

SiPART PS2 and ValvePAC™ Series 760 Linear and Rotary Valve Positioner Mounting Kits

This Instruction describes the use of a Siemens positioner mounting kit to mount a Siemens valve positioner on a typical valve actuator. Installation instructions for the Siemens valve positioner and the actuator should be available for reference. If assistance is needed, see the Product Support section of this instruction.

Table of Contents

- PS2 Rotary Mounting
- 760 Rotary Mounting
- PS2 Linear Mounting
- 760 Linear Mounting
- Contact Information

Before proceeding, read the actuator and valve positioner installation instructions and note all warnings and cautions. Also, read the following Cautions as they apply to all procedures in this instruction.

CAUTION



Do not apply supply pressure to the actuator or the valve positioner during the installation process. Applying supply pressure before the equipment is properly mounted could cause unexpected movement that could lead to personal injury or equipment damage.

CAUTION



Do not exceed the maximum actuator and valve positioner air pressures stated in the manufacturer's literature. Exceeding these ratings could cause personal injury or equipment damage.

PS2 ROTARY MOUNTING

A typical rotary mounting application is shown in Figure 1. Perform the following steps to mount the positioner on the actuator.

1. Attach the main bracket supplied in the positioner mounting kit to the positioner using M6 bolts and lockwashers.
2. Attach the wheel supplied in the kit to the positioner shaft. Be sure setscrew tightens against the flat surface of the shaft.
3. Determine whether the actuator has a NAMUR feedback shaft connection.
 - Yes - Attach the feedback arm to the actuator shaft using fillister head screw and washer, as shown below.
 - No - A coupler will often be needed to complete the feedback shaft connection. Attach the coupler to the actuator and then attach the feedback arm to the installed coupler.
4. Screw the bracket to the actuator, carefully inserting the wheel's feedback pin into the feedback arm.

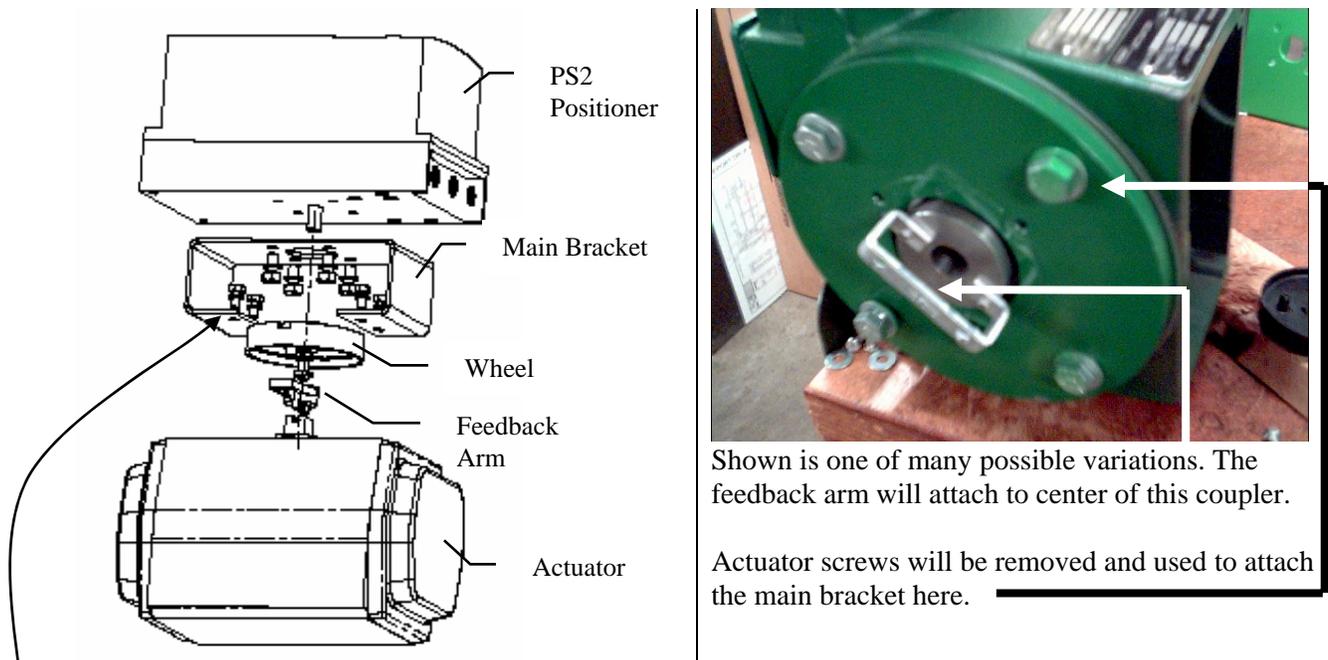
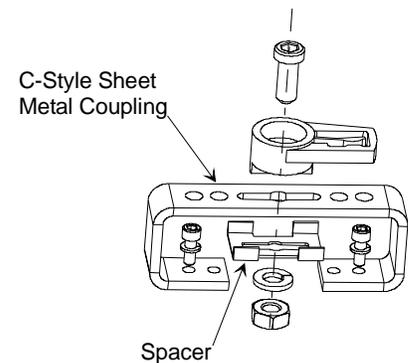


