



McFarlane Aviation Products

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Service Bulletin SB-6 Rev. A

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Procedures specified in this service bulletin must be accomplished in accordance with accepted methods of aircraft maintenance and applicable government regulations. Appropriate log book entries must be made.
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SUBJECT

This service bulletin describes an improvement for the existing in McFarlane Aviation, Inc. part numbers 6748 and 6818 throttle safety springs for the Rotax throttle control system. The springs were sold individually, as part of dual control hardware kit part number 6408, and as part of various McFarlane dual throttle controls. The springs are used with throttle controls for various dual light sport and experimental aircraft equipped with a Rotax 912 or 914 engine. The springs' function is to return the carburetor throttle arm to fully open position and to maintain tension on the throttle control system.

BACKGROUND

McFarlane Aviation, Inc. was notified by a customer that a failure of a part number 6748 spring had occurred. In this instance, one of the two installed springs broke in the extended hook area after less than 100 hours of use. McFarlane Engineering analyzed this failure and concluded that it was due to excessive work hardening during the spring forming process, resulting in premature fatigue failure. To address the issue, identical springs were locally annealed to relieve the forming stress in the spring hooks. These springs were designated P/N 6818 and were intended to replace the P/N 6748 springs. They were distributed and installed per McFarlane Service Bulletin SB-6, revision original, dated July 10, 2014.

Unfortunately, the problem reoccurred and, based on this new data, McFarlane Engineering revised its conclusion as to the failure cause from a single source of work hardening to a combination of work hardening and engine vibration induced fatigue.

McFarlane Aviation has scrapped the existing part numbers and completely redesigned a new spring. The new spring is designated part number 6822 and will replace either part numbers 6748 or 6818. P/N 6822 features a larger wire size (~0.04"), a larger coil O.D. (~0.44"), and will be either zinc plated or coated with a black preservative. The new spring is visibly distinct from its predecessors.

PART NUMBERS AFFECTED

Table with 3 columns: McFarlane P/N, Name, Lot Number. Lists affected parts like 6748 Spring (Lot 18924 & 19369), 6408 Hardware Kit (Lot 32386, 32533, & 33012), etc.

All affected articles were shipped from McFarlane between 1/1/2014 and 8/1/2014.

IDENTIFICATION METHODS

Aircraft service records and/or purchase receipts must be reviewed to determine if a spring from the affected list has been previously installed. The P/N 6818 springs have a green or blue stripe on them.

## COMPLIANCE

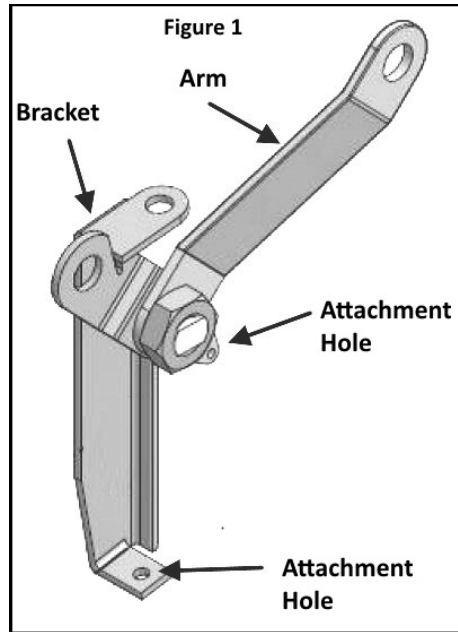
Compliance is mandatory and requires immediate removal of P/N 6748 or 6818 springs and replacement with McFarlane Part Number 6822 spring. McFarlane Aviation, Inc. has determined that this operation falls under the category of routine maintenance and non-complex operation and thus the repair may be made by the aircraft owner, operator, or mechanic.

