

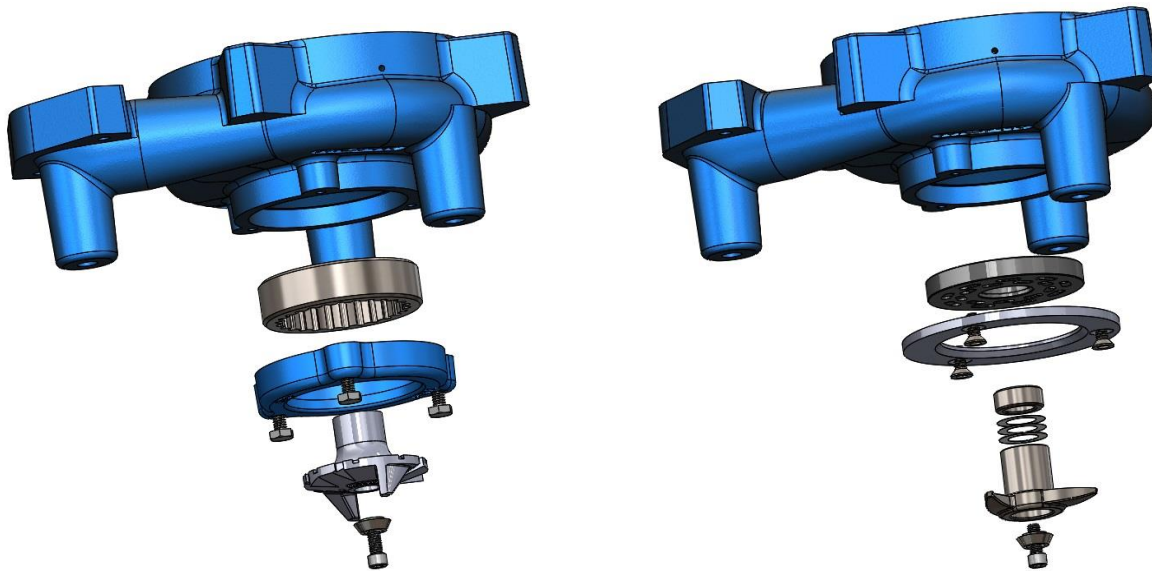


471 US Hwy 250 East, Ashland, Ohio 44805  
PH: 419-207-9400 FX: 419-207-8031

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**INSTALLATION AND SERVICE INSTRUCTIONS AND  
REPAIR PARTS LIST FOR 1&2HP GRINDER PUMPS  
FIELD REPLACE CUTTERS W/ SLICERS  
-OR-  
FIELD REPLACE SLICERS W/ CUTTERS**

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P/N O&M-2CA-RSL

## Read all instructions in this manual before operating pump. Most accidents can be avoided by using COMMON SENSE.

Please Read This Before Installing Or Operating Pump. This information is provided for **SAFETY** and to **PREVENT EQUIPMENT PROBLEMS**. To help recognize this information, observe the following symbols:



**IMPORTANT!** Warns about hazards that can result in personal injury or indicates factors concerned with assembly, installation, operation, or maintenance which could result in damage to the machine or equipment if ignored.

**CAUTION!** Warns about hazards that can or will cause minor personal injury or property damage if ignored. Used with symbols below.

**WARNING!** Warns about hazards that can or will cause serious personal injury, death, or major property damage if ignored. Used with symbols below.



Hazardous fluids can cause fire or explosions, burns or death could result.



Extremely hot - Severe burns can occur on contact.



Biohazard can cause serious personal injury.



Hazardous fluids can Hazardous pressure, eruptions or explosions could cause personal injury or property damage.



Rotating machinery Amputation or severe laceration can result.



Hazardous voltage can shock, burn or cause death.

Only qualified personnel should install, operate and repair pump. Any wiring of pumps should be performed by a qualified electrician.



**WARNING!** - To reduce risk of electrical shock, pumps and control panels must be properly grounded in accordance with the National Electric Code (NEC) or the Canadian Electrical Code (CEC) and all applicable state, province, local codes and ordinances.

**WARNING!** - To reduce risk of electrical shock, always disconnect the pump from the power source before handling or servicing. Lock out power and tag.

Prevent large articles of clothing, large amounts of chemicals, other materials or substances such as are uncommon in domestic sewage from entering the system.

During power black-outs, minimize water consumption at the home(s) to prevent sewage from backing up into the house.

Always keep the shut-off valve completely open when system is in operation (unless advised otherwise by the proper authorities). Before removing the pump from the basin, be sure to close the shut-off valve. (This prevents backflow from the pressure sewer.)

Keep the control panel locked or confined to prevent unauthorized access to it.

If the pump is idle for long periods of time, it is advisable to start the pump occasionally by adding water to the basin.



**CAUTION!** Pumps build up heat and pressure during operation-allow time for pumps to cool before handling or servicing.



**WARNING!** - DO NOT pump hazardous materials (flammable, caustic, etc.) unless the pump is specifically designed and designated to handle them.

Do not block or restrict discharge hose, as discharge hose may whip under pressure.



**WARNING!** - DO NOT wear loose clothing that may become entangled in the impeller or other moving parts.

**WARNING!** - Keep clear of suction and discharge openings. DO NOT insert fingers in pump with power connected.

Make sure lifting handles are securely fastened each time before lifting. Do not operate pump without safety devices in place. Always replace safety devices that have been removed during service or repair.

Do not exceed manufacturers recommendation for maximum performance, as this could cause the motor to overheat.

Secure the pump in its operating position so it can not tip over, fall or slide.

Cable should be protected at all times to avoid punctures, cut, bruises and abrasions - inspect frequently.



Never handle connected power cords with wet hands.

