Natural Gas Solutions

2.4GZ OpenWay Gas Module Installation Guide

Putting knowledge to work.

Identification
2.4GZ OpenWay Gas Module Installation Guide
DRAFT TDC-0816-000

Copyright

Applicable Patents
U.S. Patent Numbers: TBD
Canadian Patent Numbers: TBD

Transportation Classification
Itron classifies and ships model 2.4GZ OpenWay Gas Modules as a non-hazardous material. The proper shipping name is **Lithium Batteries contain in Equipment**, **Class 9, UN3091, Packing Group II**.
The Federal Aviation Administration prohibits operating transmitters and receivers on all commercial aircraft. When powered, the 2.4GZ OpenWay Gas Module is considered an operating transmitter and receiver and cannot be shipped by air.

Compliance Statement
This device must be permanently mounted such that it retains a distance of 20 centimeters (7.9 inches) from all persons in order to comply with FCC and Industry Canada RF exposure levels.
Industry Canada
Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.
FCC
This device complies with Part 15 of the FCC Rules. Operation of this device is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Modification and Repairs
To ensure FCC and Industry Canada compliance and system performance, this device and antenna shall not be changed or modified in any way without the express written approval of Itron, Inc. Any unauthorized modification will void the user's authority to operate the equipment.

Meter Installation/Removal
In the event of malfunction, all repairs should be performed by Itron. It is the responsibility of users requiring service to report the need for service to Itron.

Related Documents
Endpoint-Link Programming Guide (TDC-XXXX)

Trademark Notice
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Suggestions
If you have comments or suggestions on how we may improve this documentation, send them to *TechnicalCommunicationsManager@itron.com*.
Support
If you have questions or comments about this application, contact Itron Technical Support:

- Mail: Itron, Inc. Attention: Customer Care, 2111 N Molter Road, Liberty Lake, WA 99019
- E-mail: support@itron.com
- Phone: 1 800 635 8725
-

Web Support
http://eKnowledge.itron.com

Itron Website
http://www.itron.com

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Getting Started

The 2.4GZ OpenWay Gas Module is Itron's latest module. OpenWay Gas Modules are radio-frequency (RF) devices that transmit meter data. The 2.4GZ can be read by OpenWay CENTRON electric meters and is part of the Itron OpenWay solution for combo gas and electric utilities.

This installation guide shows you how to install the 2.4GZ OpenWay Gas Module on meters from a variety of manufacturers. To ensure you have a meter that is compatible with the 2.4GZ OpenWay Gas Module, refer to the

An FCC or IC license is not required to read 2.4GZ OpenWay Gas Modules.

Specifications

The functional and operational specifications for the 2.4GZ OpenWay Gas Module are listed below.

Functional Specifications	Description
Power Source	Two "A" cell lithium batteries
Tamper Detection	Tilt tamper and magnetic tamper
FCC Compliance	Part 15 certified
Industry Canada Compliance	RSS-210 certified
Measurement Canada Approval	Pending
Intrinsic Safety	UL Class I, Division 1, Groups C and D
Product Identification	Numeric and barcoded and serial number
Construction Materials	Gray polycarbonate back plate with Santoprene® gasket; clear polycarbonate front cover; encapsulated electronics

Operational Specifications	Description
Operating Temperatures	-40° to 158° F (-40° to +70° C)
Operating Humidity	5 to 95percent relative humidity
Frequency Band	2.4 to 2.475 GHz ISM band
Modulation	Direct Sequence Spread Spectrum
Data Integrity	Verified in every data message

Meter Compatibility List

The following meters are compatible with the 2.4GZ OpenWay Gas Module. Due to continuous research, product improvements, and enhancements, Itron reserves the right to change this list at any time.

To ensure you have the latest meter compatibility list available, contact your Itron representative.

