

# SERVICE BULLETIN



Service Bulletin No.: DA20-77-03 Rev 1

Date Issued: 30 November , 2006

Title: Superior Labs Tachometer Installation

Page: 1 of 7

- 1. ATA Code:** 7700
- 2. Effectivity:** DA20-A1 (including DA20/100) aircraft serial numbers 10003 up to and including 10331.
- 3. General:** This service bulletin addresses the installation of a Superior Labs tachometer. This tachometer has an integrated hourmeter, and can be installed to replace either the Mitchell mechanical tachometer or the Rotax electronic tachometer. The replacement tachometer for the DA20/100 (Katana 100) will use the alternate part number specified in kit A.

**Part A** Describes the procedure for the replacement of the Mitchell type tachometer. These parts are supplied in **Kit A** as described below.

**Part B** Describes the replacement of the Rotax electronic type tachometer. These parts are supplied in **Kit B** as described below.

- 4. Compliance:** Optional installation
- 5. Approval:** Engineering data referenced or contained in this service bulletin is approved as part of the type design.
- 6. Labor:** Approximately 1 hour will be required to accomplish this service bulletin.  
*This estimate is for direct labor performed by a technician and it does not include setup, planning, familiarization, cure time, part fabrication or tool acquisition.*

| <b>7. Material:</b> | <b>Part Number</b>  | <b>Description</b>                          | <b>Qty</b> |
|---------------------|---------------------|---|------------|
| <b>KIT A</b>        | SL1010-12009-11-N00 | Tachometer (Katana DA20/100 Rotax 912S)     | 1          |
|                     | SL1010-12010-11-N00 | Tachometer (DA20-A1 Rotax 912A or F engine) | 1          |
|                     | SL058A-1010         | Tachometer Cable                            | 1          |
|                     | MS3367-5-9          | Tie Wrap                                    | 8          |
|                     | MS35489-68          | Grommet                                     | 1          |
|                     | 2650-13             | Firesleeve 10"                              | 1          |

The above material is available by ordering material kit P/N DA20-77-03-AMK0. Please specify DA20-A1 or DA20/100 when ordering.

# SERVICE BULLETIN



Service Bulletin No.: DA20-77-03 Rev 1

Date Issued: 30 November , 2006

Title: Superior Labs Tachometer Installation

Page: 2 of 7

| Material: | Part Number         | Description                                 | Qty |
|-----------|---------------------|---|-----|
| KIT B     | SL1010-12010-11-N00 | Tachometer (DA20-A1 Rotax 912A or F engine) | 1   |
|           | SL058A-1010         | Tachometer Cable                            | 1   |
|           | 20-3910-00-01       | Firewall sealing plates                     | 2   |
|           | RNF 100-1/4" wht.   | Heat shrinkable tubing 1.5"                 | 3pc |
|           | MS3367-5-9          | Tie Wrap                                    | 8   |
|           | MS35489-68          | Grommet                                     | 1   |
|           | 230-880             | O-ring                                      | 1   |
|           | 945-750             | Lock washer                                 | 1   |
|           | 840-511             | Allan screw                                 | 1   |
|           | 837-150             | Rev. counter shaft                          | 1   |
|           | 912-190             | Rev. counter housing                        | 1   |
|           | 930-500             | Oil seal                                    | 1   |
|           | 2650-13             | Firesleeve 10"                              | 1   |

The above material is available by ordering material kit P/N DA20-77-03 BMKO.

|                     |        |                               |     |
|---------------------|--------|-------------------------------|-----|
| <b>Not Supplied</b> | PR-812 | PRC sealant (procure locally) | A/R |
|---------------------|--------|-------------------------------|-----|

**8. Special Tools:** None

**9. References:** DA20-A1 Maintenance Manual ( Doc # DA201)  
Rotax Engine Maintenance Manual  
Rotax Illustrated Parts Catalog

**Part A** (Mitchell tachometer replacement procedure)**10. Accomplishment Instructions:**

- 10.1.** Remove the instrument panel cover.
- 10.2.** Remove the engine cowlings.
- 10.3.** Disconnect the battery leads (remove the negative lead first).
- 10.4.** Remove the tachometer from the instrument panel and retain the hardware for re-use.
- 10.5.** Remove the sealing plates for the tachometer cable at the firewall and remove the tachometer cable (ref Fig. 1).
- 10.6.** Clean the PRC sealant from both the sealing plates and the firewall.
- 10.7.** Install the Superior Labs tachometer with the previously removed hardware.
- 10.8.** Install the new Superior Labs tachometer cable following the removed cable's routing, reference figures 4 and 5. Place the fire sleeve on the engine end of cable. Reference figure 5. Tie wrap where necessary to secure.

