



AGENA

**GOES TO
WASHINGTON**

UNITED STATES AIR FORCE X-15 SPACE VEHICLE

...circles and ... 28, 1959
...controlled in a ... 28, 1959
...return a capsule ... 1960
...of a pump-fed engine ... 18, 1961

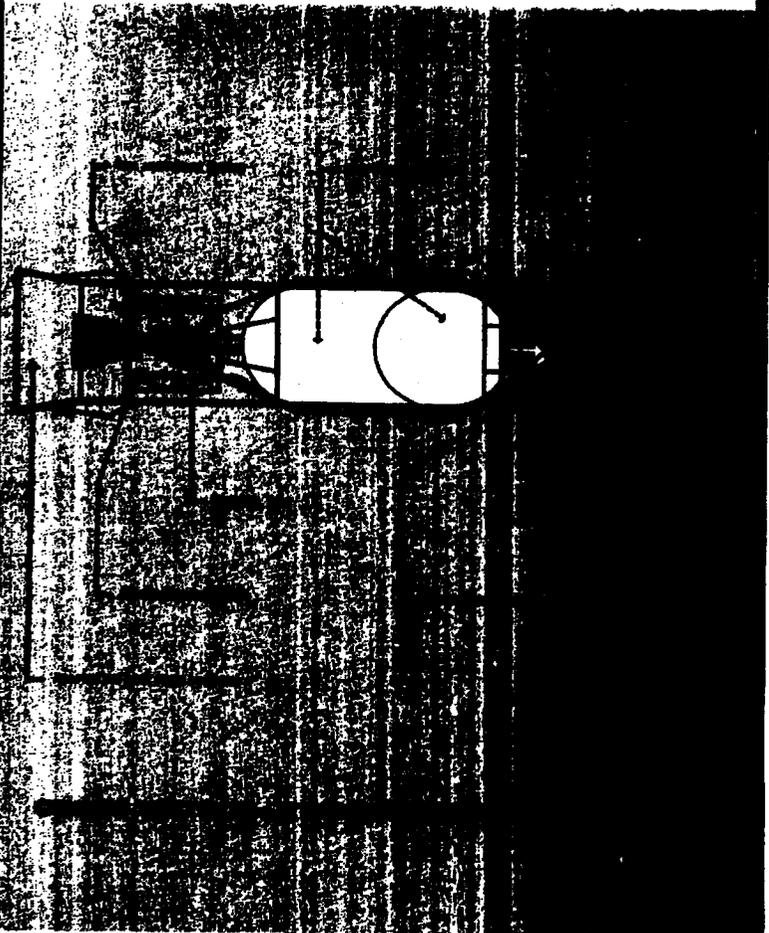
PRESENTED BY
THE NATIONAL AERONAUTICS
AND SPACE ADMINISTRATION

by

AGENA

SPACE VEHICLE

This is an actual Agena, designed, developed and manufactured by Lockheed Missiles & Space Company under contract to the United States Air Force. In use since 1959, the Agena's precise maneuverability, broad versatility and high reliability have made it one of the world's most flown, most successful space vehicles. It has performed as an orbital injection vehicle, space satellite, and as an intermediate stage booster for deep space probes. Its Bell Aerosystems liquid propellant engine develops a thrust of 16,000 pounds for a nominal duration of 240 seconds.



S. PAUL JOHNSTON
Director, National Air Museum
Smithsonian Institution

As director of the National Air Museum of the Smithsonian, it is my pleasure to welcome you here this morning to participate in the presentation of a very important space vehicle to the permanent collections of the museum.

Although technically we are still the National Air Museum, our efforts have long since extended into the area of rocketry and space exploration. And, very shortly, under legislation which is now before the Congress, our name will be changed officially to the National Air and Space Museum.

As most of you know, plans are under way for the construction of a new facility for the Air and Space Museum just east of us on the Mall. This will be the first museum in the world to be designed and built for this particular purpose. It will certainly be the largest—and those of us who are involved have every intention that it shall be the finest.

