Timing a VW BUS (bays 1968 – 1979)

Timing is the setting of the moment that the spark plug fires. The purpose of this article is to give simple instructions on professionally setting the timing. It is not a discussion of the theory, or why it is done this way. It is simply how many of us who are professional mechanics would set the timing on our own buses. It allows whether the distributor is mechanical advance only, a SVDA, or a DVDA.

Please note: Many smog tests require that your engine ignition timing is set to the factory settings. If you are in a smog state, wish to avoid a tampering citation, and wish to be smog legal you can only use the specifications on the engine door sticker when setting the dwell and timing. This will mean you cannot legally use the method below, and you will not pass a smog test.

Tools needed:

1) Dwell tach if the distributor has points
2) Inductive timing light.
3) 10 mm wrench that fits the distributor clamp.
4) Small screwdriver if adjusting or replacing points.
5) Distributor lobe grease, and a few drops of engine or lite-weight oil.

Procedure:

1) Using Dwell Tach make sure that the dwell is within the factory range as specified. If not adjust. If the points are badly burned replace them, and the condenser.
2) Lubricate the point rubbing block, and distributor lobes with some form of lubrication designed specifically for distributor lobes.
3) Lubricate the felt under the rotor cap with a few drops of light or engine oil. Put the cap and rotor back on.
4) Locate #1 wire and put the induction pick-up on it. If it a one-direction marked pick-up only, be sure it is facing the correct direction.
5) Find the TDC mark on the timing pulley, and scale or partline. If you aren’t sure which mark and scale or partline is TDC, post PHOTOS on TheSamba forum and ask others for help. Someone will recognize what you likely have. There are many timing pulleys so don’t assume any mark is the correct one. In addition, on a late bay there is a timing scale. Pulleys can be assembled wrong, and as a result the mark can be way off. Early T4, and
Porsche engines may use a different scale or mark than a late bay. Early bays have many different pulleys. The point being made is that you will need to investigate this and resolve it before you start. Don’t assume that the mark is just like it was when your bus left the factory 40 – 50 years ago – your bus may have a completely different engine in it than when it left the factory.

6) Hook the negative connection on the timing light up to the negative post of the battery.
7) Hook the positive connection on the timing light up to the positive post of the battery.
8) **CAUTION:** Making sure no wires, long shirt-sleeves, jewelry, or hair, fingers, etc. can get caught in the fan belt, start the engine. Injury or even death can result if hair or clothing gets wrapped around a pulley. Jewelry can cause a battery short resulting in severe burns.
9) Remove any hoses going to the distributor and make sure you know which distributor can nipple they came from.
10) Start the engine.
11) Check where the timing mark is at idle. Does it seem about right? Is the light steady? If not shut off the engine and check to be sure you are on the correct wire.
12) Run the engine up to about 3,500 – 4,000 RPM while staying away from the fan belt and pulley. The RPM should be about 28 degrees to 30 degrees before top dead center.
13) If not, shut off the engine, loosen (not remove) the special nut a little on the clamp holding the distributor. Restart the engine and rotate the distributor until the timing is correct. Shut the engine off, and holding the distributor down tighten the special bolt but not so much it deforms the clamp or breaks. Firm is usually good enough.
14) Recheck the timing. Is it is between 28 – 30 degrees? If not try again.
15) Check where the mark is at idle is now. Usually but not always it will be around 5 or 6 degrees before top dead center.
16) Usually at this point, I start the engine and apply a vacuum to the distributor can to be sure the vacuum timing moves smoothly, and that the can holds vacuum and does not leak.
17) Hook the hoses back up.
18) Shut the engine off and remove the timing light as follows:
   - Inductive pickup
   - Positive wire
   - Negative wire
19) Check your idle RPM and adjust if needed.
20) You are done. Put your tools away. I use Velcro strips (common in IT) to bundle the wires up.