

**KT 76/78
TRANSPONDER**

**INSTALLATION MANUAL
006-0067-01**

REV. 1

DECEMBER, 1972

This equipment manufactured under the following U. S. Patent : 3,366,834

ONE FULL YEAR WARRANTY

General Aviation Avionic products manufactured by King Radio Corporation (hereinafter called King) are warranted against defects in design, workmanship and material under normal use for which intended for one year after warranty registration provided such registration occurs within eighteen months of the factory shipping date.

King's limit of liability hereunder shall be to provide necessary parts and labor to repair said product, transportation charges prepaid at either King factory or an authorized King Service Center. King shall not be liable for consequential or other damage or expense whatsoever therefore or by reason thereof.

This warranty shall not apply to any product which has not been installed by an authorized King Installation Facility in accordance with the installation manual, or which has been repaired or altered in any way so as to adversely effect its performance or reliability, or which has been subject to misuse, contamination, negligence or accident.

This warranty is in lieu of all other General Aviation Avionics guarantees or warranties expressed or implied. King reserves the right to make design changes, additions to and improvements in its products without obligation to install such in products previously manufactured.

BENDIX/KING® Service Aid

Service Aid: KT 76/KT 78-102
Transponder

SUBJECT: Mode A and C updates to improve reliability.

Reliability of the KT 76/78 can be improved by removing and replacing the components listed below and careful alignment of the decoder one-shots.

Remove and replace the components in the unit with the ones in the following list.

| <u>COMPONENT</u> | <u>PART NUMBER</u> | <u>DESCRIPTION</u> |
|------------------|--------------------|-------------------------------|
| I413 | 120-00061-0000 | IC, SN74221N |
| C426 | 105-00031-0014 | CAP, MY 3.3Kkp, 80V |
| C429 | 104-00001-0038 | CAP, S/M 2400pf, 1% |
| C430 | 104-00001-0038 | CAP, S/M 2400pf, 1% |
| R474 | 131-00153-0023 | RES, F/C 15K Ω 1/4W 5% |
| R491 | 135-00123-0012 | RES, M/F 12K Ω 1/4W 5% |
| R494 | 133-00113-0015 | RES, VAR 2K Ω 1W |
| R495 | 135-00123-0012 | RES, M/F 12K Ω 1/4W 5% |

Using the procedure in the KT 76/78 Maintenance Overhaul Manual align the mode A one-shots at TP403 and TP404 for 8.6 μ s \pm 0.1 μ s. Align the mode C one-shots at TP405 and TP406 for 21.6 μ s \pm 0.1 μ s. These adjustments should be smooth, if they are erratic, clean or replace the variable resistors as necessary.

THIS INFORMATION PROVIDED BY STICKS AND STONES PROD. WE HOPE THAT IT IS USEFUL.

KT 76A Troubleshooting Tips

Poor sensitivity ?

When working on a KT 76A that has poor sensitivity, check the following caps:

C440, C441, C442, C443, C444.

If these caps are black in color, replace them all. The new caps will be yellow in color.

Erratic sensitivity ?

When repairing a KT 76A you discover that the unit exhibits erratic sensitivity, check the -6.2Vdc power supply line. This line should read between -5.7Vdc and -7.5Vdc. If the line measures out of tolerance, check C409 as this one has been the culprit many times.

Rack 'em up

The following is a list of mounting rack part numbers for various panel mount equipment:

| UNIT | RACK PART # |
|----------------|----------------|
| KMA 20 | 047-01761-0001 |
| KMA 24 | 047-04940-0004 |
| KMA 24H | 047-04940-0004 |
| KMA 24H-70/71 | 047-04751-0004 |
| KN 53 | 047-04751-0004 |
| KN 62A | 047-04543-0002 |
| KN 63 | 047-04219-0000 |
| KN 64 | 047-04543-0002 |
| KN 74 | 047-02291-0000 |
| KT 76A | 047-03898-0002 |
| KT 79 | 047-05827-0004 |
| KNS 80 | 047-05547-0001 |
| KNS 81 | 047-04899-0001 |
| KR 85 | 047-01846-0000 |
| KR 86 | 047-02510-0001 |
| KR 87 | 047-05193-0002 |
| KLN 88 | 071-01486-0000 |
| KLN 90 | 071-01541-0000 |
| KY 92 | 047-04575-0002 |
| KY 96A | 047-08512-0004 |
| KY 97A | 047-08512-0004 |
| KX 125 | 047-06865-0001 |
| KA 134 | 047-04567-0002 |
| KX 145 | 047-03204-0002 |
| KX 155 | 047-04874-0001 |
| KX 165 | 047-04874-0001 |
| KX 170/175/A/B | 047-01695-0000 |
| KC 190/1/2 | 047-05114-0003 |
| KY 196/197 | 047-04676-0004 |
| KY 196A/197A | 047-08512-0004 |

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HISTORY OF REVISIONS

REV. 1, December, 1972

| <u>Page</u> | <u>Description of Change</u> |
|-------------|---------------------------------------|
| Front | Revision No's Added |
| 1-3, 1-4 | Installation Kit Parts Lists Updated |
| 2-4 | Misspelled Word |
| 2-5 | Clarification of "696" Drawing Number |
| 2-6 | Clarification of "696" Drawing Number |
| 2-7 | Revised Installation Drawing |
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SECTION I
GENERAL INFORMATION

1.1 INTRODUCTION

This manual contains information relative to the physical, mechanical, and electrical characteristics of the King Radio Corporation Silver Crown KT 76/78. Information relative to the maintenance, alignment and procurement of replacement parts may be found in KT 76/78 Maintenance/Overhaul Manual, KPN 006-5058-00.

1.2 GENERAL DESCRIPTION

The King KT 76 and KT 78 Transponders are radar beacon equipment designed to fulfill the role of the airborne beacon under the requirements of the Air Traffic Control Radar Beacon System (ATCRBS).

The KT 76/78 Transponders are capable of locating the user through the air traffic controller. Range and azimuth are established by the return from the transponder's pulsed transmitter in reply to a routine interrogation from the ground radar site.

The transponder reply is a set of pulses, selected in number, and positioned in time, one with respect to the other (not entirely unlike telegraphy). Information is conveyed to the ground in this manner. An identity code number, selected at the front panel by the pilot is transmitted as a Mode A reply.

