

## APPENDIX B

### AIR-GROUND COMMUNICATIONS OF THE MA-6 FLIGHT

The following table is a verbatim transcription of the MA-6 flight communications taken from the spacecraft onboard tape recording. This is therefore a complete transcript of the communications received and transmitted by Astronaut Glenn.

In a few cases, the communications do not agree with post flight detailed analysis of telemetered and recorded data. No attempt has been made to correct the transcript, and, therefore, the technical papers should be considered authoritative in the event of conflict.

In the table, column one is the elapsed time from the launch of the spacecraft in hours, minutes, and seconds that the communicate was initiated. Column two is the duration in seconds of the communicate. Column three identifies the communicator as follows:

- CC—Capsule (spacecraft) Communicator at the range station
- P —Pilot (astronaut)

CT—Communications Technician at the range station

S —Surgeon or medical monitor at the range station

SY—Systems monitor at the range station

R —Recovery personnel

All temperatures are given as °F; all pressures are in pounds per square inch, absolute (psia); fuel, oxygen, and coolant quantities are expressed in remaining percent of total nominal capacities; retrosequence times are expressed in hours, minutes, and seconds (i.e., 04 32 47 means 4 hours, 32 minutes, and 47 seconds from instant of lift-off).

Within the text, a series of dots (. . .) were used to designate times where communicates could not be deciphered. The station in prime contact with the astronaut and the orbit number are designated at the initiation of communications with that station.

#### CAPE CANAVERAL (FIRST ORBIT)

		CC	3, 2, 1, 0
00 00 03	4.0	P	Roger. The clock is operating. We're underway.
00 00 07	1.5	CC	Hear loud and clear.
00 00 08	2.0	P	Roger. We're programing in roll okay.
00 00 13	3.5	P	Little bumpy along about here.
00 00 15	1.0	CC	Roger.
00 00 17	2.0	CC	Standby for 20 seconds.
00 00 19	0.5	P	Roger.
00 00 20	2.0	CC	2-1, mark.
00 00 23	3.5	P	Roger. Backup clock is started.
00 00 32	5.0	P	Fuel 102-101 [percent], oxygen 78-100 [percent], amps 27.
00 00 39	3.0	CC	Roger. Loud and clear. Flight path is good, 69 [degrees].
00 00 43	4.0	P	Roger. Checks okay. Mine was 70 [degrees] on your mark.
00 00 48	2.5	P	Have some vibration area coming up here now.
00 00 52	2.0	CC	Roger. Reading you loud and clear.
00 00 55	4.0	P	Roger. Coming into high Q a little bit; and a little contrail went by the window or something there.
00 01 00	0.5	CC	Roger.
00 01 03	6.5	P	Fuel 102-101 [percent], oxygen 78-101 [percent], amps 24. Still okay.
00 01 12	3.0	P	We're smoothing out some now, getting out of the vibration area.
00 01 16	3.0	CC	Roger. You're through max. Q. Your flight path is . . . .
00 01 19	3.2	P	Roger. Feels good, through max. Q and smoothing out real fine.

CAPE CANAVERAL (FIRST ORBIT)—Continued

00 01 26	4.0	P	Cabin pressure coming down by 7.0 okay; flight very smooth now.
00 01 31	2.0	P	Sky looking very dark outside.
00 01 42	3.0	P	Cabin pressure is holding at 6.1 okay.
00 01 46	3.5	CC	Roger. Cabin pressure holding at 6.1.
00 01 49	3.5	P	Roger. Have had some oscillations, but they seem to be damping out okay now.
00 01 56	9.5	P	Coming up on two minutes, and fuel is 102-101 [percent], oxygen 78-102 [percent]. The g's are building to 6.
00 02 07	5.0	CC	Roger. Reading you loud and clear. Flight path looked good. Pitch 25 [degrees] Standby for.
00 02 12	8.0	P	Roger. BECO, back to 1¼ g's. The tower fired; could not see the tower go. I saw the smoke go by the window.
00 02 21	2.0	CC	Roger. We confirm staging on TM.
00 02 24	0.5	P	Roger.
00 02 27	3.0	P	Still have about 1½ g's. Programming. Over.
00 02 36	7.5	P	There the tower went right then. Have the tower in sight way out. Could see the tower go. Jettison tower is green.
00 02 48	0.3	CC	Roger.
00 02 50	0.5	P	1½ g's.
00 02 53	3.5	CC	Roger, Seven. Still reading you loud and clear. Flight path looks good.
00 02 56	6.0	P	Roger. Auto Retrojettison is off; Emergency Retrojettison Fuse switch, off; Retrojettison Fuse switch, off.
00 03 03	1.5	P	UHF/DF to normal.
00 03 19	2.3	CC	Flight path looks good; steering is good.
00 03 22	5.0	P	Roger. Understand everything looks good; g's starting to build again a little bit.
00 03 30	0.5	CC	Roger.
00 03 32	1.5	CC	Friendship Seven. Bermuda has you.
00 03 34	13.0	P	Roger. Bermuda standby. This is Friendship Seven. Fuel 103-101 [percent], oxygen 78-100 [percent]. All voltages above 25, amps 26.
00 03 48	4.5	CC	Roger. Still reading you loud and clear. Flight path is very good. Pitch, -3 [degrees].
00 03 53	0.5	P	Roger.
00 03 56	3.0	P	My pitch checks a -7 [degrees] on your -3 [degrees].
00 04 00	0.8	CC	Roger, Seven.
00 04 08	10.5	P	Friendship Seven. Fuel 103-101 [percent], oxygen 78-100 [percent], amps 25, cabin pressure holding at 5.8.
00 04 20	5.0	CC	Roger. Reading you loud and clear. Seven, Cape is Go; we're standing by for you.
00 04 25	16.5	P	Roger. Cape is Go and I am Go. Capsule is in good shape. Fuel 103-102 [percent], oxygen 78-100 [percent], cabin pressure holding steady at 5.8, amps is 26. All systems are Go.
00 04 44	2.0	CC	Roger. 20 seconds to SECO.
00 04 47	0.5	P	Roger.
00 04 49	1.5	P	Indicating 6 g's.
00 04 52	0.5	P	Say again.
00 04 53	1.0	CC	Still looks good.
00 04 54	0.5	P	Roger.
00 05 04	4.0	P	SECO, posigrades fired okay.
00 05 10	0.5	CC	Roger, stand . . . .
00 05 12	5.0	P	Roger. Zero-g and I feel fine. Capsule is turning around.
00 05 18	1.8	P	Oh, that view is tremendous!
00 05 21	1.5	CC	Roger. Turnaround has started.
00 05 23	7.0	P	Roger. The capsule is turning around and I can see the booster during turnaround just a couple of hundred yards behind me. It was beautiful.
00 05 30	4.5	CC	Roger, Seven. You have a go, at least 7 orbits.
00 05 35	4.5	P	Roger. Understand Go for at least 7 orbits.
00 05 44	7.0	P	This is Friendship Seven. Can see clear back; a big cloud pattern way back across towards the Cape. Beautiful sight.
00 05 54	3.5	CC	Roger, still reading you loud and clear. Next transmission, Bermuda.
00 05 58	10.5	P	Roger. Understand next transmission, Bermuda. Capsule did damp okay and turned around. Scope has extended, okay. Taking off the filter I had on it before launch.

CAPE CANAVERAL (FIRST ORBIT)—Continued

00 06 02	1.0	P	Making electrical check.
00 06 18	4.5	P	All batteries 25 or above, on main. Going through orbit checklist.
BERMUDA (FIRST ORBIT)			
00 06 25	2.0	CC	Roger, Friendship Seven. Orbit checklist.
00 06 27	6.0	P	Landing Bag is off. Emergency Retrosequence, off. Emergency Drogue Deploy is off.
00 06 38	1.5	CC	Emergency Landing Bag is next.
00 06 40	17.0	P	Roger. Landing Bag was already off. I got it first and reported it. Retromanual is off, and we're all set. This is very comfortable at Zero-g. I have nothing but very fine feeling. It just feels very normal and very good.
00 06 58	2.0	CC	Friendship Seven. Standby for retrosequence times.
00 07 00	1.0	P	Roger. Ready to copy.
00 07 08	4.2	CC	Roger. 1B, 00 17 50.
00 07 08	4.3	P	Roger. 1 Bravo is 00 plus 17 plus 50.
00 07 14	3.6	CC	End of orbit, 01 28 54.
00 07 19	2.9	P	Roger, 01 plus 28 plus 54.
00 07 22	3.8	CC	Roger, end of mission is 04 32 47.
00 07 28	6.3	P	Roger. 04 plus 32 plus 47. Do I have okay for resetting clock? Over.
00 07 36	8.5	CC	Negative, don't reset the clock. Your $V$ over $V_R$ is unity, your apogee altitude is 138 [nautical miles] and are you starting your control systems check?
00 07 45	5.6	P	Roger. As soon as we get done with this transmission. I understand am I cleared to control systems check.
00 07 51	1.7	P	Roger. Starting controls check.
00 08 01	1.1	P	Starting controls check.
00 08 09	1.3	CC	Your attitudes look okay here.
00 08 32	2.4	CC	Friendship Seven. Anything to report on control systems checks.
00 08 34	6.9	P	Not yet, everything appears to be going okay. Am now on the yaw part of the check. Going off right on schedule.
00 08 42	0.8	CC	Very good, very good.
00 08 50	4.5	P	Control so far is excellent. Very good, no problems at all so far on control.
00 08 55	0.6	CC	Roger.
00 09 01	2.7	P	Aux Damp pulls it right in every time. No problems.
00 09 04	0.4	CC	Very good.
00 09 24	1.8	CC	Friendship Seven, Bermuda. Do you still read?
00 09 26	5.6	P	Roger, Bermuda, still read you loud and clear. Still completing control check. Having no problem at all so far.
00 09 32	1.4	CC	Roger, you're still loud and clear.
00 09 35	0.5	P	Roger.
00 09 46	10.8	P	This is Friendship Seven. Working just like clockwork on the control check, and it went through just about like the Procedures Trainer runs. It's very smooth and I checked . . . .
00 09 58	1.9	CC	On UHF, if you read, go to HF.
00 10 00	1.1	P	Roger. Going.
00 10 24	2.8	CC	Friendship Seven, Bermuda CapCom on HF.
00 10 27	3.5	P	Hello, Hello, Bermuda. Receive you loud and clear; how me?
00 10 38	2.1	CC	Friendship Seven, Friendship Seven, Bermuda CapCom on HF.
00 10 40	6.7	P	Hello, Bermuda, Hello, Bermuda CapCom. Friendship Seven reads you loud and clear. Hello, Bermuda, Friendship Seven. How me?
00 10 53	2.2	CC	Friendship Seven, this Bermuda CapCom on HF.
00 10 56	4.4	P	Hello, Bermuda CapCom, this is Friendship Seven. Read you loud and clear; how me?

CANARY (FIRST ORBIT)

00 11 16	1.9	P	Hello, Canary, Friendship Seven. Over.
00 11 20	5.3	CC	Friendship Seven, Friendship Seven, this is Canary CapCom. Read you loud and clear. Over.
00 11 26	14.0	P	Canary, Friendship Seven. Roger. Control check complete. Capsule in ASCS and holding. I have booster in sight out the window. It's probably about 1 mile away and going down under my position and a little bit to my left. Over.
00 11 46	7.3	P	This is Friendship Seven. Everything is still Go. Capsule is in fine shape. Holding pressure at 5.8. Over.

CANARY (FIRST ORBIT)—Continued

00 12 18	3. 4	CC	Friendship Seven, Friendship Seven, this is Canary Cap Com. Do you read? Over.
00 12 21	3. 5	P	Hello, Canary Cap Com, loud and clear on HF. How me? Over.
00 12 26	7. 1	CC	I read you loud and clear. Would you give me your fuel on your control systems check.
00 12 34	6. 7	P	Roger. This is Friendship Seven. Control systems check was perfect. Control systems checks perfect. Over.
00 12 42	3. 4	CC	Roger, Friendship Seven, understand control systems check was perfect.
00 12 47	1. 1	P	That's affirmative.
00 12 52	5. 2	CC	Friendship Seven, this Canary Cap Com. Could you get started with your station report? Over.
00 13 00	2. 4	P	Hello, Canary, Friend Seven. Repeat please. Over.
00 13 05	4. 3	CC	What is your space, spacecraft station, status report?
00 13 10	3. 9	P	This is Friendship Seven. Standby. I'm getting out some equipment. Over.
00 14 03	3. 7	P	Hello, Canary, Friendship Seven, switching to UHF. Over.
00 14 09	4. 6	CC	Friendship Seven, Friendship Seven, Canary Cap Com. Say again.
00 14 23	4. 3	CC	Friendship Seven, Friendship Seven, Canary Cap Com. Read you.
00 14 32	3. 5	P	Hello, Canary, Friendship Seven on UHF. How now? Over.
00 14 37	2. 1	CC	I read you loud and clear.
00 14 39	5. 9	P	Roger, understand loud and clear. I read you much better also, than I did on HF. Over.
00 14 46	1. 3	CC	Same here.
00 14 48	3. 6	P	This is Friendship Seven. Everything is going fine.
00 14 55	3. 2	P	Getting, getting some of the equipment together. Over.
00 14 59	0. 5	CC	Roger.
00 15 12	5. 2	CC	Friendship Seven, Friendship Seven. What is your spacecraft status report? Over.
00 15 17	1: 0. 4	P	Roger. Standby, Will give status report. I am in orbit attitude for your tracking. Status report follows: Fuses all number one except Tower Sep number two. Emergency Retrosequence, Emergency Retrojettison, and Emergency Drogue are in the center-off position. Squib is Armed. Auto Retrojettison is off. ASCS is normal, auto, gyro normal. All "T" handles are in the "in"-position. Retro Delay is normal. Cabin Lights are on both. Photo Lights are still on. Telemetry Low Frequency is on. Rescue Aids are on automatic. Ah, Jettison Tower, and Sep Capsule lights are out. The pressure regulator is still in the "in"-position. Launch control is on. All sequence panel positions are normal except Landing Bag is off. Are you receiving? Over.
00 16 19	1. 8	CC	Understand. We have telemetry solid.
	2. 0	P	Roger, you have telemetry solid.
00 16 25	6. 7	P	Control fuel is 90-98 [percent], I repeat, 90-98 [percent].
00 16 32	2. 9	CC	Automatic fuel is 90 [percent], 98 [percent].
00 16 35	1:21. 7	P	That is affirmative. Attitude: roll 0 [degrees], yaw 2 [degrees] right, pitch -33 [degrees]. Rates are all indicating zero. I am on ASCS at present time. The clock is still set for time to ret, for retrograde time of 04 plus 32 plus 28. I have retrograde times okay from Bermuda. Cabin pressure holding steady at 5.7. Cabin air 90 [degrees]. Relative humidity, 30 [percent]. Coolant quantity is 68 [percent]. Suit environment is 65. Suit pressure is indicating 5.8. Steam temperature 60 [degrees] on the suit. I am very comfortable. However, I do not want to turn it down just yet. Primary oxygen is 78 [percent]; secondary, 102 [percent]. Main bus is 24. Number one is 25, 25, 25. Standby one is 26; Standby two is 25; Isolated, 29, and back on main. Ammeter is indicating 23. ASCS is 112. Fans are 112. Over.
00 17 58	5. 4	CC	I understand, I understand your retrosequence time is 04 32 28. Over.
00 18 04	20. 7	P	That is affirmative. That's what's set in the clock. The horizon is a brilliant, a brilliant blue. There, I have the mainland in sight at present time coming up on the scope, and have Canaries in sight out through the window and picked them up on the scope just before I saw them out of the window. Over.
00 18 26	6. 0	CC	Roger, Friendship Seven. This is Canary CapCom. Repeat blood pressure check, repeat blood pressure check.
00 18 32	5. 0	P	Roger, repeating blood pressure check now. Starting, pumping up.
00 18 41	8. 3	P	This is Friendship Seven. Have beautiful view of the African Coast, both in the scope, and out the window. Out the window is by far the best view.

CANARY (FIRST ORBIT)—Continued

00 18 56	2.7	P	Part of the Canaries was hidden by clouds.
00 19 09	2.8	CC	Roger, I read you. We're getting the blood pressure now.
00 19 12	1.8	P	Roger, Friendship Seven.
00 19 18	5.7	CC	Friendship Seven this is Canary CapCom. Your, your medical status is green; it looks okay.
00 19 24	3.2	P	Roger. This is Friendship Seven. What is blood pressure? Over.
00 19 30	0.4	CC	Standby.
00 19 33		CC	Friendship Seven. Your blood pressure is 120 over 80, repeat 120 over 80.
00 19 38	0.5	P	Roger.
00 19 40	8.2	CC	Friendship Seven, this is Canary CapCom. Your 150 volt-amp inverter is 175°, and holding.
00 19 49	1.6	P	Roger. Friendship Seven.
00 19 52	4.9	CC	Your 250 volt-amp inverter temperature is 150 [degrees], and holding.
00 20 02	1.0	P	Friendship Seven. Roger.
00 20 04	7.0	CC	Your auto fuel line temperature is 70°, your manual fuel line temperature is 100°.
00 20 12	1.9	P	Say again fuel temperatures. Over.
00 20 15	6.7	CC	Negative, your auto fuel line temperature was 70°, 70°.
00 20 22	1.1	P	Roger, very good.
00 20 25	1.9	CC	100°.
00 20 28	0.4	P	Roger.
00 20 33	8.8	P	This is Friendship Seven standing by. I am slightly behind on my checklist at present time. Will get caught up.
00 20 42	2.8	CC	Roger, this is Canary CapCom standing by.
00 21 16	11.4	P	This is Friendship Seven still on ASCS. I can see dust storms down there blowing across the desert, a lot of dust; it's difficult to see the ground in some areas. Over.
00 21 29	2.7	CC	Seven, you are fading; how me? Over.

KANO (FIRST ORBIT)

00 21 33	4.9	CC	Friendship Seven, this is Kano Cap Com, I read you loud and clear. How do you read me? Over.
00 21 37	2.2	P	Roger, Kano, loud and clear; how me?
00 21 40	3.3	CC	Roger, loud and clear. What is your status? Over.
00 21 44	3.5	P	This is Friendship Seven. My status is excellent. I feel fine. Over.
00 21 49	9.0	CC	Roger. I monitored part of your conversation over Canary and heard your comments on the weather over Africa. Will you give us status report? Over.
00 21 59	26.0	P	Roger, this is Friendship Seven. Fuel, 90-98 [percent]. Oxygen, 78-100 [percent]. Cabin pressure holding 5.6 at the present time. Have very little dirt floating around in the capsule, just a little bit and preferring to take xylose pill at present time. Unsealing the, going to unseal the faceplate. Over.
00 22 27	3.9	CC	Roger, Friendship Seven. Your exhaust temperature please. Over.
00 22 32	3.1	P	Say again. Standby one, taking xylose.
00 22 41	4.3	CC	Friendship Seven, this is Kano Cap Com. Can you give us the reading on your exhaust temperature?
00 22 49	1.7	P	Say again, Kano. Over.
00 22 51	2.3	CC	Reading on your exhaust temperature.
00 22 56	2.5	P	Roger. Steam temperature is 59 [degrees]. Over.
00 23 00	8.7	CC	Roger. Friendship Seven. We have TM solid. If you want, we will standby while you do your yaw maneuver and check your systems.
00 23 11	3.5	P	Roger. Friendship Seven. I am taking xylose pill now.
00 23 19	1.9	CC	Roger, Friendship Seven, understand.
00 23 22	4.2	P	This is Friendship Seven, going to, UHF low for check. Over.
00 23 29	1.4	CC	Roger, Friendship Seven.
00 23 48	3.0	P	Hello, Kano. Friendship Seven. UHF Low; how now? Over.
00 23 53	2.6	CC	Friendship Seven, this is Kano Cap Com. Say again.
00 23 56	3.9	P	This is Friendship Seven on UHF Low. How do you receive me? Over.
00 24 00	3.0	CC	Friendship Seven, this is Kano. Read you loud and clear.
00 24 04	2.8	P	Roger, Kano, going back to UHF Hi. Over.
00 24 11	0.4	CC	Roger.
00 24 16	8.3	CC	We have a temperature of 189° on your 150 volt inverter and 150° your 250 volt inverter.

KANO (FIRST ORBIT)—Continued

00 24 28	4.6	P	Roger. This is Friendship Seven on UHF Hi again. Understand inverter temperatures.
00 24 38	5.3	CC	Roger, Friendship Seven. We will standby while you do your yaw maneuver. Over.
00 24 43	9.5	P	Roger, this is Friendship Seven, starting in yaw maneuver. I'm about 40 seconds late on that one. Starting yaw maneuver at present time. Over.
00 24 54	1.1	CC	Roger, understand.
00 24 56	1.7	P	Going to manual control.
00 25 02	2.2	P	Correction, going to fly-by-wire. Over.
00 25 06	3.4	CC	Roger, understand on fly-by-wire for yaw maneuver.
00 25 09	0.7	P	That's affirmative.
00 25 30	16.5	P	This is Friendship Seven, having no trouble controlling on fly-by-wire. Drift is coming around at about 1° per second, and holding attitude okay in other axes. Over.
00 25 46	9.8	CC	Roger. Check drift at 1° per second and holding attitude okay all axes, I have your retrosequence time for Area 1 Charlie.
00 25 57	4.4	P	Standby. Will get it later; I'm in the middle of yaw maneuver at present time. Over.
00 26 02	0.6	CC	Standing by.
00 26 18	5.7	P	This is Friendship Seven at 60° right yaw, and holding temporarily. Over.
00 26 25	2.5	CC	Roger. 60° right yaw and holding.
00 26 34	6.8	P	Attitudes all well within limits. I have no problem holding attitude with fly-by-wire at all. Very easy. Over.
00 26 42	9.4	CC	Roger, check fly-by-wire is very easy. Our telemetry checks all your systems out okay. Are you ready for retrosequence time?
00 26 52	7.5	P	Negative, not yet. I'll pick it up possibly at next station if I lose contact with you. I'm still on manual control here on fly-by-wire. Over.
00 27 01	0.4	CC	Understand.
00 27 24	5.1	P	This is Friendship Seven, returning on fly-by-wire to orbit attitude. Over.
00 27 30	3.8	CC	Roger, Friendship Seven, I check your returning to orbit attitude.
00 27 34	8.6	P	Roger, this is Friendship Seven. Out the window, can see some fires down on the ground, long smoke trails right on the edge of the desert. Over.
00 27 44	6.1	CC	Roger. We've had dusty weather here, and as far as we can see, a lot of this part of Africa is covered with dust.
00 27 50	2.9	P	That's just exactly the way it looks from up here, too.
00 27 55	3.4	CC	Roger. You want to stand by for retrosequence time, Area 1 Charlie?
00 28 01	3.6	P	Roger. Going back on ASCS. Yaw check okay. Can pick up yaw fairly well in the scope. It's a little different display than I had really anticipated, but it checks okay, and I can pick up yaw. I have to be about 5° or so in yaw before I really start picking it up. Over.
00 28 26	11.3	CC	Seven, you are fading rapidly. I will broadcast this time in the blind for Area 1 Charlie, 00 32 12, 00 32 12.
00 28 40	4.2	P	00 32 22. Is that affirm? Over.

