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3233-SHF64-30-2

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COST, SCHEDULE & MANPOWER PROPOSAL

F SYSTEM PROGRAM

25 MAY 1964

*MB-1957
Prop Sec*

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I N D E X

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SECTION A

F SYSTEM PROGRAM

COST DATA

F SYSTEM

TOTAL PROGRAM COST SUMMARY

Direct Labor	\$ 5,776,000
Direct Labor Overhead	8,797,000
Material & Sub-Contracts	4,366,000
Travel	136,000
Communications	82,000
Overtime Premium	165,000
Other Direct Labor	<u>60,000</u>
Sub-Total	\$19,382,000
G & A	2,811,000
Environmental Test Facility	<u>3,000,000</u>
Total Cost	\$25,193,000
Fee	<u>2,219,000</u>
Total	<u><u>\$27,412,000</u></u>

12
 126

 240

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(LESS ENVIRONMENTAL TEST FACILITY)

COST SUMMARY

Direct Labor	\$ 5,776,000
Direct Labor Overhead	8,797,000
Material & Sub-Contracts	4,366,000
Travel	136,000
Communications	82,000
Overtime Premium	165,000
Other Direct Labor	<u>60,000</u>
Sub-Total	\$19,382,000
G & A	<u>2,811,000</u>
Total Cost	22,193,000
Fee	<u>2,219,000</u>
Total	<u><u>\$24,412,000</u></u>

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ENVIRONMENTAL TEST FACILITY

COST SUMMARY

Direct Labor	\$ 200,000
Direct Labor Overhead	308,000
Material & Sub-Contracts	2,040,000
Travel	10,000
Overtime Premium	<u>11,000</u>
Sub-Total	\$2,569,000
G & A	<u>373,000</u>
Total Cost	\$2,942,000
Fee	<u>58,000</u>
Total	<u><u>\$3,000,000</u></u>

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TOTAL F SYSTEM PROGRAM

COST SUMMARY BY ITEM

<u>Description</u>	<u>Quantity</u>	<u>First Engineering Qualification Model</u>	<u>Quantity</u>	<u>Three Engineering Models</u>	<u>Total Quantity</u>	<u>Total</u>
A. <u>Main Equipment</u>						
Cameras	2	\$ 4,735,000	6	\$11,122,000	8	\$15,857,000
Lens (Design & Development)	-	500,000	-	-	-	500,000
Take-Up Cassettes	2	300,000	5	500,000	7	800,000
Clocks	2	125,000	6	300,000	8	425,000
Cut & Splice Device	5	100,000	3	45,000	8	145,000
Double Frame Camera	2	500,000	3	225,000	5	725,000
Spools	10	100,000	30	150,000	40	250,000
Total Main Equipment		\$ 6,360,000		\$12,342,000		\$18,702,000
B. <u>Project Management & Administration</u>						
Project Management		\$ 1,500,000		\$ 300,000		\$ 1,800,000
Systems Engineering		175,000		100,000		275,000
Interface Board		135,000		100,000		235,000
Thermal Design & Analysis		200,000		300,000		500,000
Environmental Test		350,000		300,000		650,000
Total Project Management & Administration		\$ 2,360,000		\$ 1,100,000		\$ 3,460,000
C. <u>AGE & Operational Support</u>						
<u>Shipping Containers</u>						
Main Instrument	2	\$ 50,000	6	\$ 60,000	8	\$ 110,000
Take-Up Cassettes	2	4,000	3	3,600	5	7,600
Clock	1	500	3	900	4	1,400
Cut & Splice	4	1,000	3	500	7	1,500
Double Frame Camera	2	2,000	3	1,500	5	3,500
Assembly Dollies	2	35,000	6	60,000	8	95,000
Portable Simulator	1	80,000	-	-	1	80,000
System Test Stand	2	65,000	3	36,000	5	101,000
Test Consoles	3	150,000	2	100,000	5	250,000
Field Service		300,000		800,000		1,100,000
Operational Support		250,000		250,000		500,000
Total AGE & Operational Support		\$ 937,500		\$ 1,312,500		\$ 2,250,000
Sub-Total		\$ 9,657,500		\$14,754,500		\$24,412,000
D. <u>Environmental Test Facility</u>						
		3,000,000		-		3,000,000
Total		\$12,657,500		\$14,754,500		\$27,412,000

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F SYSTEM

TOTAL PROGRAM FUNDING REQUIREMENTS

DEV Production

Fiscal Year 1965

First Quarter	\$1,218,000
Second Quarter	4,833,000
Third Quarter	5,214,000
Fourth Quarter	<u>4,532,000</u>

Total Fiscal Year 1965

\$15,797,000

Fiscal Year 1966

First Quarter	3,876,000
Second Quarter	3,075,000
Third Quarter	2,224,000
Fourth Quarter	<u>1,440,000</u>

