

## Chapter 3A GENERAL INFORMATION

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## DESCRIPTION

**General**

1. The flight instrument and control system provides three axis autostabilization, height and heading locks, attitude hold in both pitch and bank, automatic I.L.S. approach and auto trim in a number of modes.

2. The interconnection diagram for the complete system is given in this sub-chapter and on the routeing charts in the sub-chapter dealing with individual

sub-systems; adequate cross references are given in those cases where one sub-system is linked to another.

**Associated publications**

3. General information relating to the integrated flight instrument and control system will be found in the A.P.s detailed in Table 2. In addition to the full descriptions of the many items of equipment used in the aircraft, these publications include information on electrical data transmissions, servomechanisms, definitions of aircraft

attitude and heading locks, and details of unit servicing.

**Power supplies**

4. Both 28-volt d.c. and 115-volt, 400 Hz, a.c. power supplies are required to operate the integrated system. Table 1 lists the associated circuit fuses and gives their location. The routeing charts included in each sub-chapter will assist with point to point testing of a particular system. Functioning checks for the power supplies are included in the d.c. and a.c. chapters (Sect.6, Chap. 9 and 13) and also in Sect.6, Chap.4.

## RESTRICTED

TABLE 1

Fuses, ratings, and locations

Fuse No.	Rating	Code	Circuit	Location
2	5A	DD1	Aileron trim indicator	Forward fusebox
5	5A	DC1	Tail-plane trim indicator	Forward fusebox
39	5A	CD2	Aileron trim control	Port fuse and relay panel
69	5A	CC2	Tail-plane trim control	Starboard fuse & relay panel
71	5A	CD1	Aileron trim control	Starboard fuse & relay panel
75	5A	CC1	Auto trim control	Starboard fuse & relay panel
79	5A	CH2	'g' switch	Starboard fuse & relay panel
87	5A	FC13	Flight display/M.R.G. supply	Starboard fuse & relay panel
89	7.5	CH1	Pilot's control unit	Starboard fuse & relay panel
102	5A	FD1	Pilot's control unit	Starboard fuse & relay panel
140	5A	FT1	Flight system manual test	D.C. feeder fuse panel
168	5A	FC1	M.R.G. control	D.C. feeder fuse panel
363	5A	FDF1	Autopilot control	A.C. fuse and relay box
364	5A	FDF2	Air data computer	A.C. fuse and relay box
368	5A	FTF1	Flight system manual test	A.C. fuse and relay box
369	5A	FCG1	Flight system dist. box	A.C. fuse and relay box
374	5A	FDG2	Air data computer	A.C. fuse and relay box
375	5A	FDG1	Autopilot control unit	A.C. fuse and relay box
380	5A	FTG1	Flight system manual test	A.C. fuse and relay box
385	5A	FCF1	Flight system dist. box	A.C. fuse and relay box

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TABLE 2  
Equipment details

Equipment	Location	Access	Air Publication
<b>Air data system</b>			
Pressure head (main) Type 401PHA/2	Probe, bottom lip of nose, engine air intake	Nose	} 112G-0102-1
Pressure head (stand-by) Type PH1223/B Ref.No.6A/7489	Radome upper strut	Nose	
Transducer, pitot/static, Type B, Mk.2, Ref.No.6TD/8722	Between frames 6-7 starboard	Up through nose wheel well	} 112F-0007-1
Static transducer, Type D, Mk.2, Ref.No.6TD/1192	Between frames 6-7 starboard	Up through nose wheel well	
Height and rate of climb display, Type B, Ref.No.6TD/6828	Rack assembly, cockpit	Cockpit	} 112F-0007-1
Speed display, Type C, Ref.No.6TD/898	Above rack assembly	Cockpit	
Air data computer, Mk.2, Type E, Ref.No.6TD/1193	Main equipment compartment	21P	
<b>Dynamic flight reference system</b>			
Gyro reference unit, Type A or B, Ref.No.6G/39 or 6G/40	Main equipment compartment port side	21P	112G-0318-16
Electronic unit, Type A or B, Ref.No.6G/41 or 6G/42	Main equipment compartment port side	21P	112B-0306-1
Flight systems distribution box	Main equipment compartment port side	21P	} 112B-0303-1
Navigation display amplifier, Type C, Ref.No.6TD/782	Main equipment compartment port side	21P	
Navigation display unit, Type C, Ref.No.6TD/3650	Rack assembly, cockpit	Cockpit	
Attitude indicator, Type F4C, Ref.No.6TD/7287	Rack assembly, cockpit	Cockpit	
Tacan offset computer, Type B, Ref.No.6TD/3221	Rack assembly, cockpit	Cockpit	} 112B-0303-1
Compass detector unit, Type C, Ref.No.6TD/3169	Aircraft fin	Access panel, port side of fin	

continued...

