FLIGHT OPERATIONS DIVISION

C. C. Kraft, Jr.

JAN 2 1962

Copy

Who has priority for Astro contact between ATS + KNO on 2nd orbit ?

*FLIGHT PLAN

FOR

MERCURY-ATLAS MISSION 6

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

MANNED SPACECRAFT CENTER

Langley Air Force Base, Va.

December 21, 1961

D: 12-21-61 MSC N:OD g MER *FLIGHT... 6 MSC R:22012
MA-6

MA-6 FLIGHT PLAN

Attached is a revised copy of the MA-6 Flight Plan. This supercedes the Flight Plan dated December 6, 1961.

This Flight Plan includes the Flight Plan Mission Rules, the MA-6 Flight Plan, a set of ground station pass procedures, and a set of references detailing sections of the Flight Plan.

Any recommendations for changes should be transmitted to:

Mr. David B. Pendley
NASA Manned Spacecraft Center
Flight Operations Division
Spacecraft Operations Branch
Flight Activities Section
Langley Air Force Base, Va.

or

Captain Robert D. Mercer
Project Mercury Field Operations
Hangar S, Stop No. 24
Port Canaveral, Fla.

MA-6 FLIGHT PLAN

Standard reports during powered flight every 30 seconds.
Report: Fuel, cabin pressure, O_2 quantity, amps, comments.

00:02:11	Report BECO
00:02:34	Report tower jettison
00:04:20	CapCom reports MCC is GO
00:04:30	Astro reports he is GO
00:05:04	Report SECO - Cap Sep
00:05: -	Report turnaround and retro attitude
00:05: -	CapCom reports "GO" condition - orbit capability and Astro reports switch positions
00:06: -	BDA gives Astro retrofire times. CET check
00:08: -	Control systems check - check all control modes.
00:16:30	Blood pressure measurement over CYI
00:24:00	60° yaw maneuver to check ability to determine yaw ref. thru periscope.
00:28:00	Dark side checklist - includes control sys. warmup and check. (All axis MP and FBW)
00:30:00	Make 30 minute report to ZZB
00:43:00	Night horizon check - checks reference capability at night using window pitch, roll, and yaw maneuver
00:44:00	IOS flare observation - CET check
00:54: -	Astro maintains 0, 0, 34 on FBW to determine capability on dark side.
00:56:00	30 minute report. Blood pressure, vision test, exercise etc.
01:04:00	All stations HF check
01:10:10	Star navigation capability
01:12:00	First meal
01:16:00	Go thru pre-retro checklist
01:2---	Observe sunrise. Go to ASCS in preparation for GO NO-GO decision at GYM
01:34:00	30 minute report to MCC
01:40:00	CET check, HF check from Astro
01:41:00	Occulogyric test over BDA
01:44:00	All stations HF check
01:49:00	Day horizon check - checks reference capability in daylight using window pitch, roll, and yaw maneuver
01:54:00	180° yaw maneuver (Gyro's free)
02:01:00	30 minute report to ZZB
02:14:00	IOS flare observation
02:17:00	Star tracking
02:28:00	Observe cities if possible
02:29:00	30 minute report, blood pressure, vision, exercise, etc.
02:37:00	Night observations and star tracking, star observations, etc.
02:45:00	Second meal on ASCS
02:53:00	Go thru pre-retro checklist
02:58:00	Go to ASCS - make GO NO-GO decision on 3rd orbit
03:07:00	30 minute report - blood pressure, etc.
03:09:00	Weather observation
03:25:00	30 minute report - blood pressure, etc.
03:37:00	Night observations - stars, etc.
03:56:00	30 minute report - command voice check
04:15:00	Begin preparation for retrofire
04:18:00	Occulogyric test
04:20:00	Thruster warmup of Man. Cont. Sys.
04:22:00	Go thru equip. stowage and pre-retro checklist with HAW CapCom.
04:30:00	Exercise - ready to control retrofire
04:32:28	Retro sequence
04:32:58	Retrofire on ASCS - Man backup
04:41:00	MCC give IP, recovery time, etc.

Section Page

MA-6 FLIGHT PLAN (FIRST ORBIT)

Time	Activity	Sta.	Radio	Mode	Comments
0:00:00	Lift-off	MCC	UHF Hi	ASCS	Spacecraft Status: EPI is running, periscope is in, window shutters - open, D-C voltmeter - isol. bus Report: Clock operating
0:00:30	Report	MCC	UHF Hi	ASCS	A: Fuel, cabin pressure, O_2, amps MCC: Pitch NOTE: Spacecraft pitch information is not available to MCC; the figure given is the nominal pitch. Is Shepard to give this ?
0:01:00	Report	MCC	UHF Hi	ASCS	A: Fuel, cabin pressure, O_2, amps, tower vibration. ? MCC: Pitch
0:01:30	Report	MCC	UHF Hi	ASCS	A: Fuel, cabin pressure, O_2, amps MCC: Pitch
0:02:00	Report	MCC	UHF Hi	ASCS	A: Fuel, cabin pressure, O_2, amps MCC: Pitch
0:02:11	BECO	MCC	UHF Hi	ASCS	A: Reports BECO, his own status MCC: Pitch

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Time	Activity	Sta.	Radio	Mode	Comments
0:02:34	Jett Tower	MCC	UHF Hi	ASCS	A: Report Jett Tower green, Auto Retro Jett - off, Retro Jett Fuse Switch - off MCC: Pitch NOTE: HF can be activated now
0:03:00	Report	MCC (BDA)	UHF Hi	ASCS	A: Fuel, cabin pressure, holding O_2, amps MCC: Pitch (BDA): Advise when voice and T/M is solid
0:03:30	Report	MCC (BDA)	UHF Hi	ASCS	A: Fuel, cabin pressure, holding O_2, amps, complete voltage check MCC: Pitch
0:04:00	Report	MCC (BDA)	UHF Hi	ASCS	A: Fuel, cabin pressure, holding O_2, amps MCC: Pitch
0:04:20	Report	MCC	UHF Hi	ASCS	MCC: Control Center "go"
0:04:30	Report	MCC (BDA)	UHF Hi	ASCS	A: Fuel, cabin pressure, holding O_2, amps, systems "go" checks MCC: Trajectory good Astro is go

Time	Activity	Sta.	Radio	Mode	Comments
0:05:05	Sep Cap Turnaround complete	MCC (BDA)	UHF Hi	ASCS	A: Sep Cap green, Aux Damp OK, periscope out, turnaround started, ASCS OK, electrical system check, tumbling sensation May occur at BDA: When orbit "go" received: Retro Delay - normal, Ldg Bag Switch - off, Emer Retro Seq Fuse Switch - off, Drogue Fuse Switch - off, Retro Manual Fuse Switch - off, VOX power - on
0:06:15	BDA hand-over (Orbit attitude)	BDA	UHF Hi	ASCS	1. Get retro[illegible] times 1B, 1st and 3rd orbit. Check retro[illegible] times with onboard charts. 2. Check CET clock and wrist watch. 3. BDA: Give command voice count. 4. A: Report booster motion, initial Og sensations MCC: Your V/V_R is _____.
~~0:08:00~~ ON ASAP AFTER 0:06:15 ACTIVITY	Control systems check	BDA	UHF Hi	As reqd.	For control systems check see reference no. 4.
0:10:00	Communi-cations change		HF	Optional	Astronaut switches to HF on LOS of BDA.
0:13:00	Remove chest strap		HF	Optional	

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Time	Activity	Sta.	Radio	Mode	Comments
0:14:00	Communi-cations change	CYI	UHF Hi	Optional	Astronaut switches to UHF Hi upon completion of HF check with either BDA or CYI.
0:14:20	Radar track-ing and spacecraft status report	CYI	UHF Hi	ASCS	CYI Reports Computer Accepting Radar Data- ~~CYI reports when radar locks~~. See spacecraft status section of reference 11.
0:16:30	Observation and Blood Pressure	CYI	UHF Hi	ASCS	The spacecraft is approaching the coast of Africa. See reference no. 21. For blood pressure check see reference no. 11.
0:18:00	Observation	CYI	UHF Hi	ASCS	The astronaut will mark crossing the coast (see reference no. 21) He checks the EPI.

Time	Activity	Sta.	Radio	Mode	Comments
0:21:00	Communi-cations change	CYI	UHF Lo	Optional	The astronaut switches to UHF Lo. During warmup of UHF Lo continues his observation. (He will return to UHF Hi immediately following the UHF-Lo check.)
0:21:00	Possible overlap KNO-CYI	KNO	UHF Lo for check UHF Hi	Optional	See reference no. 13. Return UHF Hi following UHF-Lo check. Astro gets retroseq. time for area 1C.
0:24:00	Yaw maneuver	KNO	UHF Hi	FBW	See reference no. 5.
0:28:00	ASCS check Dark side checklist	KNO	UHF Hi	ASCS	See reference no. 14.
0:30:00	30-Minute Report	ZZB	UHF Hi	ASCS	See reference no. 11. Report begins when contact solid. ↓ TIM Astro gets retroseq. time for area 1D.
0:33:48	Retrofire time for contingency area 1C	ZZB	UHF Hi	ASCS	

Time	Activity	Sta.	Radio	Mode	Comments
0:34:00	Sunset 0930 launch	ZZB	UHF	ASCS	Observe sunset. Put comments on tape.
0:36:00	Sunset 0830 launch	ZZB	UHF Hi	ASCS	Observe sunset. Put comments on tape.
0:40:30	Sunset 0730 launch	IOS	UHF Hi	ASCS	Should read IOS by now. Astro gets retrorog. times for Areas I E, F and H.
0:43:00	Night horizon check	IOS	UHF Hi	MP	Astronaut switches to manual control and performs control check (see reference no. 23).
0:44:00		IOS	UHF Hi		Approximate time of flare ignition. Note how flare is to be operated.
0:44:00 (night)	Observation Time check	IOS	UHF Hi	Optional	The astronaut checks his watch against CET. Ground (IOS) Gives GET (Maybe better over ZZB or MUC)

Time	Activity	Sta.	Radio	Mode	Comments
0:49:00 (night)	Ground report	MUC	UHF Hi	Optional	Obtain orbit information from ground, i.e., eccentricity, etc. (FIDO Give to FD for trans to MUC) (May be put on TTY after correc on CYI Data)
0:51:00 (night)	Switch to ASCS Observation	MUC	UHF Hi	ASCS	See reference no. 18. See reference no. 20. See reference no. 21.
0:51:54 (night)	Retro~~fire~~ SFG time for contingency area 1D	MUC		ASCS	
0:54:20 (night)	Radar tracking Handover to WOM as soon as possible	MUC	UHF Hi	FBW	Hold 0° roll, 0° yaw, -34° pitch [redacted] for radar track. while over Australia MUC: Gives inverter temperatures Begin HF check at a CET of _____ See reference no. 13.
0:56:20 (night)	Start 30-min report	WOM	UHF Hi	ASCS	The astronaut begins the 30-minute report. (See blood pressure, exercise, and vision portions of reference no. 11).
1:00:00 (night)	End 30-min report	WOM	UHF Hi	ASCS	The astronaut completes the remainder of the 30-minute report (see reference no. 11).

Time	Activity	Sta.	Radio	Mode	Comments
1:03:30 (night)	Communi-cations change	WOM	HF	ASCS	After UHF Hi contact lost, astronaut switches to HF.
1:04:00 (night)	All stations HF check	WOM	HF	ASCS	See reference no. 12.
1:10:00 (night)	Star navi-gation	CTN	UHF Hi	ASCS	See reference no. 18. (Astronaut returns to UHF Hi at 1:08)
1:12:00 (night)	First meal	CTN	UHF Hi	ASCS	A: Reports taste and smell sensations. Continues observations. CTN: Instruct astronaut to prepare for a possible reentry. Go through pre-retro seq check list between CTN & GYM & report complete at GYM.
1:16:00	Begin prep-aration for possible reentry	CTN	HF	ASCS	Equipment stowage checklist (reference no. 6) Preretrofire checklist (reference no. 7) (After UHF Hi contact is lost astronaut switches to HF at approx. 1:16)
1:16:18	Retro[illegible] seq. time for contingency area 1E	CTN	HF	ASCS	

Time	Activity	Sta.	Radio	Mode	Comments
1:18:00	Sunrise 0930 launch				Astronaut transmits sunrise remarks.
1:24:00	Sunrise 0830 launch				Astronaut transmits sunrise remarks.
1:25:00	Communi-cations change		UHF Hi	ASCS	Astronaut switches to UHF Hi. 30sec. prior To RetroSequence Time
1:27:00	Go-No-Go decision	GYM (CAL)	UHF Hi	ASCS	[redacted] a Go-No-Go decision is made between spacecraft and ground. Astro gets retrosig. time for area 2A, G, and H.
1:29:00	Sunrise 0730 launch	TEX	UHF Hi		
1:29:06	Retro[redacted] time for contingency area F	GYM TEX		ASCS	

Time	Activity	Sta.	Radio	Mode	Comments
1:34:00	30-minute report	MCC	UHF H1	ASCS	See reference no. 11. MCC reports when T/M solid. retro gate retroneg. time for areas 2B and 2C.
1:37:00	Starting second orbit				
1:37:00	Retro Sept. time for contingency area 2A	MCC		ASCS	

MA-6 FLIGHT PLAN (SECOND ORBIT)

Time	Activity	Sta.	Radio	Mode	Comments
1:40:00	CET check	BDA	UHF Hi	Optional	CYI: Begin HF check at a CET of _____ (See reference no. 12)
1:41:00	Occulogyric test	BDA	UHF Hi	FBW	See reference no. 16.
1:43:00	Communi-cations change		HF	Optional	Astronaut switches to HF after loss of BDA and prior to HF check at 1:44:00.
1:44:00	All stations HF check		HF	Optional	See reference no. 12.
1:47:30	Communi-cations change	CYI	UHF Hi	Optional	Astronaut returns to UHF Hi prior to contact with CYI.
1:49:00	Day horizon check	CYI	UHF Hi	MP	See reference no. 23.

