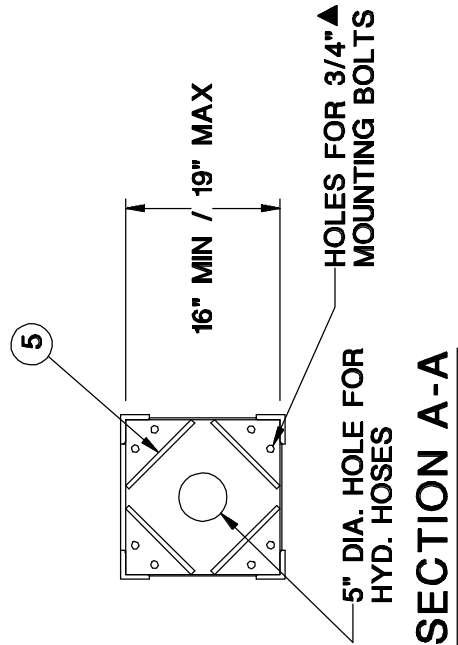
ET/HT25K(X) - 10-16-20 BOOM MAXIMUM CAPACITY CHART




**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

 VENTURO MANUFACTURING, INC. CINCINNATI, OHIO	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

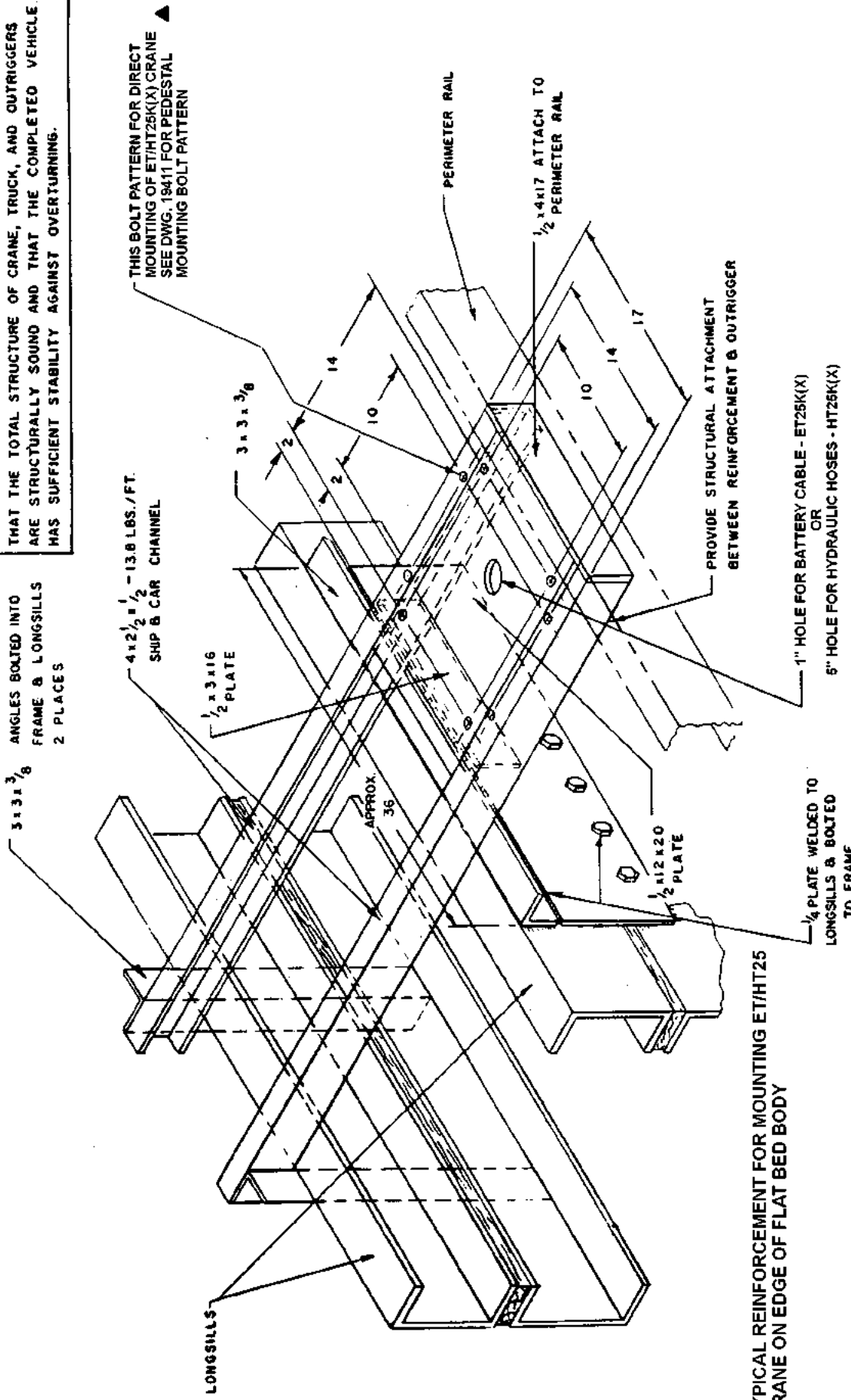
ET/HT25K(X)

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.



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

MANUFACTURING, INC.
CINCINNATI, OHIO

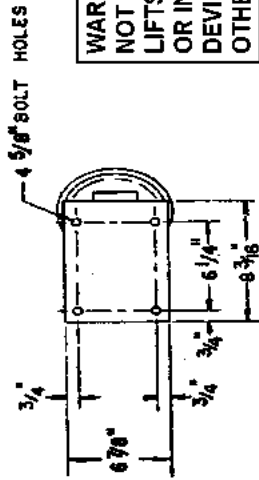


TITLE
INSTALLATION DRAWING
ET25K(X), HT25K(X)

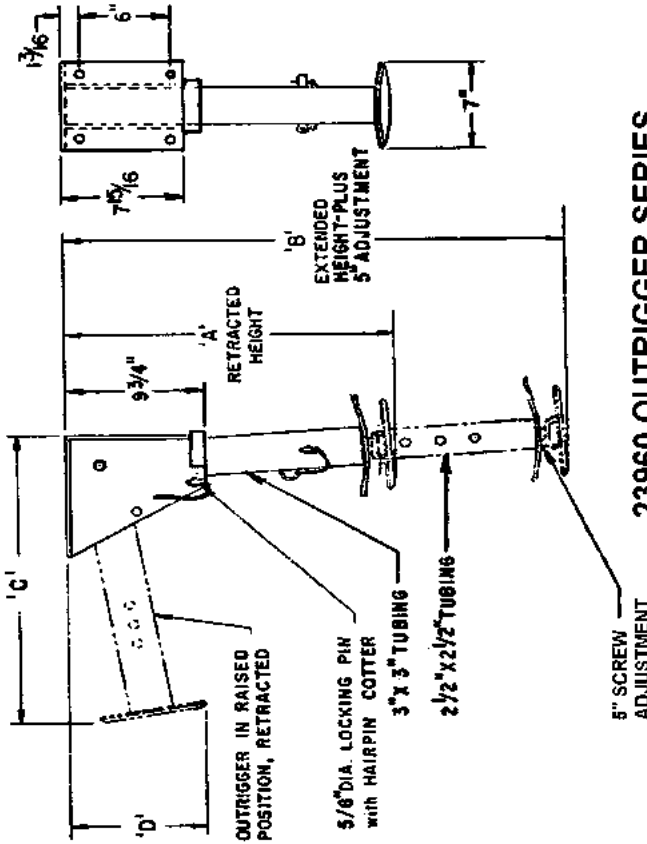
DATE
4-8-99K
SUPERCEDES
11-2-98J

SECTION
C100
14510

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"



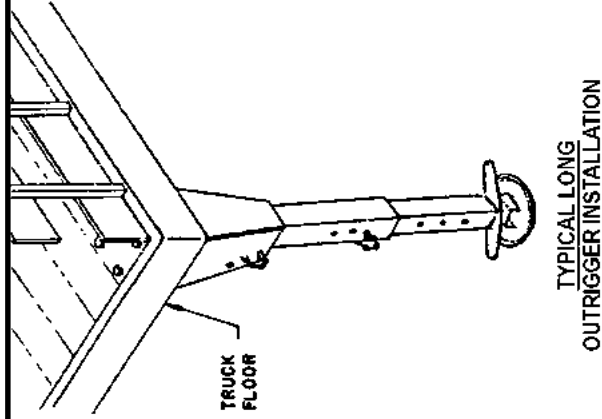
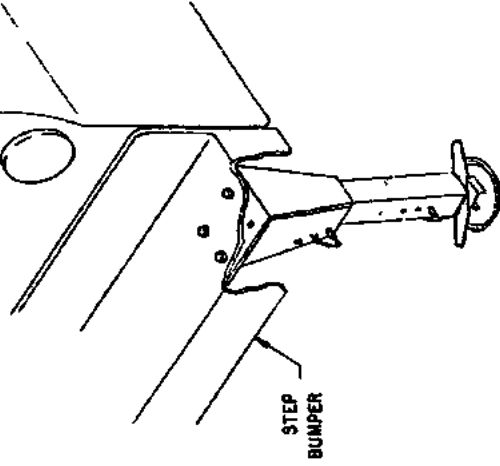
WARNING: THESE PRODUCTS ARE NOT FOR USE WITH PASSENGER LIFTS. THEY ARE NOT DESIGNED OR INTENDED TO BE USED WITH DEVICES THAT LIFT, SUPPORT OR OTHERWISE TRANSPORT PERSONNEL



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



MANUFACTURING, INC.
CINCINNATI, OHIO



TITLE

INSTALLATION DRAWING

ET10K(X), ET25K(X), HT25KX

DATE

4-29-98C

SUPERCEDES

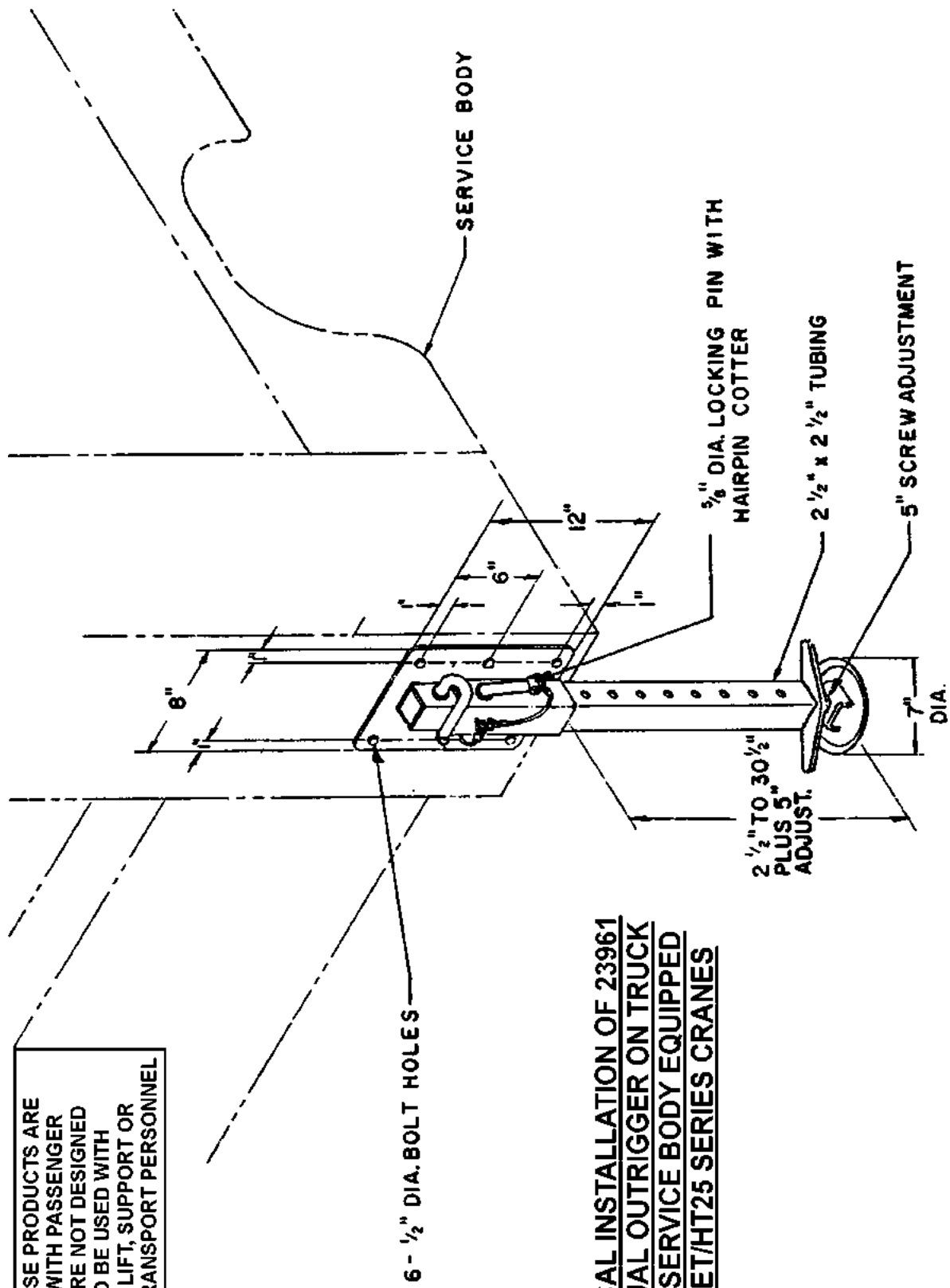
7-27-83B

SECTION

C100

I23960

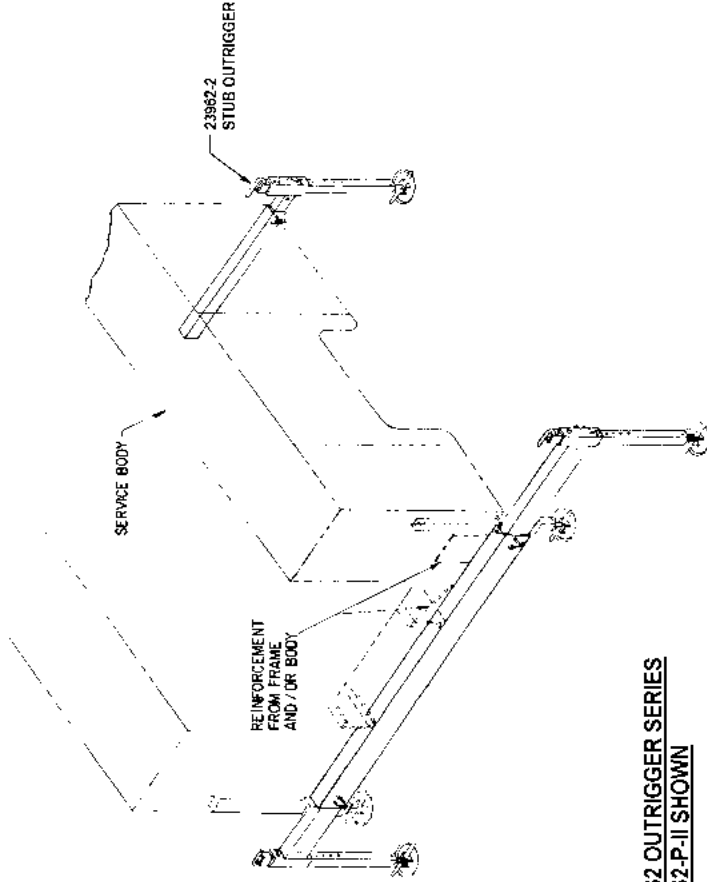
WARNING: THESE PRODUCTS ARE NOT FOR USE WITH PASSENGER LIFTS. THEY ARE NOT DESIGNED OR INTENDED TO BE USED WITH DEVICES THAT LIFT, SUPPORT OR OTHERWISE TRANSPORT PERSONNEL



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

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

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.



23962 OUTTRIGGER SERIES
23962-P-II SHOWN

OUTTRIGGER	IN/OUT	UP/DOWN	DUTY	USED ON
23962-P	MANUAL	MANUAL	STANDARD	ET/HT25K(X)
23962-PM	MANUAL	MANUAL	HEAVY	HT40/50KX
23962-CD	MANUAL	CRANK-DOWN	HEAVY	ET/HT25K(X), HT40/50KX
23962-PH	MANUAL	HYDRAULIC	HEAVY	HT25K(X), HT40/50KX
23962-PHX	HYDRAULIC	HYDRAULIC	HEAVY	HT25K(X), HT40/50KX
23962-PHE	MANUAL	ELECTRIC/HYDRAULIC	HEAVY	ET25K(X)
23962-PHXE	ELECTRIC/HYDRAULIC	ELECTRIC/HYDRAULIC	HEAVY	ET25K(X)

