



VENTURO
TRUCK MOUNTED CRANES

ET12K(X)

INSTALLATION & OWNER'S MANUAL

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ET12K(X) INSTRUCTION MANUAL

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ET12K(X)	SUPERCEDES 7-31-08H	21590

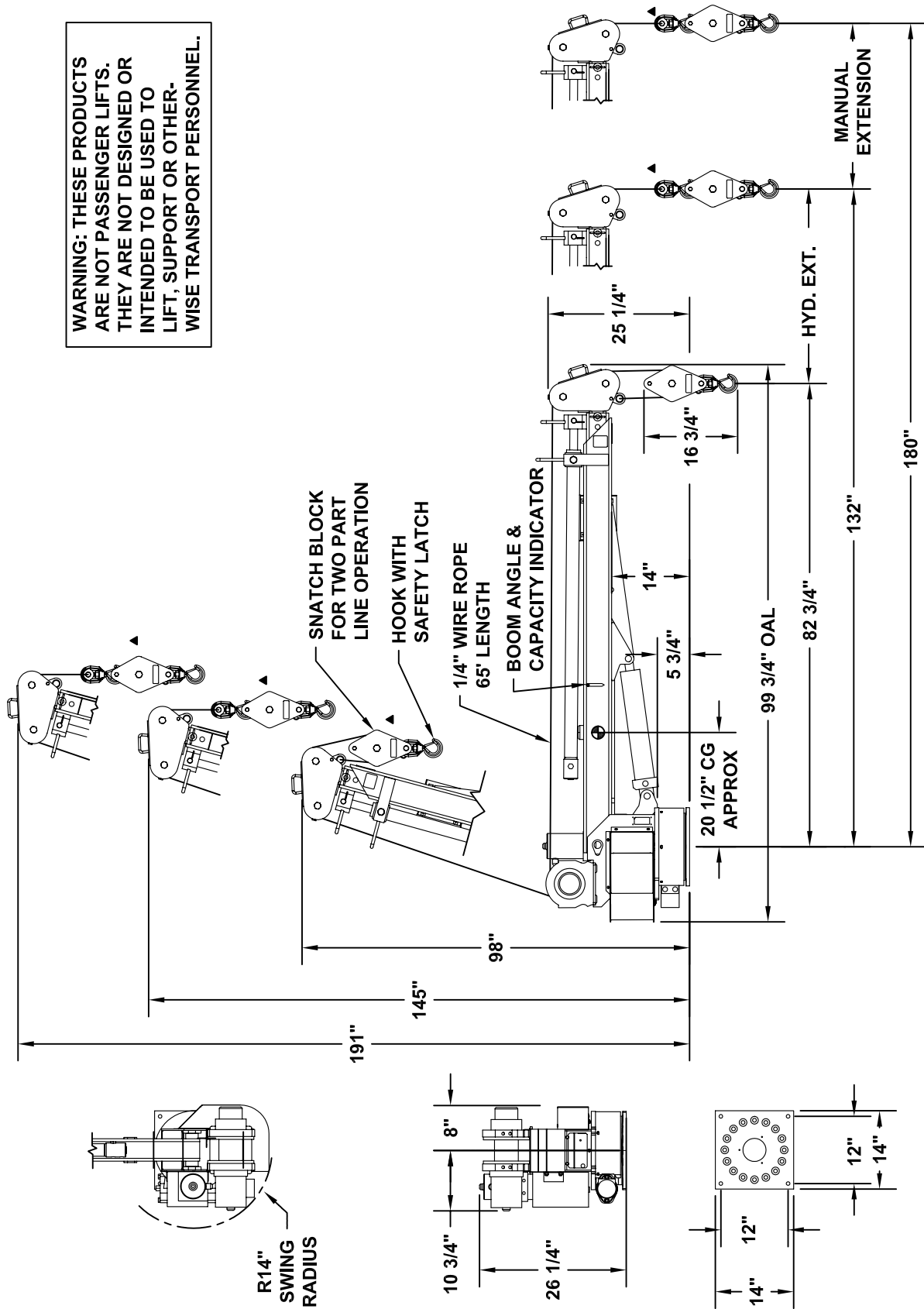
SECTION 100

DESCRIPTION

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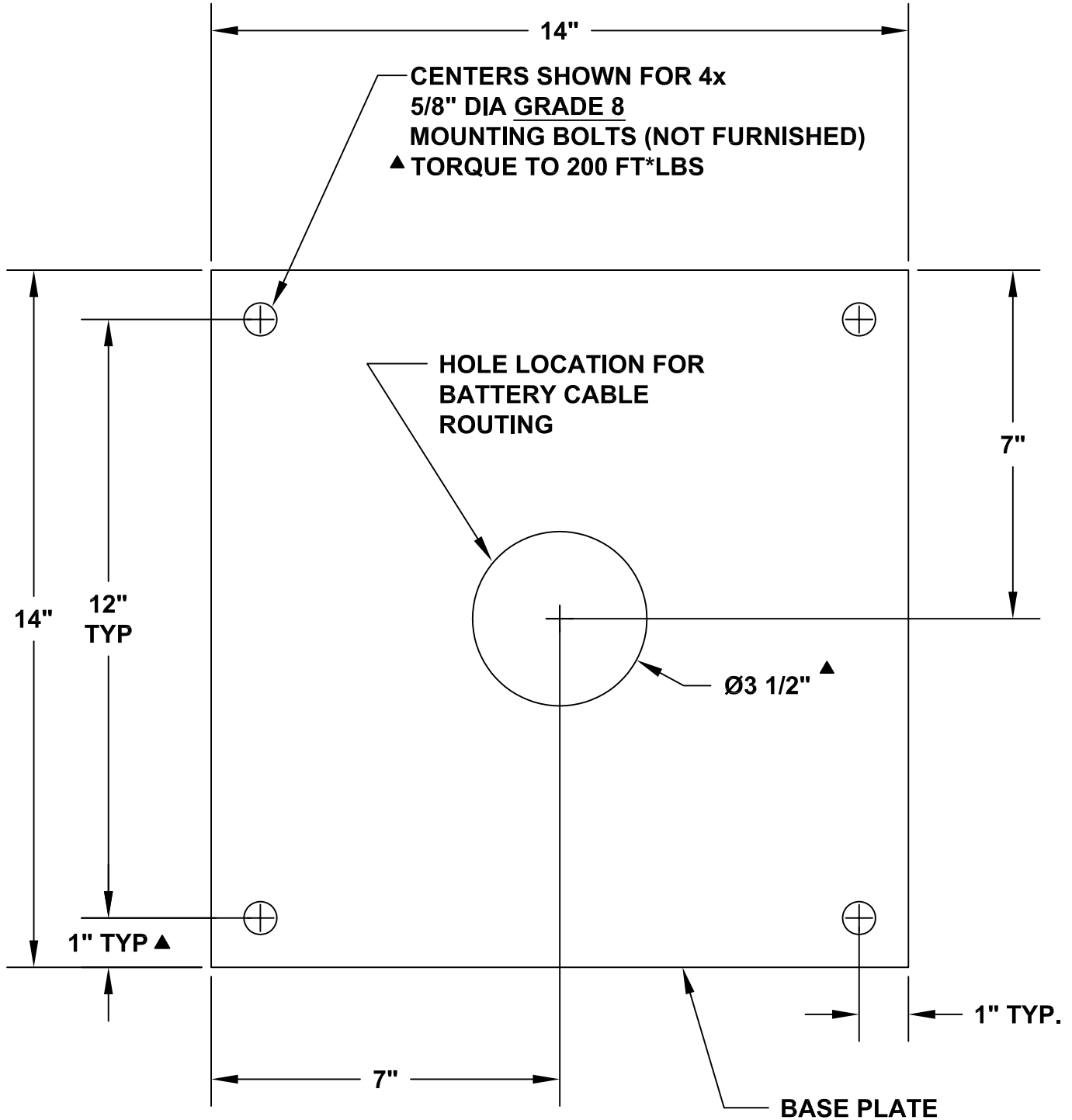
SPECIFICATIONS

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

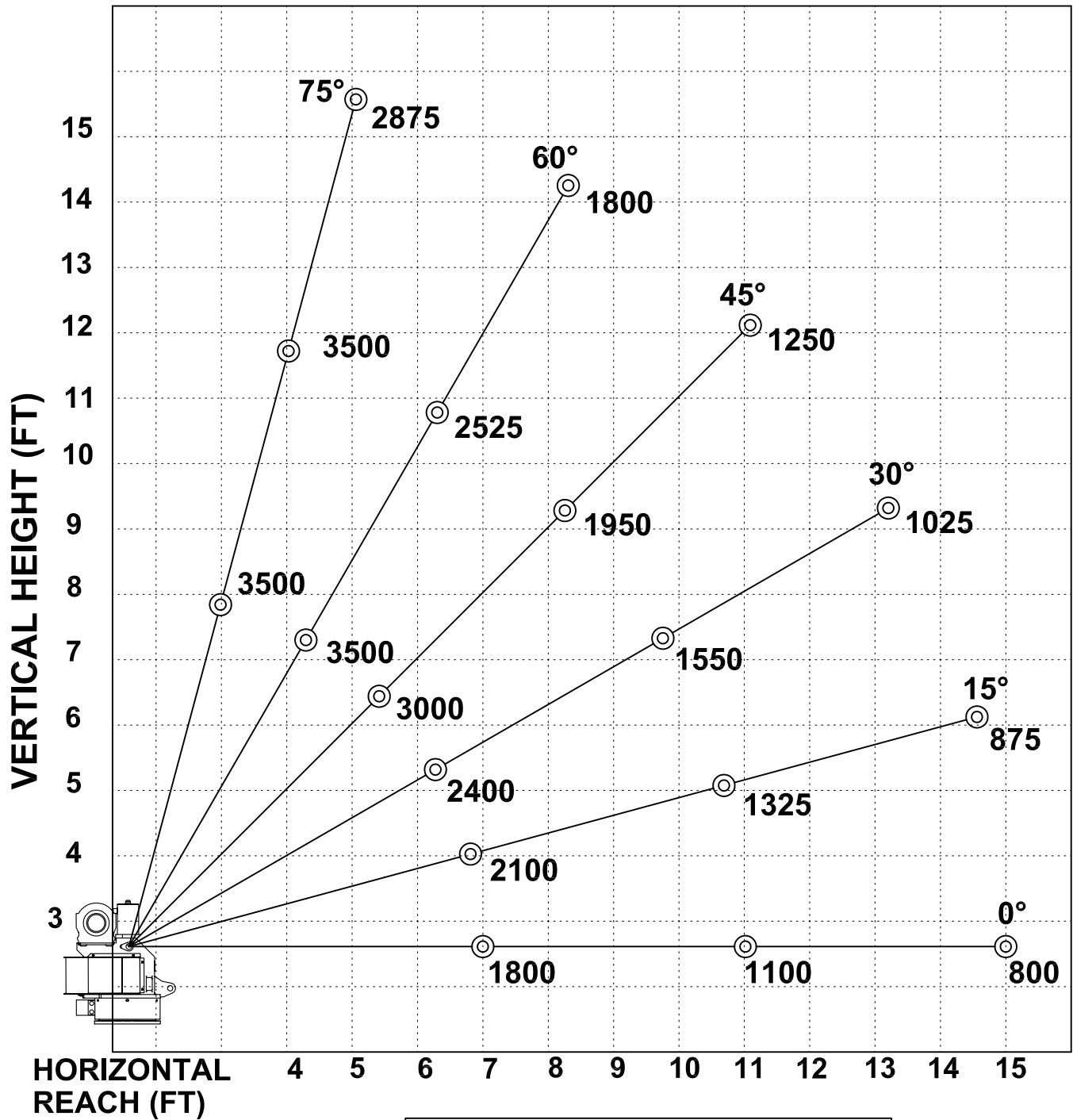


TITLE INSTALLATION DRAWING		DATE 7-6-10B	SECTION -
ET12K(X), W/ 7 - 15 FT BOOM		SUPERSEDES 4-25-08A	21591
VENTURO MANUFACTURING, INC. CINCINNATI, OHIO			

MOUNTING HOLE TEMPLATE

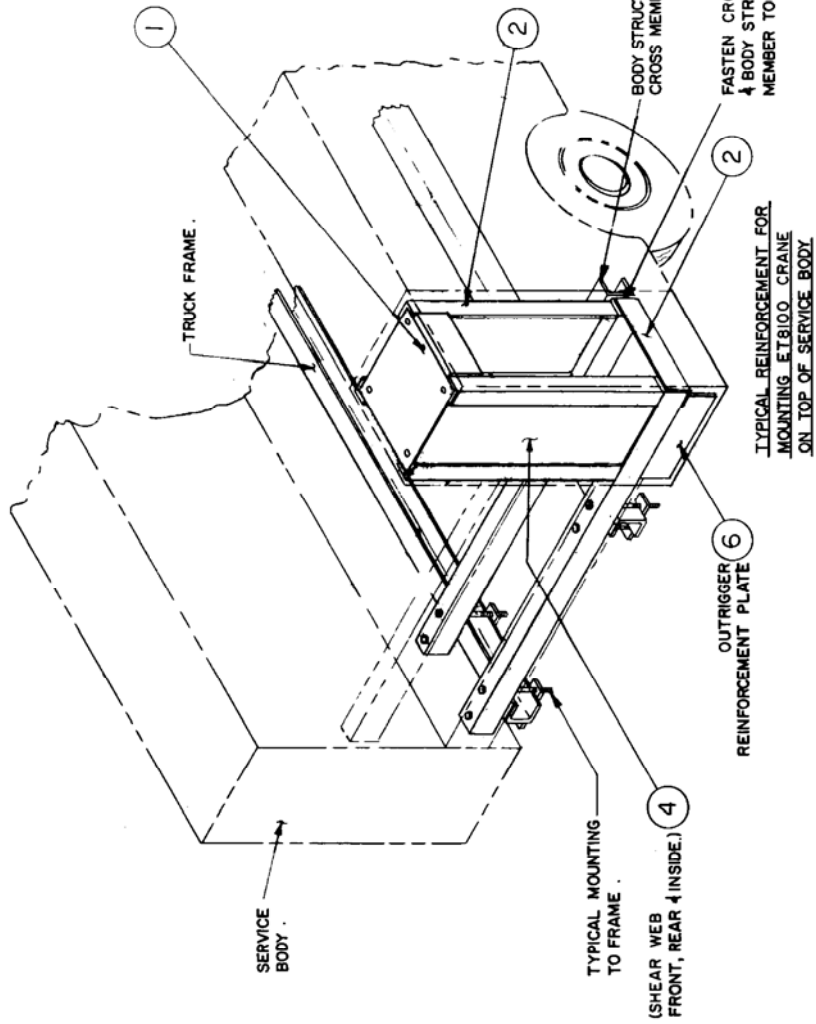


ET12K(X) MAXIMUM CAPACITY CHART




**MUST USE SNATCH BLOCK
FOR LOADS OF 1750 LBS.
AND GREATER**

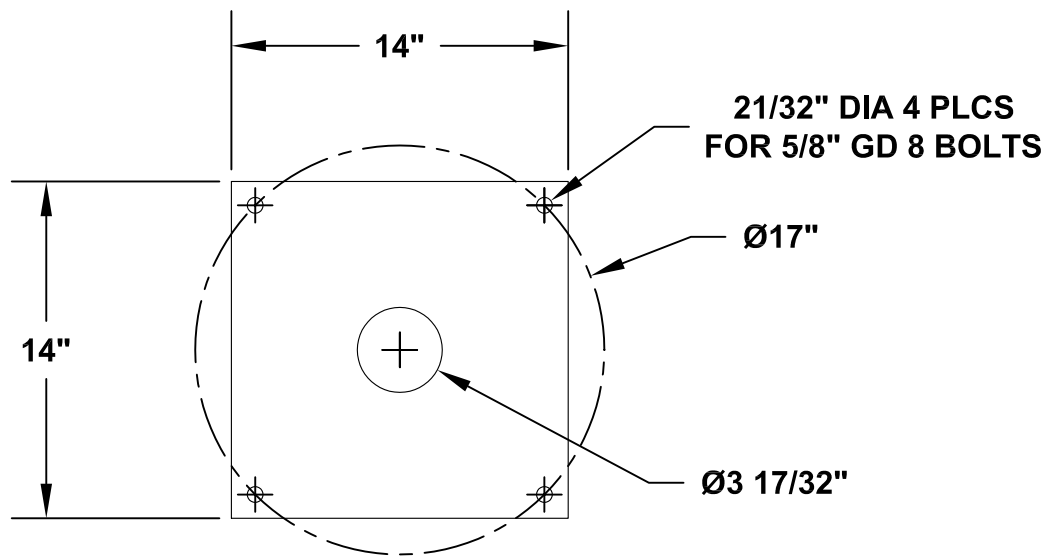
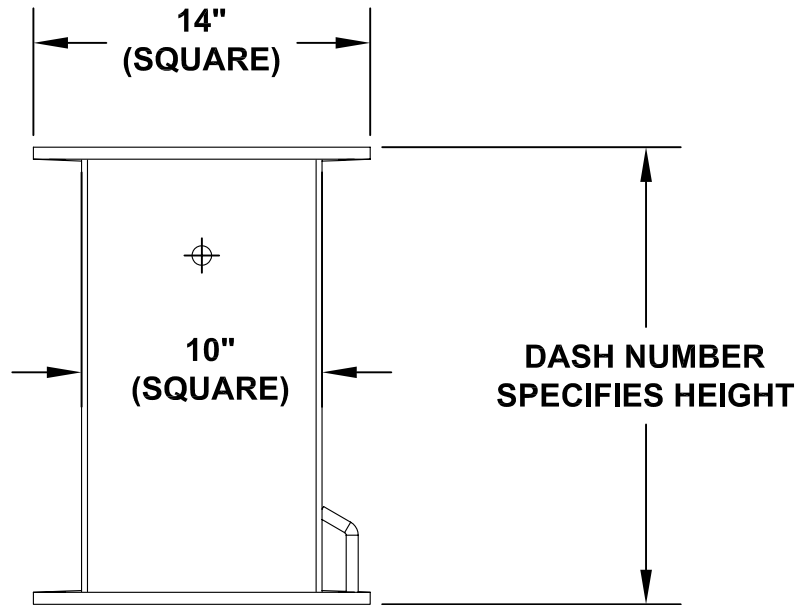
ITEM NO.	DESCRIPTION	MINIMUM RECOMMENDED MATERIAL SIZE
1	TOP PLATE	STEEL PLATE
2	CORNER POST	3" x 3" x 1/4" STEEL ANGLE
4	SHEAR WEB	12 Ga.
6	OUTRIGGER REINFORCEMENT PLATE	3/16" THICK STEEL PLATE
7	GUSSET	1/4" x 4" H.R. STEEL