Mfgr.	Model	Desc.	Class	Comments	OpenWay Gas Module	Part No.
American/ Canadian	W75AL		Residential	Aluminum case meters only	2.4GZ	OWG-5000-001
American/ Canadian	AL-175		Residential	Aluminum case meters only	2.4GZ	OWG-5000-001
American/ Canadian	AC-175		Residential	Aluminum case meters only	2.4GZ	OWG-5000-001
American/ Canadian	AT-175		Residential	Aluminum case meters only	2.4GZ	OWG-5000-001
American/ Canadian	ALC-175		Residential	Aluminum case meters only	2.4GZ	OWG-5000-001
American/ Canadian	AT-210		Residential	Aluminum case meters only	2.4GZ	OWG-5000-001
American/ Canadian	AL-225	Canada only	Residential	Aluminum case meters only	2.4GZ	OWG-5000-001
American/ Canadian	AL-250		Residential	Aluminum case meters only	2.4GZ	OWG-5000-001
American/ Canadian	AR-250		Residential	Aluminum case meters only	2.4GZ	OWG-5000-001
American/ Canadian	AC-250		Residential	Aluminum case meters only	2.4GZ	OWG-5000-001
American/ Canadian	AT-250		Residential	Aluminum case meters only	2.4GZ	OWG-5000-001
American/ Canadian	AM-250		Residential	Aluminum case meters only	2.4GZ	OWG-5000-001
American/ Canadian	AL-310		Residential	Aluminum case meters only	2.4GZ	OWG-5000-001
American/ Canadian	AL-350		Residential	Aluminum case meters only	2.4GZ	OWG-5000-001
American/ Canadian	AT-350		Residential	Aluminum case meters only	2.4GZ	OWG-5000-001
American/ Canadian	AL-425		Residential	Aluminum case meters only	2.4GZ	OWG-5000-001

American/ Canadian	AC-630		Residential	Aluminum case meters only	2.4GZ	OWG-5000-001
American/ Canadian	5B 225		Residential	Aluminum case	2.4GZ	OWG-5000-001
Sensus/Invensys/ Equimeter/ Rockwell	R-175	11 Tooth	Residential	Compatible with 2 foot drive index; 1 foot drive has 24 teeth	2.4GZ	OWG-5000-002
Sensus/Invensys/ Equimeter/ Rockwell	R-200	11 Tooth	Residential		2.4GZ	OWG-5000-002
Sensus/Invensys/ Equimeter/ Rockwell	RT-200	11 Tooth	Residential		2.4GZ	OWG-5000-002
Sensus/Invensys/ Equimeter/ Rockwell	RT-230	11 Tooth	Residential		2.4GZ	OWG-5000-002
Sensus/Invensys/ Equimeter/ Rockwell	R-275	11 Tooth	Residential		2.4GZ	OWG-5000-002
Sensus/Invensys/ Equimeter/ Rockwell	RT-275	11 Tooth	Residential		2.4GZ	OWG-5000-002
Sensus/Invensys/ Equimeter/ Rockwell	R-315	11 Tooth	Residential		2.4GZ	OWG-5000-002
Sensus/Invensys/ Equimeter/ Rockwell	250	11 Tooth	Residential		2.4GZ	OWG-5000-002
Sensus/Invensys/ Equimeter/ Rockwell	310	11 Tooth	Residential		2.4GZ	OWG-5000-002
Sensus/Invensys/ Equimeter/ Rockwell	S-110	11 Tooth	Residential		2.4GZ	OWG-5000-002
Sensus/Invensys/ Equimeter/ Rockwell	S-200	11 Tooth	Residential		2.4GZ	OWG-5000-002
Sensus/Invensys/ Equimeter/ Rockwell	S-175	11 Tooth	Residential		2.4GZ	OWG-5000-002
Sensus/Invensys/ Equimeter/ Rockwell	RT-100	18 Tooth	Residential	24- or 30-tooth gears are not compatible	2.4GZ	OWG-5000-004
Sensus/Invensys/ Equimeter/ Rockwell	S-190	11 Tooth	Residential		2.4GZ	OWG-5000-002
Sensus/ Invensys/ Equimeter/ Rockwell	S-120	11 Tooth	Residential		2.4GZ	OWG-5000-002
Sensus/Invensys/ Equimeter/ Rockwell	T-120	11 Tooth	Residential		2.4GZ	OWG-5000-002
Sensus/Invensys/ Equimeter/ Rockwell	T-110	11 Tooth	Residential		2.4GZ	OWG-5000-002

