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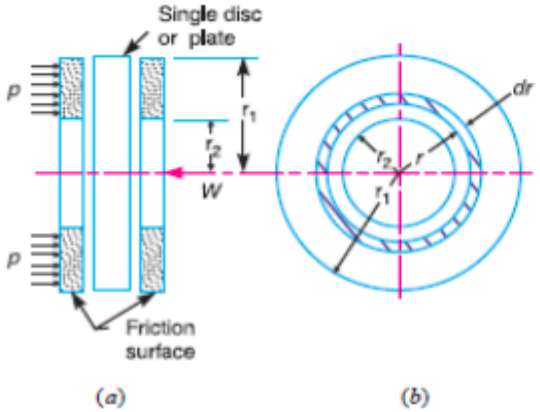
Explain working principle of clutch. State its location in transmission system of an automobile.

Question:
Explain working principle of clutch. State its location in transmission system of an automobile.

Answer:
A friction clutch has its principal application in the transmission of power of shafts and machines, which must be started and stopped frequently. The force of friction is used to start the driven shaft from rest and gradually brings it up to the proper speed without excessive slipping of the friction surfaces. In automobiles, friction clutch is used to connect the engine to the driven shaft. In operating such a clutch, care should be taken so that the friction surfaces engage easily and gradually brings the driven shaft up to proper speed.

Location:

Between the engine and gear box.



single disc or plate clutch.

A single disc or plate clutch, as shown in Fig. consists of a clutch plate whose both sides are faced with a friction material (usually of Ferrodo). The pressure plate is mounted inside the clutch body which is bolted to the flywheel. Both the pressure plate and the flywheel rotate with the engine crankshaft or the driving shaft. The pressure plate pushes the clutch plate towards the flywheel by a set of strong springs which are arranged radially inside the body. When the clutch pedal is pressed, both the plates gets disengaged and when it is released, both gets engaged. Because of this power is transmitted through friction plate.