

EDITION "A"

MANNED SPACE FLIGHT SCHEDULES

Volume III

LAUNCH VEHICLES

Book 2 - Saturn IB



OMSF PROGRAM STATUS REVIEW OCTOBER 1965

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Document No. _____ Name _____

OMSF PROGRAM STATUS REVIEW PROGRAM SCHEDULE ROAD MAP.

LEVEL 2

SATURN IB
DEVELOPMENT-DELIVERY
OBLIGATION-HARDWARE

S-IB STAGE
DEV-DEL
COST-MAN/P

INSTR UNIT
DEV-DEL
COST-MAN/P
SOFTWARE

GSE
DEV-DEL
COST-MAN/P

LEVEL 3

S-IVB STAGE
DEV-DEL
COST-MAN/P
SOFTWARE

VEHICLE
SUPPORT
COST-MAN/P

MANNED SPACE FLIGHT SCHEDULE

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BOOK 2-SATURN IB

STATUS AS OF 9/30/66
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EDITION A

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<u>SATURN IB LAUNCH VEHICLE</u>				<u>S-IVB STAGE</u>			
2		Development and Delivery Plan	III-2-1	3		Development and Delivery Plan	III-2-19
2		Saturn IB Development Single Thread	III-2-2&3	3		Engineering Design Releases	III-2-20
2	320000-1a	Dynamic and Facility Test Program	III-2-4&5	3		Engineering Changes	III-2-21
2	320000-3a	Launch Vehicle Obligations	III-2-5a	3		Components Qualification	III-2-22
2	320000-3b	Launch Vehicle Obligations	III-2-5b			Flight Critical Components	
2		Hardware Quantities	III-2-6	3		Component Qualification	III-2-23
2		Hardware Identification	III-2-7			Total Components	
2		Emergency Detection System	III-2-7(1)&7(2)	3	323300-2c	(c) Structural Test Stage	III-2-24
		<u>S-IB STAGE</u>		3	323300-2d	(d) S-IVB-201	III-2-25
3		Development and Delivery Plan	III-2-8	3	323300-2e	(f) S-IVB-202	III-2-26
3		Engineering Changes	III-2-9	3	323300-2f	(g) S-IVB-203	III-2-27
3		Component Qualification Flight & Mission Critical Components	III-2-10	3	323300-2g	(h) S-IVB-204	III-2-28
3		Component Qualification	III-2-11	3	323300-2h	(i) S-IVB-205	III-2-29
3	323100-2a	Total Components	III-2-12&13	3		Obligations, Cost and Manpower	
3	323100-2b	(a) S-IB-1	III-2-14			(a) S-IVB/IB Stage Contractor (DAC)	III-2-29a
3	323100-2c	(b) S-IB-2	III-2-15&16	3		(b) S-IVB/IB Stage Contractor (DAC)	III-2-29b
3	323100-2d	(c) S-IB-3	III-2-17	3		<u>INSTRUMENT UNIT</u>	
3	323100-2e	(d) S-IB-4	III-2-18	3		Development & Delivery Plan	III-2-30
		(e) S-IB-5	III-2-18	3		Engineering Design Releases	III-2-31
		Obligations, Cost and Manpower		3		Engineering Changes	III-2-32
3		(a) S-IB Stage Contractor (CCSD)	III-2-18a	3		Component Qualification	III-2-33
3		(b) S-IB Stage Contractor (CCSD)	III-2-18b	3		Flight Critical Components	
3		(c) S-IB Stage Support Contractor (M-R)	III-2-18c	3	323500-2a	Component Qualification	III-2-34
3		(d) S-IB Stage Support Contractor (M-R)	III-2-18d	3		Total Components	
				3		S-IU-Structural Test Units	III-2-35
				3	323500-2b	(S-IU-200/500S & S-IU-200/500S-II)	
						S-IU-Vibration Test Unit	III-2-36
						(S-IU-200V)	

* INDICATES CHANGES FROM LAST SUBMISSION

MANNED SPACE FLIGHT SCHEDULE
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3	323500-2e	(a) S-IU-201	III-2-37			Obligations, Cost and Manpower	
3	323500-2e1	(b) S-IU-201 Software Requirements	III-2-38	3		(a) Ground Support Equipment (GE)	III-2-52a
3	323500-2f	(c) S-IU-202	III-2-39	3		(b) Ground Support Equipment (GE)	III-2-52b
3	323500-2g	(d) S-IU-203	III-2-40	3		(c) Ground Support Equipment (RCA)	III-2-52c
3	323500-2h	(e) S-IU-204	III-2-41	3		(d) Ground Support Equipment (RCA)	III-2-52d
3	323500-2i	(f) S-IU-205	III-2-42	3		(e) Ground Support Equipment (CCSD)	III-2-52e
3		Obligations, Cost and Manpower		3		(f) Ground Support Equipment (CCSD)	III-2-52f
3		(a) Instrument Unit (Bendix)	III-2-42a				
3		(b) Instrument Unit (Bendix)	III-2-42b				
3		(c) Instrument Unit (IBM)	III-2-42c				
3		(d) Instrument Unit (IBM)	III-2-42d				
3	323500-4a	Direct Civil Service Manhours	III-2-42e				
		<u>GROUND SUPPORT EQUIPMENT</u>					
3		Basic Engineering Design	III-2-43				
		Releases for LC-34					
3		GSE Engineering Changes (RCA)	III-2-44				
3		GSE Engineering Changes (GE)	III-2-45				
3		Components Qualification	III-2-46				
		Total GE ESE Parts					
3		Component Qualification	III-2-47				
		Total RCA ESE Parts					
3	326008-1	Systems Development Facility	III-2-48				
3	326008-2a	LC-34 ESE	III-2-49&50				
3	326008-2b	LC-34 MSE	III-2-51				
3	326008-2c	LC-37B	III-2-52				

* INDICATES CHANGES FROM LAST SUBMISSION

MANNED SPACE FLIGHT SCHEDULE

**SATURN IB PROGRAM
MSFC CONTROL MILESTONES**

S-IB STAGE

* Complete S-IB-1 Struct. Testing	Aug 65
* Complete S-IB-3 Struct. Testing	May 66
* Complete Qual of S-IB-1 Flt Critical Comp	Dec 65
* S-IB-1 Delivery to KSC	Aug 65
* S-IB-2 Delivery to KSC	Dec 65
* S-IB-3 Delivery to KSC	Mar 66
* S-IB-4 Delivery to KSC	Jun 66
* S-IB-5 Delivery to KSC	Sept 66
* S-IB-6 Delivery to KSC	Dec 66
* S-IB-7 Delivery to KSC	Mar 67
* S-IB-8 Delivery to KSC	Jun 67
* S-IB-9 Delivery to KSC	Sept 67
* S-IB-10 Delivery to KSC	Dec 67
* S-IB-11 Delivery to KSC	Mar 68
* S-IB-12 Delivery to KSC	Jun 68

S-IVB/IB STAGE

* Complete IB AFM Qual test	Oct 65
* S-IVB-201 Delivery to KSC	Sept 65
* S-IVB-202 Delivery to KSC	Dec. 65
* S-IVB-203 Delivery to KSC	Mar 66
* S-IVB-204 Delivery to KSC	Jun 66
* S-IVB-205 Delivery to KSC	Sept 66
* S-IVB-206 Delivery to KSC	Dec 66
* S-IVB-207 Delivery to KSC	Mar 67
* S-IVB-208 Delivery to KSC	Jun 67
* S-IVB-209 Delivery to KSC	Sept 67
* S-IVB-210 Delivery to KSC	Dec 67
* S-IVB-211 Delivery to KSC	Mar 68
* S-IVB-212 Delivery to KSC	Jun 68

* Denotes Control Milestones which schedule and expected date information will be supplied on PERT input forms for NASA PERT "C" Computer Program utilization.

MANNED SPACE FLIGHT SCHEDULE
SATURN IB PROGRAM MSFC
CONTROL MILESTONES (CON'T)

S-IU/IB STAGE

* Complete S-IU-200/500S Testing	Jul 65
* Complete S-IU-200/500S-II Testing	Dec 65
* Deliver S-IU-200F/500F to KSC	Aug 65
* S-IU-201 Delivery to KSC	Oct 65
* S-IU-202 Delivery to KSC	Dec 65
* S-IU-203 Delivery to KSC	Mar 66
* S-IU-204 Delivery to KSC	Jun 66
* S-IU-205 Delivery to KSC	Sept 66
* S-IU-206 Delivery to KSC	Dec 66
* S-IU-207 Delivery to KSC	Mar 67
* S-IU-208 Delivery to KSC	Jun 67
* S-IU-209 Delivery to KSC	Sept 67
* S-IU-210 Delivery to KSC	Dec 67
* S-IU-211 Delivery to KSC	Mar 68
* S-IU-212 Delivery to KSC	Jun 68

VEHICLE TESTING

* Complete SA-200D Testing	Sept 65
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GSE AND SOFTWARE

* Deliver 201 Program Tapes to KSC	Nov 65
* LC-34 Operational ESE to KSC	Aug 65
* S-IB Stage ESE Delivery to KSC	Jan 66
* S-IVB Stage ESE Delivery to KSC	Jan 66
* S-IU Stage ESE Delivery to KSC	Feb 66
* Power Systems ESE Delivery to KSC	Feb 66
* Integration ESE Delivery to KSC	Feb 66
* DDAS ESE Delivery to KSC	Dec 65
* Data Link Equip Delivery to KSC	Jan 66
* Display System Delivery to KSC	Jan 66
* Azimuth Align Equip Delivery to KSC	Mar 66
* Digital Events Eval Delivery to KSC	Nov 65
* Computer #1 Delivery to KSC	Dec 65
* Computer #2 Delivery to KSC	Jan 66
* S-IVB Stage MSE Delivery to KSC	Jan 66
* S-IU Stage MSE Delivery to KSC	Nov 65

* Denotes Control Milestones Which Schedule and Expected Date Information Will Be Supplied on PERT Input Forms For NASA
 PERT "C" Computer Program Utilization.

SCHEDULE SYMBOLS

MILESTONE SYMBOLS

	SCHEDULED COMPLETION DATE-CONTROLLED MILESTONE
	SCHEDULED COMPLETION DATE-SUPPORTING MILESTONE
	FIRST SCHEDULE REVISION-CONTROLLED MILESTONE*
	FIRST SCHEDULE REVISION-SUPPORTING MILESTONE*
	ACTUAL COMPLETION DATE-CONTROLLED MILESTONE
	ACTUAL COMPLETION DATE-SUPPORTING MILESTONE
	RESCHEDULING REQUEST-CONTROLLED MILESTONE
E	EXPECTED COMPLETION DATE
L	LATEST ALLOWABLE COMPLETION DATE
A	PROJECT (PROGRAM) MANAGERS' ASSESSMENT OF EXPECTED COMPL DATE
A E	EXPECTED AND ASSESSMENT DATES IDENTICAL
A E L	EXPECTED, LATEST ALLOWABLE & ASSESSMENT DATES IDENTICAL
E	SCHEDULED AND EXPECTED DATES IDENTICAL
E L	SCHEDULED, EXPECTED AND LATEST ALLOWABLE DATES IDENTICAL (CONTROLLED MILESTONE)**
E V	SCHEDULED AND EXPECTED DATES IDENTICAL (SUPPORTING MILESTONE)
E V L	SCHEDULED, EXPECTED AND LATEST ALLOWABLE DATES IDENTICAL (SUPPORTING MILESTONE)**

USE OF SCHEDULE SYMBOLS IN CONJUNCTION WITH ACTIVITY BARS

ACTIVITY INITIATION

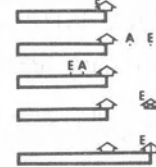
	PREDICTED INITIATION ON SCHEDULE
	PREDICTED LATE INITIATION
	PREDICTED EARLY INITIATION

ACTIVITY PROGRESS TOWARD COMPLETION - BASIC SCHEDULE

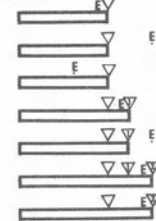
	ACTIVITY ON SCHEDULE
	ACTIVITY BEHIND SCHEDULE
	ACTIVITY AHEAD OF SCHEDULE
	PROGRESS AGAINST SCHEDULED DELIVERIES, TEST FIRINGS, ETC. (ON SCHEDULE)
	LATE INITIATION - BEHIND SCHEDULE
	EARLY INITIATION - AHEAD OF SCHEDULE
	BEHIND SCHEDULE - FOUR CUMULATIVE DELIVERIES
	AHEAD OF SCHEDULE - SEVEN CUMULATIVE DELIVERIES

* THE 2 FOR 2ND RESCHEDULING, 3 FOR 3RD RESCHEDULING ETC.
 ** SHOWN IN CONJUNCTION WITH A MILESTONE RESCHEDULED TWICE.

CONTROLLED MILESTONES



SUPPORTING MILESTONES



ACTIVITY OR EVENT COMPLETION

	PREDICTED COMPLETION ON SCHEDULE
	PREDICTED LATE COMPLETION WITH PROJECT MANAGERS' ASSESSMENT
	PREDICTED EARLY COMPLETION WITH PROJECT MANAGERS' ASSESSMENT
	PREDICTED LATE COMPLETION WITH PROJECT MANAGERS' REQUEST FOR RESCHEDULING
	RESCHEDULING REQUEST APPROVED, FIRST SCHEDULE REVISION, PREDICTED COMPLETION ON SCHEDULE

	PREDICTED COMPLETION ON SCHEDULE
	PREDICTED LATE COMPLETION (PROJECT MANAGERS' ASSESSMENT OPTIONAL)
	PREDICTED EARLY COMPLETION
	FIRST SCHEDULE REVISION-PREDICTED COMPLETION ON SCHEDULE
	FIRST SCHEDULE REVISION-PREDICTED LATE COMPLETION
	SECOND SCHEDULE REVISION-FIRST MONTH SUBMISSION
	SECOND SCHEDULE REVISION-2ND MONTH SUBMISSION

RANDOM SITUATIONS

(E AND A SYMBOLS HAVE BEEN OMITTED IN PORTRAYING RANDOM SITUATIONS)

PREDICTED LATE INITIATION & LATE COMPLETION

	CONDITION "A"-PROPOSED
	CONDITION "A"-ACCEPTED
	CONDITION "B"-PROPOSED (PREDICTED INITIATION LATER THAN SCHEDULED COMPLETION)
	CONDITION "B"-ACCEPTED

PREDICTED EARLY INITIATION & EARLY COMPLETION

	CONDITION "C"-PROPOSED
	CONDITION "C"-ACCEPTED
	CONDITION "D"-PROPOSED (PREDICTED COMPLETION EARLIER THAN SCHEDULED INITIATION)
	CONDITION "D"-ACCEPTED

NEW PREDICTED COMPLETION DATE

	EXISTING SCHEDULE	GRAPH CURVES
	PROPOSED	----- PLANNED
	ACCEPTED	————— ACTUAL
	 CURVE ESTIMATE

USE OF "LATEST ALLOWABLE" DATE SYMBOL

	KEY MILESTONE - PREDICTED EARLY COMPLETION
	SUPPORTING MILESTONE - PREDICTED LATE COMPLETION
	CONTROLLED MILESTONE - PREDICTED LATE COMPLETION

GENERAL NOTES

CDR AND FACI MILESTONES

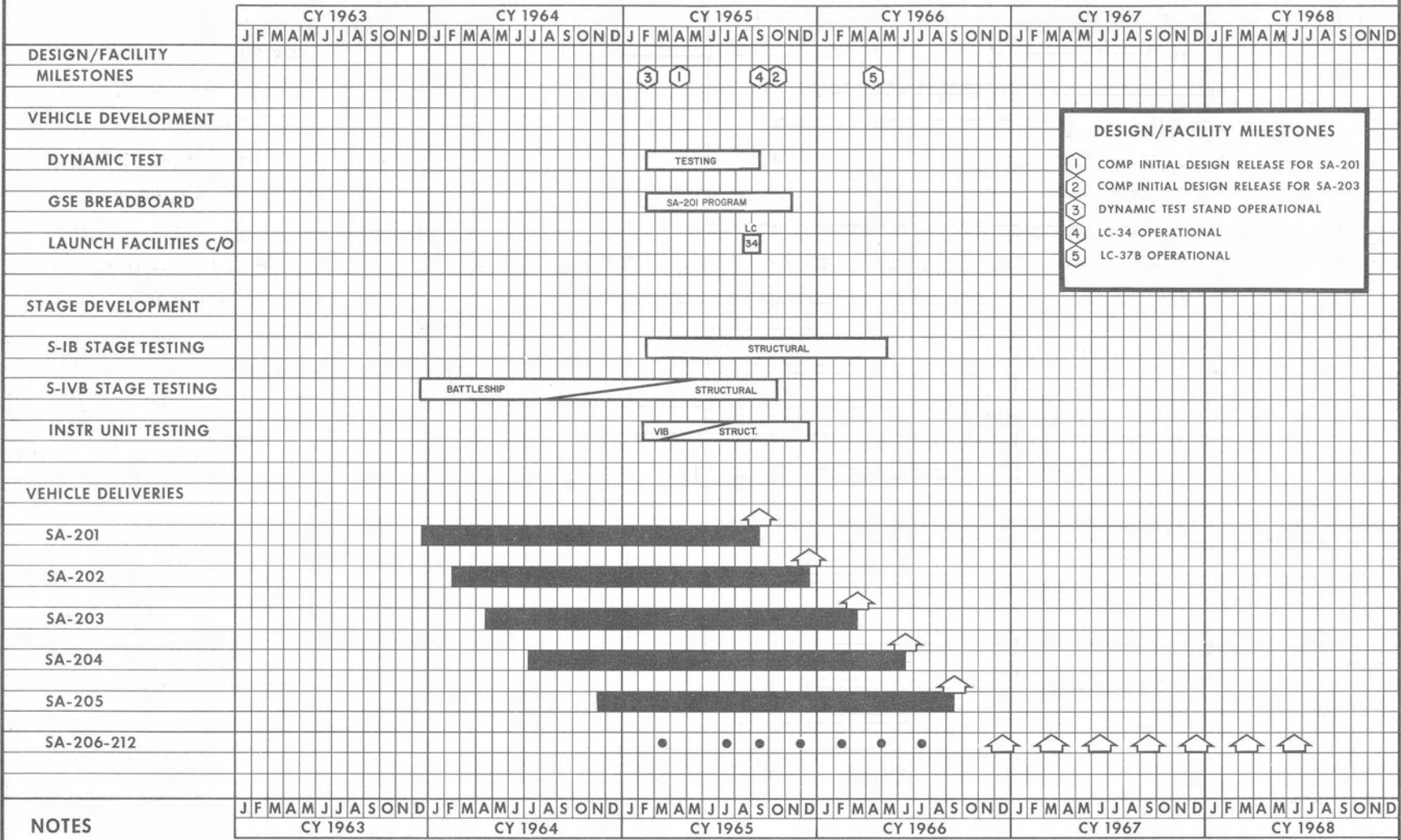
THE SCHEDULING OPERATIONS DIRECTIVE FOR THIS SUBMISSION REQUESTED THE FOLLOWING:

ADD A CONTROL MILESTONE FOR EACH CRITICAL DESIGN REVIEW (CDR) AND FIRST ARTICLE CONFIGURATION INSPECTION (FACI) REMAINING TO BE ACCOMPLISHED FOR STAGES OF THE SATURN IB VEHICLES.

IN COMPLIANCE WITH THIS REQUEST MILESTONES REFLECTING THESE EVENTS HAVE BEEN SHOWN ON THE S-IB INDIVIDUAL STAGE CHARTS. MILESTONES REFLECTING CDR'S AND FACI'S FOR S-IVB/IB STAGES WILL BE SHOWN IN THIS BOOK UPON INCORPORATION OF THE CONFIGURATION MANAGEMENT PLAN INTO THE DAC S-IVB CONTRACT DURING THE INCENTIVE CONVERSION NOW IN PROCESS. INFORMATION ON INSTRUMENT UNIT CDR'S AND FACI'S WILL BE INCORPORATED WHEN SCHEDULES FOR THESE REVIEWS ARE FINALIZED.

CDR'S AND FACI'S DO NOT MEET THE CRITERIA FOR CONTROLLED MILESTONES AS DEFINED IN APOLLO PROGRAM DIRECTIVE NUMBER 4A, DATED SEPTEMBER 21, 1965, AND WILL BE SHOWN IN THIS DOCUMENT AS SUPPORTING MILESTONES.

