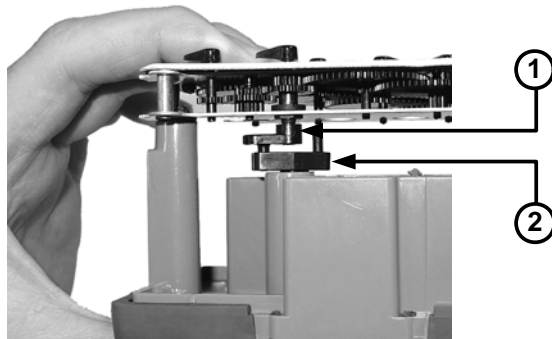- If the index wriggler has a drive post (1), place the index wriggler's drive post in the backplate wriggler's drive slot (2).


WARNING! Failure to place the drive post into the drive slot can cause binding and lead to poor registration or meter failure

9. Install and tighten the left-hand index mounting screw (for indexes with either mounting screw slots or holes). 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).

10. Tighten the right-hand index mounting screw.

11. Slide the OpenWay Gas Module cover (1) over the index and backplate (2).
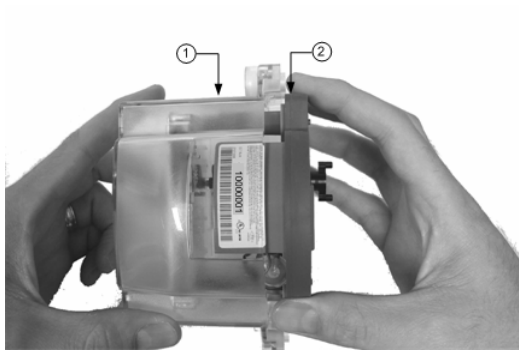
Next, program the OpenWay Gas Module.
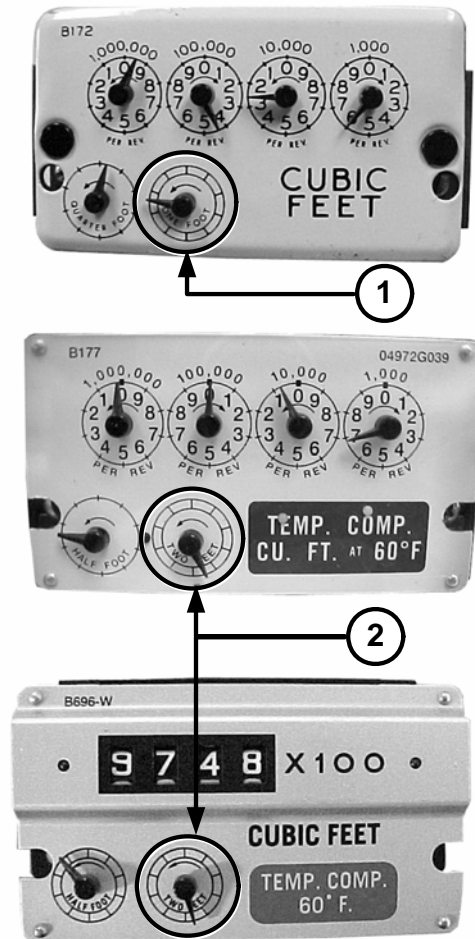
Program the OpenWay Gas Module

Once the OpenWay Gas Module has been assembled, the module must be programmed using FieldPro on a laptop with a ZigBee dongle. Refer to FieldPro documentation for programming information.

IMPORTANT You must perform the following programming procedure for the OpenWay Gas Module to function properly.

When programming the OpenWay Gas Module, you must take note of the drive rate shown on the index of American meters.

Examples of 1-foot (1) and 2-foot (2) drive rates are shown below (a 0.05 cubic metre drive rate is not shown). Be sure to program the OpenWay Gas Module based on the drive rate indicated on the index.

