

**INSTALLATION  
AND  
OPERATION  
DATA**

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**ADF-T-12B , ADF-T-12C**

**AUTOMATIC DIRECTION FINDER SYSTEM**

**Bendix Radio Division**  
AVIONICS PRODUCTS • BALTIMORE 4, MARYLAND



**TM-34-3**

**Issue 7**

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## INSTALLATION DATA

### 1. GENERAL

#### A. JOB/USE

This section furnishes initial installation procedures for the ADF-T-12B, C System.

### 2. PRELIMINARY INSPECTION

#### A. GENERAL

Perform a preliminary inspection and test of the ADF-T-12B, C System before installation.

#### B. INSPECTION PROCEDURE

<u>DETAIL STEPS/WORK ITEMS</u>	<u>KEY ITEMS</u>
(1) Unpack the equipment and check it against installation requirements for correct model and part numbers of all components.	
(2) Visually inspect for any damage that may have occurred during shipment.	
(3) Perform test procedures outlined in the Maintenance Practices Section of the Manual to ensure proper component operation before installation.	All servo amplifier-indicators are wired for top mounted fixed loop and sense antennas. Any change in either or both antenna mounting positions may require a cabling reversal, as noted in figure 407, Note 3.

### 3. SYSTEM CONFIGURATION

A. The ADF-T-12B, C System consists of three principal components: the receiver, servo amplifier-indicator, and fixed loop antenna. The method of electrical connection between the system components is provided in figure 201. (See note 3, figure 407, for alternate pin connection for bottom mounted antennas.)

B. Figures 407 and 408 illustrate schematically the electrical interconnection for the ADF-T-12B and ADF-T-12C systems, respectively.

### 4. INSTALLATION KIT (Part No. 2T006)

A. The following is a list of specific kit numbers, the aircraft on which they are used and whether they are distributor or factory kits.

1. Cessna, 14V	(2T006-01) Distributor
2. Beechcraft Bonanza, 14V	(2T006-02) Distributor
3. Beechcraft twin engine, 28V	(2T006-03) Distributor
4. Piper, 14V	(2T006-04) Distributor
5. Mooney, 14V	(2T006-05) Factory
6. Navion, 14V	(2T006-06) Factory
7. Beechcraft Models 33 - 35, 14V	(2T006-07) Factory
8. Beechcraft, 28V	(2T006-08) Factory
9. Cessna, 14V	(2T006-09) Factory
10. Cessna Model 336	(2T006-10) Factory
11. Cessna Models 310 - 320, 28V	(2T006-11) Factory
12. Piper 23 series, 14V	(2T006-12) Factory
13. Piper 24 series, 14V	(2T006-13) Factory
14. Cessna Model 310, 28V	(2T006-14) Distributor
15. Hughes 269A, 12V	(2T006-15)
16. Grand Commander Aft, top, 28V	(2T006-16) Factory
17. Grand Commander Fwd, top, 28V	(2T006-17) Distributor
18. Pilaters Porter, 28V	(2T006-18) Factory & Distributor
19. Garden GY-80, 12V	(2T006-19) Factory & Distributor
20. Piper PA-28 series (Cherokee), 12V	(2T006-20) Factory
21. Piper PA-31 24 volt	(2T006-21) Factory
22. Lear Jet with 551B	(2T006-22) Factory
23. Lear Jet with 551E	(2T006-23) Factory
24. Mooney Mustang M22	(2T006-24) Factory
25. Piper PA-28R	(2T006-25) Factory

## INSTALLATION DATA

### 5. COMPONENT INSTALLATION PROCEDURES

#### A. RECEIVER

##### (1) General

- (a) The receiver is usually mounted in or underneath the aircraft instrument panel. When mounted in the instrument panel (see figure 202), the receiver dust cover is secured to mounting brackets supplied by the factory or to mounting flanges in the panel cut-out, provided by the aircraft manufacturer. Outline dimensions of the receivers are shown in figures 203 and 204.

##### (2) Receiver Installation Procedure

###### DETAIL STEPS/WORK ITEMS

###### KEY ITEMS

- (a) If a 14-volt d-c power source is used, disregard steps (b) and (c) and proceed to step (d).
- (b) If a 28-volt d-c power source is used, the 28-volt lamp shipped with each receiver must be substituted for the 14-volt lamp installed at the factory
- (c) Remove voltage switch key retained by a sheet metal screw at the rear of the receiver. Position switch to "28" and replace voltage switch key to lock switch in position.
- (d) Fasten connector mounting bracket with attached interconnect cable assembly to rear of receiver dust cover with the three screws supplied.
- (e) Secure connector cover to rear of receiver dust cover with the four screws.
- (f) Attach the receiver mounting brackets to each side of the receiver dust cover with four 6-32 X 3/8 machine screws and applicable washers and nuts.
- (g) Drill two holes on each side of instrument panel cutout.
- (h) Place receiver dust cover, with attached mounting brackets, behind panel cutout so that mounting holes in the bracket align with holes in the instrument panel.
- (i) Secure receiver dust cover to instrument panel with four 6-32 X 3/8 screws and applicable washers and nuts.
- (j) If found necessary, secure the rear of the receiver dust cover with a suitable supporting bracket.
- Remove plug from front panel located between tuning meter and frequency dial and unlock cover using phillip's head screwdriver to position locking cam 1/4-turn counterclockwise. Slide cover back to expose lamp. Turn unit over, remove sheet metal screw that secures lampholder. Exchange lamps and reassemble.
- See figure 202.
- Support bracket must be fabricated in field to meet individual installation requirements.

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B. SERVO AMPLIFIER-INDICATOR

(1) General

- (a) Model 551A Servo Amplifier - Indicator is designed for mounting through the rear of a panel. Mounting-hole dimensions are included on the outline drawing, figure 205.
- (b) Model 551C Dual ADF Indicator is secured behind an aircraft instrument panel. Figure 212 is an outline drawing with mounting-hole dimensions.
- (c) Model 551E Servo Amplifier - Indicator is mounted through the rear of a panel. Mounting-hole dimensions are included on the outline drawing, figure 213.

(2) Installation Procedure

DETAIL STEPS/WORK ITEMS

KEY ITEMS

- (a) Using the appropriate outline drawing as a guide, cut a dial opening in the panel and drill mounting holes.
  - (b) Secure the unit in position with the hardware designated on the outline drawing.
- Allow at least three inches for cable connections and removal passage.

C. REMOTE GONIO SYNCHRO

(1) General

- (a) Model 551B Remote Gonio Synchro is usually located remote from the instrument panel. Mounting-hole dimensions are included on the outline drawing, figure 207. Figure 206 is an outline drawing of a mounting bracket available for securing the 551B to a frame or bulkhead.

DETAIL STEPS/WORK ITEMS

KEY ITEMS

- (a) If the 551B is to be fastened through a panel, drill mounting holes as indicated in figure 207.
  - (b) If the 551B is to be mounted on the bracket shown in figure 206, drill mounting holes for the bracket using the outline drawing as a guide.
- Fasten the mounting bracket before securing the 551B in position.  
Allow sufficient room for cable connections.

D. AUDIO AMPLIFIER

(1) General

- (a) The optional audio (speaker) amplifier is designed to mount in any convenient location in the aircraft such as behind the instrument panel, on a shelf, etc. Figure 201 illustrates the unit connected in the system.

(2) Audio Amplifier Installation Procedures

DETAIL STEPS/WORK ITEMS

KEY ITEMS

- (a) Drill three holes in the selected mounting surface of the dimensions illustrated in figure 211.

NOTE

Either No. 4 or 6 screws can be used for this installation.

- (b) Mount the screws in the drilled holes and tighten just enough so they cannot be removed by pulling.
- (c) Mount the audio amplifier on the screws by inserting the screw heads through the mounting holes in the flanges.
- (d) Slide the unit enough so the screw threads slip in the notches of the mounting holes.

## INSTALLATION DATA

- (e) Tighten screws securely.
- (f) Wire audio amplifier cable to receiver connector (J1) and connect Amphenol plug to amplifier (see Figures 201, 407 and 408).
- (g) Mount and connect speaker to shielded lead.

### E. ANTENNAS

- (1) (a) ADF-T-12B, C System accuracy depends on proper installation and location of the sense and loop antennas. If accurate over-the-station performance is required, these factors are especially important.
- (b) Antenna locations must meet four requirements:
  - 1. The two antennas must be mounted exactly on the fore and aft centerline of the aircraft, preferably on the underside.
  - 2. If the fixed loop is mounted less than 10 feet from the receiver, the lead-in cable slack can be coiled.
  - 3. When the 54-inch whip is employed (see Figure 208) as a sense antenna, it must be located at least 3 feet from the propeller, and mounted in a place having sufficient structural strength to prevent tearing if the antenna vibrates violently under icing conditions.
  - 4. The fixed loop should be parallel to the ground, with the aircraft in its normal flight attitude.

#### NOTE

Specific installation data drawings for different types of aircraft are available on request from;

Service Manager  
Bendix Radio Division  
Avionics Products  
Baltimore, Maryland 21204

- (2) Fixed Loop Installation Procedure (See Figure 209)

#### DETAIL STEPS/WORK ITEMS

#### KEY ITEMS

- (a) Select mounting location for the fixed loop antenna so that the inherent 6 degree compensation factor of the loop adjusts for the quadrantal error of the aircraft.

By trial and error, test the quadrantal error as directed in paragraph G before proceeding. See following NOTE.

#### NOTE

Temporarily tape the loop to the outside (underside) of the aircraft during this test. Mount loop upside down for connector clearance. Dress loop cable in line with the fore-aft centerline of the loop. Make loop cable entrance into the aircraft, during test, without drilling entrance holes. Complete the procedure given in paragraph G and then proceed as follows.

- (b) Drill five mounting holes at the selected location in the fuselage.

See figure 209 for installation information.

## INSTALLATION DATA

- (c) Mount fixed loop in position and place two 8-32 binding head screws through mounting holes with flat washers attached to hold loop in position, while doubler plate is being mounted. See figure 210 for installation information.
- (d) Place doubler plate in position inside the aircraft so that the mounting nuts on doubler plate align with fixed loop mounting screws. Apply ECO-801 Type A sealer between doubler plate and aircraft skin.
- (e) Remove loop from aircraft.
- (f) Insert loop cable connector through doubler plate and aircraft skin from inside the aircraft. Apply ECO-801 Type A sealer between doubler plate and cable connector.
- (g) Secure cable connector and doubler plate to aircraft skin with two 6-32 screws placed in mounting holes from outside of aircraft.
- (h) Place loop in position so that loop and loop cable connectors mate. Apply ECO-801 Type A sealer between loop gasket and aircraft skin.
- (i) Secure loop to aircraft skin with two 8-32 binding head screws placed from outside aircraft to match with elastic stop nuts on doubler plate. Gasket must be compressed to approximately 1/32 in. at loop center-line.