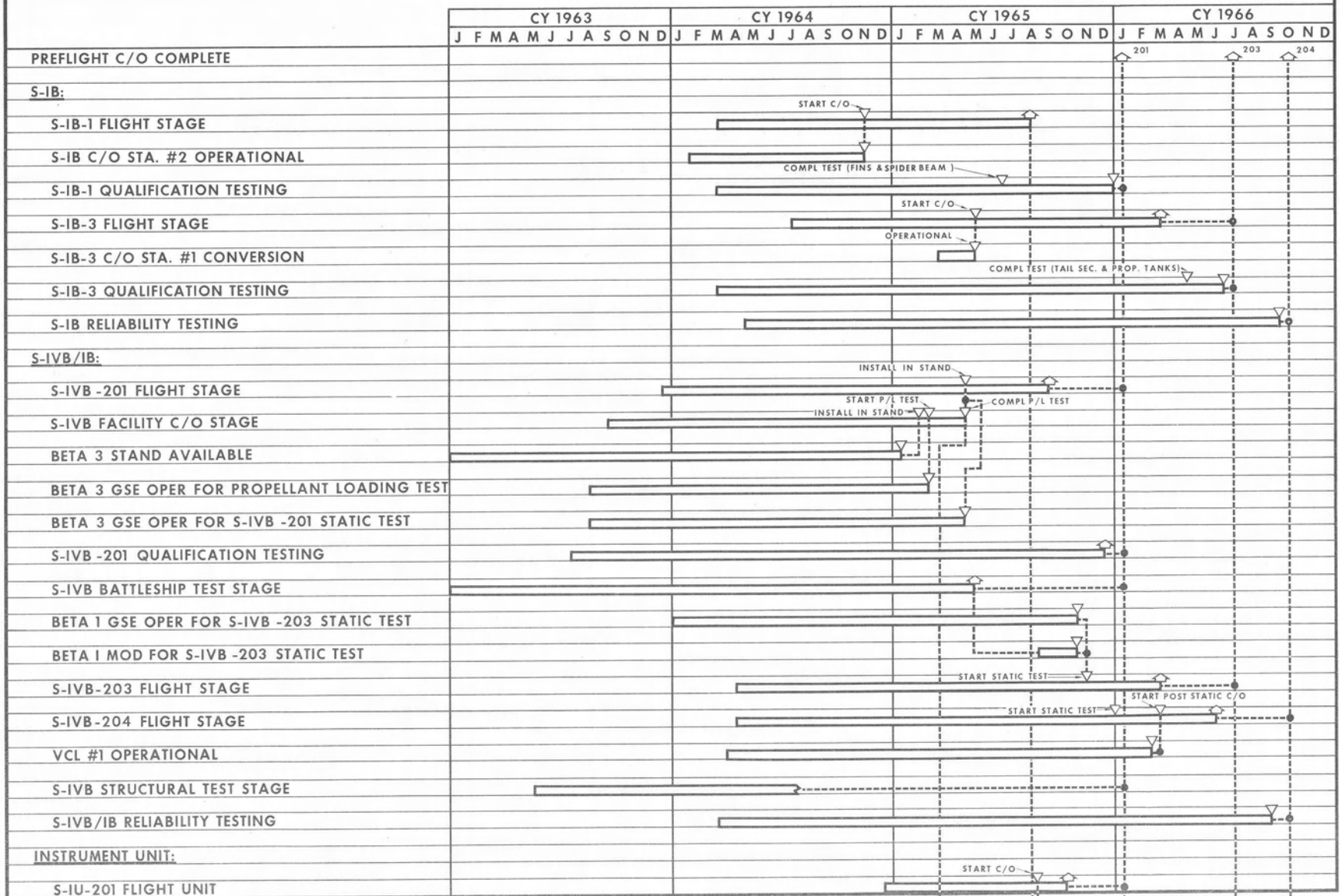
SATURN IB LAUNCH VEHICLE DEVELOPMENT AND DELIVERY PLAN



DESIGN/FACILITY MILESTONES

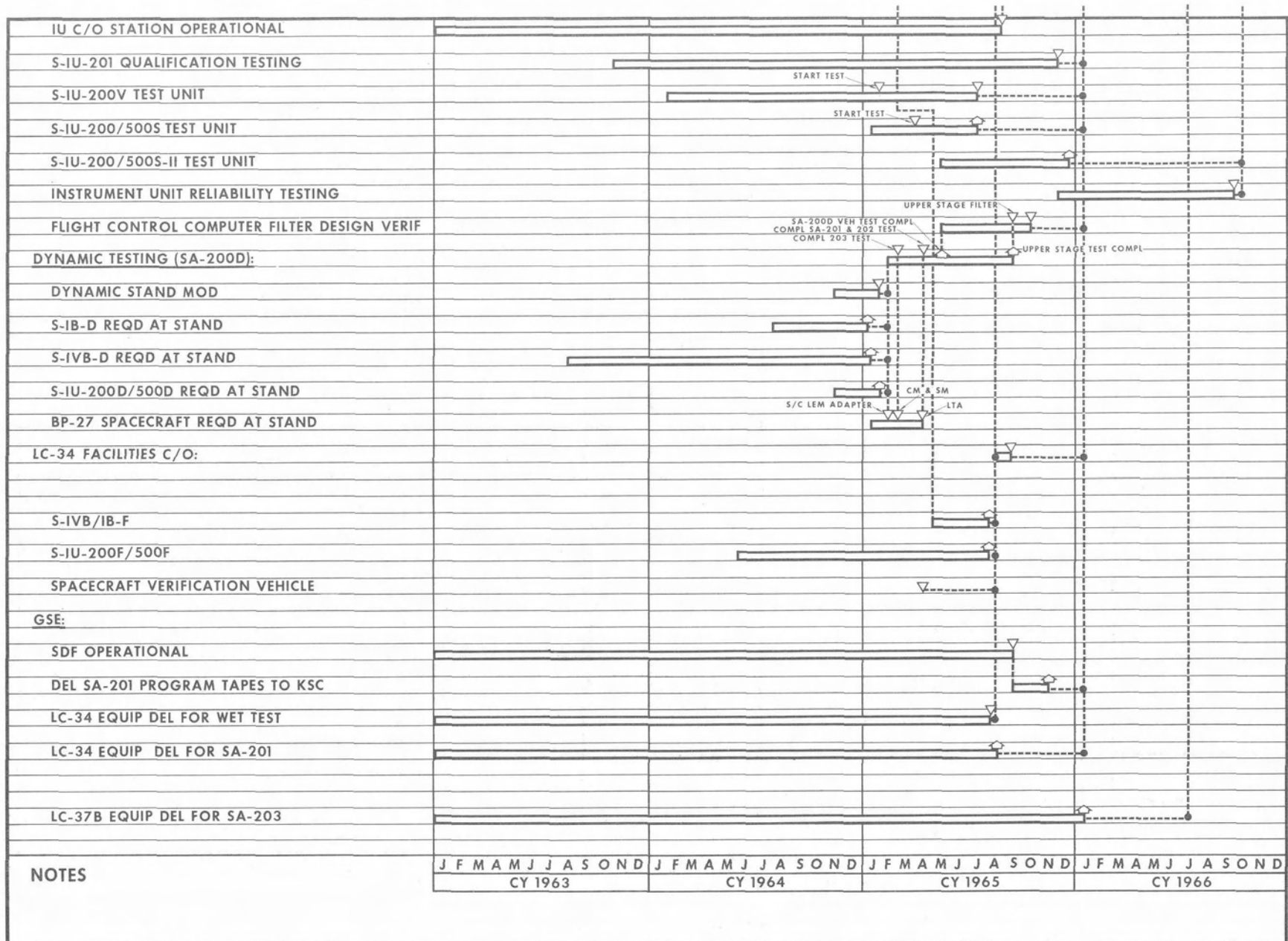
- ① COMP INITIAL DESIGN RELEASE FOR SA-201
- ② COMP INITIAL DESIGN RELEASE FOR SA-203
- ③ DYNAMIC TEST STAND OPERATIONAL
- ④ LC-34 OPERATIONAL
- ⑤ LC-37B OPERATIONAL

SATURN IB DEVELOPMENT SINGLE THREAD



IB SEPTEMBER 30, 1965

III-2-2



SCHEDULE RESPONSIBILITY Wernher von Braun
 STATUS RESPONSIBILITY Lee B. James

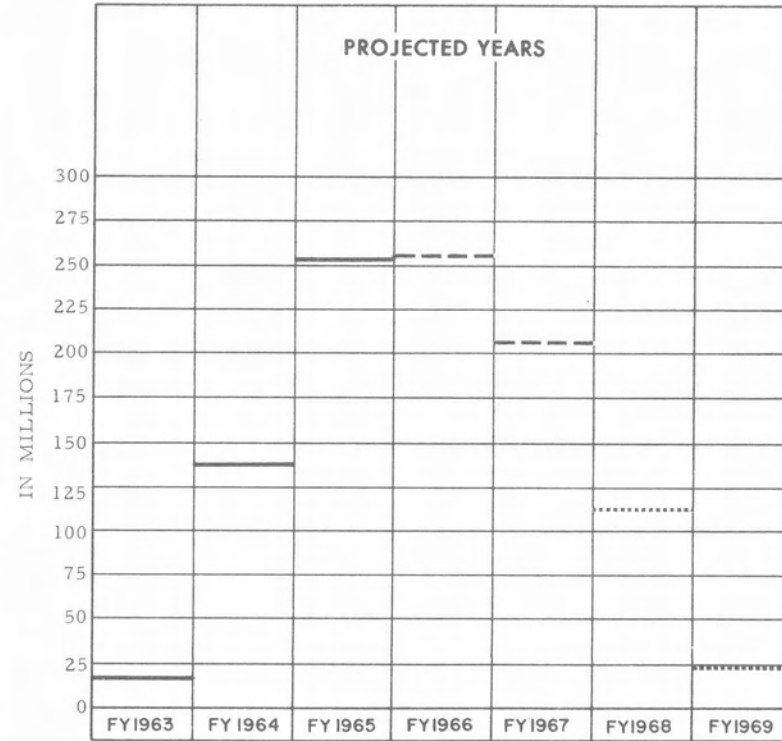
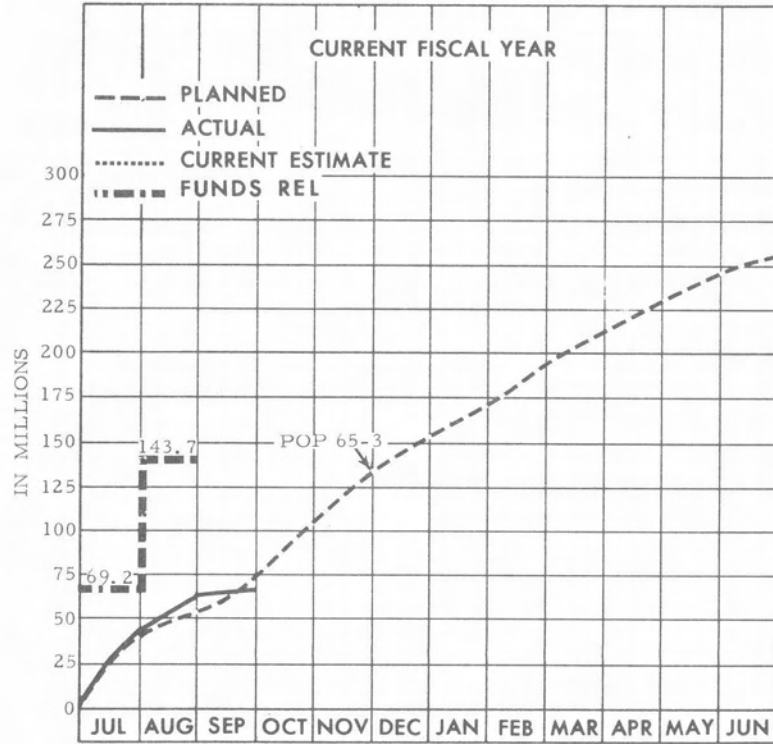
MANNED SPACE FLIGHT SCHEDULE
**SATURN IB LAUNCH
 VEHICLE OBLIGATIONS**

2
LEVEL

ORIGINAL SCHED. APPROVAL 2/28/65
 (Date)
 LAST SCHED. CHANGE _____
 (Date) (No.) (Initials)
 STATUS AS OF 9/30/65
 (Date) (Initials)

CONTRACTOR: NOT APPLICABLE

PROJECT: SATURN IB
 SCH'D NO: 2-320000-3a/8



PLANNED	37.6	52.6	69.1	102.1	135.6	153.1	173.1	193.1	215.9	230.9	245.9	258.2
ACT./EST.	38.7	61.6	65.8									
PLANNED	37.6	13.9	7.5	36.3	33.5	17.5	20.0	20.0	22.8	15.0	15.0	12.3
ACT./EST.	38.7	22.9	4.2									

PLANNED				258.2	208.1		
ACT./EST.	19.3	138.9	255.5			115.2	24.8
PLANNED				671.9	880.0		
ACT./EST.	19.3	158.2	413.7			995.2	1020.0

NOTES

PLAN WILL BE REVISED TO REFLECT POP 65-4.

SCHEDULE RESPONSIBILITY Dr. Wernher von Braun

STATUS RESPONSIBILITY Lee B James
Lee B James

MANNED SPACE FLIGHT SCHEDULE
SATURN IB LAUNCH VEHICLE
OBLIGATIONS (DOLLARS IN MILLIONS)

2
LEVEL

ORIGINAL SCHED. APPROVAL 2/28/65
(Date)

LAST SCHED. CHANGE (Date) (No.) (Initials)

STATUS AS OF 9/30/65
(Date) (Initials)

CONTRACTOR: NOT APPLICABLE

PROJECT: SATURN IB
SCH'D NO: 2-320000-3b/8

PROGRAM OR PROJECT ELEMENT	TOTAL OBLIGATIONS PRIOR FY	PLANNED OBLG TO DATE CURRENT FY	ACTUAL OBLG TO DATE CURRENT FY	PLANNED TOTAL OBLG CURRENT FY	PLANNED TOTAL OBLG AT COMPL
S-IB STAGE	127.942	15.190	14.822	62.923	280.937
S-IVB/IB STAGE	96.503	23.269	22.842	61.944	244.871
INSTRUMENT UNIT	48.522	9.380	11.829	40.780	142.828
GSE (INCL I, R & C/O)	69.225	3.600	1.804	14.806	94.544
H-1 ENGINE	20.148	3.500	3.200	9.200	34.148
J-2 ENGINE	20.390	4.780	4.600	14.000	43.490
VEHICLE SUPPORT	30.683	7.772	4.828	45.377	169.725
SATURN IB/CENTAUR DESIGN STUDIES	.283	1.600	1.889	9.157	9.440
TOTAL PROJECT	413.696	69.091	65.815	258.187	1,019.983

PLAN WILL BE REVISED TO REFLECT POP 65-4.

SCHEDULE RESPONSIBILITY Lee B. James
 STATUS RESPONSIBILITY *M. Johnson*
 M. Johnson

MANNED SPACE FLIGHT SCHEDULE

**SATURN IB
 HARDWARE QUANTITIES**

2
 LEVEL

ORIGINAL SCHED. APPROVAL 6/30/65
 (Date)
 LAST SCHED. CHANGE _____
 (Date) (No.) (Initials)
 STATUS AS OF 9/30/65
 (Date) (Initials)

CONTRACTOR: NOT APPLICABLE

PROJECT: SATURN IB
 SCH'D NO:

	<u>PROGRAM REQUIREMENTS</u>	<u>POP 65-3</u>	<u>ON CONTRACT</u>
<u>GROUND TEST VEHICLES</u>			
S-IB	1 (a)	1 (a)	1 (a)
S-IVB	6 (b)	6 (b)	6 (b)
S-IU	7 (c)	7 (c)	7 (c)
<u>FLIGHT VEHICLES</u>			
S-IB	12	12	12
S-IVB	12	12	12
S-IU	12	12	12
<u>LV AND STAGE GSE SETS</u>			
S-IB	4 (d)	4 (d)	4 (d)
S-IVB	6 (e)	6 (e)	6 (e)
S-IU	1	1	1
LV	3	3	3

NOTES

- (a) BLOCK II DYNAMIC & FACILITY C/O STAGE FOR SATURN I MODIFIED TO S-IB-D SATURN IB CONFIGURATION.
- (b) FUNDED AS A PART OF SATURN V DEVELOPMENT PROGRAM; SATURN IB PROGRAM FUNDED ONLY SATURN IB PECULIAR ITEMS.
- (c) FUNDED AS A PART OF SATURN V DEVELOPMENT PROGRAM.
- (d) CONVERTED FROM S-I SETS.
- (e) FIVE SETS FUNDED BY SATURN V DEVELOPMENT PROGRAM; ONE SET FUNDED BY SATURN IB.

SCHEDULE RESPONSIBILITY Lee B. James

STATUS RESPONSIBILITY M. Johnson

MANNED SPACE FLIGHT SCHEDULE
SATURN IB
HARDWARE IDENTIFICATION

2
LEVEL

ORIGINAL SCHED. APPROVAL 6/30/65
(Date)

LAST SCHED. CHANGE _____
(Date) (No.) (Initials)

STATUS AS OF 9/30/65
(Date) (Initials)

CONTRACTOR: NOT APPLICABLE

PROJECT: SATURN IB
SCH'D NO:

GROUND TEST VEHICLES

S-IB: 1

S-IB-D (MODIFIED FROM SA-D5)

S-IVB: 6

MSFC BATTLESHIP TEST STAGE
BATTLESHIP TEST STAGE
STRUCTURAL TEST STAGE
FACILITIES TEST STAGE (NOW USED IN SATURN V SDF)
DYNAMIC TEST STAGE
ALL SYSTEMS TEST STAGE (CONVERTED TO
FACILITIES CHECKOUT STAGE)

S-IU: 7

S-IU-200A BREADBOARD
S-IU-200V - VIBRATION TEST UNIT
S-IU-200/500S - STRUCTURAL TEST UNIT
S-IU-200/500S-II-STRUCTURAL TEST UNIT
S-IU-200D/500D - DYNAMIC TEST UNIT
S-IU-200F/500F - FACILITY CHECKOUT UNIT
S-IU-500FS - FLIGHT SYSTEMS TEST UNIT

FLIGHT VEHICLES

S-IB: 12

S-IB-1 THRU S-IB-12

S-IVB: 12

S-IVB-201 THRU S-IVB-212

S-IU: 12

S-IU-201 THRU S-IU-212

GSE SETS

S-IB: 4

MSFC - 1
MICHOU D - 2 COMPLETE ("CHECKOUT")
- 1 PARTIAL ("VERIFICATION")

S-IVB: 6

HUNTINGTON BEACH - 3
SACTO - 3

S-IU: 1

IBM - HUNTSVILLE - 1

LV: 3

MSFC - BREADBOARD - 1
KSC - (LC #34, LC #37B) - 2

NOTES

**MANNED SPACE FLIGHT SCHEDULE
SATURN IB LAUNCH VEHICLE
EMERGENCY DETECTION SYSTEM (CONT)**

MILESTONES		CY 1964					CY 1965					CY 1966					CY 1967					CY 1968																													
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D		
1	EDS GROUND TESTING →																																																		
2	IU CONTROL DISTRIBUTOR (204)																																																		
3	QUALIFICATION TESTING																																																		
4	RELIABILITY TESTING																																																		
5	IU EDS DISTRIBUTOR (204)																																																		
6	QUALIFICATION TESTING																																																		
7	RELIABILITY TESTING																																																		
8	IU CONTROL SIG PROCESSOR (203)																																																		
9	QUALIFICATION TESTING																																																		
10	RELIABILITY TESTING																																																		
11	IU RATE GYRO (201)																																																		
12	QUALIFICATION TESTING																																																		
13	RELIABILITY TESTING																																																		
14	Q-BALL (201)																																																		
15	QUALIFICATION TESTING																																																		
16	RELIABILITY TESTING																																																		
17																																																			
18																																																			
19																																																			
20																																																			

NOTES

SCHEDULE RESPONSIBILITY Lee B. James

STATUS RESPONSIBILITY John C. Rain
for Arthur W. Thompson

MANNED SPACE FLIGHT SCHEDULE

**S-IB-I STAGE
ENGINEERING CHANGES**

3
LEVEL

ORIGINAL SCHED. APPROVAL 6/30/65
(Date)

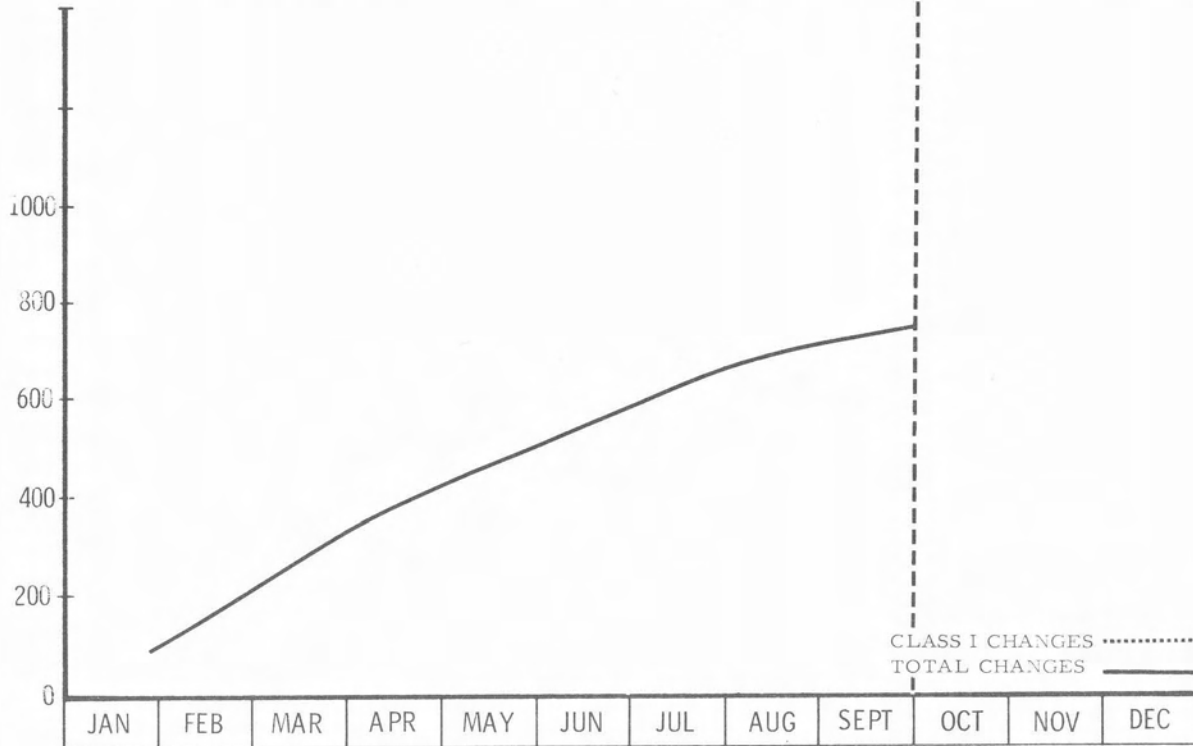
LAST SCHED. CHANGE _____
(Date) (No.) (Initials)

STATUS AS OF 9/30/65
(Date) AWT
(Initials)

CONTRACTOR: NOT APPLICABLE

PROJECT: SATURN IB
SCH'D NO:

NUMBER OF ENGINEERING CHANGES



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
CLASS I CHANGES	96	212	340	420	516	586	673	721	745			
HARDWARE CHANGES	46	93	139	173	223	354	401	418	425			

NOTE: ALL CCSD ENGINEERING CHANGES ARE MADE TO RELEASED CLASS I DRAWINGS AND AS SUCH ARE CLASS I CHANGES.

