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Montgomery, AL 36108 USA
Tel: 334-386-5400 Fax: 334-386-5450

Alert Service Bulletin

Alert Service Bulletin No. 225

INSPECTION: Magneto P/N ES4371 & Impulse Coupling Assembly P/N ES3163

1. Planning Information

A. Effectivity

(1) PowerUp™ new magneto assemblies P/N ES4371 and Champion Aerospace™ overhauled magneto assemblies P/N 4371 using impulse coupling assembly P/N ES3163 with impulse cam assembly P/N ES3163-1 shipped by Hartzell Engine Tech (HET) between 7/1/2024 and 2/15/2025 are affected by this Alert Service Bulletin (ASB).

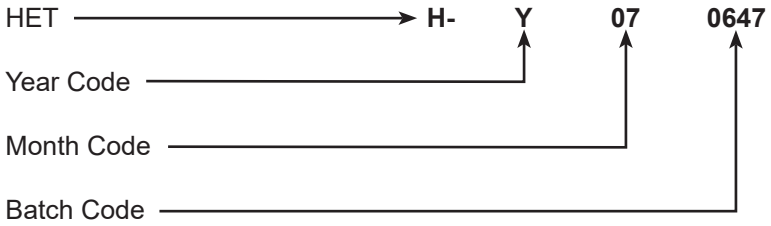
(2) Service spare PowerUp™ P/N ES3163 impulse coupling assemblies shipped by HET between 7/1/2024 and 2/15/2025 are affected by this ASB.

(a) Refer to Table-1 for engine effectivity

NOTE: Table-1 is for reference only and is not an all-inclusive list of engines affected by this ASB. It is the responsibility of the owner/operator to verify whether an affected magneto, impulse coupling, or impulse cam is installed.

(3) Magneto serial numbers H-Y070647 thru H-Z012424 are affected by this ASB.

(a) Serial Number Identification:



Example above: Y=2024, 07=July, 0647=unit number of the month (batch). The year code advances one letter in alphabetical order for each succeeding year. Z012424: Z=2025, 01=January.

WARNING: DO NOT USE OBSOLETE OR OUTDATED INFORMATION. PERFORM ALL INSPECTIONS OR WORK IN ACCORDANCE WITH THE MOST RECENT REVISION OF THIS ALERT SERVICE BULLETIN. INFORMATION CONTAINED HEREIN MAY BE SIGNIFICANTLY CHANGED FROM EARLIER REVISIONS. FAILURE TO COMPLY WITH THIS ALERT SERVICE BULLETIN OR THE USE OF OBSOLETE INFORMATION MAY CREATE AN UNSAFE CONDITION THAT MAY RESULT IN DEATH, SERIOUS BODILY INJURY, AND/OR SUBSTANTIAL PROPERTY DAMAGE. REFER TO WWW.POWERUPIGNITION.AERO FOR THE MOST RECENT REVISION LEVEL OF THIS ALERT SERVICE BULLETIN.

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MAGNETO P/N (HET)	MAKE / TCH	ENGINE EFFECTIVITY
ES4371	Lycoming Engines	IO-235-C2C, -H2C -N2C; O-320-A2D, -B2B, -D1A, -D1D, -D2G, -D2J, -D3G, -E1F, -E2D, -E2G, -E3D; IO-320-E1B, -E2B; AEIO-320-E1B; O-360-A4K, -A4M, -A4N, -A4P, -C1E, -C1F, -C1G, -C2E, -C4F, -C4P, -F1A6; IO-360-C1C, -L2A, -M1B; AEIO-360 -A1B6, -B1G6, -H1A, -H1B

Table-1 - Engine Effectivity

B. Concurrent Requirements

(1) None

C. Reason

(1) To communicate procedures to inspect for and remove from service certain impulse coupling cam assemblies with undesirable machining features.

(a) This condition may result in magneto drive coupling failure and/or could result in the loss of magneto function and/or the introduction of metallic FOD into the engine.

D. Description

(1) This Alert Service Bulletin provides Instructions for Continued Airworthiness (ICA).

