

2900 Selma Highway
Montgomery, AL 36108 USA
Tel: 334-386-5400 Fax: 334-386-5450

Alert Service Bulletin

Alert Service Bulletin No. 229

Magneto, Impulse Coupling, & Impulse Cam Inspection

PowerUp™ is a trademark of Hartzell Engine Tech LLC

1. Planning Information

A. Effectivity

- (1) New and overhauled PowerUp™ S-20 Series magnetos, impulse couplings, and impulse cam assemblies manufactured and shipped by Hartzell Engine Tech LLC (HET) between 01/01/2024 and 10/30/2025 are affected by this Alert Service Bulletin (ASB). See Table 1 for S-20 P/Ns affected. See Tables 2 & 3 for impulse couplings PMA for use on S-20, S-1200, and D-2000/D-3000 Series Magnetos.
- (2) Refer to para. 1.H (2) for HET PMA List for engine model/series affected.

WARNING:

DO NOT USE OBSOLETE OR OUTDATED INFORMATION. PERFORM ALL INSPECTIONS OR WORK IN ACCORDANCE WITH THE MOST RECENT REVISION OF THIS SERVICE BULLETIN. INFORMATION CONTAINED HEREIN MAY BE SIGNIFICANTLY CHANGED FROM EARLIER REVISIONS. FAILURE TO COMPLY WITH THIS 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 SERVICE BULLETIN.

B. Concurrent Requirements

- (1) None

C. Reason

- (1) HET has discovered that affected magnetos, impulse couplings, and impulse cam assemblies may have been shipped with improperly heat treated flyweights. This condition may lead to hard starting, including kickback during starting and oil system contamination.

NOTE:

Impulse coupling may function normally during engine start even though the impulse coupling is worn. Starting performance alone is NOT a suitable indicator of impulse coupling wear condition.

D. Description

- (1) This Service Bulletin provides reference to Instructions for Continued Airworthiness (ICA).

E. Compliance

- (1) All magnetos with affected impulse couplings or impulse cam assemblies with less than 250 hours time-in-service since the impulse coupling or impulse cam assembly was installed, the impulse coupling or impulse cam assembly must be replaced within the next 50 hours, or at the next 100-hour/annual/or progressive inspection, whichever comes first.
- (2) All magnetos with affected impulse couplings or impulse cam assemblies with more than 250 hours time-in-service since the impulse coupling or impulse cam assembly was installed must be inspected per § 3.C.(1)(c) of this document.

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(3) All spare parts must be inspected and identified before being placed into service.

F. Approval

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

G. Manpower (Per Magneto)

(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 one (1) hour labor required to replace the impulse coupling assembly or the impulse cam assembly.

H. References

(1) HET Manual PM6003 Rev. New or later FAA accepted revision: *Magneto Maintenance Manual for SP-20/SP-200 Series Magnetos*.

(2) HET PMA Eligibility List: <https://hartzell.aero/pma/?selection=ignitions>

I. Other Publications Affected

(1) None

J. Weight and Balance

(1) No Change

2. Material Required

(1) One (1) new impulse coupling assembly or one (1) new impulse cam assembly of the same P/N removed that is not affected by this ASB.

(2) One (1) new cotter pin P/N AB-90751-18

(3) One (1) new impulse spring P/N ES10-51324

TABLE-1 - S-20 Series Magneto P/N Effectivity

ES-51360-37	ES-500514-5	ES-500556-1
ES-500514-1	ES-500516-2	ES-500556-101
ES-500514-2	ES-500516-3	ES-500556-103
ES-500514-3	ES-500516-4	ES-500556-203
ES-500514-4	-	-

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TABLE-2 - Impulse Coupling Assy. P/N Effectivity

ES10-400302	ES10-400313	ES10-400324
ES10-400307	ES10-400317	ES10-400325
ES10-400309	ES10-400320	ES10-400326
ES10-400311	ES10-400323	ES10-400327

