

PRO-4 SINGLE AXIS JOYSTICK SERVICE BULLETIN



IMPORTANT:

- Disconnect all power prior to servicing controller.
- Immediately report any abnormal operation characteristics of the controller to the proper authority. Do not continue to operate the equipment until problem is resolved.

Description

The PRO-4 provides precise proportional or discrete control for electro-hydraulic valves and AC/DC variable speed drives. Your specific control requirements can be accommodated by a variety of standard and custom engineered configurations.

General Care

Access to the controller should be comfortable and unobstructed. Care should also be taken in console and cab design to **AVOID LOCATIONS:**

- Where inadvertent operation is possible.
- Where the operator is able to apply an excessive amount of force to the control lever.
- Where the control handle could be used as a means of supporting entrance and exit from the equipment.
- Where hand and knuckle clearance is limited.

Installation

The PRO-4 controller requires a 3 or 5 hole mounting pattern (see panel hole detail – note mounting options for corresponding handle options). It is not necessary to remove the handle or boot to install the controller.

Wiring

The PRO-4 uses a V7 micro-switch with 0.187" quick connect tab or can be directly soldered to. The recommended maximum wire size is 18 AWG. The PRO-4N uses a VNSO contact block which utilize a saddle clamp type terminal. It is recommended when using bare copper wire that all terminal connections are re-tightened after a short interval to "cold-flow" the conductor. Cold flowing the copper through re-tightening will insure a non-resistive connection. Handle and proportional control options are wired to either a terminal block with a #6 screw terminal or to a connector. For additional support documentation visit www.jrmerritt.com/support to view hook up instructions including; contact wiring, proportional control wiring and handle wiring instructions.

Service

- Periodic lubrication is recommended. A light grease application should be applied to active components, such as spring return arms, yokes, gear drives and detent rollers.
- Inspect for torn or damaged boots and replace them immediately.
- Check assembly and mounting bolts for tightness.

Contacts

- The 11A 125, 250VAC form C, V7 micro-switches on the PRO-4 are field replaceable by removing the mounting screws.
- The 16A, 240VAC contact blocks on the PRO-4N are field replaceable. Please refer to the VNSO service bulletin for instructions.



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Proportional Control

Potentiometers are field replaceable but may require calibration and alignment by a field service technician. Before operating, the device should be tested by an authorized technician for proper alignment and calibration. Refer to the PFC Electronics Hook up and Wiring Instructions (Pub. # 37.L1) for more information regarding electronics. Hall-effect boards and their components are not field replaceable and must not be moved.

Handle Operated Functions

The maximum allowable voltage for a wired handle is 30 Volts. Wired handles require that wires pass through the steel operating shaft. At the base of the operating shaft the wire is formed into a service loop. This service loop provides the needed flex for the shaft to operate in all directions successfully.

Do not alter the service loop to a different bend configuration. If the loop is pushed into the mechanism, the wires can potentially be trapped between the board/plate, thus resulting in a broken wire. Insure wire service loop has panel clearance at base of shaft and that loop can operate in all directions unobstructed. See fig. 1

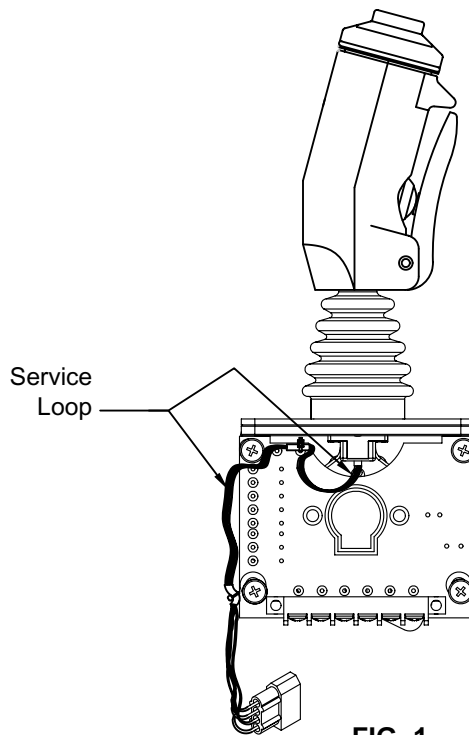


FIG. 1

Disclaimer

Joysticks are supplied with deadman spring return of handles to neutral and the BH handle is available with enable lever for deadman control for added safety.

The customer is responsible for meeting OSHA compliance of deadman safety devices, providing operator safety and proper equipment use training, and for maintaining the equipment and controls in a safe working condition. Customer agrees to indemnify and hold J.R. Merritt Controls, Inc. harmless and defend at its expense, all claims and suits asserted or brought against J.R. Merritt Controls, Inc. due to the absence, removal, tampering, improper installation or improper use of this equipment and associated deadman safety devices.