Title: CESSNA 400 ADF - 14 VOLT (INCLUDES BASIC ELECTRONICS)

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<th>MODELS AFFECTED</th>
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NOTES

The following parts are not included in this kit but may be needed to complete the installation. Refer to the Accessory Kits Catalog and/or the Electronics Installation Manual to determine applicability of need.

a. Radio Cooling Kit (Needed when the 400 ADF is installed with other 400 Series Radios).
b. Static Dischargers Kit.
c. Transmitter and Audio Selector Switch Kit.
d. BFO Conversion Kit.
e. Headset.
f. Headset Jack.
g. Radio Lights Rheostat.
h. Alternator Noise Filter.

PARTS LIST:

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CHANGE IN WEIGHT AND BALANCE:

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<tr>
<th>MODEL</th>
<th>180 &amp; A185</th>
<th>182</th>
<th>206</th>
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1. DESCRIPTION OF INSTALLATION.

a. (Refer to figure 1.) Installation of this kit consists of:

   (1) Installing a sense antenna.
   (2) Installing a loop antenna.
   (3) Installing a dynavertor.
   (4) Installing a receiver, indicator and circuit breaker installation.
   (5) Installation and interconnection of wiring.

2. INSTALLATION INSTRUCTIONS.

a. Installation of Sense Antenna. (See figure 3.)

   (1) Remove interior trim and headliner on cabin ceiling as required to gain access to interior side of cabin top skin.
   (2) Lay out and cut hole (9) and install insulator assembly (6) and bracket assembly (7) as shown. Use sealant (10) to exclude moisture from seeping under insulator.
   (3) Attach cable assembly (8) to connector on bracket assembly (7) and route to receiver location by concealing cable under right hand doorpost trim. Tie into bundle with existing wiring.

CANCELLLED
CANCELLED

Figure 1. Cessna 400 ADF Installed
CANCELLED

Figure 2. Support Fabrication Details
Figure 3. Sense Antenna Installation
Figure 4. Loop Antenna Installation (Sheet 1 of 3)
4. Remove insulating sleeve from terminal (5) by twisting gently on the end with a pair of long nosed pliers. Insert one end of wire (11) into end of terminal approximately 1-1/2" and double the wire back so that it may be wrapped around itself as shown. Solder as shown.

5. Assemble insulator (12) and wires (11 & 13) as shown. Drill hole (3) in leading edge of fin just below cap as shown. Assemble clip (4), spring (2), thimble (1) and wire (13) as shown. Take up slack in antenna by tightening wire (13) until spring is approximately one-half compressed.

NOTE

ADF compensation adjustments for the 400 ADF are in the indicator. When routing the cables which attach to the indicator, allow enough slack to permit operation of the 400 ADF with the indicator removed from the panel for the adjustment procedure.

b. Installation of Loop Antenna.

1. (Refer to figure 4, sheet 1.) Models 180 & A185.
   (a) Remove seats, carpet, and access covers as required to gain access to the loop location on the lower fuselage skin.
   
   (b) Lay out and cut hole (7) in the lower fuselage skin. Drill holes (4) and install shield (3) using rivets (2). Lay out and drill holes (6) to match loop and install rivnuts (8).
   
   (c) Install loop (5) with screws (6). Be sure that the arrowhead depression on top of loop points forward.
   
   (d) Connect cable assembly (1) to loop antenna (5). Route cable to indicator location forward of instrument panel by routing through lightening holes under cabin floorboards and up left hand doorpost. Protect as required with harness bands and/or clamps to prevent chafing.

2. (Refer to figure 4, sheet 2.) Model 182.
   (a) Remove seats, carpet, and access covers as required to gain access to the loop location on the lower fuselage skin.
   
   (b) Lay out and cut hole (5). Drill holes (8) and install shield (3) using rivets (2). Lay out and drill holes (4) to match loop and install rivnuts (4).
   
   (c) Install loop (6) with screws (7). Be sure the arrowhead depression on top of loop points forward.
   
   (d) Connect cable assembly (1) to loop antenna (6). Route cable to indicator location forward of instrument panel by routing through lightening holes under cabin floorboards and up left hand doorpost. Protect as required with harness bands and/or clamps to prevent chafing.

