

ASTP (USA) MC39/1

Time: 12:32 CDT, 17:32 GMT
/15/75

SPEAKER (Garble.)
SPEAKER All 3?
ACDR Yes.
SPEAKER All right. On panel 7. EDS power switch on up?
ACDR EDS power on up. Mark it.
SPEAKER (Garble.)
SPEAKER All right. 474 is verified.

ACDR STP sequential.
SPEAKER All right. On panel 2. EDS AUTO switch on up?
ACDR The EDS AUTO on up.
SPEAKER Thank you, Bobby. Okay, Tom. We're going into
the abort advisory checks again.
ACDR All right.
SPEAKER All right. LOM abort request A on.
SPEAKER (Garble.) On 3 2 1 Mark.
LCC This is Apollo Saturn Launch Control. We're at
T minus 2 hours 9 minutes and counting. Some switch checks being made
now with the spacecraft commander, Tom Stafford. And Skip (garble)
the test conductor. Let's listen in on this.

SPEAKER - light A off.
ACDR A - A off now.
SPEAKER Flight up.
SPEAKER (Garble) verifies A off.
SPEAKER Understand.
SPEAKER All right. LOM B on.
USA 3 2 1 mark.
SPEAKER Light on.
SPEAKER Let me verify, A and B on?
ACDR All right. LOM B off.
SPEAKER (Garble.)
LCC These are abort advisory checks which are going on
now. LOM is launch operations manager, Paul Donnelly, who has the abort
advisory capability here from Kennedy Space Center. After these abort
advisory tests are completed, the crew will work with the launch team
here in the mission - or, in the firing room and conduct an emergency
detection system test.

SPEAKER Flight up.
DMP Sequencer verifies B off.

SPEAKER All right. Flight A on.
USA Flight on.
SPEAKER Sequencer verifies A on.

SPEAKER All right. Flight A off.

LCC They're referring to different abort advisory lights
going on and off. And Flight, of course, is Houston. Houston has the
abort advisory responsibility after the spacecraft clears the tower.

ASTP (USA) MC39/2

Time: 12:32 CDT, 17:32 GMT

7/15/75

SPEAKER Flight on.
SPEAKER Sequencer verifies B on.

SPEAKER All right. Flight B off.
USA Roger. B off.

SPEAKER Flight up.
DONNELLY Sequencer verifies B off.

SPEAKER All right, LOM. That completes it. Thank you.
LCC And that completes the abort advisory tests. Now
we'll be coming up on the emergency detection systems test shortly.
That's conducted primarily with the spacecraft commander, Tom Stafford.

And they switch to a separate channel for that. T minus 2 hours 8
minutes and counting. This is Kennedy Launch Control.

SPEAKER - VERB 71?

END OF TAPE

ASTP (USA) MC40/1

Time: 12:42 CDT, 17:42 GMT

7/15/75

LCC

This is Apollo Saturn Launch Control. We just

passed the T minus 2 hour mark in our countdown; T minus 1 hour 59 minutes and counting. The crew, finishing up with their switch checks in the spacecraft and Tom Stafford, crew commander, will be going on a separate channel for the EDS system test. Inside the spacecraft, we'll have some 24 instruments, 566 switches, 40 event indicators, and 71 lights, so for all three crewmen it takes quite some time to go through their

checks; and in addition to that of course, the astronaut Bob Crippen

has been in the spacecraft since earlier this morning preparing it and

going over a number of the switch checks. The men inside have a fairly comfortable amount of room; of course, when they're in zero gravity, they can use all of that room; they have about 70 cubic feet per man in the Apollo spacecraft. This compares to 55 cubic feet per man in the one-man Mercury spacecraft and 40 cubic foot per man in the two-man Gemini. The command module contains about 15 miles of wiring, that's enough to wire 52 bedroom homes. The men relatively silent at this point, some talk going on now with Vance and Deke - -

CMP n the VHF, we can release the key.

DMP Okay, Vance (garble).

CMP Okay, (garble) verything look good?

SPKR Roger, everything's good so far.

CMP You have completed with all your readouts, huh?

