

# Airworthiness Directive Schedule

## Aeroplanes

### Alpha Aviation Design HR200 and R2000 Aircraft Series

27 August 2015

---

1. This AD schedule is applicable to Alpha Aviation Concept Limited HR 200/100, HR 200/100S, HR 200/120, HR 200/120B, HR200/160, R 2100, R 2100 A, R 2112, R 2120 U, R 2160, R 2160 D and R 2160 I aircraft, listed on Civil Aviation Authority of New Zealand Type Certificate No. A-15.
  2. These airworthiness directives are also applicable to aircraft manufactured in Canada which may have a C in front of the basic serial number.
  3. The date above indicates the amendment date of this schedule.
  4. New or amended ADs are shown with an asterisk \*
- 

## Contents

DCA/R2000/1	Aft Fuselage Side Cover Plates – Inspection and Modification .....	3
DCA/R2000/2	Battery Protection Fuse – Modification .....	3
DCA/R2000/3	VOR Antenna Support Rib – Inspection and Modification .....	3
DCA/R2000/4	Engine Flexible Baffles – Replacement .....	4
DCA/R2000/5	Flap Rib Assemblies – Replacement .....	4
DCA/R2000/6	Engine Bearer Attachments – Replacement.....	4
DCA/R2000/7	Fuel Tank Filler Caps – Inspection and Modification .....	4
DCA/R2000/8	Cylinder Metallic Baffles – Inspection and Modification .....	5
DCA/R2000/9	Aileron Cable Bolts – Inspection and Replacement.....	5
DCA/R2000/10	Flaps with Three Ribs – Inspection and Replacement.....	5
DCA/R2000/11	Battery – Inspection and Modification .....	6
DCA/R2000/12	Fuel Fittings – Inspection and Replacement.....	6
DCA/R2000/13	Aileron/Flap Support Brackets – Inspection and Modification.....	6
DCA/R2000/14	Engine Mountings – Inspection and Replacement.....	7
DCA/R2000/15A	Nose Landing Gear Leg Bracket – Inspection and Repair.....	7
DCA/R2000/16	Cancelled – DCA/R2000/23B refers .....	8
DCA/R2000/17	Carburettor Fuel Line – Inspection and Replacement .....	8
DCA/R2000/18	Safety Belt Quick-disconnect Link – Modification .....	8
DCA/R2000/19	Vertical Stabilizer Spar – Inspection and Modification .....	9
DCA/R2000/20	Fuel Tank Filler Cap – Inspection and Replacement.....	9
DCA/R2000/21	Anti-tab Friction System – Inspection and Modification .....	9
DCA/R2000/22	Carburettor Heater Box Spacer – Inspection and Modification .....	10
DCA/R2000/23B	Rudder Pedal Bars – Inspection and Replacement.....	10
DCA/R2000/24A	Wing Attachment Bolts – Inspection and Replacement.....	11
DCA/R2000/25A	Engine Air Intake Box and Ducting – Inspection.....	12
DCA/R2000/26	Manifold Air Intake – Inspection and Replacement.....	13
DCA/R2000/27	Air Speed Indicator – Modification .....	13
DCA/R2000/28A	Cancelled – Airworthiness Limitations Section of Service Manual refers .....	13
DCA/R2000/29	Control Surfaces - Calibration and Balance.....	13
DCA/R2000/30	Brake Fluid Reservoir Cap – Inspection and Modification .....	14
DCA/R2000/31A	Engine Air Intake – Inspection and Repair.....	14
DCA/R2000/32	Fuel Shut-off Valve – Inspection and Modification.....	14
DCA/R2000/33	Fuel Pressure Indication System – Inspection and Repair .....	15
DCA/R2000/34	Cancelled – DCA/R2000/40 refers.....	15
DCA/R2000/35	Air Intake Flap Hinge – Inspection and Repair .....	15
DCA/R2000/36	Aileron Bellcrank – Inspection and Modification .....	15

DCA/R2000/37B	Wing Spars – Inspection and Repair .....	16
DCA/R2000/38	Cabin Compartment Barrier – Inspection and Modification .....	17
DCA/R2000/39	Fuel Shut-off Mechanism – Inspection and Rework .....	17
DCA/R2000/40	Oil Lines – Replacement.....	18
DCA/R2000/41	Air Filter – Inspection and Replacement.....	19
DCA/R2000/42	Ignition Switch – Inspection and Modification or Replacement.....	19
* DCA/R2000/43	Wing Structure and Fuselage Attachment – Revised Airworthiness Limitations .....	19

**DCA/R2000/1 Aft Fuselage Side Cover Plates – Inspection and Modification**

**Applicability:** Model HR200/100 and HR200/120 aircraft, S/Ns 001 through 26.

**Requirement:** To detect buckling of the port and starboard cover plates on the fuselage sides near the horizontal stabilizer, accomplish the following:

1. Inspect the cover plates for deformation and contact marks, to ensure the elevator tab control fork has not come in contact with the fuselage side wall, per Avions Pierre Robin Service Bulletin No. 51.

If there are any signs of damage, accomplish the instructions in Avions Pierre Robin Modification No. 1166, before further flight.

2. Modify the cover plates by fitting a stiffener, per SB No. 51 and modification No. 1166.

**Note:** Accomplishment of DGAC F-1974-052 satisfies the requirement of this AD.

**Compliance:**

1. Within the next 50 hours TIS, unless already accomplished.
2. By 29 July 2006, unless already accomplished.

**Effective Date:** 29 June 2006

**DCA/R2000/2 Battery Protection Fuse – Modification**

**Applicability:** Model HR200/100, HR200/100S, HR200/120, HR200/120B and HR200/160 aircraft, S/Ns 001 through 49.

**Requirement:** To prevent unreliability of the battery protection fuse, which is fitted to protect the electrical circuit during ground maintenance, remove the fuse and fuse box, and modify the electrical circuit, per Avions Pierre Robin Service Bulletin No. 53.

**Note:** Accomplishment of DGAC F-1974-138 satisfies the requirement of this AD.

**Compliance:** By 29 December 2006, unless already accomplished.

**Effective Date:** 29 June 2006

**DCA/R2000/3 VOR Antenna Support Rib – Inspection and Modification**

**Applicability:** Model HR200/100 and HR200/120 aircraft, S/Ns 001 through 85, fitted with a VOR antenna.

**Requirement:** To prevent cracks in the plastic rib supporting the VOR antenna, which can obstruct the free travel of the rudder, accomplish the following:

1. Inspect the plastic rib supporting the VOR antenna, per Avions Pierre Robin Service Bulletin No. 54.

If cracked, modify by replacing with a metal rib, per SB 54, before further flight.

