



Document Title	Rudder Pedal Brake Master Cylinder Attachment
Document Number	SB075 (016-0011)
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Subject: Rudder Pedal Brake Master Cylinder Attachment

Affected Aircraft: All Lancair Evolution Aircraft

Status: Mandatory Service Bulletin for All Lancair Evolution Aircraft

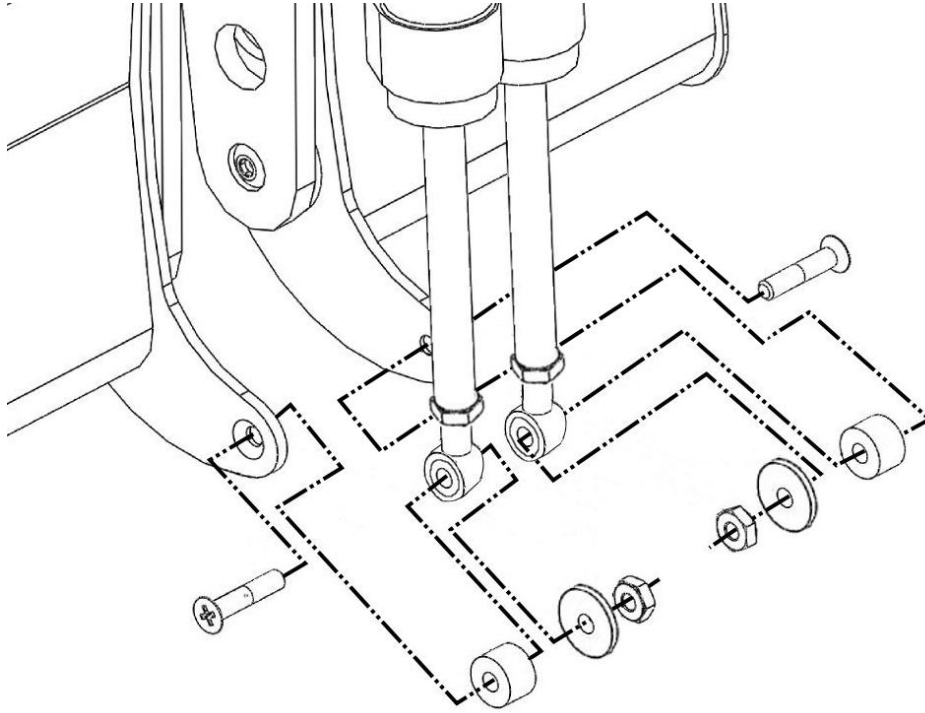
Importance: High

Background: A performance issue involving the Evolution brake master cylinder attachment was reported on a Lancair Evolution aircraft. In this instance, the pilot reported that the rudder would not streamline in flight when feet were removed from the rudder pedals. It was found that there was an excessive amount of friction at the base of the pedals where the master cylinders attach. The screw, spacer and jam nut were the source of the friction. Upon loosening the mount screw and jam nut enough to allow the spacer to spin freely, the binding went away.

Lancair has conducted engineering analysis and a design review which has led to the conclusion that the clevis type attachment should be replaced with a spherical bearing rod end attachment due to the space constraint, to ease assembly and to simplify servicing. The spherical bearing attachment also minimizes friction, provides for a means of secure attachment and is less susceptible to frictional changes with use. This affects all kits and aircraft with the adjustable rudder pedal assembly installed.

This design change is completely documented in this service bulletin. This change will be in the next revision to the Evolution Build Manual.

Action: Disassemble the clevis attachments at the base of each pedal. Set the spacers, 112-0088, aside for reuse. Remove the clevis from the end of each brake cylinder rod. Thread a jam nut, AN316-4, on each spherical bearing rod end, M34-14AU. For each cylinder, thread in spherical bearing rod end and secure with jam nut at a height that aligns the hole in the spherical bearing with the attachment hole in the rudder pedal. Use the attachment screw, MS24694-S60, to check the alignment. Insert the attachment screw through the rudder pedal attachment hole, the spacer, the spherical bearing rod end, the large area washer, AN970-3, and secure with lock nut AN364-1032. Refer to the figure below.



Jam Nut
AN316-4

Rod End
M34-14AU

Screw
MS24694-S60

Spacer
112-0088

Washer, Large Area
AN970-3

Lock Nut
AN364-1032A

Call Lancair Customer Service at (866) 659-2376 to schedule your materials kit delivery and/or if you need assistance in performing this modification.