VENTURO
MANUFACTURING, INC.
CINCINNATI, OHIO

TITLE
INSTALLATION DRAWING

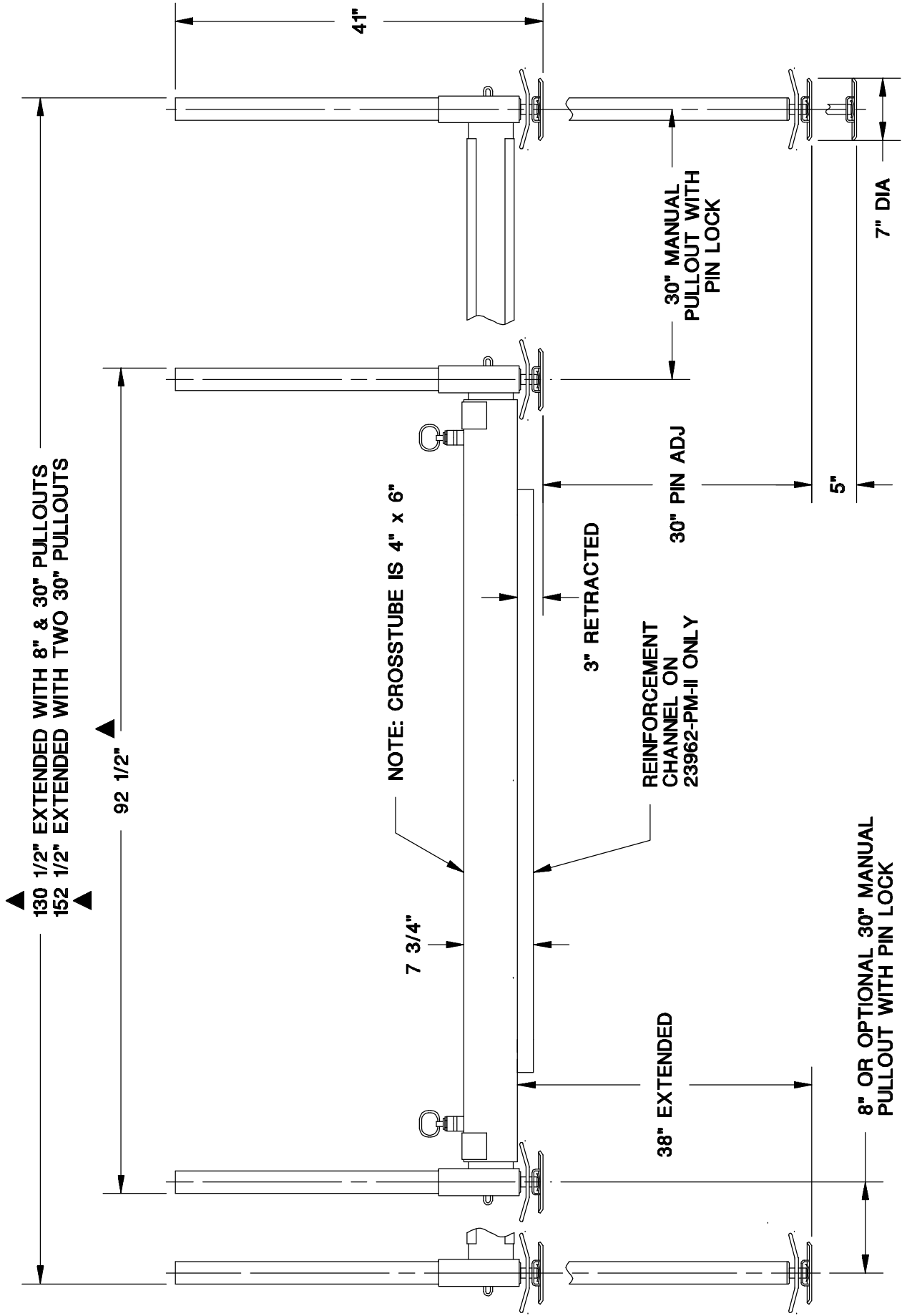
ET25K(X), HT25K(X), HT40/50KX

DATE
4-12-99E

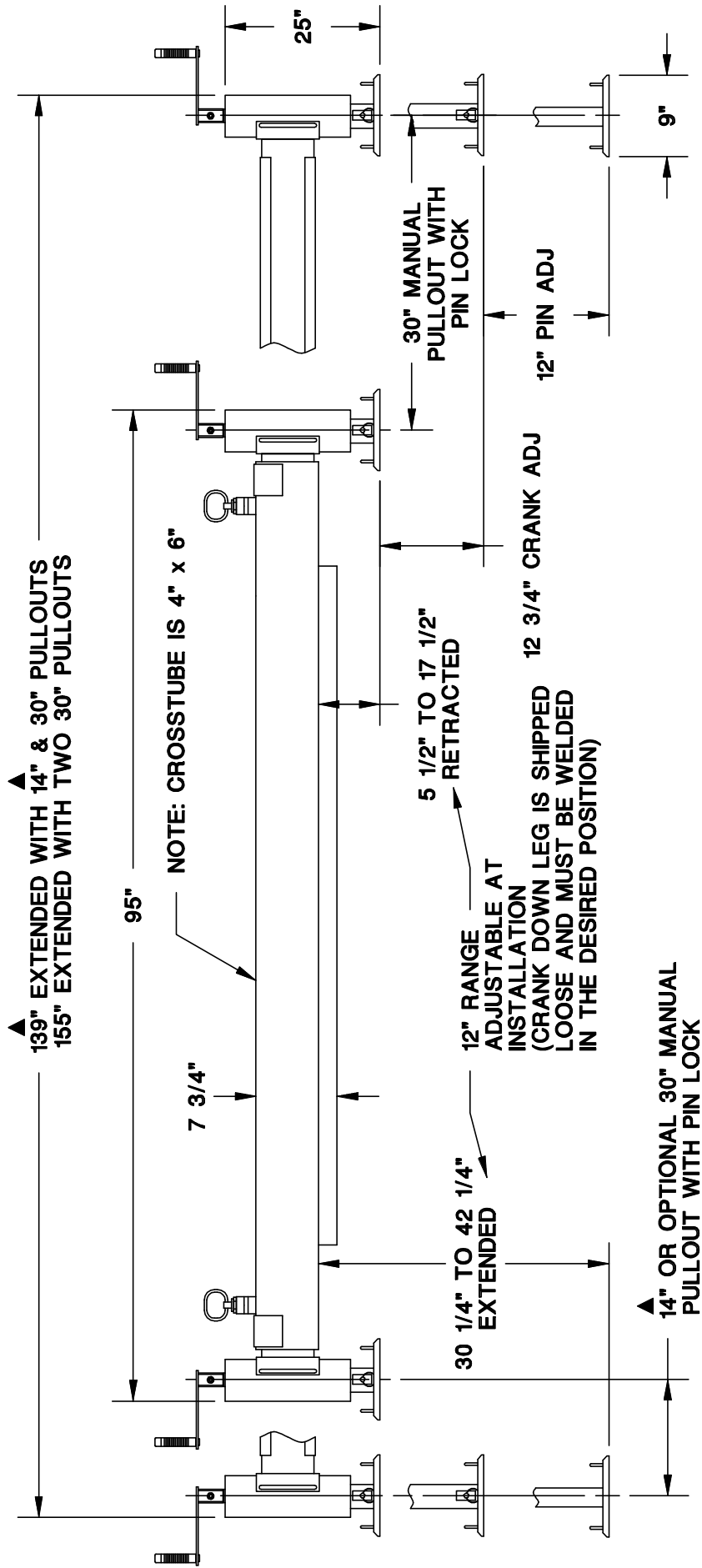
SECTION
C120

SUPERCEDES
4-27-92D

I23962



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



TITLE
INSTALLATION DWG

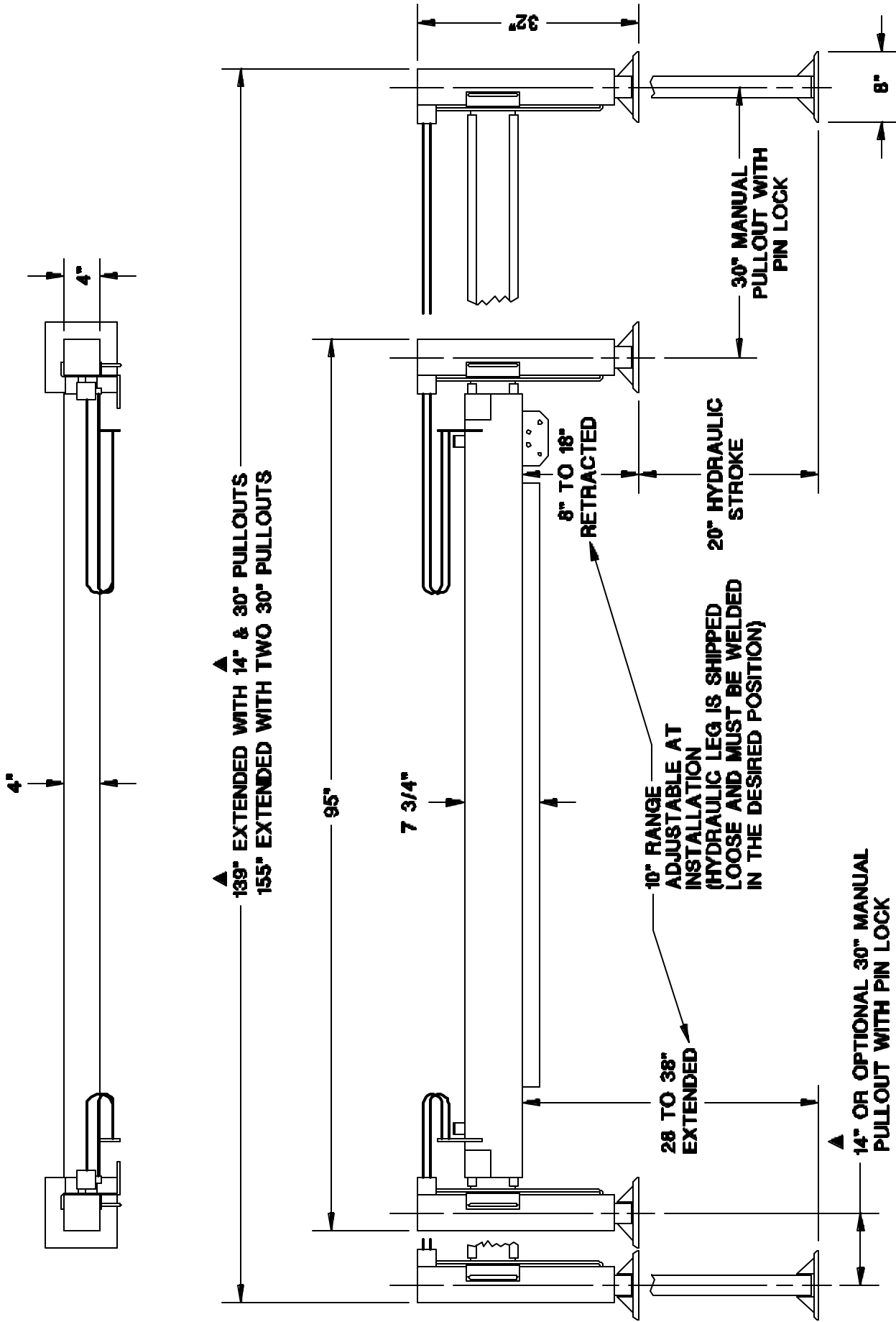
DATE
7-30-99D

SUPERSEDES
1-19-99C

SECTION
C100

23962-CD-II CRANKDOWN OUTRIGGERS

22459



TITLE
INSTALLATION DWG

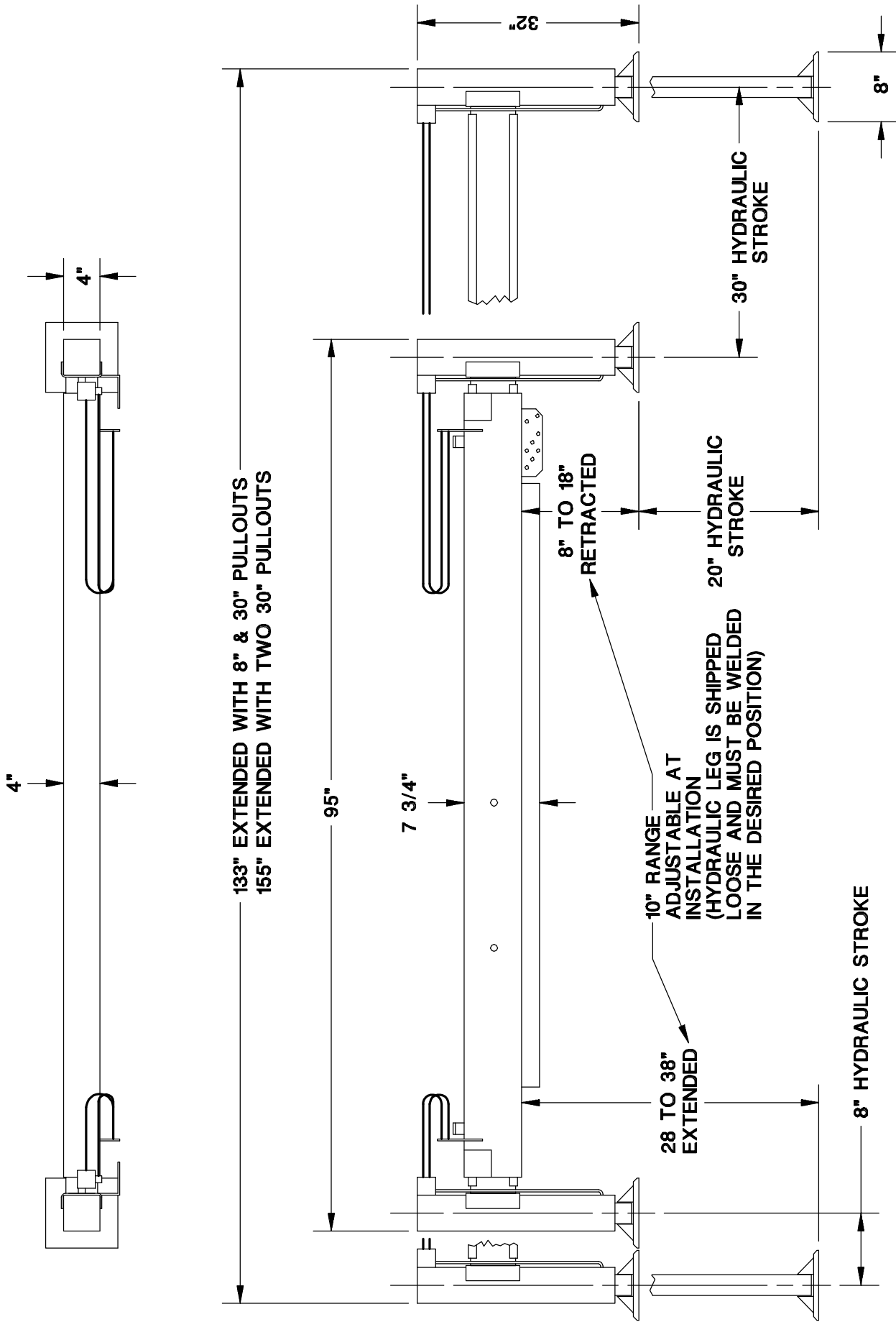
SECTION
C100

DATE
7-30-99C

SUPERSEDES
1-19-99B

22429

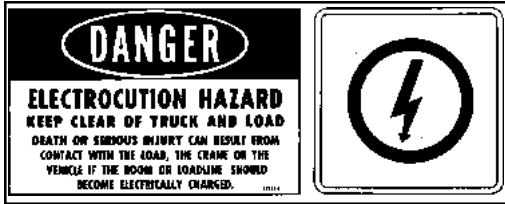
VENTURO MANUFACTURING, INC.
 CINCINNATI, OHIO



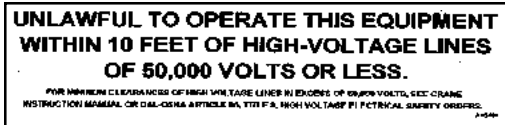
VENTURO MANUFACTURING, INC. CINCINNATI, OHIO	TITLE INSTALLATION DWG		SECTION C100
	23962-PHX-II (22550)		DATE 4-7-99 SUPERSEDES -
22573			

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 INSTALLATION DWG	DATE 5-13-97G	SECTION C150
ET & HT CRANE SERIES	SUPERCEDES 7-15-96F	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 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

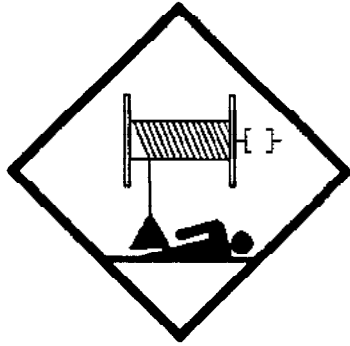
- THIS MACHINE IS NOT INSULATED.
- MAINTAIN SAFE CLEARANCES FROM ELECTRICAL LINES AND APPARATUS.
- YOU MUST ALLOW FOR BOOM SWAY, ROCK OR SAG, AND ELECTRICAL LINE AND LOADLINE SWAYING.
- THIS LIFTING DEVICE DOES NOT PROVIDE PROTECTION FROM CONTACT WITH OR PROXIMITY TO AN ELECTRICALLY CHARGED CONDUCTOR.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

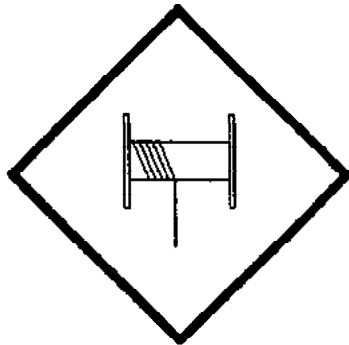
TITLE	INSTALLATION DWG	DATE	5-13-97A	SECTION	C150
	HYDRAULIC CRANES	SUPERCEDES	6-12-92		920612

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

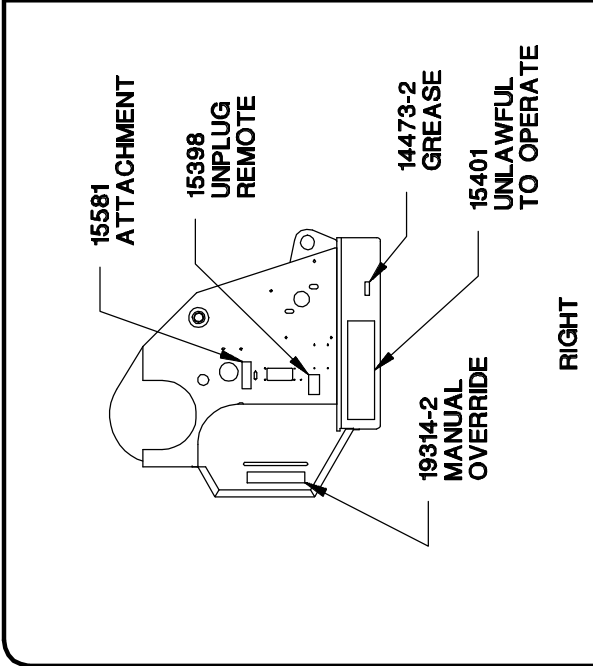
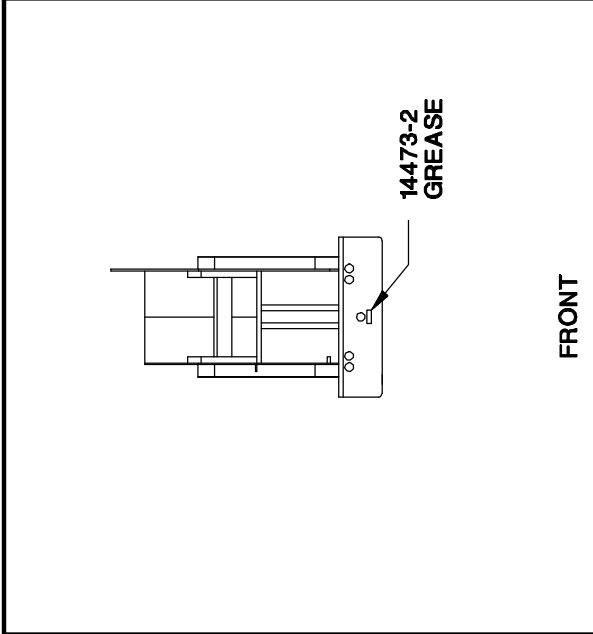
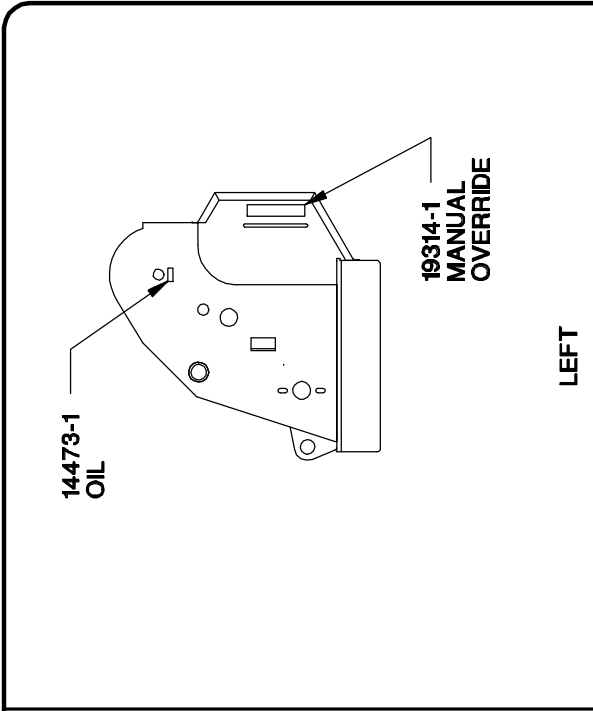
HT CRANES

DATE
5-26-98B

SUPERCEDES
10-17-97A

SECTION
C150

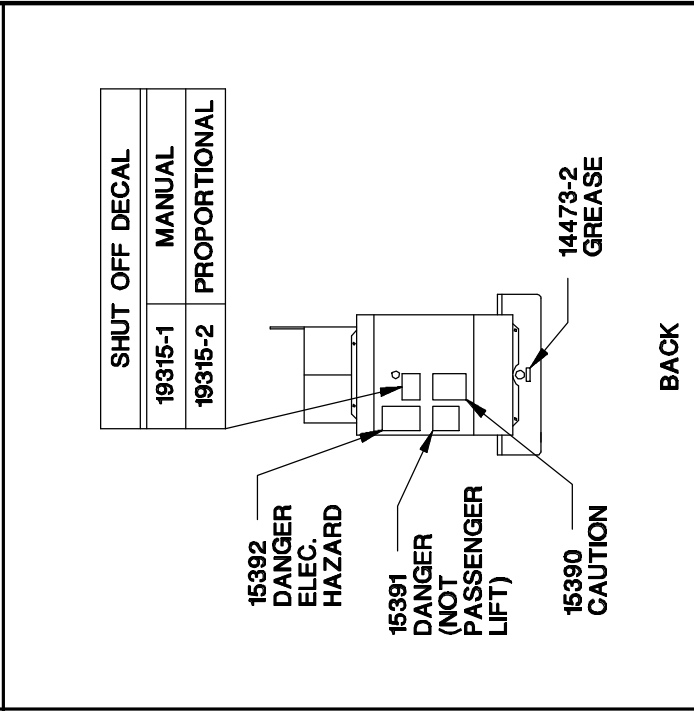
119217



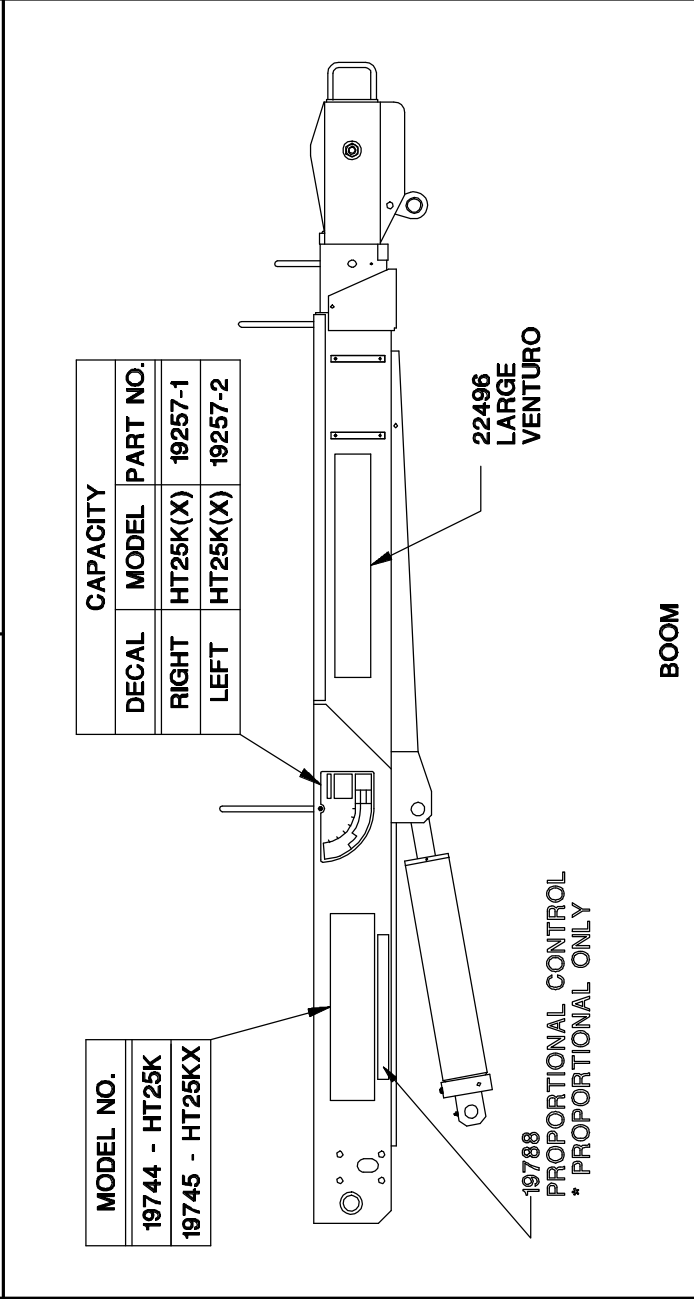
LEFT

FRONT

RIGHT



BACK



BOOM

SERIAL NO. 80125 & UP

TITLE DECAL PLACEMENT HT25K(X)	DATE 8-2-99B	SECTION C150
	SUPERSEDES 5-24-99A	19471

VENTURO MANUFACTURING, INC.
CINCINNATI, OHIO

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

HT25KX

DATE
8-12-99C

SUPERCEDES
10-17-97B

SECTION
C200

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 ▲

For standard (non-proportional) cranes, the PTO pump should be sized to provide 2.0 gpm (or 1.5 gpm for more delicate control of loads) at 3000 psi when engine is at desired idle speed.

For proportional cranes, the PTO pump should be sized to provide 4.0 gpm at 3000 psi when engine is at desired idle speed.

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.

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.



TITLE
INSTALLATION DWG

DATE
4-24-02D

SECTION
C200

HT25KX

SUPERCEDES
8-12-99C

119212b

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.



MFG., INC.
CINCINNATI, OHIO

TITLE
INSTALLATION DWG

HT25KX

DATE
4-17-98C

SUPERCEDES
10-17-97B

SECTION
C200

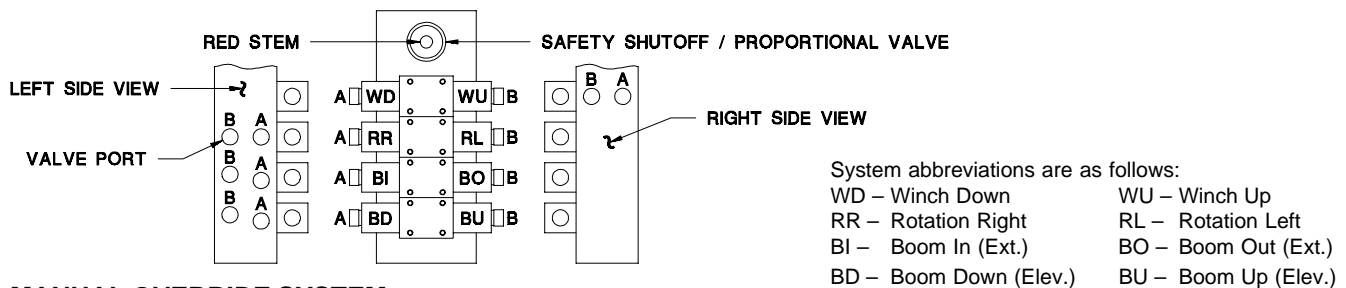
119205c

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:

- 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.

- 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.



MFG., INC.
CINCINNATI, OHIO

TITLE
HYDRAULIC SYSTEM

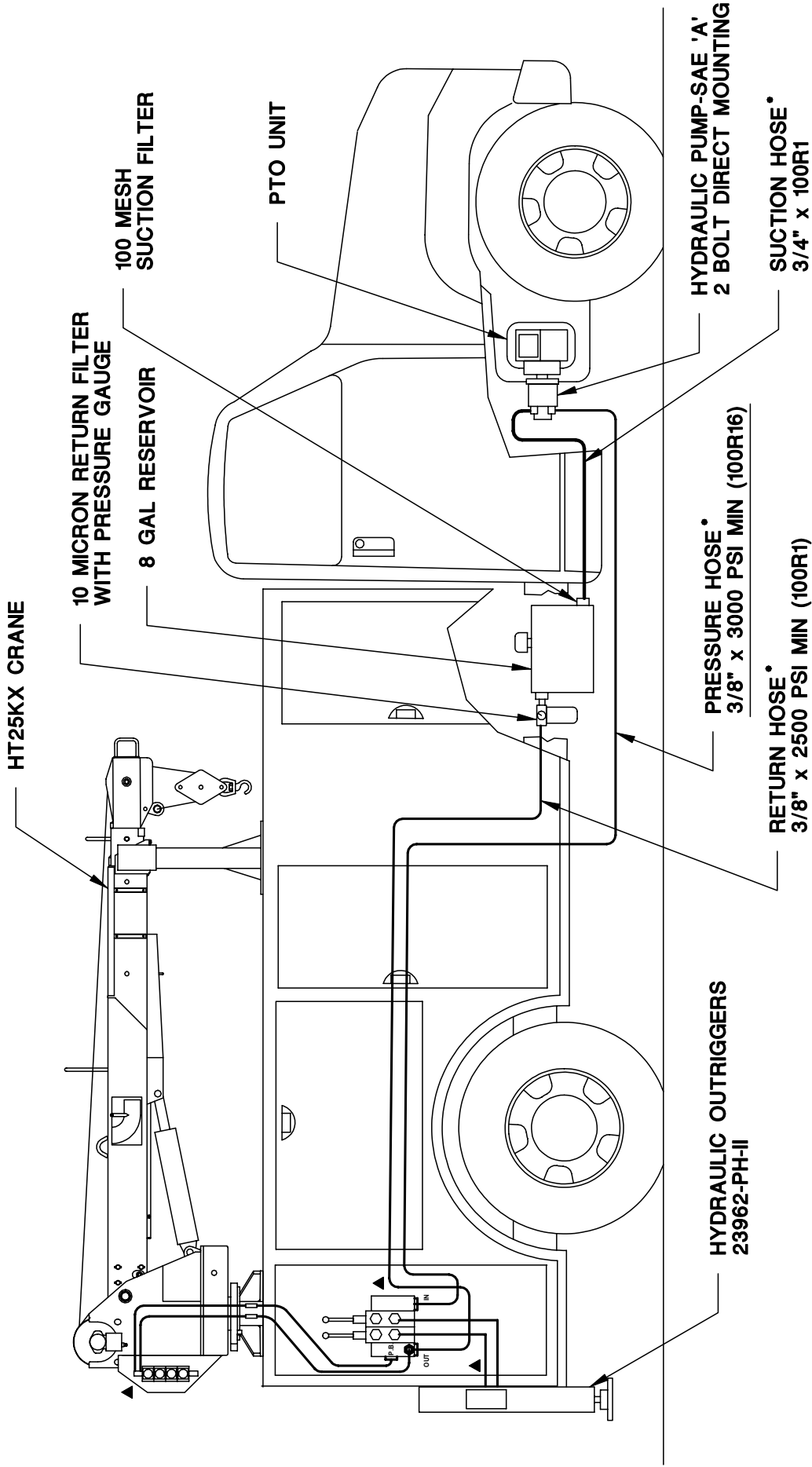
HT25, HT40/50

DATE
5-1-98A

SUPERCEDES
2-24-98

SECTION
C200

22328



HYDRAULIC REQUIREMENTS:

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

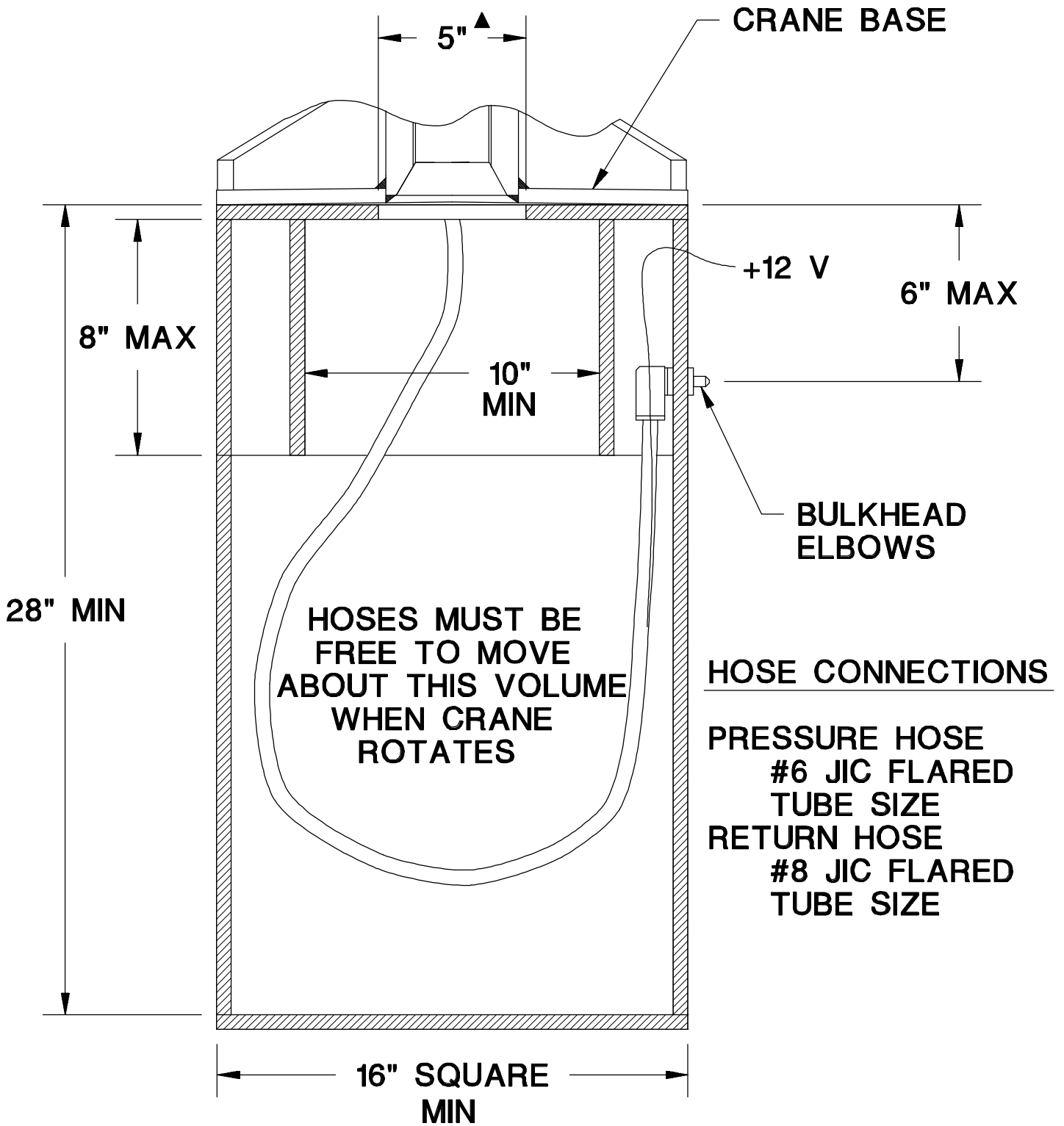
HT25KX PROPORTIONAL - 4.0 GPM @ 3000 PSI (19294-5.00 PTO PACKAGE)

SEE INSTALLATION INSTRUCTIONS I19212 (2 PAGES).

