

BRACKET KIT PN TGX:16152-695

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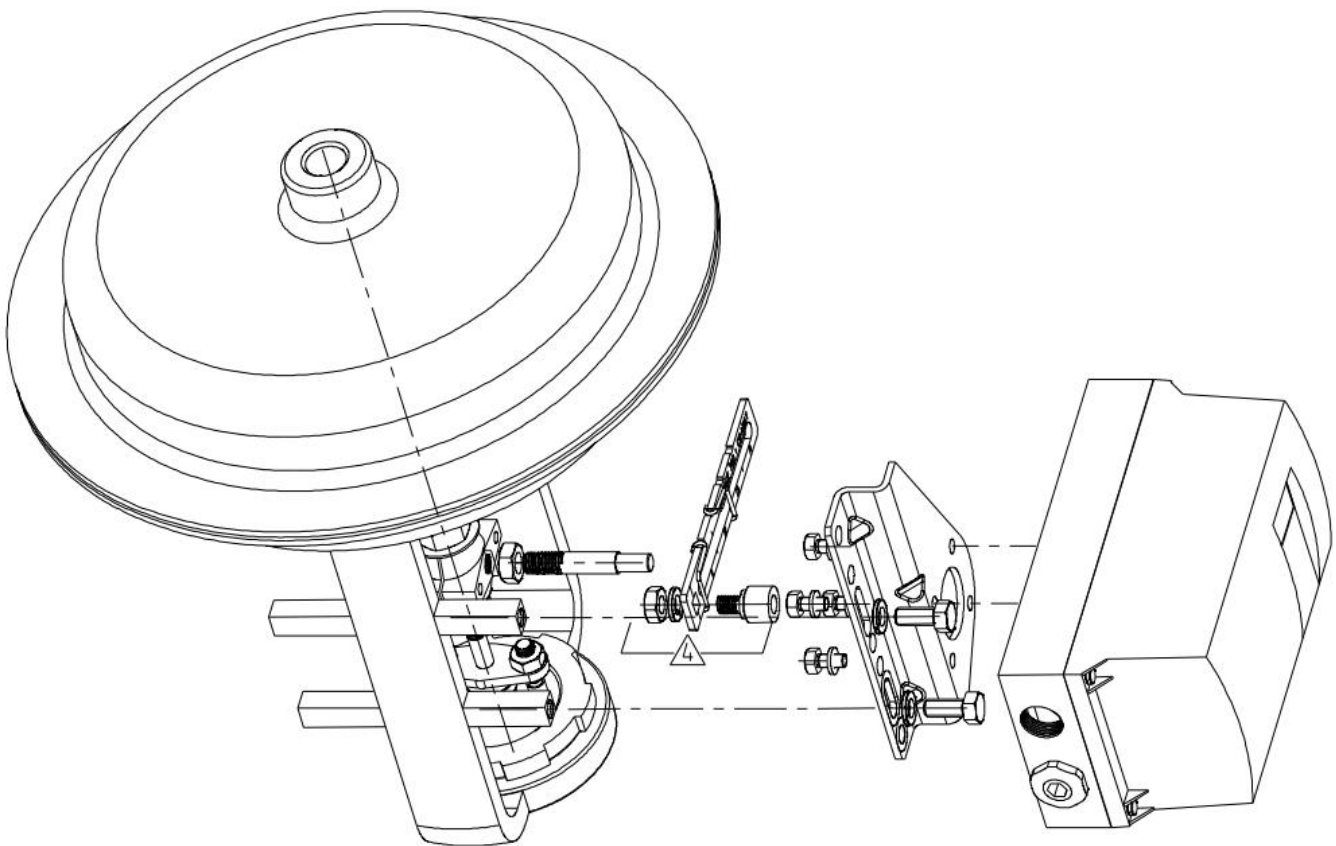
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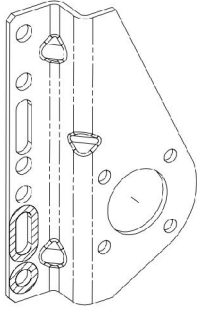
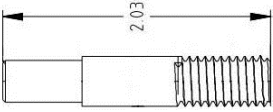
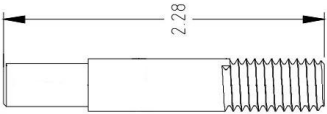
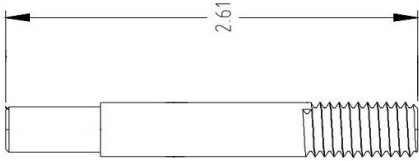

