

Shop Manual

DL420-3 Wheel Loader

Serial Number 10001 and Up

DOOSAN and the DOOSAN logo are registered trademarks of DOOSAN Corporation in the United States and various other countries around the world.



950106-00437E

April 2012

Table of Contents

Safety

Wheel Loader Safety	SP002397
---------------------------	----------

Specifications

Specification for DL420-3	SP002461
---------------------------------	----------

General Maintenance

General Maintenance Instructions	SP002454
Standard Torques	SP002404

Engine

Engine.....	SP002399
Engine Coolant Heater (Option)	SP002328

Drivetrain

Transmission and Torque Converter (ZF 4WG-260-4)	SP002400
Transmission and Torque Converter (ZF 5WG-260) (Option)	SP002401
Transmission Error Codes (ZF)	SP002423
Front Axle (ZF - MT-L 3085 II / 3095 II)	SP002462
Rear Axle ZF - Multitrac (MT-L 3105 II)	SP002463
Driveshaft.....	SP002424

Brake

Service Brake	SP002426
Supply Valve.....	SP002427
Charging Block	SP002428
Parking Brake	SP002429
Brake Pedal Valve	SP002430
Accumulator.....	SP002464

Steering

Power Steering System	SP002465
Steering Unit	SP002425
Steering Pump	SP002433
Flow Amplifier	SP002434
Jerk Softener and Accumulator	SP002435
Emergency Steering	SP002466

Frame

Articulation Center	SP002467
Counterweight.....	SP002437

Tank

Oil Tank	SP002468
Fuel Tank.....	SP002469

Hydraulics

Main Pump.....	SP002470
Main Control Valve	SP002441
3rd Control Valve (Option)	SP002442
Load Isolation System	SP002536
Cooling System.....	SP002490
Pilot System.....	SP002445
Hydraulic Schematic (DL420-3).....	SP002471

Electrical System

Air Conditioner	SP002447
Electrical System	SP002575
Electrical Schematic DL350-3 / DL420-3 / DL450-3	SP002449

Wheel Loader Safety

Edition 1

Table of Contents

Wheel Loader Safety

Safety Instructions	5
Applicable Models	5
Safety Messages	6
General	6
Transportation	16
Operation	18
Maintenance	36
Environment and Circumstances	51

SAFETY INSTRUCTIONS



WARNING

AVOID DEATH OR SERIOUS INJURY

Instructions are necessary before operating or servicing machine. Read and understand the Operation and Maintenance Manual and signs (decals) on machine. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments repairs or service. Untrained operators and failure to follow instructions can cause death or serious injury.

APPLICABLE MODELS

The contents of this section apply to the following models and serial number ranges.

MODEL	SERIAL NUMBER RANGE
DL200-3	10001 and Up
DL220-3	10001 and Up
DL250-3	10001 and Up
DL300-3	10001 and Up
DL350-3	10001 and Up
DL420-3	10001 and Up
DL450-3	10001 and Up
DL550-3	10001 and Up

SAFETY MESSAGES

Safety messages and safety decals included in this manual and on the machine provide instructions how to operate, service and maintain the machine. Safety messages and safety decals indicate potential hazards and describe safety precautions required to avoid hazards. Operator and maintenance personnel should read and understand these safety messages and decals before beginning operation or maintenance.

SAFETY ALERT SYMBOL

Be Prepared - Get to Know All Operating and Safety Instructions.

This is a Safety Alert Symbol. Wherever it appears in this manual or on safety decals on the machine, you must be alert to the potential for personal injury or accidents. Always observe safety precautions and follow recommended procedures.

Signal Words

The signal words "DANGER", "WARNING", "CAUTION" are used throughout safety messages and safety decals in this manual or on the machine. They indicate an existence of, and the relative seriousness of a hazard. All three indicate that a safety risk is involved. Observe the precautions indicated whenever a Safety Alert Symbol is present, no matter which signal word appears next to it.

DANGER

DANGER - This signal word is used on safety messages and safety labels and indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

WARNING - This signal word is used on safety messages and safety labels and indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION - This signal word is used on safety messages and safety labels and indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

SAFETY DECALS

Location of safety labels (decals) can vary from unit to unit.

Refer to appropriate Operation and Maintenance Manual, and parts manual for your unit.

Always replace damaged or faded decals.

GENERAL

Safe Operation is Operator's Responsibility

Only trained and authorized personnel should operate and maintain the machine.

Follow all safety rules, regulations and instructions when operating or performing maintenance on machine.

- Do not operate machine if you are under the influence of drugs or alcohol. An operator who is taking prescription drugs must get medical advice to determine if he or she can safely operate the machine.
- When working with other personnel on a work site, be sure that all personnel know the nature of work and understand all hand signals that are to be used.
- Be sure that all guards and shields are installed in their proper location. Have guards and shields repaired or replaced immediately if damaged.
- Be sure that you understand the use and maintenance of all safety features such as pilot cutoff switch and seat belt. Use them at all times.
- Never remove, modify or disable any safety features. Always keep them in good operating condition.
- Always check for and know the location of underground and overhead utility lines before working.
- Failure to use and maintain safety features according to instructions in this manual, Safety Manual and Shop Manual can result in death or serious injury.

