

**Installation Section  
for  
VIR-351  
Navigation Receiver**



**S-TEC**

# section II

## installation

### 2.1 GENERAL

This section contains all information necessary to install the VIR-351 Navigation Receiver and IND-350/350A/351/351A/351C/351D Indicator into an aircraft, and to ensure system operational readiness after installation.

### 2.2 UNPACKING AND INSPECTING EQUIPMENT

Unpack the equipment carefully and make a careful visual inspection of each unit for possible shipping damage. All claims for damage should be filed with the transportation company involved. If claims for damage are to be filed, save the original packing carton and materials. If no defects can be detected, replace packing materials in the shipping container and save for future uses such as storage or reshipment.

Before installation of any equipment in the aircraft, it is recommended that the minimum performance test contained in the maintenance section of this instruction book be performed.

### 2.3 SPECIAL INSTRUCTIONS

Listed below are special instructions which must be followed to ensure proper installation of the VIR-351 and IND-350/350A/351/351A/351C/351D. Damage to the equipment may occur if these instructions are not followed.

- a. When inserting the VIR-351 in its mounting tray, do not push on the electronic display panel. To insert, place thumbs on bottom corners, and gently apply pressure until the rear connectors are properly mated. Using an Allen wrench, twist the turnlock into position.

#### Caution

Turnlock must be in upward position prior to unit insertion in tray.

- b. When removing the VIR-351 from its mount, do not pull on top of front panel. Grasp unit frequency knobs and carefully pull out.

- c. Common lines connected between the VIR-351 and indicator are not at ground potential. They carry a 5-volt dc reference voltage.
- d. The minimum wire size for 13.75/27.5-volt dc lines is #22 AWG.
- e. Read all notes on drawings and interconnects prior to installing units.
- f. When the VIR-351 is installed with an ANS-351 Area Navigation Computer, the VIR-351 instrumentation outputs for meters and for the resolver are not used. Refer to the ANS-351 instruction book when installing an RNAV system.

### 2.4 INSTALLATION PROCEDURES

The following installation procedures must be performed as described to ensure proper operation and performance. Any deviation from these instructions may result in reduced performance and/or damage to the equipment.

#### Warning

In the interest of personal safety it is recommended that the aircraft battery master switch be turned off to disconnect power to the equipment mount before removing or installing any electronic equipment in the aircraft.

#### 2.4.1 VIR-351 Installation

#### Caution

Do not use rf preamplifiers in conjunction with VIR-351 Navigation Receiver or any other Micro Line equipment. The sensitivity of the VIR-351 is such that rf preamplifiers will not enhance operation; these devices may actually degrade performance and/or contribute to undesirable operating characteristics.

- a. The installation kit (CPN 628-5290-002) supplied with the VIR-351 is required for installation. Refer to figure 2-1.

- b. The VIR-351 is rigidly mounted in the aircraft instrumentation panel. There are two methods that may be used for installing the mounting tray provided in the installation kit. Both methods position the tray with the tray front edges extended through the panel cutout, but flush with the aircraft instrumentation panel. Refer to figure 2-2 for panel-cutout dimensions.
- c. Avoid mounting close to external heat sources. If unavoidable, use blower or ram air cooling. In any installation, ram air or blower cooling will increase reliability of the VIR-351.
- d. Secure the mounting tray to the instrument-panel mounting rails using four #6-32, 100-degree flathead screws. Support the rear of the tray with straps or gussets attached to airframe structure. Figure 2-3 illustrates typical system installations.
- e. After the mounting tray has been secure in position, slide the rear connector assembly into place and secure by tightening four screws. Snap into place the protective shroud provided in the installation kit.
- f. Carefully slide the VIR-351 into the mounting tray. Using your thumbs, apply pressure to the bottom corners of the VIR-351 until the connectors are mated. Using a 5/64-in Allen wrench, secure the VIR-351 in place by twisting the turnlock into position.

**Caution**

Do not force turnlock into position. If difficulty is experienced, remove VIR-351 and check rear connector assembly for proper positioning.

**Note**

The following steps pertain to dual installations only.

- g. Dual installations are accomplished by joining two mounting trays together. Connecting screws should be varnish staked to prevent loosening due to vibration. Included in every installation kit are two straps and two screws. To join two mounting trays together, four straps and four screws are required. Refer to figure 2-1.
- h. Dual installation cutout dimensions are shown in figure 2-2 for both behind-the-panel and front-panel mounting installations.

**2.4.2 IND-350/351/351C Indicator**

- a. The installation kit supplied with each unit is required for installation. Table 2-1 lists the

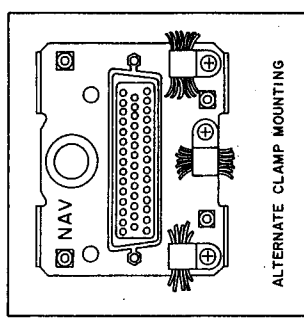
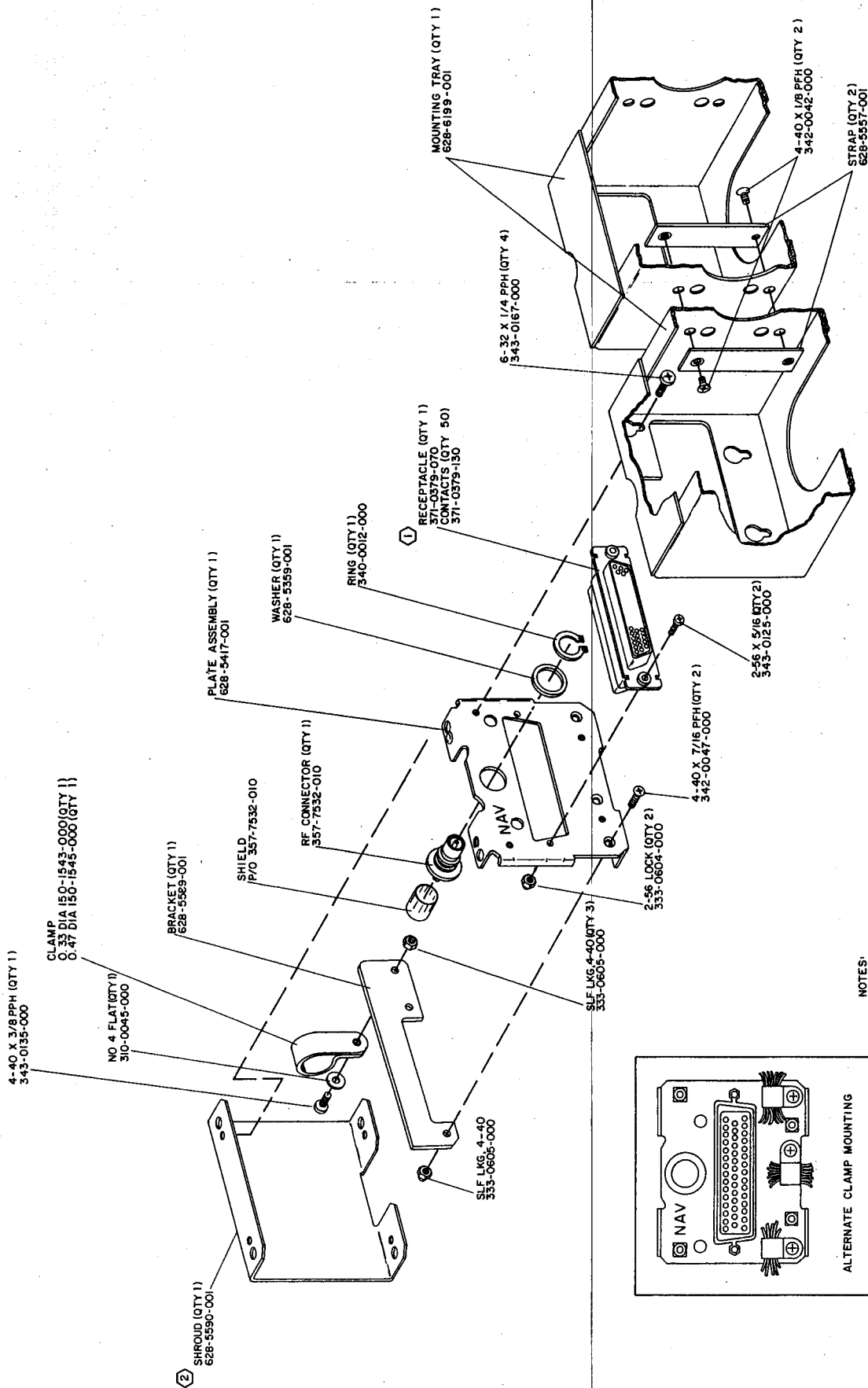
Table 2-1. IND-350/351 Indicator, Installation Kit Materials.