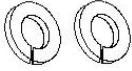



**SIPART PS2 Mounting Bracket Kit for
Armstrong Python 1100 Series Actuator**

This publication provides installation instructions to mount a Siemens SIPART PS2 valve positioner onto an Armstrong Python series actuator, model 1100, and to install the mechanical feedback linkage. A typical installation is shown in Figure 1.

Bracket kit parts are shown on Page 2. Page 3 has a table that lists actuator nameplate data and related installation selections. Installation procedures begin on page 3. Initial PS2 setup is found on page 8. Customer/product support information located on page 11.

**FIGURE 1 Mounting Kit Installation, Exploded View**

PARTS, BRACKET KIT TGX:16152-695

Description	Part Illustration, Not Shown to Scale	Qty/Kit
Mounting Plate		1
2.03" Feedback Pin		1
2.28" Feedback Pin		1
2.61" Feedback Pin		1
5/16"-18 X 0.75 Long Hex Head Screw		2
5/16 Med Split washer		2
3/8-16 Hex Nut		1
M6 x 12 Hex Head Screws		4
M6 Lock washers		4
Kit Installation Instruction, this publication, PN A5E37606851A		1

ACTUATOR MODEL AND FEEDBACK PIN

Actuator model number appears on the actuator nameplate. The table below relates actuator model to appropriate feedback pin length. Compare pin lengths side-by-side to determine appropriate pin for your application.

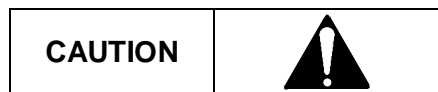
TABLE 1 Actuator Size and Feedback Pin

Actuator Model	Appropriate Feedback Pin Length
M-00	2.28"
M-11	2.28"
M-22	2.28"
M-33	2.03"
M-44-78	2.61"
M-44-108	2.61"

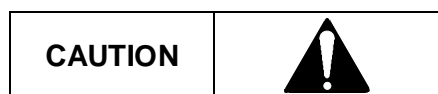
INSTALLATION

Refer to the following procedure and to the positioner and actuator installation instructions while performing the installation. The current revision of the positioner instruction¹ is available for download at the Siemens Internet site. See Customer/Product Support later in this Instruction for the URL.

Before beginning the installation, note the following cautions.



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.



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.

Before beginning the installation, open the supplied kit(s) and check the included parts against the parts list on page 2 and Figure 1 on page 1. Also, be sure the correct PS2 valve positioner and valve actuator type are at hand. Each kit installation section title is in **bold** print. Complete the steps in each section.

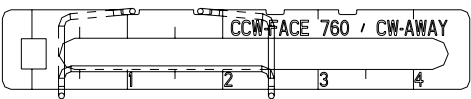
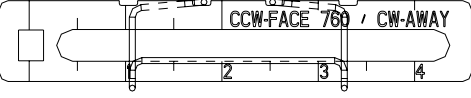
Common hand tools, including: Hex wrenches, 10mm, 1/2", 5/16" and 3/8" wrenches, will be required.

¹ PS2: SIPART PS2 Electropneumatic Positioners for Linear and Rotary Actuators, P/N A5E00074631

Assemble Retaining Clip to Feedback Lever

1. On the actuator nameplate, read the actuator model and valve travel for the actuator at hand. Find that model and travel in Table 2 below. The retaining clip position is shown to the right of the valve travel.

TABLE 2 Retaining Clip Location

Actuator Model	Valve Travel	Clip Position	Retaining Clip Location
M-00 M-11 M-22 M-33	0.71" 1.10" 1.50" 2.28"	1	
M-44-78 M-44-108	3.07" 4.25"	2	

2. Orient the feedback lever (text side facing you) and retaining clip as shown in Figure 2. Align the clip with the lever as shown in the selected row in Table 2. (Example: the clip location for a valve travel of 3.07" is shown in Figures 2 and 3.)
3. Press the lever into the clip and lift the two hooked ends of the clip until they can be placed in two notches in the lever and hook onto the lever. See Figure 3.

