ASTP (USSR) MISSION MC1/1
Time: 09:05 GMT, 09:05 GMT
7/15/75

KIO (This is the Soviet Mission Control Center. Moscow time is 12:05. In 3 hours 15 minutes the launch vehicle with Soyuz spacecraft will lift off from Baikonur cosmodrome, the spacecraft will participate in the Apollo Soyuz joint test mission. This mission is performed in accordance with the USSR-USA agreement on cooperation in the exploration and peaceful uses of outer space, signed in Moscow in May 1972. The agreement foresees development and testing of compatible means of rendezvous and docking of Soviet and American spacecraft and the development of stations which will enhance the safety of space missions as well as of future joint scientific experiments. The Soyuz spacecraft mission control will be accomplished by the Soviet Mission Control Center with the help of tracking stations located on the USSR territory and USSR Academy of Sciences research ships "Cosmonaut Yuri Gagarin" and "Academician Sergi Korolev." The ships are in the Atlantic Ocean. American visiting specialists are present in the Soviet Mission Control Center to consult the Soviet directorate on technical points of the American part of the project. During the first two days of the mission the Soyuz spacecraft will perform several maneuvers to transfer to circular assembly orbit to enable docking operations with the American spacecraft Apollo. During independent flight the Soyuz crew will conduct different scientific experiments. Rendezvous and first docking of the Soyuz and Apollo spacecraft are scheduled for the third day of Soyuz spacecraft flight. Onboard orientation lights, pulsing beacons, USSR and USA VHF radio frequencies, Soyuz spacecraft optical sighting device (SOAG) and its docking targets will be used during rendezvous and docking. Tests of compatible rendezvous elements in the orbit and androgynous peripheral docking system will be performed during rendezvous and docking. During the first docking, the Apollo docking assembly will operate in active mode and Soyuz docking assembly in passive mode. Several transfers of American astronauts to the Soyuz and Soviet cosmonauts to Apollo are planned while the spacecraft is in docked configuration flight. Joint scientific experiments, TV transmissions and still and movie photography will be performed as well. After two days flight in docked configuration, the first spacecraft undocking, a second docking, and the final undocking is scheduled according to the flight program. During the second docking the Soyuz docking assembly will operate in active mode, and the Apollo docking assembly will be passive. A number of joint scientific experiments and TV transmissions are scheduled for the independent flight period. After separation, during independent flight the Soyuz crew will conduct scientific experiments, perform operation check of onboard descent systems; cosmonauts will also stow and pack the equipment which must be returned to the Earth and perform TV transmissions. Mission Control Center, Moscow.)

KIO (This is the Soviet Mission Control Center. Moscow time is 12:25. According to information exchange plan between Mission Control Centers, Soyuz flight deputy director has informed Houston that there are no comments on the onboard systems and crew health status. Prelaunch preparation

ASTP (USSR) MISSION MC1/2
Time: 04:05 CDT, 09:05 GMT
7/15/75

In accordance with the schedule. Propellant tanks are installed on the launch vehicle. Launch vehicle propellant loading has been completed. The launch site area weather conditions are as follows:

Partial cloudiness
Visibility - 10 km
Wind velocity - 6 m per sec
Temperature - 32° C
Barometric pressure - 748.8 mmHg

Mission Control Center, Moscow.)

KIC (This is the Soviet Mission Control Center, Moscow time is 12:34. It is 2 hours 46 minutes before the Soyuz lift-off. The bus with the Soyuz crew has arrived at Baikonur launch site. The crew consists of USSR Commander Alexey Leonov and Flight Engineer Valeriy Kubasov. The bus was designed at the All Union Experimental Institute for designing of buses and manufactured at Lvov auto plant. The bus is designed to take spacecraft crews from the hotel to the launch site. In the entrance lock there is a vacuum system to take the dust off the suits, books and helmets. There are two sections in the bus; it has sightseeing windows of the type 30; on the top of it there is a protective heat shield which reflects the sun rays. All the sections are pressurized and soundproofed. Styrofoam plastic materials are used for sound and thermal insulation. The bus has a pneumatic suspension which allows a smooth run without vibration. At present the cosmonauts have disconnected the suit vent hoses from the bus life support system, disembarked from the bus and gone to the launch pad. Now they are in the elevator going up to the launch platform from which they will enter the spacecraft. Mission Control Center, Moscow.)

KIC (This is the Soviet Mission Control Center. (....) Union took them to the spacecraft service pad.)

MCC-M (... necessary free movement (garble) suit integrity check. Now Leonov's suit is being checked. For this purpose the cosmonaut sits in the couch and thus simulates his position in the spacecraft. Compressed air is supplied under the pressure suit shell and in this way the pressure is originated. Take a look.)

MCC-M (I am checking the suit.)

KIC (Now the Flight Engineer suit is being checked. He has acquired the necessary position, the belts are fastened and he, in the same way as his commander, will close the helmet, and compressed air will be supplied under one of the pressure suit shells.)

END OF TAPE

A.TP (USSR) MISSION MCC/1
Time: 04:47 CDT, 09:47 GMT
7/15/75

KIO (... (garble) ... satisfied. Everything is in order. We can move to the launch site now. You have noticed, probably, that during the donning procedure at the Assembly Test section of Cosmodrome, the portable insulation devices were placed more to cosmonauts. These devices were somewhat different from those which Alexey Leonov and Valeriy Kubasov had when they came off the bus on the station platform. The fact is, that as it was very hot on the launch site today, the desired temperature inside of the donning compartment was reached with the help of an air conditioner. Thus, at the Assembly Test section of the Cosmodrome the portable insulation devices were connected to the PGA. On the bus these devices were exchanged for other ones. These insulation devices, which cosmonauts carried with them from the bus on the way to the launch tower, provide ventilation and air conditioning inside the PGA. Well, now, as the crew is onboard of the Soyuz spacecraft, the system ... (garble) ... is activated. (Garble) We are back at the Cosmodrome station. Our viewers would be interested to know that the bus, from which we are conducting our report, was specially manufactured. It has everything to provide high quality TV image and microsound. It is very comfortable. We are grateful to the designers (garble). The first guest in our "studio on wheels" is the flight training director of the Soviet cosmonauts, twice a hero of the Soviet Union, Vladimir Alexandrovich Shatalov. Vladimir Alexandrovich, what are the special preparations on the ASTP program that you can describe to us?)

