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ELECTRICAL AND ELECTRONIC SYSTEMS (U)

MODEL NO. WS-133A CONTRACT NO. AF 04(647)-289

ISSUE NO. \_\_\_\_\_ ISSUED TO \_\_\_\_\_

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REV SYM \_\_\_\_\_

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	3		3	A	9	A					3	B	13	B	23	
	4		4	A	10	A					4	B	14	B	24	
	5		5	A	11	A					5	B	15	B	25	
	6		6	A	12	A					6	B	16	B	26	
											7	B	17	B	27	
											8	B	18	B	28	
											9	B	19	B	29	
											10	B	20	B	30	
C	1		1	B	10	B	F	1			1	B	10	B		
	2		2	B	11	B					2	B	11	B		
	3		3	B	12	B					3	B	12	B		
	4		4	B	13	B					4	B	13	B		
	5		5	B	14	B					5	B	14	B		
	6		6	B	15	B					6	B	15	B		
	7		7	B	16	B					7	B	16	B		
	8		8	B	17	B					8	B	17	B		
	9		9	B	18	B					9	B	18	B		
C	1		1	B	19	B	G	1			1	B	12	B	23	
	2		2	B	20	B					2	B	13	B	24	
	3		3	B	21	B					3	B	14	B	25	
	4		4	B	22	B					4	B	15	B	26	
	5		5	B	23	B					5	B	16	B	27	
	6		6	B	24	B					6	B	17	B	28	
	7		7	B	25	B					7	B	18	B	29	
	8		8	B	26	B					8	B	19	B	30	
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REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
	Original Release - Section A and B	8-6-63	
A	Added Section D - Revised Sec. A pgs. 2,3,4	9-16-63	
B	Added Sections C, E, F, G and H and Pg. 2.1 in Sec. A Revised pages 4 and 2 in Sec.A and Pg. 3	9-12-63	
C	Added Section K Revised pages 2, 3, 4	9-23-63	

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C	ST 42	Programmer Group Compatibility Tests (BCP 533)
D	ST 46	Investigation of NS10Q S/N AAL0313 Anomaly
E	ST 35	Bell Telephone Laboratories Component Temperature Test
F	ST 36	SCM Reset at Umbilical Retract
G	ST 34	Wing II Security System Noise Investigation
H	ST 53	RI Evaluation of Second Source Safe/Arm Relays
K	ST-58	Checkout of REACT Tape 2-001



THE **BOEING** COMPANY

2-5102-3

NUMBER T2-5102-3 SECTION K

SECTION TITLE CHECKOUT OF REACT TAPE 2-001

SPECIAL TEST REPORT ST-56

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FORM 8000 REV. 2/63

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## 1.0 REFERENCES

- (a) FWG Bulletin No. 63-31-648-30-STP 123, August 21, 1963, "Request for Special Test to Checkout REACT Tape 2-001 at STP III."
- (b) D2-14366, Vol. 5, Section K, "Checkout of REACT Tape 2-001 ST-38."
- (c) Memo 2-5648-00-15, April 1, 1963, "Special Test Report Procedure."

## 2.0 NOMENCLATURE

AGO	Assembly and Checkout
BTS	Boeing Test Support
CO	Character Output
G&C	Guidance and Control
LP	Launch Facility
MTE	Missile Targeting Equipment
REACT	Rapid Evaluation and Correction Team
STP III	Seattle Test Program Part III
VH	Velocity Meter

## 3.0 PURPOSE

A REACT 2-001 Tape has been developed for use with the C-24 MTE for fault verification and isolation on Wing II thru Wing V G&C systems. The tape maintains the general format of the Wing II Operational Flight Tape with the additional function of giving as much system status information as possible. The purpose of this test was to prove system compatibility between the REACT 2-001 Tape, REACT recording equipment and a complete and operating weapon system.

#### 4.0 SUMMARY

The checkout of the REACT 2-001 Tape was conducted at STP III on August 27 and 28, 1963. Three test runs were made using the REACT 2-001 Tape to bring the system up to Strategic Alert. Recordings were made at various times during the Start-up and in Strategic Alert to record information sent out by the computer via the character output lines. The data was analyzed by Autonatics representatives and the REACT 2-001 Tape was found to be compatible with the operating weapon system.