ZANZIBAR (FIRST ORBIT)

00 29 25	6.6	P	This is Friendship Seven. Hello, Zanzibar, Friendship Seven. Do you receive? Over.
00 29 39	6.2	CT	Friendship Seven, Friendship Seven, this is Zanzibar Com Tech transmitting on HF, UHF, do you copy? Over.
00 29 45	14.1	P	Roger, Zanzibar Com Tech, read you loud and clear. Control fuel is 90-98 [percent] cabin pressure, 5.6 and holding; oxygen, 75-100 [percent]. Over.
00 30 13	17.3	P	This is Friendship Seven in the blind for recording. Much of eastern Africa is covered by clouds, sort of wispy high cirrus looking clouds. Cannot see too much down there except the cloud decks themselves. Catch a sight of the ground underneath once in a while.
00 30 32	3.9	CC	Friendship Seven, this is Zanzibar Cap Com, reading you loud and clear.
00 30 37	1.2	P	Roger, Zanzibar.
00 30 39	7.2	CC	Message from IOS Cap Com, that he will not release balloon flare this orbit. Will fire parachute flares instead. Did you copy? Over.
00 30 47	2.1	P	Roger, this is Friendship Seven, understand.

ZANZIBAR (FIRST ORBIT)—Continued

00 30 52	10.1	CC	Friendship Seven, this is Zanzibar Cap Com. We have solid telemetry contact, report your status. Over.
00 30 58		P	Roger, this is Friendship Seven. Fuel 90-98 [percent], cabin pressure 55 and holding, oxygen 75-100 [percent], amps 24. Over.
00 31 12	5.3	CC	Roger, Friendship Seven, this is Zanzibar Cap Com. Proceed with 30-minute report. Over.
00 31 18	3.2	P	Roger, this is Friendship Seven. Standby one.
00 31 34	2.2	P	This is Friendship Seven, blood pressure.
00 32 04	11.7	S	Friendship Seven, Zanzibar, this is Surgeon Zanzibar. You've got a good blood pressure trace. It shows the systolic and diastolic, if there's no necessity to repeat, you do not need to.
00 32 15	3.1	P	Roger, this is Friendship Seven, going through exercise.
00 32 48	3.2	P	This is Friendship Seven. Exercise completed, repeating blood pressure.
00 32 54	14.1	S	Friendship Seven, this Surgeon Zanzibar. Your blood pressure was 136 over 80 before exercise. We have good electrocardiographic trace during the time of exercise and you are now in a good level coming down on your blood pressure. Over.
00 33 08	1.9	P	Roger, this is Friendship Seven.
00 33 23	20.7	S	Friendship Seven, this is Zanzibar Surgeon. Blood pressure 136 systolic after exercise, recording well and coming down now to just under 90 for diastolic. Both traces are of excellent quality. Your electro-cardiogram is excellent also. Everything on the dials indicates excellent aeromedical status. Over.
00 33 43	3.9	P	Roger, Friendship Seven. Running through 30-minute check,
00 33 52	23.3	P	This is Friendship Seven. The head movements caused no sensations, whatsoever. Feel fine. Reach test, I can hit directly to any spot that I want to hit. I have no problem reaching for knobs and have adjusted to zero-g very easily, much easier than I really thought I would. I have excellent vision of the charts, no astigmatism or any malfunctions at all.
00 34 15	0.9	...	....
00 34 20	1.9	P	Roger. You should get it now, okay.
00 34 23	0.9	CC	Now, thank you.
00 34 26	12.9	S	Friendship Seven, this is Zanzibar Surgeon, received your report indicating good reach accuracy. No disturbances on head motion, good visual acuity including astigmatism test and good response to exercise. Over. Could you . . . ?
00 34 39	3.9	P	Roger, this is Friendship Seven. Are you ready to copy panel rundown? Over.
00 34 44	3.1	CC	Roger, Friendship Seven. This is Zanzibar CapCom. Proceed.
00 34 48	47.5	P	Ah, Roger, Zanzibar CapCom. Friendship Seven. All fuses remain same as previously reported; have not changed any of them. Squib is armed. Auto Retrojettison is off. ASCS is on normal, auto, gyro normal. All "T" handles are in. Retro Delay is normal. The sequence panel is normal. Landing bag is off. Fuel is 90-98 [percent]. The EPI is indicating just about right on schedule. My attitude is 5 [degrees] left, 3 [degrees] right, -33 [degrees] on pitch. Retrograde time is still set for 04 plus 32 plus 28. Are you receiving? Over.
00 35 37	3.0	CC	Roger, Friendship Seven. Continue with the report.
00 35 40	46.9	P	Roger. This is Friendship Seven. The window, attitude indications, and periscope all check right together in good shape. I can see the dark side coming up in the periscope back behind me at present time. Cabin pressure is 5.5 and holding. Cabin temperature is 95 [degrees]. Relative humidity is 28 [percent]. I have turned the cabin—my suit temperature onto the increased water position for more cooling. Steam temperature is presently indicating 61 [degrees]. Oxygen is 75-100 [percent]. I didn't give suit temperature. Suit inlet temperature is 65 [degrees] and pressure is 5.8. Over.
00 36 28	2.7	CC	Roger, Friendship Seven. Continue with the report.
00 36 31	8.8	P	Roger. All other switches on right panel are normal except for Retrojettison and Retromanual fuse switches in the off position. Over.
00 36 42	3.4	CC	Roger, Friendship Seven. Could you give me suit exhaust temperature? Over.
00 36 45	6.5	P	Roger. Suit exhaust temperature, steam temperature is 61 [degrees]. I have just turned it down. Over.
00 36 54	4.3	CC	Roger, Friendship Seven. Continue with battery voltages. Over.

ZANZIBAR (FIRST ORBIT)—Continued

00 36 58 20.2 P Roger. Battery voltages: Main is 24, Number One is 25, Two is 25, Three is 25, Standby One 25, Standby Two 25, Isolated 29. Ammeter is 22; ASCS, 112; fans, 113. Over.

00 37 20 7.5 CC Roger, Friendship Seven. Are you ready to copy your Contingency Area 1 Delta retrosequence time? Over.

00 37 28 1.7 P Roger. Say 1 Delta.

00 37 30 4.8 CC 1 Delta is 00 50 24. Did you copy? Over.

00 37 35 4.0 P Roger. 00 50 24 for 1 Delta.

00 37 40 9.4 CC Roger, your inverter temperatures 150 volt inverter is 188°, 250 volt inverter, 158°.

00 37 50 4.0 P Roger, Roger, I copy inverter temperatures okay.

00 37 59 12.3 CC Friendship Seven, this is Zanzibar Cap Com. Telemetry indicates all systems go. Medical status go, . . . reports same, we have a little bit of telemetry drop out . . . Standby to pick up IOS in about 3 minutes. Zanzibar Cap Com out.

00 38 22 1.0 P Roger, Zanzibar.

INDIAN OCEAN SHIP (FIRST ORBIT)

00 38 26 7.1 CT Hello, Friendship Seven, Friendship Seven. This is Indian Com Tech . . . .

00 38 41 2.8 P This is Friendship Seven, going on to eye patch.

00 39 04 4.3 CT Hello, Friendship Seven. Friendship Seven, IOS Com Tech. Over.

00 39 09 2.9 P Hello, IOS Com Tech, Friendship Seven. Go ahead.

00 39 28 5.0 CT Friendship Seven, Friendship Seven. This is Indian Com Tech on HF UHF. How do you read? Over.

00 39 36 3.2 P IOS, this is Friendship Seven. Do you read? Over.

00 39 49 5.2 CT Friendship Seven, Friendship Seven. This is Indian Com Tech on HF UHF. How do you read? Over.

00 39 55 3.7 P Indian Com Tech. Read you loud and clear on HF. Over.

00 40 08 5.5 CT Hello Friendship Seven, Friendship Seven. This is Indian Com Tech on HF UHF. How do you read? Over.

00 40 16 2.8 P Indian Com Tech, Friendship Seven. Loud and clear, how me?

00 40 19 6.8 CT Roger, Friendship Seven, reading you loud and clear—

00 40 28 9.8 P This is Friendship Seven. Had a beautiful sunset and can see the light way out almost up to the northern horizon.

00 40 38 1.6 CC . . . .

00 40 57 5.0 CC Friendship Seven, Friendship Seven, . . . . Over.

00 41 04 3.7 P Indian Cap Com, I'm receiving you very garbled. Over.

00 41 09 2.7 CC Roger, . . . , now. Over.

00 41 44 3.6 CC Friendship Seven, Friendship Seven, this is Indian Cap. Over.

00 41 48 3.0 P Go ahead Indian Cap Com. I read you fairly good now. Over.

00 41 51 2.6 CC Roger. Proceed with the rest of your status please. Over.

00 41 55 1.2 P Say again, Indian. Over.

00 41 57 3.4 CC Would you give me your status and consumable readings please? Over.

00 42 01 16.7 P Roger. This is Friendship Seven. My status is very good. I feel fine. Fuel is 90-98 [percent], oxygen 75-100 [percent], amps, 21 present time, cabin pressure holding at 5.5. Over.

00 42 20 2.9 CC Roger, understand, reading you loud and clear now. Over.

00 42 23 1.7 P Roger, loud and clear.

00 42 31 30.1 P This is Friendship Seven. At this, MARK, at this present time, I still have some clouds visible below me, the sunset was beautiful. It went down very rapidly. I still have a brilliant blue band clear across the horizon almost covering my whole window. The redness of the sunset I can still see through some of the clouds way over to the left of my course. Over.

00 43 03 1.0 CC Roger, under . . . .

00 43 06 9.5 P The sky above is absolutely black, completely black. I can see stars though up above. I do not have any of the constellations identified as yet. Over.

00 43 17 1.9 CC Roger, understand Friendship Seven.

00 43 27 5.1 CC Friendship Seven. Would you confirm you received retrosequence time 1 Delta from Zanzibar? Over.

00 43 34 5.0 P This is Friendship Seven. Roger, 1 Delta is 00 50 24.



INDIAN OCEAN SHIP (FIRST ORBIT)—Continued

00 43 42	5.6	CC	Roger. I have areas 1 Echo, Foxtrot, and Hotel. Are you prepared to copy? Over.
00 43 47	1.1	P	Standby one.
00 43 49	1.1	CC	Roger. Let me know.
00 43 54	2.1	P	All right, go ahead with retrotimes. Over.
00 43 57	10.2	CC	Roger. Area 1 Echo is one hour, 15 minutes, 42 seconds. I say again, one hour, 15 minutes, 42 seconds. Over.
00 44 07	4.0	P	Roger. One Echo is 01 plus 15 plus 42.
00 44 13	9.3	CC	Roger. Area Foxtrot is one hour, 28 minutes, 50 seconds. I say again, one hour, 28 minutes, 50 seconds.
00 44 22	3.5	P	Roger. Foxtrot is 01 plus 28 plus 50.
00 44 26	9.4	CC	That is affirmative. Area Hotel is four hours, 32 minutes, 42 seconds. Four hours, 32 minutes, 42 seconds. Over.
00 44 36	3.2	P	Roger. 04 plus 32 plus 42. Over.
00 44 40	1.5	CC	Roger. That is affirmative. Over.
00 44 42	17.0	P	Roger. This is Friendship Seven. I am having no trouble at all seeing the night horizon. I think the moon is probably coming up behind me. Yes, I can see it in the scope back here and it's making a very white light on the clouds below. Over.
00 45 01	1.2	CC	Roger, understand.
00 45 08	3.9	CC	Friendship Seven, we have launched our flare. You understand it is . . . . Over.
00 45 12	1.0	P	That is affirmative.
00 45 20	2.9	CC	We have been advised that it has been ignited. Do you see anything? Over.
00 45 25	5.8	P	This is Friendship Seven. Negative. I don't have anything in the scope or out the window.
00 45 35	0.9	CC	Roger, understand.
00 45 49	5.2	CC	Friendship Seven, this is Indian Cap Com. Do you have any feelings from weight- lessness? Over.
00 45 54	3.8	P	This is Friendship Seven. Negative, I feel fine so far. Over.
00 45 59	0.8	CC	Roger, understand.
00 46 03	8.0	P	This is Friendship Seven. Turning suit water to increase position. I am still run- ning steam temperature of about 60 [degrees.] Over.
00 46 13	0.8	CC	Roger, understand.
00 46 15	5.3	P	I am now on suit temperature setting of 1.7. Over.
00 46 21	3.1	CC	Roger, understand. What is your control mode? Over.
00 46 24	2.9	P	Control mode is ASCS automatic. Over.
00 46 28	0.7	CC	Roger, understand.
00 46 32	5.7	P	Roger. The night side is light enough; I can even see the horizon okay out through the periscope. Over.
00 46 40	1.1	CC	Roger. Over.
00 46 42	1.2	P	Friendship Seven, Roger.
00 46 59	3.2	CC	Friendship Seven, this is Indiana CapCom. We now have IOS. Over.
00 47 02	1.6	P	Roger, understand IOS.
00 47 08	2.5	CC	Your voice transmissions are starting to fade very badly. Over.
00 47 11	1.3	P	Roger. Friendship Seven.
00 47 15	2.1	CC	. . . clear, IOS Cap Com. Out.
00 47 18	0.5	P	Roger.
00 48 55	43.7	P	This is Friendship Seven, broadcasting in the blind. Wait a minute. Friendship Seven, broadcasting in the blind, making observations on night outside. There seems to be a high layer way up above the horizon; much higher than anything I saw on the daylight side. The stars seem to go through it and then go on down toward the real horizon. It would appear to be possibly some 7 or 8 degrees wide. I can see the clouds down below it; then a dark band, then a lighter band that the stars shine right through as they come down toward the horizon. I can identify Aries and Triangulum.

MUCHEA (FIRST ORBIT)

00 49 49	3.7	CT	Friendship Seven, Muchea Com Tech. We read you. Would you.
00 49 55	4.8	P	Hello, Muchea Com Tech. This is Friendship Seven, reading you loud and clear. How me?
00 50 01	3.1	CC	Roger, Friendship Seven. Muchea Cap Com. How me? Over.

MUCHEA (FIRST ORBIT)—Continued

00 50 05	5.1	P	Roger. How are you doing Gordo? We're doing real fine up here. Everything is going very well. Over.
00 50 10	1.2	CC	John, you sound good.
00 50 12	12.4	P	Roger. Control fuel is 90-100 [percent], oxygen is 75-100 [percent], amps are 22, all systems are still go. Having no problems at all. Control system operating fine. Over.
00 50 25	3.6	CC	Roger. Do you have any star or weather or landmark observations as yet? Over.
00 50 29	27.4	P	Roger. I was just making some to the recorder. The only unusual thing I have noticed is a rather high, what would appear to be a haze layer up some 7 or 8 degrees above the horizon on the night side. The stars I can see through it as they go down toward the real horizon, but it is a very visible single band or layer pretty well up above the normal horizon. Over.
00 50 58	1.2	CC	Roger, very interesting.
00 51 00	15.5	P	This is Friendship Seven. I had a lot of cloud cover coming off of Africa. It has thinned out considerably now and although I can't definitely see the ocean, there is a lot of moonlight here that does reflect off what clouds there are. Over.
00 51 16	12.4	CC	Roger. You had an excellent cutoff, John. Your velocity was 8 feet per second low. $V$ over $V_R$ , 1.0002. Can you confirm your retrosequence 1 Easy, Foxtrot, and Hotel from Indian Ocean Ship? Over.
00 51 29	1.4	P	That is affirmative. I did.
00 51 32	6.1	CC	Roger. Your yaw check over ATS was good. Your yaw when you were on fly-by-wire over IOS was excellent.
00 51 38	0.5	P	Roger.
00 51 40	2.5	CC	Are we clear to send you a Z and R Cal? Over.
00 51 44	1.0	P	Roger.
00 51 46	1.3	CC	Z Cal coming through now.
00 51 51	5.0	CC	Roger. Shortly you may observe some lights down there. You want to take a check on that to your right? Over.
00 51 56	3.5	P	Roger. I'm all set to see if I can't get them in sight.
00 52 00	3.4	CC	Roger. You do have your visor closed at this time. Over.
00 52 03	5.6	P	This is affirmative. I had it open for a little while; it's closed now. Cabin pressure is holding in good shape. Over.
00 52 10	2.7	CC	Roger, Z Cal is off. R Cal is coming through now.
00 52 13	0.5	P	Roger.
00 52 16	2.9	CC	Any symptoms of vertigo or nausea at all? Over.
00 52 19	3.0	P	Negative, no symptoms whatsoever. I feel fine. Over.
00 52 23	0.4	CC	Very well.
00 52 31	5.2	CC	Roger. Your 150 VA inverter is 180°. Looks like it's doing pretty well.
00 52 36	2.2	P	Roger. Looks like it is holding up fine.
00 52 46	0.8	CC	R Cal is off.
00 52 48	0.4	P	Roger.
00 53 01	1.3	P	That was sure a short day.
00 53 04	1.2	CC	Say again, Friendship Seven.
00 53 05	2.6	P	That was about the shortest day I've ever run into.
00 53 08	1.6	CC	Kinda passes rapidly, huh.
00 53 10	0.4	P	Yes Sir.
00 53 12	0.3	CC	Fine.
00 53 15	5.1	CC	Okay. Do you have any landmark, any other landmark observations to make? Over.
00 53 20	10.6	P	This is Friendship Seven. I have the Pleiades in sight out here, very clear. Picking up some of these star patterns now. Little better than I was just off of Africa.
00 53 33	3.5	CC	Roger, understand you have Pleiades in sight. Have you sighted Orion yet? Over.
00 53 38	2.4	P	Negative. Do not have Orion in sight yet.
00 53 41	7.6	CC	Within a few seconds, you should have Orion and Canopus and Sirius probably in sight very shortly thereafter. The moon will be off. . . .
00 53 50	0.4	P	Roger.
00 53 56	2.4	CC	Do you have time to send us a blood pressure reading? Over.
00 53 59	1.5	P	Roger. Standby.
00 54 03	0.3	CC	Roger.
00 54 20	3.2	CC	Roger. The surgeons are standing by for your blood pressure whenever you're ready.
00 54 25	2.5	P	Roger. I'm already sending it. Did they pick it up? Over.

MUCHEA (FIRST ORBIT)—Continued

00 54 28	1.5	CC	Roger. They have it in good shape.
00 54 31	4.8	P	Roger. I do have the lights in sight on the ground. Over.
00 54 36	2.5	CC	Roger. Is it just off to your right there?
00 54 39	12.3	P	That's affirmative. Just to my right I can see a big pattern of lights apparently right on the coast. I can see the outline of a town and a very bright light just to the south of it. On down . . .
00 54 52	2.1	CC	Perth and Rockingham, you're seeing there.
00 54 54	4.9	P	Roger. The lights show up very well and thank everybody for turning them on, will you?
00 55 00	0.9	CC	We sure will, John.
00 55 02	17.2	P	Very fine. On down farther to the south and inland, I can see more lights. There are two, actually four patterns in that area. And also, coming into sight in the window now is another one almost down under me. The lights are very clear from up here.
00 55 19	1.3	CC	Roger. Sounds good.

WOOMERA (FIRST ORBIT)

00 55 26	6.8	CC	Friendship Seven, Friendship Seven. This is Woomera Cap Com, reading you loud and clear. We have TM solid. Woomera standing by.
00 55 33	1.3	P	Roger, Woomera.
00 55 40	8.2	CC	Friendship Seven. We have your blood pressure readout, reading 126 over 90. What kind of results from your physiological tests? Over.
00 55 49	20.7	P	This is Friendship Seven. I have had no ill effects at all as yet from any zero-g. It's very pleasant, in fact. Visual acuity is still excellent. No astigmatic effects. Head movements caused no nausea or discomfort whatsoever. Over.
00 56 11	6.1	CC	Roger, Friendship Seven. Let's go ahead with this 30-minute report please, starting with the fuse panel positions. Over.
00 56 17	46.1	P	Roger. This is 30-minute report coming up. Have gone through head movements and I get no effect from that. Have gone through the reach test and have no problem with that at all. My orientation is good, vision is clear. My moving target, looking at a light spot back and forth causes no ill effects whatsoever. Running the light test at present time and all lights do check okay in the capsule. I am over a large cloud bank at present time, almost extending to the left of my course which would be to the south. Over.
00 57 04	3.2	CC	Roger, Friendship Seven. Let's continue on with this 30-minute report.
00 57 07	1:13.9	P	Roger. Panel rundown follows: The fuse switches on the left panel are all as previously reported, without repeating them again. Squib is armed. Auto Retrojettison is off. ASCS Mode Select is normal, auto, gyro normal. All "T" Handles are in. The Retro Delay is normal, Cabin lights are on both. I have the red filters on, of course. The Telem low frequency is on. Rescue Aids is auto. All sequence panel items are normal except the Landing Bag to the center-off position. Fuel is 90-100 [percent]. Attitude indications are 5 [degrees] right, 3 [degrees] left, 36 [degrees] down. EPI is indicating fairly well, indicating almost over Woomera at present time. Time from launch on my mark will be 58 plus 15. Standby-MARK. Retrograde time is still set at 04 plus 32 plus 28.
00 58 23	34.6	P	Cabin pressure is holding steady at 5.5. Temperature in the cabin is 100 [degrees]. Cabin humidity is 25 percent, Coolant quantity is 67 percent. Suit environment is 62 [degrees]. Inlet pressure. Inlet temperature, . . . pressure is 5.8 on the suit. Steam temperature is 57 [degrees] and dropping since I turned it down. Oxygen is 74-101 [percent]. Amps 23. Are you still copying? Over.
00 58 59	1.7	CC	Affirmative, Friendship Seven. Go ahead.
00 59 07	27.3	P	Roger. Main Bus is 24, One is 25, 25, 25. Standby One is 25, 25. Isolated 29, and Main 24 again. Fans 113, ASCS 113. All switch fuses on the right are on except Retrojettison and Retromanual in the center-off position. All other switches normal. Over.
00 59 32	11.7	CC	Hello. Roger, Friendship Seven. Read you loud and clear. All systems appear go at this time. Your clocks are in sync. We have the Woomera Airport lights on. Do you, do you see? Over.
00 59 44	12.9	P	This is Friendship Seven. Negative, I do not; there's too much cloud cover in this area. I had the lights at Perth in good shape; they were very clear, but I do not have the lights at Woomera; sorry. Over.

WOOMERA (FIRST ORBIT)—Continued

00 59 58	1.3	CC	Roger, Friendship Seven.
01 00 01	2.3	CC	Friendship Seven, let's have another blood pressure check please. Over.
01 00 05	1.4	P	Friendship Seven, Roger.
01 00 24	8.5	CC	Hello, Friendship Seven, Woomera Cap Com. 150 volt inverter temperature reading 195 [degrees]; 250 inverter temperature reading 172 degrees.
01 00 34	0.4	P	Roger.
01 00 45	3.1	CC	Friendship Seven, this is Woomera Cap Com. What's your cabin temperature reading? Over.
01 00 50	2.1	P	Woomera, standby just a moment, please.
01 00 58	1.9	P	Say again. You wanted cabin temperature?
01 01 01	0.9	CC	Roger, Friendship Seven.
01 01 02	1.8	P	Cabin temperature 100 [degrees]. Over.
01 01 06	6.1	CC	Roger, Friendship Seven. Your Roll Auto Line temperature is reading 110 [degrees].
01 01 12	1.5	P	Roger.
01 01 14	1.7	CC	Temperature is reading 95 [degrees]. Over.
01 01 16	1.5	P	Roger, Friendship Seven.
01 01 19	4.5	P	This is Friendship Seven. Getting some pictures of star. Over.
01 01 26	1.1	CC	Roger, Friendship Seven.
01 02 00	2.6	CC	Hello Friendship Seven, Woomera Cap Com. Do you read me? Over.
01 02 04	3.2	P	Roger, Woomera Cap Com. Still read you loud and clear. How me?
01 02 08	14.3	CC	Weak but readable, Friendship Seven. All systems appear go at this time. Blood pressure reading 125 over 90. You have an HF check coming up in about 2 minutes and 30 seconds, and Canton acquisition approximately 7 minutes. Over.
01 02 22	8.0	P	Roger, Friendship Seven. Thank you very much. All systems are still go at this time. Switching to HF. Over.
01 02 31	2.2	CC	Roger, Friendship Seven. This is Woomera Cap Com. Out.
01 03 17	3.1	P	Hello Woomera, Friendship Seven on HF. Do you receive me? Over.
01 04 00	13.5	P	This is Friendship Seven. This is Friendship Seven, broadcasting in the blind to the Mercury network. 1, 2, 3, 4, 5. This is Mercury Friendship Seven. Out.
01 04 16	11.9	CC	This is Canaveral Cap Com, testing the HF. G.m.t. 15 (Cape) 52 05, MARK. I did not read the capsule. Cape, out.
01 05 17	10.0	CC	Friendship Seven, this Kano. G.m.t. 15 53 02. I did (Kano) not read your transmission. Kano, out.
01 05 32	7.8	CC	Friendship Seven, this is Zanzibar Cap Com. . . . This is Zanzibar Cap Com, out.

