

ASTP (USA) MC693/1

Time: 10:08 CDT, 218:48 GET

7/24/75

PAO Apollo Control. Ground elapsed time 218 hours 48 minutes. As the spacecraft comes up the west coast of South America, it will be taking photographs out the window, of the Fernandina Islands in the Galapagos Chain, using the stereo cameras, taking photographs of upwellings around the islands, and then eddies in the Caribbean. And as the spacecraft goes out over the Atlantic towards England, Great Britain, taking photographs of oil slicks, eddies in the Gulf - English Channel, photographs in the Black Sea of the Danube delta, and fault zones in the Caucasus Mountains. And also, photographs off the coast of Florida of a low-pressure system directly east of Cape Kennedy. We'll bring the line up for CAPCOM Bob Crippen.

CC-H Apollo, Houston. AOS Quito for 3 minutes.

ACDR Okay, Crip. And we just shot the Galapagos.

CC-H Roger. Any turtles in there?

ACDR Only big ones.

CC-H Roger.

CC-H And, for whoever's going to set up the high gain this time, pitch is modified slightly, from what we've got the book. It should be about a minus 8, instead of the 15 we have there. So, pitch of minus 8 and yaw of 322.

ACDR Roger. Pitch - -

CC-H We're going to drop out, here, in about a minute, before we pick you up on the ATS.

CC-H Apollo, Houston. We're talking at you through the ATS.

ACDR Roger.

ACDR Coming up over Jamaica.

CC-H I'm sorry. I'm talking at you through MILA, not ATS.

ACDR Hey, Crip. We're on top of the tropical storm, right now.

CC-H Very good.

CMP Houston, Apollo.

CC-H Go ahead, Vance.

CMP Are we over the area where you reported there might be a tropical storm?

CC-H That's affirm. You should be just about in that position.

CMP Okay. It doesn't seem to cover so much area. But it does have a rather swelling appearance. I don't see an eye. But I can see where an eye would be.

CC-H Okay. I think that it's just developing, yet. I don't even believe it's to the area where they're calling it a storm, yet.

CMP Roger. It looks just like the (garble) thunderstorm, patches we've seen it around the Pacific area, the last couple of days.

CC-H Copy.

END OF TAPE

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CC-H Apollo, Houston. When somebody has an opportunity we would like to go ahead and activate the SIM bay experiments now, X-ray ops helium glow ops, and EUV ops. And for EUV we would like to use detector 1, vice 2.

DMP Okay.

ACDR Okay.

CMP Okay. Understand the 3 experiments, helim glow, X-ray, and EUV. Detector 1 for EUV. We'll start her right up.

CC-H Okay, thanks a lot Vance.

PAO Apollo Control, ground elapsed time 219 hours and 3 minutes. Flight Director, Frank Littleton, passing good words to the tracking station at Quito. The last pass Quito will support in ASTP. The pass word along from the flight controllers here thanking the people at Quito for a job well done and saying to the people in Ecuador, we look forward to maybe working with you again at some time in the future. The last pass for the Quito tracking station during ASTP mission.

CMP Houston, Apollo.

CC-H Go ahead, Vance.

CMP Let's see. I guess we had the low voltage power off on this, you need that on too don't you?

CC-H That's affirm. I should have reminded you of that. We turned it off last night, so that we do need that on.

CC-H Apollo, Houston. If somebody's got a moment I'd like to bend your ear about one item.'

ACDR Go ahead.

CC-H Okay. We've discovered that the DAC film that our friends were to use when they were over in the command module, namely CI 09, 10, 11, and 12, were not apparently returned in the Soyuz. And, consequently, we think they are there - -

USA (Garble)

CC-H I'm sorry.

DMP Yeah, we know that. We know that. We got them.

ACDR And they're stowed in B5, right now.

CC-H Okay, if there's any chance at all on that film, that we got, that we want to pass out quick to get developed, we would certainly like to be able to pass those out also. Do you think that's possible?

ACDR Sure, we'll just put them in the same bag, with quick release stuff.

CC-H That'd be great.