SHATALOV (Now that we have couple of minutes, while the crew is observing and taking charge of the Soyuz spacecraft, it is possible, looking back, to remember how the training proceeded. It is hard to believe, that those two and a half years are behind us. It is hard to believe, that it is only two hours before the launch. But, this is a fact. The work has been done (garble). How did it all begin? It began from the decisions of the governments, from the setting a task, and from the meetings of specialists here in Moscow and in Houston. On these first meetings we determined methods, sequences and specifications of training, according to which we had to plan the work in the Soviet Union and in the United States of America. The peculiarity of this training is, first of all, the duration of the training itself. If the usual flights, our flights, which we consider as normal, even those, which are occurring at this very minute, when the crew (garble) ... and Kovalyonok are in orbit almost for two months, require approximately a year or a year and a half - this training required twice as much time. We were training for two years. Why? Well, first of all, because of the work load. The crews had to study not only their, Soyuz, spacecraft, but also the Apollo spacecraft, four American colleagues did the same because neither she will be just guests onboard the other spacecraft. We are coming there not as guests, but to work and for joint operations and experiments. Thus, the head, the working hands and knowledge of every member of the crew onboard each spacecraft must be such as to be able to perform in any nominal situation, and to fulfill anything necessary in any contingency situation to secure the safety of the crew. Well, those were requirements for the basic training of the Cosmonaut Training Center and the Mission Control Center in Houston.)

ASTP (USSR) MISSION MC2/2
Time: 04:47 CDT, 09:47 GMT
7/15/75

MCC (This is the Soviet Mission Control Center. Moscow time is 16:52. Two hours 28 minutes are left before the Soyuz spacecraft lift-off. The cosmonauts have entered the spacecraft and ... (garble) .... The Crew Commander has entered the OM, removed the cap (garble) ... and connected the POA to the insulation device ... (garble).)

CHATALOV (As the crew on land training is very complicated now (garble) ....)

CHATALOV (Which allows the crew to see and experience everything they will have during the mission (garble) .... We can determine the minimum necessary number of simulations which will be required for joint training. It was decided, that we will use basic simulators in both Houston and Moscow, supplying them with everything necessary to perform the docking and joint activity, and the work has been done well. The training was completed successfully, and we should say that the above mentioned peculiarity didn't affect the training of the crew. To overcome the language barrier is another peculiarity. We should comment with pleasure, that no interpreters were necessary during the talks between our first crew and the first crew of the United States of America. The crews have found mutual language and were talking without the interpreters. Well, it is time. Now, summing up the results of the training, I can say that members of the first crew, now being onboard the Soyuz spacecraft, and their backup crew, are completely and excellently prepared for this task.)

MCC-M (Thank you, Vladimir Alexandrovich.)

END OF TAPE

ASTP (USA) MC3/1
Time: 5:10 CDT, 10:10 GMT
7/15/75

KIO The Soviet Control Center speaking. Moscow time is 13 hours, 10 minutes. The cosmonauts have prepared - getting ready to close the hatch in the descent vehicle-between the descent vehicle and the orbital module. After the time that the - five orbits - after - after time of being in the spacecraft, the flight engineer has closed the hatch, turned on the electrical switches, checked his space suit. The flight engineer is checking the pressurization in the hatch. After closing the hatch they have buckled themselves into the seats, and at the present time the hatch between the descent vehicle and orbital module is closed. The ventilation system of the - vehicle is also open. Moscow Flight Center - Control Center. Over.

PAO Is there something backed up on Soyuz (garble)?

KIO The Soviet Space Center speaking. It is now 13 hours, 20 minutes Moscow time. Prior to launch there is - remains two hours. At the present time the crew is carrying out a check of the equipment. They have pressurized the orbital module. Based on a report from the Cosmodrome, the pressure in the descent module is - it's 18 degrees Celsius. Eight hundred and seventy-five is the pressure of the orbital and 22 with 22 degrees Celsius. The crew is feeling fine. This is the Moscow Control Center. Over.

KIO (This is the Moscow Flight Control Center. Moscow time is 13 hours, 25 minutes. Two hour readiness has been declared. Preflight preparation is going along by schedule on - as per schedule. Now the final metric parameter hookup wires are being contacted. The health of the - health and status of the crew is being monitored and checked periodically. The biometric information is being registered and this information is registered in a - one of the control panels at the Control Center. This is the Moscow Control Center. Over.)

KIO (- - Mission Control Center. Moscow time is 13 hours, 40 minutes. Before the launch of the Soyuz, there's remains 1 hour and 40 minutes. The cosmonauts, at the present time, are checking their equipment. Special covers cover the handles and control buttons and dials on the Soyuz spacecraft and in the pressurization integrity checks - are established and set properly and the cosmonauts say that they have checked these things and they're prepared to carry out a systems check on the spacecraft. At the present time they have finished checking the pressurization of the orbital module and checking the pressurization integrity. Based on the the integrity - based on the indication of the temperature, the crew is checking the temperature of the descent vehicle interior. At the present time they are looking at the indicator dials and giving the readings. They'll be giving ten minute checks of their status. Now when they reply on certain requests and give basic information they read the information off the dials and turn it over to those people monitoring the indicators and para - parameters. 875 is the pressure and the temperature is 18 degrees Celsius. In the orbital module it's 875 - the pressure, and the temperature is 15 degrees Celsius. The voltage is 29 volts in the internal electrical network. The electrical power supply system is turned on on the Soyuz spacecraft. At the present time the crew is checking the systems based upon the signal-

lization indicate - indicator panels which they have on board. Communication with the spacecraft is maintained through a duplex communication system. This is the Flight Control System - Flight Control Center in Moscow. Over.)

KIO The pressures and temperatures given first were for the orbital module and given second were for the descent or so-called service module. Over.)

KIO (- - breathing mixture, the thermal exchange system and the thermal - thermal system on the spacecraft. Also, the pressurization of the spacecraft and the depressurization file checks are being carried out by sequentially pushing various buttons; they're checking all of the signalization and indicator systems. At the present time the Soviet crew is checking the electronic indicator panels and they're receiving in the monitors before them the information on - concerning the breathing mixture and its humidity. The orientation - attitude orientation and engine systems are also being monitored to see if they're in order and the descent vehicle systems are also being monitored. The - this is Moscow Flight Control Center. Over.)

END OF TAPE

ASTP (USA) MISSION MC4/1
Time: 05:34 CDT, 10:34 GMT
7/15/75

PAO Good morning. This is Mission Control Houston. Proceeding in the countdown now at 8 hours, 13 minutes until Apollo launch; an hour and 45 minutes to Soyuz launch from the Soviet cosmodrome at Baikonur. Just a short while ago the two joint flight directors here in Mission Control Center and the Moscow Control Center exchanged status reports. Yuri Denisov in Moscow said that everything was on schedule in the countdown at Baikonur. Cosmonaut crewmen Alexey Leonov and Valeriy Kubasov are now in the spacecraft. They are encountering no systems problems and their weather forecast at the Central Asia Launch Site is favorable. His counterpart here in Mission Control, Jay Honeycutt, reported that the countdown for Apollo is continuing on schedule with no vehicle problems apparent at this time and that the weather outlook looks better than it has been. Flight director on duty now here in Mission Control Houston is Neil Hutchinson and shortly we will receive a weather briefing from the members of the National Weather Service here in the Control Center building forecast for the launch area weather which he in turn will relay to the Soviet flight director in the Moscow Control Center. Eight hours, 12 minutes and counting. Apollo Control.