Total Fiscal Year 1966

10,615,000

Fiscal Year 1967

First Quarter	600,000
Second Quarter	400,000
Third Quarter	-
Fourth Quarter	<u>-</u>

Total Fiscal Year 1967

1,000,000

74-68
Total Funding Requirements

\$27,412,000

*1st
2nd
3rd
4th*

(1.3 met)
2,000,000 mat labor
4.2 + 1.6
4.2 1.8

12.8
23.415 mat labor
4.2 2.8
3.4 3.0
2.5 2.5
2.9 2.0 2.5 12.8
11.8
12.1
11
47.7

2.5
2.0
2.0
2.0
2.5
8.5
5.3

9.500
7.5
7.5

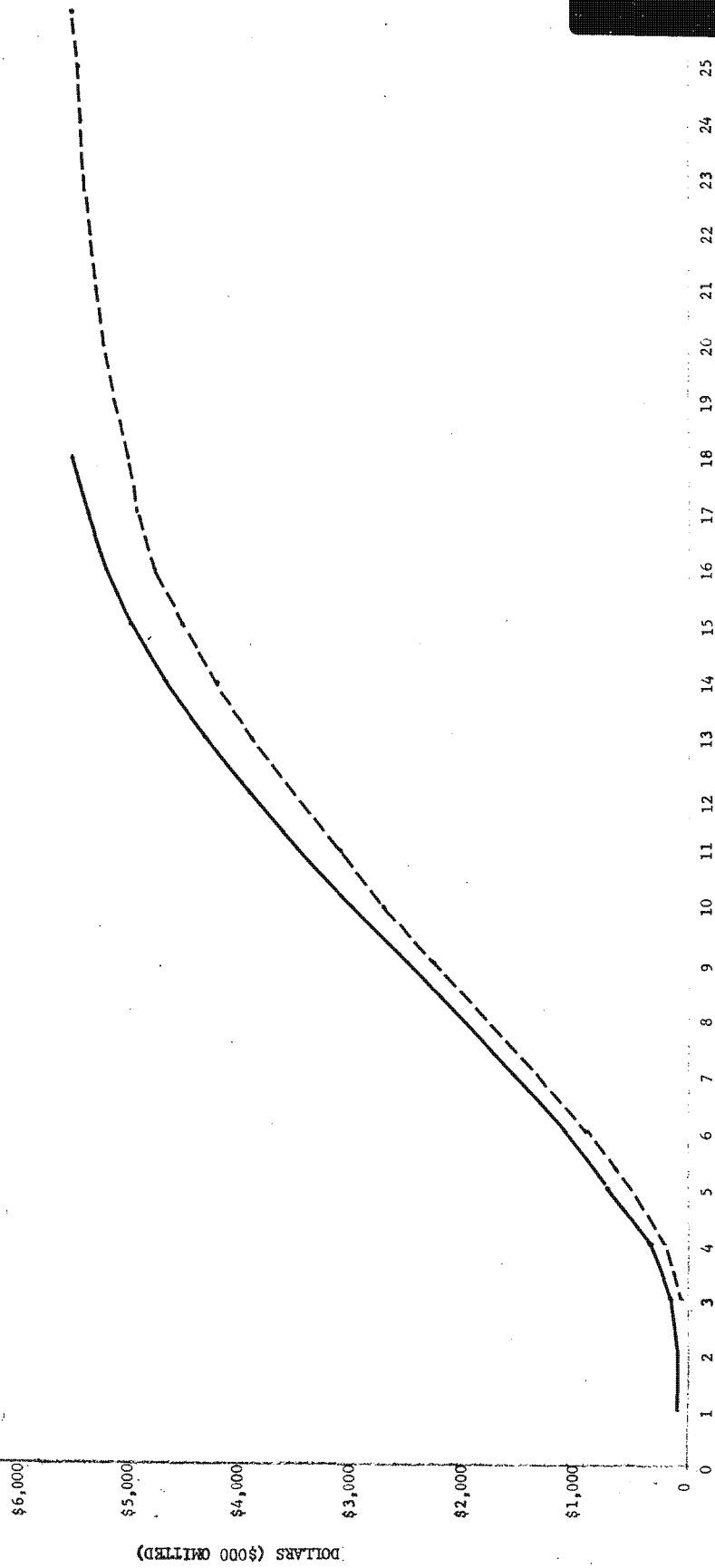
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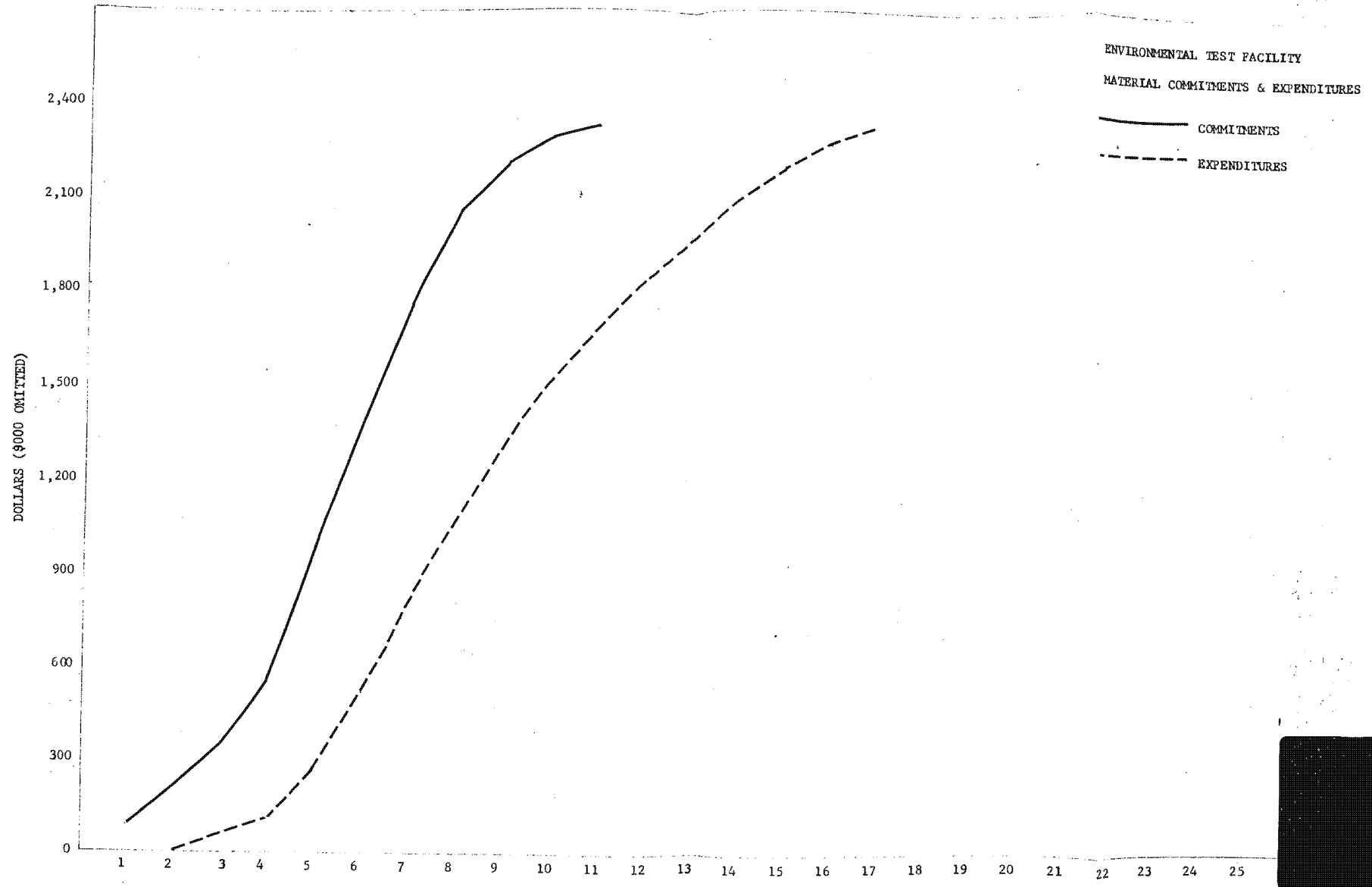
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6-A

