

## Summary of FAA Airworthiness Directives

<u>AD #</u>	<u>Service Document(s)</u>	<u>Effectivity/Compliance</u>
<u>Note 1:</u>		Underlined AD numbers are linked to the actual AD.
<u>Note 2:</u>		This listing of airworthiness directives is compiled from five different sources, from the FAA: 1) ADs for small aircraft (volume I); 2) ADs for large aircraft (volume II); 3) Old ADs prior to 1980 are published in a separate volume; 4) Subscription to newly released ADs for large aircraft and; 5) Subscription to newly released ADs for small aircraft. There is no single source that provides a complete listing of all ADs affecting Hartzell Propellers.
<b><u>2013-15-04</u></b>	<b><u>HC-ASB-61-338</u></b>	This AD applies to Hartzell Propeller, Inc. propeller models HC-(1,D)2(X,V,MV)20-7, HC-(1,D)2(X,V,MV)20-8, and HC-(1,D)3(X,V,MV)20-8 with a propeller hydraulic bladder diaphragm, part number (P/N) B-119-2, without tab, installed.
<b><u>2009-22-03</u></b>	<b><u>HC-SB-61-269 Rev. 6</u></b> <b><u>HC-SB-61-323</u></b>	The FAA is superseding an existing airworthiness directive (AD) for Hartzell Propeller Inc. (J)HC-(J)2Y(-) series propellers with non-suffix serial number (SN) propeller hubs installed on Lycoming O-, IO-, LO-, and AEIO-360 series reciprocating engines. That AD currently requires initial and repetitive eddy current inspections (ECIs) of the front cylinder half of the propeller hub for cracks and removing cracked hubs from service before further flight. In addition, that AD allows installation of an improved design propeller hub (suffix SN "A" or "B") as terminating action to the repetitive ECI. This AD requires the same actions but changes the affected propeller series designation to (J)HC-(J)2Y(K,R)-() series propellers with non-suffix SN propeller hubs and suffix SN letter "E" propeller hubs. This AD also expands the engine eligibility to include Lycoming LIO-, TO-, LTO-, AIO-, and TIO-360-series engines. This AD results from the need to make changes to the affected series designation of propellers, to expand the engine applicability, and to respond to comments received on AD 2006-18-15. We are issuing this AD to prevent failure of the propeller hub causing blade separation and subsequent loss of airplane control.
<b><u>2009-10-14</u></b>	<b><u>HC-ASB-61-313, Rev. 3</u></b>	The FAA is adopting a new airworthiness directive (AD) for Hartzell Propeller Inc. steel hub turbine propellers, with any counterweight slug attachment bolts, part number (P/N) B-3386-14H, LFC manufacturing lot 224, installed. This AD requires identifying and removing all counterweight slug attachment bolts, P/N B-3386-14H, LFC manufacturing lot 224, from service and installing serviceable bolts. This AD results from two reports of failure of the bolts that attach the propeller blade counterweight slug, and separation of the counterweight slug which led to propeller vibration and damage to the propeller spinner. We are issuing this AD to prevent separation of the propeller blade counterweight slug, which could lead to injury and damage to the airplane.

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<u>2008-13-28</u>	<u>HC-ASB-61-297 Rev. 3</u>	The FAA is adopting a new airworthiness directive (AD) for Hartzell Propeller left-hand rotating ( )HC-( )(2,3)Y(K,R)-2 two- and three-bladed, aluminum hub, "compact" series propellers, with hubs having a non-suffix serial number, and lubrication holes located on the shoulder of the hub blade socket. These propellers are installed on Lycoming Engines LIO-360 series and LO-360 series reciprocating engines installed on Piper Aircraft, Inc. Seneca PA-34-200 and Seminole PA-44-180, and Hawker Beechcraft Corporation Model 76 Duchess, airplanes. This AD requires initial and repetitive eddy current inspections (ECI), of the area around the lubrication holes of the hub blade sockets. This AD results from four reports of propeller hub cracks, including two in-flight blade separation events. We are issuing this AD to prevent failure of the propeller hub, which could result in blade separation and loss of control of the airplane.
<u>2007-26-09</u>	<u>HC-SB-61-101D Rev. 2,</u> <u>HC-SB-61-118F Rev. 1,</u> <u>SL 69</u>	This AD supersedes AD 2002-09-08, Amendment 39-12741. This AD applies to all Hartzell Propeller Inc. models ( )HC-( )( )Y( )-( )( ) compact series constant speed or feathering propellers with Hartzell manufactured "Y" shank aluminum blades. These propellers are used on, but not limited to models as specified in this AD. This AD results from operators requesting clarification of certain portions of AD 2002-09-08. We are issuing this AD to prevent failure of the propeller blade from fatigue cracks in the aluminum blade shank radius, which can result in damage to the airplane and loss of airplane control. Compliance is as stated in this AD.
<u>2007-24-14</u>	<u>HC-SB-61-295 Rev. 3</u>	The FAA is adopting a new airworthiness directive (AD) for Hartzell Propeller Inc. Model HC-E5N-3( ), HC-E5N-3( )(L), and HC-E5B-5( ) propellers. This AD requires a one time eddy current inspection of the propeller hub mounting bolt holes and replacement of the propeller hub, if cracked. This AD results from the discovery of a five-bladed propeller hub with a large crack on the mounting flange of the hub. We are issuing this AD to prevent propeller hub failure, blade separation, damage to the airplane, and possible loss of airplane control.
<u>2007-08-02</u>	<u>HC-SB-61-287 Rev. 4</u>	The FAA is adopting a new airworthiness directive (AD) for Hartzell Propeller Inc. model HC-E4A-3( )/E10950( ) propellers. This AD requires initial and repetitive inspections and rework of the propeller blade retention radius, and replacement of the propeller blade thrust bearing, for each blade. This AD results from reports of excessive propeller vibration and of damaged or broken propeller blade thrust bearings found during routine and investigative propeller disassembly. We are issuing this AD to prevent propeller blade separation, damage to the airplane, and possible loss of airplane control.

