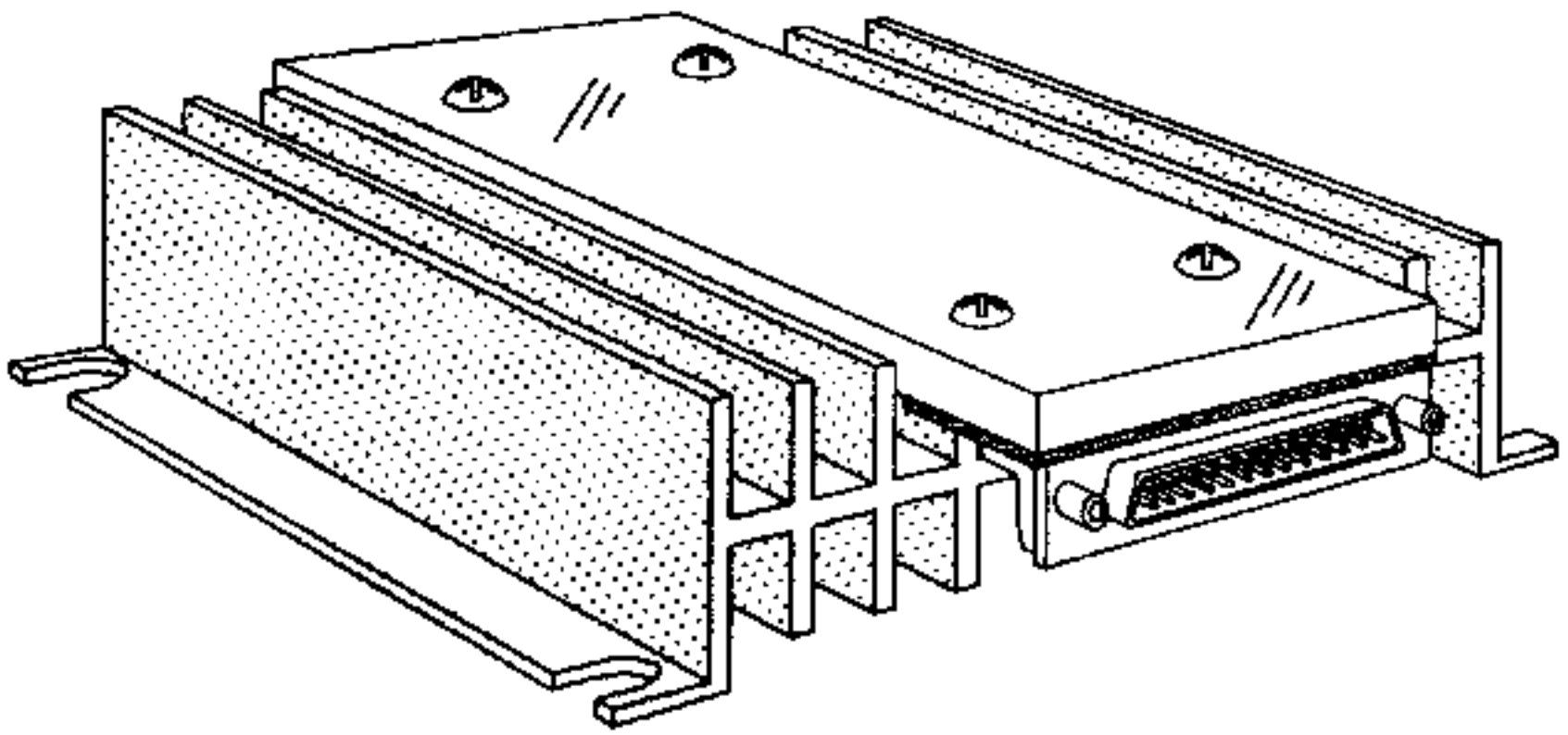
CLA 500

Multiple Circuit - Solid State
Cockpit Lighting Assembly



Installation/Owner's Manual

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1.1 INTRODUCTION

This manual provides information relative to physical, mechanical and electrical characteristics of the CLA 500 Cockpit Lighting Assembly. Follow the procedures outlined in this manual for successful installation and designed performance.