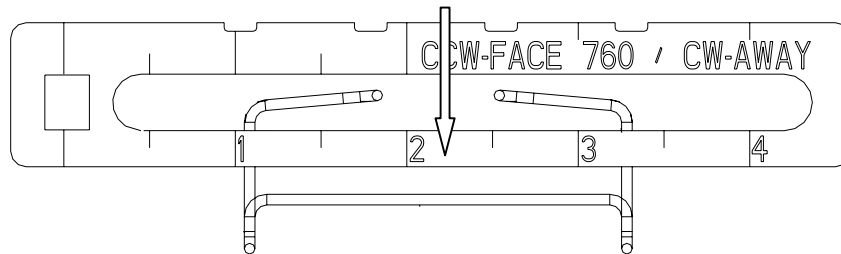


FIGURE 2 Pressing the Feedback Lever into the Retaining Clip

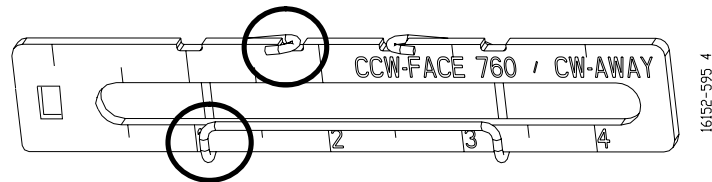
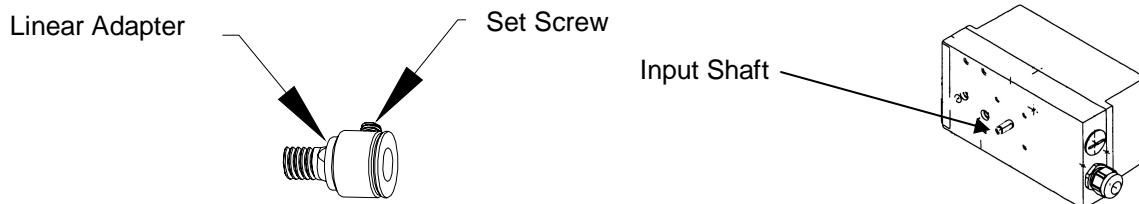


FIGURE 3 Placing the Retaining Clip on the Feedback Lever

Install the Linear Adapter on the Positioner Input Shaft

1. Using the supplied hex wrench, screw the setscrew into the linear adapter until the tip of the setscrew is just visible in the hole in the end of the adapter. See the drawing below, left.



2. The PS2 input shaft is shown in above, right. It extends from the bottom of the positioner and is flat on one side. Place the linear adapter on the PS2 input shaft so the setscrew can be tightened against the flat on the input shaft. Tighten the setscrew securely.

Install Feedback Lever on the Linear Adapter

1. Secure feedback arm to linear adapter with the supplied split lockwasher and nut. See Figure 4.
2. Be sure spring clip wire is facing actuator during this assembly. Thus feedback pin will contact spring clip before the pin goes through the feedback arm slot.

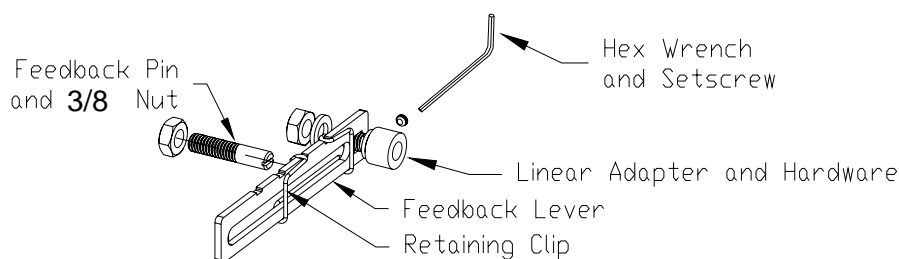


FIGURE 4 Feedback Lever and Retaining Clip Orientation

Install the Feedback Pin to the Actuator/Valve Stem Coupling

1. Using table 1 on page 3, use the appropriate feedback pin as per actuator model number.
2. Install 3/8" nut onto feedback pin. Thread hex nut onto the feedback pin up to the unthreaded portion of the pin.
3. Screw the pin into the hole in the actuator coupling. Do not tighten the pin or nut at this time.