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TABLE 2 Equipment details - continued

Equipment	Location	Access	Air Publication
Flight control system Pilot's control unit, Type G, Ref.No.6TD/1501	On starboard console	Cockpit	112C-0011-1
Flight control computer, Type E, Ref.No.6TD/1092339	Main equipment compartment	21P	
Gyro units, (pitch, roll, and yaw) Type B, Ref.No.6TD/605	Between fr. 21-22 starboard (pitch & yaw)	24S	112G-0318-16
	Between fr. 21-22 port (roll)	24P	
Auto-trim indicator, Type C, Ref.No.6TD/709	Port instrument panel	Cockpit	112C-1105-1
Auto-trim amplifier, Type C, Ref.No.6TD/814	Main equipment compartment	21P	112C-0011-1
4-channel amplifier, Ref.No.6TD/618	Main equipment compartment	21P	
Tail plane autostabilizer actuator, Type 214, Mk.2, Ref.No.6TD/601	Between fr.49-50, starboard side	Removal of No.1 jet pipe	112C-1102-1
Rudder autostabilizer actuator, Type 214, Mk.3, Ref.No.6TD/613	Between fr.56-57, starboard side	84S	
Port aileron autostabilizer actuator, Type 214, Mk.2, Ref.No.6TD/601	Leading edge, port wing	Leading edge panel	
Starboard aileron autostabilizer actuator, Type 214, Mk.4, Ref.No.6TD/617	Leading edge panel, starboard wing	Leading edge panel	
◀ Throttle actuator, Ref.No.6TD/610	Cockpit, port side, outboard of rudder hand controller	Cockpit ▶	112C-1103-1
Autopilot g switch, Type A, Ref.No.6TD/615	Under cockpit floor	Floor panels	112C-1104-1
g switch test switch	On bulkhead, port side behind pilot's seat	Cockpit	113D-1101-1
Autopilot flight director engage switch	On control column handle	Cockpit	
Dither adjuster, Ref.No.5CZ/8274	Plugged into the 4-channel amplifier	Hinged cover of spine	