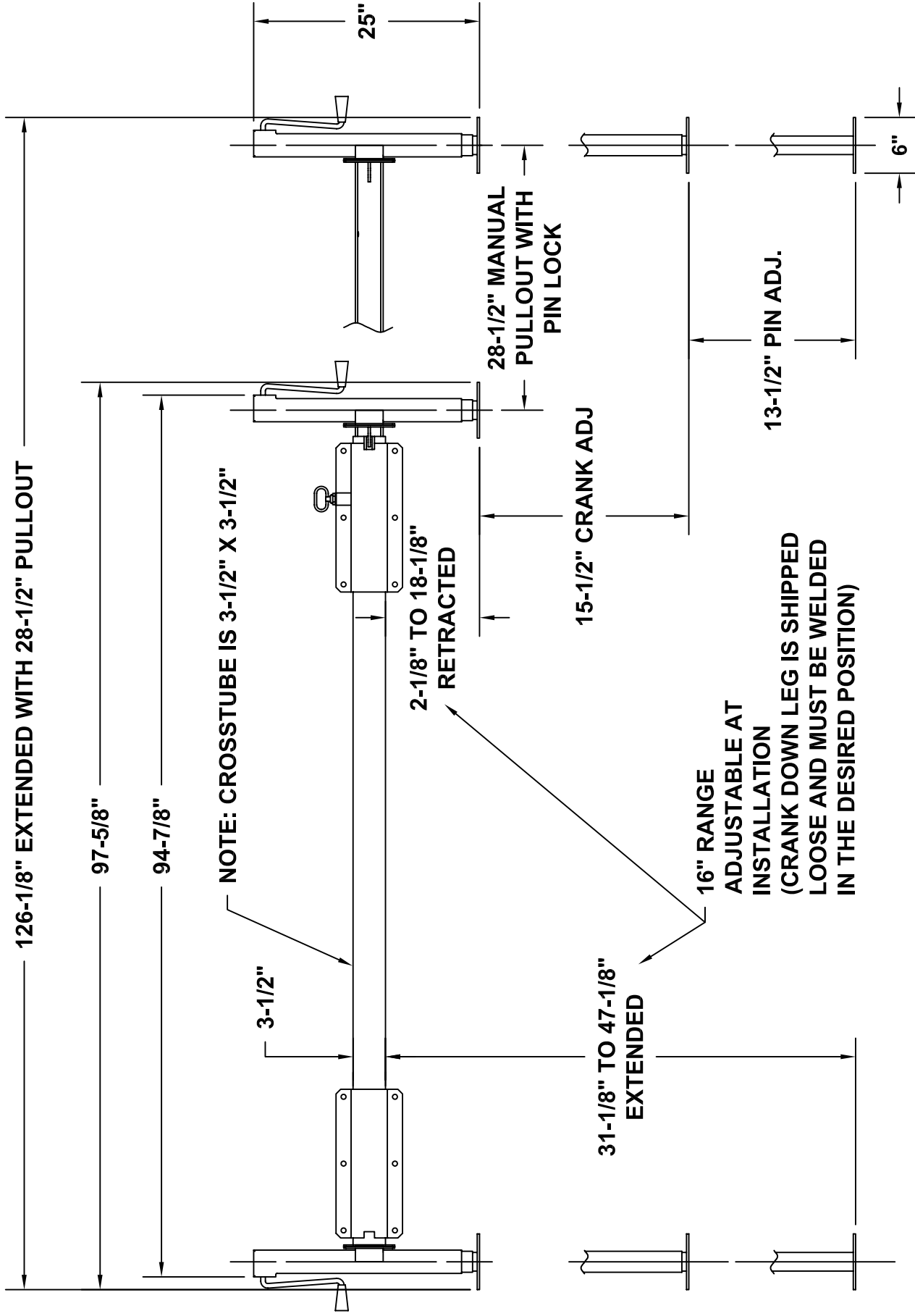



IT IS THE SOLE RESPONSIBILITY OF THE INSTALLER TO INSURE THAT THE TOTAL STRUCTURE OF CRANE, TRUCK, AND OUTRIGGERS ARE STRUCTURALLY SOUND AND THAT THE COMPLETED VEHICLE HAS SUFFICIENT STABILITY AGAINST OVERTURNING.

 VENTURO [®] MANUFACTURING, INC. CINCINNATI, OHIO	TITLE	DATE	SECTION
	INSTALLATION DRAWING ET8/12K(X)	7-27-06A 5-26-06	C100 16941

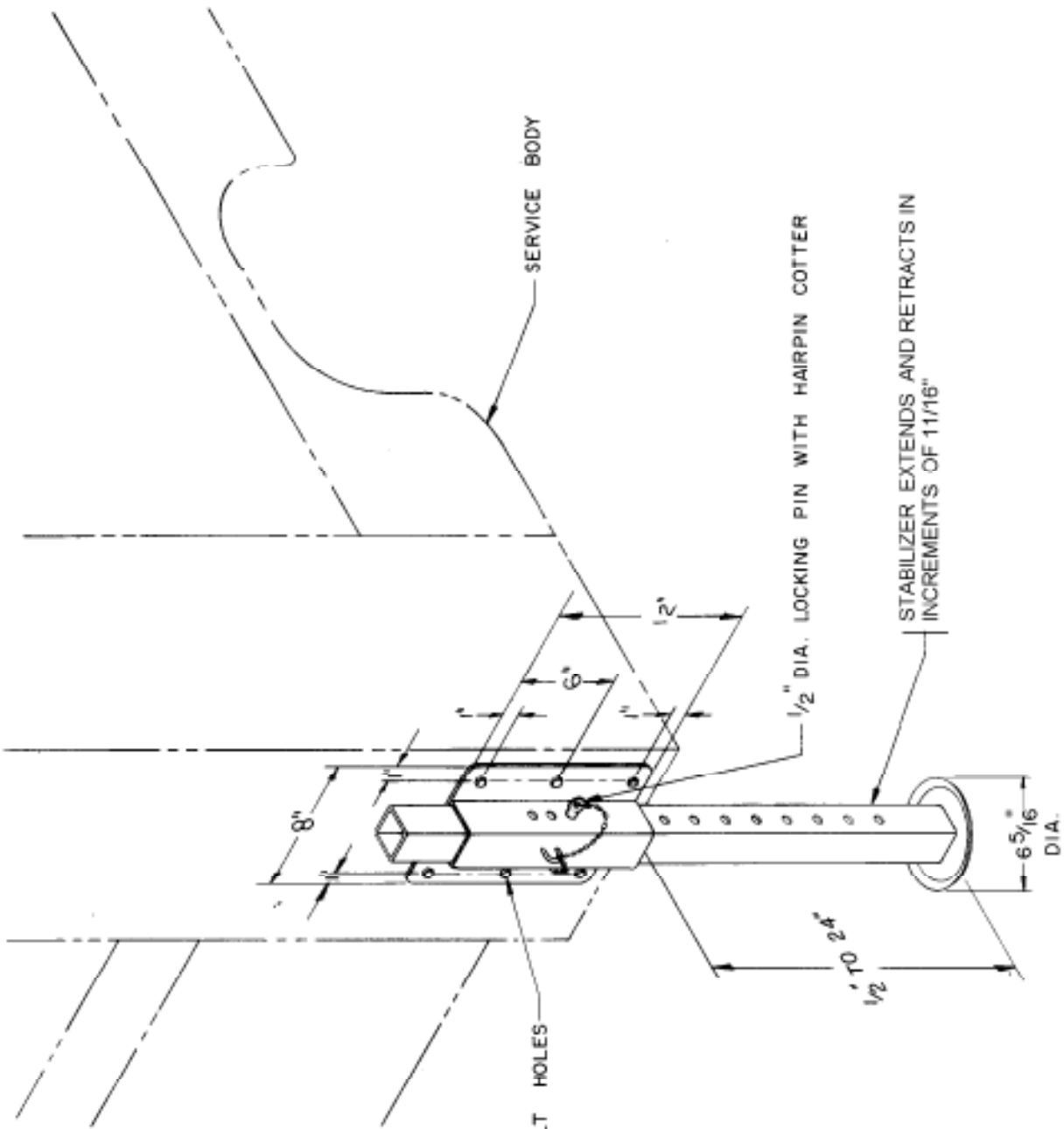
21571-XX MOUNTING PEDESTAL





 VENTURO MANUFACTURING, INC. CINCINNATI, OHIO	TITLE	INSTALLATION DRAWING	
		18500-CD OUTRIGGER	
	DATE	1-13-05A	SECTION
	SUPERSEDES	11-11-03	C100
			22686

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.

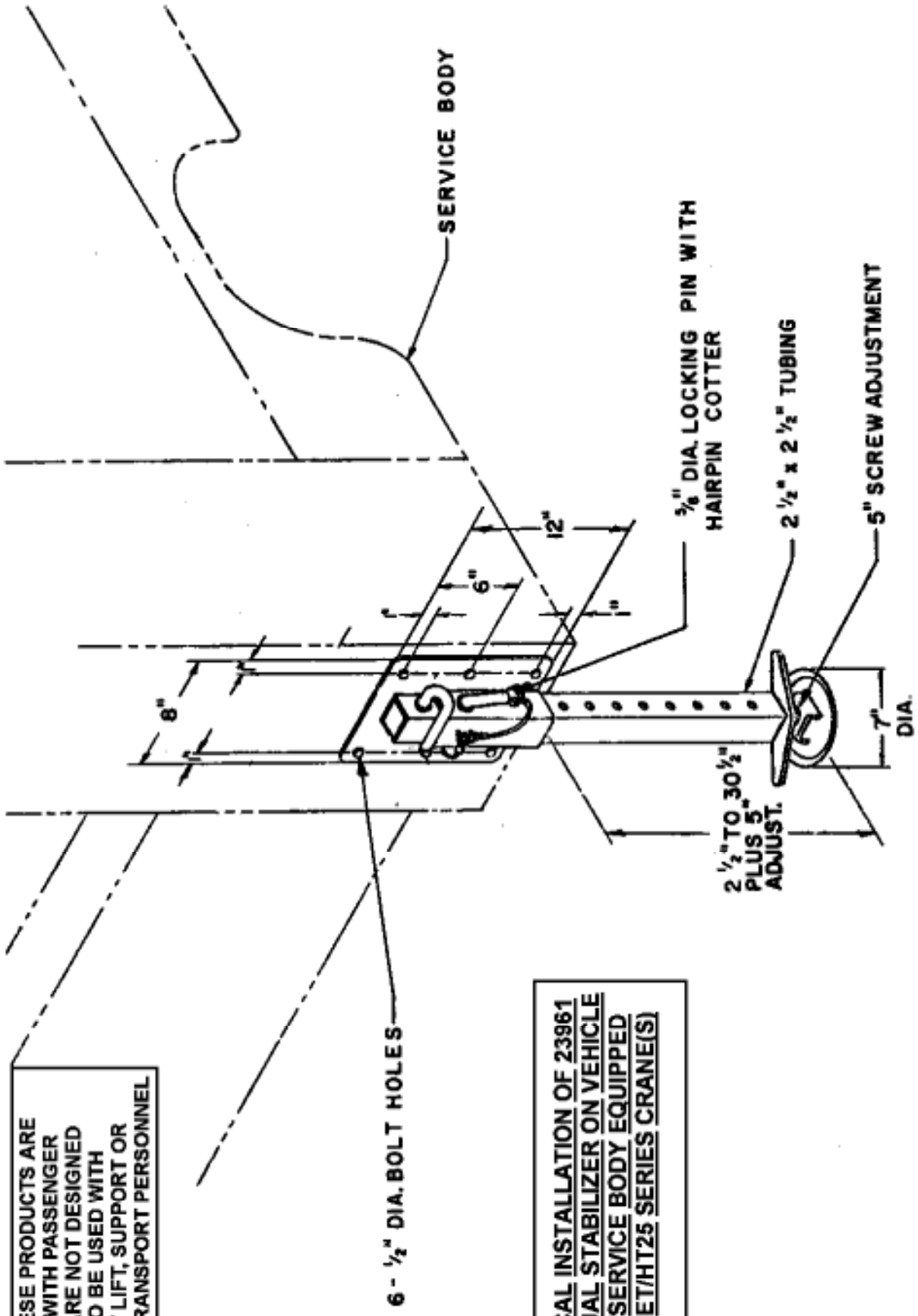


6 - 3/8" DIA. BOLT HOLES

TYPICAL INSTALLATION OF 13500 MANUAL STABILIZER ON VEHICLE WITH SERVICE BODY

VENTURO MANUFACTURING, INC. CINCINNATI, OHIO	TITLE INSTALLATION DRAWING		DATE 04-25-12D	SECTION C100
	ET8/12K(X)		SUPERSEDES 06-17-98C	13509

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



6 - 1/2" DIA. BOLT HOLES

TYPICAL INSTALLATION OF 23961 MANUAL STABILIZER ON VEHICLE WITH SERVICE BODY EQUIPPED WITH ET/HT25 SERIES CRANE(S)

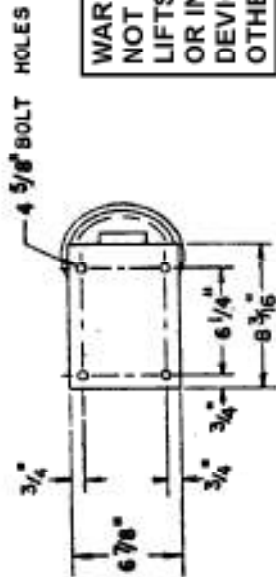


TITLE
INSTALLATION DRAWING
ET8/10/12/25K(X), HT25KX

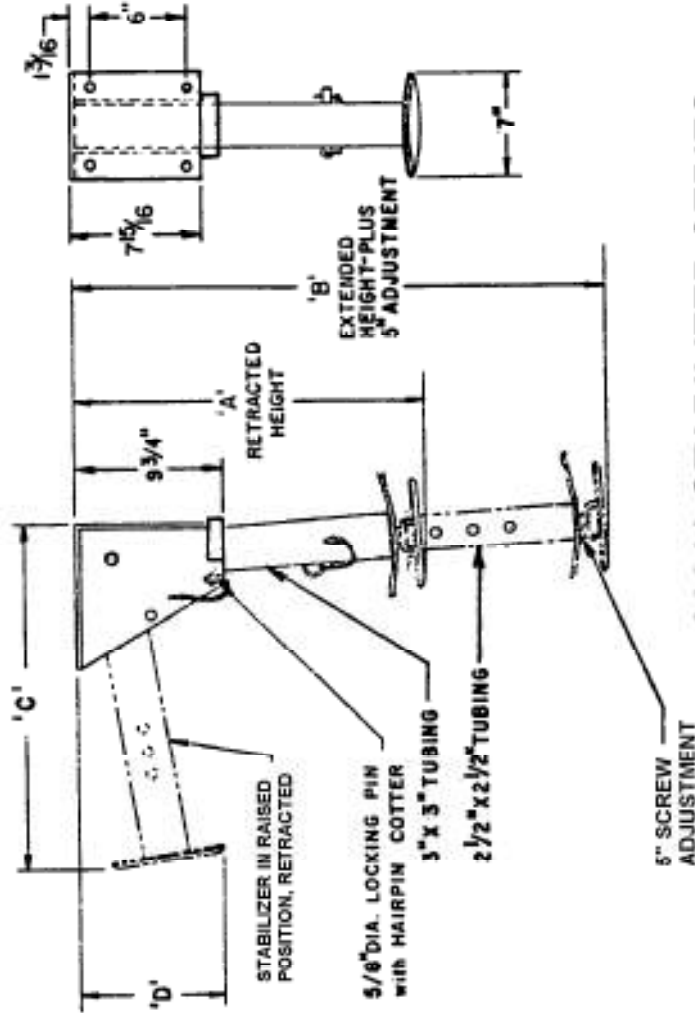
DATE 04-25-12G
SUPERSEDES 07-27-06F

SECTION C100
123961

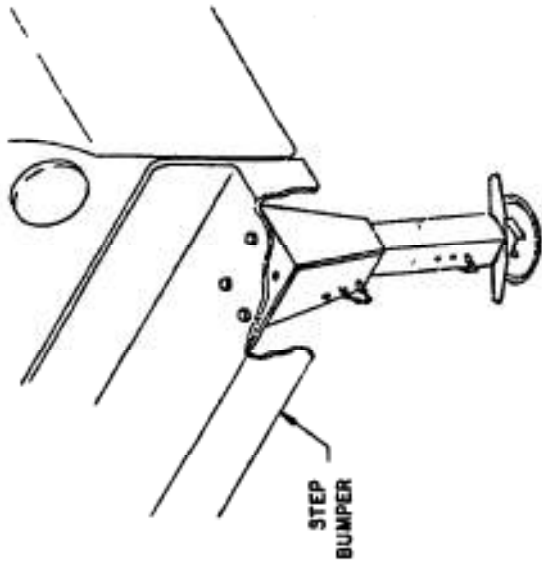
PART NO.	DESCRIPTION	'A'	'B'	'C'	'D'
23960-1	SHORT STABILIZER	20-1/2"	28-1/2"	21"	7-1/4"
23960-2	LONG STABILIZER	28-1/2"	44-1/2"	29"	10-1/2"



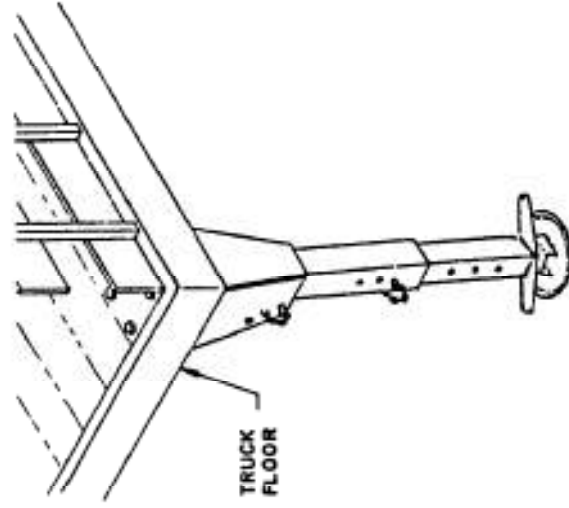
WARNING: THESE PRODUCTS ARE NOT FOR USE WITH PASSENGER LIFTS. THEY ARE NOT DESIGNED OR INTENDED TO BE USED WITH DEVICES THAT LIFT, SUPPORT OR OTHERWISE TRANSPORT PERSONNEL