#### 5.0 CONFIGURATION

The test set-up for the STP III LF is shown on Drawing 25-40999-1, "REACT Tape 2-001 Checkout STP III (Test Only)." Recordings were made using the ACO 372 Launch Events Recorder, REACT 103 Signal Conditioner and the REACT 100 Breakout Box. Back-up recordings were made in parallel using the BTS 151 system.

#### 6.0 RESULTS

The weapon system was sequenced through start-up using the C-24, REACT 2-001 Tape and Wing II Simulated Targeting Tape for a normal run, short run and modified long run. Recordings were made of the computer outputs on the CO lines during the readout of No-Go data, G&C Test results, Calibrate Mode (Cll) results and VM Bias Cycle results during start-up and in Strategic Alert.

The five hour normal run revealed no incompatibilities between the program and hardware. It did indicate that the Delta M check which compares cold storage "q" values with calculated "q" values during the VM Calibrate Mode had failed. This failure was because of the known inaccuracy of the "q" values in cold storage.

During the short run, two short addendum tapes were used, one to shorten the VM calibration and the other to purposely induce No-Go's into the system so that the ability of the REACT Tape 2-001 to operate correctly in a No-Go situation could be verified. The addendum tape produced the system No-Go's as planned, and the REACT Tape correctly processed and identified them.

#### 7.0 CONCLUSIONS

The REACT 2-001 Tape is compatible with the REACT recording equipment and a complete and operating weapon system.

#### 8.0 RECOMMENDATIONS

The REACT 2-001 Tape can be used for fault verification and isolation in the weapon system. A copy of this tape should be provided for STP III for special tests and troubleshooting.





