

SEE NOTE 11
SEE NOTE 6
SEE NOTE 6
SEE NOTE 24
SEE NOTE 6
CUT TO SUIT
SEE NOTE 11
SEE NOTE 17, 18
SEE NOTE 24
SEE NOTE 24
SEE NOTE 20
REMARKS

QTY	ITEM NO.	DESCRIPTION	HANSOME PART NO.	UNIT IDENTIFYING NO.	WT.	MATERIAL	MATL. SPEC.	REMARKS
1	116	COOLER MTG PLATE ALTERNATOR	HAN 4644-1			STAINLESS STEEL	COMMERCIAL	
1	114	COOLER MTG PLATE-FREQ. CHG.	HAN 4645-1			STAINLESS STEEL	COMMERCIAL	
2	113	COOLER ASSEMBLY	HAN 4796GI			MIL-C-19836ACL3	SEE NOTE 13	
1	112	COVER, FLYWHEEL	HAN 4699-1			ALUMINUM	COMMERCIAL	
1	110	COUPLING	KOPFLEX K01-403					SEE NOTE 24
1	108	CAP.BRG.INSIDE.FREE END	HAN 4691-1			MANGANESE BRONZE	QQ-C-390	
1	107	CAP.BRG.OUTSIDE.FREE END	HAN 4692-1			MANGANESE BRONZE	QQ-C-390	
1	106	PILLLOW BLOCK.FREE END	HAN 4682-1			MANGANESE BRONZE	QQ-C-390	
1	105	FLYWHEEL, FREE END	HAN 4675-3			NITRONIC 50	AMS5764	
1	104							
12	103	STUD	HAN 4702-1			K-MONEL	MIL-S-1222	
2	102	SPRING WASHER #226 B.B.	ESB 0906		2	SPRING STEEL	COMMERCIAL	SEE NOTE 11
1	101	BEARING BALL (#226) B.B.	ESB 053-24		26	STEEL		SEE NOTES 2, 11 & 19
1	100	CAP.BRG.INSIDE.COUPPLING END	HAN 4684-1			MANGANESE BRONZE	QQ-C-390	
1	99	CAP.BRG.OUTSIDE.COUPPLING END	HAN 4683-1			MANGANESE BRONZE	QQ-C-390	
1	98	PILLLOW BLOCK.COUPPLING END	HAN 4681-1			MANGANESE BRONZE	QQ-C-390	
1	97	FLYWHEEL, COUPLING END	HAN 4675-2			NITRONIC 50	AMS5764	
REF	96	ASSEMBLY, FLYWHEEL COMPLETE	HAN 4676GI					
REF	95	ASSEMBLY, FLYWHEEL	HAN 4675GI					SEE NOTE 14
1	94							
1	93							
1	92							
1	91	CLAMP,BOTTOM HALF, AUX.	HAN 4750-2			MELAMINE (GME)	MIL-P-15037	
1	90	CLAMP, TOP HALF, AUX.	HAN 4750-2			MELAMINE (GME)	MIL-P-15037	
REF	89	LEAD CLAMP ASSEMBLY, AUX.	HAN 4750GI					
1	88	GASKET,TERM. BOX COVER,AUX.	HAN 4749-1			RUBBER	MIL-G-1149	
1	87	GASKET,MTG,TERM. BOX, AUX.	HAN 4749-2			RUBBER	MIL-G-1149	
1	86	COVER, TERMINAL BOX, AUX.	HAN 4748-1			STAINLESS STEEL	COMMERCIAL	
1	85	TERMINAL BOX, AUX.	HAN 4745-1			STAINLESS STEEL	COMMERCIAL	
REF	84	ASSEMBLY,TERMINAL BOX, AUX.	HAN 4744GI					
1	83							
2	82	LEAD CLAMP SUPPORT	HAN 4742-1			STAINLESS STEEL	COMMERCIAL	
1	81	CLAMP,BOTTOM HALF, ALT.	HAN 4740-2			MELAMINE (GME)	MIL-P-15037	
1	80	CLAMP, TOP HALF, ALT.	HAN 4740-2			MELAMINE (GME)	MIL-P-15037	
REF	79	LEAD CLAMP ASSEMBLY, ALT.	HAN 4740GI					
2	78	TERMINAL LUG	ESB 006-6			COPPER	COMMERCIAL	
1	77	GASKET,COVER TERM. BOX, ALT.	HAN 4732-1			RUBBER	MIL-G-1149	
1	76	GASKET,MTG,TERM. BOX, ALT.	HAN 4732-2			RUBBER	MIL-G-1149	
1	75	COVER, TERMINAL BOX, ALT.	HAN 4748-1			STAINLESS STEEL	COMMERCIAL	
1	74	TERMINAL BOX, ALT.	HAN 4730-1			STAINLESS STEEL	COMMERCIAL	
REF	73	ASSEMBLY,TERMINAL BOX, ALT.	HAN 4729GI					
1	72							
1	71	GASKET, TOP COVER, TERM. BOX, FREQ. CHG.	HAN 4780-1			RUBBER	MIL-G-1149	CUT TO SUIT
1	70	TOP COVER, TERM. BOX, FREQ. CHG.	HAN 4780-1			STAINLESS STEEL	COMMERCIAL	
6	69	INSULATOR STANDOFF	GLASTIC 1461-1A			POLYESTER GLASS	COMMERCIAL	
1	68	EXTENSION, STRAP T1	HAN 4725-1			COPPER	QQ-C-502	
1	67	EXTENSION, STRAP T2	HAN 4724-1			COPPER	QQ-C-502	
1	66	CONDUCTOR BAR T1	HAN 4718-3			COPPER	QQ-C-502	
1	65	CONDUCTOR BAR T1	HAN 4718-1			COPPER	QQ-C-502	
30	64	TERMINAL LUG	T & B 54212			COPPER	COMMERCIAL	SEE NOTE 24
1	63	CONDUCTOR BAR T2	HAN 4718-2			COPPER	QQ-C-502	
1	62	GASKET,TERM. BOX COVER FREQ. CHG.	HAN 4712-1			RUBBER	MIL-G-1149	
1	61	GASKET,MTG,TERM. BOX, FREQ.CHG.	HAN 4713-2			RUBBER	MIL-G-1149	
1	60	COVER, TERM. BOX, FREQ. CHG.	HAN 4712-1			STAINLESS STEEL	COMMERCIAL	
1	59	TERMINAL BOX, FREQ. CHG.	HAN 4711-1			STAINLESS STEEL	COMMERCIAL	
1	58	ASSY, TERM.BOX,FREQ.CHG.	HAN 4710GI					
1	57							
1	56							
12	55	BUSHING	HAN 4577-2		66	STEEL	COMMERCIAL	SEE NOTES 11
15	54	PLATE, BACKING	HAN 4643-1		49	STEEL	ASTM-A514	SEE NOTES 11
30	53	WASHER SPECIAL	HAN 4735-1		39	STEEL	ASTM-A514	SEE NOTES 11
3	52	CLAMP, BUL. ROTOR	HAN 4733-1			STAINLESS STEEL	COMMERCIAL	
3	51	CLAMP, BOTTOM HALF	HAN 4737-1			TEFLON/GLASS FILLED	COMMERCIAL	
3	50	CLAMP, TOP HALF	HAN 4736-1			TEFLON/GLASS FILLED	COMMERCIAL	
3	49	PLATE CONDUCTOR	HAN 4734-2			COPPER	QQ-C-576	
3	48	CLAMP CONDUCTOR	HAN 4734-1			COPPER	QQ-C-576	
30	47	CLAMP ANGLE	HAN 4605-1		22	STEEL	ASTM-A514	SEE NOTES 11
1	46							
1	45							
1	44	FAN, ALT.	HAN 4616-1			STAINLESS STEEL	COMMERCIAL	
1	43	FAN, FREQ. CHG.	HAN 4592GI			STAINLESS STEEL	COMMERCIAL	
REF	42	ASSY, ROTOR CORE, A.T.	HAN 4610GI		1665			
REF	41	ASSY, ROTOR CORE, FREQ. CHG.	HAN 4582GI		1540			
REF	40	ASSY, SHAFT & SPIDER	HAN 4576GI					
REF	39	ASSY, SHAFT COMPLETE	HAN 4577GI		3315			
1	38							
1	37							
3	36	SPRING WASHER-#321 B.B.	SSB0886		1	SPRING STEEL		SEE NOTES 11 & 19
1	35	GREASE SLINGER, ALT. END	HAN 4571-1			H.R. STEEL	COMMERCIAL	SEE NOTES 11 & 19
1	34	BEARING BALL (#321) ALT. END	ESB 050-19		18	STEEL		SEE NOTES 2, 11 & 19
1	33	CAP.BEARING,OUTSIDE,ALT. END	HAN 4570-1			MANGANESE BRONZE	QQ-C-390	
1	32	CAP.BEARING,INSIDE,ALT. END	HAN 4569-1			MANGANESE BRONZE	QQ-C-390	
1	31	HOUSING, ALT. END	HAN 4568-1			MANGANESE BRONZE	QQ-C-390	
1	30							
1	29							
1	28	AIR CONE-HOUSING, FREQ. CHG.	HAN 4566-1			ALUMINUM	QQ-A-250	
1	27	GREASE SLINGER, FREQ. CHG. END	HAN 4565-1		2	H.R. STEEL	COMMERCIAL	SEE NOTES 11 & 19
1	26	BEARING BALL (#226) FREQ.CHG.END	ESB 053-26		17	STEEL		SEE NOTES 11 & 19
1	25	CAP.BEARING,OUTSIDE, FREQ.CHG.END	HAN 4564-1			MANGANESE BRONZE	QQ-C-390	
1	24	CAP.BEARING,INSIDE, FREQ.CHG.END	HAN 4563-1			MANGANESE BRONZE	QQ-C-390	
1	23	HOUSING, FREQ.CHG.END	HAN 4562-1			MANGANESE BRONZE	QQ-C-390	
1	22							
1	21							
2	20	GASKET,HAND HOLE COVER-BOTTOM	HAN 4638-1			RUBBER	MIL-G-1149	
2	19	COVER, HAND HOLE-BOTTOM	HAN 4635-1			STAINLESS STEEL	COMMERCIAL	
1	18							
1	17	AIR CONE, ALTERNATOR END	HAN 4558-1			ALUMINUM	QQ-A-250	
1	16	AIR CONE, FREQ. CHG. END	HAN 4555-1			ALUMINUM	QQ-A-250	
1	15							
1	14							
14	13	CLAMP PLATE	HAN 4539-1			STAINLESS STEEL	COMMERCIAL	
1	12	ASSY, FIELD COIL & POLE PIECE	HAN 4538GI		550			
1	11	FRAME, ALTERNATOR	HAN 4544-1			STAINLESS STEEL	COMMERCIAL	
REF	10	ASSY, STATOR CORE & FRAME ALT.	HAN 4543GI					
1	09							
1	08							
7	07	MTG. PIECE CONNECTION RING	HAN 4622-1			STAINLESS STEEL	COMMERCIAL	
1	06							
1	05	ASSY CONNECTION RING	HAN 4621GI					
1	04							
1	03	FRAME,FREQUENCY CHANGER	HAN 4540-1			STAINLESS STEEL	COMMERCIAL	
REF	02	ASSY, STATOR CORE & FRAME, FREQ.	HAN 4527GI		1700			
REF	01	ASSY, FRAME, FREQ. CHG. & ALT.	HAN 4528GI					
2	1	ITEM NO. NOMENCLATURE OR DESCRIPTION	HANSOME PART NO.	UNIT IDENTIFYING NO.	WT.	MATERIAL	MATL. SPEC.	REMARKS