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Time	Activity	Sta.	Radio	Mode	Comments
1:51:06	Retro~~fire~~ sep. time for contingency area 2B	CYI	UHF Hi	Optional	The spacecraft should be near retroattitude.
1:54:00	180° yaw maneuver	ATS	UHF Hi	Optional	Yaw the spacecraft 180° and observe the land ahead of the spacecraft through the window. Gyros in the free position (4 minutes maximum duration).
1:55.00	Predark side check	ATS and KNO	UHF Hi	Optional	See reference no. 14.
2:01:00 (night)	30-minute standard report	ZZB	UHF Hi	ASCS	See reference no. 11. ZZB reports when T/M solid. Sunset 0930 launch.
2:04:00 (night)	Sunset 0830 launch	ZZB	UHF Hi	ASCS	Possible turnaround to observe sunset.
2:07:36 (night)	Retro~~fire~~ sep. time for contingency area 2C	ZZB		ASCS	

Time	Activity	Sta.	Radio	Mode	Comments
2:08:00 (night)	Sunset 0730 launch	ZZB	UHF Hi	Optional	
2:14:00 (night)	Observation of flare from IOS	IOS	UHF Hi	Optional	astro gets retrosey. timed for areas 2D, 2E, and G.
2:17:00 (night)	Star tracking	IOS	UHF Hi	Optional	See reference no. 19. Hold position on a star reference. R/Approximate time of flare ignition.
2:24:00 (night)	~~Orbit position information~~ NIGHT OBSERVATION of CITIES	MUC	UHF Hi	Optional	~~Check of orbit position, angle, and eccentricity relayed to astronaut.~~ MUC gives inverter temperatures.
2:28:00 (night)	Night observation of cities	MUC (WOM)	UHF Hi	ASCS	See references nos. 20 and 21.
2:28:54	Retro~~fire~~ SEP. time for contingency area 2D	MUC (WOM)		ASCS	

Time	Activity	Sta.	Radio	Mode	Comments
2:29:00 (night)	Blood press., vision, and standard 30-minute report	WOM (MUC)	UHF Hi	ASCS	See reference no. 11. WOM reports when T/M solid.
2:35:00	Communi-cations change		HF	Optional	After UHF Hi contact lost astronaut switches to HF.
2:37:00 (night)	Night obser-vations and star tracking		HF	Optional	See references nos. 18, 19, 20, and 21.
2:44:00	Communi-cations change		UHF Hi		Astronaut switches to UHF Hi.
2:45:00 (night)	Eat	CTN	UHF Hi	ASCS	Note changes in taste and smell.. Stay on ASCS during eating period.
2:46:00	Sunrise 0930 launch	CTN	UHF Hi	Optional	

Time	Activity	Sta.	Radio	Mode	Comments
2:49:18	Retro~~fire~~ set. time for contingency area 2E	HAW		Optional	Spacecraft attitude should be near retroattitude.
2:52:00	Observations and sunrise 0830 launch	HAW	UHF Hi	Optional	See references nos. 20 and 21.
2:53:00	Prepare for possible reentry	HAW	UHF Hi	Optional	Begin equipment stowage and prereentry checklists. See references nos. 6 and 7.
2:57:00	Sunrise 0730 launch	CAL	UHF Hi	ASCS	Astronaut switches to ASCS prior to contact with CAL.
2:58:00	Go-No-Go	CAL	UHF Hi	ASCS	~~Decision point on this orbit.~~ 30 sec. prior to RETROSEQUENCE TIME A GO-NOGO DECISION IS MADE BETWEEN SPACECRAFT AND GROUND. Retro gate retaining. Times for areas 3A and H.
3:00:48	Retro~~fire~~ set. time for contingency area G			ASCS	

MA-6 FLIGHT PLAN (THIRD ORBIT)

Time	Activity	Sta.	Radio	Mode	Comments
3:07:00	Blood press., vision, and standard 30-minute report	MCC (TEX)	UFH Hi	ASCS	See reference no. 11. MCC reports when T/M solid. MCC gives inverter temperatures. Astro gets retroseq. times for areas 3B and 3C.
3:09:00	Weather observation	MCC	UHF Hi	ASCS	See reference no. 20.
3:10:30	Retro seq. time for contingency area 3A	MCC		ASCS	
3:16:30	Communi-cations change		HF		After UHF Hi contact is lost with BDA astronaut switches to HF.
3:23:48	Retro seq. time for contingency area 3B			Optional	Spacecraft should be near retroattitude.
3:25:00	Communi cations change	ATS	UHF Hi	Optional	Astronaut switches to UHF Hi prior to contact with ATS.

Time	Activity	Sta.	Radio	Mode	Comments
3:25:00 (night)	Blood press., vision, and standard 30-minute report	ATS	UHF Hi	ASCS	See reference no. 11. Sunset 0930 launch. Astronaut switches to ASCS on contact with ATS. ATS reports when T/M solid.
3:25:00 (night)	Predark side check	ATS	UHF Hi	ASCS	See reference no. 14.
3:32:00 (night)	Sunset 0900 launch		HF	Optional	Spacecraft should be near retroattitude.
3:33:00 (night)	Sunset 0830 launch		HF	Optional	Spacecraft should be near retroattitude.
3:33:30 (night)	Communi-cations change	ATS	HF	Optional	Astronaut switches to HF upon LOS from ATS.
3:37:00 (night)	Sunset 0730 launch		HF	Optional	Begin observations. See references nos. 18, 19, 20 and 21. IOS UHF contact may be expected from 3:47:00 to 3:54:00 during these observations.

Time	Activity	Sta.	Radio	Mode	Comments
3:41:00 (night)	Retro set time for contingency area 3C		HF	Optional	Spacecraft should be near retroattitude.
3:46:00 (night)	Communications change	IOS	UHF Hi		Astronaut switches to UHF Hi. Retro get retroseq. time for area 3D, 3E, and H.
3:56:00 (night)	Command voice check. Blood pressure, vision and standard 30-minute report	MUC (WOM)	UHF Hi	ASCS	MUC reports when T/M solid. See reference no. 11. MUC gives inverter temperatures. Astronaut on ASCS while giving report.
4:05:36 (night)	Communications change	WOM	HF		After UHF Hi contact is lost the astronaut switches to HF.
4:05:36 (night)	Retro set time for contingency area 3D	WOM	HF	Optional	Spacecraft should be near retroattitude.
4:14:00	Sunrise 0930 launch		HF	Optional	

Time	Activity	Sta.	Radio	Mode	Comments
4:15:00	Begin preparation for retrofire		HF	Optional	
4:17:00	Sunrise 0900 launch		HF	Optional	
4:18:00	Occulogyric test		HF	FBW	See reference no. 16.
4:20:00	Thruster warmup		HF	MP	Sunrise 0830 launch.
4:21:00	Communications change		UHF Hi	Optional	Astronsut switches to UHF Hi.
4:22:00	Equipment stowage checklist followed by preretrofire checklist	HAW	UHF Hi	Optional	Last time check. See references nos. 6 and 7. CAPCOM counts down to GET "MARK".

Time	Activity	Sta.	Radio	Mode	Comments
4:22:18	Retro [redacted] time for contingency area 3E	HAW	UHF Hi	Optional	
4:25:00	Sunrise 0730 launch	HAW	UHF Hi	Optional	
4:30:00	Exercise		UHF Hi	ASCS	Ready to control retro [redacted].
4:32:00	Retro [redacted]	CAL	UHF Hi	ASCS	As in Mission Rules.
4:34:00	Exercise and blood press. test	CAL (GYM)	UHF Hi	ASCS	
4:41:00	Splash and retrieval information	MCC	UHF Hi	ASCS	MCC gives following: Impact prediction, elapsed time to recovery, wind velocity, air temperature, and wave height.

Time	Activity	Sta.	Radio	Mode	Comments
5:55:43	4th orbit retro [redacted] sf. time				(Landing at 120° West longitude off California coast)

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STATION PASS PROCEDURES

Time	Station	MCC Launch
0	MCC	Lift-off
	A	CLOCK OPERATING
	MCC	Roger
T + 30	A	AUTO FUEL ____
		MANUAL FUEL ____
		CABIN PRESSURE ____
		MAIN O_2 ____
		SECONDARY O_2 ____
		AMPS ____
	MCC	Pitch ____
T + 1:00	A	AUTO FUEL ____
		MANUAL FUEL ____
		CABIN PRESSURE ____
		MAIN O_2 ____
		SECONDARY O_2 ____
		AMPS ____
		VIBRATION ____
	MCC	Pitch ____
T + 1:30	A	AUTO FUEL ____
		MANUAL FUEL ____
		CABIN PRESSURE HOLDING ____
		MAIN O_2 ____
		SECONDARY O_2 ____
		AMPS ____
	MCC	Pitch ____

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Time	Station	Launch
T + 2:00	A	AUTO FUEL ____
		MANUAL FUEL ____
		CABIN PRESSURE ____
		MAIN O_2 ____
		SECONDARY O_2 ____
		AMPS ____
	MCC	Pitch ____
T + 2:11	A	REPORT BECO
		ASTRONAUT STATUS ____
	MCC	Pitch ____
T + 2:34	A	REPORT JETT TOWER ____
		REPORT AUTO RETRO JETT - OFF
		RETRO JETT FUSE SWITCH - OFF
	MCC	Pitch ____
T + 3:00	A	AUTO FUEL ____
		MANUAL FUEL ____
		CABIN PRESSURE holding
		MAIN O_2 ____
		SECONDARY O_2 ____
		AMPS
	MCC	Pitch ____
T + 3:30	A	AUTO FUEL ____
		MANUAL FUEL ____
		CABIN PRESSURE holding
		MAIN O_2 ____
		SECONDARY O_2 ____
		AMPS ____
		MAIN BUS VOLTAGE ____

Time	Station	Launch
T + 3:30 (Cont.)	A	MAIN BATTERY #1 ____
		MAIN BATTERY #2 ____
		MAIN BATTERY #3 ____
		STANDBY BATTERY #1 ____
		STANDBY BATTERY #2 ____
		ISOLATED BATTERY ____
		ASCS VOLTS ____
		FANS VOLTS ____
T + 4:00	A	AUTO FUEL ____
		MANUAL FUEL ____
		CABIN PRESSURE holding
		MAIN O_2 ____
		SECONDARY O_2 ____
		AMPS ____
	MCC	Pitch ____
T + 4:20	MCC	Control Center GO
T + 4:30	A	AUTO FUEL ____
		MANUAL FUEL ____
		CABIN PRESSURE holding
		MAIN O_2 ____
		SECONDARY O_2 ____
		AMPS ____
		ALL SYSTEMS GO ASTRO GO
	MCC	Trajectory is "good"
T + 5:05	A	SEP CAP GREEN
		AUX DAMP OK
		PERISCOPE OUT
		TURNAROUND STARTED
		ASCS OK
		ELECTRICAL SYSTEMS GO

Time	Station	Launch
T + 5:05 (Cont.)	MCC	Roger. Insertion go. You have a ____ orbit capability.
	A	ROGER - GO
		RETRO DELAY SWITCH TO NORMAL
		LANDING BAG SWITCH - OFF
		EMER RETRO SEQ FUSE SWITCH - OFF
		DROGUE FUSE SWITCH - OFF
		RETRO MANUAL FUSE SWITCH - OFF
		VOX POWER - ON
		ELAPSED TIME ____ .... MARK

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:04:00
   MCC HF response at a GET of 1:04:15

BDA

Launch

PREPASS

Bermuda Flight will monitor events and report those observed to MCC over GSFC loop.

Bermuda CapCom will monitor GSFC in addition to air-to-ground loop so that he will be fully informed on mission status at acquisition; e.g., possibility of abort reported by Cape Retro.

In the event that an abort requiring retro[redacted] is necessary at BDA, the CapCom will inform the astronaut of the reason for the abort and give a countdown over the A/G loop. Detailed procedures are given in the mission rules.

Appx. GET		Communications
T + 6:00	A:	BERMUDA THIS IS MERCURY. OVER.
	CC:	Roger Mercury. Read you _____. Confirm orbit _____. Retro time for 1B is _____. Confirm.
	A:	RETRO TIME FOR 1B IS _____.
	CC:	Roger. Retro time for end of first orbit is _____. Confirm.
	A:	RETRO TIME FOR END OF FIRST ORBIT IS _____.
	CC:	Roger. Retro time for end of third orbit is _____. Confirm.
	A:	RETRO TIME FOR END OF THIRD ORBIT IS _____.
	CC:	Roger.
	A:	ON MY MARK CET WILL BE _____ .... MARK.
	CC:	Roger your mark. Your clock is ____ seconds fast/slow.
	A:	ROGER.
	CC:	Going command voice (switches to command voice). Mercury, this is Bermuda on command voice ... 1-2-3-4-5-4-3-2-1 ... going UHF Hi.
	A:	ROGER. COMMAND VOICE CHECK ____. (Results of command voice check)
	CC:	Your V/V_R is _____.
0:08:00	A:	Commencing control systems check.

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Appx. GET		Communications
0:09:45	A:	Results of control systems check.
0:10:00		Voice contact lost.
		Spacecraft Activities
0:05:05		Observation of booster and initial Og sensations.
0:06:15		Check retro[illegible] times with onboard charts. SEQ.
0:08:00		Control systems check (see reference 4). OR ASAP
0:10:00		Astronaut switches to HF on LOS of BDA. AFTER 0:06:15 ACTIVITY.

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:04:00
   BDA HF response at a GET of 1:04:30

CYI

First Orbit

PASS TIME

Appx. GET	Communications
0:15:00	CC: Contact spacecraft ASAP Report T/M solid ASAP
	A: Confirms contact
	CC: Confirms contact
	A: Spacecraft Status Report
	(See Spacecraft Status Section reference no. 11)
	(Will be done while holding spacecraft attitude for radar tracking)
	CC: Queries from ground to spacecraft
	A: Comments to ground CC: REPORTS COMPUTER ACCEPTING RADAR DATA
	Spacecraft Activities
0:14:20	Holding 0°, 0°, -34° for radar [redacted] (on instruments)
0:16:00	From 0:16:00 to 0:20:00 astronaut is observing coast of Africa. He will report coastal sighting and other observations. He will give a mark over the coast with the scope index and record attitudes at this time. He will mark the onboard tape by punching the T/M key.
0:16:30	Blood pressure sample (see reference no. 11).
0:21:00	Voice contact lost, astro switches to UHF Lo.

