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REVISION DESCRIPTION:

Since all the KAI pages regarding W&B and the Installed Equipment list are similar, only a general description of the two types of changes made to various sections is provided below. These changes resulted from relocating the Weight and Balance Worksheet and the Installed Equipment List.

a. The Installed Equipment List was moved to the Maintenance Manual from the POH.

b. The Weight and Balance Worksheet and W&B-2 (the blank page that followed) were moved to the Maintenance Manual (Rev 9) from the Production Acceptance Procedure. The "WEIGHT AND BALANCE RECORD" page was page W&B-2 of the RV-12 Production Acceptance Procedures.

Example: Following is an example of how this change affected Section 44A Skyview Autopilot Servos.

"Step 6: In the RV-12 Maintenance Manual (MM) "INSTALLED EQUIPMENT LIST" table, mark the "DYNON AUTOPILOT SERVO" as installed in the "INSTALLED" column.

Enter 4.6 lb for "Weight", 101.5 in for "Location/Arm" and 467 in-lb "Moment" onto the same line as "DYNON AUTOPILOT SERVO".

NOTE: The remaining steps on this page are only applicable to a flying aircraft.

Step 7: In the RV-12 Pilot Operating Handbook (POH) "YOUR AIRPLANE" table, enter the new total values for the arm, weight, and moment of the installed equipment.

Step 8: In the RV-12 POH "YOUR AIRPLANE" table, recalculate and enter new values for the Empty Weight, Empty Moment, and Empty Arm.

Step 9: Make an entry, as calculated in the previous step, on the WEIGHT AND BALANCE RECORD page of the RV-12 Maintenance Manual as follows:

As of this date: ___/___/___"

was

"Step 6: On Page 4-2 SkyView and 4-4 of the RV-12 Pilot Operating Handbook: Enter the text "AUTOPILOT" onto a blank line under the "ITEM" column in both tables.

Enter 4.6 lb for "Weight", 101.5 in for "Location/Arm" and 467 in-lb "Moment" onto the same line as "AUTOPILOT" in both tables.

Recalculate and enter new values for the Empty Weight, Empty Moment and Empty Arm on Page 4-4 of the POH.

Step 7: Make an entry on page W&B-2 of the RV-12 Production Acceptance Procedures as follows:

As of this date: ___/__/___"



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The changes described above were applied to the following pages. The updated Rev level is listed: 40-15 (Rev 2) 43-11 (Rev 2) 43B-08 (Rev 2) 43C-07 (Rev 1) 44A-05 (Rev 1) 44B-10 (Rev 1) 53-12 (Rev 3) 53B-06 (Rev 1) 53-06 (Rev 1) 61-08 (Rev 1)

Additional changes were also made and are described below in the usual manner.

Page 44A-04 REV 3: Add "(WITH FLAPS UP AND WITH FLAPS DOWN)" to the WARNING.

Page: 44B-03 REV 1: Add: "Step 4: Insert the bolt that will attach the Pitch Servo Pushrod Assembly to the arm of the Garmin GSA 28 Autopilot Servo. See Figure 2." Repaginate remaining steps.

Page 44B-06 REV 1: Add "(WITH FLAPS UP AND WITH FLAPS DOWN)" to the WARNING.

Page 44B-07 REV 2: Show additional cut lines for GMC 307 in Figure 2. Add "**(GMC 305)**" after hardware callouts in Figure 2.

Page: 53-10 REV 2: Deleted fuse amperage values shown in Figure 2, except for GPS ADSB, "2" AMP.

Page: 53B-05 REV 1: Deleted AMP values from fuses in Figure 2, except for GPS ADSB, "2" AMP.



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NOTE: Page 58-02 and 58-03 of this section describe how to make cutouts in your existing center panel for the modules. This will work for a panel designed for the SL-40 or GTR200. This process will not work for a GTR225 installation.

Optionally for GTR200 installations a F-00044D-1 Cntr Inst PnI GTR200 SVPNLS may be purchased with the module cutouts already completed.

For the remainder of this section the F-00044-1 Cntr Inst Panel will be used to represent the center panel.

Step 1: Remove the "RV-12" Logo label from the top center of the panel if applicable.

Step 2: Remove then use the two upper most screws in the F-00044-1 Cntr Inst Panel GTR200 to attach the F-00073 SV-AP-KNOB Cutout Template. See Figure 1.

Step 3: Remove the SkyView Display from the panel. See Section 42C.

Step 4: Remove the COM Radio. See Section 42G for GTR200 and Section 42K for SL-40.

Step 5: Tape an apron just below the template as shown in Figure 2 to collect debris.

Step 6: Match-Drill all #27 holes in the template into the center panel.

Sep 7: Mark the outside perimeter of the cutouts with a sharp scribe as shown in Figure 3.

Use a ruler to connect the scribe lines as shown in Figure 4.

Step 8: Add tough PVC tape along outer scribe lines as shown in Figure 4.

TOP CENTER SCREWS MATCH-DRILL #27,



COM RADIO

FIGURE 1: INSTALLING THE TEMPLATE





FIGURE 3: SCRIBING THE PANEL



FINISHING SCRIBE LINES

FIGURE 2: DEBRIS APRON

FIGURE 4: ADDING PVC TAPE

<u>Step 1:</u> Add plastic behind panel and over the display opening as shown in Figure 1.

<u>Step 2:</u> Define the outer scribe border with high contrast electrical tape. Next define the inner "square" border with tape. See Figure 2.

<u>Step 3:</u> Using a rotary cutting tool and a fibre reinforced cutting disk, cut between the holes in the panel. See Figure 3.

<u>Step 4:</u> Remove the tape defining the inner square (see Figure 4) then add tape at each corner to define the top and bottom areas to be removed. See Figure 5.

