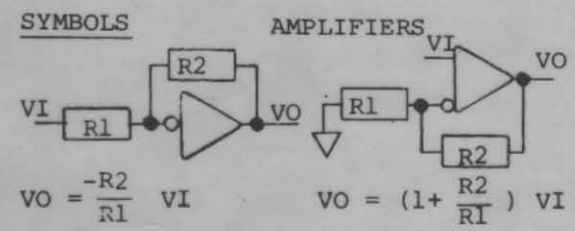
VOLTAGE POLARIES SHOWN ARE FOR MOTORING DA1(+)

HARDWARE ABBREVIATIONS

MCC	MAIN CONTROL CARD
IFC	INTERFACE CARD
PSC	POWER SUPPLY CARD
SCR	THYRISTOR ASSEMBLY
DGC	DIAGNOSTIC CARD
MFC	MOTOR FIELD CONTROL
MFE	MOTOR FIELD EXCITER
MDR	MODIFICATION RACK
ACC	AUXILIARY CONTROL CARD

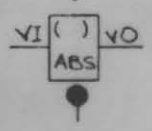
SYMBOLS

AMPLIFIERS



$VO = \frac{-R2}{R1} VI$ $VO = (1+\frac{R2}{R1}) VI$

CASE GROUND



VO = SIGN () X ABSOLUTE VALUE OF VI

STAB ON TERMINAL

TERMINAL AT 2TB, 3TB, 4TB, RTB.
EX: 9 [2] - 2TB9; X2 [R] - RTBX2

TERMINAL AT T.B.'s

POTENTIOMETER ARROWS ON THE CARD ELEMENTARY DIAGRAMS INDICATE THE WIPER DIRECTION AS THE POTENTIOMETER SHAFT IS ROTATED CLOCKWISE TO INCREASE FUNCTION.

▲ THESE RESISTORS ARE CRIMPED IN WIRE HARNESS.

FUNCTION	USE	LOC	JUMPERS
60HZ		MFC	ZA-ZB (IF USED)
50HZ	✓	MCC	HZA - PHA
IOC-400%	✓		(NONE)
-500%		IFC	I - IHI
-300%		IFC	I-ILO
SR5 - 9v			NONE)
9 - 20v	✓	MCC	SRH - COM
JOGR 10v			(NONE)
20V		MCC	JH - COM
LT.3-7sec.	✓		(NONE)
2 - 60sec			332Ω FROM LTI TO COM
VREG	✓		NT-CEMF CC-COM
DC TACHO			(NONE)
AC TACHO		MCC	AT1 - AT2
TACHO FILT		IFC	TC - TC
TACHO V. 24-64vdc		IFC	NT-NT1 PT - PT1
27-71vac		IFC	NT-NT1 PT - PT1
60-160vdc		IFC	NT-NT2 PT - PT2
66-177vac		IFC	NT-NT2 PT - PT2
110-300vdc		IFC	NT-NT3 PT - PT3
120-300vac		IFC	NT-NT3 PT - PT3
G134 G256		IFC	MFC OR MFE
MAX AMPS .8 1.7		MF	NONE
1.3 2.8		MF	YB - YD
2.4 5.0		MF	YA - YB
4.0 8.0	X	MF	YA-YB, YC-YD
7.0 13		MF	YA - YC
13 25		MF	YA-YC, YB-YD
L/R<.25S		MFC	QA - QB
INH RUN		DGC	D1-D2 (IF USED)
INH DRV CL		MCC	DC1 - COM
FUSELESS		ACC	CFY - CFX
DRV CL 200%	✓	MCC	DCX - DCY

SIGNAL DEFINITIONS AND LOCATIONS

SEE DIAGRAM 906P118CY

*	CEMF	COUNTER EMF (16)
*	CFB	CURRENT FEEDBACK (16)
	CMFA	ABSOLUTE VALUE CEMF (08)
	CRM	CROSSOVER MODIFY (11)
	DFP	DELAYED FIRING POWER (25)
*	DR	DRIVER REFERENCE (33)
*	EAO	ERROR AMP OUTPUT (33)
	EST	EXTERNAL FLT STOP INPUT (14)
	FALT	FAULT (14)
*	FC	FIELD CURRENT (NS26)
	FDR	FIELD DIAGNOSTIC REFERENCE (08)
	FEA	FIELD ECONOMY ADJUST (25)
	FF	FIELD FAULT (28)
	IABS	MOTOR CURRENT ABSOLUTE (09)
	ILA	CURRENT LIMIT ADJUST (23)
	IMET	CURRENT SIGNAL FOR METER (10)
*	IPU	INITIAL PULSE (20)
*	LR	LOCAL REF. FROM DGC (33)
*	JOG	JOG SWITCH INPUT (23)
*	JOGR	JOG REFERENCE INPUT (31)
*	MAC	MAX/MA CONTROL SIGNAL (20)
	MSW	MODE SWITCH (30)
*	OSC	OSCILLATOR (17)
*	PCR	PHASE CONTROL REF. (26)
*	PRE	DRIVE PRECONDITION (21)
	ØSEQ	PHASE SEQUENCE (14)
	RERR	REGULATOR ERROR (27)
	RIJ	INTEGRATOR SUMMING JUNCTION (27)
	RJ	REGULATOR SUMMING JUNCTION (31)
	RRA	REGULATOR RESPONSE ADJUST (30)
	RSET	RESET (16)
*	RTR	READY TO RUN (16)
*	RUN	RUN SWITCH INPUT (21)
*	SA-C	PHASE SYN OUTPUT (16)
*	SFB	SPEED FEEDBACK (20)
	SMET	SPEED SIGNAL FOR METER (12)
*	SR	SYSTEM REFERENCE INPUT (29)
*	SYS	SYSTEM FAULT TRIP (13)
*	TA	OUTPUT FOR TACHO TRIP ADJUST (20)
	TF	TACHO FAULT (NS28)
*	TFB	TACHOMETER FEEDBACK (20)
	TFR	AC TACHO FREQUENCY OUTPUT (13)
*	TR	TIMED REFERENCE (33)
*	VFB	VOLTAGE FEEDBACK (19)
*	WFR	WEAK FIELD REFERENCE (20)

(* - TEST POINT ON DOOR FRONT)

MAPPING SYSTEM

(NS/PS/TS) PS - PAST SHEET
NS - NEXT SHEET
TS - THIS SHEET

HENCE (PS - 12) DENOTES LOCATION ON PAST SHEET LINE 12. OTHER LOCATIONS ARE DENOTED BY SHEET NUMBER AND LINE? E.G. (1A16) SIGNIFIES LOCATION ON SHEET 1A, LINE 16 ETC.

NOTE: ⊣⊢ FIELD EFFECT TRANSISTOR: THE CLOSED/OPEN (I/O) STATE OF THESE SWITCHED FOR "PRECONDITION" - "RUN" OR JOG" - "DIAGNOSTIC STATIC" - "DIAGNOSTIC RUN" IS SHOWN BY A FOUR DIGIT WORD WITH STATE SEQUENCE.

READ IN CONJUNCTION WITH DIAGRAM 902M118CY

CMA -COM
CRS - COM.
MFC DM22 -TF.
MCC DM1 -ILA
MCC DM8 RJ.

DR 1 SH 2 CONTD. ELEMENTARY DIAGRAM 902M128BB

TECHN. ENG. APPD.	TECHN. ENG. APPD.	DATE		
	2	24 8 84. AS SHIPPED	TECHN.	8 6 84
			ENG.	
			APPD.	

ALLENWEST Simplex VARIABLE SPEED DRIVES OPERATION, BRIGHTON, ENGLAND.

HOIST AND LONG TRAVEL

M+B UILD (BOSTON)

GO NUMBER	ELEMENTARY DIAGRAM	CONTD.	IDENT DR	SH
404902	902M128BB	2		1

RUN PERMISSIVE -20 +20

TDR 1G 2 31

SET TIME

1 / 3 — 12 — 15 COM

1

32

VSD1

4 / 4 — 5× — 1G TDR — 3× — 28 — ZERO CEMF — 27 — 10 — RNR — 4 — RAIL

9 — RNR — 11 — (RAIL)

2 / 3

ZERO CEMF RELAY

MCC CEMF — 22 — SLD 1E — VSD1 211 — SLA — 15

19 21

SET TO DROP OFF AT CEMF ± 0·3V

BRAKE RELAY

SLD 1E — 11 — VSD1 211 — SLB — 15

13 17

SET TO DROP OFF AT CEMF ± 1·2V

6 / 4 — 9 — BRAKE RELAY SLB 1E — 3 — 5× — RNR RAIL — 3× — 7 / 3

1 / 4 — 3 — RNR RAIL — 5 — −30 V

DR 2 SH 3 CONTD. ELEMENTARY DIAGRAM 902M128

TECHN.	ENG.	APPD.	TECHN.	ENG.	APPD.	DATE 8 6 84
						TECHN.
						ENG.
						APPD.

ALLENWEST Simplex

VARIABLE SPEED DRIVES OPERATION, BRIGHTON, ENGLAND.