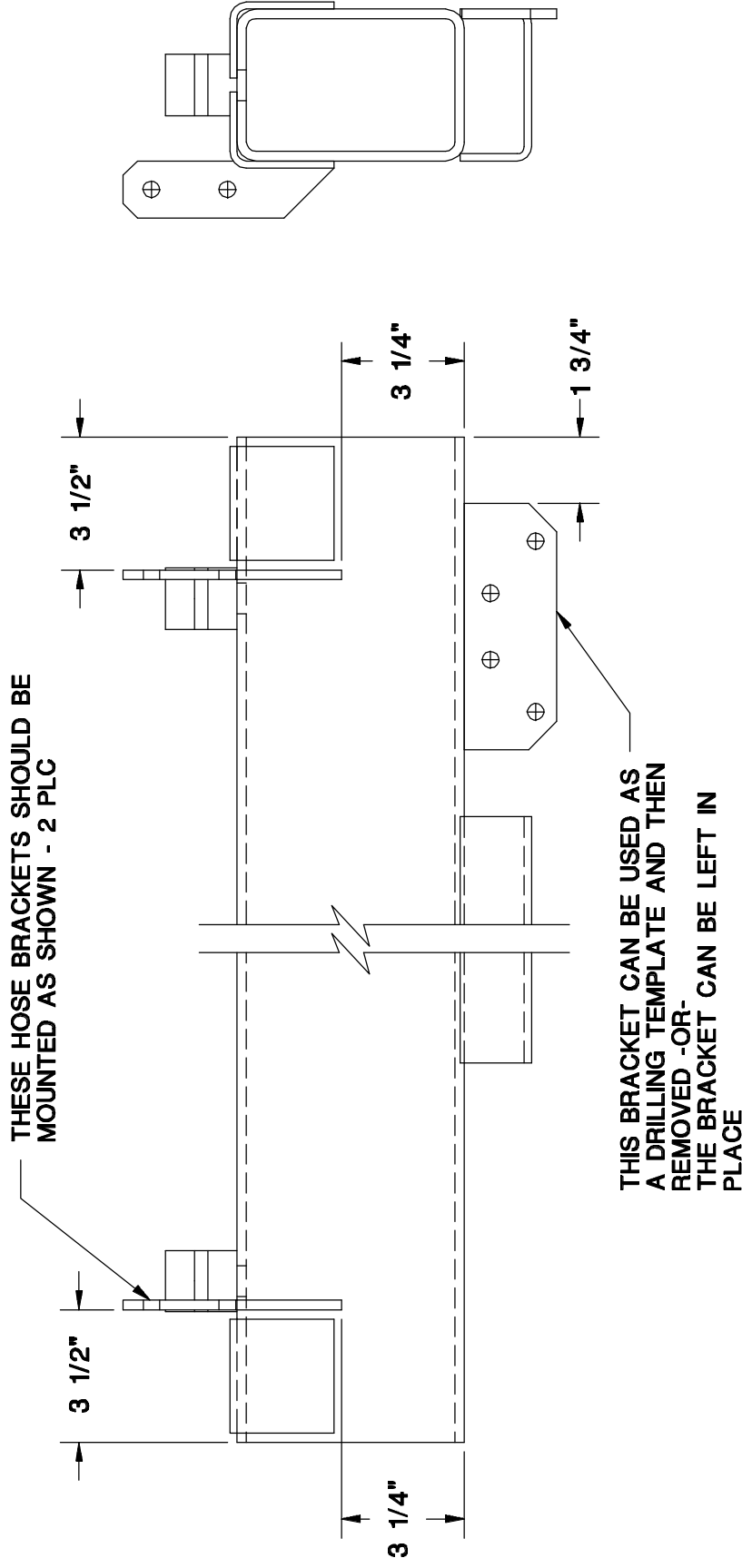
*HOSES OR FITTINGS BETWEEN PUMP, RESERVOIR, AND CRANE NOT INCLUDED.

VENTURO MANUFACTURING, INC. CINCINNATI, OHIO	TITLE INSTALLATION DWG		DATE 11-6-02B	SECTION C200
	PTO INST - HT25		SUPERSEDES 9-26-97A	I19232

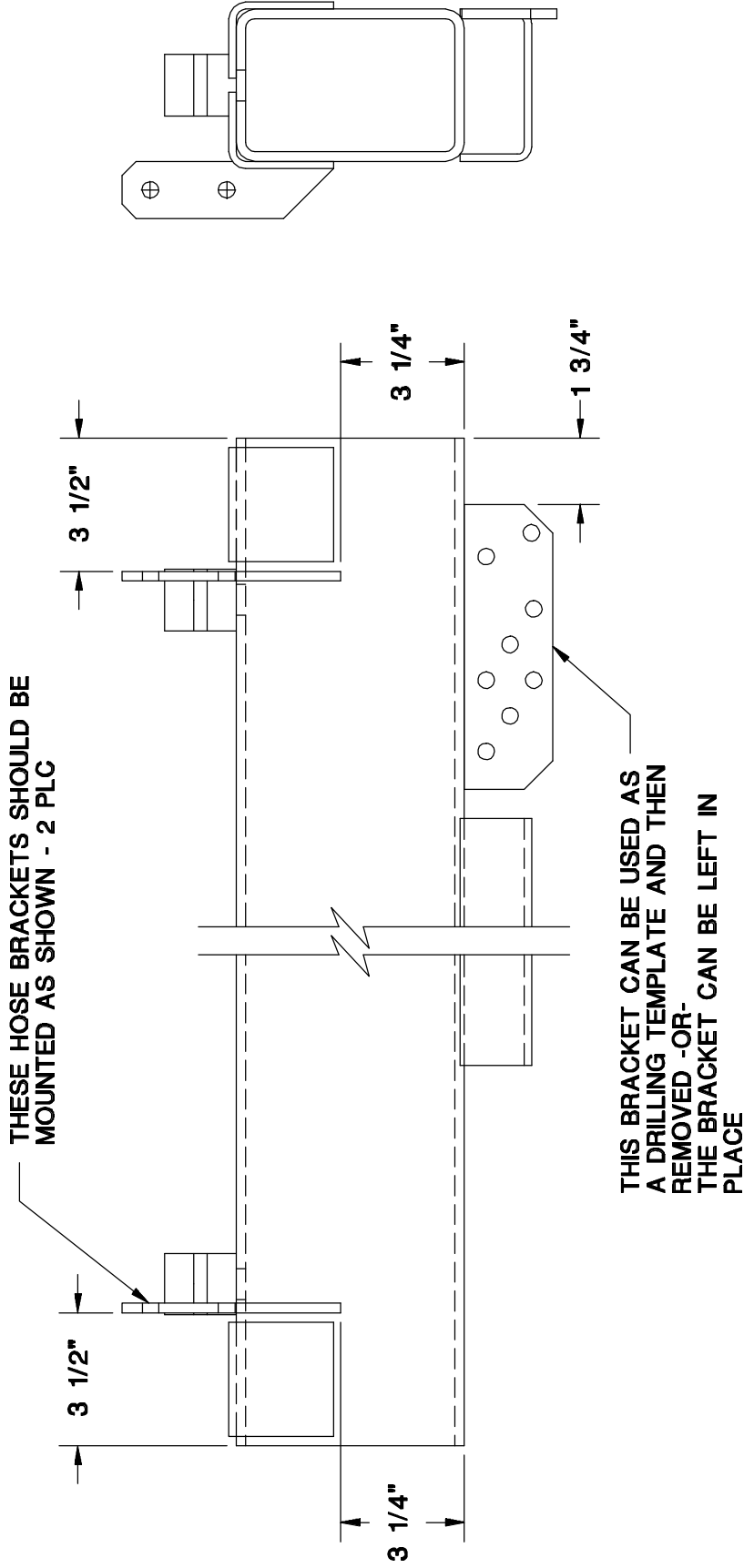
**CRANE AND HOSE INSTALLATION
HT25K(X)**



HOSE BRACKET LOCATIONS - 23962-PH-II

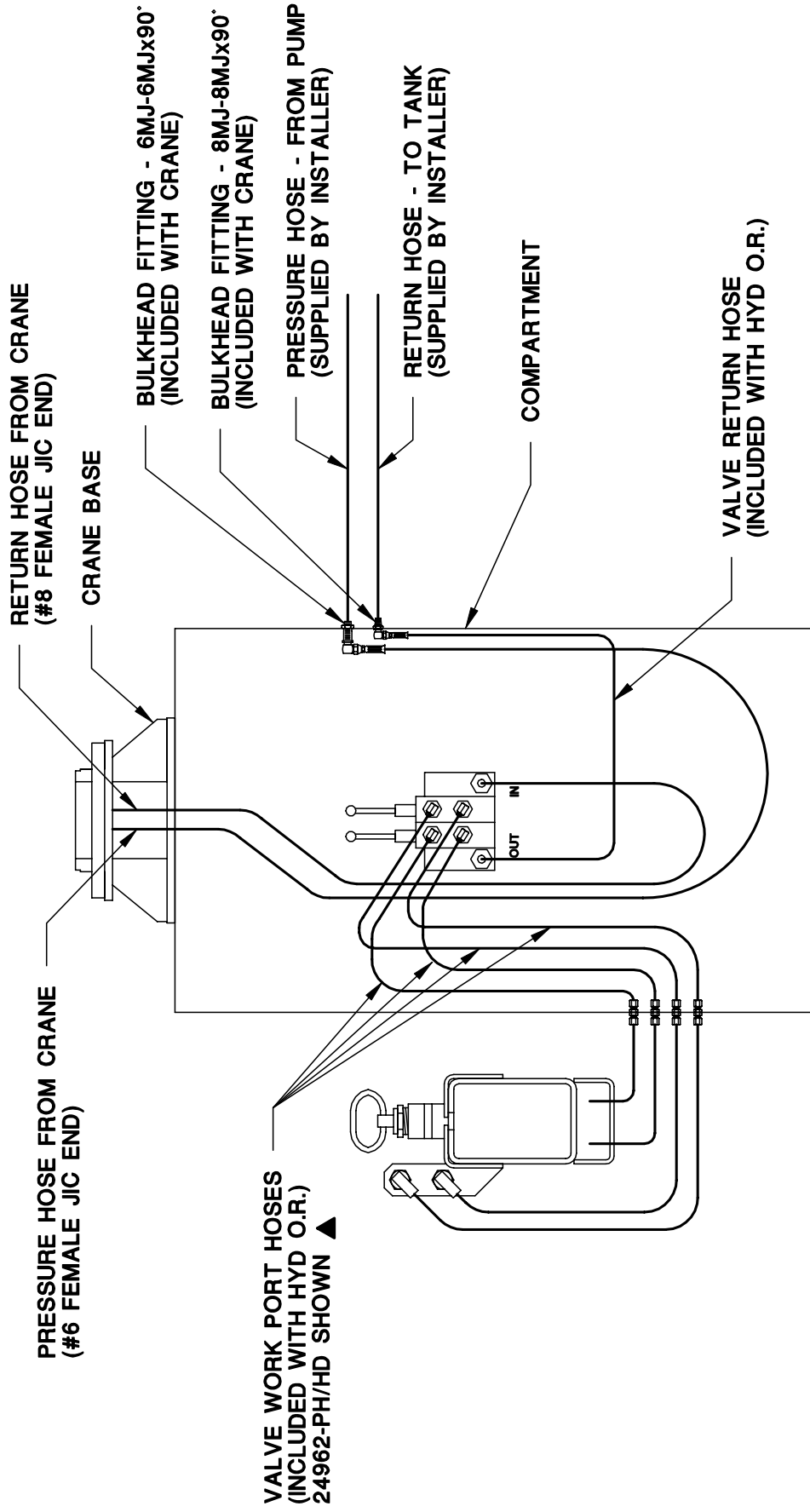


HOSE BRACKET LOCATIONS - 23962-PHX-II



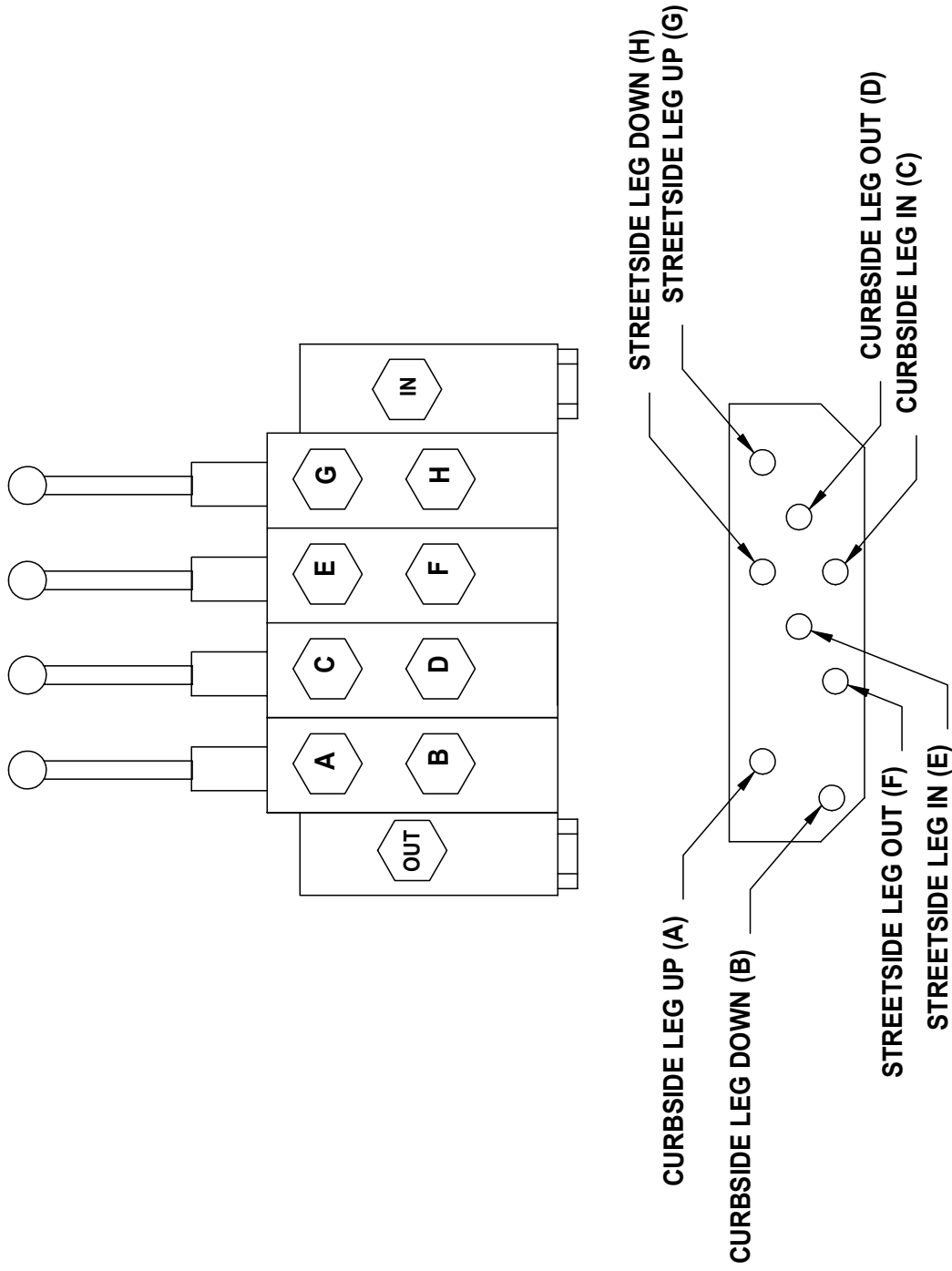
TYPICAL HYDRAULIC OUTRIGGER INSTALLATION

SEE REPLACEMENT PARTS DRAWING FOR ADDITIONAL INFORMATION ▲



VENTURO MANUFACTURING, INC. CINCINNATI, OHIO	TITLE INSTALLATION DRAWING 24962-PH, 24962-PH/HD, 24962-PHX 23962-PH-II, & 23962-PHX-II OUTRIGGERS		DATE 3-27-02B <small>SUPERSEDES</small> 4-7-99A	SECTION C200
	22336			

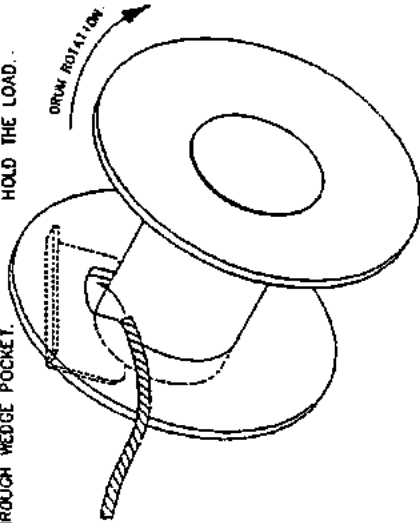
BULKHEAD FITTINGS LAYOUT



VENTURO MANUFACTURING, INC. CINCINNATI, OHIO	TITLE BULKHEAD FITTINGS LAYOUT		SECTION C200
	DATE 4-7-99		SUPERSEDES -
23962-PHX-II		22575	

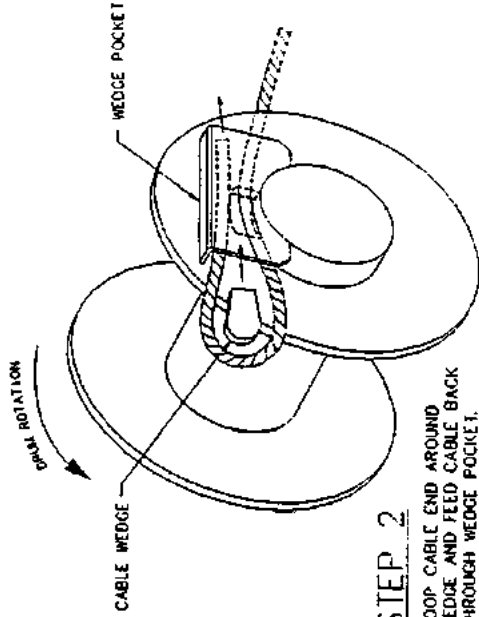
STEP 1

INSERT CABLE END INTO POCKET OPENING AND THROUGH WEDGE POCKET.



CAUTIONS

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

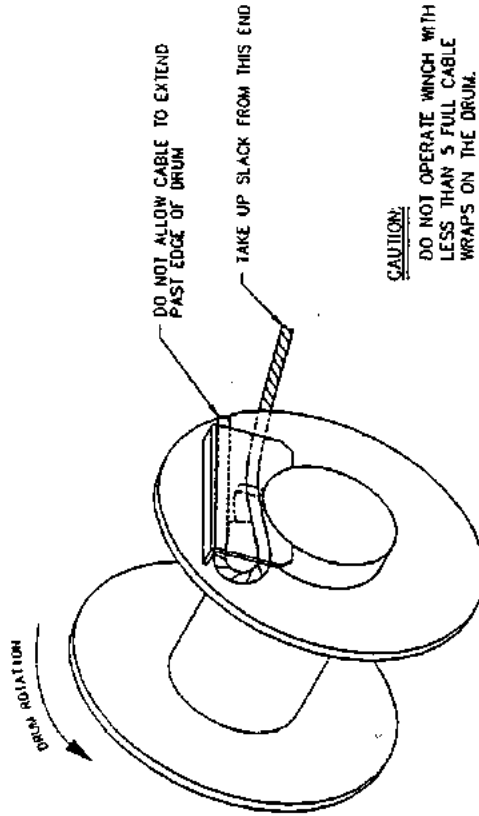


STEP 2

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

STEP 3

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



CAUTION:
DO NOT OPERATE WINCH WITH LESS THAN 5 FULL CABLE WRAPS ON THE DRUM.

CABLE INSTALLATION

VENTURO

MANUFACTURING, INC.
CINCINNATI, OHIO

TITLE

INSTALLATION DWG

HT25KX

DATE

10-17-97A

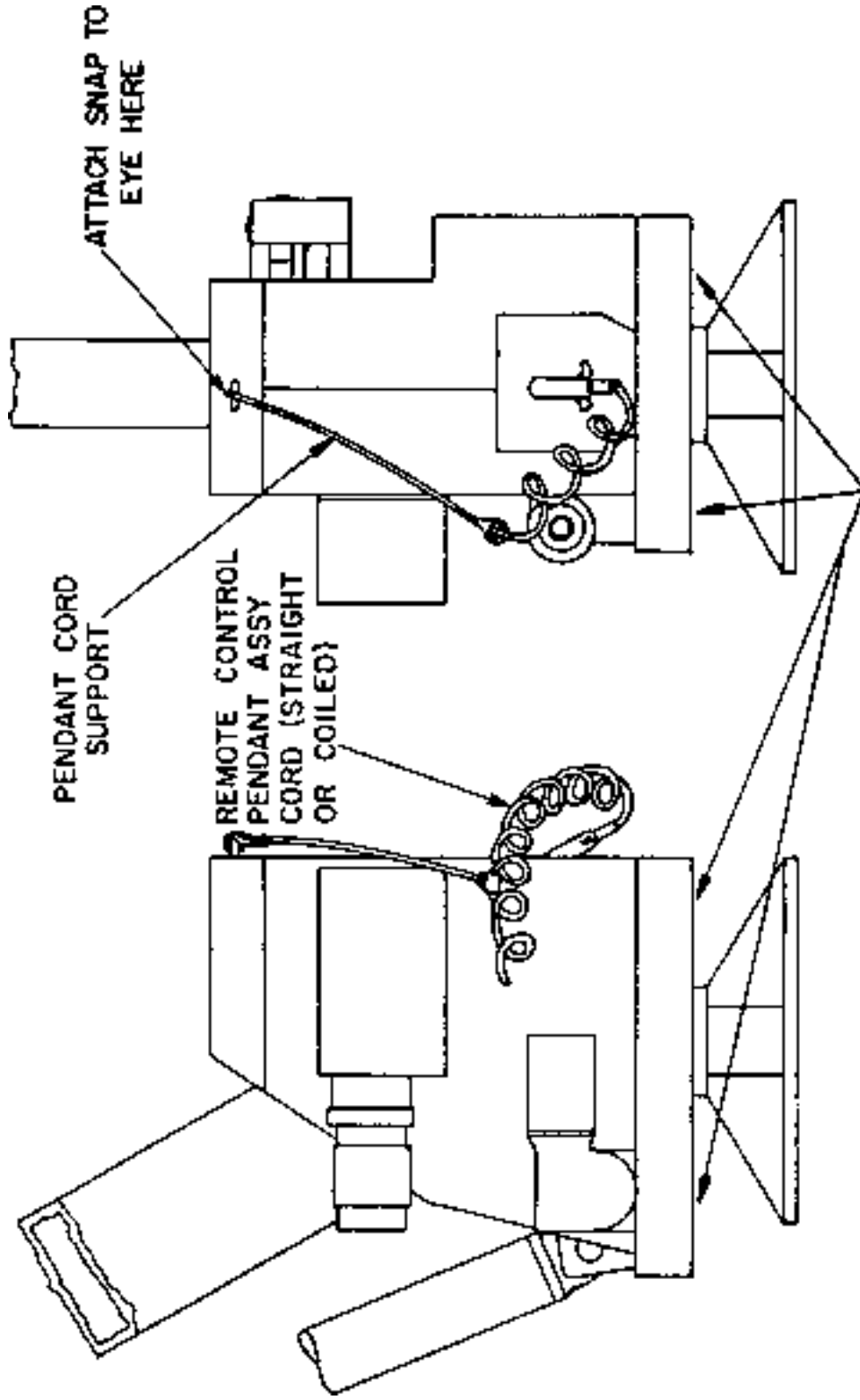
SUPERCEDES

7-29-96

SECTION

C200

I19218

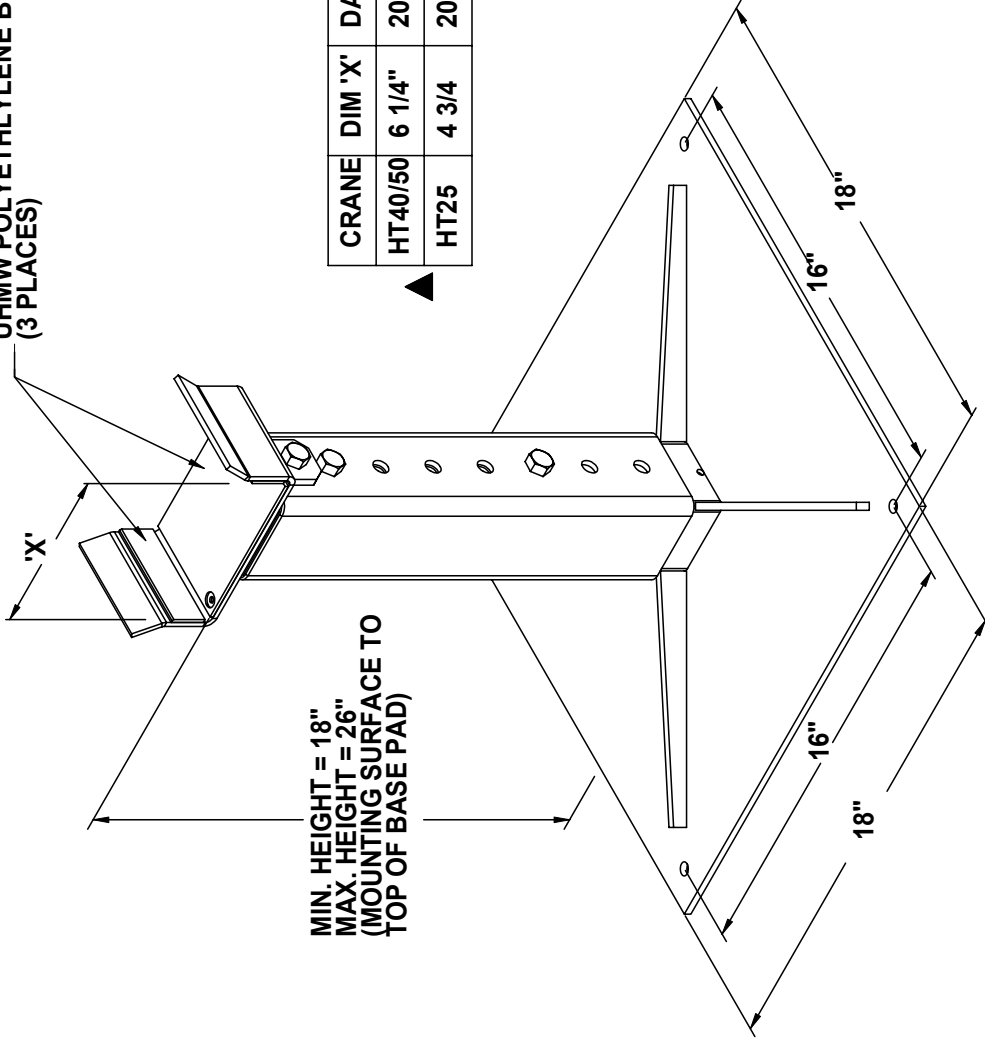


CAUTION: KEEP PENDANT CORD AWAY FROM THIS AREA

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

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

UHMW POLYETHYLENE BOOM PADS
(3 PLACES)