E. Compliance

(1) **Prior to Next Flight:**

(a) Perform Section 3, Accomplishment Instructions, of this document.

(2) For affected magnetos P/N ES4371 and/or impulse coupling assemblies P/N ES3163 in inventory, return within 30 days from the original issue date of this ASB.

(3) Compliance with Section 3, Accomplishment Instructions, is terminating action for this ASB.

F. Approval

(1) FAA acceptance has been obtained on technical data in this publication that affects type design.

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G. Manpower

(1) Labor is negligible for identification and inspection when performed in conjunction with regularly scheduled maintenance required by the engine/aircraft manufacturer.

(2) Up to one and a half (1.5) hours labor required for removal, inspection, and installation of the magneto.

(3) Up to two (2) hours to remove and replace affected magneto components and to perform a FOD inspection and engine oil change.

H. References

(1) HET Manual #PM6001: *Aircraft Magneto Maintenance Manual.*

(2) Champion Aerospace Manual #L-1363J: *4300/6300 Magneto Maintenance and Overhaul Manual.*

(3) Applicable aircraft POH or AFM.

(4) Aircraft maintenance manual (as applicable).

(5) Engine Service Instructions or maintenance manual (as applicable).

I. Other Publications Affected

(1) None

J. Weight and Balance

(1) No Change

2. Material Required

A. HET:

(1) P/N ES3163 - Impulse Coupling Assembly.

(2) P/N AM-2556 - Cotter Pin, Rotor.

(3) P/N ES917 - Impulse Coupling Spring (Optional).

(4) P/N ES3163-1 - Impulse Cam Assembly, CCW (Optional).

B. Lycoming:

(1) Gasket, Engine Side.

(2) Lock Washers, Engine Side: Two (2) count per affected magneto.

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3. Accomplishment Instructions

WARNING: THIS PROCEDURE MUST BE PERFORMED BY COMPETENT AND QUALIFIED PERSONNEL WHO ARE FAMILIAR WITH ENGINE AND AIRFRAME MAINTENANCE THAT IS SPECIFIC TO THE ELECTRICAL SYSTEM. FAILURE TO DO SO MAY RESULT IN ECONOMIC LOSS, EQUIPMENT DAMAGE, AND/OR PHYSICAL INJURY.

CAUTION 1: DO NOT USE OBSOLETE OR OUTDATED INFORMATION. PERFORM ALL INSPECTIONS OR WORK IN ACCORDANCE WITH THE MOST RECENT REVISION OF THIS ALERT SERVICE BULLETIN AND THE APPLICABLE AIRCRAFT ENGINE MAINTENANCE MANUAL. INFORMATION CONTAINED IN THESE MANUALS OR THIS ALERT SERVICE BULLETIN MAY BE SIGNIFICANTLY CHANGED FROM EARLIER REVISIONS. FAILURE TO COMPLY WITH THE ALERT SERVICE BULLETIN OR THE USE OF OBSOLETE INFORMATION MAY CREATE AN UNSAFE CONDITION THAT MAY RESULT IN DEATH, SERIOUS BODILY INJURY, AND/OR SUBSTANTIAL PROPERTY DAMAGE. REFER TO THE POWERUP WEBSITE (WWW.POWERUPIGNITION.AERO) FOR THE MOST RECENT REVISION LEVEL OF THIS ALERT SERVICE BULLETIN.

CAUTION 2: DO NOT DEPEND ON THIS ALERT SERVICE BULLETIN FOR GAINING ACCESS TO THE ENGINE OR MAGNETOS. ACCESS REQUIRES THE USE OF THE APPLICABLE MANUFACTURER'S MAINTENANCE MANUALS OR SERVICE INSTRUCTIONS. IN ADDITION, ANY PREFLIGHT OR IN FLIGHT OPERATIONAL CHECKS REQUIRE USE OF THE APPROPRIATE AFM OR POH.