To Program the OpenWay Gas Module

1. Make sure the 2.4GZ OpenWay Gas Module is within 10 feet of the programming device.

2. Verify that the programming software is running.

3. Verify that red LED on ZigBee dongle is on.

4. Hold the magnet under the 2.4GZ OpenWay Gas Module for 5 seconds and then remove it. You will see three red blinks from the LED. This signifies that the 2.4GZ OpenWay Gas Module is searching for a programming device. Within a few seconds the red LED will blink five more times. The programming device will indicate programming success or failure.

   a) If five red LED blinks are not seen on the 2.4GZ OpenWay Gas Module, hold the magnet under 2.4GZ OpenWay Gas Module for 5 seconds.

b) If 5 red LED blinks are seen on the 2.4GZ OpenWay Gas Module, but the programming device indicates that programming failed, verify the following (1) 2.4GZ is within 10 foot range of programming device and (2) programming software is using correct security key. Repeat holding magnet under 2.4GZ for 5 seconds.

When the 2.4GZ OpenWay Gas Module has been programmed to normal mode, it is ready to commission to an OpenWay CENTRON meter. If an OpenWay CENTRON meter is within range of the 2.4GZ OpenWay Gas Module, the red LED on the 2.4GZ OpenWay Gas Module will blink three times, indicating that it is looking for all available OpenWay CENTRON meters.

After choosing the OpenWay CENTRON meter with the best signal, the 2.4GZ OpenWay Gas Module will blink five times to indicate successful commissioning to the meter. The timing for this could be as quick as one second after being programmed. If within two minutes of successful programming, the five blinks are not seen, make note of the installation for further investigation.

NOTE Itron will be moving to this programming solution in 2008

1. Using the FC200 and Belt Clip radio, program the reading of the index that was on the meter into the OpenWay Gas Module assembly.

   During programming, the OpenWay Gas Module is programmed to the *nearest 100 cubic feet*; the last two digits (the tens and units) are programmed as zeros (0). Once programming is complete, however, the OpenWay Gas Module assembly can be read to the nearest cubic foot.

2. Slowly turn the OpenWay Gas Module drive wriggler two turns in the direction indicated on the index drive rate. This lets you verify the module is counting properly after assembly.

IMPORTANT Do not turn the drive wriggler faster than *one turn per second*.

3. Read the OpenWay Gas Module assembly using the FC200 and Belt Clip radio. Consult the *EndPoint-Link Programming Guide* or other applicable instructions for details on how to read an OpenWay Gas Module.

- If this reading is higher than the one you programmed in step 1 above, the module assembly is counting correctly.
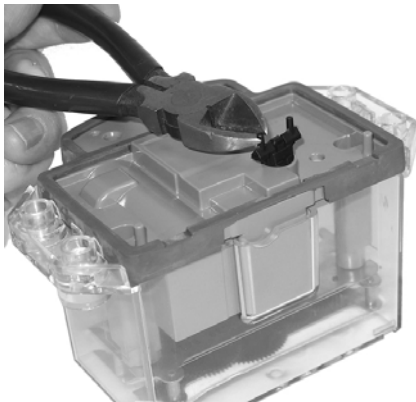
If the OpenWay Gas Module assembly reading is *not* higher than what was programmed in step 1, replace the module with a new one.

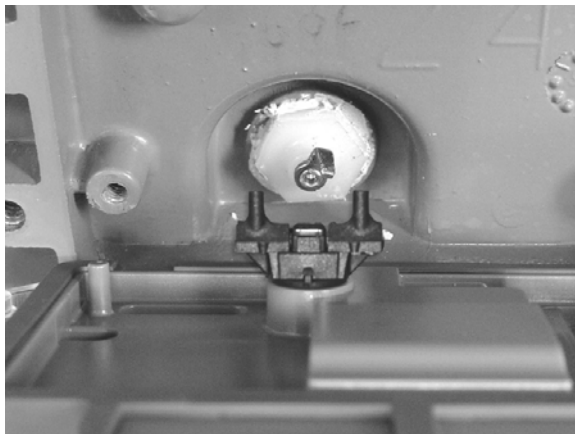## Attach the OpenWay Gas Module to the Meter

After the 2.4GZ OpenWay Gas Module has been programmed and is reading correctly, follow the steps below to attach it to the meter.

### *To attach the 2.4GZ OpenWay Gas Module to the meter*

1. **For 5B 225 Meters Only:** If you are installing the OpenWay Gas Module on a 5B 225 aluminum meter, cut 1/16-inch off each post of the module wriggler to prevent it from rubbing on the face of the nut that holds the wriggler in place. If you are not installing on a 5B 225 meter, continue to step 2 below.