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<u>2006-24-07</u>		The FAA is adopting a new airworthiness directive (AD) for certain Hartzell Propeller Inc. HC, BHC, and PHC series propellers; and McCauley Propeller Systems controllable propellers serviced by Oxford Aviation Services Limited, doing business as CSE Aviation, in the United Kingdom between September 1998 and October 2003. This AD requires inspecting the propeller blades and other critical propeller parts for wear and mechanical damage. This AD results from findings that CSE Aviation failed to perform some specific inspections and repairs. We are issuing this AD to detect unsafe conditions that could result in a propeller blade separating from the hub and loss of control of the airplane.
<u>2006-22-12</u>	<u>HC-SB-61-275 Rev. 2</u>	The FAA is superseding an existing AD (AD 2004-22-12) for certain Hartzell Propeller Inc. (formerly Hartzell Propeller Products Division) Model HC-B5MP-3( )/M10282A( )+6 five bladed propellers. That AD currently requires initial and repetitive torque check inspections on the attach bolts on certain model Hartzell HC-B5MP-3 five bladed propellers, and replacement of attach bolts if necessary.
<u>2006-18-15</u>		Replaced by <u>AD 2009-22-03</u>
<u>2005-18-12</u>		The FAA is adopting a new airworthiness directive (AD) for certain Hartzell Propeller Inc. propellers. This AD requires inspecting the P, R, W, and Z shank propeller blades and other critical propeller parts for corrosion and mechanical damage. This AD results from two events where a "Z-shank" blade failed and separated and the results of teardown inspections that detected corrosion in the blade bore. We are issuing this AD to detect corrosion and mechanical damage that can cause failure of a propeller, which could result in loss of control of the airplane. This AD requires propeller disassembly and inspection in accordance with Hartzell Service Bulletin HC-SB-61-136( ). Compliance with this AD is based on the TSO of the propeller.
<u>2005-14-12</u>	<u>HC-ASB-61-279 Rev. 4</u>	The FAA is adopting a new airworthiness directive (AD) for Hartzell Propeller Inc. models HC-B3TN-2, HC-B3TN-3, HC-B3TN-5, HC-B3MN-3, HC-B4TN-3, HC-B4TN-5, HCB4MN-5, HC-B4MP-3, HC-B4MP-5, and HC-B5MP-3 propellers, installed with propeller mounting bolts, part number (P/N) B-3339. This AD requires initial and repetitive visual inspections and torque checks of certain manufacture lot numbers of propeller mounting bolts, P/N B-3339, and eventual removal from service of those bolts. This AD results from the discovery during routine propeller installation that a bolt from a certain manufacture lot did not properly absorb the installation torque. This AD also results from the discovery that other bolts of the same part number from a different manufacture lot had material surface pitting. We are issuing this AD to prevent propeller attaching bolt failures or improperly secured propellers, which could lead to separation of the propeller from the airplane.

