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# MICROFILMED

MAC  
CONTROL NO. 115308

MAR 18 1988

(TITLE UNCLASSIFIED)

GEMINI VII VOICE COMMUNICATIONS

(AIR-TO-GROUND, GROUND-TO-AIR AND ON-BOARD TRANSCRIPTION)

VOLUME III of III

Pages 675 - 1012

THIS MATERIAL CONTAINS INFORMATION AFFECTING  
THE NATIONAL DEFENSE OF THE UNITED STATES  
WITHIN THE MEANING OF THE ESPIONAGE LAWS.  
TITLE 18, U.S.C. SECTION 793 AND 794. THE TRANS-  
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232:58:29 C Go ahead, Houston. Gemini VII.

232:58:31 CC Gemini VII, Houston. Place your Crossover ON, and request an on-board readout of 2C.

232:58:43 C 2C is down to 2 amps.

232:58:51 C You read, Houston?

232:58:53 CC Roger, Gemini VII. Thank you.

232:58:56 C Roger. Did you get my message about the platform?

232:58:59 CC That's affirmative. We're considering that now, Frank.

232:59:02 C I think .. to turn the platform on under these circumstances.

232:59:07 CC Roger. We'll be back with you on the next state-side pass.

232:59:16 CC Incidentally, you wondered about your orbit. Your present orbit, from tracking, for the last state-side pass was 163.1 by 159.7.

232:59:28 C Thank you.

232:59:31 CC GET of Gemini VI lift-off is about 258:07.

232:59:58 C Houston, Gemini VII.

233:00:00 CC Gemini VII, GO.

233:00:01 C This 429, 237:04:02 ... RAD 2.

233:00:10 CC Say again. Say again, Gemini VII.

233:00:20 C Sequence 429, D-4/D-7, is that RAD 2?

233:00:25 CC That's 02, Sequence 02.

233:00:30 C That's Mode 02, but what about the RAD?

233:00:49 CC We'll be back with you on the next stateside pass, Gemini VII. I'm not sure I'm reading.

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233:00:55 C Okay.

233:01:01 P This is Gemini VII. 1, 2, 3, 4, 5, 5, 4, 3, 2, 1.  
Gemini VII GET at ...

233:01:11 CC Gemini VII. One statement. Do not use experiment recorder.

233:01:21 P Roger. Understand. Do not use experiment recorder.

233:04:13 P This is Gemini VII. 1, 2, 3, 4, 5, 5, 4, 3, 2, 1.  
Gemini VII GET at ...

233:09:57 C This is Gemini VII. 1, 2, 3, 4, 5, 5, 4, 3, 2, 1.  
Gemini VII. GET at ...

## CARNARVON

233:10:41 CC Gemini VII, Carnarvon CAP COM. Turn the DCS circuit breaker on.

233:10:49 P Roger. It's on.

233:10:52 CC Roger. Thank you.

233:10:55 CC Okay, and you can terminate that HF keying test.

233:10:59 P For good?

233:11:01 CC Negative. Just for this pass.

233:11:04 P Okay.

233:11:28 CC Gemini VII. We're ready for your blood pressure.

233:11:42 C Carnarvon, will you tell Houston we have a question about the Sequence 246 and Mode 2, but we thought that should be RAD 3.

233:11:45 CC Gemini VII. Your cuff is full-scale. Instead of RAD 2?

233:11:52 CC Say again, Gemini VII?

233:11:55 C D-4/D-7: Sequence - D-4/D-7 - Sequence 429. I

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understand it's Mode 2. We want to know what the RAD should be on it.

233:12:06 CC Roger.

233:12:41 CC Gemini VII. We have a valid blood pressure. We're ready for your exercise.

233:12:53 CC That's affirmative, now.

233:12:55 C Thank you.

233:13:01 P MARK.

233:13:02 CC Can we have another Class 1 main, please?

233:13:24 P Blood pressure coming down.

233:13:25 CC Roger.

233:13:37 CC Cuff is full-scale.

233:14:24 CC We have a good blood pressure. Thank you. Surgeon out.

233:14:28 CC Okay, Gemini VII. Carnarvon CAP COM. We're standing by for your GO/NO-GO readings.

233:14:33 C Roger. Here they are. Main batteries 1, 2, and 3 read 22.8 volts. Number 4 is 22.5 volts. My fuel cell stack readouts: 1A, 3.5 amps; 1B, 4.0; 1C, 3.0; 2A, 3.0; 2C, 2.0.

233:14:58 C Main bus voltage, 26.5. RCS A, 3,080 degrees. RCS B, 2,975 degrees. Left-hand Secondary O<sub>2</sub>, 5400. Right-hand Secondary O<sub>2</sub>, 5300.

233:15:26 CC Okay. Gemini VII, -

233:15:33 CC Gemini VII, we have you GO here on the ground and I'm going to update your T<sub>R</sub> clock at this time.

233:15:39 C Roger.

233:15:45 CC Roger. We have you updated and in sync on the ground.

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233:15:50 C Thank you.

233:15:59 CC Okay. And that time is for 2 days ahead. You have a GO for Area 178-1.

233:16:07 C Thank you.

233:16:37 CC Gemini VII, that GO is for Area 163-1. However, the T<sub>R</sub> time is for 178-1.

233:16:48 C Roger. We thought you were getting pretty liberal.

233:16:51 CC Roger.

233:17:25 CC Gemini VII, Carnarvon. The RAD on that experiment should be 3.

233:17:37 CC Do you copy?

233:17:41 C Roger. We copy. Thank you.

233:17:43 CC Roger.

233:17:46 CC We have nothing much further for you. Would you turn your DCS circuit breaker to the OPEN position 5 minutes from now.

233:17:56 C Roger.

233:17:58 CC Okay. And you can start that HF keying again.

233:18:02 C Roger. We'll leave the Crossover switch on till we get back over the States, and talk to them about the fuel cells. Is that correct?

233:18:07 CC That's affirmative.

233:18:09 C Thank you.

233:20:10 P This is Gemini VII. 1, 2, 3, 4, 5, 5, 4, 3, 2, 1. Gemini VII. GET 232 hours, 35 minutes, 22 seconds. Borman dumping urine at ...

233:25:15 P This is Gemini VII. 1, 2, 3, 4, 5, 5, 4, 3, 2, 1. Gemini VII. GET at 232 hours, 30 minutes, 34 seconds.

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233:25:24 C Borman dumping urine at 233 ...

233:30:39 P This is Gemini VII. 1, 2, 3, 4, 5, 5, 4, 3, 2, 1. Gemini VII. GET at 232 hours, 34 minutes, 25 seconds.

233:35:12 P This is Gemini VII. Testing HF. 1, 2, 3, 4, 5, 5, 4, 3, 2, 1. Gemini VII. At GET of 233 hours 40 minutes, 19 seconds. ...

233:40:07 P This is Gemini VII broadcasting HF. 1, 2, 3, 4, 5, 5, 4, 3, 2, 1. Gemini VII at GET of 233 hours ... minutes ... seconds.

**GUAYMAS**

233:49:19 CC Gemini VII, Guaymas CAP COM. Place your T/M switch to REAL-TIME and ACQ-AID position.

233:49:26 P Roger, Guaymas.

233:49:28 CC Roger. We have it. Place your adapter C-Band to CONTINUOUS, please.

233:49:33 P Roger, Guaymas.

233:49:38 CC Everything looks real good here on the ground. We don't have anything special for you. We'll be standing by.

233:49:44 P Roger. Understand.

233:53:27 CC Gemini VII, Houston.

233:53:30 P Go ahead, Houston.

233:53:33 CC Good morning.

233:53:35 P Good morning to you.

233:53:37 C Hi, Houston!

233:53:42 CC We are ready to place the Fuel Cell O<sub>2</sub> Heater switch back on, but first we would like a readout from you on that pressure.

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233:53:58 C Roger. The pressure reads 740.

233:54:04 CC Roger. For your information, we read a steady indication throughout the period you had it off, so we're convinced that it is an inoperative transducer.

233:54:16 C Roger. We've been plotting it steady also.

233:54:20 CC Roger. Okay, we're ready for you to put the Fuel Cell O<sub>2</sub> Heater switch back in the AUTO position.

233:54:26 C Roger. I did and we got an increase in amps, so I guess that the heater's working still.

233:54:32 CC Roger. In regard to OAMS fuel usage, we want you to realize that we had originally planned for you to use control attitude as you find it necessary. But whatever you can conserve is just that much more that we can use for the experiments.

233:54:58 C Roger.

233:54:01 CC Surgeon advises that you have - stand by.

233:54:09 CC Surgeon advises that you have an external lead that's marginal or coming loose, Frank, and we'd like to make a check to find which one it is. Would you hold the top one on for a minute, please?

233:55:37 CC Are you holding the top one on, Frank?

233:55:40 C Roger.

233:55:47 CC Okay, now hold the lower one on and release the top one.

233:55:53 C Holding the lower one on.

233:55:55 CC Roger.

233:56:14 CC Okay, it's apparently the lower one that has the poor contact, Frank, and we'd like you to replace that or put it on again as you did with Jim's at the first opportunity you have.

233:56:27 C Roger. How is your reading now?

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- 233:56:33 CC It's a poor reading.
- 233:56:37 C Thank you.
- 233:56:38 CC It got better for a second there.
- 233:56:42 C Roger.
- 233:56:53 CC We have a procedure that has been made up for taking the squib batteries off the line during a purge. I'd like to read off that procedure to you and have you look it over. And be ready, we'd like to try it on the next purge, specifically to observe the change in the main bus current during that period to see just how much it is. The thinking here is that if we can do this, we will be conserving the squib battery power, and we're also considering turning the squib batteries off completely. But we're not ready to do that yet. So let me read you this procedure and you'll have it on hand for the next time we do a purge.
- 233:57:44 C Go ahead.
- 233:57:45 CC Have you got a - are you ready to copy? It's fairly lengthy.
- 233:57:48 C Roger.
- 233:57:52 CC Place Squib Battery 1, Squib Battery switch 1 OFF. Squib Battery 2, Squib Battery switch 2 OFF, Step Number 2: place Bus Tie switch 1 ON, Bus Tie switch 2 ON. Step 3: place Squib Battery switch 3 OFF. Place Crossover switch ON. Step 5: normal purge, Section 1. Do you copy so far?
- 233:58:43 C Roger.
- 233:58:45 CC Step 6: Fuel Cell Control circuit breaker Number 2, this ON; monitor change in main bus current. Step 7: normal purge, Section 2. Step 8: Fuel Cell Control 2 circuit breaker OFF, monitor change in main bus current. Step 9: Crossover switch OFF. Step 10: Squib Battery switch 3 ON. Step 11: Bus Tie switch 1 OFF, Bus Tie switch 2 OFF. Step 12: Squib Battery switch 1 ON, Squib Battery switch 2 ON. Do you copy?

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234:00:26 C Roger. We have it.

234:00:28 CC Roger.

234:00:45 C Were you concerned about the squib bus voltage, Elliot?

234:00:47 CC Oh, it's just a procedure to try to conserve some of the power in the squib batteries. They tell me that this should save one-ninth of the squib bus power from now to the end of the mission.

234:01:03 C Okay.

234:01:05 C How about this powering-up the platform? Are you satisfied with the fuel cells the way they are?

234:01:11 CC We're still working on that - looking into that question, Frank.

234:01:14 C Thank you.

234:01:29 CC We're apparently getting some interference from HF on our T/M signals during your HF Tests. Have you been copying 2C current?

234:01:43 C Roger. 2C current is now - just a minute - stand by - 2 amps.

234:01:49 CC Roger.

234:02:00 CC Are you keying the HF at the present time?

234:02:06 CC Drop it off for a minute and let us get a good T/M reading here.

234:02:10 C We're not doing anything. We haven't had the HF on since 40.

234:02:13 CC Roger.

## CANARY ISLANDS

234:12:03 CC Gemini VII, Canary.

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234:12:05 C Go ahead, Canary.

234:12:07 CC Roger. Just some information. We'd like you to keep that Crossover switch on until after the purge.

234:12:14 C Roger.

234:12:15 CC That'll be over Carnarvon. If you can put your Quantity Read switch to the OFF position now.

234:12:21 CC Thank you.

234:12:27 C It looks like you have a pretty clear day there, Canary.

234:12:29 CC Take a picture.

234:12:32 C Smile.

234:12:40 CC Did you get it?

234:12:42 C Roger. It was very, very ...

234:12:44 CC Thank you.

234:13:43 CC VII, Canary. Would you give us an on-board reading on fuel cell O<sub>2</sub> pressure, please?

234:13:52 C It's still 750. It's not low.

234:13:55 CC 750, is that right?

234:13:57 C Roger.

234:13:58 CC Okay, thank you. You can go to OFF on the switch.

234:18:41 C Roger.

234:22:48 P What? Note for Apollo Landmark: Africa at 15 degrees north latitude; usually poor for landmark due to cloud cover and ... quite a bit of fires down here - haze, smoke and quite a bit of cloud covers, although it's early in the morning. United Arab Republic, Arabia, Arab - Algeria, Libya, and western coastline of Morocco; and ... south that area ... landmark. Beautiful pictures of Canary, blue water, very low clouds ...

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## CARNARVON

234:46:59 CC Gemini VII, Carnarvon. Would you turn your T/M switch to the REAL-TIME and ACQ-AID position, please?

234:47:06 C Roger, Carnarvon.

234:47:08 CC Roger. We have it. Turn your adapter C-Band to CONTINUOUS.

234:47:13 P Roger.

234:47:15 CC Okay. We're going to get a fuel cell purge this time. We have a procedure which we would like for you to follow. I will read it out to you.

234:47:47 CC Okay. On the purge, when we get to Step 7, monitor main bus current. We would like to have a pause there, please. And also, on Step 10, will you monitor change in main bus current again?

234:48:05 CC Okay, you can start your purge any time, VII.

234:48:09 C Roger. Going through the special purge procedures.

234:48:11 CC That's affirm.

## CARNARVON

234:53:49 P Carnarvon, Fuel Cell Control circuit breaker 2 going off.

234:53:52 CC Roger.

234:53:54 P And also the switch coming off.

234:54:08 P And the switch coming off.

234:54:09 CC Roger.

234:54:22 P Squib batteries main coming on.

234:54:24 CC Roger.

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234:54:34 P We noticed no change in main bus amps that time.

234:54:37 CC Roger. We copy.

234:54:57 P Bus Batteries 1 and 2 are off, and Squib Batteries 1 and 2 are on.

234:55:00 CC Roger.

234:55:04 CC And position your Cryo Quantity Gage switch to ECS O<sub>2</sub>, please.

234:55:17 CC Okay. We're getting ready for - close to LOS here. If I fail to get to you after our LOS, go back to the COMMAND position on your T/M switch and the adapter C-Band. Go to the FUEL CELL O<sub>2</sub>, please.

234:55:46 CC Okay. To FUEL CELL H<sub>2</sub>, please.

234:55:57 CC Can I have an on-board readout on fuel cell O<sub>2</sub> pressure, please?

234:56:04 P 750, Carnarvon.

234:56:07 CC Roger. Go to - T/M switch to REAL-TIME in ACQ-AID, adapter C-Band to CONTINUOUS.

## HAWAII

235:08:31 CC Gemini VII, Houston. Do you read?

235:08:36 C Roger, Houston. Loud and clear.

235:08:37 CC Roger. S-8 is deleted on this pass due to weather. Do you copy?

235:08:46 C Okay. Thank you.

235:10:39 CC Gemini VII, Houston. HF is available if you're interested.

235:10:43 C Thank you.

235:15:09 CC Gemini VII, Hawaii CAP COM.

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235:15:11 C Go ahead, Hawaii. Gemini VII.  
235:15:12 CC What position is your T/M switch in?  
235:15:16 C It's in the COMMAND position.  
235:15:17 CC Roger.  
235:15:26 CC What position is your DCS circuit breaker in?  
235:15:32 C To the OFF position.  
235:15:34 CC You're saying it's open?  
235:15:36 C Roger.  
235:15:37 CC Okay. Would you close your DCS circuit breaker?  
235:15:39 C Roger.  
235:15:41 CC Thank you. What position is your adapter C-Band  
in?  
235:15:45 C COMMAND.  
235:15:46 CC Okay.  
235:15:53 C We've been doing it manually over the other  
stations, Hawaii.  
235:15:56 CC Okay.  
235:16:01 CC Okay. How are you doing this morning?  
235:16:03 C Pretty good. How are you?  
235:16:04 CC Oh, not bad. A little bit wet. We show you GO  
down here on the ground.  
235:16:07 C Thank you.  
235:16:12 CC Bad night last night.  
235:16:53 CC Okay, VII. We've got nothing for you. We'll be  
standing by if you need us.  
235:16:57 C Thank you.

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## TEXAS

235:27:24 CC Gemini VII, this is Texas CAP COM. You need not acknowledge this transmission. We've got you GO on the ground and are standing by.  
235:27:30 C Thank you.

## HOUSTON

235:31:01 CC Gemini VII, Houston.  
235:31:03 C Go ahead.  
235:31:05 CC We'd like you to put the Crossover switch on again, Jim - Frank, and leave it on until we get to the power-up. You should, of course, turn it off if you get a Delta-P 1 light on at any time.  
235:31:20 C Roger.  
235:31:21 P You want us to go ahead and power the platform up?  
235:31:24 CC Negative. Not now. That doesn't come until 236:10, I believe it is. Is that right?  
235:31:31 C That's right.  
235:31:34 CC I've got a TX coming up.  
235:31:41 P We received it.  
235:31:43 CC Roger.  
235:31:55 C ... cloudy over the States today, Elliot.  
235:31:57 CC Roger. Looks like the White Sands is going to be okay, or rather Holloman, for your pass on the next revolution. We had a good weather report just a minute ago.  
235:32:10 C We just saw White Sands, and Holloman had some clouds over it, but it wasn't too bad.

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- 235:32:16 CC We are interested if you've had a Delta-P light or Delta-P light go out at any time this morning with any of the operations we've performed.
- 235:32:27 C Negative.
- 235:32:29 CC Roger.
- 235:32:39 CC The Surgeon would like to talk to you for a minute here. We need an evaluation of your airflow condition.
- 235:32:49 CC Frank, in evaluating the suit situation, and particularly the suit-off situation, we'd like to get some evaluation of what you've done about airflow. Where you've had your hoses, and if you've had any time with no airflow at all on you, and we need some sort of an actual evaluation by hours and time that you've had it in these various positions, and your own subjective feeling about what the comfort level was. We don't need to have all this passed down to us, but we need to have you work out some sort of a plan for doing it there.
- 235:33:27 C We have tried several different positions. We have settled on one where the suit outlet hose down by our left knee - the suit inlet hose goes up over my right shoulder and Jim's left shoulder, and it's very, very comfortable.
- 235:33:43 CC Have you had any time with no airflow across you at all?
- 235:33:47 C ... the air flows across us in this position.
- 235:33:50 CC Okay.
- 235:33:52 C All this bugaboo about no connection is a bunch of bologna. It's no problem at all.
- 235:33:56 CC That's one of the things that they were interested in trying to pin down, I think. So they're going to be real interested in your results and comments about that.
- 235:34:08 CC How did you decide on this position, Frank? Is this a matter of temperature comfort?

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- 235:34:16 C Just overall comfort. We tried several positions and just settled on this one.
- 235:34:20 P In reality, Elliot, there are only two places we can put the outblow hose. That's here on the side by the center box or alongside by our knee. We're trying both. This position is just as comfortable as the other one and it's out of the way.
- 235:34:35 CC Roger. And you have it taped down there or tied down with velcros?
- 235:34:42 P Right.
- 235:34:46 CC Frank, you haven't tried to replace that lead yet, have you?
- 235:34:49 C Not yet. I did try to put it down with tape but I didn't replace the lead. Is it still bad?
- 235:34:53 CC Yes, it's still very bad, Frank. It's worse now than it was ... It's totally unreadable, so I think you're going to have to do the whole bit with it.
- 235:35:08 CC We are planning to go ahead with the platform power-up, VII, on the time scheduled. We feel that it's going to be okay.
- 235:35:16 C Okay.
- 235:35:19 CC Place your C-Band Adapter switch to COMMAND.
- 235:35:22 C It is in COMMAND.
- 235:35:24 CC Roger.
- 235:35:25 C We have the ECS circuit breaker closed now also.
- 235:35:31 CC That's fine.
- 235:35:32 C Okay.
- 235:35:35 CC The tests on the pad have been completed. You can leave it there.
- 235:35:39 C Okay.

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235:35:57 CC I guess word got to you that we do not want to try the D-4 and the MSC-4 at the same time. We decided against that. We'll be doing the D-4 on the next pass.

235:36:07 P Roger. D-4 on the next pass.

235:36:42 P Houston, this is VII.

235:36:44 CC Go ahead.

235:36:46 P Suggest that for Apollo Landmarks, not to try anything below 150 degrees north latitude in Africa. Continually clouded over either with regular clouds or smoke of the fires. We've had very little success below 150 degrees north latitude.

235:37:03 CC Roger. Copy, VII.

235:37:09 P That includes our last Apollo attempt at Sequence 97.

235:37:14 CC Roger. Understand it was too smoky or cloudy there.

235:37:17 P Too cloudy in this particular spot.

235:37:20 CC Roger.

235:37:25 CC Are you ready for the day's news?

235:37:29 P Roger.

235:37:36 CC The Gemini news is all about the dust cover left in the gas generator line - oxidizer line. It's been fixed, by the way, and everything's looking real good for the launch tomorrow morning. Talked to Wally and Tom this morning, and they are all ready to go. Randy Lovelace, Dr. Lovelace and his wife are missing in a small private plane flight from Aspen to Albuquerque. Keep you posted on that one. Daryl Royal has turned down Oklahoma's coaching offer. He has 8 years to run on his present Texas contract. Currently, they're now trying to get Georgia's coach, Vince Dooley. And the carrier Independence is back in Norfolk after seven months off Vietnam.

235:38:28 P Got lot of sense on the Independence.

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235:38:30 CC Roger.

235:39:32 CC Gemini VII, Houston.

235:39:34 P Go ahead.

235:39:36 CC Did you place the Crossover switch on, Jim?

235:39:39 P That's affirmative. Been on since you told us to.

235:39:42 CC Roger. Would you check the Fuel Cell O<sub>2</sub> and H<sub>2</sub> Regulator circuit breaker?

235:39:53 P They are both on, Regulator and Heater circuit breakers.

235:39:57 CC Roger.

235:40:08 CC We were wondering if we're actually getting the Crossover open because we aren't seeing the change in the cell that we did yesterday.

235:40:17 P We've noticed that too.

235:40:20 CC Roger.

235:59:14 P BIO MED recorder to CONTINUOUS.

236:10:13 P Here's a note on alining the spacecraft on a platform. The only time you really have difficulty is in twilight where you can't get the stars, and you lose ground reference.

# CARNARVON

236:24:15 CC Gemini VII, Carnarvon. We have your T/M solid. You're looking good on the ground. I see you've powered your platform up.

236:24:25 C Roger, Carnarvon.

236:24:35 C Carnarvon, we'd like to confirm some pointing angles with you.

236:24:40 CC Go ahead.

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236:24:41 C D-4/D-7 at 238:18:40. We copy pitch 63 down, yaw 90 left.

236:24:49 CC That's affirm. We concur.

236:24:52 C Thank you.

236:24:57 C For the D-4/D-7 that's coming up at 237:04:02, we copy pitch 25 down, yaw 36 left.

236:25:04 CC That's affirm.

236:25:06 C Thank you.

236:25:13 C Will you ask Houston, ask CSQ if they want the computer powered-up for this pass so they can look at it?

236:25:17 CC Roger. Stand by.

236:25:23 CC Gemini VII, Carnarvon. That's affirmative. Power-up the computer.

236:25:27 C Okay. We'll power it up right now.

236:27:58 C Carnarvon, Gemini VII. Do you still read?

236:27:59 CC That's affirmative. Go ahead.

236:28:01 C Will you ask the Surgeon ... sternal lead isn't on the Command Pilot.

236:28:03 CC Roger. Stand by.

236:28:10 CC Roger. They say sternal lead is good.

236:28:12 C Thank you.

236:43:32 P At 236:43 we spotted a satellite moving from left to right. ... and our pitch angle is ... degrees above the horizon ... 30-second prerecording on tape.

236:43:47 C You still have it?

236:43:48 C I've got it.

236:43:49 P ... recorder right now.

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236:44:05 P Got a radar?  
236:44:11 C Right on it.  
236:44:15 P 40 degrees above the horizon.  
236:44:23 P Recorder off.  
236:44:28 P Report that ...  
236:44:35 C Yes.  
236:44:40 P We're 40 degrees up. We're angled 40 degrees, Frank. About 45 now. Keep climbing, keep going from southwest to northeast.  
236:44:40 C ...  
236:44:59 P Moving from northeast to southwest, right? Okay, make a recovery of the ...  
236:45:23 P Okay, I'm ... Turn the equipment off.  
236:46:59 C Yes. We're back to normal.  
C Let me get this photograph, Jim. I don't want to yaw all way around. Okay.

## HAWAII

236:48:54 CC Gemini VII, Hawaii CAP COM.  
236:48:58 C This is VII. Go ahead, Hawaii.  
236:48:59 CC Roger. We show you GO on the ground here. Have one addition for you. An instruction for you here. When you start your D-4/D-7 experiments, be sure to open your ACQ-AID circuit breaker.  
236:49:15 C Roger. Will do.  
236:49:21 CC Are you GO for the D-4/D-7 this pass?  
236:49:25 C We're GO as far as we know.

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236:49:28 CC Roger.

236:49:30 P Here goes. ...

236:49:40 C ...

236:49:42 P Hawaii.

236:49:47 P ... Okay, read off the ...

236:50:11 P ...

236:50:20 C What?

236:50:32 C Yes, we can take the Gemini photograph, Jim.

236:50:37 P ... circuit breaker open? ... Okay, ...

236:51:25 P ...

236:51:35 C That was on a northeast, southwest track.

236:51:36 P Right. We passed up a period of 45 degrees.

236:53:37 C Can't control the ... more and more ... about 25 1/2.

236:53:38 P 24 1/2 .. a lot of power on it.

236:53:56 P Okay. At 02 I turn on the transmitter.

236:54:03 C ...

C Might as well get around their altitude.

P Right. Get in position.

C ...

236:54:35 P Pitch 45 degrees down. 36 degrees right.

C Right.

236:54:54 C There's 10 right.

236:56:25 P Okay. You have 25 degrees more.

236:56:26 C Got away.

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236:56:27 P ... 25. Yaw left 33 degrees.  
236:56:56 C There's a short circuit in my reticle and I can't  
keep the bright reticle ...

## CALIFORNIA

236:58:46 CC Gemini VII, Houston.  
236:58:48 P This is VII. Go ahead.  
236:58:50 CC Roger. This will be UHF 6 pass.  
236:58:54 P Roger.  
236:58:58 CC There's a couple of slight modifications on the D-4  
time for you. Are you ready?  
236:59:07 P Ready to copy.  
236:59:10 CC Roger. Your initial time is 06 instead of 02.  
236:59:23 P Roger. Understand 06 seconds instead of 02.  
236:59:28 CC Roger. And your time of test is 24 instead of 21.  
236:59:36 P Roger. 24 instead of 21.  
236:59:38 CC Roger. The weather is reported very good at  
Holloman. Less than .1 cloud coverage.  
236:59:45 P Roger. We're in position.  
236:59:48 CC Roger. And I have a considerably long flight plan  
update for you whenever you're ready to copy. If  
you think you can get some now, let me know. Other-  
wise I'll wait until after the test.  
237:00:01 P Could we wait until after the test?  
237:00:03 CC Roger. Let me know when you're finished with the  
run.  
237:00:06 P Roger.

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237:00:51 P Houston, VII.  
237:00:53 CC Go. Go ahead.  
237:00:57 P We've picked up a 427, D-4/D-7 this last night pass.  
237:01:01 CC Roger. Understand you got a 427 on D-4.  
237:01:06 P Roger.  
237:01:10 C We omitted the dim-light photography though, Elliot. There wasn't enough time.  
237:01:28 CC Roger.  
237:02:27 P Houston, Gemini VII. Change that temperature. Is Doctor Barry happy with it now?  
237:02:33 CC Roger.  
237:02:35 P Carnarvon said they were.  
237:02:38 CC Roger. Looks good now.  
237:03:04 C Our REAL-TIME transmitter is on.

**TEXAS**

237:05:27 CC Ignition.  
237:05:33 CC Burn out.  
237:06:04 CC Water braking now. VII.  
237:06:07 P Roger. We're ... it.  
237:06:09 CC Say again.  
237:06:13 P We have it.  
237:06:15 CC Roger.  
237:06:58 CC Did you have it all the way on that, VII?  
237:07:01 P Roger. We can't see much. We saw a little smoke.

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But that's about it.

237:07:07 CC Roger.  
237:07:08 P We had a beautiful view though.  
237:07:10 CC Roger.  
237:07:12 C We were right on the track and saw the white smoke.  
Should have had a good one.  
237:07:16 CC Roger. Very good. Understand you could not actually see the ignition or the rocket firing them.  
237:07:25 C That's correct.  
237:07:27 CC Roger. That would be a good test of the equipment then.  
237:07:32 C Roger.  
237:07:36 CC Did you say you saw the water braking? Do you think that was the smoke you reported?  
237:07:41 C Negative. We saw the ignition smoke from the rocket before you ever called braking.  
237:07:45 CC Roger. Did you see the water braking also?  
237:07:48 C Negative.  
237:07:49 CC Roger.  
237:07:52 C Couldn't tell the difference anyway.  
237:07:59 P 237 ...  
237:08:15 C Okay. You can turn it off. We're going ...  
237:08:25 C Okay. You got ...  
237:08:30 C Borman dumping urine at 237:37.  
237:08:40 CC VII. Let me know when you're ready to copy the flight plan update.  
237:08:48 P Ready now.

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237:08:49 CC Okay. You have a  $T_X$  coming up. And we're ready to update your computer for a 163-l load when you're ready.

237:09:02 P All set.

237:09:04 CC Okay. Did you get the  $T_X$ ?

237:09:07 P Roger.

237:09:08 CC Okay. Stand by for the update on your computer.

237:09:34 P Okay. Update the computer.

237:09:45 CC Okay. We'll start on the flight plan update now, VII. Node: Time, 236:42:32; Rev 148; 167.9 degrees east; right ascension, 85637. Transponder Test: 238:38:00; Sequence 01. This will be at the Cape. Off at 238:51:00. Time: 238:52:00; cabin temperature survey. Dim-light photos: 239:18:00; Sequence 01; post-sunset. Command Pilot, Code 14-B; Pilot, Code 24-XY. Do you copy so far?

237:11:23 P Roger.

237:11:26 CC Dim-light photos: 239:45:00; Sequence 01; pre-sunrise; Pilot Code, 24-XY. Command Pilot to start at 239:47:00. Code 14-B. That is Baker.

237:12:05 P Roger.

237:12:11 CC VII. Your computer load is in and verified.

237:12:16 P Roger.

237:12:17 C Is the computer done now?

237:12:20 CC Yes. You can turn it back off. Stand by a minute, VII. Okay, we'd like to leave it on a few more minutes. I'll call you. Next item: Time, 240:00:00; crew status report on the Command Pilot at Hawaii. Time: 240:15:00; crew status report on the Pilot at Texas. Dim-light photos: 240:53:00; Sequence 02; cloud with no moon. Dim-light photos: 241:06:00; Sequence 02; cloud with quarter moon. 241:36:00: flight plan report at Hawaii. Time: 242:09:00; PLA update at RKV. Time: 242:30:00;

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exercise, housekeeping and eat period. Time - do you copy so far, VII?

- 237:14:09 P Roger.
- 237:14:11 CC Time: 243:10:00; BIO MED Recorder Number 2 CONTINUOUS. Time: 243:46:00; purge fuel cells at RKV. Time: 255:06:00; end sleep period and begin exercise and eat period. Same time on BIO MED Recorder Number 2 off and purge fuel cells at Canaries. Do you copy?
- 237:15:02 P Roger.
- 237:15:11 CC VII, you can turn the computer off at this time.
- 237:15:15 C Roger. It's off.
- 237:15:23 CC Did you place your Quantity Read switch to FUEL CELL O<sub>2</sub>?
- 237:15:40 C It's there, Elliot.
- 237:15:41 CC Roger.
- 237:15:48 C You said you wanted us to use this procedure by turning off those squib batteries for every purge now.
- 237:15:55 CC Negative. We're still looking into this question of the purging, VII. And we'll let you know if we have any changes.
- 237:16:09 C All right. Normal purges from now on.
- 237:16:11 CC That's correct. Of course we still have to use our Fuel Cell Control 2 circuit breaker with each purge, but other than that, it is normal.
- 237:16:22 C Elliot, you want the crossover and switch left on?
- 237:16:27 CC Well, we'd still like to leave it on for a while. We're trying to see if 2C will come up a little more.
- 237:16:35 P Okay.
- 237:16:38 CC Haven't had any change in the Delta-P lights, I

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presume.

237:16:39 C No. We're going to write a book on it when we get back, "Our Fourteen Days with the Delta-P Light".  
237:16:54 CC Could be a lot of lessons in that book, too.  
237:16:59 P Houston, this is VII.  
237:17:01 CC Go ahead.  
237:17:09 CC Did you call, VII?  
237:17:10 P Roger. I'm kind of glad you didn't give me a dim-light sequence with the full moon.  
237:17:19 CC Why? Does that keep you awake?  
237:17:22 C The sequence for the dim-light for taking pictures of the sky in the daytime. We didn't have time to do it on the last pass.  
237:17:31 CC You say you want a new one?  
237:17:33 C Roger. We need a new time for that.  
237:17:34 CC Roger.  
237:17:56 CC Gemini VII. You can place your Quantity Reads - Read switch back to the OFF position.  
237:18:02 C ...  
237:19:04 P Houston, VII.  
237:19:05 CC Go ahead.  
237:19:08 P We have 7 minutes and 10 seconds left ... voices and recorder.  
237:19:13 CC 7 minutes, 10 seconds. Is that correct?  
237:19:15 P Roger. We won't use it on 4:30 ... 4:27.  
237:19:23 CC Roger.  
237:20:28 CC Good luck on your D-4 next time.

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237:20:31 C Thank you.

237:27:42 CC Gemini VII, Houston.

237:27:45 P This is VII. Go ahead.

237:27:49 CC We have a slight change. Slight update on your D-4 time. It will be 238:18:43, vice 40.

237:28:00 P Roger. Copy.

237:28:05 CC Captain Brentnall breathing down my neck.

237:28:09 P That's for sure.

237:39:46 P You know why we slowed down?

237:39:47 C Why?

P We tracked them.

C You want to track them?

P ...

237:40:41 P Lovell dumping urine at 237:40.

237:42:25 C Right.

237:42:39 P There's only one thing affirmative on the digital clock, that is, if you can ... night work. On D-4/D-7; Sequence 430, at 238:18:43: three photographs were taken of the ... with the high-speed black and white film and the 16mm camera was running on Magazine 9 at f8 at - 6 frames per second. At 239:04: ... whatever you cooked them with cooked ... At 240 plus 30: two shots of ... of the jungles of South America, Frames 15 and 16, 250 at f11. ... these shots were taken at - Magazine E. At 240:37: took a shot of the nose of the spacecraft with the high-contrast film. We tried to get a photograph of the effect of the window film of the vision; this was Magazine S. Frame 6 - Frame 5 and 6; not too sure; exposure was 125th. f4 and f5.6. I inadvertently used an orange filter; focus for the last photo was 3 feet.

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TANANARIVE

237:43:20 CC Gemini VII, Gemini VII, Houston. How do you read?

237:43:33 CC Gemini VII, Gemini VII, Houston CAP COM. How do you read?

237:43:37 P .. go ahead.

237:43:43 CC I'll wait a minute. We don't have a very good connection.

237:44:29 CC Gemini VII, Houston. How do you read?

237:44:33 C Loud and clear. Go ahead.

237:44:36 CC Roger. I'd like to get a GO from you for the D-4.

237:44:44 C Roger. ...

237:44:45 CC Roger. And we are GO on the ground. Also I'd like to advise you that we plan, over Carnarvon, to have you turn the squib batteries off and the bus ties on. The purpose is to conserve the squib batteries and also to let us monitor the current during the purge so we can see what this Fuel Cell Control Number 2 circuit breaker might be telling us as far as the currents that it's popping on. In addition, we want you to do a hydrogen purge at Carnarvon. This is a hydrogen purge only, on both sections. Then at Hawaii, we will do an oxygen purge on both sections. The purpose here is to observe the effect of each type of purge and see which one is maybe helping us the most if there is a difference. Then we will power-down over the US. The Crossover should be left open through the entire thing here until you are complete with the purge at Hawaii. Do you read?

237:46:02 C Leave the Crossover on to Hawaii.

237:46:07 CC Until after the purge at Hawaii. Did you copy all the rest, VII?

237:46:26 CC Gemini VII, Houston.

237:46:28 C Go ahead. Gemini VII.

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237:46:31 CC Did you copy the other information? Carnarvon will be in contact with you on this.

## CARNARVON

237:58:48 CC Gemini VII, Carnarvon.

237:58:51 CC Roger. I have some information for you. D-4/D-7 was GO all the way.

237:58:57 C Roger. Good. Thank you.

237:58:59 CC Okay. We are scheduled for a purge on hydrogen only. Is it okay if we go along through the check list with you?

237:59:07 C Would you go ahead and give it to us, since we want it done, because we're working with D-4/D-7 now. So I'd appreciate it if you did.

237:59:13 CC Roger. Will do. Squib Batteries 1 and 2 off.

237:59:21 C 1 and 2 are off.

237:59:24 CC Bus Tie 1 and 2 on.

237:59:27 C Roger.

237:59:29 CC Squib Battery 3 off.

237:59:32 C Off.

237:59:41 C Go ahead, Carnarvon.

237:59:44 CC Purge Section 1. ... hydrogen only.

237:59:47 C Roger.

238:00:04 P Purge complete hydrogen.

238:00:06 CC Roger. Fuel Cell Control 2 circuit breaker on.

238:00:11 P Fuel Cell Control 2 is on.

238:00:20 CC Purge Section 2.

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238:00:23 P Roger.

238:00:40 P Hydrogen purge complete at 2.

238:00:42 CC Roger. Fuel Cell Control 2 circuit breaker off.

238:00:46 P Control Number 2 is off.

238:00:47 CC Roger. Leave your Crossover on until after the purge over Hawaii.

238:00:53 P Roger. Crossover's on.

238:00:55 CC Okay. That completes your purge. You're looking good here on the ground.

238:00:59 P Roger. We understood squib batteries off and bus ties are on.

238:03:49 CC Gemini VII, Carnarvon. We still show your BIO MED Number 1 Recorder on. We have it should go off at 238:00.

238:03:56 C Roger. Thank you.

238:03:58 CC Roger.

## RANGE TRACKER

238:21:17 CC Gemini VII, Gemini VII, Houston CAP COM. How do you read?

238:21:40 CC Gemini VII, Gemini VII, Houston CAP COM. How do you read?

238:21:55 C Houston, Gemini VII. Read you loud and clear.

238:21:59 CC Roger. We're coming to you through the RTK. Could you tell us how D-4 went?

238:22:09 C Bull's-eye.

238:22:12 CC Roger. Captain Brentnall sends his thanks.

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238:22:17 C Roger. Well, you can tell him we had to use an awful lot of our fuel to get it though.  
238:22:24 CC Roger.

## HAWAII

238:24:32 CC Gemini VII, Hawaii CAP COM.  
238:24:36 C VII, Hawaii. Go.  
238:24:38 CC Roger. We have you GO on the ground. You can start your normal O<sub>2</sub> purge, fuel cell O<sub>2</sub> purge, both sections.  
238:24:50 C Roger. Doing an O<sub>2</sub> purge, both sections, first section first.  
238:25:45 C Hawaii, VII.  
238:25:47 CC Roger. VII. Go.  
238:25:49 C We have 5 minutes plus 20 seconds left on the D-4/D-7 tape recorder.  
238:25:55 CC Roger. Understand.  
238:26:48 CC Roger. Would you give us a prop quantity reading, please?  
238:26:52 C Roger. Stand by.  
238:26:55 C 19 percent. 19 percent.  
238:26:58 CC Roger. Understand 19 percent.  
238:27:01 C Fuel Cell Control Number 2 circuit breaker coming on for Section 2 purge oxygen.  
238:27:05 CC Roger.  
238:27:53 C Hawaii, Gemini VII here. You might tell people in Houston that we're starting to condense our water in the lower part of the seats here. It's pretty cold wall temperatures, the seats are cold, and

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we're starting to get condensation forming.

238:28:06 CC Roger.

238:29:14 P Hawaii, VII.

238:29:16 CC Roger, VII.

238:29:17 P Purge complete. Fuel Cell Control circuit breaker Number 2 is off, Crossover is still on.

238:29:22 CC Roger. Would you turn the Crossover switch to the OFF position?

238:29:29 P Roger. Crossover is now off.

238:29:30 CC Roger. We'd like you not to start your power-down until you are over the States so it can be observed.

238:29:38 P Roger.

238:29:42 CC And leave your squibs on until further directed. I mean squibs off until further directed.

238:29:51 P Roger. They're off, the bus ties are on.

**TEXAS**

238:40:09 CC Gemini VII, Houston. We just sent you a  $T_X$ .

238:40:16 C Roger. Houston.

238:40:34 CC We'd like to get some readings for you in conjunction with this water report. We'd like a reading on the cabin humidity and the Cryo bulb temperature and the surface temperature.

238:40:50 C Roger.

238:40:53 CC Also, report on the position of your Recirc valve.

238:40:57 C Roger. The Recirc valve is closed. Gave you an erroneous report. We can't find any more evidence of condensation anywhere else.

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238:41:07 CC Roger. And this was under the seats, did you say?

238:41:13 C In front of the seats.

238:41:15 CC In front of the seats? On the floor, behind your leg part?

238:41:21 C Behind our legs, behind my legs. ...

238:41:27 P ... information is the old ...

238:41:31 CC Say again, Jim?

238:41:34 P I don't believe there is universal condensation in the cabin. We can't find any more.

238:41:40 CC Roger.

238:41:53 CC I was about to suggest the same explanation, Jim.

238:41:58 C I was about ready to believe it.

238:42:19 CC We're ready to watch your power-down any time you are.

238:42:22 C Okay, I'll power-down now.

238:42:24 CC Roger.

238:42:37 C Powering-down.

238:42:41 CC Roger, VII.

238:43:25 C Okay, I think that's it, Elliot.

238:43:28 CC Very good.

238:43:40 C Cabin temperature is 70.

238:43:43 CC Roger. Cabin temp 70.

238:43:53 C Dew point 55.

238:43:55 CC Roger.

238:43:57 C Give you the wall temperature where this condensation was from.

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238:44:00 CC Roger.

238:44:23 C Okay, I guess Lovell's right. 69 degrees.

238:44:26 CC 69 degrees, Roger.

238:44:44 CC Gemini VII, do you have any other comments on the D-4 run?

238:44:49 P Say again, Houston?

238:44:51 CC Do you have any other comments on the D-4 run?

238:44:55 P Appeared to us to be very successful when you had direct track. Saw it, no strain.

238:45:03 CC Roger. Was the tracking considerably different from most of your other targets?

238:45:09 C Was entirely different. I had to catch this one, and I wasn't on it too long. We got some pretty good shots of it. This one was moving very, very swiftly.

238:45:19 CC Roger.

238:45:38 CC We want to watch your fuel here. So we'd like you to not use any more fuel until we do get a chance to look at it. The next fuel-using activity should be this dim-light photo at 239:18, so we'd like you to not use any until then if you can manage it.

238:46:00 C Very well.

**ANTIGUA**

238:48:04 CC Gemini VII, Houston.

238:48:06 P Go ahead, Houston.

238:48:10 CC We feel that you are at your - essentially at your cut-off point for fuel in preparation for the rendezvous tomorrow, so we would like you to not use any more fuel today if you can possibly manage it.

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238:48:26 P Very well. We won't use any more fuel today.  
We'll have to scrub those photographs.

238:48:30 CC Roger. Just pick up anything you can in drifting  
flight and if you have any venting rates or some-  
thing you have to stop, of course you're free to  
do that.

238:48:40 P Roger.

238:49:10 CC Gemini VII, we'd like you to place your Fuel Cell  
 $O_2$  switch in the QUANTITY READ position and leave  
it there for the time being.

238:49:24 P Roger.

238:50:40 CC Gemini VII, Houston.

238:50:43 P Go ahead, Houston.

238:50:46 CC Like to explain about this Fuel Cell  $O_2$  switch,  
Jim. Since we cannot monitor the pressure, we feel  
this is the only way that we can - we have of keep-  
ing track of the fuel cell  $O_2$ . If the Auto switch  
should stick in the ON position, it would build up  
your pressure and vent you at a prohibitive rate  
and we would want to know about that as soon as we  
could. So our thought is to leave this Fuel Cell  
 $O_2$  switch in that position so that we can get an  
essentially continuous check on it. Of course, you  
have a continuous check yourself and we'll only go  
out of that to get readings on the other ones.

238:51:31 P Roger, we'll leave it in the FUEL CELL  $O_2$  position.

238:51:35 CC Roger.

## ROSE KNOT VICTOR

239:00:47 CC Gemini VII, RKV. We have nothing for you this pass.  
All systems are GO. We're standing by.

239:00:53 P This is VII. Roger.

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## COASTAL SENTRY QUEBEC

239:46:00 CC Gemini VII, CSQ CAP COM. We have you GO on the ground. Good evening to you. We're standing by.  
239:46:08 C Thank you very much.

## HAWAII

240:00:39 CC Gemini VII, Hawaii CAP COM. We have a valid temperature. Standing by for your blood pressure.  
240:00:46 C Coming down.  
240:01:00 CC Your cuff is full-scale.  
240:01:54 CC We have a good blood pressure. Standing by for exercise.  
240:02:00 C MARK.  
240:02:29 CC Your cuff is full-scale  
240:03:20 CC We have a good blood pressure. Standing by for your food and water report.  
240:03:26 P Roger. Total water for the Command Pilot to date is 823 ounces. For breakfast he had D-10, Meal A for breakfast, minus the beef bites. For lunch he had D-14, Meal B. And the Pilot had the same breakfast and lunch. For breakfast he had - minus the peanut cubes and 2 beef bites. His total water consumption is 658. Total in Column 5 is 24 for the Pilot and 27 for the Command Pilot.  
240:04:35 CC Gemini VII, do you have a Column 6 report?  
240:04:39 P Roger. I'm glad to report that the Pilot's total is now 4, and the Command Pilot's is still 5.  
240:04:47 CC Thank you. Surgeon out.  
240:04:50 CC Roger. VII, we'd like to have you place your Tape Recorder Power circuit breaker to the CLOSE position.

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240:05:00 P Power circuit breaker is closed.  
240:05:53 CC Do you have your Delay Time Transmitter circuit breaker pulled?  
240:05:59 P That is affirmative.  
240:06:00 CC Would you close your circuit breaker, please?  
240:06:02 P Roger.  
240:06:39 CC We would like for the Pilot to drink more water.  
240:06:45 P Roger. I'm floating now, but I'll drink some more.  
240:06:48 CC Roger. Understand.

## CALIFORNIA

240:10:33 CC Gemini VII, Houston.  
240:10:36 P Go ahead, Houston.  
240:10:40 CC We've got a new procedure to try on the fuel cell, Jim. This should take care of it, since it's new. What we want to do is a normal purge followed by another normal purge. So you can just go ahead and start proceeding through a normal purge at this time and when you've completed that one, do another one.  
240:11:06 P Roger. Understand. Leaving the bus ties on and the squibs off. Is that correct?  
240:11:11 CC That is correct.  
240:11:12 P Starting normal purge at this time. I'll do the first section first, then the second section.  
240:11:18 CC Roger. We'd like you to do both sections and then start all over and do both sections again.  
240:11:28 P Roger. Will do.  
240:11:31 C Elliot.

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240:11:34 CC Go ahead, Frank.

240:11:35 C Who's giving us all these goodies?

240:11:38 CC Say again?

240:11:40 C I say who's giving us all these good tests?

240:11:44 CC We've got lots of people working on this.

240:11:50 C What do you think the possibility of damaging the fuel cells is?

240:11:56 CC I don't think there's any. In fact, we did something very similar to this the other day. We did one purge and then very shortly thereafter we did another one and it helped us on that day. So I don't think there's anything wrong with this at all. In fact, this is one thing we've been considering for quite some time.

240:12:17 C I don't think there's anything wrong with this one either, but I just think, boy, we're sure man-handling these things.

240:12:24 CC Well, it seems to be working. That's the important thing.

240:12:27 C Okay.

240:12:34 C How's everything at the Cape?

240:12:37 CC It looks tight.

240:12:40 C It looks tight?

240:12:43 CC VII, stand by just a minute. I want to tell you something. We would not like to repeat the purge on Section 1. You need only repeat it on Section 2.

240:12:55 C Roger.

240:12:58 CC As far as GT-VI, they have a tight schedule and they're still working on it. We aren't 100 percent sure they're going to make it yet, but it's looking good so far.

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240:13:11 C Thank you.

## GUAYMAS

240:13:38 C Elliot, is the plan to leave the squib batteries off the line until reentry now?

240:13:44 CC That's a possibility, VII. We're continuing to monitor it and we may very well do that.

240:13:51 C Thank you.

240:14:32 CC Gemini VII, Houston. Did Hawaii give you a briefing on the tape recorder?

240:14:37 C Negative.

240:14:39 CC The plan here is to let it run and see if this will free it up. We'll just keep you informed on this one.

240:14:50 C Did they get any T/M on the shot?

240:14:54 CC Say again.

240:14:56 C Did Retro get any T/M on reentry?

240:15:09 CC They got data on the ground, Gemini VII.

240:15:13 C9 They did get data on the ground. Thank you.

240:15:15 CC This is affirmative.

240:15:25 CC They received 8 minutes of data on the ground, VII.

240:15:30 C Roger.

240:16:40 CC Jim, we have a valid oral temp on you so you can take the thermometer out of your mouth and let me know when you're finished with the purge. We're ready to start your crew status report.

240:16:52 P Roger. I'll send the blood pressure right now. I'm starting to do the second part of the purge. ... doing the last part.

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240:16:58 CC Roger.

## TEXAS

240:17:10 CC Cuff is full-scale, Gemini VII.

240:18:06 CC Gemini VII, we have a valid blood pressure. Give me a Mark when you're ready to do the exercise, Jim, after the purge.

240:18:13 P Roger.

240:18:43 P Houston, purge complete. Fuel Cell Control 2 circuit breaker off. Buses are off.

240:18:49 CC Roger, Gemini VII.

240:18:54 P Exercise time.

240:18:55 CC Roger.

240:19:19 P Blood pressure coming down.

240:19:32 CC Cuff is full-scale.

240:20:18 CC Gemini VII, you can open up the Tape Recorder Power circuit breaker now. We don't seem to be having any luck with that.

240:20:28 P Tape Recorder Power circuit breaker open.

240:20:32 CC Roger.

240:20:34 CC Gemini VII, we have a valid blood pressure.

240:20:40 P Roger.

240:20:43 CC Jim, I know you've been told about the water. I want to add just one thing. You're doing better today than you did yesterday, but you still need to keep on the water.

240:20:55 P Roger. I'm kind of floating but I'll drink.

240:21:09 P Houston, do you want the Delay Time Transmitter

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circuit breaker open too?

