



**NuFlo<sup>TM</sup>**

# ***Turbine Flowmeter Repair Kits***

## ***Installation Guide***



***NuFlo Measurement Systems***

A NuFlo Technologies Company

*Manual No. 100061169B*

## NuFlo Flowmeter Repair Kits—3/8 in. to 3 in.

### INSTRUCTIONS

#### Preparing for Installation

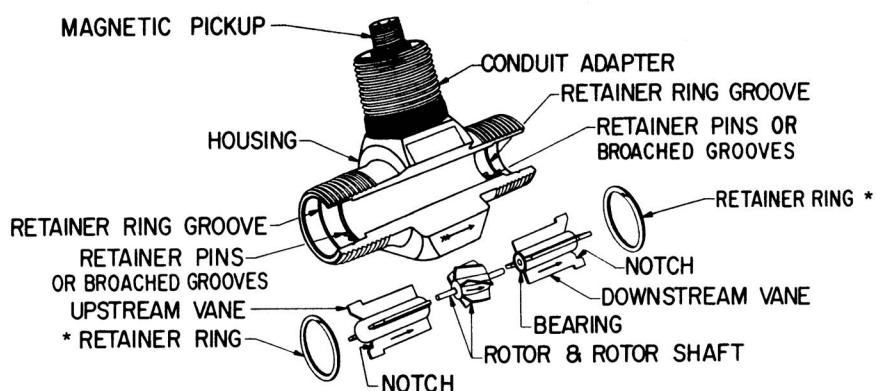
1. Remove magnetic pickup or protect it to prevent damage.
2. Remove retainer rings from each end of housing.\*
3. Remove upstream and downstream vanes and rotor. If vanes are stuck, drive them out with a small wooden or plastic rod and hammer. Tap alternately on blades of vane to prevent damaging housing.
4. Clean bore of housing with a swab and remove any burrs or rough spots.
5. Clean retainer ring grooves to insure proper seating of new rings.\*

#### Installing Replacement Kit

1. Insert downstream vane so arrow on vane corresponds with direction of arrow on outside of housing and flow arrow on vane blade is between retainer pins or in bottom broached groove.
2. Install downstream retainer ring.\*
3. Insert rotor with direction arrow properly aligned. Be sure its shaft enters the downstream bearing.
4. Place upstream vane in housing with flow arrow on vane blade between retainer pins or in bottom broached groove. If necessary, spin the rotor to permit its shaft to enter the bearing. **DO NOT FORCE THE VANE DOWN AGAINST THE ROTOR as this may break the rotor shaft.**
5. Install upstream retainer ring.\*
6. Be sure rotor is free to spin before placing meter in flow line.
7. For positive factor identification, wrap strap of plastic tag bearing factor around conduit adapter, thread end through hole in tag and pull tight. Cut off excess strap length.

\*On 3/8-in., 1/2-in., and 3/4 in. flanged meters, the retainer ring is replaced with a threaded insert.

Meter Kit Size (in.)	Standard Grade	Industrial Grade
3/8	100003521	100003378
1/2	100003531	100003379
3/4	100003449	100003380
7/8	100005124	100061059
1	100003527	100003381
1 1/2	100003469	100003382
2	100003474	100003383
3	100003470	100061056



## NuFlo Flowmeter Repair Kits—4 in. to 8 in.

### INSTRUCTIONS

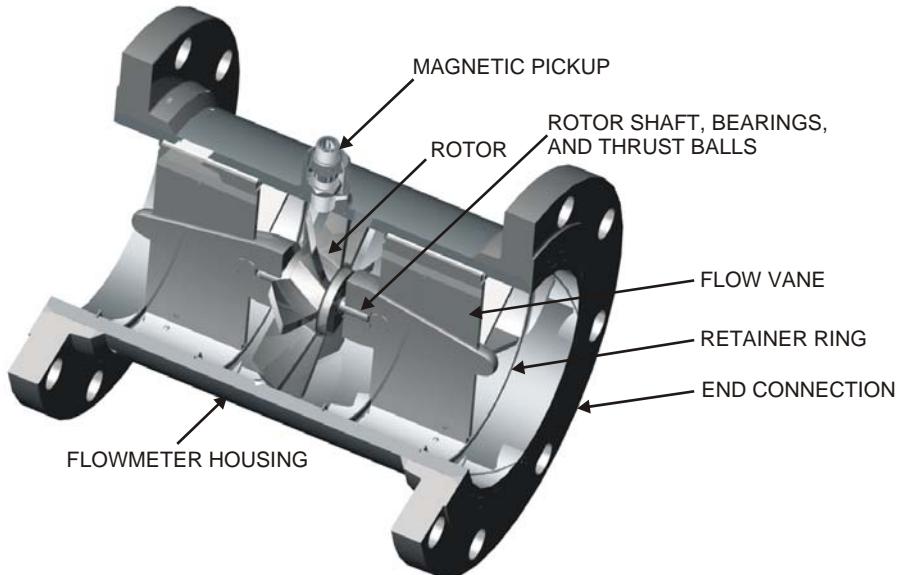
#### Preparing for Installation

1. Remove magnetic pickup or protect it to prevent damage.
2. Remove retainer rings from each end of housing.
3. Remove upstream and downstream vanes and rotor. If vanes are stuck, drive them out with a small wooden or plastic rod and hammer. Tap alternately on blades of vane to prevent damaging housing.
4. Remove inner retainer rings and rotor.
5. Clean bore of housing with a swab and remove any burrs or rough spots.
6. Clean retainer ring grooves to insure proper seating of new rings.