Mode C, altitude reporting, is an additional capability designed into the transponder. However, in order to convey altitude information, the transponder must be used in conjunction with a reporting altimeter and operated in "ALT" function.

An additional feature of the transponder and beacon system is the S. P. I. (Special Pulse, Identification). After pressing the ident button the transponder, when interrogated, will reply with a special pulse that will cause the associated pip on the controllers display to "bloom" effecting immediate recognition.

1.3 TECHNICAL CHARACTERISTICS

| SPECIFICATIONS | CHARACTERISTICS |
|-----------------|---|
| TSO COMPLIANCE: | C74b |
| TSO CATEGORY: | KT 76 - DAPBBBXXXXXX Class I KT 78 - DAPBBBXXXXXX Class II |


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| SPECIFICATIONS | CHARACTERISTICS |
|------------------------|---|
| APPLICABLE DOCUMENTS: | TSO C74b, RTCA DO-138 |
| TEMPERATURE RANGE: | -15°C to +55°C for continuous operation |
| HUMIDITY RANGE: | Up to 95% at +50°C (+122°F) for 12 hours |
| WEIGHT: | 3.0 lbs. including Mtg rack |
| INSTALLATION SPACE: | 14 volt - 6.25 × 1.63 × 10.00 in. (15.88 × 4.14 × 25.4cm) 28 volt - 6.25 × 1.63 × 11.00 in. (15.88 × 4.14 × 27.94cm) |
| POWER REQUIREMENTS: | 14 volt 1.3 Amp 28 volt 1.3 Amp |
| ALTITUDE: | KT 76 Tested up to 30,000 feet which exceeds TSO requirements. KT 78 up to 15,000 feet |
| TRANSMITTER FREQUENCY: | 1090MHz ±3MHz |
| TRANSMITTER POWER: | KT 76 - 200 watts peak minimum KT 78 - 113 watts peak minimum |
| RECEIVER FREQUENCY: | 1030MHz |
| RECEIVER SENSITIVITY: | -74dbm nominal -72dbm minimum for 90% reply |
| MODE A CAPABILITY: | 4096 identity codes plus SPI pulse. |
| MODE C CAPABILITY: | Accepts ARINC altitude digitizer output, reporting in 100 foot increments from -1000 ft. up to 31,000 feet. |
| SIDE LOBE SUPPRESSION: | 3 pulse |


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1.4 UNITS AND ACCESSORIES SUPPLIED

- A. King KT 76 Transponder KPN 066-1034-00, 14VDC
 King KT 76 Transponder KPN 066-1034-01, 28VDC
 King KT 78 Transponder KPN 066-1034-02, 14VDC
 King KT 78 Transponder KPN 066-1034-03, 28VDC
 Mounting Tray KPN 047-2439-01 (supplied with each unit)
- B. King KT 76/78 Installation Kits

1) KPN 050-1244-00 (14VDC) Parts List as Follows:

| KPN | DESCRIPTION | QUANTITY |
|--------------|---|----------|
| 030-0005-00 | Connector Coax, TED #4-10-4 | 1 |
| 030-0101-00 | Connector Coax, TED #9-30-4 | 1 |
| *030-1046-12 | Gold Contact Connector, MOLEX 1917G (This is 12 contacts on a strip) | 1 |
| 030-1050-00 | Connector, Housing | 1 |
| 071-1048-00 | Antenna KA 48 | 1 |
| 089-8094-30 | Washer Flat | 2 |
| 090-0019-07 | Retaining Ring | 1 |
| 089-2013-37 | Nut, Hex, #6-32 | 1 |
| 089-5907-06 | Screw, P. H. PH., #6-32 x 3/8 | 1 |
| 089-8027-30 | Washer, Flat, #6 | 1 |
| 091-0031-05 | Cable Clamp | 1 |
| 089-8110-34 | Lockwasher #6 | 1 |
| 089-5903-04 | Screw, PHP #4-40 x 1/4 | 2 |

2) KPN 050-1244-01 (28VDC) Parts list as follows:

—NOTE—

This kit is same as 14VDC Kit with
the addition of the following parts.

| KPN | DESCRIPTION | QUANTITY |
|-------------|------------------------------------|----------|
| 047-2445-00 | Shield Head | 1 |
| 089-2016-37 | Nut Hex 10-32 | 2 |
| 089-5991-12 | Screw PHP 10-32 x 3/4 | 2 |
| 089-8112-34 | Washer Lock #10 | 2 |
| 132-0113-04 | Resistor W/W 10Ω, 55W, 5% | 1 |
| 089-2009-37 | Nut, Hex, #4-40 | 2 |
| 091-0009-00 | Grommet, 1/8" I.D. | 2 |
| 089-5878-04 | Screw, PHP, #4-40 x 1/4 Springtite | 2 |


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1.5 ACCESSORIES NOT SUPPLIED

- A. Voltage change over kit (14 to 28VDC) 050-1247-00 Parts List as follows :

| KPN | DESCRIPTION | QUANTITY |
|-------------|--|----------|
| 047-2445-00 | Shield, Heat | 1 |
| 057-1395-01 | Lamp Voltage Plate 28v | 1 |
| 089-2009-37 | Nut, Hex, #4-40 | 2 |
| 089-2016-37 | Nut, Hex, #10-32 | 2 |
| 089-5878-04 | Screw, P. H. P, #4-40 x 1/4 Springtite | 2 |
| 089-5991-12 | Screw, PHP 10-32 x 3/4 | 2 |
| 089-8112-34 | Washer, Lock #10 | 2 |
| 091-0009-00 | Grommet, 1/8 I. D. | 2 |
| 132-0113-04 | Resistor, W. W. 10 ohm, 55W, 5% | 1 |

- B. Voltage change over kit (28 to 14VDC) 050-1247-01 Parts List as follows :

| KPN | DESCRIPTION | QUANTITY |
|-------------|------------------------|----------|
| 026-0001-00 | Buss Wire (#26 AWG) | .1 ft. |
| 057-1395-00 | Lamp Voltage Plate 14V | 1 |

- C. Low Loss Antenna Installation Kit, 050-1253-00
Parts List as follows:

| KPN | DESCRIPTION | QUANTITY |
|-------------|----------------------------|----------|
| 024-0013-00 | Cable, Coax | 17.5 ft. |
| 030-0092-00 | Connector, Coax TED 9-10-5 | 1 |
| 030-0102-00 | Connector, Coax TED 9-30-5 | 1 |

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1.6 LICENSE REQUIREMENTS

The transmitter as installed in the aircraft, requires an Aircraft Radio Station License. This license is obtained by filing FCC Form 404. The KT 76 or KT 78 may be operated for up to 30 days without a station license, after filing the FCC Form 404 and while awaiting the receipt of the station license, providing a copy of the FCC Form 404 is kept in the aircraft.

