

AIR INLET AND EXHAUST SYSTEM

Systems Operation

C3.8 Engines for Caterpillar Built Machines - KENR9884

- [Air Inlet and Exhaust System](#)

Testing and Adjusting

C3.8 Engines for Caterpillar Built Machines - KENR9884

- [Air Inlet and Exhaust System - Inspect](#)
- [Turbocharger - Inspect](#)
- [Exhaust Temperature - Test](#)

Troubleshooting

C3.8 Engines for Caterpillar Built Machines - KENR9325

- [Exhaust Has Excessive White Smoke](#)
- [Exhaust System Contains Oil](#)
- [NRS Exhaust Gas Temperature Is High](#)
- [NOx Reduction System \(NRS\) - Test](#)

Specifications / Disassembly and Assembly

EXHAUST GP - Specifications

C3.8 Engines for Caterpillar Built Machines - KENR9883

- [Diesel Particulate Filter](#)

BASIC ENGINE

Systems Operation

C3.8 Engines for Caterpillar Built Machines - KENR9884

- [Basic Engine](#)

Testing and Adjusting

C3.8 Engines for Caterpillar Built Machines - KENR9884

- [Engine Crankcase Pressure \(Blowby\) - Test](#)
- [Engine Valve Lash - Inspect/Adjust](#)
- [Excessive Bearing Wear - Inspect](#)
- [Piston Ring Groove - Inspect](#)
- [Connecting Rod Bearings - Inspect](#)
- [Main Bearings - Inspect](#)
- [Cylinder Block - Inspect](#)

Troubleshooting

C3.8 Engines for Caterpillar Built Machines - KENR9325

- [Cylinder Is Noisy](#)
- [Engine Has Early Wear](#)
- [Engine Vibration Is Excessive](#)
- [Valve Lash Is Excessive](#)

Specifications / Disassembly and Assembly

CAMSHAFT GP - Specifications

C3.8 Engines for Caterpillar Built Machines - KENR9883

- [Camshaft](#)

CRANKSHAFT GP - Specifications

C3.8 Engines for Caterpillar Built Machines - KENR9883

- [Crankshaft](#)

CYLINDER BLOCK GP - Specifications

C3.8 Engines for Caterpillar Built Machines - KENR9883

- [Cylinder Block](#)

CYLINDER HEAD GP - Specifications

C3.8 Engines for Caterpillar Built Machines - KENR9883

- [Cylinder Head Valves](#)
- [Cylinder Head](#)

FLYWHEEL GP - Specifications

C3.8 Engines for Caterpillar Built Machines - KENR9883

- [Flywheel](#)
- [Flywheel Housing](#)

GEAR GP - Specifications

COOLING SYSTEM

Systems Operation

C3.8 Engines for Caterpillar Built Machines - KENR9884

- [Cooling System](#)

Testing and Adjusting

C3.8 Engines for Caterpillar Built Machines - KENR9884

- [Cooling System - Check - Overheating](#)
- [Cooling System - Inspect](#)
- [Cooling System - Test](#)
- [Water Temperature Regulator - Test](#)

Troubleshooting

C3.8 Engines for Caterpillar Built Machines - KENR9325

- [Coolant Contains Oil](#)
- [Coolant Level Is Low](#)
- [Coolant Temperature Is High](#)
- [Cooling Fan Is Always ON](#)
- [Exhaust System Contains Oil](#)
- [Oil Contains Coolant](#)

Specifications / Disassembly and Assembly

COOLER GP - Specifications

C3.8 Engines for Caterpillar Built Machines - KENR9883

- [Engine Oil Cooler](#)

FAN GP - Specifications

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders - UENR3729

- [Gear Motor \(Fan, Demand\)](#)

LINES GP-WATER - Specifications

C3.8 Engines for Caterpillar Built Machines - KENR9883

- [Water Temperature Regulator](#)

REGULATOR GP-TEMPERATURE - Specifications

C3.8 Engines for Caterpillar Built Machines - KENR9883

- [Water Temperature Regulator](#)

ELECTRICAL AND STARTING SYSTEM

Systems Operation

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders - UENR3729

- [Engine Speed Control](#)

