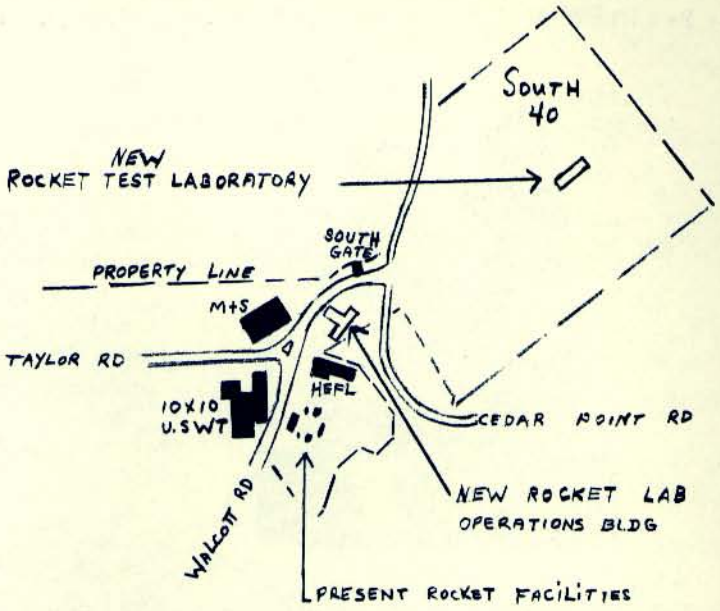
ROCKET LABORATORY

The ground has been broken for the new Rocket Laboratory Operations Building and test facilities. At the Operations Building, in its location across from M&S and near the South Gate, the cranes are busily lifting, shovels digging, contractors overseeing, and engineers consulting blueprints as the construction gets underway. This new building will contain offices, conference room, shop, an instrumentation center for recording and analyzing data, an instrument service room, and a control room for remote operation of facilities and research engines in the S-40 area.

Construction has also begun in the South 40 area (land belonging to Lewis Laboratory and located on the south side of Cedar Point Road). This area will contain a rocket test building which will be situated on the side of a 70 foot deep ravine. It will consist of an engine test cell, service area, high pressure propellant supply bays and an instrument terminal room. Other South 40 structures will include exhaust treatment equipment with a 400,000 gallon water reservoir and large steel treatment duct, propellant storage areas, and an electrical substation.



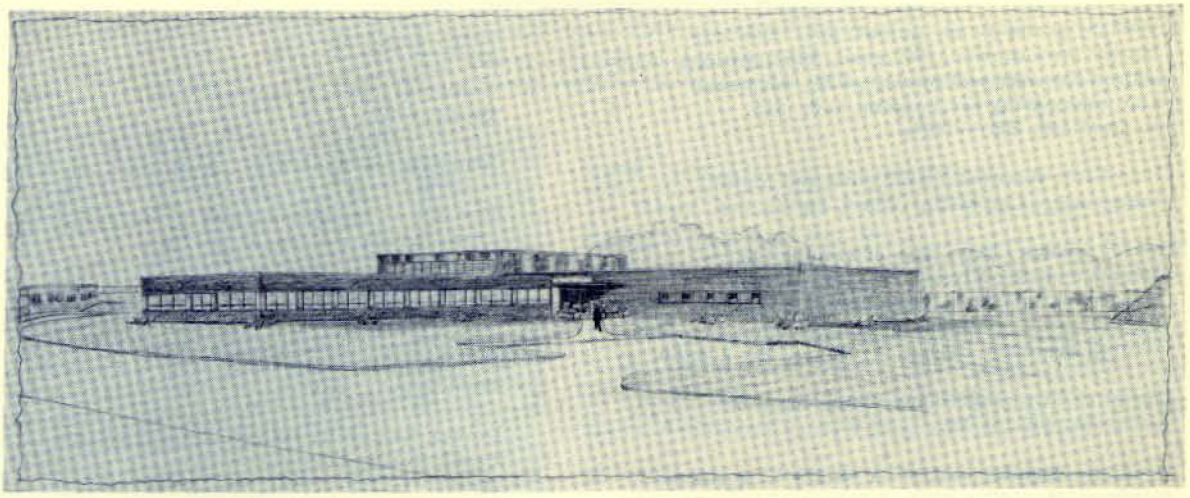
With the completion of this multi-million dollar facility, rocket research can be expanded greatly at Lewis. The facility will be used to study high energy rocket propellants and other problems related to long range vehicles. The estimated completion date for all facilities is December, 1956, and the present rocket facilities will continue being used after South 40 is completed.

