Title CESSNA 400 NAV/COM - 14 VOLT (INCLUDES BASIC ELECTRONICS)

MODELS AFFECTED
180
182
A185
U206
TU206
P206
TP206
210
T210

SERIALS AFFECTED
18051876 & on
18258506 & on
185-1301 & on
U206-0915 & on
U206-0015 & on
P206-0420 & on
P206-0420 & on
21058937 & on
T210-0306 & on

NOTES

1. 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 or need.

a. Omni Antenna Kit
b. VHF Antenna Kit
c. Transmitter and Audio Selector Switch Kit
d. Magneto Filter Kit
e. Radio Lights Rheostat
f. Microphone
g. Headset
h. Microphone and Headset Jacks and Wiring Provisions
i. Speaker
j. Omni Antenna Coupler, Part No. ASP-547
k. Omni Selector Switch (Needed when dual omnis are used with autopilot)

FCC LICENSING DATA

Application for an aircraft radio station license for the Cessna 400 NAV/COM must be made on FCC Form 404. In response to Question No. 14 on Form 404, insert:

Manufacturer Cessna Type No.
Aircraft Radio Corporation CC-402A
Boonton, New Jersey, U.S.A. (TYPE RT-522A)

Complete technical information for the Cessna 400 NAV/COM is on file with the Federal Communications Commission.
## PARTS LIST:

<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>PART NUMBER</th>
<th>NOMENCLATURE</th>
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<tbody>
<tr>
<td>1</td>
<td>1270475-273</td>
<td>Dust Cover &amp; Cable Assembly</td>
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<tr>
<td>1</td>
<td>S1360-5</td>
<td>Circuit Breaker</td>
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<tr>
<td>1</td>
<td>36363-0000</td>
<td>Connector</td>
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<td>1</td>
<td>UG-88C/U</td>
<td>Connector - Do Not Substitute</td>
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<td>35600-0000</td>
<td>Transceiver Accessory Unit</td>
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<td>1</td>
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<td>Mounting (Accessory Unit)</td>
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<td>7</td>
<td>AN515-8R10</td>
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<tr>
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<td>10150-009-1</td>
<td>Support Material</td>
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<td>Screw</td>
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<td>D540-13</td>
<td>400 Series Electronic Communication and Navigation Equipment Owner's Manual Service Eligibility Application Owner's Service Policy Installation Instructions</td>
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<tr>
<td>1</td>
<td>D421-13</td>
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<tr>
<td>1</td>
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### CHANGE IN WEIGHT AND BALANCE:

<table>
<thead>
<tr>
<th>MODEL</th>
<th>180, A185, 182</th>
<th>206 Series</th>
<th>210-T210</th>
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<tbody>
<tr>
<td>WEIGHT INCREASE (pounds)</td>
<td>18.8</td>
<td>19.4</td>
<td>21.3</td>
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<td>ARM (inches)</td>
<td>46.5</td>
<td>26.6</td>
<td>51.2</td>
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<tr>
<td>RESULTANT MOMENT (pound-inches)</td>
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<td>555.0</td>
<td>1091.0</td>
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<td>INDEX</td>
<td>0.874</td>
<td>0.555</td>
<td>1.091</td>
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### 1. DESCRIPTION OF INSTALLATION.

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

1. Installation of accessory unit.
2. Installation of panel units.
3. Installation of A+ filter.
4. Installation and interconnection of wiring.

### 2. INSTALLATION INSTRUCTIONS.

**a.** (Refer to Figure 3, sheet 1). Installation of Accessory Unit.


   *(a) Remove seats, carpets and access plates as required to gain access to standard wire route under floorboard and to radio shelf area in the tail cone.*
Figure 1. Cessna 400 Nav/Com Installed.
CANCELLED

MODELS 180 & A185

1 11/64" (.171) HOLE 2 REQD

2 SUPPORT 1 REQD

3 SUPPORT 2 REQD

9) 11/64" (.171) HOLE 2 REQD

MODEL 206 SERIES

4) 11/64" (.171) HOLE 2 REQD

5 SUPPORT 2 REQD

6) 11/64" (.171) HOLE 2 REQD

7) #30 (.128) HOLE 4 REQD

LH SUPPORT SHOWN
RH SUPPORT OPPOSITE 1 EACH REQD

32.50

7.88

.50 (TYP)

.75 (TYP)

.375 (TYP)

.375 (TYP)

.25 (TYP)

.37 (TYP)

.50 (TYP)

.625 (TYP)

8.42

4.12

.50

.37 (TYP)

.50

.50 (TYP)

.60 (TYP)

.75 (TYP)

1.00 (TYP)

.25

FABRICATE ALL PARTS
FROM 10150-009-1
SUPPORT MATERIAL

Figure 2. Support Fabrication Details
NOTE

On Models 210 and T210 access to radio shelf area is obtained by removing bulkhead cover plate on alt side of main landing gear wheel well.