MATERIAL COMMITMENTS AND EXPENDITURES

_____ COMMITMENTS
 - - - - - EXPENDITURES





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(24) F SYSTEM FOLLOW ON

COST SUMMARY

Direct Labor	\$ 5,424,000
Direct Labor Overhead	8,353,000
Material & Sub-Contracts	22,800,000
Travel	100,000
Communications	60,000
Overtime Premium	320,000
Other Direct Labor	<u>24,000</u>
Sub-Total	\$37,081,000
G & A	<u>5,376,000</u>
Total Cost	\$42,457,000
Fee	<u>4,246,000</u>
Total	<u>\$46,703,000</u>

27,412
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13.8
3
14.2
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4.2
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21.4
7
3.1



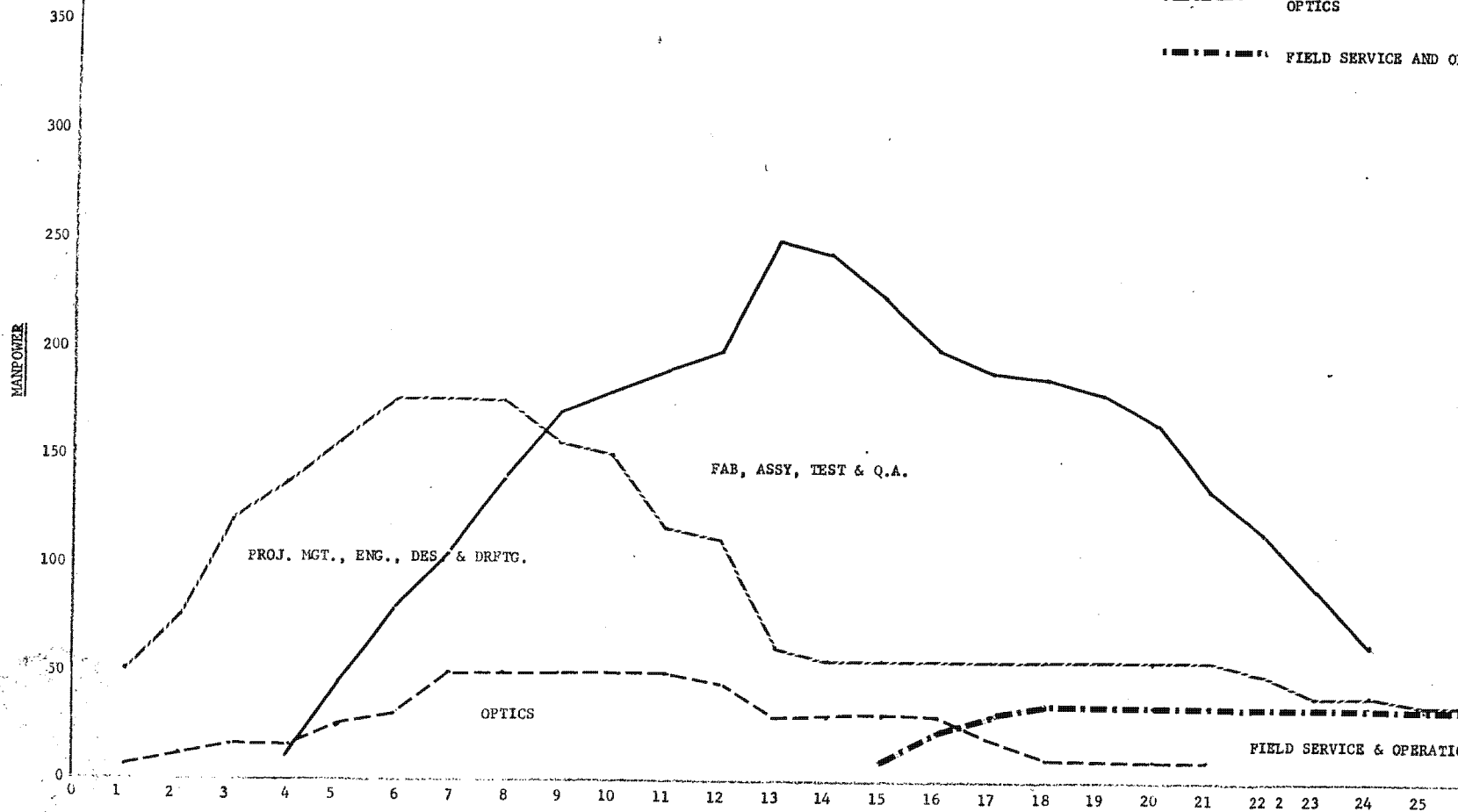
SECTION B

F SYSTEM PROGRAM

MANPOWER & FACILITY

MANPOWER APPLICATION FOR F SYSTEM PROGRAM

- PROJECT MANAGEMENT, ENGINEERING, DESIGN & DRAFTING
- FABRICATION, ASSEMBLY, TEST AND QUALITY ASSURANCE
- - - - OPTICS
- · - · - · FIELD SERVICE AND OPERATIONAL SUPPORT



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F SYSTEM PROGRAM
SPACE ALLOCATION

<u>Project Space Requirements</u>		<u>Area</u>
Project Management & Administration		5,500 sq. ft.
Engineering, Design & Drafting		12,500 sq. ft.
Fabrication (Model Shop & Machine Shop)		1,500 sq. ft.
Assembly & Debug		
Main Camera		
Sub-Assembly	2,500	
Main Assembly	6,000	
Debug	<u>4,000</u>	
Sub-Total		12,500
Ground Handling Equipment		2,000
Double Frame Camera		
Assembly	1,200	
Debug	<u>600</u>	
Sub-Total		1,800
Spools & Take-Up		
Assembly	1,600	
Paint Area	<u>300</u>	
Sub-Total		<u>1,900</u>
Total Assembly & Debug		18,200 sq. ft.
Electrical Breadboard Area		1,000 sq. ft.
Quality Assurance & Inspection		1,500 sq. ft.
Miscellaneous Areas		
Conference Rooms	750	
Shipping & Receiving	1,000	
Print Area	800	
Stores	1,000	
Security	500	
Medical	300	
Personnel	100	
Purchasing	2,000	
Cafeteria	<u>3,000</u>	
Total Miscellaneous Areas		<u>9,450 sq. ft.</u>
Total		49,650 sq. ft.

