

MARSHALL SPACE FLIGHT CENTER, Ala. -- When the NASA's Apollo/Saturn space vehicle made its long-awaited journey to a lunar landing last week, it traveled more than 655,000 statute miles -- at a cost in propellants of 23.4 cents a mile.

That estimate is based on the historic Apollo 8 flight to the moon. The space vehicle that made the actual moon-landing flight did follow very closely the space trail blazed by Apollo 8.

Total fuel bill for Apollo 8's Saturn V launch vehicle and Apollo spacecraft was slightly more than \$153,000, an average of just under 16 cents a gallon for propellants.

The Apollo/Saturn space vehicle got 0.68 miles per gallon on its Apollo 8 trip, much less than the average automobile, but the Apollo/Saturn is not, of course, the average automobile.

For one thing, the Saturn V has the fuel consuming task of overcoming the influence of the earth's gravitational force. This requires an awesome amount of thrust -- 7.5 million pounds just to lift the vehicle off the ground. This thrust must be fed by an enormous quantity of propellants.

The fuels of the Apollo/Saturn V include such liquids as RP-1, a special high-grade kerosene used in Saturn V, first stage, liquid hydrogen, which fuels the second and third vehicle stages, and which must be kept at a temperature of minus 423 degrees Fahrenheit to remain liquid; and a half-and-half mixture of hydrazine and unsymmetrical dimethylhydrazine, which powers the Apollo's service module.

