



GE Canada

Electronic Products Repair

3070 Mainway Drive; Unit 23A Rear

Burlington, Ontario L7M 3X1

(905) 332-2431

Test Instructions for

0593L0175 All Groups

Device Number

1 Phase NRP Field Supply

Description of Device

Originated By: Tim Papez
Typed Name

Date: 05/30/96
mm/dd/yy

Approved By: Sean Andrews
Signature

Approval Date: 05/30/96
mm/dd/yy

TEST INSTRUCTIONS PREVIOUS REVISION SHEET

0593L0175 All Groups

Device Number

1 Phase NRP Field Supply

Description of Device

Originated By	Date mm/dd/yy	Description of change
Tim Papez	05/30/96	Created Test Instructions for EPR

TEST INSTRUCTIONS



Location: Book 42

0593L0175 All Groups
1 Phase NRP Field Supply
Date: 05/30/96

Page: 1
CONT'D on PG: 2

PURPOSE:

To Statically test a 0593L0175 All Groups, 1 Phase NRP Field Supply.

EQUIPMENT:

AC High Pot Tool # 230
SCR Tester (Grey Box) Tool# 229
Cehco SCR Tester Tool# 232
Sencore Capacitor Tester Tool# 170
Megger
DVM's
Environment Chamber
Differential Oscilloscope

REFERENCE INFORMATION:

SCR

6RWQ59UY12 - 1100V, 150A

Snubbers

20 ohms, 10 watt - 0177A1034P011 .25 uf, 2000 VDC - 0177A1506P024

Firing Card

P027

0621L0200 G001 or G002

PROCEDURE:

WARNING: WHEN TESTING ANY SCR ASSEMBLY, MAKE SURE YOU DO NOT TOUCH THE UNIT AS THE TEST IS BEING PERFORMED.

1. Inspect and if required wash the entire module. Note the Voltage rating of the Stud mounted SCR from the above reference material. This information is required to test.
2. Remove the firing card and test according to the test instruction derived for it. Disconnect the snubber assembly, gate and cathode leads of all SCR's as well, before any tests are performed.
3. Connect the AC High Pot unit between the Anode and Cathode of the SCR. Power up the unit. Press the black reset button. Slowly increase dial until the desired voltage is obtained. Make sure the unit does not trip. Power down the High Pot unit. Do not use this test to check out the diodes.
4. Repeat step 3 for each SCR.

TEST INSTRUCTIONS



0593L0175 All Groups
1 Phase NRP Field Supply
Date: 05/30/96

Location: Book 42

Page: 2
CONT'D on PG: F

5. Using the SCR Tester (Grey Box), follow the Instructions on the unit to perform this test.
6. Use the Cecho SCR tester to check the SCRs. Use the Gating section and check the gating of each SCR. Use the information attached to the inside cover of the unit to test them. In general, the SCR should gate between 0.5 and 3V. Once it gates, keep turning the pots Fully CW. Verify the voltage levels off and the current keeps on increasing.
7. Use the Leakage section to check both SCR's. Make sure you repeat the test with the leads reversed. The Leakage current should not be greater than 2.5 mA.
8. If any one SCR fail any tests, remove the defective SCR by using the appropriate sized Ratchet and loosen the nuts retaining the SCR and remove the defective SCR.
9. Using the above reference material, select the appropriate device. Ensure the heatsink surfaces are in good shape. Clean the surfaces with appropriate cleaners. Add a little Versilube to both side of the device and reinstall it into the unit.
10. Check the snubber circuit using the Sencore to test the capacitor and an ohm meter to test the resistor.
11. Place the unit into the Environment and heat it to 50°C for at least 1 hour. Repeat steps 2 to 11.
12. Reassemble entire unit and then follow the test instructions written by R. Guest issued Sept. 22, 1993.
13. END

INDUSTRIAL ELECTRONICS
EMERGENCY ENGINEERING INSTRUCTIONS
CIRCUIT CARDS & MODULES

NO. 86-29185

DATA BOOK 1775 SEC 925 s.o. ALL

CARD TITLE NRP FIELD SUPPLY DATE 27 OCT 86

TO: PRODUCTION CONTROL - MR. T. DOWNER BLDG. 20A-2

SUBJECT: ON FIELD SUPPLY 593L175 GR. 1

1/ MOVE MOV2 AND MOV3 TO SAME SIDE
OF 4TB AS C3 AND R3

2/ CHANGE WIRE PRESENTLY CONNECTED
FROM 3TB16 TO 7TB3 SO THAT IT NOW
CONNECTS FROM 3TB16 TO 4TB11

REASON WHY CHANGE IS REQUIRED: NO LOCATION PROVIDED
FOR REQ'N. OPTION

DRAWING AFFECTED: ☒ YES ☐ NO
PLANNING REQUIRED: ☒ YES ☐ NO

ISSUED BY: J. KILLEN 30-3

CHANGE CLASSIFICATION (CIRCLE ONE ONLY)

EDC = ENGRG. DESIGN CHANGE

EEC = ENGRG. ERROR CORR'N

☒ DDC = DRFT'G DESIGN CHANGE

DEC = DRFT'G. ERROR CORR'N

VDC = VENDOR DESIGN CHANGE

PPC = PURCHASED PARTS CONCES'N

CRNC = CUSTOMER REQUEST (N.C.)

CRC = CUSTOMER REQUEST (C.)

MC = MANUFACTURING CONCES'N

CONTROL DESIGN ENGINEER A. STEVENSON 2-3

CUST. REQ. MKTG. AUTHOR'N

CORRECTION COMPLETE

(Q.A. REP.) (DATE)

DISTRIBUTION FOR EQUIPMENT

J. BELL 30-3

M. CONVERY 30-3

K. COOK 2A-1

T. HULSMAN 30-3

R. MURPHY ATS BURLINGTON

W. WALKER 20A-22

R. OSBORNE 10D-2

R. PERRIN 20A-2

CIRCULATE TO:

D. BOWES 2-3

L. BROWN 2-3

J. MURDOCH 2-3

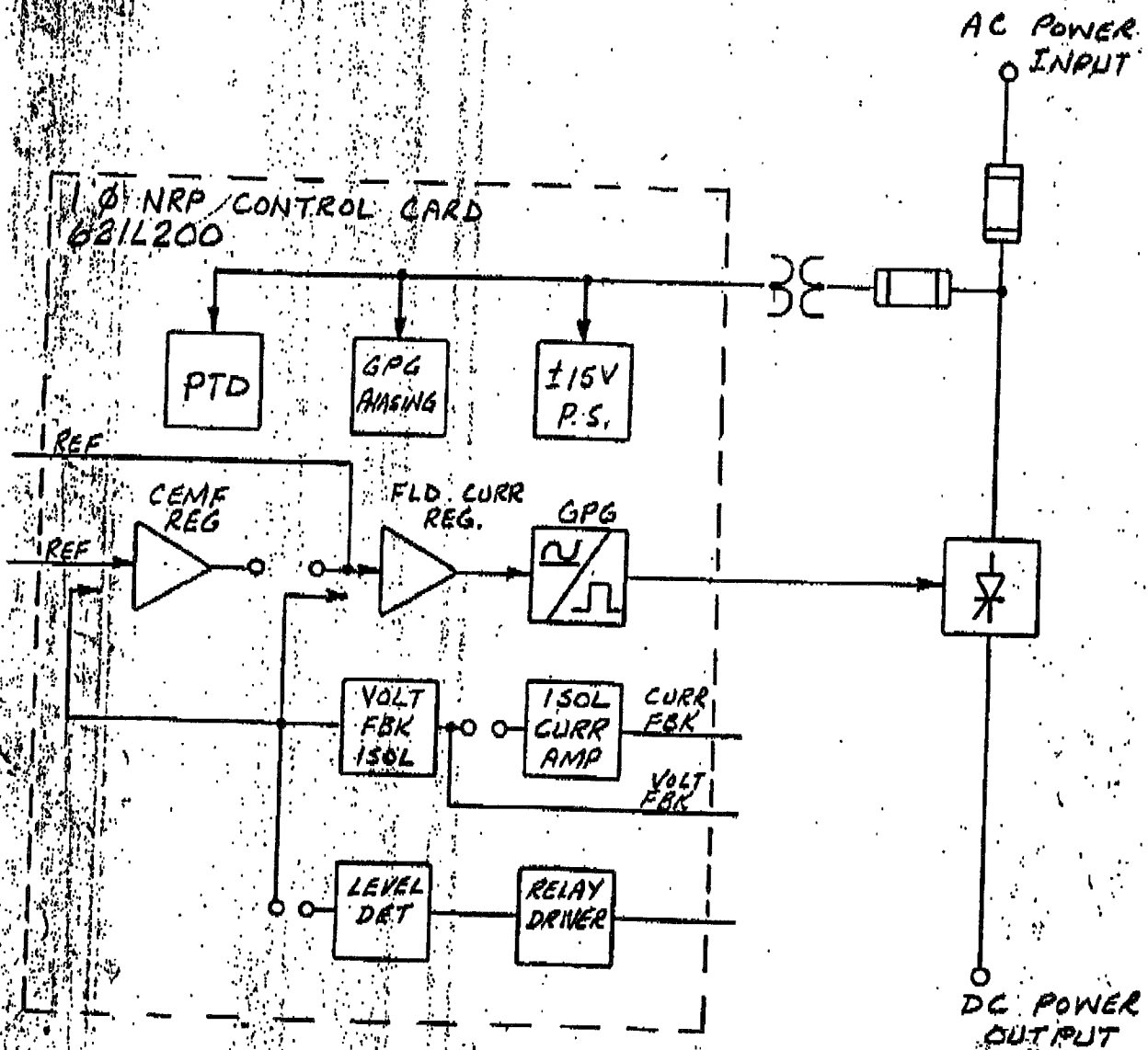
PROPRIETARY INFORMATION OF
CANADIAN GENERAL ELECTRIC CO.

