

*Jordan Hurd*  
*1-214*

VI4 - 900111  
REVISION "B"

FUNCTIONAL INTEGRATED  
SYSTEM SCHEMATICS

REACTION CONTROL SUBSYSTEM

SPACECRAFT 011

VOLUME 8

DOWNEY & ETR

THIS DIAGRAM REPLACES  
VI4-900111, VOLUME 8  
DATED 9-3-66

DR BY	J. M. HICKS	4-14-66	NORTH AMERICAN AVIATION, INC. SPACE and INFORMATION SYSTEMS DIVISION 12214 LAKEWOOD BLVD., DOWNEY, CALIFORNIA		
CHK BY	697-406	6205-6	FUNCTIONAL INTEGRATED SYSTEM SCHEMATICS REACTION CONTROL SUBSYSTEM		
APPROVED BY					
R. C. KLEWENO		<i>REC 4-14-66</i>			
			CODE IDENT NO.	SIZE	VI4 - 900111
			03953	<b>A</b>	
<i>Willard E Folles</i>			SCALE	REVISION "B"	SHEET 8.1 OF 18

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SC-011 DOWNEY & ETR	CODE IDENT NO. 03953	SIZE <b>A</b>	VI4 - 900111	VOL. 8
	SCALE	REV. "B"	SHEET	8.2

## CURRENT SHEET LIST

### SHEET NUMBERS ACTIVE AT:

INITIAL RELEASE	REV. "A"	REV. "B"	REV. "C"	REV. "D"		
8.1	8.1 A	8.1 B				
8.2	8.2 A	8.2 B				
8.3	8.3 A	8.3 B				
8.4	8.4 A	8.4 B				
8.5	8.5 A	8.5 B				
8.5.1	8.6 A	8.6 B				
8.5.2	8.7 A	8.7 B				
8.5.3	8.8 A	8.8 B				
8.6	8.9 A	8.9 B				
8.7	8.10 A	8.10 B				
8.7.1	8.11 A	8.11 B				
8.7.2	8.12 A	8.12 B				
8.7.3	8.13 A	8.13 B				
8.8	8.14 A	8.14 B				
8.9	8.15 A	8.15 B				
8.10	8.16 A	8.16 B				
8.11	8.17 A	8.17 B				
8.12	8.18 A	8.18 B				
8.13						
8.14						
8.15						
8.16						
8.17						
8.18						
8.19						
8.20						
8.21						
27	18	18				

### TOTAL SHEETS

SC-011 DOWNEY & ETR	CODE IDENT NO. <b>03953</b>	SIZE <b>A</b>	VI4 - 900111 VOL. 8
	SCALE	REV. "B"	SHEET 8.3

## REVISIONS

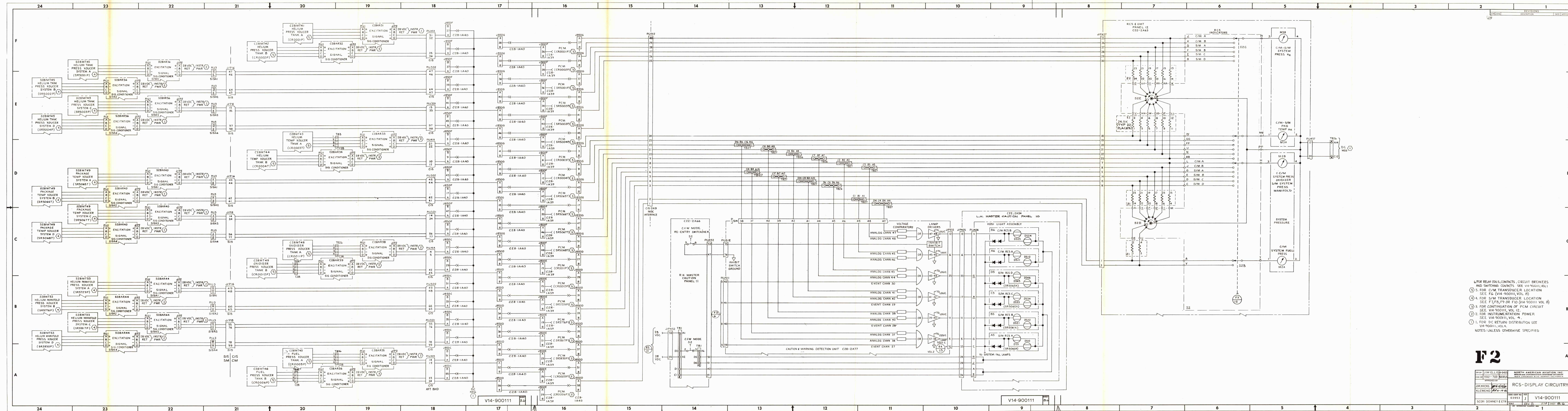
SYM	DESCRIPTION	DATE	APPROVED
	1. MAY BE REWORKED                      3. RECORD CHANGE 2. CANNOT BE REWORKED                4. NOW SHOP PRACTICE 5. PARTS MADE OK	DISPOS	
A	COMPLETE REVISION TO INCORPORATE LATEST CHANGES	3	9-3-65 R. Hlewer
B	INCORPORATED THE FOLLOWING E.O. & MCR'S: 379027, 379028, 379040, 379041, 379042, 379039, 379003, 379021, 379006, 379035, 379036, 379037, and MCR 1118.	3	9-19-66 R. Hlewer

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	SCALE	REV. "B"	VOL. 8 SHEET 8.4

# NOTES

1. UNDERLINED LETTERS DENOTE LOWER CASE.
2. ALL RELAY CONTACTS ARE SHOWN IN THE DE-ENERGIZED OR UNLATCHED POSITION.
3. DIAGRAMS DEPICT DOWNEY AND ETR CONFIGURATION ONLY.
4. THIS DRAWING REQUIRES NO IDENTIFICATION AND TRACEABILITY REQUIREMENTS.
5. ALL SYMBOLOGY UTILIZES MIL-STD-15-1 SUPPLEMENTED BY B14-900005.
6. FOR NEXT USING DRAWING AND INTEGRATED SCHEMATICS FOR OTHER VEHICLES, REFER TO: V14-900000.