SPKR All right, MAQZ hat should verify 6-18.

CMP Okay.

LCC That's Skip Shoven conducting some tests and checks.

Continuing the cryogenic topping at this time as we will throughout the countdown. T minus 1 hour, 58 minutes and counting. This is Kennedy Launch Control.

END OF TAPE

ASTP (USA) MC41/1
Time: 13:10 CDT, 18:10 GMT
7/15/75

LCC This is Apollo Launch Control, T minus 1 hour 39 minutes and continuing to count at this time. Astronaut Tom Stafford, the spacecraft has one on a separate channel now and is working the emergency detection system test. Emergency detection system can

see such things as problems with the red light - to the using variety of - to a variety of launch vehicle emergency situations. most of the first stage light the EDS provides a yellow or

usually during the mission. The auto abort system is turned on at liftoff and then it's disabled by the crew about 2 minutes into the flight. The system senses such things as a loss of thrust in the first stage engines or excessive rates in pitch or yaw. The test started about 10 minutes ago and takes about 30 minutes. During that test they simulate emergencies by feeding the simulated emergency into the system and then a spacecraft light indicates the nature of that emergency.

And Stafford reports back to the team that he is in fact seeing that light. The countdown proceeding along well at this time. T minus 1 hour 38 minutes and countdown. This is Kennedy Launch Control.

KIO - microbial exchange. (This is Moscow Mission Control Center.)

SPKR MSC KMECS count (garble) are complete.

USA Okay. You have disconnected.

SPKR All right On panel 2 the cabin fan switched to OFF please.

USA Cabin fan OFF.

SPKR All right. (garble).

SPKR All right. You said close VBChatch ash?

SPKR Roger. I have a go.

SPKR You have a go.

END OF TAPE

ASTP(USA) MC42/1
Time: 13:10 CDT, 18:10 GMT
7/15/75

LCC - - minutes and counting. At this time the hatch has been closed on the Apollo spacecraft and additionally, the boost protective cover hatch has also been closed; it's a boost protective cover over the outside of the spacecraft and hatch which is used through the boost phase of the flight to protect the spacecraft. We're going to try to listen in on some of the activity going on here in the spacecraft.

ACDR Bo, are you giving us the countdown in English or Russian today?

CC-H Oh, I figured I'd give it in English today.

ACDR Okay. I know you can do it either way.

LCC They were talking to - -

ACDR Hey, Bo, how does the weather look out there?

CC-H We can't see. Pad leader, how's it look to you?

SPEAKER It looks pretty good, to us. We have the BPC hatch closed per se, we are putting the plug in, and there's a (garble) seal goes on.

CC-H Understand.

LCC The crew is talking to Karol - Karol Bobko, the astro-

naut communicator in the firing room; asking about the weather. You

can hear Skip Schovin saying they are running about 30 minutes ahead in their activities, and the countdown - count going extremely well.

CC-H STC, go ahead.

STC Okay, Flight. When, I reach 45 minutes it looks like I'm going to have plenty of time. I'll get a weather briefing from the people out here, and if you would, I'd like to have you give them a little status on our friends across the sea.

CC-H Okay, we'll do that. That's at minus 45?

STC Yeah.

CC-H Okay. We should have a report by then on the completion of that first orbit correction they made.

STC All right. Very good. Pete, does it look like you'll need a (garble)?

LCC That's the crew talking inside the spacecraft; outside the spacecraft, the closeout team is continuing their work. They're doing a cabin purge at this point. They'll purge the cabin until they have a 60-40 mixture of nitrogen and oxygen. After that they'll run some leak checks where they pressurize to just above sea level pressure; they monitor that pressure for about 10 minutes to ensure there is no decay. Countdown proceeding very well; spacecraft running a little bit ahead in their schedule. T minus 1 hour 28 minutes and counting, this is Kennedy Launch Control.

LCC Can I have this one or you want me to cut - -

STC Okay, pad leader - -

SPEAKER Go.

STC Pad leader, STC to 1-4.

SPEAKER Go.

STC How you making out on the BPC?