TITLE 1 Ø NRP FIELD SUPPLY 50A-240VDC

ML593L175 G1.

SECTION- 720
PAGE- 1 CONT ON- 2

BLOCK DIAGRAM



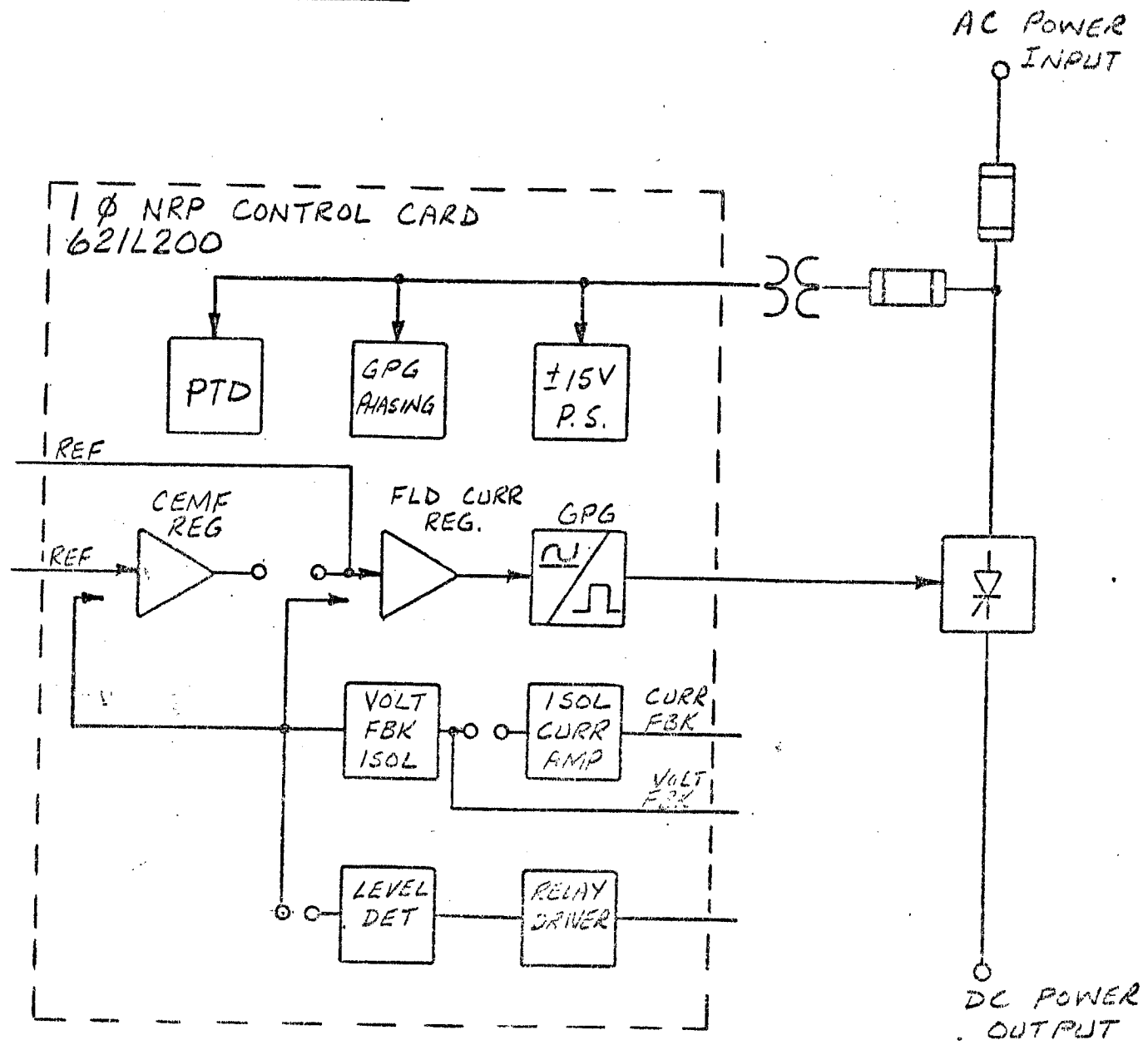
REV	1	19/04/1984	3
2			4

DRAWN BY WARREN HOPE
APPDRC Stevenson 1 May 73

252A9006

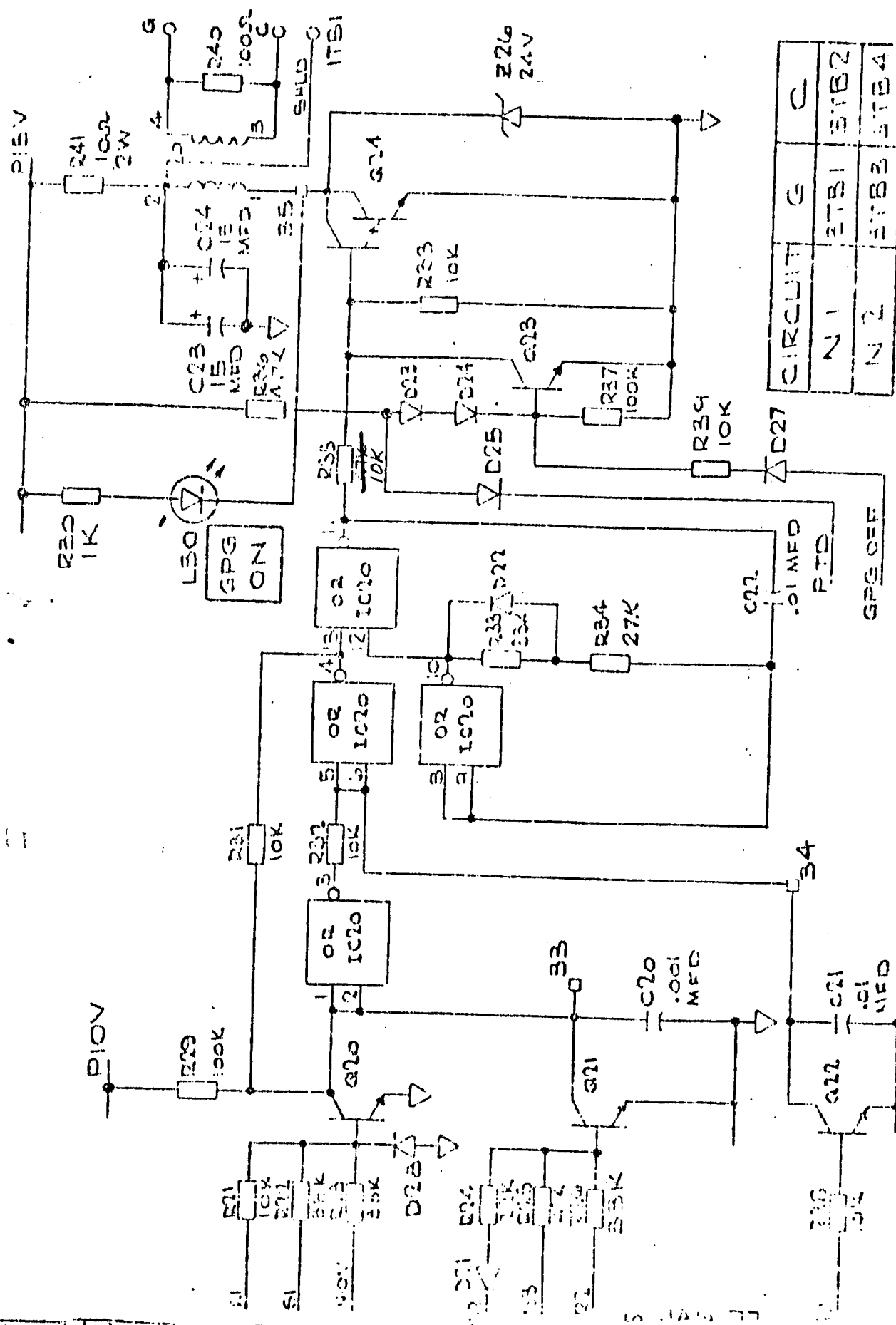
CANADIAN GENERAL ELECTRIC CO. LTD.