Sensus/Invensys/ Equimeter/ Rockwell	R-415	18 Tooth	Residential	Older meters may have 2.4GZ-to-meter mounting hole variations that can make them incompatible	2.4GZ	OWG-5000-004
Sensus/Invensys/ Equimeter/ Rockwell	RT-360	18 Tooth	Residential		2.4GZ	OWG-5000-004
Sensus/Invensys/ Equimeter/ Rockwell	MR8 (R-275 Metric)	16 Tooth	Residential		2.4GZ	OWG-5000-003
Sensus/Invensys/ Equimeter/ Rockwell	MR12 (R-415 Metric)	16 Tooth	Residential		2.4GZ	OWG-5000-003
Schlumberger/ Sprague	175	3 Hole index box	Residential	Index boxes with 3 mounting holes	2.4GZ	OWG-5000-005
Schlumberger/ Sprague	175-WC	3 Hole index box	Residential	Index boxes with 3 mounting holes	2.4GZ	OWG-5000-005
Schlumberger/ Sprague	175 Combination	3 Hole index box	Residential		2.4GZ	OWG-5000-005
Schlumberger/ Sprague	210		Residential		2.4GZ	OWG-5000-005
Schlumberger/ Sprague	240	Canadian version of 250	Residential		2.4GZ	OWG-5000-005
Schlumberger/ Sprague	240 Combination		Residential		2.4GZ	OWG-5000-005
Schlumberger/ Sprague	240	1 Hole cover flat face	Residential	Requires Itron 1A Adapter P/N CFG-0015-001Kit	2.4GZ	OWG-5000-005
Schlumberger/ Sprague	240	2 Hole cover	Residential		2.4GZ	OWG-5000-005
Schlumberger/ Sprague	240		Residential		2.4GZ	OWG-5000-005
Schlumberger/ Sprague	250		Residential		2.4GZ	OWG-5000-005
Schlumberger/ Sprague	250-WC		Residential		2.4GZ	OWG-5000-005
Schlumberger/ Sprague	250 Combination		Residential		2.4GZ	OWG-5000-005
Schlumberger/ Sprague	1A	Flat face	Residential	Requires Itron 1A adapter kit, CFG-0015-001	2.4GZ	OWG-5000-005
Actaris/ Schlumberger	METRIS 250	3-hole index box	Residential	Index boxes with 3 mounting holes Slant-faced	2.4GZ	OWG-5000-005

Actaris/ Schlumberger	400		Residential	Slant-faced	2.4GZ	OWG-5000-005
Actaris/ Schlumberger	400A		Residential	Slant-faced	2.4GZ	OWG-5000-005
Actaris/ Schlumberger	675		Commercial	Requires Actaris adapter p/n 80005901; purchase from Actaris	2.4GZ	OWG-5000-005
Actaris/ Schlumberger	800A		Commercial	Requires Actaris adapter p/n 80005901; purchase from Actaris	2.4GZ	OWG-5000-005
Actaris/ Schlumberger	1000A		Commercial	Requires Actaris adapter p/n 80005901; purchase from Actaris	2.4GZ	OWG-5000-005

C H A P T E R   2

American Meter Installation

This chapter shows you how to install a 2.4GZ OpenWay Gas Module on an American meter.

Before installing the 2.4GZ OpenWay Gas Module, verify that you have:

- A compatible meter shown in the Meter Compatibility List.
- A compatible index. Itron 2.4GZ OpenWay Gas Modules can be used with standard dial and direct read (odometer) indexes.
- The list of materials defined under Installation Prerequisites in this chapter.

Installation Prerequisites

The following items are required to install the Itron 2.4GZ OpenWay Gas Module.

Materials Supplied By Itron

The following items are supplied by Itron:

- 2.4GZ OpenWay Gas Modules
- New tamper seals

Materials Supplied By You

You must supply the following items to install, initialize, and check the 2.4GZ OpenWay Gas Module on the meter.

- **Small and medium flat-blade or Phillips screwdrivers**   Used to remove and tighten index and index-cover screws.
- **Side-cutting plier/wire snips**   Used for cutting wire seals, if necessary.
- **Small putty knife**   Used to remove all traces of old gaskets from the meter.
- **Meter seals, wire seals, and seal press**   Used to secure the meter from tampering, if necessary.
- **11/32-inch nut driver or other blunt tool**   Used to securely seat new tamper plugs over screw holes.
- **Replacement screws**   Used to mount 2.4GZ OpenWay Gas Module assembly to meter and index to module assembly backplates.

Replacement Screws

Replacement screws used in this procedure are shown below.

For mounting 2.4GZ OpenWay Gas Module assemblies on meters:

- Use 1/4 - 20 x 5/8-inch slotted, Fillister head screws.

For mounting indexes on 2.4GZ OpenWay Gas Module backplates:

- Use 8 - 32 x 3/16-inch slotted, round head screws.

Preinstallation Preparations

Before installing the 2.4GZ OpenWay Gas Module on a meter, verify that:

- All Itron gas modules are 2.4GZ OpenWay Gas Modules for your brand of gas meters.
- The model numbers of all meters on which the 2.4GZ OpenWay Gas Modules will be installed are included in the Meter Compatibility List.