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

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

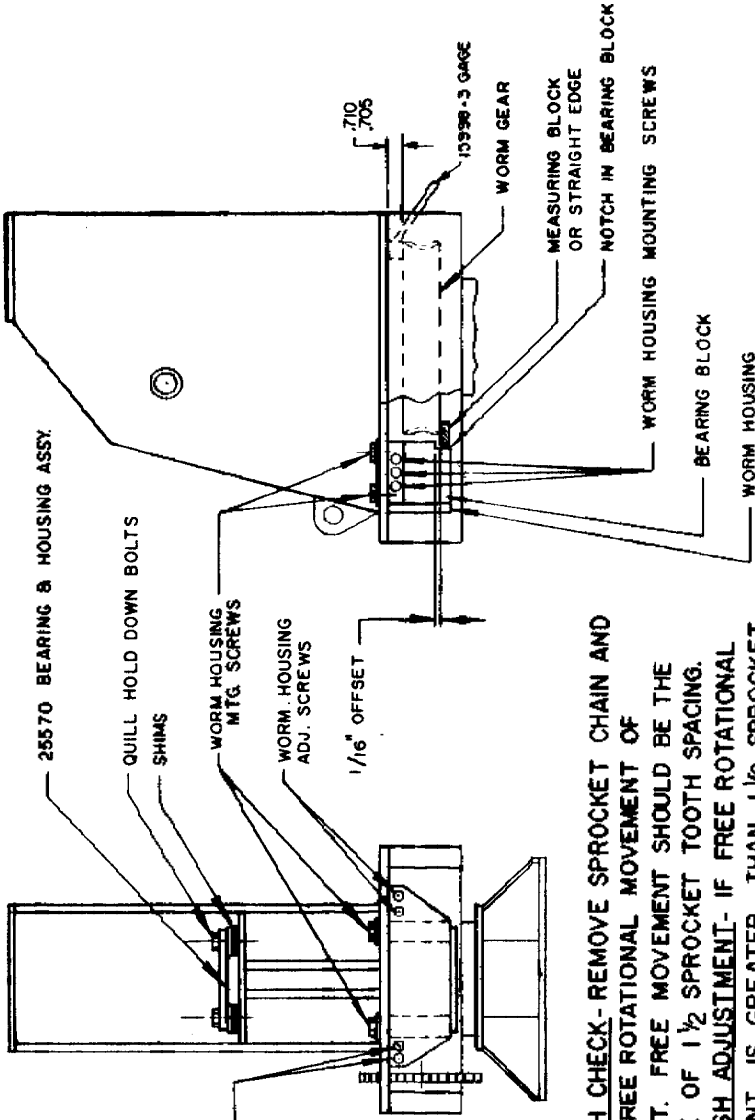
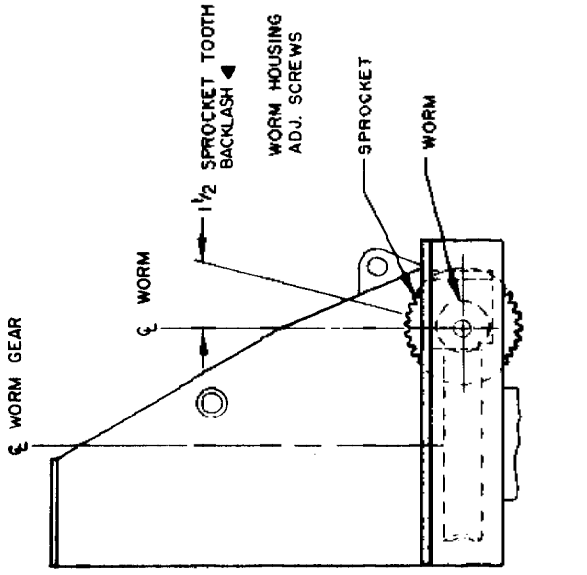
11-2-01B

SUPERSEDES

5-7-01A

20420

VENTURO
MANUFACTURING, INC.
CINCINNATI, OHIO



HEIGHT CHECK- PLACE MEASURING BLOCK OR STRAIGHT EDGE ON BOTTOM OF WORM GEAR. MEASURE OFFSET BETWEEN THE BOTTOM OF THE WORM GEAR AND THE NOTCH IN THE BEARING BLOCK.

HEIGHT ADJUSTMENT- IF OFFSET IS $\frac{1}{32}$ " OR LESS, THEN HEIGHT ADJUSTMENT IS REQUIRED. **ADJUSTMENT METHOD-** LOOSEN QUILL HOLD DOWN BOLTS (2 PLACES). REMOVE SHIMS TO INCREASE OFFSET TO $\frac{1}{16}$ ".

ALTERNATE HEIGHT ADJUSTMENT METHOD
USE 1998-3 GAGE TO SET DISTANCE BETWEEN GEAR & HOUSING TO .710/.705.

NOTE: BEFORE CHECKING BACKLASH, CHECK WORM END PLAY AS DESCRIBED ON DRAWING 14553 AND ADJUST END PLAY IF NECESSARY.

BACKLASH CHECK- REMOVE SPROCKET CHAIN AND CHECK FREE ROTATIONAL MOVEMENT OF SPROCKET. FREE MOVEMENT SHOULD BE THE DISTANCE OF $\frac{1}{2}$ SPROCKET TOOTH SPACING.

BACKLASH ADJUSTMENT- IF FREE ROTATIONAL MOVEMENT IS GREATER THAN $\frac{1}{2}$ SPROCKET TOOTH, THEN THE DISTANCE BETWEEN THE CENTERLINES OF THE WORM GEAR AND THE WORM SHOULD BE DECREASED. IF THE FREE MOVEMENT IS LESS THAN $\frac{1}{2}$ TOOTH, THEN CENTERLINE DISTANCE SHOULD BE INCREASED.

ADJUSTMENT METHOD- LOOSEN WORM HOUSING MOUNTING SCREWS (7 PLACES). MOVE WORM HOUSING TOWARDS, OR AWAY FROM CENTERLINE OF WORM GEAR WITH THE WORM HOUSING ADJUSTMENT SCREWS. TIGHTEN WORM HOUSING, AND RECHECK BACKLASH. THE FREE MOVEMENT SHOULD BE EQUAL TO $\frac{1}{2}$ SPROCKET TOOTH SPACING.

ADJUSTMENT OF WORM HEIGHT AND BACKLASH

MANUFACTURING, INC.
CINCINNATI, OHIO



TITLE
ASSEMBLY & SERVICE INST.

DATE
1-19-00D

SECTION
C320

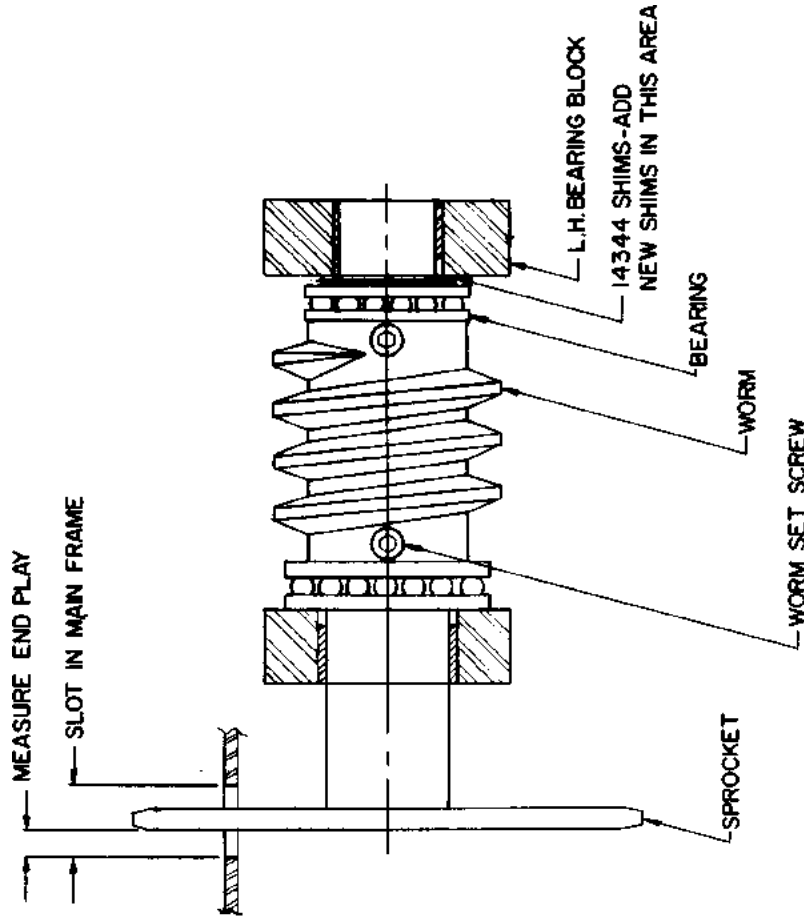
SUPERCEDES
ET 20,000, ET20K(X), ET25K(X), HT25K(X), HT40/50KX ▲

DATE
8-10-98C

SECTION
14544

END PLAY CHECK - REMOVE LOWER COVER & SIDE COVER. TO CHECK WORM END PLAY, APPLY TORQUE TO CRANE BY PUSHING IN OPPOSITE DIRECTIONS ON BOOM. IF END PLAY IS MORE THAN .003" THEN ADJUSTMENT IS REQUIRED. MEASURE END PLAY WITH CALIPERS BETWEEN OUTSIDE FACE OF SPROCKET & SPROCKET SLOT IN MAIN FRAME.

END PLAY ADJUSTMENT - REMOVE DRIVE CHAIN, THEN REMOVE WORM & WORM HOUSING AS ONE UNIT. LOOSEN WORM SET SCREWS & PUSH WORM SHAFT OUT OF L.H. BEARING BLOCK. PLACE ADDITIONAL SHIMS (P/N 14344) AS DETERMINED BY END PLAY CHECK. (NOTE: THE SHIM ARE .005" THK.) PUSH WORM SHAFT BACK IN L.H. BEARING BLOCK & TIGHTEN WORM SET SCREWS. INSTALL WORM HOUSING ASSEMBLY TO MAIN FRAME. ADJUST BACKLASH PER DWG. 14544. REPLACE DRIVE CHAIN & COVERS.



ADJUSTMENT OF ROTATION WORM END PLAY

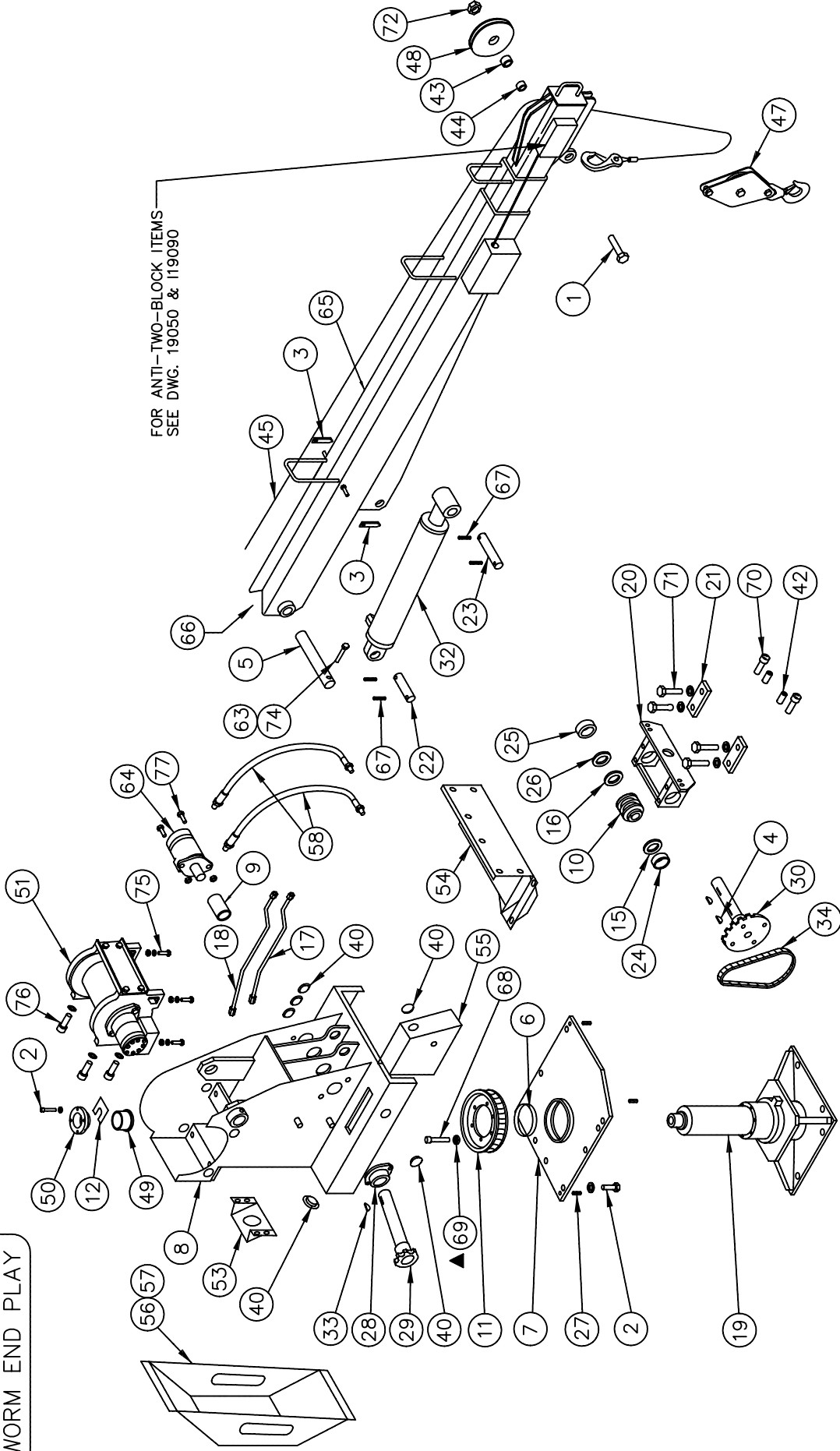
VENTURO MANUFACTURING, INC. CINCINNATI, OHIO	TITLE ASSEMBLY & SERVICE INST. ET 20,000 CRANE		DATE 8-10-98B <small>SUPERCEDES</small> 3-10-82A	SECTION C320
				14553

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
1	18994	SHEAVE AXLE - MODIFIED HEX HEAD CAP SCREW - 3/4"-10	40	RL-644	SNAP IN PLUG - 1" DIA HOLE
2	IHHCS05013125-5	HEX HEAD CAP SCREW - 1/2"-13 x 1 1/4" GRADE 5	41	15253	WASHER PLATE
3	13459-2	ARROW	42	25593	SET SCREW - 1/2"-20 x 1"
4*	15245	WOODRUFF KEY - 5/16" x 1 1/8" (MODIFIED)	43	15808	BEARING - 1 1/4" ID x 1 5/8" OD x 11/16" LONG
5	13918	PIVOT PIN, BOOM - 1 1/2" OD x 11 3/4"	44	15809	SPACER - 3/4" ID x 1 1/4" OD x 21/32" LONG
6	13978	LOWER BEARING	45	25810-5/16-75	WIRE ROPE ASSY - 5/16" x 75 FT
7	18891	BEARING PLATE	46	-----	-----
8	18914	WELDED HOUSING ASSY	47	23169	SWIVEL SNATCH BLOCK ASSEMBLY
9	14084	COUPLING	48	23911	SHEAVE (INCLUDES ITEMS 1, 43, 44, 71 & 72)
10	14142-4	WORM - SINGLE THREAD RH	49	18069	FLANGED BEARING - 2" BORE x 3" OD FLANGE
11	14143-4	WORM GEAR - 48T, 4 PITCH	50	18068	BEARING HOUSING - 1 1/8" LONG
12*	14159	SHIM - 1 1/2" SQ x .015", .042", .105"	51	19180	HYDRAULIC WINCH
13*	15675	SHIM - 1 1/4" ID x .015", .031"	52	18067	BEARING AND HOUSING ASSY (ITEMS 49, 50)
14	17356	OVERLOAD ALARM	53	19185	BRACKET - PENDANT SOCKET
15	14191-1	BALL THRUST BEARING - 2" ID x 3 11/32" OD	54	26272-2/-3	FRONT COVER (-2) AND LOWER COVER (-3)
16	14191-2	BALL THRUST BEARING - 1 1/2" ID x 2 19/32" OD	55	19198	CHAIN COVER
17	19178	HYD TUBE ASSEMBLY - ROTATION BOTTOM	56	19227	REAR COVER - SERIAL NO. 80110 - 80127 ONLY
18	19179	HYD TUBE ASSEMBLY - ROTATION TOP	57	22325	REAR COVER - SERIAL NO. 80128 & UP
19	18880	QUILL ASSEMBLY (DOES NOT INCLUDE 18888 STOPRING)	58	19237	HYDRAULIC HOSE - ELEV CYL - SN: 80110 - 80127
20	14242	HOUSING, WORM GEAR	59	19503	HYDRAULIC HOSE - ELEV CYL - SN: 80128 & UP
21	14245	WASHER PLATE	60^	19238	HYDRAULIC HOSE - EXT CYL - SN: 80110 - 80127
22	18727	PIVOT PIN, CYL TAIL - 1 1/4" OD x 3 3/16" LONG	61	19504	HYDRAULIC HOSE - EXT CYL - SN: 80128 & UP
23	18728	PIVOT PIN, CYL ROD - 1 1/4" OD x 5 3/16" LONG	62	-----	-----
24	14341-1	BUSHING - 2" ID x 2 1/4" OD x 1" LONG	63	ILNUT-03816 ▲	LOCK NUT - 3/8"-16 ▲
25	14341-2	BUSHING - 1 1/2" ID x 1 3/4" OD x 1" LONG	64	19177	HYDRAULIC MOTOR - ROTATION
26*	14344	SHIM WASHER - 1 1/2" ID x 2 1/8" OD x .005", .015", .031" THK	65	18971	BOOM ASSY - 10/20 FT (COMPLETE ASSY)
27*	14353	COIL PIN - 1/2" OD x 1 1/2" LONG	66	18969-1	EXTENSION CYLINDER
28	14356	FLANGE MOUNTED BALL BEARING - 1" BORE	67	IRPIN-025175	ROLL PIN - 1/4" DIA x 1 3/4"
29	14377	SPROCKET AND SHAFT ASSEMBLY (10T SPROCKET)	68	18927	SOCKET HEAD CAP SCREW - 1/2"-13 x 3" LONG
30	14384	SPROCKET AND SHAFT ASSEMBLY (40T SPROCKET)	69	IHWSH-050-LOCK	HI-COLLAR LOCK WASHER - 1/2"
31^	14426	HEADACHE BALL ASSEMBLY - 9 LBS; NOT REQ. WITH 29 LBS SNATCH BLOCK	70	IHHCS05020125	SOCKET HEAD CAP SCREW - 1/2"-20 x 1 1/4" LONG
32	18930-1	ELEVATION CYLINDER	71	IHHCS06311175	HEX HEAD CAP SCREW - 5/8"-11 x 1 3/4"
33	26404	WOODRUFF KEY - 1/4 X 1 (MODIFIED)	72	ILNUT-075010	LOCK NUT - 3/4"-10
34	14481	ROTATION DRIVE CHAIN	73	HELB4MP-4FX-90	SWIVEL ADAPTER - 90 DEG ELBOW - 1/4 NPT
35	14776	GROMMET - 5/8" ID x 7/8" OD x 3/16" GROOVE	74	IHHCS03816275 ▲	HEX HEAD CAP SCREW - 3/8"-16 x 2 3/4" ▲
36^	19176	HYDRAULIC HOSE ASSY - WINCH UP	75	IHHCS03816150	3/8-16 x 1-1/2 HEX HD CAP SCREW W/ NUT & L.W.
37^	19182	HYDRAULIC TUBE ASSY - WINCH DOWN	76	IHHCS03816100	3/8-16 x 1 HEX HD CAP SCREW W/ LOCK WASHER
38^	19170	VALVE BANK ASSY.	77	IHHCS05013175	1/2-13 x 1-3/4 HEX HD CAP SCREW & NUT, L.W., F.W.
39	-----	-----	*	16476	SHIM, PIN, & KEY KIT (INCLUDES *ITEMS)
				22493^	FIELD SERVICE LABEL KIT - HT25KX NON-PROP.
				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

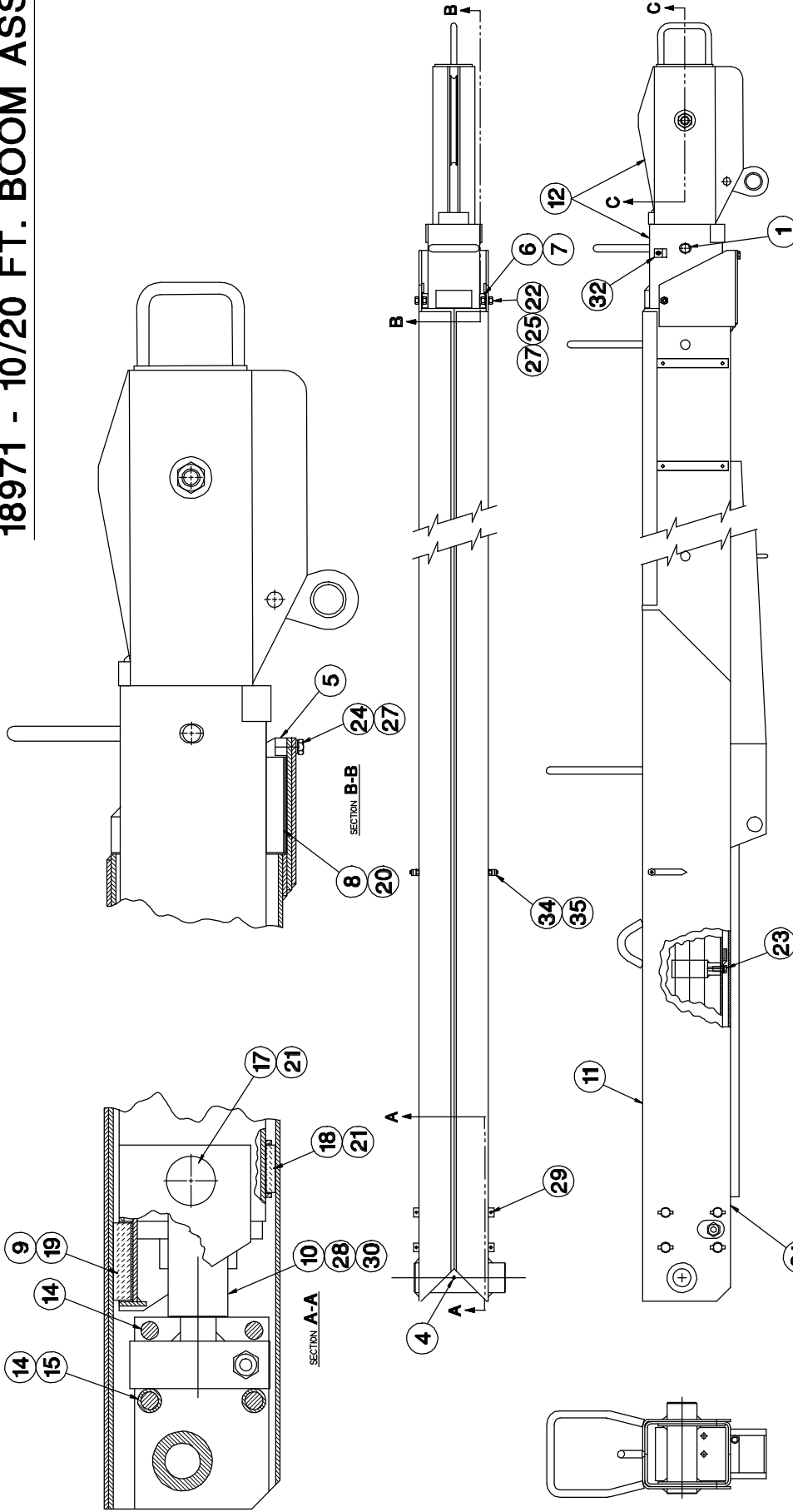
^ - ITEMS NOT SHOWN ON DRAWING I19239

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

SERIAL NO. 80110 & UP

	TITLE	REPLACEMENT PARTS	SECTION	C420
		HT25KX	DATE	5-1-01G
			SUPERSEDES	3-21-01F
				I19240

18971 - 10/20 FT. BOOM ASSY



ITEM	QTY	PART NO.	DESCRIPTION
18	1	26216-3	BEARING PAD-LOWER REAR
17	2	26216-1	BEARING PAD-SIDE REAR
16	1	23911	SHEAVE
15	2	16996	ROLLER
14	4	26214	THRUST PIN
13	1	17059-6	SHEAVE AXLE
12	1	18973	SECONDARY BOOM ASSEMBLY
11	1	18972	PRIMARY BOOM ASSEMBLY
10	1	18969-1	EXTENSION CYLINDER & VALVE ASSY
9	1	18969	BEARING PAD-UPPER REAR
8	1	18958	BEARING PAD-LOWER FRONT
7	2	18957	BEARING PAD-SIDE FRONT
6	A/R	18956	SHM 24 Gs X 1 1/4 X 3 1/2
5	1	18955	BEARING RETAINER BAR
4	1	1ZERK02528	GREASE FITTING
3	1	15809	SHEAVE SPACER
2	1	15808	SHEAVE BEARING
1	1	14183-2	LOCK PIN
35	2	22480	SPACER - BOOM ARROW
34	2	13459-2	ARROW
33	1	18050	ANTI-TWO-BLOCK SYSTEM (NOT SHOWN)
32	1	18275	CABLE CLAMP 3/4"
31	1	18269	CABLE CLAMP 1/4"
30	2	SHCS0508200	SOC HD CAP SCR 1/2-13 X 2 LG
29	8	RPN02625	ROLL PIN 1/4 X 1 1/4 LG
28	2	LWSH0604C	H-COLLAR LOCK WASHER 1/2
27	6	LWSH038	LOCK WASHER 3/8
26	1	LNUT07510	SELF LOCKING NUT 3/4-10
25	2	HNLUT03816	HEX NUT 3/8-16
24	2	HCS0382400-8	HEX HD CAP SCR 3/8-24 X 1 LG GR8
23	2	HCS0386075	HEX HD CAP SCR 3/8-24 X 3/4 LG GR2
22	2	HCS03880683	HEX HD CAP SCR 3/8-18 X 5/8 LG GR2
21	A/R	26428-	SHIM -20-24 Gs, -21-18 Gs, -22-14 Gs
20	A/R	26428-	SHIM -11-18 Gs, -12-14 Gs, -13-12 Gs
19	A/R	26428-	SHIM -1-18 Gs, -2-14 Gs, -3-12 Gs