104 $\frac{120}{12500}$
 $\frac{120}{12500}$
 210

SECTION C

F SYSTEM PROGRAM

DELIVERY SCHEDULES

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F - SYSTEM DELIVERY SCHEDULE

SPECIAL

1964 JUL MONTHS — 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

1965 JAN JUL 1966 JAN JUL

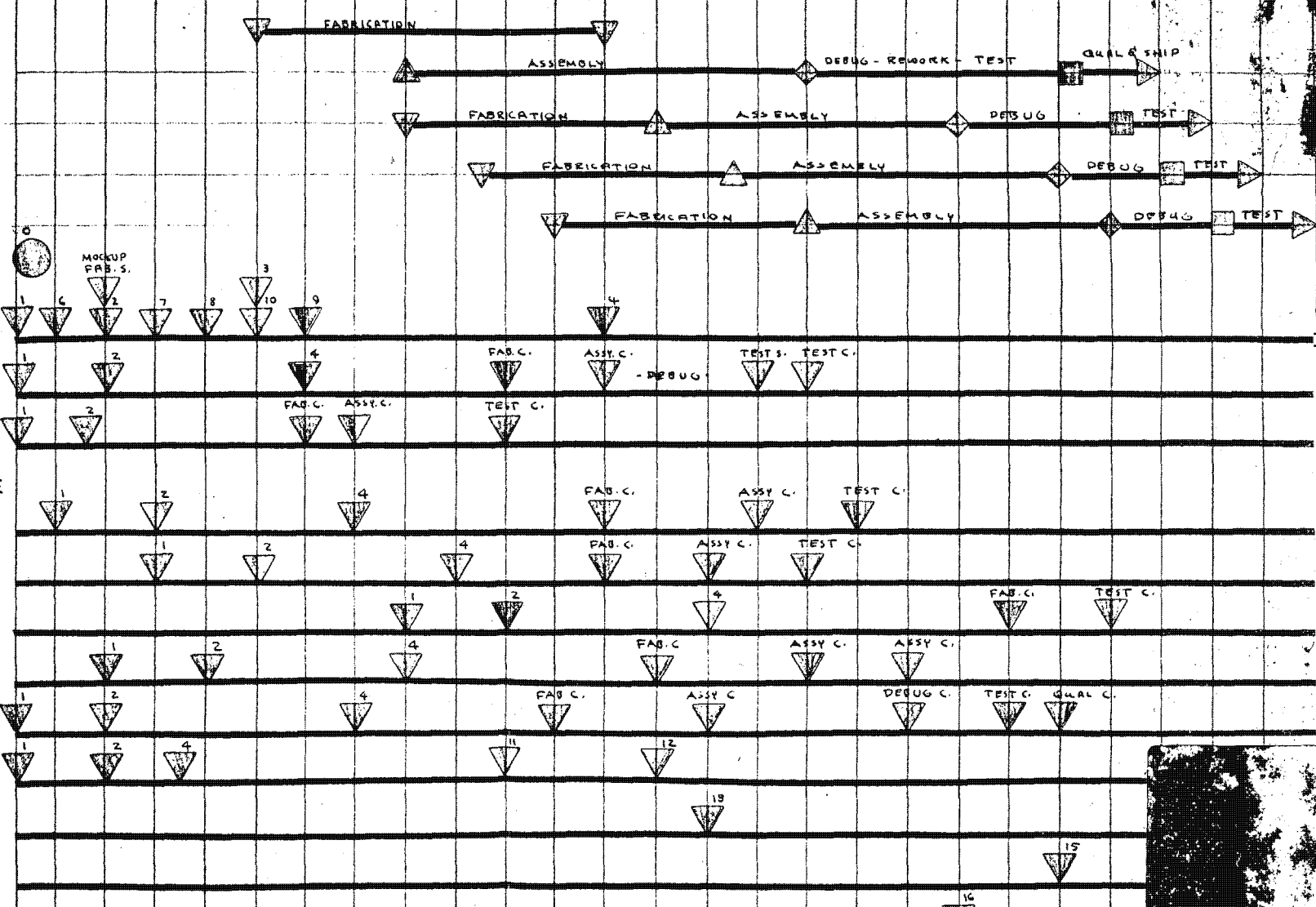
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F-SYSTEM SCHEDULE