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:04:00
   CYI HF response at a GET of 1:04:45

ATS

First Orbit

No communications contact with the spacecraft is expected during this orbit. However, if communications contact is established, the following procedure will be used:

PREPASS

Control systems check completed (see reference no. 4)
Observations

Appx. GET	Communications
	Com Tech establishes contact
	A: Confirms contact
	CC: Confirms contact
	A: Brief station report
	Status _____ Auto fuel _____ Manual fuel _____ Main O_2 _____ Secondary O_2 _____ Amps _____ Comments on status and spacecraft activities Exhaust temp._____
	CC: Queries from ground to spacecraft
	A: Comments to ground
	Spacecraft Activities
0:20:00	UHF Lo check

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:04:00
   ATS HF response at a GET of 1:05:00

KNO

First Orbit

PREPASS

Astronaut has been observing Africa and is on UHF Lo. Booster is now directly under spacecraft.

PASS TIME

Appx. GET	Communications
0:21:00	Com Tech establishes contact (possible overlap with CYI)
	A: Confirms contact
	CC: Confirms contact
	A: Brief station report
	Status _____ Auto fuel _____ Manual fuel _____ Main O_2 _____ Secondary O_2 _____ Amps _____ Comments on status and yaw maneuver (see spacecraft activities) Exhaust temp._____
	CC: Queries from ground to spacecraft Give contingency retrofire time for Area 1C. ASCS check and dark side checklist to be started at 0:28:00
	A: Comments to ground
	Spacecraft Activities
0:21:30	Astro switches to UHF Hi (after station report)

KNO

First Orbit - Concluded

Appx. GET	Spacecraft Activities
0:24:00	The astronaut will perform a yaw maneuver during the brief station report or immediately after. This test is to evaluate the scope for a yaw reference. The astronaut slowly yaws 60° right, then back to 0°. He will read drift off the scope index and attempt to correct for it using the scope as a reference (reference no. 5).
0:28:00	ASCS check and dark side checklist (reference no. 14) Voice contact lost

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:04:00
   KNO HF response at a GET of 1:05:15

First Orbit

PREPASS

The astronaut has switched to UHF Hi and is probably observing Lake Victoria. ASCS check and dark side checklist.

PASS TIME

Appx. GET	Communications
0:30:00	Com Tech establishes contact
	A: Confirms contact
	CC: Confirms contact Report T/M solid ASAP
	A: Standard 30-minute report (See reference no. 11 for complete outline of this report)
	CC: Queries from ground to spacecraft ~~Give contingency retrofire time for Area 1C~~ Give retrosequence time for Area 1D. A: Comments to ground Confirm Area 1C retrosequence time was received from KWO.
	Spacecraft Activities Astronaut will report coastal sighting and other observations. He will give a mark over the coast with the scope index and record attitudes at this time. He will mark the onboard tape by punching the T/M key.
0:28:00	The astronaut switches to ASCS to check this system prior to entering the night side of the orbit.
0:37:30	Voice contact lost

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:04:00
   ZZB HF response at a GET of 1:05:30

First Orbit

PREPASS

The astronaut has checked his ASCS system and is now making observations.

IOS will launch balloon flare approximately 20 minutes prior to closest approach.

PASS TIME

Appx. GET	Communications
0:40:30	Com Tech establishes contact
	A: Confirms contact
	CC: Confirms contact
	A: Brief station report Status _____ Auto fuel _____ Manual fuel _____ Main O_2 _____ Secondary O_2 _____ Amps _____ Comments on status and observations Exhaust temp._____
	CC: Queries from ground to spacecraft. Give warning 1 minute prior to flare ignition, and give "flare ignition" when sighted from ship. Time retrosequence times for Areas 1E, F, H. Confirm Area 1D retrosequence time was received from ZZG.
	A: Comments to ground
	Spacecraft Activities
0:48:00	The astronaut will report his observations of sunset. Night horizon check. (See reference no. 23)
0:48:00	Voice contact lost

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:04:00
   IOS HF response at a GET of 1:05:45

MUC

First Orbit

PREPASS

The astronaut has been observing sunset and evaluated the night horizon as a control reference.

PASS TIME

Appx. GET	Communications
0:50:00	Com Tech establishes contact
	A: Confirms contact
	CC: Confirms contact
	A: Brief station report
	Status _____ Auto fuel _____ Manual fuel _____ Main O_2 _____ Secondary O_2 _____ Amps _____ Comments on status and observations Exhaust temp._____
	CC: Queries from ground to spacecraft Give orbital parameter information
0:55:00	~~Give contingency retrofire time for Area 1D~~ Give inverter temp. (2) Confirm Area 1E, Pond H retrosequence times were received from IOS.
	A: Comments to ground
	Spacecraft Activities
0:51:00	The astronaut returns to ASCS and gives reports on his observations. He also reports night observations of cities.
0:57:40	Voice contact lost Follow normal handover procedures to WOM as soon as WOM establishes contact

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:04:00
   MUC HF response at a GET of 1:06:00

WOM

First Orbit

PREPASS

The astronaut is on FBW and has been reporting his observations to MUC.

PASS TIME

Appx. GET	Communications
0:55:00	Handover from MUC as soon as WOM establishes contact
	A: Confirms contact
	CC: Confirms contact Reports T/M solid ASAP
	A: Standard 30-minute report (see reference no. 11)
	CC: Give CET time check Queries from ground to spacecraft ~~Gives contingency retrofire time for Aruba~~
	Spacecraft Activities
	Astronaut makes a standard 30-minute report and is holding attitude for radar tracking
1:02:00	Voice contact lost

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:04:00
   WOM HF response at a GET of 1:06:15

First Orbit

PREPASS

Astronaut has just made an all stations HF check and a standard 30-minute report. He is now using the star navigation device.

PASS TIME

Appx. GET	Communications
1:09:00	Com Tech establishes contact
	A: Confirms contact
	CC: Confirms contact
	A: Brief station report
	Status _____ Auto fuel _____ Manual fuel _____ Main O_2 _____ Secondary O_2 _____ Amps _____ Comments on status and observation Exhaust temp._____
	CC: Queries from ground to spacecraft ~~Give contingency retro[illegible] time for Area 1B or Area F~~ Instruct astronaut to prepare for possible reentry
	A: Comments to ground
	Spacecraft Activities
	The astronaut will report his activities with the star navigation device. The astronaut will also eat and will indicate his taste and smell sensations while eating
1:15:00	Voice contact lost

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:04:00
   CTN HF response at a GET of 1:06:30

HAW

First Orbit

PREPASS

Star tracking and night observation

PASS TIME

Communications

No contact with HAW on the first orbit is anticipated. However, if contact is established the following procedure will be followed:

Com Tech establishes communications

A: Confirms contact

CC: Confirms contact

A: Brief station report

Status _____
Auto fuel _____
Manual fuel _____
Main O_2 _____
Secondary O_2 _____
Amps _____
Comments on status, star tracking, and any other observations
Exhaust temp. _____

CC: Queries from ground to spacecraft

A: Comments to ground

Spacecraft Activities

Star tracking, night observations

Voice contact lost

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:04:00
   HAW HF response at a GET of 1:06:45

GYM

First Orbit

PREPASS

The astronaut has been observing sunrise. He has finished eating and recorded any pertinent information on the onboard tape.

PASS TIME

Appx. GET	Communications
1:27:30	Com Tech establishes contact
	A: Confirms contact
	CC: Confirms contact Questions on spacecraft and/or astronaut status

Go-No-Go decision for orbit no. 2

A: Spacecraft status ___ (Go except ___ or No-Go)
Astronaut status ___ (Go except ___ or No-Go)
Next orbit ___ (Go or No-Go)

CC: Status for next orbit is ___ (Go or No-Go)

A: Brief station report

Status _____
Auto fuel _____
Manual fuel _____
Main O_2 _____
Secondary O_2 _____
Amps _____
Comments on status and observations
Exhaust temp._____

CC: Queries from ground to spacecraft
~~Give contingency retrofire time for Area F or Area G.~~ Give retrosequence times for Areas 2A, G, and H.

A: Comments to ground

Spacecraft Activities

The astronaut will be reporting observations to the ground station as the spacecraft passes over the

GYM

First Orbit - Concluded

Appx. GET	Spacecraft Activities
	U.S. GYM will maintain contact as long as possible or until MCC makes contact if an overlap occurs.
1:33:00	Voice contact lost

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:04:00
   GYM HF response at a GET of 1:07:00

CAL

First Orbit

PREPASS

The astronaut has contact with GYM and is reporting his observations to them.

PASS TIME

Appx. GET	Communications
1:27:00 to 1:31:00	During the first pass GYM will be in contact with the spacecraft during CAL's contact period. CAL should monitor the spacecraft's transmissions but only initiate a call to the spacecraft if it is a priority message. If GYM loses voice with the spacecraft for more than 30 seconds CAL should attempt contact. CAL will complete any portion of the GYM transmission that has not been completed.

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:04:00
   CAL HF response at a GET of 1:07:15

TEX

First Orbit

PREPASS

GYM has contact with the spacecraft.. The astronaut is making observations and brief station reports to GYM.

PASS TIME

Appx. GET	Communications
1:30:00	TEX may only have one minute of free contact time between GYM and MCC. If GYM can handoff directly to MCC then TEX should monitor only. If GYM loses contact before MCC can contact the spacecraft TEX should proceed as follows:
1:33:00	Com Tech establishes contact
	A: Confirms contact
	CC: Confirms contact
	A: Gives observations and replies to MCC as soon as he receives them
	Spacecraft Activities
	Observation
1:36:00	Voice contact lost TEX will handoff to MCC as soon as MCC establishes contact with the spacecraft (appx. 1:33:42)

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:04:00
   TEX HF response at a GET of 1:07:30

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MCC

Second Orbit

PREPASS

The astronaut has been reporting his observations to GYM, CAL, and TEX.

PASS TIME

Appx. GET	Communications
1:33:40	Com Tech establishes contact
	A: Confirms contact
	CC: Confirms contact Reports T/M solid ASAP
	A: Standard 30-minute report (see reference no. 11 for a complete outline of this report) The blood pressure, exercise, and vision portion of this report may have been completed before MCC has contact.
	CC: Queries from ground to spacecraft Give retrosequence times for Area 2 B and 2 C. Confirm Area 2 A, B & H retrosequence times A: Comments to ground Area received from Gym. Place red filters over window and scope
	Spacecraft Activities
1:39:40	Voice contact lost Follow the normal handover procedures to BDA after completion of 30-minute report.

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:44:00
   MCC HF response at a GET of 1:44:15

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BDA

Second Orbit

PREPASS

The astronaut has just given a standard 30-minute report to MCC. The report will carry over into the overlap time.

PASS TIME

Appx. GET	Communications
1:36:15	Handover from MCC
	A: Confirms contact
	CC: Confirms contact
	A: Brief station report (this may be deleted)
	Status ____
	Auto fuel ____
	Manual fuel ____
	Main O_2 ____
	Secondary O_2 ____
	Amps ____
	Comments to ground
	Exhaust temp. _____
	CC: Queries from ground to spacecraft
	~~Give contingency retrofire time for Area 2B~~
	Give CET time check
	Confirm Areas 2B and 2C retrofire times were received from MCC.
	A: Comments to ground

Spacecraft Activities

1:41:00	Oculogyric test (see reference 16)
1:43:00	Voice contact lost

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:44:00
   BDA HF response at a GET of 1:44:30

CYI

Second Orbit

PREPASS

HF radio check

PASS TIME

Appx. GET	Communications
1:48:00	Com Tech establishes contact
	A: Confirms contact
	CC: Confirms contact
	A: Brief station report
	Status ___ Auto fuel ___ Manual fuel ___ Main O_2 ___ Secondary O_2 ___ Amps ___ Comments on status and day horizon check and occulogyric test Exhaust temp.___
	CC: Queries from ground to spacecraft
	A: Comments to ground
	Spacecraft Activities
1:49:00	Day horizon check (see reference no. 23)
1:51:00	Comments on the coastal crossing and any other observations
1:53:30	Voice contact lost (Possible handover to ATS)

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:44:00
   CYI HF response at a GET of 1:44:45

ATS

Second Orbit

PREPASS

Day horizon check

PASS TIME

Appx. GET	Communications
1:54:00	Com Tech establishes contact (Possible handover from CYI)
	A: Confirms contact
	CC: Confirms contact
	A: Brief station report
	Status ___ Auto fuel ___ Manual fuel ___ Main O_2 ___ Secondary O_2 ___ Amps ___ Comments on status Exhaust temp. ___
	CC: Queries from ground to spacecraft
	A: Comments to ground
	CC: Handover to KNO
	Spacecraft Activities
1:54:00	180° yaw maneuver (Gyros in free position)
1:58:00	Voice contact lost (Follow normal handoff procedures to KNO prior to LOS)

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:44:00
   ATS HF response at a GET of 1:45:00

KNO

Second Orbit

PREPASS

Observation - 180° yaw maneuver

PASS TIME

Appx. GET	Communications
1:57:00	Handover from ATS
	A: Confirms contact
	CC: Confirms contact
	A: Brief station report
	Status ___ Auto fuel ___ Manual fuel ___ Main O_2 ___ Secondary O_2 ___ Amps ___ Comments on status Exhaust temp. ___
	CC: Queries from ground to spacecraft Start predark side check
	A: Comments to ground
	Spacecraft Activities
2:01:00	Voice contact lost

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:44:00
   KNO HF response at a GET of 1:45:15

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ZZB

Second Orbit

PREPASS

Observations - 30-minute report started before initial contact (see reference no. 11)

PASS TIME

Appx. GET	Communications
2:04:00	Com Tech establishes communications
	A: Confirms contact
	CC: Confirms contact
	A: 30-minute report (see reference no. 11) Status section may be delayed if vision section in progress. Comments on status and observations Will cross coast of Africa during this period
	CC: Queries from ground to spacecraft ~~Give contingency retro [illegible] time for Area 26~~
	A: Comments to ground
	Spacecraft Activities
2:08:00	Observations crossing coast of Africa Passing through sunset
2:10:00	Voice contact lost

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:44:00
   ZZB HF response at a GET of 1:45:30

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IOS

Second Orbit

PREPASS

Observations - Sunset
IOS will launch two balloon flares approximately 20 minutes prior to closest approach.