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<u>2005-14-11</u>		This AD applies to the Hartzell Propeller, Inc., McCauley Propeller Systems, and Sensenich Propeller Manufacturing Company, Inc. propeller models last returned to service by Southern California Propeller Service of Inglewood, CA. These actions are against propeller models returned to service by Southern California Propeller Service. Southern California Propeller Service is not to be confused with propeller repair stations known as California Propeller or as Propeller Service of California. Southern California Propeller Service was issued Air Agency Certificate number of VXSR617L in 1992, which was revoked in June of 1998.
<u>2005-04-08</u>	<u>HC-SB-61-136I</u>	This AD applies to Hartzell Propeller Inc. model HC-B3TN-5( )/T10282( ) propellers installed on the airplane and engine combinations shown in the following Table 1 (excluding propellers with blades part number (P/N) T10282N( ), T10282NB( ), T10282NK( ), or T10282NE( ) installed). The FAA is superseding an existing Priority Letter Airworthiness Directive (AD) for Hartzell Propeller Inc. model HC-B3TN-5( )/T10282( ) propellers. That AD currently requires initial and repetitive inspections of the blade pilot tube bore area. This AD requires the same inspections. This AD results from a review of all currently effective ADs. That review determined that Priority Letter AD 88-24-15 was not published in the Federal Register to make it effective to all operators, as opposed to just the operators who received actual notice of the original Priority Letter AD. This AD also results from the discovery that the original AD omitted an airplane model with a certain Supplemental Type Certificate (STC) from the applicability. We are issuing this AD to prevent possible blade failure near the hub which can result in blade separation, engine separation, damage to the airplane, and possible loss of the airplane.
<u>2004-21-01</u>		Replaced by <u>AD 2006-22-12</u>
<u>2004-07-25</u>		The FAA is superseding an existing airworthiness directive (AD) for Hartzell Propeller Inc. Model HC-B5MP-3C/M10876K propellers, installed on Short Brothers Model SD3-60 airplanes. That AD currently requires initial and repetitive removal, disassembly, inspection, and rework if necessary of Hartzell Propeller Inc. Model HC-B5MP-3C/M10876K propellers until blades are replaced with new design blades, no later than March 31, 1988. This AD requires installation of new design blades before further flight, on Hartzell Propeller Inc. Models HC-B5MP-3C/M10876K propellers. This AD supersedure is prompted by a review of all currently effective ADs, which found that AD 87-16-02 was not published in the Federal Register to make it effective to all operators, as opposed to just the operators who received actual notice of the original AD. We are issuing this AD to prevent propeller blade separation near the hub, which could result in engine separation from the airplane.

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<u>2003-22-05</u>	<u>HC-ASB-61-265</u>	The FAA is adopting a new airworthiness directive (AD) for Hartzell Propeller Inc. model HC-A6A-3 series propellers with A10460 series composite blades. This AD requires initial and repetitive visual inspections of A10460 series composite blades for cracks. This AD is prompted by reports of cracks in propeller blades, including an in-flight separation of a blade that caused damage to the airplane. We are issuing this AD to prevent separation of the propeller blade due to possible fatigue failure, which could result in damage to the airplane and possible loss of control of the airplane.
<u>2003-13-17</u>		The FAA is adopting a new airworthiness directive (AD) for certain Hartzell Propeller, Inc., McCauley Propeller Systems, Sensenich Propeller Manufacturing Company, Inc., and Raytheon Aircraft Company (formerly Beech Aircraft Corporation) propellers returned to service by T and W Propellers, Inc., of Chino, CA. This AD requires maintenance actions amounting to an overhaul of the affected propellers. This AD is prompted by the results of a National Transportation Safety Board (NTSB) investigation of a failed propeller blade and subsequent inspections of various propeller models returned to service by T and W Propellers, Inc.
<u>2003-06-02</u>	<u>HC-ASB-61-251</u>	This amendment adopts a new airworthiness directive (AD), that is applicable to certain Hartzell Propeller Inc. model HC-C2Y(K,R)-1BF/F8477-4 propellers with TKS (Aircraft Deicing) Ltd. anti-ice boots that were installed by SOCATA-Groupe AEROSPATIALE, the aircraft manufacturer, using TKS Ltd. Procedure P232, Specification for the Attachment of Propeller Overshoes. This amendment requires removal of the anti-ice boots, inspection and rework of the anti-ice boot area of the propeller blades, and installation of new anti-ice boots. Compliance with this AD is required as indicated, unless already done.
<u>2003-04-23</u>	<u>HC-SB-61-250 Rev. 1</u>	This amendment adopts a new airworthiness directive (AD), that is applicable to Hartzell Propeller Inc. model HC-B3TN-5() propellers, with blades part number (P/N) T10176H(B,K)-5 or T10178H(B)-11(R) that are installed on Mitsubishi Heavy Industries, Ltd, MU-2 series airplanes. This amendment requires replacement of those blades with blades of the latest design. This amendment is prompted by a report of in-flight propeller blade separation that caused a severe out-of-balance condition, damage to the airplane, and resulted in engine shutdown and a safe landing.

