Group 2—N.B.C. EQUIPMENT

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CROSS REFERENCES

Bomb release controls (includes N.B.C./bomb door and bomb release interconnections) ... *Book 2, Sect.5, Chap. 3, Group 1*

Introduction

1. This group is concerned with the installation of the equipment in the aircraft. Information about the units and about the complete system will be found in A.P.2894K, Vol. 1. The location of the units is given in Table 1 and is shown pictorially in Group 4. The interconnection of the units is shown on the routing diagrams together with a schedule of connectors. Only the power supplies to the equipment and controls that are part of the aircraft wiring will be described.

TABLE 1
N.B.C. Mk. 2 equipment

Unit	No. off	Type and Ref. No.		Location
Junction Box	1	Type 343,	9D/15	Radio crate
Navigation panel	1	Mk. 1,	9D/10	Radio crate
Power unit	1	Mk. 1,	9D/11	Radar crate
Amplifier (pre-Mod. 1673)	1	Mk. 1,	9D/1	Radar crate
Calculator	1	Type 1,	9D/2	Radar crate
Calculator	1	Type 2,	9D/3	N.B.C. crate in cabin
Calculator	1	Type 3,	9D/4	N.B.C. crate in cabin
Calculator (pre-Mod. 1673)	1	Type 4,	9D/5	Under pilot's floor
Calculator (pre-Mod. 1673)	1	Type 6,	9D/14	N.B.C. crate in cabin
Resistance unit	1		9D/12	Under pilot's floor

TABLE 1
N.B.C. Mk. 2 equipment (*contd.*)

Unit	No. off	Type and Ref. No.		Location
Indicator directional	1		9D/8	Port blind flying panel
Calculator (post-Mod. 639, pre-Mod. 2397)	1	Type 7 Mk. 1	9D/762	Radio crate table
Remote control unit (post-Mod. 639, pre-Mod. 2397)	1	Mk. 1,	9D/763	Above port instrument panel
Calculator (post-Mod. 2397)	1	Type 7, Mk. 2A	9D/110	Radio crate table
Remote control unit (post-Mod. 2397)	1	Mk. 2A	9D/111	Under radio crate starboard side
Wind unit } (post-Mod. 2292)	1		9D/756	Radio crate
Indicator unit } (post-Mod. 2292)	1		9D/757	Radio crate table
Head sighting unit } Pre-Mod. 1673 only	1		9D/9	Bomb aimer's position
Bracket head sighting } Pre-Mod. 1673 only	1		9D/13	Bomb aimer's position
Control emergency } Pre-Mod. 1673 only	1		9D/7	Bomb aimer's position
Control unit } Pre-Mod. 1673 only	1	Mk. 1,	9D/6	Bomb aimer's position
A.M.U. control unit	1		6B/471	Radio crate
A.M.U.	1	Mk. 4,	6B/555	Under battery bay
Suppressor	1	Type G5,	5CY/5151	Radio crate
Junction box	1	Vickers Ref.	67399–Sht. 111	Radio crate
Air mileage indicator (post-Mod. 1957 only)	1	Mk. 1,	6B/293	Radio crate
Suppressor	1	Type F2	5CY/2682	Radio crate

DESCRIPTION

Power supplies

2. A.C. power for the main equipment is supplied by No. 1 radar inverter, Type 350, mounted in the compartment above the nose-wheel bay. A.C. power for the time-of-fall calculator is supplied from No. 2 radar inverter. In case of failure of either of these inverters, No. 3 radar inverter can be switched to supply the faulty machine's load. The control of the inverters is described in Chap. 1. Pre-Mod. 2362 or 2446, d.c. power for the main equipment is obtained from the W/T No. 2, H.R.C. fuse on panel Z, via a circuit-breaker on panel G. Post-Mod. 2362 or 2446, d.c. power for the main equipment is obtained from the W/T No. 3 H.R.C. fuse on panel Z. The d.c. supply for the time-of-fall calculator and the V.S.A. control emergency (pre-Mod. 1673 only) is obtained from the W/T No. 1, H.R.C. fuse on panel Z.

3. The three supplies required by the equipment are 115 volts, 400 c.p.s., 3-phase a.c.; 115 volts, 1,600 c.p.s., single-phase a.c. and 28 volts d.c. The supplies to the main equipment are switched by the N.B.C. switch on the front of the power distribution box on the radio crate. The supplies to the V.S.A. and time-of-fall calculator are not switched. The distribution of these supplies in the equipment is detailed in A.P.2894K, Vol. 1, Part 2, Section 2, Chapter 2.

4. With the N.B.C. switch at ON, phases A and C of the 400 c.p.s. supply are connected by poles 1 and 2 of the switch, via fuses in the distribution box, to the junction box Type 343; phase B is not switched but is connected to earth at the three-phase neutral bus-bar in the power distribution box. The N.B.C. failure neon-indicators should come on when the switch is selected ON. In the event of an excessive fall in voltage of the 400 c.p.s. supply, these indicators go out to indicate failure.

5. With the N.B.C. switch at ON, the live phase of the 1,600 c.p.s. supply is connected by pole 3 of the switch to the junction box Type 343; the neutral phase is not switched but is connected to earth at the single-phase neutral bus-bar in the power distribution box.

6. With the N.B.C. switch at ON, the 28-volt d.c. supply is connected by pole 4 of the switch, via a fuse in the distribution box to the control unit Type 585 via the junction box Type 343. The negative return is not switched but is connected to earth at the d.c. earth bus-bar in the power distribution box. Post-Mod. 2728, pole 4 of the H2S switch is connected parallel with this pole of the N.B.C. switch so that when either switch is at ON, a supply is fed to the control unit Type 585.

7. The 400 c.p.s. supply to the time-of-fall calculator is not switched and is "live" whenever the No. 2 Type 350 inverter is running; the neutral phase is connected to earth at the three-phase neutral bus-bar in the power distribution box.

8. The 28-volt d.c. supply to the time-of-fall calculator and V.S.A. is not switched and is "live" whenever there is power on the main 28-volt bus-bar on panel Z. The negative

Table 2

Removal of N.B.C. units

Unit	Removal
J.B. Type 343	Mounted at the back of the radio crate. Remove the connectors and the four screws and distance pieces. Withdraw aft.
Navigation panel	Secured by 4 screws to two brackets, each equiflex mounted, at the front of the radio crate. Remove the connectors and the 4 screws and washers. Withdraw from the crate.
Power unit, Mk. 1	Mounted on four equiflex mountings to a tray on the radar crate. Remove the connectors. Remove the six wing-headed bolts and washers securing the tray. Attach webbing lifting straps through handles. Attach Type A, $\frac{1}{4}$ ton, tackle to slinging rail eye (para. 9). Attach tackle hook to webbing straps. Swing the unit, complete with cooling sleeves, towards the pressure bulkhead. Raise up to the aircraft roof and move the unit on slinging rail to the access hatch from nosewheel bay and lower on to rig under the aircraft.
Amplifier (pre-Mod. 1673)	Mounted and removed as power unit except that it has no cooling sleeve.
Calculator, Type 1	Mounted and removed as power unit.
Calculator, Type 2	Held by four equiflex mountings on the crate behind the 2nd pilot's seat. Remove the connectors and the 4 wing nuts and washers. Withdraw upwards. Remove from aircraft using the special steps.
Calculator, Type 3	Mounted on four equiflex mountings to sliding tray in the crate behind the 2nd pilot's seat. Remove the connectors and the six "pip" pins securing the tray. Slide the tray and unit aft and remove from cabin using the special steps marked "for entry into the cabin with N.B.C. units".
Calculator, Type 4 (pre-Mod. 1673)	Held by four screws and two retaining straps to a trolley on slides at the bomb aimer's visual position. The trolley is retained by two "pip" pins. Remove the connectors and the "pip" pins. Slide the trolley aft to clear the rails and remove trolley and unit together from aircraft, using special steps. The calculator is removed from the trolley by removing the four screws and slackening the retaining straps.
Calculator, Type 6 (pre-Mod. 1673)	Held by four screws and two retaining straps to a trolley on slides below the crate behind the 2nd pilot's seat. Remove as calculator, Type 4.
Resistance unit	Held by four equiflex mountings on the radar crate. Remove the connectors and the four nuts and washers. Lift away.
Directional indicator	Held by four nuts and screws to the port blind flying panel. Remove the connector and the four nuts, screws and washers. Withdraw from the back of the panel.
Head sighting unit (pre-Mod. 1673)	Held by a dowel pin at the forward end and by a quick-release fastener at the aft end. Remove the connectors and release the quick-release fastener. Withdraw the unit aft.
Control emergency (pre-Mod. 1673)	Held by four screws. Remove the connector and the four screws and washers. Lift away.
▶ ◀	
Calculator, Type 7, Mk. 1 (post Mod. 639) or Type 7, Mk. 2A (post Mod. 2397) (time of fall) used for alternative bomb installation	Held by three nuts and screws in radio crate table. Remove the connectors from underneath the table and connect them to the stowages provided. Remove the sliding panel on the table top and the three nuts, screws and washers. Lift away.
▶ ◀	
Remote control unit Mk. 1 (time of fall) used for alternative bomb installation (post Mod. 639 pre-Mod. 2397)	Held by four nuts and screws to a hinged bracket on the starboard side of the instrument panel coaming. Remove the connector and the four nuts, screws and washers. Lift away.
Remote control unit Mk. 2A (time of fall) used for alternative bomb installation (post Mod. 2397)	Held and locked by standard locking to resiliently mounted mounting tray under the starboard side of the radio crate. Remove the locking and withdraw the unit from the tray.
Wing monitor	This is mounted on a mounting tray Ref. No. 9D/1131. Remove the connectors, unscrew the lock nuts and remove from tray. This unit MUST be insulated from the airframe when refitting.
Wing indicator	Held by four woodscrews to the radio crate table top. Remove the four woodscrews and washers and lift out the unit. Remove the electrical connector. This unit MUST be bonded to the airframe when refitting.