WARNING

Before working in the wheel well area make certain the master switch is OFF and one of the cables is disconnected from the battery, to prevent possible injury to personnel by doors being inadvertently closed by movement of gear handle.

(b) Select an unused space on the standard radio shelf in tailcone which will accommodate the accessory unit. Using mount (4) as a pattern, locate and drill holes (5).

(c) Install rivnuts (5) in holes.

(d) Install mount (4) with screws and washers (6).

(e) Starting at the instrument panel, route cable assembly (7) to accessory unit location following standard wire route. Secure as required to prevent chafing of wires and obstruction of controls.

NOTE

If a VHF communications and omni antenna kit is to be installed with this radio kit, accomplish antennas installation at this time. Route antenna cable (8) with accessory unit cable (7). Route omni cable forward along same route.

(f) Cut cables (7 & 8) to length required and install connectors (1 & 2). Wire connector (1) in accordance with wiring diagram in figure 6.

(g) Install accessory unit (3) and safety wire retention nut on mount (4).

(h) Attach cables (7 & 8) to accessory unit and safety wire locking clips on connector (1).

(i) Reinstall cover plates on floorboard.

(2) (Refer to figure 3, sheet 2). Model 205 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 sheet 2 of figure 3. Determine if any existing support hardware may be used to mount the remote unit of the 400 Nav/Com. Fabricate additional support angles (6 & 4) as required.

(c) Install support angles (6) as shown. Blind rivets may be substituted for driven rivets as desired to facilitate installation.

(d) Drill holes (7) in angles (4) to match mount (5).

(e) Attach mount (5) to angles (4) with screws and nuts (7).

(f) Attach assembled parts from step (e) to angles (6) with nuts and screws (2).

(g) Starting at the instrument panel, route cable assembly (8 & 9) from radio panel unit location, down center of firewall to cable exit point on cabin floorboard just aft of firewall. Route through sleeveing in nose wheel well to accessory unit location in radio compartment. Secure cable as required to prevent chafing of wires or obstruction of the aircraft's controls.

NOTE

If a VHF communications antennas kit is to be installed with this radio kit, accomplish antenna installation at this time. Route antenna cable (9) with accessory unit cable (8).
Figure 3. Accessory Unit Installation (Sheet 1 of 3)
Figure 3. Accessory Unit Installation. (Sheet 3 of 3)
(h) Cut cables (8 & 9) to length required and install connectors (10 & 11). Wire connector (10) in accordance with wiring diagram in figure 6.

(i) Install accessory unit (1) and safety wire retention nut on mount (5).

(j) Attach cables (8 & 9) to accessory unit and safety wire locking clips on connector (10).

(k) Reinstall lower cowl panel.

(3) Models 180 & A185. (Refer to figure 3, sheet 3).

(a) Remove seats, carpets and tailcone access panel at rear of baggage compartment. Locate tail light wire routing and remove floorboard cover plates as required for access to wire route.

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

(c) Drill holes (12) in angles (4) to match mount (3).

(d) Attach mount (3) to angles (4) with screws and nuts (12).

(e) Drill two holes (8) in angle (6) to match assembled parts from step (c).

(f) Attach assembled parts to angle (6) with two nuts, screws and spacers (9).

(g) Using parts assembled in step (f) as a pattern, locate and drill two holes (8) in angle (11), one hole in bulkhead (7), and one hole in bulkhead (5) to match.

(h) Use remaining nut, screws, and spacers (9) to attach assembly to airplane.

(i) Starting at the instrument panel, route cable assembly (14) to accessory unit location following standard wire route. Secure as required to prevent chafing of wires or obstruction of controls.

NOTE

If a VHF communications antenna kit is to be installed with this radio kit, accomplish antenna installation at this time.

Route antenna cable (13) with accessory unit cable.

(j) Cut cables (13 & 14) to length required and install connectors (1 & 15). Wire connector (15) in accordance with wiring diagram in figure 6.

(k) Install accessory unit (2) and safety wire retention nut on mount (3).

(l) Attach cables (13 & 14) to accessory unit and safety wire locking clips on connector (15).

(m) Replace access plates on floorboard and access panel into tailcone. Leave carpet and seats out until installation is complete.

b. (Refer to figure 4.) Installation of Panel Units.

