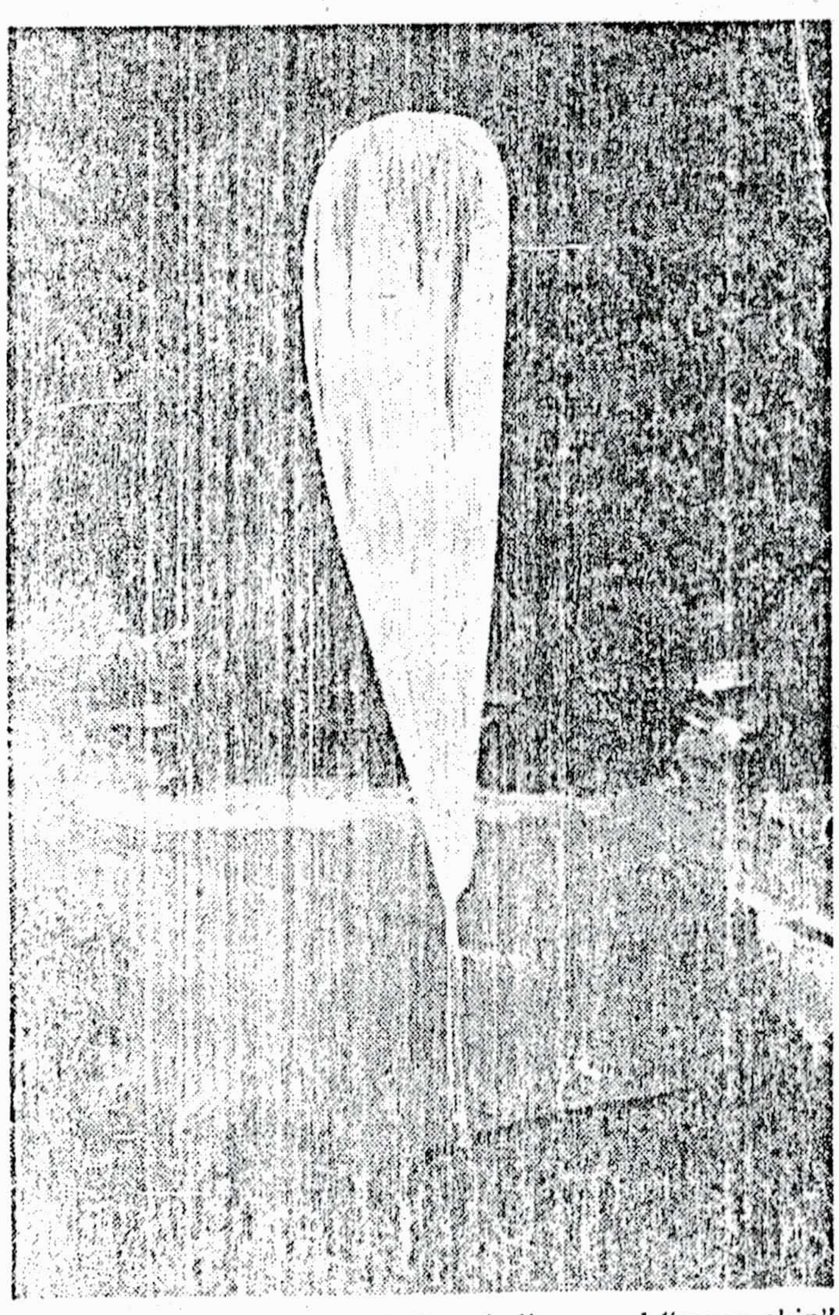
Monday, June 3, 1957 LXXIX—NO. 163 Two Sections

A Man From Space



Capt. Joe Kittinger's helium balloon and "space ship" head down for an opening in the wooded farm land of Gilmore Olson, near Weaver, Minn. The picture was made from the helicopter which trailed the descent.

Balloonist Hits 18-mile Record

By JOHN NYBERG
Minneapolis Star Staff Writer

An aerial "triple-threat man," modest, 28-year-old Joe Kittinger, earned himself a place in the history books Sunday.

The entry:

"On June 2, 1957, Capt. J. W. Kittinger, Jr., jet pilot, parachutist and balloonist, rode a balloon higher than man ever has before—96,000 feet. He set the record with a balloon and gondola built by Winzen Research, Inc., Bloomington, Minn.

"It was," says Kittinger, "the proudest moment of my life."

From his aerial perch 18 miles above the earth just east of Minneapolis, Kittinger looked through an opening in a layer of cirrus clouds and saw the boundaries of Lake Michigan.

Straight up the sky was a dark blue color—darker and bluer than it ever is when seen from the ground, he said.

Kittinger hung there from his virtually motionless space platform an hour and 50 minutes drinking in what he calls a "most beautiful and inspiring view."

Take-off from South St. Paul's Fleming field was 6:23 a.m. The two-million cubic foot bag, filled with helium, gave the pilot a swift elevator ride to ceiling altitude.

Ascending at a rate of 1,230 feet a minute, he reached floating level in 78 minutes.

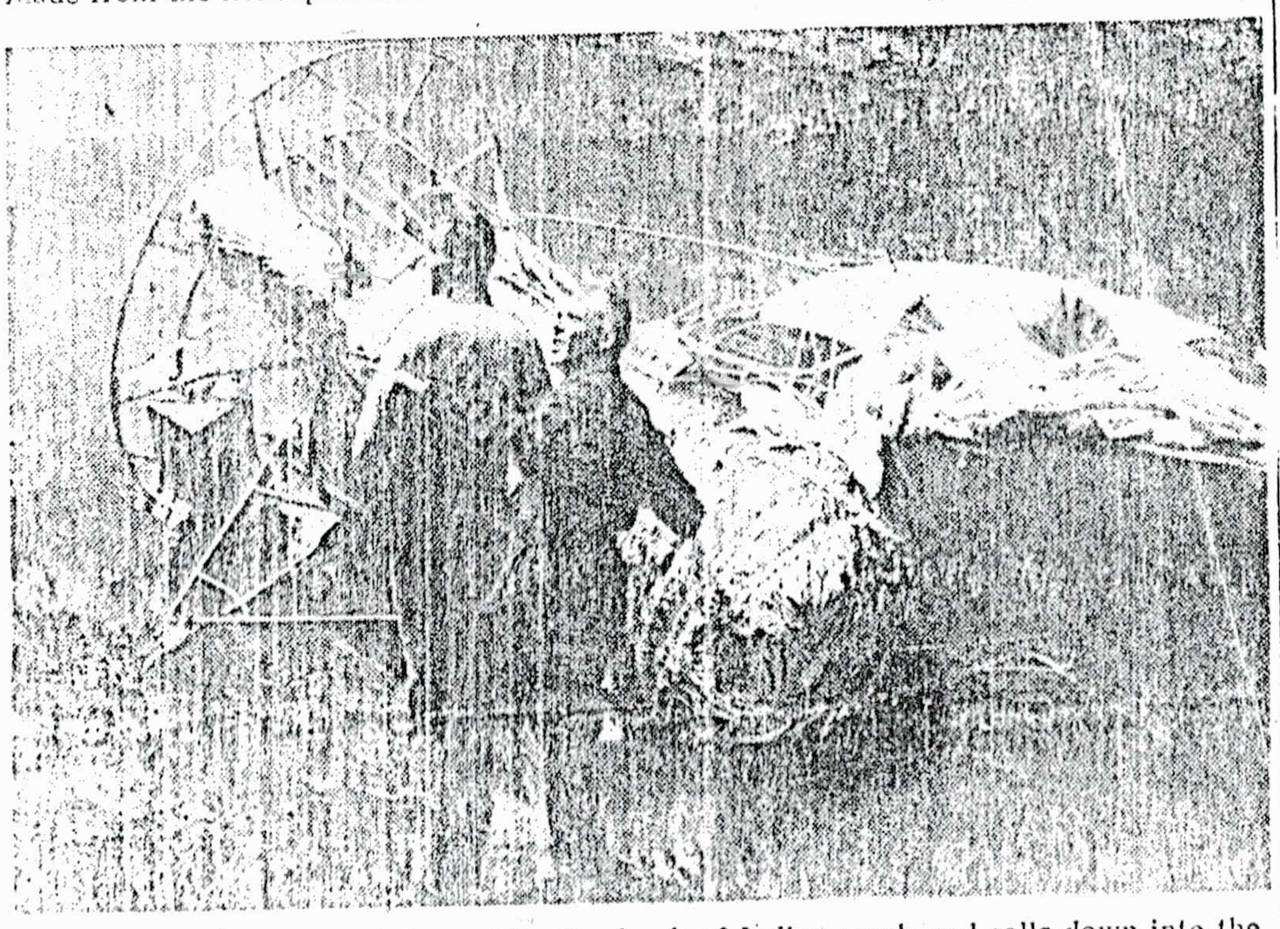
The intent had been to remain at ceiling at least six hours. Due, however, to a failure in the VHF (very high frequency) communication system and also partly because of a small leak in the capsule's oxygen regulation system, the decision was made to come down four hours earlier.

Messages were transmitted by code over a small battery-powered "back-stop" transmitter.

Releasing gas through an electrically-operated valve in the balloon, Kittinger descended at speeds from 400 to 1,000 per minute. Touchdown was 12:57 p.m. on the farm of G. F. Olson, one mile

BALLOON
Turn to Page 4A

★ ★ ★ ★



Capsule containing Kittinger hits the bank of Indian creek and rolls down into the water. At this point, the condition of the air force captain after his record 96,000-foot ascent was not known . . .

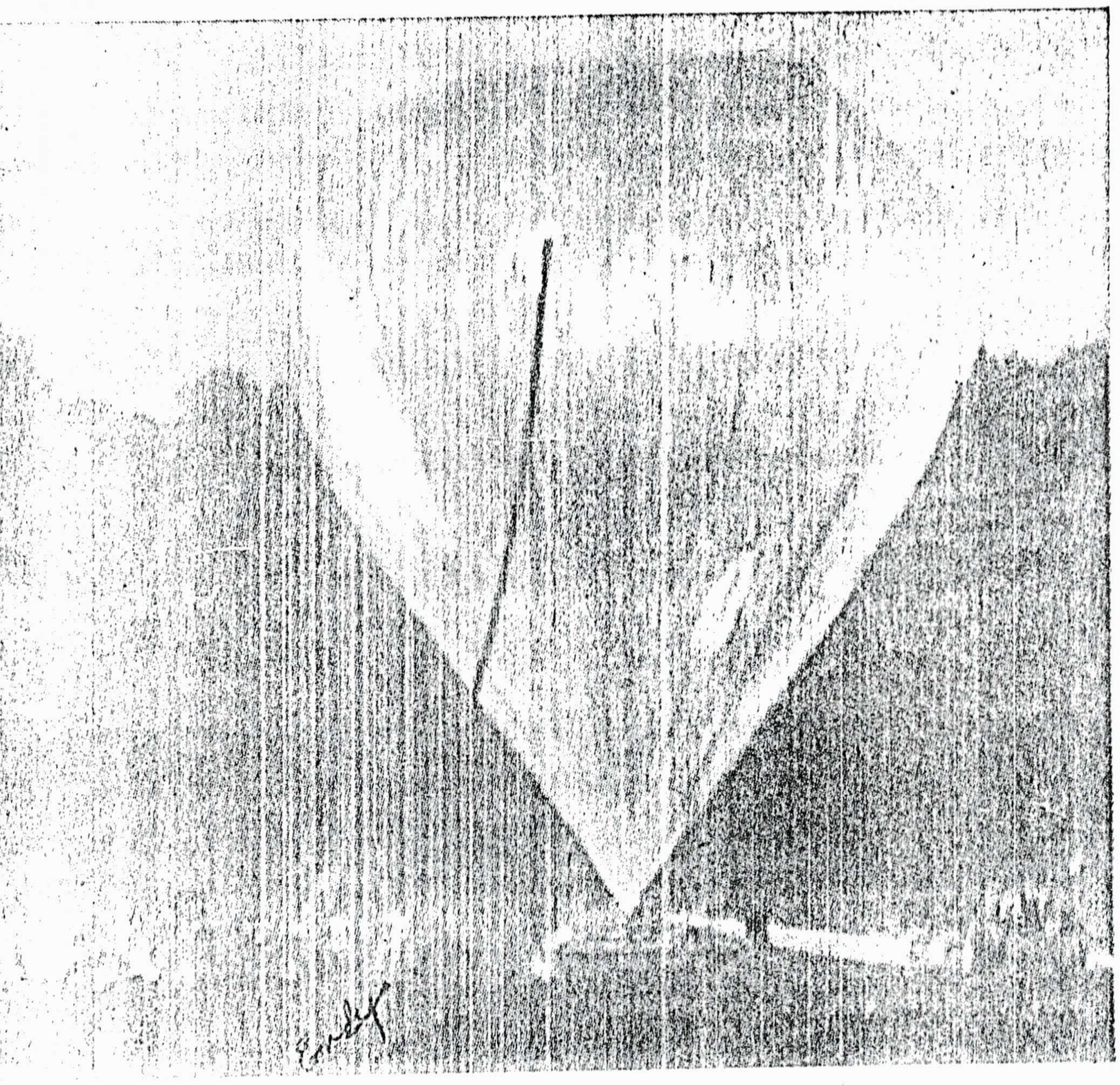
Seconds later, Kittinger's upraised hand (arrow) indicates all is well. His rapid descent made it difficult to follow the capsule by helicopter.

Minneapolis Star photos by Wayne Bell

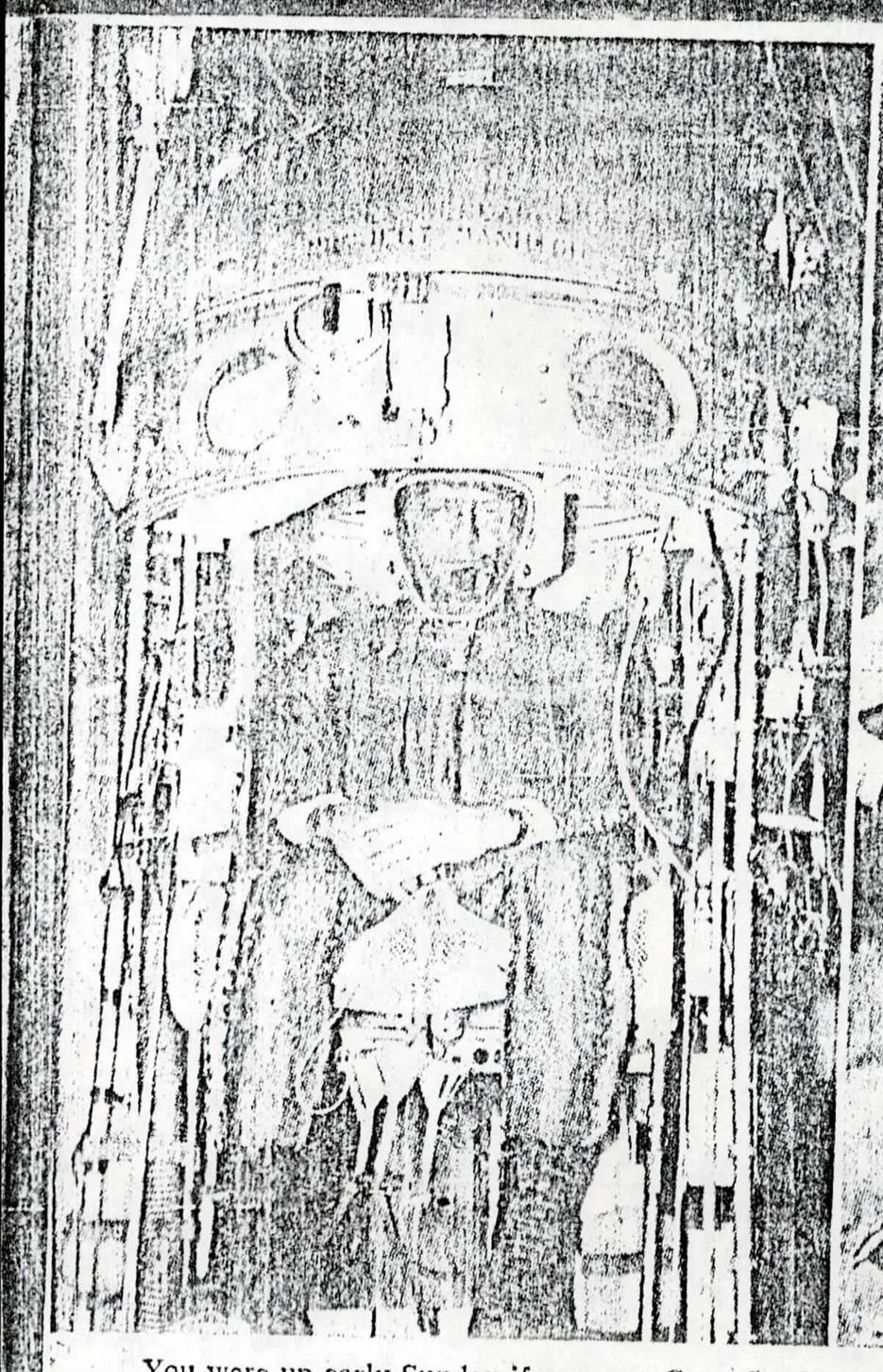
Kittinger receives congratulations from the first member of the ground crew to reach him. Oxygen provided by special equipment in the capsule enabled Kittinger to survive the journey into the atmosphere. (Other pictures on page 1C.)

