THE DISH

Number 1 1977

Fulton/McMurty Autograph-No·No

Space collector Martin Halpern of California sent a cover for the 14 March 1975 NASA Boeing 747 flight at Edwards Air Force Base to Tom McMurty and Fitz Fulton for an autograph. The following hand written letter was received from Tom McMurty when cover was returned.

1 February 1977

Dear Martin,

All NASA Boeing 747 flights prior to December 1976 have been routine flights and were similar to airline operations flights. Because of this Mr Fulton and myself feel that these flights should not receive any special recognition and we therefore are returning these covers unsigned. As the modified 747 begins flight testing Mr. Fulton and I shall be happy to sign these covers.

Sincerely
s/Tom McMurtry

From Fitz Fulton a form letter was received by Martin. It would have been much easier for both of these test pilots just to sign the covers and return them, but they are trying to set the space collector straight on Space Shuttle and 747 covers. Here is part of Mr Fulton's form letter with the last paragraph in his hand writing.

14 Feb 1977

Mr Martin Halpern

Dear Mr Halpern,

.....Due to the heavy Space Shuttle associated work load the past few months it has become impossible to find time to answer completely each request.

Some of you have sent envelopes or other items with a signature request. Certain ones I have signed and others.... returned unsigned.

1. I only sign envelopes which commemorate flights that I personally fly on. The flights must be flights that I consider significant.....
2. I normally do not carry envelopes on flights or attest that they have been carried.
3. I do not sign blank envelopes.
4. I will not sign Shuttle associated material until after I have personally participated in a flight of the 747 carrying the Shuttle.
5. I am glad to sign cover letters that meet the above requirements and are for a genuine collector. Covers will not be knowingly signed for commercial use.

Thank you for your interest. I am returning your covers unsigned. The Jetstar flights are very necessary flights but

the flying is quite routine. I do not sign Jetstar covers although some other pilots do. I am sending you a photo of the YF-12 supersonic research airplane.

s/Fitz Fulton
Fitzhugh L. Fulton, Jr.
Aerospace Research Pilot

When sending covers a few things to remember, make your request brief, ask do not tell them to autograph, be polite, send no more than two covers (one is much better, send a stamped addressed envelope for return of cover, and do not make outlandish requests. Sometimes it may take months for a cover to be returned and do not write asking about cover.

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LAUNCH SCHEDULE

FLIGHT	DATE	VEHICLE	RANGE	STATION
HEAO-A	Apr	Atlas Cent	ETR	ACN BDA GWM HAW MIL GSC
GEOS/ESA	Apr	Delta	ETR	ACN AGO BDA GWM HAW MIL ROS ORR QUI GSC
GOES-B/NOAA	May	Delta	ETR	ACN AGO BDA GWM HAW MIL ORR QUI ROS ARIA ETR GSC
OTS/ESA-A	Jun	Delta	ETR	
INTELSAT IV-A	Jun	Atlas-Cent	ETR	ACN BDA MIL ARIA ETR GSC
NAVY 19	Jun	Scout	WTR	
GMS/JAPAN	Jul	Delt	ETR	
SIRIO-A/ITALY	Aug	Delta	ETR	
METEOSAT/ESA	Aug	Delta	ETR	
MJS-A	Aug	Titan Cent	ETR	
MJS-B	Aug	Titan Cent	ETR	
LANDSAT-C	Sep	Delta	WTR	AGO HAW MAD QUI ROS ULA WNK SAM ETR GSC
RCA-C	Sep	Delta	ETR	ACN BDA GWM HAW MIL ETR GSC
INTELSAT IV-A	Oct	Atlas Cent	ETR	ACN BDA MIL ARIA ETR GSC
ISEE/A B	Oct	Delta	ETR	
FLTSATCOM-A	Oct	Atlas Cent	ETR	
UK-6	Oct	Scout	WI	
CS/JAPAN	Nov	Delta	ETR	
OTS/ESA	Dec	Delta	ETR	
IUE-A	Dec	Delta	ETR	
NAVY 20	Dec	Scout	WTR	(only if NAVY 19 fails)

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These are tentative dates of important Space Shuttle events over the next 36 months.

SPACE SHUTTLE EVENT	DATE	USPO LOCATION
First manned captive flight OV-101 atop 747	5-26-77	Edwards AFB
Orbiter OV-101 first approach and landing test (ALT)	7-22-77	Edwards AFB
Ferry flight, OV-101 to MSFC Huntsville	3-17-78	Huntsville
Deliver Orbiter OV-102 to KSC, Florida	8-15-78	Palmdale/KSC
First manned flight OV-102 KSC to Edwards AFB	3-30-79	KSC/Edwards AFB
Second manned flight OV-102 KSC to Edwards AFB	7-31-79	KSC/Edwards AFB
Third manned flight OV-102 KSC to Edwards AFB	9-29-79	KSC/Edwards AFB
Fourth manned flight OV-102 KSC to Edwards AFB	12-31-79	KSC/Edwards AFB

Covers for these events will be available from the Rockwell International Stamp Club. Write; Mr Edmund J. Rusinek, 11291 Wembley Road, Rossmoor, CA 90720, encloce SASE.

Tracking Station Report

Since the manned flight have discontinued, news has been slow from the tracking stations. The station listed on the left is connected with Dryden Flight Research Center. The Observatory on the right is in Russia and a more complete address is needed.

NASA Tracking Station
Kimberly Mountain
Box 507
Ely, Nev 89301

Stalinabad Observatory
Stalinabad, Tadzhikistan
USSR

The following are communication stations of the United States Coast Guard and may not have anything to do with Space, but have listed them just in case.

USCG Radio Station
Box 466
Barrow, AK 99723

USCG Radio Station
Kethickan NMJ
FPO Seattle, Wash 98776

USCG Communications Station
Box 17 (Kodiak AK)
FPO Seattle, Wash 98790

USCG Communications Stations
NAVCOMSTA (Guam)
FPO San Francisco, CA 96630

USCG Radio Station
Long Beach NMQ
Point Vincente
Palos Verdes Peninsula, CA 90274

Argentina plans to build Latin America's second ground station designed to receive Earth resources data directly from NASA Landsat satellites under a recently concluded agreement between NASA and the Argentina space agency, Comision Nacional de Investigaciones Espaciales (CNIE). The new ground station will be constructed near Buenos Aires and will be capable of receiving, processing and disseminating data covering all Argentina, and all parts of Chile, Bolivia, Brazil, Uruaguay, and Paraguay. The first ground station was built in Brazil.

The following is an Antarctic Communications Station and is operated by the Navy.

COMNAVSUPPFORANTARCTICA
COMM- Code 20
c/o Fleet Post Office
San Francisco, Calif., 96601

Following is a list of Russian Tracking Stations; the addresses are from Prominent Personalities In The USSR, compiled by the Institute for the Study of the USSR, 1968, and The Directory of Selected Scientific Institutions In The USSR, by the Battelle Memorial Institute for the National Science Foundation, 1962 . (These addresses, because of age, are preceeded with an asterisk. These may be closed, or there may have been a change in address.)(Editor: Give John Mitchell, 3855 E. 15th Pl., Gary, IN 46403 credit for submitting this list).

RSFSR Academy of Pedagogical Sciences
ul. Shauyana 39
Gosudarstvenny Pedagogichesky Institut
Baku, Azer. SSR

Gosudarstvenny Universitet
pl. Dzerzhinskogo 4
Khar'kov, Ukr. SSR

Armenian Academy of Sciences
ul. Barekamutyan 24
Yerevan, Arm. SSR

Tashkent Inst. of Nuc. Physics
Uzbek. Academy of Sciences
ul. Kuybysheva 15
Tashkent, Uzbek. SSR

Ashkhabad Astro. Laboratory
Astrofizicheskaya Laboratoriya
Ashkhabad, Turkm. SSR

Voeykov Main Geophysical Obs.
Glavnaya Geofizicheskaya Observatoriya
Malaya Spasskaya 7
Leningrad CCCP

Gosudarstvenny Universitet
Universitetskaya n. 7-9
Leningrad CCCP

USSR Academy of Sciences
ul. XXII Partsyezda 265a
Frunze, Kirghiz SSR

Astronomical Observatory imen V.P.
Engel'gardt
ul. Lenina 18
Kazan', Tartarskaya ASSR

Azerbaydzhan State University imeni S.M.
Kirov *
Kommunisticheskaya ul. 6
Baku, Azer SSR

Khar'kov Astrophysical Observatory
Universitetskaya ul. 16
Kar'kov, UKR. SSR

Byurakan Astrophysical Observatory
Barekamutyan St. 24
Yerevan, Arm. SSR

Central Asian University
Tashkent Astronomical Observatory
Sredneaziatsky Universitet
ul. Karla Marksa 32
Tashkent, Uzbek. SSR

Turkmen Academy of Sciences
ul. Gogolya 15
Ashkhabad, Turkm. SSR

Pulkovo Main Observatory
Pulkovskaya Glavnaya Astro. Observatory
Leningrad, CCCP

Tartu Observatory *
Tartu, Estonian SSR

Institute of Theoretical Astronomy *
Universitetskaya Naberezhnaya, 5
Leningrad, CCCP

Gosudarstvenny Universitet
Abastumani Astrophysical Observatory
prosp. I Chevchavadze 45
Tbilisi, Gruz. SSR

USSR Academy of Sciences
ul. Dzerzhinskogo 8
Tbilisi, USSR

Institut Fiziki
Sovetskaya ul. 20
Novosibirsk CCCP

Gosudarstvenny Universitet
ul. Universitetskaya 3
Vil'nius Astronomical Observatory
Vil'nius, Lit. SSR

Gosudarstvenny Universitet
ul. Yulikooli 18
Tartu, Est. SSR

Shternberg Astronomical Institute
Gosudarstvenny Universitet
Corpus K, Apt 122
Moscow 117234 CCCP

USSR Academy of Sciences
14 Leninsky Prospekt
Moscow CCCP

Zhukovsky A.F. Engineering Academy
Voyenno-Vozdushnaya Akademiya
im. Zhukovskogo
Lemingradskoye Sh.
Moscow CCCP

Moscow Planetarium *
Moscow CCCP

Institute of Nuclear Physics
Institut Yadernoy Fiziki AN
Kaz. SSR, Ul Shevchenko 28
Alma-Ata, Kaz SSR

USSR Academy of Sciences
ul. Kokhtu 6
Institut Fiziki i Astronomii
Tallin, Est. SSR

Siberian Computer Center
Vychislitelny Tsentr
Sibirskogo Otdeleniya ANSSSR
Sovetskaya ul. 20
Novosibirsk CCCP

Tien Shan High-Mountain
Physical-Geographical Station *
Kungey-Alatan Range
Tien Shan Mountain Astrom. Observatory Sta.
Kirghiz SSR Academy of Science

USSR Academy of Sciences
Lenino Prospektas 3
Vil'nius, Lit. SSR

Shternberg Astronomical Institute
Gosudarstvenny Universitet
Leninskie Gory
Moscow CCCP