BLOCK DIAGRAM



FILE 10. INP CONTROL ADD "A" 621L 200 2-2

GATE PULSE GENERATOR (GPG)



CIRCUIT	C
N 1	ETB1 ETB2
N 2	ETB3 ETB4

STAB CONTACTS ARE INDICATED WITHOUT LETTER PREFIX "C".

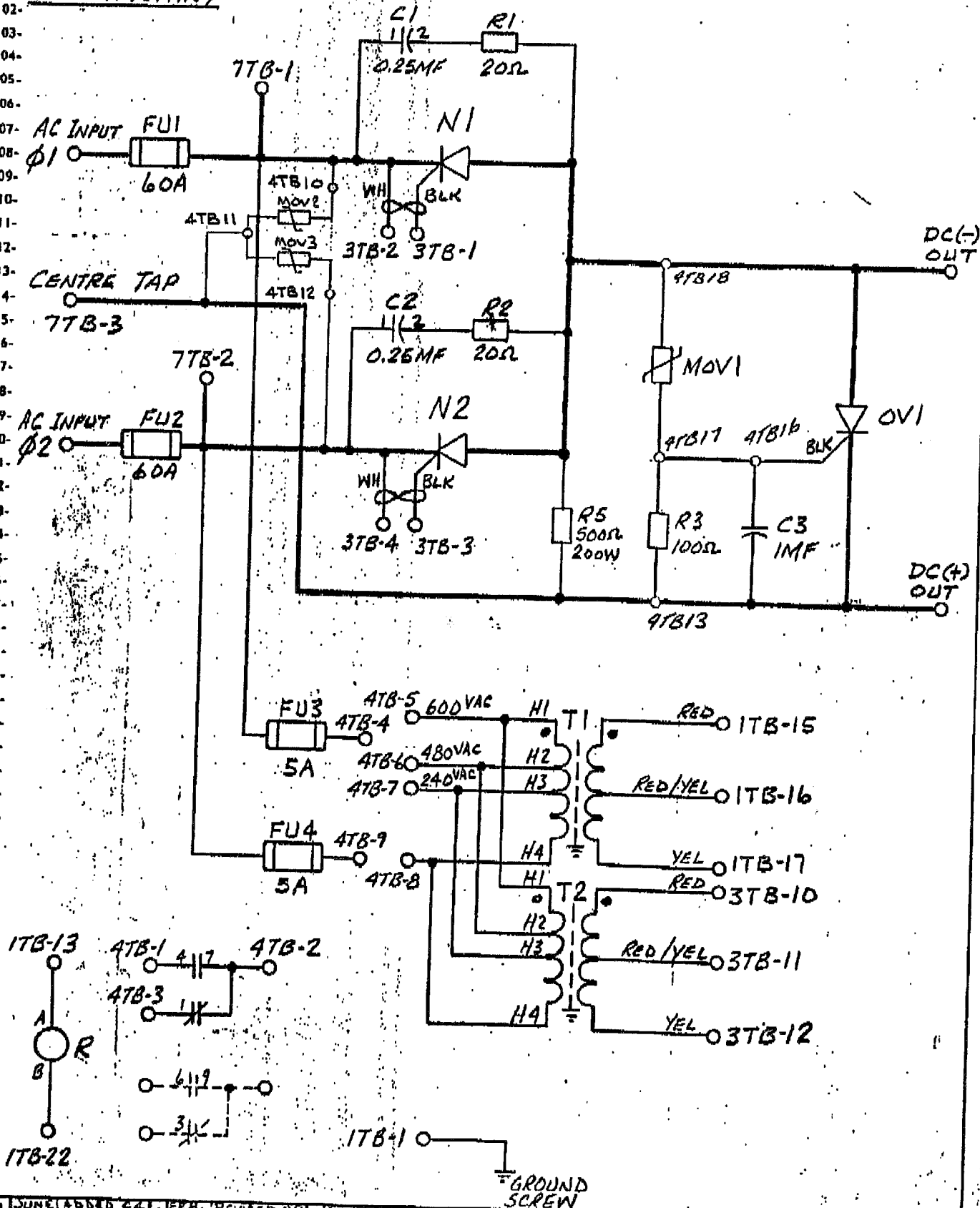
PROPRIETARY INFORMATION OF
CANADIAN GENERAL ELECTRIC CO. L

TITLE 1 ϕ NRP FIELD SUPPLY-50A 240VDC

ML593L175 G1

PAGE-2 CONT ON-3

ELEMENTARY



REV	1	SOME	ADDED 24	3	FEB. REVISED DD	DEC 1973 - MOV1 WAS	DRAWN	WARREN HOPE	252A9006
	7-73	R4 R5 WH	1/2 1/2 1/2	1/2 1/2 1/2	1/2 1/2 1/2	1/2 1/2 1/2	1/2 1/2 1/2	1/2 1/2 1/2	1/2 1/2 1/2
2	JUNE	DEL R4 4C4	WH	4	1/2 1/2 1/2	1/2 1/2 1/2	1/2 1/2 1/2	1/2 1/2 1/2	1/2 1/2 1/2
	21-73								