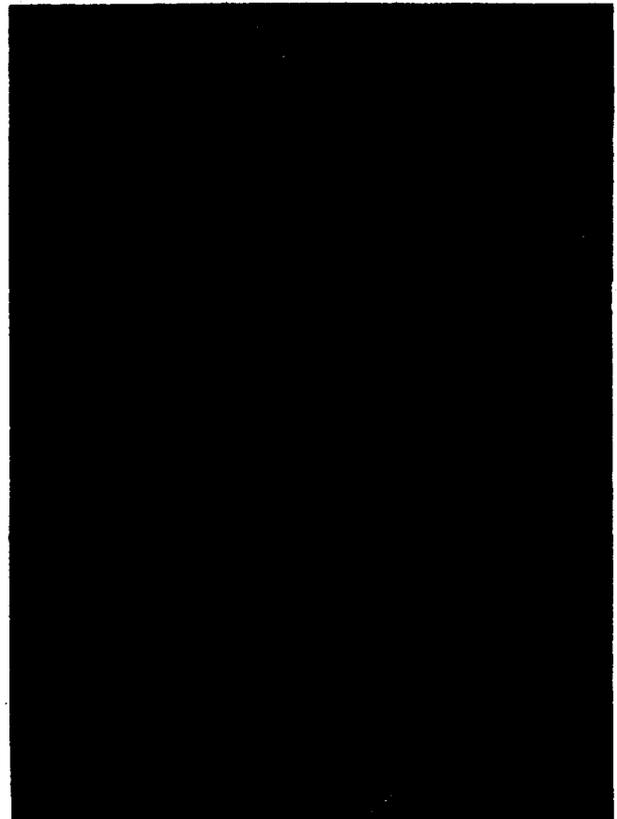
It is not our purpose here today, however, to discuss the new facility, but only one of the important items which it will eventually house. We are about to receive what is known, in museum parlance, as an artifact. Five months ago, before I became a museum "expert"—and I use that word in quotes—my concept of an artifact encompassed only such things as prehistoric stone axes, arrowheads, old coins and a few other things, more or less beaten out by hand. In fact, Webster defines an artifact as an example of "simple primitive art." Now that I have become initiated, however, I realize that the term extends to such things as a full-sized gunboat and a 280-ton locomotive—both of which are in the building across the Mall—and also to this huge and complicated mechanism which concerns us this morning.

It may well be that many years from now Agena may be looked upon as a piece of "simple primitive art," but today it stands as one of the most sophisticated examples of modern technology. Possibly the people who invented the crossbow said the same thing! Its technical details and its accomplishments will be described and discussed by speakers on our program.

Before we get into that phase of operation, however, there are a number of people present whom I would like to introduce. They represent the Congress, Government agencies and several segments of the aerospace industry. We are honored by their presence today—they are seated here in the front rows. I would like to mention them.

S. PAUL JOHNSTON presides at the presentation. Seated at right are Daniel J. Haughton, president of Lockheed Aircraft Corporation, and James Bradley, Assistant Secretary of the Smithsonian.

The Honorable John W. Davis, Congressman from Georgia. The Honorable Charles S. Gubser, Congressman from California, the Honorable Jeffery Cohelan, Congressman from California, and the Honorable Edwin Reinecke, Congressman from California. We also have Dr. Edward C. Welsh, who is Executive Secretary of the National Aeronautics and Space Council. Also, we have Dr. Robert C. Seamans, who is Associate Administrator of NASA. Present from the military, Maj. Gen. Marvin C. Demler, U. S. Air Force, Commander of Research and Development, with Brig. Gen. J. T. Stewart of the office of the Undersecretary of the Air Force, and Gene Perry M. Hoisington, Director of the Office of Legislative Liaison, Office of the Secretary of the Air Force.



From industry we have Mr. L. Eugene Root, President of Lockheed Missiles & Space Company. With him, Mr. R. R. Kearton, Vice President and General Manager of the Space Systems Division, Lockheed Missiles & Space Company. Mr. Harvey Gaylord, President of Bell Aerospace Corporation, and with him, Mr. Edward Virgin, Vice President, Eastern Region, Bell Aerosystems Company. Also, Mr. P. L. Siemiller, Vice President, International Association of Machinists, and Chairman of the IAM Aerospace Conference.

The prime contractor in the Agena project is Lockheed Missiles & Space Company of the Lockheed Aircraft Corporation, of Burbank, California. Our first speaker is the President of Lockheed. He will tell us something about the Agena from his point of view. I would like to introduce Mr. Daniel J. Haughton, President of Lockheed Aircraft Corporation.