SC-011 DOWNEY & ETR	CODE IDENT NO. 03953	SIZE <b>A</b>	V14 - 900111	VOL. 8
	SCALE	REV. "B"	SHEET	8.5

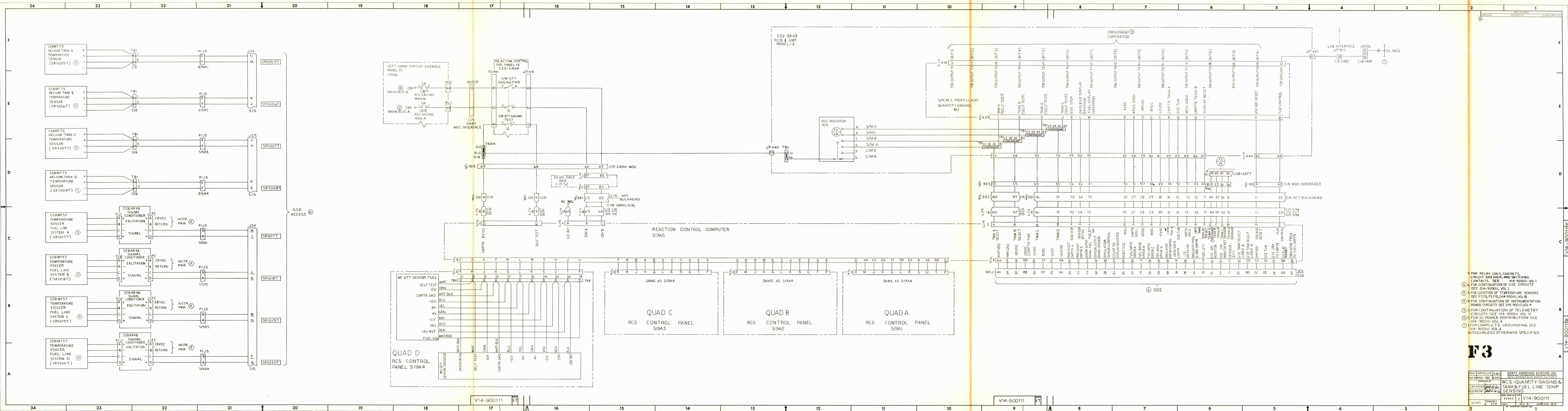


- 6. FOR RELAY COILS, CONTACTS, CIRCUIT BREAKERS AND SWITCHING CONTACTS SEE V14-900111, VOL. 1
  - 5. FOR C/M TRANSDUCER LOCATION SEE FIG. (V14-900111, VOL. 2)
  - 4. FOR S/M TRANSDUCER LOCATION SEE FIG. (V14-900111, VOL. 3)
  - 3. FOR CONTINUATION OF PCM CIRCUIT SEE V14-900111, VOL. 12.
  - 2. FOR INSTRUMENTATION POWER SEE V14-900111, VOL. 4.
  - 1. FOR D.C. RETURN DISTRIBUTION SEE V14-900111, VOL. 4.
- NOTES UNLESS OTHERWISE SPECIFIED

**F2**

APPROVED BY	DATE	REV.	BY	DATE
J.M. HICKS	1/12/66	1	J.M. HICKS	1/12/66
KLEWEND	1/12/66	2	KLEWEND	1/12/66
SCOTT DORNEY & ETR	1/12/66	3	SCOTT DORNEY & ETR	1/12/66

SCOTT DORNEY & ETR  
V14-900111



- 1 FOR RELAY COILS, CONTACTS, CIRCUIT BREAKERS AND SWITCHING CONTACTS SEE V14-90011 VOL 1
- 2 FOR CONTINUATION OF GSE CIRCUITS SEE G14-90001, VOL 1
- 3 FOR LOCATION OF TEMPERATURE SENSORS SEE F7, F8, F9, F10, V14-90011, VOL 8
- 4 FOR CONTINUATION OF INSTRUMENTATION POWER CIRCUITS SEE V14-90011, VOL 4
- 5 FOR CONTINUATION OF TELEMETRY CIRCUITS SEE V14-90011 VOL 12
- 6 FOR DC POWER DISTRIBUTION SEE V14-90011 VOL 4
- 7 FOR COMPLETE GROUNDING SEE V14-90011 VOL 4

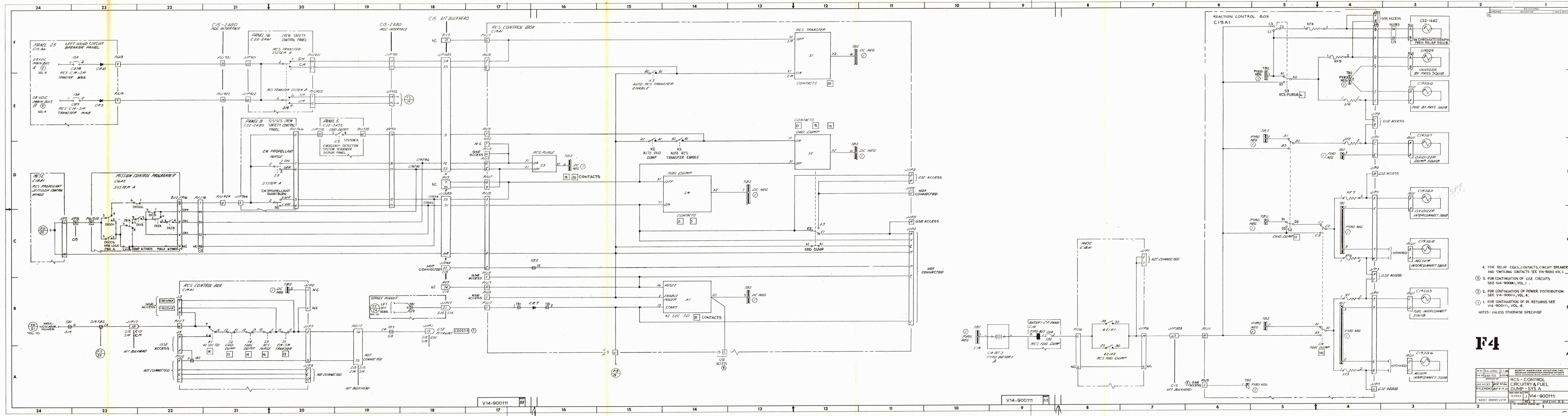
**F3**

REV	BY	DATE	DESCRIPTION
1	JIM ELLIS	3-85	INITIAL DESIGN
2	JIM ELLIS	7-85	REVISED TO ADD SENSORS
3	JIM ELLIS	10-85	REVISED TO ADD SENSORS
4	JIM ELLIS	12-85	REVISED TO ADD SENSORS
5	JIM ELLIS	1-86	REVISED TO ADD SENSORS
6	JIM ELLIS	2-86	REVISED TO ADD SENSORS
7	JIM ELLIS	3-86	REVISED TO ADD SENSORS
8	JIM ELLIS	4-86	REVISED TO ADD SENSORS
9	JIM ELLIS	5-86	REVISED TO ADD SENSORS
10	JIM ELLIS	6-86	REVISED TO ADD SENSORS
11	JIM ELLIS	7-86	REVISED TO ADD SENSORS
12	JIM ELLIS	8-86	REVISED TO ADD SENSORS
13	JIM ELLIS	9-86	REVISED TO ADD SENSORS
14	JIM ELLIS	10-86	REVISED TO ADD SENSORS
15	JIM ELLIS	11-86	REVISED TO ADD SENSORS
16	JIM ELLIS	12-86	REVISED TO ADD SENSORS
17	JIM ELLIS	1-87	REVISED TO ADD SENSORS
18	JIM ELLIS	2-87	REVISED TO ADD SENSORS
19	JIM ELLIS	3-87	REVISED TO ADD SENSORS
20	JIM ELLIS	4-87	REVISED TO ADD SENSORS
21	JIM ELLIS	5-87	REVISED TO ADD SENSORS
22	JIM ELLIS	6-87	REVISED TO ADD SENSORS
23	JIM ELLIS	7-87	REVISED TO ADD SENSORS
24	JIM ELLIS	8-87	REVISED TO ADD SENSORS

