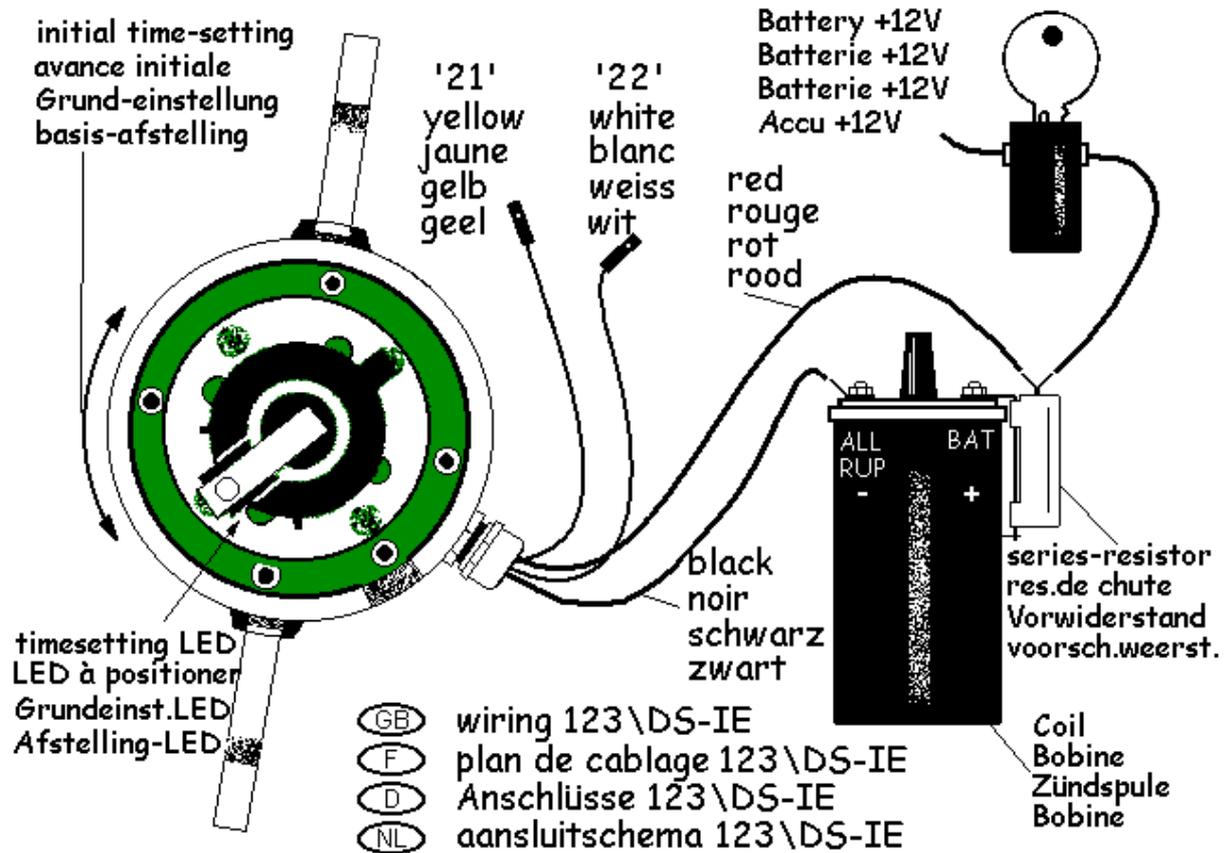


Mounting instructions for the '123ignition'

type : 123\DS-IE-R
 for : Citroen 4-cyl. injection engines in DS21ie and DS23ie



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

Manual 4 speeds gearbox and Citromatic (BVH) gearbox: remove the front license plate and insert the starting handle through the hole in the front valence to engage the starter dog in the front of the gear box.

Alternatively, and on manual 5 speed transmissions: jack up the left front wheel and put the car in 5th gear, so that the engine may be turned by turning the wheel.