GO NUMBER	ELEMENTARY DIAGRAM	CONTD.	IDENT DR	SH
404902	902M128BB	3		2

2

[6-17]

REF-1D
DIS
10
19X
30X
3X
MAXNEG 10K
NREF
30
5X
SLOW 20K
5
T1
T2
MAX POT 10K
PREF
ZERO ADJ 1K
17
18
24
25
8X X4
9 X3
8 X2
6X1

MCC PRE
14 PRE
MONITOR PRECONDITION
COMPARE
LATCH
TRACKING ERROR OR OVERVOLTAGE
23 SYS
MCC SYS
TF 16
MFC DM22 IF

11 NSW
13 PSW
10X -30V
-30V
MCC DR
29 DR
DR INVERT AND MONITOR IR COMP
28 CFB
21
10K
26
11X
9X
12X
6X
18X
28X
56.2K
56.2K
SFB SHAPING
+20V
22.1K
FEA 18
56K
13X
39K
16X
22K
17X
12
+20V COM -20V
31 15 2

MCC SFB

MCC TR

TQP-1C
20 TR
29 ATR
MCC LT2
19 LT2
T1
T3
OA1-1
T6
10K
12.1K
TRX 28
MCC DM8 RJ
T7
UTP2 6
T2
+20V
LC
HC
OR
T6
T7
T2
T3
13
ATR(+) AND CFB(+)
R CFB
30 CFB
27
14 REL
12
AND
AND
ATR(-) AND CFB(-)
OR
OR
10
3 PRE
5 DP2
8 UTP1
PRE (-4V) OR DP2(+20V)
MCC DP2
330Ω
1LR 9
MCC DM11LA
BR 18
OA1-2
REF DELAY 25K
T1
1MF
TBR
3.92K
T17
17
-30V
15 K
BPR
BPR
+20V COM -20V
31 15 2
22

902HM100FC

CRANES

DR 4 SH CONTD. 5 ELEMENTARY DIAGRAM

HPC-1

MCC CEMF

DFDR [5]

CFB [R]

25 CEMF

26 FDR

17 CFB

23

DIRECTION SENSING

KL 28

KH 27

30

LV 29

47.5K

47.5K

47.5K

.47MF

MFH

0A1-2

10K

VOLTAGE PROGRAMMING

1-10K

1-10K

2MF

-20V

1-18K

K-202

274K

MFL 10K

148K

SFC 21

MFC SFC

SFA

-1.4V

20K

47.5K

27K

18K

182K

-20V

HB

HB 10K

33.2K

0A3-1

CRM 13

[R] CRM

CURRENT PROGRAMMING

K-144

221K

D MAC

68.1K

1MF

.15M

DMAC 3

[5]

20K

47.5K

332K

681K

475K

LI 14

24CFB

10K

0A2-1

274K

5

6

0A2-2

22 CFB

+20V COM -20V

31 15 2

LPC-

19

16 CEMF

17 FDR

47.5K

47.5K

.47MF

0A1-1

47.5K

681K

LV 25

0A1-2

2.21K

24

2.21K

21

VOLTAGE PROGRAMMING

2.21K

18

2.21K

30

4MF

22 KL

27K

20 2CFB

47.5K

0A2-1

20K

-20V

22.1K

SL1 10K

LB2 20K

LB2

2.74K

1-5K

26

1M

LI 6

27K

0A3-1

20K

0A4-2

2.21K

8

47.5K

.1MF

2.21K

7

-20V

47.5K

CURRENT PROGRAMMING

2.21K

10

SL2 10K

LB3 20K

LB3

2.74K

2.21K

3

RED LINKS

1-5K

4MF

27K

0A3-2

20K

1M

LCP

47.5K

.1MF

10K

DMAC29

SL3 10K

82.5K

FDR 28

[R] FDR

0A2-2

T2

2.74K

LR 27

(MCC) LR

+20V COM -20V

31 15 2

23

5

TECHN.	ENG.	APPD.	TECHN.	ENG.	APPD.	DATE 8 6 84
						TECHN.
						ENG.
						APPD.

ALLENWEST

Simplex

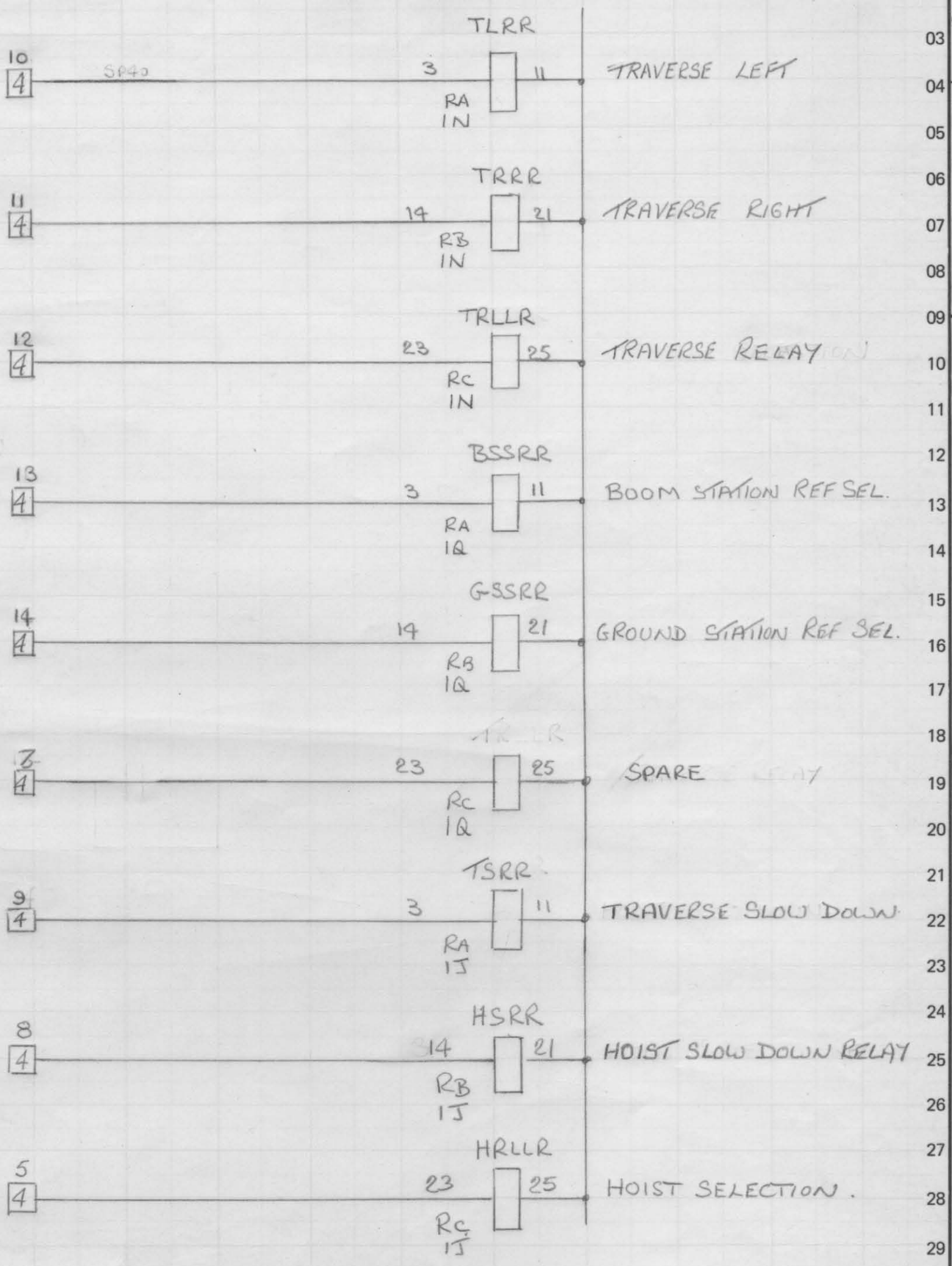
VARIABLE SPEED DRIVES OPERATION, BRIGHTON, ENGLAND.

HOIST FIELD PROGRAMMING

IDENT

GO NUMBER	ELEMENTARY DIAGRAM	CONTD.	DR	SH
404902	902M128BB	5		4

DR	SH	CONTD.	ELEMENTARY DIAGRAM
	5	6	902M128BC



TECHN.	ENG.	APPD.	TECHN.	ENG.	APPD.	DATE	TECHN.	ENG.	APPD.
						8.6.84			

ALLENWEST
Simplex
VARIABLE SPEED DRIVES OPERATION, BRIGHTON, ENGLAND.

110V REFERENCE SELECTION.

