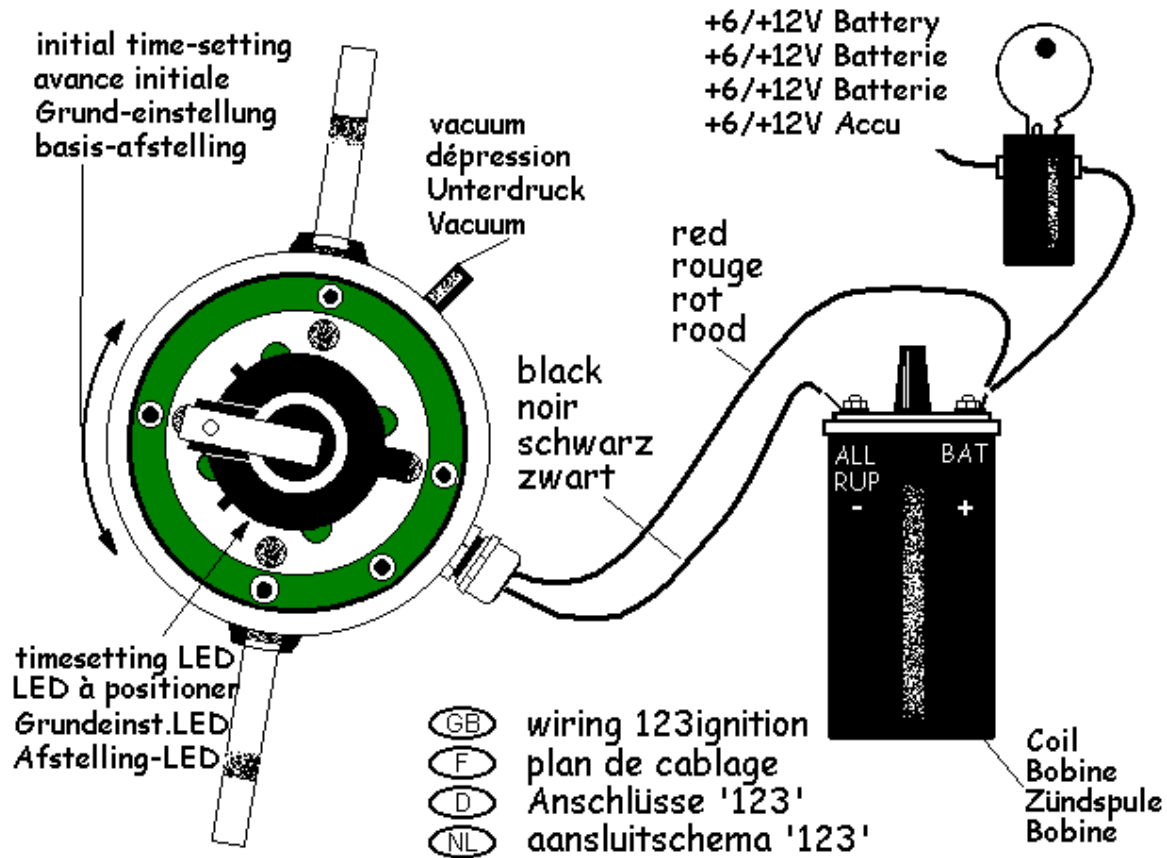


Mounting instructions for the '123ignition'

type : 123\B21-B23-R-V
for : Volvo B17, B19, B21, B23, B230 type engines including Penta
(12 Volt ; negative earth only)



IMPORTANT

Please read the entire instructions before you begin installation. If after reading you are unsure of the procedure to be followed, please ask someone who knows. Remember to work safely.

STEP 1: Find the static timing point

On the **old** distributor, note the position of the ignition wire to the number one cylinder. Remove the distributor cap and turn the engine in its normal direction so that the rotor almost points to the number one cylinder position. Now carefully turn the engine further until the static timing point is reached. (check the workshop-manual if you are not sure)
The engine is now at the static timing point, near the end of the compression stroke for the number one cylinder.

STEP 2: Out with the old, in with the new

You may now wish to verify that the correct advance curve has been selected in your '123' : using a 5mm Allen wrench remove the hexagonal plug in the bottom face of the housing. Inside the hole you'll find a 16 position rotary switch, marked '0' to 'F' .



curve selector '0' to 'F'
sel. de courbe d'avance '0' à 'F'
Kurve-schalter '0' bis 'F'
Curve-schakelaar '0' tot 'F'

Check the technical data below for the proper setting. Select the curve of your choice ; re-insert the plug and tighten securely. Now remove the spark plug wires and coil wire from the old distributor-cap and remove the old cap. Disconnect the points wire from the coil. Unscrew the hold down nut at the base of the distributor and pull the old unit out. Note that the gear makes the rotor turn approx. 60 degrees, whilst removing the old distributor. Remove the drive-gear from your old distributor, and mount it to the '123'.