SCHEDULE RESPONSIBILITY Lee B. James

STATUS RESPONSIBILITY John C. Rain
for Arthur W. Thompson

MANNED SPACE FLIGHT SCHEDULE
**S-IB-1 COMPONENT QUALIFICATION
FLIGHT CRITICAL COMPONENTS**

3
LEVEL

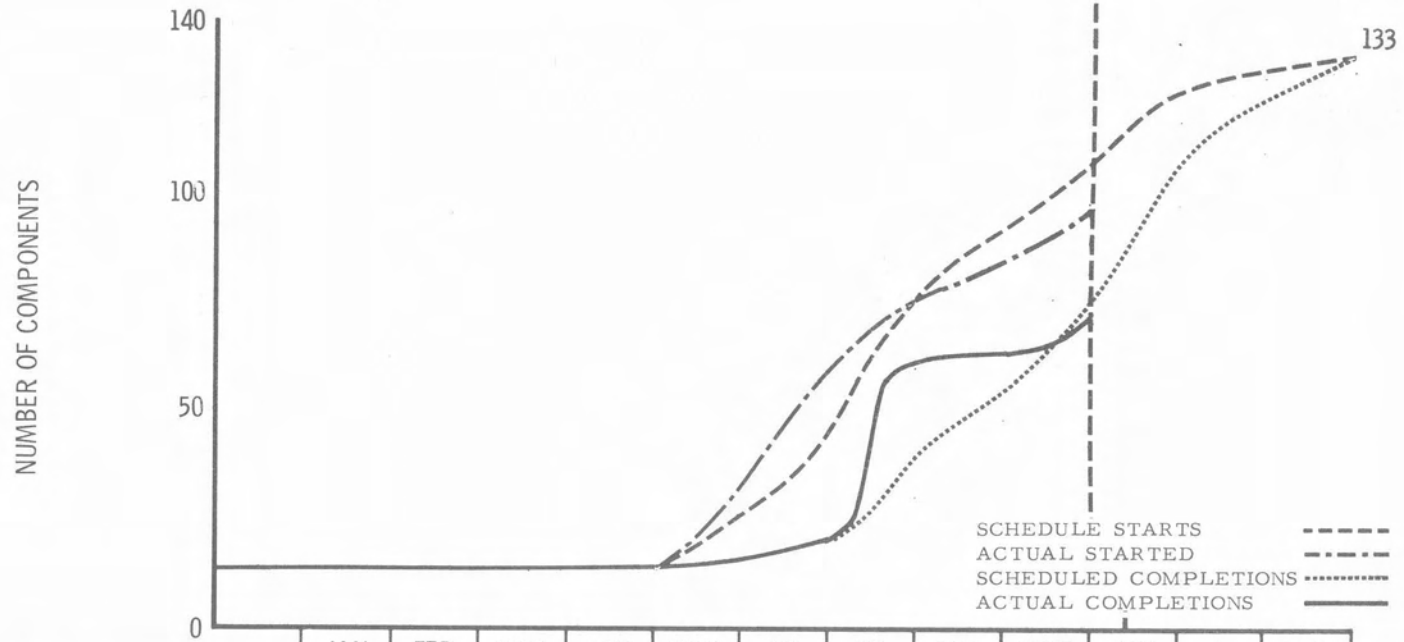
ORIGINAL SCHED. APPROVAL 6/30/65
(Date)

LAST SCHED. CHANGE _____
(Date) (No.) (Initials)

STATUS AS OF 9/30/65 AWJ
(Date) (Initials)

CONTRACTOR: NOT APPLICABLE

PROJECT: SATURN IB
SCH'D NO:



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
CUMULATIVE SCHEDULED COMPLETIONS	13	13	13	13	15	20	40	57	75	107	120	133
CUMULATIVE ACTUAL COMPLETIONS*	13	13	13	13	15	20	40	47	56			
TESTS BEHIND SCHEDULE								10	19			
TESTS COMP. AHEAD OF SCHEDULE							20	16	17			

* INCLUDES ONLY THOSE COMPLETIONS THAT WERE SCHEDULED TO BE COMPLETE

SCHEDULE RESPONSIBILITY Lee B. James

STATUS RESPONSIBILITY John C. Rain
for Arthur W. Thompson

MANNED SPACE FLIGHT SCHEDULE
S-IB-I COMPONENT QUALIFICATIONS
TOTAL COMPONENTS

3
LEVEL

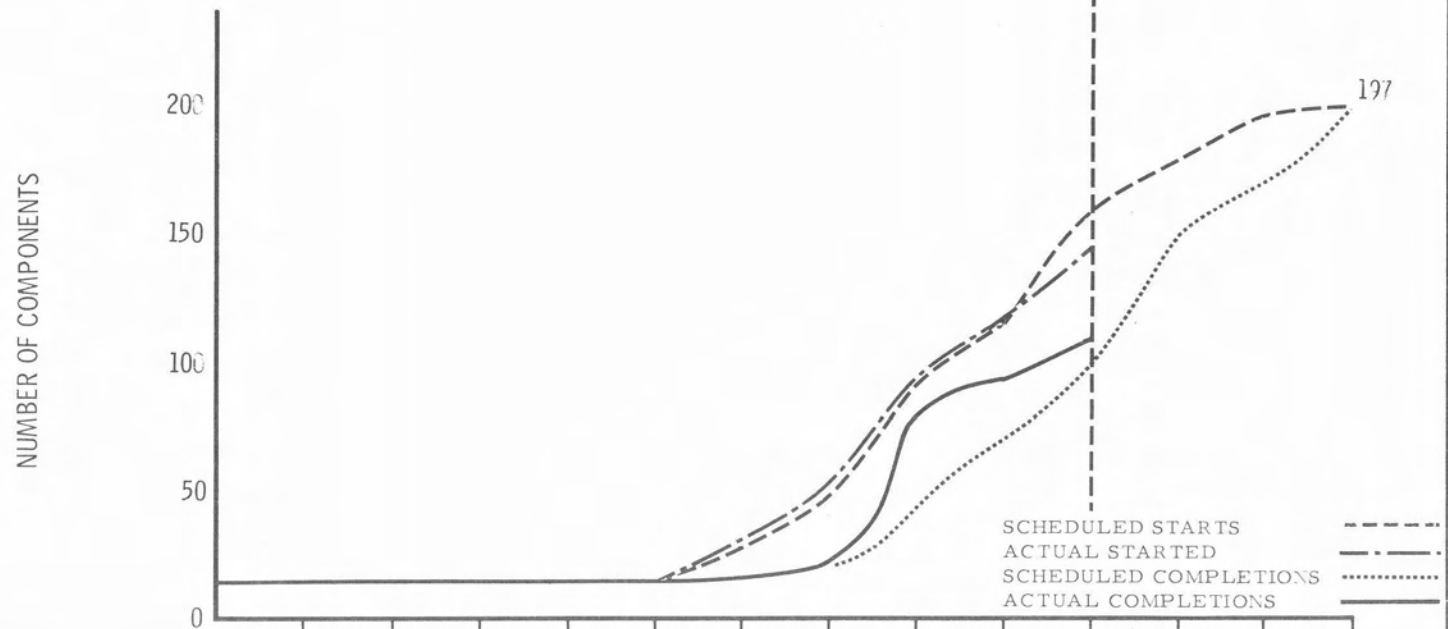
ORIGINAL SCHED. APPROVAL 6/30/65
(Date)

LAST SCHED. CHANGE _____
(Date) (No.) (Initials)

STATUS AS OF 9/30/65
(Date) ATC
(Initials)

CONTRACTOR: NOT APPLICABLE

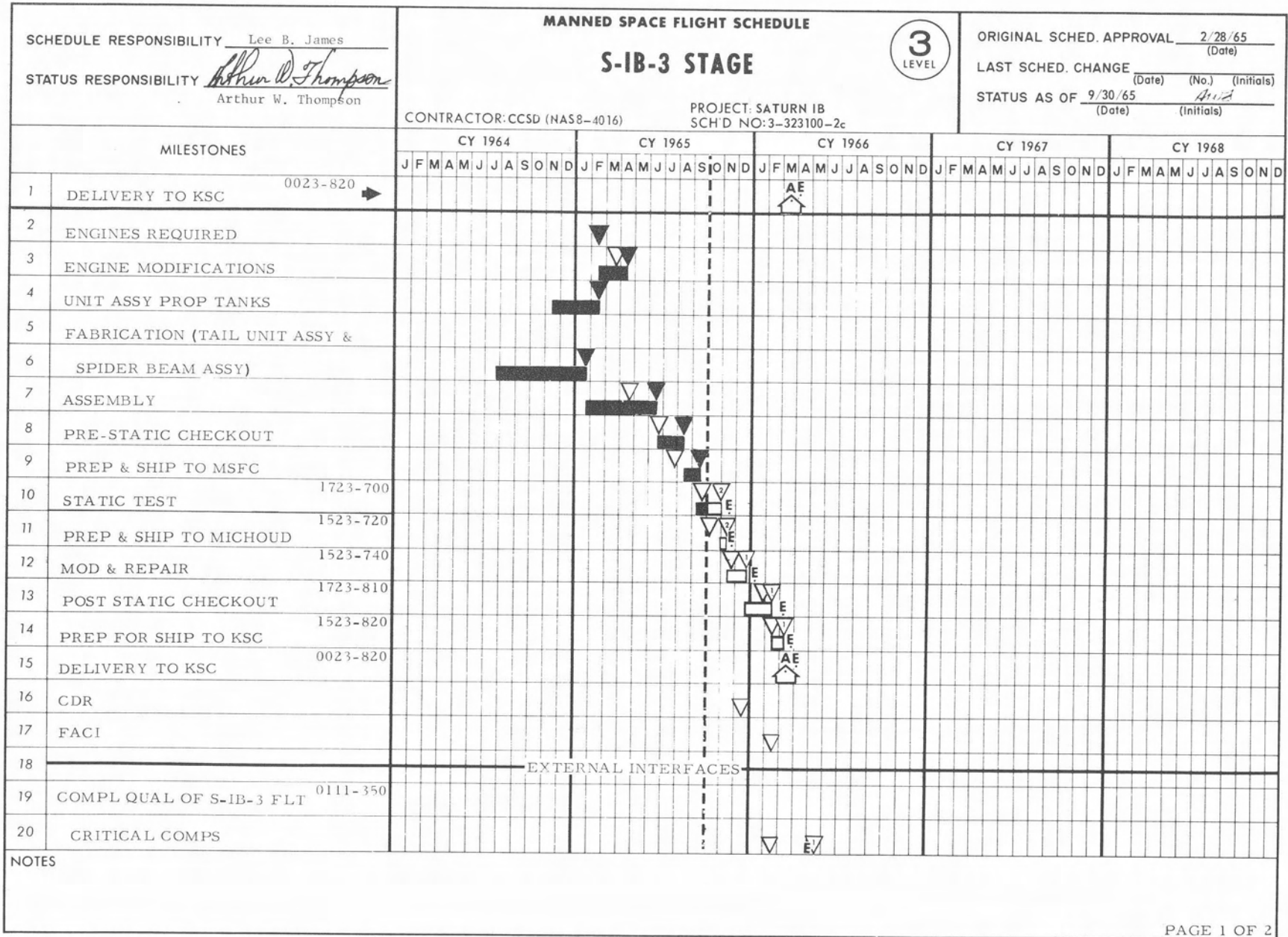
PROJECT: SATURN IB
SCH'D NO:

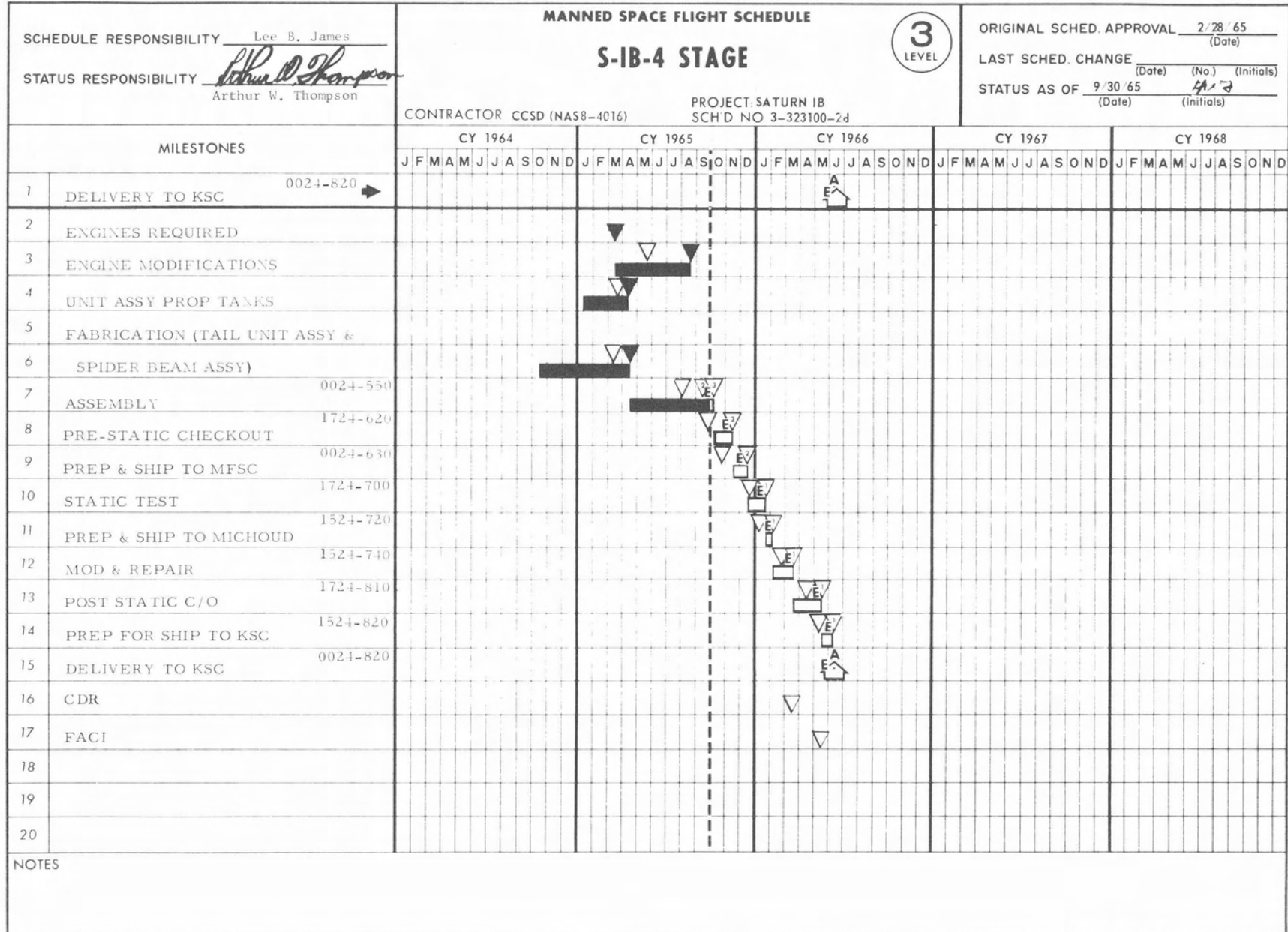


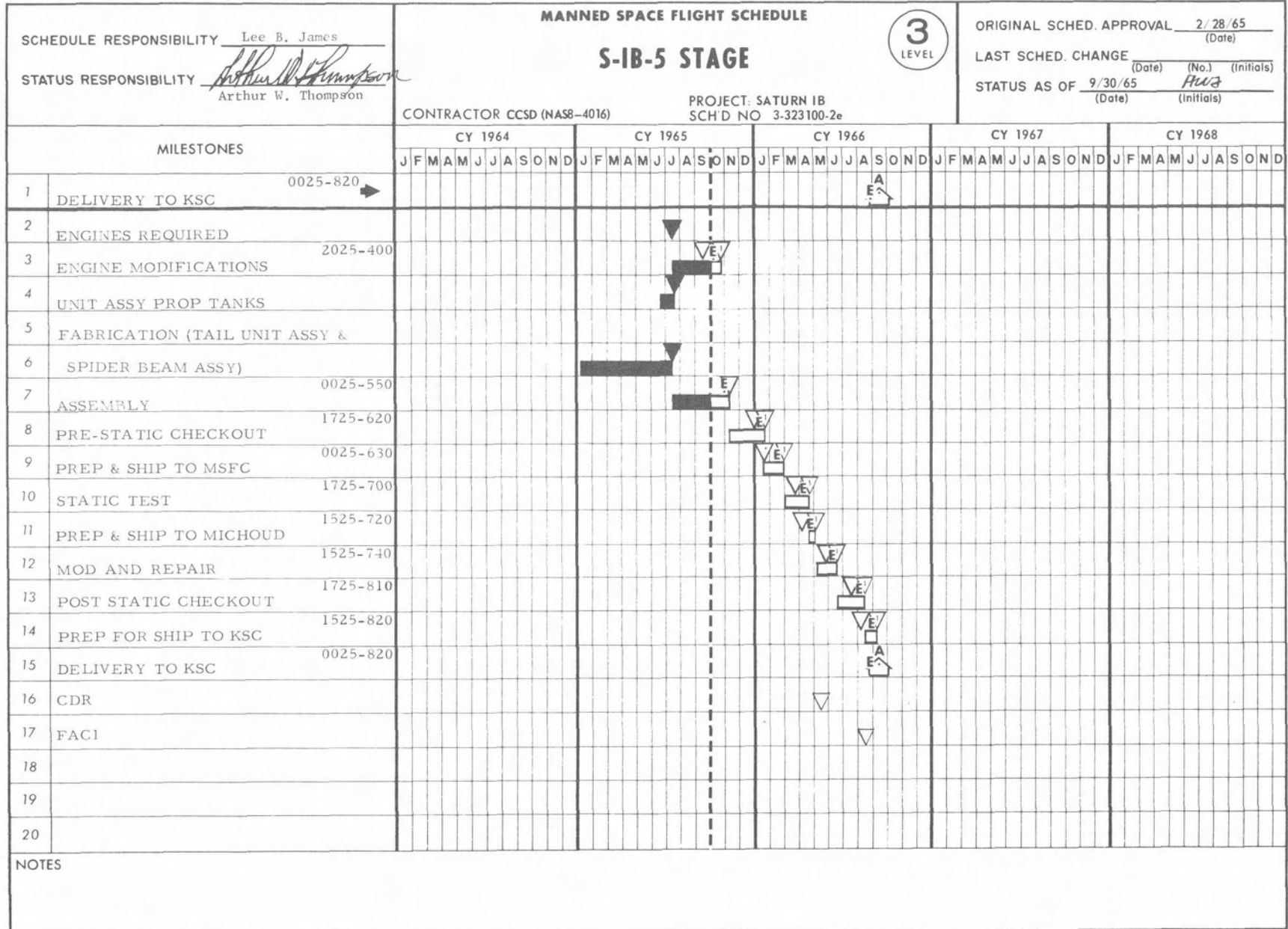
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
CUMULATIVE SCHEDULED COMPLETIONS	14	14	14	14	16	20	43	69	99	150	170	197
CUMULATIVE ACTUAL COMPLETIONS*	14	14	14	14	15	20	42	53	73			
TESTS BEHIND SCHEDULE					1		1	16	26			
TESTS COMP. AHEAD OF SCHEDULE							38	38	36			

* INCLUDES ONLY THOSE COMPLETIONS THAT WERE SCHEDULED TO BE COMPLETE.

SCHEDULE RESPONSIBILITY <u>Lee B. James</u> STATUS RESPONSIBILITY <u>Arthur W. Thompson</u>		MANNED SPACE FLIGHT SCHEDULE S-IB-2 STAGE		ORIGINAL SCHED. APPROVAL <u>2/28/65</u> (Date)		LAST SCHED. CHANGE _____ (Date) (No.) (Initials)		STATUS AS OF <u>9/30/65</u> (Date) (Initials)																																									
CONTRACTOR CCSD (NAS8-4016)		PROJECT: SATURN IB SCHED NO 3-323100-2b		3 LEVEL																																													
MILESTONES		CY 1964			CY 1965			CY 1966			CY 1967			CY 1968																																			
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
1	DELIVERY TO KSC 0022-820 →																																																
2	ENGINES REQUIRED																																																
3	ENGINE MODIFICATIONS																																																
4	UNIT ASSY PROP TANKS																																																
5	FABRICATION																																																
6	ASSEMBLY																																																
7	PRE-STATIC C/O																																																
8	ENGINE INSTALLATION																																																
9	PREP & SHIP TO MSFC																																																
10	STATIC TEST																																																
11	PREP & SHIP TO MICHOUUD																																																
12	MOD & REPAIR 1522-740																																																
13	POST STATIC C/O 1722-810																																																
14	PREP FOR SHIP TO KSC 1522-820																																																
15	DELIVERY TO KSC 0022-820																																																
16	CDR																																																
17	FACI																																																
18																																																	
19																																																	
20																																																	
NOTES																																																	







NOTES

3
LEVEL

MANNED SPACE FLIGHT SCHEDULE

S-IB-5 STAGE

ORIGINAL SCHED. APPROVAL 2/28/65
(Date)

LAST SCHED. CHANGE _____
(Date) (No.) (Initials)

STATUS AS OF 9/30/65 HWJ
(Date) (Initials)

CONTRACTOR CCSD (NAS8-4016)

PROJECT: SATURN IB
SCH'D NO 3-323100-2e

SCHEDULE RESPONSIBILITY <u>Lee E. James</u> STATUS RESPONSIBILITY <u>Arthur W. Thompson</u> <small>Arthur W. Thompson</small>	MANNED SPACE FLIGHT SCHEDULE OBLIGATIONS, COSTS, AND MANPOWER S-IB STAGE CONTRACTOR <small>(NAS8-4016)</small> PROJECT: SATURN IB CONTRACTOR: CCSD (NAS8-5602)(F) SCH'D NO:	ORIGINAL SCHED. APPROVAL <u>8/31/64</u> <small>(Date)</small> LAST SCHED. CHANGE _____ <small>(Date) (No.) (Initials)</small> STATUS AS OF <u>9/30/65</u> <small>(Date) (Initials)</small>
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**OBLIGATIONS & COSTS
(THOUSANDS OF DOLLARS)**

	FY 1961 THRU FY 1964	FY 1965	FY 1966	FY 1967	FY 1968	FY 1969	FY 1970	TOTAL
UNCOSTED OBLIGATIONS	XXX	27,738	26,943	7,600	5,600	600		XXX
OBLIGATIONS TO CONTRACTOR	50,438	63,605	49,157	46,400	14,700	5,200		229,500
TOTAL AVAILABLE	50,438	91,343	76,100	54,000	20,300	5,800		XXX
ACCRUED COSTS DURING PERIOD	22,700	64,400	68,500	48,400	19,700	5,800		229,500
(533 ACCRUED COSTS)	(22,700)	(64,400)	(68,240)	(50,419)	(20,764)	0		(226,523)
UNFILLED ORDERS	4,274	7,440	7,600	5,600	600	0		XXX
ADVANCED FUNDING	23,464	19,503	0	0	0			XXX
MONTHLY COST-RATE (YEAR END)	3,700	5,100	4,800	3,500	1,200			XXX

**MANPOWER
(IN EQUIVALENT MAN YEARS)**

TOTAL DIRECT	790	2,475	2,523	1,900	900	300		8,888
RATIO OF INDIRECT TO DIRECT								

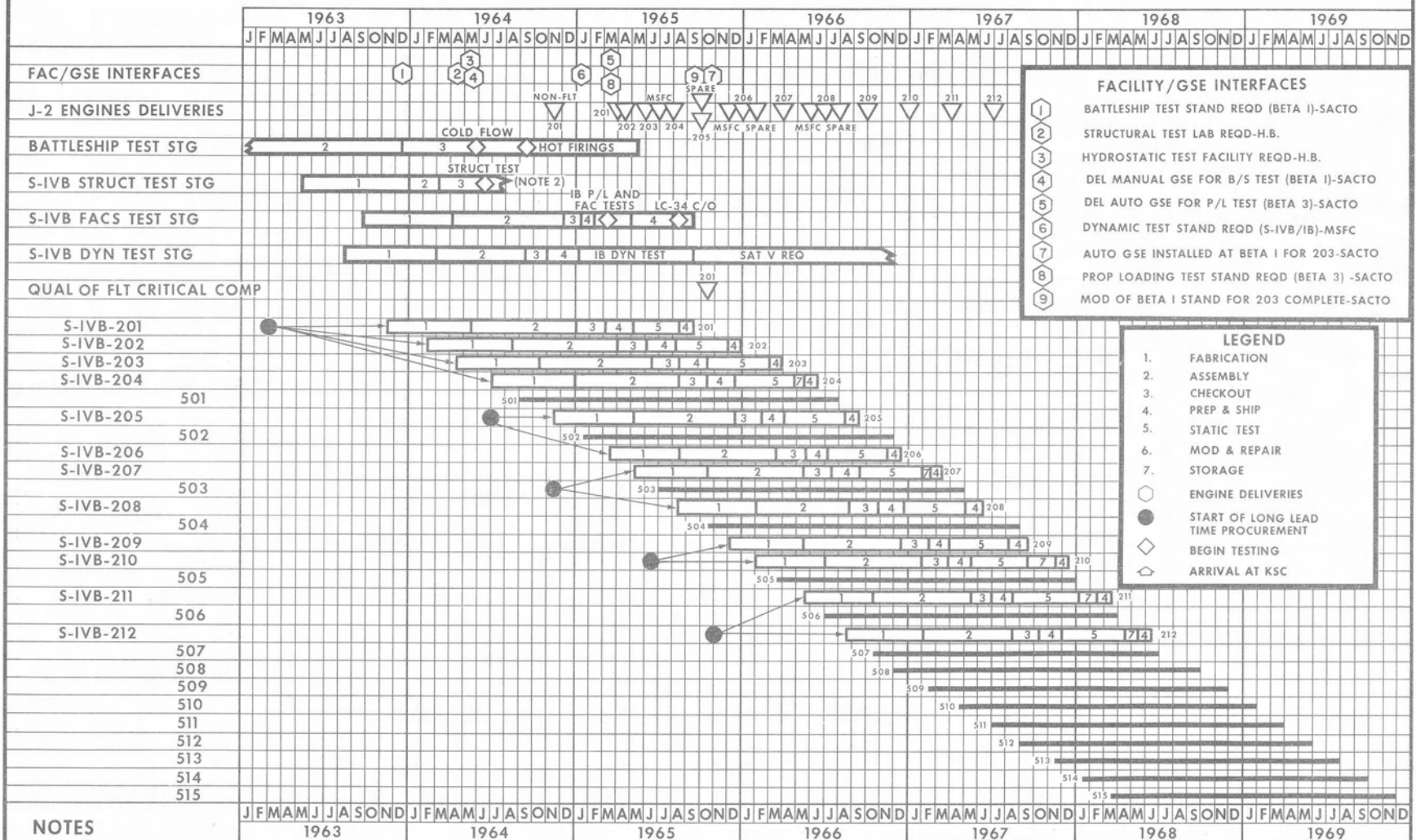
REMARKS:

SCHEDULE RESPONSIBILITY <u>Lee B. James</u> STATUS RESPONSIBILITY <u>Arthur W. Thompson</u> Arthur W. Thompson	MANNED SPACE FLIGHT SCHEDULE OBLIGATIONS, COSTS, AND MANPOWER S-IB STAGE CONTRACTOR (NAS8-4016) PROJECT: SATURN IB CONTRACTOR: CCSD (NAS8-5602)(F) SCH'D NO:	ORIGINAL SCHED. APPROVAL <u>8/31/64</u> (Date) LAST SCHED. CHANGE _____ (Date) (No.) (Initials) STATUS AS OF <u>9/30/65</u> (Date) (Initials)											
OBLIGATIONS & COSTS (THOUSANDS OF DOLLARS)													
CURRENT FISCAL YEAR	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	
NO. OF WORKING DAYS IN REPORTING PERIOD	21	22	21	21	20	22	20	20	22	21	21	22	
CUMULATIVE OBLIGATIONS	POP 65-2	0	13,000	13,000	XX	XX	29,500	XX	XX	45,000	XX	XX	53,000
	POP 65-3	0	0	10,000	10,000	15,000	24,300	XX	XX	35,000	XX	XX	49,157
	ACTUAL	0	11,141	11,141									
CUMULATIVE ACCRUED COSTS	POP 65-2	6,800	13,000	19,000	XX	XX	36,400	XX	XX	52,800	XX	XX	68,500
	POP 65-3	6,500	12,300	18,000	23,700	29,500	35,900	XX	XX	52,900	XX	XX	68,500
	ACTUAL	TOTAL	5,762	11,567	18,043								
	IN-HOUSE	4,246	8,510										
	SUB CONTRACT	1,516	3,057										
COST RATE	POP 65-2	6,800	6,200	6,000	XX	XX	6,100	XX	XX	5,500	XX	XX	4,500
	POP 65-3	6,500	5,800	5,700	5,700	5,800	6,400	XX	XX	5,200	XX	XX	4,800
	ACTUAL	5,762	5,805	6,476									
MANPOWER (IN EQUIVALENT MAN MONTHS)													
TOTAL DIRECT MANPOWER	POP 65-2	2,900	2,800	2,700	XX	XX	2,700	XX	XX	2,700	XX	XX	2,600
	POP 65-3	2,650	2,400	2,730	2,700	2,700	2,600	XX	XX	2,500	XX	XX	2,400
	ACTUAL	2,615	2,585	2,730									
RATIO OF INDIRECT TO DIRECT													
NUMBER OF SHIFTS		<u>1.10</u> (AUGUST)											
PERCENT OF OVERTIME		<u>9.2%</u> (AUGUST)											
REMARKS: ACTUALS SHOWN FOR THE MONTH OF SEPTEMBER ARE ESTIMATES ONLY. OBLIGATION REPORT ON SUB-ALLOTMENT TO KSC NOT RECEIVED.													

SCHEDULE RESPONSIBILITY <u>Lee B. James</u> STATUS RESPONSIBILITY <u>Arthur W. Thompson</u> <small>Arthur W. Thompson</small>	MANNED SPACE FLIGHT SCHEDULE OBLIGATIONS, COSTS, AND MANPOWER S-IB STAGE SUPPORT CONTRACTOR <small>(NAS8-4019) (NAS8-14017) CONTRACTOR: M-R (NAS8-5618)</small>	ORIGINAL SCHED. APPROVAL <u>8/31/64</u> <small>(Date)</small> LAST SCHED. CHANGE _____ <small>(Date) (No.) (Initials)</small> STATUS AS OF <u>9/30/65</u> <small>(Date) (Initials)</small>						
OBLIGATIONS & COSTS (THOUSANDS OF DOLLARS)								
	FY 1961 THRU FY 1964	FY 1965	FY 1966	FY 1967	FY 1968	FY 1969	FY 1970	TOTAL
UNCOSTED OBLIGATIONS	XXX	178	548	236	156	36		XXX
OBLIGATIONS TO CONTRACTOR	1,105	4,205	5,700	5,580	5,300	600		22,490
TOTAL AVAILABLE	1,105	4,383	6,248	5,816	5,456	636		XXX
ACCRUED COSTS DURING PERIOD	927	3,835	6,012	5,660	5,420	636		22,490
(533 ACCRUED COSTS)	(927)	(3,835)	(3,202)					
UNFILLED ORDERS	164	349	236	156	36	0		XXX
ADVANCED FUNDING	14	199	0	0	0	0		XXX
MONTHLY COST-RATE (YEAR END)	50	289	516	480	452	0		XXX
MANPOWER (IN EQUIVALENT MAN YEARS)								
TOTAL DIRECT	61	280	360	360	360	40		1,461
RATIO OF INDIRECT TO DIRECT								
REMARKS:								

SCHEDULE RESPONSIBILITY <u>Lee B. James</u> STATUS RESPONSIBILITY <u>Arthur W. Thompson</u> Arthur W. Thompson	MANNED SPACE FLIGHT SCHEDULE OBLIGATIONS, COSTS, AND MANPOWER S-IB STAGE SUPPORT CONTRACTOR <small>(NAS8-4019) (NAS8-14017) CONTRACTOR. M-R (NAS8-5618)</small>	ORIGINAL SCHED. APPROVAL <u>8/31/64</u> <small>(Date)</small> LAST SCHED. CHANGE _____ <small>(Date) (No.) (Initials)</small> STATUS AS OF <u>9/30/65</u> <small>(Date) (Initials)</small>											
OBLIGATIONS & COSTS (THOUSANDS OF DOLLARS)													
CURRENT FISCAL YEAR	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	
NO. OF WORKING DAYS IN REPORTING PERIOD	21	22	21	21	20	21	20	19	23	21	21	22	
CUMULATIVE OBLIGATIONS	POP 65-2	1,425	1,425	1,425	XX	XX	2,850	XX	XX	4,315	XX	XX	5,700
	POP 65-3	700	1,365	2,487	2,536	2,556	2,601	XX	XX	5,675	XX	XX	5,700
	ACTUAL	700	1,369	1,348									
CUMULATIVE ACCRUED COSTS	POP 65-2	461	918	1,376	XX	XX	2,720	XX	XX	4,395	XX	XX	5,818
	POP 65-3	438	925	1,425	1,900	2,422	2,922	XX	XX	4,468	XX	XX	6,012
	ACTUAL	TOTAL	392	760	1,228								
	ACTUAL	IN-HOUSE	196	380									
	ACTUAL	SUB CONTRACT	196	380									
COST RATE	POP 65-2	461	457	458	XX	XX	314	XX	XX	492	XX	XX	474
	POP 65-3	438	487	500	475	522	500	XX	XX	517	XX	XX	516
	ACTUAL	392	368	468									
MANPOWER (IN EQUIVALENT MAN MONTHS)													
TOTAL DIRECT MANPOWER	POP 65-2	360	360	360	XX	XX	360	XX	XX	360	XX	XX	360
	POP 65-3	360	360	360	360	360	360	XX	XX	360	XX	XX	360
	ACTUAL	362	363	369									
RATIO OF INDIRECT TO DIRECT													
NUMBER OF SHIFTS		<u>1.4%</u> (AUGUST)											
PERCENT OF OVERTIME		<u>2.9%</u> (AUGUST)											
REMARKS: VALUES SHOWN FOR SEPTEMBER ARE ESTIMATES ONLY. CONTRACT 14017 EXPIRES ON DEC. 31, 1965													

S-IVB/IB STAGE DEVELOPMENT AND DELIVERY PLAN



- FACILITY/GSE INTERFACES**
- 1 BATTLESHIP TEST STAND REQD (BETA 1)-SACTO
 - 2 STRUCTURAL TEST LAB REQD-H.B.
 - 3 HYDROSTATIC TEST FACILITY REQD-H.B.
 - 4 DEL MANUAL GSE FOR B/S TEST (BETA 1)-SACTO
 - 5 DEL AUTO GSE FOR P/L TEST (BETA 3)-SACTO
 - 6 DYNAMIC TEST STAND REQD (S-IVB/IB)-MSFC
 - 7 AUTO GSE INSTALLED AT BETA 1 FOR 203-SACTO
 - 8 PROP LOADING TEST STAND REQD (BETA 3) -SACTO
 - 9 MOD OF BETA 1 STAND FOR 203 COMPLETE-SACTO

- LEGEND**
- 1. FABRICATION
 - 2. ASSEMBLY
 - 3. CHECKOUT
 - 4. PREP & SHIP
 - 5. STATIC TEST
 - 6. MOD & REPAIR
 - 7. STORAGE
 - ENGINE DELIVERIES
 - START OF LONG LEAD TIME PROCUREMENT
 - ◇ BEGIN TESTING
 - ◁ ARRIVAL AT KSC

NOTES

- 1. START OF STAGE FABRICATION DEFINED AS POINT WHEN START OF GORE SEGMENT ASSEMBLY TAKES PLACE.
- 2. STRUCTURES STAGE RUPTURED ON JULY 14, 1964.
- 3. S-IVB/V BARS INCLUDED ONLY TO SHOW SEQUENCE OF STAGE PRODUCTION. FOR S-IVB/V DETAILS SEE VOLUME III, BOOK 3.

APPROVED BY: _____
James McCall
 MANAGER, S-IVB/IB STAGE

SCHEDULE RESPONSIBILITY Lee B. James

STATUS RESPONSIBILITY James C. McCulloch

MANNED SPACE FLIGHT SCHEDULE
S-IVB-201
ENGINEERING DESIGN RELEASES

3
LEVEL

ORIGINAL SCHED. APPROVAL 6/30/65
(Date)

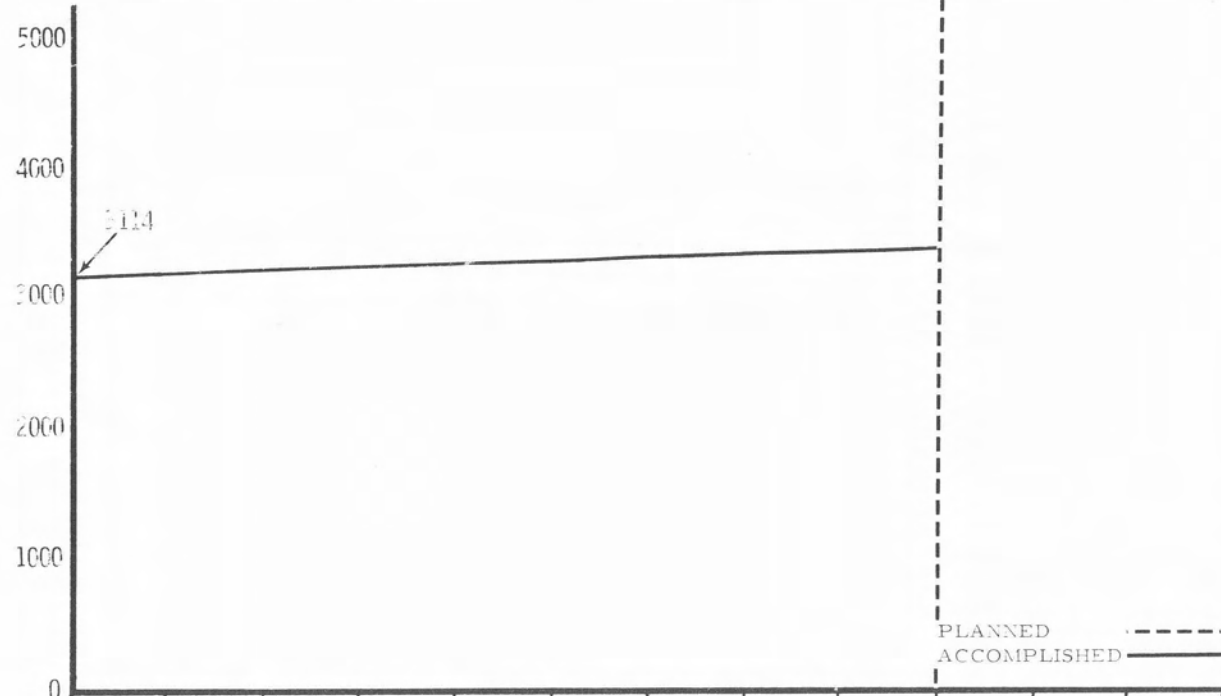
LAST SCHED. CHANGE _____
(Date) (No.) (Initials)

STATUS AS OF 9/30/65
(Date) J.C.M.
(Initials)

CONTRACTOR: NOT APPLICABLE

PROJECT: SATURN IB
 SCH'D NO:

NUMBER OF DESIGN ENGINEERING RELEASES



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
--	-----	-----	-----	-----	-----	-----	-----	-----	------	-----	-----	-----

CY 1965

PLANNED												
ACCOMPLISHED						3316	3320	3333				

NOTE: 1. DAC UNABLE TO FURNISH PLANNED DESIGN RELEASE.

SCHEDULE RESPONSIBILITY Lee B. James

STATUS RESPONSIBILITY James C. McCulloch
James C. McCulloch

MANNED SPACE FLIGHT SCHEDULE

**S-IVB-201 STAGE
ENGINEERING CHANGES**

3
LEVEL

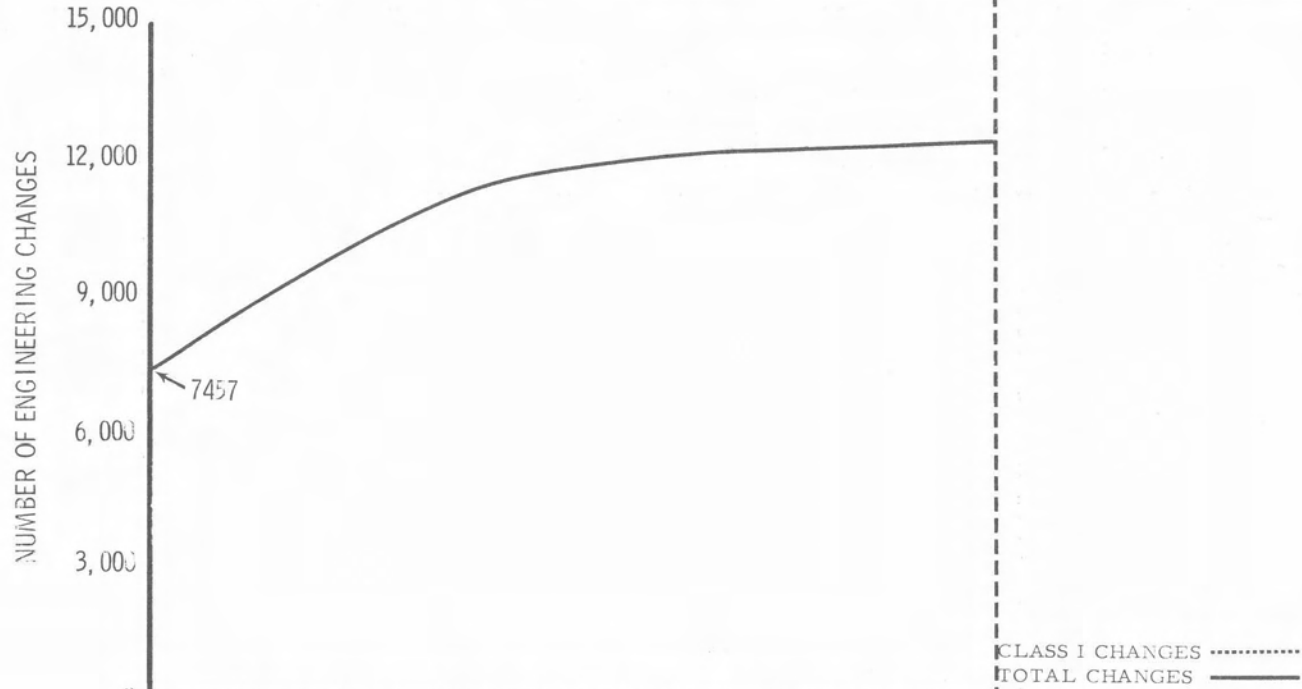
ORIGINAL SCHED. APPROVAL 6/30/65
(Date)

LAST SCHED. CHANGE _____
(Date) (No.) (Initials)

STATUS AS OF 9/30/65
(Date) Jem
(Initials)

CONTRACTOR: NOT APPLICABLE

PROJECT: SATURN IB
SCH'D NO:



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	CY 1965											
CLASS I CHANGES												
TOTAL CHANGES							12,211	12,241	12,291			

NOTES:

1. DAC DRAWING SYSTEM DOES NOT SEGREGATE CLASS I CHANGES AT THIS TIME.
2. FIGURES SHOWN ARE ENGINEERING ORDERS AUTHORIZING CHANGES.

SCHEDULE RESPONSIBILITY Lee B. James

STATUS RESPONSIBILITY James C. McCulloch
James C. McCulloch

MANNED SPACE FLIGHT SCHEDULE
**S-IVB-201 COMPONENT QUALIFICATION
FLIGHT CRITICAL COMPONENTS**

3
LEVEL

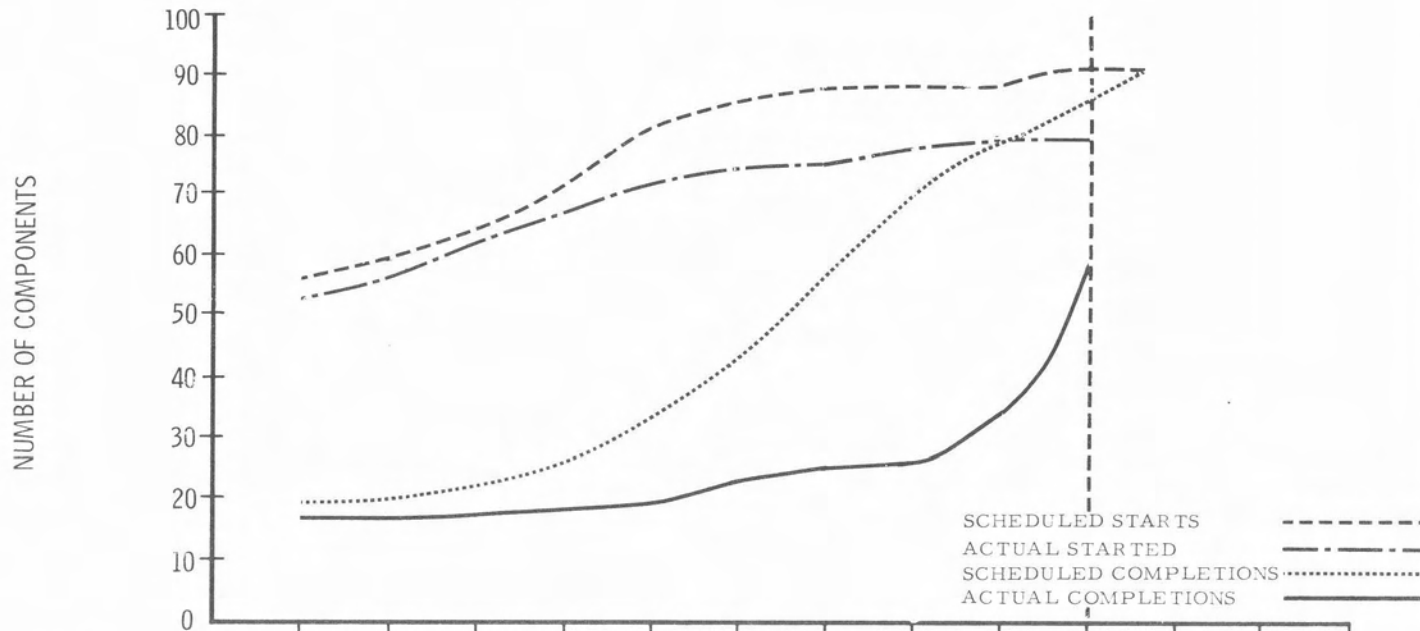
ORIGINAL SCHED. APPROVAL 6/30/65
(Date)

LAST SCHED. CHANGE _____
(Date) (No.) (Initials)

STATUS AS OF 9/30/65
(Date) JCR
(Initials)

CONTRACTOR: NOT APPLICABLE

PROJECT: SATURN IB
SCH'D NO:



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
CUMULATIVE SCHEDULED COMPLETIONS					42	55	73	81	85	91		
CUMULATIVE ACTUAL COMPLETIONS					23	25	28	34 / 51	59			
TEST COMPLETIONS BEHIND SCHEDULE					19	30	45	47	26			
TEST COMPLETED AHEAD OF SCHEDULE					0	0	0	0	0			

NOTES: 1. CUMULATIVE ACTUAL COMPLETIONS INCLUDE ONLY THOSE COMPLETIONS THAT WERE SCHEDULED TO BE COMPLETE.
2. BASELINE REVISED TO REFLECT COMPLETIONS OF ONLY S-IVB-201 MANDATORY TEST ENVIRONMENTS.