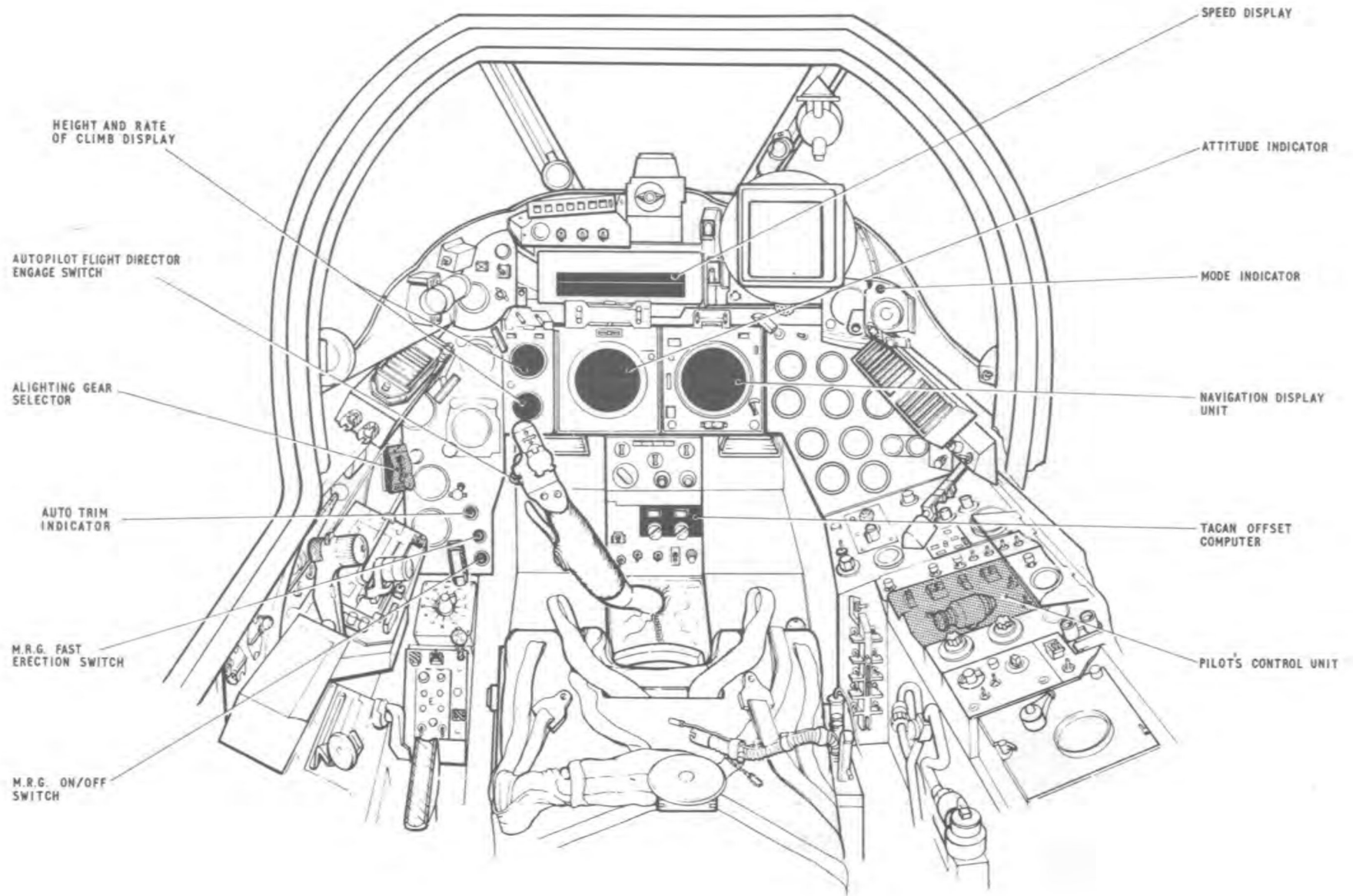


FIG.1. COCKPIT DETAILS

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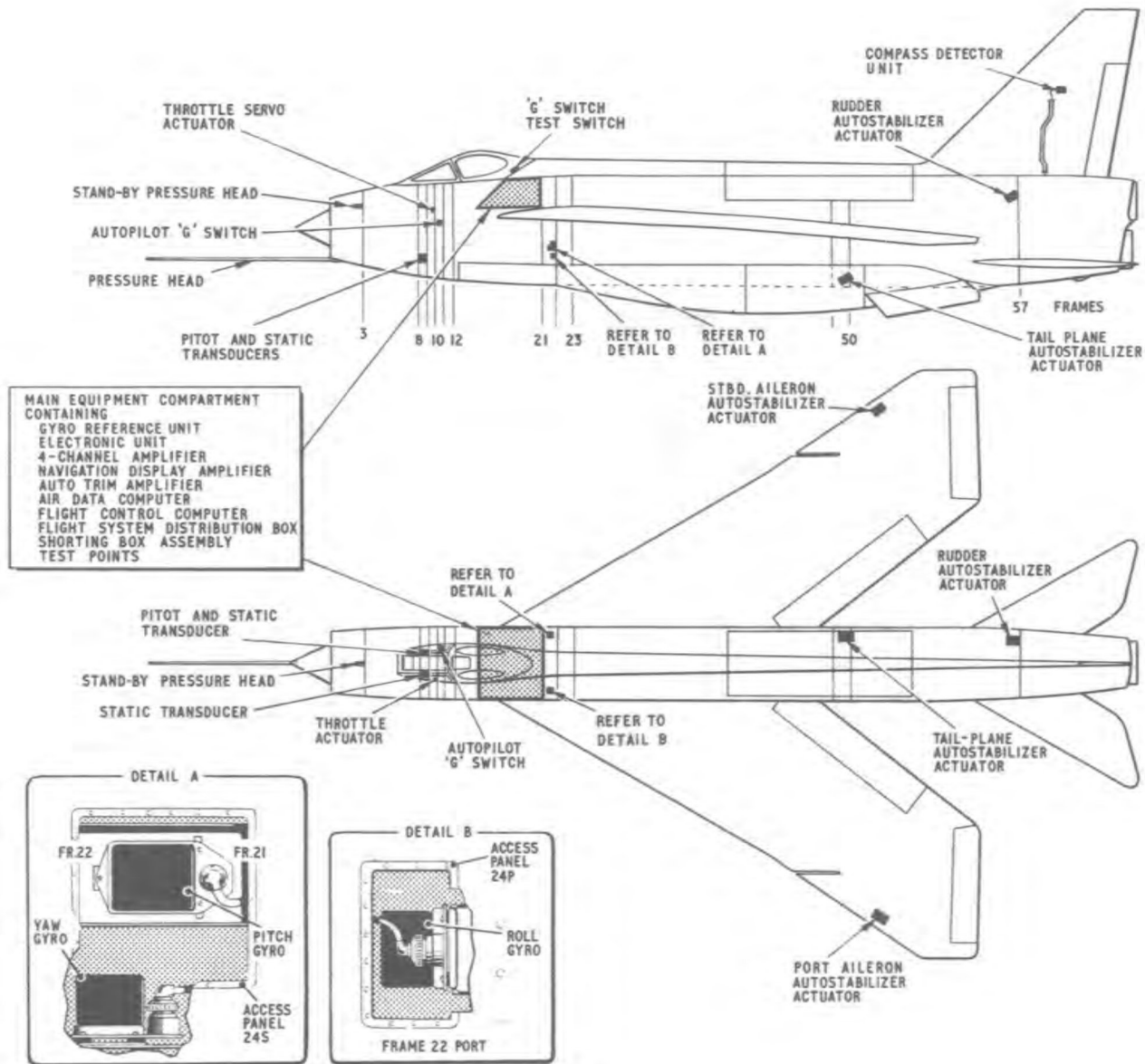