C R O

DRIVE SYSTEMS DATA BOOK

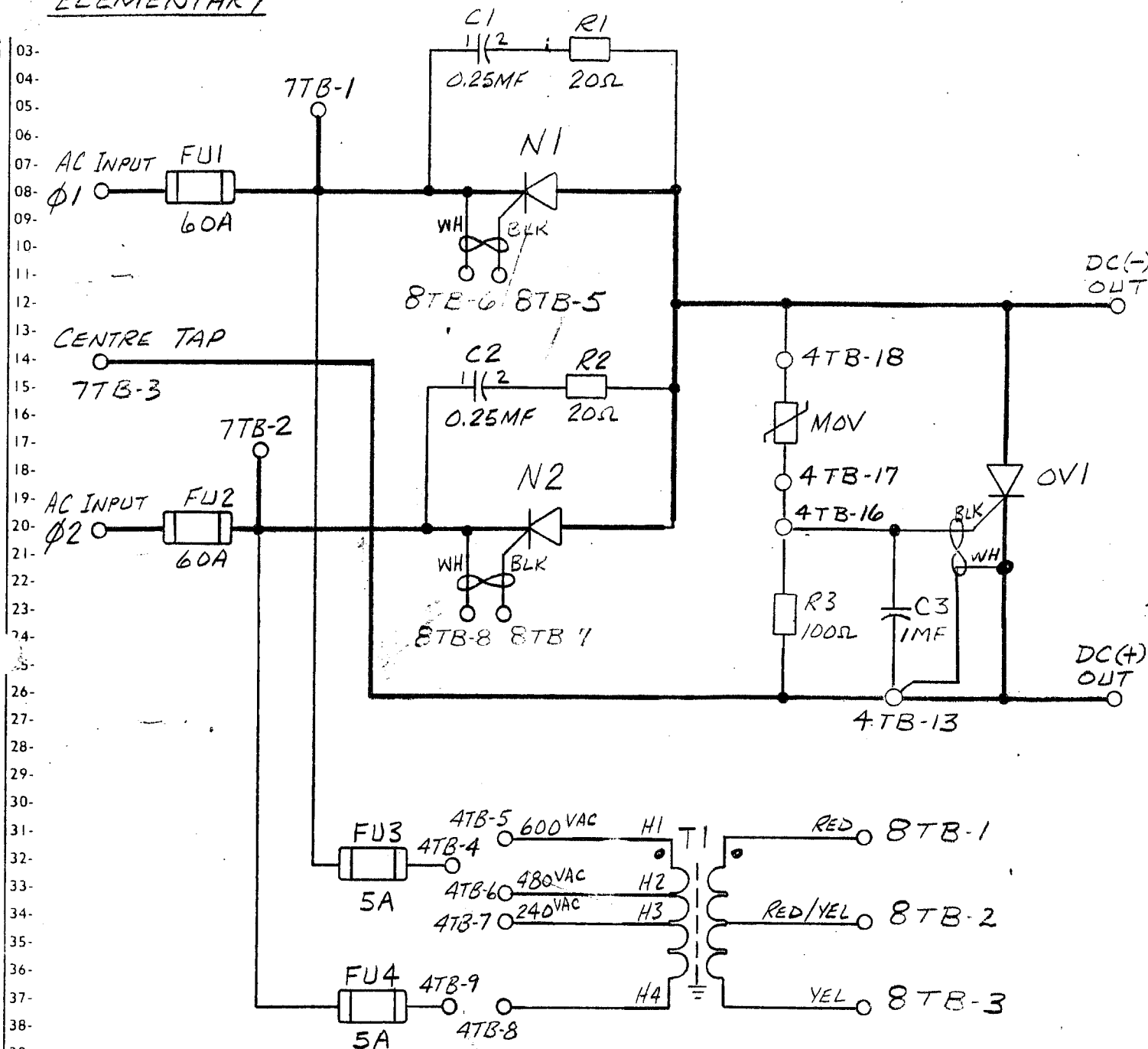
NO. - 1775

SECTION-925

TITLE 1 ϕ NRP FIELD SUPPLY-50A 240VDC

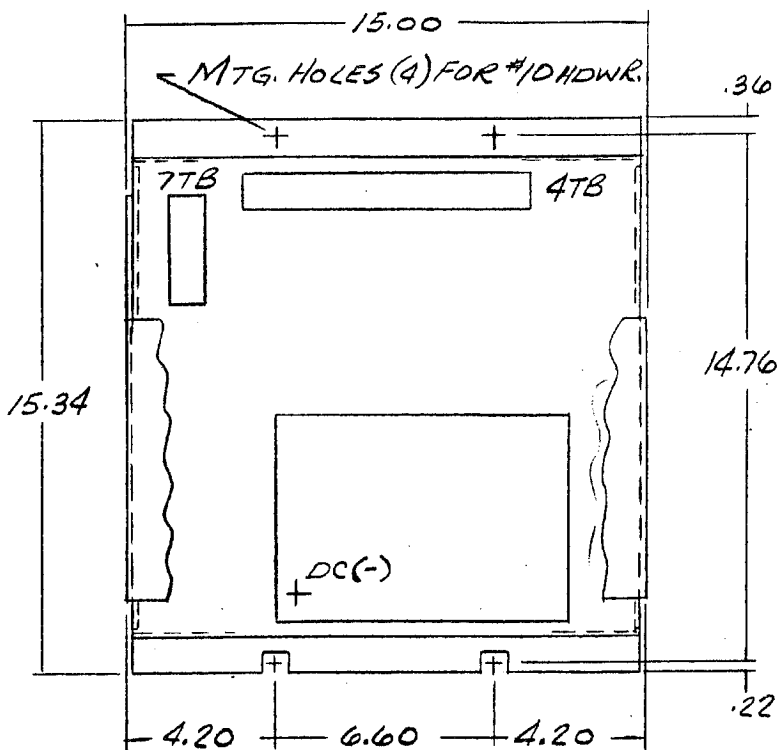
ML593L1.5 G11

PAGE-3 CONT ON-

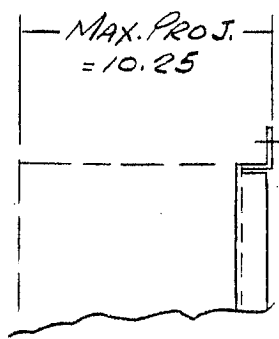
ELEMENTARY

REV	1	3	5	DRAWN	252A9324
	2	4	6	APPD	SHT NO- 1 CONT ON- --

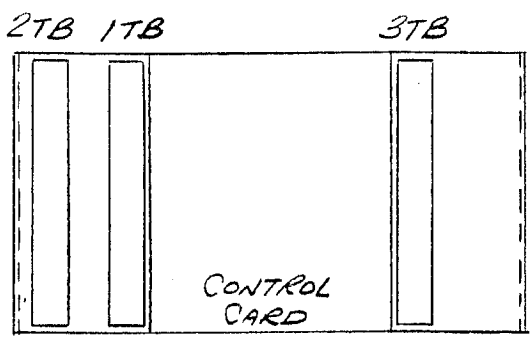
OUTLINE FOR G01



FRONT VIEW
(WITH CCT. CARD & BRACKETS CUTOUT)

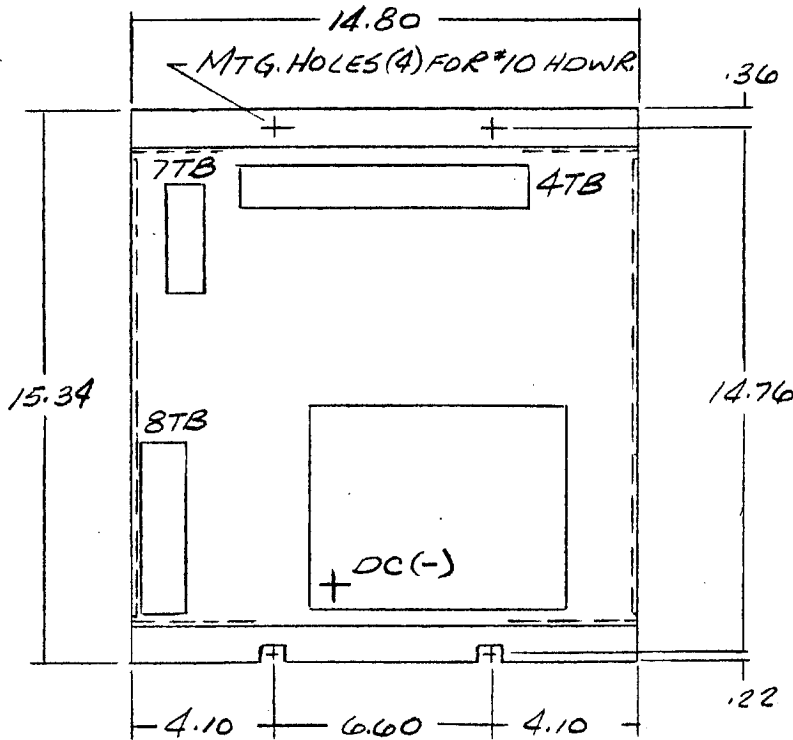


SIDE VIEW

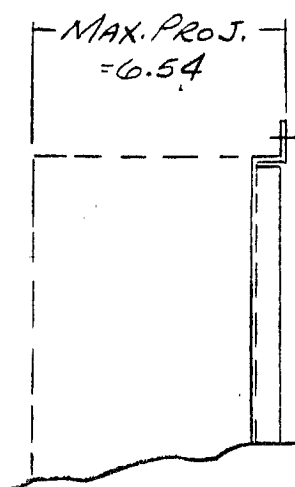


CIRCUIT CARD BRACKETS

OUTLINE FOR G11



FRONT VIEW



SIDE VIEW

REV	1	3	5	DRAWN	GARY O'DONNELL	252A9324
	2	4	6	APPD	JAN 27 1975 Gary O'Donnell	SHT NO- 3 CONT ON- 4

[illegible]