Lebedev Physics Institute
Fizichesky Institute im.
P.N. Lebedev
Leninsky Prosp. 53
Moscow CCCP

Komissiya Po Issledovaniyu
I Isopol'zovaniya Kosmicheskogo
Prostranstva
ul. Vavilovo 18
Moscow CCCP

Mountain Astrophysical Observatory
Alma-Ata, Kaz. SSR

USSR Academy of Sciences
Prospekt Lenina 1
Kishinev, Mold SSR

Gosudarstvenny Universitet
Odessa Astrophysical Observatory
ul. Shchepkina 12
Odeaa, Ukr. SSR

Kiev Astrophysical Observatory
Gosudarstvenny Universitet
ul. Vladimirskaya 58
Kiev, Ukr. SSR

Vologda State Ped. Institute *
Ul. Mayakovskogo 6
Vologda CCCP

Tomsk State Univ. imeni Kuybyshev
Prospekt Timiryazeva 3
Tomsk CCCP

Mountain Astronomical Station *
Shat-Zhat-Mas Mountain
Kislovodsk CCCP

Riga Astronomical Observatory
USSR Academy of Sciences
ul. Turgeneva 19
Riga, Lat. SSR

Optical Observatory Station *
Uzhgorod State Universty
Ploshchad' M. Gor'kogo 1/3
Uzhgorod CCCP

Arkhangelsk State Pedagogical Inst. *
Petrogradskiy Prospekt 4
Arkhangelsk CCCP

Gorkiy State Pedagogical Inst. *
ul. Ulyanova 1
Gorkiy CCCP

Tomsk Polytechnic Institute *
prospekt Timiryazeva 9
Tomsk CCCP

Irkutsk State University *
Vuzovakaya Haberezhnaya 20
Irkutsk CCCP

USSR Academy of Sciences
Leninsky Prospekt 66
Minsk, Byelorussian SSR

Crimean Astrophysical Observatory
Poselok Nauchny
Krymskaya Oblast
Crimean Region 334413 CCCP

Institut Radiafiziki i
Elektroniki AN Ukr. SSR
Vladimirskaya ul. 54
Kiev, Ukr. SSR

Joint Institute of Nuclear Research
Obyedinenny Institut Yadernykh Issledovaniy
Moskovskaya Oblast
Dubna CCCP

Astronomical Observatory *
L'vov USSR

Turkmen State Pedagogical Institute *
Tashkeprinskaya Ul. 56
Chardzhou CCCP

Far-Eastern State University *
Ul. Sukhanova 8
Vladivostok, Primorsky Kray CCCP

USSR Academy of Sciences
Dushanbe, Tajik. SSR

The names of personal have been omitted since they may no long be at the facility.

Space Covers Reported & Received

WHITE SANDS MISSILE RANGE, NM

11-17-76 NASA 27.001 NIKE BOOSTED BLACK BRANT VC/SOLAR TELESCOPE
11-19-76 1ST BOOSTED BLACK BRANT VC NASA 27.002/EUV STUDY OF STARS
11-22-76 See Space Shuttle
11-23-76 See Space Shuttle
11-30-76 USAF AIR LAUNCHED CRUISE MISSILE FTM-6
12-7-76 See Space Shuttle
12-8-76 See Space Shuttle
12-13-76 1ST NASA PIONEER VENUS TEST OF MAIN PROBE/16km ABOVE WSMR
12-14-76 BLACK BRANT VC NASA NO. 21.034.SPAR/ZERO GRAVITY TEST
12-16-76 ARIES I NASA NO. 24.277/315 MILES ALTITUDE PROGRAMMED
12-16-76 2ND NASA PIONEER VENUS TEST OF MAIN PROBE
1-5-77 See Space Shuttle
1-6-77 See Space Shuttle
1-11-77 See Space Shuttle
1-12-77 See Space Shuttle
1-13-77 See Space Shuttle
1-14-77 AEROBEE 170,NASA 13.122. MAPPING OF/SOFT X-RAY SKY AT 120 MILES ALTITUDE
1-14-77 BLACK BRANT VC, NASA 21.049. ULTRA/VIOLET OBSERVATION OF VENUS
1-18-77 See Space Shuttle
1-19-77 See Space Shuttle
1-20-77 See Space Shuttle
1-26-77 See Space Shuttle
1-26-77 ARIES I, NRL 24.276. OBSERVE SOFT X-RAY OF VELA & PUPPUS SUPERNOVA
1-27-77 See Space Shuttle
1-28-77 See Space Shuttle
1-29-77 TOMAHAWK CRUISE MISSILE NO. 10:3/FROM NAVY A6. 4 1K to 25K ALTITUDE
2-1-77 See Space Shuttle
2-2-77 See Space Shuttle
2-3-77 See Space Shuttle
2-9-77 See Space Shuttle
2-10-77 See Space Shuttle
2-15-77 See Space Shuttle
2-15-77 ASTROBB F. NASA 25.015 OBTAIN UV/SPECTRUM OF A PLANETARY NEHULA
2-17-77 See Space Shuttle
2-23-77 See Space Shuttle
2-24-77 See Space Shuttle
2-24-77 TWO SRAM (SHORT RANGE ATTICK MISSILES)/LAUNCHED FROM AIR FORCE B-52
3-4-77 FIRST B-1 FLIGHT OVER WSMR/FOR CAPTIVE TEST OF SRAM
3-8-77 NAVY TRIDENT BALLISTIC MISSILE/4 SECOND,PROGRAMMED 185FT ALTITUDE
3-9-77 BLACK BRANT NASA 21.041. MEASURE/INTENSITY OF SUN IN FAR ULTRA-VIOLET
3-9-77 See Space Shuttle
3-10-77 See Space Shuttle
3-11-77 See Space Shuttle
3-15-77 See Space Shuttle
3-16-77 See Space Shuttle

WALLOPS ISLAND, VA (Wallops Flight Center)

12-16-77 ATHENA MSV/D4-7870/6 18 PM DEC 15 1976
1-8-77 NIKE-TOAMHAWK/T1-8564/2 03PM
1-8-77 ASTROBEE D/T1-8660/2 38PM
1-8-77 SUPER-ARCAS/T1-8293/3 21PM

3-9-77 ARCAS/D1-8746/11 57AM
3-20-77 ATHENA MSV/D4-7872/5 58 AM

CHATANIKA, AK (Poker Flat Rocket Site)

None Reported

VANDENBERG AFB, CA (Western Test Range)

11-8-76 SAC/MINUTEMAN 3/MIRV/TRAJECTORY TEST
11-12-76 MINUTEMAN 3/PRODUCTION/"PROOF FLIGHT"
11-30-76 USAF/MINUTEMAN 3/REENTRY/VEHICLE/SYSTEM/TEST
12-19-76 LAUNCHES/SECRET/INSTRUMENTATION/SATELLITE/TITAN-3D/BOOSTER
1-21-77 US AIR FORCE/MINUTEMAN 3/RELIANILITY/LAUNCH
1-30-77 USAF/MINUTEMEN 3/ADVANCED BALLISTIC/TEST
2-1-77 SAC/MINUTEMAN 2/INSTANT ICBM
2-4-77 BOMARC TARGET/MISSILE DESTROYED BY AIR TO AIR
2-16-77 MINUTEMAN/INSTANT ICBM
3-2-77 MINUTEMAN 3/LAUNCHED BY/STRATEGIC AIR COMMAND/AIRBORNE LAUNCH CREW
3-13-77 DEFENSE SATELLITE/TITAN 3B/BOOSTER

PALESTINE, TX (Balloon Site)

2-28-77 TO MAP THE HIGH/ENERGY X-RAYS FROM THE CRAB NEBULA

EDWARDS, CA (Dryden Research Center)

8-27-76 See Space Shuttle
9-17-76 See Space Shuttle
9-23-76 See Space Shuttle
10-1-76 See Space Shuttle
10-5-76 See Space Shuttle
10-6-76 See Space Shuttle
10-7-76 See Space Shuttle
10-13-76 See Space Shuttle
10-14-76 See Space Shuttle
10-19-76 See Space Shuttle
11-3-76 See Space Shuttle
11-3-76 See Space Shuttle
11-4-76 See Space Shuttle
11-9-76 YF-16 TEST FLIGHT
11-10-76 See Space Shuttle
11-17-76 See Space Shuttle
11-18-76 See Space Shuttle
11-22-76 See Space Shuttle
12-2-76 YF-16 TEST FLIGHT
12-2-76 See Space Shuttle
12-3-76 See Space Shuttle
12-6-76 See Space Shuttle
12-7-76 See Space Shuttle
12-8-76 See Space Shuttle
12-9-76 See Space Shuttle
12-10-76 See Space Shuttle
12-15-76 See Space Shuttle
12-16-76 See Space Shuttle
12-17-76 See Space Shuttle
1-14-77 See Space Shuttle
1-28-77 See Space Shuttle
1-31-77 See Space Shuttle
2-18-77 TEST FLIGHT UNMANNED CAPTIVE
2-18-77 See Space Shuttle
2-25-77 See Space Shuttle
2-28-77 See Space Shuttle

KENNEDY SPACE CENTER, FL (Eastern Test Range)

1-18-77 TRIDENT MISSILE FIRING/FIRST TEST
1-27-77 NATO 3-B/pmk Kennedy Space Center,Astrounaut Trail Sta. Titusville, Patrick AFB FL;Greenbelt MD(GSC);Agana GU(GWM);Waimea HI(HAW);St Davies Bermuda & US Navy FPO 09560 (BDA)
2-6-77 SECRET MILITARY LAUNCH/TITAN 3C ROCKET/1:00 AM
2-15-77 2ND TRIDENT TEST LAUNCH/PAD 25/6:10 PM
2-17-77 ARMY PERSHING MISSILE/AIR FORCE STATION/1:12 PM
3-2-77 ARMY PERSHING MISSILE/4 LAUNCHED/2 SUCCESSFUL/2 DESTROYED
3-10-77 PALAPA-B/pmk Kennedy Space Center, Astronaut Trail Sta Titusville, Patrick AFB; Greenbelt MD (GSC)

KOUROU, FRENCH GUYANE (CNES)

9-15-76 LAUNCH/SUPER-ARCES 35-95
9-29-76 LAUNCH/SUPER-ARCES 35-96
10-13-76 LAUNCH/SUPER ARCES 35-97

KIRURA, SWEDEN (ESRO)

1-15-77 LAUNCH/ESRANGE

ANDOYA, NORWAY (Andoya Rocket Range)