PAO Good morning. This is Mission Control Houston. Some 8 hours 54 minutes away from launch and one hour and 24 minutes away from Soyuz launch from the Soviet cosmodrome at Baikonur. Here in the Mission Control Center, our joint flight director Jay Honeycutt had a brief discussion with his counterpart in Mission Control, Moscow, Yuri Denisov; exchange of status report in the respective Control Centers. Denisov reported that all is on schedule at Baikonur. Cosmonauts Aleskey Leonov and Valeriy Kubasov are now in the Soyuz spacecraft and they've encountered no systems problems and the launch site weather forecast at Baikonur is favorable. Honeycutt in his status report to Denisov said that the countdown for Apollo was continuing with no vehicle problems encountered thus far, and that the weather outlook was better than it had been for several days. Flight director Neil Hutchinson, on duty now, will shortly receive a briefing from the National Weather Service people here in the Control Center on the launch area weather forecast which he will relay to the Soviet flight director in the Moscow Control Center. At 8 hours 52 minutes to Apollo launch. This is Apollo Control, Houston.

END OF TAPE

ASTP (USA) MC 5/1
Time: 6:11 CDT, 11:11 GMT
7-15-75

SPKR (Russian)
KIO (This is the Moscow Flight Center. Fourteen hours te- minutes Moscow time. There remains 1 hour 10 minutes before Soyuz launch time. The present time, the cosmonauts are doing the same thing they were doing previously. They've begun checking the indicator lights on the signal panels. The crew has told the contr l center the indications of the combined integrated electronic indicator system. The ultra-short wave communications has been turned on and checked The receivers have been - are turned off at the present time. The crew has turned on and checked the ultra-high frequency transmitters. At the present time, the cosmonauts are carrying out monitoring onboard systems. The parameters of the air composition of the orientation engines, the rendezvous and approach engines and the spacesuit conditions. They're also checking the pressurization of the corrective engines and other onboard systems. This is the Moscow Flight Control System, Over.
KIO 1, 2, 3, 4, 5. 5, 4, 3, 2, 1. How do you read? Over.
KIO (This is the Soviet Flight Control Center. Moscow time 14 hours, 20 minutes. The hourly preparedness has just been announced for the Soyuz spacecraft. The thermal provision has been provided for by the Soviet spacecraft. It's preparing for monitoring - we're monitoring all the systems which will provide the orbital function during the flight. All the ballistic information is being set into the onboard mechanisms. Also, calculated values for the trajectory of the spacecraft has been introduced and all the time values have been nulled aboard the spacecraft. The indicators - the information which is taken off of the indicator dials taken by the spacecraft - by the space crew and sent down to The Control Center. All the parameters at the present time are normal; the indicators - indications are also - also appear on the control panel before the crew. The digital information has been checked and seems to be okay. This is Moscow Flight - -

END OF TAPE

ASTP (USA) MISSION MC6/1
Time: 6:22 CDT, 11:22 GMT
7/15/75

CC-M (- - control panel before the crew. The digital information has been checked and seems to be okay. This is the Moscow flight Control Center. Over.)

KIO (This is the Soviet Mission Control Center. Moscow time is 14 hours; 31 minutes. The prestart preparations of the Soyuz spacecraft is proceeding according to schedule. The calculated launch time is 15 hours; 20 minutes. At the present time the crew is monitoring the parameters of the onboard systems which are normal according to the onboard documentation. According to the reports from the space center, from the Cosmodrome, pressure in the descent vehicle is 760 millimeters of Mercury, 18 degrees Centigrade temperature. The pressure in the orbital module is 875 millimeters of Mercury, temperature is 19 degrees Centigrade. In the instrument module, the pressure is 875 millimeters of Mercury, and temperature is 15 degrees Centigrade. This is Moscow Mission Control.)

END OF TAPE

ASTP(USA) MISSION MC7/1
Time: 06:31 CDT, 11:31 GMT
7/15/75

KIO (- - there's 14 hours, 31 minutes. The prestart preparations of the Soyuz spacecraft is proceeding according to schedule. The calculated launch time is 15 hours, 20 minutes. At the present time the crew is monitoring the parameters of the onboard systems which are normal according to the onboard documentation. According to the reports from the Space Center, the Cosmodrome, the pressure is - in the descent vehicle is 760 millimeters of mercury, 18 degrees Centigrade temperature. The pressure in the orbital module is 675 millimeters of mercury, temperature 19 degrees Centigrade. In the instrument module, the pressure is 675 millimeters of mercury and temperature is 15 degrees Centigrade. This is Moscow Mission Control.)

PAO This is Apollo Control, Houston; 42 minutes away now from Soyuz launch and 6 hours, 12 minutes from Apollo launch at Kennedy Space Center. Flight Director Don Putty has recently relieved Neil Hutchinson here in Mission Control, Houston. Putty went around the room on the Flight Director loop, polling the various positions here in the Control Center. There are no major problems here that are in the network that would impact the launch of Apollo later today. There is one C-band tracking - piece of tracking equipment at Kwajalein which is out but that has no serious impact at all on the mission. We received a briefing from the National Weather Service people here in the Control Center and the forecast for the launch area is for the lowest probability of thunderstorms, some 15 percent probability, the lowest since June 6th. Winds are out of the southeast, however there's considerable fog along the launch abort ground track to the northeast from Kennedy Space Center up around Newfoundland Banks. Earlier in the - earlier in the morning, the Joint Flight Director in Mission Control, Houston, Jay Honeycutt, had a discussion with Yuri Denisov in Mission Control, Moscow and exchanged status reports. Denisov said that the countdown at Baikonur was proceeding on schedule. Their crew is obviously in the spacecraft at this time at 40 minutes before launch. They've encountered no systems problems and they have good weather at the Baikonur launch center. Incoming Soviet television confirms this; some high decks of cumulus clouds apparent in the photos earlier, they may have burned off at this time. At 8 hours, 10 minutes and counting, this is Apollo Control.

KIO (- - getting separated. Powerful hydraulic equipment will remove the holding arms and slowly lower them to a horizontal position to release the booster. This is Moscow Mission Control Center.)

