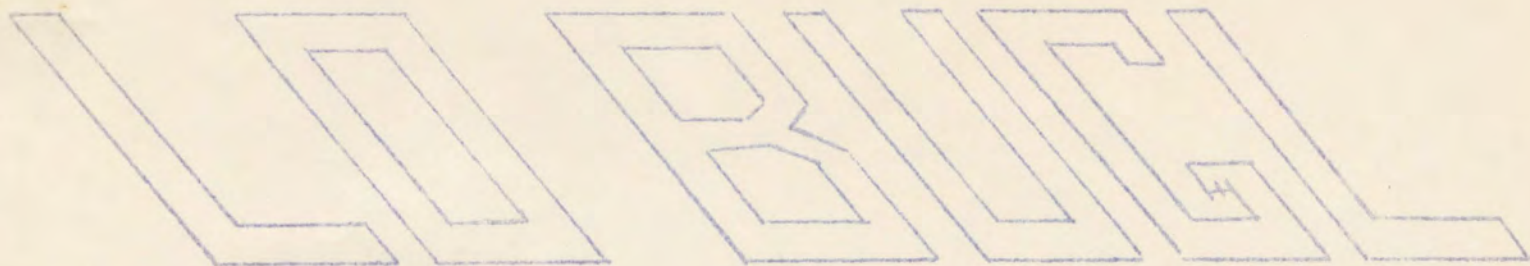


Route



February 3, 1967

Number C-4

(LO Bugl is issued for world wide LOF Operations Team for Non-Operations Information Only)

This space business isn't all a bed of roses as we continue to learn. As the recorded message on the status phone says, we scrubbed for today and are tentatively re-scheduled for tomorrow, February 4.

A number of possible alternatives are being explored which should provide several choices when decision time arrives tonight at 9 p.m. PST. Key people at the Cape, JPL, Langley, and Seattle will hold a teleconference then to make the required decisions. Results, or at least plans for the immediate future, will be recorded on the JPL Lunar Orbiter status number (354-6073) as soon after the conference as possible.

#### L.O. STATUS PHONE

L.O. Status phone will be 6073 for Mission III. There will also be a message on 6211 to refer callers to the 6073 number.

#### BENCHMARK E

The Benchmark E 7094 software system has been generated and is available for testing. We expect to test it sometime after the Mission III bimat cut in the same manner as Benchmark D was tested during Mission II. Benchmark E listings are in Repro now and should be available in the next couple of weeks. Benchmark D listings should be saved because the new copy only replaces certain of the booklets in the complete sets located in SPAC and FPAC.

#### BOEING RENTAL CARS

Because several people moved to different motels in the past week we've had to make a few changes in driver and passenger assignments. The revised memo should be out Friday, 2/3.

Just have to tell you another Mustang story while we're discussing cars. Seems a Mustang had a flat - in the JPL parking lot one fine evening. The jack wouldn't raise the bumper high enough to get the wheel off the ground so a longer bumper jack was finally located which did the job. As we left the Mustang at Rite Rate we registered a complaint about not supplying the proper jack - the manager looked in the trunk and said, "Yep, that's a Mustang jack alright." We said, "Oh?" He said, "It's amazing that you people can send a spacecraft to the Moon and take all those wonderful pictures, but you can't fix a tire on a car." We just stood there. "Did you read the directions?" he asked.



Then we looked in the trunk and saw a big placard of instructions. The moral of this story is: 1) read the directions and follow same, and 2) jack a Mustang up on the side like a VW - not with the bumper, 3) have all your flat tires in daylight!

#### '67 LICENSE TABS

Let's assume you have the tabs you need for your own personal car and think of tabs for our rental cars. Might be prudent to make sure each rental car has '67 tabs to avoid a possible discussion of same with the gendarmes. Rite-Rate tried to get tabs on all cars before releasing the cars to us but some cars have been held since before '67 tabs were available.

Please let Ken Essmeier know if your car needs '67 tabs.

#### OPERATIONAL PARKING

The assigned parking lot is approaching a glutted condition so it behooves those of us who arrive at off hours to park in vacant spaces in the regular lot so more space will be available in the Operational lot during normal JPL working hours.

#### SCHEDULE INFO FOR LAUNCH 2/4/67

(Needless to say, this is subject to further perturbations. Stay loose!)

#### SPAC Mission Control and Dacon

		<u>SPAC RED</u>	<u>SPAC WHITE</u>	<u>SPAC BLUE</u>
2/4	Saturday	1900*	0500 - 0930	0830 - 1930*
2/5	Sunday	0630	0600 - 1600	1530
2/6	Monday	0100 - 1100	1030 - 2030	2000 0130
2/7	Tuesday	0530 - 1530	1500	0600
2/8	Wednesday	1000 -	0100	0030 - 1030

\*Watch change to occur approximately 2 hours after launch.

SPAC Blue team on for launch; Red performs lunar injection (deboost); White probably will do midcourse.

FPAC

		<u>FPAC RED</u>	<u>FPAC WHITE</u>	<u>FPAC BLUE</u>
2/4	Saturday**	1145 - 2030**	2000 **	0430 - 1200**
2/5	Sunday	0900 - 1800	1700 0400	0300 - 1000
2/6	Monday	0900 - 1800	1700 0200	0100 - 1000
2/7	Tuesday	0900 - 1800	1700 0200	0100 - 1000
2/8	Wednesday	0900 - 1800	0200	0100 - 1000

\*\* Launch day shifts subject to special direction by Flite Chief.

To avoid duplication of effort, the BUGL nominates SPAC White and FPAC Blue to do the worrying, fretting, stewing, and nail biting for the whole group - on their own time. This will relieve Messrs. Martin, Webb, Graves and those at the Cape so they can conduct the business of the day.

Sequence of Events for Mission III (for February 4, 1967 Launch) PST

Launch	Feb. 4	1717 to 1907
Translunar Injection	Feb. 4	1737 to 1921
Separation	Feb. 4	1740 to 1924
Deployment	Feb. 4	1750 to 1934
Canopus Acquisition	Feb. 4	2337 to Feb. 4 0121
First Midcourse	Feb. 5	0937 to Feb. 5 1121
Second Midcourse	Feb. 6	0937 to Feb. 5 1221
Lunar Injection (Deboost)	Feb. 8	1403 to 1531

End of this  
document



Route

# BUGL

February 5, 1967

D. D. Vile

Number C-5

(LO BUGL is issued for world wide LOF Operations Team for Non-Operations Information Only)

## CAN WE MAKE 3 IN A ROW?

You bet we can! In fact ye olde BUGL didn't even put out an extra edition to herald another nominal launch and injection. The fantastic has become so routine that we pace the floor more slowly and only smoke one cigarette at a time.