ITEM	QTY	PART NO.	DESCRIPTION
18	1	26216-3	BEARING PAD-LOWER REAR
17	2	26216-1	BEARING PAD-SIDE REAR
16	1	23911	SHEAVE
15	2	16996	ROLLER
14	4	26214	THRUST PIN
13	1	17059-6	SHEAVE AXLE
12	1	18973	SECONDARY BOOM ASSEMBLY
11	1	18972	PRIMARY BOOM ASSEMBLY
10	1	18969-1	EXTENSION CYLINDER & VALVE ASSY
9	1	18969	BEARING PAD-UPPER REAR
8	1	18958	BEARING PAD-LOWER FRONT
7	2	18957	BEARING PAD-SIDE FRONT
6	A/R	18956	SHM 24 Gs X 1 1/4 X 3 1/2
5	1	18955	BEARING RETAINER BAR
4	1	1ZERK02528	GREASE FITTING
3	1	15809	SHEAVE SPACER
2	1	15808	SHEAVE BEARING
1	1	14183-2	LOCK PIN

VENTURO MANUFACTURING, INC.
CINCINNATI, OHIO

ET/HT25KX

TITLE
18971 - 10/20 FT. BOOM ASSY

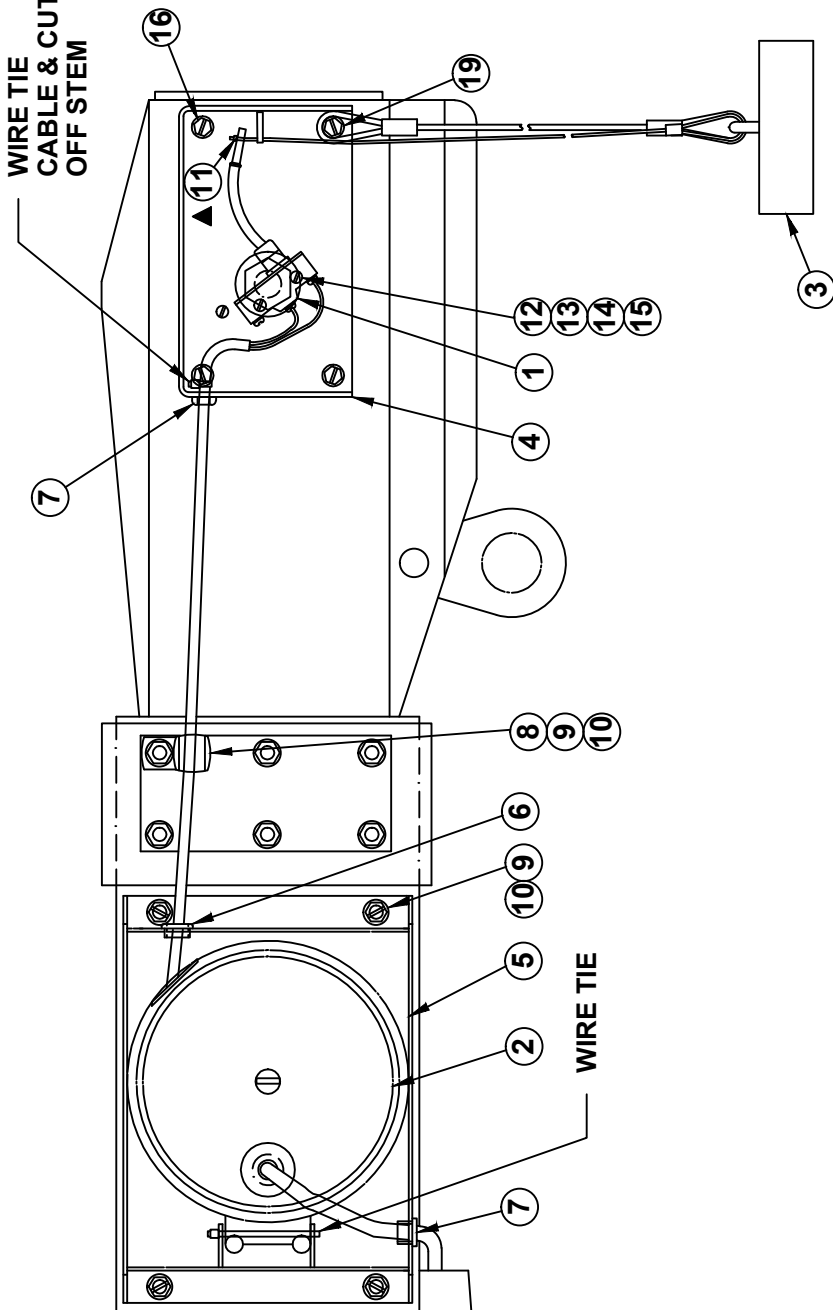
DATE
10-15-97A

SECTION
C400

SUPERSEDES
9-30-96

119256

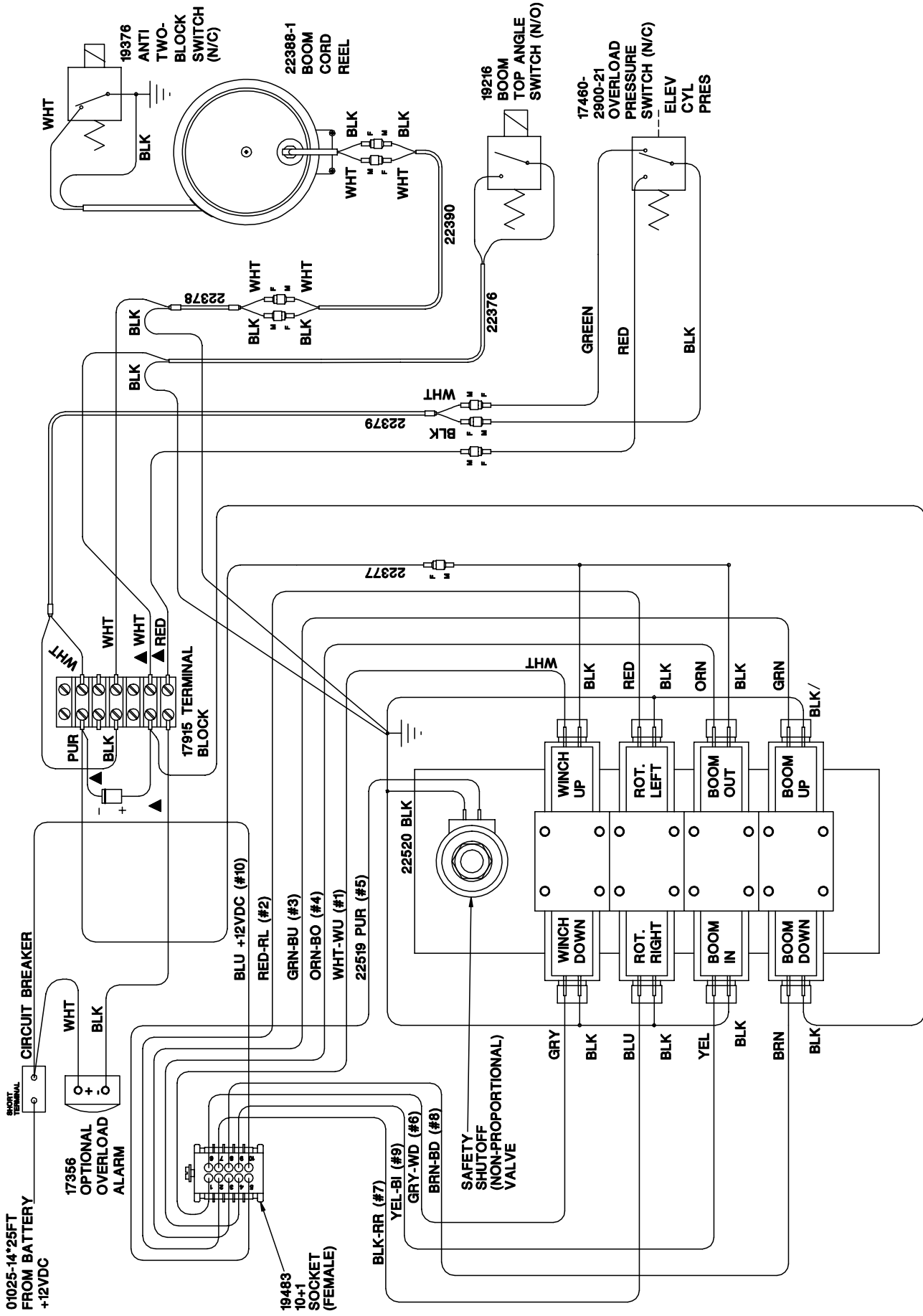
WIRE TIE
CABLE & CUT
OFF STEM



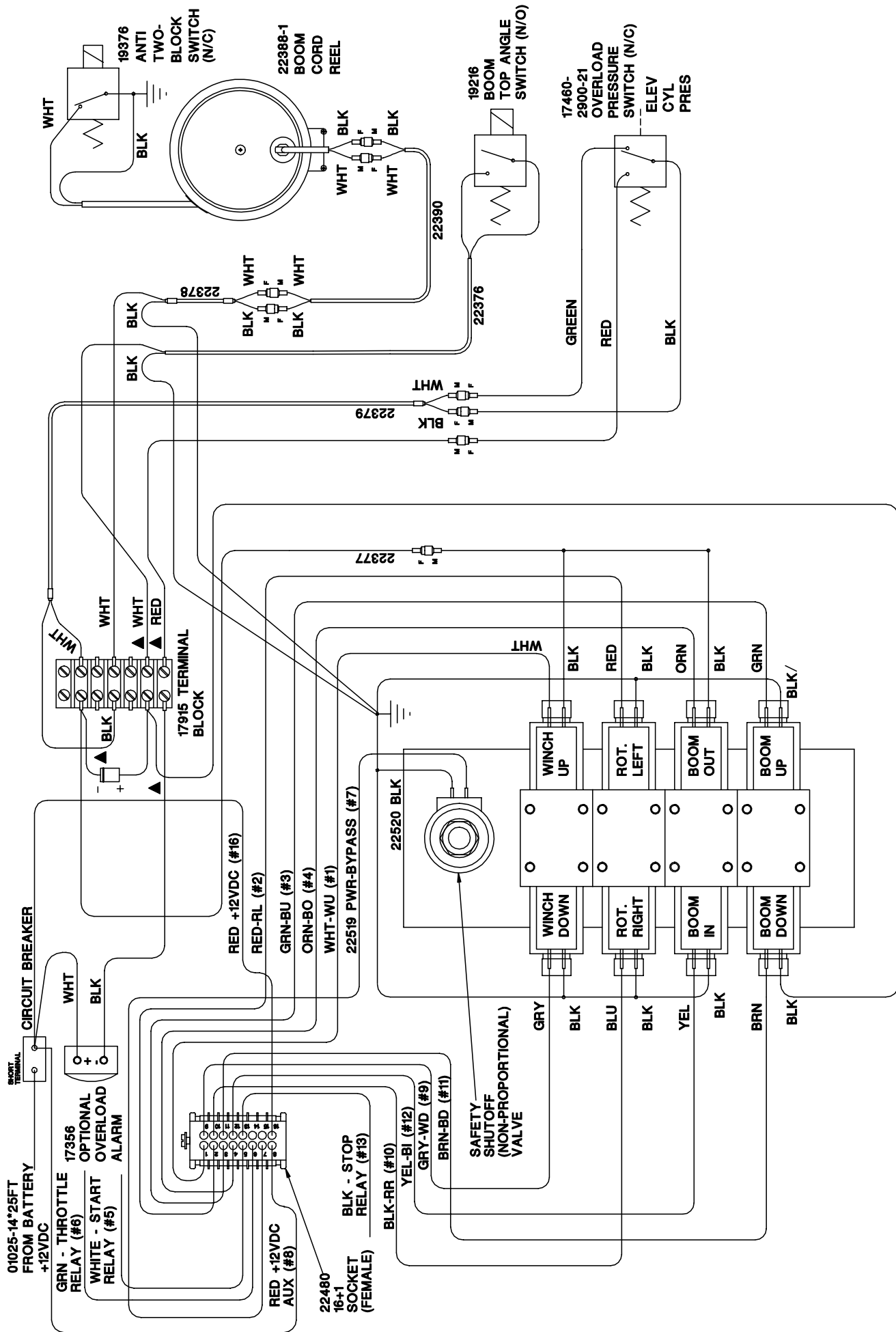
ITEM	QTY	PART NO.	DESCRIPTION
11	1	19302	SET COLLAR - 3/32"
10	5	ILWSH-031	LOCK WASHER - 5/16"
9	5	IHHCS03118050	HEX HEAD CAP SCREW - 5/16-18 x 1/2"
8	1	19275	CABLE CLAMP - 3/4" x 13/32" HOLE
7	2	19270	SNAP BUSHING - 3/8" I.D.
6	1	19063	SNAP BUSHING - 1/2" I.D.
5	1	19058	COVER - CORD REEL
4	1	20839	ANTI TWO-BLOCK HOUSING ASSEMBLY
3	1	19377-2	CABLE WEIGHT ASSY
2	1	22388-1	CORD REEL ASSY
1	1	19376	LIMIT SWITCH

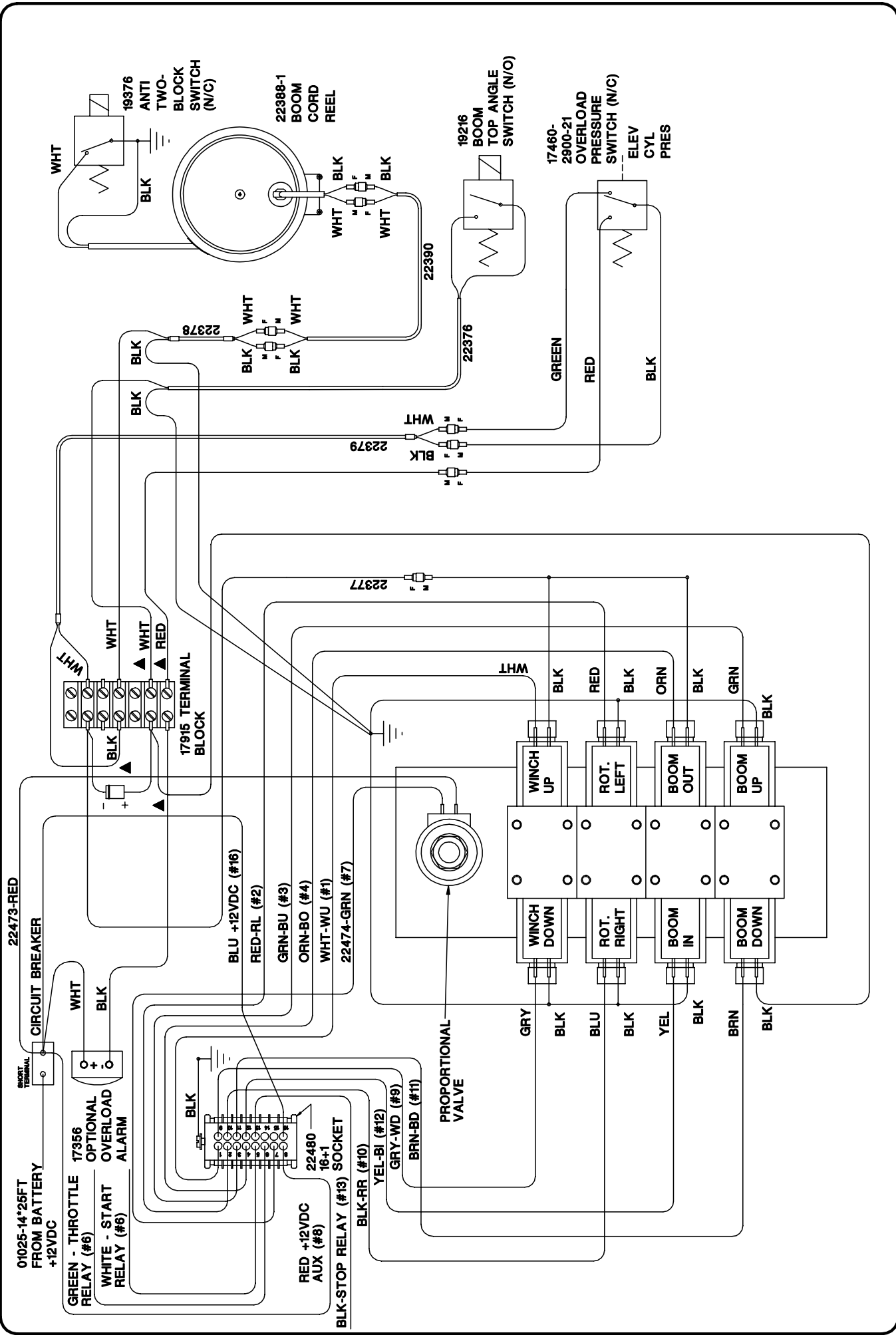
<p>VENTURO MANUFACTURING, INC. CINCINNATI, OHIO</p>		<p>TITLE REPLACEMENT PARTS DRAWING</p>	
<p>DATE 08-01-16G</p>		<p>SECTION C400</p>	
<p>SUPERSEDES 06-03-08F</p>		<p>20197-2</p>	

19197-2 ANTI-TWO-BLOCK SYSTEM



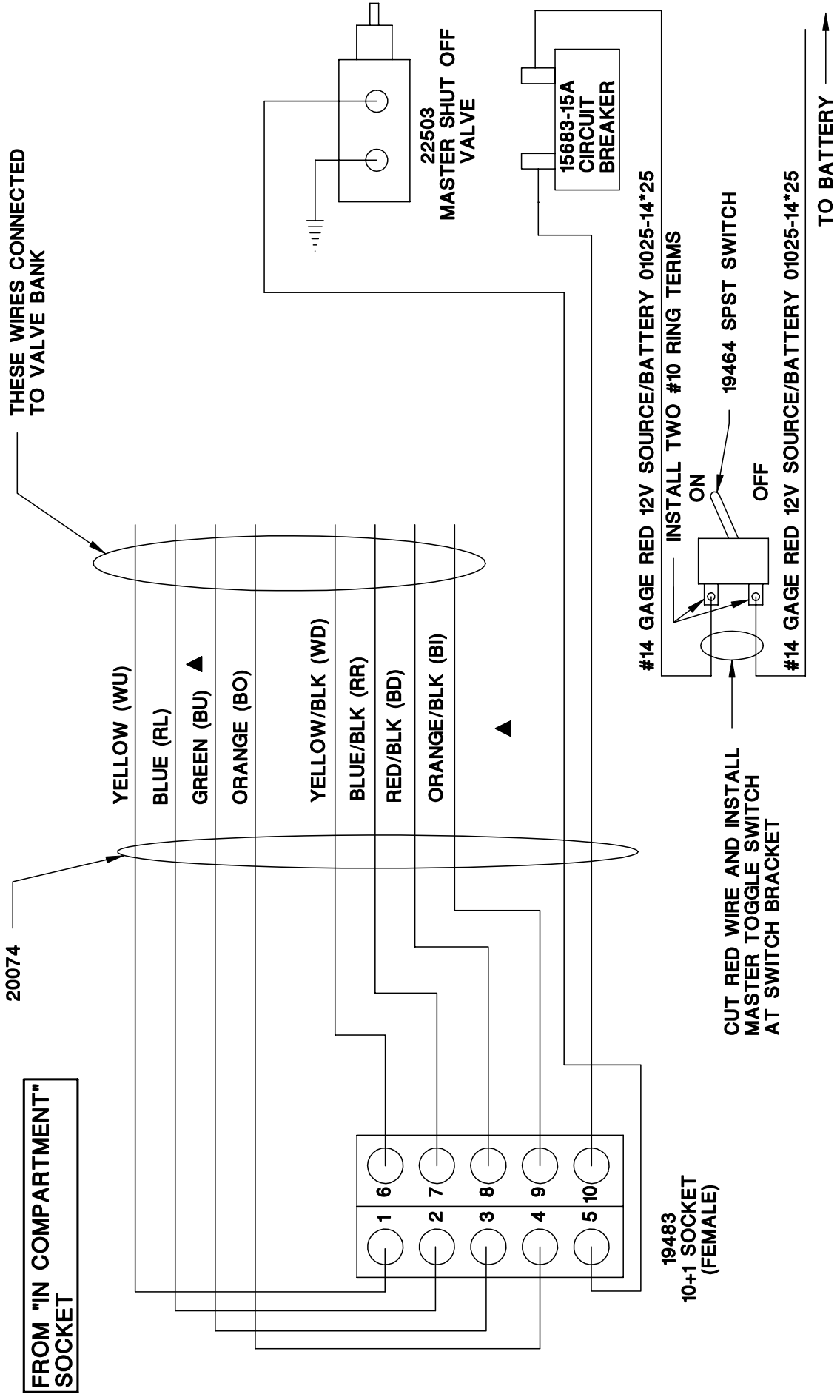
 VENTURO MANUFACTURING, INC. CINCINNATI, OHIO	TITLE WIRING DIAGRAM	DATE 11-2-00E	SECTION C400
	HT25KX - 4 FUNCTION STD	SUPERSEDES 7-26-99D	19498






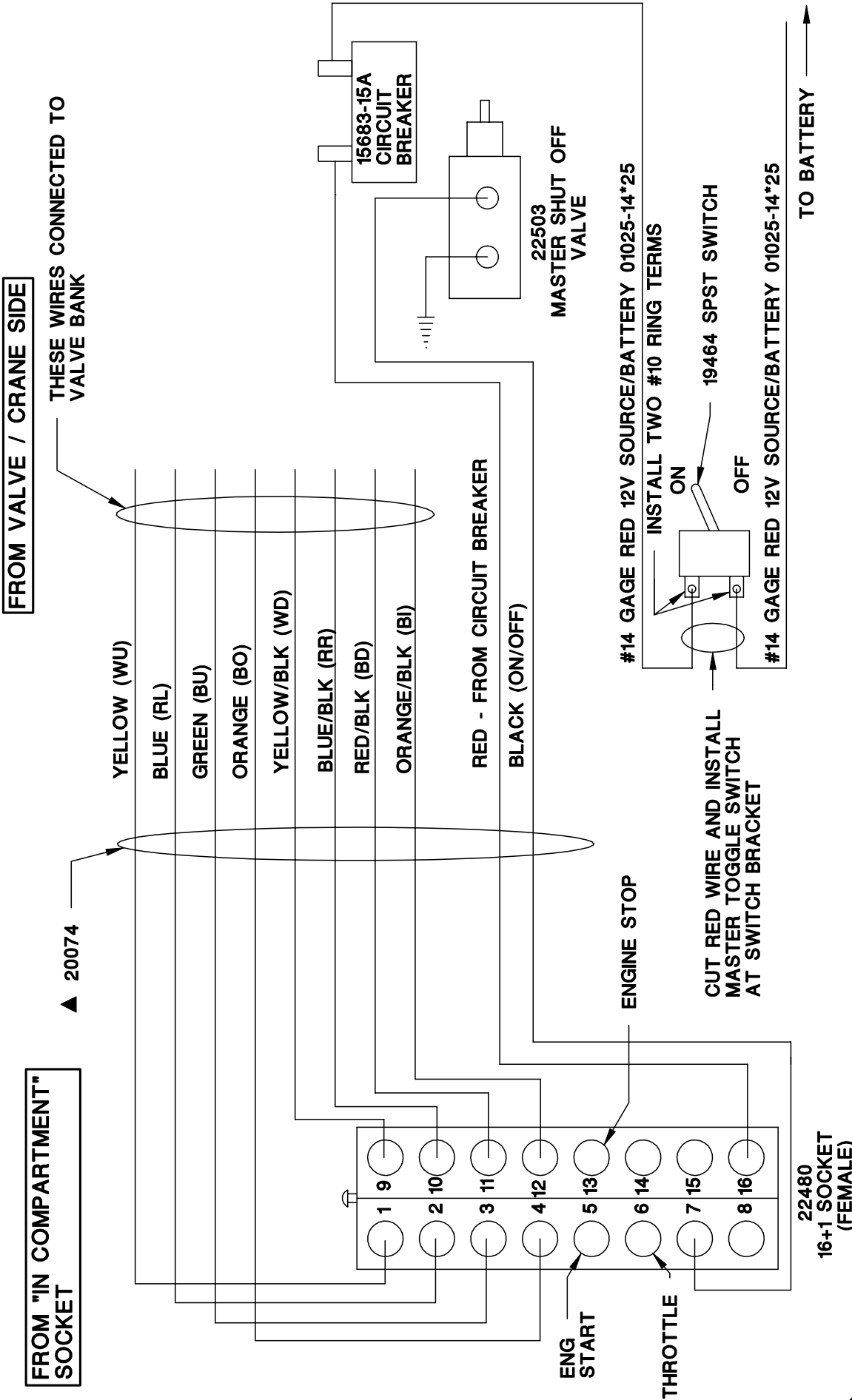
VENTURO MANUFACTURING, INC. CINCINNATI, OHIO	TITLE WIRING DIAGRAM		SECTION C-400
	DATE 11-2-00E		19499
HT25KX - PROP W/ ENGINE CONTROLS		SUPERSEDES 4-21-00D	

