



PERFECT RECORD FOR SATURN I SERIES



After the flight of SA-10, key members of KSC's government - industry launch team and major supporting elements were asked to comment on the successful conclusion of the Saturn I program.

Each was asked: "Since substantial elements of your organization contributed to the Saturn I program, regarded by James E. Webb (NASA Administrator) as 100 per cent successful, how do you feel about this in terms of the ability of your people?"

G. Denton Clark, Project Manager, RCA Missile Test Project:



CLARK

"The Saturn missions exercised the total capabilities of our RCA personnel at Air Force Eastern Test Range stations from Cape Kennedy to Pretoria, South Africa. It is a great source of pride that RCA people contributed significantly by tracking each of the 10 Saturn vehicles and by producing the great volume of useful test performance data."

R. S. Mitchell, Vice President, Pan American Guided Missiles Range Division:



MITCHELL

"From the inception of the Saturn program, when the Pan Am program management team began planning range support, to the final data report issued on SA-10, Pan Am people have shown faithfulness, spirit and resourcefulness.

"Every skill was brought to bear, from the launch pad itself to the last man on the Range bases and ships, and

we believe that we have achieved our goal of giving quick response in an economical, effective and decisive manner."

Lester Owens, Deputy Director, KSC's Launch Support Equipment Engineering Division:



OWENS

"This Division is very proud to have been a part of this successful program. Our experience with Saturn I will help us come closer to the goal of perfection on the other programs.

"The responsibilities of the Division prevent any relaxed reflections, and ideas for improvements prevent self-satisfaction."

L. A. Rigell, Chief, KSC's Electrical Engineering Guidance and Control Systems Division:



RIGELL

"I feel very proud of the team effort between ourselves and all the contractor people who worked together to meet the difficult schedules in the Saturn I program. We felt confident that the job could be done successfully, but it's always rewarding to prove a point like that."

R. E. Gorman, Chief, KSC's Launch Support Operations Division:



GORMAN

"The 100 per cent success of the Saturn I program is, of course, a tremendous tribute to the Marshall Space Flight Center and the stage contractor (See PERSONNEL, Page 4)

NASA's 188-foot-tall SA-10 vehicle was successfully launched from Cape Kennedy Friday morning, and placed a ton-and-a-half Pegasus meteoroid detection satellite into Earth orbit. Liftoff time was 8 a.m.

The flight rounded out the Saturn I series with an unprecedented 10 total successes out of 10 launches, dating back to October 27, 1961.

NASA officials were ecstatic in their praise of the program and of personnel on the government - industry launch team.

Said Dr. George E. Mueller, Associate NASA Administrator for Manned Space Flight: "This successful completion of the Saturn I program is a major milestone in the history of rocket vehicles. It is the first time that ten successful flights out of ten has been achieved.

"I'd like to take this opportunity to thank each and every employee for their contribution to this wonderful record and to tell them how proud I am to be a part of a team that is capable of continuing this in the future."

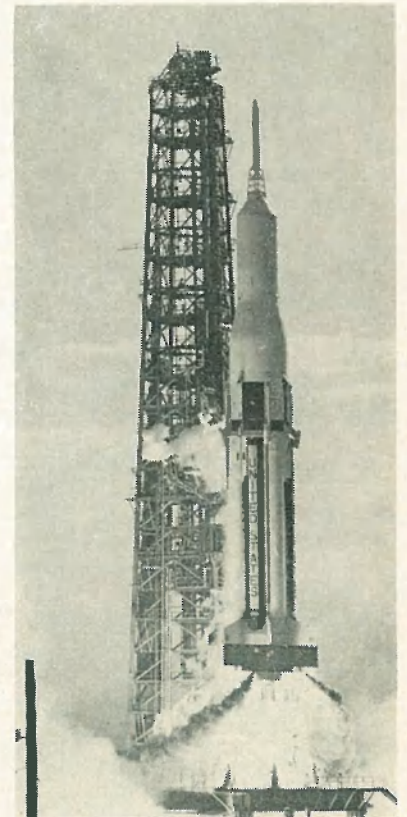
Dr. Mueller also praised representatives of the major Saturn I contractors and cited them individually at a post-launch press conference.

KSC Director, Dr. Kurt H. Debus, said, "The launch team has done a terrific job. There wasn't a single hitch in the countdown, it was as smooth as clockwork.

"We have done what we set out to do. The question was (See PERFECT, Page 3)



James E. Webb



SA-10 Liftoff

Congratulations

The following telegram was received by Dr. Debus shortly after last week's successful launch of SA-10:

"Congratulations to you and the personnel of the Kennedy Space Center for the important part you have played in making the Saturn I program the first 100 per cent successful NASA launch vehicle program. The culmination of this program with the successful launch of the tenth Saturn I and its Pegasus-C payload this morning is another tribute to your thorough and careful conduct of launch operations."

