Automated Meter Reading (AMR)

Transmitter Mounting Instructions

For Invensys (Equimeter, Rockwell) Gas Meters

Applicable Meters

R175, R200, R250, R275, R310, R315, R415.

RF Exposure Note

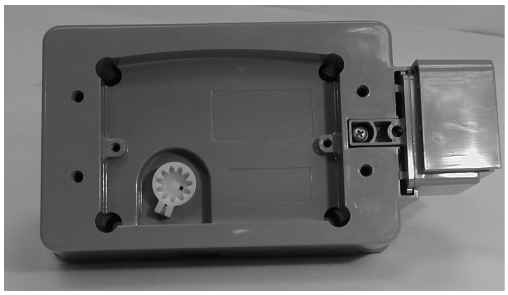
In order to comply with FCC RF Exposure requirements, the Automatic Meter Reading unit must be installed in such a way that there is a 20c”m separation distance between it and all persons during normal operation.

The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit RF field in excess of Health Canada limits for the general population; consult Safety code 6, obtainable from Health Canada's website www.hc-sc.gc.ca/rpb

NOTE: THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE CAUSED BY UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT. SUCH MODIFICATIONS COULD VOID THE USER’S AUTHORITY TO OPERATE THE EQUIPMENT

Components

Verify that all the required components for the installation are available:



GS0002 (11) AMR Transmitter*

Index cover (supplied with the transmitter)

*For R415 meters, use GS0002 (18) with the 18-tooth shaft gearwheel.

Hardware

Screw kit (see **Appendix – Transmitter Installation Screws** as identification guide):

- 4x mounting screws (thread length 1”)
- 2x index screws (thread length ¾”)
- 4x index cover screws (thread length ¾”)
- 2x snap seals

Tools

Verify that all the required tools for the installation are available:

- #2 Phillips screwdriver
- Flat screwdriver (blade size ¼”)
- Small flat screwdriver (blade size 5/32”)
- Stiff blade putty knife
- ¼” Nut driver
- *Mint* handheld terminal (HHT)

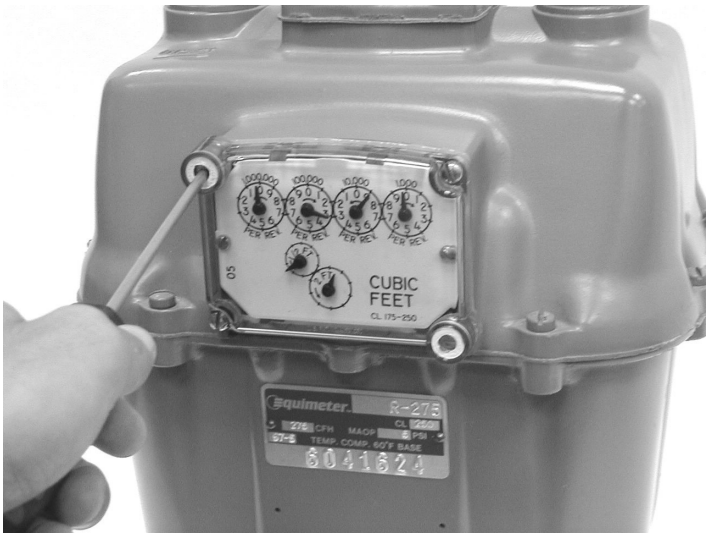
AMR Transmitter Installation

Installation Tasks

1. Remove index cover.
2. Remove index from gas meter.
3. Mount AMR transmitter onto gas meter.
4. Assemble index and cover onto AMR transmitter.
5. Initialize AMR transmitter with HHT.

Remove index cover

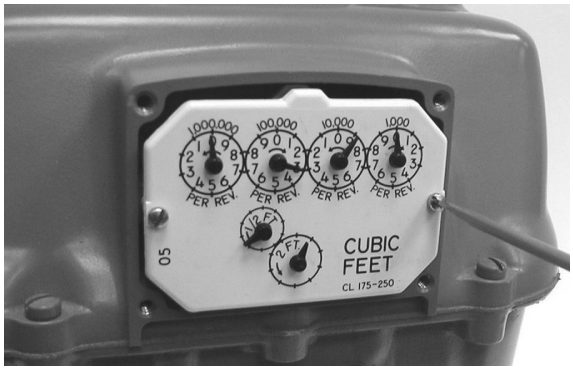
1. Use small flat screwdriver to punch out the seals that cover two (2) of the four (4) index cover screws.