Because of the small oxygen content of the earth's atmosphere

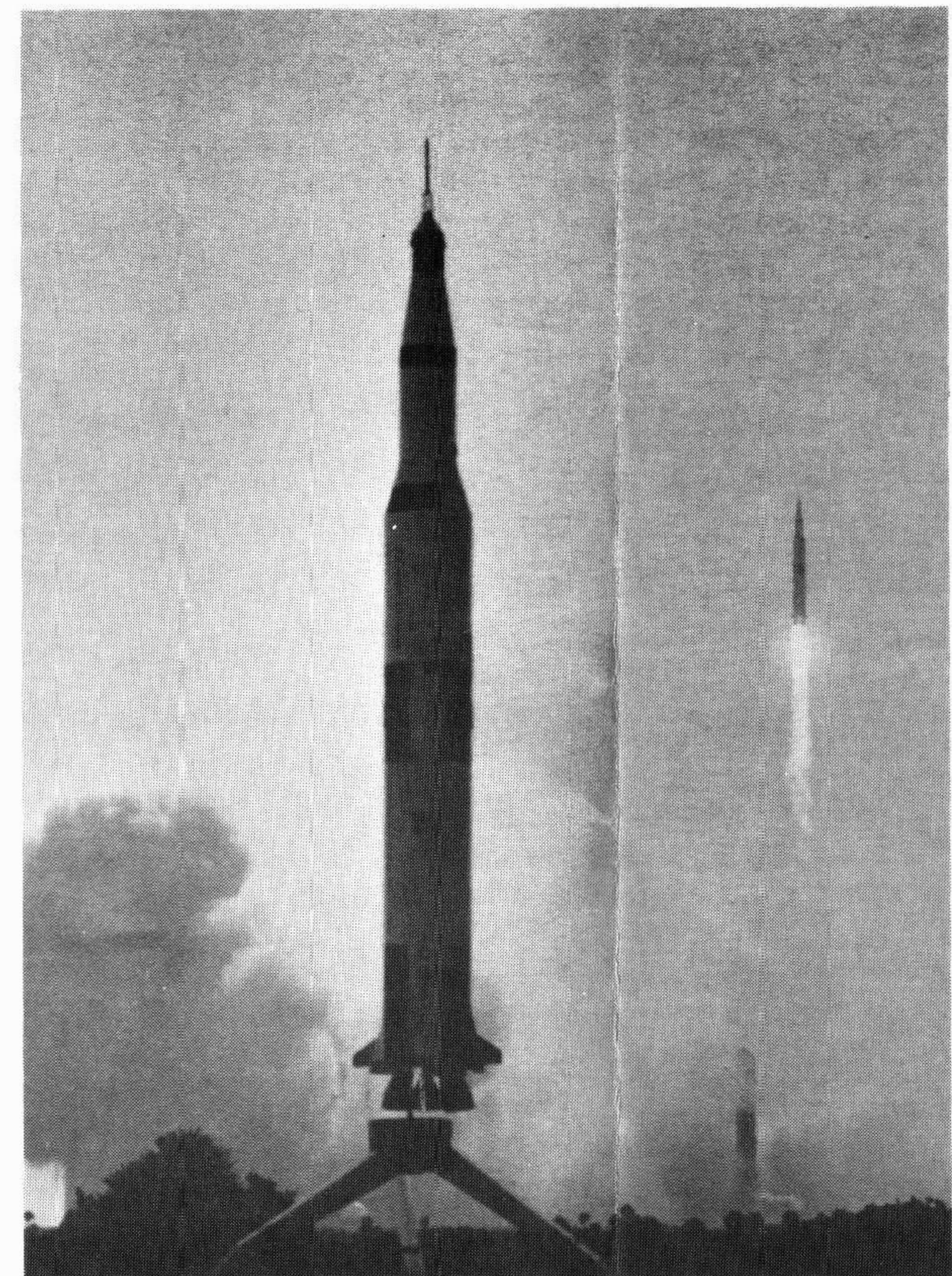
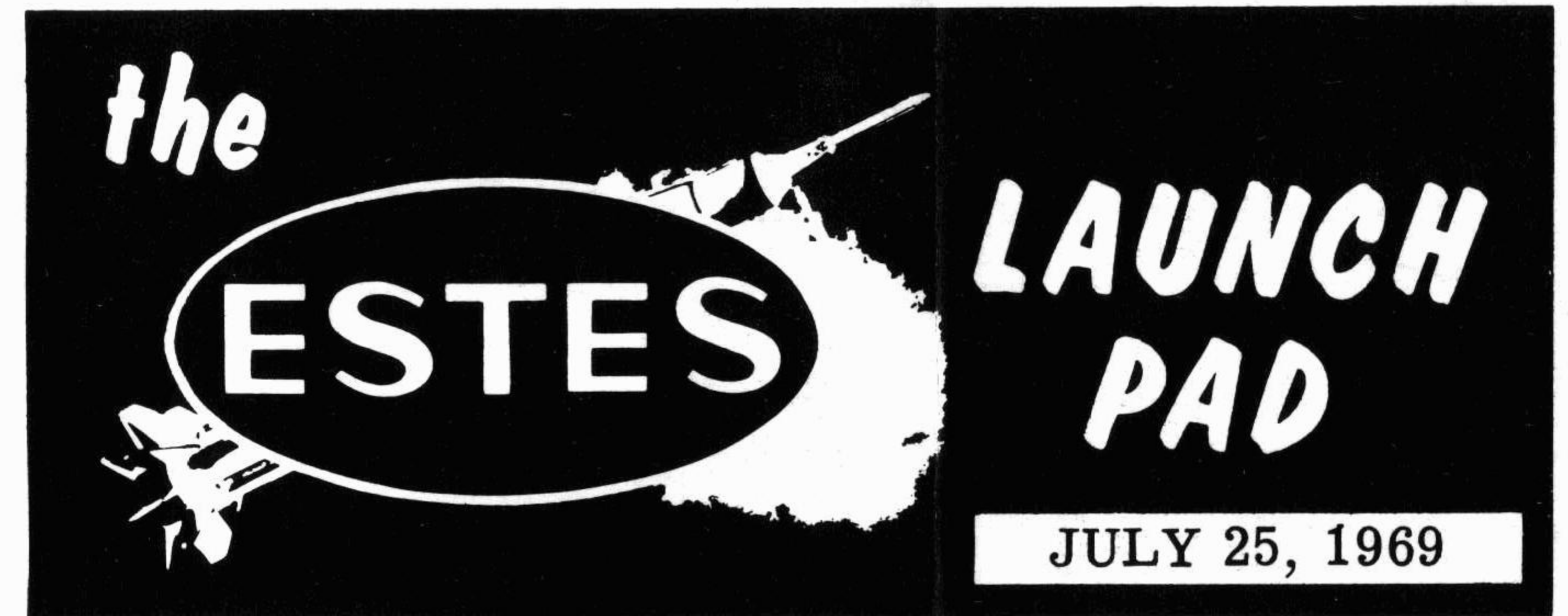
and the absence of oxygen in outer space, the launch vehicle and spacecraft must carry their own supplies of this necessary propulsive substance. Liquid oxygen (at minus 297 degrees Fahrenheit) is used in all three stages of the Saturn V; nitrogen tetroxide is used in the Apollo spacecraft.