SCHEDULE RESPONSIBILITY Lee B. James

STATUS RESPONSIBILITY James C. McCulloch
James C. McCulloch

MANNED SPACE FLIGHT SCHEDULE

**S-IVB-201 COMPONENT QUALIFICATION
TOTAL COMPONENTS**

3
LEVEL

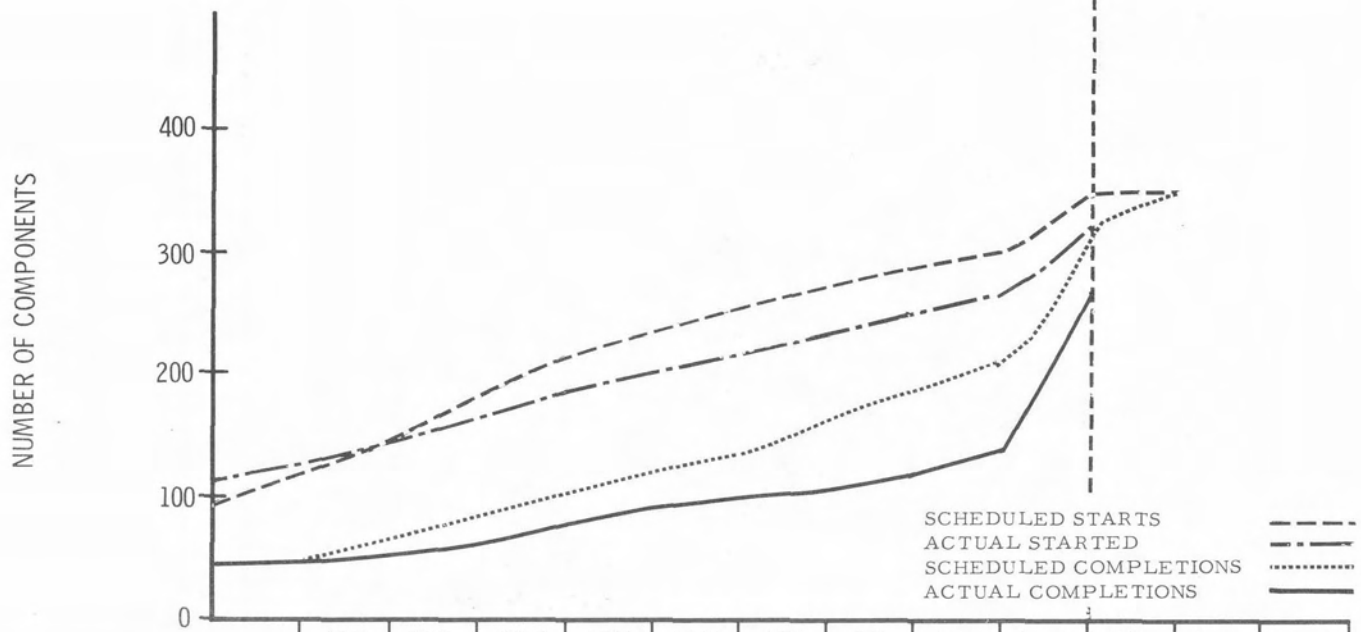
ORIGINAL SCHED. APPROVAL 6/30/65
(Date)

LAST SCHED. CHANGE (Date) (No.) (Initials)

STATUS AS OF 9/30/65 JCP
(Date) (Initials)

CONTRACTOR: NOT APPLICABLE

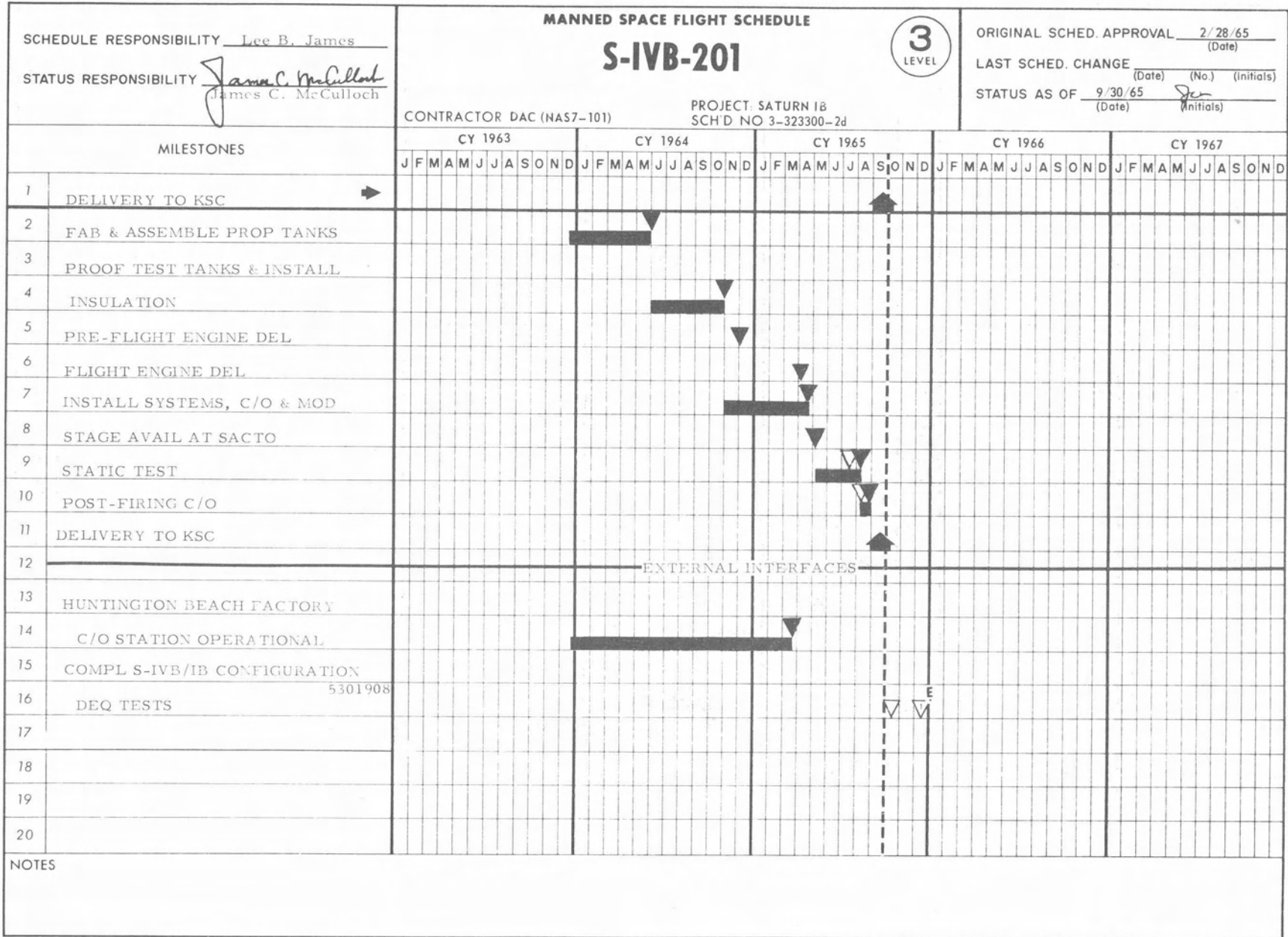
PROJECT: SATURN IB
SCH'D NO:



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
CUMULATIVE SCHEDULED COMPLETIONS					128	163	188	210 229	250 310	321 357		
CUMULATIVE ACTUAL COMPLETIONS					71	74	88	103 214	268			
TEST COMPLETIONS BEHIND SCHEDULE					57	89	100	107 15	42			
TESTS COMPLETED AHEAD OF SCHEDULE					29	29	34	30 5	0			

NOTES:

1. CUMULATIVE ACTUAL COMPLETIONS INCLUDE ONLY THOSE COMPLETIONS THAT WERE SCHEDULED TO BE COMPLETED.
2. BASELINE REVISED TO REFLECT COMPLETIONS ONLY OF S-IVB-201 MANDATORY TEST ENVIRONMENTS.
3. OF THE 268 COMPLETIONS, 41 ARE IN ENGINEERING EVALUATION.

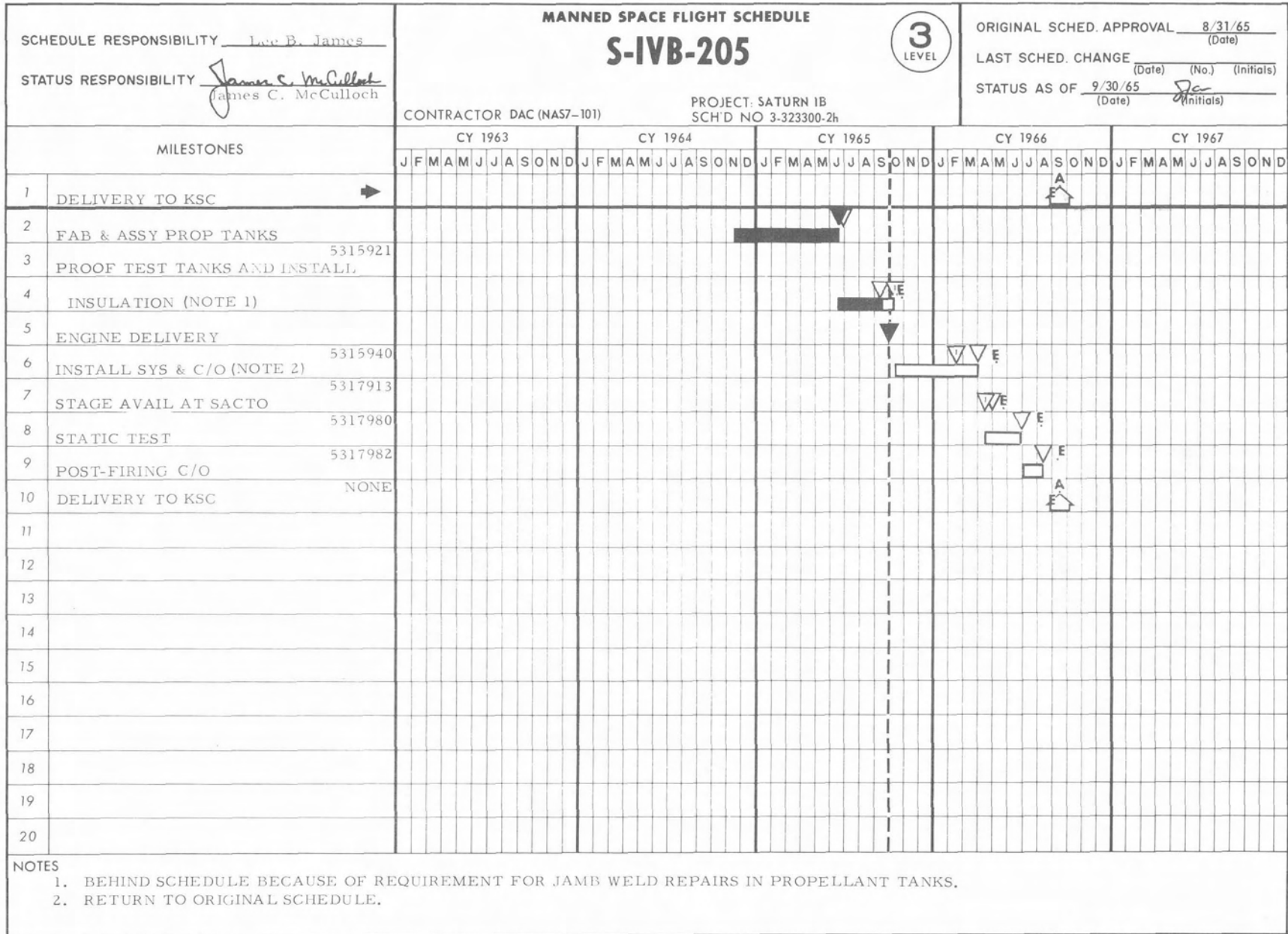


SCHEDULE RESPONSIBILITY <u>Lee B. James</u> STATUS RESPONSIBILITY <u>James C. McCulloch</u> <small>James C. McCulloch</small>		MANNED SPACE FLIGHT SCHEDULE S-IVB-203		PROJECT: SATURN IB SCH'D NO 3-323300-2f		ORIGINAL SCHED. APPROVAL <u>2/28/65</u> <small>(Date)</small> LAST SCHED. CHANGE <u> </u> <small>(Date) (No.) (Initials)</small> STATUS AS OF <u>9/30/65</u> <small>(Date) <u>JCM</u> (Initials)</small>		3 LEVEL											
								CONTRACTOR DAC (NAS7-101)			CY 1963 CY 1964 CY 1965 CY 1966 CY 1967 J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D								
MILESTONES																			
1	DELIVERY TO KSC →																		
2	FAB & ASSEMBLE PROP TANKS	[Bar chart showing activity from approx. Oct 1964 to Feb 1965]																	
3	PROOF TEST TANKS AND INSTALL																		
4	INSULATION	[Bar chart showing activity from approx. Dec 1964 to Jan 1965]																	
5	ENGINE DELIVERY	[Bar chart showing activity from approx. Dec 1964 to Jan 1965]																	
6	INSTALL SYSTEMS & C/O <small>5315998</small>	[Bar chart showing activity from approx. Dec 1964 to Jan 1965]																	
7	STAGE AVAIL AT SACTO <small>5317908</small>	[Bar chart showing activity from approx. Dec 1964 to Jan 1965]																	
8	STATIC TEST <small>5317932</small>	[Bar chart showing activity from approx. Dec 1964 to Jan 1965]																	
9	POST-FIRING C/O <small>5317935</small>	[Bar chart showing activity from approx. Dec 1964 to Jan 1965]																	
10	DELIVERY TO KSC <small>NONE</small>																		
11	EXTERNAL INTERFACES																		
12	BETA 1 MOD FOR ACCEPT																		
13	TEST COMPLETE <small>5317912</small>	[Bar chart showing activity from approx. Dec 1964 to Jan 1965]																	
14	AUTO GSE INSTALLED																		
15	FOR ACCEPT TEST <small>5317915</small>	[Bar chart showing activity from approx. Dec 1964 to Jan 1965]																	
16																			
17																			
18																			
19																			
20																			
NOTES																			

SCHEDULE RESPONSIBILITY <u>Lee B. James</u> STATUS RESPONSIBILITY <u>James C. McCulloch</u> James C. McCulloch		MANNED SPACE FLIGHT SCHEDULE S-IVB-204			3 LEVEL	ORIGINAL SCHED. APPROVAL <u>2/28/65</u> (Date)																																									
		CONTRACTOR DAC (NAS7-101)		PROJECT: SATURN IB SCHED NO 3-323300-2g		LAST SCHED. CHANGE _____ (Date) (No.) (Initials)																																									
MILESTONES		CY 1963				CY 1964				CY 1965				CY 1966				CY 1967																													
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O
1	DELIVERY TO KSC	➔												A E																																	
2	FAB & ASSEMBLE PROP TANKS													▾																																	
3	PROOF TEST TANKS AND INSTALL													▾																																	
4	INSULATION													▾																																	
5	ENGINE DELIVERY													▾																																	
6	INSTALL SYSTEMS & C/O (NOTE 1) 5315955													▾				E																													
7	STAGE AVAIL AT SACTO 5317909													▾				E																													
8	STATIC TEST 5317940													▾				E																													
9	POST-FIRING CHECKOUT 5317942													▾				E																													
10	DELIVERY TO KSC NONE													▾				E																													
11	EXTERNAL INTERFACES																																														
12	VERT C/O LAB READY* (NOTE 2) 5317902													▾				E																													
13																																															
14																																															
15																																															
16																																															
17																																															
18																																															
19																																															
20																																															

NOTES

1. BEHIND SCHEDULE DUE TO S-IVB-203 CHECKOUT PRIORITIES.
2. S-IVB-204 HAS BEEN REPROGRAMMED FOR POST STATIC CHECKOUT ON THE BETA STAND TO ALLOW S-IVB-500ST CHECKOUT IN THE VERTICAL CHECKOUT LAB.



SCHEDULE RESPONSIBILITY <u>Lee B. James</u> STATUS RESPONSIBILITY <u>James C. McCulloch</u> James C. McCulloch	MANNED SPACE FLIGHT SCHEDULE OBLIGATIONS, COSTS, AND MANPOWER S-IVB/IB STAGE CONTRACTOR CONTRACTOR: DAC (NAS7-101)	ORIGINAL SCHED. APPROVAL <u>8/31/64</u> (Date) LAST SCHED. CHANGE _____ (Date) (No.) (Initials) STATUS AS OF <u>9/30/65</u> (Date) <u>James</u> (Initials)
PROJECT: SATURN IB SCH'D NO:		

**OBLIGATIONS & COSTS
(THOUSANDS OF DOLLARS)**

	FY 1961 THRU FY 1964	FY 1965	FY 1966	FY 1967	FY 1968	FY 1969	FY 1970	TOTAL
UNCOSTED OBLIGATIONS	XXX	17,725	21,165	4,000	2,500	0		XXX
OBLIGATIONS TO CONTRACTOR	37,025	58,440	60,451	49,900	31,200	3,924		240,940
TOTAL AVAILABLE	37,025	76,165	81,616	53,900	33,700	3,924		XXX
ACCRUED COSTS DURING PERIOD	19,300	55,000	77,616	51,400	33,700	3,924		240,940
(533 ACCRUED COSTS)	(19,300)	(55,000)	(84,400)	(80,800)	(53,900)	(0)		(293,400)
UNFILLED ORDERS	2,900	5,000	4,000	2,500	0	0		XXX
ADVANCED FUNDING	14,825	16,165	0	0	0	0		XXX
MONTHLY COST-RATE (YEAR END)	2,200	5,200	5,200	3,500	1,200	0		XXX

**MANPOWER
(IN EQUIVALENT MAN YEARS)**

TOTAL DIRECT	784	2,049	2,599	1,848	1,323	210		8,813
RATIO OF INDIRECT TO DIRECT								

REMARKS:

SCHEDULE RESPONSIBILITY <u>Lee B. James</u> STATUS RESPONSIBILITY <u>James C. McCulloch</u> James C. McCulloch	MANNED SPACE FLIGHT SCHEDULE OBLIGATIONS, COSTS, AND MANPOWER S-IVB/IB STAGE CONTRACTOR	ORIGINAL SCHED. APPROVAL <u>8/31/64</u> (Date) LAST SCHED. CHANGE _____ (Date) (No.) (Initials) STATUS AS OF <u>9/30/65</u> (Date) (Initials)
CONTRACTOR: DAC (NAS7-101)		PROJECT: SATURN IB SCH'D NO:

**OBLIGATIONS & COSTS
(THOUSANDS OF DOLLARS)**

CURRENT FISCAL YEAR		JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	
NO. OF WORKING DAYS IN REPORTING PERIOD		19	25	19	25	18	19	24	20	20	20	25	19	
CUMULATIVE OBLIGATIONS	POP 65-2	22,500	22,500	22,500	XX	XX	45,000	XX	XX	53,700	XX	XX	59,700	
	POP 65-3	22,500	22,500	22,500	22,500	45,000	45,000	XX	XX	60,451	XX	XX	60,451	
	ACTUAL	22,500	22,500	22,500										
CUMULATIVE ACCRUED COSTS	POP 65-2	6,100	13,800	20,000	XX	XX	39,800	XX	XX	58,900	XX	XX	75,000	
	POP 65-3	6,000	14,000	20,300	28,300	34,200	40,200	XX	XX	60,100	XX	XX	77,616	
	ACTUAL	TOTAL	6,668	14,183	20,362									
		IN-HOUSE	4,831	11,475										
		SUB CONTRACT	1,837	2,708										
COST RATE	POP 65-2	6,100	7,700	6,200	XX	XX	6,100	XX	XX	5,700	XX	XX	4,500	
	POP 65-3	6,000	8,000	6,300	8,000	5,900	6,000	7,500	6,300	6,100	5,800	6,500	5,200	
	ACTUAL	6,668	7,515	6,179										

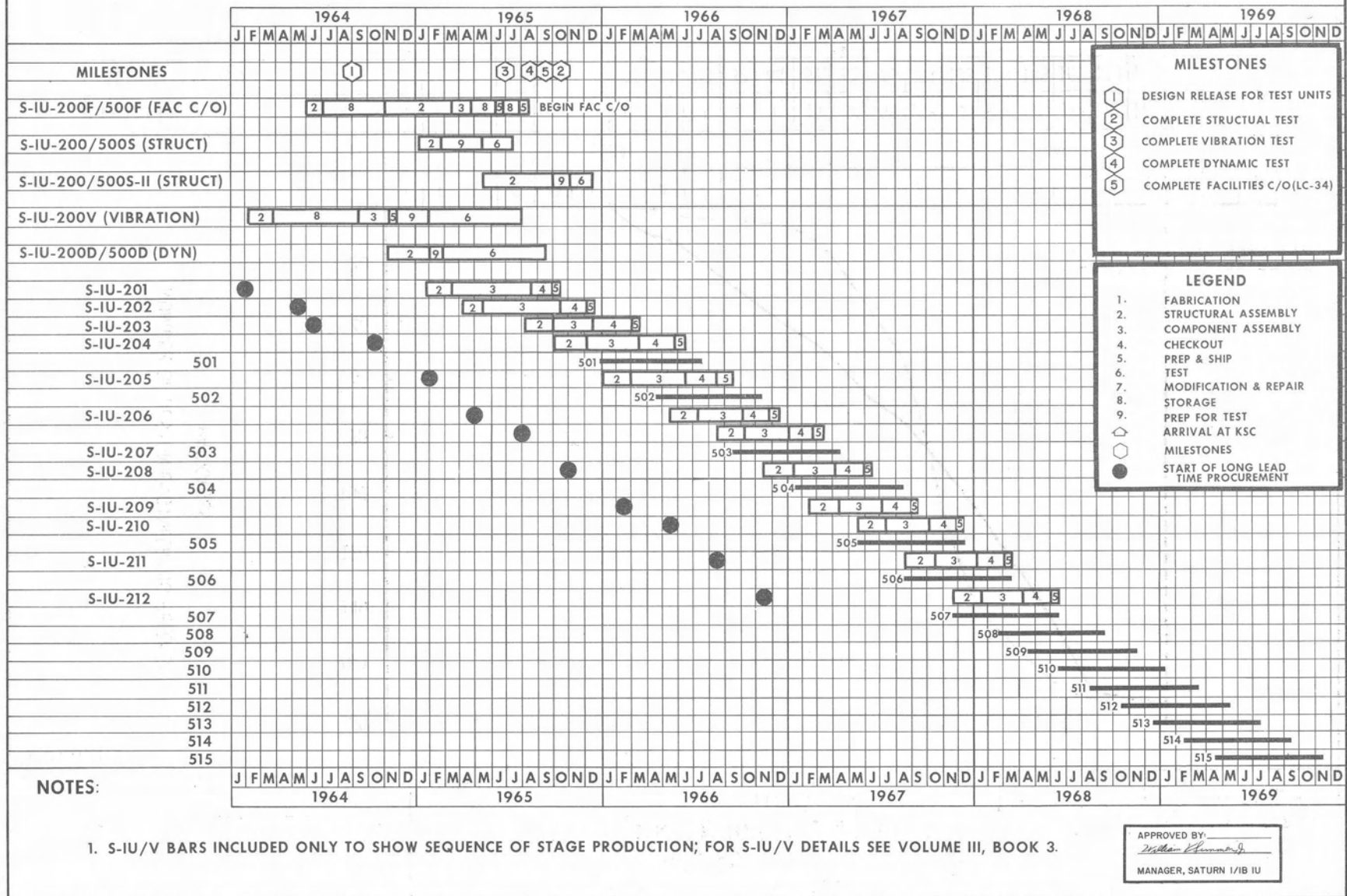
**MANPOWER
(IN EQUIVALENT MAN MONTHS)**

TOTAL DIRECT MANPOWER	POP 65-2	2,796	2,796	2,796	XX	XX	2,700	XX	XX	2,556	XX	XX	2,032
	POP 65-3	2,640	2,750	2,776	2,760	2,725	2,700	2,675	2,650	2,567	2,440	2,320	2,185
	ACTUAL	2,634	2,777	2,740									
RATIO OF INDIRECT TO DIRECT													

NUMBER OF SHIFTS 1.3
 PERCENT OF OVERTIME 13%

REMARKS: ACTUALS SHOWN FOR THE MONTH OF SEPTEMBER ARE ESTIMATES ONLY. JULY COSTS INCLUDE A 978 MATERIAL INVENTORY ADJUSTMENT.