2. Remove and properly dispose the four (4) screws holding the index cover onto meter, with flat screwdriver. If two (2) or more screws shear off during the cover removal (or were previously sheared off), the meter will need to be replaced by a qualified utility representative. Reinstall any index cover screws that were removed and cap with seals if possible. Enter the appropriate information in the Mint HHT and skip to the next work order.
3. Remove the index cover and dispose of properly.

Remove index

1. Remove and properly dispose the two (2) screws holding the index onto the meter, with small flat screwdriver.



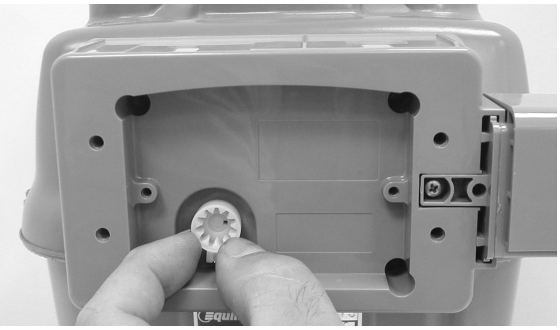
2. Remove the index and carefully clean any debris from it. Inspect for proper index operation by turning the input shaft and verifying that the gearing turns freely. Also, inspect the index for any missing or broken hands. Place the index, or a new index if necessary, on a clean surface near you for reinstallation later.
3. With a putty knife, scrap away any gasket material that remained on the meter when the index cover was removed.

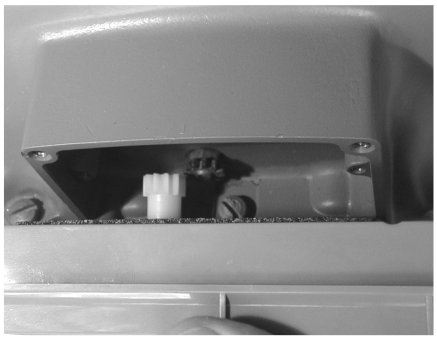
Mount Transmitter on meter

Verify that the transmitter is functional: check that the magnet on the front cam is visible; with the HHT check the transmitter ID and validate with the transmitter label.

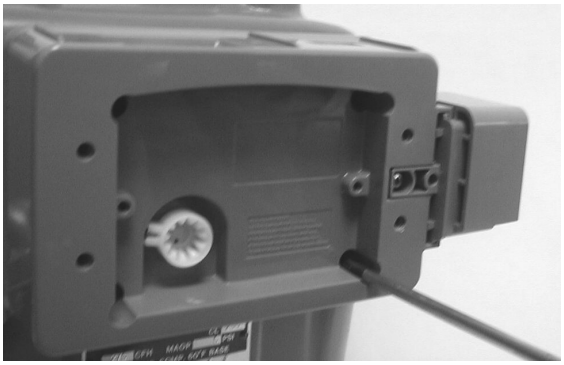
Insure the four (4) mounting screws are available and within reach.

Place the AMR Transmitter onto the gas meter. Adjust the Transmitter shaft's position by holding it on the front side, and combine the Transmitter shaft gearwheel with the gas meter shaft gearwheel.