To reduce risk of electrical shock, all wiring and junction connections should be made per the NEC or CEC and applicable state or province and local codes. Requirements may vary depending on usage and location.



Submersible Pumps are not approved for use in swimming pools, recreational water installations, decorative fountains or any installation where human contact with the pumped fluid is common.

Do not remove cord and strain relief. Do not connect conduit to pump.



Products Returned Must Be Cleaned, Sanitized, Or Decontaminated As Necessary Prior To Shipment, To Insure That Employees Will Not Be Exposed To Health Hazards In Handling Said Material. All Applicable Laws And Regulations Shall Apply.



Bronze/brass and bronze/brass fitted pumps may contain lead levels higher than considered safe for potable water systems. Various government agencies have determined that leaded copper alloys should not be used in potable water applications. For non-leaded copper alloy materials of construction, please contact factory.

**KEEN PUMP is not responsible for losses, injury or death resulting from a failure to observe these safety precautions, misuse, abuse or misapplication of pumps or equipment.**

## TOOL LIST

- Standard socket wrench set
- Standard set of open end wrenches
- Ball-peen hammer
- Vise grip pliers
- Allen head socket set
- Screwdrivers
- Wire brush
- Rubber mallet
- Torque wrench
- Feeler Gauges (minimum range .008-.012 inches)
- “Red” Loctite®

## WARNING

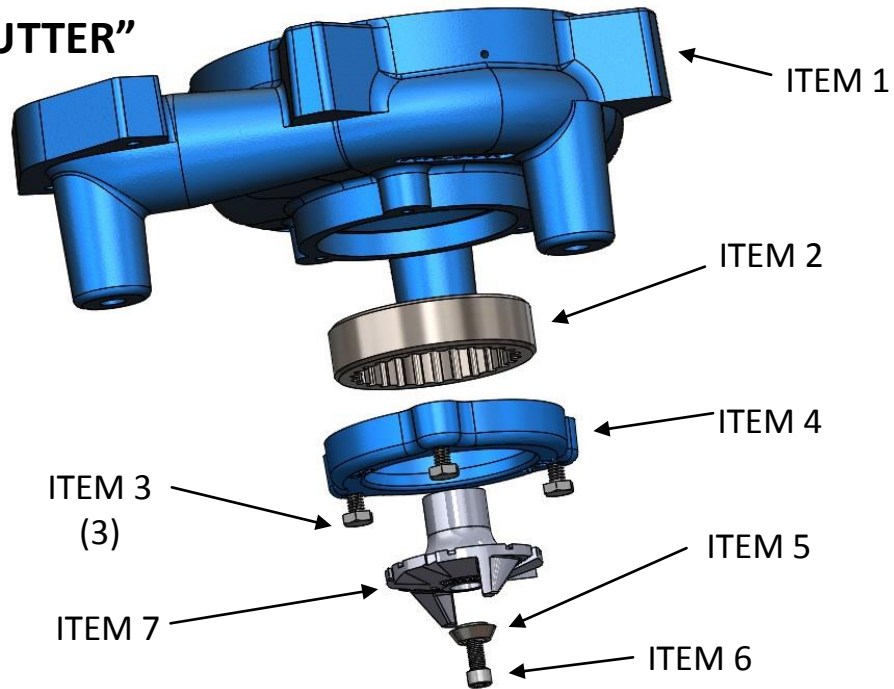
**CAUTION – Disconnect all power and control wires to motor at the control panel before starting the disassembly operations. Do not rely upon opening the circuit breaker only.**

**IMPORTANT – Pump should be sanitized with bleach before starting work. Pump should be thoroughly cleaned of trash and deposits before starting disassembly operations. Wear protective gloves and clothing. Always use a rag on the impeller when turning to prevent cutting hands on the sharp edges of the shredding ring.**

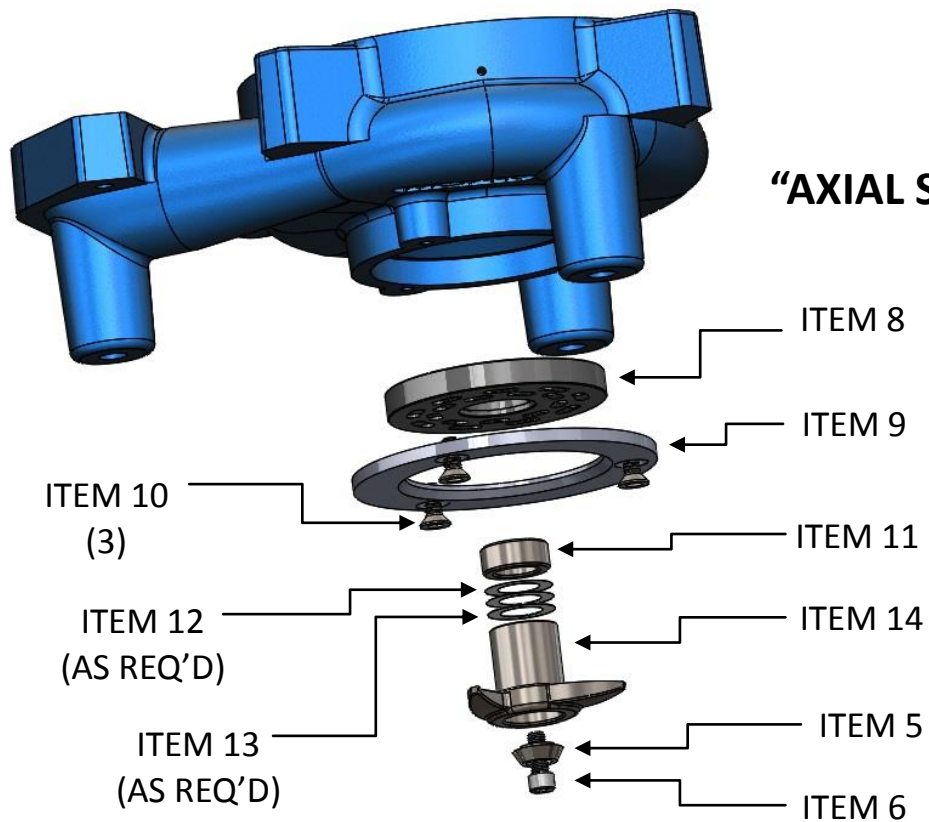
# PARTS LIST

(Centrifugal Pump)