1.2 DESCRIPTION OF EQUIPMENT

The CLA 500 is a remotely mounted solid state electronic aircraft dimmer assembly providing four (4) independent light dimming outputs. Each circuit is controlled by a potentiometer and switch combination that can be mounted in convenient locations on the aircraft panel.

1.3 PARTS SUPPLIED

(1) CLA 500 Cockpit Lighting Unit P/N 805000
(1) P1 Connector & Hood Assembly P/N 550045
(4) Dimming Potentiometer & Switch P/N 501016
(30) Contact Terminal (crimp type) P/N 550062
(1) Installation/Owners Manual P/N 701026
(1) Products Warranty Registration Form

1.4 UNIT OPERATION

When the CLA 500 installation has been completed a functional test can be performed. Each dimmer control potentiometer has an on/off switch. To activate dimmer circuit, rotate the potentiometer switch clockwise to the right just out of the detent "off" position and continue to rotate clockwise until the desired dimming level has been achieved. To turn off the dimmer circuit, turn the potentiometer switch counterclockwise until a "click" is felt as the detent "off" position is reached.

Unless dimmer operation is required, leaving the dimmer control potentiometer in the off "detent" position will reduce heat generation and current load on the aircraft electrical system.

1.5 INSTALLATION INFORMATION

The CLA 500 Cockpit Lighting Assembly will operate on either 14 or 28 volts DC with a load limit of 2.5 amps per individual circuit not to exceed a 5 amp combined all circuit total.

Total current load per circuit can be determined from the bulb manufacturers published book values.

EXAMPLE: A General Electric lamp number 327 is designed for 28 vdc operation and rated at .04 amps each. Twenty-five of these lamps would require 1 amp at 28 vdc to sustain full brilliance. A General Electric lamp number 330 (14 vdc) would require twice the current (2 amps) to operate the same number of lamps.

Different dimming circuits such as flight instruments, avionics, post, engine will have varied current requirements. Determine the total current used by all dimming circuits, this total must not exceed 5 amps.

The CLA 500 Cockpit Lighting Assembly will become quite hot during normal operation. Mount the CLA 500 firmly on a metal surface in a location that will provide sufficient airspace for proper convection cooling.

Composite aircraft lacking a metal surface to mount the CLA 500 on will require fabrication of a metal standoff. This will help aid in the dissipation of any excess heat generated during operation.

Do not mount the CLA 500 in a location where the thermal conduction would affect integrity of other equipment.

Consideration must be given when determining a location for mounting the CLA 500 to ensure that crew and passengers will not come in contact with the hot unit.

1.6 HARNESS FABRICATION

Select a location for mounting the CLA 500 and associated dimming control potentiometer and switch for each circuit to be used. Determine the wire lengths necessary to reach between each dimming control potentiometer and the CLA 500 and cut those wires to the required lengths. Strip both ends of these wires and crimp on a contact terminal to one end. Route this wire through the one piece hood and then insert into connector P1 as required. Solder and heatshrink the other end of the wires to the appropriate eyelet on the dimming control potentiometers as shown on the CLA 500 wiring diagram. Thumb jack screws are installed by pressing down into the one piece hood.