DESCRIPTION	QTY	S-TEC PART NUMBER
Screw, 0.138-32 x 5/16 Phh	3	343-0168-000
*Connector receptacle (25 pin)	1	371-0379-090
Socket contact	23	371-0379-130
Slide-lock retainer	1	371-0379-160
Connector shield	1	371-0379-170
Screw, 6-32 x 1/4, flathead	3	330-4058-010
*An optional solder pot type connector may be substituted, CPN 371-0381-020 (Cannon part number DB-25S).		

- materials supplied with the IND-350 and IND-351 Indicators; table 2-2 lists the materials supplied with the IND-351C Indicator. Kit part numbers are as follows: IND-350 628-5313-001, IND-351 628-5313-001, and IND-351C 628-5314-001.
- b. Indicator cutout dimensions are presented in figure 2-4. After the cutout has been made, locate the three mounting hole centers and drill three 4.75-mm (0.187-in) diameter holes.

Table 2-2. IND-351C Indicator, Installation Kit Materials.

DESCRIPTION	QTY	S-TEC PART NUMBER
*Connector receptacle (25 pin)	1	371-0379-090
Slide-lock retainer	1	371-0379-160
Connector shield	1	371-0379-170
*Connector receptacle (9 pin)	1	371-0379-190
Slide-lock retainer	1	371-0379-210
Connector shield	1	371-0379-200
Socket contact	28	371-0379-130
Screw, 6-32 x 1/4, flathead	3	330-4058-010
Screw, 0.138 x 5/16 Phh	3	343-0168-000
*Optional solder pot type connectors may be substituted; 25-pin - CPN 371-0381-020 (Cannon part number DB-25S), 9-pin - CPN 371-0381-010 (Cannon part number DE-9S).		

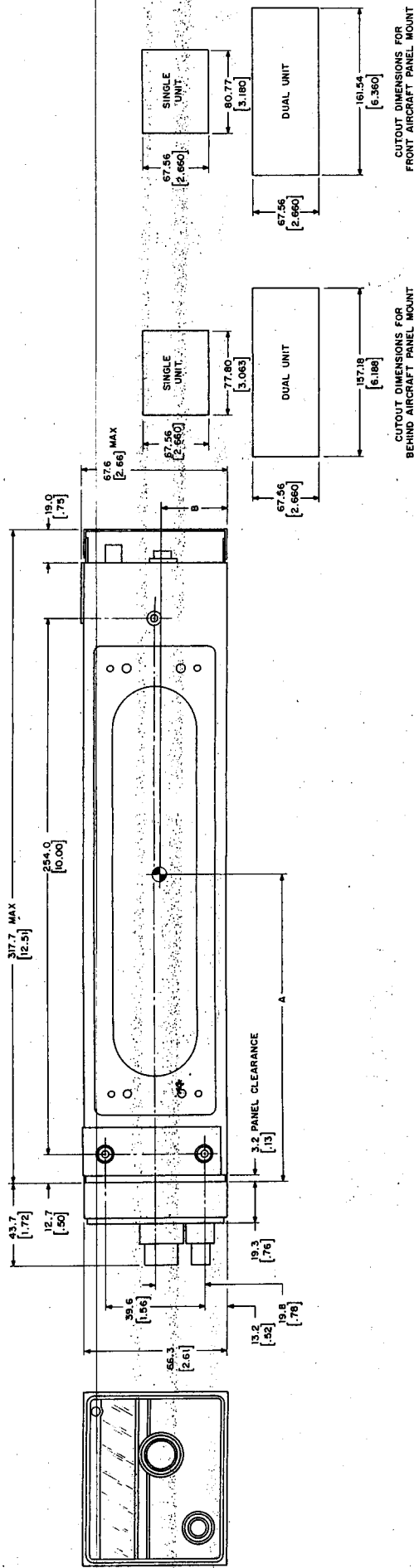
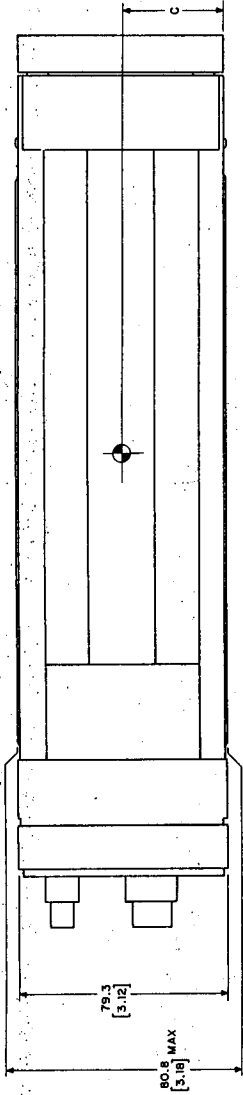


- NOTES:
- ① AN OPTIONAL SOLDER POT TYPE CONNECTOR MAY BE SUBSTITUTED; C/PN 371-0381-040 (CANNON DDR-50S).
  - ② AN OPTIONAL 43mm (1.7 IN) DEEP SHROUD IS AVAILABLE; C/PN 628-5590-002.
  - ③ A LABEL (NAV 1, NAV 2) IS INCLUDED WITH KIT BUT NOT ILLUSTRATED. C/PN 628-5597-001.

NOTES:  
 1. UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETRES [INCHES].  
 2. CG'S ARE WITH UNIT IN TRAY.

