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SERVICE BULLETIN

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**Date:** August 19, 2004  
**Subject:** AeroVee Service Bulletin to all AeroVee Owners  
**Letter Ref:** ACV-SB-081904

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**AEROVEE MANDATORY FLYWHEEL SERVICE:**

This MANDATORY SERVICE BULLETIN is for all AeroVee 2180 Engines with Serial Numbers 0101-0188 and 0192-0193 to enhance the durability and reliability of the Flywheel Assembly. This service bulletin details the addition of Qty 8 1/4" diameter flush head cap screws, which will eliminate issues that have arisen due to variations in the assembly procedure. This mandatory service must be completed prior to your next flight and noted in the engine logbook. All flights are made at your own risk until this Service Bulletin is complied with. Failure to comply with this Mandatory Service Bulletin could result in serious injury or death due to engine ignition failure.

We apologize for the inconvenience this has caused you. It is our continuing mission to provide the safest and best-engineered engines available. The assembly procedure will be e-mailed to all AeroVee owners with E-mail addresses on file and mailed to all AeroVee Owners along with the required hardware.

All AeroVee Service Bulletins will be posted on the Aeroconversions Web Site at:

[http://www.aeroconversions.com/aero\\_service.html](http://www.aeroconversions.com/aero_service.html)

We encourage all AeroVee owners to regularly visit this web site and to join the aerovee e-mail list. To join go to: <http://groups.yahoo.com/group/aerovee>

Please contact Aeroconversions, Inc with questions: 920.231.8297,  
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# ACV-SB-081904 Service Bulletin Procedure:

Drawing attachments:  
Part modification details  
Exploded view of new Flywheel Assembly

Tool List:  
5/32" Allen Wrench  
3/32" Punch  
17mm Socket and Wrench  
#3 Drill Bit  
1/4" Drill Bit  
1/4"x28 Tap  
Countersink- 1/2" Diameter x 82 degree  
Impact Wrench w/36mm Socket

Parts List:  
1/4-28x.625 FHSCS Grade 8.8 (Head Diameter turned down to 0.46") (Qty 4)  
1/4-28x.75 FHSCS Grade 8.8 (Head Diameter turned down to 0.46") (Qty 4)

1. Disconnect Aircraft Battery
2. Support the Engine with a hoist or equivalent. You do not need to remove the entire engine from the airplane.
3. Disconnect Spark Plugs, CHT Probes, EGT Probes, Oil Temp, Oil Pressure, Primary Ignition (Magnetron) Ground Wires, Loosen Intake Manifold.
4. Remove the Qty 3 39165 Bolts and Qty 1 39166 Bolt using a 17mm Wrench.
5. Secondary Ignition Equipped AeroVees: Mark the positions of the Secondary Trigger Shaft (ACV-F01-22), Alternator Magnet Ring (ACV-F01-18), Red Flywheel Assembly (ACV-F01-10), and Steel Center Fitting (ACV-F01-11). Remove the Secondary Ignition Shaft by removing the Qty 4 94561 cap screws.
6. Remove Gland Nut and Remove the Flywheel Assembly from the Engine.
7. "Knock out" the 4 Roll Pins with a 3/32" punch.
8. Up-Drill 8 holes in ACV-F01-11 Steel Center Fitting with a #3 Drill Bit.
9. Tap All 8 holes in ACV-F01-11 Steel Center Fitting with a 1/4"x28 Tap.
10. Drill all 8 Red Flywheel Assembly Holes (ACV-F01-10) up to 0.250". (Note: It is NOT necessary to remove the starter ring gear, magnet mounts, or counterweight)
11. Drill all 8 Alternator Magnet Ring Holes (ACV-F01-18) up to 0.250". Be sure to mark the 4 "Roll Pin" Holes as these will be Countersunk later.
12. Drill the Qty 4- 3/16" Holes in the Secondary Trigger Shaft (ACV-F01-22), up to 0.250".
13. Countersink the Qty 4- "Roll Pin" Holes in the Alternator Magnet Ring (ACV-F01-18) with an 82 degree x 1/2" Diameter Countersink so that the 1/4-28x.625 Cap Screw is flush with or slightly below the surface of the Ring. The other 4 holes are also slightly countersunk to allow the Secondary Shaft Attach Bolts to be Flush.

14. Re-Assemble the Alternator Magnet Ring (ACV-F01-18), Red Flywheel Assembly (ACV-F01-10), and Steel Center Fitting (ACV-F01-11) using Qty 4- 1/4-28x.625 Cap Screws with Head Diameter turned down to 0.46". Apply 7649 Primer to Screws and allow to dry. Apply #262 Loctite High-Strength Threadlocker to Screws and Install as tight as possible with the 5/32" Allen Wrench.
15. Place Secondary Trigger Shaft (ACV-F01-22) inside the magnet ring and do a fit check of the Qty 4- 1/4-28x.75 Cap Screws with Head Diameter turned down to 0.46". Make sure heads are flush with or slightly below the surface of the surface. Remove 4 screws and trigger shaft.
16. Re-install flywheel with Gland Nut using Loctite #248 (Medium strength) and Torque to 227 ft-lbs.
17. Install Secondary Trigger Shaft (ACV-F01-22) using Qty 4 Cap Screws. Apply 7649 Primer to Screw and allow to dry. Apply #262 Loctite High-Strength Threadlocker to Screws and Install as tight as possible with the 5/32" Allen Wrench.
18. Move Engine into position and reinstall the Qty 3 39165 Bolts and Qty 1 39166 Bolt using a 17mm Wrench.
19. Re-connect The Spark Plugs, CHT Probes, EGT Probes, Oil Temp, Oil Pressure, Primary Ignition (Magnetron) Ground Wires, Intake Manifold, and battery.
20. Add: "Mandatory AeroVee Service Bulletin ACV-SB-081904 complied with on \_\_\_\_\_ (insert date)" in your Aircraft's Engine Logbook.