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<u>2003-04-22</u>	<u>HD-SB-61-025 Rev. 1</u>	This amendment adopts a new airworthiness directive (AD), that is applicable to Hartzell Propeller Inc. model HD-E6C-3B/E13890K propellers with certain serial numbers of model D-1199-2 propeller control units (PCU's) installed. These propellers are installed on, but not limited to Fairchild Dornier GmbH 328-100 series airplanes. This amendment requires initial and repetitive inspections for below-limit propeller flight idle blade angles, and, as a terminating action, removal of the affected PCU's from service and performance of a complete Major Periodic Inspection (overhaul) when the applicable time-since-new or time-since-overhaul limit is reached, or when any flight idle blade angle is below limits. This amendment is prompted by a review by Hartzell Propeller Inc. of the model D-1199-2 PCU overhaul procedures, that revealed several dimensional checks and a nondestructive evaluation were not performed on certain serial number PCU's during a Major Periodic Inspection (overhaul). The overhaul procedures are required to comply with the Airworthiness Limitation PCU Major Periodic Inspection (overhaul) directive.
<u>2003-04-01</u>		This amendment adopts a new airworthiness directive (AD), that is applicable to Hartzell Propeller Inc. HD-E6C-3B/E13890K propellers. This amendment requires the reduction of the original hub certified service (fatigue) life from unlimited hours to 37,400 flight hours. This amendment is prompted by a reevaluation by Hartzell Propeller Inc. of the D-5108-( ) original hub service life certification calculations.
<u>2003-03-20</u>		This amendment adopts a new airworthiness directive (AD), that is applicable to Hartzell Propeller Inc. model HC-C2YR-4CF propellers with propeller hubs part number (P/N) D-6522-1 or D-2201-16 and propeller blades P/N FC8477A-4, installed on Sky International Inc. (Pitts) S-2S and S-2B airplanes with Textron Lycoming model AEIO-540-D4A5 engines. This amendment requires the reduction of the original hub and blades certified service (fatigue) life from unlimited hours to 2,000 hours. This amendment is prompted by a reevaluation by Hartzell Propeller Inc. of the original hub and blades service life certification calculations.
<u>2003-01-03</u>	<u>HC-ASB-61-259, Rev. 1</u>	This amendment adopts a new airworthiness directive (AD) that is applicable to Hartzell Propellers Inc. model ( )HC-( )2Y( )-( ) propellers with certain serial numbers (SN's) of two-bladed aluminum propeller hubs part numbers (P/N's) D-6522-1, D-6522-2, D-6529-1, and D-6559-3 installed. This action requires removal from service of those certain SN's of two-bladed aluminum propeller hubs and replacement with serviceable hubs. This amendment is prompted by a two-bladed aluminum propeller hub manufacturing quality control problem.

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<u>2002-22-08</u>	HD-ASB-61-023	This amendment adopts a new airworthiness directive (AD) HD-ASB-61-026, that is applicable to Hartzell Propeller Inc. model HD-E6C-3( ) HD-SL-61-034 propellers. This action requires replacement of the current design propeller blade thrust bearing with a new design propeller blade thrust bearing and visual and eddy current inspection (ECI) of propeller hubs for cracks. This amendment is prompted by reports of fractured thrust bearings observed during disassembly, one or more blades becoming jammed in position during operation, pitch change fork fractures causing loss of blade pitch control, and excessive vibration.
<u>2002-09-08</u>		Superseded by <u>AD-2007-26-09</u>
<u>2001-23-08</u>	<u>HC-SB-61-227 Rev. 6</u>	Hartzell Inc ( )HC-( )2Y( )-( ) propeller models installed on Piper PA-32 series aircraft with Textron Lycoming 540 series engines that are rated at 300 HP or higher, or installed on Pilatus Britten Norman or Britten Norman BN-2 series aircraft with Textron Lycoming 540 series engines, or installed on any aircraft certificated in the acrobatic category, or installed on any aircraft that has ever been used for agricultural operations. This AD does not apply to Hartzell Propeller Inc. ( )HC-( )2Y( )-( ) propeller models with the suffix letter "B" at the end of the hub serial number. This AD requires initial and repetitive eddy current inspections of propeller hub for cracks, and replacement of hub if cracks are found. This AD requires replacement of certain serial-numbered hubs at next overhaul or at specified intervals.
<u>2001-07-03</u>		Certain Hartzell Propeller Inc. Y-shank series propellers, identified by hub serial numbers, that were returned to service by Brothers Aero Services Company, Inc. (BASCO). This AD requires maintenance actions amounting to an overhaul of affected propellers.
<u>T99-06-51</u>	HD-ASB-61-021	Replaced by AD <u>99-25-05</u> .
<u>99-25-05</u>	HD-ASB-61-021	HD-E6C-3( ) series propellers, installed on Fairchild Dornier 328-110 series and 328-120 series airplanes. Initial and repetitive inspections of propeller hub, part number P/N D-5108-1, for cracks or grease leaks, replacement of the hub if any cracks are found, and allows the installation of propeller hub, P/N D-5108-5, as a terminating action for the inspection requirements.
<u>98-17-04</u>	<u>HC-ASB-61-237</u>	HC-E4A-3(A,I) with serial numbers HJ1 to HJ1040, installed on Raytheon Beech 1900D series aircraft, that have been previously overhauled or have had a counterweight clamp bolt removed for any reason. Perform a one-time inspection of the propeller counterweight clamps for thread damage. All inspections to be complied with within 90 days.
<u>98-02-07</u>	<u>HC-ASB-61-237</u>	HC-E4A-3(A,I) with serial numbers HJ1 to HJ654 installed on Raytheon Beech 1900D series aircraft. Within 45 days or 400 hours time in service (TIS) replace defective counterweight clamp bolts.