This equipment has been type accepted by the FCC and entered on their list of type accepted equipment as King KT 76 or King KT 78 and must be identified as such on your FCC Form 404, Aircraft Radio Station License Application.


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SECTION II
INSTALLATION

2.1 GENERAL

Installation of the KT 76/78 will differ according to equipment location and other factors. Cable harnesses will be fabricated by the installing agency to fit these various requirements. This section contains interconnect diagrams, mounting dimensions and information pertaining to installation.

2.2 UNPACKING AND INSPECTING EQUIPMENT

Exercise extreme care when unpacking the equipment. Make a visual inspection of the unit for evidence of damage incurred during shipment. If a claim for damage is to be made, save the shipping container to substantiate the claim. The claim should be promptly filed with the transportation company. When equipment has been removed, place in the shipping container all packing, bracing, and filler used in the original packing. Save the packing material for use in unit storage or reshipment.

2.3 INSTALLATION PROCEDURES

Listed below are factors and suggestions to consider before installing your KT 76/78. Close adherence to these suggestions will assure more satisfactory performance from your equipment. Also note the following instructions for voltage changeover in the KT 76/78.

2.4 VOLTAGE CHANGE OVER INSTRUCTIONS

The KT 76/78 may be ordered from the factory for 14 volt or 28 volt operation. To convert a 14V unit to 28V operation use voltage change over kit KPN 050-1247-00. To convert a 28V unit to 14V operation use voltage change over kit KPN 050-1247-01.

- 1) Remove the front panel of the radio, Figure 2-1 shows the front of the switch board. In the lower right corner are located six jumper pins. Figure 2-1a shows the proper jumper connection for 14VDC operation while Figure 2-1b shows the connections for 28VDC operation
- 2) Lamp Voltage Tag must correspond to voltage used. The tag is located on rear of unit and is supplied with Voltage Changeover Kit.

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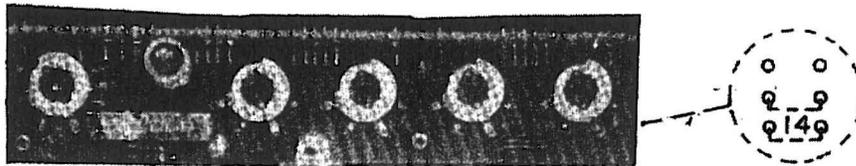


FIGURE 2-1A +13.75VDC OPERATION

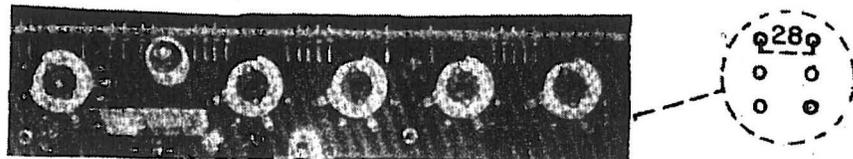


FIGURE 2-1B +27.5VDC OPERATION

(Dwg. No. 696-3002-00)

FIGURE 2-1 VOLTAGE CHANGEOVER OF FRONT PANEL

- 3) Install the 10 ohm 55W resistor in series with the power input pin for 28V operation. The series resistor is not required in 14V installations. See Figure 2-3.

2.5 KT 76/78 INSTALLATION

1. The KT 76/78 are mounted rigidly in the aircraft panel.
2. Avoid mounting close to any high external heat source, if this is done then no blower or ram air cooling will be required.
3. Remember to allow adequate space for installation of cables and connectors.
4. Secure the mounting tray KPN 047-2439-02 to instrument panel per Figure 2-4. The rearward mounting holes must be attached to a structural member of the airframe by means of support brackets.
5. Looking at the bottom of unit, make sure the front lobe of the holddown device is in a vertical position. This can be accomplished by using 3/32" Al len wrench through the face plate.
6. Slide unit into tray until front lobe touches mounting tray.


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7. Turn Allen wrench clockwise until rear lobe engages with the tray slot. Continue turning wrench clockwise until tight.

-CAUTION-

Do Not Overtighten Locking Screw

8. For removal turn 3/32" Allen wrench counter-clockwise until unit disengages from tray slot. Unit may then be removed.

2.6 CONNECTOR ASSEMBLY PROCEDURE

The KT 76/78 uses a special connector that mates directly with the Printed Circuit Board inside the unit. Assembly of the connector is as follows:

- A. Contact Terminal Assembly Using Molex Crimper (Figure 2-2)
 1. Strip each wire 5/32" for contact terminal KPN 030-1046-XX. (The last two digits of the contact terminal part number indicate the number of terminals required).
 2. Open the Molex Hand Crimper HT1921 with the engraved side toward the operator. Place the conductor tab section of a contact terminal on Anvil B with the contact portion facing away from the operator. Close the crimper slightly until the contact tabs touch the female jaw.
 3. Insert the stripped conductor until the insulation is even with the side of the crimper facing the operator. Crimp the conductor tabs by squeezing the handles together until the jaws are fully closed or a sufficient crimp is obtained.
 4. Move the lead to Anvil A. Place the insulating tab section on Anvil A. Crimp again until the jaws are fully closed or a sufficient crimp is obtained.
 5. If necessary, straighten the contact terminal while it is held by the crimper.
- B. Contact Terminal Assembly Using Pliers
 1. Strip each wire 5/32" for contact terminal KPN 030-1046-XX (the last two digits of the contact terminal part number indicate the number of terminals required).
 2. Tin the exposed conductor.
 3. Using needle nose pliers fold over each conductor tab in turn, onto the exposed conductor. When both tabs have been folded, firmly press the tabs against the conductor.
 4. Repeat Step 3 for the insulator tabs.
 5. Apply a drop of solder (using minimum heat) to the conductor/tab connection to assure a good electromechanical joint.


