Colonel ALDRIN. I think that——

Congressman PETTIS. If your gloves had a magnet, you know what I mean, if you had some attraction toward it created by a magnetic field?

Colonel ALDRIN. In general, you have to move along. I think the velcro that we have used on the hand grips has demonstrated that this is useful.

We haven't actually experimented with magnetic devices. In using such a device I think we would find we would want to be able to turn them on and turn them off and this would result in a rather complicated device.

Mr. LOW. Let me kind of add something, Buzz, there is little, if any iron in the spacecraft. It would have to touch iron, in the first place, so that the magnets would stick to something.

Congressman PETTIS. It won't operate with the aluminum alloys?

Mr. LOW. No; it will not.

Dr. GILRUTH. It is either titanium or aluminum, and they are antimagnetic.

Mr. LOW. Second, if we did that we might have a question of electromagnet interference.

Congressman ROUSH. Is there any control maneuverability at all without the restraints and without the hand held maneuvering unit?

Supposing you were just free in space without the tether? Could you, by kicking your feet, control movement by pushing your hands?

Col. ALDRIN. I think it is possible that some gradual changes could be exerted in the attitude by waving an arm around and then bringing it in and waving it out, but certainly this wouldn't be a very practical means of controling attitude.

Dr. GILRUTH. You can control attitude by being a skilled, trained type acrobat, or highly trained in this, but you can't translate, you can't vary your translation. I think this is the distinction.

Congressman ECKHARDT. Is there any possibility that some type of gyroscopic stability could be established for the man himself?

Dr. GILRUTH. Yes. This is one of the things, I think, that we are very curious about, and one of the things we learned is that the man, as Colonel Aldrin said, doesn't tend to get disoriented. You don't really need a device to keep you stable as long as you are near a place where you can attach to with a tether, or something like this. Now, if you are out free of the spacecraft and had to apply movements of some kind, you would need a gyroscope, or something like that, to help you hold your attitude.

Congressman ECKHARDT. For instance, carry it about.

Colonel ALDRIN. I think you would need some system of propulsion to give you a translating capability. Now, once you have this, you just make use of these jets to give you attitude control at the same time. The hand held maneuvering unit does it, it allows you to translate by moving the jets away from the center of gravity, you are able to effect changes in your body position. It takes a considerable amount of training to be able to manipulate this properly.

Congressman FULTON. On the gyroscope would it have a tendency to remain in straight flight as opposed, or correlated to an elliptical orbit? Would it have any effect on the orbiting characteristics?

Congressman ECKHARDT. I was not talking about with respect to the vehicle itself.