DANIEL J. HAUGHTON
President
Lockheed Aircraft Corporation

Thank you, Mr. Johnston. Mr. Bradley, Gen. Ritland, Dr. Dryden, distinguished guests and ladies and gentlemen.

This is certainly a proud day for all of us from Lockheed—those that could be here and those who couldn't—to share with the United States Air Force the honor of presenting an Agena to the Smithsonian Institution. Museums like this one make history come alive. Above us are the early powered flight aeroplanes, and here is the Agena. These span the time period of man's powered flight in air and in space.

We at Lockheed are happy and privileged to have worked with the United States Air Force in the development of the Agena vehicle. That effort has brought us all additional experience and knowledge, and we are honored to have had a role in it. I hasten to say that there are many other people, many corporations, many other civilians and members of the United States Air Force who have participated in the Agena development.

The early days were truly pioneering. I am sure Gen. Ritland, joined by his fellow officers, will remember not only the early trials and disappointments but also the successes with our development of the Agena and all that Agena has done. All in all, the Agena has brought to everybody who participated in it a great sense of satisfaction and achievement.

We were very pleased when NASA joined with the Air Force to use the Agena in some of its programs. You are aware of the Ranger and Mariner programs in which the Agena has participated, and we are particularly looking forward to the time when the Agena will rendezvous with the Gemini for NASA. Other programs also will demonstrate the capability of the Bell engine and its multiple starts. I am sure Mr. Gaylord shares my pride in this vehicle.

I do not want to stop at this point because, again, many people and many companies and many departments of the government have contributed to and shared in the Agena performance. It is with all humility that Lockheed today makes a few remarks here as a part of this program. We recognize that programs such as the Agena are accomplished by many dedicated people—people who see that the job gets done. Once more, it is my pleasure to be here today to participate with the United States Air Force, NASA and others in these ceremonies.

AGENA

In addition to its United States Air Force launches, Agena has performed many space missions for the National Aeronautics and Space Administration and has carried payloads exceeding 5,000 pounds. In the Ranger program it launched spacecraft for scientific exploration of the moon's surface, in Mariner, close-up studies of Venus and Mars. In Echo, it orbited a reflector communications satellite.

- Agena was the world's first satellite to achieve circular orbit.
- First to make a polar orbit.
- First to be controlled in 3-axes during flight.
- First to restart in space (pump-fed engine).

S. PAUL JOHNSTON

Thank you Mr. Haughton. The principal users of the Agena have been the National Aeronautics and Space Administration and the United States Air Force. Between them, this space vehicle has been utilized in well over 100 very successful flights, including the Ranger and the Mariner programs. Here to tell us something of NASA's side of the operation is the Deputy Administrator of NASA, an old friend of all of us, Dr. Hugh Dryden.

DR. HUGH L. DRYDEN Deputy Administrator National Aeronautics and Space Administration

Mr. Johnston, Mr. Haughton, distinguished guests. It is a privilege for me to participate in this program as a representative of the National Aeronautics and Space Administration and to make a few remarks about the important role of the Lockheed Agena in the space activities of NASA. From the passage of the National Aeronautics and Space Act in 1958, the rockets developed by the U. S. Air Force have been essential tools for use in the NASA programs and missions for exploration of space and its application for the benefit of mankind. The Department of Defense and NASA have established a national stable of launch vehicles for use by both agencies—some developed in the Department of Defense and some within NASA. The Agena is a member of this stable.

In the early days of NASA, the Agena vehicle was well under development by the Air Force for military applications. Since its development was directed in such a way as to present a relatively simple and clean interface between the payload and the vehicle, the availability and adaptability of the Agena attracted NASA to its use as an upper stage on both the Thor and the Atlas. The first use was scheduled for the Ranger program in early 1960, and the first firing by NASA of an Agena was made with an Atlas Agena on October 30, 1961. After some vicissitudes which we like to forget now, the Ranger program resulted in a flight of Ranger VII which obtained photographs of the moon with 1,000 times more resolution than we have from the earth.

The Agena has been one of the mainstays of our lunar and interplanetary programs. Used as a second stage booster, the Agena put the Mariner II spacecraft on its historic fly-by to explore Venus. Today another Mariner, Mariner IV, is about a third of its way on a similar mission to Mars, after having been placed on trajectory by Agena. Agena will be used on the remaining two Ranger firings coming up within the next few months and for the lunar orbiters, the first flight for an orbiter being scheduled in 1966.

