

MECHANIC STUDY GUIDE

Motorcycle Repair

Michigan Motor Vehicle Mechanic

Listed below are a number of items and subjects which make up the mechanic certification tests identified above. An individual's ability to pass the certification test will depend upon the amount of knowledge the person has concerning these items.

Fuel Systems - 10%

Causes of a lean mixture
Carburetor systems; float, power, choke, etc.
Spark plug diagnosis
Causes of a rich mixture
Idle mixture adjustment
Diagnosis of a worn needle and seat
Crankcase flooding diagnosis
Carburetor jets
Understanding the idle circuit on a slide type
Carburetor

Skill in Measuring - 13%

Measuring piston ring grooves
Crankshaft end-play
Using plastigage
Using a dial indicator
Spark plug gap
Shaft run-out
Cylinder bore measurements
Understanding decimal equivalents up to 1/1000"
Piston ring end-gap
Reading a micrometer
Understanding metric system measurements

Repair Skills - 17%

Cylinder head bolt torque procedure
Compression test
Repairing float valve wear
Replacing a steel bearing race in aluminum case
Replacing the master link in a drive chain
Valve adjustment
Finishing cylinder walls at overhaul
Fitting pistons to the cylinder
Cylinder leak down test
Valve guide wear
Oil pump installation
Breaker point alignment
Checking for bent forks

Diagnosis - 17%

Poor running with black smoke under heavy throttle
Transmission shifting problems
Backfire
Spark plug fouling and diagnosis
Undershifting or jumping out of gear problem
Coil diagnosis
Hard starting or no start problems
Low oil pressure
Restricted air intake
Rough running and backfiring problems

Ignition & Electrical - 20%

C.D.I. systems compared to point systems
Flywheel stampings
Splicing electrical connections
Continuity testing
Checking voltage in a system
Diagnosing turn signal circuits
Master cylinder operation
Point burning
What tool is necessary to time a flywheel
Timing advance
Alternator output problems
Diagnosing a condenser
Battery charging rates
Zener diode operation

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(continued)

General - 23%

Sticking hydraulic forks

Deglazing cylinders

Understanding the 4-stroke cycle engine

Clutch operation and diagnosis

Full floating piston pins

Oil pressure relief valve operation

Alternator or generator operation

Brake system operation

Adjusting steering stem bearings

Piston slap

Camshaft operation

What is a hydrometer used for

Front drum brakes

Spark plug "reach"

Oil consumption

SAMPLE QUESTION:

Oil circulation in the engine:

- A. Goes from sump to oil pump to bearings to filter.
- B. Goes from filter to bearings to oil pump.
- C. Goes from bearings to filter to oil pump to sump.
- D. Goes from sump to oil pump to filter to bearings.

ANSWER: D