

2011-10-09 Cessna Aircraft Company: Amendment 39-16690; Docket No. FAA-2010-1101; Directorate Identifier 2009-CE-013-AD.

Effective Date

(a) This airworthiness directive (AD) is effective June 17, 2011.

Affected ADs

(b) This AD supersedes AD 87-20-03 R2, Amendment 39-6669.

Applicability

(c) This AD applies to all serial numbers of the following Cessna Aircraft Company (Cessna) Models that are certificated in any category:

	Models
(1)	150A, 150B, 150C, 150D, 150E, 150F, 150G, 150H, 150J, 150K, 150L, 150M, A150K, A150L, A150M, F150F, F150G, F150H, F150J, F150K, F150L, F150M, FA150K, FA150L, FA150M, FRA150L, and FRA150M
(2)	152, A152, F152, and FA152
(3)	170, 170A, and 170B
(4)	172, 172A, 172B, 172C, 172D, 172E, 172F (USAF T-41A), 172G, 172H (USAF T-41A); 172I, 172K, 172L, 172M, 172N, 172P, 172Q, 172RG, F172D, F172E, F172F, F172G, F172H, F172K, F172L, F172M, F172N, F172P, FR172E, FR172F, FR172G, FR172H, FR172J, FR172K, P172D, R172E (USAF T-41B) (USAF T-41C and D), R172F (USAF T-41D), R172G (USAF T-41C or D), R172H (USAF T-41D), R172J, and R172K
(5)	175, 175A, 175B, and 175C
(6)	177, 177A, 177B, 177RG, and F177RG
(7)	180, 180A, 180B, 180C, 180D, 180E, 180F, 180G, 180H, 180J, and 180K
(8)	182, 182A, 182B, 182C, 182D, 182E, 182F, 182G, 182H, 182J, 182K, 182L, 182M, 182N, 182P, 182Q, 182R, F182P, F182Q, FR182, R182, T182, and TR182
(9)	185, 185A, 185B, 185C, 185D, 185E, A185E, and A185F
(10)	188, 188A, A188, A188A, 188B, A188B, and T188C
(11)	190
(12)	195, 195A, and 195B
(13)	206, P206, P206A, P206B, P206C, P206D, P206E, TP206A, TP206B, TP206C, TP206D, TP206E, TU206A, TU206B, TU206C, TU206D, TU206E, TU206F, TU206G, U206, U206A, U206B, U206C, U206D, U206E, U206F, and U206G
(14)	207, 207A, T207, and T207A
(15)	210, 210-5 (205), 210-5A (205A), 210A, 210B, 210C, 210D, 210E, 210F, 210G, 210H, 210J, 210K, 210L, 210M, 210N, 210R, P210N, P210R, T210F, T210G, T210H, T210J, T210K, T210L, T210M, T210N, and T210R
(16)	T303
(17)	336
(18)	337, 337A, 337B, 337C, 337D, 337E, 337F, 337G, 337H, F337E, F337F, F337G, F337H, FT337E, FT337F, FT337GP, FT337HP, M337B, P337H, T337B, T337C, T337D, T337E, T337F, T337G, T337H, and T337H-SP

Subject

(d) Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 51; Standard Practices Structures.

Unsafe Condition

(e) This AD was prompted by reports of seats slipping on the rails where the primary latch pin for the pilot/copilot seat is not properly engaged in the seat rail/track and reports of the seat roller housing departing the seat rail. We are issuing this AD to prevent seat slippage or the seat roller housing from departing the seat rail, which may consequently cause the pilot/copilot to be unable to reach all the controls. This failure could lead to the pilot/copilot losing control of the airplane.

Compliance

(f) Comply with this AD within the compliance times specified, unless already done.

Actions

(g) For all airplanes, to address the unsafe condition described in paragraph (e) of this AD, you must do the following actions on the seat rails; seat rollers, washers, and axle bolts or bushings; seat roller housings and the tangs; and lock pin springs, unless already done, initially within the next 100 hours time-in-service (TIS) after the last inspection done following AD 87-20-03 R2 or within the next 12 calendar months after the effective date of this AD, whichever occurs first. Repetitively thereafter do the actions at intervals not to exceed every 100 hours TIS or every 12 months, whichever occurs first:

(1) Visually inspect the pilot and copilot seat rails for dirt and debris that may prevent engagement of the seat locking pins. Before further flight, after any inspection where dirt or debris is found, remove the dirt or debris found.