ASTP(USA) MC42/2
me: 13:10 CDT, 18:10 GMT
/15/75

SPEAKER They're coming out along fine. We're putting the
(garble) barrier on at this time.

STC Oh, super.

SPEAKER Estimate about 20 more minutes on that.

STC All righty. We'll need a stamp on that when you get
there.

SPEAKER Will do.

SPEAKER STC, pad leader.

STC Go ahead.

SPEAKER (Garble) 3 33, step number 1 has been completed.

END OF TAPE

ASTP (USA) MC43/1
Time: 13:18 CDT, 18:18 GMT

7/15/75

SPEAKER (Garble), go ahead.

SPEAKER (Garble) something 3 - 33 - step number 1 has been completed. 533 sequence, step number 1. The BPT hatch 8, 2, 11, 4.

Hey - 22 Sugar.

SPEAKER Okay. Hang on. Atta boy, Hank. Okay, (garble).
You've got to go to up the light room.

SPEAKER Oh, thank you.
USA Okay. SCS - I've got to go to bring up the BMAGs.
SPEAKER Roger. Ready and standing by.

SPEAKER (Garble) 534 verified. All right on panel 2 - I want
the caution warning to normal.

USA Caution/warning's normal.

SPEAKER Verify BMAG 1 and 2 temp lights are OFF.

USA That's verified.

SPEAKER All right, on panel 7. Your FDIA/GPI POWER SELECT
to OFF.

ACDR FDAI/GPI POWER SELECT coming OFF. MARK.

SPEAKER Pnael 7, SCS electronics power select GDC/ECA.

ACDR GDC/EDC, MARK it.

SPEAKER BMAG power - 1 and 2 selects to ON.

USA Roger. 1 ON. MARK it. 2 ON. MARK it.

SPEAKER All right. FAO, record your time. And let me

know when you get your lights on.

SPEAKER Every time.

SPEAKER There are 1 (garble) OFF. 2 OFF.

SPEAKER I got a GO?

SPEAKER You are GO.

SPEAKER All right. Panel 7. FDAI/GPI power select to BOTH.

USA Roger. Power to BOTH. Coming on BOTH. MARK it.

SPEAKER (Garble) acknowledge.

USA Acknowledged.

SPEAKER (Garble) Do you have a go?

SPEAKER All right. On panel 1. FDI select ball 1.

USA FDI select ball 1.

SPEAKER Your source switch ATT SET.

USA Source switch ATT SET.

SPEAKER ATT SET roll thumbwheel 162.

USA Thumbwheel to 162. Verified.

SPEAKER Pitch 0900.

USA 0900 verified.

SPEAKER 0 on the yaw.

USA 0 on the yaw.

SPEAKER High 02 flow.

SPEAKER All right. Reset it, please. High 02 flow.

SPEAKER (Garble) accumulator.

SPEAKER Okay. Thank you, Walt. Okay. Tom, give me a GDT
aline until ball 1 is stabilized and arrows nulled.

ACDR (Garble) MARK. GD starting to aline.

ASTP (USA) MC43/2

Time: 13:18 CDT, 18:18 GMT

7/15/75

ACDR Okay. GDC's ball is alined, arrows nulled.

SPEAKER All right. Your ATT SET roll thumbwheel to 1-6-8.
ACDR (Garble) on some light (garble) the Sun's in my eyes.
SPEAKER Take it.
ACDR Okay, the Sun's in my eyes here, just a minute,
1-6-8?
SPEAKER 1-6-8.
ACDR I'll get the (garble) up here. Stand by for a minute
Skip.
SPEAKER Roger.
ACDR Okay, go ahead.
SPEAKER All right. You got it set to 1-6-8?

ACDR 1-6-8, Skip.
SPEAKER All right. Pitch 081.
ACDR 081.
SPEAKER Yaw 355.
ACDR 355.
SPEAKER (Garble)
SPEAKER Okay, Tom. On your ball 1 arrows. Verify roll full
right.
ACDR Roll full right.
SPEAKER Pitch full up?
ACDR Pitch is full up.