ACDR You can tell the camera people, we're gonna have Crip, about 3 bags, 3 or 4 bags, of quick release stuff. So we'll hand it to them as soon as we open the hatch.

CC-H Okay, super.

END OF TAPE

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ACDR And Crip, we still owe you a O2 fuel cell
purge, but we're holding on that until we get through this daylight pass.
CC-H Okay. Our friendly INCO down here has been notic-
ing that - that we haven't done it and it is not required. So that -
you can forget it.
ACDR Oh. That's nice of you. Thank you.
ACDR I thought it was more time-critical to get some film.
We only get one chance at that.
CC-H Roger that.
CMP ECOM's real easy today I guess.
CC-H Oh yeah. He just likes to know where things are
though so he appreciates knowing that we didn't do it.
CMP Right.
ACDR Sounds like we've bug - bugeted this hydrogen pretty -
pretty good, didn't we?
CC-H Yeah. Apparently we're right on the line.
CC-H Incidentally, Tom, since I had you on the line there,
might - might as well tell you that due to that problem we've had on
your OBS the other day, that we're requesting that you use that spare
set of leads and electrodes that we've got in the medical kit over in
on RL3.
ACDR All righty. Like I said since that's the most im-
portant message of the day, I hope later on we have a minor one like the
retro fire pad.
CC-H Roger that.
CMP Ireland really is green.
CC-H Really is what?
CMP Say Irland really is green.
CC-H How's the percentage that - does most of the world
look green up there? Or most of it - well I know most of it's blue.
CMP Not as green as it looks on the ground, John.
ACDR But Ireland is really super green. We got a couple
of pictures of that and we're over to the south end of England here now.
DMP Yeah it was - it was looking great except it just
has these broken clouds all over it. That's its problem.
CC-H Rog.
CC-H OBS normal.
ACDR Yeah. Crip, you can tell the BBC and all our good
friends in England hello for us.
CC-H Roger. I'm sure they'll appreciate that greeting.
ACDR Yeah. We're sitting right over London at present.
CMP Unfortunately there's quite a bit of cloud cover
over England.
CC-H Roger.
ACDR Okay, Crip. We see the Zuider Zee loud and clear here,
but unfortunately there's still some cloud cover.
CC-H Roger.

END OF TAPE

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Time: 10:36 CDT, 219:16 GET
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PAO Apollo Control. Ground elapsed time 219 hours 28 minutes, with the phase elapsed clock counting up to 100 hours - now 95 hours and 11 minutes.

CC-H Apollo, Houston. Do we have somebody available to throw a couple of switches for us on 230, involving the x-ray experiment and a little engineering test we're running?

CMP Stand by one, Crip.

CC-H Okay. No rush.

CMP Okay. Go ahead, Crip. We've got somebody down there now.

CC-H Okay, Vance. What we need is to take the x-ray high voltage power switch to OFF and, then, the backup purge switch to OFF, which is momentary, there. And what we're doing is - we're repressurizing the detector in the x-ray unit. We just took a look at it with - It bled down, which is what we had you do yesterday - to see if we could get that high voltage from - to quit discharging on - Now we're going to pressurize it and take a look at it again.

CMP Okay. So we'll go high voltage OFF, and we'll take the backup purge switch and hit it momentarily to OFF.

CC-H Okay. And after a couple of minutes I'm going to be requesting that you turn the high voltage back on. But we want a delay on that till we get - to get pressurized.

CMP Okay.

END OF TAPE

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CC-H Apollo, Houston. If somebody can turn the x-ray high voltage power to one-fourth, we'd appreciate it.

CMP Okay.

CMP And, Crip. We'll go into P20 here for maneuver to mapping attitude of - that's okay with you.

CC-H Okay. No problems with that. We potentially may lose you or have an early LOS with that maneuver. If we do we'll see you again at MILA in about 52 minutes. I did want to -

CMP Okay. That's the reason I was calling you. If you want to keep us in this attitude to - for any reason, why - recover any data or anything, why - we can stay here for a while.

CC-H Okay. Why don't we hold up on it just a little bit and if Deke's handy I can bend his ear about one item coming up on VIS OBS here.

CMP Okay. We'll get him on a headset.