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<u>97-18-02 R1</u>	<u>HC-SB-61-217 Rev. 3</u>	This amendment revises an existing airworthiness directive (AD), that is applicable to Hartzell Propeller Inc. ( )HC-( )(2,3)(X,V)( )-( ) series and HA-A2V20-1B series propellers with aluminum blades. That AD currently requires initial and repetitive dye penetrant and eddy current inspections of the blade and an optical comparator inspection of the blade retention area, and, if necessary, replacement with serviceable parts. In addition, that AD currently requires initial and repetitive visual and magnetic particle inspection of the blade clamp, dye penetrant inspection of the blade internal bearing bore, and, if necessary, replacement with serviceable parts. Also, for all HC-(1,4,5,8)(2,3)(X,V)( )-( ) steel hub propellers, that AD currently requires an additional initial and repetitive visual and magnetic particle inspection of the hub, and, if necessary, replacement with serviceable parts. This amendment revises that AD by permitting the replacement of affected propellers with Hartzell Propeller Inc. model "MV" series propellers as an optional terminating action for the initial and repetitive inspections of that AD. This amendment is prompted by type certification approval of the Hartzell "MV" series propellers that are direct replacements for the affected propellers, and service bulletin approval to allow modification of affected propellers to the "MV" type design configuration.
<u>96-18-14</u>	<u>HC-SB-61-261 Rev. 1</u>	Affects all steel hubs used on turbine engine applications. Replace hubs in accordance with schedule of hub serial number vs. month/year.
<u>96-15-04</u>	<u>HC-ASB-61-220</u>	Affects a group of 485 blades, by serial number, of various blade designs installed on Shorts Tucano, Pilatus PC-7/9/12, Shorts SD3 (5 blade), Turbo Commander, Air Tractor & other aircraft. Inspect for forging flaws, one time dye penetrant inspection of shank within 10 hours or 60 hours depending on application.
<u>95-11-08</u>	<u>SB 202</u>	HC-92WK-( ), HC-92ZK-( ) (Beech 95 & others). Inspect for broken clamp screws within 10 hours. Replace clamp screws and penetrant inspect blade shanks: if <275 hr. since last AD 73-02-01 inspection, perform SB 202 inspection upon reaching 300 hr.; if >275 hr since last AD 73-02-01 inspection perform SB 202 inspection within 25 hr; repeat every 500 hours.
<u>95-03-03</u>	<u>HC-ASB-61-A196B Rev. 1</u>	Beech A100 & A100A with HC-B4TN-3/T10173F-12.5. Inspect hub and blade thickness. If > 3000 TT do it within 150 hours/12 months, if < 3000 TT do it upon reaching 3150 hours, repeat hub inspection every 600 hours or if new hub is used repeat every 3000 hours.