Installing the 2.4GZ OpenWay Gas Module

There are four major steps to installing the 2.4GZ OpenWay Gas Module on a meter:

- Remove the index
- Assemble the 2.4GZ OpenWay Gas Module
- Program the 2.4GZ OpenWay Gas Module
- Attach the 2.4GZ OpenWay Gas Module to the meter.

> **NOTE**   Properly dispose of all unused screws, old index covers, gaskets, tamper seals, and other left-over materials. Do not leave any materials on customer premises.

Remove the Index

The first major step when installing a 2.4GZ OpenWay Gas Module on an American meter is to remove the index from the meter.

To Remove the Index

1. Remove any tamper seals from the meter.

**2.** Detach the index cover from the meter by removing the four screws holding it in place.

3. Examine the index cover screws you just removed. Verify that they are 5/8-inches long and are not corroded.

- If the screws are the correct length, and are not corroded, keep them for later use.

- If the screws are an incorrect length or are corroded, dispose of them properly. Use the screws listed in Replacement Screws on page 7.

    TIP You can use the index cover you just removed as a temporary storage location for screws.

4. Unscrew one index mounting screw completely.

Hold one hand beneath the index to catch the screw when it falls out of the index assembly. If it does not fall out by itself, be sure to remove it.
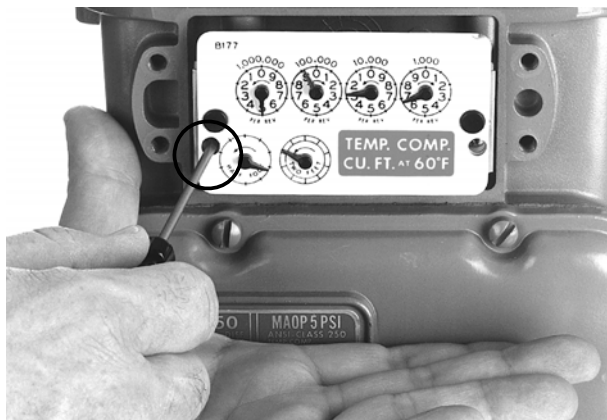
5. Unscrew the other index mounting screw.

While removing this screw, pull the index away from the meter to keep its backplate (1) against the back of the screwhead (2). This prevents the screw from falling out prematurely.
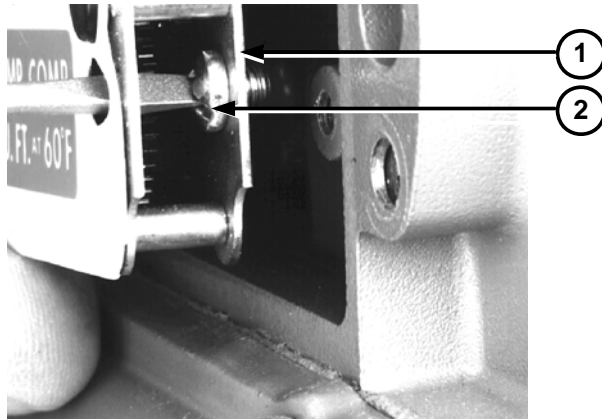
6. Remove the screw from the index once it is completely free of its hole.

7. Set the index aside for the moment. Place it where it will not be damaged; get filled with dirt, rain, or snow; or fall to the ground or floor. The index will be used later in this procedure.

8. Examine the index screws you just removed. Verify that they are 3/16-inch long and are not corroded.

    •   If the screws are 3/16-inch long and are not corroded, keep them for later use.

    •   If the screws are an incorrect length or are corroded, dispose of them properly. Use 8 - 32 x 3/16-inch screws as described in Replacement Screws on page 7 instead.