2. Set the wriggler to the desired position for mounting the OpenWay Gas Module assembly to the meter.

   - **For One-Foot Meters:** Align the OpenWay Gas Module assembly wriggler with the meter drive post (as shown below). Make sure the wriggler is perpendicular to the meter drive post.

- **For Two-Foot Meters:** Align the OpenWay Gas Module assembly wriggler with the meter drive slot (as shown below). It is acceptable for the pin on the module wriggler to be installed inside or outside of the meter drive slot. For ease of assembly, Itron recommends that the pin on the OpenWay Gas Module wriggler be installed outside of the meter drive slot.
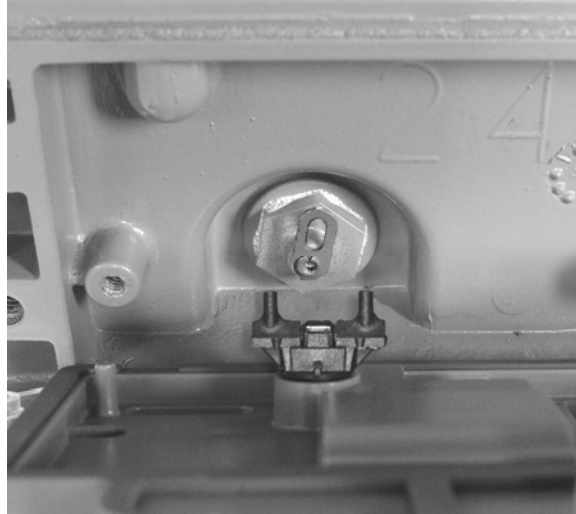

3. Gently place the OpenWay Gas Module assembly on the meter. Align the four screw holes on the module assembly with the holes on the meter.
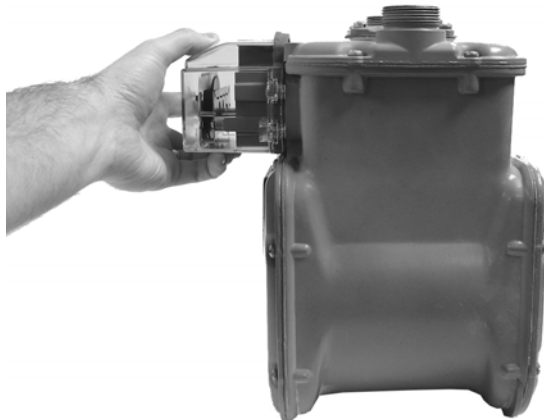

4. Turn each screw 1/4 to 1/2 turn after it contacts the cover. Use the 1/4 - 20 x 5/8-inch screws for this step. You can use the original mounting screws if they were the correct size and not corroded, otherwise, use the correct size Replacement Screws on page 7.
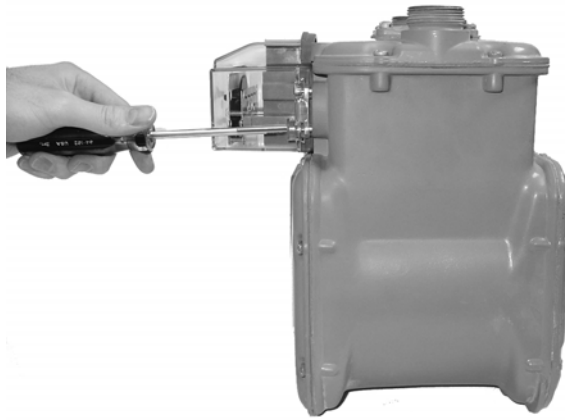
> ℹ️ **IMPORTANT** Meter manufacturers should torque the mounting screws 15 to 20 inch-pounds.
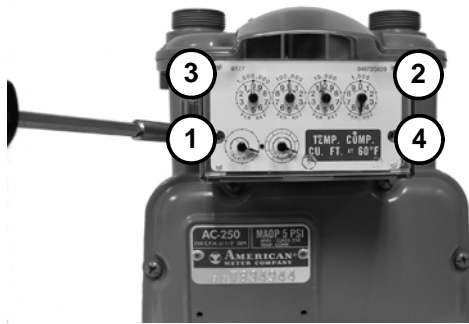
5. Place a new tamper seal over two of the mounting screws as shown below.
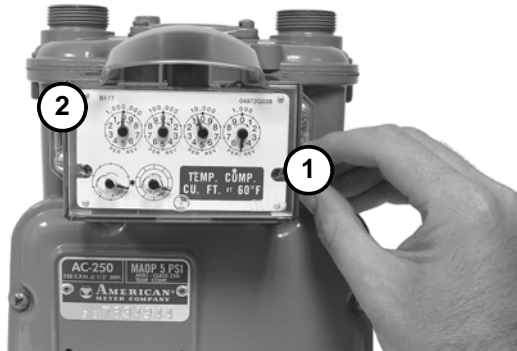
6. Press the new tamper seals into place using the 11/32-inch nut driver (or another similar blunt tool).