#### Installing Replacement Kit

1. Insert downstream inner retainer ring.
2. Insert downstream vane so arrow on vane corresponds with direction of arrow on outside of housing and flow arrow on vane blade is between retainer weld spots.
3. Install downstream retainer ring.
4. Insert rotor with direction arrow properly aligned. Be sure its shaft enters the downstream bearing.
5. Install the upstream inner retainer ring.
6. Place upstream vane in housing with flow arrow on vane blade between retainer weld spots. If necessary, spin the rotor to permit its shaft to enter the bearing. **DO NOT FORCE THE VANE DOWN AGAINST THE ROTOR as this may break the rotor shaft.**
7. Install upstream retainer ring.
8. Be sure rotor is free to spin before placing meter in flow line.
9. For positive factor identification, wrap strap of plastic tag bearing factor around conduit adapter, thread end through hole in tag and pull tight. Cut off excess strap length.

Meter Kit Size (in.)	Standard Grade	Industrial Grade
4	100003473	100003384
6	100003471	100061057
8	100003472	100061058



# NuFlo EZ-IN Flowmeter Repair Kits—All Sizes

## INSTRUCTIONS

### Preparing for Installation

1. Remove magnetic pickup or protect it to prevent damage.
2. Remove the three socket head capscrews from each end of housing.
3. Remove upstream and downstream bearing supports and rotor. If bearing supports are stuck, drive them out with a small wooden or plastic rod and hammer. **Use extreme caution in prying on the bearing supports to prevent internal parts from breaking or shattering.** Tap alternately on blades of supports to prevent damaging housing.
4. Clean bore of housing with a swab and remove any burrs or rough spots.
5. Clean screw hole area to insure proper seating of new capscrews.

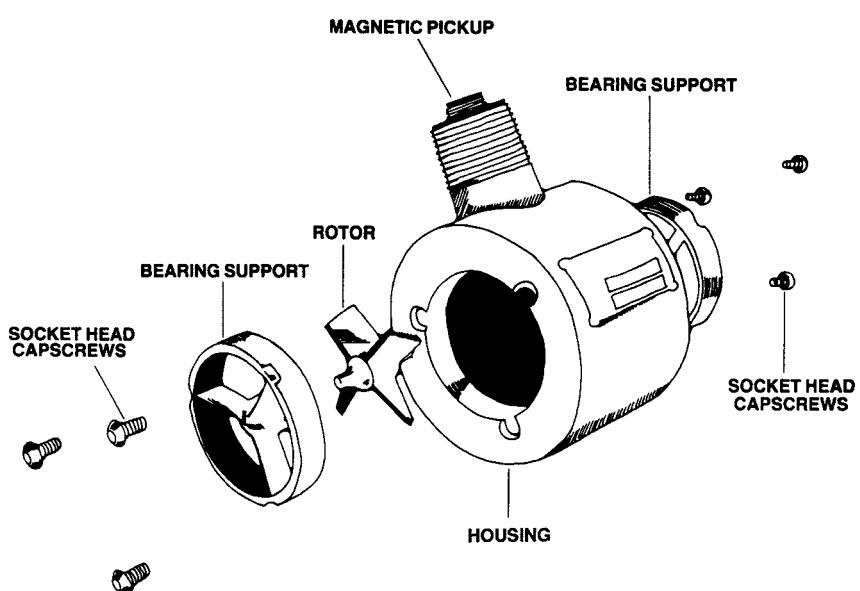
### Installing Replacement Kit

1. Grease and insert downstream bearing support so direction of flow arrow corresponds with the arrow on the outside of housing. Align the index marks (punch marks) on the bearing support and the edge of housing.
2. Install downstream retaining capscrews and tighten.
3. Insert rotor with direction arrow properly aligned. Be sure its shaft enters the downstream bearing.
4. Grease and insert upstream bearing support in housing and align the index marks. If necessary, spin the rotor to permit its shaft to enter the bearing. **DO NOT FORCE THE BEARING SUPPORT DOWN AGAINST THE ROTOR as this may break the rotor shaft.**

Meter Kit Size (in.)	Standard Grade	Industrial Grade
3/8 x 2	100079691	101209535
1/2 x 2	100005122	100062982
3/4 x 2	100079674	100062983
1 x 2	100079811	—
1 1/2 x 2	100005123	100062984
*1 1/2 x 2	100005099	100062985
2	100003553	100003549
3	100003540	100012104
4	100003554	100062986
6	100012091	100062987
8	100063004	100062988

5. Install upstream retaining capscrews and tighten.
6. Be sure rotor is free to spin before placing meter in flow line.
7. For positive factor identification, wrap strap of plastic tag bearing factor around conduit adapter, thread end through hole in tag and pull tight. Cut off excess strap length.
8. Screw magnetic pickup in all the way and then unscrew 1/4 turn. Lock pickup retainer nut.

\* 1/8-in. diameter shaft



## Flowmeter Calibration

This kit has been calibrated with water over the recommended operating range. A calibration tag designating pulses per gallon observed during factory calibration is included with this kit.

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Manual No. 100061169B  
December 2003

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