

# Grab Sample Valve (GSV) Assembly Instructions

Swagelok®

## ⚠ WARNING

Before removing the valve from service, to avoid personal injury, you must:

- Depressurize the system
- Cycle the valve
- Purge system to remove any residual system media left in valve





## ⚠ WARNING

Residual material may be left in the valve and system.

## ⚠ CAUTION

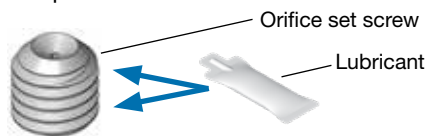
Needle assemblies are sharp. Take care to prevent puncture wounds and/or scratches.

## Tools Required

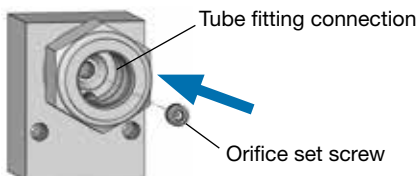
Part	Size	Tool
Tube fitting nut	-	Combination wrench(es) 
Orifice set screw, socket head cap screws	Capable of up to 35 in.·lb (4.0 N·m)	Torque wrench 
Socket head cap screws	5/32 in.	Hex key adapter 
Orifice set screw	3/32 in.	Hex key adapter, extended reach 

## Installing an Orifice Into the Sampling Body

1. Lubricate the threads of the **orifice set screw** with a system-compatible **lubricant**.



2. Thread the **orifice set screw** into the threads at the bottom of the 1/2 in. **tube fitting connection**. Do not scratch the tapered sealing surface during this process.

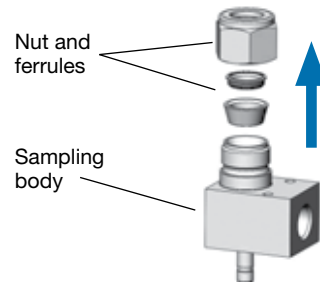


3. Using a **torque wrench**, tighten the **orifice set screw** between 5 to 10 in.·lb (0.6 to 1.1 N·m).

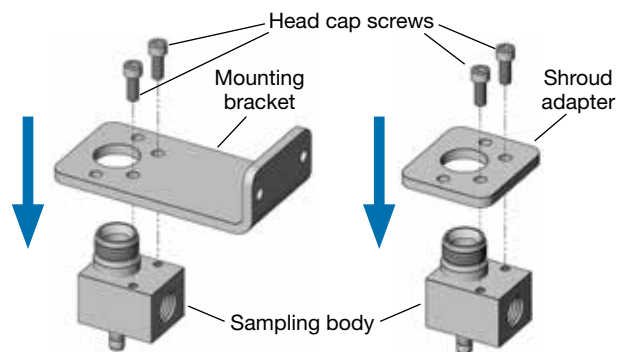


## Attaching the Mounting Bracket or Shroud Adapter to the Sampling Body

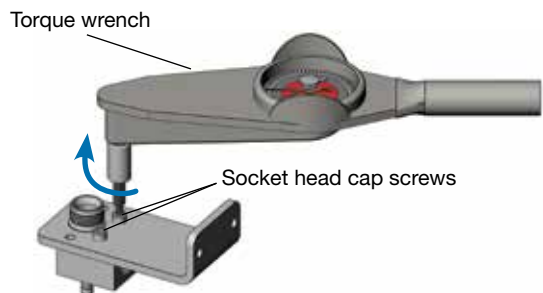
1. Remove the **nut and ferrules** from the **sampling body**. Be sure to maintain proper orientation of the ferrules.



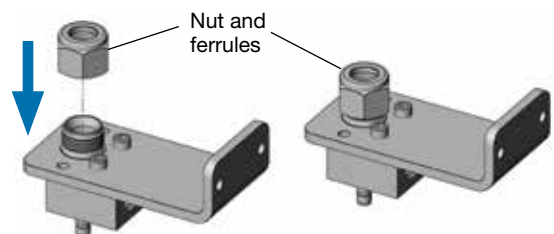
2. Attach the **mounting bracket** or **shroud adapter** to the **sampling body** using the provided 10-32 **socket head cap screws**.