1-5-77 LAUNCH
3-18-77 LAUNCH

CHURCHILL RESEARCH RANGE

1-3-77 LAUNCH
2-16-77 LAUNCH/NIKE ROBIN LOKI-DARTSONDE
3-8-77 LAUNCH/NIKE-ORION

HOLLOMAN AFB, NM

11-11-76 SMALL HARDENED INERTIAL/PLATFORM
11-17-76 ROTOR SYSTEMS RESEARCH/AIRCRAFT
11-18-76 See Space Shuttle
11-23-76 See Space Shuttle
11-24-76 B-1 EJECTION SEAT
11- -76 See Space Shuttle
12-1-76 See Space Shuttle
12-2-76 ACES II/B-1 DROGUE TESTS
12-6-76 ARMY PLUME STUDY
12-15-76 See Space Shuttle
12-16-76 See Space Shuttle
1-11-77 See Space Shuttle
1-19-77 See Space Shuttle
1-20-77 See Space Shuttle
1-27-77 See Space Shuttle
2-1-77 See Space Shuttle
2-1-77 See Space Shuttle
3-9-77 See Space Shuttle
3-16-77 ARMY PLUME STUDY/TESTING DRAG CHUTE AT MACH 1.2
3-18-77 ARMY PLUME STUDY/TESTING DRAG CHUTE AT MACH 1.6

MISCELLANOUS

2-17-77 LAUNCH/HONEST JOHN-HYBAC ROCKET/pmk Elgin AFB FL (No covers reported)

SPECIAL EVENTS/POSTMARKS/CACHETS

9-6-76 Picture cancel SPACELAB/pmk Bremen W. Germany
9-10-76 Picture Cancel VIKING/pmk Bremen W. Germany
11-3-76 COMEMORATION SKYLAB 2/3TH ANNIVERSARY/pmk Jamaica NY
11-3-76 COMMEMORATION MARINER 9/5TH ANNIVERSARY/pmk Patrick AFB FL
11-9-76 COMMEMORATION OPENING CANADIAN FORCES SATELLITE TRACKING UNIT/ST MARGARETS, NB CANADA/pmk James Park
11-14-76 pmk/Cape Canaveral;11-19,20,24-76 Astronaut Trail Sta Titusville FL(all on same cover) 7TH ANNIVERSARY APOLLO 12
11-15-76 10TH ANNIVERSARY/GTA-12/pmk FMF LOCAL POST & Houston TX
11-16-76 3RD ANNIVERSARY SKYLAB IV/pmk Kennedy Space Center FL
12-4-76 200 YR ENGINEERING & NATURAL SCIENCE/picture cancel/pmk Milwaukee WI
12-7-76 4TH ANNIVERSARY/APOLLO 17/pmk Kennedy Space Center FL
12-15-76 11TH ANNIVERSARY/GEMINI 6/pmk Astronaut Trail Sta FL
12-21-76 8TH ANNIVERSARY/APOLLO 8/pmk Kennedy Space Center FL
1-27-77 10TH ANNIVERSARY/APOLLO TRADEDY/pmk Astraout Trail Sta FL
1-31-77 Slogan Cancel/COPERNICUS/EXHIBITION/pmk Toronto Canada
1-31-77 6TH ANNIVERSARY APOLLO 14/pmk Kennedy Space Center FL
2-20-77 15TH ANNIVERSARY/MAN IN ORBIT/pmk Cape Canaveral FL
2-28-77 LAST DAY ROCKET LIFTOFF DIE HUB/pmk Kennedy Space Center FL
3-1-77 BEGINNING/A NEW ERA/SPACE SHUTTLE(FD New)/pmk Kennedy Space Center FL
3-3-77 8TH ANNIVERSARY/APOLLO 9/pmk Kennedy Space Center FL
3-16-77 11TH ANNIVERSARY/GEMINI VIII/pmk Kennedy Space Center FL
3-23-77 12TH ANNIVERSARY/GEMINI III/pmk Kennedy Space Center FL

SPACE SHUTTLE TESTS

7-14-76 STA 1/SHUTTLE TRAINING AIRCRAFT/ASTRONAUT TRAINING/pmk Houston TX
7-15-76 GRUMMAN GULFSTREAM II SHUTTLE/TRAINING AIRCRAFT/pmk Houston TX
7-16-76 STA 1/RETURN FROM SAVANNAH AFTER SIMULATOR/TRAINING/pmk Houston TX
7-19-76 STA 1/SHUTTLE TRAINING AIRCRAFT/LOCAL NASA TESTS/pmk Houston TX
7-20-76 STA 1/SHUTTLE TRAINING AIRCRAFT/LOCAL TRAINING/pmk Houston TX
7-23-76 STA 1/SHUTTLE TRAINING AIRCRAFT/GROUND ABORT/pmk Houston TX
8-11-76 STA 1/SHUTTLE TRAINING AIRCRAFT/LOCAL TRAINING/pmk Houston TX
8-12-76 STA 1/SHUTTLE TRAINING AIRCRAFT/LOCAL TRAINING/pmk Houston TX
8-13-76 STA 1/SHUTTLE TRAINING AIRCRAFT/OVER WHITE SANDS/pmk Houston TX
8-16-76 STA 1/GULFSTREAM/LOCAL NASA TESTS/pmk Houston TX
8-17-76 STA 1/SHUTTLE TRAINING AIRCRAFT/LOCAL TRAINING/pmk Houston TX
8-18-76 STA 1/SHUTTLE TRAINING AIRCRAFT/LOCAL TRAINING/pmk Houston TX
8-19-76 STA 1/SHUTTLE TRAINING AIRCRAFT/LOCAL TRAINING/pmk Houston TX
8-20-76 STA 1/SHUTTLE TRAINING AIRCRAFT/LOCAL TRAINING/pmk Houston TX
8-27-76 F-8/FLY BY WIRE/3-SHUTTLE SYSTEM COMPUTER/#80 43-1/pmk Edwards CA
9-3-76 STA 1/SHUTTLE TRAINING AIRCRAFT/LOCAL FLIGHT/pmk Houston TX
9-7-76 STA 1/SHUTTLE TRAINING AIRCRAFT/FERRY FLIGHT TO BETHPAGE NY/pmk Houston TX
9-13-76 STA 1/RETURNS TO JSC/pmk Houston TX
9-15-76 STA 2/LANDS AT ELLINGTON/ARRIVES FROM BETHPAGE/pmk Houston TX
9-17-76 F-8/FLY BY WIRE/3-SHUTTLE SYSTEM COMPUTERS/#80 44-2/pmk Edwards CA
9-23-76 SHUTTLE LANDING TESTS/MALLICK & YOUNG/pmk Edwards CA
10-1-76 SHUTTLE LANDING TESTS/FULTON & McMURTRY/pmk Edwards CA
10-5-76 SHUTTLE LANDING TESTS/MALLICK & ENEVOLDSON/pmk Edwards CA
10-6-76 SHUTTLE LANDING TESTS/MALLICK & YOUNG/pmk Edwards CA
10-7-76 SHUTTLE LANDING TESTS/MALLICK & YOUNG/pmk Edwards CA
10-8-76 STA 1/PRIME ALT/CREW TAKES/FIRST FLIGHT/pmk Houston TX
10-8-76 STA 1/SECOND/ALT/CREW/TAKES/FIRST FLIGHT/pmk Houston TX
10-8-76 WIND TUNNEL TEST/1-3/4 PER CENT SCALE MODEL/pmk Moffett Field CA
10-13-76 WIND TUNNEL TEST LA-89/pmk Moffett Field CA
10-13-76 SHUTTLE LANDING TESTS/FULTON & McMURTRY/pmk Edwards CA
10-14-76 SHUTTLE LANDING TESTS/FULTON & McMURTRY/pmk Edwards CA
10-19-76 SHUTTLE LANDING TESTS/MALLICK & HORTON/pmk Edwards CA

11-3-76 SHUTTLE LANDING TESTS/MALLICK & ENEVOLDSON/pmk Edwards CA
11-3-76 SHUTTLE SIMULATED LANDINGS/McMURTRY & FULTON/pmk Edwards CA
11-4-76 SHUTTLE LANDING TESTS/KRIER & McMURTRY/pmk Edwards CA
11-10-76 SHUTTLE LANDING TESTS/McMURTRY & KRIER/pmk Edwards CA
11-11-76 INTEGRATED TUT OF ORBIT FUEL TANK ROCKET/pmk Moffett Field CA
11-17-76 SHUTTLE TESTING/T-38/YOUNG & BRAND/pmk White Sands Missile Range NM
11-17-76 SHUTTLE SIMULATED LANDING/McMURTRY & MANKE/pmk Edwards CA
11-18-76 SHUTTLE SIMULATED LANDING/McMURTRY & MALLICK/pmk Edwards CA
11-18-76 SHUTTLE TESTING/T-38/EVANS/ENGLE/TRULY/pmk White Sands Missile Range NM
11-18-76 SPACE SHUTTLE/WIND TUNNEL TEST/OA-221/pmk Moffett Field CA
11-18-76 ORBITER/TESTING CREWMEMBER EZECTION ESCAPE HATCH/pmk Holloman AFB NM
11-19-76 TEST OA-221 AIR DATA PROBE TEST/pmk Moffett Field CA
11-22-76 SHUTTLE LANDING TESTS/MALLICK & DANA/pmk Edwards CA
11-22-76 WIND TUNNEL TEST/10% SCALE MODEL/pmk Moffett Field CA
11-22-76 GRUMMAN GULFSTREAM II SHUTTLE/TRAINING AIRCRAFT/pmk White Sands Missile Range
11-22-76 MAIN ENGINE TEST 016 ENGINE 003/pmk Bay St Louis MS
11-23-76 TRAINING/SIMULATING THE/SHUTTLE CRAFT'S LANDING/pmk Holloman AFB NM
11-23-76 GRUMMAN GULFSTREAM II SHUTTLE/TRAINING AIRCRAFT/pmk White Sands Missile Range
11-23-76 WIND TUNNEL TEST/10% SCALE MODEL/pmk Moffett Field CA
11-24-76 TEST OA-221B AIR DATA PROBE TEST/pmk Moffett Field CA
11- -76 TRAINING/GIRDAN FULLERTON/pmk Holloman AFB NM
11-24-76 SPACE SHUTTLE/WIND TUNNEL TESTS/pmk Moffett Field CA
11-26-76 MAIN ENGINE TEST 018 ENGINE 003/pmk Bay St Louis MS
11-26-76 MAIN ENGINE TEST 017 ENGINE 003/pmk Bay St Louis MS
11-29-76 SPACE SHUTTLE/WIND TUNNEL TEST/pmk Moffett Field CA
11-30-76 WIND TUNNEL TEST/7x7 TUNNEL/TEST OA-221C/pmk Moffett Field CA
12-1-76 TESTING CREWMEMBER/EZECTION ESCAPE HATCH/pmk Holloman AFB NM
12-2-76 MAIN ENGINE TEST 019 ENGINE 003/pmk Bay St Louis MS
12-2-76 SHUTTLE LANDING TESTS/MALLICK & MANKE/pmk Edwards CA
12-3-76 SHUTTLE LANDING TESTS/MALLICK & ENENOLDSON/pmk Edwards CA
12-3-76 SHUTTLE LANDING TESTS/MALLICK & YOUNG/pmk Edwards CA
12-3-76 SHUTTLE ORBITER CARRIER/747/EVERETT-SEATTLE/FULTON-BENNETT/pmk Seattle WA
12-6-76 SHUTTLE LANDING TESTS/MALLICK & ENEVOLDSON/pmk Edwards CA
12-6-76 MAIN ENGINE TEST 038 ENGINE 002/pmk Bay St Louis MS
12-7-76 GRUMMAN GULFSTREAM II SHUTILE/TRAINING AIRCRAFT/pmk White Sands Missile Range
12-7-76 SHUTTLE LANDING TESTS/MALLICK & YOUNG/pmk Edwards CA
12-7-76 SHUTTLE LANDING TESTS/MALLICK & MANKE/pmk Edwards CA
12-7-76 WIND TUNNEL TEST/pmk Moffett Field CA
12-8-76 SPACE SHUTTLE/WIND TUNNEL TEST/pmk Moffett Field CA
12-8-76 GRUMMAN GULFSTREAM II SHUTTLE/TRAINING AIRCRAFT/pmk White Sands Missile Range
12-8-76 SHUTTLE LANDING TESTS/MALLICK & YOUNG/pmk Edwards CA
12-8-76 SHUTTLE LANDING TESTS/MALLICK & WILSON/pmk Edwards CA
12-9-76 SHUTTLE LANDING TESTS/McMURTRY & KRIER/pmk Edwards CA
12-9-76 SHUTTLE LANDING TESTS/McMURTRY & KRIER/pmk Edwards CA
12-9-76 GULFSTREAM II SHUTTLE/MENENHALL & FULLERTON/pmk White Sands Missile Range
12-9-76 GULFSTREAM II SHUTTLE/MENDENHALL & HAISE/pmk White Sands Missile Range NM
12-9-76 ARRIVAL AND SET UP/pmk Moffett Field CA
12-10-76 ARRIVAL AND SET UP/pmk Moffett Field CA
12-10-76 GULFSTREAM II SHUTTLE & T-38/YOUNG & HARTSFIELD,TRULY/pmk White Sands Missile
12-10-76 SHUTTLE LANDING TEST/McMURTRY & KRIER/pmk Edwards CA
12-10-76 MAIN ENGINE TEST 039 ENGINE 002/pmk Bay St Louis MS
12-13-76 WIND TUNNEL TEST/5% PERCENT SCALE MODEL/pmk Moffett Field CA
12-13-76 MAIN ENGINE TEST 040 ENGINE 002/pmk Bay St Louis MS
12-15-76 DRAG VERIFICATION/TEST AT 310 KNOTS/pmk Holloman AFB NM
12-15-76 SHUTTLE LANDING TESTS/MALLICK & MANKE/pmk Edwards CA
12-16-76 SHUTTLE LANDING TESTS/McMURTRY & DANA/pmk Edwards CA
12-16-76 TRAINING/COL OVERMEYER/GRUMMAN GULFSTREAM II/pmk Holloman AFB NM
12-16-76 SPACE SHUTTLE/WIND TUNNEL TEST/pmk Moffett Field CA
12-17-76 MAIN ENGINE TEST 041 ENGINE 002/pmk Bay St Louis MS
12-17-76 SHUTTLE LANDING TESTS/MALLICK & YOUNG/pmk Edwards CA

