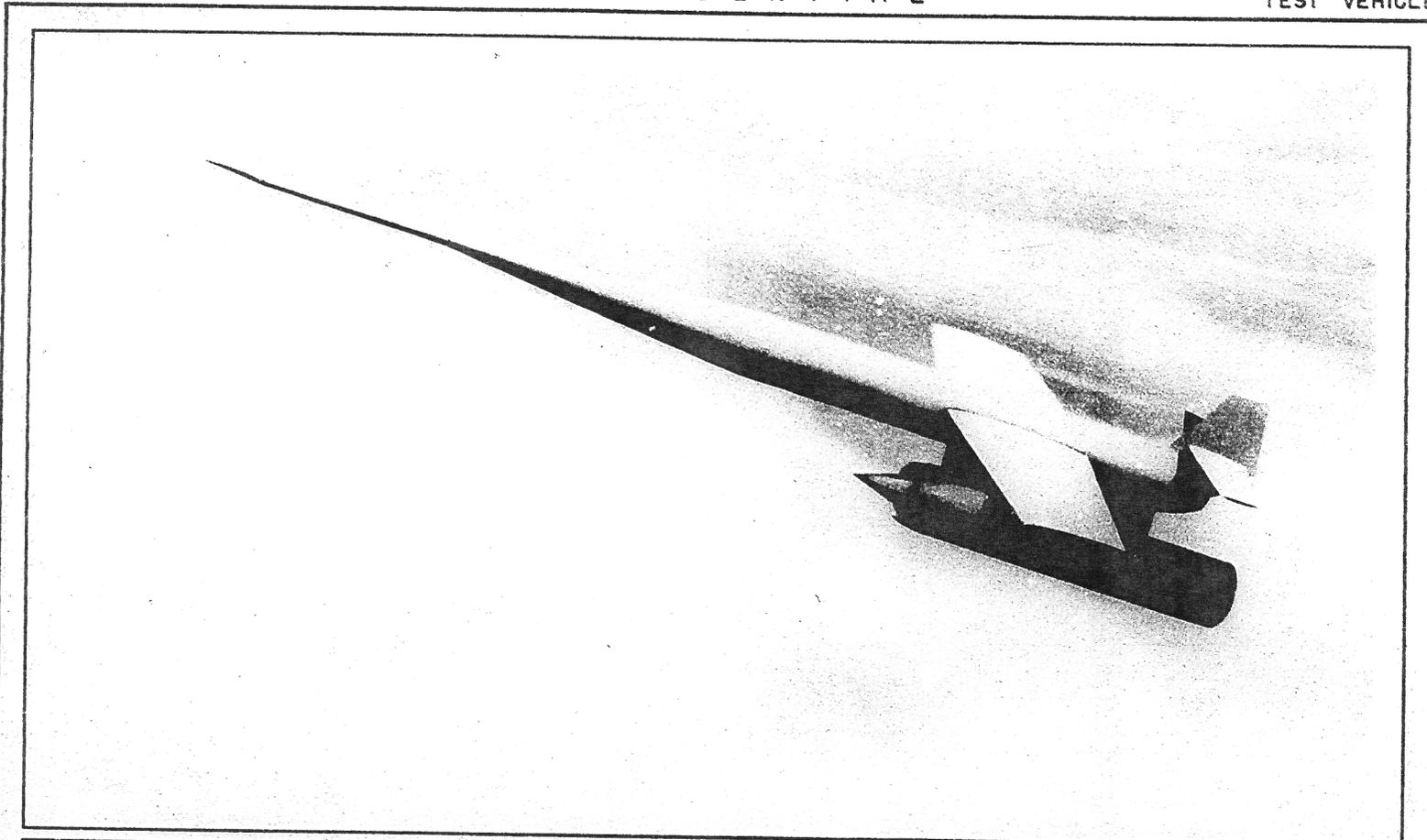


4-1992-18

C O N F I D E N T I A L

TEST VEHICLE



Standard Aircraft Characteristics

