Standard Aircraft Characteristics

B-62
SNARK
NORTHROP

BY AUTHORITY OF
THE SECRETARY
OF THE AIR FORCE

ONE J57-P-1
PRATT & WHITNEY

B-62
PILOTLESS AIRCRAFT

4 DEC 53

SECRET
Unclassified

53 NC12001A
Wing Area 366.4 Sq Ft  
Wing Section NACA 64-206  
(a = .5) modified  
MAC 114.4 in.

Aspect Ratio 4.87

MISSILE IN LAUNCH POSITION
ON MOBILE SHORT-RAIL LAUNCHER

B-62 PILOTLESS AIRCRAFT
### POWER PLANT

**No. & Model** ...... (1) J57-P-1
**Mfr** ...... Pratt & Whitney
**Engine Spec No.** ...... A-1632-A
**Type** ...... Axial
**Length** ...... 163,6"
**Diameter** ...... 41,0"
**Weight (dry)** ...... 4200 lb

**BOOSTER**

**No. & Model:** 3X-226-A3 Solid Roc
**Mfr** ...... Allegheny Ballistics Lab
**Thrust (max)** ...... 130,000 lb ea
**Duration (sec)** ...... 4

### ENGINE RATINGS

<table>
<thead>
<tr>
<th>S. L. Static</th>
<th>LB - RPM - MIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max: 9500 - 9500/9500 - 5</td>
<td></td>
</tr>
<tr>
<td>Mil: 9500 - 9500/9500 - 30</td>
<td></td>
</tr>
<tr>
<td>Nor: 8250 - 9720 - Cont</td>
<td></td>
</tr>
</tbody>
</table>

*Low Spool/High Spool

### DIMENSIONS

<table>
<thead>
<tr>
<th>Wing</th>
<th>Span</th>
<th>42,2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incidence</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Dihedral</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>Sweepback(36, 82° chord)</td>
<td>450</td>
<td></td>
</tr>
<tr>
<td>Length</td>
<td>67,2</td>
<td></td>
</tr>
<tr>
<td>Height</td>
<td>14,7</td>
<td></td>
</tr>
</tbody>
</table>

### GUIDANCE

**SYSTEMS**

(a) INITIAL ...... Doppler Radar
(b) MID-COURSE
(precision)Automatic Celestial (auxiliary) ...... Doppler Radar
(c) TERMINAL ...... Inertial

**TERMINAL ACCURACY**

50 feet within 1500 ft (including midcourse errors).

**CONTROL**

System ...... N-80 Autopilot

### LAUNCHING

**Mobile short rail platform**

**Maximum launch acceleration** ...... 5.5g

**PREPARATION & LAUNCH TIME**

31/2 hrs from the "Alert" condition

**UNATTENDED STORAGE TIME**

Storage time in the "standby" condition is unlimited. Standby pilotless aircraft are assembled on mobile launchers without booster rockets, fuel, warhead, or guidance tapes, and are stored under shelter with limited temperature control.

### WEIGHTS

- **Loading** ...... 17,054 Lb
- **Empty** ...... 48,147 Lb (w/o boosters)
- **Launch (w/boosters)** ...... 58,583 Lb
- **Max Launch** ...... 49,000 Lb (w/o boosters)

### FUEL

- **Location** ...... No. Tanks
- **Gallons** ...... 8
- **Wing Pylons** ...... 2,000
- **Total** ...... 3758
- **Grade** ...... JP-4
- **Spec** ...... MIL-F-5624A
- **Oil** ......

### WARHEAD

- **Design Weight** ...... 6050 lb
- **Gross Weight** ...... 7000 lb

**FUZE**

**Type** ...... Undetermined

**Arming Method** ...... Undetermined

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**SECRET**

Unclassified
GUIDANCE AND CONTROL

LAUNCHING POINT

The pilotless aircraft is ground launched from a mobile short rail platform at an attitude of 15° to the horizon. Launching speed is approximately 300 knots. The two rocket boosters used to assist launching are automatically ejected from the pilotless aircraft after rocket burn-out. Self contained radar under predetermined control is used until operation altitude of 35,332 ft is reached. If doppler radar becomes temporarily inoperative, the navigator maintains airspeeds and headings at the values that existed during radar control. When operational altitude is reached, the pilotless aircraft is approximately 250 miles down range from launching point.

MID-COURSE PHASE

This phase is primarily a celestial navigation phase and will last from the time two stars are acquired by the navigator until the approach to the target area is reached. During this phase, instantaneous direction is specified in terms of the static vertical or gravity vector. This direction is established by star tracking telescopes and angle generators which lay off prespecified time-varying star altitude and star azimuth angles. The difference between the specified direction of the static vertical and the dynamic vertical observed onboard the pilotless aircraft is measured by accelerometers. This difference is fed to the guidance system computer which computes velocity and determines the necessary guidance correction to establish and maintain the prespecified course. An oscillation period of 64 minutes caused by unknown trajectory errors and mid-course system errors is damped out to the airborne primary reference frame by doppler radar. If cloud cover obscures navigational stars both the doppler radar and the inertial system are used for guidance. If the radar becomes inoperative during this same period the inertial system is used. At the end of the cruise the pilotless aircraft is at 44,350 ft at which point a programmed climb is made to initial combat altitude (50,250 ft) and a military power cruise under mid-course guidance system control is made over the combat zone. During the mid-course phase, the prespecified time-distance relationship is inserted into the trackkeeper by means of the magnetic guidance tape. The tape is prepared using the predicted effective wind values over the course. The guidance system is operable if the pilotless aircraft stays within 600 nautical miles of the prespecified point at any instant. This on course tolerance of 600 nautical miles not only allows for a deviation of the effective wind from the meteorological predictions used in preparing the tape but also allows a tolerance of plus or minus 30 minutes on the launch time. In addition, the pilotless aircraft speed is varied if the deviation from the prespecified time-distance relationship exceeds certain preset values to keep the pilotless aircraft within the trackkeeper tolerance.

TERMINAL PHASE

When the pilotless aircraft is approximately four miles from target, the engine is cut, a speed brake is released, and programmed dive into target is indicated at -0.5 load factor. The guidance control for the terminal dive consists merely of determining the pushover point and the preset load factor. No directional guidance is used.