GO NUMBER	ELEMENTARY DIAGRAM	CONTD.
404902	902M128BB	6

IDENT

DR	SH
	5

DR 6 SH 7 CONTD. ELEMENTARY DIAGRAM 902M128BB

+20V
31
1U
1K
31X
5
RA IN
TLRR
6
32X
SP1
BAL
32
100R 1U
30X
13
RB IN
TRRR
16
2X
1K
1U
2
-20V
5
RA 'Q'
BSSRR
6
13
RB 'Q'
GSSRR
16
SP2
50% SPEED
27X
30
27
1K 1U
10%
SP3
25
25X
22
COM
28
1U
10K
28X
26
56K
26X
IT
10K
14
14X
OA2
13X
20K
16X
5
IT
10K
IT
6
10K
IT
OA3
12X
SR
MCC
[3.03]
RA 1Q
BSSRR
9
12
RB 1Q
GSSRR
18
20
24
1U
10K
24X
IT
OA2
+ CLAMPS
− CLAMPS
SET CLAMPS FULLY C.W.
SP4
1U
1K
1C 1J
RA 1J
TSRR
SET TRAVEL SLOW DOWN
22X
19
27
24 5
8
4X
18X
EXT CLAMPS
HRLLR
RC IN
TRLLR
24
27
SP5
1K
1U
RB 1J
HSRR
13
17
16
17
16X
SET HOIST SLOW DOWN
LONG TRAVEL LINEAR TIME ADJUST
SP6
RC IN
TRLLR
LTI (MCC)
7
330R
7X
1U
1U
5K
11
8X
8
26
24
LONG TRAVEL CURRENT LIMIT
SP6
RC IN
TRLLR
ILA (MCC)
30
29
DM1
5
470R
5X
1U
500R
6
3
6X

TECHN.	ENG.	APPD.	TECHN.	ENG.	APPD.	DATE 8.6.84
						TECHN.
						ENG.
						APPD.

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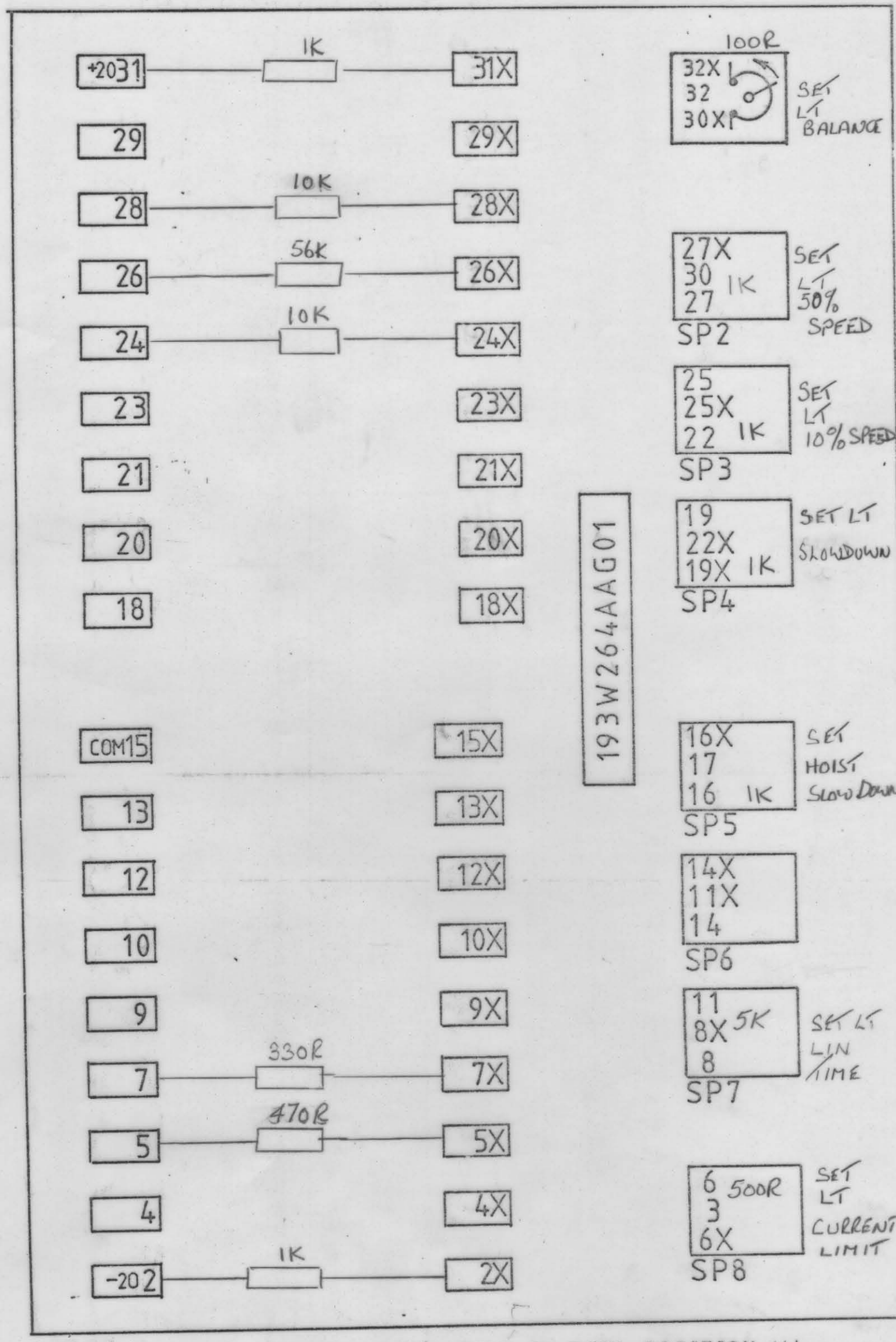
Simplex
VARIABLE SPEED DRIVES OPERATION, BRIGHTON, ENGLAND.

HOIST AND LONG TRAVEL REFERENCE CIRCUITS

GO NUMBER	ELEMENTARY DIAGRAM	CONTD.
404902	902M128BB	7

IDENT DR SH 6



CARD PART NO. 909W317ABG46 FIT IN RACK POSITION 10

TECHN.	ENG.	APPD.	TECHN.	ENG.	APPD.	DATE 8.6.84
						TECHN.
						ENG.
						APPD.

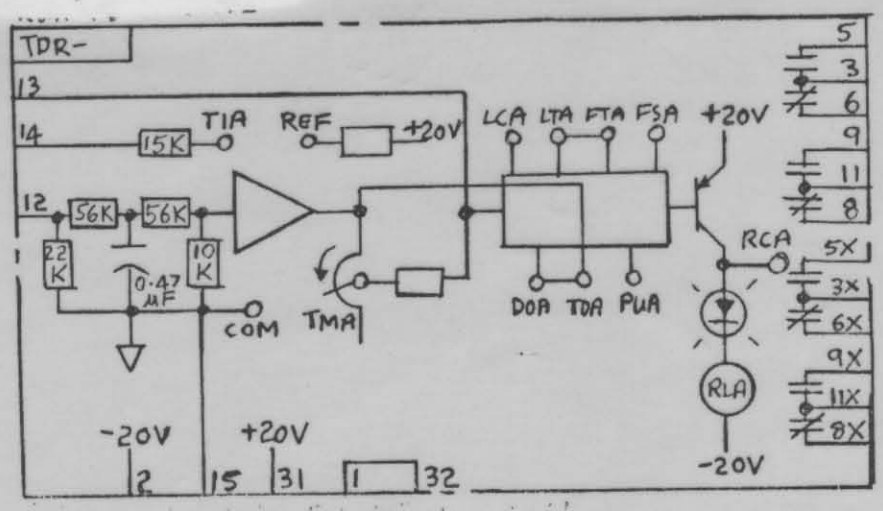
ALLENWEST Simplex
VARIABLE SPEED DRIVES OPERATION, BRIGHTON, ENGLAND.