RC S - QUANTITY GAGING & TANK & FUEL LINE TEMP SENSING

03953 J V14-90011

SC011 DOWNEY & ETR



4. FOR RELAY COILS, CONTACTS, CIRCUIT BREAKERS, AND SWITCHING CONTACTS SEE V14-90011 VOL. 1.
3. FOR CONTINUATION OF GSE CIRCUITS SEE G4-90001, VOL. 1.
2. FOR CONTINUATION OF POWER DISTRIBUTION SEE V14-90011, VOL. 4.
1. FOR CONTINUATION OF PC RETURNS SEE V14-90011, VOL. 4.
- NOTES: UNLESS OTHERWISE SPECIFIED

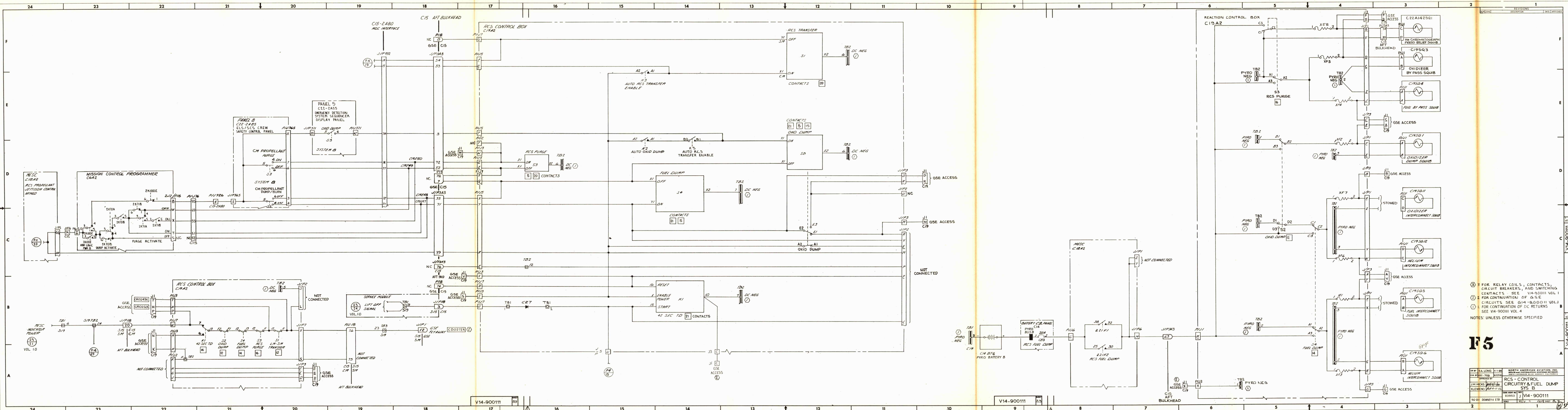
**F4**

DR BY	RA LONG	4-1-64	NORTH AMERICAN AVIATION, INC.
CHK BY	692-703	8/20/64	2825 AVIATION BLVD., TORRANCE, CALIFORNIA
REVISED BY	JMA HICKS	1/28/74	
REVISED BY	RKLEWEN	1/24/74	
DATE	9/19/52	1	V14-900111
DESIGNED BY	SCOTT DOWNEY	4 ETR	

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V14-900111 88





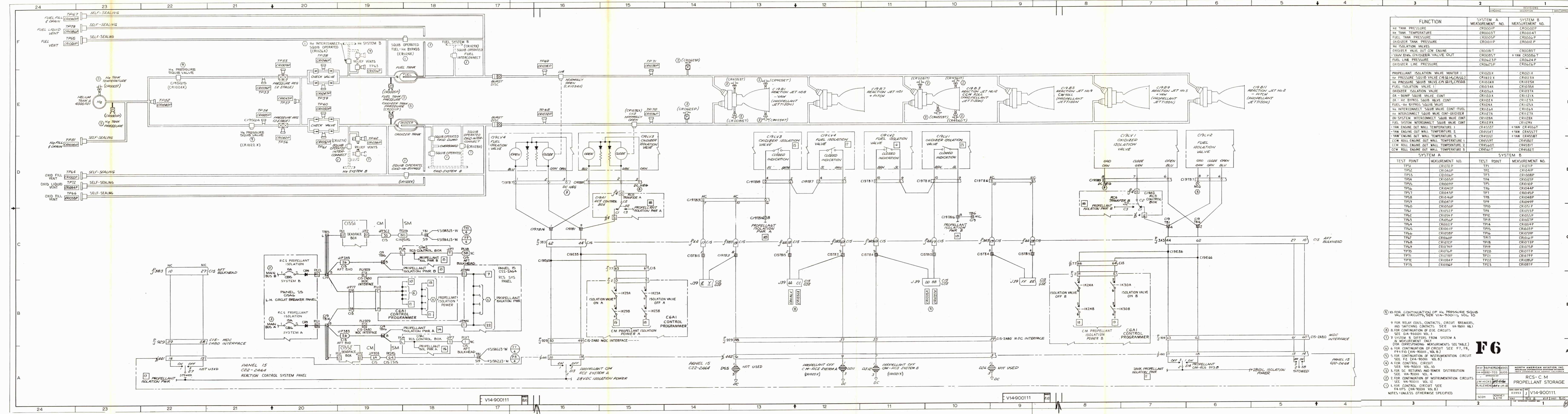
- ③ 3 FOR RELAY COILS, CONTACTS, CIRCUIT BREAKERS, AND SWITCHING CONTACTS. SEE VI4-90011 VOL 1
  - ② 2 FOR CONTINUATION OF GSE CIRCUITS SEE G14-800011 VOL 1
  - ① 1 FOR CONTINUATION OF DC RETURNS SEE VI4-90011 VOL 4
- NOTES: UNLESS OTHERWISE SPECIFIED

**F5**

REV	BY	DATE	DESCRIPTION
1	RA LONG	4-1-64	NORTH AMERICAN AVIATION, INC. (REVISIONS)
2	RA LONG	4-1-64	REVISIONS
3	RA LONG	4-1-64	REVISIONS
4	RA LONG	4-1-64	REVISIONS
5	RA LONG	4-1-64	REVISIONS
6	RA LONG	4-1-64	REVISIONS
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VI4-90011 89

