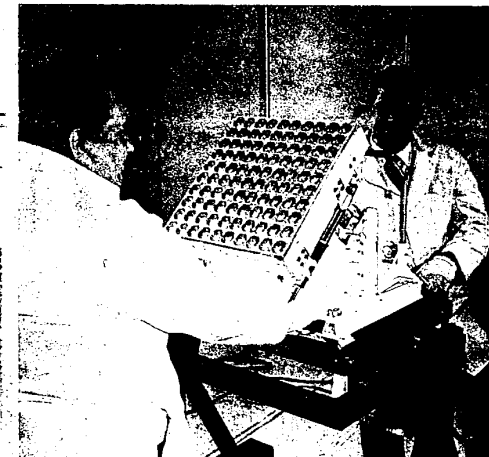


How Ron Hill's Name Landed On The Moon

Engineer Tells How Reflector Was Designed For Astronauts



DREAMING OF WHAT is yet to come are Iris and Ron Hill, who have resided in Livonia for the past eight years, as they look at a picture story of the development of space equipment and models, including the Apollo 11. Ron had a role in the successful flight, designing the Laser Ranging Retro-Reflector that was placed on the moon.



CHECKING A MODEL of the Laser beam, which is now resting on the moon and sending back information for scientific study, are Ron Hill (right), project engineer and designer, and chief aide, James Rintella. The two Livonians had major roles in the development and perfection of the beam.

By R.T. THOMPSON

"The scientists have a dream, and our job is to make it into a practical thing," is the very matter-of-fact way Ron Hill, 57, of Livonia, has of telling of his part in the successful Apollo 11 flight to the moon.

Ron and his wife Iris, who have English accents that could only come from one place — the British Isles — have been residents of the Livonia address, off E. Ann Arbor Trail, for the eight years he has been a member of the staff at the Bendix Corp. research center in Ann Arbor.

And both had more than a bit of interest in the flight of the Apollo 11 and the events that followed after the successful landing on the moon.

FOR THOSE who followed the landing via television — and who didn't — remember the relatively small square piece of equipment the two astronauts handled so carefully before placing it on the moon's surface?

That gadget is a Laser Ranging Retro-Reflector, soon to reflect Laser beams back to the earth from the moon.

The purpose — if everything goes well, and it apparently has thus far — is to enable a measurement between the earth and the moon to be made within six inches. It will show the wobble of the earth and also the shift of the continents. All of these reports may help scientists predict earthquakes.

Hill, who candidly admits that he is a project engineer and a design supervisor, has a strong feeling that other things are coming out of the Laser beams, but only the scientists know what they mean.

AS THE PROJECT engineer and design supervisor in charge of the development of the LRRR (abbreviation for Laser Ranging Retro-Reflector), small wonder why the Hills had so much interest in the flight and its success.

Ron worked on the development of the reflector for long hours, including many days when 24 hours were hardly enough. It was last October when Bendix entered the bidding for the project under NASA.

As Ron states it, "It is our project to make a scientific dream become a practical thing."

That's exactly what he and his co-workers started to do last October. Bendix received the contract, early concept models were hastily constructed and approved — final approval comes from the astronauts themselves — and then the big task started.

"WE KNEW we had a big job to do in what actually was a

short period of time," smiled Ron, "but we have tackled big jobs before, and we were confident we would succeed. That we did and the LRRR that landed on the moon was delivered to the astronauts two days before the May 1 deadline."

Ron recalls that the first chore was to make various models for training and testing purposes, a task which he received considerable assistance from his No. 1 aide, James Rintella, another Livonian.

"We started out with a model that included numerous holes for the reflectors," he said. "We didn't know how many it would require to get the job done. At the same time we made contact with a famous old glass works in Germany for a special type of 'glass' (fused silica) from which to construct the reflector called 'cornera.'"

One hundred reflectors were required for this experiment and together they are described as an array.

"At the same time the early planning included estimating the total number of men needed to handle the job in the specified time and a careful study of costs. Then with that item settled, we began the task of designing."

AS THE DESIGNER, Ron had to decide what the reflector would look like to give it maximum efficiency.

Then began the task of preparing a model that would look exactly like the final product. It was tested, adjustments were made, and then a training model was made especially for use of the Astronauts Neil Armstrong and Edwin Aldrin, who were destined to place it on the moon. The third participant, Mike Collins, who piloted the Command Apollo while his two crew mates landed on the moon, also participated in the training, which took place in Houston.

There was a period when Ron spent considerable time in New Orleans working on the Apollo program communications ship USNS Twin Falls used as a floating ground station down range. Then on this program he was sent to Cape Kennedy to work with the astronauts, teaching them how to handle the LRRR and especially how to detach it from the Lunar Landing Module prior to placing it on the moon.

DURING THAT TIME, he became acquainted with Neil Armstrong and Buzz Aldrin, whom he terms as "superb" individuals, perfectly trained and adapted for the moon flight.

"We had periodic reviews with NASA officials and Bendix executives on the progress and timing," said Hill. "We felt we were on target from the very beginning. We even had a

countdown calendar in much the same style as the countdown is handled for the actual flight. Just as the flight went off on schedule, so did our work."