CANTON (FIRST ORBIT)

01 09 44	2.7	CT	Friendship Seven. This is Canton Com Tech. Do you read? Over.
01 09 53	4.9	P	Hello, Canton. Hello, Canton. This is Friendship Seven. Read you loud and clear, how me? Over.
01 10 00	3.9	P	Hello Canton. Hello Canton, Friendship Seven. Read you loud and clear. How me? Over.
01 10 08	5.1	CT	Friendship Seven, Canton Com Tech. Read you loud and clear, also. Stand by for Cap Com.
01 10 14	13.8	P	Roger. This is Friendship Seven. Com Tech Canton. Fuel 90-100 [percent], oxygen 73-101 [percent].
01 10 28	2.4	CC	Seven, this is Canton Cap Com. Go ahead. Over.
01 10 32	15.1	P	Roger, Canton Cap Com. My report follows: Fuel 90-100 [percent], oxygen 73-100 [percent], amps 22, cabin pressure holding steady at 5.5 Over.
01 10 50	4.0	CC	Friendship Seven, this is Canton Cap Com. Would you repeat that please?
01 10 55	5.6	P	Roger, Canton. Friendship Seven repeating. First, do you have TM solid? Over.
01 11 02	4.1	CC	Friendship Seven, this is Canton. Affirmative, we do have TM solid.
01 11 07	12.7	P	Roger, message follows: Control fuel 90-100 [percent], oxygen 73-100 [percent], amps 22, cabin pressure 5.5 and holding steady. Over.
01 11 21	4.2	CC	Ah, Roger, Friendship Seven. What control mode are you in the present time? Over.
01 11 26	4.2	P	This is Friendship Seven. Still in automatic, automatic. Over.
01 11 32	2.8	CC	Roger, Friendship Seven. Canton standing by.
01 11 35	1.4	P	Roger, Friendship Seven.

CANTON (FIRST ORBIT)—Continued

01 12 06	17.0	CC	Friendship Seven. This is Canton Cap Com. All systems on the ground appear go. Your 150 volt-amp inverter temperature is presently 188°, repeat 188°. Your clocks are in sync. Over.
01 12 23	1.8	P	Roger, Friendship Seven. Thank you.
01 12 29	2.7	P	This is Friendship Seven, preparing to eat. Over.
01 12 35	1.4	CC	Roger, Friendship Seven.
01 12 42	9.6	P	This is Friendship Seven. I had a big storm in sight off to the south, of course, for a little while and had lightning flashes going around on top of the clouds. I could see it very clearly. Over.
01 12 53	0.3	CC	Roger.
01 13 09	3.2	P	This is Friendship Seven. Opening visor, going to eat. Over.
01 13 13	0.9	CC	Roger, Friendship Seven.
01 14 60	13.5	P	This is Friendship Seven. Having no trouble at all eating, very good. In the periscope, I can see the brilliant blue horizon coming up behind me; approaching sunrise. Over.
01 14 15	2.3	CC	Roger, Friendship Seven. You are very lucky.
01 14 19	1.6	P	You're right. Man, this is beautiful.
01 14 30	16.0	P	This is Friendship Seven. Have eaten one tube of food, shutting the visor. I've had no problem at all eating. Oh, the sun is coming up behind me in the periscope, a brilliant, brilliant red. Over.
01 14 48	0.4	CC	Roger.
01 14 53	12.2	P	This is Friendship Seven. It's blinding through the scope on clear. It's started up just as I gave you that mark; I'm going to the dark filter to watch it come on up.
01 15 06	0.4	CC	Roger.
01 15 24	21.3	P	This is Friendship Seven. I'll try to describe what I'm in here. I am in a big mass of some very small particles, that are brilliantly lit up like they're luminescent. I never saw anything like it. They round a little; they're coming by the capsule, and they look like little stars. A whole shower of them coming by.
01 15 57	12.6	P	They swirl around the capsule and go in front of the window and they're all brilliantly lighted. They probably average maybe 7 or 8 feet apart, but I can see them all down below me, also.
01 16 06	3.1	CC	Roger, Friendship Seven. Can you hear any impact with the capsule? Over.
01 16 10	16.8	P	Negative, negative. They're very slow; they're not going away from me more than maybe 3 or 4 miles per hour. They're going at the same speed I am approximately. They're only very slightly under my speed. Over.
01 16 33	10.1	P	They do, they do have a different motion, though, from me because they swirl around the capsule and then depart back the way I am looking.
01 16 46	1.3	P	Are you receiving? Over.
01 16 55	2.5	P	There are literally thousands of them.
01 17 16	3.7	P	This is Friendship Seven. Am I in contact with anyone? Over.
01 17 30	11.7	P	This has been going on since about 1 plus 15. Over. Just after I remarked about the sunset. I looked back up and looked out the window, and all the little swirl of particles was going by. Over.
01 19 24	6.6	P	This is Friendship Seven. This is Friendship Seven, broadcasting in the blind again on HF.
01 19 38	40.9	P	This is Friendship Seven, broadcasting in the blind. Sunrise has come up behind in the periscope. It was brilliant in the scope, a brilliant red as it approached the horizon and came up; and just as the—as I looked back up out the window, I had literally thousands of small, luminous particles swirling around the capsule and going away from me at maybe 3 to 5 miles per hour. Now that I am out in the bright sun, they seem to have disappeared. It was just as the sun was coming up. I can still see just a few of them now, even though the sun is up some 20° above the horizon.

GUAYMAS (FIRST ORBIT)

01 20 44	7.1	CT	Friendship Seven, Friendship Seven. This is Guaymas Com Tech, Guaymas Com Tech, transmitting on HF-UHF. Do you read? Over.
01 20 51	7.8	P	Hello, Guaymas Com Tech, Guaymas Com Tech. This is Friendship Seven. Receive your HF loud and clear. How me? Over.

GUAYMAS (FIRST ORBIT)—Continued

01 21 00	9.0	CC	Friendship Seven, Friendship Seven. This is Guaymas Cap Com. You're little garbled right now, but understandable. What is, what is your status? Over.
01 21 08	15.6	P	This is Friendship Seven on HF. My status is excellent. Everything is going according to plan. Control fuel is 90-100 [percent], oxygen is 72-101 [percent], amps 22. Over.
01 21 29	4.3	CC	Roger, Friendship Seven. Would you repeat your oxygen please? Over.
01 21 34	4.9	P	This is Friendship Seven. Oxygen is 72-101 [percent]. Over.
01 21 42	0.6	CC	Roger.
01 21 50	4.9	CC	Friendship Seven, Guaymas Cap Com. Everything looks fine from here.
01 21 57	3.9	P	Roger. This is Friendship Seven. Understand everything looks okay.
01 22 01	6.3	CC	. . . 110. Your main inverter temperatures are rising slightly, but everything is okay now. Over.
01 22 09	1.7	P	Roger. Friendship Seven.
01 22 32	6.4	P	This is Friendship Seven. I still have some of these very small particles coming around the capsule. Over.
01 22 42	3.2	CC	Friendship Seven, Guaymas Cap Com. Say again, please. Over.
01 22 46	17.3	P	This is Friendship Seven. Just as the sun came up, there were some brilliantly-lighted particles that looked luminous, that were swirling around the capsule. I don't have any in sight right now; I did have a couple just a moment ago, when I made the transmission to you. Over.
01 23 10	0.9	CC	Roger, Friendship Seven.
01 23 21	9.5	P	This is Friendship Seven. For the record, number, the number two film that I'm putting in the camera is the number four roll.
01 23 52	19.1	CC	Friendship Seven. Guaymas Cap Com. We have about 3 minutes yet before we acquire telemetry. I'll give you, I'll give you your retrosequence times for Areas 2 Alpha, Golf, Hotel. Area 2 Alpha is 01 36 38.
01 24 11	6.2	P	This is Friendship Seven. Standby. I'm not ready to copy yet; I'm changing film in the camera. Over.
01 24 23	1.4	CC	Roger, we're standing by.
01 24 52	6.1	P	This is Friendship Seven, going back and using the number 2 roll if I can get hold of it.
01 25 07	3.1	P	Negative, number 2 is missing; I'm using number 3.
01 25 17	2.6	CC	Friendship Seven, Guaymas Cap Com. Say again, please.
01 25 21	7.1	P	This is Friendship Seven, I was making a transmission for the record here on what film I was loading. Over.
01 25 31	0.4	CC	Roger.
01 26 05	4.1	CC	Friendship Seven, Guaymas Cap Com. Could you go to UHF now?
01 26 10		P	Roger. This is Friendship Seven, going to UHF.
01 26 40	3.2	P	Hello, Guaymas, Friendship Seven on UHF. Do you receive? Over.
01 26 44	1.8	CC	Roger, Friendship Seven, loud and clear. Over.
01 26 47	5.3	P	Hello, Roger, this is Friendship Seven. Loud and clear with you also. Are we still go from Control Center? Over.
01 26 53	1.0	CC	Roger, we're still go.
01 26 55	12.3	P	Roger. Friendship Seven. All systems are go in the capsule. I still have some of these little particles coming around the capsule occasionally here. I can see them against the dark sky even on the day side. Over.
01 27 10	1.3	CC	Roger, understand.
01 27 19	5.9	CC	Friendship Seven, Guaymas. Do you want your contingency times now? Over.
01 27 27	2.3	P	This is Friendship Seven. Ready to copy.
01 27 32	8.5	CC	Area 2 Alpha 01 36 38. Area Golf 03 00 41.
01 27 42	2.1	P	Say again Area Golf again, please.
01 27 45	4.3	CC	Area Golf 03 00 41.
01 27 50	4.6	P	Roger, Area Golf is 03 plus 00 plus 41. Is that affirm?
01 27 56	5.3	CC	That's affirmative. Area Hotel is 04 32 40.
01 28 02	4.5	P	Roger, 04 plus 32 plus 40 for Hotel.
01 28 13	5.5	CC	Friendship Seven, Guaymas. If you have a chance, could you give us a blood pressure check? Over.
01 28 20	8.0	P	Roger. Friendship Seven. Will give blood pressure check. I still have some of these particles that I cannot identify coming around the capsule occasionally. Over.
01 28 30	1.7	CC	Roger. How big are these particles?

GUAYMAS (FIRST ORBIT)—Continued

01 28 32	16.7	P	Very small, I would indicate they are on the order of 16th of an inch or smaller. They drift by the window and I can see them against the dark sky. Just at sunrise there were literally thousands of them. It looked just like a myriad of stars. Over.
01 28 50	3.8	CC	Roger. Are they moving by you or floating with you? Over.
01 28 54	9.2	P	Some of them almost float with me. Most of them appear to be moving at about 3 to 5 miles an hour away from me. I'm going just a little faster than they are. Over.
01 29 05	0.5	CC	Roger.
01 29 44	6.4	CC	Friendship Seven, Guaymas Cap Com. We have a scope retract indication on ground. Believe it's ground failure. Over.
01 29 52	3.8	P	That is affirmative. The scope is extended. The scope is extended. Over.
01 29 57	0.4	CC	Roger.
01 30 03	3.7	P	This is Friendship Seven. A lot of cloud cover. I cannot see land yet. Over.
01 30 11	4.5	P	This is Friendship Seven. Yaw is drifting out of orbit attitude and will bring it back in. Over.
01 30 16	0.4	CC	Roger.
01 30 18	7.0	CC	Friendship Seven, Guaymas. I said the, I have an indication of scope retract. Your say your scope is out, though? Over.
01 30 26	0.8	P	That is affirmative.
01 30 28	0.4	CC	Roger.

CALIFORNIA (FIRST ORBIT)

01 30 30	3.7	CC	Friendship Seven, California Cap Com. We have your scope as extended.
01 30 34	2.7	P	That is affirmative, Cal, scope is extended.
01 30 39	1.3	CC	Roger, we concur here.
01 30 41	0.4	P	Roger.
01 30 44	9.1	P	This is Friendship Seven. Yaw drifted out of limits about 20 degrees to the right. I'm bringing it back in manually at present time. Over.
01 30 55	0.5	CC	Roger.
01 31 03	2.6	P	This is Friendship Seven. Back on ASCS.
01 31 15	3.9	CC	Friendship Seven, Guaymas. You were on ASCS when it started drifting out. Over.
01 31 19	1.2	P	That is affirmative.
01 31 25	4.8	P	This is Friendship Seven. Now on fly-by-wire to hold orbit attitude.
01 31 33	6.5	P	This is Friendship Seven. I have the land in sight out the window. Controlling manually, on fly-by-wire.
01 31 41	3.0	CC	Friendship Seven. Is the ASCS OK now? Over.
01 31 45	2.5	P	I'll switch back on to it now and see.
01 32 03	3.8	P	This is Friendship Seven. Negative. Seems to, well, standby one.
01 32 15	5.1	P	This is Friendship Seven. Affirmative. Seems to be controlling now. There may be some drift to the right, however. Over.
01 32 22	0.4	CC	Roger.
01 32 29	17.3	P	This is Friendship Seven. It drifts about out 20° to the right and then gets a large pulse to kick it back over to the left. It goes in about, the rate runs over to about 3 degrees per second, to the left.
01 32 45	4.3	P	It's drifting again in yaw. Over. And once again pulls through.

CANAVERAL (SECOND ORBIT)

01 32 50	1.5	CT	Cape Com Tech. Do you read? Over.
01 32 52	2.3	P	Roger, Cape Com Tech. Friendship Seven. Over.
01 33 03	2.3	P	Hello, Cape Com Tech. Friendship Seven. Over.
01 33 14	5.1	CT	Friendship Seven, this is Cape Com Tech, Cape Com Tech. Do you read? Over.
01 33 19	2.2	P	Roger, Cape Com Tech. Friendship Seven.
01 33 23	2.0	P	Hello, Cape Com Tech. Friendship Seven. Over.
01 33 27	3.8	CT	Friendship Seven, this is Canaveral Com Tech. How do you copy? Over.
01 33 31	4.9	P	Friendship Seven to Canaveral. Read you loud and clear. How me? Over.
01 33 37	4.0	CT	Friendship Seven, Canaveral Com Tech. Read you loud and clear. Standby for Cap Com. Over.
01 33 42	0.4	P	Roger.

CANAVERAL (SECOND ORBIT)—Continued

01 33 44	7.4	CC	Friendship Seven, Cap Com. Would you give us the difficulty you've been having in yaw in ASCS? Over.
01 33 52	39.0	P	Roger. This is Friendship Seven. I'm going on fly-by-wire so I can control more accurately. It just started as I got to Guaymas, and appears to be it drifts off in yaw, to the right at about 1° per second. It will go over to an attitude of about 20°, and hold at that and when it hits about a 20° point it then goes into orientation mode and comes back to zero, and it was cycling back and forth in that mode. I am on fly-by-wire now and controlling manually. Over.
01 34 32	5.4	CC	Roger. Understand. Do you have a retrofire time for 2 Bravo and 2 Charlie?
01 34 39	1.9	P	This is Friendship Seven. Negative.
01 34 41	12.2	CC	OK, 2 Bravo, 01 50 00; 2 Charlie, 02 05 59. Over.
01 34 57	20.6	P	Ah, this is Friendship Seven. Understand 1 Bravo is 01 plus 50 plus 00; 2 Charlie, correction 2 Bravo is 01 50 00, 2 Charlie is 02 plus 05 plus 59. Is that affirm?
01 35 09	2.1	CC	That is affirmative. Standby one, please.
01 35 27	13.2	P	This is Friendship Seven. What appears to have happened is, I believe, I have no one pound thrust in left yaw. So it drifts over out of limits and then hits it with the high thrust. Over.
01 35 41	3.8	CC	Roger, Seven, we concur here. Recommending you remain fly-by-wire.
01 35 45	1.8	P	Roger, remaining fly-by-wire.
01 35 56	7.0	CC	Seven, this is Cape. The President will be talking to you and while he is talking I'll be sending Z and R cal.
01 36 05	1.2	P	Ah—President.
01 36 07	0.9	CC	Go ahead, Mr. President.
01 36 47	1.7	P	This is Friendship Seven, standing by.
01 36 50	3.6	CC	Roger, Seven. Having a little difficulty. Start off with your 30 minute report.
01 36 54	39.4	P	Roger. This is Friendship Seven, controlling manually on fly-by-wire, having no trouble controlling. Very smooth and easy; controls very nicely. Fuses are still the same on the left panel. Squib is, Squib is armed. Auto Retrojettison is off. ASCS is fly-by-wire, auto, gyro normal. All fuel, all "T" handles are in, Retro Delay is normal. I have beautiful view out the window of the coast at present time. Just departing. Can see the, way down across Florida. Cannot quite see the Cape yet.
01 37 35	0.3	CC	Roger.
	22.4	P	Continuing with the report. No sequence panel lights showing. Only abnormal position. Landing bag is off. The EPI is indicating okay. Control fuel is 80 [percent] auto, 100 [percent] manual. Retrograde time set in is 04 plus 32 plus 28. Over.
01 38 00	1.3	CC	Roger, still reading you.
01 38 02	2.4	P	Roger. Are we in communication yet? Over.
01 38 06	1.0	CC	Say again, Seven.
01 38 08	5.1	P	Roger. I'll be out of communication fairly soon. I thought if the other call was in, I would stop the check. Over.
01 38 14	1.9	CC	Not as yet, we'll get you next time.
01 38 16	40.7	P	Roger. Continuing report. Cabin pressure 5.5 and holding nicely. Cabin air is 95 [degrees]; relative humidity, 20 [percent]; coolant quantity is 67 [percent]; temperature is 67 [degrees] on the suit; 5.8 on the pressure; steam temperature is 50 [degrees] and coming down slowly. Oxygen is 70-100 [percent]; amps, 22. Only really unusual thing so far beside ASCS trouble were the little particles, luminous particles around the capsule, just thousands of them right at sunrise over the Pacific. Over.
01 38 59	5.2	CC	Roger, Seven, we have all that. Looks like you're in good shape. Remain on fly-by-wire for the moment.
01 39 04	1.3	P	Roger. Friendship Seven.

BERMUDA (SECOND ORBIT)

01 39 09	1.7	CC	Friendship Seven, this is Bermuda Cap Com.
01 39 11	0.7	P	Go ahead, Bermuda.
01 39 13	1.8	CC	Roger, we read you 5 by 5.
01 39 15	2.0	CC	Seven, this is Cape. Go to Bermuda now.

(CNV)



BERMUDA (SECOND ORBIT)—Continued

01 39 18	2.6	P	Roger. This is Friendship Seven. Go ahead, Bermuda.
01 39 24	4.5	CC	Roger, Friendship Seven. Your oculogyric test is due in a minute and 30 seconds.
01 39 29	7.8	P	Roger. This is Friendship Seven. I am controlling fly-by-wire, present time. I have no left yaw low thrust. Over.
01 39 38	1.9	CC	Roger, we understand all of your reports.
01 39 40	0.4	P	Roger.
01 40 19	0.9	CC	Friendship Seven. Bermuda.
01 40 20	1.4	P	Go ahead, Bermuda. Friendship Seven.
01 40 23	2.1	CC	Have you started your oculogyric test yet?
01 40 25	2.2	P	Negative, not yet. Just getting set at the present time.
01 41 00	1.7	CC	Friendship Seven, have you started your test yet?
01 41 02	2.4	P	This Friendship Seven. That's affirmative, starting now.
01 41 05	0.5	CC	Roger.
01 41 50	4.0	P	This is Friendship Seven. I can get no, no results from that at all.
01 42 05	2.0	P	Hello, Bermuda Cap Com. Friendship Seven. Over.
01 42 08	0.4	CC	Friendship Seven.
01 42 09	4.4	P	This is Friendship Seven. Oculo check being completed. Got no effects.
01 42 13	0.8	CC	. . . Com. Go ahead.
01 42 14	5.2	P	Bermuda Cap Com, Friendship Seven. I get no results from oculo check.
01 42 20	1.3	CC	Cap Com. If you read, go ahead.
01 42 22	3.4	P	Bermuda, Friendship Seven. I get no results from oculo check. Over.
01 42 41	1.6	CC	Friendship Seven, Bermuda Cap Com on HF.
01 42 44	2.6	P	Bermuda, this is Friendship Seven. Do you receive me now? Over.
01 42 55	1.8	CC	Friendship Seven, Bermuda Cap Com. How do you read?
01 42 59	3.6	P	Hello, Bermuda Cap Com. Friendship Seven, HF. Do you receive me now? Over.
01 43 03	3.3	CC	On HF. What are the results of the oculogyric test, please?
01 43 07	3.7	P	Results negative. Get no effect at all, no effect at all. Over.
01 43 11	2.6	CC	Roger. Understand no effects from oculogyric. Thank you.
01 43 14	0.7	P	That's affirmative.
01 43 38	2.2	CC	Friendship Seven, Bermuda Cap Com. Do you read?
01 43 41	2.1	P	Roger, Bermuda. Loud and clear; how me?
01 43 44	1.4	CC	Roger. We still are reading you loud and clear.
01 43 50	3.4	P	Roger. Friendship Seven getting ready for 1 plus 44 check.
01 44 01	14.4	P	This is Friendship Seven broadcasting blind to Mercury Network on from just off the east coast over middle Atlantic, check completed at 15.
01 44 17	7.4	CC	. . . testing on HF G.m.t. 16 31 59 MARK. I read the capsule weak, but read- able. Cape, out.
01 44 31	6.7	CC	(CNV) Friendship Seven, this is Bermuda Cap Com on HF. We did not read the capsule. G.m.t. 16 32 15.

CANARY (SECOND ORBIT)

01 44 41	11.5	CC	Friendship Seven, Friendship Seven, this is CYI. The time now 16 32 26. We are reading you loud and clear; we are reading you loud and clear. CYI.
01 44 57	10.7	P	This is Friendship Seven on UHF. As I went over recovery area that time, I could see a wake, what appeared to be a long wake in the water. I imagine that's the ships in our recovery area.
01 45 09	5.8	CC	Friendship Seven, . . . We do not read you, do not read you. Over.
01 45 17	9.6	CC	Friendship Seven, this is Kano. At G.m.t. 16 33 00. We do not. . . This (KNO) is Kano. Out.
01 46 38	4.0	CT	Friendship Seven, Friendship Seven, this is CYI Com Tech. Over.
01 46 46	6.7	P	Hello, Canary. Friendship Seven. Receive you loud and a little garbled. Do you receive me? Over.
01 46 55	4.3	CT	Friendship Seven, Friendship Seven, this is CYI Com Tech. Over.
01 47 01	4.0	P	Hello, Canary, Friendship Seven. I read you loud and clear. How me? Over.
01 47 25	3.7	CT	Friendship Seven, Friendship Seven, this is CYI Com Tech. Over.
01 47 30	5.4	P	Hello, CYI Com Tech. Friendship Seven. How do you read me? Over.
01 47 48	4.2	CT	Friendship Seven, Friendship Seven, this is CYI, CYI Com Tech. Do you read? Over.
01 47 54	4.0	P	Roger. This is Friendship Seven, CYI. I read you loud and clear. Over.
01 48 15	4.8	CT	Friendship Seven, Friendship Seven, this is CYI Com Tech, CYI Com Tech. Do you read? Over.
01 48 20	2.9	P	Hello, CYI Com Tech. Roger, read you loud and clear.

