

SERVICE BULLETIN

Beechcraft

TITLE: PROPELLERS - LEFT ENGINE PROPELLER UNFEATHERING ACCUMULATOR OIL TUBE ASSEMBLY CHAFING INSPECTION AND MODIFICATION

1. Planning Information

A. Effectivity

(1) Airplanes

BEECHCRAFT Model 58 and G58 Baron, Serials TH-2097 through TH-2150 with optional propeller unfeathering accumulators installed.

If you are no longer in possession of the airplane, please forward this information to the present owner.

(2) Spares

None.

B. Reason

This Service Bulletin is being issued to correct a condition in which potential for chafing exists between lines, hoses, electrical wires, structure and components. Raytheon Aircraft Company (RAC) received a report of the loss of engine oil and subsequent precautionary in-flight shutdown of the left engine resulting from chafing between the metal identification tags on the flexible manifold pressure hose and the P/N 96-960011-23 propeller accumulator tube assembly. In the incident case, chafing of the propeller accumulator tube assembly with the manifold pressure hose's metal identification tags resulted in a hole in the propeller accumulator tube assembly and leakage of engine oil into the left engine compartment.

The propeller accumulator tube assembly supplies oil pressure to a feathered propeller to facilitate in-flight unfeathering of the propeller. If this tube is chafed to the extent that oil under pressure is released, the loss of engine oil could cause oil starvation engine damage, loss of engine power, and engine seizure. Engine seizure due to loss of engine oil may lead to inability to feather the propeller. Additionally, the loss of engine oil could affect the unfeathering of the propeller. Loss of engine power and/or inability to control the propeller feathering may adversely affect airplane controllability. Engine oil leaking into the engine compartment may come into contact with the exhaust system, electrical wiring, and other components possibly leading to fire or smoke. Fire or smoke may adversely affect airplane controllability, or lead to pilot incapacitation.

Adequate clearance between all lines, hoses, electrical wires, structure and components must be maintained to avoid chafing. RAC issued Safety Communique No. 271 concerning this condition.

The export of these commodities, technology or software are subject to the US Export Administration Regulations. Diversion contrary to U.S. law is prohibited. For guidance on export control requirements, contact the Commerce Department's Bureau of Export Administration at 202-482-4811 or at www.bxa.doc.gov.

Raytheon Aircraft Company (RAC) issues Service Information for the benefit of owners and fixed base operators in the form of two classes of Service Bulletins. The first class, Mandatory Service Bulletins (red border) includes changes, inspections and modifications that could affect safety or crashworthiness. RAC also issues Service Bulletins with no red border which are designated as either recommended or optional in the compliance section within the bulletin. In the case of recommended Service Bulletins, RAC feels the changes, modifications, improvements or inspections will benefit the owner/operator and although highly recommended, Recommended Service Bulletins are not considered mandatory at the time of issuance. In the case of Optional Service Bulletins, compliance with the changes, modifications, improvements or inspections is at the owner/operator's discretion.

Both classes are mailed to:

- (a) RAC Authorized Service Centers.
- (b) Owners of record on the FAA Aircraft Registration Branch List and the RAC International Owner Notification/Registration Service List.
- (c) Those having a publications subscription.

Information on Owner Notification Service or subscription can be obtained through any RAC Authorized Service Center. As Mandatory Service Bulletins and Service Bulletins are issued, temporary notification in the Service Bulletin Master Index should be made until the index is revised. Warranty will be allowed only when specifically defined in the Service Bulletin and in accordance with the RAC Warranty Policy.

Unless otherwise designated, RAC Mandatory Service Bulletins, Service Bulletins and RAC Kits are approved for installation on RAC airplanes in original or RAC modified configurations only. RAC Mandatory Service Bulletins, Service Bulletins and Kits may not be compatible with airplanes modified by STC installations or modifications other than RAC approved kits.



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C. Description

This Service Bulletin inspects the manifold pressure hose and its metal identification tags for proper routing and adequate clearance to avoid a potential chafing condition with the propeller accumulator tube assembly. Both the manifold pressure hose and its metal identification tags are positioned and secured to avoid contact with other lines, hoses, electrical wires, structure and components.

D. Compliance

An Airworthiness Directive will be requested on the matter covered by this Service Bulletin.