Step 5: Remove the top and bottom areas by cutting to the holes. See Figure 6.

Step 6: Deburr the edges of the cutout.

<u>Step 7:</u> Test fit a module into the cutout. File the holes further as necessary. See Figure 7.

Step 8: Repeat the process for the right side cutout.

<u>Sep 9:</u> Match-Drill #40 nutplate attach holes at each module attach hole location. See Page 58-04 for reference.



FIGURE 1: DEBRIS PLASTIC BEHIND PANEL

INNER SQUARE BORDER



FIGURE 2: TAPING OFF THE INNER SQUARE



FIGURE 4: REMOVING INNER TAPE



FIGURE 5: TAPING OFF UPPER AND LOWER AREAS



FIGURE 6: CUTTING UPPER AND LOWER AREAS





FIGURE 3: CUTTING OUT THE INNER SQUARE



FIGURE 7: TEST FITTING MODULES

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<u>Step 1:</u> Machine countersink the #40 holes that will attach the nutplates called out in Figure 1.

Step 2: Rivet the nutplates called out in Figure 1 to the F-00044-1 Cntr Inst Panel GTR200.

<u>Step 3:</u> Remove the WH-00025 SkyView Autopilot Harness as shown in Section 42C. Save the ES-00007 Molex Receptacle.

Step 4: Remove the WH-00031 Switch Module Harness from the back of the AV-50001 Power & Switch Module. See Figure 1.

Remove the backshell from the connector.

Remove wires from locations 15, 18 and 19. See Figure 2.

Cover the wire ends in heat shrink, fold them back onto the switch module harness. Secure the wires to the harness with a tie-wrap.





REMOVING/INSTALLING PINS SWITCH MODULE D-SUB CONNECTOR (VIEW FROM WIRE INSERTION SIDE)

<u>Step 1:</u> Install the WH-00105 SV AP-Knob Harness 37-pin d-sub to the AV-50000A RV-12 Control Module as shown in Figure 1.

Route the harness through the cushioned clamp near the left ES CPU FAN.

<u>Step 2:</u> Route the two 9-pin d-sub connectors and the 15-pin connector along the path taken by the harness going to the back of the COM Radio.

Route the harness over the top of the radio. Route the long section of heat shrink beneath the ADS-B module if installed.

<u>Step 3</u>: Route the three free wires BRN, RED and WHT/YEL along the WH-00031 Switch Module Harness to the connector at the back of the AV-50001 Switch Sodule (removed on the previous page). Route the wires through the heat shrink on this connector.

Insert the wires into the 25-pin d-sub connector for the switch module as shown on Page 58-04, Figure 2.

Assemble the backshell onto the d-sub connector.

Connect the d-sub connector to the back of the switch module as shown in Figure 1.

<u>Step 4:</u> Route the remaining wires down through the F-1202B Panel Base as shown in Figure 1. Connect the wires to the ES-0007 Molex Receptacle set aside previous in this section as shown in Figure 2.



HARNESS DIAGRAM (VIEW FROM WIRE INSERTION SIDE)



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Step 1: Pull the 9 and 15 pin d-subs from the WH-00105 harness through the cutouts in the panel as shown in Figure 1.

Connect the 15-pin and 9-pin d-sub LABELED "SV-AP" to the AV-SV-AP-PANEL module.

Connect the remaining 9-pin d-sub LABELED "KNOB" to the AV-SV-KNOB-PANEL module.

Step 2: Attach the modules to the panel using the hardware provided with the modules. See Figure 1.

Step 3: Install the SkyView Display per Section 42C.

Install the COM Radio back into the radio tray.

Step 4: Navigate to the Van's Aircraft web site downloads page. Download and install the latest SkyView Software and Settings (this will also install the latest firmware).

Download and install the latest Autopilot Complex Mode Settings from the Van's Aircraft web site downloads page.

Step 5: Download the latest RV-12 overall electrical schematic from the Van's Aircraft web site.

NOTE: Any weight and balance information recorded for the aircraft must be updated. Depending on the state of your kit some steps may not be applicable.

Step 6: In the RV-12 Maintenance Manual (MM) "INSTALLED EQUIPMENT LIST" table, add "AP-KNOBS MODULES" to the "ITEM" column. On the same line add a checkmark to the "INSTALLED" column.

Enter 1.24 lb for "Weight", 56.74 in for "Location/Arm" and 70.36 in-lb "Moment" onto the same line as "AP-KNOBS MODULES".

been completed. Step 7: In the RV-12 Pilot Operating Handbook (POH) "YOUR AIRPLANE" table, enter the new total values for the arm, weight, and moment of the installed equipment.

Step 8: In the RV-12 POH "YOUR AIRPLANE" table, recalculate and enter new values for the Empty Weight, Empty Moment, and Empty Arm.

Step 9: Make an entry, as calculated in the previous step, on the WEIGHT AND BALANCE RECORD page of the RV-12 Maintenance Manual as follows:

As of this date: ___/__/ the following values represent current Weight and Balance calculations resulting from the installation of the AP-Knobs Modules Optional Kit.

Revised Empty Weight: _ lbs Revised Empty Moment: Revised Empty Arm: _____ in

Signed:

NOTE: The remaining steps on this page are only applicable for aircraft which have passed a final airworthiness inspection.

Step 10 (ELSA): Make an appropriate entry in the airframe logbook. See example below:

Installed the AP-KNOBS MODULES option in accordance with Van's Aircraft KAI Section 58 and confirmed proper operation.

Signature

Certificate #

Step 10 (SLSA): Complete the notification N 15-09-21 (available from the Van's Aircraft web site) corresponding to the AP-KNOBS MODULES installation.

Step 11: Section complete.

