

REGIONAL RAILWAYS

Network South East

Specification No RREE / 92 / 006

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STATION FITTERS
GLOUCESTER CENTRAL CARE OF:-DEPOT ENGINE
BRISTOL BATH RD, BATH RD
BRISTOL BS4 3DT

ELECTRICAL SCHEMATICS FOR CLASS 117 D.M.U.S

TYSELEY T.M.D.
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Document No. 808 Issue No. A
Date Issued 2-3-94 Issued By Amid
Location Gloucester Copy No. 6

Issue **A**

Approved by *M. White*

Date **2nd January 1992**



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ELECTRICAL SCHEMATIC DIAGRAMS
DIESEL MULTIPLE UNITS
CLASS 117


Authorisation and Revision Record			
Date	Revision	Revision of Page Nos	Inserted by
2/01/92	1	First Issue	N.A.CLARE

Approved By:
Regional Railways
Electrical Equipment
Engineer:


.....

Director of T & RS Regional Railways
British Railways Board
The Railway Technical Centre
London Road
Derby DE2 8UP

Authorised By:
Regional Railways T & RS
Maintenance Engineer


.....

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ELECTRICAL SCHEMATIC DIAGRAMS
DIESEL MULTIPLE UNITS
CLASS 117

PREFACE

This booklet is designed to provide the user with an easy reference to the various schematic drawings and associated information for Class 117 vehicles operated by Regional Railways.

Section 2 identifies a list of the electrical equipment modifications or modifications involving changes to the vehicle electrical system, as incorporated into the schematic drawings herein.

Section 3 identifies the electrical equipment schematic symbols used on the schematic drawings contained herein. These symbols are in accordance with BR Specification TEE/SY/90/R/111.

Section 4 contains the schedule of Electrical Schematics, and the Electrical Schematic Drawings in schedule order.

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INTRODUCTION

SECTION 2

MODIFICATIONS

ELECTRICAL SCHEMATIC DIAGRAMS
 DIESEL MULTIPLE UNITS
 CLASS 117

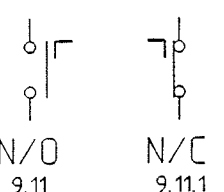
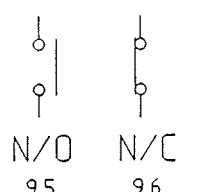
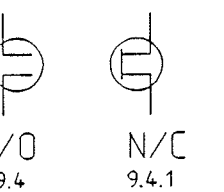
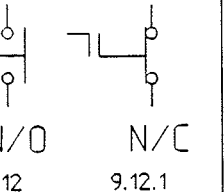
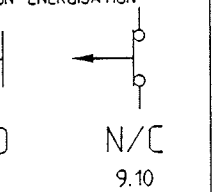
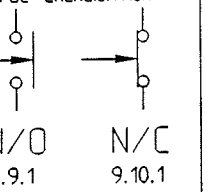
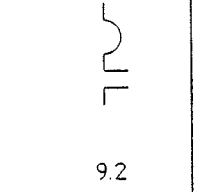
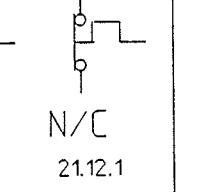
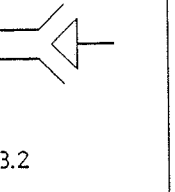
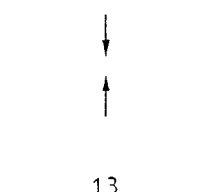
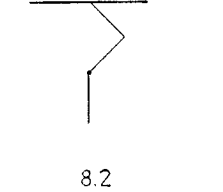
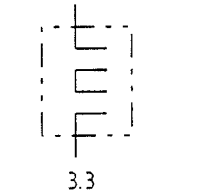
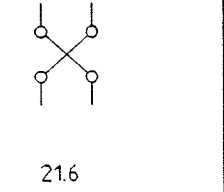
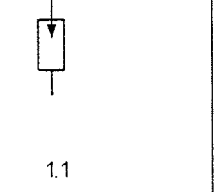
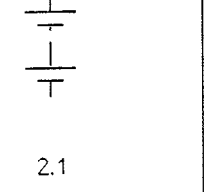
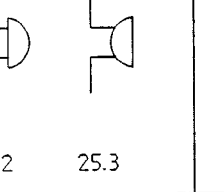
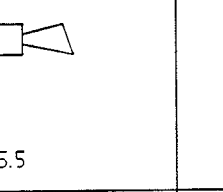
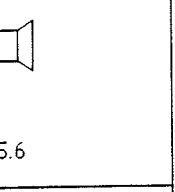
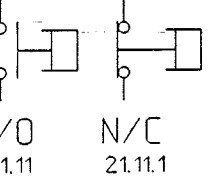
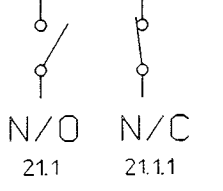
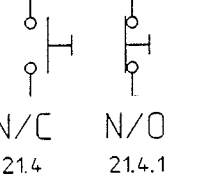
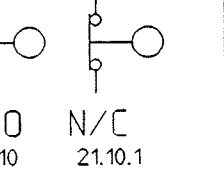
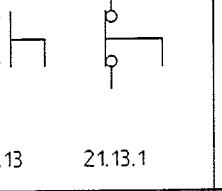
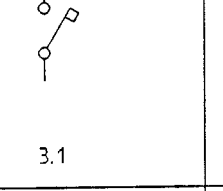
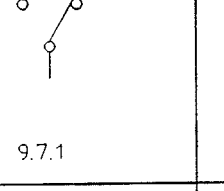
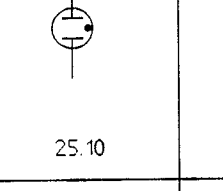
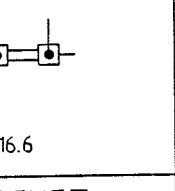
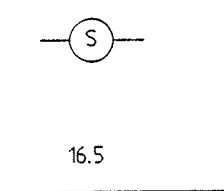
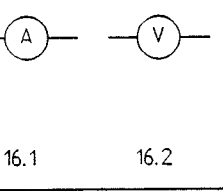
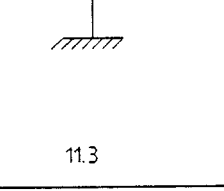
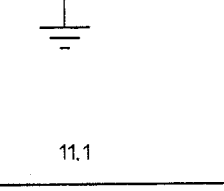
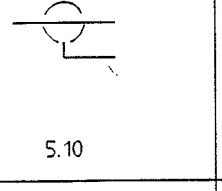
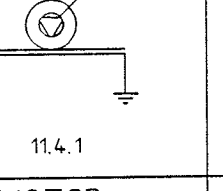
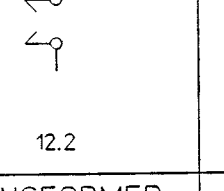
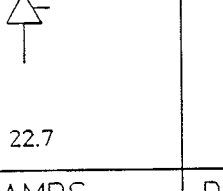
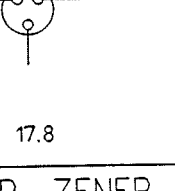
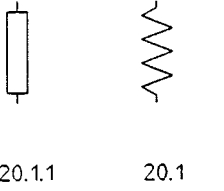
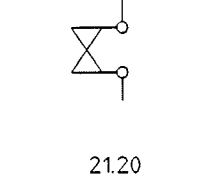
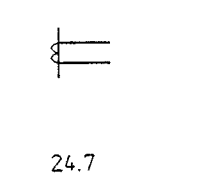
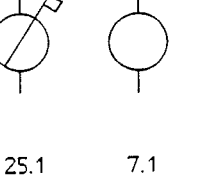
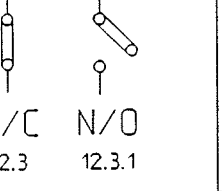
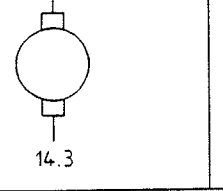
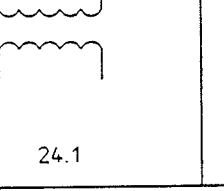
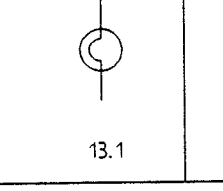
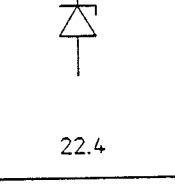
MODIFICATION LIST

Modifications are listed with their respective mod number and additionally the nature of the mod ie Safety SA, Reliability RE, and Engineering Design ED. Only modifications that influence the electrical schematics and are already at form 3 are listed.

Mod number	Modification Description	Nature of Mod
ELMDMU05	Fitting of Single Headlight	SA
Revision	1	

SECTION 3

SCHEMATIC SYMBOLS

<p>CONTACT LATCHED</p>  <p>N/O 9.11 N/C 9.11.1</p>	<p>CONTACT</p>  <p>N/O 9.5 N/C 9.6</p>	<p>CONTACT CAM OPERATED</p>  <p>N/O 9.4 N/C 9.4.1</p>	<p>CONTACT LATCHED</p>  <p>N/O 9.12 N/C 9.12.1</p>	<p>CONTACT TIME DELAY DELAY ON ENERGISATION</p>  <p>N/O 9.9 N/C 9.10</p>	<p>CONTACT TIME DELAY DELAY ON DE-ENERGISATION</p>  <p>N/O 9.9.1 N/C 9.10.1</p>	<p>CONTACT PERMANENT MAGNET ELECTRO-MAGNET</p>  <p>9.3 9.2</p>	<p>O/TEMP</p>  <p>N/O 21.12 N/C 21.12.1</p>	<p>AIR BLAST CIRCUIT BREAKER</p>  <p>3.2</p>
<p>SPARK GAP</p>  <p>1.3</p>	<p>PANTOGRAPH</p>  <p>8.2</p>	<p>VACUUM CIRCUIT BREAKER</p>  <p>3.3</p>	<p>REVERSER</p>  <p>21.6</p>	<p>LIGHTING ARRESTER</p>  <p>1.1</p>	<p>BATTERY</p>  <p>2.1</p>	<p>BELL BUZZER</p>  <p>25.2 25.3</p>	<p>HORN</p>  <p>25.5</p>	<p>LOUDSPEAKER</p>  <p>25.6</p>
<p>PRESSURE SWITCH</p>  <p>N/O 21.11 N/C 21.11.1</p>	<p>SWITCH</p>  <p>N/O 21.1 N/C 21.1.1</p>	<p>P/BUTTON</p>  <p>N/C 21.4 N/O 21.4.1</p>	<p>SWITCH FLUID LEVEL</p>  <p>N/O 21.10 N/C 21.10.1</p>	<p>SWITCH FOOT OPERATED</p>  <p>21.13 21.13.1</p>	<p>CIRCUIT BREAKER</p>  <p>3.1</p>	<p>SWITCH C/OVER</p>  <p>9.7.1</p>	<p>LAMP NEON</p>  <p>25.9 25.10</p>	<p>INSTRUMENT SHUNT</p>  <p>16.6</p>
<p>SPEEDOMETER</p>  <p>16.5</p>	<p>INDICATING METER AMMETER VOLTMETER</p>  <p>16.1 16.2</p>	<p>EARTH FRAME OR CHASSIS</p>  <p>11.3</p>	<p>EARTH</p>  <p>11.1</p>	<p>SCREENED CABLE</p>  <p>5.10</p>	<p>EARTH BRUSH</p>  <p>11.4.1</p>	<p>FUSE TESTER</p>  <p>12.2</p>	<p>THYRISTOR</p>  <p>22.7</p>	<p>SOCKET</p>  <p>17.8</p>
<p>RESISTOR</p>  <p>20.1.1 20.1</p>	<p>FIRE DETECTOR</p>  <p>21.20</p>	<p>CURRENT TRANSFORMER</p>  <p>24.7</p>	<p>RELAY COIL FLAGGED NORMAL</p>  <p>25.1 7.1</p>	<p>LINK</p>  <p>N/C 12.3 N/O 12.3.1</p>	<p>MOTOR</p>  <p>14.3</p>	<p>TRANSFORMER</p>  <p>24.1</p>	<p>LAMPS FLUORESCENT FILAMENT</p>  <p>13.2 13.1</p>	<p>RECTIFIER ZENER</p>  <p>22.1 22.4</p>

