

Installation Instructions for Digital Board EPROM Kit 300-4721

GENERAL INFORMATION

The following instructions are for installation of the EPROM kit onto generator sets equipped with the PowerCommand® Control (PCC). The EPROM is located on the Digital board (A32) inside the control box (Figure 1).

There are two styles of sockets that are used to mount the EPROM (cam or friction fit). The process to remove and replace the EPROM for both socket styles, is provided in this instruction sheet.

Dependent on the version level of the EPROM, additional features may be provided, such as Idle Speed control, History menu (records and displays up to 20 error messages), etc.. Refer to the *Service* and *Operator's* Manuals, which describe the menu selections and features provided with this version level. Also, note that all previous menu selections (Setup and Calibration Menus and etc.) should not be affected by the installation of the EPROM.

Before servicing the PCC, all settings should be recorded. This will enable correct and complete readjustment of the PCC in the event that previous entries are lost during servicing.

Read these installation instructions completely to become familiar with safety warnings, cautions and installation procedure before starting.

Special Tools Required

- Wrist strap with grounding clip

⚠ WARNING *Arcing at battery terminals, arcing in light switch or other equipment, flame, pilot lights and sparks can ignite battery gas causing severe personal injury.*

Ventilate battery area before working on or near battery—Wear safety glasses—Do not smoke—Switch trouble light ON or OFF away from battery—Stop genset and disconnect charger before disconnecting battery cables—Disconnect negative (–) cable first and reconnect last.

⚠ CAUTION *Disconnect battery charger from AC source before disconnecting battery cables. Otherwise, disconnecting cables can result in voltage spikes damaging to DC control circuits of the set.*

⚠ WARNING *Accidental starting of the generator set while working on it can cause severe personal injury or death. Prevent accidental starting by disconnecting the negative (–) cable from the battery terminal.*

⚠ DANGER *Hazardous voltage will cause severe personal injury or death. Disconnect all electrical supply sources before opening the generator output box, control panels, or performing any service work.*