FIG.2. LOCATION OF EQUIPMENT DETAILS

6-9192-1

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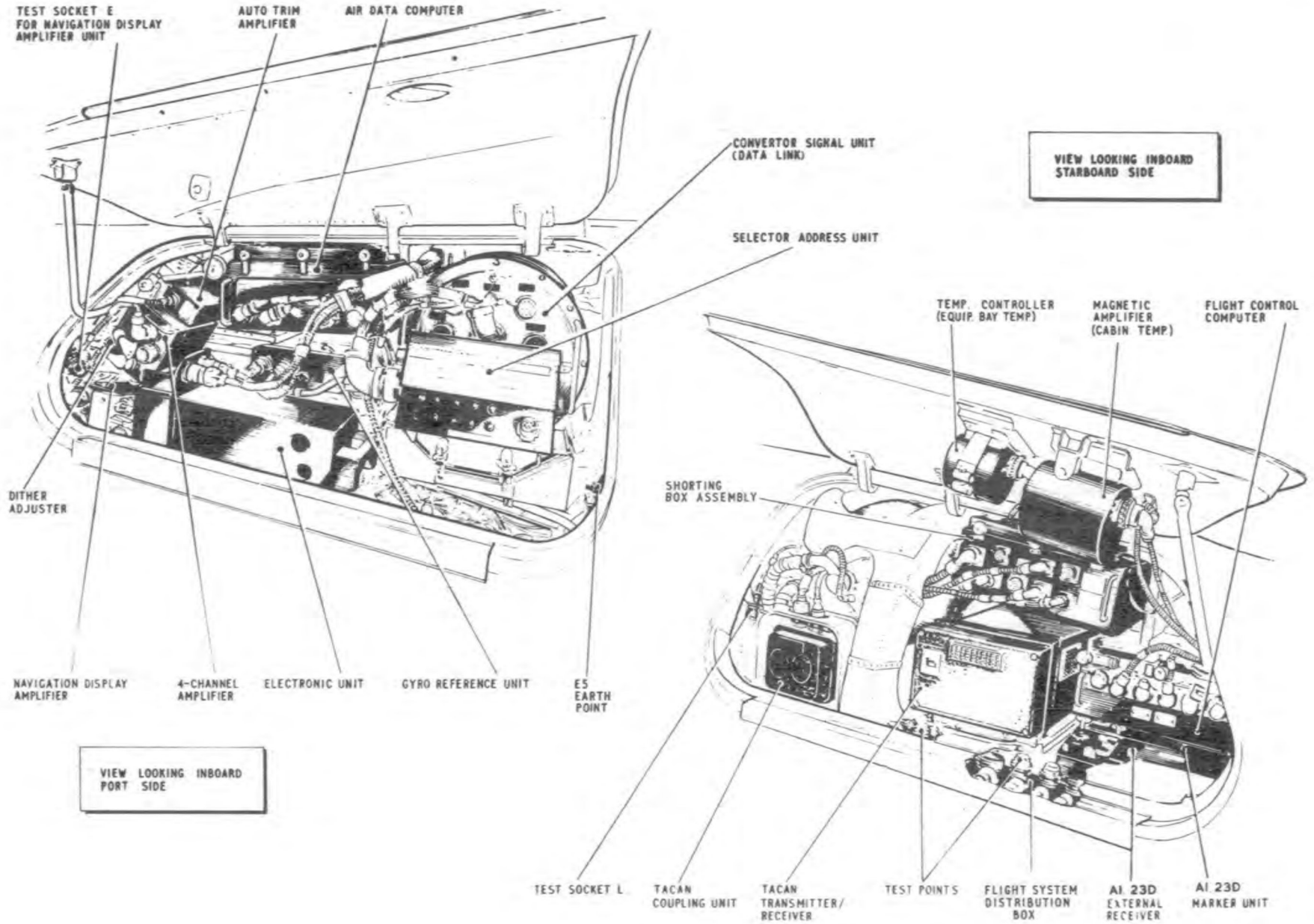