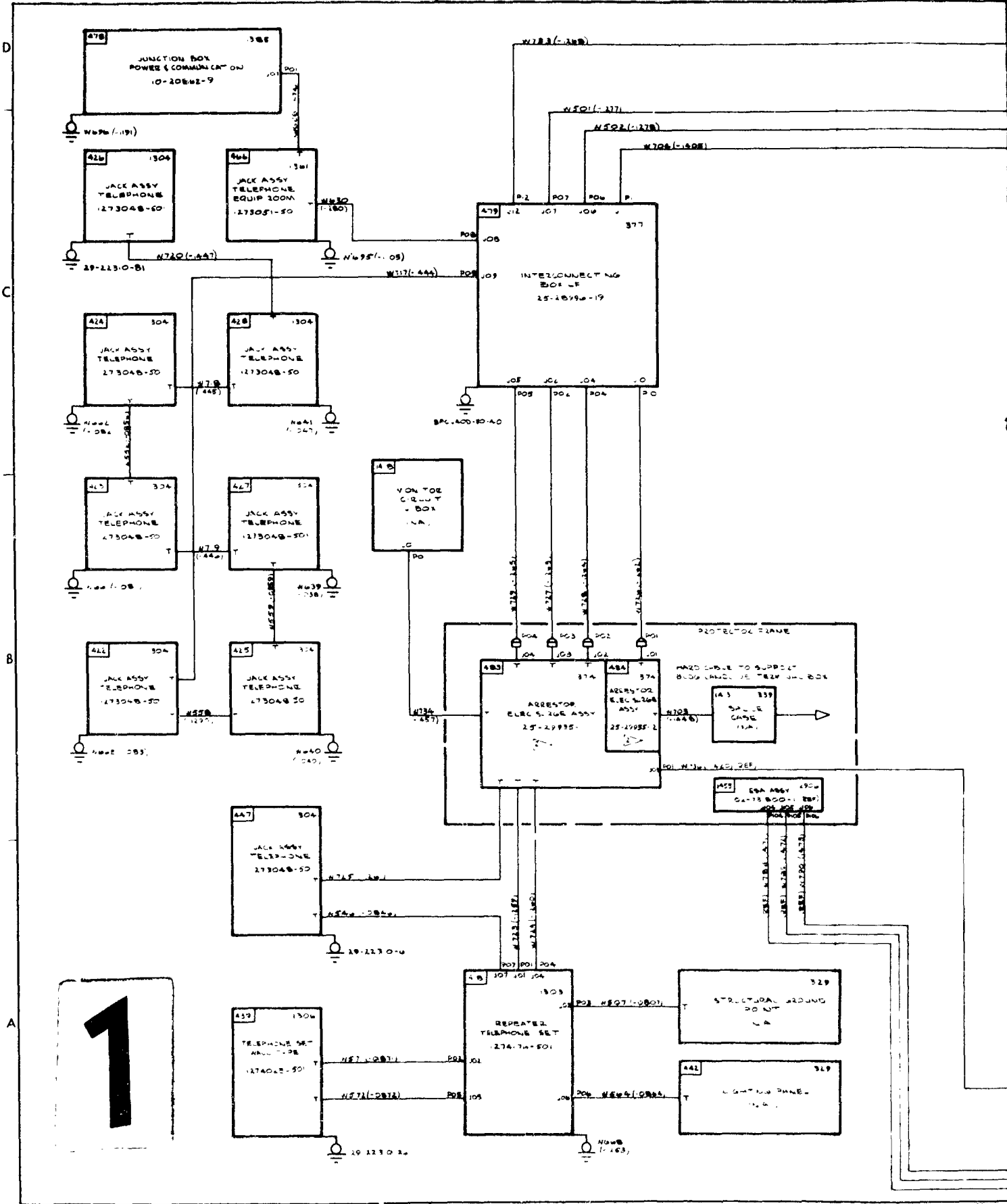




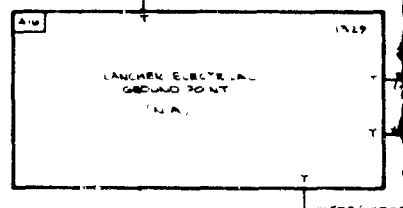
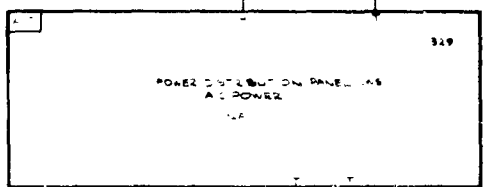
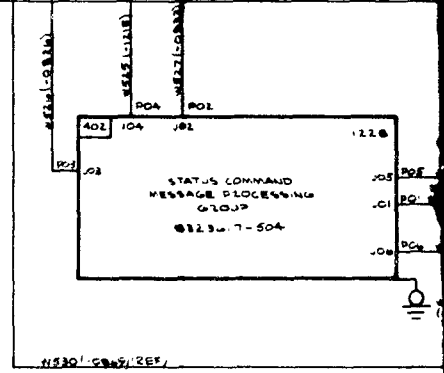
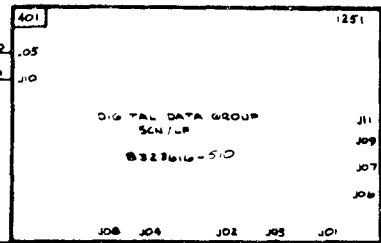




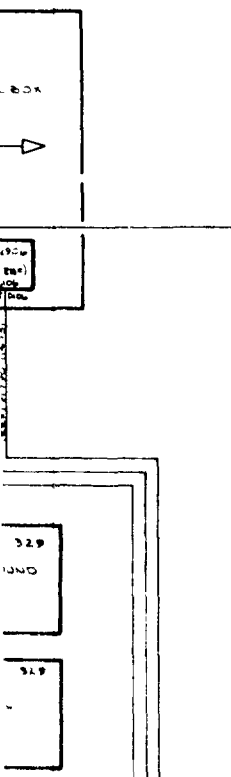
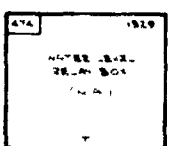
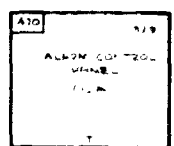