END OF TAPE

ASTP (USA) MCC/1
Time: 06:54 CDT, 11:54 GMT
7/15/75

KIO (This is the Soviet Mission Control Center. In accordance to the schedule of preparing the spacecraft for launch, we're now - the separating the service cables. The powerful hydrolic arms are moving away from the booster rocket itself and then will be lowered hydrolically toward horizontal position. Now, the onboard syatems are connected to the launch pad only through - through the feed cable - through the fuel cable. And fuel components are still being put onboard. Also there is communications for contact for speaking from the ground personnel sight to the spacecraft. This is Moscow Control Center.)

KIO (This is the Soviet Mission Control Center. Twenty-five minutes remain before launch of the Soviet spacecraft Soyuz. The crew is performing the preparations of onboard systems. The onboard tape recorder has been checked. The digital readout data system has been also checked. This consists of - of - it's set for immediate raising of the orbit in case of improper insertion. The crew has just reported that onboard checking has been completed. Everything onboard is in order. The crew is ready for launch. The spacecraft commander's - the pulse is 84 of the spacecraft commander, breathing rate: 21. 73, pulse of the - onboard engineer and 27 respiration rate. The separation of the cable - service cables are - is being completed. This is Moscow Flight Control Center.)

KIO (This is the Soviet Mission Control Center. Moscow time 14 hours, 59 minutes. Twenty-one minutes remain before launch of the Soviet spacecraft Soyuz. The crew has - has checked the pressure integrity, has switched on the duplex communication system of the onboard intercom. The crew has donned its gloves has - and dropped their visors on their helmets. Also have - also they have turned on the - manually their air into their spacesuits. They have checked pressure of one - of plus one-tenth atmosphere pressure in the - in the spacesuits. The pressure has been monitored and the pressure was raised to 0.3 of an atmosphere. These operations make it possible to check the airtightness of the gloves, the pressure integrity of the glass helmet and the reliability of all this. After the - additional pressure is raised the pressure will be dropped and the crew will be strapped in. The report has come in from the space - onboard the spacecraft that the spacesuits are air tight. The automatic rescue system has been turned on. In case of an emergency this equipment will insure the safety of the crew. Before launch 20 minutes remain. Now the control of the launch is now from the main control panel. The cosmonauts are listening to music on their duplex shortwave receiver.)

KIO (This is Moscow Mission Control Center.)

LCC Be five minutes and counting here at the Kennedy Space Center. At this time we have just been given a go-ahead to start pyrogenic loading. The pyrogenic loading will be bringing aboard- or will be started by bringing aboard the liquid oxygen to the space vehicle, liquid oxygen being used in the first and second stages. At this time we are actually filling down the equipment, the lines that run between the oxygen sphere at the edge of the pad and the space vehicle itself.

ASTP (USA) MCB/2
Time: 06:58 CDT, 11:54 GMT
7/15/75

Countdown proceeding well. T minus 6 hours, 45 minutes and counting. This is Kennedy Launch Control.

KIO (This is the Soviet Mission Control Center. Moscow time is 15 hours, 15 minutes. Everything is ready at the Cosmodrome for the launch of the Soviet spacecraft Soyuz. Five minutes remaining for launch. Onboard systems are now under onboard control. The right control board of the cosmonauts which is opposite the commander's couch is now turned on. The cosmonauts have strapped themselves in and reported that they are ready. They have lowered their face plats - plates. The T for launch has been inserted. The last stage before launch is completed. Now the commander is reporting that everything on - is in order onboard and the crew is ready for launch. This is Moscow Mission Control.)

KIO (This is the Soviet Mission Control Center. Two minutes left before launch of the Soviet spacecraft Soyuz. The commands to pressurize the fuel tanks have been given. The fuel has been also - the booster has been fueled. Now the booster tanks for - the oxydizer tanks for - the oxydizer tanks on the booster rocket are being vented. One and a half minutes remaining before launch.)

KIO (One minute before launch.)

KIO (The key for launch has been turned.)

KIO (The fueling tower has been removed. Thirty seconds for launch.

END OF TAPE

ASTP MISSION (USA) Tape 9/1
Time: 07:20 CDT, 12:20 GMT
7-15-75

KIO (The fueling tower has been removed. 30 seconds before launch. The launch command has been gi[illegible]. Telemetry, registry, equipment has been turned on. Also the control, onboard control systems of registration equipment here. Ignition. The engines are powered up. The launch, the booster is off. Moscow time 15 hours 20 minutes, ten seconds. The flight is proceeding normally. The program maneuver of the booster rockets has been given. 20 minutes into flight. The flight is normal. the engine is operating in a stable manner. There's a slight movement of the booster oscillation. 30 seconds. The flight is proceeding normally. 40 seconds, the flight is normal. 70 seconds of flight of the booster of the Soyuz spacecraft, the first stage has been passed on which maximum acceleration has encountered. The speed velocity has exceeded 500 meters per second. Slight overloads are being felt by the crew. 100 seconds into the flight. The rocket is proceeding in a stable manner. The crew is reporting from onboard the spacecraft. 120 seconds into the flight. The first stage side segments have separated. Speed is over 2 and a half kilometers per second. The second stage engines are operating in a stable manner. Slight overload is being felt by the crew. 160 seconds into the flight. The emergency jettison system, rescue system has been jettisoned. The cover and shroud has separated. The crew is reporting from onboard the spacecraft. The second stage engines are operating.)

KIO (250 seconds into the flight. The booster is stable. The speed is now over 3 kilometers per second.

KIO (260 seconds into the flight. The flight is proceeding normally.)

KIO (270 seconds into the flight. The booster is stable. The pitch and yaw are normal. Separation of the second stage has taken place and the third stage engines of the booster have been turned on. The cosmonauts report the ignition of the third stage.)

KIO (320 seconds the flight is normal.

KIO (350 seconds in to the flight. Stabilization of the third stage. The third stage is stable. Pressure in the burning chamber, the combustion chamber of the third stage is within normal limits. Velocity of the booster rocket has now exceeded 4 and a half kilometers per second. Altitude of the spacecraft in accordance to the program is about 190 kilometers. The distance from the launch pad is about 700 kilometers.)

KIO (400 seconds. The flight is proceeding normally. Velocity of the booster has now exceeded 5 kilometers per second. This from the launch site is approximately 900 kilometers.)

KIO (420 seconds into the flight. The flight is proceeding normally.

KIO (430 seconds. The third stage engines are operating in a stable manner.)

ASTP (NSA) Tape M09/2
Time: 07:20 CDT, 12:20 GMT
7-15-75

KIS (450 seconds. The booster is stable. Pressure in the combustion chamber is normal. The booster is stable. Velocity has reached 6 kilometers per second. Altitude of the spacecraft is about 200 kilometers. Distance from the launch site about 1,200 kilometers.)

KIO (The crew is feeling well, normally. The booster is stable. The overload, the G load is slightly increasing. The velocity of the booster is about 7 kilometers per second. Distance from the launch site is over 1500 kilometers.)