CANARY (SECOND ORBIT)—Continued

01 48 26	5.3	CT	Friendship Seven, this is CYI Com Tech. Read you loud and clear also, on UHF, on UHF. Standby.
01 48 32	1.3	P	Roger. Friendship Seven.
01 48 51	5.6	CC	Friendship Seven, Friendship Seven, Friendship Seven, this is Canary Cap Com. How do you read? Over.
01 48 58	3.3	P	Hello, Canary Cap Com. Friendship Seven. I read you loud and clear. How me?
01 49 02	11.9	CC	I read you loud and clear. I am instructed to ask you to correlate the actions of the particles surrounding your spacecraft with the actions of your control jets. Do you read? Over.
01 49 15	5.1	P	This is Friendship Seven. I did not read you clear. I read you loud but very garbled. Over.
01 49 22	15.5	CC	Roger. Cap asks you to correlate the actions of the particles surrounding the vehicle with the reaction of one of your control jets. Do you understand? Over.
01 49 39	4.1	P	This is Friendship Seven. I do not think they were from my control jets, negative. Over.
01 49 52	2.2	CC	Roger, I understand.
01 49 58	5.9	CC	Friendship Seven, Friendship Seven, this is Canary Cap Com. Please complete your status report.
01 50 06	8.7	P	This is Friendship Seven. My status is excellent. I have control of capsule on fly-by-wire at present time. Control fuel is 80-100 [percent]; oxygen, 69-100 [percent]; amps, 22. Over.
01 50 25	8.0	CC	Understand your auto fuel is 80 [percent], your manual fuel is 100 [percent], Main O <sub>2</sub> is 69 [percent], secondary O <sub>2</sub> is 100 [percent]. Over.
01 50 35	1.7	P	Roger. This is Friendship Seven.
01 50 40	2.2	CC	Friendship Seven, would you take a deep breath?
01 50 43	1.6	P	Roger. Friendship Seven. Deep breath.
01 50 50	0.5	CC	That's good.
01 50 52	6.3	P	This is Friendship Seven. Have Cape Verde Islands in sight to my left. Over.
01 50 59	1.0	CC	Roger, I understand.
01 51 04	2.9	CC	Friendship Seven, your medical status is excellent.
01 51 08	1.1	P	Roger. Friendship Seven.
01 51 15	6.4	P	This is Friendship Seven. The sun coming through the window is very warm where it hits the suit. I get quite a bit of heat from it.
01 51 23	0.5	CC	Roger, I understand.
01 51 28	3.8	CC	Friendship Seven, are you going through your day horizon check?
01 51 33	1.6	P	This is Friendship Seven. Say again.
01 51 36	2.8	CC	Are you going through the day horizon check?
01 51 42	8.6	P	This is Friendship Seven. Negative, not at present time. I am going to start into a yaw right very shortly. Over.
01 51 52	1.0	CC	Roger, I understand.
01 51 55	3.1	P	This is Friendship Seven. Correction: will do day horizon check now.
01 51 59	1.2	CC	Roger. Standing by.
01 52 09	3.4	P	Friendship Seven, coming up to 14°.
01 52 24	1.5	CC	When are you coming up?
01 52 29	0.4	CC	. . . coming up . . . .
01 52 31	2.5	P	Say again. You're very garbled. This is Friendship Seven.
01 52 34	3.9	CC	Roger. We have you at 3° on the ground on TM readouts.
01 52 39	1.7	P	Roger. Friendship Seven.
01 52 44	1.7	CC	We have you about 14 [degrees].
01 52 54	4.2	P	This is Friendship Seven. I have no problem at all controlling on the horizon. Over.
01 53 00	3.7	CC	Roger, understand you have no problem at all controlling with the horizon.
01 53 05	0.8	P	That's affirmative.
01 53 22	1.2	P	This is Friendship Seven.

ATLANTIC SHIP (SECOND ORBIT)

01 53 26	0.8	CC	Friendship Seven, I read you.
01 53 30	3.5	CC	Friendship Seven, Friendship Seven, this is ATS Cap Com. Over.
01 53 34	2.1	P	Hello, ATS Cap Com. Loud and clear; how me?

ATLANTIC SHIP (SECOND ORBIT)—Continued

01 53 38	3.2	CC	Roger, Friendship Seven. You are loud and clear, also.
01 53 48	5.5	P	This is Friendship Seven. My troubles in yaw appear to have largely reversed.
01 53 54	1.7	CC	Friendship Seven, we just lost . . . .
01 53 56	2.6	CC	Roger. Troubles appear to have reversed. Over.
01 53 59	12.7	P	That is affirmative. At one time, I had no left low thrust in yaw, now that one is working, and I now have no low right thrust in yaw. Over.
01 54 14	4.9	CC	Roger, no right yaw, low thrust. Over.
01 54 20	5.1	P	Roger. This is Friendship Seven. Starting 180° yaw right. Over.
01 54 26	4.5	CC	Roger. Starting 180° yaw right. Standing by, go ahead.
01 55 07	0.8	CC	MARK 50°.
01 55 10	1.7	P	This is Friendship Seven. Say again.
01 55 13	1.8	CC	My mark was on 50 degrees.
01 55 15	0.6	P	Roger.
01 55 27	0.8	CC	MARK, a hundred.
01 55 29	0.5	P	Roger.
01 55 52	6.0	P	This is Friendship Seven. Have yawed 165 [degrees], holding orbit attitude in roll and pitch. Over.
01 55 59	4.3	CC	Roger, I confirm, confirm your values. Over.
01 56 05	1.2	P	Roger. Friendship Seven.
01 56 12	3.2	P	This is Friendship Seven, holding 180° in yaw. Over.
01 56 17	3.3	CC	Roger, holding 180° in yaw.
01 56 27	1.6	P	This is Friendship Seven.
01 56 33	1.0	CC	Go ahead, Friendship Seven.
01 56 35	5.2	P	This is Friendship Seven. I like this attitude very much, so you can see where you're going. Over.
01 56 41	3.4	CC	Roger, say you liked your attitude? Over.
01 56 45	1.4	P	Say again, please. Over.
01 56 49	6.0	CC	Friendship Seven, this is ATS Cap Com, suggest you . . . . Over.
01 57 01	4.2	P	This is Friendship Seven. I have a loose bolt floating around inside the periscope.
01 57 13	3.6	CC	Did not read, did not read. Say again, say again.
01 57 25	3.5	P	This is Friendship Seven, yawing back to orbit attitude. Over.
01 57 29	3.3	CC	Roger, coming back to orbit attitude. Over.

KANO (SECOND ORBIT)

01 57 38	2.7	CC	Friendship Seven, this is Kano Cap Com, standing by.
01 57 42	2.3	P	Hello, Kano. Roger. Hear you loud and clear.
01 57 50	6.3	CC	Friendship Seven, this is Kano. Any time you're ready, we'd like your status report. We hear you loud and clear, also.
01 57 59	9.6	P	Roger, Kano. This is Friendship Seven. I am presently returning to orbit attitude from 180° yaw check. Over.
01 58 08	9.5	CC	Roger, Friendship Seven. We marked that your part of the transmission pretty clearly over ATS, and understand you like the old attitude.
01 58 18	4.5	P	Negative, I like the forward-facing attitude much better. Like, . . . .
01 58 24	5.0	CC	But, how is your status, and your station report?
01 58 29	12.2	P	This is Friendship Seven. My status is good. Control fuel is 76-100 [percent]; oxygen, 68-100 [percent]; amps, 25. Over.
01 58 44	10.8	CC	Roger, Friendship Seven. We are monitoring your inverters. Your 150-volt inverter 200°, your 250, 180°-180°.
01 58 57	1.1	P	Roger. Friendship Seven.
01 59 10	9.8	CC	Friendship Seven, we have telemetry solid and check all your systems out okay. We will remind you to start pre-darkside check list as soon as you lose contact with us.
01 59 20	1.0	P	Roger. Friendship Seven.
01 59 23	2.1	P	This is Friendship Seven, back in orbit attitude. Over.
01 59 26	2.3	CC	Roger, understand back in orbit attitude.
01 59 29	1.3	P	This is Friendship Seven. That's affirm.
01 59 32	8.9	P	This is Friendship Seven. I now have control in low thrust to the left. I do not have control in low right thrust. Over.
01 59 42	6.5	CC	Roger. Confirm you have control in low thrust to the left, but no control in low thrust to right.
01 59 49	1.6	P	That is affirmative. Friendship Seven.

KANO (SECOND ORBIT)—Continued

01 59 51	3.9	CC	We will inform MCC. Have you any other comments or queries?
01 59 55	5.4	P	Negative. Friendship Seven. I'm in orbit attitude. I'll try and go back on ASCS and see if it works. Over.
02 00 02	1.3	CC	Roger. Will stand by.
02 00 03	0.4	P	Roger.
02 00 28	2.6	P	This is Friendship Seven. The capsule appears . . . .
02 00 38	2.5	CC	Friendship Seven, your last transmission was interrupted.
02 00 41	7.9	P	This is Friendship Seven. The capsule appears to be holding in ASCS okay, but I believe we are off in yaw. Do you confirm? Over.
02 00 50	0.6	CC	Standby.
02 00 53	3.7	CC	Our signal shows you are sitting at zero in yaw.
02 01 03	16.2	P	This is Friendship Seven. I'm going to depart from flight plan for a moment and try and work this out a little better here, we are drifting in yaw. I am cutting automatic yaw off. And, and will control manually in yaw temporarily. Over.
02 01 20	5.0	CC	Roger, we still confirm you are holding in yaw, at, as last TM check.
02 02 28	4.6	CC	Friendship Seven, this is Kano Cap Com. I do not think I can read you, handing over to Zanzibar.
02 02 37	1.5	P	Roger, this is Friendship Seven.

ZANZIBAR (SECOND ORBIT)

02 02 49	6.1	CT	Friendship Seven, Friendship Seven this is Zanzibar Com Tech, transmitting on HF UHF. Do you read? Over.
02 02 56	1.8	P	Roger, Zanzibar. Friendship Seven.
02 03 10	6.3	CT	Friendship Seven, Friendship Seven, this is Zanzibar Com Tech, transmitting on HF UHF. Do you read? Over.
02 03 16	3.3	P	Roger, Zanzibar. Read you loud and clear; how me? Over.
02 03 30	2.8	P	Zanzibar Com Tech, this is Friendship Seven. Over.
02 03 40	1.0	P	Zanzibar Com Tech.
02 03 42	5.2	CT	Friendship Seven, this is Zanzibar Com Tech transmitting on HF UHF. Do you read? Over.
02 03 47	3.6	P	Roger, Zanzibar. Friendship Seven. Hear you loud and clear; how me?
02 04 08	3.7	P	Zanzibar, this is Friendship Seven. Do you receive? Over.
02 04 14	8.8	CC	Friendship Seven, this is Zanzibar Cap Com, reading you weak but readable. We have solid telemetry contact. Report your status. Over.
02 04 22	37.2	P	Roger. This is Friendship Seven. My status: I am on ASCS, it is not holding all the time. My trouble in yaw has reversed. During the first part of the flight, when I had trouble over the west coast of the United States, I had a problem with the yaw, with no low thrust to the left; now I have thrust in that direction but do not have low thrust to the right. When the capsule drifts out in that area, it hits high thrust and drops into orientation mode, temporarily. Over.
02 05 01	7.5	CC	Roger, Friendship Seven. This is Zanzibar Cap Com. Continue with your 30-minute report. Over.
02 05 13	1:30.2	P	Roger. This is Friendship Seven. Thirty-minute report follows: Head movements cause no nausea or no bad feelings at all. I am surprised that I can look as close to the sun as I can; the sun is shining directly on my face at present time, and all I have to do is to shade my eyes with my eyebrow. All fuse switches are still as previously reported on left panel. ASCS Mode Select is normal, auto, gyro normal; Squib is armed, Auto Retrojettison is off. All "T" handles are in except manual and I have it pulled so that I can immediately go to manual as a backup in case the ASCS malfunctions further. The Rescue Aids are normal. Landing bag is off. All other sequence panel items are in normal position. Control fuel is 68-100 [percent], repeat, 68-100. EPI is indicating my approximate position. Time from launch is 02 plus 06 plus 30 MARK. Retrograde time for [area] H is still set for 04 plus 32 plus 28. I would like to know if Canaveral wants me to reset that into the clock. Over.
02 06 45	2.2	P	To reset the correct time on the clock. Over.
02 06 50	1.4	CC	Standby one, Friendship Seven.
02 06 53	0.5	P	Roger.
02 07 03	7.9	CC	Friendship Seven, this is Zanzibar Cap Com. We don't have word from Canaveral instructing us to instruct you to change the clock at this time.

ZANZIBAR (SECOND ORBIT)—Continued

02 07 11	2.1	P	Roger, Roger.
02 07 20	2.7	CC	Friendship Seven, continue with 30-minute report.
02 07 24	54.2	P	Roger. This is Friendship Seven. Thirty-minute report continues. Cabin pressure is 5.6 and holding. Cabin temperature is 95 [degrees] and dropping slowly. The relative humidity is 20 [percent], coolant quantity is 67 [percent], and suit environment temperature is 68 [degrees], pressure is 5.8. Steam temperature is 47 [degrees], and I'm turning that down a little bit more now. Oxygen is 68-100 percent; amps, 22; voltages: main 24, 25, 25, 25; standby one, 25, 25. Cabin excess water light is on, turning that one down. Over.
02 08 20	1.8	CC	Roger, Friendship Seven. Continue.
02 08 23	1.1	P	Roger. Friendship Seven.
02 08 27	3.5	P	Standby one, I need to reorient the capsule. We're getting too far out. Over.
02 08 32	0.4	CC	Roger.
02 08 40	46.3	P	This is Friendship Seven. Sun, I want to make a mark here when the sun goes down. Sun is on the horizon at the present time, a brilliant blue out from each side of it. And I'll give a mark at the last. The sun is going out of sight. Ready now, MARK (2:09:06). There's a brilliant blue out on each side of the sun, horizon to horizon almost. I can see a thunderstorm down below me somewhere, and lightning.
02 09 44	8.4	P	And I am not night adapted right now, so I cannot see any of the zodiacal light.
02 09 56	9.0	CC	Friendship Seven, this is Zanzibar Cap Com. Contingency time for Area 2 Delta, 02 38 31. Did you copy? Over.
02 10 07	2.0	P	Say again, contingency area time. Over.
02 10 10	3.3	CC	02 38 31. Over
02 10 14	2.2	P	02 38 31, Roger.
02 10 20	5.7	CC	Friendship Seven, this is Zanzibar Cap Com. Please comment on reach accuracy and visual acuity. Over.
02 10 26	27.4	P	Right, visual acuity is good. I have no problem reading the charts, no problem with the astigmatism at all. I am having no trouble at all holding attitudes either. I'm still on fly-by-wire. I'm on normal ASCS but I'm backing it up with manual at present time. Over.
02 10 56	4.3	CC	Roger, Friendship Seven. We have intermittent pitch ignore.
02 11 02	11.7	CC	The inverter temperatures are 205° for fans inverted 190° for ASCS inverter. We are losing telemetry contact. Stand by to contact IOS, Zan.
02 11 15	1.1	P	Roger. Friendship Seven.
02 11 33	5.1	P	This is Friendship Seven, Zanzibar. Does Cape recommend any action on inverters? Over.
02 12 04	3.9	P	This is Friendship Seven. Have a lot of lightning under me at the present time.
02 12 50	9.1	P	This is Friendship Seven. I still have very bright light along the horizon; orange at the bottom, yellowish layer, then blue, then very dark on top.

INDIAN OCEAN SHIP (SECOND ORBIT)

02 13 18	5.7	CT	Friendship Seven, Friendship Seven, this is Indian Com Tech on HF and UHF How read? Over.
02 13 24	18.9	P	This is Friendship Seven. I read you okay, Indian Com Tech. This is Friendship Seven. I am on straight manual control at present time. I have 92 percent fuel. Over on, on manual, auto fuel is at 64 [percent]. Over.
02 13 57	8.1	CC	Friendship Seven, Friendship Seven, this is Indian Cap Com. You are fading in and out. Say again your fuel positions. Over.
02 14 00	3.1	P	This is Friendship Seven. Standby one.
02 14 04	0.8	CC	Roger standing by.
02 14 10	9.9	P	This is Friendship Seven. Capsule dropped into orientation mode again on ASCS. I took it over manually and am reorienting at present time. Over.
02 14 21	2.7	CC	Roger, understand you're reorienting in manual. Over.
02 14 24	15.5	P	Right, it dropped into orientation mode. I have fuel quantity warning light on in automatic. I'm okay at present time. Have capsule under control and using manual. Over.
02 14 36	3.3	CC	Roger, understand. Will you give me a list of your consumables, please? Over.
02 14 40	1.1	P	Roger. Standby one.
02 14 45	15.7	P	This is Friendship Seven. Fuel, 62-90 [percent]; oxygen, 68-100 [percent]; amps, 20. Over.

INDIAN OCEAN SHIP (SECOND ORBIT)—Continued

02 15 02	3. 0	CC	Roger, Roger. You're coming in loud and clear, loud and clear. Over.
02 15 06	8. 5	P	Roger. This is Friendship Seven. I have good night horizon check, can control okay on night horizon.
02 15 18	0. 9	CC	Roger, understand.
02 15 28	4. 4	CC	Friendship Seven, this Indian Cap Com. Can you see any constellations and identify them? Over.
02 15 33	9. 9	P	This is Friendship Seven. Affirmative. I'm pitching up at present time to try and identify some of them. At capsule attitude in orbit, you can't see very much of the sky. Over.
02 15 44	1. 1	CC	Roger, understand.
02 16 09	4. 8	CC	Friendship Seven, this is Indian Cap Com. Are you prepared to copy your retro-sequence time? Over.
02 16 15	2. 1	P	This is Friendship Seven. Standby one.
02 16 18	0. 4	CC	Roger.
02 17 19	3. 9	CC	Friendship Seven, this is Indian Cap Com. Be advised we have flare ignition. Over.
02 17 24	4. 9	P	Roger. This is Friendship Seven. Do not have it in sight; cloud cover solid underneath. Over.
02 17 30	1. 1	CC	Roger, understand.
02 18 13	5. 3	P	This is Friendship Seven. IOS, do you have any indication of fuel temperatures? Over.
02 18 20	0. 8	CC	Standby one.
02 18 45	10. 1	CC	Friendship Seven, this is Indian Cap Com. We read 95° on auto fuel temp, 95° on manual fuel temp. Standby one.
02 19 01	0. 4	P	Roger.
02 19 03	3. 3	CC	We read 65° on manual fuel temp. Over.
02 19 07	3. 0	P	Roger, understand 65° on manual fuel temp.
02 19 12	8. 9	CC	That is affirmative. We have message from MCC for you to keep your Landing Bag switch in off position, Landing Bag switch in off position. Over.
02 19 21	1. 4	P	Roger. This is Friendship Seven.
02 19 25	3. 1	CC	Roger. Are you prepared to copy retrosequence times? Over.
02 19 28	0. 6	P	Standby one.
02 19 31	1. 5	P	Okay. Friendship Seven. . . .
02 19 35	4. 1	CC	Roger. Do you have Area 2 Delta time, Area 2 Delta? Over.
02 19 39	1. 3	P	Friendship Seven. Negative.
02 19 41	8. 8	CC	Roger. Area 2 Delta time is 2 hours, 38 minutes, 31 seconds. I say again, 2 hours, 38 minutes, 31 seconds. Over.
02 19 50	2. 6	P	Roger. Friendship Seven. 2 plus 38 plus 31.
02 19 54	5. 9	CC	Roger. Area 2 Echo is 2 hours plus 48 minutes plus 59 seconds.
02 20 00	0. 5	P	Say,
02 20 02	2. 4	CC	48 minutes, plus 59 seconds. Over.
02 20 05	3. 3	P	2 hours plus 48 minutes plus 59 seconds for 2 Echo.
02 20 10	11. 1	CC	Roger. End of orbit area Golf is 3 hours plus 00 minutes plus 39 seconds, I say again, 3 hours plus 00 minutes plus 39 seconds. Over.
02 20 23	4. 2	P	Roger, 03 plus 00 plus 39 seconds.
02 20 27	1. 2	CC	Roger, that is affirmative.
02 20 37	4. 2	CC	Friendship Seven, this is Indian Cap Com. Have you noticed any constellations yet? Over.
02 20 41	12. 7	P	This is Friendship Seven. Negative. I have some problems here with ASCS. My attitudes are not matching what I see out the window. I've been paying pretty close attention to that; I've not been identifying stars. Over.
02 20 55	0. 9	CC	Roger, understand.

MUCHEA (SECOND ORBIT)

02 21 19	6. 8	CT	Friendship Seven, Friendship Seven, this is Mucnea Com Tech. Friendship Seven, this is Mucnea Com Tech. Do you read?
02 21 28	2. 5	P	Hello, Mucnea Com Tech, Friendship Seven. Over.
02 21 45	6. 9	CT	Friendship Seven, Friendship Seven, this is Mucnea Com Tech. Have your telemetry. Mucnea Com Tech. Do you read?
02 21 51	4. 0	P	Hello, Mucnea Com Tech. Friendship Seven. Read you loud and clear; how me?