DMP Okay, Crip, I'm on the air here. Do you have a message for me?

CC-H Okay. What we wanted to tell you was the - we got some ships collecting some data on this 5 Alfa which you're going to be coming across the next time and we'd like you attempt to get a colorwheel reading of the coastal water that will be visible from - and hopefully out of - they'll be visible out of CM-3 and they'll be between the Mississippi delta and the Gulf Coast around Mobile. Just in that general area there.

DMP Okay.

CC-H That's at around 96:07 that - that'll be coming up.

DMP Rog. Thank you.

CC-H Apollo, Houston. We have adequate amount of data at this time, and you're - go ahead to proceed on your P20 operation side.

ACDR Okay Crip. Copy that. Thank you.

END OF TAPE

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Time: 11:02 CDT, 219:42 GET

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CC-H Okay, we're getting close to losing you and we'll see you at MILA in about 42 minutes, at 96:08.

ACDR Okay, Crip. Thank you. We're progressing normally here, I think.

CC-H Very good. Somewhere during that next ATS pass we can talk a little bit about changes to the entry checklist and they're not really changes, so much as notations, and that kind of thing. And, we'll also try to get you a pad down.

ACDR Okay, very good. Thank you.

PAO Apollo Control ground elapsed time 219 hours, 45 minutes. The countdown clock to SPS ignition, now reading 95 hours, 27 minutes. Counting up to 100 hours. Delivery here at the Mission Control Center of 2 dozen long stem roses from the friend of the Mission Control and the space program, Cindy Diane of Keystone, State of Pennsylvania. A long hand written note arrived with the flowers a few moments ago. Quoting from the note, which is available in the news room, "This Betsy Ross bi-centennial arrangement of my favorite rose is for my countries flags and the greatest Mission Control Center in the world. To honor our great and outstanding Apollo-Soyuz mission and for all our NASA personnel for their dedication to duty, again proving they are the best in their very specialized profession. As we celebrate our bi-centennial, all Americans can be truly proud of what America has accomplished - in the space - in the past. I personally have many cherished memories and on this mission. Never before in the world's history has such an historic handshake taken place. May this spirit of positive cooperation continue in the future, for I know it is truly the hope of the younger generation to serve their country as well as our great and beloved astronauts have done in the program since 1959. Affirmative all the way. God bless America, our President, and by beloved NBC network for their most complete coverage, as always, of this historic mission. With all my fondest love forever, Cindy Diane, Keystone, State of Pennsylvania.

Next acquisition will be MILA in 38 minutes and 28 seconds. At ground elapsed time of 219 hours, 47 minutes, this is Apollo Control.

END OF TAPE

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Time: 11:45 CDT, 220:25 GET

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PAO - (garble) now 96 hours and 7 minutes. The weather report from the recovery area: Good weather is forecast for the end-of-the-mission landing, approximately 480 miles northwest of the island of Hawaii. Skies should be partly cloudy, with scattered cumulus clouds, surface winds from the east northeast at 15 knots, and seas of 4 feet. Visibility should be good. And a temperature of about 79 degrees. One hour away from the final entry checklist for the crew of Apollo, as the -

CC-H - Houston. We're AOS through MILA. I've got you for 6 minutes.

ACDR Okay.

PAO Apollo Control. Ground elapsed time 220 hours 28 minutes. On this pass, the crew performing the final Earth observations pass of the mission. One of the busier days for Earth observations. Splashdown will occur at 4:19 central daylight time. The splash point predicted at 290 nautical miles west of Honolulu.

CC-H Apollo, Houston. I guess - for Vance, if you're running that mapping pass, there. We might as well go ahead and not terminate the mapping camera on the time, and just go ahead and let it run to completion. We have plenty of film.

CMP Okay. We won't cut it off in between, there.

CC-H Okay.

DMP And we just crossed good old Boothbay again and, as usual, it's under clouds here, from our angle. Got some beautiful pictures, however, of the Cape Cod area.

CC-H Very Good.

DMP And we did get some color prints, or measurements, between the - New Orleans and Mobile, there.

CC-H Great.