12-20-76 GULFSTREAM II & T-38/HARTSFIELD & BRAND, SIM/pmk White Sands Missile Range NM
12-20-76 MAIN ENGINE TEST 042 ENGINE 002/pmk Bay St Louis MS
12-21-76 MAIN ENGINE TEST 043 ENGINE 002/pmk Bay St Louis MS
12-21-76 MAIN ENGINE TEST 020 ENGINE 003/pmk Bay St Louis MS
12-21-76 SHUTTLE TESTING/T-38/YOUNG/pmk White Sands Missile Range NM
12-21-76 SHUTTLE ORBITER CARRIER/747/SEATTLE-EDWARDS/FULTON-BENNETT/pmk Seattle WA
12-22-76 WIND TUNNEL TEST/5% SCALE MODEL/pmk Moffett Field CA
12-27-76 MAIN ENGINE TEST 044 ENGINE 002/pmk Bay St Louis MS
12-28-76 MAIN ENGINE TEST 021 ENGINE 003/pmk Bay St Louis MS
12-29-76 MAIN ENGINE TEST 022 ENGINE 003/pmk Bay St Louis MS
1-4-77 MAIN ENGINE TEST 023 ENGINE 003/pmk Bay St Louis MS
1-4-77 MAIN ENGINE TEST 024 ENGINE 003/pmk Bay St Louis MS
1-5-77 MAIN ENGINE TEST 025 ENGINE 003/pmk Bay St Louis MS
1-5-77 GRUMMAN GULFSTREAM II SHUTTLE/TRAINING AIRCRAFT/pmk White Sands Missile Range
1-6-77 GRUMMAN GULFSTREAM II SHUTTLE/TRAING/ALTITUDE 40K to 4.1K/pmk White Sands
1-7-77 GULFSTREAM II SHUTTLE/GRIGGS & RAINEY/pmk White Sands Missile Range NM
1-7-77 SHUTTLE TRAINING/T-38/OVERMEYER & HARTSFIELD/pmk White Sands Missile Range NM
1-11-77 GRUMMAN GULFSTREAM II SHUTTLE TRAINING/ALTITUDE 40K to 4.1K/pmk White Sands
1-11-77 MAIN ENGINE TEST 026 ENGINE 003/pmk Bay St Louis MS
1-11-77 MAIN ENGINE TEST 027 ENGINE 003/pmk Bay St Louis MS
1-11-77 DUAL EJECTION SEAT/TEST USING DUMMIES/pmk Holloman AFB NM
1-12-77 FIRST RPL TEST/TEST 028 ENGINE 003/pmk Bay St Louis MS
1-12-77 GRUMMAN GULFSTREAM II SHUTTLE TRAINING/AIRCRAFT/pmk White Sands Missile Range
1-13-77 MAIN ENGINE TEST 029 ENGINE 003/pmk Bay St Louis MS
1-13-77 GRUMMAN GULFSTREAM II SHUTTLE TRAINING/AIRCRAFT/pmk White Sands Missile Range
1-14-77 GULFSTREAM II SHUTTLE/MENDENHALL,ENGLE & WEYER/pmk White Sange Missile Range
1-14-77 SHUTTLE CARRIER/747/SEATTLE-EDWARDS/FULTON-McMURTRY-HORTON/pmk Edwards CA
1-17-77 MAIN ENGINE TEST 045 ENGINE 002/pmk Bay St Louis MS
1-18-77 GRUMMAN GULFSTREAM II SHUTTLE TRAINING/AIRCRAFT/pmk White Sands Missile Range
1-19-77 GRUMMAN GULFSTREAM II SHUTTLE TRAINING/AIRCRAFT/pmk White Sands Missile Range
1-19-77 ASTRONAUT FRED HAISE/TRAINING OVER NORTH/WHITE SANDS/pmk Hollman AFB NM
1-19-77 GULFSTREAM II & T-38/RAINEY,HAISE & WHITTLE/FULLERTON/pmk White Sands Missile
1-19-77 GULFSTREAM II & T-38/MENDENHALL,ENGLE & WHITTLE/TRULY/pmk White Sands Missile
1-20-77 1ST 400 SEC. MPL ALTITUDE/TEST 046 ENGINE 002/pmk Bay St Louis MS
1-20-77 GRUMMAN GULFSTREAM II SHUTTLE TRAINING/AIRCRAFT/pmk White Sands Missile Range
1-20-77 ASTRONAUT CARL BOBKO AND/DICK TRULY TRAINING TODAY/pmk Hollman AFB NM
1-24-77 MAIN ENGINE TEST 047 ENGINE 002/pmk Gulfport MS
1-25-77 MAIN ENGINE TEST 048 ENGINE))@/pmk Gulfport MS
1-26-77 GRUMMAN GULFSTREAM II SHUTTLE TRAINING/pmk White Sands Missile Range NM
1-27-77 SPACE SHUTTLE/DRAG RUN AT 772/FEET PER SECOND/pmk Holloman AFB NM
1-27-77 GRUMMAN GULFSTREAM II SHUTTLE TRAINING/pmk White Sands Missile Range NM
1-28-77 GRUMMAN GULFSTREAM II SHUTTLE TRAINING/pmk White Sands Missile Range NM
1-28-77 ENGINE 004 ARRIVES/pmk Bay St Louis MS
1-28-77 F-8/FLY BY WIRE/REDUCE FUEL COMSUMPTION/pmk Edwards CA
1-31-77 SPACE SHUTTLE ORBITER/OVERLAND MOVE/pmk Palmdale; Edwards; Downey CA
2-1-77 SPACE SHUTTLE/WIND TUNNEL TESTS/pmk Moffett Field CA
2-1-77 SPACE SHUTTLE/DUEL EJECTION TEST/pmk Hollman AFB NM
2-1-77 ASTRONAUT VANCE BRAND/TRAINING OVER WSMR/pmk Hollman AFB NM
2-1-77 GRUMMAN GULFSTREAM II SHUTTLE TRAINING/pmk White Sands Missile Range NM
2-1-77 MAIN ENGINE TEST 030 ENGINE 003/pmk Bay St Louis MS
2-2-77 GRUMMAN GULFSTREAM II SHUTTLE TRAINING/pmk White Sands Missile Range NM
2-3-77 GRUMMAN GULFSTREAM II SHUTTLE TRAINING/pmk White Sands Missile Range NM
2-3-77 MAIN ENGINE TEST 031 ENGINE 003/pmk Bay St Louis MS
2-4-77 SPACE SHUTTLE/WIND TUNNEL TESTS/pmk Moffett Field CA
2-5-77 MAIN ENGINE TEST 032 ENGINE 003/pmk Bay St Louis MS
2-7-77 SPACE SHUTTLE/WIND TUNNEL TESTS/pmk Moffett Field CA
2-9-77 GRUMMAN GULFSTREAM II SHUTTLE TRAINING/pmk White Sands Missile Range NM
2-10-77 GRUMMAN GULFSTREAM II SHUTTLE TRAINING/pmk White Sands Missile Range NM
2-11-77 MAIN ENGINE TEST 049 ENGINE 002/pmk Bay St Louis MS
2-15-77 MAIN ENGINE TEST 033 ENGINE 003/100TH TEST STAND A-1/pmk Bay St Louis MS

