TABLE OF CONTENTS CT/CTFB INSTRUCTION MANUAL

SECTION 100 DESCRIPTION & SPECIFICATIONS

18580	INSTALLATION DIMENSIONS - CT2003FB
18581	INSTALLATION DIMENSIONS - CT2004FB
18584	INSTALLATION DIMENSIONS - CT2005
19481	INSTALLATION DIMENSIONS - CT2003/4/5FB-S - MAX CUTDOWN
18585	INSTALLATION DIMENSIONS - 13171 & 13172 SOCKETS

SECTION 150 SAFETY

870701	SAFETY & HAZARDS - GENERAL
16176	DECAL PLACEMENT

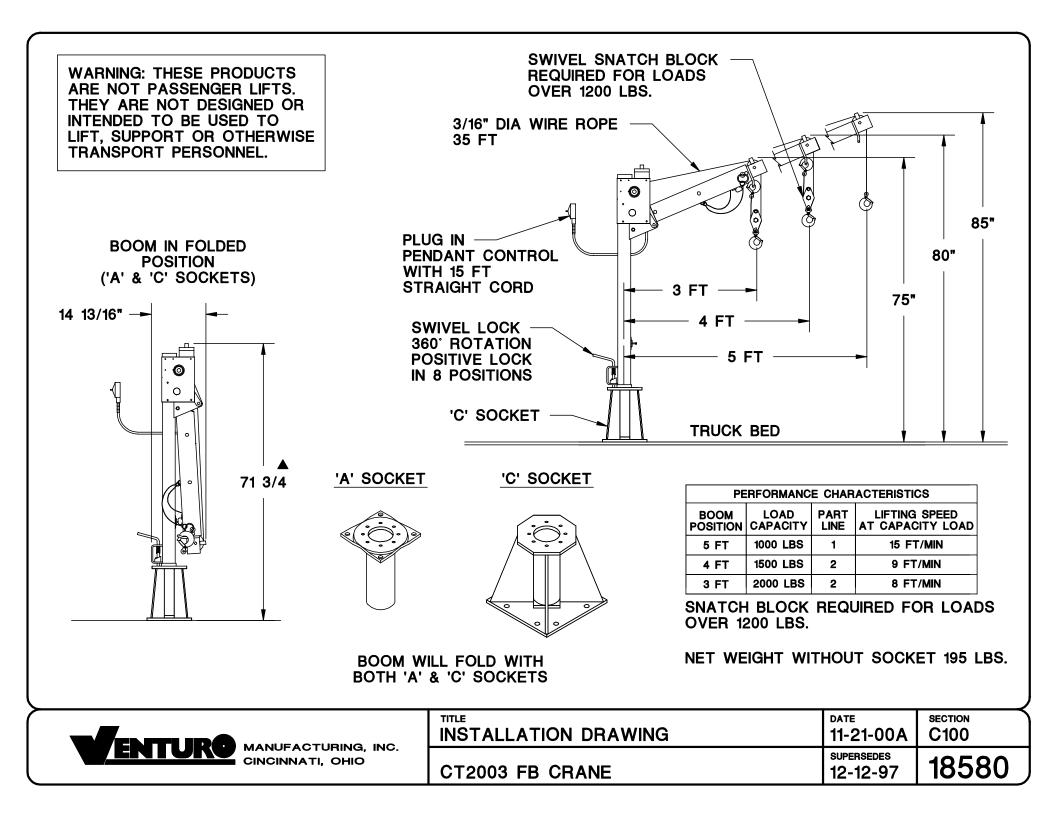
SECTION 200 INSTALLATION

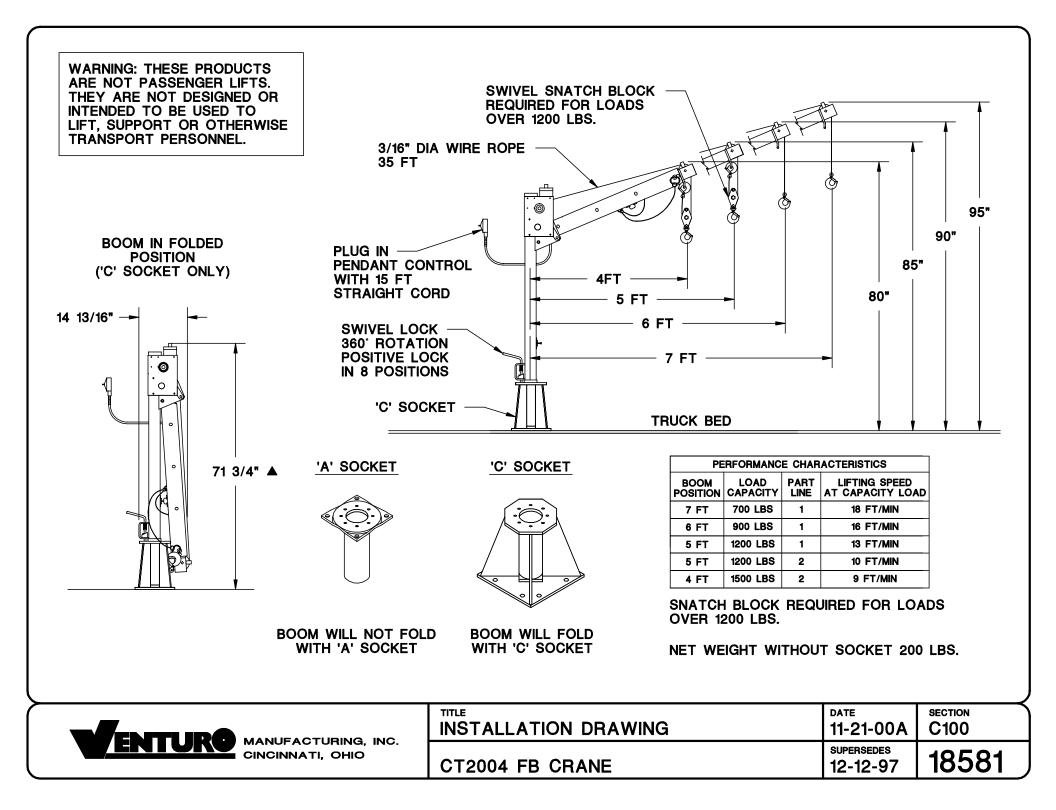
870702	OPERATION & MAINTENANCE INSTRUCTIONS
711105	CABLE & BATTERY REQUIREMENTS - ET AND HT CRANES
15660	BATTERY CABLE INSTALLATION DRAWING
711006	WIRE ROPE SPECIFICATIONS