NOTE
THE NUMBERS UNDER EACH CELL ARE THE
CELL LIBRARY REFERENCE NUMBERS WHICH
ARE ALSO INDICATED IN BR SPEC TEE/SY/90/R/111

ISS	ALTERATION
A	FIRST ISSUE W/S PR /90/2056

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BRITISH RAILWAYS BOARD HEADQUARTERS

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VEHICLE TITLE
SCHEMATIC SYMBOLS

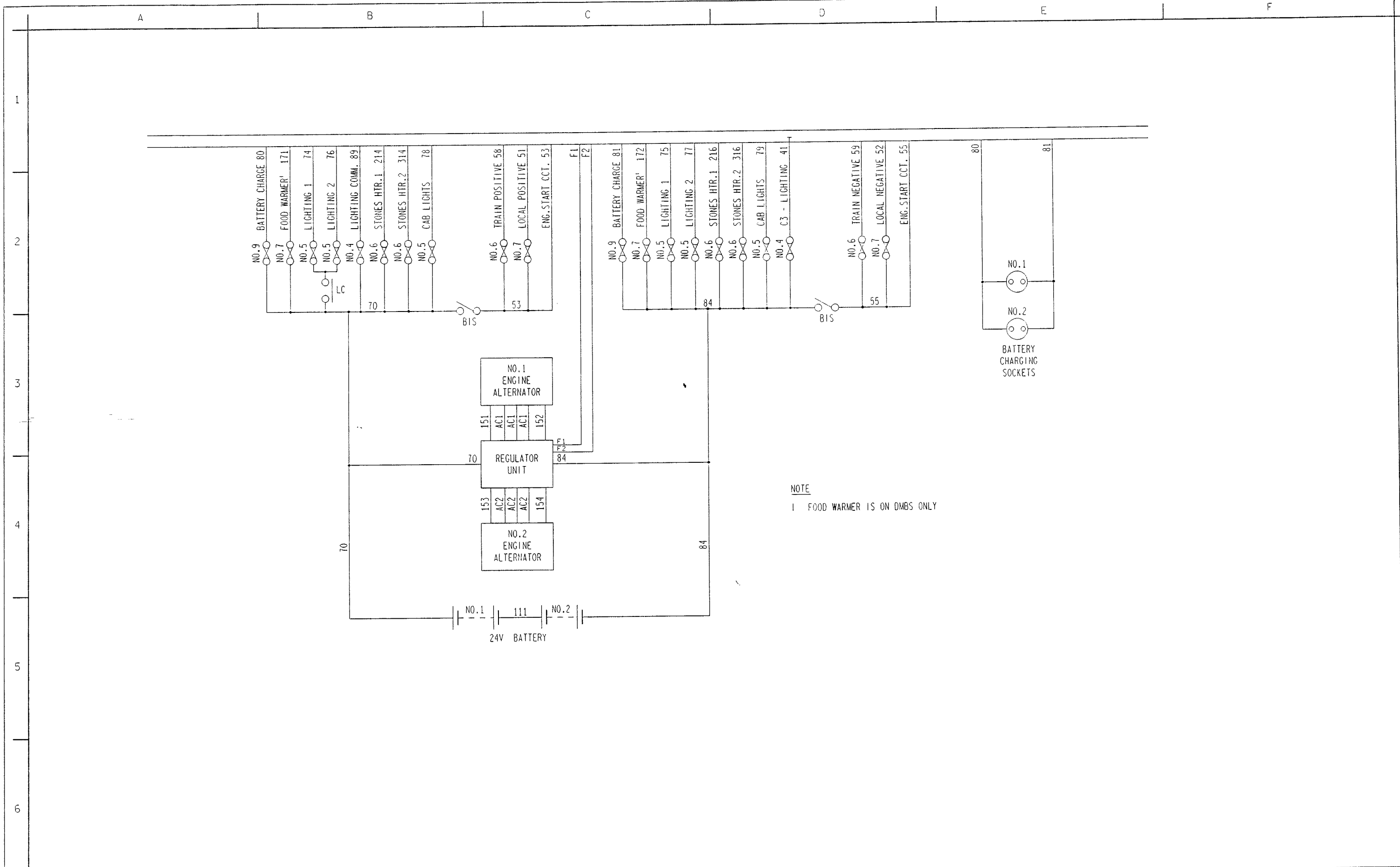
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SECTION 4

SCHEDULE OF SCHEMATICS

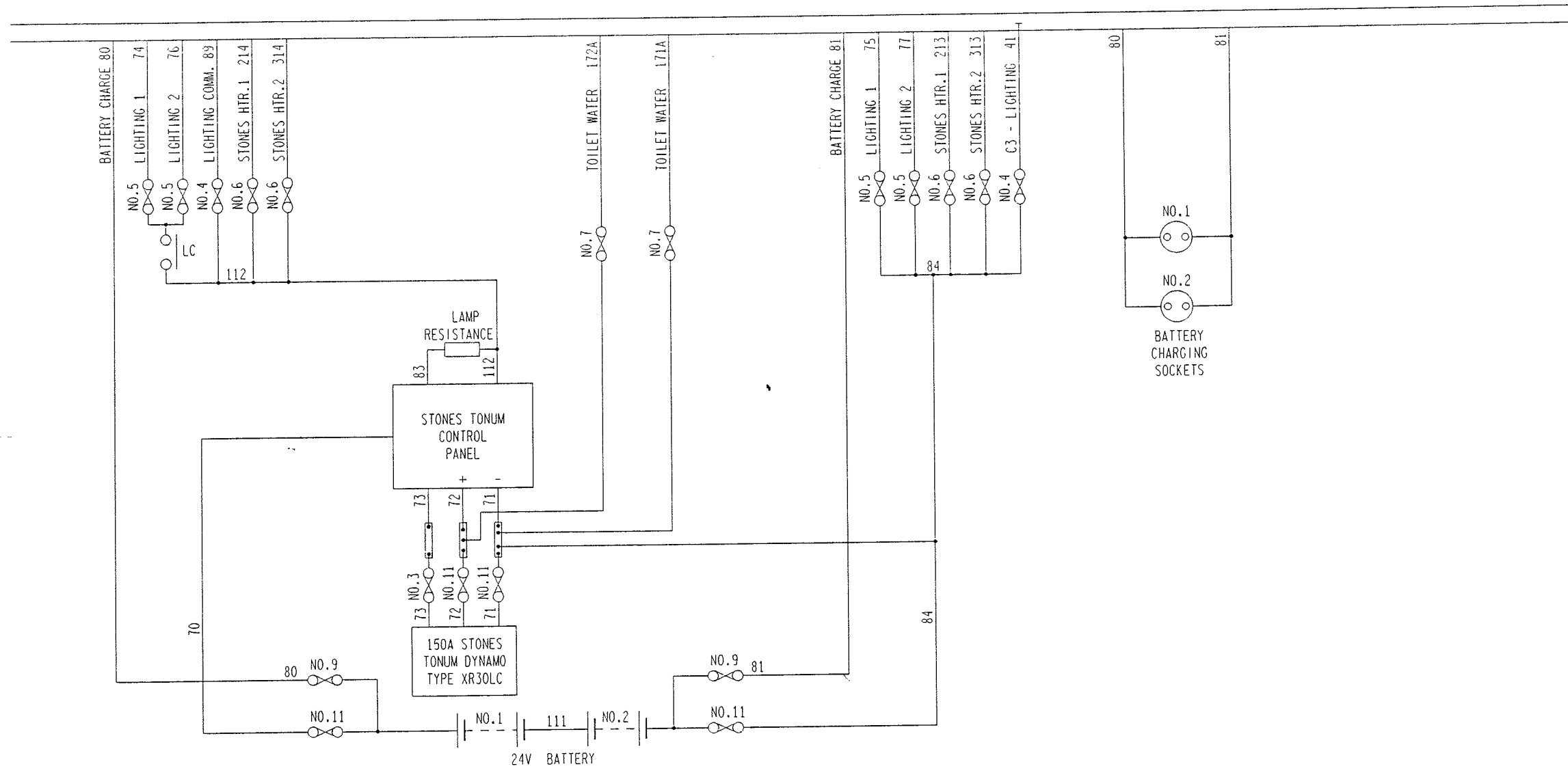
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SCHEMATICS.