SPEAKER Yaw full right.
ACDR Yall full right.
SPEAKER All right select ball 2.
ACDR Ball 2.
SPEAKER All right. Verify ball 2, the same as you had
on ball 1.
ACDR Verified.
SPEAKER (Garble)
SPEAKER All right, Tom. Give me GDC aline until ball 2
is stabilized and arrows nulled.
USSR (Monitoring on solar orientation state vector.

Pitch 0 - deviation from pitch 0. Deviation from yaw -)
USSR (Russian)
USSR ((Garble) 380. Temperature 29.)

CC-M (Soyuz, this is Moscow. We understood you. Over.)
USSR (Delta V 116 and 1.)
CC-M (Soyuz, this is Moscow. Roger. Over.)
USSR (Maneuver time 248 - practically.)
CC-M (Soyuz, this is Moscow. Roger. Thank you.)
CC-M (Soyuz, this is Moscow. Say again the pressure of
fuel and oxidizer after the burn. Over.)
CC-M (Soyuz, this is Moscow. Roger.)

END OF TAPE

ASTP (USA) MC44/1
Time: 13:25 CDT, 18:25 GMT
7/15/75

KIO (This is the Soviet Mission Control Center. The Soyuz spacecraft is now entering the zone of coverage of Evpatoria and Djusaly tracking stations.)

CC-M (Soyuz, this is Moscow.)
USSR (Moscow, this is Soyuz.)

CC-M (Soyuz, this is Moscow. I read you normally. Get ready to receive a radiogram without form. Soyuz, where are you located? Where are you?)

USSR (Soyuz 1 is in the orbital module; Soyuz 2 is in the descent vehicle.)

CC-M (Roger. Soyuz, 21:27:00 you will turn on TV camera TK-1.)

USSR Does this take place?
CC-M (I'll find out. Would you monitor to that to - by

looking at the indicator light on the camera. Also do you have the (garble) to turn the filters on the TV camera?)

USSR (The camera?)

CC-M (Is the camera light lit on the TK1 camera? Is the red light on - on the camera?)

USSR (Yes, the light is on.)

CC-M Does the filter rotate?)

USSR (Yes, the filter is rotating normally.)

CC-M (Roger. Soyuz 2. Would you duplicate the action of turning on the TK1 camera command (garble) I am repeating it.)

USSR (We have given the command (garble) 13, no change yet on the indicators we'll wait a little.)

CC-M (No change?)

USSR (No change.)

CC-M (Roger. Soyuz, there is no need to do TV1 and TV2.)
Later we will do a number of TV test to analyze them.)

USSR (Roger. Copy.)

CC-M (Soyuz, this is Moscow. Write down the data on pressure dump; 21:37:00 beginning of pressure dump. In 7 minutes.)

USSR (How did you receive that over?)

CC-M (Soyuz, this is Moscow.)

USSR (Standing by, Moscow.)

CC-M (Did you receive 21:37:00 beginning of pressure dump?)

USSR (21:37:00. I was busy with the TV camera.)

CC-M (Roger. Beginning that pressure dump you received correctly. How do you feel?)

USSR (Thank you, normally.)

CC-M (Then would you write down the next comm sessions?)

USSR (Go ahead.)

CC-M (Garble) 22:33 to 22:40. To 22:42 to 22:49.

Moscow 22:58 to 23:07. How did you receive?)

END OF TAPE

ASTP(USA) MC45/1

Time: 13:31 CDT, 18:31 GMT
7/15/75

LCC This is Apollo Saturn Launch Control. We're T minus 1 hour, 10 minutes and counting and at this time the close-out crew out at the pad have indicated that they have finished their work there and they are clearing the area. Countdown continuing to go smoothly; we'll go back to Soyuz.

PAO This is Apollo Saturn Launch Control. We're T minus 1 hour, 8 minutes and counting. At this time, spacecraft commander Tom Stafford has been working with the test conductor, Skip Chauvin, making some guidance checks aligning the attitude ball on the spacecraft. Let's listen in.