### F. INTERCONNECT CABLING

#### (1) GENERAL

- (a) Use only approved cables furnished with the basic interconnecting cabling kits available to meet installation requirements for various aircraft as listed in paragraph 4.

### G. QUADRANTAL ERROR COMPENSATION

#### (1) GENERAL

- (a) To provide an inherent 6 degree quadrantal error factor, the cross-wound coils for the fixed-loop antenna are of different dimensions. When installing the fixed loop, a position should be selected where the quadrantal error caused by the physical presence of the aircraft is nearly cancelled by the 6 degree compensation of the loop. This is accomplished by a trial and error process.

#### (2) GROUND COMPENSATION PROCEDURE

##### DETAIL STEPS/WORK ITEMS

- (a) Install the ADF-T-12B, C in the aircraft, but do not secure the fixed loop (figure 202).
- (b) Select approximate location for fixed loop on fore-and-aft line of aircraft.

##### KEY ITEMS

See installation procedures paragraph 5. A. (2).

## INSTALLATION DATA

- |  |   |
|--|---|
| <p>(c) If a ground compass rose design is available, position the aircraft on the design. If no design is available, use an alternate method to determine angles and degrees.</p>                          | <p>Make certain there are no metal hangers, phone wires, burried cables, etc., near the aircraft that might cause bearing error.</p>                        |
| <p>(d) Locate a radio station of known position. Use the ADF to take a bearing on the station. See NOTE below.</p>   | <p>The station should be at least 20 miles from the aircraft. The signal frequency should be below 500 kc., non-facing, and static free.</p>                |
| <p>(e) Rotate the aircraft on the compass rose until the nose of the aircraft is pointing directly at the transmitting station.</p>  | <p>The servo amplifier-indicator must now read zero.</p>  |
| <p>(f) Set the aircraft's directional gyro to zero degree in agreement with the servo amplifier-indicator reading.</p>   |   |
| <p>(g) Rotate the aircraft counterclockwise around the compass rose in 15-degree increments. Compare the directional gyro and servo amplifier-indicator readings at each increment. Chart the results.</p> | <p>The difference between the two instrument readings is the quadrantal error. Maximum errors will be at 45, 135, 225, and 315 degrees. See NOTE below.</p> |

### NOTE

The direction of bearing indications on the servo amplifier-indicator will be reversed with the loop mounted upside down. Compute the bearing differences accordingly.

- |   |  |
|---|--|
| <p>(h) Repeat steps (d) thru (g) until a loop position is found where the 7.5 degree loop compensation reduces the quadrantal error to a minimum.</p> | <p>Secure loop in this location. Refer to paragraph 5. E. (2).</p> |
|---|--|

## H. SENSE ANTENNA ADJUSTMENT

### (1) GENERAL

#### DETAIL STEPS/WORK ITEMS

#### KEY ITEMS

- (a) After the ADF-T-12B, C System is installed, adjust trimmer capacitor C-22 for optimum performance.

### (2) ANTENNA ADJUSTMENT PROCEDURE

- (a) Remove receiver chassis from receiver dust cover.
- (b) Connect lap adapter cable between receiver connector J-1 and receiver dust cover connector P-1.
- (c) Set the receiver function switch to REC and the bandswitch to the 190-440 position.
- (d) Tune in a station as close to 440 kc as possible.
- (e) With suitable tool, adjust C-22 for maximum audio level in headset.
- (f) Remove lap adapter cable and replace receiver chassis in receiver dust cover.

Lap adapter cable, part no. 2V011-01.

Rotate retaining screw on receiver front panel to secure receiver to dust cover.



INSTALLATION DATA

NOTE

If tuning meter other than the one supplied as an accessory is used to adjust sense trimmer C22, set scale for a 0-1 milliamperere deflection.

I. PRE-FLIGHT CHECK OUT

(1) GENERAL

- (a) Before take-off, perform the following tests to determine if the ADF-T-12B, C System is operating properly.

(2) CHECKOUT PROCEDURE

DETAIL STEPS/WORK ITEMS

KEY ITEMS

- |   |  |
|---|--|
| (a) Tune in three stations on each band of receiver.                            | Receiver in REC mode. Select stations evenly spaced throughout each band. Maximum tuning meter deflection should be obtained at peak signal. |
| (b) Adjust volume control to desired listening level.                           |  |
| (c) Tune in one station in each band until a clear 1000-cps signal is heard.    | Function switch in CW position. (Models 201/B/B-1/D only)  |
| (d) Position aircraft on a known true heading.                                  |  |
| (e) Set receiver switch to ADF and tune in station.                             |  |
| (f) Compare bearing on servo amplifier-indicator with true bearing.             | Bearings must agree within 4 degrees with little or no "hunting" observed on indicator.  |
| (g) Press TEST button on front panel of receiver and observe indicator pointer. | Indicator pointer will rotate away from indicated bearing while TEST button is pressed.  |
| (h) Release TEST button, and observe indicator pointer.                         | Indicator pointer should return to the indicated bearing. Slow response indicates faulty ADF system.   |

J. FLIGHT TEST

(1) GENERAL

- (a) Airborne test shall employ the following procedure.

(2) FLIGHT TEST PROCEDURE

DETAIL STEPS/WORK ITEMS

KEY ITEMS

- (a) From a distance of about 50 miles, select a station of average power and, using tuning meter, adjust till maximum signal strength is obtained (receivers 201C/D).

INSTALLATION DATA

- (b) Fly toward the station.
- (c) Set the equipment for ADF operation.
- (d) Note the bearing on the servo amplifier-indicator.
- (e) Make a half-needle 360-degree turn and observe the servo amplifier-indicator. A half-needle turn is made at the rate of 90-degrees per minute.
- (f) Select a range station to check the over-the-station performance of the system.
- (g) Set the receiver to ADF and home-in on the range station.
- (h) Observe the indicator pointer as the aircraft approaches and passes over the station.

Unless the station is weak, there should not be prolonged hunting by the indicator pointer.

The indicator pointer should track the turn without "losing" the station.

Pointer should oscillate slightly, and as the cone of silence is passed, should abruptly swing to a reading of 180 degrees from the original bearing indication.

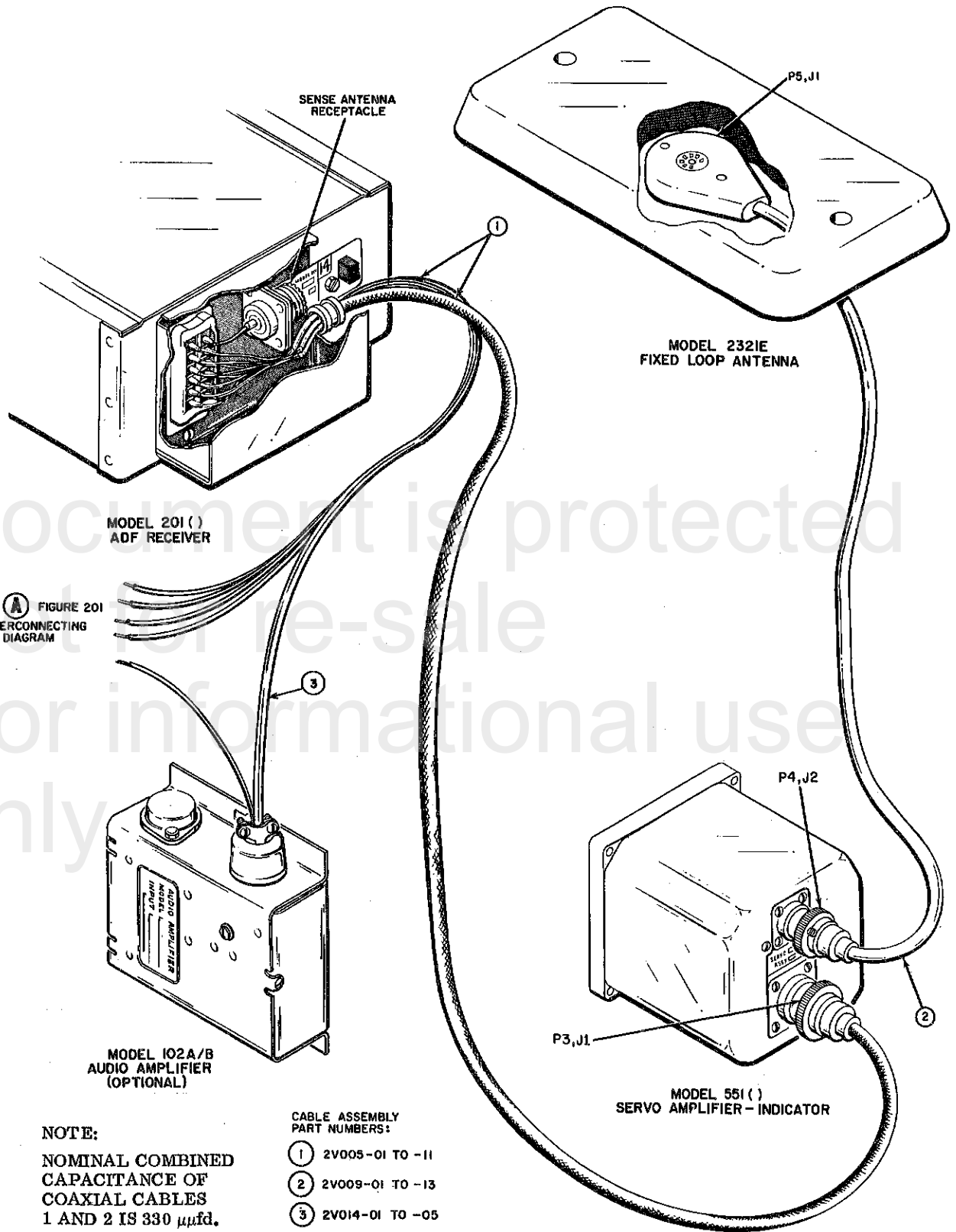
- (i) When the station is passed and pointer reversal is unsatisfactory, the following information may help in correcting the trouble.

(3) ADJUSTMENT, ERROR CORRECTION

<u>Indication</u>	<u>Trouble</u>
(a) Reversal before entering cone of silence.	Sense antenna element too far aft.
(b) Reversal after reaching cone of silence.	Sense antenna element too far forward.
(c) Extended area of confusion. Excessive pointer oscillation.	Sense antenna too long or too short.

6. INSTALLATION OF CW OSCILLATOR KIT OPTION (part no. 2V017-01)

- (1) Position the cw oscillator assembly (item 54, figure 302) at rear of the tuner chassis (item 78) next to connector J1 (item 65) and secure in position using two sheet metal screws (item 55).
- (2) Solder the black wire from the assembly (item 54) to pin 9 of J1 (item 65).
- (3) Solder the red wire from the assembly (item 54) to terminal 1 of function switch (item 39); terminal 1 is physically located at the six o' clock position on the switch wafer.
- (4) Solder the green wire from the assembly (item 54) to the junction of R30, R31, C47, and T4-1 on the printed circuit board shown in figure 308.