The crew at the Cape and the Atlas/Agnes people don't call an orbiter launch a "cliff hanger" any more, it's a "Cliff Nelson". We always come up with our share of suspenseful moments that could stop the show but we've managed to come out on top so far. However, we know that the time of demarcation between being a hero or a bum in this business is mighty thin. Bob Helberg put it this way tonight.

"We have another good spacecraft going. All indications are that the design, the manufacturing, and the test crews have done their job well. Also, the boost phase and start of the translunar trajectory are up to the high standards of excellence that the Lunar Orbiter people have become accustomed to. The degree of success to be achieved is now in the hands of the people here at SPOF and at Goldstone, Woomera, and Madrid.

The Mission is a busy one but all steps have been well thought out for the specified targets. Now as ever at this stage of the game, the temptation to make changes will be great. Once again all proposed changes must be examined and if not mandatory, must be rejected to avoid the inevitable mistakes that result from hasty actions or incomplete planning.

We have an opportunity to pull off three good ones in a row. Let's not fumble it by making unnecessary changes such as the one on the first mission when not enough time was allowed and the spacecraft nearly went behind the moon before the commands could be completely transmitted. A small increment of added value is not worth risking the rest of the mission to achieve. Think it over."

R. J. Helberg

Bob Smith said that the accuracy of the Orbiter III trajectory is even better than the others and folks are talking about near-minimum engine burn times and a delayed midcourse maneuver. Even though no course correction is needed, a midcourse maneuver would be performed to test the velocity control system.

The bird builders, launchers, and watchers have worked many problems of inoperative radar sets, ground power supplies, film advance, etc., and have the spacecraft headed right on course. Now it's up to us.

As one of our astute observers said, "This successful launch sure kills the March launch opportunity!" Sorry about that -- but not very!

Orbiter III was launched, according to Jack King, at 0117 hours and 01.12 seconds on February 5, GMT. Launch azimuth was 80.8 degrees.



DANGER ON THE HIGHWAYS

Confucius say, "He who follow too close on tail -- may be carried home in pail."

We've had one non-injury accident so far - don't let any of your headlight glass get spread about the streets.

"MOON PEOPLE"?

Matt Grogan sez his landlady at the Montecito Park Apts. refers to the 6 L.O. fellows (and families) living there as the "Moon People". If there's any truth in the statement that the moon is made of green cheese, she might well christen residents of a future colony on the moon "cheese burgers."

CASTLE ON THE HILL

Reports of an elaborate housing setup six of our more adventurous members have established have reached the BUGL. They call it their "castle". It has a pool, gardens, servants, tennis courts, ballrooms, and bars in abundance in addition to most of the comforts of home. Perhaps they'll invite us to visit sometime when the drawbridge across the moat is down.

THIS IS ITSTATION 62 LOCATION:

Radius: 6370.007 KM  
Latitude: +40.263670 degrees  
Longitude: 355.63235 degrees

NBA CHAMPS?

12 of the NASA folks saw "one of the worst basketball games of the decade" last night. The Lakers whumped the league leading SF Warriors 129 to 80. 'Nuff said except that Baylor scored 25 for the Lakers and Gale Goodrich 20.

SCHEDULE INFOSPAC. Mission Control. and DACON

		<u>SPAC RED</u>	<u>SPAC WHITE</u>	<u>SPAC BLUE</u>
2/5	Sunday	0630	0600 - 1600	1530
2/6	Monday	0100 - 1100	1030 - 2030	2000
2/7	Tuesday	0530 - 1530	1500	0130
2/8	Wednesday	1000 -	0100	0600
				0030 - 1030

FPAC

		<u>FPAC RED</u>	<u>FPAC WHITE</u>	<u>FPAC BLUE</u>
2/5	Sunday	0900 - 1800	1700	0300 - 1000
2/6	Monday	0900 - 1800	1700	0100 - 1000
2/7	Tuesday	0900 - 1800	1700	0100 - 1000
2/8	Wednesday	0900 - 1800	0200	0100 - 1000

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Route

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# LO BUGL

February 6, 1967

Number C-6

LO Bugl is issued for world wide LOF Operations Team for non-operations information only.

## SPACECRAFT STATUS

Nominal, strictly nominal. However, since you are interested in some of the details, we'll add that the equipment mounting deck temperature is 2 to 3 degrees higher this mission than last time, partly because the Moon (and the spacecraft) are closer to the Sun and are receiving more solar radiation. At this time we don't know the extent of the paint degradation, so we don't know what thermal problems to expect later on.

Midcourse this morning was another nominal maneuver. We burned the engine for 4.3 seconds and changed the velocity by 5.09 meters/second (11.4 miles per hour). Compared to last mission, where we were about 5,000 km away from the aiming point at midcourse, we were only about 700 km off the nominal this time. Next time we'll probably have to shoot for a smaller pickle barrel. From where we sit now it looks like we will spend about 5/8ths as much fuel and oxidizer for the injection maneuver as we did last time. That's around 700 meters per second velocity change.

Our 'old friend' the glint problem is still with us and we have lost Canopus a couple of times, however, we've been able to pick it up by the usual expedient of turning the Tracker off and then on again. However, the spacecraft was in inertial hold at the time and no actual maneuvering was required.

## THE CASE OF THE PURLOINED CALENDAR

We doubt that the calendar in question has been missed yet, but we heard that one of the large wall-type government calendars disappeared from the Cape recently. It was spirited aboard a westbound plane under the arm of a traveller and now reposes at the SFOF. Trouble is that it's for 1966. Oh well, you can't win 'em all. But next time people from here visit the Cape we'll probably be greeted with "YANQUI, GO HOME" and "BEAT CAL".

TID-BIT: Remember how you say, "You're wasay off!" when an arrow or other missile misses the target? Jack Graves told some of the FPAC guys, "You're wasay on!" after he heard how accurate the translunar trajectory is.

## "ONE RHUBARB - COMING UP!"

Heard in FPAC not long after launch, "Maybe SPAC GYRO analysts should come to FPAC orbit analysts to verify spacecraft maneuvers." Feeling rather gullible, we asked, "Huh?" And here's why FPAC was strutting so. Seems that at 02h 09m (GMT) the spacecraft did a 360° roll after acquiring the sun. DSS-51 was tracking, but couldn't send the T/M data to SFOF and all the SPAC'ers received was the last 2 frames of telemetry when DSS-41 rose indicating the roll had occurred. Meanwhile, back at



the FPAC ranch, tracking data from 51 had been processed using ODPL and indicated a definite wavy line in the doppler data residuals. (Residuals are the differences between actual and predicted doppler shifts.) And that's why we predict a slight difference of opinion over who knows what about spacecraft maneuvers. Rebuttal, Gyro?