June 1 1957

Start of Record 18-mile Ascent



Back on earth after his 12-hour journey to record heights, Capt. Joe W. Kittinger has a smile for his ground crew. From portholes in his capsule, Kittinger said the view was magnificent. "I could look down and see all the way from Minneapolis to the east side of Lake Michigan," he explained. He was at top altitude (96,000 feet) for an hour and 50 minutes. Purpose of the flight was to gather scientific information.



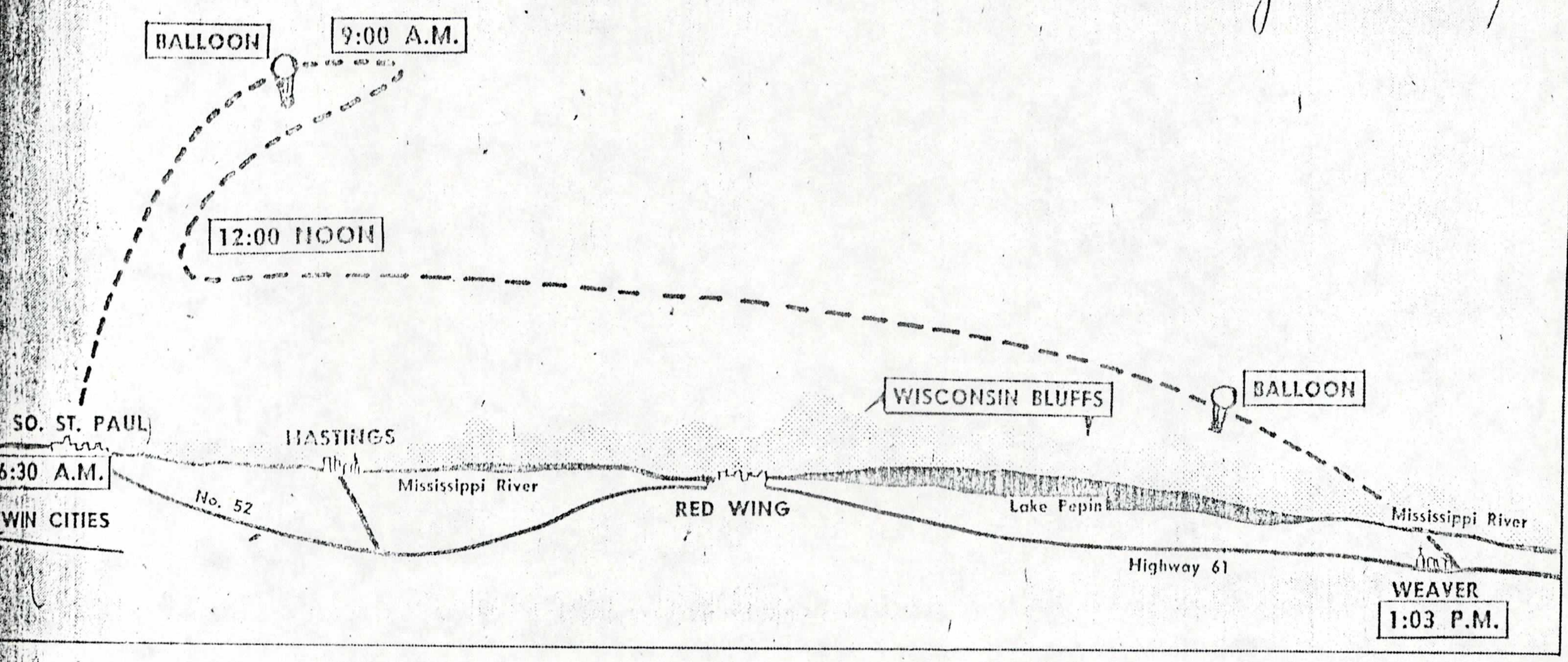
Minneapolis Star photos by Wayne Bell

You were up early Sunday if you saw Capt. Joe W. Kittinger start his record 18-mile-trip into the Minnesota skies. The big helium-filled balloon was released (above) from Fleming field, St. Paul, at 6:23 a.m. The 28-year-old air force captain made the trip in the tiny capsule (lower left), shown before the take-off. It was so small there was no possibility of Kittinger's moving around inside. At 90,000 feet the outside temperature was 70 degrees below zero. Inside Kittinger's capsule was 50 degrees, a comfortable atmosphere provided by the capsule's heating system. At right, Kittinger, back down to earth near Weaver, Minn., is examined by a medical officer who found him in good condition after the trip that took him higher than man has ever gone before in a balloon.

Col. John P. Stapp (left), chief of the aero medic laboratory, Holloman field, and famed for his rocket sl experiments, and Maj. David G. Simons (right), who pla a 100,000-foot ascent next month, help Kittinger with h flight suit after the landing.

Here's Flight Path of Balloon During 12-hour Trip Sunday

June 2 1957



Minneapolis Star map by John Matthews

From the early take-off Sunday until completion of trip at 1:03 p.m., this was the approximate route of nger's balloon. The capsule came down on the farm ilmore Olson, one mile north of Weaver, Minn., about iles south of Wabasha, and about a mile west of U.S. way 61. The landing was in a small pasture, ed by hills, behind Olson's barn. The capsule hit the bank of Indian Creek and bounced back, landing upright in the water, which at this point is about 18 inches deep. A few instruments were water-damaged before the ground crew reached the capsule. At noon the balloon was directly over Northfield, Minn., at about 37,000 feet. Winds carried the capsule toward Weaver during the descent. It fell at a rate of about 500 feet a minute. Minneapolis Star photographer Wayne Bell, equipped with five cameras loaded with color and black and white film, followed the descent in an air force helicopter. He was the only news photographer making the helicopter trip and also covered the news event for the Associated Press, United Press and International News service and area newspapers as pool photographer.

Sept Aug 31

Couple Plan Balloon Trip Across Continent

MINNEAPOLIS (AP)—Otto Winzen said Thursday night he, his wife and two others are planning a transcontinental balloon trip sometime in October.

Winzen, head of Winzen Research Inc., Minneapolis, said the balloon used would be similar to that in which Maj. David Simons, an Air Force officer, recently soared to a record 100,000 feet.

The Winzen firm manufactured all of the balloons used in that successful "Man High" experiment. Mrs. Winzen is superintendent of production of the plastic bags.

Joe Groth, a Winzen official, said October was picked because that is the month when prevailing westerly winds are the strongest. The flight will be made in an open gondola at about a 39,000-foot altitude.

To ward off the cold, the party will wear winter clothing and breathe through oxygen masks. Winzen said the other two members of the proposed party, expected to be Winzen employes, have not yet been selected.

The ascent will be made from San Diego, Calif., but no firm destination has been set. Winzen said it could be "anywhere on the East Coast from New York to Florida."

If winds hold to their usual pattern for that season, he said the balloon probably would come down somewhere in North Carolina when the descent is started through release of helium from the huge plastic container.

Winzen estimated the flight would take from two to four days, according to velocity of the wind. He added that it is being undertaken in celebration of the 10th anniversary of plastic balloons and to gather some scientific information.

The military will provide some scientific instruments for the flight.

Friday Nov 8 '57

MRS. OTTO WINZEN
Cross-country trip?

★ ★ ★ ★

'JOYRIDE' FOR RECORD Nov 8 '57

Winzen, Wife Will Cross U.S. in Balloon

By JOHN NYBERG
Minneapolis Star Staff Writer

A Bloomington couple who have been helping unlock the secrets of space with man's oldest aerial vehicle—the balloon—are planning to take a spectacular balloon "joyride" in the near future.

The 20th century counterparts of Phileas Fogg (Around the World in 80 Days) are Otto Winzen and his artist-photographer wife, Vera.

Sometime this month, if the weather is favorable, they hope to embark on a windborne trip unique in ballooning annals — (a sport, incidentally, 174 years old).

Winzen

Equipment has been transported to San Diego, Calif., and is in readiness there for takeoff. Weather the past two weeks has not been suitable for the flight. If it fails to "lift" before Dec. 1, the flight will be postponed until next spring.

Destination of the flight: somewhere in the central part of the east coast, depending on winds. That would make it the first coast-to-coast balloon flight ever made and establish a distance record for balloon travel, almost doubling the standing record of 1,896 miles set in 1914.

Wearing cold-weather exposure clothing and oxygen masks for the mountain-skimming altitudes (25,000 feet), the Winzens hope to cross the continent in two to four days, depending on wind velocities.

Their companions on the "skyhook" flight will be Maj. David Simons, air force flight surgeon who earned headlines in the world's press by hanging in a sealed capsule at the edge of space for 32 hours last summer, and John Schanche, Life magazine staff writer.

The foursome will ride in an open gondola made of steel tubing and canvas. It measures eight feet in diameter and will have a gross weight — occupants, food, two-burner stove, cameras, cold weather gear and other equipment — of about 3,000 pounds.

The gondola's lift will be provided by a plastic balloon 72 feet in diameter and filled with 50,000 cubic feet of helium.

Something of an improvement from the aerial vehicle that wafted Pilatre de Rozier and the Marquis d'Arlandes

Next page

BALLOON

Continued from Page One

to the impressive altitude of 3,000 feet in the world's first free balloon flight. That ascent was made from the Bois de Boulogne in France Nov. 21, 1783, and lasted 20 to 25 minutes.

The practicality of balloon flight had been proved the previous June 5 by France's Montgolfier brothers, Joseph and Jacques.

In the presence of a large crowd of spectators at Annonay, near Lyons, the brothers inflated their balloon, a linen globe 105 feet in circumference, with hot air, over a fire fed with small bundles of chopped straw.

When released, the balloon rapidly rose to a "great height" and descended a mile and a half away 10 minutes later.

Another historic, unmanned ascent was made on Aug. 26, 1783—this one from Paris by a balloon made of thin silk varnished with a solution of elastic gum.

Filled with hydrogen gas, the bag climbed to about 3,000 feet, remaining in the air about three-quarters of an hour. It fell on a farm about 15 miles from the launching site and so terrified peasants in the area that they tore it to shreds.

Joseph Montgolfier repeated the Annonay experiment at Versailles on Sept. 19, 1783. This time, however, he suspended a cage beneath the balloon and placed therein a sheep, a cock and a duck, the first such aerial travelers.

While ballooning itself is somewhat bewhiskered, the plastic balloons used by General Mills and Winzen Research, Inc., for upper air research and also for the Winzens' cross-country dash are relatively in their infancy.

Dr. and Mrs. Jean Piccard of the University of Minnesota used a rubberized fabric balloon in their widely-publicized ascent from Detroit, Mich., in 1934, reaching an altitude of 57,580 feet. In 1935 Captains Stevens and Anderson of the United States army went to 72,000 feet in a rubberized fabric balloon from Rapid City, S.D.

Piccard began plastic balloon research in 1936. One of the bags — of low-strength cellophane—stayed in the air at 50,000 feet for 10 hours June 21, 1936.

Following World War II, Piccard worked as a consultant with Winzen in balloon research.

Winzen, born in Cologne, Germany, in 1918, and an emigre to the United States at the age of 19, studied advanced aeronautical engineering at the University of Detroit. (It was at a college dance that he met his wife, Vera, accomplished artist and daughter of a Detroit photographer. In addition to heading the production department at the Winzen firm, she is the company's chief photographer.)

During World War II Winzen was chief engineer with the Minnesota Tool and Manufacturing Corp. in Minneapolis. He left this organization in 1946 to propose a program of upper atmosphere research to the government, organizing in the same year the balloon department at General Mills. He holds the basic patent for development of the polyethelene stratosphere balloon.

In 1948 he formed his own company, which specializes in the research, development and flight operations of plastic stratosphere balloons, and also develops the airborne instrumentation, including manned gondolas, for such flights.

Winzen launched the first big "skyhook" balloon for General Mills Sept. 25, 1947. It reached 100,000 feet despite millions of tiny pinholes in the film, leaky seams covered with adhesive tapes and a makeshift launching method.

Then followed two failures. The next flight accomplished a major break-through.

"It is pleasant to remember the excited phone call from Doctors Hornbostle and Salant of the Brookhaven laboratories who asked that a few cosmic ray track plates be flown on this flight," Winzen recalls. "They said, 'It will take years to analyze the wealth of cosmic ray events in these plates!'

"From that day on, cosmic ray research and plastic balloons became inseparable. Project Skyhook was on its way."

Winzen, his wife and Simons are all licensed balloonists and enjoy the sport. In addition to the sporting aspects of the cross-country trip, however, they'll be gathering scientific data about air currents and will dramatize the usefulness of balloons as research vehicles.

"Eventually," says Winzen, "man will want to conquer space, to fly around the moon and to land on other planets. Before he is able to do this, he must know his physical limitations and the effects of prolonged exposure at high altitudes.

"For unless man understands the problems so he can integrate the limitations for his frail body into the flight of a rocket ship, it would be useless to start with the design of a space vehicle.

CROSS-COUNTRY BALLOON FLIGHT PLANNED BY WINZEN

WASHINGTON — (Special) — Otto C. Winzen, president of Winzen Research, Inc., Bloomington, Minn., revealed plans today to make a transcontinental balloon flight this fall.

Winzen

Speaking at a convention of International Society of Aviation Writers, Winzen said the proposed flight would begin in Southern California and end somewhere in North Carolina.

If the plans work out, the flight will break the 43-year-old balloon distance record of 1,896 miles.

Winzen, however, is less interested in records than in scientific data. He believes the flight will provide valuable information on low-level turbulence and the jet stream.

The balloon would ride the jet stream from coast-to-coast in two to four days, he figures. Winzen will use a helium-filled, polyethylene plastic balloon.

Balloon Takes Airforce Doctor Skyward To Brink Of Outer Space

CROSBY, Minn. (AP) — A huge silvery balloon climbed out of a cavernous iron mine today carrying an Air Force doctor skyward for a 24 hour look at the brink of outer space.

As helicopters hovered around the huge pit, Major David G. Simons was lifted toward a record-breaking altitue and an unprecedented experiment in aerial medicine.

A bright northern Minnesota sun burned off an early morning fog before the balloon, a block long against a background of the jagged deep red iron ore, hoisted the 34-year-old airman to a history-making flight.

Major Simons, a native of Lancaster, Pa., peered out of a half dozen port holes in his gondola — a tiny silver capsule laden with instruments — as Air Force project "Man High" got under way at 9:25 a.m. (CDT).

In his first radio report, Major Simons said "everything is going well." At that time the balloon was at 50,000 feet.

An endurance test of man's ability to live in an artificial atmosphere for long periods of time at high altitude, the flight was expected to give the Air Force important information on what pilots of the future must contend with during travel through space.

Scene of the launching was H. M. Hanna Co.'s Portsmouth mine on the Cuyuna Iron Range in north central Minnesota.

Time and place of the launching was withheld from the public because of the critical nature of the flight, but hundreds of cars gathered near an observation platform overlooking the 425 foot deep iron mine to witness the event.

Major Simons, chief of the space biology branch of the aero-medical laboratory at Holoman Air Development Center, Alamogordo, N.M. was to rise to a maximum altitude of 102,000 feet, then remain there until starting his descent Tuesday afternoon.

Winzen Research Inc., Minneapolis, project contractor for the Air Force, said the balloon would move 30 miles southeast on ascent, then switch direction to northwest and float 400 to 500 miles across North Dakota before starting its descent near Miles City in eastern Montana.

Major Simons, a slightly balding father of four, entered the aluminum capsule at 11 o'clock Sunday night to breath a mixture of oxygen and helium for some 10 hours before the launching. This was done to prevent the possibility of the painful and probably fatal bends in his pressurized "vacuum bottle."

Simons, wearing an emergency pressure suit, rode in the gondola as it and the collapsed balloon were trucked to the bottom of the mile long mine pit.

Ore laden mining trucks provided an incongruous contrast to the silence he was to experience as his balloon rose into space.

On reaching maximum altitude Major Simons would be suspended above 99 per cent of the earth's atmosphere, a target for cosmic rays and unrelenting sunlight, unobstructed by the earth's gases.

Fifth pounds of dry ice were loaded aboard the gondola to provide a cooling system for the pioneering officer.

The balloon fabricated of superthin polyethylene, was designed to expand to a capacity of three million cubic feet — 202 feet in diameter. The flight, originally scheduled for last Friday, was postponed until today because of wind and other weather difficulties.

The deep open pit mine was used for launching to prevent surface winds from tearing the big gas bag.

Maj. Simons' capsule, 7 feet high and 3 feet in diameter — was equipped with many instruments to record his physical reactions during the flight and to collect other scientific data.

He carried fruit juice, sandwiches, candy and water to sustain him. Two radios will keep Simons in constant contact with the ground and tracking planes.

When the balloon was released it rose swiftly into a clear sky as hundreds of spectators craned their necks.

Today's flight followed years of extensive preparations starting four years ago with flights carrying laboratory animals aloft in a sealed container. Simons' trip to the top of the atmosphere underwent its final big test June 2 when another Air Force officer traveled to 96,000 feet in the same gondola.

Capt. Joseph Kittinger made the June excursion but stayed aloft for only a few hours to test equipment for today's flight.