TABLE-3 - Impulse CAM Assy. P/N Effectivity

ES10-400166-2	ES10-400167-1	ES10-400167-8
ES10-400166-4	ES10-400167-3	ES10-400167-9
ES10-400166-5	ES10-400167-5	ES10-400167-10
ES10-400166-6	ES10-400167-6	ES10-400167-12
ES10-400166-7	ES10-400167-7	ES10-400167-13

3. Accomplishment Instructions

CAUTION 1:

DO NOT USE OBSOLETE OR OUTDATED INFORMATION. PERFORM ALL INSPECTIONS OR WORK IN ACCORDANCE WITH THE MOST RECENT REVISION OF THIS SERVICE BULLETIN AND THE APPLICABLE AIRCRAFT ENGINE MAINTENANCE MANUAL. INFORMATION CONTAINED IN THESE MANUALS OR THIS SERVICE BULLETIN MAY BE SIGNIFICANTLY CHANGED FROM EARLIER REVISIONS. FAILURE TO COMPLY WITH THIS 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 SERVICE BULLETIN.

CAUTION 2:

DO NOT DEPEND ON THIS 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.

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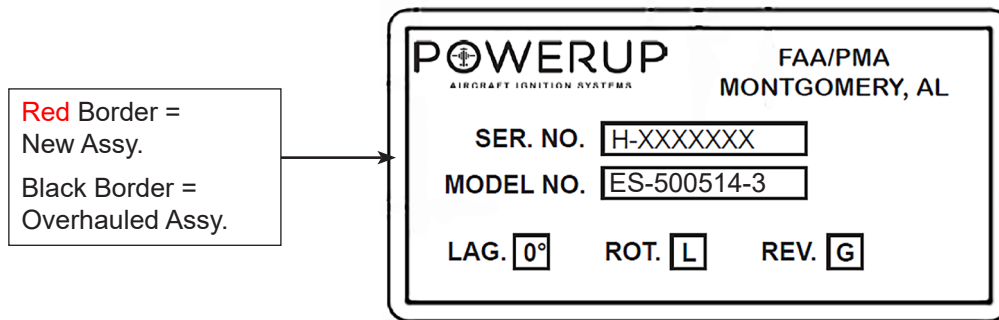


Figure 1 - PowerUp™ S-20 Data Tag

A. Magneto Identification

- (1) If positive identification of the magneto's part 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 neither magnetos is affected, continue to 3.E., 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) For Affected Model/Series Only:
 - 1) If the data tag **does** display HET's **PowerUp™** data, reference HET Manual PM6003 Rev. New or later FAA accepted revision for servicing information. See Fig. 1.
 - 2) If the data tag does **not** display HET's **PowerUp™** data as shown in Fig. 1, reference the latest manufacturers maintenance manual for the magneto part number being serviced, e.g., Continental Aerospace Technologies.
 - a) If either unit is affected, continue to section 3.C., Corrective Action
 - 3) If neither unit is 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, impulse coupling assemblies, and impulse cam assemblies, inspect per 3.C.(1)(c). Return all rejected assemblies to HET through the Commercial Appendix found herein.
- (2) New field spare impulse coupling assemblies and impulse cam assemblies not affected by this ASB are shipped with an assembly date laser-etched onto the flyweights. See Fig. 2 for assembly date location and example.
 - (a) Mark all non-affected spare impulse coupling assemblies and impulse cam assemblies with a yellow paint mark on the heel of each flyweight. Refer to Fig. 4. This supplies a visual indication of compliance without removing the impulse coupling assembly from the magneto assembly once installed.