**23960 STABILIZER SERIES
ET/HT25 SERIES CRANE(S)**



TYPICAL SHORT STABILIZER INSTALLATION



TYPICAL LONG STABILIZER INSTALLATION

SECTION 150

SAFETY

CRANE SAFETY AND HAZARDS

ET CRANES ▲

CAUTIONS

1. INSPECT VEHICLE AND CRANE, INCLUDING OPERATION, PRIOR TO USE DAILY.
2. DO NOT USE THIS EQUIPMENT EXCEPT ON SOLID, LEVEL SURFACE WITH CRANE MOUNTED ON FACTORY-RECOMMENDED TRUCK.
3. BEFORE OPERATING THE CRANE, REFER TO MAXIMUM LOAD (CAPACITY) CHART ON CRANE FOR OPERATING (LOAD) LIMITATIONS.
4. DO NOT OPERATE, WALK, OR STAND BENEATH BOOM OR A SUSPENDED LOAD.
5. ATTACH PENDANT CORD SUPPORT SNAP TO ATTACHMENT POINT BEFORE PLUGGING IN PENDANT, IF SO EQUIPPED. ▲
6. UNPLUG PENDANT AND SHUT OFF MASTER DISCONNECT SWITCH 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
4-18-08H

SECTION
C150

▲ **ELECTRIC CRANES**

SUPERCEDES
7-29-03G

850711

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

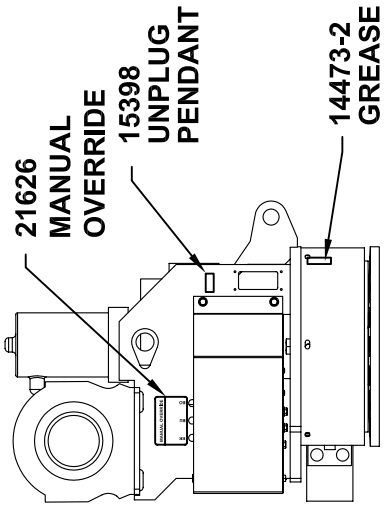
REQUIRED CLEARANCES FROM ENERGIZED HIGH-VOLTAGE CONDUCTORS (WHILE IN TRANSIT)

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

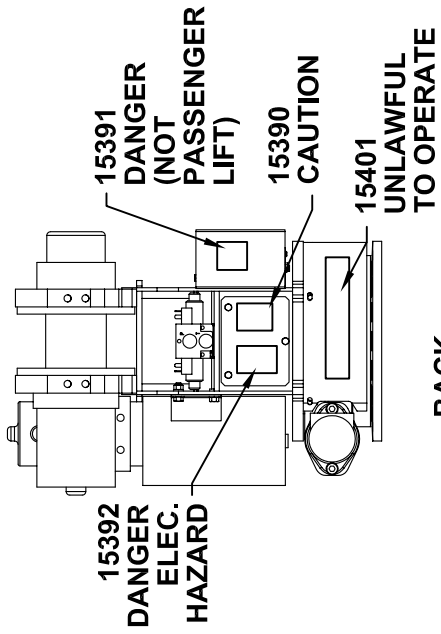
* NOTE: ENVIRONMENTAL CONDITIONS SUCH AS FOG, SMOKE, OR PRECIPITATION MAY REQUIRE INCREASED CLEARANCES



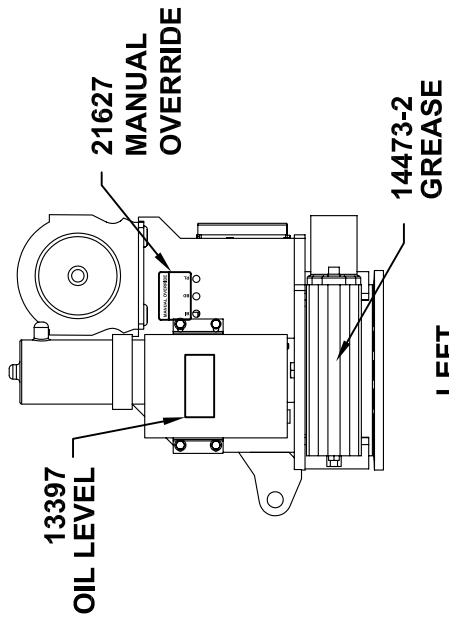
TITLE	DATE	SECTION
INSTALLATION DWG	5-15-02H	C150
ET & HT CRANE SERIES	SUPERCEDES 5-13-97G	15394



RIGHT



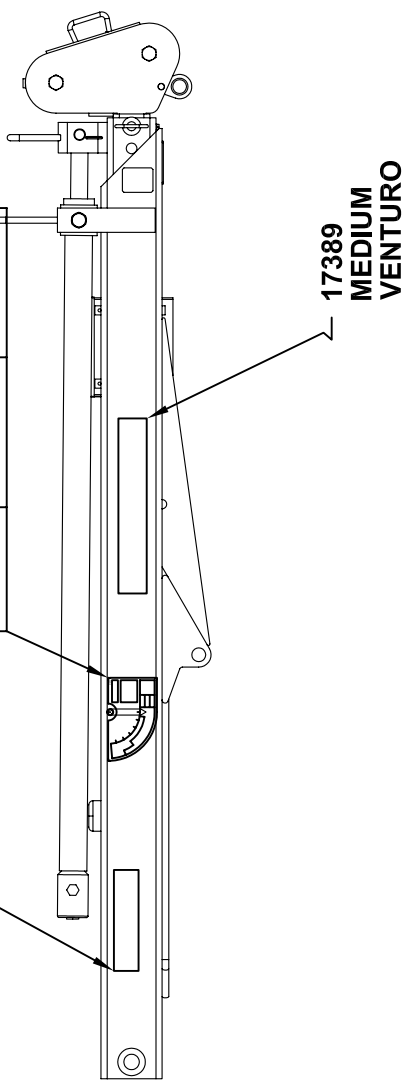
BACK



LEFT

CAPACITY		DECAL	MODEL	PART NO.
	RIGHT	ET12K(X)		21576
	LEFT	ET12K(X)		21577

MODEL NO.
21579 - ET12K
21578 - ET12KX



BOOM



MANUFACTURING, INC.
CINCINNATI, OHIO

TITLE
DECAL PLACEMENT

ET12K(X)

DATE
3-10-06

SUPERSEDES
-

SECTION
C150

21580

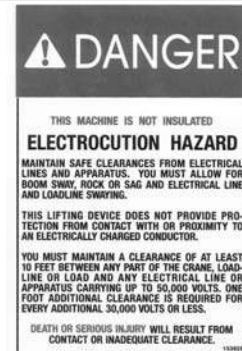
PART NO.: 15390
DECAL: CAUTION - INSPECT VEHICLE & CRANE
FUNCTION: To inform the operator of key operating requirements.
QUANTITY: 1
PLACEMENT: Rear cover.



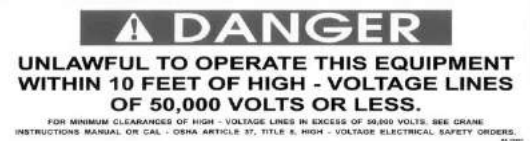
PART NO.: 15391
DECAL: DANGER - NOT PASSENGER LIFT
FUNCTION: To inform the operator not to lift, support or transport personnel, and to ensure that crane operator is adequately trained.
QUANTITY: 1
PLACEMENT: Rear cover.



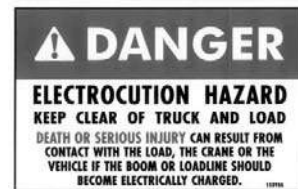
PART NO.: 15392
DECAL: DANGER - ELECTROCUTION HAZARD
FUNCTION: To inform the operator that the machine (crane) represents an electrocution hazard should it come close to or in contact with electrical voltage source.
QUANTITY: 1
PLACEMENT: Rear cover.



PART NO.: 15401
DECAL: UNLAWFUL TO OPERATE
FUNCTION: To inform the operator of proper operation in vicinity of power lines.
QUANTITY: 1
PLACEMENT: Right side of housing.



PART NO.: 15393A
DECAL: DANGER - ELECTROCUTION HAZARD
FUNCTION: Warns of danger from electrically charged vehicle, crane or lead.
QUANTITY: 4
PLACEMENT: One on each side and each end of vehicle.



MFG., INC.
 CINCINNATI, OHIO

TITLE
SAFETY DECALS

DATE
8-10-09B SECTION
C150

CRANES

SUPERSEDES
5-6-08A **21353**

PART NO.: 14473-2

DECAL: GREASE

FUNCTION: To show the operator where to apply grease.

QUANTITY: Varies

PLACEMENT: Near grease fittings.



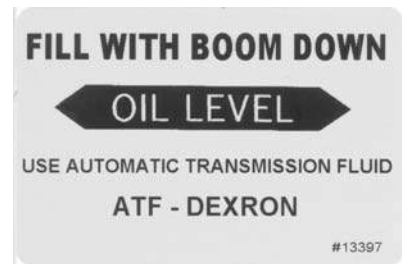
PART NO.: 13397

DECAL: OIL LEVEL

FUNCTION: To inform the operator of proper oil level to maintain.

QUANTITY: 1

PLACEMENT: Side of hydraulic power unit.



PART NO.: 15398

DECAL: UNPLUG REMOTE CONTROL

FUNCTION: To inform the operator to unplug remote control when not in use.

QUANTITY: 1

PLACEMENT: Near pendant socket.



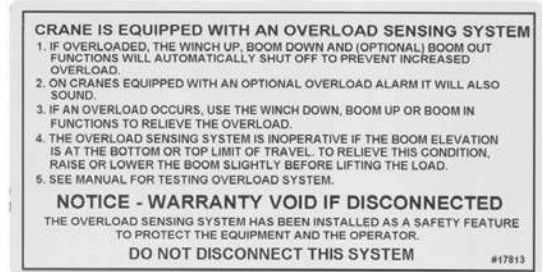
PART NO.: 17813

DECAL: OVERLOAD SENSING SYSTEM

FUNCTION: To advise the operator of the operation of the overload system.

QUANTITY: 1

PLACEMENT: Right side of housing.



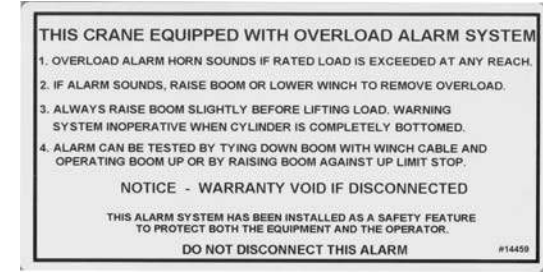
PART NO.: 14459

DECAL: OVERLOAD ALARM SYSTEM

FUNCTION: To advise the operator of the overload alarm system.

QUANTITY: 1

PLACEMENT: Rear of housing.



PART NO.: 19731-2

DECAL: SNATCH BLOCK CAPACITY DECAL

FUNCTION: To show the capacity of snatch block.

QUANTITY: 2

PLACEMENT: Each side of snatch block.



TITLE	DATE	SECTION
MISC. DECALS	5-8-08C	C150
ET6KR - ET8K(X) - ET12K(X)	SUPERSEDES 6-8-07B	21362

PART NO.: 21576 & 21577 (OPPOSITE)

DECAL: CRANE CAPACITY

FUNCTION: To show the operator the operating capacities of crane.

QUANTITY: 1 each

PLACEMENT: One on each side of boom.

PART NO.: 21579

DECAL: MODEL NUMBER (ET12K)

FUNCTION: To show the model of the crane.

QUANTITY: 2

PLACEMENT: One on each side of boom.

PART NO.: 21578

DECAL: MODEL NUMBER (ET12KX)

FUNCTION: To show the model of the crane.

QUANTITY: 2

PLACEMENT: One on each side of boom.

PART NO.: 21626

DECAL: MANUAL OVERRIDE RIGHT (ET12KX)

FUNCTION: To show the manual override ports.

QUANTITY: 1

PLACEMENT: Right side of housing.

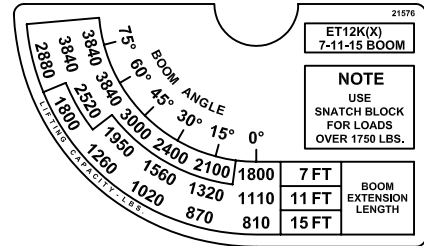
PART NO.: 21627

DECAL: MANUAL OVERRIDE LEFT (ET12KX)

FUNCTION: To show the manual override ports.

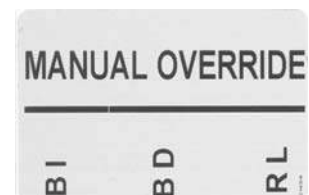
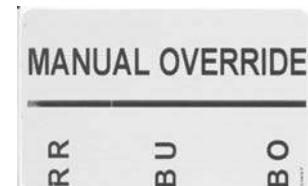
QUANTITY: 1

PLACEMENT: Left side of housing.



ET12K

ET12KX



MFG., INC.
CINCINNATI, OHIO

TITLE
MODEL & CAPACITY DECALS

DATE
5-7-08A

SECTION
C150

ET12K(X)

SUPERSEDES
2-9-06

21595

SECTION 200

INSTALLATION



IMPORTANT

ADEQUATE WIRING IMPERATIVE FOR PROPER OPERATION

1. PROPER GROUND PATH - SEE DWG 15660

2. CURRENT DRAW IS SEVERAL HUNDRED AMPERES -
ADEQUATE WIRE SIZE AND BATTERY CAPACITY IS ABSOLUTELY
ESSENTIAL (SEE CHART BELOW.)

MINIMUM WIRE GAUGE AND BATTERY SIZE

MODEL	TOTAL LENGTH OF CABLE (FT)*								12 VOLT BATTERY REQUIREMENTS	
	0-20	21-25	26-30	31-40	41-50	51-60	61-70	71-80	CCA (A)**	RC (MIN)***
CE6K CT2000 CT2003/4/5 DT7K	#4	#4	#2	#2	#1	#0	#0	#00	350	100
ET5500MPB ET5500R ET6KMPB ET6KR ET8K ▲ ET10K ET12K ▲	#2	#2	#1	#0	#00	NOTRECOMMENDED		450	100	
ET8KX ▲ ET10KX ET12KX ▲	#2	#2	#1	#0	#00	NOTRECOMMENDED		550	150	
ET25K ET25KX	SEE DRAWING I24600 FOR CABLE AND BATTERY REQUIREMENTS									

* INCLUDES GROUND CABLE

** CCA=COLD CRANKING AMPS AT 0' F.
THE CCA RATING IS A MEASURE OF THE ABILITY OF THE BATTERY TO DELIVER A HIGH CURRENT FOR A SHORT PERIOD OF TIME.

*** RC=RESERVE CAPACITY IN MINUTES AT 25 AMPS AND 80' F.
THE RC RATING IS A MEASURE OF THE PERIOD OF TIME THE BATTERY CAN SUPPLY A GIVEN CURRENT WITHOUT RECHARGING.



MFG., INC.
CINCINNATI, OHIO

TITLE
CABLE & BATTERY

CE, CT, DT, & ET

DATE
8-2-06S

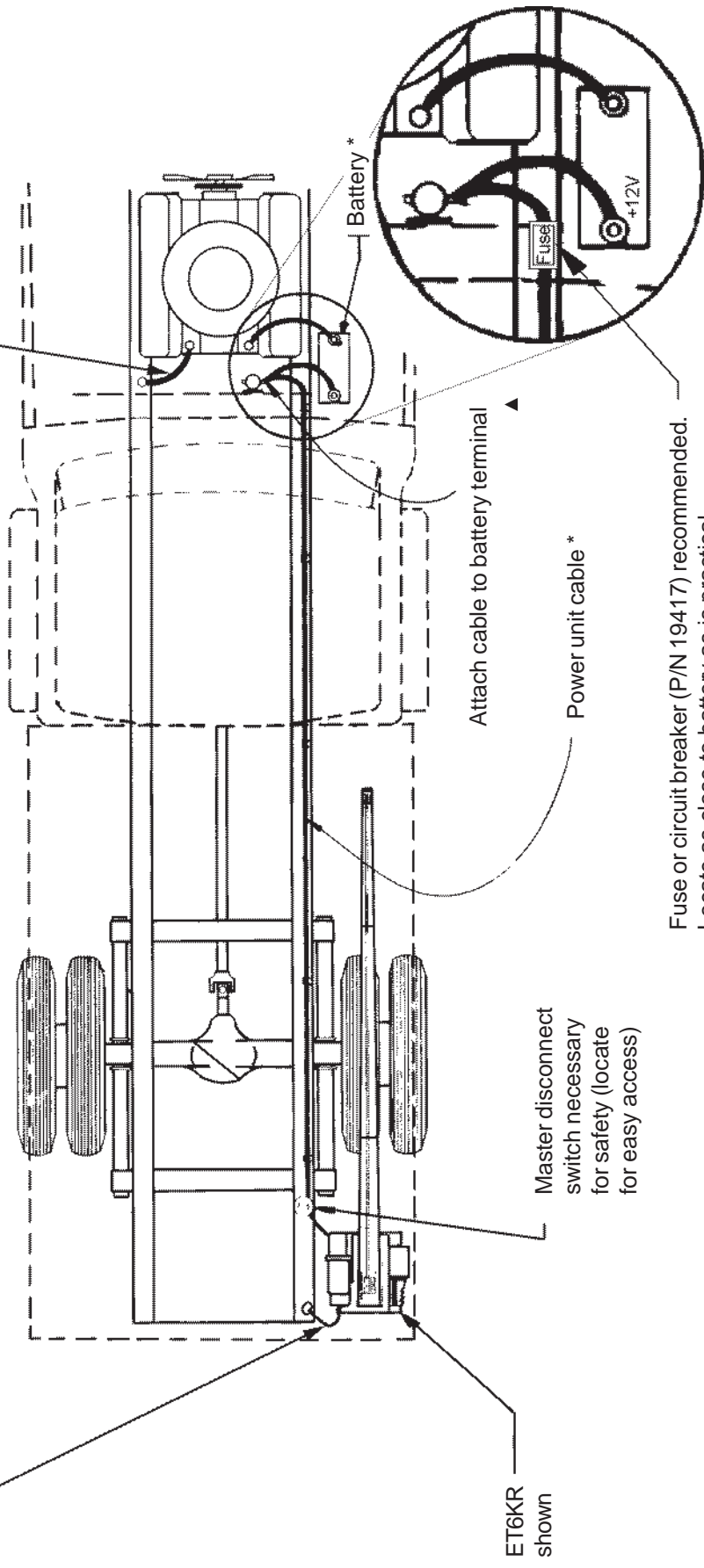
SUPERCEDES
8-10-00R

SECTION
C200

711105

Important: The crane must make connection with the negative of the battery. To insure this, install a #2 gauge grounding strap from the engine to the truck frame (required if negative from battery is connected to the engine.) Also, install a #2 gauge grounding strap from the crane base to the truck frame, included with electric cranes.

Failure to accomplish the above mentioned steps may result in intermittent operation of electric crane.



Fuse or circuit breaker (P/N 19417) recommended. Locate as close to battery as is practical.