Certain satellites have been placed in orbit about the earth by Agena as the second stage on Thor. Alouette, the ionosphere sounding satellite built by the Canadians, was orbited in late 1962 and is still returning valid data about the structure of the upper side of the ionosphere. Photographs taken by Nimbus I were given wide distribution by the news media. This weather satellite also used Agena as a second stage. Echo II, the passive communications satellite launched by Agena, can be seen by the unaided eye. It is the largest object placed in orbit. International communication experiments have been completed between the U. S. and Russia,

using this satellite. The first Orbiting Geophysical Observatory, or OGO as we call it, with its highly eccentric orbit, was boosted by Agena, and other observatories of the same type will be launched in the future. The Atlas Agena will be used as the launch vehicle for the Orbiting Astronomical Observatory and for the advanced technological satellites now well along in development.

Agenas found a role in the man-in-space flight program. Specifically, this is the Gemini program. NASA plans to use the Agena as an orbital docking target vehicle for the rendezvous demonstration flights with a separately launched, manned Gemini spacecraft. The Gemini target vehicle is an Agena adapted to remain in orbit and be capable of performing the maneuvers necessary for the rendezvous with the manned spacecraft.

The wide and varied use of the Agena vehicle gives some indication of the important role played by Agena in NASA activities. The reliability record has been good, and we plan to continue to use the Agena for some time to come. It is fitting that this vehicle, which has had such a history in the space effort, be displayed in the National Air Museum.

S. PAUL JOHNSTON

Thank you, Hugh. The United States Air Force is represented this morning by the Deputy Commander for Space for the Air Force Systems Command. Our next speaker will not only outline Agena's contribution to Air Force programs, but will also formally present this Agena to the Smithsonian. Immediately following the remarks by Gen. Ritland, and without further introduction by me, the vehicle will be accepted for the Smithsonian Institution by the Smithsonian's Assistant Secretary, Mr. James Bradley. I now introduce Maj. Gen. O. J. Ritland, Deputy Commander for Space, Air Force Systems Command, who will make the presentation.

MAJ. GEN. O. J. RITLAND Deputy Commander for Space Air Force Systems Command

Thank you Mr. Johnston.

Mr. Bradley, Dr. Dryden, Dan Haughton, ladies and gentlemen. On behalf of the United States Air Force, I am very proud to have this opportunity to place into the custody of the Smithsonian Institution, for the people of the United States, this Agena B space vehicle.

A statement made by Dr. Robert Goddard is particularly appropriate today. In 1904, he said: "It is difficult to say what is impossible, for the dream of yesterday is the hope of today and the reality of tomorrow." The Smithsonian is filled with hopes and dreams that have become realities, and today we add a new one.

This is not the first artifact of the space age to be brought to these halls—mementos of early United States manned and unmanned space achievements are already here and many more are certain to follow. Yet, the Agena merits special significance. It is a classic example of response to a challenge that has tantalized man for centuries—the challenge of adventure beyond the atmosphere.



AIR AND SPACE AGES JOIN IN THIS VIEW OF THE AGENA PRESENTATION, SUSPENDED FROM THE CEILING OF THE SMITHSONIAN ARTS AND INDUSTRIES BUILDING AND EARLY GUNNER BEARS CRAMMING IN AN ENGINE GROUP

Since the first flight six years ago this month, Agena vehicles have traveled millions of space miles, logged thousands of space hours, and achieved unparalleled reliability and success. This performance has contributed to the vast store of knowledge accruing to the United States from our national space program.

The Congressional act which established the Smithsonian Institution provided for a museum to contain "objects of art and of curious research, and objects of natural history."

The Agena, I suppose, must be considered a product of "curious research." The Smithsonian is filled with such products and, as such, reflects the history and image of America. For the significance of these objects in this museum lies not in the products themselves, but in the lessons in human courage and personal conviction they represent. Each one is a monument to an idea—reflecting the toil and talent and the sacrifice and service necessary to reach achievement.

For example, just 41 years ago in September 1924, two U. S. Army Air Service pilots completed the first round-the-world flight. The trip—covering 25,553 miles—took six months and six days. Flying speeds were about 100 miles per hour, and delays and hazards were numerous.