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- C. Contact Insertion into Molex Connector Housing
1. After the contact terminals have been installed on the wiring harness, the contact terminals can be inserted into the desired location in the connector housing. The terminal cannot be inserted up-side-down. Right side up it slides into place effortlessly. Be sure to push the terminal all the way in, until a click can be felt, heard, or seen (through the translucent housing).
 2. The self locking feature can be tested by moderately pulling on the wire.
- D. Extraction of Contact from Molex Connector
- If a contact is inserted into the wrong connector position, or if an installation wiring change is desired, the Molex contact can be easily removed.
1. Slip the flat narrow blade of a Molex contact ejector tool, HT-1884, under the contact on the mating side of the connector. Looking down, the blade can be seen sliding into the stop.
 2. When the ejector is slid into place, the locking key of the contact is raised allowing the contact to be removed by pulling moderately on the lead.
 3. Neither the contact or position is damaged by removing a contact if care is exercised when contact is removed.

2.7 KA 48 INSTALLATION

The KA 48 antenna is a vertical quarter wave dipole designed for optimum performance at the transponder operating frequency. When making the antenna installation guidelines should be taken from an investigation of proven satisfactory transponder and DME antenna installations.

--NOTE--

A .380 inch clearance hole is required.
The antenna should be kept clean. If left dirty (oil covered) the range of the transponder may be affected.

2.8 LOCATION CONSIDERATIONS

1. The antenna should be well removed from any projections, the engine(s) and propeller(s).
2. The antenna should be mounted on a bottom surface that will be level in normal aircraft flight attitudes.

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3. The surface directly beneath the antenna should be a flat plane over as large an area as possible.
4. Where practical, plan the antenna location to keep cable length as short as possible avoiding sharp bends in the cable. However, it is recommended that the separation between DME and transponder antennas be at least six feet.
5. Maximum separation of ADF sense antenna and transponder antenna is recommended.

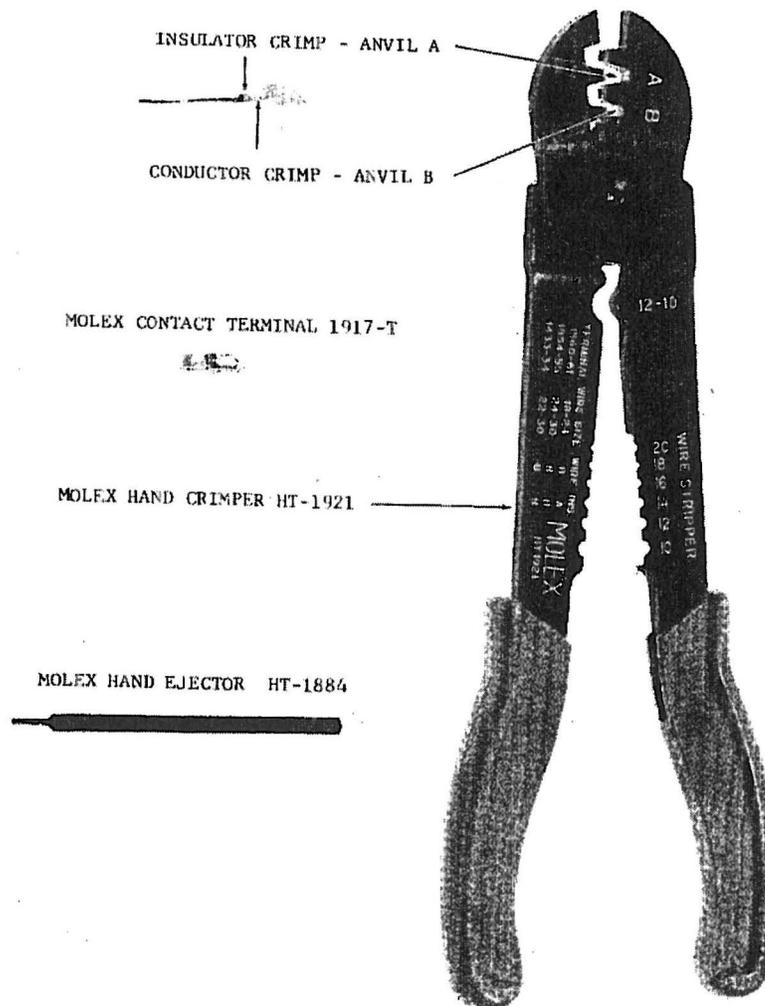
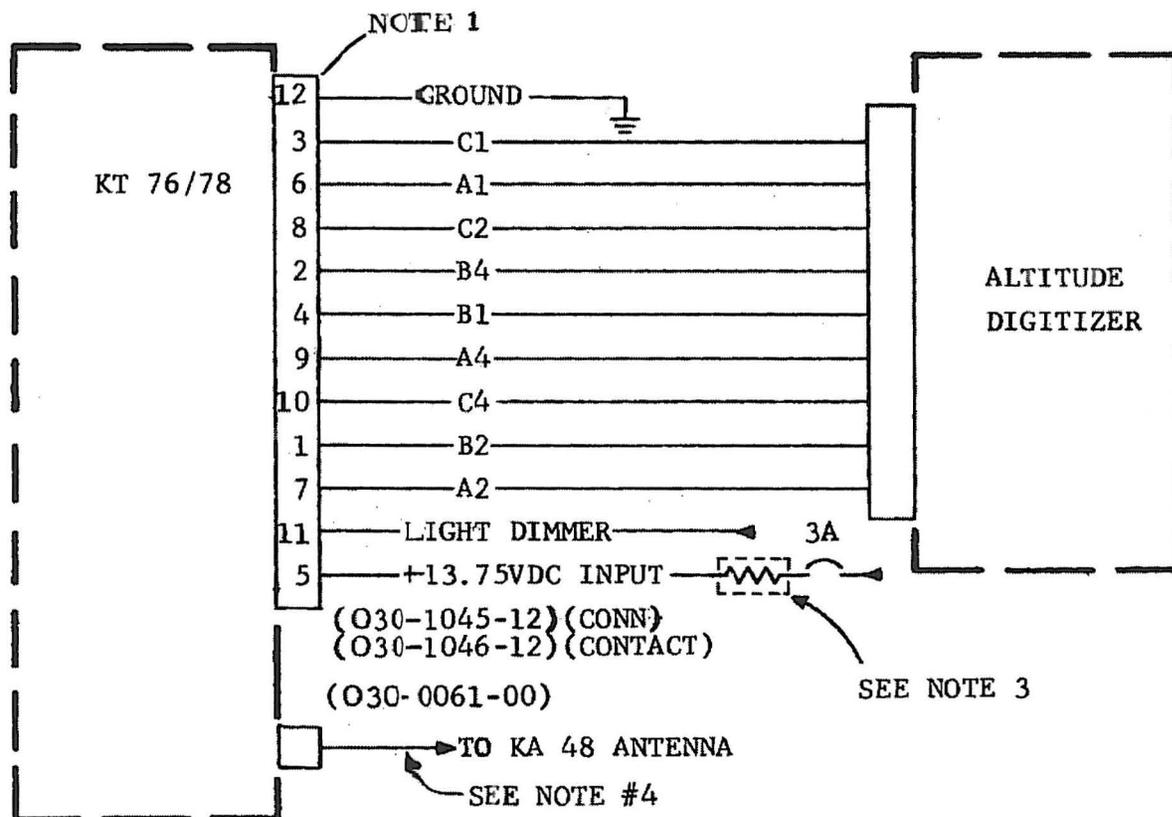


