

# VCSO JOYSTICK SERVICE BULLETIN



## IMPORTANT:

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

## 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.
- Handle is not protected by guarding in portable consoles or where inadvertent operation will cause an unsafe condition.

## Service

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

## Contact and cams

Cam-operated contacts on the VCSO are field replaceable and can be removed by loosening the (2) screws holding the (2) clamps and sliding the contact block out of its channel see **FIG. 1**. If contacts are to be cleaned, it is recommended that a low residue spray contact cleaner be used. Never file or sand the contacts tips.

## Wiring

The type VCSO contacts 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.

## Proportional control

Potentiometers, Encoders, Rheostats etc. are field replaceable but may require calibration and alignment by a field service technician. Before operating, the device should be tested by authorized technician for proper alignment and calibration.

## Handle Operated Function

The maximum allowable voltage for a wired handle is a 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 see **FIG. 2**.

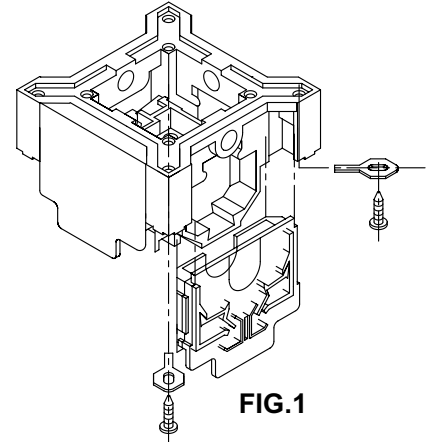


FIG. 1

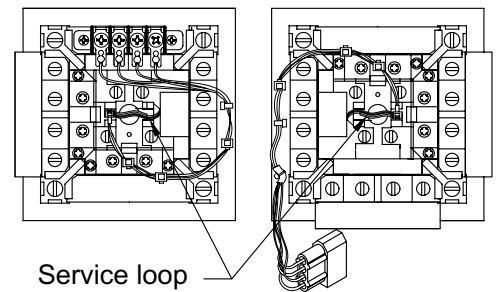


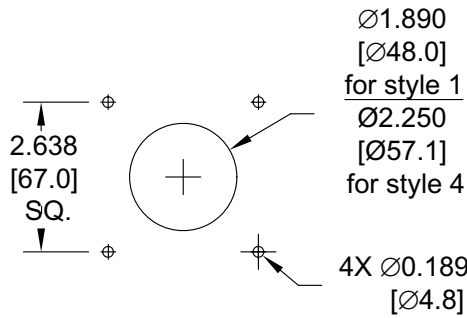
FIG. 2

# VCSO JOYSTICK SERVICE BULLETIN

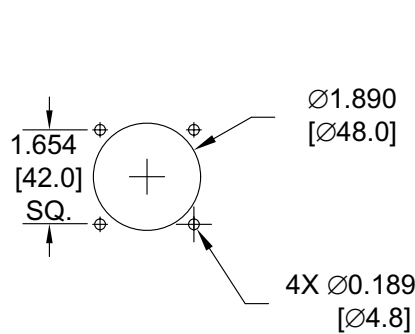
## Installation

VCSO controller requires a 5 hole mounting pattern. It is not necessary to remove the operating knob or boot to install the controller. When the joystick includes a bronze guide gate (single axis, dual axis cross gate or special gate) care must be taken to correctly align the gate assuring that the shaft operates smoothly in the gate slots. Alignment marks on the gate and the switch body are provided to facilitate this task. Any final adjustments can be made just prior to fully tightening the mounting screws.