- NOTES:
- MATERIAL SPECIFICATIONS WILL BE AS LISTED IN THE BILL OF MATERIALS.
 - BEARINGS CONFORM TO SPEC. FF-B-171 TYPE 111 CLASS 1.
FREQUENCY CHANGER END (#226) - HOUSING BORE DIAMETER - 9.8427/9.8432
CAP SHOULDER INSIDE DIA. - 8.75
ALTERNATOR END (#321) - HOUSING BORE DIAMETER - 8.8585/8.8590
CAP SHOULDER INSIDE DIA. - 8.00
FLYWHEEL (#226) - HOUSING BORE DIAMETER - 9.0558/9.0553
CAP SHOULDER INSIDE DIA. - 7.88
 - USE GOVERNMENT STANDARD BEARING PULLER, SPEC. CGG-P-781 TYPE VII, SIZE 5 AND ATTACHMENT TYPE XII, SIZE 3.
 - BEARING LUBRICATION: GREASE PER QQD-G-24508.
 - GREASE FITTINGS ARE PACKED WITH REPAIR PARTS FOR USE IN LUBRICATING. PROPER AMOUNT OF GREASE HAS BEEN APPLIED PRIOR TO SHIPMENT. IT IS RECOMMENDED THAT THE UNIT BE LUBRICATED AFTER THE FIRST SIX (6) MONTHS OF OPERATION AND ONCE A YEAR THEREAFTER UNLESS REQUIRED MORE FREQUENTLY AS DETERMINED BY EXPERIENCE.
 - ALL SCREWS ARE LOCKED WITH LOCKWASHERS. ALL STEEL HARDWARE IS CORROSION RESISTANT TREATED IN ACCORDANCE WITH MIL-E-917, PARAGRAPH 3.9.2.2 TABLE XVI.
 - ALL SHEET METAL PARTS TO BE VARNISHED OR PAINTED.
 - PAINT FINISH TO BE IN ACCORDANCE WITH PAR. 3.9.2 OF SPEC. MIL-E-917, "ELECTRIC POWER EQUIPMENT, BASIC REQUIREMENTS FOR NAVAL SHIPBOARD USE."
 - ALL WELDING IS IN ACCORDANCE WITH SPEC. MIL-STD-275, CLASS M, VISUAL INSPECTION ONLY.
 - DYNAMIC BALANCE - STANDARD.
 - ALL ITEMS NOT REFERENCING THIS NOTE HAVE A PERMEABILITY LESS THAN 2.
 - SPRING WASHERS, ITEM NOS. 36 & 102 ARE SECURED TO BEARING CAPS, ITEM NOS. 43 & 99 RESPECTIVELY BY ONE HARDENED DRIVE SCREW, ITEM NO. 223.
 - COOLING WATER SYSTEM: SEAWATER REQUIREMENTS - 35GPM PER COOLER - TOTAL: 70GPM. MAX. WATER TEMP. 85°C.
 - FINAL BALANCING OF ENTIRE ASSEMBLY WITH FLYWHEELS WILL BE PERFORMED BY CUSTOMER.
 - FOR ITEM NOS. 64, 69, 110, 136, 137, 138, 139, 140, 257 APPROVED EQUIVALENT SOURCES ARE ACCEPTABLE.
 - FOUR (4) STRIP HEATERS, ITEM NO. 130 MANUFACTURED BY MATLOW OR EQUIVALENT RATING OF 250 WATTS, 115 VOLTS EACH.
 - PLATINUM ELEMENT TYPE RESISTANCE TEMPERATURE DETECTORS (RTD)'S, ITEM NOS. 139 & 140 PER MIL-T-24388.
TEMPERATURE DETECTOR DATA:
(a) RESISTANCE TEMPERATURE COEFFICIENT 0.00392 OHM/OHM/°C
(b) RESISTANCE CHARACTERISTIC (INCLUDING LEAD RESISTANCE)
100.0 OHMS @ 0.5 OHMS AT 0°C
199.2 OHMS @ 0.5 OHMS AT 100°C
(c) EACH R.T.D. HAS 3 WIRES (1 RED, 2 WHITE). (139)
(d) EACH R.T.D. HAS 3 WIRES (1 RED, 2 AMBER). (140)
 - FOR LOCATION OF SLOT NO. 1 IN STATOR WINDING, ITEM NO. 2, REFER TO ZONE E-8 SH. 2. THE STATOR WINDING R.T.D.'S, ITEM NO. 140 AND BEARING R.T.D.'S, ITEM NO. 139 ARE CONSECUTIVELY NUMBERED 1 THRU 10 IN AUXILIARY TERMINAL BOX & REFER TO ZONE 7H SH. 4.
 - PIECE NUMBERS IDENTIFIED BY AN ASTERISK ARE NORMALLY SUPPLIED AS ON BOARD REPAIR PARTS: FOR ON BOARD REPAIR PARTS ACTUALLY FURNISHED REFER TO THE CONTRACT OR ORDER.
 - ITEMS NO. 134 CUT TO SUIT.
 - BRACKET REMOVAL SCREWS TO ENABLE DISASSEMBLY.
 - THREADED HOLES HAVE BEEN PROVIDED IN ITEM NOS. 43 & 14 FOR FINAL BALANCING OF THE ROTOR SHAFT COMPLETE ASSEMBLY, ITEM NO. 39.
 - TERMINAL LEAD MARKERS ARE IN ACCORDANCE WITH TYPE "F", GRADE "A" OF SPEC. MIL-I-6310.
 - PIECE NUMBERS IDENTIFIED BY TWO ASTERISKS ARE SUPPLIED BY OTHERS.
 - QUALITY CONTROL & INSPECTION SHALL BE PER HANSOME PROCEDURE IN ACCORDANCE WITH MIL-I-45208A.

C202 CHECKED

DATA	
NR'S TYPE AND CLASS	FRAME SIZE 1200
DUTY/CAPACITY/CONTINUOUS:	550KW, 435VOLTS, 1400AMPS, 420/362HERTZ, 3PHASE, .52P.F., 1800/1550RPM
INTERMITTENT:	1370 KW, 435 VOLTS, 2116 AMPS, 420/362 HERTZ, 3 PHASE, .86P.F., 1800/1550 RPM, 5.5 SECONDS "ON" 9.5 SECONDS "OFF"
DEGREE OF ENCLOSURE	DRIP-PROOF PROTECTED WATER-COOLED
SPEED CLASS	VARIABLE RPM 1800 / 1550
SPECIAL FEATURE	NONMAGNETIC AMBIENT 50 °C OR LESS
FIELD EXCITATION:	AT MAX. INTERMITTENT DUTY 250 V 36AMPS (APPROX) CEILING 360 V 52 AMP
TYPE OF ROTOR	INSULATION CLASS
MOUNTING	NAVY SERVICE

ALL DIMENSIONS ARE SHOWN IN INCHES AND ARE FOR REFERENCE ONLY

DISTRIBUTION STATEMENT C DISTRIBUTION AUTHORIZED TO U.S. GOVERNMENT AGENCIES AND THEIR CONTRACTORS; CRITICAL TECHNOLOGY; 09 JULY 2013; OTHER U.S. REQUESTS SHALL BE REFERRED TO NAVAL SEA SYSTEMS COMMAND (NSA-09T)