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders Machine Electronic Control System - UENR3699

- [General Information](#)
- [Features](#)
- [Electrical Input Components](#)
- [Electronic Control Module](#)
- [Electrical Output Components](#)
- [Data Link](#)

C3.8 Engines for Caterpillar Built Machines - KENR9884

- [Electronic Control System Components](#)
- [Electrical System](#)

Testing and Adjusting

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders Machine Electronic Control System - UENR3699

- [Calibration](#)
- [Electrical Connector - Inspect](#)
- [Wiring Harness \(Open Circuit\) - Test](#)
- [Wiring Harness \(Short Circuit\) - Test](#)
- [Electronic Control Module \(ECM\) - Flash Program](#)
- [Electronic Control Module \(ECM\) - Configure](#)
- [Electronic Control Module \(ECM\) - Replace](#)
- [System Schematic](#)

C3.8 Engines for Caterpillar Built Machines - KENR9884

- [Alternator - Test](#)
- [Battery - Test](#)
- [Electric Starting System - Test](#)

Troubleshooting

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders Machine Electronic Control System - UENR3699

- [General Information](#)
- [Service Tools](#)

ENGINE ARRANGEMENT

Systems Operation

C3.8 Engines for Caterpillar Built Machines - KENR9884

- [General Information](#)

Testing and Adjusting

C3.8 Engines for Caterpillar Built Machines - KENR9884

- [Engine Speed - Check](#)

Troubleshooting

C3.8 Engines for Caterpillar Built Machines - KENR9325

- [General Information](#)
- [Welding Precaution](#)
- [Service Information Report](#)
- [Component Location](#)
- [Acceleration Is Poor or Throttle Response Is Poor](#)
- [Engine Does Not Crank](#)
- [Engine Has Mechanical Noise \(Knock\)](#)
- [Engine Misfires, Runs Rough or Is Unstable](#)
- [Engine Overspeeds](#)
- [Engine Stalls at Low RPM](#)
- [Engine Top Speed Is Not Obtained](#)
- [Engine Vibration Is Excessive](#)
- [Power Is Intermittently Low or Power Cutout Is Intermittent](#)

Specifications / Disassembly and Assembly

ENGINE AR - Specifications

C3.8 Engines for Caterpillar Built Machines - KENR9883

- [Engine Design](#)

FRAME AND BODY

Specifications / Disassembly and Assembly

ENCLOSURE GP - Specifications

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders - UENR3729

- [Engine Enclosure](#)

FRAME GP - Specifications

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders - UENR3729

- [Loader Frame](#)
- [Track Roller Frame - LH](#)
- [Track Roller Frame - RH](#)
- [Track Roller Frame - RH](#)
- [Track Roller Frame - RH](#)

GUARD GP - Specifications

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders - UENR3729

- [Front Idler](#)

IDLER GP - Disassembly and Assembly

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders
Power Train - UENR3730

- [Idler - Remove and Install - Triple Flange](#)
- [Idler - Remove and Install - Single Flange](#)
- [Idler - Remove and Install - Double Flange](#)

FUEL SYSTEM

Systems Operation

C3.8 Engines for Caterpillar Built Machines - KENR9884

- [Cleanliness of Fuel System Components](#)
- [Fuel System](#)

Testing and Adjusting

C3.8 Engines for Caterpillar Built Machines - KENR9884

- [Fuel System - Inspect](#)
- [Air in Fuel - Test](#)
- [Fuel Quality - Test](#)

Troubleshooting

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders Machine Electronic Control System - UENR3699

- [MID 039 - CID 0096 - FMI 03](#)
- [MID 039 - CID 0096 - FMI 04](#)

C3.8 Engines for Caterpillar Built Machines - KENR9325

- [Exhaust Has Excessive White Smoke](#)
- [Fuel Consumption Is Excessive](#)
- [Fuel Rail Pressure Is High](#)
- [Fuel Rail Pressure Is Low](#)
- [Fuel Rail Temperature Is High](#)
- [Oil Contains Fuel](#)
- [Injector Data Incorrect - Test](#)
- [Injector Solenoid - Test](#)
- [Injector Trim File - Install - Injector Trim Code - Install](#)