\$ \$ \$ \$ \$ \$ \$

One of the DSS-51 fellows in training at JPL had a few anxious moments this afternoon when he discovered the loss of a thick packet of travellers checks. While he was sweating it out and trying to locate the checks, the folks here at JPL were trying to identify the owner of a packet they had found - from a "doctor" type of signature. Since they couldn't read the signature, they enlisted assistance from Walt Teilmann and Bob Hall of JPL and Howard Woody and Jim Williams of the Boeing team (and several others). Finally, Jim Williams narrowed the search when he talked with some DSS-41 people and identified the owner. Location of the owner at his motel took but a few minutes and undoubtedly was reason for a huge sigh of relief.

#### SNOOPY VS. THE RED BARON

SPAC monitor has sketches of Snoopy and his Sopwith Camel and the Red Baron tonight. Belay that, we just looked again and Snoopy is headed down by parachute cursing the Red Baron and the sign on the Red Baron's Fokker tri-plane says, "The Red Baron is Green." And that's the comic page for tonight kiddies.

#### SCHEDULE INFORMATION

##### SPAC Mission Control & Dacon

All times are PST

		<u>SPAC RED</u>	<u>SPAC WHITE</u>	<u>SPAC BLUE</u>
2/7	Tuesday	0530 - 1530	1500	0600
2/8	Wednesday	1100 - 2200	2130	0100 - 1130
2/9	Thursday	1930	0900	0830 - 2000
2/10	Friday	0700	0630 - 1730	1700
2/11	Thursday	0400 - 1500	1430	0430
2/12	Sunday	1230 - 2400	2330	0130 - 1300
2/13	Monday	2100	1100	1030 - 2130

We figured the above from injection at 1400 on February 8, added 30 minutes for the first earthset and 40 minutes more 'til earthrise. Then, using an orbit period of 3h 37m 13s, we planned to have watch change occur during earthset. Had to adjust a couple of places to keep shift lengths even. Like you, we're curious to see if the telemetry stops when we planned for it to stop.

FPAC

All times are PST

	<u>FPAC RED</u>	<u>FPAC WHITE</u>	<u>FPAC BLUE</u>
2/7 Tuesday	0900 - 1800	1700	0100 - 1000
2/8 Wednesday	0900 - 1800	0200	0100 - 1000
2/9 Thursday	0900 - 2030	2000	0100 - 1000
2/10 Friday	1700	0730	0630 - 1800
2/11 Saturday	1700 - 0200	0100 - 1000	0900 - 1800
2/12 Sunday	0200	0100 - 1000	0900 - 1800



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LO



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February 7, 1967

Number C-7

LO BUGL is issued for world wide LOF Operations Team for non-operations information.

#### SPACECRAFT STATUS

It's flying along beautifully, pitched off the sun about  $36^\circ$ . Bjarns Slind says its so good it's boring. Even the tracker only gets turned on about 10 minutes in each 4 hours.

The first Canopus acquisition always offers a good opportunity for guessing games - i.e., where will we find Canopus? Bruce Paquette won this time - he guessed  $120^\circ$  to  $140^\circ$  and the correct roll was  $124^\circ$ .

This mission is so quiet that it's just about like getting canned data, without the anomalies.

Maybe you extended mission planner types should start thinking about all the fun you can have with the 260 meters/sec which should be available after the photo mission. No, you can't get the bird back to earth orbit - you need about 800 meters worth for that.



CAN I COME IN IF I LEAVE  
MY CAMEL OUTSIDE?

#### FLASH:

Snoopy, his Camel, and the Red Baron have been shot down, along with all their funny friends - by the DSN. We ain't supposed to put such stuff on the monitor no more. Now what do we do to stay awake? -



SCRIPTO is so eager to get a good LIFL run so he can update SEAL that he's just about ready to use the Old Farmer's Almanac - except that they only publish it every 3 years at Woomera.

#### MORE ON RITE-RATE LICENSE TABS

Took a quick survey in the operational parking lot and decided we needed more info on what to tell the men in uniform. Rite-Rate says they have all of the license tabs purchased and that's the critical part on a rental car. So we'd suggest that you just tell the facts, man, and if the officer doesn't buy your story we'll try to slip you a file or a hacksaw.

Rite-Rate insists that we don't have a problem with rental cars. However, rather than give our list the "deep six" we'll pass it on.

#### Rite-Rate cars without '67 tabs:

Tan Chev. #348 Cal. Lic. PIF 504  
Yellow Ford #470 Cal. Lic. RIB 423  
Blue Ford #473 " " RTP 509  
White Mustang # 347 Cal. Lic. REJ 475

#### R. H. LOUD RENTAL:

White Mustang Cal. Lic. TUS 069

#### Private Cars

Green Barracuda Cal. Lic. TWK 129  
Blue Mustang " " SSB 374  
Red Chev. " " SLG 974  
Red/Grey Chev. Wgn. Cal. Lic. OTR 068

WHITE CONTINENTAL CONVERTIBLE WITH WASHINGTON LICENSE NUMBER OAU 851

#### ORBIT TRANSFER

FPAC has a number of things to watch for when planning for transfer to final orbit. Two station view period is important for accurate tracking data before and after the engine burn but they also need time after the maneuver to prepare for the picture sequence. One other little "trick" of the trade is to maneuver at near apolune where accuracy constraints are slightly less stringent.

Putting these and other constraints together with the nominal trajectory data led to a preliminary recommendation for transfer during the 3 hour 17 minute Madrid - Goldstone overlapping view period on February 12 (1700 GMT to 2017 GMT). There's also a long period of 2 station tracking about 3½ hours later which strengthens the case for using this particular block of time.

Madrid/Goldstone please note!!! -

SCHEDULE INFORMATIONSPAC Mission Control & Dacon

All times are PST

		<u>SPAC RED</u>	<u>SPAC WHITE</u>	<u>SPAC BLUE</u>
2/8	Wednesday	1100 - 2200	2130 } 0130	0100 - 1130
2/9	Thursday	1930 }	0900	0830 - 2000
2/10	Friday	0700	0630 - 1730	1700 }
2/11	Saturday	0400 - 1500	1430 }	0430
2/12	Sunday	1230 - 2400	2330 } 0200	0130 - 1300
2/13	Monday	2100 }	1100	1030 - 2130

FPAC

All times are PST

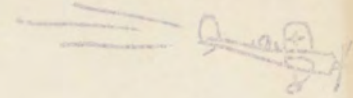
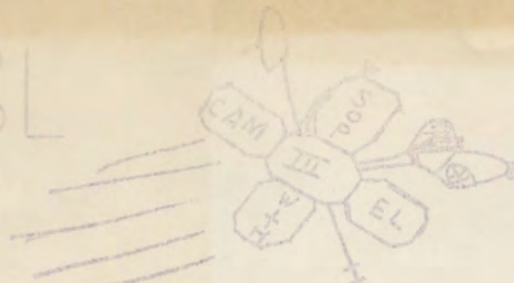
		<u>FPAC RED</u>	<u>FPAC WHITE</u>	<u>FPAC BLUE</u>
2/8	Wednesday	0900 - 1800	0200	0100 - 1000
2/9	Thursday	0900 - 2030	2000 }	0100 - 1000
2/10	Friday	1700 }	0730	0630 - 1800
2/11	Saturday	1700 } 0200	0100 - 1000	0900 - 1800
2/12	Sunday	0200	0100 - 1000	0900 - 1800