FIGURE 1 Mounting the PS2 to a Typical Rotary Actuator

Assembly Notes

- An installation may require use of two rectangular spacers, supplied in some kits, between the two legs of the positioner mounting bracket and the actuator.
- When using a sheet metal coupler (see the photograph in Figure 1), ensure that the PS2 feedback arm attaches securely to a C-style metal coupling by positioning the included metal spacer between the coupling and the lockwasher as shown at right.
- Apply a thread locking solution to setscrews.
- When bracket-to-actuator mounting hardware is not supplied in a Siemens kit, use hardware removed from the actuator.



760 ROTARY MOUNTING

Mount a Series 760 positioner on an actuator by performing the above PS2 procedure. The only significant difference is that the PS2's wheel and feedback arm are not required. The 760's input shaft will typically connect directly to the actuator shaft. When an adapting coupler is required, it is usually attached to the 760 or actuator shaft with a setscrew.

Assembly Notes

- An installation may require use of two rectangular spacers, supplied in some kits, between the two legs of the positioner mounting bracket and the actuator.
- Apply a thread locking solution to setscrews.
- When bracket-to-actuator mounting hardware is not supplied in a Siemens kit, use hardware removed from the actuator.

PS2 LINEAR MOUNTING

Rising stem actuators have many variations, requiring a wide assortment of mounting kits. See Figure 2 for two examples.

Most installations will share the following basic steps:

1. Attach the linear feedback arm to the PS2 shaft. See Figure 2.
2. Attach the “U” bracket to the actuator stem; see Figures 2 and 3. If provided, use the “J” bracket or the custom stem bracket provided in the kit. The “J” bracket offers great flexibility in positioning of the “U” bracket as shown below:

CAUTION

Always set valve and actuator stems to their relaxed positions before loosening the stem clamp to prevent possible injury to personnel or damage to equipment.

A custom stem bracket, like the one shown in the right-most detail in Figure 2, is installed by tightening it between two nuts on the actuator shaft.

Some applications will not need a stem bracket. See Figure 4 for an example.

