> Only two screws are required to mount the 100G ERT Module. Dispose of the extra screw properly. Do not leave it on the customer premises.

4. Press new tamper seals into place with an 11/32 nut driver, or other blunt tool.

Attaching the 100G ERT Module to Flat-faced Model 1A Meters

If you want to install a 100G ERT Module on a flat-faced model 1A meter you will have to use the CFG-0015-001 adapter kit. Obtain the kit from Itron then use the following procedure to install the kit and the 100G ERT Module.

1. Make sure you have all of the following items in the kit.

Drive Dog
(FAB-0026-001)

Index Mounting Screws
(SCR-0065-001)

Clear Cover Mounting Screws
(SCR-0066-001)

Adapter Shim Plate
(MLD-0003-029)

2. Remove the drive dog from the meter and replace it with the one from the kit.

> **IMPORTANT** Do not use a tool to install or tighten the new drive dog, hand tighten only.

3. Attach Adapter Shim Plate to the meter, as shown, using the two index mounting screws from the kit. Apply 15 to 20 inch-pounds of torque to the screws to provide a tight seal between the shim plate and the meter.

4. Turn the white wriggler so one of its four drive slots lines up with the drive dog.
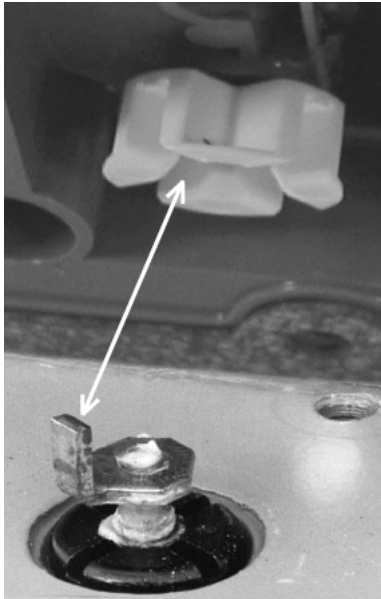
5. Gently place the 100G ERT Module on the meter.

If there is a gap between the gasket and the meter, it is probably because the drive slot of the ERT module assembly's wriggler is not properly aligned with the meter wriggler drive dog. To correct this, remove the assembly and repeat the alignment procedure in step one.

6. WARNING! If the drive slot of the 100G ERT Module wriggler is not properly aligned with the meter wriggler drive dog, there may be a gap between the gasket and the meter. To correct this, remove the assembly and repeat the alignment procedure. Failure to place the drive post into the drive slot can cause binding and lead to poor registration or meter failure. Turn each screw 1/4 to 1/2 turn after it contacts the cover.

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

Only two screws are required to mount the 100G ERT Module. Dispose of the extra screw properly. Do not leave it on the customer premises.

7. Press new tamper seals into place with an 11/32 nut driver, or other blunt tool.

C H A P T E R   5

National/Lancaster Meter Installation

This chapter shows you how to install a 100G ERT Module on the 175-250 CFH National/Lancaster gas meter.

Index Compatibility

The 100G ERT Module for National/Lancaster meters can only be used with dial type indexes from National or Actaris/Schlumberger.

Installation Prerequisites

The following items are required to install the Itron 100G ERT Module.

Materials Supplied By Itron

The following items are supplied by Itron:

- 100G ERT Module
- New tamper seals
- Two screws for attaching the 100G ERT Module to the meter.

Materials Supplied By You

The following tools are required to install, initialize, and check the 100G ERT 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 100G ERT Module assembly to meter and index to module assembly backplates.

Replacement Screws

Replacement screws used in this procedure include:

For mounting 100G ERT Module assemblies on meters:

- Use 10-24 x 2 3/4-inch flat head, stainless steel, Phillips head screws (Itron part number SCR-0014-003).

For mounting indexes on 100G ERT Module backplates by their legs:

- Use 6-19 x 3/8-inch thread forming, zinc-plated, Phillips head screws (Itron part number SCR-0015-001).

For mounting indexes through 100G ERT Module backplate mounting holes:

- Use 6-19 x 3/8-inch thread forming, zinc-plated, Phillips Fillister head screws (Itron part number SCR-0037-001).

