A&E
4655 Aircenter Circle
Reno, Nevada 89502-5948 USA
Tel: +1-775-826-2020
Fax: +1-775-826-9191
www.renoae.com
contact@renoae.com

ISO 9001 REGISTERED
Since 2000

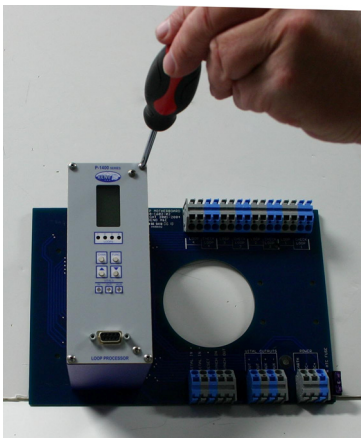
Model P-1400 Microcontroller Replacement Instructions

These instructions outline the steps that should be followed when replacing the Central Processing Unit (hereafter referred to as a microcontroller) in a Reno A&E Model P-1400 inductive loop vehicle detector. In most cases, a microcontroller will only need to be replaced to upgrade the detector firmware because changes have been made to correct defects or add enhanced features.

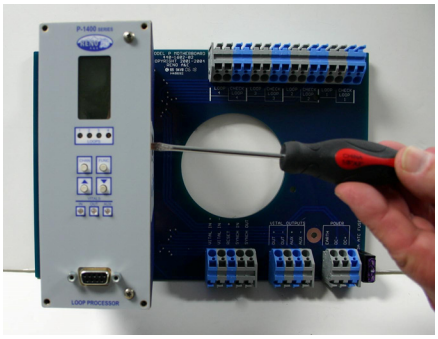
Please note that it is essential to take all precautions necessary to avoid damage to the microcontroller when replacing it. The two most common causes of damage to this type of component are the result of improper handling. When handling the microcontroller, make certain not to bend or break any of the pins. Furthermore, adherence to generally accepted practices intended to eliminate damage due to electrostatic discharge (ESD) is critical. When handling the microcontroller, make certain you are grounded with a wrist strap. All work related to the replacement of the microcontroller should be performed on a work surface made of a static-dissipative material that is connected to an ESD ground.

Step 1: Remove power from the detector.

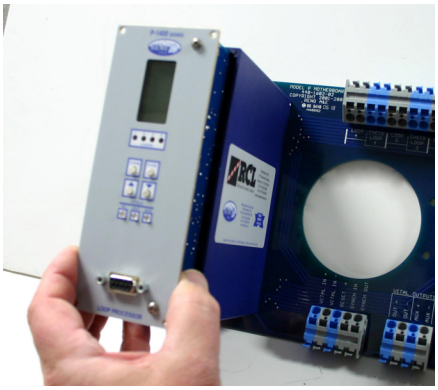
Step 2: Use a #1 Phillips screwdriver to remove the four (4) screws and washers securing the front panel.



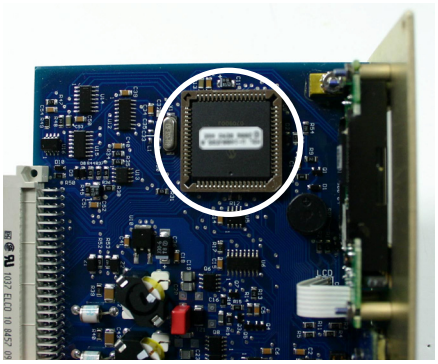
Step 3: Insert the end of the small, flat bladed screwdriver between the front panel and the detector hosing. Carefully twist the screwdriver to pry the front panel away from the detector housing. To avoid damaging the detector PC board, do not insert the screwdriver more than 0.125 inch.



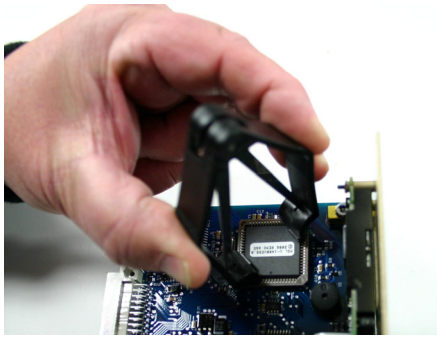
Step 4: Remove the front panel / PC board assembly from the detector housing.



Step 5: Remove the microcontroller, located near the upper right corner of the PC board. To avoid damaging the microcontroller socket, it is strongly recommended that a tool designed for this purpose is used.

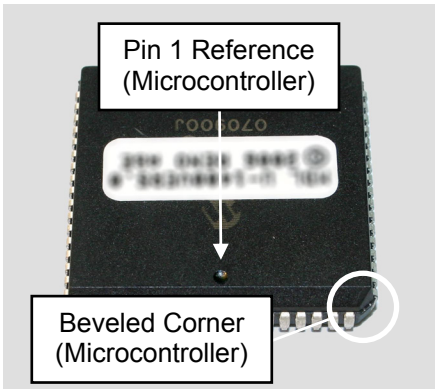


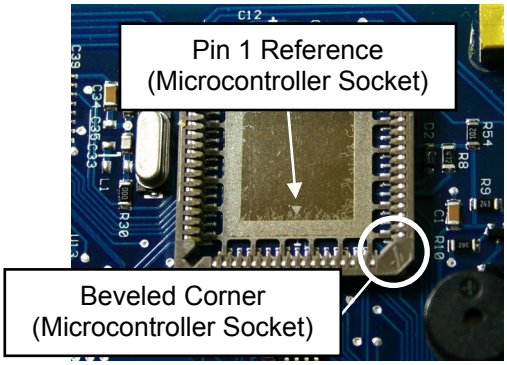
Microcontroller Location



OK Industries Model EX-5
PLCC Extraction Tool

Step 6: Insert the new microcontroller into the microcontroller socket. Note the location of Pin 1 and the beveled corner of the microcontroller and microcontroller socket. Make certain that all pins are fully engaged and that the microcontroller is firmly seated in the microcontroller socket.





Step 7: Reassemble the detector. Align the top and bottom edges of the PC board with the guide slots on the inside of the detector housing and slide the front panel / PC board assembly into the detector housing. When fully inserted, make certain that the card edge connector is fully engaged and replace the four (4) screws and washers. Do not over tighten the screws.