2. Replace the rib supporting the VOR antenna by modifying per SB 54.

**Note:** Accomplishment of DGAC F-1974-160 satisfies the requirement of this AD.

**Compliance:**

1. Inspect within the next 10 hours TIS, unless already accomplished, and thereafter at intervals not to exceed 50 hours TIS, until requirement 2 has been accomplished.

2. By 29 September 2006, unless already accomplished.

**Effective Date:** 29 June 2006

**DCA/R2000/4 Engine Flexible Baffles – Replacement**

- Applicability:** Model HR200/100, HR200/100S, HR200/120, HR200/120B and HR200/160 aircraft, S/Ns 001 through 62.
- Requirement:** To prevent engine overheating and improve the engine service life by providing better sealing of the cooling air at the front of the engine bay, replace the flexible baffles, per Avions Pierre Robin Service Bulletin No. 58.
- Note:** Accomplishment of DGAC F-1975-054 satisfies the requirement of this AD.
- Compliance:** Within the next 50 hours TIS or by 29 December 2006, whichever is the sooner, unless already accomplished.
- Effective Date:** 29 June 2006

**DCA/R2000/5 Flap Rib Assemblies – Replacement**

- Applicability:** Model HR200/100, HR200/100S, HR200/120, HR200/120B and HR200/160 aircraft, S/Ns 001 through 68.
- Requirement:** To improve the fatigue life of the No. 1 flap rib assemblies which are fitted to both the flaps of the aircraft, replace the ribs per Avions Pierre Robin Service Bulletin No. 59.
- Note:** Accomplishment of DGAC F-1975-156 satisfies the requirement of this AD.
- Compliance:** Within the next 10 hours TIS or by 29 September 2006, whichever is the sooner, unless already accomplished.
- Effective Date:** 29 June 2006

**DCA/R2000/6 Engine Bearer Attachments – Replacement**

- Applicability:** Model HR200/100, HR200/100S, HR200/120, HR200/120B and HR200/160 aircraft, S/Ns 001 through 89.
- Requirement:** Fatigue tests have revealed that the service life of the upper engine bearer attachments fitted during manufacture of the aircraft is limited to 5000 hour TIS. Before reaching this safe service life limit, replace these attachments with P/N 22.23.17 dash 2 attachments, per Avions Pierre Robin Service Bulletin No. 61.
- Note:** Accomplishment of DGAC F-1975-185 satisfies the requirement of this AD.
- Compliance:** Within 5000 hours TTIS, unless already accomplished.
- Effective Date:** 29 June 2006

**DCA/R2000/7 Fuel Tank Filler Caps – Inspection and Modification**

- Applicability:** Model HR200/100, HR200/100S, HR200/120, HR200/120B and HR200/160 aircraft, S/Ns 001 through 77, excluding S/Ns 70, 73 and 75.
- Requirement:** To prevent water from entering the fuel tanks through the fuel tank filler caps, inspect the caps, per Avions Pierre Robin Service Bulletin No. 63.
- If the rivet heads on the fuel tank filler caps are protruding, modify per SB 63, before further flight.
- Note:** Accomplishment of DGAC F-1975-230 satisfies the requirement of this AD.
- Compliance:** Within the next 50 hours TIS, unless already accomplished.
- Effective Date:** 29 June 2006

**DCA/R2000/8 Cylinder Metallic Baffles – Inspection and Modification**

- Applicability:** Model HR200/100, HR200/100S, HR200/120, HR200/120B and HR200/160 aircraft, S/Ns 001 through 89.
- Requirement:** To prevent engine overheating, inspect the metallic baffles on the bottom side of the cylinders for the correct clearance of at least 30mm, per Avions Pierre Robin Service Bulletin No. 65.
- Modify the baffle clearances as required, per SB No. 65.
- Note:** Accomplishment of DGAC F-1976-078 satisfies the requirement of this AD.
- Compliance:** Within the next 50 hours TIS or by 13 July 2006, unless already accomplished.
- Effective Date:** 29 June 2006

**DCA/R2000/9 Aileron Cable Bolts – Inspection and Replacement**

- Applicability:** All model HR200/100, HR200/100S, HR200/120, HR200/120B and HR200/160 aircraft, S/Ns 001 through 90.
- Requirement:** Inspect the aileron cable bolts attaching the cables to the pilot control sticks, per Avions Pierre Robin Service Bulletin No. 67.
- Confirm the bolt shank length and replace as required, per SB No. 67, before further flight.
- Note:** Accomplishment of DGAC F-1976-167 satisfies the requirement of this AD.
- Compliance:** Within the next 10 hours TIS or by 13 July 2006, whichever is the sooner, unless already accomplished.
- Effective Date:** 29 June 2006

**DCA/R2000/10 Flaps with Three Ribs – Inspection and Replacement**

- Applicability:** Model R2100, R100A and R2160 aircraft, S/Ns 120 through 132.
- Requirement:** Inspect the aircraft flaps to determine how many ribs are installed on each flap, per Avions Pierre Robin Service Bulletin No. 75.
- If the aircraft flaps only have 3 ribs, replace with flaps with 5 ribs, per SB No. 75, before further flight.
- Note:** Accomplishment of DGAC F-1978-075 satisfies the requirement of this AD.
- Compliance:** Within the next 10 hours TIS or by 13 July 2006, whichever is the sooner, unless already accomplished.
- Effective Date:** 29 June 2006

**DCA/R2000/11 Battery – Inspection and Modification**

**Applicability:** Model HR200/100, HR200/100S, HR200/120, HR200/120B and HR200/160 aircraft, S/Ns 001 through 378, and

Model R2100, R2100A, R2112, R2120U, R2160, R2160D and R2160i aircraft, S/Ns 001 through 378,

Fitted with Type 6 MK 5 Sonnenschein Battery P/N 030.532.11.00 and a blanking strip, instead of 6 separate threaded plugs.

**Note 1:** Not applicable to aircraft manufactured after 13 November 1979.

**Requirement:** Modify the battery receptacle lid, per Avions Pierre Robin Service Bulletin No. 77 and Avions Pierre Robin Drawing No. 61.26.07.