ACDR - - 599.9.
STC (Garble)

PAO Also doing a gimbal drive and trim check; this is assuring that the spacecraft engine can be controlled manually with a hand controller. Nominally all of the spacecraft burns are done by a computer. Tom uses the thumbwheel to trim - to check the trim checks.

The thumbwheel is used to trim the engine to take care of any changing center of gravity; a changing in center of gravity would be due to burns using up some of the fuels.

STC Okay, Tom. We're about minus 55 minutes in the book; we're at 01:07 on the clock.

ACDR Sounds good.

LCC Okay, what he's indicating there is that they're actually running somewhat ahead; they're down in their check-out time to 55 minutes and our clock time here is minus 1 hour, 6 minutes and counting. Countdown continuing to move smoothly, running somewhat ahead at this time. This is Kennedy Launch Control.

STC - - the polarizing filter.

FD Thank you, T.C. It looks like we got sunlight

coming through the windows, I believe.

STC Yeah, it's coming through the windows.

SPKR Pete.

STC Okay.

FD Okay, it - is it just started coming through there? It wasn't - it didn't look like that - -

STC Well, they just - they just broke up the white room.

FD Okay, thank you.

STC And, looks like we need a sun filter, right?

ACDR Skip, if you need any rotation on the filter on the camera, I'll do it. It would be easy to do.

STC No, it's taped in; we're going to leave it there.

ACDR Okay.

STC Yeah.

ACDR Okay.

GP. SPKR Okay, (garble). We'll pick up with 581. May says

ACDR May, go ahead.

A5TP(USA) MC45/2

Time: 13:31 CDT, 18:31 GMT

7/15/75

SPKR All right. Let's go full plugs ON.
ACDR Okay.
LCC This is Apollo Saturn Launch Control. We're at T minus 1 hour, 5 minutes in our countdown. A very critical internal power transfer check has been conducted at this time; here we check to ensure that all systems are operating when we go to the flight batteries. Those flight batteries are saved until the last minute; final power transfer actually takes place at 50 seconds in the countdown; T minus 50 seconds, we'll go to the flight batteries and remain. During this check we'll switch over to the flight batteries, insure that everything is working properly on those flight batteries and then switch back again. Let's listen in and see if there's any activity in the spacecraft at this time.

SPKR - - (garble) configuration.
SPKR Everything look good, Al?
SPKR Fine.
SPKR Atta boy.
LCC Crew running quite a bit ahead in their schedule; there's not much activity going on in the spacecraft now. They have some other activities which must be completed - completed. A short time from now, Slayton will be keying a transmitter to make some frequency and power relays - -

STC Okay. Flight, STC.
FD STC, go ahead.
STC Okay. We're down at roughly minus 45. You got

some good words from the crew on the guys upstairs?

FD Yeah, some good words. They made their orbit adjustment and everything went just the way they wanted it to.

ACDR Sounds good, Pete.
LCC That's Skip Chauvin, the test conductor getting a readout for the crew on the recent orbit adjustment made by the Soyuz.
FD Okay, Tom. We're going to have a little weather report; Paul Donnelly will be over after awhile.

ACDR Alright.
LCC When the - when the crew did what's called "breaking up the white room," that is taking down the protective panels around the white room, they let quite a bit of light in through the - through the window in the spacecraft and it's apparently bothering Stafford a little bit.

ROM Okay. Apollo, this is the ROM.
ACDR Go ahead, Bob.
ROM Okay. We got a real good report here, Tom. 2500 scanners over the area; high, thin, broken; CB distance, west to southwest; very distant over St. John's. A few isolated CB offshore, temperature's 85 degrees; winds out of the southeast at 14 knots.

ACDR Sounds good, Paul. Whenever this area's clear for us.

END OF TAPE

ASTP (USA) MC46/1
Time: 13:39 CDT, 18:39 GMT

7/15/75

USA Sounds good, Paul. When everyone's ready it's clear
for us.

SPKR That looks pretty good.