returns are connected to earth at the d.c. earth bus-bar at the power distribution box.

Removal of units

9. The method of removing all units is given in Table 2. Reference should also be made to the illustrations in Group 4. A lifting rail is fitted to the aircraft from station 350 to station 370. This rail is fitted with a ring and eye for supporting a hoist, to be used for lowering units from the bay above the nosewheel to the ground.

Bomb gear interconnections (*fig.* 2A)

10. Release pulses are supplied by the N.B.C. to open the bomb doors and to release stores. These signals are supplied via the Junction Box Type 343 through connector No. 12. The signal via pin E pulses the bomb doors and that from pin A pulses the bomb release system. Pin F receives an incoming signal from the bomb control unit which is passed on via the Calculator, Type 3, and the auto-pilot Bombing Coupling Unit to operate the 'flag' in the directional indicator for the duration of release of a selected 'stick' of bombs.

11. The signal for opening the bomb doors can only energize the bomb door circuits when the BOMB DOORS SWITCH on the control pedestal is selected AUTO. Selection of AUTO raises the deflector and energizes the N.B.C. door master relay R1, the contact R1/1 of which closes to allow the N.B.C. signal from pin E to energize the N.B.C. relay R2. Relay R2 closes contact R2/1 to feed a hold-in supply, from the BOMB DOORS switch at AUTO, to its coil and closes contact R2/2 to connect the supply to the bomb door opening control circuits via the 'normal' system of relays (*Chap.* 2, *Group* 5).

12. The bomb release from pin A is fed, pre-Mod. 2612, 2645, 2646 or 2725, via the bomb door interlock relay (contact 3 to 3a) to the bomb release relay R4. Post Mod. 2612, 2645, 2646 or 2725, the bomb release signal is fed to the N.B.C. release pulse relay R3, contact R3/1 of which closes in parallel with the bomb release switches to connect a supply from panel G to the bomb release relay R4. The bomb release relay operates as described in Chapter 3, Group 1 or 3, to release stores as selected on the Bomb Control Units.

13. The signal from the Bomb Control Unit to operate the 'flag' in the Directional Indicator on the port blind flying panel is initiated when the firing circuits in the Bomb Control Unit are energized by operation of the bomb release relay. The signal is maintained for the duration of release of the selected 'stick' of bombs, but is further controlled by a relay in the Calculator, Type 3, which only allows the signal to pass after SET BOMB RUN has been selected, by the initiation of N.B.C. release pulse signal.

Post Mod. 2456 (*fig.* 2A)

14. Mod. 2456 introduces isolating switches in the three bomb gear interconnection circuits and provides a test socket for use with the N.B.C. simulator. In this way the simulator can be connected to operate the bomb door and bomb release systems without feeding back into the N.B.C. equipment in the aircraft, likewise the N.B.C. equipment in the aircraft can be fully operated in the air or on the ground, but with the bomb door and bomb release systems isolated, the doors opening and bomb release signals merely energize indicator lamps on the N.B.C./BOMB GEAR ISOLATION PANEL on the radio crate. Two switches are provided, a single-pole switch in the bomb doors circuit and a double-pole switch in the bomb release circuit so that these systems may be isolated differentially.

◀ **Note . . .**

The simulator must not be used to operate the release system when stores are loaded. ▶

SERVICING

Introduction

15. Detailed servicing of the equipment is described in the relevant publications. On the aircraft, the security of all units in their mountings and adequate freedom of movement of anti-vibration mountings should be checked. All flexible bonding leads should be in good condition mechanically and electrically. All connectors should be checked periodically for continuity (pin-to-pin) for short circuits between pins and for soundness of insulation.

Power supplies

16. The a.c. and d.c. supplies at the power distribution box can be checked from four test sockets on the voltage trimmer panel on the port wall of the cabin. The testing of these supplies is described in Chapter 1.

17. With the Type 350 radar inverters running, select the N.B.C. switch to ON and check that the two N.B.C. supply neon indicators light. Select the inverter emergency switch to NO. 1 FAIL and check that the neon indicators remain alight. Switch off the N.B.C. switch, the inverters and d.c. supplies.

18. Check the fuses in the distribution box (*Chap.* 1, *Table* 2) and the main feeder fuses as follows:—Note: These main feeder fuses on panel Z also feed other aircraft circuits.

Panel J	*Panel Z*
H2S supply	W/T No. 1 and W/T No. 2 (pre-Mod. 2362 or 2446) or W/T No. 3.