Simons' flight will fall short of the altitude record reached by man, however. Capt. Ivan Kincheloe climbed to 126,200 feet over California in 1956 in a Bell X2 rocket plane.

Among observers on the scene today was Col. John T. Stapp, project officer for the flight who gained fame for his rocket sled experiments. He said the flight would be a "24 hour proof of the livability of a really sealed capsule."

Col. Stapp said Simons' ride into the sky would tell much about the future of flights above altitudes where oxygen from the outside can be used to keep man alive.

"There will be very little difference between Maj. Simons' position in the sky and outer space," Col. Stapp said.

Maj. Simons, his tiny compartment pressurized at the equivalent of the pressure at 20,000 feet, will control ascent and descent of the balloon by an electric valve at the top of the plastic bag and with ballast.

A 48 foot parachute was between the balloon and the gondola for emergency. Major Simons also carries a chest parachute.

After bringing the balloon down in Montana Simons will receive an extensive medical and psychological checkup before holding a news conference back at the Winzen plant in Minneapolis.

Crosby is about 110 miles north of Minneapolis.

Space-edge Explorer Eyes Higher Things

Winter at Fleming Field in South — Wed Aug 13 for trial

By JOHN NYBERG
Minneapolis Star Staff Writer

A man who will hang at the edge of space for upwards of 24 hours late this week isn't ready to concede that man will never travel in space.

Scientists have said that high-energy space radiation encountered by Explorer IV means an end to man's dream of traveling in space. But Capt. Grover J. Schock disagrees.

"If I remember my history," says the 32-year-old space physiologist, "they said back in 1903 that the Wright Brothers would never fly."

"I think one reason man wants to travel in space is the same reason the conquerors of Mount Everest had for making their historic climb—it's there!"

If he could qualify for the job, Schock says he would like to ride the first man-carrying satellite to orbit around the earth.

Schock

Except for the problem of weightlessness of space flight, the rusty-haired Galesburg, Ill., native will experience, when he jumps off for outer space in a balloon gondola this week, all the human-factor problems expected for a satellite pilot.

The air force and Winzen Research, Inc., (builder of the balloon and gondola) have scheduled the take off for Thursday or Friday from an open pit iron mine near Crosby-Ironton, Minn.

Meanwhile, Schock is going through final tests for the flight including 16 hours of low-altitude soaring in an open basket to become a qualified balloonist under civil aeronautics regulations.

While he is new to ballooning, Schock is not particularly apprehensive about his space-research Man-High III flight, scheduled to take him to 97,000 feet.

"I have a good example in Col. Simons," said Schock. "He is no greyer nor more decrepit because of his flight."

Lt. Col. David G. Simons, who set a balloon altitude record of 101,500 feet a year ago in the same air-tight cabin Schock will ride, is project officer for this week's flight.

Air force doctors have put Schock through a battery of physiological and psychological tests and describe him as "an unusually stable type of individual."

Chief aim of Man-High III will be to study the physical and psychological reactions of a man suspended in space for a long period.

From his instrument-crammed cabin, Schock will be in radio communication with a panel of scientists on the ground. These scientists are experts in the fields of space medicine, physiology, meteorology, astronomy, space psychology and psychiatry, geophysics, aerial photography, radiation, sky-brightness and space capsule design.

While Schock is suspended in space collecting answers to stress and other human-factor problems of space flight, his wife, Mary Louise and their three children will be at home at Alamagordo, N. M.

"She is a remarkable woman," says Schock. "Whatever I do is okay with her."

August 14 - 1958

SCHOCK, WINZEN HURT IN FALL

Balloonist's Condition Critical After Crash

Special to the Minneapolis Star

ASHLAND, Wis. — Capt. Grover J. D. Schock, 32-year-old space biologist, remained in critical condition at St. Joseph's hospital here today with injuries suffered during a balloon training flight late Wednesday.

His flight instructor, veteran balloonist Otto Winzen, 40, was under sedation. His injuries include two broken ribs, an arm fracture and back injury.

The pair had made the practice flight to qualify Schock for his scheduled Manhigh III space exploration flight Friday.

Whether Manhigh III will be conducted this summer—with another volunteer replacing Schock—won't be known for several days following conferences between project officers and officials of ARDC (air research and development command).

Meanwhile, Col. Rufus Hessberg, chief of the aeromedical field laboratory at Holloman air force base, New Mexico, appointed Dr. (Capt.) George Ruff, of Wright field, Ohio, official air force doctor in charge of care for Schock and Winzen.

Schock was cut under the chin from one side of his face to the other and suffered back and possible internal injuries when the open gondola carrying him and Winzen separated from their balloon and plummeted to the ground from 125-to-150-feet altitude.

In normal balloon flight, the gondola and an attached parachute are separated from the balloon by a powder charge touched off by an

THE MINNEAPOLIS STAR
AA Thurs., Aug. 14, 1958

BALLOON

Continued from Page One

electrical circuit from the car.

The question that remains unanswered concerning the flight yesterday was whether Winzen and Schock chose to release the gondola to avoid being blown into Lake Superior. (The gondola crashed to earth about a quarter-mile from the lake.)

Or did something go afoul in the nylon lines connecting the chute and gondola with the balloon?

M. Lee Lewis, a former navy balloonist now employed by Winzen Research, Inc., says "there can be all sorts of wild guesses as to what happened . . . it would have been an odd thing, however, to deliberately choose a free fall from 100 feet."

"We won't be able to tell what happened until we can talk to Winzen," said an air force spokesman.

Tom Bouchard and Gordon Schefchik, members of the civil air patrol at Ashland, tracked the balloon by plane after learning it was in trouble.

"We circled the balloon and noticed the occupants were dropping sand bags. They kept dropping ballast but the balloon didn't seem to go up," said Bouchard.

"The balloon and gondola came down fast. I'd guess about 200 feet a minute. The bag itself seemed to look okay.

Two Balloonists Injured When Gondola Crashes in Pasture Near Ashland, Wis.

ASHLAND, Wis. (AP) — The crash of a training balloon gondola Wednesday night injured a balloon builder and an Air Force researcher who was preparing for a solo flight to test man's reaction to isolation in space. The test was postponed.

Capt. Grover Schock, 32, and Otto C. Winzen, 40, suffered extensive injuries when their open gondola plunged 100 or more feet to the earth after they cut loose from the balloon as it headed out over Lake Superior. They apparently released the ball-shaped gondola rather than be blown over the water in darkness. They smashed into a pasture half a mile inland when the gondola's parachute failed to open.

Their fall was witnessed by a police officer, a waiting ambulance crew and two men in a plane sent aloft to follow the balloon.

Mrs. G. E. Terwilliger, on whose farm the crash occurred, said, "there was a terrific thud when the gondola came down 100 yards from our house."

She said the balloon had been flying low, dragging a line that came close enough to grab.

"I saw the balloon pass behind a grove of trees and while it was out of sight I heard a loud report. Then the balloon climbed into the sky without the basket."

Both Men Injured

Schock, a space biology specialist, was cut under the chin from one side of his face to the other. He also suffered back and possible internal injuries. He was in critical condition but showing improvement, according to Capt. George Ruff, an Air Force physician treating him at St. Joseph's Hospital here.

The physician said Schock could not be moved to determine the full extent of his injuries. As Base, N. M., Schock was raised in Galesburg, Ill.

Winzen is president of Winzen Research, Inc., Minneapolis, builder of plastic balloons for experimental purposes. He is in good condition, but suffered two broken ribs, a fractured right arm and back injuries. He will be hospitalized for several weeks.

First Crash With Injuries

M. Lee Lewis, former Navy balloonist employed by Winzen, said it was the first accident resulting in injuries during the 12-year history of plastic balloons.

The pair had ascended from St. Paul, Minn., 175 miles southwest of Ashland, Wednesday morning. The flight was made so that Winzen could qualify Schock for a stratosphere takeoff.

Schock was scheduled to start his 20-mile-high flight Thursday morning from an open pit mine near Crosby, Minn.

An Air Force officer said in Minneapolis that the flight had been postponed indefinitely, but will be carried out at some future date with a replacement for Schock if the officer is not able to make it.

"It was about 6:15 when we saw the balloon and gondola separate. When we landed in a field beside the gondola, there were several people already there trying to help the men.

"Schefchik is a city fireman and knows first aid. He climbed right into the gondola and helped them. The captain was bleeding badly and seemed in great misery. He kept saying 'Hold my back up. Hold my back up.'

"Someone put the other man's right arm in a sling and we carried them to an ambulance. The other man (Winzen) asked that the captain be put on the cot because he was more badly hurt," Bouchard said.

Mrs. G. E. Terwilliger, on whose farm the crash occurred, said, "there was a terrific thud when the gondola came down 100 yards from our house."

She said the balloon had been flying low, dragging a line that came close enough to grab.

"I saw the balloon pass behind a grove of trees and while it was out of sight I heard a loud report. Then the balloon climbed into the sky without the basket."

When she reached the scene, the open parachute was spread on the ground and Schock and Winzen were being placed in an ambulance.

The open gondola, built of steel tubing and canvas with a plywood floor, does not have shock absorbers for landing as do the larger sealed gondolas used for stratosphere flights. The gondola's bottom, however, is fitted with a 14-inch cushion of styrfoam.

Schock anad Winzen had ascended from Fleming field, South St. Paul, Wednesday morning. Schock had never been on a balloon flight before but Winzen is a veteran of several hundred hours of balloon flying.

Doctor in Balloon Probes Mysteries

Special to the Minneapolis Star

CROSBY, Minn.—An air force doctor ascended at 9:30 a.m. today to spend a day among the mysteries 100,000 feet above the Upper Midwest.

Dr. David G. Simons, 34, a lanky 6-foot air force major, sat amid a maze of scientific instruments, canned food and cameras in a shiny aluminum "capsule" that was lifted from the Portsmouth open pit iron mine a mile north of here.

The glistening 280-foot plastic balloon was launched by Winzen Research, Inc., 8401 Lyndale avenue S., Bloomington, which earlier this year hoisted Capt. Joseph Kittinger to 96,000 feet over southern Minnesota.

Kittinger's test flight was a preliminary to today's venture, in which Dr. Simons is expected to study the earth, the air, the sky and himself for 24 hours while moving slowly northwest at about 100,000 feet.

If all goes well, he may—sometime early tomorrow—reach an altitude of 19½ or 20 miles above the earth.

If the winds buffet him as expected, he should land southeast of Miles City, Mont., about 500 miles from his starting point, after more than 30 hours in the air.

The trip started more than 200 feet down in the sharp-cliffed mine, safely below the tugs and pushes of surface winds.

Winzen officials, headed by the company president, Otto Winzen, and air force officers and men, worked more than two hours at the site, preparing the balloon for its launching.

Dr. Simons is chief of the space biology branch of the Aero-Medical Field laboratory at Holloman Air Development center, Alamogordo, N. M., which is sponsoring the flight.

The cylindrical capsule is equipped with a 5-inch telescope and various mirrors that enable Simons to look at and photograph the earth and atmosphere as it floats lazily above the clouds.

Also packed into the 3-foot diameter interior with him are two radios with which he contacts planes and helicopters following his course at much lower altitudes.

(Before take-off Simons said he hoped to warm some of his cold flight rations on the radios. The temperature inside his cell should range from 45 to 70 degrees, while the beating sun, up above 99 per cent of the earth's atmosphere, will heat the outside of his shell to 250 degrees.)

Among the special equipment aboard are a number of "cosmic ray plates," which will absorb the mysterious particles that bombard the world from space.

They will give air force scientists a record of the punishment a human takes at those heights, and what man could expect were he to venture into space by rocket.

Similar tests have been conducted by Winzen and other researchers with laboratory animals. Man has risen higher, but he has never belabored the point before.

'Last year a Bell X-2 rocket plane was flown to 126,000 feet for a moment, and at about the same time a University of Minnesota balloon, unmanned, was lofted to 142,000 feet.

Upon takeoff, the balloon lifted Simons at about 800 to 1,000 feet a minute—or about 10 miles an hour—for an hour or so, then slowed until reaching the 100,000-foot level near Lake Mille Lacs.

He then was to float west and a little north toward Fargo, N. D., and on, reaching Bismarck, N. D., after nightfall.

Tonight, depending on the weather, Simons will either let the cooling balloon lower him to about 85,000 feet or he will release ballast in order to maintain altitude.

If he drops some of the 250 pounds of ballast on board, when the sun warms and raises his balloon again tomorrow he may scoot past his previous high to 102,000 feet or more.

By mid-morning, his experiments done, Simons is to start releasing helium from the big sack overhead and start his drop in the vicinity of Miles City, Mont.

As he comes down, surface winds may carry him eastward again 80 miles or so. His descent should be about half as fast as the launching.

And what will he do when he lands?

Lt. Col. John W. McCurdy, public information officer from Holloman air field who is keeping contact with the flight from the Winzen offices in Bloomington, says the air force will insist that Simons not be bothered for 24 hours. "He'll need some sleep," McCurdy said.

ALLOONIST BARES SECRETS OF HIGH ALTITUDE

'Observatories in Sky' Urged as Weather Eyes

By HAL SEYMOUR
nneapolis Star Staff Writer

he sky's no limit on the es of scientists studying rmation gathered by this k's balloon flight to the k of the earth's atmos-re.

ney are more convinced ever that man can go er and for longer periods.

t a press conference nce Wednesday night in offices of Winzen Re-ch, Inc., 8101 Lyndale avenue S., Bloomington, manufacturers of the balloon and its aluminum gondola, Maj. David G. Simons plugged for sustained high altitude "observatories."

Otto Winzen, head of the balloon firm, backed up Simons in urging use of "sky observatories."

One use cited by Simons, chipper and showing little strain or exhaustion after his 42 hours cooped up in a little pressurized chamber, dealt with the only tense moment of his flight.

That was Tuesday morning when a thunderstorm moved in under his 200-foot plastic balloon.

Winzen kept in constant communication with Simons from a "tracking van" on the ground. With forecasts by B. D. Gildenberg, air force meteorologist and balloon flight specialist, he provided Simons with weather information.

The problem was to get Simons down to earth without subjecting the fragile balloon to the turbulence of the storm clouds.

Glidenberg's information showed a heavy bank of clouds stretching far west which would prevent Simons' descent.

But from 100,000 feet up, Simons radioed he could clearly see a large open area to the west which would allow an uneventful descent. He came down into it along the North Dakota-South Dakota border.

"If we had a reconnaissance weather station above the earth," Winzen said, "we'd be able to give much better forecasts than the spotty reports available on earth.

"One ballon could blanket half the country."

By comparison with what observatories at 100,000 feet could see, he said, "we're ignorant here on earth."

Simons called his flight a preliminary to further explorations of space. He pointed out its scientific aspects were mainly studies of the effects on man of isolation in the cramped gondola. The capsule, he said, proved itself.

Simons will undergo months, perhaps years, of tests as cosmic effects on humans are studied, but he apparently suffered no ill effects fro mthe isolation.

Winzen disclosed he has asked Washington to consider a flight of about the same height by four or five men, to allow detailed studies of the atmosphere.

Several officials connected with this week's flight heartily endorsed such a project.

Many of those present, including air force officers from the Holloman air development center, Alamogordo, N. M. which sponsored the flight, spoke of the Minnesota experiment in terms of its contribution toward eventual life on moon-like satellites and rocket flights into space.

Simons in a brief statement of his over-all sensations, said he had "a deep regard for the steady march of progress by mankind, a gradual pushing back of the frontiers of knowledge."

"We now have learned how to do this type of thing. I'm looking forward to future flights that will consummate the progress this promises."

Although it will take months to analyze data recorded on instruments packed into the three by eight foot cylinder, here are some of the observations he made:

FROM 100,000 FEET the earth is a "washed out green and brown, with cities difficult to see with the naked eye, but lakes and rivers easily distinguished.

THE SKY IS DARK, "A DEEP VIOLET almost purple, so deep that at a glance you would say it was black."

(IT WAS HARD to look up through the mirrors in his small portholes so he saw no stars in daytime.)

AT NIGHT the stars were a steady gleam without the twinkles caused by the earth's atmosphere.

AT SUNSET MONDAY, 45 minutes later for Simons than on the ground, the sun —"fiercely white, not yellow at all"—left a narrow orange band and a deep blue band below the dark sky along the horizon.

AS THE SUN CAME UP Tuesday morning, almost 24 hours after Simons was launched from a Crosby, Minn., open pit iron mine, he witnessed the momentary flash of green as the sun crossed the horizon.

Col. John Stapp, flight surgeon for this experiment, and known for his test rides aboard rocket-propelled sleds, had to remind Simons by radio to eat when he became too interested in the sights.

FBI Called In To Investigate Theft Of Valuable Instruments From U.S. Navy Balloon Gondola

Tuesday October 22 1957

FBI agents arrived here early this afternoon to investigate the theft of government-owned instruments from the gondola of the U.S. Navy balloon which landed in a swamp near Hermansville. Also arriving here to assist the Iron Mountain State Police post in the investigation was Detective Sgt. Anthony Sparto, of the U.P. State Police headquarters at Marquette. Taking the instruments is a Federal offense, however, FBI agents said today if the instruments are returned to the State Police post voluntarily, charges will not be pressed. However, they pointed out, they must be returned immediately.