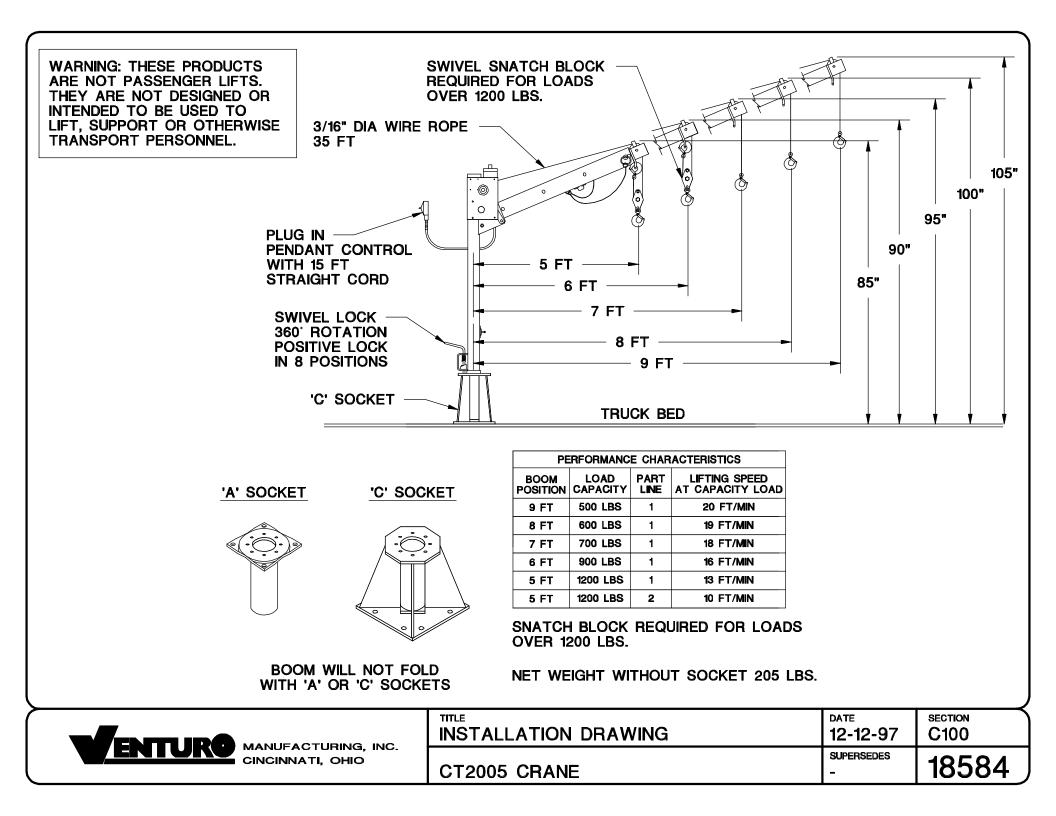
SECTION 400 REPLACEMENT PARTS

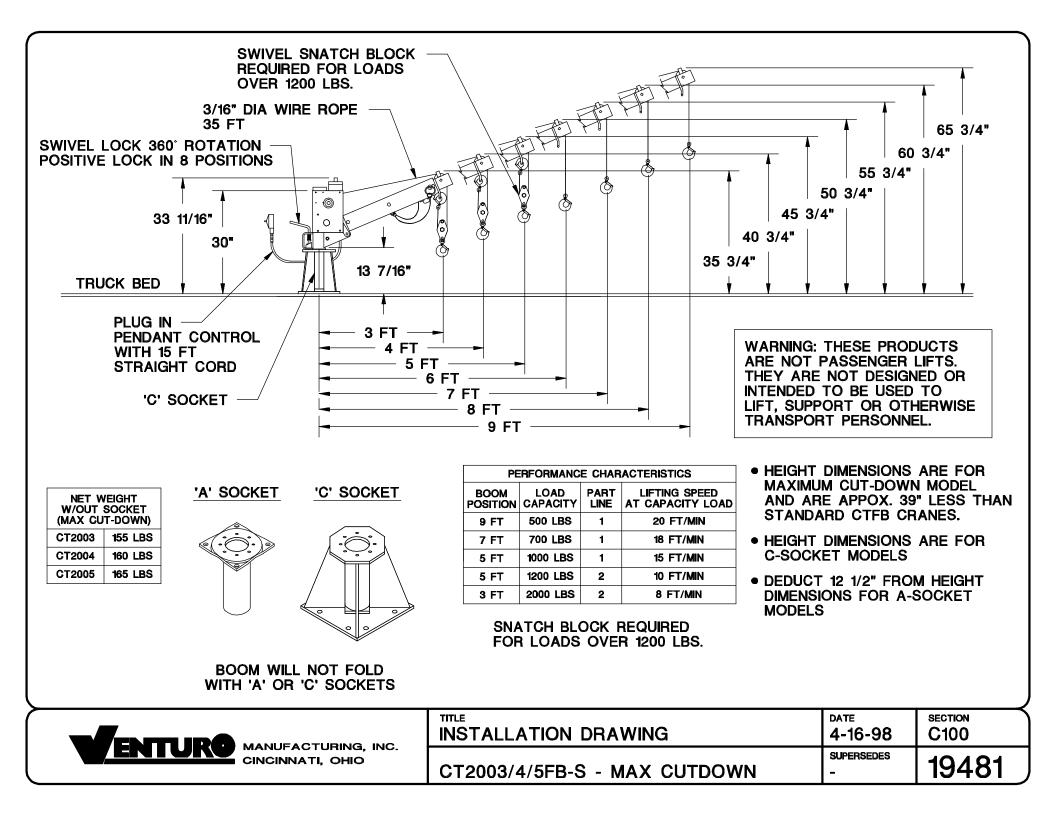
19316	CT2003FB/CT2004FB/CT2005 REPLACEMENT PARTS DRAWING
19317	CT2003FB/CT2004FB/CT2005 REPLACEMENT PARTS LIST
15628	WINCH POWER UNIT WIRING DIAGRAM
20455	REPLACEMENT PARTS - 1 FUNCTION PENDANT CONTROL
12005-1	REPLACEMENT PARTS - A/C PENDANT CORD
116100	16100 SERIES POWER UNIT REPLACEMENT PARTS DRAWING
811016	16100 SERIES POWER UNIT REPLACEMENT PARTS LIST