3. Using a **torque wrench**, tighten the **socket head cap screws** between 30 to 35 in.·lb (3.4 to 4.0 N·m).

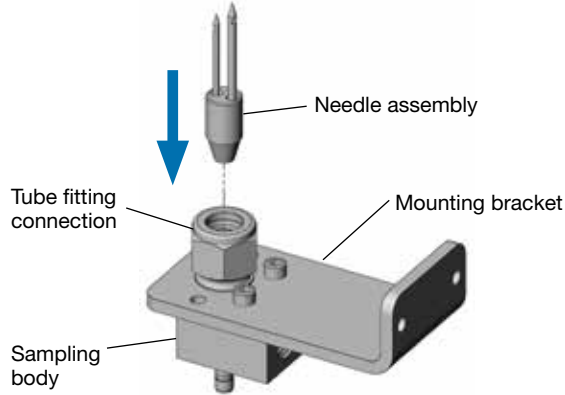


4. Reinstall the **nut and ferrules** finger-tight.



## Installing the Needle Assembly (Including Tube Stub) Into the Sampling Body

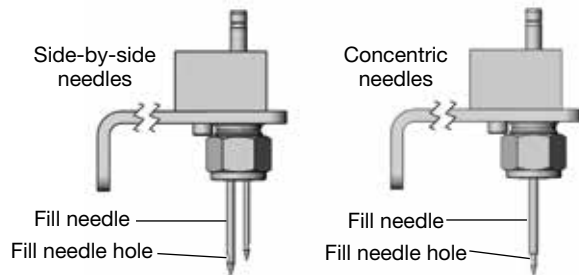
1. Prior to installing the **needle assembly** into the **sampling body**, attach the **mounting bracket** or shroud adapter to the **sampling body** (if required).
2. Hold the **sampling body** in a vise or attach it to a mounting panel using the **mounting bracket**.
3. Insert the **needle assembly** into the ½ in. **tube fitting connection** on the **sampling body**. Make sure the **needle assembly** is well seated.



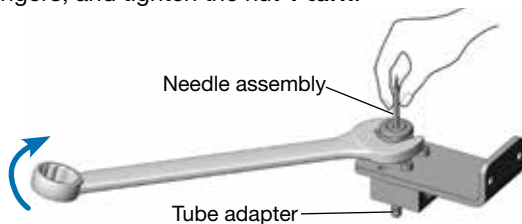
4. The following orientations of the needle assembly are recommended.

Note: The assembly will seal in any direction.

- a. **Side-by-Side Needles:** Orient the **fill needle** (longer needle) away from the user so that incoming liquid will spray on the back side of the bottle, making the fill level easier to see on the front side.
- b. **Concentric Needles:** Orient the hole on the tip of the **fill needle** away from the user so that incoming liquid will spray on the back side of the bottle, making the fill level easier to see on the front side.
- c. **Tube Stub:** Any orientation



5. Rotate the nut to the finger-tight position, and mark the nut and bracket/adapter in any convenient location.
6. Hold the **needle assembly** firmly in the port using your fingers, and tighten the nut **1 turn**.

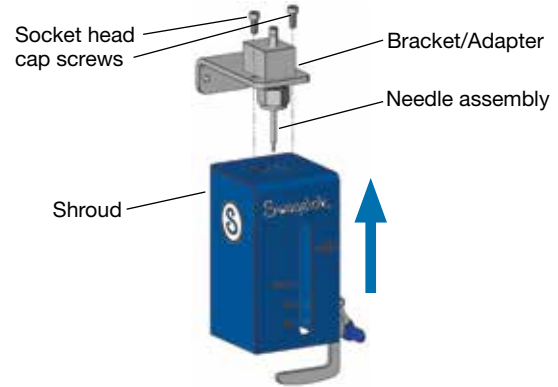


## Reassembly Instructions

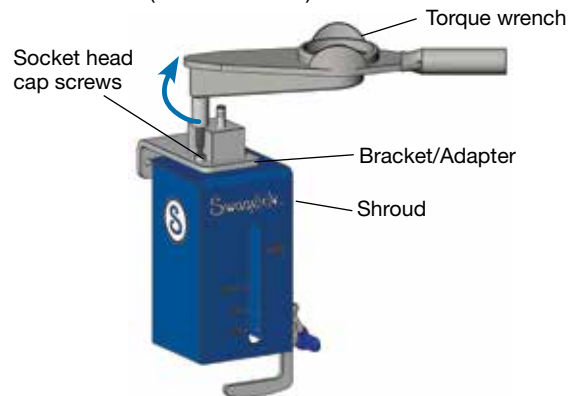
1. Disassemble/Reassemble the tube fitting connection in the sampling body according to *Swagelok Tube Fitting Instructions*, [MS-12-01](#).

## Attaching the Shroud to the Bracket/Adapter

1. Position the **shroud** below the **bracket/adapter**, being careful not to damage the **needle assembly**.



2. Attach the **shroud** to the **bracket/adapter** using the provided 10-32 **socket head cap screws**. Using a **torque wrench**, tighten the **socket head cap screws** to 30 to 35 in.-lb (3.4 to 4.0 N-m).



## Connecting a Valve to the Sampling Body.

### Valves with NPT End Connection

1. Apply Swagelok PTFE tape, SWAK, or other thread sealant to the threads on the sampling body according to the *Swagelok Tube Fitter's Manual*, [MS-13-03](#).
2. Thread the body into the outlet port of the valve, tighten to at least 14 ft-lb (19 N·m), and continue tightening until the body is oriented as desired.

### Valves with Swagelok Tube Fitting End Connection

1. Insert the tube adapter on the sampling body into the valve outlet.
2. Align the valve in the desired position and tighten the tube fitting according to *Swagelok Tube Fitting Instructions*, [MS-12-01](#).

For additional information, see [www.swagelok.com](http://www.swagelok.com).