FBI agents were called in today to assist Michigan State police in investigating the theft of valuable instruments from the gondola of the U.S. Navy balloon which landed Friday night four miles west of Hermansville.

A seven-man recovery squad, headed by Otto Winzen, president of the Winzen Research company of Minneapolis, manufacturers of the balloon and gondola, arrived here this morning to recover the gondola and instruments used in the stratospheric experiment. They found the locked gondola had been broken into and stripped of everything removable by persons other than U.S. Navy and Winzen Research personnel. The gondola was an empty shell.

Winzen today made an urgent appeal to the persons who took the instruments. "Without those instruments," Winzen said, "the entire flight of the balloon is a complete loss to the U.S. Navy and the Winzen company. Those instruments, owned jointly by the Navy and the Winzen company, recorded every phase of the flight. Without them, all the data recorded on the flight is missing.

"The instruments are useless to the person or persons who have them. We are pleading that they be returned to the State Police post in Iron Mountain and no charges will be pressed. However, if they are not returned and the guilty persons are found, they will face federal charges. Theft of those instruments is a federal offense and carries a severe penalty."

Immediately after the theft was discovered this morning, Sgt. John Mongiat, commander of the Iron Mountain Michigan State Police post, who accompanied the recovery party to the scene, notified the Federal Bureau of Investigation. FBI agents were expected here early this afternoon to join in the investigation in the Hermansville-Faithorn area.

The log book of the flight which carried two Navy balloonists 84,000 feet above the earth, was found in the swamp by Sgt. Mongiat. Another instrument also was found in the swamp, stripped of the paper which carried recordings of the flight. Without that paper recording, the instrument is useless.

Probably the most valuable missing instrument is a camera with film which recorded the complete flight of the balloon. If the camera is dismantled and the film exposed to the light, it will be useless.

Sgt. Mongiat remained at the scene at noon today and more troopers were called from the Iron Mountain post to push the search for the instruments. The gondola was embedded deep in a swamp on the Holle farm and was resting in knee-deep water. Obviously, only persons who were familiar with the area would have been able to find their way to the scene. It was a mile away from the nearest road. The gondola was securely locked, but unguarded.

Doors Ripped Off

Winzen and the recovery party arrived here last night by Navy helicopter and landed at the Ford airport. They left for the landing scene early this morning. Sgt. Mongiat, in the state police patrol car, directed them to the area. The helicopter, flying low, followed the state police car above the highway.

Arriving at the gondola, they found the locked hatch doors had been ripped off. The doors were found inside of the gondola.

However, salvage operations continued and after a two-hour job, the helicopter lifted the 1,350-pound gondola out of the swamp and placed it on a waiting Navy truck. The truck started on its trip back to Minneapolis this afternoon.

The balloon, with two Navy men in the pressurized gondola, started on its experimental flight Friday morning at Crosby, Minn., during a nine and a half hour flight, the balloon reached an altitude of 84,000 feet or nearly 16 miles.

Landed Late Friday

A wave of excitement swept over Dickinson county late Friday afternoon when the huge balloon was spotted high over the city. About an hour and a half later, 5:43, the flying laboratory made a safe landing in the Holle farm swamp four miles west of Hermansville. The men, later found in normal health by a Navy doctor, who was one of the 50-man tracing party, were rushed to the Ford airport and immediately returned to Minneapolis.

First efforts to recover the gondola Saturday by a Winzen crew proved futile. Stripping of the interior of the gondola apparently took place after Saturday because at that time the hatch doors on the gondola were secure.

Further recovery efforts were delayed until today, when a Navy helicopter was available to lift the gondola out of the swamp.

The gondola was about 10 feet in diameter and standing on its base, was about 10 feet high. The plastic bag of the balloon itself was 175 feet in diameter and the entire balloon, bottom of the gondola to the top of the bag, was 185 feet high.

picture

BALLOON GONDOLA IN SWAMP — Members of the Winzin research company recovery party are pictured at the gondola of the U. S. Navy experimental balloon in a swamp near Hermansville this morning. One of the party is holding the door to the hatch of the sphere which was ripped off by persons who broke into the gondola and stripped it of all valuable instruments used on the stratospheric flight. Pictured at the left is Otto Winzin, president of the Winzin company who today made an appeal for the return of the valuable instruments. The flight is a complete loss without them. (Iron Mountain News photo)

Oct 19-1957

High 'Robot' Flights Seen in New Data

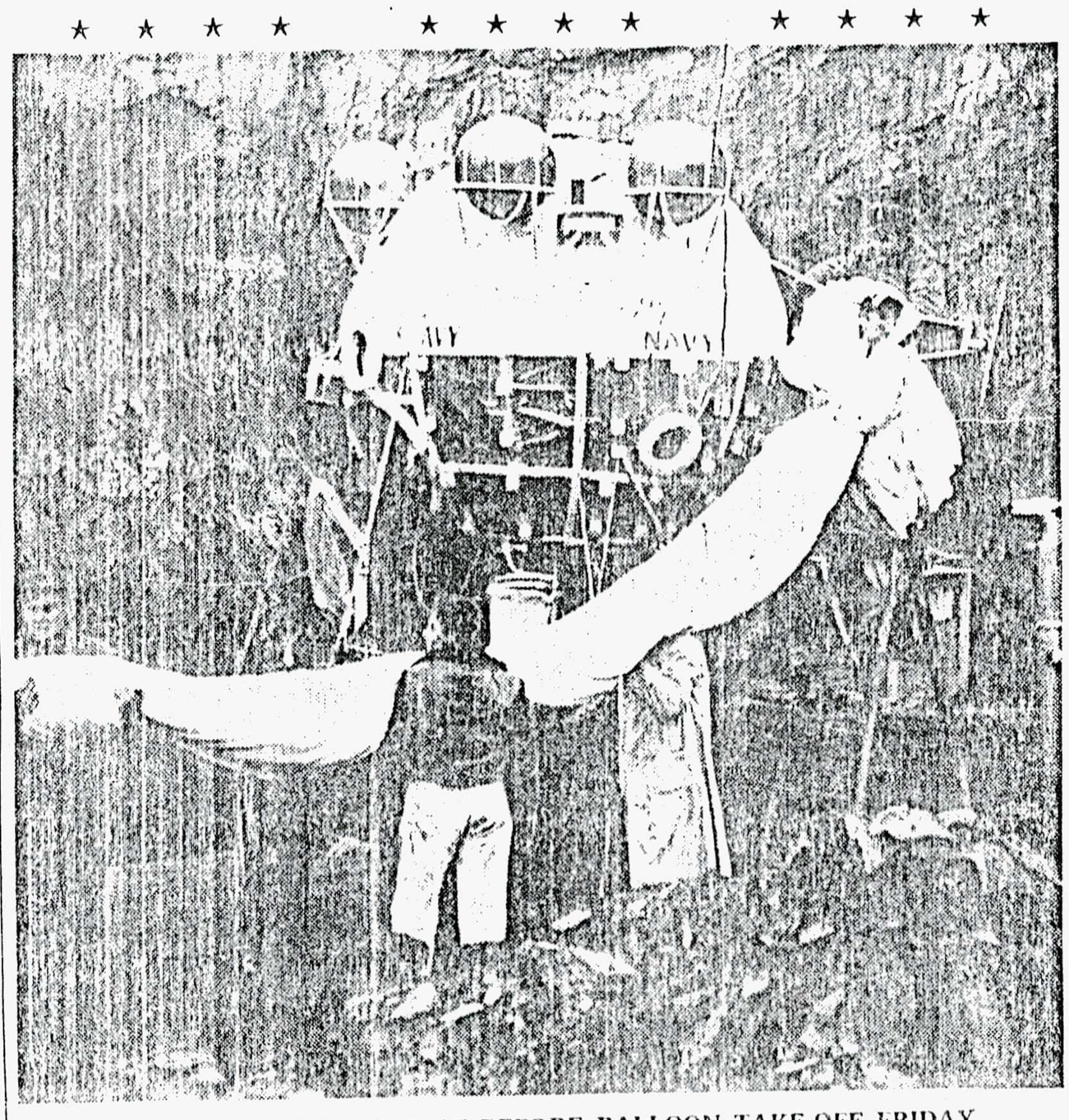
Balloon Proves Gondola's Stability

By GENE NEWHALL
Minneapolis Star Staff Writer

Stability of the gondola in the most recent manned flight into the stratosphere (86,000 feet Friday) was declared to be remarkable as to promise success in automatic telescopic observation from future flights into much higher altitudes.

That was one of several conclusions reached by the naval air research team of balloonists who soared on a nine-hour flight from an old mine pit at Crosby, Minn., to a landing four miles west of Hermansville in northern Michigan.

The flight in the aluminum gondola beneath a 250-foot balloon was so uneventful the team could concentrate almost exclusively on their assigned job of scientific observation and measurements, the two balloonists agreed.



ALUMINUM GONDOLA JUST BEFORE BALLOON TAKE-OFF FRIDAY
Crew prepares for 86,000-foot ascent from Crosby mine pit

The two are Lieutenant Commanders M. L. Lewis, 44, Syracuse, N. Y., and M. D. Ross, 38, West Lafayette, Ind.

This was their third flight together in the current series. The balloons have been prepared by Winzen Research, Inc., Bloomington. The research division of General Mills, Inc., also has participated.

In addition to four air samples at or above the 84,000 foot level, Ross and Lewis felt that the gondola stability findings might prove the most valuable scientifically.

"There really isn't very much previous data on stability of platforms at a high altitude such as this," Ross said at a breakfast press conference at Wold-Chamberlain field naval air station today.

"We had a double bubble and a compass aboard and found there was very little rotation at maximum altitude and that even our motions within the gondola did not tend to disturb the platform.

"This information we think may be very valuable and could be the prototype for extremely high altitude flights," Ross explained.

At least two methods of photographing from high altitudes, one including automatic telescopes, can draw upon knowledge of gondola stability, Ross said.

Neither balloonist would guess, however, as to launching of rockets from air-borne platforms.

After floating through space several times as high as Mt. Everest, both Lewis and Ross agreed it was more pleasant "to have company up there than to be going it alone."

"We didn't have much time to sit and chat," Ross said. "We were pretty busy making and recording observations."

There was considerable personal interest in the presence of Lake Superior below, both balloonists admitted. But they took comfort from the fact their gondola was designed to float and that their trackers by radio from the ground had arranged with coast guard for a launch pick-up if necessary and through the navy for an amphibious plane recovery

BALLOON
Turn to Page 3A

Lewis Ross

should the gondola plummet into water.

The operators in such a gondola have vertical control, but little else, they explained.

Both balloonists looked and acted in excellent health and spirits after the flight but admitted to extreme excitement at certain points in the preparation and operation.

These reactions from a scientific standpoint of heart beat, blood pressure and chemical changes in the body are being tabulated.

The view from up there—particularly of the moon in daytime—was breathtaking, according to the observers.

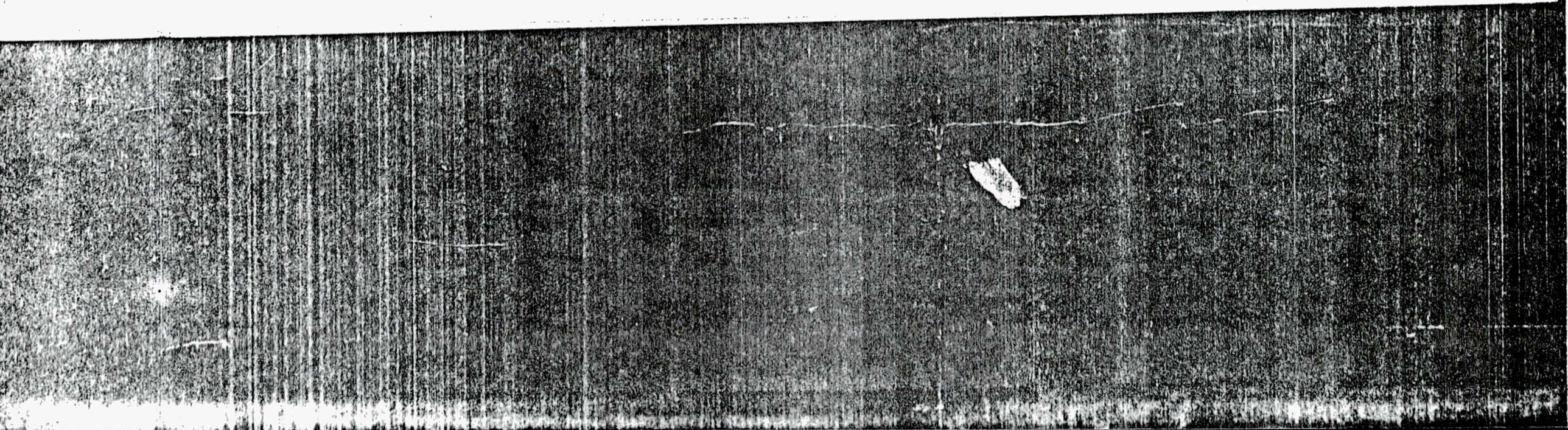
Asked if they saw Sputnik, the Russian artificial moon, they said no. They hadn't given much thought to the Russian-made object circling the earth an estimated 300 to 500 miles above them.

Reported inter-service rivalry in scientific projects had no negative impact on the stratosphere exploration program in which all are collaborators, navy Capt. Norman L. Barr, Washington, in charge of air medical research, commente dtoday.

"I think the various projects supplement each other and do not duplicate one another adversely," Barr said. "There is a direct relationship between the services—we're all friends with common objectives and a very fine exchange of information."

Where there is duplication of upper-air or stratosphere flights, such duplication is "essential to basic research," Barr said.

Lewis and Ross lunched aloft on "a couple of steak sandwiches and Hershey bars." A special unexpected treat was angel food cake baked, Lewis said, "by Dr. Jean Piccard," world-famed University of Minnesota balloon flight expert.



Huge Balloon Explodes at 60,000 Feet

Aug 7, 1958

CROSBY, Minn. (AP)—A huge plastic balloon, the largest ever built climbed to an altitude of about 60,000 feet today then burst. The fate of a monkey and other living animals aboard was not known immediately.

It was the second failure of attempts to put such a large balloon into space. An identical gas bag burst at 40,000 feet July 30. It was struck by a strong jetstream wind.

The balloon carried a female monkey, frogs, goldfish and some smaller organisms on the flight destined to reach 135,000 feet in an Air Force cosmic ray experiment.

It was launched from a deep open pit iron mine near here shortly before 6 a.m. Radio contact with the balloon was lost at 7 a.m.

Cargos attached to balloons usually are suspended by parachutes designed to carry the payload safely to earth.

Air Force tracking crews were searching for the balloon's cargo.

The balloon launching was announced in Washington by Gen. S. E. Anderson, chief of the Air Force Research and Development Command.

Balloon Attempting Record Altitude Flight Blows Up

CROSBY, Minn. (AP) — An attempt to set a new altitude record with the largest balloon ever built fizzled today when the huge bag blew out.

The balloon was launched in an open pit iron mine near here by the Air Force and Winzen Research, Inc., Minneapolis, builder of the balloon.

At 40,000 feet, a sharp jet stream hit the balloon. Tracking pilots saw the bag lay over at about a 45-degree angle, and the top blew out.

The plastic membrane, thin polyethelene, could not take the sharp winds and low temperatures, Winzen officials said.

The 20-story balloon was the largest ever built and the flight sponsors had hoped the bag would soar to a record 135,000 feet. The balloon had a capacity of five million cubic feet as against the previous record balloon of 3,750,000 capacity.

The balloon rose slowly in the quiet morning air shortly before 7 this morning, and drifted slowly toward the southeast. As it rose, however, it got into the cold air and heavy wind. About 8:30 a.m., the big bag blew out.

Tracking crews immediately began a search for instruments which had been sent aloft with the balloon to study cosmic rays. The balloon also carried insects for other research tests.

Bad Weather Again Delays Balloon Flight

MINNEAPOLIS (AP) — The Navy said today unfavorable weather conditions again have postponed a manned balloon flight from a northern Minnesota open-pit iron mine.

The flight, carrying Navy Cmdr. Malcolm Ross and M. Lee lewis, was originally scheduled for Wednesday afternoon. Prospects of thunder clouds in the Crosby, Minn., launching area forced postponement both days.

The navy said prospects were "good" for launching the ballon Friday afternoon.

7/24

Man to Ride Space Balloon Next Week

The air force and Winzen Research, Inc., today went ahead with plans to send a manned balloon to the fringe of space after one carrying a monkey failed to make the grade.

Capt. Grover J. Schock, of the space biology branch, air research and development command, will take a stratosphere ride next week in the same tiny (hermetically sealed) gondola that holds world's manned balloon altitude record.

Mathilda, a 13-pound monkey, along with some frogs, goldfish, fruit flies, bugs, fungus, onions, and potatoes went aloft Thursday from an open pit iron mine near Crosby, Minn., for cosmic ray and other scientific studies.

Slung beneath the biggest balloon ever built, the cargo reached about 60,000 feet when the huge, helium-filled bag ripped open and settled back to earth near Pine City, Minn.

A container holding the goldfish burst on landing and the fish died. There were no other casualties.

It didn't take long to discover that Mathilda had suffered no ill effects in her fast fall of more than 11 miles.

"Ouch! She tried to bite me!" exclaimed the first medic to stick his head into the gondola.