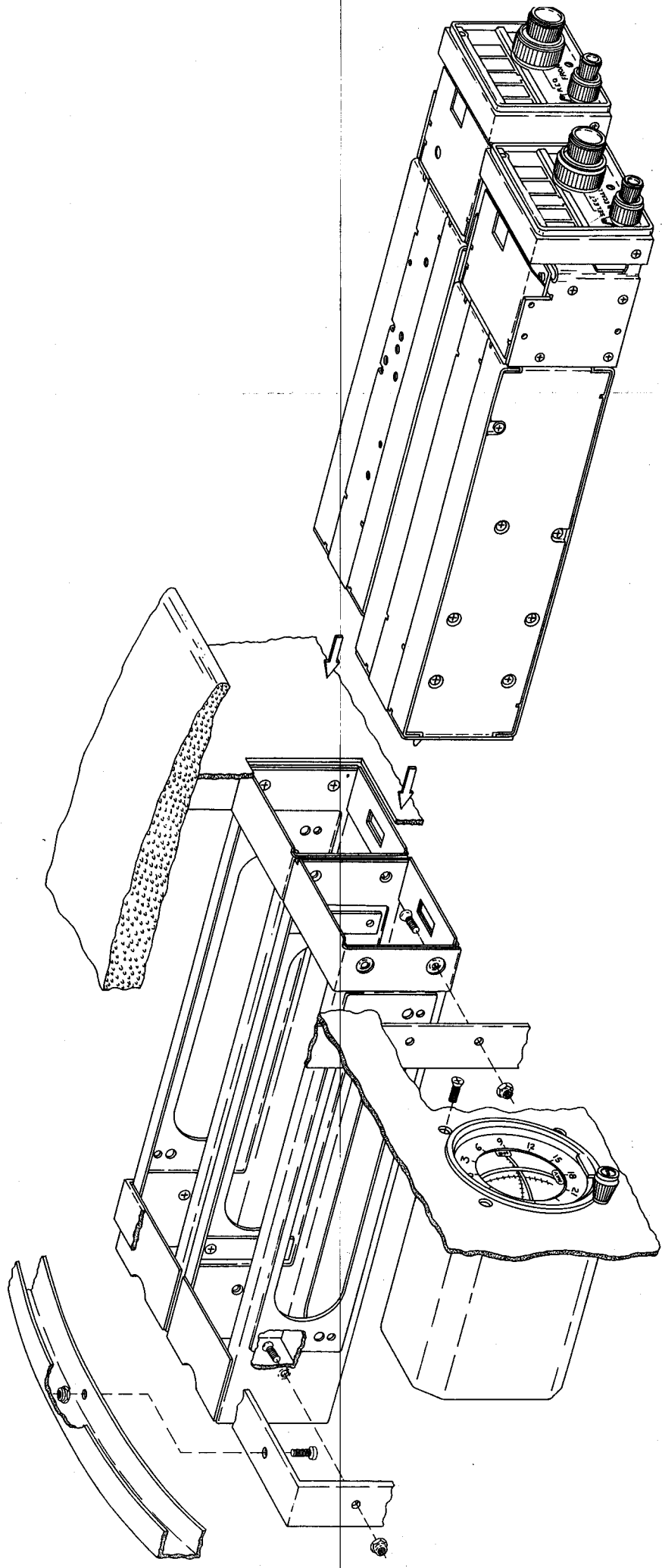
	A		B		C		UNIT WEIGHT		TRAY WEIGHT	
	mm	INCHES	mm	INCHES	mm	INCHES	kg	LB	kg	LB
VIR-351	136.94	5.47	33.27	1.31	38.10	1.50	1.31	2.9	0.18	0.4
VHF-251	151.64	5.97	30.99	1.22	34.80	1.37	1.54	3.4	0.18	0.4
VHF-251S										
VHF-251E										

UNIT	UNIT CONNECTORS	MATING CONNECTORS
VHF-251	RF - CPN 357-7532-020 SIGNAL CONN - CPN 371-0379-010 SIGNAL CONTACTS - CPN 371-0379-030	RF - CPN 357-7532-010 SIGNAL CONN - CPN 371-0379-060 SIGNAL CONTACTS - CPN 371-0379-130
VHF-251E	RF - CPN 357-7532-020 SIGNAL CONN - CPN 371-0379-040 SIGNAL CONTACTS - CPN 371-0379-100	RF - CPN 357-7532-010 SIGNAL CONN - CPN 371-0379-070 SIGNAL CONTACTS - CPN 371-0379-130



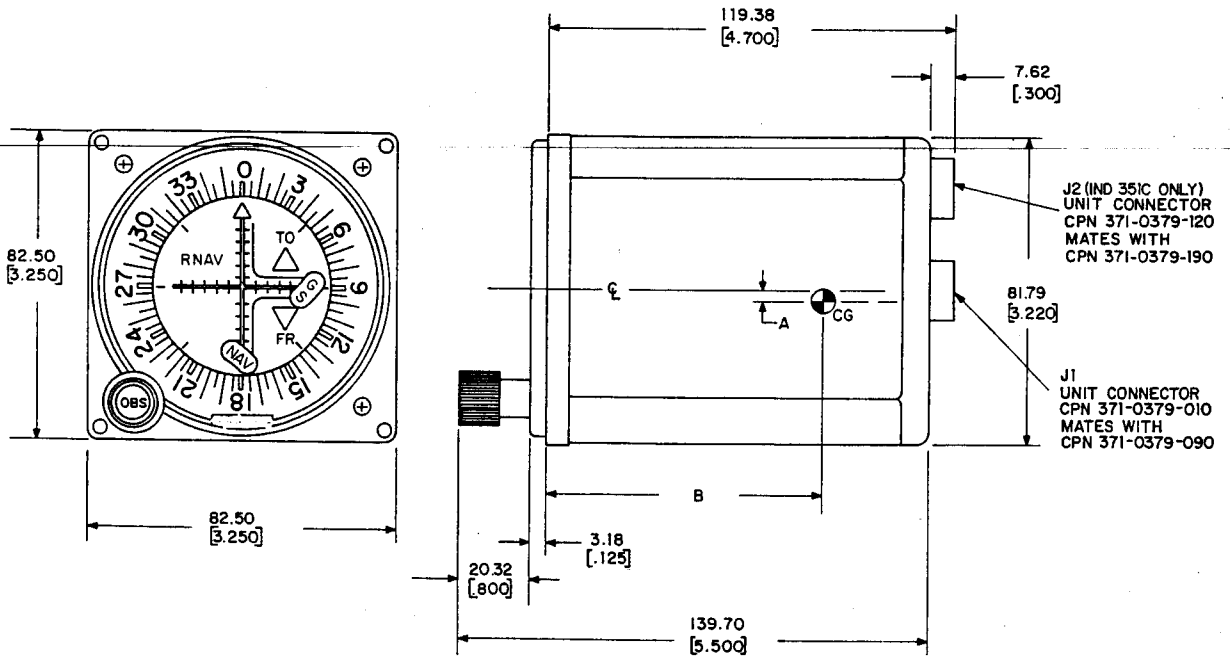
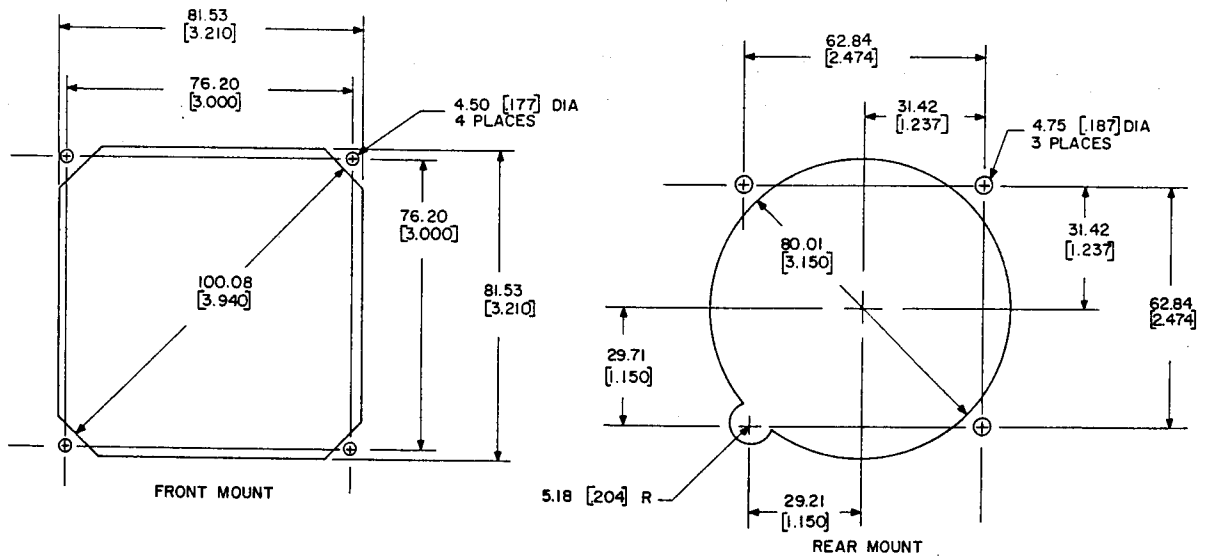
628-5701

VIR-351 Navigation Receiver, Outline and Mounting Dimensions  
 Figure 2-2



628-5709

Typical System Installation  
Figure 2-3



	A		B		WEIGHT	
	mm	IN	mm	IN	kg	LBS
IND-350	2.54	0.10	66.0	2.60	0.45	1.0
IND-351	1.02	0.04	68.8	2.71	0.59	1.3
IND-351C	4.06	0.16	71.1	2.80	0.68	1.5

NOTES:  
 1. DIMENSIONS ARE IN MILLIMETRES, DIMENSIONS IN [ ] ARE INCHES.