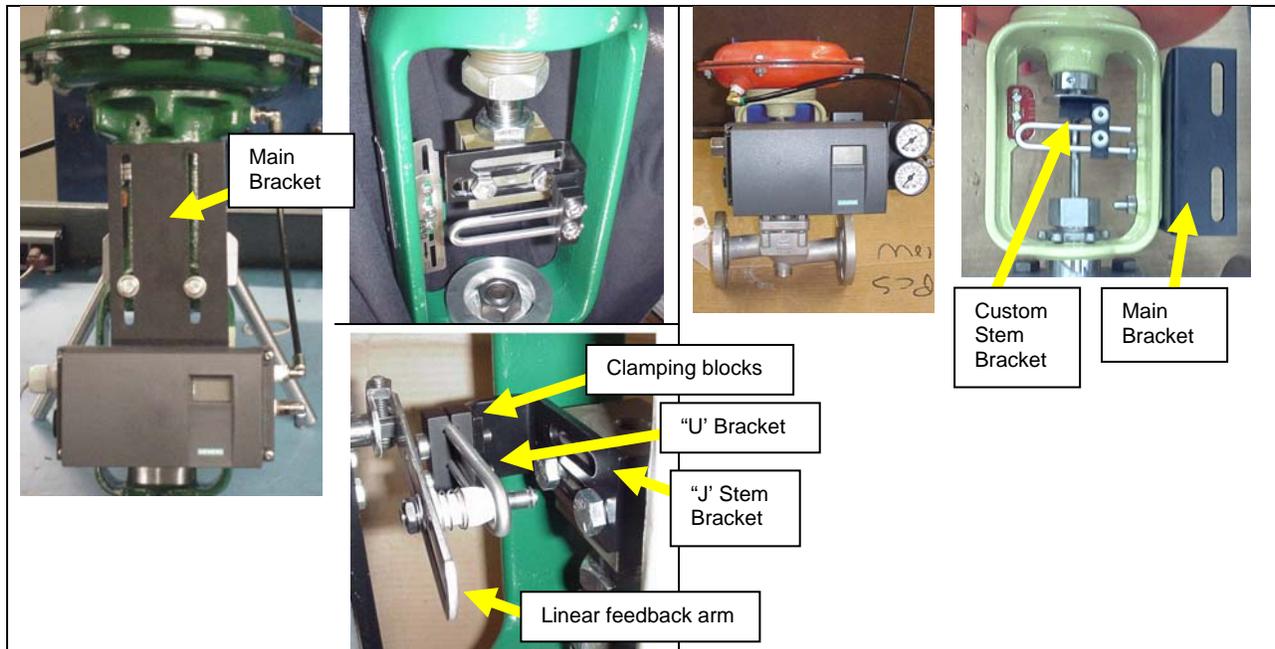


FIGURE 2 Rising Stem (Linear) Examples

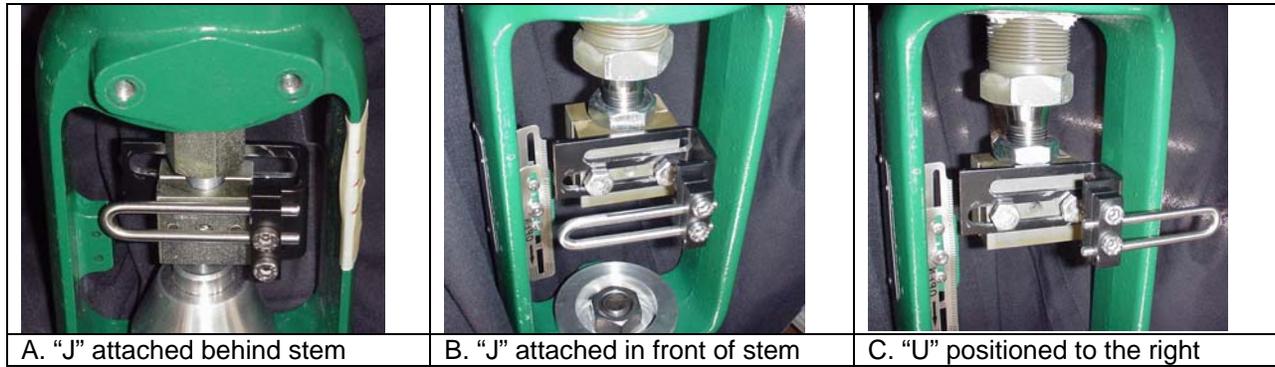


FIGURE 3 "J" and "U" Bracket Examples

3. Attach the main bracket to the actuator. The goal is to mount the PS2 such that the feedback arm's spring loaded plastic tip is inside the "U" bracket and depressed sufficiently to track the stem's movement. In some kits, spacers are included to provide additional adjustment.
4. Attach the PS2 to the main bracket, carefully positioning the plastic tip inside the "U" bracket.
5. Make any final adjustments needed to ensure that the PS2's feedback arm is perpendicular to the stem when the actuator is at its 50% position.

