



The engine control communicates with the phone

The Walbro - Italy has designed a communication system which can be linked with the Minj 600 and Minj 400 engine control unit. This system communicates without limit of distance, simply using the mobile telephony service.

The technicians, which operate in bike and car market, have to monitor the engine control system during the racing or in the engine development activities. In fact it is important to check the engine parameters of a vehicle in a motor racing track, in the road traffic or in a rally track (on a large geographic area). These parameters (for example: temperatures, pressures, RPM, carburation, ignition advance) are basics to verify in a permanent way, the right engine running. In other words with specified systems a failure can be detected and examined during a road test and not only during a bench test, that is expensive and doesn't reproduce the real road conditions. The technicians have been using until now particular communication systems. For example the micro wave communication system, or the recorder system which is on board and can record data. This last can be linked with a PC to read all the recorded parameters when the vehicle has been stopped. The micro wave system

is used only in tracks where the vehicle has to periodically pass in front of the boxes line, because there is a limit on the power of the transmission. The advantage of this system is the possibility to communicate in real time and in a bidirectional way. Therefore the transmission can be done from the boxes line to the vehicle end from the vehicle to the boxes line. However it is very expensive and not simple to use.

The recorder data is cheaper than the micro wave system, but the real time transmission and control of the engine parameters are not possible.

Only when the vehicle has been stopped and probably a failure has already happened, the technicians will be able to check the causes of this failure, and perhaps it will be irreversible. Furthermore a recorder system is not integrated in the engine electronic control, therefore its installation will be not simple. The technicians will have to use specific probes or the system will have

to be linked with the original engine sensors, if these sensors are allowed by the electronic recorder.

The Walbro - Italy WAC system allows the real time communication from the engine electronic control to the workstation, and the transmission speed of the data is adequate. The communication is done in very simple manner and the user has not to link to the original electric system with advanced interfaces. In fact the Walbro - Italy engine electronic units Minj 600 and Minj 400 allow this type of data communication. A specific software tool called WAC, receives the data transmitted from the engine control, and it allows to show these parameters on a Personal Computer. Now the characteristics of the WAC system will be shortly described. The transmission from the Minj to the Personal Computer is done via mobile telephony service for the data traffic, managed by the international phone companies. This way the WAC running is possible without limit of space.

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