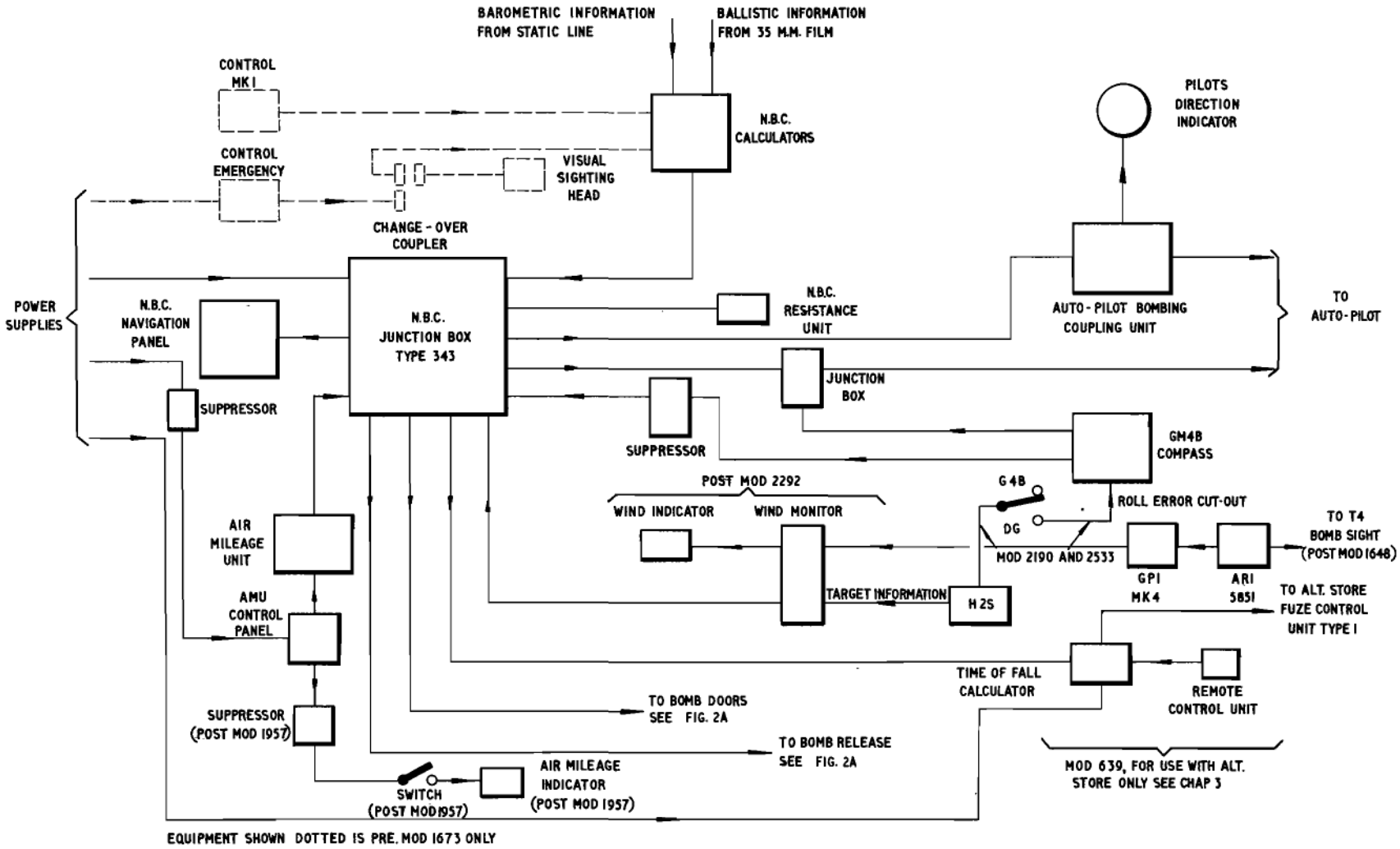

Fig. 1 N.B.C. Mk 2 interconnections.

RESTRICTED

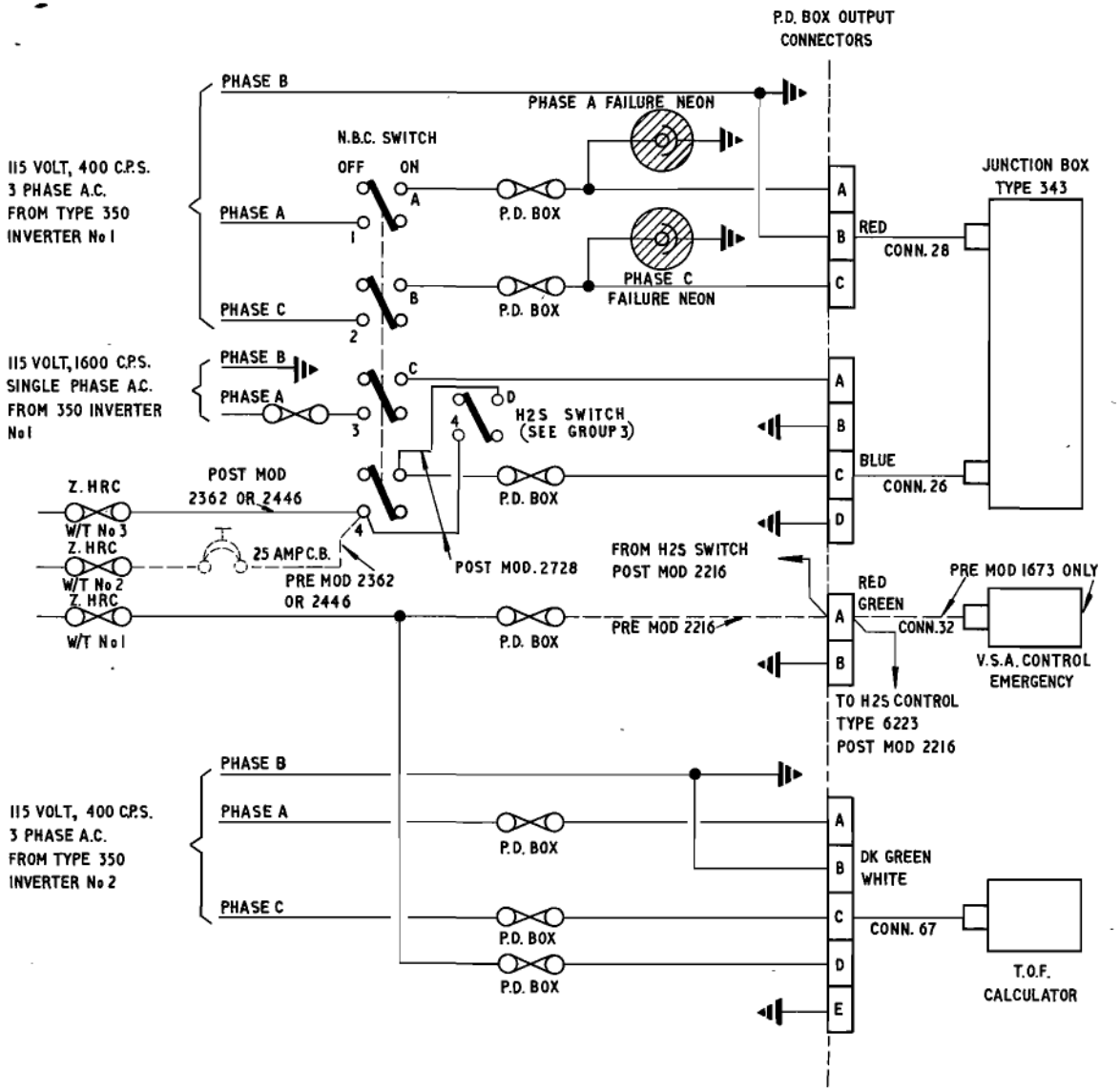

Fig. 2. N.B.C. Mk. 2 power supplies.