## “RADIAL CUTTER”

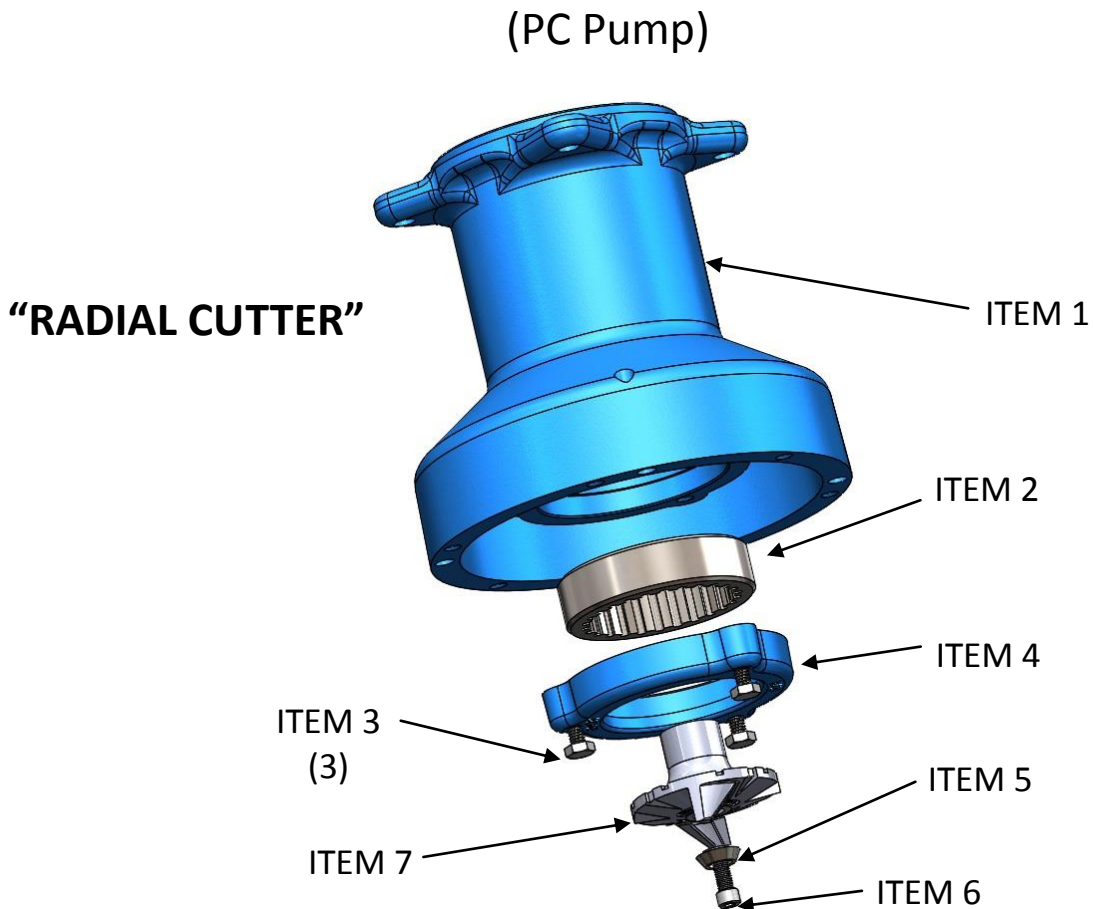


## “AXIAL SLICER”

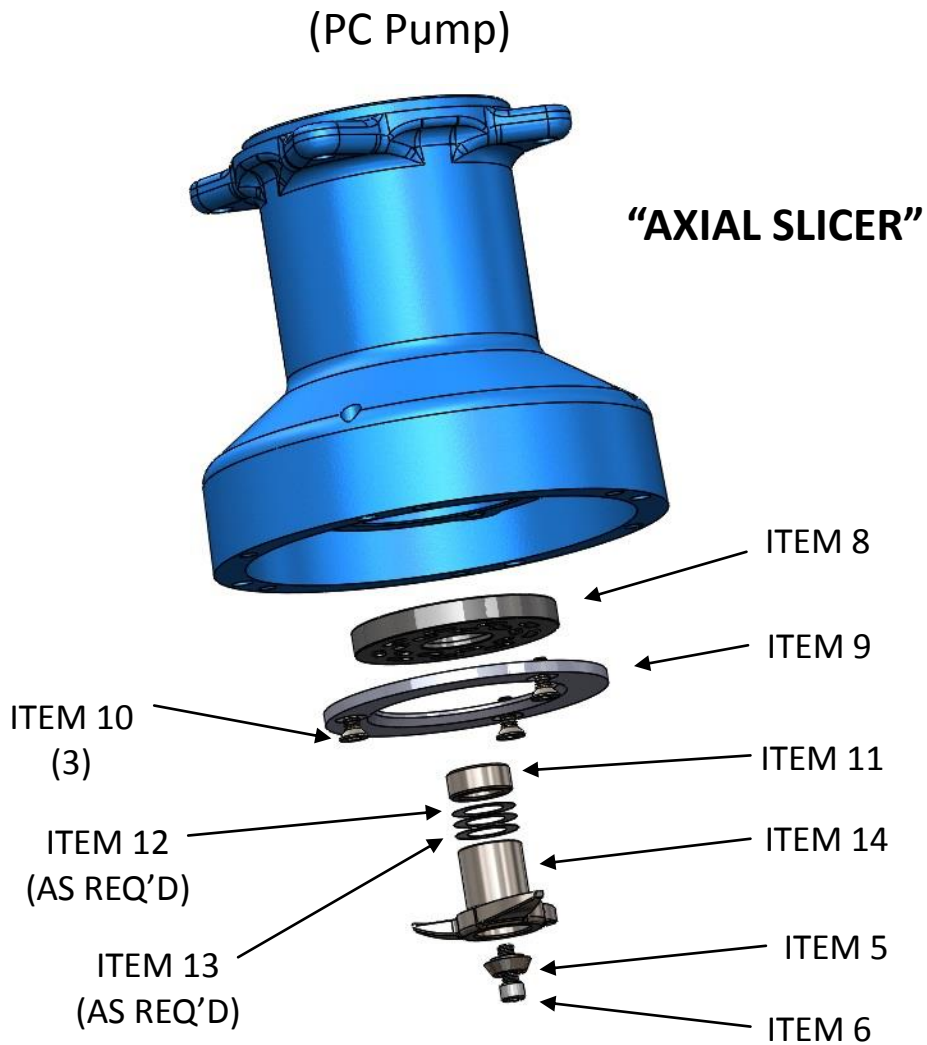


**ITEM LIST (Centrifugal)**

- |  |   |
|--|---|
| 1. KG2015-2-100 (Volute)                   | 8. K0452-2-01 (Slicer Plate)                |
| 2. KG2149-2-01 (Grinding Ring)             | 9. K0453-1-01 (Slicer Retainer Plate)       |
| 3. CS1/4X1SS (Cap screw) (3)               | 10. K0317-1-02 (Slicer Retainer Screw) (3)  |
| 4. K0446-2-01 (Grinding Ring Retainer)     | 11. K0546-3-05 (Spacer-Slicer Impeller)     |
| 5. KG2024 (Impeller Retaining Washer)      | 12. K0458-1-03 (.010 Thick Shim) (As Req'd) |
| 6. SCS1/4X5/8SS (Impeller Retaining Screw) | 13. K0458-1-04 (.004 Thick Shim) (As Req'd) |
| 7. KG2019-2-01 (Grinding Impeller)         | 14. K0454-2-100 (Slicer Impeller)           |







**ITEM LIST (PC)**

- |  |   |
|--|---|