Raytheon Aircraft Company considers this to be a mandatory modification and it must be accomplished prior to further flight for affected aircraft that have not completed an Annual/100-Hour Inspection as outlined in the current BEEHCRAFT Baron 55 and 58 Shop Manual (P/N 55-590000-13E25 or subsequent) or that have not completed the inspection outlined in RAC Safety Communiqué No. 271.

For aircraft that have completed an Annual/100-Hour Inspection as outlined in the current BEEHCRAFT Baron 55 and 58 Shop Manual or that have completed the inspection outlined in RAC Safety Communiqué No. 271, this modification must be accomplished as soon as possible after receipt of this Service Bulletin, but no later than the next 50 flight hours or next scheduled inspection, whichever occurs first.

E. Approval

The engineering data contained in this Service Bulletin is FAA approved.

F. Manpower

The following information is for planning purposes only:

Estimated man-hours for inspection and installation of clamps: 0.7 hours.

Estimated man-hours to replace propeller accumulator tube assembly, if required: 1.0 hour.

Suggested number of men: 1 man.

The above is an estimate based on experienced, properly equipped personnel complying with this Service Bulletin. Occasionally, after work has started, conditions may be found which could result in additional man-hours.

G. Weight and Balance

Negligible.

H. Electrical Load Data

Not changed.

I. Software Accomplishment Summary

Not applicable.

J. References

Raytheon Aircraft Safety Communiqué No. 271;

Raytheon Aircraft Company, BEEHCRAFT Baron 55 and 58 Shop Manual, P/N 55-590000-13E25 or subsequent revision, Sections 1, 2 and 16 (Pages 5 and 6, Items B.3, B.22, and B.23).

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K. Publications Affected

It is recommended that a note "See Service Bulletin No. 61-3806" be made in the following:

Raytheon Aircraft Company, BEECHCRAFT Baron 55 and 58 Shop Manual, P/N 55-590000-13E25 or subsequent revision, 100-Hour Inspection Guide, Section 16.

L. Interchangeability of Parts

Not applicable.

M. Warranty Credit

Warranty credit for labor and parts to the extent noted under MANPOWER and MATERIAL will be allowed on all affected airplanes.

Warranty coverage offered in this Service Bulletin will expire 12 months from the last day of the month this Service Bulletin is issued. After that date, the owner/operator assumes the responsibility for compliance cost. Raytheon Aircraft Company reserves the right to void warranty coverage in the area affected by this Service Bulletin until the date the Service Bulletin is accomplished by a Raytheon Aircraft Company Authorized Service Center.

All warranty work must be accomplished by a Raytheon Aircraft Authorized Service Center rated to perform maintenance on the specific model of Beechcraft Airplane.

All warranty reimbursements are handled through Raytheon Aircraft Company Authorized Service Centers. The owner/operator should arrange for an Authorized Service Center to perform the work and the Authorized Service Center must submit the standard Raytheon Aircraft Company warranty claim.

2. Material Information

A. Materials - Price and Availability

Contact a Raytheon Aircraft Authorized Service Center for information.

B. Industry Support

Not applicable.

C. Airplanes

The following parts required for this modification may be ordered through a Raytheon Aircraft Authorized Service Center or RAPID:

Part Number	Description	Quantity Per Airplane
96-960011-23 *	Tube Assembly, Propeller Accumulator, LH	As Required
* Part number of Raytheon Aircraft Company, P. O. Box 85, Wichita, KS 67201-0085. Obtain from Raytheon Aircraft Parts Inventory and Distribution Company (RAPID), 10511 E. Central, Wichita, KS 67206, Website: raytheonaircraft.com , E-mail: parts@raytheonaircraft.com , 1-888-RAPID44 (1-888-727-4344) (Domestic) or 316-676-3100 (International), FAX: 316-676-3222 (Domestic) or 316-676-3327 (International).		

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The following parts and materials, or their equivalent, may be obtained locally:

Part Number	Description	Quantity Per Airplane
MS21919WDG8	Clamp, Loop Type, Cushioned, Support - 1/2 Inch (Manifold Pressure Hose)	As Required
MS21919WDG10	Clamp, Loop Type, Cushioned, Support - 5/8 Inch (Engine Mount Assembly)	As Required
AN3-4A (NASM3-4A) or 130909B14 ***	Bolt - Machine, Aircraft (Clamp Hardware)	As Required
AN960-10 (NAS1149F0363P)	Washer, Flat (Clamp Hardware)	As Required
MS21042-3 (NASM21042-3)	Nut, Self-Locking, Ring Base (Clamp Hardware)	As Required
TT-N-95, Type II	Solvent, Aliphatic Naphtha *	As Required
	Solvent, Methyl Propyl Ketone (MPK) *	As Required
ASTM D329	Solvent, Acetone *	As Required
TT-I-735A	Solvent, Isopropyl Alcohol *	As Required
DOD-R-003081	Rag, Lint-Free	As Required
CCC-C-440 or A-A-1491	Cheesecloth, Cotton	As Required
A-A-53513 or P/N 187 7711 **	Gloves, Polyethylene, Industrial, Solvent Handling	As Required
* Obtain from Barton Solvents, Inc., 201 South Cedar, P. O. Box 366, Valley Center, KS 67147, Website: www.barsol.com, 316-755-2305, FAX: 316-755-2323; or Eastman Chemical Company, Inc., P. O. Box 431, 100 North Eastman Road, Kingsport, TN 37662, Website: www.eastman.com, 1-800-EASTMAN (1-800-327-8626) or 423-229-2000, FAX: 423-229-2145. ** Part number of Eastman Kodak Company, 343 State Street, Rochester, NY 14650, Website: www.kodak.com, 1-800-242-2424 or 716-724-4000. *** Part number of Raytheon Aircraft Company, P. O. Box 85, Wichita, KS 67201-0085. Obtain from Raytheon Aircraft Parts Inventory and Distribution Company (RAPID), 10511 E. Central, Wichita, KS 67206, Website: raytheonaircraft.com, E-mail: parts@raytheonaircraft.com, 1-888-RAPID44 (1-888-727-4344) (Domestic) or 316-676-3100 (International), FAX: 316-676-3222 (Domestic) or 316-676-3327 (International).		

D. Spares

Not applicable.

E. Reidentified Parts

None.

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F. Tooling - Price and Availability

Not applicable.

3. Accomplishment Instructions

This Service Bulletin shall be accomplished as follows:

NOTE

Should any difficulty be encountered in accomplishing this Service Bulletin, contact Raytheon Aircraft Company at 1-800-429-5372 or 316-676-3140.

A. Airplane

WARNING

Observe all Warnings and Cautions contained in the aircraft manuals referenced in this Service Bulletin.

Whenever any part of this system is dismantled, adjusted, repaired or renewed, detailed investigation must be made on completion to make sure that distortion, tools, rags or any other loose articles or foreign matter that could impede the free movement and safe operation of the system are not present, and that the systems and installations in the work area are clean.

- (1) Remove all power from the airplane and disconnect the battery. Display warning notices prohibiting reconnection of airplane electrical power. Refer to Section 2 of the BEEHCRAFT Baron 55 and 58 Shop Manual.

NOTE

Prior to performing the inspection, clean the area (as needed) free of dirt, grease and grime using an appropriate solvent and a clean cotton cheesecloth or lint-free rag. Wipe the surface dry with a clean cotton cheesecloth or lint-free rag. Repeat cleaning procedures, as necessary, until obtaining a clean surface.

- (2) Inspect the engine manifold pressure hose and its metal identification tags for proper routing and adequate clearance to avoid any chafing with the propeller accumulator tube assembly. Refer to Figure 1.

CAUTION

If the propeller accumulator oil tube assembly is replaced, it must be inspected along its entire length to ensure clearance between it and all tubes, hoses, electrical wires, parts, components, and structure to avoid chafing.

- (3) Inspect the propeller accumulator oil tube assembly for chafing damage, paying particular attention to the area identified in Figure 1. If any chafing damage is present, the tube must be replaced before further flight. Reference Section 1 of the BEEHCRAFT Baron 55/58 Shop Manual for torque of applicable fittings.

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CAUTION

Adequate clearance between all tubes, hoses, electrical wires, parts, components and structure must be maintained to avoid chafing. Refer to Items B.3, B.22, and B.23 of the 100-Hour Inspection Guide in the BEEHCRAFT Baron 55 and 58 Shop Manual (Section 16, Pages 5 and 6).