924/8/6873/35618/625/7/60

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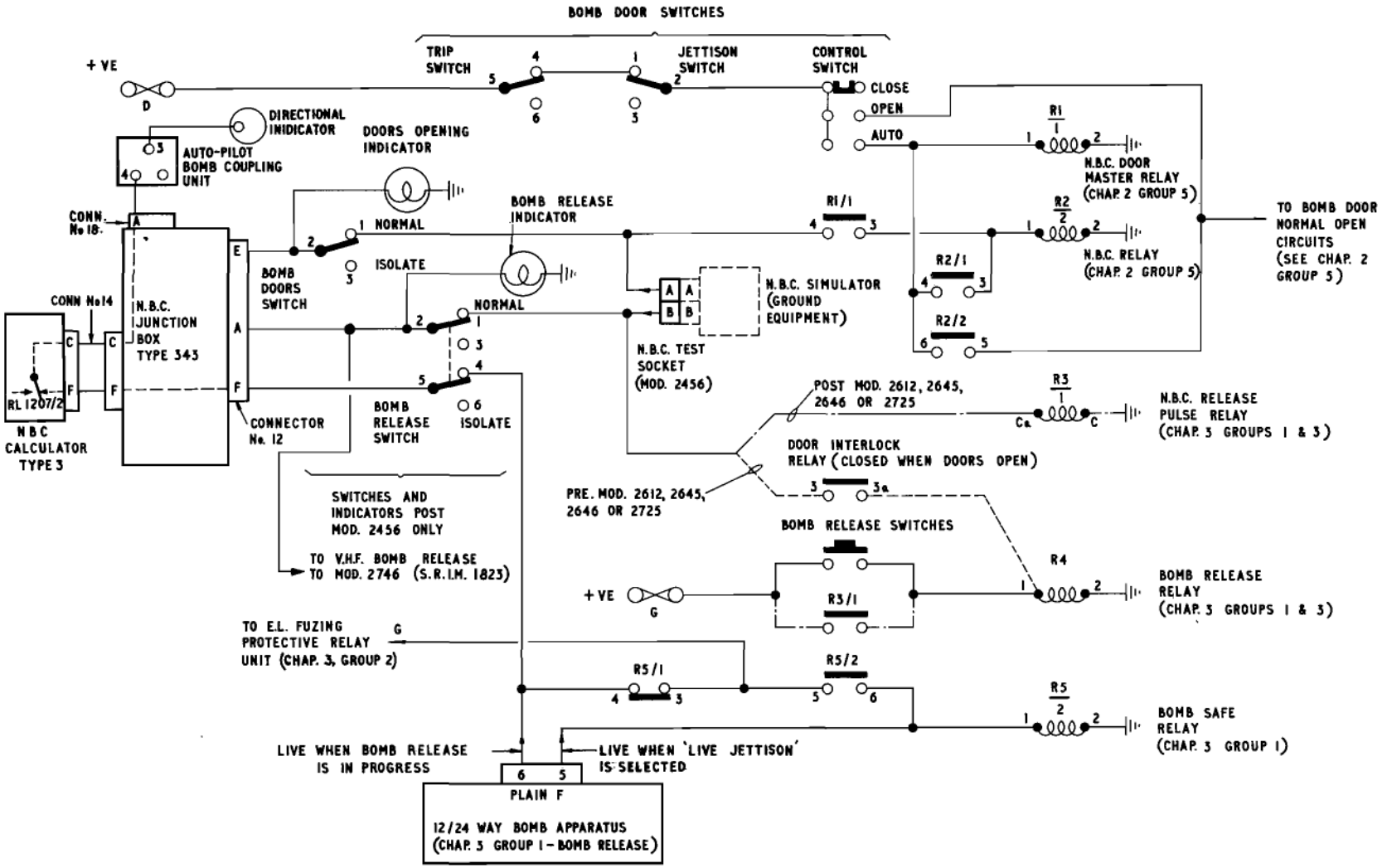
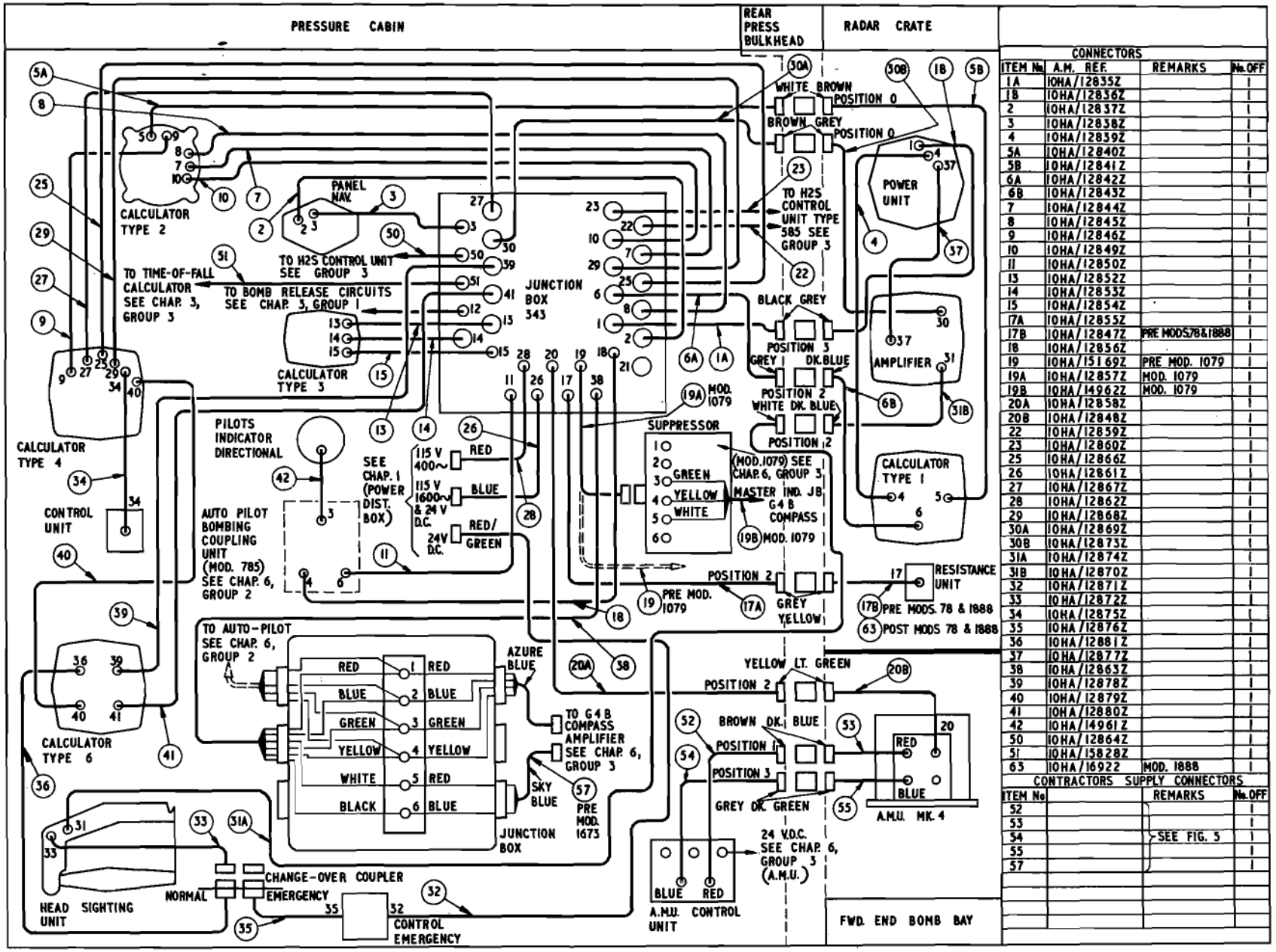


Fig. 2A Bomb gear interconnections

924/8/4939/58159/630/3/61 J. T. & S.



CONNECTORS			
ITEM No.	A.M. REF.	REMARKS	No. OFF
1A	10HA/12835Z		1
1B	10HA/12836Z		1
2	10HA/12837Z		1
3	10HA/12838Z		1
4	10HA/12839Z		1
5A	10HA/12840Z		1
5B	10HA/12841Z		1
6A	10HA/12842Z		1
6B	10HA/12843Z		1
7	10HA/12844Z		1
8	10HA/12845Z		1
9	10HA/12846Z		1
10	10HA/12849Z		1
11	10HA/12850Z		1
13	10HA/12852Z		1
14	10HA/12853Z		1
15	10HA/12854Z		1
17A	10HA/12855Z		1
17B	10HA/12847Z	PRE MODS.78&1888	1
18	10HA/12856Z		1
19	10HA/151692	PRE MOD. 1079	1
19A	10HA/12857Z	MOD. 1079	1
19B	10HA/14962Z	MOD. 1079	1
20A	10HA/12858Z		1
20B	10HA/12848Z		1
22	10HA/12859Z		1
23	10HA/12860Z		1
25	10HA/12866Z		1
26	10HA/12861Z		1
27	10HA/12867Z		1
28	10HA/12862Z		1
29	10HA/12868Z		1
30A	10HA/12869Z		1
30B	10HA/12873Z		1
31A	10HA/12874Z		1
31B	10HA/12870Z		1
32	10HA/12871Z		1
33	10HA/12872Z		1
34	10HA/12875Z		1
35	10HA/12876Z		1
36	10HA/12881Z		1
37	10HA/12877Z		1
38	10HA/12863Z		1
39	10HA/12878Z		1
40	10HA/12879Z		1
41	10HA/12880Z		1
42	10HA/14961Z		1
50	10HA/12864Z		1
51	10HA/15828Z		1
63	10HA/16922	MOD. 1888	1

CONTRACTORS SUPPLY CONNECTORS			
ITEM No.		REMARKS	No. OFF
52		SEE FIG. 5	1
53			1
54			1
55			1
57			1

Fig. 3. N.B.C. Mk. 2 installation (pre Mod. 1673)