FIG.3.MAIN EQUIPMENT COMPARTMENT DETAILS

◀MOD 4831 EMBODIED▶



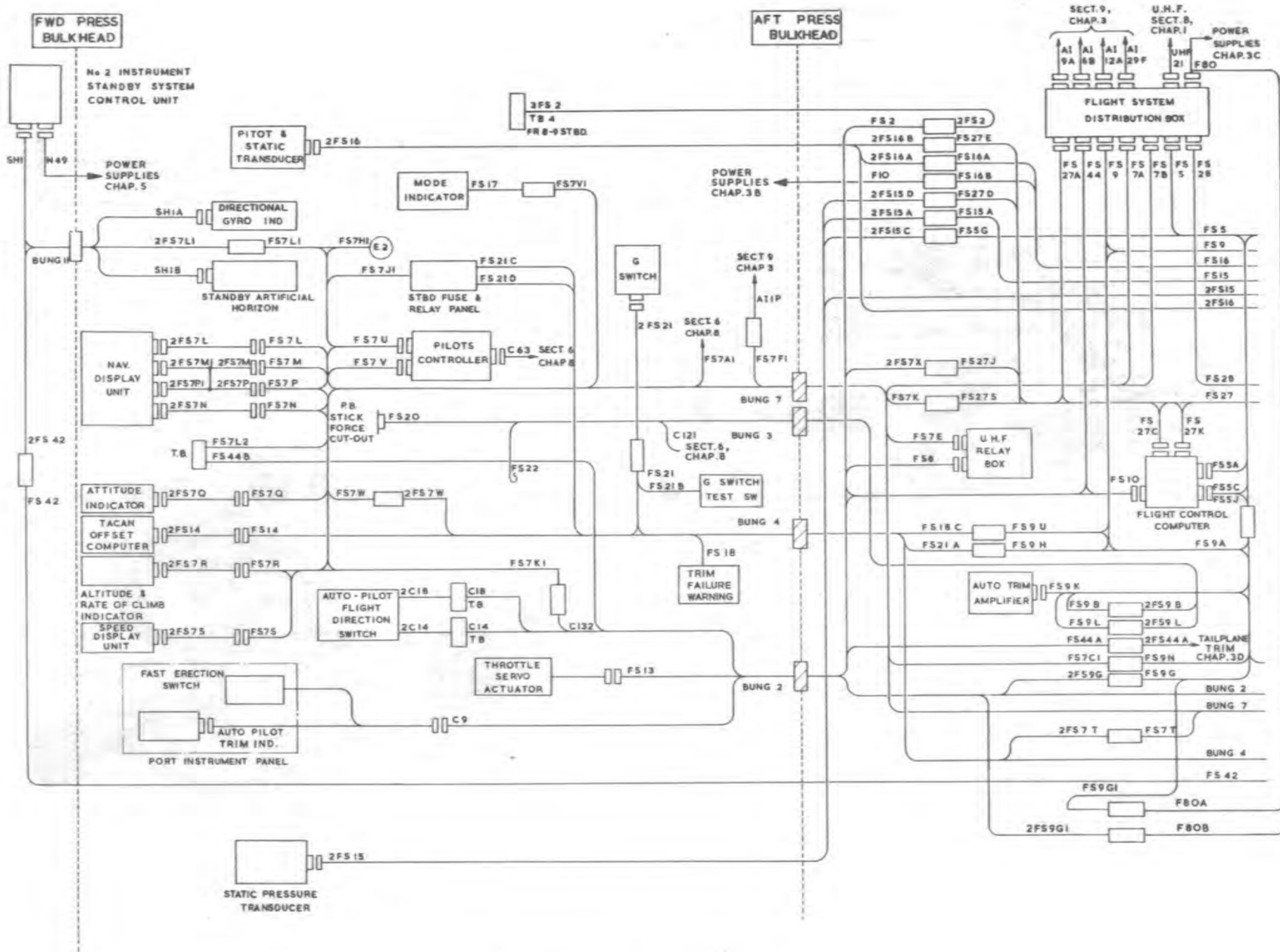
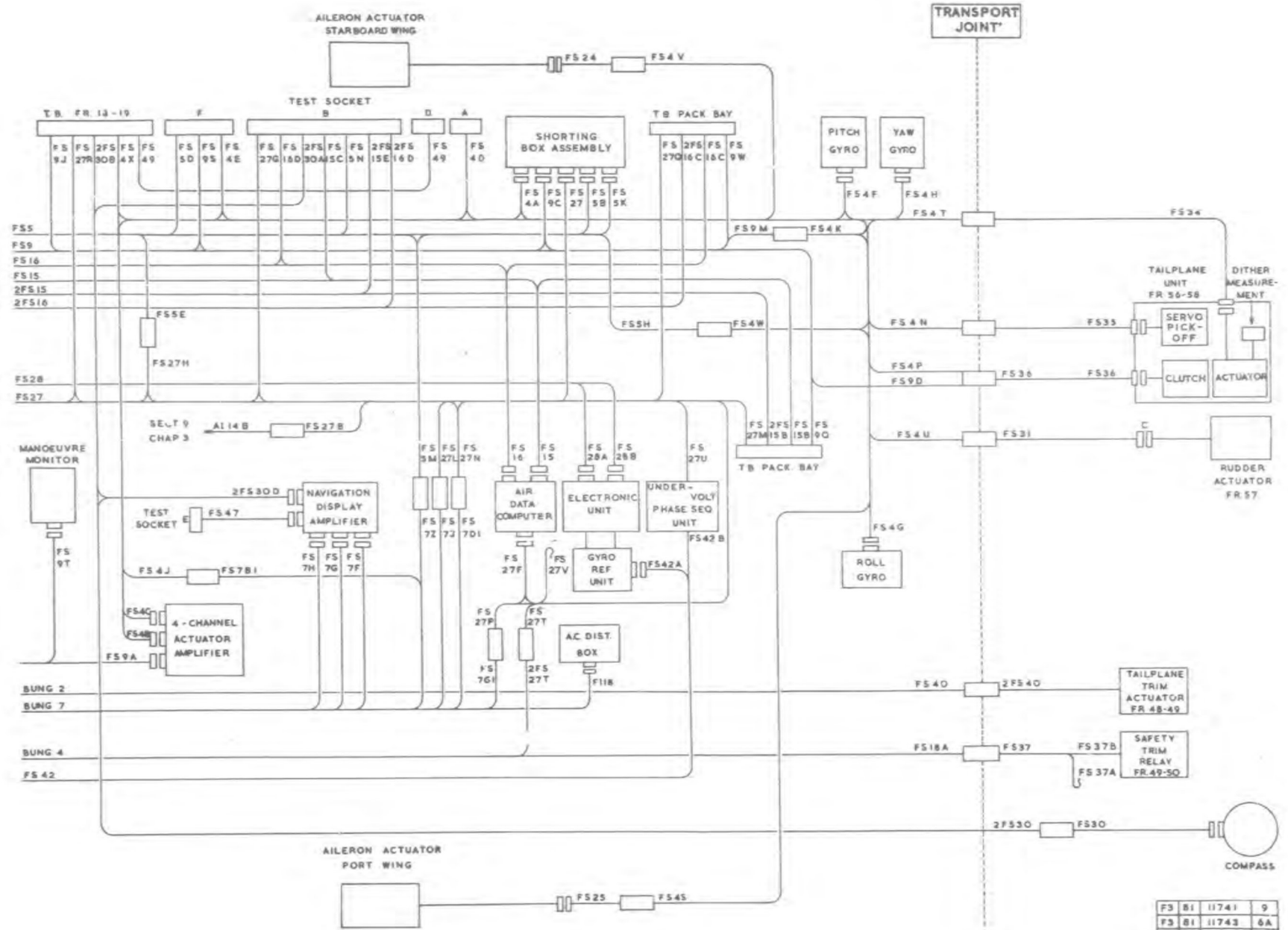