NOTE
 1 FOOD WARMER IS ON DMBS ONLY

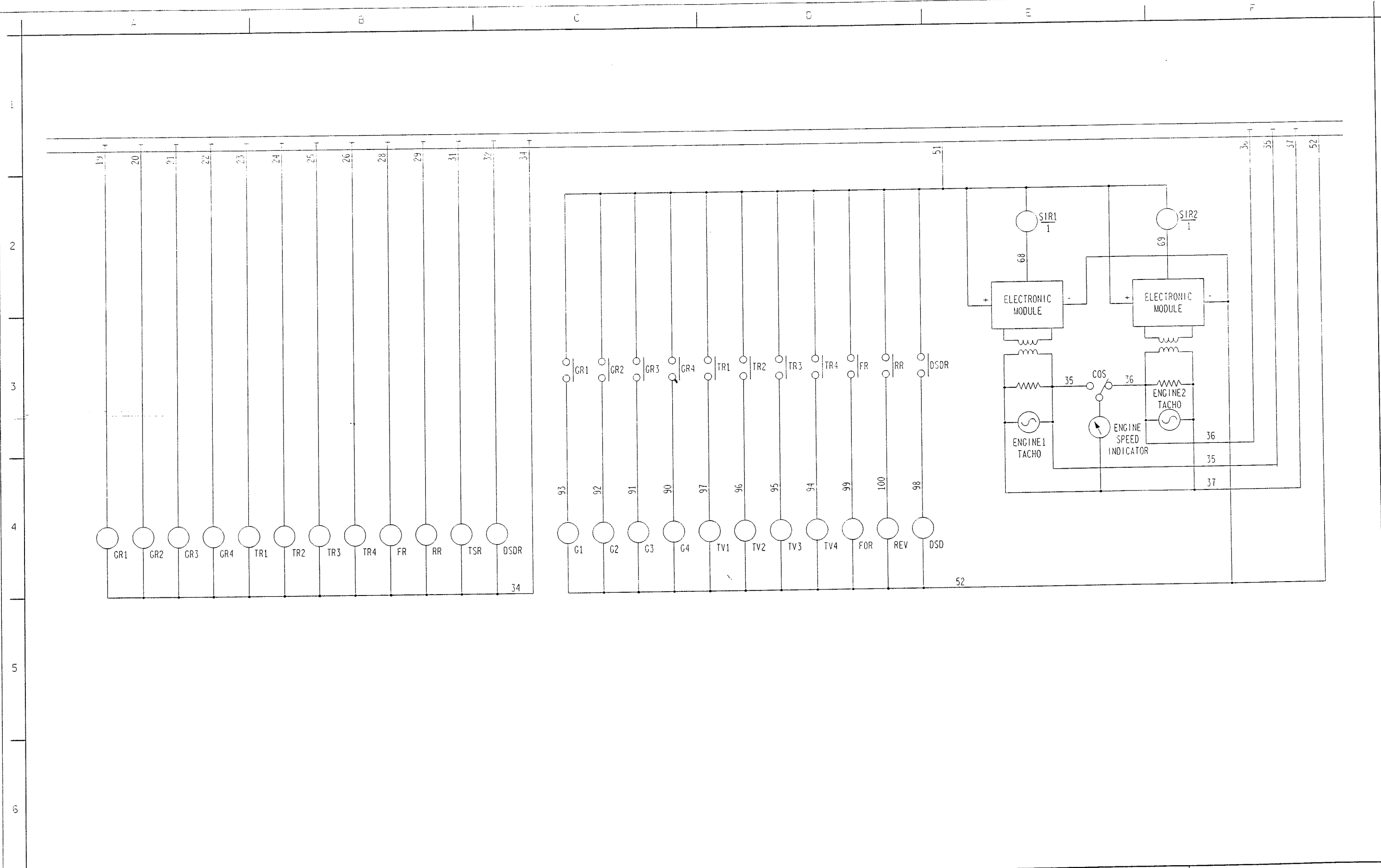
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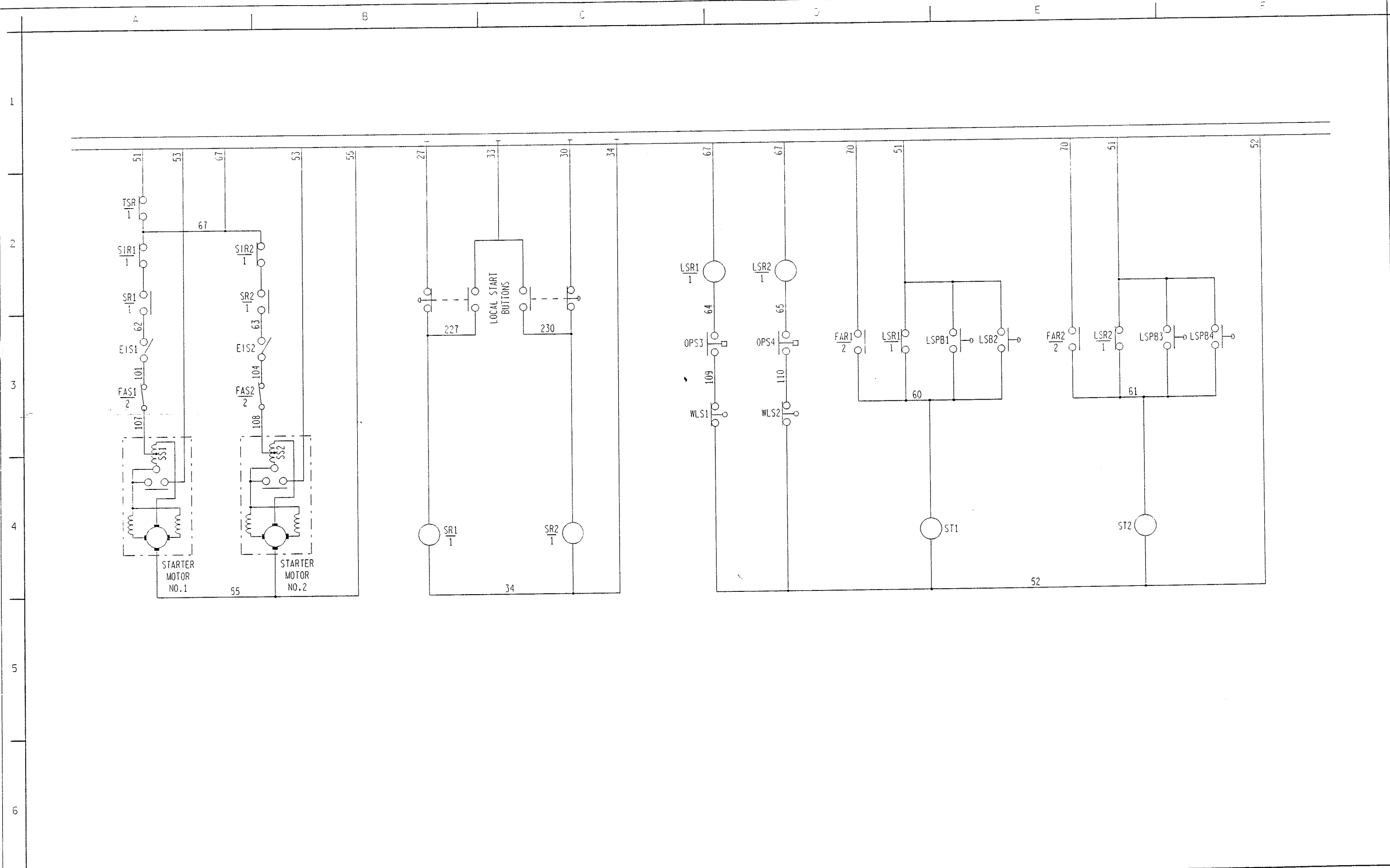
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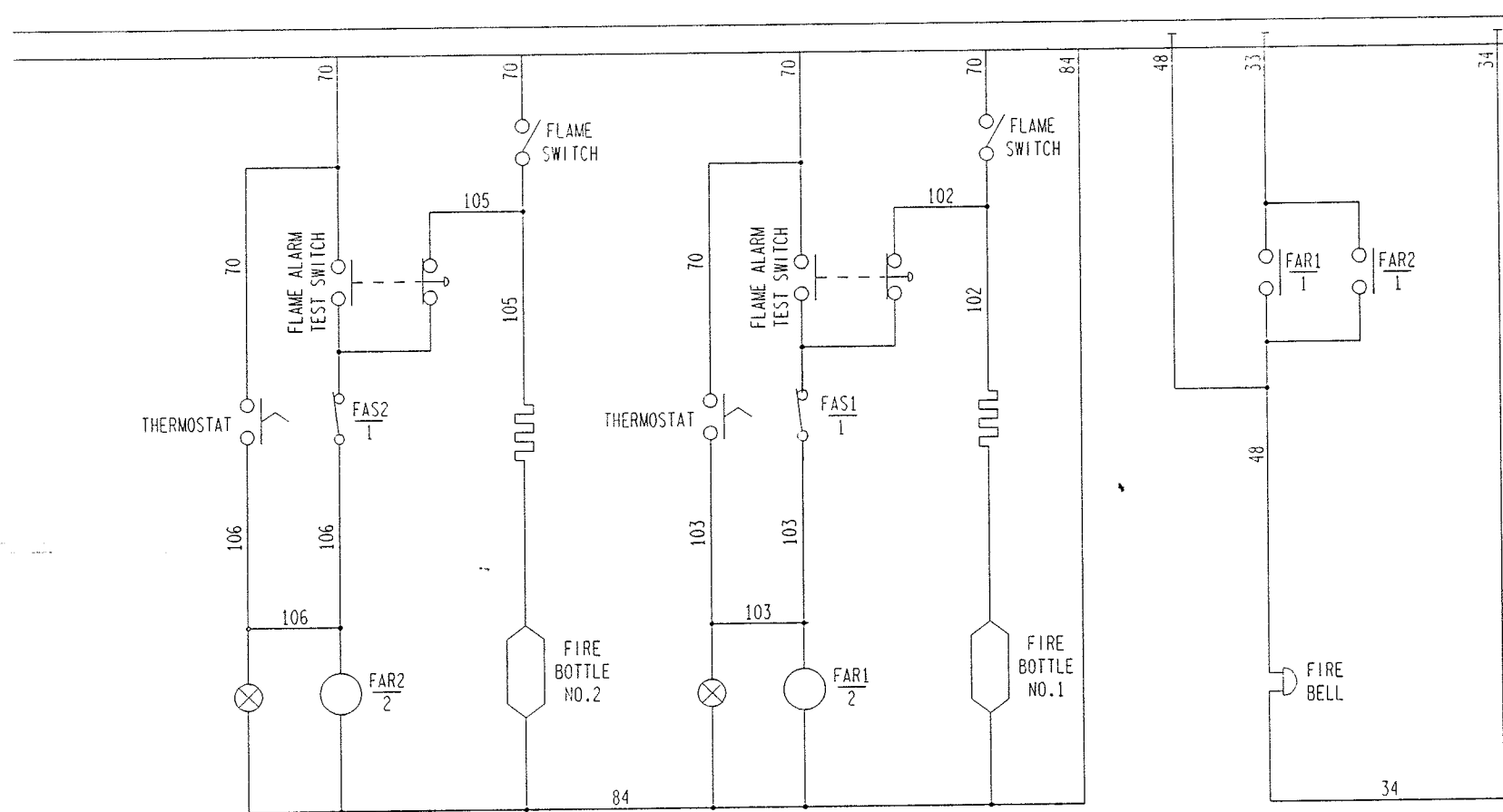
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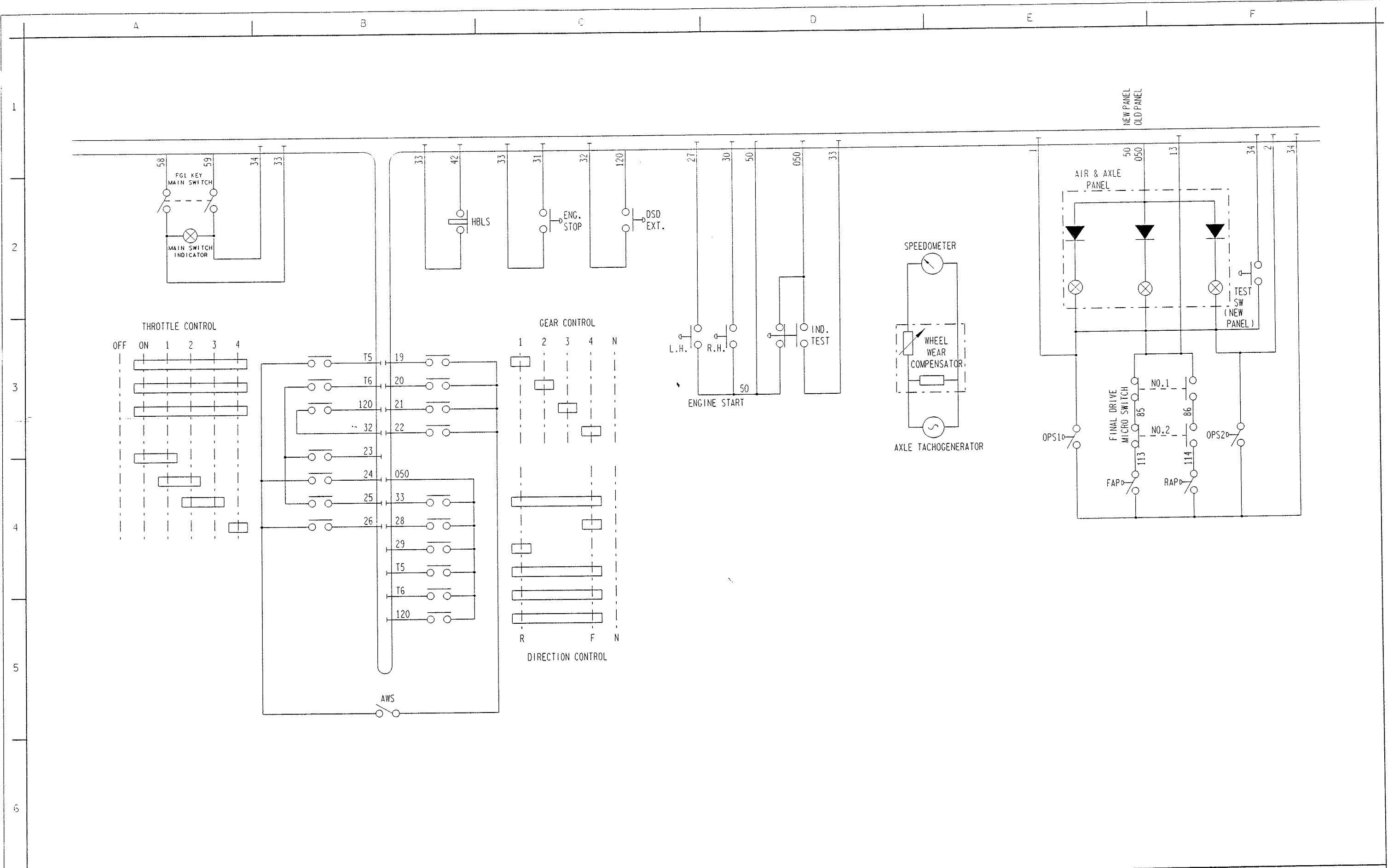