KIO (530 seconds into the flight. The third stage engine has been turned off.)

END OF TAPE

ASTP (USA) MISSION MC10/1
Time: 07:29 CDT, 12:29 GMT
7/15/75

KIO (The third stage engine has been switched off and the spacecraft Soyuz has now been inserted into orbit. Orbital flight has been initiated.

KIO The antennas are now open and the solar panels of the spacecraft Soyuz are now being extended. The control over - control over the Soyuz spacecraft has now been transferred to the Soviet Mission Control Center.)

USSR (Moscow, this is Soyuz II. How do you read?)

CC-M (We hear you. This is Moscow.)

KIO (Now the radio ranging of the trajectory is being worked out and the preliminary determination of the orbit parameters is being developed - worked out at the present time. We have electronic display board on the - at the Mission Control Center that now shows the calculated orbital parameters of the spacecraft. Two hundred and 28 kilometers; minimum altitude 180 kilometers; orbital period 88.62 minutes; orbital inclination 51.8 degrees. This is Moscow Mission Control Center.)

KIO (This is the Soviet Mission Control Center. Moscow time 15 hours 35 minutes. The Soyuz spacecraft is completing - is now on orbital flight. It has - it is just now within the communication area of Ussurish ground station. The crew is talking with the Mission Control Center. After leaving the communications zone of the Ussurish ground station, the spacecraft Soyuz will be heard again only at the American tracking ship Vanguard. At the second orbit, the Soyuz spacecraft will enter AOS of Eupatoria at 15:52. The Soyuz will be heard over the U.S.S.R. territory until 17 hours 12 minutes when it will leave the zone of communication - the coverage zone of Ussurish. At the present time, the Soyuz spacecraft is entering the earth's shadow. This is Moscow Mission Control.

USSR (Moscow, this is Soyuz II. We are entering the earth's shadow.)

CC-M (Roger.)

USSR (In 10 seconds monitoring the -)

CC-M (Roger. Soyuz, this is Moscow. Would you take down the following data?)

USSR (Go on.)

CC-M (16:49, 17:12.)

USSR (16:49, 17:12.)

CC-M (Roger. Affirmative.)

CC-M ((According to the electric data, the antennas and solar panels have opened normally. How does your data show?)

USSR (According to our data, the same thing.

CC-M (Roger.)

USSR (Roger.)

CC-M (Soyuz, this is Moscow. Now we are finishing our communication session. Have a happy flight and until the next ground station comm session.)

END OF TAPE

ASTP(USA) MISSION MCC1/1
Time: 07:41 CDT, 12:51 GMT
7/15/75

PAO This is Apollo Saturn Launch Control; we're at T minus 6 hours, 5 minutes and counting. At this time, liquid oxygen is flowing into the first stage of the Saturn vehicle at the fast-fill rate of 1200 gallons per minute. Let's stand by now for our Soviet Mission Control Center.

KIO (Garboe)

LCC This is Apollo Saturn Launch Control; we're at T minus 6 hours, 3 minutes and counting. We're continuing to monitor Mission Control from the Soviet Union, and as we get announcements from them, we'll drop off and try to hear what they are saying. We're continuing to load liquid oxygen aboard the first stage of the Saturn rocket at the fast-fill rate of 1200 gallons per minute. Here in the firing room, the ASTP program director, Chet Lee; Apollo Launch director, Walt Kapryan; and Kennedy Space Center director, Lee Scherer were among those who watched the Soviet launch on closed circuit television from here in the firing room. That launch took place at just 10 seconds after 08:20. At about 06:00 this morning we had a weather briefing from our NOAA experts, and they indicate that we look like we have about the best weather predicted for this afternoon that we've had in many days. Be looking for a mostly sunny afternoon with some scattered clouds. Visibility 10 miles. Temperature about 85 at the launch site. - from the southeast, 10 to 15 miles per hour. Some isolated thunderstorms in the area, but not expected to be here in the immediate launch area. They'll be offshore or off to the west of us, if all goes as planned. Our countdown continuing. T minus 6 hours, 2 minutes, and counting. This is Kennedy Launch Control.

KIO (This is the Soviet Mission Control Center. Moscow time is 15 hours, 54 minutes - 34 minutes, and 40 seconds the Soviet spacecraft has been in orbital flight. Now it has crossed the Earth's equator and is now passing over the Pacific Ocean. The communication session problem has been fully accomplished. The next communication section - session will be nominal. At the present time the crew is monitoring the pressure integrity of the spacecraft of the various modules of the spacecraft and monitoring the condition status of the onboard systems. This is Moscow Mission Control Center.)

KIO (This is Soviet Mission Control Center. Moscow time is 15 hours, 58 minutes. The Soyuz spacecraft is in orbital flight. According to radio trajectory data which has been received from the Ulan-Ude, Ussuriysk and Kolpashevo ground tracking stations - the preliminary orbit has been established preliminarily for the first orbit. Maximum altitude 220.8 kilometers; minimum, 185.7 kilometers. 88.49 minutes orbital time. The program of the flight for the first orbit has been nominal. At the present time, the crew of the Soyuz spacecraft is completing the following - performing the following operations: monitoring the pressure integrity of onboard systems; monitoring the status of spacecraft systems. This is Moscow Mission Control Center.)

KIO (This is Soviet Mission Control Center. Moscow time: 16 hours; 2 minutes. 42 minutes - for the last 42 minutes the Soviet spacecraft Soyuz has been in orbit. At the present time it is passing over

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KIO the Pacific Ocean. The spacecraft has come into the communications area of the American tracking ship Vanguard. The program for the communications during the first orbit has been completed. According to analysis of onboard - the telemetry, the systems of the spacecraft are normal. There are no comments on the condition of the cosmonauts. The program of operations is nominal. The Soviet spacecraft - spacecraft is in a drifting mode at the present time. The crew is preparing for - performing dynamic operations at the beginning of the second orbit. This is Moscow Mission Control.)

CMO This is Apollo Control, Houston. 43 minutes into the flight of Soyuz and some 6 hours, 46 minutes away from Apollo launch. Here in Mission Control Center on one of the black-and-white ediophor television projectors is a handwritten note from the Soyuz crew which says: "We the Soviet - Soyuz crewmen are sending our greetings and our best wishes to the employees of the Houston Mission Control Center for a successful joint flight - the first international space flight." Signed Alexey Leonov and Valeriy Kubasov. The initial Soyuz orbit has been passed to Mission Control Center, Houston from Moscow at 188.49 kilometers by 185.07. Inclination 51.80, which was the desired inclination of the spacecraft and a period of 88.60 minutes for each orbit. The antennas are reported successfully deployed, as were the solar panels. The Soyuz communications, as well as interpretation of the Soviet Public Information commentary, is being done by Mr. Ross Lavrov. This is Apollo Control at 6 hours, 45 minutes from Apollo launch.