240:21:16 CC No, you can leave that like it is.

## ROSE KNOT VICTOR

240:33:20 CC Gemini VII, RKV. We're standing by.

240:33:24 P Roger, RKV.

## TANANARIVE

240:57:09 CC Gemini VII, Houston. How do you read?

240:57:28 CC Gemini VII, Gemini VII, Houston CAP COM. How do you read?

240:57:33 P Hello, Houston. VII here.

240:57:36 CC You seeing any improvement on Stack 2C, Jim?

240:57:41 P Negative. It's way down there around an amp and a half.

240:57:45 CC Roger. Copy.

240:59:30 CC Gemini VII, Houston. Do you still read us?

240:59:35 P Roger, Houston.

240:59:37 CC By the way, you can tell Frank that Tommy Nobis went with Atlanta.

240:59:43 P There's no joy in Mudville.

240:59:46 CC Roger.

240:59:51 C Elliot, you got the pits working on another cure for this Section 2?

240:59:57 CC Roger. We're working on it.

240:59:59 C Atta boy! You're doing well so far. I spent about

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4 or 5 days just ... Just about three or four more and we'll have it made.

- 241:00:17 CC We're thinking about taking Stack 2C off the line again, but we're not ready to do that yet.
- 241:00:24 C Roger.
- 241:25:08 P At about 241 we decided to go over a critical review on some of the on-board items. This was partly broken up by transmissions, and we have to use the tape recorder, but we'll go over it now. Number 1 is the food. In general, we feel that beef and egg bites leave a lot to be desired; too dry. Leave a bad taste in your mouth and coating in the roof of your mouth.
- 241:25:32 C Yes.
- 241:25:33 P Neither desserts ... too sweet. In general, you feel rather dry and hot in the spacecraft, and look forward to cool, moist-type food. The dry foods were just too dry and too concentrated ...
- 241:25:49 C I think, as far as the packaging goes, ... was pretty good ...
- 241:26:28 P ... approved on the items of pure liquid and juices - they're just too small ...
- 241:26:44 P You can handle several ...; it's not much trouble. It's not going to float away on you or break up. ... go to a lot of work. Another thing, too, mentioned right now ...
- 241:27:32 P Right. Juices.
- 241:28:35 P Okay. The next item: the urine waste - the BIO Measuring Equipment Number 1, we made a basic mistake. We didn't take enough cuff along. There should be at least one cuff per person per day at the minimum.
- 241:28:37 C ...
- 241:29:13 P Concur because no matter what ... says there's still back pressure. The cup - urine itself - where it

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goes into the back ...; it's pretty bad.

- 241:29:32 C Complications that Jim and I have are knocked out and fortunately ...
- 241:30:32 P I don't know what else you could do in a spacecraft like this as far as ...
- P ...
- 241:32:01 P Next item: the Gemini space suit. The wearing of the full suit - that is, the hood up and the gloves on - our biggest criticism of the suit is, of course, the restriction of vision which we accepted in getting a lightweight suit. The best mode is much better than .. when the hood is on and the gloves are off. We found out that dropping the hood and storing it behind us is not that much of a problem as far as comfort wear, except when you move around in the back of the spacecraft, such as the food boxes .. visor and moving around in front of the spacecraft. It did present a problem. The hood cover keeps coming off and ...

## HAWAII

- 241:32:24 CC Gemini VII, Hawaii CAP COM.
- 241:32:27 P Go ahead, Hawaii. VII here.
- 241:32:28 CC Is Stack 2-Charlie still on the line?
- 241:32:32 P Roger, Stack 2-Charlie still looks like it's pulling about 1 1/2 amps.
- 241:32:36 CC Roger.
- 241:32:44 C I think it's logical ...
- 241:32:55 C Hawaii, I have a flight plan report ...
- 241:32:58 CC Go ahead with your flight plan report.
- 241:33:01 P ...

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241:34:27 P Right. I agree, and also the fact that the ... hoses opened up, it provides plenty of movement of air. ... cockpit.

241:34:44 C We didn't find that true ...

241:34:51 P Having a screen on the outlet hoses with a ...

241:35:06 C Right. We have made records of the cabin temperatures available with ... first cabin temperatures with suit on and suit off. We did not. This one morning we woke up ... tumble the water boiler had been boiling ... It was very cold in the cabin that night ...

241:37:01 C Everything that was called up ... program was accomplished. ... S-8/D-13, Apollo Sequence 97 the following ...

241:37:17 CC Okay, you're very hard to read. Will you try the other headset?

241:37:21 C How is that now?

241:37:23 CC Much better. Go ahead again, will you please?

241:37:29 CC Will you give me that flight plan report again, please?

241:37:32 C Roger, stand by. I lost my place.

241:37:34 CC Okay.

241:37:43 C Okay the - everything was accomplished that was scheduled today with the exception of Apollo Sequence 97 and S-8/D-13, which were canceled because of weather. Also canceled because of the lack of fuel was all dim-light photography that was scheduled.

241:37:57 CC Roger, got that.

241:37:59 C Okay, now today we're reporting film remaining rather than film used. We have 54 exposures of high contrast black and white, 14 color-shifted IR, 57 of the high-speed S0217, 27 dim-light black and white. And we have 140 standard S0217's. We have 16 - correction - 5 magazines plus 35 feet of 16mm

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movie camera film. And we're requesting permission to start to take more targets of opportunity in drifting flight. It's pretty obvious that we're not going to have the fuel remaining to conduct the series photography and I think we'd like to go ahead and start shooting these next, to at least expose the film in orbit.

- 241:38:48 CC Okay, let me make sure I got the last two items here. 25 feet of 16mm movie and 140 exposures of standard S0217. Is that right?
- 241:38:57 C That's right, except for 16mm. It's 5 magazines plus 35 feet.
- 241:39:03 CC 5 plus 35, understand.
- 241:39:05 C And the scores for the vision tested this morning were Command Pilot minus 3, Pilot minus 4,
- 241:39:12 CC Okay, I got that.
- 241:39:14 C That's about it.
- 241:39:16 CC Okay. Give me a dry bulb and a dew point at the return hose, please.
- 241:39:24 C Stand by just a minute.
- 241:40:08 C Okay. The ambient is 79, the dew point is 60 right at the entrance to the bypass hose at the exit from the cabin.
- 241:40:17 CC Okay, very good. Here's what we'd like you to do with 2-Charlie.
- 241:40:21 C Go ahead.
- 241:40:23 CC At 241:50:00 put your Fuel Cell Control circuit breaker on and take 2-Charlie off the line.
- 241:40:36 P Understand at 241:50:00 put Fuel Cell Control Number 2 circuit breaker on the line and take 2-Charlie off.
- 241:40:43 CC Roger, and they'll have you put it back on over the RKV on the RKV's instructions.

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241:40:48 P Roger.

241:40:53 CC And at that time we'd like you to turn your circuit breaker off.

241:41:00 P Roger, switch is off. Put it back on the line. You want to take the circuit breaker off again. Is that correct?

241:41:04 CC That's affirmative. You've got it, straight.

241:41:33 CC Okay. While you're off the line on the 2-Charlie, we'd like you to monitor that open circuit voltage for us.

241:41:41 P Will do.

241:41:42 CC Okay.

241:41:46 P Hawaii, that time again was 241:50. Is that correct?

241:41:49 CC That's affirmative. You've got it.

241:43:29 CC VII, Hawaii. They'd like you to go ahead and do as you see fit with the film. You have a GO on that.

241:43:35 P Roger.

241:45:47 P It would be nice to be - orbital flight suit - just pick the spacecraft location too warm to wear one and we had a lot of other ... however; we both feel, I think, that because the underwear has a big open flap area in the back ..., get cold through the back. An orbital flight suit would be the thing to have when you do most of your work with the pressure suit off, and we feel that this particular - although the flight suit designed was a little too tight and both the leg areas and B areas are - ..., an orbital flight suit a little more baggy, just a little bit more loose, it would be more comfortable and easier to get in and out of.

241:46:27 P Yes, something like a regular flying suit.

241:46:35 P Right. Okay.

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- 241:47:32 P ... airborne pass at 241 hours. They're still operating. They slipped a little from - left leg from what they're supposed to be, but not that much. They're not uncomfortable; however, when they routed the hoses, they routed the hose leading to the regulator over the right leg and, of course, the regulator is directly behind me to the left, which means that I have a hose in front of me at all times ...
- 241:47:59 C ...

## GUAYMAS

- 241:48:56 CC Gemini VII, Guaymas CAP COM. Will you place your T/M switch to REAL-TIME and ACQ-AID position?
- 241:49:02 P Roger. REAL-TIME and ACQ.
- 241:49:03 CC Roger. We have it.
- 241:49:56 P I think Frank and I both agree that the helmet was very well designed; with the pressure suit it is loose and comfortable, but there is just not enough circulation between the helmet and the head, even with the hose, to make it as comfortable for a flight such as this. We both took our helmets off. I took mine off quite early ... We both took them off and have been wearing very successfully, by the way, out lightweight headsets, which we didn't realize at one time.
- 241:50:32 C ...
- 241:51:56 CC Gemini VII, Guaymas CAP COM.
- 241:51:58 P Go ahead, Guaymas.
- 241:52:00 CC Roger. We'd like to verify that the Fuel Cell Control circuit breaker Number 2 is off.
- 241:52:05 P No, we put it on to - we open-circuited Stack 2C.
- 241:52:09 CC Roger. We'd like you to open it until you're informed to put it back on line.

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241:52:14 P Roger. It's back on the line again.

241:52:16 CC Negative, we don't want it back on line. We want the circuit breaker open.

241:52:20 P Roger. We - I'm sorry - circuit breaker is off now.

241:52:25 CC Roger. Understand.

241:52:30 CC Roger. You can place your T/M switch back to the COMMAND position.

241:52:35 P Roger, on COMMAND.

241:54:10 P Have you tried any of the pills, Frank?

241:54:11 C No.

241:54:15 P I haven't either. I think also ... should be very good for a long flight. They tend to wear off and ...

241:54:47 C ...

241:55:18 P I have to wear one with every ...

241:55:42 P Along these lines, I think that we could perhaps invent some kind of odor or something to take out the smell of the cockpit. Some sweet, nice-smelling substance that would be in the hand cream or - to kill some of the body odors would be a good idea, since we obviously can't wash them off. We might as well have something that will kill them and right now the odor at 241 hours - is quite strong. After ten days of not shaving, Frank and I both feel that we've - that we all made the right decision in the fact that we don't need a shave for ... two weeks. It prevents a lot of mess and keeps a lot of whiskers from floating around the cockpit.

242:00:06 P ... have to use it but we actually haven't had much of a requirement for it ... very hard to ... it's right up against the window.

242:00:22 C ...

242:01:42 P I was disappointed in the telescope we had on-board.

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It was a .. scope but, however, ... resolution is very poor; it fades the picture, very hard to see through ...

242:02:34 C ...  
242:02:50 P ...  
242:03:18 C ..  
242:03:19 P How do you put it in position?  
242:03:39 C We're going down in 7 minutes, Jim.  
242:05:23 P ..  
242:05:27 C Our telescope is off at this point. A good telescope or a good high-sight scope ... the one we have just won't pick them up.  
242:05:54 P The 16mm camera has operated as advertised ... no ... easy to handle.  
242:06:01 C Remark about those magazines.  
242:06:03 P And also, we have something valid for Lawrence about the magazine bypass. We put them in plastic bags but every time ... magazines we ...  
242:06:15 C What?  
242:06:18 P Every time ..  
242:06:20 C What happened ...  
242:06:22 P Every time we open the bag up, if there's an ... cockpit, we have ...

ROSE KNOT VICTOR

242:10:23 CC Gemini VII, RKV CAP COM.  
242:10:25 C Roger, RKV. Do you read?  
242:10:27 CC Roger, I read. Do you have a Delta-P Section 1

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light on?

242:10:32 C .. bring you up on what's been happening.

242:10:35 CC Okay.

242:10:36 C At 24 - 241:50, we open-circuited Section 2C. At 42:02 the Delta-P light went off without Section 2C off the line. And when the Delta-P light went off, Section 2C went off-scale high on the voltage. At 242:06, we got a Delta-P light again, but this time on Section 1. So this - we were using this procedure the other day. We were expected to put 2C back on the line if we got a Delta-P light on Section 1, so we immediately put 2C back on the line and 2C is now carrying 4 volts - I mean - 4 amps. The pressure is even. But now we have a Delta-P light on Section 1.

242:11:14 CC Roger. Understand.

242:11:28 CC Would you give me an OAMS propellant quantity readout, please?

242:11:31 C Roger. I read 16 percent. 16 to 17 percent.

242:11:36 CC Roger. We'd like an OAMS source helium pressure readout.

242:11:40 C Roger. It's approximately 1250.

242:11:45 CC Roger.

242:12:21 CC Gemini VII, RKV. I've got a block update for you when you are ready to copy.

242:12:28 C Go ahead.

242:12:30 CC The RET for 400K for all areas is 21 plus 40. Area 154-3: 245:42:59. Area 155-3: 247:18:24. 156-Bravo: 249:07:04. Area 147-2: 249:52:02. Area 158-2: 251:25:51. Area 159-2: 253:01:44. 160-1: 254:30:59. Area 161-1: 256:06:49. The weather in all areas is good.

242:13:49 C Roger. Very good.

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242:13:57 C ... Delta-P light situation is about.

242:14:02 CC Roger. Stand by one, Gemini VII.

242:14:09 CC Would you verify that the Crossover switch is off?

242:14:12 C Roger. It is off and has been off.

242:14:14 CC Okay.

242:14:26 CC We're taking a look at it, Gemini VII, and we'll probably contact you over Tananarive.

242:14:30 C Thank you.

242:15:33 P I think the water got worked out pretty well, don't you?

242:15:37 C Yes. The only trouble is too much bookkeeping associated with it.

242:15:41 P As far as drinking and filling up ...

242:15:46 C That's fine, but if we're going to have two pilots, we've got to have two dials on it.

242:15:51 P All right. Just isn't much ...

242:16:03 C Just too much trouble adding and subtracting.

242:16:05 P ...

242:16:08 C ...

242:16:17 P Very sharp ... The 16mm camera is working out very well. No problems so far. Works as advertised. Everything is functioned ... little worried about its location in the window - whether it can take a full picture or not; it's so close to the edge though.

242:21:37 C Another item, CSD, is the humidity indicator on the Temperature Gage 2. Negative temperature. I found out it's very accurate. I hope it's well calibrated ...

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- 242:23:13 P ... easy to handle. The strap on it is not necessary. I think the angle relay light should be red. The white light destroys night vision. Vertical-Dip position is too bright and ... and also prevents ... The ... from the spacecraft is the visual clock which we have. We use it for everything and it has been very important for our ... work. Only one comment ... The ... seems to be very well underway. ... hooked up. One thing we can do is turn on the recorder to record the flow, and then after we do ... We always forget to turn the thing off.
- 242:25:32 C Another item is the reticle. It has been fine. I have not ...
- 242:26:05 C Another little item that was ...
- 242:26:13 P ... A little more grip on the ...
- 242:30:01 C I think we have a pretty good way of keeping flight plan, logs, so on. System requires more paper work than you really need, I guess, but nevertheless, it works fairly well. I hope we end up with the right one.
- 242:30:20 P More comments: the stowage spot of the M1 hose leading from the regulator to the cockpit is very, very poor and of poor design, in putting in vacuum for reentry storage. At 244:06: Lovell - urine.

## TANANARIVE

- 242:30:22 CC Gemini VII, Gemini VII, Houston CAP COM. Over.
- 242:30:31 C Go ahead, Houston.
- 242:30:33 CC Roger. Frank. What is the status of your Delta-P lights right now?
- 242:30:37 C Delta-P number for Section 1 is on.
- 242:30:40 CC Understand Number 1 is on and Number 2 is off. Here's what we think happened. It looks like possibly when you, when you took 2-Charlie off the line, the indications are here that the fuel cell

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water pressure - let me start over. When you took Section 2-Charlie off the line, it appears that a big slug of water went out of Section 2, and we have a water pressure indication down here which indicates that this is possible. As a result, your Delta, your Delta-P light on Section 2 would go off and apparently it did. Now if this happened, your Delta-P - some of this water could have backed up into Section 1 which would be cause for your Delta-P light to come on. Now we feel that if this is really what happened, your Delta-P light on Section 1 probably will not remain on too long. It's difficult to give you an idea but probably within a revolution it should be off.

- 242:31:48 C Okay.
- 242:31:53 CC If your Delta-P light does come off and everything else looks normal, we may have done it again. We're still working on it, Frank, but there are definite indications that you did get a slug of water out of 2-Charlie.
- 242:32:05 C Okay, now the Section 1 is starting to carry maximum load now. It's about a 1-amp difference, Section 2 carrying 1 amp more than Section 1.
- 242:32:13 CC Yes. We got - we got this at LOS over the RKV, that Section 2 is starting to carry almost a full amp more than Section 1.
- 242:32:22 C Right.
- 242:32:24 CC Now this was normal most of the day and evening last night when we were on.
- 242:32:28 C Right.
- 242:32:30 CC And we've got 2-Charlie up to about 3.7 at RKV LOS.
- 242:32:35 C It's over 4 now, 4 1/2.
- 242:32:38 CC Okay.
- 242:32:43 CC This is the only logical conclusion we can come up to right now, but as I said, we did get a definite indication here of an increase in water pressure

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from the time you had 2-Charlie on the line until the time you took it off.

- 242:32:58 C So what you mean is now the water pressure will go down and the Delta-P light will go off.
- 242:33:02 CC This is what we're hoping, that the water pressure then will equalize or actually go down in Section 1 and the Delta-P light should go out. It looks possibly like we got a restriction in the water valve in Section 2, which may be backing that water up into Section 2, and when we do some of these phenomenal things we've been doing for the last three days we appear to get that water out in big blobs.
- 242:33:27 C Roger.
- 242:33:37 CC Frank, it appears that Section 1 does - no problem at all in draining the water out of it. There is no water backup at all. This is why we feel that that Section 1 light will go off here shortly.
- 242:33:55 C Roger.
- 242:34:05 C Houston, Gemini VII.
- 242:34:06 CC Go ahead, Gemini VII.
- 242:34:08 C Now we got two Delta-P lights.
- 242:34:10 CC Understand you've got Section 1 and Section 2 on.
- 242:34:14 C That's affirmative.
- 242:35:04 CC Gemini VII, Gemini VII, this is Houston.
- 242:35:06 C Go, Houston.
- 242:35:07 CC Okay, we're working on the problem and trying to analyze it, Frank. If there is any change, I'll just be hanging on here. If there is any change within the next four minutes prior to Tananarive LOS, just give me a call.
- 242:35:18 CC Do you have any sort of recommended action to take if the amps start dropping tonight?

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242:35:33 CC Gemini VII, Gemini VII, Houston. None at the present moment, but we're working on it. We'll get word up to you at CSQ.

242:36:00 CC Gemini VII, this is Houston. We've got one full revolution yet. We got CSQ, Hawaii and RKV prior to the sleep period.

242:36:07 C Roger. We'll be happy to stay awake to get this fixed up.

242:36:11 CC Yes, I'm with you on that one.

## COASTAL SENTRY QUEBEC

242:55:15 CC Gemini VII, CSQ CAP COM.

242:55:19 C Go ahead CSQ, Gemini VII.

242:55:21 CC Roger. Still working on that fuel cell problem. I have a map update when you're ready to copy. I'd like to ask if you've noticed any change in your Delta-P light since Tananarive?

242:55:31 C Negative. Two Delta-P lights on.

242:55:34 CC Roger.

242:55:48 C Go ahead with the map update.

242:55:51 CC Roger. Title is Node: Time, 242:43:44; Remarks, Rev 152; 75.5 degrees east; right ascension, 08:49:04.

242:56:19 C Roger. Understand. 75.5 degrees east.

242:56:22 CC Affirmative.

## HAWAII

243:12:33 CC Gemini VII, Hawaii CAP COM.

243:12:34 C Go ahead, Hawaii, Gemini VII.

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243:12:35 CC Okay. Which lights do you have on?

243:12:38 C We have them both on.

243:12:39 CC Okay. We agree with you here on the ground. How you doing?

243:12:43 C Okay. We'd like to get the light out; one of them anyway.

243:12:45 CC So would we.

243:12:49 C Do you have any words of wisdom?

243:12:50 CC I'm only one of the 1000 people who have an idea on it.

243:12:57 C No instructions though, right?

243:12:59 CC Nothing as yet. They'll have the UHF 6 over the RKV, if that'll make you feel better.

243:13:03 C Okay.

243:13:24 CC They think they've got a handle on it.

243:13:28 C Okay.

243:13:29 CC After you complete the purge they'll probably talk to you over Tananarive and then they'll have a little discussion with you then.

243:13:36 C Roger.

## ROSE KNOT VICTOR

243:45:53 CC Gemini VII, RKV CAP COM.

243:45:55 C Go ahead, RKV. Gemini VII.

243:45:58 CC Roger. We're standing by for your purge.

243:46:00 C Roger. We're GO.

243:46:09 P Purging Section 1, completed first.

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- 243:46:12 CC Roger.
- 243:46:21 CC Would you place the Quantity Read switch to ECS O<sub>2</sub>?
- 243:46:27 P Roger. ECS O<sub>2</sub>.
- 243:46:39 CC Would you place the switch to FUEL CELL H<sub>2</sub>?
- 243:46:44 P FUEL CELL H<sub>2</sub>.
- 243:46:57 CC Okay. Would you place the switch back to FUEL CELL O<sub>2</sub> and we'd like to leave it there for the rest of the night.
- 243:47:36 CC Gemini VII, RKV.
- 243:47:39 C Go ahead, please.
- 243:47:40 CC We'd like to give you the bedtime Cryo rules for tonight. We'd like your ECS O<sub>2</sub> Heater switch to OFF. Your Fuel Cell O<sub>2</sub> Heater switch to AUTO and your Fuel Cell H<sub>2</sub> Heater switch to OFF. Your present pressure is all right for tonight. And your minimum for tonight will be 490.
- 243:48:00 C Roger. Understand. Minimum 490 for hydrogen.
- 243:48:10 C Can you give us bedtime rules for the two red Delta-P lights, please?
- 243:48:13 CC We're working on it. In fact, we'll give you a real good briefing over Tananarive.
- 243:48:19 C Okay.
- 243:48:22 CC I can bring you up to date on your OAMS status. Your fuel remaining is 37 pounds and this is where we want to be at GT-VI lift-off as it goes tomorrow. At the beginning of the rendezvous activities we want to have a minimum of 36 pounds of fuel and this will represent a 1 percent drop in the present gage reading. The cut-off tomorrow for the stationkeeping exercise will be 6 percent on the gage and this will indicate 16 pounds of fuel remaining which will be an adequate minimum for the remainder of the mission.

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243:48:58 C Roger.

243:48:59 CC During the stationkeeping exercise you should monitor the pressure in the reserve tank. If it drops as much as 50 psi you should stop station-keeping. And at that time you'll have 12 pounds of fuel available.

243:49:15 C Roger.

243:49:31 C You're not going to be using much fuel on Thursday and Friday, are you?

243:49:35 CC Doesn't look that way.

243:50:56 P Purge complete. Fuel Control circuit breaker Number 2 is off.

243:50:59 CC Roger.

244:07:05 P ... there's fire ... a good start.

## TANANARIVE

244:07:33 CC Gemini VII, Gemini VII, Houston CAP COM. Over.

244:07:38 C Go ahead, Houston. Gemini VII. Houston, how do you read? Gemini VII. The Number 1 Delta-P light went out at 244:00.

244:07:44 C Houston, how do you read? Gemini VII.

244:07:46 CC Gemini VII, Houston. Read you loud and clear.

244:07:49 C The Number 1 Delta-P light went out at 24:40:00.

244:07:53 CC Roger, Gemini VII. I just won a cup of coffee. Thanks a lot. Here's the - here's the experts' evaluation of the status of these Delta-P lights and the way they've been behaving if you'd like to listen.

244:08:08 C Roger.

244:08:09 CC Okay. We believe here that when the sudden transfer

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of water took place a couple of revolutions ago, when you open-circuited 2-Charlie, the water reference pressure surged, and the oxygen and the hydrogen regulators on both sections opened up and supplied gas to the cells. The water reference pressure then decayed which left a higher oxygen pressure in both cells. This would account for both Delta-P lights coming on at the time they did.

- 244:08:45 C Okay. I still have a Delta-P light on stage second.
- 244:08:50 CC Roger. We understand. You still have Section 2 Delta-P light. Here's what we'd like you to do, Frank. We feel that the large withdrawal of water in the morning is disrupting the balance of the water pressure reference by dropping the water pressure suddenly. This is when you take a large quantity of water out for drinking and we would like you to take drinking water in smaller increments and not both you and Jim at the same time. The doctors concur on this. We're all in agreement. And we'd also like you to purge the fuel cell before drinking your breakfast water. We'll attempt to schedule this appropriately in the flight plan.
- 244:09:31 C Very well.
- 244:09:33 CC Okay. Now, you've got Section 1 Delta-P off and Section 2 Delta-P on. Right?
- 244:09:54 CC Gemini VII, Houston.
- 244:09:57 C Go ahead.
- 244:09:59 CC Okay. The fact that the Section 1 Delta-P light did go out and the fact that Section 2 stayed on, without going into a great amount of detail, confirms what we've been suspecting down here. So it looks like the evaluation of the problem is on pretty firm footing. We don't want you to lose any sleep about it because we'll be watching it pretty close throughout the night. Right now, at least as of the RKV LOS, both Section 1 and Section 2 are performing very satisfactorily.
- 244:10:33 C Okay.

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254:25:26      P      Lovell completes urine at 254.

                C      ... drink of water.

                C      ... trap Dad ...

                P      All you have to do just - spill ...

                C      What?

                P      ...

                C      ...

                P      ... just take a shower and --

                C      Yes. Me too.

                C      Like for ...

                C      No. I'd like to get a good night's sleep tonight.

                P      ...

                C      Nobody ever said it would be easy, I guess.

                C      ... 14 days.

                P      Well, Jim, wait a minute, we'll see. You know ...

                P      ... keep moving.

                C      I'll get out an ... package.

                C      Can you see them this morning?

                C      Okay.

                C      Item 3.

                P      ... two ...

                C      ... Houston, but I didn't get it all out ...

                P      ...

                C      Okay.

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P        ...  
C        ... you say.  
P        ...  
P        This is VII. Go ahead, Houston.  
254:52:50 CC        Gemini VII, Houston.  
254:52:52 C        Roger. Houston.  
254:52:54 CC        Gemini VII, Houston. I have some instructions for you, after which I'll pass you to Surgeon for a food, water and sleep report only. Please place your DCS Power circuit breaker OFF. Please confirm each one. C-Band Adapter Beacon switch CONTINUOUS.  
254:53:04 C        Roger, Houston. This is VII.  
254:53:18 C        .. check my ...  
254:53:24 C        Houston, this is VII. Cannot read. Say again, please.  
254:53:28 CC        Roger. Place your DCS Power circuit breaker OFF.  
254:53:34 C        Roger, it's off.  
254:53:36 CC        C-Band Adapter Beacon switch CONTINUOUS.  
254:53:44 C        CONTINUOUS.  
254:53:45 CC        Stand by T/M switch REAL-TIME.  
254:53:47 P        Getting any ...  
254:53:48 P        Did not read the last.  
254:53:50 C        ...  
254:53:55 CC        Stand by T/M switch REAL-TIME.  
254:54:03 C        Roger. Stand by REAL-TIME.  
254:54:06 CC        Have ACQ Beacon circuit breaker off.

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254:54:09 CC ACQ Beacon circuit breaker coming off.

254:54:12 CC Real-Time Transmitter circuit breaker off.

254:54:15 C Real-Time Transmitter circuit breaker off.

254:54:18 CC And HF antenna in the RETRACT position.

254:54:31 CC I'll now pass you the Surgeon for a food, water and sleep report only.

254:54:40 CC Gemini VII, Houston Surgeon. Do you read?

254:54:47 C Roger. Stand by 1 minute.

254:54:50 CC Gemini VII, Houston Surgeon, standing by for your sleep report.

254:54:55 P Roger, Dave.

254:54:57 P Roger ...

254:54:59 C Roger.

254:55:03 C This is VII. We had about 5 hours of sleep apiece; I'd say light to moderate.

254:55:11 CC Roger, Gemini VII. Copy 5 hours each, light to moderate. Your food report now. Supper last night and breakfast; oh, you've not had breakfast yet. Supper report last night will do.

254:55:23 C Supper was Day 9, Meal C.

254:55:25 C Day 9, Meal C.

254:55:29 CC Did you eat all items?

254:55:31 C Roger. Ate all items. Pilot's had 709 ounces of water and the Command Pilot's had 856 ounces of water.

254:55:40 P The Command Pilot has had 856 ounces of water.

254:55:44 CC Roger, I copied that. May I have your gun reading?

254:55:48 C Roger. Gun reading is 3798 ...

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- 254:55:55: CC Copy 3798.
- 254:56:03 CC Gemini VII, Houston Surgeon. How was your comfort last night?
- 254:56:07 C It was a little warm when we went to bed. It got very comfortable there towards the morning.
- 254:56:16 CC Did you say it was a little warm at the time you were going to sleep and then it got more comfortable?
- 254:56:21 C Roger.
- 254:56:24 CC Roger. I copied that. We'll get the Canary Surgeon to pick up your breakfast report later on. Houston Surgeon out.
- 254:56:33 CC Gemini VII, Houston. I have a flight plan update for you.
- 254:56:38 C Roger, stand by.
- 254:56:53 C Go ahead, Houston.
- 254:56:56 CC Item, Node: Time, 256:15:48; Rev 160; 132.3 degrees west; right ascension, 08 hours 31 minutes 58 seconds. Flight plan time line update: change 256:00:00 to 256:10:00. Time: 255:05:45; crew status report, Command Pilot at Canary Islands. Time: 255:41:32; PLA update and GO/NO-GO at Carnarvon. Time: 256:41:23, crew status report. Pilot, at Canary Islands. Item, D-4/D-7: 258:05:05; Sequence 430; Mode 02; pitch 30 degrees down, yaw 3 degrees right; make measurement on GT-VI launch. Take S-6 photo on weather at Cape. Nominal GT-VI launch is 258:07:23. Did you read that, VII?
- 254:59:22 C Roger. We got most of it.
- 254:59:26 CC Roger. May I have an OAMS prop readout?
- 254:59:30 C 16 percent. One-six percent.
- 254:59:33 CC Roger, 16 percent. Did you have any tumble rate when you awakened this morning?

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254:59:39 C We're tumbling slowly.

254:59:44 CC Be advised your present orbit is 159.2 by 163.3 and give you a later update on that.

254:59:55 C Thank you.

254:59:56 CC The progress on the pad is going well. They're 10 to 15 minutes ahead of the count. The crew has eaten, had their medical and left the MSO building, and everything appears to be fine. However, the weather has been a little bit marginal. The 0500 eastern weather was high, thin, broken and 7 miles. The temperature was 67, dew point 66, and the wind was south at 6 knots, with patches of ground fog south and west. But that looks better than it looked most of the night, and we're all pretty hopeful here. Did you get your HF antenna in the RETRACT position?

255:00:36 C Roger.

255:00:40 CC Okay, well, we'll leave you alone for now. The BLUE TEAM wishes you the very best for a very successful day today.

255:00:48 C Thank you.

P That's your car down there.

C You all set to go?

255:01:06 P It will be interesting.

255:01:09 C What?

255:01:11 P Okay.

255:03:54 P Phew!

255:03:59 C ...

255:04:06 P ...

255:04:07 P We got a little time in ACQ-AID, too.

255:04:37 C I'm getting a little tired of all this stuff, Lovell.

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255:04:42 P I am too.  
255:04:47 C ... I have springs in my legs.  
255:04:52 P You mean your ... up.  
255:05:03 P We have a four-heater meal we've got to ... purge.  
No, we have to purge some fuel cells.  
255:05:13 C Oh yes.  
255:05:25 P Purge cells - fuel cells.  
255:05:29 P Really get ... looking.  
255:05:37 P We have this thing up-to-date?  
255:05:47 P Okay. Fuel cell purge at RKV. We did that.  
255:05:54 P 55.06. Doggone! How come Charlie called so early?  
255:06:00 C Must have thought that we were awake.

## CANARY ISLANDS

255:06:19 CC Gemini VII, Canary.  
255:06:22 C Go ahead, Canary. This is VII here.  
255:06:24 CC Okay. During this pass we'd like to get a fuel cell  
purge done and also a crew status report on the  
Command Pilot. We're still getting an invalid oral  
temp.  
255:06:40 C Roger. Stand by one.  
255:06:41 CC Okay, we want a normal purge of Section 1 with the  
Crossover switch on. And then we'll get the Fuel  
Cell Control Number 2 and circuit breaker and put  
it on. A normal purge of Section 2. Fuel Cell  
Control Number 2 circuit breaker off and the Cross-  
over switch off. Okay?  
255:06:59 C Roger. Understand, and the blood pressure is coming  
down on the Command Pilot and I'll start the purge.

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255:07:05 CC Roger.

255:07:17 CC The cuff is completely inflated.

255:07:52 CC Your pressure's coming down and you have a valid oral temperature.

255:07:59 C You ready for the exercise?

255:08:02 CC Negative.

255:08:03 C Roger.

255:08:12 CC You may begin your exercise on your Mark.

255:08:14 C MARK.

255:08:33 C Blood pressure coming down.

255:08:45 CC Completely inflated.

255:09:33 CC Valid, both exercise and blood pressure. Thank you very much. Canary Surgeon out.

255:09:38 C Roger.

255:11:53 C Purge complete, Canaries.

255:11:55 CC Okay, fine. Crossover switch off and Fuel Cell Control Number 2 circuit breaker off.

255:11:59 C Roger. Have done.

255:12:01 CC Okay. And turn off the BIO MED Recorder Number 2, please.

255:12:05 C Roger.

255:12:06 CC Okay. And we'd like some on-board readout. ECS O<sub>2</sub> quantity and pressure.

255:12:17 C ECS O<sub>2</sub> is 830 psi and 66 percent.

255:12:22 CC I need the psi pressure.

255:12:24 C Eight, three, zero.

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255:12:32 CC Okay, thank you. And the Quantity Read Switch to FUEL CELL O<sub>2</sub>, please.

255:12:41 C You want the readout?

255:12:43 CC Please.

255:12:45 C 750 psi and 49 percent.

255:12:52 CC Roger.

255:12:55 CC Okay, fuel cell H<sub>2</sub>. Pressure and quantity.

255:13:00 C 500 psi and 55 percent.

255:13:37 CC Okay, VII, we have nothing else for you. We'll be standing by. All systems are GO on the ground. Everything's looking real good.

255:13:43 C Thank you.

## CARNARVON

255:41:00 CC Gemini VII, Carnarvon CAP COM.

255:41:02 C Go ahead, Carnarvon. Gemini VII.

255:41:04 CC Roger. Would you place your DCS circuit breaker on?

255:41:07 C Circuit going ON.

255:41:10 CC Roger. And we're standing by for your GO/NO-GO readings.

255:41:13 C Roger. Four main batteries are ...

255:42:52 CC Gemini VII, Carnarvon CAP COM.

255:42:56 CC Gemini VII, Carnarvon CAP COM. Do you read?

255:42:57 P Roger. Do you read?

255:43:01 CC That's negative. Would you say again, please?

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255:43:09 C Roger. Stand by, Carnarvon.

255:43:11 C Roger. Say again. All main batteries are checked - checked - checks okay. Fuel cell stack readouts: 1A, 3; 1B, 3; 1C, 3; 2A, 3; 2B, 3; 2C, 5. Voltage for main bus, 26.9; ... 3000 main; B 2975; Left-Hand Secondary O<sub>2</sub>, 5400; Right-Hand Secondary O<sub>2</sub>, 5300.

255:43:41 CC Roger. Sounds real good. They're just about the same that we had on the last GO/NO-GO. Okay, we have you GO for Area 178-1. We're going to update your T<sub>R</sub> clock at this time for Area 192-1. Transmitting T<sub>R</sub>.

255:44:03 P Have received, Carnarvon.

255:44:07 CC Roger. And we show you in sync on the ground.

255:44:12 C Will you give us a time hack, Carnarvon?

255:44:15 CC Roger. We're showing 255 hours, 44 minutes, 21 seconds. 22, 23, 24, 25, 26, 27.

255:44:27 C Right on with you.

255:44:29 CC Roger. When you're prepared to copy, I have a PLA block update for you.

255:44:49 C Go ahead, please.

255:44:51 CC Roger. Would you turn your DCS circuit breaker off, first?

255:44:57 C It's off.

255:44:59 CC Roger. Okay. Area 162-1: 257:42:18. Area 163-1, 259:17:55. Area 164-4: 262:09:24; monitor. Area 164-5: 263:44:56. Area 166-5: 265:30:54. Area 167-3: 266:37:57. Area 168-3: 268:13:25. RET 400K: 21 plus 40 for all the areas.

255:46:17 C Roger. We have them all, thank you.

255:46:32 CC And the weather is good in all those areas.

255:46:34 C Very good.

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- 255:46:41 P How's everything in Australia?
- 255:46:43 CC Oh, it's real fine this morning, and how's it going up there?
- 255:46:46 C Well, pretty good.
- 255:46:49 CC Roger.
- 255:47:24 CC Gemini VII, this is Carnarvon CAP COM. Would you stand by for our Surgeon for a minute?
- 255:47:30 CC Gemini VII, this is Carnarvon Surgeon. We lost your respiratory trace for some reason. I wonder if you can contribute anything to this on the Command Pilot?
- 255:47:39 C They mentioned the plug. They thought the amplifier was bad and I was ...
- 255:47:44 CC Gemini VII. Say again. I did not read you.
- 255:47:47 C We're getting a good EKG off the same sensor, so it's not the sensor.
- 255:47:54 CC Gemini VII. Carnarvon Surgeon. I did not copy. Could you repeat fully?
- 255:48:00 C Roger. This was mentioned before, but they claimed there is nothing wrong with the sensors because an EKG is coming off the same sensor. They feel that it's in the amplifier. There's nothing I can do about it.
- 255:48:14 CC Gemini VII. This is the Carnarvon Surgeon. I understand that this has been mentioned before. We've never seen the complete loss of respiratory trace, but if this has been mentioned before, that's fair enough. Carnarvon Surgeon out.
- 255:48:27 C I take it back. It's not the complete loss but the deterioration of it has been noticed.
- 255:48:33 CC This is a loss; we don't have it.
- 255:48:36 C I'll play with your amplifier here and see if I can get it back for you.

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255:48:40 CC Gemini VII, Carnarvon Surgeon. I did not copy.

255:48:44 C I say I'll fool around with the amplifier and see if I can get it back for you.

255:48:50 CC Carnarvon Surgeon. Thank you very much.

255:49:13 CC Gemini VII, Carnarvon CAP COM. The crew at the Cape have a GO for insertion at the present time.

255:49:19 P Roger. Thank you.

255:49:22 CC And everything is proceeding in real good shape there.

255:49:27 P It's been a long wait.

255:49:28 CC Yes sir. It sure has.

## GUAYMAS

256:22:55 CC Gemini VII, Guaymas CAP COM. We have nothing special for you this pass. All systems are GO on the ground. If you need anything, we'll be standing by.

256:23:03 P A cool beer, Guaymas.

256:23:06 CC Roger. We'll see what we can do about that.

## TEXAS

256:23:27 CC Gemini VII, Houston.

256:23:30 P Go ahead, Houston.

256:23:32 CC Roger. Would you place your C-Adapter Beacon switch CONTINUOUS.

256:23:39 P C-Adapter Beacon switch has been CONTINUOUS.

256:23:42 CC And C-Beacon circuit breaker on.

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- 256:23:52 P The C-Beacon circuit breaker has been on.
- 256:23:55 CC Roger. Thank you. The weather at the Cape is still high, thin overcast. They've got 5 miles visibility with some ground fog. You have 66 degrees temperature and 65 dew point; the wind is 210 at 2 knots. We're all still optimistic, so we just watched Gunner and his crew load Wally and Tom in the space-craft and everything seems to be progressing satisfactorily.
- 256:24:24 P Great!
- 256:24:25 CC The lift-off remains the same at 258:07:23 and your orbit is still the same as our first transmission. 159.2 by 163.3.
- 256:24:39 P Thank you.
- 256:24:40 CC Got some news here, if you'd like to hear it.
- 256:24:44 C Go ahead, Charlie. We'd love to.
- 256:24:48 CC Okay. First, the search for Randy Lovelace is still unsuccessful, but it continues. W. Somerset Maugham suffered a stroke about four days ago. He's improving, but still remains in a coma. It turns out, of course, that you're still quite in the news. Fred Terry was quoted in the Post last night. The paper quoted him as saying that this crew is - you'll have to admit - the two boys have been more cooperative in everything, medical experiments and otherwise, than any other crew we've had. Ed White is sitting here and he says that you've just learned real well from the IV crew. Yes, he says you're a made-over IV crew.
- 256:25:39 C Yes, 14 days looks a lot shorter down there than it does up here. I'll tell you that.
- 256:25:43 CC I'll bet you're right. The headlines for Wonder's article was referencing your rendezvous maneuver - Says - is called "Ten Tense Minutes, Four Lonely Men in Space". What do you think about that? The Soviet Union has announced that it would test the variant of the system of landing space vehicles at one fifth ... from an area in the Pacific Ocean

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where it says some elements of the booster rocket may fall. That area is about 500 miles south of the Aleutians and 2000 miles east of Japan in one clear zero orbit. These tests will begin Thursday and end around June 1. That's about all I have right now. Ed's here and would like to say hello.

- 256:26:19 C Sure.
- 256:26:25 CC This is old CM3 talking.
- 256:26:38 C How you doing?
- 256:26:49 CC Real fine. I have a little report from your ground crews. They're all in real good shape... Had a nice dinner with Marilyn and Susan last night. Everything's going fine.
- 256:26:51 C Good, good. Thank you.
- 256:26:53 CC Roger. The numbers on the board at 75 hours remaining - looks pretty little now. You can do that standing on your head.
- 256:27:00 C That's what we're doing ...
- 256:27:04 CC Right.
- 256:27:11 C Tell you what. You can tell the ... pilots anyway, and always rolls to the left.
- 256:27:17 CC Very good.
- 256:27:21 C ... 75-minute flights, or we'd be in a lot better shape.
- 256:27:24 CC Okay.
- 256:29:30 CC Jim, this is CM3. I've got a special message for you.
- 256:29:33 P Roger. Go ahead.
- 256:29:35 CC Ho! Ho! Ho!
- 256:29:38 P Right. And I have one for you.

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256:29:40 CC Go.  
256:29:42 P Be it ever so humble, there's no place like home.  
256:29:43 CC Roger.

## CANARY ISLAND

256:41:55 CC Gemini VII, Canary CAP COM. We've a valid oral temp. And standing by for your blood pressure.  
256:42:03 P Roger. Canary. Going down.  
256:42:17 CC Gemini VII, your cuff is full-scale.  
256:43:08 CC Blood pressure is valid. Standing by for exercise.  
256:43:12 P Roger. MARK.  
256:43:43 CC Your cuff is full-scale.  
256:43:57 CC Gemini VII, would you inflate your cuff to full-scale once more, please?  
256:44:06 CC Full-scale.  
256:45:01 CC Gemini VII. Your blood pressure is valid. We would like to get a report on the meal you had for breakfast this morning, please.  
256:45:10 P Roger. Stand by.  
256:45:21 P Our meal was the Day 9, Meal A.  
256:45:24 CC Roger. That's for both crewmen? Were there any unconsumed items?  
256:45:31 P Roger. Both crewmen had no unconsumed items.  
256:45:35 CC Roger. Did we get an update on your water intake?  
256:45:41 P Correction on that. We just discovered it was Day 12, Meal A.  
256:45:46 CC Roger. Understand Day 12, Meal A.

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256:45:49 P Coming up with the water. Command Pilot 873 on the water. Stand by for Pilot - 728 for the Pilot.

256:46:07 CC Roger. Could you give me a water gun count, please?

256:46:10 P Roger. 3871 on the water gun.

256:46:16 CC Roger. Copy 3871. That's all we have for you. Go back to CAP COM. Canary Surgeon out. Thank you.

256:46:32 CC Gemini VII, this is Canary CAP COM. We have nothing for you this pass. Everything's looking good on the ground and following this pass we'll be reconfiguring VII and VI .. on the next pass.

256:46:44 P Roger. It will be getting crowded up here.

256:46:50 CC Isn't that terrific!

256:48:12 P Photograph of the Richat or Richat crater of North Africa early - well, about noon here, I guess. A blank view at 256:48. Magazine D, Plan Number 41.

P Almost forgot the most important thing. Forgot the log. I'll log yours, too - your urination. I forgot to log my urination this morning.

P That sounds good.

## KANO

256:52:21 CC Gemini VII, Houston. How do you read?

256:52:23 C Hello, Houston. How are you?

256:52:25 CC Just fine. On your next pass, just like the last time, we will not be talking to you. However, we will be listening if you have any questions or comments. We'll be monitoring both you and VI.

256:52:40 C Thank you.

256:52:45 CC Tried to look for you this morning, but it was overcast and raining.

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256:52:50 C Looks beautiful up here.

## TANANARIVE

257:03:48 CC Gemini VII, Gemini VII, Houston CAP COM. Voice check through Tananarive.

257:03:54 P Roger. Houston. You're coming in loud and clear.

257:03:57 CC Roger.

257:04:07 CC Just checking the site out. We may want to use it with the VI update.

## CARNARVON

257:17:56 CC Gemini VII, Carnarvon CAP COM.

257:17:58 P This is VII. Go.

257:18:01 CC Roger. Everything looks good on the ground. Everything is proceeding normally at the Cape on the VI launch.

257:18:09 P Roger. VII will be standing by.

257:18:12 CC Roger. We have nothing further for you this pass. We're standing by.

257:21:52 CC Gemini VII, Carnarvon CAP COM. Their thruster firings went very good on GT-VI.

257:22:00 P That sounds good.

257:22:02 CC Roger. Looks like you'll have company before long.

257:22:04 P I hope the booster firings do the same.

257:22:06 CC Roger.

257:22:24 CC Flight advises you that they confirm all dust covers removed.

257:22:31 P Good.

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## HOUSTON

257:40:42 CC Gemini VII, Houston CAP COM. How do you read?  
257:40:47 C Loud and clear, Houston.  
257:40:50 CC Roger. Sounds like we're good all the way around  
the range this morning. VI is T minus 3 minutes  
and holding in the 25-minute hold.  
257:40:58 C Roger. Gemini VII.

## GUAYMAS

257:55:34 CC Gemini VII, Guaymas CAP COM.  
257:55:37 P Go ahead, Guaymas.  
257:55:39 CC Roger. Everything looks real good here on the  
ground. I have an instruction for you when you're  
ready to copy.  
257:55:44 P Roger. Stand by, please.  
257:55:55 P Go ahead.  
257:55:56 CC Roger. We'd like you to place the adapter C-Band  
to the COMMAND position at 258:04:50.  
257:56:10 P Adapter C-Band to COMMAND position at 258:04:50.  
257:56:14 CC Roger. We have nothing else for you. We'll be  
standing by.  
258:17:59 CC Roger.

## CANARY ISLANDS

258:19:14 CC VII, Canary.  
258:19:16 C Go ahead, Canary. Gemini VII.

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258:19:17 CC Roger. Well, we did it.

258:19:20 C7 Roger. We didn't get to see the lift-off, but we saw a couple of clouds.

258:19:24 CC Okay, his orbit is 87 by 144. Everything is GO. All systems GO. Everything looks terrific!

259:19:33 C7 Wonderful.

258:20:05 CC Oh, incidentally, VII. Lift-off time was right on the nose - 13:37:26.

258:20:12 C7 Very good.

## KANO

258:26:03 P7 Gemini CAP COM. We're ... a while until we get our radiator working right?

258:26:09 CC Roger.

258:26:13 CC What did he say, Canary?

258:26:14 P7 ...

## HOUSTON

258:27:36 CC Gemini VII, Houston CAP COM. How do you read?

258:27:40 P7 This is VII. Loud and clear.

258:27:46 CC Roger. Stand by, VII.

258:27:49 P7 This is VII. Loud and clear, Houston.

258:27:51 CC Roger. Stand by, VII.

258:28:31 CC Gemini VII, Houston. Have an update for you.

258:28:40 CC Gemini VII, Houston. Do you read?

258:28:43 P7 Roger. Stand by.

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258:28:48 P7 Go ahead.  
258:28:50 CC Time: 259:15:00; purge fuel cells at Hawaii.  
258:29:04 P7 Roger.

## TANANARIVE

258:40:44 CC Gemini VII, Houston CAP COM. How do you read?  
258:40:50 P7 This is VII. Loud and clear.  
258:40:52 CC Roger, VII. We're GO for a fourth orbit rendezvous. You can start putting on your suits at this time.  
258:41:02 P7 VII. Roger.  
258:43:24 C6 ... VII.  
P Yes, stand by. I got the Cape. Don't have that now.  
P Here's the Cape.  
C Am I just right?  
P Yes. Right down there.  
C Okay. Am there.  
P You're on it right now, Frank.  
C I'm on it?  
P Yes, roll to your left.  
C I don't see a thing ...  
C I missed that completely ...  
P You're right on it now, Frank, but it just disappeared in the clouds.  
C ...

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- P Keep the nose pitch-down.
- C How we doing?
- P Better than the airplane. It's turning around there. ... I don't know, just keep turning. I don't know.
- C Can you see it, Jim?
- P We went over the Cape. I saw the airplane turned around and made the path.
- C Could you see the Cape?
- P Yes. Just saw the Cape.
- C How am I doing?
- P Well, you have to keep moving around. We have the Island here now.
- P We're not going to make it.
- C I can see the Island - no, that's not the Islands.
- C Can you see?
- 258:48:53 C I got it. I got the contrail.
- 258:48:54 P Do you?
- 258:48:55 C I'm out.
- 258:48:57 P Straight ahead. Vertical with the clouds. See her?
- 258:49:00 C No.
- 258:49:03 C I wish I had it all ready.
- 258:49:07 P Okay. Let me try and get another plan. See her coming straight on. She's right in the middle of the clouds now. Vertical - -
- 258:49:17 C Yes, I got her.
- P Okay.

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C        ...  
P        Yes.  
C        I've got him again.  
P        You have him in the blackness?  
C        Yes.  
C        Right at us.  
258:50:19 P        You have him?  
258:50:29 C        Yes.  
258:50:31 C        Tracking him.  
258:50:36 P        You still have him?  
258:50:39 C        Yes. He's at the end of the contrail now. I -  
                  She's still coming.  
258:50:41 P        Still coming at that altitude? Okay.  
258:50:43 C        In the blackness now.  
258:50:45 P        Okay.  
258:50:57 C        Easy on the fuel now.  
258:51:02 P        Now 1547 is not as important as the fuel to turn  
                  around.  
C        ...  
P        Yes. Okay.  
P        There we turned late but - there's no way ... turn  
                  around again.  
C        ...  
P        ...  
258:51:36 C        We didn't see the lift-off and we tracked them for  
                  several seconds. Maybe for a minute or two ...

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258:51:43 P I think 257, or is it 258? Page 50. I figured when we started track and I put the time in there to make sure we had good - a good time-hack.

258:51:53 C I still have our ... turn this off.

258:52:12 P Well, Frank, we're on our own.

258:52:16 C Sure are.