DMP (Garble) a little bit.

CC-H Okay, fine.

END OF TAPE

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ACDR Okay, Crip. I think I'll go ahead and get BMAG 1 on a couple of minutes early.

CC-H Okay.

CC-H Apollo, Houston. If somebody is available we got another little special test we were going to run down on 230, this time on the helium glow instrument. Just need a couple of switches there.

ACDR Okay. I'm down here, Crip. Go ahead.

ACDR Okay, Tom. What I need is under the helium glow under helium inhibit switch I want first to select detector 1 and then detector 2 and then back to center. And, after you do that we want to close the helium glow cover. And what we're doing is we're going to take data with the cover closed and that way it'll give us some good background information on the instrument itself.

ACDR Okay. I'm going here to detachment detect1. Mark it. Now back to two, mark it, and now center, and I'll close the helium glow cover.

CC-H Very good. Okey doke.

CC-H Incidentally, for your information: that little test we had ran earlier on the X-ray instrument allowed us to isolate that the problem was within the detector itself and not in the - in the electronics.

CC-H Which is good engineering data for future experiments.

CC-H And Apollo, Houston. At your convenience during this pass, and we've got about 45 minutes of it, I would like to kind of walk through the entry checklist and note a couple of items to you and also give you your preliminary pass. And there's no rush on that at all.

CMP Okay.

ACDR We'll do it in just a minute.

CMP Yeah. Let us get finished with this Earth obs.

CC-H Yeah. We've got plenty of time for you to - yeah we got plenty of time for you to finish up the Earth obs pass and do it after that.

CC-H Apollo, Houston. If we can go ahead and have it ACCEPT we'll load your entry REFSMAT.

ACDR You got it, Crip.

CC-H Apollo, Houston. For your information we have completed the REFSMAT load. You may as well go ahead and stay in ACCEPT because after we complete the P52's 3 and 1, we'll be loading state vectors.

ACDR Roger. I understand.

END OF TAPE

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ACDR BMAG coming on.
CC-H Say again.

END OF TAPE

ASTP (USA) MC702/1

Time: 12:15 CDT, 220:55 GET

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CC-H Okay. We copied that P52.
CC-H Apollo, Houston. Vance, if you'd like to go ahead and do your option 1 now to get it out of the road, then we can go ahead and upload your - uplink your state vector.
CMP Okay. Did you see it all? I just got back on comm.
CC-H That's affirmative. We got it all.
CC-H Apollo, Houston. if somebody's available, we want to try out something a little bit different with the EUV. We'd like to go ahead and close the cover with it still - still on. Down on 230.
DMP Okay. Stand by. I'll get it.
CC-H Deke, while you're on the line there, we haven't seen our DP CO2 come down like we normally do after the LiOH change. Have you managed to get that in yet. We had one scheduled about 95.025 or something like that.
CMP Negative. We had a congestion down in that area while we were changing film and that sort of thing, packing things away so we'll get it right away. As soon as we can.
CC-H Okay. No rush Vance. We were just wanting to get status. Thank you very much.
CMP It was another case of we all stand in line to utilize certain areas.
CC-H Roger. I figured something of that nature.
CC-H Kind of hard to stand there though isn't it?
DMP Hey Crip, did you say it was x-ray cover you wanted closed? (Garble) power on. Is that correct?
CC-H That's negative, Deke. It's the EUV we wanted to close.
DMP EUV, okay.
DMP Okay. She's closed.
CC-H Okay. We're just going to sit here and get a little bit of data on it with the cover closed and you all can go ahead and you've got a deactivation scheduled a little bit later that you can do it on schedule.
DMP Okay.
CMP Can you see these torquing angles, Crip.
CC-H We're looking at it Vance. Thank you.
CMP Torquing now at 96:51:00.
CC-H Copy that.

END OF TAPE

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CC-H Okay. We see you're back to POO now and we'll go ahead and get squared away and give you a (garble) during your target load.

CMP Okay, go ahead.

CC-H Okay, Vance. And we've got another - about another 13 minutes left in this ATS pass and if it's convenient sometime, we would like to go through the entry checklist with you and also give you a pad. We had thought we were going to lose this Vanguard pass scheduled a little bit later, but we do have it also if we need to get anything there.

