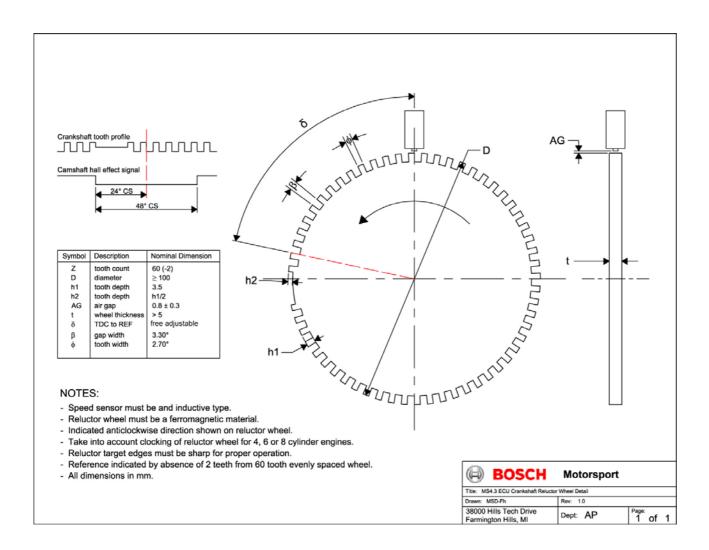


Ignition trigger wheel

The software assumes a 60-2 teeth trigger wheel for proper operation. The type can be choosen in the software. The crankwheel trigger sensor must be an inductive one. For the camshaft sensor a hall sensor must be used.

The picture below shows the correct installation position.

The camshaft trigger sensor is a hall sensor with a single tooth trigger wheel.

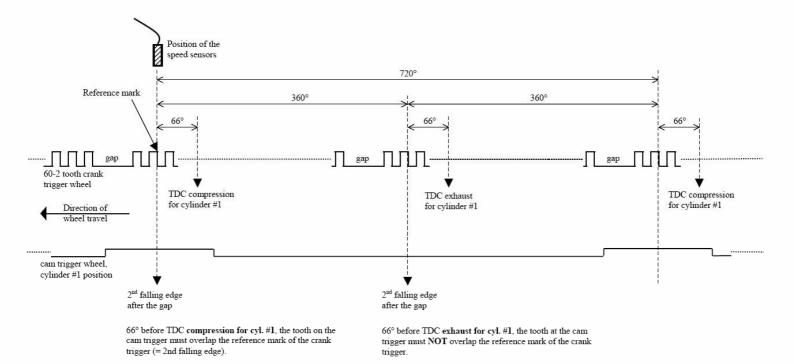




Speed sensor and trigger installation for MS3 and MS4 engine ECUs

BOSCH





Procedure to find the right postion for the crank and cam triggers:

Step 1 - rotate the engine to the precise position of TDC compression for cylinder #1 Step 2 - rotate the engine 66 crankshaft degrees backwards

Step 3 - adjust the position of the crank trigger wheel in reference to its inductive speed sensor: the longitudinal axis of the sensor must point exactly towards the reference mark (2nd falling edge after the gap)

Step 4 - adjust the position of the cam trigger in reference to its hall effect speed sensor: the sensor must be about at the center of the tooth

Step 5 - turn the engine by 360 crankshaft degrees to reach the position of 66° before TDC exhaust for cyl. #1

Step 6 - verify that the crank trigger reference mark is in alignment with the longitudinal axis of the sensor (same as Step 3) and that the cam trigger tooth is at the opposite side of its speed sensor

- all angles are shown and indicated in crankshaft degrees
- the width of the cam trigger tooth is not important, however it must be wide enough to ensure a safe overlap of the crank trigger reference mark at any time
- the hall effect signal is the inversion of the shape of its cam trigger: the tooth effects a 'low' signal at the sensor and vice versa
- with 4 and 6 cylinder engines, the value of 66degrees must be replaced by 78degrees