EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2014-0013R1 **Date: 19 March 2015** Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) No 216/2008 on behalf of the European Community, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of that Regulation.

This AD is issued in accordance with EU 748/2012, Part 21.A.3B. In accordance with EU 1321/2014 Annex I, Part M.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [EU 1321/2014 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [EC 216/2008, Article 14(4) exemption].

Design Approval Holder's Name:	**Type/Model designation(s):**
PIAGGIO AERO INDUSTRIES S.p.A.	P.180 Avanti and Avanti II aeroplanes, and P.166 aeroplanes

TCDS Number:	EASA.A.059, EASA.A.384
Foreign AD:	Not applicable
Revision:	This AD revises EASA AD 2014-0013 dated 13 January 2014, which superseded EASA AD 2010-0226 dated 29 October 2010.

ATA 61	**Propellers – Blades – Inspection / Repair**
Manufacturer(s):	Piaggio Aero Industries S.p.A (PAI)
Applicability:	Piaggio P.180 Avanti and P.180 Avanti II aeroplanes, manufacturer serial numbers (MSN) 1002 to 2999 inclusive, and Piaggio P.166 DL3 and P.166 DP1 aeroplanes, all MSN.
Reason:	Piaggio P.180 and P.166 aeroplanes are equipped with pusher propellers. Service history of this propeller configuration revealed propeller blade susceptibility to erosion and corrosion due to blade exposure to hot exhaust gasses discharged by the engines. This condition, if not detected and corrected, could lead to reduced structural strength of the propeller blades, possibly resulting in release of a propeller blade, or a major portion of the propeller assembly, and consequent reduced control of the aeroplane. To address this potential unsafe condition, the Registro Aeronautico Italiano (RAI, the predecessor of ENAC Italy) issued AD PA 93-369 on Piaggio P.180 aeroplanes, requiring accomplishment of PAI Service Bulletin (SB) No. SB-80/HZ-0001 Revision 2, which referred to Hartzell Propeller Inc. (Hartzell) SB No. 181 for accomplishment instruction details. After that RAI AD was issued, Hartzell issued SB HC-SB-61-181A Revision 3, and EASA issued AD 2010-0226, which superseded RAI AD PA 93-369, at the same time expanding the Applicability to include P.166 aeroplanes, which have a similar pusher-propeller configuration, to require repetitive inspections for blade corrosion or paint erosion, and, depending on findings, corrective

	action(s), in accordance with those updated accomplishment instructions. Since EASA AD 2010-0226 was issued, Hartzell issued SB HC-SB-61-181A Revision 5 to incorporate updated information about approved paint types and mixes which are used in the process of blade paint restoration. Consequently, EASA issued AD 2014-0013, retaining the requirements of EASA AD 2010-0226, which was superseded, but required accomplishment of inspections and, depending on findings, corrective actions in accordance with the updated accomplishment instructions. Since that AD was issued, based on in-service experience of propellers installed on Piaggio P.180 and P.166 aeroplanes, Hartzell, the propeller manufacturer, issued SB HC-SB-61-181A Revision 6 to extend the interval of repetitive inspections. Additionally, Piaggio Aero Industries issued revisions to P.180 Airplane Flight Manual (AFM), Pilot Operating Handbook (POH), Time Limits and Maintenance Schedule report and Aircraft Maintenance Manual (AMM) to incorporate tasks, thresholds and intervals applicable for propeller blade inspection and associated repairs corresponding to the instructions contained in Hartzell SB HC-SB-61-181A Revision 6. For the reasons described above, this AD is revised to extend the repetitive inspection interval of the propeller blades, and to introduce an optional terminating action for the requirements of this AD for P.180 aeroplanes.
Effective Date:	Revision 1: 19 March 2015 Original issue: 27 January 2014
Required Action(s) and Compliance Time(s):	Required as indicated, unless already accomplished: (1) From 12 November 2010 [the effective date of AD 2010-0226], within 3 days after any flight, accomplish a propeller blade cleaning in accordance with the instructions of paragraph 3.A of Hartzell SB No. HC-SB-61-181A Revision 5 or 6. (2) Within 150 flight hours (FH) or 12 months after 12 November 2010 [the effective date of AD 2010-0226], whichever occurs first, and thereafter, at intervals not to exceed 200 FH or 12 months, whichever occurs first, inspect each propeller blade for blade corrosion and paint erosion in accordance with the instructions of paragraph 3.B of Hartzell SB No. HC-SB-61-181A Revision 5 or 6. Note 1: A non-cumulative tolerance of 10% may be applied to the compliance times specified in paragraph (2) of this AD to allow synchronization of the required inspections with other required maintenance tasks for which a non-cumulative tolerance is already granted in the applicable PAI Maintenance Manual. (3) If, during any inspection as required by paragraph (2) of this AD, a light or moderate (as defined in Hartzell SB No. HC-SB-61-181A Revision 5 or 6) blade corrosion or paint erosion is detected, before next flight, repair the propeller blade in accordance with the instructions of paragraph 3.C of Hartzell SB No. HC-SB-61-181A Revision 5 or 6. (4) If, during any inspection as required by paragraph (2) of this AD, severe (as defined in Note 2 of this AD) corrosion is detected, before next flight, repair the propeller blade in accordance with the instructions of paragraph 3.D of Hartzell SB No. HC-SB-61-181A Revision 5 or 6. Note 2: For the purpose of this AD, corrosion is considered to be severe if it covers a large area such that metal removal beyond 0.12 mm (0.005 inch) depth over 19.35 square cm (3.0 square inches) is necessary, or if there are numerous localized corrosion pits deeper than 0.25 mm (0.010 inch). (5) If, during any inspection as required by paragraph (2) of this AD, any blade corrosion or paint erosion is detected, within 30 days after