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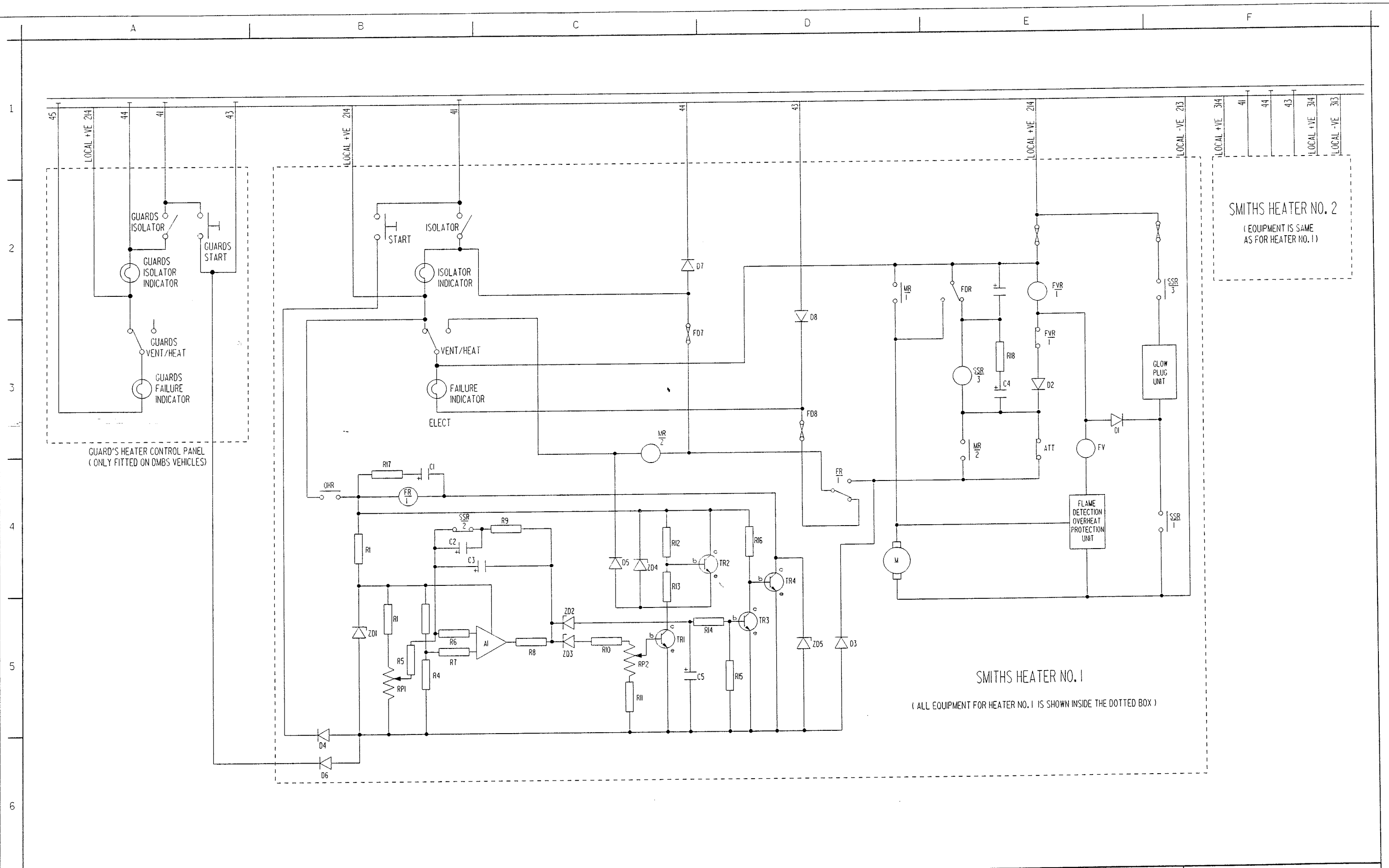


NOTE - 1. DMBS HAS TWO FIRE BELLS ONE IN CAB AND ONE IN GUARD COMPARTMENT
 2. DMS HAS ONE FIRE BELL IN CAB

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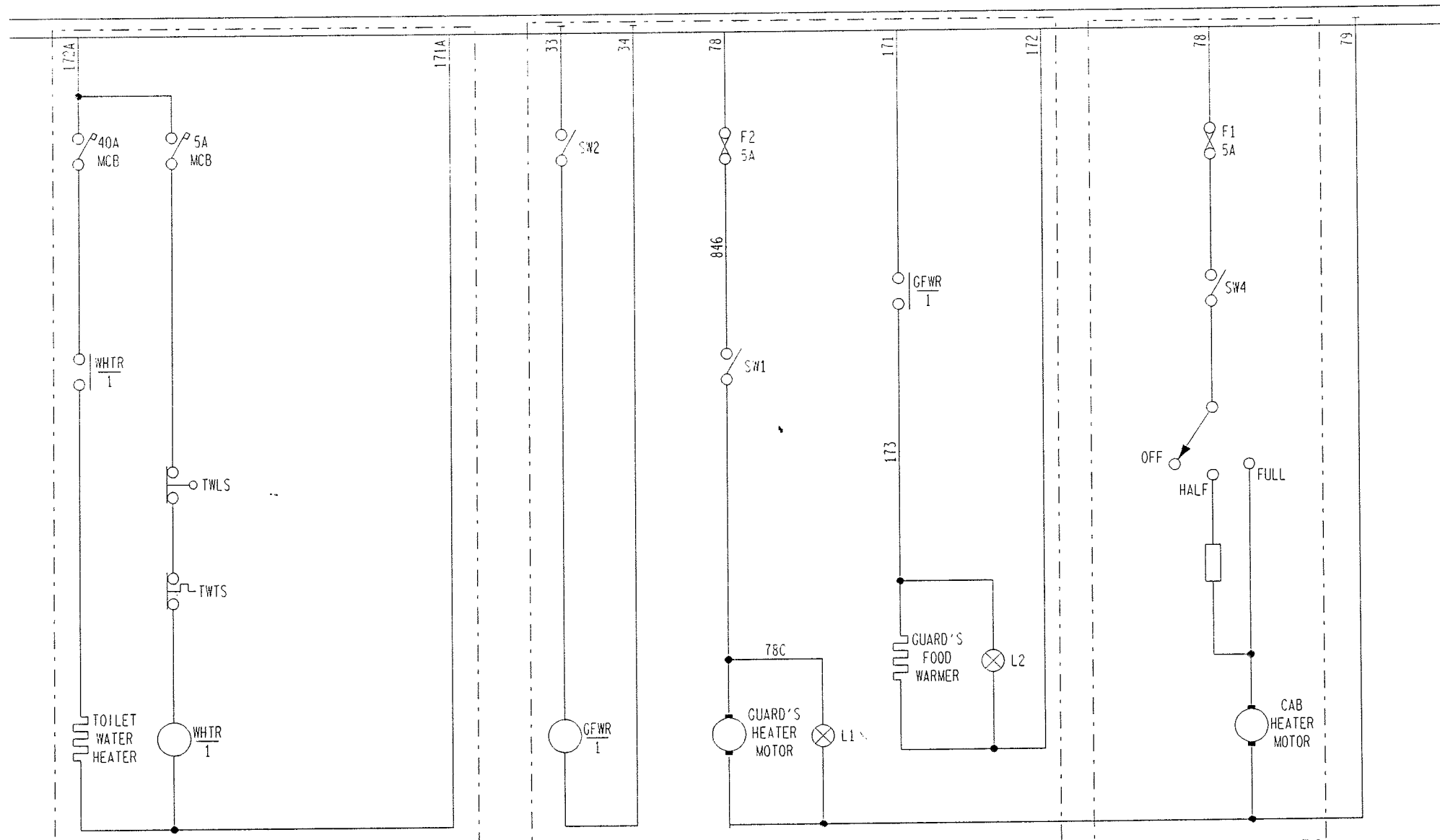
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DRAWN APH		CHECKED AF	APPROVED NAC	DATE 1.11.91					