**CAUTION**

The tachometer cable must be secured against contacting the exhaust system.

- 10.9.** Cut the grommet to prepare it for installation. Reference figure 3.
- 10.10.** Install the grommet and firewall sealing plates with the previously removed hardware and PRC 812 sealant. Refer to figure 1.
- 10.11.** Reconnect the battery leads (connect the positive lead first).
- 10.12.** Reinstall the instrument panel cover and the engine cowlings.
- 10.13.** Run the aircraft and verify the tachometer's accuracy.
- 10.14.** Make log book entries stating that this service bulletin has been accomplished.

**Part B** (Electronic Rotax tachometer replacement procedure)**11. Accomplishment Instructions Refer to Figure 1**

- 11.1. Remove the instrument panel cover.
- 11.2. Remove the engine cowlings.
- 11.3. Disconnect the battery leads (remove the negative lead first).
- 11.4. Remove Wire 77207A22 from the tachometer and isolate the plug by using the supplied heat-shrink tubing as shown in Figure 2.
- 11.5. Remove Wire 77208A22N from the tachometer and isolate the plug by using the supplied heat-shrink tubing as shown in Figure 2.
- 11.6. Remove Wire 77209A22WH from the tachometer and isolate the plug by using the supplied heat-shrink tubing as shown in Figure 2.
- 11.7. Stow the three previously capped wires by tie wrapping them to the adjacent wire bundles.
- 11.8. Remove the blanking plate from the firewall where the tachometer cable will be routed. Clean the sealant from the firewall. Refer to Figure 1
- 11.9. Remove the tachometer from Instrument panel, retain screws for re-use.
- 11.10. Install the Superior labs tachometer with the previously removed hardware
- 11.11. Install the tachometer rev counter shaft and housing onto engine. Refer to the Rotax Maintenance Manual and Illustrated Parts Catalog for this installation procedure.
- 11.12. Install the new Superior labs tachometer cable following the routing shown in figures 4 and 5. Place the firesleeve on the engine end of cable. Reference figure 5. Tie wrap where necessary to secure.

**CAUTION**

The tachometer cable must be secured against contacting the exhaust system.

- 11.13. Cut the grommet supplied to prepare it for installation. Reference figure 3.
- 11.14. Install the grommet and firewall sealing plates supplied with the kit using the removed hardware and seal with PRC 812 sealant. Refer to figure 1.

# SERVICE BULLETIN



Service Bulletin No.: DA20-77-03 Rev 1

Date Issued: 30 November , 2006

Title: Superior Labs Tachometer Installation

Page: 5 of 7

- 11.15. Connect battery leads (connect positive lead first).
- 11.16. Run aircraft, check the tachometer's accuracy.
- 11.17. Secure the tachometer cable where necessary with tie wraps.
- 11.18. Reinstall instrument panel cover and cowlings.
- 11.19. Make appropriate log book entries stating that this work has been accomplished.

**12. Weight and Balance:** The weight and balance is affected as follows:

For aircraft that have had the work carried out under Part A the change in weight and center of gravity is negligible.