Tools (or equivalent types) used for installation are:

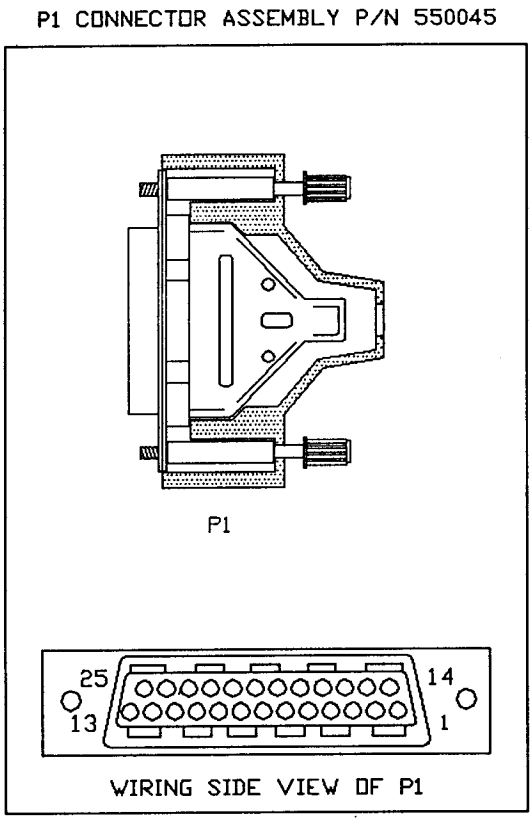
Crimper Tool - AMP 58448-2
Extractor Tool - AMP 91285-1
Contact Terminal- AMP 5-66504-6 or
5-66504-6

Wire type 22 AWG, Aircraft Quality, Tinned and Stranded.

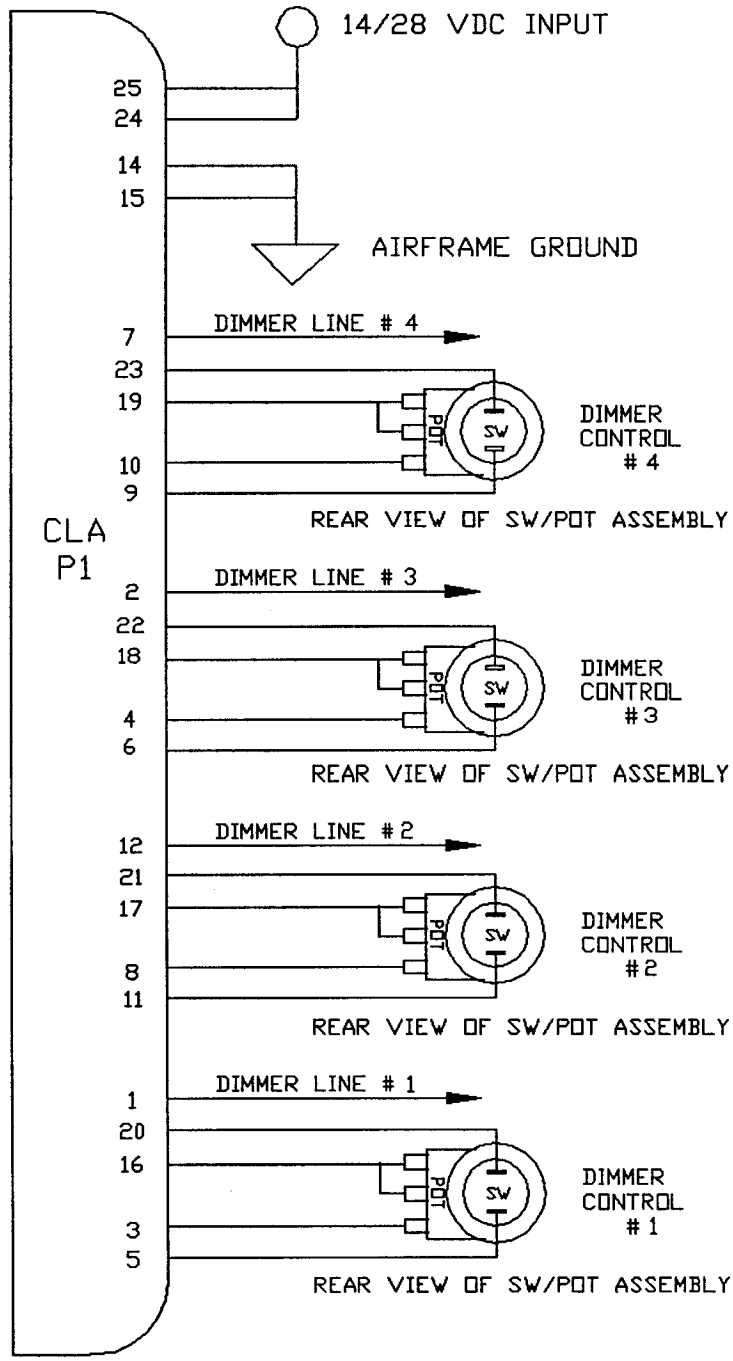
The CLA 500 requires a 7 amp circuit breaker for circuit protection from the aircraft electrical buss.