PASS TIME

Appx. GET	Communications
2:13:00	Com Tech establishes communications
	A: Confirms contact
	CC: Confirms contact
	A: Brief station report
	Status ___ Auto fuel ___ Manual fuel ___ Main O_2 ___ Secondary O_2 ___ Amps ___ Comments on status and sunset observations Possible observation of flare(s) Exhaust temp.___
	CC: Queries from ground to spacecraft. Give warning 1 minute prior to flare ignition, and give "flare ignition" when sighted from ship. Time telemetry tones for Bonar
	A: Comments to ground 2D, 2E, and G.
	Spacecraft Activities
2:17:00	Possible flare observation Observation of stars and star tracking
2:20:00	Voice contact lost

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:44:00
   IOS HF response at a GET of 1:45:45

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MUC

Second Orbit

PREPASS

Observation and star tracking

PASS TIME

Appx. GET	Communications
2:23:00	Com Tech establishes communications
	A: Confirms contact
	CC: Confirms contact
	A: Brief station report
	Status ___ Auto fuel ___ Manual fuel ___ Main O_2 ___ Secondary O_2 ___ Amps ___ Comments on status, observation (if any) and star tracking Exhaust temp. ___
	CC: Queries from ground to spacecraft ~~Give orbital parameter information~~ ~~Give contingency retro~~ time for Area 2D Give inverter temps. (2) Confirm Areas 2D, 2E and 6 telemetry tapes were received from IOS.
	A: Comments to ground
	Spacecraft Activities
	Night observation of cities
2:30:00	Voice contact lost (Follow normal handover procedure to WOM prior to loss)

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:44:00
   MUC HF response at a GET of 1:46:00

WOM

Second Orbit

PREPASS

Night observation of cities

PASS TIME

Appx. GET	Communications
2:27:00	Handover from MUC
	A: Confirms contact
	CC: Confirms contact Reports T/M solid ASAP
2:30:00	A: Standard 30-minute report (see reference no. 11 for complete outline of report)
	CC: Queries from ground to spacecraft [redacted]
	A: Comments to ground (possible comments on observation of city lights)
	Spacecraft Activities
	Night observations
2:35:00	Voice contact lost

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:44:00
   WOM HF response at a GET of 1:46:15

December 21, 1961

CTN

Second Orbit

PREPASS

Star tracking

PASS TIME

Appx. GET	Communications
2:40:00	Com Tech establishes communications
	A: Confirms contact
	CC: Confirms contact
	A: Brief station report
	Status ___ Auto fuel ___ Manuel fuel ___ Main O_2 ___ Secondary O_2 ___ Amps ___ Comments on status, star tracking, and any observations. Comments on eating. Exhaust temp.___
	CC: Queries from ground to spacecraft ~~Give contingency retrofire GET for Area 2E~~ Instruct astronaut to prepare for possible reentry
	A: Comments to ground
	Spacecraft Activities
2:45:00	Eat
2:49:00	Voice contact lost

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:44:00
   CTN HF response at a GET of 1:46:30

HAW

Second Orbit

PREPASS

Eating

PASS TIME

Appx. GET	Communications
2:49:30	Com Tech establishes communication
	A: Confirms contact
	CC: Confirms contact
	A: Brief station report
	Status ___ Auto fuel ___ Manual fuel ___ Main O_2 ___ Secondary O_2 ___ Amps ___ Comments on status and effects of eating Exhaust temp. ___
	CC: Queries from ground to spacecraft ~~Give contingency retro~~ time for Area 6
	A: Comments to ground
	Spacecraft Activities
	Observation of sunrise
2:56:00	Voice communications lost

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:44:00
   HAW HF response at a GET of 1:46:45

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CAL

Second Orbit

PREPASS

Observations - sunrise

PASSTIME

Appx. GET	Communications
2:58:00	Com Tech establishes communications
	A: Confirms contact
	CC: Confirms contact Questions on spacecraft and/or astronaut status
	Go-No-Go decision for orbit no. 3
	A: Spacecraft status___(Go except___ or No-Go) Astronaut status ___ (Go except ___ or No-Go) Next orbit ___ (Go or No-Go)
	CC: Status for next orbit is ___ (Go or No-Go)
	A: Brief station report Status ___ Auto fuel ___ Manual fuel ___ Main O_2 ___ Secondary O_2 ___ Amps ___ Comments on observations Exhaust temp.___
	CC: Queries from ground to spacecraft Give retrosequence items for Aurora A: Comments to ground 3A and 3H.
	Note: CAL will have communications control until fade-out or contact with MCC at which time handover will occur.
	Spacecraft Activities
	Observation of coastal crossing and U.S. landmass

Second Orbit - Concluded

Appx. GET	Spacecraft Activities
3:04:00	Voice contact lost

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:44:00
   CAL HF response at a GET of 1:47:15

GYM

Second Orbit

PREPASS

Contact with CAL. Observations - coastal crossing.

PASS TIME

Appx. GET	Communications
3:00:00 to 3:06:00	During this pass GYM will be in contact with the spacecraft during CAL contact period. GYM will establish that voice communications exist and then stand by. GYM will then monitor the spacecraft transmission and only initiate a call to the spacecraft if it has a priority message. If CAL loses voice with the spacecraft for more than 30 seconds, GYM should attempt contact. GYM will complete any portion of the CAL transmission that has not been completed.
	Spacecraft Activities
	Observation of U.S. landmass
3:06:00	Voice contact lost

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:44:00
   GYM HF response at a GET of 1:47:00

TEX

Second Orbit

PREPASS

CAL has contact with the spacecraft. The astronaut is making observations and brief station reports to CAL.

PASS TIME

Appx. GET	Communications
3:03:00	TEX may only have 45 seconds of free contact time between CAL and MCC. If CAL can handoff directly to MCC, then TEX should monitor only. If CAL loses contact before MCC can contact the spacecraft TEX should proceed as follows:
3:06:00	Com Tech establishes contact
	A: Confirms contact
	CC: Confirms contact
	A: Gives observations and replies to MCC as soon as he receives them
	Spacecraft Activities
	Observations
3:08:00	Voice contact lost TEX will handoff to MCC as soon as MCC establishes contact with the spacecraft (appx. 3:07:00)

All Stations HF check (see reference no. 12)

1. Spacecraft all stations HF call at a GET of 1:44:00
   TEX HF response at a GET of 1:47:30

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MCC

Third Orbit

PREPASS

Observations - U.S. landmass. Station report to CAL and possible contact with TEX.

PASS TIME

Appx. GET	Communications
3:07:00	Com Tech establishes communications (MCC communications have priority over all other communications)
	A: Confirms contact
	CC: Confirms contact Reports T/M solid ASAP
	A: Standard 30-minute report (see reference no. 11 for complete outline) Part of report (exercise and vision) may have been completed before contact is established
	CC: Queries from ground to spacecraft ~~Give contingency retro GET time for Area 5A~~ Retrofire Give inverter temperatures (2) Give retrosequence times for Areas 3B and 3C. Confirm Areas 3A and 4 retrosequence times were received from CAL.
	A: Comments to ground (comments on observation while over U.S. landmass)

Spacecraft Activities	
3:07:00	Orient spacecraft to orbit attitude and go ASCS.
3:13:00	Voice communication lost

December 21, 1961

BDA

Third Orbit

PREPASS

Observation of U.S. landmass (East coast). Standard 30-minute report to MCC.

PASS TIME

Appx. GET	Communications
3:10:00	Com Tech establishes communications Follow normal handover procedure from MCC
	A: Confirms contact
	CC: Confirms contact
	A: Brief station report
	Status ____
	Auto fuel ____
	Manual fuel ____
	Main O_2 ____
	Secondary O_2 ____
	Amps ____
	Comments on status and observations
	Exhaust temp. ____
	CC: Queries from ground to spacecraft
	~~Give contingency retrofire time for Area 3B~~ Sep
	A: Comments to ground

Spacecraft Activities

Observations - East coast of U.S.

3:16:30 Voice contact lost

December 21, 1961

CYI

Third Orbit

No communications contact with the spacecraft is expected during this orbit. However, if communications contact is established, the following proccdure will be used:

PREPASS

Weather observations

PASS TIME

Communications

Com Tech establishes contact

A: Confirms contact

CC: Confirms contact

A: Brief station report

Status ____

Auto fuel ____

Manual fuel ____

Main O_2 ____

Secondary O_2 ____

Amps ____

Comments on status

Exhaust temp. ____

CC: Queries from ground to spacecraft
Give predark side checklist (see reference no. 14)

A: Comments to ground

Spacecraft Activities

Observations

December 21, 1961

ATS

Third Orbit

PREPASS

Observations of African coast

PASS TIME

Appx. GET	Communications
3:25:30	Com Tech establishes communications
	A: Confirms contact
	CC: Confirms contact
	A: 30-minute report (see reference no. 11)
	CC: Queries from ground to spacecraft ~~Give contingency retro time for Area 3B and Area 3C~~ Confirm antenna Sep. 3B and 3C retrosequence times when received from MCC.
	A: Comments to ground
	Spacecraft Activities
3:33:30	Voice contact lost

December 21, 1961

KNO

Third Orbit

No communications contact with the spacecraft is expected during this orbit. However, if communications contact is established, the following procedure will be used:

PREPASS

Observations and predark side checklist (see reference no. 14)
30-minute report to ATS.

PASS TIME

Appx. GET | Communications

Com Tech establishes contact

A: Confirms contact

CC: Confirms contact

A: Brief station report

Status ____

Auto fuel ____

Manual fuel ____

Main O_2 ____

Secondary O_2 ____

Amps ____

Comments to ground

Exhaust temp. ____

CC: Queries from ground to spacecraft

A: Comments to ground

Spacecraft Activities

Observations

ZZB

Third Orbit

No communications contact with the spacecraft is expected during this orbit. However, if communications contact is established, the following procedure will be used:

PREPASS

30-minute report to ATS

Observations

PASS TIME

Communications

Com Tech establishes contact

A: Confirms contact

CC: Confirms contact

A: Brief station report

Status ____
Auto fuel ____
Manual fuel ____
Main O_2 ____
Secondary O_2 ____
Amps ____
Comments on status
Exhaust temp. ____

CC: Queries from ground to spacecraft

A: Comments to ground

Spacecraft Activities

Observations

December 21, 1961

IOS

Third Orbit

PREPASS

Night observation - sunset, African landmass. Last contact was probably with ATS.

PASS TIME

Appx. GET	Communications
3:47:00	Com Tech establishes communications
	A: Confirms contact
	CC: Confirms contact
	A: Brief station report
	Status ____
	Auto fuel ____
	Manual fuel ____
	Main O_2 ____
	Secondary O_2 ____
	Amps ____
	Comments on status and sunset
	Exhaust temp. ____
	CC: Queries from ground to spacecraft Give sequence times for Area 30, E, and H.
	A: Comments to ground
	Spacecraft Activities
	Observations - night Possible ship lights observation
3:55:00	Voice contact lost

December 21, 1961

MUC

Third Orbit

PREPASS

Observations

PASS TIME

Appx. GET	Communications
3:56:45	Com Tech establishes communications
	A: Confirms contact
	CC: Confirms contact Reports when T/M solid
	A: Standard 30-minute report (see reference no. 11 for complete outline) Comments on report
	CC: Queries from ground to spacecraft Gives inverter temperatures (2)

Command Voice Check

CC: Going command voice (switches to command voice) Mercury, this is MUC on command voice ... 1-2-3-4-5-4-3-2-1 ... going UHF Hi

Confirm above 3D, 3F and H antenna frequencies were received from IOS.

A: ROGER. COMMAND VOICE CHECK (results of command voice check)
Comments to ground

Spacecraft Activities

Observations

4:03:30	Voice contact lost Follow normal handover procedure to WOM

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NOM

Third Orbit

PREPASS

Standard 30-minute report to MUC. Observations - night.

PASS TIME

Appx. GET	Communications
4:03:30	Com Tech establishes contact (follow normal handover procedure from MUC) (MUC is prime at this time)
	A: Confirms contact
	CC: Confirms contact
	A: Brief station report
	Status ____
	Auto fuel ____
	Manual fuel ____
	Main O_2 ____
	Secondary O_2 ____
	Amps ____
	Comment on status and observations
	Exhaust temp. ____
	CC: Queries from ground to spacecraft
	A: Comments to ground
	Spacecraft Activities
	Observations
4:05:30	Voice contact lost

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CTN

Third Orbit

No communications contact is expected during this orbit. However, if communications contact is established, the following procedure will be used:

PREPASS

Observation. Preparation for retro sequence and reentry.

PASS TIME

Appx. GET	Communications
	Com Tech establishes contact
	A: Confirms contact
	CC: Confirms contact
	A: Brief station report
	Status ____
	Auto fuel ____
	Manual fuel ____
	Main O_2 ____
	Secondary O_2 ____
	Amps ____
	Comments on status, spacecraft attitude control, and observations
	Exhaust temp. ____
	CC: Queries from ground to spacecraft
	A: Comments to ground
	Spacecraft Activities
4:18:00	Occulogyric test (see reference no. 16) Preparation for reentry

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HAW

Third Orbit

PREPASS

Occulogyric test (see reference no. 16)
Preparation for reentry. Thruster warmup.