NOTE

If a transmitter and audio selector switch kit is to be installed with this radio kit, accomplish installations at this time.

(1) Locate and drill holes (6) to match dust cover (8). Note position of radio faceplate when radio is installed in cover. Position holes (6) so that edge (11) of faceplate flange is even with plastic cover of panel.

(2) Attach dust cover (8) with screws (9) and nuts (7).

(3) Install indicator (3) in desired location on panel with screws (13).

(4) Attach plug (4) to indicator.
Figure 4. Panel Unit Installation.
(5) Install connector (5) on omni cable and attach to pendant antenna cable on rear of dust cover.

NOTE
If dual omni radios are being installed, split omni antenna signal with a UG-274/U "tee" connector.

(6) Install circuit breaker (1) in unused "RADIO" circuit breaker location.

(7) Install radio (10) in dust cover (8).

c. (Refer to figure 5.) Installation of A+ Filter.
   (1) Locate and drill holes (3) to match filter.
   (2) Install filter (1) with screws and nuts (3).

NOTE
To facilitate wiring, step 2 may be postponed until the related wiring has been accomplished.

d. (Refer to figures 6, 7, & 8.) Installation and Interconnection of Wiring.
   (1) Fabricate a red, 18 gage jumper wire (figure 6, item 1) to connect the A+ filter ("IN") with the circuit breaker. Also fabricate a short black, 18 gage jumper wire (figure 6, item 2) to ground the A+ filter. Interconnect these wires as shown.
   (2) Terminate and attach red/blue and red/white wires to circuit breaker as shown.
   (3) Terminate and attach red/white wire to "OUT" terminal of the A+ filter as shown.
   (4) Locate two yellow wires and route to "RADIO LTS DDM" rheostat. Strip, tin and solder to load side of rheostat.

NOTE
The two numbers on the ends of wires in Figure 6 correspond to terminals on the audio terminal board shown in Figures 7 and 8. For example, the first number of (28/29) denotes that terminal No. 28 is to be used if the radio is the only transceiver, or the first of two transceivers. The second number denotes that terminal No. 29 is to be used if the radio is the second of two transceivers.

(5) If this kit is being installed as an only or "first" of two transceivers, interconnect the audio wiring in accordance with figure 7, using the first number in the terminal designations on figure 6.

(6) If this kit is being installed as a "second" of two transceivers, interconnect the audio wiring in accordance with figure 8, using the second number in the terminal designation on figure 7.

NOTE
The gray/red and gray/green wires emerging from the indicator cable assembly are omni deviation output leads for driving the omni track function of an autopilot. These wires should be terminated and attached to the terminals shown on figures 7, 8, and 9 even if no autopilot is being installed at this time.

(7) Secure all wiring behind the instrument panel to prevent chafing of wires and obstructions of the controls.

(8) Reinstall all items previously removed to facilitate installation.

3. OPERATIONAL CHECK OUT:
   (a) Perform post installation adjustments, preflight check, and flight checks in accordance with Cessna 490, COM, NAV, NAV/COM and ADF Service Parts Manual.
CANCELLED

1 37243-0000
FILTER ASSY
1 REQD

2 GLOVE
BOX (REF)

3

6

1.70

3.00

6 ALTERNATE LOCATION
WHEN SECOND 400 SERIES
TRANSCIEVER IS
INSTALLED

1 326 (.147) HOLE
(TO MATCH FILTER)
AN515-6R8 SCREW
NAS679A06 NUT
2 EA. REQD

2

4.00

6.50

.44

MODELS 180 & A185
VIEW LOOKING OUTBOARD

MODEL 182
VIEW LOOKING OUTBOARD

5 PILOT'S CONTROL
COLUMN SUPPORT
(REF)

3

4 EXISTING TOOLING HOLE

NOTES: MOUNT FILTER FOR NO. 2 RADIO INSTL ON
INBOARD SIDE OF SUPPORT ASSEMBLY USING SAME
HOLES AND HARDWARE.

MODELS 206 & 210 SERIES
VIEW LOOKING INBOARD

Figure 5. Filter Installation.
NOTE 1  PHONE OUTPUTS OF TRANSCEIVERS ARE CONNECTED TO TERMINALS 16 THRU 20.

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

Figure 7. Audio & Control Wiring - Single Transceiver & Multiple Receivers.
NOTE 1  PHONE OUTPUTS OF TRANSCEIVERS ARE CONNECTED TO TERMINALS 16 THRU 20.

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

Figure 8. Audio & Control Wiring – Dual Transceivers & Multiple Receivers.