(2) Remove the seat from the seat rail.

(i) Remove the seat stops.

(ii) Disengage seat belt/shoulder harness from the seat, if necessary.

(iii) Raise vertical adjusting seats to maximum height.

(iv) Hold seat latches disengaged and slide the seat forward and aft to disengage rollers.

(v) Lift the seat out of the airplane.

(3) Inspect the diameter of each seat locking pin engagement hole in the pilot and copilot seat rails for excessive wear. Due to wear on the rail surface at the hole opening, we allow this measurement 0.020 of an inch below the surface of the rail. You must take this measurement somewhere between the surface of the rail or no more than 0.020 of an inch below the surface of the rail.

(i) If the diameter of any of the holes is 0.42 of an inch or more (see figure 1), before further flight, replace the rail.

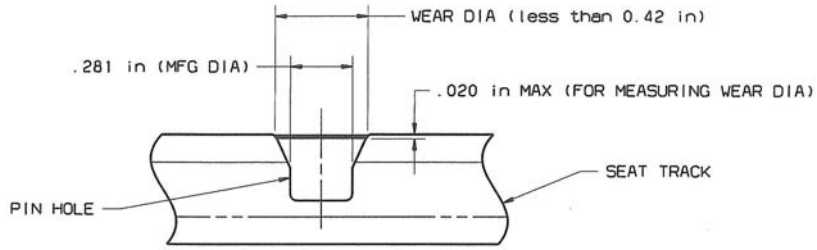


Figure 1. Diameter of seat pin locking engagement hole

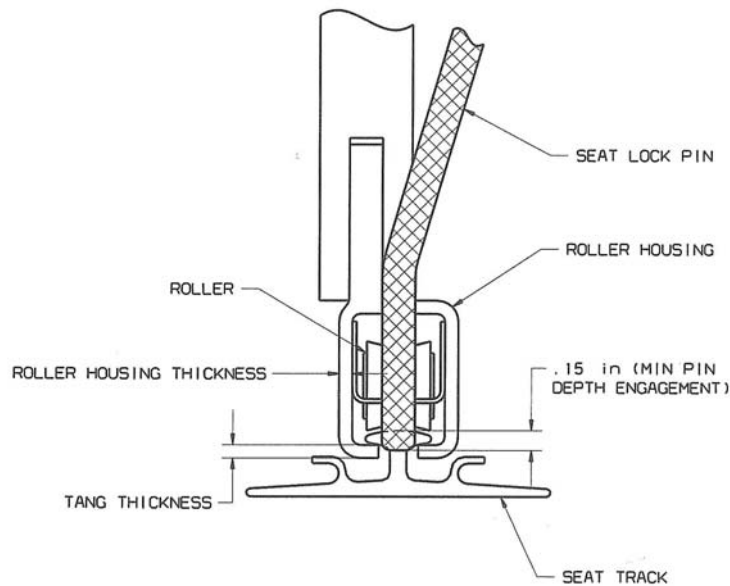


Figure 2. Seat locking pin depth engagement

(ii) Rail replacement does not terminate the repetitive actions required in paragraph (g) of this AD.

(4) Visually inspect the seat rollers for flat spots and inspect the rollers and washers for binding. Assure all rollers and washers, which are meant to rotate, turn freely on their axles (or bushings if installed).

(i) Before further flight, replace any rollers with flat spots and any worn washers.

(ii) Before further flight, remove and clean the parts if there is any binding between the bores of the rollers, washers, or axles.

(iii) Do not lubricate the rollers, washers, or axles because the lubricant will attract dust and other particles that may cause binding.

(5) Inspect the thickness of the tang (see figure 2 and figure 3). Due to wear of the tang chafing against the seat rail, measure the tang thickness where the tang inner edges contact the seat rail.

(i) If the tang thickness measures less than 0.05 of an inch, before further flight replace the roller housing.

(ii) Replacement of the roller housing does not terminate the repetitive actions required in paragraph (g) of this AD.