A. Magneto Identification

(1) If positive identification of the magntos model and serial number can be made through the engine or aircraft documentation, and any magneto **is** affected per 1.A, continue to 3.C., Corrective Action. If none of the magnetos are affected, continue to 3.E.(1), Maintenance Record.

(2) If positive identification cannot be made through engine or aircraft documentation, gain access and locate the data tag on each magneto to verify the effectivity.

(a) If any unit **is** affected, continue to section 3.C., Corrective Action.

(b) If none of the units are affected, install any components that were removed to gain access in accordance with the latest engine/airframe service instructions or maintenance manual. Continue to 3.E.(1), Maintenance Record.

B. Field Spares

(1) For affected field spare magneto assemblies P/N ES4371 and impulse coupling assemblies P/N ES3163, inspect per 3.C.(1)(c) 3). Return all rejected assemblies to HET through the Commercial Appendix found herin.

(2) New field spare impulse coupling assemblies P/N ES3163 not affected by this ASB are shipped with an assembly date laser-etched onto the drive coupling body. See Fig. 7 & 7a for assembly date location and example.

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C. Corrective Action

(1) Magneto Inspection

(a) Remove the affected magneto(s) in accordance with the latest engine/airframe service instructions or maintenance manual.

(b) Remove the impulse coupling assembly from the magneto in accordance with HET Manual #PM6001 § 6.5 or Champion Aerospace Manual #L-1363J, as applicable.

(c) Inspect impulse cam assembly pins per the following:

1) Confirm two (2) fly-weights and two (2) retaining rings are present.

a) If missing, parts must be retrieved through an engine FOD inspection.

2) Visually inspect each pin adjacent to the snap ring.

a) If either pin is discovered to have missing material at the retaining ring shoulder, e.g., chips and/or chunks of material missing (see Fig. 1 & 2), continue to 3.C.(2), Impulse Coupling Assembly Replacement, or 3.C.(3), Impulse Cam Assembly Replacement (Optional).

3) Using a .025” feeler gauge, inspect each impulse cam-pin lip-thickness at the retaining ring shoulder. (see Fig. 3 thru Fig. 4a).

a) If either of the cam assembly pins FAIL inspection (Fig. 3 & 3a), continue to 3.C.(2), Impulse Coupling Assembly Replacement, or 3.C.(3), Impulse Cam Assembly Replacement (Optional).

b) If the cam assembly pins PASS inspection (Fig. 4 & 4a), install the cam assembly onto the magneto in accordance with HET Manual #PM6001 § 6.9 or Champion Aerospace Manual #L-1363J, as applicable.

1: Using a white paint pen or similar tool, apply a white paint dot (.25” or greater) adjacent to the top left corner of the magneto data plate to indicate PASS condition (see Fig. 5).

2: For spare impulse couplings that pass inspection, apply a white paint dot to the top of each impulse pin to indicate PASS condition (see Fig. 6).

3: Install magneto(s) onto the engine in accordance with the latest engine/airframe service instructions or maintenance manual. Continue to 3.D., Return to Service.

(2) Impulse Coupling Assembly Replacement

(a) Install a new impulse coupling assembly in accordance with HET Manual #PM6001 § 6.9 or Champion Aerospace Manual #L-1363J, as applicable. Return the rejected impulse coupling assembly to HET for warranty consideration.

(b) Using a white paint pen or similar tool, apply a white paint dot adjacent to the top left corner of the magneto data plate to indicate PASS condition (see Fig. 5).

(c) Install magneto(s) onto the engine in accordance with the latest engine/airframe service instructions or maintenance manual. Continue to 3.D., Return to Service.

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(3) Impulse Cam Assembly Replacement (Optional)

(a) Disassemble the impulse coupling in accordance with HET Manual #PM6001 § 6.5 or Champion Aerospace Manual #L-1363J, as applicable. Discard the impulse coupling spring and return the impulse cam assembly to HET for warranty consideration.

(b) Install a new impulse coupling spring and new impulse cam assembly in accordance with HET Manual #PM6001 § 6.8 or Champion Aerospace Manual #L-1363J, as applicable.