- F-1
- F-2
- F-3
- F-4

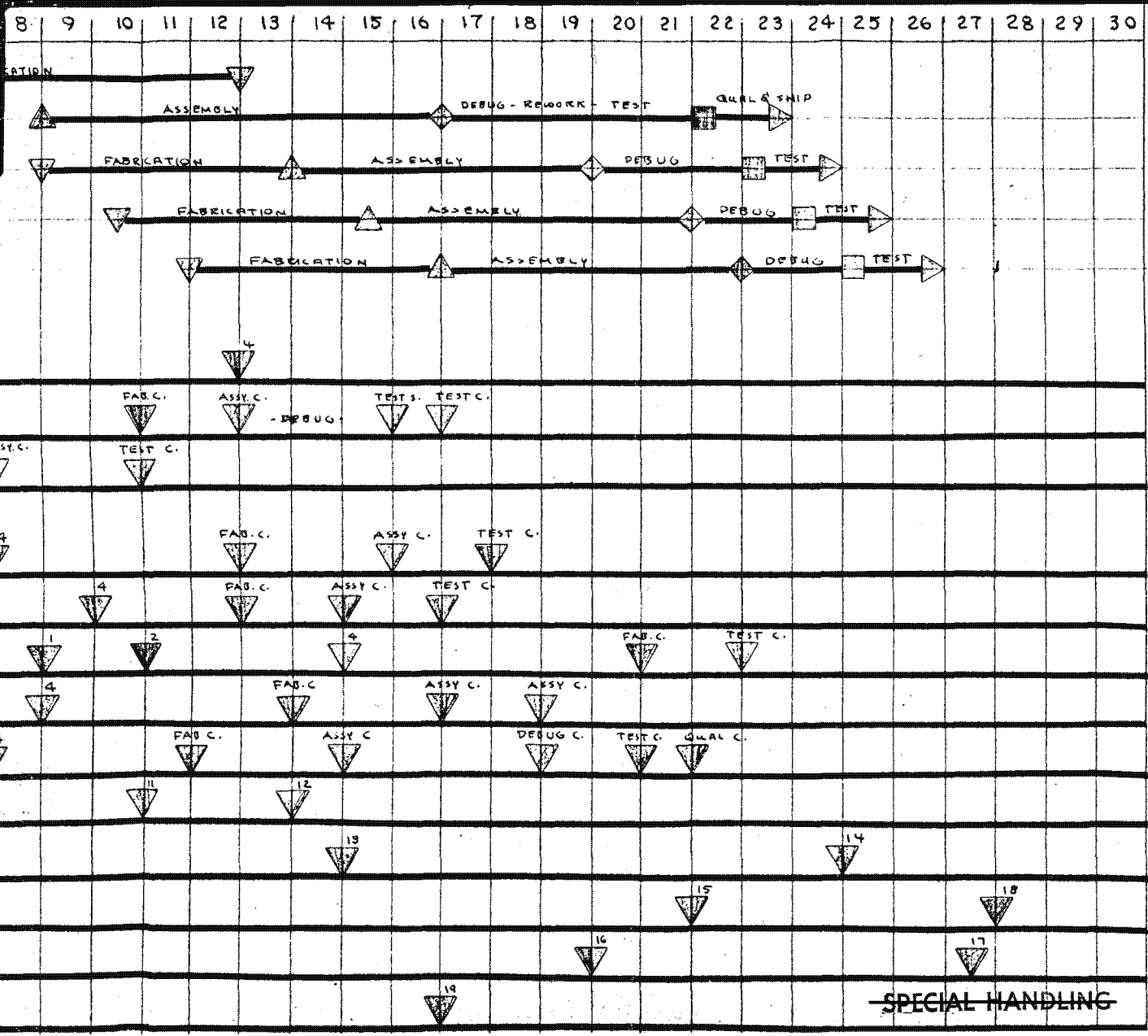
DESIGN & DEVELOPEMENT

- A - MAIN INSTRUMENT
- B - TAKEUP
- C - LENS
- D - CAMERA TO VEHICLE MOUNT
- E - TEST & CHECKOUT CONSOLES
- F - PORTABLE SIMULATOR
- G - SYSTEM TEST STAND
- H - S/I UNITS
- I - TEST FACILITY
- J - FIELD SERVICE TRAINING
- K - FIELD SERVICE SUPPORT