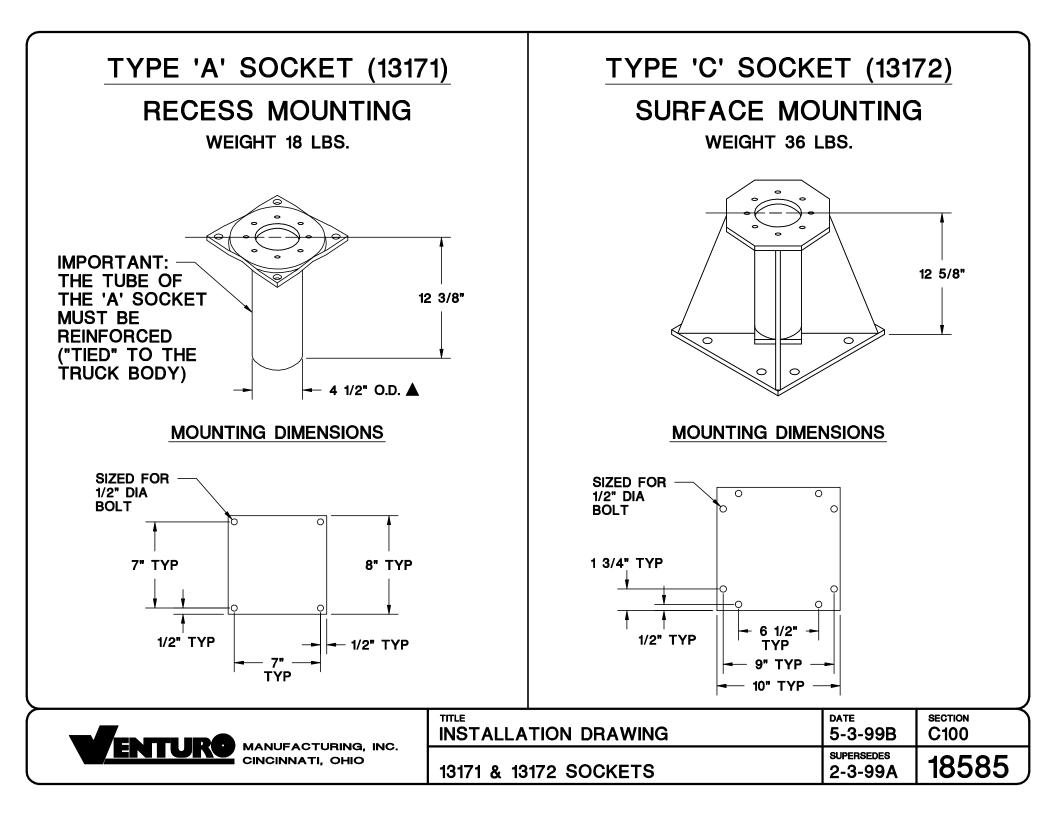
	^{DATE} 8-26-99A	SECTION
CT/CTFB	supercedes 6-30-98	19528











CRANE SAFETY AND HAZARDS

CA, CE, CT, AND DT 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. FOR TRAVEL, BOOM MUST BE TIED DOWN IN THE STOWED POSITION.

