

SERVICE BULLETIN

Beechcraft

TITLE: ENGINE CONTROLS - THROTTLE WARNING/GEAR RETRACTION PREVENTION CAM INSPECTION/INSTALLATION

SYNOPSIS OF CHANGE

This service bulletin has been revised to correct the torque values for the AN315-3R nut listed in Accomplishment Instructions. Provisions for applying thread locking compound to the AN315-3R are added if minimum thread requirements for the locknuts cannot be met. Relevant technical changes are marked with change bars in the outside margins.

1. Planning Information

A. Effectivity

(1) Airplanes

BEECH Model A36 Bonanza, Serials E-2104, E-2111 through E-3629, E-3631 through E-3643, E-3645 through E-3646, E-3648 through E-3649, E-3651 through E-3655 and E-3658;

BEECH Model B36TC Bonanza, Serials EA-320, EA-389 through EA-695;

BEECH Model 58 Baron, Serials TH-1389, TH-1396 through TH-2124;

BEECH Model 58TC Baron, Serial TK-151;

BEECH Model 58P Baron, Serials TJ-436, TJ-444 through TJ-497.

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 inspect the throttle warning switch and gear retract prevent switch cams for proper hardware installation and torque. If lockwashers are not installed under the nuts that

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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.

Beechcraft

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secure the cams to the actuator rods and the proper torque applied, vibration may cause the nut to loosen and work its way off the rod. Improper torquing of the AN315-3R nut could result in the nut backing off the actuator rod. RAC is aware of one case where the nut and cam came off the actuator rod, allowing the rod to swing down and wedge against the pedestal structure, thereby preventing the throttle from being advanced. This condition could restrict the ability of the pilot to apply engine power for a go-around and in a twin engine configuration, could allow only one engine to be advanced, creating asymmetric thrust. Either condition could result in loss of airplane control.

C. Description

The throttle warning/gear retraction prevention cams are inspected for proper attachment hardware. An MS35338-100 lockwasher, if missing, is installed under each AN 315-3R cam retention nut and proper torque is applied to each nut. In addition, an MS21042L3 self-locking nut is installed at each actuator rod end to prevent the AN315-3R cam retention nut and cam from disengaging from the rod.

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 as soon as possible after receipt of this Service Bulletin, but no later than the next 25 flight hours or six calendar months, 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: 0.5 hour.

Estimated man-hours for repair: 0.5 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.

It is the responsibility of the owner/operator to maintain compliance with the applicable Airworthiness Regulations.

H. Electrical Load Data

Not changed.

I. Software Accomplishment Summary

Not applicable.

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J. References

BEEHCRAFT Bonanza Series Maintenance Manual, P/N 36-590001-9A28 or subsequent revision, Chapters 20-00, 25-00, 32-30, and 32-60.

BEEHCRAFT Baron 58 Shop Manual, P/N 102-590000-13E24 or subsequent revision, Sections 5 and 6.

BEEHCRAFT Baron 58P/58PA/58TC/58TCA Maintenance Manual, P/N 102-590000-5A25 or subsequent revision, Chapter 32-60.

K. Publications Affected

It is recommended that a note "See Service Bulletin No. 76-3763, Rev. 1" be made in the following:

BEEHCRAFT Bonanza Series Maintenance Manual, P/N 36-590001-9A28 or subsequent revision, Chapters 20-00, 25-00, 32-30, and 32-60.

BEEHCRAFT Baron 58 Shop Manual, P/N 102-590000-13E24 or subsequent revision, Sections 5 and 6.

BEEHCRAFT Baron 58P/58PA/58TC/58TCA Maintenance Manual, P/N 102-590000-5A25 or subsequent revision, Chapter 32-60.

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 still within their standard warranty coverage.

Warranty coverage offered in this Service Bulletin will expire 12 months from the last day of the month of the original issue of this Service Bulletin. 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.

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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
MS35338-100	Lockwasher	As Required
AN315-3R	Nut	As Required
MS21042L3 130909N29	or Nut	As Required

Raytheon Aircraft Company expressly reserves the right to supersede, cancel and/or declare obsolete, without prior notice, any parts or publications that may be referenced in this Service Bulletin.