Mathilda was removed, kicking and screaming, from the gondola and moments later was contentedly munching on a banana.

Air force spokesmen said the 650-pound balloon apparently ripped open when it hit a jet stream (a fast-moving river of air found at high altitudes).

When Schock goes aloft next week, he will be carried by a substantially smaller balloon. Thickness of the balloon's skin, however, will be twice as thick as the bag used in yesterday's flight (which was .00075 of an inch).

Schock will be enclosed in the same aluminum capsule that carried Lt. Col. David G. Simons to a record altitude of 102,000 feet last fall.

He plans to soar to around 100,000 feet and stay there for 24 hours in a test which the air force hopes will provide information necessary for putting a manned satellite into space.

Balloonists, Bugs Stalled by Weather

Two balloonists and a batch of hitch-hiking insects awaited weather developments at Crosby, Minn., today for a balloon ride into space.

The ascent, originally scheduled for today, was called off because of unfavorable winds. The office of naval research and Winzen Research, Inc., Bloomington, are hopeful for a launching Thursday.

Navy Lt. Cdr. Malcolm Ross and former navy balloonist M. Lee Lewis will make the flight to test equipment for a November ascension during which observations are to be made of the atmosphere around Mars.

Riding in the gondola with Ross and Lewis will be some 10,000 insects — fleas, fruit and house flies, honey bees, wax moths and mosquitoes. They are going along as part of a study by the United States department of agriculture to determine what effect cosmic rays have on the genetic mutations of insects.

Two Nervy Balloonists Ready To Start Space Trip Today

MINNEAPOLIS (AP) — A pair of nervy aeronauts today prepared for a 24 hour jaunt into space slung beneath a paper-thin plastic balloon.

Navy Cmdr. Malcolm D. Ross and former Navy Balloonist M. Lee Lewis were scheduled to take off at 3 p.m. (CDT) today on a flight designed to carry them nearly 16 miles above the earth. The take-off was contingent, however, on late weather reports.

The big balloon, 172 feet in diameter, will be launched from a deep open pit iron mine near Crosby, Minn.

New Gondola

Ross and Lewis will be testing the "strato-labo" aluminum gondola and its complex scientific equipment for maintaining an artificial atmosphere.

When they reach their ceiling altitude of 80,000 to 81,000 feet Ross and Lewis will be above about 97 per cent of the earth's atmosphere. Equipment inside the ball-shaped gondola will provide them with oxygen, heat and air conditioning, as well as remove excess moisture and impurities in the air they breathe.

The flight, twice delayed by weather, will be a test for a forthcoming "Project Mars" flight in November when a Johns Hopkins University astronomer, Dr. Joel Strong, will make spectrograph photographs of Mars' atmosphere through a powerful telescope.

Test TV Camera

Among the 50 side experiments planned for today's flight will be testing a small television camera and sending its signals back to earth. A national television (NBC) network will attempt to pick up the pictures live as sent from the balloon.

About 10,000 insects will be carried along in a Department of Agriculture cosmic ray experiment. Effects of the rays on the genetic mutation of the bugs may give an indication of their effect on human space travelers of the future.

Winzen Research Inc. of Minneapolis built and will launch the balloon for the Office of Naval Research.

HIGH FLYERS U.S. Navy Comdr. Malcolm D. Ross, 38, (right), and retired Comdr. M. Lee Lewis, 45, inside small gondola moments before the hatch was sealed for a 24-hour isolation test at Minneapolis. The men will pilot a balloon flight to an altitude of 80,000 feet to test equipment for later flights during which the atmosphere around Mars will be observed. Flight will be launched from Crosby, Minn. 124 (1958 telephoto)

2 Space Balloonists Soar From Crosby

★ ★ ★ ★ ★ ★ ★ ★

AP Photo

M. LEE LEWIS (LEFT) AND CDR. MALCOLM ROSS
Balloonists are about to enter gondola

TV, 12,000 Insects Along on 2-day Trip

By GENE NEWHALL
Minneapolis Star Staff Writer

Two balloonists took of at 4:42 a.m. today from an open-pit iron mine at Crosby, Minn., on a flight the navy hopes will be a stepping-stone to flights in outer space.

The balloon made a huge circle to the northeast and shortly after 9 a.m. was again near Crosby headed west. It is expected to come down about 50 miles north of Aberdeen, S. D., Sunday afternoon.

In the gondola under the 17-story plastic bubble were Cdrs. Malcolm Ross, 38, and M. Lee Lewis, 44. They carried a television camera, 50 instruments and some 12,000 insects to do research on the following space and manned-satellite problems:

COSMIC RAYS beyond earth's protective blanket of air. At 84,000 feet, top altitude target of today's flight, only about 3 per cent of the atmosphere remains, and threatening cosmic rays come through with little filtering.

OBSERVATIONS of the planet Mars, with pre-tests for a projected balloon flight next November by a Johns Hopkins university astronomer, Dr. John Strong, who will try to photograph the atmosphere of that reddish mystery globe.

GENETIC MUTATION tests on insects for study of cosmic ray effects on their genes, spores and egg masses.

As on Noah's ark of yore, the insects were loaded in mated pairs. Fleas, mosquitoes, honey bees, Japanese beetles were among them.

Four hours after the launching from a 400-foot-deep mine pit, Lewis and Ross weren't making much progress, by earth-track standards.

Soaring into a third dimension of exploration, the two were back over Crosby, after drifting eastward to near Duluth, then hairpinning back eastward again as they gained the 74,000-foot altitude near which westerly winds take over.

Tracking crews and a mobile truck standing by at Brainerd, Minn., to pursue the bright aluminum spot across the sky, cared very much which way the gondola drifted laterally.

Ross and Lewis were interested chiefly in vertical movement through various thicknesses of atmosphere.

Mrs. Ross and the four children—Gary, 15; Terry, 12; Kathleen, 9, and even Wendy, 2—were waiting for latest reports at their home at 9223 S. Grand Av., Bloomington. They were vitally interested in just what ground daddy was traversing.

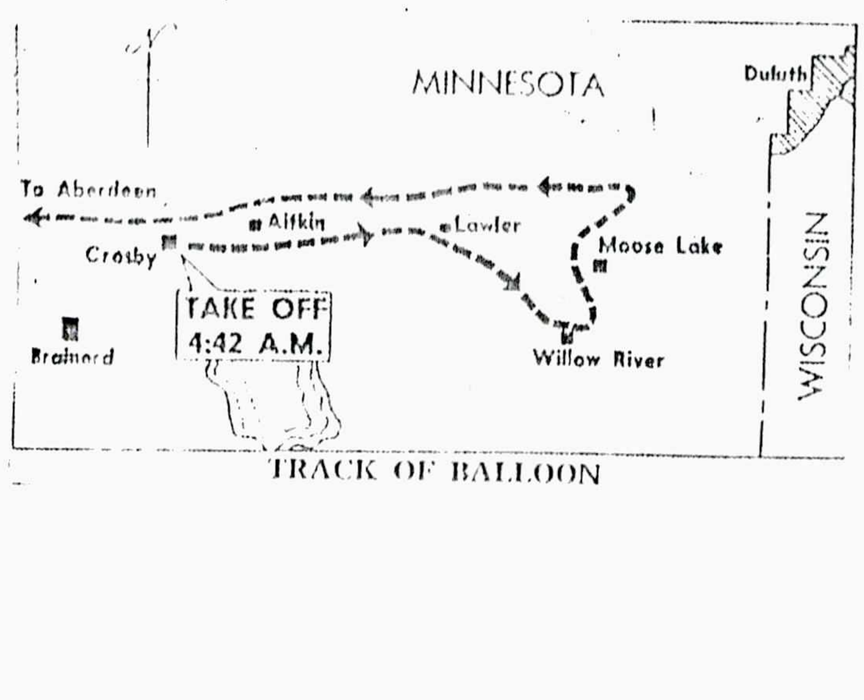
An earlier balloon flight last year skirted perilously close to Lake Superior and finally descended near Iron Mountain on Michigan's rugged northern peninsula.

Today, on their fifth ascent together, Ross and Lewis plan to let out some helium for a descent about 50 miles north of Aberdeen, S. D., if that's where winds have carried them by sometime between noon and mid-afternoon Sunday.

Ike Demand Slows Rush on Summit

UNITED NATIONS, N. Y. —(UPI)—United Nations diplomats said today President Eisenhower's insistence that any summit conference on the Middle East be held under the rules of the United Nations security council appeared to have slowed the rush toward the projected meeting.

Mr. Eisenhower in a note to Soviet Premier Nikita S. Khrushchev [illegible]



TRACK OF BALLOON

Balloonist Who Set Mark Quits

LINDEN, Ind. — (UPI) — Navy Cdr. Malcolm D. Ross, who on May 4 took a balloon 113,500 feet into the air for a manned flight altitude record, has announced he has turned in his resignation to the Navy and will take an industrial job.

Ross made the announcement at the Linden high school alumni banquet. He is a graduate of the class of 1936 and of Purdue university in 1941.

He told his fellow alumni that he will join General Motors, at Warren, Mich.

Navy Balloonists Send Back First Television Show From Stratosphere

By BILL CHEVALIER

CROSBY, Minn. (AP) — Two veteran balloonists took off on a 30-hour flight into the sky early Saturday and sent America's first stratosphere TV-program back to earth.

Five hours after they took off from an iron mine near here in a towering plastic balloon, Cmdr. Malcolm Ross and former Navy balloonist M. Lee Lewis described their ride as "smooth, lively, enjoyable and wonderful."

They said the cabin temperature was 75 degrees and the relative humidity was 35 per cent.

"We are just as comfortable as can be," said Lewis. "We couldn't be happier or more at ease than we are right now."

At that time their altitude was 79,500 feet and they were over Brainerd.

Transmit TV Pcitures

With a small television camera aboard their aluminum ball-shaped gondola, Ross and Lewis transmitted TV pictures of the clouds as they rose toward an expected altitude of nearly 16 miles.

Navy spokesmen in Minneapolis who were in contact with the balloonists by radio said reception of television broadcasts from the balloon was very good considering all the circumstances, especially in northern Minnesota.

The television camera, smaller than a cigar box and weighing only four pounds, was manufactured by the Dage television division of Thompson Products Inc., Cleveland.

The Navy scored several firsts on Saturday's flight including the TV broadcast from the balloon.

Some of "Firsts"

The journey into space also marked the first time a manned aircraft had carried full sea level pressure into the upper reaches of the atmosphere.

The first TV signal was reported picked up by a Minneapolis-St. Paul commercial station, KSTP, about an hour and a half after the balloon had been launched. Technicians at the station reported the picture was somewhat distorted but clearly showed the clouds through which the balloon was passing. When the pictures were received the balloon was at 60,000 feet and was over northwestern Minnesota.

Within the first 3½ hours after the takeoff the balloon rose to 80,000 feet 20 miles west of Moose Lake. Navy spokesmen said it still was not at peak altitude. The Navy said a balloon sighted west of Watertown, S.D., "definitely is not ours."

The towering 17-story plastic balloon jerked away from a truck on which the seven-foot aluminum gondola rested. The big gas bag veered slightly to the east as it rose out of the 400 foot pit, then cleared the rim and headed skyward.

The flight originally was scheduled for 24 hours or less, but the early morning launching extended the flying time.

The gondola, painted a brilliant white to reflect the sun's rays, was pressurized with an artificial atmosphere equal to that at sea level.

Wear Pressure Suits

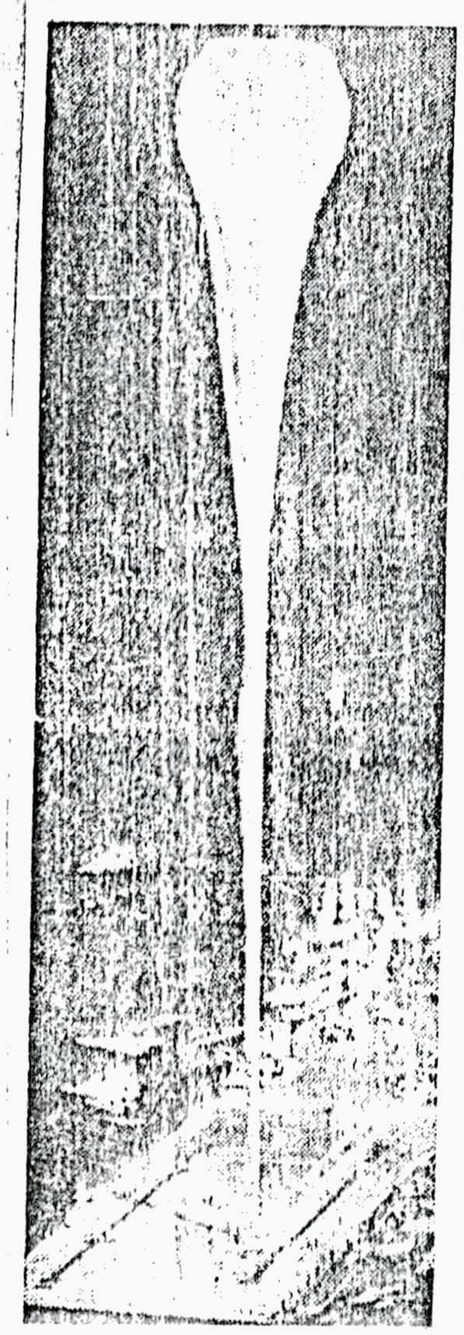
The pilots wore pressure suits and carried oxygen equipment, but it was not necessary to wear their oxygen masks during the flight.

They took along cheese and ham sandwiches, candy bars, and water to sustain them.

Capt. Norman L. Barr of the Naval Medical Research Institute said the flight would provide a stepping stone into space. Never before, he said, has any aircraft or balloon gondola been equipped to carry full ground level pressure.

On board with Ross and Lewis were some 10,000 insects, including mosquitoes, house flies, honey bees and fleas. They were put aboard by the Department of Agriculture to test the effects of cosmic rays on genetic mutation of bugs.

While 50 experiments were being performed inside the gondola, primary purpose of the flight was to test the capsule and its equipment for a similar flight in November. On that flight Dr. John Strong, a Johns Hopkins University astronomer, will attempt to learn the makeup of the atmosphere of Mars through spectrographic photos taken through a powerful telescope.



TAKE-OFF — A giant Winzen research balloon towers over the flight deck of the aircraft carrier USS Valley Forge. The 10-million-cubic-foot balloon was launched recently as part of a series of altitude probes.

113,500 FEET

May 1961

U.S. Balloon Sets New Height Record

Aboard Aircraft Carrier Antietam (AP) – A balloon launched from the deck of this aircraft carrier in the Gulf of Mexico today carried two men to the greatest altitude ever reached by a balloon.

Before it leveled off, the huge bag soared to about 113,500 feet — or 21.6 miles above the earth's surface. This was slightly under its planned maximum of 116,000 feet.

The balloon then was over the Gulf about 136 miles south of Mobile, Ala.

Told by radio that the balloon had exceeded the altitude record, Cmdr. Malcolm Ross, the pilot, commented:

"To one side I can see clear across Florida, and I can see the Atlantic ocean on the other side of Florida.

"I have a real good look at the Gulf states. I can see New Orleans and I can see the entire Gulf Coast line.

The attempt began from a point about 43 miles southeast of South Pass at the mouth of the Mississippi river. Slight technical difficulties had delayed the launch more than an hour.

The experiment was aimed to take two Navy officers to the highest altitude ever reached by a balloonist — 116,000 feet or almost 22 miles above the earth's surface in a flight lasting seven to eight hours.

The balloonists are Cmdr. Malcolm Ross of Washington, the pilot, and Lt. Cmdr. Victor G. Prather, medical officer of the Bethesda, Md., Naval Medical Institute, scientific observer.

Ross has spent more than 100 hours in the upper atmosphere in eight previous major trips.

The plastic bag, tall as a 10-story building, rose rapidly from the carrier's bow into an almost cloudless sky. The initial ascent was a rate of about 800 feet a minute.

Conditions were described as ideal. There was little wind and the sea was smooth.

The carrier turned to follow the path of the balloon. Plans were laid out to recover the balloon about 180 miles south-southeast of Pensacola, Fla.

The Antietam performed the launching and recovery feat successfully last week with a test balloon, but up to today no high-altitude manned balloon has been launched from a carrier deck and recovered.

The balloon contains 10 million cubic feet of helium, and is 411 feet tall

Ross and Prather rode in

(Turn to Page 2, Column 6)

Balloonist Before Death May 5 1961

Lt. Comdr. Victor A. Prather (center) of Bethesda, Md., got a drink of water yesterday from Paul Freeha just before Prather and Comdr. Malcolm Ross of Washington entered a balloon gondola for their record-breaking ride into space. Prather was killed in a forced landing in the gulf. Navy man at right is unidentified.

★ ★ ★ ★ ★ ★

Balloonist Dies After Setting New Record

Washington (AP) — A navy medical officer soared higher than man has ever gone in a balloon — 113,500 feet up — and then met a tragic death in a 25-foot fall from a rescuing helicopter.

Lt. Comdr. Victor G. Prather, 34, of Bethesda, Md., fell backward from the sling of the helicopter that had picked him up Thursday in the Gulf of Mexico after an almost perfect landing. He died aboard the carrier Antietam 7¼ hours after he and Comdr. Malcolm Ross, of Washington, soared to their record height.