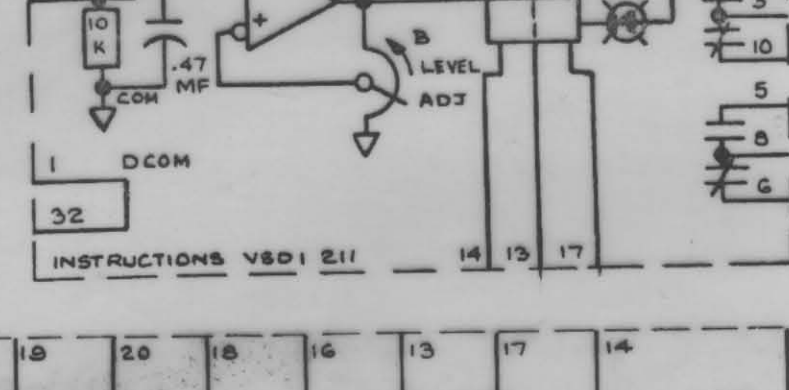
COMPONENT CARD
HOIST AND LONG TRAVEL

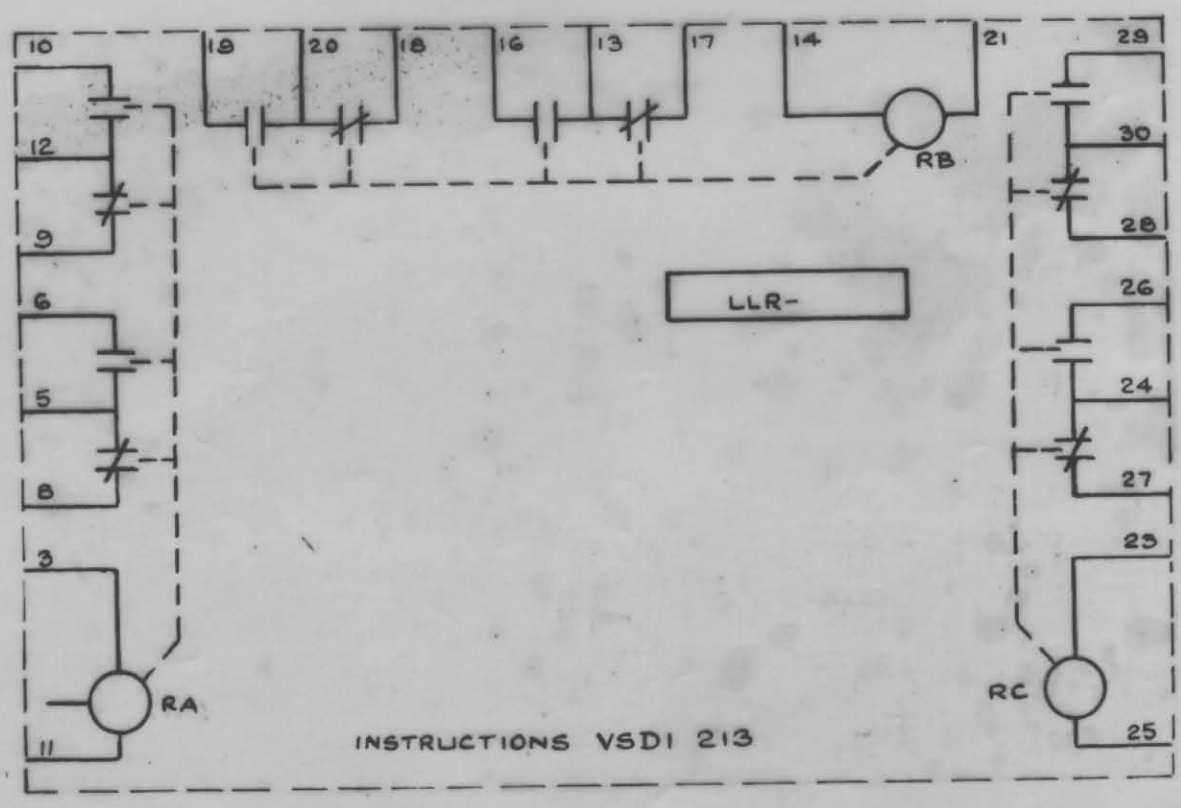
GO NUMBER	ELEMENTARY DIAGRAM	CONTD.	IDENT DR	IDENT SH
404902	902M128BB	8	7	

902HM100FE

CRANES







TECHN.	ENG.	APPD.	TECHN.	ENG.	APPD.	DATE 8.6.84
						TECHN.
						ENG.
						APPD.

ALLENWEST
Simplex
VARIABLE SPEED DRIVES OPERATION, BRIGHTON, ENGLAND.

GO NUMBER	ELEMENTARY DIAGRAM	CONTD.
404902	902M128BB	9

IDENT

DR	SH
	8

DR 8 SH 9 CONTD. ELEMENTARY DIAGRAM 902M128 BB

A	B	C	D	E	F	G	H	J	K	L	M	N	DR	SH	CONTD.	ELEMENTARY DIAGRAM
														8	9	902M128BB

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	V
HPC	LPC	TQP	REF	ISLD		TDR		LLR		LOR		LLR					A	CC	
193W547AAG01	193W548AAG01	193W545AAG01	193W546AAG01	193W277AAG02		193W543AAG02		193W279AAG03		193W265AAG04		193W279AAG03					193W256AAG01	193W316AB646	

ON PRINTED CIRCUIT CARDS USED IN THIS RACK THE LETTERS 'AA' AFTER BASIC CATOLOGUE NUMBER INDICATES ORIGINAL DESIGN. SUBSEQUENT DESIGNS WITH THE SAME BASIC NUMBERS AND GROUP NUMBER WITH THE SECOND LETTER CHANGED, SUCH AS: AB, AC, AD, ETC., ARE DIRECTLY INTERCHANGEABLE AND MAY BE SUPPLIED IN PLACE OF THE 'AA' CARDS.

THE PRINTED CIRCUIT CARD SHOULD ALWAYS BE REMOVED WITH THE CARD EXTRACTOR WHICH IS ATTACHED ON TOP OF THE CARD RACK. SOME CARDS CONTAIN PARTS WHICH WILL BE THERMALLY HOT AFTER BEING IN OPERATION. CARE SHOULD BE EXERCISED IN HANDLING ALL CARDS AFTER REMOVAL UNTIL THESE PARTS HAVE COOLED. DO NOT REMOVE OR INSERT CARDS WITH POWER APPLIED.

FRONT VIEW OF 64 PIN RECEPTACLE AS SEEN IN RACK CLOSED POSITION.

32	64
31	63
30	62
29	61
28	60
27	59
26	58
25	57
24	56
23	55
22	54
21	53
20	52
19	51
18	50
17	49
16	48
15	47
14	46
13	45
12	44
11	43
10	42
9	41
8	40
7	39
6	38
5	37
4	36
3	35
2	34
1	33

32	32X
31	31X
30	30X
29	29X
28	28X
27	27X
26	26X
25	25X
24	24X
23	23X
22	22X
21	21X
20	20X
19	19X
18	18X
17	17X
16	16X
15	15X
14	14X
13	13X
12	12X
11	11X
10	10X
9	9X
8	8X
7	7X
6	6X
5	5X
4	4X
3	3X
2	2X
1	1X

NOTE: RECEPTACLE PINS MAY BE NUMBERED AS SHOWN IN EITHER SKETCH. (PIN 33 CORRESPONDS TO PIN 1X, 34 TO 2X, ETC.)

SYMBOLS:

● TEST POST ⊘ POT ADJUSTMENT ⌘ INDICATING LIGHT

CARD RACK WIRE JUMPER TABLE

R/B COM - 1G15	5TB DMAC - 1A3	4TB5 - 1J23	1E28 - 1G3X
RTB +20 - 1G31	SP1(2TB13)	SP36(4TB6) 1E9	-1L9
RTB -20 - 1G2	SP2(2TB15)	SP37(4TB7) 1Q23	
RTB -CFB - 1C30	SP3(2TB16 - 1[illegible]	SP38(4TB8) 1J14	1L10 - 1L11
RTB -30 - 1L5	SP4(2TB17) - 1D3X	SP39(4TB9) - 1J3	- 1E27
MCC SFB - 1D12X	SP5(2TB18) - 1D9	SP40(4TB10) - 1N3	
MCC TR - 1C20	SP6(2TB19)	SP41(4TB11) - 1N14	1E11 - 1E22
MCC SR - 1T12X	SP7(2TB24) 1D8	SP42(4TB12) - 1N23	1E19 - 1E21
MCC SYS - 1D23	SP8(2TB25) 1D6	SP43(4TB13) - 1Q3	1E3 - 1L5X
MCC DR - 1D29	3TB1 - 1G12	SP44(4TB14) - 1Q14	1E13 - 1E17
MCC CEMF - 1E11	3TB2 - 1L10	SP45(4TB15) MCC+30	
MCC DM8 - 1C28	3TB3	MCC DM1(LA) - 1C9	1G 32 - 1G1
MCC LT2 - 1C19	3TB4 - 1C17		-1G15
MCC DP2 - 1C5	3TB5 - 1C18	LT1(MCC) - 1U7	
MCC PRE - 1D14	3TB6	RTB(CFB) - 1A17	1D10 - 1D19X
MFC DM22 - 1D16	3TB7 - 1L3X	-1A24	1D30 - 1D5X
RTB FDR - 1B28	3TB8	1C17 - 1D10X	-1Q9
MCC LR - 1B27	4TB1 - 1L3	1D12X - 1D9X	
MFC SFC - 1A21	4TB2 - 1D11	1D10X - 1L5	1L4 - 1E15
RTB CRM - 1A13	4TB3 - 1D13	1E22 - 1B16	
5TB DFDR - 1B17	4TB4 - 1G5X	1B16 - 1A25	

TECHN.	ENG.	APPD.	TECHN.	ENG.	APPD.	DATE	TECHN.	ENG.	APPD.
						8.6.84		4/2	

ALLENWEST
Simplex
VARIABLE SPEED DRIVES OPERATION, BRIGHTON, ENGLAND.

MODIFICATION RACK

GO NUMBER	ELEMENTARY DIAGRAM	CONTD.	IDENT	DR	SH
404902	902M128BB	9			8

902MM100CY SHT:16

DR | SH 8 | CONTD. - | ELEMENTARY DIAGRAM 902M128BB

CARD RACK WIRE JUMPER TABLE

	1D14-1C3			RTBx2
1U31X - 1N5	1C9-1N30	1A26 - 1B17		1N-11 - 1N21
1N6 - 1U32X	1N29 -1U5	1A29 - 1B25		-1N25
1U30X - 1N13	1U5X -1U6	1A22 - 1B20		-1Q25
1N16 - 1U2X	-1U3			-1Q21
1U32 - 1Q5		1B21 RED - 1B30		-1Q11
-1Q13		1B3 RED - 1B7		-1J21
1Q6 - 1U27X				-1J25
1U30 - 1U28		1A3 - 1B29		-1J11
1Q16 - 1U25				
1U25X - 1U26				
1Q12 - 1Q18				
1Q20 -1U24				1G15- 1N24
1U28X - 1U26X				
-1U24X				-1T15
-1T14X				-1U15
1T14 -1T16X				1E5-1U6X
				-1U19X
1T4X - 1J8				-1U22
-1J17				-1U27
1J5 - 1J24				
1J27- 1U19				
-1U22X				
1J13 -1U16X				
-1U17				
1U16- 1N27				1U2 - 1T2
				1U31 - 1T31
1U7X -1U11				1U2 - 1E2
1U8X - 1U8				1U31 - 1E31
-1N26				
			2TB15- MTBB TS1	BUS 2A - 2G
			2TB16- MTBB OL1	31A - 3G
				15A - 15G

TECHN.	ENG.	APPD.	TECHN.	ENG.	APPD.	DATE
						TECHN.
						ENG.
						APPD.

