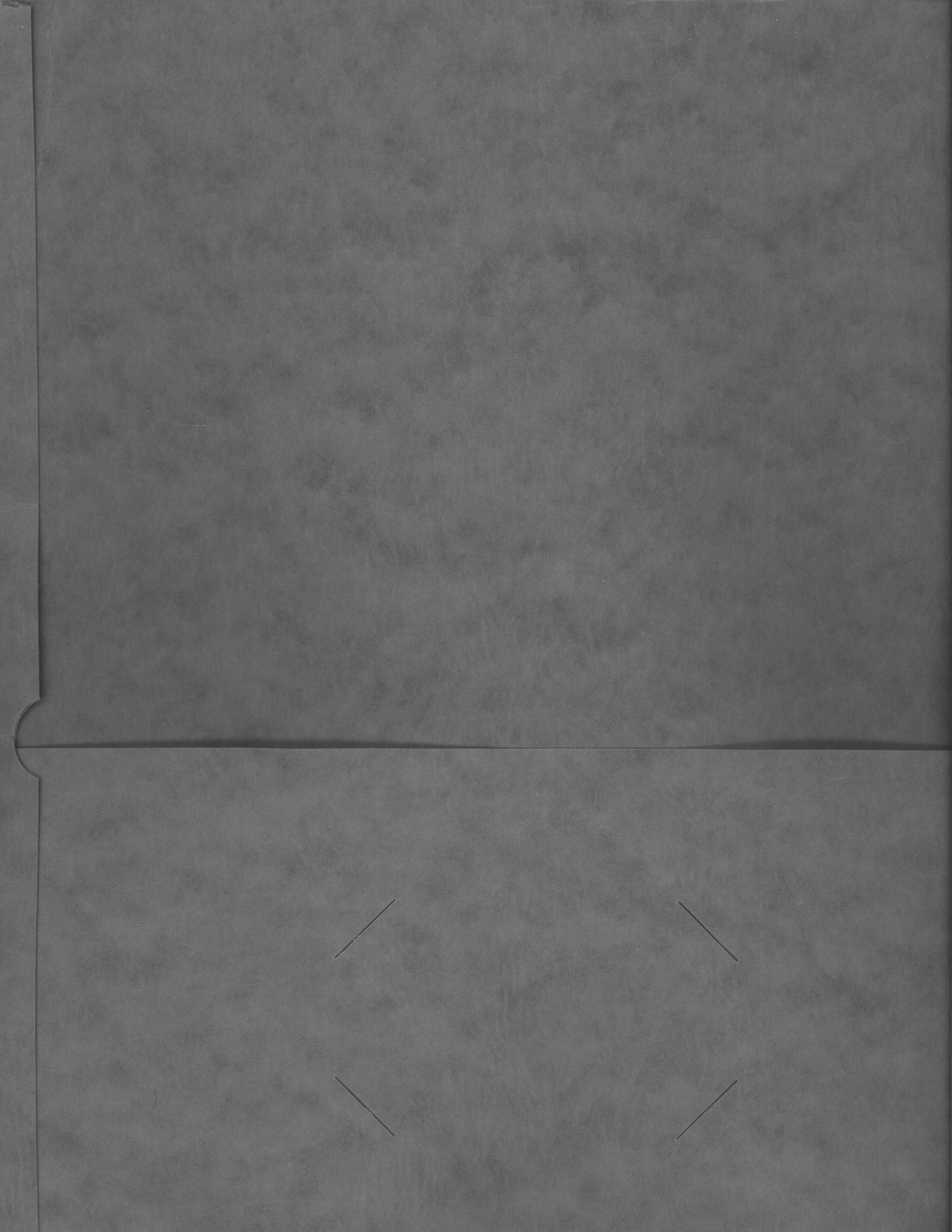


INSTALL OVERHEAD DISTRIBUTION AND  
REPLACE CIRCUIT BREAKERS, MCB.  
CONSTR. CONTR. NO. N62470-85-B-6349

CAMP LEJEUNE, NC

*BERKELEY MANON STATION*



6060IM9102  
December, 1991

ANDY YOUNG

**Replacement Parts**

When ordering replacement parts, please specify the part number, quantity, description of part, breaker catalog number, breaker serial number, and Square D factory order number.

Figure 1	Item	Description	Part Number
	1	Mechanism Assembly	730221C
	2	Charging Spring—Bottom	887637EEAA
	3	Charging Spring—Top	887637ENAA
	4	Latch Mechanism Assembly	9011045B1
	5	Latch Check Switch	25711504
	6	End Of Charge Switch	44080-588-01
	7	Main Shaft Bearing	877791
	8	Bearing Flange	877568
	9	Spring End Bushing	888005
	10	Washer	21222012
	11	Retaining Ring, 12 mm.	29915-03050
	12	Emergency Trip Assembly	44081-430-50
	13	Emergency Trip Lockout Switch	26202-01103
	14	Manual Charging Handle	44080-386-01

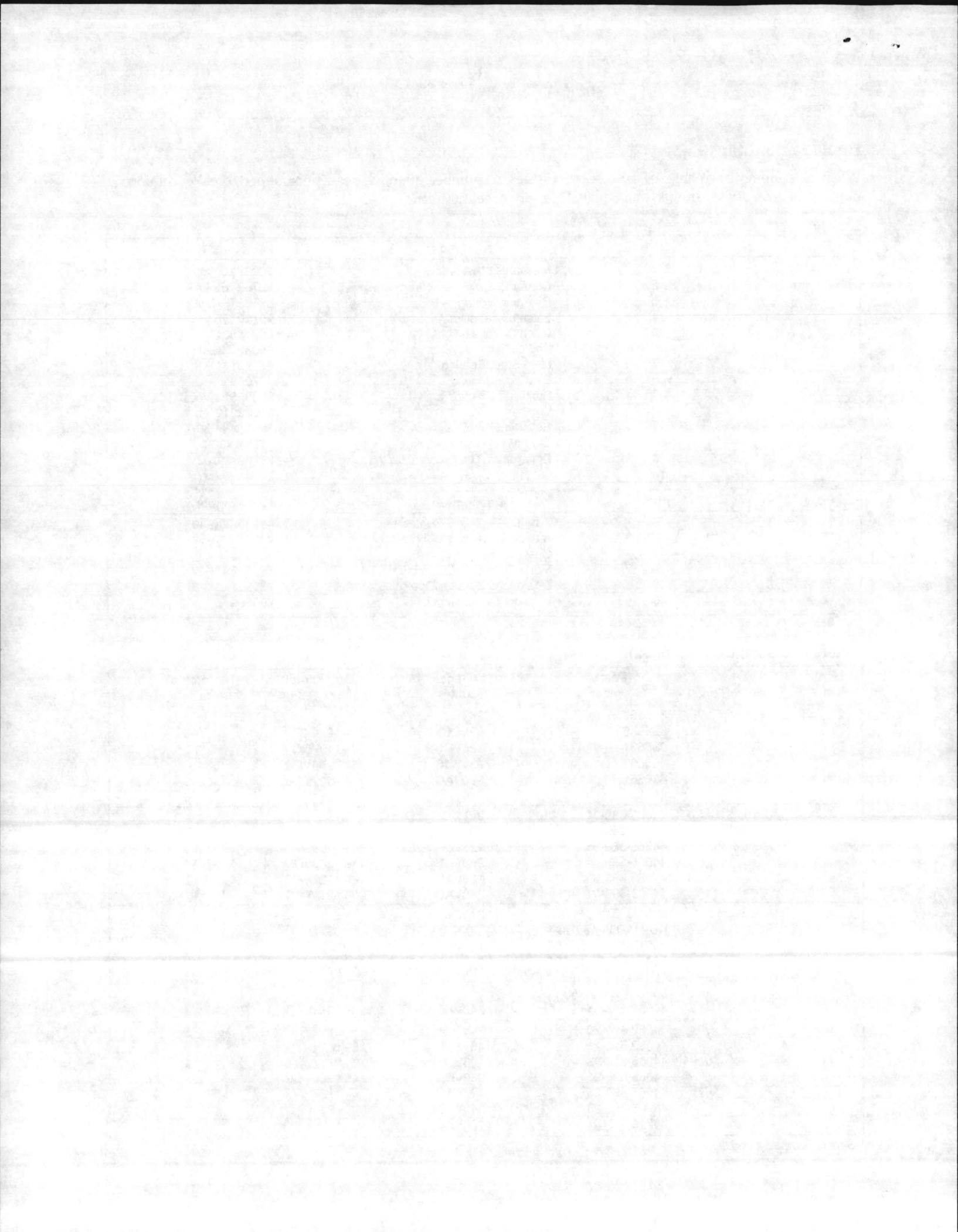
  

Figure 2	Item	Description	Part Number
	1	Auxiliary Switch, 5 Contacts	44065-038-50
	2	Auxiliary Switch, 12 Contacts	44065-038-52
	3	Operations Counter	1502403
	4	Motor Gear Box Assembly	887642A
	5	Operations Counter Operating Arm	759501
	6	Indicator Connecting Link	755669

**Motors and Solenoids (Figure 2)**

Item	Description	Part Number	Voltage Rating	Operating Voltage Range	Nominal Current Amperes
7	Charging Motor	886657	24VDC	—	8
		886658	48VDC	36-56VDC	6
		886661	125VDC	90-140VDC	3.2
		886662	250VDC	180-280VDC	1.6
		886661	120VAC	104-127VAC	3
		886662	240VAC	208-254VAC	1.6
8	Closing Solenoid	44065-389-01	24VDC	—	1.4
		44065-389-02	48VDC	36-56VDC	.7
		44065-389-03	125VDC	90-140VDC	.25
		44065-389-04	250VDC	180-280VDC	.15
		44065-389-05	120VAC	104-127VAC	2
		44080-590-01	240VAC	208-254VAC	1
9	Anti-Pump Relay	8501KFD12-24VDC	24VDC	—	
		KUP11D55-48VDC	48VDC	36-56VDC	
		8501KFD12-110VDC	125VDC	90-140VDC	.02A
		8501KFD12-110VDC & Resistor 26160-21660	250VDC	180-280VDC	10
		8501KF12-120/60	120VAC	104-127VAC	.2A
		44050-266-01	240VAC	208-254VAC	
10	Trip Solenoid	44080-590-20	24VDC	14-28VDC	2
		44080-590-21	48VDC	28-56VDC	1
		44065-389-23	125VDC	70-140VDC	.5
		44080-590-22	250VDC	140-280VDC	.25
		44065-389-25	120VAC	104-127VAC	1.2
		44065-389-26	240VAC	208-254VAC	.6
		887191BJ	125VDC*		3

\* Special 3 amp Rating



ANDY YOUNG

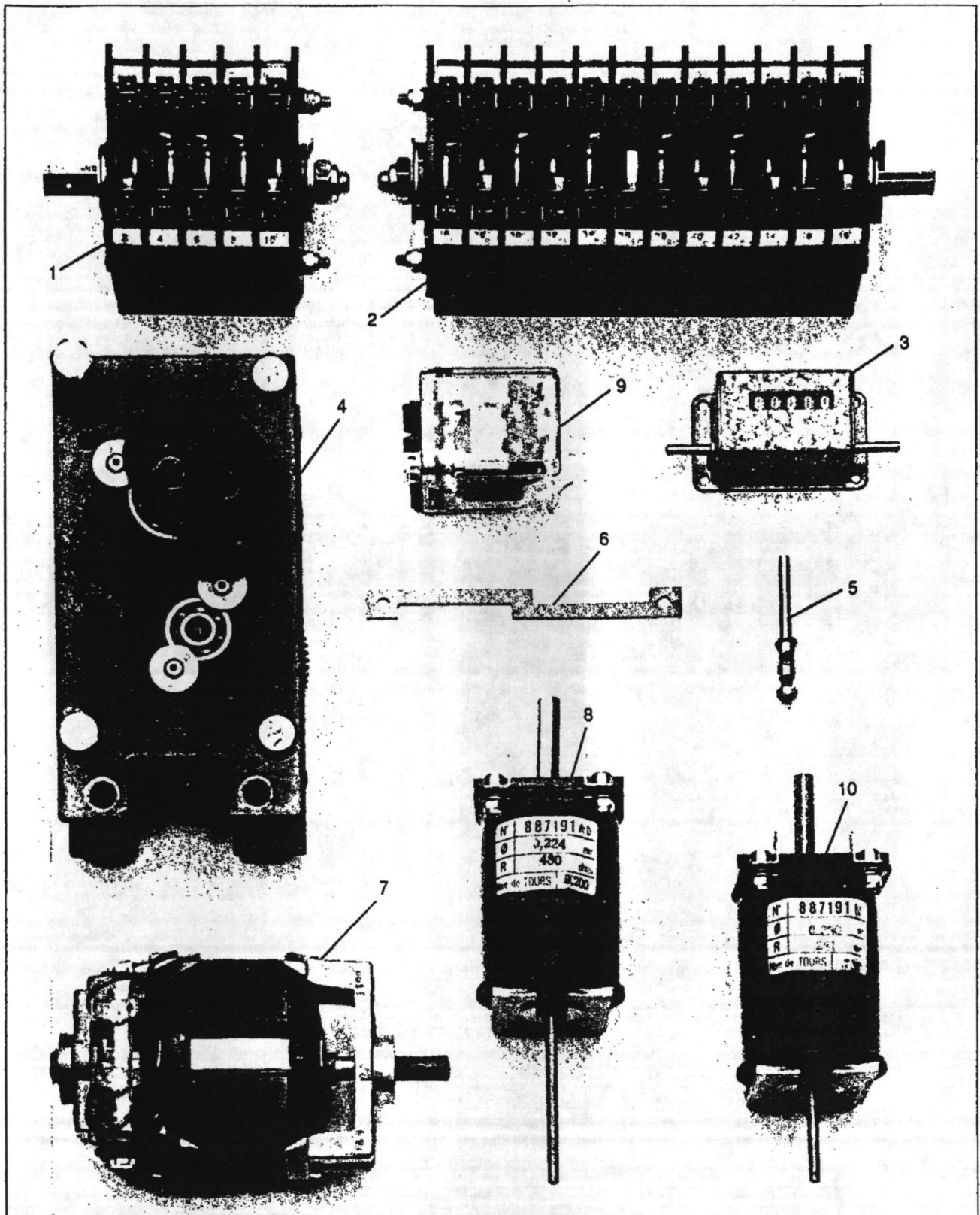
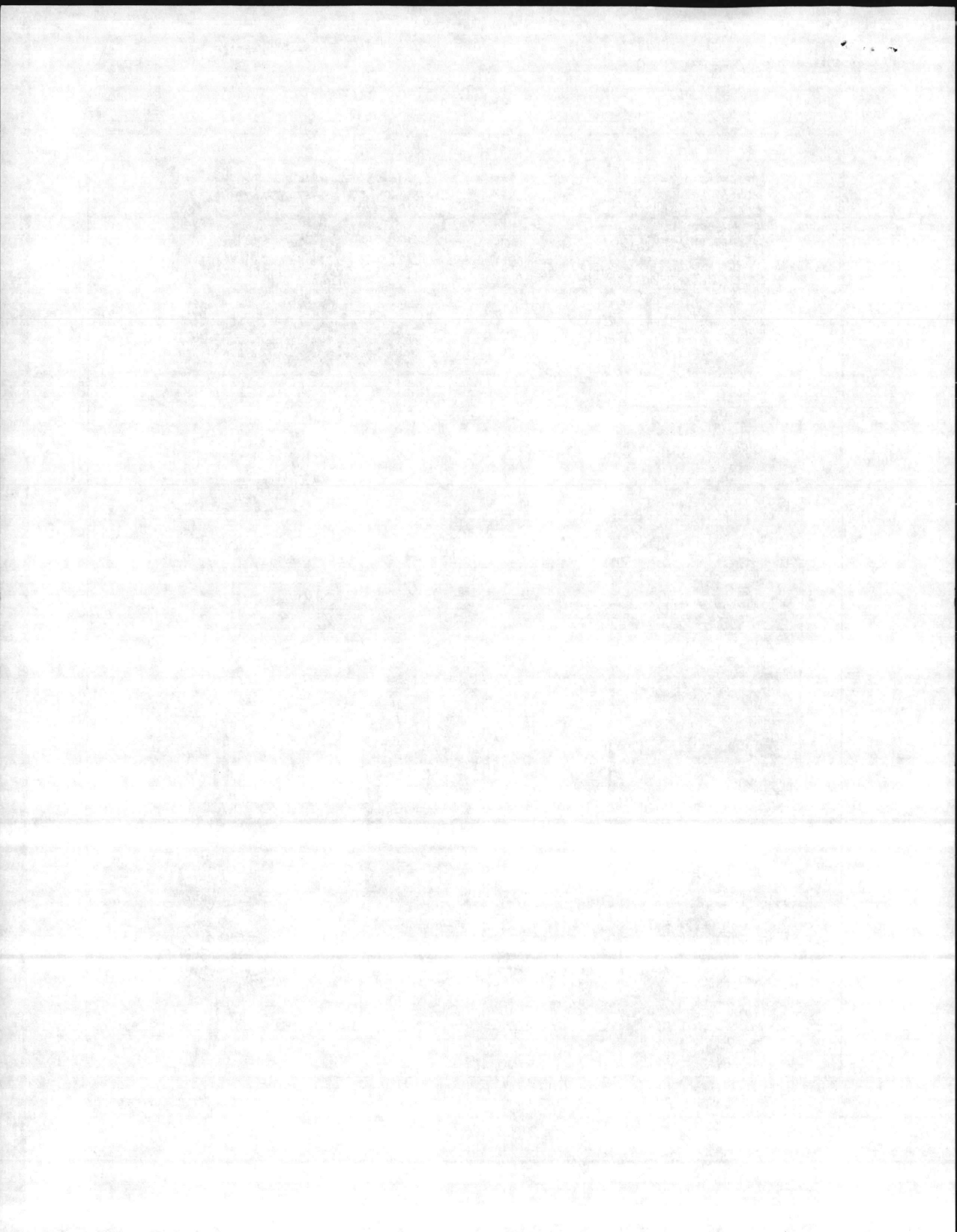