The airplane that made that first global flight is enshrined here in the National Air Museum. The Agena vehicle donated today is representative of another significant Air Force/Industry addition to national progress. Its 17,000 mile-per-hour speed and 90-minute global-circling time are indicative of the escalation in technical advancements that characterize this last half century.

I consider it, therefore, a great privilege to turn over to the Smithsonian Institution, in keeping for the citizens of this land, an Agena B space vehicle, symbol of a dream from yesterday that has become the reality of today.

JAMES BRADLEY
Assistant Secretary
Smithsonian Institution

Thank you, Gen. Rittland, Dr. Dryden, Mr. Haughton, ladies and gentlemen, on behalf of the Secretary, Dillon Ripley, and the Board of Regents of the Smithsonian Institution, I accept the Agena space vehicle for our National Air and Space collection.

I accept this most significant specimen of space science and technology with a strong feeling of gratitude. I know that millions of Americans, young and old, will visit the Air and Space Museum within the next few years, there to see such evidence of our air and space achievements. You know, in a truly literal sense, a gift to the Smithsonian such as the Agena is in fact a gift to the American people.

During the past year, the Smithsonian complex of museums and art galleries here on the Mall received over twelve million visitors, and the crowds, I am glad to say, are growing larger every year. At our new Museum of History and Technology on the other side of Smithsonian Park, which was opened one year ago, over five million of our citizens traveled through in the first year. Hopefully and confidently we look forward to the early construction of a new National Air and Space Museum for which the Congress has already dedicated by statute a site on the Mall, just east of here between

AGENA

SPACE VEHICLE

As the prime vehicle in the United States Air Force Discoverer program, Agena (named after a star in the constellation Beta Centauri) was the world's first satellite to effect re-entry capsule recovery. On this historic mission (Discoverer XIII, August 11, 1960) Agena turned tail forward as shown in the drawing below, and on the orbital pass prior to capsule ejection, tilted to a 60-degree downward attitude. The first recovery was made from the sea by ship. Eight days later, a capsule ejected by Discoverer XIV was retrieved in the air, by specially equipped aircraft.



4th and 7th Streets, and has already appropriated nearly two millions of dollars that are under contract for architectural plans and specifications.

We have a live project for the air and space museum! But in the meantime, we are receiving very large crowds of visitors at the small, but I think select, exhibition of historic air and space craft in the World War I hangar that we are using nearby. Here are featured the Vin Fiz, built for the Wright brothers; the first aircraft to span the continent of North America—and that was in 1911; and the supersonic Bell X-1, the first aircraft to exceed the speed of sound, I believe in '47. Together with these are the original space capsules so successfully launched and recovered in the historic flights of Alan Shepard and John Glenn.

Immediately after World War II, in 1946, the National Air Museum was created by the Congress to serve as the national depository for our most significant aircraft, to memorialize the history of aeronautics, and to provide an educational source for both our national accomplishments in this field and also for the scientific and technological bases which underlie and make possible these accomplishments.

Legislation passed by the Senate in the last session of the 88th Congress, and reintroduced by our Congressional Regents in the first session of this Congress, would rename the museum as the National Air and Space Museum in recognition of the inseparable nature of air and space exploration.

From our very beginning over a century ago, in 1846, the Smithsonian Institution has been dedicated to the one central theme of knowledge. This dedication has become articulated through programs of scientific and historical research, explorations, publications, and public exhibitions in museums and art galleries here on the Mall. Our central concern, then, is knowledge—knowledge of the past requiring a strong emphasis on research into the history of science of our country, and, in fact, the history of all mankind and his works; and then knowledge yet to be mastered by man, requiring research far beyond our present body of established truths and information and principles.

In the new National Air and Space Museum, we shall realize a great potential for disseminating knowledge through popular education in air and space adventure and accomplishments. There the very new will find a place with the very old—the Agena upper stage booster with the Kitty Hawk flyer of 60 years ago, for example, in a complementary relationship demonstrating and documenting with actual, three dimensional objects the evolution of our national progress.

Gen. Ritland, Dr. Dryden, Mr. Houghton, ladies and gentlemen, it is most encouraging and heartening to know from the attendance of this distinguished company this morning that the Air Force, the National Aeronautics and Space Administration, the Lockheed Corporation, and all the other interested industrial concerns will continue their contributions to our most earnest endeavors to record the history that you are making. To each of you go our heartfelt thanks!