Excavation in South 40.

The T-shaped site of The Operations Bldg.

Project engineer for these new facilities is George Kinney and the assistant project engineers are William Anderson and Lou Rieman.

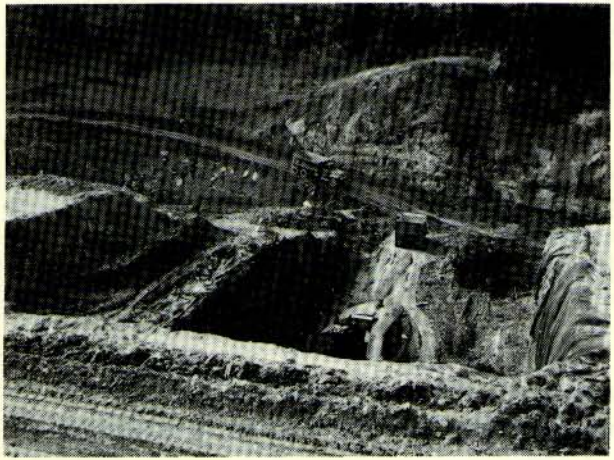
In our present Rocket Laboratory there are many active members in the Cleveland-Akron Section of the American Rocket Society, in fact, John L. Sloop, Chief of the Rocket Branch, is one of the co-founders of this local chapter. Other active participants in the Section's organization this year are Adelbert O. Tischler (Vice President), Gerald Morrell, Howard Douglass, William Tomazic, and Edward Rothenberg.



Architect's Drawing of Operations Building

Rocketry has gained much notice in the public eye recently concerning the NIKE Missile, the MOUSE (Minimum Orbital Unmanned Satellite of the Earth), rocket sleds and proposed rocket ships to outer space. So with the completion of the new Rocket Laboratory facilities Lewis Laboratory will be better equipped to keep 'out in front' in the field of rocket research.

The Rocketeers - Photo on left, L to R: H. Douglass, R. Priem, M. Heidmann, F. Salzano, H. Price, M. Lieberstein, C. Auble, W. Tomazic, D. Nored, J. Sloop. Photo on right, L to R: Back row; I. Pass, G. Morrell, C. Feiler, G. Kinney, J. Rollbuhler, A. Tischler, E. Krawczonek. Front row; L. Baker, J. Bahan, E. Rothenberg, C. Bibbo, F. Kutina, D. Ladanyi.

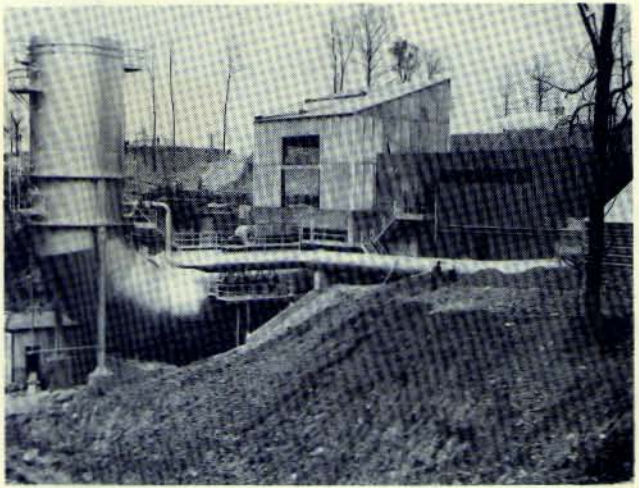


Progress In The "South 40" - Excavation for the new Rocket Lab test facilities on the 40 acres of NACA property across Cedar Point Rd. opposite the South Gate is rapidly progressing.

To save you the trouble of getting out your high boots and snorkles, the SSC got this photo.

In the new testing installation will be an engine test cell, service area, high pressure propellant supply bay and an instrument terminal room in one building, plus exhaust and soundproofing equipment, steel treatment duct, fuel storage tanks and an electrical substation.

The "South 40" Three Months Later - How is construction progressing on the new Rocket Lab test facilities? You can see by the photo that there have been notable changes since the excavation stage shown in last November's SS Corner. Cedar Point Road and the South Gate are still muddy, but these wet snows can't last forever!



