

## SPACE

# Syncom Launch Planned

## See Front Cover

➤ A NEW communications satellite will soon be hurled into space so high it will seem to hang motionless in the sky.

Some time after Feb. 12 the world's first try at achieving a 24-hour orbit 22,300 miles above the earth will be made. At this height the satellite, named "Syncom" for "synchronous communications (satellite)" will travel at a speed equal to the rotation of the earth, or synchronous with it. To an observer on earth the satellite will appear stationary, always in one spot.

Syncom is a repeater satellite capable of transmitting one two-way telephone call at a time or teletype messages. The number of teletype messages depends on the equipment used by the ground station.

The satellite will be boosted to orbital altitude by a Delta launch rocket. If this goal is achieved, it will be the 15th straight success for the rocket.

Upon reaching the apogee, Syncom will be kicked into the synchronous orbit by a solid rocket motor attached to the satellite. Once in synchronous orbit, Syncom will hover over a fixed longitude above the Atlantic Ocean, swinging in an elongated figure eight about 30 degrees north and south of the equator.

Communications tests will be made between a transportable ground station at

Lakehurst, N. J., and a station aboard the USNS Kingsport at anchor in Lagos Harbor, Nigeria.

Aim of the Syncom satellite is to develop the capability of launching satellites into the 24-hour orbit using existing launching rockets plus additional solid fuel rockets to give the "apogee kick."

Another aim is to flight test a new approach to controlling a satellite's attitude and period as well as to develop transportable ground facilities that can be sent to useful areas when communications satellites are in operational service.

Syncom is a project of the National Aeronautics and Space Administration, supported by the Department of Defense.

The drawing seen on this week's front cover shows how three stationary-type satellites can provide a global communications network with uninterrupted 24-hour a day television and telephone service. Spacecraft are being developed by Hughes Aircraft Co.

Each satellite, at 22,300 miles altitude, can "see" a third of the globe. Microwave signals can be relayed via the satellites from any ground station to any other within the network.

• Science News Letter, 83:86 February 9, 1963

## GENERAL SCIENCE

## Science Service Charter Is Considered by House

➤ A BILL to grant a Congressional charter to SCIENCE SERVICE, Inc., of Washington, D. C., a privately supported non-profit organization, to further encourage young people in science youth activities has been reintroduced this session by Representative Francis E. Walter (D-Pa.). The bill, H.R. 824, now is under consideration by the House Committee on the Judiciary.

An identical bill, introduced last summer as H.R. 11711, died with adjournment in October before Senate action after unanimous approval by the House.

The purpose of the bill is to fulfill the obligations set forth by Congress when it passed Public Law 85-875, calling for the charter of an organization to encourage, foster and assist in the establishment of science clubs throughout the country.

SCIENCE SERVICE was founded in 1921 and since 1941 has been operating a continually broadening science youth program, which includes Science Clubs of America, the annual Science Talent Search and the National Science Fair-International.

Science Clubs of America consists of more than 20,000 affiliated clubs. Sponsors are provided with books and other teaching aids at no cost. More than a million young science students in junior and senior high schools do science projects annually and show them in science fairs which culminate in the National Science Fair-International each May.

The Science Talent Search is held annually with entries invited from all public and parochial high schools in 50 states and the District of Columbia.

Both the directors of the national council on science fairs and the National Science Teachers Association are on record favoring a Congressional charter for SCIENCE SERVICE.

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## ENTOMOLOGY

## New Chemical Weapon Will Wipe Out Fire Ant

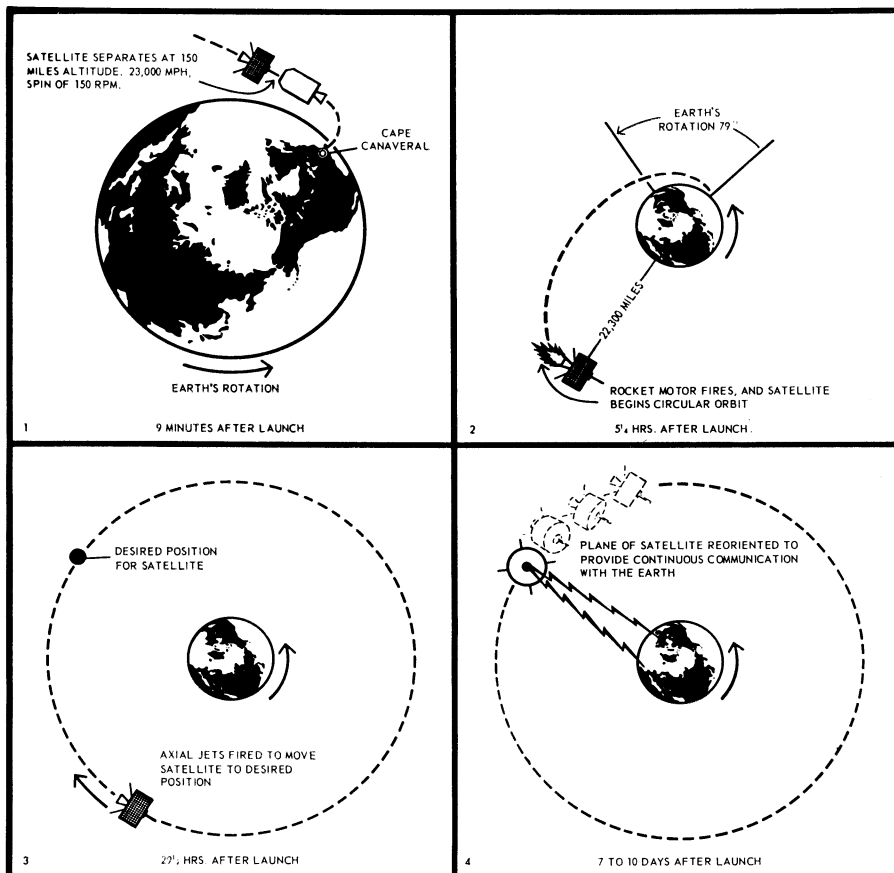
➤ UNSUSPECTING fire ants will carry enough poison into their mounds before next June to destroy the pests on one million infested acres.

A potent new chemical, specific for fire ants, has been developed by General Chemical Division of the Allied Chemical Company for the U. S. Department of Agriculture's mass fire ant eradication program.

The new weapon, Mirex, is a granulated mixture of a chlorinated hydrocarbon poison, soybean oil attractant and corncob grits. The bait and poison are distributed about 12½ pounds per acre. Only a little more than one-tenth of an ounce of this is the poison. Heptachlor, which was previously used as a fire ant insecticide, was distributed about two to three pounds per acre.

The fiercely stinging fire ants inhabit warm climates, mostly in southern and southwestern U. S., where they may feed on seeds or invade houses in search of food.

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SYNCOM ORBITING SEQUENCE

NASA