**DEPARTMENT OF TRANSPORTATION**
**FEDERAL AVIATION ADMINISTRATION**

A5NM
Revision 2
Hawkins & Powers
HP-B-377
April 30, 1986

# TYPE CERTIFICATE DATA SHEET NO. A5NM

This data sheet which is part of Type Certificate No. A5NM prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Civil Air Regulation.

Type Certificate Holder: Hawkins & Powers, Inc.
P.O. Box 391
Greybull, Wyoming 82426

## I -MODEL HP-B377 (TRANSPORT AND RESTRICTED CATEGORY), APPROVED January 31, 1983

**Engines**

4 Pratt and Whitney R-4360-59B

**Fuel**

Aviation Gasoline: Grade 115/145 or 100/130 (See FAA Approved Flight Manual and Note 5 for more information on fuel grades.)

**Engine Limits**

Maximum Wet Power: Fuel Grade 115/145, Sea Level
3500 BHP @ 2700 RPM and 247 TPSI (Torque Pressure).

Maximum Dry Power: Fuel Grade 115/145, Sea Level
3250 BHP @ 2700 RPM and 230 TPSI (Torque Pressure).

See the FAA Approved Flight Manual for complete engine power and performance data.

**Propellers**

4 Hamilton Standard Model No. 34G60/A7021-8 four bladed hydromatic propellers.

See the FAA Approved Flight Manual for limitations.

**Maximum Altitude**

Maximum Operating Altitude 25,000 ft.

**Airspeed Limits**

| | | |
|---|---|---|
| $V_{NO}$ | Normal Operating | 271 knots CAS |
| $V_{NE}$ | Never Exceed | 305 knots CAS |
| $V_A$ | Manuevering | 194 knots CAS |
| $V_F$ | Flaps down 25° | 191 knots CAS |
| $V_F$ | Flaps down 30° | 174 knots CAS |
| $V_F$ | Flaps down 45° | 162 knots CAS |
| $V_{LO}$ | Landing Gear Operating | 200 knots CAS |
| $V_{LE}$ | Landing Gear Extension | 200 knots CAS |

Mach. No. Never Exceed 0.585

**C.G. Range**

Operating Range 18.5% to 30.5% MAC

See the FAA Approved Flight Manual for center of gravity limits.

| | |
|---|---|
| Datum | 50 inches forward of the airplane nose surface (distance from datum to nose jacking cone: 228.6 in.). |
| Leveling Means | Indicator below floor in forward lower compartment (Sta. 356). |
| Maximum Weights (Transport Category) | Takeoff 147,000 lbs.<br>Landing 129,000 lbs.<br>Max. Zero Wing Fuel 113,900 lbs.<br><br>NOTE: Maximum weights noted are based on wet takeoff power with 115/145 or 108/135 grade fuel only and with auto-feathering system operative. See the FAA Approved Flight Manual for additional limits. |
| Minimum Crew | 3 - Pilot, Copilot, and Flight Engineer. |
| Maximum Passengers | None - Approved for cargo only. |
| Cargo Capacity | See the FAA Approved Flight Manual, Section IV. |
| Fuel Capacity (Usable) | 7,790 gallons total - 2 outboard tanks 17,770 gals. each<br>2 inboard tanks 1,520 gals. each<br>1 center wing tank 1,210 gals. |
| Oil Capacity | 186 gallons total - 4 engine tanks 32.5 gals. each<br>2 transfer tanks 56 gals. each |
| Control Surface Movements | Control surfaces must be rigged in accordance with USAF Technical Manual T.O. 1C-97 (K) E (C)-2-1. |
| Serial Numbers Eligible | USAF Serial Numbers: 53-244, 53-325, 53-350 |
| Certification Basis | CAR, Part 04-0, effective 9 November 1945, and Amendments 04-1 through 04-10; and Section 4b.292 of Part 4b, dated 1 October 1949. |
| Production Basis | None - Prior to original airworthiness certification of each aircraft, a FAA representative must perform inspection for workmanship, materials and conformity with the approved technical data and a check of the flight characteristics. |
| Required Equipment | In addition to the basic required equipment specified in the applicable airworthiness regulations, the equipment specified in Hawkins and Powers Aviation, Inc. Document HPA-97-101, dated 24 September 1982 or later, FAA approved revision thereto must be installed. |

NOTE 1 This approval applies to USAF (Boeing) KC97G aircraft with the modification described in Hawkins and Powers Aviation, Inc., FAA approved drawing list HPA-97-DL2, dated November 20,1981 or later approved revisions thereto.

NOTE 2 The aircraft must be serviced and maintained in accordance with USAF Technical Manual T.O. 1C-97 (K) E (C) -2-1.

NOTE 3 Current weight and balance report including list of equipment included in certificated empty weight, and loading instructions when necessary must be provided for each aircraft at the time of original certification.

After original certification the effects on weight and balance due to changes in equipment and/or alterations must be suitably accounted for.

NOTE 4 The engine limits, center of gravity limits, and maximum weight limits shown under Section I, as well as the performance limitations shown in the FAA Approved Flight Manual, are applicable when the fuel grade associated with a particular limit or set of limits is used exclusively in all tanks. When fuel grades are mixed or interchanged, the following shall apply:

A. Fuel grades 108/135 and/or 115/145 may be used interchangeably or mixed in the same tank.

B. When fuel of grade 100/130 is mixed with grades 115/145 and/or 108/135 in any tank, the engine and performance limitations applicable to the airplane for 100/130 grade fuel shall apply.

C. If the center section tank is filled with any proportion of 100/130 grade fuel, and the wing tanks contain 115/145 and/or 108/135 grade fuel, the engine and performance limitations applicable to the airplane for 100/130 grade fuel shall apply when fuel is used from the center tank. This will permit takeoff and climb on the higher grade fuel and enroute operation on the 100/130 grade fuel.

NOTE 5 When operating in the transport category, the aircraft must be operated in accordance with the FAA Approved Flight Manual.

NOTE 6 Operation in the restricted category is certified for the special purpose of mineral exploration, agriculture, forest and wildlife conservation, and carriage of cargo.

For operation in the restricted category, the airspeed static source must be relocated as originally installed on the Boeing KC-97G aircraft, described in USAF T.O. 1C-97 (K) E (C) -2-9.

When operating in restricted category, the following maximum restricted operating weights are permitted. With respect to this action, the aircraft have demonstrated satisfactory operation and the aircraft is eligible for operation in the transport category after having been operated at the operating weights applicable to the restricted category.

| | | |
|---|---|---|
| Maximum Takeoff Gross Weight | = | 153,000 lbs. |
| Landing Weight (10 FPS Sink Speed) | = | 130,000 lbs. |
| Maximum Zero Fuel Weight | = | 128,000 lbs. |

See KC-97G Flight Manual T.O. 1C-97G-1 for Fuel Loading Distribution and Limitations.

When operating in restricted category, the aircraft must be operated in accordance with the KC-97G Flight Manual T.O. 1C-97G-1, including the Hawkins & Powers FAA Approved Supplement to T.O. 1C-97G-1.

When the aircraft is returned to the transport category, the required equipment specified in Hawkins & Powers Aviation, Inc. Document HPA-97-101, dated 24 September 1982 or later FAA approved revision thereto, must be installed. Furthermore, an airworthiness inspection by a FAA representative must be conducted in accordance with Hawkins & Powers, Inc. FAA approved Inspection Guide, dated 25 Feruary 1981, or later FAA approved revisions.

NOTE 7 Each time the aircraft is converted from one category to another, a log book entry signed by the person performing the conversion must be made.

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