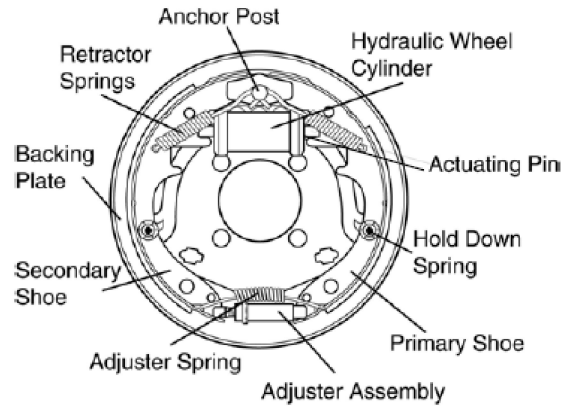


# Trailer Brake Types

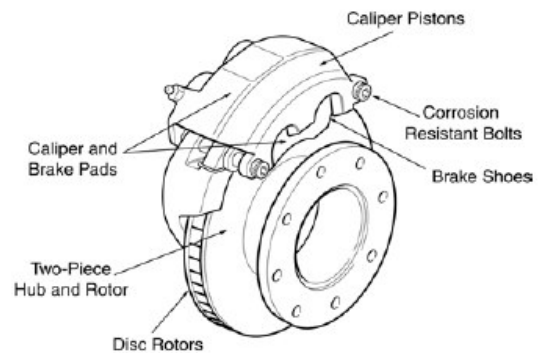
## Electric and Hydraulic, Shoe/Drum


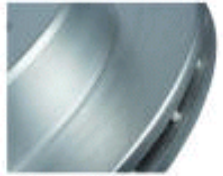

Electric brakes are similar to the hydraulic drum brakes used on automobiles and trucks. While those brakes are actuated by hydraulic pressure, generated by the master cylinder to expand the wheel cylinder, electric brakes function by the action of an electromagnet inside the brake drum. When a voltage is sent by the brake controller to the electromagnets, they are attracted to the rotating armature surface of the drum. The sliding friction of the magnets against the armature surface actuates a lever which in turn expands the brake shoes out against the drum surface, much like the action that occurs within a hydraulic brake when the wheel cylinder expands. The braking effort is modulated by varying the amount of voltage supplied to the magnets whereas, hydraulic brakes are controlled by the output pressure of the master cylinder.



## Disc Brakes

Disc brakes employ a component called a rotor which takes the place of the drum in a shoe/drum brake. The rotor or disc as it is sometimes called, is generally machined from a special grade of cast iron and has integrally cast fins to help dissipate heat. The braking force comes from a clamshell-like structure called the brake caliper which is attached to the axle. Friction pads are fixed to one of the opposing surfaces inside the clamshell while the opposite side pad is attached to the end of a hydraulic cylinder built into the structure. The caliper is positioned to straddle the rotating disc. When hydraulic fluid extends the cylinder, the caliper grips the rotor to generate the braking effort.



Disc Brake Materials	
	<b>E-coating</b> offers the best value of protection for over the road use and for fresh water marine (or limited salt water) applications (i.e., during a standard salt spray test, rust will begin forming between 250 and 350 hours)
	<b>Silver Cadmium</b> plating offers the best value of protection for salt water applications (i.e., during a standard salt spray test, rust will begin forming between 400 and 600 hours).
	All <b>Stainless Steel</b> offers the ultimate corrosion protection in salt water marine applications (i.e., negligible rust will form during a 1000 hour standard salt spray test).