(c) Install magneto(s) onto the engine in accordance with the latest engine/airframe service instructions or maintenance manual. Continue to 3.D., Return to Service.

D. Return to Service

NOTE: If missing material was discovered during impulse cam assembly pin inspection 3.B.(c) 1), perform an engine FOD inspection and oil change in accordance with the latest engine/airframe service instructions or maintenance manual.

(1) Perform the recommended magneto system set up and functional tests in accordance with the appropriate aircraft maintenance manual, engine service instructions, and operational tests in the AFM or POH.

E. Maintenance Record

(1) For terminating action, make an engine logbook entry to indicate compliance with this Alert Service Bulletin.

4. Contact Information

A. Contact HET Product Support for all communications regarding the technical content of this Alert Service Bulletin.

(1) Phone +1.334.386.5400 (Option 2)
(2) Fax +1.334.386.5450.
(3) E-mail at techsupport@HartzellEngineTech.com.
(4) Address

Hartzell Engine Tech LLC
2900 Selma Highway,
Montgomery, AL 36108
USA

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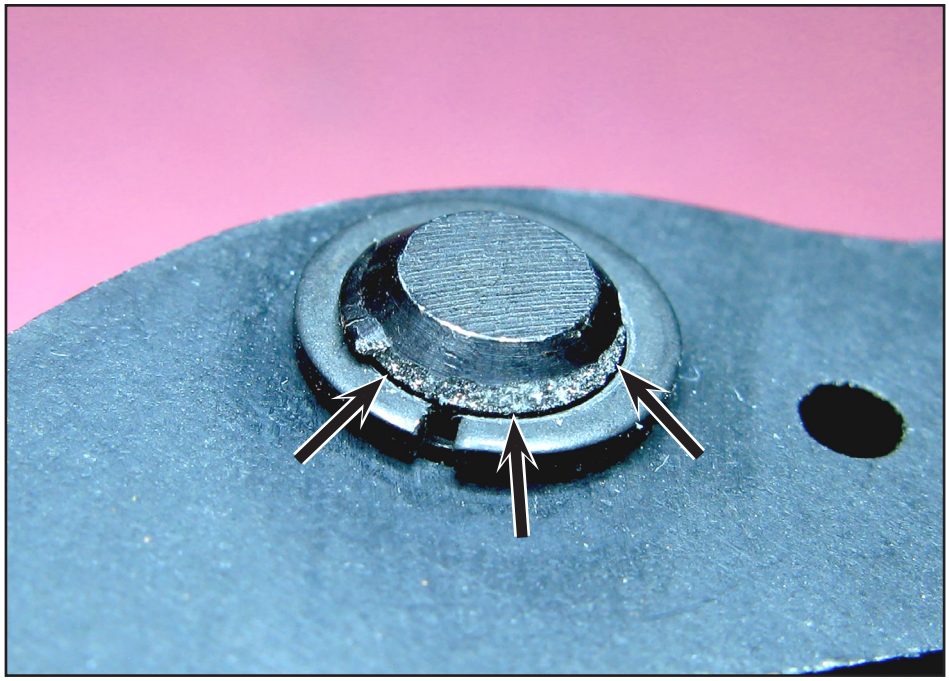

