

SERVICE BULLETIN



November 06, 2023

SB275

TITLE

C-5932 and C-5328 Feather Spring Inspection

TO:

FAA-Approved Propeller Repair Stations, Aircraft Manufacturers, Owners, and Operators

MODELS AFFECTED

The following propeller model and serial numbers are affected by this service bulletin:

4HFR34C652
220794, 220764, 220763, 220762, 220761, 220759, 160171, 120551, 110955, 080745, 070287, 970921, 940963, 941595, 931038, 920163, 912905, 881749
4HFR34C653
220810, 220234, 220233, 860621
4HFR34C661
230677, 220812, 220811, 220766, 220765, 220038, 211010, 210988, 210829, 160823, 160178, 160172, 130451, 100719, 080117, 952390, 952318
4HFR34C663
220232
4HFR34C668
220525, 220521, 220520, 220516, 220515, 220502, 220084, 211047, 211017, 211016, 211015, 211014, 210251, 210227, 210226, 210225, 210222, 210221, 210220, 210219, 210218, 210172, 210171, 210172, 210169, 210168, 210167
4HFR34C754
220628, 220626, 220415, 220231, 220230, 210942, 870330
4JFR34C758
090870, 190389
4HFR34C762
230682, 230486, 230477, 230476, 230471, 230423, 230421, 230420, 230419, 221022, 221006, 220668, 220598, 220592, 220591, 220203, 220199, 211044, 211011, 160183, 160180, 150735, 100806, 100805, 080236, 023145, 022800, 002132, 000777, 991945, 931989, 910905
4HFR34C764

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TO OBTAIN SATISFACTORY RESULTS, PROCEDURES SPECIFIED IN THIS SERVICE INFORMATION MUST BE ACCOMPLISHED IN ACCORDANCE WITH ACCEPTED METHODS AND PREVAILING GOVERNMENT REGULATIONS. McCAULEY PROPELLER SYSTEMS CANNOT BE RESPONSIBLE FOR THE QUALITY OF WORK PERFORMED IN ACCOMPLISHING THIS SERVICE INFORMATION.

McCauley Propeller Systems
PO Box 7704
Wichita, Kansas 67277-7704

SERVICE BULLETIN



SB275

900196
4HFR34C768
980587, 980594, 961411, 961403
4HFR34C769
041468
4HFR34C771
230763, 230761, 230573, 230508, 230483, 230222, 230187, 230075, 230012, 221040
4HFR34C775
230577
4HFR34C778
230704, 230503, 230473, 230472, 230454, 230430, 230429, 230426, 230425, 230424, 221023, 221021, 221014, 221013, 221012, 221005, 221004, 221003, 221002, 221001, 221000, 220999, 220998, 220983, 220982, 220981, 220980, 220977, 220976, 220975, 220974, 220848, 220847, 220846, 220845, 220844, 220843, 220840, 220839, 220838, 220671, 220669, 220634, 220633, 220632, 220631, 220630, 220629, 220627, 220625, 220597, 220596, 220595, 220594, 220593, 220590, 220589, 220588, 220587, 220224, 220208, 220202, 220198, 220197, 220196, 220195, 220180, 220179, 220015, 220014, 220013, 220012, 220011, 220010, 220009, 220008, 211045, 211042, 211021, 211019, 211013, 210939, 181159, 180967, 170176, 160856, 160755, 160575, 160297
4HFR34C779
230258, 230257, 230256, 230255, 230254, 230253, 230224, 230221, 230219, 230194, 230013, 221039, 221038, 211048
B5JFR36C1103
230282, 221037

REFERENCE PUBLICATION

SPM100 - McCauley Standard Practices Manual

Airplane Maintenance Manual

REASON

McCauley has become aware that part number C-5932 and C-5328 Feather Springs installed on the above model(s) may have a manufacturing defect on the spring coil that could cause early spring fatigue and cracks.

DESCRIPTION

To prevent the possibility of prolonged installation of feather springs with this defect, this service bulletin provides instructions to perform a one-time magnetic particle inspection of the affected C-5932 or C-5328 feather spring installed in the affected propellers. If you have questions regarding this one-time magnetic particle inspection of the feather spring, please contact Customer Support via email at: mccauleysupport@txtav.com, or by phone. Domestic (1-800-621-7767) or International (+1-316-831-4021).

COMPLIANCE

MANDATORY: All inspection requirements must be accomplished at the compliance times and intervals listed below.

1. Compliance with this Service Bulletin must be accomplished within the next 400 hour or 12 calendar months, or at the next scheduled maintenance downtime, whichever occurs first.