END OF TAPE

ASTP (USA) MC12/1
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LCC - - the Apollo Saturn Launch Control. We're T minus 5 hours, 35 minutes and counting. At Launch Complex 39 we're continuing to bring liquid oxygen aboard the Saturn IV vehicle. Going aboard the first stage, at this point, at the fast fill rate we're approximately 70 per cent filled in the first stage. Preparations right now to bringing aboard the second stage are being made. It's necessary to cool down the equipment there aboard the second stage to prepare for that liquid oxygen which comes flowing in at approximately minus 297 degrees Fahrenheit. Once we're completed fueling in the first stage, we'll have a total of 67,000 gallons or 254,600 liters in that stage. Reports from the Soviet Union are that the Soyuz flight continuing to go well. Preliminary orbit given for that was 220.8 kilometers by 5.07 kilometers. Now T minus 5 hours, 34 minutes and counting. This is Kennedy Launch Control.

PAO All stations stand by for an Apollo Control announcement in one minute.

KIO (This is Soviet Mission Control Center. Moscow time is 16 hours, 17 minutes. The Soyuz spacecraft has been in orbit for 57 minutes. It is now completing - it is now flying over the Pacific Ocean and approaching the shores of South America. In accordance with the plan for exchange of information between the Soviet Mission Control Center and Houston, Moscow has given the exact launch time. It was 15 hours, 20 minutes, 5 milliseconds. This time was transmitted to Houston. The - reviewing the orbit parameters of Soyuz which were received at the center after processing of radio trajectory measurement data - On the first orbit, radio trajectory measurements were received from the tracking stations, at Kolpashevo station, Ulan - Ude and Ussurisk. The orbits of the Soyuz spacecraft has following parameters. Maximum altitude 200 and 20.35 kilometers. Minimum altitude is 186.35 kilometers. Orbital period 88.10 .5 minutes. Orbital information : 51 degrees - 51.7° degrees. According to the analysis of orbital parameters, the conclusion has been reached that the time of - the Soyuz can remain in orbit for 30 revolutions. There is no immediate necessity for emergency raising of the orbit. The activities of the crew on the next - the second orbit. The Soyuz spacecraft must orient itself manually towards the earth, monitor the orientation, open hatch number 5, the hatch between the descent vehicle and the orbital module. Then pressure integrity check of the decent module and the orbital module must be made. Also, local pressure dumped from the descent vehicle to the orbital module must be performed. After this, the cosmonauts must take off and dry their pressure garments - their space suits. Also, to pump off the condensate matter that has been accumulated in the space suit after they entered - then - the spacecraft. Then they must monitor the status of some other systems of the spacecraft. This was Moscow Mission Control Center.)

PAO All stations stand by for an Apollo Control announcement in 30 seconds.

PAO This is Apollo Control. Six hours, twenty eight minutes from Apollo launch and a hour and 1 minute into the flight of

AMTP (DIA) M-12/2
Time: 08:05 CDT, 13:05 GMT
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Soyuz. The Soyuz launch at Baykonur Cosmodrome was observed here in Mission Control on the large color television projecting screen at the front of the control room and watched with interest as the operation preceeded. Shortly after the successful orbit was confirmed by the Moscow Control Center the project director Glynn Lunney talked to his counterpart Professor Constantine Bushuyev and passed along his congratulations for a successful launch. Bushuyev reported that the orbit was within two or three kilometers of the desired measurements. He asked Lunney how the Apollo count was going. Lunney reported that the count was proceeding and that we anticipated - best weather in months. Lunney also mentioned to Bushuyev that the Soviet ambassador Anatoli Dobrynin now in route to the Cape with NASA administrator James C. Fletcher to observe the Apollo launch. At 6 hours, 27 minutes to Apollo launch, this is Apollo Control.

KIO (This is the Soviet Mission Control Center. Moscow time is 16 hours, 35 minutes. The Soyuz spacecraft is completing its first orbit of flight. At 16 hours, 37 minutes it will cross the equator over the Atlantic Ocean and begin its second orbit. On this orbit it is planned to perform the following operations: manual orientation, opening of hatch 5 between the descent vehicle and the orbital module, monitoring of the pressure integrity of the habitable (garble), taking off of the pressure gar - -

END OF TAPE

KIO (This is Soviet Mission Control Center. Manual orientation opening of hatch 5 between the descent vehicle and the orbital module; monitoring of the pressure integrity of the habitable modules taking off of the pressure garments then drying of these space suits. At the present time, Soyuz spacecraft is flying in an unoriented manner - it is drifting along its trajectory. The next communication session will begin at 16 hours 48 minutes. At that time, the spacecraft will answer ACS of the Eupatoria ground station. After that, it will have pass communications through Tbilisi, Kolpashevo, Ulan-Ude, and Ussurisk. At 17 hours 12 minutes the communications session will end. This is Moscow Mission Control Center.)

LCC This is Apollo-Saturn launch control. We're at T minus 5 hours, 5 minutes and continuing to count. We have several more holds in our countdown which will lead us to a 3:50 p.m. liftoff if all goes as planned. There is one more hold at the 3 hour 30 minute mark. That's for 54 minutes and 30 seconds duration. Then at T minus 15 minutes - we have a two minute countdown clock or liftoff adjustment hold that can or cannot be used to adjust our liftoff as needed to fit into the Soyuz orbit and to give us the best trajectory to Soyuz. We have one more hold planned. It's of 5 minute 24 seconds duration and comes at the T minus -4 minute mark. This hold is there as a weather avoidance hold and would be used if we were going to continue to aim for our 3:50 liftoff time, however, if we solve - say bad weather coming into the area and it looked like getting off early would be an assistance to avoid that weather, we'd just continue on counting at that point. In the countdown right now, the liquid oxygen has been brought aboard the first stage, loading of the first stage was completed about 9:30. Second stage liquid oxygen loading is now underway. We just had a report that the second stage is 60 percent of the flight mass of that liquid oxygen flows in there a 1000 gallons per minute. Now T minus 5 minutes; 5 hours 4 minutes and counting. This is Kennedy launch control.

KIO (This is the Soviet Mission Control Center. In 1 minute the Soyuz spacecraft will enter the ground tracking station area Eupatoria, Tbilisi, Kolpashevo, Ulan-Ude, and Ussarish.

USSR (Standing by. We hear you excellently. How do you read me?

CC-M (We read you excellently.

USSR (Roger.)