2-15-77 GRUMMAN GULFSTREAM II SHUTTLE TRAINING/pmk White Sands Missile Range NM
2-16-77 MAIN ENGINE TEST 034 ENGINE 003/pmk Bay St Louis MS
2-17-77 GRUMMAN GULFSTREAM II #946 (STA0/pmk White Sands Missile Range NM
2-17-77 SPACE SHUTTLE/WIND TUNNEL TEST/pmk Moffett Field CA
2-18-77 SPACE SHUTTLE/WIND TUNNEL TEST/pmk Moffett Field CA
2-18-77 SHUTTLE-747/APPROACH & LANDING TEST/pmk Edwards CA
2-19-77 MAIN ENGINE TEST 035 ENGINE 003/pmk Bay St Louis MS
2-23-77 SHUTTLE TRAINING AIRCRAFT/FLIGHT OVER NORTHRUP STRIP/pmk White Sands Missile
2-24-77 SHUTTLE TRAINING AIRCRAFT/FLIGHT OVER NORTHRUP STRIP/pmk White Sands Missile
2-25-77 SHUTTLE-747/APPROACH & LANDING TEST/pmk Edwards CA
2-25-77 MAIN ENGINE TEST 036 ENGINE 003/pmk Bay St Louis MS
2-25-77 SPACE SHUTTLE/WIND TUNNEL TEST/pmk Moffett Field CA
2-26-77 MAIN ENGINE TEST 050 ENGINE 002/pmk Bay St Louis MS
2-28-77 SHUTTLE-747/APPROACH & LANDING TEST/pmk Edwards CA
2-28-77 SPACE SHUTTLE/WIND TUNNEL TEST/pmk Moffett Field CA
3-1-77 FIRST DAT NEW SHUTTLE CANCEL/pmk Kennedy Space Center FL
3-1-77 MAIN ENGINE TEST 051 ENGINE 002/pmk Bay St Louis MS
3-2-77 MAIN ENGINE TEST 052 ENGINE 002/pmk Bay St Louis MS
3-3-77 MAIN ENGINE TEST 037 ENGINE 003/pmk Bay St Louis MS
3-4-77 MAIN ENGINE TEST 053 ENGINE 002/pmk Bay St Louis MS
3-5-77 MAIN ENGINE TEST 054 ENGINE 002/pmk Bay St Louis MS
3-8-77 MAIN ENGINE TEST 038 ENGINE 003/pmk Bay St Louis MS
3-9-77 SHUTTLE TRAINING AIRCRAFT FLIGHT/pmk White Sands Missile Range NM
3-9-77 MAIN ENGINE TEST 039 ENGINE 003/pmk Bay St Louis MS
3-9-77 TESTING ESCAPE HATCH/ORBITER/pmk Holloman AFB NM
3-10-77 NASA GRUMMAN GULFSTREAM II/STA/pmk White Sands Missile Range NM
3-10-77 SPACE SHUTTLE/WIND TUNNEL TEST/pmk Moffett Field CA
3-11-77 SHUTTLE TRAINING AIRCRAFT/pmk White Sands Missile Range NM
3-11-77 SPACE SHUTTLE/WIND TUNNEL TEST/pmk Moffett Field CA
3-15-77 NASA GRUMMAN GULFSTREAM II (STA)/pmk White Sands Missile Range NM
3-15-77 MAIN ENGINE TEST 040 ENGINE 003/pmk Bay St Louis MS
3-16-77 SHUTTLE TRAINING AIRCRAFT FLIGHT/pmk White Sands Missile Range NM
3-16-77 MAIN ENGINE TEST 041 ENGINE 003/pmk Bay St Louis MS
3-18-77 1ST 60 SEC RPL TEST/042 ENGINE oo3/pmk Bay St Louis MS
3-19-77 MAIN ENGINE TEST 055 ENGINE 002/pmk Bay St Louis MS
3-22-77 ALL-UP THROTTLE TEST/TEST 056 ENGINE 002/pmk Bat St Louis MS
3-26-77 MAIN ENGINE TEST 058 ENGINE 002/540 SECONDS/pmk Bay St. Louis MS
3-26-77 MAIN ENGINE TEST 043 ENGINE003/ENGINE DAMAGED BY FIRE/pmk Bay St Louis MS
3-29-77 MAIN ENGINE TEST 057 ENGINE 002/pmk Bay St Louis MS
3-30-77 NASA GRUMMAN GULFSTREAM II (STA)/pmk White Sands Missile Range NM
3-31-77 TESTING DUEL EJECTION/AT 392 KNOTS/pmk Holloman AFB NM
3-31-77 PILOT MONDENALL TEACHING ASTRONAUT DICK TRULY TO OPERATE MODIFIED GRUMMAN GULFSTREAM II/pmk Holloman AFB NM
3-31-77 NASA GRUMMAN GULFSTREAM II (STA)pmk White Sands Missile Range NM
4-1-77 ENGINE 003 REMOVED/pmk Bay St Louis MS
4-6-77 NASA GRUMMAN GULFSTREAM II (STA)/pmk White Sands Missile Range NM

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On March 26th an SSME test being conducted on Stand A-1 at the NSTL was terminated after approximately 74 seconds of operation (at 75% rated thrust level) due to a fire in the engine area. Engine damage resulted. Damage is mainly isolated to the engine high pressure oxidizer turbopump, adjacent engine ducts, and instrumentation and control harness. Project officials said several weeks of analysis and repair will be required before tests can resum on that stand.

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Dr Edward Gibson of Skylab 4 has rejoined the astronaut corps at JSC. He is assigned to the specialist office, headed by Joseph P. Kerwin another astronaut.

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Capt. Anderson prevouisly of the USNS Vanguard is now on the USNS Redstone. Capt. Anderson will be taking a leave shortly and asks that covers not be sent until Sept. At that time he will apply the Redstone cachet. Send to Capt H. Anderson,JR. USNS Redstone T-ACM-20, FPO New York 09501.

TRADING & SELLING CORNER

ASTP launch covers, official NASA cachet, KSC cancel 7/15/75 - $1.00 while supply lasts. IASP, P.O. Box 302, Yonkers, NY 10710.

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Covers serviced for Space Shuttle and YF-12, send your stamped addressed covers with thin filler. Service fee of 30¢ per cover for cachet or 15¢ per cover without cachet. Limit 10 covers per person and must be received 4 days prior to desired flight: NASA Exchange Council, Dryden Flight Research Center, P.O. Box 273, Edwards, CA 93523.

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SOL-0 PANORAMA FOR SALE, second Viking 1 Lander picture 15"x40" mounted on 1/8" masonite for framing, price $19.00 plus shipping: ERC, Bldg 114, Jet Propulsion Lab., 4800 Oak Grove Dr., Pasadena, CA 91103.

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Duplicate Space, Naval and Tracking Station covers, also space and naval literature for sale. Send a SASE to John J. Macco, 1790 Rochester St., Crofton, MD 21114.

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U.S./Foreign special cancels; FDC's; Commemorative Covers; Satellites; manned launches events, recoveries, official cachets; Autographs. 24¢ postage for lists. J. Frasketi, Jr., P.O. Box 2114, Dept TD, Ft Myers, Fla., 33902.

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WANTED: U.S. Space covers (manned, unmanned, launches, autographs, etc.). Also Concorde covers. Please write FIRST; Marcel Sager, 2187 Holland Ave., Bronx, NY 10462.

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SPIRIT OF '76/VIKING TO MARS, FDC based on the float depicting the Viking to Mars mission in the 1976 Tournament of Roses parade. Each full color cover contains the complete set of 3 stamps depicting the "Spirit of '76 painting and postmarked in Pasadena, CA 91109, Jan. 1, 1976. 75¢ per cover plus large SASE to-JPL STAMP CLUB, P.O. Box 771, La Canada, CA 91011.

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On January 27, the Viking Local Post issued a stamp (FDC and single) honoring the three astronauts who died in Apollo 1. On March 3, the Viking Local Post issued a stamp in honor of the 5th anniversary of the launch of Pioneer 10. Stamps and First Day Covers are available at 3¢ each for stamps and 50¢ each for FDC's: Viking Local Post, Dept. TD1, 32 Knickerbocker, Tenafly, NJ 07670.

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Astronomy and Philately, handbook No. 90 is an 80-page handbook with a significant attractive cover designed by a professional artist includes representative illustrations of appropriate stamps and postmarks. Pre-publication price $5.00. Other publications available for immediate delivery: Space Stamps book No. 54, $4.00, Space Covers book No. 60, $4.00, Science Stamps book No 87, $7.00."Planetary Flights: First Steps Toward the Stars" is the theme of the two-color official cachet for the April 15-17 Midwest Postage Stamp and Coin Show at the Palmer House in Chicago. Covers have a picture cancel (illustrated on another page) and can be ordered in sets of three (3) covers for $2 or eight (8) covers for $5.00. Order from ATA, 5014-S West Center Street, Milwaukee, Wis., 53210. Price includes postpaid mailing.

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Special Friendship 7 Project Mercury cancel and cacheted covers from COLOPEX '77. The two-colored cacheted covers are available with special cancel at 50¢ each or 5 for $2.00 from the The Columbus Philatelic Club, P.O. Box 2545, Columbus, OH 43216.

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For Trade: X-24B Boy Scout Cachet for 4 October 1973 B-5-8 aboted flight (Mike Love pilot), machine cancel Edwards CA. Wanted early 1973 X-24B aborted flight, send list, describe cover thoroughly.

Wanted: 11 December 1975 Black Brant VC SPAR launch cover, White Sands Missile Range. Will buy or trade, have Space Shuttle and Spacelab related material. Martin Halpern P.O. Box 995, Sebastopol, Calif. 95472.

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See details on another page if you owe for this and the next issue.

MY COLUMN by Sean Marsar

MOFFETT FIELD, CALIF. Dr R.C. Simmonds was awarded the Exceptional Service Medal by NASA for his work as manager for the joint US/USSR biological satellite project under which 10 American experiments were flown on a Soviet unmanned satellite. Send an Apollo/Soyuz cover to Dr Simmions for his Autograph at Ames Research Center, Moffett Field, Calif 94035.

CAPE CANAVERAL, FLA. Launch complex 12 and 14 recently were destroyed by Plastic Explosive Charges by the 37th Engineering Battalion, Ft. Bragg, NC. The deteriorating gantries were put into operation in 1957, were used to launch Atlas Missiles, with the last launch from the pads November 5, 1967.

PASADENA, CALIF. Viking Project Manager James S. Martin Jr., will receive the "Goddard Award" for his brillant leadership of the Viking Project to land an instrumented automated spacecraft on the planet Mars. For the autograph collector send one of your Viking covers to Mr Martin at NASA, JPL, Pasadena, Calif.

PASADENA, CALIF. Seismometer on Viking Lander 2 in the Martian Utopia Planitia may have recorded the first seismic event since the spacecraft touched down on the planet Sept. 3, 1976. The activity began at about 7 P.M. lander local time on Sol 60 (Nov 7) and continued for approximately 30 minutes. Viking personnel said the data a appeared to have the "proper signature" of a seimic event and is similar to data recorded during seimic events on the lunar surface. Send a Viking cover to the Viking Seismology Team Leader Donald Anderson for his autograph.

Cosmonaut trainees from, Czechoslovakia, Poland and East Germany arrived at Zvezdnoy Gorodok, USSR in late December to begin training for flight positions on Soviet Soyuz/Salyut missions. Flight candidates from Bulgaria, Hungary, Cuba, Mongolia and Romania will arrive at the cosmonaut training center this year to begin training. First Soviet spacecraft of 1977 has parameters of a reconnaissance satellite. Cosmos 8888 was launched on Jan. 6. During 1976 the Soviets launched a total of 99 Space Missions.

