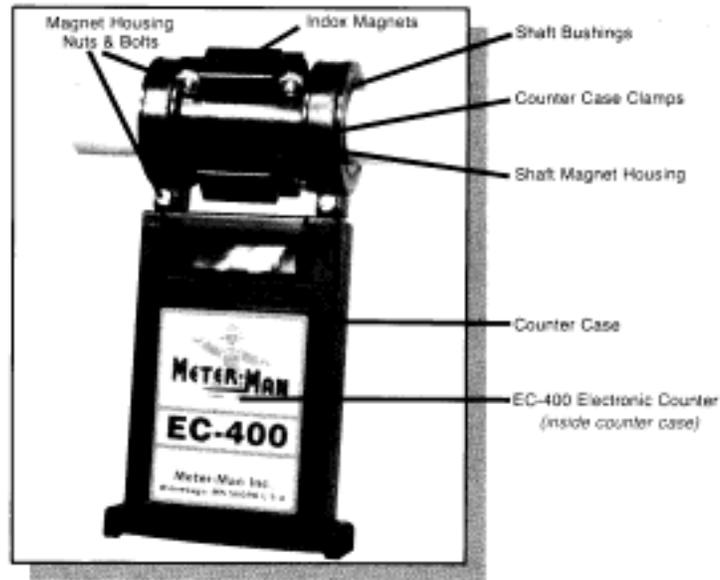


# EC-400 ELECTRONIC COUNTER

## INSTALLATION AND OPERATING INSTRUCTIONS



### **WARNING**

When mounting the EC-400 to a planter attached to a tractor, be sure the tractor, or vehicle, is shut off and that the PTO (Power Take Off) shaft is disengaged.

Always lower planter to the ground before installing or servicing the EC-400.

### **SELECT A SHAFT FOR THE EC-400**

To ensure accurate measuring, the EC-400 should be mounted on a shaft that rotates only when the implement is performing its task.

### **SELECT THE PROPER SHAFT BUSHING**

There are 7 bushings provided: 9/16" hex, 3/4" round, 11/16" square, 3/4" hex, 7/8" round, 7/8" hex, 1" round.

When placed on the shaft the 2 halves of the bushing must meet and fit the shaft securely. Example: Use the 7/8" hex bushing on a 7/8" hex shaft. The Magnet Housing is to be used without a bushing on a 1-1/8" shaft.

If there is not a bushing that securely fits your shaft, you can wrap tape around the shaft to make it large enough to accommodate the closest size of bushing.