SPECIAL TOOLS

E-5011 Assembly Fixture and B-5075 Guide Pins or as alternate, two AN4-34A bolts (McCauley PN A-2513-100) are the only unique tools needed for completion of Service Bulletin 275. These tools can be purchased through the parts.txtav.com website. A limited number of these tools are also available on a first come, first serve basis to be loaned under a refundable core deposit. Contact McCauley Product Support for inquiries.

WARRANTY

See attached Warranty Supplement WS275

ACCOMPLISHMENT INSTRUCTIONS

NOTE: Read and understand all of the instructions that follow before work is started on the propeller.

NOTE: Contact McCauley Product Support via email at mccauleysupport@txtav.com, or by phone: Domestic (1-800-621-7767) or International (+1-316-831-4021) for warranty considerations resulting from actions required under this Service Bulletin.

1. Inspection of Propeller Feather Spring
 - A. Feathering Spring Housing Removal (Refer to Figure 1 and Figure 2)

WARNING: WHEN THE PROPELLER FEATHERING SPRING IS COMPRESSED, IT IS POTENTIALLY DANGEROUS. USE EXTREME CAUTION DURING REMOVAL AND INSTALLATION OF THE FEATHERING SPRING HOUSING. PAY PARTICULAR ATTENTION TO SCREW TORQUE ON THE ASSEMBLY FIXTURE. NEVER STAND DIRECTLY IN FRONT OF THE FEATHERING SPRING HOUSING AFTER THE FOUR MOUNTING SCREWS HAVE BEEN REMOVED.

- (1) Remove spinner shell, taking note of its position in relation to the bulkhead. This will insure dynamic balance is not disturbed when spinner shell is reinstalled. Remove and retain spinner support and shims as required.
- (2) Remove lockwire from the four spring housing attaching screws (2) and two screws (7) on forward end of cylinder for attachment of the fixture.
- (3) Remove and retain the spring fixture mounting hole screws and washers, if included (7).
- (4) Install assembly fixture E-5011 onto front of cylinder using attached screws supplied with the fixture. Torque these screws at 80-100 inch pounds.
- (5) Using turbine oil or common grease, lubricate the threads on the E-5011 assembly fixture.
- (6) Turn handle on threaded rod of assembly fixture clockwise until its bearing bottoms snugly against the front end of the feathering spring housing.

WARNING: DO NOT USE POWER TOOLS TO ACTUATE THE FIXTURE. USE OF POWER TOOLS MAY CAUSE THE TOOL TO SEIZE OR CAUSE OTHER FAILURES THAT CAN LEAD TO INJURY TO PERSONNEL OR DAMAGE TO EQUIPMENT

NOTE: ensure the end of the spring housing is fully seated within the bore of the spring removal tool. Improper engagement of the housing into the tool can cause a dangerous condition when compressing the spring.

- (7) Remove and retain the two screws (2), diagonally opposed from each other, which attach feathering spring housing to the cylinder. Install two guide pin alignment tools (B-5075) or as alternate, two AN4-34A bolts (McCauley PN A-2513-100) finger tight in two of the four spring housing attaching holes. Remove and retain the last two screws which attach feathering spring housing to the cylinder. Slowly back feathering spring housing away from the front of the cylinder by turning assembly tool handle counterclockwise until feathering spring housing is no longer under pressure and becomes loose

WARNING: DO NOT USE POWER TOOLS TO ACTUATE THE FIXTURE. USE OF POWER TOOLS MAY CAUSE THE TOOL TO SEIZE OR CAUSE OTHER FAILURES THAT CAN LEAD TO INJURY TO PERSONNEL OR DAMAGE TO EQUIPMENT

- (8) Remove feathering spring housing (1) and feathering spring (3), leaving the assembly fixture attached to the cylinder. Take care to ensure the spring guide and thrust bearing (4) remain installed in their location against the piston assembly
- B. Magnetic Particle Inspection (refer to the McCauley Standard Practices Manual SPM100, Chapter 60, ATA 60-00-03 Non-Destructive Inspection Procedures, Magnetic Particle Inspection or equivalent).

CAUTION: THE SPRING NEEDS TO BE INSPECTED IN BOTH TRANSVERSE (ROD) AND LONGITUDINAL (RING.) REFER TO FIGURE 2 IN THIS BULLETIN.

- (1) Magnetic particle inspection shall be performed on spring part numbers C-5932 and C-5328. Magnetic particle inspection shall be used to detect cracks, laps, seams, inclusions, and other discontinuities on or near the surface of the spring.
- (2) Inspection must be performed in accordance with standard ASTM E1444, Standard Practice for Magnetic Particle Inspection, or international equivalent.
- (3) Reject any spring with magnetic particle indications and replace with a new or serviceable spring.