PASS TIME

Appx. GET	Communications
4:22:00	Com Tech establishes communications
	A: Confirms contact
	CC: Confirms contact
	A: Brief station report
	Status ____
	Auto fuel ____
	Manual fuel ____
	Main O_2 ____
	Secondary O_2 ____
	Amps ____
	Reentry check list
	Comment on observations and preparation for retrofire sequence and reentry
	Exhaust temp. ____
	CC: Queries from ground to spacecraft Aid with reentry check (see reference no. 7) Equipment stowage checklist (see reference no. 6) Clock check (CapCom counts down to GET mark).
	A: Comments to ground

Spacecraft Activities

Preparation for retrofire sequence and reentry
Observation of sunrise

4:28:00 Voice contact lost

CAL

Third Orbit

PREPASS

Observation of sunrise. Preparation for retrofire and reentry.

PASS TIME

Appx. GET	Communications
4:31:30	Com Tech establishes communications
	A: Confirms contact
	CC: Confirms contact
	A: Brief station report (if time before retro-sequence allows)
	Status ____
	Auto fuel ____
	Manual fuel ____
	Main O_2 ____
	Secondary O_2 ____
	Amps ____
	Comments on status and observations
	Exhaust temp._____
	CC: Queries from ground to spacecraft ~~Possible countdown to retrofire and any other call requested by astronaut~~ Countdown to RETROSEQ and to RETROSEQ plus 30 sec.
	A: Comment to ground
	Spacecraft Activities
4:32:50	Retrofire
4:34:00	Exercise and blood pressure test
4:37:30	Voice contact lost
	Follow normal handover procedures to GYM

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GYM

Third Orbit

PREPASS

Retrofire. Reentry attitude.

PASS TIME

Appx. GET	Communications
4:33:30	Com Tech establishes communications (follow normal handover procedures from CAL) (CAL is prime at this time)
	A: Confirms contact
	CC: Confirms contact
	A: Brief status report
	Status ____
	Auto fuel ____
	Manual fuel ____
	Main O_2 ____
	Secondary O_2 ____
	Amps ____
	Comments on retro sequence and start of reentry
	Exhaust temp. ____
	CC: Queries from ground to spacecraft
	A: Comments to ground
	Spacecraft Activities
	Reentry
4:34:00	Exercise and blood pressure test
4:39:30	Voice contact lost
	Hold communication if possible for handover to MCC; if not handover to TEX

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TEX

Third Orbit

PREPASS

Reentry

PASS TIME

Appx. GET	Communications
4:37:00	TEX may only have about one minute of free contact between GYM and MCC. If GYM can handover directly to MCC then TEX should monitor only. If GYM loses contact before MCC can contact the spacecraft, TEX should proceed as follows:
4:39:30	Com Tech establishes contact
	A: Confirms contact
	CC: Confirms contact
	A: Gives comments on reentry and replies to MCC as soon as he receives them
	Spacecraft Activities
	Reentry
4:34:00	Exercise and blood pressure test
4:42:00	Voice contact lost
	TEX will handover to MCC as soon as MCC establishes contact with the spacecraft (appx. 4:40:40)

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MCC

Reentry

PREPASS

Reentry

PASS TIME

Appx. GET	Communications
4:40:40	Com Tech establishes communications Follow normal handover procedure from GYM or TEX depending upon who has contact at this time

A: Confirms contact

CC: Confirms contact

A: Brief station report

Status ____

Auto fuel ____

Manual fuel ____

Main O_2 ____

Secondary O_2 ____

Amps ____

Comments on status and reentry

Exhaust temp. ____

NOTE: This may be held up to the peak 'g' portion of the reentry

CC: Queries from ground to spacecraft
Gives spacecraft the following information:

Impact prediction ____

First estimate of recovery time ____
(time elapse from impact to arrival of helicopter or DD)

Wind velocity ____

Air temp. ____

Wave height ____

MCC

Reentry - Concluded

Appx. GET	
4:40:40	A: Comments to ground
	Spacecraft Activities
	Reentry
4:45:24	Voice contact lost
	Communications are then coordinated through down-range stations

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REFERENCE NO. 1

BECO Checklist

After BECO

1. Jett Tower - GREEN (appx. 20 secs after BECO)
2. Auto Retro Jett switch - OFF
3. Retro Jett Fuse switch - OFF
4. Emer Retro Jett Fuse switch - OFF

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REFERENCE NO. 2

SECO Checklist

1. Sep Cap - GREEN

2. REPORT

   (a) Aux Damp
   (b) Turnaround
   (c) Periscope out
   (d) ASCS
   (e) Tumbling sensation
   (f) Booster sighting and motions
   (g) Initial Og sensations

(Perform ORBIT CHECKLIST after ORBIT "go" received)

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REFERENCE NO. 3

Orbit Checklist

(Perform after orbit "go" received)

1. Emer Retro Seq fuse switch - OFF
2. Emer Drogue Deploy fuse switch - OFF
3. [redacted] Land Bag switch - OFF
4. Retro Delay switch - NORMAL
5. Audio warning tone switches - ON
~~5. Excess Cabin H_2O Tone switch - ON~~
6. Retro Man fuse switch - OFF
7. Jett Tower and Sep Cap telelights - OUT (5 min after Sep Cap)

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REFERENCE NO. 4

Control Systems Check

PURPOSE

To check all the control modes in order to assure their readiness as backups to the ASCS system. This procedure will check all control modes. The spacecraft is on ASCS in orbit attitude at the beginning of the test.

PROCEDURE

Record manual and automatic fuel

Manual fuel handle - pull direct
RSCS switch - Rate Comd
ASCS switch - Aux Damp

Pitch up from -34° at 4°/sec
Manual fuel handle - push Rate Comd
(Observe rate damping to within ±3°/sec)
RSCS switch - Auto
(Observe aux. damping to within ±0.5°/sec)
ASCS switch - FBW
(Zero rate at 0° pitch)

ASCS switch - Aux Damp
RSCS switch - Rate Comd
Manual fuel handle - pull direct

Initiate 4°/sec yaw right
Manual fuel handle - push Rate Comd
(Check rate damping to within ±3°/sec)
RSCS switch - Auto
(Check aux. damping to within ±0.5°/sec)
ASCS switch - FBW
(Zero rate at 30° yaw right)

Reset ASCS and RSCS switches and pull manual fuel handle

Initiate 4°/sec yaw left
Manual fuel handle - push Rate Comd
(Observe rate damping to within ±3°/sec)
RSCS switch - Auto
(Observe aux. damping to within ±0.5°/sec)
ASCS switch - FBW
(Zero rate at 0° yaw)

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REFERENCE NO. 4 - Concluded

Control Systems Check

Reset ASCS and RSCS switches and pull manual fuel handle

Initiate 4°/sec roll right
Manual fuel handle - push Rate Comd
(Observe rate damping to within ±3°/sec)
RSCS switch - Auto
(Observe aux. damping to within ±0.5°/sec)
ASCS switch - FBW
(Zero rate at 30° roll right)

Reset ASCS and RSCS switches and pull manual fuel handle

Initiate 4°/sec roll left
Manual fuel handle - push Rate Comd
(Observe rate damping to within ±3°/sec)
RSCS switch - Auto
(Observe aux. damping to within ±0.5°/sec)
ASCS switch - FBW
(Zero rate at 0° roll)

Use high thrust jets on FBW as needed or check them at this point

Reset ASCS and RSCS switches and pull manual fuel handle

Initiate 4°/sec pitch down
Manual fuel handle - push Rate Comd
(Observe rate damping to within ±3°/sec)
RSCS switch - Auto
(Observe aux. damping to within ±0.5°/sec)
ASCS switch - FBW
(Zero rates at 0° yaw, 0° roll, -34° pitch)

Record manual and automatic fuel

Estimated fuel usage: 5% auto
5% manual

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REFERENCE NO. 5

Yaw Maneuver Check

PURPOSE

The yaw maneuver will be used to check the periscope as a yaw reference when large angular errors exist.

PROCEDURE

1. Switch to fly-by-wire control system (if necessary)
2. Set up low yaw right (1° to 2°/sec) rate.
3. Allow the spacecraft to drift until the yaw angle becomes approximately 60°.
4. Stabilize the spacecraft rates to zero.
5. Observe the motion of the ground track through the periscope on both low and high magnification.
6. Set up a low left yaw motion and stabilize the spacecraft attitude at 0° yaw, 0° roll, and -34° pitch. Use periscope as the reference.
7. Record results of the maneuver.

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REFERENCE NO. 6

Equipment Stowage Checklist

1. Stow in container if not already secured:

(a) Microfilm viewer
(b) Cameras
(c) Light meter
(d) Visual test device
(e) Glasses (viewing)
(f) Spectrometer
(g) Extra film
(h) Pliers

(a) Cameras
(b) Light meter - Visual test device - Spectrometer
(c) Unexposed film
(d) Stow navigation device
(e) food

~~2. Tie down exercise device handle~~

3. Stow maps in map case

4. Stow flashlight and knife in holders

5. Stow securely in suit or have accessible:

(a) Scissors
(b) Four-six injectors
(c) Watch
(d) Pocket knife

6. Stow in waterproof bag
(a) microfilm viewer
(b) glasses
(c) exposed film
(d) pliers

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REFERENCE NO. 7

Preretro Seq. Checklist

1. Equipment - STOWED
2. Control System - CHECK (thruster warmup)
3. Emer Retro Seq fuse switch - NO. 1
4. Transmit switch - UHF
5. Retro Man fuse switch - NO. 1
6. Restraint Devices - CHECK
7. Crosscheck Attitude - Window/Instruments/Scope
8. Time check CET

NOTE: If flight continues return item 3 to "OFF" and return item 5 to "OFF".

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REFERENCE NO. 8

Post-Retrofire Checklist

1. Auto Retro Jett - ARM
2. Emer Retro Jett Fuse switch - NO. 1
3. Retro Jett Fuse switch - NO. 1
4. T_R +60 sec Jett Retro Telelight - GREEN
5. Crosscheck Attitude - Window/Instruments/Scope
6. Periscope - RETRACTED - 30 sec. after RETROFIRE
7. 0.05g Telelight - GREEN - T_R + 645 sec.
8. Rate Indicator - 10°/sec Roll

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REFERENCE NO. 9

Post-Entry Checklist

(Accomplished after peak g)

1. Emer Drogue Deploy fuse switch - NO. 1

8. [redacted] Landing Bag switch - [redacted] AUTO

2. At 21,000 feet, drogue deployed

4. Periscope - EXTEND

5. At 17,000 feet, snorkel ring - PULL

6. Emer O_2 handle - EMER

7. At 10,000 feet, main telelight - GREEN (check main deployment visually)

9. Astronaut preparation for landing

(a) Disconnect Biomed cable
(b) Disconnect Blood Pressure Cuff hose
(c) Disconnect Chest Strap
(d) Disconnect Visor Seal hose
(e) Open Visor
(f) Disconnect Respiration Sensor
(g) Disconnect Helmet Exhaust hose
(h) Unstow Survival Kit

10. Landing Bag telelight - GREEN

3. Fuel handles - CHECK/IN

11. Press Reg handle - PULL AND TURN

12. UHF/DF switch - R/T
12a. VOX POWER-OFF.

13. Fuel dump, check Auto-Man Fuel Gage - O/O

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REFERENCE NO. 9(a)

Postlanding Checklist

1. Rescue Aids - MAN
2. Release Restraining Harness
3. Disconnect Helmet
4. Install Neck Dam
   4a. Store flashlight in pocket on survival kit.
5. When ready to egress:
   (a) Disconnect Suit Inlet hose
   (b) Disconnect Communication lead
   (c) Ammeter - OFF
6. Egress with Survival Kit and waterproof equipment bag.

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REFERENCE NO. 10

C W Code

I. Action or Information

AAA	I concur
AR	End of message
BT	Message follows
DA	D-C Amps
EEEE	Error
EF	Emergency O_2 rate flow
F	Off
GR	Rate gyros
HA	Holding proper attitude
HFR	HF receiver
HFT	HF transmitter
J	Left
K	Center
L	Leaking
MAN	Operated manually
N	No, negative
O	On
OK 1,2,3	Status green for 1,2,3 orbits
Q	Request, question
R 1,2,3	End of 1,2,3 orbit retrofire time
RS	Retrosequence
REO	Reentering at end of this orbit
REP	Repeat last transmission
RRR	Roger
T	Temperature
UUUU	Aborting or reentering immediately

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C W Code

I.	Action or Information - Concluded	
	VVVV	Reentering next contingency
	W	Right
	X	Out of operation
	Y	Yes, affirmative
	Mark	Long dash with Mark at end of dash
II.	Primary Instruments and Switches	(Left-to-right across panel)
	SQ	Squib Switch
	MC	Manual Control
	AS	ASCS Normal
	AD	Aux Damp
	FB	Fly-By-Wire
	RA	RCS AUTO
	RC	Rate Comd
	GN	Gyros Normal
	GF	Gyros Free
	GC	Gyros Cage
	A	Auto Control Fuel
	M	Man Control Fuel
	GMT	Clock - GMT
	CET	Capsule Elapsed Time
	CRT	Capsule Retrograde Time
	TTR	Time to Retrograde
	CP	Cabin Pressure
	ST	Suit Temperature
	OP	Oxygen - Primary
	OS	Oxygen - Secondary
	DV 1,2,3,S1,S2,I,M	D-C Volts 1,2,3, Sby 1, Sby 2, Isol, Main
	DA	D-C Amps
	AVA	A-C Volts ASCS
	AVF	A-C Volts Fans

C W Code

II. Primary Instruments and Switches - Concluded

IF	Fans Inverter
IA	ASCS Inverter
IS	Standby Inverter
UH R,T	UHF Hi Receiver, Transmitter
UL R,T	UHF Low Receiver, Transmitter