ALLENWEST
Simplex
VARIABLE SPEED DRIVES OPERATION, BRIGHTON, ENGLAND.

GO NUMBER	ELEMENTARY DIAGRAM	CONTD.	IDENT	DR	SH
404902	902M128BB	-			9

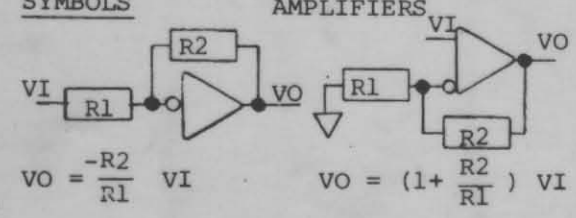
VOLTAGE POLARIES SHOWN ARE FOR MOTORING DA1(+)

HARDWARE ABBREVIATIONS

MCC	MAIN CONTROL CARD
IFC	INTERFACE CARD
PSC	POWER SUPPLY CARD
SCR	THYRISTOR ASSEMBLY
DGC	DIAGNOSTIC CARD
MFC	MOTOR FIELD CONTROL
MFE	MOTOR FIELD EXCITER
MDR	MODIFICATION RACK
ACC	AUXILIARY CONTROL CARD

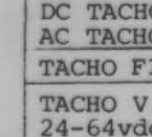
SYMBOLS

AMPLIFIERS



$VO = \frac{-R2}{R1} VI$ $VO = (1+\frac{R2}{R1}) VI$

CASE GROUND



VO = SIGN () X ABSOLUTE VALUE OF VI

STAB ON TERMINAL

TERMINAL AT 2TB, 3TB, 4TB, RTB.
EX: 9 [2] - 2TB9; X2 [R] - RTBX2

TERMINAL AT T.B.'s

POTENTIOMETER ARROWS ON THE CARD ELEMENTARY DIAGRAMS INDICATE THE WIPER DIRECTION AS THE POTENTIOMETER SHAFT IS ROTATED CLOCKWISE TO INCREASE FUNCTION.

▲ THESE RESISTORS ARE CRIMPED IN WIRE HARNESS.

FUNCTION	USE	LOC	JUMPERS
60HZ		MFC	ZA-ZB (IF USED)
50HZ	✓	MCC	HZA - PHA
IOC-400%	✓		(NONE)
-500%		IFC	I - IHI
-300%		IFC	I-ILO
SR5 - 9v			NONE)
9 - 20v	✓	MCC	SRH - COM
JOGR 10v			(NONE)
20V		MCC	JH - COM
LT.3-7sec.	✓		(NONE)
2 - 60sec			332Ω FROM LTI TO COM
VREG	✓		NT-CEMF CC-COM
DC TACHO			(NONE)
AC TACHO		MCC	AT1 - AT2
TACHO FILT		IFC	TC - TC
TACHO V. 24-64vdc		IFC	NT-NT1 PT - PT1
27-71vac		IFC	NT-NT1 PT - PT1
60-160vdc		IFC	NT-NT2 PT - PT2
66-177vac		IFC	NT-NT2 PT - PT2
110-300vdc		IFC	NT-NT3 PT - PT3
120-300vac		IFC	NT-NT3 PT - PT3
G134 G256		IFC	MFC OR MFE
MAX AMPS .8 1.7		MF	NONE
1.3 2.8		MF	YB - YD
2.4 5.0		MF	YA - YB
4.0 8.0		MF	YA-YB, YC-YD
7.0 13	✗	MF	YA - YC
13 25		MF	YA-YC, YB-YD
L/R<.25S		MFC	QA - QB
INH RUN		DGC	D1-D2 (IF USED)
INH DRV CL		MCC	DC1 - COM
FUSELESS		ACC	CFY - CFX
DRV CL 200%	✓	MCC	DCX - DCY

SIGNAL DEFINITIONS AND LOCATIONS

SEE DIAGRAM 906P118CY

*	CEMF	COUNTER EMF (16)
*	CFB	CURRENT FEEDBACK (16)
	CMFA	ABSOLUTE VALUE CEMF (08)
	CRM	CROSSOVER MODIFY (11)
	DFP	DELAYED FIRING POWER (25)
*	DR	DRIVER REFERENCE (33)
*	EAO	ERROR AMP OUTPUT (33)
	EST	EXTERNAL FLT STOP INPUT (14)
	FALT	FAULT (14)
*	FC	FIELD CURRENT (NS26)
	FDR	FIELD DIAGNOSTIC REFERENCE (08)
	FEA	FIELD ECONOMY ADJUST (25)
	FF	FIELD FAULT (28)
	IABS	MOTOR CURRENT ABSOLUTE (09)
	ILA	CURRENT LIMIT ADJUST (23)
	IMET	CURRENT SIGNAL FOR METER (10)
*	IPU	INITIAL PULSE (20)
*	LR	LOCAL REF. FROM DGC (33)
*	JOG	JOG SWITCH INPUT (23)
*	JOGR	JOG REFERENCE INPUT (31)
*	MAC	MAX/MA CONTROL SIGNAL (20)
	MSW	MODE SWITCH (30)
*	OSC	OSCILLATOR (17)
*	PCR	PHASE CONTROL REF. (26)
*	PRE	DRIVE PRECONDITION (21)
	ØSEQ	PHASE SEQUENCE (14)
	RERR	REGULATOR ERROR (27)
	RIJ	INTEGRATOR SUMMING JUNCTION (27)
	RJ	REGULATOR SUMMING JUNCTION (31)
	RRA	REGULATOR RESPONSE ADJUST (30)
	RSET	RESET (16)
*	RTR	READY TO RUN (16)
*	RUN	RUN SWITCH INPUT (21)
*	SA-C	PHASE SYN OUTPUT (16)
*	SFB	SPEED FEEDBACK (20)
	SMET	SPEED SIGNAL FOR METER (12)
*	SR	SYSTEM REFERENCE INPUT (29)
*	SYS	SYSTEM FAULT TRIP (13)
*	TA	OUTPUT FOR TACHO TRIP ADJUST (20)
	TF	TACHO FAULT (NS28)
*	TFB	TACHOMETER FEEDBACK (20)
	TFR	AC TACHO FREQUENCY OUTPUT (13)
*	TR	TIMED REFERENCE (33)
*	VFB	VOLTAGE FEEDBACK (19)
*	WFR	WEAK FIELD REFERENCE (20)

(* - TEST POINT ON DOOR FRONT)

MAPPING SYSTEM

(NS/PS/TS) PS - PAST SHEET
NS - NEXT SHEET
TS - THIS SHEET

HENCE (PS - 12) DENOTES LOCATION ON PAST SHEET LINE 12. OTHER LOCATIONS ARE DENOTED BY SHEET NUMBER AND LINE? E.G. (1A16) SIGNIFIES LOCATION ON SHEET 1A, LINE 16 ETC.

NOTE: ⊤⊤ FIELD EFFECT TRANSISTOR: THE CLOSED/OPEN (I/O) STATE OF THESE SWITCHED FOR "PRECONDITION" - "RUN" OR JOG" - "DIAGNOSTIC STATIC" - "DIAGNOSTIC RUN" IS SHOWN BY A FOUR DIGIT WORD WITH STATE SEQUENCE.

READ IN CONJUNCTION WITH DIAGRAM 906P118CY

DM1 -ILA
CMA -COM.

DR 1 SH 2 CONTD. ELEMENTARY DIAGRAM 902M128BC

TECHN. ENG. APPD.	TECHN. ENG. APPD.	DATE
	2 28/8/84 AS SHIPPED	8 6 84

ALLENWEST Simplex VARIABLE SPEED DRIVES OPERATION, BRIGHTON, ENGLAND.

CROSS TRAVERSE - BOOM HOIST
IM+B WILD - BOSTON.