## APPROVAL

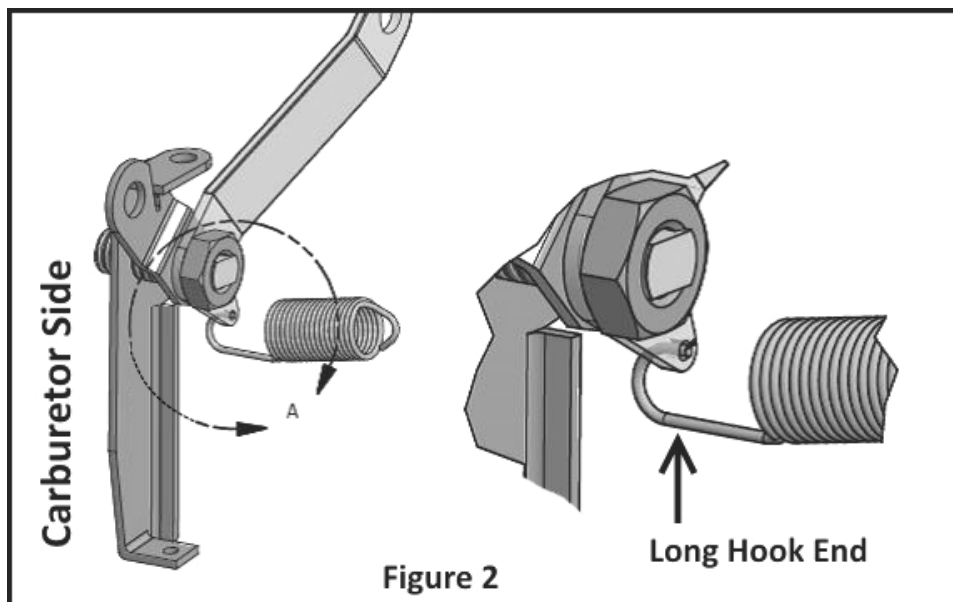
Technical portions are McFarlane Aviation, Inc. approved. No FAA approved articles are affected by this service bulletin.

## ACCOMPLISHMENT INSTRUCTIONS

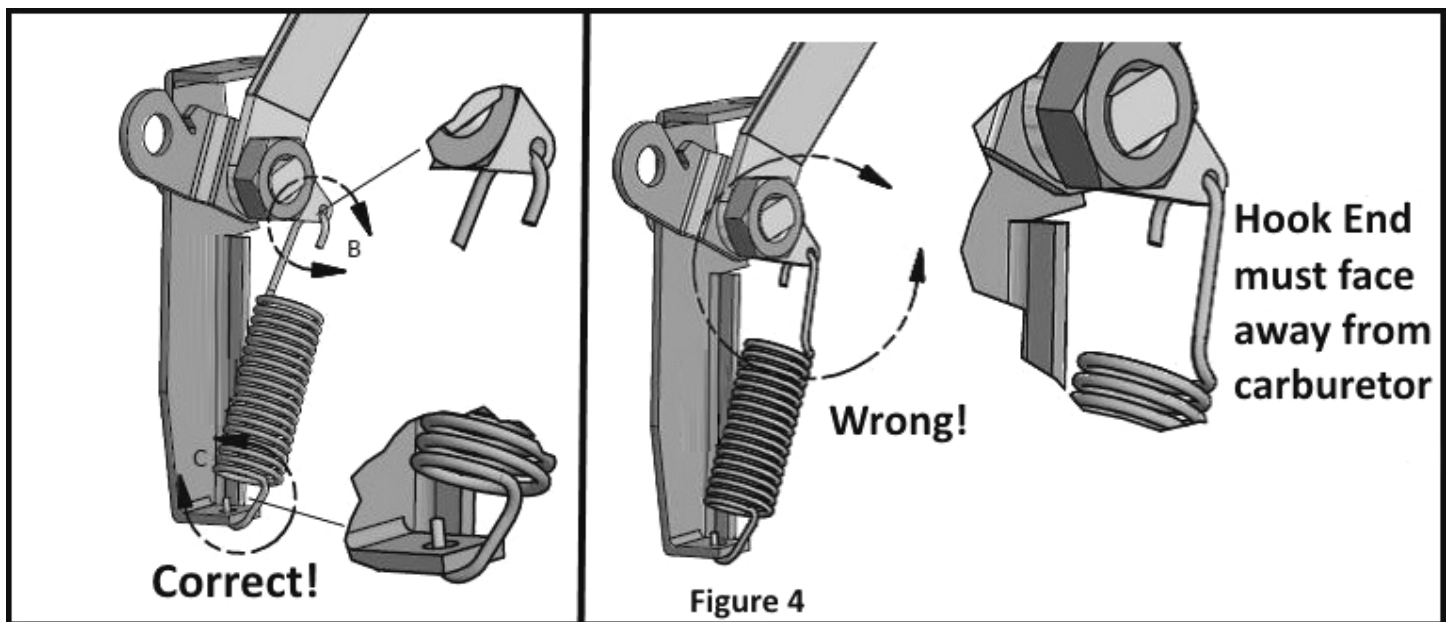
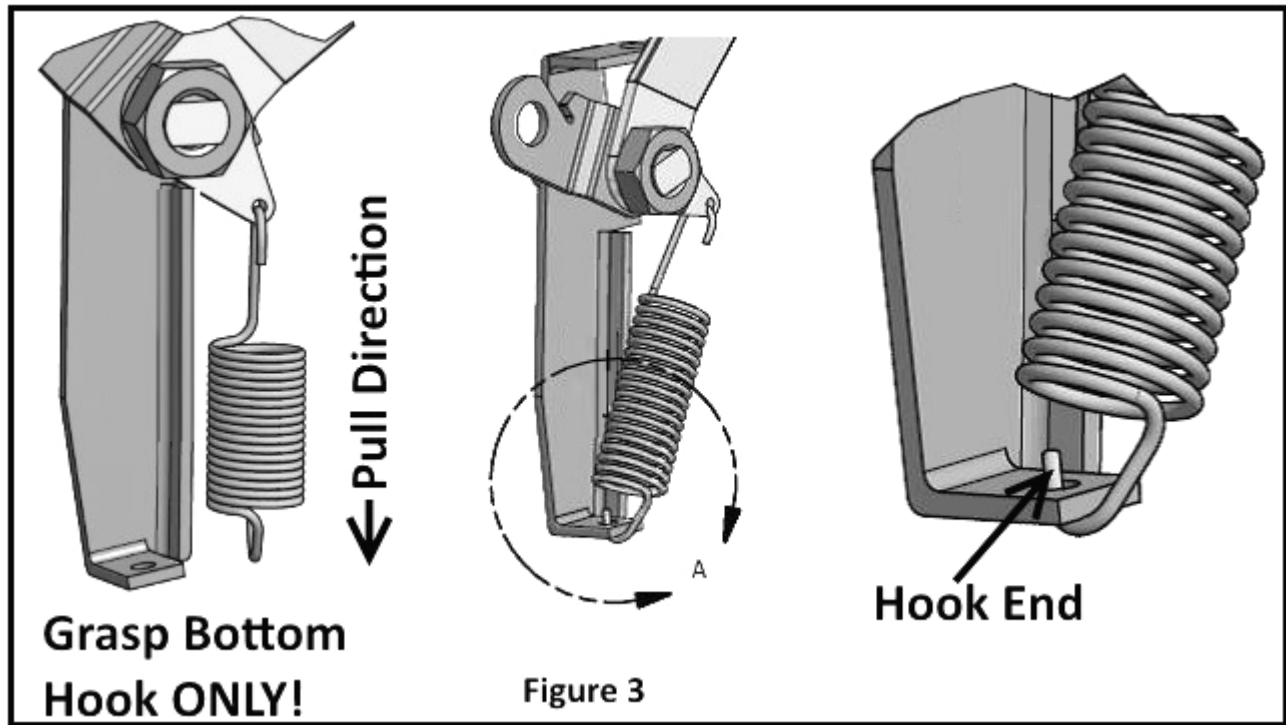
1. Review records to determine if an affected spring has been installed in the aircraft.
2. Remove the cowling per aircraft maintenance instructions and remove identified spring and dispose of it.



