

Cosmogram 15
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"There has not been such a difficult flight in the practice of Soviet cosmonautics. We have never before encountered such difficulties" -- Vladimir Shatalov, in Moscow News.

"Inside the station the situation was even worse than expected" -- Vladimir Dzhaniybekov, post-flight press conference, Oct14.

HOW ABOUT THAT SALYUT MISSION!! Full of dramatic surprises and human adventures. I rate the Dzhan/Savinykh "cosmic resurrection mission" of last June as the most impressive manned space feat since the moon landing in 1969. The unexpected "orbital medevac" of Nov 21 should in no way detract from the boldness and ingenuity of the June mission, but it may have marked the death knell for Salyut-7.

AWARDS TO CREW included "Order of Lenin" for Dzhan & Grechko, and promotion for Dzhan to major general!

BACKUP CREW DATA: A lot of good data on backup crew composition over past several years has come out in connection with this year's flights. First, the expected 1985 long duration crew was formally organized in late 1984 and consisted of Vasyutin, Savinykh, and Volkov. This crew was dissolved when Salyut died in February. The new crews were quickly assembled a month or two later, with Dzhan/Savinykh as primary and Popov/Aleksandrov evidently as backup (Pravda, Aug14). Besides the flight crews, other pilot-cosmonauts assisted in procedures development, and Malyshev, Berezovoy, and Romanenko were named.

"CHEGET" call-sign for Vasyutin's crew is name of mountain peak in Caucasus, usually spelled "Tcheget" in Western cartography. "Elbrus" (Berezovoy's) was a nearby peak, and of course Dzhan used "Pamir" again.

SOME CONFUSION regarding Vasyutin and Volkov previous backup duties: Pravda (Sep18) says Vasyutin served on four backup crews, and Volkov on none, although we had heard elsewhere that he had been backup to Serebrov on Soyuz T-8 in 1983 (Rex Hall ammended that claim in a 1984Oct05 letter: "The French now say that Volkov was a pilot selected in '76 and was not backup to T-8" -- quite consistent with subsequent Soviet announcements, but then WHO

was backup to Serebrov?). But Trud (Sep18) says Vasyutin (together with Savinykh) was only on three backup crews: Soyuz T-7 (Popov), T-10 (Kizim), and T-12 (Dzhan again). As for other possibilities, we have:
Soyuz T-2 Malyshev (Kizim)
Soyuz T-3 Kizim (unknown)
Soyuz T-4 Kovalyonok (unknown)
Soyuz T-5 Berezovoy (Titov)
Soyuz T-6 Dzhaniybekov (Kizim) xMaly
Soyuz T-7 Popov (Vasyutin)
Soyuz T-8 Titov (Lyakhov?)
Soyuz T-9 Lyakhov (Kizim?)
Soyuz T-10A Titov (Kizim)
Soyuz T-10 Kizim (Vasyutin)
Soyuz T-11 Malyshev (Berezovoy)
Soyuz T-12 Dzhaniybekov (Vasyutin)
Soyuz T-13A Vasyutin (Titov??)
Soyuz T-13 Dzhaniybekov (Popov)
Soyuz T-14 Vasyutin (Titov??)

Thus the candidates for Vasyutin's possible fourth backup command seem to be only Soyuz T-3 and T-4. Savinykh is known to have been backup on T-3, but Kovalyonok was not, so I tend to lean towards Vasyutin for T-3 backup commander (he became a cosmonaut in 1976 and in 1978 began preparing for specific flights, his biog says). For T-4, wouldn't it have been likely to be a veteran Salyut-6 commander? I suggest Romanenko or maybe Popov, with Malyshev and Kizim distant possibilities.

**Who was backup to VGV on T-14? Clues: At launch, Serebrov and Strekalov were interviewed, along with high officials Leonov and Berezovoy. So we can guess the crew was V. Titov, Strekalov, and Serebrov, just like on T-8 in April 1983.