GO NUMBER	ELEMENTARY DIAGRAM	CONTD.	IDENT	DR	SH
404902	902M128BC	2	△		1

RUN PERMISSIVE -20 +20

TDR 1G 2 31

SET TIME

1 3 12 15 COM

1

32

VSD1

4 4 5× 1G TDR 3× ZERO CEMF 28 27 SLD 'A' 1E 10 RNR 4 RAIL

RNR 9 11 (RAIL)

2 3

ZERO CEMF RELAY

SLD 1E SLA

MCC CEMF 22 15

VSD1 211 19 21

SET TO DROP OFF AT CEMF ± 0·3V

BRAKE RELAY

SLD 1E SLB

11 15

VSD1 211 13 17

SET TO DROP OFF AT CEMF ± 1·2V

6 4 BR 9 SLD B 1E' 3 5× RNR 3× RAIL' 7 3

1 4 RNR 3 RAIL' 5 −30V

2 2 2 14

+30V 15 4 MCC

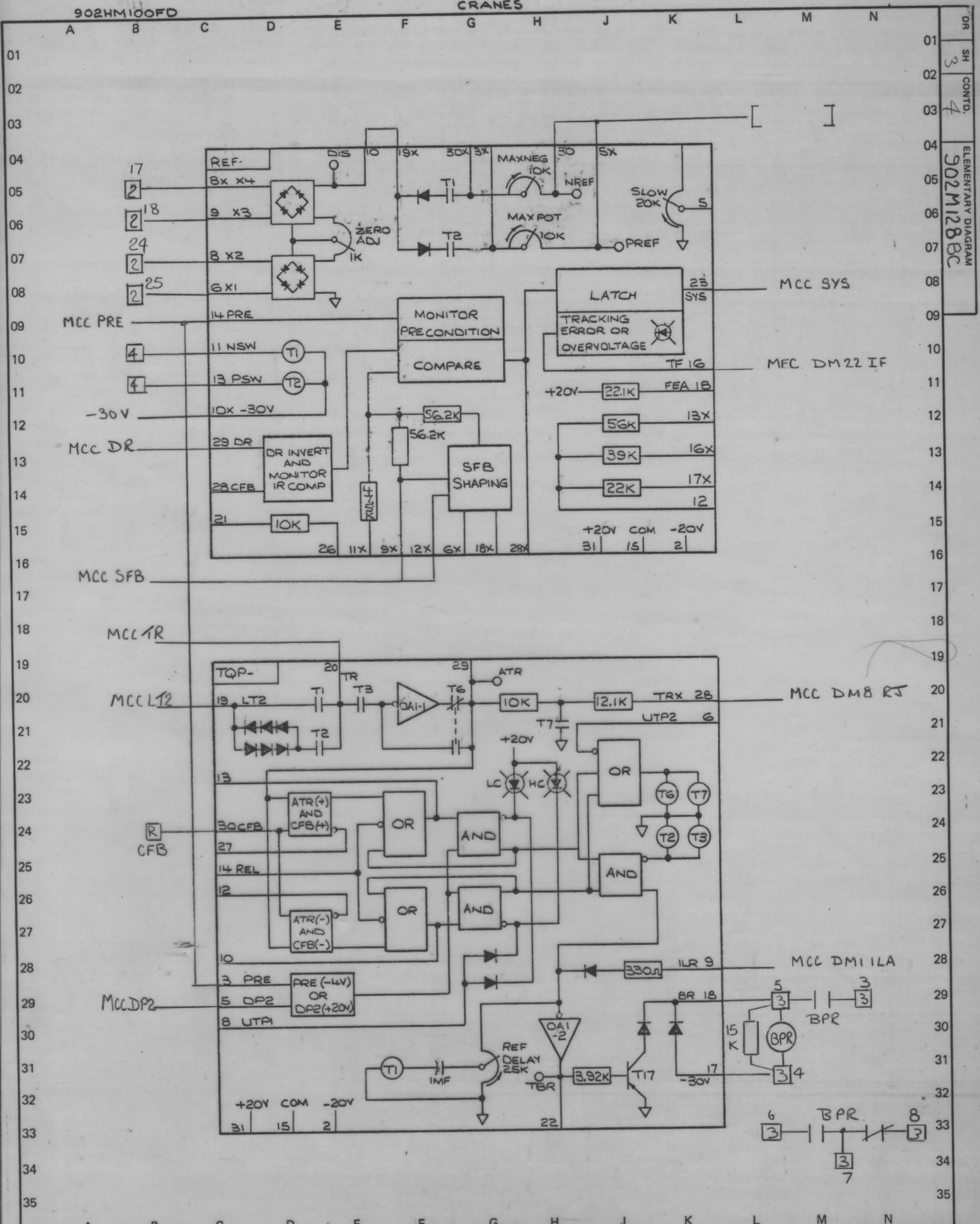
TECHN. ENG. APPD.	TECHN. ENG. APPD.	DATE 8.6.84
		TECHN.
		ENG.
		APPD.

ALLENWEST Simplex

VARIABLE SPEED DRIVES OPERATION, BRIGHTON, ENGLAND.

IDENT

GO NUMBER	ELEMENTARY DIAGRAM	CONTD.	DR	SH
407902	902M128BC	3		2



TECHN.	ENG.	APPD.	TECHN.	ENG.	APPD.	DATE 8 6 84
						TECHN.
						ENG.
						APPD.

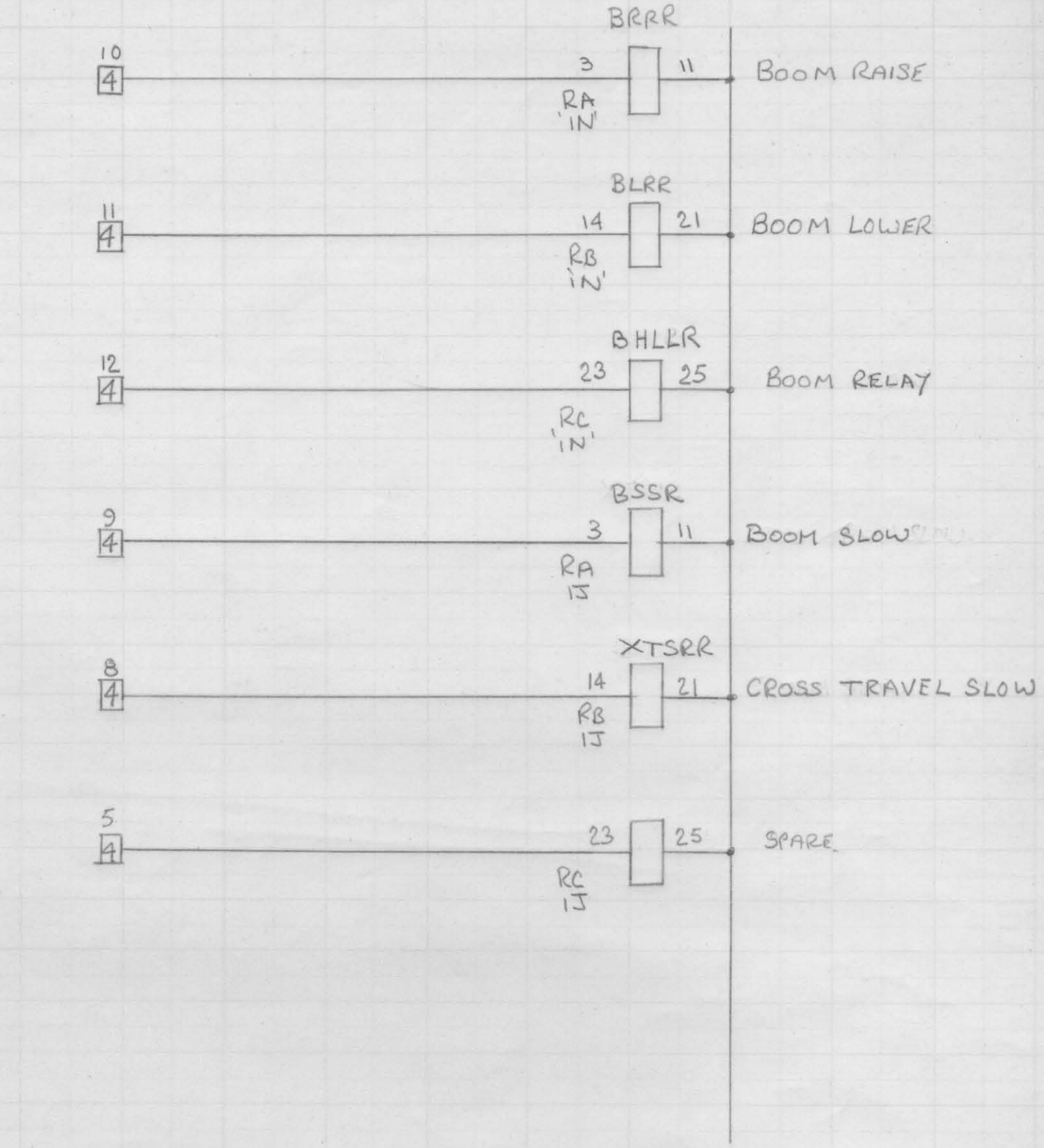
ALLENWEST
Simplex
VARIABLE SPEED DRIVES OPERATION, BRIGHTON, ENGLAND.

