VOLVO

Service Information

Document Title:	Function Group:	Information Type:	Date:
Starting process	**330**	**Service Information**	**24/06/2025**
Profile:			

Starting process

Voltage supply

- The negative pole (–) of the battery is grounded at the engine. When the main switch is in OFF position, the power supply is switched off.

When turning the main switch to position ON, current flows to the following electrical circuits if the ignition switch is in position OFF:

- Battery (+) → Starter connection (B^+) → Battery relay
- Battery (+) → slow blowing fuse (40A) →
    - Fuse box (1) 15 A → Fuel pump, engine safety relay, shut-down solenoid.
    - Fuse box (5) 10 A → Flashing beacon, warning horn
    - Fuse box (6) 7.5 A → Hand lamp
    - Fuse 5 A → Radio
    - Fuse 5 A → Cabin light

Fuel pump, warning horn, radio and cabin light are also available when the ignition switch is in position OFF.

When switching the ignition switch to position ON current will flow to the following electrical circuits:

- Connection (B^+) of the ignition switch → ACC-connection → Shut-down solenoid → Current flows to ground, shut-down solenoid works.
- If the shut-down solenoid works fuel will flow and the engine will start.

Starting the engine

When switching the ignition switch to position START current will flow to the following electrical circuits:

- Connection (B^+) on the ignition switch
    - Pre-heating control unit
    - Current flows to the safety relay

When the starting safety relay is operated:

- Fuse holder→ Starting safety relay → This way the current flows to connection S on the starter. The starter cranks the engine. The engine starts.

Start interlock

If the ignition switch remains permanently in START position:

- Current from connection (N, PINZ) on the generator → flows to pin 3 of the starter safety relay, which is switched off. For this reason the starter will stop.
- While the engine is running the starter cannot engage, even when the ignition switch is turned to START position.

Stop

- When the ignition switch is released, it will automatically return to position ON. When the ignition switch is turned to position OFF the current flow from the ACC terminal on the ignition switch to the shut-down motor is interrupted. No electric current flows to the shut-down motor, the engine will stop.