Know Your Machine

Know how to operate your machine. Know the purpose of all controls, gauges, signals, indicators and monitor displays. Know the rated load capacity, speed range, braking and steering characteristics, turning radius and operating clearances. Keep in mind that rain, snow, ice, loose gravel, soft ground, slopes etc., can change operating capabilities of your machine.

Engine

Edition 2

SAFETY INSTRUCTIONS



WARNING

AVOID DEATH OR SERIOUS INJURY

Instructions are necessary before operating or servicing machine. Read and understand the Operation and Maintenance Manual and signs (decals) on machine. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments repairs or service. Untrained operators and failure to follow instructions can cause death or serious injury.

APPLICABLE MODELS

The contents of this section apply to the following models and serial number ranges.

MODEL	SERIAL NUMBER RANGE
DL420-3	10001 and Up
DL450-3	10001 and Up

DC13 ENGINE

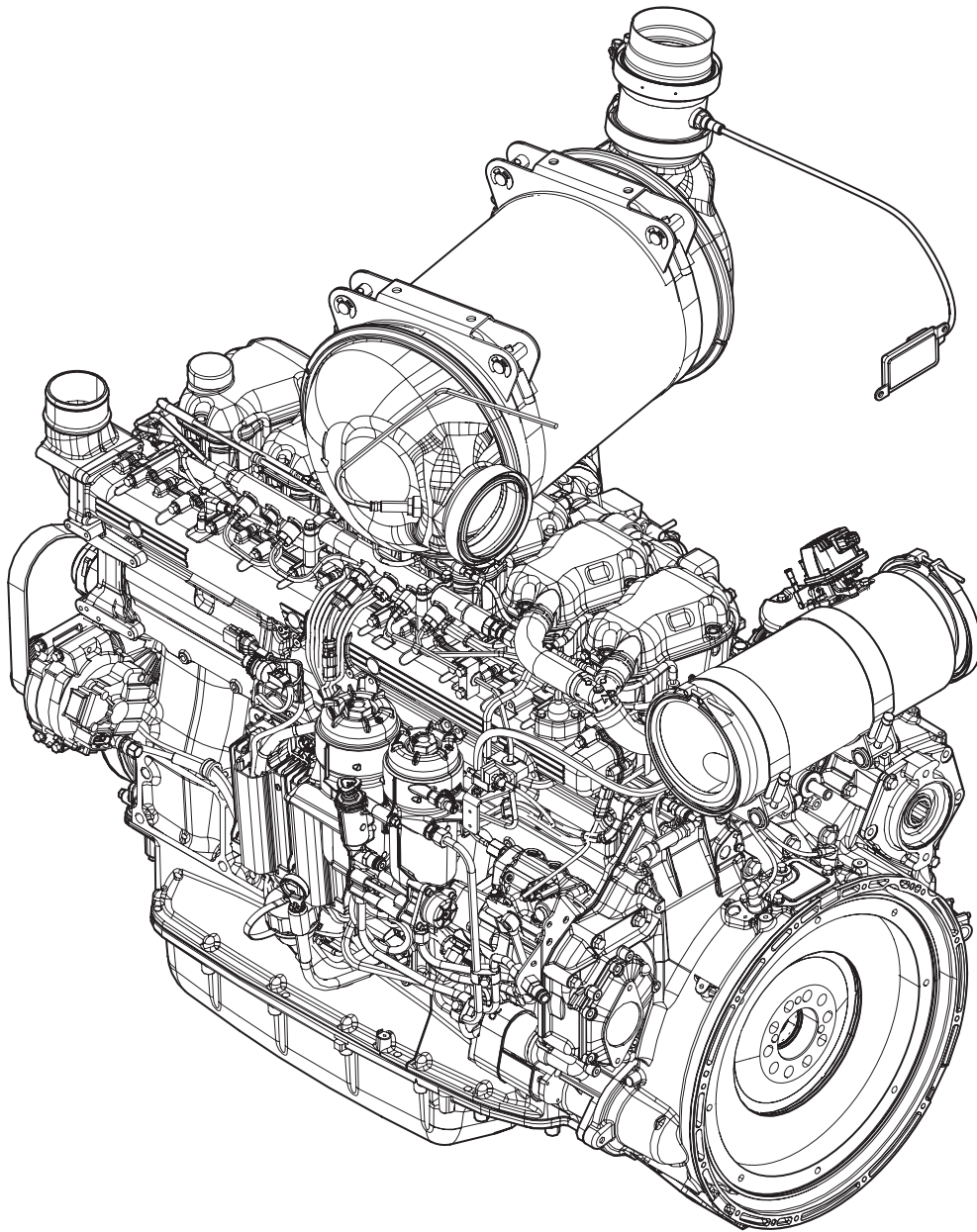


Figure 1

FG024616

ENGINE IDENTIFICATION

Engine Data Plate

Applies to engines with cylinder block generation 2.

