



AVStar Fuel Systems, Inc.
1365 Park Lane South
Jupiter, FL 33458

FAA Repair Station V1RR580Y
www.avstardirect.com

SERVICE INFORMATION LETTER

LFC-10AD2 SERVOS INSTALLED ON LYCOMING IO-390 ENGINES

DOCUMENT: AFS-SIL-01

REVISION: 1

ISSUED: 6/10/19

PAGE: 1 OF 5

Service Information Letters are advisory documents. They are NOT issued or approved by the FAA.

1.0 APPLICABILITY

This Service Information Letter applies only to the following AVStar manufactured servo: Model LFC-10AD2 (Part Number AV2581500) installed on aircraft being operated primarily at high density altitude airports.

2.0 REASON FOR PUBLICATION

For the identified applicable servo, there have been reports of not being able to obtain a proper idle fuel flow which provides the required 25-50 rpm mixture rise recommended (refer to Operational Ground Check Section 72-00 of Lycoming Maintenance Manual MM-IO-390-C). There are reports that the mixture adjustment wheel has reached the limits of adjustment and a need to adjust further. This is most prevalent in hot and/or in high ground elevations.

Please note, adjusting the idle speed will directly impact the idle fuel flow by design. Increasing the idle speed will provide a richer idle mixture, decreasing the idle speed will provide a leaner idle mixture. Adjusting the mixture wheel idle fuel flow will also impact the idle speed. Following any adjustment, run-up the engine to 2000 rpm to clear the engine prior to making any further adjustments.

3.0 SAFETY FIRST - WARNING & NOTICE

Neglecting to follow the instructions and inspections provided can result in poor engine performance and possible loss of engine power. Proper service and repair are essential to increase the safe, reliable operation of all aircraft engines. The instructions provided and recommended by AVStar are essential methods for maintaining reliable engine operation.

Owners and operators must carefully read these instructions to minimize the risk of personal injury or damage to equipment and property, the intent of this letter is to minimize any potential risk of an unsafe operating condition.

It is important to understand this Warning is not all inclusive. AVStar cannot possibly know, evaluate or advise all conceivable ways in which the possible hazardous consequences that may be involved. Accordingly, anyone who reads this letter must first satisfy themselves thoroughly that neither their safety nor aircraft safety will be jeopardized by the decision they select.



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4.0 TIMING AND INSTRUCTIONS FOR COMPLIANCE

- 4.1 Complete the required idle mixture clevis inspection (Appendix A) anytime the idle is adjusted whether made by the speed adjustment screw or mixture adjustment wheel. Complete this inspection prior to putting the engine or aircraft back into service.
- 4.2 Complete the mixture wheel centering procedure only if the mixture wheel has bottomed out and further adjustment is required. Instructions are as follows, refer to Appendix B for more details.
 - 4.2.1 Measure and record the overall length of the idle mixture clevis.
 - 4.2.2 Disconnect the retaining spring from the small diameter pin connecting the lever to the clevis. Remove the cotter pin, washer, spring washer (note location between lever and clevis) and pin. Discard the cotter pin.
 - 4.2.3 Turn the clevis block and mixture wheel screw until the wheel is centered. Make further adjustments until the overall length of the clevis is the same as that observed in Step 4.2.1. Install the removed pin, spring washer and washer. Install a new cotter pin (AV901200 / NASM24665-103) and bend the legs of the cotter pin around the shank of the pin to retain it in place.
 - 4.2.4 Perform the required operational ground check of Lycoming Maintenance Manual MM-IO-390-C. Adjust idle speed and idle fuel flow as required to achieve the required 25-50 rpm rise.

