

~~X-63-86433~~ N63

N 63-86433

(NASA TMX-51066)

1#

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

NEWS CONFERENCE,

July 22, 1961,
Cocoa Beach, Florida:

VIRGIL I. GRISSOM,

PROJECT MERCURY ASTRONAUT,

LIBERTY BELL 7 PILOT

James E. Webb et al [1961]
14 p refs

Copy Auth:
NASA
Washington, D.C.

Principals:

- James E. Webb, NASA Administrator
- Major General Leighton I. Davis, Commander, Atlantic Missile Range
- Dr. Eberhard Raes, Deputy Director, NASA Marshall Space Flight Center
- Robert R. Gilruth, Director, Project Mercury
- Walter C. Williams, Project Mercury Operations Director
- Dr. William K. Douglas, Astronaut Physician
- Alan B. Shepard, Jr., Mercury Astronaut
- John H. Glenn, Jr., Mercury Astronaut

MR. WEBB:

To most of you here in this audience, the men on this stage are familiar figures, but to the television audience I should like to introduce them because each has had a most important part in the Mercury Program and the success of the flight yesterday. First on my left, I should like to introduce the Commander of the Atlantic Missile Range, Major General Leighton I. Davis of the Department of Defense. General Davis.

Dr. Eberhard Rees, Deputy Director of NASA's Marshall Space Flight Center, representing Dr. Werner Von Braun today. And Dr. Kurt Debus, the Director of Launch Operations of the Marshall Space Flight Center.

And on my right, first, Dr. William K. Douglas, Astronaut's personal physician. Mr. Walter C. Williams, Project Mercury Operations Director, and Mr. Robert R. Gilruth, Director of Project Mercury.

Now, Ladies and Gentlemen. There was no official secrecy when Gus Grissom, the man you want to question this afternoon, departed from Cape Canaveral so dramatically yesterday on the nose of a rocket. Indeed, through your news services all the world followed this historic event. Similarly, there is no secrecy today as he returns to tell us what it is like to venture beyond this Earth's atmosphere and how it feels to further, as he did, this pioneering effort.

I could present Captain Grissom as an aeronaut, a test pilot, a graduate of that school of experimental flying through which over the 58 years since the Wright brothers flew, a handful of brave men have taken the personal risks necessary to prove in flight the new aircraft ideas and designs which now benefit so many millions through air transport and add so much to our national security.

I could present him as one of the seven Astronauts. These seven men have devoted almost three years of their lives to providing the pilot element in the Mercury system, utilizing our most advanced science and technology for the purpose of producing machines capable of aiding man in exploring and extending his knowledge of the universe and using such knowledge for peaceful purposes for the benefit of all mankind.

Astronaut Grissom is all of these and more. As a member of that large and able group of devoted men and women -- the world-wide Mercury team which planned and carried out yesterday's flight -- he does much more than fly. He participated in the decisions through which this team drives forward to find new and better ways for man to carry the essentials of his Earth environment with him as he rockets out to explore and master space.

Aviation has taken 58 years to reach the point at which it is today. Modern rocketry is only 35 years old. That is the time span since Dr. Robert Goddard proved the correctness of his theories by an experimental flight. Only ten per cent of that time span of 35 years represents the period of orbital flight -- starting with Sputnik I.

We see in the Mercury-Redstone 4 flight yesterday clear indication of a much, much more rapid rate of development than we ever saw in aviation. And this is going to be stepped up to an even faster pace. About the time Astronaut Grissom was getting dried out by the U. S. Navy, President Kennedy yesterday was signing into law an act of Congress that blueprints a bold program to press forward in space exploration -- particularly manned space exploration. This means that where in the past we have tried to do the almost impossible with too thin a margin, we now are going to devote more adequate resources. Not only will our capacity for world technological leadership improve but every phase of our national economy and capacity for economic growth benefit.

Now, in recognition of all his services, it is my happy privilege to present to Captain Virgil I. Grissom the National Aeronautics and Space Administration Distinguished Service Medal. This medal has been awarded to only two other men, the most recent award going to Astronaut Alan B. Shepard. President Kennedy and Vice President Johnson have asked me to express their thanks to you and indeed the thanks of the entire nation. (Applause)

Congratulations.

And now I would like to ask Mr. Gilruth, the Director of Project Mercury to read the citation for the Distinguished Service Medal Award. Mr. Gilruth.