Ross was lifted to the carrier by one of three hovering rescue helicopters without injury. He stood on the deck awaiting his companion's rescue.

Hours earlier they were sharing the drama of the record flight, 21½ miles above the gulf. Shortly before reaching maximum altitude, Ross, the pilot, had radioed the carrier that he could see the Atlantic Ocean on the other side of Florida.

Asked on another transmission how things were going, Prather, father of two children, replied: "Things are great. Come on up."

The huge plastic balloon had been launched from the carrier's flight deck off the mouth of the Mississippi river at 7:08 a. m. Mankato time. It reached its maximum altitude 2 hours and 36 minutes later at a point about 136 miles south of Mobile, Ala.

The carrier followed the balloon as it drifted down across the gulf on a southeasterly course. It landed on the gulf at 4:05 p. m. having run into trouble on descent.

When the balloonists had dropped to an altitude of about 40,000 feet the rate suddenly and alarmingly had increased to 1,000 feet a minute, according to information relayed to Washington from the carrier.

Prather and Ross jettisoned everything, a navy spokesman said, including their radio and a drag line which would have been a key facility in an attempt to land aboard the carrier. Loss of the drag line made the planned landing on the carrier impossible, the navy said.

Navy officials reported the gondola landed on the water "almost perfectly" and that the huge balloon detached itself as it had been designed to do. While the gondola floated on the surface, about 1½ miles from the Antietam, the three helicopters raced toward the balloonists.

As Prather was being hoisted into the helicopter he fell from the sling. He was encumbered with a spacesuit and instrumentation weighing about 25 pounds when dry.

A navy statement said Prather fell backward into the water and went under when the pressurized suit ap-

Eady

2 Men Will Be Aboard —

Navy Plans to Launch Balloon From Carrier

PENSACOLA, Fla. (AP)— The Navy plans to make an attempt Thursday to launch a manned balloon from the deck of an aircraft carrier to a record altitude.

If weather conditions are favorable, the carrier Antietam will proceed to a point about 100 miles in the Gulf of Mexico from where the attempt is to be made.

Other tries will be made Friday or Saturday if the first attempt is washed out. Three such tries were blocked by the weather last weekend.

The balloon, fully inflated, contains 10 million cubic feet of helium. The plastic envelope has a surface area of about seven acres and it measures 411 feet at launch, or as tall as a 40-story building.

Cmdr. Malcolm Ross of Washington will pilot the balloon and Lt. Cmdr. Victor G. Prather, medical officer at the Bethesda, Md., Naval Medical Research Institute, will be the scientific observer.

The two men will go aloft in an open gondola of aluminum framing; measuring 6 by 5 by 5 feet. They will wear pressurized suits.

The two will be exposed to temperatures ranging down to 65 degrees below zero.

The balloon is designed to reach an altitude of 116,000 feet, or 22 miles above the earth's surface. The present balloon record is 102,800 feet set by Air Force Capt. Joseph W. Kittinger Jr. in August 1960.

Dead Balloonist Honored by Medal

WASHINGTON — (AP) — President Kennedy today presented posthumously the navy distinguished flying cross to Lt. Cdr. Victor A. Prather, navy balloonist who was killed after setting an altitude record May 4.

The medal was presented to Prather's widow by the President in a White House ceremony. Prather's two children, Maria Lee, 5, and Victor A., Jr., 3, were on hand for the occasion.

Prather was injured fatally after he and another navy officer, Cdr. Malcomb Ross, reached a record altitude of 21½ miles.

parently became water - logged. The accident occurred about 140 miles south-southeast of Pensacola, Fla.

Prather was pulled back to the still floating gondola in a few minutes by a navy skin diver, who had dropped from one of the helicopters. Then, Prather was removed to the carrier in a motorized whale boat. He was unconscious when pulled from the water and apparently never regained consciousness before dying aboard the carrier about an hour and 20 minutes after being pulled from the water.

An autopsy was begun at the naval air station at Pensacola, Fla

This was the ninth major high altitude balloon flight for Ross, 41, who added to his record of more than 100 hours in the upper atmosphere. For Prather, it was only his third balloon flight.

MANKATO FREE PRESS
Friday, May 5, 1961——7

open - gondola balloon flight was 102,800 feet, set by Air Force Capt. Joseph W. Kittinger Jr. in August 1960.

Prather, a native of Detroit, was commissioned as a flight surgeon seven years ago. He was married and had a daughter, Marla Lee, 6, and a son, Victor III, 3.

May 1961

pper Midwest News

Navy Balloon at Saint Paul Friday left at 1:30 p.m. for Minneapolis launching

4 NAVY BALLOONISTS SOAR FROM ST.PAUL TO OSHKOSH

By Associated Press

Four navy researchers on a practice flight landed their balloon safely near Oshkosh, Wis., Wednesday night after 11 hours, 33 minute aloft on a trip that started from Fleming field at South St. Paul.

Cdr. Malcolm Ross, veteran navy balloonist who acted as instructor, said the plastic bag reached a maximum altitude of 6,160 feet before descending on a farm 10 miles west of Oshkosh.

Ross said two practice landings were made en route before the final one. Others riding the open gondola were Lt. Cdrs. William S. Arnold, a pilot trainee and meteorologist, Victor A. Prather, flight surgeon and Dr. Thomas Gehrels, Indiana University astronomer.

The four returned to Minneapolis by plane.

Wednesday's flight was a training mission for Arnold and Prather. Dr. Gehrels took part to study the possibility of using balloons as airborne platforms for astronomical observations.

The balloon and its open gondola, together with its flight instruments, were designed and built by Winzen Research of Bloomington.

Navy Balloonists Make Landing at Oshkosh, Wis.

SOUTH ST. PAUL, Minn. (AP) —Four Navy researchers on a practice flight landed their balloon safely near Oshkosh, Wis. Wednesday night after 11 hours, 33 minutes aloft on a trip that started from Fleming Field here.

Cmdr. Malcolm Ross, veteran Navy balloonist who acted as instructor, said the plastic bag reached a maximum altitude of 6,160 feet before descending on the farm of Ralph Locke, 30 miles west of Oshkosh.

Ross said two practice landings were made en route before the final one. Others riding the open gondola were Lt. Cmdrs. William S. Arnold, Navy flier, and Victor A. Prather, meteorologist, and Dr. Thomas Gehrel, Indiana University astronomer.

Balloon Rises Over S.D. for Look at Venus

RAPID CITY, S. D. — (AP) — Two men and a powerful telescope left earth with a huge plastic balloon Saturday to study the planet Venus.

The balloon, latest step in the office of naval research's Project Strato-Lab, was launched from the Rapid City Stratobowl at 11:16 a.m.

Slung beneath the balloon in a sealed gondola were veteran Navy balloonist Cdr. Malcolm Ross and scientist Charles B. Moore of Arthur D. Little, Inc., Cambridge, Mass.

AT 12:30 P.M., tracking crews reported the balloon 90 miles southeast of here, traveling southward at 69 miles an hour at an altitude of 77,000 feet.

The balloon is scheduled to reach 80,000 feet, where Ross and Moore will train their spectrograph - telescope on Venus to measure the water vapor of that planet's atmosphere.

They hope to be able to answer the question "Could Venus support life?"

Yesterday's launching was delayed just before take-off when a motor on the gondola's oxygen regeneration system burned out, filling the gondola with smoke.

Ross and Moore were forced out by the smoke, and a new motor was installed.

THE FLIGHT, planned to last 24 to 30 hours, originally was expected to end near Lafayette, Ind. Late yesterday, however, it appeared the balloon would be blown in a more southerly direction, landing perhaps in Nebraska or Kansas.

The balloon was built by Winzen Research, Inc., Bloomington.

Results of the flight will be analyzed by Dr. John Strong, director of the laboratory of astrophysics and physical meteorology at Johns Hopkins university.

The flight is a preliminary test in the navy's new balloon astronomy program. If it succeeds, the same system may be used to observe the sun, stars and other planets.

BALLOONISTS LAND — Navy research team began recovering instruments from the stratosphere gondola that crashed to earth in a Kansas Field after carrying Comdr. Malcolm Ross and Dr. Charles Moore more than 13 miles high for a close telescopic look at the planet Venus. Ross was slightly injured in the landing after a successful ascension from Rapid City, S.D. (NEA Telephoto)

Balloonists Take Photo Of Venus

Manhattan, Kan. (AP) — "If you one could do it," say aerialists Malcolm Ross and Charles B. Moore of their 15-mile weekend jaunt into the stratosphere.

Ross, a commander in the Navy and Dr. Moore, a scientist, rode in an instrument-filled gondola under a huge plastic balloon to 81,000 feet where they took photographs of the planet Venus through a 16-inch telescope.

It is "wonderfully pleasant" up there, they said.

The men ascended from Rapid City, S.D., at 11:16 a.m. Saturday and landed at 3:30 p.m. Sunday in a pasture about 30 miles northeast of Manhattan.

Ross, who had made six previous trips into the stratosphere — once to 86,000 feet — said the landing was ideal until surface wind filled their emergency parachute.

They jettisoned the balloon as the gondola touched ground, but the parachute dragged their seven foot aluminum sphere a quarter-mile across a rough pasture.

Moore wasn't hurt but Ross was shaken up. Helicopters whisked them about 80 miles to the Schilling Air Force Base hospital at Salina, Kan., for an overnight rest.

They went up to 81,000 feet to photograph Venus because at that altitude the atmosphere is free of dust particles that cause the stars to twinkle.

"It was the most exciting view of the stars I ever had," Moore said.

"The outstanding sight of all was at sunset Saturday," Ross said. "We could see it getting dark on earth and all the lights were coming on in the little towns and it was still daylight where we were.

"There were the most vivid colors imaginable both in the sunset and in the sunrise Sunday morning.

"The whole sky was streaked with vivid browns, purples, rose colors and shades of yellow. The sun shining on extremely high clouds produces these colors. Anyone would enjoy it.

"While the sky is streaked with color, the earth takes on pastel shades of green and brown. You can still see the rivers and mountains, and at night, the lights of towns.

"We had pressure suits and cold weather gear to protect us from the minus 100-degree temperatures and we were too busy to get bored."

Ground crewmen followed the balloon in tracking planes and took the instruments back to Winzen Research, Inc., Minneapolis. The firm built and launched the balloon for the Office of Naval Research.

The telescope, mounted in the top of the gondola, is being returned to Johns Hopkins University, Baltimore.

Professor John Strong, head of the project, said instrument readings will be analyzed at Johns Hopkins before results are announced. He termed the flight "an excellent job."

Ross' home is Arlington, Va.; Moore's, Cambridge, Mass.

Skyhook Balloon Reveals Baffling Atmosphere Phenomena

By CLIFFORD SIMAK
Minneapolis Star Staff Writer

When Operation Skyhook sailed for the Caribbean to send up the world's most massive balloons to obtain data on the cosmic rays it was hoped that a winter operation would escape the high atmospheric winds which blow at 100 miles per hour during the summer.

But the situation was no better than in the summertime. If anything, it was somewhat worse.

And, as a result, says Dr. Herbert Riehl, of the department of meterology at the University of Chicago, man has bumped into a brand-new and baffling situation in the upper atmosphere.

When the balloons were sent up they encountered, not the good, old reliable 100-mile-per-hour winds blowing east to west, but winds whipping along at 150-miles-per-hour and going nowhere in particular.

These winds were encountered at from 100,000 to 120,000 feet above the surface and seemed to be entirely random. At one time they would be blowing west and at another west and it wasn't even safe to bet they wouldn't blow either north or south.

The unpredictability of the winds, said Riehl, in a telephone conversation with the Minneapolis Star on Monday, was of the same order as the unpredictability of the surface winds. In fact, he said, in some instances the pattern of the upper atmospheric winds seemed to be about the same as in the lower atmosphere in the same locality.

But, he cautioned, there is not enough data as yet to actually link the two.

The high atmospheric data which was obtained during Operation Skyhook, said Riehl, was the first to be obtained from that height in the equatorial regions. Data from that height has been obtained, but on a very sporadic basis, from balloons in higher latitudes.

Operation Skyhook was under the sponsorship of the University of Chicago, backed by a grant from the National Science foundation. The office of naval research supplied the balloon flight program through a contract with Winzen Research, Inc., of Bloomington, Minn. Logistics was supplied by the navy — the carrier Valley Forge, from the deck of which the balloons were flown, and a fleet of accompanying destroyers.

The winds which were encountered by the Winzen balloons are higher than the so-called north and south polar jets, which kick along at 30,000 to 40,000 feet at the northern and southern edges, approximately, of the north and south temperature zones.

While Riehl warns that there is not enough data as yet to definitely pin down the cause of the high atmospheric disturbances over the area just north of the equator, they probably are due to the shift in the heat exchange incident upon the seasons.

In the summer, when a heating pattern extends northward from the tropics to the polar regions, the winds become fairly stabilized, blowing east to west. But with the coming of the northern winter and the shifting of the heat exchange from north to south, the turbulance results.

While the expedition was primarily concerned with obtaining high energy data from the cosmic rays, it was necessary for efficient operation to send up tracer balloons to show the wind speed and direction. It was then that the first evidence of the turbulence in the higher reaches of the atmosphere was discovered.

In spite of this turbulence, the big Skyhook balloons, with their payloads of emulsion plates, were sent up. As a result of the winds, however, the payloads had to be cut loose from them sooner than was hoped. The balloons, caught in the winds, either raced off too fast or changed their direction to head for the jungles of South America.

It had been hoped, by timing the expedition during the winter months, that there might be little turbulence. As a matter of fact, however, this was no more than guesswork. No one had the least idea what would be encountered.

Riehl, who was attached to the expedition, but was based at the United States weather bureau at San Juan, Puerto Rico, points out that further study will be needed to puzzle out the meaning of this new phenomenon of the upper atmosphere.

At the moment, the performance of winds at this height have no particular significance so far as aircraft is concerned.

But with planes each year flying higher and faster, Riehl declares, some day it will.