The CLA 500 will brighten each lamp circuit as the dimming potentiometer is rotated clockwise wired as shown on page 1-4. Reversing the wires 19 and 10, 18 and 4, 17 and 8, 16 and 3 shown on the wiring diagram will give the opposite dimming effect if desired.

The total weight of the CLA 500 (1.0 lb.) represents the combination of wire, hardware, dimming potentiometer and switch assemblies used for the installation.



NOTE: CONNECTOR P1 HAS NUMBERS STAMPED BY EACH INSERTION HOLE TO ASSIST IN WIRING.



Wiring Interconnect Diagram

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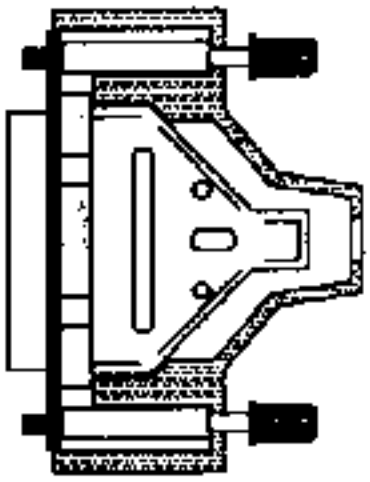
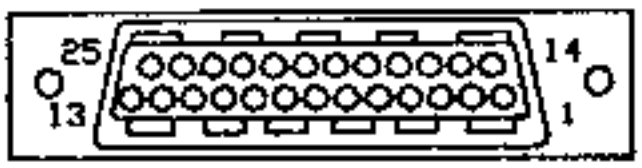
P1 CONNECTOR ASSEMBLY P/N 550045

