Impeller
Data Industrial®

SDI Series

Insert Style Flow Sensors, Shaft Replacement

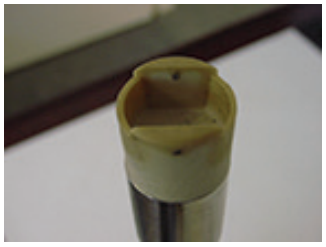
DESCRIPTION

Use the following procedure to install new SDI impellers in the field.

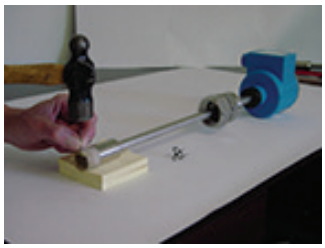
The SDI shaft is very small and brittle, and can shatter easily. Be sure to wear safety glasses and take your time. Use a gentle touch.

SHAFT REPLACEMENT PROCEDURE

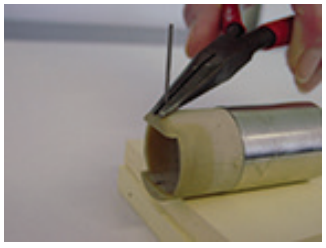
1. If the shaft is still intact, break the shaft in the middle using a small hammer and flat head screwdriver. Shaft usually will break clean at the inside edges of the impeller cavity.

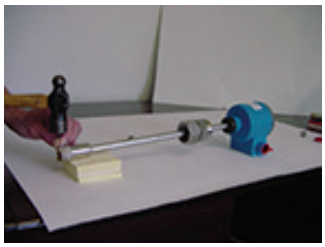
2. Lay the sensor on a flat surface with the flat portion of the electronics housing facing up, and the metal part of the sensor tip supported high enough that the tip lays horizontal. This will make it easier to drive the remaining shaft ends out of the tip.



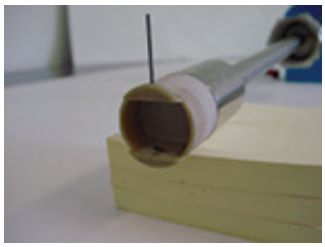
3. Using a small hammer and one of the new shafts, carefully drive the first remaining shaft end into the center of the impeller cavity. Drive the new shaft in only as far as necessary to be able to grab the old shaft with a pair of needle nose pliers. Carefully work the shaft end out with the pliers. Again using the pliers, work the new shaft back out.

4. Flip the sensor over so that it is resting on the flat section of the electronics assembly, and the tip remains supported. This will provide a stable working platform for Step #5.

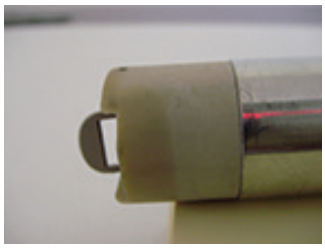


5. Use small hammer and one of the new shafts to drive the remaining shaft end into the center the impeller cavity. Drive the new shaft all the way thorough the cavity wall until the old shaft fragment drops out and about 1/32" of the new shaft is exposed in the cavity. In this picture the old shaft fragment is shown resting on the lower impeller cavity wall.



6. Carefully position a new impeller so that the stub end of the new shaft is starting to enter the bearing. Continue to drive the shaft through the first bearing and then carefully guide it into and then through the second. Once through the bearing carefully guide the shaft through the hole in the other side of the impeller cavity.

7. Continue to drive the shaft until it is flush with the plastic housing.



Installation is now complete. If done properly, when spun by hand, the impeller will spin freely on the shaft, and glide smoothly to a stop.

Wiring the sensor into the system and spinning the impeller by hand can also test the signal output of the sensor.

Badger Meter

SEN-UM-01355-EN-03 (July 2016)

User Manual

SDI REPAIR KIT COMPONENTS

The repair kit contains:

Item	Quantity
Replacement Shafts	3
Replacement Bearings	2
Replacement Impeller	1

SDI REPAIR KIT ORDERING MATRIX

Existing Sensor	Base Part No.	Same Last 4 Digits as Original
Single Direction SDIxxxN0x-xxxx SDIxxxN1x-xxxx SDIxxxN2x-xxxx SDIxxxN9x-xxxx	SDI-IRK	-xxxx
Bi-Directional SDIxxxN5-xxxx SDIxxxN6-xxxx	SDI-MRK	-xxxx
Battery Powered SDIxxx-Bxx-xxxx	SDI-MRK	-xxxx

Examples

Model SDI0D1N00-0200 would use SDI-IRK-0200

Model SDI0H2N60-0200 would use SDI-MRK-0200

Model SDI0H1BN1-1200 would use SDI-MRK-1200

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