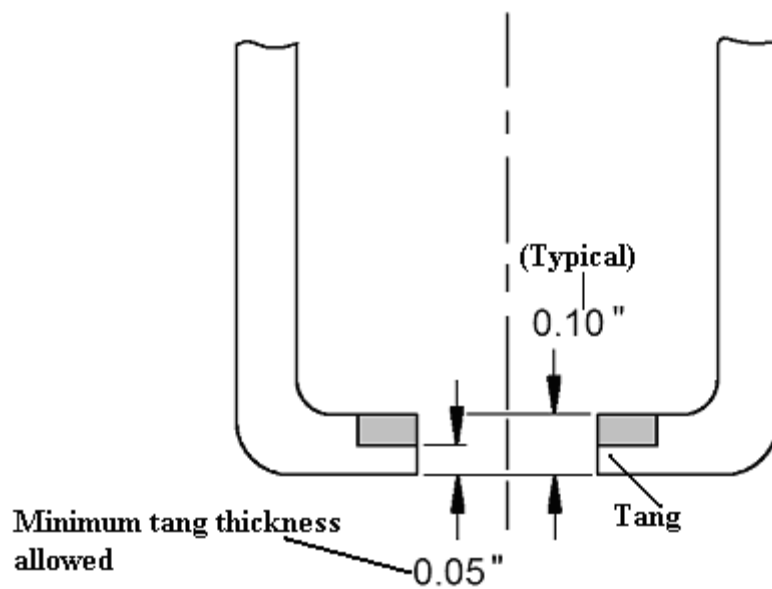
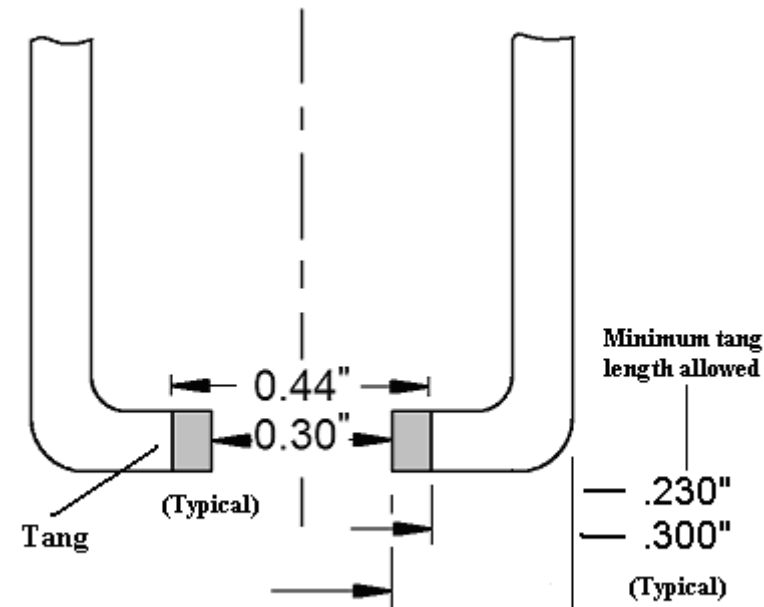


Figure 3. Closeup of seat roller housing and tang thickness

(6) Due to wear or deformation of the tangs, inspect the tang length from the inner edge of the tang to the outer edge (the bend area) of the roller housing (see figure 4).



(i) The minimum measurement allowed for the remaining tang length is 0.230 inches remaining on either of the tangs, from the inner edge of the tang to the outer edge (the bend area) of the roller housing. If the measurement is less than 0.230 inches on either of the tangs, before further flight, replace the roller housing.

