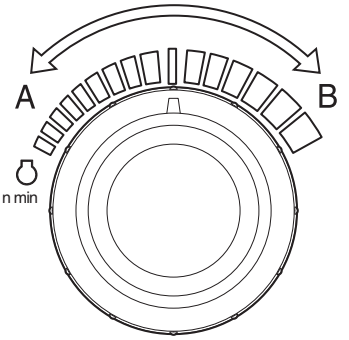
Engine Speed Control

Engine speed can be manually adjusted using the engine speed control dial. Increase engine speed by rotating the control knob clockwise. Decrease engine speed by rotating the control knob counterclockwise.

NOTICE

The engine speed control system has been set at the factory and should not require adjustment as part of routine maintenance.



DS1900273

Figure 60

Emission Control System

This machine is equipped with an engine exhaust emission control system that meets applicable engine EU exhaust emission regulations. The owner/operator is responsible for proper operation and maintenance of the emission control system as provided in this manual and the emissions-related warranty provisions. The system provides a warning if there are faults in the Selective Catalytic Reduction System (SCR) system or if the level of reductant in the reductant tank is too low. For example, if doser cooling is not working, the engine torque is reduced.

Low Level DEF

The engine resumes normal torque after reductant has been filled to a level of at least 20%.

DEF Quality / Dosing Error

Once the fault has been corrected and the engine control unit received indication that it is working, engine torque returns to the normal level.

NOTICE

If the engine torque was reduced to 0% (low idling), the engine control unit will not detect that SCR system is functioning. Reset the system so normal torque is available.

The Value of the Carbon Dioxide (CO_2) Emissions

This CO_2 measurement results from testing over a fixed test cycle under laboratory conditions a(n) (parent) engine representative of the engine family. This value shall not imply or express any guarantee of the performance of a particular engine.

Engine Family Name	DL06V
Parent Engine Model	DL06-MFL02
CO_2 Value [g/kWh]	743.4

Inducement

Inducement Items	Inducement Level	Reductant Level/Time	Notification Method	Torque Reduction	Symbol
Low level DEF	Warning	DEF tank level < 20%	Constant symbol	-	
	Moderate	DEF tank level < 2.5%	Slow blinking symbol	Torque is reduced by 25%	
	Severe	DEF tank level < 0%	Fast blinking symbol + buzzer	Torque is reduced by 50%, Rated speed by 60%	
Malfunction of the monitoring	Warning	Immediately	Constant symbol	-	
	Moderate	+ 36 hours	Slow blinking symbol	Torque is reduced by 25%	
	Severe	+ 100 hours	Fast blinking symbol + buzzer	Torque is reduced by 50%, Rated speed by 60%	
DEF quality / Dosing error	Warning	Immediately	Constant symbol	-	
	Moderate	+ 10 hours	Slow blinking symbol	Torque is reduced by 25%	
	Severe	+ 20 hours	Fast blinking symbol + buzzer	Torque is reduced by 50%, Rated speed by 60%	

After Treatment System

Sulfur contained in fuel and oil degrades NOx reduction performance of SCR (Selective Catalytic Reduction) catalyst after combustion. Therefore, to ensure high efficiency for NOx reduction, the temperature of exhaust gas needs to be increased periodically to eliminate sulfur content, and this process is called as regeneration.

The regeneration process is automatically performed by the ECU periodically based on the operating time of the machine. If the process is not successfully performed according to the operating condition, the corresponding "Warning Light" comes on.

In this case, park the vehicle in a safe place and perform the regeneration process manually according to the following procedure. If the process is successfully performed, the warning light goes off.

WARNING

AVOID DEATH OR SERIOUS INJURY

Exhaust gas temperature and exhaust system components are very hot during regeneration. This can cause a fire or burn hazard and result in death or serious injury or property damage. Keep flammable material and explosive gases away from exhaust system during regeneration.

WARNING

AVOID DEATH OR SERIOUS INJURY

The engine power can be degraded unless performing the regeneration process manually after the warning light is turned on.

Develon regeneration system provide customer sustainability of machine operating but if soot level is high, manual regeneration by operator is needed.

To avoid confusion, pop-up message and symbol would be appeared on panel display.

State	Condition	Notification Method	Symbol
Active regeneration operating	Soot level (80% ~) Elapsed 60 hour from past regeneration	Constant	
Manual regeneration request 1	Soot level (100 ~ 120%) Active regeneration is fail	Constant	
Manual regeneration request 2	Soot level (over 110%)	Slow Blinking + Buzzer	
Manual regeneration operating	Activating manual regeneration by operator	Constant	
Regeneration prohibition	Inhibition switch in the "Regeneration Prohibition" condition	Constant	
Service request	Soot level (over 120%) Manual regeneration is impossible	Fast Blinking + Buzzer	

NOTE: *Contact your DEVELON distributor for service regeneration and DPF replacement.*

NOTE: *If manual (forced) regeneration is necessary after the inhibited regeneration switch is turned "ON", press inhibited regeneration switch again to turn "OFF" the inhibit symbol. Press switch to manual (forced) regeneration position to activate system.*

Active Regeneration

No action by the operator is required to start active regeneration. Regeneration is automatically activated by the engine control unit (ECU). Contact your DEVELON distributor for more information.

Active regeneration can occur anytime the engine is running, while operating the machine or when the machine is parked. During regeneration, the regeneration light and the high temperature warning light turn "ON" to alert the operator of hot engine exhaust gases. Machine operation can continue, but the operator should keep engine exhaust away from flammable materials. The operator can choose to "inhibit" active regeneration, if operating conditions are not favorable to hot engine exhaust temperatures (e.g. working near flammable materials).

When completed, the regeneration lights on the monitor will turn "OFF".

NOTICE

Do not stop engine during regeneration. This can severely damage the SCR.

Manual (Forced) Regeneration

The regeneration is manually (forced) activated by the operator when the operator chooses to start the regeneration process. Manual (forced) regeneration may be required if the operator "inhibits" the active regeneration process for an extended period of time because the operating conditions are not favorable to hot engine exhaust temperatures (e.g. working near flammable materials).

Procedures for manual (forced) regeneration by the operator.

1. Park machine in a well ventilated area and away from flammable materials.
2. Set up machine in the following manner:
   A. Operate machine until engine coolant and oil temperatures are above 40°C (104°F).
   B. Set engine speed to "LOW IDLE".
   C. Put transmission lever in "NEUTRAL" and engage parking brake (Wheel excavator only).
3. Move safety lever to "LOCK" position.
4. Activate regeneration switch (Figure 61) to start regeneration process.

   NOTE: *Regeneration light on monitor will be "ON".*

   NOTE: *Regeneration switch should be pushed 3 - 8 sec for regeneration.*
   If puch time is over 16 sec, fault code would be displayed on monitor.

Engine speed will gradually increase from "LOW IDLE" to 1,800 rpm and regeneration process will then start.

During regeneration, high temperature warning light will be "ON".

When regeneration stops, regeneration and high temperature warning lights will turn "OFF".

NOTE: *Operator can stop manual (forced) regeneration by raising safety lever to "UNLOCK" position.*

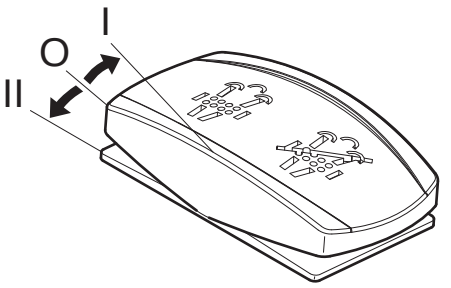


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Figure 61