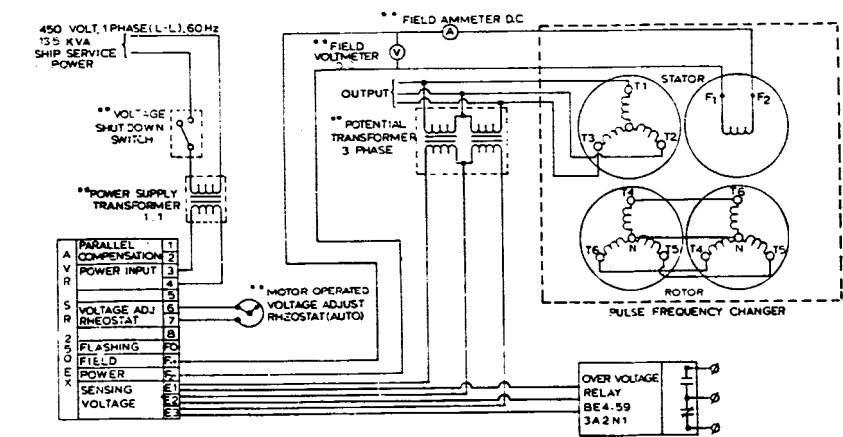
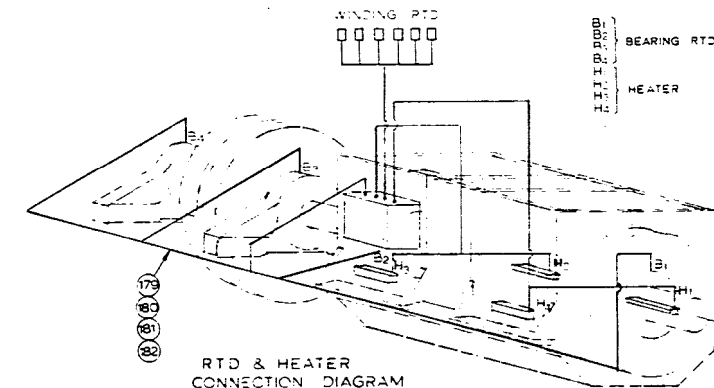
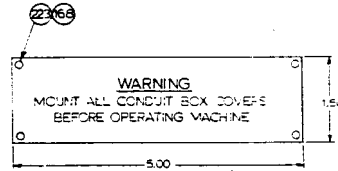
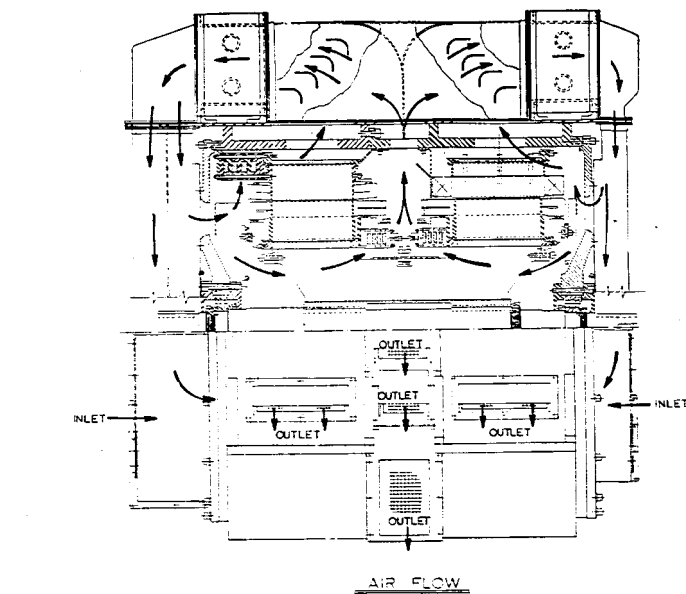
WARNING: THIS DOCUMENT CONTAINS TECHNICAL DATA WHOSE EXPORT IS RESTRICTED BY THE ARMS EXPORT CONTROL ACT (TITLE 22, U.S.C. SEC 2511 ET SEQ) OR THE EXPORT ADMINISTRATION ACT OF 1979, AS AMENDED (TITLE 50 U.S.C. SEC 2401 ET SEQ) VIOLATIONS OF THESE EXPORT CONTROL LAWS ARE SUBJECT TO SEVERE CRIMINAL PENALTIES. DISSEMINATE IN ACCORDANCE WITH PROVISIONS OF DDG DIRECTIVE 5230 25 DESTRUCTION NOTICE: DESTROY BY ANY METHOD THAT WILL PREVENT DISCLOSURE OF CONTENT; OR RECONSTRUCTION OF THE DOCUMENT

CLASSIFIED - DOCUMENT CONTAINS NO HWT 15 / 5 J ARJOUR NHIC09 09 JULY 2013

PROCESS OTHERWISE SPECIFIED

3 DEC. P.A.C. 0.015; INT. MACH. DIA. 0.005
3 DEC. P.A.C. 0.002; EXT. MACH. DIA. 0.005
FRACTIONAL: 1/44; TORQUE CUT D.D. 1/16
FOR ANGLES 0° 5' FOR CASTING
MACH. FIN. 125 RMR
REMOVE BURRS AND SHARP CORNERS.

HANSOME ENERGY SYSTEMS INC. LINDEN, N.J. 07036	
PULSE FREQUENCY CHANGER (NONMAGNETIC)	
DATE: 5-20-92	SCALE: NONE
51802	A-1200-173
5	5



ITEM NO.	DESCRIPTION	HANSDOME PART NO. IDENTIFYING NO.	UNIT WT.	MATERIAL	NATL. SPEC.	REMARKS	
239							
309							
307							
306							
305							
304							
303							
302							
301							
300							
299							
298							
126	297 MIDDLE FILLER, SLOT ROTOR	COMPOSITE (2100)	MIL-1-22834				
126	296 CELL, SLOT ROTOR ALTERNATOR	COMPOSITE (2100)	MIL-1-22834				
126	295 BOTTOM FILLER ALTERNATOR	COMPOSITE (2100)	MIL-1-22834				
126	294 FILLER, TOP ALTERNATOR	COMPOSITE (2100)	MIL-1-22834				
126	293 COIL, ROTOR ALTERNATOR	HAN 4666-1	COPPER WIRE	J-V-1177/17	AS REQUIRED		
24	291 COIL, FREQ. CHG.	HAN 4561-1	COPPER WIRE	J-V-1177/17			
290	INSULATION SLEEVING, ALT.	BAKON	MIL-3-3190	WRAP AROUND LEADS			
289	HEATER CABLE #14 AWG.	COMMERCIAL	TEFLON COVER				
168	288 BOTTOM FILLER, SLOT STATOR	COMPOSITE (2100)	MIL-1-22834				
84	287 STRIP, PHASE	COMPOSITE (2100)	MIL-1-22834				
168	286 MIDDLE FILLER, SLOT STATOR	COMPOSITE (2100)	MIL-1-22834				
168	285 CELL, SLOT STATOR	COMPOSITE (2100)	MIL-1-22834				
168	284 WEDGE, SLOT, STATOR	HAN 4551-3	NOMEX	MIL-1-22834			
168	283 COIL, STATOR	HAN 4551-2	COPPER WIRE	J-V-1177/14			
282							
126	281 MIDDLE FILLER, SLOT ROTOR FREQ. CHG.	COMPOSITE (2100)	MIL-1-22834				
126	280 CELL, SLOT ROTOR FREQ. CHG.	COMPOSITE (2100)	MIL-1-22834				
253	279 WEDGE, SLOT ROTOR FREQ. CHG.	HAN 4667-2	MELAMINE (GPE)	MIL-1-15037	CUT TO SUIT		
126	278 BOTTOM FILLER FREQ. CHG.	COMPOSITE (2100)	MIL-1-22834				
126	277 COIL, ROTOR, FREQ. CHG.	HAN 4667-1	COPPER WIRE	J-V-1177/17			
126	276 FILLER, TOP FREQ. CHG.	COMPOSITE (2100)	MIL-1-22834				
253	275 WEDGE, SLOT ROTOR	HAN 4666-2	MELAMINE (GPE)	MIL-1-15037	CUT TO SUIT		
274							
273							
272							
271							
270							
269							
268							
4	267 THERMOWELLS	WEKSLER W801	STAINLESS STEEL	MIL-1-248704			
2	266 THERMOMETER 3"	WEKSLER E-3-24-A-2		MIL-1-17244			
2	265 THERMOMETER 3"	WEKSLER E-3-24-0-2		MIL-1-17244			
264							
263							
262							
6	261 EXT. CUSHION LOOP CLAMP	LMPCD 5325555#6	STAINLESS STEEL				
1	260 EXT. CUSHION LOOP CLAMP	LMPCD 5325555#8	STAINLESS STEEL				
259							
15	258 CONNECTOR	PARKER 41F-6	BRASS	COMMERCIAL			
15	257 CONNECTOR NUT	PARKER 48F-6-B	BRASS	COMMERCIAL			
256							
255							
254							
3	253 CLEVIS PIN	1/2 X 2 1/4	STAINLESS STEEL	COMMERCIAL			
252							
251							
250							
249							
248							
247							
246							
8	245 LOCKWASHER, POS.	#8 STD	STAINLESS STEEL	COMMERCIAL			
12	244 LOCKWASHER, POS.	#8 HI-COLLAR	STAINLESS STEEL	COMMERCIAL			
50	243 LOCKWASHER, POS.	3/8 STD	STAINLESS STEEL	COMMERCIAL			
240	242 LOCKWASHER, POS.	1/4 STD	STAINLESS STEEL	COMMERCIAL			
241	LOCKWASHER, POS.	3/8 STD	STAINLESS STEEL	COMMERCIAL	SEE NOTE 24		
240							
239							
238							
237	LOCKWASHER, POS.	3/8 HI-COLLAR	STAINLESS STEEL	COMMERCIAL			
179	236 LOCKWASHER, POS.	1/2 HI-COLLAR	STAINLESS STEEL	COMMERCIAL			
235	LOCKWASHER, POS.	5/8 HI-COLLAR	STAINLESS STEEL	COMMERCIAL			
32	234 LOCKWASHER, POS.	3/4 HI-COLLAR	STAINLESS STEEL	COMMERCIAL			
16	233 LOCKWASHER, POS.	1" HI-COLLAR	STAINLESS STEEL	COMMERCIAL			
232							
21	ITEM	NOMENCLATURE OR DESCRIPTION	HANSDOME PART NO. IDENTIFYING NO.	UNIT WT.	MATERIAL	NATL. SPEC.	REMARKS
GRND. & QTY.							