MUCHEA (SECOND ORBIT)—Continued

02 22 14	5. 9	CC	Friendship Seven, Friendship Seven, this is Muchea Com Tech. Friendship Seven, this is Muchea Com Tech. Do you read? Over.
02 22 24	5. 7	P	Hello, Muchea Com Tech, Friendship Seven. I read you loud and clear; how me?
02 22 38	5. 3	P	Muchea Com Tech, Friendship Seven. Holding attitude on Orion. Over.
02 22 46	7. 5	CC	Friendship Seven, Friendship Seven, this is Muchea Com Tech, calling on HF and UHF. Friendship Seven, this is Muchea Com Tech. Do you read?
02 23 10	3. 3	P	Hello Muchea, hello Muchea. Friendship Seven on HF. Over.
02 23 16	2. 6	CT	Friendship Seven, this is Muchea Com Tech. Do you read?
02 23 19	3. 2	P	Roger, Muchea. Friendship Seven. Read you loud and clear; how me?
02 23 24	2. 7	CC	Friendship Seven, would you say again?
02 23 29	3. 2	P	This is Friendship Seven, Muchea. I read you loud and clear. Over.
02 23 34	3. 3	CC	Roger, Friendship Seven. I'm reading you loud and clear on HF. Over.
02 23 38	. 6	P	Roger.
02 23 42	2. 7	CC	Friendship Seven, Muchea Cap Com. How me? Over.
02 23 45	12. 3	P	Roger, Muchea Cap Com. Loud and clear. Fuel, 62-85 [percent]; oxygen, 65-100 [percent]; amps, 22. Over.
02 24 00	3. 2	CC	Roger. I did not get your fuel. Would you give that . . . to us again? Over.
02 24 03	3. 8	P	Roger, fuel is 60-85 [percent]. Over.
02 24 24	2. 6	CC	Friendship Seven, how do you read us on UHF? Over.
02 24 28	2. 9	P	Roger. Loud and clear; I am still on HF. Over.
02 24 33	4. 1	CC	Friendship 7, Muchea Cap Com. Recommend you go UHF. Over.
02 24 37	1. 4	P	Roger, going to UHF.
02 24 41	2. 3	CC	Friendship Seven, Muchea Cap Com. How now? Over.
02 24 49	2. 9	CC	Friendship Seven, this is Muchea Cap Com. How are read now? Over.
02 24 52	3. 4	P	Hello, Muchea. Friendship Seven. Read you loud and clear; how me?
02 24 56	4. 4	CC	Loud and clear. You were coming in slightly garbled. Could you give us your fuel, oxygen and amps? Over.
02 25 01	6. 4	P	Roger. Fuel, 60-85 [percent]; oxygen, 65-100 [percent]; amps, 22. Over.
02 25 09	2. 5	CC	Roger. Exhaust temperature?
02 25 12	2. 1	P	Exhaust temperature 50 [degrees]. Over.
02 25 15	1. 9	CC	Roger. Are you in fly-by-wire?
02 25 17	10. 4	P	Negative, I am on manual at present time. I'm down to 60 [percent] on automatic fuel, so I cut it off and I'm on manual at present time. Over.
02 25 28	2. 6	CC	Roger. How is your yaw thruster problem? Over.
02 25 32	19. 4	P	This is Friendship Seven. I am getting some erratic indications in all axes. When I align everything on orbit attitude by the instruments I am considerably off where I should be. I'm rolled some 20° to the right; I'm also yawed to the right a little bit. Over.
02 25 52	6. 3	CC	Roger, understand. Are you satisfied with the fly-by-wire and manual proportional systems? Over.
02 25 58	4. 2	P	Fly-by-wire is not functioning in yaw low right. Over.
02 26 06	1. 9	CC	Roger, low yaw right.
02 26 08	13. 6	P	That's affirmative. When I first had trouble with it, it was malfunctioning in low yaw left, and now low yaw left is operating okay, but low yaw right is not operating. Over.
02 26 22	5. 1	CC	Roger. Have you tried caging your gyros and re-erecting them. What do you think about this? Over.
02 26 27	12. 1	P	Negative, have not yet. I want to get an alignment as soon as I get back in daylight and do just exactly that. I think my, I'm probably not—my scanners are probably not working right. Over.
02 26 40	5. 1	CC	Roger. Will you confirm the Landing Bag switch is in the off position? Over.
02 26 45	3. 6	P	That is affirmative. Landing Bag switch is in the center off position.
02 26 50	4. 3	CC	You haven't had any banging noises or anything of this type at higher rates?
02 26 55	. 4	P	Negative.
02 26 57	6. 4	CC	They wanted this answer. Do you have your retrosequence times 2 Dog, Easy, and Golf from Indian Ocean Ship?
02 27 03	6. 6	P	Standby one. Yes, 2 Easy, and Golf, yes, I do have those.
02 27 11	. 4	CC	Roger.
02 27 14	3. 1	CC	Do you have any, are you ready for Z and R Cal? Over.
02 27 18	1. 2	P	Affirmative, go ahead.
02 27 20	1. 1	CC	Cal coming through.

MUCHEA (SECOND ORBIT)—Continued

02 27 26	2. 5	CC	Any comments on weightlessness, etc.
02 27 30	5. 7	P	Negative, I have no ill effects whatsoever. I don't even really notice it now. I'm just, very comfortable.
02 27 37	. 3	CC	Fine.
02 27 38	4. 9	P	I have the constellation of Orion up here in the window now. I'm holding a position on it.
02 27 45	6. 3	CC	Roger, good. Your 150 VA is 200 [degrees]; your 250 VA is 190 [degrees]. Over.
02 27 51	. 4	P	Roger.
02 27 52	1. 2	CC	R Cal, coming now.
02 28 11	5. 2	CC	Friendship Seven, Muchea Cap Com. Do you still have high, both high thrusters in fly-by-wire? Over.
02 28 17	1. 2	P	That's affirmative, I do.
02 28 19	. 6	CC	Roger.

WOOMERA (SECOND ORBIT)

02 28 35	5. 6	CC	Friendship Seven, Woomera Cap Com. We have contact, TM solid and UHF solid. Over.
02 28 40	. 7	P	Roger, Woomera.
02 28 45	2. 2	CC	Friendship Seven, are you ready to go ahead with this 30-minute report? Over.
02 28 49	2. 1	P	Negative, not just at the moment. Stand by.
02 28 52	. 9	CC	Roger, Friendship Seven.
02 28 58	5. 3	CC	Friendship Seven, Muchea. Just a reminder to take your exercise after the blood pressure. Over, Woomera.
02 29 04	. 6	P	Roger.
02 29 46	2. 0	CC	Friendship Seven, Woomera Cap Com. Do you read? Over.
02 29 48	. 8	P	Go ahead, Woomera.
02 29 50	5. 8	CC	The Cape advises that you conduct this horizon check and cage the gyros, before California.
02 29 58	3. 5	P	Say again, please, Woomera, did not understand.
02 30 01	7. 3	CC	Cape advises that you conduct this horizon check, and cage the gyros before California contact. Over.
02 30 09	2. 4	P	Roger, understand before California contact.
02 30 13	6. 8	CC	Roger. Would like to confirm your control systems status, fly-by-wire low yaw right is inoperative.
02 30 20	. 9	P	That's affirmative.
02 30 22	1. 3	CC	Good in all axes. Over.
02 30 24	. 9	P	That is affirmative.
02 30 27	2. 4	CC	Can you give status on your ASCS system? Over.
02 30 30	52. 6	P	This is Friendship Seven. ASCS started out operating, it would drop into orientation mode in yaw and that would throw the other axes out. It was doing this for a while it would drift off slowly, yaw right and there would be no correction until it went out about 20°. Then it would come rapidly back across and correct itself from a 20° right attitude, would come back across to a left attitude in orientation mode. This continued for a while. I took control, that was right after Guaymas. By the time I had gone over Africa the condition had just reversed, had just reversed. The same thing, only the other direction. Over.
02 31 24	. 9	CC	Roger, I understand.
02 31 28	3. 5	CC	Friendship Seven, if you're ready, could we conduct this 30 minute report? Over.
02 31 32	27. 2	P	Friendship Seven. Roger. All switch fuses still same position. Squib is armed. Auto Retrojettison is off. ASCS mode selector is normal, rate command, gyro, normal. Manual fuel handle is pulled. Automatic fuel is still on. Retro-Delay, normal, Landing Bag is off. Everything else on sequence panel is normal. Fuel . . . .
02 32 00	7. 1	CC	Could we have a blood pressure check? Start your button, then exercise the bungee cord, then start your blood pressure check again. Over.
02 32 08	2. 7	P	Roger. Friendship Seven. Blood pressure coming on.
02 32 26	5. 9	CC	Roger, Friendship Seven. We're reading your blood pressure, what kind of result on your visual acuity test? Over.
02 32 32	6. 7	P	Roger. Friendship Seven. Visual acuity still good. Can read same lines I did when starting out. Over.
02 32 40	6. 8	CC	Roger. Would like to go through this 30-minute report again, starting with the Auto Retro-jett switch. Go ahead.



WOOMERA (SECOND ORBIT)—Continued

02 32 49	7.7	P	Auto Retro-jettison is armed. I'm having to break this in the middle because I need to keep looking out the window to control accurately. Over.
02 32 57	2.7	CC	Roger, Friendship Seven. . . . discussion. Over.
02 32 00	.5	P	Roger.
02 33 09	57.8	P	This is Friendship Seven. Auto Retro-jettison is off. ASCS mode selector is normal, rate command, gyro normal. All "T" handles are in except manual, and it is out. I am controlling manually at present time. Landing Bag switch is off. Sequence panel is all normal except for that. The control fuel is 60-82 [percent]. Attitudes at present time on manual control are roll 5 [degrees] right, yaw 15 [degrees] right, pitch -34 [degrees] in orbit attitude. My time from launch is 2 plus 33 plus 60, MARK! Correction that would be 2 plus 34 on that mark. Did you receive? Over.
02 34 09	.2	CC	Yes.
02 34 10	9.0	P	Roger. Cabin pressure is 5.5 and holding. Cabin air is 95 [degrees]. Cabin excess water light is still on. I'm turning it down a little bit more yet.
02 34 34	50.3	P	Cabin relative humidity is indicating 20 [percent]. Coolant quantity is 66 [percent]. Suit is 68 [degrees] on temperature, pressure 5.8 indicated, steam temperature, 50 [degrees] in suit circuit and comfortable. Oxygen is 65-100 [percent] amps 20. Voltages: main 24, 25, 25, 25; standby one is 25, 25; isolated 29; and back on main. Fans is 113, ASCS 113. I have two warning lights on, the excess cabin water and fuel quantity. Over.
02 35 29	6.2	CC	Roger, Friendship Seven. Aeromed would like to know whether you have conducted your exercise on bungee cord. Over.
02 35 36	6.1	P	Negative, I have not done that recently. Will conduct that now as part of this check. You had a blood pressure.
02 35 43	5.3	CC	You are fading now. Standby for Canton in a few minutes. This is Woomera Cap Com, Over and Out.
02 36 02	2.9	P	Okay, exercise conducted. Blood pressure starting.
02 36 36	4.9	P	This is Friendship Seven. Woomera, are you still receiving me? Over.
02 37 07	1.3	P	This is Friendship Seven.

CANTON (SECOND ORBIT)

02 42 01	2.8	CT	Friendship Seven, Canton Com Tech.
02 42 05	4.2	P	Hello Canton Com Tech. Friendship Seven. How did you receive UHF-HI? Over.
02 43 10	5.3	CT	Friendship Seven, Canton Com Tech. Reading you loud and clear. Standby for Cap Com.
02 43 16	24.9	P	Roger. Canton Cap Com, Friendship Seven. Fuel 62-75 [degrees], oxygen 65-98 [percent], correction 65-100 [percent], amps 23. My condition is good. The sunrise is coming around the capsule right now. Over.
02 43 42	5.2	CC	Roger, Friendship Seven. This is Canton. We have TM solid; go ahead, Over.
02 43 48	7.1	P	Roger. This is Friendship Seven, and now that the sunrise is starting, I have all these little particles coming around the capsule again, just at sunrise.
02 43 57	.9	CC	Roger, Friendship Seven.
02 44 02	5.3	P	I also can see the light on my, on steam from the thruster when I operate it. Over.
02 44 09	7.2	CC	Roger, Friendship Seven. Are, are your thrusters working, are all your high thrusters working okay. Over.
02 44 17	4.1	P	This Friendship Seven. Affirmative, operating okay.
02 44 27	9.8	P	This is Friendship Seven. I think my, I can see a little bit of steam spitting against the dark sky here occasionally from my pitch down manual thruster. Over.
02 44 36	.4	CC	Roger.
02 44 37	12.7	P	This is Friendship Seven. All these little particles; there are thousands of them; and they're not coming from the capsule. They're something that's already up there because they're all over the sky. Way out I can see them, as far as I can see in each direction, almost.
02 44 52	1.1	CC	Roger, Friendship Seven.
02 44 56	5.5	CC	Friendship Seven, this is Canton. Our telemetry here indicates that everything is okay. Over.
02 45 02	1.2	P	Roger, Friendship Seven.
02 45 05	8.9	CC	Friendship Seven, this is Canton. Our Aeromed would like to hear any comments you have on weightlessness, nausea, dizziness, taste and smell sensations. Over.

CANTON (SECOND ORBIT)—Continued

02 45 15	32.3	P	Friendship Seven, I have no sensations at all from weightlessness except very pleasant. No ill effects at all, I'm not sick; feel fine. I have had no, no dizziness; I've run the head checks, the head movements and have no problem with that. I've run the oculogyric check and have no problem with that. I haven't been able to use much of the equipment this orbit, however. I've been mainly concerned with this control problem. Over.
02 45 48	11.6	CC	Roger, Friendship Seven. Our fuel quantities here agree with yours. Our 150 fans inverter temperature is 200 [degrees]. The ASCS temperature is 190 [degrees]. Out
02 46 00	1.2	P	Roger, Friendship Seven.
02 46 14	4.6	CC	Friendship Seven, this is Canton. Do you have all the retro times that you need? Over.
02 46 19	10.3	P	This is Friendship Seven. I believe so. I have Foxtrot coming up here, I mean Golf coming up, at 03 00 39. Is that affirm?
02 46 30	.6	CC	Standby one.
02 46 35	4.8	P	This is Friendship Seven. I'm trying to get some pictures of these particles that are outside here. Over.
02 46 50	5.8	CC	Friendship Seven, that time we have for Golf is 03 00 39. Over.
02 46 58	.4	P	Roger.
02 47 14	6.1	CC	Friendship Seven, this in Canton. We also have no indication that your landing bag might be deployed. Over.
02 47 22	3.1	P	Roger. Did someone report landing bag could be down? Over.
02 47 26	8.7	CC	Negative, we had a request to monitor this and to ask you if you heard any flapping, when you had high capsule rates . . . .
02 47 36	.5	P	Negative.
02 47 37	1.1	CC	. . . this was. Over.
02 47 38	16.5	P	Well, I think they probably thought these particles I saw might have come from that, but these are, there there are thousands of these things, and they go out for, it looks like miles in each direction from me and they move by here very slowly. I saw them at the same spot on the first orbit. Over.
02 47 56	.4	CC	Roger.
02 48 01	2.4	CC	Friendship Seven, what control mode are you in presently?
02 48 04	11.9	P	This is Friendship Seven. I am in manual. While on the dark side, I aligned myself with the horizon, when up to 0 0 0, and caged the gyros and uncaged again. Over.
02 48 17	9.9	CC	Roger, Friendship Seven. Will be losing contact any minute now, you have reentry checks to make and approximately 10 minutes, until California contact. Over.
02 48 27	1.0	P	Roger, Friendship Seven.

HAWAII (SECOND ORBIT)

02 48 36	4.2	CT	Friendship Seven, this is Hawaii Com Tech on UHF and HF. How do you read? Over.
02 48 42	2.4	P	Say again, Com Tech, what station?
02 49 06	3.8	CT	Friendship Seven, Hawaii Com Tech on UHF and HF. How do you read? Over.
02 49 10	3.1	P	Hello Hawaii. Loud and clear; how me? Over.
02 49 22	3.2	P	Hello Hawaii. Friendship Seven. Loud and clear; how me? Over.
02 49 27	5.9	CC	Friendship Seven, this is Hawaii Cap Com. I read you loud and clear. What is your status report? Over.
02 49 33	1.4	P	Roger, Friendship Seven, ah.
02 49 36	2.2	-----	He has contact, we're putting air-to-ground on.
02 49 39	12.7	P	This is Friendship Seven. Fuel 62-74 [percent], oxygen 64-98 [percent], amps 23. Over.
02 49 53	4.5	CC	Roger, Friendship Seven. The first part of your transmission was broken up; could you say again, fuel?
02 49 59	3.5	P	Roger, fuel 62-74 [percent]. Over.
02 50 03	14.0	CC	Roger. Read 62-74 [percent], Friendship Seven. Cape would like to know if you have made the visual check on the gyros yet?
02 50 12	13.8	P	This is affirmative. During the dark side I went to 0 0 0 as best I could and caged and uncaged the gyros. I'm rechecking this at present time. Over.

HAWAII (SECOND ORBIT)—Continued

02 50 26	3.7	CC	Roger. I'll stand by until you complete your checks and we'd like to get the results.
02 50 30	1.0	P	Roger, Friendship Seven.
02 50 52	4.2	P	Hawaii, this is Friendship Seven. Are we getting scanner ignore? Over.
02 50 58	4.7	CC	There are no ignore indications on the ground as of now, Friendship Seven. Hawaii. Over.
02 51 04	8.5	P	Roger. This is Friendship Seven. When I aligned in, standby one.
02 51 53	11.2	P	This is Friendship Seven. Roll appears to be about 20° off. At present time, I am indicating 20° right roll when I am lined up perfectly with the horizon. Over.
02 52 06	7.0	CC	Roger, Friendship Seven. Understand you still have a 20° error in your attitude indication after caging the gyros.
02 52 13	8.8	P	This is Friendship Seven. That's affirmative. It's drifted off again. It was correct at that time; it apparently has drifted off. It's about 20° off in roll.
02 52 25	4.1	CC	Friendship Seven, could you give us a readout on all three axes; we'd like to compare ground readouts.
02 52 29	7.6	P	Roger, Friendship Seven. Roll indicates 19 [degrees] right, yaw, 2 [degrees] left, pitch -22 [degrees]. Over.
02 52 38	1.8	CC	Roger, Friendship Seven. Read you loud and clear.
02 52 50	3.7	P	Friendship Seven, Hawaii Cap Com. Can you estimate the drift rates you are getting?
02 52 54	10.0	P	This is Friendship Seven. Drift rates are very difficult to pick up for some reason. I have not been able to get real accurate drift rates. I feel that . . . .
02 53 06	4.3	CC	Do you still consider yourself GO for the next orbit?
02 53 10	2.4	P	That is affirmative, I am GO for the next orbit.
02 53 13	2.4	CC	Roger, I understand. At present time ground concurs.
02 53 16	.4	P	Roger.
02 53 24	3.9	CC	Could you, could you give me a readout on exhaust temperature, please?
02 53 28	3.2	P	Friendship Seven. Roger. Exhaust temperature, 47 [degrees].
02 53 36	3.0	CC	Friendship Seven, Hawaii Cap Com. Could you read exhaust temperature please?
02 53 40	1.9	P	Roger. Exhaust temperature 47 [degrees].
02 53 42	1.6	CC	Roger. Understand 47 [degrees].
02 53 46	3.4	CC	Surgeon requests a blood pressure readout if convenient at this time.
02 53 51	.6	P	Roger 47 [degrees].
02 53 55	6.4	P	Correction, Roger, blood pressure, 47 [degrees] on steam temp, blood pressure on.
02 54 24	9.8	P	This is Friendship Seven. I have a pretty good run here on, on yaw check. I believe my yaw is pretty accurate. Roll is off by about 20° to the right at present time.
02 54 35	5.9	CC	Roger, Friendship Seven. Roll is off by 20° to the right; yaw looks pretty good. Hawaii. Over.
02 54 42	.7	P	That's affirmative.
02 54 55	5.7	CC	Friendship Seven, Hawaii Cap Com. MCC confirms that they are GO at the present time for third orbit.
02 55 01	0.9	P	Roger. Friendship Seven.
02 55 14	2.1	CC	Friendship Seven, Hawaii Cap Com. Do you read? Over.
02 55 16	2.1	P	Roger, Hawaii. Loud and clear, how me?
02 56 05	1.2	CC	Are you ready to copy?
02 56 08	1.4	P	Friendship Seven. Go ahead.
02 56 31	13.5	P	This is Friendship Seven. I have a better alignment now on the day side, I believe, on these, on the attitude. I will probably cage and uncage gyros again. Over.

CALIFORNIA (SECOND ORBIT)

02 56 58	5.7	CT	Friendship Seven, Friendship Seven, this is California Com Tech, California Com Tech. Do you read? Over.
02 57 05	3.6	P	Roger, California Com Tech. Read you loud and clear. How me? Over.
02 57 16	3.3	P	Hello, California Com Tech. Friendship Seven. How me? Over.
02 57 23	5.9	CT	Friendship Seven, Friendship Seven, this is California Com Tech, California Com Tech. Do you read? Over.
02 57 30	3.3	P	Roger, California Com Tech. Friendship Seven. How me? Over.
02 57 48	5.7	CT	Friendship Seven, Friendship Seven, this is California Com Tech, California Com Tech. Do you read? Over.

CALIFORNIA (SECOND ORBIT)—Continued

02 57 54	3. 6	P	Hello, California Com Tech. Friendship Seven. Loud and clear; how me?
02 58 14	6. 2	CT	Friendship Seven, Friendship Seven, this is California Com Tech, California Com Tech. Do you read? Over.
02 58 21	3. 5	P	Hello, California Com Tech. Friendship Seven. Loud and clear; how me?
02 58 25	3. 6	CC	Friendship Seven, California Cap Com. Read you loud and clear, John.
02 58 32	3. 5	P	Say again. You came in garbled that time. This is Friendship Seven.
02 58 36	4. 8	CC	Friendship Seven, this is California Cap Com. We read you loud and clear; how me?
02 58 41	36. 4	P	Roger. Receiving you much better now, Wally. Very good. Fuel is 62-62 [percent], oxygen 62-95 [percent], amps are 25. All systems are still go. I have had some erratic ASCS operation. I caged and uncaged on the night side and it appears to be working fairly well now although I was drifting again in roll a moment ago. It appears to have corrected itself in roll, however, without me caging again now. Over.
02 59 17	11. 8	CC	Good, John. We have a go all the way on this. I'd like to give you your inverter temperatures. Your fans are 215 [degrees], your ASCS 198 [degrees]. We're not going to do anything about them. Looks real good.
02 59 23	0. 6	P	Okay, fine.
02 59 26	4. 3	CC	Will you give me your attitudes and we'll check those with ground.
02 59 31	10. 6	P	Roger. I'll go back into orbit attitude, drifting toward it at present time. Do you have TM solid now? Over.
02 59 42	. 7	CC	Good here.
02 59 43	6. 2	P	Roger. Roll is 5 [degrees] left, yaw 3 [degrees] right, pitch -32 [degrees], right now.
02 59 51	1. 0	CC	Roger, have your readings.
03 00 10	4. 3	CC	John, we check almost right on the button with your attitudes within 2°.
03 00 14	5. 9	P	Roger. I appear to have a little bit of drift in the scope yet though.
03 00 19	2. 3	CC	Roger. You probably don't have a good reference yet, do you?
03 00 22	9. 8	P	It's rather, it's more difficult to pick up drift than I thought it would be. Your best drift really is to look out the window and try and get something moving away from you out the window.
03 00 36	. 9	CC	Roger, I've got you there.
03 00 43	5. 4	CC	You understand that your capsule elapsed time is running about a second slow compared to GET.
03 00 51	4. 0	P	No, I did not; I was not aware of that on the elapsed time.
03 00 56	6. 3	CC	Roger. This will affect your sequence time. I'll give you 3 Alpha if you're ready to copy.
03 01 03	1. 0	P	Standby.
03 01 11	1. 7	P	Roger, ready to copy 3 Alpha.
03 01 13	7. 8	CC	Roger. 3 Alpha corrected for the second error will be 03 plus 11 plus 26. Over.
03 01 22	2. 5	P	Roger, 03 11 26.
03 01 35	4. 8	CC	You have your end-of-orbit time, and that has not changed and I believe you have Area Golf also.
03 01 41	9. 4	P	That's affirmative. I have Golf at 03 plus 00 plus 39 and Hotel at 04 plus 32 plus 40.
03 01 51	7. 2	CC	That is correct. You can correct your Area Golf by subtracting one second and subtract one second from Hotel.
03 01 59	6. 4	P	Roger. Understand for my retrosequence for end-of-mission is 04 plus 32 plus 39. Is that affirm?
03 02 06		CC	Negative. That should be 04 plus 32 plus 38.
03 02 10	6. 3	P	Plus 38. Roger. Does Cape want me to set that into clock at present time? Over.
03 02 17	3. 1	CC	Negative, we have not had those instructions. I'll have Arnie check for you.
03 02 20	5. 7	P	Roger. I am still operating on prelaunch time of 04 plus 32 plus 28. Over.
03 02 27	. 3	CC	Understand.
03 02 33	4. 8	P	This is Friendship Seven. Coming across the Gulf of Lower California at present time in the scope.
03 02 40	. 3	CC	Roger.
03 02 44	3. 7	CC	John, for your information, the clocks will be set over Canaveral.
03 02 49	6. 2	P	Roger, understand clocks will be set by command, is that affirm, or do they want. . .
03 02 56	5. 4	CC	That is negative. They, on contact with Al, they will have you change the clock.
03 03 01	1. 7	P	Roger, understand. Friendship Seven.
03 03 04	6. 3	CC	For your information your O <sub>2</sub> is holding. It seems to be working; it's reading about 5.2 to 5.3.