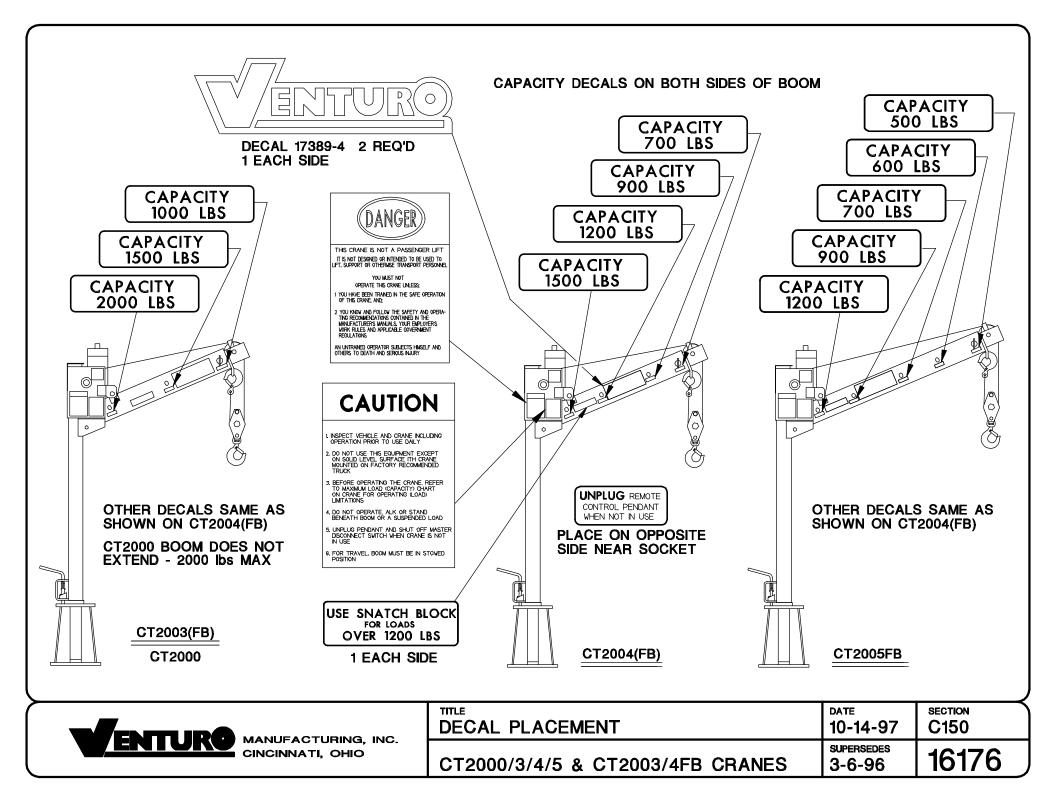
DANGER

- 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.





OPERATING INSTRUCTIONS

CA, CE, CT, & DT CRANES

ELECTRIC WINCH

The winch is operated by a control switch in a plug-in remote pendant. Unplug the pendant and store it in the vehicle when the crane is not in use.

TELESCOPING BOOM

On CE6K, CT & DT Cranes the boom can be manually extended. The hole in the extension section of the boom should be aligned with the slot in the stationary section at the position desired and the toggle pin inserted. The crane lifting capacity is shown at each toggle pin position on the CT & DT cranes. The CE6K has a decal on the mast which shows the capacities of the crane at its various angles and extensions.

SWIVEL SNATCH BLOCK

On CA2000, CT200X, and DT Cranes, the swivel snatch block must be used for loads over 1200 lbs. On the CE6K, the swivel snatch block must be used on loads over 1000 lbs. It may also be used for lower loads to reduce lifting speed for better control and to prevent loads from spinning. CA1000 & CT100X Cranes have a permantly rigged swivel block.

SWIVEL LOCK

On the CT & DT Cranes the hand lever operated swivel lock controls the 360° rotation of the crane and provides positive locking in 8 positions.

BANDBRAKE

The CE6K is equipped with a band brake that provides unlimited rotational positioning.

BOOM TIE DOWN

The load line should be used to tie down the boom to the socket or truck bed while the crane is not in use.

OPTIONAL MASTER DISCONNECT SWITCH

This switch should be turned "OFF" when the crane is not in use to disconnect the crane from the battery.

MAINTENANCE

The crane should be lubricated when the vehicle is serviced.

WINCH GEAR BOX (CT & DT cranes only)

Check the oil level by removing the plug in the side of the gear box. If the oil level is below the plug opening, fill with SAE 85W-140 Hypoid gear oil.

WINCH DRIVE CHAIN (CT & DT cranes only)

Oil lightly. **DO NOT GREASE**. Excess oil or grease will collect dirt and cause excessive chain wear. Inspect the chain and sprockets for excessive wear and proper alignment. Replace if excessively worn.

CRANE SOCKET SWIVEL BEARINGS

The crane should be removed from the socket once a year or more often if excessive dirt is present. Dirt should be cleaned out from around the lower bearing. Use a rag or brush to apply a light weight oil several times to the lower and upper bearings which are both oilite bronze except for the CE, CT200X & DT Cranes upper bearing which does not require lubrication.

		-	DATE 8-01-01C	SECTION C200
ENIURO MFG., INC. CINCINNA	п, оню		supercedes 3-3-998	870702

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

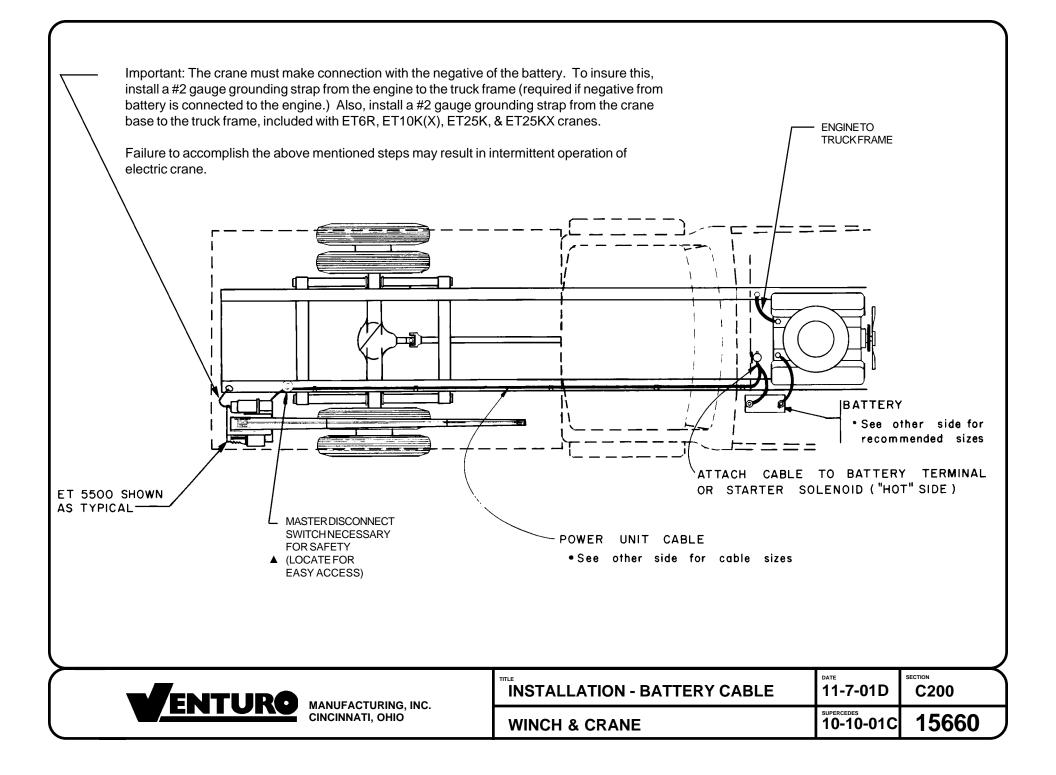
MODEL			12 VOLT BATTER	LT BATTERY REQUIREMENTS						
	0-20	21-25	26-30	31-40	41-50	51-60	61-70	71-80	CCA (A)**	RC (MIN)***
CE6K CT2000 CT2003/4/5 DT7K	#4	#4	#2	#2	#1	#0	#0	#00	350	100
ET5500MPB ET5500R ET6KMPB ET6KR ET10K	#2	#2	#1	#0	#00	NOTRECOMMENDED		450	100	
ET10KX	#2	#2	#1	#0	#00	NOTRE	COMMEN	DED	550	150
ET25K ET25KX	SEED	SEE DRAWING 124600 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 <u>HIGH CURRENT</u> 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 <u>PERIOD OF TIME</u> THE BATTERY CAN SUPPLY A GIVEN CURRENT WITHOUT RECHARGING.