Pre-installation Preparations

Before installing the 100G ERT Module on a meter, verify:

- All Itron 100G ERT Module gas modules are compatible with your brand of gas meter.
    - See the Meter Compatibility List for compatible meter model numbers for the 100G ERT Module

Installing the 100G ERT Module

There are four steps to installing the 100G ERT Module on a meter:

- Remove the index
- Assemble the 100G ERT Module
- Program the 100G ERT Module
- Attach the 100G ERT 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.

To remove the index

The first step to install a 100G ERT Module on the meter is to remove the index from the meter.

1. Remove any tamper seals from the meter.
2. Remove the two screws and dispose of them properly.

3. Remove the index cover from the meter.

4. Remove the index mounting screws and the index from the meter.

5. Remove all traces of the old index cover gasket from the meter. The new ERT module has its own gasket.

6. Verify the meter drive dog sticks straight out from the meter.
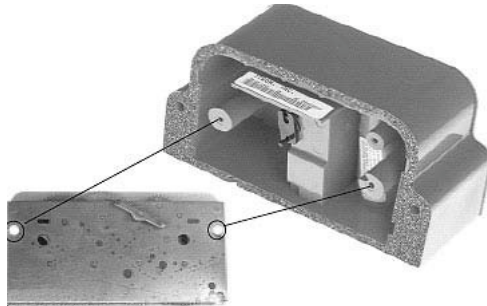
7. If the index has mounting legs, make sure each leg is parallel to the back of the index (as shown) to provide proper alignment between the ERT and meter.
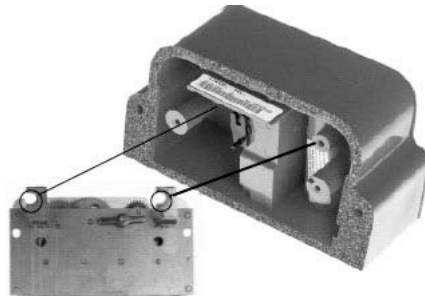

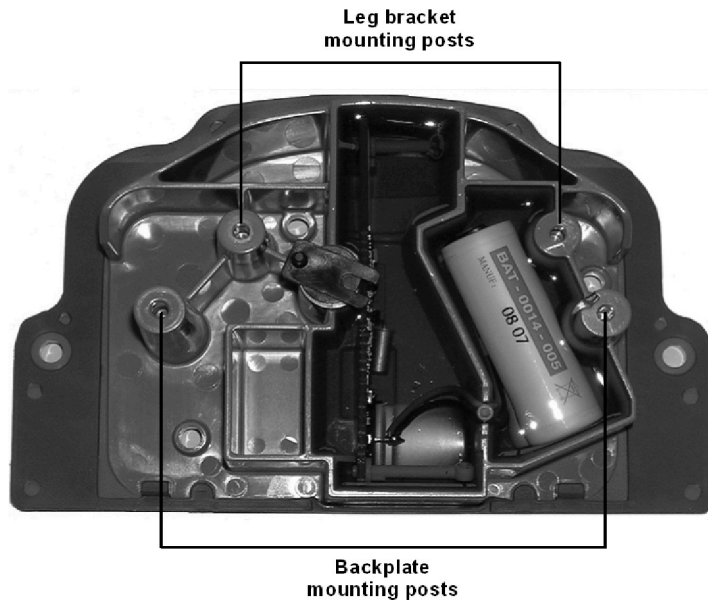8. Verify the index wriggler is parallel to the surface of the index.

Indexes that do not have mounting legs must be attached to the ERT module's index backplate mounting posts.

Indexes that have mounting legs only, must be attached to the ERT module's index bracket mounting posts.

Leg bracket
mounting posts

Backplate
mounting posts

If you are attaching the index to the 100G ERT Module using mounting legs, use Itron SCR-0015-001 screws.

If you remove the two mounting legs and attach the index to the 100G ERT Module backplate mounting posts, use Itron SCR-0037-001 screws.

To attach the index to the 100G ERT Module using the mounting legs

1. Get two new screws (part number SCR-0015-001) for attaching indexes to ERT modules by their legs.

2. Install an index mounting screw in the left mounting hole and tighten the screw just enough to hold it in place.

3. Place the index's mounting leg screw slot under the screw head and tighten the screw enough to hold the index leg in place, but loose enough so you can pivot the index around the screws.

4. Make sure the index's right mounting leg screw slot is positioned over the ERT module's right index mounting leg screw hole.