| 1. K0547-2-01 (Wobble Stator Housing)      | 8. K0452-2-01 (Slicer Plate)                |
| 2. KG2149-2-01 (Grinding Ring)             | 9. K0453-1-01 (Slicer Retainer Plate)       |
| 3. CS1/4X1SS (Cap screw) (3)               | 10. K0317-1-02 (Slicer Retainer Screw) (3)  |
| 4. K0446-2-01 (Grinding Ring Retainer)     | 11. K0546-3-05 (Spacer-Slicer Impeller)     |
| 5. KG2024 (Impeller Retaining Washer)      | 12. K0458-1-03 (.010 Thick Shim) (As Req'd) |
| 6. SCS1/4X5/8SS (Impeller Retaining Screw) | 13. K0458-1-04 (.004 Thick Shim) (As Req'd) |
| 7. KG2019-2-01 (Grinding Impeller)         | 14. K0454-2-100 (Slicer Impeller)           |

# REPLACE “RADIAL CUTTER” w/ “AXIAL SLICER”

\* Refer to Illustrations A, B, C, D \*

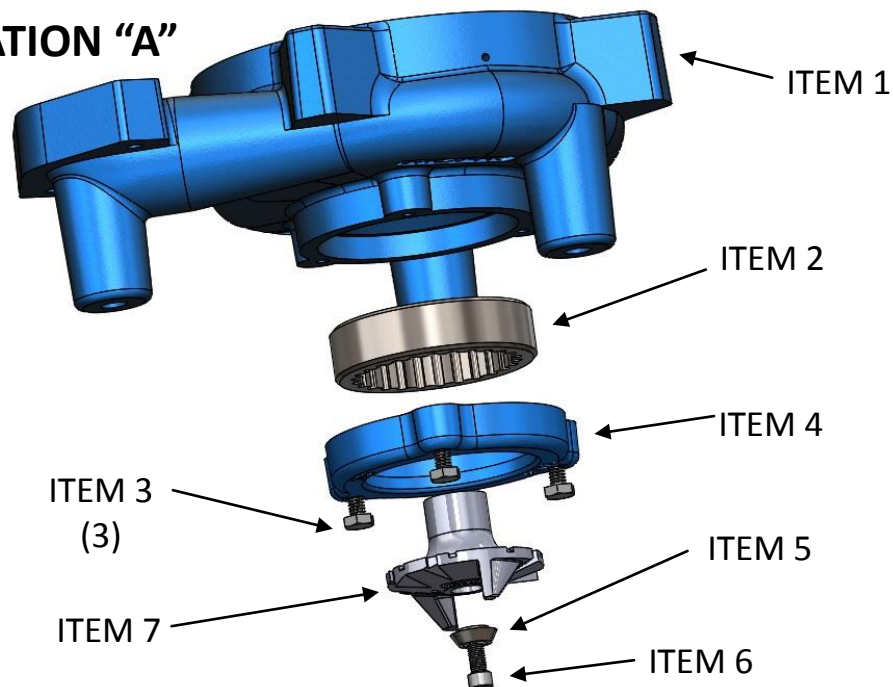
## CUTTER TO SLICER REPLACEMENT - DISASSEMBLY (Pumps must be lying on their side during these operations)