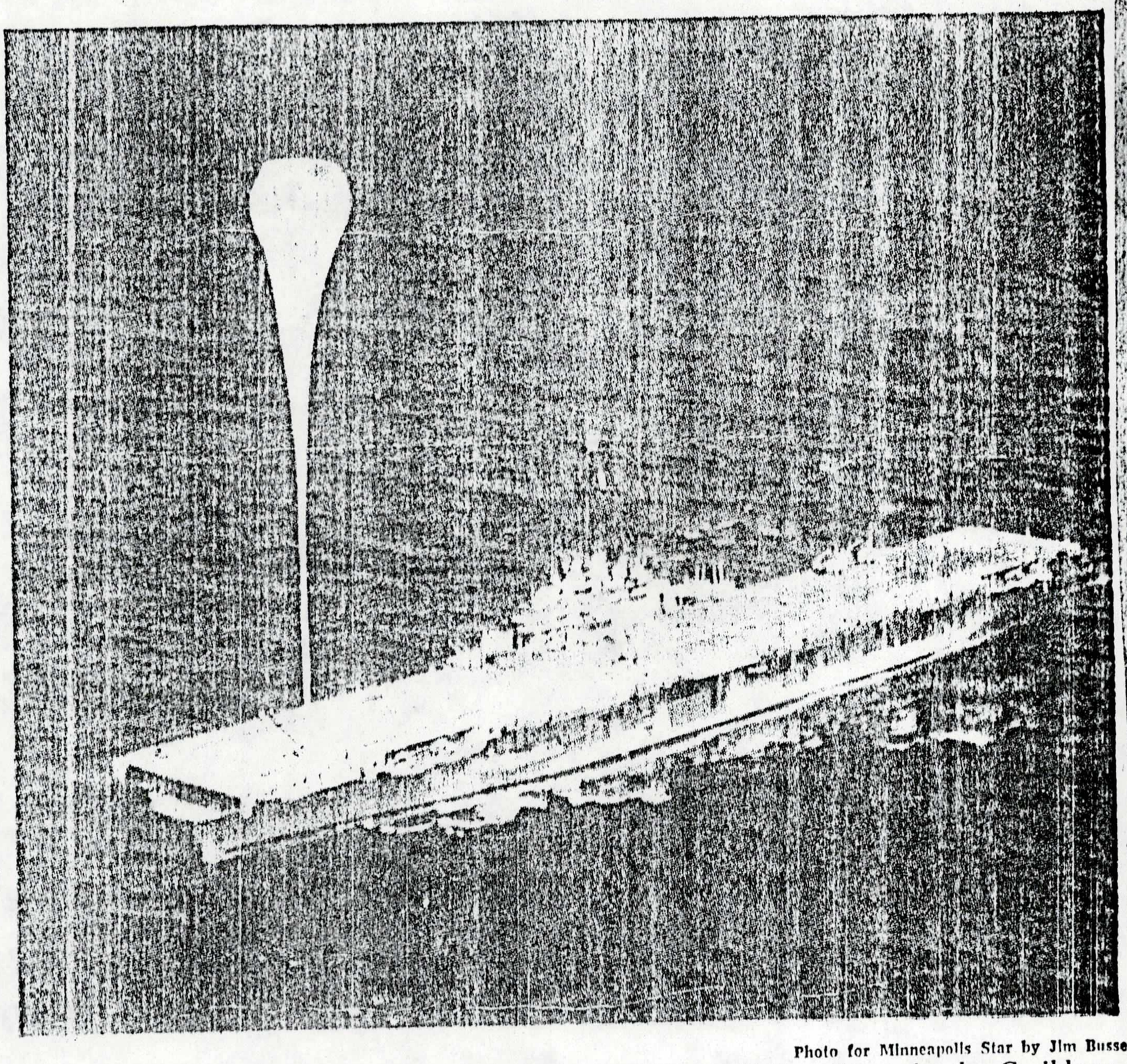
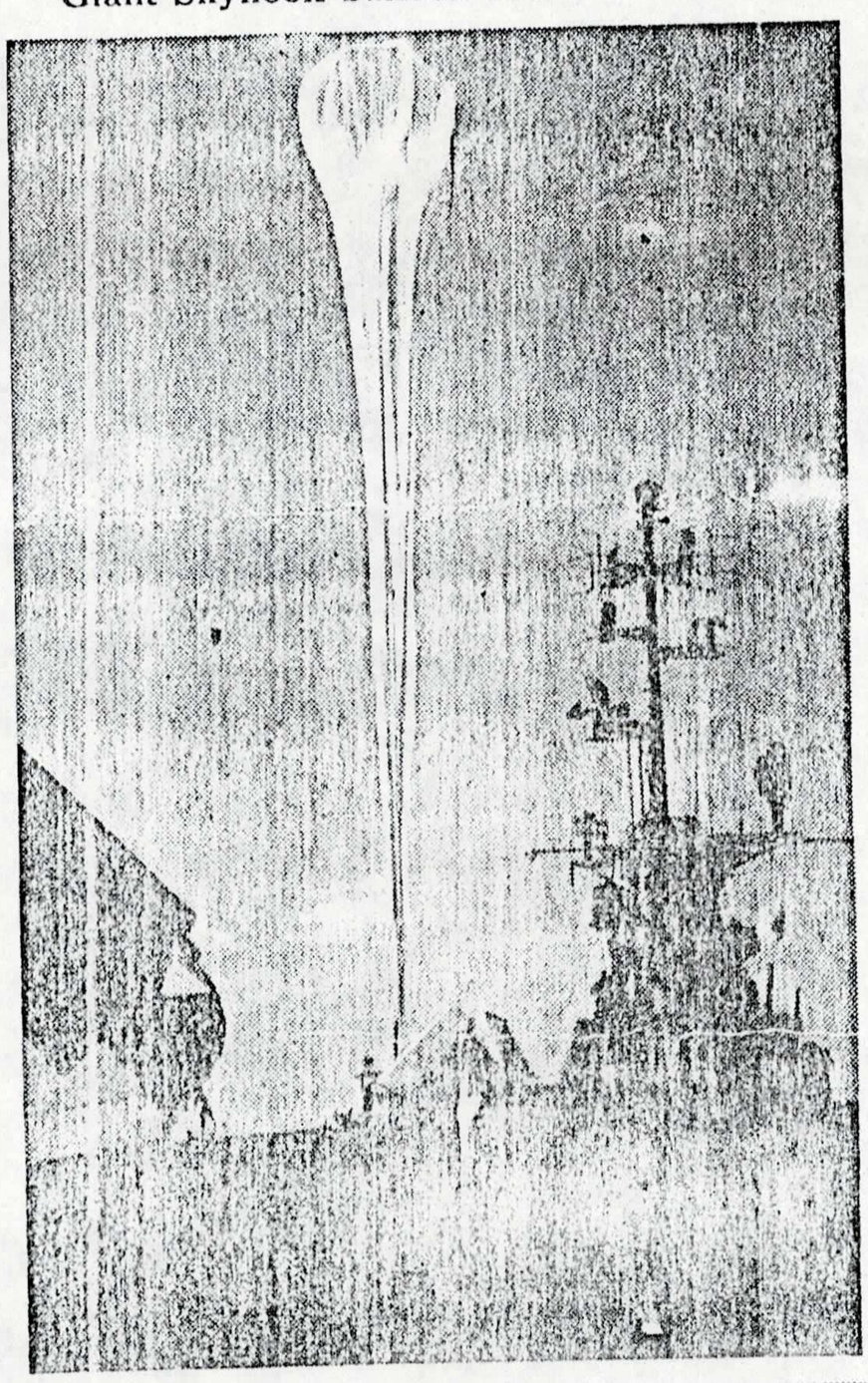


Photo for Minneapolis Star by Jim Busse

Giant Skyhook balloon lifts from the deck of the carrier Valley Forge in the Caribbean



Tests Show Way for High Research

★ ★ ★ ★ ★ ★ ★ ★

Jim Busse, Minneapolis science writer and photographer, was aboard the aircraft carrier Valley Forge in the Caribbean when Operation Skyhook balloons probed the upper atmosphere 10 days ago. Here he summarizes the operation, already cited by some scientists as an important milestone in the exploration of the earth's upper atmosphere.

By JIM BUSSE

American scientists reached a new milestone in the exploration of the earth's upper atmosphere 10 days ago when they successfully sent two giant Minnesota-made balloons to the very edge of space.

The huge plastic balloons, largest in the world, were built in Bloomington, Minnesota, and launched from the deck of the aircraft carrier Valley Forge in the Caribbean by engineers of Winzen Research, Inc.

The record balloon flights were made in connection with Project Skyhook 60, an office of naval research and National Science Foundation sponsored expedition to capture cosmic ray particles bombarding the earth from outer space.

Although only partially successful in its cosmic ray venture, scientists believe Project Skyhook 60 has opened up new avenues in the field of high altitute research by making possible the development of a 40-story high balloon capable of carrying light loads of scientific instruments to unbelieveable altitudes above 150,000 feet or space platforms weighing several tons and containing complete scientific laboratories, manned or unmanned, to hitherto unattainable heights.

Floating in the stratosphere, such a balloon is a perfect research laboratory because of the absence of rough movement, noise, vibration, and wind. At 120,000 feet, the balloon and its payload are above 95.5 per cent of the earth's atmosphere where conditions are for all practical purposes the same as those in space. Such a balloon is actually a low-level satellite.

In order to launch a balloon as big as the ten million cubic foot giant "skyhooks" sent aloft from the Valley Forge, the surface wind must be almost zero. Fast moving surface winds during the inflation or at

BALLOON
Turn to Page 14B

the moment of launching can quickly wreck a balloon.

An aircraft carrier can easily produce such a "zero wind" condition on its flight deck by moving in a downwind direction with the same speed as the wind.

The recent carrier launchings in the Caribbean show that it is now possible to launch a big balloon from practically anywhere in the world. Balloon flight need no longer be banned from certain latitudes because they lack huge natural windbreaks such as the Strato bowl in South Dakota, site of many earlier launchings.

Every balloon flight, regardless of its primary objective, aids meteorologists in their never-ending study of high altitude winds, commonly known as "jet streams."

Elaborate tracking procedures were employed in Project Skyhook 60 flight since the balloons' payloads of cosmic-ray-capturing emulsion had to be recovered after each flight and Navy meteorologists wanted an accurate record of the balloon flights through the stratosphere.

A miniature radio transmitter attached to the balloon served as an invisible beacon to long-range land based aircraft tracking the balloon's course. These same planes carried radar gear for keeping tabs on the balloon at night or when unfavorable weather made visual contact impossible.

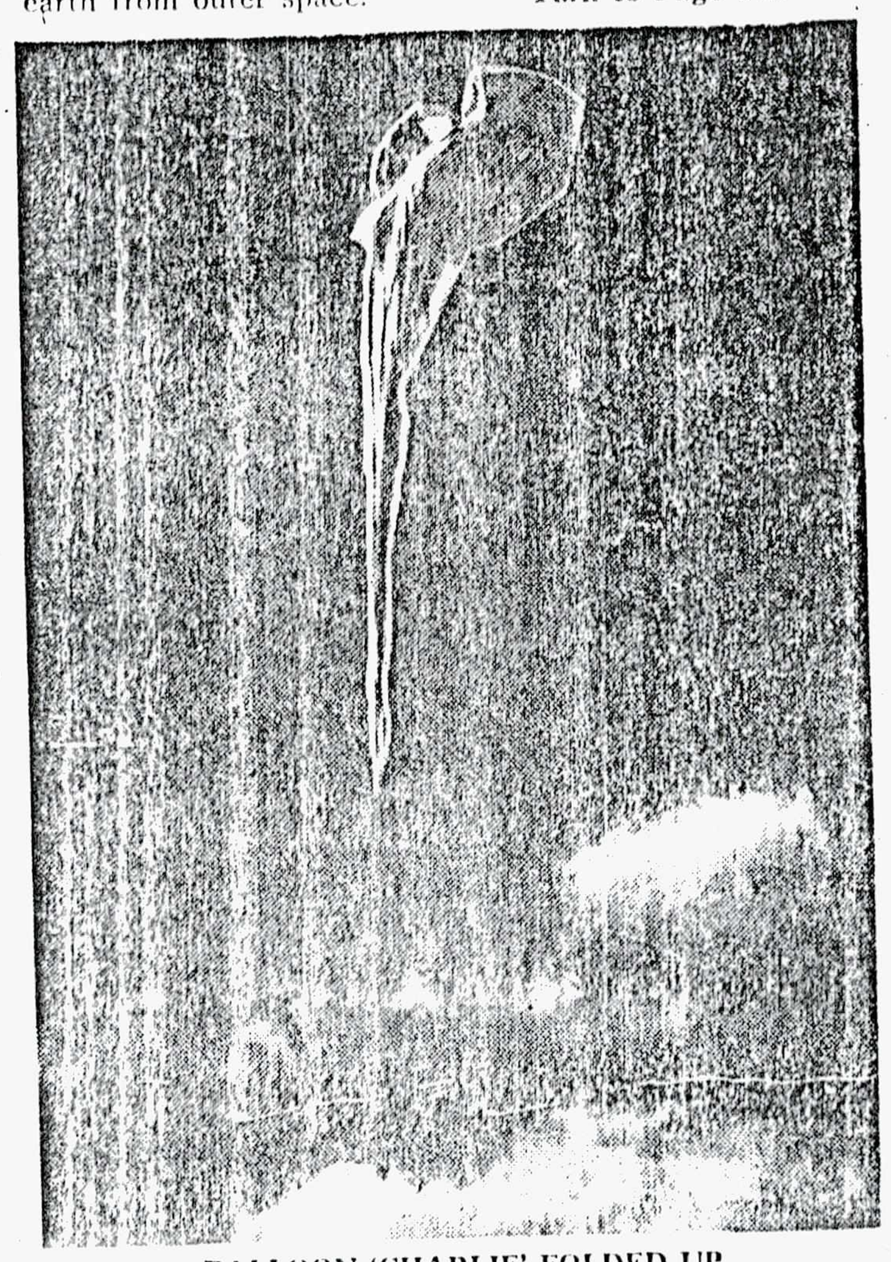
Many future high altitude experiments, however, can be designed to radio their valuable data to earth directly, making recovery of the instruments unnecessary or at least of minor importance.

The future of plastic balloons holds many interesting prospects. Two years ago, Maj. David G. Simons piloted a manned balloon with hundreds of pounds of scientific instruments to an altitude of over 120,000 feet, establishing a manned bridgehead in space.

The human problems of space medicine, including its physiological and psychological aspects, can now be studied. Before man himself can conquer space, fly around and land on the moon, travel to other planets, he must know his physical limitations and the effect of prolonged exposure of himself and the equipment on which his life depends to the intense radiation belts, searing solar heat, and micro-meteorite sandblasting of outer space.

Unless we know it is possible for our frail bodies to survive a flight into space, it would be useless to spend billions of dollars designing a manned space ship.

Balloon-carried scientific probes at the top of the earth's atmosphere should give us the answer. They will provide America with an important headstart in the race into space.



BALLOON 'CHARLIE' FOLDED UP
But 3 of 4 proved successful

Balloons in Ray Project Fizzle Out

ABOARD U.S. CARRIER VALLEY FORGE — (AP) — Project Skyhook drew closer to an end today with all of its giant balloons gone but some hope of a small success left.

Navy scientists in the project had tried to catch cosmic rays on supersensitive film by sending the film in the world's largest balloons to an altitude of 22 miles.

They tried three times but not once did a balloon stay that high for the recommended 48 hours.

One balloon, however, did stay at the high altitude for 5½ hours.

Its gondola, containing the heavy pack of film, parachuted into the sea Sunday. Scientists hoped the film had recorded valuable data, and two destroyers were sent to retrieve it.

The biggest disappointment came Sunday when this carrier attempted to launch the third balloon, known as Skyhook Charlie. The ship was in the Atlantic ocean, 450 miles east of San Juan, Puerto Rico.

At the moment of launching, several load lines snapped in succession. Skyhook Charlie broke loose, leaving the gondola and its 800 pounds of nuclear emulsion film on deck.

Feb 1960

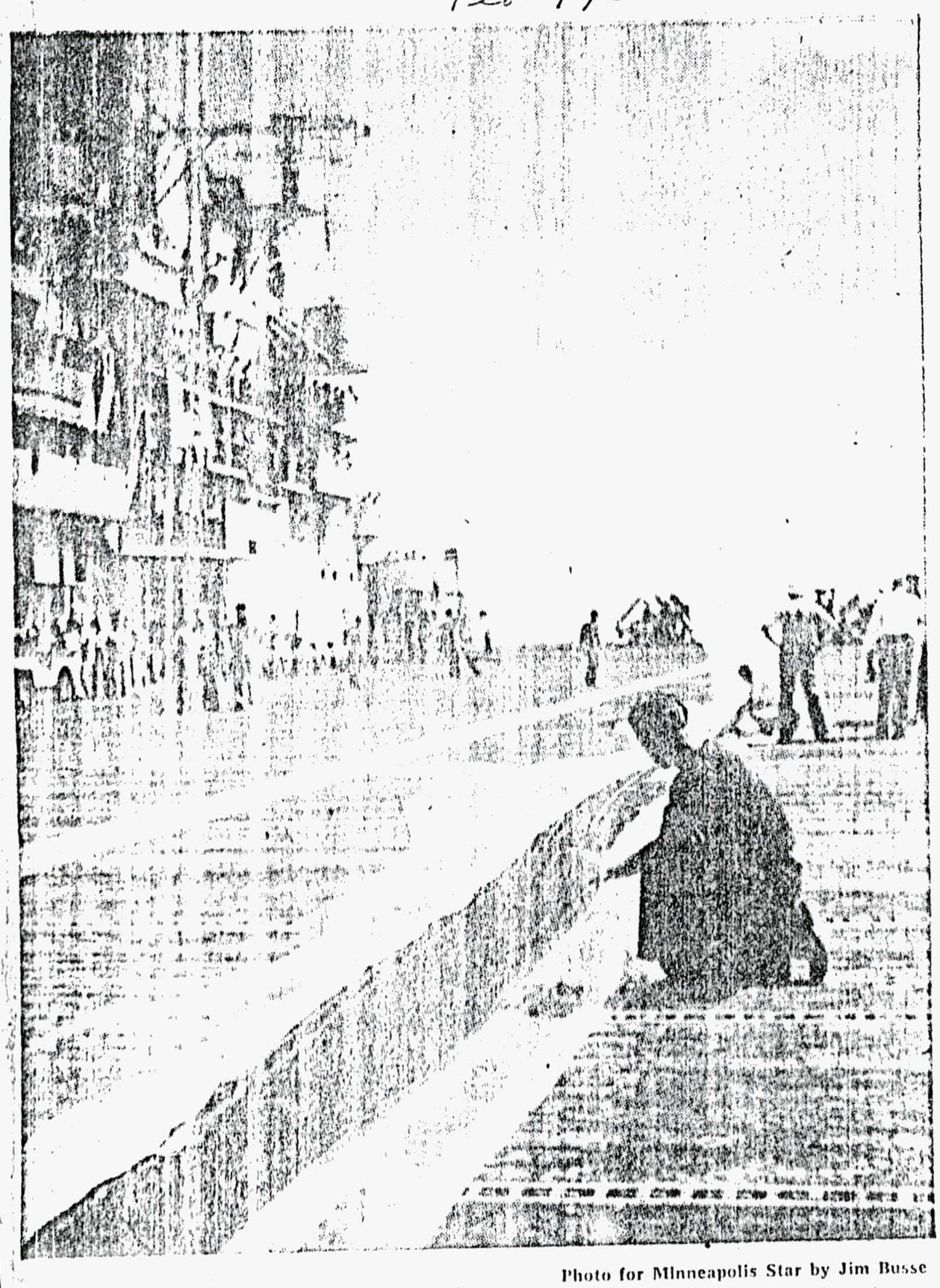


Photo for Minneapolis Star by Jim Busse

Skyhook Going Up Stretching almost half the 800-foot length of the flight deck of the aircraft carrier Valley Forge, the world's largest balloon is readied for a trip into space over the Caribbean to collect vital data on the energy and origin of cosmic rays.

Two record flights, each carrying a 1,600-pound load of scientific instruments to an altitude of almost 22 miles, were launched from the carrier. Last Tuesday a balloon was aloft eight hours before the navy ordered its descent. It was feared it might be lost in the jungles of Venezuela. Sunday a second balloon went up 21.4 miles and was followed by aircraft to a point 150 miles south of San Juan, Puerto Rico.