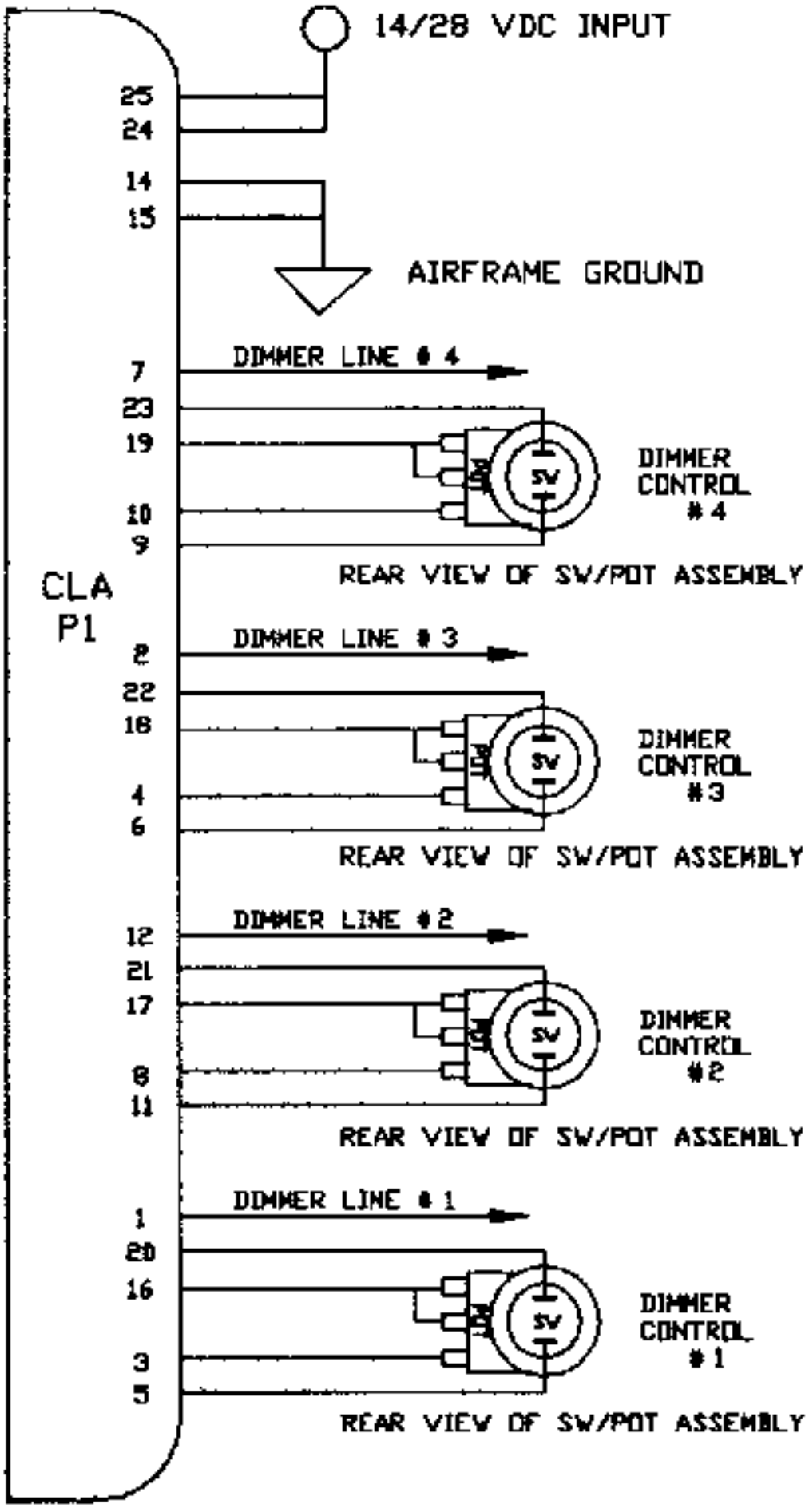


P1

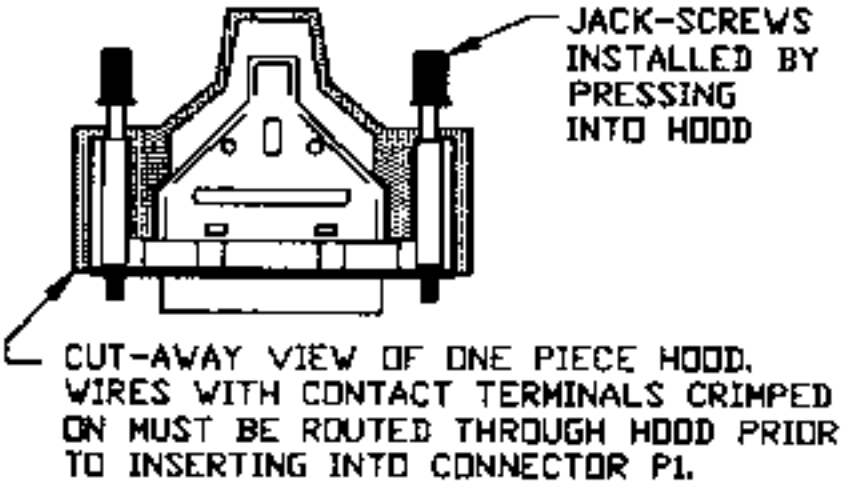


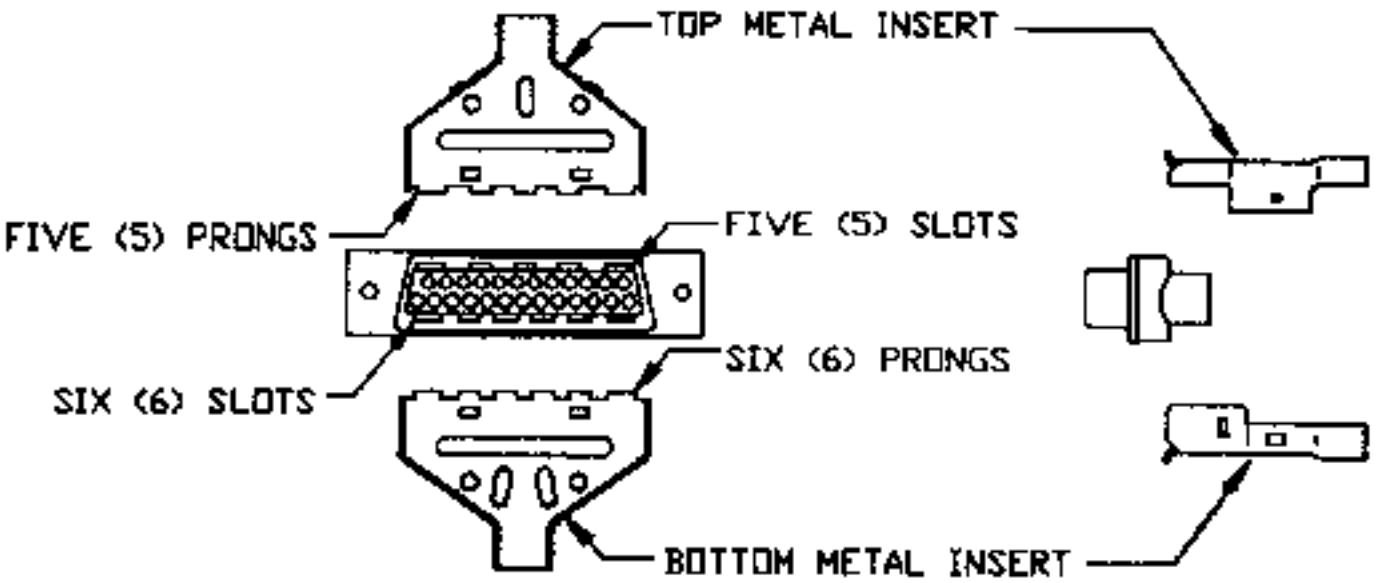