All in all, the Apollo 8 proved to be one of the most economical, as well as one of the most reliable vehicles ever taken on a long distance journey by man. The lunar landing mission should repeat that performance.

HAPPY BIRTHDAY

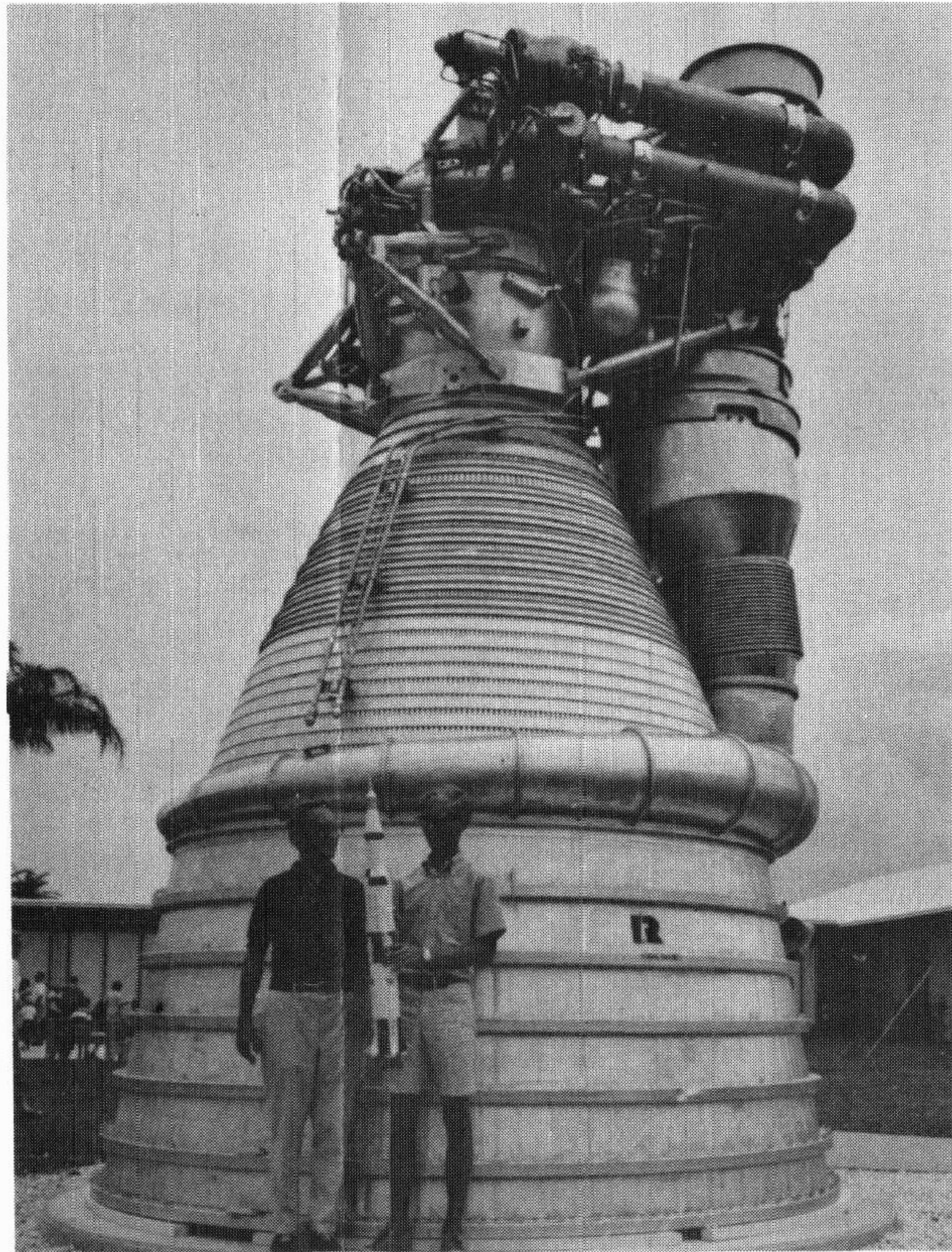
Jean Klein	July 25
Lucille Ossola	July 26
Peggy Goodwin	July 26
Pat Hollmer	July 27
Dianna White	July 29
Dan Mathis	July 30
John Zamparelli	July 31
Sharon Littrell	July 31
June Harris	Aug. 1
Carol Harris	Aug. 2
Peggy Apple	Aug. 5
Jim Stuart	Aug. 6
Kathy Garcia	Aug. 6