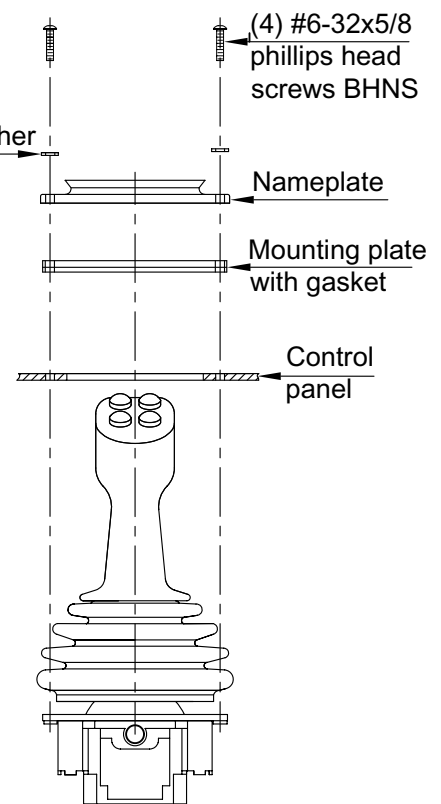
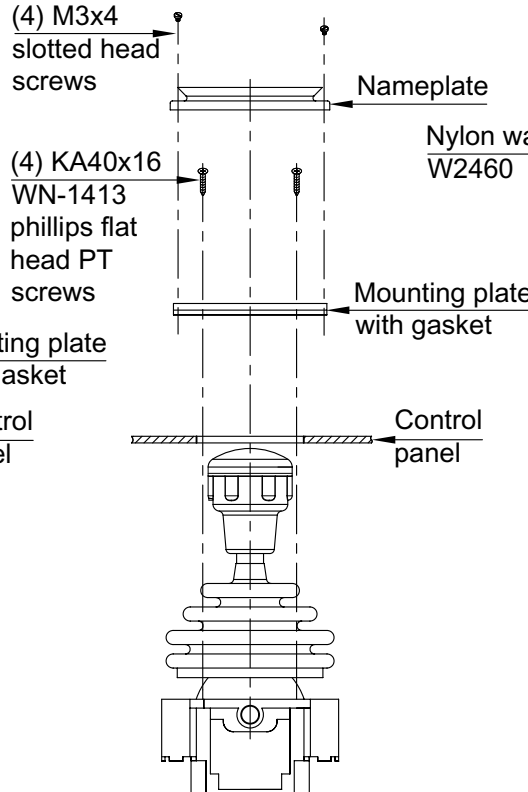
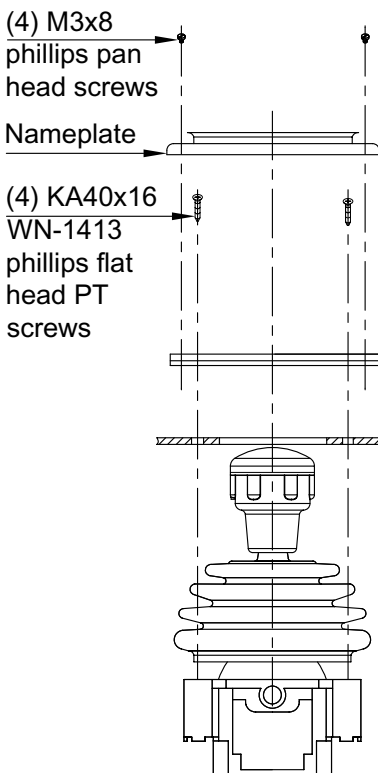
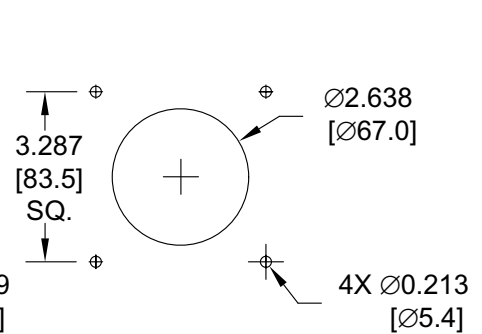
### MOUNTING STYLE 1 & 4:



### MOUNTING STYLE 2:



### MOUNTING STYLE 3:



## Disclaimer

Joysticks are supplied with deadman spring return of handle to neutral. For safety reasons, electronic deadman equipment control is recommended for applications with maintained handle action (consult factory).

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.