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Press Kit

Project Intelsat V-B

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INTELSAT SATELLITE SCHEDULED FOR LAUNCH

Intelsat V-B, the second of a new series of nine international telecommunications satellites owned and operated by the 105-nation International Telecommunications Satellite Organization (Intelsat), is scheduled to be launched by the NASA Kennedy Space Center on board an Atlas Centaur launch vehicle no earlier than May 21, 1981, from Cape Canaveral, Fla. The first Intelsat V was successfully launched by NASA last December.

Like its predecessor, Intelsat V-B weighs 1,928 kilograms (4,251 pounds) at launch and has almost double the communications capability of early satellites in the Intelsat series -- 12,000 voice circuits and two color television channels. It will be positioned in geosynchronous orbit over the Atlantic Ocean as the prime Intelsat satellite to provide communications services between the Americas, Europe, the Middle East and Africa.

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Intelsat V satellites are built by the Ford Aerospace and Communications Corp., Palo Alto, Calif., using system components developed by firms in the United Kingdom, France, the Federal Republic of Germany, Italy and Japan.

The International Telecommunications Satellite Organization is headquartered in Washington, D.C. NASA is reimbursed for all costs of the Atlas Centaur and launch services under the provisions of a launch services agreement signed in May last year.

The Atlas Centaur (AC-56) will place the Intelsat V-B into a highly elliptical transfer orbit ranging from 166.6 to 35,964 kilometers (103 to 22,347 miles). It is from this orbit at apogee that a solid propellant rocket motor attached to the satellite will be fired to circularize the orbit at geosynchronous altitude over the equator. At that altitude, because the speed of the satellite in orbit matches the rotational speed of the Earth, the satellite remains in position over one spot.

NASA's Lewis Research Center, Cleveland, Ohio, has management responsibility for Atlas Centaur development and operation. NASA's Kennedy Space Center, Fla., is assigned vehicle checkout and launch responsibility once the Atlas Centaur reaches Cape Canaveral.

Overall direction of the NASA expendable launch vehicle program is vested in the Office of Space Transportation Operations in Washington, D.C.

(END OF GENERAL RELEASE; BACKGROUND INFORMATION FOLLOWS.)

ATLAS CENTAUR LAUNCH VEHICLE STATISTICS

Intelsat V-B will be launched by the Atlas Centaur, NASA's standard launch vehicle for intermediate weight payloads. The launch vehicle has the following general characteristics:

Height: 40.8 meters (134 feet) including nose fairing

Diameter: 3.05 m (10 ft.)

Total Liftoff Weight: 147,926 kg (326,120 lb.) including spacecraft

Liftoff Thrust: 1,917,088 newtons (431,000 lb.) sea level

Atlas Stage

The Atlas stage consists of the booster section (one-half stage) and the sustainer/vernier section (first stage). The Atlas is manufactured by General Dynamics/Convair, San Diego, Calif., using the MA-5 engine system supplied by Rocketdyne Division of Rockwell International, Canoga Park, Calif. The MA-5 system consists of two booster engines, one sustainer engine and two vernier engines. The Atlas stage has the following characteristics:

Height: 21.1 m (69.5 ft.)

Diameter: 3.05 m (10 ft.)

Propellants: RP-1 kerosene for fuel and liquid oxygen (LOX) as the oxidizer

Thrust: Total Booster: 1,645,750 N (370,000 lb.) sea level
Sustainer: 266,880 N (60,000 lb.)
Total Vernier: 4,448 N (1,000 lb.)

Total Liftoff Thrust: 1,917,088 N (431,000 lb.)

Centaur Stage

The Centaur (second stage) is manufactured by General Dynamics/Convair, using the RL-10 engines built by Pratt and Whitney Aircraft Group, West Palm Beach, Fla. This stage has the following characteristics:

Height: 9.1 m (30 ft.)

Diameter: 3.05 m (10 ft.)

Propellants: Liquid hydrogen for fuel and liquid oxygen for the oxidizer.