THE LAUNCH PAD
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by
ESTES INDUSTRIES
Penrose, Colorado



"T minus 41 weeks and counting . . ." That's how long the Estes family's recent trip to Cape Kennedy was in the planning. When Vern was at the Cape in October 1968, he discussed model
(continued on next page)

rocketry with Dick Coup and Tom Mace of NASA. They aided him in making plans and necessary arrangements for a rocketeer and his family to be guests of Estes Industries at the Cape during an Apollo launch. The big question was: who would that rocket-



Shortly after Christmas, a telegram was sent to Sven Englund III, informing him that he was the winner of our "Launchstakes Contest," thus he would be that special "who."

All necessary arrangements were made as soon as possible for the Englund's and the Estes's to be there for the launch of the Apollo 11. All systems were "go" for the trip.

The fun part began when the two families met at the Orlando, Florida, airport and went directly to a "get together" barbeque held at the home of Dick Coup. Dick was the master chef. It

was late when they left for their motel to prepare for a big tomorrow.

Tomorrow, which was Tuesday, came all too soon. Both families, eight members in all, went to the Kennedy Space Center. They spent the day touring and taking pictures in the humid heat of Florida. It convinced them that they had better hit the sack early if they were to drive the one and one-half hours to the site and still arrive by 6:00 A.M. to find a good place to view the launch.

It was 3:30 A.M., Wednesday, when the sleepy group of eight crammed into one, not quite large enough, sedan and headed out to Gate 2 of the Parkway Viewing Site.

By 5:30 A.M. there was not one sleepy eye closed, for the most spectacular sight of all was clearly visible three and one-half miles away. The big 365-foot Saturn V was lit up as "bright as day" against the pitch black of the predawn sky -- a sight beyond imagination!

They had only to wait until 9:32 A.M. to see what the world had waited for so long. And so it happened, only a fraction of a second from the planned time. The three astronauts were on their way to the Moon. The noise was deafening, the vibrations shattering and the sight was absolutely "fantabulous!"

After post cards and letters were sent and souvenirs were bought, there was nothing left to do but see Florida. So the following day all went sightseeing until the two families had to part at Cypress Gardens. All in all, it was a memorable trip for everyone.

----- Betty Estes



POST OFFICE OK'S ENGINE MAILING

On July 12, 1969, Estes Industries was given official permission by the Post Office Department to ship a maximum of 27 engines (9 tubes) in a package. The engines must be placed in tubes within the overpack carton.