00697451

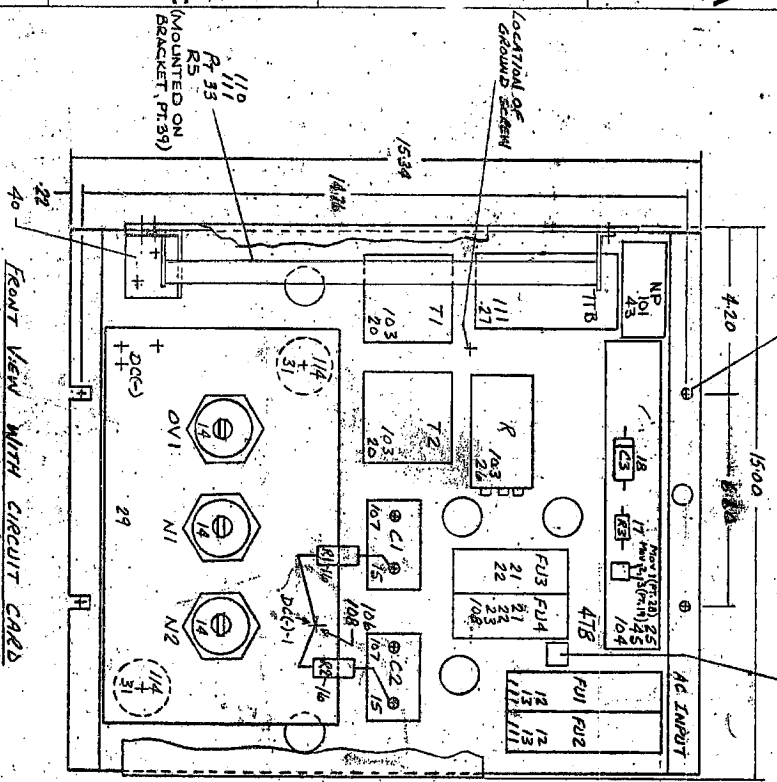
2

3

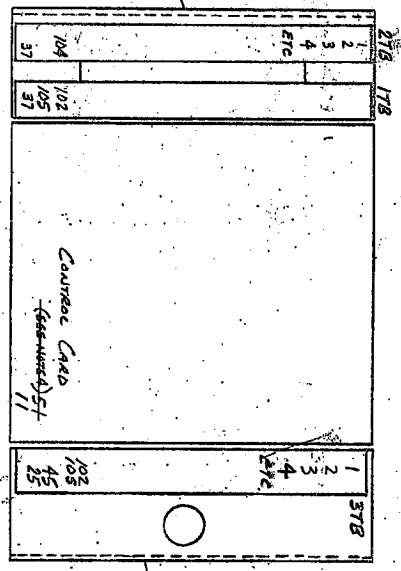
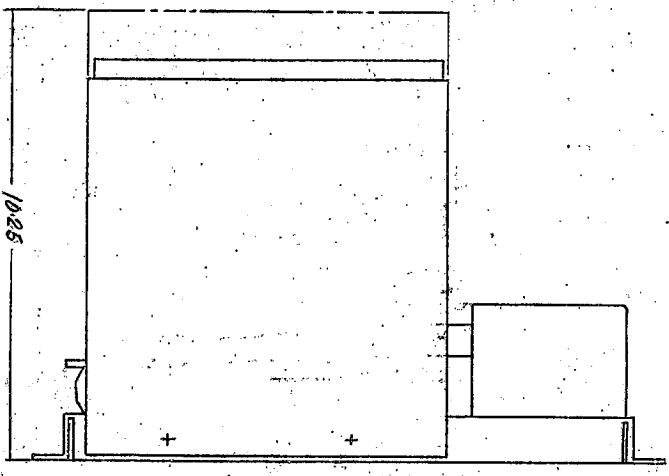
4

5

Mounting Holes for #10 Hardware Fuseholder Caution Label



FRONT VIEW WITH CIRCUIT CARD AND BRACKETS CUTOUT



CIRCUIT CARD AND BRACKETS

1

NOTE: 1- LOCATE CIRCLES, PT 41, AS SHOWN AC INPUT COMPONENT LOCATED METRIC DIM NO - 2524006 METRIC TO BE PUT ON CUBICLE DOOR. 2- USE PLATE WASHERS & LOCKWASHERS PER STANDARD MANUFACTURING PRACTICE. 3- PUT GROMMET, PT 116, IN 1/25 DIA HOLES (6 PLACES) 4- FIRST (LEFT) HOLE MUST BE CENTERED CARD ON MFG SYSTEMS OF 116 & 378, SECURE WITH 2- 1/25 DIA WASHERS, PT 102.

CANADIAN GENERAL ELECTRIC
154C6300
1- 1/25 DIA SUBS 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

WIRE LIST - 26249023
ELEMENTARY - 25240006



ENGINEERING MANUFACTURING INSTRUCTIONS

NO. 5762

SUBJECT:

TESTING AND SETUP OF 1 Ø NRP
SUPPLIES USING 6211200 CARD

SECTION- 300
PART- 1 & 3
PAGE- 1 CONT'D ON 2

1. PURPOSE

To outline the method to be used when testing and setting up the regulator on the 1 Ø NRP supplies using the 6211200 card.

2. Proper A.C. line voltage must be connected and a motor field used for loading.

3.

(a) Set R8 and R9 pots CW.

(b) Make sure 1TB-20 is connected to C Com and grounded. This ground if added for test is not to be left on permanently because the point where you choose to ground C Com may not agree with the final application.

(c) Disconnect the regulator signal to 1TB-12 and feed a pos ref (0-10V) into 1TB-12.

4.

(a) Apply power and increase the ref to 1TB-12 until the output voltage of the field supply reaches rated level.

(b) If voltage feedback is used, adjust the gain pot R-11 to give the specified voltage feedback (should not exceed 5V). With a scope check the input and output of the VFBK network. Make sure there is no clipping. Input peaks should be less than 9 volts. Check for proper polarities.

(c) If the level detector is used, check that a .22 M.F.D. capacitor is mounted (connected to CP-29 and 30). Set the level detector pick-up and drop-out as specified on the elementary diagram.

5. Switch off the ref. with the field supply phased up and observe with a scope that the field supply plugs the output to zero.

6.

(a) Turn gain pots R1 and R4 CCW. Reconnect the regulator signal to 1TB-12.

(b) Apply proper ref. to the front end of the regulator. If the supply is a C.P. supply the output should rise to rated volts. Using a scope check for ripple at 1TB-2. There should be no sign of clipping. Ripple should be kept to 2-3V max P to P.

ROUTE EMI 700 SEC 0	PREPARED: R. Guest	SIGNATURES REQUIRED AS SHOWN BELOW	
	SECTION: PC&C	PROD. ENG'G - R. Guest	<i>R. Guest</i>
DATE ISSUED 22 Sept 1993	SUPERSEDES ISSUE 25 June 1975	MANUF. ENG'G -	
		QUALITY CONTROL- P. Newmaster	<i>P. Newmaster</i>
		ENG'G LAB -	

(FOR USE OF GE CANADA EMPLOYEES ONLY)

Z- REVISIONS

ZZ- ADDITIONS



ENGINEERING MANUFACTURING INSTRUCTIONS

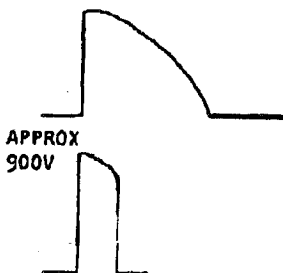
NO. 5762

SUBJECT:

TESTING AND SETUP OF 1 Ø NRP
SUPPLIES USING 6211200 CARD

SECTION- 300
PART- 1 & 3
PAGE- 2 CONT'D ON

- 6.
- (c) When the reg is working properly, the output should be an even phase controlled waveshape and be stable. Each pulse of output voltage should be 8.3 mSec.
- 7.
- (a) If the supply is used for field weakening repeat steps 4(b) to 6(c). Step 4(b) will now be field curr. f.b.k. rather than v.f.b.k. Curr. f.b.k. should be smooth with max 10% ripple at full rated current output.
- (b) Ensure that the 3TB 8, 9, 16, 18 connections are correct to the elementary, and that the gain select jumpers are correctly set. With rated millivolt feedback from the shunt, there should be rated CFB at 1TB14. Adjust R11 to make this true. CFB should not exceed 8V at rated current (millivolts on shunt).
- (c) When f.b.k. is working properly there must be no sign of clipping and input peaks must not exceed 9V.
- 8.
- (a) Reconnect the reg. signal to 1TB-12.
- (b) Apply ref. and set full field and weak field levels as specified using R8 and R9. You may need an auxilliary reference connected to 0A70 input in order to force the reference into the limits.
- (c) With the regulator working check 1TB-12 with a scope. Ripple must not exceed 2-3V.
- 9.
- (a) Connect the crowbar tester across the field supply output, with the pos. Output lead from the pulse supply connected to the field supply negative bus.
- (b) Now turn up the variac supply to the crowbar test package so that approx. a 900V pulse is present.