* Note: See Dwg 19959 for recommended battery and cable specifications

VENTURO MANUFACTURING, INC. CINCINNATI, OHIO	TITLE INSTALLATION - BATTERY CABLE		DATE 4-18-08G <small>SUPERCEDES</small> 8-2-06F	SECTION C200
	WINCH & CRANE		15660	

STABILITY TESTING - ET12K(X)

Overview

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

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

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

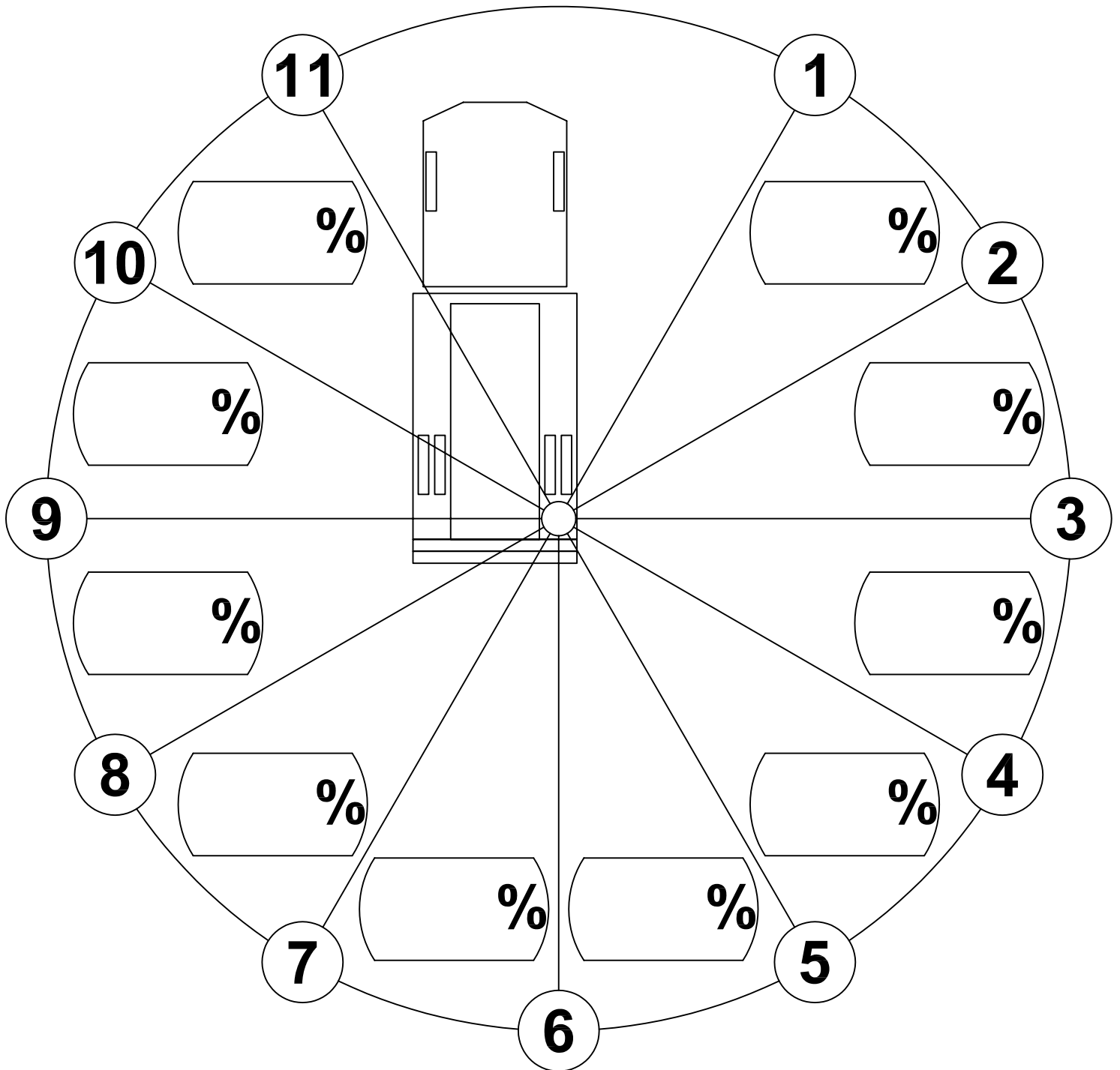
Testing Procedure

1. Locate the truck on level ground and set the parking brake.
2. Deploy outriggers, making sure they are firmly in contact with supportive ground; use outrigger pads as required. The tires of the truck should remain in full contact with the ground.
3. Inspect the wire rope and other key components of crane (consult owners manual for more information).
4. Conduct an operational check of all crane functions.
5. Use a test weight of 920 lbs in conjunction with the ET12K(X)'s snatch block (weight = 23 lb).
6. Do NOT allow the weight to be more than 6 inches from the ground at any time during testing - this insures that if the truck does become unstable and tip, it will not tip far.
7. Rotate the crane to a position between 1 and 2 o'clock (the truck cab is facing 12 o'clock).
8. Be sure that the boom is horizontal (0° elevation) with the hydraulic section fully retracted and the manual section fully extended; the boom should begin at a length of 11 feet. Note: On the ET12K, testing will be more difficult, because it will require an iterative ("trial and error") approach; please call technical support for more information.
9. Use the winch to lift the test weight, keeping it within 6 inches of the ground.
10. Extend the boom slowly until the boom reaches full extension (180 inches) or until the truck becomes unstable. As you extend, use the winch to keep the weight within 6 inches of the ground.
 - a. If the boom reaches full extension, the % of Rated Capacity is 100% for the tested region.
 - b. If, however, the truck becomes unstable (both tires leave the ground) prior to full extension, record (in inches) the horizontal distance from the center of rotation to the wire rope at this point (e.g. 160 inches). This is the Maximum Stable Reach. Determine the % of Rated Capacity using the following formula:

$$\% \text{ Rated Capacity} = \frac{\text{"Max. Stable Reach" in inches}}{180} \times 100$$
11. Record the % of Rated Capacity in the appropriate blank on the Crane Stability chart and/or decal.
12. Repeat Steps 7-11 for each of the remaining regions (2-3 o'clock, 3-4 o'clock, etc.).

TITLE	DATE	SECTION
STABILITY TEST	12-12-11B	C200
ET12KX	SUPERSEDES 8-15-11A	20906-12

Crane Stability



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

CRANE OPERATION AND MAINTENANCE INSTRUCTIONS

▲ ET8K(X), ET10KX, ET12K(X)

SAFETY

Before operating this crane, read and understand these instructions, the 850711 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 diagrams on the 891014 Capacity Information Sheet as well as 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 1600 lbs. for the ET8K(X) and ET10K(X) or 1750 lbs. for the ET12K(X) or if reduced winching speed for better control of smaller loads is required, use the snatch block to rig the crane for two part line operation. Refer to drawing 21701, 17450 or 21575 for this. ▲

CONTROLS

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

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

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

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

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

Check all control functions to see that they are working correctly.



TITLE
INSTALLATION DWG

DATE
8-2-06E

SECTION
C200

▲
ET8/10/12K(X)

SUPERCEDES
7-27-06D

900530a

CONTROL FUNCTIONS

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

POWER ELEVATION - "Up" raises the boom elevation by operating the valves and the electric hydraulic power unit. "Down" operates a solenoid release valve mounted on the cylinder to lower the load and/or boom by gravity at a controlled rate. A check valve on the cylinder prevents the boom from coming down if a hose breaks. A flow control valve controls lowering rate.

POWER EXTENSION - "Out" and "In" extend and retract boom 4 ft. under power. A pilot operated check valve on the boom prevents the boom retracting without hydraulic power or if a hose should break. A flow control valve controls retract rate under load.

POWER ROTATION - "L" & "R" control direction of rotation. The [▲]ET8KX, ET10KX or ET12KX can be rotated continuously thru 360 degrees or more. There are no internal restrictions on the number of rotations in any direction.

CONTROL PRIORITY SYSTEM - As a built in safety feature, the operator can perform only one major and one minor function at any one time. Major functions are rotation, winching up of a load, and elevating, extending and retracting the boom. Minor functions are winching down, and lowering the boom.

- a. "Winch Up" has priority over "Boom Up", "Boom Out & In", and "Rotation"
- b. "Boom Up" has priority over "Boom Out & In", and "Rotation".
- c. "Boom Out & In" have priority over "Rotation".
- d. "Boom Down" and "Winch Down" can be operated with any function.

CRANE OPERATION

Avoid rapid reversal of the Winch and Rotation Control Switches. The high inrush current to the motors during reversal can reduce the life of the contactors and the motor brushes and commutators.

When operating "Winch Up", "Boom Down" or "Boom Out" always maintain clearance between the boom head and the snatch block or hook.

Do not lift or drag a load sideways using any of the crane functions. The boom has much lower bending strength sideways than in the vertical direction.



TITLE
INSTALLATION DWG

DATE
5-27-06D

SECTION
C200

[▲]
ET8/10/12K(X)

SUPERCEDES
5-26-06C

900530b

OVERLOAD ALARM SYSTEMS (OPTIONAL)

This crane may be equipped with an optional overload alarm system.

1. Overload alarm horn sounds if rated load is exceeded at any reach.
2. If alarm sounds, RAISE Boom or LOWER Winch to remove overload.
3. Always RAISE Boom slightly before lifting load - Warning system INOPERATIVE when cylinder is completely bottomed.
4. Alarm can be tested by raising Boom against UP limit stop.

MANUAL TELESCOPIC BOOM

The 6' to 14' and the 7' to 15' boom have a 4' manual telescoping section in addition to the 4' power extension. A toggle pin locks the boom 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" or a low gear unless the engine is to be left running.
4. Deploy the outriggers to help stabilize the vehicle against rocking or overturning when lifting with the crane.

PREPARATION FOR TRAVEL

1. Return the outriggers to the stowed position. Install and secure all pins.
2. Stow the crane boom in the boom support.
3. Hook the winch line to a tie down point on the body or pedestal and apply tension.
4. TURN OFF THE MASTER DISCONNECT SWITCH.
5. Unplug the control pendant and store in a body compartment or the cab.



WARNING

- The pendant (or receiver) plug must be unplugged from the crane socket and the Master Disconnect (power) switch must be turned "off" when the crane is not in use! Leaving the pendant (or receiver) connected and the power on when not in use may result in dangerous, unintentional activation of the crane functions."



MFG., INC.
CINCINNATI, OHIO

TITLE
INSTALLATION DWG

ET8/10/12K(X)

DATE
5-27-06D

SUPERCEDES
5-26-06C

SECTION
C200

900530c

WIRE ROPE INSTALLATION

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

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

STEP 3: INSERT WIRE ROPE END INTO POCKET OPENING ON WINCH AND THROUGH WEDGE POCKET AS SHOWN IN (FIG 1).

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

CAUTION: THERE MUST ALWAYS BE AT LEAST (3) TURNS OF WIRE ROPE ON THE WINCH DRUM WHILE UNDER LOAD.

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

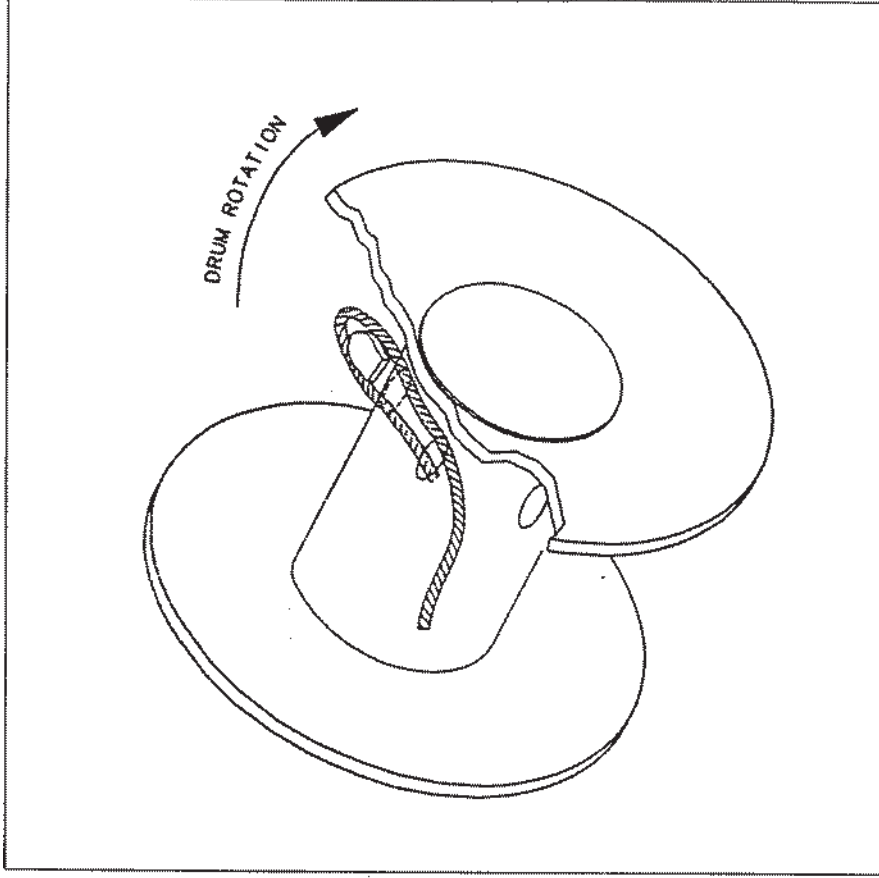
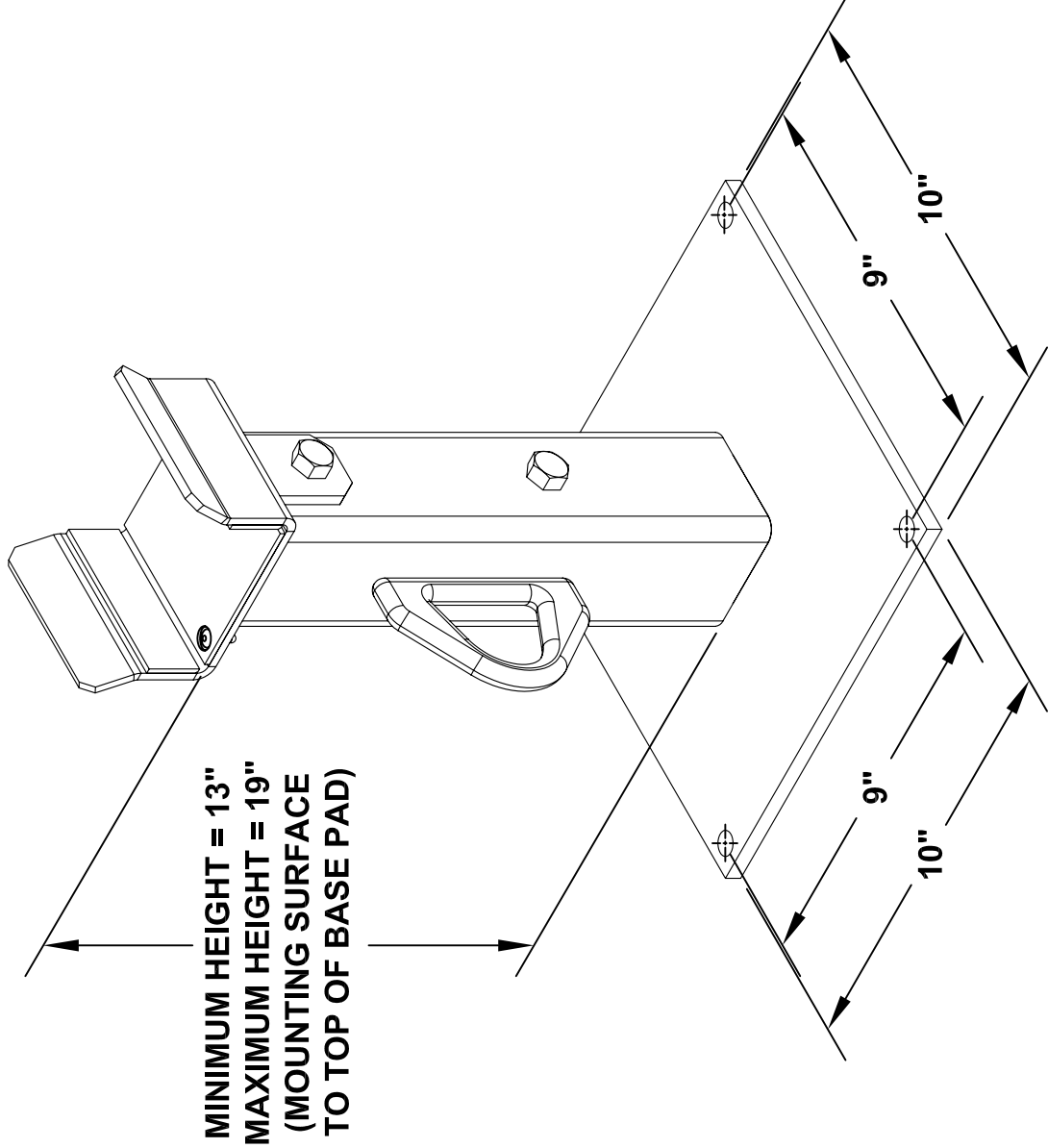


FIG 1

21440 ADJUSTABLE BOOM REST



TITLE
INSTALLATION DRAWING
ET8K(X), ET12K(X)

DATE
3-6-07
SUPERSEDES
-

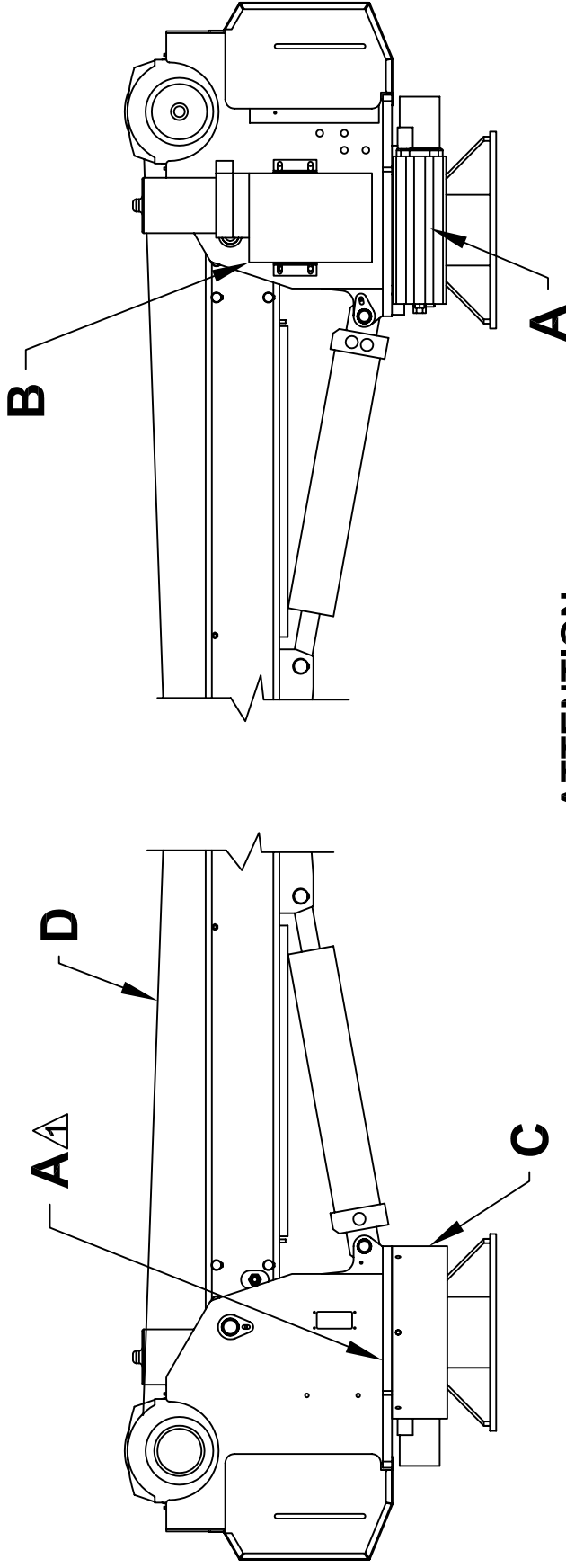
SECTION
-
20872

SECTION 300

MAINTENANCE

&


SERVICE



ATTENTION

NEVER WASH THIS CRANE WITH CHEMICAL PRODUCTS OR HIGH PRESSURE WATER JETS, AS THEY CAN CAUSE DETACHMENT OF STICKERS OR ENTRANCE OF WATER INTO ELECTRICAL OR SLEWING RING COMPONENTS