2. Feathering Spring Housing Installation Procedures (Refer to Figure 1 and Figure 2)

A. Install Serviceable Propeller Feathering Housing and Spring as follows:

- (1) Coat the entire feathering spring (3) with a light, even film of Aeroshell "5" grease or suitable alternate per McCauley Service Letter SL 2021-3.
- (2) Install feathering spring housing (1) on end of feathering spring (3). If the spring has paint on one end, the painted end should be installed into the spring housing to allow it to be identified through the forward hole in the spring housing.
- (3) Install two guide pin alignment tools (B-5075) or as alternate, two AN4-34A bolts (McCauley PN A-2513-100), if previously removed, finger tight in two of the four spring housing attaching holes. The guide pins insure proper alignment of the feathering spring housing with the attaching screw holes.
- (4) Visually ensure the spring guide and thrust bearing (4) are correctly located. Slip feathering spring and housing over piston rod, visually aligning spring housing attaching holes with the guide pins.

- (5) Tighten assembly fixture by turning handle clockwise until spring housing bottoms against cylinder assembly. Remove guide pins or alternate bolts and install four attaching screws (2) (and washers if included). Torque screws 72-84 inch pounds.

WARNING: DO NOT USE POWER TOOLS TO ACTUATE THE FIXTURE. USE OF POWER TOOLS MAY CAUSE THE TOOL TO SEIZE OR CAUSE OTHER FAILURES THAT CAN LEAD TO INJURY TO PERSONNEL OR DAMAGE TO EQUIPMENT

NOTE: Make sure the end of the spring housing is fully seated within the bore of the spring removal tool. Improper engagement of the housing into the tool can cause a dangerous condition when compressing the spring.

- (6) Remove assembly fixture and reinstall screws and washers which serve as hole plugs and torque 30-36 inch pounds. Lockwire feathering spring housing screws. Lockwire should join two housing screws with on hole plug screws.
- (7) Reinstall spinner support, shims, and spinner shell.

3. Propeller Logbook

- A. Make an entry in the propeller log book that states compliance (include method of compliance with logbook entry) with McCauley Service Bulletin SB275. (i.e. magnetic particle inspection of spring, replacement of spring, etc).