\* Refer to Illustration A or B \*

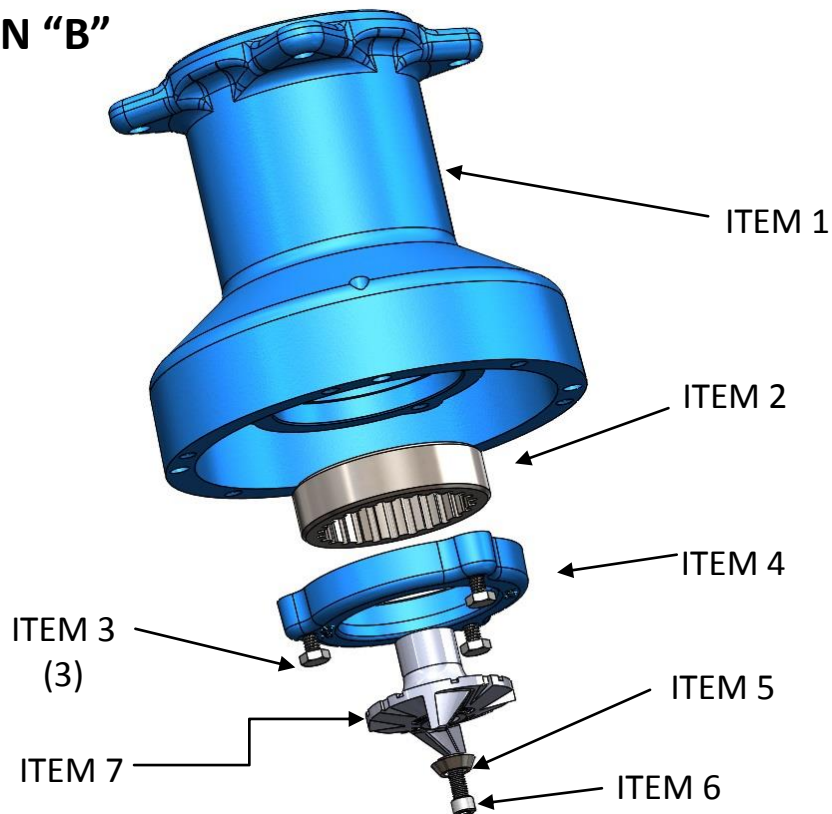
**Necessary tools (3/16” Allen wrench, 7/16” socket or wrench, flat head screwdriver, rubber mallet, feeler gauge set, calibrated torque wrench for use with 1/4” hex socket head screws)**

1. Remove Item #6 (Impeller Retaining Screw), shown in Illustration “A” or “B” w/ 3/16” Allen head wrench.
2. Remove Item #5 (Impeller Washer) from assembly.
3. Tap item #7 (Grinding Impeller) loose (Counterclockwise) w/ rubber mallet and screwdriver, upon loosening, unthread item from assembly and remove.
4. Remove item #3 (1/4” Cap Screw) (Quantity of 3) from assembly using 7/16” Wrench or socket and ratchet.
5. Remove Item #4 (Shredding Ring Retainer) from assembly.
6. Remove Item #2 (Shredding Ring) from item #1 (Volute or Wobble Stator Housing) in assembly, if item #2 does not slide out easily, tap with rubber mallet gently to remove.
7. Disassembly complete.

**ILLUSTRATION “A”**



## ILLUSTRATION "B"



### **CUTTER TO SLICER REPLACEMENT - ASSEMBLY** **(Pumps must be lying on their side during these operations)**

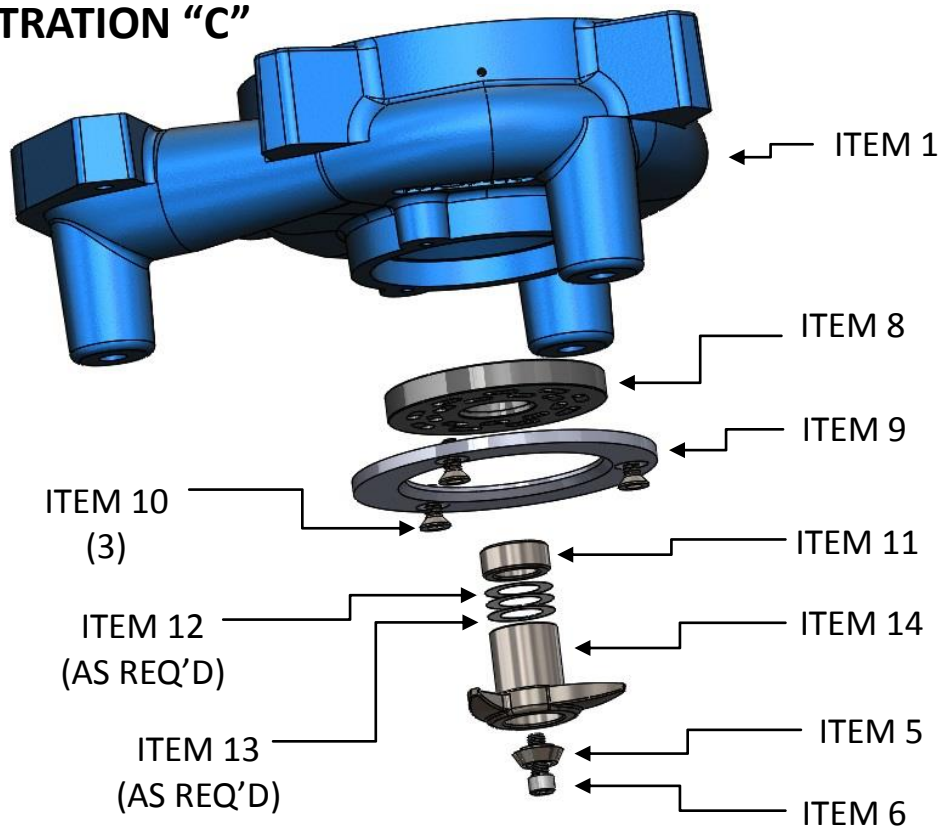
**\* Refer to Illustration C or D \***

**Necessary tools (3/16" Allen wrench, 7/16" socket or wrench, flat head screwdriver, rubber mallet, feeler gauge set, calibrated torque wrench for use with 1/4" hex socket head screws)**