CC-M (Soyuz, this is Moscow. Comrade Leonid Brezhnev has wished to the crew of Soyuz 19, Comrade Leonov and Comrade Kubasov, a happy flight and a successful completion of their task and the safe return to their homeland. Lenoid Brezhnev also wishes a successful flight to the American space crew of the Apollo and its crew Tom Stafford, Vance Brand, and Donald Slayton. Lenoid Brezhnev and other Soviet leaders are expressing their hoep that the joint flight will proceed successfully and will demonstrate the possibilities that are opened up by joint cooperation in scientific researchs of space. This was a TASS report.)

USSR (Thank you very much, thank you very much.)

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CC-M (Have a very successful flight.)
USSR (Roger. So now we have orientation of 180. We are ready and are waiting for your instructions. The integrator is turned on.)
CC-M Roger, Soyuz. How is the pressure integrity?
USSR (It's 30 minutes, delta p 0; 0 delta p 0. Pressure drop, all zero's.)
CC-M (Roger. Soyuz, this is Moscow. We are giving you a go ahead for turning off the programs and continue nominal operations.
USSR (Roger. But there is one small correction on the pressure. I'll give it to you in a minute.)
CC-M (Roger. Turn off the program. I'll give it to you.
USSR We have have given the command to turn off the program. With 60 minutes monitoring, the pressure changed by 10 millimeters. It grew, it increased, it is now 910 millimeters, but the oxygen pressure is somewhat lower. Did you receive, Moscow?)
CC-M (Roger. We copy. Temperature has risen by 2 degrees. Roger.)
USSR (Roger. No, 910 millimeters pressure. Orbital module 900.)
CC-M (Roger, Soyuz.)

END OF TAPE

ASTP (USA) MC14/1
Time: 08:52 CDT, 13:52 GMT
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CC-M (Soyuz, this is Moscow. So - we're giving you go ahead to work on page 139.)
SCDR (Roger. Roger.)
CC-M (Take a look at what the pressure dump should be. All right?)
CC-M (Soyuz, this is Moscow. We're waiting for your data about preparations of the commander's transfer and about - also about the pressure dump.)
SCDR (Roger. We're monitoring the system. After all this and after this - after this I will transmit the transfer and equalize the pressure.)
CC-M (Roger.)
SFE (Moscow, this is Soyuz 2. If you like, we are ready to give you form 03 for the last orbit.)
CC-M (Form 03 somewhat later.)
SFE (Roger.)
USSR (We have not changed the condition (garble) so far. We'll turn it on now.)
USSR (We're equalizing the pressure between the decent module and orbital module.)
CC-M (Roger.)
CC-M (Soyuz 2. So far Soyuz 1 is ready for transfer. Get ready to take the form T on page 156.)
SFE (We're ready.)
CC-M (Former - form, on number 1. First indicate 17:46:00, T program 18:13:00, time - turn off program 18:20:00. How did you receive? Roger - Over.)
USSR (Number one, begin time 17:46:00, T time 18:13:00, program turn off 18:20:00.)
CC-M (You received correctly.)
CC-M (Soyuz 2 let's have 03.)
CC-M (Are you ready for 3?)
SFE (Ready.)
CC-M (Sixteen fifty time first; 15, second; 240, third; 4, 240; 5, 15-1/2; ; 6, 300; 7, 15-1/2; 8, 280; 9, 2-1/2; 10, 2-1/2; 11, 260; 12, 260; 13, 24; 14, 4; 15, 30; 16, 0; 17, 18; 18, 12; 19, 21; 20, 20; 21, 19; 22, 900; 23, 900; 24, 950; 25, 300; 26, 450; 270, 28, 220; 29, 220.)
SFE (Roger. Received 03. Thank you.)
SCDR (Moscow, this is Soyuz. The hatch is opened.)
CC-M (Roger, Soyuz 1. Transfer into the orbital module.)
SCDR (Roger.)
CC-M (Soyuz 2. Switched on condition M.)
SFE (Roger.)
CC-M (Standing by, Soyuz 2, so why don't you continue operating on conditions -)
USSR (The thermometers turned off.)
CC-M (Roger. Write down your orbital parameters. Go ahead.)

ASTP (EIA) MO14/2
Time: 08:52 CST, 14:52 GMT
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CC-M (Radiogram number 2: Apogee 230, perigee 191, orbital period 88.5, inclination 51.8.)
USSR (Apogee 230, perigee 190, period 88.5, inclination 51.8.)
CC-M (You got it right.)
USSR (perigee 191.)
USSR (Entering shadow again.)
CC-M (Roger.)
CC-M (Soyuz 2.)
SFE (Standing by.)
CC-M (Follow the documentations strictly in checking pressure integrity. Further on - onboard so far, you have an indication for -)
USSR (We've checked that over. You have (garble).)
(We've turned on our monitoring for pressure integrity.)
CC-M (Soyuz 2, this is Moscow. 18:05:00, we will do a check, and the flight time will be 0145.)
USSR (Wait one minute. I'll write it down.)
CC-M (One minute left before time check.)
USSR (All right.)
COM (Flight time will correspond - will be 17:05:00 and onboard time will be 01:45.)
CC-M (Can you make that in time?)
USSR (Yes.)
CC-M (Flight time we will check later, but now we will simply check with Moscow time.)
CC-M (Fifteen seconds. Ten seconds. 17:05:00 Moscow time.)
USSR (Roger.)
CC-M (Now we're exactly on time.)
USSR (Roger.)
CC-M (Write down the next comm session, Soyuz 2.)
SFE (Wait one.)

END OF TAPE

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MCC-M (Write down the next comm session Soyuz 2.)
SPE (Wait one.)
USSR (Oxygen 289 millimeters.)
CC-M (Roger.)
CC-M The next comm session over Madrid. Communications with Moscow - 18:15 to 18:19. After that with the Soviet Specialists group 18:19 to 18:21. We'll have a comm check with the consultative group. Further on, with Moscow 18:21 to 18:36.)
SPE (Madrid, 18:15 to 18:19. Consultative group 18:19 to 18:21. Moscow 18:21 to 18:36. Roger.)
MCC-M (You got it right. Over Madrid first you'll talk to us and then to the consultative group and after that on duplex with Moscow.)
SPE (Roger.)
MCC-M (Both Soyuz, this is Moscow. The Apollo crew is congratulating the Soyuz crew on successful orbit insertion.
USSR (Roger.)
USSR (Thank you very much. Moscow this is Soyuz. I'm now in the orbital module. I'm beginning to open pressure.)
MCC-M (Roger. Waiting for a report from you.)
MCC-M (Soyuz, this is Moscow, how do you feel ?
USSR (Everything's normal - normal. Everything's perfect, okay.
MCC-M (Roger.)
MCC-M (Switch your battery on I can hear you, otherwise we can't hear you. Now, check the pressure in the orbital module.)
MCC-M (Better press the button, otherwise we can't talk.)
USSR (900.)
MCC-M (What's the vacuumeter show)
USSR Vacuumeter meter shows 900.)
MCC-M (Roger. Moscow copied that. 900 on the pressure vacuumeter.)
USSR (Moscow, this is Soyuz. We'll open the pressure equalization valve and I'm equalizing pressure. Beginning to drop pressure.)
MCC-M (Soyuz, this is Moscow. Your comm session is coming to an end, have a good flight.)
K/C (We're now making our first briefing with the Soviet Press Center, following the launch of the Soyuz 19 spacecraft. Today, at 15 hours, 50 minutes Moscow time, the Soyuz 19 spacecraft was entered by two cosmonauts, Alexey Leonov and Valeriy Kubarov. After coming aboard the spacecraft the commander has started to inspect the orbital module and the engine - onboard engineer tested the descent vehicle. After completing this, Leonov entered into the descent module, and reported about this to the Control Center - the Cosmodrome. After that, they monitored the closing of the hatch between the orbital module and the descent vehicle. After that the Apollo (sic) commander hooked up the biotelemetry cable. The contacts of this cable are attached to the cosmonauts' bodies. Using these - this cable, the health and state of the cosmonauts will be monitored. After this, the crew tested the various onboard systems. The pressure integrity of Soyuz 19, were tested. Pressure and air contents aboard were also monitored. Before, during preparation, the crew tested the onboard systems according to the