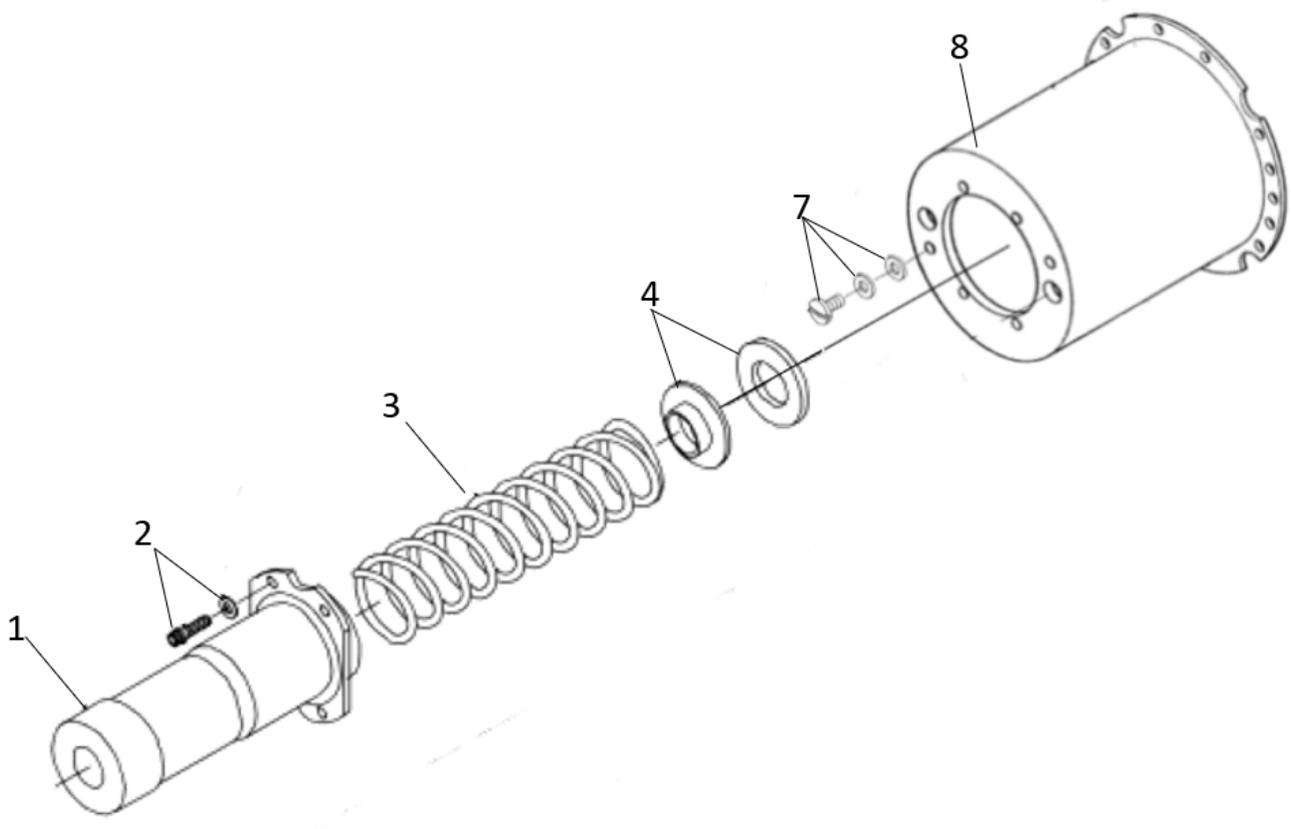
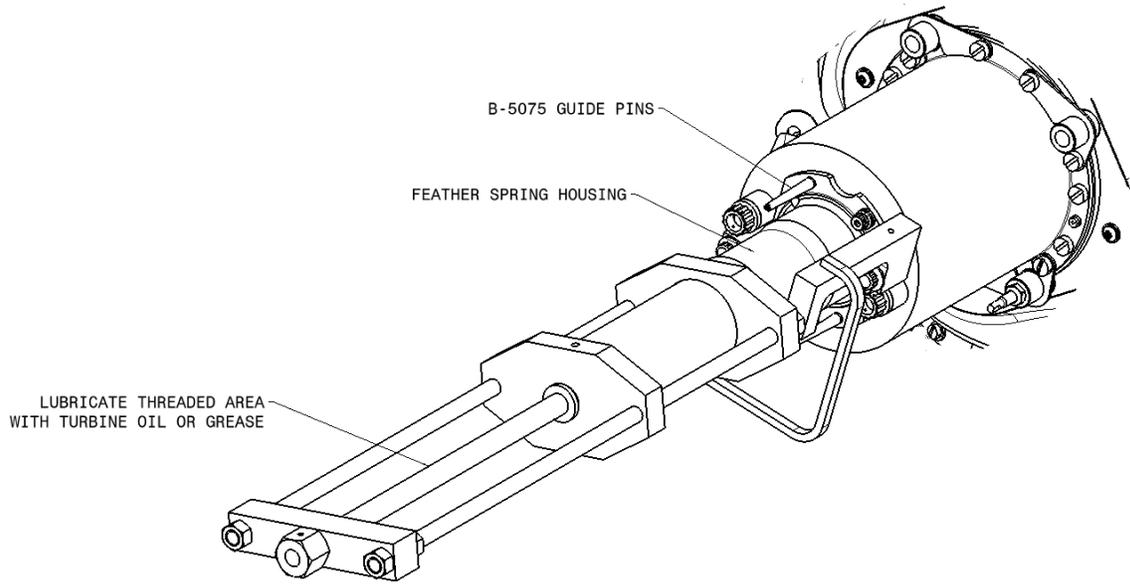
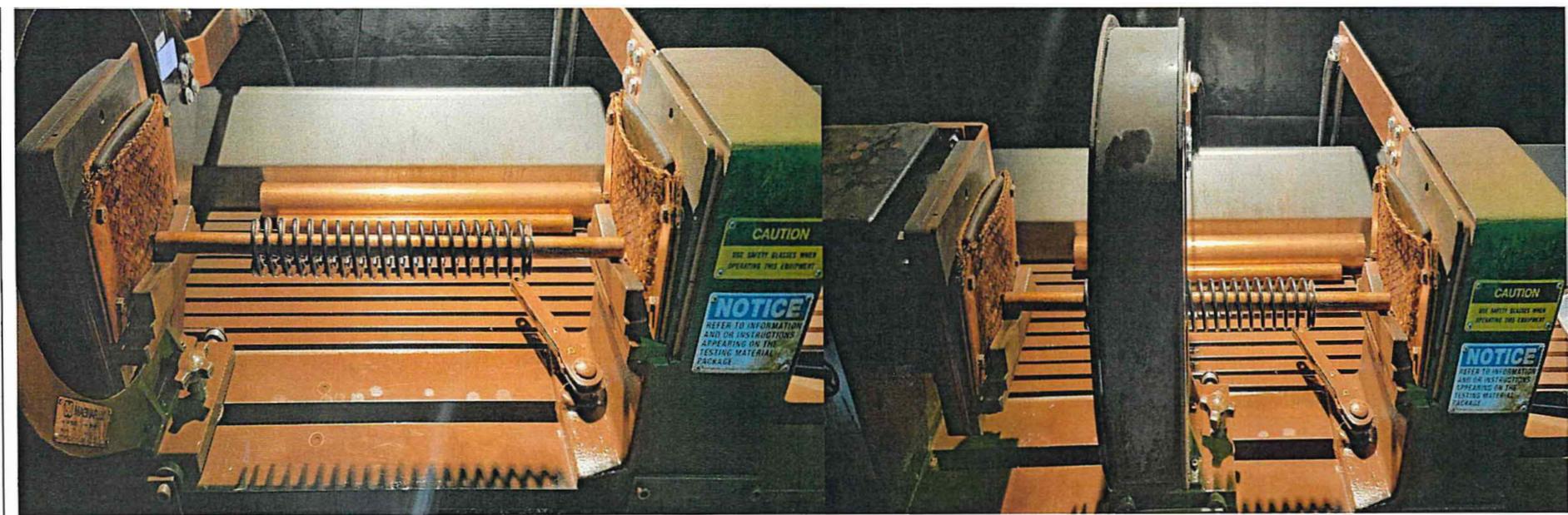


