

AIR HORN BASIC OPERATION PRINCIPLES AND ELECTRICAL WIRING DIAGRAM

The motorcycles stock horn draws only a small amount of power (less than 1 amp.) which comes directly from the horn button on the handlebars. The air horns electric air compressor draws considerably more power (approx. 8 amps). This requires the use of a relay, heavier gage wire and fuse to prevent damage to the horn button contacts as well as provide enough amperage to run the compressor at full speed.

A relay is a switch that is able to handle higher amperage loads and be controlled remotely by a small switch like a horn button. In the wiring diagram shown when the horn button is pushed power flows through terminals 85 & 86, this activates a small electromagnet inside the relay. This engages a set of heavy- duty contacts between terminals 30 & 87 which allows the higher amperage power to flow from the battery to the compressor.

The air compressor creates an almost instant air pressure to the horns. Because the pressure is created so fast there is no need for an air storage tank as on a big truck or R.V. Although the pressure is very low (12-15 psi.) it delivers a large volume of air (3 CFM cubic feet per minute). This low pressure high volume air supply causes a diaphragm or reed at the base of the horn to vibrate at a very high speed or frequency. The exact speed at which it vibrates is varied by the length of the horn or 'trumpet'. The longer the trumpet vibrates slower at 450 times per second "MHz" (megahertz), thus producing the lower tone of the two. The short or high tone trumpet operates at 550 MHz. Together they produce an extremely loud 125 dbl.(decibels) this is approximately 4 times louder than most electric motorcycle horns @ 87dbl.