Specifications / Disassembly and Assembly

FUEL SYSTEM - Specifications

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders - UENR3729

- [Fuel Tank](#)

CONTROL GP-GOVERNOR - Disassembly and Assembly

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders Machine Systems - UENR3731

- [Governor Pedal - Remove and Install](#)

LINES GP-FUEL INJECTION - Specifications

C3.8 Engines for Caterpillar Built Machines - KENR9883

- [Fuel Injection Lines](#)

PUMP GP-FUEL INJECTION - Specifications

HYDRAULIC SYSTEM

Systems Operation

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders - UENR3729

- [General Information - High Flow XPS](#)
- [General Information - Standard Flow](#)
- [Electrohydraulic System](#)
- [Gear Pump - Charge Oil](#)
- [Piston Pump - High Flow XPS \(If Equipped\)](#)
- [Work Tool Hydraulic System](#)
- [Control Valve \(Work Tool\) - Standard Flow](#)
- [Control Valve \(Work Tool\) - High Flow XPS](#)
- [Ride Control System - If Equipped](#)

Testing and Adjusting

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders - UENR3729

- [Machine Preparation](#)
- [Visual Inspection](#)
- [Hydraulic Oil Temperature - Check](#)
- [Operational Checks](#)
- [Hydraulic System Troubleshooting - Implement](#)
- [System Pressure - Release](#)
- [Hydraulic Oil Contamination - Test](#)
- [Pressure Tap Locations](#)
- [Implement System - Test - Pressure](#)
- [Accumulator \(Pilot\) - Test and Charge](#)
- [Pilot System Pressure - Test](#)
- [Gear Motor \(Fan\) - Test](#)
- [Pump Flow - Test](#)
- [High Flow Hydraulic System - Test and Adjust - If Equipped](#)
- [Standard Flow Hydraulic System - Test and Adjust](#)
- [Accumulator \(Ride Control\) - Test](#)

Troubleshooting

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders Machine Electronic Control System - UENR3699

IMPLEMENTS

Testing and Adjusting

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders - UENR3729

- [Implement System - Test - Pressure](#)

Specifications / Disassembly and Assembly

CONTROL GP - Disassembly and Assembly

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders Machine Systems - UENR3731

- [Lift Arms - Remove and Install - Extended Reach](#)

FRAME GP - Specifications

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders - UENR3729

- [Loader Frame](#)

LINKAGE GP - Specifications

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders - UENR3729

- [Lift Arm Group](#)

LUBRICATION SYSTEM

Systems Operation

C3.8 Engines for Caterpillar Built Machines - KENR9884

- [Lubrication System](#)

Testing and Adjusting

C3.8 Engines for Caterpillar Built Machines - KENR9884

- [Engine Crankcase Pressure \(Blowby\) - Test](#)
- [Engine Oil Pressure - Test](#)
- [Excessive Engine Oil Consumption - Inspect](#)

Troubleshooting

C3.8 Engines for Caterpillar Built Machines - KENR9325

- [Coolant Contains Oil](#)
- [Oil Consumption Is Excessive](#)
- [Oil Contains Coolant](#)
- [Oil Contains Fuel](#)
- [Oil Pressure Is Low](#)

Specifications / Disassembly and Assembly

PUMP GP-ENGINE OIL - Specifications

C3.8 Engines for Caterpillar Built Machines - KENR9883

- [Engine Oil Pump](#)

MACHINE ARRANGEMENT

Troubleshooting

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders Machine Electronic Control System - UENR3699

- [Symptom Troubleshooting](#)
- [Emerging Symptom Information](#)

PREVIEW - YOUFIXTHIS.COM

OPERATOR STATION

Troubleshooting

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders Machine Electronic Control System - UENR3699

- [Using the Operator Monitor to Determine Diagnostic Codes](#)

- [MID 039 - CID 1190 - FMI 04](#)

- [MID 039 - CID 2471 - FMI 03](#)

- [MID 039 - CID 2471 - FMI 04](#)

- [MID 039 - CID 2474 - FMI 03](#)

- [MID 039 - CID 2474 - FMI 04](#)