Mr. Gilruth: The National Aeronautics and Space Administration awards to Virgil I. Grissom the NASA Distinguished Service Medal for outstanding contributions to space technology. His flight, one of the first by United States Astronauts, was an outstanding contribution to the advancement of human knowledge of technology and a demonstration of man's capabilities in suborbital space flight. Signed and Sealed in Washington, D. C. this 21st day of July, 1961. By James E. Webb, Administrator, and Hugh L. Dryden, Deputy Administrator.

And now I present to you as aeronaut, as astronaut and recipient of the Distinguished Service Medal of the NASA, Captain Gus Grissom.

Captain Gus Grissom: Before I get started today telling you a few of the details, or as many of the details as we can cover, of my recent flight, I would like to pay homage to some of the people without whom we just wouldn't be able to make these flights, and these are the ladies sitting on my right. Starting with Mrs. Slayton. Mrs. Carpenter. And the two Cooper girls, and Mrs. Cooper. Mrs. Shepard, whom you have seen many times, and her daughter. Annie Glenn and her two fine children and Mrs. Schirra. There are many fellows over there who are pretty important to the team, but I know you have seen those guys a couple of times. Let them sit.

Okay, to start with, we might as well start right out with launch, and go through some of the things that I thought were rather interesting in the flight, and, of course, the first thing is lift-off, and the rocket actually lights off and you hear the noise, and you feel the thrust, and the thing starts to move, and the g's gradually build up. The first thing that occurred really I think that would be of interest to all of you is the vibration that occurs at just about 36,000 feet as we start going through Mach 1. This is the vibration that caused Al a little bit of a problem on his flight. We have changed this capsule

some and put in some damping material, and changed some aerodynamic bearings, so that the vibration that I received wasn't nearly as bad as what Al had and although there was some there, it wasn't anything to be concerned about. I could see all my instruments clearly and I could communicate clearly throughout, and so this is one problem I think we have licked. And the next thing that occurred, I was looking out the window as you all know we have a so-called large picture window that is about like a key hole to me -- it is a big window anyway for a space flight I guess. The next thing, I was looking out the window and there was nothing but blue sky above me. We just passed through one little thin layer of clouds that were still around the Cape, and all of a sudden, or rather rapidly at least, the sky changed from blue to pitch black. It went, just in seconds, from a beautiful blue to a pitch black, and as soon as it turned black, there was a star right in the center of my windshield, and I knew I had lost two steak dinners right then. I guess I will have to pay off tonight, Al, I don't know. But the sky was very black, and things were pretty normal, as you would expect on the launch then, up until the time, well they were normal all the way, but up to the time the escape rocket was fired, which occurs at booster cut-off, I went from six g's down to zero g suddenly. The escape rocket fires at this time, and leaves the capsule, and I heard it go and I saw it go, and the thing went off with two streams of smoke, which came on each side of the window. The escape rocket went off, went off to the right, and I watched it for several seconds. I could see the tail of the rocket with a little light, and saw it keep right on going. With all the speed we had then and all the thrust we had on that rocket I have no idea how far it went, but it really took off, and this was very comforting. This was one of the parts of the flight we were most concerned about, being sure that the rocket leaves, because our recovery parachutes are right under it, we have to get rid of it. This is the first indication that we have really, that the flight is going to go good. When it went off, I really felt good. After the escape rocket leaves there is about a ten second period before it is cut loose from the booster, and this occurred. The clamp ring releases and the posigrades fire; that shoves the capsule away from the booster. There is no doubt when this occurred either - the loud bang. I heard the rockets fire and I felt the push of the rocket pushing me away from the capsule -- pushing me away from the rocket, I am sorry. Then the capsule stayed steady for its five seconds for damping, and then it started its turn-around. At this time I was still looking up into the black sky. I couldn't see any more stars; I only saw that one. I was still looking up in the black sky, and it started the turn-around. I could see the sun shining through the window, and I was a little concerned at this time. I was afraid the sun was going to shine, come right in across my face, and possibly blind me, because there was a distinct shaft of light coming in the cockpit and it sort of came around across my suit, but it really didn't get close to my face. Then the horizon came into view, with the earth, and this is the thing that is really fascinating. I don't know how to describe it, but the earth was very bright. At this time I couldn't see any land. I could see the horizon, a very round horizon, and very light wispy cirrus clouds. Then there is a band around the earth, starting with a sort of a light blue at the bottom and fading into a darker blue; there is a very fuzzy edge that is probably going from blue to black, and then very black everywhere - a very black sky all over. There is an even

border all around the part of the horizon I could see. The horizon at this time was on the order of 600 miles to me and a little later it got up to as far as 800 miles, as I reached apogee, and I could see quite a wide arc around the earth.