Figure 2



ANDY YOUNG

6060IM9102  
December, 1991

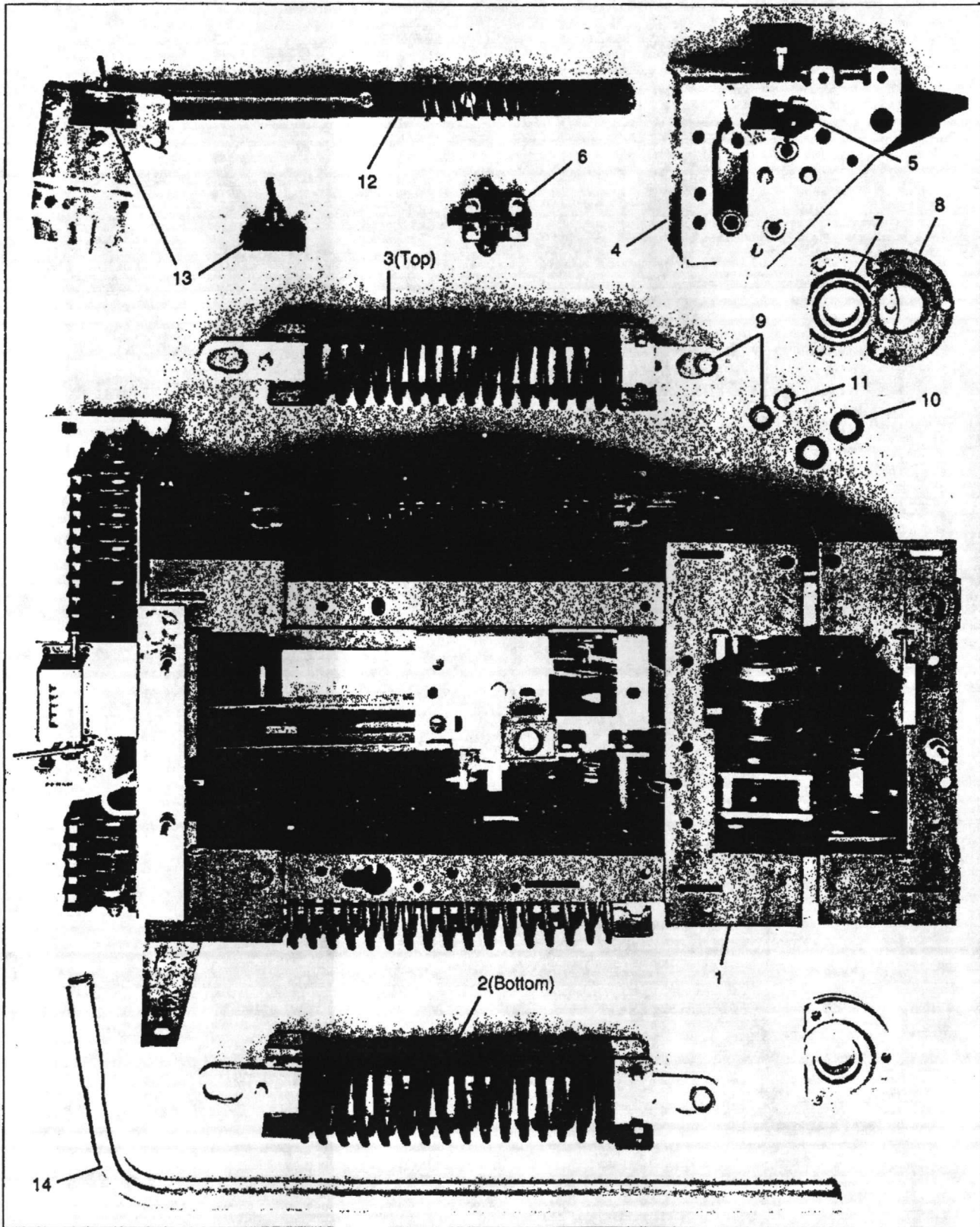
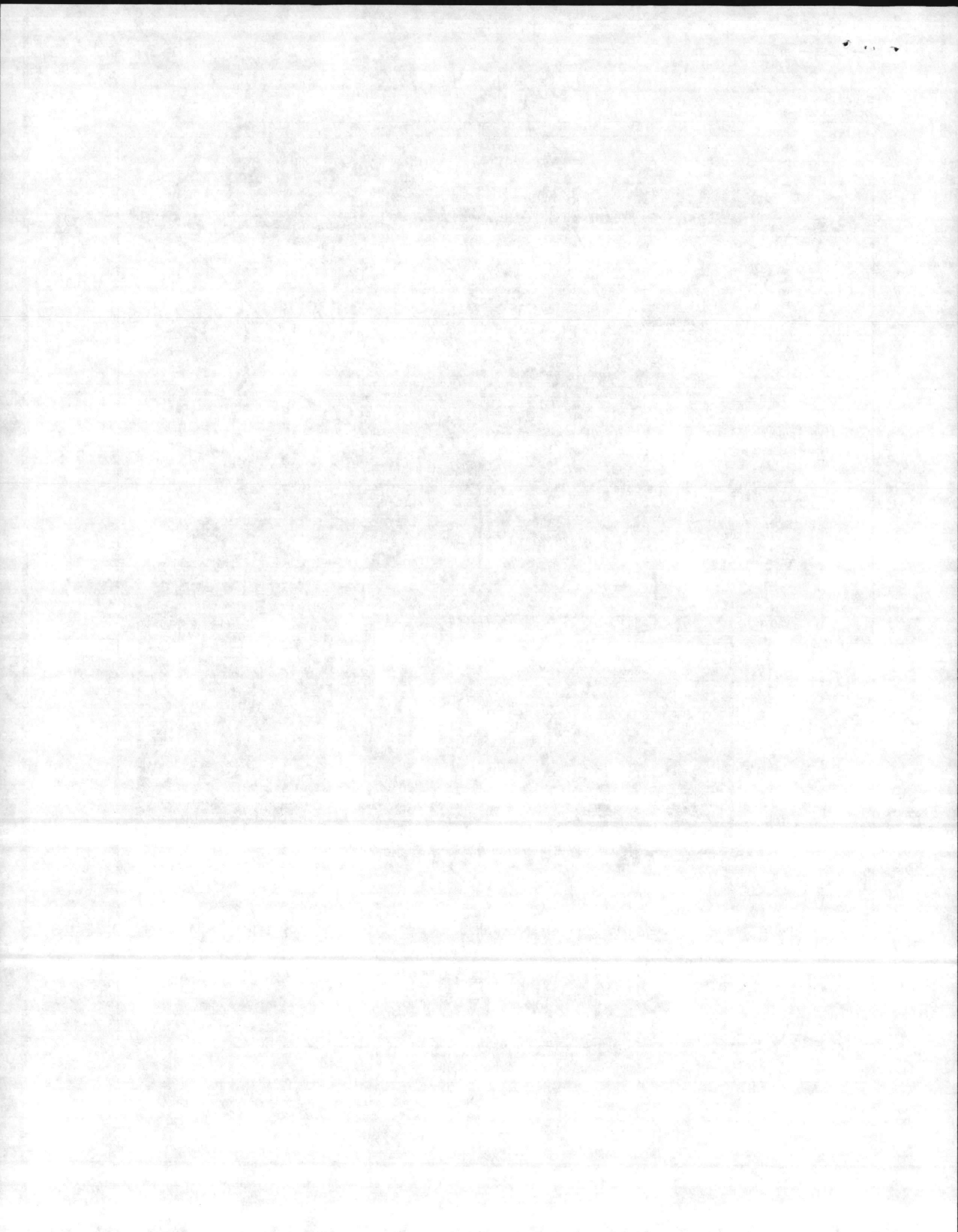


Figure 1





Item #14 Spec. 16302-2.15.5 Contract N62470-85-C-6349

SQUARE D COMPANY

POWER EQUIPMENT DIVISION

JOB NAME: MARINE CORPS BASE

LOCATION: CAMP LEJEUNE MARINE CORPS BASE, NC

EQUIPMENT: FBS1061112 SUBSTATION BREAKER  
QUANTITY:2

CUSTOMER: SESCO

CUSTOMER ORDER #: 24578-1-14D

ENGINEER: DESIGN BRANCH, PUBLIC WORKS DIVISION

SQUARE D FIELD OFFICE: CHARLOTTE, NC

FACTORY ORDER: 17-14333A

HQS. ENG.: J. WAGGENER/R. COIL

DATE: November 22, 1985

BERKELEY MANOR

BREAKER Nos. 13 & 14. <sup>61</sup>

BARKLEY MASON

BARKLEY MASON

DRAWING INDEX

A17-14333-SFB1-00 TITLE PAGE

DRAWING INDEX

SPECIAL NOTES

BILL OF MATERIALS

D17-14333-SFB1-01 ELEVATION VIEWS

D17-14333-SFB1-02 C. T. CONTROL SCHEMATIC

D17-14333-SFB1-03 BREAKER CONTROL SCHEMATIC

A17-14333-SFB1-04 CIRCUIT BREAKER NAMEPLATE

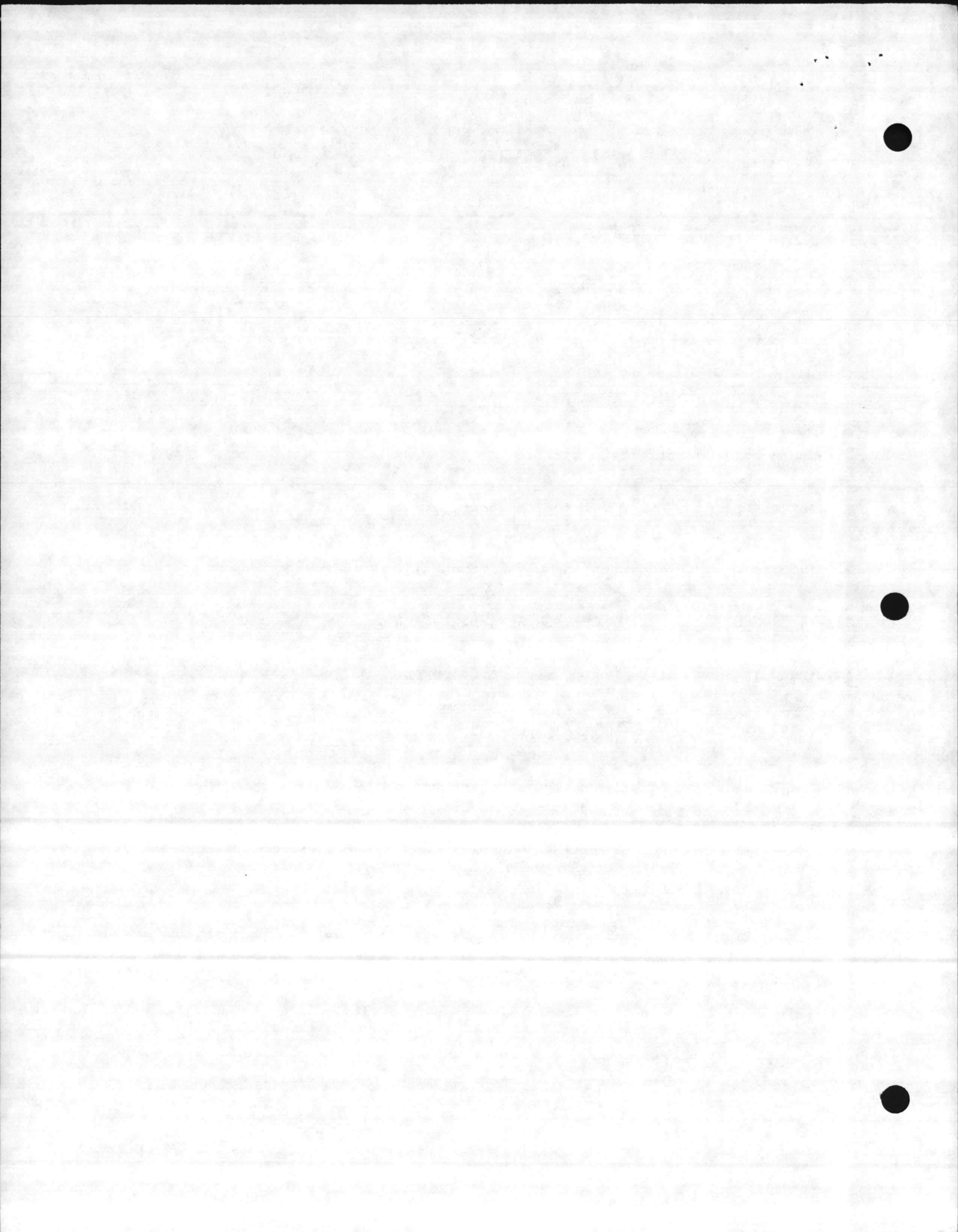
A17-14333-SFB1-05 CURRENT TRANSFORMER NAMEPLATE