Reference Number	Description
A	Smoke Value
B	Engine type
C	Engine serial number

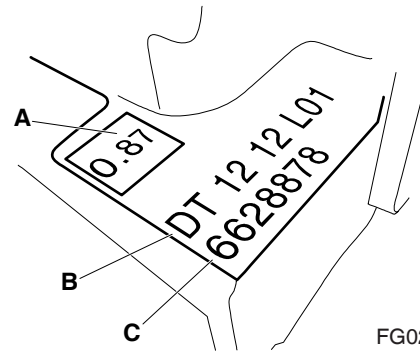


Figure 3

FG020225

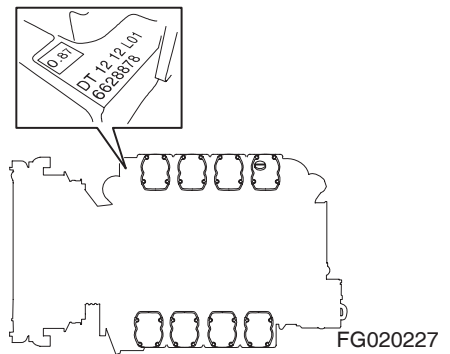


Figure 4

FG020227

Engine data on plate, on 9 and 13 liter engines with XPI

Reference Number	Description
1	Engine Type and Engine Serial Number
2	Engine Serial Number, Stamped
3	Smoke Data
4	Valve Clearance

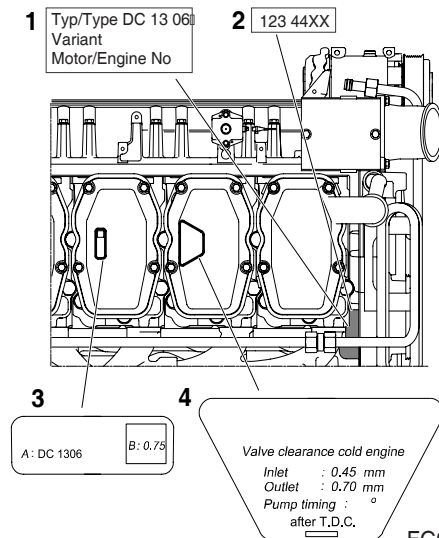


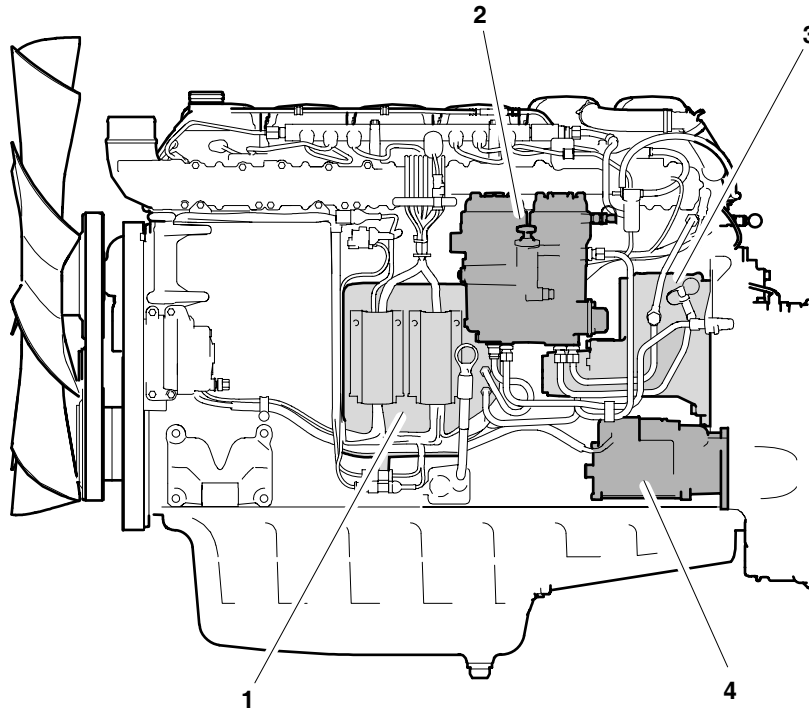
Figure 5

FG020228

Mounting the Engine in a Universal Stand

Preparations before commencing work:

- Remove engine from the machine.



FG020231

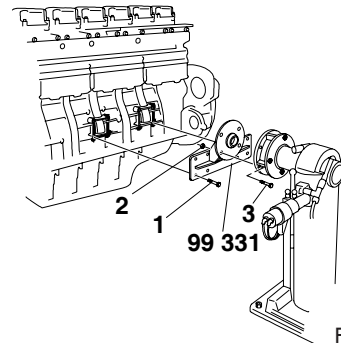
Figure 6

Reference Number	Description
1	Engine Control Unit
2	Fuel Filter

Reference Number	Description
3	High-pressure Pump and Feed Pump
4	Starter Motor

1. Mount the engine in the universal stand.

Reference Number	Description
1	Bolt M10x30 (8 off)
2	Nut M16 (4 off)
3	Bolt M16x50 (4 off)



FG020232

Figure 7

Buy Now



Our support email:

ebooklibonline@outlook.com