I started my pitch and yaw movement to check out the manual control system, and I was so fascinated by this view out the window that I had difficulty concentrating on the instruments. I kept wanting to peek out the window, which is what I did, and I probably didn't do as good a job controlling as I would have liked to. And it was probably because I was dividing my attention between the window and the instruments; maybe there was a slight problem with the control system - it had one nozzle up that was sticking open and this may have caused me some problem, but when we get our telemetry records deciphered, maybe we can determine whether it was me or the control system or both. After the yaw maneuver, the next thing we came to was retro fire. I made a yaw left maneuver to look down the coast of Florida, to the southern tip of Fla., hoping to be able to see Miami, Cuba and maybe the Yucatan Peninsula, but things were quite hazy. The high cirrus clouds obscured most of the land. I did see, evidently, part of the coast of Florida here, just a bit of it, but not enough to identify any portion of it. Al gave me my mark at four minutes and thirty seconds to return to return to retro attitude and I was having a little bit of difficulty getting back into attitude. It seemed like the capsule was moving slower than I wanted it to move. But we got it back pretty close to the time of retro fire. Al gave me a countdown to retro fire and we fired it manually, and there is no doubt when the retros fire either. Up to this point, I had a distinct feeling that I was actually riding backwards. I am not sure whether this is something that I had built in my mind beforehand, or I was sensing the earth receding, or what it was. I can't define it right now. When the rocket fired there was a very distinct feeling that I had changed direction and was going forward. I intended to look out the window, as I controlled the retro fire. I was looking out the window when the first one fired and I immediately changed my reference to the instruments inside, and this is something else I haven't been able to explain to myself right now. I went from the window, back inside, to the instruments. But I controlled retro fire, and controlled it within limits, pretty well, I think. As soon as the retros were fired, I looked out the window and Cape Canaveral was right in front of me, just as clear as a bell. It seemed like it was a lot closer than it should have been. At this time it really didn't seem like I was a hundred miles up, because the Cape was very distinct. I could see Merritt Island, the Banana River and the Indian River. I could see the Cape and moving on down south of us here; again I was rather fascinated. I went ahead and did the things I was programmed to do, such as arming the retro rockets, retro package jettison, switching to rate command control system and switching to H. F. radio. I switched to H. F. radio and I tried to report the tremendous view I had, but evidently no one was reading me; at least no back at the Cape here was reading me; so I switched back to my UHF radio again and started my normal reporting procedures. The retro rocket package had jettisoned right on time, and I glanced down into the periscope just for a few seconds. About this time I saw two of the retro rockets floating around in underneath the capsule evidently. I could see

them in the periscope. But I never did see the booster as we thought I would. Evidently it was down below me, and I never did get a view of it.

About this time the periscope retracted on schedule, and it came time to pitch up to re-entry attitude to get ready to make my re-entry back into the atmosphere. I pitched to my 14 degree re-entry attitude, and started looking out the window again, to see stars, but I wasn't able to see any again. The sky was very black. But I think maybe the reason I wasn't able to see any again, was because the sun was shining in from close behind me, and there was an aluminized surface on the base of the window and this was reflecting into the cockpit quite badly. This might very well have prevented me from seeing any stars.

From there on I went into the re-entry, to the g build-up. I got the .05 g light. We have an indicator that senses five-hundredths of a g, less than a g, which is less than any of us can feel, of course. I got this light and knew the re-entry was getting started. I reported that the g's were starting to build, and checked the accelerometer. I only had half a g at this time. I'd been through the weightless period, and I evidently felt the first little increment of g that came on. Then I went back to checking some instruments and looking out the window and the next time I recorded any g's was at six g. Then I called them at six, nine, and on up to ten. I hit about 10.2 g's on re-entry. Then they came off. This was very smooth during this time. No buffeting. There was a loud -- at least a recognizable roar. I am not sure how loud it was but a roar that was quite evident, through this phase of the flight. From then on things were again still normal. As I passed through about 65,000 feet-I think it was 65,000 - it may have been higher than this, I started seeing contrails out the window. These were white, wispy vapor trails that were coming from the base of the capsule from the heat shield area. These continued for quite some time. Today I talked with one of the pilots on one of the recovery airplanes. He said he could see these contrails that started very high, and could see them a long way down. In fact that is the way he spotted the capsule.