A17-14333-SFB1-06 BUSHING DRAWING

A17-14333-SFB1-07 C. T. EXCITATION CURVES

A17-14333-SFB1-08 O.C. TIME CURRENT CHARACTERISTIC CURVES

C17-14333A-950 WIRING DIAGRAM

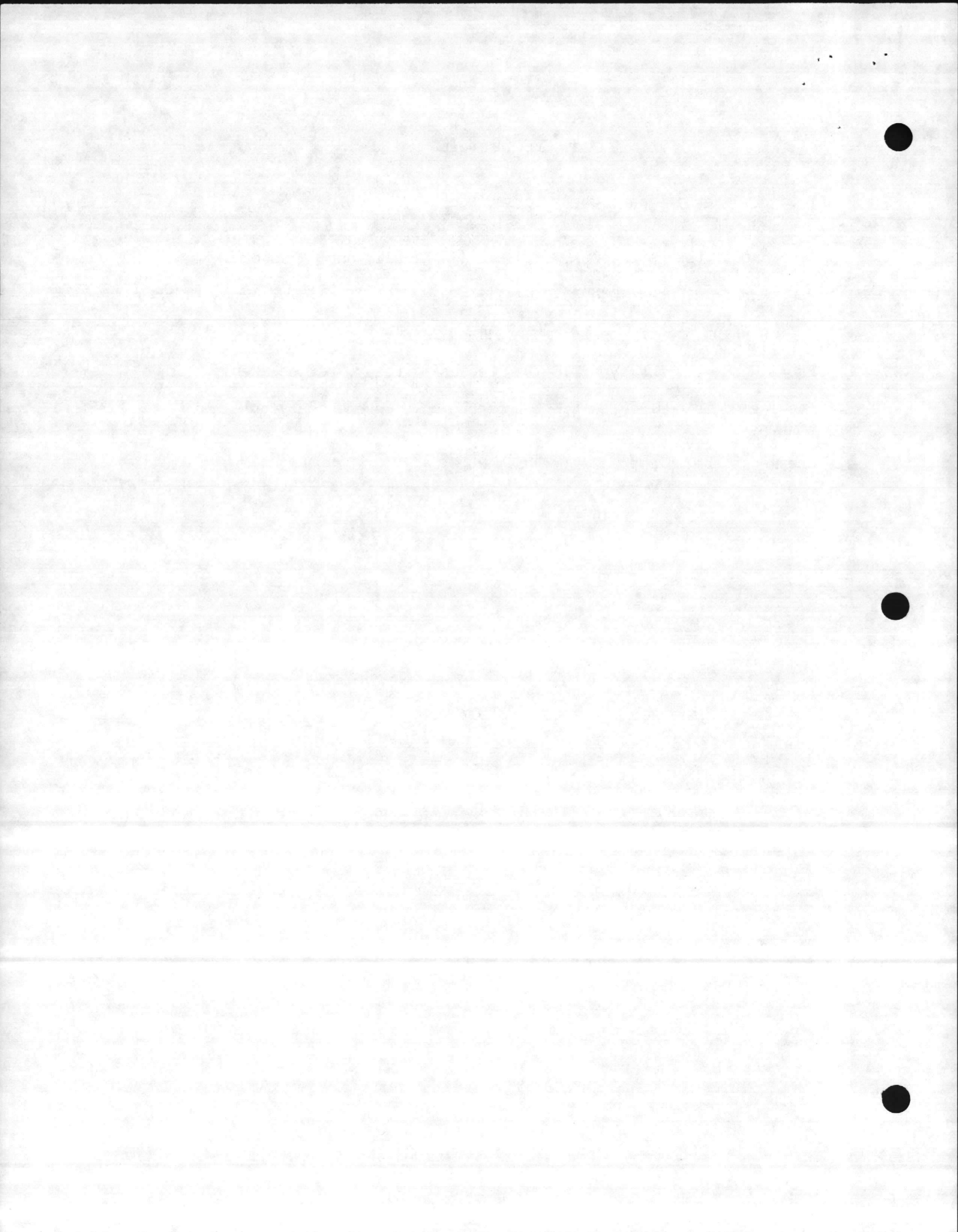


SPECIAL NOTES

1. Provide 1 set of spare parts to include the following:

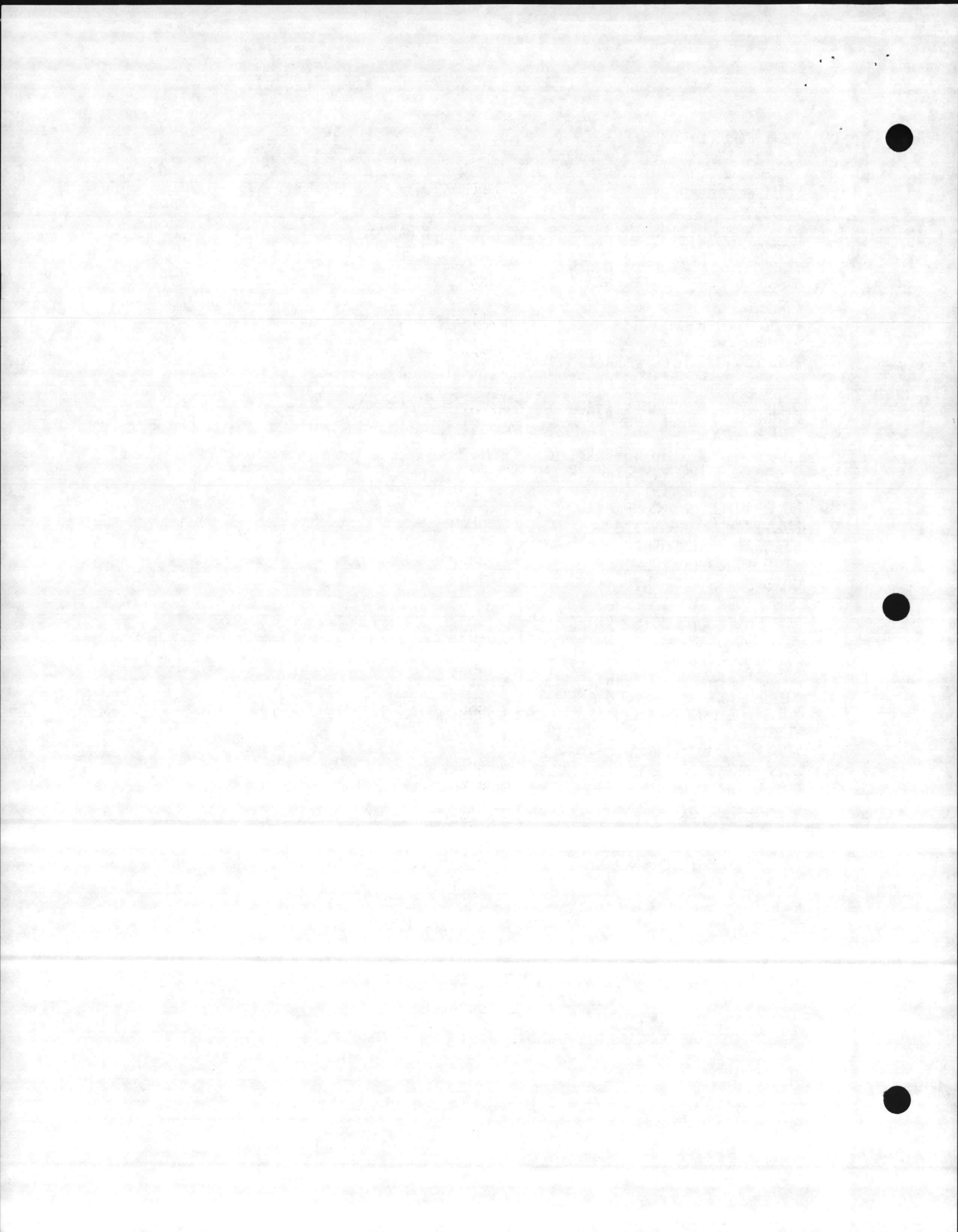
QTY:

- 1 - SF6 bottle rated 600A, 15.5 KV, 110 KV BIL, part #758962B.
  - 2 - Bushings, cat. #D44080-099-01.
  - 2 - Current transformers, cat. #311-601.
2. Provide cut-out for type ITE-79M, reclosing relay, per breaker.
  3. Provide additional 69 switch to operate only on emergency trip and lockout.
  4. Breaker to be shipped at 9'-4" height.



EQUIPMENT SOURCE CODES:

1. SQUARE D COMPANY
2. ANDERSON (SQUARE D COMPANY)
3. ELECTROMAGNETICS INDUSTRIES (SQUARE D COMPANY)
4. SORGEL (SQUARE D COMPANY)
5. AGASTAT (AMERACE CORPORATION)
6. BUSSMAN MFG. DIVISION
7. CALVERT COMPANY
8. DAYTON THERMOSTAT
9. EDWARDS
10. ELECTROSWITCH CORPORATION
11. EXIDE POWER SYSTEMS DIVISION
12. FREQUENCY TECHNOLOGY, INCORPORATED TDC DIVISION
13. GENERAL ELECTRIC COMPANY
14. GOULD, INC.
15. GRAYBAR ELECTRIC COMPANY, INCORPORATED
16. G & W ELECTRIC SPECIALTY COMPANY
17. HEVI-DUTY ELECTRIC
18. MC GRAW-EDISON COMPANY
19. MULTI-AMP CORPORATION
20. NIAGARA TRANSFORMER CORPORATION
21. NIFE INCORPORATED
22. OHIO BRASS COMPANY
23. PLM PRODUCTS
24. PORCELAIN PRODUCTS
25. RTE CORPORATION
26. SANGAMO ELECTRIC
27. S & C ELECTRIC COMPANY
28. STORED ENERGY SYSTEMS (SENS)
29. SUPERIOR SWITCHBOARD AND DEVICES COMPANY
30. THERMO-O-DISC
31. WESTINGHOUSE ELECTRIC CORPORATION
32. SCIENTIFIC COLUMBUS (ESTERLINE CORPORATION)
33. CUTLER-HAMMER
34. WESCHLER INSTRUMENTS
35. FILNOR, INC.
36. POTTER & BRUMFIELD
37. BASLER ELECTRIC COMPANY
38. BROWN BOVERI
39. C & D
40. BODENDIECK TOOL DIV OF SQUARE D



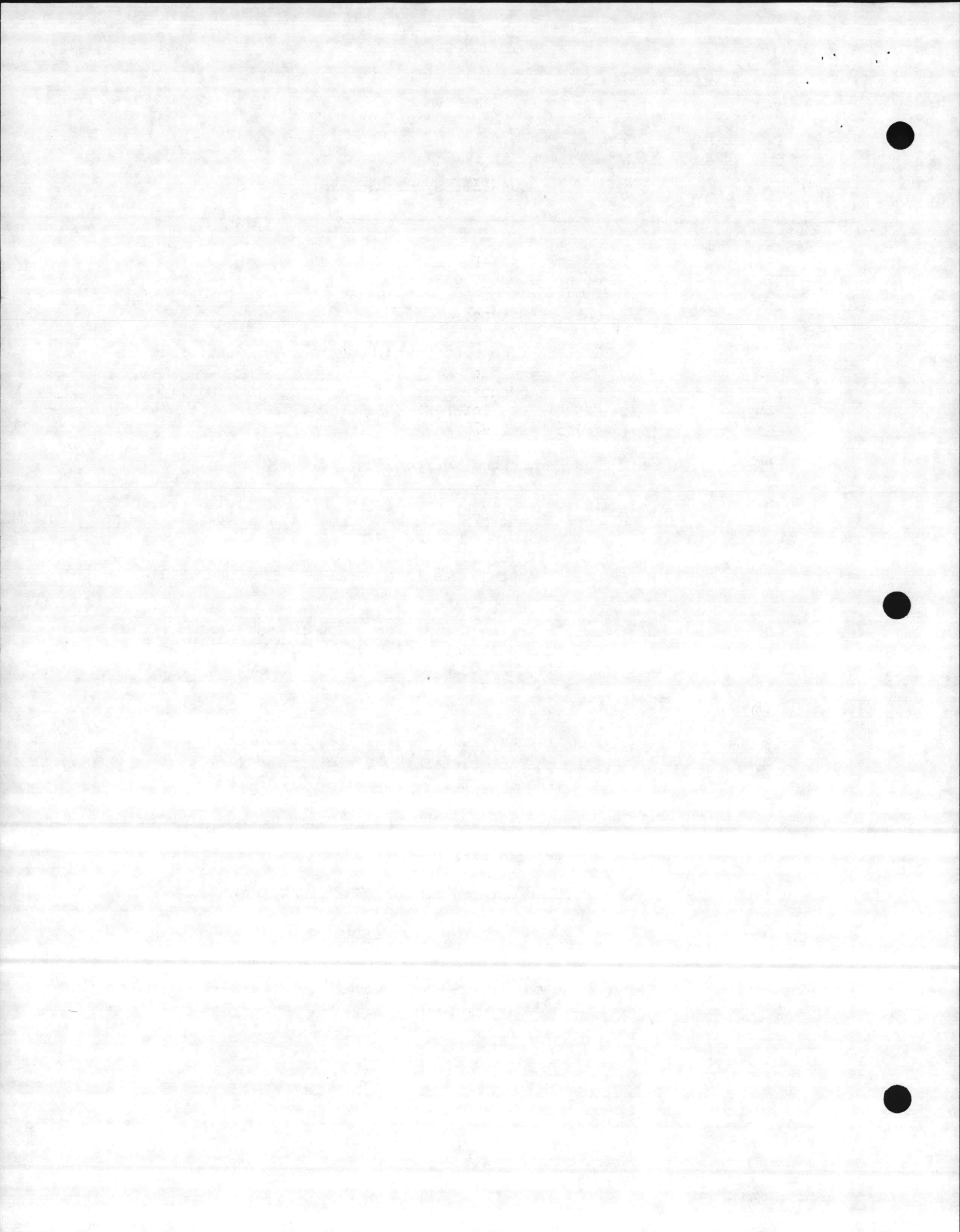


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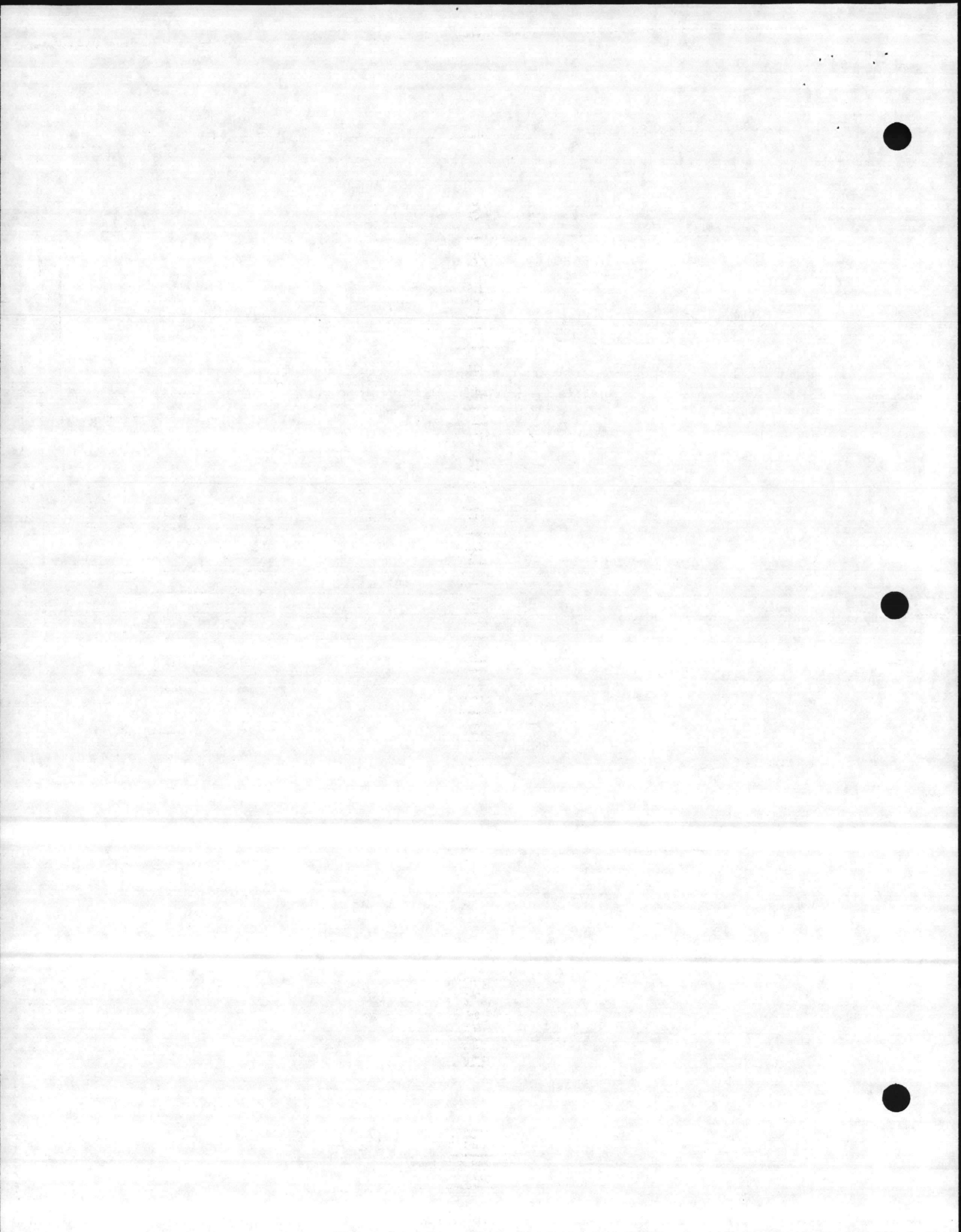
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QUANTITIES PER BREAKER

A	1	52	1	Fluarc substation circuit breaker, type FBS rated 15.5 kV, 600 amperes continuous, 12 KA interrupting, Cat. #FBS1061112.
B	6	BUSHING	3	Enclosure current transformer bushing, Cat. #D44080-099-01 .
C	2	8H,8AC	29	Fusible control power disconnect, knife type, Cat. #21330F.
D	1	CS	10	Breaker control switch, Cat. #2444D.
E	1	RIL	1	Indicating lamp, 240VAC, resistor type with red color cap and nameplate marked "CLOSED", Cat. #9001-KP25-R6.
F	1	GIL	1	Indicating lamp, 240VAC, resistor type with green color cap and nameplate marked "OPEN" Cat. #9001-KP25-G6.
G	6	CT	3	Bushing current transformer 600:5 multi-ratio, C 100 relaying accuracy, rated 15.5 kV, 110 kV BIL as installed on bushings, Cat. #311-601.
H	6	TB	13	Six circuit shorting terminal block, cat. #EB27A06S.
I	1	50/51 A,B,C	38	Type ITE-51E overcurrent relay, extremely inverse time characteristic, 4-12 amp tap, with 8-240 instantaneous trip, cat. #223T3311.
J	1	50/51 G	38	Type ITE-51E overcurrent relay, extremely inverse time characteristic, 0.5-2 amp tap, with 0.5-20 instantaneous trip, cat. #223S3114.
K	1	79C0	33	Recloser cut-off switch, DPST, Cat. #7402K4.
L	3	AM	1	AC ammeter, 5 amp rating, 0-600 amp scale, cat. #2830-1161-LSSJ.
M	1	VM	1	AC voltmeter, 250 volt movement, with 0-13 kV scale, cat. #2830-1041-PZUY.