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LO BUGL

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85-32



February 9, 1967

(LO BUGL is issued for world wide LOF Operations Team for non-operations information only)

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### CONGRATULATIONS, TEAM

You did it again! Orbiter III is in orbit as it should be. BURNER Jack Carhart called out the numbers as the burn progressed and the suspense began to lessen a bit as accelerometer data and tracking data followed the predicted magnitudes. FPAC plots were put on the TV monitor in real time with ORBIT Larry Schout calling out the numbers and ORBIT CHIEF Matt Grogan's right hand "on camera." And describing the big picture in calm measured tones was VOICE OF LUNAR ORBITER Ed Brummer. As GUIDANCE Phil Hong was quietly plotting the relative positions of Orbiter II and Orbiter III on the polar coordinate paper, Tracking Data Analyst Andre Caticchio drew some reference marks on the Milgo plotter and nearly got rapped on the knuckles by the plotter for his trouble. All in all, a very successful burn.

Based on 20 minutes of tracking data, perilune altitude will approximate 210.8 km. compared with predicted altitude of 207.9 km. Orbit period will be about 215 minutes.

### OFFICIAL AIR FORCE NEWS RELEASE

Vandenberg Air Force Base - February 8, 1967

"A satellite employing a Thor/Burner II combination was launched this morning from Vandenberg Air Force Base." That's all, folks!

### THE BUGL BLOWS FOR:

BOB HELBERG--for leading his Orbiter and Burner II teams to a string of five in a row - three Orbiter and two Burner II. Messrs Wood and Stoner please note; we're proud of our boss!

JESS TIMMONS--for doing such an all-around good job at whatever he tackles, whether it's handling change requests, scheduling DSN facility requirements, or participating in the weekly scheduling conference. We also salute his "high jumping" prowess, though with tongue in cheek, because our reporter said he used a chair. For clarification of the last sentence please contact your local mission advisor.



\*\*\*\*\*  
BJARNE SLIND--for arranging the musical chairs operation described below.

McCULLEM HOME DESTROYED BY FIRE

As many of you know, Dave McCullem is a GRE operator at Madrid. Dave's wife, Bonnie, awakened early yesterday morning and discovered that their home was afire. Quickly she roused the six McCullem children and got them out of the house without injury. Then, having no other suitable place to go, she drove them to Pendleton, Oregon, to the home of her mother. Once her children were properly housed, she notified Bob Hahn's wife Margaret, who started the ball rolling by notifying Seattle Operations Center.

From that point on, things began to happen pretty fast and resulted in:

1. Dave McCullem flying to Seattle from Madrid.
2. Bob Hahn, who was on the Woomera GRE first mission, flying to Madrid to replace Dave.
3. Walter Schurr moving from the Seattle end of the SOC-SPOF line to the JPL end, and:
4. Walt will be replaced in Seattle.

Cause of the fire is unknown, but a fireman suggested it may have started in the kitchen. At any rate, the home was levelled. We're thankful that Dave had insurance which will help reduce his loss.

We'll keep you posted when we hear of a way we can help.

FLY-BY SEQUENCE BURNED

Bob Helberg, Norm Crabill, and Ron Kaufman conducted a "formal" ceremony for the photographers, burning the fly-by sequence after the successful injection maneuver.

However, there's always someone who doesn't get the word--the mission directive was issued about 8 pm tonight.

SHARPS AND FLATS from the BUGL

Chuck Engle's lucky sweater is still around----obviously.

The SMOG folks have a new sign on the hangman's knot: "Hang around while we process your change."

ACE-2 has directed FPAC not to smile. Such conduct is not in the best interests of their TV image.

Darts have been outlawed in the Mission Advisor area. Other comments on this subject are verboten.

SPAC has a new klooge - for cutting roll paper to length. Watch your neckties, men.

JPL means Jumping Ponderosa Lodge.

Have you seen the plot plan for the terraces, gardens, lagoon and waterfall down the hill? The plan is in the foyer of the 180 Building (Engineering) if you want to see it.

SPAC Directive says all areas should turn in shift reports on time. Here's one we saw--punched on cards:

\*\*\*\*\*

"KEYPUNCH SUMMARY REPORT, SECOND SHIFT

"FIRST GIRL ON SHIFT IN AREA 10 WAS LILLIAN HOLDMAN. SHE PUNCHED A FEW CARDS  
AND THEN SHE SAT FOR THE REST OF THE TIME.

ALSO, "THE SECOND GIRL ON THIS SHIFT WAS RUTH MC KASKLE. SHE PUNCHED A FEW CARDS,

"THEN SAT FOR THE REST OF THE TIME."

Oh, the wonders of modern electronics—but please don't take the girls away.  
Think of our morale! (or is that morals?)

Why is it that JPL can have Snoopy and Gordo all over and we can't even put  
them on the monitor?—

Suggested new SPAC position names:

Spacecraft	Straw Boss
Crew Chief	Accomplice
Power	Short Circuit
Burner	Fireman
Proton	Sungod
Telcom	Static
Thermal	Hot Stuff
Gyro	Yo Yo
Sensor	Astrologer
Shutter	Speed
Camera	Brownie
Photo	Cheesecake
Logic	Faith
Matrix	Ouija
Matrix two	Ouija two
Software	Dealer
Data Two	Shill
SPAC Tech Asst	Gandy Dancer
SPAC Clerk	Cutie

FPAC BLUE  
0100 - 1000  
0630 - 1800  
0900 - 1800  
0900 - 1800

All Times are PST  
FPAC WHITE

FPAC RED  
2/9 Thursday 0900 - 2030  
2/10 Friday 1700 Z 0730  
2/11 Saturday 1700 Z 0200  
2/12 Sunday 0200

# SCHEDULE INFORMATION

## SPAC Mission Control & Dacon

All Times are PST

		SPAC RED	SPAC WHITE	SPAC BLUE
2/9	Thursday	1930	0900	0830 - 2000
2/10	Friday	0700	0630 - 1730	1700
2/11	Saturday	0400 - 1500	1430	0430
2/12	Sunday	1230 - 2400	2330	0130 - 1300
2/13	Monday	2100	1100	1030 - 2130

Dear FPAC -  
Typing your schedule here is a  
Cost Reduction item.  
Ed.