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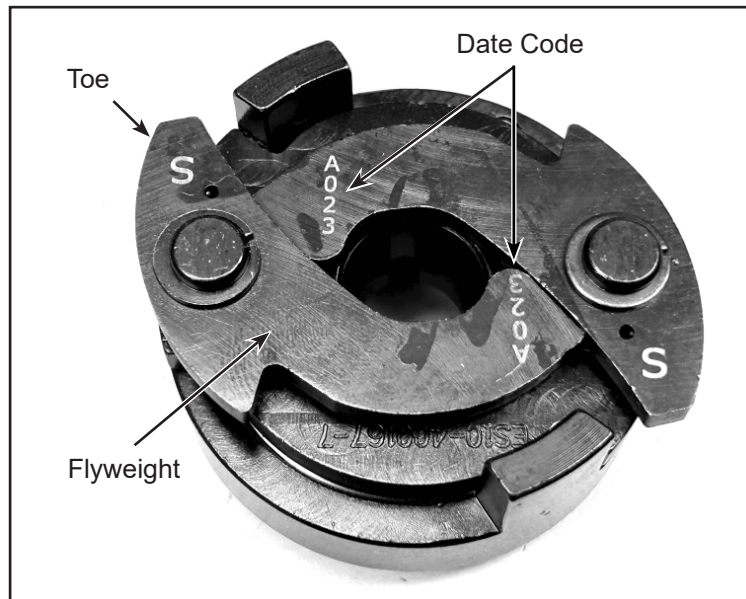


Figure 2 - Impulse Cam Assembly Date Code

C. Corrective Action

(1) Magneto Inspection

- (a) Remove the affected magneto in accordance with the latest engine/airframe service instructions or maintenance manual.
- (b) Remove the impulse coupling assembly from the magneto assembly in accordance with the latest HET Maintenance Manual P/N PM6003 Rev. New or later FAA approved revision.
- (c) Inspect the impulse cam assembly date code. See Fig. 2.
 - 1) If the cam assembly has less than 250 hours TIS and either flyweight date code **is** one of the following, the unit is affected. Refer to 3.C.(2) Impulse Coupling or Impulse Cam Replacement.
 - 2) If either cam assembly flyweight date code **is** one of the following and the unit has 250 hours TIS or more, visually inspect flyweight for deformation damage, particularly at the toe.
 - a) If deformation is noted, Refer to 3.C.(2) Impulse Coupling or Impulse Cam Replacement.
 - b) If deformation is not noted, cam assembly may continue in service in accordance with the latest applicable maintenance manual requirements. Identify magneto and cam assembly per per Figures 3 and 4. Reassemble and install the impulse coupling in accordance with the latest applicable maintenance manuals. Continue to 3.D. Return to Service.

Affected Date Codes: **A023 B023 E023**

- 3) If both cam assembly date codes are not one of the above listed date codes, reassemble and install the impulse coupling in accordance with the latest applicable maintenance manuals. Continue to 3.D. Return to Service.

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NOTE:

It is possible for date codes on the two flyweights to be mismatched. If either date code matches an affected date code per para. 3.C.(1)(c), the impulse coupling assembly or impulse cam assembly must be replaced.

- (2) Impulse Coupling or Impulse Cam Replacement
- (a) Install a new impulse coupling or impulse cam assembly in accordance HET Manual P/N PM6003 Rev. New or later FAA approved revision.
 - (b) Mark the magneto assembly data-plate with a yellow paint mark (Fig. 3) .25 in. diameter as a visual indicator of compliance with this ASB.
 - (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.