ADF-T-12B, C System Installation Pictorial Diagram  
Figure 201

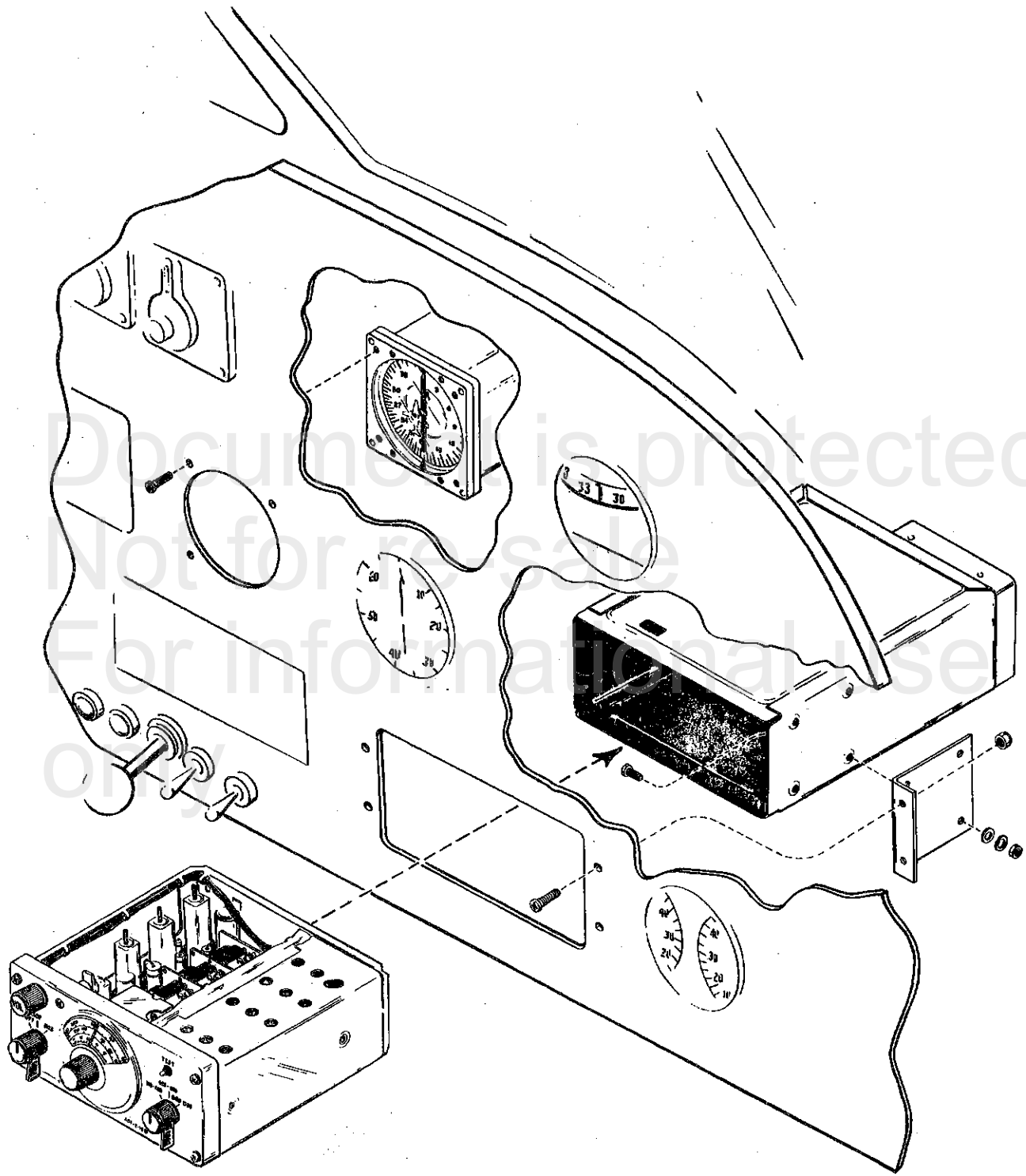
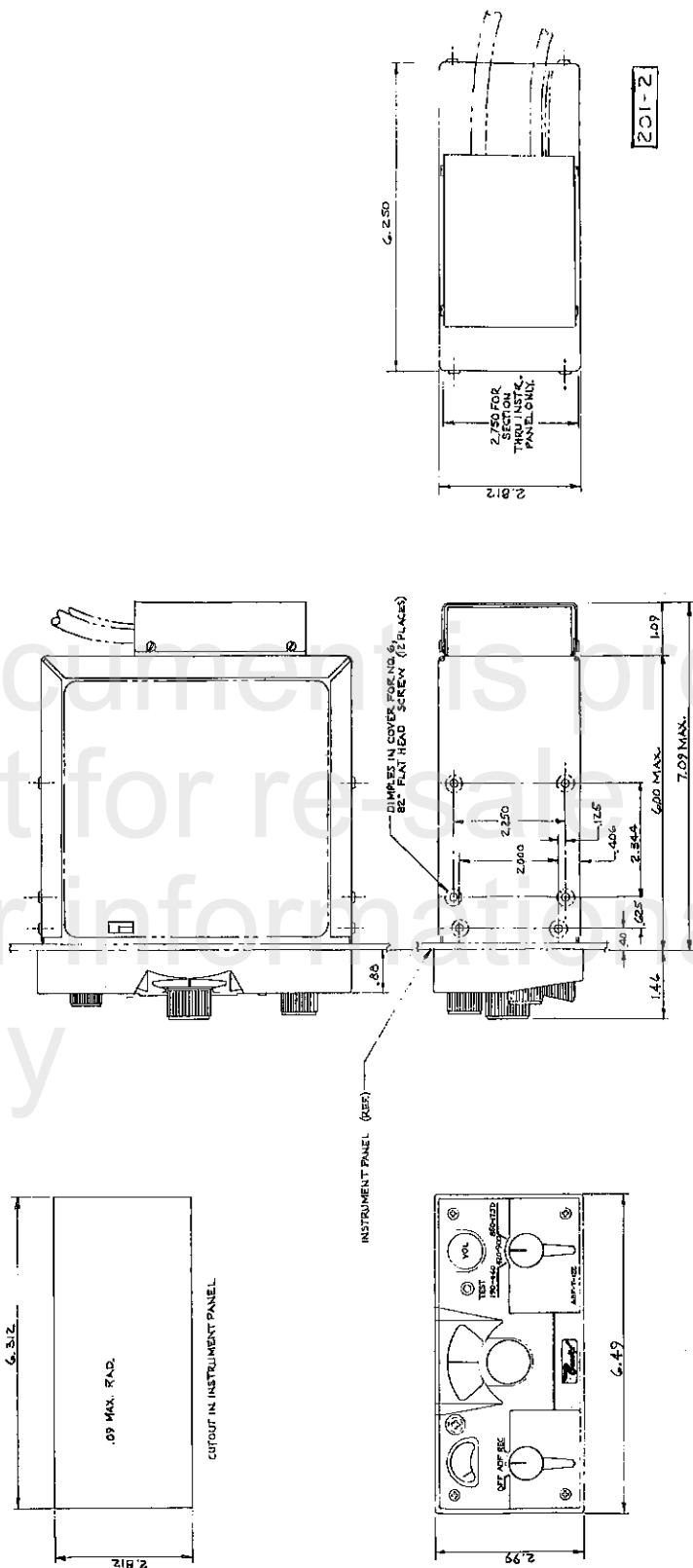


Figure 20  
Typical Aircraft Installation



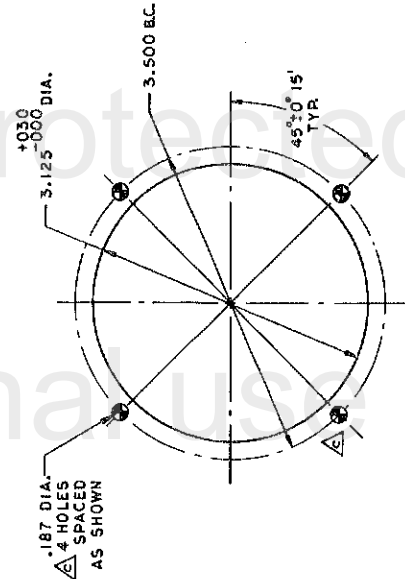
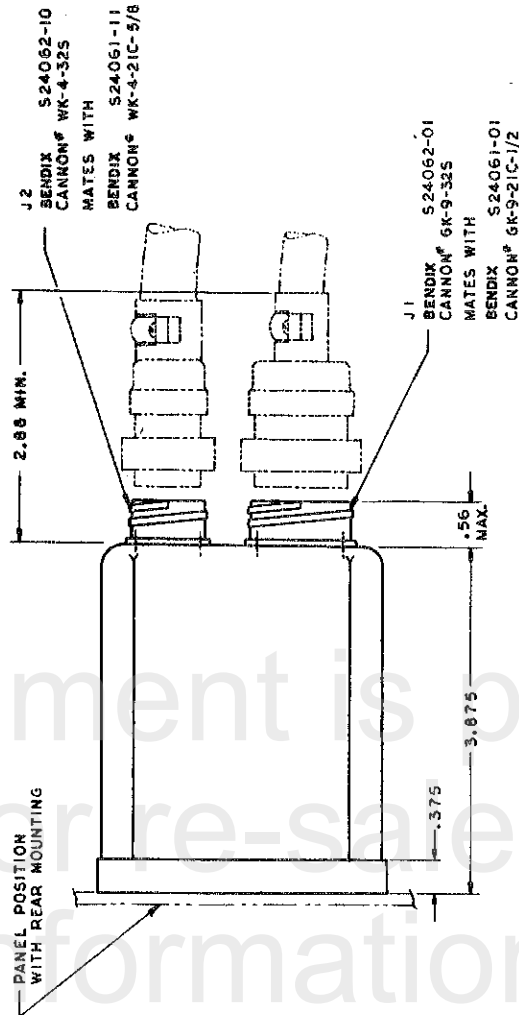
INSTALLATION DATA



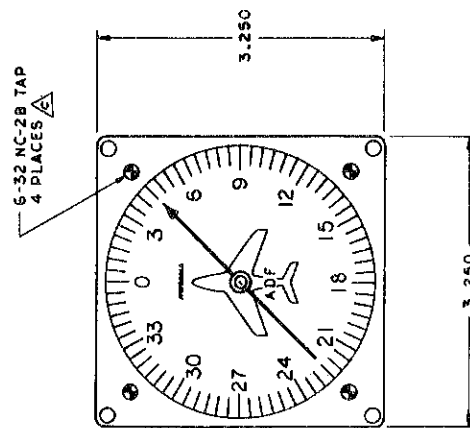
Model 201C/D ADF Receiver, Outline Dimensions  
 Figure 204