- [MID 039 - CID 2474 - FMI 08](#)

- [MID 039 - CID 2474 - FMI 13](#)

- [MID 039 - CID 2475 - FMI 03](#)

- [MID 039 - CID 2475 - FMI 04](#)

- [MID 039 - CID 2475 - FMI 08](#)

- [MID 039 - CID 2475 - FMI 13](#)

- [MID 039 - CID 2476 - FMI 03](#)

- [MID 039 - CID 2476 - FMI 04](#)

- [MID 039 - CID 2476 - FMI 08](#)

- [MID 039 - CID 2476 - FMI 13](#)

- [MID 039 - CID 2477 - FMI 03](#)

- [MID 039 - CID 2477 - FMI 04](#)

- [MID 039 - CID 2477 - FMI 08](#)

- [MID 039 - CID 2477 - FMI 13](#)

- [MID 039 - CID 2795 - FMI 03](#)

- [MID 039 - CID 2795 - FMI 04](#)

- [MID 039 - CID 2795 - FMI 08](#)

- [MID 039 - CID 2795 - FMI 13](#)

C3.8 Engines for Caterpillar Built Machines - KENR9325

- [Indicator Lamp Problem](#)

- [Indicator Lamp - Test](#)

Specifications / Disassembly and Assembly

AIR CONDITIONER GP - Specifications

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders - UENR3729

- [Air Conditioner - Mounting](#)

POWER TRAIN

Systems Operation

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders - UENR3729

- [Hydrostatic System](#)
- [Piston Pump - High Flow XPS \(If Equipped\)](#)
- [Piston Pump \(Hydrostatic\)](#)
- [Piston Motor \(Hydrostatic\)](#)

Testing and Adjusting

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders - UENR3729

- [Machine Preparation](#)
- [Visual Inspection](#)
- [Operational Checks](#)
- [Hydrostatic System Troubleshooting](#)
- [System Pressure - Release](#)
- [Hydrostatic System - Flush and Fill](#)
- [Hydrostatic System - Test and Adjust](#)

Troubleshooting

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders Machine Electronic Control System - UENR3699

- [Symptom Troubleshooting](#)
- [Emerging Symptom Information](#)
- [Motor Speed Is Unexpected](#)
- [MID 039 - CID 0681 - FMI 03](#)
- [MID 039 - CID 0681 - FMI 05](#)
- [MID 039 - CID 0681 - FMI 06](#)
- [MID 039 - CID 1703 - FMI 03](#)
- [MID 039 - CID 1703 - FMI 05](#)
- [MID 039 - CID 1703 - FMI 06](#)
- [MID 039 - CID 1703 - FMI 13](#)
- [MID 039 - CID 1704 - FMI 03](#)
- [MID 039 - CID 1704 - FMI 05](#)
- [MID 039 - CID 1704 - FMI 06](#)
- [MID 039 - CID 1704 - FMI 13](#)

SERVICE EQUIPMENT AND SUPPLIES

Testing and Adjusting

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders - UENR3729

- [Pressure Tap Locations](#)

Troubleshooting

C3.8 Engines for Caterpillar Built Machines - KENR9325

- [Service Information Report](#)

