

Piper Aircraft Corporation

Lock Haven, Pennsylvania, U.S.A.

November 7, 1951

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**SUBJECT:** Freezing of Nose Wheels**MODELS AFFECTED:** PA-22 airplanes with serial numbers 22-1 to 22-354 inclusive

It has been found that when operating in hard driving rain or when washing the airplane water can enter the oleo housing through the upper bearing.

During freezing weather any water which may have entered the 1/16" space between the housing and the oleo will freeze causing the nose wheel to become inoperative insofar as directional steering is concerned, both on the ground and in the air.

We have developed a solution to the problem and it is requested that Model PA-22 aircraft which fall within the above serial number range be inspected and modified in accordance with the following procedure:

1. Using a small punch and hammer make a mark 9/16" above the bottom edge of the lower bearing retainer ring which is located at the lower end of the nose wheel mount housing. The punch mark is to be made on the rearward side of the retainer ring (See sketch on the reverse side).
2. Using a Number 30 drill, drill a small pilot hole through the retainer ring, being very careful not to drill the oleo tube. The thickness of the material at this point is 13/32". There is only 1/16" clearance between the housing and the oleo. Do not drill into the oleo tube.
3. Using a Number 11 of 3/16" drill enlarge the size of the pilot hole which was drilled in accordance with Step 2. The purpose of the 3/16" hole is to provide a drain for any water which might have found its way into the oleo housing.
4. The airplane should be placed in a warm hangar to make sure that all traces of ice have melted and drained out of the oleo housing.
5. Apply a generous quantity of cup grease to the top of the oleo housing to prevent further seepage of water. The upper bearing and retainer nut should be completely covered.

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Extreme caution must be exercised during the drilling operation as indicated in Step 2 and Step 3. The above procedure can be followed without disassembling the airplane in any way.

As an alternate procedure the oleo assembly can be removed from the housing prior to the drilling operations. If the oleo assembly is removed then all traces of ice and water can be eliminated by scraping or wiping dry.

We are in the process of designing a boot which can be used to protect this area and it will be available within the very near future.

End