628-5664

IND-350/351/351C Indicator, Outline and Mounting Dimensions  
 Figure 2-4

- c. Secure the indicator in place with three #6-32 screws. The maximum screw length is determined by adding 6.4 mm (0.250 in) to the instrument panel thickness.

**Caution**

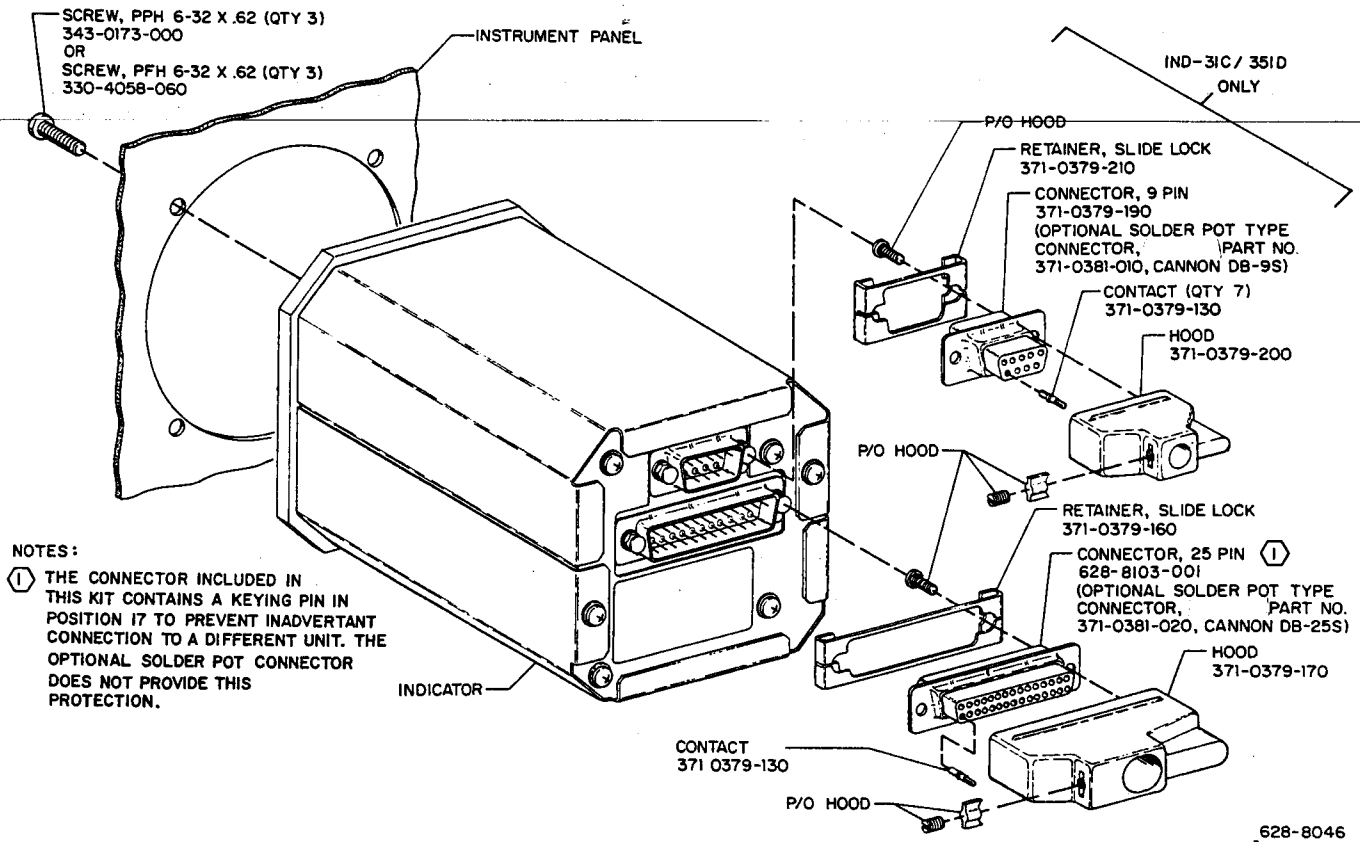
Do not use screws longer than those specified in this step. Longer screws will damage the indicator.

For example, if the panel is 1.6 mm (1/16 in) thick, the screw length would be 9.6 mm (3/8 in) maximum. Three 6.4-mm (1/4-in) screws are supplied in the indicator installation kit.

- d. Connect mating connector and ensure slide-lock retainer is in place.

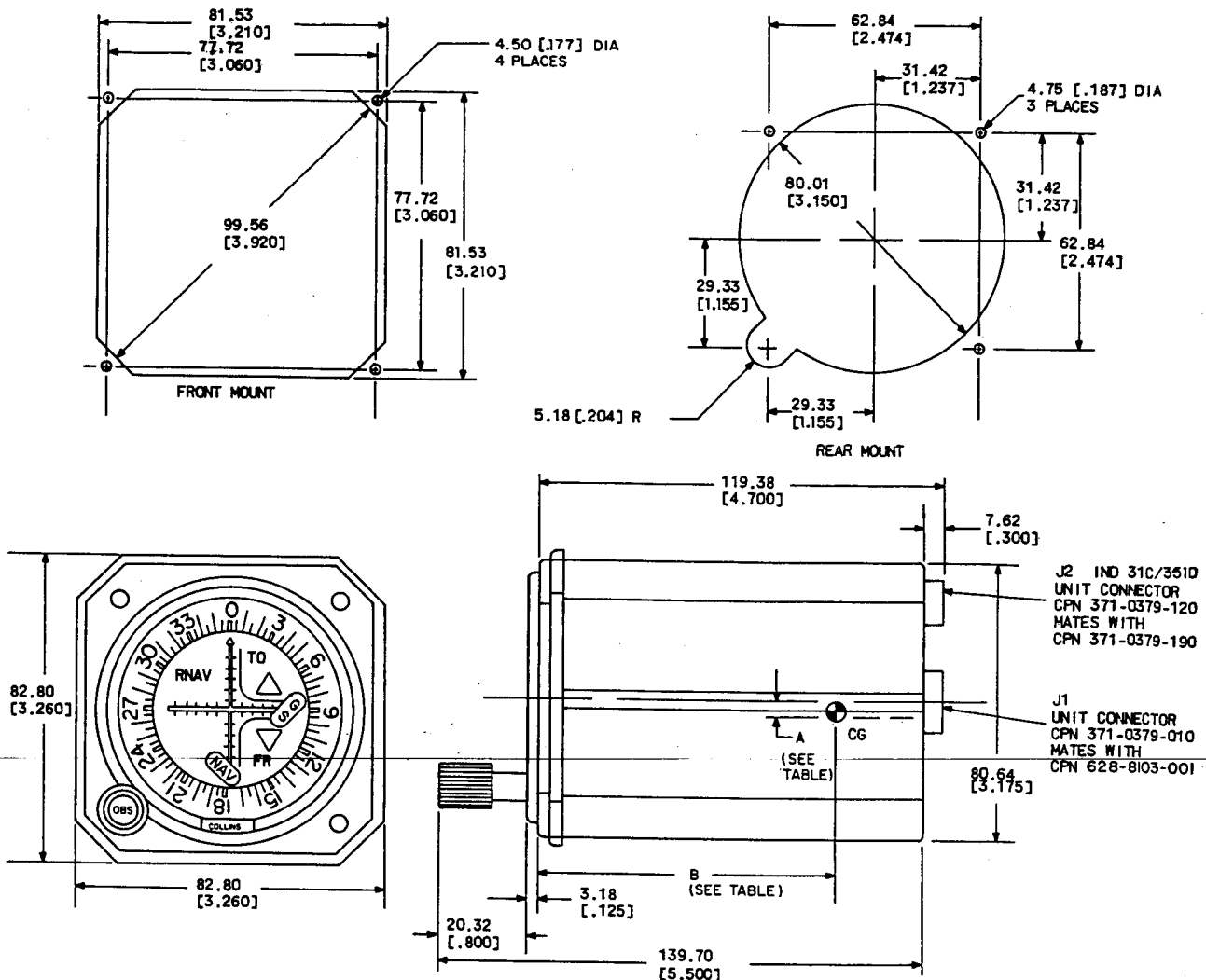
**2.4.3 IND-350A/351A/351D Indicator**

- a. The installation kit supplied with each indicator is required for installation. Figure 2-4A is an exploded view of the installation kit showing the relative position of each component for assembly clarity. Note that the IND-351D is the only indicator that includes the 9-pin connector above the 25-pin connector. This connector is used to interface the course datum synchro with the magnetic compass system. Table 2-2A lists each indicator and its corresponding installation kit part number.
- b. Instrument panel cutout dimensions for mounting the IND-350/351A/351D Indicator are shown in figure 2-4B. After the cutout has been made, locate three mounting hole centers and drill three 4.75-mm (0.187-in) diameter holes.



