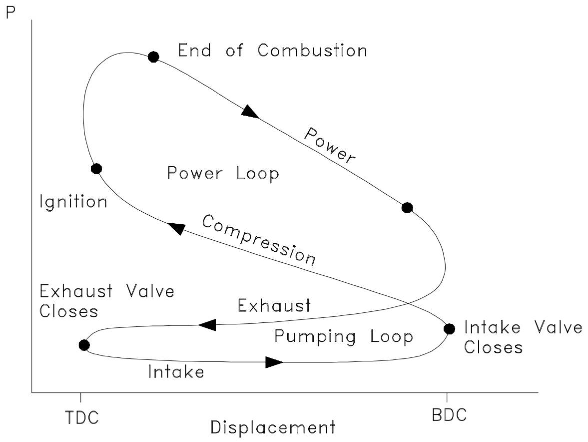
**Week 7: Lecture 1**

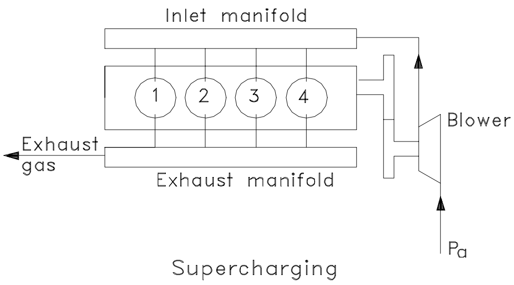
## IC Engines

1. **spark ignition**:
   - a mixture of fuel and air is ignited by a spark plug
   - applications requiring power to about 225 kW (300 HP)
   - relatively light and low in cost

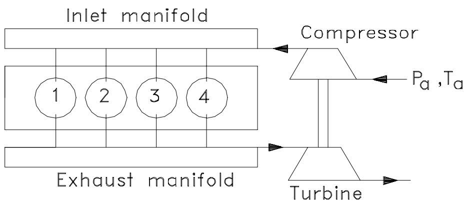



2. **compression ignition engine**:
   - air is compressed to a high enough pressure and temperature that combustion occurs when the fuel is injected
   - applications where fuel economy and relatively large amounts of power are required

**Power Enhancements**:




Supercharging




Turbocharging

1. **Supercharging**:
   - compressor is run directly from the engine shaft
2. **Turbocharging**:
   - compressor is run by the exhaust gases
   - more efficient than a supercharger