WIRING SIDE VIEW OF P1

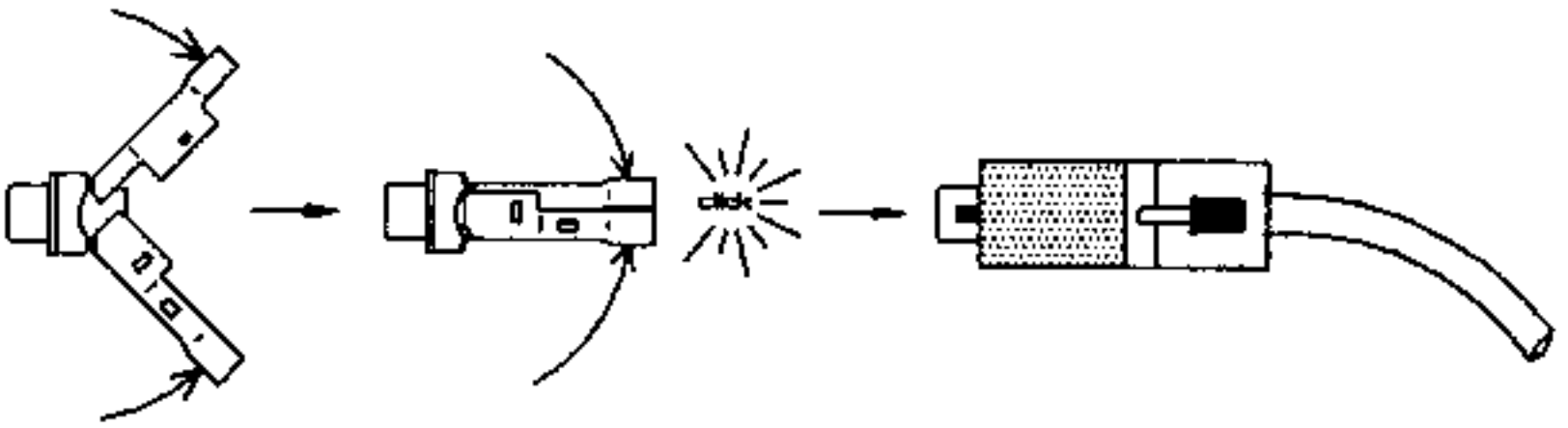
NOTE: CONNECTOR P1 HAS NUMBERS STAMPED BY EACH INSERTION HOLE TO ASSIST IN WIRING.