[™] CABLE & BATTERY	^{DATE} 8-10-00R	SECTION C200
CE, CT, DT, & ET	SUPERCEDES	711105



SELECTION

The chart below shows the maximum working load and breaking strength of 7 X 19 Galvanized AIRCRAFT Grade Wire Rope in various diameters. The breaking strength is 3-1/2 times the maximum working load. Do not use wire rope with a Maximum Working Load rating less than the single line capacity of the crane. Use of wire rope diameter larger than the size furnished with the crane will reduce the fatigue life of the wire rope.

WIRE ROPE DIAMETER	MAXIMUMWORKINGLOAD	BREAKING STRENGTH
1/8"	570 lbs	2000 lbs
5/32"	800 lbs	2800 lbs
3/16"	1200 lbs	4200 lbs
7/32"	1600 lbs	5600 lbs
1/4"	2000 lbs	7000 lbs
5/16"	2800 lbs	9800 lbs
3/8"	4114 lbs	14400 lbs

INSTALLATION

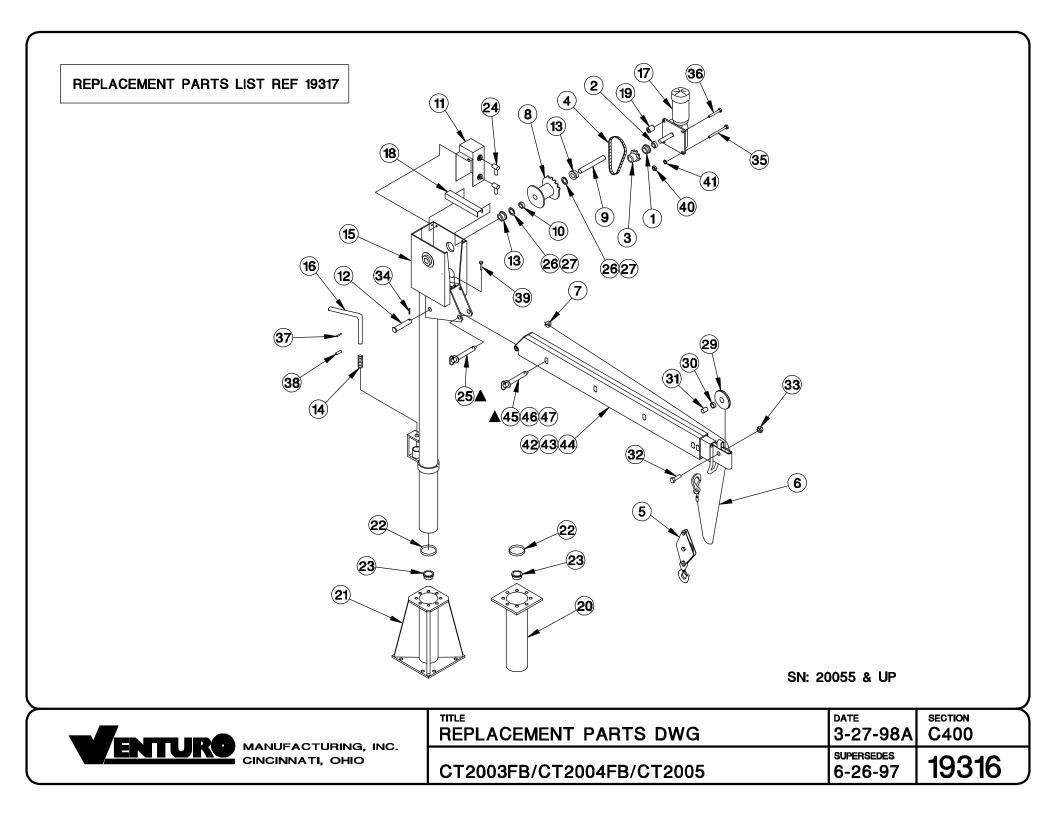
- 1. Unwind coil of rope by rolling it along floor. This will prevent kinking.
- 2. Most VENTURO Cranes are provided with a slot in the winch drum side plate for attaching the end of the wire rope with a stop collar. A hole in the housing allows access for the end of the wire rope when inserted thru the slot.

The ET20K(X) & ET25K(X) Cranes have a clamp built into the winch drum and do not use a stop collar.