SIDEWALK SUPERINTENDENT'S CORNER

Rocket Engine Research Facility Takes Shape

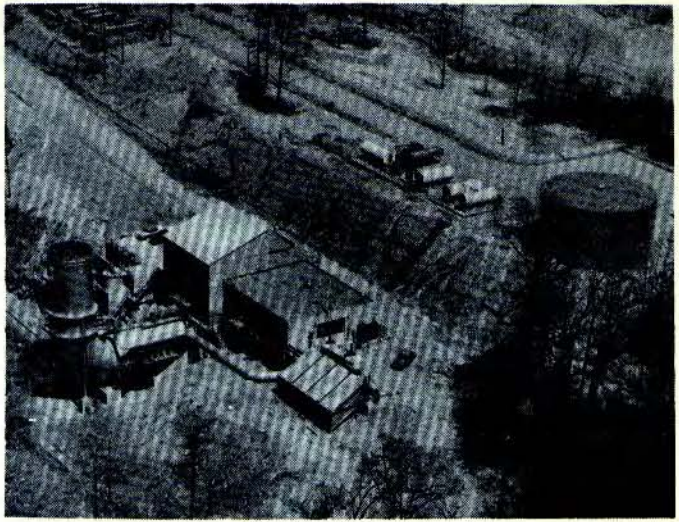
C-171-A

The "South 40" is quite changed since SSC's report last February. The rocket propellant storage tanks are in place, the exhaust duct system completed, the building which houses the rocket test cell, and the supporting buildings are nearing completion. This photo, taken October 31st, brings you right up to date.

constr.- RERF

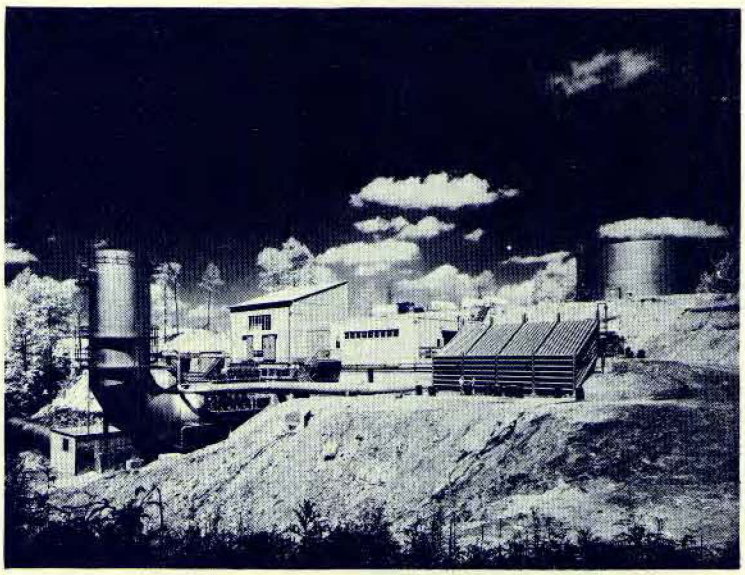
Will Conduct Tests This Summer

The rocket engine facility in the "South 40" will be conducting rocket tests this summer. Buildings and all major equipment are complete. Contractors are now performing a special chemical cleaning of the rocket propellant flow system. This aerial photo of the rocket engine facility was taken from a helicopter by Gene Giczy (Photo Lab) on Monday, April 29th.

