STANDARD AIRCRAFT CHARACTERISTICS

YP6M-1 "SEAMASTER"

MARTIN

15 APRIL 1957
### POWER PLANT

- **NO. MODEL**: J7L-4-6
- **MFR.**: ALLISON
- **TYPE**: TURBO-JET
- **LENGTH**: 210.4 in
- **DIAMETER**: 44.9 in
- **AUGMENTATION**: AFTERBURNER

### MISSION AND DESCRIPTION

The primary mission of the YP6M-1 is low altitude aerial minelaying. The secondary mission is photographic reconnaissance.

The airplane is designed for rough water (6-8 ft. waves) operation. It has a 7° type tail with movable horizontal tail mounted atop the vertical tail. The elevator is mechanically geared to the movable stabilizer. The rudder provides directional control on water and in the air, while hydro flaps on the aft hull bottom provide additional directional control on the water. Lateral control is obtained from spooler ailerons. Single slotted flaps are used in conjunction with leading-edge automatic slats to provide high lift and stall control.

Mines are carried on rotary door forming part of hull bottom. For photographic reconnaissance missions a camera pod is mounted on the rotary door. A remotely operated tail turret provides tail defense.

The YP6M-1 differs from the XP6M-1 in that it incorporates J7L-4-6 engines instead of J7L-4-4 engines and the engine nacelles are tilted outward 5 degrees to reduce effects of jet blast on aft hull.

### DEVELOPMENT

First Flight: 1 July 1957

Est. Service Use: 1959

### WEIGHTS

- **LOADING**
  - **LOF.**
    - 85,012 lb
  - **BASIC:** 67,902 lb
  - **CARGO:** 147,702 lb
  - **MAX. WOG:** 189,002 lb

- **SHELTERED:**
  - 85,000 lb
  - 160,000 lb
  - 190,000 lb

### FUEL AND OIL

- **CAPACITY (gal/eng):** 27-29
- **FUEL SPEC.:** MIL-F-5624

### ELECTRONICS

- **MILITARY NAV (TAGLN):** AN/ARH-21
- **INCOMMUNICATION System:** AN/ARH-19
- **RADAR IDENTIFICATION:** AN/AVQ-28
- **RADAR ALTIMETER:** AN/AVQ-22
- **RADAR NAVIGATION SYSTEM:** AN/AVQ-66
- **SARHARY COM: Sws.:** AN/ARH-1
- **AUTO. RETRO COMP.:** AN/RS-50
- **SHORT RANGE DIRECTION:** AN/RS-50

### ORDINANCE

- **GUNS**
  - **NO.**: 2
  - **SIZE**: 20mm
  - **LOCATION**: Tail
  - **NUM.**: 1,000

- **FIRE CONTROL**
  - **Aero X-23B**: Tail Turret

### DIMENSIONS

- **WING**
  - **AREA**: 1,900 sq. ft.
  - **SPAN**: 100 ft
  - **LENGTH**: 13.6 ft
  - **HEIGHT**: 33 ft

### ELECTRONICS

- **MILITARY NAV (TAGLN):** AN/ARH-21
- **INCOMMUNICATION System:** AN/ARH-19
- **RADAR IDENTIFICATION:** AN/AVQ-28
- **RADAR ALTIMETER:** AN/AVQ-22
- **RADAR NAVIGATION SYSTEM:** AN/AVQ-66
- **SARHARY COM: Sws.:** AN/ARH-1
- **AUTO. RETRO COMP.:** AN/RS-50
- **SHORT RANGE DIRECTION:** AN/RS-50
## PERFORMANCE SUMMARY

<table>
<thead>
<tr>
<th>TAKE-OFF LOADING CONDITION</th>
<th>(1) BASIC MISSION</th>
<th>(3) HIGH ALTITUDE MISSION</th>
<th>(5) ALTERNATE MISSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAKE-OFF WEIGHT</td>
<td>lb.</td>
<td>167,011</td>
<td>166,985</td>
</tr>
<tr>
<td>Fuel</td>
<td>lb.</td>
<td>48,507</td>
<td>72,331</td>
</tr>
<tr>
<td>Weapon</td>
<td>lb.</td>
<td>4,060</td>
<td>4,060</td>
</tr>
<tr>
<td>Wing loading</td>
<td>lb./sq. ft.</td>
<td>88.0</td>
<td>87.8</td>
</tr>
<tr>
<td>Stall speed - power-off</td>
<td>km</td>
<td>126.0</td>
<td>126.0</td>
</tr>
<tr>
<td>Take-off time at S.L. - calms (A)</td>
<td>sec</td>
<td>66.5</td>
<td>66.5</td>
</tr>
<tr>
<td>Take-off run at S.L. - km, wind</td>
<td>ft.</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Take-off to clear 50 ft. - calms</td>
<td>ft</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Max. speed/altitude (B)</td>
<td>km/ft.</td>
<td>560/5,000</td>
<td>560/5,000</td>
</tr>
<tr>
<td>Rate of climb at S.L. (B)</td>
<td>ft/pt.</td>
<td>3,050</td>
<td>3,000</td>
</tr>
<tr>
<td>Time: S.L. to 20,000 ft. (B)</td>
<td>min.</td>
<td>8.2</td>
<td>8.2</td>
</tr>
<tr>
<td>Time: S.L. to 30,000 ft. (B)</td>
<td>min.</td>
<td>17.0</td>
<td>17.0</td>
</tr>
<tr>
<td>Service ceiling (100 fpm)</td>
<td>ft.</td>
<td>35,000</td>
<td>35,000</td>
</tr>
<tr>
<td>Combat radius n.mi.</td>
<td></td>
<td>1,385</td>
<td>2,385</td>
</tr>
<tr>
<td>Average cruising speed km</td>
<td></td>
<td>469</td>
<td>469</td>
</tr>
<tr>
<td>Cruising altitude fts</td>
<td></td>
<td>2,400 - 42,500</td>
<td>22,500 - 42,500</td>
</tr>
<tr>
<td>Combat radius n.mi.</td>
<td></td>
<td>585</td>
<td>1,225</td>
</tr>
<tr>
<td>Average cruising speed km</td>
<td></td>
<td>469</td>
<td>469</td>
</tr>
<tr>
<td>Mission Time hr.</td>
<td></td>
<td>2.48</td>
<td>5.05</td>
</tr>
</tbody>
</table>