12	231	NUT, HEX. FLEXLOCK 59FAF-616	3/8-16 FULL HEIGHT	STAINLESS STEEL	FF-S-86		
12	231	NUT, HEX. FLEXLOCK 59FAF-616	3/8-16 THIN HEIGHT	STAINLESS STEEL	FF-S-86		
30	230	NUT, HEX. FLEXLOCK 21F4-813	1/2-13 HEAVY FULL HEIGHT	STEEL	FF-S-86		SEE NOTE 11
84	229	NUT, SLOTTED HEAVY HEX.	1 1/4-7 STD	K-MONEL (QD-N-286)	FF-S-86		
6	228	NUT, JAM	5/8-11 STD	BRASS	MIL-S-1222		
20	227	NUT	3/8-16 STD	STAINLESS STEEL	MIL-S-1222		
24	226	NUT	1/4-20 STD	STAINLESS STEEL	MIL-S-1222		
225							
224							
58	223	SCREW, DRIVE RD.H (HARDENED)	#4 X 3/16	STAINLESS STEEL	FF-S-107		
8	222	SCREW, MACHINE RD. HEAD	#8-32 X 1/2	STAINLESS STEEL	FF-S-92		
10	221	SCREW, MACHINE RD. HEAD	3/8-16 X 1	STAINLESS STEEL	FF-S-92		
40	220	SCREW, MACHINE RD. HEAD	1/4-20 X 1/2	STAINLESS STEEL	FF-S-92		
96	219	SCREW, MACHINE RD. HEAD	1/4-20 X 3/4	STAINLESS STEEL	FF-S-92		SEE NOTE 5
30	218	SCREW, MACHINE RD. HEAD	3/8-16 X 3/4	STAINLESS STEEL	FF-S-92		
217							
216							
4	215	SCREW CAP HEX. HEAD	1/4-20 X 1 3/4	STAINLESS STEEL	FF-S-86		
24	214	SCREW, CAP. HEX. HEAD	1/4-20 X 1	STAINLESS STEEL	FF-S-86		SEE NOTE 6
12	213	SCREW, CAP. SOC. HEAD	3/8-16 X 2 1/4	STAINLESS STEEL	FF-S-86		
8	212	SCREW, CAP. HEX. HEAD	3/8-16 X 2	BRONZE	MIL-S-1222		
36	211	SCREW, CAP. HEX. HEAD	3/8-16 X 1 3/4	BRONZE	MIL-S-1222		SEE NOTE 24
5	210	SCREW, CAP. HEX. HEAD	5/8-11 X 2 1/2	BRONZE	MIL-S-1222		
209							
4	207	SCREW, CAP. SOCKET HEAD	3/8-16 X 2	STAINLESS STEEL	FF-S-86		
6	206	SCREW, CAP. SOCKET HEAD	3/8-16 X 1 1/2	STAINLESS STEEL	FF-S-86		
12	205	SCREW, CAP. SOCKET HEAD	#8-32 X 1/2	STAINLESS STEEL	FF-S-86		
12	204	SCREW, CAP. SOCKET HEAD	3/8-16 X 1 3/4	STAINLESS STEEL	FF-S-86		
6	203	SCREW, CAP. SOCKET HEAD	3/8-16 X 3/4	STAINLESS STEEL	FF-S-86		
12	202	SCREW, CAP. SOCKET HEAD	3/8-16 X 1 1/2	STAINLESS STEEL	FF-S-86		
12	201	SCREW, CAP. SOCKET HEAD	3/8-16 X 1 3/4	STAINLESS STEEL	FF-S-86		
30	200	SCREW, CAP. SOCKET HEAD	1/2-13 X 1	STAINLESS STEEL	FF-S-86		
30	199	SCREW, CAP. SOCKET HEAD	1/2-13 X 2 1/4	STAINLESS STEEL	FF-S-86		
86	198	SCREW, CAP. SOCKET HEAD	3/8-16 X 1	STAINLESS STEEL	FF-S-86		
90	197	SCREW, CAP. SOCKET HEAD	3/8-16 X 1 1/4	STAINLESS STEEL	FF-S-86		
32	196	SCREW, CAP. SOCKET HEAD	1/2-13 X 1 1/4	STAINLESS STEEL	FF-S-86		
24	195	SCREW, CAP. SOCKET HEAD	1/2-13 X 2 3/4	K-MONEL (QD-N-286)	FF-S-86		SEE NOTE 5
48	194	SCREW, CAP. SOCKET HEAD	1/2-13 X 3 1/2	STAINLESS STEEL	FF-S-86		
96	193	SCREW, CAP. SOCKET HEAD	5/8-11 X 2 3/4	K-MONEL (QD-N-286)	FF-S-86		
2	192	SCREW, CAP. SOCKET HEAD	5/8-11 X 3 1/2	STAINLESS STEEL	FF-S-86		
6	191	SCREW, CAP. SOCKET HEAD	5/8-11 X 3	STAINLESS STEEL	FF-S-86		
2	190	SCREW, CAP. SOCKET HEAD	3/4-10 X 3 1/4	K-MONEL (QD-N-286)	FF-S-86		
4	189	SCREW, CAP. SOCKET HEAD	3/4-10 X 3	K-MONEL (QD-N-286)	FF-S-86		
4	188	SCREW, CAP. SOCKET HEAD	1-8 X 2 1/2	K-MONEL (QD-N-286)	FF-S-86		
12	187	SCREW, CAP. SOCKET HEAD	1-8 X 4 3/4	K-MONEL (QD-N-286)	FF-S-86		
16	186	SCREW, CAP. SOCKET HEAD	3/4-10 X 2 1/4	K-MONEL (QD-N-286)	FF-S-86		
185							
1	184	WIRE	1/8 DIA X 10"	STAINLESS STEEL	COMMERCIAL	CUT TO SUIT	
183							
1	182	CLAMP, EXTRUDED CUSHION LOOP	1/2 TUBE DIA.	STAINLESS STEEL	COMMERCIAL		
14	181	CLAMP, EXTRUDED CUSHION LOOP	3/8" TUBE DIA.	STAINLESS STEEL	COMMERCIAL		
1	180	TUBING, R.T.D. (CUT TO SUIT)	1/2 O.D. X 3/8 I.D. X 5'	TEFLON	COMMERCIAL		
1	179	TUBING, HEATER (CUT TO SUIT)	3/8 O.D. X 1/4 I.D. X 10'	TEFLON	COMMERCIAL		
178							
1	177	PLUG	1/4 STD	STAINLESS STEEL	COMMERCIAL		
4	176	CUP, GREASE	#0 FEMALE	BRASS	COMMERCIAL		
8	175	CAP, GREASE	1/4 STD.	BRASS	COMMERCIAL		
4	174	NIPPLE, PIPE	1/4 STD X 2 1/2" LG.	BRASS	COMMERCIAL		
2	173	NIPPLE, PIPE - F.W. (RAD'D)	1/4 STD X 8" LG.	BRASS	COMMERCIAL		
2	172	NIPPLE, PIPE - F.W. (FILL)	1/4 STD X 3" LG.	BRASS	COMMERCIAL		
171							
170							
169							
1	168	PLATE, CONDUIT BOX WARNING	HAN 4764-1	STAINLESS STEEL	MIL-P-15024		
1	167	PLATE, HEATER IDENTIFICATION	HAN 3073-1	STAINLESS STEEL	MIL-P-15024		
166							
4	165	PLATE, HEATER, WARNING	HAN 4762-1	STAINLESS STEEL	MIL-P-15024		
4	164	PLATE, LUBRICANT CAPACITY	HAN 3970-1	BRASS	MIL-P-15024		
3	163	PLATE, ROTATION	HAN 3967-1	BRASS	MIL-P-15024		
1	162	PLATE, IDENTIFICATION GEN.	HAN 4765-1	STAINLESS STEEL	MIL-P-15024		
1	161	PLATE, WARNING FLYWHEEL	HAN 4766-1	STAINLESS STEEL	MIL-P-15024		
1	160	PLATE, CONNECTION	HAN 4763-1	STAINLESS STEEL	MIL-P-15024		
159							
2	157	LOCKWASHER, FLYWHEEL	WHITET-HIGGINS WH-29	1 STEEL	COMMERCIAL		
1	156	LOCKWASHER, BEARING ALT. END	WHITET-HIGGINS WH-29	5 STEEL	COMMERCIAL		
1	155	LOCKWASHER, BEARING FREQ. CHG.	WHITET-HIGGINS WH-29	5 STEEL	COMMERCIAL		SEE NOTE 11
3	154	LOCKNUT, BEARING FLYWHEEL	WHITET-HIGGINS WH-29	18 STEEL	COMMERCIAL		
1	153	LOCKNUT, BEARING ALT. END	WHITET-HIGGINS WH-29	3 STEEL	COMMERCIAL		
1	152	LOCKNUT, BEARING FREQ. END	WHITET-HIGGINS WH-29	6 STEEL	COMMERCIAL		
151							
150							
2	149	KEYSHAFT EXT. FLYWHEEL	HAN 4874-2	K-MONEL	QD-N-286		
2	148	KEYSHAFT EXT. ALT. END	HAN 4879-2	K-MONEL	QD-N-286		
2	147	KEYSHAFT EXT. FREQ. CHG. END	HAN 4879-2	K-MONEL	QD-N-286		
146							
145							
1	144	SPRING, R.T.D. CAP. FREQ. CHG. END	BARNES 0240-035-1380-0	STAINLESS STEEL	COMMERCIAL	CUT TO 3/8" FREE LG.	
1	143	SPRING, R.T.D. CAP. ALT. END	BARNES 0240-035-1380-0	STAINLESS STEEL	COMMERCIAL	CUT TO 100 FREE LG.	
4	142	SPRING, R.T.D. CAP. FREQ. CHG. END	BARNES 0240-035-2600-0	STAINLESS STEEL	COMMERCIAL	CUT TO 3/4" FREE LG.	
2	141	SPRING, R.T.D. FLYWHEEL	BARNES 0240-035-2600-0	STAINLESS STEEL	COMMERCIAL	CUT TO 3/4" FREE LG.	
6	140	R.T.D. STATOR	MPCD 51322P462K305750	PLATINUM	MIL-T-24388	SEE NOTES 17 & 18	
4	139	R.T.D. BEARINGS	MPCD 51336P462K305750	PLATINUM	MIL-T-24388	SEE NOTES 17 & 18	
3	138	TERMINAL, BOARD	HAN 4791-2	COMMERCIAL	MIL-T-55164		
1	137	OVERVOLTAGE RELAY	HAN 4799-1	COMMERCIAL	SEE NOTE 24		
1	136	AUTOMATIC VOLTAGE REGULATOR	HAN 4799-1	COMMERCIAL	SEE NOTE 24		
135							
1	134	GASKET	1.8 THICK	RUBBER	MIL-G-1149	SEE NOTE 20	
133							
8	132	TERMINAL, LUG, HEATER	EGB 207-8	COPPER	COMMERCIAL		
8	131	HEATER, BLOCK	HAN 4631-1	STAINLESS STEEL	COMMERCIAL		
4	130	HEATER, SPACE	HAN 4614-1	CHROME STEEL	COMMERCIAL		
129							
1	128	GASKET, HEATER COVER	HAN 4633-1	RUBBER	MIL-G-1149		
1	127	COVER, FRAME, ROTATION	HAN 4641-8	STAINLESS STEEL	COMMERCIAL		
1	126	1 1/2" SIZE PLT. W/ SCREW	HAN 4641-7	STAINLESS STEEL	COMMERCIAL		
4	125	1 1/2" SIZE PLT. W/ SCREW	HAN 4641-8	STAINLESS STEEL	COMMERCIAL		
4	124	1 1/2" SIZE PLT. W/ SCREW	HAN 4641-9	STAINLESS STEEL	COMMERCIAL		
1	123	COVER, COOLER, ALT. END	HAN 4655-16	ALUMINUM	COMMERCIAL		
1	122	COVER, MIDDLE COOLER	HAN 4655-15	ALUMINUM	COMMERCIAL		
1	121	COVER, COOLER, FREQ. CHG. END	HAN 4655-14	ALUMINUM	COMMERCIAL		
4	120	COOLER SUPPORT BRACKET	HAN 4791-1	STAINLESS STEEL	COMMERCIAL		
1	119	COVER, BOTTOM COOLER, ALT					

HANSOME ENERGY SYSTEMS, INC.
LINDEN, N.J. 07036 U.S.A.