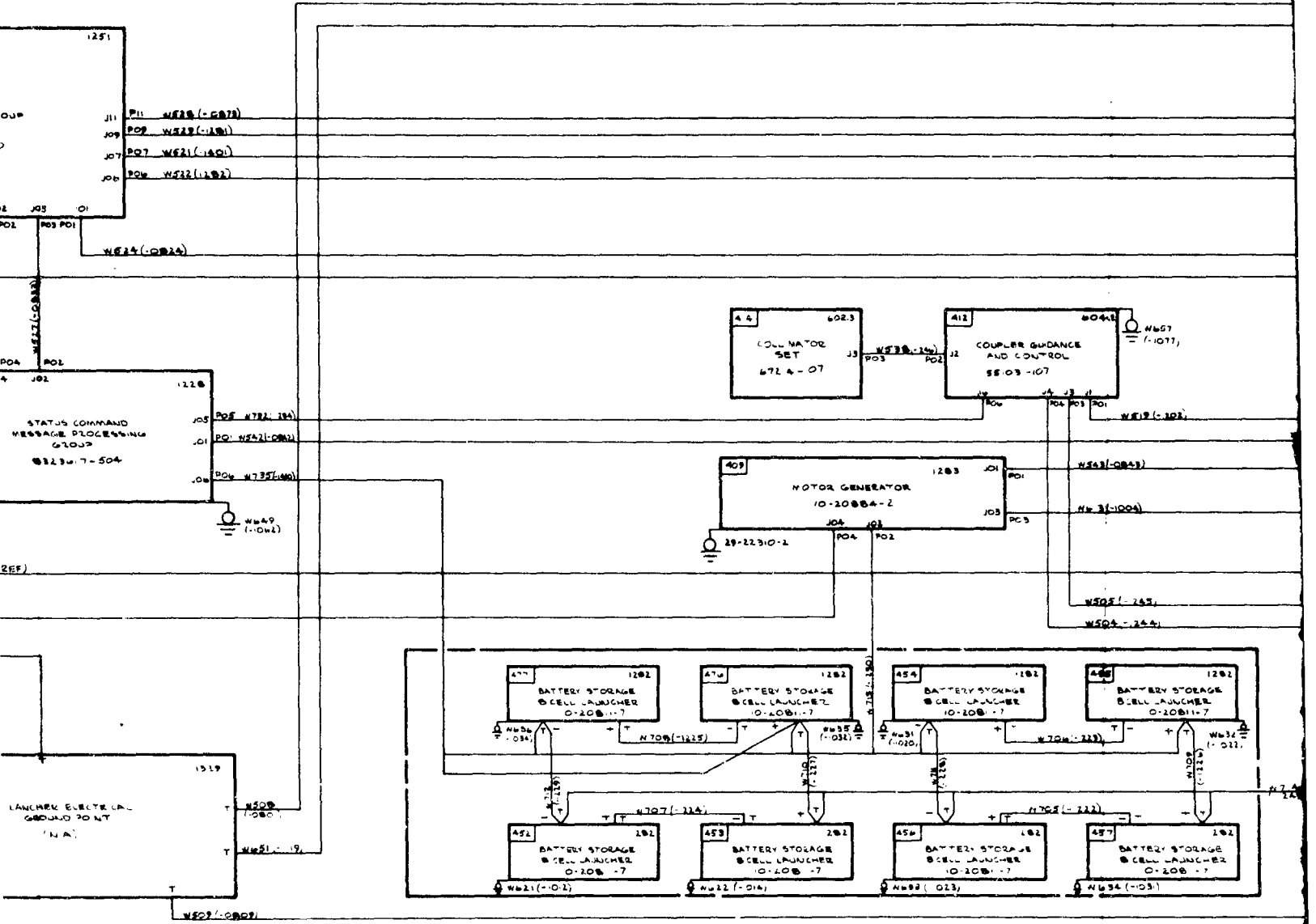


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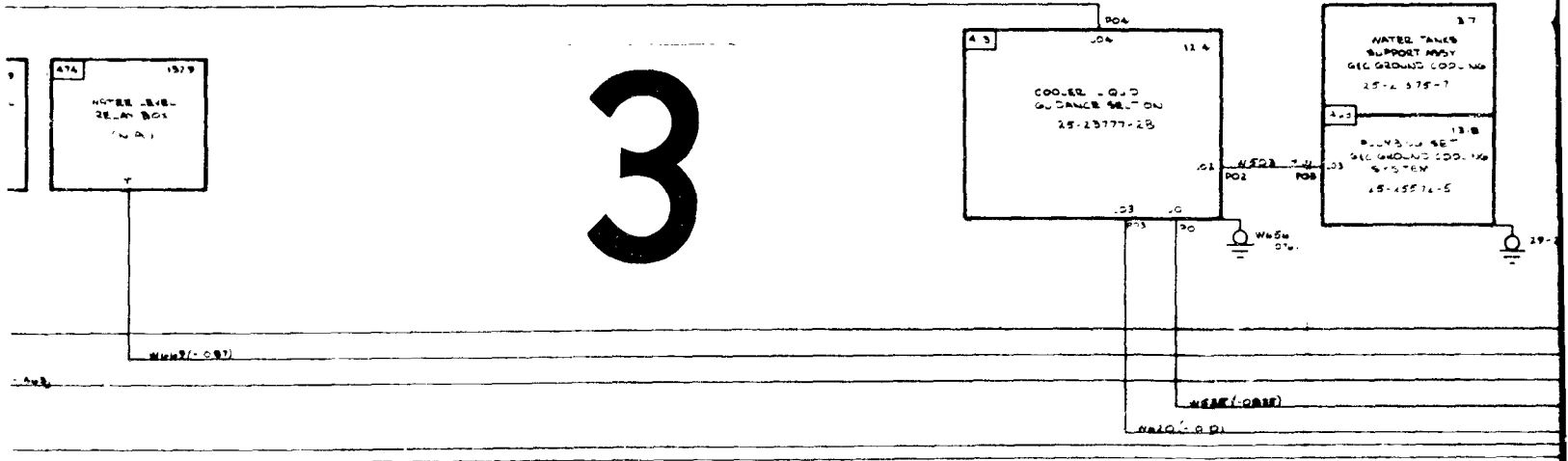