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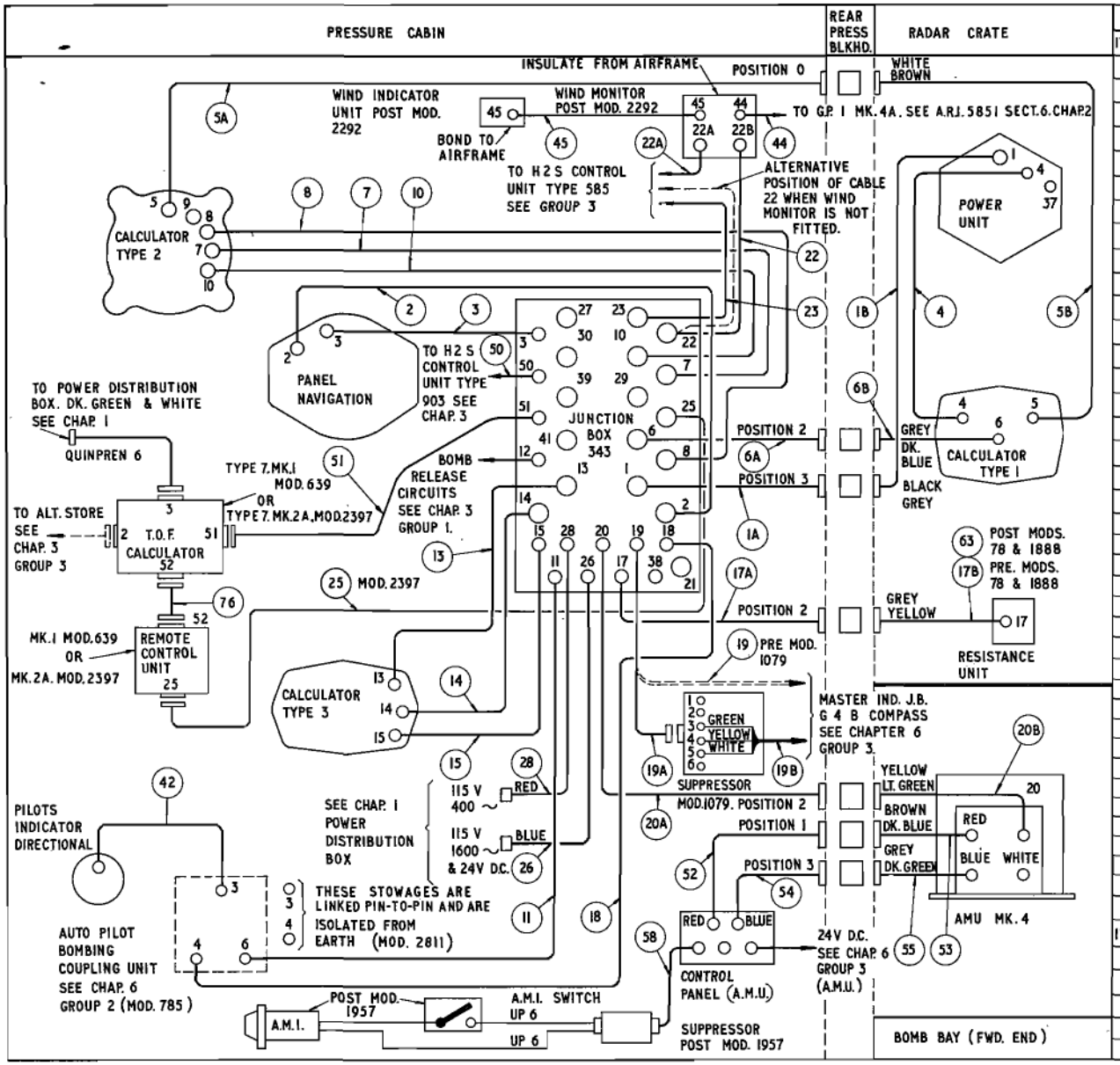

CONNECTORS				
ITEM No.	A.M. REF.		REMARKS	No. OFF
1A	10 HA / 12835			1
1B	10 HA / 12836			1
2	10 HA / 12837			1
3	10 HA / 12838			1
4	10 HA / 12839			1
5A	10 HA / 12840			1
5B	10 HA / 12841			1
6A	10 HA / 12842			1
6B	10 HA / 12843			1
7	10 HA / 12844			1
8	10 HA / 12845			1
10	10 HA / 12849			1
11	10 HA / 12850			1
13	10 HA / 12852			1
14	10 HA / 12853			1
15	10 HA / 12854			1
17A	10 HA / 12855			1
17B	10 HA / 12847		PRE MODS. 78 & 1888	1
18	10 HA / 12856			1
19	10 HA / 15169		PRE MOD. 1079	1
19A	10 HA / 12857		MOD. 1079	1
19B	10 HA / 14962		MOD. 1079	1
20A	10 HA / 12858			1
20B	10 HA / 12848			1
22	10 HA / 12859			1
23	10 HA / 12860			1
22A	10 HB / 1212		POST MOD 2292	1
25	10 HB / 7151			1
26	10 HA / 12861			1
28	10 HA / 12862			1
42	10 HA / 14961			1
44	10 HB / 1213			1
45	10 HB / 1214			1
50	10 HA / 12864			1
51	10 HA / 15828		PRE MOD 2723	1
	10 HB / 1625		POST MOD 2723	1
63	10 HA / 16922		POST MOD 1888	1
76	10 HB / 7152			1
CONTRACTORS SUPPLY CONNECTORS				
ITEM No.		No. OFF	ITEM No.	No. OFF
52	SEE FIG. 5	1		
53		1		
54		1		
55		1		
58		1		

Fig. 4 N.B.C. Mk. 2 installation (post Mod 1673)

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CABLE No.	LENGTH	END A			(51ST. & SUBS. A/C) END FITTINGS	END FITTINGS FOR 1ST. 50 A/C (VINMET CABLE)	END B			(51ST. & SUBS. A/C) END FITTINGS	END FITTINGS FOR 1ST. 50 A/C (VINMET CABLE)	CABLE SIZE
		TERMINATION	END	OUTLET			TERMINATION	END	OUTLET			
52		CONTROL PANEL RED	MK. IV SOCKET Z560120 POS. 0	STRAIGHT	Z 970096 Z 970102 Z 970108 Z 970114 Z 970058 Z 970062	SKT. Z 560120 POS. 0 Z 970058 Z 970062 Z 970088 Z 970077 Z 970078	REAR PRESS. BULKHEAD	MK. IV SOCKET Z560521 POS. 1	RT. ANGLE AT 45°	Z 970096 Z 970102 Z 970108 Z 970114 Z 970058 Z 970069	SKT. Z 560521 POS. 1 Z 970058 Z 970069 Z 970088 Z 970077 Z 970078	SEXTOMETVIN – SMALL
53		REAR PRESS. BULKHEAD	MK. IV PLUG Z560301 POS. 1	RT. ANGLE AT 45°	Z 970096 Z 970102 Z 970108 Z 970114 Z 970058 Z 970069	PLUG Z 560301 POS. 1 Z 970058 Z 970069 Z 970088 Z 970077 Z 970078	AMU MK.4	MK.IV SOCKET Z560120 POS. 0	ANGLE	Z 970096 Z 960102 Z 970108 Z 970114 Z 970058 Z 970069	SKT. Z 560120 POS. 0. Z 970058 Z 970069 Z 970088 Z 970077 Z 970078	SEXTOMETVIN – SMALL
54		CONTROL PANEL BLUE	MK. IV SOCKET Z560521 POS. 1	STRAIGHT	Z 970096 Z 970102 Z 970108 Z 970114 Z 970058 Z 970062	SKT. Z 560521 POS. 1 Z 970058 Z 970062 Z 970088 Z 970077 Z 970078	REAR PRESS. BULKHEAD	MK. IV SOCKET Z560523 POS. 3	RT. ANGLE AT 45°	Z 970096 Z 970102 Z 970108 Z 970114 Z 970058 Z 970069	SKT. Z 560523 POS. 3 Z 970058 Z 970069 Z 970088 Z 970077 Z 970078	SEXTOMETVIN – SMALL
55		REAR PRESS. BULKHEAD	MK. IV PLUG Z560303 POS. 3	RT. ANGLE AT 45°	Z 970096 Z 970102 Z 970108 Z 970114 Z 970058 Z 970069	PLUG Z 560303 POS. 3 Z 970058 Z 970069 Z 970088 Z 970077 Z 970078	AMU MK.4	MK. IV SOCKET Z560521 POS. 1	ANGLE	Z 970096 Z 970102 Z 970108 Z 970114 Z 970058 Z 970069	SKT. Z 560521 POS. 1 Z 970058 Z 970069 Z 970088 Z 970077 Z 970078	SEXTOMETVIN – SMALL
56												
57 PRE MOD. 1673		JUNCTION BOX (VA67399 SHT. III)			5K 87 USED ON ALL A/C AGS 1653/19 } PRE MOD. 1491 AGS 1654/19 } VGS 6243-2 (MOD. 1491)		G. IV. B AMP.	MK. IV PLUG Z560291 POS. 1	STRAIGHT	Z 970058 Z 970096 } PRE MOD. 1491 Z 970102 } Z 970108 Z 970114 PRE MOD. 1491 Z 970062 VGS 6243-2 (MOD. 1491) USED ON ALL A/C		QUADRAMETVIN – SMALL (PRE MOD 1491) QUADVINSMALL 2·5 (MOD. 1491)
58 MOD. 1957	1'-6"	CONTROL PANEL	MK. IV SOCKET Z560591 (POS. 1)	STRAIGHT	Z 970058 Z 970292 Z 970062 ZZ 84027 USED ON ALL A/C		SUPPRESSOR	FREE SCREENS CUT BACK 2"	—	—	—	UNIPRENMET 6 (2 LENGTHS BOUND TOGETHER)