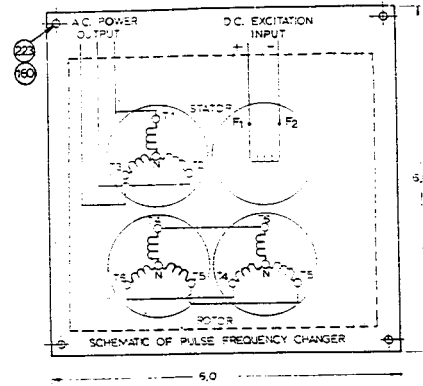
PULSE FREQUENCY CHANGER

TYPE: PULSE FREQUENCY CHANGER
SERIAL NO.: [] DRAWING NO.: A-1200-173 REV. []
FRAM: [] CL. INSL. [] INTG. HORIZONTAL []
DEGREE OF ENCL. DRIP-PROOF PROTECTED-WATER COOLED

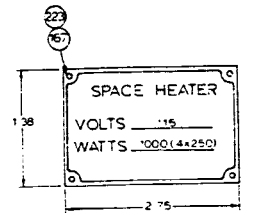
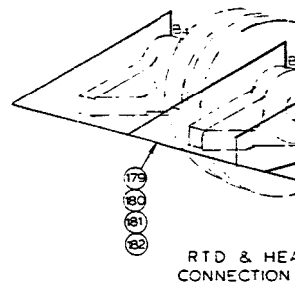
DUTY/CAPACITY:
CONTINUOUS: 550KW, 435 VOLTS, 140AMPS, 420/362 HERTZ, 3 PHASE, .52P.F., 1800/1530 RPM
INTERMITTENT: 1370 KW, 435 VOLTS, 2116 AMPS, 420/362 HERTZ, 3 PHASE, .86P.F., 1800/1530 RPM, 5.5 SECONDS "ON" 2.5 SECONDS "OFF"

SPECIAL FEATURE - NONMAGNETIC 2MM - 50°C OR LESS
PERMISSIBLE TEMP. RISE WINDING BEARING 50°C

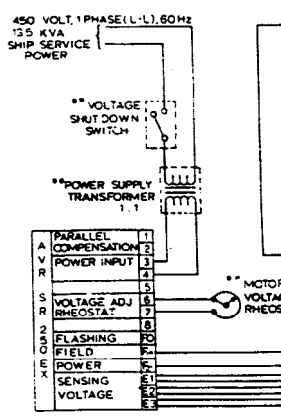
TECH. MANUAL NO. []
CONTRACT NO. []
GOVT. STOCK NO. []
GOVT. INSP. YEAR []



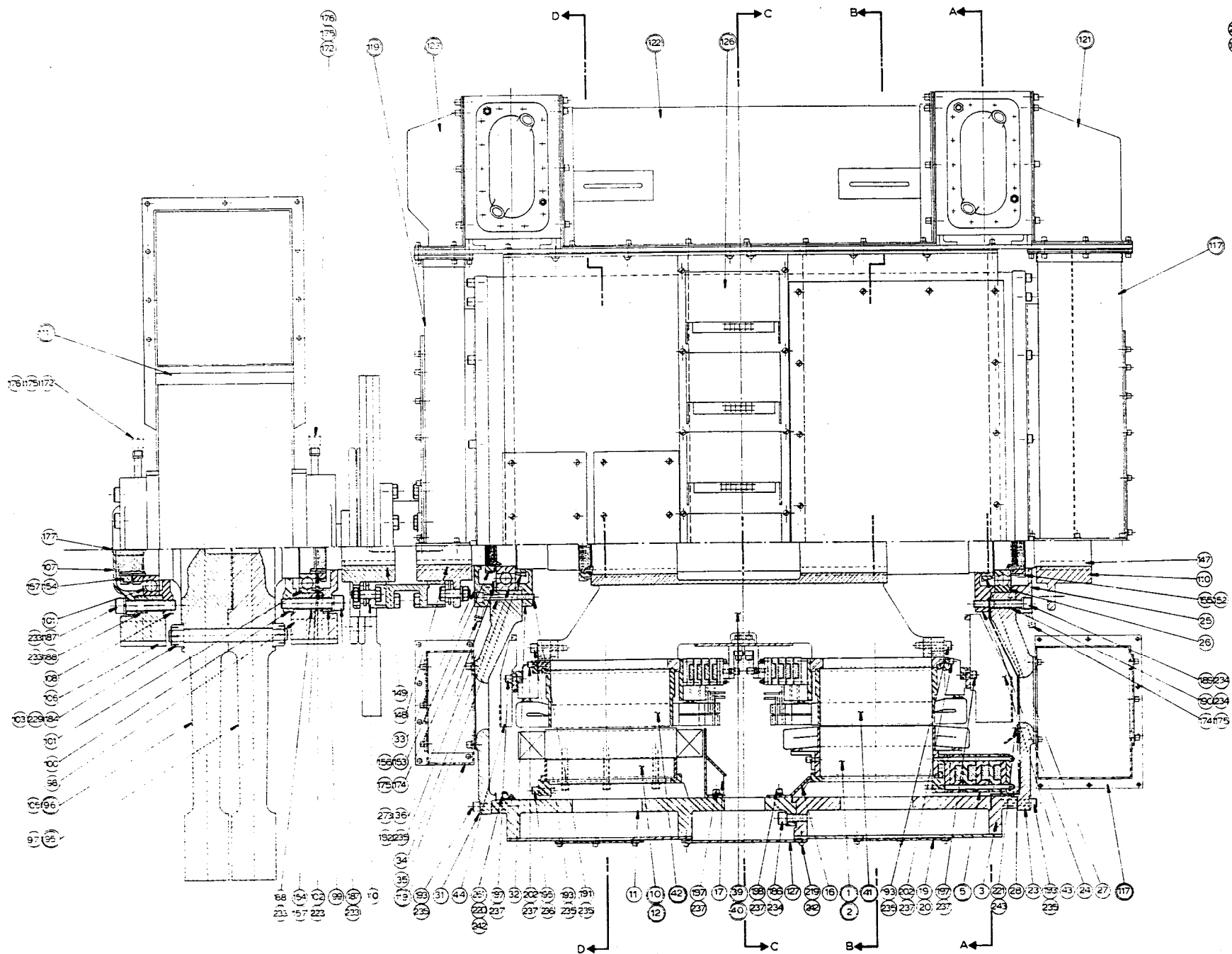
WARNING
MOUNT ALL CONDUIT BOX COVERS BEFORE OPERATING MACHINE



WARNING
DE-ENERGIZE HEATER CIRCUIT BEFORE SERVICING GENERATOR



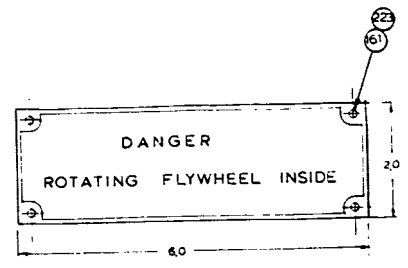
ITEM NO.	GREASE QUANTITY (BEARING SIZE)	GREASE QUANTITY (LBS.)
101	276	7.7
26	128	3.7
34	121	3.5

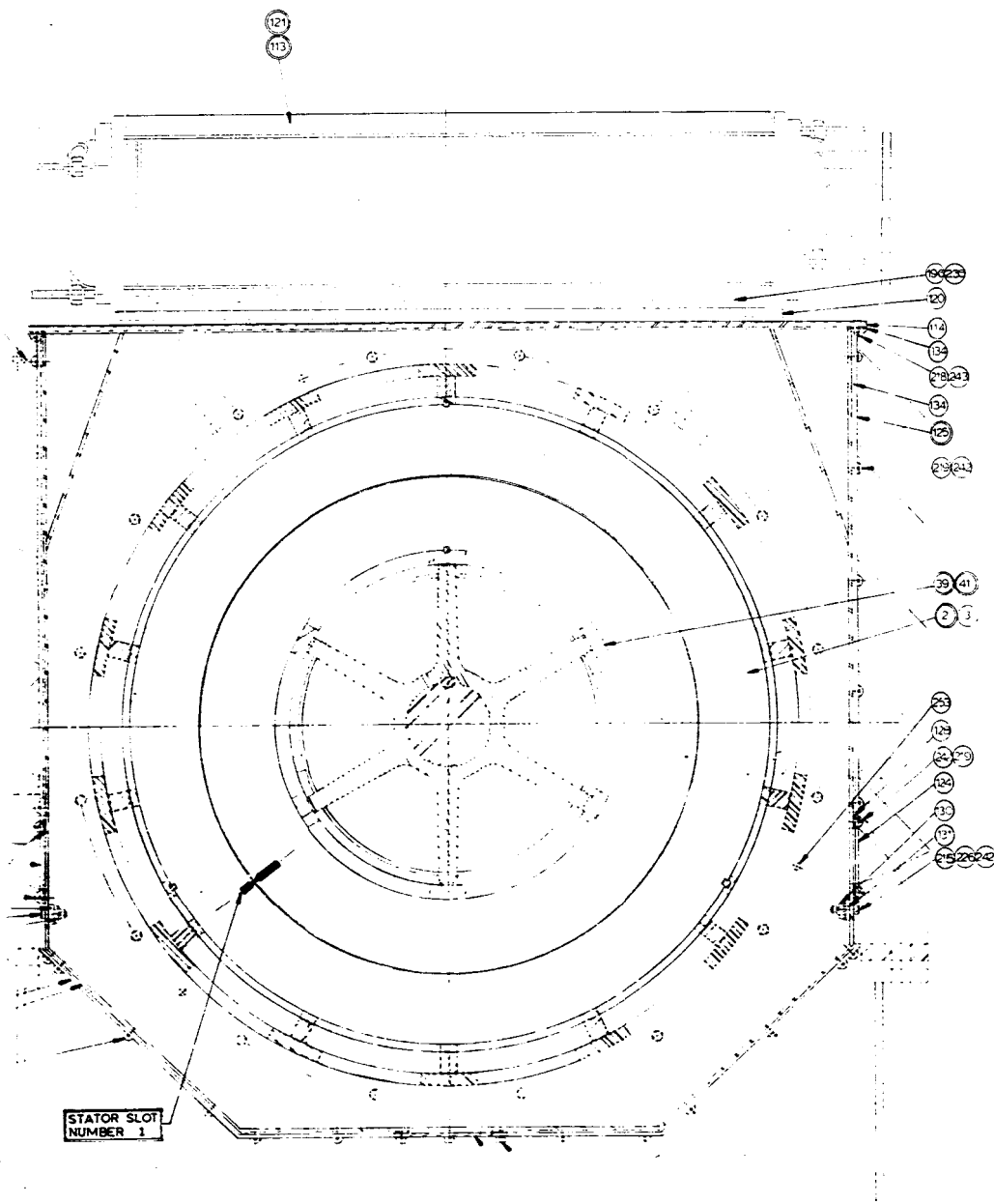


ITEM NO.	DESCRIPTION	QTY	UNIT	WEIGHT (LBS.)
1	FRAME	1	EA	27000
2	LOCKWASHERS	335	PCS	335
3	WASHERS	218	PCS	218
4	SCREWS	287	PCS	287
5	WASHERS	770	PCS	770
6	SCREWS	157	PCS	157
7	SCREWS	205	PCS	205
8	SCREWS	125	PCS	125
9	SCREWS	56	PCS	56
10	SCREWS	13	PCS	13
11	SCREWS	44	PCS	44
12	SCREWS	25	PCS	25
13	SCREWS	18	PCS	18
14	SCREWS	7	PCS	7