SATURN IB INSTRUMENT UNIT STAGE DEVELOPMENT AND DELIVERY PLAN



SCHEDULE RESPONSIBILITY Lee B. James

STATUS RESPONSIBILITY W. K. Simmons, Jr.

MANNED SPACE FLIGHT SCHEDULE
S-IU-201
ENGINEERING DESIGN RELEASES

3
LEVEL

ORIGNAL SCHED. APPROVAL 6 30 65
(Date)

LAST SCHED. CHANGE _____
(Date) (No.) (Initials)

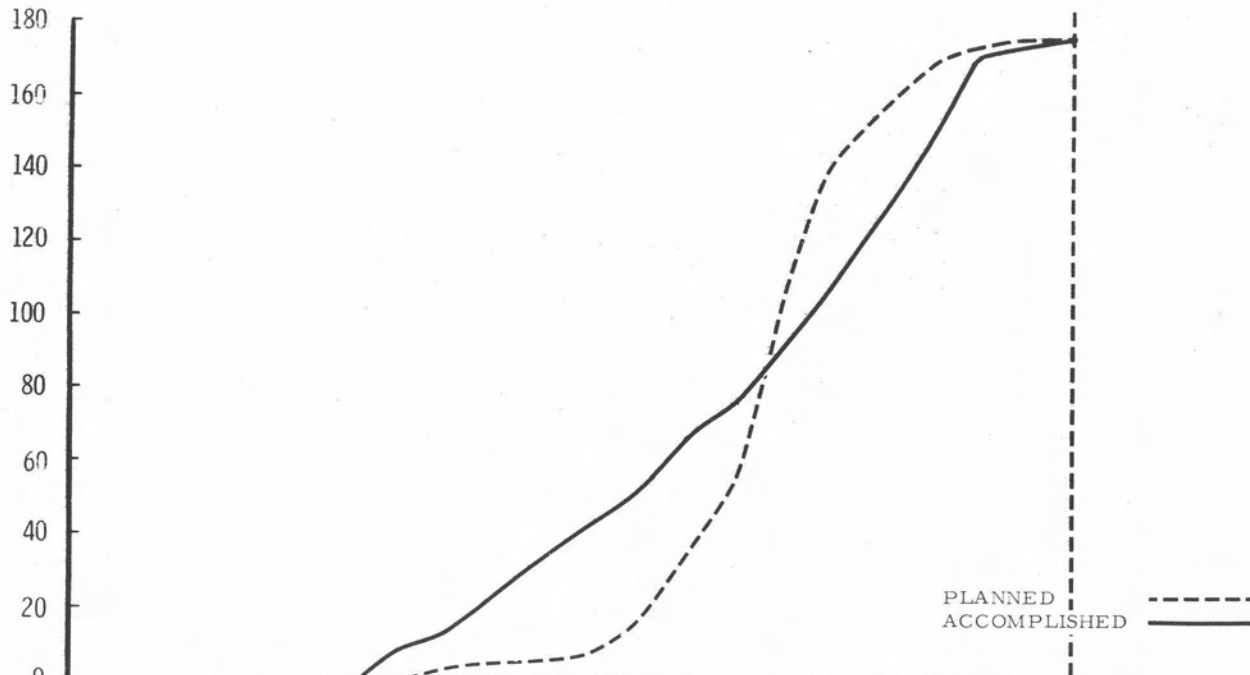
STATUS AS OF 9 30 65 J+1
(Date) (Initials)

CONTRACTOR: NOT APPLICABLE

PROJECT: SATURN IB
SCH'D NO:

8043 DWGS

NUMBER OF DESIGN ENGINEERING RELEASES
PACKAGES



	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
	1964												1965											
PLANNED							0	3	3	4	6	15	34	55	108	142	158	170	172	172	172			
ACCOMPLISHED							9	12	23	32	44	55	66	75	91	108	128	148	165	170	172			

MSFC RELEASES TO IBM
(CLASS I DOCUMENTATION)

SCHEDULE RESPONSIBILITY Lee B. James
 STATUS RESPONSIBILITY W. R. Simmons, Jr.

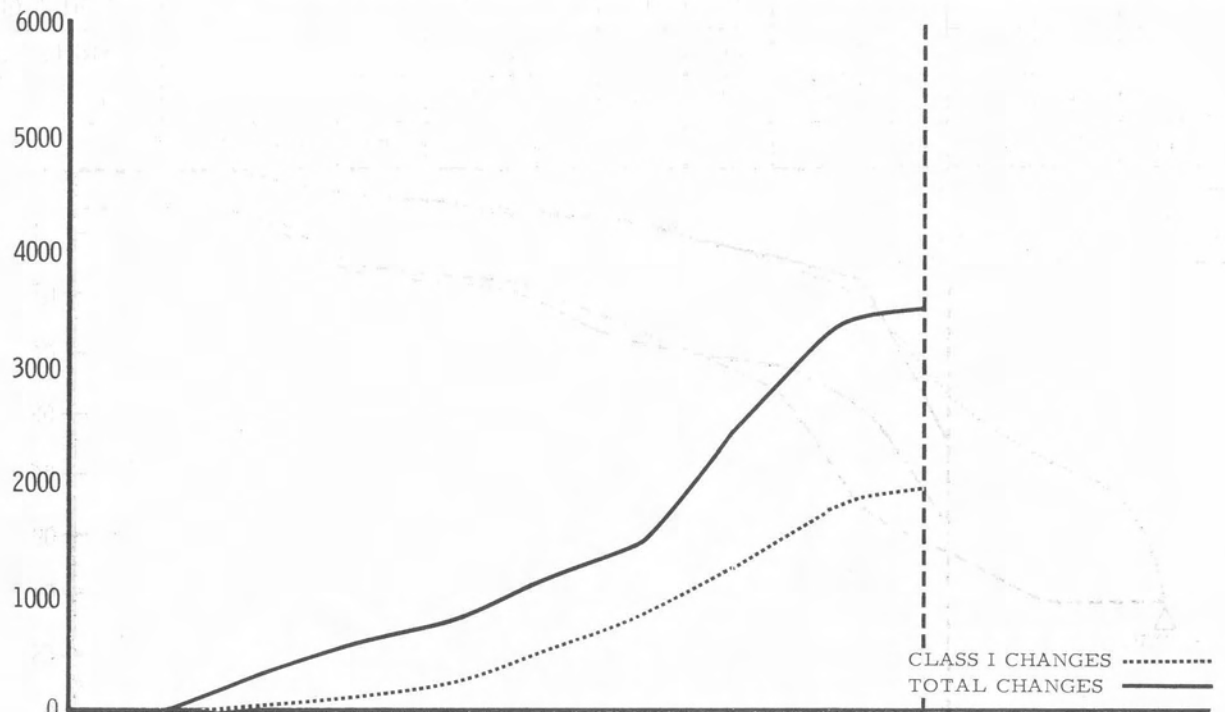
MANNED SPACE FLIGHT SCHEDULE
S-IU-201
ENGINEERING CHANGES

3
 LEVEL

ORIGINAL SCHED. APPROVAL 6/30/65
 (Date)
 LAST SCHED. CHANGE _____
 (Date) (No.) (Initials)
 STATUS AS OF 9/30/65
 (Date) JH/14
 (Initials)

CONTRACTOR: NOT APPLICABLE PROJECT: SATURN IB
 SCH'D NO:

NUMBER OF ENGINEERING CHANGES



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	1965											
CLASS I CHANGES		25	125	275	595	820	1238	1710	1949			
TOTAL CHANGES		334	573	779	1164	1465	2342	3301	3540			

NOTE: CHANGES DEFINED AS STATED IN ANA BULLETIN NO. 445

SCHEDULE RESPONSIBILITY Lee B. James

STATUS RESPONSIBILITY W.K. Simmons, Jr.

MANNED SPACE FLIGHT SCHEDULE
**S-IU-201 COMPONENT QUALIFICATION
 FLIGHT CRITICAL COMPONENTS**

3
LEVEL

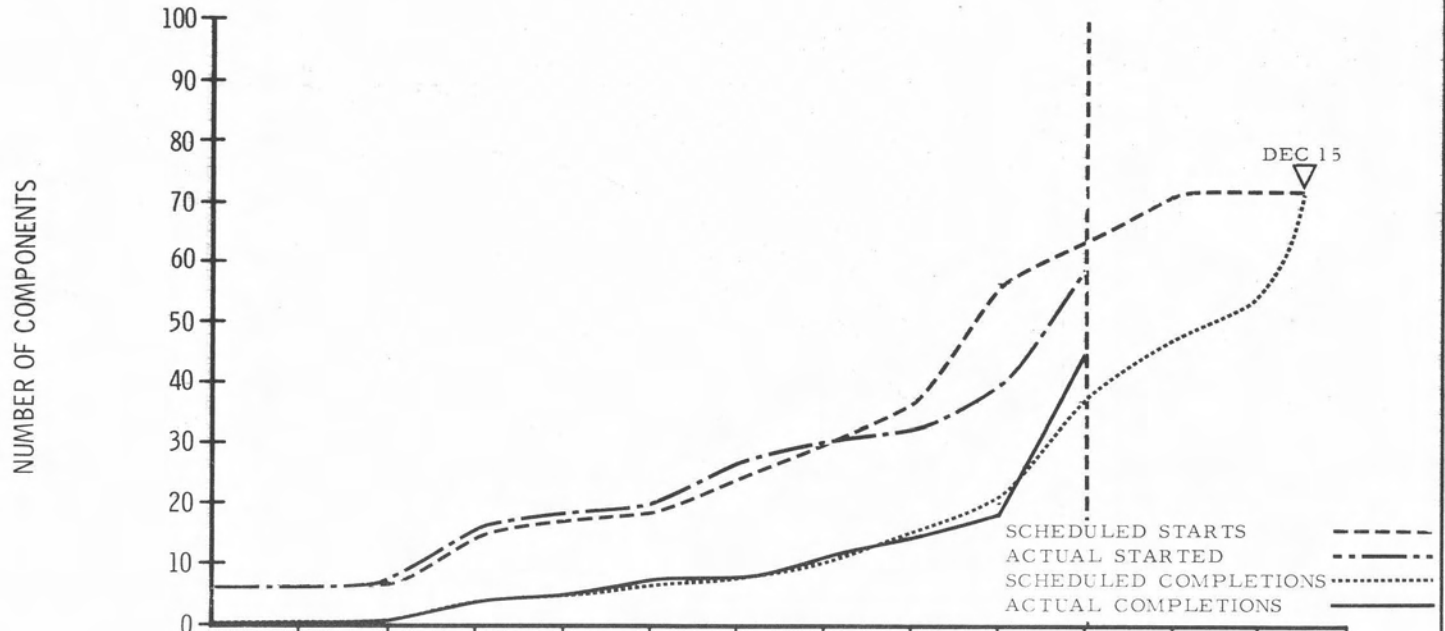
ORIGINAL SCHED. APPROVAL 6/30/65
(Date)

LAST SCHED. CHANGE _____
(Date) (No.) (Initials)

STATUS AS OF 9/30/65
(Date) (Initials)

CONTRACTOR: NOT APPLICABLE

PROJECT: SATURN IB
 SCH'D NO:



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
CUMULATIVE SCHEDULED COMPLETIONS	0	4	4	6	7	10	15	20	37	47	53	72
CUMULATIVE ACTUAL COMPLETIONS	0	4	4	7	7	11	14	18	44			
TEST COMPLETIONS BEHIND SCHEDULE	0	0	0	0	0	0	1	2	0			
TESTS COMPLETED AHEAD OF SCHEDULE	0	0	0	1	0	1	0	0	7			

SCHEDULE RESPONSIBILITY Lee B. James

STATUS RESPONSIBILITY W.K. Simmons, Jr.

MANNED SPACE FLIGHT SCHEDULE
S-IU-201 COMPONENT QUALIFICATION
TOTAL COMPONENTS

3
LEVEL

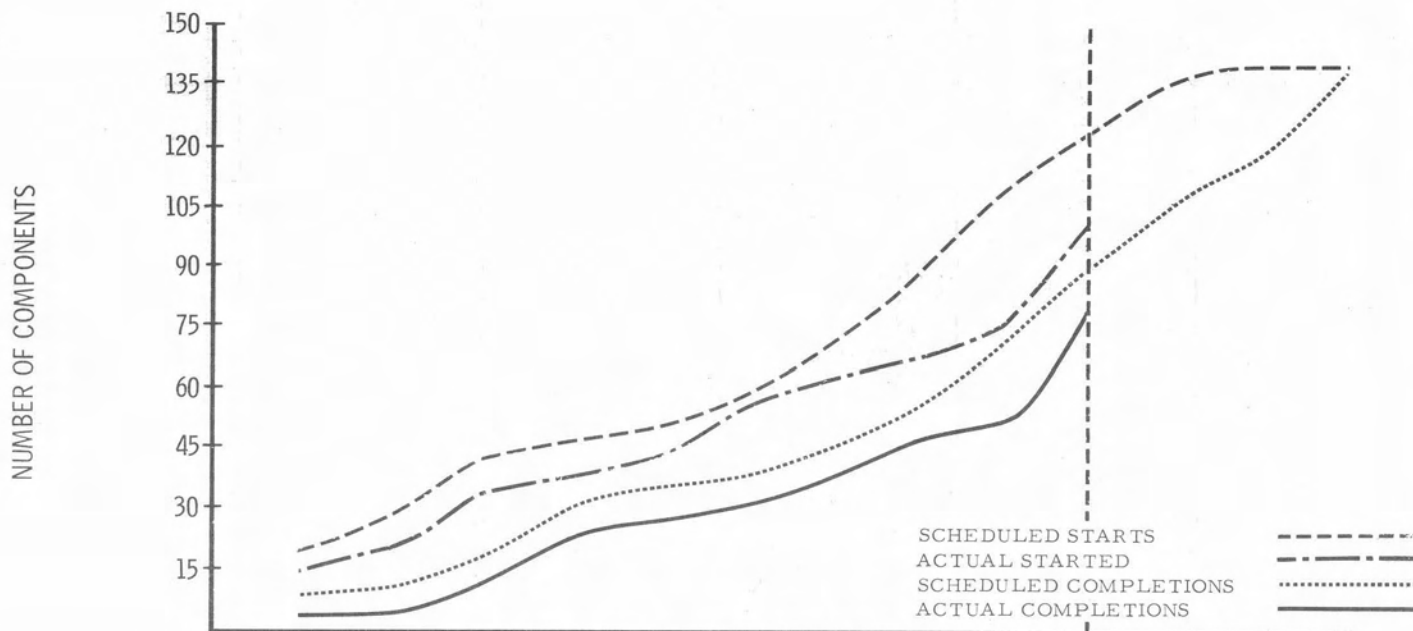
ORIGINAL SCHED. APPROVAL 6/30/65
(Date)

LAST SCHED. CHANGE (Date) (No.) (Initials)

STATUS AS OF 9/30/65 8/24
(Date) (Initials)

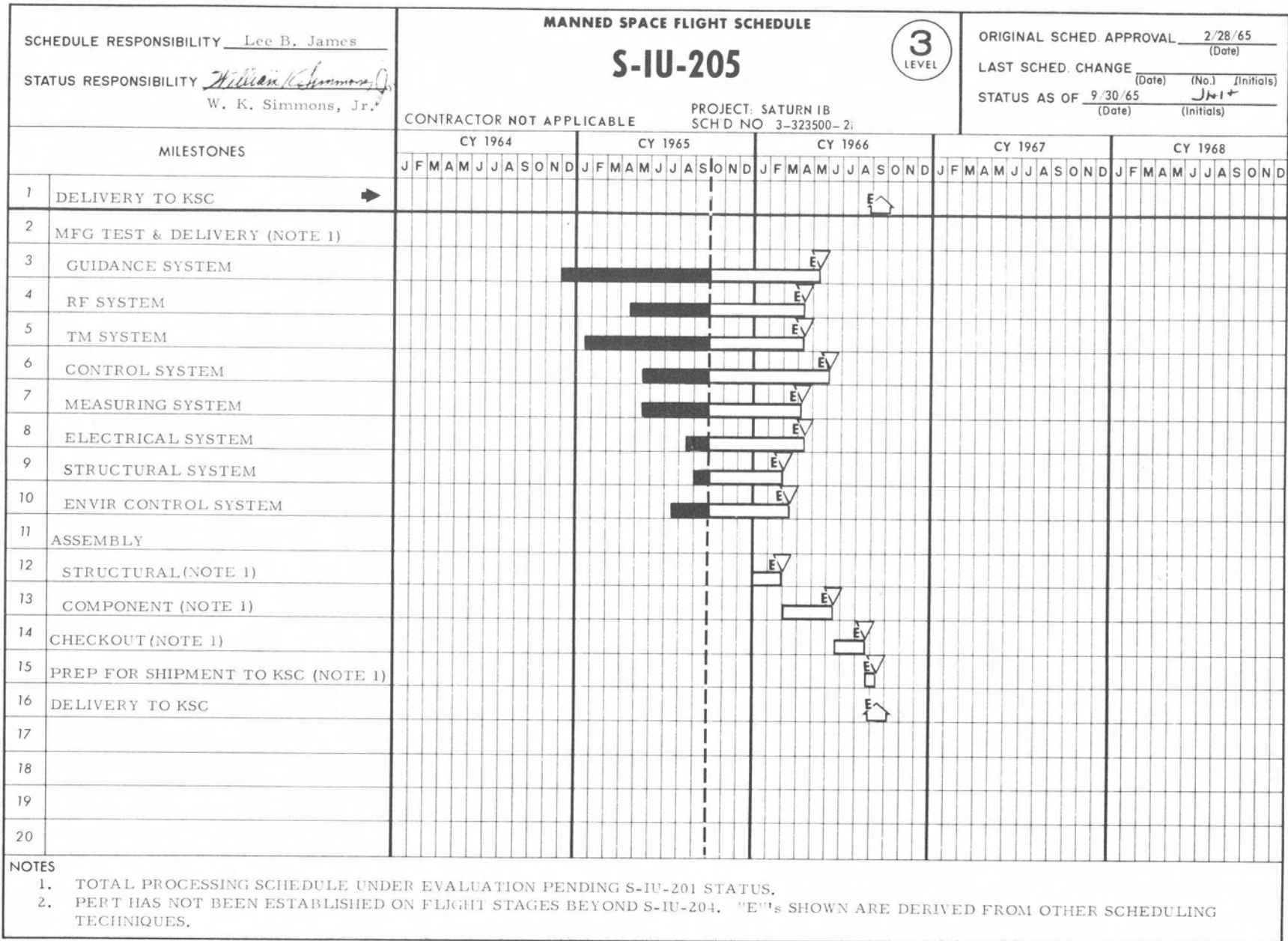
CONTRACTOR: NOT APPLICABLE

PROJECT: SATURN IB
 SCH'D NO:



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
CUMULATIVE SCHEDULED COMPLETIONS	11	18	31	35	38	44	55	71	90	106	116	137
CUMULATIVE ACTUAL COMPLETIONS*	4	11	23	27	31	38	46	50	78			
TEST COMPLETIONS BEHIND SCHEDULE	7	7	8	8	7	6	9	21	12			
TESTS COMPLETED AHEAD OF SCHEDULE	0	0	0	0	0	0	0	0				

NOTE: QUALIFICATION OF COOLANT PUMP (CRITICALITY 3) IS SCHEDULED FOR COMPLETION IN FEBRUARY, 1966.
 COOLANT PUMP IS NOT REQUIRED FOR AS-201 MISSION.



NOTES

1. TOTAL PROCESSING SCHEDULE UNDER EVALUATION PENDING S-IU-201 STATUS.
2. PERT HAS NOT BEEN ESTABLISHED ON FLIGHT STAGES BEYOND S-IU-204. "E"'s SHOWN ARE DERIVED FROM OTHER SCHEDULING TECHNIQUES.

SCHEDULE RESPONSIBILITY <u>Lee B. James</u> STATUS RESPONSIBILITY <u>William K. Simmons, Jr.</u> W. K. Simmons, Jr.	MANNED SPACE FLIGHT SCHEDULE OBLIGATIONS, COSTS, AND MANPOWER INSTRUMENT UNIT (NAS8-5399) PROJECT: SATURN IB CONTRACTOR: BENDIX (NAS8-13005) SCH'D NO:	ORIGINAL SCHED. APPROVAL <u>8/31/64</u> (Date) LAST SCHED. CHANGE _____ (Date) (No.) (Initials) STATUS AS OF <u>9/30/65</u> _____ (Date) (Initials)
---	---	--

**OBLIGATIONS & COSTS
(THOUSANDS OF DOLLARS)**

	FY 1961 THRU FY 1964	FY 1965	FY 1966	FY 1967	FY 1968	FY 1969	FY 1970	TOTAL
UNCOSTED OBLIGATIONS	0	1,775	3,476	513	302	0	0	XXX
OBLIGATIONS TO CONTRACTOR	3,175	8,388	7,616	7,761	1,838	0	0	28,778
TOTAL AVAILABLE	3,175	10,163	11,092	8,274	2,140	0	0	XXX
ACCRUED COSTS DURING PERIOD	1,400	6,687	10,579	7,972	2,140	0	0	28,778
(533 ACCRUED COSTS)	(1,400)	(6,687)	(9,992)	(5,940)	(892)	0	0	(24,911)
UNFILLED ORDERS	400	1,094	513	302	0	0	0	XXX
ADVANCED FUNDING	1,375	2,382	0	0	0	0	0	XXX
MONTHLY COST-RATE (YEAR END)	250	1,000	800	600	100	0	0	XXX

**MANPOWER
(IN EQUIVALENT MAN YEARS)**

TOTAL DIRECT	15	187	279	220	70	0	0	771
RATIO OF INDIRECT TO DIRECT								

REMARKS:

SCHEDULE RESPONSIBILITY <u>Lee B. James</u> STATUS RESPONSIBILITY <u>William K. Simmons, Jr.</u> W. K. Simmons, Jr.	MANNED SPACE FLIGHT SCHEDULE OBLIGATIONS, COSTS, AND MANPOWER INSTRUMENT UNIT (NAS8-5399) PROJECT: SATURN IB CONTRACTOR: BENDIX (NAS8-13005) SCH'D NO:	ORIGINAL SCHED. APPROVAL <u>8/31/64</u> (Date) LAST SCHED. CHANGE _____ (Date) (No.) (Initials) STATUS AS OF <u>9/30/65</u> <u>JKJ</u> (Date) (Initials)											
OBLIGATIONS & COSTS (THOUSANDS OF DOLLARS)													
CURRENT FISCAL YEAR	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	
NO. OF WORKING DAYS IN REPORTING PERIOD	21	22	21	21	21	23	20	19	23	21	21	22	
CUMULATIVE OBLIGATIONS	POP 65-2	1,350	1,350	1,350	XX	XX	3,550	XX	XX	7,505	XX	XX	7,505
	POP 65-3	0	1,150	1,150	3,300	3,300	3,300	XX	XX	6,600	XX	XX	7,616
	ACTUAL	1,150	1,150	1,150									
CUMULATIVE ACCRUED COSTS	POP 65-2	990	1,990	2,990	XX	XX	5,900	XX	XX	8,700	XX	XX	10,879
	POP 65-3	810	1,910	3,110	4,110	5,010	5,810	XX	XX	8,260	XX	XX	10,579
	ACTUAL TOTAL	941	2,104	3,588									
	IN-HOUSE	636	1,485										
	SUB CONTRACT	305	619										
COST RATE	POP 65-2	990	1,000	1,000	XX	XX	1,000	XX	XX	900	XX	XX	750
	POP 65-3	810	1,100	1,200	1,000	900	800	XX	XX	800	XX	XX	800
	ACTUAL	941	1,163	1,484									
MANPOWER (IN EQUIVALENT MAN MONTHS)													
TOTAL DIRECT MANPOWER	POP 65-2	230	230	230	XX	XX	230	XX	XX	205	XX	XX	180
	POP 65-3	270	320	340	310	275	260	XX	XX	260	XX	XX	260
	ACTUAL	294	398	340									
RATIO OF INDIRECT TO DIRECT													
NUMBER OF SHIFTS		<u>2-MFG.</u> 1 ENGR.											
PERCENT OF OVERTIME		<u>14.9</u>											
REMARKS: ACTUALS SHOWN FOR THE MONTH OF SEPTEMBER ARE ESTIMATES ONLY.													

