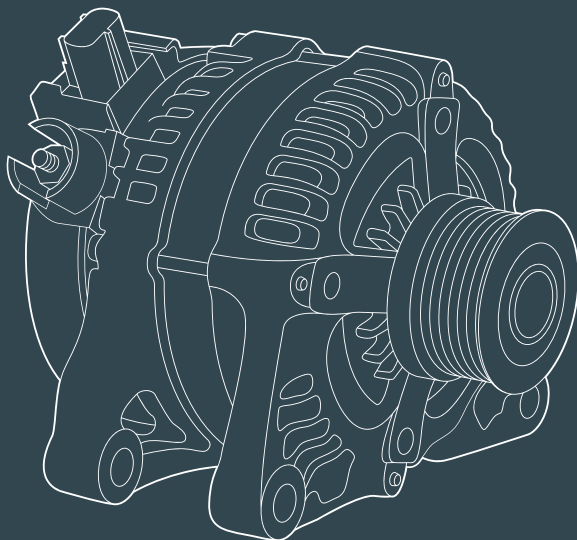


## TROUBLESHOOTING GUIDELINES - ALTERNATOR



### INSTALLATION STEPS

Determine the cause of the breakdown.	Before installing a new alternator - please determine what caused the old alternator to break down. Was it due to usually wear or caused by a fault in the surrounding environment?
Fault in the surrounding environment.	Fitting a new alternator will not improve the rest of the system, if the actual problem is to be located in the surrounding like cables, filters, relays, pipes. Defects not repaired, might risk to damage also the new alternator.
Compare the old and new alternator.	Always check OE references from old alternator through wholesaler or <a href="http://www.elstock.dk">www.elstock.dk</a> for correct identification of new alternator. Here you will also be able find details about measurements, plug and pulley.
Physically comparison.	Before installation, do a physical comparison of the new alternator and the uninstalled alternator in terms of mounting hole locations, wire connector locations, plug and pulley dimensions.
Installation.	Please make sure that all threaded fasteners are properly torqued, and that the alternator is fasten in the right position. Install the belt and tighten the tensioner adjusting bolts. Reconnect the circuit wiring and battery positive cable to the alternator, and do a final inspection of all wires, cables and connectors for cracks or damage. Reconnect battery negative cable and start the engine.
Special attention.	Please notice that on some item numbers, a label or sticker will be attached to the unit, informing that there is a need for special attention at installation of the alternator.

## POSSIBLE ERRORS

Problem	Cause	How to identify	Why the problem occurs	Solution	Preventive actions
Too high voltages setpoint.	The sensor/battery monitoring/terminal lacks voltage (S).	Charging lamp will light in the dash board.	Broken wire or poor/burn out fuse.	Replace wire or fuse.	Check before replacement if sensor wire (S) has full battery voltage.
Overheated alternator/risk of belt bursting.	Extreme high charging.	Alternator is hot and begins to smell, and the voltage setting is below (13.5V-13.7V).	Too high usage of the charging due to too high consumption in vehicle, or wrong mounting of alternator with too low usage.	Check the alternator for abnormal heating at too low voltage setting. The problem might also be related to other parts like the preheated relay (Diesel), which in case shall be replaced.	Measure the total consumption of the vehicle by measuring on the negative battery terminal.
The charging lamp does not turn off in the dashboard.	Lower charging of the battery than expected.	The dashboard charging lamp does not turn off after start.	There is fault in the communication between vehicle and alternator.	Return the alternator for inspection.	Always order alternator based on the OE item number on the original alternator installed on the vehicle.
Alternator is corroded.	Flooded with water or leakage in the cooling system.	The dashboard charging lamp does not turn off after start.	Liquid leakage from the cooling system, or not enough protection of the engine room against water from outside.	Locate and repair the leak in the cooling system, or the cause of water entrance by installing better protection.	Check the engine for reasons for the water entrance before installation of new starter, in case the previous alternator was corroded.
Alternator is flooded with diesel oil.	Worn brushes or slip rings due to leaking filters.	Check the filters close to the alternator for leaks.	The leaking filters have not been replaced correctly.	Locate the leak, and replace filter.	Check the surrounding of the alternator for oil on filters etc.
Alternator is flooded with servo oil.	Worn brushes or slip rings due to leak in the steering pump or related pipes/hoses.	Oil on the steering pump, connected pipes or hoses.	The leaking pump or pipes/clamps/hoses have not been replaced.	Locate the leak, and replace pump/pipe/clamps or hose.	Check the surrounding of the alternator for oil on pumps etc.
Alternator is not charging after installing.	Missing lamp function or missing ignition input (IG) to alternator.	Check lamp wire for voltage output, check ignition wire for voltage output.	Blown bulb or blown fuse.	Change bulb or fuse.	
Alternator is charging but get extremely warm and voltage drops below 14V.	Extremely high consumption on car.	Measure total consumption on ground cable from battery.	Consumer connected constantly (FI solenoid for heater system, Diesel).	Remove consumer one by one to locate.	
Too low voltage on battery.	Voltage drop.	Turn on all consumers, measure with volt meter from B+ battery to B+ alternator and from B- battery to ground, measuring must be no more than 0.3V.	Rusty/annoyed cabling/plug.	Clean and spray installation.	Clean and spray installation.