WEIGHTS OF MAJOR COMPONENTS	
GENERATOR (A-1200-173) CONTINUOUS (ITEM NO. 1)	27000 25000
FLYWHEEL (A-1200-173) (ITEM NO. 95)	7650 7400
FLYWHEEL (NCS 97 & 105)	6625 6650
WATER TIGHT BEARING HOUSING (ITEM NO. 391)	6150 6100
WATER TIGHT BEARING HOUSING (ITEM NO. 2)	5450 5100
ROTOR (ITEM NO. 10)	4925 4800

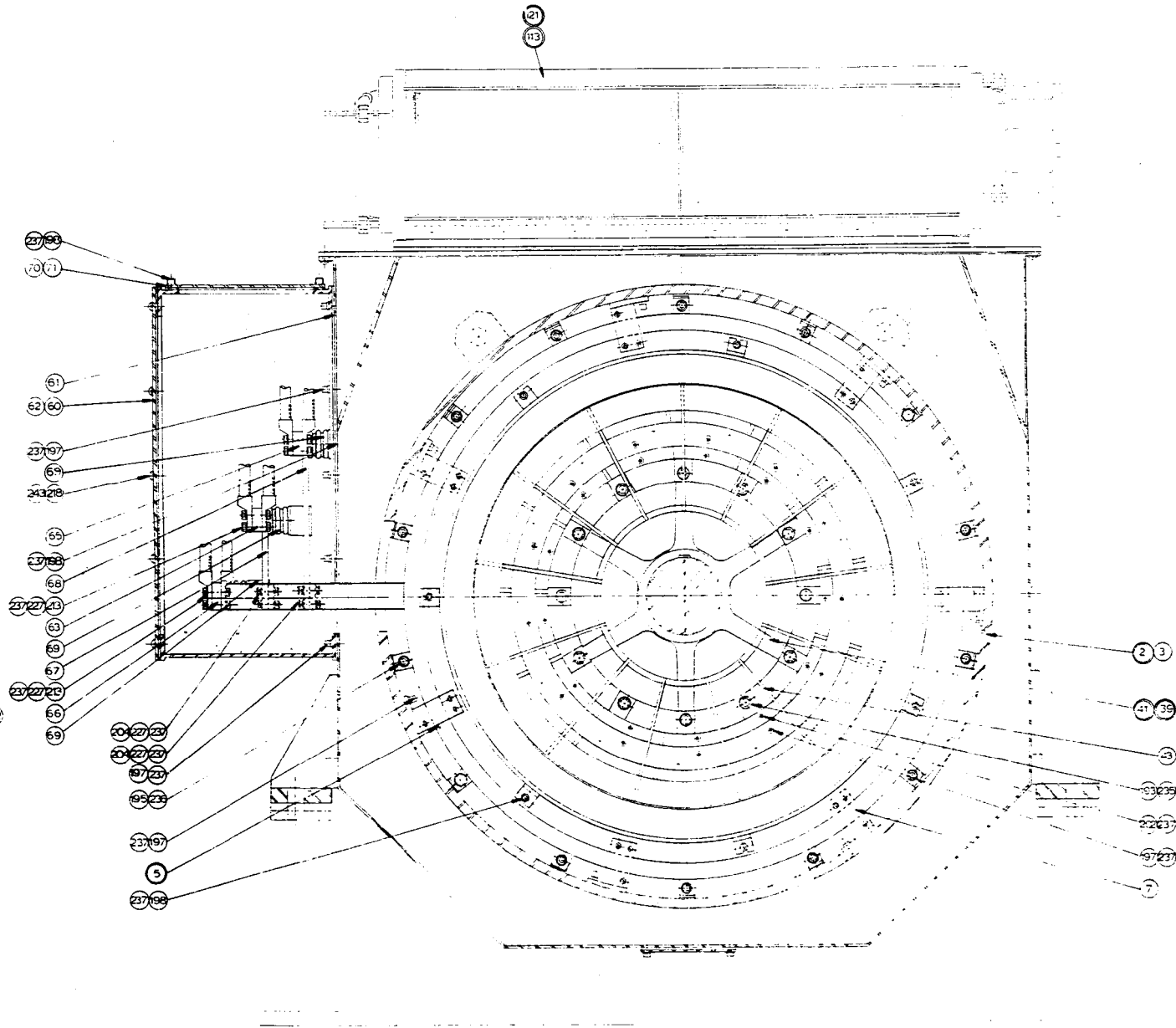
MOMENT OF INERTIA (ACTUAL)
WR² OF FLYWHEEL 24390 LB-FT²
WR² OF ROTOR 128 LB-FT²
TOTAL WR² OF ROTOR & FLYWHEEL 31250 LB-FT²





SECTION B-B

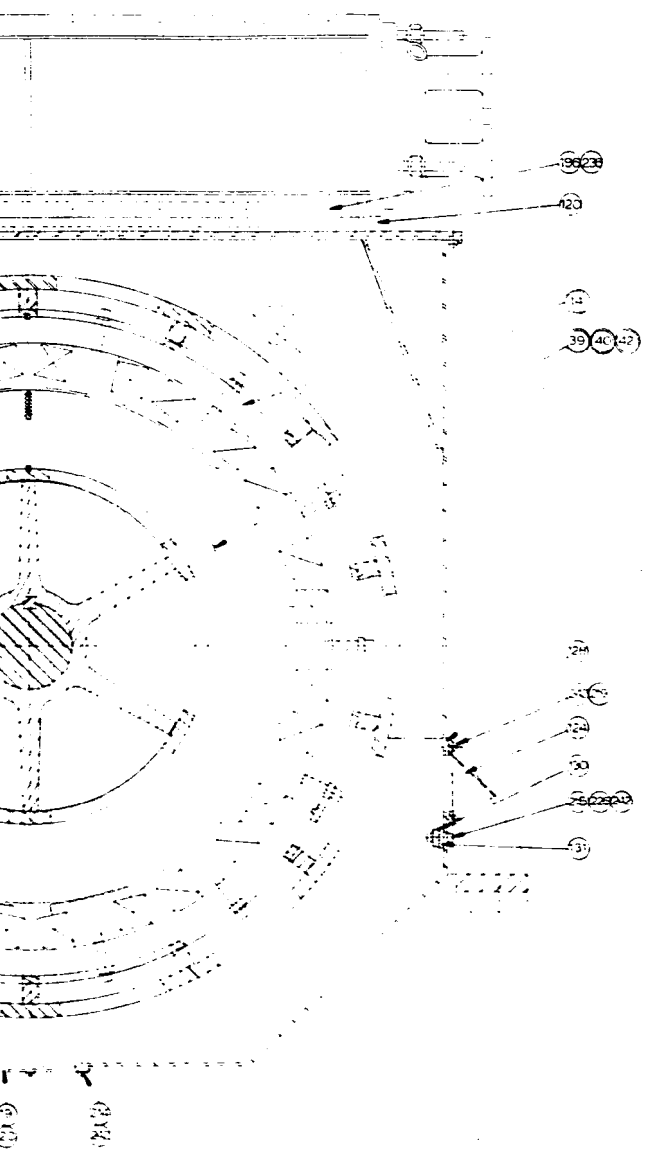
28(6)
28(7)