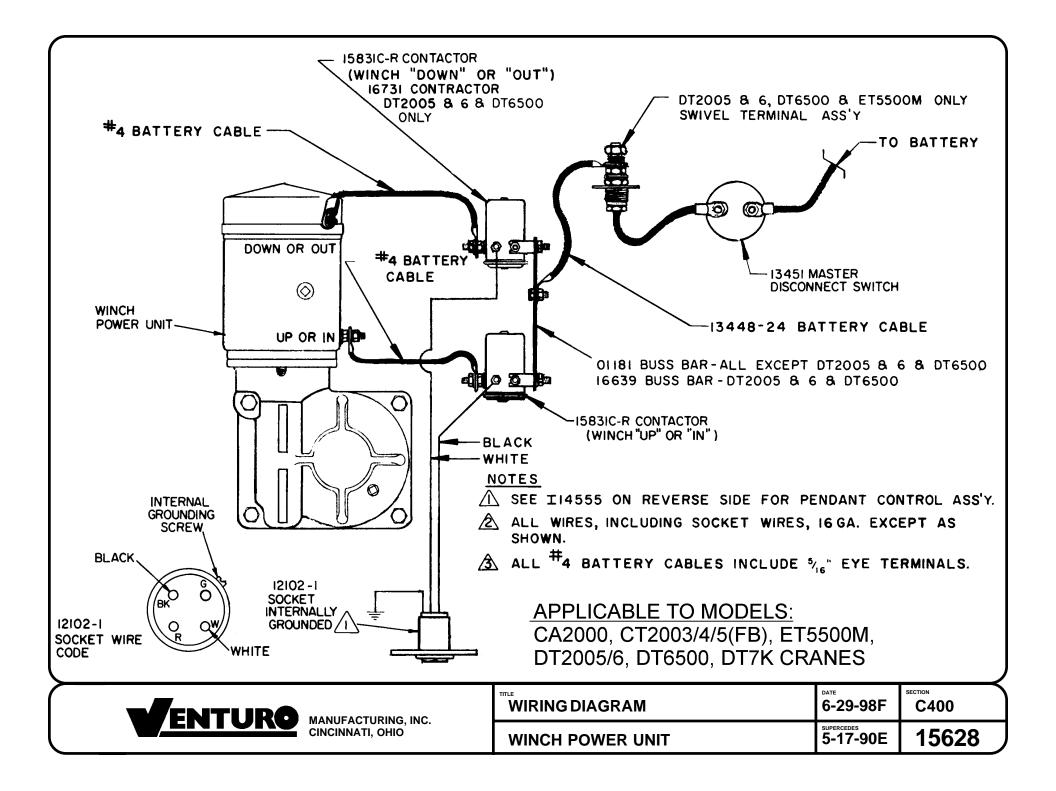
3. THERE MUST ALWAYS BE AT LEAST (3) TURNS OF WIRE ROPE ON THE DRUM WHEN UNDER LOAD.