IND-350A/351A/351D Indicator, Installation Kit  
Figure 2-4A



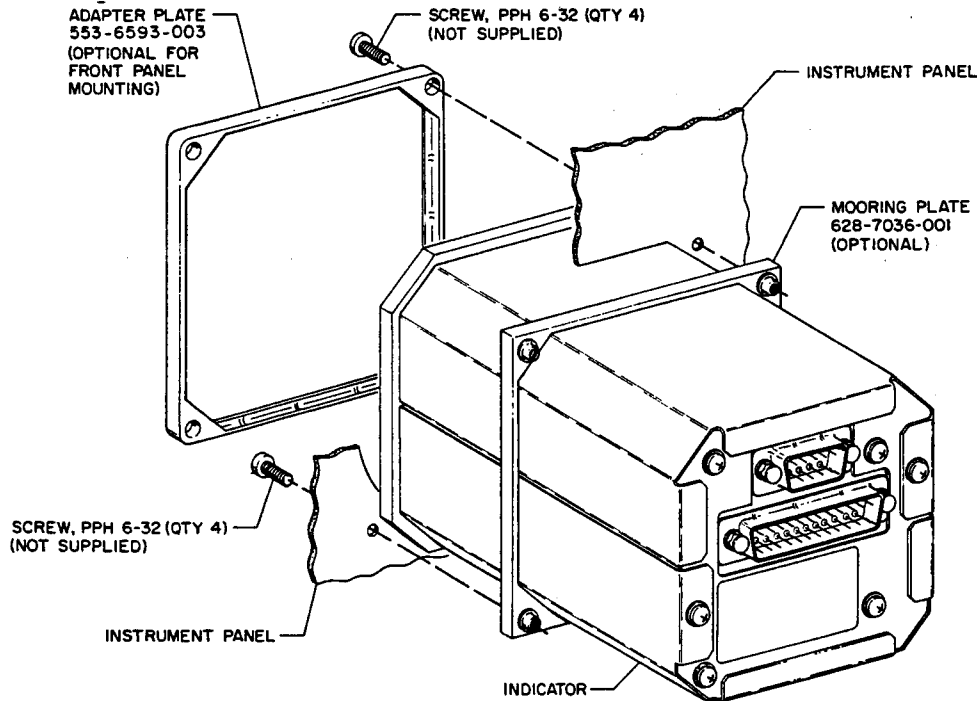


NOTES:  
1. DIMENSIONS ARE IN MILLIMETRES, DIMENSIONS IN [ ] ARE INCHES.

	A		B		WEIGHT	
	mm	IN	mm	IN	kg	LBS
IND-30/350A	2.54	0.10	66.0	2.60	0.45	1.0
IND-31/351A	1.02	0.04	68.8	2.71	0.49	1.1
IND-31C/351D	4.06	0.16	71.1	2.80	0.54	1.2

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IND-350A/351A/351D Indicator, Outline and Mounting Dimensions  
Figure 2-4B



NOTE: ADAPTER PLATE AND MOORING PLATE ARE NOT REQUIRED WHEN INDICATOR IS MOUNTED WITH THREE 6-32 SCREWS SECURED BY PRESSED NUTS ON BEZEL.

628-8054

IND-350A/351A/351D Indicator, Optional Panel Mounting Configurations  
Figure 2-4C

- c. Secure the indicator in place with three #6-32 screws; length of mounting screws should not exceed one inch.

**Note**

The IND-350A/351A/351D Indicator may be front-panel mounted using an optional mooring plate and adapter plate as shown in figure 2-4C. If desired, the optional mooring plate may be used by itself when behind-the-panel mounting. Keep in mind that these are optional mounting methods only and are offered for maximum installation flexibility. In most installations, these plates serve no useful purpose and are therefore not included in the unit installation kits.

- d. Plug mating connector into unit receptacle and ensure slide-lock retainer is securely locked in place.

Table 2-2A. IND-350A/351A/351D Indicator Installation Kit Part Numbers.

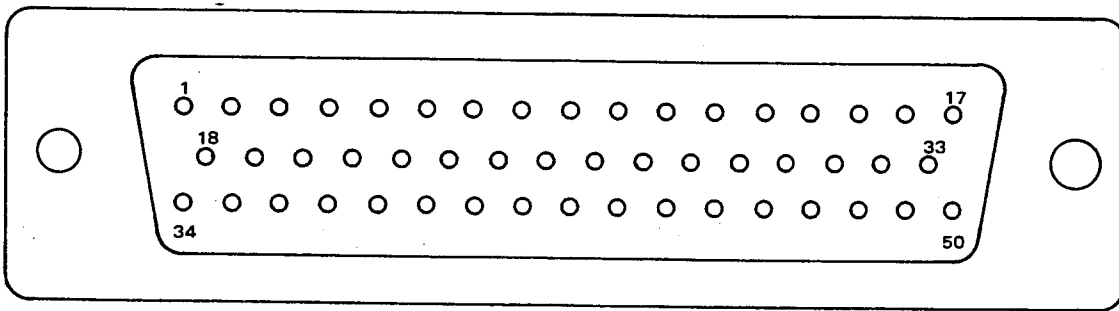
UNIT AND COLLIM PART NUMBER	INSTALLATION KIT PART NUMBER
IND-350A Indicator 622-4477-001	628-7947-001
IND-351A Indicator 622-4478-001	628-7947-001
IND-351D Indicator 622-4479-001	628-7948-001

**2.5 CABLING**

**2.5.1 VIR-350/351 and IND-350/351/351C**

Figure 2-9 is the interconnect wiring diagram for the VIR-350/351 and the IND-350/351/351C. Mating connector part numbers are shown on the applicable outline and mounting diagrams. Refer to figures 2-5 and 2-6 for mating connector pin assignments.