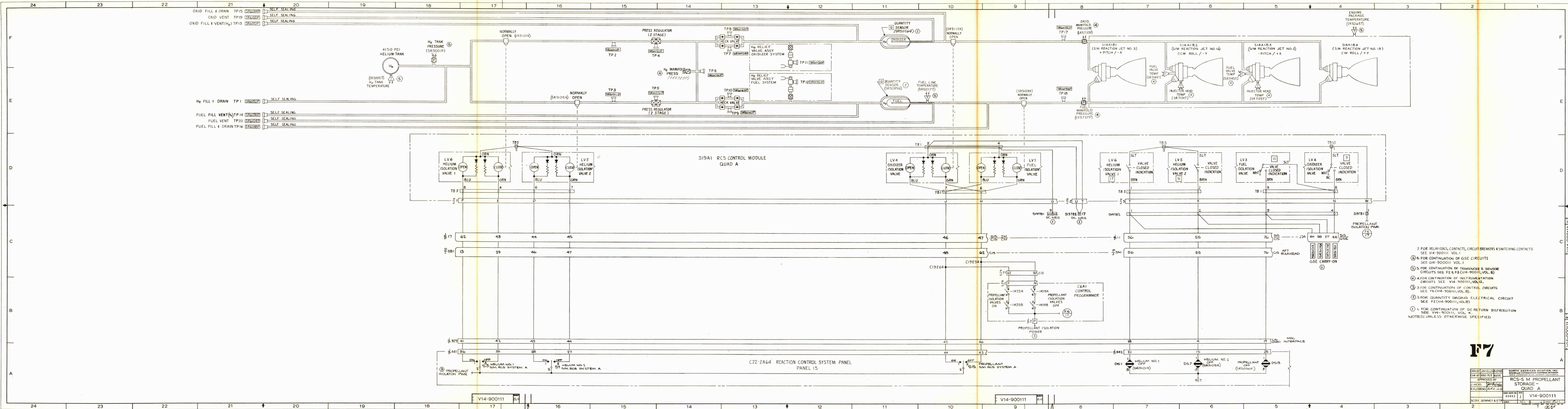


FUNCTION	SYSTEM A	SYSTEM B
HE TANK PRESSURE	CR0002P	CR0002P
HE TANK TEMPERATURE	CR0003T	CR0003T
FUEL TANK PRESSURE	CR0005P	CR0005P
OXIDIZER TANK PRESSURE	CR0011P	CR0011P
HE ISOLATION VALVES		
OXIDIZER VALVE OUT CW ENGINE	CR0017T	CR0017T
+YAW ENG. OXIDIZER VALVE OUT	CR0057T	+YAW CR0056T
FUEL LINE PRESSURE	CR0623P	CR0624P
OXIDIZER LINE PRESSURE	CR0625P	CR0626P
PROPELLANT ISOLATION VALVE MONITOR 1	CR1020X	CR1021X
HE PRESSURE SQUIB VALVE C19A1, C19A2	CR1022X	CR1023X
HE PRESSURE SQUIB VALVE C19A15, C19A20	CR1024X	CR1025X
FUEL ISOLATION VALVE 1	CR1034X	CR1035X
OXIDIZER ISOLATION VALVE	CR1036X	CR1037X
OX - DUMP SQUIB VALVE CONT	CR1020X	CR1021X
OX - HE BYPASS SQUIB VALVE CONT	CR1022X	CR1023X
FUEL - HE BYPASS SQUIB VALVE	CR1024X	CR1025X
HE INTERCONNECT SQUIB VALVE CONT - FUEL	CR1026X	CR1027X
HE INTERCONNECT SQUIB VALVE CONT - OXIDIZER	CR1028X	CR1029X
OX - SYSTEM INTERCONNECT SQUIB VALVE CONT	CR1026X	CR1027X
FUEL SYSTEM INTERCONNECT SQUIB VALVE CONT	CR1028X	CR1029X
+YAW ENGINE OUT WALL TEMPERATURE 1	CR4551T	+YAW CR4550T
+YAW ENGINE OUT WALL TEMPERATURE 2	CR4554T	+YAW CR4553T
+YAW ENGINE OUT WALL TEMPERATURE 3	CR4555T	+YAW CR4554T
CCW ROLL ENGINE OUT WALL TEMPERATURE 1	CR4559T	CR4560T
CCW ROLL ENGINE OUT WALL TEMPERATURE 2	CR4561T	CR4562T
CCW ROLL ENGINE OUT WALL TEMPERATURE 3	CR4561T	CR4562T

SYSTEM A		SYSTEM B	
TEST POINT	MEASUREMENT NO.	TEST POINT	MEASUREMENT NO.
TP1	CR1010P	TP1	CR1011P
TP2	CR1012P	TP2	CR1013P
TP3	CR1014P	TP3	CR1016P
TP4	CR1018P	TP4	CR1020P
TP5	CR1022P	TP5	CR1024P
TP6	CR1026P	TP6	CR1028P
TP7	CR1030P	TP7	CR1034P
TP8	CR1034P	TP8	CR1038P
TP9	CR1038P	TP9	CR1042P
TP10	CR1042P	TP10	CR1046P
TP11	CR1046P	TP11	CR1050P
TP12	CR1050P	TP12	CR1054P
TP13	CR1054P	TP13	CR1058P
TP14	CR1062P	TP14	CR1066P
TP15	CR1070P	TP15	CR1074P
TP16	CR1078P	TP16	CR1082P
TP17	CR1086P	TP17	CR1090P
TP18	CR1094P	TP18	CR1102P
TP19	CR1110P	TP19	CR1118P
TP20	CR1126P	TP20	CR1134P
TP21	CR1142P	TP21	CR1150P
TP22	CR1166P	TP22	CR1174P
TP23	CR1182P	TP23	CR1190P

1. FOR CONTINUATION OF HE PRESSURE SQUIB VALVE CIRCUITS, SEE V14-90011, VOL 10  
 2. FOR CONTINUATION OF OSE CIRCUITS SEE V14-90011, VOL 11  
 3. FOR DC RETURNS AND POWER DISTRIBUTION SEE V14-90011, VOL 12  
 4. FOR CONTROL CIRCUIT SEE V14-90011, VOL 13  
 5. FOR CONTINUATION OF INSTRUMENTATION CIRCUIT SEE F7, F8, F9, F10 (VIA-90011, VOL 8)  
 6. FOR CONTINUATION OF INSTRUMENTATION CIRCUIT SEE F2 (VIA-90011, VOL 8)  
 7. SYSTEM B DIFFERS FROM SYSTEM A (FOR CORRESPONDING MEASUREMENTS SEE TABLE)  
 8. MEASUREMENT ONLY  
 9. FOR RELAY COILS, CONTACTS, CIRCUIT BREAKERS, AND SWITCHING CONTACTS SEE V14-90011, VOL 11  
 10. FOR RELAY COILS, CONTACTS, CIRCUIT BREAKERS, AND SWITCHING CONTACTS SEE V14-90011, VOL 11