Fasten Mounting Plate to PS2

1. Using the four M6 lock washers and M6 Hex bolts, secure PS2 valve positioner to mounting plate.

Install Mounting Plate and PS2 Assembly onto Actuator

1. Install 5/16" lock washers onto 5/16-18x0.75 Hex head bolts
2. Since mounting plate is intended for several actuator models, be sure fasteners are inserted through proper slots and/or holes. Proper slots/holes are shaded in table 3 below.

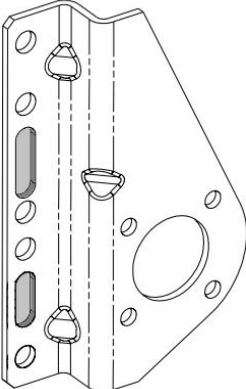
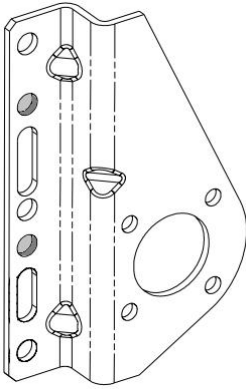
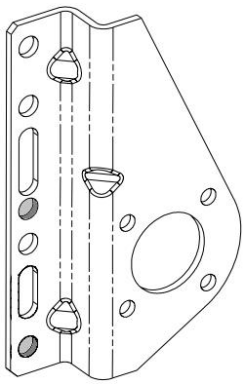
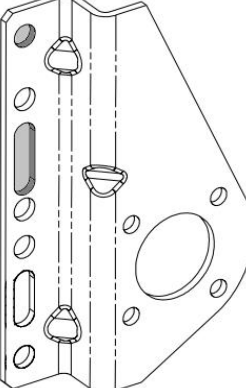
Actuator Model Number	Proper Bracket Holes/Slots Shaded Area	Actuator Model Number	Proper Bracket Holes/Slots Shaded Area
<p>M-00 M-11 M-33</p>		<p>M-44-78</p>	
<p>M-22</p>		<p>M-44-108</p>	

TABLE 3, Proper Mounting Holes/Slots

3. Using the two 5/16" hex head bolts, secure mounting plate assembly onto the two actuator threaded holes. Table 4 illustrates location of bolts within slot so feedback arm is perpendicular to actuator/valve stem at 50% of travel.

IMPORTANT: Be sure feedback pin engages spring clip and arm slot while making this assembly.