Figure 1 - Impulse Cam Pin: Missing Material

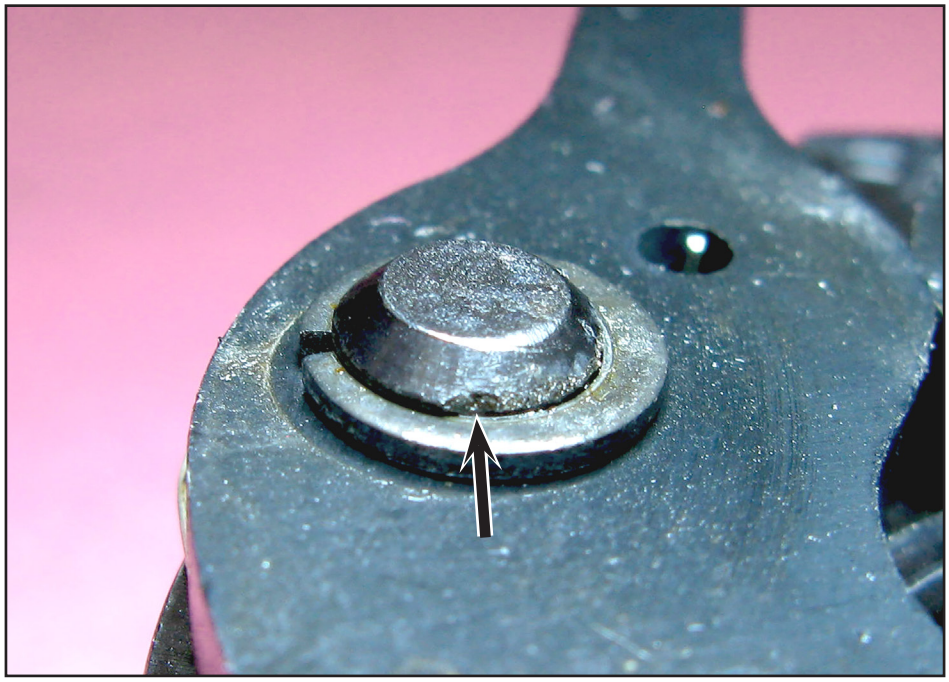

Figure 2 - Impulse Cam Pin: Chipped

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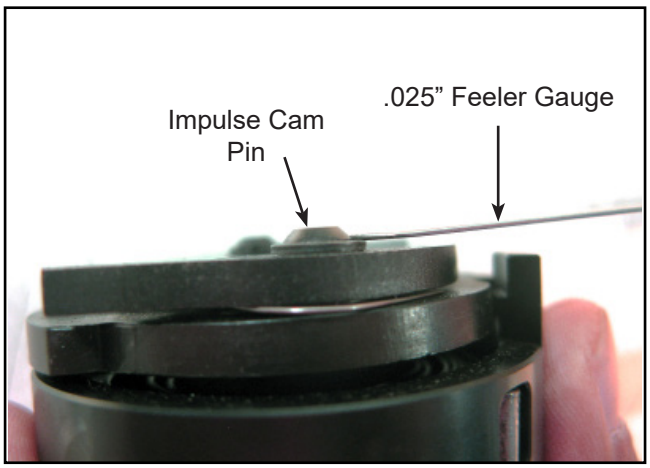