SCHEDULE RESPONSIBILITY <u>Lee B. James</u> STATUS RESPONSIBILITY <u>William K. Simmons, Jr.</u> W. K. Simmons, Jr.	MANNED SPACE FLIGHT SCHEDULE OBLIGATIONS, COSTS, AND MANPOWER INSTRUMENT UNIT (NAS8-14000) (NAS8-11561) CONTRACTOR: IBM (NAS8-11562)	ORIGINAL SCHED. APPROVAL <u>8/31/64</u> (Date) LAST SCHED. CHANGE _____ (Date) (No.) (Initials) STATUS AS OF <u>9/30/65</u> (Date) (Initials)						
OBLIGATIONS & COSTS (THOUSANDS OF DOLLARS)								
	FY 1961 THRU FY 1964	FY 1965	FY 1966	FY 1967	FY 1968	FY 1969	FY 1970	TOTAL
UNCOSTED OBLIGATIONS	0	878	6,640	600	1,124	0	0	XXX
OBLIGATIONS TO CONTRACTOR	3,504	22,433	30,578	30,286	12,641	1,000	0	100,442
TOTAL AVAILABLE	3,504	23,311	37,218	30,886	13,765	1,000	0	XXX
ACCRUED COSTS DURING PERIOD	2,626	16,671	36,618	29,762	13,765	1,000	0	100,442
(533 ACCRUED COSTS)	(2,626)	(16,671)	(35,765)	(21,743)	(8,201)	0	0	(85,006)
UNFILLED ORDERS	878	3,056	600	1,124	0	0	0	XXX
ADVANCED FUNDING	0	3,584	0	0	0	0	0	XXX
MONTHLY COST-RATE (YEAR END)	600	3,182	3,000	2,100	600	0	0	XXX
MANPOWER (IN EQUIVALENT MAN YEARS)								
TOTAL DIRECT	40	588	1,028	865	475	75		3,071
RATIO OF INDIRECT TO DIRECT								
REMARKS:								

SCHEDULE RESPONSIBILITY <u>Lee B. James</u> STATUS RESPONSIBILITY <u>William K. Simmons, Jr.</u> W. K. Simmons, Jr.	MANNED SPACE FLIGHT SCHEDULE OBLIGATIONS, COSTS, AND MANPOWER INSTRUMENT UNIT (NAS8-14000) (NAS8-11561) CONTRACTOR: IBM (NAS8-11562)	ORIGINAL SCHED APPROVAL <u>8/31/64</u> (Date) LAST SCHED. CHANGE _____ (Date) (No.) (Initials) STATUS AS OF <u>9/30/65</u> <u>J WJ</u> (Date) (Initials)
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**OBLIGATIONS & COSTS
(THOUSANDS OF DOLLARS)**

CURRENT FISCAL YEAR		JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	
NO. OF WORKING DAYS IN REPORTING PERIOD		19	20	24	20	20	26	XX	XX	25	XX	XX	24	
CUMULATIVE OBLIGATIONS	POP 65-2	5,800	5,800	5,800	XX	XX	12,690	XX	XX	26,482	XX	XX	26,482	
	POP 65-3	2,900	6,900	6,900	16,500	16,500	16,500	XX	XX	27,235	XX	XX	30,578	
	ACTUAL	5,800	9,500	9,500										
CUMULATIVE ACCRUED COSTS	POP 65-2	2,300	4,800	7,500	XX	XX	15,990	XX	XX	24,670	XX	XX	32,928	
	POP 65-3	2,700	5,800	9,300	12,400	15,500	19,000	XX	XX	28,535	XX	XX	36,618	
	ACTUAL	TOTAL	2,788	5,852	9,352									
		IN-HOUSE	2,357	4,668										
		SUB CONTRACT	431	1,184										
COST RATE	POP 65-2	2,300	2,500	2,700	XX	XX	2,996	XX	XX	3,193	XX	XX	2,786	
	POP 65-3	2,700	3,100	3,500	3,100	3,100	3,500	XX	XX	3,400	XX	XX	3,000	
	ACTUAL	2,788	3,064	3,500										

**MANPOWER
(IN EQUIVALENT MAN MONTHS)**

TOTAL DIRECT MANPOWER	POP 65-2	680	700	725	XX	XX	780	XX	XX	800	XX	XX	740
	POP 65-3	980	1,040	1,120	1,060	1,060	1,140	XX	XX	1,120	XX	XX	960
	ACTUAL	1,192	1,262	1,300									
RATIO OF INDIRECT TO DIRECT													

NUMBER OF SHIFTS 2-MFG. 1 ENGR.
 PERCENT OF OVERTIME 9.4%

REMARKS: VALUES SHOWN FOR SEPTEMBER ARE ESTIMATES ONLY.

SCHEDULE RESPONSIBILITY Dr. Wernher von Braun

STATUS RESPONSIBILITY T. F. Morring

MANNED SPACE FLIGHT SCHEDULE
SATURN IB INSTRUMENT UNIT
REGULAR AND OVERTIME DIRECT
CIVIL SERVICE MANHOURS

3
LEVEL

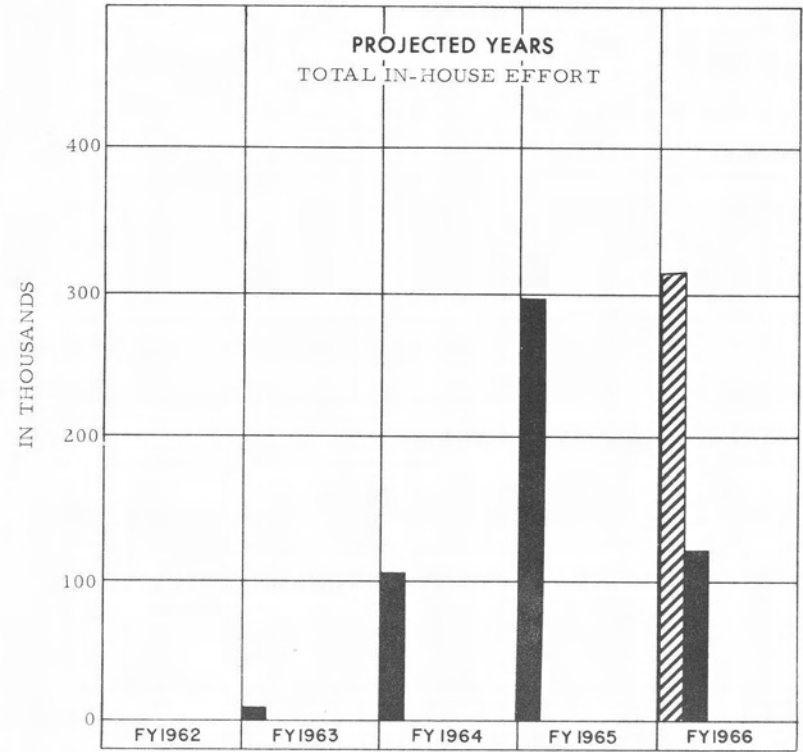
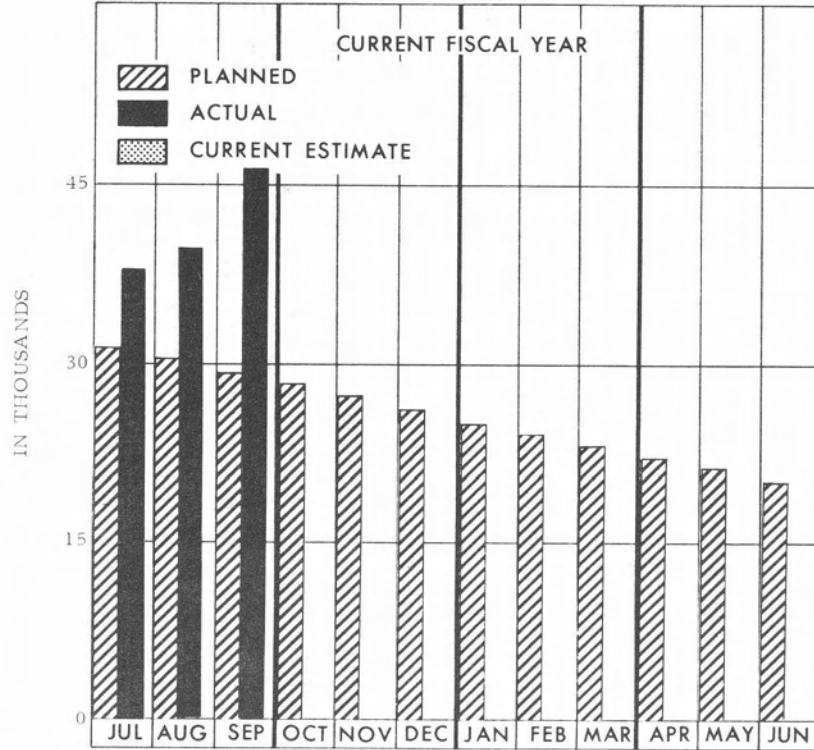
ORIGINAL SCHED. APPROVAL _____ (Date)
 LAST SCHED. CHANGE _____ (Date) (No.) (Initials)
 STATUS AS OF 9/30/65 (Date) MMK (Initials)

CIVIL SERVICE

PROJECT: SATURN IB
 SCH'D NO: 3-3235-00-4a

PERCENTAGE OVERTIME _____ NO. OF SHIFTS _____
 (AVERAGE FOR REPORT PERIOD) (END OF REPORT PERIOD)

DIRECT MANHOURS



CUR. EST.												
ACTUAL	37.4	40.8	46.1									
PLANNED	31.6	30.6	29.6	28.6	27.6	26.5	25.6	24.6	23.5	22.6	21.6	20.6

CUR. EST.					
ACTUAL	0	4.0	105.7	297.3	124.3
PLANNED					313.0

NOTES

SCHEDULE RESPONSIBILITY Lee B. James

STATUS RESPONSIBILITY P. Dunlap

MANNED SPACE FLIGHT SCHEDULE
**BASIC ENGINEERING DESIGN
 RELEASES FOR LC-34**

3
LEVEL

ORIGINAL SCHED. APPROVAL 6/30/65
(Date)

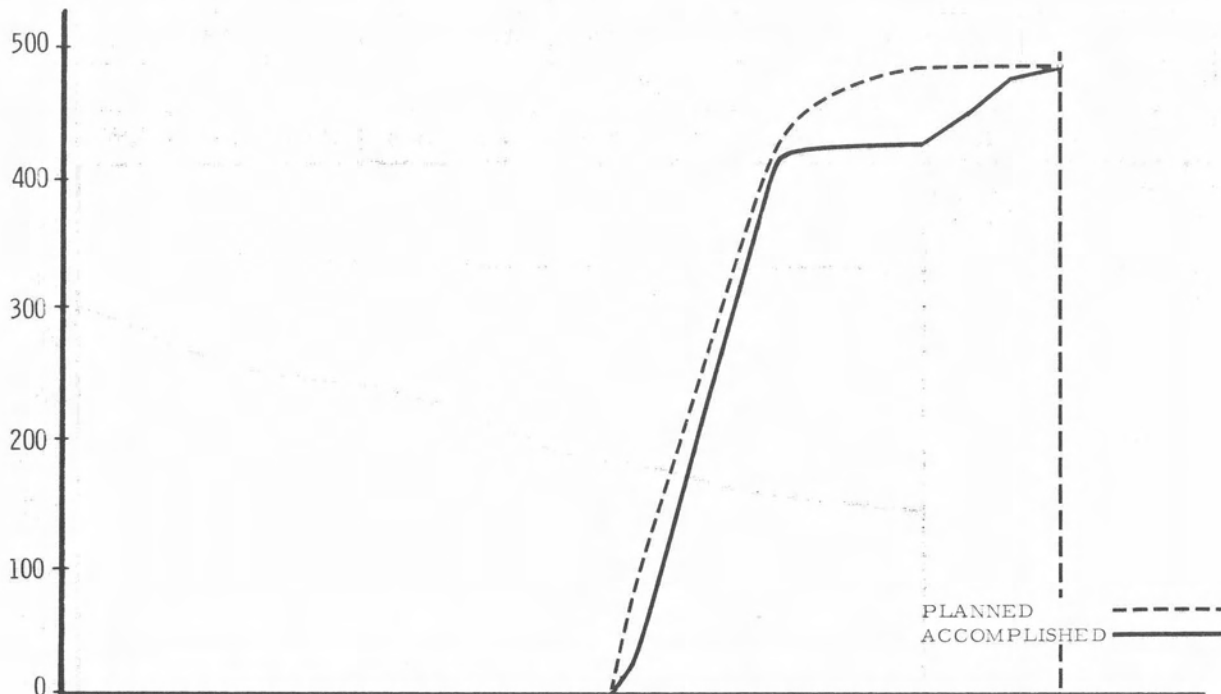
LAST SCHED. CHANGE _____
(Date) (No.) (Initials)

STATUS AS OF 9/30/65
(Date) (Initials)

CONTRACTOR: NOT APPLICABLE

PROJECT: SATURN IB
 SCH'D NO:

NUMBER OF DESIGN ENGINEERING RELEASES



	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
	1964												1965											
PLANNED												80	428		489		489	489	489	489				
ACCOMPLISHED												23	418		425		454	481	489					

SCHEDULE RESPONSIBILITY Lee B. James

STATUS RESPONSIBILITY P. Dunlap

MANNED SPACE FLIGHT SCHEDULE
GSE ENGINEERING CHANGES
(RCA)

3
LEVEL

ORIGINAL SCHED. APPROVAL 6/30/65
(Date)

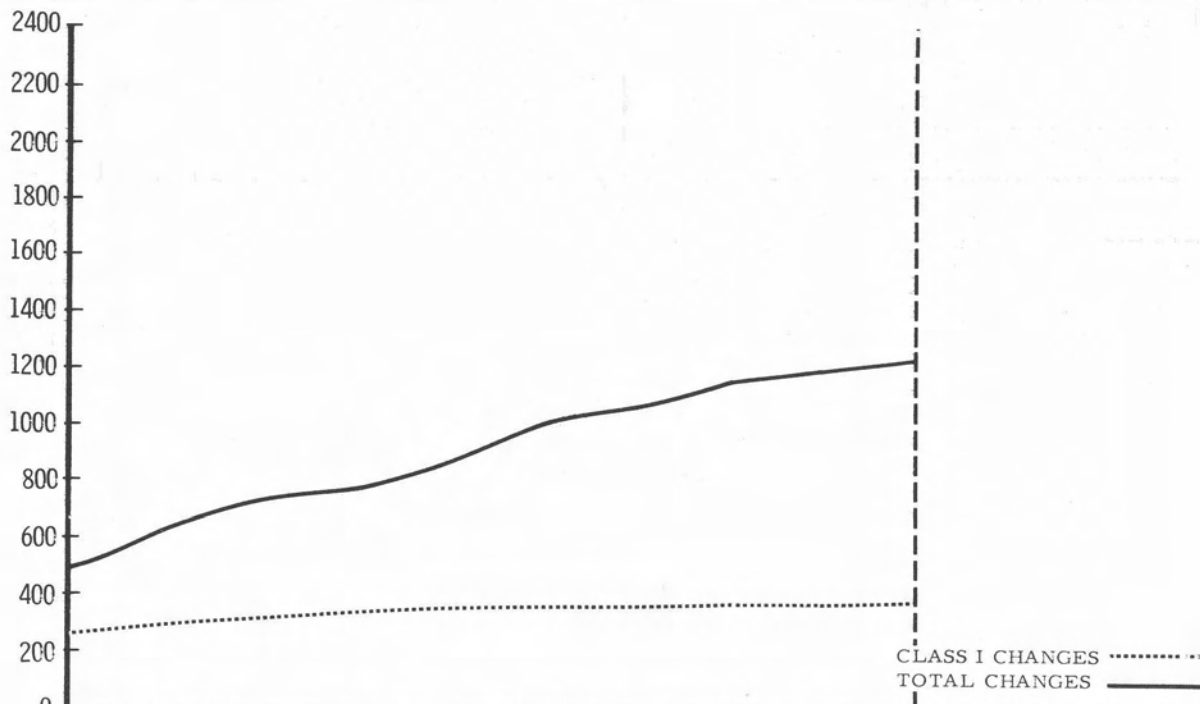
LAST SCHED. CHANGE _____
(Date) (No.) (Initials)

STATUS AS OF 9/30/65
(Date) (Initials)

CONTRACTOR: RCA

PROJECT: SATURN IB
 SCH'D NO:

NUMBER OF ENGINEERING CHANGES



CLASS I CHANGES
 TOTAL CHANGES ———

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
	1965											
CLASS I CHANGES	283	312	320	331	346	363	370	376	386			
TOTAL CHANGES	626	739	765	869	997	1069	1127	1180	1216			

SCHEDULE RESPONSIBILITY Lee B. James

STATUS RESPONSIBILITY P. Dunlap

MANNED SPACE FLIGHT SCHEDULE
GSE ENGINEERING CHANGES
(GE)

3
LEVEL

ORIGINAL SCHED. APPROVAL 7/31/65
(Date)

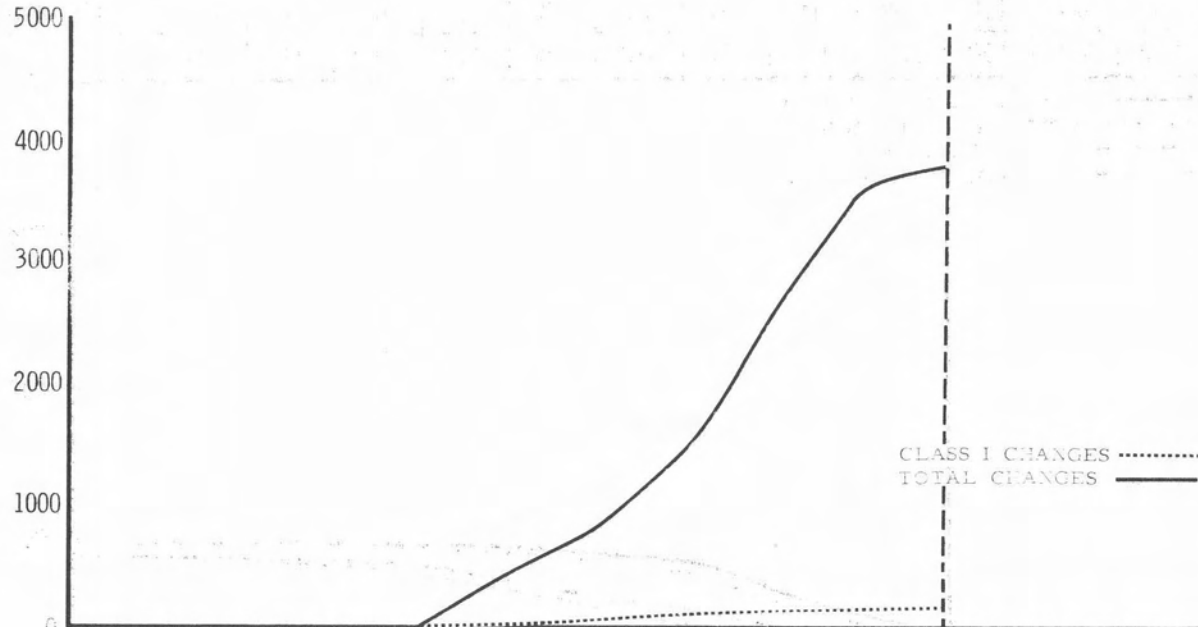
LAST SCHED. CHANGE (Date) (No.) (Initials)

STATUS AS OF 9/30/65
(Date) (Initials)

CONTRACTOR: NOT APPLICABLE

PROJECT: SATURN IB
 SCHED NO

NUMBER OF ENGINEERING CHANGES



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
CLASS I CHANGES				13	64	93	110	131	146			
TOTAL CHANGES				419	759	1412	2543	3480	3834			

ABOVE CHANGES ARE ENGINEERING ORDERS AUTHORIZING CHANGES

SCHEDULE RESPONSIBILITY Lee B. James

STATUS RESPONSIBILITY [Signature]

MANNED SPACE FLIGHT SCHEDULE
GSE COMPONENT QUALIFICATION
TOTAL GE ESE PARTS

3
LEVEL

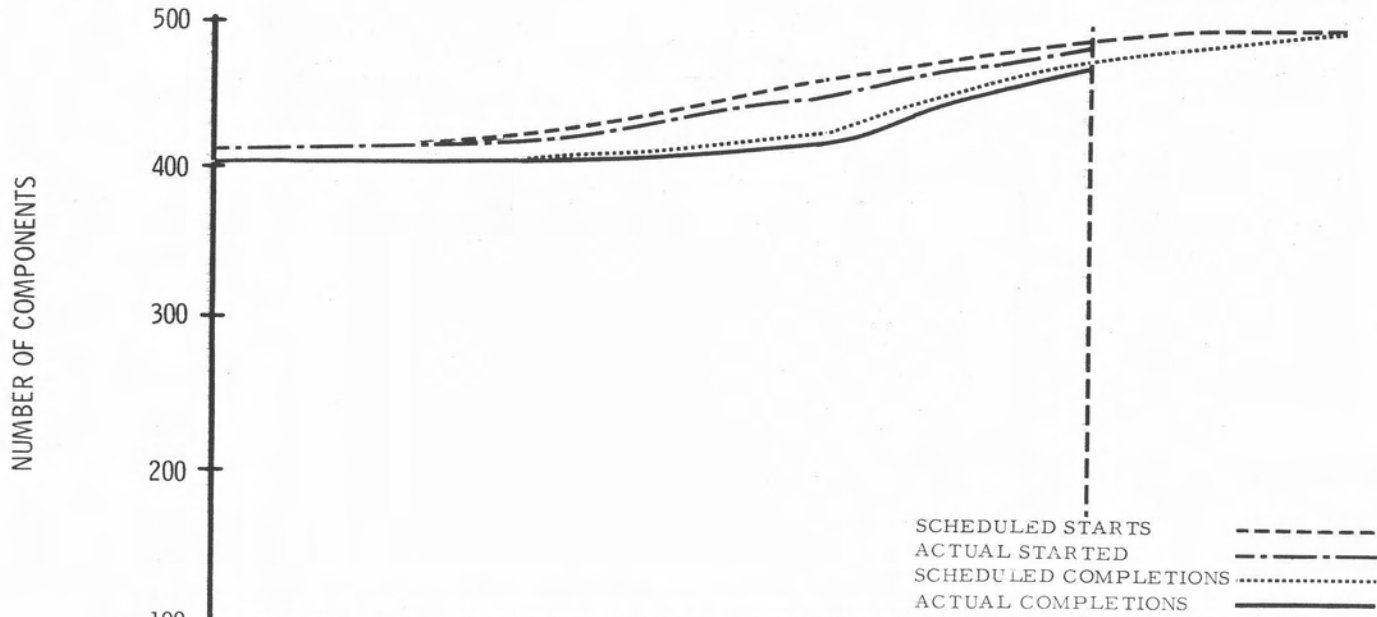
ORIGINAL SCHED. APPROVAL 6/30/65
(Date)

LAST SCHED. CHANGE _____
(Date) (No) (Initials)

STATUS AS OF 9/30/65
(Date) (Initials)

CONTRACTOR GE

PROJECT: SATURN IB
SCH'D NO



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	
CUMULATIVE SCHEDULED COMPLETIONS	402	402	403	408	415	425	437	448	463	474	485	493	493
CUMULATIVE ACTUAL COMPLETIONS*	402	402	402	407	414	416	431	445	456				
TEST COMPLETIONS BEHIND SCHEDULE	0	0	1	1	1	9	6	3	7				
TEST COMPLETED AHEAD OF SCHEDULE	0	0	0	0	0	0	0	0	0				

NOTE: TEST BEHIND DUE TO LATE TEST SPECIFICATION, HARDWARE SELECTION AND PROCUREMENT, QUALIFICATION TESTS OF THREE CRITICAL COMPONENTS REQUIRED PRIOR TO LAUNCH OF SA-201. TESTS IN PROGRESS.