Appears like this before crowbar level is reached.

Crowbar has fired turning on the crowbar SCR and pulling the pulse supply to zero.

ROUTE EMI 700 SEC 0	PREPARED: R. Guest	SIGNATURES REQUIRED AS SHOWN BELOW	
	SECTION: PC&C		
DATE ISSUED 22 Sept 1993	SUPERSEDES ISSUE 25 June 1975	PROD. ENG'G - R. Guest	<i>R. Guest</i>
		MANUF. ENG'G -	
		QUALITY CONTROL- P. Newmaster	<i>P. Newmaster</i>
		ENG'G LAB -	

(FOR USE OF GE CANADA EMPLOYEES ONLY)

Z- REVISIONS

ZZ- ADDITIONS

DEC 2 / 87

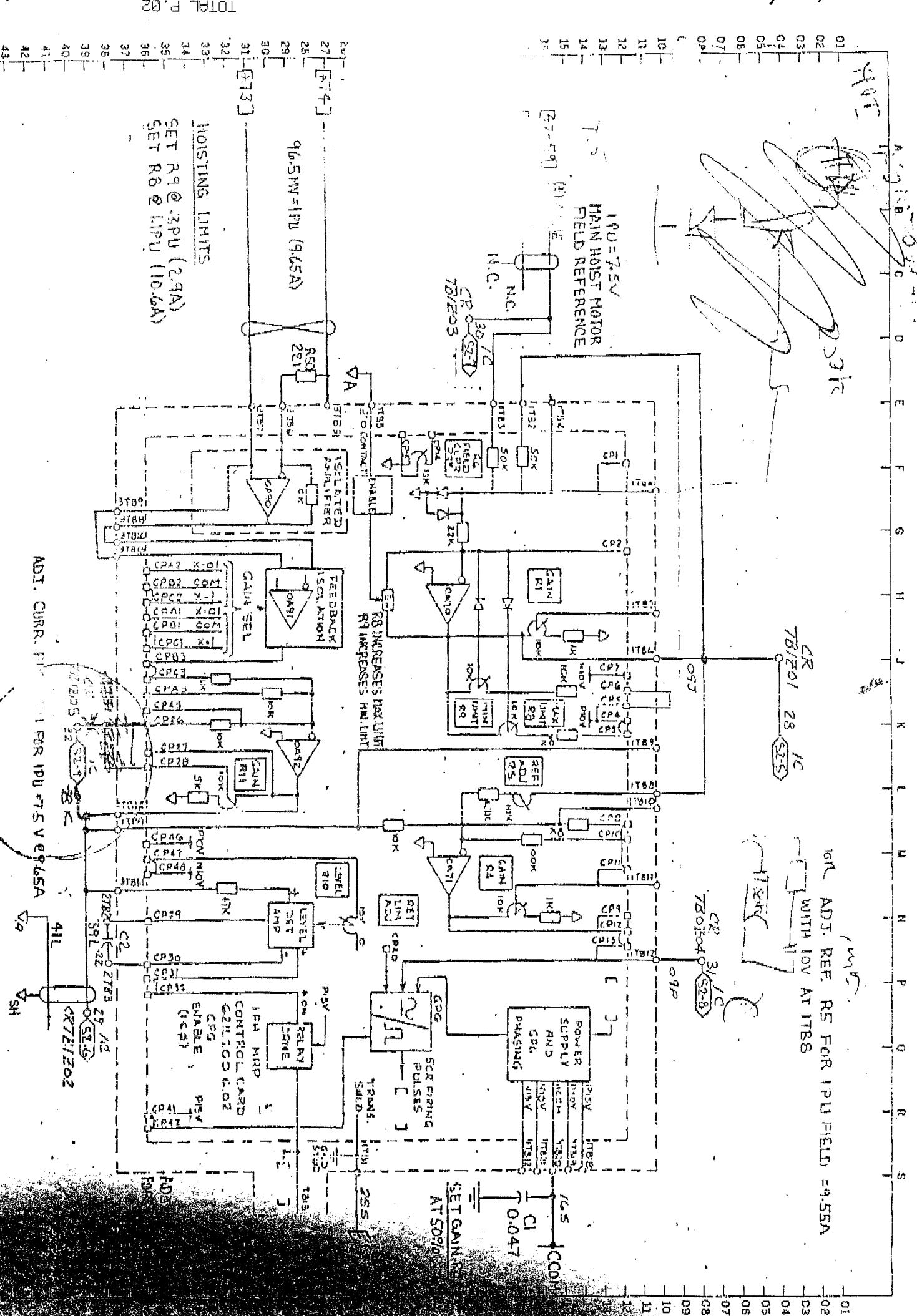
SUBJECT: - VALUE OF RS PWR RESISTOR IN THE 593L175 FLD PKG
-- USED TO PROVIDE HOLDING CURRENT FOR SCR'S

ACTION: - DUE TO OVERHEATING PROBLEMS IT HAS BEEN RECOMMENDED
BY AREND TIMMERMAN THAT VALUE BE INCREASED TO
1000Ω (1038P15) OR 1500Ω (1038P--)

- KEN COOK HAS ACCEPTED THIS RECOMMENDATION & HAS
AUTHORIZED THE CHANGE VERBALLY
- AN EEI SHOULD EMERGE SHORTLY
- THE PKG IN QUESTION WAS FROM "RACINE TERMINUS"
- W.O. # D554

OMAR ZAWISTOWSKI

14-00000-1





Canadian
General Electric

Page 1 of 4

Place Unit 774

Date Dec 3, 1984

Subject

{ SCR Failures on the 593L175 single phase
NRP Field Supply at Gates Rubber

TO Don Bingley

Copy: Dave Bowes
Ed Patton
Ken Cook.

The following is a list of possible remedies for the SCR failures on the 593L175G001 NRP Field Supply at Gates Rubber:

A) Ensure that MOV2, & MOV3 are in place between the incoming ac terminals and the transformer centre tap. These metal oxide varistors were originally V460LA40A which are fine. As GE no longer makes V460 metal oxide varistors, we would now use 0177A1384P012 - V480LA80B MOVs.

The main purpose of these MOVs is to clip any voltage transients which enter the field supply through the incoming leads.

b) Replace the crowbar (MOV1) with an 0177A1384P013-V510LA40A metal oxide varistor. This will ensure that the crowbar will trip below the cell peak inverse voltage rating and should ensure that any voltage transients entering the Field supply from the AC incoming lines will be clipped below the crowbar trip level.

Check for the correct wiring of the crowbar circuit.

Continued.



Page 2 of 4

Place

Date

Subject { NRP for Gates Rubber
.....
.....

TO

c) Ensure that $R5$, the 500Ω - 200 Watt output resistor is in place. This resistor helps start SCR conduction and limits voltage excursions if SCRs cease conducting when field currents have not yet reached zero. Adding a second 500Ω - 200 watt - 0177A1038P014 resistor (externally) may help.

d) Wire in a permanent AC line to line filter across the 600 Volt input consisting of $2\mu\text{F}$ Farads and 50Ω (400 watts). (The previous 15Ω may have been causing SCRs to fail by excess dI/dt .) Ensure that commutation spikes on the 600 Volts do not exceed 1000 Volts peak.

e) Monitor the dc output voltage while reversing the field current and ensure that no voltage spikes exceed 900 Volts. I am concerned that the contactors may reverse before the current is fully decayed. This would put an excessive voltage on the field supply in the forward direction and would be the wrong direction for the crowbar to operate.