NON-PROPORTIONAL IN-COMPARTMENT CONTROLS



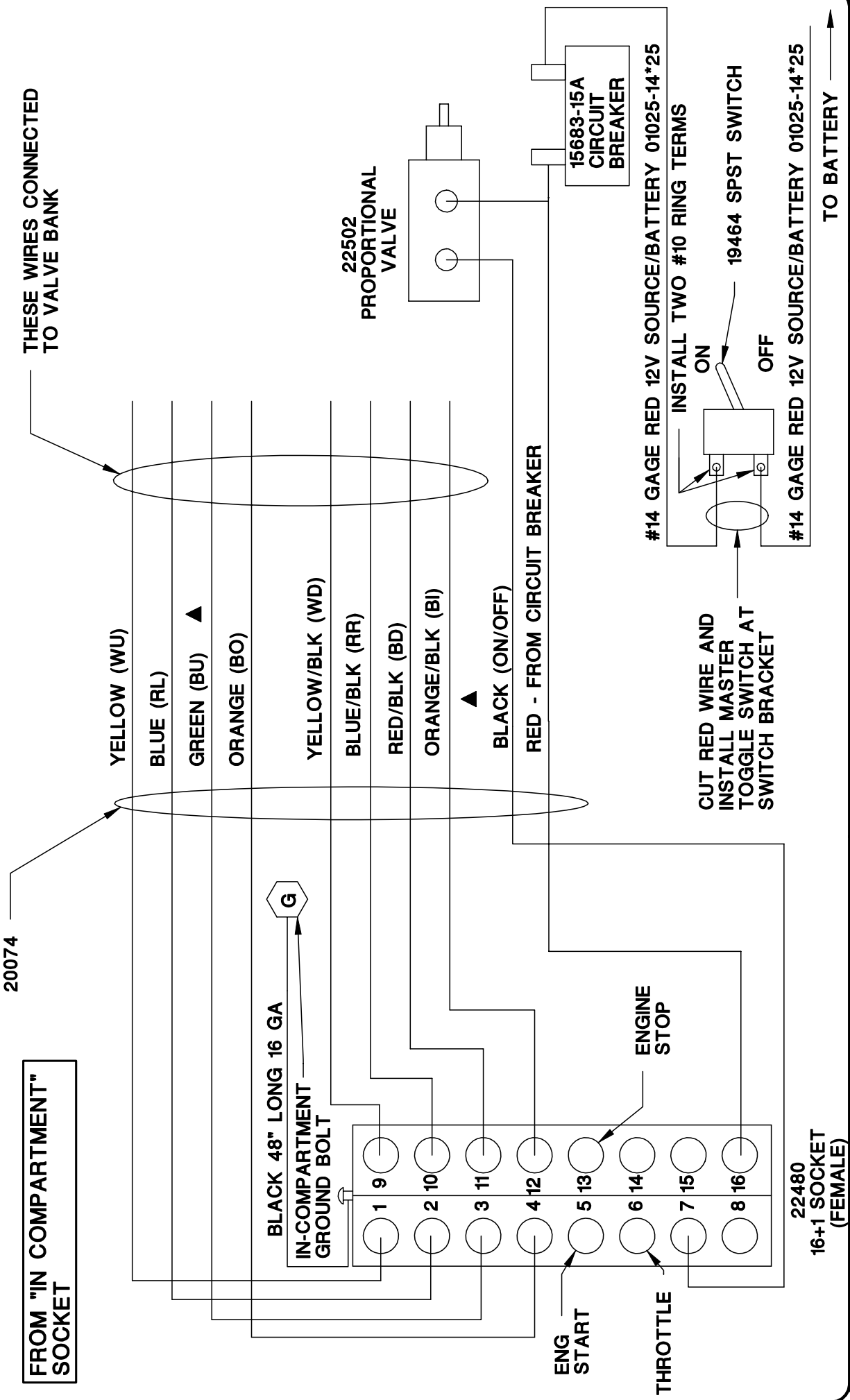
 VENTURO MANUFACTURING, INC. CINCINNATI, OHIO	TITLE NON-PROP W/ IN-COMPARTMENT CTRLS		DATE 8-14-01A	SECTION -
	HT25/40/50 CRANES		SUPERSEDES 4-6-00	20350

NON-PROPORTIONAL IN-COMPARTMENT CONTROLS W/ ENG START/STOP AND/OR THROTTLE CONTROL



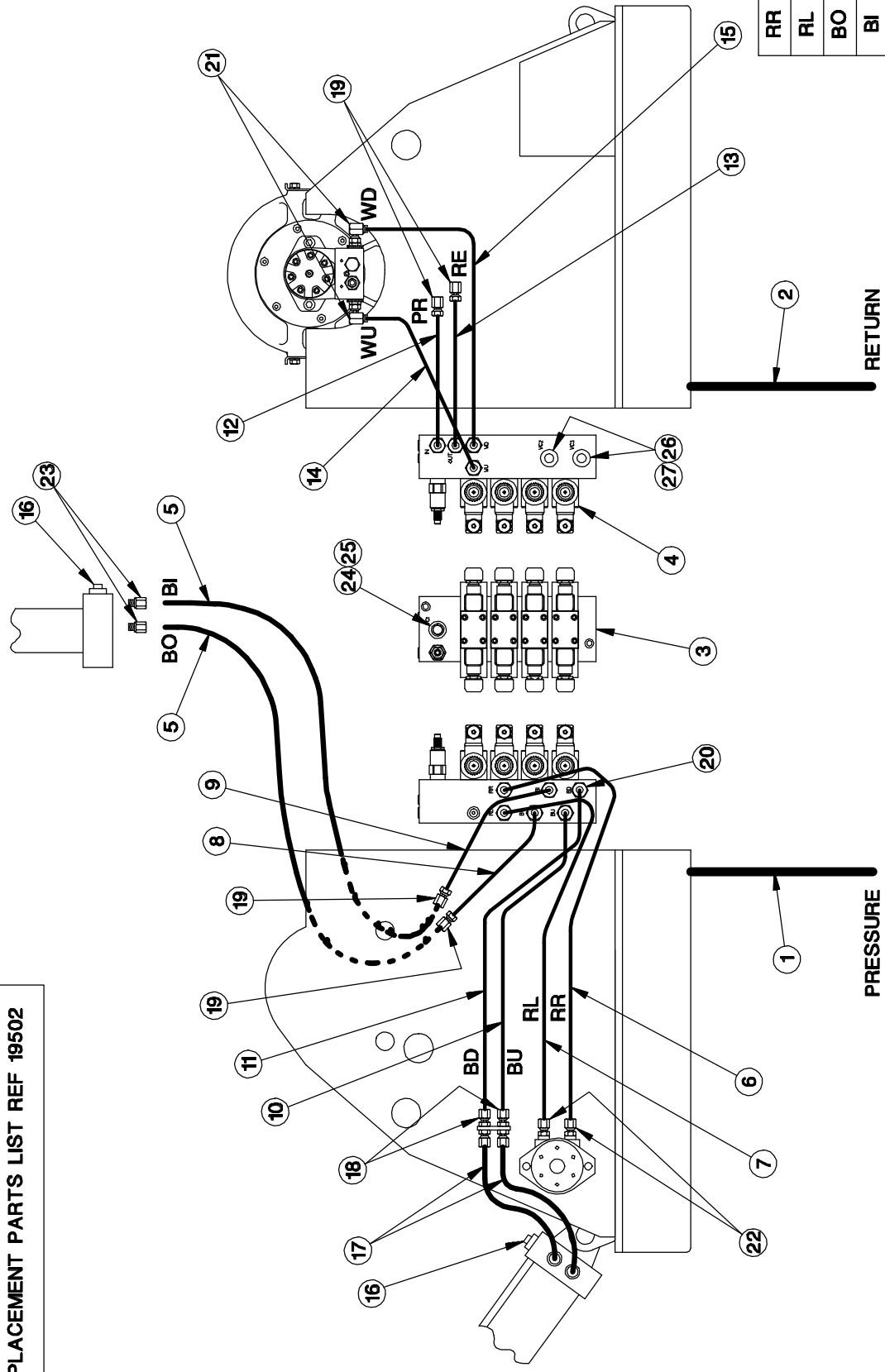
VENTURO MANUFACTURING, INC. CINCINNATI, OHIO	TITLE NON-PROP W/ IN-COMPARTMENT CTRLS HT25/40/50 CRANES	DATE 12-14-01B <small>SUPERSEDES</small> 8-15-01A	SECTION -	20351
	▲ 20074 THESE WIRES CONNECTED TO VALVE BANK			

PROPORTIONAL IN-COMPARTMENT CONTROLS W/ ENG START/STOP AND/OR THROTTLE CONTROL



VENTURO MANUFACTURING, INC. CINCINNATI, OHIO		TITLE	PROPORTIONAL W/ IN-COMP CTRLS	DATE	8-14-01A	SECTION	-
			HT25/40/50 CRANES	SUPERSEDES	4-6-00		
							20352

REPLACEMENT PARTS LIST REF 19502




LEFT SIDE VIEW

REAR VIEW

RIGHT SIDE VIEW

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

SERIAL NO. 80125 & UP

 <p>MANUFACTURING, INC. CINCINNATI, OHIO</p>	TITLE	REPLACEMENT PARTS DRAWING	DATE	4-13-98	SECTION	C400
		HT25KX HYDRAULIC COMPONENTS	SUPERSEDES	-		19501

HYDRAULIC SYSTEM COMPONENTS - HT25KX CRANES REPLACEMENT PARTS LIST

ITEM	PARTNUMBER	DESCRIPTION
1	19214	PRESSURE HOSE
2	19215	RETURN HOSE
3	22501	VALVE BANK - HT40KX, HT50KX
4	22362	VALVE COIL
5	19504	EXTENSION CYLINDER HOSE
6	19486	HYD TUBING - ROTATION RIGHT
7	19487	HYD TUBING - ROTATION LEFT
8	19488	HYD TUBING - BOOM OUT
9	19489	HYD TUBING - BOOM IN
10	19490	HYD TUBING - BOOM UP
11	19491	HYD TUBING - BOOM DOWN
12	19492	HYD TUBING - PRESSURE
13	19493	HYD TUBING - RETURN
14	19494	HYD TUBING - WINCH UP
15	19495	HYD TUBING - WINCH DOWN
16	19247	COUNTERBALANCE VALVE (ELEVATION & EXTENSION CYLINDERS)
17	19503	ELEV CYLINDER HOSE - 4MPX-6FJ
18	HBLK6MJ-6MJ	HYD BULKHEAD
19	HBLK6MJ-6MJ-90	HYD BULKHEAD UNION ELBOW WITH LOCK NUT - 6MJ x 90°
20	HNPL6MJ-6MO	HYD NIPPLE
21	HELB8MO-6MJ-90	HYD ELBOW
22	HNPL10MO-6MJ	HYD NIPPLE
23	HRDB4MO-4FP	HYDRAULIC BUSHING - 4MO-4FP
24	22502	PROPORTIONAL VALVE
25	22503	MASTER BYPASS (SAFETY SHUT-OFF) VALVE AND COIL
26	22312-1.00	PRIORITY FLOW CART - 1.00 GPM - NON-PROP. CRANE ELEV. & EXT.
27	22312-2.25	PRIORITY FLOW CART - 2.25 GPM - PROPORTIONAL CRANE ELEV. & EXT.
28	-	-
29	-	-
30	-	-

REPLACEMENT PARTS DWG REF 19501

SERIAL NO. 80125 & UP



MFG., INC.
CINCINNATI, OHIO

TITLE
REPL. PARTS LIST

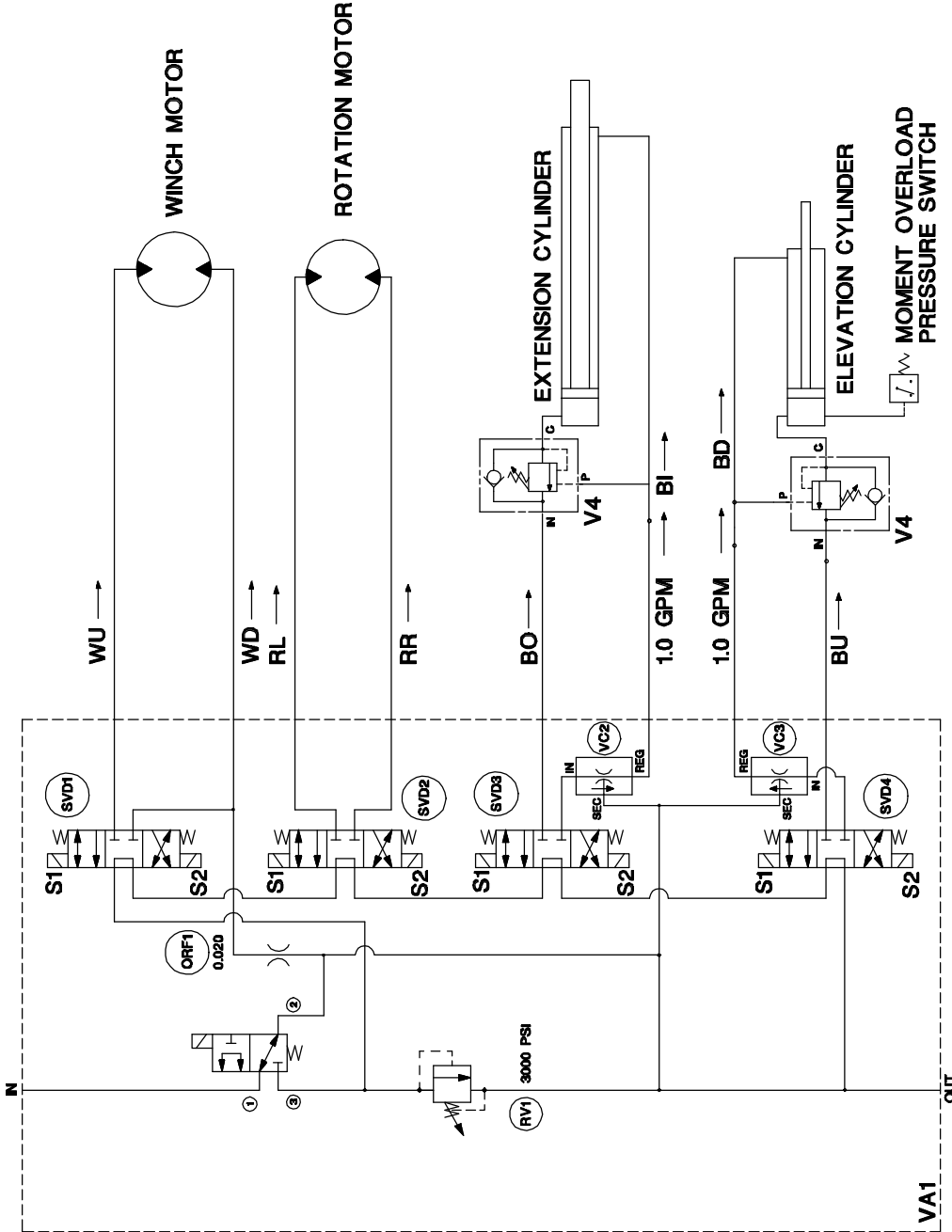
HT25KX

DATE
4-13-98

SUPERCEDES
-

SECTION
C400

19502



- 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

SERIAL NO. 80125 & UP



MANUFACTURING, INC.
CINCINNATI, OHIO

TITLE

HYDRAULIC SYSTEM DIAGRAM

HT25KX WITH SAFETY SHUTOFF VALVE

DATE

3-27-98

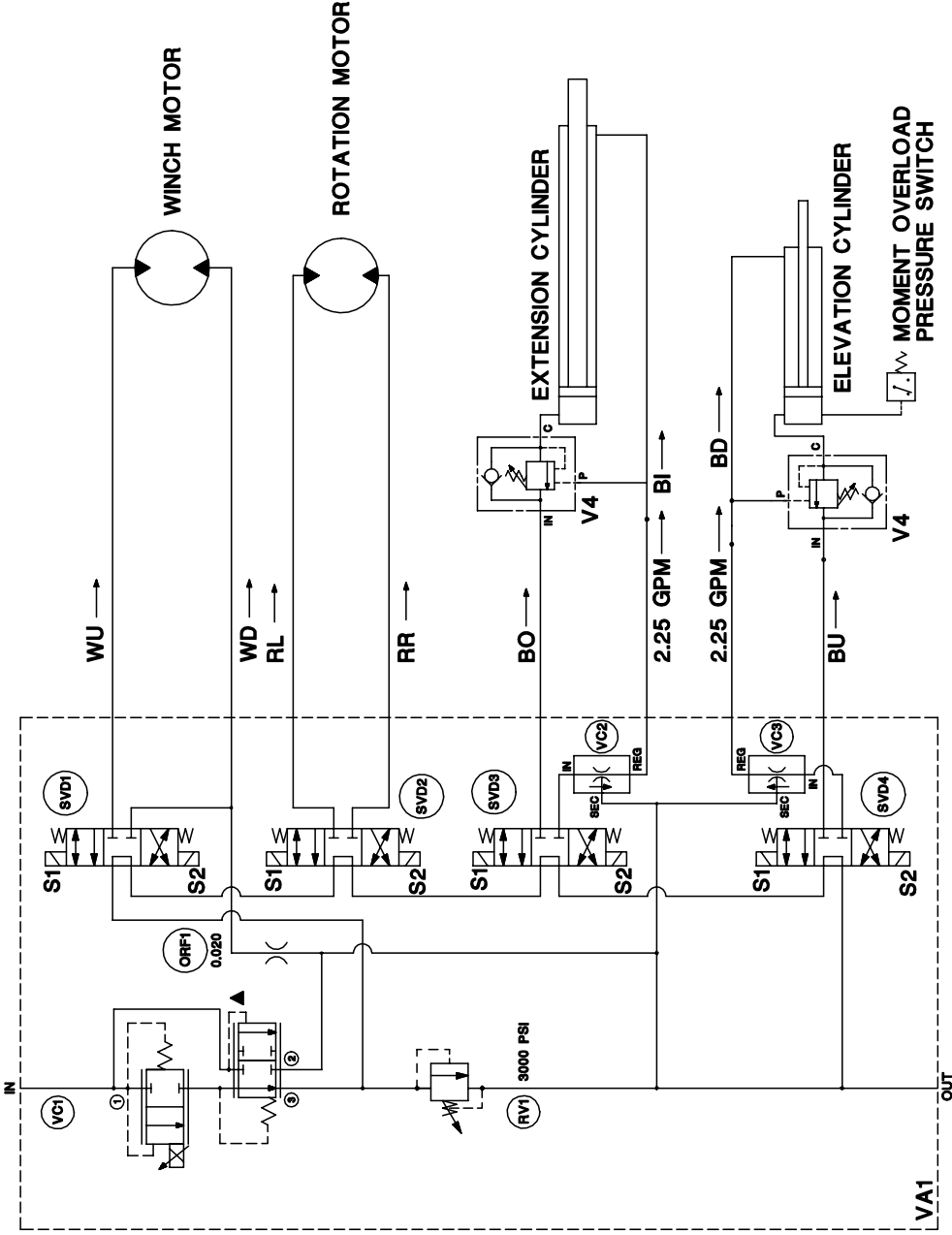
SUPERSEDES

-

SECTION

C400

19496



- 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

SERIAL NO. 80125 & UP

VENTURO
 MANUFACTURING, INC.
 CINCINNATI, OHIO

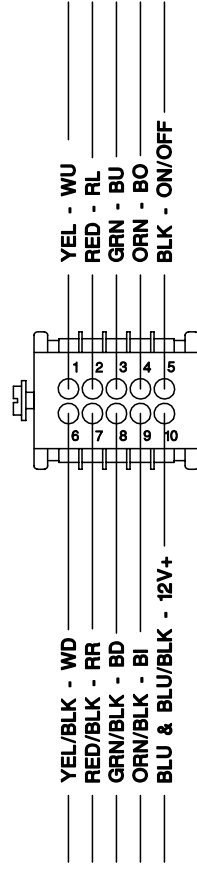
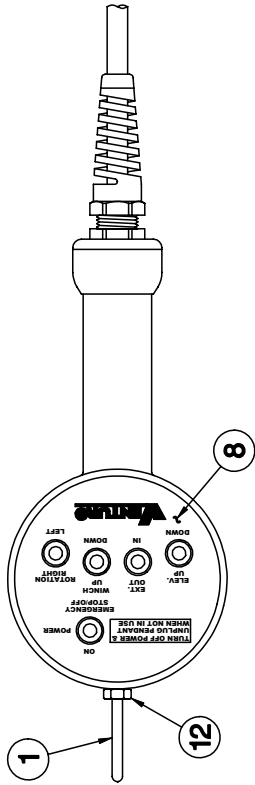
TITLE
HYDRAULIC SYSTEM DIAGRAM

DATE
1-12-01A

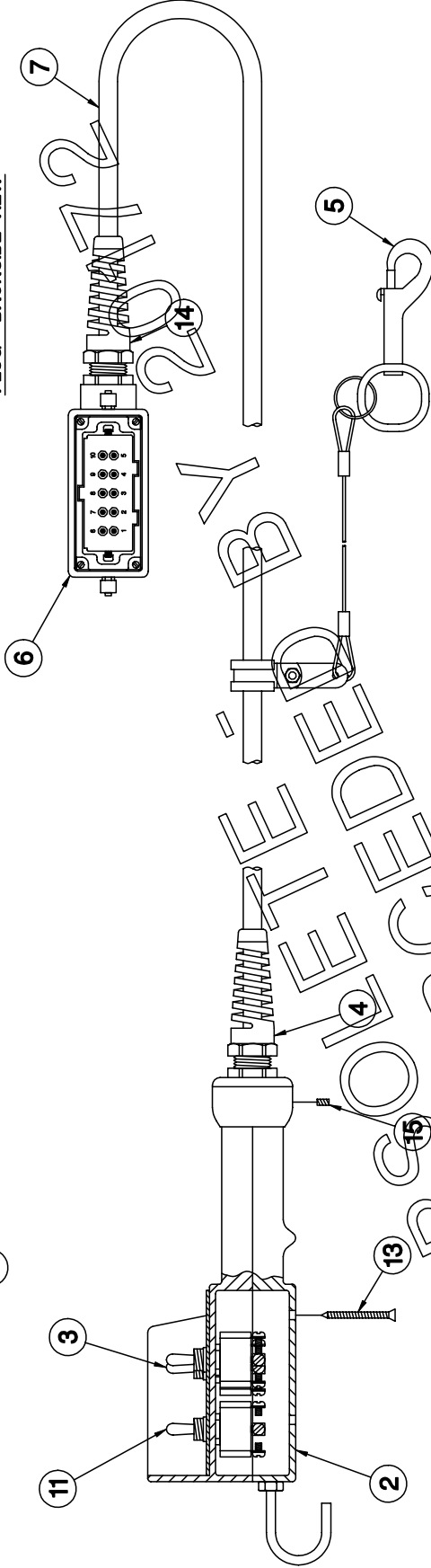
SECTION
C400

SUPERSEDES
3-27-98

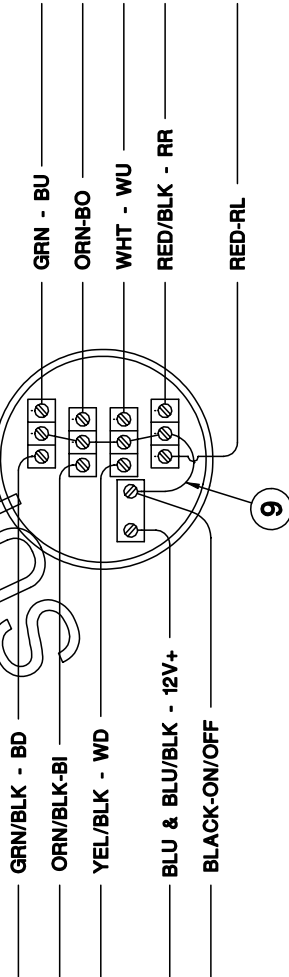
19497



PLUG - BACKSIDE VIEW



ITEM	QTY	PART NO.	DESCRIPTION
15	1	ISHCS#832038SS	SET SCREW - #8-32 x 3/8"
14	1	19313	STRAIN RELIEF - PG16 METRIC
13	4	IFHPS#10150A	FLAT HEAD PHILLIPS SCREW - #10 x 1 1/2" LG
12	1	IHNUT-02520	HEX NUT - 1/4-20
11	1	19464	ON/OFF SWITCH
10	1	-	-
9	1	19312	5SW PENDANT CORD JUMPER
8	1	22250	LOGO PLATE, PENDANT CONTROL
7	1	19505-xx	CORD ASSEMBLY (xx = LENGTH IN FT.)
6	1	19482	PLUG ASSEMBLY - 10 + 1 POLE
5	1	15913-2	PHAN., CLAMP AND TETHER ASSEMBLY
4	1	25534	3/4" STRAIN RELIEF
3	4	13763	TOGGLE SWITCH
2	1	19374	PENDANT HOUSING
1	1	11557	PENDANT HOOK