Location	Service Required	Note	Service Interval
A	Grease fitting With Pressure Grease Gun	Use Lithium Based Grease ▲ To align hole w/ fitting, line up grease decals on lower cover and base gusset.	Time of Truck Service
B	Fill Oil Reservoir to Oil Level with Boom Down and Boom In. ▲	Use Dextron ATF for Ambient Temperatures Between -22° F and 30° F Use ISO Viscosity Grade 68 or Equivalent for Ambient Temperatures Between 10°F and 125°F	Time of Truck Service and as required by changes in the ambient temperature range
C	Lubricate Gear Teeth	Remove Cover & Use Chassis Grease	Time of Truck Service
D	Check Wire Rope and Hook	Rope should be free of kinks and fraying	Time of Truck Service

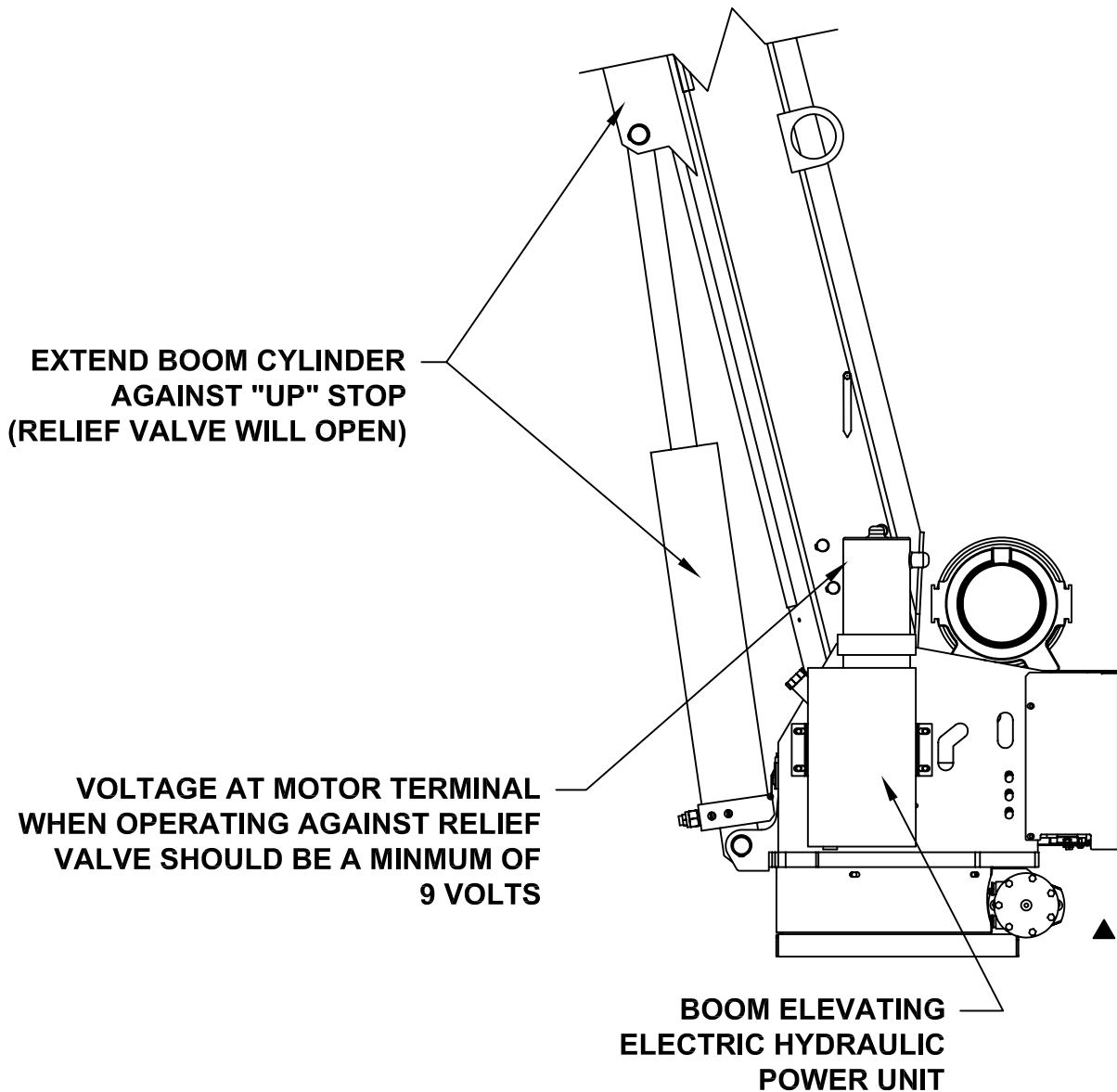
 MANUFACTURING, INC. CINCINNATI, OHIO	TITLE LUBRICATION & MAINTENANCE CHART	DATE 5-7-08D	SECTION -
	SUPERSIDES 7-27-06C		
	ET8K(X) - ET12K(X) - ET18K(X)		

21306

MINIMUM VOLTAGE TEST

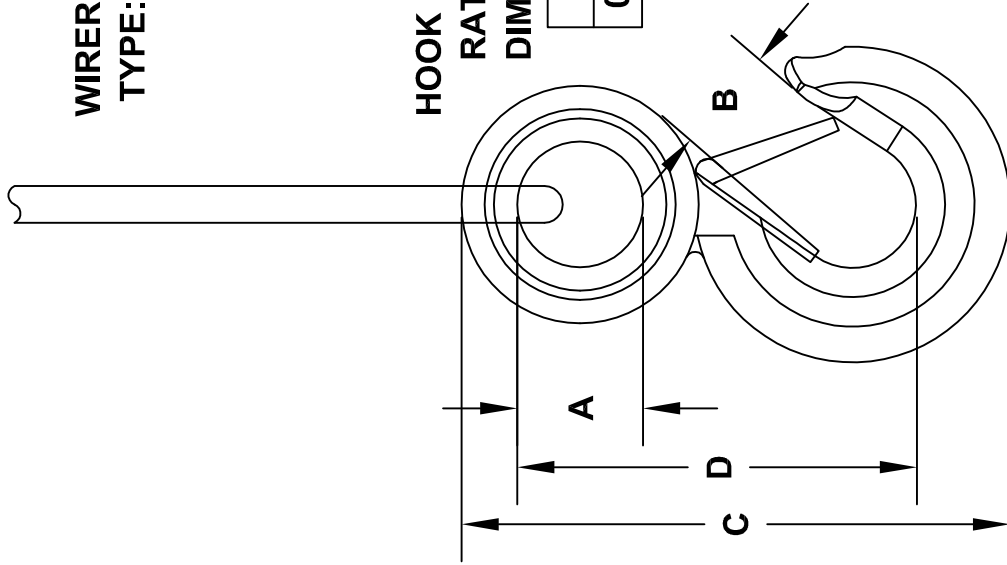
ET SERIES CRANES

ONE OF THE MOST COMMON ELECTRICAL PROBLEMS ENCOUNTERED ON 12 VOLT ELECTRICAL CRANES IS INSUFFICIENT VOLTAGE AT THE MOTOR WHEN DRAWING THE LARGE CURRENT THAT EXISTS AT FULL LOAD



WIREROPE ASSEMBLY

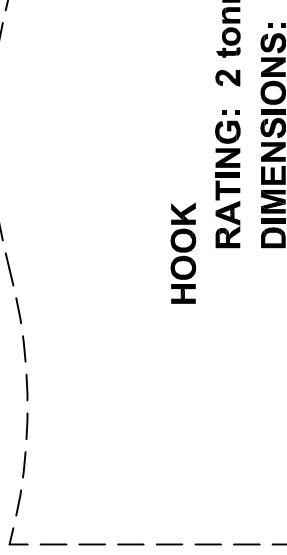
WIREROPE
TYPE: 7/32" OR 1/4" DIA. 7 x 19
GALVANIZED



HOOK
RATING: 1 tonne (2205 LBS)
DIMENSIONS:

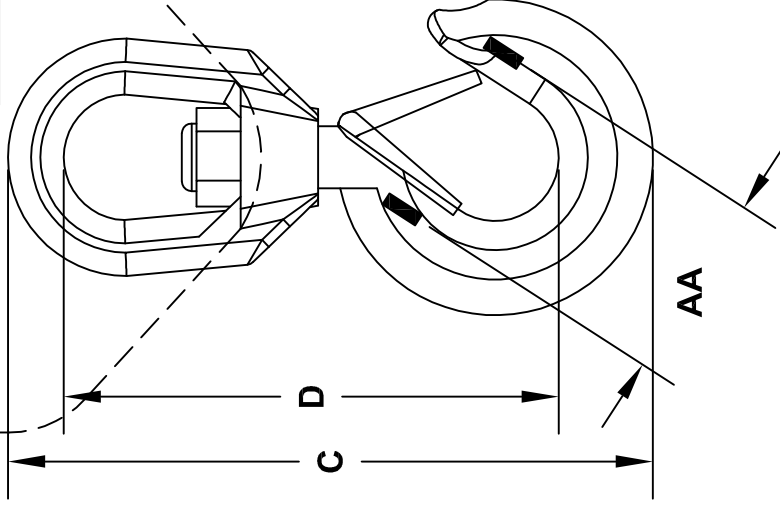
A	B	C	D
0.88	1.06	4.88	3.63

LOAD BLOCK ASSEMBLY



HOOK
RATING: 2 tonnes (4,410 lbs)
DIMENSIONS:

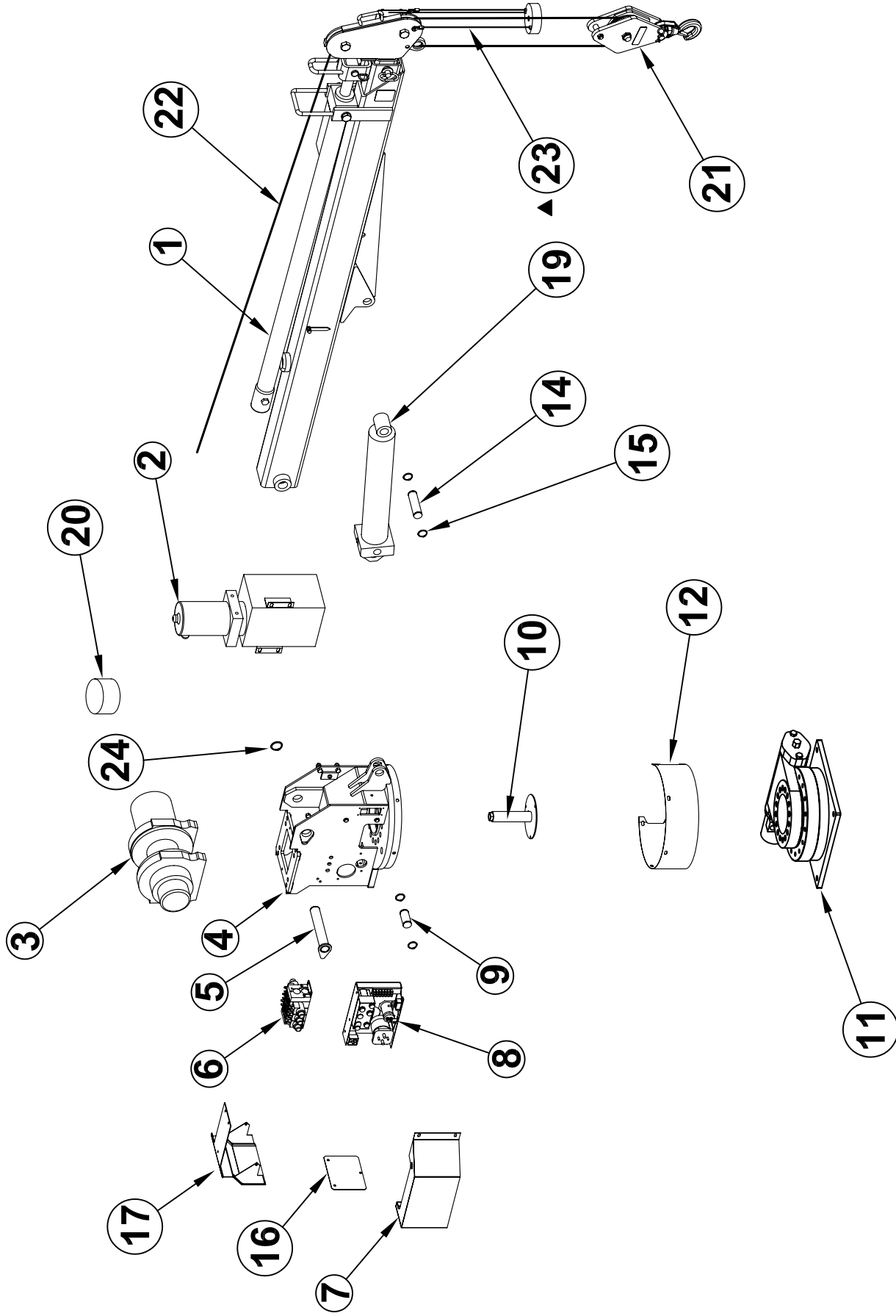
COLOR	BRAND	AA	C	D
GOLD	CROSBY	2.00	7.75	6.12




SECTION 400

PARTS





REPLACEMENT PARTS LIST - 21598

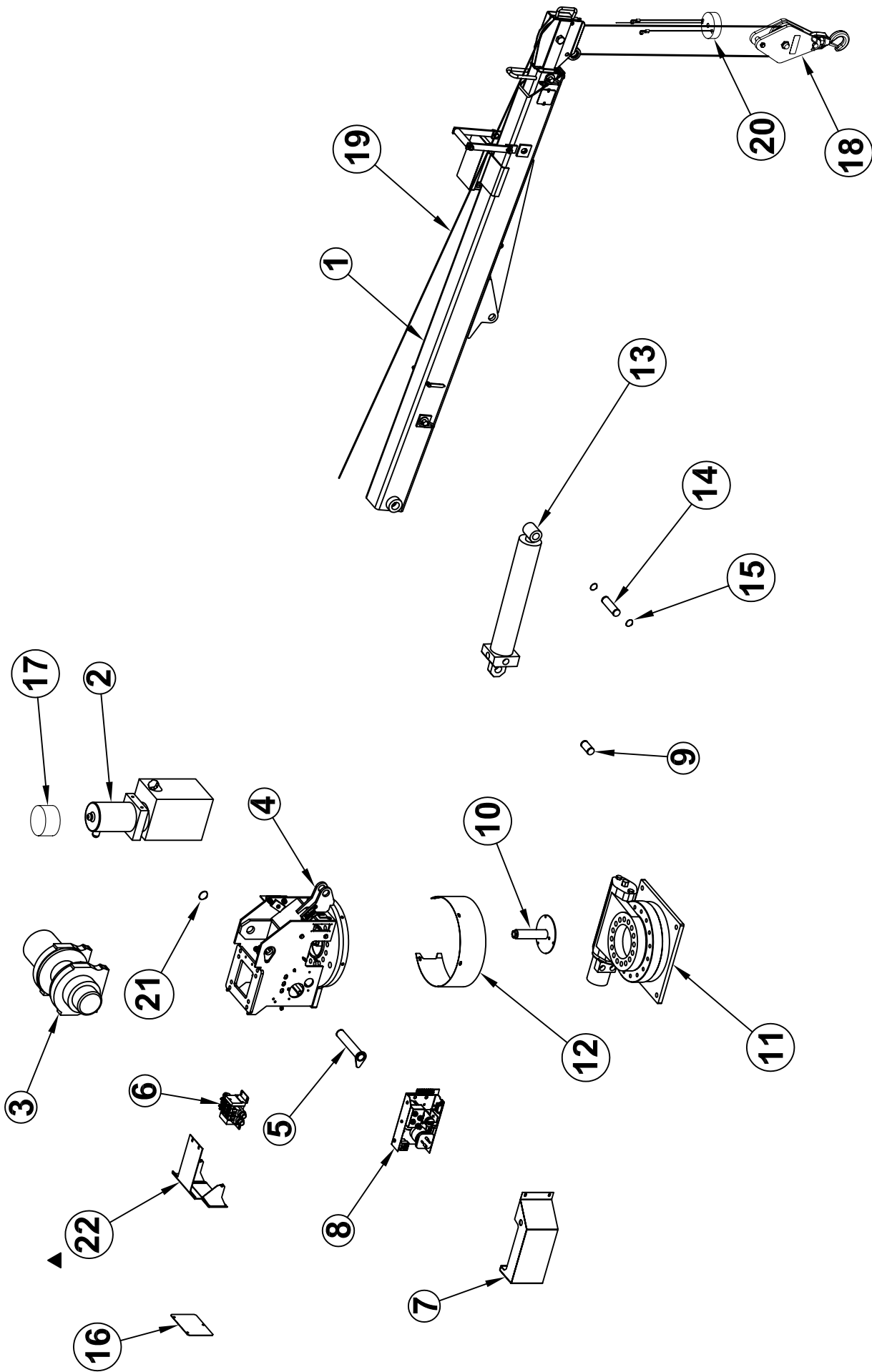
 MANUFACTURING, INC. CINCINNATI, OHIO	TITLE REPLACEMENT PARTS ET12KX	DATE 12-4-07C <small>SUPERSEDES</small> 10-15-07B	SECTION C400	21597

