

If the exhaust temperature reaches a certain limit during a regeneration, then the HEST (High Exhaust System Temperature) lamp will illuminate, this is not a fault. The operator needs to be aware of the increased exhaust temperatures, as the increased temperatures may be hazardous in a flammable environment. If it is not safe to allow a regeneration to complete, the operator should cancel/inhibit/ stop the regeneration or move the machine to a safe place.

To help aid a decision if regeneration should be allowed or not please refer to 'Operating Safely' in this manual under 'Regeneration'.

Regeneration

There are three types of regeneration.

1. Automatic regeneration - Occurs automatically, no action is required by the operator and machine can be used as normal.
2. Manual regeneration - Operator initiated. The machine cannot be used for normal work whilst regeneration is taking place.
3. Service regeneration - Must be performed by a qualified service representative.

Automatic Regeneration

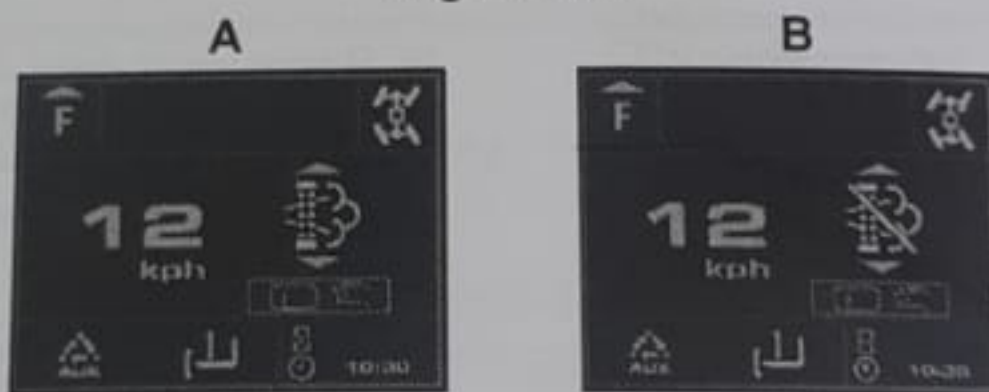
During an automatic regeneration no changes in machine functionality or performance should be observed.

When an automatic regeneration is required a pop-up symbol will appear on the display. The operator has the option to acknowledge or inhibit the regeneration.

The operator can scroll through the options by momentarily pressing the info button. Refer to Figure 91. To confirm the selection press and hold the information button.

If the operator does neither of the above, the regeneration process will automatically continue.

Figure 91.



A Regeneration pop-up

B Regeneration inhibit

If the regeneration is inhibited the symbol will move the top banner of the display. Refer to Figure 49. The automatic regeneration will be inhibited until the next key cycle. Refer to Figure 92.

Figure 92.



Only cancel/inhibit if it is not safe to carry out the regeneration, ensuring you perform the regeneration at the next available opportunity.

The cancel/ inhibit option can be used on several consecutive occasions. However, this will prevent the automatic regeneration from running and risks clogging the DPF (Diesel Particulate Filter). A manual or service regeneration may then be required.

During an automatic regeneration the HEST lamp may illuminate.

When the machine has a requirement to perform an automatic regeneration, it is possible to perform a manual regeneration. See 'Manual Regeneration'. This is useful if you are in particular application where your risk assessment has determined an automatic regeneration would be a risk.

Manual Regeneration

Repeated cancelling/inhibiting of an automatic regeneration or the machines duty cycle may lead to the requirement for a manual regeneration.

When a manual regeneration is required an amber symbol will appear on the display. Refer to Figure 93. Further operator action is required. The operator should park machine in a safe place and carry out a manual regeneration via the in-cab display/ info switch.

Figure 93.



If the amber prompts for a manual regeneration are ignored or continually inhibited the engine will de-rate and operate with limited power and torque indicated by the engine MIL (Malfunction Indicator Lamp) lamp and an error code on the display. A manual regeneration must be performed to clear the error. Refer to Figure 94.

Figure 94.



Before commencing a manual regeneration, ensure the machine is in a safe area to help aid a decision if regeneration should be allowed or not. Refer to 'Operating Safely' in this section'.

Once the machine is safe to do manual regeneration the operator can navigate through the machine display menus to the regeneration menu. Refer to Figure 95.

Figure 95.



To commence the manual regeneration the following entry conditions need to be met:

- Neutral must be selected.
- Park brake must be applied.
- Warm the engine by running at high revs.
- DPF lamp must be green. If not, continue to use the machine and re-attempt after few minutes.

When a regeneration is available the display will show four green ticks in the menu. Refer to Figure 96.

Press and hold the info button to activate the regeneration.

Figure 96.



- A Coolant temperature
- C Park brake engaged

- B Neutral drive
- D Regeneration status

The engine will automatically increase its speed and start the regeneration process. This is indicated by the amber DPF icon flashing. The process typically takes 45min to complete.

If required, the process can be manually aborted by turning the engine off or automatically aborted if one of the entry conditions is no longer valid. The operator should only stop the regeneration if it is no longer safe to continue. If the engine is switched off before the process has completed, the regeneration will not be successful and the process will need to be restarted from the beginning.

The engine revs will increase from idle to 1500 RPM and remain at this speed for approximately 30min. After this time the revs will drop to 950 RPM for 2min to cool the exhaust system.

Turn the ignition off and wait for 90s. Switch the ignition key on and confirm that the regeneration has successfully completed. The machine can return to operational duty.

Service DPF Regeneration

Continually ignoring the requests for a manual regeneration will result in a severe de-rate of the engine and a service regeneration will be required using specialist software. An error code will be displayed on the display. The red regeneration symbol will be displayed. Contact your JCB dealer. At the end of a service regeneration it is necessary to replace the engine oil. A service regeneration will not be supported under warranty. Refer to Figure 97.

Figure 97.