I T E M	Q T Y	S O U R C E	QUANTITIES PER BREAKER	
N	1	CTU	1	Capacitor trip unit, rated input 240 VAC, cat.# ST200.
O	6	CONNECTOR	2	Type DSC, bronze stud connector to cable, cat. #DSC-11025-12-3.
P	1	WHDM	13	Watt-hour demand meter, type DSM-65, rated 120 VAC, 4 wire Y, 3 phase. Watt-hour constant of 1.8, with 15 minute time interval, PT ratio 12.47 kV/240, CT ratio 600/5, cat. #700X67G9.



# FLUARC SF<sub>6</sub> SUBSTATION CIRCUIT BREAKER

CAT. NO.  S/N.  F/O   
 CUST. P. O. NO.  CONTROL DIAG. NO.   
 INSTRUC. BOOK NO.  YEAR OF MANUFACTURE

MAX. VOLTAGE  KV RMS FULL WAVE BIL  KV PEAK  
 MIN. VOLTAGE  KV RMS ONE MIN. WITHSTAND  KV  
 CONTINUOUS CURRENT  AMPS, RMS FREQUENCY  HZ  
 MAX. INTERRUPTING CURRENT  KA RMS SYM. AT MAX. VOLTS  
 CLOSING AND LATCHING CAPABILITY  KA RMS ASYM.  
 2 SEC. MAX. PERMISSIBLE TRIPPING DELAY AT  KA RMS SYM.  
 CLOSING TIME  CYCLES RECLOSING TIME  CYCLES  
 INTERRUPTING TIME  CYCLES DUTY CYCLE

CHARGING MOTOR  VAC  v.max.  v.min.  AMPS @ NOM.V.  
 CLOSING COIL  VAC  v.max.  v.min.  AMPS @ NOM.V.  
 TRIPPING COIL 1  VDC  v.max.  v.min.  AMPS @ NOM.V.  
 TRIPPING COIL 2  VDC  v.max.  v.min.  AMPS @ NOM.V.  
 AUXILIARY CONTACTS  a  b

SF<sub>6</sub> PRESSURE  PSIG AT 20°C

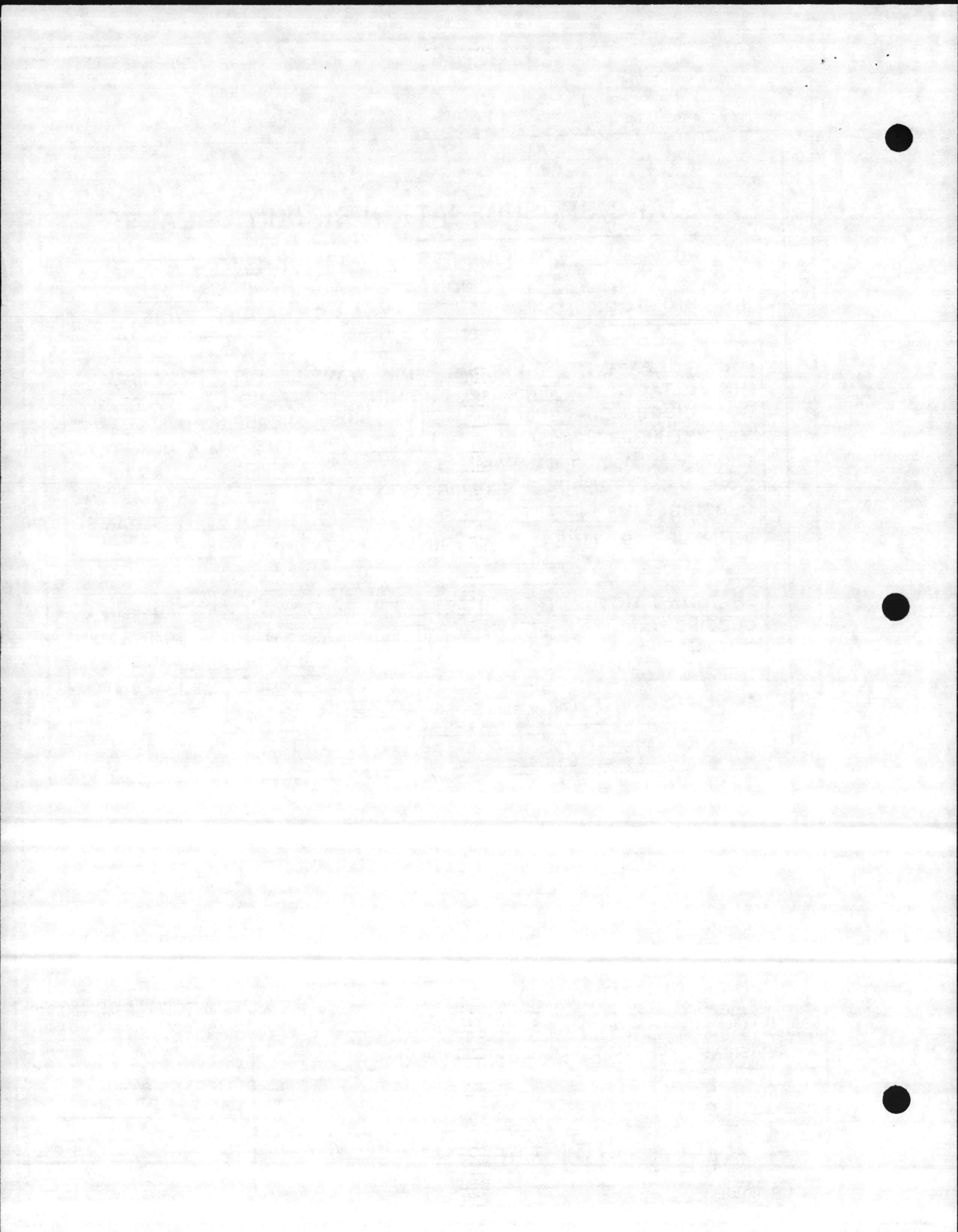
7.5"

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REVISIONS	SF <sub>6</sub> BREAKER NAMEPLATE	DRAWN BY- FJB
		CHECKED BY-
		DATE- 11-27-85
		SA-6060-0002 5/83
		REV.
		A-17-14333- SFBI-04



**SQUARE D COMPANY**  
 POWER EQUIPMENT GROUP  
 SMYRNA, TENNESSEE



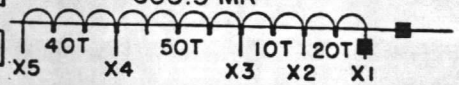


**ELECTROMAGNETIC INDUSTRIES**  
**SQUARE D COMPANY**  
 MADE IN U.S.A.

88

MODEL B  CURRENT TRANSFORMER  
 BIL 10KV INS. CLASS 0.6KV  60 HZ

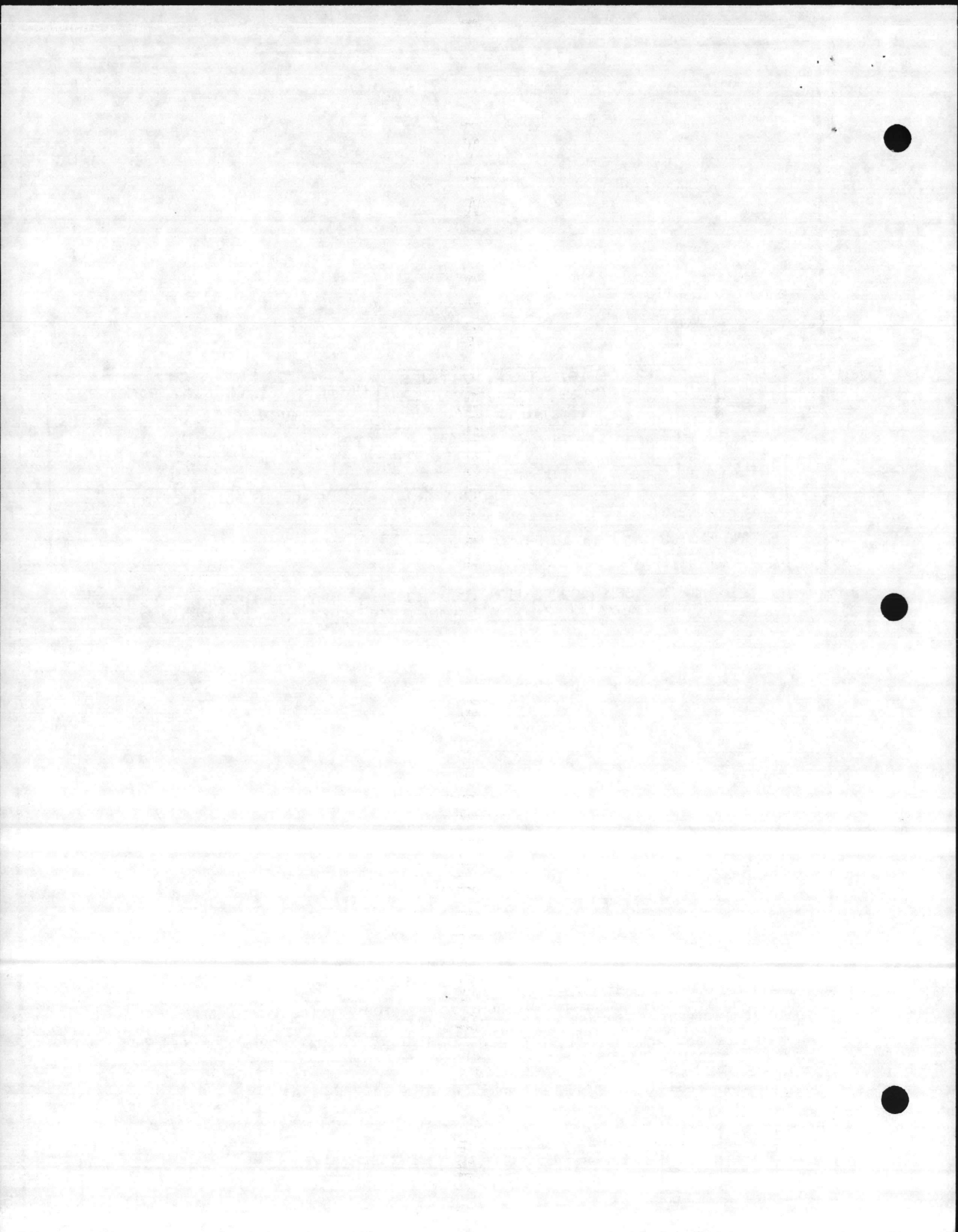
METER ACC.  600:5 A SHORT TIME THERMAL  60 X RATED CURRENT  
 RELAY ACC.  C100 600:5 A PO. NO.  24578-1-14D 600:5 MR  
 RES. PER TURN  .0015 OHM AT 25°C MFR. ORDER NO.  17-14333A  
 RATING FACTOR  1.5 30°C AMB DATE MFG.   
 CAT. NO.  311-601 SER. NO.



RATIO	50:5	100:5	150:5	200:5	250:5	300:5	400:5	450:5	500:5	600:5
TERMINALS	X2-X3	X1-X2	X1-X3	X4-X5	X3-X4	X2-X4	X1-X4	X3-X5	X2-X5	X1-X5

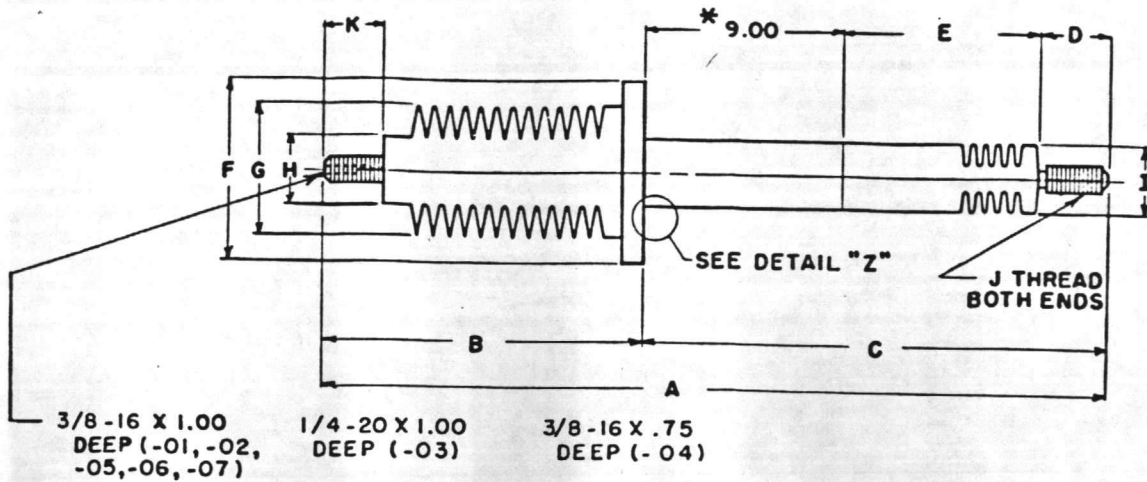
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REVISIONS <table border="1"> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>																CURRENT TRANSFORMER NAMEPLATE 600:5 A	DRAWN BY- FJB CHECKED BY- <i>Jul</i> DATE- 11-27-85 SA-6060/6080-0016
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		REV.															



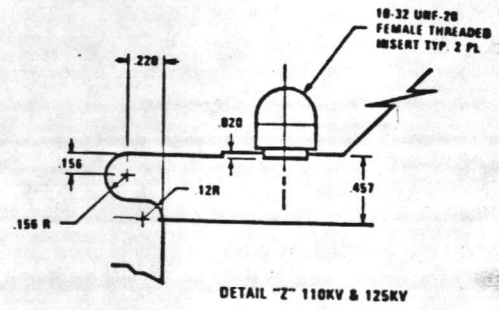
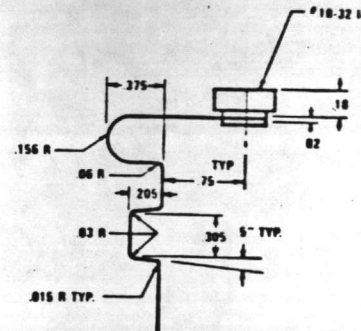


\* GROUND PROTECTION AREA



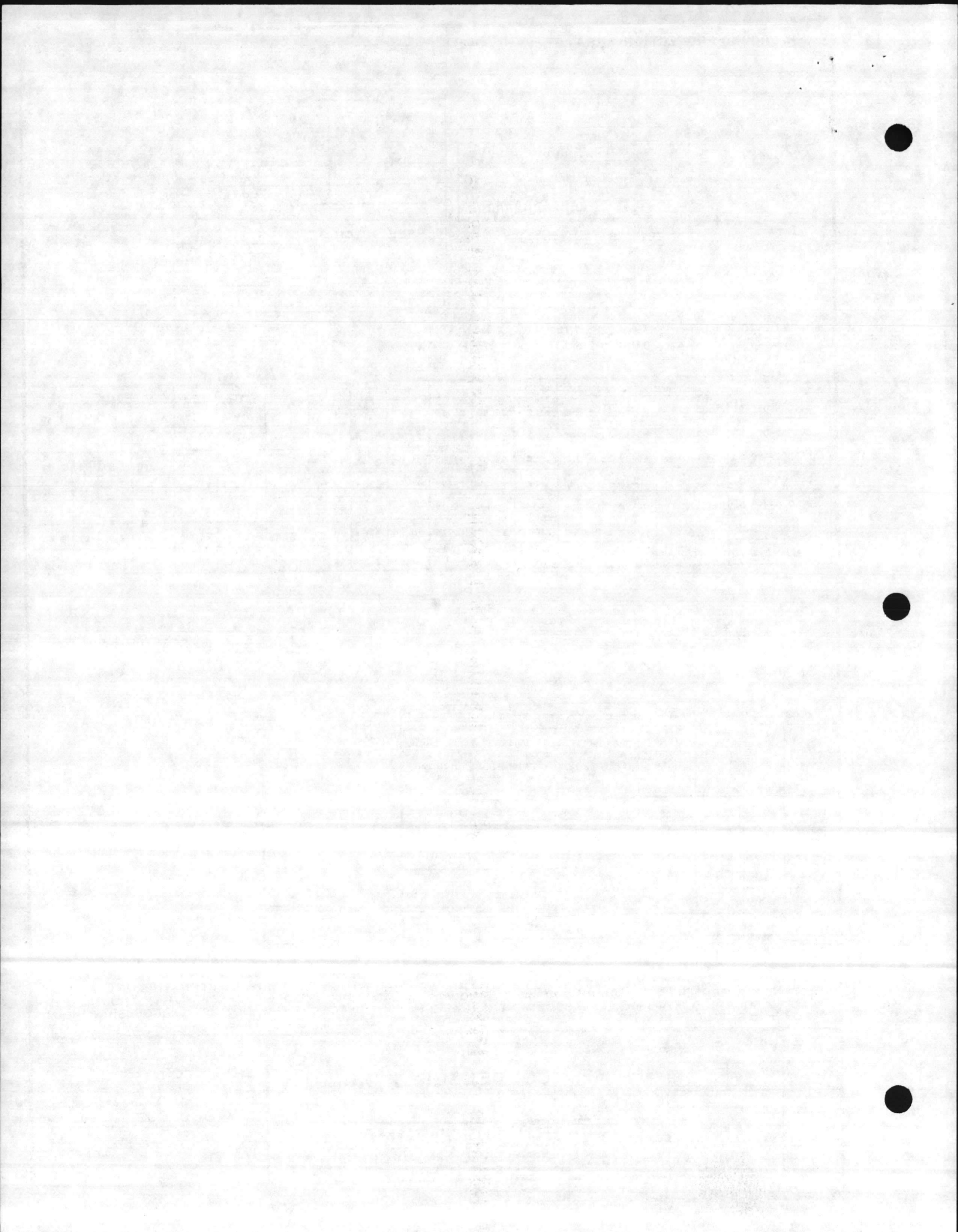
PART NO.	RATING (A)	EI CAT. NO.	DIM.	A	B	C	D	E	F	G	H	I	J	K
D44080-099-01	600/1200	SD-15-110-1200	110KV	34.99	14.19	20.80	3.00	8.80	8.25	5.954	3.125	3.125	1 1/8-12	2.50
D44080-099-02	600/1200	SD-25-125-1200	125KV	37.57	16.19	21.38	3.00	9.38	8.25	5.954	3.125	3.125	1 1/8-12	2.50
D44080-099-03	1200	SD-38-150-1200	150KV	45.07	22.07	23.00	3.00	11.00	10.50	8.500	5.370	4.370	1 1/2-12	2.50
D44080-099-04	3000	SD-15-110-3000	110KV	37.49	15.70	21.80	4.00	8.80	9.88	7.710	4.880	5.500	2 7/8-12	4.00
D44080-099-05	2000	SD-38-150-2000	150KV	46.88	22.88	24.00	3.00	12.00	13.65	10.780	3.400	6.800	2 - 12	3.00
D44080-099-06	2000	SD-15-110-2000	110KV	35.50	14.70	20.80	3.00	8.80	9.00	6.830	4.000	4.000	2 - 12	3.00
D44080-099-07	600/1200	SD-38-200-1200B	200KV	50.44	22.07	28.37	3.00	16.37	10.50	8.50	5.380	4.380	1 1/8-12	2.50