9. Use a putty knife or similar object to completely remove the old index gasket from the meter (if applicable). All traces of the gasket must be removed before the OpenWay Gas Module can be installed.
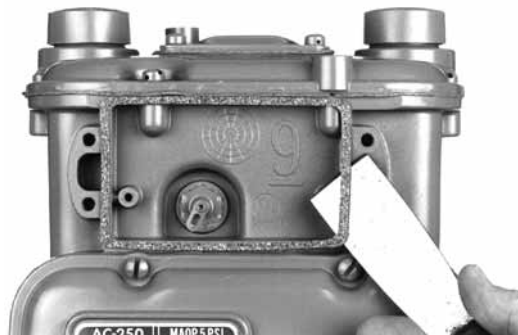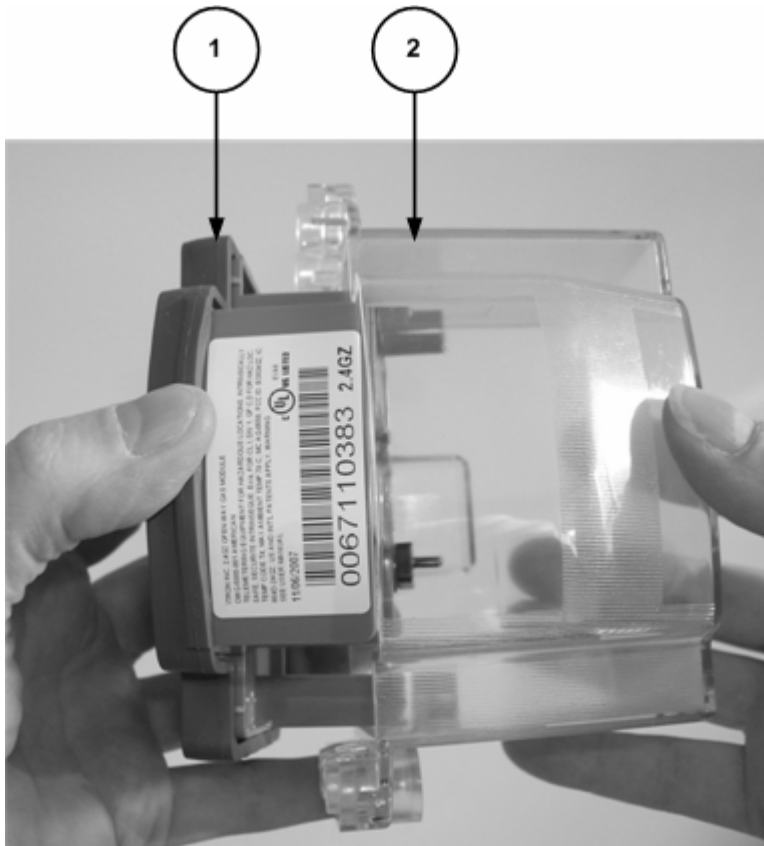
Assemble the OpenWay Gas Module

When installing a 2.4GZ OpenWay Gas Module, the next major step is to create the OpenWay Gas Module assembly by combining the module backplate and cover with the meter index. Follow the procedure below to do so.

To Assemble the OpenWay Gas Module

1. Obtain a new 2.4GZ OpenWay Gas Module.

2. Separate the module backplate (1) from the cover (2).

3. Set the new OpenWay Gas Module index cover aside for the moment. Place it where it will not be damaged; get filled with dirt, rain, or snow; or fall to the ground or floor. The index cover will be used later in this procedure.

   IMPORTANT Before continuing with the installation, note the following information about American Meter indexes:
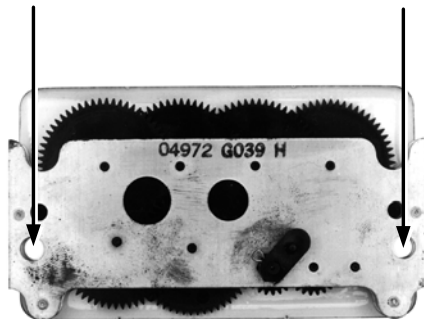
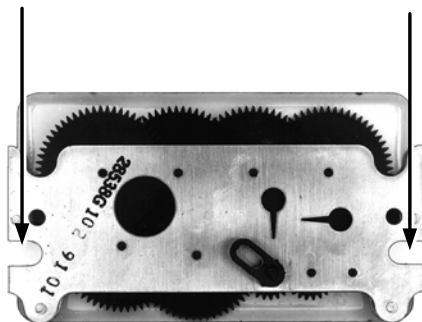- Index wrigglers on one-foot meters have drive slots.
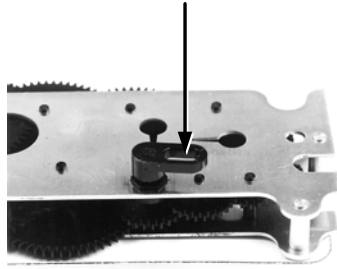
- Index wrigglers on two-foot meters have drive posts.
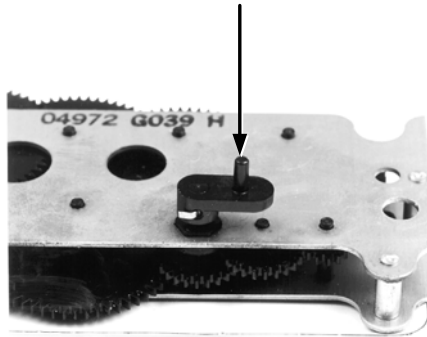
- An index may have mounting screw holes.