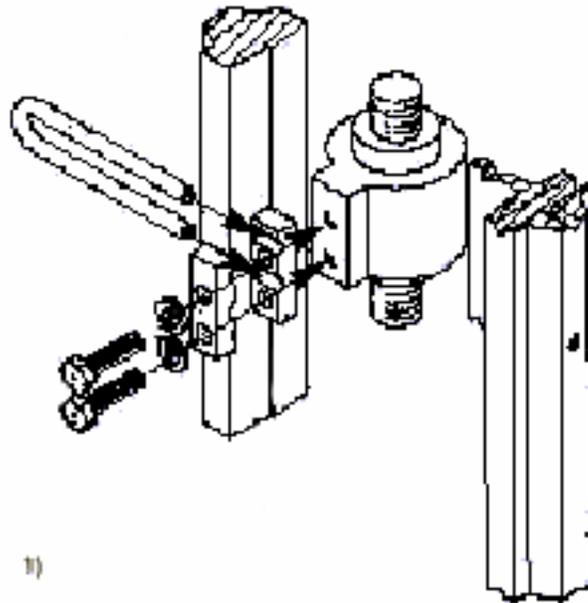


FIGURE 4 Application Not Requiring a Stem Bracket

760 LINEAR MOUNTING

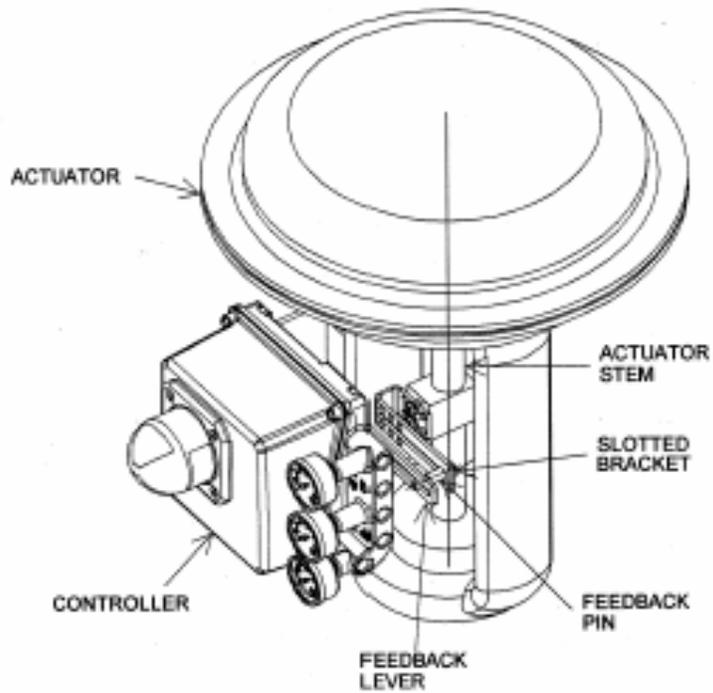
The linear mounting of a Series 760 is similar to the PS2 described above. Fewer parts are used since the Series 760 does not use the “U” bracket. Instead, the feedback pin is fixed to the stem bracket and the pin slides inside a slot in the 760’s feedback arm. Perform the following steps for a typical installation.

1. Attach the stem bracket to the actuator stem. In a typical installation, screw the stem bracket to the front of the stem clamp, or clamp it between two nuts on the actuator shaft; see Figure 5.