**Note 2:** Accomplishment of DGAC F-1980-005 satisfies the requirement of this AD.

**Compliance:** Within the next 50 hours TIS, unless already accomplished.

**Effective Date:** 29 June 2006

**DCA/R2000/12 Fuel Fittings – Inspection and Replacement**

**Applicability:** Model R2100, R2100A, R2112, R2120U, R2160, R2160D and R2160i aircraft, S/Ns 001 through 191.

**Requirement:** To prevent fuel system leaks inspect the bronze/brass hollow threaded fuel line fittings for type and leaks, per Avions Pierre Robin Service Bulletin No. 86.

Replace leaking Type 1 fuel line fittings with Type 2 fittings, per SB No. 86, before further flight.

**Note 1:** Accomplishment of DGAC F-1980-186 satisfies the requirement of this AD.

**Note 2:** Type 1 fuel system hollow threaded brass fuel line fittings can be identified by a circular groove on the outer surface. Failure at this groove causes leaks.

**Note 3:** Type 2 fuel system hollow threaded brass fuel line fittings can be identified by the absence of a circular groove on the outer surface. This AD is not applicable to Type 2 fuel fittings.

**Compliance:** Within the next 10 hours TIS, unless already accomplished.

**Effective Date:** 29 June 2006

**DCA/R2000/13 Aileron/Flap Support Brackets – Inspection and Modification**

**Applicability:** Model R2100, R2100A, R2112, R2120U, R2160, R2160D and R2160i aircraft, S/Ns 001 through 378.

**Requirement:** To prevent cracks developing where the flap/aileron beam is attached to the starboard and port wing panels, inspect per the instructions in Avions Pierre Robin Service Bulletin No. 90.

If cracked, accomplish the modification per SB No. 90, before further flight.

**Note:** Accomplishment of DGAC F-1982-070 satisfies the requirement of this AD.

**Compliance:** Within the next 50 hours TIS, unless already accomplished, and thereafter at intervals not to exceed 50 hours TIS until the modification per SB No. 90 is accomplished.

**Effective Date:** 29 June 2006

**DCA/R2000/14 Engine Mountings – Inspection and Replacement**

**Applicability:** Model R2160 aircraft, S/Ns C193, C194, C195, C196, C197, C198, C199 and C202.  
Model R2112 aircraft, S/Ns 189 and 190.

**Requirement:** To prevent cracks developing in the engine mountings inspect all the engine mountings, particularly the upper mountings, per the instructions in Avions Pierre Robin Service Bulletin No. 97.

If cracked, replace with engine mountings P/N 51-40-30, per SB No. 97, before further flight.

**Note 1:** Accomplishment of DGAC F-1983-099 satisfies the requirement of this AD.

**Note 2:** The installation of P/N 51-40-30 engine mountings is a terminating action to the requirement of this AD.

**Compliance:** By 6 July 2006, unless already accomplished, and thereafter at intervals not to exceed 25 hours TIS until the engine mountings are replaced with P/N 51-40-30 engine mountings, per SB No. 97.

**Effective Date:** 29 June 2006

**DCA/R2000/15A Nose Landing Gear Leg Bracket – Inspection and Repair**

**Applicability:** Model HR 200/100, HR 200/100S, HR 200/120, HR 200/120B and HR 200/160 aircraft, S/Ns 001 through 378.

Model R 2100, R 2100 A, R 2112, R 2120 U and R 2160 D aircraft, S/Ns 001 through 378.

Model R 2160 aircraft, S/Ns 001 through 378 and S/Ns 160A-06001 onward.

Model R 2160i aircraft, S/Ns 001 through 378 and S/Ns 160Ai-07007 onward.

**Note 1:** The applicability of this AD revised. Alpha Aviation manufactured model R2160i aircraft added.

**Requirement:** To prevent cracks developing in the NLG leg lower bracket, inspect the plate for cracks and determine the width of the plate, per the instructions in Pierre Robin Service Bulletin No. 101, revision 3.

**Note 2:** Accomplishment of DGAC F-1983-206 satisfies the requirement of this AD.

**Compliance:** For plates with a width of less than 84mm:

Within the next 100 hours TIS, unless already accomplished within the last 100 hours TIS. If no cracks are found inspect thereafter at intervals not to exceed 100 hours TIS.

If cracked, determine the crack dimensions per SB No. 101, revision 3.

If cracks are within the allowable criteria per SB No. 101, revision 3, continue with inspections at intervals not to exceed 25 hours TIS.

If the cracks are outside the allowable crack dimensions per SB No. 101, revision 3, accomplish an approved manufacturer repair, per SB No. 101, revision 3, before further flight.

For plates with a width of 84mm:

Within the next 500 hours TIS, unless already accomplished within the last 500 hours TIS. If no cracks are found inspect thereafter at intervals not to exceed 500 hours TIS.

If cracked, determine the crack dimensions per SB No. 101, revision 3.

If cracks are within the allowable criteria per SB No. 101, revision 3, continue with inspections at intervals not to exceed 25 hours TIS.

If the cracks are outside the allowable crack dimensions per SB No. 101, revision 3, accomplish an approved manufacturer repair, per SB No. 101, revision 3, before further flight.

**Effective Date:** DCA/R2000/15 - 29 June 2006  
DCA/R2000/15A - 28 June 2007

**DCA/R2000/16 Canceled – DCA/R2000/23B refers**

**Effective Date:** 25 October 2007

**DCA/R2000/17 Carburettor Fuel Line – Inspection and Replacement**

**Applicability:** Model HR200/100, HR200/100S, HR200/120, HR200/120B and HR200/160 aircraft, S/Ns 001 through 378, and

Model R2100, R2100A, R2112, R2160 and R2160D aircraft, S/Ns 001 through 378, Fitted with Lycoming O-235, O-320 or O-360 engines.

**Requirement:** To prevent fuel leaks developing in carburettor fuel line, accomplish the following:

1. Inspect the carburetor fuel line fittings for leaks, per Avions Pierre Robin Service Bulletin No. 112.

If fuel leaks are found, replace the fuel fittings with a bronze fitting P/N APR 52-26-58, before further flight.

2. Replace the carburetor fuel line fittings with a bronze fitting P/N APR 52-26-58.

**Note:** Accomplishment of DGAC F-1989-052 satisfies the requirement of this AD.

**Compliance:** 1. Before further flight, unless already accomplished.  
2. Within the next 50 hours TIS, unless already accomplished.