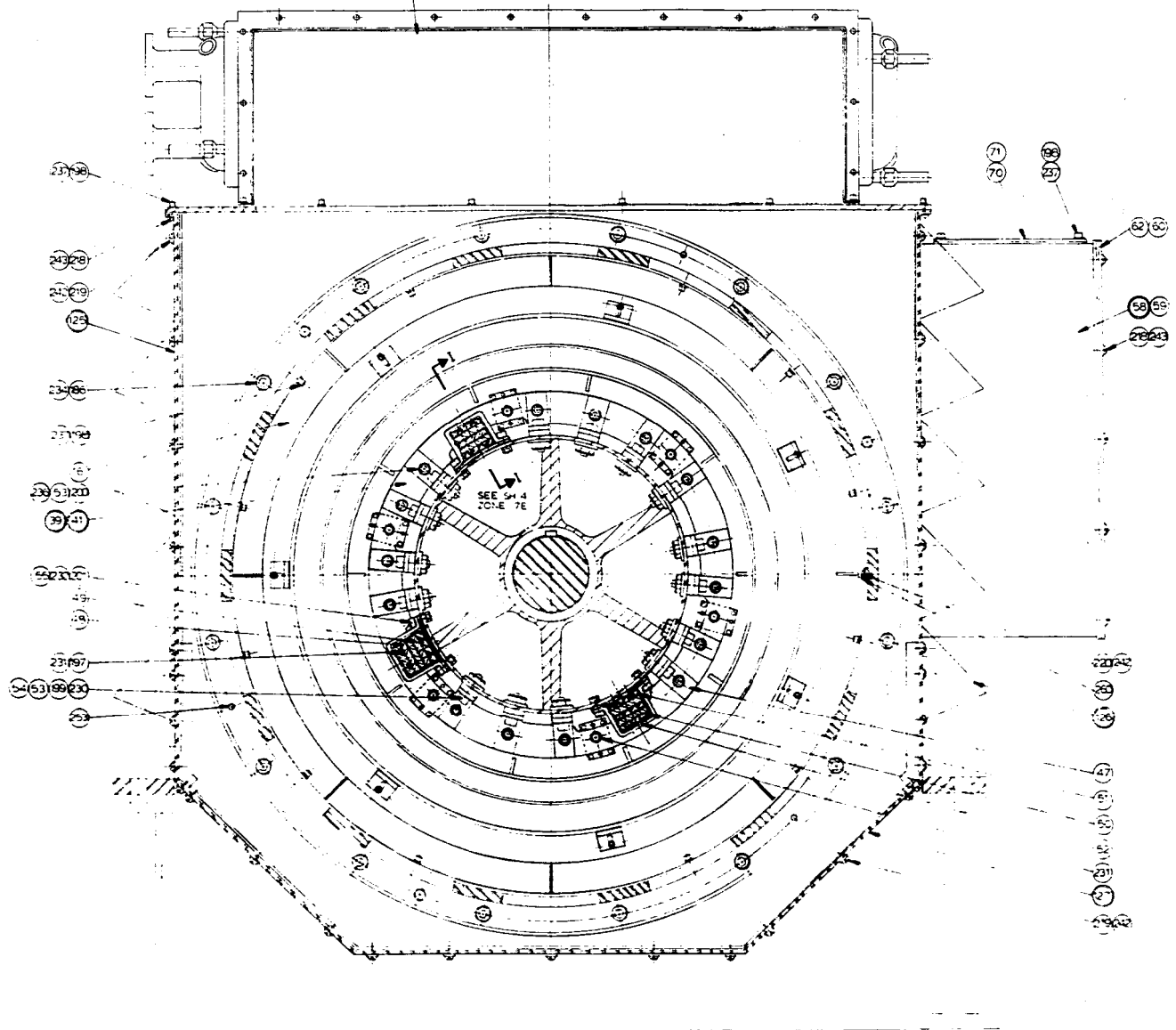
SECTION A-A

ALL DIMENSIONS ARE SHOWN IN MM AND ARE FOR REFERENCE ONLY

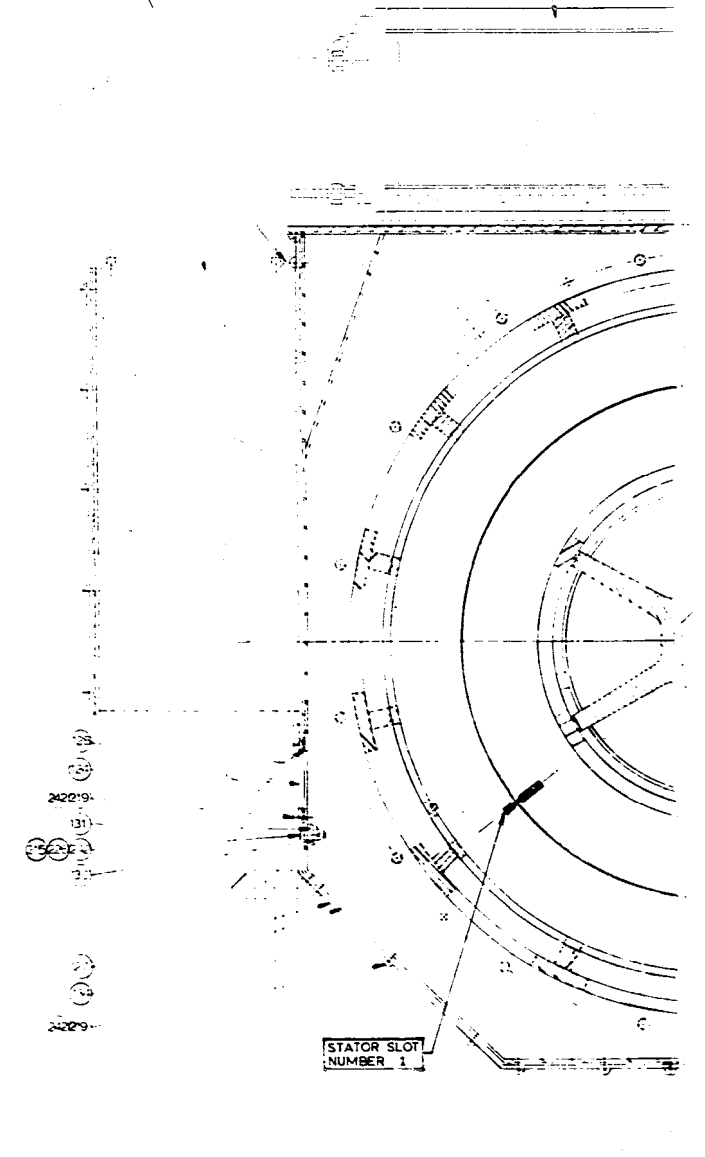
NO0024 89-C-2125	HANSOME ENERGY SYSTEMS INC LINDEN, N.J. 07036
	PULSE FREQUENCY CHANGER (NONMAGNETIC)
	51802 A-1200-173 5
	REV. 1/2/11



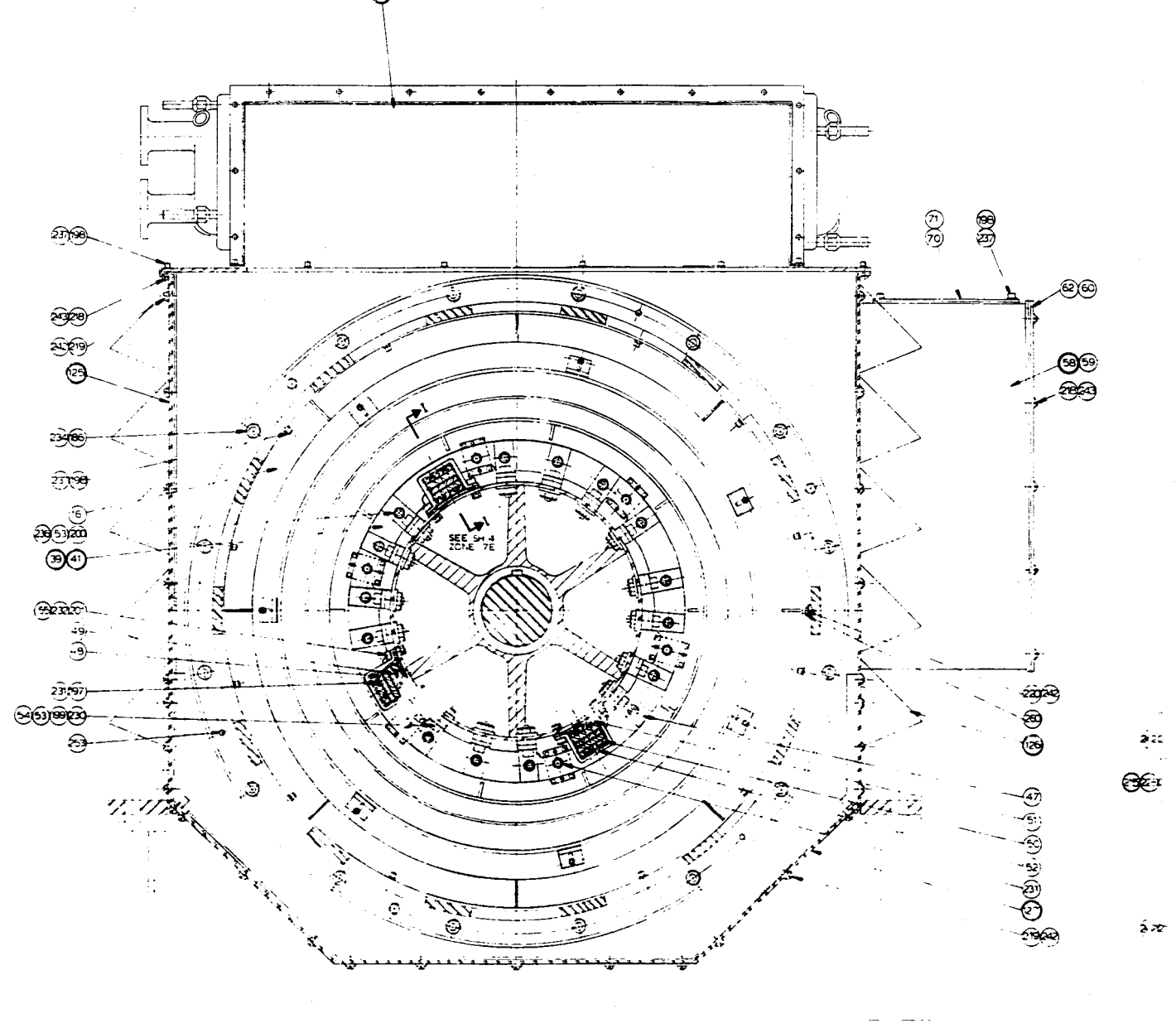
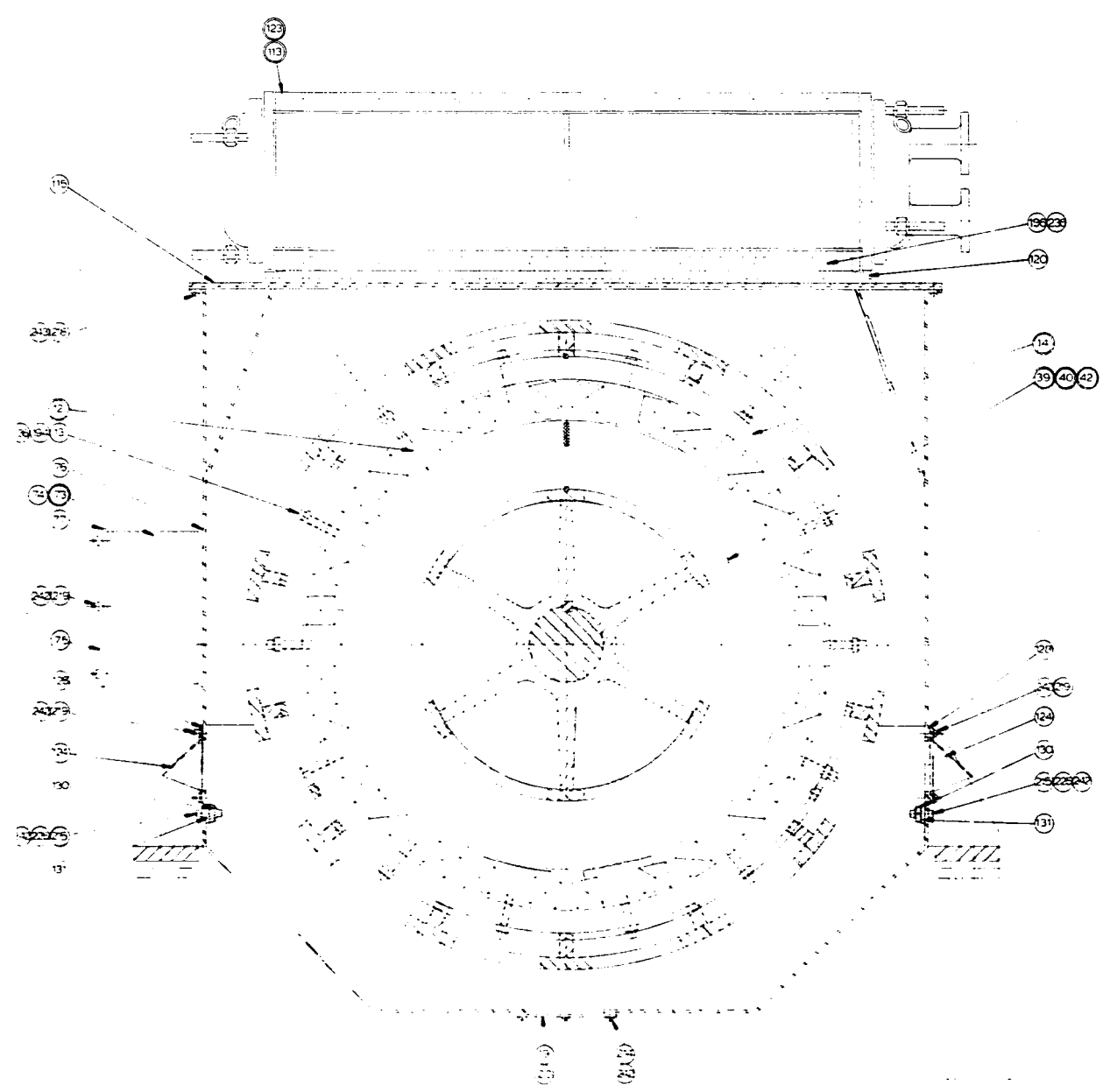
SECTION D-D