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document

Viele

# LO BUGL

February 10, 1967

NASA - BOEING - JPL

Number C-9

The LO BUGL is issued for world wide LOF Operations Team for non-operations information only.

## SPACECRAFT STATUS

There sure isn't much to say about spacecraft performance just now. Strictly according to plan.

Transfer is planned for Lincoln's Birthday, Sunday at 18<sup>h</sup>15<sup>m</sup>37.1<sup>s</sup> GMT in orbit #26 subject to change as the design is refined. First photography is now planned for orbit 44.

## SHARPS 'n FLATS FROM THE BUGL

If you want to know who lives where on the Boeing teams, Virginia Kennicott and Katie should have some extracopies of "The List".

Fishing pox has broken out again according to a sign in the Mission Advisor's area. First on the list is A. BARRACUDA.

Watch out for that California sunshine guys. George Burmeister and Bruce Ageson show ample evidence of exposure to solar radiation.

Capt. Lee Scherer apparently doesn't look mean enough to be a retired Navy four striper and Lunar Orbiter Program Manager. At any rate he was mistaken for JPL cafeteria manager and "Voice of LO" in quick succession yesterday. The time we know most about was his visit to one of our areas just after injection where he asked for some information for a press conference. He was asked, "Oh, are you the Voice of Lunar Orbiter?" "No," he replied, "I'm Program Manager." Later on he commented that at least they'd salute him on shipboard. Maybe we should ask him to wear stripes around his sleeves instead of in a checkered pattern. As one area director pointed out "We have technical experts here, not politicians."

Forgot to credit the Boeing News for relaying the Burner II news item yesterday. Sorry, Bill Clothier.

Sign on the FPAC blackboard, "THIS IS MISSION III. MISSION IV PLANNING IS NOT ALLOWED IN HERE."



Personal to the driver of tan four door '66 Chev. license RFV603. Does your car have a lug wrench which fits the jack handle? Jim Griggs in FPAC is interested in how many of his comments to Rite-Rate regarding the wrench and engine performance were acted upon before they issued the car to you.

SCHEDULES (All times are PST)

SPAC, Mission Control and DACON

	<u>Red</u>	<u>White</u>	<u>Blue</u>
2/10 Friday	0700	0630 - 1730	1700
2/11 Saturday	0300 - 1430	1400	0400
2/12 Sunday	1130 - 2230	2200	0100 - 1200
2/13 Monday	1900	0900	0830 - 1930
2/14 Tuesday	0530	0500 - 1600	1530
2/15 Wednesday	0200 - 1300	1230 - 2330	2300
2/16 Thursday	0900 - 2000	1930	0930
2/17 Friday	1630	0630	0600 - 1700
2/18 Saturday	0330	0300	

PLEASE NOTE THAT SHIFTS AFTER FRIDAY 2/10 HAVE BEEN CHANGED. Transfer to final orbit is now scheduled for 2/12 at 1017 PST and may cause further shift perturbations.

FPAC

	<u>Red</u>	<u>White</u>	<u>Blue</u>
2/10 Friday	1700	0730	0630 - 1800
2/11 Saturday	1700	0100 - 1000	0900 - 1800
2/12 Sunday	1700	0100 - 1000	0900 - 1800
2/13 Monday	1700	0100 - 1000	0900 - 1800
2/14 Tuesday	1700	0100 - 1000	0900 - 1800
2/15 Wednesday	1700	0100 - 1000	0900 - 1800
2/16 Thursday	2000	0100 - 1000	0900 - 2030
2/17 Friday	0730	0630 - 1800	1700
2/18 Saturday	0100 - 1000	0900 - 1800	0200

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# LO BUGL

February 12, 1967

NASA - BOEING - JPL

Number C-10

The LO BUGL is issued for world wide LOF Operations Team for non-operations information only.

## SPACECRAFT STATUS

All systems are "GO". Everything seems to be the same old dull, but very welcome, routine. Most everyone seems busy getting ready for transfer Sunday morning about 10:13 A.M.

## DAVE MC CULLEN RETURNS HOME

A message from Bob Hahn says that Dave is home from Madrid and trying to re-establish his home after the fire. Dave will be at the Hahn's in Bothell Sunday making plans for the future.

According to Bob, the most urgent needs are for linens and small and large electrical appliances. If you can help please call Margaret Hahn at HU 6-6042, Bothell, or another family friend Mrs. Ramsey at GL 4-0597, Bellevue.

## IF YOU HAVEN'T BEEN TO --

Griffith Park Planetarium, we hear the show is well worth while and brings you up to date on the motions of the heavenly bodies (in the sky).

Santa Anita, you just wouldn't believe it. General admission is \$1.95. Grandstand reserved seats are another \$1.30 but aren't really necessary as you can easily spend an afternoon waiting in lines and exploring the place. Expect to see a lot of people there, you won't be disappointed. Be advised that the BUGL only condones your first visit - as part of your continuing education.

Pasadena Public Libraries - for something to while away those hours when there's nothing worth watching on the tube.

## SHARPS & FLATS FROM THE BUGL

Latest description we've heard of the paper cutter klooge in SPAC is that it's a noodle snipper that Doug Learman made in the basement at the Oak Knoll.

Jim Griggs' message about the missing lug wrench (BUGL C-9) got thru. Dick Daly has the car in question and got together with Jim to compare notes.

As one of the inhabitants of the "castle" was describing his bedroom to some of us bourgeois types, he scanned the FPAC area, thought for a moment, then said, "No, its not as big as this. It's only about half as big." To which a member of the bourgeoisie replied, "If they put a double bed in my room I'd have a wall to wall mattress."

After a long day at the funny farm one of the mission advisers was reassembling the map of the moon. He must have been in big hurry to get home because Sinus Medii (Central Bay) ended up on the east and Mare Fecunditatis (Sea of Fertility) on the west - and they ain't supposed to be that way. Fortunately for the targeting troops they soon noticed that the moon map was skewgee and whopperjawed and fixed it.

Sign on SPAC console - "Sexauer won't be in Saturday. Will be in Sunday. Friday happy hour toooo much."

SPAC has a new command sequence prepared - "SPAC HEATERS ON". Reason is the chilly air in there. Jim Nadeau even wore his insulated boots; we didn't ask about the waffle weave winter woolies.

Sign we missed last time suggested that we substitute "perimoon" for "perilune" to say it in English. But what language is "peri-" then?