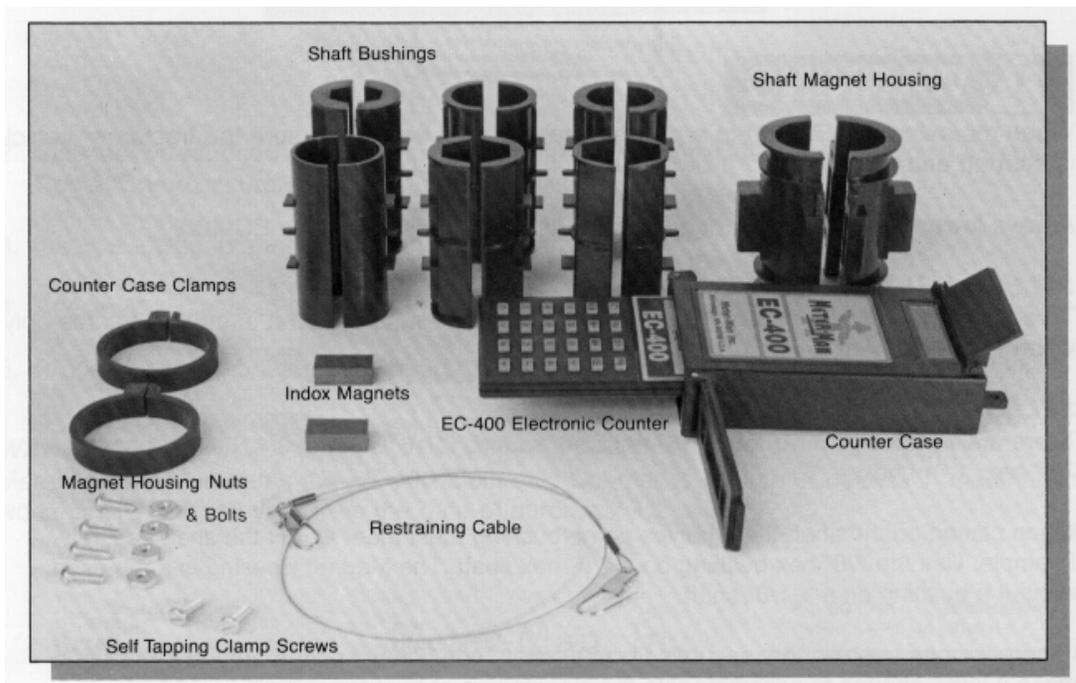
## INSTALLING THE MAGNET HOUSING

1. Remove the Counter Case Clamps from the two-part Magnet Housing Assembly. (Please note how they fit in the tracks on the Magnet Housing).
2. Place one magnet in the large center cavity, between the screw holes, of either half of the Magnet Housing. Use only one magnet unless you have a very slow moving shaft or a very wide planter or drill.
3. Place a bushing in each half of the Magnet Housing. (The bushing will align with the slots in the bracket).
4. Place the two halves of the Magnet Housing together around the shaft on the implement. Secure with the 4 nuts and bolts provided.
5. Place the Counter Loop Clamps around the Magnet Housing. (The clamps should spin freely).

## ATTACH CASE TO MAGNET HOUSING

Remove Counter from the Case. Secure Case to the Counter Case Clamps with the two self-tapping screws provided. **IMPORTANT:** Place the eyelets of the Case between the screw holes on the Counter Case Clamps.

## COMPLETE UNIT



## CALIBRATION

Use the formulas below to determine your implement calibration factor.

The counter may be used as a calculator to assist in determining your calibration factor.

DT = Distance Traveled with one counter shaft rotation  
(when using 2 magnets, divide DT by 2)

WW = Working Width of implement  
Example: 6-30 inch rows = 180 inches

#### Determining Factor

Acres DT (inches) x WW (inches) / 6272640 = Factor

Feet DT (inches) / 12 = Factor

Chains DT (inches) / 792 = Factor

Rods DT (inches) / 198 = Factor

Miles DT (inches) / 63360 = Factor

Hectares DT (meters) x WW (meters) / 10000 = Factor

Meters DT (meters) = Factor

#### Example:

Unit of Measure: Acre

Implement: Corn Planter with 6-30 inch rows

1. Obtain implement Working Width (WW)

WW = 6 x 30 = 180 inches

2. Measure the Distance Traveled (DT) in inches,

By the implement, for the counter shaft to make one revolution.

Forward travel is 3 feet 7 inches = 43 inches

3.  $180 \times 43 / 6272640 = .001234$

Note: Whenever a gear change is made on the shaft being monitored, you will need to recalibrate the counter.