For aircraft that have had the work carried out under Part B the A/C empty weight increases by 0.9 lbs (0.4 kg) at a moment arm of  $-16.35$  in ( $-0.415$ m)

- 13. Credit:**
- |                        |  |
|------------------------|--|
| <b>Labour Credit</b>   | Not applicable, or subject to aircraft warranty. |
| <b>Material Credit</b> | Not applicable, or subject to aircraft warranty. |

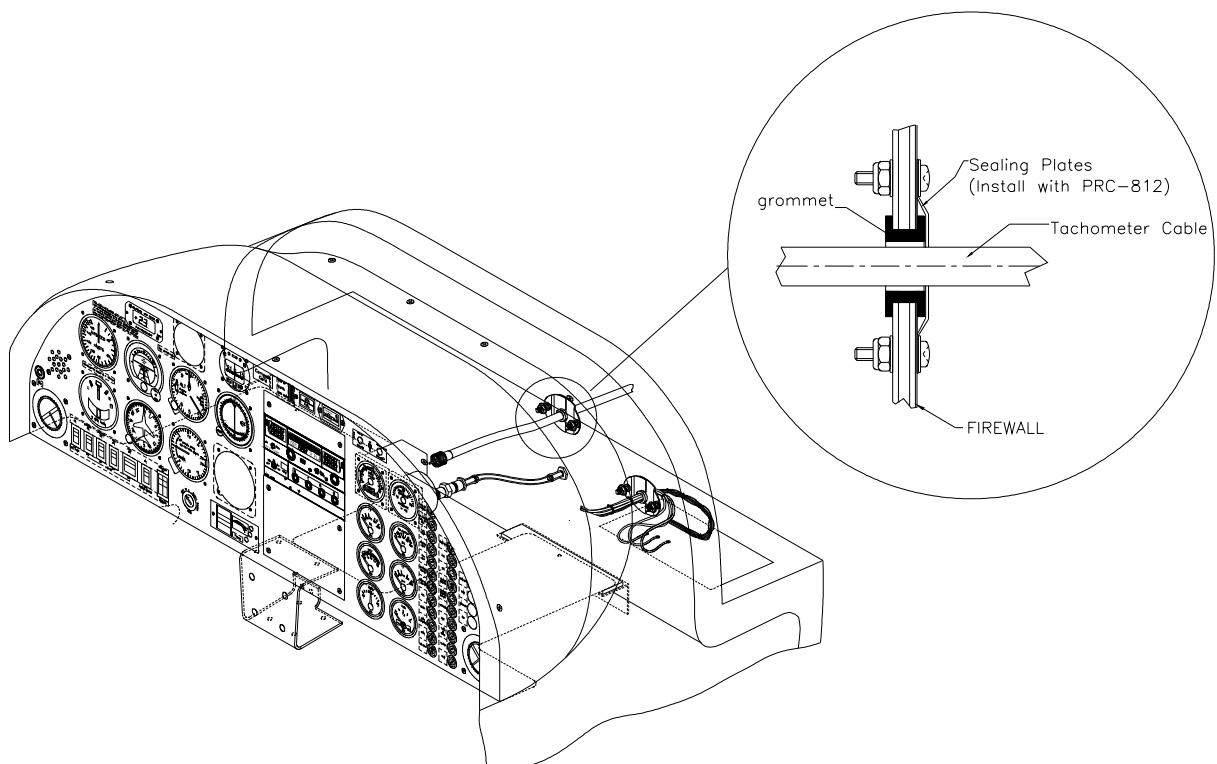


Figure 1

# SERVICE BULLETIN



Service Bulletin No.: DA20-77-03 Rev 1

Date Issued: 30 November , 2006

Title: Superior Labs Tachometer Installation