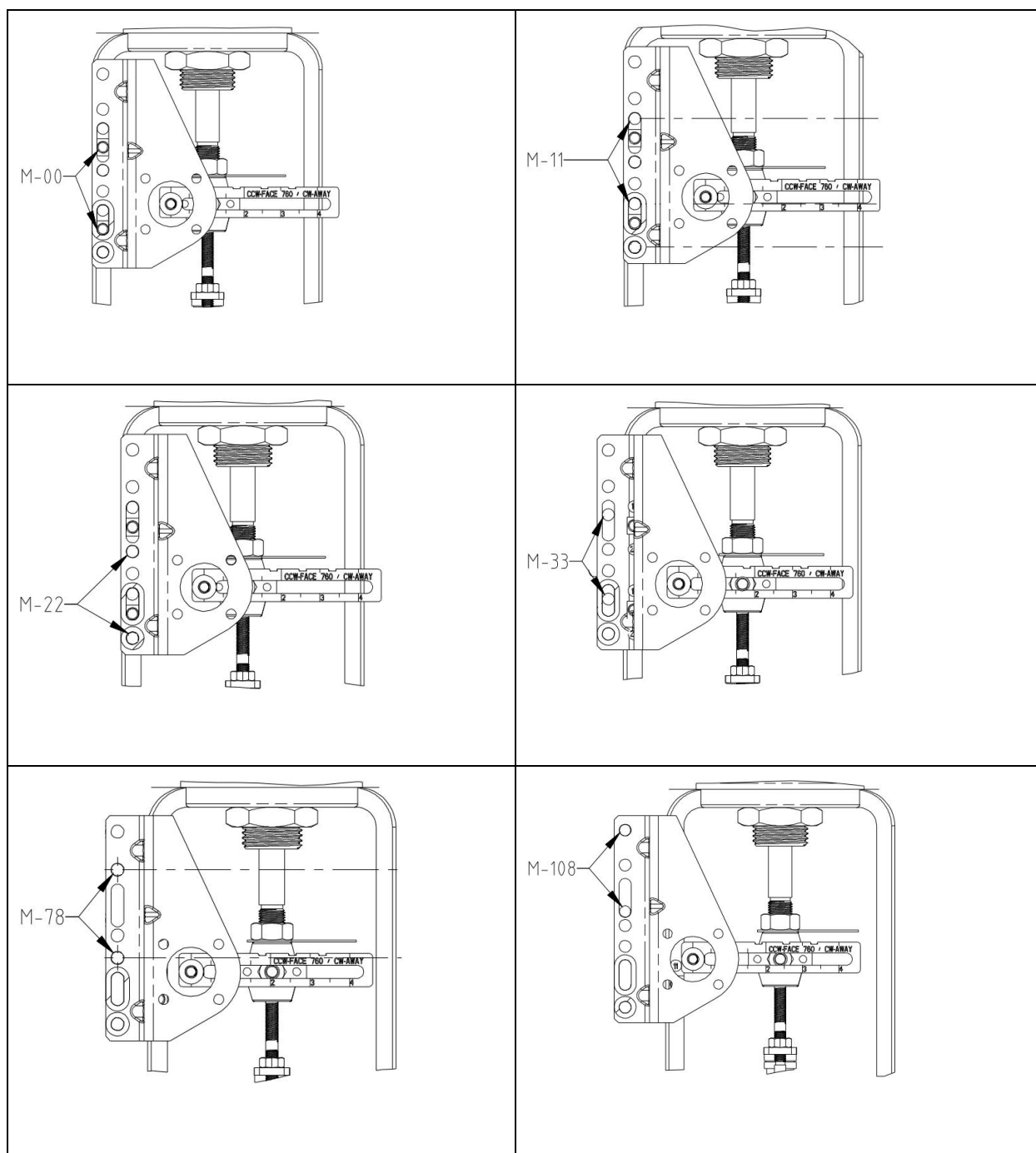


Table 4, Mounting Hole Locations (PS2 not shown for clarity)

4. While securing mounting plate assembly to actuator, adjustments to feedback pin depth may be necessary so pin protrudes through the feedback arm a minimum 0.10" (2.5mm) to 0.15 (3.8mm) max.
5. Once mounting plate assembly is secure to actuator, secure feedback pin to stem coupling by tightening 3/8" hex nut against actuator stem coupling.
6. Verify all hardware is secure before proceeding with PS2 initialization.

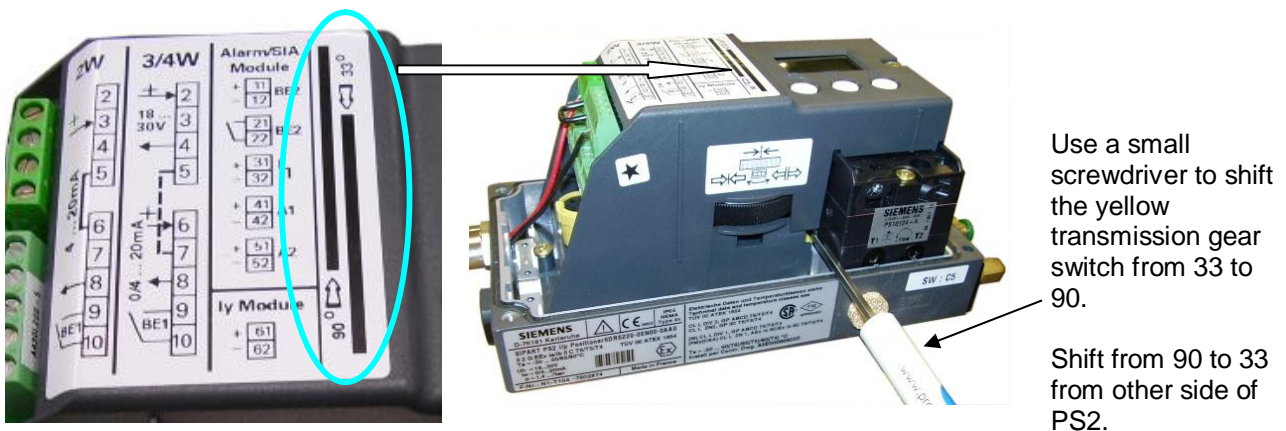
INITIAL PS2 SETUP

Perform the following steps to set the transmission gear ratio switch, apply instrument air and electrical power, and manipulate the three setup pushbuttons to initially set up the PS2. Read the cautions on page 3 before proceeding.