James E. Webb
NASA Administrator



KSC's Bill Darwin, left, and John Allen of Bendix, examine component cost reminders on display in Bendix work areas at Cape Kennedy.

'Reminders' Help Bendix Cut Costs

Bendix employees working at the Kennedy Space Center are more cost conscious these days as a result of certain "reminders" they have set up in key work areas.

John Allen of Bendix, working in coordination with KSC's Electronics Shop Foreman, Bill Darwin, said one of the cost-conscious reminders was a large board displayed in the Central Shops area at Cape Kennedy.

On the board are various switches, diodes, transistors and other items — all of which are used in consoles and computers at KSC — and listed under each item is its cost.

The board constantly reminds workers how expensive these components are, thus influencing them to be more careful in their work.

Bendix is under contract to the Kennedy Space Center to

perform launch support services, engineering support, materials cleaning and testing, ordnance storage and check-out and propellant services.

In addition to the board, there is a chart prominently displayed in the work area at the Cape listing the costs involved in reworking any pieces of equipment that weren't done correctly the first time. Allen feels this also will remind employees to redouble their initial efforts and thus reduce any rework.

To lower the cost of building printed circuits, Bendix has devised a method whereby a drawn copy of the circuit is xeroxed onto a flat piece of balsa wood.

Then the actual equipment used on the printed circuits—diodes, switches, etc.—are assembled and placed over the pattern on the balsa wood. By doing this employees can tell

WELL DONE, TEAM

A lady in the VIP stands on the Causeway summed it up as well as anyone could. "It was beautiful, simply beautiful," she exclaimed.

Her comment was inspired by the SA-10 flight Friday morning at 8 sharp, but it could equally as well have summed up the feelings on the entire Saturn I series, for all 10 flights in the program were indeed "beautiful, and simply beautiful" and successful. The program is without parallel in the space age.

Few people could have anticipated such a string of triumphs during the anxious minutes on the morning of October 27, 1961, as the countdown on the Saturn I SA-I vehicle clicked off. There were many grave doubts about the bird's ability to even get off the ground.

But SA-1 and all the succeeding vehicles had a lot going for them, not the least of which was the complete confidence of launch team personnel who collectively had worked on hundreds of missile and rocket flights before.

That the Saturn I program closed out a perfect 10-for-10 record is in itself the best tribute possible to the NASA-industrial team that has been responsible for readying the vehicles for flight.

Saturn's successes required the dreams of courageous planners, the trained hands of manufacturing experts, the sharp eyes of quality control inspectors, the specialized knowledge of engineers in dozens of fields, the skilled hands of master mechanics and the cool concentration of test controllers.

The program involved the work of thousands of men and women at sites all across the country — from California to Huntsville to the Kennedy Space Center.

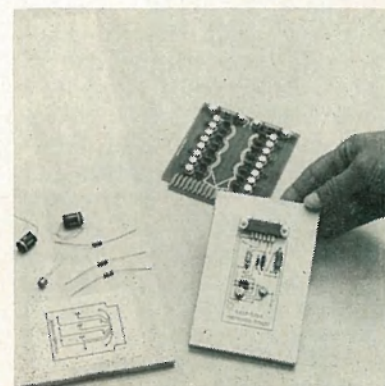
Success belongs to no one man or one concern — but to the thousands who combined their experience, knowledge and special skills to form a great single, coordinated team with unmatched dedication.

Congratulations on a job well done.

if all the parts are exactly in place before they are soldered together.

Printed circuits are used throughout the Center on computers and consoles in various launch support areas.

Ernie Swieda, KSC's Cost Reduction Office, said upon viewing the displays that they are a fine indication of the interest and concern that KSC and contractor employees are maintaining in the cost reduction effort.



PRINTED circuit board components are shown at left, and at right on a piece of balsa wood.

More Delta Boosters Planned For NASA Use

NASA has announced it will negotiate with the Douglas Aircraft Co. for Delta space booster launch support services. The contract is expected to be about \$12 million.

It will cover an anticipated 15 launchings from launch sites at Cape Kennedy and the Western Test Range for a 12-month period beginning January 1, 1966.

It will provide for inspection and checkout as well as the actual launch of Deltas from Cape Kennedy and from NASA's new Delta Launch Facility at Vandenberg Air Force Base in California.

The Douglas Aircraft Co. is prime contractor for NASA's Delta space booster. The vehicle has launched more NASA satellites than any other booster and has a success ratio of 90 per cent with 30 successful launches out of 32 attempts.