FIGURE 1
SPRING HOUSING ASSEMBLY





TRANSVERSE (ROD)

LONGITUDINAL (RING)

**FIGURE 2
INSPECTION TECHNIQUES**

WARRANTY SUPPLEMENT



McCAULEY™

WS275

TITLE

C-5932 and C-5328 Feather Spring Inspection

TO:

FAA-Approved Propeller Repair Stations, Aircraft Manufacturers, Owners, and Operators

NOTE: For warranty consideration, the propeller must be within the applicability in SB275.

LABOR HOURS:

CONDITION	LABOR-HOURS
Remove and Reinstall Feathering Spring	1.5* (See Warranty Statement Below)
Feathering Spring Mag Particle Inspection	1.0

MATERIAL AVAILABILITY

For a list of part numbers, refer to the McCauley MPC650, MPC750 & MPC1100

E-5011 Assembly Fixture and B-5075 Guide Pins or as alternate, two AN4-34A bolts are the only unique tools needed for completion of SB275. These tools can be purchased through the parts.txtav.com website. A limited number of these tools are also available on a first come, first serve basis to loaned under a refundable core deposit. Contact McCauley Product Support for inquiries.

WARRANTY

Authorized McCauley Service Facilities that are rated to overhaul propellers will qualify for parts and labor coverage when SB275 is completed on an eligible propeller to the extent noted in the Labor Hours and Material Availability sections of this document. Authorized McCauley Service Facilities will be reimbursed for shipping cost of the feathering spring and Special Tools E-5011 Assembly Fixture and B-5075 Guide Pins.

November 06/2023

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McCauley Publications Customer Service, P.O. Box 7706, Wichita, Kansas 67277-7706, U.S.A. (316) 517-5800, Facsimile (316) 517-7271, Email: customercare@mccauley.textron.com

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WARRANTY SUPPLEMENT



McCAULEY™

WS275

Eligibility: All McCauley propellers identified in McCauley Alert Service Bulletin SB275.

Per normal Textron Aviation warranty processes, all parts claimed under warranty must be traceable back to an original McCauley/Textron Aviation sales order that was shipped within the timeframe of SB275. Any claim that does not include this information will not be paid.

Labor Coverage: The McCauley Authorized Service Facility will reimburse the mechanic or maintenance facility for shipping cost and 1.5 hours of labor to cover removal and reinstallation of the feathering spring.

CREDIT APPLICATION: After this service document has been accomplished, a claim must be submitted to Textron Aviation within 30 days of the service document completion. Claims for compliance of this service document are to be filed as a spare parts type claim. Please submit your claim form online at: ww2.txtav.com/parts; or email the completed Textron Aviation Claim Form to warranty@txtav.com. If submitted on-line a Return Authorization will be provided. If a paper claim is submitted your claim will be entered into the system and a Return Authorization will be sent to you. The Return Authorization must accompany any required return parts, (See Material Availability).

Parts to be returned to Textron Aviation Parts Distribution should be forwarded to:

McCauley Propeller Systems

Attn: Warranty Processing (SB275)

5000 Cargo Drive

Columbus, GA 31907

EXPIRATION: November 06, 2024 (after this date the owner/operator assumes the responsibility for compliance costs).