258:52:19 C Boy, she sure stretched well on luck!

258:52:21 P D-4/D-7 equipment going off at 258:13:44.

## CARNARVON

258:53:15 CC Gemini VII, Carnarvon.

258:53:16 C7 Go ahead, Carnarvon. Gemini VII.

258:53:18 CC Roger. We have you GO on the ground. You'll have a flight plan update over the States. We would also like to have you start your exercise and eat period at 259:00:00.

258:53:33 C7 Roger. We're donning the suits now. We'll start as soon as we get in the suits.

258:53:37 CC Roger. Copy.

258:53:43 C7 You can consider this the exercise period.

258:53:45 CC Roger. Copy.

## CANTON

259:17:33 CC Gemini VII, Houston. How do you read?

259:17:43 C7 Roger. Houston. Gemini VII. Go ahead.

259:17:46 CC Roger. I'll be giving you more of the flight plan update over the US after the Gemini VI burn. However, I would like you to know that the next item

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will be at 260:00 and that will be to power-up and switch coolant pumps. Do you copy?

## HAWAII

259:19:20 CC Gemini VII, Hawaii CAP COM. Your adapter C-Band switch to the CONTINUOUS position, please.

259:19:27 C7 It's in CONTINUOUS.

259:19:28 CC Roger.

259:19:29 C7 Are you ready for our fuel cell purge?

259:19:31 CC Stand by. Wait till I get T/M solid. I'll let you know when we're ready. How are things going?

259:19:45 CC He wants you to leave that adapter C-Band in CONTINUOUS until further advised.

259:19:49 C7 Roger.

259:19:50 CC Did you copy the States transmission? At 260:00:00: power-up, switch coolant loops, pumps - correction, switch coolant pumps prior to powering-up platform.

259:20:04 C7 Roger. 260:00:00: switch coolant loops and power-up.

259:20:08 CC Affirmative. T/M solid, Gemini VII. We're showing you GO here on the ground and we're ready for your fuel cell purge.

259:20:18 P7 Coming down.

259:20:19 CC Roger.

259:20:22 P7 First section complete first.

259:26:23 CC Gemini VII, Hawaii CAP COM. We've got a good read-out. Will you put your Quantity Read switch to the ECS O<sub>2</sub> position?

259:26:29 C7 There it is.

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259:26:37 CC Okay. FUEL CELL O2 position.

## CALIFORNIA

259:30:21 CC Gemini VII, Houston. How do you read?

259:30:24 C7 Loud and clear, Houston.

259:30:26 CC Roger. This will be a UHF 6 pass. Would you confirm your DCS circuit breaker is off?

259:30:37 P7 Roger. DCS circuit breaker is off.

259:30:41 CC Are you copying the Spacecraft VI transmission?

259:30:45 P7 Negative. We can hear ground transmission to them but we cannot hear them transmit back.

259:30:51 CC Roger. I have a flight plan update for you after the VI burn which is in approximately 10 minutes.

259:30:59 P7 Roger.

259:31:02 CC Matter of fact, if you are free, I can start giving you some of it now, and then I'll leave you in a minute.

259:31:09 P7 Ready to copy.

259:31:12 CC Okay. You got the 260 entry on coolant pump switching and powering-up.

259:31:17 C7 260:00:00, power-up.

259:31:20 CC That's right. Switch coolant pumps prior to powering-up the platform. 261:00:00: transponder on. 262:45:00: purge fuel cells at Texas. 266:16:00: purge fuel cells and PLA update at RKV. 269:00:00: BIO MED Recorder Number 2 to CONTINUOUS. 269:28:00: purge fuel cells and crew status report on the Command Pilot at RKV. Node time - stand by - that was for Gemini VI. Did you copy everything, VII?

259:32:37 C7 Roger.

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259:32:39 CC Okay. That's your complete update. I'll be switching to VI now and I probably won't be calling you back.

259:32:46 C7 Roger. Understand. VII here.

259:59:45 CC Gemini VII, Gemini VII, Houston. How do you read?

260:00:05 CC Gemini VII, Gemini VII, Houston CAP COM. How do you read?

260:00:11 C7 Read you loud and clear, Houston.

260:00:13 CC Roger. Everything seems to be coming along fine. They got the Height Adjust burn over the US. We've updated them for catch-up burn. We're standing by for your platform power-up.

260:00:26 C7 Houston, do you want the computer on ... or power-up? Over.

260:00:32 CC You don't need to put that on at this time, VII.

260:00:38 C7 Roger.

260:00:57 CC We're going on over to VI again, Gemini VII, to update their maneuver again. Talk to you later.

260:01:05 C7 Okay.

**TANANARIVE**

260:14:56 CC Gemini VII, Gemini VII, Houston. How do you read?

260:15:19 CC Gemini VII, Gemini VII, Houston. How do you read?

260:15:22 C7 Loud and clear, Elliot. Go ahead.

260:15:24 CC We'd like to read out on your OAMS quantity.

260:15:51 C7 Houston. Gemini VII.

260:15:53 CC Go ahead. We'd like to read out on your OAMS quantity.

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260:15:57 C7 OAMS quantity reads 16 percent.  
260:16:00 CC Roger. 16 percent.  
260:16:04 C7 Roger.  
260:16:06 CC Everything seems to be going okay, Frank. We've given them an update for their Plane-Change maneuver - correction - for their Catch-up maneuver and we've got one ready for the Plane-Change. They'll be making their Catch-up maneuver at this pass. Tananarive here. Looks good so far.  
260:16:26 C7 Very good.  
260:16:29 CC You guys finished lunch and getting the suits on?  
260:16:35 C7 Got the suits on.  
260:16:37 CC Suits on. Roger.  
260:17:07 C7 Gemini VII.  
260:17:12 CC Go ahead, VII.

## CARNARVON

260:29:04 CC Gemini VII, Carnarvon CAP COM.  
260:29:06 P7 This is VII. Go ahead, Carnarvon.  
260:29:08 CC Roger. We have nothing for you this pass. You're looking good on the ground. We're standing by.  
260:29:13 P7 Roger. We're powering-up until we meet again.  
260:29:17 CC Roger.  
260:30:02 CC Gemini VII, Carnarvon CAP COM. Flight just advised us the order for the day is, "Conserve fuel".  
260:30:09 P7 We'll do our best.  
260:30:11 CC Roger. You've been doing real good so far.

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260:54:35 CC Gemini VII, Hawaii CAP COM.  
260:54:38 P7 This is VII. Go ahead, Hawaii.  
260:54:40 CC Okay. How are you doing? We're showing you GO.  
260:54:43 P7 Roger. Got a ...  
260:54:49 CC How about turning your transponder on at this time?  
260:54:53 P7 Roger.  
260:54:56 C7 Transponder is on.  
260:55:03 CC Okay.  
260:55:10 C7 Will you give us the GET of VI, please?  
260:55:12 CC Okay. I'll give you the GET of VI.  
260:55:18 CC 168 minutes on my Mark.  
260:55:23 CC MARK.  
260:55:27 CC Want another hack?  
260:55:30 C7 No, thank you. I got it. Thank you very much.  
260:55:32 CC Okay.  
260:55:45 CC Okay. I'm going to switch over to VI now. I'll be coming back to check and see if everything has gone all right after I get VI squared away.  
260:55:52 P7 Roger.  
260:59:46 CC VII, Hawaii CAP COM.  
260:59:48 C7 Go ahead, Hawaii.  
260:59:50 CC Your cohort there would like to know if you've heard him call you.  
260:59:52 C7 We've heard him talking to Houston but we can't

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hear him calling us.

260:59:56 CC Why don't you give him one shout.  
260:59:59 C7 Hello, Gemini VI, this is VII. How do you read?  
261:00:09 CC It doesn't sound like he's got you yet.  
261:00:39 CC VII, Hawaii. We have nothing further. We'll be standing by if you need us.  
261:00:42 P7 Thank you, Hawaii.

## CALIFORNIA

261:04:54 CC Gemini VII, Gemini VII, Houston. How do you read?  
261:04:57 C7 Loud and clear, Houston. Go ahead.  
261:05:00 CC Roger. We're coming up on a second Height-Adjust burn for VI. They'll be making that in slightly over 5 minutes from now.  
261:05:10 C6 Roger.  
261:05:33 CC Gemini VII, would you place your Antenna Selector switch to ADAPTER?  
261:05:41 C7 Roger.  
261:05:54 C7 Houston, may I ask why? This is VII here.  
261:06:00 CC Trying to set up a possible better communication between your two vehicles.  
261:06:05 C7 The reason we went back to REENTRY was that we couldn't hear on ADAPTER.  
261:06:11 CC Roger. It sounds very good now. How are you receiving us here?  
261:06:15 C7 Read you loud now.  
261:06:17 CC Okay.

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261:06:26 CC We're going to go over and pick up VI now and monitor their burn. We'll come back to you.

261:06:32 C7 Okay.

261:16:11 CC Gemini VII, Houston.

261:16:15 C7 Go ahead, Houston.

261:16:18 CC Just completed the second Height Adjust burn. Everything looks real good.

261:16:23 C7 Thank you.

261:16:26 CC We're keeping you guys pretty busy today; aren't we?

261:16:29 P7 ... Certain target vehicles, always standing by.

261:18:12 CC Gemini VII, Houston. Did you copy any of our last transmission with VI?

261:18:18 C7 Negative.

261:18:23 C7 Do you read me there, Houston?

261:18:25 CC Roger. Loud and clear.

261:18:26 C7 Okay.

261:18:50 C7 Roger.

261:20:41 CC Gemini VII, Houston. Could you give us a readout on your stack currents?

261:20:46 C7 Roger. Stand by.

261:20:52 C7 1A is 8; 1B is 8; 1C, 7; 2A, 7; 2B, 6.5; 2C, 9.

261:21:04 CC Roger. Where's Jim? Out to lunch?

261:21:08 C7 Not exactly. But he's busy.

261:21:11 CC Roger. We copy.

261:21:17 P7 Right in the middle of a rendezvous.

261:35:44 C7 Gemini VI, how do you read Gemini VII now?

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261:35:47 C6 Loud and clear, fellows. We're looking at you.  
261:35:49 C7 Very good. We hear you loud and clear also.  
261:35:52 C6 ... hang on, we'll be up there shortly.  
261:35:55 C7 Roger.  
261:51:59 P7 This is Gemini VII. We're not showing visual contact.  
261:52:03 CC Roger. Understand no visual contact.

## CARNARVON

262:04:51 C7 We can't tell if the ACQ lights are working or not, Wally, we can't see them.  
262:05:03 C7 ... We're turning off all the lights.  
262:05:07 CC Gemini VII, Carnarvon.  
262:05:09 C7 Go ahead, Carnarvon.  
262:05:10 CC I'd like to verify that your HF whip is retracted.  
262:05:15 C7 Roger.  
262:05:17 CC Also, I have a lot of instructions for you. Your fuel cut-off for stationkeeping is 11 percent. Under no circumstance are you to use the reserve tank. Did you copy?  
262:05:29 C7 I understand.  
262:08:14 C7 Carnarvon, Gemini VII. We're coming on with the hydrogen heater here. We're about 490, 280 on the pressure.  
262:08:25 CC Roger, VII. We copy.

## HAWAII

262:30:32 CC Gemini VII, Hawaii CAP COM.  
262:30:35 C7 Gemini VII, Hawaii.

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262:30:37 CC Okay, you're looking real good here on the ground.  
How you doing?

262:30:39 C7 Real fine. Face to face.

262:30:41 CC Okay, I don't have anything for you. I'll be  
standing by.

262:32:42 CC VII, Hawaii. How do you read on this transmitter?

262:32:44 C7 Loud and clear.

262:35:38 C7 Hawaii, did you get an answer from the ... yet?

262:35:42 CC They're showing 2-feet-per-second - 2-feet-per-  
second.

262:35:45 C7 Outstanding.

262:35:47 CC Roger.

## HOUSTON

262:52:17 CC Gemini VII, Houston.

262:52:19 C7 Go ahead, Houston.

262:52:21 CC Would you pump your hydrogen tank pressure to 500  
pounds on-board gage reading?

262:52:29 C7 Roger. We already did. It's 505 now.

262:52:31 CC Roger.

262:52:34 C7 And our friend "3-Charlie" is starting to drop also.

262:52:40 CC Roger.

262:52:47 CC Gemini VII, Houston. Have you done your fuel cell  
purge?

262:52:51 C7 Negative. It's at 266 that it's supposed to be done,  
I believe.

262:53:07 CC Gemini VII, you should have a fuel cell purge at  
this time.

262:53:12 C7 Stand by.

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262:53:32 C7 Roger. Purging fuel cell.  
262:53:34 CC Roger.  
262:54:08 C7 Elliot, the range stopwatch ...

## TANANARIVE

263:28:18 P6 ... burning are being run pretty well ...  
263:28:21 C7 Roger.  
263:28:23 P6 ... in about 30 degrees, Frank.  
263:28:25 C6 Okay.  
263:28:35 P6 20 seconds to go 2 minutes.  
263:28:39 C7 I'll never make it.  
263:28:40 C6 ...  
263:28:42 P6 ... Frank.  
263:28:43 C7 Roger. 3 minutes.  
263:28:59 C7 You say you're pitching out at 3 degrees now?  
263:29:01 P6 About 3 degrees.  
263:29:03 C7 Right ...  
263:29:09 P6 How does it burn?  
263:29:12 C7 We can't see ... I hope they're working.  
263:29:22 P7 We've got a very dim ... light.  
263:29:25 P6 Can't see any thrusting lights.  
263:29:27 P6 Negative ...  
263:29:50 P6 ... 3 minutes ...  
263:29:53 P6 5, 4, 3, 2, 1  
263:29:59 P6 MARK.  
263:30:00 P6 3 minutes.  
263:30:01 C7 Roger. Made it.

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263:30:03 P6 ...  
263:30:44 P6 A real dim light up there ...  
263:30:47 P7 We'll blink it a couple times.  
263:30:58 C7 ...  
263:31:01 C7 It's off now.  
263:31:03 P6 Okay ...  
263:31:05 C7 It's coming on now.  
263:31:07 P6 Roger ...  
263:31:15 C7 And we don't have any ACQ lights ... zero.  
263:31:40 P6 We've about 35 to go.  
263:31:43 P7 Roger.  
263:31:51 P6 ...  
263:31:59 C7 ... yet.  
263:32:00 P6 ...  
263:32:05 C7 You want me to do that or do you want me to stay where I am? I better stay where I am I guess.  
263:32:08 P6 ...

## COASTAL SENTRY QUEBEC

263:50:04 P7 ... retrofire.  
263:50:09 CC How are you doing there, Jim?  
263:50:12 P7 ... a little bit too low.  
263:50:15 CC Roger.  
263:50:51 P7 ...

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263:51:03 CC Very good.  
263:51:06 CC How are you fixed now?  
263:51:08 P7 Well, I'm reading 10 degrees.  
263:51:11 CC ...  
263:52:25 P7 110 degrees.  
263:52:27 CC I now have Goddard cut off.  
263:52:59 P7 Very good.  
263:54:45 C6 ... 120 degrees.  
263:54:49 C7 ...  
263:54:54 C6 1.7 miles.  
263:54:56 C7 Roger.  
263:55:42 C6 ... I have you ...  
263:55:44 C7 Very good.  
263:55:51 C6 125 degrees and 1.3 miles.  
264:04:24 C7 You got a lot of stuff all around the back end of  
you. Must be the ... off from the ... test ...  
264:04:46 C7 You want me to stay stationary now, Wally? We're  
almost face up.  
264:05:09 C7 This is VII.  
264:05:11 C6 Go ahead, Frank.  
264:05:12 C7 I'm going to go ahead and put it on Inertial -  
Neutral here and stay right on the horizon, if  
that's what Precious wants.  
264:05:18 C6 Great ...  
264:05:19 C7 Say again.  
264:05:21 C6 That will be fine, Frank.

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264:05:22 C7 Okay.

264:07:01 C6 You guys really are showing a ... of droop on those wires hanging there.

264:07:07 C7 Stop ... it on me.

264:07:10 C7 Where are they hanging from?

264:07:13 C6 Well, Frank, it looks like it comes out at the separation between - it might be the Fiberglass. It's approximately - oh - 10 to 15 feet long.

264:07:22 C7 The separation came from the booster, right?

264:07:24 C6 Affirmative.

264:07:25 C7 That's exactly where you have one, too. It really belted around there when you were firing your thrusters.

264:07:32 C6 Looks like about 8 or 9 feet long and double wire.

264:07:35 C7 Right.

264:07:36 C6 We're going to take a picture of it.

264:07:53 CC VII, Hawaii.

264:07:55 C7 Go ahead.

264:07:56 CC I've got a short flight plan update if you'd like to copy it.

264:07:59 C7 Stand by one.

264:08:12 C7 Go ahead, Hawaii.

264:08:14 CC Okay. D-4/D-7: 265:43:00 -

264:08:19 CC - Sequence 427 -

264:08:34 CC I say again. Sequence 427; Mode 03; Spacecraft VI, one minute of recorder. D-4/D-7: 265:44:00; Sequence 427; Mode 01; Spacecraft VI, 2 minutes. Note: to be performed during Gemini VI tape playback at Hawaii.

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264:09:28 CC Did you copy that all right?

264:09:32 C7 Roger.

264:10:56 CC VI and VII, Hawaii. We'll be standing by if you have anything for us.

264:11:00 C7 Roger.

264:11:01 P6 There just seems to be a little traffic up here, that's all.

264:11:04 CC Call a policeman.

264:11:08 P6 It was pretty trying during the terminal run. As we looked out, we could see the two Gemini stars casting off to the right of Gemini VI - correction, VII. They were all in a line.

264:11:21 CC Roger.

264:11:49 CC VII, Hawaii. Would you turn your adapter C-Band off?

264:11:52 C7 Roger.

264:11:55 C6 It's in the COMMAND position.

264:11:59 CC Okay, ... that will do it.

264:13:46 C7 We've lost you, VI.

264:13:49 C6 You've lost sight of me, sir?

264:13:50 C7 Roger.

264:13:54 C6 I must affirm a few little things.

264:13:56 C7 Okay.

264:14:03 C6 Keep to your left now.

264:14:04 C6 This is the night light, is it?

264:14:07 C7 Say again.

264:14:08 C6 This doesn't act like a night light, or is that an experiment light?

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264:14:11 C7 No. They should both be off.

264:15:43 P7 The flag or the letters are visible. Looks like they're seared as much at launch as they are when you come back from reentry.

264:15:51 P6 Jim, noticed your blue field is practically burned off.

264:15:55 P7 Right.

264:19:15 C7 Elliot, Gemini VII.

264:19:17 CC Go ahead.

264:19:18 C7 Roger. This fuel cell is dropping down again. You want us to take the Platform off the line?

264:19:25 CC Stand by.

264:19:29 ...

264:19:32 C7 We'll keep the Platform mode if you want.

264:19:35 C7 ... Wally.

264:19:37 C6 Say again.

264:19:38 C7 I put my automatic on the ...

264:19:40 C6 Okay.

264:19:50 CC Gemini VII, Houston. We'd like to leave the Platform on and take Stack 2C off-the-line at this time.

264:20:00 C7 Stand by, sir. Okay, here you go.

264:20:16 C7 Stack 2C is off the line.

264:20:18 CC Roger. What was your current on it before you took it off?

264:20:22 C7 About 5 1/2 amps. It deteriorated from 10 to 5 1/2.

264:20:27 CC Roger, VII.

264:20:49 CC Gemini VII and VI, would you continue with the description of your stationkeeping?

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- 264:21:03 C7 Right now, VI is about 10 feet above and to the left of VII. We're just flying nose to nose, approximately 15 feet apart.
- 264:21:13 CC Roger.
- 264:21:15 P7 We can very clearly see the horizon scanners up  
\*\*\*
- 264:21:21 CC Roger, Jim. Gemini VII, are you able to see in the windows of VI very easily, and vice versa?
- 264:21:36 C7 Roger. VII here.
- 264:22:40 P7 Wally, I can see your lateral thrusters are firing out about 40 feet from what we - visual, from what we can see.
- 264:22:48 C6 How are they doing?
- 264:22:50 P7 We can't tell now. We're in too close. But when you were doing your Braking Maneuver we could see them ... quite a bit out.
- 264:23:09 P7 I'll come back in, so we can get nose-to-nose a little bit.
- 264:23:25 P6 Looks like those wires guillotined off the booster and not at the spacecraft ...
- 264:23:31 C7 Yes, you have the same thing, only it's in back of yours.
- 264:23:34 C6 The wire bundles, of course.
- 264:24:09 P7 Houston, on this Braking Maneuver our lateral thrusters fire quite aways out.
- 264:24:14 CC Roger, VII.

## TEXAS

- 264:24:58 CC Gemini VII, Houston.
- 264:25:00 C7 Go ahead, Houston.

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264:25:02 CC We plan to put 2C back on the line at the RKV.

264:25:07 C7 Okay.

264:25:08 CC Approximately 20 minutes off the line.

264:25:11 C7 Roger.

264:25:32 CC Gemini VII, Houston. Could you give us a readout on your stack currents?

264:25:36 C7 Stand by.

264:25:38 P7 Roger. Houston. 1A is 2 1/2 amps; 1B, 11 amps; 1C, 9 1/2 amps; 2A, 8 1/2 amps; 2B, 7 1/2 amps; 2-Charlie about to zero.

264:25:52 CC Roger, Jim.

264:25:54 P7 The configure voltage on 2-Charlie is reading 31.2.

264:25:58 CC Roger. Copy. 31.2.

264:26:05 CC Looks very good, VII. You might keep an eye on 2-Charlie voltage and see if you can see it jump up like it did yesterday.

264:26:12 P7 Roger.

264:26:17 CC Gemini VII, would you switch your adapter C-Band to CONTINUOUS?

264:26:24 P7 Adapter C-Band CONTINUOUS.

264:26:25 C7 ...

264:26:26 P6 Yes. What's confusing?

264:26:39 C7 What did you say, Wally?

264:26:40 C6 You guys sure have big deals.

264:26:42 CC Ha! ha! ha!

264:26:45 C6 If you're in white, you're in style.

264:26:47 CC Right.

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264:36:50 P Well, let's see about 264:36 now. Formation with GT-VI. Taking pictures and passing the time of day.

264:38:59 C7 12 o'clock tomorrow morning?

264:39:01 ... after tomorrow morning.

264:39:05 ... easier ones on Saturday.

264:39:08 I'll pass.

264:39:12 C6 How's the food supply holding out?

264:39:14 C7 Oh, it's in good shape.

264:39:16 P7 It's holding out, but it's the same thing day after day.

264:39:26 ...

## ROSE KNOT VICTOR

264:39:40 CC Gemini VII, RKV.

264:39:41 C7 Go ahead, RKV. Gemini VII.

264:39:43 CC Roger. We'd like you to bring Stack 2C back on the line.

264:39:46 C7 Coming on.

264:39:58 C7 Stack on.

264:39:59 CC Roger.

264:40:00 CC Did you get an open-circuit voltage before you put it on, please?

264:40:04 P7 Looks like it's in the same group as it was when you took it off open.

264:40:07 CC Roger. What was your open-circuit voltage before you turned it back on?

264:40:11 P7 31.5 volts.

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264:40:12 CC Say again.

264:40:14 P7 31.5 volts.

264:40:15 CC Roger.

264:40:19 CC What are you reading now? That's 2C current.

264:40:25 P7 2C current is reading 6 amps and closed-circuit voltage is a little below 25.

264:40:31 CC Roger.

264:40:37 CC We're reading 5.5 on 2C on the ground.

264:40:38 C7 ... RKV.

264:40:44 CC Say again, Gemini VII.

264:40:46 C7 I say we have company tonight.

264:40:48 CC You sure do. We'd like to know how you can see the ACQ lights on VI.

264:40:54 C7 He doesn't have ACQ lights.

264:41:00 P7 They have a dock light control.

264:41:03 CC Did they see the dock lights?

264:41:04 C6 ... one point off. Right, yes.

264:41:08 P7 We picked you up, Wally, when the sun reflected off your adapter.

264:41:11 C6 Yes.

264:43:51 CC Gemini VII, we'd like you to take 2-Charlie off the the line at 265.

264:43:58 P7 Roger. 2-Charlie off the line at 265:00.

264:44:03 CC Roger.

264:44:05 C7 How long do you want us to leave it off the line?

264:44:08 CC We'll give it a check at CSQ.

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264:44:11 C7 Okay.

264:45:36 C7 Hey, Wally!

264:45:37 C6 Go ahead.

264:45:39 C7 When we get around to the next stateside, let us try it for about 5 minutes, will you? I'm after - the fuel is bounded up a little bit.

264:45:41 P6 Sure.

264:45:45 C7 Okay.

264:45:49 C7 I'm going to Platform for the nighttime pass, if you want to back off just a little bit.

264:45:53 C6 When I get in there you're going to leave the Platform up?

264:45:56 P7 Yes, we're going to leave it up.

264:45:58 C6 Okay.

264:47:00 C6 That will help you there, Frank, or ... back a little more?

264:47:01 C7 That's okay. I ... in the plat mode now.

264:47:04 C6 Roger.

264:47:07 P7 ... on the line right now.

264:47:09 C6 Roger.

264:47:16 C7 This gage is bouncing right around 15 percent if you look at it right. ... to the left ...

264:47:23 P7 Oh, good. I think we better pitch over.

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265:02:22 P6 Spacecraft ...

265:02:24 C7 Say again.

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265:02:26 P6 ... just talking about.

265:02:29 C7 You're not close.

265:02:30 P6 ... ring you up.

265:02:31 C7 That's your dump.

265:02:33 P6 Oh, okay.

265:02:40 P7 Can you see Frank's beard, Wally?

265:02:42 C6 Yes, I see yours better right now.

265:02:47 P6 Did you wipe your mouth, Jim, after you ate?

265:02:52 P6 You must have just wiped your mouth, Jim. Did you?

265:02:56 P6 Yes. Right.

265:02:58 P6 How's the visibility through these windows? They're pretty bad from this side.

265:03:02 P7 Yes. It's pretty bad. We noticed ... that some see through the windows. They are pretty bad on this side?

265:03:14 P7 Through your window, they're right on top of us.

265:04:30 C6 The forest fires really kick them out, don't they, Jim?

265:04:32 P7 Right. They've been there all the time, Wally.

265:04:34 C6 Yes. That fire down there to your left is an oil fire, I think.

265:04:40 P7 Oh, you see one there from the air?

265:04:43 P6 Right. Maybe that was down to your left. It's ... night.

265:04:48 P7 Okay.

265:04:55 P6 ... any way you do it.

265:04:59 P7 Between the black marks.

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265:05:04 P7 With your light on, Wally, I can just see the flame of the front of the nozzle.

265:05:10 C6 Roger.

265:05:40 CC Gemini VII, Houston. Can you confirm you turned 2-Charlie open-circuit again?

265:05:47 P7 This is VII. Roger. 2-Charlie is open.

265:05:50 CC Roger. What does the open-circuit voltage look like?

265:05:53 P7 Looks like about 31.2 volts.

265:05:57 CC 31.6. Roger.

265:05:59 P7 31.2.

265:06:00 CC 31.2.

265:06:06 P7 Drinking water, right, Wally?

265:06:09 C6 Roger.

265:06:11 P7 ... voltmeter very much to look at.

265:06:16 C7 ... rough day.

265:06:17 C6 Ha! ha!

265:06:21 C6 Don't let him kid you. I'm just a ...

265:06:24 P7 Roger. ...

265:06:46 C6 ... Merry Christmas and get it over with.

265:06:50 P7 Yes. I still wish we had a pot of fuel here.

265:06:59 C6 You should work up a ...

265:07:01 P7 Right.

265:07:31 C6 ...

265:07:34 P7 That's right.

265:08:07 P6 Back up just a little bit.

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265:08:09 P7 There doesn't seem to be any shape of a ... just a glob comes out.

265:08:14 P6 ... ball of fire attitude ... light out all you can see is the initial flame.

265:08:24 P7 ... for awhile.

265:08:31 P7 As you approached us in the rendezvous we could see the fire way out to about 40 feet.

265:08:37 P6 Very good.

265:08:43 P7 Now we didn't even know you were there, Wally.

265:08:45 C6 Right here.

265:08:46 P7 Yes.

265:08:47 C6 Roger. ...

265:08:49 C6 Ha! ha!

265:08:52 C6 Now I can see you a little more ... taking off on the ...

265:08:58 P7 My ... off.

265:09:05 P6 No. I guess it's because I get so many reflections on the window.

265:09:14 P7 Roger. We saw that.

265:09:16 P6 ... sunlight.

265:09:19 P7 Roger. I could hit you with it.

265:09:22 ...

265:09:24 Very good. ... on the next flight.

COASTAL SENTRY QUEBEC

265:25:15 CC Gemini VII, CSQ.

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265:25:17 C7 Go ahead, CSQ. Gemini VII.

265:25:19 CC Roger. Will you give us another reading on 2-Charlie open-circuit voltage.

265:25:23 P7 Roger. 2-Charlie open-circuit voltage is 31.8 volts.

265:25:29 CC Roger.

265:25:34 CC Would you place 2-Charlie back on the line?

265:25:38 C7 2-Charlie coming back on the line.

265:26:21 CC Gemini VII, CSQ. We'll probably leave 2-Charlie on at least until Hawaii, and have a look at it there.

265:26:28 C7 Roger. I read: 2-Charlie, remain on to Hawaii and take a look.

265:26:32 CC Roger.

265:29:25 CC I don't ...

265:29:28 C7 ... your flight plan, Hawaii.

265:29:31 C7 7 hours 22 minutes ... for a vent.

265:29:34 CC Check 22.

265:29:35 C7 Roger.

265:29:42 C6 We'll switch to your experiment, then we'll fly around, if that's all right with you.

265:29:47 C7 Let us have about 5 minutes ... trying to move around in this mode.

265:29:52 C6 Oh, fine.

265:29:56 C7 In fact, how about that right now?

265:29:57 C6 Sure, my Maneuver switch has been off for the last 15 minutes.

265:30:00 C7 Okay, we'll just coast around here a little bit and see what it looks like.

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265:30:03 C6 Very good.  
265:30:08 C7 This experiment will start in about 13 minutes, this morning.  
265:30:11 C6 Roger ... Flat node and Node 2.  
265:31:17 C7 I know ... with you.  
265:31:23 C6 It's looking pretty good.  
265:31:25 C7 Yes, those heaters work fine.  
265:31:39 C7 Yes, you're right.  
265:31:41 C6 ...  
265:31:43 C7 That's what I mean - there are times when it looks like there's nothing there.  
265:31:46 C6 Yes, a couple of white flakes, and that's about it.  
265:31:49 C7 Yes.

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265:41:23 C6 We'll be dumping in about 2 1/2 minutes. Radar contact.  
265:41:24 CC Gemini VII, Hawaii.  
265:42:11 CC Gemini VII, Hawaii CAP COM.  
265:42:15 P6 Go ahead, Hawaii. VII here.  
265:42:17 CC How you doing?  
265:42:18 P7 It's great! Really outstanding!  
265:42:20 CC Okay. Give me a readout on 2-Charlie, please.  
265:42:24 P7 Roger. 2-Charlie closed circuit is reading 24.8.  
265:42:27 CC Roger.

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265:42:30 P7 ... amp ... 5 1/2.

265:42:33 CC Roger, very good.

265:42:35 C7 Hawaii, this is VII, here. We're going to fire on the platform, unless Flight has any objections, and get back on the regular schedule and leave the space-craft in the HORIZON SCAN.

265:42:49 CC They say: "Have at it".

265:42:50 C7 Thank you.

265:43:34 CC Gemini VII, Hawaii CAP COM.

265:43:36 P7 This is VII. Go.

265:43:37 CC If you haven't started powering-down yet, they want to schedule a purge, Jim.

265:43:40 P7 Okay, we have not started yet, so let's purge.

265:43:43 CC Okay, hold up a minute.

265:43:50 CC Okay, we're ready for your purge. Have at it.

265:43:52 P7 Purging Section 1.

265:43:53 CC Roger.

265:43:56 CC One little bubble.

265:44:03 C7 Boy, those windows are really bad. I got a good look at your window, Wally. It's really coated.

265:44:08 C6 Yes.

265:44:10 C6 We were lucky.

265:44:20 CC All right.

265:44:24 C6 ... that's a real big problem there.

265:44:26 C7 Wally, can you tell if there's any purge at all?

265:44:29 C7 Say again.

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265:44:30 C7 Could you tell if we're purging at all?

265:44:34 C6 I see some white flakes, bubble, white things come off. Not actually bubbles, but ...

265:44:49 C7 Could you move down a little bit so you're more in line with us?

265:44:52 C6 Moving down.

265:45:29 CC VII, put your Quantity Read switch to ECS O<sub>2</sub> position.

265:45:33 CC Okay, just leave it there, please.

265:45:35 P7 Roger.

265:46:26 CC VII, Hawaii. Go to FUEL CELL O<sub>2</sub> position in Quantity Read.

265:46:29 C7 Done.

265:46:30 CC Okay, just hold it there, and we'd like it for about 15 minutes for the power-up and hold off on your power-down until 266 plus 01.

265:46:41 C7 266 plus 01. Roger.

265:46:43 CC Okay.

265:47:05 CC Quantity Read to the FUEL CELL H<sub>2</sub> position, please, VII.

265:47:09 C7 We are.

265:47:10 CC Okay.

265:47:41 CC VII, Hawaii. Quantity Read switched off.

265:47:44 CC Okay, thank you.

265:47:46 C7 Okay. We've been using the O<sub>2</sub>. Do you want it off tonight?

265:47:51 CC Say again.

265:47:52 C7 We've been leaving the Fuel Cell O<sub>2</sub> on because of

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that stuck transducer. You want me to turn it off tonight, Bill?

- 265:47:56 CC Okay. They'll give you a good briefing before you go to bed. If you don't mind, you can leave it in the O<sub>2</sub> position now.
- 265:48:02 C7 Okay, I'll leave it off.
- 265:48:45 C7 And Hawaii, for your information, VII is terminating here with about 11 percent.
- 265:48:50 CC Thank you, VII.
- 265:49:01 P7 Hawaii, purge complete.
- 265:49:03 CC Roger. Got the whole thing. Thank you very much.
- 265:49:43 CC VII, Hawaii. We've got nothing further. We'll be standing by if you need anything.
- 265:49:46 C7 Thank you, Hawaii.
- 265:49:49 C7 2-Charlie in the second section looks sick again tonight.
- 265:49:53 CC Well, we'll see what's going to happen. Just hang in there.
- 265:50:06 C7 You going over the top, Wally?
- 265:50:08 C6 That's right.
- 265:50:09 C7 Okay.
- 265:50:10 CC Standing by one.
- 265:50:11 C7 The adapter about the experiment, top of Jim's head, is all clay, like an acid or something came out on it.
- 265:50:19 P7 It's a liquid Freon or Neon or something from the cold IR experiment.
- 265:50:24 C6 Oh, is that what it is?
- 265:50:25 P7 Yes.

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265:50:55 C7 How does it look from back there?  
265:50:57 C6 Looks good.  
266:15:24 ... check over ...  
266:15:28 C7 ... load is looking?  
266:15:31 C6 We're looking right at your vehicle now.  
266:15:33 C7 What's the - how much of a ... have I got?  
266:15:36 C6 ... Flight.  
266:15:38 C7 ... just talk out there.  
266:15:43 C7 Under the nose here, during the yaw-up.  
266:15:47 C6 ... pretty clean that far out.

## ROSE KNOT VICTOR

266:16:38 CC Gemini VII, RKV CAP COM.  
266:16:41 C7 Go ahead, RKV. Gemini VII.  
266:16:42 CC Roger. I've got an update for you any time you're ready.  
266:16:45 P7 Listen, I want to talk to you about that for a second.  
266:16:47 CC Okay.  
266:16:48 P7 We've been in these suits now powered-up for quite a while. I just went to take my harness off and it's spitting the water out of the suit inward hose in great quantities, and we noticed now that our suit temperature is below 40 degrees.  
266:17:02 CC Roger.  
266:17:04 P7 We put the seat pumps on and we turned the heat exchanger to WARM but we're still awfully cold and spitting water.

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266:17:12 CC Roger.

266:17:39 CC You ready to copy this block update?

266:17:41 P7 Ready to copy.

266:17:42 CC Okay. The RET Heat Exchange for that area is 21 plus 40. Area 169-3: 269:49:08. 170-Bravo: 271:25:32. 171-Bravo: 272:23:14. 172-2: 272:58:00. 173-2: 275:21:30. 174-2: 277:07:04. 175-1: 278:36:05. 176-1: 280:11:41. The weather in Area 169-3 is marginal and also the weather in 173-2 is marginal. The weather in all other areas is good.

266:19:09 P7 Thank you.

266:19:50 C7 The burn was successful.

266:20:36 CC Gemini VII, RKV.

266:20:39 C7 Go ahead.

266:20:40 CC Have you at any time seen an Evaporator Pressure light?

266:20:49 C7 Negative, Pressure light.

266:20:51 CC Did you say negative?

266:20:53 C7 Negative. We have not seen one.

266:20:54 CC Roger.

266:22:58 CC ... port side ...

266:23:27 CC Gemini VII, RKV.

266:23:29 C7 Go ahead.

266:23:30 CC We'd like you to turn both suit fans on at this time.

266:23:34 C7 Roger. Go to both fans.

266:23:36 CC And we'd like you to leave Pump B up in both loops.

266:23:40 C7 Pump B is off, Pump A is off in both loops.

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266:23:42 CC Roger.  
266:23:49 C7 The systems are on.  
266:23:50 CC Roger.

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266:37:07 CC Gemini VII, Gemini VII, Houston CAP COM. Over.  
266:37:11 P7 Go ahead. Gemini VII here.  
266:37:13 CC Roger. How's the water now?  
266:37:15 P7 We're still getting excited about it. The suits' temperatures are still below 40.  
266:37:18 C7 The water's really no problem while it's going into the suit. I was more concerned about the canister.  
266:37:23 CC I understand you're concerned more about the temp than you are the water.  
266:37:27 C7 ... the canister ...  
266:37:44 CC Gemini VII, Gemini VII, Houston CAP COM. We've evaluated your systems pretty thoroughly on the ground last test over RKV and they all look good from here. We believe it's - the water is due to condensation in the hose and we'd like you - for you to stay in your same configuration. The suit fan should blow that water out.  
266:38:02 C7 Okay. What ... low ... temperature, valid temperature.  
266:38:23 CC Gemini VII, Gemini VII, can you give us that temperature, that on-board temperature reading, please?  
266:38:29 C7 Off-scale low below 43.  
266:38:50 ... degrees. I think the gages ...  
266:39:09 CC Gemini VII, Gemini VII, Houston CAP COM. I've got a D-4/D-7 update for you during Spacecraft VI separation burn.

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- 266:39:27 C7 Roger.
- 266:39:40 CC Gemini VII, Gemini VII, Houston. You're breaking up badly. I've got a D-4/D-7 if you're ready to copy.
- 266:39:46 C7 Roger. Go ahead.
- 266:39:48 CC Okay. D-4/D-7: at 267:51:23; Sequence 430; Mode 03; this is on Spacecraft VI, during Spacecraft VI Separation burn.
- 266:40:18 CC Gemini VII, Houston. We plan on thinking about getting you back out of your suits after the completion of your Separation burn.
- 266:40:33 C7 We thought we might as well stay in them until after reentry, Dean.
- 266:40:39 CC You say you'd rather stay in them until reentry?
- 266:40:41 C7 Roger. They're such an effort to get in and out of, we might as well stay in them until reentry.
- 266:40:47 CC Okay, we understand that, but if you so desire, after the Separation burn you can get out of them.
- 266:40:54 C7 Okay. Fine. Thank you.
- 266:41:42 CC Gemini VII, Gemini VII, Houston.
- 266:41:46 C7 Go ahead, Houston. Gemini VII.
- 266:41:48 CC Roger. Frank, we'd like you to get a cabin temperature survey and report it over the CSQ.
- 266:41:53 C7 Roger.
- 266:42:35 CC Gemini VII, Gemini VII, Houston. Can you give us an idea of the quantity of water you're talking about? Is it dripping out or is it actually streaming out?
- 266:42:44 C7 ... it's pretty well streaming out; however, ...
- 266:42:52 CC I understand it was streaming out, but it's gone now. Is that correct?

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266:42:56 C7 That's right, it's stopping now.

266:42:58 CC Okay.

266:42:59 C7 What is your ground reading on our suit inlet temperature?

266:43:10 CC Gemini VII, Houston. We've got the right suit inlet temperature at about 55 degrees.

266:43:17 C7 We must have a gage **error then**.

266:43:29 CC Gemini VII, Houston. It's possible that we've got some water in our gage on-board.

266:43:34 C7 Roger. I think that's what happened.

266:43:40 CC Are you uncomfortably cold at this time?

266:43:45 C7 Feel all right. We've got both suit fans on.

266:43:47 CC Roger. Understand.

## COASTAL SENTRY QUEBEC

267:00:37 CC Gemini VII, CSQ CAP COM.

267:00:39 P7 ..., VII here.

267:00:41 CC Okay. Could we have the results of your cabin temp survey?

267:00:44 P7 Okay. Stand by one.

267:00:55 C7 The cabin temperatures at Pilot and Command Pilot's head area is 80 with a dew point of 67. The hatch is running about 80 to 79. The area between the seats is 79 with a dew point of 74. Center of the cockpit is 80 with a dew point of 67.

267:01:18 CC Could you repeat your reads between seats?

267:01:21 C7 79 ambient, 74 dew point.

267:01:34 C7 Temperature got a little wet. It may have been read-

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ing high but when we came back to these others it was right around 68 degrees.

- 267:01:46 CC Okay, we want to keep both B pumps and both suit fans on. We think - we think it's kind of safe in the suit and we'll check further.
- 267:01:56 C7 Okay. Thank you.
- 267:02:00 C7 ... suit temperature gage is evidently off the line also.
- 267:02:05 CC Roger. Our left suit reading is pretty erratic. It's running between 55 and 70 normally.
- 267:02:15 C7 Okay. Our gage is off a little below 40 degrees, and it's not that cold.
- 267:02:19 CC Roger.
- 267:04:58 CC Gemini VII, CSQ. We'd like a couple more points on your temperature survey. We'd like a reading on both walls, both sides of the spacecraft, against the wall.
- 267:05:06 C7 Roger. I gave that.
- 267:05:22 CC Okay. I guess I didn't copy those. Would you repeat those?
- 267:05:40 C7 Roger. Those are the over - right by our heads on the hatches. 80 degrees.
- 267:05:47 CC Okay.
- 267:07:03 P7 Turn your parking light off, VI.
- 267:07:30 C6 Gemini VII, this is VI. If you can hold it in yaw for just a little while, we'll try and get in close and get all these close shots of you.
- 267:15:17 C7 This is Borman dumping urine at 267:15.
- 267:15:22 C7 How's that?
- 267:15:31 C7 What side are you on?

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267:15:38 C7 Look over at Five.  
267:15:55 C7 Right.  
267:15:58 P7 We're dumping again.  
267:16:33 P7 ...  
267:16:41 P7 Look, it should be ... out here. It's really huge!  
C7 Boy, this is really a urination!  
267:17:16 P7 No kidding, there's a chunk out there about the size  
of a golf ball!  
267:20:08 CC Gemini VII, Hawaii CAP COM.  
267:20:10 C7 Go ahead.  
267:20:12 CC Okay. We're showing you GO. How are you doing?  
267:20:14 C7 Fine.  
267:20:15 CC Okay. I've got a flight plan update if you'd like  
to copy it.  
267:20:18 C7 Roger. We're ready.  
267:20:19 CC Okay. 268 plus 30 plus 00: begin exercise, house-  
keeping, and eat period.  
267:20:32 C7 Roger.  
267:20:33 CC 270:11:43: crew status report on the Pilot.  
270:20:00: sleep period begins. CSQ, LOS:  
279:47:46; this will be a fuel cell purge after  
awakening at Carnarvon and it will be Revolution  
175. The last item: 280:48:00; BIO MED Recorder  
Number 2 to the OFF position.  
267:21:28 C7 Roger. Hawaii. Is the D-4/D-7 update time still  
valid?  
267:21:34 CC Okay. I've got a D-4/D-7 time of 267:51:23. That's  
still valid.

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267:21:41 C7 Roger. I understand BIO MED Number 2 off 280:48:00.  
That's correct?

267:21:47 CC 280:48:00.

267:21:51 C7 Roger. Understand.

267:21:52 CC Okay. Very good.

267:21:57 CC Do you need anything else?

267:22:00 C7 Negative.

267:22:02 CC Okay, VII and VI, Hawaii will be standing by. We have about another 4 or 5 minutes here.

267:23:03 C7 Hawaii. VII.

267:23:05 CC Go ahead, VII.

267:23:07 C7 2-Charlie looks pretty sick again. Spread the answer about VI now. Station 1 now carrying 6 more than 7. 2-Charlie about 2 amps, 2-Baker about 2 1/2 and 2-Able about 2 1/2.

267:23:19 CC Okay. Let's make sure I got this right. 2-Charlie, 2; 2-Baker, 2 1/2; 2-Alpha, 2 1/2.

267:23:25 C7 Roger.

267:23:38 CC VII, Hawaii.

267:23:41 C7 Go ahead.

267:23:42 CC Can you give me the relative humidity at the suit outlet hoses?

267:23:48 C7 Roger. Stand by.

267:24:01 C7 You mean the suit inlet hoses, Hawaii?

267:24:07 C7 We're back, we're in the suits. We can't give you the humidity at the suit outlet hose.

267:24:10 CC Okay. Give us the inlet.

267:24:13 C7 ... we'll see, it's spitting water. We'll try it.

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267:24:16 CC Okay.  
267:26:00 CC VII, Hawaii.  
267:26:02 C7 Roger.  
267:26:03 CC Okay. If I don't get those data from you, pass it on to the RKV.  
267:26:08 C7 We're reading 70 and 64. 70 temperature, and 64 dew point, Hawaii.  
267:26:11 CC Okay. I got that. Thank you.

## ROSE KNOT VICTOR

267:52:34 CC Gemini VII, RKV CAP COM.  
267:52:40 P7 Go ahead, VII.  
267:52:42 CC Roger. Would you give me an onboard propellant quantity?  
267:52:45 C7 Roger. We are 11 percent.  
267:52:49 CC Roger.  
267:52:51 CC Gemini VI. We'd also like the prop quantity from you.  
267:52:59 C7 Pressure 40.  
267:53:03 CC Roger. Gemini VII, on your water problem, we feel a possibility that the water is backed up from the water boiler into your suit heat exchanger. And we've come up with a little procedure we'd like you to run. We feel it's pretty safe and it'll eliminate about 8 pounds of water in the shortest possible time. Let me know when you're ready to copy.  
267:53:28 C7 Roger. Ready to copy.  
267:53:30 CC Okay. At a time of 268 plus 33 we'd like you to turn the Primary and Secondary A pumps on and turn

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off the Primary and Secondary B pumps. We'd like you to orient the spacecraft broadside to the sun and initiate a 10-degree-per-second roll rate. We'd like you to maintain that broadside orientation while you're rolling. Then we'd like you - like you to select the Radiator to BYPASS. Have you got all that?

- 267:54:12 C7 Okay. ... Primary and Secondary pumps on. Turn off the B Secondary pumps. Get spacecraft broadside to the sun and initiate a 10-degree roll rate. Is that correct?
- 267:54:21 CC All confirm. Then we'd like you to select the Radiator to BYPASS, and at a time of 268 plus 37 we'd like you to place the Evaporator Heater switch to ON. At 268 plus 41 select the Radiator to FLOW. At 268 plus 42, turn the Evaporator Heater switch to OFF. Turn your Primary A pump off, your Primary B pump on. Turn off your Secondary A pump and bring up your Secondary B pump. And then stop your roll rate.
- 267:55:18 C7 Okay, RKV. I missed the time of the Evaporator switch-off.
- 267:55:22 CC Okay. The time for Evaporator switch-off is 268 plus 42.
- 267:55:29 C7 Now during that switch-on, I got that off. I think it'd be on.
- 267:55:33 CC Okay. The ON time is 268 plus 37.
- 268:55:38 C7 Okay. ... would you say all after Primary B pump on?
- 267:55:44 CC Place the A pump to OFF in the secondary loop and bring up the pump B in the secondary loop.
- 267:55:59 C7 Roger. Secondary A off and Secondary B on.
- 267:56:03 CC Roger.
- 267:56:09 CC What's the position of your Condensate valve at this time?

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267:56:16 C7 It's on the left ...  
267:56:19 CC Is it NORMAL?  
267:56:22 C7 We'll check it again. It should be. We have pressure.  
267:56:25 CC We don't want you to copy that, just like to know what position it's in.  
267:56:28 C7 NORMAL.  
267:56:29 CC Okay.  
267:56:39 CC Gemini VII, RKV. We'd like for you to read that procedure back to us if you would.  
267:56:43 C7 Primary B pump on, Secondary A off and Secondary B on.  
267:56:48 CC Negative. Why don't we start from the top, with my first time of 268 plus 33?  
267:56:54 C7 Roger.  
267:57:27 CC Gemini VII, RKV.  
267:57:29 C7 Go ahead. We're waiting.  
267:57:31 CC Okay. We're standing by. I'd like you to read that procedure back to me if you would.  
267:57:38 C7 Roger. 268:33:00: turn Primary and Secondary A pumps on; turn Primary and Secondary B pumps off; spacecraft broadside to the sun; initiate 10-degree roll rate; at the same time, Radiator to BYPASS after we get attitude set up.  
267:57:53 CC Roger.  
267:57:55 C7 At 268:37: Evaporator switch on. 268:41: Radiator to FLOW. At 268:42: turn Evaporator off, Primary A pump off, Primary B pump on; at same time, Secondary A off and Secondary B on. Is that correct?  
267:58:12 CC Roger. Final item is stop your roll rate.

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267:58:17 C7 Roger. And stop the roll rate.  
267:58:19 CC Okay. You got it.  
267:58:24 C7 Understand also there is to be a new update time  
for D-4/D-7. Is that correct?  
267:58:28 CC Roger. At a time of 268 plus 41, that's select  
RADIATOR HEAT.  
267:58:37 CC I'm sorry - that's my fault. 268:42: it's  
evaporator heater off.  
267:58:44 C7 Roger. Evaporator heater off.  
267:58:45 CC Okay.

## COASTAL SENTRY QUEBEC

268:37:32 C7 We're panning now. I can see if there are any  
substances.  
268:37:38 C6 Only saw one flake that time, Frank.  
268:37:40 C7 There's a whole lot coming by, right by my side.  
268:37:44 C7 ... for you, Wally.  
268:37:47 C6 I see some now. Yes. Is that your water boil?  
268:37:50 C7 I guess so.  
268:37:52 C6 Yes. I see it now.  
268:37:55 C6 ...  
268:37:57 C7 Right.  
268:38:05 C7 Just aft of you, that's the water boil.  
268:39:24 P6 The wiring cable, Frank, is hanging on. By your  
centrifugal force it's just about straight out  
now. Looks like it's about 10 feet long. ... to  
the adapter.

