

CHAMPION AIRCRAFT CORPORATION  
Osceola, Wisconsin

FAA Approved

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SERVICE LETTER #42

TO: All Champion Aircraft owners, dealers,  
distributors and operators.

FROM: Champion Engineering Service Department.

SUBJECT: Importance of keeping landing gear oleo  
assemblies at the proper fluid level.

AIRCRAFT AFFECTED: Model 7 aircraft manufactured after 1954

It has been brought to our attention that numerous Champion aircraft are being operated with either low or incorrect fluid levels in their landing gear oleo assemblies.

Continued operation under these conditions could result in failure of the oleo and /or gear attachment fittings or complete failure of the landing gear. This applies to main, nose and aft gear installations.

We recommend that:

1. A fluid level check be made at least during every periodic aircraft inspection but should be checked more often if any evidence of leaking is determined. An immediate check would assure proper fluid level at the present time.
2. 8½ Fluid Ounces are added to the oleo at the factory. Fluid conforming to MIL-H-5606 specification is used. This type fluid or equivalent hydraulic fluid is important and should not be substituted with any other type. A placard giving this information is attached to each oleo at the factory.
3. The following procedure should be used for determining proper main gear oleo fluid level:
  - A. With oleo in inverted position remove cap by first loosening lock ring.
  - B. The oleo should be lightly tapped so that the fluid will fill all lower portions of the mechanism. Tap until bubbles cease to appear in the oil.

- C. At this point with the taxi spring resting on the piston the fluid level should be  $1 \frac{5}{8}$ " below the cylinder end.
  - D. Overfilling will cause a hydraulic lock and should be avoided.
4. The following procedure should be used for determining proper nose and/or aft gear oleo fluid levels:
- A. With oleo in inverted position remove brass fill plug. Insert wire or other device and check fluid level.
  - B. Follow step 3B above.
  - C. Check fluid level again. The proper level should be  $3 \frac{1}{8}$ " below the cylinder end.
5. If an oleo is completely disassembled in the field  $8 \frac{1}{2}$  fluid ounces (15.35 cubic inches) must be added to the oleo upon reassembly.

Periodic inspection and proper maintenance of the oleo assemblies will result in better landing characteristics, longer oleo life and elimination of possible failure due to insufficient or incorrect fluid levels.