EMBODIMENT LOAN ITEMS (51ST. & SUBS. A/C)

	AM REF.	DESCRIPTION	No. OFF	
	5K87	GLAND NUT	2	PRE MOD. 1491
	Z 970292	CABLE CLAMP	1	
	Z 970096	THRUST RING	10	
	Z 970102	COMPRESSION RING	10	
	Z 970108	UNION GASKET	10	
	Z 970114	CABLE SLEEVE	10	
	Z 970058	OUTLET GASKET	11	
	Z 970062	STRAIGHT OUTLET	5	
	Z 970069	RT. ANGLE OUTLET	6	
	Z 560120	SOCKET	2	
	Z 560521	SOCKET	3	
	Z 560301	PLUG	1	
	Z 560303	PLUG	1	
	Z 560523	SOCKET	1	
	Z 560290	PLUG	1	
	Z 560291	PLUG	1	
	Z 560591	SOCKET	1	

EMBODIMENT LOAN ITEMS (1ST. 50 A/C ONLY)

	AM REF.	DESCRIPTION	No. OFF	
	Z 560521	SOCKET	3	
	Z 560523	SOCKET	1	
	Z 560120	SOCKET	2	
	Z 560301	PLUG	1	
	Z 560303	PLUG	1	
	Z 970058	OUTLET GASKET	11	10 POST MOD. 1673
	Z 970062	STRAIGHT OUTLET	5	4 POST MOD. 1673
	Z 970069	RT. ANGLE OUTLET	6	
	Z 970088	SEALING RING	8	
	Z 970077	OUTER FERRULE	8	
	Z 970078	INNER FERRULE	8	
	Z 970096	THRUST RING	2	PRE MOD. 1491, 1 ONLY POST MOD. 1673
	Z 970102	COMPRESSION RING	2	1 POST MOD. 1673
	Z 970108	UNION GASKET	2	
	Z 970114	CABLE SLEEVE	2	PRE MOD. 1491, 1 ONLY POST MOD. 1673
	Z 560591	SOCKET	1	
	Z 970292	CABLE CLAMP	1	

CONTRACTORS SUPPLY ITEMS

	AM REF.	DESCRIPTION	No. OFF	
	AGS1653/19	INNER FERRULE	2	PRE MOD. 1491
	AGS1654/19	OUTER FERRULE	2	
	VGS6243-2	CUT FERRULE	4	MOD. 1491, 3 POST MOD. 1673
	ZZ84027	RETAINING GLAND	1	MOD. 1957

NOTES:-

1. AIRCRAFT 1-50 ARE WP199-WP223, WZ361-WZ384 AND WZ389. AIRCRAFT 51 AND SUBS. WZ390-WZ405, XD812-XD830, XD857 ONWARDS
2. CONNECTORS, NUMBER 56 AND 57 TO HAVE 6" OVERHANG OF CABLE FROM FERRULES, FOR ENTRY INTO JUNCTION BOX AND ARE NOT REQUIRED FOR MOD. 1673

Fig. 5. Connector schedule (aircraft components)

RESTRICTED

CABLE No.	LENGTH	END A			END FITTINGS	END B			END FITTINGS	CABLE SIZE
		TERMINATION	END	OUTLET		TERMINATION	END	OUTLET		
25 MOD. 2397	14'- 0"	T.O.F. REMOTE CONTROL MK.2A No.25	SOCKET Z 560221 POS.I	STRAIGHT	Z 970067 Z 970060 Z 970098 Z 970104 Z 970110 Z 970116 Z 970296 UNION NUT TO BE DISCARDED	JUNCTION BOX TYPE 343 No.25	SOCKET Z 560221 POS.I	STRAIGHT	Z 970067 Z 970060 Z 970098 Z 970104 Z 970110 Z 970116 Z 970296 UNION NUT TO BE DISCARDED	DEF. 10 No.25 C. SEE BELOW FOR COLOUR CODING
75 MOD 2397	10'- 0"	T.O.F. REMOTE CONTROL MK.2A No.52	SOCKET Z 560210 POS.0	RIGHT ANGLE	Z 970074 Z 970060 Z 970098 Z 970104 Z 970110 Z 970116 Z 970296 UNION NUT TO BE DISCARDED	CALCULATOR TYPE 7, MK.2A No.52	PLUG Z 560390 POS. 0	STRAIGHT	Z 970067 Z 970060 Z 970098 Z 970104 Z 970110 Z 970116 Z 970296 UNION NUT TO BE DISCARDED	DEF. 10 No.18 D SEE BELOW FOR COLOUR CODING

CABLE No.25								
END A PIN No.	CABLE COLOUR	END B PIN No.	END A PIN No.	CABLE COLOUR	END B PIN No.	END A PIN No.	CABLE COLOUR	END B PIN No.
A	GREY	A	L	RED / GREEN	L	V	RED / WHITE	V
B	GREEN / WHITE	B	M	BLUE	M	W	RED / BROWN	W
C	GREEN / ORANGE	C	N	BLUE / ORANGE	N	X	BLUE / WHITE	X
D	YELLOW	D	O	BLACK	O	Y	RED / BLACK	Y
E	LIGHT / GREEN	E	P	ORANGE	P	Z	BLUE / YELLOW	Z
F	RED / BLUE	F	Q	RED / YELLOW	Q			
G	RED	G	R	GREEN	R			
H	GREEN / YELLOW	H	S	BLUE / BLACK	S			
J	WHITE	J	T	BROWN	T			
K	PINK	K	U	VIOLET	U			

CABLE No.75					
END A PIN No.	CABLE COLOUR	END B PIN No.	END A PIN No.	CABLE COLOUR	END B PIN No.
A	VIOLET	A	L	BLACK	L
B	ORANGE	B	M	WHITE	M
C	PINK	C	N	YELLOW	N
D	BROWN	D	O	RED / BLUE	O
E	RED	E	P	GREY	P
F	BLUE	F	Q	RED / WHITE	Q
G	GREEN	G	R	RED / YELLOW	R
H	LIGHT/GREEN	H	S	RED / DARK GREEN	S
J	RED / BROWN	J			
K	RED / BLACK				