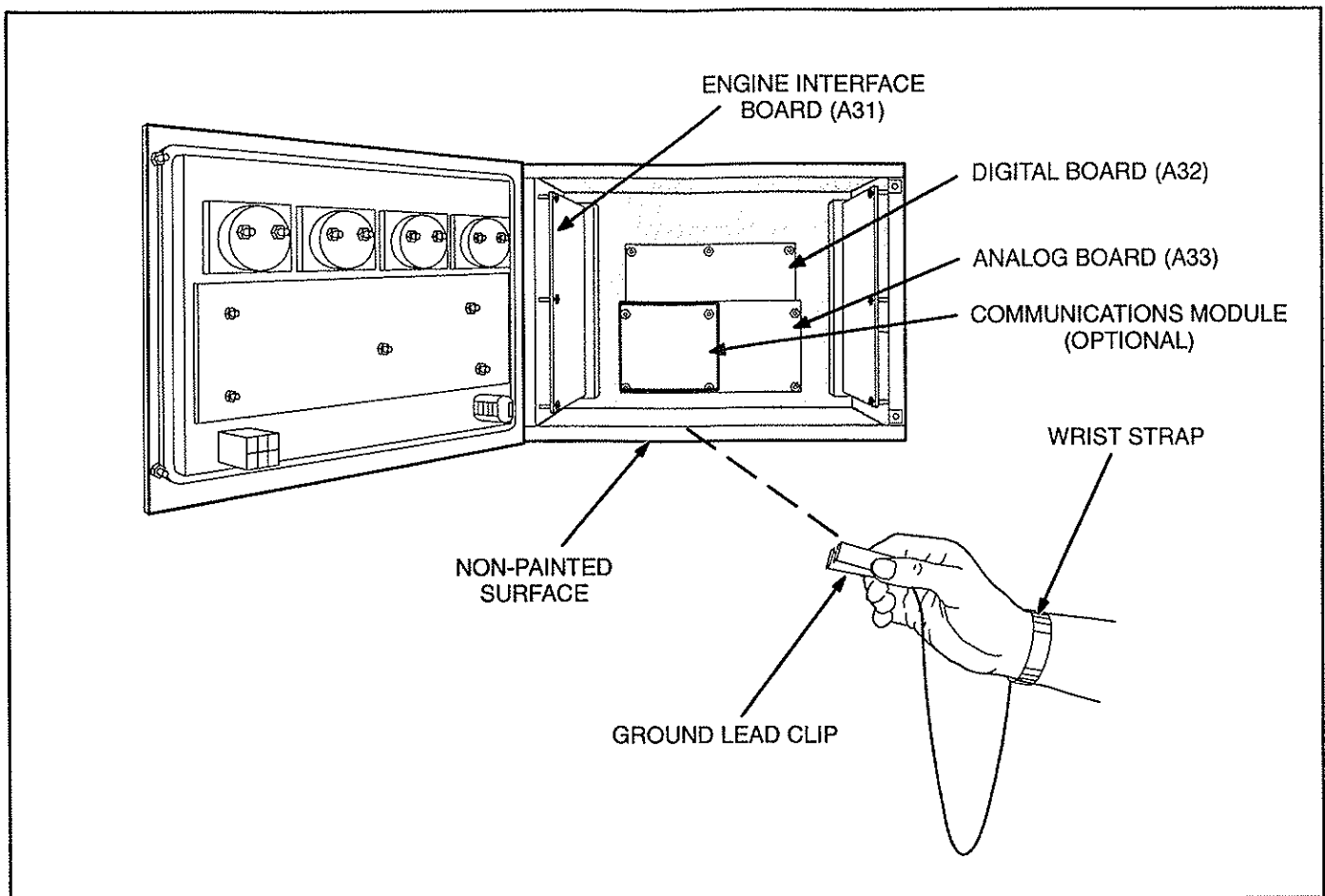


FIGURE 1. WRIST STRAP

Circuit Board Handling Precautions

To prevent circuit board damage due to electrostatic discharge (ESD), a wrist strap must be worn when handling circuit boards or socket-mounted IC's. (The wrist strap **does not** provide a direct short to ground, it is typically rated at approximately 1 megohm to ground.)

Attach the clip to a non-painted surface of the control box (see Figure 1) and place the strap

around your wrist before handling a circuit board.

Place the circuit board on a static free surface (such as the inside base of the control box). ESD can occur if the circuit board is placed on any other types of surfaces.

CAUTION *Electrostatic discharge will damage circuit boards. To prevent this damage, always wear a wrist strap when handling circuit boards or socket-mounted IC's and place the circuit board on an antistatic surface.*

INSTALLING EPROM

1. Place the genset Start/Stop/Remote switch to the Stop position.
2. Disconnect the battery charger (if applicable). Remove all electrical supply sources.
3. Disconnect the negative (–) cable(s) from the battery to prevent accidental starting.
4. Open the control box door.
5. Wear a wrist strap and connect the ground lead clip of the wrist strap to the control box as shown in Figure 1.

If the control box contains a communications module (Figure 1), continue with Step 6. If a communications module is not installed, proceed to Step 7.

6. Remove the four screws that secure the optional communications module. The module can be moved to the left-hand side of the cabinet to access the Analog board without removing the cable connections.
7. Remove the six screws (four standoffs and two screws if communications module is installed) that secure the Analog board.

It is not necessary to remove the Analog board cable connections to access the EPROM. The board can be supported (held upward) with the cables attached, to allow removal and installation of the EPROM.

8. *Removal* – Note position of EPROM in socket before removing (notch is at the top of socket).

CAM Socket: Remove the EPROM from the Digital board (Figure 2). Turn the socket screw,

located above the EPROM, 1/4 turn counterclockwise to unlock the EPROM from the socket.

Friction Fit Socket: Remove the EPROM from the Digital board (Figure 3). Use the IC extractor tool (kit provided) to remove the EPROM. Lift it out using a gentle prying technique.