**F6**  
 RCS - C M  
 PROPELLANT STORAGE  
 V14-90011  
 SHEET 510



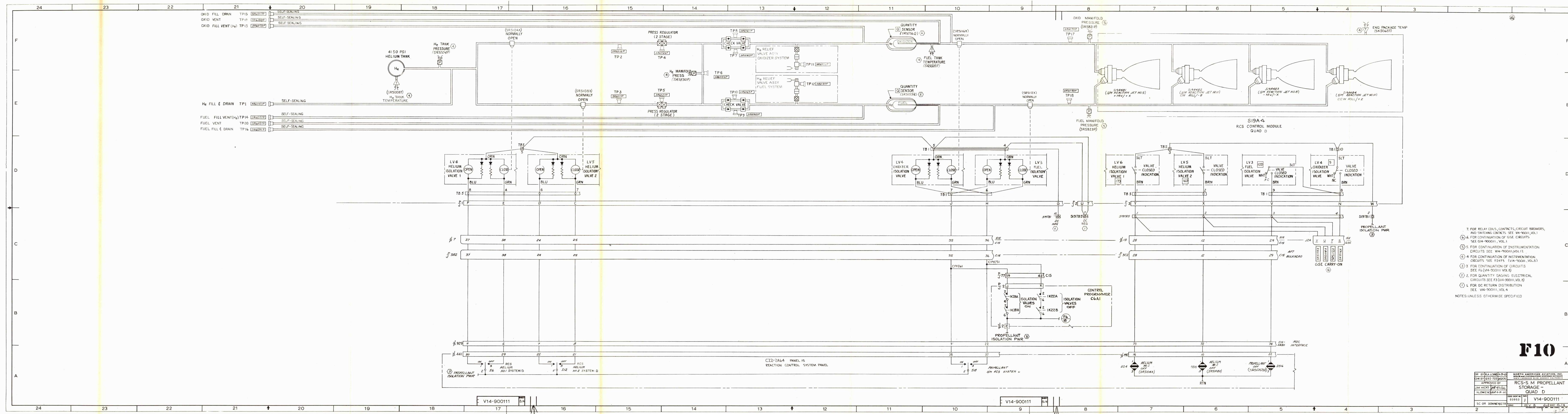
7. FOR RELAY COILS, CONTACTS, CIRCUIT BREAKERS & SWITCHING CONTACTS  
SEE V14-90011, VOL. 1
6. FOR CONTINUATION OF GSE CIRCUITS  
SEE G14-90001, VOL. 1
5. FOR CONTINUATION OF TRANSDUCER & SENSOR  
CIRCUITS SEE F2 & F3 (V14-90011, VOL. 8)
4. FOR CONTINUATION OF INSTRUMENTATION  
CIRCUITS SEE VIA 90011, VOL. 4
3. FOR CONTINUATION OF CONTROL CIRCUITS  
SEE F6 (V14-90011, VOL. 8)
2. FOR QUANTITY GAGING ELECTRICAL CIRCUIT  
SEE F2 (V14-90011, VOL. 8)
1. FOR CONTINUATION OF DC RETURN DISTRIBUTION  
SEE V14-90011, VOL. 4
- NOTES: UNLESS OTHERWISE SPECIFIED