MISSION EVENTS:

Jun06/0640 T-13 launch (ann 0847)
salyut nbecl = 338.37 degrees
orbit = 357-375 km, 91.64 min
Jun08/0850 docks (announced 1738).
Jun12/0846 First use Salyut radio
Jun21/0040 P-24 launch (ann 0736).
salyut nbecl = 342.90 degrees
orbit = 357-375 km, 91.63 min
Jun23/0254 Linkup (announced 0410).
Jul15/1228 P-24 separates,
later deorbits and disintegrates
Jul19/1304 K-1669 launch (ann 1656).
salyut nbecl = 337.97
orbit = 355-375 km, 91.60 min
Jul21/1505 linkup (announced 1710).
Aug02/0715 thru 1215 EVA (ann 1411)
salyut nbecl 351 at 0730;
orbit 353-372 km, 91.57 min.
Third solar panel is augmented and Halley dust collectors installed.
NOTE: New spacesuits sent up in K-

1669, to replace on-board suits ruined by freezing (my speculation); rubber bladder would have weak points along fold lines following freezing, say NASA spacesuit experts I talked to, and could never again be trusted not to rupture suddenly.

Aug05: Feoktistov article in Pravda first announces gravity of initial Salyut failure, magnitude of subsequent cosmonaut triumph.

Aug28/2150 K-1669 undocks, backs off a "certain distance", then redocks to verify aft docking port functions (Pravda, Sep19), then undocks a final time, then deorbited; demise announced, Aug30/0930, almost 36 hours after initial undocking.

NOTE: This is the ONLY unusual aspect of the K-1669 mission which might justify calling this "Progress"-type vehicle a "Kosmos". Nothing else different from normal Progress missions seems to have occurred.

Sep17/1239 S-T-14 launch (announced at 1454).

Sep18/1415 linkup (announced 1834).

Sep25/0358 undock (announced 0800).

Performs rendezvous exercises

Sep26/0952 lands (announced 1040).

Sep27/0842? K-1686 launch (ann 1232)

Has no "return module"; is serving as laboratory module, plus delivered five tons of dry cargo (with over a ton of scientific equipment) and three tons of propellant. Total weight "exceeds 20 tons".

Oct02/1016 docks (ann 1200).

Oct04/0422 & 0838 two-impulse maneuver orbit 335-360 km (91.36 min) to orbit 336-368 km (91.44 min) to orbit 357-374 km (91.64 min).

Oct25: Last mention that "cosmonauts are in good health and feel well". From now until mission end, no further mention of "health" at all.

Late October: New Jersey listeners hear first voice scrambler use, following use of term "specialist".

Nov18 issue AWST (p. 13) says voice scrambling started Nov 13 and was "to prevent U.S. interception of military activity reports". Baloney! It's now clear the topic was medical.

Nov13: Last report on crew activity.

Nov21/1031 Crew lands (announced 1144), absolutely no advance indications noticed. Touchdown was an hour before local sunset, which was about 1135 UT. Note that earlier landing opportunities had poor

lighting conditions:

@Nov20 would've been 1145 (post set)
@Nov19 would've been 1115 (only 20 min of daylight left)

@Nov18 would've been 1225 (dark)

@Nov17 would've been 1150 (post set)

SD: Landing was made on FIRST OPPORTUNITY with reasonable daylight for recovery operations; landing for a real life-threatening emergency could have been made at any time (night landings are feasible, if difficult and hazardous), but the fact that they were able to wait for convenient lighting suggests this was not the situation this time.

salyut nbecl 346 at 0957 UT

orbital sunrise 0929/sunset 1022

salyut orbit 356-373 km, 91.59 min
V&V have 64d21h52m time; Savinykh had 168d03h51m time, for total (two flights) of 242d21h29m, just a week short of Kizim's third-place duration record.

DURING THE JUNE 8 DOCKING, veteran cosmonauts filled the gallery at Mission Control, and broke into cheers when Dzhan was successful. The following were present (I got copy of videotape): Volk, Sevast., Volynov, Malyshev, Serebrov, Ruk., Leonov, Ivanch., Kub., Klimuk, Glazkov, Shonin, Bereg., Filip., Savitskaya, Lebedev, and Grechko. Popov was standing by Ryumin, flight director. Solovyov was a deputy flight director. I did NOT see V. Titov, Kizim, Makarov, Aksyonov, Kovalyonok, Lyakhov, Aleks., or Berezovoy, who were all probably directly supporting the mission. Also missing were has-beens Gubarev, Byk., Gorb., Lazarev, and Khrunov, plus old-timers G. Titov & Nik., plus all other "military Salyut" crewmen (Pop., Artyukhin, Dyomin, Sarafanov, Zudov, Rozhd.). Didn't see Shatalov & Yeliseyev either, must have been somewhere important.