SPACEPORT



NEWS

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FIELD ENGINEER Lewis Drake, left, of the Endevco Corp., smiles as **W. M. Lohse**, Deputy Chief of KSC's Procurement Division signs a \$756,247 contract for a vibration detection and signal conditioning system. In all there will be five systems, three in the Mobile Launchers and two for the Pad Terminal Connection Room. Second from left is KSC contract specialist **George Coleman**, and at right is **Tom Davis**, the Center's small business and industry advisor.

Small Business Awards Total \$12.4 Million

The Procurement Division of the Kennedy Space Center awarded more than \$17.4 million in contracts to small business concerns during Fiscal Year 1965, which ended June 30.

This was 12.4 percent of the total \$137 million in contracts — for everything from electronic equipment to launch support items—awarded by the Center.

Small business concerns are generally classified as ones with less than 500 employees.

"We make every effort to comply with the spirit of the Small Business Act, to insure these firms receive a just share of our procurement dollars," said Tom Davis, Small Business and Industrial advisor for the Center.

A large percentage of awards were made to firms in Florida, and, where possible, to ones in the local area.

"If we have local small businesses who are reliable and have responded in the past, we'll try to declare a 'set-aside' for them on contracts we think they can fill," Davis said. "Or, if the con-

tract is too big for them, we'll assist them in trying to get a part of it through a sub-contract."

The Canaveral District of the Corps of Engineers supervises much of the Center's major construction activities, and during the past year the Corps reports \$24.1 million in construction contracts were awarded to small business firms.

Additionally, KSC's Procurement Division awarded \$11.3 million in fiscal year 1965 for small construction work, and of this figure, \$1.4 million went to small business.

PERFECT RECORD

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could we weld together a team that would bring these space vehicles together in time to check them out properly and launch them. Our contractors, the Air Force Eastern Test Range and our old launch team have worked together with precision and I'm very happy and proud of this overall team," Dr. Debus added. "I'm convinced we can extend

our record further into the future."

Purpose of the SA-10 mission was to place the Pegasus satellite into Earth orbit to add information on the frequency of meteoroids to be encountered in near-Earth environment — for use in the design of future manned and unmanned spacecraft.

Such information is vitally needed with the increased emphasis on larger, long-life spacecraft, and the mission of the Pegasus program is to provide data necessary to determine the magnitude of the meteoroid hazard.

Sixth Centaur Slated Tuesday

The hydrogen-fueled Centaur launch vehicle, AC-6, is scheduled to be test-flown from Cape Kennedy no earlier than August 10.

The flight will be a full-scale simulated mission to determine Centaur's capability to inject a Surveyor spacecraft on a lunar-transfer trajectory.

Surveyor is being developed by NASA to soft-land on the moon and conduct lunar surface studies in support of future manned Apollo missions.

Flight of the sixth Centaur vehicle is under the technical direction of the Goddard Space Flight Center's Launch Operations Division.

Robert H. Gray, Chief of the Division, is operations launch director, John D. Gosset is Assistant operations and launch director, and W. C. Sprinkle is test controller.

The AC-6 mission, sixth in a series of eight scheduled Centaur development flights, is a further step in qualifying the vehicle for operation

Pegasus III joins two other Pegasus satellites, I and II, which were orbited February 16 and May 25, 1965, by SA-9 and SA-8, respectively.

The successful flight of SA-10 was the result of a combined NASA-industrial team. Bob Moser of KSC was test supervisor.

Prime contractors for the final Saturn I flight were: Chrysler Corp., S-I first stage; Douglas Aircraft, S-IV second stage; the Marshall Space Flight Center, instrument unit (using major components supplied by International Business Machines Corp. and others). Fairchild-Hiller, Corp., Pegasus satellite; and North American Aviation's Space and Information Division, Apollo spacecraft.

lunar and planetary missions.

The flight is designed to obtain data on several new Atlas-Centaur features and to continue evaluation of other components and systems tested during previous missions.

PIZZA WITH GREEN CHEESE?

NASA policy doesn't allow commercial product sponsorship, but if it ever does, a 13-year-old lad from Detroit would like to know about it.

He wrote the Kennedy Space Center last week with this request:

"My father owns a pizzeria in Detroit, and many people say it's the best in the world. I'm writing to ask you if they have life on the moon and if there is a pizzeria there (green cheese variety, no doubt), could you have the astronauts try it and then try my dad's pizza. If ours is better we could say it's the best pizza in the universe!"



Personnel Lauded On Saturn Success

(Continued from Page 1)

tors. I feel that the launch team also contributed heavily to the success of this program. The philosophy and techniques we have developed over the last 10 to 12 years in this field of checkout and launching of missiles and space vehicles have again been tested and proven.