3. (Refer to figure 4, sheet 3.) Models 206 & 210.
   (a) Remove seats, carpet, and access covers as required to gain access to the loop location on the lower fuselage skin.
   
   (b) Lay out and cut hole (4). Drill holes (5) and install shield (3) using rivets (2). Lay out and drill holes (6) to match loop and install rivnuts (8).
   
   (c) Install loop (6) with screws (6). Be sure that arrowhead depression on top of loop points forward.
   
   (d) Connect cable assembly (1) to loop and route through lightening hole as shown. Secure with harness band and screw (7). Route cable to indicator location forward of instrument panel by routing through lightening holes under cabin floorboards and up left hand doorpost. Protect as required with harness bands and/or clamps to prevent chafing.

c. Dynavertor Installation.

1. (Refer to figure 5, sheet 1.) Model 180 & A185.
CABLE ROUTES THRU LIGHTENING HOLES UNDER CABIN FLOOR TO LEFT-HAND DOORPOST AND TO RECEIVER LOCATION BEHIND INSTRUMENT PANEL. PROTECT AS REQD TO PREVENT CHAFFING.

1 33827-0000 CABLE ASSY
   1 REQD

2 MS20470AD3 RIVET
   6 REQD

3 1511005-1 SHIELD
   1 REQD

4 #12 (.188) HOLE (KEYED)
   (TO MATCH LOOP)
   S1848-06K75
   RIVNUT
   6 EACH REQD

5 2.25" HOLE
   (IN LOWER FUSELAGE SKIN)
   1 REQD

8 #40 (.098) HOLE
   (TO MATCH SHIELD)
   6 REQD

ACFT Q
3.60
4.15

6 33890-1000 LOOP ANTENNA
   1 REQD

7 AN515-6R12 SCREW
   AN936A8 WASHER
   6 EACH REQD

MODEL 182

Figure 4. Loop Antenna Installation (Sheet 2 of 3)
CABLE ROUTES THRU LIGHTENING HOLES UNDER CABIN FLOORBOARD AND UP LEFT HAND DOORPOST TO RECEIVER LOCATION. PROTECT AS REQUIRED TO PREVENT CHAFFING.

MODELS 206 & 210

Figure 4. Loop Antenna Installation (Sheet 3 of 3)
Figure 5. Dynaverter Installation (Sheet 1 of 4)
Figure 5. Dynavertor Installation (Sheet 2 of 4)
(a) Remove seats, carpet, and tailcone access panel at rear of the baggage compartment. Locate tail light wire routing and remove floorboard access plates as required for access to wire route.

(b) Compare existing radio installations, if any, with the installation shown. Determine if any existing support hardware may be used to mount the dynavertor of the 400 ADF. Fabricate additional support angles (6 & 12) as required.

(c) Drill holes (1) in angles (12) to match mount (10).

(d) Attach mount (10) to angles (12) with screws and nuts (1).

(e) Using parts assembled in step (d) as a pattern, lay out and drill four holes (5).

(f) Install assembly using spacers, screws, and nuts (5).

(g) Secure dynavertor (2) in mounting with retention nut. Safety wire retention nut.

(h) Starting at instrument panel, route cable assembly (3) to dynavertor following standard wire route.

(i) Secure as required to prevent chafing of wires or obstruction of controls.

(j) Cut cable assembly (3) to length and solder wires in connector.

(k) Connect the connector of cable assembly (3) to dynavertor.

(l) Drill hole (7) and secure cable assembly with clamp, screw, and nut (7).

(2) (Refer to figure 5, sheet 2.) Model 182.

(a) Lay out and drill holes (6) to match mount (2). Install rivnuts (6). Secure mounting with screws and washers (5).

(b) Starting at instrument panel, route cable (3) to dynavertor location on radio shelf following standard wire route. Secure as required to prevent chafing of wires or obstruction of controls.

(c) Cut cable assembly (3) to length and install connector.

(d) Install harness band (4) with screw (4).

(e) Secure dynavertor in mounting with retention nut. Safety wire retention nut. Connect connector of cable assembly (1) to dynavertor.