**Effective Date:** 29 June 2006

**DCA/R2000/18 Safety Belt Quick-disconnect Link – Modification**

**Applicability:** Model HR200/100, HR200/100S, HR200/120, HR200/120B and HR200/160 aircraft, S/Ns 001 through 378.

Model R2100, R2100A, R2112, R2120U, R2160, R2160D and R2160i aircraft, S/Ns 001 through 378.

**Requirement:** To prevent the safety belt quick-disconnect link nut becoming undone, install a zinc plated or stainless steel cotter pin, per Avions Pierre Robin Service Bulletin No. 114, revision 1.

**Note:** Accomplishment of DGAC F-1989-074 R1 satisfies the requirement of this AD.

**Compliance:** Within the next 50 hours TIS, unless already accomplished.

**Effective Date:** 29 June 2006



**DCA/R2000/19 Vertical Stabilizer Spar – Inspection and Modification**

**Applicability:** Model R2100, R2100A, R2112, R2120U, R2160, R2160D and R2160i aircraft, S/Ns 001 through 378.

**Requirement:** To prevent cracks in the lower fitting of the vertical stabilizer spar, inspect the vertical stabilizer spar at the lower fitting for cracks, loose rivets or spar web distortion, per Avions Pierre Robin Service Bulletin No. 120.

If any abnormalities are found, modify per SB No. 120 and modification 97.40.03, before further flight.

**Note 1:** Accomplishment of DGAC F-1990-224 satisfies the requirement of this AD.

**Note 2:** Accomplishment of Robin modification 97.40.03 is a terminating action to the requirement of this AD.

**Compliance:** Before further flight, and thereafter at intervals not to exceed 100 hours TIS until the vertical stabilizer spar has been modified per modification 97.40.03.

**Effective Date:** 29 June 2006

**DCA/R2000/20 Fuel Tank Filler Cap – Inspection and Replacement**

**Applicability:** Model HR200/100, HR200/100S, HR200/120, HR200/120B and HR200/160 aircraft, S/Ns 001 through 249.

Model R2100, R2100A, R2112, R2120U, R2160, R2160D and R2160i aircraft, S/Ns 001 through 249.

**Requirement:** To prevent deformation of the aircraft fuel tanks due to the possibility of there not being a fuel tank vent, inspect the fuel system per Avions Pierre Robin Service Bulletin No. 135.

If the aircraft is fitted with a fuel filler cap which has a 2,5mm diameter vent hole, confirm the venting efficiency per SB No. 135, and return the aircraft to service.

If the aircraft is not fitted with a vented fuel cap which has a 2,5mm diameter vent hole, confirm that the aircraft has a fuel tank vent line which is connected to the fuel filler neck, per SB No. 135. If the aircraft has a fuel vent line, return the aircraft to service.

If the aircraft is not fitted with fuel vent line replace the fuel filler cap P/N 52.11.34.030 with a cap P/N 52.23.07.010, per SB No. 135, before further flight.

**Note:** Accomplishment of DGAC F-1994-130 satisfies the requirement of this AD.

**Compliance:** Before further flight.

**Effective Date:** 29 June 2006

**DCA/R2000/21 Anti-tab Friction System – Inspection and Modification**

**Applicability:** Model HR200/100, HR200/100S, HR200/120, HR200/120B and HR200/160 aircraft, S/Ns 250 through 271.

Model R2100, R2100A, R2112, R2120U, R2160, R2160D and R2160i aircraft, S/Ns 250 through 271.

**Requirement:** To improve the friction system of the anti-tab stop, install a friction locking device, per Avions Pierre Robin Service Bulletin No. 137.

**Note:** Accomplishment of DGAC F-1994-183 R1 satisfies the requirement of this AD.

**Compliance:** Within the next 100 hours TIS, unless already accomplished.

**Effective Date:** 29 June 2006

**DCA/R2000/22 Carburettor Heater Box Spacer – Inspection and Modification**

**Applicability:** Model R2160 aircraft, S/Ns 269, 270, 271 and 275.

**Requirement:** To prevent loss of engine power due to there possibly being pieces of adhesive tape in the bore of the carburettor heater box aluminum spacer, inspect the spacer per Avions Pierre Robin Service Bulletin No. 139.

Accomplish the requirements per SB No. 139, before further flight.

**Note:** Accomplishment of DGAC F-1994-275 satisfies the requirement of this AD.

**Compliance:** Before further flight, unless already accomplished.

**Effective Date:** 29 June 2006

**DCA/R2000/23B Rudder Pedal Bars – Inspection and Replacement**

**Applicability:** Model R 2100, R 2100 A, R 2112, R 2120 U, R 2160, R 2160 D and R 2160 I aircraft, S/Ns 1 through 378 not fitted with reinforced rudder bars P/N 27.40.31.010 and P/N 27.40.31.020.

Model HR 200/100, HR 200/100S, HR 200/120, HR 200/120B and HR 200/160 aircraft, S/Ns 1 through 378 not fitted with reinforced rudder bars P/N 27.40.31.010 and P/N 27.40.31.020.

**Note 1:** This AD supersedes DCA/2000/23A which superseded DGAC F-1995-217 and referred to Avions Pierre Robin Service Bulletin No. 143. This AD also supersedes DCA/R2000/16 which superseded DGAC F-1986-148R1 and referred to Avions Pierre Robin SB 109. Revision B of this AD expands on the aircraft applicability and reduces the inspection interval for unmodified HR 200 and R2120U aircraft.

**Note 2:** This AD is considered embodied if reinforced rudder bars are already installed in accordance with DCA/R2000/23, DCA/R2000/23A or DGAC F-1995-217.

**Note 3:** The installation of rudder bars P/N 27.40.31.010 and P/N 27.40.31.020 is a terminating action to the requirements of this AD.

**Note 4:** This AD is not applicable to the R2000 series aircraft manufactured by Alpha Aviation. These aircraft are fitted with reinforced rudder bars at manufacture.