5. Turn each screw 1/4 to 1/2 turn after it contacts the mounting leg.

To attach the index to 100G ERT Module without mounting legs

1. Get two screws (part number SCR-0037-001) to attach indexes to the ERT modules by their backplate mounting screw holes.

2. Secure the index mounting screws through the mounting screw hole in the ERT index backplate mounting post.

3. Turn each screw 1/4 to 1/2 turn after it contacts the index backplate.

Program the ERT

The ERT must be programmed using the FC200SR with EndPoint-Link software. See the *Endpoint-Link ERT Programming Guide (TDC-0411)* for more information.

> **IMPORTANT** You must perform the following programming procedure for the ERT module to function properly.

To program the ERT module

1. Using the FC200SR, program the reading of the index that was on the meter into the ERT module assembly.

   - For initial programming, hold the FC200SR approximately 1 foot away from the 100G.

   - For reprogramming (30 days or more past initial programming), hold the FC200SR approximately 4 to 5 feet away from the 100G.

   Be sure to program the 100G to the correct mode for the reading technology that will be used (for example, Fixed Network Mode, Mobile/Handheld Mode, or Hard to Read Mobile/Handheld Mode). In Endpoint-Link Pro v5.0, you will have access to the one mode that was defined by your system administrator.

   During programming, the 100G ERT 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 ERT module assembly can be read to the nearest cubic foot.

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

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

3. Read the ERT module assembly using the FC200SR. Consult the *EndPoint-Link ERT Programming Guide* (*TDC-0411*) or other applicable instructions for details on how to read an ERT.

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

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

To attach the 100G ERT Module to the meter

1. Get two new ERT module mounting screws (part number SCR-0014-004).

2. Carefully place the ERT module assembly on the meter. Make sure the meter drive dog aligns with the white wriggler drive slot.
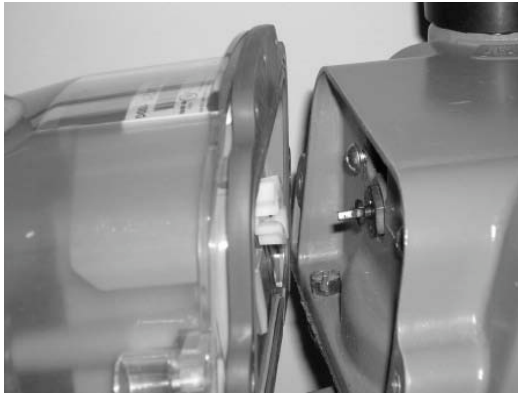
3. Make sure there is no gap between the 100G ERT Module and the meter.

   If there is a gap, the end of the meter drive dog is probably riding on the face of the ERT module wriggler drive post instead of in its drive slot. To eliminate the gap: Remove the ERT module. Repeat step 2 to align the ERT module drive dog.

   WARNING! If the drive slot of the 100G ERT Module wriggler is not properly aligned with the meter wriggler drive dog, there may be a gap between the gasket and the meter. To correct this, remove the assembly and repeat the alignment procedure. Failure to place the drive post into the drive slot can cause binding and lead to poor registration or meter failure.

4. Turn each screw 1/4 to 1/2 turn after it contacts the cover.

5. Install tamper seals over the screws and press them into place with an 11/32 nut driver, or some other blunt tool.

C H A P T E R 6

# American/Actaris Commercial Meter Installation

This chapter shows you how to install a 100G ERT Module on an American Commercial meter.

Before installing the 100G ERT Module, verify you have:

- A compatible meter shown in the Meter Compatibility List.
- A compatible index. Itron 100G ERT Module can be used with standard dial and direct read (odometer) indexes.
- The list of materials defined under Installation Prerequisites in this chapter.

IMPORTANT Handle the 100G ERT Module carefully so the metal passive radiator antenna is not damaged.