### **ENTERING CALIBRATION FACTOR**

1. Depress ON/C

2. Round off factor to 5 digits

Example: .0023548

Round off to .00235

3. Enter factor (remember to include decimal point)

4. Depress + key (screen will display decimal point)

5. Depress = key (screen continues to display your factor)

6. Depress decimal point (screen will display 0)

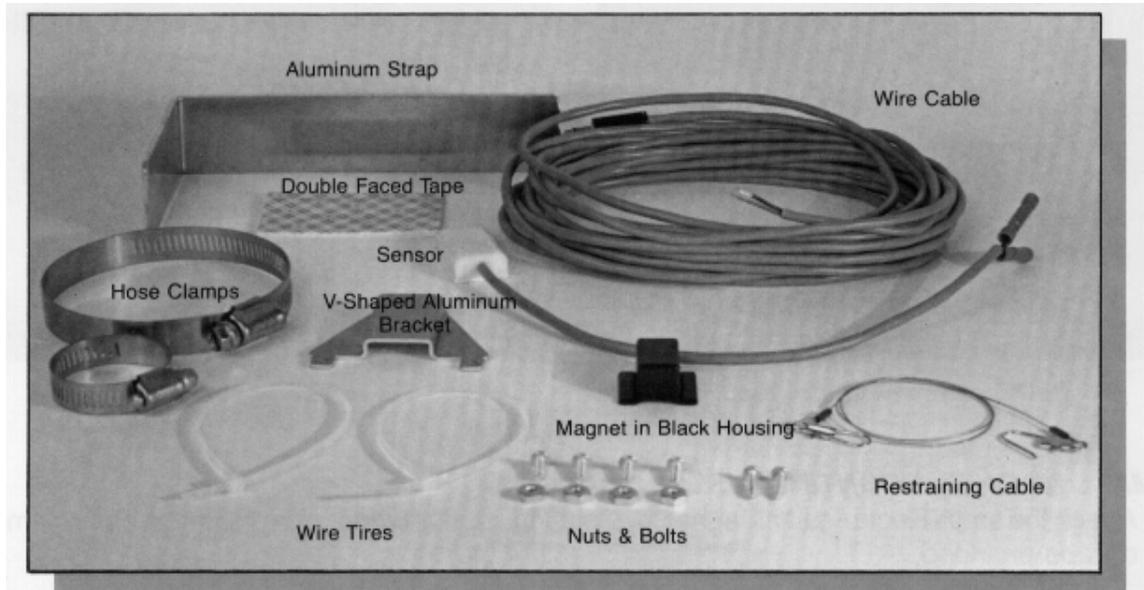
After entering Factor, place counter in the case and close. Secure the Counter Case with the leader provided by hooking it through the hole at the base of the counter Case and securing the other end to the implement. Note! DO NOT depress any of the keys after the factor has been entered.

## **MEMORY – MEMORY WILL STORE A CUMULATIVE TOTAL**

The EC-400 is equipped with long-life batteries; therefore, we recommend that the unit be left on throughout the implement season. The memory will be cleared when the unit is shut off.

1. To store totals in memory for a cumulative total, depress M + key.
2. To read memory, depress RCM key.
3. To start new measurement, depress decimal point key.

## **REMOTE SITE MOUNTING KIT – OPTIONAL**



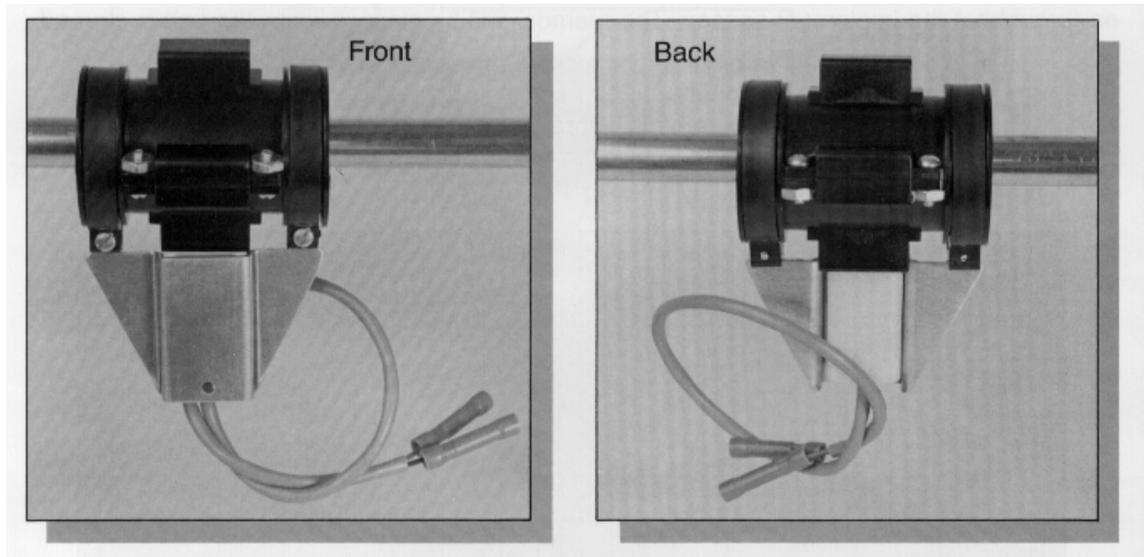
There are a number of ways to use the Remote Site Mounting Kit with your EC-400.