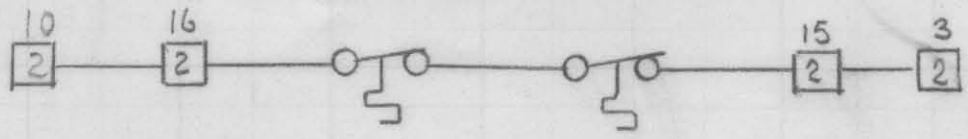
REFERENCE & TORQUE PROVING

IDENT

GO NUMBER	ELEMENTARY DIAGRAM	CONTD.	DR	SH
4R4902	902M128BC	4		3

DR 3 SH CONTD. 4 ELEMENTARY DIAGRAM 902M128BC





DR | SH 4 | CONTD. 5 | ELEMENTARY DIAGRAM 902M128BC

TECHN. ENG. APPD.	TECHN. ENG. APPD.	DATE 8.6.84 / TECHN. / ENG. / APPD.	ALLENWEST Simplex GE VARIABLE SPEED DRIVES OPERATION, BRIGHTON, ENGLAND.	110V REFERENCE SELECTION	IDENT DR SH 4
				GO NUMBER 404902 / ELEMENTARY DIAGRAM 902M128BC / CONTD. 5	

DR | SH 6 | CONTD. 5 | ELEMENTARY DIAGRAM 902M128BC

+20V
31
1K
31X
5
BLRR
6 RA IN
SP1
100R
32X
32
BALANCE
SP1
30X
13
BRRR
16 RB IN
2X
1K
2
-20V

1K
27X
30
SP2
27
100R
25
25X
SP3
22
10% SPEED
15X
68R
15
COM

100% SPEED
6
BSRR
5
RA IJ
8
28
10K
28X
1U
14X
OA2
1T
16X
[SR HCC]
13X
20K

1T
10K
14

[3.03]
BLRR
9 12
RAIN
BRRR
20 18
RBIN
26
1U
10K
26X

CROSS TRAV SLOW DOWN
10K
SP4
22X
19X
19
EXT CLAMP SET FOR 20% SPEED
XTSRR
20 18
RBIJ
BSRR
12 9
RAIJ
4X
OA2
⊥ CLAMPS
SET CLAMPS FULLY C.W.

1.25V 36A CLIM.
BHLLR
K1 HCC
29 30
RC IN
1U
330R
7 7X
1U
SP7
5K
11 8X 8
BOOM HOIST CURRENT LIMIT

BHLLR
L1A HCC
26 24
RC IN
1U
150R
5 5X
1U
SP8
500R
6 3 6X
BOOM HOIST LIN TIME

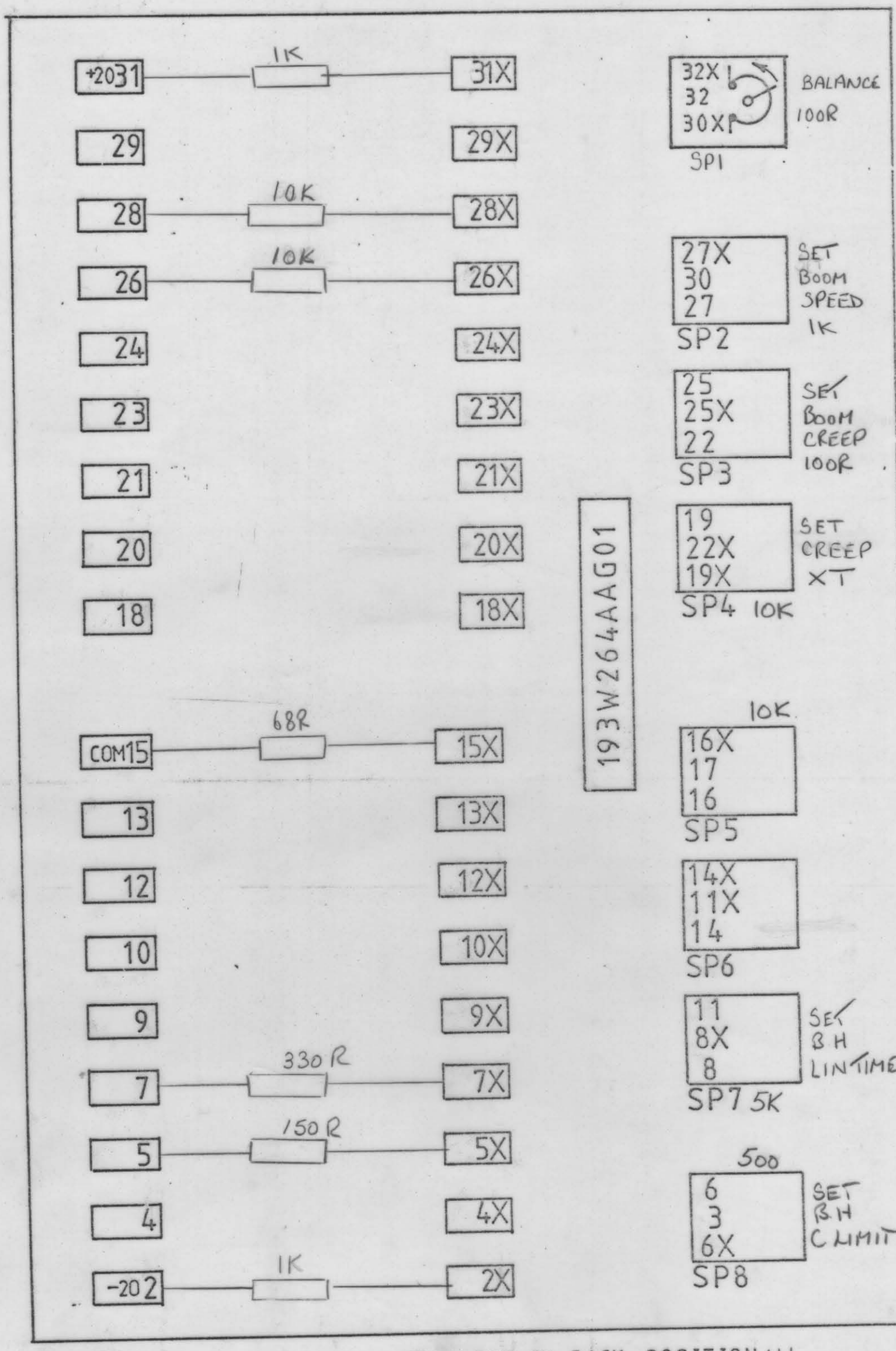
TECHN.	ENG.	APPD.	TECHN.	ENG.	APPD.	DATE 8.6.84
						TECHN.
						ENG.
						APPD.

ALLENWEST
Simplex
VARIABLE SPEED DRIVES OPERATION, BRIGHTON, ENGLAND.

X TRAVERSE AND BOOM HOIST REFERENCE CIRCUITS

GO NUMBER	ELEMENTARY DIAGRAM	CONTD.
404902	902M128BC	6

IDENT | DR | SH 5



CARD PART NO. 909W317ABG47 FIT IN RACK POSITION 1U

TECHN.	ENG.	APPD.	TECHN.	ENG.	APPD.	DATE 8.6.84
						TECHN.
						ENG.
						APPD.

ALLENWEST
Simplex
VARIABLE SPEED DRIVES OPERATION, BRIGHTON, ENGLAND.