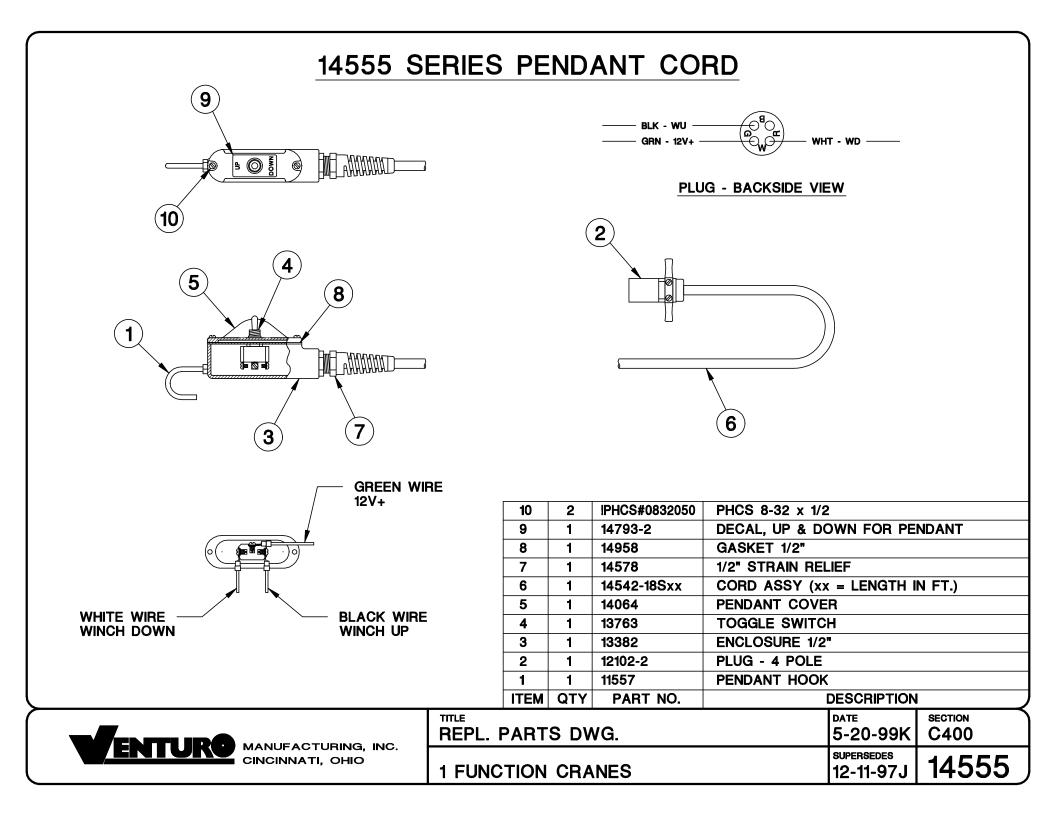


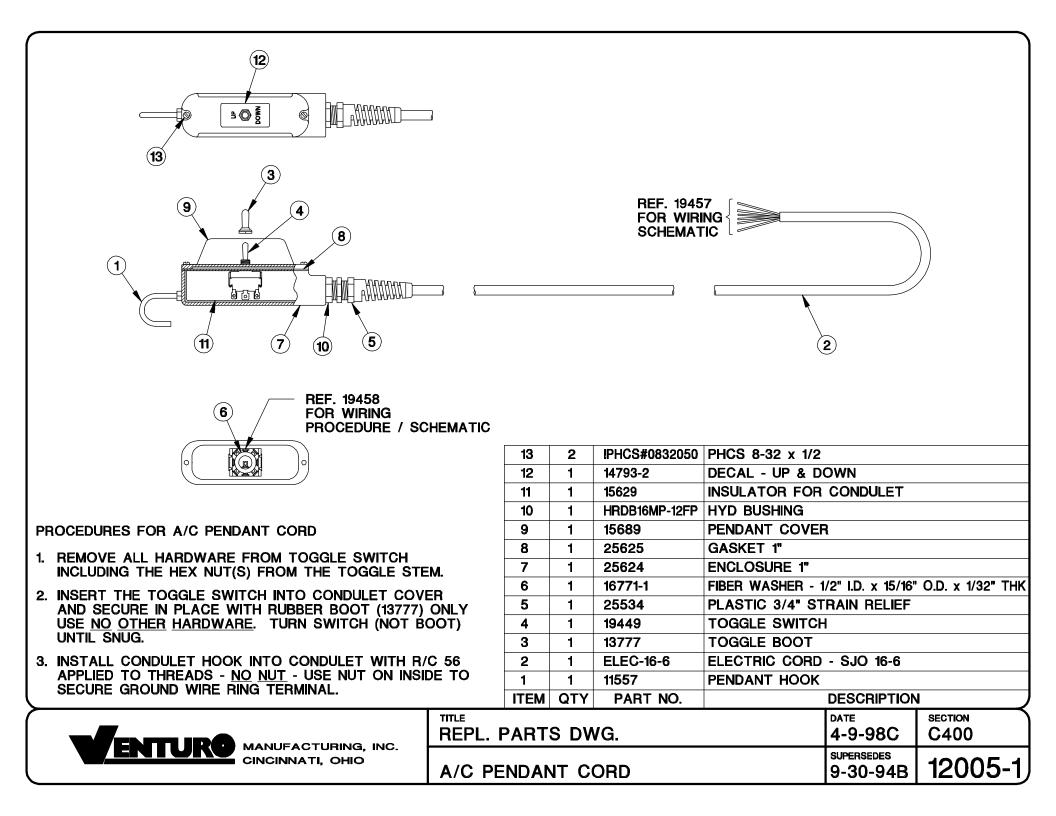
VENTURO	MFG., INC.		^{DATE} 10-23-97G	WC 200
	CINCINNATI, OHIO	VENTURO WINCH & CRANE	SUPERCEDES 4-27-92F	711006