The balloons, 300 feet across and 411 feet high, were made by Winzen Research, Inc., of Bloomington, Minn.

Jan. 25

Navy Sends Big Balloon Into Sky

Aboard USS Valley Forge (AP) — The Navy today launched the largest balloon ever sent aloft from a ship.

This carrier released a sheer, thin skinned plastic bag buoyant with helium, at 4:32 a. m., (Mankato time). The balloon, inflated to two million cubic feet, stood more than 200 feet tall and had an inflated diameter of 173 feet.

It was an awesome sight as the balloon rose grandly, silently, smoothly, straight upward into placid blue sky.

Ship's personnel jammed catwalks and other safe deck spaces to watch the launching over a warm Atlantic 2,000 miles east of Puerto Rico.

Impressive as it was, the launching was only a preliminary test run for the main show, possibly Tuesday. Then two balloons, five times as big — 10 million cubic footers — will be sent up to 22 miles.

They will carry 2,500 pounds each, the heaviest scientific payload ever carried so high.

In the payoff launchings Tuesday, scientists hope one or more of the identical unmanned balloons will carry loads of photographic film to about 120,000 feet to record primary cosmic ray impacts over the Atlantic.

A tracer balloon 120 feet high was sent up Sunday to get information on winds at 120,000 feet above the test area.

Physicists and technicians hope the balloon or balloons launched Tuesday will stay at altitudes of 22 miles for 48 hours or more with their suitcase-size packs of film.

Their goal is to get the first detailed tracking record of extremely powerful primary cosmic rays. These cannot be photographed from the earth because they diffuse upon striking the atmosphere

The waterproof gondolas will be picked up by destroyers and sent to the University of Chicago laboratories.

Jan. 25

Huge Balloon Sent Aloft From Ship

By VERN HAUGLAND

ABOARD USS VALLEY FORGE (AP)—The Navy today launched the largest balloon ever sent aloft from a ship.

This carrier released a sheer, thin skinned plastic bag buoyant with helium, at 5:32 a.m., EST. The balloon, inflated to two million cubic feet, stood more than 200 feet tall and had an inflated diameter of 173 feet.

It was an awesome sight as the balloon rose grandly, silently, smoothly, straight upward into placid blue sky.

Ship's personnel jammed catwalks and other safe deck spaces to watch the launching over a warm Atlantic 2,000 miles east of Puerto Rico.

Impressive as it was, the launching was only a preliminary test run for the main show, possibley Tuesday. Then two balloons five times as big - 10 million cubic footers—will be sent up to 22 miles.

They will carry 2,500 pounds each, the heaviest scientific payload ever carried so high.

In the payoff launchings Tuesday, scientists hope one or more of the identical unmanned balloons will carry loads of photographic film to about 120,000 feet to record primary cosmic ray impacts over the Atlantic.

Physicists and technicians hope the balloon or balloons launched Tuesday will stay at altitudes of 22 miles for 48 hours or more with their suitcase-size packs of film.

Nov 15

Wife of Balloon Firm's President Sues for Divorce

Mrs. Vera Winzen, 37, has filed suit for divorce from her husband, Otto, 41, president of Winzen Research, Inc., local firm that has engaged in high-altitude balloon flights.

In her complaint, Mrs. Winzen charged cruel and inhuman treatment. Her request for $800 a month temporary alimony will be heard in special term court Monday.

Mrs. Winzen's complaint, filed in Hennepin county district court, said the couple was married in 1941 and has been separated more than five months. The residence is at 1250 Dodd road, St. Paul.

According to her complaint, Mrs. Winzen, although fired by her husband as a Winzen employe last month, is still vice president, a director and the major shareholder in the corporation.

She indicated she had managed the Winzen business recently after her husband was injured in a balloon accident near Ashland, Wis.

The Winzens have no children.

July 30 '58

Jetstream Blast Shatters Huge Crosby Balloon

Special to the Minneapolis Star

CROSBY, Minn. — An extremely high velocity jetstream at 40,000 feet grounded flight of the world's largest stratospheric balloon today.

The 20-story, unmannned balloon, built by Winzen Research, Inc., for the air force, had soared skyward from an open pit iron mine here at 7:01 a.m.

At the 40,000-foot mark, however, trouble developed. A tracking pilot radioed that the balloon, built of extremely thin plastic, succumbed to the mighty force of the jetstream.

When the giant bag hit the stream, the pilot reported, it flopped over at a 45-degree angle and the top blew out.

The cargo of insects and cosmic ray measuring instruments came to earth in the Mille Lacs lake area with remnants of the balloon.

GREEK RECOGNITION

ATHENS, Greece — (AP) — Greece has recognized the new regime in Iraq, the government announced today.

Mille Lacs

Balloon Flight to Test Equipment Called Successful

MINNEAPOLIS (AP) — An unmanned balloon flight to test equipment and trajectory for a manned stratosphere flight was described by Navy spokesmen today as successful.

A plastic balloon was sent aloft Tuesday near Rapid City, S.D. About 30 hours later, a timing device cut the balloon loose from its payload and the equipment came down by parachute at 2:10 p.m. (CST).

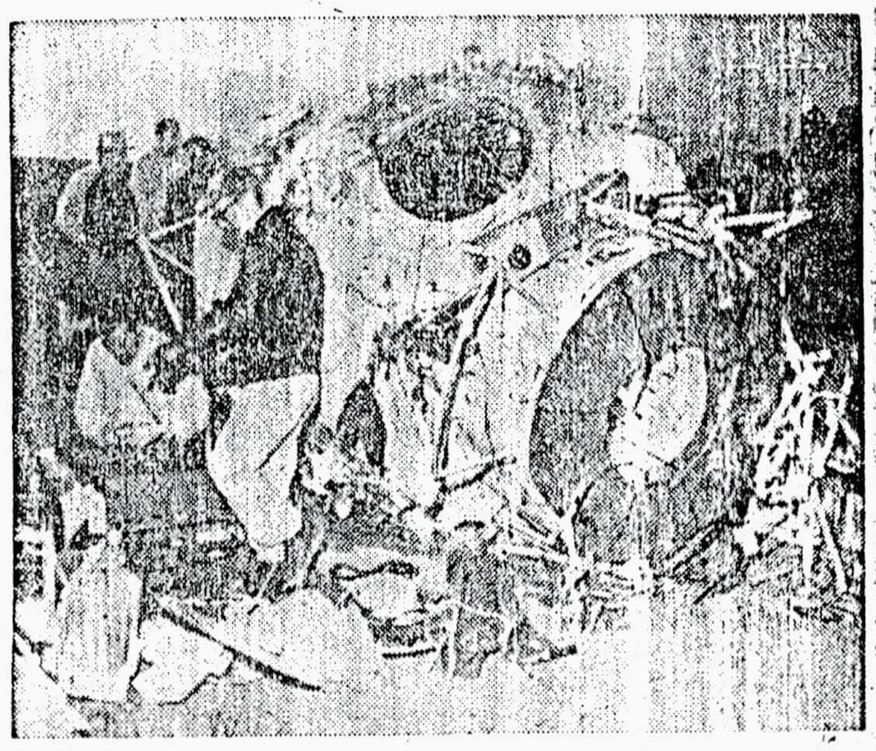
The equipment landed near Wellsburg, Iowa, and was recovered by a tracking crew. Wellsburg is in north central Iowa, about 45 miles east of Webster City, Iowa, and some 450 miles from the launching site.

The flight was a forerunner to one which will take Navy Cmdr. M. D. Ross and Charles B. Moore Jr., an atmospheric physicist from Cambridge, Mass., to 80,000 feet. There the two will study the atmosphere of Venus.

A spokesman for the Office of Naval Research (ONR) said the southeasterly direction taken by yesterday's balloon would be ideal for the manned flight. The important thing, he added, is that the balloon doesn't go north into the areas of lakes and heavy timber.

The ONR spokesman added that the manned flight will not be made before next Monday, the earliest possible date.

A Navy spokesman at Rapid City said another pilot balloon will be sent up before the weekend for further tests on equipment.



BALLOONISTS LAND — Navy research team began recovering instruments from the stratosphere gondola that crashed to earth in a Kansas Field after carrying Comdr. Malcolm Ross and Dr. Charles Moore more than 13 miles high for a close telescopic look at the planet Venus. Ross was slightly injured in the landing after a successful ascension from Rapid City, S.D. (NEA Telephoto)

FEDERAL EXPRESS

USE THIS AIRBILL FOR SHIPMENTS WITHIN THE CONTINENTAL U.S.A., ALASKA AND HAWAII.
USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO AND ALL NON U.S. LOCATIONS.
QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER **1781996790**

1781996790

1 7 8 1 9 9 6 7 9 0

1 SENDER'S FEDERAL EXPRESS ACCOUNT NUMBER: --------- Date: 7/19/94

From (Your Name) Please Print: Betsey Hudon Your Phone Number (Very Important): (817) 273-3393

Company: Special Collections Library
The University of Texas at Arlington Department/Floor No.: 6th Fl.

Street Address: 702 College St.

City: Arlington State: T X ZIP Required: 76019

2 To (Recipient's Name) Please Print: Lt.James McAndrew Recipient's Phone Number (Very Important): (202) 767-0412

Company: SAF/AAZD
Center for Air Force History Department/Floor No.:

Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 170 Luke Ave. Suite 400

City: Bolling AFB
Washington State: D.C. ZIP Required: 20332-5113

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.)

H IF HOLD AT FEDEX LOCATION, Print FEDEX Address Here
Street Address
City State ZIP Required

3 PAYMENT 1 ☐ Bill Sender 2 ☐ Bill Recipient's FedEx Acct. No. 3 ☐ Bill 3rd Party FedEx Acct. No. 4 ☒ Bill Credit Card
Acct. No. Req'd Fill in Account Number below Fill in Account Number below (req'd.) Fill in Credit Card No. below (req'd.)
5 ☐ Cash/Check Acct./Credit Card No.: Mastercard #5424 1802 7916 9814 Exp. Date: 1/96

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning*)	Standard Overnight (Delivery by next business afternoon. No Saturday delivery.†)
11 ☐ OTHER PACKAGING	51 ☐ OTHER PACKAGING
16 ☒ FEDEX LETTER*	56 ☐ FEDEX LETTER*
12 ☐ FEDEX PAK*	52 ☐ FEDEX PAK*
13 ☐ FEDEX BOX	53 ☐ FEDEX BOX
14 ☐ FEDEX TUBE	54 ☐ FEDEX TUBE
Economy Two-Day (Delivery by second business day.†)	**Government Overnight** (Restricted to authorized users only)
30 ☐ ECONOMY*	46 ☐ GOVT LETTER
	41 ☐ GOVT PACKAGE

*Economy Letter Rate not available. Minimum charge: One pound Economy rate.

Freight Service (For packages over 150 lbs.)
70 ☐ OVERNIGHT FREIGHT** (Confirmed reservation required)
80 ☐ TWO-DAY FREIGHT**
†Delivery commitment may be later in some areas. *Declared Value Limit $500. **Call for delivery schedule.

5 DELIVERY AND SPECIAL HANDLING (Check services required)

Weekday Service
1 ☐ HOLD AT FEDEX LOCATION WEEKDAY (Fill in Section H)
2 ☒ DELIVER WEEKDAY

Saturday Service
31 ☐ HOLD AT FEDEX LOCATION SATURDAY (Fill in Section H)
3 ☐ DELIVER SATURDAY (Extra charge) (Not available to all locations)
9 ☐ SATURDAY PICK-UP (Extra charge)

Special Handling
4 ☐ DANGEROUS GOODS (Extra charge)
6 ☐ DRY ICE (Dangerous Goods Shipper's Declaration not required)
Dry Ice, 9, UN 1845 ____ X ____ kg 904 III
☐ DESCRIPTION
12 ☐ HOLIDAY DELIVERY (If offered) (Extra charge)

6 PACKAGES / WEIGHT in Pounds Only
Total / Total

DIM SHIPMENT (Chargeable Weight)
☐ ____ lbs.
L ____ x W ____ x H ____

Received At:
1 ☐ Regular Stop 3 ☒ Drop Box
2 ☐ On-Call Stop 4 ☐ B.S.C. 5 ☐ Station

7 Release Signature: X

Emp. No. Date
☐ Cash Received
☐ Return Shipment
☐ Third Party ☐ Chg. To Del. ☐ Chg. To Hold
Street Address
City State Zip
Received By: X
Date/Time Received FedEx Employee Number

Federal Express Use
Base Charge: 13 00
Declared Value Charge
Other 1
Other 2
Total Charges: 13 00

REVISION DATE 12/92
PART #137205 GBFE 4/94
FORMAT #158
158
© 1992-93 FEDEX
PRINTED U.S.A.

DESTINATION COPY

MULTIPLE PACKAGE SERVICE

IF YOU ARE MAKING AN MPS SHIPMENT, APPLY THE SELF ADHESIVE MPS COPY HERE

TERMS AND CONDITIONS

DEFINITIONS

On this Airbill, we, our and us refer to Federal Express Corporation, its employees and agents. You and your refer to the sender, its employees and agents.

AGREEMENT TO TERMS

By giving us your package to deliver, you agree to all the terms on this Airbill and in our current Service Guide, which is available on request. If there is a conflict between the current Service Guide and this Airbill, the Service Guide will control. No one is authorized to alter or modify the terms of our Agreement.

RESPONSIBILITY FOR PACKAGING AND COMPLETING AIRBILL

You are responsible for adequately packaging your goods and for properly filling out ths Airbill. Omission of the number of packages and weight per package from this Airbill will result in a billing based on our best estimate of the number of packages received from you and an estimated "default" weight per package, as determined and periodically adjusted by us.

AIR TRANSPORTATION TAX INCLUDED

Our basic rate includes a federal tax required by Internal Revenue Code Section 4271 on the air transportation portion of this service.

LIMITATIONS ON OUR LIABILITY AND LIABILITIES NOT ASSUMED

Our liability for loss or damage to your package is limited to your actual damages or $100, whichever is less, unless you pay for and declare a higher authorized value. We do not provide cargo liability insurance, but you may pay an additional charge for each additional $100 of declared value. If you declare a higher value and pay the additional charge, our liability will be the lesser of your declared value or the actual value of your package.

In any event we will not be liable for any damages, whether direct, incidental, special or consequential in excess of the declared value of a shipment, whether or not Federal Express had knowledge that such damages might be incurred including, but not limited to, loss of income or profits.

We won't be liable for your acts or omissions, including but not limited to improper or insufficient packing, securing, marking or addressing, or for the acts or omissions of the recipient or anyone else with an interest in the package. Also, we won't be liable, if you or the recipient violates any of the terms of our agreement. We won't be liable for loss of or damage to shipments of prohibited items.

We won't be liable for loss, damage or delay caused by events we cannot control, including but not limited to acts of God, perils of the air, weather conditions, acts of public enemies, war, strikes, civil commotions, or acts or omissions of public authorities (including customs and quarantine officials) with actual or apparent authority.

DECLARED VALUE LIMITS

The highest declared value we allow for FedEx Letter and FedEx Pak shipments is $500. For other shipments, the highest declared value we allow is $25,000 unless your package contains items of "extraordinary value," in which case the highest declared value we allow is $500. Items of "extraordinary value," include artwork, jewelry, furs, precious metals, negotiable instruments, and other items listed in our current Service Guide.

If you send more than one package on this Airbill, you may fill in the total declared value for all packages, not to exceed the $100, $500 or $25,000 per package limit described above. (Example: 5 packages can have a total declared value of up to $125,000.)

If more than one package is shipped on this airbill, our liability for loss or damage will be limited to the actual value of the package(s) lost or damaged (not to exceed the lesser of the total declared value or the per package limits described above). You have the responsibility of proving the actual loss or damage.

FILING A CLAIM

ALL CLAIMS MUST BE MADE BY YOU IN WRITING. You must notify us of your claim within strict time limits. See current Service Guide.

We'll consider your claim filed if you call and notify our Customer Service Department at 800-238-5355 and notify us in writing as soon as possible.

Within 90 days after you notify us of your claim, you must send us all relevant information about it. We are not obligated to act on any claim until you have paid all transportation charges, and you may not deduct the amount of your claim from those charges.

If the recipient accepts your package without noting any damage on the delivery record, we will assume that the package was delivered in good condition. In order for us to process your claim, you must, to the extent possible, make the original shipping cartons and packing available for inspection.

RIGHT TO INSPECT

We may, at our option, open and inspect your packages prior to or after you give them to us to deliver.

NO C.O.D. SERVICES

NO C.O.D. SERVICES ON THIS AIRBILL. If C.O.D Service is required, please use a Federal Express C.O.D. airbill for this purpose.

RESPONSIBILITY FOR PAYMENT

Even if you give us different payment instructions, you will always be primarily responsible for all delivery costs, as well as any cost we may incur in either returning your package to you or warehousing it pending disposition.

RIGHT OF REJECTION

We reserve the right to reject a shipment at any time, when such shipment would be likely to cause damage or delay to other shipments, equipment or personnel, or if the transportation of which is prohibited by law or is in violation of any rules contained in this Airbill or our current Service Guide.

MONEY-BACK GUARANTEE

In the event of untimely delivery, Federal Express will at your request and with some limitations, refund or credit all transportation charges. See current Service Guide for further information.

Part # 137204/137205
Rev. 12/92