Q.C. TEST CHART		PARTIAL DISCHARGE TEST VALUES		1 MIN. WITHSTAND
SYSTEM VOLTAGE (KV)	PART NUMBER	MAXIMUM TEST VOLTAGE (KV)	MINIMUM VOLTAGE AT WHICH EXTINCTION (SPICOC) MUST OCCUR (KV)	TEST VALUE TO BE APPLIED FOR ONE MINUTE WITH OUT BREAKDOWN (KV)
15.5	D44080-099-01	17.9	9.8	50.00
25.8	D44080-099-02	29.8	16.4	60.00
38	D44080-099-03	43.9	24.1	80.00
15.5	D44080-099-04	17.9	9.8	50.00
38	D44080-099-05	43.9	24.1	80.00
15.5	D44080-099-06	17.9	9.8	50.00
38	D44080-099-07	43.9	24.1	80.00



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<b>REVISIONS</b> _____ _____ _____ _____	<b>SF<sub>6</sub> CONDENSER BUSHING</b>	DRAWN BY- <i>FJB</i> CHECKED BY- <i>JM</i> DATE- <i>11-27-85</i> SD44080-099 REV. F
		<b>SQUARE D COMPANY</b> POWER EQUIPMENT GROUP SMYRNA, TENNESSEE
		A-17-14333 - SFB1-06
		REV. _____

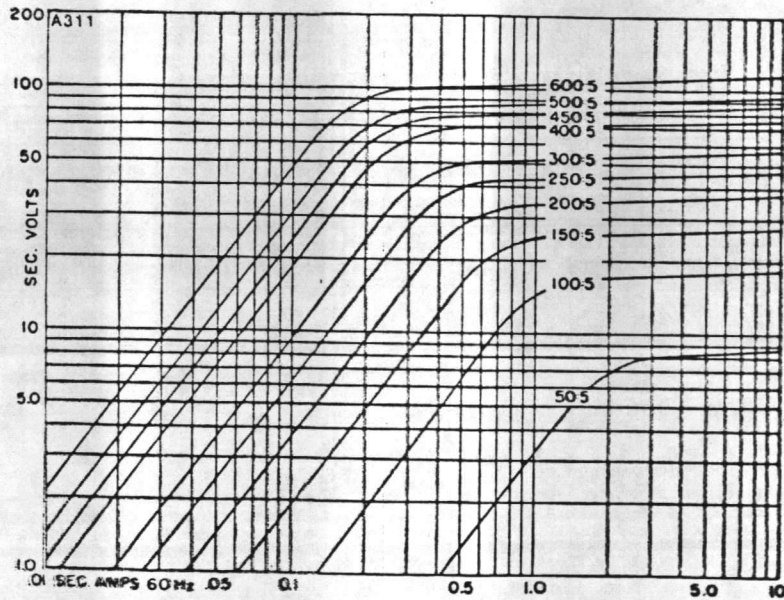


CAT. NO. 311-601

600:5 MULTI-RATIO

TERMINALS	CURRENT RATING (amperes)	DCR @ 25°C
x2 - x8	50:5	.015
x1 - x2	100:5	.029
x1 - x3	150:5	.044
x4 - x5	200:5	.058
x2 - x4	250:5	.073
x2 - x4	300:5	.088
x1 - x4	400:5	.117
x3 - x5	450:5	.131
x2 - x5	500:5	.146
x1 - x5	600:5	.175

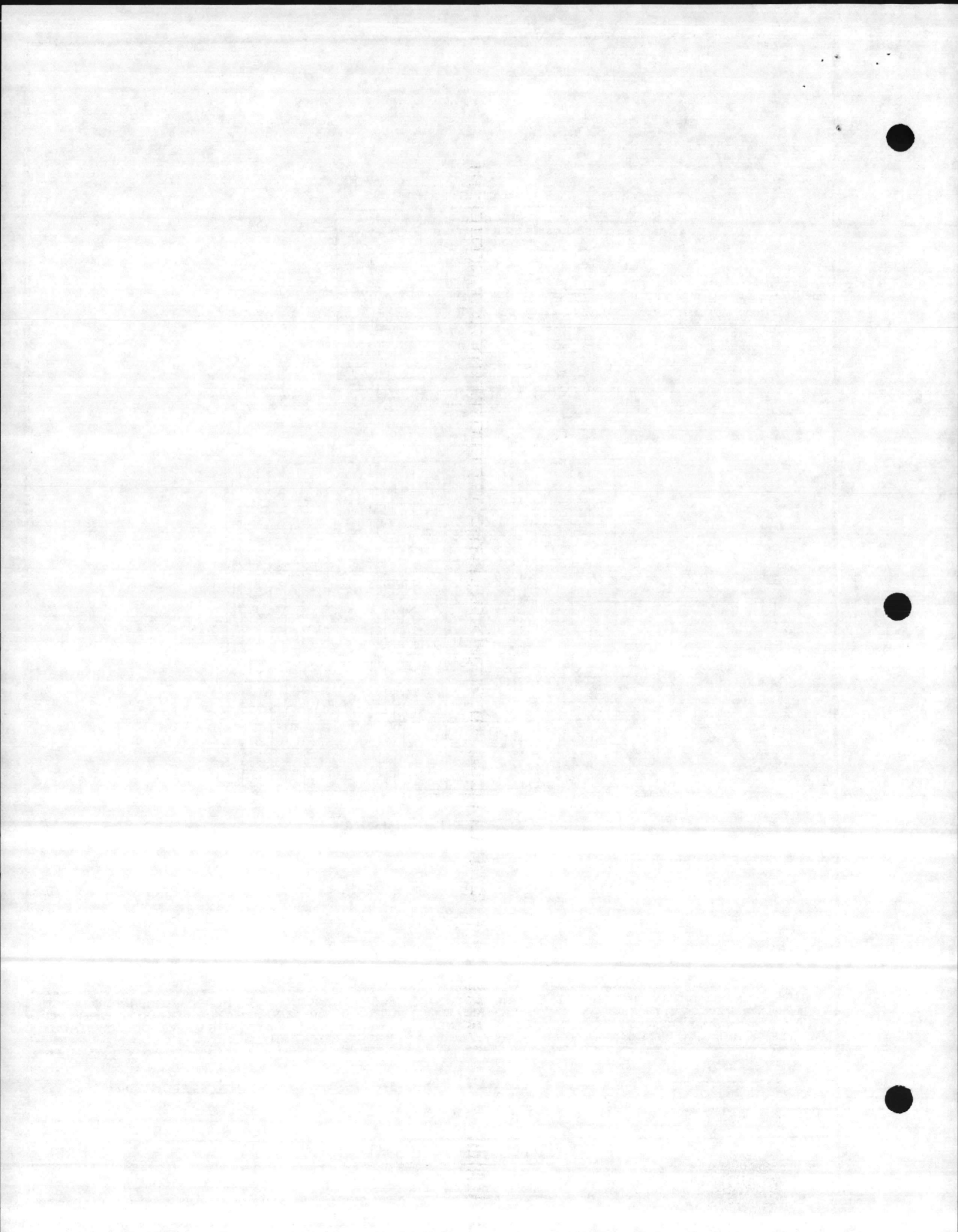
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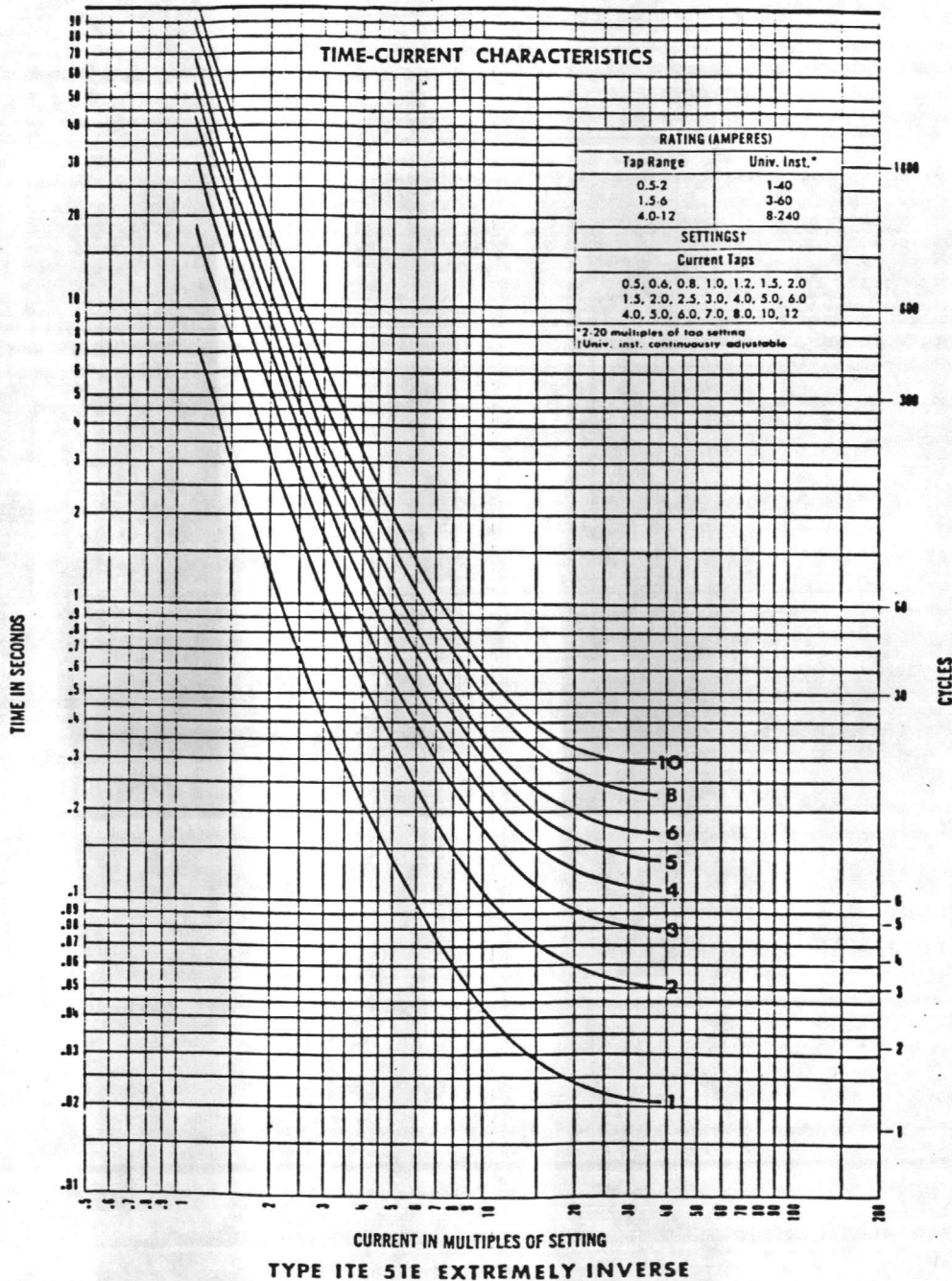


EXCITATION CURVES

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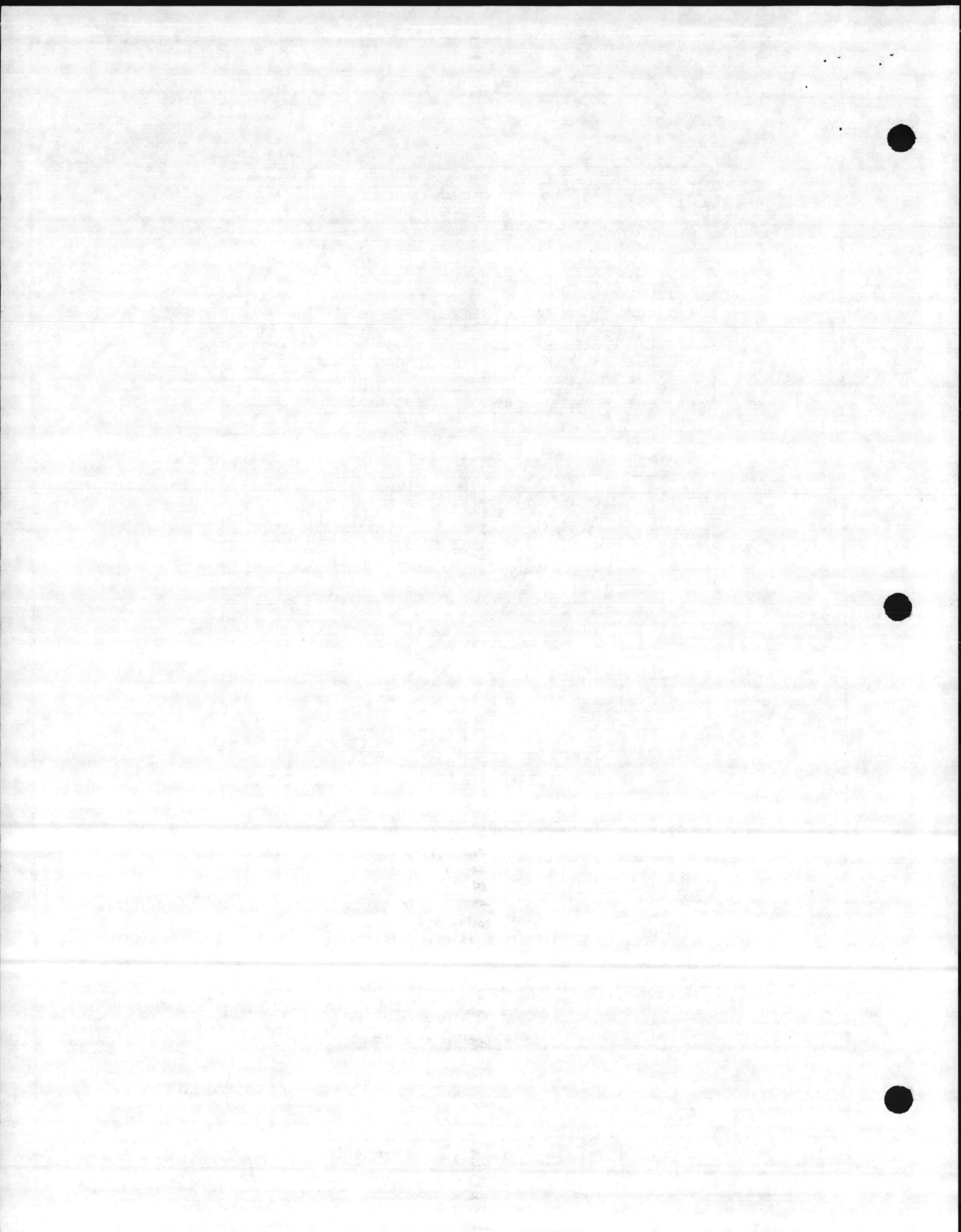
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<p>SA-6060/6080-0030 2/84</p>														
 <p><b>SQUARE D COMPANY</b></p> <p>POWER EQUIPMENT GROUP</p> <p>SMYRNA, TENNESSEE</p>	<p>A-17-14333-</p> <p>SFBI-07</p>	<p>REV.</p>												
	<p> </p>													