**F7**

DRN BY: SIM ELLIS/2702	NORTH AMERICAN AVIATION, INC.
CHK BY: 680-703 R200	RESEARCH INSTRUMENTATION SYSTEMS DIVISION
APPROVED BY: [Signature]	RCS-S M PROPELLANT STORAGE - QUAD A
DESIGNED BY: [Signature]	STORAGE - QUAD A
FILE NO: 680-703-200	REV: 1
DATE: 11/1/68	REV: 2
SCALE: 1/2" = 1'-0"	REV: 3
BY: [Signature]	REV: 4
DATE: 11/1/68	REV: 5
SCALE: 1/2" = 1'-0"	REV: 6
BY: [Signature]	REV: 7
DATE: 11/1/68	REV: 8
SCALE: 1/2" = 1'-0"	REV: 9
BY: [Signature]	REV: 10
DATE: 11/1/68	REV: 11
SCALE: 1/2" = 1'-0"	REV: 12
BY: [Signature]	REV: 13
DATE: 11/1/68	REV: 14
SCALE: 1/2" = 1'-0"	REV: 15
BY: [Signature]	REV: 16
DATE: 11/1/68	REV: 17
SCALE: 1/2" = 1'-0"	REV: 18
BY: [Signature]	REV: 19
DATE: 11/1/68	REV: 20
SCALE: 1/2" = 1'-0"	REV: 21
BY: [Signature]	REV: 22
DATE: 11/1/68	REV: 23
SCALE: 1/2" = 1'-0"	REV: 24
BY: [Signature]	REV: 25
DATE: 11/1/68	REV: 26
SCALE: 1/2" = 1'-0"	REV: 27
BY: [Signature]	REV: 28
DATE: 11/1/68	REV: 29
SCALE: 1/2" = 1'-0"	REV: 30
BY: [Signature]	REV: 31
DATE: 11/1/68	REV: 32
SCALE: 1/2" = 1'-0"	REV: 33
BY: [Signature]	REV: 34
DATE: 11/1/68	REV: 35
SCALE: 1/2" = 1'-0"	REV: 36
BY: [Signature]	REV: 37
DATE: 11/1/68	REV: 38
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BY: [Signature]	REV: 40
DATE: 11/1/68	REV: 41
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DATE: 11/1/68	REV: 44
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DATE: 11/1/68	REV: 47
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BY: [Signature]	REV: 58
DATE: 11/1/68	REV: 59
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SCALE: 1/2" = 1'-0"	REV: 63
BY: [Signature]	REV: 64
DATE: 11/1/68	REV: 65
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DATE: 11/1/68	REV: 68
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BY: [Signature]	REV: 73
DATE: 11/1/68	REV: 74
SCALE: 1/2" = 1'-0"	REV: 75
BY: [Signature]	REV: 76
DATE: 11/1/68	REV: 77
SCALE: 1/2" = 1'-0"	REV: 78
BY: [Signature]	REV: 79
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SCALE: 1/2" = 1'-0"	REV: 102
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SCALE: 1/2" = 1'-0"	REV: 108
BY: [Signature]	REV: 109
DATE: 11/1/68	REV: 110
SCALE: 1/2" = 1'-0"	REV: 111
BY: [Signature]	REV: 112
DATE: 11/1/68	REV: 113
SCALE: 1/2" = 1'-0"	REV: 114
BY: [Signature]	REV: 115
DATE: 11/1/68	REV: 116
SCALE: 1/2" = 1'-0"	REV: 117
BY: [Signature]	REV: 118
DATE: 11/1/68	REV: 119
SCALE: 1/2" = 1'-0"	REV: 120
BY: [Signature]	REV: 121
DATE: 11/1/68	REV: 122
SCALE: 1/2" = 1'-0"	REV: 123
BY: [Signature]	REV: 124
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BY: [Signature]	REV: 127
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SCALE: 1/2" = 1'-0"	REV: 129
BY: [Signature]	REV: 130
DATE: 11/1/68	REV: 131
SCALE: 1/2" = 1'-0"	REV: 132
BY: [Signature]	REV: 133
DATE: 11/1/68	REV: 134
SCALE: 1/2" = 1'-0"	REV: 135
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DATE: 11/1/68	REV: 137
SCALE: 1/2" = 1'-0"	REV: 138
BY: [Signature]	REV: 139
DATE: 11/1/68	REV: 140
SCALE: 1/2" = 1'-0"	REV: 141
BY: [Signature]	REV: 142
DATE: 11/1/68	REV: 143
SCALE: 1/2" = 1'-0"	REV: 144
BY: [Signature]	REV: 145
DATE: 11/1/68	REV: 146
SCALE: 1/2" = 1'-0"	REV: 147
BY: [Signature]	REV: 148
DATE: 11/1/68	REV: 149
SCALE: 1/2" = 1'-0"	REV: 150
BY: [Signature]	REV: 151
DATE: 11/1/68	REV: 152
SCALE: 1/2" = 1'-0"	REV: 153
BY: [Signature]	REV: 154
DATE: 11/1/68	REV: 155
SCALE: 1/2" = 1'-0"	REV: 156
BY: [Signature]	REV: 157
DATE: 11/1/68	REV: 158
SCALE: 1/2" = 1'-0"	REV: 159
BY: [Signature]	REV: 160
DATE: 11/1/68	REV: 161
SCALE: 1/2" = 1'-0"	REV: 162
BY: [Signature]	REV: 163
DATE: 11/1/68	REV: 164
SCALE: 1/2" = 1'-0"	REV: 165
BY: [Signature]	REV: 166
DATE: 11/1/68	REV: 167
SCALE: 1/2" = 1'-0"	REV: 168
BY: [Signature]	REV: 169
DATE: 11/1/68	REV: 170
SCALE: 1/2" = 1'-0"	REV: 171
BY: [Signature]	REV: 172
DATE: 11/1/68	REV: 173
SCALE: 1/2" = 1'-0"	REV: 174
BY: [Signature]	REV: 175
DATE: 11/1/68	REV: 176
SCALE: 1/2" = 1'-0"	REV: 177
BY: [Signature]	REV: 178
DATE: 11/1/68	REV: 179
SCALE: 1/2" = 1'-0"	REV: 180
BY: [Signature]	REV: 181
DATE: 11/1/68	REV: 182
SCALE: 1/2" = 1'-0"	REV: 183
BY: [Signature]	REV: 184
DATE: 11/1/68	REV: 185
SCALE: 1/2" = 1'-0"	REV: 186
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DATE: 11/1/68	REV: 188
SCALE: 1/2" = 1'-0"	REV: 189
BY: [Signature]	REV: 190
DATE: 11/1/68	REV: 191
SCALE: 1/2" = 1'-0"	REV: 192
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DATE: 11/1/68	REV: 194
SCALE: 1/2" = 1'-0"	REV: 195
BY: [Signature]	REV: 196
DATE: 11/1/68	REV: 197
SCALE: 1/2" = 1'-0"	REV: 198
BY: [Signature]	REV: 199
DATE: 11/1/68	REV: 200
SCALE: 1/2" = 1'-0"	REV: 201
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DATE: 11/1/68	REV: 203
SCALE: 1/2" = 1'-0"	REV: 204
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DATE: 11/1/68	REV: 206
SCALE: 1/2" = 1'-0"	REV: 207
BY: [Signature]	REV: 208
DATE: 11/1/68	REV: 209
SCALE: 1/2" = 1'-0"	REV: 210
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DATE: 11/1/68	REV: 212
SCALE: 1/2" = 1'-0"	REV: 213
BY: [Signature]	REV: 214
DATE: 11/1/68	REV: 215
SCALE: 1/2" = 1'-0"	REV: 216
BY: [Signature]	REV: 217
DATE: 11/1/68	REV: 218
SCALE: 1/2" = 1'-0"	REV: 219
BY: [Signature]	REV: 220
DATE: 11/1/68	REV: 221
SCALE: 1/2" = 1'-0"	REV: 222
BY: [Signature]	REV: 223
DATE: 11/1/68	REV: 224
SCALE: 1/2" = 1'-0"	REV: 225
BY: [Signature]	REV: 226
DATE: 11/1/68	REV: 227
SCALE: 1/2" = 1'-0"	REV: 228
BY: [Signature]	REV: 229
DATE: 11/1/68	REV: 230
SCALE: 1/2" = 1'-0"	REV: 231
BY: [Signature]	REV: 232
DATE: 11/1/68	REV: 233
SCALE: 1/2" = 1'-0"	REV: 234
BY: [Signature]	REV: 235
DATE: 11/1/68	REV: 236
SCALE: 1/2" = 1'-0"	REV: 237
BY: [Signature]	REV: 238
DATE: 11/1/68	REV: 239
SCALE: 1/2" = 1'-0"	REV: 240
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DATE: 11/1/68	REV: 242
SCALE: 1/2" = 1'-0"	REV: 243
BY: [Signature]	REV: 244
DATE: 11/1/68	REV: 245
SCALE: 1/2" = 1'-0"	REV: 246
BY: [Signature]	REV: 247
DATE: 11/1/68	REV: 248
SCALE: 1/2" = 1'-0"	REV: 249
BY: [Signature]	REV: 250
DATE: 11/1/68	REV: 251
SCALE: 1/2" = 1'-0"	REV: 252
BY: [Signature]	REV: 253
DATE: 11/1/68	REV: 254
SCALE: 1/2" = 1'-0"	REV: 255
BY: [Signature]	REV: 256
DATE: 11/1/68	REV: 257
SCALE: 1/2" = 1'-0"	REV: 258
BY: [Signature]	REV: 259
DATE: 11/1/68	REV: 260
SCALE: 1/2" = 1'-0"	REV: 261
BY: [Signature]	REV: 262
DATE: 11/1/68	REV: 263
SCALE: 1/2" = 1'-0"	REV: 264
BY: [Signature]	REV: 265
DATE: 11/1/68	REV: 266
SCALE: 1/2" = 1'-0"	REV: 267
BY: [Signature]	REV: 268
DATE: 11/1/68	REV: 269
SCALE: 1/2" = 1'-0"	REV: 270
BY: [Signature]	REV: 271
DATE: 11/1/68	REV: 272
SCALE: 1/2" = 1'-0"	REV: 273
BY: [Signature]	REV: 274
DATE: 11/1/68	REV: 275
SCALE: 1/2" = 1'-0"	REV: 276
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DATE: 11/1/68	REV: 278
SCALE: 1/2" = 1'-0"	REV: 279
BY: [Signature]	REV: 280
DATE: 11/1/68	REV: 281
SCALE: 1/2" = 1'-0"	REV: 282
BY: [Signature]	REV: 283
DATE: 11/1/68	REV: 284
SCALE: 1/2" = 1'-0"	REV: 285
BY: [Signature]	REV: 286
DATE: 11/1/68	REV: 287
SCALE: 1/2" = 1'-0"	REV: 288
BY: [Signature]	REV: 289
DATE: 11/1/68	REV: 290
SCALE: 1/2" = 1'-0"	REV: 291
BY: [Signature]	REV: 292
DATE: 11/1/68	REV: 293
SCALE: 1/2" = 1'-0"	REV: 294
BY: [Signature]	REV: 295
DATE: 11/1/68	REV: 296
SCALE: 1/2" = 1'-0"	REV: 297
BY: [Signature]	REV: 298
DATE: 11/1/68	REV: 299
SCALE: 1/2" = 1'-0"	REV: 300
BY: [Signature]	REV: 301
DATE: 11/1/68	REV: 302
SCALE: 1/2" = 1'-0"	REV: 303
BY: [Signature]	REV: 304
DATE: 11/1/68	REV: 305
SCALE: 1/2" = 1'-0"	REV: 306
BY: [Signature]	REV: 307
DATE: 11/1/68	REV: 308
SCALE: 1/2" = 1'-0"	REV: 309
BY: [Signature]	REV: 310
DATE: 11/1/68	REV: 311
SCALE: 1/2" = 1'-0"	REV: 312
BY: [Signature]	REV: 313
DATE: 11/1/68	REV: 314
SCALE: 1/2" = 1'-0"	REV: 315
BY: [Signature]	REV: 316
DATE: 11/1/68	REV: 317
SCALE: 1/2" = 1'-0"	REV: 318
BY: [Signature]	REV: 319
DATE: 11/1/68	REV: 320
SCALE: 1/2" = 1'-0"	REV: 321
BY: [Signature]	REV: 322
DATE: 11/1/68	REV: 323
SCALE: 1/2" = 1'-0"	REV: 324
BY: [Signature]	REV: 325
DATE: 11/1/68	REV: 326
SCALE: 1/2" = 1'-0"	REV: 327
BY: [Signature]	REV: 328
DATE: 11/1/68	REV: 329
SCALE: 1/2" = 1'-0"	REV: 330
BY: [Signature]	REV: 331
DATE: 11/1/68	REV: 332
SCALE: 1/2" = 1'-0"	REV: 333
BY: [Signature]	REV: 334
DATE: 11/1/68	REV: 335
SCALE: 1/2" = 1'-0"	REV: 336
BY: [Signature]	REV: 337
DATE: 11/1/68	REV: 338
SCALE: 1/2" = 1'-0"	REV: 339
BY: [Signature]	REV: 340
DATE: 11/1/68	REV: 341
SCALE	