FIGURE 2-2 CRIMPING TOOL
(Dwg. No. 696-2151-00)


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NOTES:

1. CONNECTOR TERMINAL NUMBER IS SPECIFIED ON THE CONNECTOR.
2. ALL WIRES SHOULD BE #22AWG.
3. RESISTOR USED IN 27.5VDC OPERATION ONLY. THIS RESISTOR CAN BE MOUNTED ELSEWHERE IN AIRCRAFT, BUT THE HEAT SHIELD SHOULD STILL BE USED.
4. ROUTE THE ANTENNA CABLE AS FAR AS PRACTICABLE FROM ANY HARNESS. IN NO CASE SHOULD THE ANTENNA CABLE BE LACED INTO A HARNESS BUNDLE.

FIGURE 2-3 KT 76/78 INTERCONNECT DIAGRAM
 (Dwg. No. 696-3003-00)


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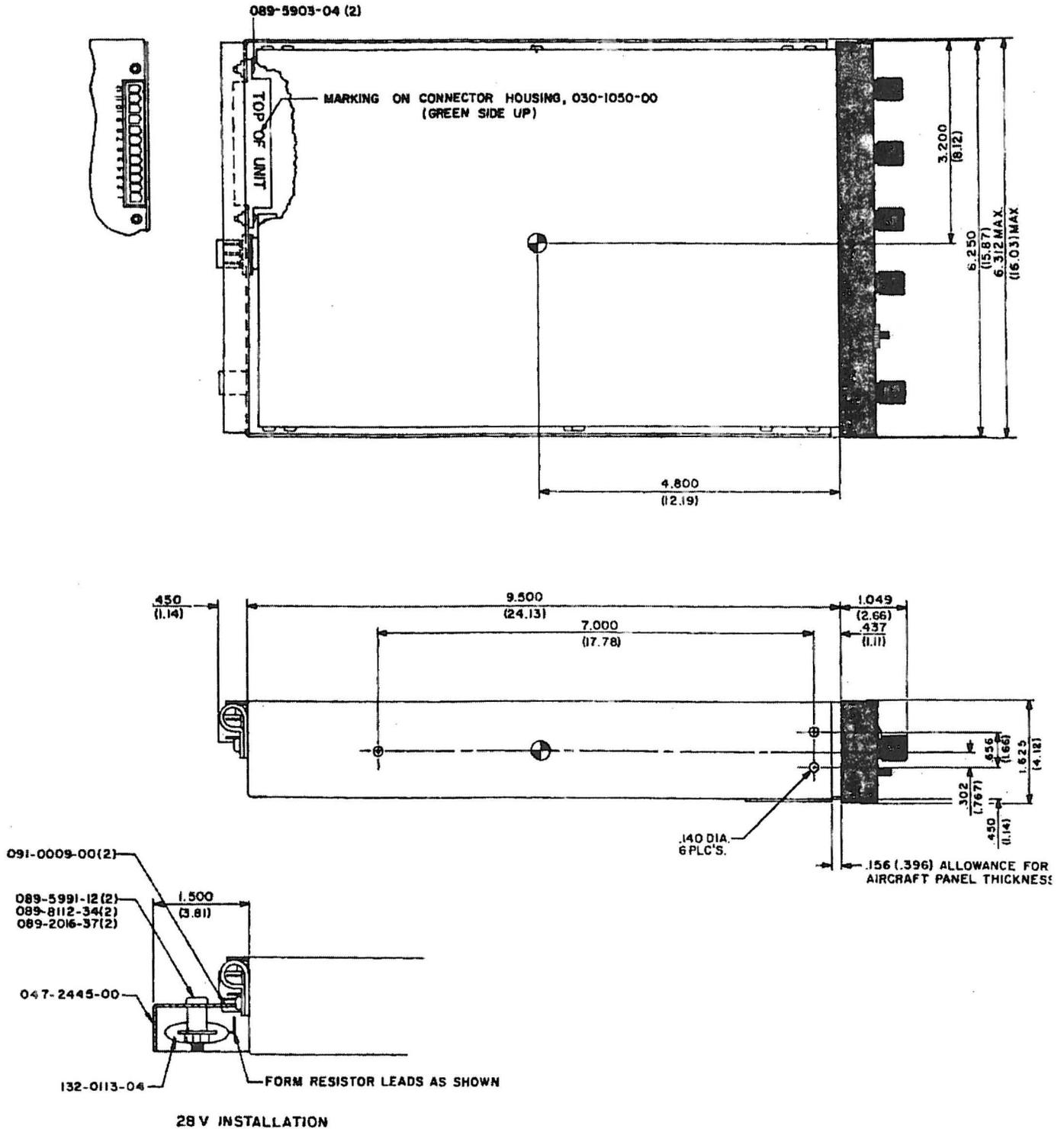
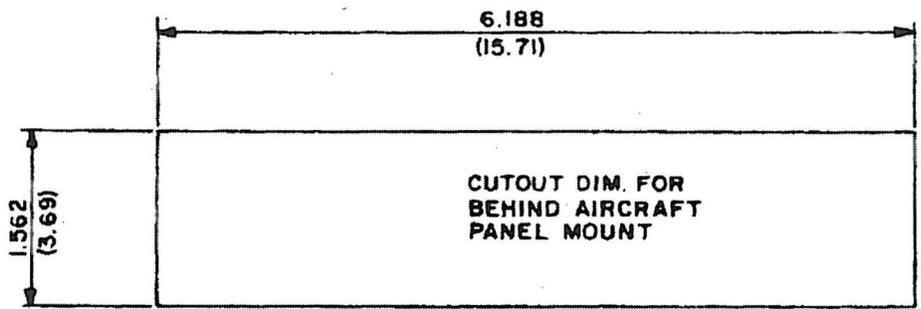
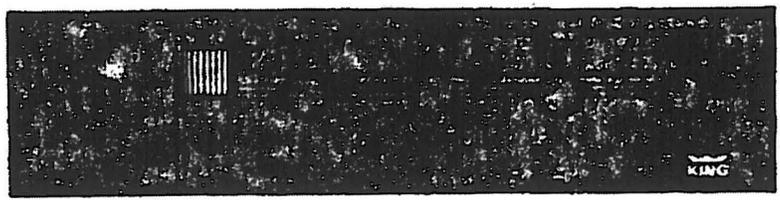
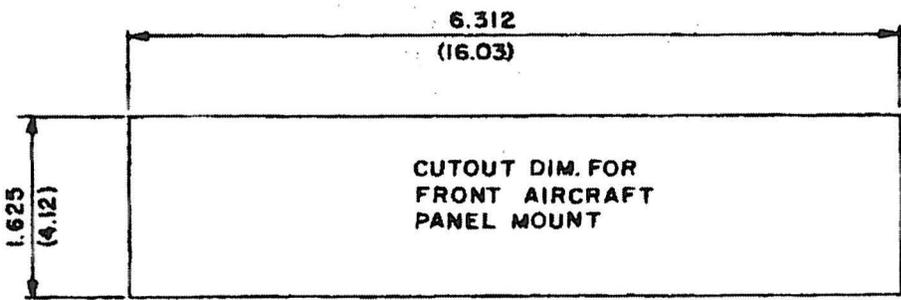