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268:39:38 C7 Right. You ...  
268:39:41 P6 I'll be darned.  
268:39:42 C7 Can you affirm ... whips all around right there.  
268:39:47 C6 It's right at the separation plane.  
268:39:48 C7 That's right.  
268:39:57 P6 ... come on around and look us over.  
268:40:01 P7 All right.  
268:41:31 C6 VII, this is VI. Apparently we can see lots and lots of water coming out all over the back of ...  
268:41:36 P7 Thank you.  
268:41:46 P7 VI, this is VII. I think it helped out our fuel cells a little, too.  
268:41:51 P6 Affirmative.  
268:41:52 P7 Good show. I hope it stays up ...  
268:42:12 P7 ... better start the ..., Wally.  
268:42:16 C6 Okay. Will go.  
268:42:24 P7 ... cable wind up behind you.  
268:42:29 P7 I got a real ball of ice back there ... water ...  
268:42:31 P6 Yes. You sure do; it's a big ball.  
268:42:37 C7 Is it the water boiler?  
268:42:39 P6 It certainly looks ...  
268:42:42 P7 Was it there before, VI?  
268:42:44 P6 Negative.  
268:42:47 P6 I suggest you roll starboard about 30 degrees and you'll put it right in the sun.

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268:43:14 C7 CSQ. You might tell Houston that our Section 2  
is still real sick, also. Will you please?  
268:43:20 CC Roger. Will do.

## HAWAII

268:53:36 C7 We wanted to roll about 180 degrees to the right  
or left and to get that blob of ice in the sun.  
268:53:44 P6 Okay.  
268:53:45 C7 Try out the water boiler outlet.  
268:53:53 P6 180 degrees to the right. How's that?  
268:53:55 C7 Fine.  
268:56:45 C7 Call VII now?  
268:56:48 CC Gemini VII. Correction, Gemini VII, Hawaii.  
268:56:50 C7 Go ahead.  
268:56:51 CC Okay. You'll have a UHF 6 over the RKV and I've  
got a flight plan update for you.  
268:56:56 C7 Roger. Ready to copy.  
268:56:58 CC Okay. 269:00:00, and that's a deletion. Your  
BIO MED Recorder Number 2 to CONTINUOUS. Delete  
that item.  
268:57:07 C7 Roger.  
268:57:09 CC D-4/D-7: 269 plus 21 plus 53; Sequence 430; Mode  
03. And this will be on Spacecraft VI during  
Spacecraft VI separation burn.  
268:57:30 C7 Roger.  
268:57:31 CC 271:00:00: your BIO MED Recorder will go to  
CONTINUOUS; that will be Recorder Number 2.  
268:57:40 C7 Roger.

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268:57:41 CC 270:20:00: they want you to delete the sleep period beginning at the CSQ LOS on Rev 169.

268:57:55 P7 What time is the D-4/D-7, please?

268:57:58 CC D-4/D-7 is 269:21:53.

268:58:02 P7 Thank you.

268:58:04 CC And they want you to add a sleep period beginning at 271:56:00, and that's at CSQ LOS on Rev 170. One revolution later than originally.

268:58:17 P7 Roger.

268:58:18 CC Okay.

268:58:20 CC How's the water situation?

268:58:21 P7 Fine.

268:58:24 P7 I'd like to go back to one fan, if you don't mind.

268:58:26 CC Okay, hold on there for a second.

268:58:41 CC VI, they say you can go back to one-fan operation.

268:58:43 C7 All right.

268:58:46 P7 This is one fan.

268:58:48 CC I'm getting all my numbers fouled up. VII, go back to one fan.

268:58:52 C7 Roger.

268:59:04 C7 ... that's a fine place to start to burn some, Wally. I think they just did not want the IR sensor pointing into the sun.

268:59:10 C6 Got you, Frank.

268:59:12 P6 I have both eyes on your water boiler outlet ... Looks like a small ... about the size of a tube.

268:59:52 CC Okay, VI and VII. We'll see you tomorrow.

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268:59:54 C7 Thank you.

268:59:55 C6 Roger. Good show here.

268:59:95 CC Good enough for a ... trap?

269:00:02 P6 It'll have to do.

269:00:03 CC Okay.

269:00:27 P6 Hawaii, VI. We have 36 percent of our propellant remaining.

269:00:32 CC Okay, VII. 36 percent - correction, VI, - 36 percent propellant remaining.

269:00:38 P6 One of those four numbers will work.

269:00:53 CC Does that thing handle like a Maseratti?

269:00:56 P6 ...

269:00:58 CC Okay. Roger.

269:01:03 P6 It handles very nicely ...

269:28:04 CC Gemini VII, RKV CAP COM.

269:28:06 C7 Go ahead, RKV. Gemini VII.

269:28:08 CC Roger. We'd like to delete the crew status report scheduled for this pass and we'll pick it up on the next revolution. That's on the Command Pilot.

269:28:15 C7 Fine. Go ahead.

269:28:18 CC Now before you start your purge, we have a couple of steps we'd like to include tonight. First we'd like you to purge Section 1 O<sub>2</sub> and H<sub>2</sub>. Fuel Cell Control 2 circuit breaker to ON. Purge Section 2 O<sub>2</sub> and H<sub>2</sub>, leave the Fuell Cell Control circuit

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breaker 2 on and power-down Section 2. Use the Power switch and place it to the OFF position and then turn off your Fuel Cell Control 2 circuit breaker.

- 269:28:47 P7 Okay. Fine. After we purge power-down Section 2 switch ...
- 269:28:50 CC That's affirm.
- 269:28:52 P7 Okay. Here we go.
- 269:29:02 P7 How about turning off ... Maneuver Thruster Heaters, too?
- 269:29:09 CC Say again, Gemini VII.
- 269:29:11 P7 We might as well open the circuit breaker with the Maneuver Thruster Heater.
- 269:29:16 CC Roger.
- 269:29:22 CC We concur.
- 269:29:23 P7 Roger. VII.
- 269:29:46 CC Gemini VII, RKV. I've got your bedtime rules for the cryogenics.
- 269:29:51 P7 Just a minute.
- 269:29:54 P7 Okay. Go ahead.
- 269:29:55 CC Okay. ECS O<sub>2</sub> Heater switch to OFF. Fuel Cell O<sub>2</sub> Heater switch to AUTO. And leave your Quantity Read switch and Fuel Cell O<sub>2</sub> off the sleep period.
- 269:30:06 P7 Roger. How about hydrogen?

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269:30:08 CC We'd like you to put that in AUTO tonight.

269:30:10 P7 Okay.

269:30:14 CC Your minimum acceptable pressure for tonight will be 445.

269:30:16 P7 Okay. I'll leave it in AUTO.

269:30:18 CC Roger.

269:35:49 P6 ...

269:35:56 P7 ... come on, you want the back light off?

269:35:58 P6 ...

269:36:07 P6 Okay, Frank ... degrees.

269:36:13 C7 Do you want us to follow you?

270:02:34 C Not much is going on.

270:02:42 P ...

270:02:44 C Yes.

270:02:45 P ...

270:02:46 C Okay.

270:04:15 C Don't throw that away just yet.

P ...

270:04:18 C You might not be able to get this one out.

270:04:34 C ... push that end out.

270:09:08 C Okay. I have some things to record here.

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## COASTAL SENTRY QUEBEC

270:12:08 CC Gemini VII, CSQ CAP COM. We do not have an oral temp on the Pilot. Stand by for Surgeon and your blood pressure.

270:12:19 CC Gemini VII, this is CSQ Surgeon standing by for blood pressure on the Pilot.

270:12:28 P7 Gemini VII ...

270:12:43 CC Your cuff is full-scale now.

270:13:28 CC We have valid blood pressure. Give me a Mark when you begin exercise.

270:13:51 P7 MARK.

270:14:17 P7 Blood pressure coming down.

270:14:22 CC Your cuff is full-scale.

270:15:00 CC We have a valid blood pressure. Standing by for food and water report.

270:15:12 C7 Roger.

270:15:14 C7 Roger. Do you have a temperature on the Pilot?

270:15:18 CC Negative.

270:15:20 C7 It's still in his mouth. You should be getting it.

270:15:22 C7 The Command Pilot had 928 ounces of water. For food today, we both had Day 12, Meal B. For supper we had Day 9, Meal C. Column 5 is 3 for the Command Pilot and Column 6 is 6 for the Command Pilot. The Pilot had 778 ounces of water, Column 5 is 28, and Column 6 is 6.

270:15:56 CC I have a node update, VII, when you're ready to copy.

270:16:08 C7 We're ready.

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270:16:10 CC Roger. Time: 269:04:00; Rev 169; 19.8 degrees east; right ascension, 08:15:27.

270:18:20 CC Gemini VII, CSQ. Have you noticed any less water on your suit hose since the test we ran?

270:18:28 C7 Roger. Very dry now.

270:18:29 CC Very good.

270:18:32 C7 Dry and hot.

270:18:35 C7 Have you got a temperature on the Pilot yet?

270:18:38 CC Roger.

270:18:39 C7 All right. Thank you.

270:18:41 CC Also, we have an OAMS status for you, VII.

270:18:44 C7 Go ahead.

270:18:45 CC Propellant remaining, 30 pounds. This is actually 17 percent. The on-board gage reading is about 3 percent lower than we expected at this point. That is, the gage should be reading about 14 percent at this time, so it appears that we stopped the stationkeeping a little early.

270:19:10 C7 Okay. They told me to stop at 11 percent and that's what I read.

270:19:14 CC Roger. This will put us in good shape for the remainder of the mission.

270:19:18 C7 Thank you.

270:19:27 CC Section 2 was taken off the line in hopes to reduce some of the water overnight.

270:19:30 C7 Okay.

## CANTON

270:29:57 CC Gemini VII, Gemini VII, Houston CAP COM. How do you read? Over.

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270:30:11 P7 Houston, VII. Loud and clear.

270:30:12 CC Gemini VII, Gemini VII, Houston CAP COM. How do you read?

270:30:15 C7 Houston, VII. Loud and clear.

270:33:55 CC Gemini VII, Gemini VII, Houston CAP COM. Over.

270:33:59 C7 Go ahead, Houston. VII here.

270:34:01 CC Roger, VII. I'm reading you very weak but clear. We'd like - like you to - we'd like to know if you really feel you've got a good handle on this suit-off configuration, especially regarding location of hose and ventilation, etc. We were hoping that you might be able to do a little bit of experimenting tomorrow.

270:34:23 C7 This is VII, Houston, ... Houston. Can't read you now.

270:34:35 CC Gemini VII, Gemini VII, Houston. Understand you can't read me. I'll say again more slowly. We would like to know if you feel you've really got a good hack on the shirt-sleeve operation regarding location of hose for ventilation, etc. Over.

270:34:52 C7 Roger. We feel we have a good hack on it, since we were suitless for several days.

270:35:10 C7 Did you read, Houston?

270:35:12 CC Gemini VII, reading you now. Say again.

270:35:16 C7 We feel we have a good hack on these suitless conditions.

270:35:33 CC Gemini VII, Gemini VII, this is Houston CAP COM broadcasting in the blind. We would like a film report from you over the RKV concerning the day's activity, if you can get it together.

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270:35:46 C7 What kind of report?  
270:35:49 P7 Film report.  
270:35:51 C7 Film report?  
270:35:52 P7 Film report. Yes.  
270:35:53 C7 This is VII. Roger. We'll compile.  
270:36:02 CC Gemini VI, Gemini VI, Gemini VII, Gemini VII.  
This is Houston CAP COM. We will be broad-  
casting music on HF commencing in about 5  
minutes. That's HF in about 5 minutes - music.  
270:36:05 C7 Let's go.  
270:36:06 P7 Just tell them we want to go to sleep. That'll  
just screw them up! We'll give it to them  
tomorrow morning.  
270:36:21 C7 Just tell them how much film we have left.  
270:36:29 P7 ... magazine numbers and frames left.  
270:36:35 P7 That all?  
270:36:36 P7 Okay.  
270:36:39 C7 Wait a second.  
270:36:57 C7 Okay.  
270:36:58 P7 ...  
270:36:59 P7 ... there's the, 74 ... 74 frames left to go yet.  
270:37:13 P7 And - 17 frames of the color-shifted IR.  
... high-contrast black-and-white.  
270:37:24 P7 Here's the fast ... Okay. Here's the ...  
Now ... I don't know what that is.  
270:38:53 C7 That's the IR.  
270:38:56 C7 That's the color ... IR.

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270:39:07 P7 That's all.

270:39:10 P7 I don't know where the high-contrast black-and-white is.

270:39:24 C7 ... someplace?

270:39:26 C7 Here. Here.

270:39:36 C7 13 out of 60; that leaves 47.

270:39:53 C7 ... do it the long way? Okay, movie cameras.

270:41:03 C7 What'd I do with the log book?

270:42:22 C7 Missing 3 ...

270:42:28 C7 I know. I ... One, let's see, that's one, seven, three. Here are six, eight, five. That's six, seven; we're missing two more magazines ...

270:42:49 P7 I counted that one this time.

270:42:56 C7 There's four in a row.

270:43:46 C7 Okay. Let's check down here.

270:44:09 P7 Okay.

270:44:43 P7 No.

270:44:51 C7 Brought them all out too, didn't we?

270:45:01 C7 Pretty sure we did.

270:45:02 P7 ...

270:45:03 C7 ...

270:45:04 P7 ...

270:45:05 C7 You telling them you're taking them out by used, or how many feet are left?

270:45:25 C7 ...

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270:46:17 P7 I think there are two in a package someplace.  
270:46:22 P7 In a plastic sack.  
270:47:17 C7 Got any ideas?  
270:47:24 P7 No.  
270:47:52 C7 ... your side ...

## ROSE KNOT VICTOR

271:03:23 CC Gemini VII, RKV CAP COM.  
271:03:26 P7 Go ahead, RKV. VII here.  
271:03:30 CC Roger. This UHF 6 - we copy your oral temp.  
Start your blood pressure.  
271:03:36 P7 Roger. Blood pressure coming up.  
271:03:53 CC VII, RKV. Your cuff is full-scale.  
271:03:56 C7 Roger.  
271:04:51 CC VII, RKV. We have a valid blood pressure.  
Standing by for your exercise.  
271:04:55 C7 Roger. ...  
271:05:31 CC VII, RKV. Your cuff is full-scale.  
271:05:33 C7 Roger.  
271:06:24 CC VII, RKV. We have valid blood pressure. RKV  
Surgeon out.  
271:06:26 C7 Roger, VII.  
271:08:18 C7 RKV, VII here.  
271:08:20 CC Go ahead.  
271:08:22 C7 Would you tell the people in Houston we're  
planning on giving us about 2 or 3 hours

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tomorrow afternoon to go over reentry procedures and about 4 hours on Friday to sack the space-craft for reentry.

- 271:08:32 CC Roger. Will do.
- 271:08:33 C7 Thank you.
- 271:08:54 CC Gemini VII, can you give us a rundown on your stationkeeping?
- 271:09:00 C7 We did about 5 minutes of it, very little because we cut off on the OAMS show.
- 271:09:57 CC VII, we'd like a film report from you if you've got one.
- 271:10:02 C7 Roger. We have one here.
- 271:10:04 CC Okay.
- 271:10:08 P7 Film-left report: 22 frames of dim-light; 104 frames of SV215 ... 17 frames color-shifted IR; 27 frames of fast S0217; 74 frames of high-contrast and two movie magazines.
- 271:10:32 CC Roger.
- 271:10:36 CC Okay. As soon as we have LOS, we're going to have some music for you up on HF.
- 271:10:42 C7 What time do you want us to get up tomorrow?
- 271:10:47 CC Let me check with Flight.
- 271:10:53 CC We'll give you a wake-up time over the CSQ.
- 271:10:57 C7 Roger ...
- 271:11:06 C7 Give us a call when you want us to wake up. We're both pretty beat tonight.
- 271:11:10 CC Yes, we figured you were. We'll do that.
- 271:11:39 CC Gemini VII, RKV.
- 271:11:42 C7 Go ahead.

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271:11:43 CC Can we have a prop quantity and a source pressure?  
271:11:48 C7 The prop quantity reads plus 11 percent.  
271:11:51 CC Roger.  
271:11:55 C7 The pressure is 1150.  
271:11:59 CC Roger. Have a good night's sleep. I feel like a baby sitter. I tuck you in every night, and now I'm baby sitting for four of you.  
271:12:14 C7 ...  
271:12:19 CC Don't sweat it, we're watching you.  
271:48:02 CC Gemini VII, CSQ CAP COM. We'd like to get an oral temp on the Command Pilot and stand by for Surgeon.

## ROSE KNOT VICTOR

272:40:34 CC Gemini VII, Gemini VII, RKV CAP COM.  
272:40:46 P7 This is VII.  
272:40:49 CC Gemini VII, Gemini VII, RKV CAP COM.  
272:40:55 C7 Go ahead, RKV.  
272:40:56 CC Roger. Sorry to wake you up. Our ground indications are that your transponder is on. Would you turn it off, please?  
272:41:06 CC That's your L-Band transponder.  
272:41:09 C7 Roger. Thank you. We're sorry.  
272:41:11 CC Roger.

## CARNARVON

276:39:06 C7 Carnarvon, this is Gemini VII.  
276:39:08 CC Go ahead, Gemini VII. Carnarvon.

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276:39:11 C7 Delta-P light on Section 2 went off - about 274:40 to 275:20. I was wondering if they wanted to put it back on the line?

276:39:27 CC Stand by.

276:39:36 CC They said, negative. They want to let it dry out first, VII.

276:39:40 C7 Okay. Thank you. Go back to sleep.

276:39:42 CC Roger.

276:40:09 CC Gemini VII, Carnarvon.

276:40:11 C7 Go ahead.

276:40:12 CC Would you put your - place your Adapter C-Band switch to COMMAND, please?

276:40:16 C7 Roger.

276:40:32 C7 When is VI going to reenter, Carnarvon?

276:40:38 CC At 17-1; GMT of approximately 14:53.

276:40:47 C7 Thank you.

278:15:29 C7 Cabin is about 78.

278:15:34 CC Go ahead, VII.

279:49:04 P7 Good morning, Carnarvon.

279:49:05 CC Good morning. Okay, we've got a purge for you, but first I'd like to get your Adapter C-Band to CONTINUOUS.

279:49:15 P7 Roger. Adapter C-Band, CONTINUOUS.

279:49:17 CC Okay. Your Crossover switch to NORMAL and purge Section 1.

279:49:21 P7 Roger. Section 1 coming up.

279:49:30 CC Okay. We'll be listening for your purge. I'm going back to VI with some more information.

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279:49:35 P7 Roger.

279:49:46 CC Gemini VII, that is just Section 1 we want purged.

279:49:50 P7 Understand.

279:51:18 CC Gemini VII, Carn ...

279:51:23 CC Gemini VII, Carnarvon.

279:51:25 P7 Go ahead, Carnarvon.

279:51:26 CC Okay. Can you turn your L-Band transponder on, please?

279:51:30 P7 Roger. It's on.

279:52:51 P7 Carnarvon, place your one purge to Section 2. Standing by.

279:52:55 CC Roger, VII. All right, turn your Primary Coolant Valve circuit breaker off.

279:53:05 P7 Is that for VII, Carnarvon?

279:53:06 CC That's affirm, for VII.

279:53:08 P7 Roger. Primary Coolant Valve coming off.

279:53:12 CC Radiator switch to BYPASS.

279:53:16 P7 Radiator switch is on BYPASS.

279:53:19 CC Secondary Pump B off.

279:53:22 P7 Secondary Pump B off.

279:53:24 CC Secondary Pump A on.

279:53:26 P7 Pump A's on in Secondary.

279:53:28 CC Okay, we'd like for you to pump your fuel cell H<sub>2</sub> tank pressure up to 550, your gage reading.

279:53:38 C7 "B" has been on all night, Carnarvon. That's as high as it will go.

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279:53:42 CC Okay. What do you show for the reading?

279:53:52 C7 510, Carnarvon.

279:53:54 CC Okay. Pump it up to 550, please.

279:53:57 CC No. He can't get it. The heater is on.

279:53:58 C7 We can't ...

279:53:59 CC Roger. Roger. Understand.

279:54:00 C7 That's as high as it will go.

279:54:01 CC Okay. Crossover switch OFF.

279:54:06 P7 Crossover is off.

279:54:09 CC Okay. We'd like your Cryo readouts, please.

279:54:13 C7 ...

279:54:14 CC Okay. We need to go to the ECS O<sub>2</sub> position, please.

279:54:18 C7 ECS O<sub>2</sub>. We're reading 840 pressure and about 50 percent, 49 percent.

279:54:32 CC Roger. Copy. Okay, you can put your Cryo Gaging switch to OFF, VII.

279:55:01 C7 Roger. It's off.

279:55:04 CC Okay. I have a flight plan update, if you're ready to copy. This is for VII.

279:55:12 P7 Go ahead, Carnarvon.

279:55:14 CC Okay. In node 281:49:30: Rev 176; 164.9 degrees west; west 51 minutes 26 seconds. Flight plan time line update: change 280:00:00 to 280:10:00. Did you copy?

279:55:53 C7 Roger.

279:55:55 CC Time: 280:26:39; GO/NO-GO at Guaymas. Two - Time: 280:28:51; double purge on Section 2 at Texas. Did you copy?

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279:56:17 C7 Roger.

279:56:19 CC Time: 280:47:40; PLA update at Canaries.  
Time: 281:23:41; crew status report, Command  
Pilot, at Carnarvon. Did you copy?

279:56:42 C7 Roger.

279:56:43 CC Okay. We're about to have LOS. We've got two  
or three more items. I don't know if I'll get  
them to you. The next item is a dim-light:  
Time, 281:48:00; Sequence Number 02; clouds,  
quarter moon; use exposure of 1 second and 5  
seconds. Did you copy?

## CANTON

280:09:19 CC Roger. Gemini VII, Houston.

280:09:22 C7 Go ahead, Houston. You're loud and clear.

280:09:23 CC Roger. Good morning, Frank.

280:09:26 C7 That's a question!

280:09:27 CC I'd like to request that you place your heater  
on so we can get the hydrogen pressure above  
the regulation pressure for a double purge.  
We'd request if you'd pump it to 550 psi then  
place your switch back in the AUTO position.

280:09:44 C7 All right, I'll do it.

280:09:46 CC And I have the continuation on your flight plan  
update that you were unable to get at Carnarvon.

280:10:06 C7 Go ahead.

280:10:08 CC Roger. Dim-light: Time, 281:48:00; Sequence  
02; clouds, quarter moon; use exposure of 1  
second and 5 seconds.

280:10:34 C7 Roger. Go ahead.

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280:10:36 CC Time: 282:04:07; crew status report, Pilot, at Texas. Time: 282:59:22; purge fuel cells at Carnarvon. Title, dim-light: perform Sequence 01 twilight band whenever possible. That's the end of the flight plan update.

280:11:19 CC Also, Frank, we'd request to know when you intend to get back out of your suits?

280:11:31 CC Gemini VII, Houston. We would like to know when you would anticipate getting out of your suits.

280:11:53 CC Gemini VII, Houston. Do you read?

280:14:05 P6 ... VII.

280:14:17 CC Gemini VII, Gemini VII, Houston.

## GUAYMAS

280:26:48 CC Gemini VII, Guaymas CAP COM.

280:26:52 P7 Go ahead, Guaymas.

280:26:53 CC Roger. We're ready for your GO/NO-GO quantities.

280:27:01 P7 Roger. Coming up.

280:27:05 C7 Okay, Guaymas. Batteries, main batteries all checked okay. Fuel cell stack readouts: 1A, 8.5; 1B, 9; 1C, 8.0.

280:27:17 C7 Of course, 2A, 2B, 2C are all 0 and they're open circuits.

280:27:21 CC What's the open-circuit voltage?

280:27:22 C7 ... 24.5, RCS A pressure is 3,000, temperature 80; B is 3,000, temperature is 80. Left-hand Secondary O<sub>2</sub>, 5,400; Right-hand Secondary O<sub>2</sub>, 5,300.

280:27:36 CC Roger. Copy.

280:27:39 CC Did you get the open-stack voltages?

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280:27:41 CC Give me the open-stack voltages on 2A, B and C.  
280:27:49 C7 2A is off-scale high, B is off-scale high, C is off-scale high. All three off-scale high.  
280:27:57 CC Roger.  
280:27:58 CC Okay. If you look all right there, you can give them a GO.  
280:28:02 CC Roger. We have you GO for 192-1. You have that  $T_R$  in your DCS at this time; it will not be updated at this time.  
280:28:10 C7 Thank you.

## TEXAS

280:28:55 CC Gemini VII, Texas CAP COM.  
280:28:57 P7 Go ahead, Texas.  
280:28:59 CC Roger. We'd like you to turn your Secondary Pump A off; Secondary Pump B on.  
280:29:06 P7 Roger. Secondary Pump A coming off; Secondary Pump B on.  
280:29:10 CC Radiator switch to FLOW.  
280:29:13 P7 Radiator's FLOW.  
280:29:15 CC Primary Coolant Valve circuit breaker closed.  
280:29:19 P7 Primary Coolant Valve circuit breaker is closed.  
280:29:22 CC And we'd like on-board readouts of Section 2 --  
280:29:31 P7 All Section 2 stack voltages are off-scale high, about 32 volts.  
280:29:38 CC Copy. Crossover on?  
280:29:40 P7 Crossover's on.

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280:29:43 CC And Fuel Cell Control Section 2 circuit breaker closed?

280:29:47 P7 Roger. Completed.

280:29:49 CC And standing by for a double-length purge on Section 2.

280:29:52 P7 I'd better put 2 back on the line.

280:29:56 CC Open circuit.

280:29:57 CC That's open-circuit purge.

280:30:04 CC Gemini VII, did you copy?

280:30:05 P7 Roger. You want 2 back on the main bus or do you want to leave it off for the double-length purge?

280:30:10 CC Leave it on - leave it off.

280:30:12 P7 Roger. Commencing double-length purge.

280:36:48 CC Gemini VII, Crossover off after 10 minutes.

280:36:51 P7 Roger. Crossover off after 10 minutes.

280:37:26 P6 VII, this is VI. Would you flip on your acquisition lights again for me, please?

280:37:33 P7 Acquisition on, VI.

280:37:36 C6 Roger.

280:44:21 P7 VI, VII.

280:44:23 C6 Go ahead, Jim.

280:44:24 P7 Want to wager who gets closest?

280:44:27 C6 ...

280:44:32 CC I need some payola there.

280:44:37 C6 We're going to make the bet out of contact with ground stations ...

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280:45:02 C7 This is Gemini VII ... this morning.  
280:45:07 CC Gemini VII, say again.  
280:45:10 C7 ... this morning.  
280:45:13 CC ... Houston again.

## CANARY ISLANDS

280:48:08 CC Gemini VII, Canary CAP COM.  
280:48:11 P7 This is VII. Go ahead, Canary.  
280:48:14 CC Roger. Mickey Mouse is here. Your status is GO here on the ground. What's yours?  
280:48:18 P7 Our status is GO here at the base.  
280:48:20 CC Okay. We have a PLA update for you, but would like to ask you a question first. We'd like to know when you're going to get out of your suits?  
280:48:32 P7 We're eating breakfast right now and as soon as we clean up we'll probably start getting out of the suits.  
280:48:36 CC Okay. Very good. Let me know when you're ready to copy.  
280:48:40 P7 We're ready now.  
280:48:41 CC Okay.  
280:48:44 CC 177-1: 281:47:18; 178-1: 283:22:27; 179-4: 286:15:35; 180-4: 287:51:14. Here's a goody, 181-3 Charlie: 289:08:41; 182-3: 290:44:13; 183-3: 292:19:45; RET 400K: 21 plus 40. Weather is good in all areas.  
280:50:17 P7 Thank you.  
280:50:18 CC Roger.  
280:50:53 CC VII, Canary.

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280:50:56 P7 Go ahead, Canary.  
280:50:58 CC Roger. Would you turn off your transponder.  
280:51:00 P7 Roger. Coming off.  
280:52:11 CC VII, Canary.  
280:52:12 P7 Go ahead, Canary.  
280:52:14 CC Roger. We'd like readouts when you have time on  
your ... 2A, B and C.  
280:52:21 P7 Roger. 2A is really low; it's around 1 voltage  
below amp - rather, 2B is  $2\frac{1}{2}$  and 2-Charlie is 3.  
280:52:33 CC Roger. What about 1?  
280:52:36 P7 1A is 4; 1B, 5; 1C, 4.  
280:52:42 CC Okay. We'll keep an eye on them.  
280:53:09 CC VII, Canary.  
280:53:11 P7 Go ahead.  
280:53:12 CC Roger. Is your Crossover switch OFF?  
280:53:14 P7 Roger.  
280:53:15 CC You have? Okay.  
280:54:00 CC VII, Canary. Would you open-circuit 2A?  
280:54:03 P7 Roger. 2A going open-circuit.  
280:54:26 CC Give me an open-circuit voltage on 2A, please.  
280:54:29 P7 Roger. 29.5.  
280:54:32 CC Roger. Steady?  
280:54:35 P7 It's slowly rising; it's now 29.8.  
280:54:38 CC Roger. We'll keep that open for awhile, okay?  
280:54:42 P7 Right.

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280:55:06 CC VII, let's leave that 2A open-circuit. Okay?  
And keep an eye on the open-circuit voltage and  
we'll take a real close look at it at Carnarvon.

280:55:15 P7 Will do.

280:55:22 CC Tell you what. Why don't you flip 2A back on  
line, one five, 15 minutes?

280:55:26 P7 2A back on the line in 15 minutes. Roger.

280:55:29 CC Roger.

## KANO

281:00:33 CC Gemini VII, Houston. Gemini VII, Houston.

281:00:56 CC Hello, Gemini VII, Houston.

281:01:12 CC Gemini VII, Gemini VII, Houston.

281:01:28 CC Gemini VII, Gemini VII, Houston.

## TANANARIVE

281:07:26 CC Gemini VII, Houston. Gemini VII, Houston.

281:07:42 CC Gemini VII, Gemini VII, Houston.

281:07:47 C7 This is Gemini VII.

281:07:49 CC Hello, Gemini VII. Could you tell me what the  
status of Section 2 is?

281:07:54 C7 Section 2A is open-circuited, 2B is carrying  
3 amps, and 2C is carrying about  $3\frac{1}{2}$  amps.

281:08:03 CC How are your voltages?

281:08:06 C7 2B,  $2\frac{1}{2}$ ; 2C, 3.

281:08:11 CC May I have the open-circuit voltage on Stack 2A?

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281:08:16 C7 31 volts.  
281:08:18 CC Three-one volts.  
281:08:20 C7 Roger.  
281:08:50 C7 We're supposed to put Stack 2A back on the line  
in 2 minutes, Charlie.  
281:08:54 CC Roger. Stack 2A back on the line in 2 minutes.  
281:09:00 CC Houston is standing by.

## TANANARIVE

281:10:51 C7 Houston, GEMINI VII.  
281:10:54 CC Gemini VII, Houston.  
281:10:56 C7 Okay. 2A is back on the line but it's only  
carrying about 1/2 amp.  
281:11:02 CC Roger. Suggest that we take it off.  
281:11:04 C7 Roger. We'll take it off.  
281:11:24 CC Thank you.  
281:11:25 CC Gemini VII, Houston. Did you hear me calling  
at Kano, please?  
281:11:30 C7 Roger. And 2A is back off the line.  
281:11:33 CC Roger. Understand. 2A is off the line.  
281:11:43 CC Did you hear any transmission from Houston over  
Kano, please?  
281:11:47 C7 Negative.  
281:11:50 CC Thank you. We'll be standing by.  
281:11:55 C7 You want this left off for good now. Is that  
right, Charlie?

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281:11:58 CC I beg your pardon?  
281:12:00 C7 Is 2A to be left off for good?  
281:12:03 CC We'll take another look at it at Carnarvon,  
Frank.

## CARNARVON

281:23:47 CC Gemini VII, Carnarvon CAP COM. We have a valid  
temperature. Standing by for your blood  
pressure.  
281:23:55 CC Gemini VII, this is Carnarvon Surgeon. We're  
standing by for blood pressure.  
281:24:00 C7 Coming down.  
281:24:06 CC Your cuff is full-scale.  
281:24:56 CC Gemini VII, I have a valid blood pressure.  
281:25:00 C7 MARK on the exercise.  
281:25:27 CC Cuff is full-scale.  
281:26:20 CC Gemini VII, have valid blood pressure. Would  
you give us your food, water and sleep report,  
please?  
281:26:27 C7 Roger. Command Pilot has had 949 ounces of  
water. Last night we had Day 9, Meal C. This  
morning, Day 13, Meal A and the Command Pilot  
did not eat the sausage. Total in Column 6 is  
31 for the Command Pilot, Column - correction -  
Column ... Column 6 is 6.  
281:26:46 CC Would you repeat these a little bit slower?  
281:26:51 C7 Roger. 949 ounces of water.  
281:26:54 CC Affirm.  
281:26:55 C7 Last night, Day 9, Meal C. This morning, Day 13,  
Meal A minus the sausage for the Command Pilot.

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281:27:04 C7 531 double Column 6, 6.  
281:27:09 CC And your sleep report, please.  
281:27:11 C7 Roger. About 5 hours of moderate sleep.  
281:27:16 CC What was the water for the Pilot, please?  
281:27:21 C7 The Pilot's had 796 ounces. Same meals except he ate everything. Total in Column 5 is 28, Column 6 is 6. He had the same amount of sleep.  
281:27:35 CC Would you confirm the reasons for the loss of BIO-MED recorders from the Pilot. Is he changing suits?  
281:27:43 C7 That's correct.  
281:27:45 CC Thank you. Carnarvon Surgeon out.  
281:31:29 CC Gemini VII, Carnarvon CAP COM. Would you place 2-Alpha back on the line?  
281:31:34 C7 Roger.  
281:31:56 C7 It is back on the line, holding 1 amp.  
281:31:59 CC It is holding at 1 amp?  
281:32:03 C7 And 2C has deteriorated to 1½ amps.  
281:32:07 CC Roger.  
281:32:27 CC Gemini VII, would you keep a close check on 2A? If it goes below 1 amp, open-circuit it for 20 minutes.  
281:32:39 C7 Roger.

## CANTON

281:44:48 CC Gemini VII, Gemini VII, Houston CAP COM. How do you read?  
281:44:54 C7 Read you loud and clear, Houston. Go ahead.

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281:44:57 CC Roger. Have a flight plan update when you're ready to copy.

281:45:01 C7 We have 2A off the line again. It went below 1 amp.

281:45:16 CC Roger, VII.

281:45:24 C7 ... update. I'm ready to copy.

281:45:29 CC Say you're ready to copy, VII?

281:45:37 C7 Say again, Houston.

281:45:39 CC You say you are ready to copy?

281:45:53 C7 Houston, go ahead.

281:45:54 CC Roger. Time: 283:23:18; pitch 10 degrees down, yaw 0 degrees; photograph GT-VI retrofire and reentry. This time is GT-VI retrofire. Time: 283:30:00; power-up platform over Hawaii; A Pumps on prior to power-up. S-5: Time, 284:15:00; Mode 01; pitch down 90 degrees, then yaw 20 degrees left. South Africa, MSC-4: 285:03:51; Sequence 06; Mode 01; pitch 30 degrees down, yaw 27 degrees right; go to Mode 03 when station acquired. Time: 285:16:00; fuel cell purge and power-down. Do you copy?

281:47:59 C7 Roger. We copy.

281:48:03 CC We'll keep an eye on Section 2 and we may have to delete the platform power-up.

281:48:12 C7 Roger. 2-Charlie is 1 amp and I think - I think we're finally losing Section 2.

281:48:20 CC Roger. We're continuing to watch it with you.

281:48:24 C7 Okay.

281:48:50 CC Gemini VII, if 2-Charlie goes below 1 amp, take it off the line also.

281:48:57 C7 Roger.

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281:49:04 CC Gemini VII. Confirm you are on standby transmitter with real-time telemetry and we want you to remain on this until the end of Rev 178, so Kwajalein can record your D-4 data on their standby frequency.

281:49:30 C7 We are on that frequency.

281:49:33 CC Roger.

281:49:34 C7 Houston, do you want us to try to put those stacks back on after we open-circuit them?

281:49:41 CC Roger. After being open 20 minutes, try putting them back on again.

281:49:48 C7 Roger.

281:54:13 CC VII, Hawaii.

281:54:15 P7 This is VII. Go ahead.

281:54:18 CC Good morning. How are you doing?

281:54:20 P7 We're doing ... sleep.

281:54:23 CC Okay. Could you give me a count off your water gun?

281:54:30 P7 Right. Our water gun is 4210.

281:54:33 CC 4210. Roger.

281:55:43 CC VII, could you give me the open-circuit voltages on the two stacks you have open?

281:55:48 P7 We only have one stack open. 2A is 31.2.

281:55:52 CC Roger.

282:03:11 C6 Gemini VII, Gemini VI. Can you see us?

282:03:15 C7 Negative.

282:03:22 C7 Sure can't.

282:03:23 C6 You can now, can't you?

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282:03:26 C7 No. Sure can't, Wally.  
282:03:28 C6 We're in the light. We'll put the docking light on.  
282:03:32 C7 We're just drifting. I don't know which way we're looking at.  
282:03:35 C6 Okay.  
282:04:05 P7 Houston CAP COM. Can you read Gemini VI?  
282:04:41 CC Gemini VII, Houston. Did you call?  
282:04:44 P7 Roger. Just wanted to know if you were up on the air today.  
282:04:47 CC Roger.  
282:04:51 C6 Roger, Houston.  
282:04:52 C6 Gemini VII, this is Gemini VI. We have an object, looks like a satellite going from north to south, probably in a polar orbit. He's in a very low trajectory traveling from north to south and has a very high climbing ratio. It looks like it might even be a ... very low. Looks like he might be going to reenter soon. Stand by one ... You might just let me try to pick up that thing.

(Music - JINGLE BELLS - from Spacecraft VI)

282:05:44 P7 We got them too, VI.  
282:05:48 C6 That was live, VII; not tape.  
282:05:58 CC You're too much, VI.  
282:06:01 C6 ...  
282:06:05 C7 Houston, VII here.  
282:06:07 CC Go ahead.  
282:06:08 C7 We've had to take 2A off the line three straight times now. I suggest we leave it off.

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282:06:14 CC Roger. What's your open-circuit voltage showing now, Frank?

282:06:18 C7 31 volts.

282:06:25 C7 And I'd also like to delete the platform power-up and make this thing go 14 days.

282:06:32 CC We may cancel that platform power-up as I told you depending on how Section 2 is looking at this time and we also want to keep the option open on 2A. We want to keep trying it.

282:06:47 C7 2-Charlie is almost below 1 amp also.

282:06:49 CC Roger. We copy.

282:06:51 C7 And Lovell's got the thermometer in his mouth.

282:06:55 CC Roger.

282:07:04 CC VII, the temperature is coming up and also the open-circuit voltages indicate these should be good cells. So we aren't ready to give up on them yet.

282:07:13 C7 Okay.

282:09:27 CC Gemini VII, you can take the oral temp probe out of your mouth. We're not getting a satisfactory reading now.

282:09:33 C7 Roger.

282:15:46 CC Gemini VII, Houston.

282:15:47 C7 Go ahead, Houston.

282:15:49 CC We're going to catch your crew status report on another pass. We're not receiving your data anymore since you're past Texas and we had to do the reentry updates on VI.

282:15:58 C7 Roger. We're going to try to put 2A back on the line again now.

282:16:01 CC Roger. Is the open-circuit voltage up any?

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282:16:04 C7 Wait a minute. Negative. 31.2.  
282:16:08 CC 31.2. Roger.  
282:17:16 C7 Houston, VII here. This goes immediately down to about half an amp.  
282:17:21 CC Roger. Take it off again for 20 minutes.  
282:19:43 CC Gemini VII, Houston.  
282:19:46 P7 Go ahead, Houston.  
282:19:50 P7 Go ahead, Houston. VII here.  
282:19:52 CC Stand by a minute, VII.  
282:20:19 CC Gemini VII, Houston.  
282:20:22 P7 Go ahead, Houston.  
282:20:24 CC We'd like to have you put 2A back on the line and leave it on there for 20 minutes, even though it is below 1 amp. We'd like to see if it doesn't come up some.  
282:20:33 P7 Roger.  
282:20:38 CC If it stays below 1 amp for 20 minutes, then take it off the line again for 20 minutes.  
282:20:45 P7 Roger.  
282:20:47 CC And we'll be checking with you again at Kano.  
282:20:50 P7 Roger.  
282:21:13 CC Gemini VII, Houston.  
282:21:15 P7 VII here.  
282:21:17 CC Could you confirm your suit configuration on both Pilots?  
282:21:21 P7 Roger. We're in a state of transition. I'm out of my suit completely and already stowed, and Frank is in the process of getting out of his.

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282:21:29 CC Roger, VII.

## CANARY ISLANDS

282:27:15 CC Does the absence of BIO-MED data on the Command Pilot mean that he is getting into his suit?

282:27:17 P7 That is affirmative. He has all ... suit ...

282:27:20 CC Roger. Thank you.

282:27:24 CC VII, Canary.

282:27:30 P7 Go ahead.

282:27:33 CC Okay. We'd just like to give you the word here. We'd like for you to keep an eye on the Spacecraft VI adapter after separation.

282:27:41 P7 We'll do our best. And by the way, 2A is a little under 1/2 amp now.

282:27:48 CC Roger. We monitor that on the ground.

282:28:20 C7 MARK. Exercise.

282:28:21 CC Roger.

282:28:26 C7 Blood pressure coming down.

282:29:45 CC We have a valid blood pressure. Canary Surgeon out.

282:29:49 P7 Roger.

282:29:50 CC VII, Canary. Let's leave all three stacks up for awhile. Okay?

282:29:54 P7 Roght. Let's see - 2C is about 1 amp and 2A is still a little under an amp.

282:59:37 P7 ... urine ... photograph of the buildup of the fuel pump buildup, and at ... cloud formation ...

283:03:59 CC Gemini VII, Carnarvon CAP COM.

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283:04:02 C7 This is VII here.

283:04:04 CC9 Roger. We'd like to have you check the open-circuit voltages on that Section 2.

283:04:11 C7 Roger. We just tried to put 2A back on the line but it went below, almost to zero. Its open-circuit voltage now is 30.2 amps.

283:04:25 C7 You want us to run a test on 2B open circuit?

283:04:29 CC That's negative, that's okay. Go ahead with the purge on it. This is a normal purge on the complete two sections.

283:04:43 C7 Roger. Doing the Section 1 first.

283:05:08 CC Be advised, VII, that you are having trouble with that Section 2. You will not do the power-up over Hawaii.

283:05:18 C7 Roger. We have 2A off the line now. Do you want us to put it back on the line and purge it?

283:05:25 CC That's affirmative.

283:05:28 C7 Okay.

## HAWAII

283:28:06 CC VII, Hawaii.

283:28:09 P7 Go ahead, Hawaii. This is VII.

283:28:10 CC Okay. We're showing you real good here on the ground except the 2-Alpha which is off.

283:28:13 P7 My what?

283:28:15 CC Except for Stack 2A. We're showing that as off. Is that affirm?

283:28:17 P7 That's affirm and we're leaving our thrusters off. Thrusters 3 and 4 are gone.

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283:28:22 CC Roger. What time?

283:28:24 P7 Let's see. 5 minutes ago.

283:28:26 CC Roger.

283:28:32 C6 Really a good job, Frank and Jim. We'll see you on the beach.

283:28:35 C7 Okay, Wally.

283:28:36 C6 Did you have a chance to see us during that ...

283:28:39 C7 We couldn't get a picture of you because we don't have any thrusters now.

283:28:42 C6 Roger. Did you have a chance to see though?

283:28:44 C7 No.

283:28:45 C6 Okay.

283:31:28 CC VII, Hawaii. We'll be standing by. We'll be seeing you next revolution.

283:31:32 C7 Roger.

283:39:32 CC Gemini VII, Houston. How do you read?

283:39:34 C7 Loud and clear ...

283:39:37 C6 Roger. Are you having any attitude control problem with those two thrusters out?

283:39:42 P7 Roger. We're trying to control it by pitching and rolling.

283:39:46 CC Roger. We'll be with you shortly.

283:39:48 C7 Understand. Also we've got 2A off the line for good, Elliot.

283:39:54 CC Thank you, Frank.

283:47:38 CC Gemini VII, Houston. How do you read?

283:47:41 P7 Loud and clear.

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283:47:43 CC Roger. VI is in blackout now. Are you able to see the reentry?

283:47:47 P We don't have any attitude control, Elliot. We're just drifting.

283:47:50 CC Roger.

283:48:20 CC Gemini VII, Houston. We'd like a brief comment from you here while we're in blackout with VI as to whether both of those thrusters failed at the same time.

283:48:31 P Roger. I'm not getting any roll, just no yaw.

283:48:42 P We can hear ... closing.

283:48:45 CC Roger.

283:48:59 CC Have you started to do some of your troubleshooting procedures yet or you waiting to talk?

283:49:05 P We're starting ourselves but we didn't want to say anything officially.

283:49:10 CC Roger. We'll be with you shortly.

283:54:48 P ... at the Caribbean cloud formation ... water.

283:55:43 P ... Have been out of the suits ...

283:56:46 C ... say again.

283:57:23 C It's low on amps.

283:57:32 C It's low on amps. Is that it?

283:57:36 P What?

283:57:47 C One amp.

283:57:54 P ...

283:58:49 C You know, by gosh, Jim.

283:58:51 P It's going.

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283:59:44 C What?

283:59:56 P Totals on cloud formation over the - the last ...

283:59:59 C That's the best spot.

284:05:40 CC Gemini VII, Gemini VII, Houston CAP COM. How do you read?

284:06:05 CC Gemini VII, Gemini VII, Houston CAP COM. How do you read?

284:18:22 P The photos of South Africa, 418, were covered with magazine - movie magazine one frame per second of S0217 ... 215 which is taken approximately every one third ...

284:19:58 CC Gemini VII, Gemini VII, Houston. How do you read?

284:20:07 C Go ahead, Houston. You're loud and clear.

284:20:11 CC Gemini VII, Houston.

284:20:13 CC Gemini VI is down safely approximately 11 miles or 12 miles from the Wasp. The Wasp is proceeding to pick them up. Can you confirm your Auxiliary Heater on and your OAMS Heater circuit breaker on?

284:20:23 C Stand by.

284:20:30 C Roger.

284:20:34 CC Roger, VII. Can you explain anything further to us at this time on your MP control?

284:20:44 C Thrusters 3 and 4 are not igniting properly. We have gotten a little bit out of them indirectly. ... oxidizing the fuel, then squirting it out all right. But it just seems like we're not getting proper ignition.

284:21:01 CC Roger, VII.

284:21:19 CC Have you checked them individually, and can you confirm that they're both doing the same thing?

284:22:03 CC Gemini VII, Houston. Did you copy?

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284:22:46 CC Gemini VII, Houston. Do you read?

284:22:50 C Read you now. We turned each - when - we can hear the solenoids clicking, but no reaction.

284:22:57 CC Roger. And you've confirmed this is the same on each one separately?

284:23:21 CC Gemini VII, Houston. How do you read?

## CARNARVON

284:35:34 CC Gemini VII, Carnarvon CAP COM.

284:35:36 P Go ahead, Carnarvon. Gemini VII.

284:35:38 CC Roger. We have a little information for you about VI. They're just a few miles from the carrier. They're going to bring them aboard in the space-craft and everything is secure. Everything's looking real good.

284:35:52 P Very fine. Did you get any word about our OAMS problem?

284:35:58 CC Roger. I understand you lost two thrusters.

284:36:01 P Roger. We're also now picking up about 2-amp spikes on our main bus voltage every 9 seconds. It's exactly 9 seconds, and it's about a 2-amp spike.

284:36:12 CC Roger. Copy.

284:36:57 CC Gemini VII, would you try turning off your OAMS Heater circuit breaker to see if this stops the spiking and, after you've had it off a short time, put it back on?

284:37:06 P Roger.

284:37:27 P Negative. It did not stop it.

284:37:30 CC Roger.

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284:37:44 CC We've got a bunch of experts back there at Houston looking into this thing and as soon as they come up with anything, they'll sure let you know.

284:37:51 P Okay.

284:38:10 CC Gemini VII, Carnarvon CAP COM. What mode were you in when the thrusters failed, and what have you checked so far?

284:38:18 P We were in the Pulse Mode and we've checked the individual thrusters. We've checked Direct, and we've established that we can maintain attitude control but with very poor efficiency by blowing whatever it is that's coming out, either oxidizer or fuel. And we can hear the solenoids clicking.

284:38:41 CC You say you can hear the solenoids clicking?

284:38:43 P Roger.

284:39:12 CC We're showing 2-Charlie at roughly 2 amps here on the ground.

284:39:17 P Okay. It looks like 1 amp to us up here.

284:39:46 CC Gemini VII, Carnarvon. Have you attempted the secondary attitude drivers?

284:39:52 P Roger. We'll do that now.

284:39:53 CC Roger.

284:39:55 P I'm sure the driver is on. We think they're on, but we'll try it.

284:40:30 P That would be exactly as the primary, Carnarvon.

284:40:33 CC Thank you, Gemini VII. Copy.

284:40:53 CC Gemini VII, would you place your DCS Power circuit breaker to the ON position?

284:40:57 P On.

284:40:59 CC Roger. I'm going to set a couple of relays.

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284:41:01 P Okay.

284:41:36 CC Gemini VII, would you try turning the ACME Inverter off and see if that helps that spiking?

284:41:41 P Yes, we've already tried that. It does not work.

284:41:45 CC Roger.

284:41:46 CC I'd like you to change your switch configuration here if you would. I'd like you to go to - let's see - C-Band Adapter switch to COMMAND; C-Band Reentry switch to COMMAND.

284:42:00 P Roger. C-Band Adapter and Reentry are COMMAND.

284:42:03 CC Standby off.

284:42:06 P Standby is off.

284:42:08 CC T/M switch to COMMAND.

284:42:10 P T/M is at COMMAND.

284:42:12 CC R/T Transmitter circuit breaker on.

284:42:16 P R/T Transmitter on.

284:42:19 CC Dump Time circuit breaker on.

284:42:22 P Say again, please.

284:42:23 CC Dump Transmitter circuit breaker on.

284:42:27 P Delay Time is on.

284:42:29 CC Standby Power circuit breaker on.

284:42:36 P They're on.

284:42:37 CC Okay. Standby Control circuit breaker on.

284:42:39 P It's on.

284:42:40 CC ACQ-AID Beacon on.

284:42:42 P Roger. ACQ-Beacon on.

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284:42:45 CC And C-Beacon circuit breaker on.  
284:42:50 P It's on.  
284:42:52 CC Roger.  
284:43:31 CC Gemini VII. Would you switch Fuel Cell Control circuit breaker Number 2 to the OPEN position?  
284:43:39 P It is in the OPEN position.  
284:43:41 CC See if the Secondary ACME Bias supply helped either problem.  
284:43:53 P Roger. We'll see.  
284:46:13 P A general comment: there is no moon; the stars are really bright compared to the moon.

## HAWAII

285:00:59 CC Gemini VII, Hawaii CAP COM.  
285:01:01 C Go ahead, Hawaii.  
285:01:02 CC Okay. How are you doing?  
285:01:03 C Pretty good. We coped with the spike in the main bus.  
285:01:06 CC Oh, go ahead.  
285:01:08 C We had inadvertently left the IR switch on and it was cycling through when we were looking for VI's reentry.  
285:01:13 CC Roger.  
285:01:21 CC Okay. They were right with you in Houston. That was the first thing I was going to ask you: RED switched off.  
285:01:26 C Roger.  
285:01:27 CC Very good.

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285:01:31 CC Your friend, Capt. Brentnall, came up with that one.

285:01:34 P Yes.

285:01:36 CC Okay. We're showing you GO here on the ground.