**Requirement:** To prevent distortion of the rudder bars due to rudder control forces during aerobatic operation and nose wheel steering reaction forces, accomplish the following:

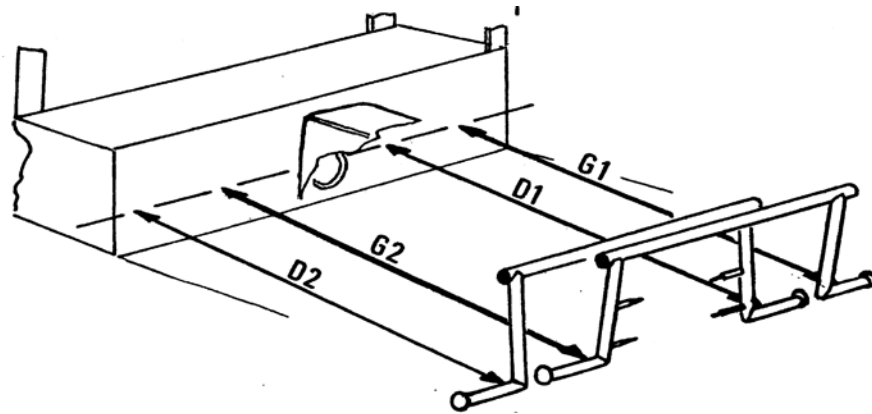
1. For R 2000 series aircraft

Replace the left rudder bar P/Ns 27.23.05.010 and the right rudder bar P/N 27.23.05.020 with reinforced rudder bars P/N 27.40.31.010 and P/N 27.40.31.020 respectively, per Alpha Aviation Service Bulletin AA-SB27-003.

2. For HR 200 and R 2120 U aircraft

Check the geometrical shape of both the rudder bars in accordance with Fig 1. Maintain the rudder bars in the neutral position and measure distances G1, G2 and D1, D2 (the distance between the foot tubes and the front face of the frame box located under the seats). The difference between G1 and G2, or D1 and D2 is the distortion.

- a. If  $D1 = D2$  and  $G1 = G2$  (+/- 5mm), there is no significant distortion and no action is required, re-inspect at intervals not to exceed 500 hours TIS.
- b. If the distortion is between 5 and 10 mm re-inspect at intervals not to exceed 100 hours, until replaced by rudder bars P/N 27.40.31.010 and P/N 27.40.31.020 per AA-SB-27-003.
- c. If the distortion is equal to or greater than 10mm, replace both rudder bars per AA-SB-27-003.



**Figure 1**

**Note 5:** Reinforced rudder bars P/N 27.40.31.010 and P/N 27.40.31.020 have a flat welded reinforcing gusset on the RH side and a bent welded reinforcing gusset on the LH side. Refer AA-SB-27-003 for details.

- Compliance:**
1. Within the next 50 hours TIS or by 31 January 2008, whichever is the sooner,
  2. Within the next 100 hours TIS, unless already accomplished in accordance with DCA/R2000/23A or DGAC F-1995-217, and thereafter at the intervals specified in requirement 2, until both rudder bars are replaced with P/N 27.40.31.010 and P/N 27.40.31.020.

**Effective Date:**

DCA/R2000/23	-	29 June 2006
DCA/R2000/23A	-	28 September 2006
DCA/R2000/23B	-	25 October 2007

#### **DCA/R2000/24A Wing Attachment Bolts – Inspection and Replacement**

**Applicability:** Model HR 200/100, HR 200/100S, HR 200/120, HR 200/120B and HR 200/160 aircraft, S/Ns 001 through 378.

Model R 2100, R 2100 A, R 2112, R 2120 U and R 2160 D aircraft, S/Ns 001 through 378.

Model R 2160 aircraft, S/Ns 001 through 378 and S/Ns 160A-06001 onward.

Model R 2160i aircraft, S/Ns 001 through 378 and S/Ns 160Ai-07007 onward.

**Note 1:** The applicability of this AD revised. Alpha Aviation manufactured model R2160i aircraft added.

- Requirement:** To prevent detachment of the aircraft wings, accomplish the following:
1. For model HR 200 aircraft check the torque of the front, main and rear wing attachment bolts, per Avions Pierre Robin Service Bulletin No. 145, revision 2.  
If the torque values are not per SB No. 145 contact the aircraft manufacturer for corrective action, before further flight.  
If the torque values are correct, the limitation in the "N" category is cancelled.
  2. For R 2000 aircraft, S/Ns 001 through 298 replace the main spar attachment bolts per the instructions in SB No. 145 and NAV 96-3.
  3. For all R 2000 aircraft, check the torque values of the wing attachments per SB No. 145.  
If the torque values are not per SB No. 145, contact the aircraft manufacturer for corrective action, before further flight.
- Note 2:** Accomplishment of DGAC F-1996-051 R3 satisfies the requirement of this AD.
- Compliance:**
1. Within the next 100 hours TIS, unless already accomplished, and thereafter at intervals not to exceed 1000 hours TIS.
  2. Before further flight, unless already accomplished.
  3. Within the next 50 hours TIS, unless already accomplished, and thereafter at intervals not to exceed 100 hours TIS.
- Effective Date:** DCA/R2000/24 - 29 June 2006  
DCA/R2000/24A - 28 June 2007

#### DCA/R2000/25A Engine Air Intake Box and Ducting – Inspection

- Applicability:** Model HR 200/100, HR 200/100S, HR 200/120, HR 200/120B and HR 200/160 aircraft, S/Ns 001 through 378.  
Model R 2100, R 2100 A, R 2112, R 2120 U, R 2160 and R 2160 D aircraft, S/Ns 001 through 378.
- Note 1:** DCA/R2000/25A revised to introduce Alpha Aviation Service Bulletin No. AA-SB-71-007 dated August 2014 which provides more specific inspection and replacement instructions. SB No. AA-SB-71-007 supersedes Avions Pierre Robin SB No. 161.
- Requirement:** To prevent loss of engine power due to a possible paint adherence defect inside the engine air intake box, accomplish the following:  
Inspect the engine air intake box (including the deflection flap) and the engine air intake ducting (include the area downstream of the filter) per Alpha Aviation Service Bulletin No. AA-SB-71-007 dated August 2014 or later approved revisions.  
If any defects are found, replace affected parts per SB No. AA-SB-71-007 before further flight.
- Note 2:** The replacement of defective parts is not a terminating action to the repetitive inspection requirements mandated by this AD.
- Note 3:** From the effective date of this AD do not install a painted engine air intake box or a repaired engine air duct on any aircraft.  
(EASA AD 2014-0155 and CEAPR SB No. 161 rev 3 dated 6 Sep 2012 refer)
- Compliance:** Within the next 100 hours TIS and thereafter at intervals not to exceed 100 hours TIS.
- Effective Date:** DCA/R2000/25 - 29 June 2006  
DCA/R2000/25A - 5 September 2014

**DCA/R2000/26      Manifold Air Intake – Inspection and Replacement**

**Applicability:** Model HR200/100, HR200/100S, HR200/120 and HR200/120B aircraft, S/Ns 001 through 378, and

Model R2100, R2100A and R2112 aircraft, S/Ns 001 through 378,

Fitted with Lycoming O-235 engines.