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<u>95-01-02</u>	<u>HC-ASB-61-A182B Rev. 1,</u> <u>HC-ASB-61-A183B Rev. 1,</u> <u>HC-ASB-61-A188 Rev. 2</u> <u>HC-ASB-61-330 Rev. 1</u>	Mitsubishi MU-2-26A, -36A, -40, -60 (& STC modified) with our blade propellers with LT10282-5.3R blades. Replace all blades with "N" blades before further flight. Inspect blade tip thickness (and rework inner stations & shot peen if necessary) if <2200 hours within 800 hours, 2200-2900 hours prior to 3000 hours, >2900 hours within 100 hours; Shot peen "N" type blades at overhaul (3000 hrs.). 10,000 hour life blade limit established. Within 12 months of date of AD, install new rolled hub. If hub has never been inspected, before further flight install new rolled hub. If hub has been inspected per SB 182/183, install new rolled hub within 750 hours since last inspection. Repeat inspect rolled hubs every 3000 hours/60 months per SB 182/183. If hub is in ground strike, before further flight install new rolled hub. If new rolled hub has a ground strike, inspect hub, reinspect every 3000hr/60 months.
<u>94-17-13</u>	<u>SB 165E</u>	Certain 3 blade "Y" shank hubs, repetitive visual/eddy current inspection every 10 hours, others at 50 hours; alternative hub chamfer good for 400 hours; replace critical hubs by June 30, 1995. Lower risk models - AD says if chamfered, it can go 400 hrs, then repeat at 400 hr. intervals whereas SB 165 says it can go 400 hours, then repeat at 100 hr. intervals.
<u>94-11-04</u>		<b>Mitsubishi</b> MU-2 ground idle RPM changed to 76.5 to 78.5% within 25 hours.
<u>94-10-01</u>	<u>ASB A190</u>	Beech 1900D, HC-E4A-3 s/n HJ 198 & lower. Requires pitch change knob mounting hardware, preload plate and pitch change knob bracket change.
<u>94-03-11</u>	<u>ASB A186</u>	Certain hub serial numbers installed on non-MU-2 aircraft that have had previous usage on MU-2 aircraft. Requires a one-time hub inspection, to be performed at the Hartzell Service Center. Comply by 3300 hr or within 300 hr if over 3000 TT, O/H, or 24 mos. If the propeller was subjected to a ground strike, comply with 100 hr.
<u>93-16-14</u>		Replaced by AD <u>94-17-13</u> .
<u>93-12-01</u>		Replaced by AD <u>95-01-02</u> .
<u>93-09-04</u>		Replaced by AD <u>95-01-02</u> .
<u>93-01-09</u>		Replaced by AD <u>95-01-02</u> .
<u>90-02-23</u>		Replaced by AD <u>2001-23-08</u>
<u>89-22-05</u>		Replaced by AD 93-16-14.
<u>88-24-15</u>		Superseded by <u>AD-2005-04-08</u>
<u>87-16-02</u>		Superseded by <u>AD 2004-07-25</u>
<u>87-15-05 R1</u>	<u>SB 140F Rev. 1</u>	HC-B4TN-5( )/LT10574 Dornier 228-100, -200. Inspect and Replace LT10574(B) with LT10574A(B) or LT10574A(S)(B). Inspect daily for blade cracks per SB 140C paragraph a, or every 100 hours or 4 days inspect blades per SB140C paragraph b. Replace blades at overhaul (use LT10574FS, AD requires only "A").
<u>87-15-04</u>	<u>SB 153 Rev. 1</u>	HC-B4MN-5( ) CASA C-212-CC, -CF Replace Spring Assembly B-831-54 with B-831-64 or B-831-43 with B-831-63 within 30 days.