similization(?) system. Ventilation of the space suits, communications were measured, the gas composition of the breathable air was also monitored, the condition of the condensators and heat exchangers and heat regulation. Also, pressure was checked in the main pneumatic systems for descent systems and control systems. One hour before start, for the launch, the thermal - the heating system and cooling system was turned off. The globe was set according to the calculated time for orbit insertion. The clock was set for separation time between the space craft from the booster rocket. In-flight clocks were set to zero. By 13 hours, 35 minutes Moscow time, the prelaunch preparations of Soyuz 19 and the booster rocket was completed. The crew checked the equipment and onboard systems. Also, the beginning was to that the power cables were disconnected. 20 minutes before launch, the crew checked the pressure garments. Also, the emergency rescue system was checked. At 15:15 Moscow time, everything was ready on the Cosmodrome for launch of the spacecraft, Soyuz 19. 50 seconds before the launch the launch command was given. Telometry systems were turned on, for monitoring the onboard systems, for the booster rocket and the spacecraft. After the start command was given, at 15 hours 20 minutes Moscow time, the booster with the Soyuz 19 was launched. The time - the launch - the first portion of the launch was normal. At 150 - 120 second the side section of the boosters were Jettisoned. 15 seconds later the shroud was jettisoned as well as the rescue tower. At 300 seconds, the second and third sections were jettisoned and the second section was burned. At 530 seconds, the third engines were fired.)

END OF TAPE

KIO (The second and third sections were jettisoned and the second section was burned. At 530 second, the third engines were fired and the orbit was achieved. The command was given to separate the third section of the booster rocket from spacecraft. After 10 minutes after launch, the antennas for radio transmitter and receivers were opened as well as the solar panels. All systems of the booster rocket and the Soyuz 19 spacecraft operated properly at the orbital insertion phase. In the beginning of the orbit, the initial parameters were maximum distance from the surface of the earth. The apogee was 220.35 kilometers. Minimum height over the surface of the perogee was 186.35 kilometers. Orbital orientation 88.49 minutes. Orbital inclination was 51.78 degrees. At the second orbit, 16 hours 59 minutes, Moscow time, the hatch between the descent vehicle and the orbital module was opened and a test pressure drop in the various modules of the spacecraft were performed. This operation was one for the purpose of checking the operation of the pressure control system. At 17 hours, 10 minutes, Moscow time, the cosmonauts are taking - take off their space suits. The radio and TV communications between the Mission Control Center and the spacecraft were done through Soviet ground stations located on the territory of the USSR. Also Yuri Gagarin, the Soviet tracking ship and the Soviet tracking ships at Korolev, which are both in the Atlantic Ocean. Also communications were held by American tracking stations and the ATS-6 US satellite. Communication sessions with the Soviet Mission Control Center and the crew of - crew of Soyuz spacecraft are communicating in every orbit. According to the reports of the cosmonauts, they feel well. During the course of the upcoming two day mission before docking with the Apollo, the cosmonauts will have to check the operation of all their onboard systems. They will make two maneuvers to get into a parking orbit, then will begin some biological experiments. The parking orbit is at 225 kilometers over the surface of the earth. It is an orbit on which the docking of the Soviet and Americans spacecraft will take place. Thank you for your attention. Thank you very much.

KIO (This is the Soviet Mission Control Center. Moscow time 17 hours 25 minutes. The communications session with the Soyuz spacecraft has been completed and this was done over the following stations: Eupatoria, Tbilisi, Yuzuriak, Kolpashevo and Ulan-Ude. The program of communications included; radio communications between their crew and Mission Control Center, transmission of telemetric data on the onboard systems of the spacecraft, trajectory measurements. Also commands on the radio command line. The communication session was fully completed according to its program. Recommendations were given to the crew onboard. Time check was performed and radiograms were transmitted. From the spacecraft to the ground, the cosmonauts reported about their health and their condition. According to their words, they feel normally, everything is excellent, okey. The next communication system - next communications with the Soyuz will be at 18 hours 15 minutes. This will be done over the Madrid tracking station. At this time, the

crew will talk with Moscow - will check communications with the Soviet consultant group in Houston and will - after that will have communications with Moscow over the tracking stations: Eupatoria, Tbilisi, Kolpashevo, Ulan-Ude and Ussurisk. According to the crew reports, a test pressure dump was made. The crew has begun carrying out the flights in accordance with the program. This is Moscow Center - Mission Control Center.)

LLC This is Apollo Saturn Launch Control. We're at T minus 4 hours 4 minutes and counting. At this time, the cryogenic loading has been completed and the liquid hydrogen in the second stage and liquid oxygen in the first and second stages have been brought aboard the space vehicle. We'll continue to top off those cryogenic fuels throughout the count till we get down to the last moments. During the final sequence they'll be automatically stopped and the fuel tanks will be pressurized. However, we will top off until that point to take care of any boil-off that occurs during the final hours of the countdown. The launch team astronauts Stafford, Brand, and Slayton, were awakened at 10:10 this morning. They were told of the successful Soyuz launch and passed on their congratulations to the crew of Soyuz. Right now the close-out crew, which is the team that assists the astronauts at the spacecraft, have gone to the road block and they'll be going in and astronaut Bob Crippen, part of that close-out team, will be getting into the spacecraft and preparing it for the astronauts when they get there. Now T minus 4 hours 3 minutes and counting. This is Kennedy Launch Control.

END OF TAPE