SERIAL NO. 84030 & UP
SERIAL NO. 85030 & UP

TITLE

REPLACEMENT PARTS DRAWING

4 FUNCTION CRANES

DATE

10-25-02C

SUPERSEDES

7-17-01B

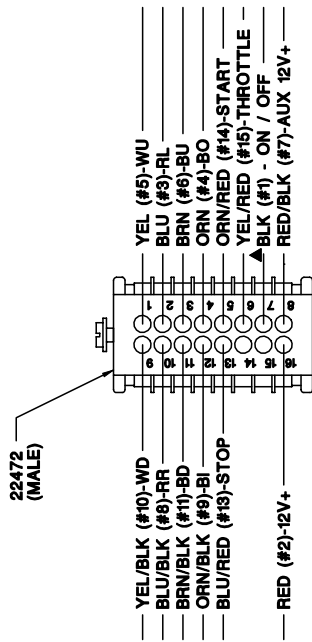
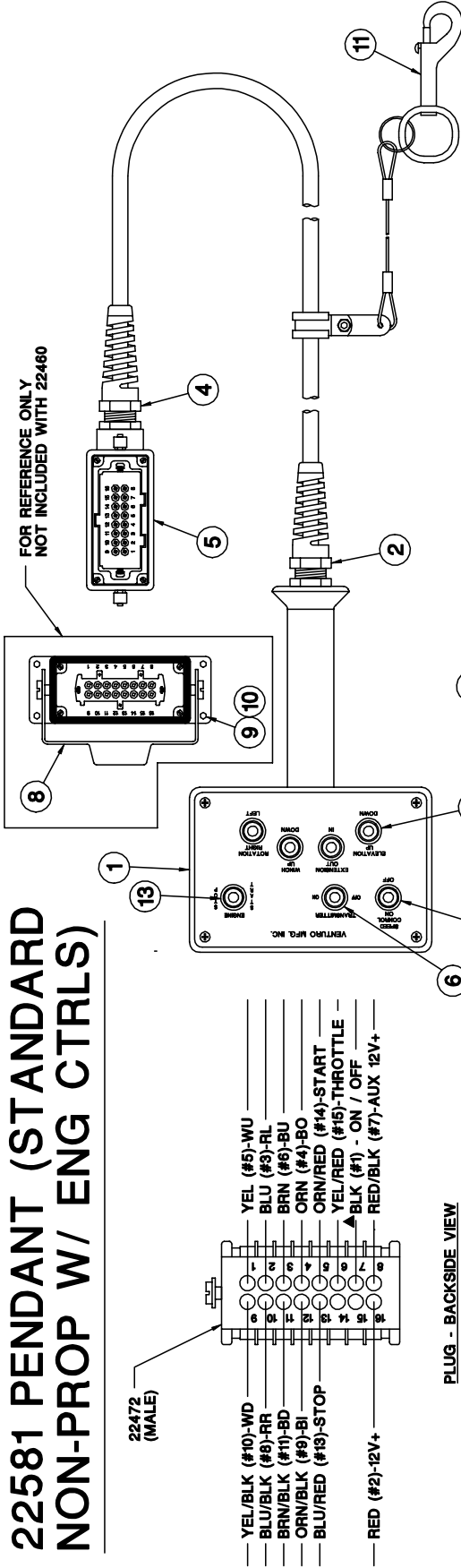
SECTION

C400

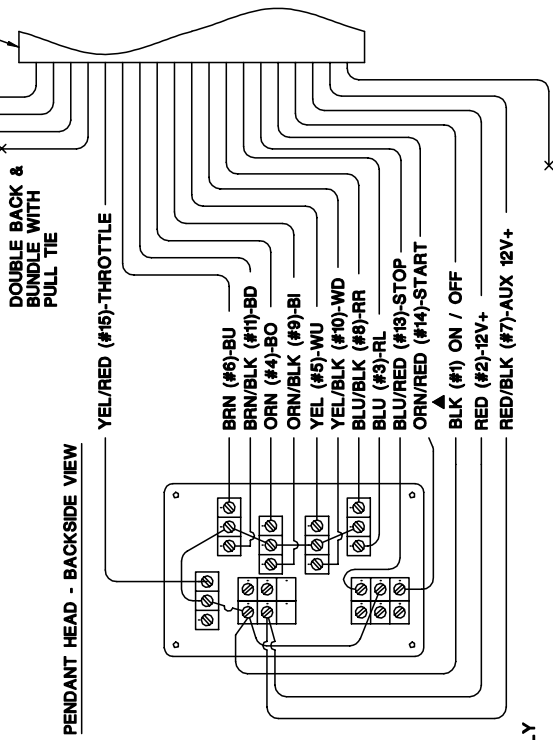
19485



22581 PENDANT (STANDARD NON-PROP W/ ENG CTRLS)



PLUG - BACKSIDE VIEW



- NOTE:
EXAMPLE OF COLOR CODES:
•BLU = BLUE WIRE (NO STRIPE)
•BLU/BLK = BLUE WIRE WITH BLACK STRIPE
- ① ENGINE THROTTLE CONTROL ONLY
 - ② ENGINE START/STOP CONTROL ONLY
 - ③ ENGINE THROTTLE & START/STOP CONTROL

ITEM	QTY	QTY	QTY	PART NO.	DESCRIPTION
13	-	1	-2	-3	ENGINE START TOGGLE SWITCH - DPDT
12	1	-	1	22476	SPEED CONTROL TOGGLE SWITCH - SPDT
11	1	1	1	15913-1	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	4	4	13768	TOGGLE SWITCH
6	1	1	1	22478	POWER SWITCH - DOUBLE POLE SINGLE THROW
5	1	1	1	22470	PLUG ASSY - 16+1 POLE
4	1	1	1	22313	STRAIN RELIEF - METRIC
3	1	1	1	22462-1	CORD ASSY - 25 FT
2	1	1	1	25534	STRAIN RELIEF - 3/4"
1	1	1	1	22311-1	PROPORTIONAL CONTROL PENDANT HEAD

TITLE

REPLACEMENT PARTS DRAWING

DATE

12-21-01A

SECTION

C400

MANUFACTURING, INC.
CINCINNATI, OHIO



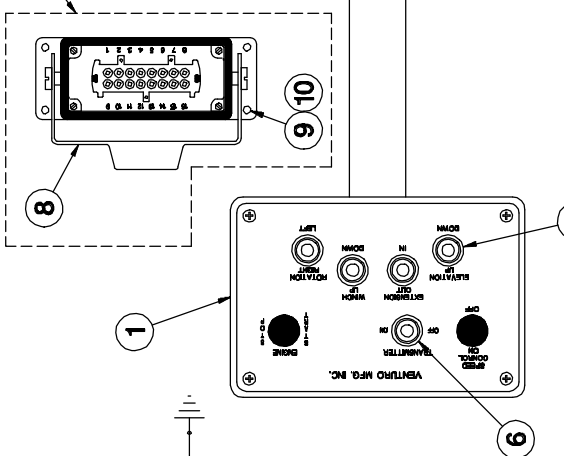
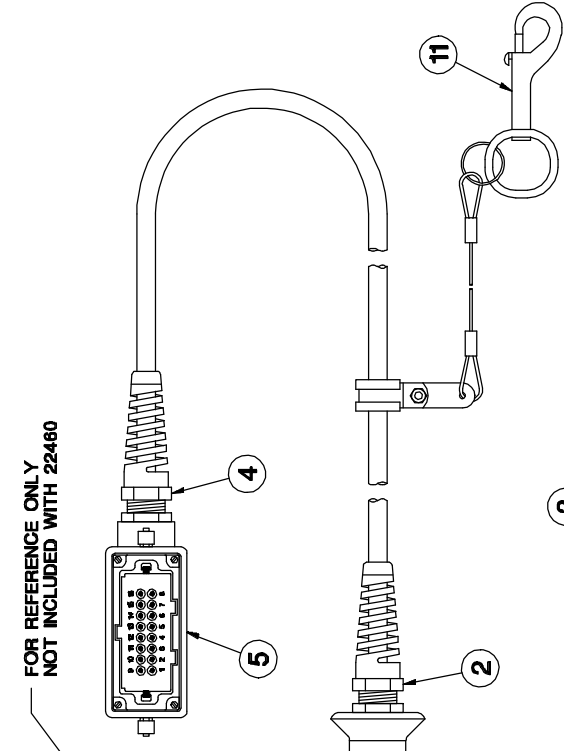
22581 PENDANT (NON-PROP W/ ENG CTRLS)

SUPERSEDES

5-23-00

22582

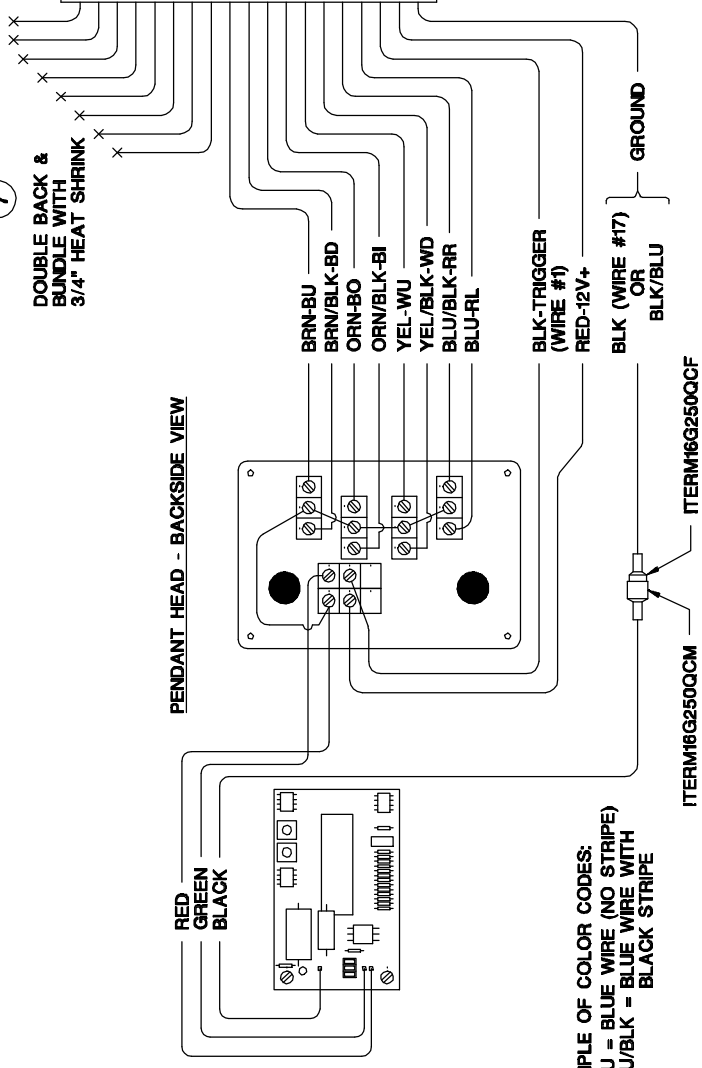
FOR REFERENCE ONLY
NOT INCLUDED WITH 22460



DOUBLE BACK &
BUNDLE WITH
3/4" HEAT SHRINK

PENDANT HEAD - BACKSIDE VIEW

PLUG - BACKSIDE VIEW



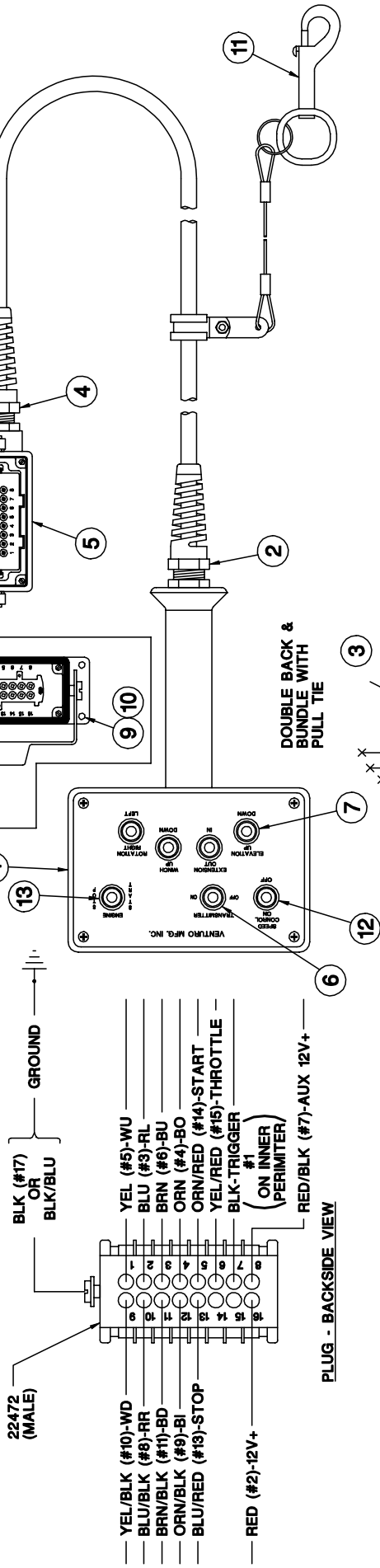
NOTE:
EXAMPLE OF COLOR CODES:
•BLU = BLUE WIRE (NO STRIPE)
•BLU/BLK = BLUE WIRE WITH BLACK STRIPE

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)	SUPSEDES 3-12-98C	22460

VENTURO MANUFACTURING, INC.
CINCINNATI, OHIO

22583 PENDANT (PROP W/ ENG CTRLS)



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

- ① ENGINE THROTTLE CONTROL ONLY
- ② ENGINE START/STOP CONTROL ONLY
- ③ ENGINE THROTTLE & START/STOP CONTROL

DASH NO.	-1	-2	-3
----------	----	----	----

ITEM	QTY	QTY	QTY	PART NO.	DESCRIPTION
13	-	1	1	22477	ENGINE START TOGGLE SWITCH - DPDT
12	1	-	1	22476	SPEED CONTROL TOGGLE SWITCH - SPDT
11	1	1	1	15913-1	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	4	4	13763	TOGGLE SWITCH
6	1	1	1	22478	POWER SWITCH - DOUBLE POLE SINGLE THROW
5	1	1	1	22470	PLUG ASSY - 16-1 POLE
4	1	1	1	22313	STRAIN RELIEF - METRIC
3	▲	1	1	22462-1	CORD ASSY - 25 FT
2	1	1	1	25534	STRAIN RELIEF - 3/4"
1	1	1	1	22311	PROPORTIONAL CONTROL PENDANT HEAD

VENTURO MANUFACTURING, INC.
 CINCINNATI, OHIO

TITLE
 REPLACEMENT PARTS DRAWING

DATE
 12-17-01B

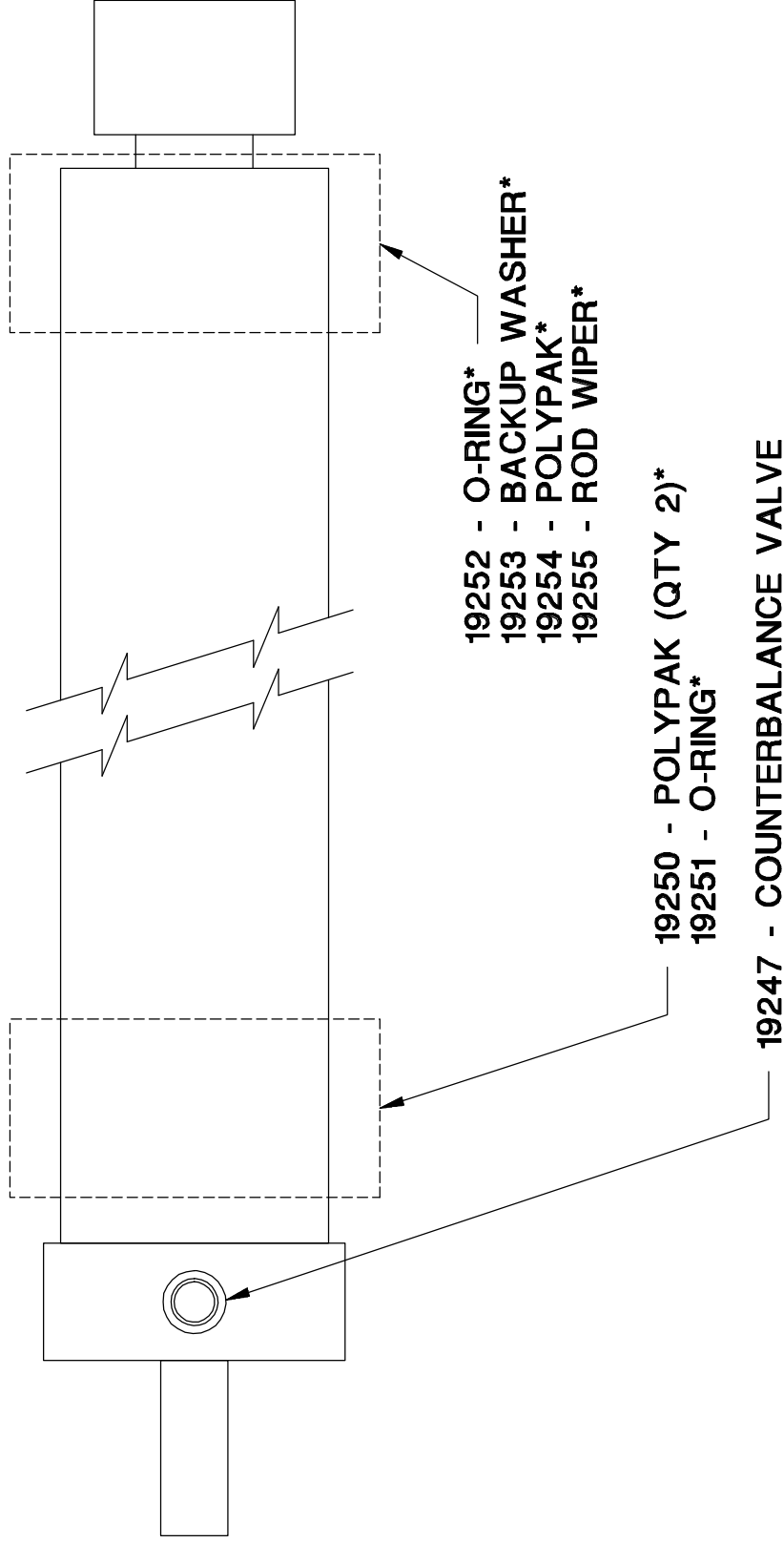
SECTION
 C400

SUPERSEDES
 4-12-00A


22583 PENDANT (PROP W/ ENG CTRLS)

22584

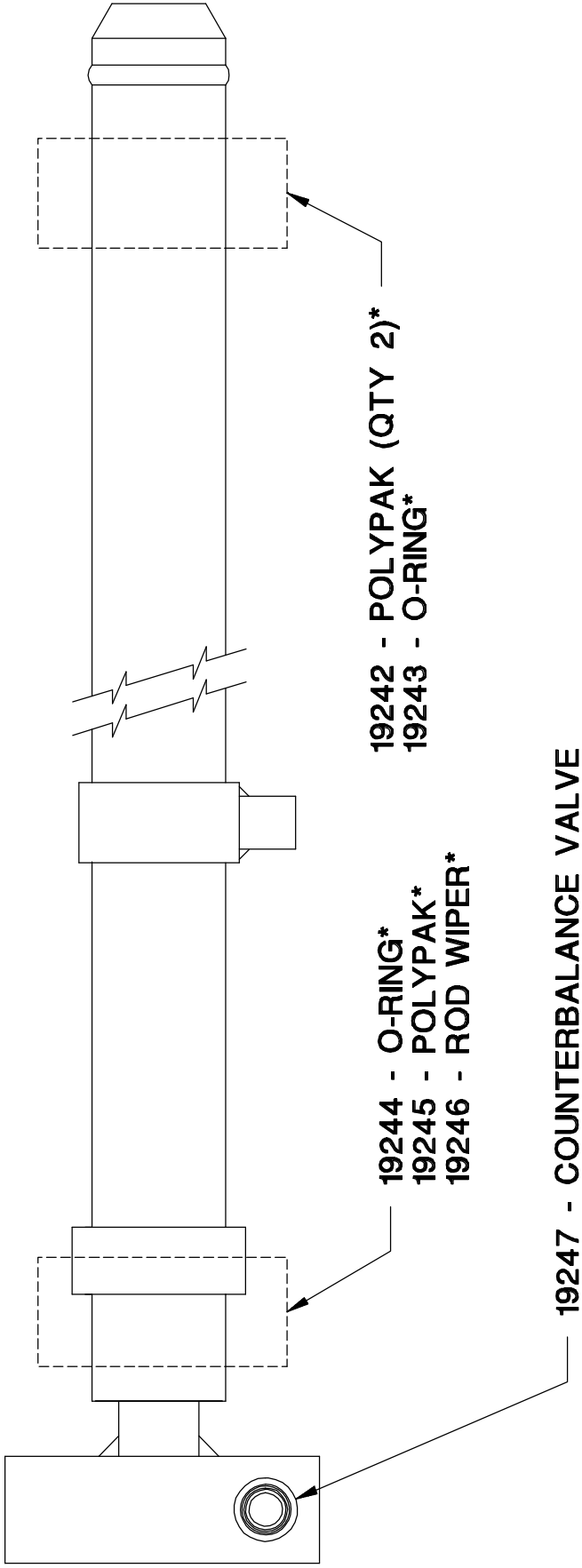
18930-1 ELEVATION CYLINDER




* ITEMS INCLUDED IN 18930-1-SK SEAL KIT

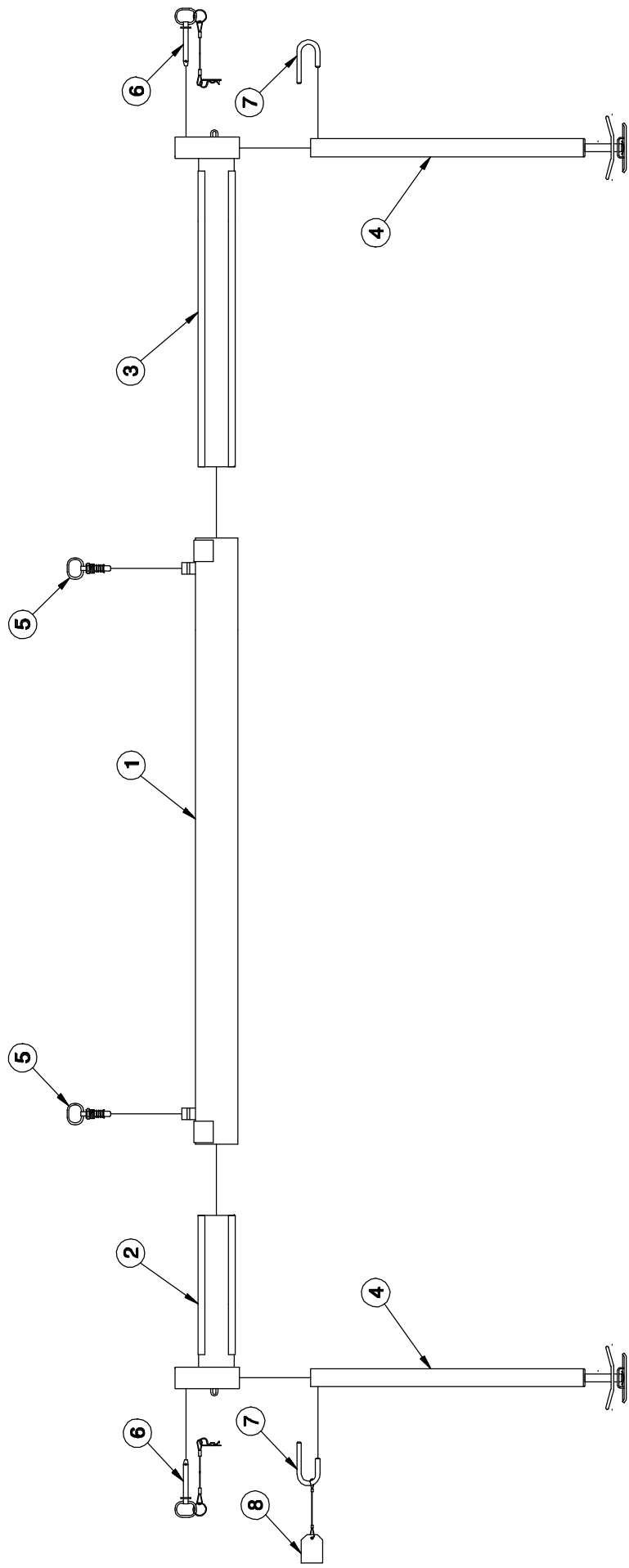
 MANUFACTURING, INC. CINCINNATI, OHIO	TITLE	DATE	SECTION
	ELEVATION CYLINDER ET/HT25KX	10-15-97A SUPERSEDES 9-21-96	C400
			119249