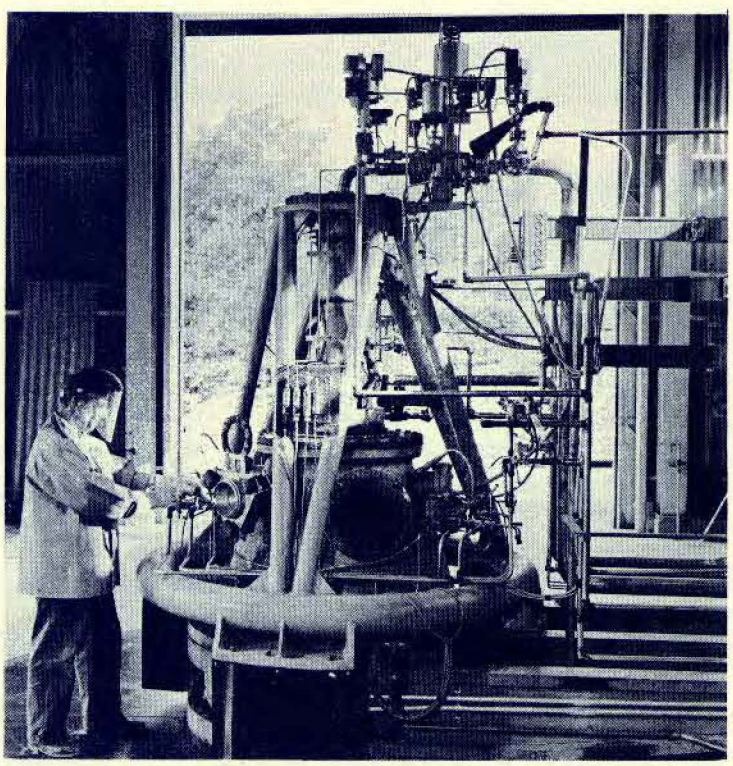


ROCKET PROPELLANTS

For rocket engines, the heat content or specific impulse of the fuel-oxidant combination is of even greater importance for aircraft or missile range than it is for air-breathing engines. The improvement in rocket performance possible through use of some of the combinations suggested as high-energy propellants is so large that a major portion of the NACA's rocket research effort has been concentrated on this problem.



The Rocket Engine Research Facility, completed in August, 1957, is a $2.5-million addition to the aeronautical research equipment available to NACA scientists. Activity here is undertaking to determine, with practical-sized rocket engines, means to utilize new high-energy fuels. This versatile facility permits research and design ideas to be carried through initial investigations with low-cost fuels before using scarce, more expensive fuels. The installation consists of a thrust stand, propellant supply and storage systems, silencing equipment, exhaust gas disposal system, and an operations building which includes an instrument and control room.



A technician adjust the valves on the rocket engine test stand in the new Lewis rocket engine research facility. A research engine is mounted vertically within the tubular frame. The 20,000 pound thrust developed by the rocket, is transmitted through the frame to measuring devices. The rocket jet is directed downward into the treatment duct to which the engine is sealed. Within this duct, or "scrubber," water is sprayed at a rate of 50,000 gallons per minute to remove toxic exhaust products and to silence engine noise.

NACA LEWIS FLIGHT PROPULSION LABORATORY

WING TIPS

Vol. XVI Cleveland, Ohio, December 5, 1957 No. 25

PRESIDENT SENDS HIS REGRETS

Dr. Sharp received a note from the White House this week, in which Mr. Robert Gray of the President's staff wrote:

"The President has asked me to thank you for your part in working out the arrangements for his proposed visit to Cleveland.
He was very sorry that he was unable to carry out his plans but wanted me to express his appreciation for your help."

Upon the completion of his proposed talk in Cleveland on November 26th, arrangements had been made for President Eisenhower to visit the Rocket Engine Test Facility of Lewis Laboratory.

WELL DONE

The Laboratory has been complimented on every hand for the excellence of the 1957 Flight Propulsion Conference. The success was due to the fine cooperation by everyone. I would like particularly to compliment the speakers for their excellent preparation, the model builders, those who prepared the illustrations, the photo lab, and those who were responsible for the physical preparation and operations of the conference. I would again like to thank the girls who volunteered their help in the excellent buffet service efficiently provided by Mr. Meehan and his cafeteria staff and to the many others who aided in the registration, reservations, and transportation of our guests. The team work before and during these conferences has earned this Laboratory an enviable reputation among its visitors and continuously sets a high standard for the other laboratories to match.

Edward R Sharp.

WING TIPS, an official publication of the Lewis Flight Propulsion Laboratory, National Advisory Committee for Aeronautics, Cleveland 11, Ohio, is published bi-weekly in the interest of Lewis employees. Send contributions to the Editor, 258 ERB, telephone 3284. Deadline: Thursday after pay day.

Editor.....Marjorie Hyre Reporters.....NACA Employees

On The Nation's Newsstands

• Life Magazine's January 6th issue presents full color photos of our Lewis Laboratory ignition delay research and of our ion engine (p. 55 Space Frontier) as part of the high-energy fuel story. Riley Miller can be seen in the ignition delay photo. Two Langley photos are also presented on the piloting problem for re-entry and tow speed landing of high speed shapes (pp. 60 & 61).

• Fortune Magazine, December issue, has an excellent article on The Search for the Ultimate Fuel in which the NACA collaborated. Lewis Lab's new rocket test facility scrubbing tower is pictured in color on page 168. Don't miss this article!

• Time Magazine, December 23rd issue has an article in their science section (p. 26) on H. Julian Allen, Chief of High Speed Flight Division of Ames. Allen is shown in a photo on p. 28 - read it - an interesting article of an interesting individual.

• Popular Mechanics, December issue, reports on the Lewis ion engine, while the January 1958 issue of Reader's Digest carries more of the Lewis story in part of their article on borax (p. 87).

• All these issues may be seen in the Wing Tips Office, 258 ERB.