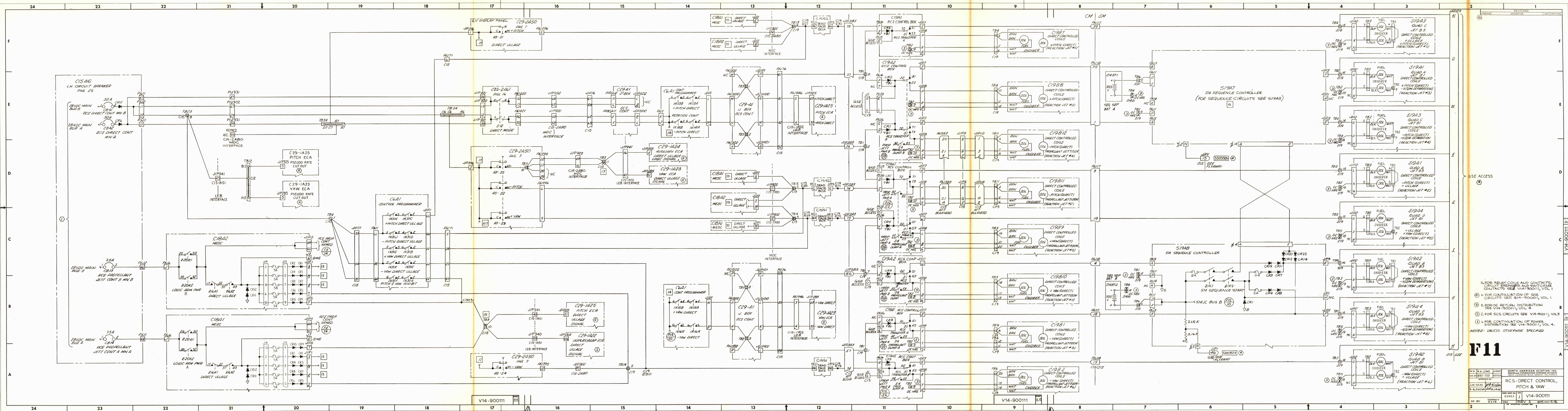
- 7. FOR RELAY COILS, CONTACTS, CIRCUIT BREAKERS, AND SWITCHING CONTACTS SEE VIA-90011, VOL 1
  - ④ 4. FOR CONTINUATION OF USE CIRCUITS SEE G14-90011, VOL 1
  - ⑤ 5. FOR CONTINUATION OF INSTRUMENTATION CIRCUITS SEE VIA-90011, VOL 1
  - ④ 4. FOR CONTINUATION OF INSTRUMENTATION CIRCUITS SEE F44F3 (VIA-90011, VOL 1)
  - ③ 3. FOR CONTINUATION OF CIRCUITS SEE F6 (VIA-90011, VOL 1)
  - ② 2. FOR QUANTITY GAGING ELECTRICAL CIRCUITS SEE F3 (VIA-90011, VOL 1)
  - ① 1. FOR DC RETURN DISTRIBUTION SEE VIA-90011, VOL 4
- NOTES: UNLESS OTHERWISE SPECIFIED

**F10**

BY: RALPH L. ...	NORTH AMERICAN AVIATION, INC.
APPROVED BY: J.M. HICKS	RCS-S M PROPELLANT STORAGE - QUAD D
DATE: 4/1/66	REV: J
SC ON DRAWING	VIA-90011

V14-900111

V14-900111



- 5. FOR RELAY COILS AND CONTACTS CIRCUIT BREAKERS AND SWITCHING CONTACTS SEE V14-90011, VOL. 1
  - 4. FOR CONTINUATION OF GSE CIRCUITS SEE V14-90011, VOL. 1
  - 3. FOR DC RETURN DISTRIBUTION SEE V14-90011, VOL. 4
  - 2. FOR SCS CIRCUITS SEE V14-90011, VOL. 4
  - 1. FOR CONTINUATION OF POWER DISTRIBUTION SEE V14-90011, VOL. 4.
- NOTES: UNLESS OTHERWISE SPECIFIED