- (4) Position (relocate) and secure both the manifold pressure hose and its metal identification tags to avoid contact with other tubes, hoses, electrical wires, parts, components and structure. Refer to Figures 2 and 3 and proceed as follows:
 - (a) Disconnect the manifold pressure hose at the firewall fitting and route it above the wire bundle and air conditioning hose. Refer to Figures 2 and 3.
 - (b) Reconnect the manifold pressure hose at the firewall fitting. Reference Section 1 of the BEEHCRAFT Baron 55/58 Shop Manual for torque of applicable fittings.
 - (c) Attach an MS21919WDG8 clamp to the manifold pressure hose (1/2 inch) and an MS21919WDG10 clamp to the engine mount assembly (5/8 inch). Position clamp on engine mount to achieve maximum clearance with surrounding components and structure. Secure the manifold pressure hose to the engine mount assembly as shown in Figures 2 and 3. Secure the clamps together with an AN3-4A (NASM3-4A) bolt, AN960-10 (NAS1149F0363P) washer, and an MS21042-3 (NASM21042-3) self-locking nut.
- (5) Reconnect the airplane battery, remove warning notices and restore power. Refer to Section 2 of the BEEHCRAFT Baron 55 and 58 Shop Manual.
- (6) Ensure all work areas are clean and clear of tools and miscellaneous items of equipment.
- (7) Make an appropriate maintenance record entry.
- (8) Return airplane to service.

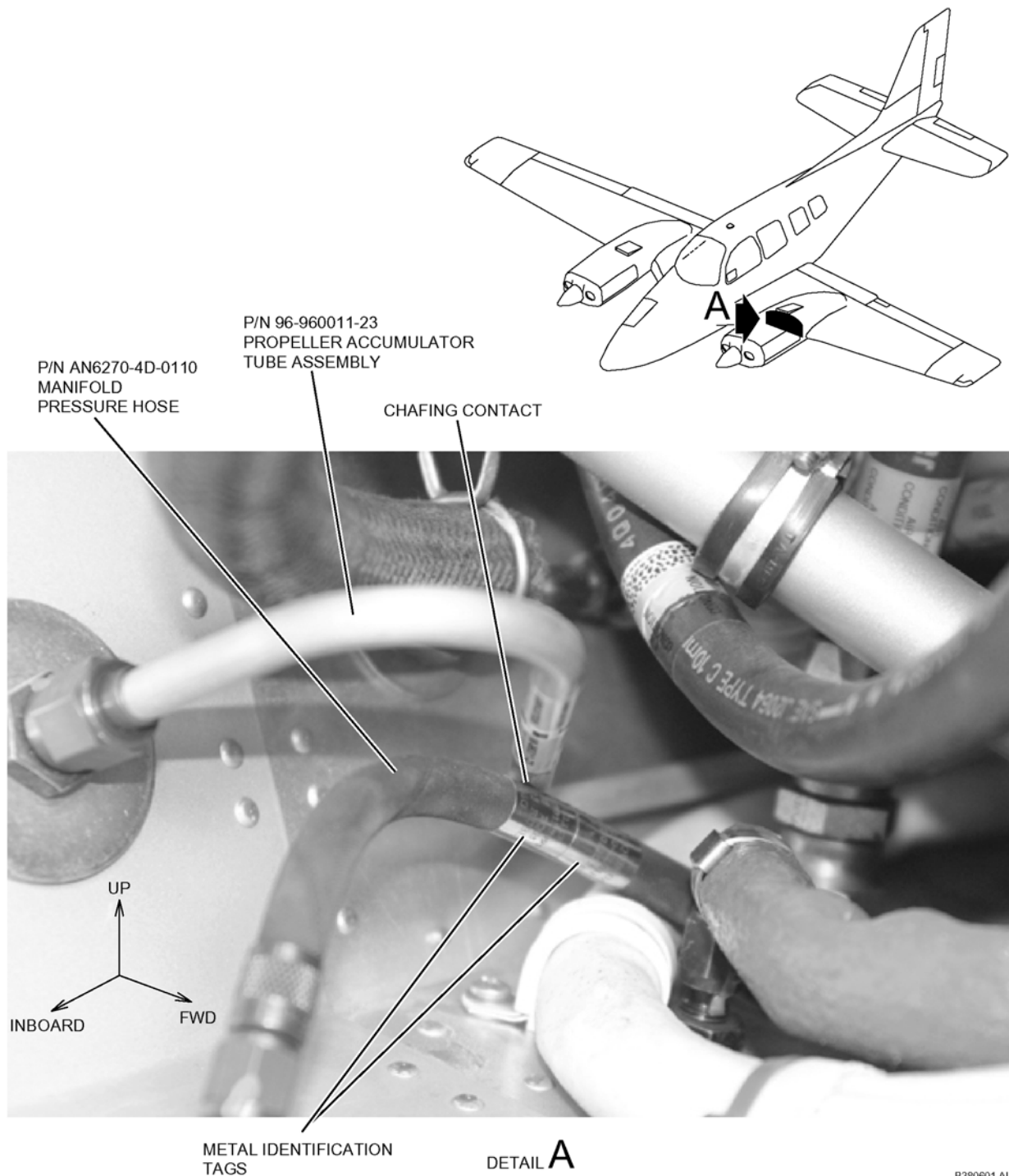
B. Spares

Not applicable.