FIG. 4. INTERCONNECTION DIAGRAM





F3 81	11741	9
F3 81	11743	6A
F3 81	47/48	2A
F3 81	14731	29

FIG 4A. INTERCONNECTION DIAGRAM

A	F57A-N	310	A	299	A	8	A	480	A	539	A	209	A	511
B	F52B-H	108	B	191	B	181	B	478	B	419	B	76	B	28
C		250	C	211	C	F57B-12	C	480	C	CONN 21-R	C	20	C	402
D		116	D	217	D	298	D	478	D	539	D	28	D	240
E	F57A-P	351	E	F544-V	E	F527A-5	E	SKTC-N	E	410	E	19	E	RL3-3F
F	F52B-J	550	F	241	F	120	F	SKTC-T	F	CONN 21-N	F	420	F	239
G		258	G	216	G	300	G	220	G	549	G	299	G	RL3-4F
H		361	H	251	H	495	H	219	H	430	H	A112A-L	H	RL3-5F
I	376	279	I	558	I	440	I	351	I	CONN 21-T	I	A112A-M	I	
J	F57A-E	421	J	180	J		J	361	J	216	J	A112A-N	J	109
K		560	K	178	K	376	K	165	K	217	K	277	K	240
L		411	L		L	F52B-16	L	125	L	38	L	381	L	410
M	F55-E	148	M		M	F527A-5	M	145	M	SKTC-A	M	230	M	F57A-F
N	F52B-B	401	N	515	N	F52B-14	N	167	N	SKTC-E	N	351	N	419
P	F544-J	249	P	309	P	F52B-12	P	66	P	540	P	361	P	F57A-C
R	F59-B	247	R	308	R		R		R	560	R	286	R	430
S	F55-F		S	307	S	F52B-13	S		S	156	S	287	S	F57A-J
T	F52B-6		T	525	T	37	T		T	569	T	288	T	236
U			U	229	U		U		U	RL2-4H	U	289	U	156
V			V	297	V	436	V		V	RL2-3H	V	290	V	326
W			W	248	W	F527A-Z	W		W	RL3-6H	W	300	W	F57A-X
X			X		X	221	X		X	210	X	436	X	RL3-1B
Y			Y		Y	288	Y	CONN 21-7	Y	SKTC-X	Y	298	Y	F527A-G
Z			Z		Z	125	Z	CONN 21-5	Z	208	Z	421	Z	
						179		250		548		411		
						388				RL3-4H		401		
						559				298		280		
										AL12A-H		391		A129F-T
										AL12A-K		381		A129F-U
										CONN 21-E		391		A129F-F
										170		409		A129F-N
										38		272		A129F-M
										169		37		F55-W
										540		559		F55-E
										SKTC-G		558		
										F52B-B		371		
										SKTC-E		559		
										SKTC-J		1		41B
										F52B-E		2		238
										SKTC-X		3		420
										350		4		
										108		5		
										118		6		
										418		7		
										521		8		
										440		9		
										438		10		
										AT12A-J		11		
												12		
												13		
												14		
												15		
												16		
												17		
												18		
												19		

