

Ring Power

Customer Technician Training Powertrain Fundamentals

Course Name	Power Train Fundamentals
Course Number	41837
Duration	24 Hours (3 eight-hour days)
Course Description	This course identifies basic powertrain system operations, the competencies required to complete basic service procedures (preventive maintenance), and how to remove and install powertrain systems and components on Cat® Equipment.
Skills/Topics	<p>Objectives— Learners will be able to:</p> <ul style="list-style-type: none"> • Explain the basic types of powertrain systems, their purpose, main components, and theory of operation. • Explain power transfer methods used in the powertrain system - gears, chains, friction, and fluids. • Explain the function of gears in the powertrain and identify the types of gears and gear sets. • Identify common couplings including the flywheel clutch, torque converter, and torque divider and explain the theory of operation. • Remove and install torque converters and torque dividers. • Identify the various types of manual and powershift transmissions, related hydraulic controls, and explain the theory of operation. • Remove and install powershift transmission system components. • Identify the different types of differentials, their components, and theory of operation. • Remove and install differentials. • Describe various types of steering systems, related components, and explain the purpose and operation of steering systems. • Remove and install steering system components. • Describe various types of brakes and retarders, related components, and explain the purpose and operation of brake and retarder systems. • Remove and install brake system components. • Describe various types of undercarriage, related components, and explain the purpose and operation of undercarriage systems. • Remove and install undercarriage system components. • Describe the various types of final drives, chains and tires, related components, and explain the purpose and operation of final drives, chains, and tires. • Remove and install final drives, chains, and tires. • Describe the various types of driveline, related components, and explain the purpose and operation of driveline assemblies. • Remove, inspect, and install driveline assemblies. • Describe various types of suspension, related components, and explain the purpose and operation of suspension systems. • Explain the general service procedures (preventive maintenance) of various powertrain systems. • Perform service tasks (preventive maintenance) of powertrain systems.
Prerequisites	None
Necessary Supplies and Equipment	<ul style="list-style-type: none"> • Safety glasses with side shields and safety (or hard-toed) shoes are required. • Appropriate work clothing is required.

Ring Power offers customer training courses for Operators and Technicians of every skill level. Custom classes can be developed, and we offer subscriptions to Caterpillar University.

Contact our Customer Training Department to learn more at CustTraining@RingPower.com, 904-737-7730, or visit <https://www.ringpower.com/services/customer-training/>.