3. Install the new spring.
  - a. The long hook end of the spring is attached to the throttle linkage arm and must be oriented such that the hook end is facing away from the carburetor (Figure 2).



- b. Using only your hand, grasp ONLY the bottom hook and attach it to the fixed linkage. The hook end should be facing toward the carburetor body as shown in Figure 3. DO NOT TWIST the bottom hook during installation; doing so may severely limit the longevity of the spring. Correct installation position is shown in Figure 4.



4. Verify that the spring has free movement over the entire travel range of the throttle linkage.
5. Re-evaluate the throttle control system by cycling the control fully in and out re-adjusting the cable set stops if necessary.

## **MATERIAL PRICE AND AVAILABILITY**

P/N 6822 springs are available from McFarlane Aviation, Inc.

## **CREDIT INFORMATION**

McFarlane Aviation, Inc. will issue replacement springs at no cost to the customer for the affected lots listed above. To qualify for spring replacement, proof of purchase of the affected lots must be provided. As stated above, the original spring P/N 6748 & 6818 must be mutilated and disposed of.

## **DISTRIBUTION**

This service bulletin has been distributed to all customers for whom McFarlane Aviation, Inc. has sales records indicating the purchase of affected parts. All McFarlane service bulletins may also be found at [www.mcfarlaneaviation.com](http://www.mcfarlaneaviation.com). Please forward this urgent information to the current owner or operator of the affected aircraft. For further information or questions call (800) 544-8594 or (785) 594-2741. All persons are free to copy this bulletin if it is copied in its entirety with no alterations or additions.