S. PAUL JOHNSTON

Ladies and gentlemen, this concludes the ceremonies covering the presentation of the Agena to the National Air Museum. The vehicle will remain in this hall, as you see it, for some time. Eventually, of course, when the new facility is

available, the Agena will move to its new location. On behalf of the National Air Museum of the Smithsonian, I wish to thank all of you for your attendance and for your participation in this ceremony.

DANIEL J. HAUGHTON

Ladies and gentlemen, distinguished guests.

First, I want to thank you all for being here with us today. I know that you are all very busy people, and I do want you to know that I appreciate your taking time out from a busy schedule to help us celebrate this occasion.

The next thing I want to do is to try to clear up a misunderstanding that some of you may have. I don't want you to think that just because the Agena is now installed in a museum it is therefore a thing of the past. It used to be that that was the case—anything you saw in a museum was a part of ancient history. But we are living in such a fast-moving time these days that we're building our monuments to living heroes and enshrining equipment while it's still doing a good job.

Anyhow, I don't want you to get the idea that just because the Agena is in a museum it's out of date. It isn't. It still has a lot of life left in it, and we expect it to be around doing a lot of important space jobs for quite a while now.

Even so, when you think about it, there's a great deal of history wrapped up in just the few short years of the Agena's life to date. Its life span covers the years of America's space efforts. During those years we have made some tremendous strides. And of course this is only the beginning. I don't suppose anyone attending the ceremonies this morning thought of this occasion as marking any kind of end at all. It was only a very early milestone on a long road that will take us deep into the mysteries of space and lead to space achievements that will make all those steps we have taken so far seem like the simplest child play.

And yet, before you learn to run you must learn to walk, and I'm glad my own company has been able to help the Air Force and the National Aeronautics and Space Administration and the American nation to stand up and take these beginning steps. Eventually, America will be running into space, and I believe we will be running faster than all the others.

We noted with interest the other day that President Johnson had reported to Congress that the United States had successfully made 248 earth orbit shots since the birth of the space age. About half of these launches utilized capabilities of the Agena.

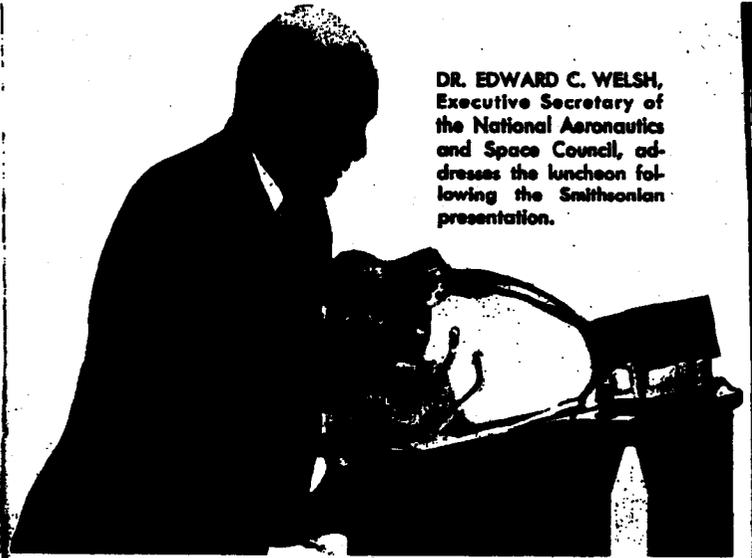
Now I would like to introduce some of our special guests and some of my associates.

First, P. L. Stemiller, Vice President of the International Association of Machinists, headquartered in Chicago. He is Chairman of the IAM Aerospace Conference and is a candidate for the IAM Presidency upon retirement of Mr. Al Hayes next summer. Next I would like to introduce Maj. Gen. Marvin C. Demler, Commander of the Research and Development Division of the Air Force. Now, one of my associates, L. Eugene Root, Group Vice President of Lockheed Aircraft Corporation and President of Lockheed Missiles and Space Company. Harvey Gaylord, President of Bell Aerospace Corporation. Two more of my associates, Vern Johnson, Vice President of the Eastern Region for Lockheed, and Stan Burriss, Lockheed Vice President and General Manager of the Missile Systems Division.