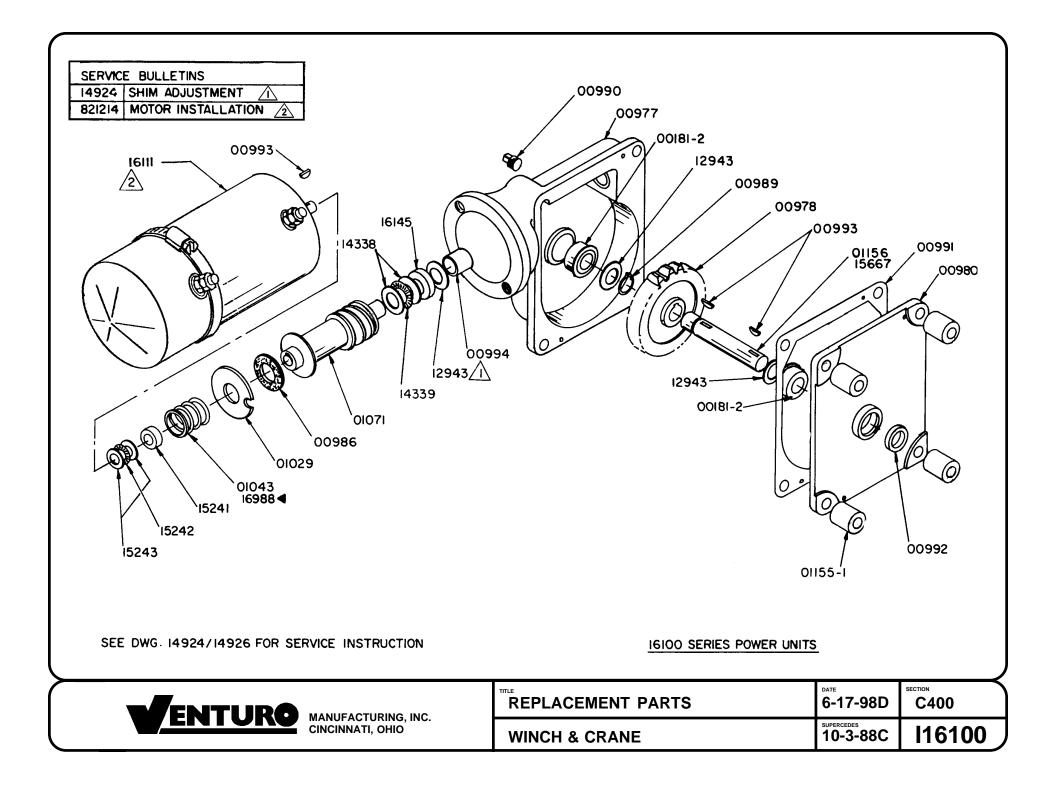


ITEM #	PART #	DESCRIPTION	п	TEM #	PART #	DESCRIPTION		
1	00181-3	BALL THRUST BEARING - 1-7/8" OD x 3/4" ID		41	!LWSH-038	LOCK WASHER - 3/8"		
2	00210	THRUST COLLAR - 3/4" BORE		42	19333	BOOM WELDED ASS		
3	15999	SPROCKET-3/4"BORE		43	19334	BOOM WELDED ASS	-	
4	00867-1	ROTATIONDRIVE CHAIN		44	19335	BOOM WELDED ASS		
5	13149-1			4 4 4 5		PIN ASSEMBLY - 3/4"	-	
-					18541-36-ASSY			
6	15810-3/16-35	WIRE ROPE ASSEMBLY - 3/16" x 35 FT		46	18541-48-ASSY	PIN ASSEMBLY - 3/4"		
7	13463-1	STOPSLEEVE		▲ 47	18541-60-ASSY	PIN ASSEMBLY - 3/4"	O.D. x 3-1/2" LON	IG-5FT BOOM EXT
8	01149	CABLEDRUM		48	-	-		
9	01153	MAIN SHAFT - CABLE DRUM		49	-	-		
10	01158	THRUST COLLAR - MAIN SHAFT - 1" BORE		50	-	-		
11	19421	CONTACTOR, SOCKET & COVER SUB ASSEMBLY		51	-	-		
12	13401-2B	PIVOT PIN-CYL ROD		52	-	-		
13	01299	FLANGED BEARING - 1" ID x 2" OD		53	-	-		
14	11889	SPRING		54	-	-		
15	19331	WELDEDMASTASSSEMBLY		55	-	-		
16	14785	LOCKBOLT		56	-	-		
10	16105-CHIG	WINCHPOWERUNIT		50 57	_	_		
17	16972	CHAINCOVER		57				
					-	-		
19	01155-1	SPACER		59	-	-		
20	13171	MOUNTING SOCKET-TYPE A		60	-	-		
21	13172	MOUNTING SOCKET-TYPE C		61	-	-		
22	13179	BEARING - 4" ID x 1" WIDTH		62	-	-		
23	11893	BEARING - 1.5" ID x 9/16" WIDTH		63	-	-		
24	18542	BOOT-MOTOR TERMINAL		64	-	-		
▲ 25	18541	PIN ASSEMBLY - 3/4" OD x 3-1/2" LONG - BOOM ELEVA	TION	65	-	-		
26	12534-8	BUSHING - 1" ID x 1-1/2" OD x 14 GA		66	-	-		
27	12534-9	BUSHING - 1" ID x 1-1/2" OD x 18 GA		67	-	-		
28	-	-		68	-	_		
29	01212-2	CABLE SHEAVE - 4" OD x 1-1/64" ID		69	-	l _		
30	01272-1	BUSHING-CABLE SHEAVE		70	_			
31	13168-2	SLEEVE-MINRUN30		70	-			
32	!HHCS06311175	HEX HEAD CAP SCREW - 5/8"-11 x 1-3/4"		72		-		
					-	-		
33	INUT-06311N	JAM LOCK NUT - 5/8"-11		73	-	-		
34	!RPIN-016125	ROLL PIN - 5/32" x 1-1/4"		74	-	-		
35	!HHCS03816450	HEX HEAD CAP SCREW - 3/8"-16 x 4-1/2"		75	-	-		
36	!HHCS03816275	HEX HEAD CAP SCREW - 3/8"-16 x 2-3/4" (3 PLC)		76	-	-		
37	!RPIN-019125	ROLL PIN - 3/16" x 1-1/4"		77	-	-		
38	!RPIN-031125	ROLL PIN - 5/16" x 1-1/4"		78	-	-		
39	!HHCS03816100	HEX HEAD CAP SCREW - 3/8"-16 x 1"		79	-	-		
40	!HNUT-03816	HEX NUT - 3/8"-16		80	-	-		
						REPLACEMENTPAR	TSDRAWING REF	19316
						SN: 20055 & UP		
(TURO MANUFACTURING, INC.	REPL	ACEN	MENT PARTS		^{дате} 3-27-98В	C400
		MANUFACTURING, INC. CINCINNATI, OHIO	CT2003	BFB/CT	2004FB/CT2005		supercedes 12-2-97A	19317









REPLACEMENT PARTS LIST - 16100 ELECTRIC POWER UNIT

MODEL(S): ET5500MPB, ET6KM, ET6KR

PART NO.	DESCRIPTION	•							
16101 16102 16105 16106 16107	POWER UNIT - LONG SHAFT - ET5500R WINCH POWER UNIT - SHORT SHAFT - ET5500R ROTATION POWER UNIT - LONG SHAFT - CA 2000, CT 2003, WA/SL 3000 (WITH SPACERS) POWER UNIT - LONG SHAFT - ET5500 WINCH (WITHOUT SPACERS) POWER UNIT - SHORT SHAFT - ET5500R ROTATION								
00181-2 00977 00978 00980 * 00986	FLANGE BEARING - 3/4" BORE x 1 3/4" O.D. GEAR CASE (INCLUDES 00994 BUSHING) WORM GEAR BASE PLATE BRAKE DISC								
 * 00989 00990 * 00991 * 00992 * 00993 ▲ 	LOCK RING OIL PLUG - 1/4" PIPE GASKET OIL SEAL KEY - #9 WOODRUFF								
00994 01029 01043 🛕 01071 01155-1	BUSHING BRAKE PLATE BRAKE SPRING (16102 & 16107 ROTAT WORM SHAFT SPACER (16105 ONLY)	TON POWER UNIT ONLY)							
01156 * 12943-1 ▲ * 12943-2 ▲ * 12943-3 ▲ 14338									
14339 15241 15242 15243 15667	15241SPACER (INSTALL NEXT TO BRAKE PLATE)15242NEEDLE THRUST BEARING 5/8" I.D.15243NEEDLE THRUST RACE .092" x 5/8" I.D.								
16111 🛆 16145 16988 🛆	MOTOR - 12 VOLT 4 1/2" DIAMETER SPACER BRAKE SPRING (16101, 16105 & 16106	WINCH POWER UNITS ONLY)							
14889 15290	MOTOR REPAIR KIT SMALL PARTS KIT (INCLUDES ITEMS N	IARKED *)							
	BLE ONLY AS PART OF 15290 SMALL F	PARTS KIT							
	POWER UNIT REPLACED BY 16106 POWE POWER UNIT REPLACED BY 16107 POWE								
1610 1610									
	A 16111 MOTOR REPLACES 01024 E & F & 16112 MOTORS ON ALL 30E & 16100 SERIES POWER UNITS								
	16988 BRAKE SPRING REPLACES 01043 BRAKE SPRING ON 16101, 16105 & 16106 WINCH POWER UNITS ONLY								
		REPL. PARTS LIST	^{DATE} 8-10-99D	SECTION C400					
	NTURO MFG., INC. CINCINNATI, OHIO	16100 ELECTRIC PU	SUPERCEDES 6-17-98C	811016					