SPACE SHUTTLE NEWS: Johnson Space Center, Houston, Texas . Here are some names of the Space Shuttle Crew Trainer (Gulfstream 11) Pilots. They are the people who are training the astronauts to fly the shuttle trainer. They are all at Johnson Space Center. David S. Griggs; Allen L. Manson; Ed D. Mendenhall; Albert Crews.

TRUTH OR CONSEQUENCES, NEW MEXICO. The plunge into the atmosphere of Venus of the main probe for the NASA's 1978 Pioneer Venus mission was simulated on Dec 16, 1976 by the probe from a U.S. Air Force balloon 20 miles above the Army's White Sands Missile Range in New Mexico. The test of the probe was carried out by the U.S. Air Force Geophysias Laboratory (AFGL) using a 90,000-cubic-meter (3 million cubic foot) high-altitude plastic balloon. Thw balloon was launched from the Municipal Airport at Truth or Consequences, NM. The westerly winds carried it over White Sands Missile Range, were Army Personnel tracked the entering probe and recovered all parts of the probe system. For the AUTOGRAPH collector write to NASA's Ames Probe Systems Manager SIMON C. SOMMER at Ames Research Center, Moffett Field, Calif. 94035. The Balloon System Project Officer is Captain Robert Greenlee, he is at Edwards Air Force Base, Calif., 93523. Try writting to the public affairs officer at the Air Force Geophysics Laboratory, Holloman Air Force Base, NM 88330 for any other information on the Air Force Cambridge Research Laboratories.

NASA'S FIRST ALL-WOMAN SCIENTIFIC CREW.

Marshall Space Flight Center, Huntsville, Ala. For 12 hours a day they work inside a narrow laboratory 14 feet wide and 24 feet long. They peer in microscopes, tested monitering equipment, conduct experiments on metals, acids and crystals with TV cameras watching every move. They are the members of the first all-women crew of Marshall's Space-Lab. CONCEPT VERIFICATION TEST (CTV). The first test was in December of 1974. For the autograph collector send a Space Shuttle Cover to them; CAROLTN S. GRIMER (Astrinautical Engineer), DORIS CHANDLER (Engineer), ANN F. WHITAKER (Physicist) and DR. MARY H. JOHNSTON (Metallurgical Engineer).

I will try and write MY COLUMN for each issue, all I ask is that collectors send me any information they may have that might be of interest to others. Also I would like the other DEALERS & SERVICERS to send information or articles on the covers that they are doing. If we work as a team we can provide information on the up and coming Space Shuttle Events.

RECOVERY OF LOST EXHIBIT FROM SPACEPEX 76 By Reuben A. Ramkissoon,MD

(Editor: It was mentioned previously in space and philatelic publications about the exhibit Dr Ramkissoon placed in SPACEPEX 76 being stolen, here is a good side to this matter.)

About two weeks ago (March 1), my exhibit, "Philatelic Log of the Recovery of Skylab II--Aboard the USS New Orleans,"was returned to me by the Houston Post Office. Query with them and from the information received, it appears that the exhibit was taken by someone allegedly from the postal service. It was returned to the Public Affairs Office, NASA, Houston, in a large brown postal envelope, without any information as to who the sender was, or where the package originated.

The contents were intact, except for a seal or patch which was removed, and damage to a couple of the covers, which appear to have been torn as removal was made or attempted.

Not too often is an exhibit taken in the mails or otherwise stolen ever found or returned, so from this point of view, I am luckier than most.

I would like to express my thanks to each of you, for your help in publicizing the loss of the exhibit, and for the help this has been in its recovery. I am confident it was such publicity that influenced its return.

I would also like to express my thanks to Lee Scamp, Spacepex Exhibits Chairman, for his many efforts to trace the loss, and to follow up on leads. I am also grateful to the Board of Directors of the Johnson Space Center Stamp Club for their handling of the matter, and to thank the members of the Committee that was appointed to study the matter, and to seek answers.

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From time to time Carol Noble the servicer of covers for the Main Engine Tests will send a little note of information and here is some of the information:

There are currently two Space Shuttle Main Engines (SSME's) in test at National Space Technology Laboratories (NSTL) on two test stands. One test stand tests the engine's ability to operate at ground level. The other is equipped with a vacuum chamber which simulates conditions the engine will experience at 60,000 to 70,000 feet above the earth. During actual flight three SSME's will fire continuously from lift-off until the Shuttle Orbitor reaches its orbital altitude. In short, the engine must demonstrate its ability to operate at all power levels and for durations up to 720 seconds at both ground level and altitude or space heights.

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RPL - Rated Power Level

The SSME has 3 basic power levels: MPL - Minimum power level, RPL - see above and FPL - Full Power Level. Each of these is a milestone achievement in the engine's program. The rated power level is roughly equivalent to the power required to lift the orbiter off of the ground and out of the earth's gravitational pull while being assisted by 2 other SSME's also running at RPL and the solid boosters. MPL is the idling or starting power level of the engine and FPL is for emergency use in case one of the engines or the solif booster is not performing at its expected thrust level.

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I have received a number of inquiries lately about whether or not I am going to cover the various Space Shuttle Orbiter and External Tank (ET) events that will occur in the near future at the National Space Technology Laboratories (NSTL). Some of these events collectors are interested in are: Delivery of the 3 Space Shuttle Main Engine's for test with the Orbiter, delivery of the stub nozzle, delivery of the External Tank and Tanking Test Complete. Each of these events as they occur according to the official schedule will be commemorated with First Day Covers. I am designing a new cachet for the Orbiter/ET event and will apply it in 2 or 3 colors.

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In a conversation with the Postmaster at Bay St. Louis, he informed me that his cancelling machine is more effective if the covers do <u>not</u> have an enclosure or stiffner in them. I might suggest that you leave the stiffner out of your next order and see if the cancels are better. If you would like me to remove them from the covers I have on file, please let me hear from you. (Editor: In December Dish was an address to make complaints about poor postmarks. This has now been corrected)

Astronomers have found the presence of water outside the earth's galaxy for the first time, indicating the possibility of life in outer space, the Max Planck Institute of Astronomy reported from Bonn West Germany.

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Astronomers at the Effelsberg radio telescope station believe they have discovered the largest known galaxy in space. It is 1,370 million light years away from earth and emitting stronger radio pulses than any other galaxy.

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An American scientist and a European scientist will fly in orbit together when the first Spacelab is launched in 1980, the National Aeronautics and Space Administration reported. Three other Americans will fly on the first Spacelab mission. They will be the two pilots and the flight engineer who will man the U.S.-built Space Shuttle, which is to ferry the Spacelab into orbit. The two scientists are to work different shifts so that experiments can continue 24 hours a day during the weeklong test of the big laboratory. They will orbit 155 miles above the earth. The Spacelab will remain attached to the Shuttle during the mission. On later flights the Shuttle will deposit the Spacelab in space and return up to 30 days later to bring it back to earth. As many as four scientists, including all-foreign teams, will occupy the lab on these later trips. The American scientist will be selected by NASA, the other by the European Space Agancy. The scientific team will be selected a year or so before the flight. Experiments will be performed in physics, biology, medicine, astronomy, solar physics, geodesy, earth observations, materials processing and thermodynamics.

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On a hill overlooking the harbor of Waingapu, Indonesia, there stands a $2-million collection of buildings topped by a huge circular dish. It is part of the Indonesian domestic satellite system-one of 41 ground stations that are supposed to bring instant telephone, telex, television and radio to all parts of Indonesia. The Waingapu station is on East Sumba a small island east of Bali. The system, known as Palapa and equipped with two stationary earth satellites. On East Sumba, the satellite system has had little effect on the people's lives. Only 21 people have telephones in Their homes. The rest are in government offices or businesses. Radio still comes by short wave from Kupang on western Timor or from Australia, which is closer than Jakarta. The telex still doesn't work, and to get a telegram out, there is still a man in a small back room, earphones clamped to his head, who taps out the message in Morse code. The people on East Sumba would like to have more food. The new satellite link is as clear as phoning next door. One visitor tried to telephone a number in Jakarta. It took two minutes, in midafternoon, to reach the Palapa operator in Jakarta, but all circuits between that operator and the Jakarta number were busy. They continued blocked for two hours. Indonesia is proud of Palapa, being one of a small number of countries with a domestic satellite to handle its communications. As an underdeveloped country, it does not have much else to boast about.

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An agreement has been negotiated with the Pakistani government to locate a Landsat data-receiving station in Pakistan. The station will provide additional observation of Asian countries for the accumulation of data for the Large Area Crop Inventory Experiment (LACIE) project.

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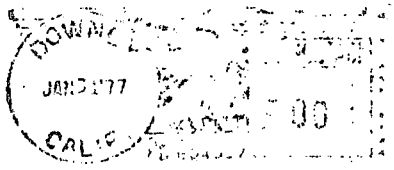
A Lockheed Missile & Space Co. facility at Sunnyvale, Calif. has refined from common sand, the unique all-silica material to be used as a heat shield to protect space travels in the Space Shuttle. Nearly 34,000 "tiles" will be used to cover about 70 percent of each Space Shuttle. The tiles are expected to survive temperatures up to 1,295 degrees C. (2,300 degrees F.) for 100 flights with only minor maintenance. A peak production level of 5,000 tiles per month should be reached early in 1977. Each tile on the spacecraft will be precisely milled to match the curvature of the Shuttle's surface at the exact point it is to be attached. (The tiles carry code numbers to indicate where they will be placed.) This reduces overall weight of the insulating system and assures aerodynamic smoothness, but it also means no two of the 34,000 tiles in a shipset are exactly alike. Furth complicating assembly, tiny gaps must be left between tiles to allow air inside to escape om orbit, and those gaps must be uniform to within 20 one-thousandths of an inch.

Cachets & Cancels

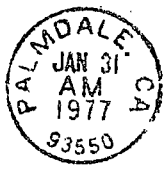
On this and the following pages are cachets and postmarks of covers. Since I was not able to have the covers reduced, they are in the size received. Most of the covers are listed under the "Space Covers Reported & Received". For this reason I will not go into detail as to colors and sponsors. If this information is of importants, please write and enclose a stamped addressed envelope.