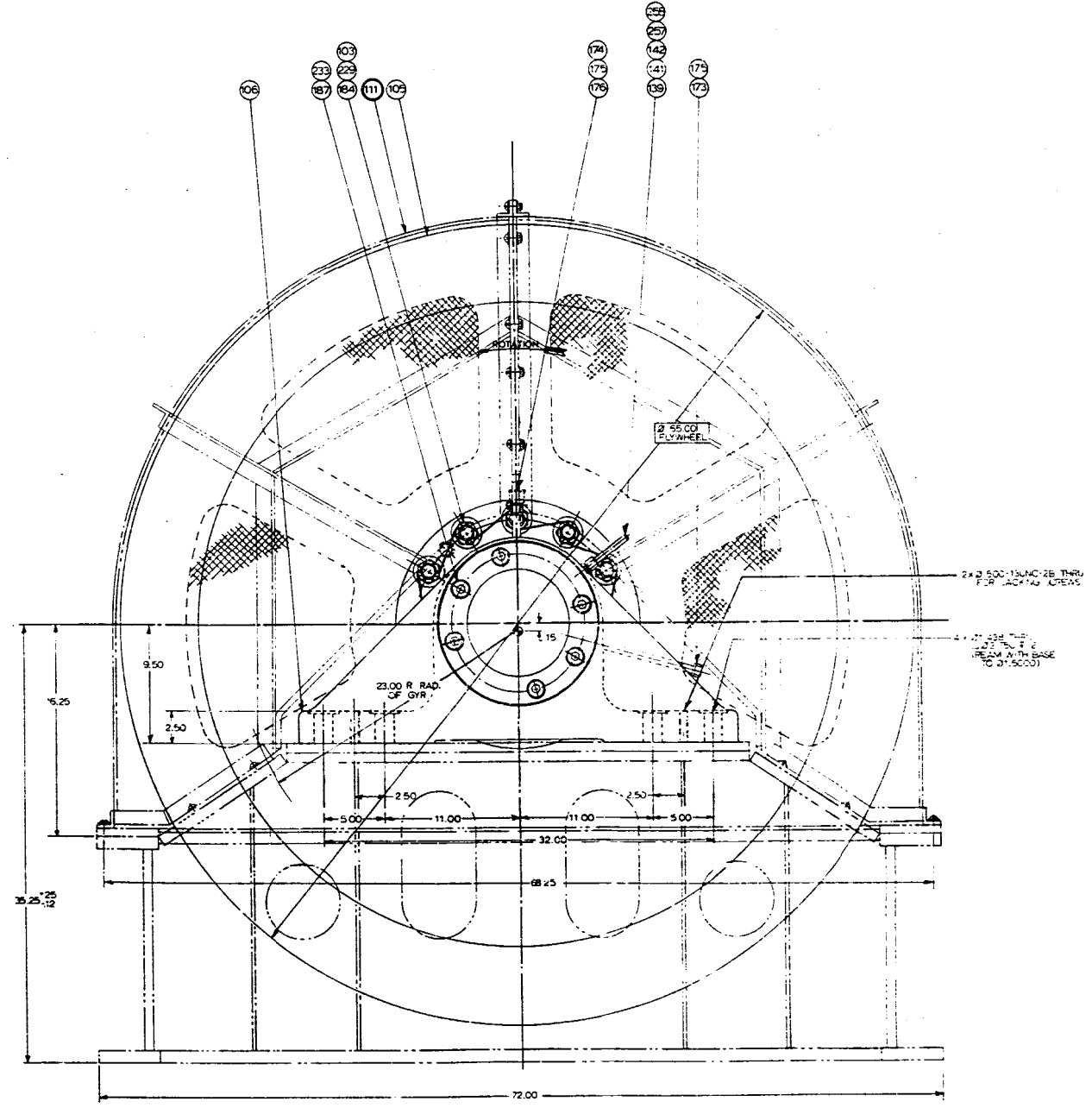
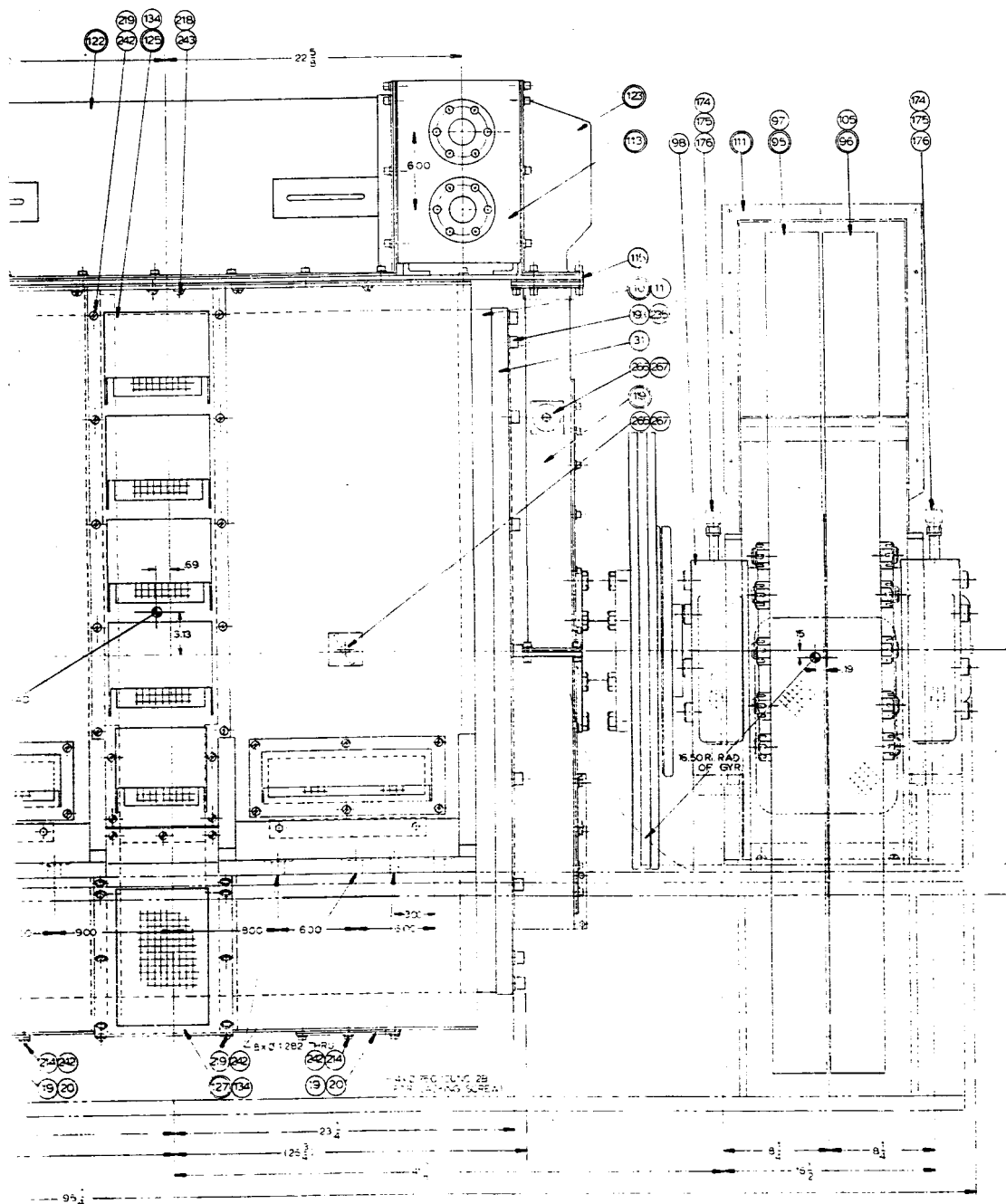


SECTION C-C



STATOR SLOT
NUMBER 1





ALL DIMENSIONS ARE SHOWN IN INCHES AND ARE FOR REFERENCE ONLY

HANSOME ENERGY SYSTEMS INC LINDEN, N.J. 07036	
PULSE FREQUENCY CHANGER (NONMAGNETIC)	
51802	A-1200-173 5