#### SCHEDULES (All times are PST)

##### SPAC, Mission Control and DACON

	<u>RED</u>	<u>WHITE</u>	<u>BLUE</u>
2/12 Sunday	1130 - 2230	2200	0100 - 1200
2/13 Monday	1900	0900	0830 - 1930
2/14 Tuesday	0530	0500 - 1600	1530
2/15 Wednesday	0200 - 1300	1230 - 2330	2300 - 0230
2/16 Thursday	0900 - 2000	1930	0930
2/17 Friday	1630	0630	0600 - 1700
2/18 Saturday	0330	0300	

##### FPAC

	<u>RED</u>	<u>WHITE</u>	<u>BLUE</u>
2/12 Sunday	1700	0100 - 1000	0900 - 1800
2/13 Monday	1700 - 0200	0100 - 1000	0900 - 1800
2/14 Tuesday	1700 - 0200	0100 - 1000	0900 - 1800
2/15 Wednesday	1700 - 0200	0100 - 1000	0900 - 1800
2/16 Thursday	2000 - 0200	0100 - 1000	0900 - 2030
2/17 Friday	0730	0630 - 1800	1700
2/18 Saturday	0100 - 1000	0900 - 1800	0200



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Viele

# LO BUGL

February 13, 1967

NASA - BOEING - JHL

Number C-11

The LO BUGL is issued for world wide LOF Operations Team for non-operations information only.

## TRANSFER IS A SUCCESS

At 10:13:26.6 AM PST today the Orbiter III engine was started up and changed the speed of the spacecraft by 50.73 meters per second placing the spacecraft in an orbit with a perilune altitude of 54.75 km and an apolune of 1847.13 km. Orbit period is 208.55 minutes. And that's just what the doctor ordered.

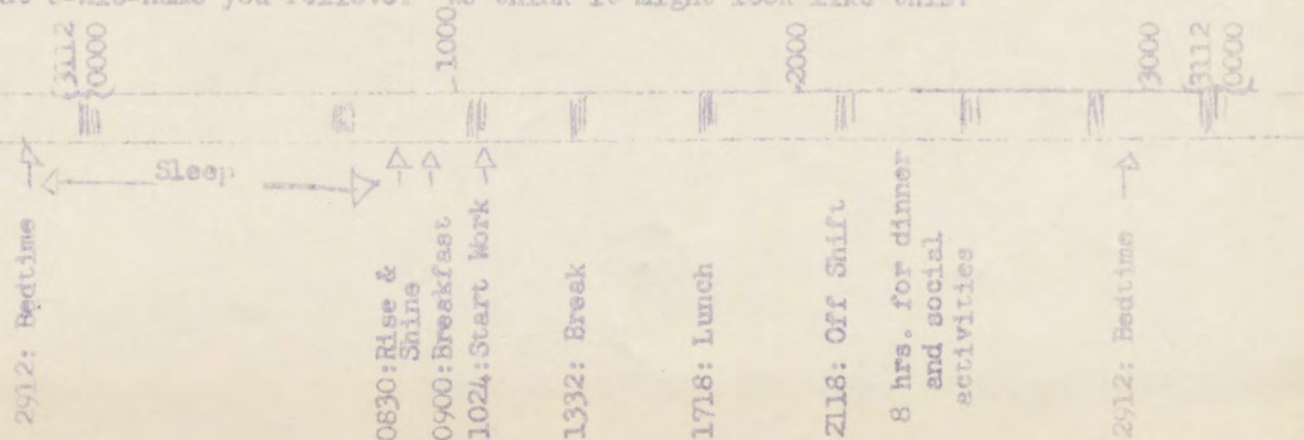
Photo sequences begin the morning of February 15 and will continue into February 22. Look for smoke spiralling up from the photo analysts area starting on the 16th when they're busiest. FPAC is snowed under already with their homework for picture times and angles.

## NEW MISSION WEEK DESIGNED

Dick Axell thought up a new way to overcome the lack of sleep problem on the 11 hour SPAC shifts. Gear all your activities to the longer day. So to help you solve the mathematics involved we have worked it for you.

The normal 7 day calendar week is divided into 5 days of 31 hours and 12 minutes each (9 orbits) - Sunday, Moonday, Bluesday, Rednesday and Earthaday. So you'll get paid for the appropriate number of 60 minute hours we won't change the length of the hours we use. In fact, working our new type 5 day week you'll even receive about 15 hours overtime pay.

Special clocks which run from 0000 to 3112 will be necessary to get us unhooked from sidereal time but you'll be able to sleep 10 hours, work the regular shift and then socialize for up to 11 hours (if you can afford it). The extra 12 minutes can even be used to give you a coffee break before facing up to the ordeal of tying in with that what's-his-name you relieve. We think it might look like this:





MODEL AIRPLANE CONTEST

Herman Newkirk and Jim Williams have decided to stage a contest for rubber band powered model airplanes. Since they haven't crystallized the rules yet you can get your comments in early and help set your own constraints. Those interested may be able to locate Herman on SPAC White or leave a note in his box.

SHARPS AND FLATS FROM THE BUGL

SPAC now has its own Daddy Warbucks after Dick Erwood's recent visit to Santa Anita.

Just heard a report from a usually reliable source that FPAC Director, Bob Smith, has a copy of the 50 cents How and Why book titled "The Moon". What a shame to have to run the mission by that little book when there's a roomful of D2- documents just around the corner.

Sign in the SMOG filled room - on the hangman's noose:

"HANG TUFF WHILE WE CONFIRM THE VALIDITY OF YOUR DIRECTIVE."

"JPL PUTS ORBITER ON TARGET," according to the Glendale paper. Now you know how the Atlas fellows feel when all the headlines go to Agena and Orbiter. Presumably it sells newspapers.

Personal to DSS 12 -

Bob Hahn left for Madrid today - carrying a 17 pound roll of FR 900 film that Floyd Layton had sent to Seattle for Madrid.

Thanks to Claudia Wickersham & Katie Babones for the birthday cake for Virginia Kennicott and Jack Sutherland. Just learned that Jack Graves had a birthday last week that went unheralded in these columns. Sorry about that, chief.

Jim Williams has an unknown admirer or two who keep him supplied with jelly beans.

SCHEDULES (All times are PST)

! NOTE REVISED SCHEDULES !

SPAC, Mission Control and DACON

	<u>Red</u>	<u>White</u>	<u>Blue</u>
2/13 Monday	1900	2000	0830 - 1930
2/14 Tuesday	0600	0530 - 1630	1600
2/15 Wednesday	0230 - 1330	1300 - 2400	2330 - 0300
2/16 Thursday	0930 - 2030	2000	1000
2/17 Friday	1700	0700	0630 - 1730
2/18 Saturday	0400	0330	

NOTE REVISED SCHEDULES ABOVE

SCHEDULES (continued) (All times are PST)FPAC

	<u>Red</u>	<u>White</u>	<u>Blue</u>
2/13 Monday	1700 - 0200	0100 - 1000	0900 - 1800
2/14 Tuesday	1700 - 0200	0100 - 1000	0900 - 1800
2/15 Wednesday	1700 - 0200	0100 - 1000	0900 - 1800
2/16 Thursday	2000 - 0200	0100 - 1000	0900 - 2030
2/17 Friday	0630 - 0730	0630 - 1800	1700 - 0200
2/18 Saturday	0100 - 1000	0900 - 1800	



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# LO BUGL

February 26, 1967

Number C-15

The LO BUGL is issued for world wide LOF Operations Team for non-operations information only

## SPACECRAFT STA'US

Had a bit of a flap yesterday with Orbiter II but found out what the problem was and fixed it. Apparently some commands got changed around a bit and the S/C programmer got fouled up.