III. Systems (Secondary Instruments and Switches)

A. Fuse Panel

F 1	Emerg. Cap. Sep. Control
F 2	Emerg. Escape Rocket
F 3	Tower Sep. Control
F 4	Emerg. Tower Sep
F 5	Emerg. Tower Jett
F 6	Emerg. Posigrade
F 7	Aux. Bcn.
F 8	Retrorocket no. 1
F 9	Retrorocket no. 2
F 10	Retrorocket no. 3
F 11	Emerg. Retro Seq
F 12	Emerg. Retro Jett
F 13	ASCS 0.05g
F 14	Emerg. 0.05g
F 15	Emerg. Drogue Deploy
F 16	Emerg. Main Deploy
F 17	Reserve Deploy
F 18	Emerg. Reserve Deploy
F 19	Emerg. Land. Bag
F 20	Emerg. Rescue Aids
F 21	Periscope
F 22	Ant. Switch

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C W Code

A.	Fuse Panel - Concluded	
	F 23	Cmd. Rec. A
	F 24	TLM Hi freq
B.	Left Panel	
	L 1	Auto Retro Jett
	L 2	Manual Fuel T-handle
	L 3	ASCS Roll Fuel T-handle
	L 4	ASCS Yaw Fuel T-handle
	L 5	ASCS Pitch Fuel T-handle
	L 6	Decom T-handle
	L 7	Repress T-handle
	L 8	Retro Delay
	L 9	Photo Lights
	L 10	Cabin Lights
	L 11	TLM Lo freq
	L 12	Rescue Aids
C.	Sequence Panel	
	S 1	Abort Light
	S 2	Launch Control
	S 3	Cabin press regul. lock
	S 4	Jett Tower
	S 5	Sep. Capsule
	S 6	Retro Seq
	S 7	Retro Att
	S 8	Fire Retro
	S 9	Jett Retro
	S 10	Retract Scope
	S 11	0.05g
	S 12	Drogue
	S 13	Snorkel

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C W Code

C. Sequence Panel - Concluded

S 14	Main
S 15	Reserve
S 16	Landing Bag

D. Center Panel

C 1	Accelerometer
C 2	Descent
C 3	Altimeter
C 4	Light Test
C 5	Rate Ind. Switch
C 6	Roll Attitude (C6R Roll Rate)
C 7	Yaw Attitude (C7R Yaw Rate)
C 8	Pitch Attitude (C8R Pitch Rate)
C 9	EPI
C 10	Periscope

E. Right Panel

R 1	Cabin Air Temperature
R 2	Cabin Relative Humidity
R 3	Coolant Quantity
R 4	Suit Pressure
R 5	O_2 Flow Switch
R 6	Suit Fan Switch
R 7	Cabin Fan Switch
R 8	ASCS A-C Bus Switch
R 9	Ammeter Switch
R 10	Inlet Valve Power Switch
R 11	Standby Battery Switch
R 12	Isolated Battery Switch
R 13	Standby A-C Auto Indicator Light
R 14	Audio Bus Switch

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C W Code

E. Right Panel - Concluded

R 15	Fans A-C Bus Switch
R 16	Audio Panel
R 17	UHF DF Switch
R 18	UHF Select Switch
R 19	Transmit Switch
R 20	Beacon Switch
R 21	Vox Power Switch
R 22	Blood Pressure
R 23	Suit Heat Exchanger Exhaust Temperature

F. Right Panel Warning Lights

RW 1	Cabin Pressure
RW 2	O_2 Quantity
RW 3	O_2 Emergency
RW 4	Excess Suit H_2O
RW 5	Excess Cabin H_2O
RW 6	Fuel Quantity
RW 7	Retro Warning
RW 8	Retro Reset

G. Right Panel Fuse Switches

RF 1	Suit Fan
RF 2	Environmental Control
RF 3	Retro Jett
RF 4	Retro Manually
RF 5	Programer
RF 6	Blood Pressure

REFERENCE NO. 11

30-Minute Report

PURPOSE

To determine at regular intervals the complete status of the astronaut and the spacecraft.

PROCEDURE

T + 0
Push blood pressure switch - start
Take one blood pressure sample
Push blood pressure switch - stop

T + 1 min
Exercise - 30 pulls on Bungee cord

T + 2 min
Push blood pressure switch - start
Take one blood pressure sample
Push blood pressure switch - stop

T + 3 min
Visual acuity test

Snellen test
Astigmatic test

Head motions - pitch, roll, yaw
Reach accuracy
Line position check
Spacecraft status report

Fuse panel - only report abnormal fuse switch positions
Squib switch ____
Auto Retro Jett switch ____
Control system mode

ASCS switch ____
RSCS switch ____
Gyro switch ____
Manual fuel handle ____
Automatic fuel handles ____
Retro delay ____

Sequence panel - only report abnormal settings or indications
Auto fuel ____

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30-Minute Report

Manual fuel ____
Attitude: Roll ____ Yaw ____ Pitch ____
Periscope and window agreement. Note any filters being used. (If attitude is normal this portion of the report may be deleted)
Earth-Path Indicator position ____
(Retrosequence) time ____
Capsule elapsed time ____
Cabin pressure ____
Cabin temperature ____
Relative humidity ____
Coolant quantity ____
Suit temperature ____
Suit pressure ____
Exhaust temperature ____
Main O_2 ____
Secondary O_2 ____
D-C volts

Main ____
1 ____
2 ____
3 ____
Standby 1 ____
Standby 2 ____
Isolated ____

D-C amps
A-C volts

ASCS ____
Fans ____

All switches outboard except ____ (see FCH-1 Main Instrument Panel)
Comfort control settings

Suit temp ____
Cabin temp ____

Queries from ground to spacecraft

Astronaut comments

Any spacecraft malfunctions take precedence and will be reported first along with corrective action taken

TOTAL TIME: 6 1/2 minutes

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REFERENCE NO. 12

All Stations HF Check

PURPOSE

To check the HF range of the spacecraft and ground stations under varying conditions.

PROCEDURE

For time of each action see following chart.

1. Spacecraft initiates a HF call to all ground stations lasting for 15 seconds.

2. The ground stations call sequentially along the ground track, starting with MCC, at the time down below, whether the spacecraft transmission has been received or not.

3. The ground reports start each 15 seconds with each call lasting 10 seconds.

4. The spacecraft will not answer any of the replies, but will record what is received on the tape.

5. Stations will not transmit until the previous stations have completed their call, if the previous station can be heard.

6. All transmission times, including the spacecraft's, are based on GET.

COMMUNICATIONS FORMAT

Spacecraft: ALL MERCURY NET STATIONS, THIS IS _____* (repeat). Over

Station: _____* THIS IS _____**. GMT IS _____. READ YOU _____ (repeat). Out

*Write in spacecraft call sign

**Write in site call sign

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REFERENCE NO. 12 - Continued

All Stations HF Check

Check no.	1	2	
Orbit no.	1	2	
Approximate Spacecraft Position	IOS	CYI	STATION
Start Transmission Time (GET)	1:04:00	1:44:00	Spacecraft
	1:04:15	1:44:15	Mercury Con. Cen.
	1:04:30	1:44:30	Bermuda
	1:04:45	1:44:45	Grand Canary
	1:05:00	1:45:00	Atlantic Ship
	1:05:15	1:45:15	Kano
	1:05:30	1:45:30	Zanzibar
	1:05:45	1:45:45	Indian Ocean Ship
	1:06:00	1:46:00	Muchea
	1:06:15	1:46:15	Woomera
	1:06:30	1:46:30	Canton Island
	1:06:45	1:46:45	Hawaii
	1:07:00	1:47:00	Guaymas
	1:07:15	1:47:15	California
	1:07:30	1:47:30	South Texas

TOTAL TIME: 3 minutes 45 seconds

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REFERENCE NO. 12 - Concluded

All Stations HF Check

PURPOSE

To check the HF range of the spacecraft at sunrise and sunset.

PROCEDURE

The astronaut will call all Mercury net stations at orbit sunrise and orbit sunset, giving GMT at least a 15-second description of the sunset or sunrise. The Mercury net stations will not answer this transmission.

REFERENCE NO. 13

Contact Procedures

A. NORMAL

1. At H-2 (2 min prior to the spacecraft coming over the horizon) Com Tech initiates a call to the spacecraft every 30 sec; i.e., "_____ THIS IS _____ COM TECH. OVER"

2. When the spacecraft receives this call he will reply "_____ THIS IS _____. READ YOU _____. OVER"

3. The station CapCom confirms contact with the spacecraft.

B. HANDOVER

1. The station CapCom will monitor the spacecraft's transmissions to the preceding ground station. The CapCom should call the spacecraft without blocking out either the spacecraft or preceding ground station; i.e., "_____ THIS IS _____. READ YOU _____. OVER"

2. The astronaut, upon hearing the above transmission, will reply either:

   (a) "ROGER, _____ CAPCOM. STANDBY"

   (b) "ROGER _____. READ YOU _____. OVER"

3. If the astronaut responds as in example (a), the CapCom will wait for a call from the spacecraft.

   If he responds as in example (b), the CapCom confirms contact.

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REFERENCE NO. 14

Predark Side Checklist

1. Check flashlight readily accessible
2. Position Cabin Light switch to BOTH
3. Photo lights – off
4. Place RED filters over cabin lights
5. Place filters over window and scope as required
6. Warning lights – dim
7. Thruster warmup procedure

   (a) Go to MP mode (warmup for manual thrusters)

   Pitch UP followed by pitch DOWN
   Roll RIGHT followed by roll LEFT
   Yaw RIGHT followed by yaw LEFT

   (b) Go to FBW mode (warmup for Hi and Lo thrusters)

   Short-burst pitch UP and DOWN - full stick travel
   Short-burst roll RIGHT and LEFT - full stick travel
   Short-burst yaw RIGHT and LEFT - full stick travel

   (c) Go to ASCS mode and check for proper attitude

   Orientation and holding within limits

8. Eye patch in place
9. After entry into dark side, filters on window and scope – as desired
10. Remove red filters from windows and scope as preferred.

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REFERENCE NO. 16

Occulogyric Test Procedure

PURPOSE

To determine the vestibular effects of weightlessness.

PROCEDURE

1. Announce test for tape recorder.
2. Switch to FBW control mode.
3. Observe cross made by rate needles on rate and attitude indicator.
4. Apply left roll command of 2^{o}/sec using low thrust FBW for 4 seconds.
5. Observe movement of cross and give mark when motion stops.
6. Apply right roll command of 2^{o}/sec using the low thrust FBW for 4 seconds.
7. Observe movement of cross and give mark when motion stops.
8. Apply right roll command of 2^{o}/sec using the low thrust FBW for 4 seconds.
9. Observe movement of cross and give mark when motion stops.
10. Apply left roll command of 2^{o}/sec using low thrust FBW for 4 seconds.
11. Observe movement of the cross and give mark when motion stops.
12. Damp all residual rates to zero, and reorientate spacecraft to orbit attitude.

NOTE: (a) The ground station should continuously monitor attitude during this maneuver.

(b) If the roll attitude exceeds $\pm 45^{o}$ the ground is to communicate this to the spacecraft and also report each 2^{o} over $\pm 45^{o}$.

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REFERENCE NO. 18

Star Tracking and Star Navigation Device Procedure

1. Star Tracking. From orbit attitude, the spacecraft will be pitched up to approximately 34°. A star will be chosen which falls on the approximate center line of the window. The spacecraft will then be pitched down at a rate to hold the star in the same position relative to the window. The procedure is complete when the astronaut is satisfied with his ability to hold a star in a fixed position with respect to the spacecraft window.

2. Star Navigation Device. This device may be used to determine what stars are visible when spacecraft position (from elapsed time) and attitude are known. It has a dual sliding scale for setting in GET and degrees of pitch. A window on the scale then shows the stars which will be visible through the spacecraft window. A series of star chart inserts are provided to approximately correspond to launch time.

December 21, 1961

REFERENCE NO. 19

Celestial Observations

PURPOSE

To observe celestial phenomena not observable from the earth's surface because of the atmosphere.

SCOPE

Emphasis should be on observing hazy, dim, poorly-defined light and/or objects which may appear. Bright, well-known stars and planets are not of prime interest.

METHOD

1. Visual observation with the naked eye will be the primary mode of observation. The use of binoculars is not required.

2. The most desirable means of recording observations will be by sketches and notes. If this is not possible in flight, they may be prepared on the ground following the flight.

3. Locations of observed phenomena may be given relative to known stars and planets, geographic position of the astronaut and bearing, or time of the object's rising or setting and bearing.

4. Spectrographic photography of stars and planets will be attempted, if the special camera is available.

5. A green pass filter will be provided for viewing aurora and night air glow.

OBSERVABLE PHENOMENA

1. Sun's Outer Corona. This is the most readily observable and predictable phenomena. For this observation the astronaut must be dark-adapted and therefore is limited to making the observation just prior to sunrise. It is not observable when the sun has risen. Caution must be exercised to avoid looking at the sun proper when it rises, inasmuch as the corona is only 1 or 2 sun's radii distant from the sun. Equatorial streamers, oriented in the sun's magnetic field approximately 30° to the ecliptic, may be observed.

2. Star Count. A count of the number of stars visible in a known constellation, such as the bowl of the Big Dipper, Pleiades, or the belt

of Orion, is highly desirable as a means of determining the lowest magnitude stars visible to the naked eye outside of the atmosphere.

3. Zodiacal Light. This is a faint glow from illuminated dust of comets and meteors observable further out from the Sun's Outer Corona, and may be observed concurrently with the Outer Corona, in the ecliptic. It is brightest at the horizon and dims to the Gegenshein, 180° from the sun.

4. Gegenshein. The Gegenshein, or counter-glow, is a dim $8^\circ \times 5^\circ$ elliptical light in the ecliptic, 180° from the sun. Its existence is known, but its relation to the earth and/or sun has not been determined. Any observation would be desirable, but the most information would be gained by observing from points of maximum separation on the earth to determine the presence or absence of a parallax shift relative to the stars. The shift would be small, if present, on the order of 3°, from points 180° apart on the earth's surface.

5. Libration Clouds. Verification of the existence or non-existence of the Libration Clouds (or Points) is highly desirable, but probably a difficult task. These clouds were reported by a Polish astronomer to be 5° wide, and are located 60° ahead and 60° behind the moon in the ecliptic. They are extremely faint, if they exist at all, as seen from the earth and are thought by some to be clouds of lunar material.