18969-1 EXTENSION CYLINDER



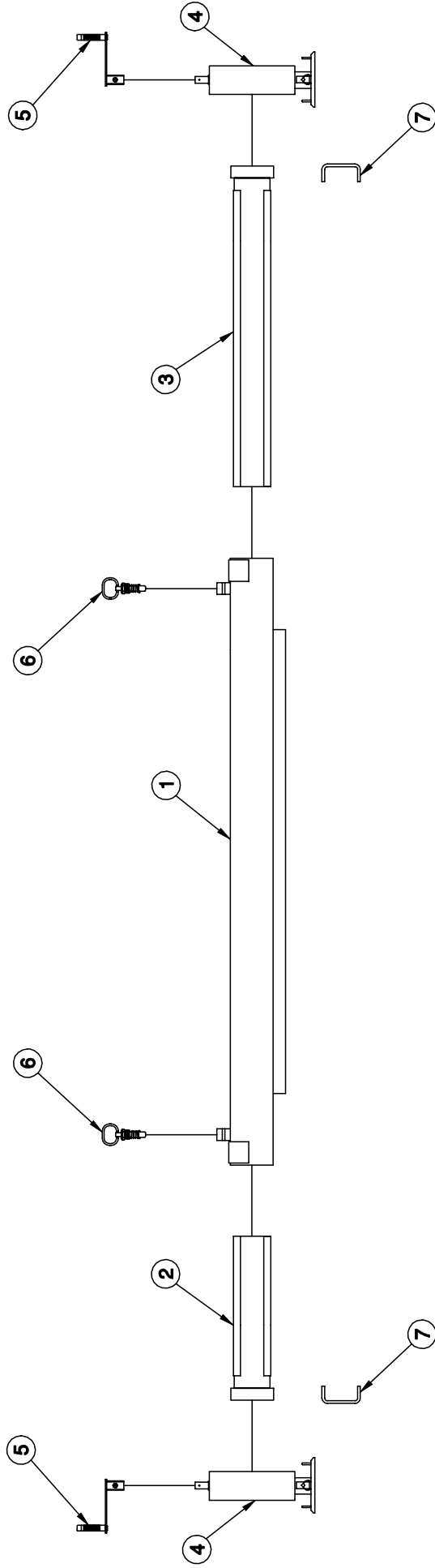
* ITEMS INCLUDED IN 18969-1-SK SEAL KIT

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



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

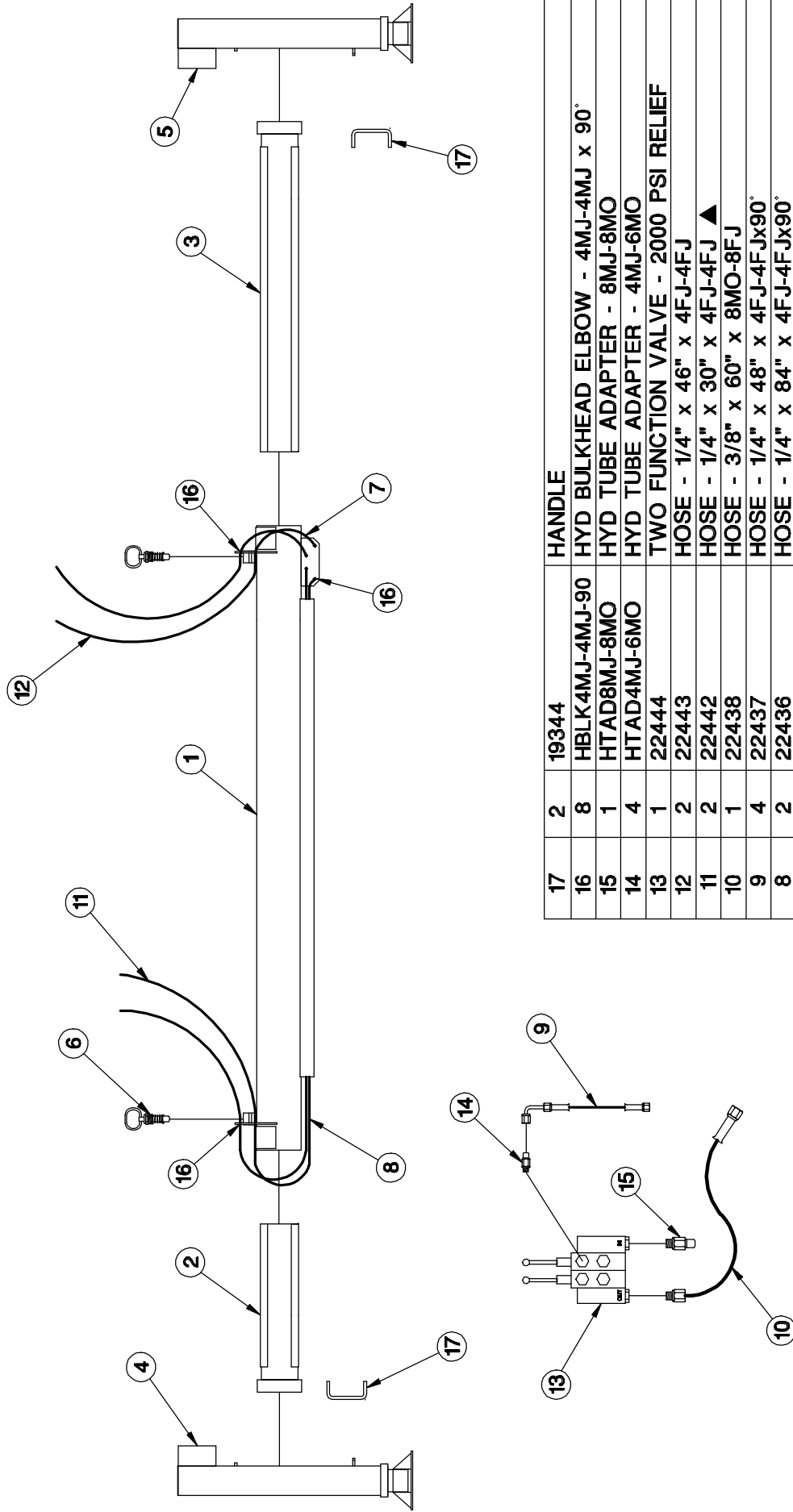


NOTE: CUSTOMER TO WELD (3/16" BEAD) ITEM 4 (CRANK DOWN LEG) IN PLACE AFTER ADJUSTING FOR PROPER GROUND CLEARANCE AND TRAVEL. CUSTOMER TO WELD (3/16" BEAD) ITEM 7 (HANDLE) IN PLACE IN A SUITABLE LOCATION.

▲ IF USING CRANKDOWN OUTRIGGER LEGS (ITEM 4) WITH 4" X 4" TUBING YOU WILL NEED TO SPECIFY 22422 FOR ITEM 2 AND 22423 FOR ITEM 3.

ITEM	QTY	PART NO	DESCRIPTION
7	2	19344	HANDLE
6	2	22433	SPRING LOADED PIN ASSY
5	2	19008	CRANK ASSY - OUTRIGGER
4	2	22440	CRANK DOWN LEG
3	1	▲ 22569	PULLOUT - LONG
2	1	▲ 22568	PULLOUT - SHORT
1	1	22426	CROSS TUBE WELDED ASSY

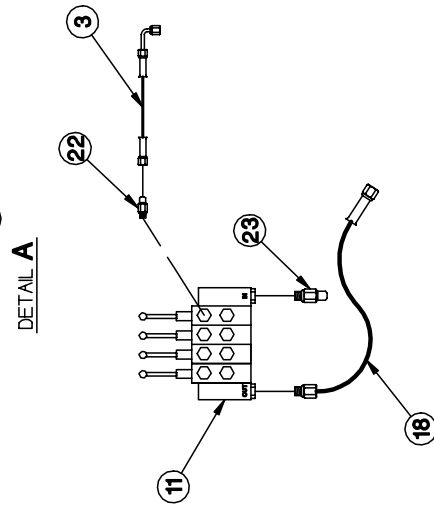
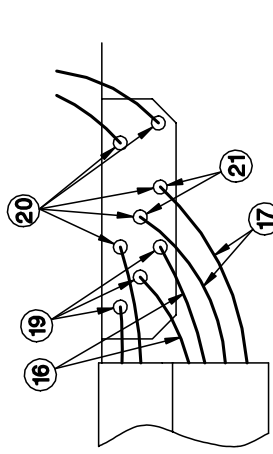
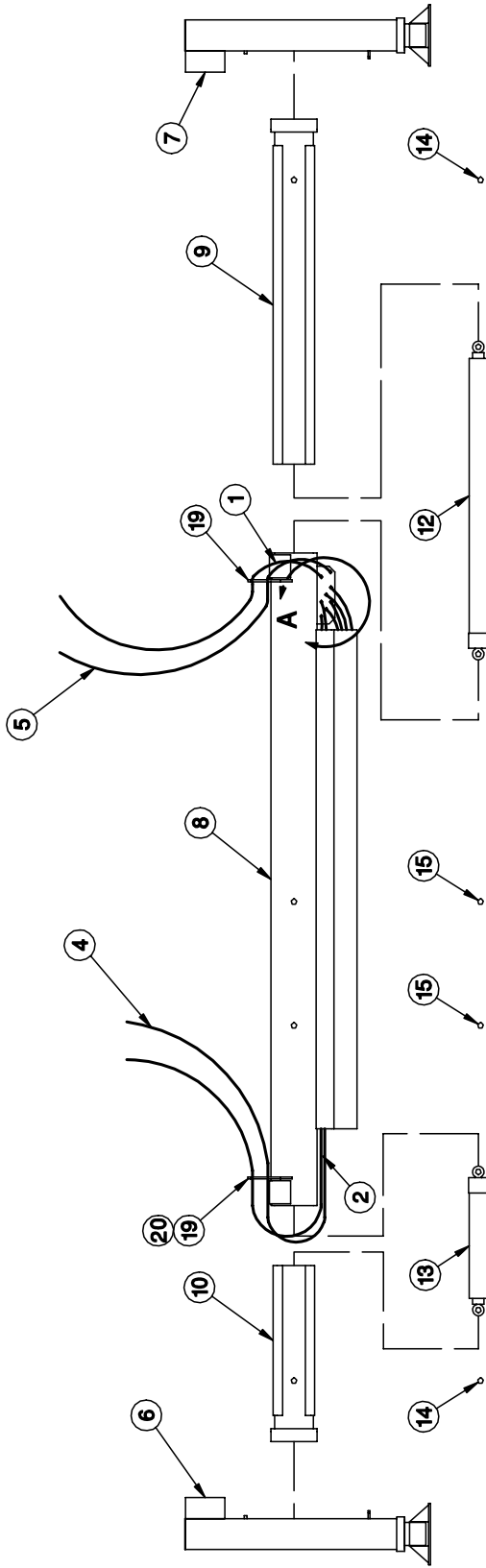
TITLE	DATE	SECTION
REPLACEMENT PARTS DWG & LIST	11-7-01B	C400
23962-CD-II HD CRANKDOWN O.R.	SUPERSEDES 7-30-99A	22441



NOTE: CUSTOMER TO WELD (3/16" BEAD) ITEM 17
(HANDLE) IN PLACE IN A SUITABLE LOCATION

ITEM	QTY	PART NUMBER	DESCRIPTION
19344	2		HANDLE
17	2	19344	HANDLE
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 30" 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	22465-2	HYD LEG ASSY - RIGHT
4	1	22465-1	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	DATE	SECTION
REPLACEMENT PARTS DWG & LIST	3-3-00C	C400
23962-PH-II HYD. OUTRIGGERS (22403)	9-16-99B	22428



ITEM	QTY	PART NUMBER	DESCRIPTION
23	1	8MJ-8MO ▲	HYD TUBE ADAPTER - 8MJ-8MO
22	8	4MJ-8MO ▲	HYD TUBE ADAPTER - 4MJ-8MO
21	2	HELB4MJ-4FJX-90	HYD ELBOW - 4MJ-4FJX x 90°
20	6	HBLK4MJ-4MJ	HYD BULKHEAD UNION - 4MJ-4MJ
19	6	HBLK4MJ-4MJ-90	HYD BULKHEAD UNION ELBOW - 4MJ-4MJ x 90°
18	1	22438 ▲	HOSE - 3/8" x 60" x 8MO-8FJ
17	2	22571	HOSE - 1/4" x 64" x 6MO-4FJ
16	2	22570	HOSE - 1/4" x 41" x 6MO-4FJ
15	2	22559	PIN - CROSS TUBE ASSEMBLY
14	2	22558	PIN - CROSS TUBE ASSEMBLY
13	1	22557	CYLINDER - 2" BORE, 8" STROKE
12	1	22556	CYLINDER - 2" BORE, 30" STROKE
11	1	22555	MONARCH "SALAMI" 4-VALVE BLOCK
10	1	22554	PULLOUT WELDED ASSEMBLY - SHORT
9	1	22553	PULLOUT WELDED ASSEMBLY - LONG
8	1	22552	CROSS TUBE WELDED ASSEMBLY
7	1	22465-2	HYD LEG ASSY - RIGHT
6	1	22465-1	HYD LEG ASSY - LEFT
5	2	22443	HOSE - 1/4" x 46" x 4FJ-4FJ
4	2	22442	HOSE - 1/4" x 24" x 4FJ-4FJ
3	8	22437	HOSE - 1/4" x 48" x 4FJ-4FJx90°
2	2	22436	HOSE - 1/4" x 84" x 4FJ-4FJx90°
1	2	22435	HOSE - 1/4" x 13 1/4" x 4FJ-4FJ
ITEM	QTY	PART NUMBER	DESCRIPTION

TITLE
REPLACEMENT PARTS DWG & LIST

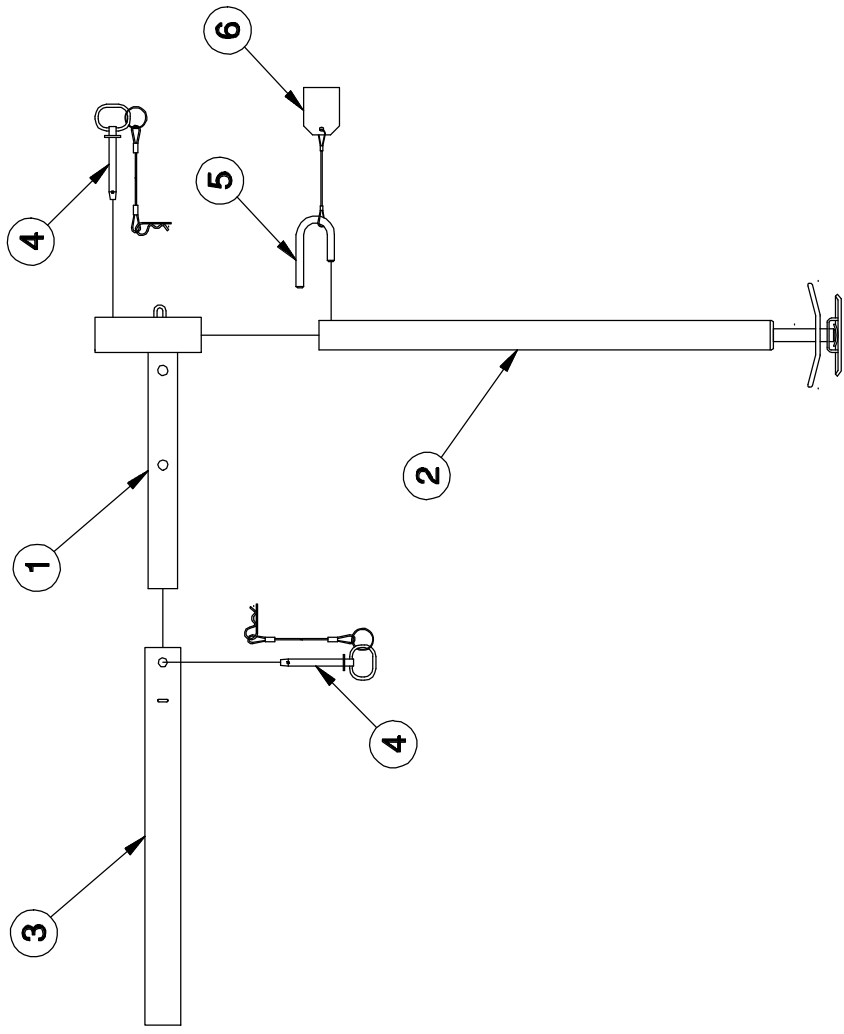
SECTION
C400

DATE
5-4-01D

DESCRIPTION
23962-PHX-II HYD. OUTRIGGERS (22550)

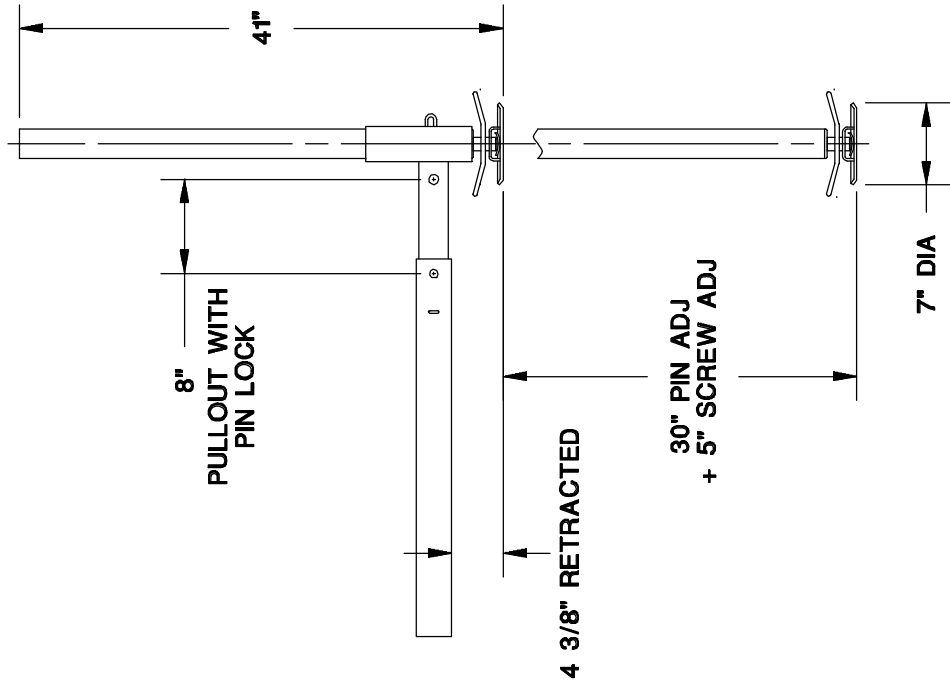
SUPERSEDES
9-16-99C

SECTION
22576



6	1	14517	TAG - HANDLE INSTALLATION
5	1	23980	OUTRIGGER LEG HANDLE
4	2	23976	HITCH PIN WITH LANYARDS
3	1	23962-4	STUB MOUNTING TUBE
2	1	24073-4	SECONDARY LEG ASSEMBLY
1	1	23979	STUB OUTRIGGER

ITEM	QTY	PART NO.	DESCRIPTION
------	-----	----------	-------------



TITLE
INSTALLATION DRAWING

SECTION
C100

DATE
4-14-98D

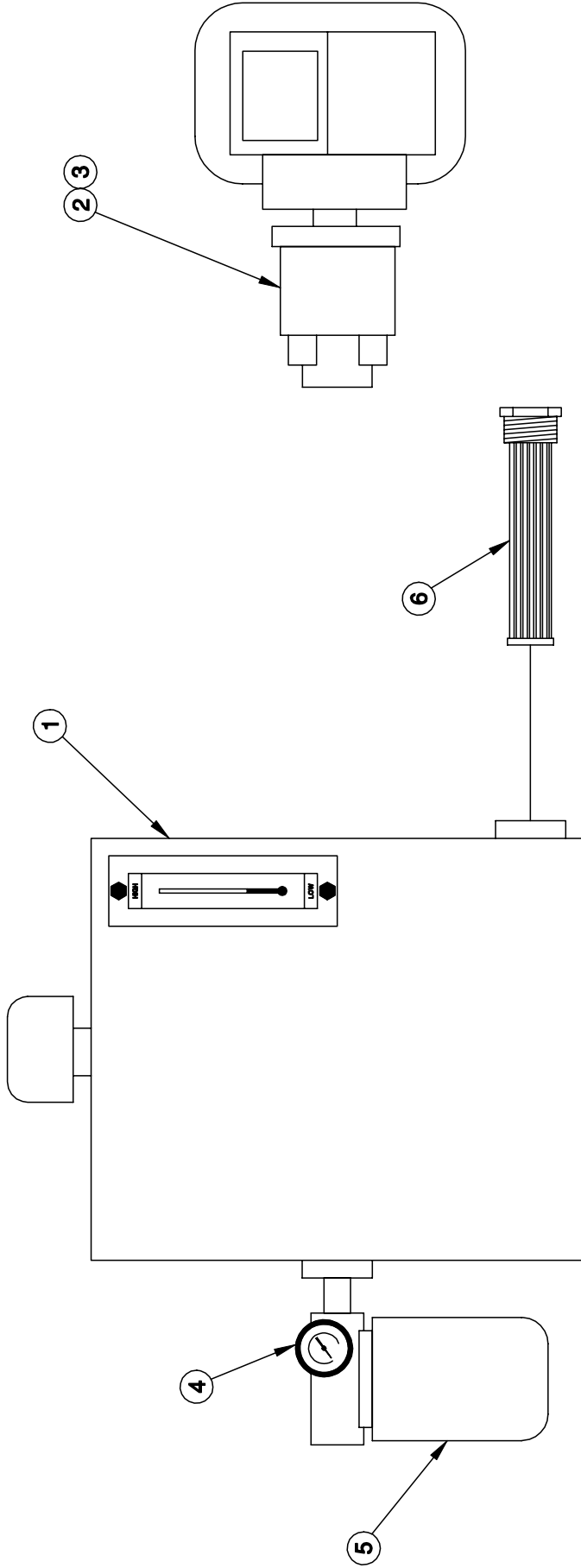
SUPERSEDES
1-18-90C

23962-2

STUB OUTRIGGER

VENTURO MANUFACTURING, INC.
 CINCINNATI, OHIO

19294 PTO PACKAGES



PUMP	MOUNTING	RECOMMENDED GPM (RPM)
19296-2.64	SAE "A" 9 TOOTH SPLINED SHAFT	STANDARD (NON-PROP) ▲ HT25 - 2.0 GPM (800 RPM) HT40 - 2.6 GPM (1000 RPM) HT50 - 3.0 GPM (1150 RPM)
		PROPORTIONAL ▲ HT25 - 4.0 GPM (800 RPM) HT40 - 5.0 GPM (1000 RPM) HT50 - 6.0 GPM (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 - HT25/40/50KX 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

VENTURO MANUFACTURING, INC.
CINCINNATI, OHIO

TITLE
REPLACEMENT PARTS DWG

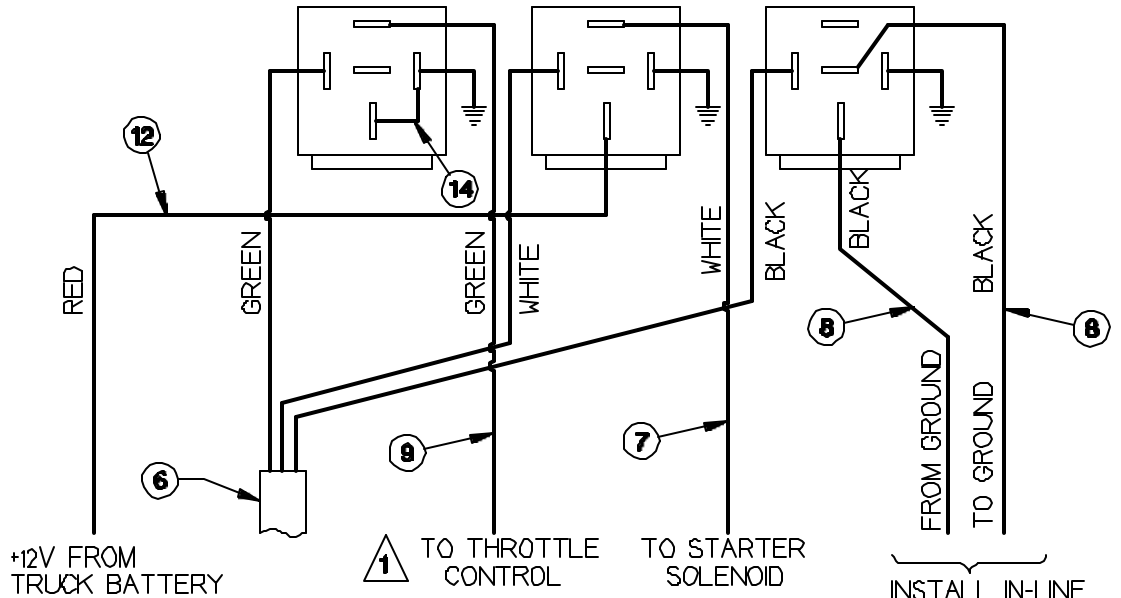
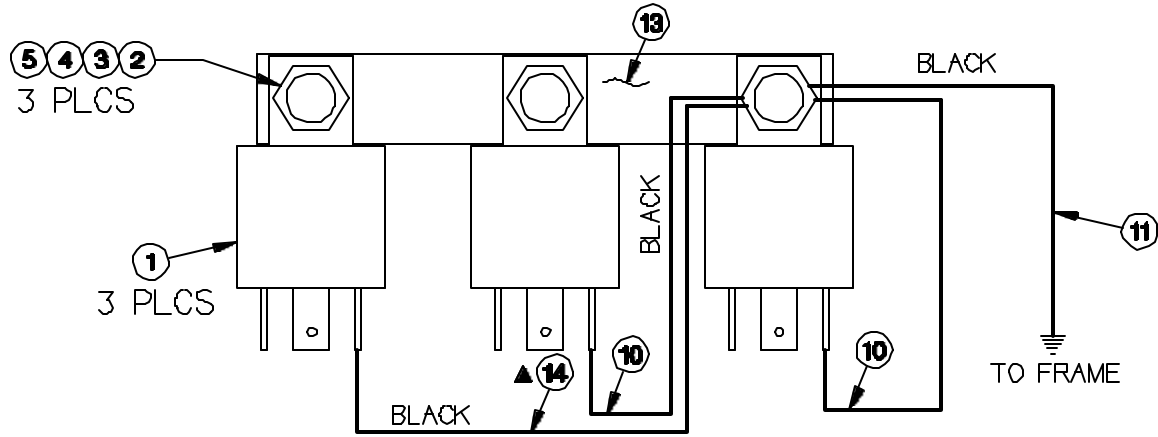
DATE
7-2-01C

SUPERSEDES
7-21-00B

SECTION
C400

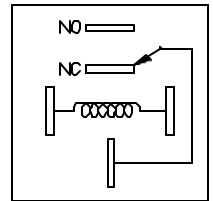
PTO KIT - HT25/40/50KX

22448



1
NOTE:
THROTTLE CONTROL IS DESIGNED
TO PROVIDE A GROUND SIGNAL
WHEN SWITCH IS ACTUATED

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



RELAY
SCHEMATIC

ITEM	QTY	PART#	DESCRIPTION
1	3	22606	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

VENTURO MFG., INC.
CINCINNATI, OHIO

TITLE **ENGINE START/STOP
THROTTLE CONTROL**
HT25/40/50

DATE **5-24-00B**
REVISIONS
2-18-00A

SECTION **C400**
▲ **22615**



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