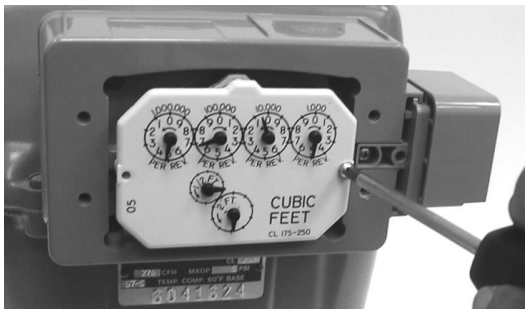


1. While holding the Transmitter in place, check that the shafts are correctly positioned by gently rotating the Transmitter's shaft with your other hand. There should be just a slight freedom of motion.
2. Attach the Transmitter to the meter using the four (4) mounting screws with a Phillips screwdriver. Place all screws, then torque down two (2) diagonal screws. Check shaft motion transfer again, then tighten the last two (2) screws.
3. Should two (2) or more screws shear or strip during the installation, the meter will need to be replaced by a qualified utility representative. Remove the transmitter and reinstall the index and index cover on the meter with the original screws. Enter the appropriate information in the Mint HHT and skip to the next work order.

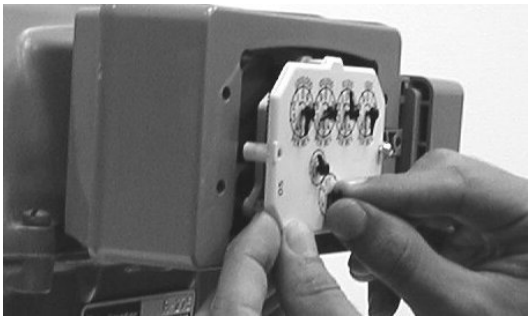


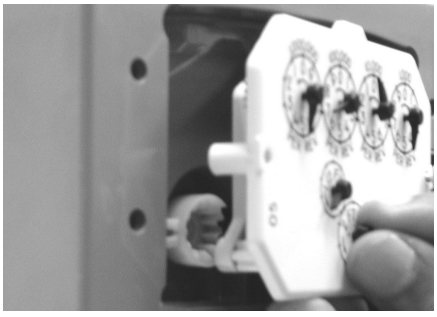
Assemble index and new cover onto transmitter

1. Insure the two (2) index screws are available and within reach.
2. Install the right side index screw to its place in the index and with the Phillips screwdriver and torque in **just 2-3 turns**, so that the index fits loosely on the Transmitter.

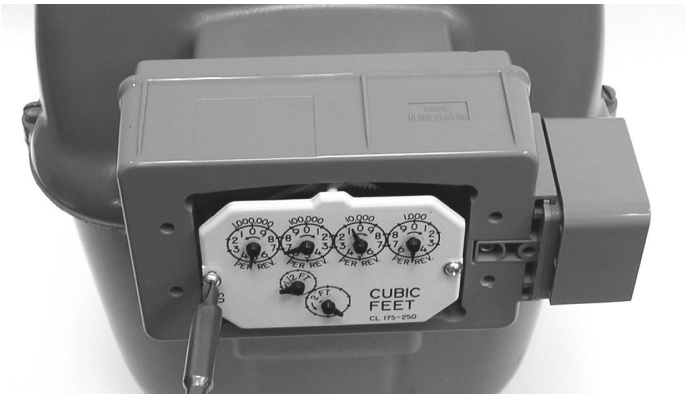


3. Align the index gearwheel drive with the Transmitter's shaft; adjust the gearwheel's position by holding the proving hand on the index front side, and insert into the cavity of the Transmitter's shaft.





4. While holding the index in its position, insert the right screw further in, so that the gear wheels remain combined. Verify slight freedom of motion and then insert and tighten the left index screw.