Passive radiator
antenna
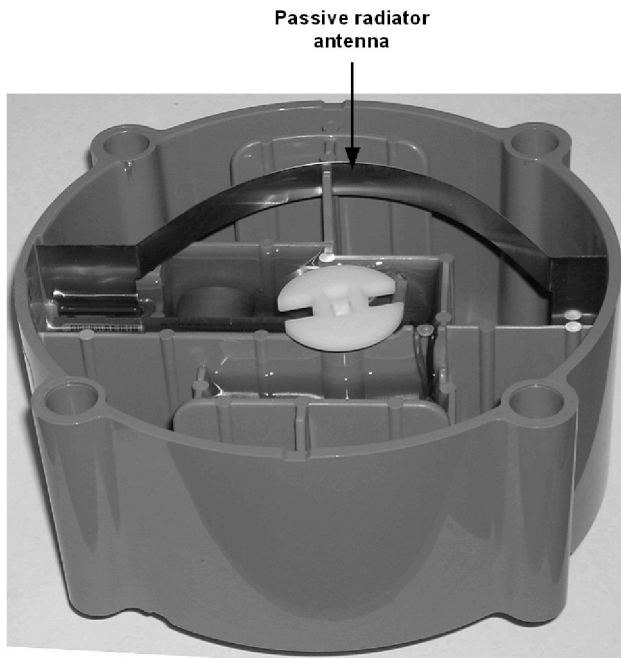
Installation Prerequisites

The following items are required to install the Itron 100G ERT Module.

Materials Supplied by Itron

The following items are supplied by Itron:

- 100G ERT Module

- New tamper seals

- Four screws for securing the 100G ERT Module assembly to the meter. These screws may have holes drilled into the heads to accept wire tamper seals.

- Two internal-tooth star washers for the mounting screws when using metal index plates.

- Two cork washers and two flat washers for the mounting screws when using plastic index covers.

Materials Supplied By You

You must supply the following items to install, initialize, and check the 100G ERT 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.

- **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.

- **FC200SR with EndPoint-Link or EndPoint-Link Pro software**   Used to program and check ERT assembly.

Replacement Screws

Use 12 - 24 x 1/2-inch slotted, Fillister head machine screws (drilled to accept wire seals) for replacement screws to mount the index cover.

## Pre-installation Preparations

Before installing the 100G ERT Module on a meter, verify:

- All Itron 100G ERT Module gas modules are compatible with your brand of gas meter.

    - See the Meter Compatibility List for compatible meter model numbers for the 100G ERT Module

There are two types of index mounting plates for American Commercial meters. One type is made of plastic and has tamper seal cups. The other type is made of metal and has no tamper seal cups.
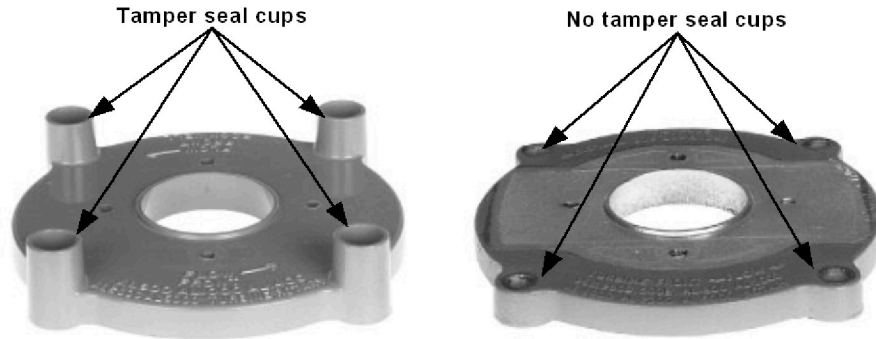
Similarly, there are index covers with tamper seal cups and covers without tamper seal cups.
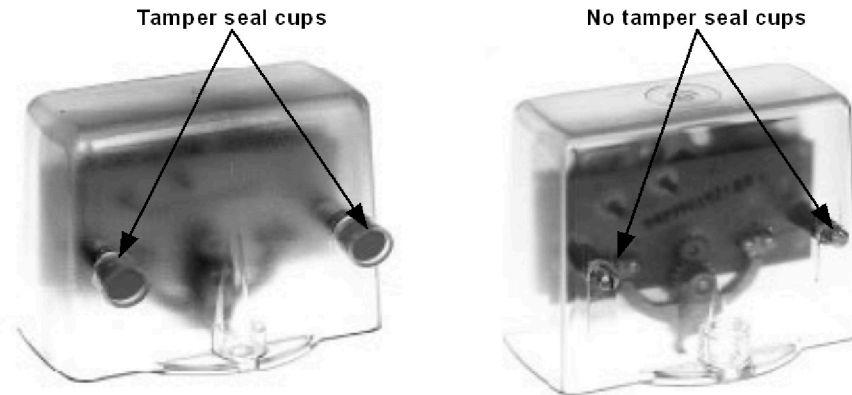
Installing the 100G ERT Module