### COMBAT LOADING CONDITION

<table>
<thead>
<tr>
<th>(2) BOMBS RETAINED</th>
<th>(4) FLARES RETAINED</th>
<th>(6) BOMBS RETAINED</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMBAT WEIGHT</td>
<td>lb.</td>
<td>147,609</td>
</tr>
<tr>
<td>Engine power</td>
<td>Military</td>
<td>Military</td>
</tr>
<tr>
<td>Fuel</td>
<td>lb.</td>
<td>49,104</td>
</tr>
<tr>
<td>Combat speed/combat altitude</td>
<td>km/ft.</td>
<td>599/88</td>
</tr>
<tr>
<td>Rate of climb/combat altitude</td>
<td>fpm/ft.</td>
<td>3,550/88</td>
</tr>
<tr>
<td>Combat ceiling (500 fpm)</td>
<td>ft.</td>
<td>34,500</td>
</tr>
<tr>
<td>Rate of climb at S.L.</td>
<td>fpm.</td>
<td>3,550</td>
</tr>
<tr>
<td>Max. speed at S.L.</td>
<td>km.</td>
<td>559</td>
</tr>
<tr>
<td>Max. speed/altitude</td>
<td>km/ft.</td>
<td>563/5,000</td>
</tr>
</tbody>
</table>

| LANDING WEIGHT       | lb.                 | 93,709              | 93,464               | 94,252               |
| Fuel                | lb.                 | 5,200               | 7,800                | 5,708                |
| Stall speed - power-off | km. | 94.2             | 96.5                 | 94.5                 |
| Stall speed - with approach power | km. | 91.5 | 94.7 | 91.8 |

### NOTES

(A) Maximum Thrust (Military & Afterburner)
(B) Military Rated Thrust
Performance Basis: Calculations
Range & Radius are based on Engine Specification Fuel Consumption Data increased by 5%
NOTES

MINE LAYER

WARM-UP, TAXI, TAKE-OFF: Five minutes at normal thrust plus one minute at maximum thrust at sea level.
CLIMB: To cruise altitude at military thrust.
CRUISE-OUT: At speed for long range at cruise altitude.
DESCEND: To sea level.
RUN-IN: 50 nautical miles at military thrust.
DROP MINES:
RUN-OUT: 50 nautical miles at military thrust.
CLIMB: To cruise altitude at military thrust.
CRUISE-BACK: At speed for long range at cruise altitude.
RESERVE: 20 minutes at speed for maximum endurance at sea level plus 5% of initial fuel load.

Combat Radius (Mine Layer problem) is reduced approximately 4.5 nautical miles for each additional minute of military power operation.

HIGH ALTITUDE PHOTO RECONNAISSANCE

WARM-UP, TAXI, TAKE-OFF: 5 minutes at normal rated thrust plus 1 minute maximum thrust at sea level.
CLIMB: To cruise altitude at military rated thrust.
CRUISE-OUT: At speed for long range at cruise altitude.
RUN TO TARGET: For 15 minutes at normal thrust at constant altitude.
DROP FLARES:
EVASIVE ACTION: For 2 minutes at normal thrust at constant altitude - No distance gained.
ESCAPE: For 8 minutes at normal thrust to initial cruise-back altitude.
CRUISE-BACK: At speed for long range at cruise altitude.
RESERVE: 30 minutes at speed for maximum endurance at sea level plus 5% of initial fuel load.

Minimum rate of climb, at sea level, military thrust, one engine inoperative, flaps and gear retracted

<table>
<thead>
<tr>
<th>GROSS WEIGHT-LBS</th>
<th>RATE OF CLIMB, FPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>80,000</td>
<td>5,210</td>
</tr>
<tr>
<td>120,000</td>
<td>3,250</td>
</tr>
<tr>
<td>160,000</td>
<td>4,200</td>
</tr>
<tr>
<td>180,000</td>
<td>1,825</td>
</tr>
</tbody>
</table>

○ LOADING CONDITION COLUMN NUMBER

DECLASSIFIED

15 APRIL 1957