SMITHS HEATER NO. 2
 (EQUIPMENT IS SAME AS FOR HEATER NO. 1)

SMITHS HEATER NO. 1
 (ALL EQUIPMENT FOR HEATER NO. 1 IS SHOWN INSIDE THE DOTTED BOX)

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	FIRST ISSUE					
ISSUE LETTER	DRAWN	CHECKED	APPROVED	DATE		
A	APH	AF	NAC	JUNE 91		

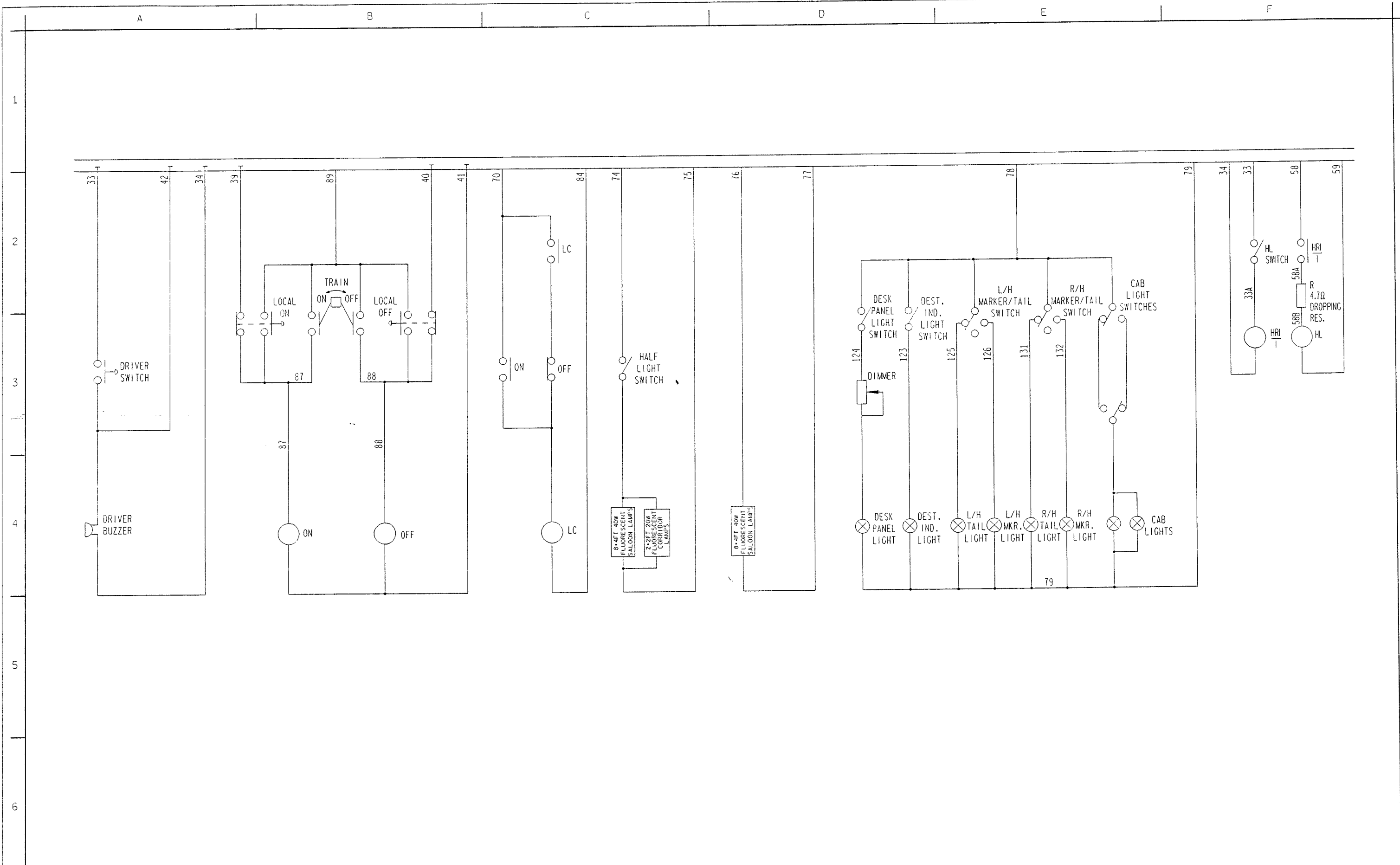


NOTE - THIS EQUIPMENT IS ON TCL VEHICLES ONLY

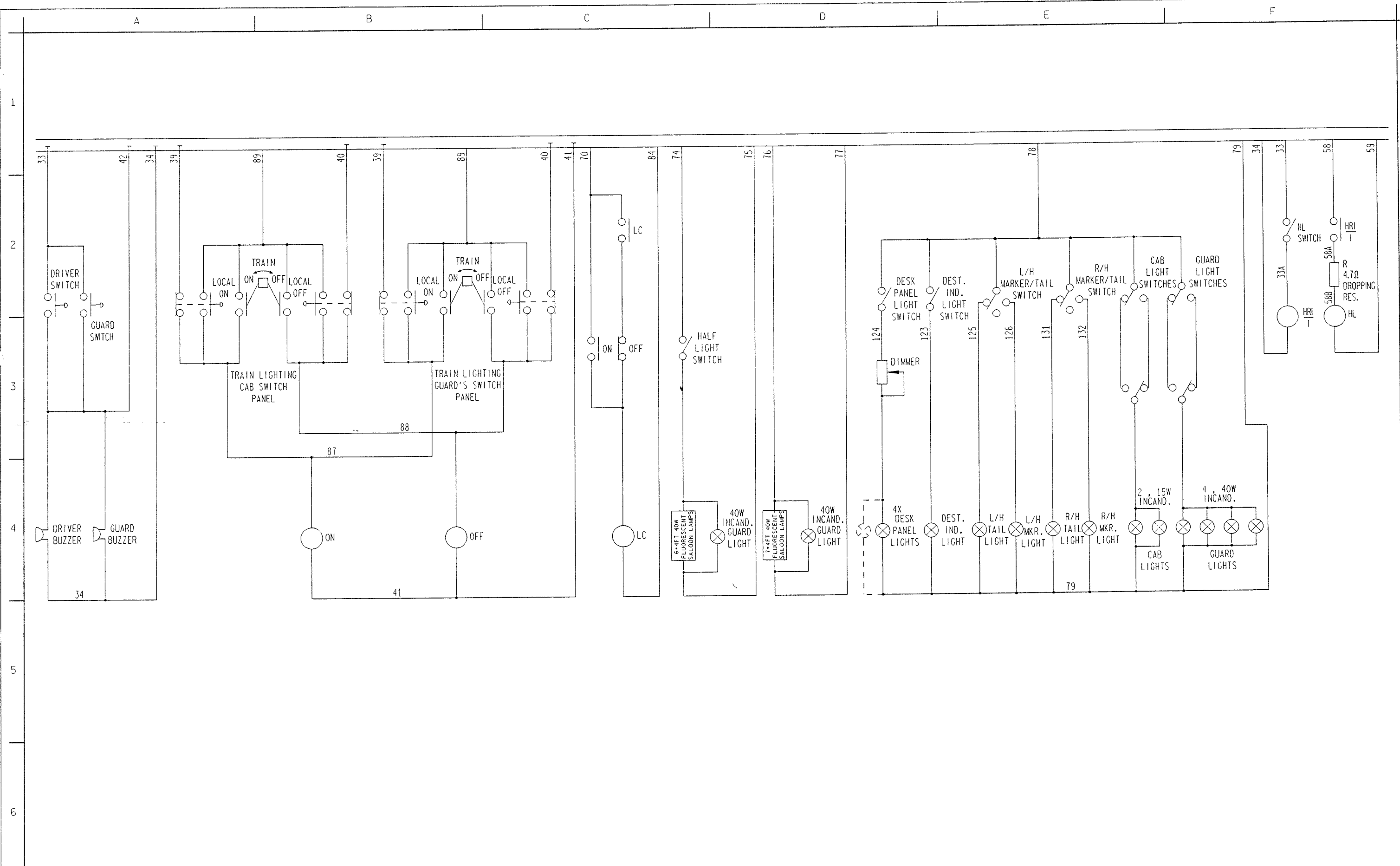
NOTE - THIS EQUIPMENT IS ON DMBS VEHICLES ONLY

NOTE - THIS EQUIPMENT IS ON DMS AND DMBS VEHICLES ONLY

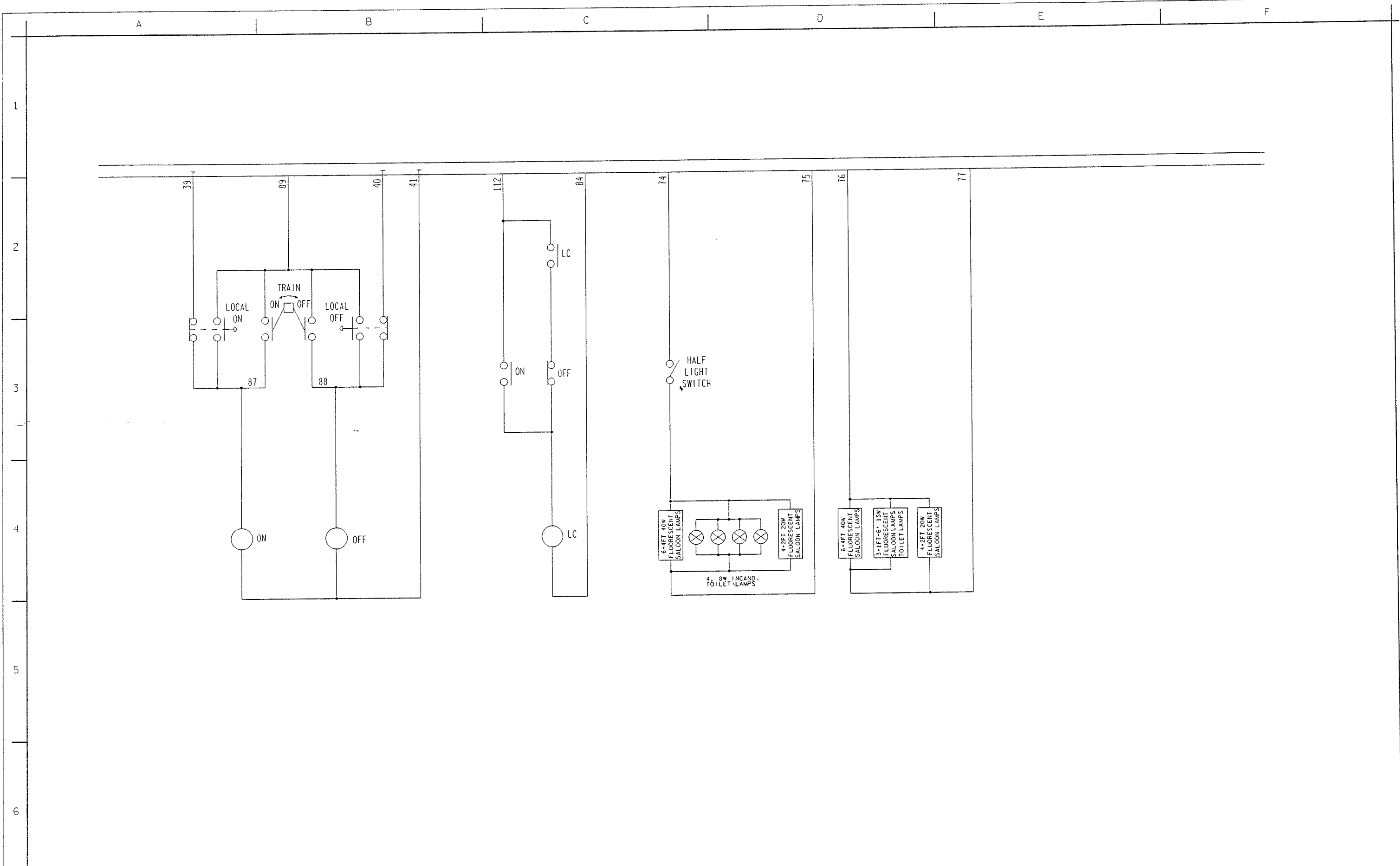
ISSUE LETTER	ALTERATION	D.MBS INITIALS	DATE	VEHICLE DESCRIPTION	TITLE	TEE-C2-8005819
	A					
				MECHANICAL & ELECTRICAL ENGINEER		
				BRITISH RAILWAYS BOARD		
ISSUE LETTER						
DRAWN	CHECKED	APPROVED	DATE			
APH	AF	HAC	JUNE 91			