CMP Okay, we'll dig out the entry book.

CC-H Okie-doke.

CMP Incidentally, one interesting thing about the LiOH changeout is the canisters in B6 of course, are behind an apron which is behind the cryo freezers; that kind of makes it - made that changeout a big deal.

CC-H Roger that. Understand.

CMP Okay, Crip. Ready to copy your changes. Page please? (garble).

CC-H Okay. If you've got the book there handy. The first thing is not really a change, but just a comment on page 1-3; we are of course, operating on secondary evap now, so that's totally unnecessary, however, one thing there, we'll be using the secondary evap of course, to - steam pressure on the 90K indication. This - okay.

CMP - - have to be in secondaries to get that indication; I mean we have to be monitoring that.

CC-H Yeah, there's no real reason necessary to be primary, but it's called out on the thing, I guess.

CMP Right.

CC-H Okay. The other thing is: on page 1-4, to update your settings for the fireball photography.

CMP Go ahead.

CC-H Okay. The only change we need is that T11 should be T22, and we want to change from 1/500 to 1/1000th. Otherwise, it's as written.

CMP Okay. T11 should be 1/500 - I'm sorry - T11 and 1/500th changes to T22 and 1/1000th.

CC-H That is correct. The other small notation is that over on the right hand side there under final stowage checklist it has on about the 4th line down glycol to RAD - secondary valve to bypass and to verify it. It is in normal now, so we will have to go to bypass.

CC-H So the verify is not applicable after all.

CMP Copy. Right.

CC-H Okay. And when we flip on over to E2-1 and let me just make a comment here; you don't have to write anything down, I'm going to talk a little bit. You know we've still got that ICDU failed indication inhibited; in other words, so it won't come up and give you a failure indication. We feel that's the way we'd like to go ahead and leave it for entry, and the only item we'd like you to note is, if we

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did have a CDU problem and our - when you got down to about .05-g at minus 5 minutes, then your display if it had not advanced to the 0664; in other words, it was still 0622, you can go ahead and load your NOUN 20 with a .05 g attitude and that'll allow everything to progress normally.

CMP Okay. Understand that.

CC-H Okay. All the other CDU failures you can also detect by your normal monitoring of your ball versus the beta angle; commanded on the DSKY.

CMP Right. I guess what you're saying is we won't get the alarm if we had a real problem, and the way to detect it is either by looking at the ball or seeing that we don't get to NOUN 22 at the proper time and then you get to the action.

CC-H That's affirmative. And any yaw CDU failures will be - come up with a no - and - and gimbal lock warning lights as normal.

CMP Right. If that happens, we're on CDC (garble) probably.

CC-H That's affirm. Okay. One - I'd like to flip over to page 3-1 and give you a backup to a backup here. Down at the - note on the lower left hand corner of the page, at 23 and 1/2 K where it talks about cabin pressure increasing and what to do if it's not; about going cabin pressure release valve to dump that - that duct is, you know, the one also that your evaporator's been out of and there is some potential, although small that some ice could have ended up forming in this cabin pressure relief valve, but then even going to DUMP would not work. If that should be the case, the - the thing to do is to have Tom there in the center couch or whoever can reach it easier, just take the side half - hatch cabin pressure dump valve and open it up at about 800 K. I'm sorry, open it to - yeah, go ahead and do it there at 23 and 1/2 K if the thing's not coming up and your cabin pressure release valve going dump does not help. That's a backup step to the backup.

CMP Understand. Yeah, I presume that the heat of entry would help our duct situation. You got that?

CC-H I'm confident it would, Vance, it just makes everybody down here feel all nice and comfortable if we've covered every - every angle we can think of. If per chance, you did have to open the thing, we'd want you to close it again at 800 feet.

CMP Roger. Good idea.

CC-H Okay. And if you'll flip over to the completion charts, we'll talk about one other item, please, on 4-1.

CMP Okay. Go ahead.

CC-H Okay. Currently with the amount of SPS we have available, - -

END OF TAPE