6. Comets. Comets, old or new, may be observed. They should be easily identifiable. If seen, note size, brightness, location, proportion of head to tail, number of tails, and orientation of tail(s). They will probably appear at sunrise inside the earth's orbit.

7. Night Air Glow. Air glow may be observable in the atmosphere. Use the green pass filter. Check for orientation with the earth's magnetic field.

8. Aurora. Aurora may be observed. Use the green pass filter. Check for orientation with the earth's magnetic field.

9. Noctilucent Clouds. These may be observed below the astronaut, at an altitude of approximately 43 miles.

10. Nacreous Clouds. These may be clouds of ionized gases, and may appear at an altitude of approximately 100 miles.

December 21, 1961

Celestial Observations

11. Star Occultations. Star occultations by the atmosphere will occur. The degree of occultation is of interest, but it is doubtful whether this can be observed with the naked eye to a finer precision than already determined by other means.

REFERENCE NO. 20

Weather Notes

1. First Orbit - 0:05:00 to 0:18:00

North Atlantic - storms and cyclonic disturbances north of the ground track. Possible frontal pattern. Note size, shape, and cloud height within a given pattern.

2. First Orbit - 0:15:00 to 0:18:00

Possibility of cellular cloud patterns off the west coast of Africa.

3. First Orbit - 0:18:00 to 0:30:00

Good weather to north of track. A possibility of blowing sand in the desert. Note direction and location of the moving sand. High possibility of cloud cover to the south of the track (the inter-tropical convergence zone).

4. First Orbit - 0:34:00

Indian Ocean - subtropical high. A possibility of cellular pattern in this area.

5. First Orbit - 0:40:00 to 1:05:00 (night)

Note any cloud patterns visible by night illumination (moon and/or stars). Check for any lightning activity (East Australia), note frequency of flashes and general size of disturbance. Possible correlation of light level with known light source.

6. First Orbit - 1:05:00 to sunrise

Inter-tropical convergence zone. Note any cloud illumination and lightning visible. See note (e). (The ITC zone should be south of the equator around January.) The ITC zone might be separated into two parts in this area.

7. First Orbit - 1:20:00 to 1:30:00

Possibility of cellular cloud patterns.

8. First Orbit - approximately 1:30:00

Over Mexico - note difference between clouds and snow if possible.

December 21, 1961

Weather Notes

9. First Orbit - approximately 1:36:00

Crossing intersection point of first and second orbits. Picture of a particular cloud group. Note time and direction of area photographed. (This photograph to be repeated at the end of the second orbit.)

10. Second Orbit - 1:37:00 to 1:50:00

North Atlantic - See note (a).

11. Second Orbit - approximately 2:00:00

Crossing equator. Note inter-tropical convergence zone. Note cloud types, size and particularly cloud heights. Possibility of fog off east coast around Gabon.

12. Second Orbit - 2:50:00 to 3:00:00

Possibility of cloud "streets." Note altitude of clouds and directions. Are all the clouds in a given group at about one altitude or are they spread over a wide range of altitudes? The direction of the cloud "streets" will indicate the direction of the prevailing winds.

13. Second Orbit - approximately 3:09:00

Intersection with first orbit ground track. See note (i).

14. Third Orbit - 3:20:00 to 3:30:00

Inter-tropical convergence over the ocean. Note any cloud "streets" that may exist north and south of the ITC zone. Check the orientation as they can be seen.

15. Third Orbit - approximately 3:34:00

Check for fog and/or low stratus off western coast of Africa.

16. Third Orbit - approximately 3:34:00

Cold ocean current going north along the coast.

NOTE: (a) Many of the possible observations given for one orbit will apply to each orbit.

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Weather Notes

(b) When noting cloud patterns the points of interest are what types of clouds (by name if possible) make up the patterns and at what height does each type of cloud occur.

(c) Details of cellular patterns (convective cells):

(1) Average 30 to 40 miles across (from 10 miles to 90 miles)

(2) Thought to be confined between two air layers with the top about 6,000 to 8,000 feet.

(d) Dust layers - If these are visible, they will be seen near the horizon in an edge view.

REFERENCE NO. 21

Landmark Observation Comments

First Orbit

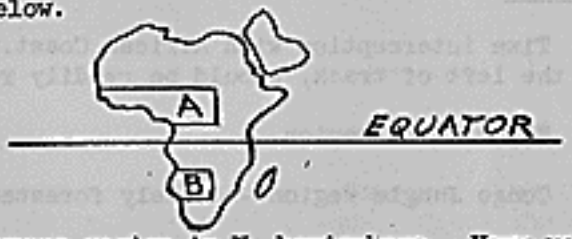
1. Canary Islands plus African Coast should be easily recognizable since Canaries are volcanic in origin and rise abruptly from the ocean. However, cold Canary current flowing toward Equator past islands causes considerable fog and low clouds along coast, especially during N. hemisphere winter. Inland in Africa a few miles there should be few clouds unless a major meteorological occurrence interferes; e.g., a low pressure center over W. Mediterranean causing west winds in this area.

2. Anti-Atlas Range of the Atlas Mountains should be visible.

3. Ahaggar Mountains at 0:23:00 should be visible to left of track. Lava outflows from center peaks contrast favorably with lighter colored surrounding sands and gravels.

4. Lake Chad will probably be at an intermediate level during December - January. This is a shallow, greatly fluctuating shoreline lake. Saline deposits around lake may be more visible than lake itself. However, marsh-type vegetation should provide contrast where water has recently been present.

5. A brief description of areas A and B as shown in this sketch of Africa is delineated below.



Area A: Tropical Savanna region in N. hemisphere. Very wet in March - September. Dessicated and dry from September to March, especially so in December and January.

Area B: Exactly opposite to Area A. Wet in December and January. Should be very green, contrasted to dry and yellow in Area A.

6. Lake Victoria and Lake Albert - excellent checkpoints. Check number of snow-capped peaks in area and attempt to identify.

December 21, 1961

REFERENCE NO. 21 - Continued

Landmark Observation Comments

7. Perth region should be dry this part of the year (January - February). City should be visible, but at night lights may not be visible even though city and suburbs have over 200,000 people. Suggest having air fields in vicinity turn on high-intensity landing runway lights if available.

8. Lights also at Brisbane.

9. See if Rio Grande River is visible in U.S.

10. What type of earth landscapes are visible, i.e.:

(a) Agricultural - can you see cultivated vs. pastures, etc., by checkerboard pattern?

(b) Are major highways and railroads visible?

(c) Are large cities visible?

(d) Can you see large bridges across Mississippi River?

(e) Are woods and forests a darker color so that they are readily discernible?

Second Orbit

1. Time interception with African Coast. Cape Blanc, the hook just to the left of track, should be readily recognizable.

2. Niger Delta region.

3. Congo Jungle region - densely forested.

4. Madagascar - excellent checkpoint. Does east side look different from west side? How does it look different?

5. Are waters of Colorado River visible where they flow out into upper Gulf of California?

6. There are some good black and white high-altitude rocket shots of El Paso area at same altitude as spacecraft. This should provide a perfect 1 to 1 comparison to check if this is what astronaut saw and if color provides him with any additional information.

December 21, 1961

REFERENCE NO. 21 - Concluded

Landmark Observation Comments

7. Check cloud cover along coast to see effect of ocean currents on weather. Maybe astronaut could determine various limits of currents by color and outline them on MOC chart.

Third Orbit

1. Across Kalahari Desert in S. Africa. Land should get greener as spacecraft proceeds from West to East. Okovanggo Basin should be visible but no water should be in Lake Ngami.

December 21, 1961

REFERENCE NO. 22

Onboard Equipment List

1. Microfilm Viewer
2. Exercise Device
3. Food
   (a) 2 tubes
   (b) 1 candy bar
4. Water (appx. 1,000 cc)
5. Two 35 mm Cameras
   (a) One for color photography
   (b) One for ultra-violet photography
6. Light Meter; Visual test device; Spectrometer, Color, and Brightness Tester.
7. ~~Visual Test Device~~
8. Container
9. Glasses (viewing)
10. Wire Antenna (in survival kit)
11. ~~Spectrometer, Color, and Brightness Tester~~
12. Extra Length of Hose
13. Maps
14. ~~Window Filter~~
15. Extra Film
16. Tape for Lights
17. Knee Pad and Paper
18. Spare Bulbs
19. Elbow and Helmet Pads
20. Flashlight with red filter.
21. Scissors
22. Four-six Injectors
23. Vest and Mirror
24. Two Arm Mirrors
25. Watch
26. Knife
27. Pocket Knife
28. Pliers
29. Waterproof equipment bag.

December 21, 1961

REFERENCE NO. 23

Day and Night Horizon Check

PURPOSE

To determine the ability of the astronaut to control the attitude of the spacecraft using the horizon as a control reference under day and night conditions.

PROCEDURE

1. Switch to manual proportional control
2. Aline the spacecraft to orbit attitude on the instruments
3. Pitch up to -14° (window reference)
4. Return pitch to orbit (window reference)
5. Roll right 20° (window reference)
6. Return to orbit attitude (window reference)
7. Yaw left 20° (window reference)
8. Return to orbit attitude (window reference)

NOTE: Very low spacecraft rates will be used at all times.

C. C. KRAFT, JR.

FLIGHT OPERATIONS DIVISION

JAN 11 1962

NASA - Manned Spacecraft Center
Langley Air Force Base, Virginia
January 9, 1962

MEMORANDUM for All Concerned

Subject: Revision A to Flight Plan for Mercury-Atlas Mission 6

1. Enclosed herewith is one copy of the Revision A to the Flight Plan for Mercury-Atlas Mission 6 dated December 21, 1961.

2. This revision consists of pen and ink corrections to the Flight Plan and two pages of instrument panel illustrations to be used with Reference No. 10 (C W Code).

Helmut A. Kuehnel
Head, Flight Activities Section
Spacecraft Operations Branch

Enc:
1. Revision A
2. Illustrations

HAK.bsk

HIJ

FLIGHT PLAN FOR MERCURY-ATLAS MISSION 6

Revisions

1. Replace the word "retrofire" with "retrosequence" where appearing throughout.

2. All retrosequence times should be considered incorrect. See MA-6-13 Mission Rules for correct retrosequence times.

3. All Acquisition and LOS times should be considered approximate. See MA-6-13 Mission Rules for exact times.

4. Revise Flight Plan Mission Rule 5 to read:

"When the spacecraft is on FBW or manual proportional control the spacecraft attitudes will be kept within the following limits:

Pitch	Yaw	Roll
+60°, -64°	±60°	0°
0°	0°	±60°

The yaw turnaround during the second orbit will be an exception to this rule."

5. On page 2, time 0:04:30, under "Comments" add "Astronaut GO".

6. On page 3, time 0:08:00, under "Time" add "or ASAP after 0:06:15 activity".

7. On page 4, time 0:14:20, under "Comments" delete "CYI reports when radar solid". Add "CYI reports computer accepting radar data".

8. On page 7, time 0:54:20, under "Comments" delete "for 2 minutes".

9. On page 9, time 1:27:00, under "Comments" delete "At first contact (T/M)". Add "30 seconds prior to retrosequence time".

10. On page 13, time 2:17:00, under "Comments" revise last sentence to read "Report approximate time of flare ignition".

11. On page 13, time 2:24:00, under "Activity" delete "Orbit position information". Add "Night observation of cities".

12. On page 13, time 2:24:00, under "Comments" delete first sentence.

13. On page 15, time 2:58:00, under "Comments" delete "Decision point on third orbit". Add "30 seconds prior to retrosequence time a GO-NO GO decision is made between spacecraft and ground".

14. On page 19, time 4:22:00, under "Comments" add "Cap Com counts down to GET "mark".

15. On page 20, time 4:32:00, under "Comments" add "As in Mission Rules".

16. On page 24, time T + 4:30, add "ASTRONAUT GO".

17. On page 27, time 0:08:00, add "or ASAP after 0:06:15 activity".

18. On page 28, under "Communications" add "CC: Reports computer accepting radar data".

19. On page 28, under "Spacecraft Activities", time 0:14:20 delete "for 2 minutes".

20. On page 49, under "Communications" delete "Give orbital parameter information".

21. On page 67, under "Communications", after "Clock Check" add "(Cap Com counts down to GET "mark")".

22. On page 68, under "Communications" delete "Possible countdown to retrofire and any other aid requested by astronaut". Add "Countdown to retrosequence and to retrosequence plus 30 seconds".

23. On page 89, CW Code Section E, add "R 23 Suit Heat Exchanger Exhaust Temperature".

Enclosure 1
Manned Spacecraft Center
January 5, 1962:bsk

24. On page 75, Reference No. 3, Orbit Checklist, Item 3 - delete "Emer".

25. On page 80, Reference No. 7, Preretrosequence Checklist - add "NOTE: If flight continues return item 3 to "off" and return item 5 to "off".

26. On page 81, Reference No. 8, Post-Retrosequence Checklist - Item 6 - Add " 30 sec after retrojett". On Item 7 - add " T_R + 645 sec".

