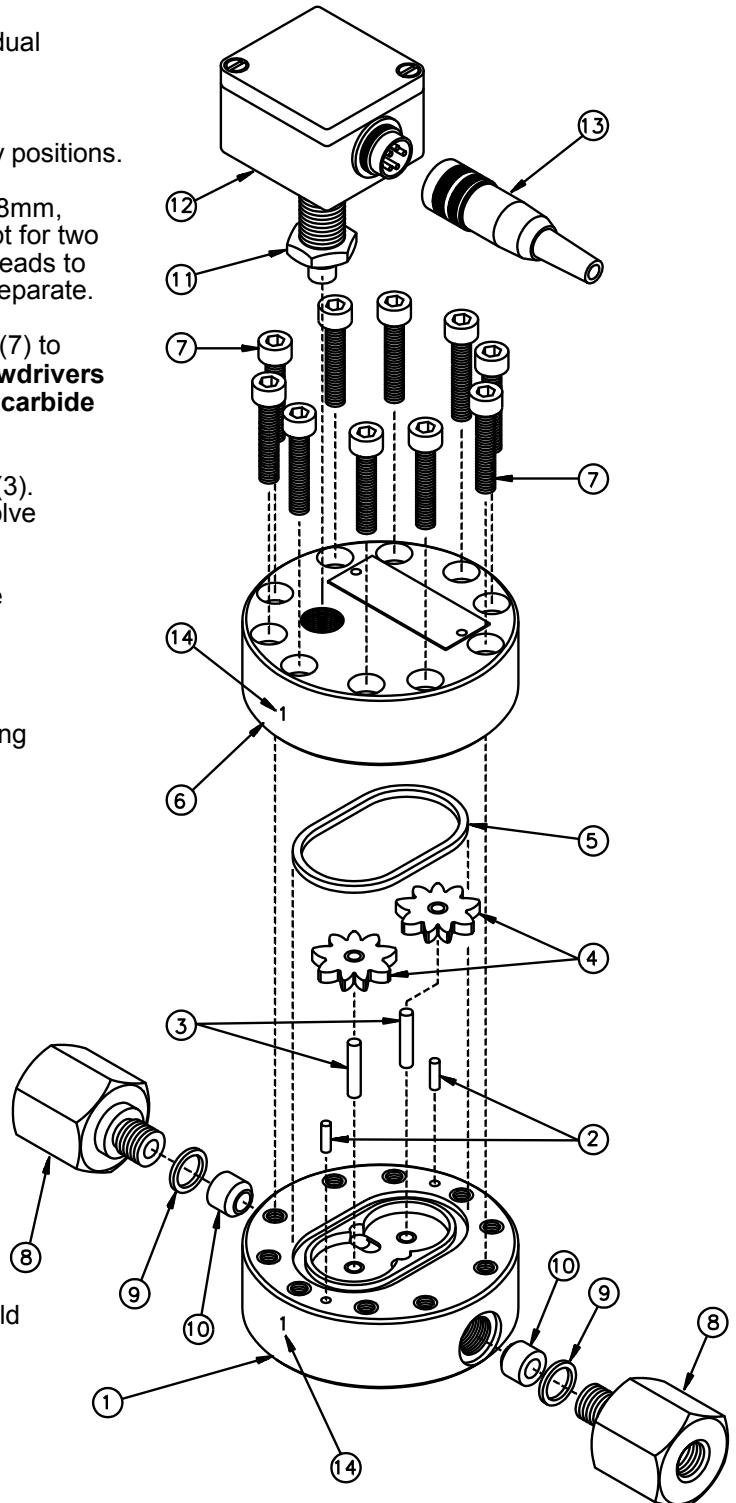


## ZHM Series Flow Meter Maintenance Guide

**Cleaning, inspecting or repairing a ZHM Series gear flow meter is easily accomplished by following the procedures below.**