Orbiter III had many people upset when the optical mechanical scanner (we think) started to hang up during priority readout and read the same framelet over and over (Framelet 362 for example, was scanned 35 times on Orbit 83). The Photo Analysts don't seem concerned because previous missions have also had the problem - which has disappeared completely after bimat cut.

On all orbits the S/C is pitched off-sun 30° and commanded to acquire the sun during earthset prior to a photo sequence. This aids in photo sequence timing as it reduces the amount of activity during those busy sequences. Equipment deck temperatures are O.K. and so is everything else. However, a new directive says not to turn the TWTAs on till 10 minutes after the transponder temperature has reached 71°. Reason is that the power output of the transponder doesn't stabilize until then and we may be overdriving the TWTAs if we don't follow this plan.

## OPEN HOUSE WELL ATTENDED

More than 400 people attended the Orbiter open house yesterday. Our orbiting pets performed as planned except for causing a few "flaps" here and there. A CRO (Ceiling Room Only) sign in the gallery was needed for the first readout but the pressure was reduced to SRO by the time the crowd re-convened in the auditorium. Most of us who work with the Orbiter managed to gain some additional information from the visit and so did our guests, so it appears to have been well worth the effort that went into it.

Our thanks go to a number of people not mentioned in earlier issues for helping to make it a success - notably Dalton Webb (NASA) for the Orbiter film, Paul Siemens (NASA) for the many extra copies of the status bulletin with the picture, John Graham (NASA) for preparing some photos for display, and Randy Mixon (NASA) for posting those big pix in the SFOF lobby. At the auditorium Stewie Doubt (JPL) and George Lowe (JPL) kept things rolling with the help of lovely Pat Boston of the JPL Public Information Office staff. Boeing hosts included Ken Tureno, Bob Schillereff, Bill Moyers, Ray Stevenson, Dave Shelmandine, John Hoos, Gary Clark, Don Fries, and Jack Sutherland. The hosts also served as the spacecraft "Anti-Change Board" to maintain configuration control. And at the SFOF Lobby, Kathie Roberts (Bendix) and John Cromling, Roy Stickler and Bob Mitchell (Pinkertons) kept the folks headed in the right direction and answered all sorts of questions.

## FLYING CONTEST

Herm Newkirk's Curtis Robin is taking shape. Two other contestants are known with the possibility of some "dark horse" entries. Bjarne Slind offered to be a judge and Walt Schurr immediately offered to be Bjarne's agent and split the proceeds. That's what we call a fair contest.

In the non-flying model class, Walt Schurr brought the Red Baron's plane in and has taken up Snoopy's option from Herm Newkirk.

## MC CALLEUM FAMILY

They're recovering from the loss of their home, have found a home near Lynnwood, and now have 3 of the children back in school. The other 3 children are still in Oregon. The Lynnwood Fire Dept. and other area groups have been very helpful in helping Dave and Bonnie to reestablish



MC CALLEN FAMILY (Continued)

their home. However, they still need a refrigerator and a table large enough to seat the family. Also end tables and lamps would be welcome.

It's heartwarming to know that people like Tom Widden are helping in addition to all the others. Tom met Dave when he arrived from Madrid and took him to the Widden home to rest up and make plans to reestablish his home. Then next morning Tom took Dave to the airport and saw him off for Pendleton and his family. Tom is head of the Logistics and DSIF Support organization and a good guy to have on your team.

DEPARTING BOEING TROOPS ---

When the binat is cut and you're preparing to head for home don't forget to: sign out, give your parking pass to one of the girls for Ken Essmeier, and remember to send Ken a copy of your final Expense Report.

AIRLINE RESERVATIONS TO SEATTLE

Western and UAL schedules are posted on the SPAC bulletin board and the gals are ready to make reservations whenever you get the word on return to Seattle. If you make your own reservations, please notify the gals so they can keep our list of who's going when current.

SHARPS 'N FLATS FROM THE BUGL

It's a fact - Capt. Lee Scherer has a new granddaughter, name of Cynthia Lee. Didn't you see his broad grin yesterday? \*\*

Marcel Aker's landlady is so watchful for his welfare that she not only does his laundry and sends his cleaning out without request but she even keeps his toothpaste and shaving cream tubes properly squeezed and rolled.

\*\* By the way, he managed to burn a hole in his lucky checked jacket in all the excitement so we're hoping that someone more skilled than the "white string seamstress" fixes it so it will last through two more missions. (Sorry about this Ed., but I was in such a hurry to get the BUGL finished so Paulson could have a copy before he got off shift.)

Veda Heinze, that SAGA sparkplug, has recovered from her fall enough so she can work half days. Glad you're back, Veda!

Understand that the Mariner II spacecraft we saw in the auditorium had been on display for months when it suddenly began to "talk" so people could hear it. Seems the solar panel caught enough sunlight to energize the transmitter to emit that weird high pitched sound. The surprised Mariner troops amplified the sound and listened for a couple of days, then disconnected the solar panel so it wouldn't disturb the auditorium staff.

SCHEDULE INFORMATION

FPAC		<u>Red</u>	<u>White</u>	<u>Blue</u>
2-21	Tuesday	0100 - 1000	0900 - 1800	1700
2-22	Wednesday	0100 - 1000	0900 - 1800	0200

The last photo maneuver design will be "Sold off" at 5:45 p.m., February 22 (PST), and FPAC will drop back to single shift service. Last photo (IHS-32) will be taken at 9:40 p.m., February 22nd. Mission support schedule from there on is primarily for ODPL, LIFL, and PRDL and is planned for Monday, Wednesday, and Friday of each week, 0900-1800, effective with Friday, 2-24.