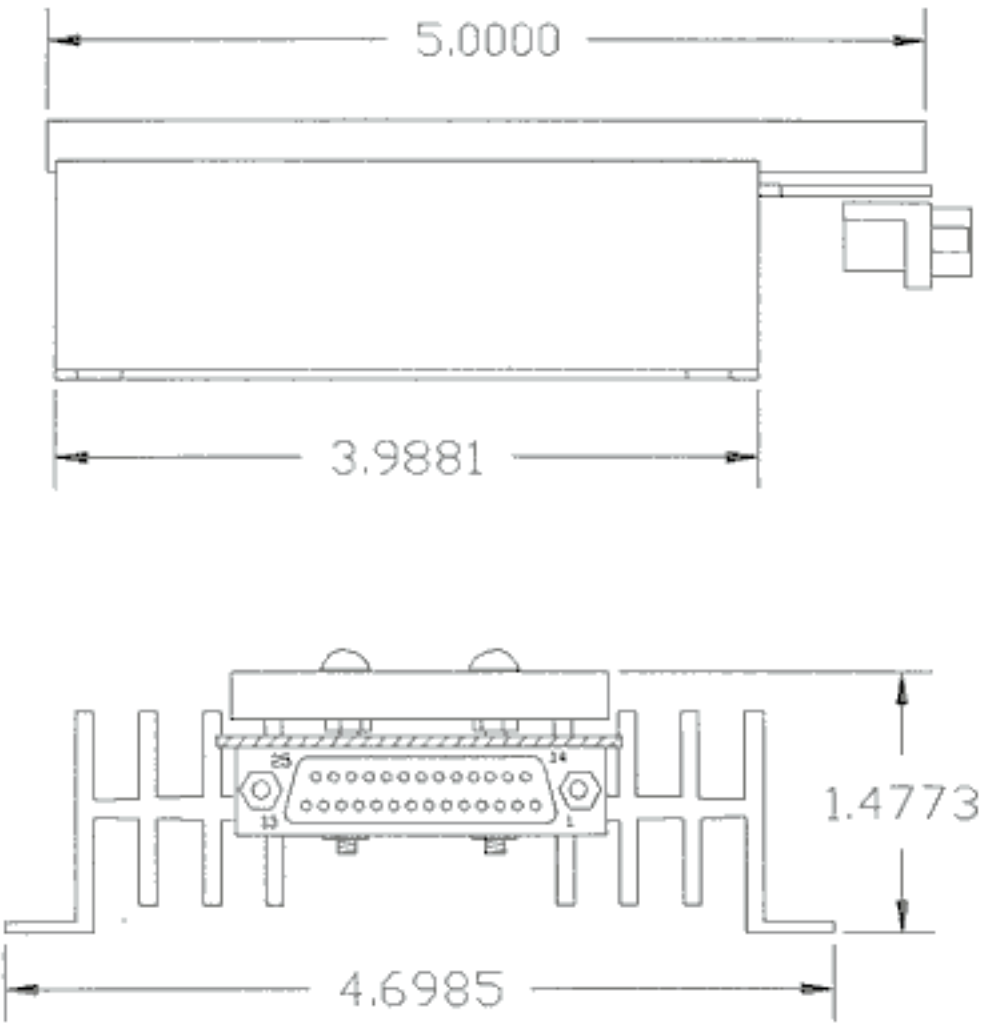
Wiring Interconnect Diagram


JACK-SCREWS INSTALLED BY PRESSING INTO HOOD
CUT-AWAY VIEW OF ONE PIECE HOOD. WIRES WITH CONTACT TERMINALS CRIMPED ON MUST BE ROUTED THROUGH HOOD PRIOR TO INSERTING INTO CONNECTOR P1.


TOP METAL INSERT
FIVE (5) PRONGS
FIVE (5) SLOTS
SIX (6) SLOTS
SIX (6) PRONGS
BOTTOM METAL INSERT


click

P1 Assembly



Outline and Dimensions

The equipment delivered with this Standard Factory Warranty is manufactured by VAL AVIONICS, LTD. and is guaranteed against defective materials and workmanship for one year from date of original retail purchase. Any unit found to be defective due to material and workmanship during the warranty period will be repaired and put in original manufactured operating condition. Any labor charges that are incurred as of said defects are included in this warranty.

VAL AVIONICS, LTD's liability under this warranty is limited to servicing, repairing or adjusting any equipment returned prepaid to VAL AVIONICS, LTD. factory by express written or verbal authorization for that purpose and to repair or replace defective parts thereof.

If, upon examination, it is determined that a malfunction has been caused by misuse of the equipment, installation or operation not in accordance with factory instructions, accident or negligent damage, alterations of any manner and repair by other than the factory, the repairs will be billed at costs. In such cases, an estimate will be submitted for approval before repair in initiated.

