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# What is the necessity of clutch? State its types.

**Question:**
**What is the necessity of clutch? State its types.**

**Answer:**
**Necessity:** A clutch is necessary for the transmission of power of shafts and machines which must be started and stopped frequently. Its application is also found in cases in which power is to be delivered to machines partially or fully loaded. 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. It may be noted that -

1. The contact surfaces should develop a frictional force that may pick up and hold the load with reasonably low pressure between the contact surfaces.

2. The heat of friction should be rapidly dissipated and tendency to grab should be at a minimum.

3. The surfaces should be backed by a material stiff enough to

ensure a reasonably uniform distribution of pressure.

**Types :**

1. Disc or plate clutches (single disc or multiple disc clutch),

2. Cone clutches, and

3. Centrifugal clutches.

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