VASYUTIN'S MYSTERY ILLNESS. Data is bound to come out in near future so wild speculations are wasted time. On landing day, Leonov told newsman Pelikhov that it was "a cold going into some new forms, [with] a rise in temperature". Faced with Leonov's laymen language, and translation difficulties, this doesn't tell us a whole lot. But be patient.

WHY MEDICAL EVACUATION? Had a visiting expedition been planned in the current "window", the cosmonaut-researcher in the third seat could easily have been replaced with a

"new" commander, say Dzhaniybekov again, or Popov or Titov. K-1686 occupies the forward docking port and evidently has no port of its own; there must have been no plans to make such a visit, else the total crew evacuation would not have been necessary. But isn't there supposed to be a "rescue Soyuz" standing by in readiness for a fast reaction space mission of mercy? We don't yet know all the factors that led to this decision, but it must have been a very hard one.

NOTE DEMISE OF 2-HI/3-LO RULE. In the past, Soyuz T vehicles carried only two crewmembers to the higher orbit (91.4 minute period, two-day repeating pattern) but could carry three to the lower altitudes (90.5 minute period, three-day repeating pattern). Soyuz T-12 shook that rule last year with two men and a woman to the high orbit; Soyuz T-14 blew it away this year with three men to the high orbit. Evidently, the Soyuz-T performance margins have been improved somewhat. Will we ever see a two-man Soyuz-T again?

HOW LONG WERE THEY SUPPOSED TO STAY? Well, Savinykh probably wouldn't have gone much past 270 days, which would have been reached in late February. Some reporters called them "the winter crew" (ALL previous flights over 100 days had occurred in spring-summer-fall), suggesting that they would have stayed up that long and maybe been replaced by a fresh crew for Halley-related activities. But Rex Hall reported a year ago that Beregovoy was quoted as saying that all long-duration crews would now include a doctor, so if that were true, VasSavVol could not be considered a "long duration" crew. But he also had said that the next commander would be a previous occupant, and we now know the next commander had been designated the rookie Vasyutin.

WHAT NEXT FOR SALYUT-7? Kubasov was quoted on landing day as saying "The orbital station Salyut-7 will make its further flight unmanned". Does this indicate that all further plans for manned activity have been scrubbed? That would mean the loss of the French device data trying to obtain dust from Halley's Comet. But it is also conceivable that the Salyut-7 could still be reoccupied next February to make observations of Halley's Comet for several months (the

French package called for exposure in May); it's almost inconceivable that the Soviets will not have a manned platform operating during that period.

NEXT SALYUT WHEN? On Congressman Nelson's recent trip to the USSR, he was told a new Salyut could be ready for flight "next year" but would not be launched if Salyut-7 was still operating. This "new" Salyut was supposed to be an advanced version of the standard model flying since 1971, probably the long-awaited "third generation" with lateral docking ports.

MISSING COSMONAUTS. Rex Hall continues to unearth extraordinary photographs showing many of our long-sought missing spacemen, particularly "Dmitriy" (of 1960) who was medically disqualified only in 1969 after serving on an early Soyuz-6/7/8 crew. Terrific work, Rex! Hope to see them published in Spaceflight soon. Anybody who is not already a member of the British Interplanetary Society is urged to join up immediately, at 27/29 South Lambeth Road in London. Also we have several versions of the 1960 team unofficial group portrait, playing ice hockey, probably only a few days or weeks after selection in March of that year. Also, Mike Cassutt has found an explicit citation that the size of the 1963 group was fifteen; since we only know of Shatalov, Beregovoy, Filipchenko, Gubarev, Dobrovolskiy, Dyomin, Artyukhin, and Zholobov, that suggests very high casualties and drop-out rate indeed!

SMOLDERS REPORT: Piet Smolders reports that on his May trip to the USSR they told him the new Salyut would be launched by November and would be called "MIR" ("Peace-1"). That name makes good public relations sense; the schedule was obviously OBE (Overtaken By Events) with the Salyut resurrection.