FIGURE 2-4 KT 76/78 OUTLINE AND MOUNTING DRAWING
 (Dwg. No. 155-5095-00 R-1)



NOTES:
1. DIMENSIONS IN PARENTHESIS ARE IN CENTIMETERS.
2. WEIGHT:



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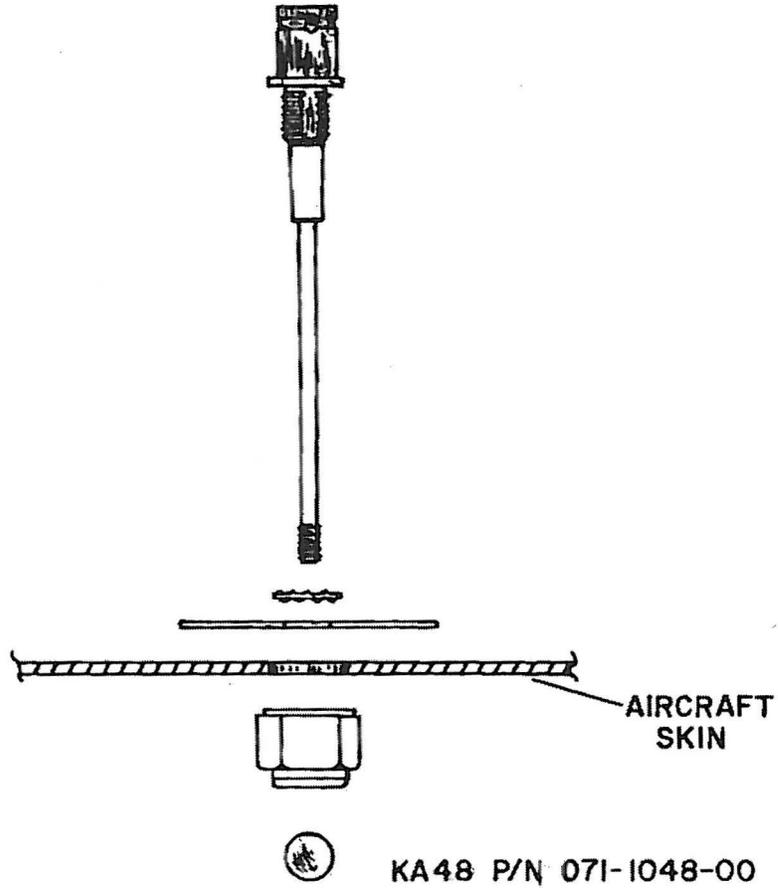
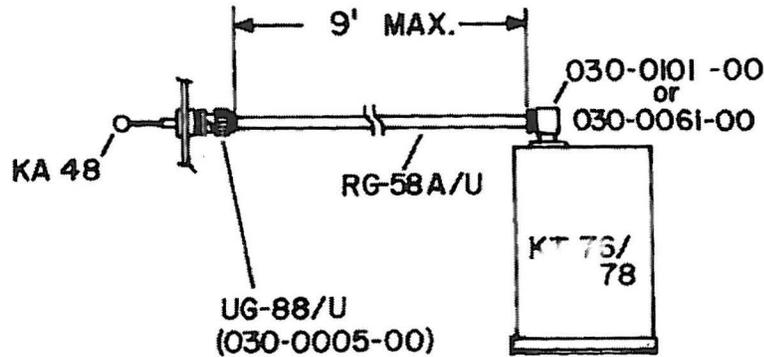


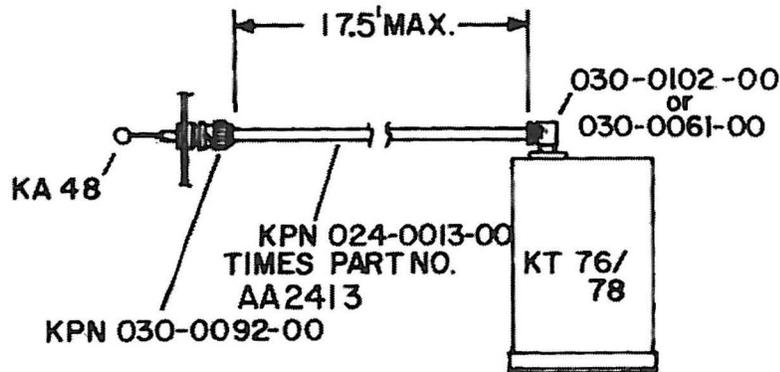
FIGURE 2-5 KA 48 MOUNTING
(Dwg. No. 696-3004-00)


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Configuration #1. for using RG58 cable. The maximum cable length for this installation is 9 feet.