PAO That was launch operations manager, Paul Donnelly
giving the crew an updated weather report. Countdown continuing at this
time as we approach the 1-hour mark. We do have two more planned hole
periods on the countdown, one at T minus 15 minutes and that's a liftoff
adjustment hold which - the time of that hole can vary somewhat, nominally
for 2 minutes, and we have a 5-minute 24-second weather avoidance hole
at the 4-minute mark in the countdown. That hole is planned right now
and planned to be used in its entirety. It could be just skipped over
and we could count-down to an early launch if we saw bad weather was
coming in. But right now the forecast we have is that we have a good
launch at 3:50, good weather for a launch at 3:50, and that's the
desired time of lift-off. If we lifted off earlier, that would not give
us the best trajectory to the orbiting Soyuz. Now T minus 1 hour 1
minute and counting. This is Kennedy Launch Control.

PAO This is Apollo Saturn Launch Control. We're T minus
45 minutes 27 seconds and counting. Swing arm number 9, which gives
access to the spacecraft, will be coming back to a park position here

just in a short time - expected to come back T minus 45 minute mark in
that park position. It some 10 feet or 12 degrees back from the
spacecraft. It'll remain in that park position then until T minus 5
minutes in the count, at which time it comes back to the fully retract
position. Previous crews have noticed somewhat of a jolt as the white

room which is attached to the spacecraft sort of lets go of the space-
craft and as it moves back. We'll stand by to see if there are any

remarks from the crew inside the Apollo when it moves back this time.
The swing arm number 9 of course can be used as an escape route in the
event of an emergency and if the crew needs to get out quickly they could
go across the swing arm and down the high speed elevators. Once it
goes to that standby position, it can be brought back quite quickly to the

spacecraft. However, it could - in that standby position you could also

activate the launch escape system tower. I will stand by now and wait

for swing arm retract. T minus 44 minutes 8 seconds and counting. This
is Kennedy Launch Control.

SPKR Minus 40 minutes.

SPKR AC, this is MSTC.
USA Tom, can you copy George?

SPKR What? I don't -

ACDR Go ahead.

SPKR Tom, the delay in cycling swing arm 9 back is due to
a problem - -

LCC This is Apollo Saturn Launch Control. We are T minus
39 minutes 42 seconds and counting. We've not retracted swing arm number
9 at this time. There is a problem with the hydraulic (garble) and it's
not that it is a problem in actually bringing it back at this point but

ASTP (USA) MC46/2

Time: 13:39 CDT, 18:39 GMT

7/15/75

the - there is some problem in the recharge system. So they are taking another look at that. Looks like we may be a few minutes late in bringing back the swing arm. T minus 39 minutes 21 seconds and counting. This is Kennedy Launch Control.

USA - used to compensate for a slight - -

LCC This is Apollo Saturn Launch Control. We solved that problem with the swing arm hydraulics now and swing arm number 9 is swinging back to the 12 degree position. That's about 10 feet back from

the spacecraft now and it will remain there now until the 5-minute mark in the countdown. Same time now the launch escape system tower will be armed. That launch escape system develops 147,000 pounds of thrust. That thrust is about twice what the Mercury Redstone, used for Alan Shepard and Gus Grissom suborbital flight, developed. Let's listen

to the spacecraft chatter at this point.

USA (Garble) still adjusting (garble) strap.

LCC That's Vance Brand arming the RCS system; that's reaction control system. Does this by flowing fuel down to the engines. These are hypergolic fuel which means they ignite on contact.

USA - (Garble)

END OF TAPE

ASTP (USA) MC47/1
Time: 14:13 CDT, 19:13 GMT
7/15/75

LCC Vance Brand, arming the RCS system; that's reaction control system. He does this by flowing the fuel down to the engines; these are hypergolic fuels, which means they ignite on contact hydrazine and nitrogen tetroxide. It's a 5 to 7 minute test. The hypergols were loaded before the launch countdown picked up. Countdown continuing; T minus 36 minutes, 34 seconds and counting. This is Kennedy Launch Control.
USA All right. Logics on.

ACDR Okay. One on UP; two on UP.
SPKR (Garble) verifies logic (garble).

SPKR ARM light ON; SAFE light OFF. Logic A, 35.3; Logic B, 35.6. All right, sequential, let me know when your 70 seconds has timed out.