**Requirement:** To prevent the exposed carburettor vent hole on Lycoming O-235 engines from the ingress of foreign particles such as insects, which could eventually result in loss of engine power, accomplish the following:

1. Drain the carburettor and inspect the inlet system per DGAC Bulletin de Recommandation No. 09/98(A) dated November 18, 1998.
2. Replace the air intake heat exchanger and/or the exhaust muffler, per the instructions in Avions Pierre Robin Service Bulletin No. 160, revision 1.

**Note:** Accomplishment of DGAC F-1999-114 R3 satisfies the requirement of this AD.

**Compliance:** 1. Within the next 50 hours TIS, and thereafter at intervals not to exceed 50 hours TIS, until requirement 2 is accomplished.

2. By 29 September 2006, unless already accomplished.

**Effective Date:** 29 June 2006

**DCA/R2000/27      Air Speed Indicator – Modification**

**Applicability:** Model R2160 aircraft, S/Ns 001 through 378 with a MCTOW of 900 kgs.

Model R2160D aircraft, S/Ns 001 through 264 with a MCTOW of 900 kgs.

**Requirement:** To correct the indicated stall speeds of the aircraft, modify the aircraft air speed indicator markings, per the instructions in Avions Pierre Robin Service Bulletin No. 155, revision 1.

**Note:** Accomplishment of DGAC F-1999-115 satisfies the requirement of this AD.

**Compliance:** Within the next 100 hours TIS, unless already accomplished.

**Effective Date:** 29 June 2006

**DCA/R2000/28A      Cancelled – Airworthiness Limitations Section of Service Manual refers**

**Effective Date:** 26 March 2015

**DCA/R2000/29      Control Surfaces - Calibration and Balance**

**Applicability:** Model R2160 and R2160i aircraft, S/Ns 265(\*), 270(\*), 271(\*), 275, 287, 288, 289, 290, 300, 304, 305, 307, 309, 310, 311, 316, 318, 320, 322, 323, 324, 325, 329, 337, 341(\*) and 343.

**Note 1:** Aileron balance verification per instruction 1 of Robin Aviation Service Bulletin No. 168 does not apply to aircraft with serial numbers marked with an asterisk.

**Requirement:** To alleviate uncertainty of the aircraft control surface balance against the aircraft certification limits, accomplish the instructions in Robin Aviation Service Bulletin No. 168.

**Note 2:** Accomplishment of DGAC F-2000-172 satisfies the requirement of this AD.

**Compliance:** Within the next 100 hours TIS, unless already accomplished.

**Effective Date:** 29 June 2006

**DCA/R2000/30 Brake Fluid Reservoir Cap – Inspection and Modification**

- Applicability:** All model HR200/100, HR200/100S, HR200/120, HR200/120B and HR200/160 aircraft, S/Ns 001 through 378.  
All model R2100, R2100A, R2112, R2120U, R2160, R2160D and R2160i aircraft, S/Ns 001 through 378.
- Requirement:** To correct non-conforming brake fluid reservoir caps, accomplish the instructions in Robin Aviation Service Bulletin No. 169.
- Note:** Accomplishment of DGAC F-2001-035 satisfies the requirement of this AD.
- Compliance:** Within the next 10 hours TIS, unless already accomplished.
- Effective Date:** 29 June 2006

**DCA/R2000/31A Engine Air Intake – Inspection and Repair**

- Applicability:** Model HR 200/100, HR 200/100S, HR 200/120, HR 200/120B and HR 200/160 aircraft, S/Ns 001 through 378.  
All model R 2100, R 2100 A, R 2112, R 2120 U, R 2160 and R 2160 D aircraft, S/Ns 001 through 378.
- Note 1:** The applicability of this AD revised. Model R 2160 aircraft, S/Ns 160A-06001 onward removed due to changes in airbox design that eliminated felt seal.
- Requirement:** To prevent the possibly of felt obstructing the carburettor air intake, accomplish the instructions in Robin Aviation Service Bulletin No. 174.
- Note 2:** Accomplishment of DGAC F-2001-036 satisfies the requirement of this AD.
- Compliance:** Before further flight, unless already accomplished, and thereafter at intervals not to exceed 100 hours TIS or one year, whichever is the sooner.
- Effective Date:** DCA/R2000/31 - 29 June 2006  
DCA/R2000/31A - 28 June 2007

**DCA/R2000/32 Fuel Shut-off Valve – Inspection and Modification**

- Applicability:** Model HR200/100, HR200/100S, HR200/120, HR200/120B and HR200/160 aircraft, S/Ns 001 through 378, and  
Model R2100, R2100A, R2112, R2160, R2160D and R2160i aircraft, S/Ns 001 through 378,  
With modification No. 14 “Fuel Shut-off Control Protector” not embodied.
- Requirement:** To prevent inadvertent selection of the fuel shut-off valve, install a protector on the fuel shut-off control valve per the instructions in Robin Aviation Service Bulletin No. 180.
- Note:** Accomplishment of DGAC F-2001-262 satisfies the requirement of this AD.
- Compliance:** Within the next 200 hours TIS, unless already accomplished.
- Effective Date:** 29 June 2006

**DCA/R2000/33 Fuel Pressure Indication System – Inspection and Repair**

- Applicability:** Model R2160 aircraft, S/Ns 142, 143, 144, 147, 148 and 151 through 155.
- Note:** These aircraft may have had a sealing washer P/N 52.18.91.000 fitted, per diagram 1' of Robin Aviation Service Letter No. 37, revision 2.
- Requirement:** To prevent fuel leakage at the end of the adaptor P/N 52.46.11.000 (which is part of the fuel pressure indication system), which may cause a fire because of the close proximity of the fuel pressure sender to the exhaust manifold, inspect per the instructions in Robin Aviation Service Letter No. 37 , revision 2 and diagram 1 and diagram 1' on page 2 in SL No. 37.
- If a fuel leak is detected, accomplish a manufacturer approved repair, before further flight.
- Note:** Accomplishment of DGAC F-2001-391 satisfies the requirement of this AD.
- Compliance:** Before further flight, unless already accomplished, and thereafter at intervals not to exceed 50 hours TIS.
- Effective Date:** 29 June 2006