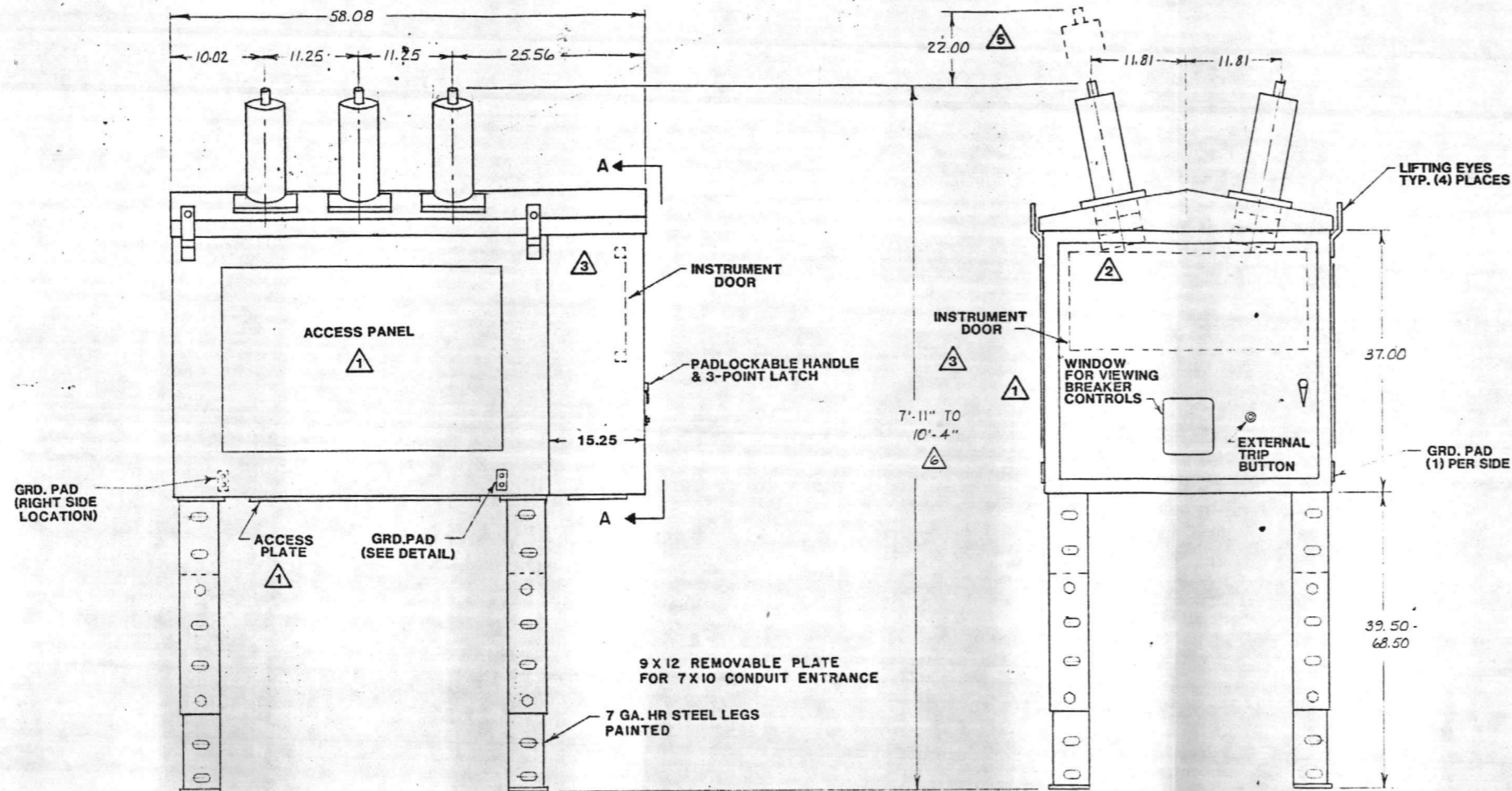




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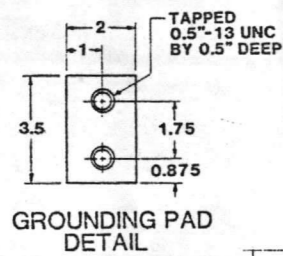
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		CHECKED BY- <i>JM</i>
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	<b>SQUARE D COMPANY</b> POWER EQUIPMENT GROUP SMYRNA, TENNESSEE	A- <i>17-14333-</i> <i>SFBI-08</i>
		REV. <span style="border: 1px solid black; display: inline-block; width: 20px; height: 15px; vertical-align: middle;"></span>



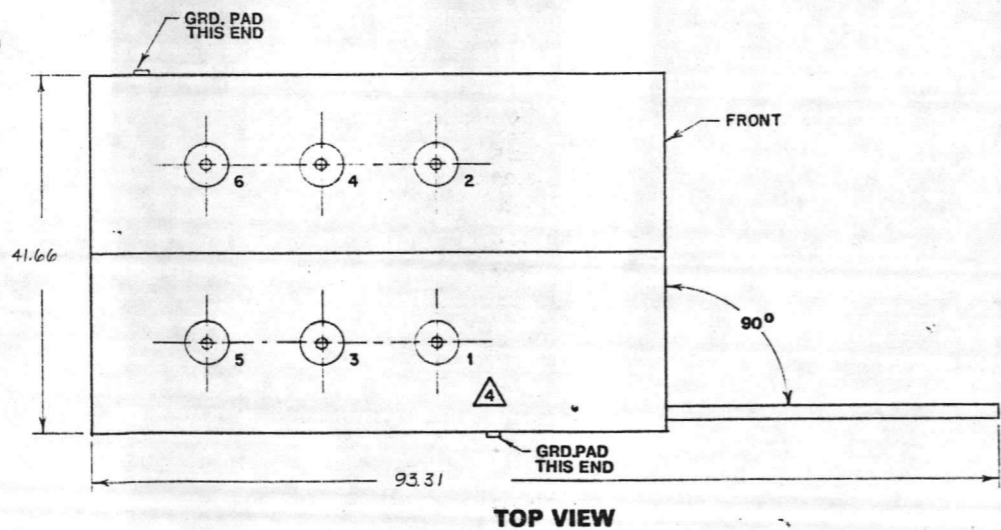


LEFT END ELEVATION

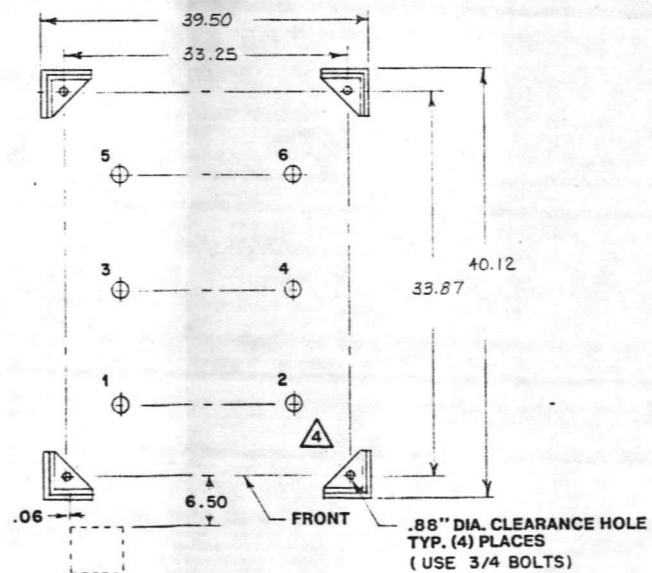
FRONT ELEVATION



GROUNDING PAD DETAIL



TOP VIEW



NOTE: ALL DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED.

NOTES

CATALOG NUMBER:	FBS1061112
QUANTITY:	2
RATED AMPERES:	<input checked="" type="checkbox"/> 600 <input type="checkbox"/> 1200 <input type="checkbox"/> 2000 <input type="checkbox"/> 3000
RATED VOLTAGE (KV):	<input checked="" type="checkbox"/> 15.5 <input type="checkbox"/> 25.8 <input type="checkbox"/> 38
BIL (KV):	<input checked="" type="checkbox"/> 110 <input type="checkbox"/> 125 <input type="checkbox"/> 150 <input type="checkbox"/> 200
SYSTEM VOLTAGE (KV):	12.47
AIC (KA SYM):	<input type="checkbox"/> 8 <input checked="" type="checkbox"/> 12.5 <input type="checkbox"/> 16 <input type="checkbox"/> 18 <input type="checkbox"/> 20 <input type="checkbox"/> 25 <input type="checkbox"/> 32 <input type="checkbox"/> 40
PAINT:	<input checked="" type="checkbox"/> ZINC PHOSPHATE CONVERSION COATING, ONE MIL BAKED ENAMEL AND ONE MIL URETHANE TOP COAT COLORED ANSI 70.
WEIGHT (LB.):	<input type="checkbox"/> NON-STANDARD <input checked="" type="checkbox"/> 1550 <input type="checkbox"/> 2180 <input type="checkbox"/> 2500 <input type="checkbox"/> 3200 <input type="checkbox"/> 3500 <input type="checkbox"/> 4000
CONTROL WIRE:	<input checked="" type="checkbox"/> #14 SIS <input type="checkbox"/> NON-STANDARD
CONTROL TERMINALS:	<input checked="" type="checkbox"/> 9080 KCB1 <input type="checkbox"/> NON-STANDARD
CURRENT CIRCUIT WIRES:	<input checked="" type="checkbox"/> #12 SIS <input type="checkbox"/> NON-STANDARD
BUSHING STUD:	<input checked="" type="checkbox"/> 1 1/8 - 12 <input type="checkbox"/> 1 1/2 - 12 <input type="checkbox"/> 2 - 12 <input type="checkbox"/> 2 7/8 - 12
QTY. RECORD DRAWINGS:	3
QTY. MAINTENANCE MANUALS:	5

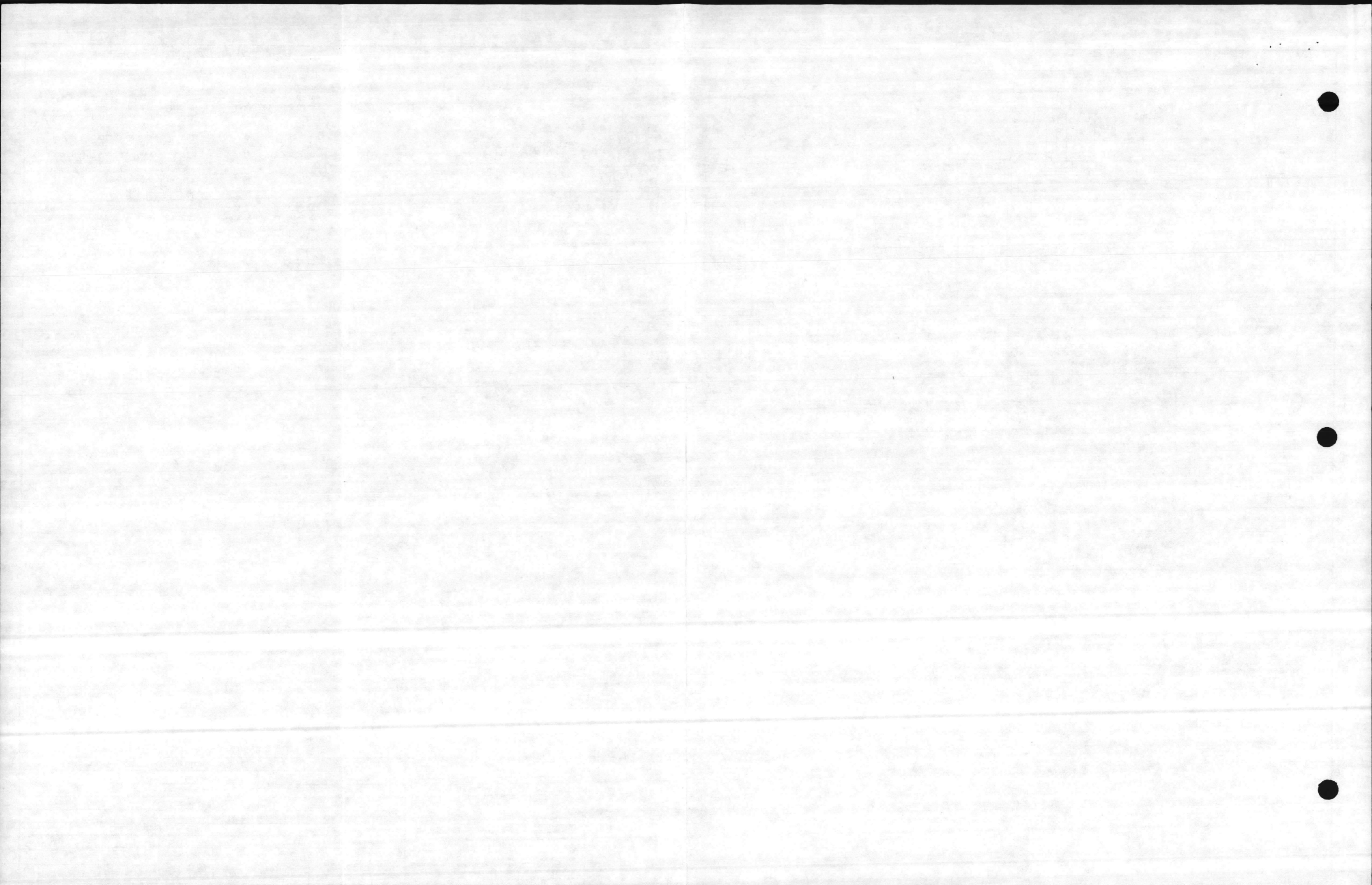
NOTES:

1. REMOVABLE COVERS ON BOTH SIDES & BOTTOM
2. THERE ARE PROVISIONS FOR MOUNTING UP TO 3-CT'S PER BUSHING, 6 PER PHASE.
3. PROTECTIVE RELAYS MOUNTED ON THIS INTERIOR DOOR WHEN REQUIRED.
4. BUSHING LOCATION IDENTIFICATION NUMBERS, (SEE 3-LINE DIAGRAM).
5. CLEARANCE REQUIRED ABOVE UNIT TO REMOVE BUSHING.
6. BREAKER TO BE SHIPPED AT 9'4" HEIGHT.