CALIFORNIA (SECOND ORBIT)—Continued

03 03 11	12.7	P	Roger, Friendship Seven. Cabin temperature is holding steady at about 90 [degrees]. I still have excess cabin water light on and my, I have the cabin water turned almost completely off at present time.
03 03 25	3.4	CC	Roger, it sounds like it's working out all right anyway.
03 03 28	3.5	P	Roger, it's doing okay. We'll make one more orbit okay.
03 03 32	3.3	CC	I assume you are still on manual proportional; is that correct?
03 03 35	1.7	P	That's affirmative, I'm still on manual.
03 03 40	3.0	CC	Friendship Seven, Guaymas Cap Com reads you loud and clear. Over.
03 03 44	2.2	P	Roger, Guaymas. Read you loud and clear, also.
03 03 54	2.9	CC	John, the Aeromedes are real happy with you; you look real good up there.
03 03 57	3.7	P	All right, fine, glad everything is working out. I feel real good, Wally. No problems at all.

TEXAS (SECOND ORBIT)

03 04 18	3.7	CT	Friendship Seven, Friendship Seven, this is Texas Com Tech. Do you read? Over.
03 04 22	4.3	P	Hello, Texas, this is Friendship Seven. Read you loud and clear. How me? Over.
03 04 27	4.4	CT	Roger, reading you five square on HF. Let's try UHF. Over.
03 04 33	2.4	P	This is Friendship Seven, I'm on UHF. Over.
03 04 37	2.9	CT	Roger, Friendship Seven, Roger. Standby for Cap Com.
03 04 40	.5	P	Roger.
03 04 51	2.8	CC	This is Texas Cap Com, Friendship Seven. Do you read?
03 04 54	2.7	P	Roger, Texas Cap Com. Loud and clear. How me?
03 04 57	3.9	CC	Loud and clear. We have no queries down here. Continue with your observations please.
03 05 02	12.6	P	Roger. This is Friendship Seven. Systems all operating normally. I gave my quantities again. There's no need to waste more time on those. I am pitching down to about 60° to make observation. Over.
03 05 15	3.1	CC	Roger, we confirm down here on the TM. Over.
03 05 20	.6	P	Roger.
03 05 54	5.6	P	This is Friendship Seven. Just passed over El Paso in good shape. Could see town through some of the clouds. Over.
03 06 14	3.5	P	Friendship Seven, flying over complete cloud deck at present time.
03 06 24	6.8	P	I'm pitching down to 60° at present time. Orbit attitude in roll and yaw.
03 07 01	.6	P	This is . . . .

CANAVERAL (THIRD ORBIT)

03 07 03	2.8	CT	Canaveral Com Tech. How do you copy? Over.
03 07 05	3.3	P	Hello, Canaveral Com Tech. Friendship Seven. Loud and clear; how me?
03 07 09	5.1	CT	Roger, Friendship Seven. This is Canaveral Com Tech. Copy you loud and clear, also. Standby for Cap Com please.
03 07 14	.5	P	Roger.
03 07 16	9.5	P	Hello, Cap Com. Friendship Seven. Fuel is 62-60 [percent]; oxygen is 62-95 [percent]; amps 23. Over.
03 07 28	11.1	CC	Friendship Seven, reading you loud and clear. I'll give you the 3 Bravo Time, 03 22 26. Over.
03 07 42	4.4	P	Roger, 03 22 26, for 3 Bravo. Is that affirm?
03 07 47	7.0	CC	. . . 3 Charlie 03 40 18. Over.
03 07 54	2.0	P	Roger, 03 40 18 for 3 Charlie.
03 08 00	11.2	CC	That is correct. At this time change your retro setting manually to 04 32 38. Over.
03 08 11	3.6	P	Roger, 04 plus 32 plus 38.
03 08 25	4.8	P	Roger, retrograde time is reset to 04 plus 32 plus 38. Over.
03 08 32	25.5	CC	Roger, Seven. We recommend for the third orbit that you use gyros as you desire either normal or free so that in the event prior to retrofire on the third orbit that the scanners and ASCS do not program properly you may use your gyros in the free position for attitude reference. Over.

CANAVERAL (THIRD ORBIT)—Continued

03 08 58	22.5	P	Roger. This is Friendship Seven. I have a fair, pretty good line-up now on the gyros, I believe. The check that I made on the night side was okay but they drifted off again, apparently rather rapidly in fact. I got another check on it and they seem to have corrected back pretty good now. I did not have to cage them again. Over.
03 09 22	7.5	CC	Roger, Seven, we understand. The only problem is that you may not have enough light time prior to retrofire.
03 09 30	.6	P	Roger.
03 09 31	5.1	CC	Let the gyros work in the free position if you desire. Over.
03 09 37	1.0	P	Roger. Friendship Seven.
03 09 39	7.9	CC	Also, Seven, we recommend that you allow the capsule to drift on manual control in order to conserve fuel. Over.
03 09 48	1.2	P	Roger. Friendship Seven.
03 09 55	2.4	CC	Seven, this is Cape. Standby for Z Cal.
03 09 58	.5	P	Roger.
03 10 08	.2	CC	R Cal.
03 10 20	.3	CC	Cal off.
03 10 21	.6	P	Roger.

BERMUDA (THIRD ORBIT)

03 10 30	2.6	CC	Friendship Seven, this Bermuda Cap Com. We read you loud and clear.
03 10	2.3	P	Roger, Bermuda. Hear you loud and clear also.
03 10 36	1.3	CC	Seven, this is Cape. Over.
03 10 38	.7	P	Go ahead, Cape.
03 10 40	6.7	CC	Correct your 3 Bravo time to 03 22 22. Over.
03 10 48	4.0	P	Roger, 03 22 22 for 3 Bravo.
03 10 54	3.8	CC	Well, Seven, I'm having trouble, the seconds should be 32. Over.
03 10 57	2.7	P	Roger, 03 22 32.
03 11 02	.5	CC	Good Show.
03 11 04	2.9	P	Roger. Roger.
03 11 11	2.2	P	Hello Bermuda. Friendship Seven. It's over to you. Over.
03 11 14	3.4	CC	Roger, Friendship Seven. We have nothing for you, you're in good shape.
03 11 18	4.7	P	Roger, this is Friendship Seven. I have the Cape in sight down there. It looks real fine from up here.
03 11 24	.9	CC	Rog. Rog.
03 11 26	1.0	P	As you know.
03 11 29	1.2	CC	Yea, verily, Sonny.
03 11 37	6.3	P	This is Friendship Seven, Flor-, I can see the whole state of Florida just laid out like on a map. Beautiful.
03 11 45	.8	CC	Very good.
03 11 49	4.0	P	Even from this position out here, I can still see clear back to the Mississippi Delta.
03 12 32	7.8	P	This is Friendship Seven, checking down in Area Hotel on the weather and it looks good down that way. Looks like we'll have no problem on recovery.
03 12 41	1.6	CC	Very good. We'll see you in Grand Turk.
03 12 43	.6	P	Yes, Sir.
03 12 48	10.5	P	In fact, I can see clear down, see all the islands clear down that whole chain from up here, . . . I can see way beyond them and area Hotel looks excellent for recovery.
03 13 13	1.4	CC	Friendship Seven, Bermuda Cap Com.
03 13 15	1.0	P	Go ahead, Bermuda.
03 13 17	4.3	CC	Cape recommends that you reenter on ASCS with manual for backup.
03 13 22	4.5	P	Roger, this is Friendship Seven. Understand recommend ASCS with manual backup.
03 13 29	30.3	P	This, this operation of ASCS has been very erratic. I have not been able to pin it down to any particular, one particular item. It went off one direction in yaw at one time; it went off the other the next time. I felt for a little while that pitch was drifting. It seemed to have a little stuck thrust in pitch at one time and I have to keep correcting that and that corrected itself and then I was off in roll just after I came off the dark side this time. Over.
03 14 00	3.3	CC	Roger, understand. I have all that down. Could you give us a blood pressure please?
03 14 03	1.2	P	Roger. Standby.
03 14 33	4.2	CC	Friendship Seven, can you give me both your primary and secondary oxygen?

BERMUDA (THIRD ORBIT)—Continued

03 14 38	5. 4	P	Roger, primary oxygen is 62 [percent], secondary is 94 [percent].
03 14 45	. 4	CC	Roger.
03 15 18	5. 7	P	This is Friendship Seven. I'm letting it drift a little bit to the right here to look up north.
03 15 30	1. 4	CC	Friendship Seven, Bermuda Cap Com.
03 15 32	. 8	P	Go ahead Bermuda.
03 15 34	8. 4	CC	Your fans inverter temperature is 205 [degrees] and your ASCS temperature is 195 [degrees].
03 15 44	2. 3	P	Roger, sounds real good, Gus, fine.
03 15 47	. 9	CC	You're in good shape.
03 15 48	. 4	P	Roger.
03 16 18	3. 3	CC	Friendship Seven, you want to go to HF now?
03 16 22	1. 8	P	Roger, Friendship Seven. Going to HF.
03 16 37	2. 5	CC	Friendship Seven, Bermuda Cap Com. How do you read on HF?
03 16 41	1. 9	P	Bermuda, Friendship Seven. Loud and clear; how me?
03 16 44	3. 2	CC	You're weak but readable, John.
03 16 48	. 5	P	Roger.
03 17 08	2. 9	CC	Friendship Seven, Bermuda we have lost TM contact.
03 17 11	1. 5	P	Roger, understand LOS.
03 17 43	3. 5	P	This is Friendship Seven. I've drifted around almost to the 180° point again.
03 18 02	2. 4	CC	Friendship Seven, Bermuda Cap Com. Are you still in contact?
03 18 05	6. 9	P	Roger, this is Friendship Seven. I'm around at the 180 [degree] point. I'm facing the direction I'm traveling, Gus. Do you still receive? Over.
03 18 18	3. 0	CC	Friendship Seven, Bermuda Cap Com. We do not read you.
03 18 22	1. 0	P	Roger, Bermuda.

CANARY (THIRD ORBIT)

03 20 28	4. 8	CT	Friendship Seven, Friendship Seven, this is CYI Com Tech, CYI Com Tech. Do you read? Over.
03 20 34	4. 6	P	Hello, Canary Com Tech. On HF; how do you receive me? Loud and clear from you. Over.
03 20 41	3. 5	CT	Friendship Seven, this is CYI Com Tech. Do you read? Over.
03 20 46	1. 0	P	Roger, Canary.
03 20 49	4. 7	CT	Rog, Roger. Read you 5 by, read you 5 by, here in the Canaries. Over.
03 20 54	3. 9	P	Roger, Friendship Seven. I read you loud and clear on HF, also.
03 21 01	4. 1	CC	Friendship Seven, Friendship Seven, this is Canary Cap Com. I read you loud and clear.
03 21 07	2. 2	P	Roger, Canary. Loud and clear here also.
03 21 13	2. 0	CC	Would you give me a brief station report? Over.
03 21 16	13. 1	P	This is Friendship Seven. Fuel is 62-54. [percent]. Oxygen is 62-94, [percent], amps 24. Over.
03 21 30	5. 9	CC	Understand that auto fuel is 63 [percent] and manual fuel is 94 [percent]. Over.
03 21 36	3. 7	P	Negative. Manual fuel is 54 [percent], 54 [percent]. Over.
03 21 41	0. 6	CC	54 [percent]. Over.
03 21 49	3. 7	P	Canary, did you get manual fuel at 54 [percent] fiver four? Over.
03 21 54	2. 0	CC	Roger. Manual fuel at 54 [percent].
03 22 02	2. 7	CC	Friendship Seven, this is Canary Cap Com. How do you feel?
03 22 06	4. 0	P	This is Friendship Seven. I feel fine; no effects whatsoever, none.
03 22 12	4. 5	CC	Friendship Seven. Are you still seeing the particles around your capsule?
03 22 17	23. 0	P	Negative. I don't seem to see them around here on this side. I saw a few, just a few just after I left Canaveral and turned around facing forward. They were coming toward me at that time. I was going, so I know that they were not coming from the capsule at all. I saw the particles in huge quantities at each sunrise so far. Over.
03 22 42	1. 1	CC	Say again, Friendship Seven.
03 22 44	5. 8	P	The particles I saw were mainly at sunrise each time around. Over.
03 22 51	3. 6	CC	I understand. What control mode are you on?
03 22 55	2. 9	P	This is Friendship Seven. I am in manual. Over.
03 22 59	1. 1	CC	Roger. Understand.
03 23 14	4. 8	CC	Friendship Seven, this is Canary Cap Com. The Aeromed wants to talk to you. Over.

## CANARY (THIRD ORBIT)—Continued

03 23 17	1.4	P	Roger. Go ahead, Aeromed.
03 23 19	6.1	S	This is Canary surgeon. Are you having any nausea, or have you experienced any nausea at all during the entire flight?
03 23 25	5.0	P	This is Friendship Seven. Negative. I have felt perfectly normal during the whole flight. I feel fine. Over.
03 23 32	2.3	S	Very good. Back to Cap Com.
03 23 41	3.5	CC	Friendship Seven, Friendship Seven, do you want your inverter temperatures at this time?
03 23 45	1.9	P	Roger. This is Friendship Seven. Go ahead.
03 23 51	2.0	CC	Roger. We're turning you over to Canary Systems.
03 23 54	2.6	SY	Friendship Seven, this is Canary Systems. How do you read?
03 23 57	1.5	P	Go ahead, Canary Systems, go ahead.
03 24 00	17.9	SY	The systems on the ground look fairly normal at this time. The temperatures are a little bit on the high side but there's nothing critical showing up. The latest reports show that the inverters are about 200 [degrees] and 210 [degrees]; this does not seem to be critical. They should be holding at this level. Do you understand?
03 24 17	1.2	P	Roger. Friendship Seven.
03 24 21	5.9	SY	All other systems are as you reported to me.

## ATLANTIC OCEAN SHIP (THIRD ORBIT)

03 24 43	7.2	CT	Friendship Seven, Friendship Seven, this is Atlantic Ship Cap, Com Tech. How do you read? Over.
03 24 51	3.6	P	Hello, Atlantic Cap Com. Read you loud and clear. How me? Over.
03 24 55	6.5	CT	Friendship Seven, Friendship Seven, this is Atlantic Ship Com Tech. We read you weak but broken, weak but broken.
03 25 01	10.3	P	Roger. Friendship Seven. Fuel 64-54 [percent], oxygen 62-94 [percent], amps 23. Over.
03 25 21	4.0	P	Hello, Atlantic Ship, Atlantic Cap Com. Friendship Seven, do you receive? Over.
03 25 34	9.0	CC	Friendship Seven, this is ATS Cap Com. How do you read me? Over. And what mode are you on for communications? Over.
03 25 43	8.3	P	This is Friendship Seven. I'm on HF at present time, on HF. I'll shift to UHF—is, if you're in solid contact. Over.
03 25 52	6.9	CC	Roger, Friendship Seven. We have TM contact, we have TM contact. Switch to UHF please.
03 26 00	1.4	P	Roger, switching to UHF.
03 26 12	1.8	P	Atlantic Ship, this is Friendship Seven. Over.
03 26 24	1.6	P	Hello, Atlantic Ship. Friendship Seven. Over.
03 26 29	5.5	CC	Friendship Seven, this is ATS Cap Com. Read only the last part of your transmission. Say again, please.
03 26 35	31.7	P	Atlantic Ship, This is Friendship Seven. Wish you would pass to Cape. I let the capsule drift around to the 180° position and I am having to reorient at present time. When I am all lined with the horizon and the periscope, my attitude indications now are way off. My roll indicates 30° right; my yaw indicates 35 [degrees] right; and pitch indicates plus 40 [degrees]; I repeat plus 40 [degrees] when I am in orbit attitude. Over.
03 27 11	0.8	P	Did you receive?
03 27 12	15.8	CC	Roger, Friendship Seven. I read you a little broken. You have discrepancies in attitudes of 30° right in roll, 35 [degrees] right in yaw and plus 40 [degrees] in pitch. Confirm, please. Over.
03 27 28	9.8	P	That is affirmative. I am realigning the capsule at present time and will cage and uncage the gyros before I go on the dark side. Over.
03 27 39	2.3	CC	Roger. We will standby.
03 28 58	2.5	P	This is Friendship Seven, ATS. Do you receive?
03 29 04	3.2	CC	Roger, Friendship Seven. Reading you loud and clear. Over.
03 29 07	4.5	P	This is Friendship Seven, in orbit attitude present time, caging gyros.
03 29 13	0.5	CC	Rog.
03 29 17	1.7	P	Gyros to cage, ready now.
03 30 09	5.7	P	This is Friendship Seven. Gyros are back on normal, going back to orbit attitude and will try ASCS. Over.
03 30 15	1.6	CC	Roger. Standing by.
03 30 57	5.0	P	Friendship Seven. Going to ASCS. Ready-now.



ATLANTIC OCEAN SHIP (THIRD ORBIT)—Continued

03 31 05	3.3	CC	Friendship Seven, this is ATS Cap Com. Do you read me? Over.
03 31 09	1.1	P	Roger, ATS.
03 31 15	3.9	CC	Friendship Seven, you are getting weak, you are getting weak. Over.
03 31 20	2.3	P	This is Friendship Seven. Did not read you, ATS.

ZANZIBAR (THIRD ORBIT)

03 31 23	10.9	CT	Friendship Seven, this is Zanzibar Com Tech, transmitting on HF UHF.
03 31 57	6.5	CT	Friendship Seven, Friendship Seven, this is Zanzibar Com Tech, transmitting on HF UHF. Do you read? Over.
03 32 04	6.9	P	Hello, Zanzibar Com Tech. Zanzibar Com Tech, Friendship Seven. Receive you weak but readable. How me? Over.
03 32 10	7.9	CT	Friendship Seven, Friendship Seven, this is Zanzibar Com Tech transmitting HF UHF. You're weak and garbled, weak and garbled. Do not copy. Over.
03 32 24	17.3	P	Roger. Friendship Seven. I receive you rather garbled, also. My condition is good. Fuel 5, correction, fuel 64-48 [percent]; oxygen 52-92 [percent]. Over.
03 32 44	9.9	CC	Friendship Seven, this is ATS Cap Com. I'm reading you very clear, very clear.
		(ATS)	Could you give me the reason for the errors in your attitudes, please?
03 32 54	41.6	P	This is Friendship Seven. That's a good question. I wish I knew, too. These errors have been off and on all during the flight. I have caged and recaged the gyros, caged and uncaged the gyros. I'm back in orbit attitude now but it is not, the attitude indicators are showing orbit attitude but it's not. By looking out at the horizon, I am about 20° right in roll and 20° too much on pitch down. I'm down to about probably 55° down in pitch by visual observation and about 20° right in roll. Yaw appears to be holding okay now. Over.
03 33 44	3.4	CC	Friendship Seven, ATS Cap Com.
		(ATS)	
03 34 14	2.5	P	Atlantic Ship, this is Friendship Seven. Over.
03 35 53	3.0	P	This is Friendship Seven, approaching sunset.
03 36 09	6.7	CT	Friendship Seven, Friendship Seven, this is Zanzibar Com Tech transmitting on HF UHF. Please acknowledge on HF. Over.
03 36 49	18.6	P	This is Friendship Seven recording. A lot of dirt on the windows from the retrofire and lot of stuff on here looks like, ah, we might have smashed some bugs even on the way up off the pad. Looks like blood on the outside of the window, maybe. It makes it real, very difficult to observe anything when they get around on the sun side.
03 37 32	8.3	P	Friendship Seven. The sun is going down again now. Coming off automatic in yaw, and yawing a little bit to the left to observe it.
03 38 05	1.7	P	Mark, the sun is down.
03 38 29	13.3	P	And can see little or nothing of zodiacal light at the moment.
03 39 21	10.3	P	This is Friendship Seven, flying with yaw handle pulled. Controlling on manual yaw.
03 39 41	18.1	P	The way the horizon looks is a very orange band. Just as the sun goes down and extends way off either side, probably 45° each side of the sun, comes up into a lighter yellow, then a very deep blue, then a very light blue, on up to the black of the sky.
03 40 06	3.2	P	Once again I can see lightning flashing under me, very clearly.
03 40 36	7.4	CT	Friendship Seven, Friendship Seven, this is Zanzibar Com Tech, transmitting on HF UHF. Please acknowledge on HF. Over.
03 40 44	4.7	P	Hello, Zanzibar Com Tech. Friendship Seven on HF. Do you receive me now. Over.
03 40 50	4.2	CC	Friendship Seven, this is Zanzibar Cap Com reading you weak but garbled.
03 40 58	3.0	P	Roger. Understand reading me weak and garbled.
03 41 02	16.8	P	This is Friendship Seven. I took the capsule off of automatic in yaw only to go left to look at the sunset. It's back on automatic at present time in all three axes; I'm backing it up with manual. Over.
03 41 20	7.3	CC	Roger, Friendship Seven, understand you're in automatic control in all three axes, backing up with manual. Is this affirmative. Over.
03 41 28	1.3	P	That is affirmative.
03 41 32	18.5	P	There's quite a big storm area under me. It must extend for, I see lightning flashes, as far, way off on the horizon to the right. I also have them almost directly under me here. They show up very brilliantly here on the dark side at night. They're just like firecrackers going off. Over.

ZANZIBAR (THIRD ORBIT)—Continued

03 41 59 4.6 P Zanzibar, this is Friendship Seven. Did you get my fuels when I reported them? Over.

03 42 05 1.6 CC Repeat your last transmission. Over.

03 42 07 13.2 P Roger. This is Friendship Seven. Fuel is 60-55 [percent], oxygen is 60-92 [percent], Amps are 22. Over.

03 42 28 5.5 P This is Friendship Seven. All voltages are 25, or above. Over.

03 42 53 12.3 P This is Friendship Seven at 3 plus 42. We should be just about over Johannesburg, I cannot see anything of southern Africa on this pass. Over.

03 43 06 2.2 CC Zanzibar Cap Com. Do you read? Over.

03 43 12 2.8 P Roger, Zanzibar. I'm reading you weak but readable.

03 43 46 16.4 P Zanzibar Cap Com, Friendship Seven on HF. Can see long streaky clouds down below as we, going off to my right up into sort of a general weather pattern. That's 3 plus 44.

03 44 45 32.1 P This is Friendship Seven. An observation on control system operation: It appears that whenever I go off on manual, or fly-by-wire and maneuver for any lengthy period of time, that somehow we induce considerably, considerable errors into the gyro system. I come up with all kinds of attitudes. That time for instance, when I yawed around 180°, and held for a little while, and came back again, I had errors of 30° in roll, 35 [degrees] in yaw and plus 40 [degrees] in pitch.

03 45 23 5.9 P This is Friendship Seven, going on manual pitch.

03 46 08 22.5 P This is Friendship Seven. Several times I have felt that I had a partially stuck thruster or one that was just partly operating in pitch down and just then again I had a pitch up rate going and all at once I felt a down thrust and it pitched down on me. Again there, it repeated again that time, so I think I have a stuck pitch thruster occasionally.