(3) (Refer to figure 5, sheet 3.) Model 206 Series.

(a) Remove lower cowling panel for access to radio compartment below engine.

(b) Compare existing radio installations, if any, with the installation shown on figure 5, sheet 3. Determine if any existing support hardware may be used to mount the dynavertor of the 400 ADF. Fabricate additional support angles (4 & 6) as required.

(c) Install support angles (4) as shown.

(d) Drill holes (5) in angles (6) to match mount (2).

(e) Attach mount (2) to angles with screws and nuts (5).

(f) Attach assembled parts from step (e) to angles (4) with screws and nuts (3).

(g) Starting at instrument panel, route cable assembly (1) from radio panel unit location, down center of firewall to cable exit point on cabin floorboard just aft of firewall. Secure as required to prevent chafing of wires or obstruction of controls.

(h) Cut cable to length and install connector. Wire in accordance with wiring diagram, figure 7.

(i) Install dynavertor (2) and safety wire retention nut on mount (2).
Figure 5. Dynaverter Installation (Sheet 3 of 4)
1 1270475-275 CABLE ASSEMBLY
(ROUTE TO RECEIVER LOCATION
BY TYING INTO EXISTING WIRE
BUNDLE CARRING THE TAIL
LIGHT AND BEACON WIRES)
1 REQD

3 34860-0014 DYNAPERTER
21650-0000 MOUNTING
1 EACH REQD

4 S355 SPACER
2 REQD

2 #12 (.198) HOLE (KEYED)
S1648-06K75 RIVNUT
4 EACH REQD

5 AN515-6R10
SCREW
AN936A6
WASHER
4 EACH REQD

STANDARD RADIO SHELF
BEHIND LUGGAGE
COMPARTMENT
(REF)

MODEL 210
(4) (Refer to figure 5, sheet 4.) Model 210 Series.

(a) Lay out and drill holes (3) and install rivnuts. Install mount (5) with screws and washers (2) and spacers (4).

(b) Starting at instrument panel, route cable assembly (1) down RH side of aircraft with existing wires to radio location aft of wheel well.

(c) Secure wires as necessary to prevent chafing of wires or obstruction of controls.

(d) Cut cable assembly (1) to length and install connector in accordance with wiring diagram, figure 7.

(e) Install dynavertor (5) in mount (5). Secure and safety wire retention nut.

(f) Connect cable assembly (1) to dynavertor.
d. (Refer to figure 6.) Receiver, Indicator, and Circuit Breaker Installation.

1. Lay out and drill holes (4) to match mounting (6). Install mounting with screws and nuts (8). Install receiver (9) in mounting (6) and tighten retention screws. Before installing the indicator in the panel accomplish the adjustment procedure as outlined in the 400 Series Service/Parts Manual.

2. Install the indicator (3) in the desired location in the instrument panel (7) using screws (10).

3. Secure all wiring as necessary to prevent chafing of wiring or obstruction of controls.

4. Install the circuit breaker (1) in an unused radio location in the circuit breaker panel.

e. (Refer to figures 7, 8 & 9.) Interconnection of Wiring.

1. Connect wires on power cable into the aircraft electrical and audio system in accordance with the wiring diagrams (figures 7, 8 & 9).

3. OPERATIONAL CHECKOUT.

a. Perform post-installation adjustments, preflight check and flight checks in accordance with the Cessna 400, COM, NAV, NAV/COM and ADF Service/Parts Manual.
Figure 7. Wiring Diagram 400 ADF
NOTE 1 PHONE OUTPUTS OF RECEIVERS ARE CONNECTED TO TERMINALS 16 THRU 20.

NOTE 2 INPUTS TO ISOLATION AMPLIFIER IN TRANSCEIVER ARE CONNECTED TO TERMINALS 11 THRU 15.
NOTE 1 PHONE OUTPUTS OF RECEIVERS ARE CONNECTED TO TERMINALS 16 THRU 20.

NOTE 2 INPUTS TO AUDIO ISOLATION AMPLIFIER IN EACH TRANSCEIVER ARE CONNECTED TO TERMINALS 11 THRU 15.