The following materials may be obtained locally:

Part Number	Description	Quantity Per Airplane
SAE AMS-T-22085, Type III or equivalent	Tape, Pressure Sensitive Adhesive (Masking)	As Required
Loctite 243 or equivalent	Thread Locking Compound	As Required

D. Spares

None.

E. Reidentified Parts

None.

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.

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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.

NOTE

If it becomes necessary to make adjustments to the throttle warning/gear retraction prevent switch cams, follow the procedure listed in the appropriate Bonanza Series Maintenance Manual, Baron 58P/58TC Maintenance Manual, or Baron 58 Shop manual. Flying the airplane and marking the pedestal with masking tape before starting on these Service Bulletin ACCOMPLISHMENT INSTRUCTIONS may eliminate the need to fly the aircraft if cam adjustment becomes necessary after maintenance. All Cam and/or switch adjustment should be accomplished in accordance with the procedures in the appropriate Bonanza Series Maintenance Manual, Baron 58P/58TC Maintenance Manual, or Baron 58 Shop Manual.

- (1) Remove all power from the airplane and disconnect the battery. Display warning notices prohibiting reconnection of airplane electrical power.
- (2) Gain access to the airplane flight compartment and locate the pedestal assembly. Refer to Figure 1.
- (3) Remove attaching hardware and the pedestal cover. Retain attaching hardware. Locate the throttle warning switch/gear retract prevent switch cams in the pedestal assembly.
- (4) Inspect the cam actuator rods for presence of a MS35338-100 lockwasher and AN315-3R nut on the actuator rod. Refer to Figure 2.
- (5) Verify that the AN315-3R nut is torqued to 18-20 inch-pounds, not to exceed 25 inch-pounds torque. If MS35338-100 lockwasher is present and the AN-315-3R nut is properly torqued, proceed to steps (7) through (13),
- (6) Inspect for the following conditions and correct any deficient conditions:

NOTE

If an MS35338-100 lockwasher is missing, mark the position of the upper nut on the actuator rod to maintain switch adjustment prior to removal of the AN315-3R nut. Refer to applicable Throttle Warning Horn Switch Adjustment procedures in Sections 5 and 6 of the appropriate Baron Series Shop Manual, or Chapter 32 of the Bonanza Series Maintenance Manual.

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- (a) Lockwasher missing - If missing, remove the AN315-3R nut, install an MS35338-100 lockwasher on the throttle cam actuator rod, and reinstall the AN315-3R nut.
- (b) AN315-3R nut backed off of the actuator rod - Secure nut against lockwasher.
- (c) Proper torque - Using appropriate size torque wrench, apply 18-20 inch-pounds torque, not to exceed 25 inch-pounds torque, to the nut.
- (d) Repeat steps (6) (a) through (6) (c) for each actuator rod.
- (7) Install a new MS21042L3 or P/N 130909N29(back-up) lock nut on the end of each actuator rod. Tighten until a minimum of three threads of the throttle cam actuator rod are exposed.

NOTE

If locknut cannot be installed with minimum thread requirement, apply Loctite 243 thread locking compound to AN315-3R nut and omit locknut.

- (8) Install attaching hardware retained in step (3) and secure the pedestal cover.
- (9) Ensure all work areas are clean and clear of tools and miscellaneous items of equipment.
- (10) Reconnect the airplane battery and restore power.
- (11) Check freedom of movement of the engine controls.
- (12) Remove warning notices.
- (13) Return airplane to service.