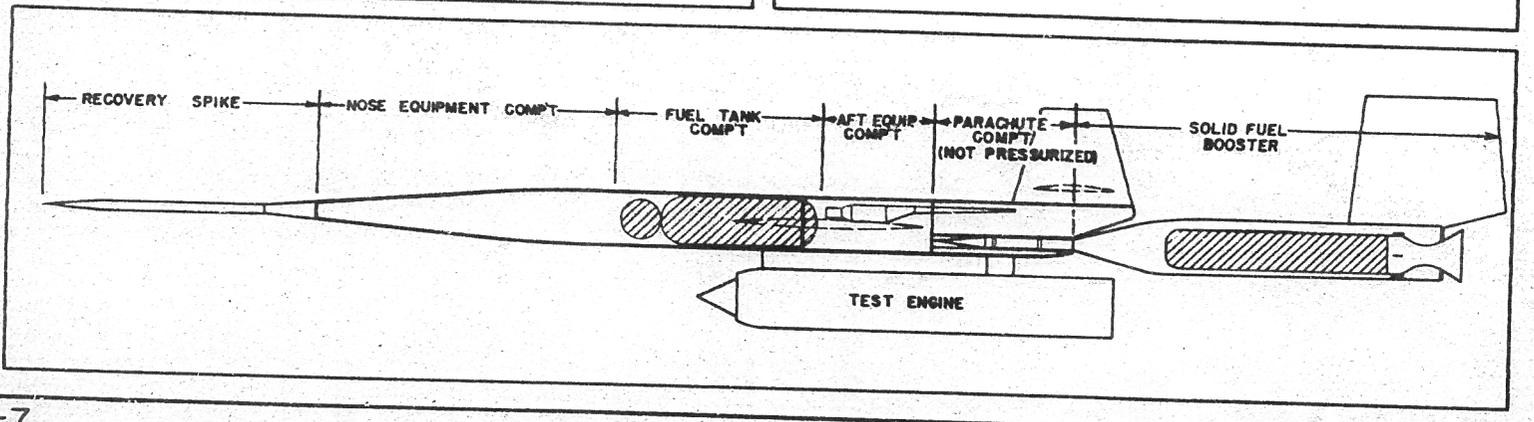
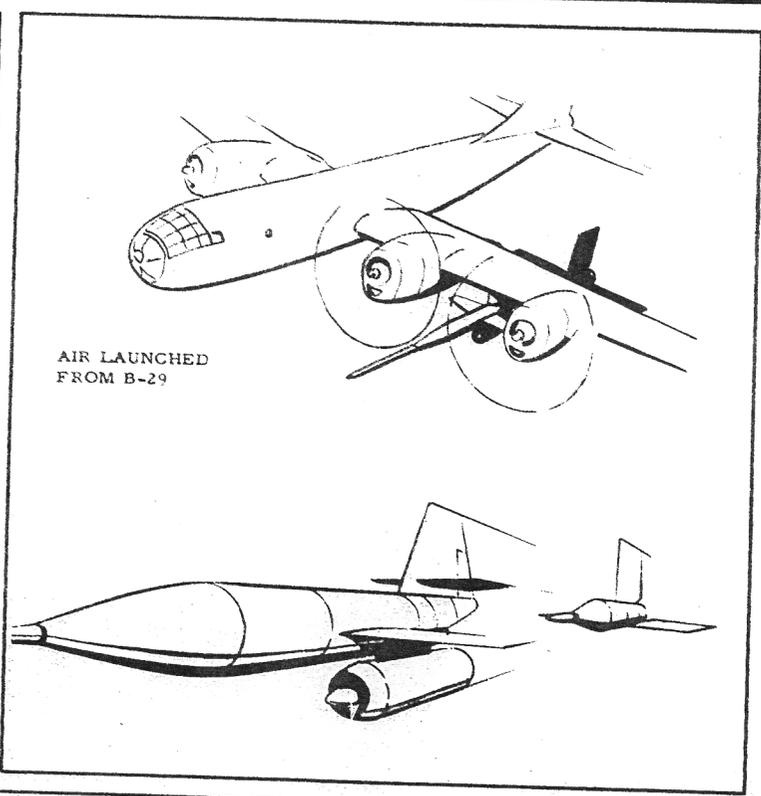
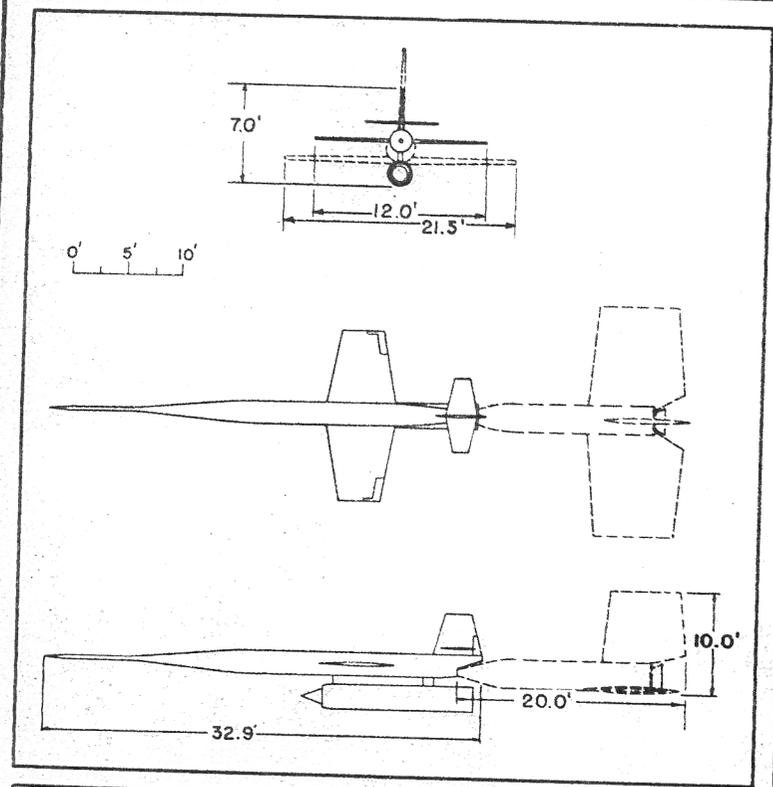
BY AUTHORITY OF
THE SECRETARY
OF THE AIR FORCE