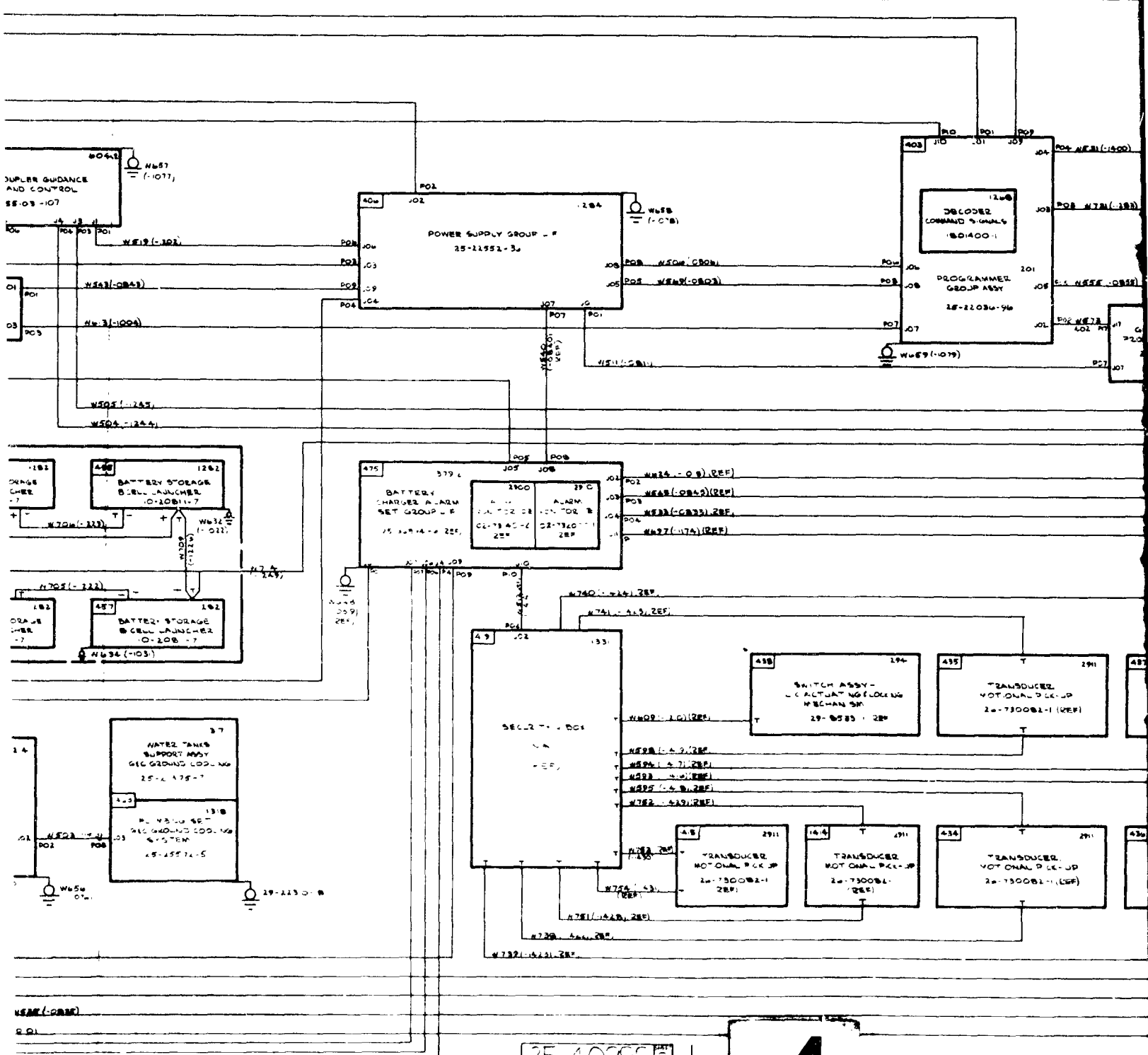
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