TEST SOCKET G (SKT.G)

FS5

TEST SOCKET C (SKT.C)

FS44

TEST SOCKET H SKT.H

TEST SOCKET J SKT.J

FS9

FS7A

FS7B

CONN. 21

F80

FIG.5. FLIGHT SYSTEM DISTRIBUTION BOX

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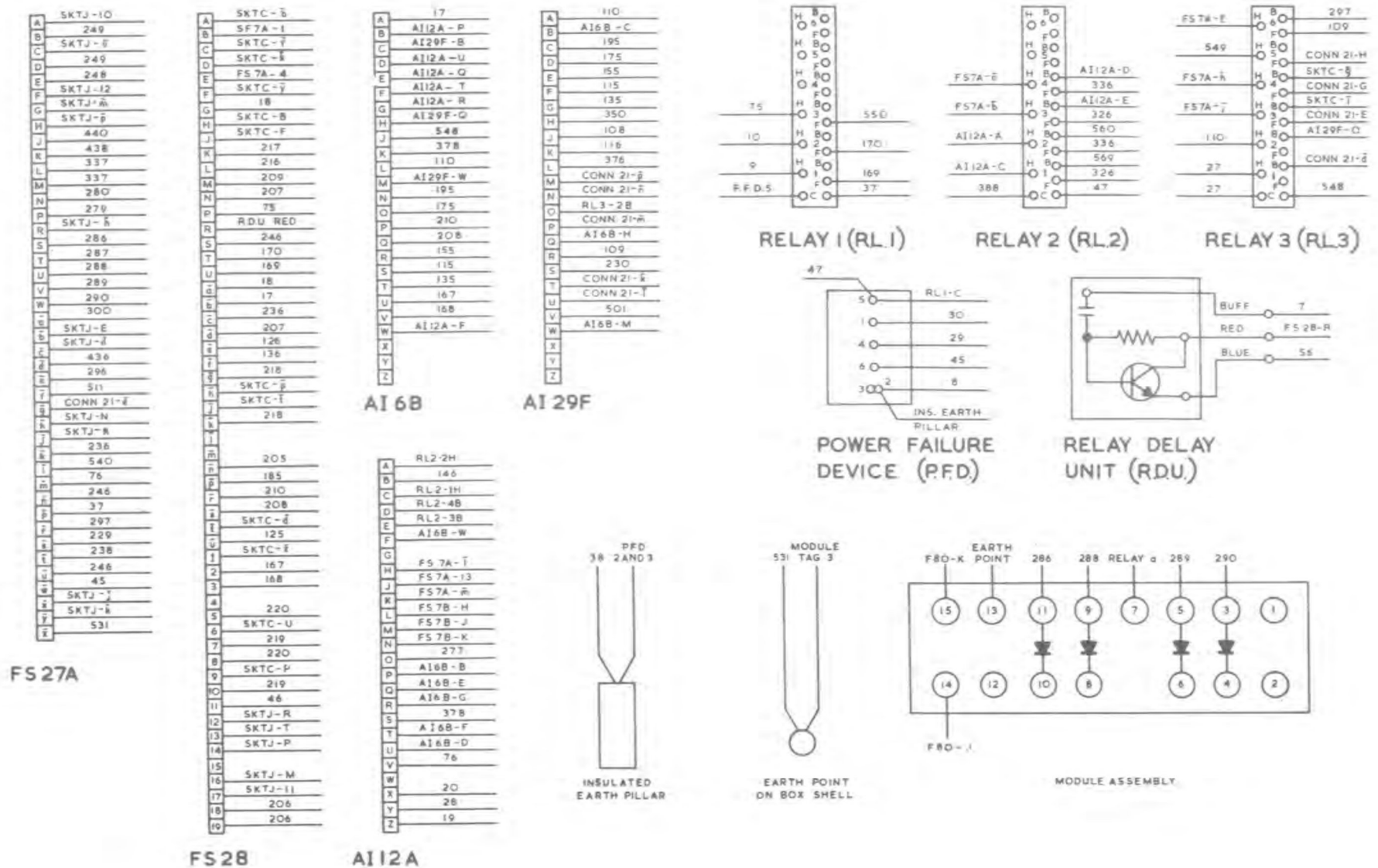