7. Complete any necessary paperwork. Make sure no excess material is left on the customer premises; dispose of it properly.

The OpenWay Gas Module is now installed on the meter.

Waking Up the 2.4GZ OpenWay Gas Module
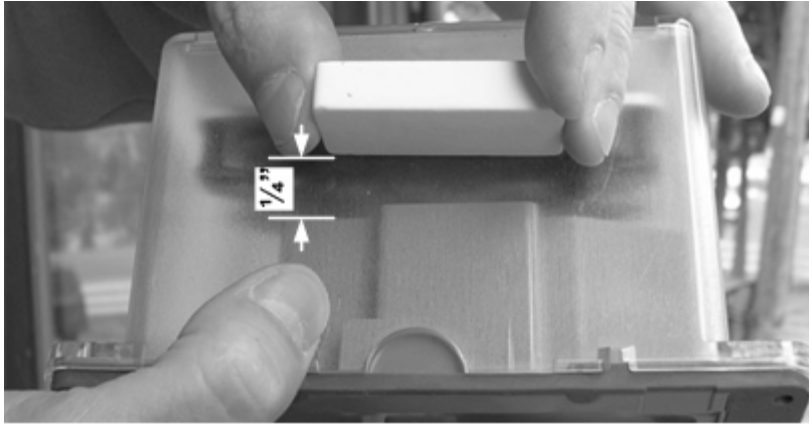
You can use an Itron magnet (part number MSE-0159-003) to wake up the 2.4GZ OpenWay Gas Module.

To wake up the 2.4GZ OpenWay Gas Module

1. Place the magnet under the index cover with the arrow on the magnet pointing up toward the cover.

2. Slide the magnet back toward the 2.4GZ OpenWay Gas Module backplate until it is within a 1/4-inch of the backplate.

3. Hold the magnet there for five seconds to wake up the 2.4GZ OpenWay Gas Module.

C H A P T E R 3

Sensus Meter Installation

This chapter shows you how to install a 2.4GZ OpenWay Gas Module on a Sensus meter. The instructions in this chapter apply to 11-tooth, 16-tooth, and 18-tooth Sensus endpoints.

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 10 - 24 x5/8-inch slotted, Fillister head screws.

For mounting indexes on 2.4GZ OpenWay Gas Module backplates:

- Use 6 - 32 x 5/8-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 a Sensus meter is to remove the existing 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.
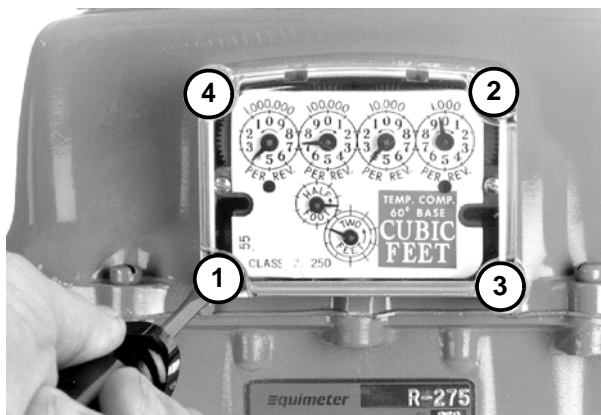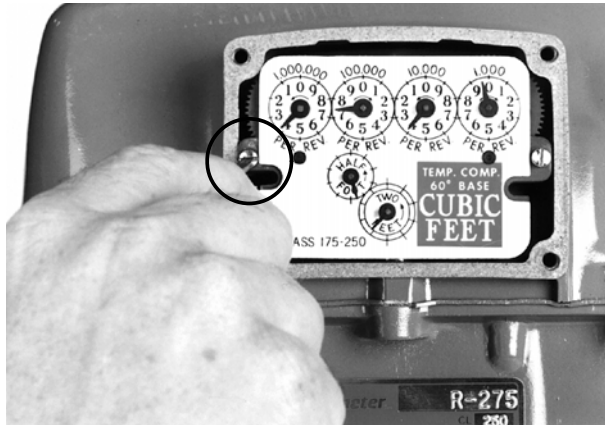
3. Examine the index cover screws you just removed. Verify that they are 5/8-inch long and are not corroded.

- If the screws are 5/8-inch long and are not corroded, keep them for later use.

- If they are an incorrect length or are corroded, dispose of them properly. Use 10 - 24 x 5/8-inch screws as described in Replacement Screws on page 25 instead.

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

4. Unscrew one index mounting screw completely.

5. Remove the other index mounting screw.

6. 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.

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

- If the screws are 5/8-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 6 -32 x 5/8-inch screws as described in Replacement Screws on page 25 instead.

8. 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.
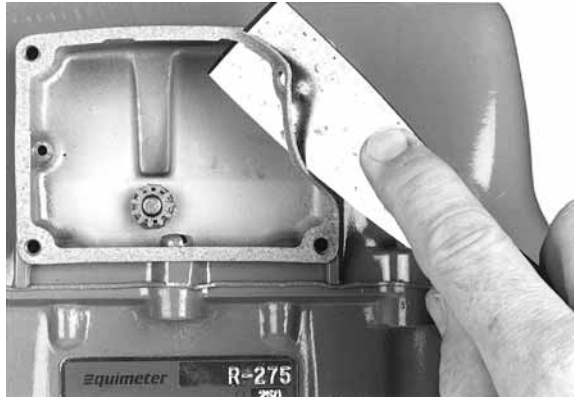

Assemble the OpenWay Gas Module

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 OpenWay Gas Module backplate from the cover.

3. Place the index drive gear (1) in the backplate wriggler gear cup (2) of the OpenWay Gas Module (please note that the following example uses an 11-tooth drive gear; your index may have a 16- or 18-tooth drive gear, and you must use the appropriate 2.4GZ OpenWay Gas Module for your specific meter. See the Meter Compatibility list on page 2 for more information).
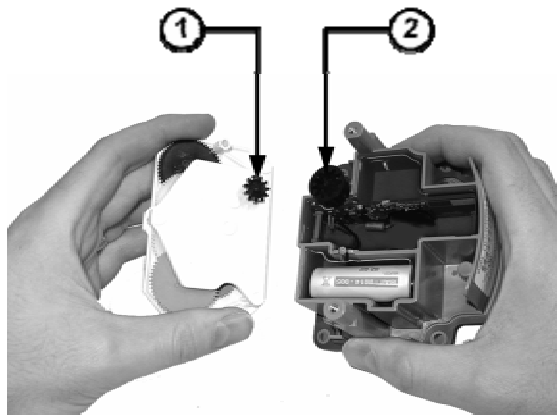
Once properly in place, the index drive gear and backplate wriggler cup should look similar to the following example.
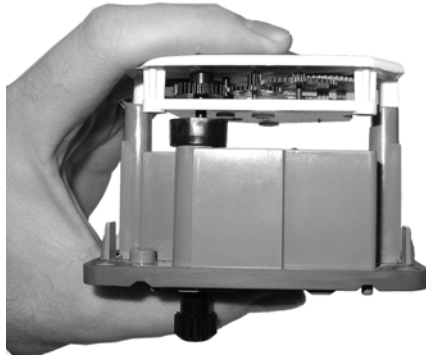
4. Attach the right-hand mounting screw to the index and meter, just far enough to hold the index in place. Use one 6 - 32 x 5/8-inch screw for this step (you can use an original mounting screw if it was the correct size and not corroded; otherwise, use the correct size Replacement Screw see "Replacement Screws" on page 25).