ITEM #	PART #	DESCRIPTION	ITEM #	PART #	DESCRIPTION
1	21535	BOOM FINAL ASSEMBLY - ET12KX			
2	20873	HYDRAULIC POWER UNIT			
3	21556	WINCH			
4	21616	UPPER HOUSING ASSEMBLY			
5	21540	PIVOT PIN - MAIN BOOM PIVOT			
6	21614	MANIFOLD W/ VALVES & COILS			
7	21621	CRANE COVER WELDED ASSEMBLY			
8	21515	ELECTRICAL COMPONENT ASSEMBLY			
9	21546	PIN - ELEVATION CYLINDER BASE			
10	21506	SWIVEL PIGTAIL CANDLESTICK ASSEMBLY			
11	21735	ROTATION DRIVE SYSTEM			
12	21185	ROTATION GEAR GUARD			
13	-	-			
14	21547	BOOM PIVOT PIN			
15	ISRNG-113	SNAP RING 1-1/8"			
16	21624	PLATE, COVER REAR			
17	21638	REAR COVER			
18	-	-			
19	21543	ELEVATION CYLINDER			
20	▲ 16143-1 *	MOTOR COVER			
21	20670	SWIVEL SNATCH BLOCK			
22	21639	WIRE ROPE ASSEMBLY - 1/4" X 65FT			
23	19377-1	ANTI 2 BLOCK WEIGHT ASSEMBLY			
24	ISRNG-125	SNAP RING - 1-1/4"			
25	-	-			
26	-	-			
27	-	-			
28	-	-			
29	-	-			


REPLACEMENT PARTS DWG REF 21597
▲ * REPLACEMENT PARTS SEND 16143-3

TITLE REPLACEMENT PARTS		DATE 5-7-08D	SECTION C400
		SUPERCEDES 11-30-07C	
ET12KX-7/15		21598	





REPLACEMENT PARTS LIST - 21608

 <p>MANUFACTURING, INC. CINCINNATI, OHIO</p>	TITLE	REPLACEMENT PARTS	SECTION	C400
	ET12K	DATE	3-25-10C	SUPERSEDES
				21607

ITEM #	PART #	DESCRIPTION	ITEM #	PART #	DESCRIPTION
1	21548	BOOM FINAL ASSEMBLY - ET12K			
2	20873	HYDRAULIC POWER UNIT			
3	21556	WINCH			
4	21616	UPPER HOUSING ASSEMBLY			
5	21540	PIVOT PIN - MAIN BOOM PIVOT			
6	21615	MANIFOLD W/ VALVES & COILS			
7	21621	ELECTRICAL PANEL SHIELD			
8	21515	ELECTRICAL COMPONENT ASSEMBLY			
9	21546	PIN - ELEVATION CYLINDER BASE			
10	21506	SWIVEL PIGTAIL CANDLESTICK ASSEMBLY			
11	21735	ROTATION DRIVE SYSTEM			
12	21185	ROTATION GEAR GUARD			
13	21745	ELEVATION CYLINDER			
14	21547	BOOM PIVOT PIN			
15	IS RNG-113	SNAP RING 1-1/8"			
16	21624	PLATE, COVER REAR			
17	16143-1 *	MOTOR COVER			
18	20670	SWIVEL SNATCH BLOCK			
19	21639	WIRE ROPE ASSEMBLY - 1/4" X 65 FT			
20	19377-1	ANTI 2 BLOCK WEIGHT ASSEMBLY			
21	IS RNG-125	SNAP RING 1-1/4"			
22	21638	REAR COVER			
74	-	-			
75	-	-			
76	-	-			
77	-	-			
78	-	-			
79	-	-			
80	-	-			

REPLACEMENT PARTS DWG REF 21607
▲ * REPLACEMENT PARTS SEND 16143-3

TITLE REPLACEMENT PARTS		DATE 3-25-10E	SECTION C400
		SUPPERCEDES 1-25-10D	21608
ET12K-7/15			



FASTENER LIST FOR ET12KX

PART NUMBER	DESCRIPTION	QTY	LOCATION/FUNCTION
!HHCS03118063	HEX HEAD CAP SCREW 5/16-18 X 5/8"	1	GROUND STRAPON CANDLESTICK
!LWSH-031	LOCK WASHER - 5/16	1	GROUND STRAPON CANDLESTICK
!LWSH-031-STAR	STAR LOCKWASHER - 5/16 EXTERNAL	1	GROUND STRAPON CANDLESTICK
!HHCS02520063-F	HHCS 1/4-20 X 5/8" - SELF TAPPING	3	CANDLESTICK TO BASE
!ZERK01327NPT	STRAIGHT GREASE FITTING	1	SLEWING RING
!SHCS03816050	SOCKET HEAD CAP SCREW 3/8-16 X 1/2"	2	SLEWING RING
!HHCS06311350	HEX HEAD CAP SCREW 5/8-11 X 3-1/2"	15 ▲	UPPER HOUSING TO RING (TORQUE TO 150 FT/LB)
!LWSH-063	LOCK WASHER - 5/8"	15 ▲	LOWER BASE TO RING
!FWSH-038	FLAT WASHER - 3/8"	4	HYDRAULIC POWER UNIT
!LWSH-038	LOCK WASHER - 3/8"	4	HYDRAULIC POWER UNIT
!HNUT-03816	HEX NUT - 3/8-16	4	HYDRAULIC POWER UNIT
!LWSH-031-STAR	STAR LOCKWASHER - 5/16 EXTERNAL	2	HOUSING GROUNDS
!PHCS#0832050	PAN HEAD SCREW #8-32 X 1/2"	4	PENDANT PLUG CASE
!LWSH-#08	LOCK WASHER - #8	4	PENDANT PLUG CASE
!PHCS#1032038	PAN HEAD SCREW #10-32 X 3/8"	2	TOP POSITION SWITCH
!LWSH-#10	LOCKWASHER - #10	2	TOP POSITION SWITCH
!HNUT-#10-32	HEX NUT - #10-32	2	TOP POSITION SWITCH
!UNUT-02520	U-NUT 1/4-20	5	GUARD RING ON HOUSING BASE
!HHCS02520075	HEX HEAD CAP SCREW 1/4-20 X 3/4"	5	LOWER RING GUARD
!FWSH-025	FLAT WASHER 1/4"	5	LOWER RING GUARD
!LWSH-025	LOCK WASHER 1/4"	5	LOWER RING GUARD
!HHCS02520063-F	HHCS 1/4-20 X 5/8" - SELF TAPPING	2	HOUSING SIDE COVER
!HHCS03118075-F	HHCS 5/16-18 X 3/4" - SELF TAPPING	4	UPPER REAR HOUSING COVER
!HHCS02520050-F	HHCS 1/4-20 X 1/2" - SELF TAPPING	3	LOWER REAR HOUSING COVER
!HHCS02520063-F	HHCS 1/4-20 X 5/8" - SELF TAPPING	3	ELECTRICAL PANEL
!LWSH-025-STAR	STAR LOCKWASHER - 1/4 EXTERNAL	2	ELECTRICAL PANEL
14775	RUBBER GROMET 1/2" ID	3	HOUSING PUMP SIDE
14883	RUBBER GROMET 3/8" ID	2	HOUSING BOOM SIDE
!HNUT-02520	HEX NUT - 1/4-20	2	WINCH TERMINAL SPACER
!HHCS03118075-F	HHCS 5/16-18 X 3/4"	2	VALVE BLOCK GROUNDS
!SRNG-125	EXTERNAL SNAP RING 1-1/4"	1	MAIN BOOM PIVOT PIN
!HHCS02500075	HEX HEAD CAP SCREW - 1/4-20 X 3/4"	2	VALVE BLOCK
!LWSH-025	LOCK WASHER - 1/4"	2	VALVE BLOCK
!FNUT-02520	FLANGE NUT - 1/4-20	2	VALVE BLOCK
!HHCS02520075	HEX HEAD CAP SCREW 1/4-20 X 3/4"	1	TOP ANGLE BOOM SWITCH BRACKET
!LWSH-025	LOCKWASHER - 1/4"	1	TOP ANGLE BOOM SWITCH BRACKET
!FNUT-02520	FLANGE NUT - 1/4-20	2	TOP ANGLE BOOM SWITCH BRACKET
25019	HOLE PLUG - 7/8 DIA.	1	HOUSING SIDE COVER / TOP
25019	HOLE PLUG - 7/8 DIA.	1	HOUSING BASE - GREASE HOLE



MFG., INC.
CINCINNATI, OHIO

TITLE
REPL. FASTENERS LIST

DATE
5-8-08B

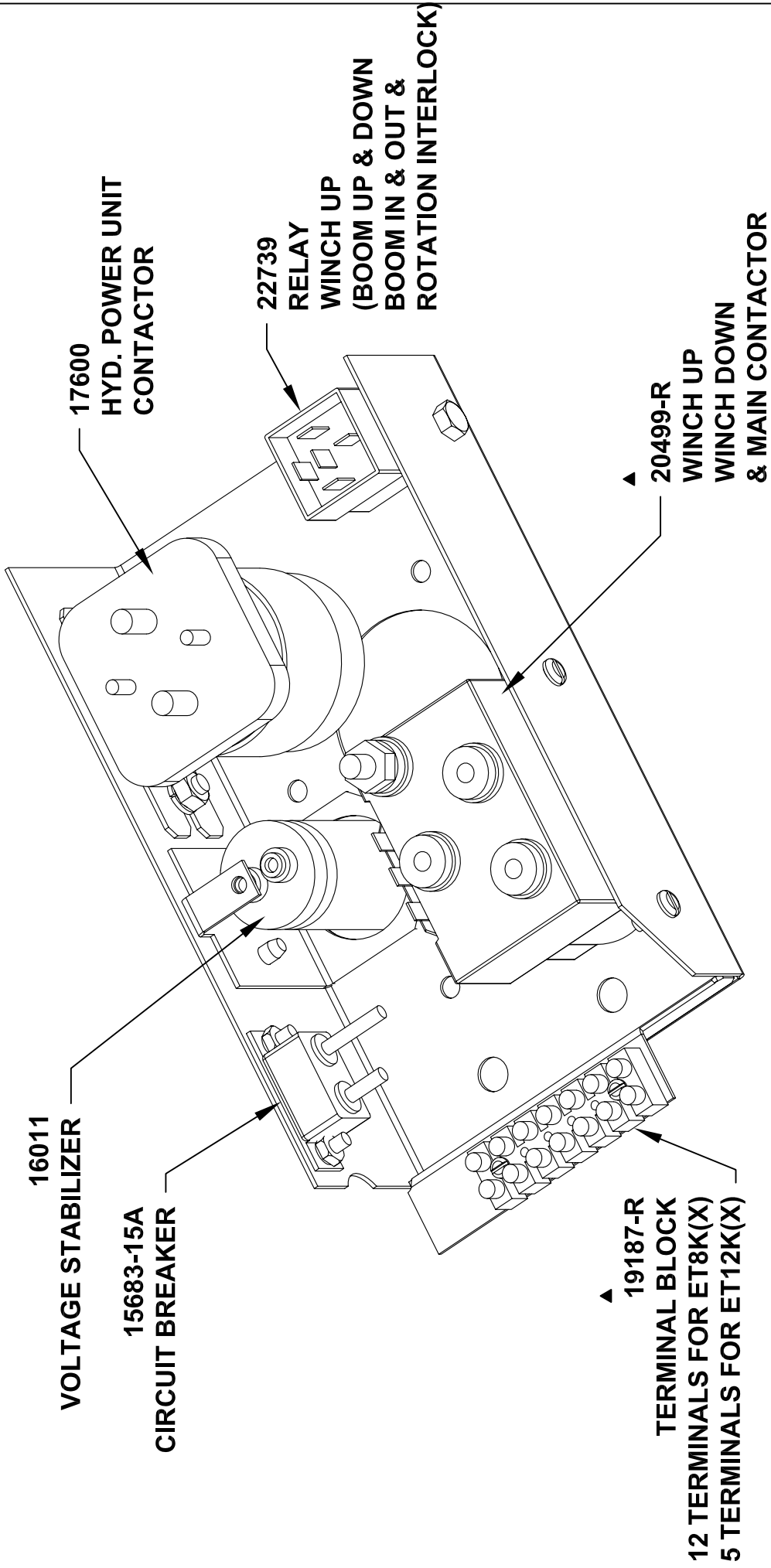
SECTION
C400

ET12KX

SUPERCEDES
5-11-07A

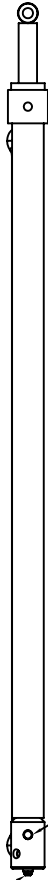
21599

21515 ELECTRICAL COMPONENT ASSEMBLY



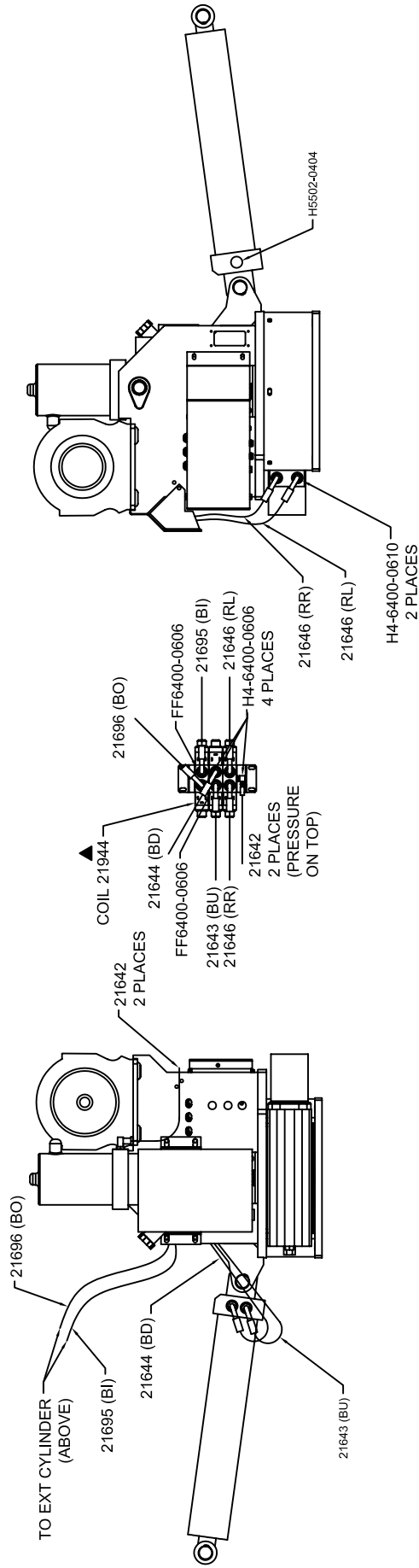
TITLE	DATE	SECTION
ELECTRICAL COMPONENT ASSEMBLY	9-6-06B	C400
ET8KX - ET12KX	SUPERSEDES 7-27-06A	21600

SUN HYDRAULICS COUNTERBALANCE VALVE PART NO. CBCA-LHN
FACTORY SETTING @ 4000PSI

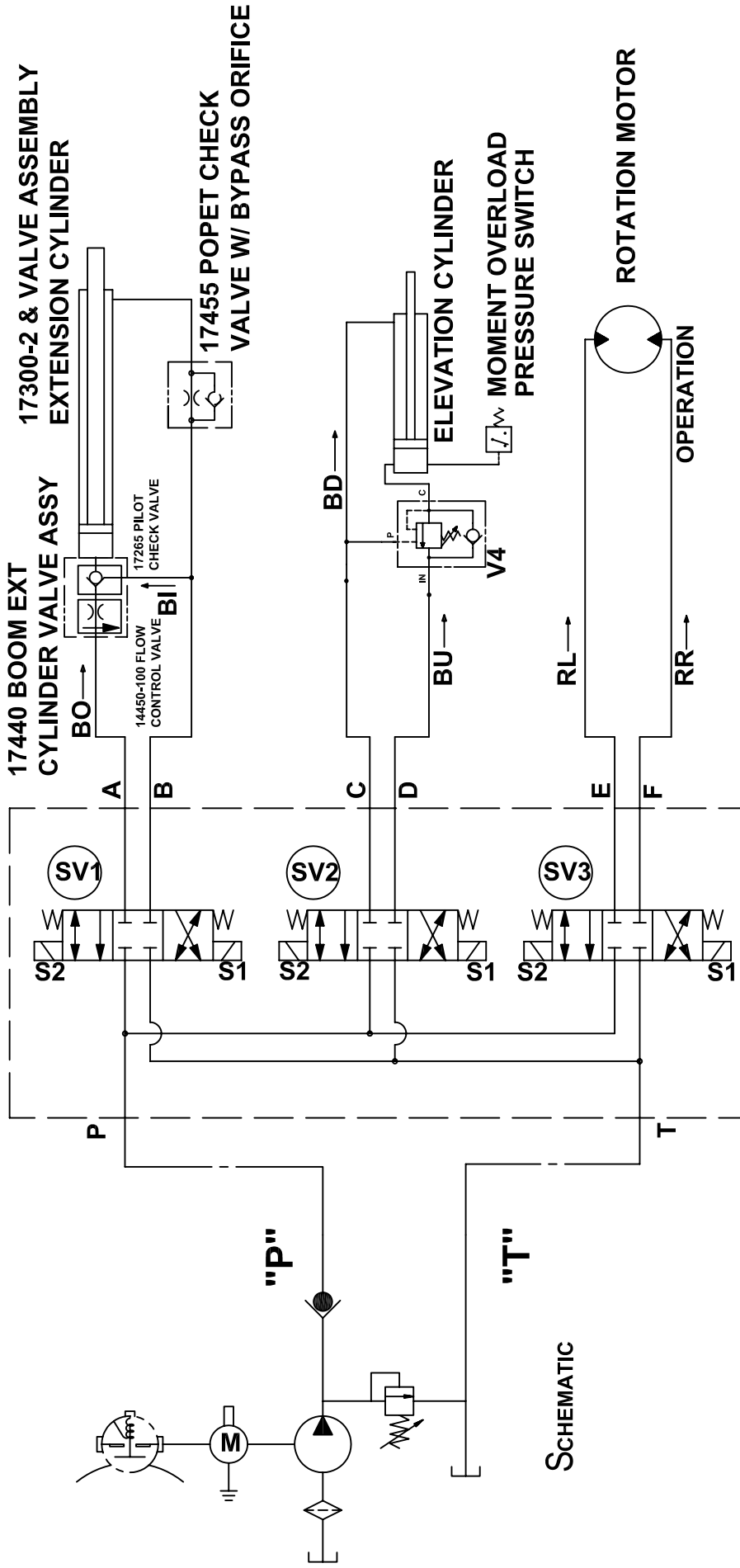


SAE-6 STR THD
O-RING PORTS
9/16-18UNF-2B
2 PLACES

21690 EXTENSION CYLINDER
NOT AVAILABLE ON ET8K OR ET12K



 <p>MANUFACTURING, INC. CINCINNATI, OHIO</p>	TITLE	REPLACEMENT PARTS DRAWING	DATE	3-29-11B	SECTION	-
		ET8/12KX HYDRAULIC COMPONENTS	SUPERSEDES	7-31-08A		21654