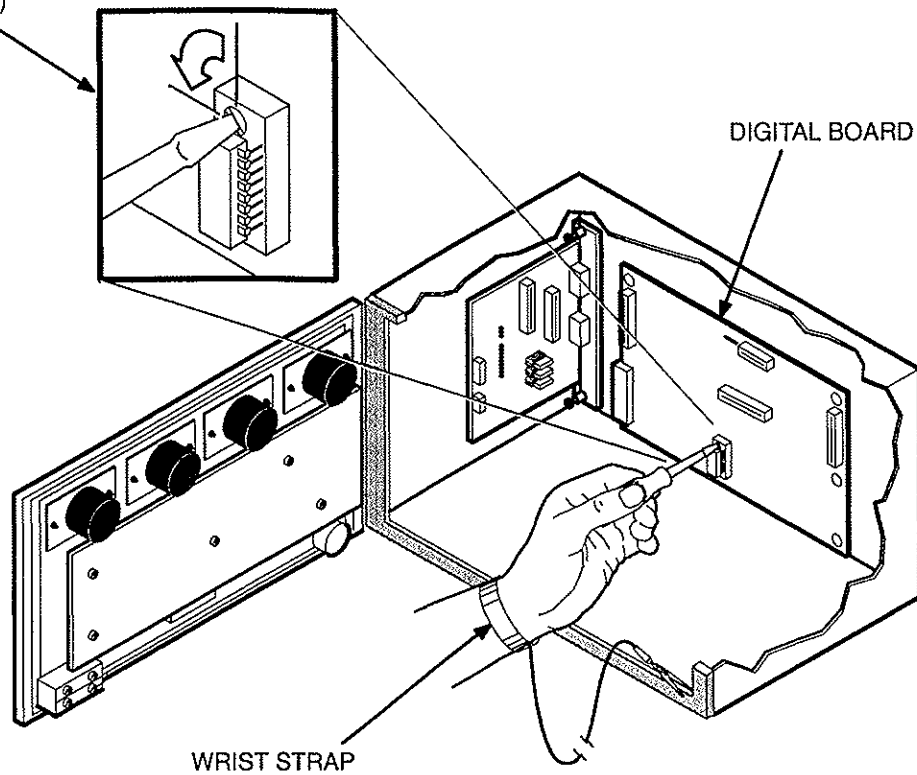
9. *Installation* – Install the new EPROM with the notch of the EPROM located at the top of the socket.

CAM Socket: Hold the EPROM in place and then turn the socket screw 1/4 turn clockwise to secure the EPROM in the socket.

Friction Fit Socket: Make sure that all leads are inserted in the socket and that the leads are kept straight during installation. Also, make sure that the leads are fully seated after installation.

10. Secure the Analog board to the Digital board, using the hardware that was removed in Step 7.
11. Install the communications module (if provided) and secure it to the Analog board, using the hardware that was removed in Step 6.
12. Close the control box door.
13. Connect the negative (–) cable(s) to the battery.
14. Connect the battery charger (If applicable).
15. Make sure all previous and new menu selections are correct for this installation. Refer to *Service* manual.

UNLOCK EPROM (1/4 TURN
COUNTERCLOCKWISE)



LOCK EPROM (1/4
TURN CLOCKWISE)