On the old distributor, note the position of the ignition wire to the number 1 (front) cylinder. Remove the distributor cap and turn the engine so that the rotor points to the number one cylinder position, as previously noted. Insert a 6mm (15/64 inch) pin or drill bit into the timing hole on the left side of the

clutch bell housing, below the alternator mounting bracket. Now carefully turn the engine until the pin engages the hole in the flywheel. The engine is now at the static timing point, near the end of the compression stroke for the number one cylinder. This point corresponds to 8.5

degrees before Top Dead Center on engines built before July 1st 1971, and 0 (zero) degrees on engines built after July 1st 1971.

REMOVE THE 6mm LOCATING PIN !!!

STEP 2: Mark the static timing point

Using a narrow line of white paint, mark the camshaft pulley at the point where the timing scale reads 0 (zero) degrees. If you don't have a timing scale, you have to make your own. For engines built after July 1971, turn the crankshaft 8,5 degrees backwards. The white line on the pulley now points at 4,25 degrees on the timing scale.

(as the cam-shaft rotates at half the speed of the crankshaft, 8,5 degrees rotation of the crankshaft corresponds logically to 4,25 of the camshaft)

STEP 3: 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 plug in the bottom face of the housing. Inside the hole you'll see a rotary switch. The arrow on the switch should point to "D". 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 and disconnect the injection wiring plug. Unscrew the hold down nut at the base of the distributor and pull the old unit out. Transfer the clamp plate from the old distributor to your new '123', and tighten the clamp gently so that the distributor can still be turned with

some effort. Now remove the 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 rotor 'points' to the CE-mark on the exterior of the housing, just in front of the spring clip.

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 reassemble at an angle more suitable to your needs.

STEP 4: 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' counter clockwise, 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 CCW direction, to remove any free play in the drive gear.

With the '123' in this position, adjust and tighten the collar of the clamp plate so that the hold down stud is in the middle of the adjusting slot of the clamp plate. Finally, tighten the hold down nut securely, as it

is also the electrical ground of the '123'. Turn off the ignition.

STEP 5: Finish the wiring

Connect the black wire to the RUP-terminal of the coil, according to the schematic. Do NOT remove the series resistor, if fitted! Connect the spark plug leads to the cap, starting with the wire for the number one cylinder at the position pointed to by the rotor of the '123'. Turning clockwise, the cables

should be attached in firing order: 1-3-4-2. Also connect the high voltage wire from the coil to the center position of the cap. Attach the cap to the distributor.

On the plug from the injection harness, insert the yellow wire's spade terminal into cable 21, the white wire to cable 22. The middle position (cable 12) remains unused. The cable numbers can be found on the old distributor.

Keep the red, black, yellow and white wires away from the high voltage leads and away from moving parts, using tie-wraps or other suitable means.

STEP 6: Start and test drive

DID YOU REMOVE THE PIN IN STEP 2? Then 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.

At idle, engine running below 1000 rpm, the white mark from step 2 should be exactly matched to the zero on the scale. On post-July '71 cars however, the white mark on the pulley should match the 4,25 degrees point on the scale.

The slotted hole in the clamp plate facilitates fine-adjustment.
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 one will not be overheated anymore...
- Replace the cap and rotor every 30.000 km. Here is ordering info :
Bosch straight cap : 1.235.522.050 / 1.235.522.058 / 1.235.522.059 / 1.235.522.145 / 1.235.522.167
Bosch rotor : 1.234.332.024

Technical data

Operating voltage	4,0 to 15,0 Volts, negative earth only.
range	600 to 7000 rpm
temperature	-30 to 85 degrees Celsius
coil	stock coil, or "High Energy"-coil, primary resistance not below 1 ohm.
engines	standard Citroen 4-cyl. injection engines in DS21ie and DS23ie
replaces	Bosch ZV11 7A 3A
injection-outputs	2, synchronised from cylinder no. 1 yellow wire connects to cable no. '21' white wire connects to cable no. '22'
dwll	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 = 'minus'-pole of the coil