- SV1
 ENERGIZE "S2"
 OPEN FLOW
 'P' TO 'A'
 'B' TO 'T'
- SV2
 ENERGIZE "S2"
 OPEN FLOW
 'P' TO 'C'
 'D' TO 'T'
- SV3
 ENERGIZE "S1"
 OPEN FLOW
 'P' TO 'D'
 'E' TO 'T'

TITLE **HYDRAULIC SYSTEM DIAGRAM**

DATE **7-27-06A**

SECTION **C400**

SUPERSEDES
2-13-06

21602

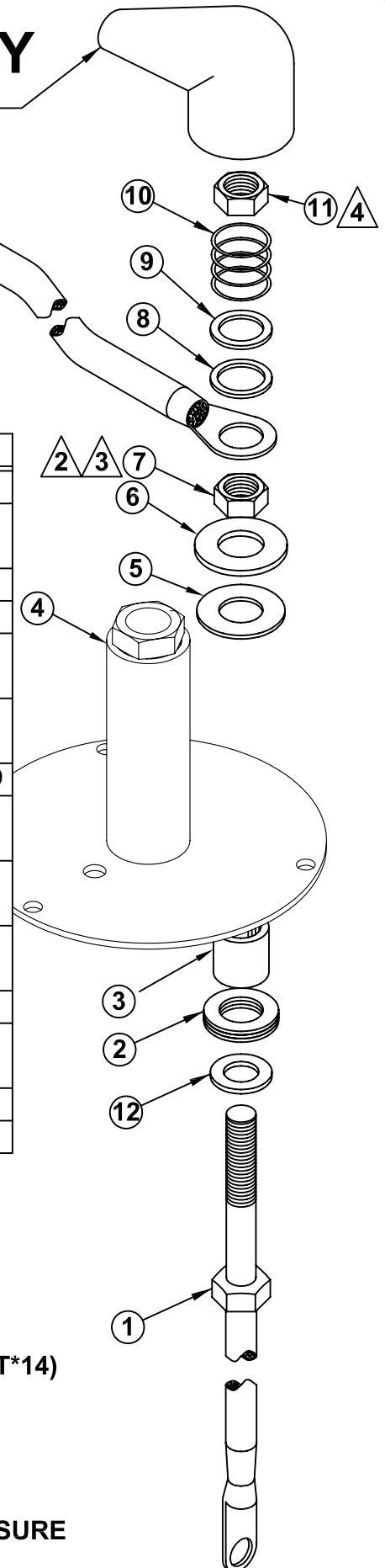
ÉT8KX - ET12KX

21584 SWIVEL TERMINAL ASSY

17011 RUBBER BOOT - REF

13448-XX SWIVEL PIGTAIL

ITEM	QTY	PART NO.	DESCRIPTION
1	1	15653-60	PIGTAIL & STUD ASSY
*2	3	16771-1	FIBER WASHER 1/2" I.D. x 15/16" O.D. x 1/16" THK
*3	1	13410	INSULATING BUSHING
4	1	21506	CANDLESTICK
*5	1	16771-2	FIBER WASHER 1/2" I.D. x 1 1/4" O.D. x 1/16" THK
*6	1	16770*7	BRASS WASHER 1/2" I.D. x 1 1/4" O.D. x 5/64" THK
*7	1	19800	BRASS JAM NUT - 1/2"-13NC - MODIFIED
*8	1	16770*11	TEFLON WASHER 1/2" I.D. x 3/4" O.D. x 1/32" THK
*9	1	16770*10	BRASS WASHER 1/2" I.D. x 11/16" O.D. x 1/32" THK
*10	1	LC-063HJ-1	SPRING .66" O.D. x .63" W x 5/8" F.L.
*11	1	!JNUT-05013N	NYLON INSERT-JAMNUT - 1/2"-13
*12	1	12534-4	MACHINERY BUSHING 1/2" I.D. x 7/8" O.D. x 14 GA THK
*13	1	LOCTITE-24205	LOCTITE CAPSULE GRADE 242 BLUE
*14	1	21584	REPL. PARTS DWG (THIS PAGE)



* ITEMS ARE ONLY AVAILABLE IN A 21585 SERVICE PARTS KIT

▲ 1 21585 REPLACES & IS INTERCHANGEABLE WITH 16772 (EXCEPT*14)

▲ 2 SECURE WITH LOCTITE 242 BLUE

▲ 3 TORQUE TO 30 FT-LBS, THEN TIGHTEN SET SCREW.

▲ 4 TIGHTEN UNTIL ONE THREAD IS VISIBLE ABOVE THE NUT & ENSURE THAT SPRING IS NOT FULLY COMPRESSED



MFG., INC.
CINCINNATI, OHIO

TITLE
REPLACEMENT PARTS

ET8K(X), ET12K(X)

DATE
7-27-06A

SUPERSEDES
2-17-06

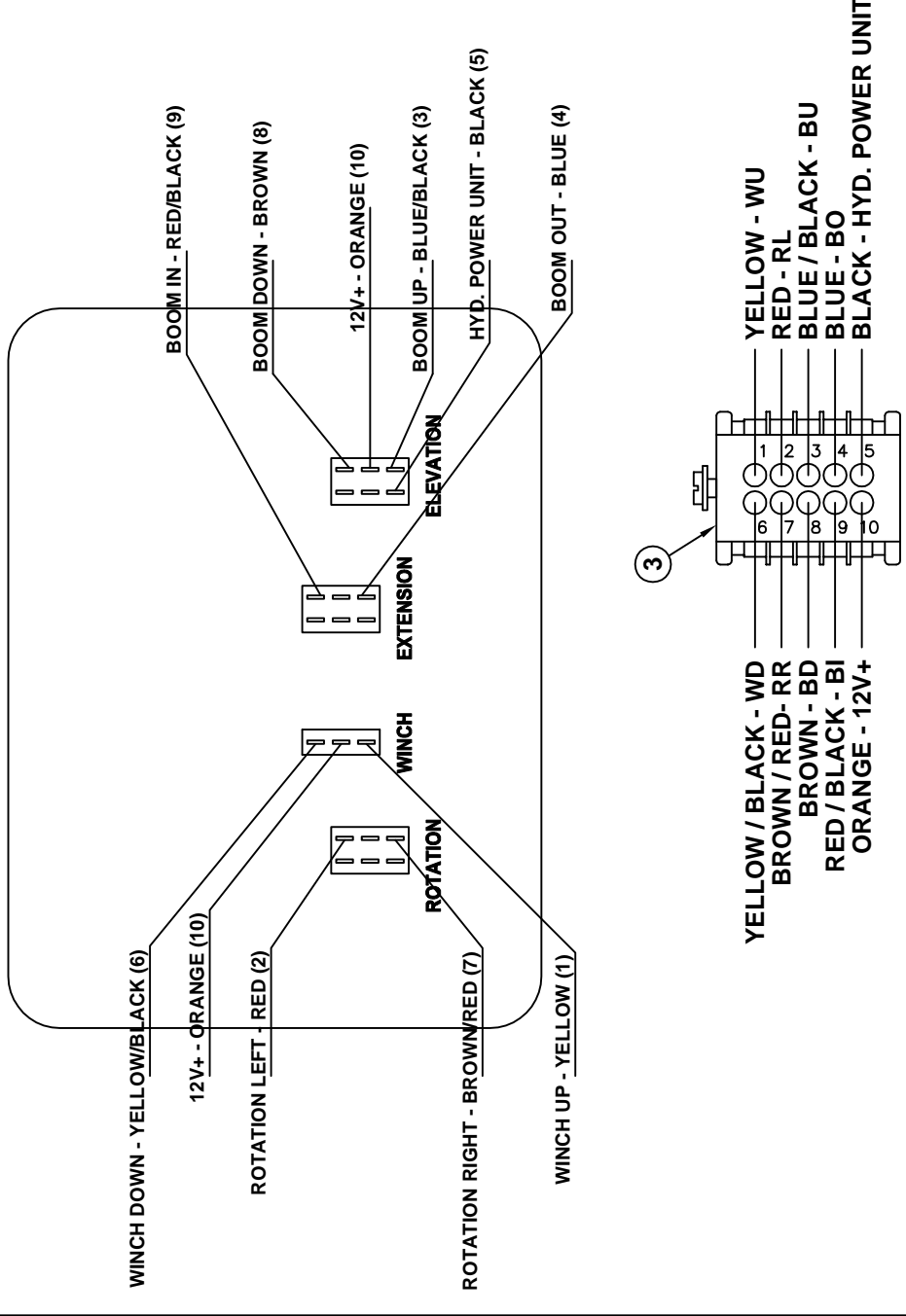
SECTION
C400

21584

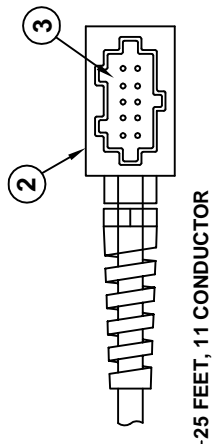
22060 PENDANT (4 - SWITCH)

CORD REPLACEMENT INSTRUCTIONS

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



PLUG - BACKSIDE VIEW



- NOTE 1)
 WIRE TERMINALS TO BE
 INSTALLED 'AFTER' ROUTING
 REPLACEMENT CORD ASSY
 THROUGH PENDANT HEAD
 AND PLUG HOUSING.
- NOTE 2)
 TOGGLE SWITCH JUMPER
 WIRES NOT SHOWN FOR
 CLARITY.
- NOTE 3)
 STOW OR CUT-BACK
 UNUSED WIRES.

ITEM	QTY	PART NO.	DESCRIPTION
4	3	22152	DPDT MOMENTARY TOGGLE SWITCH
3	1	19427	MALE INSERT - 10 + 1 POLE
2	1	19426	PLUG CASE - 10 + 1 POLE
1	4	22081	SPDT MOMENTARY TOGGLE SWITCH

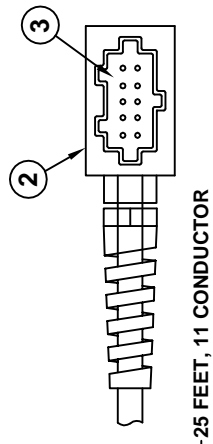
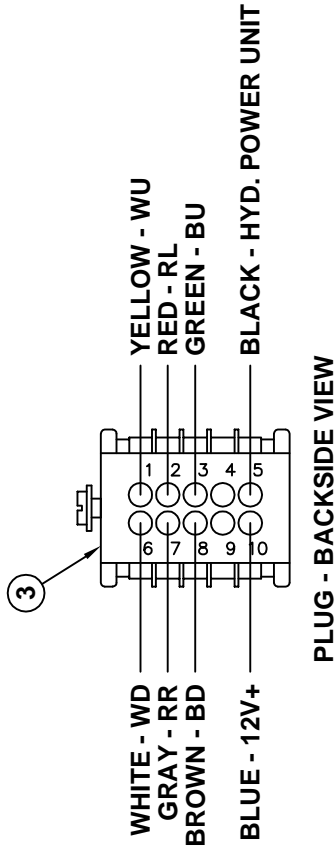
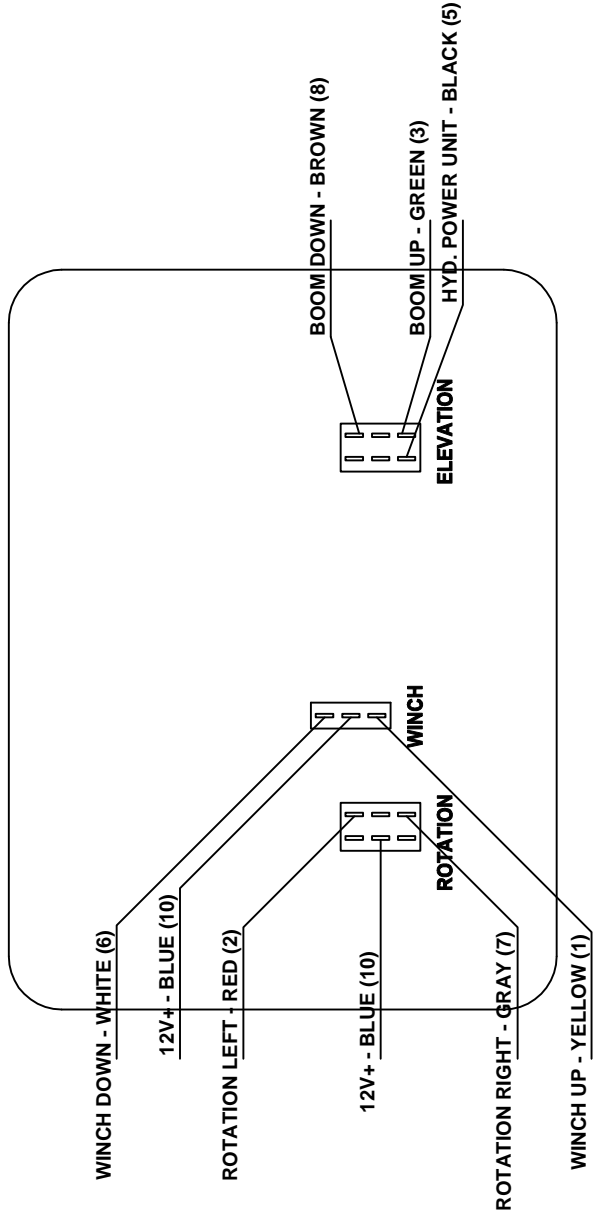
TITLE	REPLACEMENT PARTS DRAWING	SECTION	C400
DATE	9-28-12B	SUPERSEDES	9-6-11A
22060 PENDANT (STANDARD CTRL)		22076	

22061 PENDANT (3-SWITCH)

CORD REPLACEMENT INSTRUCTIONS

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

- NOTE 1)
WIRE TERMINALS TO BE
INSTALLED 'AFTER' ROUTING
REPLACEMENT CORD ASSY
THROUGH PENDANT HEAD
AND PLUG HOUSING.
- NOTE 2)
TOGGLE SWITCH JUMPER
WIRES NOT SHOWN FOR
CLARITY.
- NOTE 3)
STOW OR CUT-BACK
UNUSED WIRES.



25 FEET, 11 CONDUCTOR

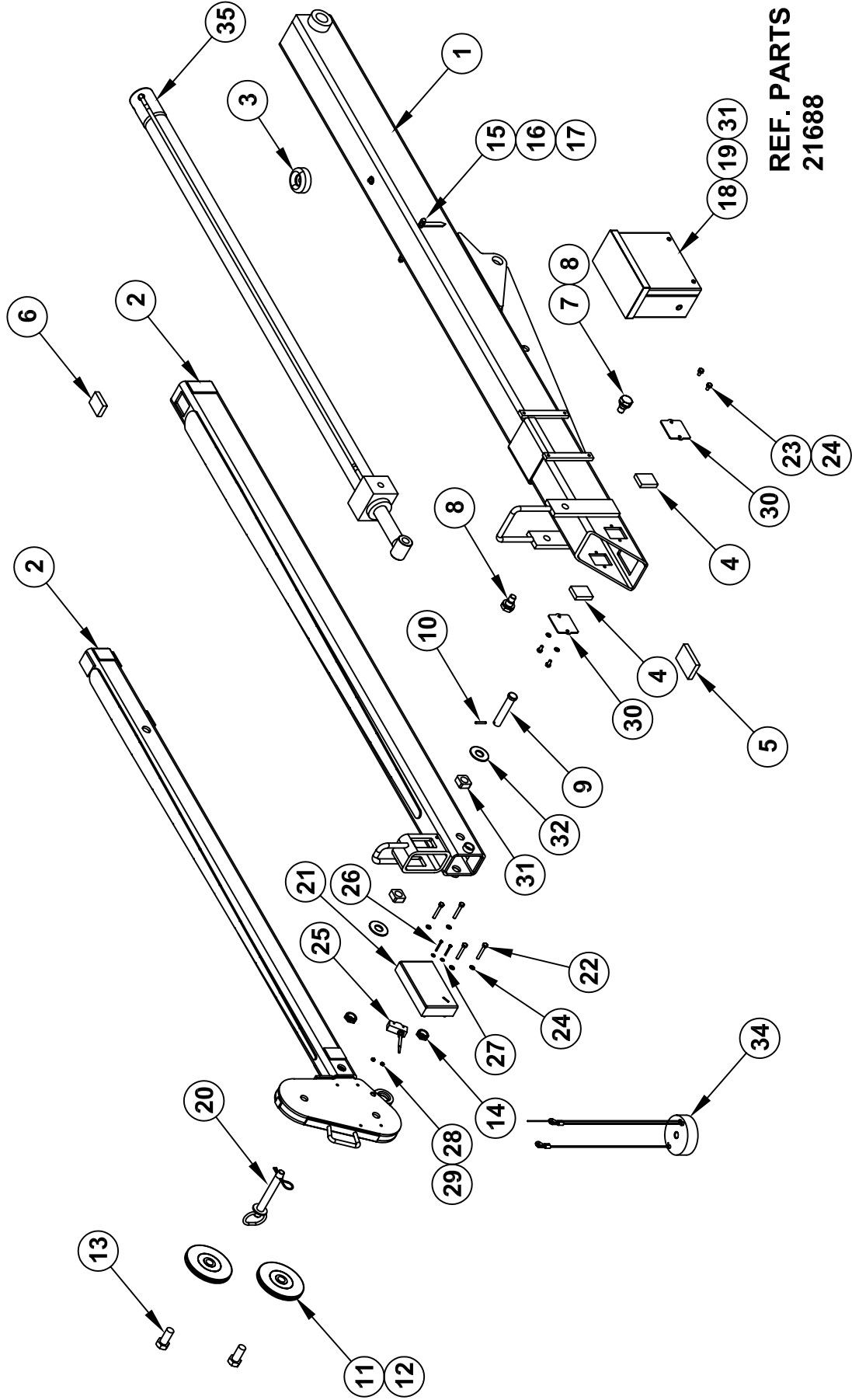
ITEM	QTY	PART NO.	DESCRIPTION
4	2	22152	DPDT MOMENTARY TOGGLE SWITCH
3	1	19427	MALE INSERT - 10 + 1 POLE
2	1	19426	PLUG CASE - 10 + 1 POLE
1	1	22081	SPDT MOMENTARY SWITCH

DATE	SECTION
9-28-12B	C400
9-6-11A	SUPERSEDES
22077	


TITLE
REPLACEMENT PARTS DRAWING

22061 PENDANT (STANDARD CTRL)

21535 BOOM PARTS DRAWING



REF. PARTS LIST
21688

 <p>MANUFACTURING, INC. CINCINNATI, OHIO</p>	TITLE	21535 BOOM PARTS DRAWING	
	ET12KX	DATE	7-31-08C
	SUPERSEDES	5-9-08B	
	SECTION	C400	
		21603	

