

SOCKET TRAY

Operations Manual



Version 1.0

AcraDyne

A SUBSIDIARY OF AiMCO

D.C Nutrunners • Torque Measurement & Audit Equipment • Articulating Arms • Assembly Systems

INTRODUCTION



FIGURE 1: Picture of AcraDyne eight-position socket tray.

The eight-position socket tray produced by AcraDyne is an accessory used in conjunction with the Evolution series of DC electric nutrunning equipment. The socket tray allows the user to associate a socket position with a particular control strategy. The functionality of the socket tray can be customized via ToolWare.

INSTALLATION

The socket tray comes with eight lexan socket holders. The socket holder must be drilled to accommodate the desired socket. Of the eight supplied socket holders, three are designed to hold larger sockets while five are designed to hold smaller sockets. The small socket holder can accommodate a socket with maximum outside diameter of 1.00 inch, while the large socket holder can accommodate a socket with maximum outside diameter of 1.87 inches. The socket holder must be drilled to a depth of at least 0.50 inches below the surface for proper socket detection.

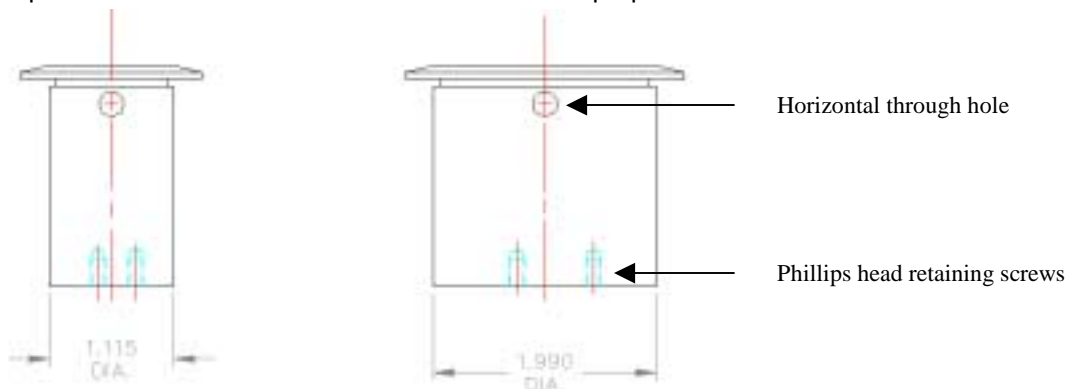


FIGURE 2: Drawing of large socket holder (Part # 21213) and small socket holder (Part # 21212).

Socket holders are retained via two Phillips head screws located on the bottom of the socket tray. The Phillips screws ensure the alignment of the horizontal through hole to the thru-beam sensor. When installed properly the horizontal through hole in the socket holder should run from the 11 o'clock to 5 o'clock position.

OPERATION

The socket tray is connected to the system via the CAN interface cable (Part # 20403). Once connected, the socket tray will run through a test procedure which will test all socket tray led's. When connected the socket tray will select the parameter set corresponding to the socket position. Therefore, if the socket in the left-most position is removed, parameter set one will be selected in the controller. If the socket in the right-most position is selected, parameter set eight will be selected.

As mentioned in the Introduction, the operation of the socket tray can be customized. Customization includes advanced functions such as bolt counting and tool disabling. In order to take advantage of these features please contact your local salesman. Customization is performed via ToolWare, a Windows based PC software package that is used to program, diagnose and customize the Evolution nutrunning system.

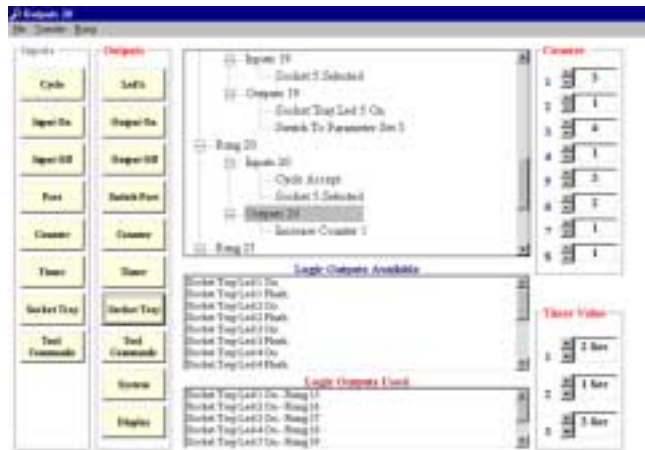


FIGURE 3: Example of programming socket tray via ToolWare.

NOTE: When a socket tray is used in conjunction with a controller produced before May 1, 2001, it may be necessary to upgrade the operational software for full system compatibility.

TROUBLESHOOTING

In rare instances, it may be necessary to adjust the sensitivity of the socket tray detection device. Before performing this procedure insure there are no foreign objects which may be obstructing the thru-beam sensor. Also, insure that the socket holder is installed in the correct orientation as described in the Installation section. Under normal operating conditions, if a socket is removed, and all other sockets are in place, then the led's corresponding to that socket should illuminate. If the lights either fail to go on upon removal of the socket or fail to go off upon reinsertion of the socket then it is necessary to adjust the sensitivity.

NOTE: If none of the sockets function properly it is most likely a programming error.

To adjust the sensitivity it is necessary to remove the bottom plate of the socket tray. Once this is accomplished you will have access to the potentiometers that are used to adjust sensitivity. The potentiometers are labeled one thru eight, thus corresponding to socket positions one thru eight. By turning the potentiometer clockwise the sensitivity is decreased, by rotating counter clockwise the sensitivity is increased. A graphic example of the potentiometer is shown below.

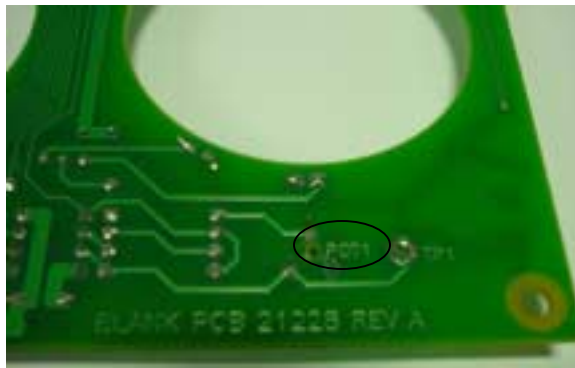


FIGURE 4: Socket Tray board with potentiometer for adjusting socket one circled.