INDIAN OCEAN SHIP (THIRD ORBIT)

03 47 03 4.6 CT Friendship Seven, Friendship Seven, this is Indian Com Tech. How do you read? Over.

03 47 09 2.1 P Hello, Indian Com Tech, Friendship Seven. Over.

03 47 14 8.2 CT Friendship Seven, this is Indian Com Tech. I read you very weak, very weak, very garbled. Am turning over to Cap Com on UHF. Over.

03 47 23 1.3 P Roger. Friendship Seven.

03 47 30 4.5 CC Friendship Seven, Friendship Seven, this is Indian Cap Com on UHF. Do you read? Over.

03 47 34 2.8 P Roger, Indian Cap Com. I read you loud and clear. How me?

03 47 39 3.6 CC About 3 by 3. You're coming in stronger. Over.

03 47 42 10.1 P Roger. Friendship Seven. Fuel is 60-45 [percent], oxygen is 60-92 [percent], amps 23. Over.

03 47 54 2.3 CC Say again your oxygen. Over.

03 47 58 5.7 P Roger. Oxygen is 60-92 [percent]. Over.

03 48 04 1.5 CC Roger, understand.

03 48 14 4.1 CC Friendship Seven, this is Indian Cap Com. What is your control mode? Over.

03 48 19 12.9 P This is Friendship Seven. I'm on ASCS but it is operating very erratically. I'm backing it up with manual at the present time. I'm trying to get it set up so it will be in a decent ASCS attitude for retrofire. Over.

03 48 33 1.4 CC Roger, understand.

03 48 36 5.8 P This is Friendship Seven. I can control it manually. I'll back it up manually and take over if I need to. Over.

03 48 42 1.3 CC Roger, understand.

03 48 51 5.2 CC Friendship Seven, this is Indian Cap Com. I have your retrosequence times. Are you prepared to copy? Over.

03 48 57 2.2 P This is Friendship Seven. Standby one.

03 49 00 0.7 CC Standing by.

03 49 25 1.2 P Friendship Seven. Go ahead.

03 49 27 8.2 CC Roger. Area 3 Delta, Area 3 Delta is 4 hours, 12 minutes, 32 seconds.

03 49 36 0.8 P Roger.

03 49 40 4.2 P Area 3 Delta is 04 plus 12 plus 32. Is that affirm?

03 49 45 10.2 CC Affirmative. Area 3 Echo, Area 3 Echo is 4 hours, 22 minutes, 12 seconds. I say again; 4 hours, 22 minutes, 12 seconds. Over.

03 49 55 4.6 P Roger. Area 3 Echo is 04 plus 22 plus 12.

INDIAN OCEAN SHIP (THIRD ORBIT)—Continued

03 50 01	9. 9	CC	Roger. Area Hotel is 4 hours, 32 minutes, 37 seconds. Say it again; 4 hours, 32 minutes 37 seconds. Over.
03 50 11	3. 5	P	Roger. 04 plus 32 plus 38. I have correction, plus 37; I have 38 set on my retro-sequence because of error in my clock of 1 second. Over.
03 50 15	2. 7	CC	That is affirmative. We assume you have an error in your clock. Over.
03 50 20	9. 7	P	One second error, that is affirm. Request you confirm with Cape that I have 04 plus 32 plus 38 as correct retrograde time. Over.
03 50 40	1. 2	CC	Roger. That's affirmative.
03 50 49	8. 3	P	This is Friendship Seven. The ASCS is drifting again. I'm indicating 25° right in yaw. Over.
03 50 59	1. 0	CC	Roger, understand.
03 51 05	6. 6	P	This is Friendship Seven. I have almost continuous cloud cover under me as far as I can see in every direction. Over.
03 51 13	1. 2	CC	Roger, understand.
03 51 18	3. 5	CC	Friendship Seven, this is Indian Cap Com. Surgeon would like to talk to you. Over.
03 51 22	1. 6	P	Roger. This is Friendship Seven.
03 51 25	4. 6	S	This is the surgeon here. Have you switched to secondary oxygen for any reason during this hop? Over.
03 51 29	7. 6	P	Negative. I don't quite understand the decrease in secondary either unless it's the bottles are beginning to cool down, but they shouldn't cool that much.
03 51 38	3. 1	S	We're reading 90 [percent] on the TM. How about you?
03 51 41	1. 5	P	I am reading 90 [percent] also.
03 51 44	2. 5	S	Somewhere about 65 [percent]. This is Indian Surgeon. Out.
03 51 47	14. 1	P	Roger. This is Friendship Seven. This thing is slipping in and out of orientation mode and wasting fuel at present time. I'm just going to try and hold it on orbit attitude manually. Over. Or on fly-by-wire. Over.
03 52 02	2. 0	CC	Roger. Manually by fly-by-wire. Over.
03 52 04	0. 5	P	Roger.
03 52 18	7. 0	P	This is Friendship Seven. Checking different control modes on fly-by-wire. I have no low thrust to the right. Over.
03 52 27	2. 3	CC	Roger, understand no low thrust to the right.
03 52 29	0. 4	P	Roger.
03 52 32	3. 4	P	I do have low thrust in all other axes. Over.
03 52 37	1. 2	CC	Roger, understand.
03 53 04	3. 0	P	This is Friendship Seven. Pitching up for star observation.
03 53 10	1. 9	CC	Roger. Report anything you see. Over.
03 53 12	0. 8	P	Roger.
03 54 31	3. 8	CC	Friendship Seven, this is Indian Cap Com. Are you able to see anything? Over.
03 54 36	11. 7	P	This is Friendship Seven. Affirmative. I have Orion right in the middle of the window at present time and makes a good one to hold attitude on. I have, I am using it as horizon reference at the moment.

MUCHEA (THIRD ORBIT)

03 55 05	3. 4	CT	Friendship Seven, this is Muchea Com Tech. How do you read? Over.
03 55 09	4. 5	P	Hello, Muchea Com Tech. Loud and clear. Standby one. I'm right in the middle of operation here.
03 55 29	3. 9	CT	Friendship Seven, Friendship Seven, Muchea Com Tech. Do you read? Over.
03 55 45	3. 2	P	Hello, Muchea Com Tech. Roger. Read you loud and clear. How me?
03 55 59	3. 8	CT	Friendship Seven, Friendship Seven, Muchea Com Tech. Do you read? Over.
03 56 17	5. 3	P	Hello, Muchea Com Tech, Muchea Com Tech. Roger. Friendship Seven. Loud and clear. How me?
03 56 23	0. 8	CT	Over.
03 56 25	1. 5	P	Roger. This is Friendship Seven.
03 56 30	5. 6	CT	Roger, Friendship Seven. I'm reading you 3 by 3 on HF. Over. Would you call again?
03 56 37	3. 7	P	Roger, Friendship Seven, reading you loud and clear on HF. Over.
03 56 52	4. 3	CT	Friendship Seven, Friendship Seven, Muchea Com Tech, say again.
03 56 58	3. 3	P	Roger, Muchea Com Tech. Friendship Seven. Loud and clear. How me?
03 57 11	3. 5	CT	Friendship Seven, Friendship Seven, this is Muchea Com Tech. Do you read?
03 57 15	3. 9	P	Roger, Muchea Com Tech, Friendship Seven. Read you loud and clear. How me?

MUCHEA (THIRD ORBIT)—Continued

03 57 20	3.7	CC	Roger, Friendship Seven. You are 3 by 3. Go ahead to Cap Com.
03 57 24	4.0	P	Roger. Hello Cap Com, Friendship Seven. How are things going?
03 57 36	3.3	P	Hello, Muchea Cap Com, Muchea Cap Com, Friendship Seven. Over.
03 57 48	2.6	P	Hello, Muchea Cap Com, Muchea Cap Com. Over.
03 57 53	1.2	CC	How me? Over.
03 58 01	2.7	CC	Friendship Seven, Muchea Cap Com. How now? Over.
03 58 04	3.6	P	Muchea Cap Com, Friendship Seven. Loud and clear. How me?
03 58 09	3.8	CC	Roger. You are coming through rather weak. Do you want to switch to UHF? Over.
03 58 13	1.7	P	Roger. Switching to UHF.
03 58 24	2.8	CC	Friendship Seven, Muchea Cap Com, how do you read? Over.
03 58 27	2.6	P	Roger, Muchea. Loud and clear, how me? Over.
03 58 33	3.8	P	Hello, Muchea, Friendship Seven. Loud and clear, how me? Over.
03 58 38	3.0	CC	Muchea Cap Com. Give us 30-minute report.
03 58 43	15.1	P	Roger. This is Friendship Seven. 30-minute report: ASCS is major item, still not operating properly. I am on fly-by-wire at present time. I have no low thrust to the right fly-by-wire. Over.
03 58 58	3.5	CC	Roger, understand no low right thruster on fly-by-wire.
03 59 02	2.2	P	That is affirmative. Got it?
03 59 06	4.8	CC	We would like to send you a Z and R Cal sometime during your 30-minute report . . .
03 59 11	0.9	P	Roger. Fine.
03 59 13	2.8	CC	You want to start down the 30-minute report there?
03 59 16	3.6	P	This is Friendship Seven. In 45 more seconds I would like to have you send a message for me, please. Over.
03 59 23	13.9	P	I want you to send a message to the Director, to the Commandant, U.S. Marine Corps, Washington. Tell him I have my 4 hours required flight time in for the month and request flight chit be established for me. Over.
03 59 39	0.9	CC	Roger. Will do.
03 59 47	1.1	CC	Think they'll pay it?
03 59 49	3.0	P	I don't know. Gonna find out.
03 59 51	3.7	CC	Roger. Is this flying time or rocket time?
03 59 53	1.4	P	Lighter than air, buddy.
03 59 59	0.3	CC	Rog.
04 00 03	2.3	CC	We're sending you a Z and R Cal, hear.
04 00 07	0.5	P	Very well.
04 00 09	0.8	CC	Coming now.
04 00 11	3.4	CC	Are you going to start down on this procedure, or this 30-minute stuff?
04 00 15	36.3	P	Yes, all the fuse switches are still in the same position, Gordo. I haven't changed any of those. Squib is armed, Auto Retrojettison is off. I am on fly-by-wire, auto, and gyro normal. All "T" handles are in. The sequence panel is normal except for Landing Bag in the off position. The attitude indicator has been rather erratic, they drift very rapidly sometimes. Especially when I maneuver myself and then come back onto ASCS. It seems they have been thrown way off at that time.
04 00 51	0.4	CC	Roger.
04 00 53	10.6	P	My retrograde time 04 plus 32 plus 38 for capsule time which corrects for 1 second error in this clock.
04 01 09	9.3	CC	On that, MCC recommends you change that to 04 32 37 shortly after you get done with these others.
04 01 14	55.6	P	Roger. Okay, cabin pressure is still holding at 5.5. It's been there ever since we left. 90 [percent] on cabin temp, relative humidity is back up again now to about 36 [percent], coolant quantity is down a little bit too, we may have had a small water leak some place since we have that much increase in humidity, cause it was down around 20 [percent]. Our coolant quantity, though, is down around 62 [percent] now. The suit temperature is 70 [degrees] inlet; cabin suit pressure is 5.8. Steam temperature is 4 point, is 48 [degrees]. Oxygen is 60-90 [percent]. Amps are 24, ASCS is 11, about 115 now. Fan, is 110. Over.
04 02 10	3.2	CC	Roger. All your switches outboard?
04 02 13	7.9	P	That's affirmative. On the right side, everything is outboard except the fuel quantity warning light which is on. I have that switch inboard to cut the audio.

MUCHEA (THIRD ORBIT)—Continued

04 02 22	6. 2	P	The only 2 switch fuses in the center off position, on the right, are Retro Jettison and Retro Manual. Over.
04 02 29	1. 7	CC	Roger. Comfort control settings?
04 02 32	2. 5	P	Control settings on the water?
04 02 36	0. 3	CC	Rog.
04 02 44	17. 4	P	Water on, on cabin temperature is setting number 2. Setting on the suit temp is beyond the 1.7 mark. I repeat, beyond the 1.7 mark which is the maximum setting.
04 02 55	4. 9	CC	Roger. I understand. What is your opinion on the gyro problem, John?
04 03 00	11. 3	P	Well, I don't know. I want to start lining up just as carefully as I can here in a minute and see whether the scanners will pick it up and correct it in so that we have a good retrofire attitude. If it is not, I'll aline it myself. Over.
04 03 12	4. 8	CC	Roger. Do you have your three Dog, Easy, and Hotel times from Indian Ocean Ship?
04 03 17	1. 7	P	Yes I did. I got these okay.
04 03 19	15. 3	CC	And, now I gave you the recommended change in the retro clock to 04 32 37. On your retro, using ASCS, you'll be using high torque thrusters for retrofire mode there. What do you say about retroing by ASCS and backing up by fly-by-wire?
04 03 36	6. 5	P	Well-well, you can't, you couldn't do it on ASCS and fly-by-wire. You mean on manual.
04 03 43	4. 9	CC	No, I meant you could go ASCS by fly-by-wire and back it up on manual proportional.
04 03 48	17. 6	P	Yes. If the ASCS appears to be programing and holding a good orbit attitude I'll let it go on ASCS and back it up with manual. If not, if it appears that the gyros are cocked as they were a little while ago, then I'll just stay on manual retrofire, I think and let it go at that.
04 04 07	2. 9	CC	Are you in manual proportional or fly-by-wire now?
04 04 10	1. 5	P	I'm in fly-by-wire now.
04 04 21	6. 4	P	This is Friendship Seven. I am going to as near orbit attitude as I can establish here on the dark side.

WOOMERA (THIRD ORBIT)

04 04 40	4. 0	CC	Friendship Seven, Woomera Cap Com. We have contact UHF and TM solid.
04 04 44	2. 3	P	Roger, Woomera, loud and clear.
04 04 49	8. 9	P	Fuel is 52-45 [percent], oxygen is 60-90 [percent], amps 25. Over.
04 05 06	1. 5	P	Hello, Wommpera, did you receive? Over.
04 05 08	6. 4	CC	Roger, Friendship Seven. Surgeon recommends that if you haven't eaten that you eat in the near future.
04 05 18	12. 3	P	This is Friendship Seven. Negative. I did not eat on that last round because of, I was busy with the ASCS problem. Over.
04 05 30	4. 1	CC	Friendship Seven, let's have your fuel readings. Over.
04 05 35	1. 4	P	Say again, Woonera.
04 05 38	2. 1	CC	Let's have your fuel readings. Over.
04 05 41	6. 4	P	Roger. Fuel readings are 50-45 [percent], correction 52-45 [percent], over.
04 05 49	3. 0	CC	Roger, . . . temperature. Over.
04 05 55	1. 5	P	Say again please. Over.
04 05 58	3. 9	CC	Friendship Seven, you are fading . . . temperature. Over.
04 06 02	4. 0	P	Roger, steam temperature is 49-49 [degrees]. Over.
04 06 08	1. 6	CC	Roger, Friendship Seven.
04 06 10	4. 3	P	This is Friendship Seven. Turnaing more water on on that one, see if I can cool it down a little more.
04 07 30	7. 6	P	This is Friendship Seven. I can notice a little crackling on fly-by-wire switches when I operate fly-by-wire; it comes in on the head set.
04 13 41	16. 8	P	This is Friendship Seven. Turned around, yawed 180 [degrees] to see the sunrise here, and also to see these little, these little gadgets here that I don't know what they are.
04 14 04	7. 9	P	They do not seem to be coming from the capsule at all. There are too many of them. They're all spread out all over the place; it looks like they're some of them might be miles away.

CANTON (THIRD ORBIT)

04 15 23 5.4 CT This is Com Tech, Canton Com Tech. Do you read? Over.  
 04 15 28 3.2 P Go ahead, Canton.  
 04 15 33 5.9 CT Com Tech, Roger, read you loud and clear. Friendship Seven, this is Canton Com Tech, you are weak but readable. Standby for Cap Com.  
 04 15 40 0.6 P Roger.  
 04 15 42 2.5 CC This is Canton Cap Com. Over.  
 04 15 45 5.9 P Canton Cap Com, standby I'll give you a report in a minute here. I'm maneuvering back into retro attitude.  
 04 15 52 1.2 CC OK. Standing by.  
 04 18 02 6.5 CC Friendship Seven, this is Canton Cap Com. We are not receiving your transmissions and we have not lost your contact. Over.  
 04 18 09 24.2 P Roger, Canton. I was busy maneuvering here. I did not give you your report yet, was getting lights set up and trying to stow everything for retro fire. I have 45-45 [percent] on fuel, oxygen is 60-90 [percent], amps is 23. My retrograde time is still set at 04 plus 32 plus 38. Over.  
 04 18 35 3.2 CC Roger, Friendship Seven. Canton standing by.  
 04 18 38 0.4 P Roger.  
 04 19 19 6.5 P This is Friendship Seven, Canton. I am getting in in orbit attitude so I can cage and uncage the gyros again. They're off again. Over.  
 04 19 27 1.3 CC Roger, Friendship Seven.  
 04 19 29 1.5 P Request you notify Cape.  
 04 19 34 4.5 CC Friendship Seven, this Cap Com. I did not read your last transmission. Would you repeat please?  
 04 19 39 16.3 P Roger, Canton. Please notify Cape that I am indicating a roll 10° right, yaw 10° right, and pitch a plus 15 [degrees] when I'm in orbit attitude on the window and the scope. Over.

HAWAII (THIRD ORBIT)

04 21 00 2.0 CT Friendship Seven, Hawaii Com Tech. How do you read? Over.  
 04 21 04 2.1 P Loud and clear, Hawaii Com Tech. How me?  
 04 21 09 2.4 CT Roger. Reading you loud and clear on HF.  
 04 21 13 6.2 P Roger, this is Friendship Seven. Caging gyros and uncaging.  
 04 21 43 8.5 P Hawaii Com Tech, Cap Com, this is Friendship Seven. Fuel 43-45 [percent], oxygen is 60-90 [percent], amps is 23. Over.  
 04 21 56 2.0 P Hello, Hawaii Com Tech. Do you receive? Over.  
 04 21 59 5.3 CT Friendship Seven, Hawaii Com Tech. Roger. Transfer from HF, would you go to UHF? Over.  
 04 22 05 1.3 P Roger. Going UHF.  
 04 22 30 2.7 CT Friendship Seven, do you read on UHF? Over.  
 04 22 35 2.0 P Roger, read UHF loud and clear.  
 04 22 38 3.9 CC Friendship Seven, Hawaii Cap Com. Reading you loud and clear on UHF.  
 04 22 45 18.0 CC Friendship Seven, we have been reading an indication on the ground of segment 51, which is Landing Bag Deploy. We suspect this is a erroneous signal. However, Cape would like you to check this by putting the Landing Bag switch in auto position, and see if you get a light. Do you concur with this? Over.  
 04 23 09 6.6 P Okay. If that's what they recommend, we'll go ahead and try it. Are you ready for it now?  
 04 23 16 0.9 CC Yes, when you're ready.  
 04 23 17 6.8 P Roger. Negative, in automatic position did not get a light and I'm back in off position now. Over.  
 04 23 25 4.9 CC Roger, that's fine. In this case, we'll go ahead, and the reentry sequence will be normal.  
 04 23 31 1.8 P Roger, reentry sequence will be normal.  
 04 23 34 3.1 CC Friendship Seven, have you completed your pre-retro check list?  
 04 23 38 4.3 P This is Friendship Seven. Going to pre-re, check list at present time.  
 04 23 43 1.1 CC Roger. I'll standby.  
 04 25 05 1.4 CC Friendship Seven, Hawaii Cap Com.  
 04 25 08 0.7 P Go ahead, Hawaii.  
 04 25 10 2.8 CC Have you completed pre-retro check list at this time?  
 04 25 13 2.2 P That's affirmative. I'm just now completing it.  
 04 25 17 10.6 CC Roger. Can you comment again on this, the attitude system with respect to the, respect to the visual reference, how you feel about this at this time?

HAWAII (THIRD ORBIT)—Continued

04 25 28	12.5	P	Well, it's into, it's in and out of orientation mode right now and is wasting fuel, in yaw. I may have to cut it in yaw, I don't know. It appears to be correcting, though, at the present time or maybe the scanners are correcting it okay now.
04 25 42	1.6	CC	Roger, what mode are you in now?
04 25 44	1.9	P	I'm in ASCS, automatic.
04 25 47	0.4	CC	Understand.
04 25 51	7.4	CC	Did you understand the Cape would like you to change your clock by one second, to 04 32 37?
04 25 58	1.7	P	Negative. I'll change it right now.
04 26 03	4.3	P	Okay. Time is now 04 32 and 37.
04 26 08	1.2	CC	We confirm with TM readout.
04 26 10	0.5	P	Roger.
04 26 13	8.7	CC	Everything looks good on the ground. The inverter temperatures are a little high; 225° on the 150, 212° on the 250. Everything else looks pretty good.
04 26 22	0.5	P	Roger.
04 26 28	2.7	CC	Surgeon would like to know if you're still comfortable.
04 26 31	5.3	P	Roger, I'm in very good shape. I'll go through exercise bit in just a minute here, as soon as I get done with check list.
04 26 05	7.8	P	Okay, going through light test. Okay, checks okay.
04 27 38	2.4	P	Okay, 5 minutes to retrograde, light is on.
04 27 43	1.7	CC	Rog, 5 minutes to retrograde, light on.
04 27 54	4.8	CC	TM is breaking up now. Friendship Seven, would you like a G.m.t. time hack?
04 27 58	0.8	P	Roger, please.
04 28 00	4.8	CC	On my mark G.m.t. will be 19 plus 15 plus 45—MARK.
04 28 08	0.6	P	Roger.
04 28 10	7.1	CC	GET on my mark will be 04 plus 2 . . . .
04 28 18	2.5	P	Say again capsule elapsed time please. Over.
04 28 21	6.9	CC	Give you a new hack. On my mark it will be 04 plus 28 plus 35, six seconds.
04 28 29	15.5	P	Roger. Let me give you a hack and figure a new retrograde time from the Cape. My time from launch will read 04 plus 28 plus 45 on my mark. Standby, 2, 3, 4, MARK.
04 28 49	4.5	CC	Friendship Seven, Hawaii Cap Com. You were breaking up at the last, I could not read your time hack.
04 28 56	13.4	P	Roger, this is Friendship Seven. I'll give you another time hack at 04 plus 29 plus 10. Standby, 7, 8, 9, MARK.
04 29 14	1.4	P	Hawaii, did you receive? Over.
04 29 28	1.3	P	Hello Hawaii, did you receive?

CALIFORNIA (THIRD ORBIT)

04 29 56	2.1	P	Hello California, Friendship Seven. Over.
04 30 11	2.3	P	Hello California Cap Com, Friendship Seven. Over.
04 30 20	2.2	P	Hello California Cap Com. Friendship Seven. Over.
04 30 32	2.8	CC	Friendship Seven, this is California Cap Com. Read you loud and clear, how me?
04 30 35	3.7	P	California Cap Com, Friendship Seven, UHF. Do you receive now? Over.
04 30 41	2.8	P	Hello California Cap Com, Friendship Seven, UHF. Over.
04 30 45	2.4	CC	Friendship Seven, California Cap Com. How do you read? Over.
04 30 48	2.5	P	This is Friendship Seven. Loud and clear. How me? Over.
04 30 56	2.4	P	Hello California Cap Com, Friendship Seven. Over.
04 31 06	1.8	P	California Cap Com, Friendship Seven. Over.
04 31 09	3.7	CT	Seven, this is California Com Tech, California Com Tech. How do you read? Over.
04 31 13	2.9	P	This is Friendship Seven. Loud and clear. How me? Over.
04 31 18	4.1	CT	Roger, Friendship Seven, this is California Com Tech. Reading you loud and clear on UHF.
04 31 21	16.7	P	Roger, this is Friendship Seven. Let me give you my time, my capsule elapsed time is 04 plus 31 plus 35 on my mark. 2, 3, 4, MARK. Will you relay that immediately to Cape? I think we're several seconds off. Over.
04 31 40	5.5	CC	Roger, we have you on that. Will give you the count down for retro-sequence time, John. You're looking good.
04 31 46	3.7	P	Roger. We only have 50 seconds to retrograde. Over.
04 31 50	2.7	CC	John, I'll give a mark. 45, MARK.
04 31 53	— .3	P	Roger.