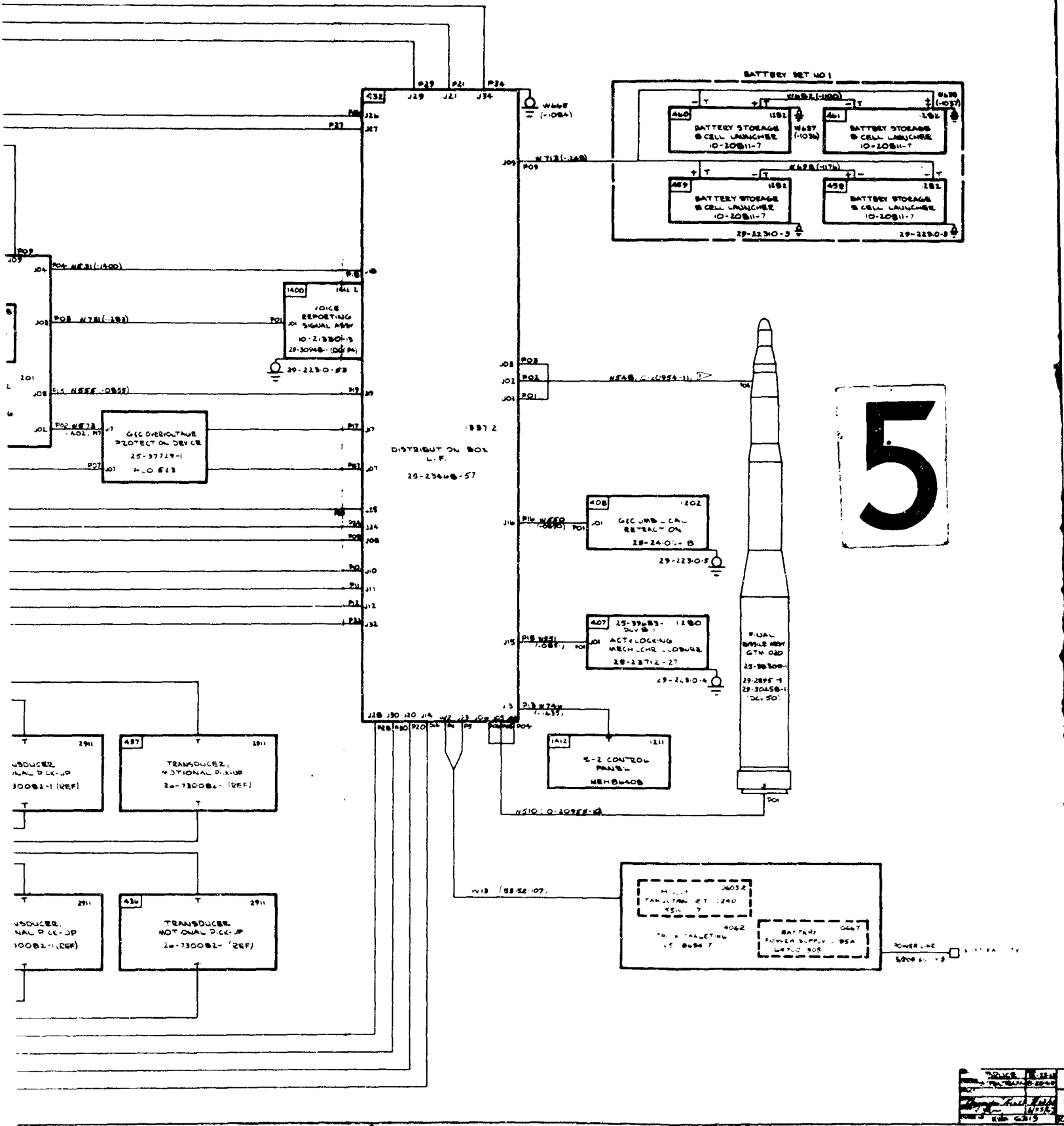
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25-40999