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EVENT	DESCRIPTION
0	GO AHEAD DATE
1	PRE-DES START
2	PRE-DES COMPLETE
3	FINAL-DES START
4	FINAL-DES COMPLETE
5	QUAL COMPLETE
6	MOCKUP DES START
7	MOCKUP DES COMPLET
8	MOCKUP EVAL. START
9	MOCKUP EVAL. COMPT
10	MOCKUP FAB. COMPT
11	BUILDING COMPL E
12	INSTALL & CHECK EQ P
13	COMPLETE
13	FIELD SERVICE TRA N
14	START
14	FIELD SERVICE TRA IF
15	COMPLETE
15	FIELD SERVICE OPE TI
16	START
16	OPERATIONAL SUPPOR
17	START
17	OPERATIONAL SUPPORT COMPL
18	FIELD SERVICE OPERATIO
19	COMPLETE
19	GO AHEAD DATE FOR
	FOLLOW ON UNITS

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F - SYSTEM FOLLOW ON DELIVERY SCHEDULE

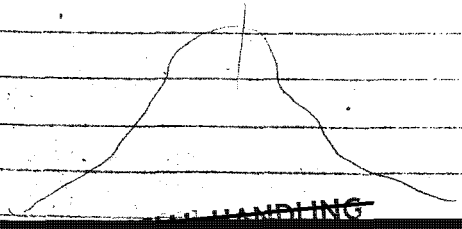
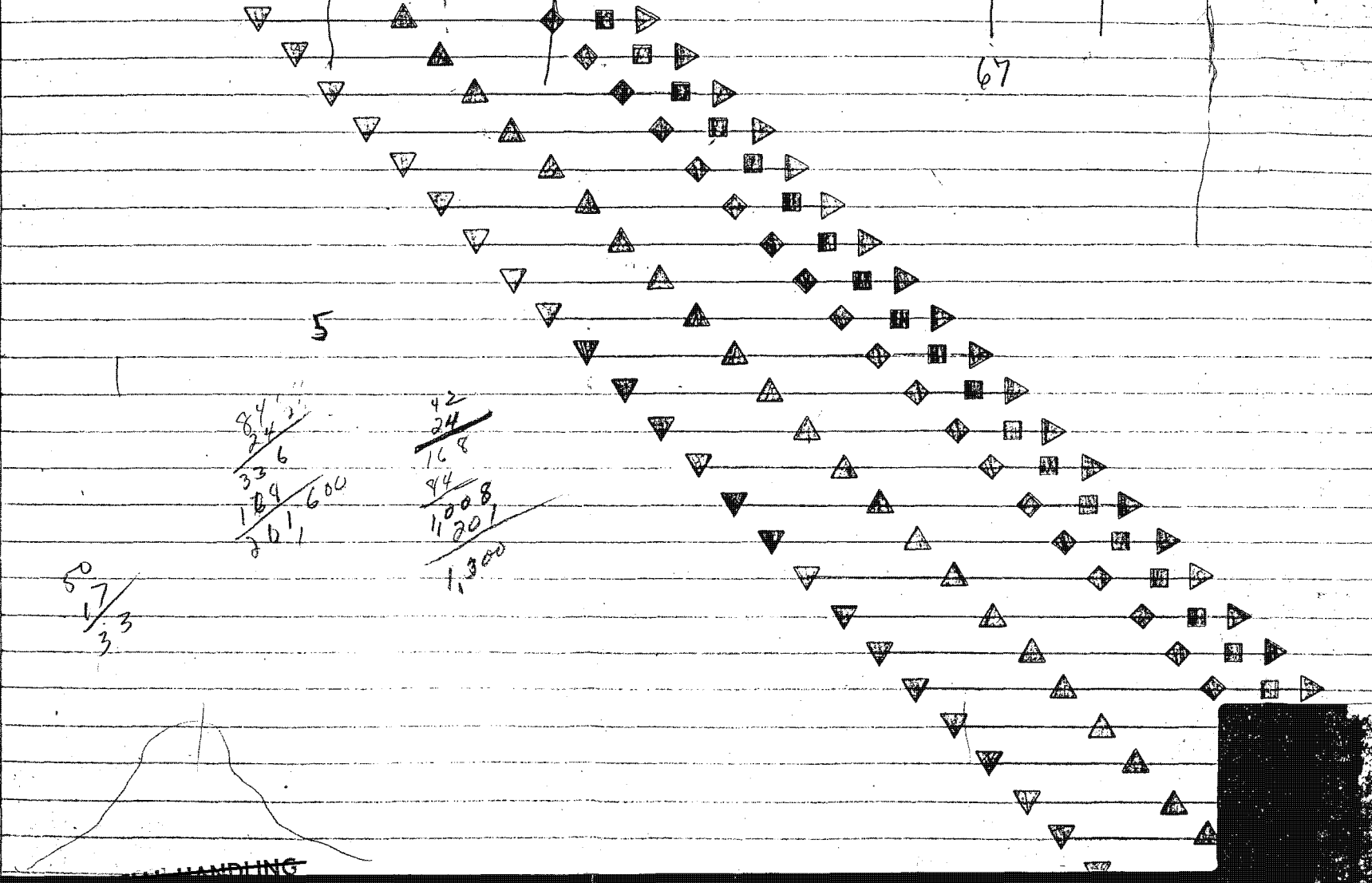
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APR 1965 JUL NOV JAN 1966 JUL JAN 1967 JUL JAN 1968