Configuration #2. A maximum cable length of 17.5 feet. All the parts necessary for this installation are contained in the low loss antenna installation kit (050-1253-00).



Configuration #3. for using RG8 cable. The maximum cable length for this installation is 21 feet.

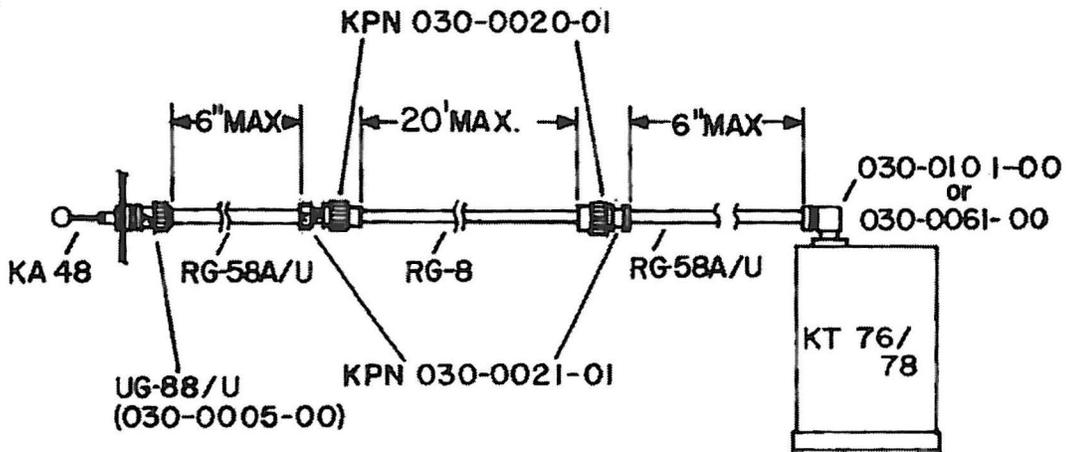
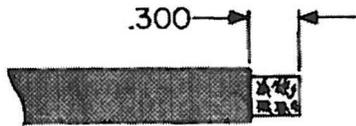
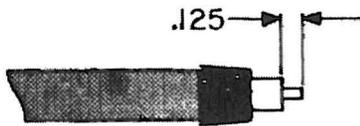


FIGURE 2-6 ACCEPTABLE CABLE CONNECTIONS
 (Dwg. No. 696-3006-00)

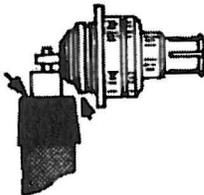
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TRANSPONDER



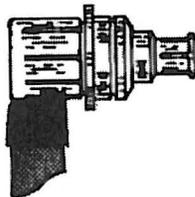
Trim coax cable outer insulation as shown.



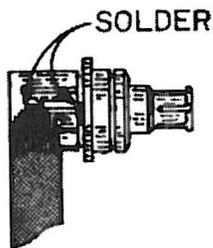
Fold braid back over outer cover of coax.
Do not cross strands.



Solder center conductor to center pin of
connector. Make sure front end of braid
(Point of fold) is even with bottom of con-
nector. (Shown by arrows)



Slide connector cap, with clearance hole in
position to clear dielectric, on to connector
until it snaps in place.



Push braid forward and flatten against con-
nector cap and solder.
Solder tac connector cap to connector in at
least two places to insure good electrical
contact.

—WARNING—

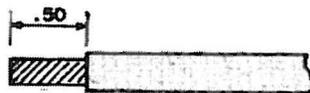
CLOSE ADHERENCE TO THIS PROCEDURE IS NECESSARY
FOR AN INTERFERENCE FREE INSTALLATION.

FIGURE 2-7A 030-0061-00 CONNECTOR ASSEMBLY
Dwg. No. 696-3006-00

KING
KT 76/78
TRANSPONDER

CONNECTOR ASSEMBLY INSTRUCTIONS

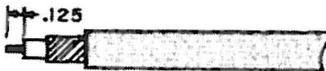
DOCUMENT 006-1058-00, OCT, 1972



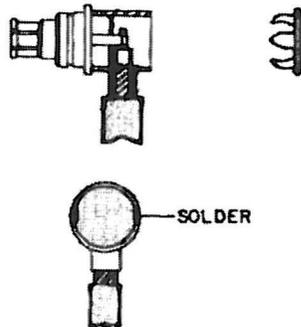
Trim coax outer insulation as shown.



Trim braid but not center conductor or insulation back 0.25".



Strip insulation back 0.125".



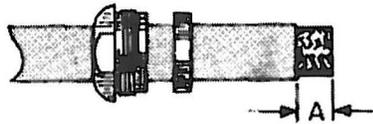
Insert cable through side wall of connector and solder center conductor to center pin of connector. Heat the outside of the connector sleeve and at the same time apply solder between braid and sleeve. Continue to apply heat until the solder flows. Insert connector cap into end of fitting and tack solder in 2 places.

—WARNING—

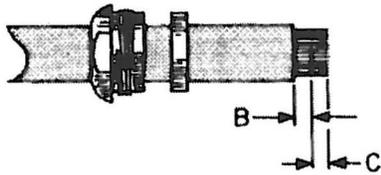
CLOSE ADHERANCE TO THIS PROCEDURE IS NECESSARY
FOR AN INTERFERENCE FREE INSTALLATION.

FIGURE 2-7B 030-0101-00 CONNECTOR ASSEMBLY
(Dwg. No. 066-1058-00)

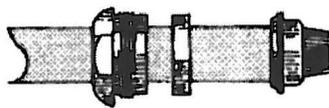

KING
 KT 76/78
 TRANSPONDER



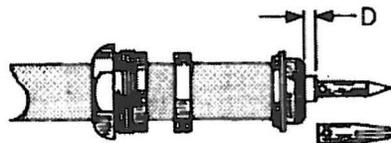
Place nut and gasket over cable and cut jacket to dimension shown.



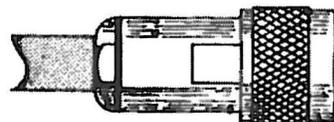
Comb out braid and fold out. Cut cable dielectric to dimension shown. Tin center conductor.