There are four major steps to installing the 100G ERT Module on a meter:

- Remove the index or index and cover mounting plate. In some cases you can remove the mounting plate with the index and its cover still attached to the mounting plate.
- Program the 100G ERT Module
- Attach the 100G ERT 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.
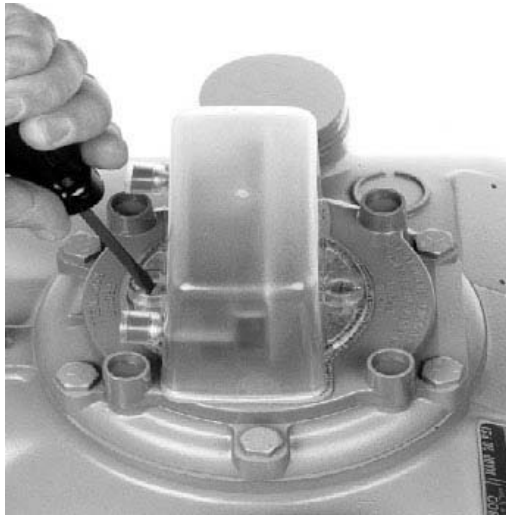
To remove the index

1. Note the orientation of the index. Remove the tamper seals or wire seals from the index cover and the mounting plate screws.
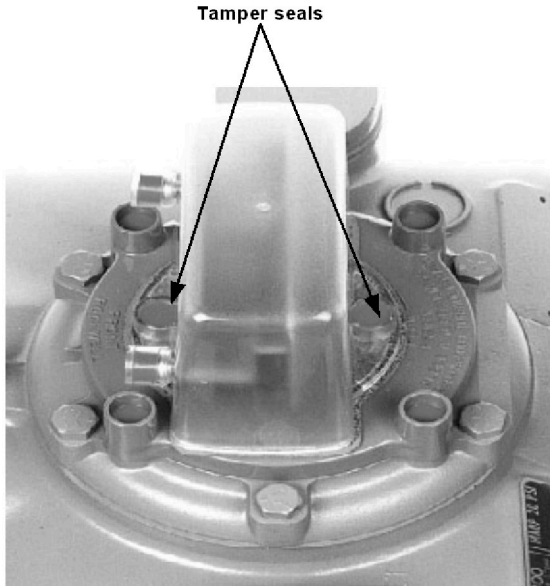
> For illustrative purposes in the procedure, a plastic index mounting plate with tamper seal cups was used.

2. Remove the index cover screws from the meter. Verify they are 1/2-inch long and not corroded.

- If the screws are the correct length and 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 62, if necessary.
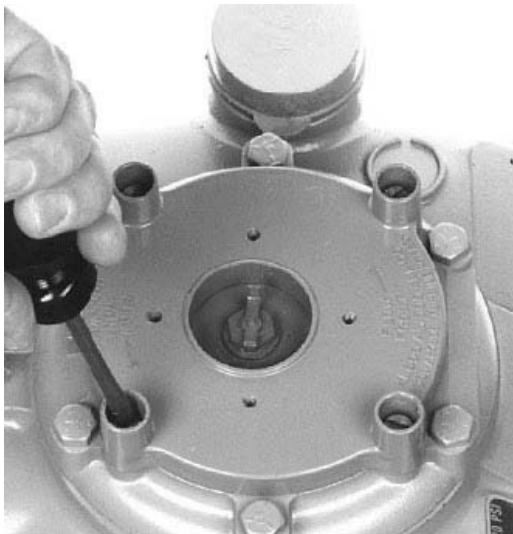

3. Remove the gasket from the index cover mounting plate and set it aside where it will not get damaged. You will use the gasket later in the installation.