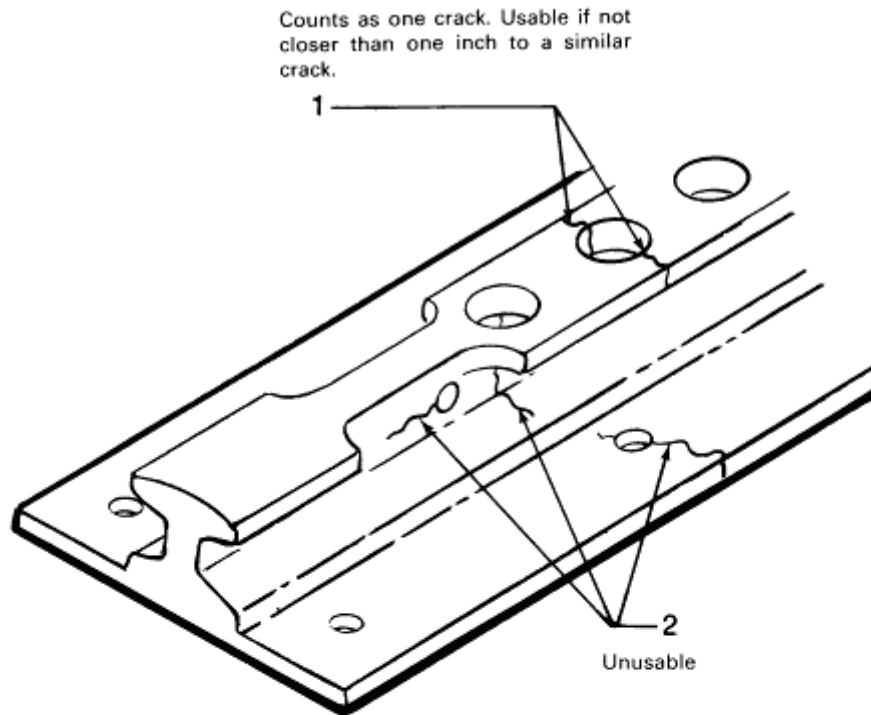
(ii) Replacement of the roller housing does not terminate the repetitive actions required in paragraph (g) of this AD.

(7) Inspect the springs that keep the lock pins in position in the rail holes for positive engagement action. Before further flight, replace any spring that does not provide positive engagement.

(8) Visually inspect the seat rails for cracks.

(i) If there are seat rail cracks that exceed the crack criteria in figure 5, before further flight, replace the seat rail.

(ii) Replacement of the seat rail does not terminate the repetitive actions required in paragraph (g) of this AD.



REPLACE SEAT RAIL WHEN:

- (1) Any portion of web or lower flange is cracked (index 2).
- (2) Any crack in crown of rail is in any direction other than right angle to length of rail.
- (3) Number of cracks on any one rail exceeds four, or any two cracks (index 1) are closer than one inch.

NOTE

Use of seat rail cargo tie-downs is not permissible on seat rails with cracks.

Figure 5. Seat rail

(9) Reinstall the seat on the seat rail.

(i) Lift the seat into the airplane and place on the seat rail.

(ii) Hold seat latches disengaged and slide the seat aft and then forward to re-engage rollers.

(iii) Lower vertical adjusting seats to a comfortable height.

(iv) Reattach seat belt/shoulder harness to the seat, if previously attached to the seat.

(v) Reinstall the seat stops.

(10) Lift up the forward edge of each seat to eliminate vertical play of the seat locking pin in the engagement hole, and from this position, inspect the depth of engagement of each seat locking pin (see figure 2). If the rail is worn, this depth is measured from the worn surface, not the manufactured surface.

(i) If engagement of any of the seat locking pins measures less than 0.15 of an inch, before further flight, replace or repair any seat components necessary to achieve a seat pin engagement of a minimum of 0.15 of an inch.

(ii) Repair or replacement of necessary seat components does not terminate the repetitive actions required in paragraph (g) of this AD.

Paperwork Reduction Act Burden Statement

(h) A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2120-0056. Public reporting for this collection of information is estimated to be approximately 5 minutes per response, including the time for reviewing instructions, completing and reviewing the collection of information. All responses to this collection of information are mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to the FAA at: 800 Independence Ave., SW., Washington, DC 20591, Attn: Information Collection Clearance Officer, AES-200.

Alternative Methods of Compliance (AMOCs)

(i)(1) The Manager, Wichita Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in the Related Information section of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) AMOCs approved for AD 87-20-03 R2 are approved for this AD.

Related Information

(j) For more information about this AD, contact Gary Park, Aerospace Engineer, ACE-118W, Wichita Aircraft Certification Office (ACO), 1801 Airport Road, Room 100, Wichita, Kansas 67209; telephone: (316) 946-4123; fax: (316) 946-4107; e-mail: gary.park@faa.gov.