INSTALLATION DATA

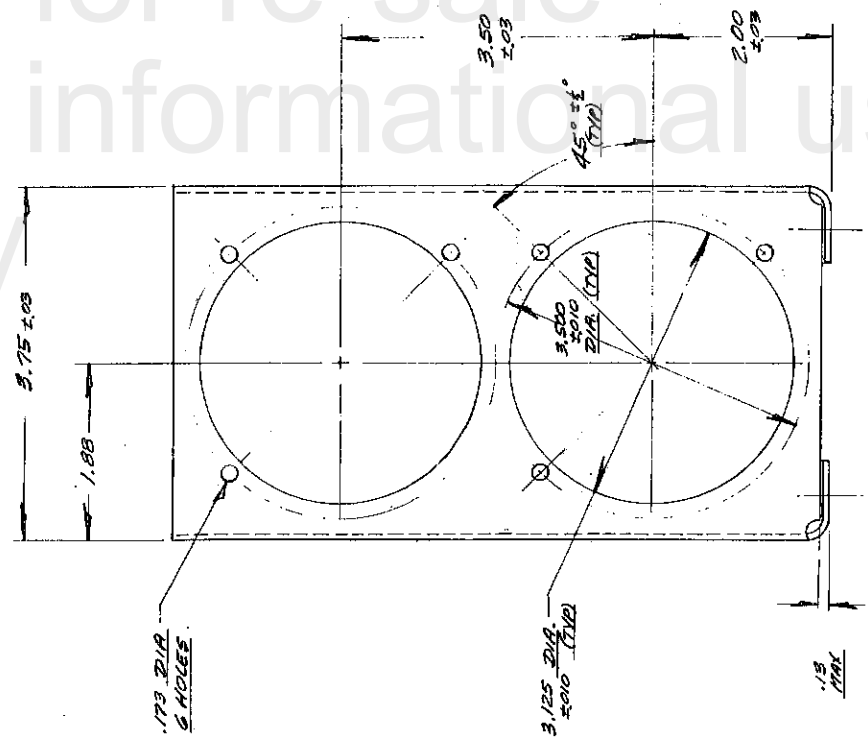
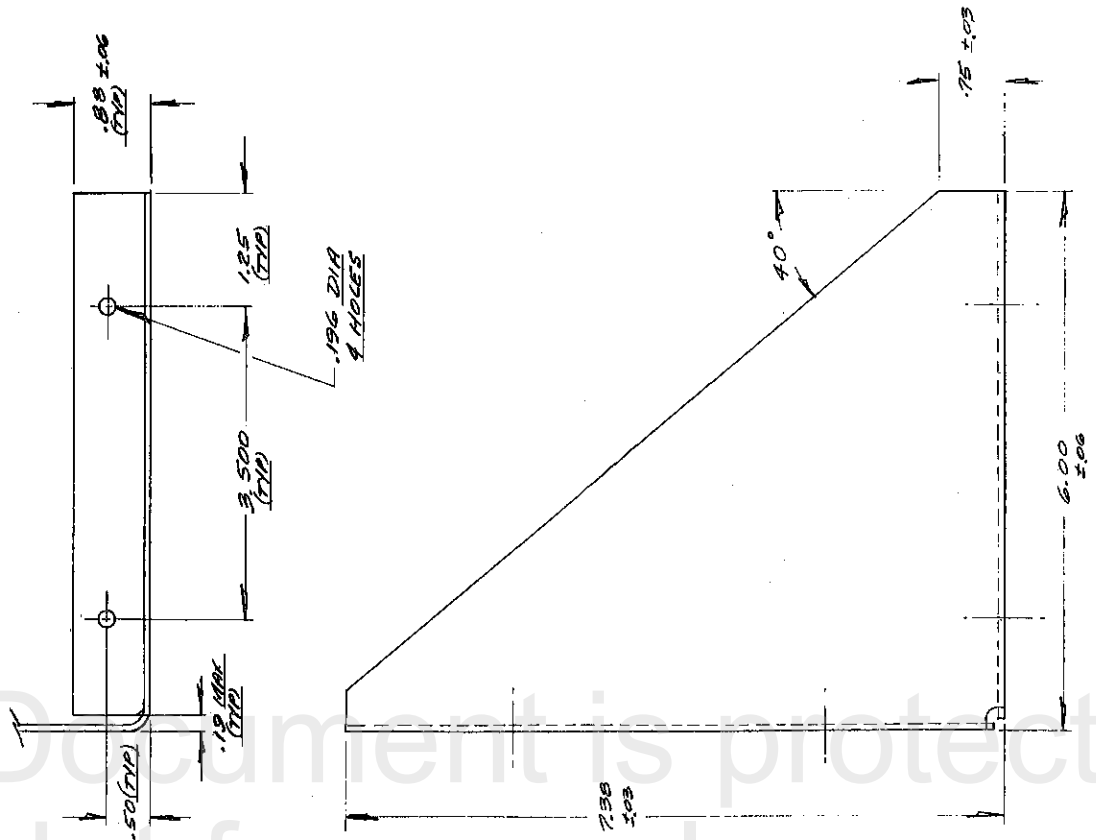
551-1  
C



