

# Airworthiness Directive Schedule

## Engines

### Pratt & Whitney Piston Series

23 February 2023

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- Notes**
1. This AD schedule is applicable to Pratt & Whitney piston engines.
  2. The Federal Aviation Administration (FAA) is the National Airworthiness Authority (NAA) responsible for the issue of State of Design Airworthiness Directives (ADs) for the majority of these engines. State of Design ADs can be obtained directly from the FAA website at: [Dynamic Regulatory System \(faa.gov\)](https://www.faa.gov/dynamic-regulatory-system)
  3. Links to NAA websites are available on the CAA website at: <https://www.aviation.govt.nz/aircraft/airworthiness/airworthiness-directives/links-to-state-of-design-airworthiness-directives/>
  4. Manufacturer service information referenced in Airworthiness Directives listed in this schedule may be at a later approved revision. Service information at later approved revisions can be used to accomplish the requirements of these Airworthiness Directives. The date above indicates the amendment date of this schedule.
  5. New or amended ADs are shown with an asterisk \*

## Contents

DCA/P&W/101	Exhaust Push Rod/Auxiliary Drive Lubrication - Modification.....	2
DCA/P&W/102	Crankshaft Threads - Modification .....	2
DCA/P&W/103	Cancelled - DCA/P&W/104 refers .....	2
DCA/P&W/104	Cam Reduction Gears - Modification .....	2
DCA/P&W/105A	Crankshaft Flyweights and Flyweight Liners - Inspection.....	3
DCA/P&W/106	Cylinder Attachment – Inspection .....	3
DCA/P&W/107	Exhaust Valves - Renewal .....	3
DCA/P&W/108	Piston Pins/Crankshaft - Modification.....	3
DCA/P&W/109	Crankshaft Counterweights - Inspection .....	4
DCA/P&W/110	Cylinders - Inspection.....	4
<b>The State of Design ADs listed below are available directly from the National Airworthiness Authority (NAA) websites. Links to NAA websites are available on the CAA website at <a href="https://www.aviation.govt.nz/aircraft/airworthiness/airworthiness-directives/links-to-state-of-design-airworthiness-directives/">https://www.aviation.govt.nz/aircraft/airworthiness/airworthiness-directives/links-to-state-of-design-airworthiness-directives/</a> If additional NZ ADs need to be issued when an unsafe condition is found to exist in an aircraft or aeronautical product in NZ, they will be added to the list below.</b> .....		
* 70-10-02	Gerotor Pump Drive Pin/Fuel Injector Filter – Inspection .....	5
* 78-08-07	Cylinder Head Separation – Inspection.....	5

**DCA/P&W/101 Exhaust Push Rod/Auxiliary Drive Lubrication - Modification**

**Applicability:** All S3C4-G Twin Wasp (R1830) engines.

**Requirement:** To prevent failure, accomplish the following:

1. Remove from service all rods made from 'Dural' tube 0.5625" x 13 SWG.
2. Install rods made from 'Dural' tube 0.5625" x 11 SWG, or Chrome Molybdenum steel tube 0.5625" x 17 SWG (P/N CAC 900733).
3. Prior to rod installation, inspect internally and externally for freedom from machining cracks, nicks, undercutting or malformation due to poor fitting of ball ends. Also ensure presence of ½" min. radius at tube change of section (except 0.554" x 11 SWG 'Dural' tube).

To improve lubrication of auxiliary drive shaft, accomplish the following:

1. Incorporate Pratt & Whitney SB's 560; 420 and 713; 700; 580; 496 and 867; 806; 946.
2. Enlarge the four holes in bushing P/N 52684 (1830-90 D only) to improve oil supply to low pressure system (see item 6 of drawing NA 2059). Also, incorporate an annulus in rear cover per item 9 of drawing NA 2059.

**Compliance:** By 31 October 1957.

**Effective Date:** 30 November 1955

**DCA/P&W/102 Crankshaft Threads - Modification**

**Applicability:** All R985 and R1340 engines.

**Requirement:** Modify per Pratt & Whitney SB 1488.  
(FAA AD 57-05-04 refers)

**Note:** P&W Service Bulletin No. 1488, dated October 10, 1956, or later FAA approved revision pertains to the subject of this AD.

**Compliance:** At the next engine overhaul.

**Effective Date:** 31 October 1957

**DCA/P&W/103 Cancelled - DCA/P&W/104 refers****DCA/P&W/104 Cam Reduction Gears - Modification**

**Applicability:** All R985 engines.

**Requirement:** Modify per Pratt & Whitney SB 1671 Supp. No. 1 Rev A.  
(FAA AD 66-14-04 refers)

**Note:** Pratt & Whitney Service Bulletin No. 1671, Supplement No. 1, Revision A, revised November 24, 1959, or later FAA approved revision pertains to the subject of this AD.

**Compliance:** At the next engine overhaul.

**Effective Date:** 31 August 1962

**DCA/P&W/105A Crankshaft Flyweights and Flyweight Liners - Inspection**

**Applicability:** All R985 and R1340 engines.

**Requirement:** Inspect, rework and/or renew parts per Pratt & Whitney SB 1758.  
(FAA AD 68-09-01 refers)

**Note:** Pratt & Whitney Aircraft Service Bulletin No. 1758, Revision A, dated November 18, 1964, or later FAA approved revision pertains to the subject of this AD.