285:01:38 P Roger.

285:01:43 C What are you reading on 2-Charlie now, Hawaii?

285:01:46 CC Hang loose here a second.

285:01:51 CC What's your readout?

285:01:53 C 1/2 an amp. We're standing by to turn it off.

285:01:55 CC Roger.

285:01:58 CC 1/2 amp.

285:02:06 CC Take 2-Charlie off the line.

285:02:14 C ... the only thing - one - we have going in this second section is 2B.

285:02:19 CC Okay. Give me a readout on open-voltage, Stack 2-Charlie.

285:02:29 P 29 volts, slowly rising.

285:02:33 CC Roger.

285:03:27 CC VII, will you leave that Stack 2-Charlie off the line until further advised?

285:03:32 P Roger. Leave it off until further advised.

285:03:52 CC We would like to know, when you tried you Secondary ACME Bias, whether you did get any effects off of that?

285:03:57 C No, it's the same as Primary.

285:03:59 CC Roger.

285:04:07 C We pushed them individually, and at nighttime we

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can see them firing, but you're not getting half of the impulse out of them that you get out of the others.

- 285:04:15 CC Roger. If you can look down, how about taking a look and see if you can see my laser?
- 285:04:22 P Okay. Just a minute.
- 285:04:24 CC Okay. Look about 110, if you can square yourself away.
- 285:05:12 CC Look 154 degrees, 154.
- 285:05:19 P Roger. We're just getting sunrise now.
- 285:05:52 CC Okay. Your Coeds Number VI are on the carrier deck and they're climbing out.
- 285:05:56 C Very good.
- 285:06:19 CC Flight, we're getting a pretty heavy cloud coverage. Do you want - you can knock off that laser bit, now.
- 285:06:25 C Okay. We're right on top of you and we can see you.
- 285:06:28 CC Roger.
- 285:06:33 CC When you fire 3 and 4 individually, you do get some fluid out of them, do you?
- 285:07:43 C Well, we have been just drifting so it's hard to say at random - I wouldn't think one part of it would be apt to be colder than the other.
- 285:07:50 CC I was wondering when you were chasing VI, you were BEF, weren't you?
- 285:07:55 C Right.
- 285:07:57 CC Okay. Were these thrusters on the side away from the sun, do you know?
- 285:08:06 C I was just trying to remember where the sun was.

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285:08:08 CC Okay.  
285:08:21 C ... like it's been on the warm side.  
285:08:23 CC Did you say it was on the warm side?  
285:08:25 P Roger. They're on the right-hand side of the spacecraft.  
285:08:28 CC Okay, thank you.  
285:08:40 P No. They would have been on the cold side when we were BEF.  
285:08:42 CC Okay. Very good.  
285:08:50 C We didn't notice it till we tried to stop the drift that was built up during the night, this morning.  
285:08:53 CC Roger. Understand.

## GUAYMAS

285:12:16 CC Gemini VII, Houston CAP COM. How do you read?  
285:12:20 P Loud and clear, Houston.  
285:12:22 CC Would you give us an open-circuit voltage on 2-Alpha and 2-Charlie?  
285:12:27 P 2-Charlie is 31 volts; 2-Alpha is 30.2.  
285:12:37 CC Roger.  
285:12:39 C 2-Alpha has been off the line for over an hour, Elliot.  
285:12:46 CC Roger, VII. We plan to put 2-Charlie back on the line at Texas acquisition. We'll call you on that.  
285:12:53 C Roger. It's been off 10 minutes and 40 seconds.  
285:12:55 CC Roger.

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- 285:12:59 CC I'll give you some flight plan update items here and we'll probably be discussing your OAMS problem with you further. We have nothing at the present time, nothing further to discuss with you on it, but we will have very quickly, I'm sure.
- 285:13:12 C One of the items that Jim and I were both mentioning is that, these are the two thrusters that we used most of the time to do the actual venting.
- 285:13:20 CC Roger. We're aware of that.
- 285:13:27 CC Let me know when you're ready to copy your update.
- 285:13:29 P Go ahead, Elliot.
- 285:13:32 C Go ahead.
- 285:13:33 CC Okay. I have an Apollo here. I doubt if you'll be able to get it because of no attitude control, but I'll give it to you just in case. 285:23:48: Sequence 10; Mode 01; pitch 30 degrees down, yaw 9 degrees right. Stand by, VII.
- 285:14:17 CC Gemini VII, have you opened the 3 and 4 circuit breakers yet? And if not, we would like them open at this time to observe any possible change of temperature problem there.
- 285:14:32 P We have opened them. They're closed now. Do you want them opened again?
- 285:14:35 CC Roger. Open them now, and we'll watch them across the States.
- 285:14:48 P 3 and 4 are opened.
- 285:14:49 CC Roger.
- 285:15:44 CC VII, you might as well - might as well go ahead with this flight plan update.
- 285:15:51 P Go ahead.
- 285:15:53 CC 285:30:00: exercise and eat period; 285:00:00: BIO-MED Recorder Number 1, CONTINUOUS; 287:10:00: crew status report on the Command Pilot, and

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purge fuel cells at the RKV. Copy so far?

- 285:16:35 P Yes.
- 285:16:38 CC Okay. Now I have three dim-lights again; you wouldn't be able to do them without attitude control, but we'll give them to you just in case. Dim-lights: 287:30:00; Sequence 03; Mode 01; this is post-sunset. And we have a comment we've added that says: do not go beyond 40 frames total on high-speed black-and-white magazine. Do you copy?
- 285:17:17 P Roger.
- 285:17:20 CC Dim-lights: 287:45:00; Sequence 03; Mode 03; south horizon, use 120-second exposure time in place of 10 second. Dim-lights: 288:00:00; Sequence 03; Mode 05; presunrise; dark time is 3 minutes prior to sunrise. Do you copy?
- 285:18:10 P Roger.
- 285:18:11 CC Stand by.
- 285:18:17 CC Gemini VII, Houston. Would you give us a 2-Charlie open-circuit voltage?
- 285:18:27 P 2-Charlie is reading 31.4 volts.
- 285:18:30 CC Roger. Would you put it back on the line at this time.
- 285:18:39 P 2-Charlie is back on the line.
- 285:18:41 CC Roger. And could you give us a current reading?
- 285:18:50 P 2-Charlie reading just slowly past 1 amp.
- 285:18:54 CC Roger. And 2-Baker?
- 285:18:58 P 2-Baker is reading about 3 1/2.
- 285:19:00 CC Roger.
- 285:19:42 CC Gemini VII, Houston. Would you take 2-Charlie back off the line at this --

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285:19:52 P 2-Charlie's back off the line.

285:19:54 CC Roger.

285:20:00 CC Would you give us a propellant quantity reading, Gemini VII?

285:20:06 C That's about 9 percent.

285:20:08 CC Roger. 9 percent.

285:20:33 CC Okay, VII. We'll continue with our flight plan update. 288:13:00: crew status report on the Pilot at Hawaii. 288:25:00: flight plan report. 289:00:00: BIO-MED Recorder Number 1 off. Dim-light: 289:04:30; Sequence 02; cloud, no moon. MSC-4: 289:51:39; Sequence 05; Mode 01; pitch 30 degrees down, yaw 18 degrees right; switch to Mode 03 when acquired. 290:21:00: PLA update at RKV. 291:06:00: purge fuel cells at CSQ. 291:06:00: BIO-MED Recorder Number 2, CONTINUOUS. Do you copy?

285:22:27 P VII. Roger.

285:22:56 CC Elliot, how much longer do you want us to leave these circuit breakers off on 3 and 4?

285:23:02 CC We're monitoring the temperature now. We'll call you in a minute.

285:23:05 CC Okay.

285:23:06 CC Do you need them right now?

285:23:08 CC To keep more attitude control so we don't get any big reads - so if we can catch them when they're smaller - we'll still have enough to stop them.

285:23:14 CC Okay. We'd like to watch them just a minute more, here.

285:23:18 CC No problem now. Also, I don't think it would be possible to track, the way the situation is right now.

285:23:23 CC Roger. We understand that.

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- 285:23:42 CC Gemini VII, would you give us another readout on 2-Able and 2-Charlie?
- 285:23:50 P 2-Able reads 30.2 volts; 2-Charlie reading 30.9 volts.
- 285:24:00 CC Roger. We would like to put them back on the line at this time, and then turn the Power switch off to take the entire section off the line at this time. You'll need your Control circuit breaker for that.
- 285:24:17 P Roger. 2-Able and 2-Charlie back on the line and the Power switch to position OFF.
- 285:24:22 CC Roger, VII.
- 285:24:30 P Have accomplished.
- 285:24:32 CC Roger. And your circuit breaker back off, of course.
- 285:24:36 P Roger.
- 285:25:00 CC VII. We show your Number 3 thruster temperature coming up now. We'd like to leave those circuit breakers open for a little bit longer here.
- 285:25:12 P Roger.
- 285:25:16 P We're trying to keep it oriented into the sun as much as we can.
- 285:25:20 CC Roger. Do you think you could go for a revolution without those breakers? We would like to keep them open that long if you think you can manage that long.
- 285:25:28 P We can. ... drifting. Go ahead and do it.
- 285:25:33 CC Okay. Very good.
- 285:25:48 CC Gemini VII, do you have any reason to believe that the water boiler is still venting at this time?
- 285:25:54 C Negative.

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- 285:25:56 CC Roger. And of course if you have need for these thrusters, you're free to put them back on, but we'd like to leave them off for a full revolution if you can manage it.
- 285:26:06 C The only thing we'll need it for is if we just get too big a drift rate.
- 285:26:10 CC Roger.
- 285:26:13 C I'd like to save some extra fuel ... with this limited authority we can align the platform with the OAMS.
- 285:26:21 CC Roger, Frank.
- 285:26:36 CC VII, did you observe the adapter from VI after the separation, and how did it travel with respect to you after they jettisoned it?
- 285:26:45 C We didn't even see VI retrofire. See, we were drifting very, very badly and when we tried to stop it, we found we didn't have any authority and it took a long time to get it stopped.
- 285:26:55 CC Roger.
- 285:26:57 CC So you did not see any of their retrofire or reentry?
- 285:27:01 C This is affirmative.
- 285:27:03 CC Roger.
- 285:29:12 CC VII, do you still copy Houston?
- 285:29:14 P Roger. Go ahead.
- 285:29:16 CC Okay. I'd like some information here on your cockpit setup as far as unsuited operation. Could you tell me your hose locations again, briefly, on the red and blue hoses?
- 285:29:30 P Each red hose, which is our suit outlet hose, is located at the by-pass stowed position with the screen on. Each blue hose, or inlet hose, is hooked onto the centerline storage box on each side of the seat.

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- 285:29:50 CC On the - on the outside of the seat? No, inside of the seat that would be, wouldn't it?
- 285:29:57 P Roger. It's pointed out of ... hose on each side of the seat.
- 285:30:02 CC Pointing aft?
- 285:30:08 CC Okay. On your Suit Flow-Valve position.
- 285:30:13 P ... on the Suit Flow Valves ...
- 285:30:16 CC Now the - the flow valves --
- 285:30:22 P FULL FLOW on the Suit Control Flow Valves.
- 285:30:25 CC Roger. FULL FLOW on both.
- 285:30:28 CC Cabin Heat Exchanger cool and flow setting.
- 285:30:38 P FULL COLD and both suit flows are full increased.
- 285:30:54 CC VII, check that again, now. I think you mean the Suit Flow setting is FULL COLD and the Cabin Flow setting is FULL HOT.
- 285:31:03 P Roger. That's affirm. By your ... the cabin flow. I'm sorry.
- 285:31:06 CC Okay, Recirc Valve position?
- 285:31:09 P Recirc is at the 45-degree position.
- 285:31:14 P Although, we have been flying with it in the FULL-CLOSED position.
- 285:31:18 CC Roger.
- 285:31:29 CC Okay. One or two suit fans?
- 285:31:32 C One.
- 285:31:36 CC Understand one suit fan. In A or B pump?
- 285:31:40 C B pump.
- 285:31:42 CC Roger. And I assume that you find that this is a comfortable setting.

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285:31:45 P Little chilly right now, as a matter of fact.  
285:31:48 CC Okay.

## ROSE KNOT VICTOR

285:37:56 CC Gemini VII, RKV. We have nothing for you this time. You need not acknowledge. We're standing by. All systems are GO.  
285:38:05 P This is VII. Roger, RKV. Do you know when our next fuel cell purge is?  
285:38:10 CC Roger. Your next fuel cell purge will be over us on your next revolution. That will be Rev 180.  
285:39:05 CC Gemini VII, RKV.  
285:39:07 C Go ahead, RKV.  
285:39:08 CC Would you give us the open-circuited voltages on Section 2?  
285:39:12 C Roger. 2C is reading 31.2.  
285:39:15 CC Roger.  
285:39:17 C 2B off-scale high, above 32.  
285:39:19 CC Roger.  
285:39:25 C7 And 2A is reading 32 volts.  
285:39:27 CC Roger.

## TANANARIVE

285:56:59 CC Gemini VII, Gemini VII, Houston.  
285:57:09 C This is Gemini VII. Go ahead.  
285:57:11 CC Roger. Have you been able to observe the color of the fluid from Thrusters 3 and 4 when it was not firing well?

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285:57:49 CC Gemini VII, Houston. Did you copy the question?

285:57:53 C ... just a flash of light. We can't see it very well.

285:57:59 CC Roger. Can you give me open-circuit voltages on Section 2?

285:58:41 CC Gemini VII, Houston. Could you give us a readout on Section 2 voltages?

285:58:49 C Roger. 2A is 32 volts, 2B is off-scale high, 2C is 32 volts.

285:59:02 CC Understand. 2A is 32; 2B, off-scale high; 2C, 32.

285:59:11 C Roger. Did you read that we have a Delta-P light on Section 1 now, also?

285:59:16 CC Roger. Delta-P light on Section 1.

285:59:20 C Both A and B, both on Delta-P lights.

285:59:24 CC Understand. Section 1 and 2, Delta-P lights.

285:59:29 C Roger.

286:00:09 CC Gemini VII, Houston. We want to leave the sections as they are. We will contact you at Carnarvon.

286:00:17 C Thank you very much.

286:00:25 CC How's the tumbling?

286:00:27 C It's not too bad now.

286:00:29 CC Roger.

286:05:50 C Borman's dumping urine.

286:05:52 P Borman's dumping urine.

286:06:05 P ...

286:07:00 P ... Look at that.

286:07:02 P ...

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286:07:09 C ...  
286:07:11 P ...  
286:07:20 P Don't you think we ought to get together here?  
286:07:30 C Yes. ...  
286:07:37 C The residuals.  
286:07:43 P ...  
286:08:33 C Ready.  
286:08:34 P All set.  
286:08:36 C We're ready here ...  
286:08:38 P That too.  
286:08:39 C Yes.  
286:09:09 P It already ... that one.  
286:09:17 P ...  
286:09:33 P ...  
286:10:26 P ... different ...  
286:10:31 C ...  
286:10:33 P ...  
286:10:36 C Sure is hot in here.  
286:10:38 P Sure is close.

## CARNARVON

286:12:45 CC Gemini VII, Carnarvon CAP COM.  
286:12:49 P Go ahead, Carnarvon. Gemini VII.  
286:12:51 CC Roger. Could you give us another reading on those  
Fuel Cell Number 2 voltages, open circuit?

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286:12:57 P Roger. 2A is about 31 1/2, 32 that is; 2B is off-scale high; 2C is about 31.

286:13:02 P ... 32.

286:13:16 CC Roger. Thank you.

286:13:32 CC Okay. We're going to take another look at these open-circuit voltages over Hawaii and then consider bringing the section back up over the States on this next pass.

286:13:45 C What are the thoughts on the Delta-P light on Section 1?

286:13:48 CC They're still thinking.

286:13:50 C Thank you.

286:14:04 CC They feel that there is probably something blocking the water a little bit and it's just a matter of clearing it again.

286:14:13 P Roger.

286:14:15 P ...

286:14:29 P (yawns)

286:14:33 P Continue on with ...

286:14:45 CC Do you think that 2-Charlie has gone down since your reading over Tananarive?

286:14:57 C It looks just about the same, maybe a little bit less.

286:15:02 CC Roger.

286:15:14 P It is.

286:15:17 P ... were able to ...

286:15:20 P 2-Charlie was 30, wasn't it?

286:17:59 CC Gemini VII, Carnarvon CAP COM. We're about to have LOS, so we'll see you tomorrow.

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286:18:06 P Roger. Adios.

286:18:08 CC Roger.

286:18:12 CC Have you had any water to drink since you've had this problem?

286:20:14 P ... complete?

286:20:15 C No - yes ...

286:22:02 P I'll be with you over the States for a ... pass ... report.

286:22:38 P Oh, Belgium.

286:23:48 C Up again.

286:23:50 P ...

286:24:53 P Yes.

286:25:14 P Good old cheese sandwiches.

286:25:16 C Right.

286:30:06 C What?

286:34:27 C Borman dumping urine.

**HAWAII**

286:37:47 CC Gemini VII, Hawaii CAP COM.

286:37:50 P Go ahead, Hawaii. Gemini VII.

286:37:52 CC Roger. We'd like to have a - we show you GO on the ground here - we'd like to have open-circuit voltages on Section 2 if you would.

286:37:59 C Roger.

286:38:05 P 2A is around 32 volts; 2B is off-scale high, 32; and 2C is reading 31.1 volts.

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- 286:38:20 CC Roger. Copy. Would you check your T/M - Control T/M switch to the COMMAND position, please?
- 286:38:29 P T/M is in the COMMAND position.
- 286:38:31 CC Roger. And I have a flight plan update for you when you're ready to copy.
- 286:38:49 P Go ahead.
- 286:38:51 CC Roger. This is a cabin temperature measurement, it's a little bit different from what you normally do. So if you're ready to copy I'll give it to you step by step. Time: 286:44:00; Cabin Temperature Test Number 1; Step 1, a cabin temperature; Step 2, wall temperature; Step 3, cabin dew point; Step 4, temperature and dew point at blue outlet; Step 5, temperature and dew point at red inlet. Do you copy?
- 286:40:09 C Roger. We have it.
- 286:40:11 CC Roger. We'd also like to have your comments on day versus night thermo-comfort.
- 286:40:21 P Don't understand, Hawaii.
- 286:40:25 CC That was day versus night thermo-comfort.
- 286:40:31 P Thermo-comfort, day versus night?
- 286:40:33 CC That's affirmative.
- 286:40:37 C You can't tell much difference on a day that you get going around. When we close up in here at night and go to sleep it gets cooler.
- 286:40:47 CC Roger. Understand. Also, have a map update when you're ready to copy.
- 286:40:53 C Go ahead.
- 286:40:55 CC Okay. Node at 287:51:05: Rev 180; 102.8 east; right ascension, 07:53:10.
- 286:41:25 C Roger. We have that.

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286:41:29 CC Roger. We have nothing further for you. We are standing by.  
286:41:31 C Thank you.

## GUAYMAS

286:48:28 CC Gemini VII, Houston.  
286:48:31 P This is VII, Go.  
286:48:34 CC Roger, Jim. Like to get your open-circuit voltages on Section 2 again.  
286:48:41 P 2-Charlie, 31.1; 2-Baker, off-scale high at 32; 2-Able, just at 32.  
286:48:57 CC Roger. We want to watch it from here down to Texas and then we'll - if it holds up like this - we'll put it back on the line.  
286:49:09 P Roger. Understand you want 3 to go back on the line too. It's been off for about an hour at one time.  
286:49:14 CC That's right.  
286:49:16 P Roger.  
286:49:36 CC Gemini VII, Houston. Could you give us a readout on the values you got on this Cabin Temperature Test Number 1 that we asked for?  
286:49:45 CC Okay. Let us know when you have them. The purpose of this is to get a little further evaluation of the unsuited cabin atmosphere, and we will be rescheduling this occasionally to get similar readouts. So you might keep this Cabin Temperature Test Procedure handy, because we'll just reschedule it by name.  
286:50:07 P Roger. Will do.  
286:50:47 CC Gemini VII, we'd also be interested in a report on the weather up north.

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286:51:04 P A little broken, but not bad.  
286:51:08 CC Say again.  
286:51:11 P I said about ... black area, but not bad.  
286:51:14 CC Roger.

## TEXAS

286:52:02 CC VII, did you call?  
286:52:05 P Negative.  
286:52:06 CC Would you give us Section 2 open-circuit voltages again?  
286:52:11 P 2-Alpha, 32; 2-Baker, off-scale high; 2-Charlie about 31.1.  
286:52:27 CC Roger.  
286:52:30 C Houston, Gemini VII with the cabin temperature.  
286:52:34 CC Okay. Before you give me that would you put Section 2 back on the line?  
286:52:41 P Roger. Section 2 going back on the line.  
286:52:47 CC Okay. Go ahead with the readouts, Frank.  
286:52:55 C Roger. Cabin temperature, 79; wall temperature, 79; cabin dew point, 62; temperature and dew point at the blue hose, 65 and 52; temperature and dew point at the red hose, 76 and 60.  
286:53:15 CC Roger. Copy.  
286:53:53 P Houston, VII.  
286:53:54 CC Go ahead.  
286:53:57 P The amps on Section 2 are about 1/2 on 2A, 2B is about 3, and 2C is about 1/2.

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286:54:13 CC Understand. 2A, 1 amp or was that 1/2? 2B is 3; and 2C is .5.

286:54:23 P Roger. And so is 2A, .5.

286:54:25 CC Roger.

286:54:52 CC All right, watch them for a minute, VII, and let us know if you see any change. We're watching them also.

286:54:59 C Roger.

286:55:07 CC It was a good try.

286:55:08 C Any more ideas?

286:55:11 CC We're working on it.

286:55:14 C I'm worried about the light on Section 1, Elliot. What do they feel about that?

286:55:21 CC You still have that on I see. We're working on it.

286:56:33 CC VII. We haven't seen very much difference, or we're not ready with a solution on the thrusters yet. We'd like to continue as we are. Is the attitude control sufficient, or lack of there?

286:56:52 C We'll leave it alone.

286:56:56 CC Okay.

286:56:57 C Want us to leave it in this mode, right?

286:56:60 CC That's affirmative, if it's adequate for you.

286:57:04 C Okay.

286:57:08 CC Okay. We're ready to turn off 2-Alpha and 2-Charlie at this time.

286:57:17 P 2-Alpha and 2-Charlie coming off of the main bus.

286:59:48 CC Gemini VII, Houston - Gemini VII, Houston.

287:01:52 CC Gemini VII, Gemini VII, Houston. Do you read?

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## ROSE KNOT VICTOR

287:10:02 CC Gemini VII, RKV. We have your oral temp; you can start your blood pressure.

287:10:07 P Roger. Blood pressure coming down, RKV.

287:10:18 CC We're standing by for your purge.

287:10:21 P Roger. Let me understand this breakdown. We have two sections checked off --

287:10:26 CC Cuff is full-scale.

287:10:28 CC That's affirm. We want you to purge 2-Bravo.

287:10:32 P Say again, RKV.

287:10:33 CC Blood pressure cuff is full-scale.

287:13:05 CC We want another blood pressure, VII. Would you give us your food, water and sleep status?

287:13:09 C Roger. We had for the Command Pilot and Pilot Day 13, Meal B. This morning we had Day 13, Meal A. The Command Pilot didn't eat his muffins. The total water to date for the Command Pilot is 972, Column 5 is 31, total Column 6 is 6.

287:13:33 CC Roger.

287:13:34 C The Pilot's total water is 813, total Column 5 is 30, Column 6 is 7.

287:13:45 CC Roger.

287:13:51 P As far as sleep goes, we slept some last night - about, I guess, 5 hours. So we both feel the need for sleep when we get down.

287:14:00 CC Roger. Surgeon out.

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287:15:39 P Purge complete, RKV.  
287:15:44 CC ... okay, Gemini VII.  
287:17:02 CC Gemini VII, RKV.  
287:17:04 P Go ahead, RKV.  
287:17:05 CC Do you see any objects at all in your vicinity?  
287:17:09 P ... I hope not. Wait, I'll check.  
287:17:14 CC Say again.  
287:17:16 P I'll check, just a minute.  
287:17:17 CC Okay.  
287:17:27 P Negative. We do not.  
287:17:28 CC Roger.  
287:18:09 P You going to put us to sleep tonight, RKV?  
287:18:11 CC Same as always.  
287:18:13 P Think you can get us some ... to take tonight.  
287:18:17 CC We'll take care of that.  
287:18:18 P Roger.

## COASTAL SENTRY QUEBEC

287:58:50 CC Gemini VII, CSQ.  
287:59:00 C Go ahead, CSQ. Gemini VII.  
287:59:01 CC Roger. I would like you to place your Cryo Read switch to the ECS O<sub>2</sub> position.  
287:59:08 C Say again?  
287:59:52 CC Gemini VII, would you go to the FUEL CELL O<sub>2</sub> position?

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287:59:56 C Roger.

287:59:59 P You want the crew status on the Pilot here also?

288:00:02 CC Negative.

288:00:03 C Okay.

288:00:10 CC Gemini VII, that crew status is at Hawaii.

288:00:14 C Thank you.

288:00:15 CC Would you go to the FUEL CELL H<sub>2</sub> position? Thank you.

288:00:19 C Roger.

288:00:32 P ...

288:00:35 CC Gemini VII, you can put your Cryo Read switch to the OFF position now.

288:00:44 CC Gemini VII, you can put your Cryo Quantity Read switch to the OFF position.

288:00:50 C Roger.

288:00:57 CC We have you GO on the ground, Gemini VII.

288:01:01 C Roger. Can you give us some indication of what Flight thinks about this Delta-P light on Section 1?

288:01:06 CC Stand by.

288:01:07 C Stand by, CSQ. It just went out.

288:01:10 CC Roger. We copy.

288:01:11 C Do you read me?

288:01:13 CC That's affirmative.

288:01:28 CC Gemini VII, the ground predictions were that that light would go out.

288:01:33 C Say again.

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288:01:35 CC I say, ground predictions were that that light would go out about this time.

288:01:38 C Very good.

288:02:09 CC Gemini VII, our ground predictions were that that light should have gone out about 20 minutes ago.

288:02:15 C Okay. Thank you.

288:04:45 C Who is that?

288:04:49 P Borman.

288:05:06 C ...

**HAWAII**

288:13:35 CC Gemini VII, Hawaii CAP COM. Gemini VII, Hawaii CAP COM. We have a good oral temperature, standing by for your blood pressure.

288:13:45 C Coming down.

288:14:06 CC Your cuff is full-scale.

288:14:45 CC Gemini VII, Hawaii CAP COM. I've got a TCA test for you to copy.

288:14:51 C Roger. Stand by one minute.

288:14:57 CC We have a good blood pressure. Standing by for your exercise.

288:15:02 C Okay. Go ahead, please.

288:15:04 CC Roger. This is a TCA Number 3 test. The temperature problem should have been cleared up at 15 degrees and we're now reading 22 degrees, so we'd like you to do this procedure over Hawaii so we can monitor on the ground. We don't - don't think it's a temperature problem, but we ought to try it anyhow. Ready to copy? Want to bring up the three rate gyros.

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288:15:39 C Roger.

288:15:40 CC TCA Number 3 circuit - -

288:15:42 CC Your cuff is full-scale.

288:15:45 CC TCA Number 3 circuit breaker on.

288:15:56 CC Gemini VII, would you do this as I read it to you?

288:16:00 C Roger. Do it as you read. Okay.

288:16:03 CC Bring up your three rate gyros.

288:16:05 C They're up.

288:16:09 CC TCA Number 3 circuit breaker on.

288:16:10 C It's on.

288:16:16 C Go ahead. It's on.

288:16:18 CC Direct control, and give us a burst.

288:16:20 C Is the only one you want on Number 3? You want all the others off?

288:16:23 CC Bring up all three rate gyros.

288:16:26 C I mean circuit breakers. Do you want all the circuit breakers turned off but 3?

288:16:32 CC Just give us a burst in right yaw.

288:16:39 CC We have a good blood pressure.

288:16:43 CC Do you have any additions on your food, water and sleep report?

288:16:50 CC Roger. Gemini VII, did you get a thrust?

288:16:53 C In what mode do you want me to give you a burst?

288:16:56 CC RET.

288:16:57 C Here we go.

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288:17:00 C We get nothing.

288:17:06 C Other than the solenoid clicking. And we're still - I don't know ... fuel also.

288:17:16 CC Say again, VII.

288:17:18 C We're venting, it looks like it's coming through the thruster without igniting.

288:17:24 CC Roger.

288:17:27 CC Okay. Disregard. We'll stop the test at this time. Turn your TCA Number 3 circuit breaker off.

288:17:35 C It's off.

288:17:37 CC And your three rate gyros off.

288:17:39 C You don't want to try Number 4, right?

288:17:45 CC Negative, VII.

288:17:47 C Okay. They're off.

288:18:13 CC To the best guess, these are the thrusters that you used and we figure there is trouble in the valve seats.

288:18:23 C Roger.

288:18:29 CC And I have a flight plan update when you're ready to copy.

288:18:34 C Stand by.

288:18:41 C Go ahead.

288:18:43 CC Roger. Title, D-4/D-7: 288:24:28; Sequence 427; Mode 02; Remarks, yaw 33 degrees right, pitch 47 degrees down, passing north to south in front of and below spacecraft.

288:19:26 C I don't know how we can do this without attitude control.

288:19:31 CC We're aware of that.

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288:20:19 C Hawaii, this is Gemini VII.  
288:20:20 CC Roger. This is Hawaii.  
288:20:22 C Do they mind if we turn on these thrusters now  
to see if we get any kind of control out of them  
at all?  
288:20:34 CC Flight advises that it's all right with them, but  
they don't see the reason, or what good it will do  
you.  
288:20:40 C Well, I might be able to do D-4/D-7. I don't know  
why they sent up updates if they don't want us to  
do them.  
288:20:49 CC Just wanted you to know what was there, VII.  
288:20:52 C Okay. Thank you.  
288:20:59 C We're confined to drifting.  
288:21:01 CC Say again.  
288:21:03 C Looks like we're confined to drifting.  
288:21:07 CC Roger.

# CALIFORNIA

288:23:45 CC Gemini VII, Houston.  
288:23:48 C Go ahead, Houston. Gemini VII.  
288:23:51 CC Roger. We'd like another rundown on exactly how  
you lost the - or discovered the loss of attitude  
control. Also, we'd like a reading on your  
present rates.  
288:24:03 C Roger, Elliot. When we woke up this morning, the  
first thing we were told to do was to monitor  
GT-VI's reentry and when we unbuttoned to look  
out, we were drifting quite badly. We turned on  
the control and we didn't have any right yaw.

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288:24:18 CC Roger.

288:24:21 C Our rates have now built up so, I imagine they're on the order of 5 to 6 degrees per second.

288:24:27 CC Roger.

288:24:32 CC Are you trying to stop them at all, Frank, or are you just letting it continue to build up?

288:24:43 CC Gemini VII, Houston.

288:24:52 CC Gemini VII, Houston.

## GUAYMAS

288:25:02 CC Gemini VII, I think we lost you for a minute, there. Have you been trying to control the rates at all or just letting them build up?

288:25:10 C No. I've been letting them build up now since you said you wanted these turned loose and not used.

288:25:15 CC Roger.

288:25:20 C We can control them with the other thrusters.

288:25:22 CC Roger. Why don't you go ahead and control them as best you can with the other thrusters?

288:25:29 C Okay. But you don't want ... used at all, is that correct?

288:25:35 CC Roger. We prefer they not be used.

288:25:41 C Okay.

288:25:53 CC Gemini VII, did you get Delta-P Number 1 back?

288:25:57 C Negative. Not yet, but we're expecting them.

288:26:02 CC ... come on now.

288:26:05 C Roger. How did you guess? We have it back.

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288:26:11 CC You say you do have it back?

288:26:13 C That's Roger. It's back on.

288:26:15 CC Roger.

288:26:36 CC Are you able to control your attitude rates, or have you tried yet?

288:26:40 C I'm stopping them now.

288:26:42 CC Roger. Are you going to give us a flight plan report here?

288:26:46 C Yes. About all I have is a film report, really.

288:26:49 CC Okay, let's have it.

288:26:54 C We have left 76 frames of S0217, 57 frames of S0217 with an ASA of 500, 47 high-contrast black-and-white, 20 frames of dim white, 13 frames of power-shifted IR, 2 magazines of 16mm. The only thing we've been able to accomplish today is the S-5 over South Africa.

288:27:23 CC Roger. And do you have vision tester scores?

288:27:27 C We have - we're going to do that right now.

288:27:30 CC Roger.

288:27:45 CC Gemini VII, we'd like to have you consider the possibility of controlling yaw with the maneuver thrusters, that is, 13 and 14. Actually, 14 would be probably the one you'd use.

288:27:59 C Well, we'll give it a try.

288:28:03 CC We'd like you to consider it. It'd be 11 and 12 that you'd use, that is your forward firing.

288:28:15 C Roger.

288:28:22 CC Frank, what do you think about doing that?

288:28:25 C Well, Chris, I think we can control the rates up here all right. I'm more concerned about this Delta-P light than I am the rates.

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288:28:31 CC Yes. So are we, Frank.

288:28:34 C I - it looks to me like this time it needs it.

288:28:40 CC Looks like what?

288:28:42 C It looks to me like this time - the cells are really on their way.

288:28:52 C The maneuver thrusters work pretty well in yaw.

288:28:56 CC Okay. Why are you more concerned about the Delta-P 1 light this time? Do you see something different about it?

288:29:04 C No. This is the first time it has reoccurred like this. The other times it's gone out. Same way with those two - those two stacks this morning. We could almost tell up here that those two stacks had had it before we kept playing with them.

288:29:16 CC Frank, the people down here feel fairly confident in Section 1.

288:29:21 C Okay. Good.

288:29:24 CC We're watching it with you, Frank. We'll be recognizing it just as quick as you will.

288:29:29 C Okay.

288:29:36 C Well, I'd like to make it GO - we prefer to land somewhere near the carrier. You know what I mean?

288:29:44 CC Frank, you know I would too.

288:29:47 C Okay.

288:29:53 CC Could you tell us which magazine - camera magazines were used during the rendezvous and booster stationkeeping?

288:30:00 C Well we used the - almost all of them, Elliot.

288:30:07 CC Roger. Frank, let me put that differently to you. I'm going to be as certain that that fuel cell is going to last when we go by -1 area tomorrow

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morning as we absolutely can, and I won't make that decision unless I'm sure of it.

288:30:21 C Very good.  
288:30:25 P We're on broadway!  
288:30:27 CC Roger that.

## ROSE KNOT VICTOR

288:46:58 CC Gemini VII, RKV.  
288:47:03 C Go ahead, RKV. This is Gemini VII.  
288:47:05 CC Roger. Will you turn the Maneuver circuit breaker on, please?  
288:47:16 C Maneuver circuit breaker is on.  
288:47:19 CC We got a test to run. We'd like you to turn off all the Maneuver circuit breakers on - off, rather, except Number 12 aft, we want that on.  
288:47:45 C Roger.  
288:47:47 CC Did you copy that, VII?  
288:47:49 C Roger.  
288:47:50 CC Okay. Turn on your Attitude Control circuit breakers now.  
288:47:54 C All the Attitude Control circuit breakers on?  
288:47:57 CC Except 3 and 4 yaw right should be off.  
288:48:00 C Right.  
288:48:04 C Roger.  
288:48:05 CC Okay. We'd like to see how well you can control it in attitude.  
288:48:42 C They work fine, RKV.

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288:48:44 CC Roger.

288:49:21 CC We'd like to - you to stay in that configuration a while. We'll talk to you over the CSQ.

288:49:26 C Okay. Fine.

288:49:27 CC Okay. I've got a short ... update for you.

288:49:31 C Stand by one minute.

288:49:47 CC Flight plan update: Time, 218 plus 45, and another Time, 291 plus 06. We'd like to have Cabin Temperature Test Number 1.

288:50:07 C Roger. I copy.

288:50:09 CC Okay. You're free to use attitude control between now and the CSQ.

288:50:13 C Okay. Thank you.

288:50:15 CC Roger.

288:50:32 CC Gemini VII, RKV.

288:50:34 C Go ahead.

288:50:35 CC Okay. Do you confirm that you've got the Maneuver circuit breaker on?

288:50:38 C Affirmative.

288:50:39 CC Okay. ... did you hear Houston calling you on HF ... RKV?

288:50:45 C ...

288:50:47 CC You did hear?

288:50:48 C Negative. We did not hear.

288:50:50 CC Okay.

288:51:36 CC We'd like you to maintain attitude between here and CSQ and that will give us an idea of how much ...

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288:51:44 C Okay ...  
288:51:49 C I think - we think we can align the platform this way also.  
288:51:52 CC Roger.  
288:52:08 CC We're considering using the attitude control for MSC-4 over Hawaii. However, the weather doesn't look too good at Hawaii right now.  
288:52:18 C Roger.  
288:53:05 CC Gemini VII, did you get my Tx?  
288:53:08 C Roger.  
288:53:09 CC Okay.

## TANANARIVE

289:08:21 CC Gemini VII, Gemini VII, Houston. How do you read?  
289:08:25 C You're loud and clear, Houston. Go ahead.  
289:08:27 CC Roger. Good communications. How is the attitude control with this - mickey-mouse arrangement we're using now?  
289:08:36 C It's pretty good.  
289:08:39 CC Roger. We want to give you a tentative GO for the MSC-4. The weather there is 5000 scattered, 15 miles visibility. There are no cumulus clouds. There is a .2 strato layer.  
289:09:00 C Very good.  
289:09:03 CC So we'd like to have you try it. We want you to continue to try to conserve fuel here even though we are asking you to do attitude control. We don't want you to be careless; I'm sure you won't.  
289:09:34 C Yes, we're just trying to fly SEF.

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289:09:37 CC Roger.

289:09:41 CC Can you give me your S-8/D-13 Vision Test scores? We ran out of time. I didn't get that from you before.

289:10:57 CC Gemini VII, Houston. Are you checking the Vision Test scores for me?

289:11:02 C We haven't taken the test - I'll have to give it to you later on.

289:11:07 CC Roger. Did you take it yesterday? They tell me you did not get any scores yesterday.

289:11:13 C We took it yesterday and reported them, but I'll have to check in the log book and I'll give it to you.

289:11:17 CC Roger.

289:11:27 CC Do you still have your Number 1 Delta-P light on, Frank?

289:11:31 C Roger. They're both on.

289:11:33 CC Roger.

289:11:35 C We're ...

289:11:45 CC Say again, VII.

289:11:47 C I say, if it starts to jump tonight I'm going to hate to see that ... go by tomorrow.

289:12:07 CC We're going to take care of that, Frank. Don't worry.

289:12:11 C Okay.

289:12:24 CC Gemini VII, Houston. For your information, we are considering turning off Section 2 completely if the Delta-P light does not go out soon. We feel that should improve the situation.

289:12:38 C Very well.

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## COASTAL SENTRY QUEBEC

289:31:17 CC Gemini VII, CSQ.  
289:31:19 C Go ahead, CSQ. Gemini VII.  
289:31:20 CC Roger, we're going to cancel MSC-4 over Hawaii this revolution.  
289:31:25 C Roger.  
289:31:29 CC Can you give me an evaluation of how you've been able to maintain attitude control without visibility?  
289:31:35 C We've been making it okay.  
289:31:38 C I think I can get Hawaii.  
289:31:40 CC Very good.  
289:31:53 CC Gemini VII, CSQ. Give me a propellant quantity.  
289:31:56 C Stand by.  
289:32:04 C 8 percent.  
289:32:07 CC 8 percent?  
289:32:08 C Roger.  
289:32:09 CC Roger.  
289:32:14 CC Could you also give me an OAMS source pressure readout?  
289:32:16 C Stand by.  
289:32:26 C OAMS pressure is 1100, 1100.  
289:32:29 CC Roger. Copy.  
289:33:28 C We still have both Delta-P lights, CSQ.  
289:33:31 CC Roger. We just confirmed that on the ground.

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289:35:56 CC Gemini VII, Houston advises that they have - that the ground readouts do not show any appreciable usage since RKV.  
289:36:03 C Roger.

## HAWAII

289:49:26 CC Gemini VI, Hawaii CAP COM.  
289:49:30 P Go ahead, Hawaii.  
289:49:31 CC Roger. We show you GO on the ground and I have a PLA update for you when you're ready to copy.  
289:49:36 P Stand by one.  
289:49:58 P Go ahead.  
289:49:59 CC Roger. All RET 400K, 21 plus 20, for all areas. Area 184-3, 293:55:38; 185-Bravo, 295:47:56; 186-Delta, 296:29:06; 187-Delta, 298:05:20; 188-2, 299:37:01; 189-1, 301:06:40; 190-1, 302:42:08; 191-1, 304:17:38. Weather in all areas is good.  
289:51:49 P Roger.  
289:51:53 CC We have nothing further for you. We're standing by.  
289:56:32 CC We have Cryo ground rules for you to copy.  
289:56:36 C Go ahead with it.  
289:56:37 CC Okay. Fuel Cell H<sub>2</sub> Heater, AUTO; Fuel Cell O<sub>2</sub> Heater, AUTO; ECS O<sub>2</sub> Heater, OFF; Quantity Read switch, FUEL CELL O<sub>2</sub> at a minimum; H<sub>2</sub> Pressure 490. That's for this evening.  
289:57:04 C Roger.

## ROSE KNOT VICTOR

290:22:40 CC Gemini VII, RKV.

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290:22:42 C Go ahead, RKV. This is VII.

290:22:44 CC Roger. We'd like to have a purge. Use the same procedures we used last night with the exception we'd like for you to purge Section 2 first.

290:22:57 P Okay. Purge Section 2 first, other - other than that it's a normal purge.

290:23:01 CC Right.

290:23:03 C You might tell Flight that we've run out of OAMS fuel also. We are now ... pressure ... 300 ...

290:23:16 CC Roger.

290:24:00 CC Gemini VII, we'll give you a systems update over the CSQ or Hawaii.

290:24:04 P' Okay.

290:24:30 P ... I also ... yesterday and today. ... Hawaii.

290:24:43 CC Okay.

290:24:55 P There were some complications on Section 2 otherwise ... also.

290:25:00 CC We're still looking at it.

290:25:03 P? Okay.

290:25:48 P Purging Section 1 now.

290:25:51 CC Roger.

290:26:45 C After ... because of the high load on Section 1?

290:26:52 CC Stand by. I'll check.

290:26:56 CC We're working on that right now. We'll update you over CSQ.

290:26:58 C Okay.

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290:27:11 C ... prop up that auxiliary tank.

290:27:16 CC Roger.

290:27:21 CC We can go ahead and prop the low-quantity tank if you want to.

290:27:26 C I think I'd prefer to go with the one in the platform.

290:27:30 CC Okay.

290:27:40 C ... not sure which.

290:27:44 CC We think that's a pretty good idea.

290:27:53 CC Would you put the Quantity Read switch to FUEL CELL O<sub>2</sub>? That will be in the nighttime configuration.

290:28:33 C Purge complete.

290:28:35 CC Roger. Purge is complete. Flight.

290:28:41 C Also, I understand we're clear to prop this ...

290:28:51 C RKV.

290:28:52 CC Go ahead.

290:28:53 C I understand we're clear to go ahead and pull this switch on this ...

290:28:57 CC That's affirm.

290:29:08 C Also, we copied and they're ready ...

290:29:23 C RKV.

290:29:26 CC Go ahead.

290:29:28 C We ... we have 300 regulated pressure again.

290:29:32 CC Good show.

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## COASTAL SENTRY QUEBEC

291:06:30 CC Gemini VII, ... VII.

291:06:50 C 29 volts.

291:06:53 CC ... 2-Alpha.

291:06:56 C I say 2-Alpha is 28 volts and 2-Charlie is 29 volts.

291:07:00 CC Roger. Copy. Like the prop quantities and OAMS pressure readout.

291:07:05 C Roger. Prop quantity now reads 7 percent, and the first pressure is about 1050.

291:07:19 CC I'd like to find out what the ... of stowage is not complete and what your estimate is to complete the rest of it.

291:07:25 C Stowage?

291:07:26 CC That's affirmative.

291:07:28 C It'll take us about an hour to stow.

291:07:31 CC Roger. Understand.

291:07:34 C To put our suits on also.

291:07:36 CC Roger, Gemini VII.

291:10:48 CC Gemini VII, I have a map update for you when you're ready to copy.

291:10:51 P Stand by.

291:11:02 P Go ahead.

291:11:04 CC Title is Node: Time, 295:22:20; Rev 185; 12.7 degrees west; right ascension, 07:43:46.

291:11:25 P PF aft?

291:11:26 CC Roger.

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291:11:36 P Gemini main ...  
291:11:38 CC Negative, Gemini VII. That's all. We're standing by.  
291:11:54 CC Gemini VII, Flight just advised that they plan to go open circuit on Section 2 over Hawaii. They will advise you later.  
291:12:04 C Okay.

## HAWAII

291:24:29 CC Gemini VII, Hawaii CAP COM.  
291:24:32 C Go ahead, Hawaii.  
291:24:33 CC How are you doing?  
291:24:34 C Pretty good. How are you?  
291:24:36 CC Okay, not bad. We're showing you GO down here and want to power-down your Section Number 2 if you'll go along with me.  
291:24:44 C Fine.  
291:24:45 CC Okay. Fuel Cell Control Number 2 circuit breaker closed.  
291:24:47 C It's closed.  
291:24:49 CC Section 2 Power switch to OFF.  
291:24:51 C Off.  
291:24:53 CC Fuel Cell Control Number 2 circuit breaker to open.  
291:24:56 C It's open.  
291:24:58 CC And verify your Crossover switch is at the OFF position.  
291:25:01 C ...

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291:25:02 CC Okay.

291:25:04 CC I've got some more data for you if you're ready?

291:25:07 C Stand by. And what kind of data?

291:25:09 CC I've got a couple of GET RC's for you and a small flight plan.

291:25:15 C Roger. Just a minute.

291:25:23 CC What position is your Adapter C-Band Beacon in?

291:25:28 C COMMAND.

291:25:29 CC Okay.

291:25:31 C Go ahead. I've got the ... now.

291:25:32 CC Okay. 192-1, 305:52:25; 207-1, 329:57:56.  
Okay, you have that?

291:25:56 C Roger.

291:25:57 CC Okay. I want to advise you that the 7 percent gage reading you have is correct by ground computation, so anything you read on your gage is correct.

291:26:04 C Okay.

291:26:06 CC Okay. I've got a couple of changes to your flight plan now. 301:29:12: that will be a fuel cell purge after awakening, and this will be at Grand Turk, Revolution Number 189.

291:26:30 CC 301:30:00: BIO MED Recorder Number 2 to the OFF position. That's it.

291:26:40 C Roger.

291:26:42 CC Okay. Do you need anything now?

291:26:45 C No. Just a Fuel Section 1 is all.

291:26:48 CC Say again?

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291:26:49 C Just a good Section 1.

291:26:52 CC Okay. Let's just hang in there. It will be okay.

291:26:56 C Okay.

291:27:00 CC Okay. Will you take your BIO MED Tape Recorder Number 2 and put it in the CONTINUOUS position?

291:27:05 C' Roger.

291:27:08 CC Thank you.

291:27:32 CC Telling me they're going to give you music for the next two hours on HF if you'd like it and maybe longer. How'd you like it more than two hours?

291:27:40 P We're going to start stowing tonight so I - probably more than two hours would be good. We're going to try and get everything packed away tonight.

291:27:46 CC Say you want more or less?

291:27:48 P About three hours will be good.

291:27:50 CC Okay. Very good.

291:31:42 CC Can you hear that HF music?

291:31:46 C' No, we couldn't a minute ago. Try it again now.

291:31:53 CC I'm picking it up here. How are you doing?

291:31:57 C Can't hear a thing.

291:31:59 CC Oh, you'll get it as you come up over the States.

291:32:07 CC Okay. We'll see you in the morning, and we'll be standing by for the rest of the pass.

291:32:17 CC And that HF will start coming out of the Hawaii station on the next revolution, so you can listen pretty well as you come up on this side of the Pacific.

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291:32:22 C Fine and dandy.  
291:49:03 P Borman ...  
291:49:05 P Borman dumping urine.

## ROSE KNOT VICTOR

292:05:09 P Got you.  
292:05:11 P What is it ...  
292:05:13 CC 471.  
292:05:16 P 071. Right?  
292:05:18 CC Repeat again.  
292:05:20 P We're GO at 207-1, ...  
292:05:24 CC No. We're just saying that you get a good night sleep tonight, then we'll talk to you.  
292:05:29 P You're saying what?  
292:05:31 CC We're saying get a good night's sleep and we'll talk to you tomorrow.  
292:05:34 P Good night.

## COASTAL SENTRY QUEBEC

292:46:38 CC Gemini VII, CSQ.  
292:46:41 C This is VII, ...  
292:46:44 CC Roger. Have a systems status report on your fuel cell.  
292:46:49 C Roger. Go ahead.  
292:46:52 CC Section 1, performance is still excellent. That's better than predicted for this time in flight.

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... Spacecraft VII performance. The oxygen and water ... membrane ... test at St. Louis for deliberate and complete ... .... That indication of degradation started at 500 ... ... completely normal ... performance for the remaining time of this flight. Do you copy?

292:47:45 C That's the best bedtime story we've heard.

292:47:48 CC Roger.

292:47:50 C Roger. Who wrote that?

292:49:17 CC We have you GO on the ground, Gemini VII. We're standing by.

292:49:21 C Roger. Thank you, CSQ.

292:49:36 C How's the weather down there, CSQ?

292:49:38 CC It's pretty rough right now and getting rougher.

292:49:42 CC Bouncing around a little?

292:49:44 C Yes, we're bouncing around quite a bit.

292:49:48 CC About 40-45 mile-per-hour wind.

292:49:51 C ...

292:49:56 CC Roger.

## TEXAS

301:29:10 CC Houston.

301:29:15 P Go ahead, Houston.

301:29:17 CC Good morning, Gemini VII. BLUE TEAM wishes you good morning. I have a purge procedure for you.

301:29:23 P What was that again, Charlie?

301:29:25 CC I have a purge procedure for you.

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- 301:29:27 P Roger.
- 301:29:29 CC Place - while I'm doing this I'd like to get Fuel Cell H<sub>2</sub> and ECS O<sub>2</sub> readouts from you. The procedure is Crossover on; normal purge Section 1. Request open-circuit voltage of Stack 2B.
- 301:30:01 P You're going to have to come in again, Houston. You were cut out.
- 301:30:04 CC Roger. Place your Crossover on; normal purge Section 1.
- 301:30:21 P Say again.
- 301:30:22 CC Request open-circuit voltage, Stack 2B.
- 301:30:28 P Got everything except the last part. Open-circuit voltage, Stack 2B?
- 301:30:31 CC That's affirm - let me start over. Crossover on - first item, Crossover on; normal purge Section 1. Request open-circuit voltage, Stack 2B.
- 301:31:02 CC Gemini VII, Houston. Do you read?
- 301:31:05 C The normal purge Section 1; open-circuit voltage at 2B. Is that correct?
- 301:31:10 CC That's affirmative.
- 301:31:13 P One purge coming up.
- 301:31:16 CC Request that you place your Fuel Cell Control Number 2 circuit breaker on.
- 301:31:29 P Roger. Will do after the purge of the first section.
- 301:31:31 CC Okay. Good. In the meantime, can you give me some Fuel Cell H<sub>2</sub> readouts?
- 301:31:43 C Roger, Charlie. H<sub>2</sub> reads 35 percent, 505 pounds - 510 pounds.
- 301:31:54 CC Cryogenic Gaging switch to ECS O<sub>2</sub>.

