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# Service and Maintenance for Solids Control Equipment

### About the Course

Proper installation, care, and repair are all vital components to maintaining a productive solids control system. This course is designed for the tradesperson with both mechanical and electrical responsibilities on solids control equipment. Students will have the opportunity to participate in a hands-on course related to all aspects of service for each piece of solids control equipment manufactured by Derrick. (Service overview of competitive equipment by request)

#### Main Areas of Focus

- Equipment identification, parts, preventative maintenance and troubleshooting.
- Disassembly & reassembly of the following solids control equipment: Shale shakers, Degasser, Hydrocyclones, Pumps, Agitators, and parts of a Centrifuge.
- Related electrical components, troubleshooting and electrical maintenance.
- Operating manual referencing.

## Course Specifics

Instructor: Matt Wiggins

Roberto Revelo

Course Length: 5 days\*

\*Includes test tank and lab sessions

**Time:** 8:30 AM – 4:00 PM\*

\*Breakfast and lunch are provided

**Price:** \$1,500.00

Class Limit: 5

Attire: Jeans or pants Shirt Closed-toed shoes \*Safety equipment/tools provided

Schedule subject to change based on enrollment

#### Who Should Attend

The course is designed for new hires, rig personnel, civil and underground operators, service technicians, and any other personnel who directly with servicing solids control processing equipment.

	Course Name	Learning Targets	Solids Control Key Outcomes	Engagement
Monday	Derrick Equipment Company Overview	<ul> <li>✓ History</li> <li>✓ Locations</li> <li>✓ Services</li> </ul>	Derrick key contacts & information	
	Electrical Overview	<ul> <li>Basics of voltage, amperage, ohms, and horsepower</li> <li>Wire stripping, identification, multimeter use, and troubleshooting</li> </ul>	Understanding Derrick starters, motors, and wiring	<ul> <li>Starter box labeling and identification</li> <li>Motor cord assembly</li> <li>Troubleshooting inside the starter box</li> <li>Troubleshooting motors</li> </ul>
	Operating Manual Overview	<ul> <li>✓ How to access manuals</li> <li>✓ How to locate parts</li> <li>✓ Wiring schematics</li> </ul>	<ul> <li>Proper equipment installation methods</li> <li>Locating and ordering parts</li> </ul>	<ul> <li>Classroom overview of operating manual locations, access, and utilization.</li> </ul>
	500 Series Shale Shaker	<ul> <li>✓ Design and overview</li> <li>✓ Technical specifications</li> <li>✓ Mechanical specifications</li> </ul>	Service & Preventative maintenance	<ul> <li>Shaker disassembly</li> <li>Parts identification and troubleshooting</li> <li>Shaker reassembly</li> <li>Hydraulic overview if applicable</li> </ul>
Tuesday	Primer & Flo-Divider	<ul> <li>✓ Design and overview</li> <li>✓ Technical specifications</li> <li>✓ Mechanical specifications for primer</li> </ul>	<ul> <li>Service &amp; maintenance on primer</li> <li>Flo-divider recommendations &amp; troubleshooting</li> </ul>	<ul> <li>Primer walk-around and parts identification</li> <li>Flo-divider installation overview</li> </ul>
	Hyperpool Shale Shaker	<ul> <li>✓ Design and overview</li> <li>✓ Technical specifications</li> <li>✓ Mechanical specifications</li> </ul>	Service & Preventative     maintenance	<ul><li>Shaker disassembly</li><li>Parts identification and troubleshooting</li><li>Shaker reassembly</li></ul>
	Screen Technology	<ul> <li>✓ Brief history</li> <li>✓ API RP 13 C</li> <li>✓ Screen comparisons</li> <li>✓ Screen performance</li> </ul>	<ul><li>Screen sizing</li><li>Cut points</li><li>Issues</li><li>Care</li></ul>	<ul> <li>Screen change on Derrick &amp; competitive shakers</li> <li>Screen microscope</li> <li>Cost per foot/well tracking program</li> <li>Screen animation</li> </ul>
Wednesday	600 Series Shale Shakers	<ul> <li>✓ Design and overview</li> <li>✓ Technical specifications</li> <li>✓ Mechanical specifications</li> </ul>	Service & Preventative maintenance	<ul> <li>Shaker disassembly</li> <li>Parts identification and troubleshooting</li> <li>Shaker reassembly</li> <li>Starter box troubleshooting</li> <li>Hydraulic overview</li> </ul>
	Degasser	<ul> <li>✓ Design and overview</li> <li>✓ Technical specifications</li> <li>✓ Mechanical specifications</li> </ul>	<ul> <li>Proper connection &amp; operation</li> <li>Service &amp; Preventative maintenance</li> </ul>	<ul> <li>Safety overview</li> <li>Degasser disassembly</li> <li>Parts identification and troubleshooting</li> <li>Degasser reassembly</li> </ul>
Thursday	Hydrocyclones	<ul><li>✓ Design and overview</li><li>✓ Technical specifications</li></ul>	<ul> <li>Proper connection &amp; operation</li> <li>Service &amp; Preventative maintenance</li> </ul>	<ul><li>Degasser disassembly</li><li>Parts identification and troubleshooting</li><li>Degasser reassembly</li></ul>
	Pumps	<ul> <li>✓ Design and overview</li> <li>✓ Technical specifications</li> <li>✓ Mechanical specifications</li> </ul>	<ul> <li>Proper connection &amp; operation</li> <li>Service &amp; Preventative maintenance</li> </ul>	<ul><li>Pump disassembly</li><li>Parts identification and troubleshooting</li><li>Pump reassembly</li></ul>
	Mud Agitators	<ul> <li>✓ Design and overview</li> <li>✓ Technical specifications</li> <li>✓ Mechanical specifications</li> </ul>	<ul> <li>Proper installation</li> <li>Service &amp; Preventative maintenance</li> </ul>	<ul><li>Agitator disassembly</li><li>Parts identification</li><li>Agitator reassembly</li></ul>
Friday	Centrifuge	<ul> <li>✓ Design and overview</li> <li>✓ Technical specifications</li> <li>✓ Mechanical specifications</li> </ul>	<ul> <li>Proper installation</li> <li>Service &amp; Preventative maintenance</li> </ul>	<ul> <li>Parts identification</li> <li>Fundamental mechanical troubleshooting</li> <li>Troubleshooting basic faults and alarms</li> </ul>
	Solids Control Service Review	<ul> <li>✓ Quick quiz</li> <li>✓ References</li> <li>✓ Zip drive</li> <li>✓ Course evaluation</li> </ul>	Assessment for learning	Recap & discussion