MOUNTING HOLE PATTERN

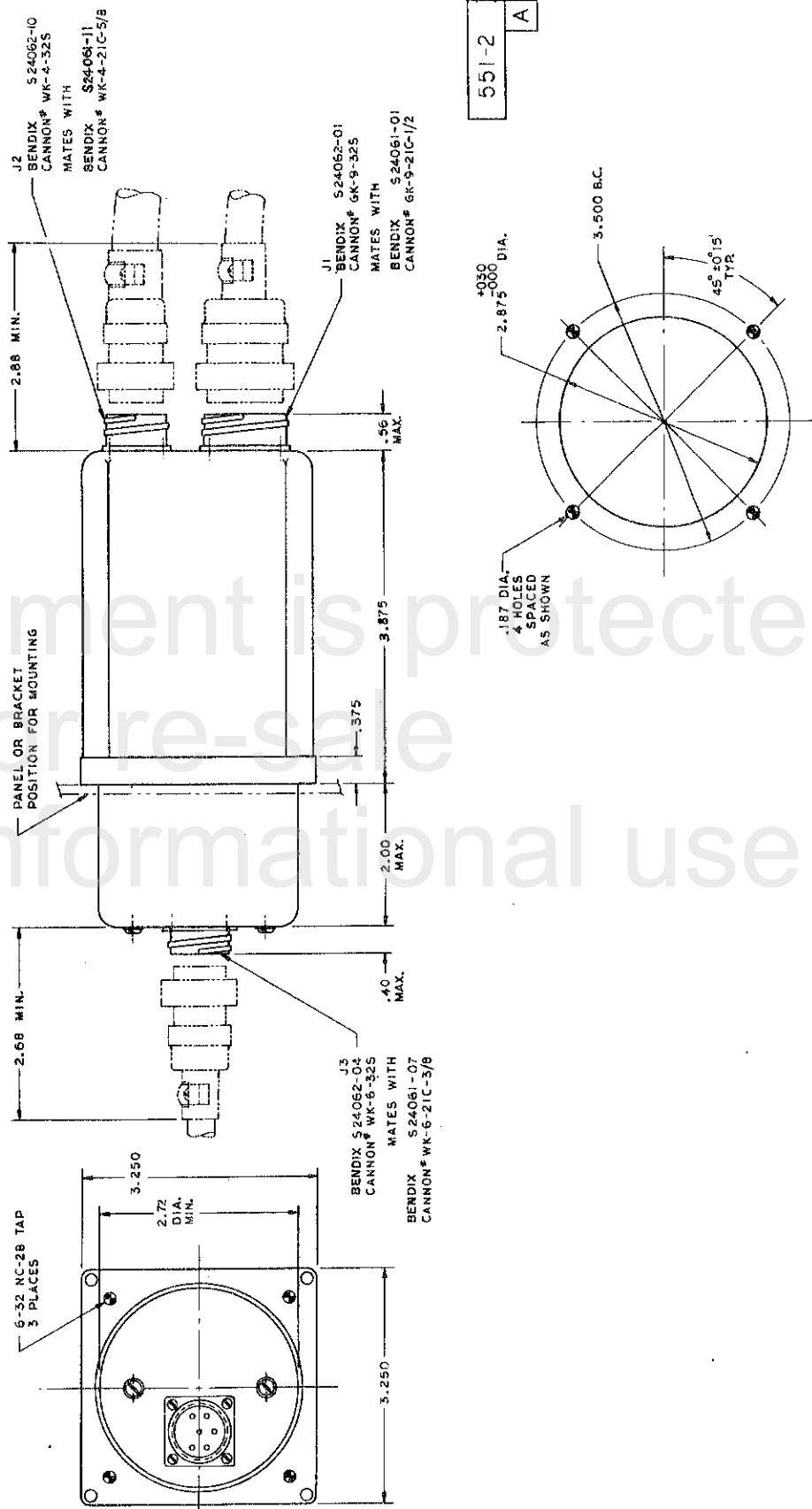


Model 551A Servo Amplifier-Indicator, Outline Dimensions  
Figure 205



Mounting Bracket for Model 551B Remote Gonio Synchro  
Figure 206



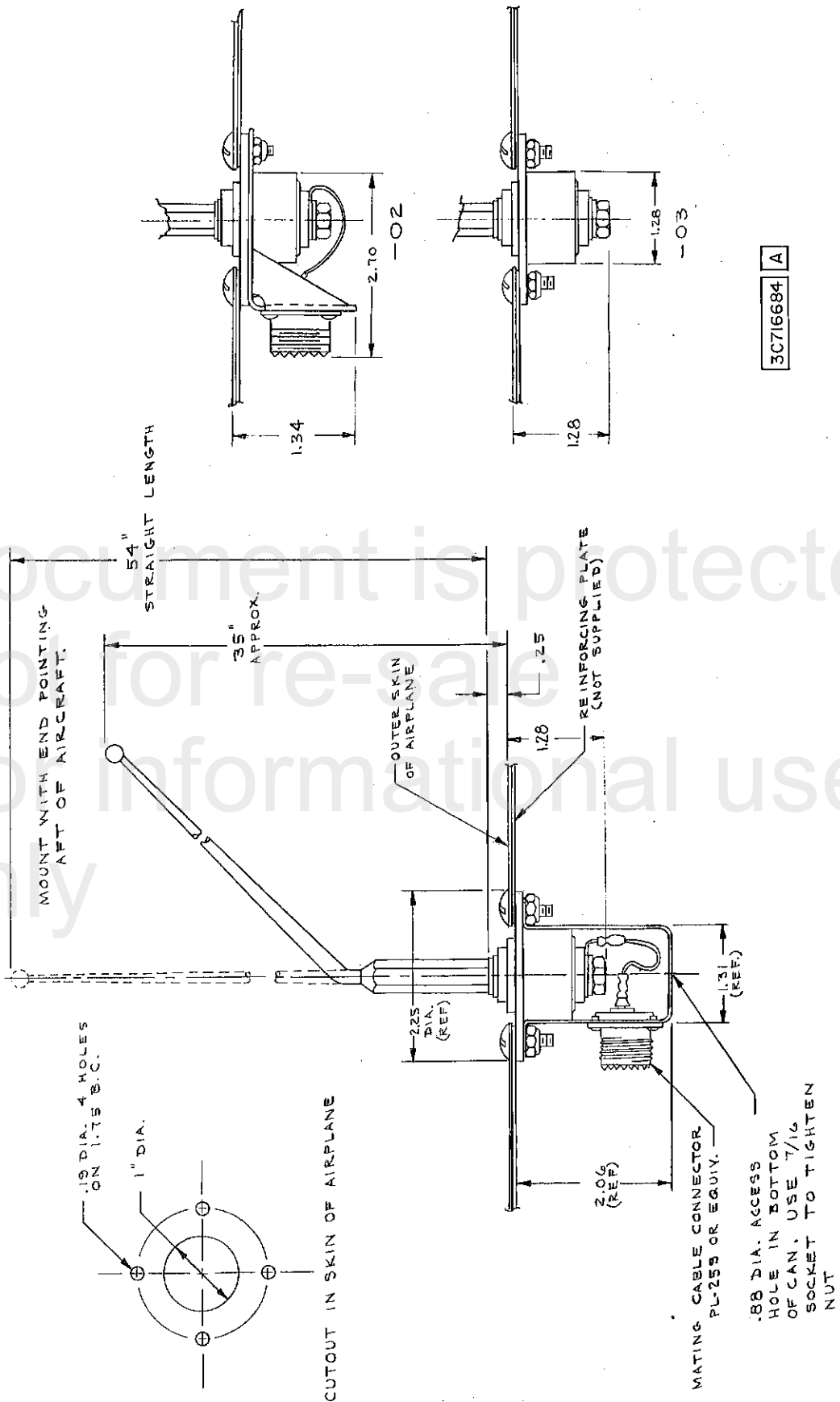


MOUNTING HOLE PATTERN

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Model 551B Remote Gonio Synchro, Outline Dimensions  
Figure 207

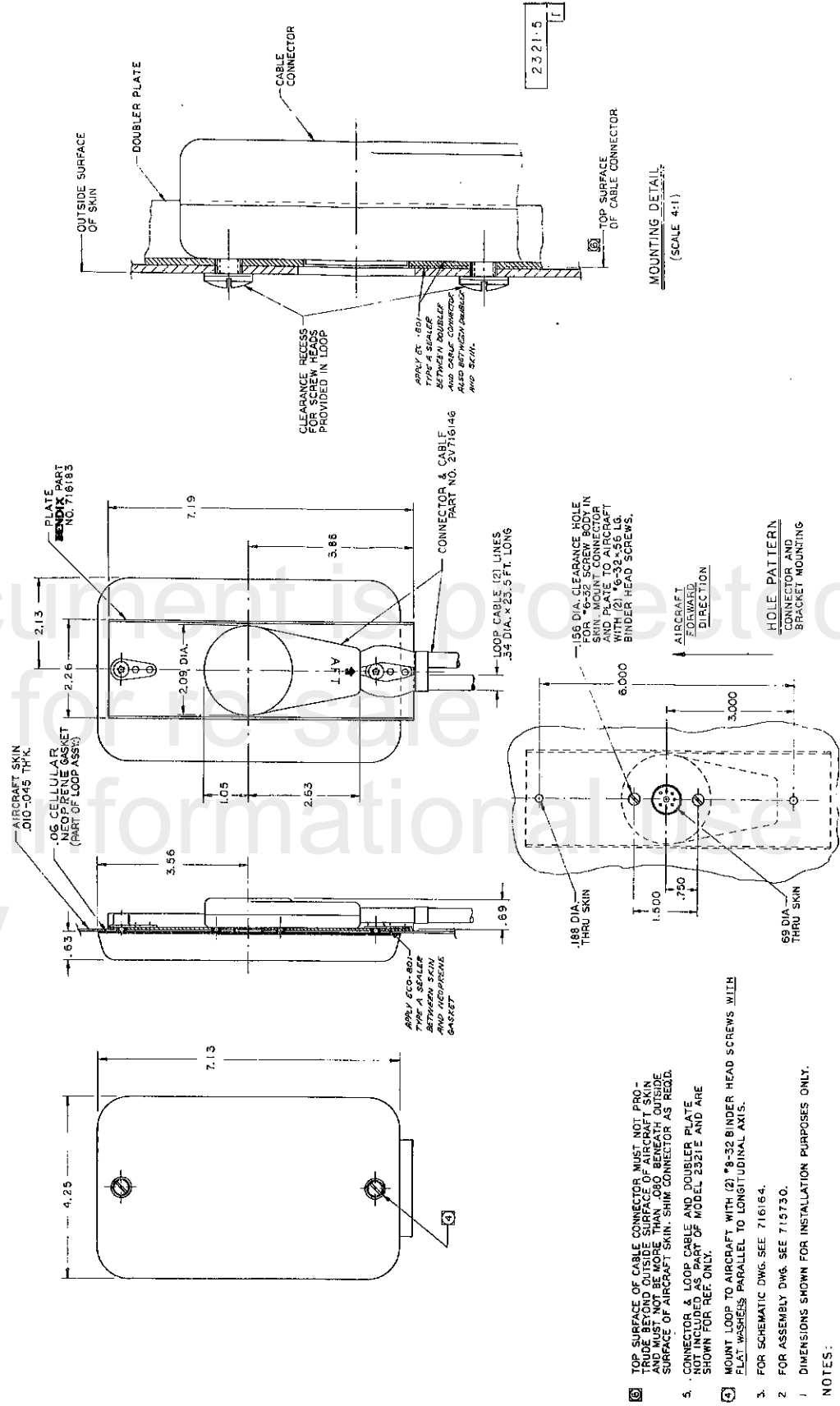
INSTALLATION DATA



-01

Figure 208  
Whip Antenna

INSTALLATION DATA

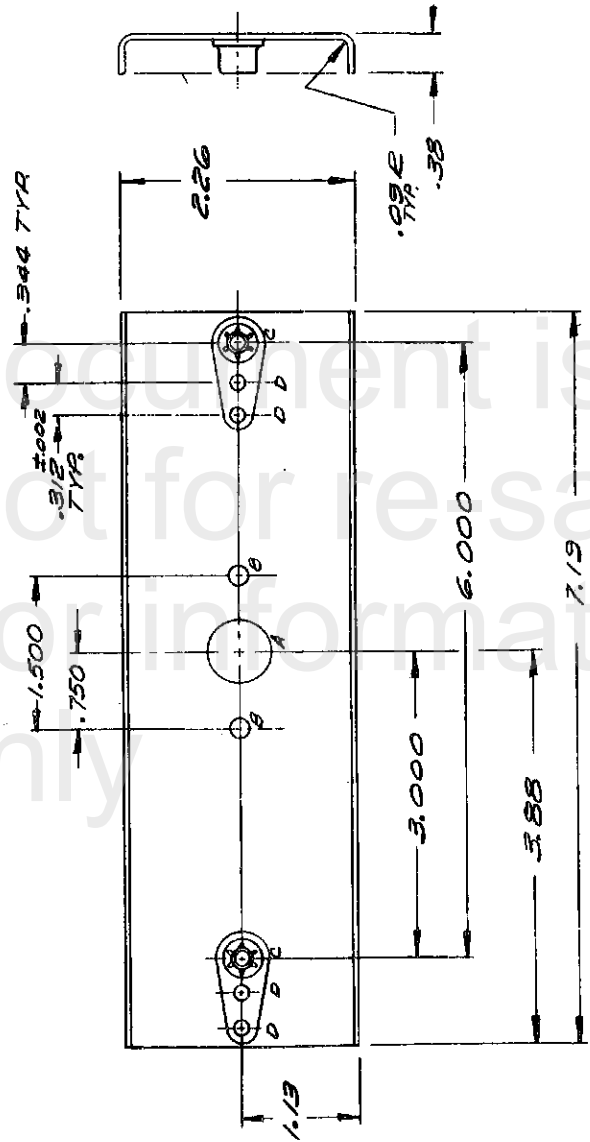


- TOP SURFACE OF CABLE CONNECTOR MUST NOT PROTRUDE MORE THAN .005 IN. FROM THE SURFACE OF AIRCRAFT SKIN. SHIM CONNECTOR AS REQD. AND MUST NOT BE MORE THAN .005 BENEATH OUTSIDE SURFACE OF AIRCRAFT SKIN. SHIM CONNECTOR AS REQD.
- CONNECTORS & LOOP CABLE AND DOUBLER PLATE NOT INCLUDED AS PART OF MODEL 2321E AND ARE SHOWN FOR REF. ONLY.
- MOUNT LOOP TO AIRCRAFT WITH (2) #8-32 BINDER HEAD SCREWS WITH FLAT WASHERS PARALLEL TO LONGITUDINAL AXIS.
- FOR SCHEMATIC DWG. SEE 716164.
- FOR ASSEMBLY DWG. SEE 715730.
- DIMENSIONS SHOWN FOR INSTALLATION PURPOSES ONLY.

Model 2321E Fixed Loop Antenna, Outline Dimensions  
Figure 209

INSTALLATION DATA

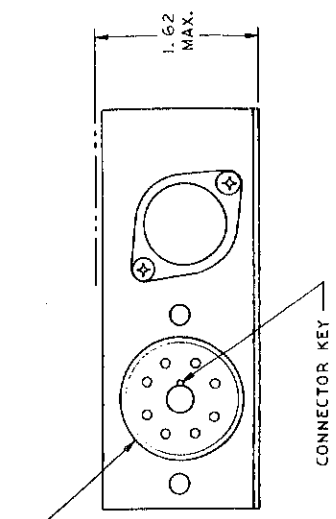
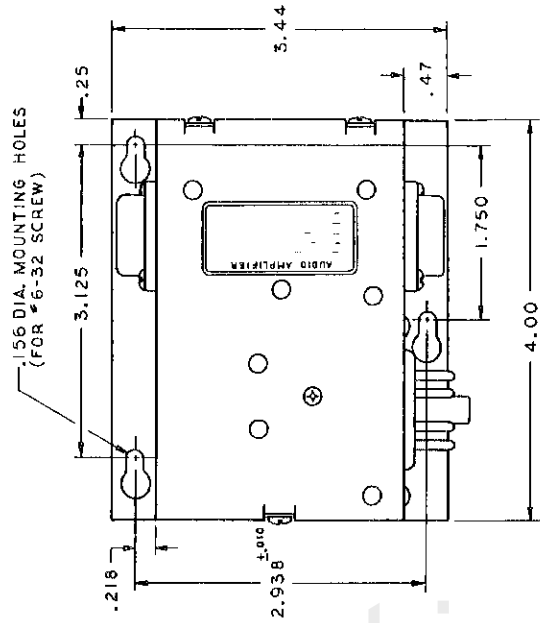
716183 D