**DCA/R2000/34 Cancelled – DCA/R2000/40 refers**

- Effective Date:** 23 February 2012

**DCA/R2000/35 Air Intake Flap Hinge – Inspection and Repair**

- Applicability:** Model R2160I aircraft, S/Ns 001 through 378.
- Requirement:** To correct air intake flaps which might be in poor condition, accomplish the instructions in Apex Aircraft Service Bulletin No. 171, revision 1.
- If any defects are found, accomplish the instructions in SB No. 171, before further flight.
- Note:** Accomplishment of DGAC F-2002-364 satisfies the requirement of this AD.
- Compliance:** Within the next 50 hours TIS, unless already accomplished.
- Effective Date:** 29 June 2006

**DCA/R2000/36 Aileron Bellcrank – Inspection and Modification**

- Applicability:** All model HR200/100, HR200/100S, HR200/120, HR200/120B and HR200/160 aircraft, S/Ns 001 through 378.
- Requirement:** To prevent loss of aircraft control due to the possibility of the aileron link becoming detached from the aileron bellcrank, inspect per the instructions in Apex Aircraft Service Bulletin No. 020714.
- If the length of the aileron link attachment bolt is not sufficient, accomplish the modification per SB No. 020714, before further flight.
- Note:** Accomplishment of DGAC F-2003-202 satisfies the requirement of this AD.
- Compliance:** Within the next 50 hours TIS, unless already accomplished.
- Effective Date:** 29 June 2006

**DCA/R2000/37B Wing Spars – Inspection and Repair**

**Applicability:** Model HR200/100, HR200/100S, HR200/120, HR200/120B and HR200/160 aircraft, S/Ns 001 through 378.

Model R2100, R2100A, R2112, R2120U and R2160D aircraft, S/Ns 001 through 378.

Model R2160 aircraft, S/Ns 001 through 378 and 160A-06001 onward.

Model R2160i aircraft, S/Ns 001 through 378 and S/Ns 160Ai-07007 onward.

**Note 1:** The applicability of this AD revised. Additional S/N for model R2160i aircraft added.

**Requirement:** To prevent unchecked corrosion developing on the wing spars due to access for inspections being difficult under normal maintenance practices, which could lead to an unsafe condition and possibly a catastrophic failure of the wing, accomplish the following:

Remove the main landing gear legs and all the wing inspection panels per the instructions in the aircraft Maintenance Manual and inspect the visible parts of the spar web and the upper and lower boom angles (top and bottom spar caps), per Avions Pierre Robin Service Letter No. 19. and Service Bulletin No. 99.

If corrosion is found on the rear face of the spar web or the upper and lower boom angles, then inspect the front face of the spar for corrosion per SL No. 19 and SB No. 99. It may be necessary to cut inspection holes or remove the wings to inspect the front face of the spar. Inspection holes must be prepared to an approved repair scheme.

Treat corrosion per SL No. 19 and SB No. 99, before further flight.

If corrosion is found which exceeds the limits specified in Service Letter No. 19, repair per an approved repair scheme, before further flight.

**Note 2:** Accomplishment of EASA AD 2005-0028 which has superseded DGAC F-1999-414 satisfies the requirement of this AD.

**Note 3:** If the spars are replaced, the inspections at intervals of 24 months must be resumed within 60 months from the date of replacement.

**Note 4:** The requirements of this AD are not applicable to aircraft that have been inspected within the last 72 months or are less than 72 months old, provided that these aircraft are maintained and continued to be maintained to an approved Alpha Aviation Design Ltd maintenance programme.

**Compliance:** Within 60 months after aircraft date of manufacture and within 6 months for aircraft which are older than 60 months, unless accomplished within the last 24 months, and thereafter at intervals not to exceed 24 months.

**Effective Date:** DCA/R2000/37 - 29 June 2006  
DCA/R2000/37A - 21 December 2006  
DCA/R2000/37B - 28 June 2007



**DCA/R2000/38 Cabin Compartment Barrier – Inspection and Modification**

**Applicability:** Model HR200/100, HR200/100S, HR200/120, HR200/120B and HR200/160 aircraft, S/Ns 001 through 378.

Model R2100, R2100A, R2112, R2120U, R2160, R2160D and R2160i aircraft, S/Ns 001 through 378.

**Requirement:** To ensure that the aircraft is in compliance with FAR 23.967(d) inspect the aircraft to determine if a metal barrier is installed behind the seats, per Alpha Aviation Service Bulletin No. AA-SB-28-001.

If a metal barrier is installed per SB No. AA-SB-28-001, then no further action is required.

If a metal barrier is not installed, manufacture and install a barrier per SB No. AA-SB-28-001 and Alpha Aviation Drawing No. 60-53-119.

(Alpha Aviation SB AA-SB-28-001 refers)

**Note:** For a copy Alpha Aviation Service Bulletin AA-SB-28-001 contact:  
Alpha Aviation Ltd  
Ingram Road  
Hamilton Airport RD 2  
Hamilton 2021  
New Zealand

Phone: 0064 7 843 7070  
Fax: 0064 7 843 8040  
Web: [www.alphaaviation.co.nz](http://www.alphaaviation.co.nz)

**Compliance:** Within the next 100 hours TIS or by 29 June 2007, whichever occurs sooner.

**Effective Date:** 29 June 2006

**DCA/R2000/39 Fuel Shut-off Mechanism – Inspection and Rework**

**Applicability:** Model HR200/100, HR200/100S, HR200/120, HR200/120B and HR200/160 aircraft, S/Ns 001 through 378.

Model R2100, R2100A, R2112, R2120U, R2160, R2160D and R2160i aircraft, S/Ns 001 through 378.

**Requirement:** To prevent the shut-off valve from remaining partially closed when the selector is turned to the ON position, due to the possibility of excess friction in the fuel shut-off valve causing deflection of the push pull cable, accomplish the inspection and rework instructions in Alpha Aviation Service Bulletin (SB) No. AA-SB-28-002.

If the fuel shut-off valve cable is bent, replace the cable per SB No. AA-SB-28-002, before further flight.

If the force required to operate the fuel shut-off valve exceeds the limits specified in SB No. AA-SB-28-002, rework or replace the valve as required, per SB No. AA-SB-28-002, before further flight.