"The Complex 34/37 Operations Group — civil service Pan American and Bendix employees — has done an outstanding job and other supporting elements have been able in every case to provide the 'quick response' required, many times under very trying conditions."

A. H. Bagnulo, KSC's Assistant Director for Engineering and Development: "Completely successful completion of the Saturn I program is very gratifying to those of us in Engineering and Development.



BAGNULO

"The payoff of a 100 per cent successful program gives us a great sense of accomplishment in knowing the part we have played and are playing in the overall team effort.

"As we proceed through the development of requirements, criteria, design and construction for Saturn IB and V, we look forward with greater confidence based on the success of the Saturn I program."

Karl Sendler, KSC's Assistant Director for Information Systems: "The success of the Saturn I program only serves to reinforce my conviction that the personnel of the Information Systems Directorate are among the best in their field. We all look forward to the increased responsibilities we shall have in the more complex Saturn IB and Saturn V programs."



SENDLER

"The competence of our personnel demonstrated by the accomplishments during the Saturn I program, enhances our ability to meet increasingly more complex program demands."

A. J. Pickett, Chief KSC's Mechanical and Propulsion Systems Division: "I think the success of the Saturn I program is the result of three elements: (1) good vehicle

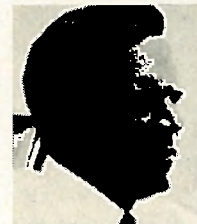


PICKETT

design, (2) good ground support equipment design and (3) a dedicated and talented launch team.

"It is this third element which we at KSC can feel most proud. I think there is something about participating in the final conditioning of the vehicle for launch, that makes each of our people put forth his best effort at all times."

E. R. Matthews, Chief, KSC's Apollo Saturn I/B Systems Office: "The success of the Saturn I program demonstrates that NASA has assembled a government-contractor team with an ability to accomplish consistently an extremely difficult job with a high degree of success.



MATHEWS

"This success is a manifestation of the ability of all members of the team, including my own. We must now vigorously apply this ability to the Saturn IB and V programs to ensure the same degree of success."

Grady Williams, Chief, KSC's Electronic Engineering and Instrumentation Systems Division: "In terms of the ability of our people, I am profoundly confident, yet keenly



WILLIAMS



WAYNE Hornsby, a TWA payroll accountant at the Kennedy Space Center, displays follow-through he used with a nine iron recently at the 112-yard second hole of the Sam Snead golf course in Sharpes to record a hole-in-one.

aware of the technological demands required for mission success. Not only were the primary mission objectives of the Saturn I program met, but we also attained many technological advances required for forthcoming missions.

George A. Van Staden, KSC's Assistant Director for Administration: "The Saturn I program was well along when I joined KSC, but I have not yet ceased to be amazed at the variety of skills and workload engendered in support of such a program.



VAN STADEN

"Perhaps more impressive is the recognition that providing administrative support services on a timely and effective basis obviously is identified at KSC as most critical and that it takes more than scientists, engineers and technicians to cause the lift-off of any vehicle.

"Teamwork is essential in every endeavor and is reflected in the highest degree by every supporting worker, whether he is employed by the government or a contractor."

Nearly 20 out of every 1,000 Federal hires were physically handicapped persons in 1964, compared with 18 per 1,000 in 1963.



Nattily dressed rocket mechanics who traded their coveralls for starched white shirts and ties gave an elegant touch to pre-launch work on the Saturn I booster that orbited the Pegasus III Satellite Friday.

In keeping with a launch-day tradition established 18 months ago, technicians of the Douglas Missile and Space Systems Division launch crew were dressed in their Sunday best when they reported for the start of the final countdown.

The custom started in January 1964 with the launch of the first of the hydrogen fueled Saturn S-IV stages, which Douglas builds for NASA.

For each of the completely successful Saturn flights since then, the technicians have been attired in dress shirts and ties while going about their often grimy duties on the launch pad and in the blockhouse during the countdown.

The good luck tradition — and old and venerable one now, when measured on the accelerated time scale of aerospace technology — calls for something a little different in neckwear for each full dress countdown, just to help maintain the Saturn's perfect flight record.

For one launch, technician Lony Griffin's wife, Gertrude, of Cocoa Beach, brought six-inch wide flowered cravats all the way from New York for the men to wear. The uniform launch day neckwear for another occasion was bow ties, and on another, string ties.

Friday, the Douglas technicians went one step further. They all showed up with their white shirts set off by bright maroon four-in-hand ties — wearing socks to match.

Accident prevention is everybody's responsibility.