SPKR Roger.
SPKR EPS, 222.
SPKR STC, sequential.
SPKR Okay, Bobby. How do you look?

SPKR Real good. Verify the rest of the lights.
SPKR All right, very good. Thank you. Okay, Tom, you

got to go to arm your buses.

ACDR Okay. Stand by.

ACDR Okay, Skip. On the syrps A ON; B ON.

SPKR (Garble) verifies the lights. Pyro A, 36.9; pyro B, 37.0.

SPKR All right. 592's verified. Okay. No state vector update. All right, all of a sudden we're at minus 25 minutes in the books and just past 34 on the clock.

ACDR Roger.

USA Tom, we're going to wait - wait on the clock to catch up with us before we pressurize and wet the system.

ACDR All righty.
SPKR All right. Flight, STC 214.

SPKR Flight, go ahead.

SPKR Okay Flight. You verify no requirement for CT update?

SPKR That's affirmative. No requirement.

SPKR At minus 15.
SPKR Roger. All right (garble) to mark your book not

performed sequences 6-16 and 6-17.

LCC This is Apollo Saturn Launch Control. We're at T minus 29 hours, 43 minutes and counting. At this time RPl level adjustment has been completed; was determined that there is no requirement for target update at this time. We're continuing to look for a lift off at 03:50 p.m. Eastern Daylight Time. A short time ago, Skip Chovin, the test conductor for the spacecraft, indicated that they were up to about T minus 25 minutes in their count; this would indicate that astronaut Brand has completed pressurizing the reaction control system tank.

These tanks are pressurized with helium. Countdown proceeding again very smoothly. T minus 29 minutes, 6 seconds and counting. This is Kennedy Launch Control.

END OF TAPE

ASTP (USA) MC48/1

Time: 14:22 CDT, 19:22 GMT

/15/75

LCC

This is Apollo Saturn Launch Control. We just passed

the 20 minute mark in the countdown. T minus 19 minutes, 55 seconds and counting. Just completed were some checks of the C-band beacon, C-band beacon number 1 aboard the vehicle. These beacons are used in conjunction with ground radar for tracking. They can show speed acceleration and location of the vehicle during powered flight. C-band beacon number 2 being checked out at this time. We have 2 more holds coming up in the countdown. One at the T minus 15 minute mark. That's liftoff adjustment hold. It's nominally for 2 minutes. It can be modified slightly to give us the best trajectory toward the orbiting Soyuz. We have a second hold called a weather avoidance hold, T minus 4 minute mark in the countdown, that's for five minutes 24 seconds. We plan to fully use that hold at this time. It could have been that we could go early by not using that hold if we had bad weather coming in, but the weather seems to be holding steady at this point. We have mostly sunny skies here, 85 degree temperature, winds from the southeast at 10 to 15 miles per hour, and the weather appears to be holding for a 3:50 launch time. Now T minus 18 minutes, 43 seconds and counting, this is Kennedy Launch Control.

END OF TAPE

ASTP (USA) MC49/1

Time: 14:27 CDT, 19:27 GMT

'15/75

LCC This is Apollo Saturn Launch Control. We are now at the 15 minute mark, T minus 15 minutes and holding. Hold just announced will be last for exactly 2 minutes so we're continuing to look for a 3:50 p.m. eastern daylight time liftoff. As we come out of this hold, the spacecraft will go to full internal power. Up to this point it's been being supported by ground power as well as the fuel cells. At approximately T minus 1 minute and 15 seconds in the count Slayton will trip a couple of switches which will bring the spacecraft batteries online when they will be used then in addition to the fuel cells as a backup. We're starting at this time chilldown of the second stage start tanks and thrust chambers. They will be receiving that super cold liquid hydrogen so it's necessary to condition them for that. FT23 a computer run to ensure the guidance data has been properly received and the guidance computer has also been run. We are holding now at the T minus 15 minute mark - expect to be picking up our count again shortly. T minus 15 and holding. This is Kennedy Launch Control.

D OF TAPE