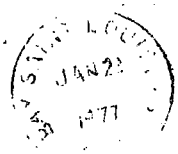


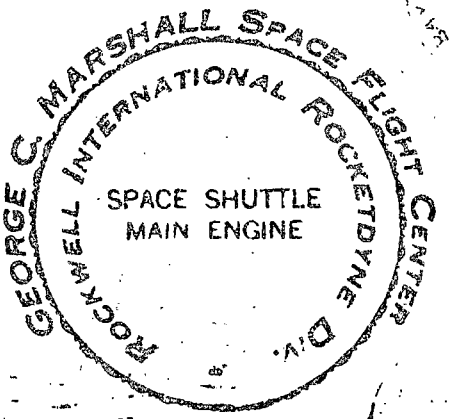




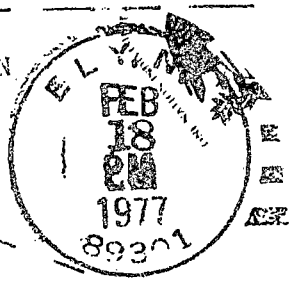


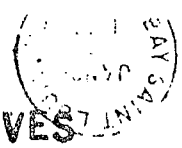
NSTL





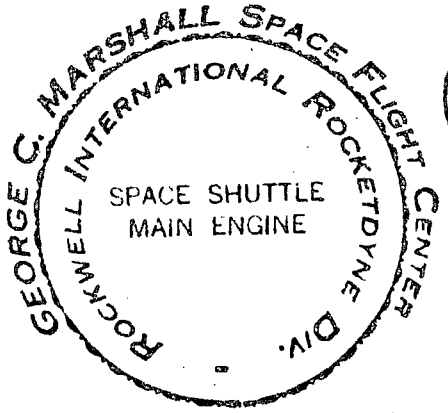
NASA TRACKING STATION
KIMBERLY MOUNTAIN
BOX 507
ELY, NEV. 89301



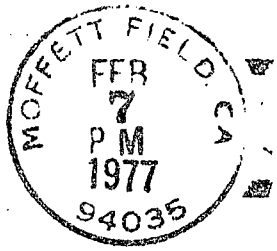


ENGINE 004 ARRIVES

NSTL

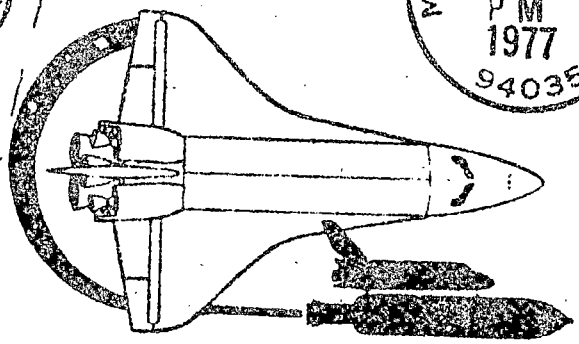






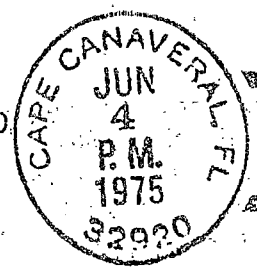
1ST 400 SEC. MPL ALTITUDE

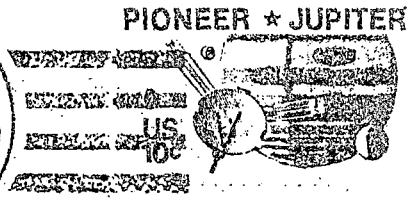
TEST 046 ENGINE 002



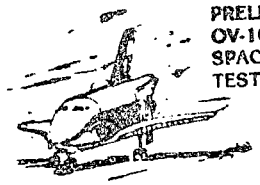
SPACE SHUTTLE • WIND TUNNEL TEST • ARC

PIONEER/VENUS PARACHUTE LANDING TEST IN VAB HIGH BAY 1 THAT WILL SOFT-LAND A PIONEER SPACEPROBE ON VENUS IN 1978--FIRST DAY OF 4-DAY TESTING PROJECT





William H. Schick, "Chief Test Supervisor"
Hans W. Rudolph, "Test Project Engineer"
Gilbert H. Whittaker, "Test Supervisor"



PRELIMINARY TO
OV-101 ENTERPRISE
SPACE SHUTTLE
TESTING PROGRAM

Edwards
A.F.B.

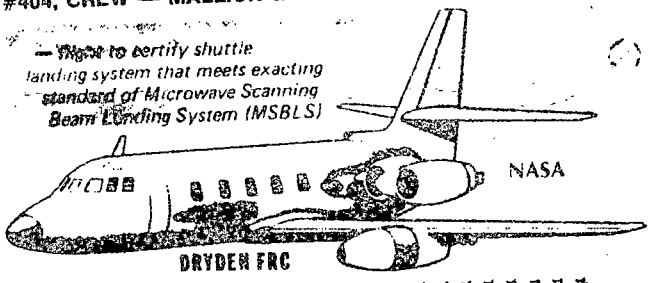


#404, CREW — MALLICK & ENEVOLDSON, NOV. 3



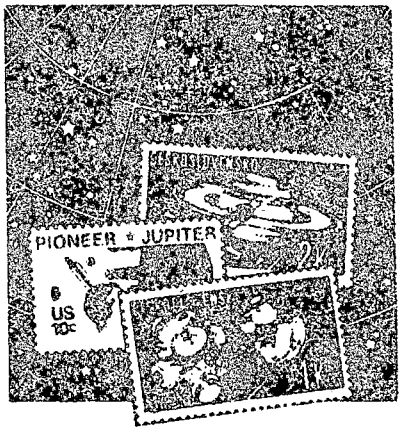
PILOT DON MALLICK

— Right to certify shuttle landing system that meets exacting standard of Microwave Scanning Beam Landing System (MSBLS)



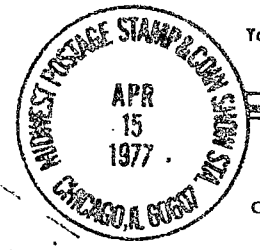
★ 1st Star - Shuttle Landing Tests

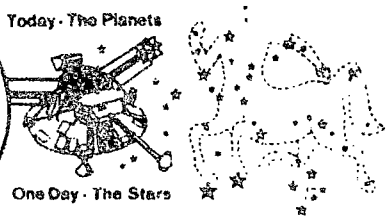
MIDWEST POSTAGE STAMP
& COIN SHOW · SPRING 1977
AMERICAN TOPICAL ASSOCIATION



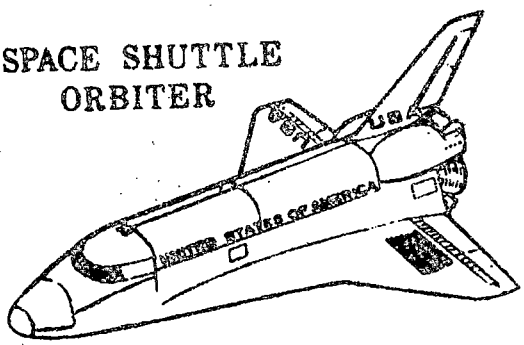
PLANETARY FLIGHTS
FIRST STEPS TOWARD THE STARS

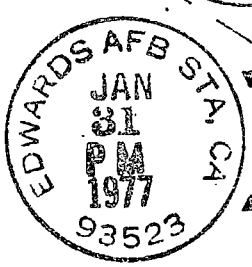
ENTERPRISE, OV-1, ARRIVES AT EAFB TO BEGIN ALT PROGRAM

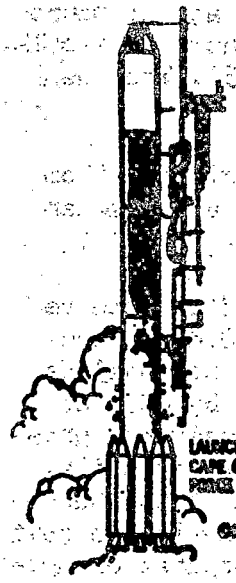




SPACE SHUTTLE ORBITER







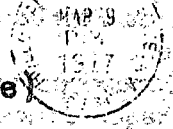




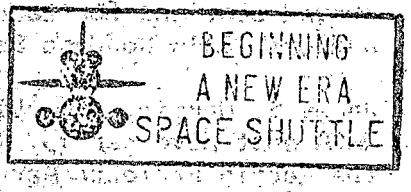


NASA GRUMMAN GULFSTREAM II (STA)
Flight Over Northrup Strip, NMSR

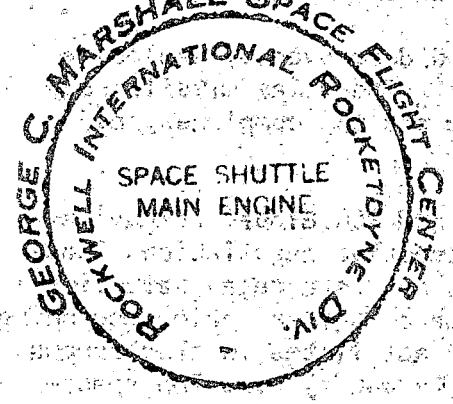
HOLLOMAN AFB, NEW MEXICO
DATE: 9 March 1977
TIME: 1030 hrs
TEST: Orbiter (Space Shuttle)
PROJECT: JON 921ESD01
TEST NO: 4GE-A3
SLED NO: FDN 7506
MANAGER: Captain Brewer
REMARKS: Testing escape hatch.







NSTL

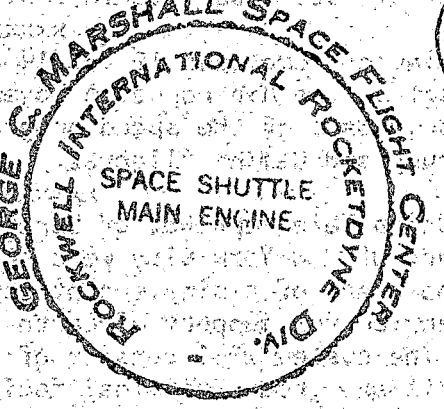




ALL-UP THROTTLE TEST

TEST 056 ENGINE 002

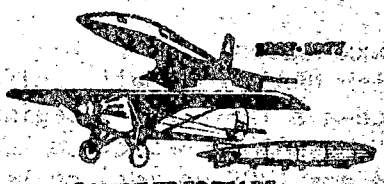
NSTL

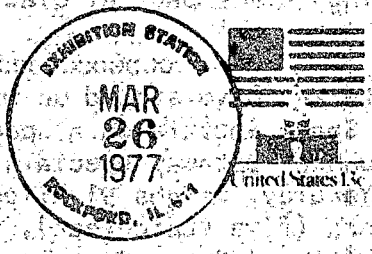




ENGINE DAMAGED BY FIRE

TEST 043 ENGINE 003





"Historical Highlights from Space," a 36-minute tape cassette with the actual sound and voices that high-lighted events of space exploration from 1958 to now, is available from National Space Institute, P.O. Box 31251, Washington, DC 20031. The cost is $3.50 (check or money order).

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An updated "Capsule History of Weather Satellites" (#76-146) is now available from the NASA Newsroom (Code FP, Washington, DC 20546). Brief details cover all weather satellites from Tiros-1 in 1960 to NOAA-5 in 1976.

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Argentina plans to build Latin America's second ground station designed to receive Earth resources data directly from NASA's Landsat satellites under a recently concluded agreement between NASA and the Argentine space agency, Comision Nacional de Investigaciones Espaciales (CNIE). The new ground station, to be built by CNIE at Mar Chiquita on the coast south of Buenos Aires, will be capable of receiving, processing and disseminating data covering all of Argentina and all or part of Chile, Bolivia, Uruguay and Paraguay. After the first six months of operation of the Mar Chiquita station, CNIE will provide NASA with $200,000 annually to share in the cost of operating the Landsat satellites. Ground stations presently are in operation outside the U.S. at Prince Albert, Canada; Cuiaba, Brazil; and Fucino, Italy. Iran, Chile and Zaire have signed agreements to build their own Landsat stations, and Canada has nearly completed a second Landsat station near St Johns, Newfoundland. U.S. ground stations for Landsat are located at Fairbanks, Alaska; Goldstone, Calif.; and at NASA's Goddard Space Flight Center.