The next event that occurred was the drogue chute deployment. I could hear the drogue motor firing and see the drogue pulled right out and blossom. This made me feel real good. I knew with this drogue out that in all probability I was going to get a good main chute. The next thing to worry about was the main chute deployment. As the drogue deployed, a small g built up there. It was just comforting, is about the only way I could describe it. We proceeded rapidly on down to main chute altitude; it deployed at about 11,000 feet, or slightly below, and as the main chute came out, I could see it come out - could see it stream, and see it reef. It comes out in a reefed condition, not a fully opened condition, of course. It sort of divides the shock into two loads, rather than one big shock. I saw it in the reefed condition. I could see all of it. I could see one hundred per cent of the chute. I saw the reefing cutters cut the line and the chute blossom out into a full chute then. Through the window I could see about seventy five per cent of the chute. Again this was one of the most comforting sights in the flight.

Yes, I knew I was in good shape then. The chute was very nearly perfect. There was one small rip in it - a little triangular rip about six inches on a side and there was one other small hole - I'd guess about the size of a quarter, and this made me feel pretty good. Coming down in the chute then I went ahead and made the normal reports that I planned to make - reading off instruments and giving my condition to a few people that were worried about me -- someplace or other. As we approached the water, I could see it coming up through the periscope so I was prepared for the landing shock. This wasn't bad at all - a pretty good thump but nothing that would jar me or harm anyone or stun anyone or even daze you. It was just a good solid thump and I was in a good position to take it and that's certainly no problem in the landing.

The capsule tipped sort of on its left side, rolled over on its left side. The parachute compartment cylindrical section on top went completely under the water and out the window all I could see was water. The reserve chute is up in this area and it sort of tends to hold the capsule down. I considered for a minute going ahead and ejecting this. We can switch - by manipulation of a switch, we can get rid of the reserve chute but I decided it was best to wait and see if the capsule would come up a little bit and get this reserve chute out of the water so we could make sure it came out and it did. It came up very slowly when the window came up out of the water about half way. I decided the tower was pretty well out of the water so I jettisoned the reserve chute and then the capsule came up very rapidly. Within a period of twenty or thirty seconds, it righted itself to a vertical position. The wave heights were very small so the capsule was riding pretty comfortable at this time and I felt I was in very good condition. I'd already been in contact with the helicopters and they were on their way to pick me up and I asked them to stand by for a few minutes while I made a chart of switch positions and quantities and this sort of thing that would go right on back with the capsule to the Cape here. After I'd got this done - well actually before I started that - I took off my helmet. I unstrapped myself and disconnected everything except my one suit inlet hose which was providing me with cooling. Everything else was disconnected except the comm leads to the helmet. I disconnected the helmet from the ring on the suit and rolled up the neck dam so that if I did get out, if anything occurred, I would at least float. That was the best thing I did all day.

I finished the switch chart and called the helicopter and told him I was ready to come out, and as soon as he had hold of the capsule and was ready for me to come out, to give me a call. At that time I would power down the capsule, take off my helmet, and blow the hatch.

While he was coming in, I decided to go ahead and get a little head start on him, and took off the cover on the detonator that blows the explosive hatch off and tossed it down toward my feet. I then pulled the safety pin that holds the detonator out. You have to pull it before you can fire it. So that I was all set and waiting for him, and waiting for him, and laid back down on the couch, and he gave me a call and said he was on final and I knew that he would pick me up in ten or fifteen seconds. I was just laying there minding my own business, and Pow! - the hatch went. I looked up and I saw nothing but blue sky and water starting to come in over the sill. So I tossed by helmet off. The only two moves I remember making were tossing my helmet off and grabbing the instrument panel; I don't remember going out the door. The copter pilot

said the door came off, immediately followed by myself, almost one motion. Without a doubt that was the biggest shock all day, to me - to see that door go off. I went into the water. Luckily I had the neck dam up. I felt I was in pretty good shape. I was floating quite high in the water, about armpit high, because the suit does float quite well in the water, with the neck dam on. I saw the helicopter there, very close. He had already cut the antenna. The antenna was gone and he was grappling for the loop on top of the capsule, and it was sinking rather rapidly. It looked like to me he was having difficulty getting hold of it, but actually I guess he wasn't. This was the first time he had tried to snag it. So I clambered over to the capsule which was only four or five feet away and was going to maybe help him put the hook on it, but before I got there he actually had it hooked.