5.0 ATTACHMENTS

- A. Appendix A – Inspection Diagrams
- B. Appendix B – Mixture Wheel Centering Procedure



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APPENDIX A – Inspection Diagrams

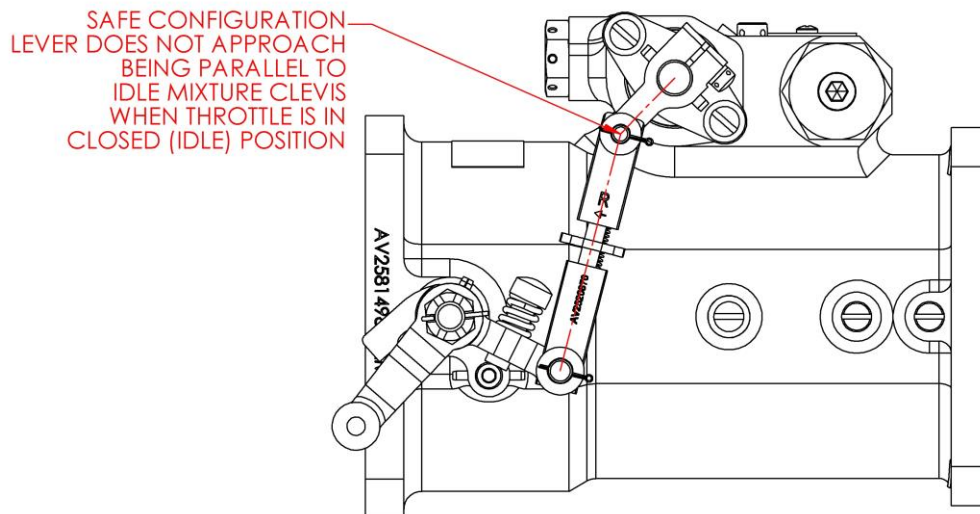


Fig 1 – Illustrates a Safe Operating Condition

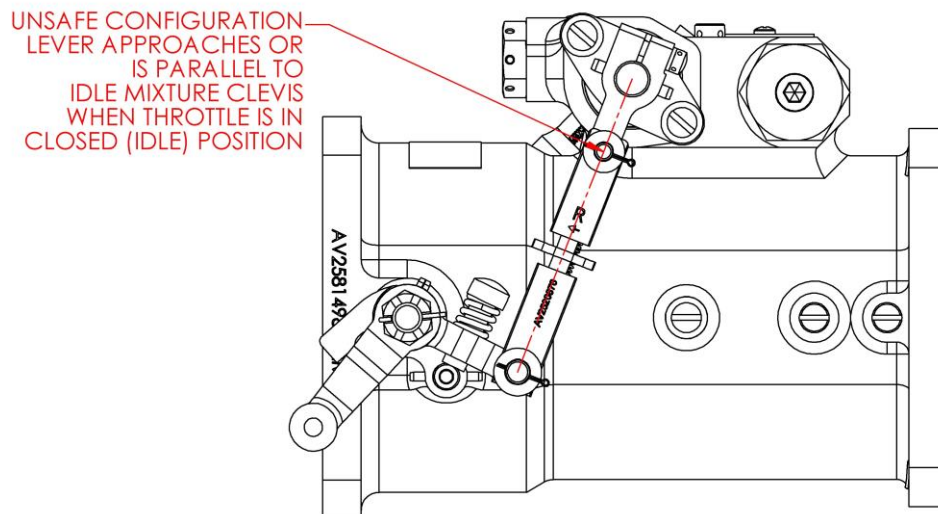


Fig 2 – Illustrates an Unsafe Operating Condition.

In this configuration or approaching this configuration can cause the clevis assembly to bind, especially during swift throttle movements. All precautions must be made to avoid this condition, as this can also lead to the condition illustrated in Figure 3.



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PAGE: 4 OF 5

EXTREMELY UNSAFE
LEVER & IDLE MIXTURE CLEVIS
HAVE CHANGED ORIENTATION
WHEN THROTTLE IS IN
CLOSED (IDLE) POSITION
OPENING THROTTLE WILL
CAUSE LEVER TO ROTATE
COUNTER-CLOCKWISE