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James S. Martin, Jr., Viking Project manager since late 1968, resigned from his NASA post November 15, 1976 to become a vice president of Viking's prime contractor, the Martin Marietta Aerospace Company at Bethesda, Md. The data marks the official end of Viking's primary mission. Martin was succeeded at Viking's operational headquarters at JPL in Pasadena by mission director G. Calvin Broome.

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The Redstone test stand at the Marshall center has joined launch complex 39 at KSC as a historic site listed in the National Register of Historic Places. Before being phased out of active service in 1961, the stand made 364 test firings.

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Historic launch complexes 12 Ind 14 at Cape Canaveral were destroyed by explosive charges set by the Air Force on November 30 and December 1. The Atlas missile used in the early days of the space program were launched from the two complexes, as were Mercury and Gemini flights.

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Western Union Telegraph Co. of Upper Saddle River, N.j., and RCA Global Communications, Inc. of New York City were selected by NASA for competive negotiations leading to the award of a single contract to provide tracking and data relay satellite system service for support of Earth orbital spacecraft for a 10-yesr period beginning in 1980. The system will consist of two specialized relay satellites in synchronous Earth orbit and ground terminal facilities located at White Sands, N.M. The spacecraft will relay data, commands and voice to and from the ground terminal. The system will support spacecraft in Earth orbit at altitudes of at least 5,000 kilometers or 3,100 miles.

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In mid-December, NASA's Viking spacecraft resumed activity on Mars after a month-long hiatus resulting from a partial blackout by the Sun of Viking-to-Earth communications.

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The first four customers have signed up with NASA for small, self-contained payloads to be flown aboard Space Shuttle on a space-available basis beginning in 1980. Each of the payloads, dubbed "getaway specials" by NASA's Associate Administrator for Space Flight John F. Yardley, weighs 91 kilograms (200 pounds) or less, measures less than .14 cubic meters (five cubic feet), is for research and development purposes, and requires no additional Space Shuttle services such as electrical power or deployment in space. The four customers, in order of signing, are: R. Gilbert Moore, a

private citzen from Ogden, Utah, who plans to place research equipment in his payload. Dr. L.R. Megill, chairman of the space science experiment committe at Utah State, as a follow-on to Moor's. Reiner Klett, a German consultant representing independent German researchers, has signed for two payloads. They will be for space-processing experiments, the other for a biological experiment. Battelle Memorial Institute in the field of materials science. NASA is seeking customers for larger payloads for Space Shuttle missions. The agency is negotiating with COMSAT to fly three missions which will place Intelsat V communications satellites in Earth orbit.

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NASA is modifying some of the Saturn-Apollo equipment and facilities used in the Apollo, Skylab and Apollo Soyuz programs for use in future space programs and is taking steps to dispose of remaining Saturn-Apollo hardware that has no future Application. By disposing of obsolete hardware, the agency will eliminate storage costs, free space, and make facilities available for currently operative programs. Much of the Saturn-Apollo hardware will be turned over to the Smithsonian Institution. Other equipment is being screened for possible use in the Space Shuttle program or in others.

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United Space Boosters, Inc. of Sunnyvale, California (a eholly owned subsidiary of United Technologies Corp.) has been chesen by NASA as the assembly contractor for the Space Shuttle solid rocket booster. A cost-plus-awards-fee contract was negotiated for $122 million, which includes the maximum potential awards fee.

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Dear Collector:

As promised The Dish is coming your way once again, but later than in the past. The next issue am not sure when you will receive since the summer months will be on us before long, and then I will have many other things to do. I hope it can be worked into my schedule for the next three months, but if not you will receive as soon as possible.

As you will note this is being mailed Third Class and this I am going to have to go by. Sending by different classes of mail complicates matters and a lot more work is involved. In order to save a little on postage, you may send payment for this issue and the next at this time. The cost of this and the next issue is $1.00. Several people have this issue paid and if a red check appears by your name on the address label, please do not send payment.

For a while I was having trouble getting items of material to make the space rubber stamps. At the present I believe this has been solved and three new rubber stamps will available shortly. They will be Project Mercury, Space Shuttle Launch and Space Shuttle-747. For a stamped addressed envelope a sample copy of these will be mailed with the price of each.

As you will note several people have not sent articles or other material for this issue as in the past. Am hoping they will send for the next issue and if anyone has an article or material of interest, please send a long.

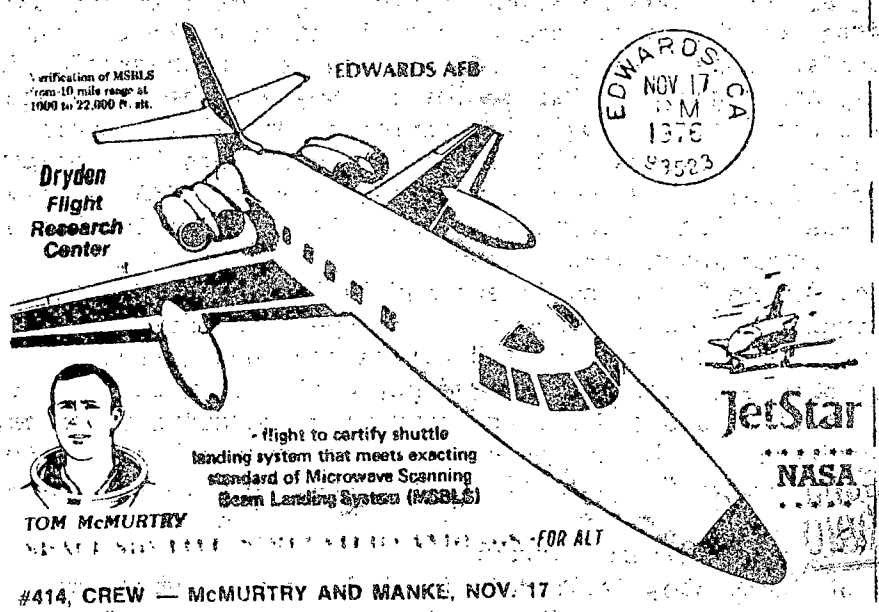
GOOD COLLECTING

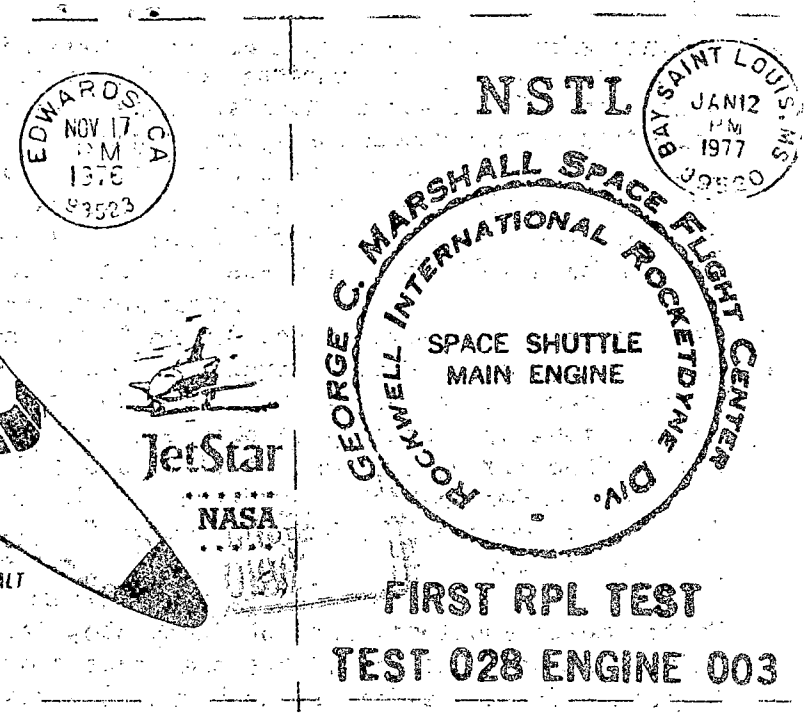
Sincerely, Bob

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

The Churchill Research Range, operated by the National Research Council of Canada, exists for the sole purpose of launching and recovery data from sounding rocket payloads. Although some of these scientific payloads have been developed to provide pertinent data in support of orbital and deep space missions, our work consists mainly of supporting those scientists interested in exploring the space nearer the earth, and in particular the phenomena associated with auroral activity.

Churchill is situated on the western shore of Hudson Bay, approximately 565 miles north of Winnipeg, Manitoba, and 8 degrees below the Arctic Circle. The area is serviced by regular air service and rail service. During the period from about the 25th of July through to the middle of October, Churchill is also active as a Seaport. Wheat is carried by the vessels departing the Port of Churchill for world markets. (Editor:Usually this type of letter is received in Churchill covers and is signed by C.R. Barrett, Superintendent)



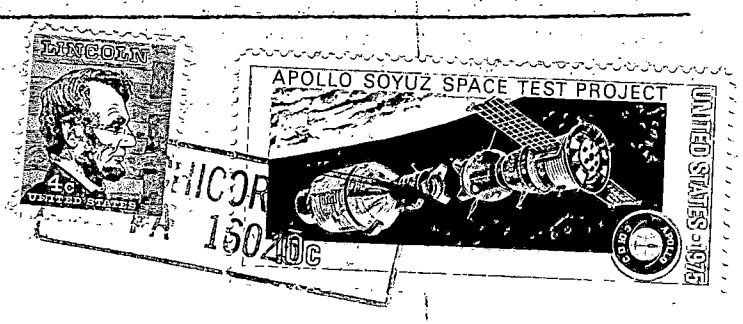


Some very good material on the space program can be obtained from the following two pages. From the National Technical Information Service, Springfield, VA 22151 the following may be ordered. A History of the Deep Space Network, Report No. NASA CR-151915, $7.50 240 pages; NASA Historical Data Book 1958-68 Volume 1:74-600126, $12.50 543 pages.

These can be ordered from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Space Shuttle;SN 3300-0386; 25¢, 8 pages; Quasars, Polsars, Black Holes...and Heao's: SN 3300-00542; 80¢ 20 pages; Space Shuttle; SN 3300-0459; 50¢ 8 pages; Orgins of NASA Names; SN 033-000-00636-5, $3.65, 227 pages; Order of Magnitude, SN 033-000-00642-0, $2.20, 100 pages; Space Shuttle, SN 033-000-00651-9, $2.50, 89 pages; ERTS-1, A New Window on our Planet, SN 024-001-02757-7, $13.00, 362 pages;

Please let me know if you have other material on the space program. Send name, number, price and pages.

Robert D. Ekas
P.O. Box 295
Chicora, PA
16025 USA



MAILED

APR. 28 1977

THIRD CLASS

TO----

Mark P. Ireben
156 Bacon Street 3
Rossford, OH 43460