C. Record of Compliance

Upon completion of this Service Bulletin, make an appropriate maintenance record entry.

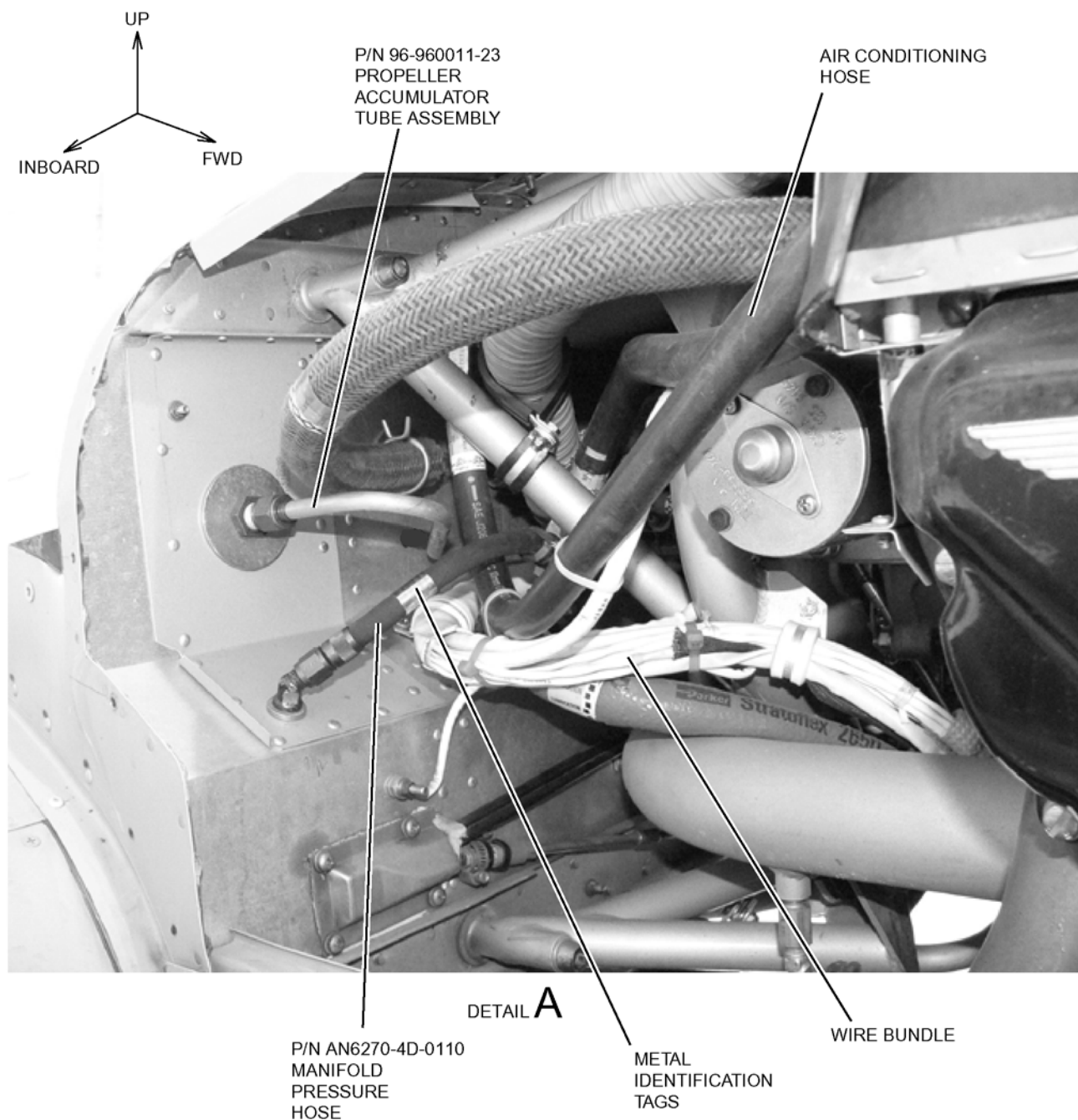
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**VIEW OF LEFT ENGINE FIREWALL FORWARD FACE SHOWING PREVIOUS HOSE ROUTING
(LOOKING OUTBOARD)**