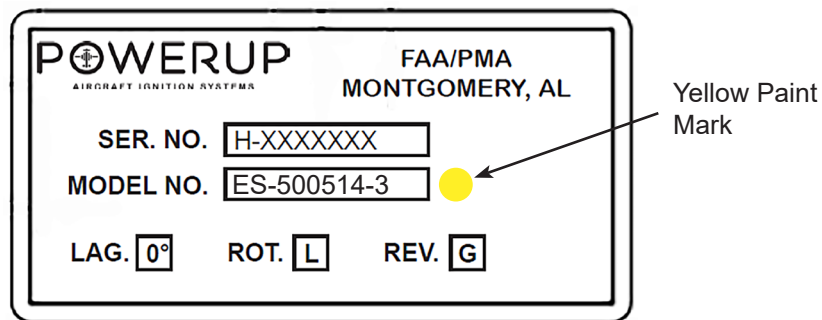


Figure 3 - Compliance Mark

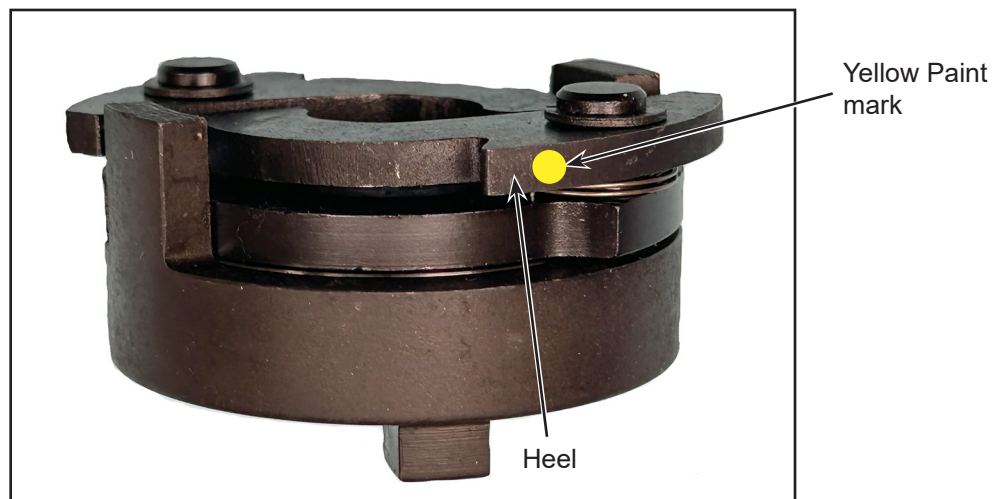


Figure 4 - Field Spare Compliance Mark

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D. Return to Service

- (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 1)
- (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

ALERT SERVICE BULLETIN APPENDIX

ALERT SERVICE BULLETIN No. 229

Magneto, Impulse Coupling, & Impulse Cam Inspection

1. Eligibility:

- A. New and overhauled PowerUp™ S-20 series magnetos, impulse couplings, and impulse cam assemblies manufactured and shipped by Hartzell Engine Tech LLC (HET) between 01/01/2024 and 10/30/2025 are affected by this Alert Service Bulletin (ASB). See Table 1 of ASB #229 for S-20 P/Ns affected. See Tables 2 & 3 for impulse couplings PMA for use on S-20, S-1200, and D-2000/D-3000 Series Magnetos.
- B. For affected field spare magneto assemblies, impulse coupling assemblies, and impulse cam assemblies, inspect per ASB #229. Return all rejected assemblies to HET.

2. Commercial Assistance Program:

The following will be provided with the submission of a completed ASB #229 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) calendar months from the original published date of ASB No. 229.**

- A. Required material listed in § 2. of ASB #229.
- 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 \$213 per magneto.
 - (1) Up to one and a half (1.5) hours labor required for removal, inspection, and installation per affected magneto.
 - (2) Up to one (1) hour labor required to replace the impulse coupling assembly or the impulse cam assembly.

3. Commercial Assistance ADMINISTRATION:

- A. Complete the ASB #229 Claim Form attached to this appendix.
 - (1) Mail, e-mail, or fax the ASB #229 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 #229 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 #229 Claim Form for reimbursement (*May be a copy of the original form provided*).

4. WARRANTY STATEMENT:

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- A. The sole warranty for the actions of ASB #229 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 #229 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

ALERT SERVICE BULLETIN APPENDIX

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SB 229 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: Impulse Cam/Coupling Assy. Part Number: _____

Serial Number: _____ Date Removed: _____

Part Time in Service: _____ Original Date Installed: _____

For RMA Number

Send this ASB #229 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: _____