Pull braid wires forward and taper toward center conductor. Place clamp over braid and push back against cable jacket.



Fold back braid wires as shown, trim to proper length (D) and form over clamp as shown. Solder contact to center conductor.



Insert cable and parts into connector body. Make sure sharp edge of clamp seats properly in gasket. Tighten nut.

EXAMPLE

| KPN | SIZE RG/U CABLE | DIMENSIONS | | | |
|-------------|--------------------|------------|-----|------|------|
| | | A | B | C | D |
| 030-0020-01 | 8 | 9/32 | 1/8 | 5/32 | 3/64 |
| 030-0021-01 | 58 | 9/32 | 1/8 | 5/32 | 3/64 |

FIGURE 2-8 TYPE "N" AND "C" CONNECTOR ASSEMBLY
(Dwg. No. 696-3007-00)

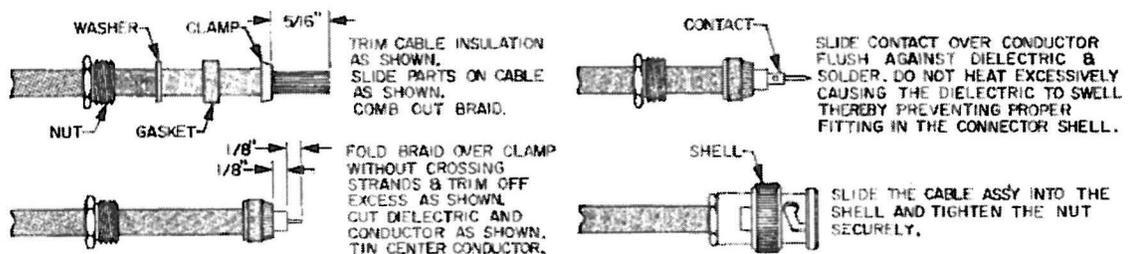


FIGURE 2-9 030-0005-00 CONNECTOR ASSEMBLY
(Dwg. No. 696-3008-00)


KING
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TRANSPONDER

SECTION III
OPERATION

3.1 NORMAL OPERATION

The transponder is turned on by rotating the function selector from the off position to any other position.

--NOTE--

The KT 76/78 should be turned off
before starting aircraft engine(s).

After being turned on there is a 30 second delay before the unit becomes functional. This is to permit the transmitter tube to warm-up and stabilize. Usually the function switch will be rotated to the "standby" position, however, any operative position will initiate the time delay turn on. Any time that the function switch is in the "ON" or "ALT" position the transponder becomes an active part of the beacon system. It is undesirable from a systems view point to be operating (function selector in either of these positions) while on the ground, taxiing, or running up at a terminal with a co-located beacon interrogator. Attention should be paid to the code selected on the control head. The selected code should be in accordance with instructions for IFR flight or rules applicable to transponder utilization for VFR flight.

--NOTE--

Never activate the transponder with
either Code 0000, 7700 or 7777 sel-
ected on the control head. Code 7700
is selected for emergencies.

During normal transponder operation, a flashing lamp is an indication of a transmitted reply. An interrogation will normally be at 10 - 15 seconds intervals. Lamp flashes within this interval may be from noise, a second or third interrogator, or from side lobes from interrogators without side lobe suppression.

"ON" function will be the customary mode of operation. If an altitude digitizer is part of the system then "ALT" function will be selected if altitude reporting is requested by traffic control. "ALT" function enables the transponder to encode an altitude reply.

The IDENT feature is used at the request of the traffic controller. The IDENT button is depressed momentarily and then released. A memory holds the IDENT reply for an interval to assure the proper reply for at least one radar sweep. This memory also turns the reply lamp on steady as an indication of the ident function.

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- NOTE -

Consult the airport/facility directory section of the Airmans Information Manual for the location of radar beacons. Air traffic control radar beacon system (ATCRBS) Description: AIM, Section I. Radar beacon procedures: AIM, Section II.

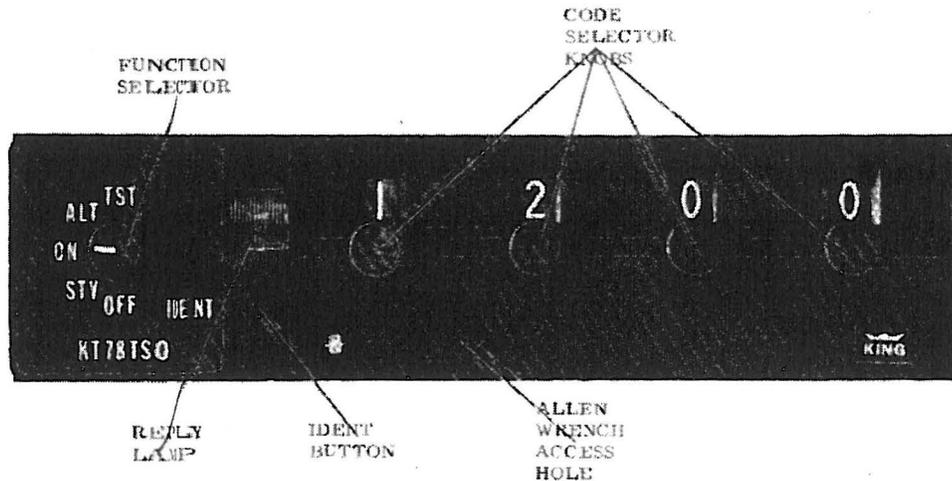


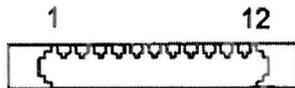
FIGURE 3-1 KT 76/78 TRANSPONDER CONTROLS
(Dwg. No. 696-3009-00)

Index by Type
Index by Mfr
Home

Transponder

KING
KT 76/ 78

Connector



| Circuit | Pin # | Notes |
|------------------------|-------|--------|
| 13.75 VOLT INPUT | 5 | |
| 14 VOLT DIMMER | 11 | Note 1 |
| A1 | 6 | |
| A2 | 7 | |
| A4 | 9 | |
| B1 | 4 | |
| B2 | 1 | |
| B4 | 2 | |
| C1 | 3 | |
| C2 | 8 | |
| C4 | 10 | |
| GROUND | 12 | |

Notes

- 1. Internally set with jumpers behind face plate.

For familiarization only. Consult the manufacturers current data.