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301:32:14 CC Gemini VII, may we have an ECS O<sub>2</sub> readout?  
301:32:20 C Roger. At 840 pounds, at about 40 percent.  
301:32:28 CC Roger. Replace switch in FUEL CELL O<sub>2</sub> position.  
301:32:34 C Roger.  
301:33:06 P Houston, VII.  
301:33:08 CC Go ahead, VII.  
301:33:11 P Why do you want the Fuel Cell Control Number 2 circuit breaker on if we do not plan to purge Section 2?  
301:33:18 CC We plan to purge Section 2 with Stack 2A and Stack 2C switches off, so we'll be purging Stack 2B only.  
301:33:28 P Roger. Understand. 2B open circuit is above 32 volts.  
301:33:33 CC Understand. Open circuit 32 volts on 2B. Then perform a normal purge of Section 2.

## BERMUDA

301:34:22 CC Noting that your Fuel Cell Control Number 2 circuit breaker is on, perform a normal purge of Section 2.  
301:34:30 P Roger. Doing that at this time.  
301:34:32 CC Roger. That's with open circuit.  
301:34:35 P Roger. ... is on.  
301:35:49 CC Gemini VII. At the completion of this purge, I have a short flight plan update to give you.  
301:35:54 P Roger, Houston.  
301:36:17 P Go ahead with flight plan update, Houston.

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- 301:36:20 CC Roger. Title Node: Time, 302:53:36; Rev 189; 128 degrees west; right ascension, 07 hours 34 minutes 59 seconds. Flight plan time line update: change 302:00:00 to 302:15:00. Correction, change that to 302:10:00.
- 301:37:17 CC Request - getting back to the purge now, I'd like to request the open-circuit voltage of Stack 2B.
- 301:37:24 P Roger. Purge is complete. Open-circuit voltage of Stack 2B is above 32 volts, off-scale.
- 301:37:31 CC Leave 2B on the line until Carnarvon. Current may be low due to the loop temperature. We'd like to have the Section 1 Power switch on.
- 301:37:47 CC That's the Section 2 Power switch on.
- 301:37:51 P Putting Section 2 Power switch on at this time.
- 301:37:54 CC Roger. Then place your Fuel Cell Control Number 2 circuit breaker off.
- 301:38:03 P Roger. Control Circuit Breaker Number 2 going off.
- 301:38:06 CC And Crossover off.
- 301:38:09 P Roger. The Crossover is off.
- 301:38:15 CC That completes the purge procedure. I'll continue with the flight plan. Time: 303:07:10; GO/NO-GO at Bermuda. Both temperature probes should be inserted at 302:55:00 for a crew status report on the Command Pilot at Canaveral at time 303:04:00. At 303:18:10: PLA update. Item S-5: 303:26:00; Sequence 06; Mode 01; pitch 90 degrees down, yaw 0 degrees. That completes the flight plan update.
- 301:39:39 P Roger. One question, Houston. Did you say both temperature probes or just oral temperature probes?
- 301:39:45 CC That's both oral temperature probes.
- 301:39:51 P Understand. Both. Roger.

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## CANARY ISLANDS

301:44:22 CC Gemini VII, Canary. How do you read? Over.  
301:44:25 C Loud and clear, Canary.  
301:44:26 CC Roger. A perfect good morning to you.  
301:44:28 C Good morning to you.  
301:44:30 CC Roger. You should be reading about 3 amps on  
2B. What do you get?  
301:44:34 C 3 amps on 2B.  
301:44:36 CC Roger. Everything is coming along just fine.  
301:44:38 C Very good.  
301:45:24 CC VII, Canary. You can turn your Quantity Read  
switch off if you like.  
301:45:32 C Roger. It's off.  
301:45:34 CC Roger.  
302:09:44 P About 3:02, we took some film of North Africa  
and some unusual cloud formations over the area.  
This is moving Film Magazine Number 8, at ...  
Magazine 8, took some pictures with the 16mm  
of the ... Great Coral Reef - series of circular  
coral reefs in the Indian Ocean. That was at  
302:12, along with dumping urine at 302:22.

## CARNARVON

302:18:54 CC Gemini VII, Carnarvon CAP COM.  
302:18:55 C Hi, Tom. Gemini VII.  
302:18:57 CC Roger. Good morning from Australia.  
302:18:59 P Good morning.

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- 302:19:01 CC Have a flight plan update for you.
- 302:19:08 P Go ahead.
- 302:19:09 CC Roger. Time: 303:54:06; Remarks, crew's status report at Carnarvon. Time: 304:32:12; shirt-sleeve evaluation - and I have a procedure on that for a little later on. Time: 304:38:39; purge fuel cells at the Cape. Title, S-8/D-13 - yes, that's it, S-8/D-13: that's Time, 304:54:00; Sequence 04; do over Canaries and Kano. Do you copy?
- 302:20:12 P Roger. Understand. S-8/D-13: Sequence 04; do over Canaries and Kano.
- 302:20:16 CC Roger. Got a whole lot more here. Time: 306:00:00; BIO MED Recorder Number 1 to CONTINUOUS; MSC-4: Time, 306:11:39; Sequence 01; Mode 01; pitch 25 degrees down, yaw 41 degrees left; switch to Mode 03 if beacon is successfully acquired. Time: 306:20:00; begin exercise and eat period. Title, MSC-4: Time, 307:35:36; Seq - I'll say again on that. That's 307:35:36; Sequence 06; Mode 01; pitch 30 degrees down, yaw 24 degrees right; switch to Mode 03 if beacon is successfully acquired. Are you copying me okay?
- 302:21:58 C Roger.
- 302:21:59 CC Okay. S-8/D-13: 307:48:37; Sequence 02; pitch 30 degrees down, yaw 1 degree right; time of closest approach is 307:49:57. At Time 308:00:00, BIO MED Recorder Number 1 off. Title, MSC-4: 308:12:30; Sequence 08; Mode 01; pitch 30 degrees down, yaw 6 degrees left; switch to Mode 03 if beacon is successfully acquired. Last item: Time, 308:41:41; purge fuel cells at Carnarvon. Do you copy?
- 302:23:29 P Roger. We have it all. Thank you.
- 302:23:32 CC Roger. And this pass you should be coming directly over Carnarvon. During attitude, would you take a check and see if you can see us?

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302:23:42 P Roger.

302:23:43 P We're over Australia, right now.

302:23:47 C Roger.

302:23:54 P Yes. There's Shark's Bay.

302:23:59 CC Okay, Gemini VII. I have your shirt-sleeve environment evaluation information whenever you're ready to copy that.

302:24:07 C Roger. Go ahead.

302:24:08 CC All right. Item Number 1 is Pilot: connect suit nozzles together with interconnect.

302:24:19 C Would you tell them we don't have interconnects on-board?

302:24:21 CC Roger. Stand by.

302:24:43 CC ... They're going to rework that, and they'll give you the information later.

302:24:48 C Thank you.

302:24:49 CC Roger. Now that's all we have for you this pass. We're standing by. You're looking good on the ground.

302:24:54 C Very good.

302:24:58 P Australia, you're beautiful in the daylight!

302:25:01 CC Hey, mighty fine! I guess it's been a long time since anybody up there has seen Australia in the daylight.

302:25:11 P Roger.

302:25:21 CC Roger. We also noted that you turned 2A on and off. Is that correct?

302:25:29 C ... did you turn low?

302:25:30 P Negative. Fuel Cell 2A has never been touched.

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302:25:33 CC Roger. Thank you.

302:25:35 C You can tell the people in Perth to turn out their lights now.

302:25:38 CC Right.

302:25:56 P Sounded like a bunch of garbage they handed us. ... fuel calculation.

302:26:08 P? Pardon me.

302:26:28 C ...

302:26:35 P ...

302:26:42 P Use that maneuver thruster for aft ... control.

302:28:42 C I wonder how much ...

302:28:45 P Yes.

302:29:04 P Yes, tell them we'll ...

302:29:48 P Shoot! That thing did leak in again. Darn it! I'd better get this thing fixed ...

302:30:44 P Okay. You all set to go to breakfast?

302:30:49 C ... Right now.

302:30:54 P Okay, I'll work ... before you do that, I'll work out. ... before we do any ... before we start the approach.

302:31:04 C What?

302:31:06 P Before we do anything else, we'll work this darkness approach.

302:31:21 C What?

## GUAYMAS

302:59:02 CC Gemini VII, Guaymas CAP COM. If you copy, place your T/M switch to REAL TIME and ACQ AID position.

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302:59:09 P7 Roger. We have.

303:00:23 CC Gemini VII, on your Command Pilot, your temperature is valid. The Pilot should leave the thermometer in mouth a little longer and keep his mouth tightly closed.

303:00:39 C7 You want a blood pressure on me, Guaymas?

303:00:40 CC Negative. They'll get that over the States.

303:00:43 C7 Okay.

303:00:44 CC I'd like an off the - prop quantity readout from you.

303:00:59 C7 Read 7 percent.

303:01:00 CC 7 percent.

303:01:03 C7 Roger.

303:01:05 CC Roger. Will you please stand by now for MCC CAP COM?

303:01:09 C7 Thank you.

## TEXAS

303:01:21 CC Gemini VII, Houston.

303:01:23 C7 Roger, Houston. Read you loud and clear.

303:01:25 CC Roger. Understand that you don't have an inter-connect. Our mistake. In lieu of that, I have another procedure.

303:01:38 C7 ...

303:01:40 CC I beg your pardon?

303:01:42 C7 Do you want to get the ...?

303:01:43 CC That's right. But let us hold the blood pressure until Carnarvon AOS, and request T/M switch - COMMAND.

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303:01:52 C COMMAND.

303:01:54 CC We'll give you a hack on the blood pressure, Frank.

303:01:58 C Okay.

303:01:59 CC I'd like to give you this procedure for the shirt-sleeve environment evaluation.

303:02:05 C Stand by.

303:02:07 CC We've got good temperatures on both Pilots.

303:02:32 C Go ahead.

303:02:34 CC Roger. Place the Pilot's Suit Flow Valve OFF. Place the red hose in Command Pilot's leg well. Command Pilot, remain in previous configuration.

303:03:04 C Go ahead.

303:03:05 CC Air flow as desired, and the suit heat exchanger as desired. Cabin Heat Exchanger FULL HOT. Recirc Valve, 45 percent - 45 degrees. Evaluate the cabin fan on and off. Record Cabin Temperature Test when com - scheduled: Air Flow Lever position, Loop Heat Exchanger setting, any suggested comment. You might take the same readings you took on the evaluations yesterday, Frank.

303:03:58 C Roger. We've already got that temperature bulb stowed away, way in the back. I'll see if we can get it out.

303:04:02 CC Well, I would suggest that you don't unstow too much.

303:04:08 C Well, last night we were told to, how much we had to stow to get ready, so we did.

303:04:12 CC Right. Well, we'll leave you some time in the flight plan today for stowage. About an hour. And we have some more time for review of your Retrofire procedures.

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303:04:23 CC If comfortable, you might keep this configuration.  
If not, return to the configuration that you had  
yesterday.

303:04:29 C Well, we're perfectly comfortable the way we are.

303:04:36 CC I see, Frank. They wanted to get an evaluation  
of your comfort level with this configuration,  
as opposed to the one that you had yesterday.

303:04:44 C Roger. I know. We'll try it. But I'm just  
saying, we're very happy and pleasant the way  
we are, but we'll try your approach.

303:04:51 CC Roger. Thank you, Frank.

303:04:58 CC In passing, Frank, I might note that today is  
the first - the 62nd anniversary of the first  
flight. I'm passing you over to Surgeon now.

303:05:10 CC Gemini VII, blood pressure coming up.

303:05:16 C Roger. Blood pressure.

303:05:31 CC Your cuff is full-scale, Frank.

303:05:33 C Roger.

303:05:46 CC While that's bleeding down, Gemini VII, give  
me your sleep report, please.

303:05:49 P Roger. I slept about 5 hours very well last  
night, Doctor ... and 5 hours rather inter-  
mittently.

303:05:58 CC That was the Pilot, 5 hours intermittently.

303:06:00 C Right.

303:06:02 CC Roger. Copy.

303:06:29 C Stand by for exercise.

303:06:49 C Coming down with blood pressure.

303:06:50 CC Roger, Gemini VII.

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303:07:12 CC Full-scale.

303:07:13 C Roger.

303:07:46 CC Cut off that diastolic pressure on the pre-exercise blood pressure, but it's no problem, Frank. We'll carry on through this one.

303:07:53 C Roger.

303:08:00 CC Don't unplug it until I advise, though.

303:08:05 CC Coming through very nicely. Coming nicely now.

303:08:15 CC Have you had any trouble with your links, Gem - with your lips, Gemini VII?

303:08:19 C Negative. They're pretty good.

303:08:26 C Jim's beginning to look like Santa Claus though.

303:08:30 CC Well, let him keep it on then when he gets back.

303:08:39 CC Roger. We have a good blood pressure, Gemini VII. Now stand by for your food and water report.

303:08:49 C Roger. Command Pilot - water, 1093 ounces. 2 meals last night: Day 13, Meal B. Excuse me - last night it was Day 10, Meal C. We haven't had breakfast yet.

303:09:10 CC Do you know yet what you're going to eat for breakfast?

303:09:14 C Stand by. We'll give it to you right now.

303:09:16 CC Roger. And if you don't eat it all, advise me later on.

303:09:23 C For Pilot, is 845 ounces; and last night it was the same meal: Day 10, Meal C.

303:09:31 CC Did you eat them all?

303:09:37 CC Did you eat the whole meal last night, Gemini VII?

303:09:39 C ...

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303:09:45 CC Roger. I have a gun count - while you're looking up this morning's meal.

303:09:51 C One correction, 0446.

303:10:02 CC Did you say 0446 on the gun?

303:10:17 C Yes, 04460, ...

303:10:19 CC Roger. Copy the last 0.

303:10:23 P Houston, we're going to have for breakfast this morning - Day 11, Meal A.

303:10:27 CC Roger. 11, Meal A.

303:10:30 CC And how are your skins?

303:10:34 C We're in pretty good shape.

303:10:36 CC Very good. You might use the wipes that are in the meal packs - and do you have any difficulty with your throats?

303:10:43 C No. A little harsh. Not bad.

303:10:46 CC Roger, Gemini VII. Back to CAP COM.

303:10:56 CC Gemini VII, Houston.

303:10:58 C Go ahead.

303:10:59 CC Roger. Have you been using your yaw-left thrusters?

303:11:02 C Negative. We're instructed to - yaw left? Yes.

303:11:05 CC Roger. Did you perform on your S-5?

303:11:10 C Negative.

303:11:13 CC Have you noticed any degradation in the performance of your yaw-left thrusters?

303:11:16 C Negative.

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303:11:19 CC Roger. Request you pump your H<sub>2</sub> tank pressure to 550.

303:11:25 C Roger.

303:11:26 CC And we're standing by for your GO/NO-GO readout.

303:11:29 C Stand by. Coming up.

303:11:32 P GO/NO-GO readout. Main battery okay, holding its usual 22.5. Fuel Stack readouts: 1A, 5.5 amps; 1B, 6; 1C, 5; 2B, 3.5. Main bus voltage was 25.5. RCS-A: 2900; 35 on the temp. RCS-B: 3000; 85 on the temp. Left Secondary O<sub>2</sub>, 5400; Right Secondary O<sub>2</sub>, 5300.

303:12:14 CC Roger. Copy.

303:12:17 C Charlie, if you knock off the ... machine we'll run all these experiments today.

303:12:21 CC Roger. Just see what you can get, Frank, and BLUE TEAM is happy to give you the GO for the big 207-1.

303:12:28 C Okay, fine. But on this experiment, though, we'll have to be awful careful with the fuel.

303:12:34 CC I agree with that 100 percent, Frank.

303:12:36 C Okay.

303:12:39 CC We're giving you a T<sub>R</sub> for 207-1.

303:12:42 C Very good.

303:12:50 CC We've got no map. We're trying again, Gemini VII.

303:12:54 C Roger.

303:12:59 C We got it that time.

303:13:02 CC Roger.

303:13:32 CC Gemini VII, Houston. Did you copy that today is the 62nd anniversary of the first powered flight?

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303:13:39 C Roger. ... now.  
303:13:42 CC We've come a long way, right?  
303:13:45 C Roger.

## CANARY ISLANDS

303:20:04 CC Gemini VII, Canary.  
303:20:06 C Go ahead, Canary.  
303:20:07 CC Roger. I have a PLA update for you.  
303:20:12 C Just a minute.  
303:20:13 CC Okay.  
303:20:25 C Go ahead.  
303:20:26 CC Okay. 192-1: 305:53:11; 193-4: 308:46:23;  
194-4: 310:21:51; 195-4: 311:57:13; 196-Bravo:  
313:28:41; 197-Bravo: 315:05:18; 198-Bravo:  
316:42:27; RET 400K; 21 plus 20 for all areas;  
and the weather is good in our area.  
303:22:04 C Thank you, Canary.  
303:22:06 CC You're welcome.  
303:22:28 CC VII, Canary.  
303:22:30 C Go ahead.  
303:22:32 CC Roger. Do you have your Fuel Cell Heater switch  
in the ON position?  
303:22:36 C Yes. Yes there, Canary. And I've been holding  
it there ever since they told me to.  
303:22:41 CC Okay. Very good. And we'd also like to know  
how much of high-speed black-and-white film you  
have left.  
303:22:51 C Same as we gave on the film report last night.

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303:22:54 CC Okay. Thank you.

303:22:58 C Tell the Pipeliner to take it easy, will you? One guy is holding the hydrogen bottle on, the other is trying to get the cameras out, and the third guy is copying down PLA.

303:23:08 CC ... understand.

303:23:11 C Roger. They are supposed to do a little of the shifting down there instead of leaving it all to us.

303:23:17 CC We'll pass that along for you.

303:23:19 C Thank you.

303:26:31 P We'll work this darkness.

303:26:37 C ... Hack. ... 06, 01, and 303:26. Hack.

## CANARY

303:26:40 CC VII, Canary.

303:26:43 C Go ahead.

303:26:45 CC You can go AUTO on the Heater switch. AUTO on the Hydrogen Heater switch.

303:26:46 C Hack. Hack.

303:26:50 C Thank you. How's the ...?

303:26:56 C Awful foggy area. Hack. Hack. ...

303:26:59 P ... there all here.

303:27:05 C Hack.

303:27:15 C Hack.

303:27:25 C Hack.

303:27:44 C Hack.

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303:27:53 C Hack.

303:28:05 C Hack. ...

303:28:25 C Hack, Jim! Straight down, if you can get it that way. I guess ...

303:28:53 P Yes, we're - we're -

C Yes, I'm pitching down now.

P ...

P Some of the sequences will not be quite as high.

C Hack.

P May be ...

C Boy, your window sure looks ...

P I know.

C You want to give it to me over here? I got some pitch and it's ...

P ...

C Give me ...

P Hack.

P Hack.

P Hack.

P Hack.

C Pitch it up some, Jim. ...

C ...

C Give me pitch up ...

P I am.

C Okay. ...

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P I'm trying to get the ... down to the right.  
P ...  
P ... windows ...  
C Did you get any ...  
P ...  
C ... How's that?  
P ... Give her too much of a yaw left and then  
we're going to have to aft. We're going to  
have to have ...  
C Okay. We're in the clouds now, ... pictures.  
303:40:08 P I believe we're over Arabia at this present  
time. We're taking moving films of one-frame-  
per-second, f16, and also some Hasselblad and  
stuff.  
303:40:10 C Frame 39, Magazine B.  
303:40:15 P ... Frame 39, Magazine B, of Saudi Arabia, and  
some of the cloud formations of the coastline.  
303:40:27 P On the food packages, the velcro-pads are not  
big enough to do any good at all.

## CARNARVON

303:54:01 CC Gemini VII, Carnarvon CAP COM. We have a valid  
temperature. Would you bring your blood  
pressure up?  
303:54:07 P Coming up.  
303:54:19 CC Gemini VII, Carnarvon Surgeon. Your cuff is  
full-scale.  
303:55:06 CC Gemini VII, we have a valid blood pressure.  
We're standing by for your exercise.

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303:55:15 P MARK.

303:55:45 CC Gemini VII, your cuff is full-scale.

303:56:36 CC Gemini VII, we have a valid blood pressure. In our proceedings, we would like you to help us with a - Houston's records disclose that Meal C of Day 10 that was reported eaten for supper last night, had been eaten previously. Have you readily available information on that, please?

303:57:00 P Stand by. We'll check it.

303:57:12 P Go ahead with your other questions while we're looking up this one.

303:57:16 CC Do you have a report on your columns?

303:57:20 P Roger. I'll get you that too.

303:57:22 CC Thank you.

303:57:24 P Column 5 for the Pilot was 32. Column 6, 7.

303:57:29 CC Roger.

303:57:41 P Column 5 for the Command Pilot is 32. And for Column 6 is also 7.

303:57:47 CC Thank you ...

303:57:49 P As I understand it, Day 10, Meal C had been previously reported. Is that correct?

303:57:53 CC That's affirmative.

303:57:58 P Roger. We have it here too at 221 hours. We must have made a mistake. I wish we could go back and check on it. I think this bag is still in the cockpit. We'll check it and report later on what the meal was.

303:58:11 CC Roger. Thanks a lot, Gemini VII. Surgeon out.

303:58:27 CC Gemini VII, Carnarvon CAP COM. Everything looks real good from here on you.

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303:58:33 C Thank you, Carnarvon.  
303:58:37 C ... good.  
303:58:49 CC Roger. Say again, VII.  
303:58:54 C I said very good.  
303:58:55 CC Oh! Mighty fine!

## GUAYMAS

304:32:14 CC Gemini VII, Guaymas CAP COM. Place your T/M switch to REAL TIME and ACQ-AID position.  
304:32:23 CC Roger. We have it. Place your Adapter C-Band to CONTINUOUS.  
304:34:27 CC Gemini VII, Houston.  
304:34:36 CC Gemini VII, Houston.  
304:35:06 CC Gemini VII, Houston.  
304:35:08 C Go ahead, Houston.  
304:35:09 CC Hello again.  
304:35:11 C ...  
304:35:12 CC I'd like to find out how much high-speed black-and-white film you have on-board.  
304:35:19 C Houston - we gave you that last night, Charlie. Did you copy last night? Turn the switch up, we have no ...  
304:35:24 CC Negative. That's okay. We'll say that it's the same. I have a purge procedure for you.  
304:35:30 C It's 13 exposures, Charlie.  
304:35:32 CC Thirteen. Thank you.  
304:35:37 CC I have a purge procedure for you.

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304:35:39 C Just a minute. We're making another one of those cabin survey - temperature survey ...

304:35:43 CC Okay.

304:35:47 CC We'll be standing by for your Mark to start.

304:35:51 C Okay. It's the quality and evaluation.

304:36:00 C We've got the red hose in my leg well and Jim is closing it off. But the cabin temperature's about the same this morning, but he notices a little lack of circulation.

304:36:11 CC Gemini VII. Understand.

304:36:12 C We've taken measurements. We've drawn pictures. We've got quality and descriptions. I hope we're getting everything they want now. We've been doing it for about 4 days so I think we've got it covered.

304:36:22 CC I'm sure you have, Frank. Thank you.

304:36:26 CC We have short flight plan update and this purge procedure. And we'd like to have some qualitative evaluations of what you think you can do in the experiments today. I'd like to start off with the purge procedure, when it's convenient for you.

304:36:39 P Go ahead.

304:36:40 C Jim's ready.

304:36:41 CC Okay. Place Crossover on and start a normal purge of Section 1.

304:36:48 P Roger.

304:36:51 CC Place your T/M switch to COMMAND.

304:36:56 P T/M COMMAND. Going Crossover on and normal purge Section 1.

304:37:00 CC And C-Band Adapter switch to COMMAND.

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304:37:05 P C-Band Adapter, COMMAND.  
304:37:10 CC Cryogenic Gaging switch to ECS O<sub>2</sub>.  
304:37:25 CC Cryogenic Gaging to FUEL CELL O<sub>2</sub>.  
304:37:39 CC Cryogenic Gaging switch to OFF.  
304:38:03 C Charlie, the doctors are wondering about us eating Meal C twice. ... I think that we did have Meal C, Day 10 last night and the other one must have been long gone. We can, I think, determine it by checking back on the other Meal C's we've eaten. Some of these meals are logged on the tape that surrounds them and it gets lost after we take them off.  
304:38:35 CC Roger. That's okay.  
304:38:53 C Flight, do you want to go ahead? I can copy now.  
304:38:56 CC Okay. I'll give you your flight plan update. They're all deletions, Frank. For cloud cover and equipment failure. First -  
304:39:24 CC - Time: 307:48:37; delete the cloud cover.  
304:39:29 C Charlie, you're coming in very weak.  
304:39:32 CC Roger. The second item is an S-8/D-13 at 307:48:37; delete, please. And place Fuel Cell Control Number 2 circuit breaker on.  
304:39:48 P Roger.  
304:39:52 CC Request normal purge of Section 2.  
304:39:56 P Normal purge, Section 2. Roger.  
304:40:00 CC Third item in the flight plan update is MSC-4 at 308:12:30; delete for equipment failure.  
304:40:16 C Charlie, we can't read you.  
304:40:19 CC Roger. Do you read now, Frank?

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304:40:21 C Negative. Just barely. They did some switching and now you're coming in very, very weak.

304:40:41 CC Gemini VII, Houston. How do you read now?

304:40:43 C Clear now. Go ahead.

304:40:45 CC Roger. Did you get the second and third items of the flight plan update?

304:40:49 C No. I didn't even get the first one.

304:40:51 CC Roger. The first item is the MSC-4 at 306:11:39.

304:40:58 C You cut out again, Charlie. Say again, please.

304:41:01 CC 306:11:39: MSC-4. Delete.

304:41:11 C Is that because of clouds?

304:41:12 CC That's affirmative. Second item S-8/D-13 at 307:48:37; same problem.

304:41:27 C Roger.

304:41:28 CC Third deletion is MSC-4 at 308:12:30; this is equipment failure.

304:41:40 C Understand. Equipment failure.

304:41:43 CC As a general remark to the experiments, Frank, we only - we'll attempt to provide you with the information. You're the best judge of whether you can do it or not. We do feel, however, that of primary importance is the D-4/D-7 Sun Measurement and the S-8/D-13 Window Measurement.

304:42:01 C Okay.

304:42:04 CC If you think there are other experiments of another nature that you feel you could do, we'd be happy to know about it and work up information for you in this line.

304:42:13 C The only thing we're short on is OAMS fuel, Charlie.

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304:42:16 CC Okay. Thank you very much, Frank.  
304:42:18 C Roger.  
304:42:21 C Second section purge complete.  
304:42:24 CC Roger.

## BERMUDA

304:42:31 CC Next item on the purge is Fuel Cell Control Number 2 circuit breaker off.  
304:42:39 P It's off.  
304:42:40 CC Crossover off.  
304:42:43 P Off.  
304:42:44 CC And place the Voltmeter Select momentarily to 2A and 2C position, then back to C. Give readouts on 2A and 2C.  
304:42:57 CC We'd like those voltages.  
304:42:59 P Roger. 2A and 2C are zero.  
304:43:05 CC Understand. Have you been using any thruster activity this morning?  
304:43:12 P Roger.  
304:43:17 CC How were your rates during the night?  
304:43:19 C We went DCS through the night so he could get a ... - check the stars for Retro.  
304:43:24 CC Roger.  
304:43:50 CC Gemini VII, Houston. Could you give us an on-board propellant quantity, please?  
304:43:55 C Roger. Reading 7 percent.  
304:43:58 CC Understand. 7 percent.

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304:44:01 C Roger.

304:44:11 C Charlie, you said something about D-4/D-7 on the sun. We don't have any of that here - written down here.

304:44:16 CC That's right. That'll be coming up in the afternoon update, Frank.

304:44:20 C Okay.

304:44:26 C Looks like D-4/D-7's coming out high on the hog.

304:44:29 CC Yes. That's been a real successful experiment.

304:44:34 C I wish we could get MSC-4 going.

304:44:36 CC Yes, I know. That's been pretty frustrating.

304:44:42 CC Incidentally, Frank, a Navy Commander, J. R. Hunt, sends his best congratulations. He had previously held new world endurance - world endurance record for unrefueled flight of 264 hours and 14 minutes.

304:44:58 C Roger. Was that in a ...?

304:45:01 CC I beg your pardon.

304:45:13 CC Oh! That's affirmative, Frank. That was in a lighter-than-air craft.

304:45:17 C Roger.

304:45:35 CC Frank, this is Houston. We'd suggest that you could start using up the rest of the film that you've not yet used on-board.

304:45:43 C Roger. We've been trying to do that, Charlie. We'll continue. We want to get it all used before the day is up.

304:45:50 CC Very good.

304:45:55 CC The carrier's right underneath you now, Frank, and Wally and Tom are just airborne.

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- 304:46:01 C Okay. It's cloudy out here now.
- 304:46:04 CC Is it?
- 304:46:12 CC Gemini VII, Houston. Do you think you can do any tracking tests at all or would you prefer to avoid them completely?
- 304:46:19 C Well, we can try. I'd certainly like to try. The only thing I'd like to know - just how much fuel you think we ought to save for this final ... I'd like to save about 5 percent - 4 to 5 percent.
- 304:46:31 CC Roger. That's what we've been discussing and we've arrived at the same figure.
- 304:46:36 C Very good.
- 304:46:47 C I'm sure we can do some tracking test, if we set it up properly and do it all in pitch.
- 304:46:52 CC Roger, Frank. We'll work on that. Thank you very much.
- 304:46:55 C Roger.
- 304:49:08 CC Gemini VII, Houston.
- 304:49:16 CC Gemini VII, Houston.
- 304:49:18 C Go ahead.
- 304:49:19 CC Surgeon would like to know if you've finished your breakfast and have updated water data.
- 304:49:25 C Roger. We finished our breakfast, except Jim didn't eat all his gingerbread and I only ate two of them.
- 304:49:30 CC Roger. Do you have a water count, please?
- 304:49:33 C Roger. Stand by. We're looking it up.
- 304:49:41 CC We would like very much to get any of the micrometeorite data that you could from the dim-lights phenomena photographs.

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304:49:49 C ... what, Charlie?

304:49:53 CC We would like to get any information available from the dim-light photographs on the micro-meteorite section.

304:50:23 CC Gemini VII, Houston.

304:50:25 C Go ahead.

304:50:27 CC Referring to the dim-light phenomena in your flight plan, we would like to get micrometeorite information.

304:50:34 C We've already made several counts of our entire night passes on it.

304:50:38 CC Very fine. Very fine. Thank you very much.

304:50:41 C Go it lightly.

304:50:46 CC Do you have that water count, Frank?

304:50:48 P Roger. 845 ounces for the Pilot.

304:50:57 CC Do you have the gun count?

304:51:00 P 1108 ounces for the Command Pilot.

304:51:06 CC Roger. Do you have the gun count, please?

304:51:09 P 4514 is the gun count.

304:51:14 CC Thank you very much and good day.

304:51:16 P Adios.

304:52:17 C Okay, photometer on --

304:52:18 P Okay, this is D-8/S-13?

304:52:19 C Right. Sequence 04.

304:52:20 P Sequence 04. Okay.

304:52:44 P ... millimeters dump.

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304:52:48 C Okay. We're doing S-8/D-13, Sequence 04.

304:52:50 P Starting at 304:52:50, photometers mounted on the bracket and its up full ...

304:53:07 P Gee, it's ...

304:53:34 P I'm making a slow scan of the window; however, I can not tell ... normal reads, because I can not get down there and look at it. Am I ready?

304:53:40 C Ready.

304:54:02 P I don't know if our delaying tapes are working.

304:54:07 C What is that?

304:54:10 P They can't receive them. I can't dump information. ...

C ... supposed to receive ... 3045 ...

P That's right ...

C ...

304:55:27 P Okay. Completed.

304:55:29 C Okay. Survey complete at 304:55; at 305:16 taking some high-contrast black-and-white pictures of clouds, land, ...

304:55:38 P South America.

304:55:39 C ... Magazine F, Exposure's 13.

305:18:53 CC Gemini VII, Houston. Voice check.

305:18:57 P This is VII. Read you loud and clear, Houston.

305:19:00 CC Reading you loud and clear. Houston standing by.

305:19:06 C We completed the S-8/D-13 Window Scanner. We hope we got the telemetry.

305:19:11 CC Real fine. Thank you.

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305:19:14 C You want to check on it?  
305:19:16 CC Wilco.  
305:20:30 CC Gemini VII, Houston. We'll have a report on  
that T/M as soon as we can get it.  
305:20:34 C Thank you.  
305:21:47 P At 305:21, with high-contrast film, chased some  
clouds over the Atlantic Ocean between South  
America and Africa. High-contrast --

## CARNARVON

305:31:35 CC Gemini VII, this is Carnarvon. You're looking  
good on the ground. We have nothing for you.  
We'll be standing by.  
305:31:39 C Thank you, Carnarvon.  
305:33:22 C You mean Frame Number is 13. At 305:32, took  
picture of a small island out in the Atlantic,  
possibly Ascension, using Magazine F, Exposure  
14.  
305:35:55 P Two photos taken of twilight using high-speed  
black-and-white film. They were taken at  
305:35, Magazine J, Exposures 28 and 29 - 27,  
28 and 29. They were taken wide-open in 1/4  
second.  
305:36:31 C ...  
305:36:49 P M-28 ... They were two twilight photos ... film  
were taken at 1/4 second, an M-28. What was  
your ... time?  
305:47:42 C Now that we're in the fourteenth - thirteenth  
day here, and we observed the night sky without  
a moon, we both agree that there are many more  
stars visible from space than there are from a  
high-flying airplane. We were deceived the  
first few days of the flight because of the

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bright moon. ... moon does not have the definite banding ... a little lighter ...

305:49:50 P We found out that on moonless nights the best horizon to use for sextant sightings is probably the upper airglow layer; whereas, on full-moon nights the best horizon is the earth itself, or the upper cloud layer. At 305:51, noticed a meteoroid in the atmosphere below us. I was the first one to sight that.

305:51:12 P ...

305:51:18 C ...

305:51:32 C Cloud horizon varies ...

305:52:46 P Yes, yes! He stands through the airglow. ...

P At 306:27, starting 1-frame-per-second shots of area designated to be photographed and it looks too cloudy for ... photograph, but we're covering it with 16mm film on Magazine 8, 1 frame per second; fll at 200.

306:00:23 CC Roger. Gemini VII, would you turn your BIO MED Recorder Number 1 on to CONTINUOUS, please?

306:00:27 C Roger. We're just doing that now.

306:00:32 C It's on.

306:00:33 CC Roger.

## GUAYMAS

306:08:50 CC Gemini VII, Guaymas CAP COM. Everything looking good here on the ground. We'll be standing by if you need us.

306:08:55 P Roger, Guaymas. VII here.

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## TEXAS

306:10:15 CC Gemini VII, Houston.

306:10:25 CC Gemini VII, Houston.

306:10:26 C Hi there, Houston! How are you this morning?

306:10:29 CC Just fine. You sound very cheerful.

306:10:31 C Did you sleep well last night?

306:10:34 CC Yes, I drank enough water, too.

306:10:38 C Okay. Let's check.

306:10:40 CC How about you?

306:10:42 C Very good.

306:10:46 CC Have an excellent weather report for you in 207-1. Looking real good. Just couldn't be better. They had - same thing today - or yesterday rather, for Gemini VI.

306:11:00 C Very good.

306:11:02 P ... waves were about 5 feet high for Frank.

306:11:09 CC I'd like to find out if you feel your stowage is going to be nominal for Retrofire. We were trying to pin that down as accurately as we can.

306:11:19 C Yes. I think we read through them last night and it will be nominal for Retrofire.

306:11:24 CC Roger. And has anyone asked you how much time you feel we should allow you for completing your stowage?

306:11:32 C I think we can do it all in an hour, Elliot, easy.

306:11:36 CC Okay. We'll give you a lot more than that. We're just trying to make sure. I'd like to check with you on this shirt-sleeve environment

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evaluation - make sure you completely understand that. If you have the three sets of readings of yesterday, we copied down the first set from you but we did not get the other two sets.

- 306:11:59 C Roger. We've got a whole - about 15 pages and a blank book here on cabin temperature surveys.
- 306:12:06 CC Very good. And you understand we want the same sets of readings taken today with this configuration you have now?
- 306:12:14 P It's 30-some minutes.
- 306:12:17 CC Say again.
- 306:12:18 C We evaluated the temps hose off and the two red hoses in my foot well - at 30-some minutes this morning, and then read the cabin fan, noted circulation, and we've drawn pictures. I think we have it pretty well covered.
- 306:12:31 CC Okay. Does that mean then that you have gone back to your previous configurations?
- 306:12:36 P That's affirmative.
- 306:12:38 CC Did you go back because you did not find this other one comfortable or because you just didn't want to fool with it any more?
- 306:12:45 C We went back for three reasons. One is: it drapes the ... hose right over the switches and the hand controller; the second is: running the cabin fan really pumps up the amps; and the third is: we were very comfortable the way we were so we ran it for 30 minutes the other way and it slowed down our impressions and we went back to the way we were.
- 306:13:04 CC Okay. Did you take some readings with this other configuration, also?
- 306:13:08 C We have several readings from the other configurations.
- 306:13:10 CC Okay. That sounds very complete.

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- 306:13:16 C Strangely enough, with both hoses in my side the temperature didn't vary much; the only thing Jim noticed was a little stuffiness - not quite as much insulated, but temperature was about the same.
- 306:13:29 CC Roger. I have a brief flight plan update here when you're ready to copy.
- 306:13:36 C Roger. We're getting out the book.
- 306:13:48 P Go ahead, please.
- 306:13:51 CC S-5: 306:47:46; Mode 02; pitch 33 degrees down, yaw 90 degrees right. S-5: 308:23:25; Mode 02; pitch 34 degrees down, yaw 90 degrees left. On the - did you copy that all right?
- 306:14:30 P Roger, Elliot.
- 306:14:31 CC Okay. Let me explain this now. These are both trying to get essentially the same picture. It's Kalahari desert area in Africa and neither of these revolutions is very good for this picture. They essentially just straddle it - it's probably not going to be too good a picture, but we're just trying to get the best we can and you'll essentially have a choice of these two. In other words, if you get it successfully on the first one, then you can skip the second one, or vice versa. So, essentially, we're after one good picture or at least as good as you can get it, even though this one's marginal. And considering that we'd like you to take the fuel required into consideration also, and not try to expend very much fuel on this, if the first try's difficult to get from a fuel standpoint, then wait for the second one.
- 306:15:28 C Roger. We're still reading 7 percent on the fuel cell. We'll probably go ahead.
- 306:15:41 CC On the reentry yesterday, we planned to get some more briefing for you on this later today, but we'll just tell you something about it right now. Wally had a very good mark on his

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downrange and it looks like he was extremely close on it. Crossrange - still seems to be some question about it. He was following the needle and it was telling him to go to the right, and he ended up to the right. We're trying to pin that down a little bit better. We're going to give you some more briefing on anything he might have to pass on to you from that. Also, though, I'd like to say that as soon as you come out of blackout - in other words - when you finish your reentry steering - guidance steering - we want you to tell us what - how you ended up; what it looks like to you, as far as to how you're going to land; that is, downrange and crossrange. That'll help us know, in the recovery efforts, how to try to get to you as quickly as possible.

306:16:43 C Okay.

306:16:45 P How far off from the carrier were Wally and Tom?

306:16:52 CC They were 2 miles long and 11 miles to the right.

306:16:56 C Okay. Fine. There's lots riding on that!

306:16:59 CC Say again.

306:17:01 C I say I have to get the accurate figures because we have a lot riding on that.

306:17:05 CC Okay. Well, we're trying to pin it down better ourselves and understand it better. Also, we just are having difficulty understanding this crossrange error.

306:17:15 C Roger.

306:17:31 CC Tried to look for you again this morning, but it was overcast so we haven't had a chance to see you yet.

306:17:36 C Roger. Not many more chances.

306:17:40 CC Yes, just one more.

306:17:43 CC Good morning, Gemini VII.

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306:17:45 C Good morning, Mr. Kraft.

306:17:47 CC Fuel cell performances are still excellent.

306:17:50 P It looks good from here too.

306:17:52 C Jim and I were just talking last night and in all the briefing and everything we had on the fuel cell before the flight, the cardinal rule was never purge with the Delta-P light on.

306:18:02 CC Roger.

306:18:04 C But your auxiliary has done real well.

306:18:14 CC Talked to Marilyn and Sue last night. They're in good shape.

306:18:18 C Say again.

306:18:20 CC Talked to Marilyn and Sue last night. They're in good shape.

306:18:25 C Is Marilyn - still - expecting?

306:18:31 CC Affirmative. You'll be the first to know if she's not.

306:18:37 P ...

306:18:41 CC Gemini VII, this is Surgeon. She said to tell you that we had a little bit of a scare the other night but didn't amount to anything. She's sorry she couldn't deliver.

306:18:54 P Well, that's the way it goes.

306:19:06 CC VII, I have another flight plan update, just came in here.

306:19:09 C Okay. Stand by.

306:19:18 C Go ahead.

306:19:20 CC Dim-Lights: 308:35:15; Sequence 03; Mode 01; post-sunset. Dim-Lights: 308:40:00; Sequence 02; clouds, no moon. Dim-Lights: 308:50:00;

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Sequence 03; Mode 03; south horizon, - use 120 seconds exposure in place of 10 seconds. Dim-Lights: 309:05:00; Sequence 03, --

- 306:20:29 C Elliot, we can't read you.
- 306:20:31 CC ...
- 306:20:33 C We can't read you at all.
- 306:20:34 CC Where did you lose me?
- 306:20:36 C We haven't even gotten started with you.
- 306:20:40 CC Roger. How do you read me now?
- 306:20:41 C Loud and clear, now.
- 306:20:43 CC Okay. Let's try again. Dim-Lights: 308:35:15 - you reading okay?
- 306:20:53 C Roger. Loud and clear.
- 306:20:55 CC Sequence 03; Mode 01; post-sunset. Dim-Lights: 308:40:00; Sequence 02; Mode - correction, no mode on that; clouds, no moon. Dim-Lights: 308:50:00; Sequence 03; Mode 03; south horizon, use 120 seconds exposure instead of 10 seconds. Dim-Lights: 309:05:00; Sequence 03; Mode 05; pre-sunrise start time is 3 minutes prior to sunrise and have a general comment: do not go beyond 40 frames total on high-speed black-and-white. Do you copy?
- 306:22:16 C Roger, Elliot, but I don't think we're going to have the fuel to do all that.
- 306:22:19 CC Okay. That's up - just play it accordingly - with your fuel cutoff that we've given you.
- 306:22:25 C Okay, fine. It's right - and it's bounding between 6 and 7 percent and we know there's an inaccuracy - big one. However, we elected to keep using it.
- 306:22:38 CC Roger.

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306:23:05 CC Gemini VII, this is Houston. We'd like to concur or confirm with you that you have a cutoff figure for today of 5 percent.

306:23:15 C That's right, 5 percent, and right now we're about 6 or 7.

306:23:18 CC Roger.

306:23:29 CC Gemini VII, this is Surgeon. Frank, do you have any lotion remaining?

306:23:34 C Any lotion?

306:23:35 CC Roger.

306:23:36 C We have some but we sure don't need it, Jack. We are as greasy as can be.

306:23:41 CC Wonderful! Have you had any ear plugging at all with the oxygen?

306:23:46 C Roger. When we sleep and you wake up, it - you have to clear your ears just the same as when you fly on the ground. I was surprised at this. I didn't think we would notice that after 13 or 14 days.

306:23:56 CC Roger. Frank, you might consider reentry tomorrow morning. You guys think about it today with your sleep and evaluate your own fatigue state so we can get a reading on it early tomorrow morning, and think about whether you're going to want to do anything with this Dexadrine or not.

306:24:15 C I don't know if I can stand any of the ... you give in one of those pills.

306:24:20 CC That's the spirit! We haven't got any "calmers" up there.

306:24:29 C Did Pete take one?

306:24:32 CC You say, did Pete? Affirmative.

306:24:35 C I guess if he can hack it, then anybody can.

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306:24:40 CC Sounded like he was ready to jump out of the cockpit though.

306:24:44 C Listen, I'll tell you, we both are ready to jump out of this cockpit.

306:24:49 CC Roger, that. - -

306:24:54 C ... the formalities going aboard ship now.

306:25:01 CC Very good.

306:25:31 CC Just get him to tell you how to fly a Roger Pass.

306:25:34 C A Roger Pass?

306:25:35 CC Affirmative.

306:25:38 P Where do we catch Number 3 wire?

306:25:41 CC There you go!

306:49:06 C ...

306:49:13 F Yes, we've got plenty.

306:49:15 C ... at night.

306:49:22 P ...

306:49:29 C It's at night.

306:49:37 P The laser pass? Hey, we might pick it up now!

306:50:23 P First time I heard them in the daylight.

306:50:42 P Okay. ... Baker coming out on the letter.

TANANARIVE

306:50:52 CC Gemini VII, Houston. How do you read?

306:50:54 C Loud and clear, Houston.

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306:50:56 CC Roger. Have a slight update on your MSC-4 time.  
You ready to copy?

306:51:04 C One minute.

306:51:11 C Go ahead, please.

306:51:14 CC The time is 307:34:30. Do you copy?

306:51:23 C 307:34:30.

306:51:26 CC Roger. We are continuing to check the weather.  
It is variable and changes rapidly, Hawaii CAP  
COM tells us, so we're going to keep you posted  
on it at Carnarvon and Canton, and then again in  
Hawaii, and we'll cancel you out at the last  
minute if the weather goes bad; otherwise,  
plan on it.

P Tell him we've got to start attitude control  
earlier.

306:51:49 C Okay. Thank you.

306:51:53 C We'll be all ready. We're glad to start  
attitude control early and be ready for you  
anyway.

306:51:57 CC Roger, Frank.

306:52:20 CC Gemini VII, Houston.

306:52:26 C Hello, Houston.

306:52:30 CC We're considering asking you to set up this  
alternate circulation - shirt-sleeve circulation  
in the cabin for a longer period than 30  
minutes. What do you think about that?

306:52:47 C I don't mind doing it. I don't want to use the  
suit fan - the cabin fan any longer than that  
though, Elliot.

P I could tell them what the story is right now.  
It's hotter over here ...

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- 306:52:54 CC Roger. Well, the evaluation just calls for evaluation with the cabin fan on and off. That does not mean you have to run it for a very, very long time.
- 306:53:11 C We'll do it if you want us to. We both feel we have ample data now at 30 minutes. Jim says he can tell you exactly what it feels like.
- 306:53:20 CC Okay. Well, we were wondering about this stagnation that Jim reported, whether that might tend to clear up in another - in a little longer time, or can you confirm that it would definitely be that bad, or get worse?
- 306:53:37 P Houston, when you put both the exhaust hoses over on one side and have the suit hoses up above, the circulation goes to one side and you get a stagnant area. The best way to have circulation in the cockpit is to have an exhaust hose on either side and that's how we have it right now.
- 306:53:56 CC Roger.
- 306:53:58 CC Do you think the cabin fan would improve that situation, or really not particularly help? You just have to have the exhaust on each side.
- 306:54:06 P The cabin fan definitely improves that situation. When we turn the fan on, we get a lot of circulation on both sides. However, the fan uses electricity and that's why we're reluctant to use it.
- 306:54:18 CC Say again. The last sentence.
- 306:54:20 P The fan helps considerably. However, it uses up electricity; that's why we're reluctant to use it.
- 306:54:25 CC Roger, Jim.
- P Well, what have we got here? I think we've got your favorite.
- C Sausage?

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P        ... I thought they were cheese sandwiches.

C        ...

P        There really in the ...

C        ...

P        That's right ...

306:55:47    CC        Good luck on the laser, guys.

306:55:50    C        Okay, Elliot. Thanks a lot.

306:56:      P        Oh, no! No! No! 15 minutes is enough for  
                  a ... control. All we do is pitch down and yaw  
                  them the way we're supposed to.

306:57:03    CC        Gemini VII, Houston.

306:57:08    C        Go ahead.

306:57:09    CC        We were trying to check on what your main  
                  battery voltages were on the GO/NO-GO this  
                  morning. It's not recorded; it just says it's  
                  okay. Do you remember what the voltages were,  
                  or could you check them now?

306:57:22    C        Roger. They are a little bit lower than before;  
                  they were running around 22.5.

306:57:27    CC        22.5. Roger.

## CARNARVON

307:06:38    CC        Gemini VII, Carnarvon.

307:06:41    P        Go ahead, Carnarvon. VII here.

307:06:43    CC        Roger. The MSC-4 is NO-GO at this time at  
                  Hawaii due to weather. Houston will update you  
                  again over Canton. The weather keeps changing.  
                  We have your T/M on the ground. You're looking  
                  real good. We'll be standing by.

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307:07:02 P It's a shame to hear that, but we'll be standing by for the word at Canton.

307:07:05 CC Roger.

307:07:22 CC Also, if you can be prepared for the MSC-4 Experiment this pass - you copy, VI - VII?

307:07:31 C Go ahead, Carnarvon.

307:07:33 CC Roger. Be prepared for the MSC-4 in case the weather changes.

307:07:40 C Roger.

307:08:27 CC Gemini VII, Carnarvon. We've just been advised from Houston - they've checked the landing point of GT-VI. It's 2 miles long and 12 miles right and Flight advises that he thinks you're going to have trouble collecting.

307:08:46 C No strain, tell Flight.

307:08:48 CC Roger.

307:12:57 CC GT-VII, Carnarvon.

307:13:01 C Go ahead, Carnarvon.

307:13:02 CC Okay. MSC-4 is NO-GO at Hawaii. It is raining.

307:13:07 C Right. Thank you.

307:13:09 CC Roger.

**CANTON**

307:28:39 CC Gemini VII, Gemini VII, Houston.

307:28:44 CC Read you loud and clear.

307:28:46 CC Roger. Unfortunately, the weather at Hawaii is still bad. We're pretty well shot down after

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this revolution. We'll continue to watch for another one.

307:28:55 C Roger. Thank you.  
307:29:37 CC Gemini VII, Houston. We're going to work on the HF now or get some music going on the HF. You should have it fairly soon.  
307:29:46 C Roger.

**HAWAII**

307:32:04 CC Gemini VII, Hawaii CAP COM.  
307:32:06 C Come in, Hawaii.  
307:32:07 CC How you doing?  
307:32:08 C Fine. Understand it's raining down there.  
307:32:10 CC Just like always.  
307:32:14 C Too bad.  
307:32:16 CC Okay. We're showing you GO down here. Just a question. Did one of your Delta-P lights go out between Carnarvon and here?  
307:32:24 C Negative. They're both on.  
307:32:25 CC Okay. Very good.  
307:33:11 CC Wish you'd quit pouring water down on top of us.  
307:33:15 C Can't stop dumping.  
307:33:24 C One more day and you go back to sunny Houston.  
307:33:30 CC Do I have to?  
307:33:33 P That's what we figured.  
307:33:44 CC Maybe I can play the routine - you know - a good sailor never gets separated from his baggage.