1. Loosen the four captive screws securing the PS2 cover and remove the cover.
2. Find the specified valve travel and refer to Table 5 for the transmission gear ratio switch setting: 33 or 90.
3. Refer to Figures 5 and 7 and to the top label on the PS2 to, if necessary, change the transmission ratio switch position. Use a small screwdriver to shift the position of the slide switch/bar.
4. Connect tubing from positioner output port, labeled "Y1" on positioner cover, to actuator inlet.
5. Connect tubing for instrument supply air to positioner supply port labeled "Pz". Apply air pressure.
 - !! Do not exceed maximum casing pressure shown on actuator Warning label.
6. Connect a DC power source to positioner terminals; see Figure 5 for a typical electrical connection label. *Electrical connections vary with positioner model and options.* Apply electrical power.

TABLE 5, PS2 Transmission Gear Ratio Switch Setting

Stroke	Transmission Bar Setting
0.71"	33
1.10"	90
1.50"	90
2.28"	90



Transmission Gear Switch Settings

FIGURE 5 PS2 Transmission Gear Ratio Switch Location (PS2 Cover Removed)

7. If "NOINI" is flashing on display, skip to step 12, otherwise go to step 8.

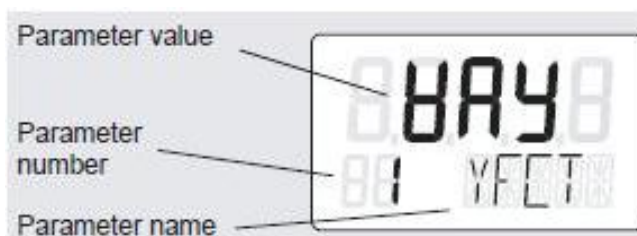


FIGURE 6 PS2 Configuration Mode Display (sample)

8. Press and hold [HAND] button to enter configuration mode. When display changes, release button. See Figure 6.

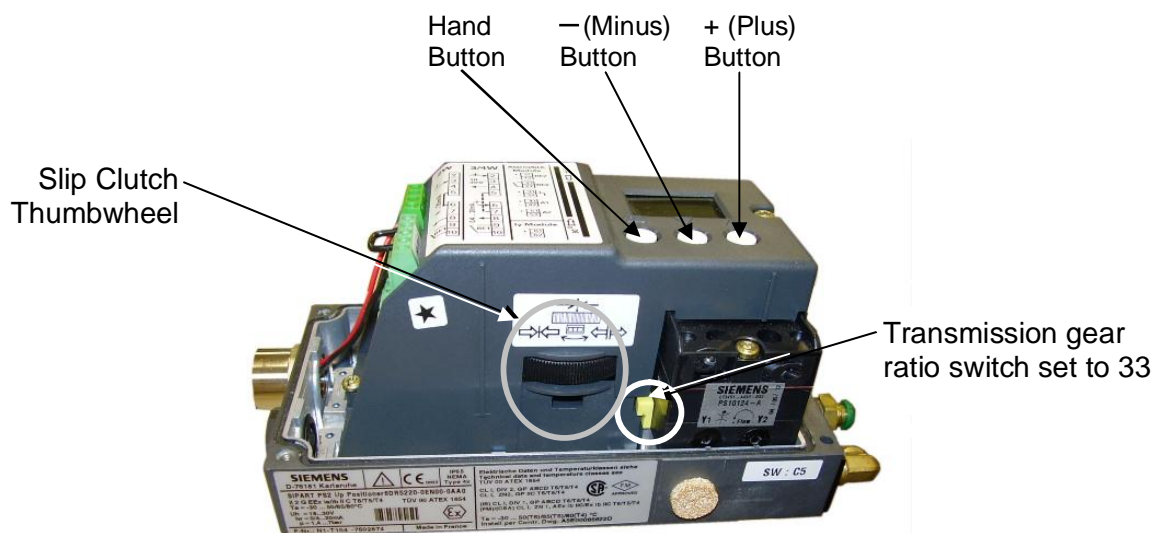


FIGURE 7 Set-up Buttons (PS2 Cover Removed)