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POWER LINE	5700 51-13
BATTERY POWER SUPPLY - PSA	4062
TRIP TACTLING	4062
MULTI TANGENTIAL	4062
ACT LOCKING MECH CLR CLOSURE	407
GIC UNDER-CAL RETRACT ON	408
GIC OVERVOLTAGE PROTECT ON DEVICE	401
VOICE REPORTING SIGNAL ARM	400
BATTERY STORAGE CELL LAUNCHER	458, 449, 451, 440
E-2 CONTROL PANEL	412
TRANSDUCER, NOTIONAL PICK-UP	437, 438
TRANSDUCER, NOTIONAL PICK-UP	2911
POWER SUPPLY	2911





CONFIGURATION DATA - EXPLANATION OF

This Appendix to the test report identifies the equipment used in this test and designates the configuration to the Figure A level. This Appendix also lists committed configurations and Operational Base configurations for the same Figure A items.

Specifically, the first column lists the Figure A's. The second column headed "60-60" shows a Baseline part number and a short history of ECP's that created a part number change. The purpose of this listing is to allow the reader to identify any equipment differences that might exist between STP III and an Operational Base. It should be noted that, if no difference exists, configuration history may not be shown in the "60-60" column. The column headed "STP III" lists the part number of the Figure "A" that existed during this test plus any Design Change Verification (DCV) that was installed in the Figure A. If the conduct of the test requires the sequential incorporation of changes, only the highest part number will be shown and the reader is referred to the body of the report for further information concerning equipment configuration during the test.

The column headed "60-60A" lists part numbers of the Figure "A's" located at an Operational Base as identified in the most recent issue of Air Force Exhibit 60-60A. The Operational Base is identified in the lower left hand corner of the tab run pages. The use of Exhibit 60-60A as a source of Operational Base configuration in order to compare the configurations of STP III and the Operational Bases is directed by CCH 902 to the -289 contract.

The part number information contained in Exhibit 60-60A and abstracted to this Appendix should not be heavily relied upon since 60-60A does not report the as-delivered configurations and change incorporation information is delayed considerably from the time the work is actually done at the Base.

The "Remarks" column contains supplemental information that may be helpful to the reader. In particular, the DCV's are related to ECP's if such a relationship exists.

In scanning the equipment list, the reader will note that some STP III part numbers differ from "60-60" and/or "60-60A". This is occasioned principally by the fact that STP III has some unique equipment; however, the Figure "A" is the same. (Some equipment, notably Procedure "A" ACO equipment and environmental control equipment, require no configuration control records.) Should the reader require additional information in these ostensibly discrepant areas, application should be made to the originator of this report. Column listings left blank indicate that there is no source information for that Figure "A".