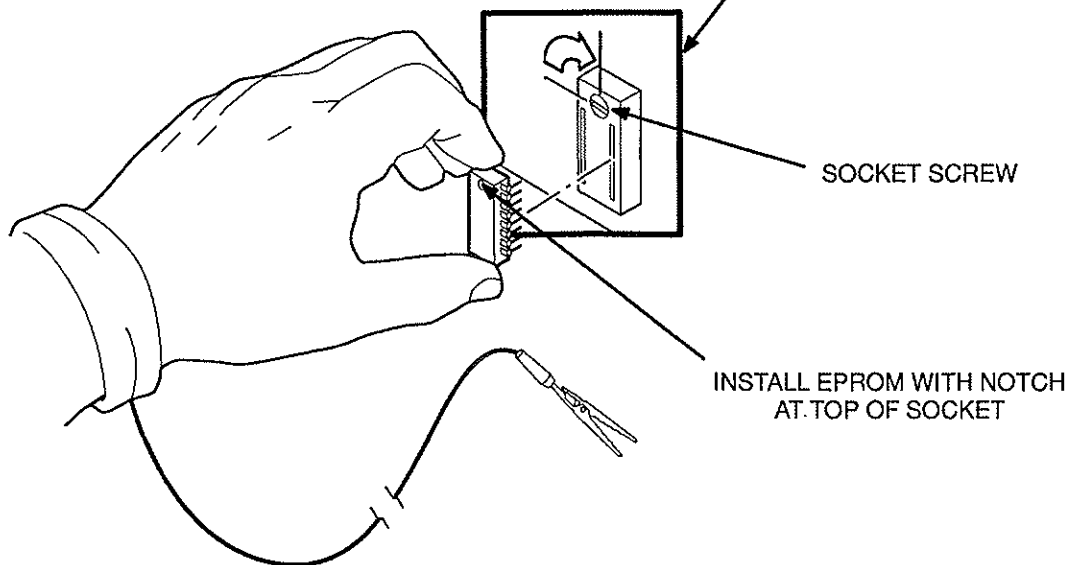


FIGURE 2. CAM SOCKET

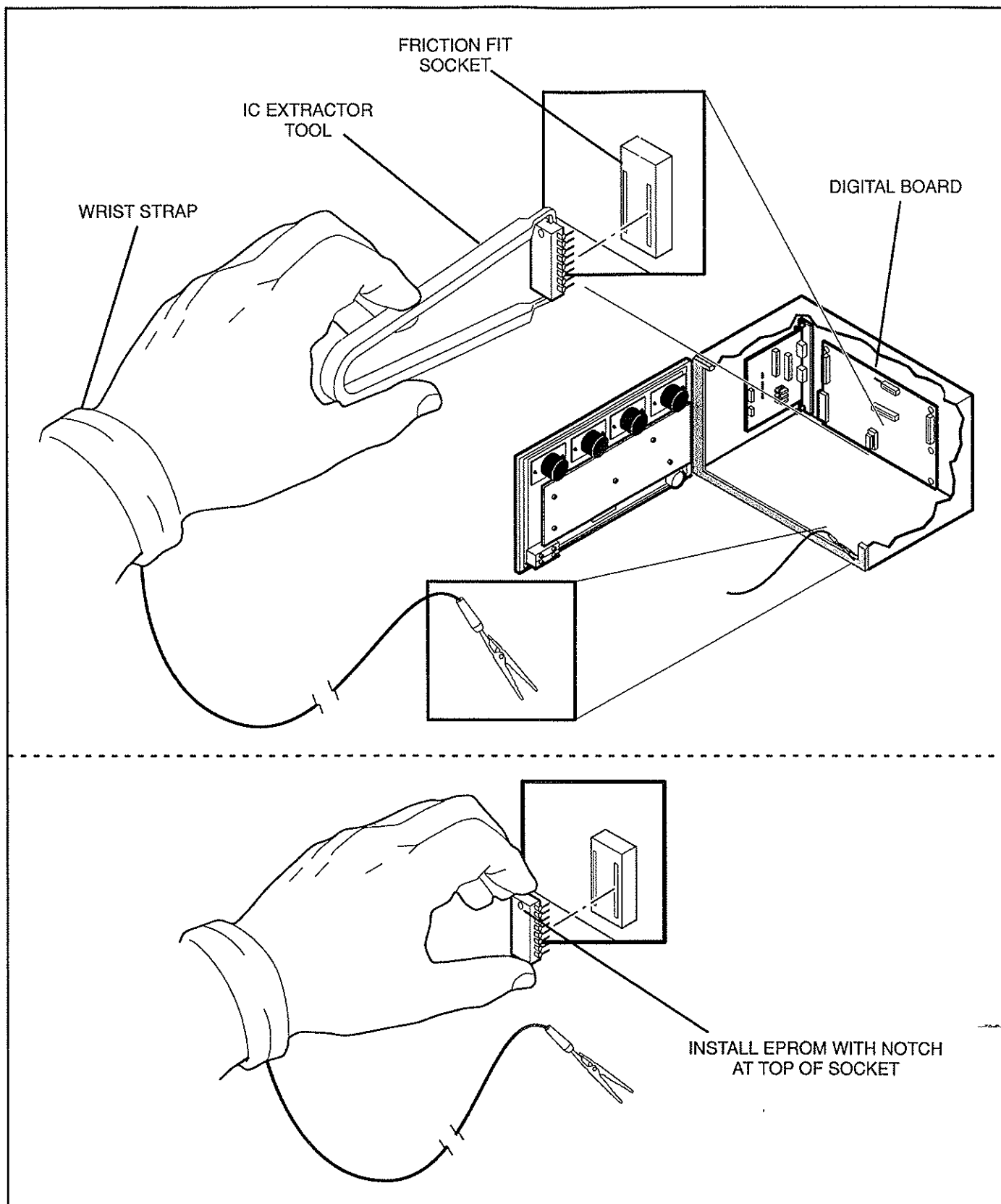


FIGURE 3. FRICTION FIT SOCKET

MANUFACTURER'S LIMITED WARRANTY

POWERCOMMAND® NETWORK

COVERAGE PERIOD

Provided goods are operated and maintained with Onan's written instructions, Onan warrants that the PowerCommand network will be free from defects in material and workmanship for the same warranty period as applied to the associated generator set*.

PowerCommand network components bought as an accessory, are warranted for ninety (90) days from the date of installation/start-up.

PowerCommand network retrofit kits (PowerCommand control, with network components) bought as an accessory or service part, are warranted for ninety (90) days from the date of installation/start-up.

Any replacement part that is equivalent with respect to the functional performance of the original part may be used in the performance of any maintenance or repairs. If any non-genuine Onan part causes or substantially contributes to a failure, that failure may not be covered by warranty. Distributors and dealers authorized to perform warranty service will use only genuine Onan parts in that work, and such parts will be provided at no charge to the owner.

Repair or replacement parts are warranted for ninety (90) days from date of purchase, excluding labor and travel expenses. Any part repaired or replaced during the warranty period assumes the remainder of that warranty period.

ONAN'S RESPONSIBILITIES

Onan's obligation is limited to the repair or replacement, at its option, of the PowerCommand control, network components and other supplied components, that do not conform to this warranty.

Onan will pay for the parts and labor needed to repair the PowerCommand control and network when bought with an Onan generator set. Onan will pay travel time up to eleven (11) hours and mileage cost up to five hundred (500) miles or eight hundred (800) kilometers, if such work is done by an Onan distributor or their designated service representative.

OWNER'S RESPONSIBILITIES

The owner is obligated to operate and maintain the product in accordance with the recommendations published by Onan in the Operator's Manual. The owner is responsible for the costs associated with maintenance and any adjustments which may be required.