Page: 6 of 7

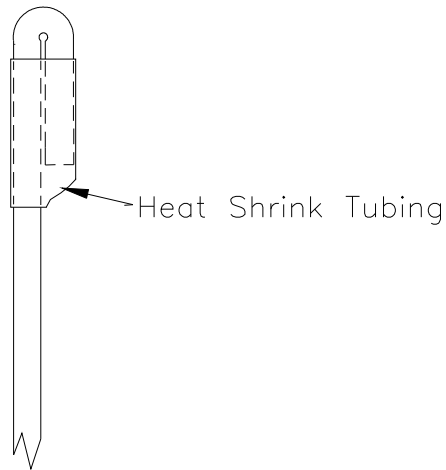


Figure 2

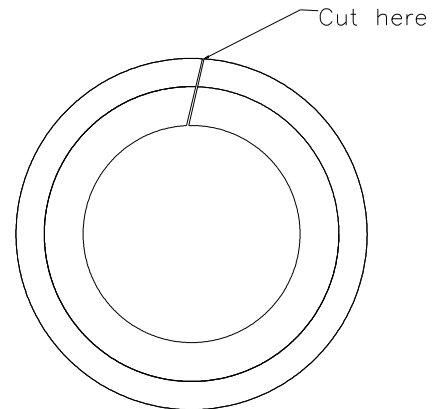


Figure 3

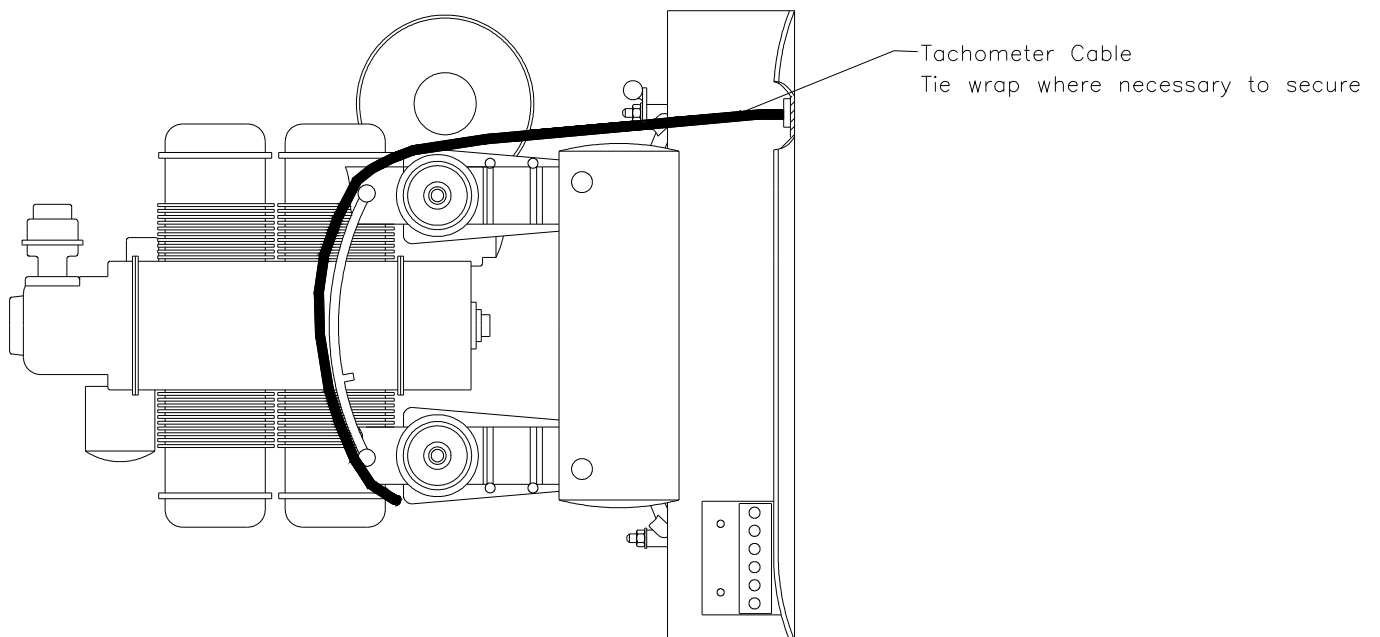


Figure 4

# SERVICE BULLETIN

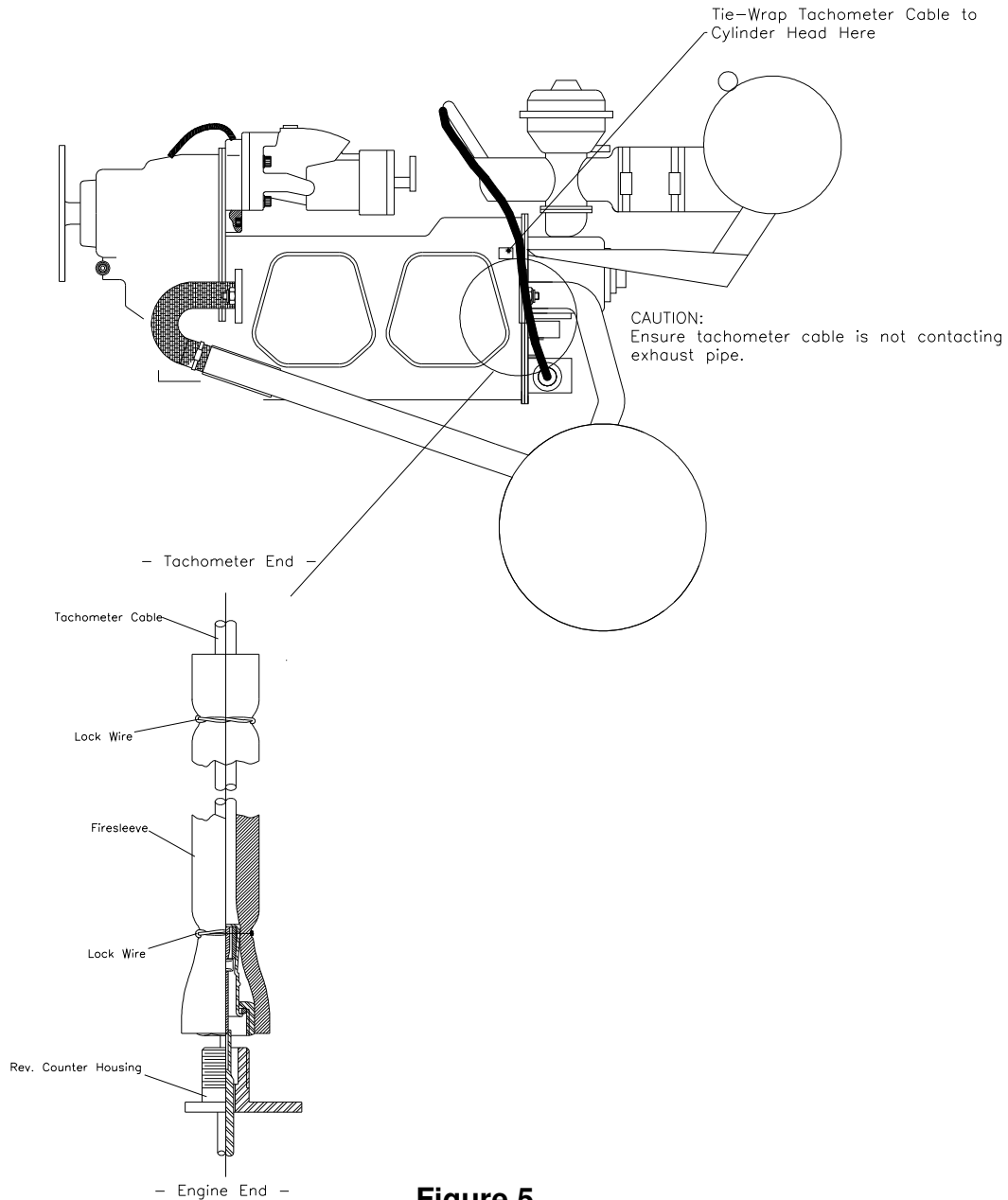


Service Bulletin No.: DA20-77-03 Rev 1

Date Issued: 30 November , 2006

Title: Superior Labs Tachometer Installation

Page: 7 of 7



**Figure 5**

*To obtain satisfactory results, procedures specified in this service bulletin must be accomplished in accordance with accepted methods and current government regulations. Diamond Aircraft Industries Inc. cannot be responsible for the quality of work performed in accomplishing the requirements of this service bulletin. Diamond Aircraft reserves the right to void continued warranty coverage in the area affected by this service bulletin if it is not incorporated.*

*If you no longer own the aircraft to which this service bulletin applies, please forward it to the current owner and send the name of the current owner to Diamond Aircraft Industries Inc. at the address below.*

Diamond Aircraft Industries Inc. 1560 Crumlin Road, London, Ontario, Canada N5V 1S2  
Phone: (519) 457-4041 Fax: (800) 934-3519