Fig. 6. Connector schedule (aircraft components) continued

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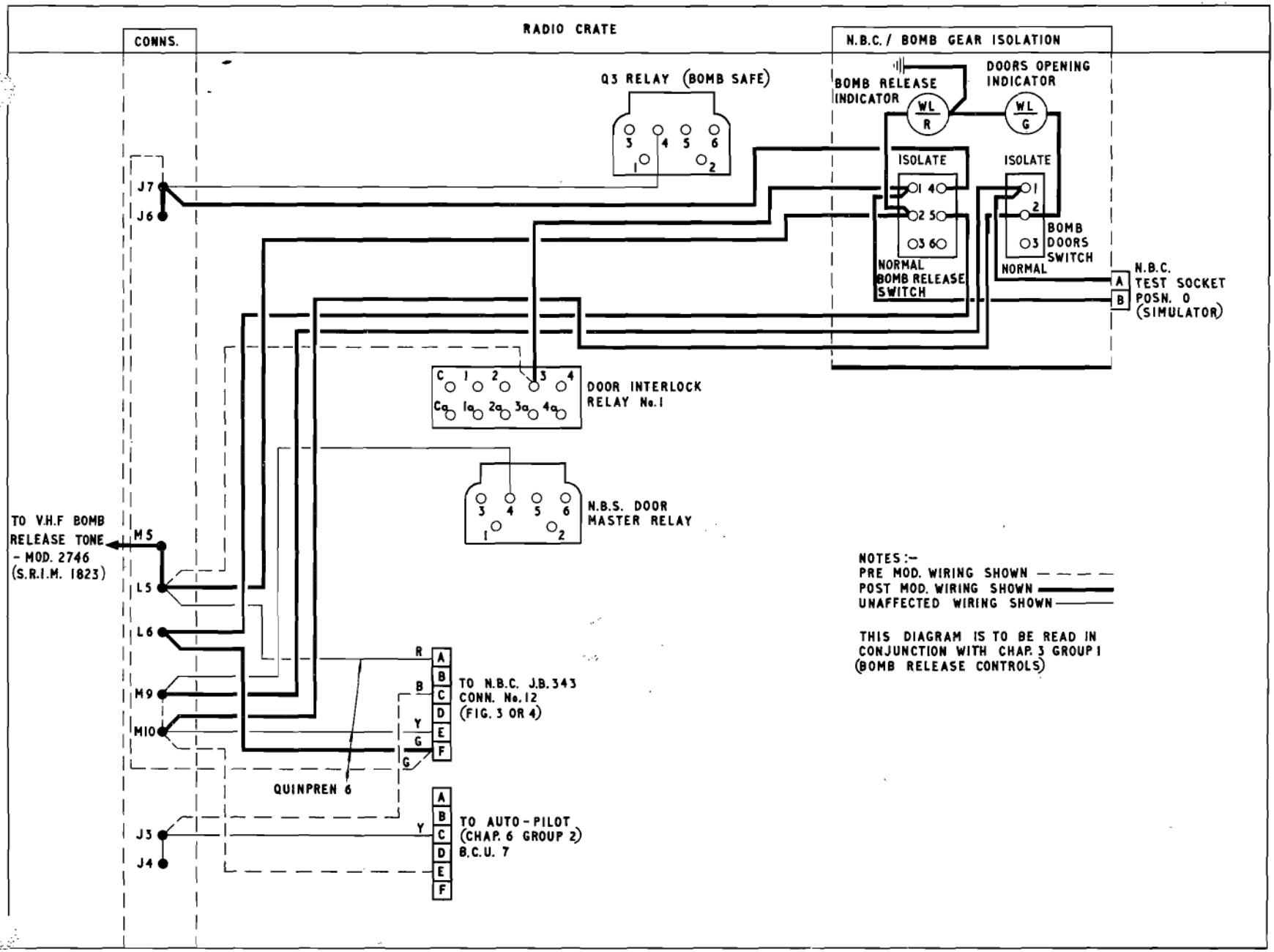

Fig. 7 N.B.C. / Bomb gear interconnections (Mod. 2456 and 2778)

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EXTRACT FROM 75836 SHT. 105 FOR ISSUE J

LIST OF APPENDICES

Appendix 1

N.B.C./BOMB GEAR ISOLATION PANEL (post Mod. 3031)

General

1. Post-Mod. 3031, the N.B.C./bomb gear isolation panel (*Group* 2, *para.* 14) is located at the 2nd Navigator's position on the radio crate as shown in Group 4. The Schematic and Routeing diagrams in Group 2 are unaffected by this alteration.

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Appendix 2

FORWARD THROW INDICATOR (MOD. 2748)

1. Post Mod. 2748, an indicator (Ref. No. 9D/1400) showing computed forward throw is located on the radio crate at the 1st Navigator's position. The indicator is essentially a 1 mA moving coil meter calibrated to read 0-14 nautical miles, and is connected to the Calculator, Type 3, via the Junction Box, Type 343. Meter readings are actuated by the output of the forward throw amplifier in the Calculator.

2. A routeing diagram is included in this Appendix to show the wiring alterations, and the position of the instrument is shown pictorially in Group 4. A full description of the indicator and its application is given in A.P.2894K, Vol. 1.

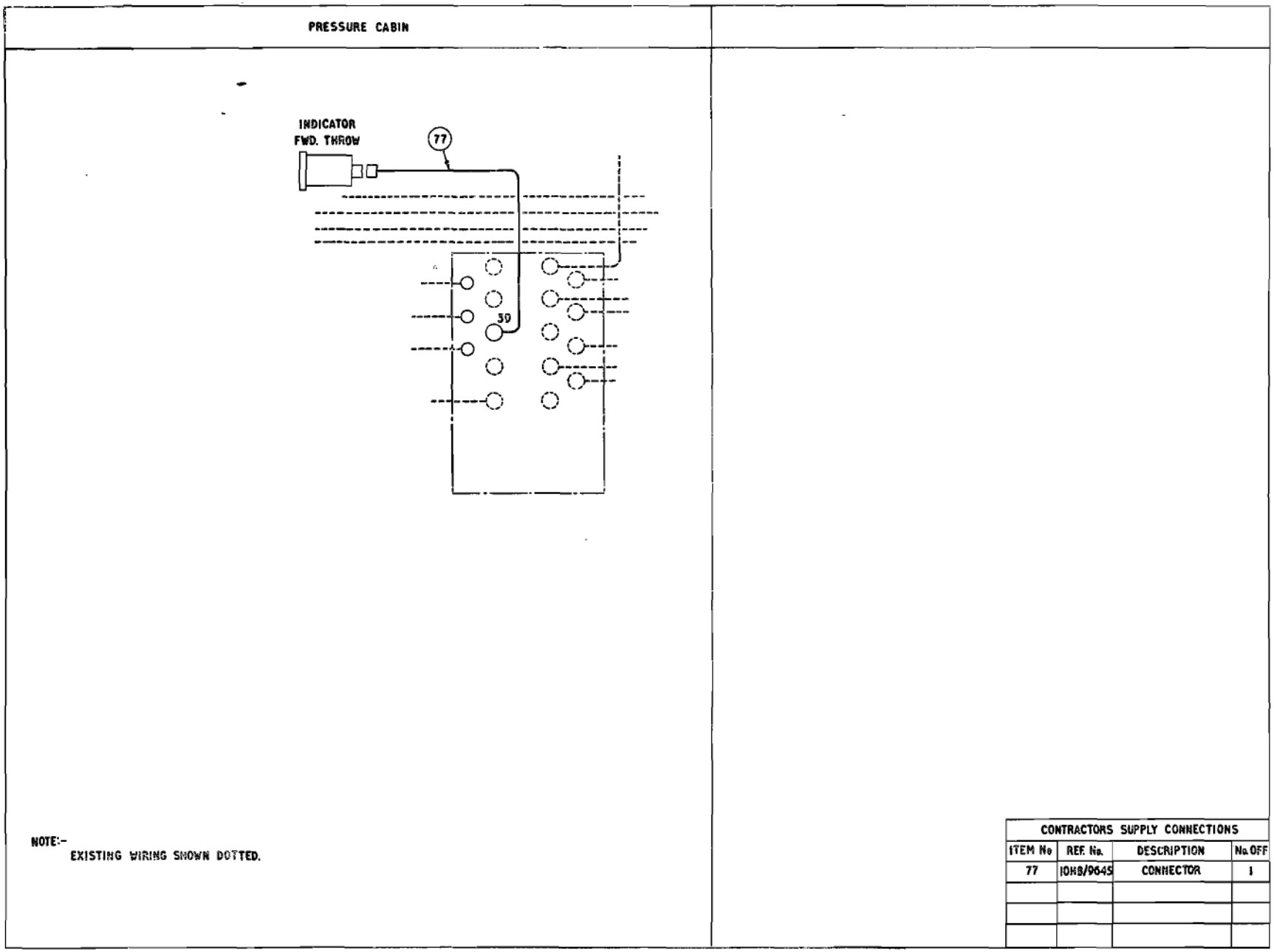

Fig. 1. Alteration to Fig. 4 in Group 2

Appendix 3

BOMB GEAR INTERCONNECTIONS (POST MOD. 3171)

LIST OF CONTENTS

LIST OF ILLUSTRATIONS

Introduction

1. Post Mod. 3171 the N.B.C. door master relay is energised by a signal from the N.B.C. J.B. whereas previously it was energised directly from the bomb doors control switch in the AUTO position.

Circuit operation (*fig.* 1)

2. The signal for opening the bomb doors can only energise the bomb door circuits when the BOMB DOORS switch on the control pedestal is selected AUTO. Selection of AUTO raises the deflector only. The bomb doors remain closed until a signal from the N.B.C. J.B. through the N.B.C. Normal/Isolate switch in the normal position, is received at term 1 of the N.B.C. door master relay R1, energising the relay thus closing contacts R1/1. A supply already at term 6 of relay R2 is connected to energise the N.B.C. relay R2 term 1. Contacts R2/1 and R2/2 close and the feed at term 6 of relay R2 is routed to the bomb doors 'open' line, the bomb doors 'open' circuits are energised and the doors open in the normal manner. On contact R1/1 closing, a supply already at term 4 of R2 is connected to its own coil, term 1, thus acting as a hold-in circuit. Details of the differences are shown in fig. 1 and fig. 2 of this appendix.