Cont.



Page 3 of 4

Place

Date

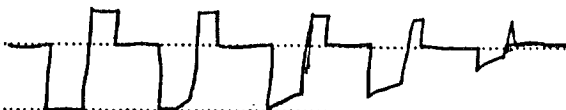
Subject {

NRP for Gato Rubber

TO

(The following are Long shots.)

- f) I have recently changed R35 A&B on the 621L 200 card from 47K to 10K \approx $\frac{1}{2}$ watt. This was done to increase the base drive of Q24. You may find that Q24 fully saturates at the beginning of the pulse train but "dies" near the end.



← Voltage on CP35

- g) Positive going spikes on the field supply DC output may be feeding backwards through the gate of OV1 and then through the MOV1. This may result in failure of both MOV1 & OV1. This could be eliminated by putting two 1N4007 diodes in series with MOV1 such that it only conducts current for negative spikes.

Continued.



Canadian
General Electric

Page 4 of 4

Place

Date

Subject {

NRP for Gates Rubber.

TO

The above lists may seem like the "ramblings" of someone who does not have any really concrete ideas. That is because they are. With the history of this drive I would really like to see it for myself. It would be very educational for me, I am sure.

In any event, it should be kept in mind that the crowbar of any field supply, except synch motor statrators, should never fire during normal operation. If one does, it indicates big trouble somewhere.

Good luck
Dale Deen
Dale Deen

P. S. Deen

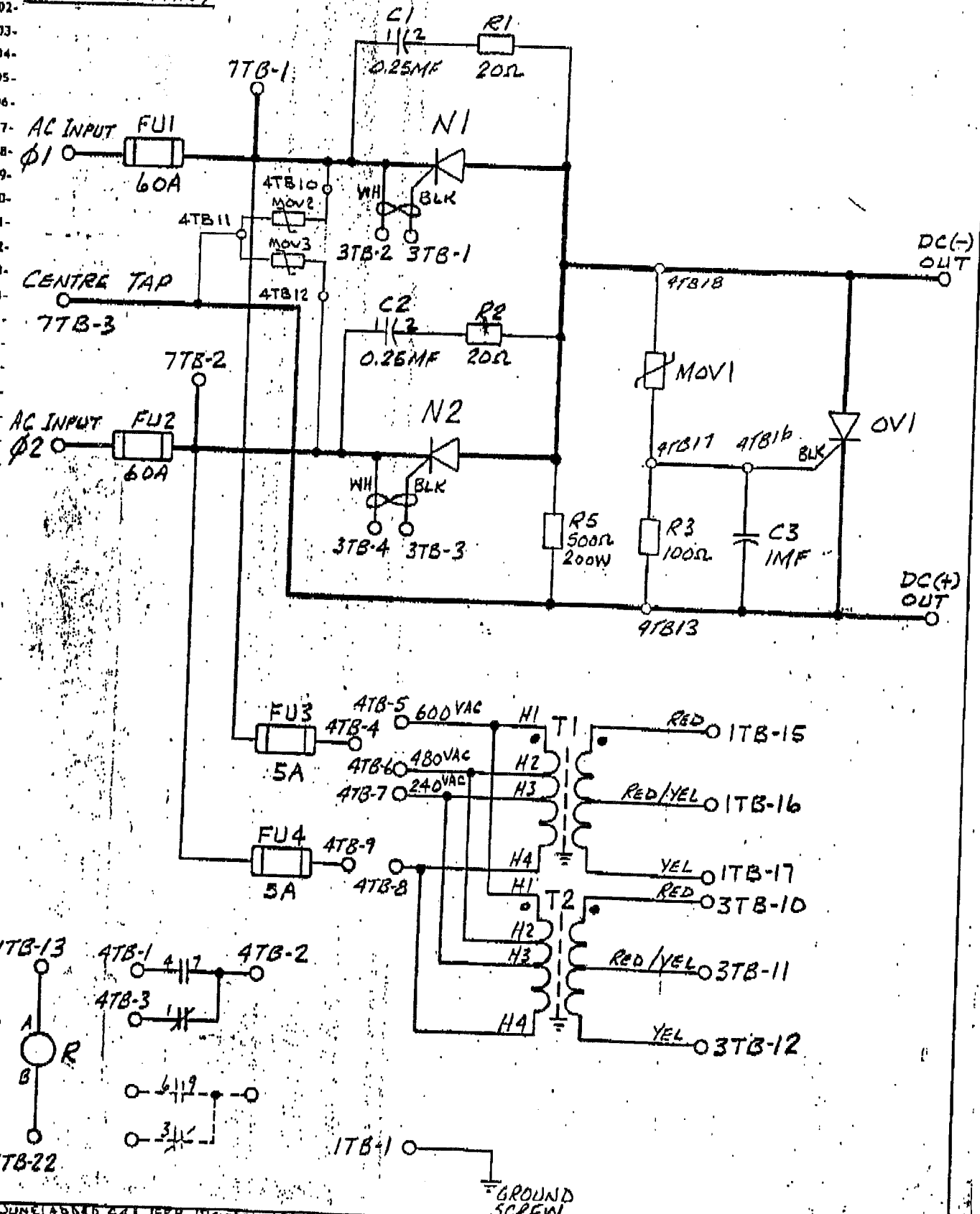
The information that you have been forwarding to me while trying to get me to respond was very helpful. I appreciate it very much.

Thanks
Dale

PROPRIETARY INFORMATION OF
CANADIAN GENERAL ELECTRIC CO. L

TITLE 1 ϕ NRP FIELD SUPPLY-50A 240VDC
SECTION-725
PAGE-2 CONT ON-3

ELEMENTARY



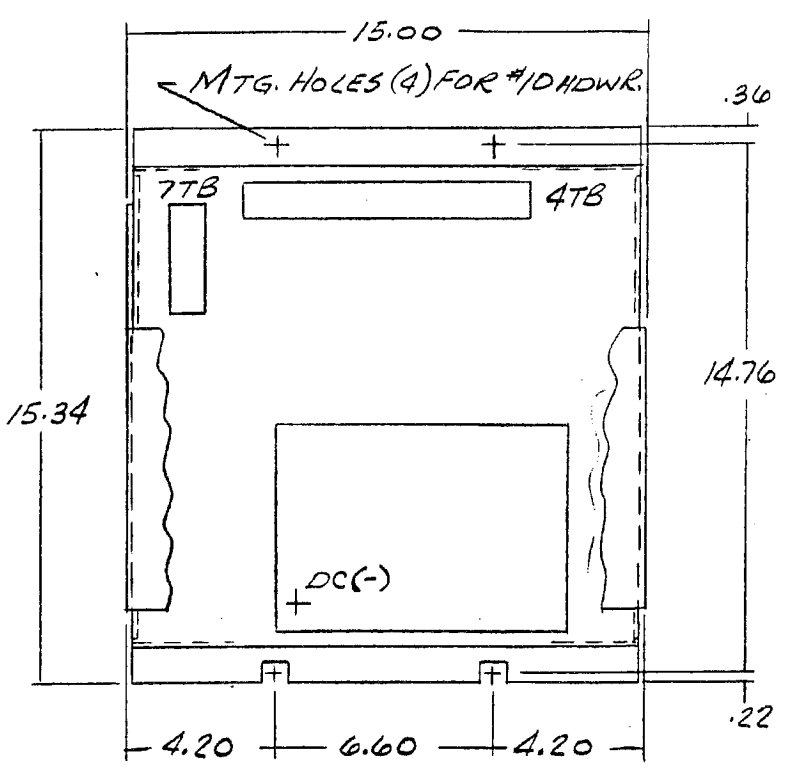
REV	1	JUNE 7-78	ADD B 4A	3	FEB. 1978	REVISED D.D.	5	SECTION 725	MOV. WAS	DRAWN	WARREN HOPE	252A9006
	2	JUNE 21-78	DEL R4 240V	4	MAY 1978	REV. PSW 172	6	APPD AC Stevenson	May 73	SHT NO-2	CONT ON--	

CANADIAN GENERAL ELECTRIC CO.