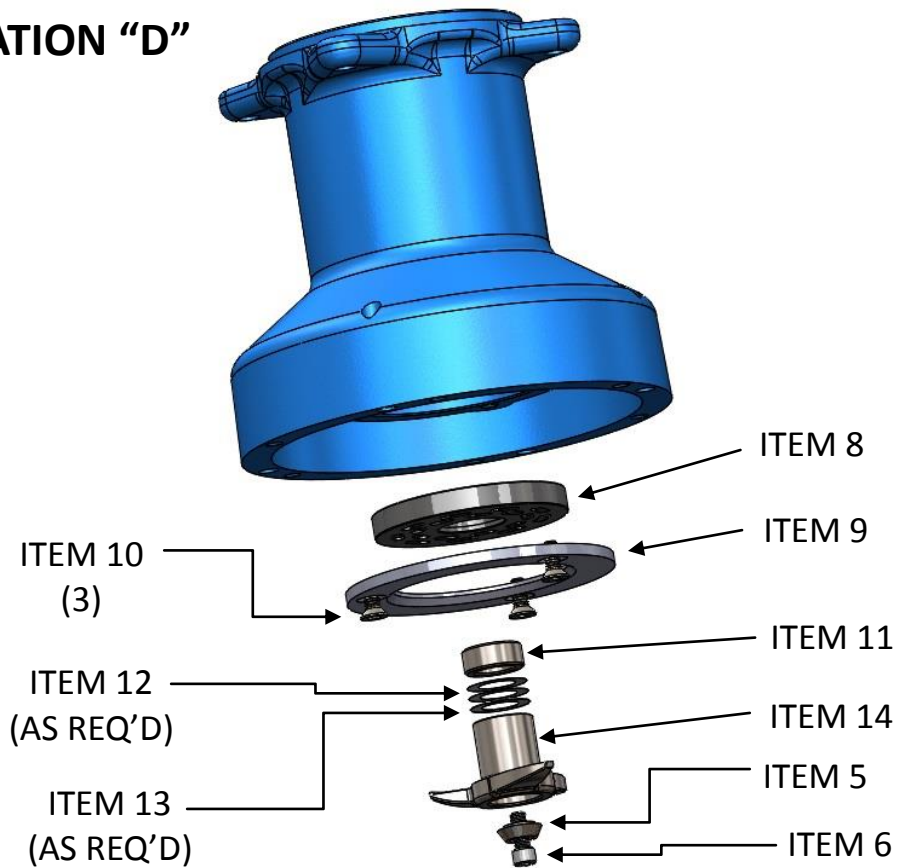
1. Place Item #11 (Slicing Impeller Spacer) onto shaft in pump assembly.
2. Place item #8 (Slicer Plate) into item #1 (Volute or wobble stator housing) of pump assembly.
3. Place item #9 (Slicer Plate Retainer) over item #8 (Slicer Plate) in assembly and attach to assembly with item #10 (Counter Sunk Cap Screws) (Quantity of 3). Ensure proper tightening of item #10 (Counter Sunk Cap Screws) by uniformly tightening each screw to 14 ft lbs with properly calibrated torque wrench.
4. Thread item #14 (Slicing Impeller) onto the shaft until hand tight. Determine whether this will need to be further spaced from the slicer plate (Item #8) by using Item #12 (.010 Shim) and #13 (.004 Shim) as required. Gap between item #8 (Slicer Plate) and item #14 (Slicing Impeller) is specified to be between .005-.007 inches. Distance to be established with feeler gauge. Once distance is set, Slicing Impeller (item #14) may be tapped gently with rubber mallet to further tighten Slicing impeller (item #14).
5. Slide Item #5 (Impeller Washer) over Item #6 (Impeller Retaining Screw) and apply Red-Loctite to item #6 (Impeller Retaining Screw), complete assembly of parts by threading Item #6 (Impeller Retaining Screw) into end of shaft. Tighten impeller retaining screw (Item #6) to 14 ft lbs with a properly calibrated torque wrench.
6. Assembly complete.