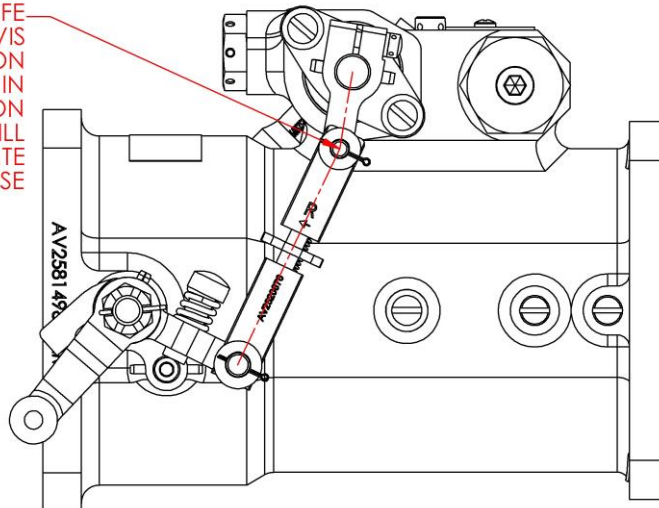


Fig 3 – Illustrates a Dangerous Condition which will result in the engine not being able to achieve power



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APPENDIX B – Mixture Wheel Centering Procedure

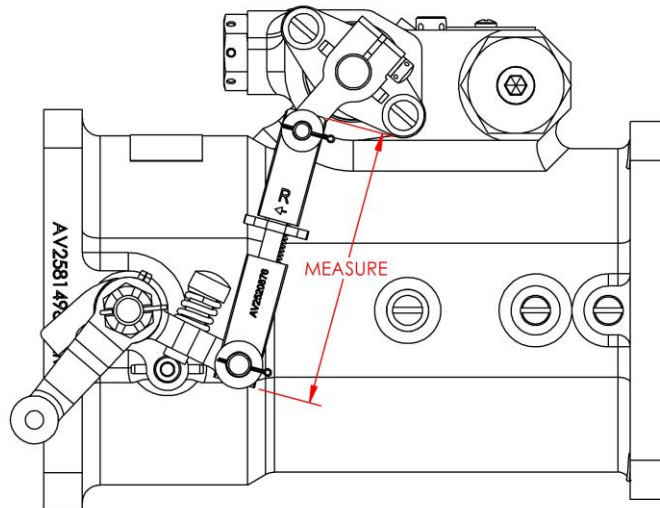


Fig 4 – Step 4.2.1

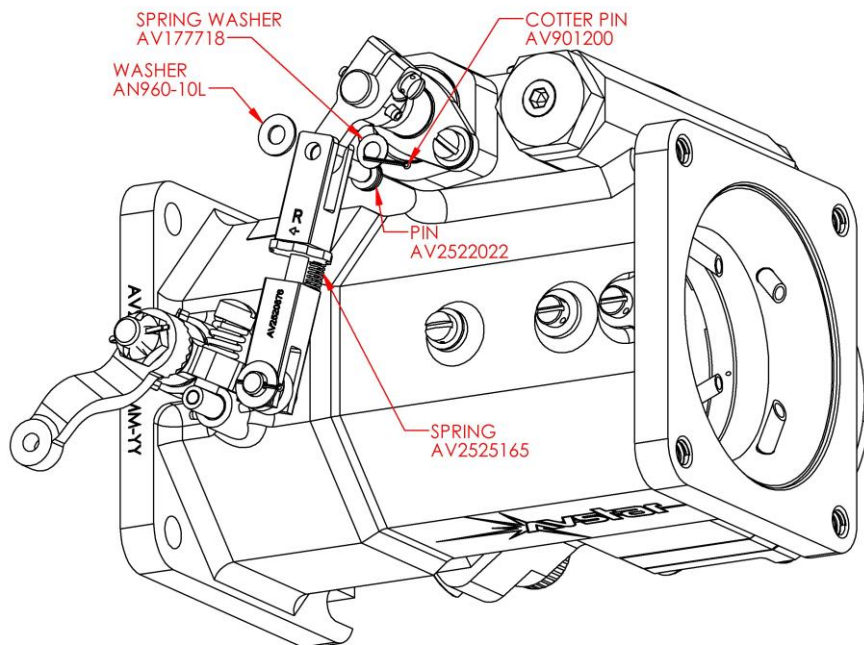


Fig 5 – Step 4.2.2