All claims must be brought to the attention of Onan or an authorized Distributor or its designated service representative within a reasonable time, preferably within 30 days after discovery that the product fails to meet this warranty.

The owner is responsible for payment of any of the following expenses that might be incurred as a result of a failure under the terms of this warranty:

1. Rental equipment used to replace the equipment being repaired
2. Telephone or other communication expenses
3. Labor and travel expenses on PowerCommand control and network components bought as accessories or service parts
4. The premium costs for overtime labor requested by the owner
5. The cost of air freight or other extraordinary expenses for shipment of parts over and above premium surface transportation

LIMITATIONS

Onan is not responsible for repair of the product that is required because of normal wear, accident, misuse, abuse, improper installation, lack of maintenance, unauthorized modifications, the use of add-on or modified parts, improper storage or negligence.

THERE IS NO OTHER EXPRESS WARRANTY.

IMPLIED WARRANTIES, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO PERIODS OF WARRANTY SET FORTH ABOVE. TO THE EXTENT PERMITTED BY LAW, ANY AND ALL IMPLIED WARRANTIES ARE EXCLUDED. **NOTE:** Some states and provinces do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

IN NO EVENT IS ONAN LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. **NOTE:** Some states or provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state or province.

No person is authorized to give any other warranties or to assume any other liabilities on Onan's behalf, unless made or assumed in writing by an officer of Onan, and no person is authorized to give any warranties or assume any other liability on behalf of seller unless made or assumed in writing by seller.

If you have any questions regarding your warranty rights and responsibilities, you should contact your Cummins/Onan distributor by calling 1-800-888-6626.

*PowerCommand network is comprised of the PowerCommand control, PowerCommand network modules and accessories.