At our head table, the Honorable Edwin Reinecke, Congressman from the California district in which the Lockheed Corporation is centered. William G. Gisel, President of Bell Aerosystems, who has done such an outstanding job with the Bell multi-start engine which powers the Agena. Brig. Gen. J. T. Stewart, United States Air Force, Director of Space Systems, Office of the Secretary of the Air Force, and representing the Secretary. The Honorable John W. Davis, Congressman representing 14 counties in Georgia, including Cobb County where our Lockheed-Georgia plant is located, and a member of the House Science and Astronautics Committee. Dr. Hugh L. Dryden, Deputy Administrator for NASA and a highly respected contributor to the aerospace effort. Mr. James Bradley, Assistant Secretary of the Smithsonian Institution. Maj. Gen. O. J. Ritland, United States Air Force, Deputy Commander for Space, Air Force Systems Command.

Gen. Ritland, as many of you know, made the presentation to the Smithsonian Institution this morning. He did a very

REGINALD R. KEARTON, Lockheed Vice President and General Manager of the Space Systems Division of Lockheed Missiles & Space Company, producer of the Agena. He is shown with a model of the Agena which is the rendezvous target vehicle in the Gemini program.



DR. EDWARD C. WELSH, Executive Secretary of the National Aeronautics and Space Council, addresses the luncheon following the Smithsonian presentation.

fine job. Also at the head table, the Honorable Charles S. Gubser, Congressman from the 10th District, Santa Clara County, California. S. Paul Johnston, Director of the National Air Museum of the Smithsonian Institution. The Honorable Jeffery Cohelan, Congressman from the 7th District, Alameda County, California, and a member of the House Armed Services Committee. Dr. Robert Seamans, Associate Administrator of NASA. And, Reginald R. Kearton, Vice President of Lockheed Aircraft Corporation, and General Manager of LMSC's Space Systems Division, builder of the Agena.

Now it is my pleasure to present as your speaker Dr. Edward C. Welsh, Executive Secretary of the National Aeronautics and Space Council.

Most of you are familiar with Dr. Welsh's long and distinguished career in academic and governmental areas as well as with his imposing array of qualifications. I do not think Dr. Welsh will mind if I omit a detailed listing of his academic attainments, his governmental and faculty posts, and the honors and distinctions that have come to him. We should be here a very long time if I mention them all.

But I should observe that his academic distinctions include doctor's degrees from Ohio State University and Lafayette College and membership in a half dozen scholastic honorary societies, including Phi Beta Kappa.

His academic experience includes 12 years on university faculties in which he taught such forbidding courses as pricing policies and theory, money and banking, and international trade and finance.

His governmental experience dates back to 1937, when he served on the National Resources Committee. Among other things, he has since been Regional Price Executive for the OPA, Deputy Administrator of the OPA, Executive Assistant to the Chairman of the National Security Resources Board, Executive Assistant to the Administrator of the Reconstruction Finance Corporation, and Legislative Assistant to Senator Symington.

He now brings this vast economic, academic, and governmental experience to the service of space science. He was appointed Executive Secretary of the National Aeronautics and Space Council by President Kennedy in 1961. And he has been granted the Arnold Air Society's annual award for outstanding contributions to our national space program.

Dr. Welsh.

DR. EDWARD C. WELSH
Executive Secretary
National Aeronautics and Space Council

I do not want you to judge the importance of this occasion by the length of my speech, as the occasion is important and the speech is to be very short.

It has been suggested by those who will remain unnamed that this would be a dandy opportunity to say some fine things about the Lockheed Aircraft Corporation and to sing some praise of the Agena space vehicle.

For example, I have been told that the Lockheed company's growth—and certainly it has grown—is a tribute to "vision, enterprise, and good management." I question the objectivity of such evaluation—but I do not raise question as to its accuracy.

Furthermore, I am advised that Lockheed has "contributed enormously to atmospheric flight, to space travel and exploration, and thus to the defense and progress of our nation." Again, I suspect that such judgment has come from a prejudiced source, but I do not suggest that one should doubt its correctness.