* INCLUDES ONLY THOSE COMPLETIONS THAT WERE SCHEDULED TO BE COMPLETE

SCHEDULE RESPONSIBILITY Lee B. James

STATUS RESPONSIBILITY P. Dunlap

MANNED SPACE FLIGHT SCHEDULE
GSE COMPONENT QUALIFICATION
TOTAL RCA ESE PARTS

3
LEVEL

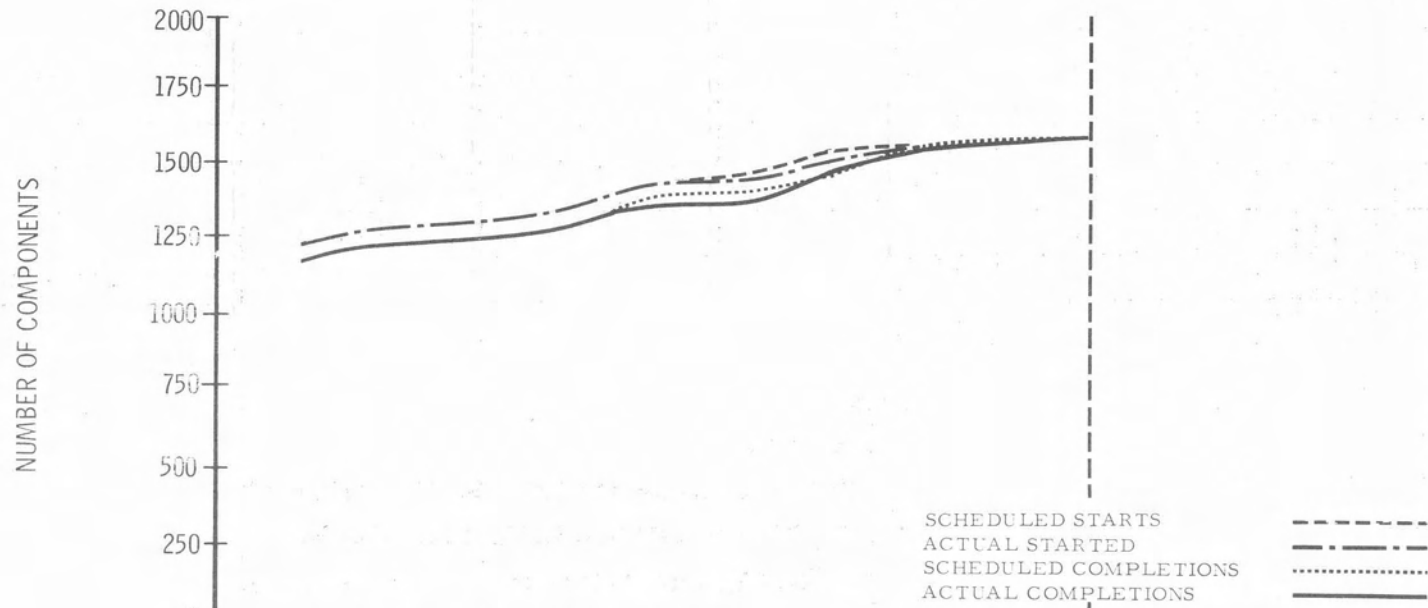
ORIGINAL SCHED. APPROVAL 6/30/65
(Date)

LAST SCHED. CHANGE _____
(Date) (No.) (Initials)

STATUS AS OF 9/30/65
(Date) (Initials)

CONTRACTOR: RCA

PROJECT: SATURN IB
SCH'D NO:



	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC
CUMULATIVE SCHEDULED COMPLETIONS	1201	1252	1275	1388	1394	1471	1571	1605	1605	1605	1605	1605
CUMULATIVE ACTUAL COMPLETIONS*	1201	1252	1275	1387	1392	1469	1561	1572	1598			
TEST COMPLETIONS BEHIND SCHEDULE	0	0	0	1	2	2	10	2	7			
TESTS COMPLETED AHEAD OF SCHEDULE	0	0	0	0	0	8	0	0	0			

NOTE: TEST BEHIND - DUE TO REDESIGN AND MANUFACTURE OF TWO FILTERS THAT FAILED PREVIOUS TESTS.

* INCLUDES ONLY THOSE COMPLETIONS THAT WERE SCHEDULED TO BE COMPLETE

SCHEDULE RESPONSIBILITY <u>Lee B. James</u>		MANNED SPACE FLIGHT SCHEDULE												3 LEVEL		ORIGINAL SCHED. APPROVAL <u>4/30/65</u> (Date)																																													
STATUS RESPONSIBILITY <u>P. Dunlap</u>		GROUND SUPPORT EQUIPMENT														LAST SCHED. CHANGE _____ (Date) (No.) (Initials)																																													
		LC-34 ESE														STATUS AS OF <u>9/30/65</u> (Date) <u>Scott</u> (Initials)																																													
		CY 1963				CY 1964				CY 1965				CY 1966				CY 1967																																											
MILESTONES		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
1	SATURN IB KEY DELIVERY →																																																												
2	WET TEST ESE DEL TO KSC																																																												
3	ESE OPERATIONAL DEL TO KSC																																																												
4	S-IB NON-GETS FACI																																																												
5	S-IB NON-GETS O/D KSC																																																												
6	S-IB GETS FACI																																																												
7	S-IB GETS O/D KSC																																																												
8	S-IVB NON-GETS FACI																																																												
9	S-IVB NON-GETS O/D KSC																																																												
10	S-IVB GETS FACI																																																												
11	S-IVB GETS O/D KSC																																																												
12	S-IU NON-GETS FACI																																																												
13	S-IU NON-GETS O/D KSC																																																												
14	S-IU GETS FACI																																																												
15	S-IU GETS O/D KSC																																																												
16	DDAS FACI																																																												
17	DDAS O/D KSC																																																												
18																																																													
19																																																													
20																																																													
NOTES																																																													

SCHEDULE RESPONSIBILITY <u>Lee B. James</u> STATUS RESPONSIBILITY <u>P. Dunlap</u>		MANNED SPACE FLIGHT SCHEDULE GROUND SUPPORT EQUIPMENT LC-34 ESE (CONTINUED)		3 LEVEL	ORIGINAL SCHED. APPROVAL <u>4/30/65</u> (Date)																																																								
		CONTRACTOR: NOT APPLICABLE		PROJECT: SATURN IB SCH'D NO: 3-326008-2a																																																									
				LAST SCHED. CHANGE _____ (Date) (No.) (Initials)																																																									
				STATUS AS OF <u>9/30/65</u> (Date) (Initials)																																																									
MILESTONES		CY 1963			CY 1964			CY 1965			CY 1966			CY 1967																																															
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
1	ESE OPERATIONAL (CONTINUED)																																																												
2	TYPE I 100 DAY CLOCK FACI (NOTE 1)																																																												
3	TYPE I 100 DAY CLOCK O/D KSC (NOTE 1)																																																												
4	COUNTCLOCK MOD FACI																																																												
5	COUNTCLOCK MOD O/D KSC																																																												
6	COMPUTER PERI EQ FACI																																																												
7	COMPUTER PERI EQ O/D KSC																																																												
8	POWER NON-GETS FACI																																																												
9	POWER NON-GETS O/D KSC																																																												
10	SYS INTEG GETS FACI																																																												
11	SYS INTEG GETS O/D KSC																																																												
12	SYS INTEG NON-GETS FACI																																																												
13	SYS INTEG NON-GETS O/D KSC																																																												
14	COMPUTERS																																																												
15	DISPLAY EQUIPMENT																																																												
16	DATA LINK																																																												
17	AZIMUTH LAYING & ALIGNMENT																																																												
18	EXTERNAL INTERFACES																																																												
19	LC-34 WET TEST																																																												
20																																																													

NOTES
1. NOT REQUIRED FOR SA-201.

SCHEDULE RESPONSIBILITY <u>Lee B. James</u> STATUS RESPONSIBILITY <u>P. Dunlap, Jr.</u>	MANNED SPACE FLIGHT SCHEDULE OBLIGATIONS, COSTS, AND MANPOWER GROUND SUPPORT EQUIPMENT	ORIGINAL SCHED. APPROVAL <u>8/31/64</u> (Date) LAST SCHED. CHANGE _____ (Date) (No.) (Initials) STATUS AS OF <u>9/30/65</u> (Date) (Initials)
CONTRACTOR: GE (NAS W-410)		PROJECT: SATURN IB SCH'D NO:

**OBLIGATIONS & COSTS
(THOUSANDS OF DOLLARS)**

	FY 1961 THRU FY 1964	FY 1965	FY 1966	FY 1967	FY 1968	FY 1969	FY 1970	TOTAL
UNCOSTED OBLIGATIONS	XXX	1,100	9,164	1,793	942	500		XXX
OBLIGATIONS TO CONTRACTOR	7,500	22,813	4,400	2,500	1,000	500		38,713
TOTAL AVAILABLE	7,500	23,913	13,564	4,293	1,942	1,000		XXX
ACCRUED COSTS DURING PERIOD	6,400	14,749	11,771	3,351	1,442	1,000		38,713
(533 ACCRUED COSTS)	(6,400)	(14,749)	(11,771)	(2,100)	(500)	(--)		(35,520)
UNFILLED ORDERS	1,100	4,364	1,793	942	500	0		XXX
ADVANCED FUNDING	0	4,800	0	0	0	0		XXX
MONTHLY COST-RATE (YEAR END)	500	3,600	308	150	110	0		XXX

**MANPOWER
(IN EQUIVALENT MAN YEARS)**

TOTAL DIRECT	157	378	269	125	50	25		1,004
RATIO OF INDIRECT TO DIRECT								

REMARKS:

SCHEDULE RESPONSIBILITY <u>Lee B. James</u> STATUS RESPONSIBILITY <u>P. Dunlap, Jr.</u>	MANNED SPACE FLIGHT SCHEDULE OBLIGATIONS, COSTS, AND MANPOWER GROUND SUPPORT EQUIPMENT	ORIGINAL SCHED. APPROVAL <u>8/31/64</u> <small>(Date)</small> LAST SCHED. CHANGE _____ <small>(Date) (No.) (Initials)</small> STATUS AS OF <u>9/30/65</u> <small>(Date) (Initials)</small>
CONTRACTOR: GE (NAS W-410)		PROJECT: SATURN IB SCH'D NO:

**OBLIGATIONS & COSTS
(THOUSANDS OF DOLLARS)**

CURRENT FISCAL YEAR		JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	
NO. OF WORKING DAYS IN REPORTING PERIOD		21	22	21	21	20	22	XX	XX	23	XX	XX	22	
CUMULATIVE OBLIGATIONS	POP 65-2	300	700	1,100	XX	XX	2,200	XX	XX	3,300	XX	XX	4,400	
	POP 65-3	0	0	500	900	1,300	1,700	XX	XX	3,050	XX	XX	4,400	
	ACTUAL	0	0	0										
CUMULATIVE ACCRUED COSTS	POP 65-2	1,000	2,000	3,100	XX	XX	6,200	XX	XX	9,300	XX	XX	10,900	
	POP 65-3	2,855	5,860	8,612	8,945	9,278	9,610	XX	XX	10,847	XX	XX	11,771	
	ACTUAL	TOTAL	1,705	4,157	2,894									
		IN-HOUSE	1,705	4,157										
		SUB CONTRACT	0	0										
COST RATE	POP 65-2	1,000	1,000	1,100	XX	XX	1,000	XX	XX	1,100	XX	XX	533	
	POP 65-3	2,855	3,055	2,752	333	333	332	XX	XX	409	XX	XX	308	
	ACTUAL	1,705	2,452	-1,263										

**MANPOWER
(IN EQUIVALENT MAN MONTHS)**

TOTAL DIRECT MANPOWER	POP 65-2	400	400	400	XX	XX	360	XX	XX	232	XX	XX	224
	POP 65-3	490	380	390	270	270	270	XX	XX	195	XX	XX	192
	ACTUAL	736	1,077	1,060									
RATIO OF INDIRECT TO DIRECT													

NUMBER OF SHIFTS 1
 PERCENT OF OVERTIME 10%

REMARKS: VALUES SHOWN FOR SEPTEMBER ARE ESTIMATES ONLY.
 MINUS SEPTEMBER ACCRUAL DUE TO ADJUSTMENT TO FSOP.

SCHEDULE RESPONSIBILITY Lee B. James

STATUS RESPONSIBILITY Porter Dunlap, Jr.

**MANNED SPACE FLIGHT SCHEDULE
OBLIGATIONS, COSTS, AND MANPOWER
GROUND SUPPORT EQUIPMENT**

CONTRACTOR: RCA (NAS8-5423/5433)
(NAS8-13007/11582)

PROJECT: SATURN IB
SCH'D NO:

ORIGINAL SCHED. APPROVAL 8/31/64
(Date)

LAST SCHED. CHANGE (Date) (No.) (Initials)

STATUS AS OF 9/30/65
(Date) (initials)

**OBLIGATIONS & COSTS
(THOUSANDS OF DOLLARS)**

	FY 1961 THRU FY 1964	FY 1965	FY 1966	FY 1967	FY 1968	FY 1969	FY 1970	TOTAL
UNCOSTED OBLIGATIONS	XXX	7,000	789	1,100	300	0		XXX
OBLIGATIONS TO CONTRACTOR	8,800	10,989	3,200	800	600	300		24,689
TOTAL AVAILABLE	8,800	17,989	3,989	1,900	900	300		XXX
ACCRUED COSTS DURING PERIOD	1,800	17,200	2,889	1,600	900	300		24,689
(533 ACCRUED COSTS)	(1,800)	(17,200)	(789)	(0)	(0)	(0)		(19,789)
UNFILLED ORDERS	7,000	789	1,100	300	0	0		XXX
ADVANCED FUNDING	0	0	0	0	0	0		XXX
MONTHLY COST-RATE (YEAR END)	1,800	1,680	170	133	25	0		XXX

**MANPOWER
(IN EQUIVALENT MAN YEARS)**

TOTAL DIRECT	42	212	70	40	25	12		344
RATIO OF INDIRECT TO DIRECT								

REMARKS:

SCHEDULE RESPONSIBILITY <u>Wernher von Braun</u> STATUS RESPONSIBILITY <u>P. Dunlap, Jr.</u>	MANNED SPACE FLIGHT SCHEDULE OBLIGATIONS, COSTS, AND MANPOWER GROUND SUPPORT EQUIPMENT <small>(NAS8-5423/5433)</small> PROJECT: SATURN IB <small>(NAS8-13007/11582)</small> SCH'D NO:	ORIGINAL SCHED. APPROVAL <u>8/31/64</u> <small>(Date)</small> LAST SCHED. CHANGE _____ <small>(Date) (No.) (Initials)</small> STATUS AS OF <u>9/30/65</u> <small>(Date) (Initials)</small>
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**OBLIGATIONS & COSTS
(THOUSANDS OF DOLLARS)**

CURRENT FISCAL YEAR		JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	
NO. OF WORKING DAYS IN REPORTING PERIOD		21	22	21	21	20	22	XX	XX	22	XX	XX	23	
CUMULATIVE OBLIGATIONS	POP 65-2	200	300	500	XX	XX	735	XX	XX	735	XX	XX	735	
	POP 65-3	0	200	1,100	1,700	2,300	2,800	XX	XX	3,000	XX	XX	3,200	
	ACTUAL	0	0	0										
CUMULATIVE ACCRUED COSTS	POP 65-2	700	1,500	2,200	XX	XX	2,700	XX	XX	3,200	XX	XX	3,700	
	POP 65-3	789	889	989	1,189	1,389	1,789	XX	XX	2,289	XX	XX	2,889	
	ACTUAL	TOTAL	640	767	767									
		IN-HOUSE	640	767										
		SUB CONTRACT	0	0										
COST RATE	POP 65-2	700	800	700	XX	XX	200	XX	XX	200	XX	XX	100	
	POP 65-3	789	100	100	200	200	400	XX	XX	170	XX	XX	170	
	ACTUAL	640	127	0										

**MANPOWER
(IN EQUIVALENT MAN MONTHS)**

TOTAL DIRECT MANPOWER	POP 65-2	20	20	20	XX	XX	20	XX	XX	20	XX	XX	20
	POP 65-3	35	37	35	30	25	25	XX	XX	23	XX	XX	25
	ACTUAL	35	12	0									
RATIO OF INDIRECT TO DIRECT													

NUMBER OF SHIFTS 2
 PERCENT OF OVERTIME 10%
 REMARKS: VALUES SHOWN FOR SEPTEMBER ARE ESTIMATES ONLY.

SCHEDULE RESPONSIBILITY <u>Lee B. James</u> STATUS RESPONSIBILITY <u>P. Dunlap, Jr.</u>	MANNED SPACE FLIGHT SCHEDULE OBLIGATIONS, COSTS, AND MANPOWER GROUND SUPPORT EQUIPMENT	ORIGINAL SCHED. APPROVAL <u>9/30/64</u> <small>(Date)</small> LAST SCHED. CHANGE <u> </u> <small>(Date) (No.) (Initials)</small> STATUS AS OF <u>9/30/65</u> <small>(Date) (Initials)</small>
CONTRACTOR: CCSD (NAS8-4016)		PROJECT: SATURN IB SCH'D NO:

**OBLIGATIONS & COSTS
(THOUSANDS OF DOLLARS)**

	FY 1961 THRU FY 1964	FY 1965	FY 1966	FY 1967	FY 1968	FY 1969	FY 1970	TOTAL
UNCOSTED OBLIGATIONS	XXX	0	0	195	0	0		XXX
OBLIGATIONS TO CONTRACTOR		805	3,895	1,300	300	150		6,450
TOTAL AVAILABLE		805	3,895	1,495	300	150		XXX
ACCRUED COSTS DURING PERIOD		805	3,700	1,495	300	150		6,450
(533 ACCRUED COSTS)		(803)	(2,818)	(938)	(351)			(4,910)
UNFILLED ORDERS		0	195	0	0	0		XXX
ADVANCED FUNDING		0	0	0	0	0		XXX
MONTHLY COST-RATE (YEAR END)		116	200	68	25	12		XXX

**MANPOWER
(IN EQUIVALENT MAN YEARS)**

TOTAL DIRECT		49	159	80	20	10		318
RATIO OF INDIRECT TO DIRECT								

REMARKS:

SCHEDULE RESPONSIBILITY <u>Lee B. James</u> STATUS RESPONSIBILITY <u><i>P. Dunlap, Jr.</i></u> P. Dunlap, Jr.	MANNED SPACE FLIGHT SCHEDULE OBLIGATIONS, COSTS, AND MANPOWER GROUND SUPPORT EQUIPMENT	ORIGINAL SCHED. APPROVAL <u>9/30/64</u> (Date) LAST SCHED. CHANGE _____ (Date) (No.) (Initials) STATUS AS OF <u>9/30/65</u> (Date) (Initials)
CONTRACTOR: CCSD (NAS8-4016)		PROJECT: SATURN IB SCH'D NO:

**OBLIGATIONS & COSTS
(THOUSANDS OF DOLLARS)**

CURRENT FISCAL YEAR	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE		
NO. OF WORKING DAYS IN REPORTING PERIOD	21	22	21	21	20	22	XX	XX	23	XX	XX	22		
CUMULATIVE OBLIGATIONS	POP 65-2	200	400	650	XX	XX	1,300	XX	XX	1,400	XX	XX	1,400	
	POP 65-3	250	500	1,000	1,500	2,000	2,500	XX	XX	3,200	XX	XX	3,895	
	ACTUAL	36	1,000	1,000										
CUMULATIVE ACCRUED COSTS	POP 65-2	300	500	800	1,100	1,500	1,900	XX	XX	2,150	XX	XX	2,300	
	POP 65-3	100	200	400	700	1,200	1,900	XX	XX	2,800	XX	XX	3,700	
	ACTUAL	TOTAL	192	439	18									
		IN-HOUSE	192	439										
		SUB CONTRACT	0	0										
COST RATE	POP 65-2	300	200	300	300	400	400	XX	XX	400	XX	XX	100	
	POP 65-3	100	100	200	300	500	700	XX	XX	300	XX	XX	200	
	ACTUAL	192	247	-421										

**MANPOWER
(IN EQUIVALENT MAN MONTHS)**

TOTAL DIRECT MANPOWER	POP 65-2	48	48	48	XX	XX	40	XX	XX	40	XX	XX	40
	POP 65-3	184	176	184	184	193	176	XX	XX	114	XX	XX	102
	ACTUAL	125	170	176									
RATIO OF INDIRECT TO DIRECT													

NUMBER OF SHIFTS 1
 PERCENT OF OVERTIME 10%

REMARKS: VALUES SHOWN FOR SEPTEMBER ARE ESTIMATES ONLY.
 MINUS SEPTEMBER ACCRUAL DUE TO ADJUSTMENT TO FSOP.