Figure 3 - Cam Pin Inspection - FAIL

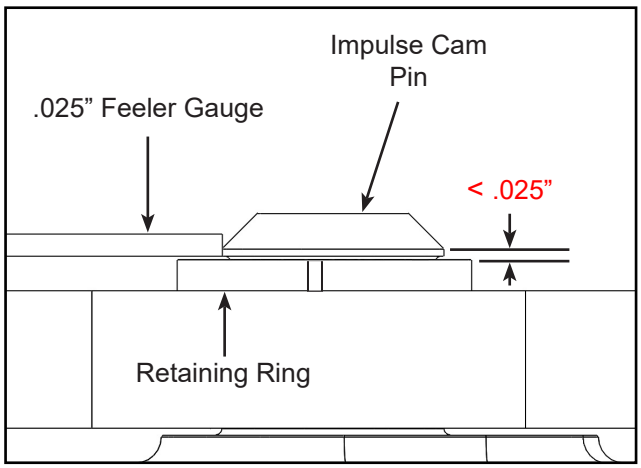

Figure 3a - Cam Pin Inspection - FAIL

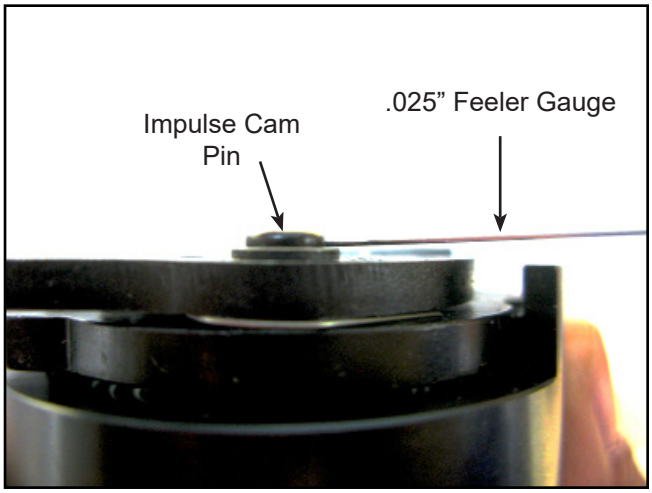

Figure 4 - Cam Pin Inspection - PASS

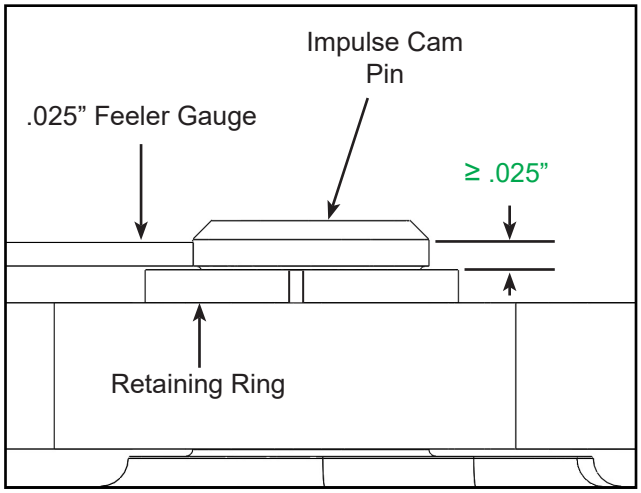

Figure 4a - Cam Pin Inspection - PASS

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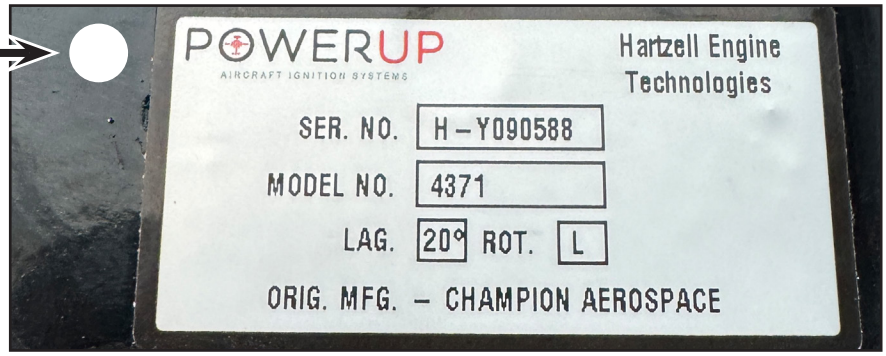