X-7
LOCKHEED

25 AUG 53

C O N F I D E N T I A L

X-7



X-7

PROPULSION

SUSTAINER
 *(1)XRJ43-MA-1 }
 or } ... Marquardt
 **(1)XRJ43-MA-3 }
 or }
 *** (1)XRJ47-W-1 } ... Wright

ALT	THRUST	LB	MACH
*80,000 ft	-	670	3.0
**60,000 ft	-	1730	2.5
***35,000 ft	-	8260	3.0

FUEL
 Capacity (gal) 60
 Grade JP-4

BOOSTER
 No. & Model (1) 4DS-105,000
 Mfr . . . Allegheny Ballistics Lab.
 Thrust (lb) 105,000
 Duration (sec) 4

PROPELLANT
 Type Solid
 Weight (lb) 2050

Mission and Description

The principal mission of the X-7 is to serve as a test vehicle for ram-jet engines. Flights with these engines installed are conducted at high supersonic speeds to collect research and development data by use of special instrumentation.

This vehicle incorporates a 14 channel telemeter to measure the various engine and vehicle performance values. Commutators are used to increase the number of measurements as desired. Engine performance items which may be investigated include engine thrust, specific fuel consumption, diffuser efficiency, ignition and blowout limits, engine control and accessory performance. These items may be studied over wide ranges of fuel-air ratios.

The vehicle is launched from a B-29 airplane at an altitude of 30,500 feet and is accelerated to supersonic speeds by means of a booster rocket. Operating altitudes are from sea level to 80,000 feet with normal at 50,000 feet. Flight maneuvers, drag flaps and engine operations are controlled by a pre-set program director. Right or left turns and parachute release can be initiated by ground station. Ultimately, recovery of both the booster and vehicle will be accomplished by parachute and ground penetration spikes on the nose of each unit. However, at present, only recovery of the vehicle is accomplished.

CONTROL

SYSTEM
 Model MX-1059
 Mfr Lear
 Type Electrical Auto-pilot
 and Pre-set Program Director

LAUNCHING

METHOD
 Air launched from B-29 parent airplane and boosted to supersonic speeds.

