A4 Troubleshooting

Section Objectives

The information in this section will enable you to:

❏ Maintain the system to ensure smooth, efficient operation
❏ Isolate and resolve system problems

Reducing Electrical Noise

For detailed information on reducing electrical noise in your system, refer to the current Compumotor Catalog.

Problem Isolation

When your system does not function properly (or as you expect it to operate), the first thing that you must do is identify and isolate the problem. When you accomplish this, you can effectively begin to resolve and eradicate the problem.

The first step is to isolate each system component and ensure that each component functions properly when it is run independently. You may have to dismantle your system and put it back together piece by piece to detect the problem. If you have additional units available, you may want to use them to replace existing components in your system to help identify the source of the problem.

Determine if the problem is mechanical, electrical, or software-related. Can you repeat or re-create the problem? Random events may appear to be related, but they may not be contributing factors to your problem. Investigate the events that occur before the subsequent system problem.

You may be experiencing more than one problem. You must solve one problem at a time. Document all testing and problem isolation procedures. You may need to review and consult these notes later. This will also prevent you from duplicating your testing efforts.

Once you isolate the problem, take the necessary steps to resolve it. Use the solutions in this chapter. If your system's problem persists, call Compumotor at 800-358-9070.

Front Panel LEDs

There is one LED on the front panel of the OEM010. The POWER LED is green and turns on when there is +5V applied to the power input. Should the LED go out at any time, your OEM010 is in need of repair.

RS-232C Problems

Use the following procedure to troubleshoot communication problems that you may have with the OEM010.

1. Be sure the host computer's transmit (Tx) wire is wired to the peripheral's receive (Rx) connection, and the host computer's receive (Rx) wire is wired to the peripheral's transmit (Tx) connection. Switch the receive and transmit wires on either the host or peripheral if the problem persists.

CAUTION
OEM010 Rx, Tx, and GND pin outs are not 2, 3, and 7 like most devices.

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2. Confirm that the host and peripheral are configured for the same baud rate, 8 data bits, 1 stop bit, and no parity.

3. Use DC common or signal ground as a reference, not earth ground.

4. Cable lengths should not exceed 50 ft. unless you are using some form of line driver, optical coupler, or shield. As with any control signal, be sure to shield the cable-to-earth ground at one end only.

5. To test the terminal or terminal emulation software and the RS-232C cable for proper three-wire communication, unhook the OEM010 and enter a character. You should not receive an echoed character. If you do, you are in half duplex mode. Connect the host's transmit and receive lines together and send another character. You should receive the echoed character. If not, consult the manufacturer of the host's serial interface for proper pin outs.

Software Debugging Tips

This section offers helpful tips for debugging programs and understanding errors and fault conditions. The OEM010 has several tools that you can use to debug a problem in the system. The software tools are listed below:

RA—Limit Switch Status Report
R—Report Status
IS—Input Status Report
BS—Buffer Status Report
B—Buffer Status Report

Returning the System

If your OEM010 system is faulty, you must return the drive and motor for replacement or repair. A failed drive can damage motors.

If you must return your OEM010 to effect repairs or upgrades, use the following steps:

① Get the serial number and the model number of the defective unit(s), and a purchase order number to cover repair costs in the event the unit is determined by Parker Compumotor to be out of warranty.

② Before you ship the drive to Parker Compumotor, have someone from your organization with a technical understanding of the OEM010 and its application include answers to the following questions:

• What is the extent of the failure/reason for return?
• How long did it operate?
• How many units are still working?
• How many units failed?
• What was happening when the unit failed (i.e., installing the unit, cycling power, starting other equipment, etc)?
• How was the product configured (in detail)?
• What, if any, cables were modified and how?
• With what equipment is the unit interfaced?
• What was the application?
• What was the system sizing (speed, acceleration, duty cycle, inertia, torque, friction, etc.)?
• What was the system environment (temperature, enclosure, spacing, unit orientation, contaminants, etc.)?
• What upgrades are required (hardware, software, user guide)?