**Compliance:** At the next engine overhaul.

**Effective Date:** 31 July 1966

**DCA/P&W/106 Cylinder Attachment – Inspection**

**Applicability:** All R985, R1340 and R1830 engines.

**Requirement:** Inspect per Pratt & Whitney SB 1567 Rev A and Supp. 1, and torque cylinder flange attachment nuts per Pratt & Whitney SB 1000.  
(FAA AD 56-06-02 refers)

**Note:** P&W Alert Bulletin No. 42 entitled "Cylinder Attachment Inspection and Maintenance", or later FAA approved revision pertains to the subject of this AD, and P&W Service Bulletin No. 1000, or later FAA approved revision describes approved methods and torques.

**Compliance:** Whenever the engine is disassembled.

**Effective Date:** 31 January 1957

**DCA/P&W/107 Exhaust Valves - Renewal**

**Applicability:** All R1830 engines.

**Requirement:** To prevent possibility of in-flight failure, renew exhaust valves in No. 1, 3 and 5 cylinders.

**Compliance:** At the next and each subsequent engine overhaul.

**Effective Date:** 30 September 1966

**DCA/P&W/108 Piston Pins/Crankshaft - Modification**

**Applicability:** All R985 engines.

**Requirement:** Install heavy duty piston pins and rework crankshaft per Pratt & Whitney SB 1730 original issue, or later FAA approved revision.

**Compliance:** At the next engine overhaul.

**Effective Date:** 31 August 1969

*NZCAR Part III leaflets C7-1, C7-3, C7-5 and C7-7 hereby cancelled.*

**DCA/P&W/109 Crankshaft Counterweights - Inspection**

**Applicability** All Wasp S1H1 and S3H1, and R-1340-AN-1 (military) reciprocating engines, incorporating Air Tractor PMA crankshafts, P/N 90114. These engines may be installed on but not limited to; Ag Cat G-164A, G-164B, G-164C and North American AT-6 series. This AD is not applicable to crankshafts incorporating improved counterweights, Air Tractor P/N 90133-1 and 90134-1.

**Requirement:** To prevent engine failure due to crankshaft counterweight failure, accomplish the following:

Inspect visually and using dye-penetrant technique, the crankshaft counterweights for cracks per Snow Engineering SL 135.

If cracks are found, prior to further flight, remove from service and rework the crankshaft by replacing cracked counterweights per SL 134, or replace with a serviceable part.

Remove from service and replace crankshaft counterweights per SL 134.

Incorporation of the improved counterweights, Air Tractor P/N 90133-1 and 90134-1, constitutes terminating action to the repetitive inspections. (FAA AD 96-15-02 refers)

**Compliance:**

1. At 300 hours TTIS or within next 10 hours TIS, whichever is the later. Thereafter inspect at intervals not to exceed 150 hours TIS until reworked per SL 134. Also inspect if a cylinder is removed for any reason.
2. At the next overhaul or at the next crankshaft removal, whichever occurs first.

**Effective Date:** 30 August 1996

**DCA/P&W/110 Cylinders - Inspection**

**Applicability:** All R-1340 engines, including Wasp S1H1, S1H1-G, S1H2, S1H4, S1H5-G, S3H2, R-1340-61 under Type Certificate E-129, Wasp S3H1-G, R-1340-59 under Type Certificate E-142, and Wasp S3H1 under Type Certificate E-143.

These engines are installed on, but not limited to the Air Tractor AT-301 and Ag Cat Corporation G-164A.

**Requirement:** To prevent cylinder head cracking, which can result in engine power loss, forced landing, and damage to the aircraft, accomplish the following:

1. Perform visual inspections of cylinders for head cracking, and replace cracked cylinders with serviceable parts per PW SB 1787, dated September 7, 1983.

2. Perform a fluorescent penetrant inspection of cylinders for head cracking, and replace cracked cylinders with serviceable parts per PW SB 1787.

(FAA AD 99-11-02 refers)

**Compliance:**

1. Visual Inspection:

For cowled and baffled installations, inspect within 125 hours TIS and thereafter at intervals not to exceed 250 hours TIS. For all other installations, inspect within 50 hours TIS and thereafter at intervals not to exceed 100 hours TIS.

2. Fluorescent Penetrant Inspection:

At the next cylinder overhaul and at each subsequent overhaul.

**Effective Date:** 2 July 1999

The State of Design ADs listed below are available directly from the National Airworthiness Authority (NAA) websites. Links to NAA websites are available on the CAA website at <https://www.aviation.govt.nz/aircraft/airworthiness/airworthiness-directives/links-to-state-of-design-airworthiness-directives/>

If additional NZ ADs need to be issued when an unsafe condition is found to exist in an aircraft or aeronautical product in NZ, they will be added to the list below.

**\* 70-10-02 Gerotor Pump Drive Pin/Fuel Injector Filter – Inspection**

**Applicability:** All R-985 and Wasp Jr. engines embodied with STC No. SE1-391 fitted with a Simmonds Precision fuel injector P/N 580047.

**Compliance:** Initial compliance required before the issue of a New Zealand Certificate of Airworthiness, or at the next Review of Airworthiness (RA), or at the next annual inspection, whichever is the sooner, unless previously accomplished. Repetitive inspections, if required, are to be accomplished at intervals not to exceed the times specified in the FAA AD.

**Effective Date:** 23 February 2023

**\* 78-08-07 Cylinder Head Separation – Inspection**

**Applicability:** All R985 and Wasp, Jr. engines.

**Compliance:** Initial compliance required before the issue of a New Zealand Certificate of Airworthiness, or at the next Review of Airworthiness (RA), or at the next annual inspection, whichever is the sooner, unless previously accomplished. Repetitive inspections, if required, are to be accomplished at intervals not to exceed the times specified in the FAA AD.

**Effective Date:** 23 February 2023