4. Remove the four tamper seals from the mounting plate.
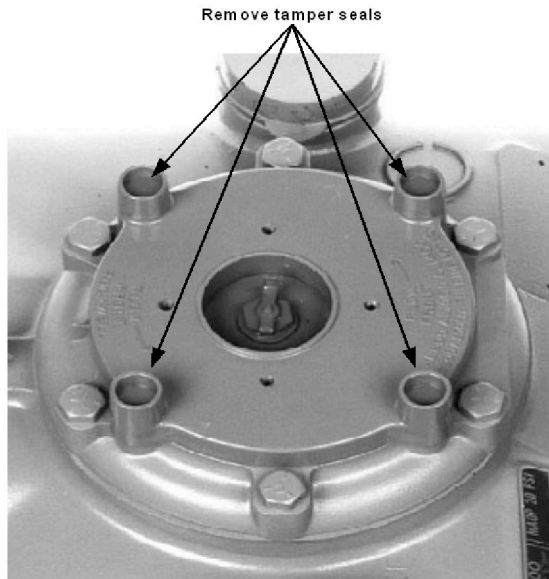
5. Remove the mounting plate screws and separate the mounting plate from the meter. Set the mounting plate aside where it will not get damaged. You will use it later in the installation.

Program the ERT

The ERT must be programmed using the FC200SR with EndPoint-Link software. See the *Endpoint-Link ERT Programming Guide (TDC-0411)* for more information.

> **IMPORTANT** You must perform the following programming procedure for the ERT module to function properly.

To program the ERT module

1. Using the FC200SR, program the reading of the index that was on the meter into the ERT module assembly.

   - For initial programming, hold the FC200SR approximately 1 foot away from the 100G.

   - For reprogramming (30 days or more past initial programming), hold the FC200SR approximately 4 to 5 feet away from the 100G.

   Be sure to program the 100G to the correct mode for the reading technology that will be used (for example, Fixed Network Mode, Mobile/Handheld Mode, or Hard to Read Mobile/Handheld Mode). In Endpoint-Link Pro v5.0, you will have access to the one mode that was defined by your system administrator.

   During programming, the 100G ERT 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 ERT module assembly can be read to the nearest cubic foot.

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

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

3. Read the ERT module assembly using the FC200SR. Consult the *EndPoint-Link ERT Programming Guide* (*TDC-0411*) or other applicable instructions for details on how to read an ERT.

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

   - If the ERT module assembly reading is *not* higher than what was programmed in step 1, replace the ERT module with a new one.
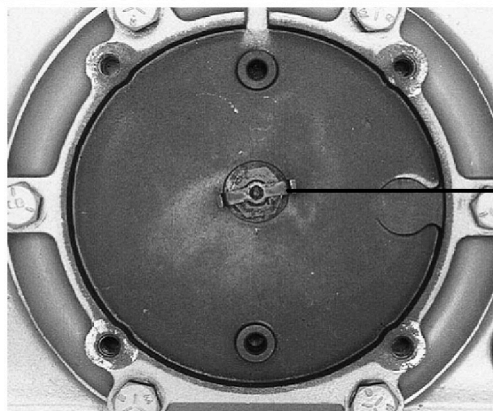
To attach the 100G ERT Module to the meter

1. Turn the ERT module upside down and turn the wriggler until its drive notches line up with drive teeth of the meter wriggler.

   IMPORTANT Handle the 100G ERT Module carefully so the metal passive radiator antenna is not damaged.
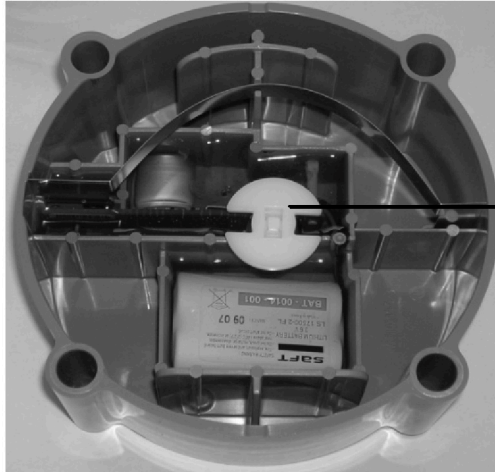

Line up notches with teeth

2. Position the ERT module so its screw holes line up with the screw holes in the meter top then place the ERT module on the meter top. Make sure the INLET label on the ERT module is next to the INLET label on the meter case.