### ILLUSTRATION "C"



### ILLUSTRATION "D"



# REPLACE “AXIAL SLICER” w/ “RADIAL CUTTER”

\* Refer to Illustrations A, B, C, D \*

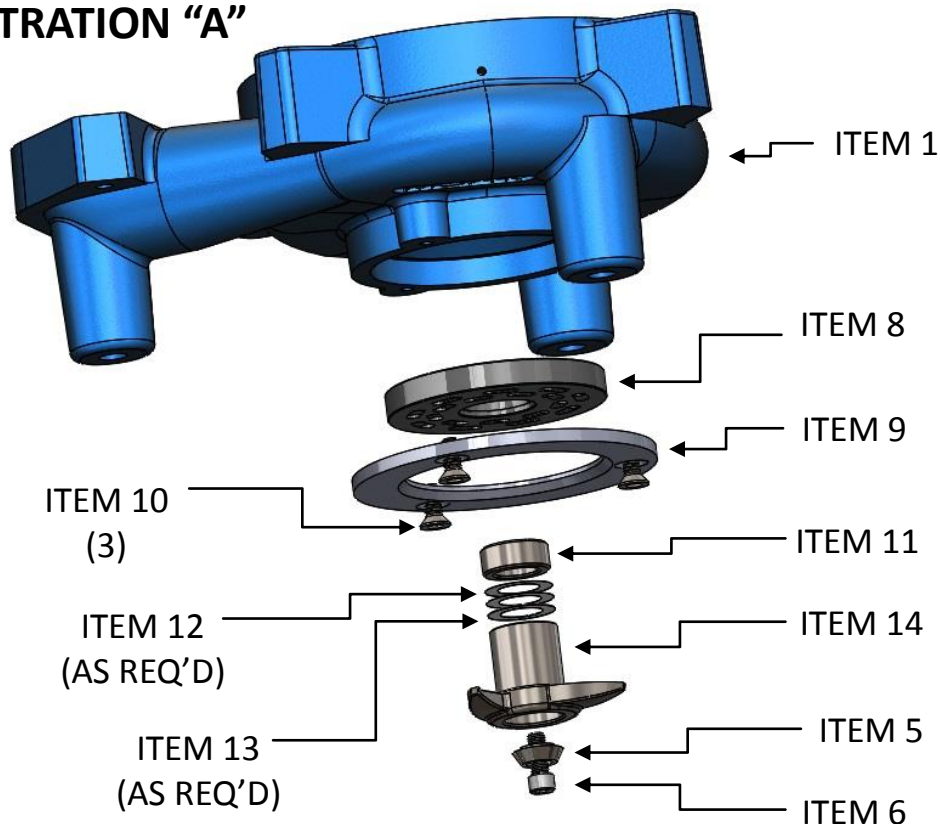
## SLICER TO CUTTER REPLACEMENT - DISASSEMBLY (Pumps must be lying on their side during these operations)

\* Refer to Illustration A or B \*

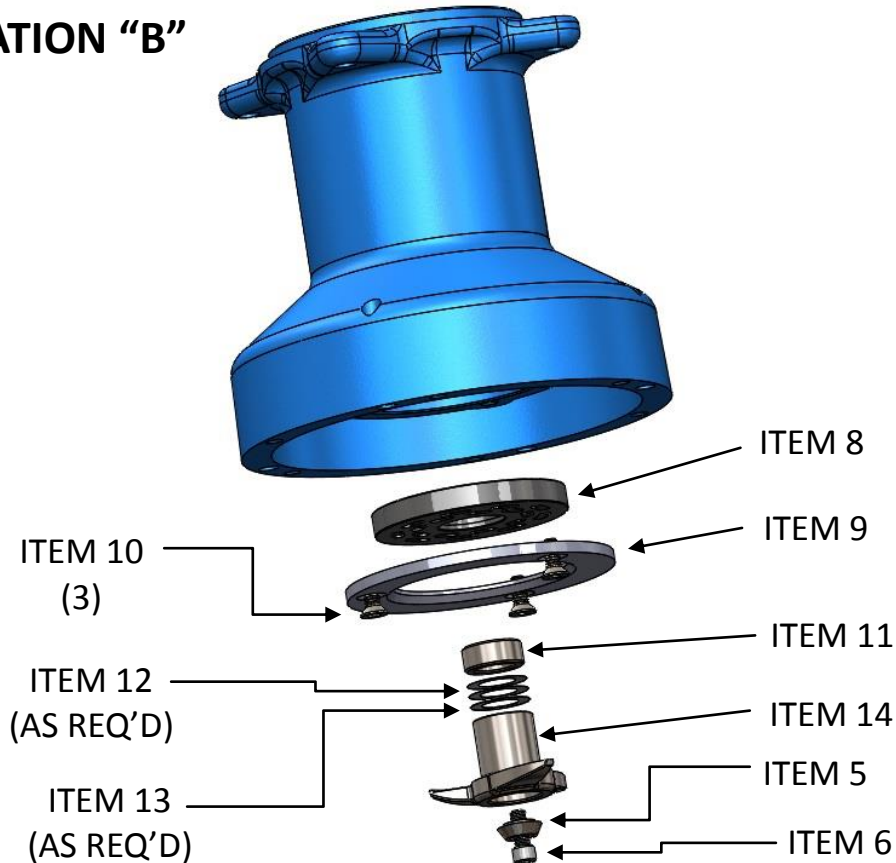
**Necessary tools (3/16” Allen wrench, 7/16” socket or wrench, flat head screwdriver, rubber mallet, feeler gauge set, calibrated torque wrench for use with 1/4” hex socket head screws)**

1. Remove Item #6 (Impeller Retaining Screw), shown in Illustration “A” or “B” w/ 3/16” Allen head wrench.
2. Remove Item #5 (Impeller Washer) from assembly.
3. Tap item #14 (Slicing Impeller) loose (Counterclockwise) with rubber mallet and screwdriver, upon loosening, unthread item from assembly and remove.
4. Remove Items #12 (.010 thick shim) and #13 (.004 thick shim) if required.
5. Remove item #10 (1/4” Counter Sunk Cap screw) (Quantity of 3) from assembly using 3/16” Allen Wrench or socket and ratchet.
6. Remove item #9 (Slicer Plate Retainer).
7. Remove item #8 (Slicer Plate from Item #1 (Volute or Wobble Stator Housing).
8. Remove Item #11 (Slicing Impeller Spacer) from shaft assembly.
9. Disassembly complete.