I saw him lift his pole, and the hook was on, and the hook dropped off the pole, which is normal, but at this time it did not look very normal to me, and I thought "Oh, he lost it again." The capsule actually sank and went below the water. The helicopter pulled it free, and as he pulled it up, I thought, "Well, we are in good shape again, we have got it all, and he would pick me up as soon as it gets free of the water."

The helicopter moved on away slightly; probably he moved a little bit and I got caught in the rotor wash and got blown away. I got blown outside of his rotor wash and he was having difficulty, as you probably already heard, getting the capsule out of the water. He couldn't lift it. He ran into an engine problem, at least we think now it was an engine problem. He couldn't lift it free. There were three helicopters there. I guess actually there were four -- I don't remember seeing but three. I was caught in the center of all three of them and couldn't get to any of them.

I saw the second helicopter move in, put his horse collar down to pick me up - this thing hanging down in the water to pick me up. I tried to get over to him, but I was having difficulty getting through his rotor wash, and also I'd neglected to close a port down on my suit, where the inlet hose comes in, and was getting water in my suit. I was getting lower and lower in the water all the time, and it was quite hard to stay afloat. But eventually, the helicopter got in close enough to me - he was having trouble getting any closer to me because the other helicopter still had hold of the capsule and couldn't get in to him. But some way or other the Marine copter pilot did get in close enough for me to get hold of the sling, and everything was pretty good for me from then on. They picked me right out of it and got me onto the U. S. S. Randolph, of course.

I think that is about all I can have the time to say about the flight. I will be glad to entertain any questions at this time.

Q: Is it as interesting up there as Commander Shepard says it is?

A: It certainly is; I recommend the trip to everyone.

Q: Could the hatch possibly have gone off in space?

A: I don't think so. I think this was an operational problem, although we are not sure at this time. We were prepared for the hatch to come off in space. I think probably if I hadn't pulled the safety pin, maybe it wouldn't have gone - I don't know. This is something we still have to investigate.

Q: Captain, did you feel you were in danger in the water or at any time in flight?

A: Well, I was scared a good portion of the time, I guess this is a pretty good indication.

Q: You were what?

A: Scared! Okay?

Q: Captain, in the radio transcript, there is mention about not being able to get a door pin back in. Could you elaborate and explain to us what this is about?

A: Yes. When an explosive hatch is fired, it goes about 25 feet. This is a hazard to anyone around the capsule when they are working on it, getting any of us in on the gantry. It is a hazard to recovery people, in case we should be injured in the capsule and they have to blow the hatch from the outside. So they have two restraint wires on the inside. They are soft iron wires that are hooked both to the door and to the sill of the capsule, so if the door is exploded from the outside or opened any time with these wires on it, the soft iron wires stretch and absorb the energy of the door and stop it very close to the capsule. That way, anyone around won't get hurt. Our procedure on the gantry is that when they put the door on, they fasten these pins so that anyone working on the gantry knows that they are safe if they are back a little way from the door.

Just prior to launch, Deke (Slayton) gave me a call to take the pins out at above five minutes prior to launch, so if I wanted to blow the hatch in flight, it would come clean and not be attached to the capsule. These are two little safety pins that are attached to the bottom of the wire.

Then our procedure is, after the main chute is deployed on re-entry, to put these two pins back in, so any recovery people that come to get us out, in case we are injured on landing, are fairly certain that the door will be restrained and won't go the 25 feet.

After the main chute came out, I tried to get these two pins in and had difficulty getting one of them in. I couldn't see it; I couldn't physically see the pin and so I gave a call to recovery forces that the pin might not be in, and to be aware of it.

Q: Captain, will you tell us about the manual controls? You said you had difficulty with sluggishness with the manual controls? Was it the new version or the old?