Figure 5a - Visual Pass Indicator - Overhauled Assembly ID Tag

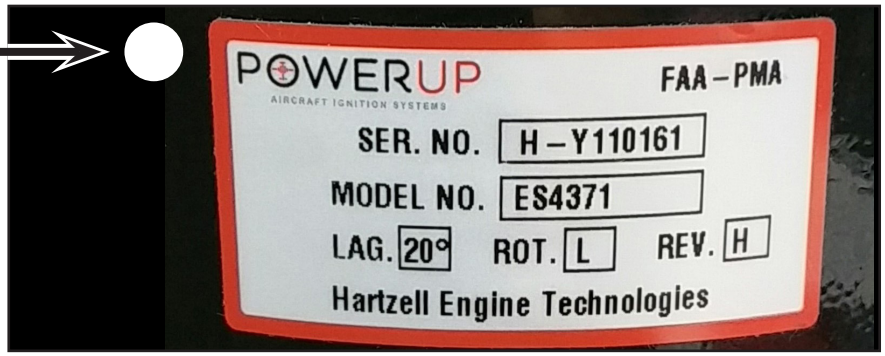

Figure 5b - Visual Pass Indicator - New Assembly ID Tag

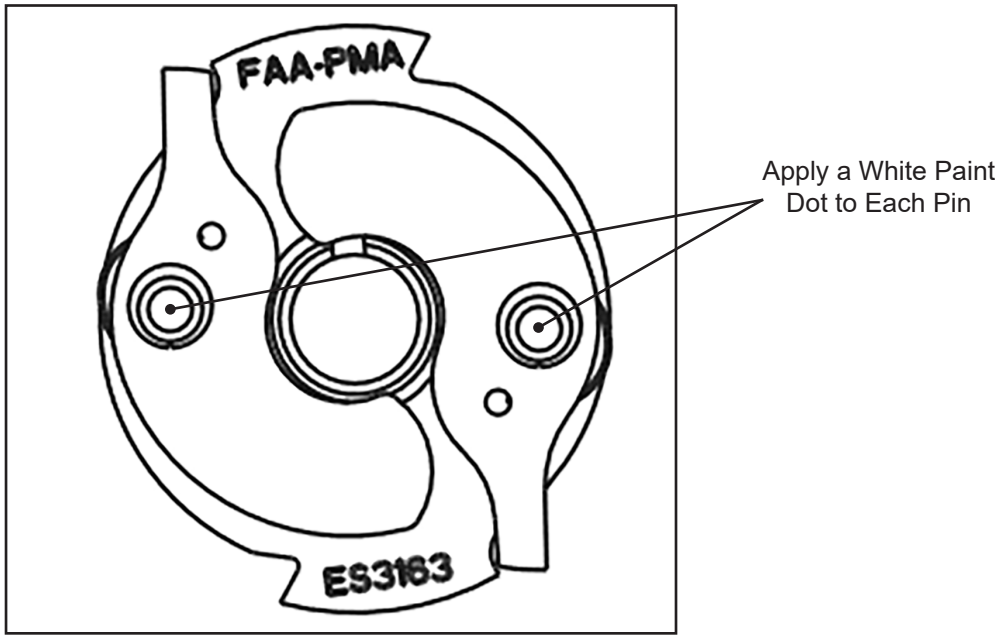

**Figure 6 - Spare Impulse Couplings -
Visual Pass Indicator**

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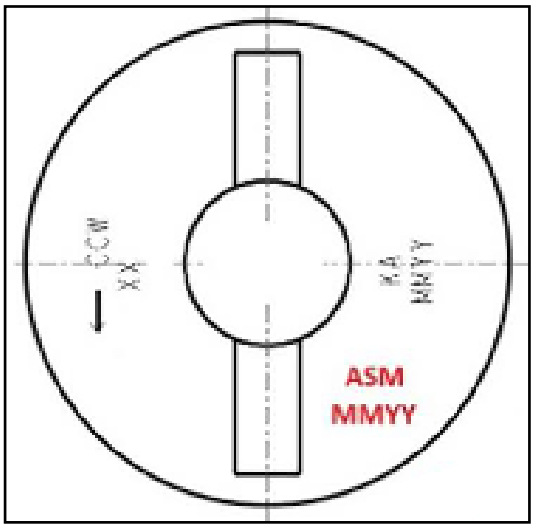

Figure 7 - Impulse Coupling - Assembly Date - Location

Figure 7a - Impulse Coupling - Assembly Date - Actual

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ALERT SERVICE BULLETIN APPENDIX

ALERT SERVICE BULLETIN No. 225

INSPECTION: Magneto P/N ES4371 & Impulse Coupling Assembly P/N ES3163

1. Eligibility:

A. PowerUpTM new magneto assemblies P/N ES4371 and Champion AerospaceTM overhauled magneto assemblies P/N 4371 using impulse coupling assembly P/N ES3163 with impulse cam assembly P/N ES3163-1 shipped by Hartzell Engine Tech (HET) between 7/1/2024 and 2/15/2025 are affected by Alert Service Bulletin (ASB) #225.

B. Service spare PowerUpTM P/N ES3163 impulse coupling assemblies shipped by HET between 7/1/2024 and 2/15/2025 are affected ASB #225.