MONTHS - 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47

SERIAL NUMBERS

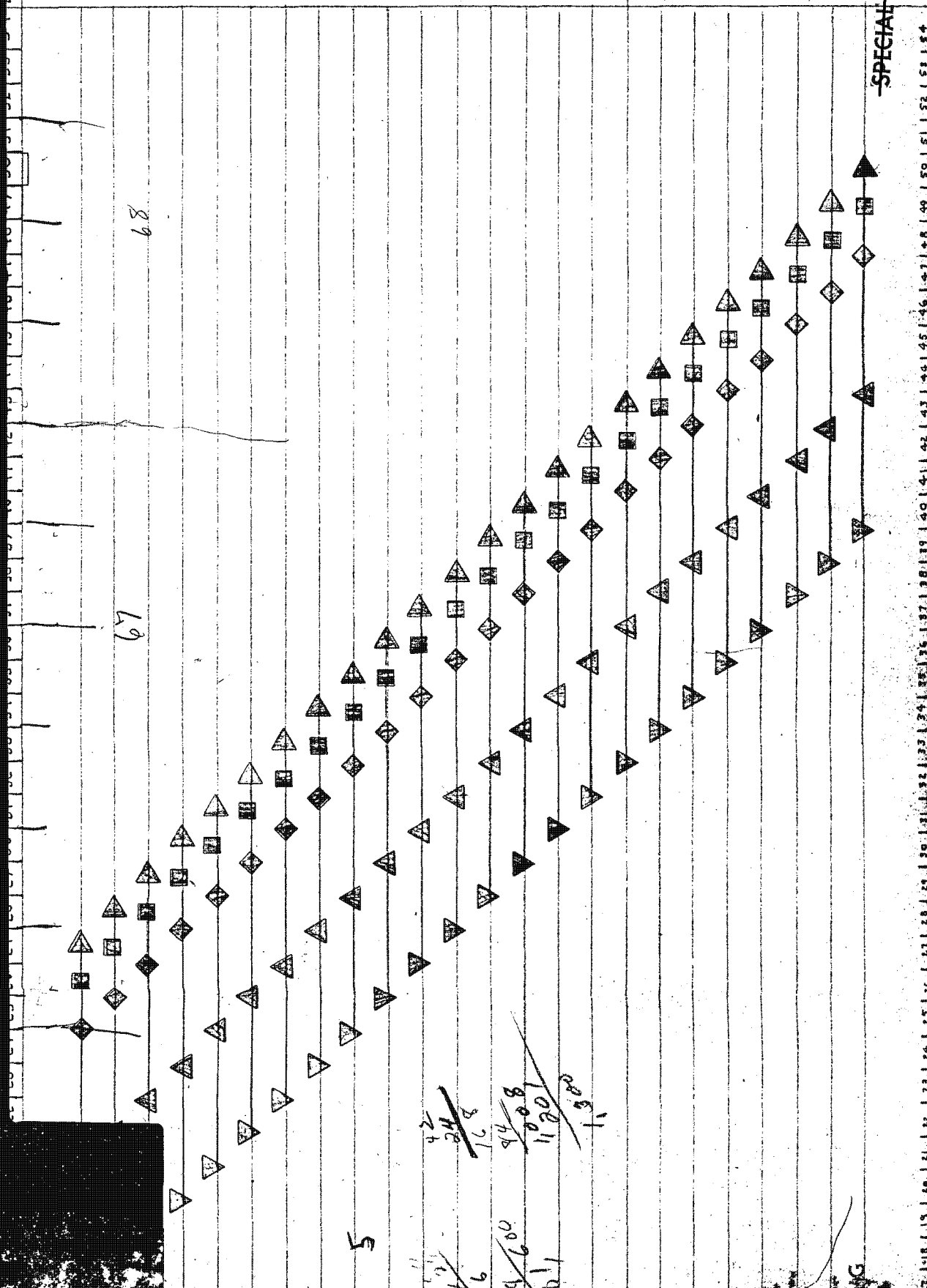
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- 1- START FABRICATION
- 2- COMPLETE FABRICATION
- 3- COMPLETE ASSEMBLY
- 4- COMPLETE DEBUG
- 5- COMPLETE TEST
- 6- SHIP



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