A: These were new valves. I guess they are a little bit different from the valves that Al had, but not much. They are basically the same valves. They work the same way. I think, I am not sure, but I think that maybe one valve might have been sticking open a little bit, and putting in a roll rate for me, that I had difficulty taking out. I felt that the capsule was moving a little bit slower than we had been used to in simulations and in our procedures trainer. But again, maybe I was in an extra big hurry at this time. This is something that we will sort of have to thrash out a little bit later when we get all the T. M. records.

Q: What do you mean by the statement, "We are not in very good shape here?"

A: This sounds like the time just prior to retrofire when I was talking about my retrofire attitude. I wanted to be in zero roll and zero pitch and thirty four degree retrofire attitude. I was a little bit late in returning to retrofire attitude and I was indicating that I wasn't in as good an attitude as I wanted to be when I fired the retrorockets.

Q: After the main chute deployment you were quoted as saying, "It's better than it was, Chuck."

A: Well, I don't know of any Chuck that I was talking to and I don't recall saying that. If I said that, I'm not sure what I was referring to. I can't answer that.

Q: At one point during the time, according to the transcript, you said, "There's a lot of stuff floating around." Clarify this.

A: Right after I got to zero g, I glanced around the cockpit and there was some debris floating around.-- there was a washer floating around over to the right; some other stuff that looked like it was probably dirt and normal things that would get on the floor of any airplane.

Q: Captain, when you said you were scared, was it at any particular point, or were you talking in general?

A: No, I have been scared a few times before and it was a sort of general statement, I guess.

Q: What happened to the inflatable life raft?

A: Well, the life raft was in the cockpit with me. The helicopter was on its way to pick me up. I thought I was in good shape. I didn't think I needed to use it, and when the hatch went off, my first thought was to get out.

Q: Do you have an impression as to how much time elapsed between the time the hatch blew and the capsule went under water the first time, filling with water?

A: I don't have any real feeling of the time. It was a matter of seconds -- I am sure, not more than ten or fifteen seconds. It couldn't have been very long.

Q: Was the TV film of your face in the capsule?

A: He asked if the TV film in the capsule was lost. There was no TV. We did have two movie cameras, of course, and they were lost with the capsule. That is correct.

Q: What did Alan Shepard mean when he said, "Jose, don't cry too much?"

A: Mr. Shepard is over here; you can ask him.

Shepard: The question referred to a remark I made to relieve some tension on both ends of the line, shortly after Gus lifted off, and it refers to a record made by a night club entertainer who does a very clever bit entitled, "The Astronaut".

Q: Captain Grissom, what made you decide to leave the capsule when the helicopter was picking you up? Why didn't you stay in the capsule and ride over to the carrier?

A: This is an operational procedure that we have decided on. The helicopter pilots are a pretty dedicated bunch, and they have decided if they pick a capsule up with one of us in it and they should lose an engine, just as the fellow did yesterday, that they will sacrifice themselves and the helicopter to get the capsule back on the water safely. So, it seemed to the group of us, the best thing we can do is to get up into the helicopter with them and then if they do have an engine problem, they can not only save us, they can jettison the capsule and save the whole crew. This seemed like a reasonable thing for me to do.

Q: Do you recommend that the explosive hatch not be used in future capsules?

A: No, I certainly don't recommend that.

Q: Did you have any trouble with communications?

A: No, communications were very clear and very good the whole way. The only problem we had was when we switched from UHF radio to HF radio. We were fairly certain beforehand that this wasn't going to work due to skip distances and a few other things.

Q: What was your rate of descent?

A: The rate of descent was 28 feet per second. Very low.

Q: Captain, Walt Schirra told me yesterday, that you were supposed to report seeing stars while in flight.

A: The reason I did not, I did not see any stars.

Q: You told us before you did see one?

A: I saw one star on launch, and we are pretty well decided this was Capella. Dr. Bill Douglas figured out what star it was - Capella, which is a first order star. Maybe the reason I did not see them later was because looking out at the bright earth I just wasn't able to adapt rapidly enough to the black sky.

Q: Do you have any explanation why this escape hatch came off? Is it possible you could have pressed against the plunger button?

A: I am pretty certain in my own mind I did not because it is quite difficult to get to. If I were lying on the couch now, it would be way over here, (indicating). That is about as good as I can do right now.