				ISSUE LETTER		ALTERATION		D. MANS INITIALS		DATE		VEHICLE DESCRIPTION		TITLE		TEE-C2-8005820							
				A		FIRST ISSUE		APH		6/91		CLASS 117 DMS		LIGHTING		ISSUE LETTER							
																DRAWN		CHECKED		APPROVED		DATE	
																APH		AF		NAC		JUNE 91	



				ISSUE LETTER	ALTERATION	D.MANS INITIALS	DATE	VEHICLE DESCRIPTION	TITLE	TEE-C2-8005821			
				A	FIRST ISSUE	APH	6/91	CLASS 117 DMBS	LIGHTING	ISSUE LETTER			
								MECHANICAL & ELECTRICAL ENGINEER BRITISH RAILWAYS BOARD		A			
DRAWN		CHECKED		APPROVED		DATE							
APH		AF		NAC		JUNE 91							



ISSUE LETTER		ALTERATION		0. MANS INITIALS	DATE	VEHICLE DESCRIPTION	TITLE	TEE-C2-8005822			
A		FIRST ISSUE		APH	6/91	CLASS 117 TCL	LIGHTING	ISSUE LETTER			
						MECHANICAL & ELECTRICAL ENGINEER BRITISH RAILWAYS BOARD		DRAWN		CHECKED	APPROVED
							APH		AF	NAC	JUNE 91

CIRCUIT	CIRC. NO.	TERM. NO.
OIL INDICATOR 10	10	1
OIL INDICATOR 9	9	2
OIL INDICATOR 12	12	3
OIL INDICATOR 11	11	4
OIL INDICATOR 2	2	5
OIL INDICATOR 1	1	6
AIR INDICATOR 1	13	7
AIR INDICATOR 6	18	8
AIR INDICATOR 5	17	9
GEAR 1	19	10
GEAR 2	20	11
GEAR 3	21	12
GEAR 4	22	13
THROTTLE 1	23	14
THROTTLE 2	24	15
THROTTLE 3	25	16
THROTTLE 4	26	17
START 2	30	18
REVERSE	29	19

JUMPER SOCKET 1

TERM. NO.	CIRC. NO.	CIRCUIT
1	8	OIL INDICATOR 8
2	7	OIL INDICATOR 7
3	10	OIL INDICATOR 10
4	9	OIL INDICATOR 9
5	12	OIL INDICATOR 12
6	11	OIL INDICATOR 11
7	18	AIR INDICATOR 6
8	17	AIR INDICATOR 5
9	16	AIR INDICATOR 4
10	19	GEAR 1
11	20	GEAR 2
12	21	GEAR 3
13	22	GEAR 4
14	23	THROTTLE 1
15	24	THROTTLE 2
16	25	THROTTLE 3
17	26	THROTTLE 4
18	30	START 2
19	29	REVERSE

JUMPER SOCKET 4

NON DRIVING END

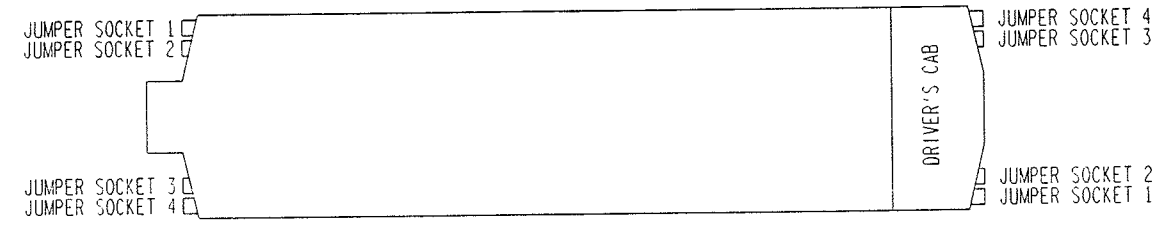
DRIVING END

CIRCUIT	CIRC. NO.	TERM. NO.
OIL INDICATOR 7	7	1
OIL INDICATOR 8	8	2
OIL INDICATOR 5	5	3
OIL INDICATOR 6	6	4
OIL INDICATOR 3	3	5
OIL INDICATOR 4	4	6
AIR INDICATOR 2	14	7
AIR INDICATOR 3	15	8
AIR INDICATOR 4	16	9
GEAR 1	19	10
GEAR 2	20	11
GEAR 3	21	12
GEAR 4	22	13
THROTTLE 1	23	14
THROTTLE 2	24	15
THROTTLE 3	25	16
THROTTLE 4	26	17
START 1	27	18
FORWARD	28	19

JUMPER SOCKET 4

TERM. NO.	CIRC. NO.	CIRCUIT
1	5	OIL INDICATOR 5
2	6	OIL INDICATOR 6
3	3	OIL INDICATOR 3
4	4	OIL INDICATOR 4
5	1	OIL INDICATOR 1
6	2	OIL INDICATOR 2
7	13	AIR INDICATOR 1
8	14	AIR INDICATOR 2
9	15	AIR INDICATOR 3
10	19	GEAR 1
11	20	GEAR 2
12	21	GEAR 3
13	22	GEAR 4
14	23	THROTTLE 1
15	24	THROTTLE 2
16	25	THROTTLE 3
17	26	THROTTLE 4
18	27	START 1
19	28	FORWARD

JUMPER SOCKET 1



NOTE - FOR TRAIN WIRES BETWEEN JUMPER SOCKETS 2 & 3
SEE DRG. NO. TEE-C2-8005824

ISSUE LETTER A	ALTERATION FIRST ISSUE	D. NAME APH	INITIALS 6/91	DATE 6/91	VEHICLE DESCRIPTION CLASS 117 DMBS, DMS	TITLE TRAIN WIRES FOR JUMPER SOCKETS 1 & 4	DRAWN APH	CHECKED AF	APPROVED NAC	DATE JUNE 91
					MECHANICAL & ELECTRICAL ENGINEER BRITISH RAILWAYS BOARD	TEE-C2-8005823				

CIRCUIT	CIRC. NO.	TERM. NO.
ENGINE STOP	31	1
DEADMANS	32	2
TRAIN +	33	3
TRAIN -	34	4
R.P.M. 1	35	5
R.P.M. 2	36	6
R.P.M. COMMON	37	7
THROUGH CONTROL - LIGHTS ON	38	8
THROUGH CONTROL - LIGHTS OFF	39	9
THROUGH CONTROL - LIGHTS C3	40	10
BUZZERS	41	11
HEATER 2	42	12
HEATER 3	43	13
HEATER 4	44	14
TELEPHONE 1	45	15
TELEPHONE 2	46	16
FIRE ALARM	47	17
	48	18
	49	19

JUMPER SOCKET 2

TERM. NO.	CIRC. NO.	CIRCUIT
1	31	ENGINE STOP
2	32	DEADMANS
3	33	TRAIN +
4	34	TRAIN -
5		
6		
7		
8	38	
9	39	THROUGH CONTROL - LIGHTS ON
10	40	THROUGH CONTROL - LIGHTS OFF
11	41	THROUGH CONTROL - LIGHTS C3
12	42	BUZZERS
13	43	HEATER 2
14	44	HEATER 3
15	45	HEATER 4
16	46	TELEPHONE 1
17	47	TELEPHONE 2
18	48	FIRE ALARM
19	49	

JUMPER SOCKET 3

NON DRIVING END

DRIVING END

CIRCUIT	CIRC. NO.	TERM. NO.
ENGINE STOP	31	1
DEADMANS	32	2
TRAIN +	33	3
TRAIN -	34	4
	5	
	6	
	7	
	38	8
THROUGH CONTROL - LIGHTS ON	39	9
THROUGH CONTROL - LIGHTS OFF	40	10
THROUGH CONTROL - LIGHTS C3	41	11
BUZZERS	42	12
HEATER 2	43	13
HEATER 3	44	14
HEATER 4	45	15
TELEPHONE 1	46	16
TELEPHONE 2	47	17
FIRE ALARM	48	18
	49	19

JUMPER SOCKET 3

TERM. NO.	CIRC. NO.	CIRCUIT
1	31	ENGINE STOP
2	32	DEADMANS
3	33	TRAIN +
4	34	TRAIN -
5	35	R.P.M. 1
6	36	R.P.M. 2
7	37	R.P.M. COMMON
8	38	
9	39	THROUGH CONTROL - LIGHTS ON
10	40	THROUGH CONTROL - LIGHTS OFF
11	41	THROUGH CONTROL - LIGHTS C3
12	42	BUZZERS
13	43	HEATER 2
14	44	HEATER 3
15	45	HEATER 4
16	46	TELEPHONE 1
17	47	TELEPHONE 2
18	48	FIRE ALARM
19	49	