	accomplishment of the inspection, report the finding(s) to PAI and Hartzell. (6) Inspections and corrective actions, accomplished before 27 January 2014 [the effective date of the original issue of this AD] in accordance with the instructions of Hartzell SB No. HC-SB-61-181A Revision 3 (only), are considered acceptable to comply with the initial requirements of paragraphs (1) and (2) of this AD. (7) Repair of a propeller blade as required by paragraph (3) or (4) of this AD, as applicable, does not constitute terminating action for repetitive inspections required by this AD for that propeller. Note 3: The blade cleaning required by paragraph (1) of this AD may be performed by appropriately trained and authorized flight crew members in accordance with Commission Regulation (EU) 1321/2014 Part 145 provisions. (8) For P.180 Avanti and Avanti II aeroplanes: Amendment of the Aircraft Maintenance Programme (AMP), on the basis of which the operator or the owner ensures the continuing airworthiness of the aeroplane to incorporate tasks, inspections and associated thresholds detailed in the Time Limits and Maintenance Schedule and AMM, and amendment of the applicable AFM and/or POH as listed in Appendix 1 of this AD constitutes compliance with the requirements of this AD. Note 4: For affected P.180 Avanti and Avanti II aeroplanes registered in Europe, complying with the approved AMP as specified in paragraph (8) of this AD is required by Commission Regulation (EU) No 1321/2014, Part M.A.301, paragraph 3.
Ref. Publications:	Hartzell Propeller SB No. HC-SB-61-181A Revision 3 dated 15 June 2010, Revision 5 dated 03 September 2013, and Revision 6 dated 01 April 2014. P.180 Avanti AFM and POH report 6591 Revision (Rev.) B30 dated 20 March 2008 and Temporary Change (TCH) 16 dated 11 April 2011. P.180 Avanti AMM report 9066 Rev. E3, dated 19 March 2012 and Temporary Revision (TR) 106 dated 30 October 2012. P.180 Avanti Time Limits and Maintenance Schedule, report 180-MAN-0200-03832 Rev.B0 dated 19 March 2012 and TR106 dated 30 October 2012. P.180 Avanti II AFM report 180-MAN-0010-01100 Rev. A3 dated 20 March 2008, and TCH 27, dated 11 April 2011. P.180 Avanti II POH, report 180-MAN-0030-01102 Rev. A1 dated 20 March 2008, and TCH 09 dated 11 April 2011. P.180 Avanti II AMM, report 180-MAN-0200-01105 Rev. B1 dated 15 November 2010. P.180 Avanti II Time Limits and Maintenance Schedule, report 180-MAN-0200-01491 Rev. B3 dated 15 November 2010. The use of later approved revisions of these documents is acceptable for compliance with the requirements of this AD.
Remarks:	1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD. 2. The original issue of this AD was posted on 19 November 2013 as PAD 13-169 for consultation until 17 December 2013. The Comment Response Document can be found at http://ad.easa.europa.eu. 3. Enquiries regarding this AD should be referred to the Safety Information Section, Certification Directorate, EASA. E-mail: ADs@easa.europa.eu.

	4. For any question concerning the technical content of the requirements in this AD, please contact: Piaggio Aero Industries S.p.A – Airworthiness Office Viale Generale Disegna, 1 – 17038 Villanova d'Albenga (SV) – Italy Phone: +39 0182 266206 E-mail: airworthiness@piaggioaerospace.it or contact: Hartzell Propeller Inc. One Propeller Place Piqua, OH 45377 - USA Phone: +1-937-778-4200 ; Fax: +1-937-778-4391 E-mail: techsupport@hartzellprop.com.

Appendix 1 – Applicable AFM, POH and AMM

P.180 Avanti aeroplanes , MSN 1004 to 1104 inclusive

Applicable Manuals	Revision
AFM and POH, report 6591	Rev. B30, including TCH 16
AMM, report 9066	Rev. E3, including TR 106
Time Limits and Maintenance Schedule, report 180-MAN-0200-03832	Rev. B0, including TR106

P.180 Avanti II aeroplanes, MSN 1002 and MSN 1105 to 2999 inclusive

Applicable Manuals	Revision
AFM, report 180-MAN-0010-01100	Rev. A3, including TCH 27
POH, report 180-MAN-0030-01102	Rev. A1, including TCH 09
AMM, report 180-MAN-0200-01105	Rev. B1
Time Limits and Maintenance Schedule, report 180-MAN-0200-01491	Rev. B3