COMPONENT CARD
X TRAVERSE & BOOM HOIST

GO NUMBER	ELEMENTARY DIAGRAM	CONTD.
404902	902M128BC	7

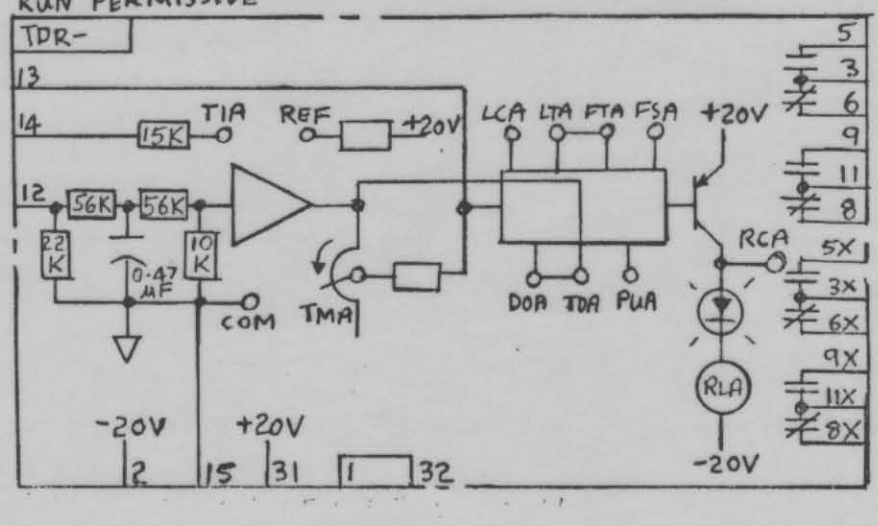
IDENT

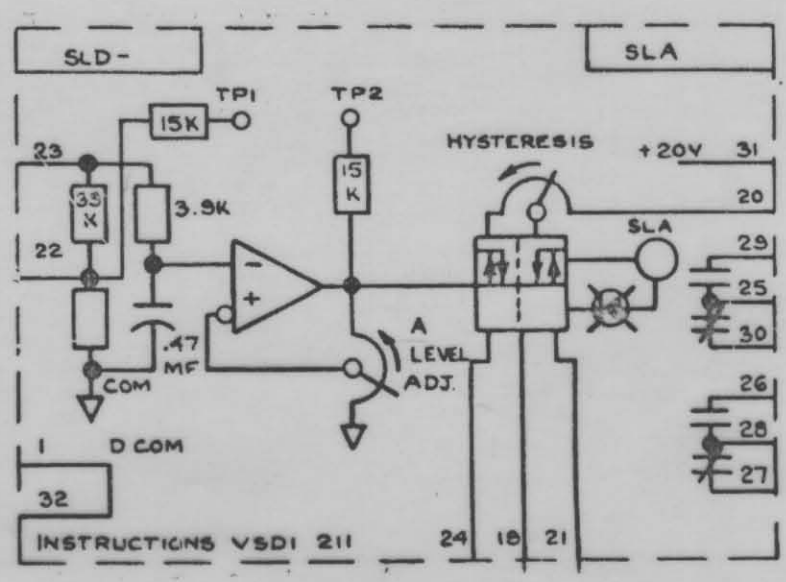
DR	SH
	6

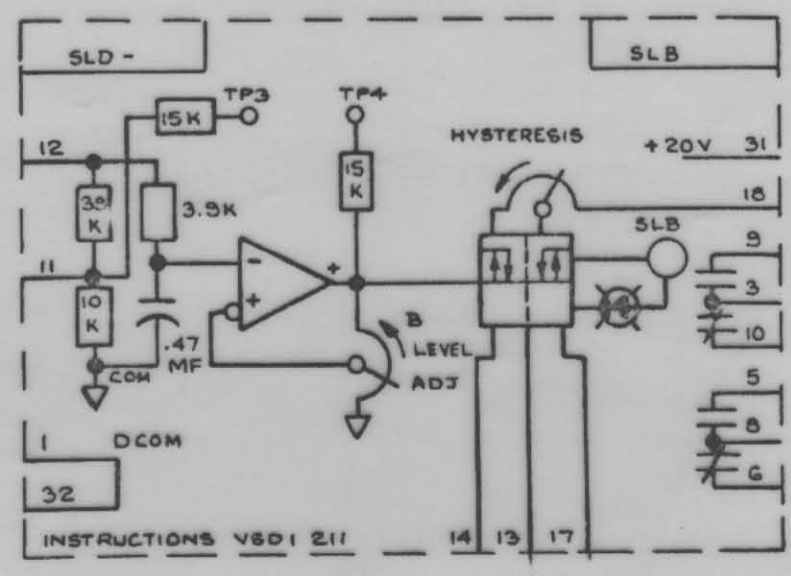
902HM100FE

CRANES

RUN PERMISSIVE







TECHN.	ENG.	APPD.	TECHN.	ENG.	APPD.	DATE 8.6.84
						TECHN.
						ENG.
						APPD.

ALLENWEST Simplex

VARIABLE SPEED DRIVES OPERATION, BRIGHTON, ENGLAND.

GO NUMBER	ELEMENTARY DIAGRAM	CONTD.
404902	902M128BC	8

IDENT

DR	SH
	7

DR 7 SH 8 CONTD. ELEMENTARY DIAGRAM 902M128BC

902HM100EA

A	B	C	D	E	F	G	H	J	K	L	M	N
		TQP	REF	SLD		TDR		LLR		LOR		LLR		LLR			A	CC	
		193W545AAG01	193W546AAG01	193W277AAG02		193W543AAG02		193W279AAG03		193W265AAG04		193W279AAG03		193W279AAG03			193W256AAG01	909W316ABG47	

DR 9 SH CONTD. ELEMENTARY DIAGRAM

ON PRINTED CIRCUIT CARDS USED IN THIS RACK THE LETTERS 'AA' AFTER BASIC CATOLOGUE NUMBER INDICATES ORIGINAL DESIGN. SUBSEQUENT DESIGNS WITH THE SAME BASIC NUMBERS AND GROUP NUMBER WITH THE SECOND LETTER CHANGED, SUCH AS: AB, AC, AD, ETC., ARE DIRECTLY INTERCHANGEABLE AND MAY BE SUPPLIED IN PLACE OF THE 'AA' CARDS.

THE PRINTED CIRCUIT CARD SHOULD ALWAYS BE REMOVED WITH THE CARD EXTRACTOR WHICH IS ATTACHED ON TOP OF THE CARD RACK. SOME CARDS CONTAIN PARTS WHICH WILL BE THERMALLY HOT AFTER BEING IN OPERATION. CARE SHOULD BE EXERCISED IN HANDLING ALL CARDS AFTER REMOVAL UNTIL THESE PARTS HAVE COOLED. DO NOT REMOVE OR INSERT CARDS WITH POWER APPLIED.

FRONT VIEW OF 64 PIN RECEPTACLE AS SEEN IN RACK CLOSED POSITION.

32	32 - 32X
31	31 - 31X
30	30 - 30X
29	29 - 29X
28	28 - 28X
27	27 - 27X
26	26 - 26X
25	25 - 25X
24	24 - 24X
23	23 - 23X
22	22 - 22X
21	21 - 21X
20	20 - 20X
19	19 - 19X
18	18 - 18X
17	17 - 17X
16	16 - 16X
15	15 - 15X
14	14 - 14X
13	13 - 13X
12	12 - 12X
11	11 - 11X
10	10 - 10X
9	9 - 9X
8	8 - 8X
7	7 - 7X
6	6 - 6X
5	5 - 5X
4	4 - 4X
3	3 - 3X
2	2 - 2X
1	1 - 1X

NOTE: RECEPTACLE PINS MAY BE NUMBERED AS SHOWN IN EITHER SKETCH. (PIN 33 CORRESPONDS TO PIN 1X, 34 TO 2X, ETC.)

SYMBOLS:

● TEST POST ⊘ POT ADJUSTMENT ⌘ INDICATING LIGHT

CARD RACK WIRE JUMPER TABLE

RTB COM - 1G15		4TB5 - 1J23	1E28 - 1G3X
RTB+20 - 1G31	SP1(2TB13)	SP36(4TB6) - 1E9	- 1L9
RTB -20 - 1G2	SP2 2TB15	SP37(4TB7) - 1D23	
RTB-CFB - 1C30	SP3(2TB16)	SP38(4TB8) - 1J14	1L10 - 1L11
RTB-30 - 1L5	SP4(2TB17) - 1D8X	SP39(4TB9) - 1J3	- 1E27
MCC SFB - 1D12X	SP5(2TB18) - 1D9	SP40(4TB10) - 1N3	
MCC TR - 1C20	SP6(2TB19)	SP41(4TB11) - 1N14	1E11 - 1E22
MCC SR -	SP7(2TB24) - 1D8	SP42(4TB12) - 1N23	1E19 - 1E21
MCC SYS - 1D23	SP8(2TB25) - 1D6	SP43	1E3 - 1L5X
MCC DR - 1D29	3TB1 - 1G12	SP44	1E13 - 1E17
MCC CEMF - 1E11	3TB2 - 1L10	SP45(4TB15) MCC+30	
MCC DM8 - 1C28	3TB3 -	MCC DM14A - 1C9	1G32 - 1G1
MCC LT2 - 1C19	3TB4 - 1C17		- 1G15
MCC DP2 - 1C5	3TB5 - 1C18	LT1 MCC - 1N29	
MCC PRE - 1D14	3TB6		1D10 - 1D19X
MFC DM22 - 1D16	3TB7 - 1L3X		1D30 - 1D5X
	3TB8		- 1N9
	4TB1 - 1L3		
	4TB2 - 1D11		
	4TB3 - 1D13		
	4TB4 - 1G5X		

A	B	C	D	E	F	G	H	J	K	L	M	N

TECHN.	ENG.	APPD.	TECHN.	ENG.	APPD.	DATE 8.6.84
						TECHN.
						ENG.
						APPD.

ALLENWEST Simplex GE
VARIABLE SPEED DRIVES OPERATION, BRIGHTON, ENGLAND.

TXT - 3HT MODIFICATION RACK

GO NUMBER	ELEMENTARY DIAGRAM	CONTD.
404902	902M128BC	

IDENT DR SH 8

902M1128BC SH16

CARD RACK WIRE JUMPER TABLE

1U31X - 1N5	1D4 - 1C3			RTBX2 - 1N11
1N6 - 1U32X				- 1N21
1U30X - 1N13				- 1N25
1N17 - 1U2X				- 1J25
1U32 - 1U27X				- 1J21
1U27 - 1U25				- 1J11.
1U22 - 1U15X				
1U30 - 1J6				
1U25X - 1J8				1G15 - 1T15
1J5 - 1U28				- 1U15
1N12 - 1N20				
1N18 - 1U26				
1U26X - 1U28X				
- 1T14X				
1T14 - 1T16X				
1C9 - 1N29				
1N30 - 1U7				
1U7X - 1U11				
1U8X - 1U8				
1N24 - 1U5				
1U5X - 1U6				
- 1U3				
1U8 - 1U6X				
- 1U15				
				Bus 2A - 2G
				31A - 31G
				15A - 15G

DR | SH | CONTD. | ELEMENTARY DIAGRAM

TECHN. ENG. APPD.	TECHN. ENG. APPD.	DATE 8.6.84	ALLENWEST Simplex		IDENT
		TECHN.	VARIABLE SPEED DRIVES OPERATION, BRIGHTON, ENGLAND.		DR SH
		ENG.	GO NUMBER 404902	ELEMENTARY DIAGRAM 902M128BC	CONTD. 9
		APPD.			