(Alpha Aviation SB AA-SB-28-002 refers)

**Note:** For a copy Alpha Aviation Service Bulletin AA-SB-28-002 contact:  
Alpha Aviation Ltd  
Ingram Road  
Hamilton Airport RD 2  
Hamilton 2021  
New Zealand  
Phone: 0064 7 843 7070  
Fax: 0064 7 843 8040  
Web: www.alphaaviation.co.nz

**Compliance:** Within the next 50 hours TIS or by 30 September 2006, whichever occurs sooner.

**Effective Date:** 31 August 2006

**DCA/R2000/40 Oil Lines – Replacement**

**Applicability:** Group 1 aircraft:

Model HR 200/100, HR 200/100S, HR 200/120, HR 200/120B and HR 200/160 aircraft, S/Ns 001 through to 375 excluding 347, 363 through to 368 and 371 through to 374

Model R 2100, R 2100 A, R 2112, R 2120 U, R 2160, R 2160 D and R 2160 I aircraft, S/Ns 001 through to 375 excluding 347, 363 through to 368 and 371 through to 374

Group 2 aircraft:

Model R2000 series aircraft, S/N 001 through to 378

Model HR200 series aircraft, all S/N

**Note:** This AD retains the requirements in superseded DCA/R2000/34. The requirement expanded to include the replacement of the oil pressure transducer hoses.

**Requirement:** To correct oil lines which are not compliant with the requirement of FAR 23.1183, accomplish the following:

1. For group 1 aircraft:

Replace the oil lines P/N 41-23-56-000, 53-11-10-000, 53-20-13-000, 53-20-14-000 and 53-34-10-010 with fire resistant lines per the instructions in Apex Aircraft Service Bulletin No. 020310 dated 3 June 2002 or later approved revisions.

2. For group 1 aircraft:

Oil lines with P/N 41-23-56-000, 53-11-10-000, 53-20-13-000, 53-20-14-000 or 53-34-10-010 may not be fitted to any aircraft.

3. For group 2 aircraft:

Replace the oil pressure transducer hose and associated hardware per the instructions in Alpha Aviation Service Bulletin No. AA-SB-79-001 dated February 2012 or later approved revisions.

4. For group 2 aircraft:

Oil lines with P/N 53-18-02-030, 53-21-14-000 or 53-22-01-000 may not be fitted to any aircraft.

(Apex Aircraft SB No. 020310 and Alpha Aviation SB No. AA-SB-79-001 refer)

**Compliance:** 1. Within six months after 29 June 2006 (the effective date of DCA/R2000/34), unless previously accomplished.

2. From 29 June 2006 (the effective date of DCA/R2000/34).

3. Within the next 50 hours TIS or by 30 April 2012 whichever occurs sooner.

4. From 23 February 2012.

**Effective Date:** 23 February 2012

**DCA/R2000/41 Air Filter – Inspection and Replacement**

**Applicability:** Model R2000 series aircraft, S/N 001 through to 378.  
Model HR200 series aircraft, all S/N.

**Requirement:** To prevent the air filter collapsing due to lack of internal support which could result in loss of engine power, accomplish the following:

1. Inspect air filter P/N 57.34.00.010 per the instructions in Alpha Aviation Service Bulletin No. AA-SB-71-006 dated May 2012 or later approved revisions. If the air filter is not fitted with a metallic mesh, replace the filter with a serviceable part before further flight.
2. An air filter P/N 57.34.00.010 may not be installed on any aircraft unless the filter is in compliance with SB No. AA-SB-71-006.

(Alpha Aviation SB No. AA-SB-71-006 refers)

**Compliance:**

1. Within the next 25 hours TIS or by 11 July 2012 whichever occurs sooner.
2. From 11 June 2012.

**Effective Date:** 11 June 2012

**DCA/R2000/42 Ignition Switch – Inspection and Modification or Replacement**

**Applicability:** Model R2000 series aircraft, S/N 001 through to 378.  
Model HR200 series aircraft, S/N 001 through to 378.

**Requirement:** To prevent the metal screen shield around the ignition switch grounding the ignition terminals which could result in loss of engine power, accomplish the following:

Inspect the aircraft ignition switch per the instructions in paragraph 3.1 of Alpha Aviation Service Bulletin No. AA-SB-24-002 dated January 2014 or later approved revisions.

If the ignition switch does not have a metal screen shield, then no further AD action is required.

If the ignition switch is fitted with a metal screen shield, then modify the switch per the instructions in paragraph 3.2 or replace the ignition switch per the instructions in paragraph 3.3 of SB AA-SB-24-002.

An ignition switch with a metal screen shield shall not be installed on any aircraft.

(Alpha Aviation SB No. AA-SB-24-002 and EASA AD 2014-0003 refer)

**Compliance:** Within the next 50 hours TIS or by 30 April 2014, whichever occurs sooner.

**Effective Date:** 30 January 2014

**\* DCA/R2000/43 Wing Structure and Fuselage Attachment – Revised Airworthiness Limitations**

**Applicability:** Model R 2100, R 2100 A, R 2112, R 2120 U and R 2160 D aircraft, S/N 001 through to 378.

Model R 2160 aircraft, S/N 001 through to 378 and S/N 160A-06001 onwards.

Model R 2160i aircraft, S/N 001 through to 378 and S/N 160Ai-07007 onwards.

**Note:** This AD introduces a change to the airworthiness limitations for the internal wing structure and wing attachment inspections. These inspection intervals were increased and added to Section 3.2 – Airworthiness Limitations of the applicable Service Manual in January 2015. Section 3.2 of the respective Service Manuals has now been revised to revert to the original inspection intervals.

**Requirement:** To prevent failure of the wing structure and fuselage attachment due to undetected fatigue and corrosion, accomplish the following:

1. Revise the aircraft maintenance programme and introduce the revised airworthiness limitations for the wing spar specified in Section 3.2 – Airworthiness Limitations of the following Service Manuals:

For R2000 aircraft, S/N 001 through to 378, Service Manual AAA079 revision 4, dated August 2015, or later CAA approved revision.

For Alpha R2000 aircraft, S/N 160A-06001 onwards, Service Manual AAA080 revision 5, dated August 2015, or later CAA approved revision.

2. Comply with the CAANZ approved airworthiness limitations for the wing spar specified in requirement 1 of this AD.

**Compliance:** 1. & 2. From the effective date of this AD.

**Effective Date:** 7 August 2015