PREPARATION TIME

12 hours (includes complete instrumentation and telemeter check-out)

WEIGHTS

MISSILE
 Empty (lb) 2570
 Design (lb) 3000
 Launching (lb - w/booster) ... 8300
 Cruising (lb - w/o booster) ... 3000

BOOSTER UNIT
 Unloaded (lb) 3250
 Loaded (lb) 5300

DEVELOPMENT

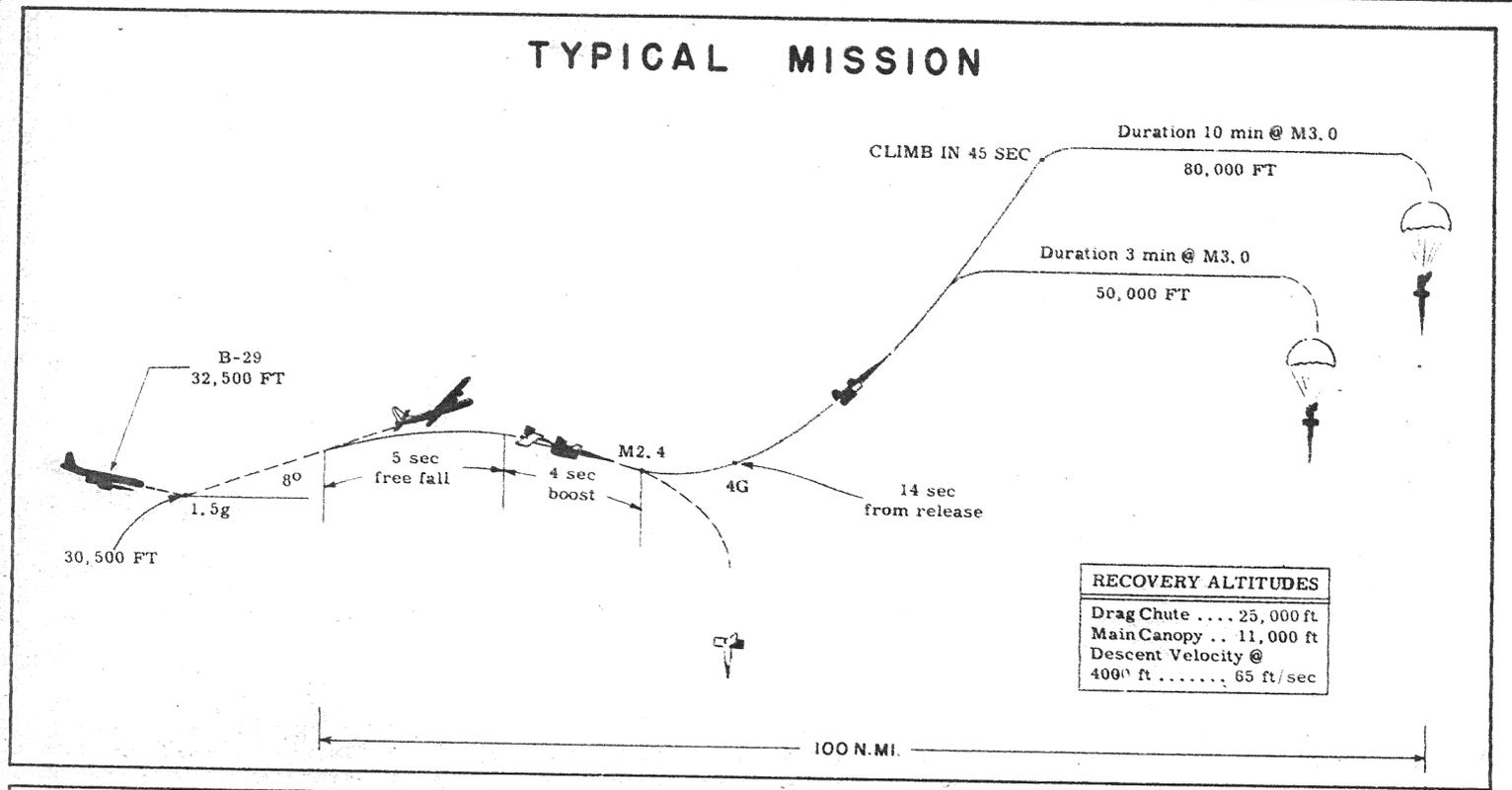
Design Initiated 8 Dec 46
 First Flight 26 Apr 51
 Completion of Research & Development (est) Jul 53

Ten vehicles under contract. First five to be flown with 20" Ramjets. Second five with 28" units.

ELECTRONICS

"S" Band Beacon AN/DPN-3
 "L" Band Beacon AN/DPN-11
 Telemeter Lockheed

TYPICAL MISSION



NOTES:

- (a) Flight maneuvers, drag flaps, and engine operation controlled by pre-set program director.
- (b) Right or left turns and parachute release can be initiated by ground station.