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<u>87-05-01</u>	<u>HC-SB-61-136I</u>	HC-B5MP-3( )/M10876( ) Shorts SD3-60. Not applicable to M10876 blades subsequent to S/N F75966. Perform SB136 within 3000 hours TTSN.
<u>86-06-02</u>		Superseded by AD 2004-21-01
<u>86-05-12</u>	<u>HC-SB-61-136I</u>	HC-B3TN-5( )/T10282( ) on Fairchild Metro with TPE 331-10UA engine. Not applicable to T10282 blades prior to S/N F74359. Perform SB 136 within 300 hours or 30 days.
<u>85-14-10 R2</u>	<u>SI 159C Rev. 1</u>	( )HC- ( ) (X,V) Series Propellers with C-3-( ) Blade Clamp Assemblies. Applies to certain serial numbers. Compliance requires magnetic particle inspection (Magnafux) of clamps within 60 days. Dye penetrant inspect every 100 hours. Additional serial number block - within 60 days inspect, rework per SI 159B.
<u>83-08-01 R2</u>	<u>SI 140A Rev. 9</u>	Model HC-B3TN-2, HC-B3TN-3, HC-B3TN-5, HC-B4TN-3, HC-B4TN-5, HC-B4MN-5 and HC-B5MP-3 turbopropellers. Replacement of A-2047 attach bolts with B-3339 attach bolts.
<u>83-06-10</u>		<b>SIAI-MARCHETTI AD</b> Reference SIAI- Marchetti SB #260B35 and Hartzell SB 176. Applies to Hartzell model F4 & F6 governors on F260 aircraft. Within 100 hours inspect PRV springs every 500 hours. Use round PRV valve within 500 hours.
<u>78-18-01</u>		Replaced by AD <u>83-08-01R2</u> .
<u>77-14-07</u>		Replaced by AD <u>97-18-02R1</u> .
<u>77-12-06</u>		Superseded by AD 2002-09-08
<u>75-22-14</u>		<b>Piper AD</b> PA-31P with HC-C3YN-2L, -2LF. Modify to -2LU or -2LUF within 30 days.
<u>75-17-34</u>		Replaced by AD <u>97-18-02R1</u> .
<u>75-13-02</u>		<b>Beech AD</b> 95, B95, B95A, D95A, E95 (Serial Nos. TD-2 through TD-721) install placard, calibrate tach, MAP gauges within 100 hours.
<u>75-07-05</u>		Replaced by AD 77-12-06.
<u>74-15-02</u>		Replaced by AD 75-07-05.
<u>74-14-01</u>	<u>SB 105A</u>	T10173H, T10176H, T10178H, T10282H, installed on HC-B3TN-2, -3, -7, HC-B3TF-7( ), HC-B4TN-5 on PT6A-( ), TPE331-( ) series engines. Applies to certain serial number hard alloy blades. Compliance - Inspect for blade cracks if over 1000 hours, not repetitive.
<u>73-14-06</u>		<b>Rockwell Commander AD</b> Commander 112 aircraft with Hartzell C-3533(P) spinner, one time inspection for cracks (Rockwell Int'l. SB112-4)
<u>73-10-03</u>		Replaced by AD 77-12-06.
<u>73-02-01</u>		Replaced by AD <u>95-11-08</u> .
<u>72-08-04</u>	<u>HC-SB-61-97A Rev. 1</u>	T10173( ), T10176( ) installed on HC-B3TN-2, HC-B3TN-3, HC-B3TN-5, HC-B3TF-7, HC-B4TN-4 installed on PT6A, TPE331, Allison 250B series engines. Applies to certain blade serial numbers. To prevent blade failures at bottom of the lead hole, inspect with dye penetrant. Compliance required within 1400 hrs. Beech 99 requires category II blades at 1500 hrs. (Applies to this aircraft only).

## Summary of FAA Airworthiness Directives

<u>AD #</u>	<u>Service Document(s)</u>	<u>Effectivity/Compliance</u>
<u>71-26-04</u>		Replaced by AD <u>72-08-04</u> .
<u>71-21-09</u>	<u>SL 62A Rev. 1</u>	HC-E2YK-2RB, HC-E2YK-2RB, HC-E2YL-2( ), with 8465-7R, 7663-4 or J7663-4 blades. Installation of spring back up kit. Compliance required by 1000 hrs.
<u>70-16-03</u>		Replaced by AD 77-12-06.
<u>70-05-06</u>	<u>SB 95</u>	T10176( ), T10176H( ) installed on HC-B3TN-5C on TPE331-( ) series engines. Inspect for internal cracks (bearing bore radius) and minimum wall thickness (template). Reinspect every 1500 hours.
<u>70-02-01</u>		Replaced by AD 73-10-03.
<u>68-19-04</u>		Replaced by AD <u>97-18-02R1</u> .
<u>68-13-02</u>		Replaced by AD <u>97-18-02R1</u> .
<u>67-06-04</u>		HC-93Z30/10152-5.5, HC-B3Z30/10152-5.5; HC-B3W30/10152-5.5; HC-B3Z30/10160-6; HC-B3W30/10160-6 installed on Pratt & Whitney R-985 series engines. Shank inspection for cracks at 600-hour intervals.
<u>65-21-04</u>	<u>SB 82, SL 48A Rev. 1</u>	HC-12X20-7, -8. Replace A-38B(G) bearing. Acceptable bearing is crimped on Bakelite cage Re-lubricate bearing every 100 hours.
<u>64-28-01</u>	<u>SB 32 Rev. 1</u>	HC-12X20-1, -2, -3, -5, -7B. Replace C49 series hub assembly, certain S/N (see also AD <u>59-26-01</u> ). Replace hub within 100 hours.
<u>64-21-05</u>		<b>Piper AD</b> Piper PA 30 and PA 23-250 replace governor relief valve springs on F-6-3 governors within 10 hours.
<u>64-20-01</u>	<u>SB 86 Rev. 1</u>	HC-C2YK-1/7666-2, HC-E2YL-2B/7663-4. Replacement of plastic pitch change blocks. Reinspect every 10 hours until compliance with SB 86.
<u>63-13-03</u>	<u>HC-SB-61-083 Rev. 1,</u> <u>HC-SB-61-069 Rev. 1</u>	HC-93Z30-2/10152-5.5, HC-B3Z30-2/10152-5.5, HC-B3Z30-2/10160-6 installed on Pratt & Whitney R-985. (SB 83 calls for shot peening, Z blades now rolled.) Inspect for blade slippage or cracks in shank area with dye penetrant prior to 2000 hours.
<u>61-03-03</u>	<u>SB 73</u>	HC-93Z30-2D, HC-B3Z30-2D installed on Pratt & Whitney R-985. Replace B1803/834-7 guide collar with B1803-1 and 834-7A. Compliance at next O/H or 400 hours whichever occurs first.
<u>60-16-04</u>	<u>SB 71</u>	HC-82XF-1D, HC-82XF-1DB, HC-82XG-1DD, HC-82XG-6DL, HC-82XL-1D, HC-92ZK-8L, HC-83XK-1D, HC-92ZK-8D. Replacement of 834 series guide collars with ones marked "P" or "F". Compliance required by 1/1/61.
<u>59-26-01</u>		HC-12X20. Replace 12X20 hub spiders, certain serial numbers that have front cones. Compliance required by 3/1/61.
<u>59-09-03</u>	<u>HC-SB-61-068 Rev. 1</u>	HC-82XG series installed on Lycoming O-320 and some O-340 series. XG Hubs updated to XL hubs, change flange bushings to 7/16". Compliance required by 1/1/61.