5. Install and tighten the left-hand index mounting screw.

6. Tighten the right-hand index mounting screw completely.

7. Slide the OpenWay Gas Module cover over the index and backplate.

8. Verify that the cover is installed correctly.

Once combined, the OpenWay Gas Module backplate, meter index, and OpenWay Gas Module cover create an OpenWay Gas Module Assembly.
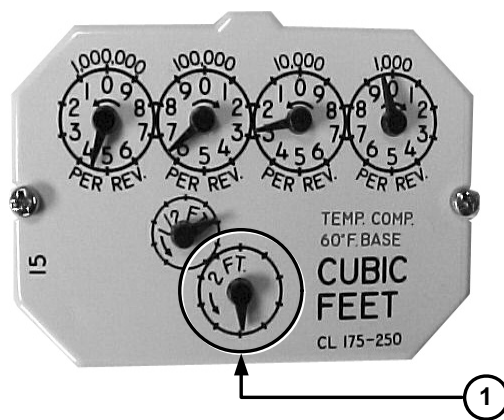
Next, program the OpenWay Gas Module.

Program the OpenWay Gas Module

Once the OpenWay Gas Module has been assembled, the module must be programmed using FieldPro on a laptop with a ZigBee dongle. Refer to FieldPro documentation for programming information.

IMPORTANT You must perform the following programming procedure for the OpenWay Gas Module to function properly.

When programming the OpenWay Gas Module, you must take note of the drive rate shown on the index of Sensus meters. Sensus meters have a 2-foot drive rate, as indicated in the example below (1), or a 0.05 cubic metre drive (not shown).

To Program the OpenWay Gas Module

> **NOTE** Itron will be moving to this programming solution in early 2008
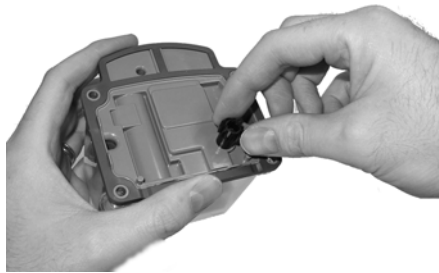
1. Using the FC200 and Belt Clip radio, program the reading of the index that was on the meter into the OpenWay Gas Module assembly.

   During programming, the OpenWay Gas Module is programmed to the *nearest 100 cubic feet*; the last two digits (the tens and units) are programmed as zeros (0). Once programming is complete, however, the module assembly can be read to the nearest cubic foot.

2. Slowly turn the OpenWay Gas Module drive wriggler two turns in the direction indicated on the index drive rate. This lets you verify the module is counting properly after assembly.

   > **IMPORTANT** Do not turn the drive wriggler faster than *one turn per second*.

3. Read the OpenWay Gas Module assembly using the FC200 and Belt Clip radio. Consult the *EndPoint-Link Programming Guide* or other applicable instructions for details on how to read an OpenWay Gas Module.

   - If this reading is higher than the one you programmed in step 1 above, the ERT module assembly is counting correctly.

- If the OpenWay Gas Module assembly reading is *not* higher than what was programmed in step 1, replace the module with a new one.

Attach the OpenWay Gas Module to the Meter

After the OpenWay Gas Module has been programmed and is reading correctly, follow the steps below to attach the module to the meter.

To Attach the OpenWay Gas Module to the Meter

1. Gently place the OpenWay Gas Module assembly against the front of the meter as shown. Make sure all four mounting screw holes in the 2.4GZ line up with the corresponding holes on the meter.

2. Insert the top-right cover mounting screw and tighten the screw just enough to hold the 2.4GZ OpenWay Gas Module in place. Use the 10 - 24 x 5/8-inch screws for this and the following step (you can use the original mounting screws if they were the correct size and not corroded; otherwise, use the correct size as described in Replacement Screws on page 25).

3. Install the remaining three mounting screws and tighten them in the order shown below.

IMPORTANT Meter manufacturers should torque the mounting screws 15 to 20 inch-pounds.