SECRET SOVIET SPACE LAUNCH. The objects 1095-53A,B,C are catalogued as "Soviet debris" put into orbit by an unannounced launch June 21/0830, from Tyuratam, incl 64.4, 195-340 km, 89.89 min. None were big enough to be a spacecraft or booster (0.2, 0.8, 0.9 sq. m.); presumably the spacecraft went into orbit, dropped some small pieces, and departed, either downwards (Black Sea splash-down after one rev?) or upwards (injection into higher orbit beyond

range of US sensors?). To date, USSR has not fulfilled obligations under "Convention on Registration of Outer Space Objects" to file orbital data with United Nations. Keep an eye on this one, something tells me it's going to be very interesting.

ONE-UPPING THE INTERCOSMONAUTS: In June the shuttle carried Patrick Baudry and also Sultan Salmon Abdel-Assize Al-Saud, one (of hundreds?) of the nephews of the king of Saudi Arabia. His backup was Abdul-Mohsen Al-Bassam. And you thought the Mongolian cosmonaut names were hard? They were the third and fourth "guests" on American spacecraft. Three more followed on Spacelab D-1, and a Mexican representative goes up next week. Claude Nicollier gets to fly in late 1986 on Spacelab EOM-1/2, and a Brit, an Indian (either A. Radhakrishnan or Nagapati Chidambar Bhatt), and an Indonesian go up in mid-summer, closely followed by another Canadian. And that will swamp the Soviet record for "guests", except the shuttle won't stop there. Get in line, friends! In mid-November, two Syrians reported to Starry Town for flight training (no word on launch date), so despite official termination of the program, it can be revived as needed.

SCIENTIST-COSMONAUTS. Rex Hall also relates that during a scientific exposition in Australia, a Soviet scientist with the Institute of Molecular Genetics claimed he had just (in 1984) been selected for a two-year cosmonaut training course. That's the right kind of specialization for some of the workers on a six-man station at the end of 1980s.

EASTER ISLAND CONTROVERSY: The Soviets have unleashed a smear campaign against plans to set up a launch abort site on Easter Island, for launchings from Vandenberg AFB. See my short article in the 1985Dec issue of OMNI. Anybody seeing clippings about criticism of the abort site (say, as "dragging Chile into 'Star Wars'" or some such nonsense), please send them to me. Thanks!

PRESS RELEASE: "A new source of information is now available for scale model builders who are interested in real (as opposed to fantasy) space vehicles. Michael J. Mackowski, a member of Gateway IPMS [International Plastic Modelers Society] and former editor of the chapter's quarterly CRAZED PLASTIC

magazine, has released the first issue of "The Scale Spacecraft Newsletter". This two-page flyer is planned to be a means by which spacecraft modelers can exchange drawings, photos, articles, and other documentation regarding their particular projects. Since there is no single publication exclusively dedicated to real spacecraft modeling, this newsletter is intended to fill the need for a communications network within this admittedly specialized field of the hobby. Mike's goal is to enable those who model this subject to pool their resources and minimize any duplication of effort. A subscription of four issues, which are released quarterly, is available for \$1.00. To receive a free copy of the introductory issue, send a self-addressed stamped envelope. Inquiries from outside North America should send two International Postal Reply Coupons. Write to: Michael Mackowski, 2136 Northern Limits, Florissant, Missouri 63031." ***Marcia Smith's latest report on "SPACE ACTIVITIES OF THE UNITED STATES, SOVIET UNION, AND OTHER LAUNCHING COUNTRIES/ORGANIZATIONS: 1957-1984" (Congressional Research Service), is out, dated Jan 31, 1985, although I didn't see a copy until mid-April. She has now been reassigned to the President's Space Commission and probably will not return to the CRS; her old position is occupied by Art Manfredi, hopefully a worthy successor to Marcia and to Charles Sheldon.

"SOVIET MILITARY SPACE DOCTRINE" was issued by the Defense Intelligence Agency last year and declassified in the fall. It's authors (anonymous) can be reached at DIA, ATTN: DB-1D2, Washington, DC 20301-6111. I dunno if they'll give out any more free copies, but try it.

SL-X-16 first flight is now at least a year overdue, say insiders, who are baffled by lack of launch. Meanwhile, Spacelab-2 (STS 51-F) brought back best yet photographs of Tyuratam, I'll be checking further.

SHUTTLE-SALYUT. Sadly, no word from Geneva, no new rumors. Gromyko told Nelson that SDI first must go.

SEASONS GREETINGS TO ONE AND ALL. Next issue should be early next year, about when Pioneering Space (by James Oberg and Alcestis Oberg) is issued by McGraw-Hill. Ask for it in your local bookstores!