



# MAINTENANCE TROUBLESHOOTING INTERNATIONAL LLC

GPS-302

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## GPS-302 Gaskets, Packing, Mechanical Seals

Leakage and how to control it sums up this course. Hands-on activities include gasket making, cutting and fitting packing for pump shafts and pneumatic pistons as well as choosing the right packing for an application. Various kinds of seals are addressed such as Lip Seals, O-Ring Seals, A large part of the course involves learning about mechanical seals, how they work, and how to service and install them. "Reading seal faces" to troubleshoot inherent problems and choosing the correct materials for stationary faces, rotating faces, and secondary static seals will be discussed. Single, double, tandem, component, and cartridge seals will be used in the class. Various seals are disassembled and re-worked to return them to service.



### PACKING & SEALING MATERIALS

- Basic Elastomers & Rubbers
- Fibers
- Other Materials of Construction
- Metals & Alloys
- Fillers

### PRODUCT SELECTION

- Size
- Temperature
- Application
- Media
- Pressure
- Speed

### FORCES ACTING ON A SEALING DEVICE

- Forces acting on a gasket
- Forces acting on a packing of hydraulic assembly.
- Forces acting on an expansion joint

### GASKET SIMULATOR

- <https://www.garlock.com/en/STATIC/Gasket-2/Index.html>

### EXPANSION JOINT SIMULATOR

- <https://www.garlock.com/en/STATIC/Expansion-Joint/Index.html>

### GASKETING

- The Gasketed Joint
- What Does a Gasket Do?
- Where are Gaskets Used?
- Heat Exchangers
- Valves
- Pumps
- Mixers, Blenders, Reactors, and Agitators

### MAJOR GASKETING STYLES

- PTFE Gasketing
- Graphite Filled
- Elastomers and Rubber
- Metal Gaskets

### O-RINGS

- How An O-Ring Works
- Static Seals
- Reciprocating Seals
- Oscillating Seals
- Rotary Seals
- Seat Seals
- Pneumatic Seals

### LIP SEALS

- Purpose of a Lip Seal
- Selecting a Lip Seal
- Lip Seal Construction
- Lip Seal Installation
- Lip Seal Inspection

### MECHANICAL SEALS

- Fundamental Seal Operation
- Seal Requirements
- Simple Mechanical Seals
- Seal Face Lubrication

### BASIC SEAL DESIGNS

- Pusher Seals
- Non-pusher Seals

### VARIATIONS OF BASIC SEAL DESIGNS

- Unbalanced Seals
- Balanced Seals

- Mixer Seals
- High Pressure Seals
- High Speed Seals

### MECHANICAL SEAL ARRANGEMENTS

- Inside Seals
- Outside Seals
- Double Seals
- Tandem Seals
- Cartridge Seals
- Barrier Fluid Seals
- Split Seals

### TROUBLESHOOTING SEAL PROBLEMS

- Temperature problem
- Chemical problems
- Installation Problems

### CLASS FORMATS AVAILABLE

- ☑ MTI Hands-On Center \$995/person
- ☑ ZOOM Interactive \$995/person
- ☑ On-Site (Your Location) Ask for Quote

Quick Quote Available in 48 hrs.

### CLASS DURATION

2-days, 15 hours of instruction  
 20% Hands-On

### FREE TOOL AND BOOKS

PARKER O-RING GUIDE(\$20 value)  
 MECHANICAL SEAL GUIDE (\$30)

**Class Details:** Each student will receive class books, work activity sheets, self-test progress evaluations, as well as questions from the instructor to make sure they understand the material presented. It is expected that an attendee will leave the class with the basic knowledge of the subject and possess new found skills to better equip them when they return to their job. A certificate suitable for framing will be issued to each attendee who successfully completes the course. Call, email or check the website for the next time this course is scheduled at the MTI training center or as a ZOOM interactive session. On-site sessions? Request a quick 48-hour turnaround quote. Revised: 02/01/2021