JUMPER SOCKET 2

JUMPER SOCKET 1
JUMPER SOCKET 2

JUMPER SOCKET 4
JUMPER SOCKET 3

JUMPER SOCKET 3
JUMPER SOCKET 4

JUMPER SOCKET 2
JUMPER SOCKET 1

DRIVER'S CAB

NOTE - FOR TRAIN WIRES BETWEEN JUMPER SOCKETS 1 & 4
SEE DRG. NO. TEE-C2-8005823

ISSUE LETTER	ALTERATION	D.M.B.S. INITIALS	DATE	VEHICLE DESCRIPTION	TITLE	TEE-C2-8005824				
A	FIRST ISSUE	APH	6/73	CLASS 117 DMBS, DMS	TRAIN WIRES FOR JUMPER SOCKETS 2 & 3	ISSUE LETTER	A			
				MECHANICAL & ELECTRICAL ENGINEER BRITISH RAILWAYS BOARD		DRAWN	CHECKED	APPROVED	DATE	
						APH	AF	NAC	JUNE 91	

CIRCUIT	CIRC. NO.	TERM. NO.
OIL INDICATOR 8	8	1
OIL INDICATOR 7	7	2
OIL INDICATOR 10	10	3
OIL INDICATOR 9	9	4
OIL INDICATOR 12	12	5
OIL INDICATOR 11	11	6
AIR INDICATOR 6	18	7
AIR INDICATOR 5	17	8
AIR INDICATOR 4	16	9
GEAR 1	19	10
GEAR 2	20	11
GEAR 3	21	12
GEAR 4	22	13
THROTTLE 1	23	14
THROTTLE 2	24	15
THROTTLE 3	25	16
THROTTLE 4	26	17
START 2	30	18
REVERSE	29	19

JUMPER SOCKET 1

CIRCUIT	CIRC. NO.	TERM. NO.
OIL INDICATOR 5	5	1
OIL INDICATOR 6	6	2
OIL INDICATOR 3	3	3
OIL INDICATOR 4	4	4
OIL INDICATOR 1	1	5
OIL INDICATOR 2	2	6
AIR INDICATOR 1	13	7
AIR INDICATOR 2	14	8
AIR INDICATOR 3	15	9
GEAR 1	19	10
GEAR 2	20	11
GEAR 3	21	12
GEAR 4	22	13
THROTTLE 1	23	14
THROTTLE 2	24	15
THROTTLE 3	25	16
THROTTLE 4	26	17
START 1	27	18
FORWARD	28	19

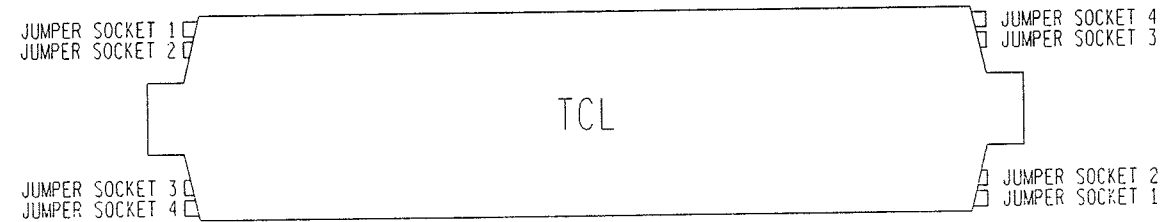
JUMPER SOCKET 4

TERM. NO.	CIRC. NO.	CIRCUIT
1	8	OIL INDICATOR 8
2	7	OIL INDICATOR 7
3	10	OIL INDICATOR 10
4	9	OIL INDICATOR 9
5	12	OIL INDICATOR 12
6	11	OIL INDICATOR 11
7	18	AIR INDICATOR 6
8	17	AIR INDICATOR 5
9	16	AIR INDICATOR 4
10	19	GEAR 1
11	20	GEAR 2
12	21	GEAR 3
13	22	GEAR 4
14	23	THROTTLE 1
15	24	THROTTLE 2
16	25	THROTTLE 3
17	26	THROTTLE 4
18	30	START 2
19	29	REVERSE

JUMPER SOCKET 4

TERM. NO.	CIRC. NO.	CIRCUIT
1	5	OIL INDICATOR 5
2	6	OIL INDICATOR 6
3	3	OIL INDICATOR 3
4	4	OIL INDICATOR 4
5	1	OIL INDICATOR 1
6	2	OIL INDICATOR 2
7	13	AIR INDICATOR 1
8	14	AIR INDICATOR 2
9	15	AIR INDICATOR 3
10	19	GEAR 1
11	20	GEAR 2
12	21	GEAR 3
13	22	GEAR 4
14	23	THROTTLE 1
15	24	THROTTLE 2
16	25	THROTTLE 3
17	26	THROTTLE 4
18	27	START 1
19	28	FORWARD

JUMPER SOCKET 1



NOTE - FOR TRAIN WIRES BETWEEN JUMPER SOCKETS 2 & 3
SEE DRG. NO. TEE-C2-8005826

ISSUE LETTER	ALTERATION	D. APRIS INITIALS	DATE	VEHICLE DESCRIPTION	TITLE	TEE-C2-8005825
A	FIRST ISSUE	APH	6/91	CLASS 117 TCL	TRAIN WIRES FOR JUMPER SOCKETS 1 & 4	
				MECHANICAL & ELECTRICAL ENGINEER BRITISH RAILWAYS BOARD		
ISSUE LETTER	DRAWN	CHECKED	APPROVED	DATE		
	APH	AF	NAC	JUNE 91		

CIRCUIT	CIRC. NO.	TERM. NO.
ENGINE STOP	31	1
DEADMANS	32	2
TRAIN +	33	3
TRAIN -	34	4
R.P.M. 1	35	5
R.P.M. 2	36	6
R.P.M. COMMON	37	7
	38	8
THROUGH CONTROL - LIGHTS ON	39	9
THROUGH CONTROL - LIGHTS OFF	40	10
THROUGH CONTROL - LIGHTS C3	41	11
BUZZERS	42	12
HEATER 2	43	13
HEATER 3	44	14
HEATER 4	45	15
TELEPHONE 1	46	16
TELEPHONE 2	47	17
FIRE ALARM	48	18
	49	19

JUMPER SOCKET 2

CIRCUIT	CIRC. NO.	TERM. NO.
ENGINE STOP	31	1
DEADMANS	32	2
TRAIN +	33	3
TRAIN -	34	4
R.P.M. 1	35	5
R.P.M. 2	36	6
R.P.M. COMMON	37	7
	38	8
THROUGH CONTROL - LIGHTS ON	39	9
THROUGH CONTROL - LIGHTS OFF	40	10
THROUGH CONTROL - LIGHTS C3	41	11
BUZZERS	42	12
HEATER 2	43	13
HEATER 3	44	14
HEATER 4	45	15
TELEPHONE 1	46	16
TELEPHONE 2	47	17
FIRE ALARM	48	18
	49	19

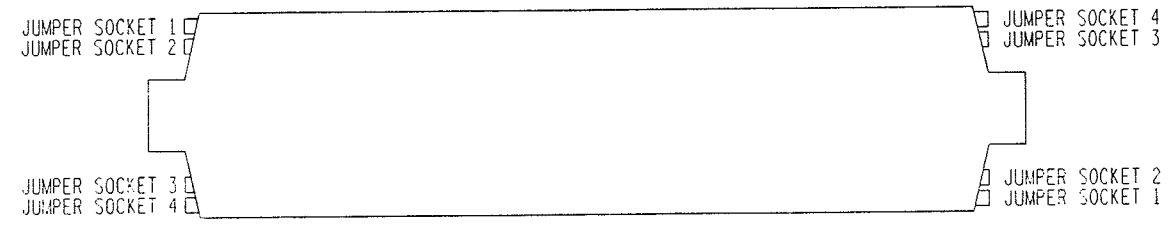
JUMPER SOCKET 3

TERM. NO.	CIRC. NO.	CIRCUIT
1	31	ENGINE STOP
2	32	DEADMANS
3	33	TRAIN +
4	34	TRAIN -
5	35	R.P.M. 1
6	36	R.P.M. 2
7	37	R.P.M. COMMON
8	38	
9	39	THROUGH CONTROL - LIGHTS ON
10	40	THROUGH CONTROL - LIGHTS OFF
11	41	THROUGH CONTROL - LIGHTS C3
12	42	BUZZERS
13	43	HEATER 2
14	44	HEATER 3
15	45	HEATER 4
16	46	TELEPHONE 1
17	47	TELEPHONE 2
18	48	FIRE ALARM
19	49	

JUMPER SOCKET 3

TERM. NO.	CIRC. NO.	CIRCUIT
1	31	ENGINE STOP
2	32	DEADMANS
3	33	TRAIN +
4	34	TRAIN -
035	5	R.P.M. 1
036	6	R.P.M. 2
037	7	R.P.M. COMMON
8	38	
9	39	THROUGH CONTROL - LIGHTS ON
10	40	THROUGH CONTROL - LIGHTS OFF
11	41	THROUGH CONTROL - LIGHTS C3
12	42	BUZZERS
13	43	HEATER 2
14	44	HEATER 3
15	45	HEATER 4
16	46	TELEPHONE 1
17	47	TELEPHONE 2
18	48	FIRE ALARM
19	49	