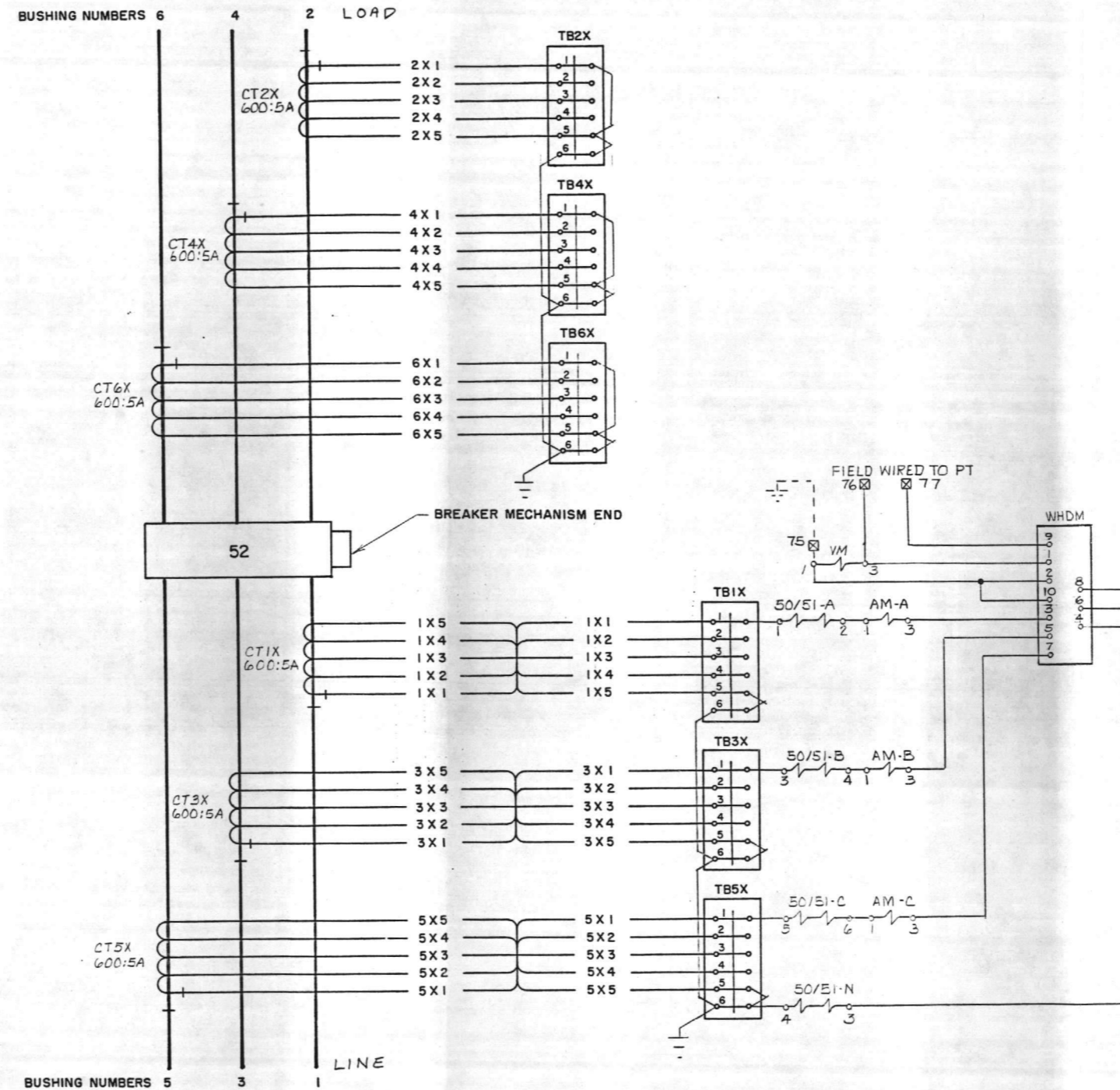
SD6060-0009

TYPE FB SF6 FLUARC SUBSTATION BREAKER RATED: 15.5 KV, 110 KV BIL, 600 A.			
JOB TITLE: MARINE CORPS BASE		LOCATION: CAMP LEJEUNE, NC	
ARCHITECT:			
ENGINEER: DESIGN BRANCH, PUBLIC WORKS DIV.			
No.	KEY	REVISIONS	By DATE
CUSTOMER: SESCO		FIELD OFFICE: CHARLOTTE	
CUST. ORDER No. 24578-1-14D		DRAWN: FUB	
FACTORY ORDER No. 17-14333A		CHECKED: <i>gml</i>	
DRAWINGS FOR APPROVAL		DRAWINGS FOR RECORD <input type="checkbox"/>	
FABRICATION WILL NOT BE STARTED UNTIL APPROVED DRAWINGS ARE RETURNED		FABRICATION HAS BEEN STARTED ANY CHANGES TO LAYOUT AS SHOWN MAY RESULT IN DELAY AND/OR ADDITIONAL CHARGES	
SCALE: NTS		DATE: 11-26-85	
DWG. No. D-17-14333-SFB1-01		REV.	

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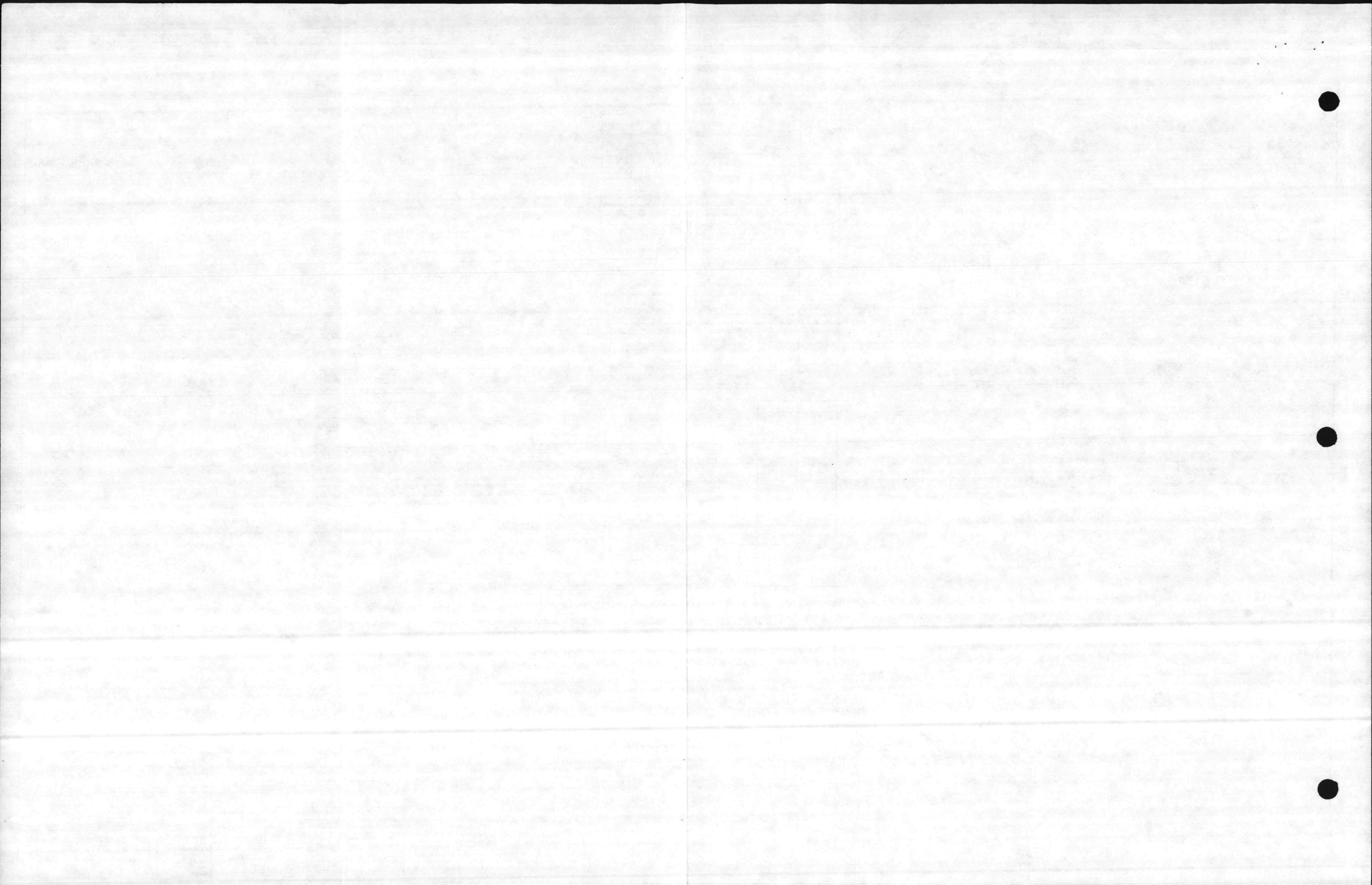
**SCHEMATIC DIAGRAM  
CURRENT TRANSFORMER CIRCUIT**

**NOTES:**

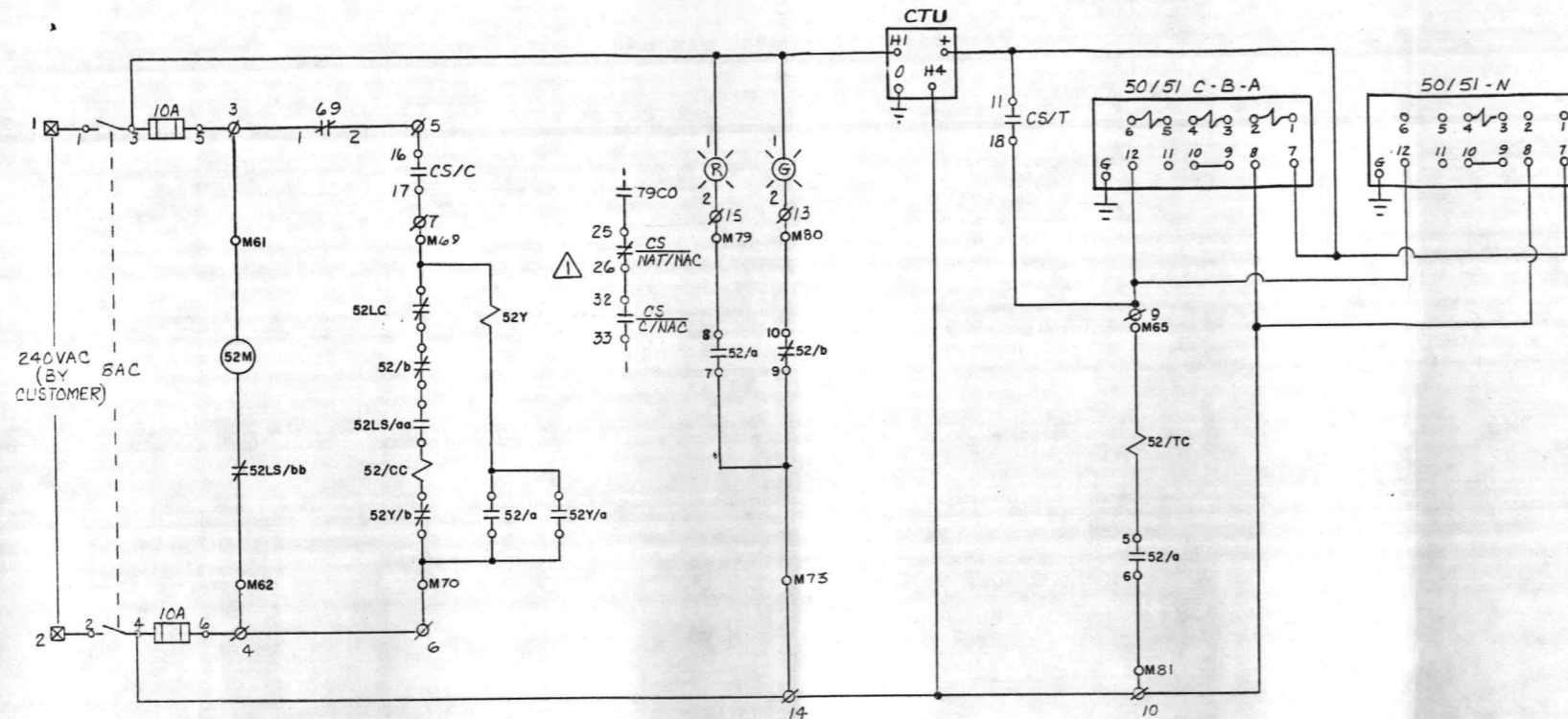
1. ALL TERMINAL BLOCKS FOR M.R.C.T. HAVE SHORTING PROVISIONS.
2. TB1X, TB3X, TB5X, ETC. TO HAVE SHORTING SCREWS INSTALLED FOR SHIPMENT.
3. JUMPER WIRE SHOWN ON TERMINAL 6 OF EACH SHORTING TB FOR GROUND CONNECTION MUST BE LONG ENOUGH TO REACH ANY TERMINAL OF THAT BLOCK.
4. TO OBTAIN OTHER CT RATIOS, SEE TERMINAL CONNECTIONS ON CT NAMEPLATE DRAWING -05.
5. ALL WIRES C1, C2, C3, C01, ETC. TO BE CUT LONG ENOUGH TO REACH ANY TERMINAL ON THE ASSOCIATED TERMINAL BLOCK.

JOB TITLE: MARINE CORPS BASE	
LOCATION: CAMP LEJEUNE, NC	
ARCHITECT:	
ENGINEER: DESIGN BRANCH, PUBLIC WORKS DIV.	
ELEC. CONTRACTOR:	
FIELD OFFICE: CHARLOTTE	
CUSTOMER: SESCO	
CUST. ORDER No. 24578	
FACTORY ORDER No. 17-14333A	
DRAWINGS FOR APPROVAL	
DRAWINGS FOR RECORD	
SCALE: NTS	
DATE: 11-27-85	
DRAWN: FJB	
CHECKED: YU	
No. D-17-14333-SFBI-02	
REV. 1	

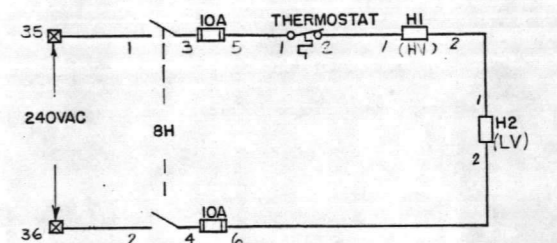
"THE SQUARE D COMPANY HAS PROPRIETARY RIGHTS TO THE INFORMATION CONTAINED HEREON. THIS INFORMATION REMAINS THE PROPERTY OF SQUARE D COMPANY AND MAY BE USED ONLY IN CONFORMANCE WITH INSTRUCTIONS ISSUED BY SQUARE D COMPANY. THIS DOCUMENT IS ISSUED IN CONFIDENCE. IT MAY NOT BE REPRODUCED WITHOUT WRITTEN PERMISSION FROM THE SQUARE D COMPANY, AND MAY BE RECALLED AT ANY TIME."



NOTES:  $\Delta$   
 1. FUTURE CONNECTION TO RECLOSING RELAY.



**BREAKER CONTROL SCHEMATIC**



**HEATER CIRCUIT**

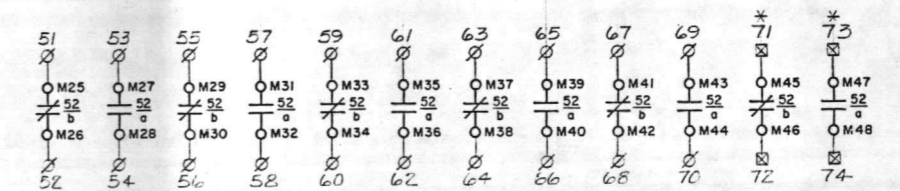
H1 - RATED 425W @ 240VAC  
 DISSIPATES  $\approx$  212W  
 H2 - RATED 1000W @ 240VAC  
 DISSIPATES  $\approx$  91W

**OPERATION OF BREAKER:**

1. THE BREAKER WILL NOT CLOSE UNTIL THE SPRINGS ARE CHARGED.
2. CHARGING OF THE CLOSING SPRINGS IS CONTROLLED BY 52LS/bb. WHEN THE SPRINGS ARE DISCHARGED, POWER IS AVAILABLE ON TERMINALS M61 AND M62. THE CLOSING SPRINGS CHARGING MOTOR WILL RUN TO CHARGE THE CLOSING SPRINGS. WHEN THE SPRINGS ARE CHARGED, THE CONTACT 52LS/bb OPENS STOPPING THE MOTOR.
3. THE BREAKER IS ELECTRICALLY CLOSED BY OPERATING THE CLOSING SOLENOID 52/CC. THE CLOSING SIGNAL IS APPLIED ACROSS TERMINALS M69 AND M70. THE CLOSING SPRINGS MUST BE CHARGED (CONTACT 52LS/aa CLOSED). CONTACTS 52/b AND 52Y/b PASS CURRENT TO THE CLOSING SOLENOID 52/CC. WHEN THE BREAKER CLOSES, CONTACTS 52/b AND 52Y/b CHANGE STATE. CONTACT 52/b OPENS THE CLOSING SOLENOID CIRCUIT.  
 CONTACT 52/a ENERGIZES THE ANTI-PUMP RELAY 52Y. CONTACT 52Y/b OPENS, PREVENTING THE CLOSING SOLENOID FROM BEING RE-ENERGIZED UNTIL 52Y IS DE-ENERGIZED, AND CONTACT 52Y SEALS THE ANTI-PUMP RELAY UNTIL THE CLOSE SIGNAL IS REMOVED FROM TERMINALS M69 AND M70.  
 CONTACT 52LS/aa ALSO OPENS BUT RECLOSES AS SOON AS THE CLOSING SPRINGS ARE RECHARGED. THE ANTI-PUMP RELAY 52Y LIMITS THE BREAKER TO ONE CLOSING OPERATION PER CLOSE SIGNAL APPLIED ACROSS TERMINALS M69 AND M70.
4. THE BREAKER IS ELECTRICALLY TRIPPED BY APPLYING A SIGNAL ACROSS TERMINAL M65 AND M81. IF THE BREAKER IS CLOSED (CONTACT 52/a CLOSED), THE TRIP SOLENOID WILL OPERATE, TRIPPING THE BREAKER. CONTACT 52/a OPENS, DE-ENERGIZING THE TRIP SOLENOID WHEN THE BREAKER IS OPEN.
5. REMOTE STATUS INDICATORS ARE CONNECTED TO TERMINALS TO INDICATE IF THE BREAKER IS OPEN OR CLOSED. CONTACT 52/a, CONNECTED TO TERMINAL M79 IS CLOSED WHEN THE BREAKER IS CLOSED. CONTACT 52/b, CONNECTED TO TERMINAL M80 IS CLOSED WHEN THE BREAKER IS OPEN.