This new ruling by the Post Office should be of great help to our customers, the Post Office and ourselves. It will enable us to assure our rocketeers of receiving their orders in the same deliveries, lessen the number of packages for the Post Office to handle and lower our postage costs.

CLASSIFIEDS

A Free Service
For Employees

Deadline: Tuesday
Before Publication

----- FOR SALE -----

BOOKS, 240 science fiction.
Bill See.

----- TRADE -----

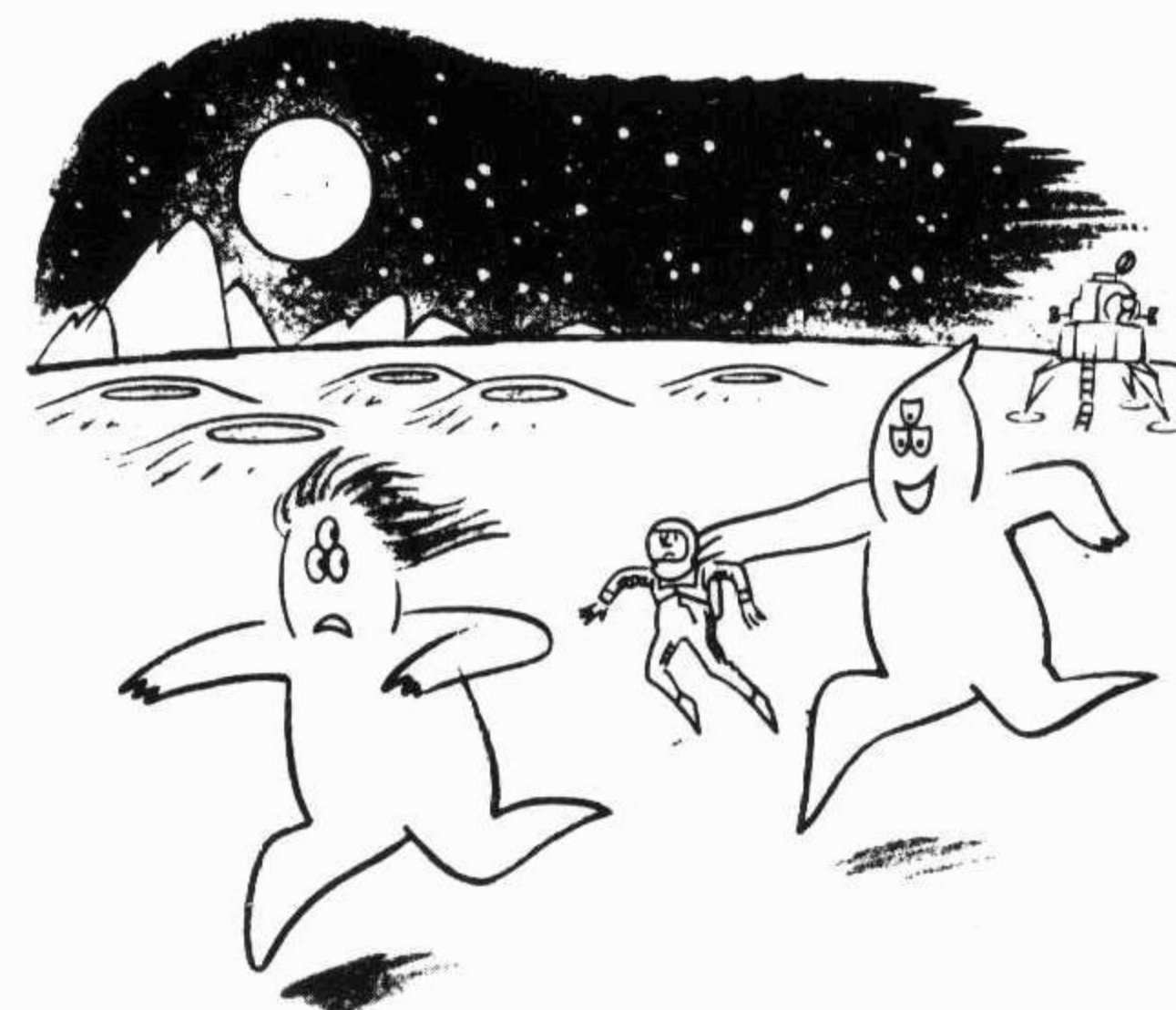
HOUSE, in Penrose for acreage in Penrose. 784-6734 after 5:00 P.M.