PREVIEW - YOUFIXTHIS.COM

Torque Specifications

General Information 01/01/2013

- [Introduction to Torque 01/01/2013](#)
 - [Torque-Turn 01/01/2013](#)
 - [Torque Sequence 01/01/2013](#)
- [Metric \(ISO\) Fasteners 01/01/2013](#)
 - [Metric \(ISO\) Nuts and Bolts 01/01/2013](#)
 - [Metric \(ISO\) Taperlock Studs 01/01/2013](#)
 - [Metric \(ISO\) Machine Screws 01/01/2013](#)
 - [Hex Button Head Screw and Set Screws 01/01/2013](#)
- [English \(SAE\) Fasteners 01/01/2013](#)
 - [English \(SAE\) Nuts and Bolts 01/01/2013](#)
 - [English \(SAE\) Taperlock Studs 01/01/2013](#)
 - [English \(SAE\) Machine Screws 01/01/2013](#)
 - [Hex Button Head Screw and Set Screws 01/01/2013](#)
- [Ground Engaging Tool \(G.E.T.\) Fasteners 01/01/2013](#)
- [Installation of Fittings 01/01/2013](#)
 - [Installation of Hydraulic Four Bolt Flange 01/01/2013](#)
 - [Installation of Adjustable STOR Fittings 01/01/2013](#)
- [Straight Thread O-Ring Fittings 01/01/2013](#)
- [Plugs 01/01/2013](#)
 - [Straight Thread O-Ring Plugs 01/01/2013](#)
 - [Drain Plugs with Straight Threads 01/01/2013](#)
- [O-Ring Face Seal Fittings 01/01/2013](#)
- [Bulkhead Nuts 01/01/2013](#)
- [Flare Fittings 01/01/2013](#)
 - [37 Degree Flare Fittings 01/01/2013](#)
 - [45 Degree Flare and Inverted Flare Fittings 01/01/2013](#)
- [Air Conditioning Fittings 01/01/2013](#)
- [Air Brake Fittings 01/01/2013](#)
- [Tapered Pipe Thread Fittings 01/01/2013](#)
- [Miscellaneous Fittings 01/01/2013](#)
 - [Hi Duty Tube Fittings \(Shear Sleeve\) 01/01/2013](#)
 - [SAE Flareless Fittings 01/01/2013](#)
 - [Installing a New Flareless Fitting 01/01/2013](#)
 - [Installing a Used Flareless Fitting 01/01/2013](#)
 - [Flex Fittings 01/01/2013](#)
- [Hose Clamps 01/01/2013](#)
 - [Worm Drive Band Type Clamps 01/01/2013](#)
 - [Constant Torque Hose Clamps 01/01/2013](#)

UNDERCARRIAGE

Systems Operation

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders - UENR3729

- [Undercarriage](#)

Specifications / Disassembly and Assembly

AXLE GP - Disassembly and Assembly

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders
Power Train - UENR3730

- [Axle \(Front\) - Remove and Install](#)
- [Axle \(Rear\) - Remove and Install](#)

DRIVE GP - Specifications

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders - UENR3729

- [Sprocket](#)

FRAME GP - Specifications

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders - UENR3729

- [Track Roller Frame - LH](#)
- [Track Roller Frame - RH](#)
- [Track Roller Frame - RH](#)
- [Track Roller Frame - RH](#)

FRAME GP-TRACK ROLLER - Specifications

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders - UENR3729

- [Track Roller Frame - LH](#)
- [Track Roller Frame - RH](#)
- [Track Roller Frame - RH](#)
- [Track Roller Frame - RH](#)

IDLER GP - Specifications

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders - UENR3729

- [Front Idler](#)
- [Track Idler](#)
- [Track Idler](#)
- [Track Idler](#)
- [Track Idler](#)

IDLER GP - Disassembly and Assembly

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders
Power Train - UENR3730

- [Idler - Remove and Install - Triple Flange](#)

WORK TOOLS

Systems Operation

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders - UENR3729

- [Piston Pump - High Flow XPS \(If Equipped\)](#)

Troubleshooting

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders Machine Electronic Control System - UENR3699

- [MID 039 - CID 3700 - FMI 03](#)
- [MID 039 - CID 3700 - FMI 04](#)
- [MID 039 - CID 3700 - FMI 08](#)
- [MID 039 - CID 3700 - FMI 13](#)

Specifications / Disassembly and Assembly

BLADE GP - Specifications

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders - UENR3729

- [Angling Blade](#)

COUPLER GP-QUICK - Specifications

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders - UENR3729

- [Quick Coupler](#)
- [Quick Coupler](#)

COUPLER GP-QUICK - Disassembly and Assembly

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders Machine Systems - UENR3731

- [Quick Coupler - Remove and Install](#)

DRIVE GP - Specifications

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders - UENR3729

- [Auger Drive](#)
- [Auger Planetary](#)

DRIVE GP - Disassembly and Assembly

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders Power Train - UENR3730

- [Sprocket - Remove and Install](#)

IDLER GP - Specifications

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders - UENR3729

- [Front Idler](#)

IDLER GP - Disassembly and Assembly

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders Power Train - UENR3730

- (4) O-ring
- (5) Thrust sleeve
- (6) Ring
- (7) Turbine wheel
- (8) Turbine housing
- (9) Actuator
- (10) Compressor wheel
- (11) Ring
- (12) Oil deflector
- (13) Bearing
- (14) Snap ring

A turbocharger consists basically of a centrifugal compressor mounted on a common shaft with a turbine driven by exhaust gas. The compressor is located between the air cleaner and the intake manifold, while the turbine is located between the exhaust manifold and the muffler.