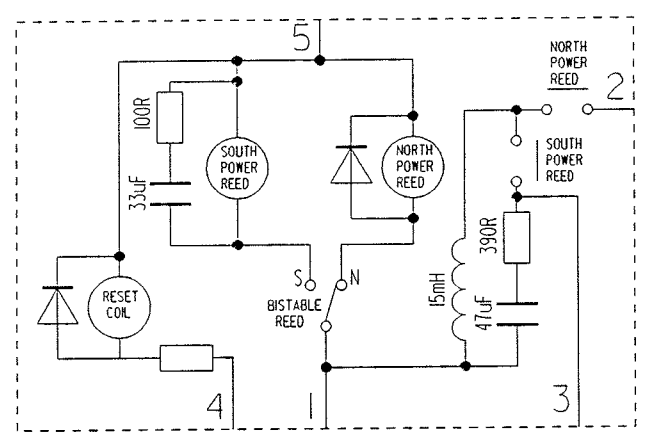
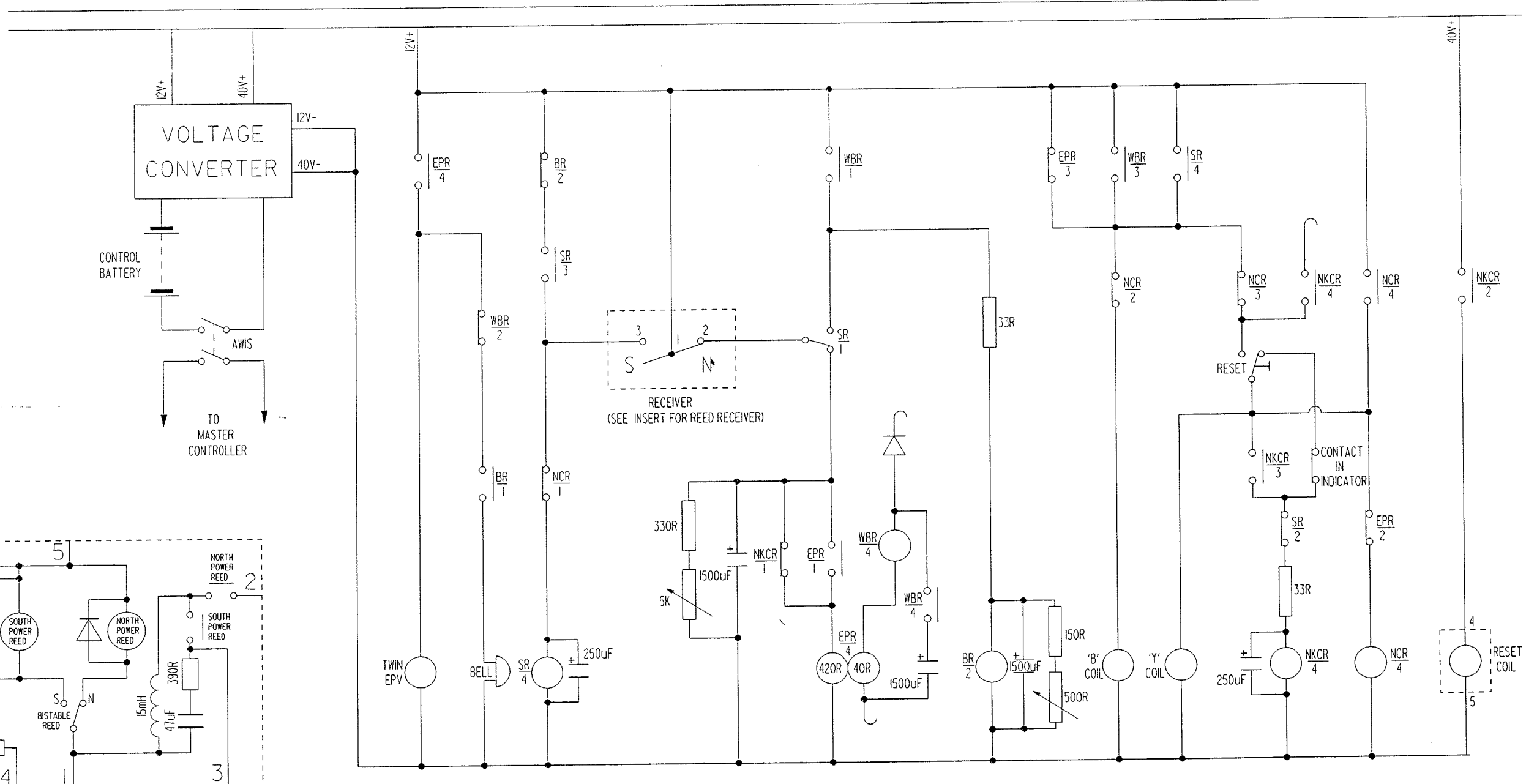
JUMPER SOCKET 2



NOTE - FOR TRAIN WIRES BETWEEN JUMPER SOCKETS 1 & 4
SEE DRG. NO. TEE-C2-8005825

ISSUE LETTER	ALTERATION	D. MANS INITIALS	DATE	VEHICLE DESCRIPTION	TITLE	DRAWN	CHECKED	APPROVED	DATE
	A								

TEE-C2-8005826



FOR EQUIPMENT FITTED WITH REED RECEIVER

NOTE - THIS AWS EQUIPMENT ALSO INCLUDES SOME OBSOLETE CIRCUITRY ORIGINALLY PART OF THE 'WR SHOE' SYSTEM. THIS CIRCUITRY REMAINS IN THE AWS BOX BUT IS ELECTRICALLY DISCONNECTED

ISSUE LETTER	ALTERATION	D. MANS INITIALS	DATE	VEHICLE DESCRIPTION	TITLE	TEE-C2-8005827	
	A						FIRST ISSUE
				MECHANICAL & ELECTRICAL ENGINEER			
				BRITISH RAILWAYS BOARD			
DRAWN	CHECKED	APPROVED	DATE				
APH	AF	NAC	JUNE 91				

SYMBOL	DESCRIPTION	LOCATION	DRG. NO. / COL.			
			ITEM OR COIL	CONTACT		
				1	2	3
ATT	SALOON THERMOSTAT	SALOON	18E			
AWS	AWS ISOLATING SWITCH	UNDER 2ND MAN'S SEAT	17B			
BIS	BATTERY ISOLATING SWITCH	CONTROL FUSE BOX - UNDERFRAME	12B,D			
COS	ENGINE SPEED CHANGE OVER SWITCH	CAB DESK - DRIVER'S SIDE	14E			
DSD	DEADMAN'S SAFETY DEVICE VALVE	UNDER CAB DESK	14D			
DSDR	DEADMAN'S SAFETY DEVICE RELAY	ELECTRICAL CONTROL BOX	14C	14E		
DSD EXT.	DSD EXTENSION BUTTON	CAB - 2ND MAN'S SIDE	17C			
EIS1	ENGINE ISOLATING SWITCH	SOLEBAR	15A			
EIS2	ENGINE ISOLATING SWITCH	SOLEBAR	15B			
LH	LEFT HAND ENGINE START BUTTON	CAB	17C			
RH	RIGHT HAND ENGINE START BUTTON	CAB	17D			
FAP	FORWARD AIR PRESSURE SWITCH	UNDERFRAME	17E			
FAR1	FIRE ALARM RELAY	FIRE ALARM PANEL - SOLEBAR	16C	16D	15D	
FAR2	FIRE ALARM RELAY	FIRE ALARM PANEL - SOLEBAR	16B	16D	15E	
FAS1	FIRE ALARM ISOLATING SWITCH	FIRE ALARM PANEL - SOLEBAR		16C	15A	
FAS2	FIRE ALARM ISOLATING SWITCH	FIRE ALARM PANEL - SOLEBAR		16B	15B	
FDR	FLAME DETECTION THERMOSTAT	SMITH'S HEATER - UNDERFRAME	18E			
FC1	MAIN KEY SWITCH	CAB DESK - DRIVER'S SIDE	17A			
FR	FAILURE RELAY	AUTOMATIC CONTROL BOX	18B	18D		
FR	FORWARD RELAY	ELECTRICAL CONTROL BOX	14B	14D		
FV	FUEL VALVE	SMITHS HEATER - UNDERFRAME	18E			
FVR	FUEL VALVE RELAY	AUTOMATIC CONTROL BOX	18E	18E		
GFWR	GUARD'S FOODWARMER RELAY	GUARD'S COMPARTMENT	19C	19D		
G1 TO 4	GEAR E.P. VALVES	UPPER E.P. VALVE BOX	14C			
GR1 TO 4	GEAR RELAYS	ELECTRICAL CONTROL BOX	14A			
HBLS	HAND BRAKE LIMIT SWITCH	CAB	17B			
HL	HEADLIGHT	CAB FRONT	20F,21F			
HLSW	HEADLIGHT SWITCH	CAB DESK	20F,21F			
HR1	HEADLIGHT RELAY	CAB DESK DRIVER'S SIDE	20F,21F	20F,21F		
LC	LIGHTING CONTACTOR	LIGHTING CONTROL BOX	20C,21C,22C			
LSPB1 TO 4	LOCAL STOP PUSH BUTTONS	SOLEBAR	15E,F			

SYMBOL	DESCRIPTION	LOCATION	DRG. NO. / COL.				
			ITEM OR COIL	CONTACT			
				1	2	3	4
EPR	ELECTROPNEUMATIC RELAY	AWS RELAY UNIT - CAB	27D	27D	27F	27E	27B
EPV	ELECTROPNEUMATIC VALVE	AWS EQUIPMENT - CAB	27B				
M	HEATER MOTOR		18D				
MR	HEATER MOTOR RELAY	AUTOMATIC CONTROL BOX	18C	18D	18E		
NCR	NORTH CLEAR RELAY	AWS RELAY UNIT - CAB	27F	27C	27E	27E	27F
NKCR		AWS RELAY UNIT - CAB	27E	27D	27F	27E	27E
OHR	OVERHEAT THERMOSTAT	SMITHS HEATER - UNDERFRAME	18B	18B			
OFF	LIGHTS OFF RELAY	LIGHTING CONTROL BOX	20B,21B 22B	20C,21C 22C			
ON	LIGHTS ON RELAY	LIGHTING CONTROL BOX	20B,21C 22A	20C,21C 22C			
OPS1&2	OIL PRESSURE SWITCH	ENGINE NO.1	17E,17F				
OPS3&4	OIL PRESSURE SWITCH	ENGINE NO.2	15D				
R	DROPPING RESISTOR	CAB DESK DRIVER'S SIDE	20F,21F				
RAP	REVERSE AIR PRESSURE SWITCH	UNDERFRAME	17F				
RR	REVERSE RELAY	ELECTRICAL CONTROL BOX	14B	14D			
SIR1	START ISOLATION RELAY	ENGINE NO.1 RELAY BOX	14E	15A			
SIR2	START ISOLATION RELAY	ENGINE NO.2 RELAY BOX	14F	15B			
SR	SOUTH RELAY	AWS RELAY UNIT - CAB	27C	27D	27E	27C	27E
SR1&2	START RELAYS	ENGINE RELAY BOXES	15B,C	15A			
SS1	STARTER MOTOR SOLENOID	ENGINE NO.1	15A				
SS2	STARTER MOTOR SOLENOID	ENGINE NO.2	15B				
SSR	SMITHS START RELAY	AUTOMATIC CONTROL BOX	18E	18F	18B	18F	
ST1	STOP SOLENOID	ENGINE NO.1	15D				
ST2	STOP SOLENOID	ENGINE NO.2	15E				
SW1	GUARD'S FAN HEATER SWITCH	GUARD'S COMPARTMENT	19C				
SW2	GUARD'S FOODWARMER SWITCH	GUARD'S COMPARTMENT	19C				
TV1 TO 4	THROTTLE RELAYS	ELECTRICAL CONTROL BOX	14D				
TSR	TRAIN STOP RELAY	ELECTRICAL CONTROL BOX	14B	15A			
TR1 TO 4	THROTTLE E.P. VALVES	ELECTRICAL CONTROL BOX	14B	14D			
TWLS	TOILET WATER LEVEL SWITCH	TOILET	19B				
TWTS	TOILET WATER TEMPERATURE SWITCH	TOILET	19B				
WBR	WESTERN BELL RELAY	AWS RELAY UNIT - CAB	27D	27D	27C	27E	27D
WHTR	WATER HEATER RELAY	TOILET	19B	19A			
WLS1&2	WATER LEVEL SWITCHES	HEADER TANKS	15D				

ISSUE LETTER	ALTERATION	G.M.W.S. INITIALS	DATE	VEHICLE DESCRIPTION	TITLE	TEE-C2-8005828
	A					
				MECHANICAL & ELECTRICAL ENGINEER BRITISH RAILWAYS BOARD		
ISSUE LETTER	A					
DRAWN	CHECKED	APPROVED	DATE			
APH	AF	NAC	JUNE 91			