Bomb release switches supply

3. Post Mod. 3171, the supply for the bomb release switches are routed through the control panel as shown in fig. 1 of this appendix, this is to ensure that the release circuits cannot be energised until the control panel is fitted and connected.

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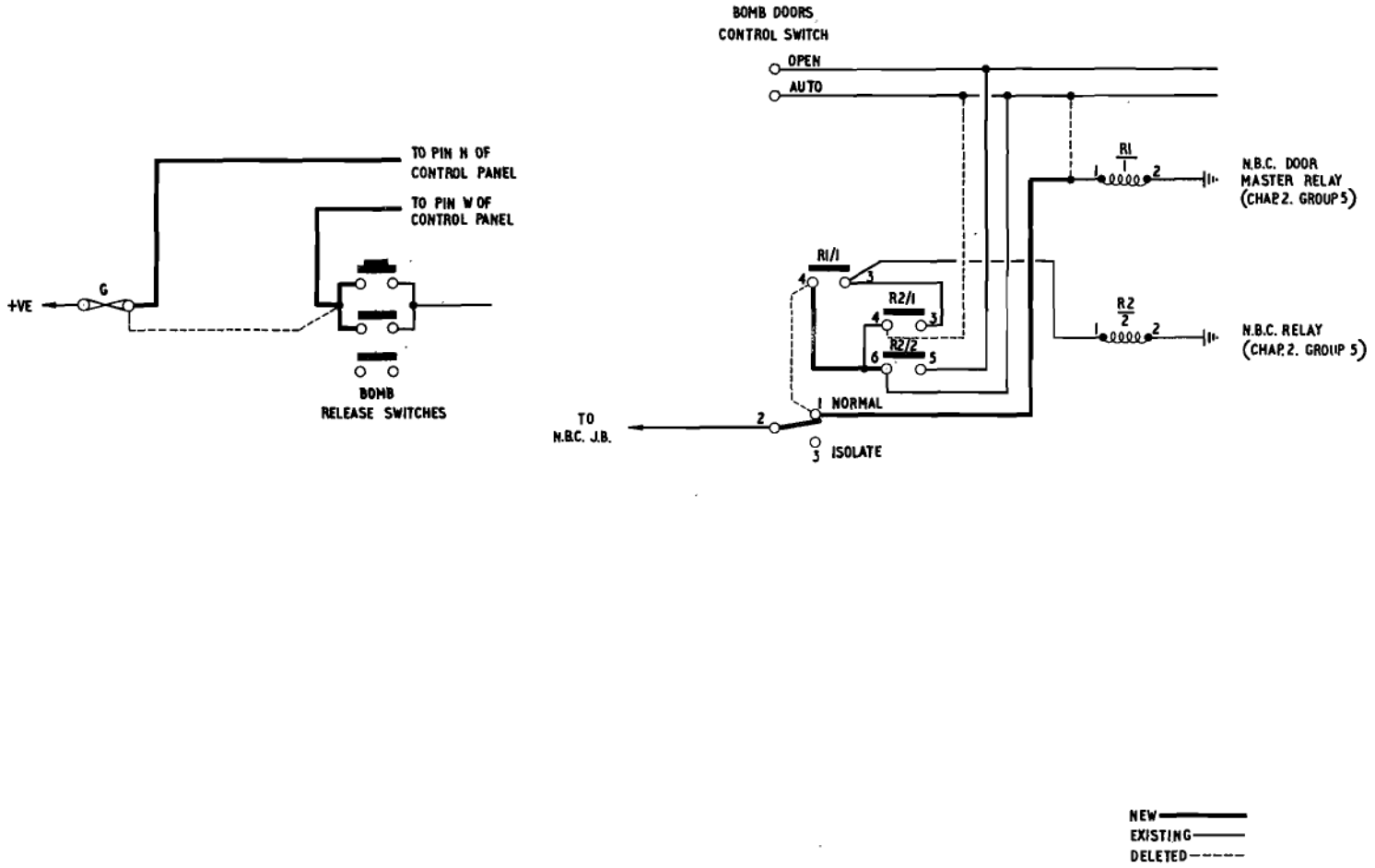

Fig.1 Alteration to Fig.2A (post Mod.3171)

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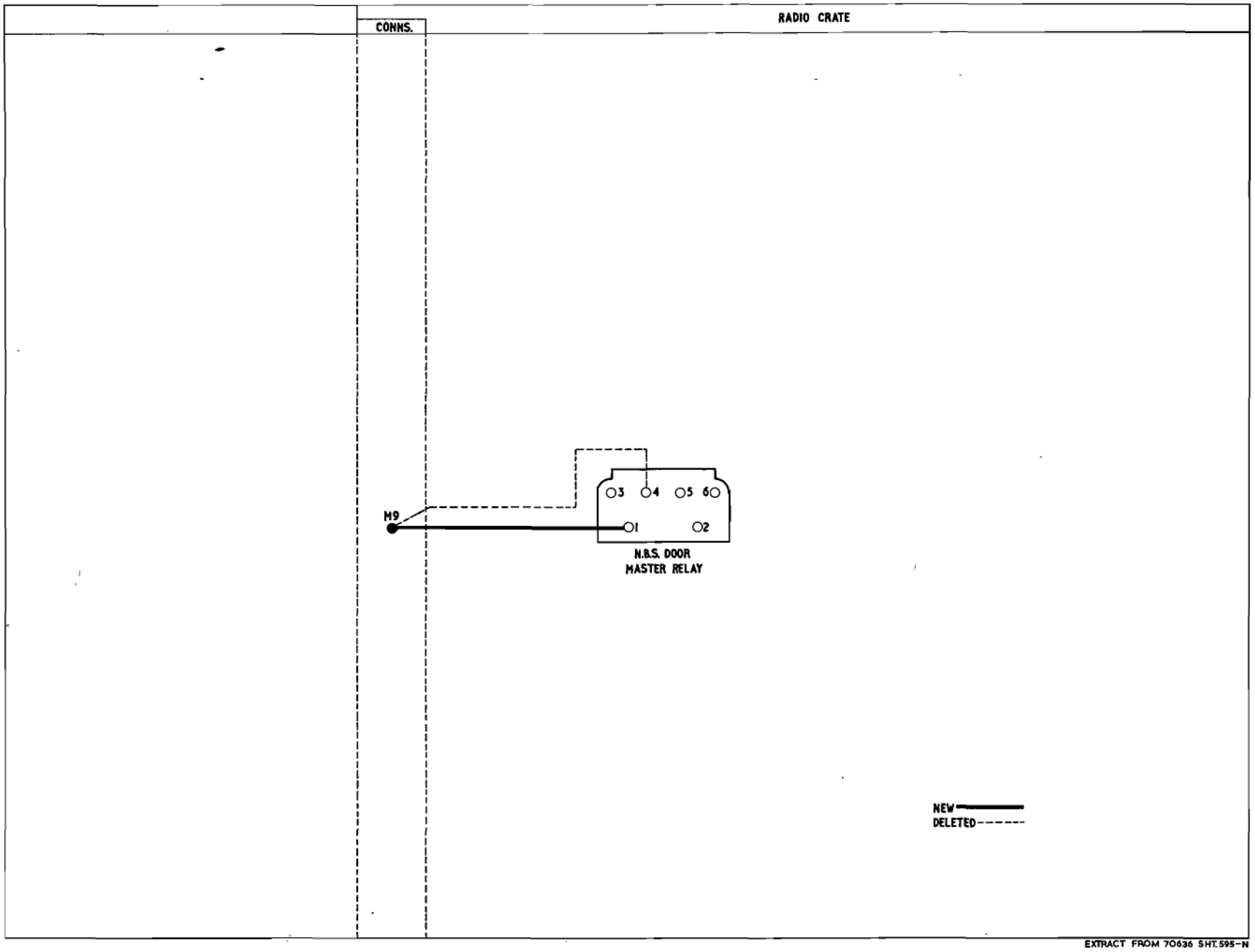

Fig.2 Alterations to Fig.7 (post Mod.3171)

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