Q: Captain, what do you feel was the most important single thing you learned during the flight?

A: Of course, the view I had was probably the finest thing. There were lots of things gained from the flight. How you pick out the most important thing, I am not sure how you go about this.

Q: You mentioned the fact you divided your attention momentarily from the problems of keeping up with your work. Did you feel satisfied with your own performance?

A: I am not sure how I go about answering that. I was rather fascinated by the view outside, and I neglected to do some of the things inside the capsule that were less fascinating -- I guess I could put it this way.

Q: Do you feel now that you have made a suborbital flight that you are better qualified to make the orbital flight?

A: This is a question for someone else to answer -- I felt all along I was qualified to make an orbital flight, just like six other guys over here.

Q: In addition to the hatch, what other things do you feel need to be restudied as a result of your flight?

A: Well, this capsule functioned perfectly up to that time, we did not have a malfunction any place along the line. There are a few recommendations that we might like later on, sometime. Maybe we need some sort of sun shield on our helmet, or filter on the helmet, so if the sun does come in, we can block it out rapidly. John and I went over some of these things this morning. Maybe you can recall, (looking at Glenn).

GLENN: We want to look into the HF radio problem again. That has come up a couple of times. And we want to check on these skip distances, and exactly what ranges we can expect to operate with HF radio, as opposed to the UHF, or line of sight radio, which involves skip distances and things like that, atmospheric conditions which we certainly want to look into a little bit more. I think Gus felt sometimes on the control system he did not get quite the reaction he wanted, so we want to look into that a little bit.

There are some chances, that with what he experienced on landing and some of the problems with straps and the method which we retain ourselves in the couch, that we may want to make a few changes on strapping arrangements, with less chance of them getting tangled up or getting entwined in each other.

I think those are the major ones we had. He felt perhaps in the control system, in addition to not getting quite the reaction he wanted maybe at times there was a little tendency to over control, -- other words a little bit of slop in the system -- and perhaps he went a little too far and didn't get any reaction, and all at once he would get quite a bit of reaction. We want to find out if this can be tightened up or alleviated in any way.

Q: Did you even consider a flotation device in the capsule?

A: GLENN: Yes, we did. At one time in the early stages of design of the capsule, in fact the first capsule that was being built, we had large flotation bags up around the tower area, the parachute area, the cylindrical section of the capsule. These were actually part of the design and this went through the tests and water worked on them to see what type of flotation we needed. In that area, however, for orbital flight, where the heating gets a lot more severe than it was on this flight, the bags up in that area take quite a bit of heat and it would be very difficult to insulate them and keep them operable in that area.

So we decided that since we were going to have a impact bag down below that we were considering at that time and since it did not appear we would really need the bags up there, that we do away with them and save space and complexity -- the extra insulation that had to be put on in that area.

We haven't changed our opinion on these particularly. We think the problem that Gus ran into with the hatch here can probably be solved reasonably and readily, we hope, by operational procedures.

Q: You or someone was quoted by the newspapers as saying "Get out of the blank-blank capsule"?

A: GRISSOM: I did not say that and I don't recall anyone saying this. I didn't need to be told ...

Q: Did you have any problem with straps?

A: I had no problem as I was actually getting out of the capsule. While I was laying there prior to the time I called the helicopters to come in and get me, the chest strap and I think one of the shoulder straps had gotten entangled

someway and had caused a loop around one shoulder. This was no problem at the time because, as I said I had plenty of time then and I was taking my time getting unstrapped. I was thinking then if I was in a hurry, this would have been a problem. It might have snagged me.

Q: What changes would you recommend in the hatch system, whether by operational procedure or design changes?

A: I think, for one thing, we need to leave the safety pin in till the time we want the door to go.

Q: What would happen if the hatch came off after booster burnout and I was in a weightless condition?

A: We have the pressure suit to back us up in this case. If we lose pressure in the capsule, this will take care of this case. It would have been all right, it would have been no problem. Not on a Redstone flight, no; on an Atlas flight, it would be different.

Q: When do you have to go back to work?

A: Tomorrow morning at eight o'clock.

Col. Powers: I think we had better wind up.

(Concluded at 5:49 p. m.)

- 0 -

CORRECTION:

On page 5, the figure in the third line of the second paragraph should read, quote 40 degree end quote instead of quote 14 degree end quote.

- 0 -