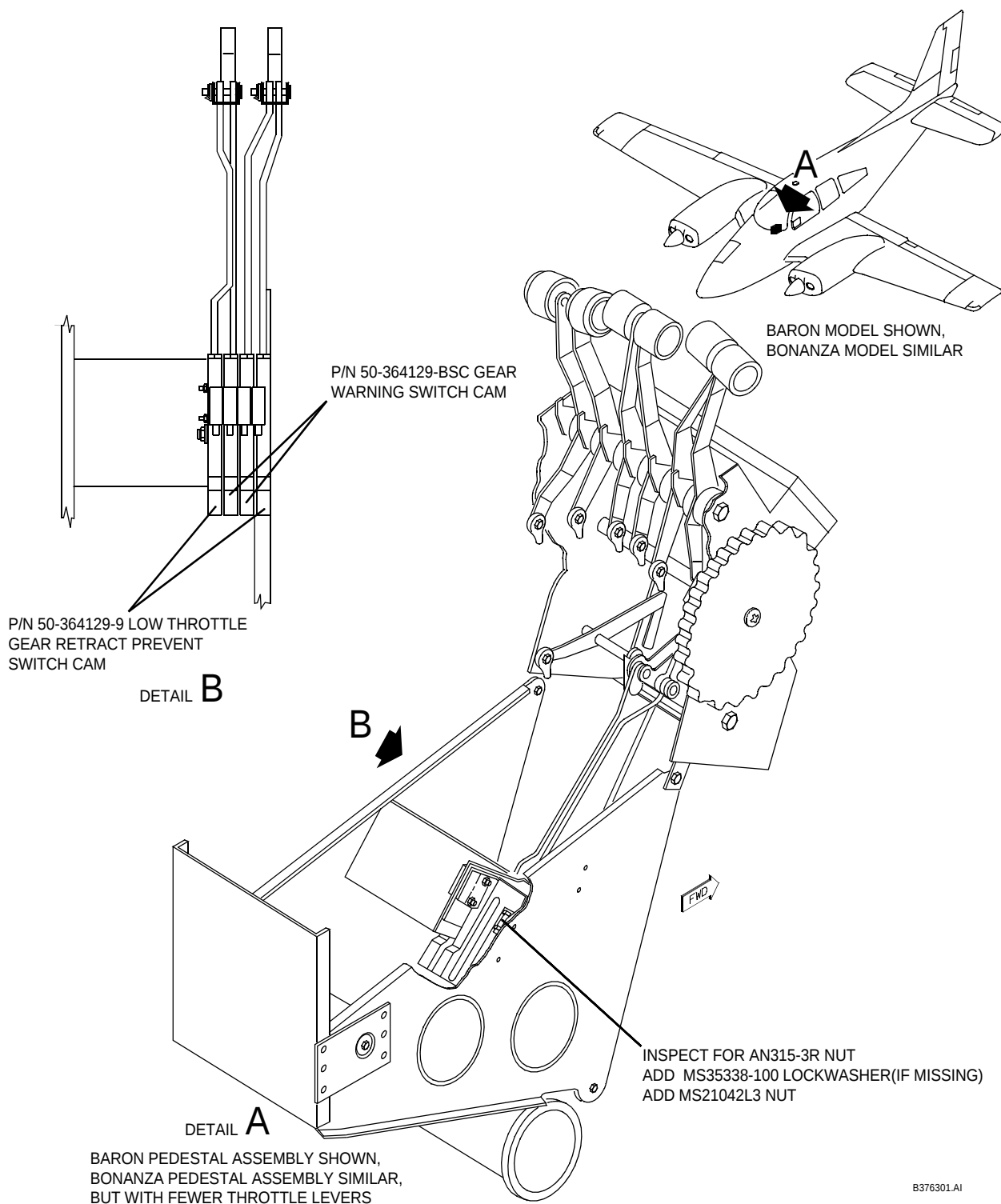
B. Spares

Not applicable.