FIGURE A STP III 60-60A 60-60 REMARKS

GTM 020 25-38300-1 DCV 50  
 +DCV 50

1201 25-22036-92 25-22036-96 25-22036-55  
 5501 (-55 -59)  
 5501-3 (-59 -61)  
 5501-5 (-61 -68)  
 5501-6 (-68 -69)  
 43-1R2 (-69 -70)  
 112-11R1 (-70 -87)  
 295-1R1 (-87 -89)  
 449 R1 (-89 -91)  
 460 R1 (-91 -92)  
 533-1 (-92 -95)  
 385-1 (-95 -96)

1202 25-24104-2 25-24104-18 25-24104-2  
 194-1 (-2 -3)  
 371-2R2 (-3 -4)  
 368-1R1 (-4 -13)  
 416-1R1 (-13 -18)  
 416-1R1 (-4 -18)

1211 MSS84020-14 MSS84020 MSS84020-14  
 71T (-14 -18)  
 73-1R1 (-18 -21)  
 74-1R2 (-18 -21)  
 76R1 (-18 -21)  
 82R1 (-21 -24)  
 83 (-24 -27)  
 84-1 (-27 -30)  
 77R1 (-30 -33)

1214 25-23777-26 25-23777-20 25-23777-26  
 500-1R2 (-26 -27)  
 615-1 (-27 -28)

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FIGURE A 60-60 STP III 60-60A REMARKS

1228	8323617-501 393R1 (-501 -502) 395 (-502 -503) 424-1R2 (-503 -504)	8323617-504	
1248	21-52914-1 392-3R1 (-1 -2) 590-1 (-2 -3) 21-51001-11 351-R1 (-11 -19) 293-1R1 (-19 -7) 590-1 ( 180 )	21-51001-23	25-52914-1
1251	8323616-502 228-1R2 (-502 -503) 312-R1 (-503 -504) 406-R1 (-504 -505) 452-1R1 (-505 -509) 601-1R1 (-509 -510)	8323616-510	
1268	1801400-1	1801400-1	
1280	25-23712-27 174-1 (-9 -11) 199-1 (-11 -14) 245-3R1 (-14 -18) 368-3R1 (-18 -20) 418-1 (-20 -27) 604-1R1 (-27 -29)	25-23712-27 +DCV 81	DCV 81 - ECP 604
1282	K2350-RN115	K2350-RN115	
1283	43-2028-759 263-R1 (-759 -759-1) 472-R1 (-759-1 TO 25-24622-1)	43-2028-759- -1	

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FIGURE A	60-60	STP III	60-60A	REMARKS
1284	25-22552-36	25-22552-36 +DCV 53		DCV 53 - ECP 431
1294	29-18533-1	29-18533-1		
1303	1274176-501	1274176-501		
1304	1273048-501	1273048-501		
1306	1274025-501	1274025-501		
1317		25-21375-7		
1318	25-25572-1, -2	25-25572-5		
	230-R1 (-1)			-4)
	260-1TR1 (-2)			-4)
				-5)
1329				
1331				
1337.2	25-23468-37	25-23468-57	25-23468-37	
	584-1 PH A (-37)	+DCV 97		
	584-1 PH B (-47)			-47)
	627 (-42)			-50)
	584-1 PH C (-50)			-51)
	584-1 PH D (-51)			-57)
1339				
1361	1273051-501	1273051-501		
1373	29-27482-1	25-29935-1		
1374	29-27484-1, -2	25-29935-2		

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FIGURE A 60-60 STP 111 60-60A REMARKS

1377	25-36396-1	25-28996-19		
1379.2	25-36894-1 582-R1 (-1 -5) 625 (-5 -6)	25-36894-6	25-25561-12	ECP 293-R1 CREATES 25-25561-47
1385	GS3508	GS4050		
1412.2	09621000-603A 411-3TR2 (-603A -610A) 584-2 (-610A -611A)	09621000- -611A	09621000- -603A	
2900	02-731200-1 13 (-1 -2)	02-731401-2	02-731200-1	SYLVANIA ECP
2906	02-731800-1 22-2 (-1 -2)	02-731800-1	02-731800-2	SYLVANIA ECP
2910	02-732000-1 21-1T (-1 -2)	02-732000-1	02-732000-1	SYLVANIA ECP
2911		26-730082-1		
4062	25-18694-6 411-4TR2 CREATES 25-18694-6,-1 411-4TR2 (-4 -8) 411-4TR2 (-1 -7) 535-3 (-6 -9)	25-18694-7		
602.3		67214-107		
603.2	55101-107	55101-107	55101-107	
604.2		55103-107		

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FIGURE A	60-60	STP III	60-60A	REMARKS
667	55063-107 78R1 (-107 TO -107-11)	64700-305		
ACO 523		25-37729-1		

200 2