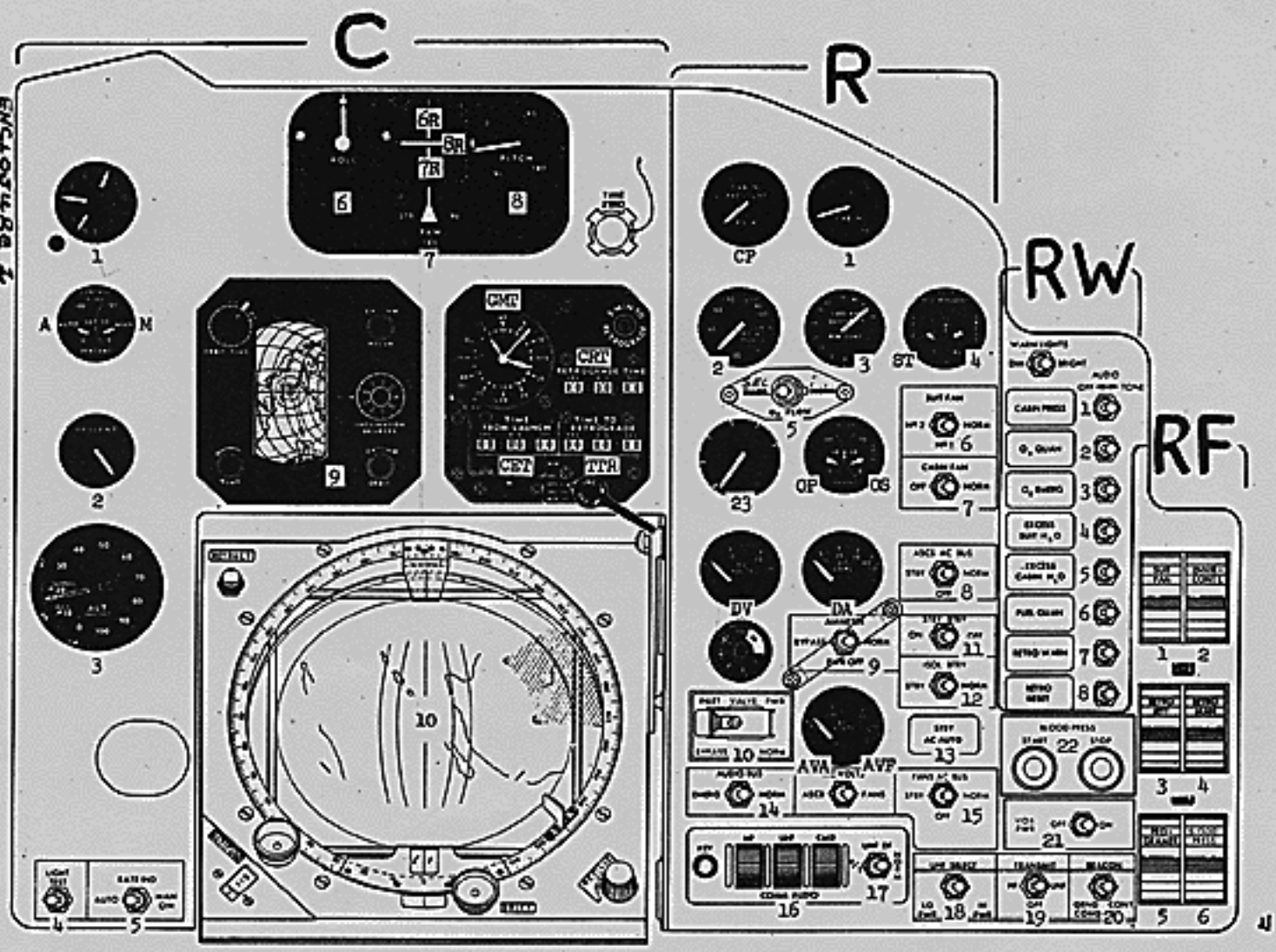
27. On page 82, Reference No. 9, Post-Entry Checklist, Item 2 - delete "Emer" and delete "NO. 1". Add "AUTO".

Item 10 will be renumbered 7, so that checklist now reads:

6. Emer O_2 handle - EMER
7. Fuel handles - CHECK/IN
8. At 10,000 feet, main ..... etc.
9. Astronaut preparation for ..... etc.
10. Landing Bag telelight - GREEN
11. Press Reg handle - PULL AND TURN
12. UHF/DF switch - R/T
13. Fuel dump, check ..... etc.

28. On page 85, Reference No. 10, C W Code, Part II - add "RA RCS Auto" after "FB Fly-By-Wire".

ENCLOSURE 2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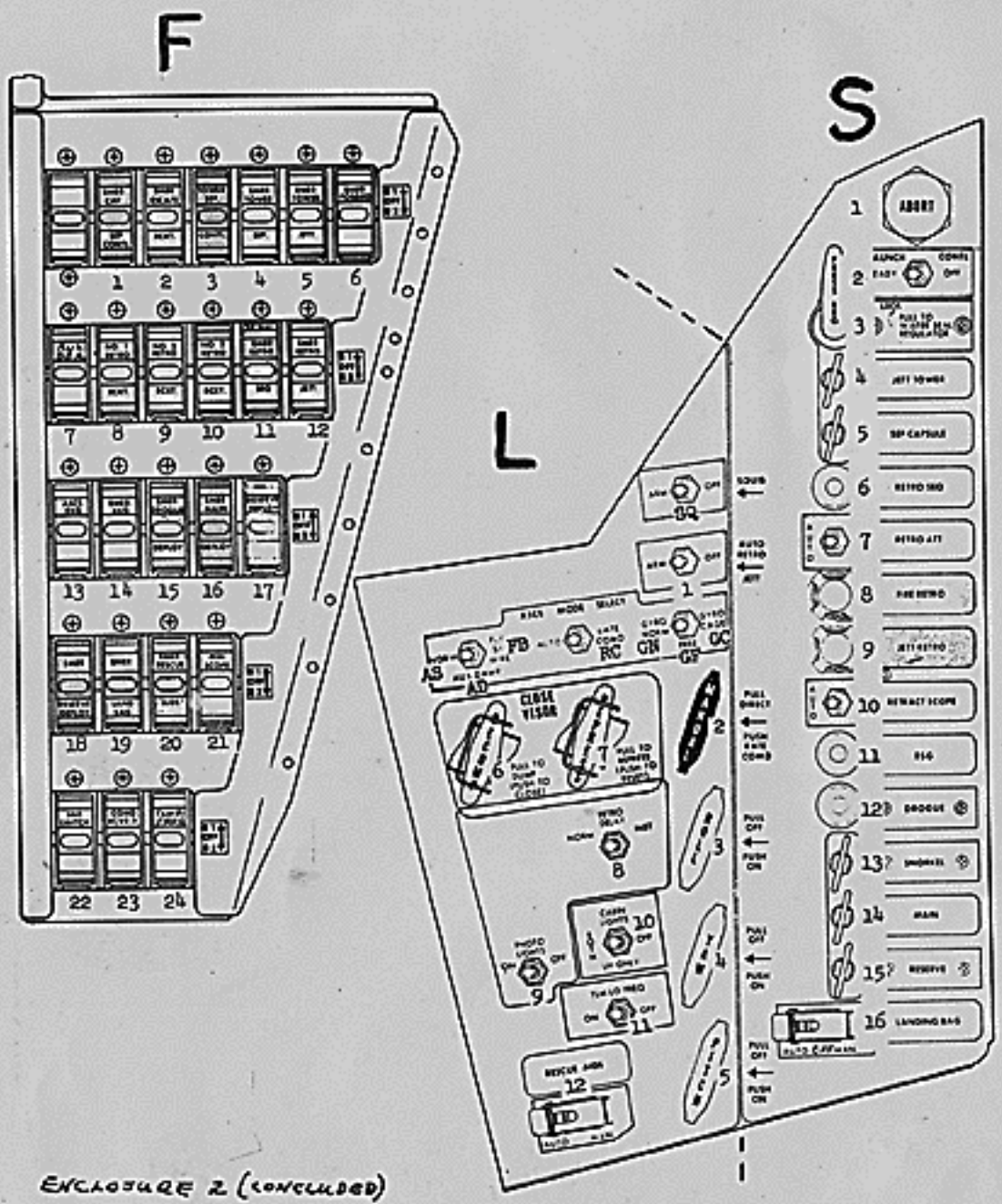

ENCLOSURE 2 (CONCLUDED)

cc. Rmst

NASA - Manned Spacecraft Center
Langley Air Force Base, Virginia
January 18, 1962

MEMORANDUM for All Concerned

Subject: Revision B to Flight Plan for Mercury-Atlas Mission 6

1. Enclosed herewith is one copy of the Revision B to the Flight Plan for Mercury-Atlas Mission 6 dated December 21, 1961.

2. This revision consists of pen and ink corrections to the Flight Plan.

Jeremy B. Jones
Flight Activities Section
Spacecraft Operations Branch

Enc:
1. Revision B

Received (a)
1/24/62
cpt

Revision B to MA-6 Flight Plan. This message in 15 paragraphs.

Para. 1: General - It has been reported that some Flight Plans dated December 21, 1961, did not reproduce completely. Flight Plan should include one cover sheet, one page with names of persons to be contacted for changes, one page of 13 Mission Rules, one page for Table of Contents, and pages numbered 1 through 109 inclusive. Ascertain that all pages noted are printed and that no blank pages exist, particularly in the consecutively numbered pages.

Para. 2: Revise Mission Rules 5 to read, "When the spacecraft is on FBW or manual proportional control, the spacecraft attitude will be kept within a 3 axis limit, a 2 axis limit, or a single axis limit as follows:

Pitch	Yaw	Roll
plus 60, -64 deg.	plus/minus 30 deg.	plus/minus 30 deg.
plus 60, -64 deg.	plus/minus 60 deg.	0 deg.
0 deg.	0 deg.	plus/minus 60 deg.

The yaw turnaround during second orbit will be an exception to this rule."

Para. 3: Replace the word "retrofire" with the word "retrosequence" throughout except as used in the title of reference 8. Reference 8 title should continue to read "Post retrofire checklist".

Para. 4: Page 2, times 0:03:00, 0:03:30, 0:04:00, and 0:04:30 under comments, change "cabin pressure" to read "cabin pressure holding".

Para. 5: Pages 23 and 24, times 0:03:00, 0:03:30, 0:04:00, and 0:04:30 under launch, change "cabin pressure _____" to read "cabin pressure holding". If cabin pressure does not hold, astro will give cabin pressure reading.

Para. 6: Page 3, time 0:08:00 or ASAP after 0:06:15 activity, delete "0:08:00 or". Time block should now read "ASAP after 0:06:15 activity".

Para. 7: Add the following remarks enclosed in quotes to the comments block for the pages, times, and activities indicated: 5, 0:21:00, possible overlap KNO-CYI, "Astro gets retrosequence time for area 1C"; 5, 0:30:00, 30 minute report, "Astro gets retrosequence time for area 1D"; 6, 0:40:30, Sunset 0730 launch, "Astro gets retrosequence times for areas 1E, F, and H"; 9, 1:27:00, GO NO-GO decision, "Astro gets retrosequence times for areas 2A, G, and H"; 10, 1:34:00, 30 minute report, "Astro gets retrosequence times for areas 2B and 2C"; 13, 2:14:00, observation of flare from IOS, "Astro gets retrosequence times for areas 2D, 2E, and G"; 15, 2:58:00, GO NO-GO, "Astro gets retrosequence times for areas 3A and H"; 16, 3:07:00, Blood pressure, vision, and standard 30 minute report, "Astro gets retrosequence times for Areas 3B and 3C"; 18, 3:46:00, Communications change, "Astro gets retrosequence times for Areas 3D, 3E, and H."

Para. 8: Delete the statement "Give contingency retrosequence time(s) for area(s) (designated area)" from the following station pass pages: First orbit: ZZB 32, MUC 34, WOM 35, CTN 36, GYM 38; Second orbit: BDA 43, ZZB 47, MUC 49, WOM 50, CTN 51, HAW 52; Third orbit: MCC 57, BDA 58, ATS 60.

Para. 9: Under station pass procedures add the following remarks enclosed in quotes to the CAPCOM transmission which occurs directly after the astro's capsule status report for the stations and pages indicated: First orbit: ZZB 32, "Give retrosequence time for Area 1D. Confirm Area 1C retrosequence time was received from KNO"; IOS 33, "Give retrosequence times for Areas 1E, F, and H. Confirm Area 1D retrosequence time was received from ZZB"; MUC 34, "Confirm area 1E, F and H retrosequence times were received from IOS"; GYM 38, "Give retrosequence times for areas 2A, G and H". Second orbit: MCC 42, "Give retrosequence times for areas 2B and 2C. Confirm area 2A, G and H retrosequence times were received from GYM"; BDA 43, "Confirm area 2B and 2C retrosequence times were received from MCC"; IOS 48, "Give retrosequence times for

areas 2D, 2E and G"; MUC 49, "Confirm area 2D, 2E and G retrosequence times were received from IOS"; CAL 53, "Give retrosequence times for areas 3A and H"; Third Orbit: MCC 57, "Give retrosequence times for Areas 3B and 3C. Confirm area 3A and H retrosequence times were received from CAL"; ATS 60, "Confirm area 3B and 3C retrosequence times were received from MCC"; IOS 63, "Give retrosequence times for areas 3D, 3E and H"; MUC 64, "Confirm area 3D, 3E and H retrosequence times were received from IOS".

Para. 10: Reference No. 3, page 75, change item 5 to read, "Audio warning tone switches - ON"

Para. 11: Reference No. 6, page 79, change item 1 to read, "Store in container if not already secured: (a) cameras, (b) light meter - visual test device - spectrometer, (c) unexposed film, (d) star navigation device, (e) food." Delete item 2. Add item 6 to read "Store in waterproof bag: (a) microfilm viewer, (b) glasses, (c) exposed film, (d) pliers".

Para. 12: Reference No. 9, page 82, change item 2 to read "At 21,000 feet, drogue deployed". Change item 3 to read "Fuel handles - CHECK/IN". Change item 7 to read "At 10,000 feet, main telelight - GREEN (check main deployment visually)". change [redacted] item 8 to read "Landing Bag Switch - AUTO". [redacted] Add item 12a to read "VOX power-OFF".

Para 13: Reference No. 9a, page 83, add item 4a to read "Store flashlight in pocket on Survival Kit". Add to item 6 "....and waterproof equipment bag".

Para. 14: Reference No. 10, page 2 of enclosure 2 put out with Revision A to the flight plan, picture of left panel, add "RA" below the auto position of the RSCS switch.

Para. 15: Reference No. 22, page 108, items 6, 7, and 11 are now contained in one piece of equipment; list all three under item 6 and delete items 7 and 11. Delete item 14. Add to item 10 "...(in Survival Kit)". Add to item 20 "...with red filter". Add as item 29 "waterproof equipment bag".