The prime job of the turbocharger is, by compressing the air, to force more air into the engine cylinders. This allows the engine to efficiently burn more fuel, thereby producing more horsepower.

In applications where the boost pressure is relatively low, the turbocharger is capable of reducing the smoke concentration, the concentration in the cylinder, fuel consumption, and deterioration in performance at elevated terrain by increasing the amount of air into the engine cylinders.

In applications where the boost pressure is high, the turbocharger is capable of providing a large increase in engine output by increasing the amount of air into the engine cylinders.

Troubleshooting

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders Machine Electronic Control System

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Date Updated -21/05/2013

i05318326

Event Code List

SMCS - 7569

Event codes alert the operator that an abnormal Machine ECM condition has occurred.

When the ECM activates an event code, the operator will be alerted by the Caterpillar Monitoring System. The active event will be logged by the ECM and can be viewed with the Caterpillar Monitoring System or the Caterpillar Electronic Technician (ET) service tool.

Warning Levels

The ECM will assign one of three warnings levels to an active event code according to the severity of the abnormal system condition. Each warning level requires a specific response from the operator. The warning levels and required operator response are listed below.

Warning Level 1

Warning level 1 alerts the operator that a machine system requires attention. The operator should check the involved system condition or the operator should perform maintenance on the involved system at the earliest possible time.

Warning Level 2

Warning level 2 requires a change in the operation of the machine or the performance of a maintenance procedure. Failure to correct the problem that caused this warning may result in damage to the machine components.

Warning Level 3

Warning level 3 requires an immediate safe shutdown of the machine in order to avoid damage to the machine or injury to personnel around the machine. The problem that caused the event must be corrected before machine operation can resume.

Indications and System Response

The resistance should be greater than 5000 ohms for each measurement.

Results:

- **OK** - The resistance is greater than 5000 ohms. The machine harness is correct. Proceed to test step 4.
- **NOT OK** - The resistance is NOT correct. There is a short in the machine harness. The short is between wire (833-GY) and the circuit with the low resistance measurement or the short is between wire (832-BR) and the circuit with the low resistance measurement.

Repair: Repair the harness or replace the harness. Verify that the diagnostic tool has been cleared. Drive the machine above the threshold for the motor speed.

STOP

Test Step 4. INSPECT THE SENSOR.

- A. The key start switch remains in the OFF position.
- B. The sensor remains disconnected from the machine harness.
- C. Remove the speed sensor. Inspect the speed sensor for damage.
- D. Clean the sensor with a lint free cloth.

Expected Result:

The sensor is not damaged.

Results:

- **OK** - The sensor is not damaged. Proceed to test step 5.
- **NOT OK** - The sensor is damaged. Verify that the diagnostic tool has been cleared. Drive the machine above the threshold for the motor speed.

Repair: Repair the sensor or replace the sensor.

STOP

Test Step 5. CHECK IF THE DIAGNOSTIC CODE REMAINS.

- A. Inspect the contacts and clean the contacts of the harness connectors.
- B. Reconnect all harness connectors.
- C. Turn the key start switch to the ON position.
- D. Clear all inactive diagnostic codes.
- E. Operate the machine.

Note: Verify that the diagnostic tool has been cleared. Drive the machine above the threshold for the motor speed.