Ron and every one of the many who worked on the LRRR project are proud of their product and its performance, and even more proud that they stayed right on budget from the start to the finish.

Then just before installing the flight model into the Lunar Module on Apollo 11, Ron had to devise a thermal cover required as a result of the high temperatures the experiment would have to stand from the ascent stage engine on take-off.

"It can't be said that the name of Ron Hill isn't on the moon," he says with a great deal of pride. "I personally made and sewed the Beta cloth thermal cover and I wrote into the cloth my name. So I guess you'd have to say that Ron Hill accompanied the Apollo 11 to the moon, not in body, but in spirit and via an inscription in the Beta cloth."

RON WAS CALLED to Houston to sit in the section reserved

for the science staff near mission control to support the astronauts during their Extra Vehicular Activity. He had a seat there for the entire flight on the day of landing with the sole aim of offering any advice had the astronauts encountered trouble in removing the LRRR from the landing module and setting it up and aiming it back to earth.

As it turned out there was a minor problem that was quickly resolved by Buzz Aldrin by making an adjustment that made the task of removing the LRRR comparatively easy.

"It's a great feeling and a privilege to know that you have been part of a group involved in such an epic event," said Ron. "I don't think I'll ever have a prouder moment."

And his wife, Iris, standing quietly alongside echoed his words. "I felt that I had a part in this project just as much as my husband," she smiled. "Night after night, he worked overtime, and during that time I started studying the moon and reading everything I could about the astronauts. When they made the successful landing and

return, I felt that I knew each as well as my husband."

WHAT DOES A pace project engineer and design supervisor do in his spare time?

Ron has a hobby of carving miniature, and a visit to his home makes one wonder if he ever finds time to work on projects. He has a wonderful collection of miniature figures many of which are animated and in some of which he has installed music boxes.

Quite a guy, this Ron Hill — a designer and project engineer with an intense desire to make good — he did with the LRRR as he has done with many projects for Bendix in the past.

He is a native of Montreal, but moved to England at the age of eight and received his schooling there. Ron holds national certificates in mechanical and electrical engineering. Just as a bit of a sidenote, both of the Hills have vivid recollections of the rocket bombing of London as when Hitler and his forces were trying to bend England under.

"'Twas quite frightening then," both state, "it is another memory that will live with us until the day we pass on."



TEST RUN on the placing of the Laser beam on the moon by an astronaut was part of the work conducted at the Bendix research laboratory in Ann Arbor. Two members of the engineering staff watch a fellow worker, wearing the full equipment of an astronaut, carefully placing the beam on the surface. This simulated the same procedure in the recent Apollo 11 landing on the moon.

Regional Affairs

October Release Date Set For Reservists

WASHINGTON, D.C. The Army's personnel office, in a letter to 19th District Congressman Jack McDonald, has confirmed that the members of the 424th Personnel Services Company will be ordered home from Vietnam in October.

The Livonia-based Army Reserve unit was activated in May 1968 and sent to Vietnam in October.

COL. FRED D. Clarke Jr., executive officer of the Army's 19th District Personnel Directorate in Washington, D.C., said in the letter to McDonald:

"The 424th Personnel Services Company was sent to Vietnam in October 1968; therefore,

the members who accompanied this unit for the release upon completion of the normal one-year tour in October, 1969."

The letter was in reply to an inquiry made by McDonald on the release of the Reservists.

Earlier this year, rumors spread that the members of the unit would serve in Vietnam until December 1969. The 424th Personnel Services Company had 139 men when it was formed in January, 1968. Less than half of the original group are serving in Vietnam, however, because some were approaching their discharge date and some failed physical examinations before leaving for Vietnam.

COL. CLARKE notes in the letter that returning Reservists with 150 days or less remaining to serve will be qualified to be released under the "early release program."

Those with 94 months of active duty, including training periods, are normally exempt from mandatory assignment to Reserve units. Those with active duty in a hostile line zone will not be assigned to a Ready Reserve unit under any circumstances, the Army personnel officer says in the letter.

Most Reservists credited with 24 months active duty are placed in a status which exempts them from summer training camp, also.

College Sets New Exam Date

Because bad weather prevented many applicants from attending the last of the regularly scheduled counseling tests at Schoolcraft College on July 24, the college admissions office has announced a new test date.

Director of Admissions Barbara Gell said the test is rescheduled for 9 a.m., Saturday, Aug. 16, in the Lois L. Waterman Campus Center. The test is required for admission to the college.

Registration for the fall term is scheduled for Tuesday and Wednesday, Aug. 26 and 27.

Miss Gell said the rescheduling of the test will provide an opportunity for other applicants who may have missed one of the three previously scheduled dates to take the test prior to the beginning of the fall semester.

Applicants intending to take the test on Aug. 16 must make a reservation by calling the Schoolcraft College Admissions Office at 591-6400.

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The Bedford Observer	21,700	20,241	
The Farmington Enterprise & Observer	14,200	14,139	
The Plymouth Mail & Observer	8,700	8,287	
The Westland Observer (Wed. only)	10,000	8,888	
The Garden City Observer (Wed. only)	11,000	11,252	
Total Weekday	96,900	92,181	
Total Sunday	74,200	71,868	
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