9. Press and release [HAND] button until parameter 4 is displayed in lower left corner of display.
10. Press and hold [-] minus button until "no" appears on display.
11. Press and hold [HAND] button to exit configuration mode. When display changes, release button.
12. Using [+] plus and/or [-] minus buttons move valve throughout valve travel. While moving the valve with the pushbuttons, ensure that:
- The feedback linkage moves throughout the entire movement of a full stroke of the valve. Adjust as needed.
 - The feedback pin moves freely within the feedback lever for the entire valve travel.
 - All hardware is tightened securely.

Note: To move quickly in one direction press and hold [+] plus button, then [-] minus button. To move quickly in the opposite direction reverse button sequence.

13. Use a [+] or [-] button to move the valve to a position away from an end-stop (mid-travel is best). Verify that the valve remains at that position once buttons are released; if it moves check for air leaks.

14. Use the [+] and [-] buttons to move the valve to the mid-travel position and release pushbuttons. Use the valve travel indicator plate on the actuator yoke to locate mid-stroke. At mid-stroke, the feedback lever should be approximately perpendicular to the actuator shaft.
15. Adjust slip clutch until display reads a value near "50", with a tolerance of: +/-3.0. See Figure 8 for slip clutch location.
16. Press and hold [Hand] button to enter configuration mode; release button once display changes.
17. Verify that parameter 1 appears in the lower left corner of the display. If another parameter number appears, press and release the [Hand] button until parameter 1 appears.

Note: To move backwards in the menu, press and hold [HAND] button and toggle [-] minus button.
18. Verify that **RAY** appears in the display. If another parameter value appears, press and release the [+] or [-] button until **RAY** appears.
19. Press [Hand] button to go to parameter 2.
20. Read the transmission gear ratio setting in the display: 33 or 90. If necessary, use [+] or [-] button to change the value to actual gear ratio setting from steps 2 and 3 on page 8.
21. Press [Hand] button twice to go to parameter 4.
22. Press and hold [+] button to execute initialization process – release the button once the positioner begins to move the valve.
23. Initialization is complete once display reads "Finish". If setup messages appear, refer to the "Possible Messages" section of the Quick Setup Guide provided in PS2 housing.
24. Press [Hand] button once.
25. Press and hold [Hand] button to exit configuration mode. Release button once display changes.
26. Press [Hand] button to enter "Auto" mode.
27. Test valve performance by changing the input signal.
28. As needed, modify other parameters to meet valve application specifications. The following parameter names are those that often need to be set.
 - "SCUR" – Change positioner Direct/Reverse action [rise/fall]
 - "YDIR" – Change action of LCD display and 4-20 ma feedback (if so equipped)
 - "YCLS" – Activate Tight Closing; full supply air supplied to one side of actuator
 - "YCDO" – Input signal threshold value for tight closing, bottom position
 - "YCUP" – Input signal threshold value for tight closing, top position
 - "PRST" – Parameter reset: Return all parameter to factory default values
29. If needed, refer to the SIPART PS2 manual (see the footnote on page 2) for complete installation, configuration, and service information.
30. Once all setup steps are completed and the feedback arm moves freely for the entire travel, make any additional electrical connections.

CUSTOMER/PRODUCT SUPPORT

For support and the location of your local Siemens representative, refer to the table below for the URL of the Process Instrumentation portion of the Siemens public Internet site. Once at the site, click **Support** in the right column and then **Product Support**. Next select the type of support desired: sales, technical (see the table below), documentation, or software.

Online Support Request	http://www.siemens.com/automation/support-request
Technical Support	1-800-333-7421; 8 a.m. to 5:00 p.m. eastern time, Monday through Friday (except holidays)
Customer Service & Returns	1-800-365-8766 (warranty and non-warranty)
Public Internet Site	http://www.usa.siemens.com/pi
Technical Publications in PDF	Click the above link to go to the Siemens Internet site and then click Process Instrumentation . In the column to the right, click Support > Manuals . In the column to the left, select the product line (e.g. Pressure or Temperature or Controllers) to open navigation and search panes.

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