FIG. 5A. FLIGHT SYSTEM DISTRIBUTION BOX

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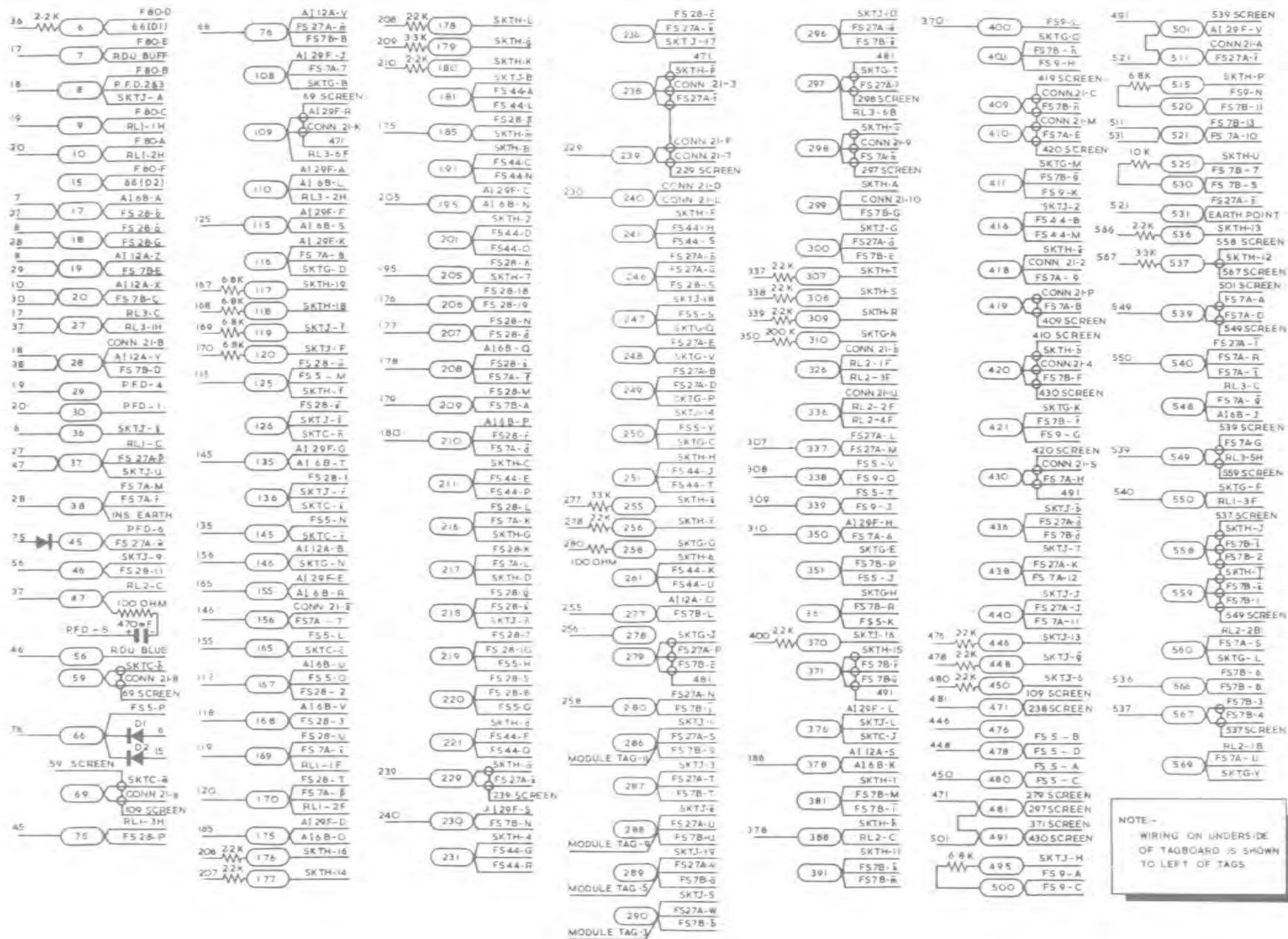


FIG. 5B. FLIGHT SYSTEM DISTRIBUTION BOX

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