

THE abortive flight of Soyuz-15 provided valuable tests of an automatic docking system intended for use by future "tanker" spacecraft. That at least is the inside story being put about at the Johnson Space Center by Major General Vladimir Shatalov, the Soviet cosmonaut chief (*Aviation Week & Space Technology*, September 16, 22; 1974).

Shatalov has been visiting the Apollo-Soyuz Test Project crew training sessions, and took advantage of the opportunity to give more details of the official Soviet view of Soyuz-15. Confirming that the spacecraft never made physical contact with the space station Salyut 3, he said that the automatic rendezvous system repeatedly took the spacecraft to within 30 to 50 m of the space station, but that the final rendezvous sequence failed each time.

According to Shatalov, docking using manual control would have been possible on any of these occasions. But that was not the purpose of the mission, and the Soviets preferred to spend the available time in repeated tests of the automatic docking system. Time was limited, apparently, because the Soyuz-15 mission was from the outset planned to last only two days, and was intended to land at night to test techniques. Even if docking had been achieved, it seems that the cosmonauts would have undocked and returned—after further docking tests—without entering the Salyut.

The official view is that the flight was a success because it tested the auto-

Soyuz-15: inside information

by John Gribbin



Soyuz-15 crew: could have docked

matic docking system. This system will be needed in future developments of the manned space programme, when "tanker" derivatives of Soyuz will be used in an unmanned configuration to ferry fuel and other supplies up to space stations.

In the USA, there is some scepticism about Shatalov's outline of the Soyuz-15 mission. It is felt very unlikely that two men would have been sent to dock with Salyut-3 without any intention of their entering the space station, and it is also pointed out that the very first docking of two Soviet spacecraft in-

involved unmanned vehicles, and was accomplished seven years ago. Although it seems unlikely that Soyuz difficulties of the kind experienced by Soyuz-15 are related to the joint programme, Senator William Proxmire has expressed concern and says that "present plans for a joint space mission in 1975 should be seriously re-examined in the light of the continuing difficulty in the Soviet program".

But perhaps his fears—and those of others—might be at least partly allayed by two other items of news made public last week. General Shatalov has publicly thanked his US counterpart, Brigadier General Thomas P. Stafford, and US astronauts for not revealing details of Soyuz-14 prior to the launch. It seems that the names of the cosmonauts and the date of launch were known to US astronauts training in the USSR last July, but that at the request of Soviet officials they said nothing to the press "in consideration of Soviet traditions and customs".

That, according to Shatalov, demonstrates the mutual trust needed to make the joint mission work. The other news, however, concerns more tangible preparations. Shatalov has now confirmed that at least one manned mission will be carried out to test Apollo-Soyuz hardware, about two months before the planned date of the joint mission, which is next July. This proving flight can only be carried out by the Soviet team, since NASA only has one Apollo/Saturn vehicle left, to use on the joint mission itself.

300 universities look to the future

from a Correspondent

THE General Assembly of CRE meets once every five years; often enough, it might be thought by those to whom the sight of one Vice-Chancellor is daunting enough, let alone 300. The theme of the Assembly at its meeting recently in Bologna was "The European Universities 1975-1985", and the Assembly divided itself into five groups to discuss particularly the University and the Changing Needs of Society, University Training, University Research, University Government, and the Financing of Universities.

After four half-day sessions the whole Assembly met to hear reports from the five discussion groups. With one or two honourable exceptions, the working papers which had been prepared before the Assembly could only be described as lead balloons, but a combination of good discussion in the groups and excellent work by the chairmen and

rapporteurs led to useful and sensible final reports.

The report of the first study group (the University and the Changing Needs of Society) stressed particularly the difficulties that the universities have in responding to the needs of society when those needs are only imperfectly articulated in the present, to say nothing of needs in the future. This made it all the more important that universities, so far as they can, should give not only academic advice to students but should help them with the role they were later to play in society. Since migration in the field of academic professions is growing, an international understanding of the equivalence of diplomas and degrees needed to be established, although the Assembly was very much aware of the danger for the "Third World" of losing some of their best people to the developed countries. While the university should be responsive to society's demands, it should keep constantly before itself its special role as "the place where the most complex and profound work can be done". Perhaps the surprise of this session (at least

to Western Europeans) was the "points" system of university entrance practised in Eastern European countries and described by the Rector of Warsaw University, where points could be granted not only to first-generation children of peasant origin but also to winners of sporting events. In Poland and Czechoslovakia, for example, winners of events in national Olympic games are exempted from university entrance examinations.

There was considerable disquiet expressed in the discussion group on University Research about the squeeze on funds for research as financial pressure on universities increased, and how important it was to explain to the public and politicians the essential role of research in universities.

So far as international research projects were concerned, although these were generally to be welcomed, they could be successful only if there was a genuine scholarly need for them. In some cases (and CERN was cited as an example) these projects had been outstandingly successful, but this had not been uniformly the case. Sponsored