During preparation of the interconnect wiring cables, observe the following precautions:



VIR-351 MATING CONNECTOR REAR VIEW J1

1 RESOLVER H	26 NAV AUDIO
2 RESOLVER C	27 NAV AUDIO GRD
3 RESOLVER D	28 ILS MODE
4 RESOLVER F	29 1.0 MHz BCD
5 RESOLVER E	30 2.0 MHz BCD
6 RESOLVER G	31 4.0 MHz BCD
7 + NAV FLAG	32 8.0 MHz BCD
8 - NAV FLAG	33 0.1 MHz BCD
9 + TO	34 0.2 MHz BCD
10 + FROM	35 0.4 MHz BCD
11 + LEFT	36 0.8 MHz BCD
12 + RIGHT	37 50 KHz BCD
13 AGC TEST	38 BCD FREQ SELECT COMMON (INTERNALLY GROUNDED)
14 SPARE	39 A MHz 2x5
15 WPT BRG IN	40 B MHz 2x5
16 WPT ANNUN	41 C MHz 2x5
17 SPARE	42 D MHz 2x5
18 NAV PWR IN	43 E MHz 2x5
19 SWITCHED NAV PWR	44 A KHz 2x5
20 NAV 13.75 VDC IN	45 B KHz 2x5
21 POWER GROUND	46 C KHz 2x5
22 SPARE	47 D KHz 2x5
23 SPARE	48 E KHz 2x5
24 VOR/LOC DET	49 50 KHz 2x5
25 VOR/LOC DET SHIELD	50 2x5 FREQ COMMON

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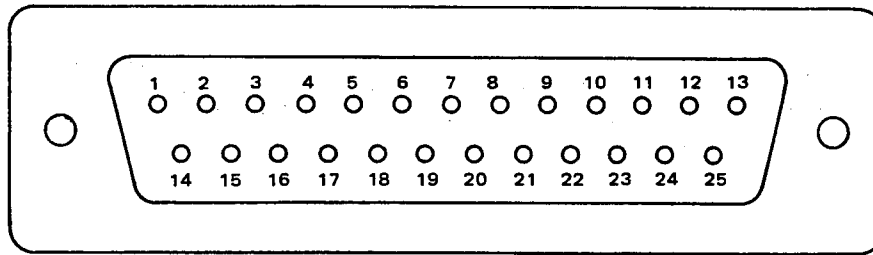
VIR-351 Navigation Receiver, Mating Connector Pin Assignments  
Figure 2-5

- a. Bond and shield all parts of the aircraft electrical system, such as generator and ignition systems.
- b. Keep the interconnect cables away from circuits carrying heavy current, pulse-transmitting equipment, and other sources of interference.
- c. Leave slack in cables to allow for movement due to vibration.
- d. After installation of the cables in the aircraft and before installation of the equipment, a check should be made to ensure the aircraft power is applied only to the pins specified.
- e. Remove and install connector contacts in accordance with steps f through h. Table 2-3 lists the special tools required to perform the following steps.
- f. During installation of the mating connector, the connecting wire must be crimped in the contact so that the crimped portion of the contact can enter the connector shell and provide a positive lock of the contact in the shell. Use crimping tool (CPN

371-0382-010) and crimp each interconnect wire in a contact. Using the insertion/extraction tool (CPN 371-8445-010), insert the contact into the proper connector shell hole and press until locked. Refer to figure 2-7.

Table 2-3. Special Tools.

DESCRIPTION	MANUFACTURER AND TYPE	S-TEC PART NUMBER
Crimping tool	Cannon, CCT-D*C-1	371-0382-010
Insertion/extraction tool	Cannon, CIET-20HDB	371-8445-010

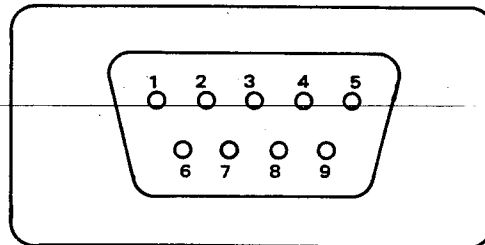


IND-350/351/351C MATING CONNECTOR REAR VIEW J1

- |              |                                  |
|--------------|----------------------------------|
| 1 RESOLVER H | *14 + DOWN                       |
| 2 RESOLVER C | *15 + GLIDESLOPE FLAG            |
| 3 RESOLVER D | *16 - GLIDESLOPE FLAG            |
| 4 RESOLVER F | 17 SPARE                         |
| 5 RESOLVER E | 18 SPARE                         |
| 6 RESOLVER G | 19 SPARE                         |
| 7 + NAV FLAG | 20 SPARE                         |
| 8 - NAV FLAG | 21 POWER GROUND                  |
| 9 + TO       | 22 27.5 V AIRCRAFT DIMMER        |
| 10 + FROM    | 23 13.75 V AIRCRAFT DIMMER       |
| 11 + LEFT    | ** 24 RNAV DEV ANNUNCIATOR       |
| 12 + RIGHT   | ** 25 DIMMED ANNUNCIATOR VOLTAGE |
| *13 + UP     |                                  |

\*NOT USED IN IND-350

\*\* (- 003 PART NUMBER ONLY)



IND-351C MATING CONNECTOR REAR VIEW J2

- |                              |
|------------------------------|
| 1 COURSE DATUM ERROR H       |
| 2 COURSE DATUM ERROR C       |
| 3 AIRCRAFT HEADING SYNCHRO X |
| 4 AIRCRAFT HEADING SYNCHRO Z |
| 5 AIRCRAFT HEADING SYNCHRO Y |
| 6 SPARE                      |
| 7 SPARE                      |
| 8 SPARE                      |
| 9 SPARE                      |

628-7332

IND-350/351/351C Indicator, Mating Connector Pin Assignments  
Figure 2-6

- g. During removal of a contact, use the insertion/extraction tool to unlock the contact, and pull the contact out of the connector from the rear.
- h. Refer to figure 2-8 for installation of antenna cable connector. Use RG-58A/U coaxial cable in the installation.

**Note**

Dual navigation receiver installations using a single antenna require the use of a 2-set antenna coupler to provide isolation between receivers. Do not use a coaxial T for this purpose.

### 2.5.2 VIR-350/351 and IND-350A/351A/351D

Figure 2-10 is the interconnect wiring diagram for the IND-350A/351A/351D Indicator and the VIR-350/351 Navigation Receiver. Mating connector part numbers are shown on the applicable outline and mounting dimensions diagram; refer to figure 2-6A for indicator mating connector pin assignments. During preparation of the interconnect wiring cables, observe the following precautions:

- a. Bond and shield all parts of the aircraft electrical system, such as generator and ignition systems.
- b. Keep the interconnect cables away from circuits carrying heavy current, pulse-transmitting equipment, and other sources of interference.
- c. Leave slack in cables to allow for movement due to vibration.
- d. Remove and install connector contacts in accordance with steps e through f. Table 2-3 lists the special tools required to perform the following steps.
- e. During installation of the mating connector, the connecting wire must be crimped in the contact so that the crimped portion of the contact can enter the connector shell and provide a positive lock of the contact in the shell. Use crimping tool (CPN 371-0382-010) and crimp each interconnect wire in a contact. Using the insertion/extraction tool (CPN 371-8445-010), insert the contact into the proper connector shell hole and press until locked. Refer to figure 2-7.
- f. During removal of a contact, use the insertion/extraction tool to unlock the contact, and pull the contact out of the connector from the rear.

## 2.6 POSTINSTALLATION CHECKS

**Caution**

The VIR-351 Navigation Receiver has been designed to exhibit a very high degree of functional integrity. Nevertheless, the user must recognize that it is not practical to provide monitoring and/or self-test for all conceivable failures and, however unlikely, it is possible that erroneous operation could occur without a fault indication. It is the responsibility of the pilot to detect such an occurrence by means of cross checks with redundant or correlated information available in the cockpit.

The following postinstallation checks are to be performed with the VIR-351 and associated equipment installed in the aircraft. Preliminary tests may be made using the aircraft power supply with the engine running, or with a battery or auxiliary power applied to the aircraft. The final check should be made with the engine running. No test equipment is required.

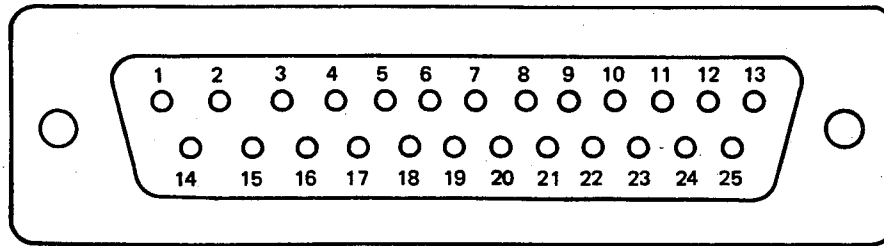
The limits provided in this section assume that the VIR-351 is used in conjunction with an IND-350/351/351C Indicator. The tolerance allowances may not adequately account for errors contributed by other navigation indicators.