C. Record of Compliance

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

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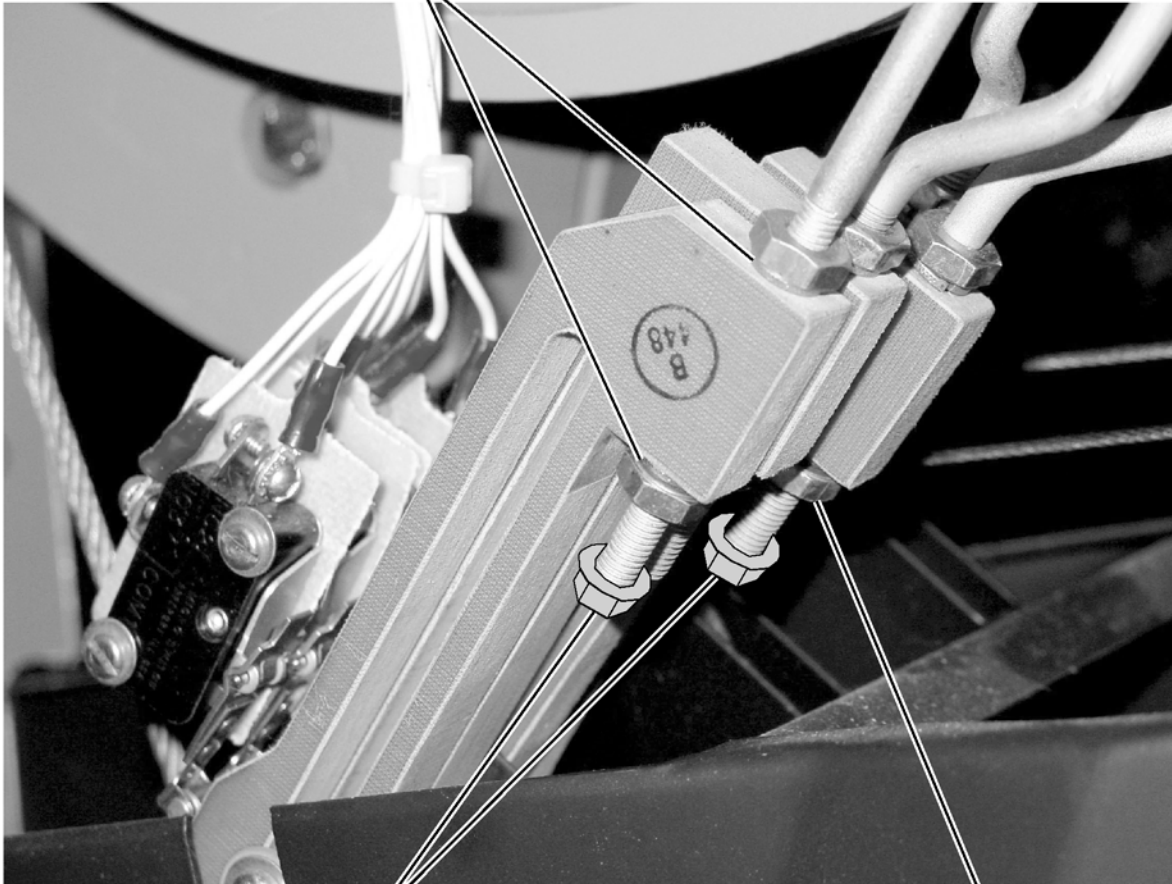


Throttle Warning/Gear Retraction Prevention Cam Inspection/Installation

Figure 1

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VERIFY MS35338-100 LOCKWASHER IS
INSTALLED ON EACH CAM ACTUATOR ROD.



INSTALL NEW MS21042L3 NUT (TYPICAL 4 PLACES)
ON EACH THROTTLE WARNING SWITCH/GEAR
PREVENT SWITCH CAM ACTUATOR ROD.
TIGHTEN UNTIL A MINIMUM OF THREE THREADS
ARE EXPOSED.

VERIFY AN315-3R NUT HAS NOT BACKED
OFF AND PROPER TORQUE IS APPLIED IN
ACCORDANCE WITH ACCOMPLISHMENT
INSTRUCTIONS.

NOTE



IF LOCKNUT CANNOT BE INSTALLED WITH MINIMUM
THREAD REQUIREMENT, APPLY LOCTITE 243 THREAD
LOCKING COMPOUND TO AN315-3R NUT AND OMIT LOCKNUT.

Inspection of Throttle Warning Switch/Gear Retract Prevent Switch Cams for Proper Hardware and Torque
Figure 2

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