SCHEDULE INFORMATION  
SPAC MISSION CONTROL AND DAGON

	<u>Red</u>	<u>White</u>	<u>Blue</u>
2-20 Monday		1930	
2-21 Tuesday	1630	0630	0600 - 1700
2-21 Wednesday	0330	0300 - 1400	1330
2-23 Thursday	0000 - 1100	1030 - 2130	2100
2-24 Friday	0730 - 1830	1800	0030
2-25 Saturday	1500	0500	0800
2-26 Sunday	2230	0130 - 1230	0430 - 1530
2-27 Monday	0200	0900 - 2000	1200 - 2300
2-28 Tuesday	0930	1630	1930
3-1 Wednesday	0600 - 1700	0330	0630
3-2 Thursday	1330	0000 - 1100	0300 - 1400
3-3 Friday	2100	0730 - 1830	1030 - 2130
3-4 Saturday	0030	1500	1800
3-5 Sunday	0800	0200	0500
3-6 Monday	0430 - 1530	0930	0130 - 1230
3-7 Tuesday	1200 - 2300	0600 - 1700	0900 - 2000
3-8 Wednesday	1930	1330	1630
3-9 Thursday	0630	0030	0330
3-10 Friday	0300 - 1400	0800	0000 - 1100
3-11 Saturday	1030 - 2130	0430 - 1530	0730 - 1830
3-12 Sunday	1800	1200 - 2300	1500
3-13 Monday	0500	1930	2230
3-14 Tuesday	0130 - 1230	0630	0200
3-15 Wednesday	0900 - 2000	0300 - 1400	0930
3-16 Thursday	1630		0600 - 1700
	0330		1330
			0030



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# LO BUGL

February 23, 1967

Number C-17

The LO BUGL is issued for world wide LOF Operations Team for non-operational information only.

## SPACECRAFT STATUS

Crew Chief says he's not talking because there is nothing to say. He figures we have reached "Boresville" and the road beyond "Boresville" just continues ad infinitum. Read-out status is another story.

## READ-OUT STATUS

Ever since Bruce Elle of Kodak arrived things have been running right on schedule in the Camera department. We think the Bimat was cut early just so Bruce couldn't get in on any of the fun. However he and Ray Grammer are still counting framelets on each readout. Pictures are looking excellent and you can't ask anything more than that.

## COPERNICUS PICTURES

We received enough from Tom Davis in the Pasadena office for the Boeing, RCA and EK team members. However we have arranged to make a limited number available for DSN personnel through Pat Rygh's office. By arranging for some of the Boeing people to pick up their pictures in Seattle, we have made a few more available for SPOF distribution. You Boeing people who have not received a copy, contact the BUGL Editor and receive either a print or a sympathetic hearing on your telling of why you need more than one.

## SHARPS 'N FLATS FROM THE BUGL

You FPACers should see what the hangers-on have done to your MILGO Plotter! They have hitched it up to some other channels so now they can read a whole series of plots pertaining to photo system performance.

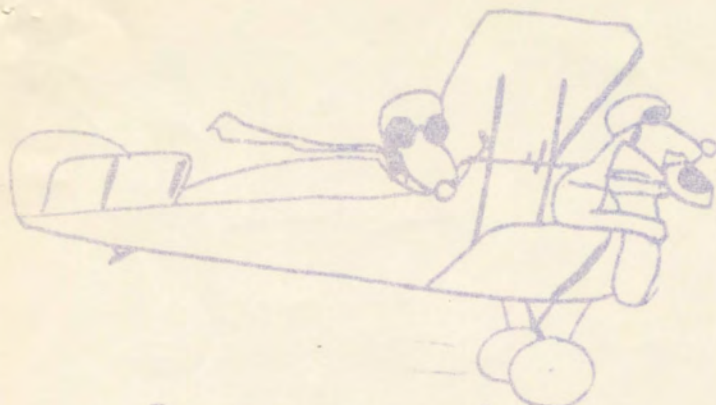
Hats Off to Randy Nixon and Paul Siemers of NASA for their quick action in getting Kepler on one of their bulletins!

Heard unofficially that the Blue Team has acquired some new members simply by giving Certificates of Honorary Membership. Those new guys probably have to mind the store while the Blue Team goofs off.

!! SURREPTITIOUS SIGN SAYS !!!!







## BUMS AWAY?

We told Marcel Aker we would keep the story of his solicitous landlady out of the BUCK, but violated the integrity of the 4th estate because we figured you would like the story more than Marcel would dislike it.

However, here's one you may not have heard on the Net. During the last stages of the Bimat Cut operation, Bernie Wittman (Kodak) was under a good deal of pressure to complete things as fast as possible and reported on the net "Kimat Bat has been confirmed".

The Newkirk-Williams airplane model contest now includes John Sanderson, providing he can get his entry off of the roof. Should warn you, John, that Herm made a paper airplane (during a recent earthset) that would fly a 360° circle and land on an 8 1/2 x 11 scratch pad!!!

### AN ODE TO AN ORBITER

Oh! What a delight!  
To track an Orbiter in flight.  
It vibrates and rolls -  
But yields few woes.  
A tourist for sure  
It's pictures a cure  
How sweet it is .....  
This Space Biz!

But Hark! I say Hark!  
At times it does bark.  
Where is Canopus? Or Data?  
High Speed? - Alpha? - Beta??  
An internal - A disk error -  
It makes one aware  
Is it software or hardware?  
Or could it be Space wear?

It flies thru space with the greatest of ease -  
Like - No Snog! - would you believe?  
But this is our third - Russia has two -  
Then there's Surveyor & Ranger ....  
I think the Moon's in danger.  
Snog devices are in order ..  
To avoid the choking border.



SCHEDULE INFORMATIONFPAC

Mission support schedule from here on is primarily for ODPL, LIPL, and PRDL and is planned for Monday, Wednesday, and Friday of each week, 0900 - 1800, effective with Friday, 2-24.

SPAC MISSION CONTROL AND DACON

		Red	White	Blue
2-24	Friday	0730 - 1830	1800	0800
2-25	Saturday	1500	0500	0430 - 1530
2-26	Sunday	2230 } 0200	0130 - 1230	1200 - 2300
2-27	Monday	0930	0900 - 2000	1930
2-28	Tuesday	0600 - 1700	1630	0630
3-1	Wednesday	1330	0330	0300 - 1400
3-2	Thursday	2100 } 0030	0000 - 1100	1030 - 2130
3-3	Friday	0800	0730 - 1830	1800
3-4	Saturday	0430 - 1530	1500	0500
3-5	Sunday	1200 - 2300	2230 } 0200	0130 - 1230
3-6	Monday	1930	0930	0900 - 2000
3-7	Tuesday	0630	0600 - 1700	1630
3-8	Wednesday	0300 - 1400	1330	0330
3-9	Thursday	1030 - 2130	2100 } 0030	0000 - 1100
3-10	Friday	1800	0800	0730 - 1830
3-11	Saturday	0500	0430 - 1530	1500
3-12	Sunday	0130 - 1230	1200 - 2300	2230 } 0200
3-13	Monday	0900 - 2000	1930	0930
3-14	Tuesday	1630	0630	0600 - 1700
3-15	Wednesday	0330	0300 - 1400	1330
3-16	Thursday			0030

Thanks to Herra Newkirk for figuring out all these shifts. Hope they aren't all needed!



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