Title: CESSNA MARKER BEACON 300 INSTALLATION KIT
(INCLUDES BASIC ELECTRONICS)

MODELS AFFECTED
180
185

SERIALS AFFECTED
18051446 & on
185-0777 thru 185-1117
A185-0968 & on

NOTE

If government licensing or approvals are required, use "ARC Type R-502B" for identification of receiver.

PARTS LIST:

<table>
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<tr>
<th>QUANTITY</th>
<th>PART NUMBER</th>
<th>NOMENCLATURE</th>
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<tr>
<td>1</td>
<td>D316-13</td>
<td>300 Series Owner's Manual</td>
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<td>1</td>
<td>31240-0014</td>
<td>Receiver - Marker Beacon (R-502B)</td>
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<td>4</td>
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<td>Antenna Rod Assembly - Marker Beacon</td>
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<td>Cable and Lights Assembly</td>
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<td>Wire - Blu/Tan</td>
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<td>Wire - Blue</td>
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<td>S1460-16-2</td>
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<td>S1367-1-6</td>
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<td>1 ft.</td>
<td>S341-2</td>
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CHANGE IN WEIGHT AND BALANCE:

MODEL
180, 185 SERIES

WEIGHT INCREASE
2.7 pounds

ARM
41.5 inches

RESULTANT MOMENT
112 pound-inches

INDEX
.112

1 of 6
1. DESCRIPTION OF INSTALLATION.
   a. Installation of this kit consists of:
      (1) Installation of marker beacon antenna on aircraft belly skin.
      (2) Installation of marker beacon receiver on left cabin skin and cable assembly routing.
      (3) Installation of circuit breaker, audio switch and cable assembly containing marker beacon lights.

2. INSTALLATION INSTRUCTIONS.
   a. Marker Beacon Antenna Installation. (See figure 1.)
      (1) Locate, and drill holes (1, 2, 5 & 6, figure 1.)
      (2) Install antenna assembly (3, figure 1) in aircraft belly skin as shown.
      (3) Install grommet (5, figure 1) and attach antenna cable assembly to antenna with clamp (6, figure 1). Note that antenna cable shield terminates under nut and washer (1, figure 1) on antenna rod stud. Secure cable to skin with clamps (6, figure 1).
      (4) Route antenna cable to receiver location by routing with tail light wire thru existing harness bands as shown in figure 2.
   b. Marker Beacon Receiver Installation. (See figure 2.)
      (1) Locate, drill, and deburr holes (1) in skin on left side of fuselage.
      NOTE
      Be sure that area inside cabin is clear before drilling holes.
      (2) Mount receiver (2) with hardware (1) on inside surface of fuselage skin.
   c. Marker Beacon Indicator Lamp Cable Assembly Installation. (See figure 3.)
      (1) Install placard (2) and cable assembly (1) as shown in figure 3.
      (2) Connect cable assembly (1) to cable assembly (5) in accordance with figure 4. Route cable assembly (5) from instrument panel down the left side of aircraft and forward to receiver, securing as necessary to prevent chaffing of wires.
   d. Audio Selector Switch Installation. (See figure 3.)
      (1) Install audio selector switch (3) in audio selector switch panel above radio stack.
      (2) Wire audio selector switch as indicated in wiring diagram. (See figure 4.)
   e. Primary Power Circuit Breaker Installation. (See figure 3.)
      NOTE
      If the circuit breaker panel is full, power for the marker beacon receiver may be obtained from any existing radio circuit breaker.
      (1) Install circuit breaker (4) in circuit breaker panel in an empty "radio" circuit breaker position.
      (2) Wire the primary power circuit breaker as indicated in wiring diagram. (See figure 4.)
Figure 1. Marker Beacon 300, Antenna Installation
Figure 2. Marker Beacon 300, Receiver Installation & Cable Routing
Figure 3. Marker Beacon 300, Instrument Panel Installations
3. ADJUSTMENT PROCEDURE.

a. The position of the tap-off clamp on the antenna rod is the only adjustment required for a Marker Beacon 300 installation. This adjustment requires the following equipment:

1. . . . . Phone Plug
10' . . . . Shielded Wire
1. . . . . 600 Ohm Resistor
1. . . . . AC VTVM (Ballantine 300D or equiv.)
1. . . . . Signal Generator capable of 75 mc output modulated to 30% at 400 cps

(1) Terminate one end of the shielded wire with the phone plug. Connect the other end of the wire to the AC VTVM and parallel the VTVM input terminals with the 600 Ohm resistor. Insert the phone plug into the aircraft's phone jack.

(2) Connect a short length of wire to the signal generator output and allow it to lay on the ground under the marker beacon antenna. Allow the generator to warm up but do not tune it to 75 mc.

(3) Apply power to the marker beacon receiver and place the marker beacon audio selector switch to "phones" and the sensitivity switch to "HI." Note the reading on the AC VTVM.

(4) Tune the signal generator to 75 mc with 30% modulation at 400 cps. Adjust the signal generator output level to obtain a reading on the VTVM that is 6 db (2x voltage) above the reading noted in step 3.

(5) Adjust the position of the tap-off clamp on the antenna rod for maximum VTVM reading.

NOTE

Refer to the 300 Series Electronics Service/Parts Manual for additional service information if required.