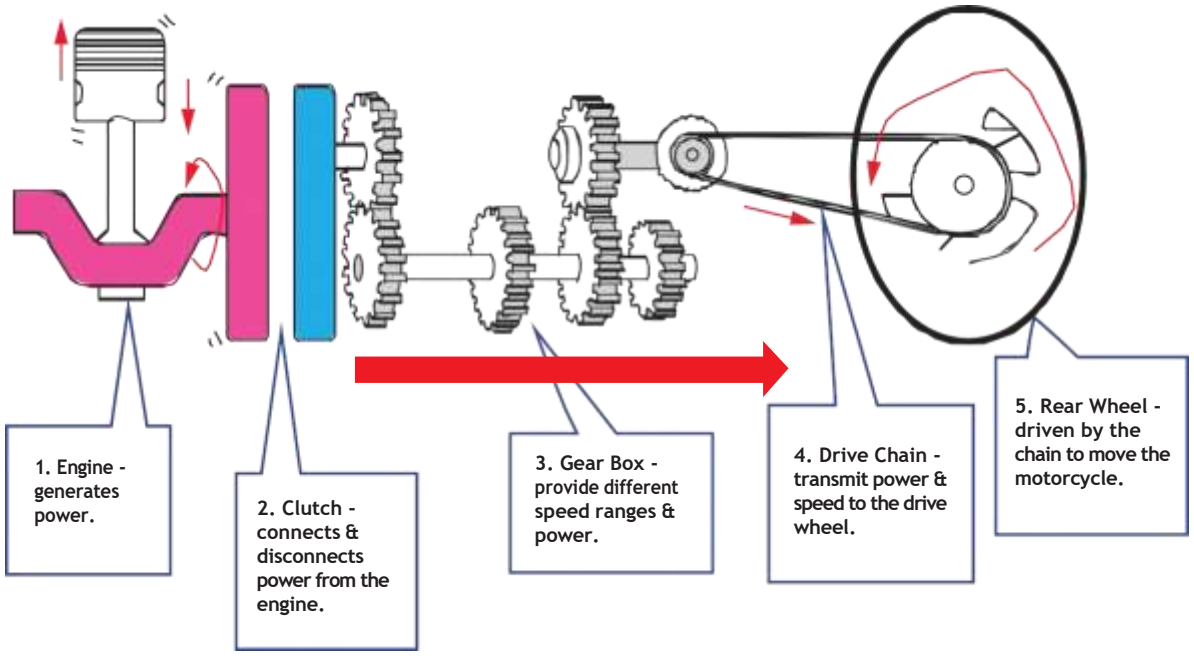
BASIC STRUCTURE OF MOTORCYCLE AND VEHICLE MAINTENANCE

INTRODUCTION

32. The overall structure and function of most modern manual transmission motorcycles includes a gasoline engine, which converts the reciprocating motion of pistons into rotary motion, just like the engine in a motorcar. A transmission system transmits this motion to the back wheel. As the back wheel turns, it pushes the motorcycle forward. Turning manoeuvres are made via the handlebars and by leaning the bike to one side or the other. Two hand levers enable the rider to operate the clutch and the front brake, while two foot pedals are used to change gears and control the rear brake.

POWER

33. A motorcycle needs a constant supply of power to move it forward. This power is generated by the engine and transmitted to the drive wheel to move the motorcycle through a series of mechanical components as shown below.



ENGINE

34. Most motorcycle engines operate on what is known as the 4-stroke cycle (the induction, compression, power and exhaust strokes) internal combustion engine.

INDUCTION STROKE

The piston moves down from its top position and create a partial vacuum in the cylinder. With the inlet valve opened, petrol and air mixture are drawn into the cylinder. This downward movement is known as the Induction Stroke.

COMPRESSION STROKE

At the end of the induction stroke the piston is now at the bottom position with both the inlet and exhaust valves closed. The piston starts to move up and the mixture is being compressed.

POWER STROKE

At the end of the compression stroke the piston is at its top position again with both valves still closed. The compressed mixture is now ignited by an electric spark produced by the spark plug. Combustion takes place and the high pressure forces the piston downward. This is known as the Power Stroke.