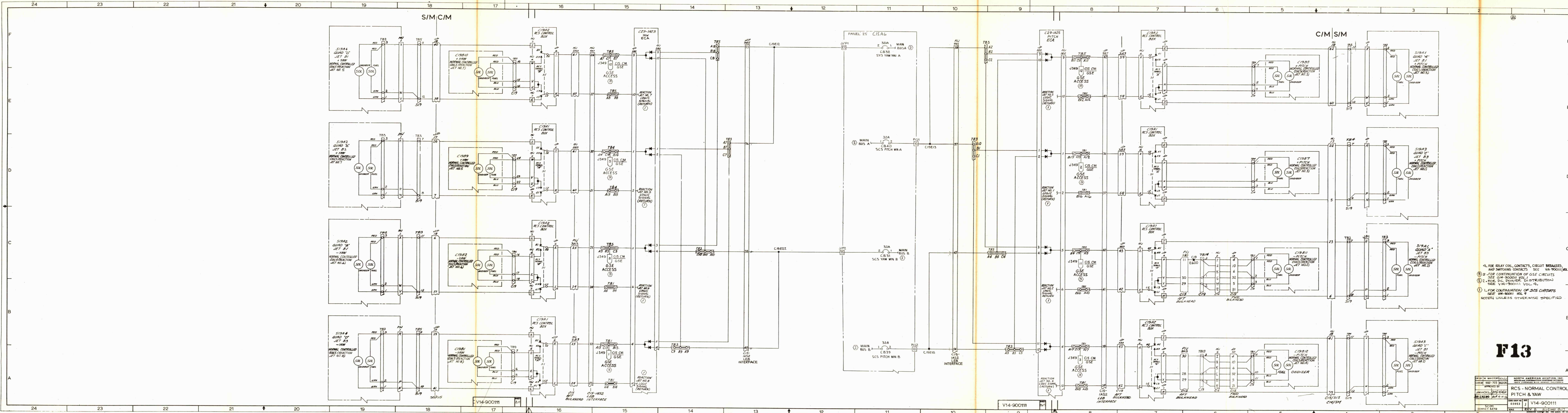
# F11

REV. NO.	REV. DATE	REV. DESCRIPTION
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2		
3		
4		
5		
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7		
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11		
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NORTH AMERICAN AVIATION, INC.  
 RCS - DIRECT CONTROL,  
 PITCH & YAW  
 V14-90011  
 93953 J



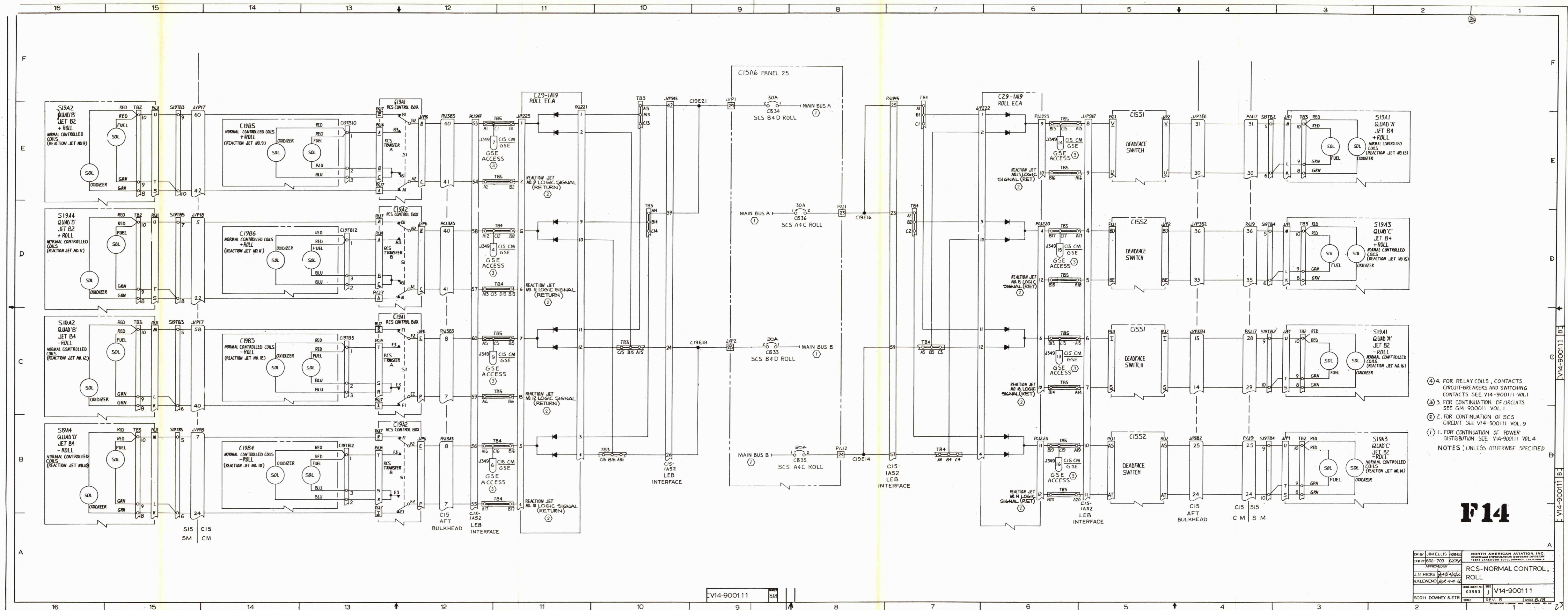




- 4. FOR RELAY COIL, CONTACTS, CIRCUIT BREAKERS, AND SWITCHING CONTACTS SEE V14-90011 VOL 1
  - 5. FOR CONTINUATION OF GSE CIRCUITS SEE V14-90011 VOL 1
  - 6. FOR DC POWER DISTRIBUTION SEE V14-90011 VOL 4
  - 7. FOR CONTINUATION OF SOL CIRCUITS SEE V14-90011 VOL 9
- NOTES: UNLESS OTHERWISE SPECIFIED

**F13**

DESIGNED BY	W. W. WATSON	DATE	11/22/54
CHECKED BY	R. D. HARRIS	DATE	11/22/54
APPROVED BY	J. H. HICKS	DATE	11/22/54
REVISION	REV. 1	DATE	11/22/54
NORTH AMERICAN AVIATION, INC.		MEMPHIS, TENNESSEE	
RCS - NORMAL CONTROL PITCH & YAW			
SCALE	1:1	PROJECT	V14-90011
DATE	11/22/54	REV. B	11/22/54



- ④ 4. FOR RELAY COILS, CONTACTS CIRCUIT-BREAKERS AND SWITCHING CONTACTS SEE V14-900111 VOL.1
  - ③ 3. FOR CONTINUATION OF CIRCUITS SEE G14-900111 VOL.1
  - ② 2. FOR CONTINUATION OF SCS CIRCUIT SEE V14-900111 VOL.9
  - ① 1. FOR CONTINUATION OF POWER DISTRIBUTION SEE V14-900111 VOL.4
- NOTES: UNLESS OTHERWISE SPECIFIED

**F14**

V14-900111

DR BY	JIM ELLIS	DATE	10/26/64	NORTH AMERICAN AVIATION, INC. 10000 WILSON AVENUE TOLSON, CALIFORNIA
CHK BY	652-703	DATE	10/26/64	
APPROVED BY	J.M. HICKS	DATE	10/26/64	
RELEWEND	10/26/64	DATE	10/26/64	
RCS-NORMAL CONTROL ROLL				V14-900111
SCALE	REV. 5	DATE	10/26/64	
SCALE	REV. 5	DATE	10/26/64	