## Summary of FAA Airworthiness Directives

<u>AD #</u>	<u>Service Document(s)</u>	<u>Effectivity/Compliance</u>
<u>59-01-03</u>	<u>HC-SB-61-064 Rev. 1</u>	HC-12X20, HC-13X20, HC-82X, HC-83X Series. All split rings to be replaced with rings that have "N" in part number. Compliance required by 6/1/59.
<u>58-09-02</u>	<u>SB 39 Rev. 1,</u> <u>SB 47 Rev. 2</u>	HC-82XF-1, -1A, installed on Cessna 180. Change guide rods in A-804 jack assembly. All should be in compliance. Replace prior to 9/1/58.
<u>58-07-01</u>	<u>HC-SB-61-058 Rev. 1</u>	HC-12X20, HC-13X20, HC-82X, HC-83X series. Same as AD 58-06-02 replace with A-159N split ring. Compliance required at overhaul.
<u>58-06-02</u>	<u>HC-SB-61-057 Rev. 3</u>	HC-82XF/8833-0. Same as AD 58-07-01 replace with A-159N split ring. Compliance required before next flight.
<u>58-04-02</u>	<u>SB 55 Rev. 1</u>	HC-93Z20-2C, -2B installed on Beech E-50, F-50; Cessna T-50 with Lycoming R-680 engines; Mansdorf conversion Grumman G-44 with Lycoming R-680 engines (STC SA4-2). Replace A-1307 split ring with A-1331. All should be in compliance. Compliance required before next flight.
<u>57-08-04</u>	<u>SB 46 Rev. 1</u>	HC-83X, HC-93Z on Aero Commander 520, 560, 560A, 560E, 680; Beech 50; Piaggio P.136. Replace the link pin screw with longer screw and end of screw is to be peened over to eliminate link pin screw from coming out. Compliance required before 5/15/57.
<u>56-17-03</u>	<u>SB 38</u>	HC-12X20 Reversing Propellers on Downer (Republic) RC-3 aircraft with B-55 Valve Assembly. All should be in compliance. Compliance required every 100 hours.
<u>55-03-02</u>		Revoked by FAA June 1985.
<u>53-15-03</u>	<u>SB 24 Rev. 1</u>	Cessna 180, HC-82XF-1 Replace A-98 with A-98A. All should be in compliance. Compliance required by 9/1/53.
<u>53-06-02</u>		Replaced by AD <u>59-26-01</u> .
<u>53-03-01</u>		<b>Navion:</b> Vibration tests conducted subsequent to the initial tests of the Hartzell HC-12 X20-8C/9333C-0 propeller installed on the Lycoming GO-435 engine revealed vibration characteristics of a hazardous nature. Therefore, to prevent possible blade cracks and/or failures, the existing r.p.m. restriction placard should be revised.
<u>48-06-03</u>		<b>Navion:</b> Removal of fillers previously used on blade Models: 8428, 8428C and 8428R (serial numbers below 61000).
<u>47-47-13</u>		<b>Republic:</b> Hub designation change depending on counter weight application.
<u>47-21-10</u>		<b>Navion:</b> Propeller control piston guide pins, Hartzell P/N A-11, require additional safetying in order to prevent loosening and subsequent loss of engine oil.
<u>47-11-02</u>		<b>Navion:</b> Vibration tests of the Hartzell HC12X20-1 propeller with these airplanes indicate that the propeller diameter should be reduced from 86 inches to 84 inches.