

ITALIAN ROADWORTHINESS TESTING (PERIODICAL INSPECTION)
FOR TWO OR THREE WHEEL MOTOR VEHICLES

Timing

On January 1st, 2001 entered into force the Italian national regulation on roadworthiness testing (periodical inspection) for PTWs (three-wheelers and quadricycles included) concerning checks on safety, noise and conformity to construction specifications. Exhaust emissions and mopeds' maximum speed checks entered into force on July 1st, 2003.

Any PTW shall undergo periodical inspection four years after first registration and each two years afterwards.

Testing

Braking, lighting, noise, gaseous emissions and maximum speed (mopeds only) are to be tested by instruments only (braking roller bench, lighting tester, microphone, gas analyser, speed bench), all other inspections have to be carried out as specified in the European directive 96/96/EC relating to roadworthiness tests for motor vehicles and their trailers (with proper modification to conform to the peculiarity of the two or three-wheel motor vehicles).

Gaseous emissions test

Ante-EURO1 vehicles: pollution test is based on the measurement of the CO₂% vol emission at 40 km/h speed on dynamometer roller bench (road-load conditions), this because the CO₂ emission is considered to be the best index for evaluating the efficiency of combustion of the engine (both two or four-stroke): the more CO₂ % in the exhaust gas the better the efficiency of combustion. The bench setting (power absorption curve) is fixed and based on mopeds' road-load. Prior to measuring, vehicles shall be warmed-up as specified by the manufacturer or by running a 2km distance on the roller bench at 40km/h constant speed. If the vehicle fails the test, this shall be immediately repeated in order to grant the proper engine warm-up. Emission limit values are as follows:

Ante-EURO1		
4-stroke engine	2-stroke engine	Operating conditions
CO ₂ ≥ 10 % vol	CO ₂ ≥ 10 % vol	40 km/h (2)
	CO ₂ ≥ 7 % vol (1)	40 km/h (2)

(1) For two-wheelers registered before January 1st, 1991 and for all three-wheelers or quadricycles the limit is 6%

(2) Manual shift motorcycles shall be tested in the gear that attains the speed of 40 km/h at 3500rpm or more.

EURO vehicles: pollution test is based on the measurement at idling speed of the CO_{corr} % vol emission (corrected concentration of carbon monoxide), same as Type-II test in Annex II - motorcycles - of Chapter 5 to Directive 97/24/EC. If the vehicle fails the test, this shall be immediately repeated in order to grant the proper engine warm-up. The limit value is:

EURO	
Any vehicle	Operating conditions
CO _{corr} ≤ 4,5 % vol	Idling speed

NB: for any vehicle, regardless of the homologation type, CO%, CO₂%, O₂% and HC (ppm) emissions are recorded. Through an electronic link system between the central DOT computer and the inspection garages, this data is automatically filed in a dedicated database.

Mopeds' maximum speed test

Speed check is based on the measurement of the maximum speed achieved by a moped when ridden on a dynamometer roller bench (road-load conditions). Prior to measuring, vehicles shall be warmed-up as specified by the manufacturer or by running a 2km distance on the roller bench at 40km/h constant speed. The bench setting (power absorption curve) is fixed and based on "conservative" conditions (more representative of "heavy" mopeds). The maximum speed reported by the instrument is reduced of a -10% factor in order to take into account any possible instrument/measure tolerance. If the vehicle fails the test, this shall be immediately repeated in order to make sure of proper test conditions.