Now remove the distributor-cap from the '123' and carefully insert the '123' in the hole, turning the rotor until the drive gears mate and the unit falls into place. Rotate the housing of the '123' so that the cables and vacuum-tube come out conveniently, and the slotted hole in the bracket is in line with the mounting hole.

The rotor can be repositioned easily : simply move the 123 upwards until the gear moves freely, and rotate the rotor as much as is needed.

STEP 3: Static timing the '123'

Connect the red wire to the BAT-terminal of the coil, according to the schematic. For now, do NOT connect the black wire. Turn the ignition on.

Slowly turn the housing of the '123' in a counter-clockwise direction, until the green LED just lights up. The LED shines through one of the four holes in the aluminium disc below the rotor. While turning, also press the rotor in a counter-clockwise direction, to remove any free play in the drive gear. Finally, tighten the '123' securely, as it is also the electrical ground of the '123'.

Turn off the ignition.

STEP 4: Finish the wiring

Connect the black wire to the RUP-terminal of the coil, according to the schematic.

Connect the spark plug leads in the proper sequence to the cap, starting with the wire for the number one cylinder at the position pointed to by the rotor of the '123'.

Also connect the high voltage wire from the coil to the center position of the cap. Attach the

cap to the distributor. Keep the red and black wire well away from the high voltage leads and away from moving parts, using tie-wraps or other suitable means.

STEP 5: Start and test drive

You can now start your engine. If you have worked accurately, your ignition should be adjusted well enough for a test drive. To achieve ultimate accuracy a fine adjustment using a stroboscope should be performed. (check the dynamic timing data in the workshop manual)
Enjoy your 123ignition!

TIPS

- Do NOT disconnect ANY electric wire, when the engine is running. This is bad practice when using high-tech electronic systems, such as the 123ignition.
- Sparks are much stronger with a 123ignition : use good quality sparkplug leads, and a good coil. The primary resistance should **not** be lower than 1 ohm.
- Resistor-core silicone ignition-leads are the better choice!
- Mistrust old coils : they all look alike, but you can't see if they have been overheated many times! Buy a new one, now you know that this will not be overheated anymore...
- Replace the cap and rotor every 30.000 km. Here is ordering info :
Bosch cap : 1.235.522.050 / 1.235.522.058 / 1.235.522.059 / 1.235.522.145
Bosch rotor : 1.234.332.024

Technical data

Operating voltage 4,0 to 15,0 Volts, negative earth only.
 range 500 to 7000 rpm
 temperature -30 to 85 degrees Celsius
 coil stock coil, or "High Energy"-coil, primary resistance **not** below 1 ohm.
 engines standard engines, advance-curves selectable by a switch
 through the bottom of the housing.

curve	replaces Bosch-nr.	Volvo-nr.	for model
0	0.231.170.134	463692	B21A,AQ120,AQ125,AQ131,AQ140,AQ151
	0.231.178.010	831663	BB120,BB125,BB131,BB140,BB151
1	0.231.170.173	1219625	B21A
	0.231.178.016		BB120,BB125,BB131,BB140,BB151
	0.231.178.017		AQ120,AQ125
	0.231.178.018		AQ131,AQ140,AQ151
'	0.231.178.019		
2	0.231.170.185	1219661	B17A,B19A,B21A
	0.231.170.284	1306792	
3	0.231.170.287	1306872	B23A
4	0.231.170.302	1332410	B23A
5	0.231.176.103	1266478	B17A
6	0.237.002.017	1219957	B19E,B21E,B23E
	0.237.002.001	463832	
7	0.237.003.027	1216701	B19ET,B21ET
	0.237.003.024	1276703	B21FT
8	0.237.003.003	1219848	B21F
	0.237.003.009	1266466	
9	0.237.002.038	1266904	B21F
A	0.237.002.007	463695	B21F
B	same as curve '0' but optimised for E85 / LPG		
C	same as curve '6' but optimised for E85 / LPG		
D	"230 FH" module		B230F
E	-		
F	-		

dwell microprocessor controlled, depending on coil current
 current-timeout after +/- 1 second. If the engine is not running, the
 current is switched off to prevent overheating of the coil
 spark balance software controlled, better then half a degree crankshaft
 wiring red = +6 resp. +12 Volt
 black = '-' of the coil