Thrust: 133,440 N (30,000 lb.) vacuum

LAUNCH OPERATIONS

NASA's John F. Kennedy Space Center is responsible for the preparation and launch of Atlas Centaur AC-56, which will carry Intelsat V-B into orbit.

The Atlas and Centaur stages of Atlas Centaur 56 arrived at the Cape Canaveral Air Force Station on Dec. 10, 1980. The Atlas was erected on Pad B of Launch Complex 36 on Dec. 16, 1980, and the Centaur stage on Dec. 17. A Terminal Countdown Demonstration Test was carried out on Feb. 3, 1981, and a Flight Events Demonstration was held on April 30.

The Intelsat V-B satellite arrived on Feb. 5, 1981, and was checked out in Hangar AO at Cape Canaveral. It was moved on May 3 to the Explosive Safe Area for final servicing and capsulation. There, the satellite's attitude control system was fueled with hydrazine, the apogee kick motor was installed and the protective shroud was put in place.

The satellite and the launch vehicle were mated on Pad B on May 13, and a readiness test was conducted on May 14.

LAUNCH SEQUENCE FOR INTELSAT V-B

Flight Events	Time (seconds)	Velocity (km/hr	mph)	Range (kilometers/	miles)	Altitude (kilometers/	miles)
Liftoff	.0	0	0	.0	.0	.0	.0
BECO	138.8	8,784	5,458	79.0	49.1	56.2	34.9
Booster Pack Jettison	141.9	8,876	5,515	85.9	53.4	59.2	36.8
Insulation Pack Jettison	183.8	10,018	6,225	187.9	116.8	95.7	59.4
Nose Fairing Jettison	211.8	11,047	6,864	265.8	165.2	115.9	72.0
SECO	254.1	13,121	8,153	402.1	249.9	142.1	88.3
Atlas/Centaur Separation	256.1	13,126	8,156	409.2	254.3	143.2	89.0
MES-1	262.6	13,094	8,137	432.1	268.5	146.7	91.1
MECO-1	574.9	26,787	16,645	2,013.9	1,251.4	164.2	102.0
MES-2	1,424.6	26,833	16,673	8,193.8	5,091.4	159.7	99.2
MECO-2	1,516.0	35,376	21,982	8,961.0	5,568.1	176.2	109.5
Spacecraft Separation	1,651.6	35,018	21,759	10,230.5	6,356.9	286.5	178.1
Reorient Centaur	1,666.6						
Start Blowdown	1,831.6						
End Blowdown	2,081.6						

THE NASA INTELSAT TEAM

NASA Headquarters

Dr. Stanley I. Weiss	Associate Administrator for Space Transportation Operations
Joseph B. Mahon	Director, Expendable Launch Vehicles
F. R. Schmidt	Manager, Atlas Centaur Launch Vehicle

Lewis Research Center

Dr. John F. McCarthy Jr.	Director
Dr. John Klineberg	Associate Director
Lawrence J. Ross	Director, Space Directorate
J. E. Patterson	Chief, Launch Vehicles Division
S. V. Szabo Jr.	Deputy Chief, Launch Vehicles Division
Richard E. Orzechowski	Intelsat Mission Project Engineer

Kennedy Space Center

Richard G. Smith	Director
Thomas S. Walton	Director, Cargo Operations
Charles D. Gay	Director, Deployable Payloads Operations
John Gossett	Chief, Centaur Operations
Lawrence F. Kruse	Spacecraft Coordinator

CONTRACTORS

General Dynamics/Convair San Diego, Calif.	Atlas Centaur launch vehicle
Honeywell Aerospace Division St. Petersburg, Fla.	Centaur guidance inertial measurement group
Pratt and Whitney Aircraft Group West Palm Beach, Fla.	Centaur RL-10 engines
Teledyne Industries, Inc. Northridge, Calif.	Digital computer unit/PCM telemetry
Rocketdyne Division Rockwell International Corp. Canoga Park, Calif.	MA-5 propulsion systems

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