In light of the inherent modesty of the company's officials, and particularly of those who are here today, I suggest that it is the Agena space vehicle rather than its parent on which we should be focusing the major attention. This morning, we were privileged to witness the Air Force present an actual Agena to the Smithsonian Institution. By such action, a symbol of our space progress was enshrined. In addition to increasing the value of the Smithsonian Institution, such presentation honored the user of the Agena for its judgment and the producers of the Agena for their competence.

As the presentation was being made, you were reminded—and they are worth repeating—of the Agena's "firsts," such as being the first satellite to achieve circular orbit, first to make polar orbit, first to be controlled in three axes during

flight, first with a pump-fed engine to provide a restart capability, and first to return a man-made object from orbit.

Since I have been exhorting for years the national and coordinated nature of our space program, I am eager to point out that the Agena has not been parochial in its adaptability. Sponsored and employed as it has been and is by the Air Force, it has also been used extensively by NASA. I need only mention the fact that this space vehicle played a vital role in the Venus probe in 1962, in the Ranger trips to the moon, in the Mariner flight currently under way to Mars. In the very near future, it is expected that Agena will be a partner in those essential space maneuvers: rendezvousing and docking. Such actions will take place with the Gemini spacecraft.

More can be said about the Agena at the proper time and place and under the proper conditions. Needless to say, it is a versatile space star.

At the head table, left to right, Congressman Charles S. Gubser of California; Maj. Gen. O. J. Ritland, Deputy Commander for Space, Air Force Systems Command; Dr. Edward C. Welsh, Executive Secretary, National Aeronautics and Space Council.

We have no time for complacency in this space competition, but we do have time to recognize success. This we take time to do today.

Now, before I make good my promise of being brief, I would say just a few words about the current and future status of our national space program.

In many respects, this past year was the most successful in our space program's short history. Sixty-nine satellite payloads were put into earth orbit and four payloads were sent to escape. This is encouraging, but it should not be overlooked for a moment that the USSR stepped up its space activity much more than we did. They more than doubled the number of payloads they put into orbit in the preceding year, while we increased ours by only about 15%. Just so our successes do not generate complacency, I emphasize that one of the most significant features of 1964 was the acceleration of the Soviet space program. It is logical to assume that they are building more powerful space rockets and it is evident they are putting high priority on space supremacy.

Among those at the luncheon head table, right to left: Congressman Edwin Reinecke of California; William G. Gisel, President of Bell Aerosystems Company; Brig. Gen. J. T. Stewart, Director of the Office of Space Systems, Office of Secretary of the Air Force; Congressman John W. Davis of Georgia; Dr. Hugh L. Dryden, Associate Administrator, National Aeronautics and Space Administration.

A word or so might also be said about the new budget for our national space program. Obviously, there are those who find it less than satisfactory, particularly if cherished projects are under-funded or eliminated. However, over-all it is an impressive budget, primarily because it shows no slackening off from the fast pace established in recent years. Space expenditures are estimated to increase about 3% over fiscal year 1965. This seems small, but we should keep in mind that there was a 44% increase in space spending between 1963 and 1964—and we are still going in the right direction, namely up. If the Congress approves of the President's budget for space, fiscal 1966 should be a progressive one for the space industry, with a billion dollars more in expenditures than in fiscal 1964.

We look toward this coming year with optimism and enthusiasm. Not only will we resume manned flights, but we will do so without curtailment of unmanned flights. The partnership of government and private industry has produced a space competence which can be a solid foundation for the over-all space leadership, which has been denied us in the past due to shortsightedness and lethargy. We have, I believe, learned a lesson which we will not soon forget.

As we look to the future, I would in conclusion quote briefly from President Johnson's Message to the Congress on Aeronautics and Space:

"Substantial strides have been made in a very brief span of time—and more are to come. We expect to explore the moon, not just visit it or photograph it. We plan to explore and chart planets as well. We shall expand our earth laboratories into space laboratories and extend our national strength into the space dimension."

DANIEL J. HAUGHTON

Thank you very much, Dr. Welsh, and thank you very much for all you do for the national space program. You are certainly a great supporter of the space program. To all of you, I again say we appreciate very much your taking the time to be with us today.



L. EUGENE ROOT, left, President of Lockheed Missiles & Space Company and Group Vice President of Lockheed Aircraft Corporation; with Harvey Gaylord, President of Bell Aerospace Corporation and Executive Vice President of Textron, Inc.

