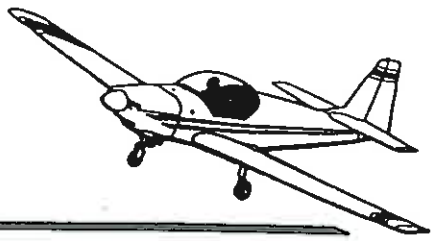
SLINGSBY AVIATION LTD



SERVICE BULLETIN

SB No. 111 Issue No. 1

TITLE **FUEL SERVO IDLE MIXTURE SETTING**

CLASSIFICATION

This Service Bulletin has been classified as Highly Recommended

COMPLIANCE Within 50 flying hours

APPLICABILITY:

All T67 aircraft equipped with Lycoming RSA-5-AB1 fuel injection systems (T67M260, T67M260-T3A)

INTRODUCTION:

This Service Bulletin clarifies the idle speed engine fuel mixture setting procedure and explains how to cope with the resulting effect on engine speed during the ignition system check. The fuel mixture at idle (800-850 rpm) must be set to achieve a 25-50 rpm engine speed increase when the mixture is manually leaned from the cockpit. For the -2 servo SAL highly recommends that the rpm increase not to exceed 25 rpm. For the -3 servo the rpm rise should be set from 25-40 rpm.

Slingsby Aviation will include the contents of this Service Bulletin in the next revision to the T67 Maintenance Manual.

ACTION

1. Remove the engine cowling and start the engine. Run the engine long enough to achieve a stable oil temperature in the 40-80°C range.

2. Place the mixture control in Full Rich and note the engine idle speed. Slowly lean the mixture until a maximum rpm increase is observed. If the mixture level contacts the detent, on those aircraft equipped with lever actuated mixture controls, move the mixture lever outboard and continue to lean the mixture to obtain a maximum speed increase. (See paragraph 7 for additional action).

ISSUED
18 SEP 1996

ISSUED BY: B Miller

Date 16-9-96

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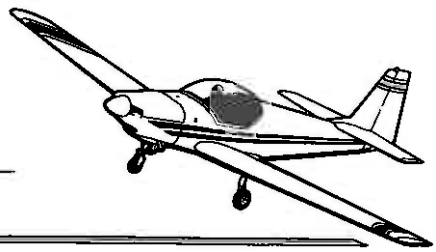

TITLE

FUEL SERVO IDLE MIXTURE SETTING

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Note:

The relationship of the aircraft to the direction of the prevailing wind will have an effect on the propeller load and engine speed. Therefore it is advisable to make the idle speed checks and adjustments with the aircraft oriented 90° to the wind directions. (Reference Maintenance Manual paragraph 6.7).

3. Continue to lean the mixture until a decay in speed is noted to ensure that a maximum speed increase was observed.

Note:

If no speed increase was observed the mixture was set too lean and must be enriched.

4. After determining the current setting of the servo, adjust the mixture wheel either rich or lean to obtain the proper 25 rpm rise for the -2 servo and 25-40 rpm for the -3 servo. (See Lycoming Service Manual for additional information.)

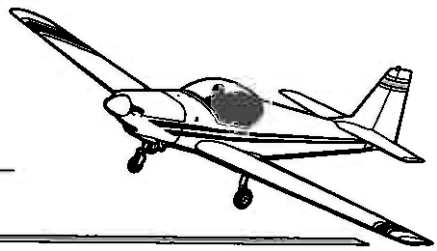
Note:

Periodically increase the engine speed to 2000 rpm for 30-60 seconds to clear the engine between checks.

5. After adjusting the mixture, reset the idle speed. If the aircraft is equipped with air conditioning, set the idle speed to 800 rpm with conditioning switched on. If the aircraft is not equipped with air conditioning, set the idle speed to 825 rpm.

6. After the mixture and idle speeds are set, increase the engine speed to 2000-2200 rpm and lean the mixture to obtain maximum rpm. Maintain this speed for 1 minute to clean the spark plugs. Upon completion, perform a magneto check.

6.1 Perform a magneto check with the mixture in full rich. If the engine rpm drop on single magneto operation, with the mixture full rich, does not exceed 110 rpm, the servo is not excessively rich and should continue in service.



TITLE

FUEL SERVO IDLE MIXTURE SETTING

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6.2 If the engine rpm drop during the magneto check exceeds 110 rpm but is less than 175 rpm, return to dual magneto operation and lean the mixture to maximum rpm. Reset the engine speed to 2000 rpm and perform another magneto check with the mixture leaned. If the rpm drop does not exceed 110 rpm with the mixture leaned, the servo is extra rich but may continue in service until it can be replaced at the next scheduled maintenance inspection with a new/reworked fuel injector assembly. In lieu of replacement fuel injector assembly, lean fuel mixture to obtain correct magneto operation.

6.3 If the rpm drop exceeds 110 rpm with the mixture leaned or if the rpm drop exceeds 175 rpm with the mixture in full rich, consult the Lycoming Service Manual to determine the cause of the ignition problem.

If the fault diagnosis procedures identify the fuel injector servo as defective, describe the tests carried out and the results in a supplemental report and attach the report to the servo prior to shipping the servo out for repair.

7. If the mixture control in paragraph 3 had to be moved beyond the detent in order to obtain proper leaning and the condition did not correct itself in subsequent mixture adjustments, the mixture control linkage is incorrect. Contact SAL Product Support Department for assistance in adjusting the linkage, as required.

8. Annotate the aircraft log book that SB 111 has been complied with, together with a note that either "Injector Servo adjusted only" or "Injector Replaced".