INLET label on same side
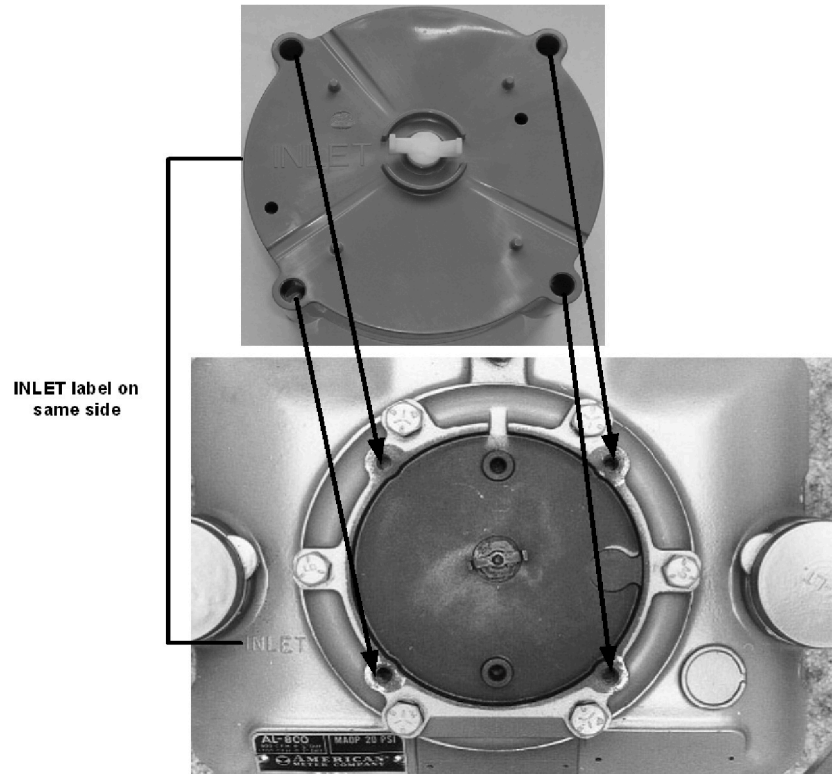
3. Carefully lower the 100G ERT Module onto the meter top so that its notches align with the teeth on the meter wriggler.
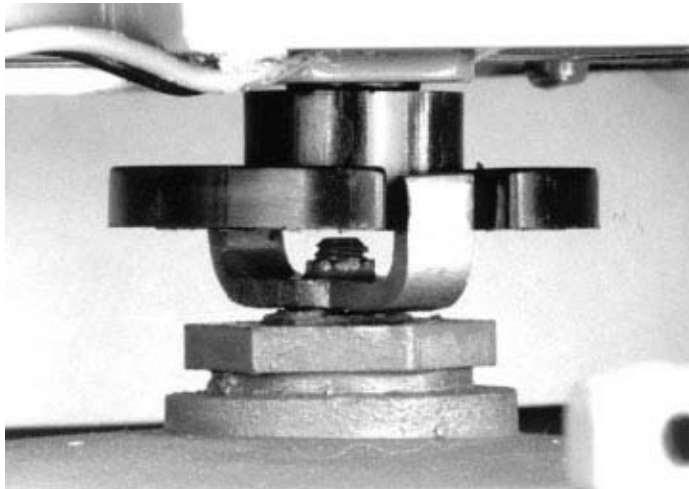
4. Make sure there is no gap between the bottom of the ERT module and the top of the meter. If there is a gap, it is because the drive notches of the ERT module's lower wriggler are not properly aligned with the meter wriggler's drive teeth.

Gap
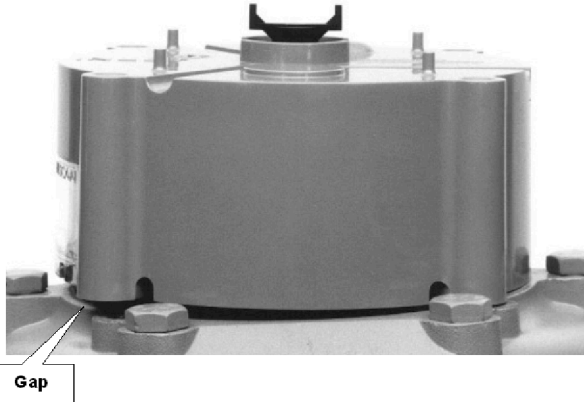
WARNING! Do not press down on the ERT module if there is a gap. If you do, you may damage the ERT module or the meter wriggler.

5. To eliminate a gap, slowly turn the ERT module upper wriggler back and forth with your fingers until the ERT module drops down onto the top of the meter.

6. Place the index cover mounting plate on the ERT module so the words "FLOW FRONT AL800 AL1000 AL1400 AL2300 AL5000 TURBINE ROTARY" are toward the front of the meter.