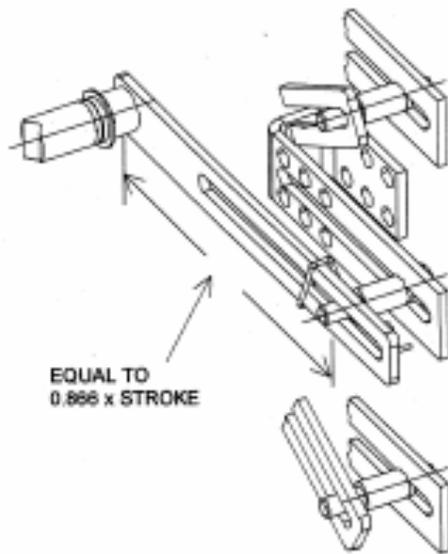
CAUTION

Always set valve and actuator stems to their relaxed positions before loosening the stem clamp to prevent possible injury to personnel or damage to equipment.

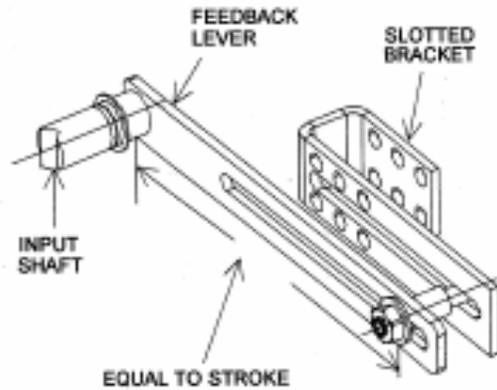
2. Attach the feedback pin to the stem clamp. Allow sufficient pin length to engage the 760’s feedback arm. Usually, two nuts and washers are used to hold the pin in place inside a slot in the stem clamp.
3. Attach the main bracket to the actuator.
4. Attach the 760 to the main bracket. Carefully position the feedback pin in the slot in the feedback arm.
5. Make any final adjustments necessary to assure that:
 - The feedback arm is perpendicular to the stem when the actuator is at its 50% position.
 - Total rotation of the 760 shaft equals the cam specification (typically 60 degrees). This requires the feedback pin to be $(0.866 \times \text{stroke length})$ from the center of the 760 shaft at 50% travel.
6. Install the anti-backlash clip as describes in the 760 service instructions.



A. CONTROLLER MOUNTING AND PREFERRED METHOD OF CONNECTING FEEDBACK PIN



B. PREFERRED METHOD OF STROKE SETTING FOR FEEDBACK PIN CONNECTION. FEEDBACK LEVER SHOWN AT MID-STROKE.



C. METHOD OF CONNECTING FEEDBACK PIN AND STROKE SETTING

FIGURE 5 Positioner Mounting and Feedback Pin Connection

For Product Support in the U.S.A.

Technical Support	
Telephone	1 800 333 7421
E-mail	techsupport.sea@siemens.com
Hours of Operation	8 a.m. to 4:45 p.m. eastern time, Monday through Friday (except holidays)
Technical Publications in PDF	http://www2.sea.siemens.com/Products/Process-Instrumentation/Support/PI-User-Manuals.htm then click the product line (e.g. Control Solutions)
Public Internet Site	http://www2.sea.siemens.com/Products/Process-Instrumentation
Repair Service	1 215 646 7400 extension 3187

For Product Support Outside of the U.S.A.

Visit the Siemens Process Instrumentation product support page at <http://www2.sea.siemens.com/Products/Process-Instrumentation/Support/Customer-Support.htm>. Select the desired type of support (e.g. Sales, Technical).



ValvePAC and SIPART are trademarks of Siemens Energy & Automation, Inc. Other trademarks are the property of their respective owners. All product designations may be trademarks or product names of Siemens Energy & Automation, Inc. or other supplier companies whose use by third parties for their own purposes could violate the rights of the owners.

Siemens Energy & Automation, Inc. assumes no liability for errors or omissions in this document or for the application and use of information in this document. The information herein is subject to change without notice.

Procedures in this document have been reviewed for compliance with applicable approval agency requirements and are considered sound practice. Neither Siemens Energy & Automation, Inc. nor these agencies are responsible for repairs made by the user.