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307:33:50 P Right.  
307:34:15 CC Hear that music on HF?  
307:34:17 C Roger.  
307:34:18 CC Okay.  
307:35:03 CC I think they're playing that song for the troops on the RKV.  
307:35:10 P Right.  
307:35:16 P CSQ had a rough go of it last night.  
307:35:19 CC Yes, that little ship - she just bounces and bobs.  
307:35:26 CC Could you see them when you went over?  
307:35:29 P No, we just talked to them.  
307:35:31 CC Okay.  
307:35:47 CC It looks like you're holding up real well down here. We'll be standing by if you need us.  
307:35:51 C Thank you.

## GUAYMAS

307:44:19 CC Gemini VII, Guaymas CAP COM. All systems look good here on the ground. We'll be standing by if you need us.  
307:44:25 C Thank you.

## TEXAS

307:46:24 CC Gemini VII, Houston.  
307:46:27 P Go ahead, Houston.  
307:46:29 CC Roger. This will be a UHF 6 pass.

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307:46:33 P Understand.

307:46:36 CC Have a flight plan update when you're ready to copy.

307:46:50 P Go ahead.

307:46:53 CC Node: 308:54:39; Rev 193; 139.6 degrees east; right ascension, 7:26:45. D-4/D-7: 309:22:00; Sequence 432; Mode 02; do this over Texas, that is, when we have acquisition. 309:39:00: begin working on stowage; 310:03:00: cabin temp survey; 310:44:00: crew status report on the Command Pilot at Hawaii; 311:16:00: crew status report on the Pilot at RKV. Do you copy?

307:48:25 C We copy. We'd like to change one thing. Do the cabin temp before we start the stowage because the thermometer stows in the farthest part of the spacecraft.

307:48:34 CC Roger. Go ahead and do that.

307:48:37 C Okay.

307:48:39 CC This stowage time is really just to get you started on it. We realize there'll be a few items that you'll have to finish up at a different time.

307:48:49 C Well, the center bracket on our stowage was sprung during launch and it's very difficult to close it. We have to pry it and everything else, so once we get it locked we don't want to get back into it again.

307:49:03 CC Roger.

307:49:07 CC MSC-2 and 3: 311:16:00; Sequence 03; correction, that's Mode 03 or 04 whichever is easier, and that will be done at the RKV. 312:17:00: flight plan report. 312:50:00: fuel cell purge and PLA update at the RKV. Tx coming up. 313:10:00 BIO MED Recorder Number 2, CONTINUOUS. 323:16:00: BIO MED Recorder Number 2, OFF. 324:02:00: fuel cell purge at Antigua. Do you copy?

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307:50:35 C Roger. We have all that.

307:50:42 C Roger, Houston. We read.

307:50:46 CC We show your Section 1 Delta-P light out.

307:50:51 C We confirm. It went out.

307:50:53 CC Very good.

307:50:55 C Can you give me some information on how you want to power-up for the platform alinement for tomorrow?

307:51:00 CC We'll be getting that to you. We haven't got that ready yet, Gemini VII.

307:51:05 C Thank you.

307:51:10 CC In the news today, there's quite a bit of write-up on Gemini VI and VII. We think you're pretty well up-to-date on that. One other item on the news here I'd like to read you. It's a quotation: "It's too late to mail early, so please mail now. Reports from around the country indicate the public is waiting longer than it should to mail Christmas gifts and greetings", signed Postmaster General Lawrence F. O'Brien.

307:51:44 P I have a stack of stuff up here, but I can't find a post office.

307:51:52 CC Outstanding!

307:52:02 P Roger.

307:52:03 CC As a matter of fact, we're hoping to have films shown here in the Center today, of the GT-VI pictures that they took of you. We're really looking forward to seeing those!

307:52:17 C Check our retrorockets, will you?

307:52:21 CC Roger, VII. Copy that.

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307:52:28 CC We hope we can't see them because the adapter section, of course, will be in the way.

307:52:34 C Yes, I know. I hope you can't see them either.

307:52:38 C There have to be some fantastic shots, I'll tell you that!

307:52:43 CC Roger that.

P Well, that's the end ... we - you mean the darkness?

C ...

P Oh, that's not right.

P ... Bob. No ... in any of the packages. Quality control of the food area is poor. 307:53, memo to Doc LeChamps: my last egg bite meal, I hope, and boy are they poor!

307:55:21 CC Gemini VII, Houston.

307:55:24 C Go ahead, Houston.

307:55:27 CC Yesterday, during the recovery, they had live television pictures of Gemini VI coming on the carrier and they were relayed by a satellite; really good pictures. Wally and Tom looked very fresh and looked like they'd just been up for a local flight in a T-38.

307:55:48 C That's all they had been, for crying out loud! A couple of short timers.

307:55:57 CC Roger that.

307:56:10 C Are the doctors noticing any dropout in my T/M, Elliot? I just found a connector off.

307:56:18 CC Stand by. No, they look real good.

307:56:21 C It must be one of the EEG amplifiers. I won't fool with it.

307:56:28 C We're right over Pete's favorite island.

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307:56:31 CC Roger that.

## ASCENSION

308:11:51 CC Gemini VII, Houston.

308:11:56 C Go ahead, Houston.

308:11:59 CC Have a flight plan update for you - one item.

308:12:04 C Wait a second.

308:12:11 C Go ahead.

308:12:13 CC S-8/D-13: 310:53:00; Sequence 04. This is a repeat on your window scan, and the reason we are doing it is because the data did not appear to come out properly on the previous one, so we want to try it again. We seemed to have gotten essentially no signal the last time.

308:12:47 C Roger.

308:12:49 CC Regarding the various things we've given you today, and the fuel status: you are probably already aware of this, but just in case, we want you to know that the dim-lights assignments are of lower priority, and if the fuel is marginal they are what you should cut out.

308:13:09 C We shall take that into consideration.

308:13:12 CC And just one further message: regarding the stack of stuff you said you have in the space-craft, that you are ready to mail, we'd like you to know that the post office won't accept that stuff.

308:13:31 C ...

308:13:41 CC It's not only perishable, it's perished.

308:13:47 C ...

P Lovell dumping urine at 308:26.

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P Ether? What's the matter? Getting sick?

## CARNARVON

308:42:04 CC Gemini VII, Carnarvon.

308:42:07 P This is VII. Go.

308:42:08 CC Okay. You're scheduled for a normal fuel purge. You can start it whenever you like.

308:42:16 P Roger. Starting now with the first section.

308:42:18 CC Roger.

308:42:33 P Our Delta-P light on the first section, by the way, has come back on.

308:42:36 CC Roger. Copy.

308:42:46 CC That was prior to the purge, the Delta-P light came on. That affirm?

308:42:54 P Roger. It went off shortly just past the States and then it went on about - oh - about 10 minutes ago.

308:43:00 CC Roger. Copy.

308:47:11 P Purge complete, Carnarvon.

308:47:12 CC Roger. Can you position your Cryo switch to the ECS O<sub>2</sub>, please?

308:47:18 P Roger.

308:47:40 CC Okay. Position to FUEL CELL O<sub>2</sub>, please.

308:47:45 P Roger.

308:48:02 CC Okay. FUEL CELL H<sub>2</sub>, please.

308:48:06 P H<sub>2</sub>.

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308:48:18 CC Okay. You can position it OFF. Okay, you're looking real good down here on the ground. This is the last pass for the afternoon, so we'll be seeing you tomorrow, and we'll be standing by.

308:48:30 P Roger. Thank you, Carnarvon.

## HAWAII

309:07:13 CC Gemini VII, Hawaii CAP COM.

309:07:15 P Hi, Hawaii. VII here.

309:07:16 CC Roger. We show you GO on the ground. We have no further instructions for you. Standing by.

309:07:21 P Thank you.

## CALIFORNIA

309:17:03 CC Gemini VII, Houston.

309:17:05 P VII here.

309:17:07 CC Roger. Realize you're coming up on your D-4 Measurement here. Let me know when you need some quiet to do that.

309:17:18 P Roger. We're lining up now.

309:17:20 CC Roger.

309:17:34 CC Okay. Let me brief you a little bit before you get to Texas to do that. And let me know when you need me to stop talking so you can work on your measurement.

309:17:46 P Right.

309:17:48 CC On the reentry yesterday, Wally used Dual-Ring Rate Command for Retro and then Single-Ring Rate Command for the reentry, and he found that he

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had to cut in the other ring because he ran out on RCS A. He had to cut in the second ring about at the end of blackout, so we wanted to let you know about that. We noticed that you are planning to use Single-Ring Direct on your reentry and we'd like to concur on that, and then if you have to use more authority, you might try Reentry Rate Command, and eventually, if you have to, of course, Zero-Ring Rate Command. But we wanted to let you know that he did need both rings because he ran out of the first one.

309:18:38 P Right. We are still planning on our usual procedure of reentering.  
309:18:43 CC Roger, VII.  
309:19:15 CC After you make your D-4 Measurement, I want to discuss this shirt-sleeve environment business with you again. Make sure we have this specific question that we had left here answered. I'll wait till after your D-4 Measurement.  
309:19:29 P Right.

## TEXAS

309:22:26 CC Gemini VII, we have Texas data now. You can do your experiment whenever you're ready.  
309:22:32 P Roger. We're commencing.  
309:24:32 P Experiment complete, Houston.  
309:24:35 CC Roger, VII. Like to discuss this shirt-sleeve environment evaluation with you a little bit further. Like to ask specifically in the second configuration that we had you in awhile this morning - we understood that the air was sort of stagnant on your side, Jim, but we'd like to understand also whether the fan - cabin fan - being on made it okay, or whether there was still some stagnation even with the fan on.

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- 309:25:09 P It appears to me that it was okay with the cabin fan on.
- 309:25:14 CC Roger. No, specifically, another question here. Have, at any time, you had your inlet and outlet hoses in a - in roughly the same position - same proximity - in other words, very close together for the air to come out and also go back in? We wonder, if you do that, would the circulation be adequate?
- 309:25:41 P I think you'll find the stagnation points will all be aligned if we have the inlet and outlet hoses fairly close together. I think the situation will go just between them, that we will find stagnation points.
- 309:25:54 CC Okay. If you have not actually tried that, we would like you to try that for a short period, because that is the present configuration in Apollo, and we want to make certain about this so that we can tell them, if it is necessary to change it.
- 309:26:13 P Roger. I'll do that the first ... It sounds like poor design, based on what we found up here.
- 309:26:19 CC Roger.
- 309:26:21 C We've made every effort to keep them apart - the inlet and the exit, Elliot.
- 309:26:26 CC Roger. That's what we understand, Frank. And we want to make sure that we can definitely state this.
- 309:26:32 C Fine.
- 309:26:55 C Elliot, I'm now reading 6 percent on my Attitude Shield gage, and as far as I'm concerned, that's the end of the Attitude Shield for experiments.
- 309:27:06 CC We had planned on a cutoff of 5 percent, Frank. You have some reason to keep it different from that?

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309:27:12 C Well, this gage is so nebulous that I - 1, and 1 percent is tough to see.

309:27:24 C When you track with this big thruster, it takes about twice as much fuel because you can't get a small enough impulse in.

309:27:31 CC Roger.

309:27:42 C Are you all still reading the T/M? We'll go ahead and get - maybe we can get that photo of the window measurement now.

309:27:51 CC That's affirmative.

309:28:09 CC Frank, we've been watching - we've been watching your fuel very closely and we would feel quite confident to let you go down to 5 percent, if you are willing to. If you want to stop here, that's all right, but we feel you're quite adequate if you go on down to 5 percent.

309:28:27 C But will 5 percent be enough to align the platform tomorrow? Nobody knows --

309:28:31 CC That's affirmative.

309:28:33 C I'd like to stop right here, please.

309:28:37 CC Roger.

309:28:47 C ... photometer now to make some sweeps on the window.

309:28:50 CC Roger.

309:29:20 CC Let me know when you're complete on that, Gemini VII. I have another item to discuss with you.

309:29:25 C Okay, go ahead. Jim is doing it. You can talk to me if you want to.

309:29:29 CC I'll wait until he's finished, Frank.

309:30:03 CC Just to be com - be absolutely complete on this environment evaluation, when you put the hoses

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together, you might also evaluate that with - you might evaluate that with fan on and fan off.

309:30:19 C Roger.

309:30:44 C Okay. Jim is starting on the window-scan now.

309:30:47 CC Roger.

309:30:56 CC Frank, for your information, we show you presently have 9 pounds of MMH remaining. If you went ahead and took it down to 5 percent, you would have 7 1/2 pounds remaining.

309:31:09 C Roger. Thank you.

309:32:49 C Elliot, are you receiving any T/M on us?

309:32:52 CC That's affirmative. We can't see a specific read-out on that parameter, but we are still receiving T/M.

309:32:58 C Okay. Jim's repeating the scan now.

309:33:03 CC Roger.

309:33:20 CC Are you going to scan your window also, Frank, or not?

309:33:23 C Negative.

309:33:24 CC Okay.

309:33:33 C We've scanned the window twice, and it's on our voice tape.

309:33:37 CC Say again, Frank?

309:33:39 C I said, he's scanned the window twice and it's on our voice tape also.

309:33:42 CC Roger. Okay. The other item I have for you is that we have just seen the pictures, some of the pictures that GT-VI brought back; just a very few of them have been processed so far, but they are really outstanding! You just look great sitting up there!

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309:34:03 C Thank you. Did you see our big long piece of wire we were telling you about?

309:34:10 CC Sure do.

309:34:19 CC The pictures are remarkably clear, and just completely precise in every detail. We can see the D-4 instruments sticking out the sides. Can see your whole nose section; just every little detail is as clear as a bell.

309:34:37 C Roger. I hope we have some good film of them also.

309:34:44 CC Roger. We were - we watched the movie film a minute ago - the little bit that's been developed so far. We can see the scanners working in it. It's just tremendous film!

309:34:53 C It's a tremendous experience, really!

309:35:04 CC We understand that your pictures are on all three networks - live.

309:35:08 C Great! And here we are in our underwear.

309:35:25 CC Hey! I'm watching it on television now! The pictures are really great, Frank!

309:35:30 C Great!

309:36:03 C Tell him we're going to shoot up the rest of this film this afternoon, and then stow it up.

309:36:07 CC Roger.

C What?

C Going up now. Approximate lag down, ... left up. Down.

P No.

309:36:26 C Negative.

309:36:34 P Okay.

309:36:36 C We scanned the window twice and it's on our voice tape.

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- 309:36:41 P One thing we need on spacecraft is better connectors. The connectors with the knurl bases are too small to get a good mount on if your hands are sweaty. You just can't get them on.
- 309:41:07 P Roger. 309:41: color-shifted IR shots of South America. What magazine?

ROSE KNOT VICTOR

- 309:42:41 CC Gemini VII, RKV CAP COM. We have nothing for you. We're standing by.
- 309:42:46 C Roger, RKV.
- 309:46:22 C E.
- 309:46:21 P Magazine E; tell you more a little bit later. ...
- 309:47:43 P By ... 6 frames per second with Magazine 8.
- 309:49:00 P What do you think?
- 309:49:07 P I can't hear. We blocked the air out here. We're blowing a lot of air back there. I think we ought to leave them the way they are.
- 309:49:17 P ... spacecraft ... Got a fan up here and a fan down there and just have to ...
- 309:49:29 C ...
- 309:50:05 P ... must be going wild.
- 309:50:24 P 24 hours, sports fans.
- 309:51:26 P We can watch the circulation by the ...
- 309:51:32 P Yes, but don't forget you have - where's your ...?
- 309:51:38 C ...
- 309:52:21 P I have 10 on this one. ... Hey, I want to take some pictures --
- 309:52:31 C ...

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P Yes, I know, but I'm going ...  
P Can I trust you?  
309:53:24 P In general, high-contrast photos over the Atlantic Ocean, of the clouds. High-speed interior shots were taken at f1.6, Magazine J, 35 and 36.  
310:04:00 C ...  
310:04:04 P ...  
P Yes. I've got it over here.  
P Did you say that the Medic had wanted to ...  
C What?  
P Looks like ...  
P What's the next one?

## COASTAL SENTRY QUEBEC

310:30:07 CC Gemini VII, CSQ CAP COM. Everything looks good here on telemetry. We're standing by.  
310:30:14 C Thank you.

## HAWAII

310:43:40 CC Gemini VII, Hawaii CAP COM.  
310:43:42 C Go ahead, Hawaii.  
310:43:43 CC Okay. We're showing you GO here on the ground. We've got a valid oral temp. We're standing by for your blood pressure.  
310:43:52 C Coming down.  
310:43:53 CC Roger.

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310:44:07 CC Your cuff is full-scale.

310:44:09 C Roger.

310:45:00 CC We have a good blood pressure. Standing by for your exercise on your Mark.

310:45:05 C MARK.

310:45:35 CC Your cuff is full-scale.

310:46:38 CC We have a good blood pressure. Standing by for your food and water report.

310:46:42 C Roger.

310:46:51 C The Command Pilot's had a total of - was 1051 ounces of water; Column 5 is 33 and Column 6 is 8. The Pilot's had a total of 890 ounces of water; Column 5 is 33 and Column 6 is 7. Did you read, Hawaii?

310:47:22 CC Roger. We copy. Is there any change in your food report from the last time?

310:47:27 C No. I think we reported Day 10, Meal B the last time.

310:47:31 CC Roger. Surgeon out.

310:47:33 C Maybe we did. That was minus 48 ... minus 18 ... for the Command Pilot.

310:47:40 CC Say again for the meal, Gemini VII.

310:47:43 C Day 10, Meal B.

310:47:46 CC Thank you.

310:47:50 CC How you doing?

310:47:51 C Fine. Anything interesting?

310:47:53 C No. We're just drifting now. We're out of gas.

310:48:01 CC Roger. Okay. We'll be hanging loose here until we get LOS. If you need anything give us a shout.

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310:48:05 C Thank you.  
310:49:13 CC VII, Hawaii.  
310:49:15 C Go ahead.  
310:49:16 CC Jim, you better drink some more water.  
310:49:20 P Roger. I'll get some more water.  
310:49:23 CC Okay.  
310:50:24 CC You didn't happen to see us as you went by, did you, VII?  
310:50:26 C Sure didn't. ... pointing straight up.  
310:50:30 CC Okay. Planning to get a little weather report, if you did. That's all.  
310:50:38 C I can give you one without looking. It's cloudy.  
310:50:40 CC Yes. We're trying to squeeze a laser path in here, next one, when we can get this stuff out of here.  
310:50:46 C We don't have the gas.  
310:50:48 CC Roger.

## CALIFORNIA

310:52:34 CC Gemini VII, Houston.  
310:52:36 C Hello there, CM3. Go ahead.  
310:52:38 CC Roger. You're really looking good up there and those numbers are count down littler and littler. I guess you're keeping pretty good track of them.  
310:52:45 C Well, we're almost ready to put up Number 13 here.  
310:52:47 CC Very good. How's the storage coming in there? Are you getting most of the miscellaneous stuff where we planned?

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- 310:52:53 C We can't get quite as much behind the seats, but we're putting it in these bags and we're going to stow the bags on top of the seats the way we planned.
- 310:53:00 CC Very good. It's not so that you can't see out, I guess?
- 310:53:03 C No. We're really in pretty good shape, I think.
- 310:53:06 CC Just the way we planned it, isn't it?
- 310:53:08 C Working out just the way we planned it. Right.
- 310:53:10 CC Very good. Things down here are looking pretty good. Guess you're flying at 40,000 feet now with the engines shut down, coming on back to home base.
- 310:53:23 C Right.
- 310:53:24 CC Very good. I've got a little message I'd like to send up.
- 310:53:28 C Go ahead.
- 310:53:29 CC Hee, hee, hee!
- 310:53:31 P Roger. Got it. Say, would you ask the Flight Surgeon ... before I put my suit on for the last time, which will be tomorrow morning?
- 310:53:43 CC Jim, did I read you wanted to take the cuff off tomorrow morning before you put the suit on?
- 310:53:49 P That's right. I'd like to store the cuffs. I don't think they did me that much good from the time I put on the suit until I start getting g's on reentry.
- 310:53:56 CC You're correct. And I think that's perfectly acceptable solution. Let's do that. Incidentally, I heard some comment about your water and we checked your water here, Jim, and the intake looks good. I think you forgot to add some that you had for breakfast this morning, according to the water gun count. You missed some there. I - your water intake looks very good to us here right now.

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310:54:20 P It should, because Hawaii told me to drink some and I just drank 30 ounces.

310:54:25 CC Very good.

## GUAYMAS

310:55:28 CC Gemini VII, Guaymas CAP COM. Everything's looking real good here on the ground. Don't have anything special for you. If you need us just give us a holler.

310:55:35 C Thank you, Guaymas.

310:58:36 CC Gemini VII, Houston.

310:58:37 C Go ahead, Houston.

310:58:39 CC We have one last change for the MSC-4 Experiment. It would occur tonight about 45 minutes into your presently scheduled sleep period. We'd like to check with you and see if it is acceptable with you to do that, pending weather. Of course, we're going to keep an eye on that and if it does have good weather, we'd like to know if you are willing to do it in that period?

310:59:07 C Elliot, I don't care about the sleep period, but my gage right now is bouncing right on 5 and I want to align the platform ... It takes a lot of fuel plus it's an almost impossible tracking task at night with this thruster. I just don't think it's worth it.

310:59:21 CC Okay. Very good. Good to have that information. We'll plan accordingly.

310:59:26 C Listen, Elliot, we evaluated putting these two hoses close together and of course it depends on the way you point them. If you point them both parallel, you do get pretty good circulation and we couldn't tell much difference, really. If you point them facing each other, well, naturally, circulation is cut down, but I think we ought to discuss this thoroughly when we get on the ground. That probably would be the best way.

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310:59:49 CC Very good. We just wanted to make sure that you had evaluated it as thoroughly as it could be done in flight.

310:59:55 C Roger.

310:59:58 CC I have one other piece of information. The GT-VI crew is at the Cape now.

311:00:05 C Roger. We thought we just heard someone call from an aircraft. Have you heard anyone calling us from there?

311:00:10 CC No, I haven't heard it.

311:00:13 C Thank you.

311:00:45 CC Gemini VII, Houston. We see a slight drop in the source pressure on the OAMS and that's why we feel your gage is down slightly. We feel this is a thoroughly normal amount of variation.

311:00:57 C Roger.

311:01:10 C You're working on the fire-up procedure and everything for us now. Right, Ellicott?

311:01:13 CC Right. What we're doing is trying to get a quick layout on that, and as soon as I get it I'll give you a rough layout on it, and then we'll get it in more detail as soon as we have that.

311:01:22 C Okay.

311:02:18 CC Might mention, we're all quite impressed with how good you guys sound today.

311:02:23 C Feel a lot better today. I think that ... rendezvous with Tom and Wally ...

311:02:31 CC Roger.

ROSE KNOT VICTOR

311:16:17 CC Gemini VII, RKV. We copy your oral temp. Start your blood pressure.

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311:16:38 CC VII, RKV. Your cuff is full-scale.

311:17:01 C Roger.

311:17:32 CC VII, RKV. We've got a good blood pressure. Stand by for your exercise.

311:17:36 C Roger.

311:17:37 C MARK.

311:18:10 CC VII, RKV. Your cuff is full-scale.

311:18:14 C Roger.

311:19:09 CC VII, RKV. We had a valid blood pressure. Will you clarify the Command Pilot's water consumption, please?

311:19:17 C Roger. Wait until I get the water book.

311:19:25 CC ... count steady at 296.

311:19:30 C Roger. We made a slight error in the calculations. Just one moment. His actual consumption is 1051 ounces.

311:19:33 C Hit a low one.

311:19:41 CC One thousand and 51.

311:19:43 C Roger.

311:19:45 CC Any change in the food and water report sent to Hawaii?

311:19:48 C Negative.

311:19:50 CC Thank you. RKV Surgeon out.

311:20:07 CC Our rates for baby-sitting are going up tonight, you know. This is a weekend.

311:20:12 C Is it? I lost track.

311:20:38 P Four shots of weather over the Atlantic, just leaving South America. This is the second or

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third pass. Maybe we can pick up some prints there.

311:20:52 P This is at 311:20.

ROSE KNOT VICTOR

311:22:46 CC Would you give us a total count on your water gun?  
311:22:52 C Roger. 4674.  
311:22:57 CC Roger.  
311:23:04 C You can tell Houston that we won't interfere with these Delta-P lights anymore. They're just stop lights and we've got them turned off.  
311:23:14 CC Roger. We got that.  
311:23:20 CC You must have slept good last night.  
311:23:22 C Yes. We did for a change.  
311:23:31 C Got a little busy.  
311:23:33 C ...  
311:23:38 CC Say again.  
311:23:40 C I said we ...  
311:23:43 C You know the last ...  
311:23:49 CC I'm not reading you too well. Say again.  
311:23:51 C I say, I saw a ... and it was local.  
311:23:59 CC We'll be back.  
311:24:01 C ...  
311:36:35 P f5.6 at 125, except for the last ones, f5.6 and 60.  
311:37:06 P Okay. The last two frames for 40, 41?

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311:37:10 C 40 and 41. Roger.

311:38:21 P They're really dumping at 311:38.

311:38:54 P Boy, I'm sure glad we got these things tied down.

311:39:18 P Lovell dumping urine at 311:39.

C Why don't we exercise? ... 312.17.

311:41:11 C ... leave us, last night, Jim?

311:41:18 P No. I'm sure glad ...

C ... coming up on South America, we're going to take some scenic pass weather photograph. We took some last pass. ... One problem is of course, I - we're drifting, Flight, so it will be pretty tough to pinpoint the same areas.

311:49:19 C ...

311:49:26 P ...

311:49:28 C ...

311:53:30 P Taking film over South America again, for our second pass showing cloud and ground. Notice that every time we turn off ACME Power, or the Primary ACME, the system gets two short bursts in order to give us a yaw left. Along with ... which gives the yaw left, we should kind of right that or we're going to have two short bursts with it. With our thrusters to the ... yaws complete right ...

## COASTAL SENTRY QUEBEC

312:05:04 CC Gemini VII, CSQ CAP COM. You look good from here. We have nothing for you this pass. Standing by.

312:05:09 C Roger. Will you ask the Surgeon that if we want to stow everything tonight, we're going to stow that exerciser you asked for, will they start it in the morning? I don't think they'll make it in the morning, will they?

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312:05:16 CC I'll check. Stand by.  
312:05:30 CC Dr. Kraft says okay to stow.  
312:05:36 CC Gemini VII, CSQ. It's okay to go ahead and stow  
the exerciser.  
312:05:41 C Thank you. We'll stow her tonight.  
312:05:47 CC That's straight from Dr. Kraft.  
312:05:49 C Oh, good! Thank you.  
312:06:19 C How's the weather tonight, CSQ?  
312:06:22 CC It's not as bad as it was yesterday. It's still a  
little rough.  
312:06:27 C Seems you've had tough sailing down there on that  
one.  
312:06:31 CC It seems like it this time.  
312:06:35 C Have you been there before?  
312:06:37 CC This is my fifth trip to the CSQ.  
312:06:41 C How lucky can you get!  
312:06:44 CC I have bell-bottoms on all my trousers now.  
312:06:56 C Why don't you tell Dr. Kraft that you can rotate  
the desirable time. Send the ... to get me, CSQ.  
312:07:04 CC Roger. We'll see to that.  
312:07:10 CC Chris just said he was going to send Frank there  
next trip.  
312:07:14 C That's fine. When they get anywhere near Australia,  
I volunteer.  
312:07:22 CC Join the crowd.  
312:07:53 CC I'd like to pass up congratulations from the  
Flight Controllers on the network and the M and  
O Technicians for the beautiful job you both are  
doing.

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312:08:01 CC Good show up there! We really appreciate all your help.  
312:08:08 C You really keep our morale up.

## HAWAII

312:19:56 CC Gemini VII, Hawaii CAP COM.  
312:19:58 C Go ahead, Hawaii. Gemini VII.  
312:20:00 CC Roger. We show you GO on the ground and I'd like to get this flight plan report if I could.  
312:20:04 C Okay. The only thing we have to report today is that we have no more film left. It's all been expended. And the only purge experiments or ... experiments we were able to accomplish, because of fuel or weather, was the S-5 pass over North Africa, the D-4/D-7 calibration on the sun, and twice we did the S-8/D-13 calibration on the window.  
312:20:26 CC Roger. I have some information for you here. Yesterday on the Retrofire of Gemini VI, the crew had a delay between 1 and 2 Retro and between 2 and 3. They then depressed the Manual. We suggest that you use the normal procedure and depress Manual 1 second after your Retro.  
312:20:50 C Roger.  
312:20:52 CC Okay. I have PLA update for you, if you're ready to copy.  
312:20:57 C Stand by one.  
312:21:08 C Ready.  
312:21:09 CC Okay. The RET 400K for all areas is 21 plus 20; weather in all areas good. Area 199-Bravo: 318:18:10; 200-Delta: 319:00:15; 201-Delta: 320:35:24; 202-Delta: 322:11:59; 203-2: 323:42:30; 204-1: 325:12:11; 205-1: 326:47:58; 206-1: 328:23:25.

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312:22:44 C Roger. We copied them all.  
312:22:46 CC Roger. I have also some more information for you.  
The Cryo rules for bedtime.  
312:22:52 C Go ahead.  
312:22:54 CC ECS O<sub>2</sub> Heater, OFF. Fuel Cell O<sub>2</sub> Heater, AUTO.  
Fuel Cell H<sub>2</sub> Heater, AUTO.  
312:23:09 C Roger.  
312:23:13 CC And you'll have a fuel cell purge over the RKV.  
312:23:16 C Thank you.  
312:24:20 CC We have nothing further for you at this time,  
Gemini VII. We're standing by.  
312:24:23 C Thank you.

## ROSE KNOT VICTOR

312:52:17 CC Gemini VII, RKV CAP COM.  
312:52:20 P VII here.  
312:52:22 CC Roger. We're ready for your purge whenever you  
are.  
312:52:28 P Roger. Purging Section 1 now.  
312:52:31 CC Roger.  
312:52:54 CC Houston's working on a time line for your activities  
tomorrow and they'll give you a --  
312:53:04 CC Gemini VII, RKV.  
312:53:05 P Go ahead.  
312:53:06 CC Houston's working on a time line for tomorrow's  
activities and they're going to give you a general  
briefing on it over Tananarive this revolution.  
312:53:13 P Okay. Fine. Sounds good.

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312:53:15 CC And Chris would like to know how much trouble it'd be for you if you kept the exerciser out and stowed it tomorrow?

312:53:24 P Well, it's way in the back of our gear. We have to get the ... out and all the - although we could probably stow it for reentry someplace else instead of the cockpit.

312:53:36 CC Okay.

312:53:44 CC The Surgeon'd like you to leave it out if you could.

312:53:48 P Right. The Medics have the last word.

312:53:51 CC Roger.

## ROSE KNOT VICTOR

312:57:34 P Purge complete, R KV.

312:57:36 CC Roger.

## TANANARIVE

313:13:46 CC Gemini VII, Gemini VII, Houston. How do you read?

313:13:49 P This is VII. Loud and clear.

313:13:53 CC Roger. Jim, I have some additional information for you, when you're ready to copy.

313:14:03 P Ready to copy, Elliot.

313:14:05 CC Okay. Modify on-board flight plan to reflect the following: power-up and alignment check list; elapsed time, 327:35; that should be about T<sub>R</sub> minus 223. We'll refine these times in the morning. This is 25 minutes prior to Carnarvon on Rev 205. Do you copy so far?

313:14:48 P Roger.

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- 313:14:52 CC Before platform cage, add the following: Squib Battery Number 3 on; Bus Tie switches 1 and 2 off; Squib Batteries 1 and 2 on; Main Battery 4 on; Primary Pump B off; Primary Pump A on; Secondary B off; Secondary A on. Do you copy so far?
- 313:15:48 P Roger.
- 313:15:53 CC After platform cage BEF, discontinue check list - discontinue check list until Carnarvon. Time on that is 328:00, and that's about  $T_R$  minus 158 - one five eight. Then resume check list at Carnarvon. At the end of Rev 205, that's a time of 328:44, we will give you a  $T_R$  update and a Preretro Command load for 207-1 $R$ , and that will be at  $T_R$  minus 1 plus 14. Copy so far?
- 313:17:07 P Roger.
- 313:17:09 CC Delete C-Reentry CONTINUOUS from the normal place in the Preretro check list. After the first fuel cell purge tomorrow, C-Reentry CONTINUOUS, MSC-2 and 3 off. Do you copy?
- 313:17:47 P Roger.
- 313:17:50 CC That's all we have now, and we'll continue to work on this tonight and refine it in the morning if there are any changes in this, and we'll give you exact times on everything.
- 313:18:05 P Roger. Understand.
- 313:18:07 CC Very good. See you in the morning.
- 313:18:10 P Right, Elliot.

## COASTAL SENTRY QUEBEC

- 313:42:57 CC Gemini VII, CSQ.
- 313:42:58 C Go ahead, CSQ. Gemini VII.
- 313:42:59 CC Roger. Could you put your BIO-MED Recorder Number 2 on CONTINUOUS, please?

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313:43:04 C It's on.

313:43:08 CC Roger. Thank you.

313:43:15 CC We have you GO on the ground, Gemini VII. We're standing by.

313:43:17 C Do you have one section of the update that I received?

313:43:22 CC Say again, Gemini VII.

313:43:24 C Normal ... fuel purge.

313:43:31 CC Gemini VII, I cannot copy. Please repeat.

313:43:34 C Roger. Do you read me now?

313:43:35 CC Roger.

313:43:36 C I don't understand one comment here that I just received from Houston. It says: delete C-Reentry CONTINUOUS from normal place after first fuel purge; C-Band Reentry CONTINUOUS and MSC-2 and 3 off. Well, I guess that means after first fuel purge to do that.

313:43:59 CC Stand by.

313:44:18 CC Gemini VII, as soon as you wake up we want the Reentry C-Band in CONTINUOUS. Do you copy?

313:44:23 C As soon as we wake up you want the C-Band Reentry to CONTINUOUS?

313:44:29 CC Say again, Gemini VII. I cannot copy.

313:44:32 C Roger. As soon as we wake up, put the C-Band Reentry to CONTINUOUS.

313:44:36 CC That's affirmative.

313:44:37 C Thank you.

CARNARVON

323:18:34 C Carnarvon, how do you read me? Gemini VII.

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323:18:35 CC Gemini VII, Carnarvon CAP COM. Read you loud and clear. How's it going up there?

323:18:40 C Very good. We're ready for a fuel cell purge if you are.

323:18:46 CC Stand by one.

323:18:47 C Are we scheduled for one this revolution, or do you want to wait until over the States?

323:18:50 CC It's not usually over the States here, but if he wants to do it, let's get it over with.

323:18:54 C Roger.

323:18:55 CC Go ahead, Gemini VII.

323:18:58 C Roger. Purging now. Now BIO-MED Recorder 2 is off. C-Band reentry CONTINUOUS.

323:19:06 CC Roger. Thank you.

323:19:16 CC You ready to come home today?

323:19:18 C Ready! Ready!

323:19:19 CC Right!

## TEXAS

324:01:09 CC Gemini VII, Houston.

324:01:12 P Roger, Houston. This is VII.

324:01:14 CC Good morning. Would you please place your T/M switch to REAL-TIME and ACQ?

324:01:19 P Roger. REAL-TIME and ACQ.

324:01:24 CC Cryogenic Gaging switch to ECS O<sub>2</sub>.

324:01:29 P ...

324:01:33 CC I have a flight plan update for you.

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324:01:37 P Stand by.

324:01:42 CC Can you tell me if the Command Pilot is getting in his suit right now?

324:01:46 P Roger. He is getting in his suit right now.

324:01:47 CC Very fine. Thank you. Would you place your Cryogenic Gaging switch to FUEL CELL O<sub>2</sub>?

324:02:12 CC Cryogenic Gaging switch back to FUEL CELL H<sub>2</sub>.

324:02:15 P FUEL CELL H<sub>2</sub>.

324:02:18 CC Okay. And whenever you're ready, I'll read you this little flight plan update.

324:02:25 CC Okay. Before that, place your Cryogenic Gaging switch to OFF, please.

324:02:31 P OFF.

324:02:32 CC How does it feel for the last day?

324:02:35 P Great! Frank just got back in his suit and I'm in my suit, and we're all set to go home.

324:02:40 CC Oh, great!

324:02:41 CC Well, here's your Node: Time is 325:27:25; Rev 203; 114.5 degrees west; right ascension, 07 hours, 06 minutes, 31 seconds.

324:03:08 P Roger. Have it.

324:03:09 CC Flight plan time line update is change 324:00 to 324:13.

324:03:21 P Roger.

324:03:23 CC The next item we can delete. It was to have been at 324:40, begin suiting up. I guess you have that all hacked?

324:03:31 P Right. We're just about that way right now.

324:03:33 CC Okay. Good. Next item is 325:00:00: BIO-MED

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Recorders 1 and 2 CONTINUOUS.

- 324:03:50 P Roger.
- 324:03:51 CC Time 325:34:49: a crew status report, Command Pilot at Carnarvon.
- 324:04:05 P Okay.
- 324:04:06 CC Time 326:24:37 is a crew status report on the Pilot at Carnarvon.
- 324:04:21 P Go ahead.
- 324:04:23 CC Yesterday, Jim, you were given an addition to be placed on the check list prior to the Platform-Cage BEF item.
- 324:04:32 P Roger. We have that.
- 324:04:33 CC I have a few additions to that list of things to be done. After Secondary Pump A on, place the Tape Recorder Power circuit breaker on. The next item in the same check list will be Tape Recorder Control circuit breaker, verify off. It seems like magically the tape recorder started playing at Retrofire on VI. One thing else we'd like to get immediately before your Retrofire, or at the last time you take water out of the system, is a gun count. We'd like to have that both for environment and also for c.g. location.
- 324:05:26 P We're stuck in the ... from the time we Retrofire till the time we land.
- 324:05:31 CC That's right. What we'd like to have is just the last gun count.
- 324:05:35 P We'll get you a last gun count.
- 324:05:36 CC Okay. And we'd like to have it soon enough so that we could compute a c.g., based on it.
- 324:05:42 P Okay. I see what you mean.
- 324:05:48 CC We will expect to have one more purge immediately prior to your power-up at Kano. That'll be on the stateside pass before the purge - before the power-up.

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- 324:05:59 P Roger. Understand.
- 324:06:02 CC And one thing I'd like to ask you how you feel about, is an extremely small OAMS check. What it entails is simply closing the TCA Circuit Breaker Number 3 and then firing for a minimum of 3 seconds in DIRECT. Firing that circuit breaker. We'd like to do that on the next state-side pass, if you're inclined to do it.
- 324:06:24 P I would say we're not inclined to do it. We're low on fuel. We're going to use it all for platform alignment.
- 324:06:29 CC Okay. Very fine. Well, we don't do it then.
- 324:06:42 CC Incidentally, it turned out, in Wally's reentry, that there was apparently a small electrical bias on the downrange-error needle, and if you'd like a description of how he calibrated that I'd be happy to give it to you. It might help you in your reentry.
- 324:07:01 P Go ahead.
- 324:07:02 CC Okay. With the computer in the reentry mode and the FDR FDM in COMPUTER and ATTITUDE respectively, at about RETRO JETT plus 5 minutes, but in any event prior to the 400K, Wally took a Pentell pen and marked the null position of the downrange needle. The FDI's were on the low scale. Now, the new null position was about 2 1/2 needle widths below the nominal widths - below the nominal or zero-null position, as established on the 8-ball.
- 324:07:38 P Did he fly his own ...
- 324:07:41 CC I beg your pardon?
- 324:07:42 P He flew his Pentell markings. Is that correct?
- 324:07:44 CC That's right. It goes on: Wally then, after Guidance Initiate, flew to his Pentell null for downrange correction. From the splashdown results, this method has definite merits. If he flew to the 8-ball null, he may have been flying to a point some 15 miles short. This null area was

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not evident in the previous computer modes used, particularly in radar or platform. That was - he hadn't seen it before, until he got in this configuration.

324:08:13 P Roger. We'll take a bias check here after Retro and we'll want to be on the way down before we initiate.

324:08:22 CC Okay. Good deal, Jim.

324:08:32 CC Jim, could you reverify that the Standby Transmitter Power circuit breaker is on and the Standby Transmitter Control circuit breaker is on?

324:08:44 P They're both on.

324:08:45 CC Okay. Thank you very much.

324:09:46 CC Gemini VII, Houston.

324:09:49 CC Could I have an OAMS prop readout, please?

324:09:56 P Still reading 4 1/2 percent.

324:09:58 CC 4 1/2 percent. Thank you.

324:10:06 CC Can you give me your sleep report now?

324:10:08 P Want a sleep report?

324:10:10 CC Roger. If you have it available. If not, we'll wait.

324:10:16 P We both had about 5 hours of medium sleep.

324:10:19 CC 5 hours medium sleep. Thank you.

## CARNARVON

324:49:37 CC Gemini VII, Carnarvon CAP COM. We have nothing for you this pass. We're standing by. Everything looks good from the ground.

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324:49:44 P Thank you, Carnarvon. We're standing by too.  
324:49:47 CC Roger.  
324:56:27 CC Gemini VII, Carnarvon CAP COM. We'd like to know whether you are in an exercise period or whether it's just exercise as a result of your packing up?  
324:56:39 C That's it. We are all around the cockpit here, putting things away.  
324:56:44 CC Roger.

## TEXAS

325:33:44 CC Gemini VII, This is Texas CAP COM.  
325:33:49 C Go ahead, Texas.  
325:33:52 CC We've got you GO here on the ground. We've got a valid oral temperature, but do not transmit your blood pressure until Carnarvon acquisition at 325:36.  
325:34:02 C Thank you.  
325:34:04 CC We have nothing further and will be standing by.  
325:34:07 C Thank you.  
325:34:23 C Texas, are you still standing by?  
325:34:32 C Texas, Gemini VII.  
325:34:35 CC VII, this is Texas. Go ahead.  
325:34:38 C How about giving us an update on our digital clock. What do you read down there now?  
325:34:53 CC I'll give you a Mark on your elapsed time, 325:35:00.  
325:35:01 CC MARK.  
325:35:02 C Okay, I'm with you. Thank you.

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325:35:51 CC Hello, Gemini VII, Houston. You're clear to start on your blood pressure.

325:35:59 P Coming down.

325:36:13 CC Gemini VII, Houston. I have an initial hack at your GET or B if you'd care to have it. It will be updated later.

325:36:23 P Roger. Stand by a second.

325:36:26 CC Your cuff is full-scale.

325:36:33 CC Gemini VII, Houston Surgeon. Send the blood pressure again. It dropped out.

325:36:40 P Roger. Coming down again. Standing by for the initial ...

325:36:50 CC Your cuff is full-scale. I'll give it to you after the Medical Data Pass, Jim.

325:36:54 P Right.

325:37:55 CC That's a good one, Gemini VII. Your exercise now.

325:38:14 P MARK.

325:38:25 CC Full-scale.

325:39:32 CC That's a good one. We're standing by for your food report first.

325:39:38 P Roger. Food this morning was Day 9, Meal A, for both of us, plus the Command Pilot had three peanut cubes last night for evening snack.

325:39:51 CC Roger. Did you have supper last night - have a full meal?

325:39:56 P Oh, you didn't get that? Sorry, that's Day 11, Meal C.

325:40:01 CC 11-Charlie last night plus three peanut cubes for the Command Pilot. Did you have any deletions this morning for breakfast?

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325:40:09 P No, we ate the whole thing.

325:40:11 CC Roger. Water report?

325:40:15 P Roger. The Command Pilot now has 1104 ounces.

325:40:21 CC Roger. 1104.

325:40:26 P And the Pilot, 948.

325:40:30 CC 948. And the gun count?

325:40:36 P The gun count is now 4876.

325:40:41 CC 4876 and I'll copy the columns.

325:40:46 P Roger. For the Pilot: Column 5, 34; Column 6, 7. For the Command Pilot: 5 - Column 5 is 34; and Column 6, 8.

325:41:01 CC Roger that. Do you have anything else you want to talk to me about this morning?

325:41:07 P I'd like to mention something about taking these Dexadrine pills. Nate, when do we take those?

325:41:13 CC You don't have it all squared away with respect to time, Frank?

325:41:24 CC Gemini VII, Houston Surgeon. Are you requesting a time to take them?

325:41:29 P Roger.

325:41:32 CC All right. You should take them about 2 hours before Retrofire.

325:41:38 P Thank you. Is that three or four each?

325:41:43 CC Say again.

325:41:45 P Three or four apiece?

325:41:47 CC One each.

325:41:49 C Okay.

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325:41:51 CC Roger, Frank.  
325:42:00 CC Gemini VII, Houston.  
325:42:03 C Go ahead.  
325:42:04 CC Roger. Your first hack at GET Retrofire will be 329:58:05, and we'll give you later updates based on new tracking information.  
325:42:19 P Roger. Understand on our first hack you'll be 329:58:05.  
325:42:23 CC That's right. And when you get your batteries on line, you can expect to see about a 2-volt drop in your voltages. It'll stabilize out a little bit, then wander slightly as each shares its part of the load.  
325:42:36 P Roger.  
325:42:53 CC For your information, E COM tells me that the fuel cells are GO for 311-1.  
325:43:03 P ... has got two Delta-P lights on his body now.  
325:43:06 CC Okay. We'll tell him that.  
325:43:09 P Right.

## CANARY ISLANDS

325:50:20 CC Gemini VII, Canaries here. Standing by.  
325:50:24 C Roger, Canaries.

## CARNARVON

326:25:07 CC Gemini VII, Carnarvon CAP COM. We have a valid temperature. We're standing by for blood pressure.  
326:25:14 C Coming down.  
326:25:24 CC Gemini VII, your cuff is full-scale.

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326:26:08 CC Gemini VII, we have valid blood pressure. Standing by for your exercise.

326:26:19 C Just one minute.

326:26:22 CC Standing by.

326:26:26 C MARK.

326:26:46 C Blood pressure coming down.

326:26:48 CC Thank you.

326:26:55 CC Gemini VII, your cuff is full-scale.

326:27:46 CC Gemini VII, we have valid blood pressure. Carnarvon Surgeon out.

326:27:53 C Thank you, Carnarvon.

326:27:56 CC Roger.

326:27:59 CC And everything looks good from the ground.

326:28:03 C Right. Things are looking good up here too.

326:28:06 CC Roger. Only about 3 1/2 hours to go.

326:28:10 C Right. The carrier is still good.

326:28:12 CC Roger.

GUAYMAS

327:05:32 CC Gemini VII, Guaymas CAP COM. Everything's looking good here on the ground. We'll be standing by if you need us.

327:05:41 C Thank you, Guaymas.

TEXAS

327:06:11 CC Gemini VII, Houston.

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327:06:14 C Go ahead. Gemini VII.

327:06:16 CC Roger, Gemini VII. Would you start your purge, please?

327:06:20 C Stand by. Purging Number 1.

327:06:27 CC Roger. Purging Number 1.

327:07:48 C Houston, this is VII. If I can't aline ... OAMS, I'm going to ... the RCAS ring.

327:07:58 CC Gemini VII, understand. You will be using RCS Ring for platform alinement.

327:08:04 C Roger. Using RCS Ring right now.

327:08:06 CC Yes, that's right.

327:11:12 C Purge complete, Houston.

327:11:14 CC Roger. Understand. Purge is complete. You're clear to start your power-up and alinement check list up to and including Platform Cage BEF.

327:11:25 C Roger.

327:11:28 CC And I have someone here that would like to say good morning to you.

327:11:31 C Okay.

327:11:32 CC Gemini VII, Houston.

327:11:33 C Okay. How are you?

327:11:34 CC How're you doing?

327:11:36 C Pretty good.

327:11:37 CC Understand you were up early again.

327:11:39 C Just a little.

327:11:42 CC I figured you would be. I sent a message out to the Skipper of the Carrier. I asked him to move off just a little bit to the left of the spot so

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you wouldn't put him in jeopardy.

327:11:53 C Good!

327:11:56 C We'll have a go at it!

327:11:58 CC You bet!

327:12:04 CC How's all the stowage going?

327:12:05 C The cockpit's clean as a whistle.

327:12:08 CC Right. I bet it was clean last night.

327:12:10 C No, we did it this morning.

327:12:12 CC Right.

327:12:19 CC Would you go ahead and start your power-up and alignment check list?

327:12:22 C Starting it now.

327:13:26 C We have the squib batteries on the line now, Houston.

327:13:29 CC Gemini VII, thank you very much.

327:13:32 CC You're reading our mind.

327:13:33 C Four main batteries coming on.

327:13:40 C Four mains on.

327:13:42 CC Roger. Roger.

327:14:14 C We've turned our Tape Recorder circuit breaker on. It really ...

327:14:18 CC Thank you.

327:14:28 CC I bet you feel you know the world between 28 north and south latitudes pretty well about now, don't you?

327:14:34 P I just put in for a guide at North Africa.

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327:14:43 CC The fellows on VI said you gave them a pretty good guided tour.

327:15:10 C Does the time line you gave us last night still hold for starting the platform warm-up?

327:15:19 CC You're clear to start it now, Frank.

327:15:21 C ... platform warm-up now, also.

327:15:27 C Thank you.

327:15:33 CC Frank, we'd like you to wait that delay time, but you're clear to start into that 20 to 25-minute delay now.

327:15:40 C Roger. We've got it on tape DAS now to warm-up.

327:15:49 CC Roger.

327:17:16 CC On the cover of Houston Post this morning, Frank and Jim, there's a great picture in color of Gemini VII Spacecraft.

327:17:24 C Very good.

327:17:26 CC It's really beautiful!

## BERMUDA

327:18:27 C How do the squib batteries look to you?

327:18:31 CC Great!

327:18:33 C Say again.

327:18:34 CC Looks real good.

327:18:36 C Okay.

327:19:07 C Ask E COM if they care if we try ... this morning and see if we can get anything else out of them for fine alignment.

327:19:16 CC Say again, Gemini VII.

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327:19:18 C I'd like to try thrusters this morning to see if I can get any impulse at all out of them when I'm fine alining.

327:19:24 CC Roger. We'd like it if you would try them individually, putting 3 on the line, and attempt a minimum 3-second pulse if you can, and then take it off-line and then try 4 individually, in the same method. We'd appreciate it if you'd do it on the next - well, over a site so we can get T/M on it.

327:19:43 C Roger.

327:19:49 CC Can you do it right now and we'll get T/M through Bermuda?

327:19:53 C Roger. But I don't want to do a check. I'm just going in pulse.

327:19:57 CC Okay. Do it any way you care to do it.

327:20:06 C Number 4 on the line now, Flight.

327:20:08 CC Roger, 4.

327:20:12 C We're getting a little ... from it.

327:20:15 CC Roger.

327:20:23 C 3 is on line.

327:20:24 CC 3 is all right?

327:20:27 C 3 is still pretty sick.

327:20:29 CC Roger.

327:21:08 CC Gemini VII, Houston. How did Thruster 4 look to you?

327:21:12 C It looked pretty good. Better than 3. I think I'll be able to use it for alining the platform.

327:21:17 CC Oh, swell!

327:21:27 CC You do good work.

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## CANARY ISLANDS

327:26:03 CC Gemini VII, Canary. We have nothing for you.  
Standing by.

327:26:05 C Thank you, Canary.

327:26:07 C ...

327:26:20 CC Yes, we finally got a look at your attitude, down  
here.

327:26:25 C How'd you do that?

327:26:29 CC ... pitch, yaw and roll on low, zero 210 zero.

327:26:39 C ... the tape ...

327:26:44 CC Roger. ... just a little.

327:26:48 C ...