NO	QTY	DESCRIPTION
D	4	.031 ± .005 DIA THRU C/SINK FAP SIDE 100° X .190 ± .010 DIA.
C	2	.188 DIA THRU
B	2	.156 DIA THRU
A	1	.625 DIA THRU
-99. HOLE SCHEDULE		

Doubler Plate, Loop Mounting Installation  
Figure 210

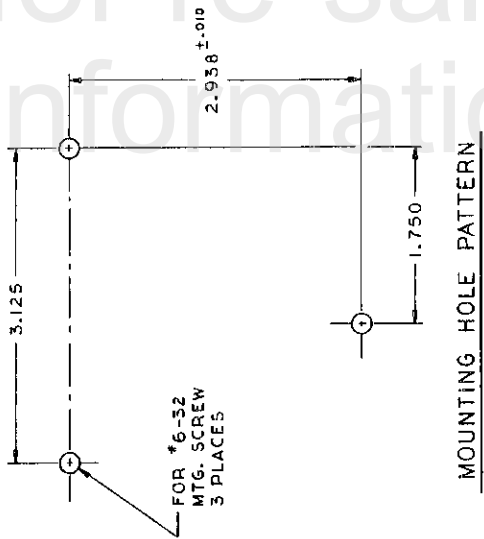
INSTALLATION DATA



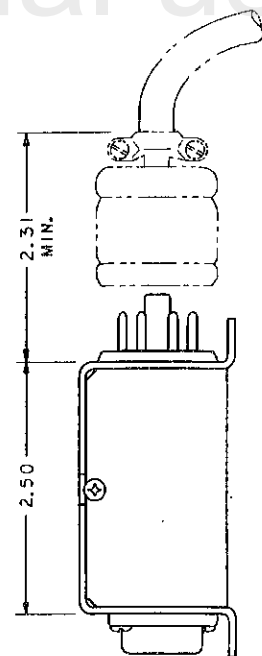
102-1

J1  
 BENDIX #524085-03  
 AMPHENOL #86-R CP8  
 MATES WITH  
 BENDIX #524028-S8  
 AMPHENOL #78-S8  
 BENDIX #524028-C24  
 AMPHENOL #3-24  
 (PLUG & ENDBELL)

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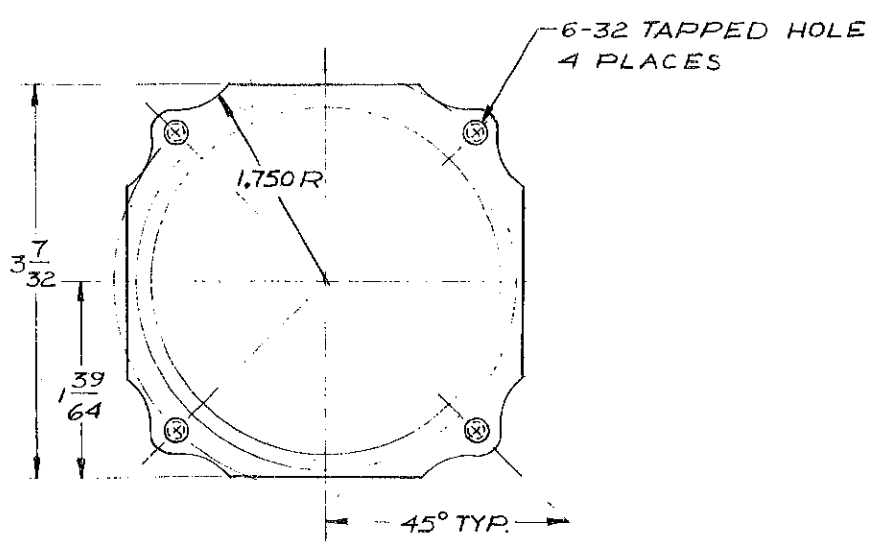
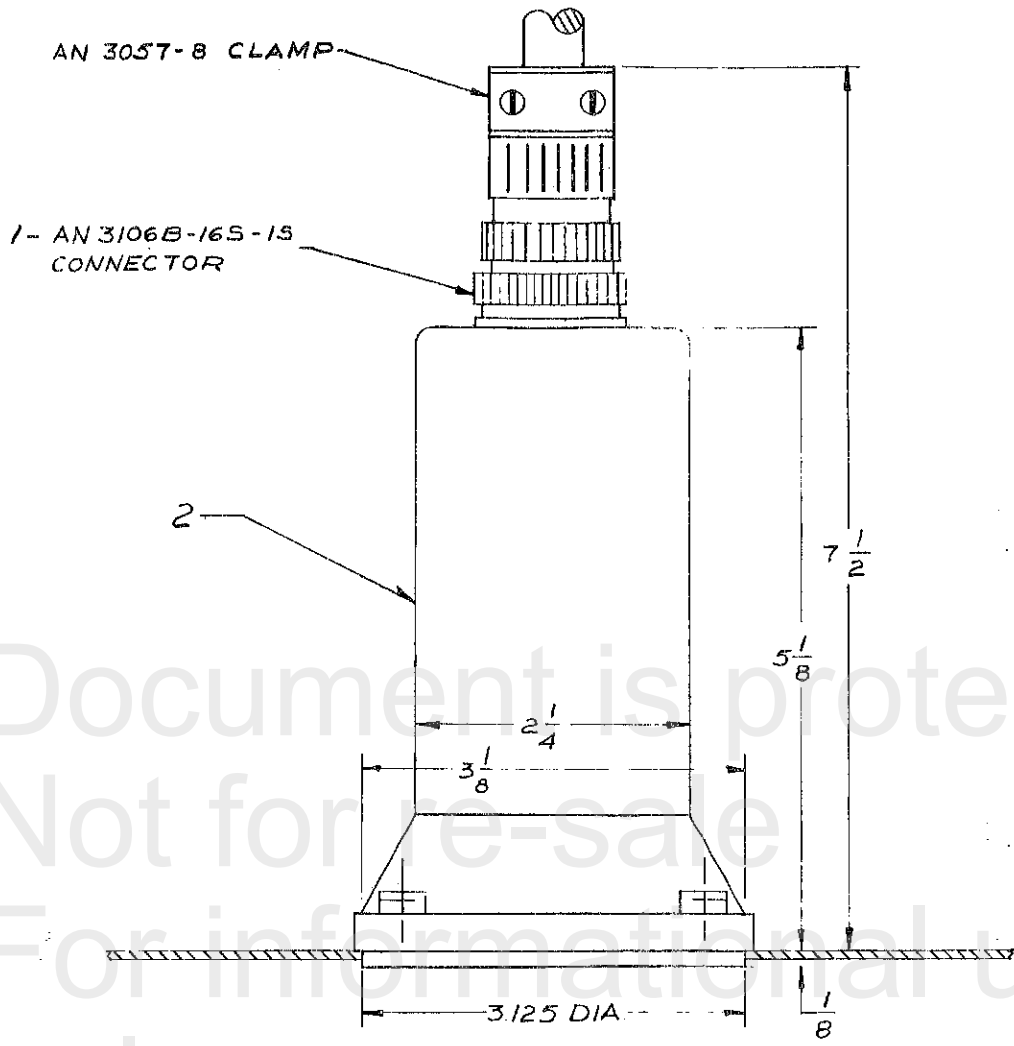


MOUNTING HOLE PATTERN



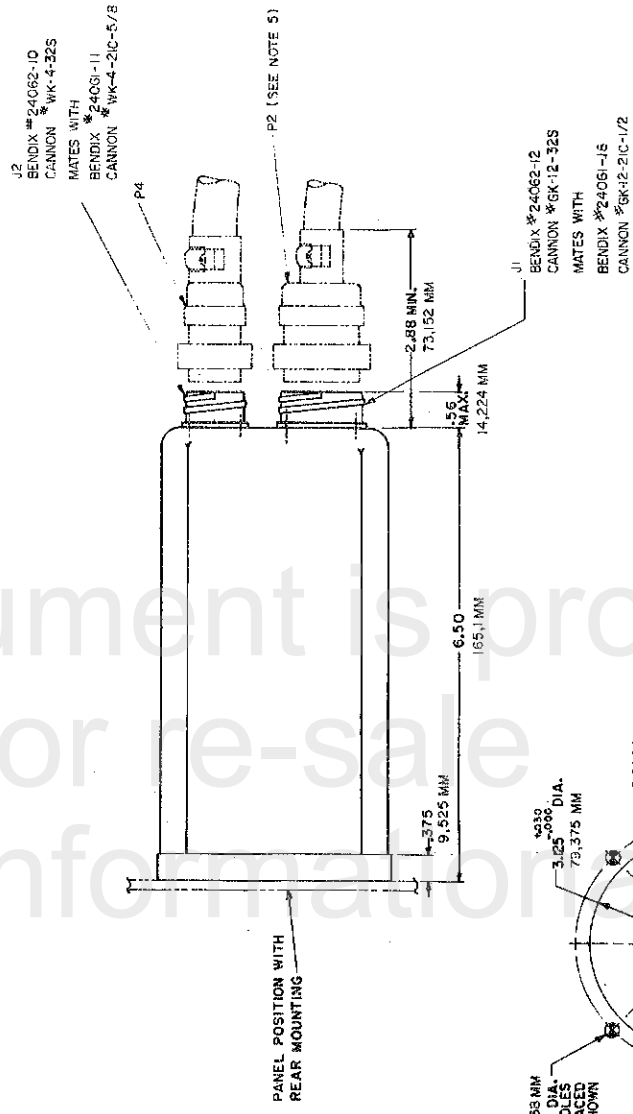
MODEL NO.	FINAL ASSY. NO.	SCHEMATIC NO.
102 A	1U041-1	3B092
102 B	1U041-2	3B264

Model 102A/B Audio Amplifier, Outline Dimensions  
 Figure 211

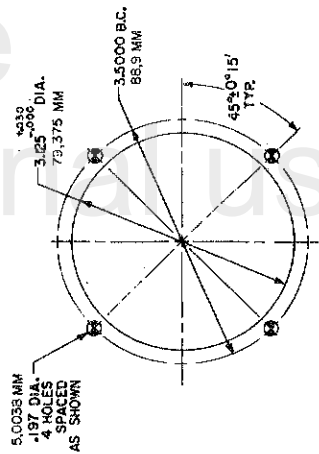


Model 551C Dual ADF Indicator  
Figure 212

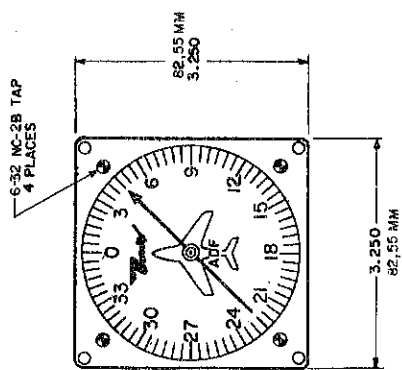
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- NOTES**
- 1 DIMENSIONS SHOWN ARE FOR INSTALLATION PURPOSES ONLY.
  - 2 FINAL ASSEMBLY NO. 1U027-04 AND 05
  - 3 SCHEMATIC DIAGRAM NO. 4000061
  - 4 WEIGHT 2.5 LBS (1.134 KG)
  - 5 REMOVE P2 9 PIN CONNECTOR FROM 2T008-1. INSTALLATION KIT #24061-15 REPLACE WITH 12 PIN CONNECTOR BENDIX #24061-18 SUPPLIED WITH 551E INDICATOR UNIT (FOR WIRING INFORMATION SEE 400811)



