



SERVICE LETTER 00047 R1

Date Released: September 29, 2022 R1 (Clarification to Materials Required section; added detail to Synopsis)
August 15, 2022 R0 (Initial Release)

Date Effective: August 15, 2022

Subject: Brake Caliper O-Ring Upgrade

Affected Models: All

Affected LSA Serial Numbers: All

Required Action: Optional replacement of brake fluid and O-rings

Time of Compliance: Optionally at next brake pad replacement

Supersedes Notice: N/A

Labor Required / SLSA Warranty Allowance: N/A

Level of Certification: SLSA: LSA Repairman Maintenance or A&P
EAB/ELSA: Owner (certification not required)
Check the rules of the local controlling authority/agency and the operating limitations for your aircraft.

Synopsis:

MIL-H-5606A hydraulic fluid has a low flashpoint of 250 degrees F. When used as brake fluid, leaks combined with overheated brake components could potentially lead to fire. For this reason, MIL-PRF-83282 hydraulic fluid is recommended by Van's due to its higher flashpoint temperature of 400 degrees F. Although both MIL-H-5606A and MIL-PRF-83282 fluids are acceptable for use, Van's now specifies MIL-PRF-83282 in the RV-12iS maintenance manual. Note that the two fluids (MIL-H-5606A and MIL-PRF-83282) are mixable. Although the two fluids may be mixed, Van's does not have any current data on the service temperature characteristics of the mixed fluid. In order to take advantage of the characteristics of MIL-PRF-83282, it is recommended to flush the system completely and fill with MIL-PRF-83282.

Older brake calipers could have been supplied with O-rings that were susceptible to failure when overheated. To help with this we have been offering a Viton o-ring replacement for brake calipers, that supports the 400 degrees F flashpoint temp of MIL-PRF-83282. The previous Viton O-ring had a minimum temperature rating of -15 degrees F, where MIL-PRF-83282 has a minimum temperature rating of -40 degrees F.

New Viton O-rings are now available that support a temperature range of -40 degrees F to +400 degrees F. See Table 1.

NOTE: Viton O-rings are not compatible with glycol-based brake fluids.

Materials Required:

Order the following parts that match the O-ring size as specified in your brake manufacturers documents. The O-ring Size column lists an inside diameter as well as a 'dash' number that identifies the dimensions of the O-ring. This 'dash' number is indicative only of the size of the O-ring and not the material type.

SLSA RV-12 and RV-12iS aircraft could have been supplied with Matco or Grove brakes. For Matco installations, order U-00025; for Grove installations, order U-00015-1.

Van's Part Number	Replaces Van's Prior Part Number	O-ring Size
U-00015-1 (Temp Range -40 to 400 degrees F)	U-00015 (Temp Range -15 to 400 degrees F)	-218 1.234in ID
U-00025 (Temp Range -40 to 400 degrees F)	MS28775-222 (Temp Range -65 to 275 degrees F)	-222 1.484 in ID
U-00026 (Temp Range -40 to 400 degrees F)	N/A	-224 1.734 in ID

TABLE 1: O-RING TYPES

Method of Compliance:

Step 1: Replace the O-rings in brake calipers according to your brake manufacturer's instructions.

Step 2: Completely empty fluid from the brake lines and refill with MIL-PRF-83282 hydraulic fluid.

Step 3: Make a logbook entry indicating compliance with service document per the requirements of the controlling authority/agency.

For LSA's, place a copy of this notification in the back of the maintenance manual for your aircraft. Add the name and date of the service information to the Addendum Documents List at the front of the Maintenance Manual.

If you are no longer in possession of this aircraft, please forward this information to the present owner/operator and immediately notify Van's Aircraft, Inc. via email at registrations@vansaircraft.com.

Information regarding establishing/transferring aircraft ownership, registration and licensing is available at: <https://www.vansaircraft.com/qr/transfer-of-ownership/>