- Remove the Pickup (12) from the flow meter body (6). (*The model HESK1 sensor is shown here*) Some models have a dual sensor, IGO6HD-XX, which has 2 built-in pickups, and is attached by two sunken, hex-head screws.
- Note index marks (14). If symbols are absent, mark the body positions.
- Loosen the hex bolts (7) with a 5 mm key wrench - ZHM-04/8mm, ZHM 05+06/10mm, ZHM 07/14mm. Remove the bolts except for two opposing bolts (7) which should remain engaged by a few threads to avoid damaging the shaft when the 2 flow meter housings separate.
- Holding the upper housing (6), gently tap the opposing bolts (7) to separate the lower housing (1). **Do not use chisels or screwdrivers to split or pry apart the housings - this may damage the carbide parts.**
- After separation, remove and inspect the gears (4) & shafts (3). Clean with solvent and a small brush. The gears should revolve freely on the shafts.
- After cleaning all parts completely, the gears & shafts can be reinserted. Check for free and easy rotation.
- Replace the O-ring (5) if deformed.
- Keep meter housings parallel during reassembly. Both locating pins must be in place (2). Align index marks (14).
- Replace hex bolts as follows:  
 ZHM 01-03 - 15 Nm. **\*(This is hand tight)\***  
 ZHM 04 - 75 Nm.  
 ZHM 05/06 - 130 Nm.  
 ZHM 07 - 300 Nm.
- Over tightening will not cause damage but may restrict operation if internal surfaces are not completely clean.
- After reassembly - a brief air blast will spin the gears. This should be clearly audible given a moderate background noise level.
- Clean any debris from the pickup port, insert Hall Sensor all the way, and then back off 1/4 revolution and tighten lock nut. **\* Do not over tighten \***
- With the dual sensor, the electrical connector should point in the flow direction after reassembly. The sensor should fit flush on the meter body with good hex screw alignment.
- Optional PTFE space fillers (10) are available to fill space behind the conversion fittings when multi-colored materials are being metered.



# Cross Reference Guide for ZHM Series Spare Parts for ZHM Meters

1 - Lower Housing (303 Stainless Steel)\* Pt.# LH-\*\*

2 - Stainless Steel Locating Pins Pt.# LP

3 - Tungsten Carbide Shafts Pt.# ST-\*\*

4 - Stainless Steel Gear\* Pt.# GR-\*\*

5 - O-ring  
 Pt.# COV-\*\* Black FKM O-ring  
 COT-\*\* White PTFE O-ring

6 - Upper Housing (303 Stainless Steel)\*  
 Pt.# UH-\*\*

7 - HEX Socket Cap Screw\* Pt.# SC-\*\*

8 - Port Adaptor/Conversion Fitting  
 Pt.# NPT-ZHM 01-03 12mm to 1/4" NPT  
 GRA-ZHM 01-03 12mm to 3/8" NPT  
 HEC-ZHM 01-03 12mm to 1/2" NPT  
 SAE-01-03 12mm to 3/4" SAE  
 NPT-ZHM 04 20mm to 3/4" NPT  
 NPT-ZHM 05 33mm to 1.0" NPT

9 - Crushable Aluminum Washer  
 Pt.# WAL-ZHM

10 - Teflon Space Filler  
 Pt.# SF-ZHM 01  
 SF-ZHM 02/1-03

11 - Lock Nut for Hall Sensor Pickup Pt.# LN

12 - Hall Sensor Pickup  
 Pt.# HESKS1 (For ZHM 01-04)  
 HESLS1 (For ZHM 04 & up)  
 HDSXS1 (Double Effect Sensor)

13 - 5 Pin Connector for HES & HD Sensors  
 Pt.# AMP-HES

14 - Index Marks that appear on the Upper and Lower Housings. This is not a spare part.

\* Standard material is 303 stainless steel. A special 316TI alloy is available and is indicated after the part number as follows: ZHM 02TI or GR 02TI.

\*\* Indicates ZHM Series Flow Meter Size