4. If fuel quality is still suspected as a possible cause to problems regarding engine performance, disconnect the fuel inlet line, and temporarily operate the engine from a separate source of fuel that is known to be good. This will determine if the problem is caused by fuel quality. If fuel quality is determined to be the problem, drain the fuel system and replace the fuel filters. Engine performance can be affected by the following characteristics:

- Cetane number of the fuel
- Air in the fuel
- Other fuel characteristics

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wiggle test can detect momentary or intermittent shorts or opens in the machine wiring harness. If the cause of the problem is not found in the machine harness, the ECM may have failed. This is unlikely as the ECM responded correctly to the grounded condition in the previous test step. Verify that all possible causes of the diagnostic code have been investigated. Exit this procedure and perform this procedure again. Prior to replacing an ECM, always contact your dealership's Technical Communicator for possible consultation with Caterpillar. This consultation may greatly reduce repair time. If the cause of the active diagnostic code is not found and the ECM must be replaced, refer to Testing and Adjusting, "Electronic Control Module (ECM) - Replace".

STOP

- **NO** - The CID 0357 FMI 05 diagnostic code is not active. The diagnostic code does not exist at this time.

Repair: The initial diagnostic code was probably caused by a poor electrical connection at one of the harness connectors that was disconnected and reconnected. Resume normal machine operation.

STOP

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**WARNING**

Personal injury can result from being struck by parts propelled by a released spring force.

Make sure to wear all necessary protective equipment.

Follow the recommended procedure and use all recommended tooling to release the spring force.

27. Remove plug (37) , spring (38) , and valve (39) .

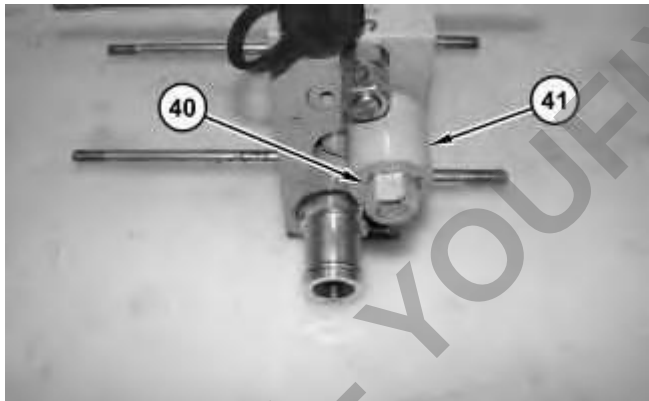


Illustration 25

g02840516

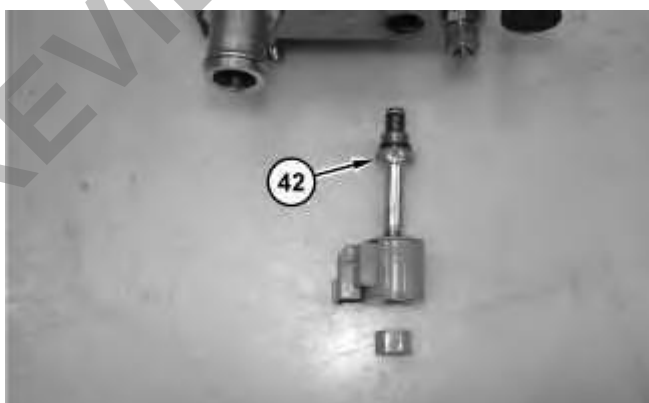


Illustration 26

g02840539

28. Remove nut (40) , coil assembly (41) , and cartridge (42) .

Specifications

259D, 279D, 289D, 299D and 299D XHP Compact Track Loaders, 257D, 277D and 287D Multi Terrain Loaders and 236D, 242D, 246D, 262D, 272D and 272D XHP Skid Steer Loaders