**LEGEND:**

- $\square$  CUSTOMER TERMINAL BLOCK
- $\emptyset$  ANSI TERMINAL BLOCK
- 52/TC BREAKER TRIP SOLENOID
- 52/CC BREAKER CLOSING SOLENOID
- 52Y ANTI-PUMP RELAY
- 52M CLOSING SPRINGS CHARGING MOTOR
- 52Y/a ANTI-PUMP RELAY CONTACT, NORMALLY OPEN
- 52Y/b ANTI-PUMP RELAY CONTACT, NORMALLY CLOSED
- 52LS/aa CLOSING SPRINGS CHARGED LIMIT SWITCH, OPEN WHEN SPRING ARE NOT CHARGED. CLOSED WHEN SPRINGS ARE CHARGED.
- 52LS/bb CLOSING SPRINGS CHARGED LIMIT SWITCH, CLOSED WHEN SPRINGS ARE NOT CHARGED. OPEN WHEN SPRINGS ARE CHARGED.
- 52/a AUXILIARY SWITCH CONTACTS, OPEN WHEN BREAKER IS IN THE TRIPPED (OPEN) POSITION. CLOSED WHEN BREAKER IS IN THE CLOSED POSITION.
- 52/b AUXILIARY SWITCH CONTACTS, CLOSED WHEN BREAKER IS IN THE TRIPPED (OPEN) POSITION. OPEN WHEN BREAKER IS IN THE CLOSED POSITION.
- 52LC LATCH CHECKING SWITCH
- M TERMINAL BLOCK ON BREAKER MECHANISM
- 8H HEATER DISCONNECT
- 8AC AC CIRCUIT DISCONNECT
- 69 MANUAL CLOSING SWITCH
- 79CO RECLOSER CUT-OUT SWITCH



**AUXILIARY CONTACTS**

\* - FOR USE IN FUTURE RECLOSING CIRCUIT

**CS-2444D**

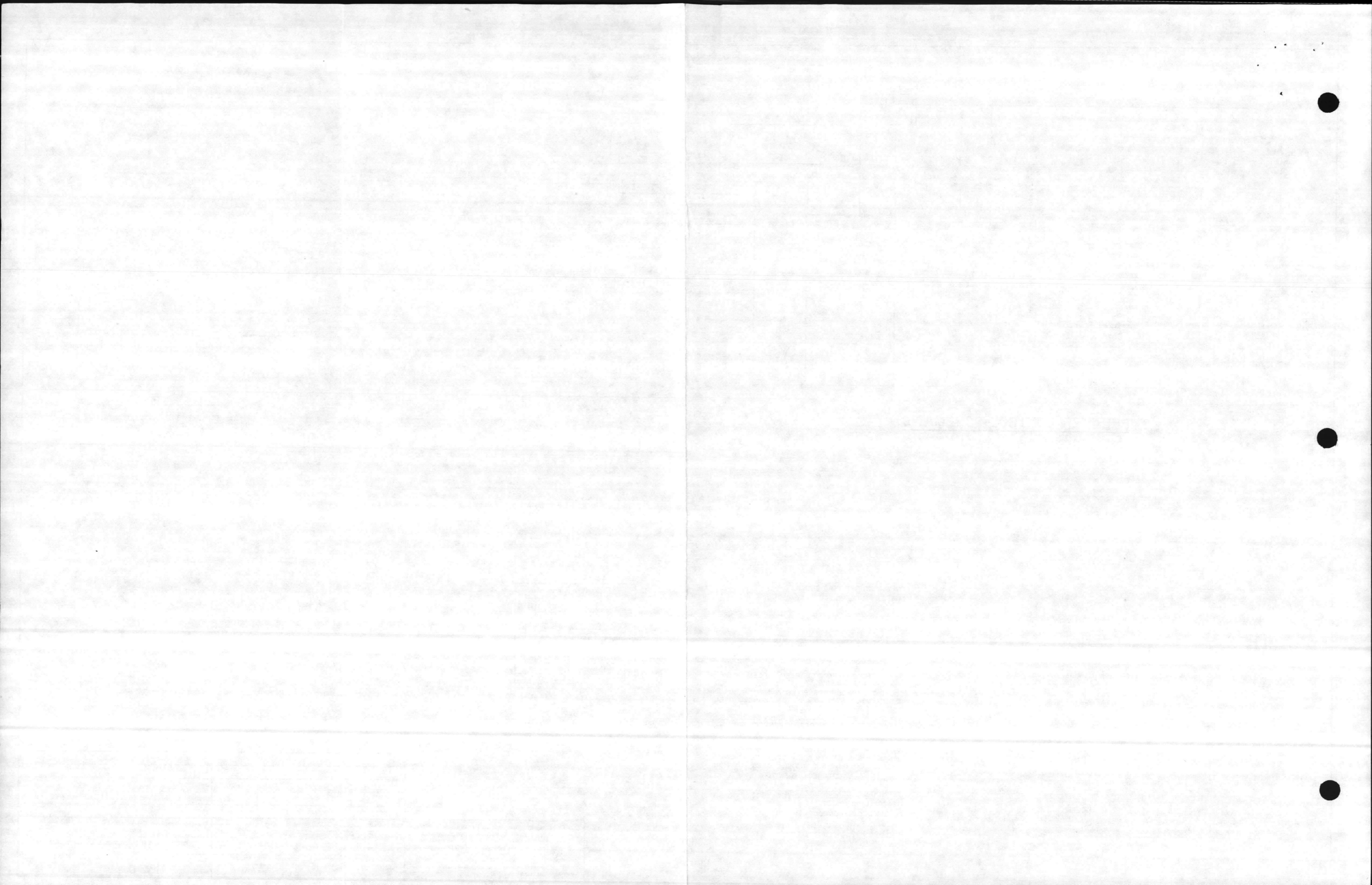
DECK	CONTACTS	POSITION				ZONE
		TRIP	NOT	NOG	CLOSE	
1	11-18	X				
	16-17				X	
2	21-22	X	X			
	25-26	X	X			
3	32-33		X	X		
	36-37		X	X		

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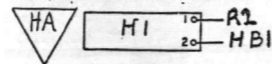
JOB TITLE: MARINE CORPS BASE		DRAWN: FJB	
LOCATION: CAMP LEJEUNE, NC		CHECKED: JLU	
ARCHITECT:		SCALE: NTS	
1 A MISC. REVISIONS		DATE: 11-27-85	
ELEC. CONTRACTOR		FIELD OFFICE: CHARLOTTE	
CUSTOMER: EESCO		DRAWING FOR RECORD	
CUST. ORDER No. 24578-1-14D		DRAWING FOR APPROVAL	
FACTORY ORDER No. 17-14333A		FABRICATION WILL NOT BE STARTED UNTIL APPROVED DRAWINGS ARE RETURNED	
DRAWINGS FOR RECORD		FABRICATION HAS BEEN STARTED ANY CHANGES TO LAYOUT AS SHOWN MAY RESULT IN DELAY AND/OR ADDITIONAL CHARGES	
No. KEY		REV. 1	



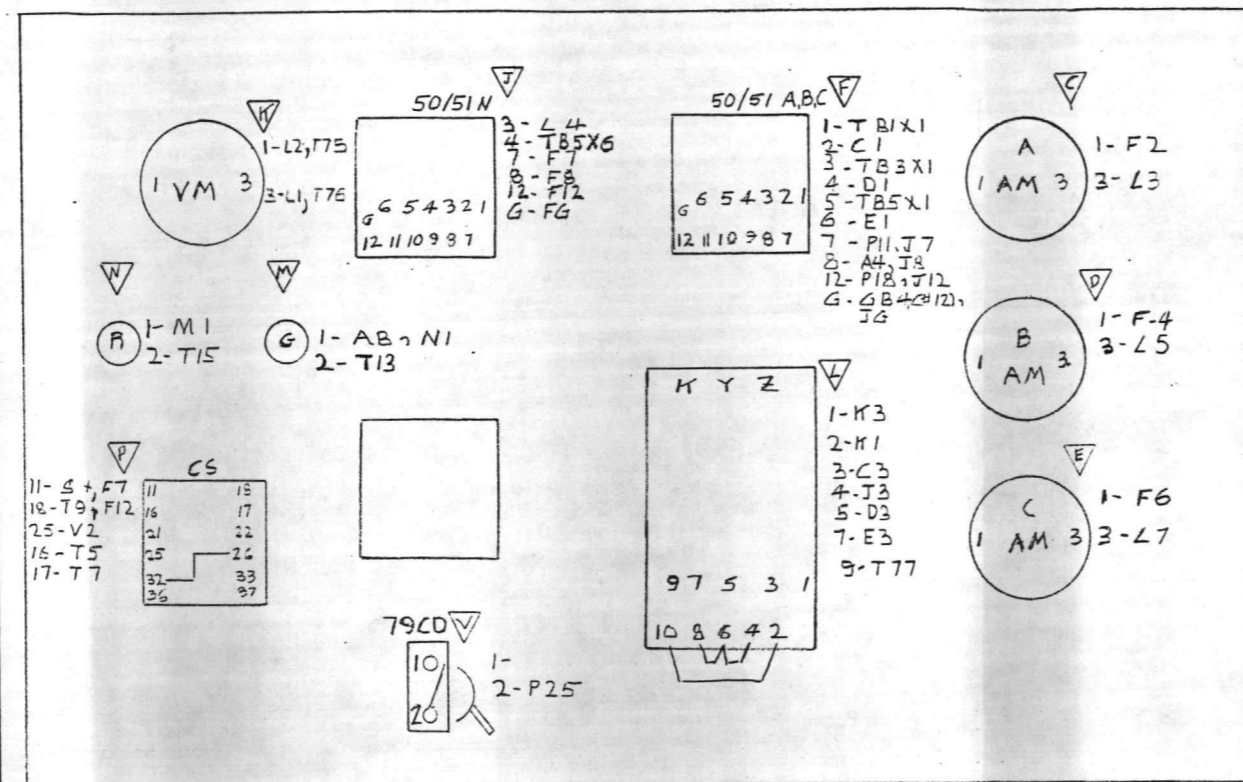
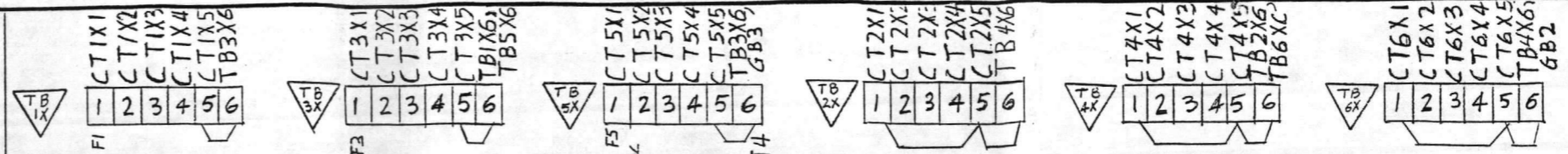
DWG. D-17-14333-SFB1-03



CTIX - CT6X  
WIRE PER PBD'S 49852 AND  
49901 AND D-17-14333-SFBI-02

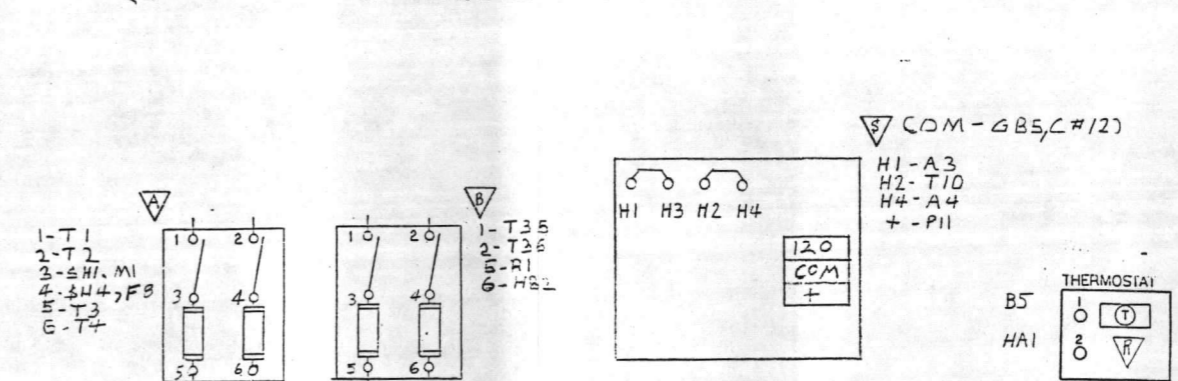
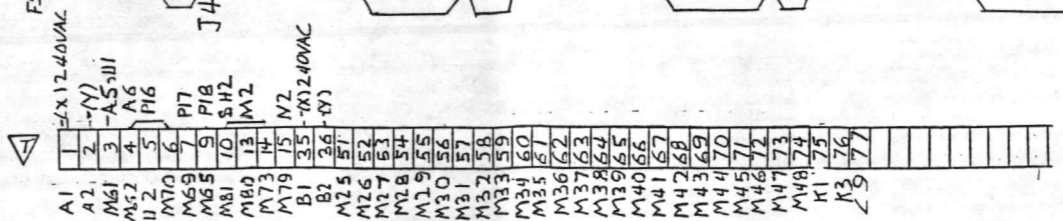


HIGH VOLTAGE COMPARTMENT

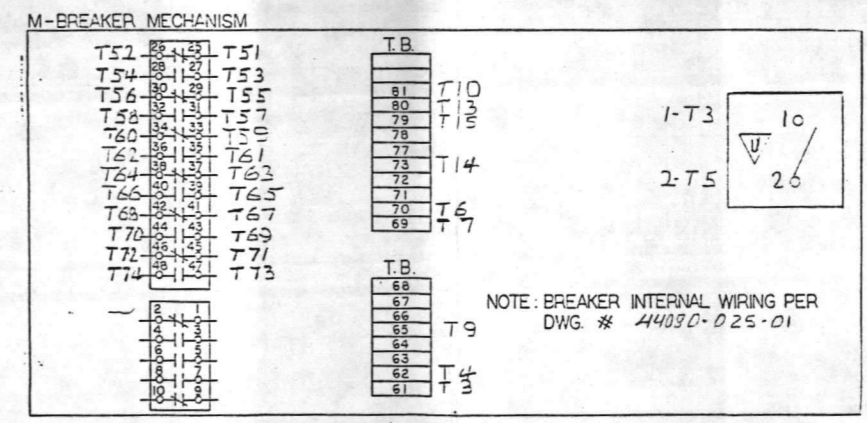


INST DOOR REAR VIEW

ITEM NO	DESCRIPTION
CTIX	MULTI RATIO CURRENT
CT6X	TRANSFORMER 600:5 311601
TBIX-TB6X	SHORTING TERMINAL FB27A065
A-B	FUSED KNIFE SW 21330F
C,D,E	AMMETER 2830-1161-L55J
F	OVERCURRENT 223T 3311
GB	GROUND BAR
HA	HEATER 500W 240V 44050-08291
HB	HEATER 1000W 240V 80031-030-01
J	OVERCURRENT 22353114
K	VOLTMETER 2820-1041-P2UY
L	WATTMETER 700 X 6769
M,N	INDICATING LAMP 9001KP25
P	CONTROL SW 24440
R	THERMOSTAT 44050-076 60
S	CAPACITOR TRIP UNIT 9T200
T	TERM BLK 9090 HCB1
U	69 SW 26299-01850
V	RECLOSER CUTOFF 7402K4



- NOTES:
- For wire routing method, refer to wiring code.
  - All mechanical wiring to be 14 AWG-SIS except as noted.
  - All current circuit wiring to be 12 AWG-SIS including all jumpers and wires terminating on TBIX, TB3X, TB5X, etc.
  - All wires including jumpers on the outgoing side of the CT terminal blocks to be cut long enough to reach any terminal on the associated terminal block.
  - As applicable, install shorting screws or jumpers on all unburdened CT terminal blocks for shipment.
  - Connectors for 12 AWG wire Square D Company, No. 25009-53010 or 25009-53009.
  - Connectors for 14 AWG wire Square D Company, No. 25009-52630 or 25009-52631.
  - Connectors to breaker Square D Company, No. 25019-16016



NOTE: BREAKER INTERNAL WIRING PER DWG # 44030-025-01

#4 BARE CABLE TO GROUND PAD

LOW VOLTAGE COMPARTMENT

JOB TITLE: MARINE CORPS BASE	
LOCATION: CAMP LEJUNE, NC	
ARCHITECT:	
ENGINEER:	
ELEC. CONTRACTOR DESIGN BRANCH, PUBLIC WORKS DIV	
No. KEY	REVISIONS
CUSTOMER: SESCO	
CUST. ORDER No. 24578-1-140	
FACTORY ORDER No. 17-14333A	
DRAWINGS FOR APPROVAL	
DRAWINGS FOR RECORD	
SCALE:	
DATE: 2-8-86	
FIELD OFFICE:	
DRAWN: LD	
CHECKED: JRB	
DWG. No. C-17-14333A-950	

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