35	1	21690	1-7/8 X 48-1/8 DA CYLINDER
34	1	19377-1	ANTI-2-BLOCK WEIGHT ASSEMBLY
33	4	!LWSH-031	LOCK WASHER 5/16"
32	2	!FWSH-075	3/4" FLAT WASHER
31	2	21734	THRUST ROLLER
30	2	21528	BEARING CAP
29	2	!HNUT-#0632	HEX NUT 6-32
28	2	!LWSH-#06	LOCK WASHER - 6
27	2	!FWSH-#06	FLAT WASHER #06
26	2	!PHMS#0632125	PHILLIPS HEAD CAP SCREW 6-32 X 1-14 LG
25	1	19376	ANTI-TWO BLOCK SWITCH
24	8	!LWSH-025	LOCKWASHER - 1/4
23	4	!HCS02520050	HEX HEAD CAP SCREW - 1/4-20 X 1/2 LG
22	4	!HCS02520175	HEX HEAD CAP SCREW - 1/4-20 X 1-3/4 LG
21	1	21291	ANTI-TWO-BLOCK HOUSING ASSEMBLY
20	1	19258-1	BOOM PIN
19	4	!SHCS03118050	SHCS 5/16-18 X 1/2 LONG
18	1	22683	ANTI 2 BLOCK CORD REEL ASSEMBLY
17	2	!ANUT-02520S	ACORN NUT 1/4-20 STAINLESS
16	2	22490	SPACER, BOOM ARROW 1/2" O.D.
15	2	13459-1	BOOM ARROW 3-3/16 LONG
14	2	!LNUT-07510	LOCKNUT 3/4-10
13	2	17059-4	SHEAVE AXLE
12	2	21630	CABLE SHEAVE - PLASTIC
11	2	20536	SPACER - 20537 SHEAVE
10	1	!RPIN-016125	ROLL PIN, 5/32 X 1-1/4
9	1	13401-2A	ROD PIVOT PIN - 3/4 x 3-3/4
8	2	17344	PIVOT BOLT
7	2	!LWSH-075	LOCK WASHER - 3/4"
6	1	21538	BOOM BEARING - 1-1/2 X 2 X 1/2
5	1	21208	BOOM BEARING - 2 X 3 X 1/2
4	2	21209	BOOM BEARING - 1-1/2 X 2 X 7/16
3	1	20285	BUMPER - BOOM
2	1	21676	SECONDARY AND TERTIARY BOOM ASSEMBLY
1	1	21526	PRIMARY BOOM WELDED ASSEMBLY
ITEM NO.	EXPLODED/QTY.	PART NUMBER	DESCRIPTION

**REF. PARTS
DRAWING 21603**

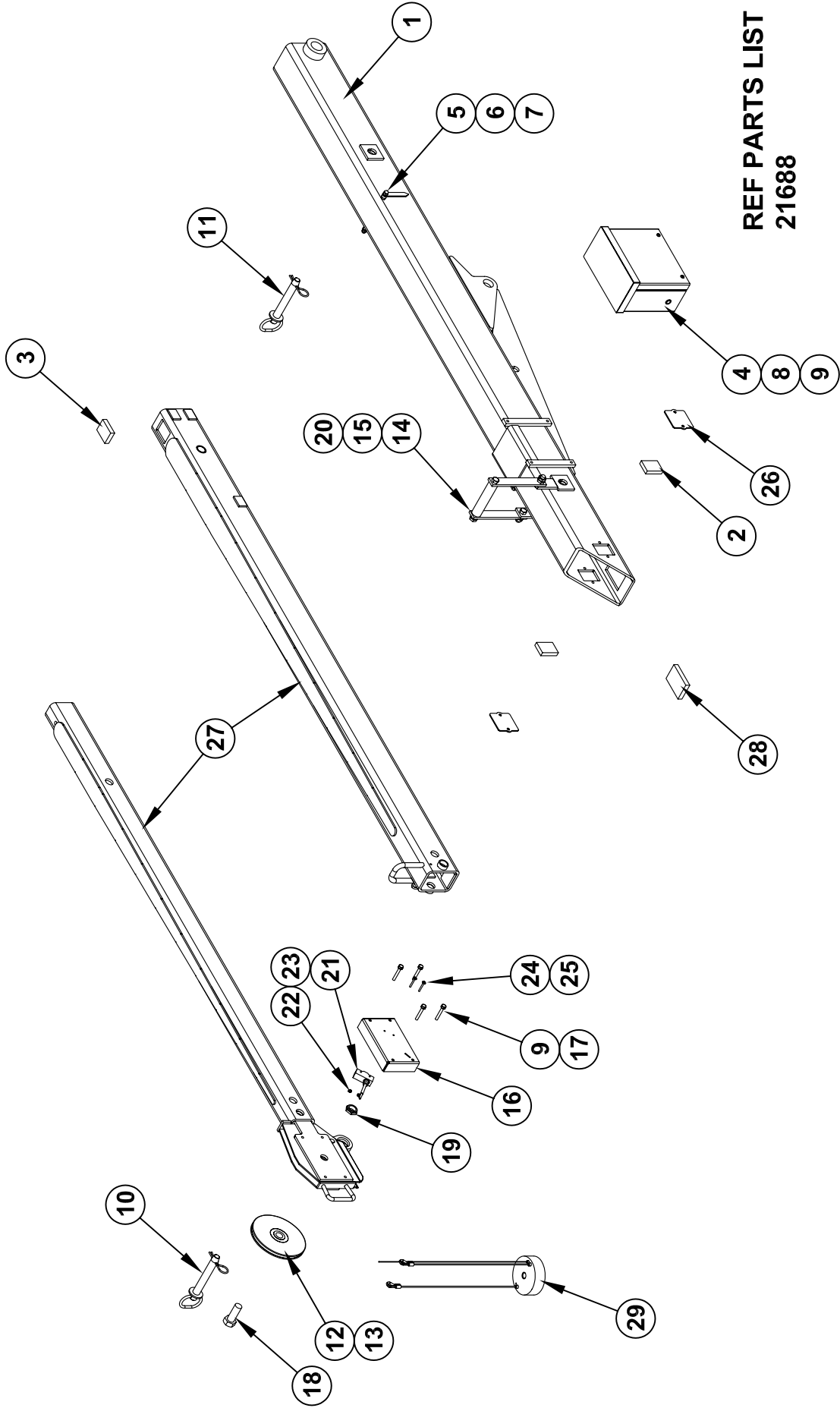
DATE	7-31-08A	SECTION	C400
SUPERSEDES	5-9-08		21688

TITLE
21535 BOOM REPLACEMENT PARTS LIST


ET12KX



21548 BOOM PARTS DRAWING



REF PARTS LIST
21688

 <p>MANUFACTURING, INC. CINCINNATI, OHIO</p>	TITLE	SECTION
	21548 BOOM PARTS DRAWING	C400
ET12K	DATE	SUPERSEDES
	5-12-08A	2-13-06
		21662

29	1	19377-1	ANTI-2-BLOCK WEIGHT ASSEMBLY	
28	1	21208	BOOM BEARING - 2 X 3 X 1/2	
27	1	21685	SECONDARY & TERTIARY BOOM WELD ASSEMBLY	
26	2	21528	BEARING CAP	
25	2	!FWSH-#06	FLAT WASHER #06	
24	2	!PHMS#0632125	PHILLIPS HEAD CAP SCREW 6-32 X 1-14 LG	
23	2	!HNUT-#0632	HEX NUT 6-32	
22	2	!LWSH-#06	LOCK WASHER - 6	
21	1	19376	ANTI-TWO BLOCK SWITCH	
20	4	!JNUT-04414N	NYLON LOCK-JAM NUT - 7/16-14	
19	1	!JNUT-07510N	NYLON LOCK-JAMNUT 3/4-10	
18	1	17059-6	SHEAVE AXLE 3/4 X 2 W/ 1" SHANK	
17	4	!HCS02520175	HEX HEAD CAP SCREW - 1/4-20 X 1-3/4 LG	
16	1	21277	SWITCH BRACKET	
15	2	!HCS04414125	HEX HEAD CAP SCREW 7/16-14 X 1-1/4 LG	
14	1	21566	ASSY, WIRE ROPE GUIDE	
13	1	20536	SPACER - 20537 SHEAVE	
12	1	20537	POLY CABLE SHEAVE W/ BUSHING	
11	1	19258-2	BOOM PIN - 73/35/32	
10	1	19258-3	BOOM PIN - 33/15/12	
9	8	!LWSH-025	LOCKWASHER - 1/4	
8	4	!HCS02520050	HEX HEAD CAP SCREW 1/4-20 X 1/2 LG	
7	2	!ANUT-02520S	ACORN NUT 1/4-20 STAINLESS	
6	2	13459-1	BOOM ARROW 3-3/16 LONG	
5	2	22490	SPACER, BOOM ARROW 1/2" O.D.	
4	1	22683	ANTI 2 BLOCK CORD REEL ASSEMBLY	
3	1	21538	BOOM BEARING - 1-1/2 X 2 X 1/2	
2	2	21209	BOOM BEARING - 1-1/2 X 2 X 7/16	
1	1	21549	PRIMARY BOOM WELDED ASSEMBLY	
ITEM NO.		EXPLODED/QTY.	PART NUMBER	DESCRIPTION

**REF. PARTS
DRAWING
21662**



TITLE
21548 BOOM REPLACEMENT PARTS LIST

DATE
5-12-08

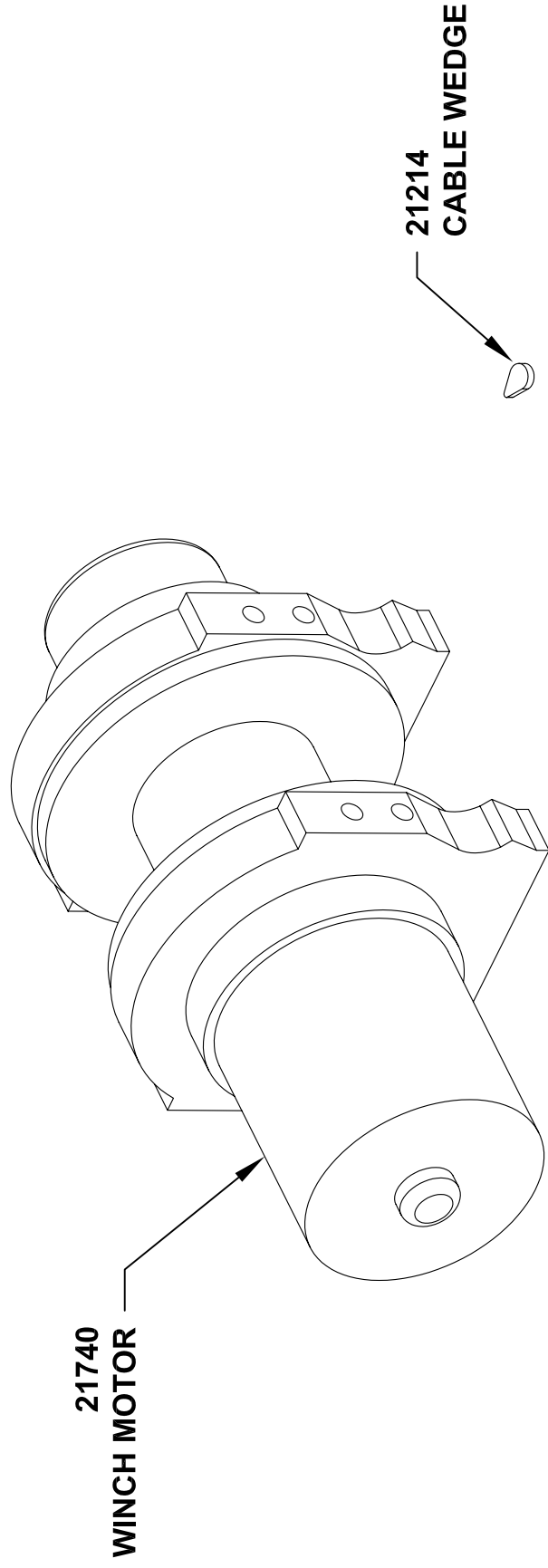
SECTION
C400

ET12K

SUPERSEDES
-

21689

REPLACEMENT PARTS 21556 WINCH



TITLE
REPLACEMENT PARTS DRAWING

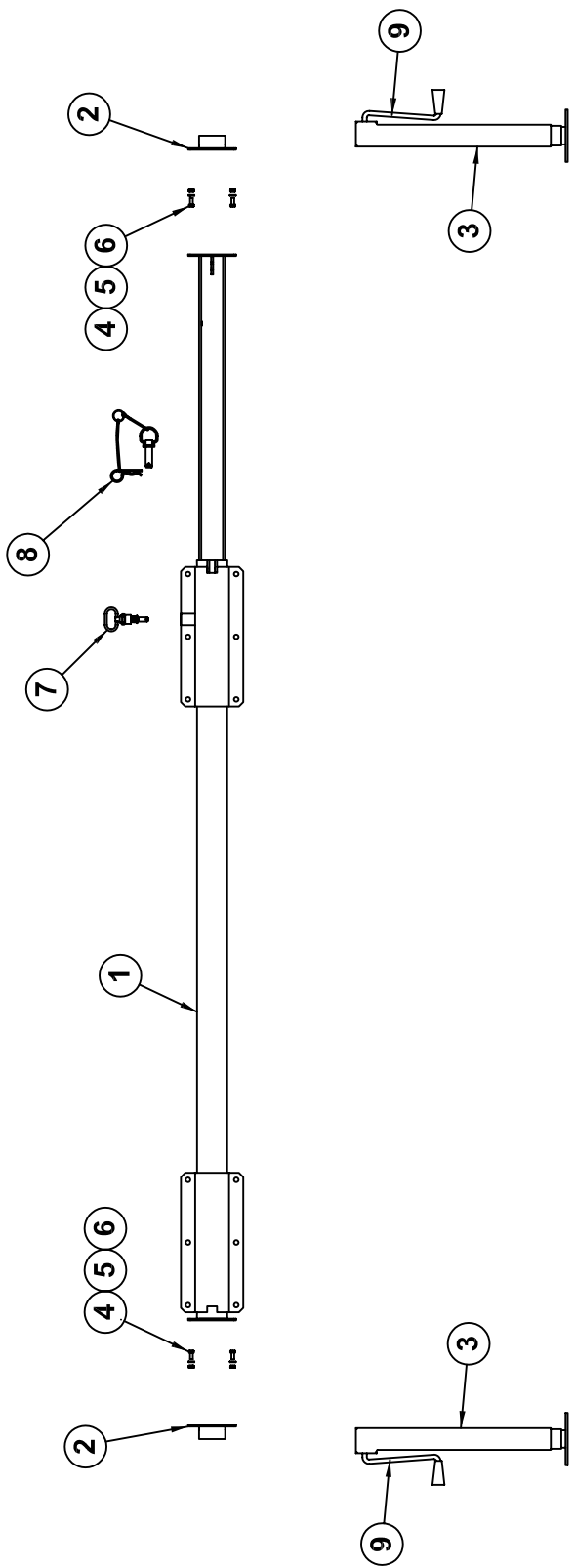
DATE
10-16-07

SECTION
-

21556 WINCH

SUPERSEDES
-

21741



9	2	18586-HANDLE	HANDLE, CRAND-DOWN LEG
8	1	24981	OUTRIGGER SECURITY PIN
7	1	18520	SPRING LOADED ASSEMBLY
6	8	!LWSH-031	LOCKWASHER - 5/16
5	8	!HNUT-03118	HEX NUT - 5/16-18
4	8	!HHCS03118075	HEX HEAD CAP SCREW - 5/16-18 X 3/4" LONG
3	2	18586	CRANKDOWN LEG
2	2	18587	CRANKDOWN LEG ADAPTER
1	1	18501	TUBE - OUTRIGGER ASSEMBLY
ITEM	QTY	PART NO	DESCRIPTION

TITLE		REPLACEMENT PARTS DWG & LIST	DATE	SECTION
18500-CD MANUAL OUTRIGGERS		7-28-10C	C400	
		SUPERSEDES	4-18-06B	22689

21586 DECAL KIT

PART NO.	QTY.	DESCRIPTION
14473-2	5	DECAL, GREASE
17389	2	DECAL, VENTURO - MEDIUM
15401	1	DECAL, UNLAWFUL TO OPERATE
21576	1	DECAL, BOOM CAPACITY ET/HT12K(X) RIGHT
21577	1	DECAL, BOOM CAPACITY ET/HT12K(X) LEFT
21578	2	DECAL, MODEL NAME DECAL
15392	1	DECAL, DANGER ELECTROCUTION HAZARD
15391	1	DECAL, CRANE NOT PASSENGER LIFT
15390	1	DECAL, CAUTION, INSTRUCTIONS
13397	1	DECAL, OIL LEVEL
15398	1	DECAL, UNPLUG PENDANT
21580	1	INST. DWG DECAL PLACEMENT
20174	1	DECAL, GROUND CABLE ATTACH TO TRUCK FRAME
21626	1	MANUAL OVERRIDE - RIGHT
21627	1	MANUAL OVERRIDE - LEFT



MANUFACTURING, INC.
CINCINNATI, OHIO

TITLE

FIELD SERVICE LABEL KIT

ET12KX

DATE

2-14-06

SUPERSEDES

-

SECTION

C400

21604

21587 DECAL KIT

PART NO.	QTY.	DESCRIPTION
14473-2	5	DECAL, GREASE
17389	2	DECAL, VENTURO - MEDIUM
15401	1	DECAL, UNLAWFUL TO OPERATE
21576	1	DECAL, BOOM CAPACITY ET/HT12K(X) RIGHT
21577	1	DECAL, BOOM CAPACITY ET/HT12K(X) LEFT
21579	1	DECAL, MODEL NAME DECAL
15392	1	DECAL, DANGER ELECTROCUTION HAZARD
15391	1	DECAL, CRANE NOT PASSENGER LIFT
15390	1	DECAL, CAUTION, INSTRUCTIONS
13397	1	DECAL, OIL LEVEL
15398	1	DECAL, UNPLUG PENDANT
21580	1	INST. DWG DECAL PLACEMENT
20174	1	DECAL, GROUND CABLE ATTACH TO TRUCK FRAME
21683	1	MANUAL OVERRIDE DECAL - RIGHT
21684	1	MANUAL OVERRIDE DECAL - LEFT



MANUFACTURING, INC.
CINCINNATI, OHIO

TITLE

FIELD SERVICE LABEL KIT

ET12K

DATE

5-15-08A

SUPERSEDES

2-16-06

SECTION

C400

21610



LIMITED WARRANTY POLICY

This limited policy warrants new products of Venturo to be free from defects in material and workmanship for a period of one (1) year from date of original installation. 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 ensure the installation is completed according to the manufacturer's recommendations, ensure the ultimate user understands how to operate product in a safe manner, and understands the need for regular service and maintenance by an authorized Venturo Distributor. No modifications or alterations may be made to any Venturo 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

12-00073A