## KANO

327:35:56 CC Gemini VII, Houston.

327:35:58 C Go ahead, Houston.

327:36:00 CC Can you tell me how long you've been on the adapter  
antenna?

327:36:03 C After that - check with the power-up.

327:36:06 CC Roger. Can you tell me - give me a hack when you  
turn your computer on, or when you did turn your  
computer on?

327:36:13 C The computer is not on.

327:36:14 CC Roger. If we still have acquisition, will you give  
me a hack when you do turn it on?

327:36:22 C ...

327:36:25 CC Okay, real swell.

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CARNARVON

328:01:04 CC I have an update for you on your bank angle versus RN minus RP curve for Area 207-1, when you're ready to copy.

328:01:14 C Roger. Stand by. Go ahead.

328:01:19 CC Bank angle, zero degrees; RN minus RP, plus 159.0. Bank angle, 49.5; RN minus RP, zero. Bank angle, 90 degrees; RN minus RP, minus 192.5.

328:01:56 CC Did you copy?

328:01:57 C Roger.

328:02:02 C Okay. We'll start the platform alining and we'll go ahead and proceed with the check list if it is okay with you, or do you want us to wait some more?

328:02:08 CC Stand by.

328:02:15 CC Roger. Go ahead. Give us a Mark when you turn your computer on, please.

328:02:20 C Roger.

328:02:21 C Turning on the computer now.

328:02:32 CC Roger.

328:03:18 CC Gemini VII, Carnarvon. How are your Thrusters 3 and 4 making out?

328:03:23 C They're adequate for alining the platform. I used the Maneuver Thruster for thrust control and when I get in close, I can use 3 and 4 for fine adjustment.

328:03:32 CC Roger. Copy.

328:03:37 C We should have ... aline platform now.

328:03:39 CC Roger.

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## CALIFORNIA

328:39:11 CC Gemini VII, Houston.  
328:39:18 CC Gemini VII, Houston.  
328:39:21 C Go ahead, Houston. Gemini VII.  
328:39:23 CC Gemini VII, Houston. I have your Retro pre-advisory message.  
328:39:28 C Roger. You're very weak, but go ahead; we'll see if we can copy.  
328:39:33 CC Roger. PLA is 207-1; Delta-V, zero; burn time, zero. The GET RC is 329:58:04.  
328:39:56 P Repeat that, please.  
328:39:58 CC 329:58:04.  
328:40:05 P Roger.  
328:40:07 CC RET 400K, 21:26.  
328:40:16 P Roger.  
328:40:17 CC RET RB, 28:01.  
328:40:25 P Roger.  
328:40:26 CC Bank left, 50; bank right, 60.  
328:40:34 P Bank left, 50; bank right, 60.  
328:40:38 CC Roger. Request readback, please.  
328:40:43 P Roger. ... GET RC is 329:58:04. RET 400K, 21 plus 26.  
328:41:01 P ... RET RB, 28 plus 01; bank left, 50; bank right, 60.  
328:41:08 CC Gemini VII, that's correct. I have your MDIU information.

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328:41:13 P Go ahead.  
328:41:16 CC Core 03, 61618.  
328:41:26 P Roger.  
328:41:28 CC Core 04, 39008.  
328:41:33 P Roger.  
328:41:35 CC Core 65 is 00165.  
328:41:42 P Roger.  
328:41:44 CC Core 66, 39583.  
328:42:02 CC Gemini VII, Houston. Did you copy?  
328:42:05 P We lost you after Core 65, Houston.  
328:42:12 CC Roger. Next core is 66.  
328:42:17 P Go ahead.  
328:42:18 CC 39583. That's the number for 66.  
328:42:23 P Roger.  
328:42:25 CC Core 07, 62602.  
328:42:33 P Roger.  
328:42:35 CC Core 08, 40941.

## TEXAS

328:42:56 CC Gemini VII, Houston. Did you copy Core 07?  
328:42:59 P Roger. I have Core 07 as 62602. You were cut out  
after that.  
328:43:03 CC Roger. Core 08, 40941.  
328:43:12 P Roger.

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328:43:13 CC Core 09, 14362.  
328:43:20 P Roger.  
328:43:22 CC Core 10, 02523.  
328:43:30 P Roger.  
328:43:31 CC And Core 11 is 29000. Request readback.  
328:43:38 P Roger. Core 03, 61618; Core 04, 39008; Core 65, 00165; Core 66, 39583; Core 07, 62602; Core 08, 408 - 40941; Core 09, 14362; Core 10, 02523; Core 11, 29000.  
328:44:15 CC Roger. I'd like to give you Core 08 again.  
328:44:19 P Roger.  
328:44:20 CC Core 08 is 40941.  
328:44:25 P Roger. Have copied as 40941.  
328:44:29 CC That's affirmative, Gemini VII. I have your nominal IVI's.  
328:44:34 P Stand by.  
328:44:38 P Go ahead.  
328:44:42 CC Gemini VII, we're sending the T<sub>R</sub> in the update.  
328:44:51 P I received.  
328:44:54 CC Roger. Received.  
328:45:04 CC DCS loads coming.  
328:45:13 CC Gemini VII, we've received MAPS and I'm ready with your nominal IVI's.  
328:45:19 P Roger. Go ahead.  
328:45:21 CC Aft 296; left right is zero; and down is 113.  
328:45:31 P Roger. IVI's: aft 296; left right, zero; down 113.

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328:45:36 CC Roger. I'm passing you the Surgeon now.

328:45:41 CC Gemini VII, I'd like to confirm the time of the Dexadrine.

328:45:47 C We didn't take any yet, Chuck.

328:45:50 CC Roger. Okay. We'll wait. Frank, if you'll pass that to us sometime when you do. One other - second item: remember the blood pressure that we want on Pilot over Guaymas after Retrofire - on Pilot over Guaymas after Retrofire.

328:46:16 C Roger.

328:46:19 CC Item 3: we want to remind you again about the actions that you can take, Frank and Jim, in the spacecraft, on descent or in the water, as far as elevating your feet and pumping your calves, if necessary. And you'll have to decide as to whether these are necessary. In Spacecraft VI, the crew was warm on the water. It was very calm; there was no nausea or anything, but they were warm and stayed in their suits. However, we do prefer that you stay in your suits, as you know, but it is strictly Pilot's choice, depending on the situation.

328:47:09 C Chuck, are you ...?

328:47:15 P Hello, Houston.

328:47:16 CC Hello, Houston. Go ahead.

328:47:18 C Jim and I would prefer to get out of the spacecraft as soon as possible after we're on the water, rather than wait to be hauled aboard a ship, if we do happen to land close to one.

328:47:28 CC Gemini VII, understand.

328:47:41 CC Gemini VII, Houston. I have some more for you. When you're through with the RCS system, would you motor-off Ring-B and dump the lines?

328:47:50 P Roger.

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- 328:47:52 CC And please make every attempt to keep us informed on what you're doing and how your trajectory looks to you through the reentry.
- 328:47:58 P Roger.
- 328:47:59 CC I have some forecast weather for you in the recovery area. It's about six-tenths cloud cover, with the lowest layer at 2,000 feet, and that layer is about three-tenths coverage. The visibility is 10 miles and the winds are 280 at 14 knots. We have about 1-to-2-foot seas there and the barometer is 29.98.
- 328:48:28 C Understand. Altimeter's hitting 29.98.
- 328:48:30 CC That's affirm, Gemini VII. Incidentally, we've put your initial conditions through a ground computer solution and they look real good.
- 328:48:39 C Good.
- 328:48:40 CC And we'd like to have a final water count from you prior to your Retrofire, so we can get a c.g. determination. We'd like to have that as soon as possible.
- 328:48:50 C ... We'll give you a count now and then allow about 5 ounces for each person after that.
- 328:48:56 CC Okay. A count now, and then 5 ounces for each person.
- 328:49:01 P Houston, addresses at present on the computer also good.
- 328:49:05 CC We verify it also.
- 328:49:10 P Roger.
- 328:49:12 CC Incidentally, do you recall the OAMS squib test that was performed on GT-V? If you do, you might consider running that, but that'll be Pilot's option.
- 328:49:28 C We don't even know what it was, Charlie.
- 328:49:31 CC Roger. It amounts to blowing the OAMS squib on

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the regulator and pulsing it a few times to see how well you can control the pressure, as well as determining whether or not you can hear that squib blowing.

- 328:49:44 C ... I remember that test.
- 328:49:56 C Okay, the gun reading now is 4932. We'll each take 5 more ounces before Retro so that'll make it - add 20 to that.
- 328:50:04 CC Roger. Understand. It's 4932 and you'll each take 5 ounces before Retro.
- 328:50:09 C That's right.
- 328:51:01 CC Gemini VII, Houston. We'll be remoting through Canton till your Retrofire, so we'll be in touch with you then.
- 328:51:06 C Okay.
- 328:51:09 C Who's going to give us the countdown - Hawaii or you?
- 328:51:13 CC Elliot will be making the count.
- 328:51:18 C Okay.
- 328:52:43 CC Gemini VII, Houston. Your  $T_R$  is correct, as verified on the ground.
- 328:52:48 C Hello there, Houston. How are you?
- 328:52:50 CC Fine. How are you?
- 328:54:24 CC Gemini VII, Houston. We took some pictures of the GT-VI shots of you guys over to the wives last night and they really thought they were great.
- 328:54:35 C Thank you.
- 328:54:42 C ...
- 328:54:48 C We now have the world's best aligned platform.
- 328:54:52 CC Very good. We concur with that.

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328:55:02 C I'm going to recommend an ECT for ... thrusters  
for a fine alignment on platform.

328:55:09 CC Roger.

328:55:25 CC Gemini VII, we have a request for you to fix the  
tape recorder the same way.

328:55:33 C Roger.

## BERMUDA

328:56:17 CC Gemini VII, Houston. We have some special music  
coming up for you now, if you'll tune in on HF.

328:56:23 C We're listening.

328:57:01 CC Gemini VII, Houston. I have some star information  
for you here. We may not get finished. I'll  
finish passing it at Kano if we don't.

328:57:09 C Go ahead.

328:57:11 CC Fomalhaut will pass 4.6 degrees left and will set  
2 minutes, 15 seconds prior to Retrofire. Do you  
copy?

328:57:26 C Roger.

328:57:29 P Fomalhaut will set 15 seconds prior to Retrofire.  
We're just checking.

328:57:39 C Go ahead please, Houston.

328:57:41 CC Say again.

328:57:42 C Say again, please.

328:57:44 CC That time for Fomalhaut to set was 2 minutes 15  
seconds prior to Retrofire.

328:57:59 CC Okay. At Retrofire, Diphda will be 14.8 degrees  
up and 10.6 degrees right. Do you copy?

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## CANARY ISLANDS

329:01:08 CC Gemini VII, Canary CAP COM. How do you read?

329:01:10 C Loud and clear. Canaries.

329:01:11 CC Okay. Fine. Would you put the Quantity Read switch to ECS O<sub>2</sub>?

329:01:16 C Okay.

329:01:17 CC Okay. Did you copy those star updates?

329:01:19 C Already have them all.

329:01:20 CC Okay. At Retrofire got the one about ...

329:01:25 C Yes.

329:01:27 CC What about Ancha?

329:01:30 C No.

329:01:31 CC Okay. Ancha: 12.0 degrees up, 14.4 degrees left.

329:01:52 CC What about Diphda?

329:01:57 C Diphda?

329:01:59 CC Okay. At Retrofire: Diphda at 14.8 degrees up, 10.6 degrees right.

329:02:14 C Roger that. Thank you.

329:02:16 CC Okay. Would you place your Quantity Read switch to FUEL CELL O<sub>2</sub>?

329:02:35 CC That star, Diphda, is D I P H D A.

329:02:40 CC H D A.

329:02:43 C I don't know why ...

329:02:46 CC Well, how about Quantity Read switch to FUEL CELL H<sub>2</sub>?

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329:02:53 CC Did you read HF?  
329:02:56 C No. We couldn't read it.  
329:03:00 C It all sounded like an air raid siren.  
329:03:02 CC Do you want me to sing it for you?  
329:03:03 C Yes.  
329:03:04 CC I'll be home for Christmas, etc.  
329:03:07 C Very good.  
329:03:13 CC Okay, Quantity Read switch to OFF.  
329:03:18 CC Well, this is it, gentlemen. We picked you up the first half of the first revolution and the first half of the last revolution. See you back home.  
329:03:23 C Very good. Thanks a lot.  
329:03:25 CC Roger.  
329:03:43 CC The second song was "Going Back to Houston."  
329:03:45 C Very good.  
329:03:47 CC I don't know how to sing that one.  
329:03:53 CC Okay.  
329:04:22 CC Tell you what, VII, tune in HF again and we'll give you a replay.  
329:04:26 C It's in. Go ahead.  
329:04:46 C Our HF must be ruined.  
329:04:50 CC Not coming in yet? Stand by.  
329:04:52 C Okay.  
329:05:13 CC Can you read it?  
329:05:14 C No.

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KANO

329:08:57 CC Gemini VII, Houston. How do you read?

329:08:59 C Loud and clear. Go ahead.

329:09:04 CC I would just like to assure you that from our checks here, it looks like you should have 23 to 23 1/2 volts on the main bus after adapter set.

329:09:14 C Very good.

329:09:17 CC Get the HF that time?

329:09:19 C Negative.

329:09:21 CC Keep listening.

329:09:23 C Okay.

329:09:26 CC We might have to put the Air Force Choir on here.

329:09:29 C Right.

TANANARIVE

329:22:15 CC Gemini VII, Houston. How do you read?

329:22:18 C This is VII. Read you loud and clear.

329:22:22 CC Roger. Don't believe it's been mentioned to you yet, but GT-VI experienced a little surprise when they went to landing attitude, on the main chute. Apparently it was about the same as GT-III. So you might be ready for that.

329:22:39 P We'll be all briefed.

329:22:40 CC Roger. Tried to watch for you again this morning, but we had the same weather we've had. It's overcast and raining.

329:22:49 P It's just beautiful up here. No clouds.

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329:22:53	CC	I believe it.
329:22:55	P	We're putting up that check list. We're completed, Elliot.
329:22:59	CC	Pre-retro check list complete. Roger.
329:23:26	CC	Gemini VII, how do the RCS rings look?
329:23:30	C	Very fine.
329:23:31	CC	Good <u>deal</u> !
329:23:34	C	You're not kidding, that's a good deal!
329:23:57	CC	Did you ever copy our HF?
329:23:59	P	No ... fuel cell ... Canaries.
329:24:04	CC	Roger.

## CARNARVON

329:35:47	C	Carnarvon, VII.
329:35:49	CC	Go ahead, Gemini VII. Carnarvon.
329:35:51	C	Roger. Can you give us a 20-minute time hack, please, for ...?
329:35:56	CC	Roger. Set your med timer at 20 minutes and I'll hack you on it.
329:35:59	C	Thank you.
329:36:03	P	This is VII, going to REENTRY on the computer.
329:36:05	CC	Roger.
329:37:15	CC	10 seconds.
329:38:02	CC	3, 2, 1.
329:38:04	CC	Mark it. 20 minutes.

# CONFIDENTIAL

## CONFIDENTIAL

329:38:07 C Roger. Coming down.

329:38:09 CC Would you like a GET time hack?

329:38:10 C Roger.

329:38:12 CC Okay. I'll give you one at 329 hours, 38 minutes, 25 seconds.

329:38:25 CC MARK.

329:38:31 CC Do you copy?

329:39:09 CC Gemini VII, Carnarvon. Did you copy our GET time hack?

329:39:12 C Roger. We're right on. Thank you.

329:39:14 CC Roger. You're looking good here on the ground.

329:54:07 P ... Borman ...

329:54:08 C All right.

329:54:09 P ... scale reads high.

329:54:10 C All right.

329:54:11 P Attitude Control, RATE COMMAND.

329:54:12 C All right.

329:54:14 P Platform, ORBIT RATE ...

329:54:16 C Right.

329:54:17 P Got that.

329:54:19 P RCS Control A, Power A, and B, ACME.

329:54:20 C ACME.

329:54:22 P OAMS Attitude Control Power off.

329:54:24 C Off.

329:54:26 P OAMS Pump Motor Valve closed. I'll close them for you. Control spacecraft with Retro Attitudes.

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# CONFIDENTIAL

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329:54:34 C Retro Attitudes on.  
329:54:36 P Retro Power on.  
329:54:38 C Retro Power's on.  
329:54:41 P Indicator Quantity, depressed.  
329:54:48 P Okay. I can't see out.  
329:54:59 C You can turn that Scanner off.  
329:55:02 P Okay. Sure?  
329:55:06 C Yes. I didn't need it anymore.  
329:55:14 P Platform Rate. ... Make sure T/R's off. Okay.  
Put the two ... complete.  
329:55:21 P And listen to the ...  
329:55:29 C How do they look on your side? ... both off.  
329:55:35 P Yes.  
329:55:54 C 10 minutes and 10 seconds, Jim.  
329:55:56 P Okay.  
329:55:57 C 165.  
329:56:09 P Okay.  
329:56:10 C Contact?  
329:56:11 P Just about.  
329:56:16 P In one minute I'm going to go through with it,  
whether we hear from them or not.  
329:56:18 C All right. Go ahead.  
329:56:20 P Your ...  
329:56:21 C Yes.  
329:56:36 P Okay?

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329:56:38 C Yes. Go ahead.  
329:56:40 P What's the bit count?  
329:56:45 C 123.

## CANTON

329:56:47 CC Gemini VII, Gemini VII, Houston CAP COM. How do you read?  
329:56:51 C Loud and clear.  
329:56:53 CC Roger. You're cleared for your penetration. Standing by for your countdown.  
329:56:55 C Roger.  
329:56:57 P Test check list, complete.  
329:57:00 CC Okay, that's all right. Go ahead, one minute.  
329:57:01 P Good.  
329:57:03 CC 60 seconds. 1 minute to go.  
329:57:04 C Go ...  
329:57:05 P ...  
329:57:06 C ...  
329:57:08 C I don't know if that darn thing popped in.  
329:57:10 C Arms ... Retro.  
329:57:12 P Arms ... Retro.  
329:57:14 P Give me a count at 5 seconds.  
329:57:18 C Roger.  
329:57:21 P Take yours up.  
329:57:26 P ... Retros on?

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329:57:28 C Not yet.  
329:57:30 P ... on. Boy, that's what's wrong.  
329:57:33 CC 30 seconds.  
329:57:35 C Thirty seconds, right on the money.  
329:57:45 C Okay, let's move it to T/M.  
329:57:52 P Okay.  
329:57:53 CC 10, 9, 8, 7, 6, 5, 4, 3, 2, 1, Retrofire.  
329:57:54 C Right, now. ...  
329:58:08 P 2, 3, 4.  
329:58:28 P Okay.  
329:58:29 C Full Retrofire.  
329:58:32 CC Roger.  
329:58:33 P 298.  
329:58:34 C Right.  
329:58:35 P 112?  
329:58:36 C Right.  
329:58:40 P That's one big hurdle over with, Tiger.  
329:58:42 C You're right, Ace.  
329:58:43 CC We're standing by for IVI's.  
329:58:45 P 298.  
329:58:47 C 298 up, 003 left, 113 down.  
329:58:49 P Arm Retro, Arm Retro is in UP position.  
329:58:53 P Fire Retro-jett.  
329:58:54 C Retro's UP.

# CONFIDENTIAL

## CONFIDENTIAL

329:58:57 CC Roger. Retro-jett.

329:59:00 P Okay. Send me that timer.

329:59:02 C Times up.

329:59:05 P Okay.

329:59:10 P ... what were the last two?

329:59:14 C All right.

329:59:16 CC Gemini VII, Houston. Would you confirm the IVI readouts again?

329:59:28 P Roger. IVI readout 218 off, 003 left, 112 down.

329:59:35 CC Roger. Very good.

329:59:40 P Stand by for the countdown. Control spacecraft attitude, 20-degree yaw, 20-degree roll, right in front of the window.

329:59:52 C Yes, I don't even see the darn horizon.

329:59:54 P Okay, don't sweat it.

329:59:57 P Post-central check list.

330:00:02 C ... I'd like to find the horizon.

330:00:04 C Can you see it?

330:00:06 P Yes, you're upside down and just straight ahead.

330:00:10 C All right. I've got to pitch up, all right?

330:00:14 P You'll probably have to pitch down a little bit more, but that's okay. I'll pitch up whenever you can see out.

330:00:17 P Retro Power Safe.

330:00:19 C How about 3 minutes. Is that time enough?

330:00:21 P I'm going to give it to you here in a second.

330:00:22 C Okay.

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330:00:23 P Retro Power Safe.  
330:00:24 P Retro-jett Safe.  
330:00:25 C Safe.  
330:00:26 P Retro Rockets ... Safe?  
330:00:27 C Safe.  
330:00:28 P FDR Computer, T/M Attitudes.  
330:00:30 C ... in Attitudes.  
330:00:33 P ... Scale Range, low?  
330:00:35 C Low. Have you got the horizon?  
330:00:42 P Bad ... I'm going to set it down. You'll pick it  
on the way from the lights.  
330:00:50 C Okay.  
330:01:06 P Attitude Control Pulse. We're on ...  
330:01:11 P Range Scale, low. Got it?  
330:01:14 C Right.  
330:01:16 P Attitude Control Pulse. Close the circuits on  
1 and 2. Circuit breakers open.  
330:01:19 C Right.  
330:01:21 C HACK.  
330:01:22 CC Gemini VII, Houston. Delta-P lights out yet?  
330:01:26 P I missed it.  
330:01:28 C Okay. We'll get them to send up one more in a  
second.  
330:01:30 P 330.  
330:01:33 P Yes. ... set up ... 3 and 4.  
330:01:36 C All right.

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330:01:38 P I'd say, Houston, no Delta-P lights.  
330:01:39 CC Roger.  
330:01:40 C I feel as if I have horizon.  
330:01:42 P Don't sweat it.  
330:01:50 C All right.  
330:01:55 C Almost.  
330:01:57 P Okay.  
330:01:59 P Stand by.  
330:02:02 C MARK.  
330:02:04 C Lining up.  
330:02:11 C Hello, ...

**HAWAII**

330:02:12 CC Gemini VII, Hawaii CAP COM.  
330:02:14 P VII. Go.  
330:02:15 CC Okay. Can you give me that aft IVI, please?  
330:02:18 C Aft, 299 now.  
330:02:21 CC Was that what it was at Retrofire?  
330:02:23 C 298.  
330:02:24 CC Roger. Copy.  
330:02:26 P Hey, wait a minute out there, Tiger. I fouled  
you up.  
330:02:27 CC Okay. Give me your left and down at Retrofire.  
330:02:30 C Left is 3, down is 112. What is it now, Jim?  
330:02:33 CC Okay. We copy that. How you doing?

**CONFIDENTIAL**

## CONFIDENTIAL

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330:02:35 C Fine.

330:02:36 CC Okay. Attitudes at Retrofire?

330:02:38 P Time. Go to 10.

330:02:49 CC Okay. Very good.

330:02:50 P Another 5 minutes ought to do it.

330:02:52 C 5 minutes more?

330:02:53 CC You're looking real good. Your RCS seems to be holding real well. Your Secondary O<sub>2</sub> is right in there.

330:02:54 P Go to 5 minutes. Keep on it.

330:02:59 C All right. How's that?

330:03:02 P Okay. Now wait 1 minute and we'll get it again here. Retro Sequence Control ... Did you get that? All Scanners are off, okay?

330:03:09 C Okay. Retro Sequence Control, left.

330:03:14 P You got the Retro Sequence Control circuit breakers on ...?

330:03:15 C No. ...

330:03:16 P Okay. Attitude Control Power off. Have you got that, Scanner on?

330:03:20 C Okay.

330:03:23 P Okay. It looks like we're going on sequence.

330:03:25 C Oh, you're darn right.

330:03:26 P He will.

330:03:27 C You will ...

330:03:30 C 5 minutes now.

330:03:35 P Coming up on it now. We've got 30 seconds to go.

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## CONFIDENTIAL

330:03:38 P Section Power 1 and 2 off.  
330:03:42 P Section Control 1 and 2 off.  
330:03:45 P 15 seconds.  
330:03:57 P 5 seconds.  
330:03:59 P 3, 2, 1. Hack it.  
330:04:04 C All right.  
330:04:05 P Okay. There you are, you're ready.  
330:04:06 C Control didn't start.  
330:04:07 C I've got to do it over again, 530.  
330:04:09 P Okay. 530.  
330:04:16 C All right.  
330:04:18 P 15 seconds.  
330:04:23 P 10.  
330:04:28 CC You're looking real good down here.  
330:04:29 P 5, 4, 3, 2, 1.  
330:04:33 P HACK.  
330:04:35 C Roger.  
330:04:40 C ...  
330:04:42 P All right.  
330:04:50 P Looking good, Frank.  
330:04:52 P Okay.  
330:04:54 C RET ... 21 plus 26.  
330:04:57 P How much?  
330:04:59 C 21 plus 26.

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330:05:01 P Roger.

330:05:02 P I feel like flying a higher plane.

330:05:11 P No, I can't.

330:05:14 C 21 plus 26.

330:05:16 P Yes.

330:05:18 CC Are you ready for a GET time hack at plus count?

330:05:20 C Roger.

330:05:21 CC Okay. Set up 7 minutes and 30 seconds - 7 minutes and 30 seconds on my Mark. 5, 4, 3, 2, 1.

330:05:33 CC MARK.

330:05:34 C Roger.

330:05:35 CC Okay.

330:05:38 P They're right with us. They're hanging right with us.

330:05:42 C Okay.

330:05:47 P Feeling good ..., do you?

330:05:50 C Right.

330:05:59 P We have 2 Trans on and 3 in Key 4?

330:06:02 C No, I don't care. Do you?

330:06:04 C I don't want to put load on that battery. It'll knock the computer off-line.

330:06:11 P Frank, it will not knock the computer off-line.

330:06:14 C All right, let's go on and do it.

330:06:16 P Okay.

330:06:17 C Now the voice is going to be ... We can't handle it, Jim.

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330:06:21 P Yes, but don't forget there's just a little ... involved, you know it?

330:06:26 C Let's turn out the lights and see if we can find the horizon.

330:06:28 P I've got it.

330:06:29 C Do you?

330:06:30 P Yes, straight ahead.

330:06:31 C How are we?

330:06:32 P Beautiful! Just about on it.

330:06:33 C All right, fine.

330:06:34 P The nose of the spacecraft, the upper part of the nose's target is wide on the right.

330:06:40 P You're looking real good.

330:06:42 C All right.

330:06:46 CC RCS and holding real good. Your main bus voltage is reading 23.8. Real fine.

330:06:47 P ...

330:06:49 C Let's see.

330:06:51 C Fine. We just came out of the second ... band.

330:06:54 CC Say again.

330:06:55 C We just started Sub-bands 1 and 2 ...

330:06:58 CC Oh. Roger.

330:07:04 C I sure don't like this suit.

330:07:09 C Delta-P's 20. Go with the pass, Jim.

330:07:11 P 21 plus 26.

330:07:21 P 21 plus 26.

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330:07:23 P Okay. Let me figure out the sky's angle for you.

330:07:26 C Okay.

330:07:40 CC Holding real good here on the ground.

330:07:42 C Thank you.

330:07:49 C ...

330:07:50 C We still don't have much of the horizon.

330:07:51 CC Say again.

330:07:52 C I said, we still don't have a fix on the horizon.

330:07:55 CC Roger.

330:08:14 CC You'll be below 350K - before you have a lit horizon.

330:08:15 P 50 degrees.

330:08:18 C Thank you.

330:08:20 CC And as you come up towards my LOS you're looking real fine. We'll be seeing you.

330:08:23 C All right.

330:08:24 C Thanks a lot, Hawaii.

330:08:28 C Do you have the horizon up here now, Jim?

330:08:30 P I'll get it.

330:08:35 P Yes, yes.

330:08:38 C ... How we doing?

330:08:40 P You're pitched down a little bit. You could pitch it up, lift it up, pitch your nose up to the sky a little bit more.

330:08:50 C Up to the sky a little bit more?

330:08:52 P Yes, man. Okay. Your lift-up orientation degree to 50.

# CONFIDENTIAL

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330:09:09 C 50 left?

330:09:11 P Yes. It turned out real good. 50. No, change to ... RB.

330:09:16 C All right.

330:09:28 P We should have ... no reflections where we can get ... for this ...

330:09:35 C Really.

330:09:37 P ... 50 degrees. There's the scale, right on it. Maybe, I'd say ... 50 or 25 - 25 degrees, 5 miles short.

330:10:02 C I got that darn ... line down on the bottom instead of up at the top where I can get to it. ...

330:10:09 P You have?

330:10:10 C Yes. Where's yours?

330:10:11 P Same.

330:10:12 C The bottom, too?

330:10:14 P Yes. I wonder why? Oh, I know, we got them reversed ...

330:10:17 C Yes, ...

330:10:26 C Tell me about the horizon.

330:10:33 P Okay. The horizon is - it's probably cutting through on us.

330:10:38 C Oh, should I pitch it up a little more?

330:10:44 C It should be right at the top of the window, so I may pitch it a little more.

330:10:47 P All right.

330:10:50 P Yes, pitch up.

330:10:51 C All right. We're coming up.

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330:10:52 P ...  
330:11:02 C How's that?  
330:11:04 P Okay. Turn out your light a second.  
330:11:09 P Okay. Your pitching up looks good. I'll tell you when to stop it.  
330:11:16 P Okay. Stop it.  
330:11:21 C Okay.  
330:11:22 P Okay. You lost me there a little bit. It's ... You're about, you're about three quarters of the way ...  
330:11:30 C All right.  
330:11:45 P Okay. If my other computations are right, you have a 60-degree bank angle. Nominal.  
330:11:57 P You have almost no scale readings.  
330:11:59 C Keep telling me about that horizon ... I think I can almost see it now, myself.  
330:12:04 P I can see it.  
330:12:06 C We need to pitch up a little more.  
330:12:07 C That's right.  
330:12:26 C How does that look?  
330:12:28 P That looks good.  
330:12:30 P That looks good.  
330:12:33 C Like that?  
330:12:35 P Yes.  
330:12:40 P Boy, those Retros really warm you, don't they?  
330:12:42 C Yes.

# CONFIDENTIAL

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330:12:45 P Listen, I had my finger half way through that -  
this console too. I wasn't about to ...

330:12:57 P And one other thing, Tiger.

330:12:59 C Yes.

330:13:01 P This thing counts up from Retrofire. Remember  
that big argument we had?

330:13:13 C I guess so.

330:13:14 P I've got ... How many do you have?

330:13:16 C 14:15.

330:13:23 P 21:26.

330:13:24 C How much?

330:13:25 P 28:01 for RET RB.

330:13:33 P You all set to take g's?

330:13:34 C I don't know. Are you?

330:13:35 P I've got a full bladder.

330:13:57 C How we doing up there?

330:13:59 P Good. I have the horizon. You could pitch down  
a little bit - pitch up in the sky a little bit  
more. We're coming to light now. Now put your  
...

330:14:09 C Yes, I am. I pitch down, right?

330:14:11 P Yes.

330:14:13 P Yes, one ring, right?

330:14:15 C Yes.

330:14:18 P One ring pulse.

330:14:21 C Right.

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330:14:33 C ...  
330:14:59 C How's it going? Can you still see the horizon?  
330:15:01 P Yes, she's right up there at the top of the window.  
330:15:04 P You're looking good.  
330:15:06 C Okay.  
330:15:07 P No rolls in the ... at this thing. There's Jupiter.

## GUAYMAS

330:15:16 CC Gemini VII, Guaymas CAP COM. We're ready for the Pilot's blood pressure.  
330:15:21 C Roger. He's not ready yet.  
330:15:23 CC Okay.  
330:15:33 P ... horizon. I don't care about my blood pressure.  
330:15:34 CC Gemini VII, Guaymas CAP COM. Your lit horizon should occur at 22 minutes elapsed time from Retrofire.  
330:15:40 C Roger.  
330:15:41 CC You'll be at 21 nautical - 61 nautical miles altitude at that time.  
330:15:47 C Thank you. Do you see it, Jim - the horizon still?  
330:15:49 P No.  
330:16:11 P This is it. Guaymas, we're going to have to go for the blood pressure on this pass.  
330:16:27 CC Roger.  
330:16:42 P I can't see a darn thing out there.

# CONFIDENTIAL

## CONFIDENTIAL

330:16:47 C Do you have the horizon now?

330:17:11 C What's your time?

330:17:14 P What? 28:03.

330:17:18 C Do you have the horizon?

330:17:19 P No.

330:17:23 C Neither do I. It's probably ...

330:17:28 P You're probably pitched up too much.

330:17:30 C What?

330:17:34 P You probably pitched up - there's the horizon up front. ...

330:17:35 P Okay, yes! Yes, there you are!

330:17:40 C How is it? I can't see it over here yet.

330:17:42 P You're okay.

330:18:13 C You have the horizon yet?

330:18:16 P Yes.

330:18:21 P This time you've got it too. Look out.

330:18:22 C Okay. Hold it up ...

330:18:23 P All right.

330:18:24 C Retro time ... on at Delta-P.

330:18:28 P 21:26.

330:18:29 C Okay.

330:18:30 P You're looking good.

330:18:59 C Got both C-Bands on. You want the ... Band on?

330:19:01 P I don't think it'll help much. You can turn it on if you want to.

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330:19:09 P Are you hot?  
330:19:13 C No, not particularly.  
330:19:23 P Yes, that's pretty good, Frank.  
330:19:25 C Yes, it looks like we're right on it now, doesn't it?  
330:19:26 C Yes, it was a long time trying to get horizon, though, wasn't it?  
330:19:28 P Well, it wasn't lit!  
330:19:37 P I have this blood pressure bulb, and I don't know what to do with it. I couldn't ...  
330:19:42 C ...  
330:19:45 P I have 26 bank angle. Here we go.  
330:19:52 C What time is ...  
330:19:57 P Don't have it. Roll bank is 28:01.  
330:20:04 C ... roll bank.  
330:20:06 P Banking left.  
330:20:07 C Okay.  
330:20:08 C 50 degrees, right?  
330:20:11 P Right.  
330:20:21 P There's computers ... 50 and 60.  
330:20:35 P Very good ...

## TEXAS

330:20:37 CC Gemini VII, Gemini VII, Houston. How do you read?  
330:20:40 C Loud and clear.

# CONFIDENTIAL

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330:20:41 CC Roger. Have times for you. You ready to copy?

330:20:46 C Roger.

330:20:47 CC RET 400K, 21 plus 14; RET to blackout, 23 plus 50; RET RB, 27 plus 53; bank left 35, bank right 45. RET drogue, 31 plus 32; RET main, 32 plus 52. Do you copy?

330:21:18 C Tell him Roger.

330:21:21 P Roger. Bank left 35 and bank right 45.

330:21:23 CC That's affirmative. RET to Reverse Bank: 27 plus 53.

330:21:30 C 27 plus 53. Did you call this bank angle as 35, Elliot?

330:21:35 P No, no! 53! 53, Frank!

330:21:36 CC That is correct. Bank left 35; bank right 45.

330:21:37 P 35, he said. 3 ...

330:21:42 C Thank you.

330:21:42 P Well, I stand corrected.

330:21:45 C Okay.

330:21:47 P 35?

330:21:57 P How can that be? Did we get a copy of this, Frank?

330:21:58 CC Your downrange deflection should be 10 miles.

330:22:04 C Right. 27:53.

330:22:06 C Yes ...

330:22:09 P ... 27:53?

330:22:11 C Yes.

330:22:14 C Yes. ... good guys appreciate that.

330:22:16 P I think they're starting to play golf.

**CONFIDENTIAL**

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330:22:18 C Yes.

330:22:20 P Look at that ring that's around us.

330:22:26 C Yes.

330:22:27 C 27:53. I guess maybe I'm not getting any guidance from this ...

330:22:28 P Are you there yet?

330:22:30 C What time is it supposed to be ... there it is.  
...

330:22:40 P Just about readout, can figure 5 miles.

330:22:47 P You're looking good.

330:23:11 P You're ... the ... system, right?

330:23:13 C Right.

330:23:28 P Looking good.

330:23:33 C ... now.

330:23:35 P What are they?

330:23:37 C I don't know, but take a guess.

330:23:42 P Yes, they are. Look at those patterns off the --

330:23:57 P I've got all kinds of junk on the nose section.

330:24:09 P ... to get up.

330:24:13 C What are they?

330:24:14 P They're ...

330:24:16 C ...

330:24:17 P Yes.

330:24:47 P ...

330:24:48 C ...

# CONFIDENTIAL

## CONFIDENTIAL

330:24:49 P What?

330:24:54 C ...

330:24:58 P Don't forget 3 g's.

330:25:01 C They're not - they're not even at warm yet, Jim.

330:25:04 P Oh, come on now.

330:25:05 C I'm not kidding you.

330:25:06 P I still think about 20.

330:25:07 C I know it.

330:25:42 P What are the g's now?

330:25:45 C The g's now are 1 1/2.

330:25:47 P Are you serious?

330:25:48 C Yes.

330:25:52 P I can't believe it. Boy, that nose section is heating up.

330:26:28 C Okay, the g's now --

## TEXAS

330:26:40 CC Gemini VII, Gemini VII, Houston. How do you read?

330:26:42 C 3 g's.

330:26:47 C How do the ... look to you ...?

330:26:49 CC Gemini VII, Gemini VII, Houston. How do you read?

330:26:50 P Looks like we're going to hold our ...

330:26:52 C How?

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# CONFIDENTIAL

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330:26:54	P	...
330:26:55	C	...
330:26:57	C	...
330:26:58	P	Okay.
330:26:59	P	Looks okay.
330:27:03	CC	Gemini VII, Houston. How do you read?
330:27:18	CC	Gemini VII, Houston. How do you read?
330:27:23	P	...
330:27:25	C	Okay.
330:27:26	C	How are you hacking it?
330:27:27	CC	Gemini VII, Houston. How do you read?
330:27:28	P	Okay.
330:27:31	CC	Gemini VII, Houston. How do you read?
330:27:38	C	Loud and clear.
330:27:40	CC	Roger. Could you give us your guidance indication?
330:27:45	C	... bringing it down the range and about half-way across range to the right - pardon me - to the left.
330:27:49	CC	Roger.
330:27:51	CC	Say again - your downrange.
330:27:54	C	Right on nominal.
330:27:57	CC	Roger. Right on the nominal.
330:28:15	CC	Gemini VII, have an update on your drogue and main time. Be ready to copy.
330:28:21	P	What are the g's?

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330:28:23 C Coming down to 3.

330:28:24 P Okay. We've got a bias on our needle. That's why.

330:28:25 C What?

330:28:28 P We have a bias on our needle.

330:28:29 C Why?

330:28:30 P My needle's lower than yours.

330:28:35 P We're going to give off 100,000.

330:28:36 CC Gemini VII, Houston. Your drogue time, 31 plus 26; your main time, 32 plus 46.

330:28:40 C ...

330:28:54 C 80,000, Jim.

330:28:55 P Right.

330:28:57 C How you looking there, Ace?

330:28:59 P Okay, ... RATE COMMAND.

330:29:01 C RATE COMMAND.

330:29:02 P ...

330:29:03 C ...

330:29:04 P Stand by for drogue, it's 50.

330:29:06 C Roger. It's about 70 right now.

330:29:16 C Just ran out of rods.

330:29:21 P ... Okay, 50. ...

330:29:25 C ...

330:29:29 CC Roger. Drogue.

330:29:40 P Stand by for 35.

330:29:45 P Drogue's ...

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330:29:52 P 35.  
330:29:53 C 35.  
330:29:54 P ...  
330:29:59 C All right.  
330:30:01 P All these fuels look GO.  
330:30:12 P Harness locked.  
330:30:14 C Harness locked.  
330:30:16 P 30,000?  
330:30:17 C 30,000.  
330:30:18 P Okay. Pump Motor Valve A and B closed.  
330:30:21 C ... They're closed.  
330:30:23 P ... 26 ... Coming down.  
330:30:28 C 26.  
330:30:29 P Right. Go ahead.  
330:30:30 C ...  
330:30:33 P Go ahead.  
330:30:35 C ... down.  
330:30:37 C Area ... 35 ...  
330:30:42 P All right.  
330:30:43 C Okay, stand by for ... in sync.  
330:30:44 C Roger.  
330:30:45 P ...  
330:30:47 P I've got them out.  
330:30:49 C That's 13, right?

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330:30:51 CC Gemini VII, Houston. Standing by for your main report.

330:30:52 C Right.

330:30:54 P 13.

330:30:59 C 13, 12, ...

330:30:60 C Take your time.

330:31:01 P Here we go!

330:31:02 P Main chute.

330:31:03 C Main chute.

330:31:05 CC Gemini VII, Houston. Standing by for your main report.

330:31:06 C Do you read me, Mother?

330:31:07 P There we go!

330:31:08 C Okay. ...

330:31:21 P Okay, wait a second now. Let's ... Okay, now!

330:31:25 C Behave yourself!

330:31:28 C ...

330:31:29 C It looks good to me!

330:31:30 P It looks good to me, too!

330:31:31 C How's it going out there, Buddy?

330:31:32 P Okay.

330:31:34 C Ride 'em, cowboy!

330:31:35 P All right. Get up.

330:31:36 CC Gemini VII, Houston. Can you confirm main?

330:31:40 P Roger. Main voltage looks okay.

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330:31:45 CC Roger. Main confirmed.  
330:31:46 C Roger. ... and it looks okay.  
330:31:47 C Okay. Let's go with the check list.  
330:31:48 P ... check list. All right.  
330:31:49 C Okay.  
330:31:51 P ... down.  
330:31:54 C Right.  
330:31:57 P Do anything to temps.  
330:31:59 P Okay. Let's get it back in there. ...  
330:32:06 C Okay.  
330:32:09 P ... closed.  
330:32:10 C Okay. ...  
330:32:11 P Yes, let's close it before it spills out over here.  
330:32:13 C All right.  
330:32:16 P Okay, 2000 ... down.  
330:32:18 C ... Right.  
330:32:21 P Yes. Wait a second, that's water seal down.  
330:32:23 C Right, water seal down.  
330:32:24 P Okay. Cabin antenna up.  
330:32:25 C Cabin antenna is up.  
330:32:28 P ... closed.  
330:32:30 C ... closed.  
330:32:31 P Okay. Hatch ... unlocked?  
330:32:37 C Recovery, this is Gemini VII, orbiting through  
4500 feet.

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330:32:38 C Well - we got it on the Gemini VII. When we flew ...  
330:32:45 P How are the transmissions?  
330:32:46 CC Gemini VII, can you confirm landing attitude?  
330:32:49 C Say again.  
330:32:51 CC Can you confirm landing attitude?  
330:32:52 P Roger. Alining attitude.  
330:32:53 P Okay. Rescue ...  
330:32:54 C Landing attitude?  
330:32:55 CC Roger.  
330:32:59 C Right. Rescue picking up ... blood pressure ... landings ... hit the ground, right?  
330:33:09 P Okay. All circuit breaker switches open.  
330:33:11 C Okay. We've got to do something real fast, Jim.  
330:33:18 P Very good. Antenna extension on 30 seconds. Okay.  
330:33:25 C Go on.  
330:33:28 P ... UHF. Okay, here we go. Voice control.  
330:33:35 P Voice Control circuit breaker closed.  
330:33:37 P Voice Control circuit breaker. Audio UHF T/R circuit breaker closed.  
330:33:40 C Roger.  
330:33:41 P UHF circuit breaker closed.  
330:33:42 C Right.  
330:33:46 P Okay. HF T/R circuit breaker closed.  
330:33:47 R Gemini VII, RKV ... I have you in sight ...

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330:33:51 C Roger. Thank you ... how far are we?

330:33:52 C Roger. Thank you ... That's all.

330:33:57 P UHF with that.

330:33:58 C All right. What's next?

330:33:59 P Okay. We're okay. Next is post-landing ..., really. Come on.

330:34:06 P ... post landing.

330:34:11 C Okay.

330:34:13 P Okay. Do you have the Attitude Indicator Alinelement circuit breaker open?

330:34:14 C Yes.

330:34:16 C Attitude Indicating Aline circuit breaker?

330:34:18 P Yes.

330:34:21 P Okay. Indicating Control Retro circuit breaker open.

330:34:25 C Indicating Control --

330:34:26 P You got the barometric pressure and the altimeter?

330:34:28 C Right. ... Stand by pressure. ...

330:34:30 P Okay. Frank, I'm going to ... back on the line.

330:34:35 C No ... touch a darn thing. ...

330:34:42 P Computer mode in PRELAUNCH in 48 seconds.

330:34:45 C ...

330:34:47 P Okay.

330:34:57 C Thank you, Jim.

330:34:59 P Roger.

330:35:02 P Okay. ... C-Band Number 1 and 2. Is that dial shut?

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330:35:04 C Yes.

330:35:05 P ACME Bias Power off.

330:35:06 C Okay.

330:35:07 R That's affirmative. Mark flag. On your Mark. Flag. I have you in sight.

330:35:10 P RCS heaters off. Scans are okay. Computer in PRELAUNCH, Computer Power off, Platform off, ... off, AC Power is off, RCS circuit breakers are open. We're got those open, right?

330:35:25 C Right.

330:35:26 P Okay.

330:35:34 C Are these open or closed?

330:35:36 P All those should be open.

330:35:38 C They're open. Right?

330:35:39 P Yes.

330:36:18 C Gemini VII ...

330:36:25 R ... directly overhead. I read you loud and clear, VII.

330:37:42 C ... Roger ... over.

330:37:46 R ... 280.12, 280.12. Passing overhead.

330:37:52 C ...

330:38:13 R Gemini VII. ... you all still okay down there?

330:38:17 C That's affirmative, Flight.

330:38:18 R Roger ...

330:38:21 C ...

330:38:24 R I understand you do want to be picked up and transported by "helos" back to us?

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330:38:29 C That's correct.  
330:38:31 R Okay. 12 miles off. Very close.  
330:38:33 C Thank you.  
330:39:30 R This is Air Boss ... affirmative ...  
330:39:46 C ...  
330:39:48 R VII. ...  
330:39:49 C You don't need this ... now do you?  
330:39:52 R We have it now. We're right over here.  
330:39:55 C Okay. I think I'll retract it. It's ...  
330:39:57 R Oh, Roger.  
330:40:05 R ... Gemini VII ...  
330:40:50 R This is Air Boss 1. Looks like you're rolling around just a little bit down there, Gemini VII. Not too bad, though.  
330:40:56 C ... too good to me.  
330:41:04 P ... do you have the parachute in sight ...?  
330:41:10 R ... affirmative. The parachute is in sight. I do not have the R and I Section at this time.  
330:41:17 C ... parachute ...  
330:41:22 R Roger. Go ahead.  
330:42:43 R ... now have four "helos" overhead ...  
330:42:47 C Thank you.  
330:43:04 ...  
330:43:09 R ... Put another smoke in for them.  
330:43:47 R Roger. Come up HF. ... Put one man on the chute. Over.

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330:43:54 P ...

330:46:36 R Gemini VII, are you still okay?

330:46:46 R Gemini VII, Gemini VII, Air Boss. Are you all still riding okay?

330:46:49 P Roger. Okay.

330:46:50 R Roger.

330:50:23 R Gemini VII, Air Boss. It rides a little better with that collar, doesn't it?

330:50:29 R Roger. The air - spacecraft rides a little better with that collar attached, doesn't it?

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## POST LANDING ON-BOARD (No Time Available)

P See anything ...  
C ... do anything else.  
P Go back a little ways.  
C Let's get up that HF antenna.  
P Okay, up.  
C Yes.  
P She going up?  
C Yes, sure is.  
P Just fine. How do you read?  
P Okay.  
P Yes.  
P Okay. Hey, you want to ... through that. I have to get the blood pressure out.  
C Turn off two main batteries and that squib battery.  
P 1 and 2.  
C Yes.  
C Shoot! We must have missed it further than Wally did.  
C There she is right there.  
C The "whatchamacallit".  
C The ...  
P Give them a call.

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P Okay.

C We're just fine here, Buzz. How are you?

C How far away from the carrier?

C That's correct. How far away is the Wasp?

C Thank you.

P You son of a gun! We beat them, or didn't we?

C Okay, go through the check list and let's get this thing squared away now ... We did that ...

P Actually they go on over our flight suits?

C All right, Jim, they're going to be here in a minute. Let's not change yet.

P Okay.

C Once they do ...

P Oh, yes.

C ...

P ... reentry ...

P Do you feel any - do you feel any dizziness?

C Just a little, not bad though.

P I mean I don't feel any dizziness at all.

C ... Stand by, VII.

C You don't need this HF DF on do you?

C ... practice to keep ...

P Okay.

C ...

P Yes. We got anything else here? I think I did that stuff. We got anything else?

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C That was the first thing we did this morning.

P Okay.

C ... closed, ... closed, ... closed.

P Okay, what else?

C ...

P Okay.

C All switches off except C-Bands 1 and 2.

P Okay.

P Okay. What else?

C ...

C Rescue beacon without light.

P Okay, we've got it on.

C DC-DC ... converter closed.

P Okay.

C DC-DC ... converter closed.

P ...

C DC-DC converter closed. It's all right.

C ... closed.

P Okay.

C Tape Recorder Power circuit breaker closed.

C BIO-MED Recorders 1 and 2, CONTINUOUS.

P Okay. ...

C Main Battery switches on.

P They're on.

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C The ... changes with the waves.

P Yes.

C But it's not on the other one, is it ...

P ...

C ...

C Steel Battery 3 on.

P Okay.

C All right.

C Okay, we're on the ground recording ...

P Very good.

C Thank you. You want to take off the suits. ... trouble?

C Let's take off the suits.

P I want to take some pictures, but I can't get anything out of here.

P Okay. Let's try for a ... This picture's home-made.

C ... circuit breakers on except on your lead.

P Okay. Let's make sure ... good. What do you leave on, Frank?

C Only thing you leave on is a Main Battery switch. Rescue Beacon circuit breaker closed and Rescue Beacon without lights.

P Okay. Rescue ...

P You want to leave these on?

C Yes.

P Let's make sure you've got everything in it.

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C     ... get ready to go to the helicopter.

P     Okay. That looks good. Now what?

P     I think we'd better put this on.

C     All right, Jim.

C     I don't know ...

P     ... how'd they get up here?

P     That so.

P     Hey, your lights are on ...

P     Boy, it feels good to be down on that old aqua firma!

C     Okay.

P     Frank.

C     What?

P     Can you hear this?

C     Roger. Okay.

C     Okay.

P     UDT 21.

C     What's that?

P     Underwater demolition team.

P     What?

P     That happens when we both see things ...

C     Sounds good ... open hatch.

C     Roger. 3 minutes. Sounds great! Can I open the hatch now?

C     Say again.

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C There's a heck of a lot of them, friend!

P ... aqua firma!

C Right. I'm sure glad to be out of here!

P Yes. ... on now. She's riding pretty nicely.  
Look at that weather out there! It's beautiful!

P ... you sure do luck out on weather. Look at  
that! ...

P Well, if we'd flown out you'd know we'd been up  
too long.

C That's our innovation, Jim, that repro's got.

P It doesn't look like it'll last long, though.

C What?

P It's not going to last long.

C ... don't forget your - your "whatchamicallit".

P What?

C You know, your survival ...

P Oh, yes.

C Roger.

C Yes it does ... We're sure glad you're all here!

C I don't mean daisy about that, I'm pooped! I  
haven't slept well in two weeks.

P Recorder tape's off.

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