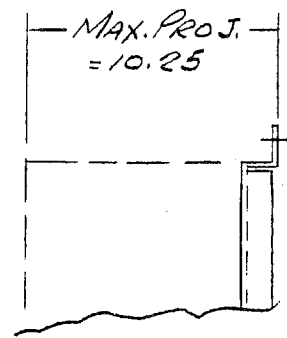
A B C D E F G H J K

01-
02-
03-
04-
05-
06-
07-
08-
09-
10-
11-
12-
13-
14-
15-
16-
17-
18-
19-
20-
21-
22-
23-
24-
25-
26-
27-
28-
29-
30-
31-
32-
33-
34-
35-
36-
37-
38-
39-
40-
41-
42-
43-
44-
45-
46-
47-
48-
49-
50-
51-

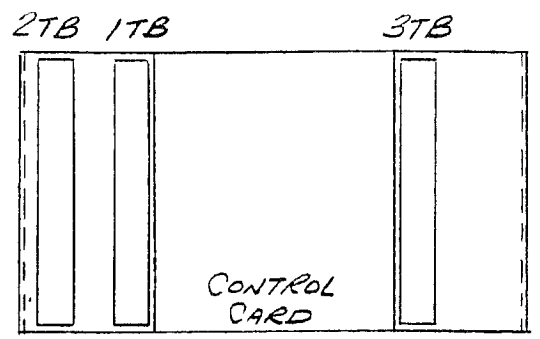
OUTLINE FOR G01



FRONT VIEW
(WITH CCT. CARD & BRACKETS CUTOUT)

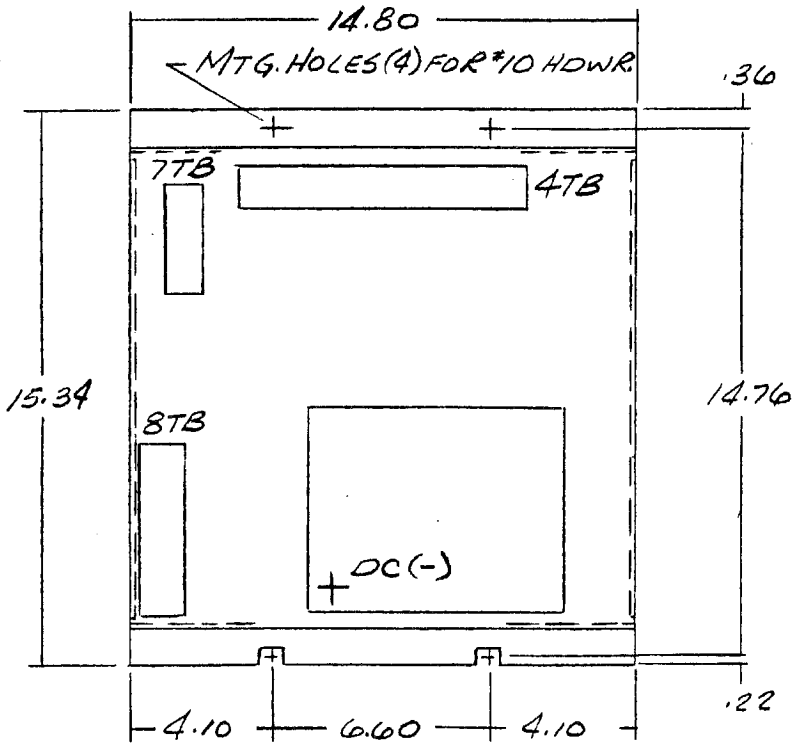


SIDE VIEW

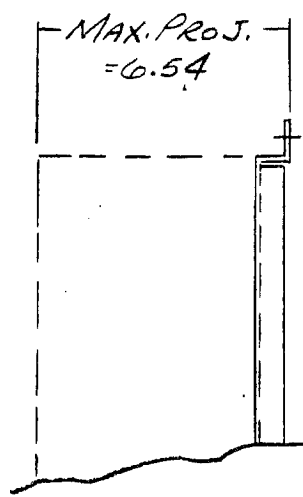


CIRCUIT CARD BRACKETS

OUTLINE FOR G11

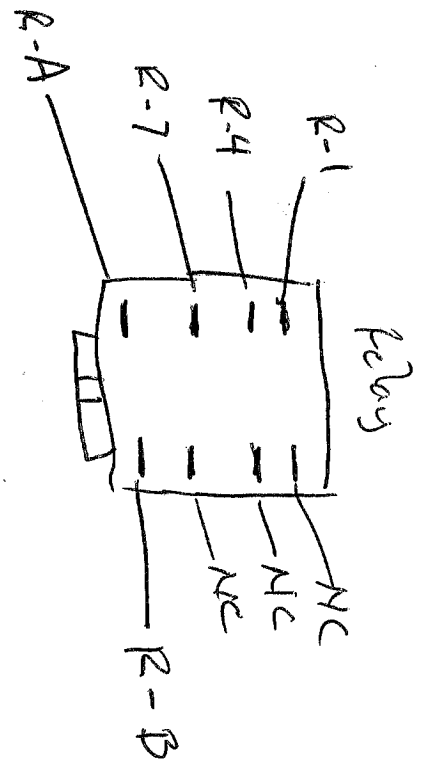


FRONT VIEW



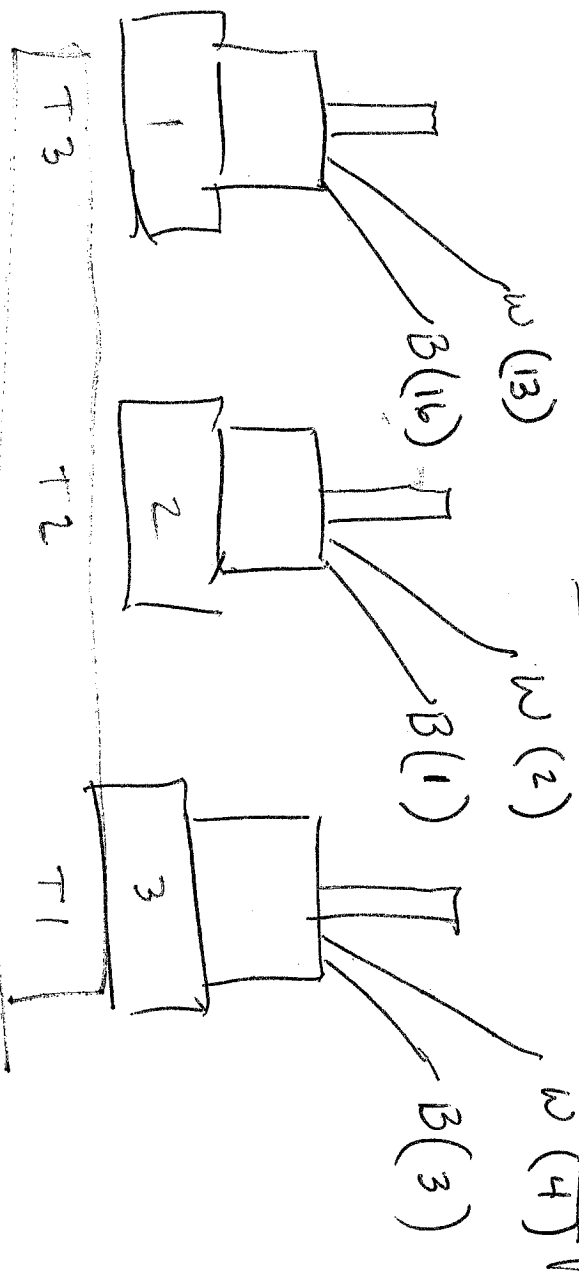
SIDE VIEW

REV	1	3	5	DRAWN GARY O'DONNELL	252A9324
2	4	6	APPD JAN 2-75 Gary O'Donnell	SHT NO- 3 CONT ON- 4	



18 Pin Term
Back Unit
Bottom

18 Pin Term
Block Top of Unit



Power Block

(CATH) WHITE
(CATH) BLACK (RED)
(WHITE)