CALIFORNIA (THIRD ORBIT)—Continued

04 31 57	2.8	P	I'm on ASCS and backing it up manual. Over.
04 32 02	0.5	CC	Roger, John.
04 32 07	1.6	P	My fuel is 39 [percent]
04 32 09	1.0	CC	Thirty seconds, John.
04 32 11	1.6	P	Roger. Retro-warning is on.
04 32 13	0.3	CC	Good.
04 32 15	4.1	CC	John, leave your retro pack on through your pass over Texas. Do you read?
04 32 19	0.6	P	Roger.
04 32 23	1.5	CC	15 seconds to sequence.
04 32 25	0.5	P	Roger.
04 32 28	0.2	CC	10.
04 32 32	5.2	CC	5, 4, 3, 2, 1, MARK.
04 32 39	2.0	P	Roger, retro sequence is green.
04 32 42	2.0	CC	You have a green. You look good on attitude.
04 32 44	1.5	P	Retro attitude is green.
04 32 50	1.2	CC	Just past 20.
04 32 52	0.4	P	Say again.
04 32 53	0.2	CC	Seconds.
04 32 55	0.4	P	Roger.
04 33 02	5.2	CC	5, 4, 3, 2, 1, fire.
04 33 09	2.4	P	Roger, retros are firing.
04 33 12	0.9	CC	Sure, they be.
04 33 15	3.1	P	Are they ever. It feels like I'm going back toward Hawaii.
04 33 19	1.9	CC	Don't do that, you want to go to the East Coast.
04 33 23	2.2	P	Roger. Fire retro light is green.
04 33 26	0.7	CC	All three here.
04 33 28	0.5	P	Roger.
04 33 32	4.1	P	Roger, retros have stopped. A hundred . . .
04 33 37	2.5	CC	Keep your retro pack on until you pass Texas.
04 33 40	1.0	P	That's affirmative.
04 33 41	0.3	CC	Check.
04 33 47	2.9	CC	Pretty good looking flight from what all we've seen.
04 33 51	3.4	P	Roger, everything went pretty good except for all this ASCS problem.
04 33 55	2.8	CC	It looked like your attitude held pretty well. Did you have to back it up at all?
04 33 57	3.9	P	Oh, yes, quite a bit. Yeah, I had a lot of trouble with it.
04 34 04	2.1	CC	Good enough for Government work from down here.
04 34 06	2.2	P	Yes, sir, it looks good, Wally. We'll see you back East.
04 34 08	0.2	CC	Rog.
04 34 09	0.6	P	All right, boy.
04 34 11	1.3	P	Fire Retro is green.
04 34 14	0.5	CC	Roger.
04 34 15	2.2	P	Jettison retro is red. I'm holding onto it.
04 34 18	0.5	CC	Good head.
04 34 28	2.4	P	I'll tell you, there is no doubt about it when the retros fire.
04 34 32	1.4	CC	Gathered that from your comments.
04 34 39	35.1	P	Everything is looking good, I'll give you a fast readout here. Fuel is 29-27 [percent]. The cabin pressure holding 5.5, cabin air is 88 [degrees], relative humidity is 33 [percent]; coolant quantity, 58 [percent], temperature is 71 [degrees], suit temperature is 71 [degrees], suit pressure is 5.8, steam temperature is 53 [degrees] in the suit, oxygen is, primary 60 [percent], 89 [percent] on secondary.
04 35 17	4.3	CC	Looks pretty good on this end. How did the attitude seem to hold? Did you have any diversions in yaw at all?
04 35 21	5.3	P	Negative, very close. I backed it up and worked right along with the ASCS and it looked like it held right on the money.
04 35 27	2.9	CC	Roger, we didn't notice any particular disparity here.
04 35 29	4.0	P	Roger, good. Do you have a time for going to Jettison Retro? Over.
04 35 33	1.4	CC	Texas will give you that message. Over.
04 35 35	0.3	P	Roger.
04 35 39	6.7	P	This is Friendship Seven, cutting yaw on automatic and I'll control that manually; it keeps banging in and out of orientation.
04 35 46	1.3	CC	Roger, Friendship Seven.
04 35 49	1.7	P	Hello, Texas. Friendship Seven. Over.



CALIFORNIA (THIRD ORBIT)—Continued

04 35 56	1. 9	CC	Friendship Seven, Cal Cap Com. Do you read?
04 35 58	0. 6	P	Roger.
04 35 59	3. 3	CC	Consideration about leaving retro pack on, they will inform you over Texas.
04 36 03	0. 5	P	Roger.
04 36 05	1. 2	P	Roger, over the Coast.
04 36 07	1. 2	CC	Roger, clear blue here.
04 36 09	0. 4	P	Yes, sir
04 36 28	5. 6	P	This is Friendship Seven. Can see El Centro and the Imperial Valley down there; Salton Sea very clear.
04 36 34	2. 4	CC	It should be pretty green; we've had a lot of rain down here
04 36 37	0. 4	P	Yes, sir.
04 36 47	2. 5	CC	Do you notice any contrast over the coastline, John?
04 36 50	0. 8	P	Say again.
04 36 51	1. 8	CC	How about contrast over the coastline?
04 36 53	0. 7	P	Negative.
04 36 55	0. 4	CC	Roger.
04 36 59	9. 6	P	There is quite a bit of cloud cover down in this area. I can, right on track, I can only see certain areas. I can see quite a bit on up to the north, however.
04 37 16	2. 4	P	This is Friendship Seven, going to manual control.
04 37 19	1. 3	CC	Roger, Friendship Seven.
04 37 21	2. 7	P	This is banging in and out here; I'll just control it manually.
04 37 23	0. 4	CC	Roger.
04 37 46	3. 1	CC	Friendship Seven, Guaymas Cap Com, reading you loud and clear.
04 37 49	2. 1	P	Roger, Guaymas, read you loud and clear also.

TEXAS (THIRD ORBIT)

04 38 04	4. 0	CT	Friendship Seven, Friendship Seven, this is Texas Com Tech. Do you read? Over
04 38 08	1. 3	P	Roger, Texas, go ahead.
04 38 11	3. 9	CT	Roger. Reading you 5 square. Standby for Texas Cap Com.
04 38 14	0. 4	P	Roger.
04 38 23	23. 8	CC	This is Texas Cap Com, Friendship Seven. We are recommending that you leave the retro package on through the entire reentry. This means that you will have to override the 0.05g switch which is expected to occur at 04 43 53. This also means that you will have to manually retract the scope. Do you read?
04 38 47	4. 0	P	This is Friendship Seven. What is the reason for this? Do you have any reason? Over.
04 38 51	3. 6	CC	Not at this time; this is the judgment of Cape Flight.
04 38 56	2. 6	P	Roger. Say again your instructions please. Over.
04 38 59	22. 1	CC	We are recommending that the retro package not, I say again, not be jettisoned. This means that you will have to override the 0.05g switch which is expected to occur at 04 43 53. This is approximately 4½ minutes from now. This also means that you will have to retract the scope manually. Do you understand?
04 39 23	9. 7	P	Roger, understand. I will have to make a manual 0.05g entry when it occurs, and bring the scope in manually. Is that affirm?
04 39 33	2. 5	CC	That is affirmative, Friendship Seven.
04 39 37	0. 6	P	Roger.
04 39 40	3. 6	P	This is Friendship Seven, going to reentry attitude, then, in that case.
04 39 58	3. 8	CC	Friendship Seven, Cape flight will give you the reasons for this action when you are in view.
04 40 04	2. 6	P	Roger. Roger. Friendship Seven.
04 40 07	2. 5	CC	Everything down here on the ground looks okay.
04 40 10	1. 5	P	Roger. This is Friendship Seven.
04 40 12	1. 4	CC	Confirm your attitudes.
04 40 14	0. 4	P	Roger.

CANAVERAL (THIRD ORBIT)

04 40 21	1. 7	CC	Friendship Seven, this is Cape. Over.
04 40 23	1. 5	P	Go ahead, Cape. Friendship Seven.
04 40 25	4. 9	CC	Recommend you go to reentry attitude and retract the scope manually at this time.
04 40 30	1. 9	P	Roger, retracting scope manually.

CANAVERAL (THIRD ORBIT)—Continued

04 40 34 14.6 CC While you're doing that, we are not sure whether or not your landing bag has deployed. We feel it is possible to reenter with the retropackage on. We see no difficulty at this time in that type of reentry. Over.  
 04 40 49 1.6 P Roger, understand.  
 04 41 08 1.4 CC Seven, this is Cape. Over.  
 04 41 10 1.5 P Go ahead, Cape. Friendship Seven.

CANAVERAL (REENTRY)

04 41 13 5.4 CC Estimating 0.05g at 04 44.  
 04 41 19 0.6 P Roger.  
 04 41 21 3.0 CC You override 0.05g at that time.  
 04 41 29 2.7 P Roger. Friendship Seven.  
 04 41 31 13.2 P This is Friendship Seven. I'm on straight manual control at present time. This was, still kicking in and out of orientation mode, mainly in yaw following retorfir, so I am on straight manual now. I'll back it up . . .  
 04 41 43 0.8 CC . . . on reentry.  
 04 41 45 0.9 P Say again.  
 04 41 48 0.6 CC Standby.  
 04 41 51 6.2 P This is Friendship Seven. Going to fly-by-wire. I'm down to about 15 percent on manual.  
 04 41 58 8.9 CC Roger. You're going to use fly-by-wire for reentry and we recommend that you do the best you can to keep a zero angle during reentry. Over.  
 04 42 07 1.2 P Roger. Friendship Seven.  
 04 42 11 3.4 P This is Friendship Seven. I'm on fly-by-wire, back it up with manual. Over.  
 04 42 16 1.1 CC Roger, understand.  
 04 42 27 9.2 CC Seven, this is Cape. The weather in the recovery area is excellent, 3-foot waves, only one-tenth cloud coverage, 10 miles visibility.  
 04 42 37 1.2 P Roger. Friendship Seven.  
 04 42 45 1.4 CC Seven, this is Cape. Over.  
 04 42 47 2.7 P Go ahead, Cape, you're ground, you are going out.  
 04 42 50 1.8 CC We recommend that you . . .  
 04 43 14 2.9 P This is Friendship Seven. I think the pack just let go.  
 04 43 37 2.4 P This is Friendship Seven. A real fireball outside.  
 04 44 18 1.9 P Hello, Cape. Friendship Seven. Over.  
 04 45 16 1.9 P Hello, Cape. Friendship Seven. Over.  
 04 45 41 2.3 P Hello, Cape. Friendship Seven. Do you receive? Over.  
 04 46 17 2.0 P Hello, Cape. Friendship Seven. Do you receive? Over.  
 04 47 15 1.2 CC . . . How do you read? Over.  
 04 47 16 1.5 P Loud and clear; how me?  
 04 47 19 1.6 CC Roger, reading you loud and clear. How are you doing?  
 04 47 22 1.0 P Oh, pretty good.  
 04 47 26 3.8 CC Roger. Your impact point is within 1 mile of the up-range destroyer.  
 04 47 30 0.5 P Roger.  
 04 47 31 0.2 CC . . . Over.  
 04 47 32 0.3 P Roger.  
 04 47 40 3.4 CC This is Cape, estimating 04 50. Over.  
 04 47 44 1.5 P Roger, 04 50.  
 04 47 49 1.6 P Okay, we're through the peak g now.  
 04 47 51 4.0 CC Seven, this is Cape. What's your general condition? Are you feeling pretty well?  
 04 47 55 2.8 P My condition is good, but that was a real fireball, boy.  
 04 48 01 3.2 P I had great chunks of that retro pack breaking off all the way through.  
 04 48 04 2.1 CC Very good; it did break off, is that correct?  
 04 48 07 3.4 P Roger. Altimeter off the peg indicating 80,000.  
 04 48 11 1.7 CC Roger, reading you loud and clear.  
 04 48 13 0.3 P Roger.  
 04 48 19 6.7 CC Seven, this is Cape. You're . . . will be within 1 mile of the up-range destroyer. Recovery weather is very good. Over.  
 04 48 26 5.0 P Roger, understand. 55,000, standby, MARK.  
 04 48 37 3.3 P I'm getting all kinds of contrails and stuff outside out here.  
 04 48 42 2.7 CC Roger. Say again your altitude, please. You were broken up.  
 04 48 45 0.3 P 45,000.  
 04 48 51 3.7 P Rocking quite a bit. I may still have some of that pack on. I can't damp it either.

CANAVERAL (REENTRY)—Continued

04 49 00	2.0	CC	. . . post reentry check list. Over.
04 49 12	4.2	P	Friendship Seven. Going to drogue early. Rocking fairly, drogue came out.
04 49 18	0.8	P	Drogue is out.
04 49 20	4.0	P	Roger, drogue came out at 30,000, at about a 90° yaw.
04 49 25	1.6	CC	Roger, is the drogue holding all right?
04 49 27	1.1	P	Roger, the drogue looks good.
04 49 29	0.4	CC	Roger.
04 49 31	1.6	P	Scope did not come out.
04 49 32	1.0	CC	. . . check list.
04 49 34	1.5	P	Roger, pumping the scope out.
04 49 36	1.2	CC	. . . check list. Over.
04 49 38	0.5	P	Say again.
04 49 42	3.6	P	Roger, reentry checklist complete. Standing by for main at ten [thousand feet].
04 49 47	0.4	CC	Roger.
04 50 00	2.2	P	Coming down on ten [thousand feet], snorkels are open.
04 50 04	1.8	CC	Roger, understand snorkels open.
04 50 07	0.5	P	Roger.
04 50 10	20.8	P	Main chute in on green. Chute is out, in reef condition at 10,800 feet and beautiful chute. Chute looks good. On O <sub>2</sub> emergency and the chute looks very good. Rate of descent has gone to about 42 feet per second. The chute looks very good.

CANAVERAL-RECOVERY

04 50 37	3.4	P	Hello, Mercury Recovery. This is Friendship Seven. Do you receive?
04 50 41	4.2	R	Mercury Friendship Seven, this Steelhead. Loud and clear. Over.
04 50 45	4.1	P	Roger, Steelhead. Friendship Seven. The chute looks very good. Over.
04 50 50	4.3	R	Roger, understand the chute very good, descent normal. Is that Charlie? Over.
04 50 55	5.2	P	Roger, that is affirmative. Descent is normal, indicating 40 feet per second.
04 51 05	2.9	P	My condition is good; it's a little hot in here, however. Over.
04 51 09	8.0	R	Roger, Friendship Seven. Be advised, I got your chaff on my radar and I'm heading out for you now. Over.
04 51 17	2.8	P	Roger. What is your estimate on recovery time? Over.
04 51 23	2.0	R	Friendship Seven. Steelhead. Wait. Out.
04 51 26	2.6	P	Roger. Friendship Seven. Indicating 7,000.
04 51 35	7.8	R	Friendship Seven, this is Steelhead. Be advised, I have you visually, estimate on station in approximately 1 hour. Over.
04 51 43	1.8	P	Roger, on station 1 hour.
04 51 47	2.2	P	This is Friendship Seven, standing by for impact.
04 51 54	1.8	P	This is Friendship Seven, going through checklist.
04 52 04	6.6	R	Friendship Seven, this is Steelhead. Correct my estimate on station. Estimate pickup now at 20 minutes. Over.
04 52 10	2.5	P	Roger, understand 20 minutes to pickup.
04 52 14	2.0	P	Friendship Seven, going through check list.
04 52 27	3.0	CC	Seven, this is Cape. Do you have the Landing Bag on green? Over.
04 52 32	1.6	P	Friendship Seven. Say again, Cape.
04 52 35	1.4	CC	. . . Landing Bag on green? Over.
04 52 38	2.9	P	This is Friendship Seven. Still did not receive you. Repeat again.
04 52 43	3.1	CC	Do you have Landing Bag on green? Over.
04 52 47	2.8	P	I'm sorry. I cannot read you, Cape. Say again.
04 52 51	3.4	R	Do you have Landing Bag on green? Over.
04 52 55	2.6	P	That's affirmative. Landing Bag is on green.
04 53 04	6.9	R	Friendship Seven, this is Steelhead. Be advised accordingly to my surface gadget, your range 6 miles from me, on the way. Over.
04 53 11	2.4	P	Roger, understand 6 miles. Good show.
04 53 57	0.3	P	Okay.
04 53 58	2.1	CC	Steelhead, this is Cape Cap Com. Over.
04 54 05	1.0	P	Go ahead, Cap Com.
04 54 07	7.3	CC	Cape Cap Com. We recommend that he remain in the capsule unless he has some overriding reason for getting out. Over.
04 54 17	2.1	P	Say again. This is Friendship Seven.
04 54 22	5.0	R	Remain in capsule unless you have an overriding reason for getting out. Over.
04 54 28	1.5	P	Roger. Friendship Seven.

CANAVERAL-RECOVERY—Continued

04 54 32 2.3 P Friendship Seven. Ready for impact; almost down.  
 04 54 35 0.7 R Roger.  
 04 54 37 1.1 P Do you have me in sight?  
 04 54 47 2.2 P Friendship Seven. Getting close. Standing by.  
 04 54 50 0.6 R Roger.  
 04 55 10 1.0 P Here we go.  
 04 55 20 2.6 P Friendship Seven. Impact. Rescue Aids is manual.

RECOVERY

04 55 47 4.3 R Friendship Seven, this is Steelhead. Hold you in the water. What is your condition? Over.  
 04 55 51 3.4 P Roger, my condition okay. Does the capsule look like it's okay? Over.  
 04 55 56 4.0 R Friendship Seven, reference your last; affirmative, capsule looks good from here. Over.  
 04 56 01 3.8 P Roger, understand they want me to stay in the capsule until rescue.  
 04 56 06 2.1 R Friendship Seven, Steelhead. That's Charlie. Over.  
 04 56 09 0.6 P Roger.  
 04 57 00 1.8 R Friendship Seven, Steelhead is calling you.  
 04 57 03 2.6 P Go ahead, Steelhead. Friendship Seven. I don't receive you.  
 04 57 11 2.3 R Go ahead, Steelhead. Friendship Seven reads you.  
 04 57 16 2.7 P Negative. This is Friendship Seven. I do not read him.  
 04 57 19 2.9 R Friendship Seven, Friendship Seven, this is Steelhead, Steelhead. Over.  
 04 57 23 1.7 P Go ahead, Steelhead. Friendship Seven.  
 04 57 25 6.2 R Friendship Seven, this is Steelhead. I understand you have me visually through your window. Is that affirmative? Over.  
 04 57 32 0.6 P Negative.  
 04 57 36 1.4 P Negative. This is Friendship Seven.  
 04 57 55 7.4 R Friendship Seven, this is Steelhead. Estimate recovery time in approximately 7 minutes. Over.  
 04 58 03 4.2 P Roger, 7 minutes. Understand you're going to put men in the water with the collar. Is that affirm?  
 04 58 09 2.1 R Friendship Seven, Steelhead. Affirmative. Over.  
 04 58 12 0.6 P Roger.  
 04 58 31 5.9 R Friendship Seven, this is Steelhead. Understand your condition excellent at this time. Is that Charlie?  
 04 58 37 5.4 P That's affirmative. My condition is good. I'm a little warm at the moment, but that's okay, the suit fans are still running.  
 04 58 44 1.2 R Steelhead. Roger. Out.  
 04 59 38 1.7 CC Steelhead, this is Cape. Over.  
 04 59 41 4.2 R Station calling . . . . Read you. Say again. Over.  
 04 59 46 2.9 CC This is Cape Canaveral. Recommend . . . . Over.  
 04 59 52 6.4 R Understand station calling Steelhead is the Cape, unable to read your message. Request you say again text. Over.  
 04 59 58 5.0 CC Roger. Recommend . . . astronaut. Over.  
 05 00 08 5.5 R Cape, this is Steelhead; request you say again all after recommend. Over.  
 05 00 16 9.6 CC Keep the Astronaut advised of the recovery progress; keep the Astronaut advised of the recovery progress. Over.  
 05 00 27 1.4 R Steelhead. Wilco. Out.  
 05 01 02 9.2 R Friendship Seven, this is Steelhead. We have you visually. I am closing now. Should be, should be ready to effect recovery in approximately 4 minutes. Over.  
 05 01 12 3.0 P Roger, 4 minutes to recovery and my condition is good.  
 05 01 17 15.0 R Steelhead. Roger. Break, have ground tackle, etc., standing by on deck. All equipment fully rigged. Believe we will be able to have you aboard in approximately 2 minutes after arrival. Over.  
 05 01 32 0.5 P Roger.  
 05 01 38 9.4 P This is Friendship Seven. I'm very warm. I'm not, I'm just remaining, remaining motionless here trying to keep as cool as possible. I'm extremely warm at the moment.  
 05 01 49 5.9 R Steelhead. Roger, break, disregard that.  
 05 01 55 0.3 P Roger.

RECOVERY—Continued

05 02 11	7.1	R	Friendship Seven, Steelhead. Helicopter is on its way. At present, they expect to be here in approximately 8 minutes. Over.
05 02 18	0.6	P	Roger.
05 02 29	8.7	R	Friendship Seven, Steelhead. Medico are standing by in case assistance necessary immediately after recovery. Over.
05 02 39	1.3	P	Roger. Friendship Seven.
05 03 04	4.6	R	Friendship Seven, Steelhead. My speed now 10 [knots], commencing my approach. Over.
05 03 09	1.1	P	Roger. Friendship Seven.
05 03 18	6.0	R	Friendship Seven, this is Steelhead. All equipment operating normally. Expect to be along side approximately 3 minutes. Over.
05 03 26	0.5	P	Ah, Roger.
05 03 57	8.6	R	Friendship Seven, this is Steelhead. All stop, I say again, my engines are stop. I'm coming along side at this time. Over.
05 04 05	0.6	P	Roger.
05 04 09	2.8	R	Friendship Seven, Friendship Seven, this is Steelhead. Do you copy? Over.
05 04 12	4.0	P	Roger, Steelhead, I copy. Friendship Seven. Understand you're coming along side.
05 04 28	4.4	R	Friendship Seven, this is Steelhead. You are now 1,000 yards. Over.
05 04 33	3.9	P	Roger. Friendship Seven. Sounds good.
05 04 40	3.8	P	Capsule looks to me as though its floating in pretty good shape. Does it look that way to you?
05 04 46	7.6	R	Friendship Seven, this is Steelhead. Affirmative, capsule looks good from here. I can, can discern no damage visually. Over.
05 04 54	0.6	P	Roger.
05 04 58	6.3	R	Friendship Seven, this is 6 Spangle 8. I'm orbiting at 300 feet, everything looks (Aircraft) perfectly normal from here.
05 05 05	0.5	P	Roger.
05 05 08	2.0	R	You're riding in a good attitude. Over.
05 05 10	0.3	P	(Aircraft) Roger.