### 2.6.1 VOR Bearing Accuracy

VOR performance may be checked on the ramp or in flight; limits are given for both situations. Because of the difficulty in precisely positioning the aircraft over a visual reference in flight, airborne test limits are greater than those for ramp tests.

#### 2.6.1.1 VOT Procedure

- a. Channel the VIR-351 to the frequency of the VOT (VOR test system).
- b. Adjust the indicator OBS until the vertical deviation bar is exactly centered and a FROM indication is obtained. Observe the bearing indication under lubber line. Result:  $0 \pm 4$  degrees.
- c. Adjust the OBS until the vertical deviation bar is exactly centered and a TO indication is obtained. Observe bearing indication under lubber line. Result:  $180 \pm 4$  degrees.

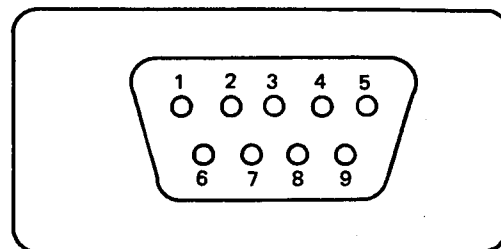


IND-350A/351A/351D

MATING CONNECTOR REAR VIEW J1

- |     |            |     |                            |
|-----|------------|-----|----------------------------|
| 1   | RESOLVER H | *14 | + DOWN                     |
| 2   | RESOLVER C | *15 | + GLIDESLOPE FLAG          |
| 3   | RESOLVER D | *16 | -GLIDESLOPE FLAG           |
| 4   | RESOLVER F | 17  | SPARE                      |
| 5   | RESOLVER E | 18  | SPARE                      |
| 6   | RESOLVER G | 19  | RESOLVER A                 |
| 7   | + NAV FLAG | 20  | RESOLVER B                 |
| 8   | - NAV FLAG | 21  | POWER GROUND               |
| 9   | + TO       | 22  | 27.5 V AIRCRAFT DIMMER     |
| 10  | + FROM     | 23  | 13.75 V AIRCRAFT DIMMER    |
| 11  | + LEFT     | 24  | RNAV DEV ANNUNCIATOR       |
| 12  | + RIGHT    | 25  | DIMMED ANNUNCIATOR VOLTAGE |
| *13 | + UP       |     |                            |

\*NOT USED IN IND-350A



IND-351D

MATING CONNECTOR REAR VIEW J2

- |   |                            |
|---|----------------------------|
| 1 | COURSE DATUM ERROR H       |
| 2 | COURSE DATUM ERROR C       |
| 3 | AIRCRAFT HEADING SYNCHRO X |
| 4 | AIRCRAFT HEADING SYNCHRO Z |
| 5 | AIRCRAFT HEADING SYNCHRO Y |
| 6 | SPARE                      |
| 7 | SPARE                      |
| 8 | SPARE                      |
| 9 | SPARE                      |

628-8049

IND-350A/351A/351D Indicator, Mating Connector Pin Assignments  
Figure 2-6A

### 2.6.1.2 Ground or Air VOR Test-Point Procedure

- a. Channel the VIR-351 to the appropriate frequency and maneuver the aircraft over the VOR test point.
- b. Adjust the OBS until the vertical deviation bar is exactly centered and a FROM indication is obtained. Observe bearing indication under lubber line. Result: If a ground checkpoint, OBS agrees with published bearing within  $\pm 4$  degrees. If an airborne check, OBS agrees with published bearing within  $\pm 6$  degrees.
- c. Adjust the OBS until the vertical deviation bar is exactly centered and a TO indication is obtained. Observe bearing indication under lubber line. Result: If a ground checkpoint, OBS is  $180 \pm 4$  degrees different from published bearing. If an airborne check, OBS is  $180 \pm 6$  degrees different from published bearing.

### 2.6.2 Digital Bearing Accuracy

- a. If an official VOT is provided, channel the VIR-351 to its frequency. In the absence of a VOT, maneuver the aircraft over a ground or air VOR test point; channel the VIR-351 as required to the published frequency.
- b. Set the TO/FREQ/FROM switch to FROM and allow approximately one second for bearing display to appear. Result: If VOT or ground test point, bearing indication agrees with published bearing (000 degree for VOT) within  $\pm 4$  degrees. If an airborne checkpoint, bearing indication agrees with published bearing within  $\pm 6$  degrees. In both cases, indicated bearing is followed by the letter F.
- c. Set the TO/FREQ/FROM switch to TO and allow approximately one second for bearing display to appear. Result: If VOT, display shows  $180 \pm 4$  degrees. If ground test point, bearing is  $180 \pm 4$  degrees different from published bearing. If airborne checkpoint, bearing is  $180 \pm 6$  degrees different from published bearing.

### 2.6.3 Correspondence Between CDI and Digital Bearing Display

**Note**

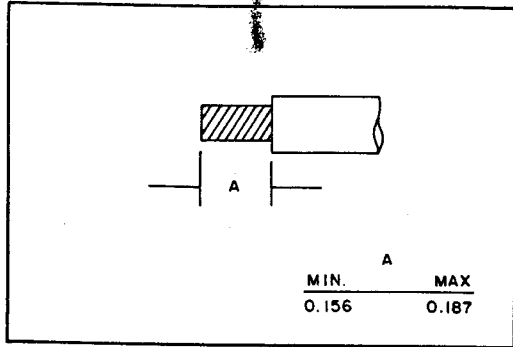
Since common receiver and instrumentation circuits are involved in this cross-check, this

test does not meet FAR 91.25 requirements for a cross-check between independent systems as a means of checking VOR accuracy prior to instrument flight operations.

- a. Channel the VIR-351 to a station in the immediate area and verify the received signal is reliable (listen to identification code and ensure NAV flag is out of view).
- b. Set the TO/FREQ/FROM switch to FROM and allow approximately one second for bearing computation.
- c. Carefully adjust the indicator OBS knob until the vertical deviation bar is exactly centered and the TO/FROM arrow indicates FROM. Observe OBS bearing and VIR-351 digital bearing indication. Result: OBS and digital bearing indication agree within  $\pm 4$  degrees.
- d. Rotate TO/FREQ/FROM switch to TO and allow approximately one second for bearing computation.
- e. Carefully adjust the indicator OBS knob until the vertical deviation bar is exactly centered and the TO/FROM arrow indicates TO. Observe OBS bearing and VIR-351 digital bearing indication. Result: OBS and digital bearing indication agree within  $\pm 4$  degrees.

### 2.6.4 VOR Deflection Sensitivity

- a. Channel the VIR-351 to a station in the immediate area and verify the received signal is reliable (listen to identification code and ensure NAV flag is out of view).
- b. Carefully adjust the indicator OBS knob until the vertical deviation bar is exactly centered and the TO/FROM arrow indicates FROM. Note and record the indicator bearing.
- c. Rotate the OBS clockwise until the vertical deviation bar is positioned over the fifth dot on the right side of the scale. Note the indicator bearing at this point and compare to result recorded in step b. Result: Bearings should differ by  $10 \pm 3$  degrees.
- d. Rotate the OBS counterclockwise until the vertical deviation bar is exactly positioned over the fifth dot on the left side of the scale. Note the indicator bearing at this point and compare to result recorded in step b. Result: Bearings should differ by  $10 \pm 3$  degrees.



