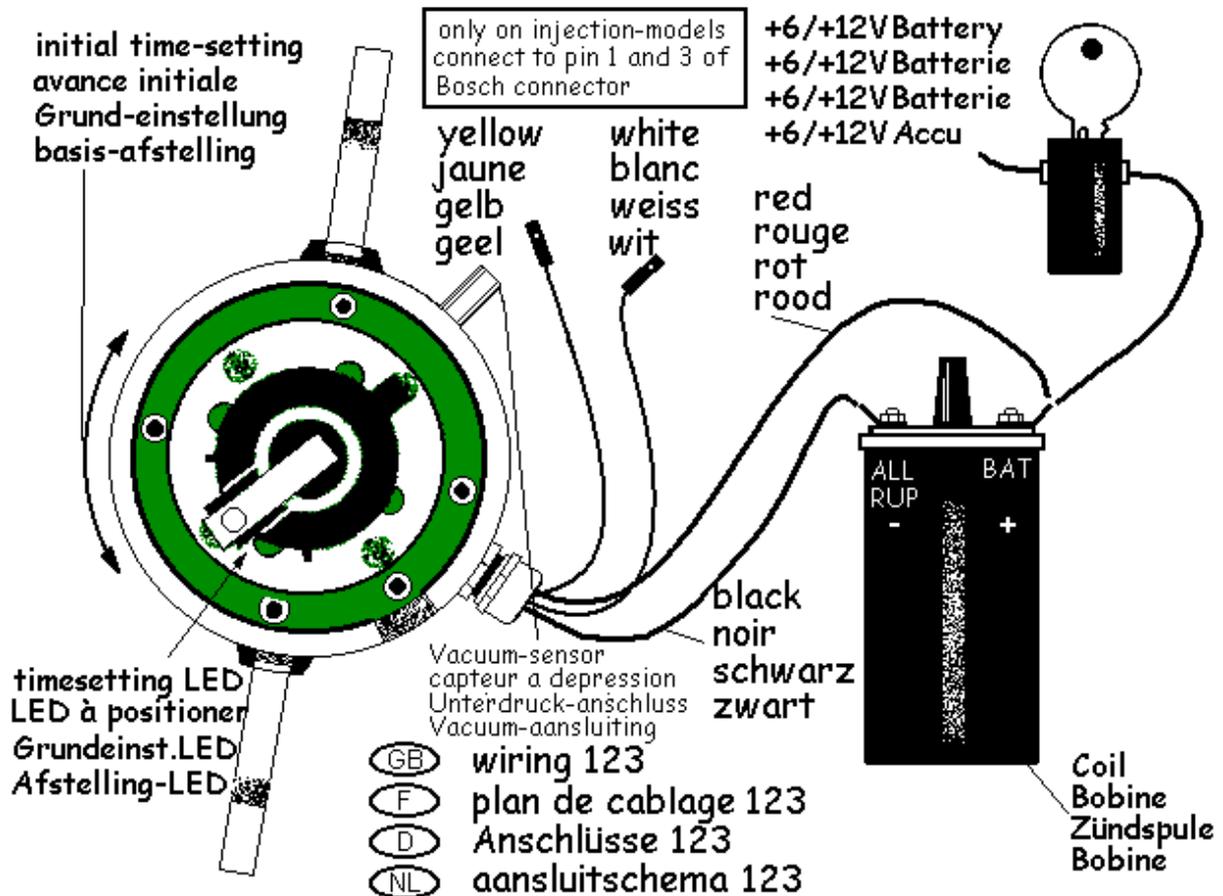


## Mounting instructions for the '123ignition'

type : 123\B18-B20-R-V & 123\B18-B20-R-V-IE  
 for : Volvo B18A, B18B, B20A, B20B, B20D, B20E, B20F, B18-penta & B20-penta  
 ( 6 or 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 ( check the 'technical data' ) is indicated on the pulley.  
 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 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. ( '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 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.

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 come out conveniently.

If necessary, the drive gear can be repositioned on the shaft to accommodate a different rotational position. To do this, remove the '123' and carefully remove the retaining spring from the drive gear, then use a small punch to tap out the pin and re-assemble at an angle more suitable to your needs.

## **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 on the ignition.

Slowly turn the housing of the '123' in a 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 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'.

For fuel injected engines : connect the yellow and the white cable to pin 1 and 3 ( or 3 & 1 ) of the Bosch-connector, leaving the middle contact unconnected.

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.  
Connect the vacuum-tube to the ignition.

## **STEP 5: Start and test drive**

You can now start your engine. If you have worked accurately, your ignition should be adjusted well enough to take a test drive. To achieve ultimate accuracy a fine adjustment using a stroboscope should be performed. ( check the dynamic timing data in 'technical data' )  
Disconnect the vacuum-tube whilst fine-tuning. 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. ( If your car was fitted with a coil resistor, you could remove it to get a stronger spark, as long as the primary resistance is not 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 the ordering info :

Bosch cap ref. nrs. : 1.235.522.050 / 1.235.522.058 / 1.235.522.059 / 1.235.522.145

Bosch rotor ref. nr. : 1.234.332.024

## **Technical data**

Operating voltage	4,0 to 15,0 Volts
range	600 to 7000 rpm
temperature	-30 to 85 degrees Celsius
coil	stock coil, or "High Energy"-coil, primary resistance <b>not</b> below 1 ohm.
engines	all standard Volvo B18/B20-engines, advance-curves selectable by a switch through the bottom of the housing.

Curve	replaces Boschnr.	for engine	static* degr.	dyn.(max)* degr.
0	0231.146.026A	B18-A until 1966 ( also VALP )	13	39
	0231.161.001		10	36
1	0231.146.026B	B18-A after 1966	15	41
2	0231.153.003	B18-B	10	36
	0231.151.001			
3	0231.153.009	B18-B with pollution reduction	3-5	33
4	0231.146.077	B20-A	14	40
5	0231.170.085	B20-A, aluminium body	10	36
6	0231.170.085	B20-A, aluminium body	10	36
		( curve optimised for E85, LPG )		
7	0231.146.078	B20-B	10	34
	0231.146.099			
8	0231.146.098	B20-D	10	34
9	0231.163.006	B20-E 1971-73	10	35
	0231.163.010			
	0231.163.021			
A	0231.170.087	B20-E 1974	10	32
B	0231.170.087	B20-E	10	32
		( curve optimised for E85, LPG )		
C	0231.163.033	B20-F	10	34
	0231.178.007			
D	0231.110.038	B18-Penta	10	41
E	0231.153.007	B20-Penta ; Q105A, AQ115A	9	35
	0231.153.010/012	B20-Penta ; AQ130A B & C	12	38
	0231.151.001	B20-Penta ; BB115, AQ120, MB20A	10	36
F	0231.178.011	B20-Penta	5	45
	0231.178.005			

\* degrees advance and enginespeed both relate to the crankshaft

vacuum-advance	as specified for the original distributor
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