Figure 1

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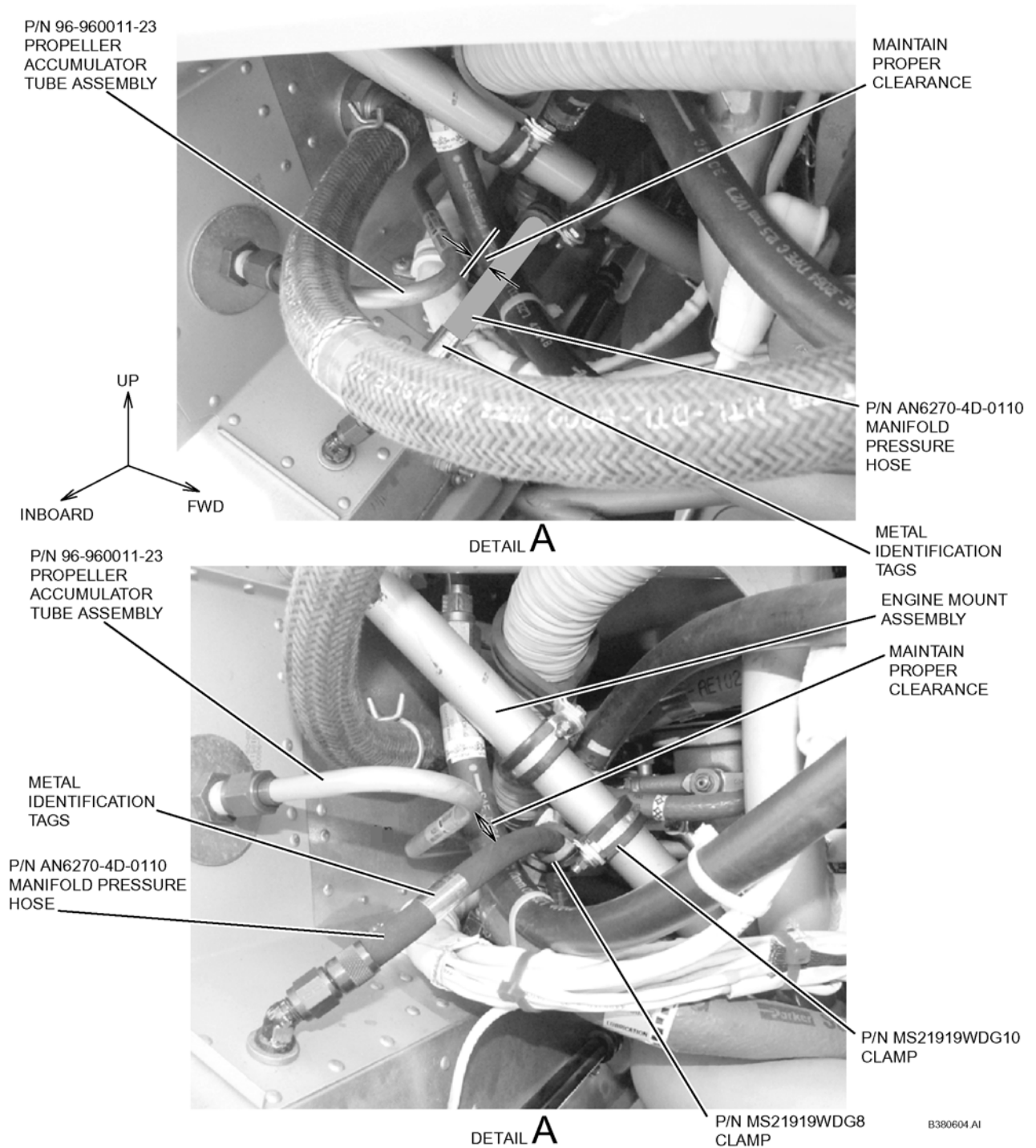


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**VIEW OF LEFT ENGINE FIREWALL FORWARD FACE SHOWING NEW HOSE ROUTING
(LOOKING OUTBOARD)**

Figure 2

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**VIEWS OF LEFT ENGINE FIREWALL FORWARD FACE SHOWING NEW HOSE ROUTING
(LOOKING OUTBOARD)**

Figure 3