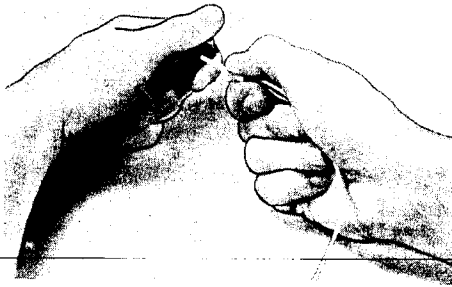
**WIRE STRIPPING**

1. CUT WIRES TO LENGTH. STRIP INSULATION PER ABOVE ILLUSTRATION. CHECK FOR BROKEN OR FRAYED WIRES.



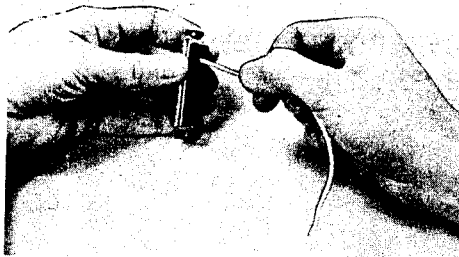
**CONTACT CRIMPING**

2. INSERT CONTACT AND WIRE INTO PROPER CRIMP TOOL (AND LOCATOR, IF REQUIRED) CRIMP CONTACT TO WIRE. INSPECT CRIMP.

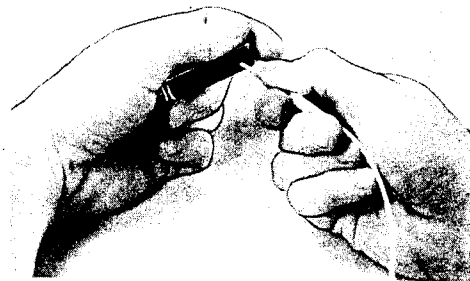


**CONTACT INSERTION**

3. CENTER WIRED CONTACT IN GROOVE OF INSERTION TOOL, WITH TOOL TIP BUTTING CONTACT SHOULDER. INSERT CONTACT INTO CAVITY UNTIL A POSITIVE STOP IS FELT. INSPECT INSERTION.



4. TO BE SURE CONTACT IS LOCKED SECURELY, PULL BACK LIGHTLY ON WIRE. REPEAT FOR BALANCE OF CONTACTS, WORKING ROW BY ROW ACROSS THE INSULATOR.



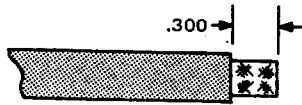
**CONTACT EXTRACTION**

5. PLACE WIRE INTO EXTRACTION TOOL TIP. INSERT TOOL TIP INTO CONTACT CAVITY UNTIL TIP BOTTOMS AGAINST CONTACT SHOULDER, RELEASING TINES. HOLD WIRE AGAINST TOOL WITH FINGER AND REMOVE TOOL AND CONTACT. REPEAT FOR BALANCE OF CONTACTS.

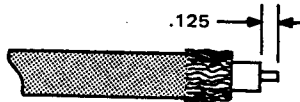
628-5699-001  
TP4-2067-017

*Use of Crimping and Insertion/Extraction Tools  
Figure 2-7*

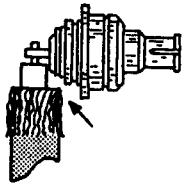




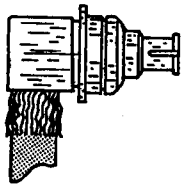
TRIM COAX CABLE OUTER INSULATION AS SHOWN.



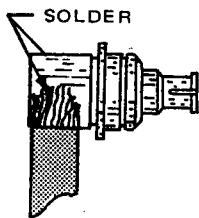
FOLD BRAID BACK OVER OUTER INSULATION OF COAX. DO NOT CROSS STRANDS.



SOLDER CENTER CONDUCTOR TO CENTER PIN OF CONNECTOR. ENSURE FRONT END OF BRAID IS EVEN WITH BOTTOM OF CONNECTOR. (SHOWN BY ARROW).



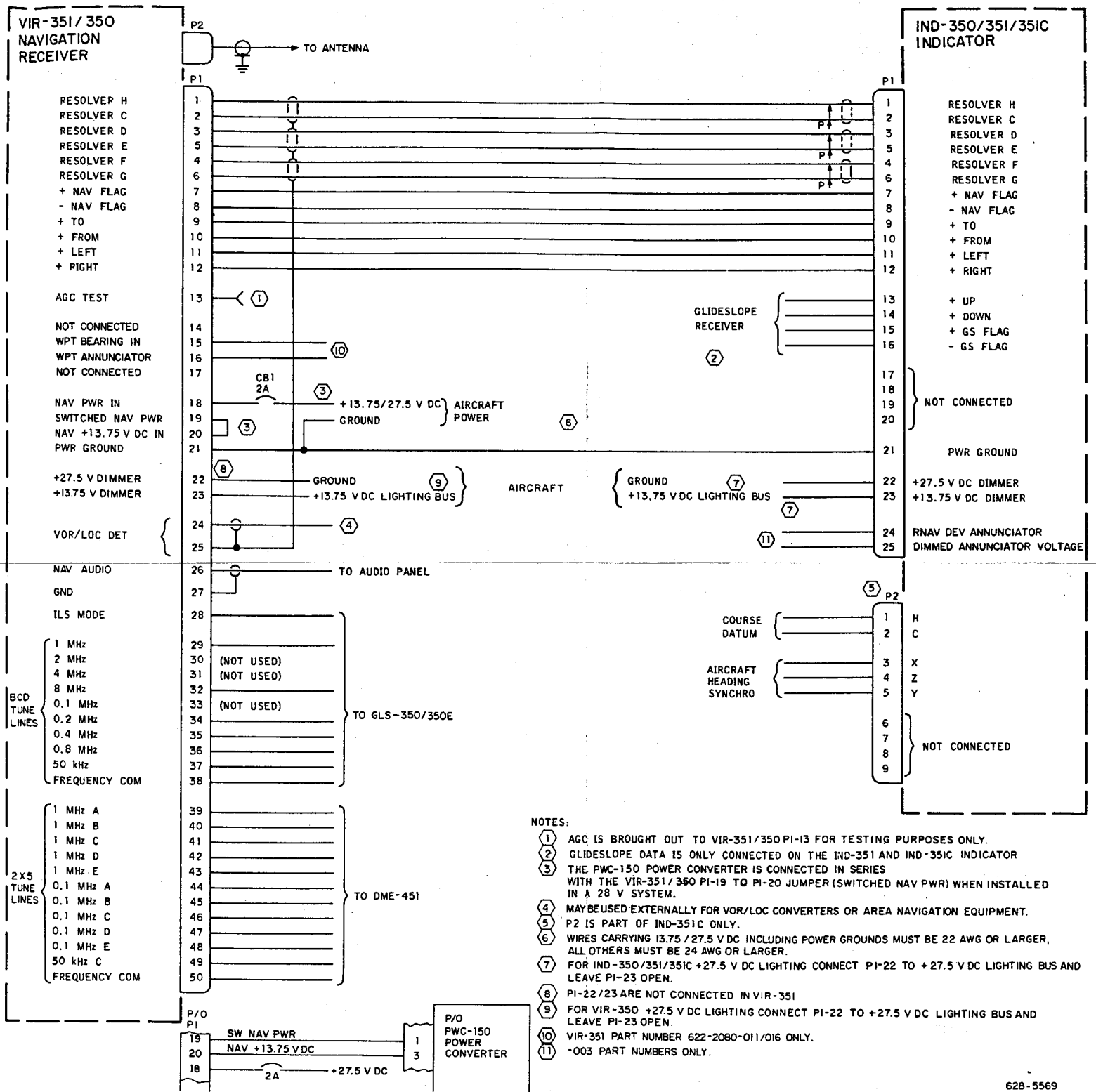
SLIDE CONNECTOR CAP, WITH CLEARANCE HOLE IN POSITION TO CLEAR DIELECTRIC, ON TO CONNECTOR UNTIL IT SNAPS INTO PLACE.



PUSH BRAID FORWARD AND FLATTEN AGAINST CONNECTOR CAP AND SOLDER. SOLDER TAC CONNECTOR CAP TO CONNECTOR IN AT LEAST TWO PLACES TO INSURE GOOD ELECTRICAL CONTACT.

628-5656  
TP4-0541-013

Installation of Antenna Connector  
Figure 2-8



628-5569

Interconnect Wiring Diagram Using IND-350/  
351/351C Indicator  
Figure 2-9