The two basic approaches are to mount the V-Shaped Aluminum Bracket with the Magnet Housing that came with your EC-400 or to attach the small rectangular magnet in the black housing to a rotating shaft or wheel with the hose clamps or tape provided. See the V-bracket mounting picture on page 5.

### **ALUMINUM BRACKET MOUNTING INSTRUCTIONS**

1. Mount the Aluminum Housing Bracket to a shaft as described in your EC-400 instructions.
2. Attach the Aluminum Bracket to the Counter Case Clamps on the Magnet Housing Bracket. (This is the same place the Counter Case would have been attached.)
3. Remove the paper backing from the tape on the Sensor and attach the Sensor in the channel on the Aluminum Bracket so it will be flush with the end nearest the Magnet Housing. DO NOT cover the hole in the Aluminum Bracket with the Sensor. You will need this hole to secure the Restraining Cable Clip to the Aluminum Bracket.
4. Proceed to CONNECTING THE WIRE CABLE.

## MAGNET HOUSING W/V-ALUMINUM BRACKET

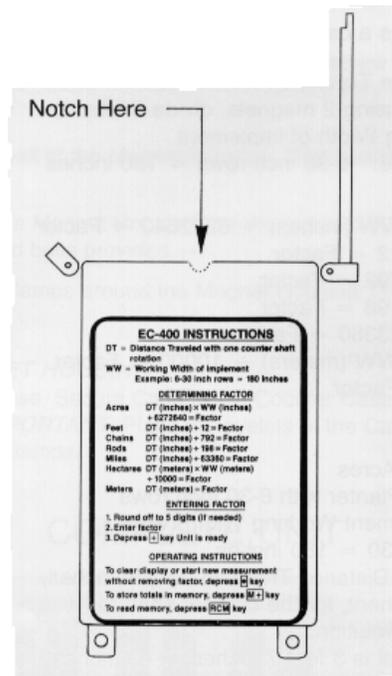


### SMALL MAGNET MOUNTING INSTRUCTIONS

1. Attach the small Rectangular Magnet to a rotating shaft or wheel with one of the hose clamps or tape provided.
2. The Sensor can be mounted directly to the implement, or it can be mounted on the Aluminum Strap provided. (The Sensor has double stick tape on its backside). The Sensor should be positioned so the end is approximately 1/8" away from the Magnet.
3. The Aluminum Strap can be taped into position with the Double Stick Tape provided, or you can bolt the Bracket to the implement. When using the tape, be sure the area of application is clean.  
The Aluminum Strap can be reworked, bent, cut, drilled, etc...to meet the needs of your implement.
4. Proceed to CONNECTING THE WIRE CABLE.

## CONNECTING THE WIRE CABLE

1. Make a notch for the Sensor Cable in the EC-400 Case as shown. (The notch should be about 1/2 diameter of the Sensor Cable).



2. Strip the two exposed wire ends and push them into the Wire Butt Connectors on the Sensor Cable. Crimp securely.
3. Insert the plug into the jack on the back of the Electronic Counter.
4. Attach Wire Cable to implement with the Wire Ties provided.
5. Proceed with calibrating the Counter as described in the EC-400 instructions.

## WARRANTY

Meter-Man, Inc. warrants the EC-400 Electronic Counter to be free of defects in material and workmanship for one year from the date of purchase.