### ILLUSTRATION “A”



## ILLUSTRATION "B"

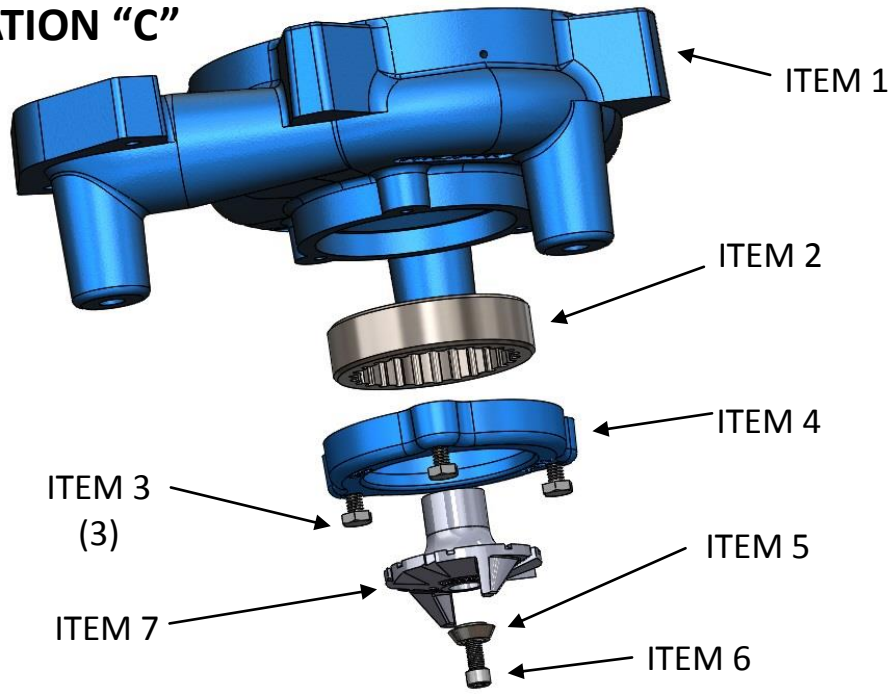


### **SLICER TO CUTTER REPLACEMENT - ASSEMBLY** **(Pumps must be lying on their side during these operations)** **\* Refer to Illustration C or D \***

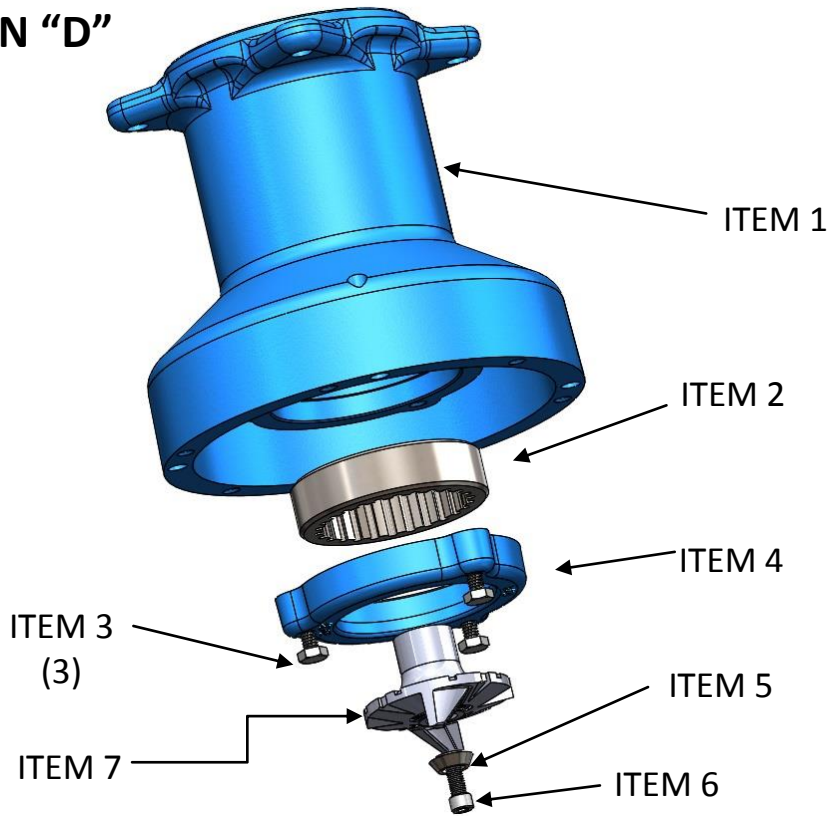
**Necessary tools (3/16" Allen wrench, 7/16" socket or wrench, flat head screwdriver, rubber mallet, feeler gauge set, calibrated torque wrench for use with 1/4" hex socket head screws)**

1. Thread item #7 (Grinding Impeller) on the Shaft (hand tight).
2. Place item #2 (Grinding Ring) over Item #7 (Grinding Impeller) into item #1 (Volute or Wobble Stator Housing). Spin item #2 (Grinding Ring) once it drops fully into the cavity provided on item #1 (Volute or Wobble Stator Housing) to ensure it spins freely about item #7(Grinding Impeller).
3. Place item #4 (Grinder Ring Retainer) over item #2 (Grinding Ring) in the assembly and attach to the assembly with item #3 (1/4" Hex Head Cap Screw) (Quantity of 3). Ensure proper tightening of the item #3 (1/4" Hex Head Cap Screw) by uniformly tightening each screw to 14 ft lbs with a properly calibrated torque wrench.
4. Slide Item #5 (Impeller Washer) over Item #6 (Impeller Retaining Screw) and apply Red-Loctite to item #6 (Impeller Retaining Screw), complete the assembly of these parts by threading the item #6 (Impeller Retaining Screw) into the end of the shaft. Tighten the Impeller retaining screw (Item #6) to 14 ft lbs with a properly calibrated torque wrench
5. Assembly complete.

**ILLUSTRATION "C"**



**ILLUSTRATION "D"**



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