In most cases, VAL AVIONICS, LTD. will provide 48 hour turn around on it's warranty and repair service. We recommend that contact be made with the FACTORY CUSTOMER SERVICE DEPARTMENT prior to any unit return and obtain RETURN AUTHORIZATION and instructions. This will provide proper control and expedite service.

VAL AVIONICS, LTD. reserves the right of continuous product development without obligation to install changes in previously manufactured products.

To ensure proper warranty registration, type or print clearly the applicable information on the enclosed PRODUCTS WARRANTY REGISTRATION FORM and return to VAL AVIONICS, LTD.

UPS ADDRESS:

VAL AVIONICS, LTD.
3280 25TH STREET S.E.
SALEM, OREGON 97302

MAIL ADDRESS:

VAL AVIONICS, LTD.
P.O. BOX 13025
SALEM, OREGON 97309-1025

TELEPHONE (503) 370-9429

VAL®

PRODUCTS WARRANTY REGISTRATION FORM

(Fill in as appropriate and return)

OWNER'S NAME

ADDRESS

CITY STATE ZIP

TELEPHONE - INSTALL DATE MO DY YR

INSTALLED BY

AIRCRAFT INFO YEAR MANUFACTURER MODEL REGISTRATION #

SERIAL NUMBER DATA

COM 760

ILS 400

VMT 100

VC 760 CLA 500

BASE STATION 7600

INTERCOM MODULE

WHERE DID YOU FIRST LEARN ABOUT OUR PRODUCTS ?

- ☐ PERSONAL REFERRAL
- ☐ AVIONICS SHOP
- ☐ AIR/TRADE SHOW
- ☐ MAGAZINE ADD IN
- ☐ OTHER

COMMENTS

VAL AVIONICS, LTD. - P.O. BOX 13025 - SALEM, OREGON USA 97309-1025 (503) 370-9429