(1) Refer to Table-1 of ASB #225 for engine/aircraft effectivity.

C. Magneto serial numbers H-Y070647 thru H-Z012424 are affected by ASB #225.

2. Commercial Assistance Program:

The following will be provided with the submission of a completed ASB #225 Claim Form, copies of invoices showing breakdown of material and labor charges, and log book entries. **Any commercial assistance or other consideration shall expire twelve (12) calender months from the original published date of ASB No. 225.**

A. Required material listed in Section 2.A. of ASB #225.

B. Labor for inspection, removal, & installation of an affected aircraft magneto will be paid at a shop rate of $85 per hour, not to exceed US $425 per engine.

(1) **Two (2) magnetos max**: Up to one and a half (1.5) hours labor required for removal, inspection, and installation per affected magneto. Max three (3) hours labor.

(2) Up to two (2) hours to remove and replace affected magneto components and to perform a FOD inspection and engine oil change.

3. Commercial Assistance ADMINISTRATION:

A. Complete the ASB #225 Claim Form attached to this appendix.

(1) Mail, e-mail, or fax the ASB #225 Claim Form to the attention of Product Support as indicated on the ASB Claim Form.

B. Upon receipt of the ASB Claim Form, Hartzell Engine Tech LLC will:

(1) Ship the required material in accordance with Section 2.A. of ASB #225 to the service provider indicated.

(2) The service provider must return proof of service within thirty (30) days or the service provider shall be invoiced for the HET supplied materials.

C. For labor and parts listed in section 2:

(1) Aircraft/engine service facility or owner must submit an invoice up to the amount specified in Section 2, copies of logbook entries, and a completed ASB #225 Claim Form for reimbursement (*May be a copy of the original form provided*).

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4. WARRANTY STATEMENT:

A The sole warranty for the actions of ASB #225 are contained in the HET Limited Warranty Policy issued with the purchase of each new/overhauled magneto (see terms and conditions therein).

B. Commercial assistance may apply as stated in this Appendix.

C. Issuance of ASB #225 in no way constitutes an implied or expressed warranty of any kind.

D. This publication does not imply or state any responsibility for the workmanship of any person or entity performing work or maintenance on the engine or aircraft electrical system.

5. CONTACT INFORMATION:

A. Contact HET Product Support for all communications regarding the technical content of this Service Bulletin.

(1) Phone +1.334.386.5400 (Option 2)

(2) Fax +1.334.386.5410

(3) E-mail at techsupport@Hartzell.aero

(4) Address

Hartzell Engine Tech LLC
2900 Selma Highway,
Montgomery, AL 36108
USA

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ALERT SERVICE BULLETIN APPENDIX

ALERT SERVICE BULLETIN No. 225

INSPECTION: Magneto P/N ES4371 & Impulse Coupling Assembly P/N ES3163

SB 225 CLAIM FORM

Owner information

Name: _____ Date: _____ Tel: _____ Fax: _____

Company Name: _____ E-mail: _____

Address: _____

City: _____ State: _____ Postal Code: _____

Country: _____

Aircraft/Engine Service Facility information

Name: _____ Date: _____ Tel: _____ Fax: _____

Company Name: _____ E-mail: _____

Address: _____

City: _____ State: _____ Postal Code: _____

Country: _____

Aircraft Mfg: _____ Model: _____ Time in Service: _____ S/N: _____

Engine: _____ Model: _____ Time in Service: _____ S/N: _____

Component Information

Nomenclature: Magneto Assembly

Part Number: _____

Serial Number: _____ (Magneto)

Date Removed: _____

Part Time in Service: _____ (Magneto)

Original Date Installed: _____

For RMA Number

Send this ASB #225 Claim Form to:

Hartzell Engine Tech Product Support
Fax: +1.334.386.5410
E-mail: techsupport@hartzell.aero

RMA Number:

(write in HET assigned RMA number)

Hartzell Use Only - do not write below this line.

Warranty No: _____ Authorized by: _____

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