MOUNTING HOLE PATTERN



Model 551E Servo Amplifier  
 Figure 213

ADF-T-12B Interconnect Issue J

April 1965  
(Revised September 1966)

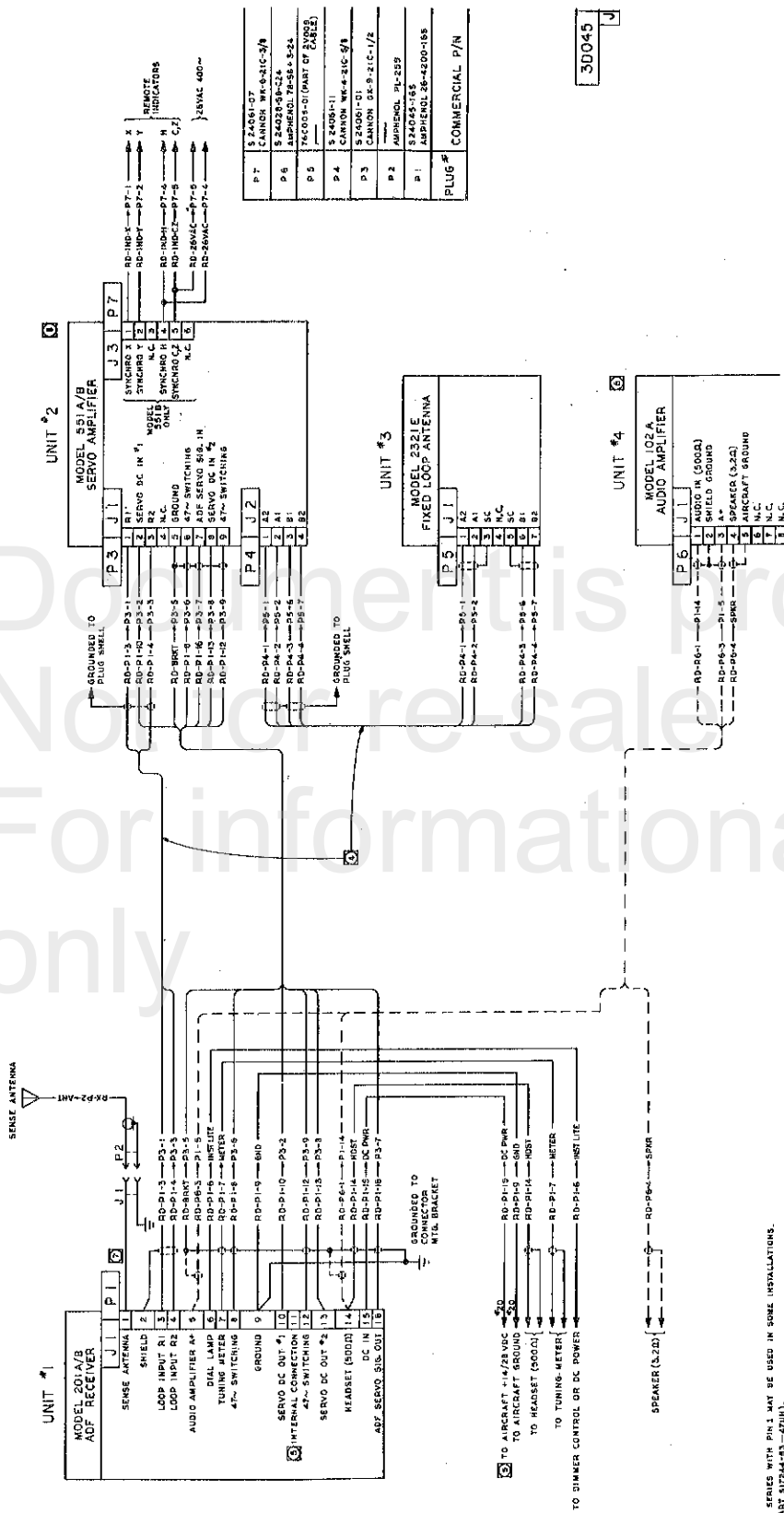


Figure 407

- ① R.F. CHoke IN SERIES WITH PIN 3 MAY BE USED IN SOME INSTALLATIONS. (PART 317244-93-473H).
- ② AUDIO AMPLIFIER, MODEL 102A, IS OPTIONAL AND FOR 14V OPERATION ONLY.
- ③ FOR EMERGENCY OPERATION THIS UNIT MAY BE CONNECTED TO DRY CELL BATTERIES. SEE 30031 FOR CONNECTIONS.
- ④ NOMINAL CAPACITANCE OF COAXIAL CABLES IS 20PF/FT.
- ⑤ WHEN THE FINE TUNING IS BOTTOM MOUNTED, CONNECTIONS 1,2,2 ARE REVERSED AT P4. WHEN THE SENSE ANTENNA IS BOTTOM MOUNTED, CONNECTIONS 3,3,4 ARE REVERSED AT P1.
- ⑥ FOR EMERGENCY OPERATION THIS UNIT MAY BE CONNECTED TO DRY CELL BATTERIES.
- ⑦ ALL WIRES ARE #22 GAUGE.

③ MODEL 551A SERVO AMPLIFIER INDICATOR: FOR INSTRUMENT PANEL MOUNTING. MODEL 551B: FOR REMOTE MOUNTING. MAY BE USED TO DRIVE INSTRUMENT PANEL MOUNTED INDICATORS.

③ MODEL 102A AUDIO AMPLIFIER: FOR INSTRUMENT PANEL MOUNTING. MODEL 102B: FOR REMOTE MOUNTING. MAY BE USED TO DRIVE INSTRUMENT PANEL MOUNTED INDICATORS.

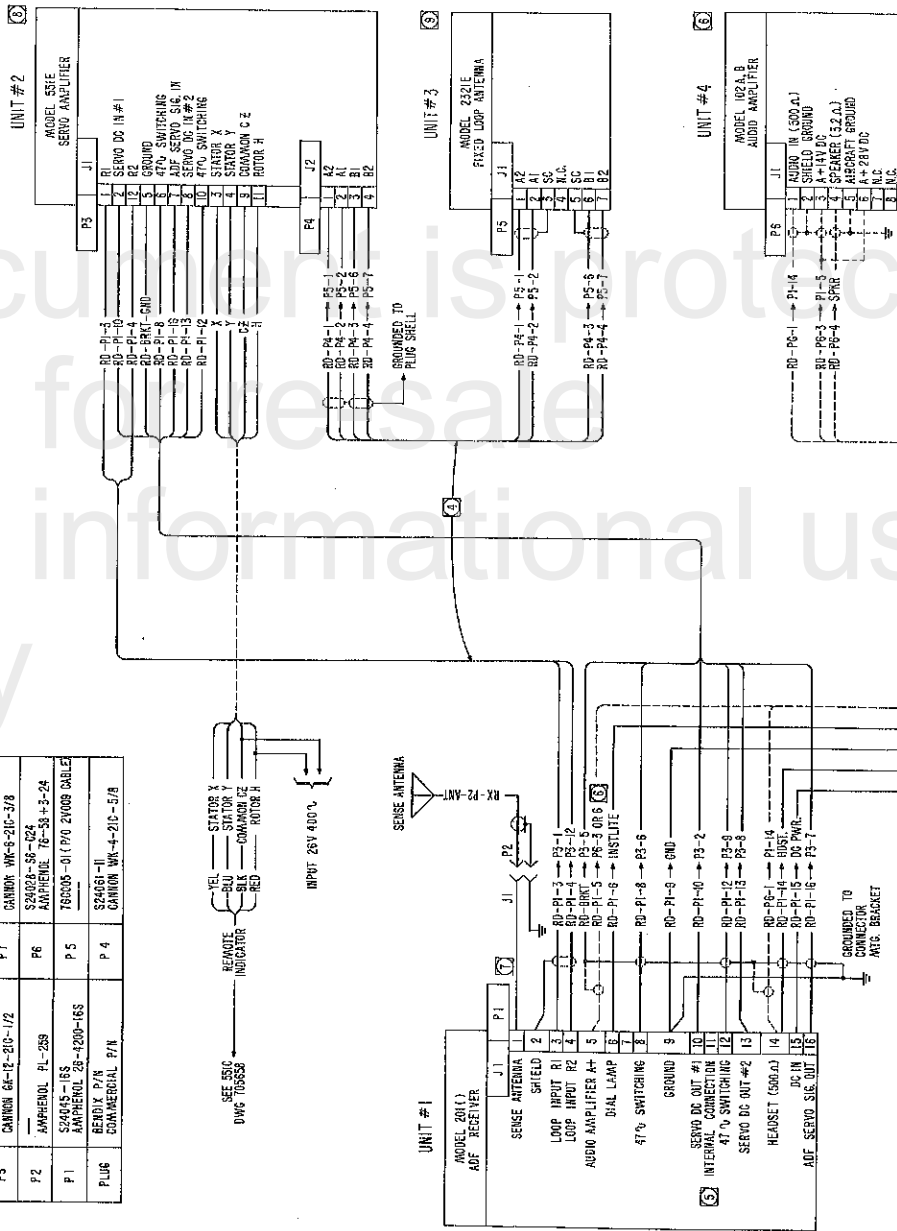
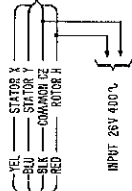
NOTES INCLUDE FOLLOWING INFORMATION:

30045



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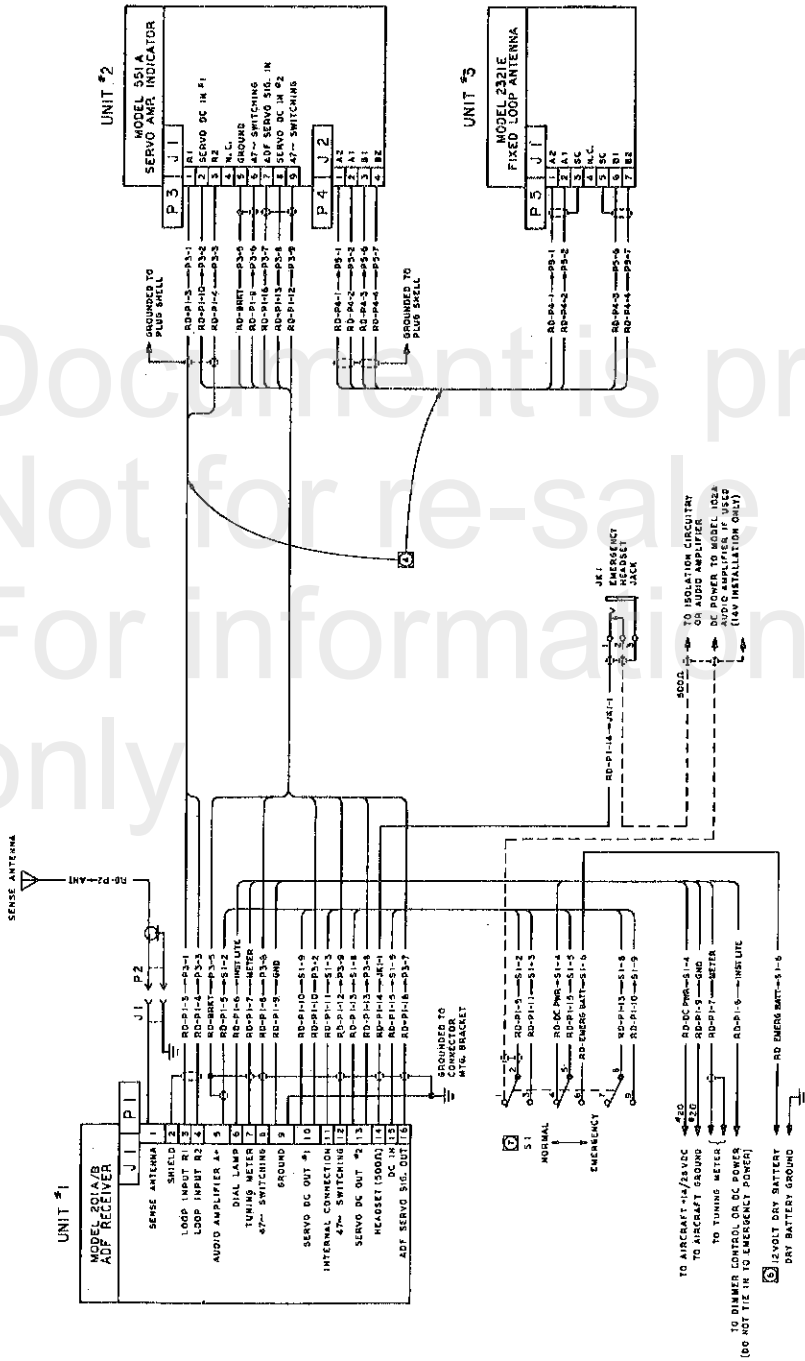
P 3	S24061-16 CANNON WA-9-210-5/8	P 7	S24061-07 CANNON WA-9-210-5/8
P 2	AMPHENOL PL-209	P 6	S24028-56-024 AMPHENOL 7E-58+3-24
P 1	S24445-185 AMPHENOL 28-120P-16S	P 5	760005-01 (P/O 21009 CABLE)
PLUG	BENDIX P/N COMMERCIAL P/N	P 4	S24061-11 CANNON WA-4-210-5/8



- ① FOR DUAL INSTALLATION DUPLICATE ALL ITEMS EXCEPT 55IC DUAL INDICATOR & B2005-01 BRACKET.
- ② MODEL 551E SERVO AMPLIFIER INDICATOR FOR INSTRUMENT PANEL MOUNTING.
- ③ FOR REMOTE ADJUSTING - USE BRACKET B2005-01 WHICH IS USED TO DRIVE INSTRUMENT PANEL ADJUSTED INDICATORS.
- ④ R F CHOKE IN SERIES WITH PIN 1 MAY BE USED IN SOME INSTALLATIONS. (BENDIX PART - S17441-03-470H7).
- ⑤ AUDIO AMPLIFIER, MODEL 102A (AV), U28 (28V). SEE FIGURE 408, AND 408 FOR 14 OR 28V DC OPERATION.
- ⑥ TOTAL LENGTH OF BOTH CABLES MUST PROVIDE A NOMINAL CAPACITANCE OF 350 μF ± 15 μF.
- ⑦ WHEN THE FIXED LOOP IS BOTTOM MOUNTED, CONNECTIONS 1 & 2 ARE REVERSED AT P4, WHEN THE SENSE ANTENNA IS BOTTOM MOUNTED, CONNECTIONS 3 & 4 ARE REVERSED AT P1.
- ⑧ WIRING SUBROUTINE IS FOR FIXED LOOP AND SENSE ANTENNA MOUNTED ON TOP OF AIRCRAFT.
- ⑨ ALL WIRING SEE #22 DRAWING, UNLESS OTHERWISE INDICATED.

**Figure 408**  
**ADF-T-12C System Interconnecting Diagram**  
Issue B  
(Revised April 1967)

E 6000009



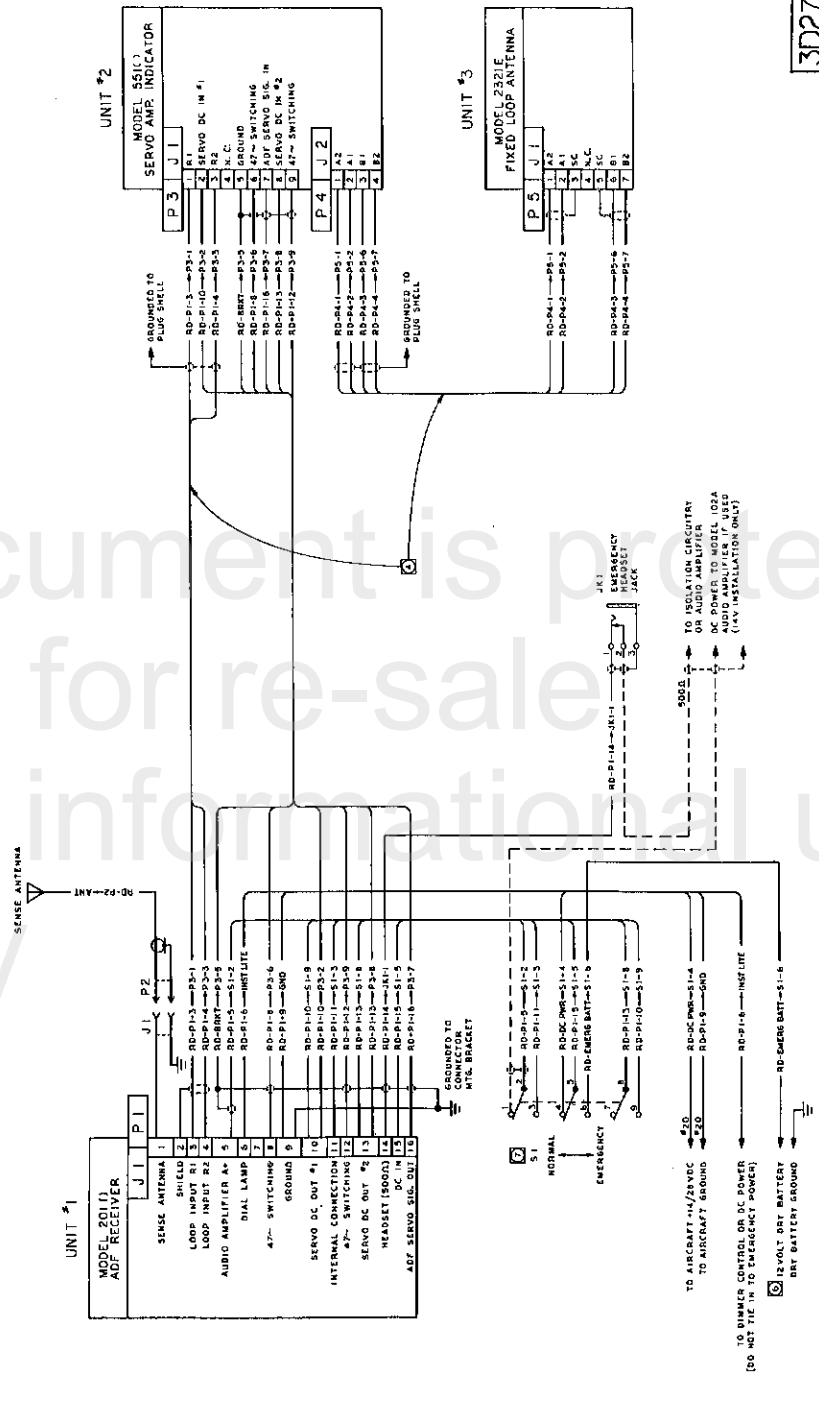
P 5	76C05-01 (PARTIAL CABLING)
P 4	22A05-11
P 3	82405-01
P 2	AIRBORNE PC-259
P 1	82405-15 AIRBORNE ZB-400-183
PLUS #	
COMMERCIAL P/N	

3D081 A

Figure 409

ADF-T-12B System, Emergency Battery Operation Diagram

- ① S1 TO BE NON SHORTING TYPE.
- ② TWO 6VOLT SERIES CONNECTED BATTERIES - EVEREADY #3103 OR EQUIVALENT (APPROX. 3HRS LIFE ON ADF).
- ③ FOR STANDARD INTERCONNECTION REFER TO DWG. 30045.
- ④ NOMINAL CUMULATED CAPACITY OF CONDENSER SHALL BE 3000uFd.
- ⑤ WHEN THE FIXED LOOP IS BOTTOM MOUNTED, CONNECTIONS 1 & 2 ARE REVERSED AT P4.
- ⑥ WHEN THE SENSE ANTENNA IS BOTTOM MOUNTED, CONNECTIONS 3 & 4 ARE REVERSED AT P1.
- ⑦ WIRING SHOWN IS FOR FIXED LOOP AND SENSE ANTENNA MOUNTED ON TOP OF AIRCRAFT.
- ⑧ ALL WIRELS ARE #22 GAUGE.



3D275  
A

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Figure 410.  
ADF-T-12C System, Emergency Battery Operation Data  
Issue A

Bendix Radio Division  
Avionics Products

April 1965

1. TWO 12VOLT SERIES CONNECTED BATTERIES - (EVEREADY #5105 OR EQUIVALENT (APPROX. 30HRS LIFE ON ASD)).
2. FOR STANDARD INTERCONNECTION REFER TO DWG. 2804A.
3. TOTAL LENGTH OF BOTH CABLES MUST PROVIDE A CAPACITANCE OF 3350UF.
4. THE CAPACITY IS MARKED ON EACH CABLE AND THE TWO VALUES MUST TOTAL 3300UF ±15HUF.
5. WHEN THE FIXED LOOP IS BOTTOM MOUNTED, CONNECTIONS 1&2 ARE REVERSED AT P4.
6. WHEN THE SENSE ANTENNA IS BOTTOM MOUNTED, CONNECTIONS 3&4 ARE REVERSED AT P1.
7. WIRING 5-0-0-0-1 IS FOR FIXED LOOP AND SENSE ANTENNA MOUNTED ON TOP OF AIRCRAFT.
8. ALL W-RES ARE #22 GAUGE.

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