----- WANTED -----

CARPOOL, from Pueblo, sw. shift, Mail Processing. Norma Garver.

BOWLERS, Fri. night mixed league. See John Hood or Avona O'Leary.

AKC Registered Shepard wants to be father. Will take son or daughter for services. Call 784-6734.

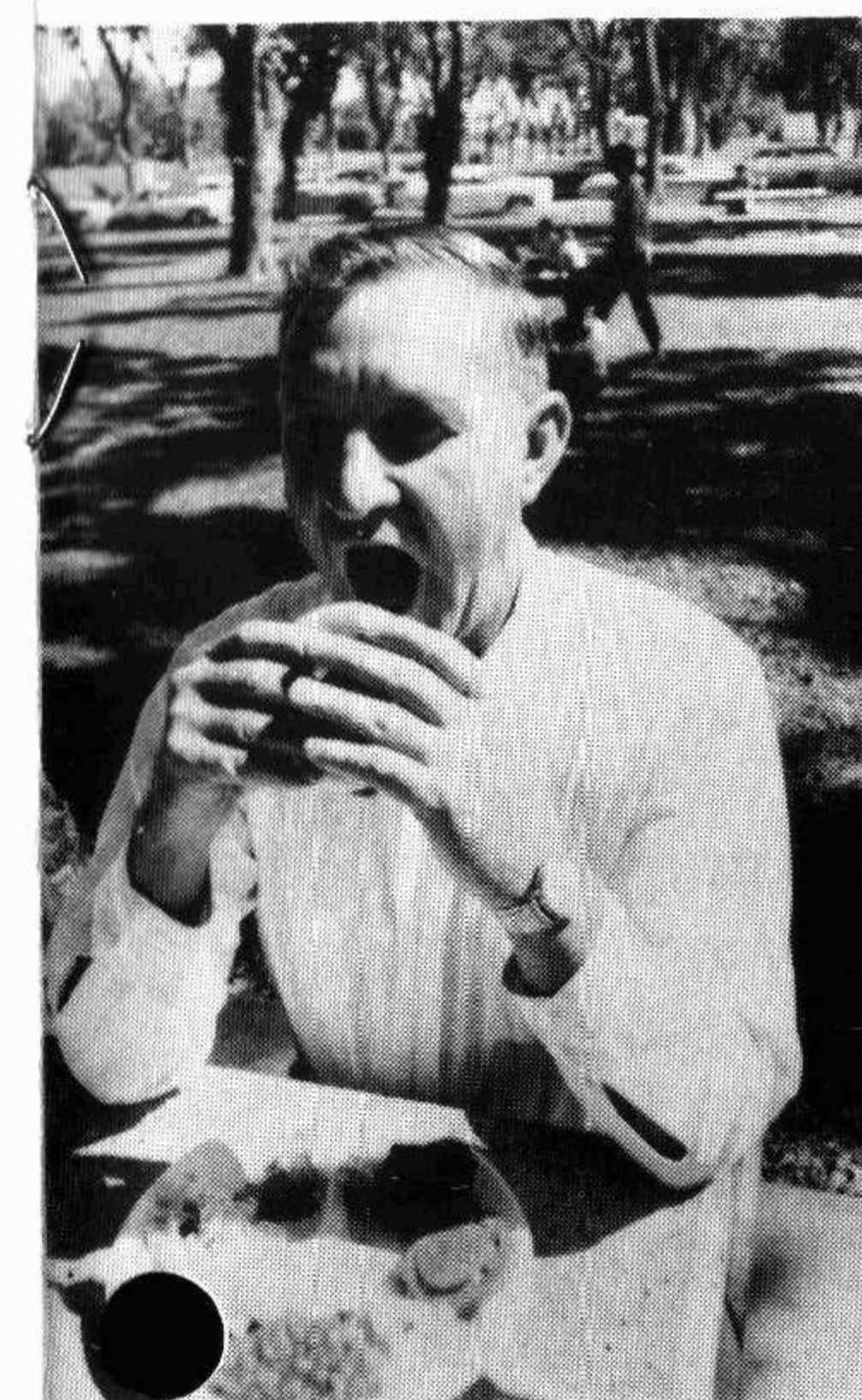


THANK YOU!

Oakie and the Mail Room crew extend a great big "thank you" to everyone who helped get out the '69 catalog. Special thanks to the Shipping Dept. and the Warehouse crew.

SCENES FROM THE 1968

COMPANY PICNIC



It's time to plan the seventh annual company picnic. This family affair will be held in September. If you would like to help in the planning, contact your supervisor or Gleda!

WELCOME NEW EMPLOYEES



Swimming, baseball and knitting are favorite hobbies of Linda Sandoval. Linda has joined the Wood Shop's swing crew and lives with her husband in Pueblo.

Newest member of the Wood Shop's graveyard shift is Doris McDowell. Doris and her husband live in Pueblo and enjoy fishing and horseback riding.

Joining the Packing Department's swing shift is Cheryl Bradford. Cheryl, a '68 graduate of South High, lives with her family in Pueblo and spends her spare moments drawing, bowling and writing.

Carol Armstrong, Packing, graveyard shift, also makes her home in Pueblo. Carol enjoys playing the piano and singing in her off-duty hours.

Originally from Alamosa, Janice Carson, Vern's new secretary and her three children now make their home in Colorado Springs. In her free moments, Janice relaxes swimming and sewing.

Beverly Estes has taken on the secretarial responsibilities of the Electronics Lab in the old Print Shop building. Formerly a medical secretary, Beverly plays the piano in her spare time.

Darlene Baumhover, the Payroll Clerk, enjoys painting, reading and horseback riding. Darlene and her three-year-old daughter live in Pueblo.

A swimmer and lover of creative arts, Virginia Hutchins comes to the Shipping Department, graveyard. Virginia and her family live in Pueblo where her husband is employed at Triplex.

Sharon Littrell has also joined the graveyard shift in Shipping. A life-long resident of Canon City, Sharon spends her spare moments skiing, swimming and cooking.

Jean Klein lives in Pueblo with her family where her husband is employed at C.F.&I. Another new member of Shipping, graveyard shift, Jean enjoys reading.

Living with her family in Canon City and a '68 graduate, Louise Buffum is now a member of Mail Processing's swing shift. Louise hopes to begin a career working with children.

Sewing, gardening and crafts are favorite hobbies of Norma Garver. Norma has joined the Mail Processing's swing crew and makes her home with her family in Pueblo.

The third new member of Mail Processing's swing shift is Linda Niehans, Penrose. Linda has completed one year at SCSC and embroiders in her spare time.



Floyd (Mac) Eppler has joined the Estes team in the Electronics Lab. After having specialized in electronics in the Navy, Mac now makes his home in Canon City.

Edmond Jermance is now a member of Engine Manufacturing's day shift. Edmond, his wife and their two children live in Canon City and enjoy water skiing and fishing.

Originally from Pennsylvania, Gerald Anderson and his family now make their home in Canon City. Gerald, Engine Manufacturing, finds hunting, fishing and Karate favorite spare-time activities.

Fishing and hunting are favorite sports for Orville Thomas, also of the day shift in Engine Manufacturing. Orville, his wife and three children live in Canon City.