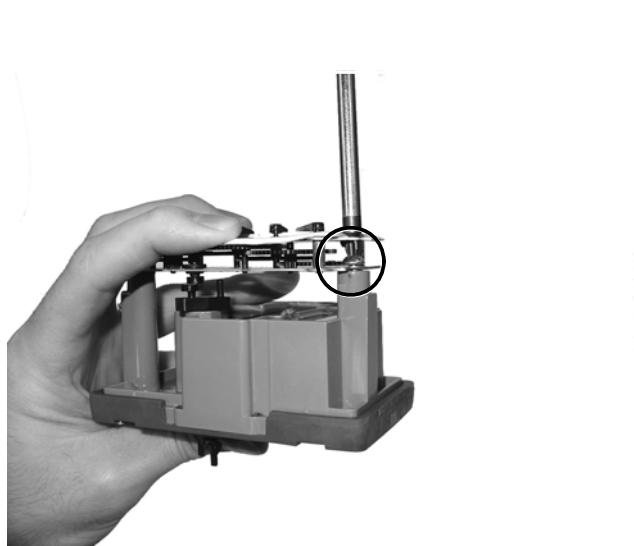- An index may have mounting screw slots.

If the index has mounting screw *slots,* skip steps 4 and 5 below. Continue with step 6.

If the index has mounting screw *holes,* perform steps 4 and 5 below, and then skip steps 6 and 7.

4. If the index has mounting screw *holes*, place an index mounting screw (1) in the right-hand mounting screw hole (2). Use one 8 - 32 3/16-inch screw for this step (you can use an original mounting screw if it was the correct size and not corroded; otherwise, use the correct size replacement screw).
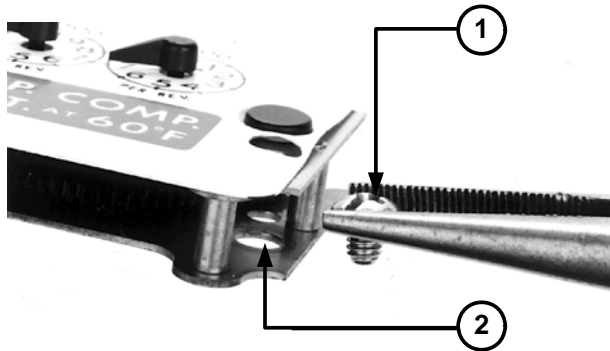
5. Attach the screw to the OpenWay Gas Module backplate's right-hand index mounting post just far enough to hold the screw and end of the index in place.

6. If the index has mounting screw *slots,* screw an index mounting screw (1) one to two turns into the OpenWay Gas Module backplate's right-hand index mounting post (2). Use one 8 - 32 x 3/16-inch screw for this step (you can use an original mounting screw if it was the correct size and not corroded; otherwise, use the correct size replacement screw).
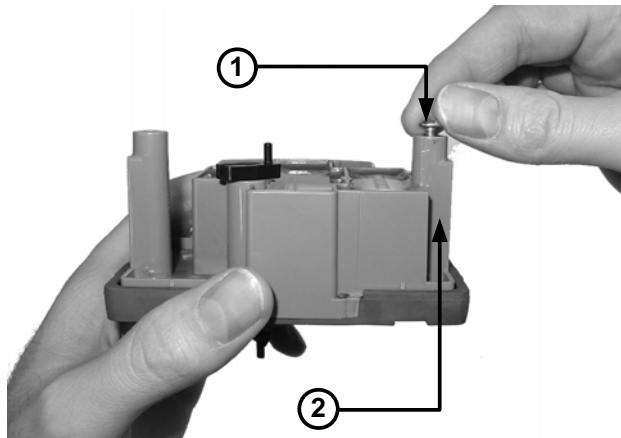
7. Place the index mounting screw slot under the screw head. *Do not* tighten the screw yet.

8. Attach the wriggler to the index and backplate.

- If the index wriggler has a drive slot (1), place the backplate wriggler's drive post (2) in the index wriggler's drive slot.