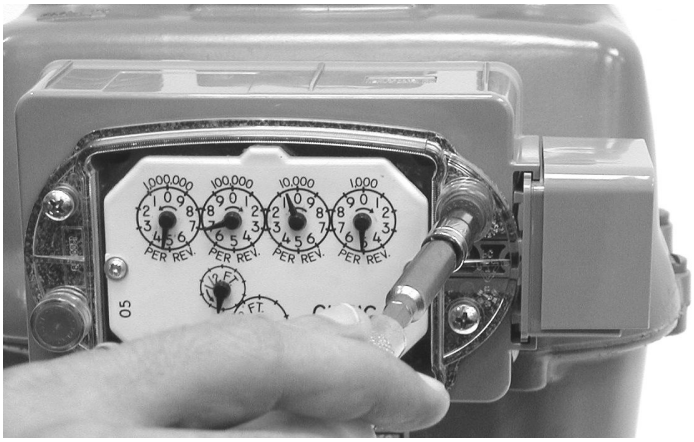


5. While the index is still a bit loose, centralize its position. Check that the motion is smoothly transferred and there is no binding between the shaft and wriggler, by gently rotating back and forth the index's proving hand.
6. Tighten the index screws, securing the index to the Transmitter.
7. Install the index cover supplied (it only fits in one direction – the bump fits in the right side of the Transmitter). Check that the gasket is properly aligned and fasten to the Transmitter with the four (4) index cover screws.

CAUTION

Use care when working with a power screwdriver to insert screws in the plastic Transmitter box. Over tightening will damage the box and/or weaken the contact.

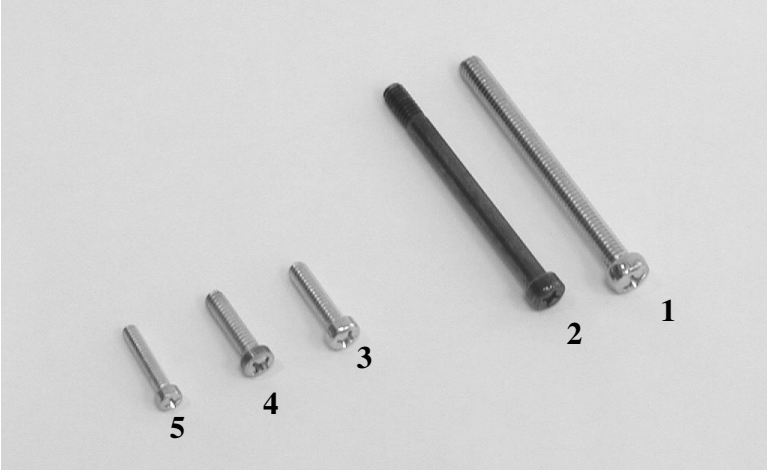
8. Install the two snap seals in the index cover and insert fully with the aid of a ¼” nut driver. Align the end of the nut driver on the snap seal and tap the end of the nut driver handle with your hand until it is fully seated.

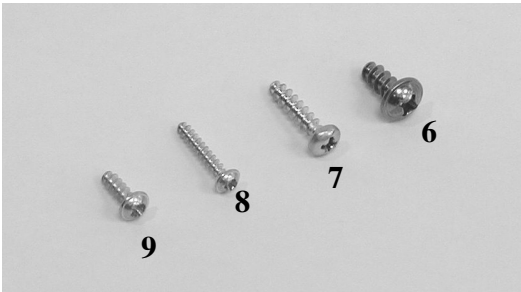


Initialize AMR Transmitter with HHT

On operating the ***Mint*** HHT, see **Gas AMR Installation HHT (*Mint*) User's Guide**. When you are ready to initialize (program) the AMR Transmitter, position the HHT with the upper back part of the HHT against the Transmitter receive area (see below) and press the PRG key (7-dot mark).

Appendix – Transmitter Installation Screws





Mounting Screws

1. Equimeter/Rockwell commercial meter (e.g. R750) – 5/16" x 3½" combo fillister
2. American commercial meter (e.g. AL800) – #18-18 x 84 Phillips pan head
3. American residential meter (e.g. AC250) – ¼" x 1" Phillips fillister
4. Schlumberger/Sprague residential meter (e.g. S175) – 10-24 x 1" Phillips fillister
5. Equimeter/Rockwell residential meter (e.g. R275) – 10-24 x 1" Phillips fillister

Index Screws

6. Equimeter/Rockwell commercial meter (e.g. R750) – WN1411 KA 60x14 Phillips
8. Equimeter/Rockwell residential meter (e.g. R275) – WN1412 KA 35x22 Phillips
9. American & Schlumberger/Sprague residential meter– WN1411 KA 40x12 Phillips

Index Cover Screws

7. All residential meters – WN1412 KA 50x20 Phillips