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Heater Lines

SMCS - 1296; 7304

S/N - B5W1-UP

S/N - GTC1-UP

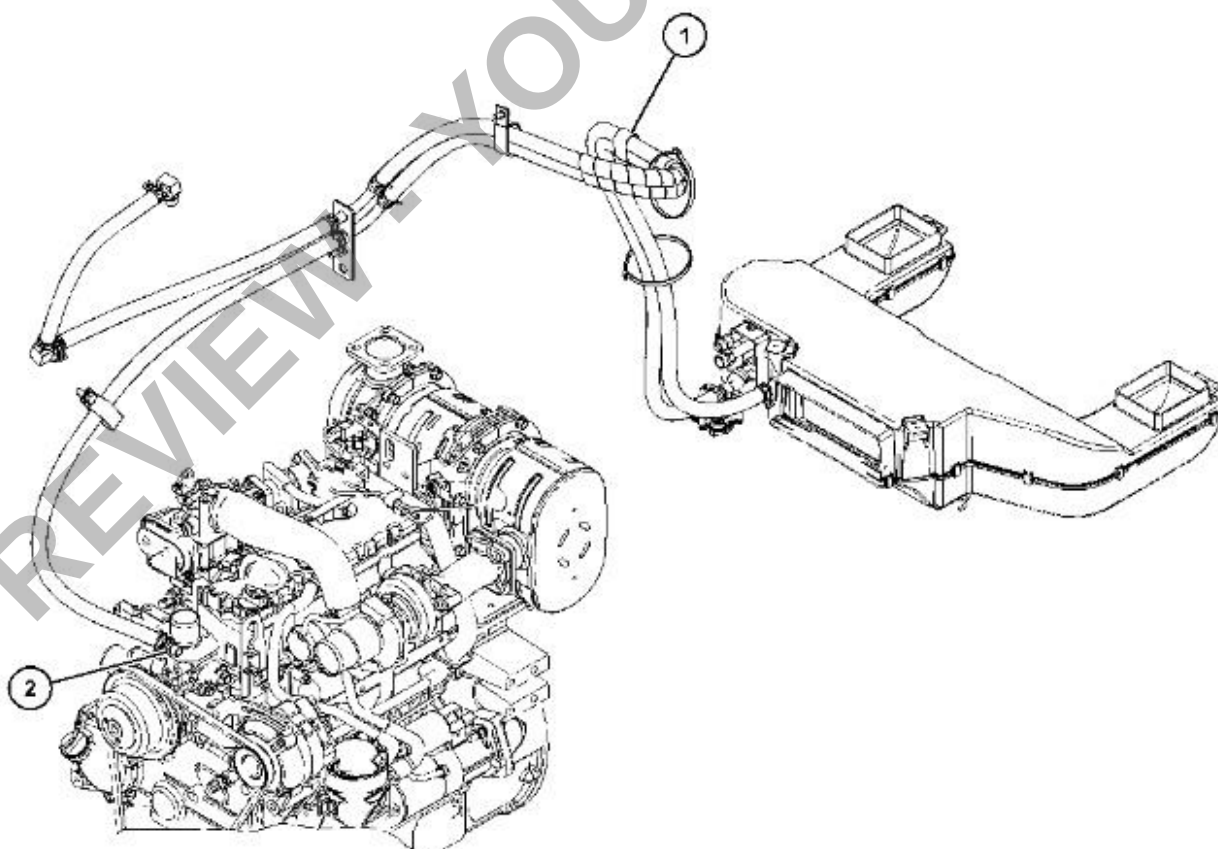


Illustration 1

g03429035

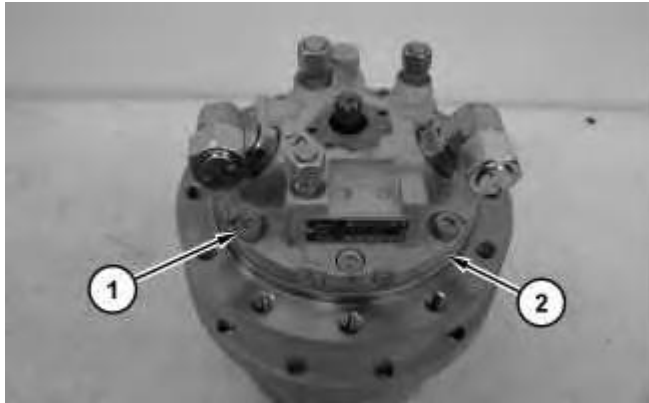


Illustration 28

g01509813

WARNING

Personal injury can result from being struck by parts propelled by a released spring force.

Make sure to wear all necessary protective equipment.

Follow the recommended procedure and use all recommended tooling to release the spring force.

43. Install head (2) and bolts (1) .

End By: Install the piston motor.

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