

Info Sheet

Quick Guide to Ignition Switches

You can use ignition switches in other applications where you need a keyed rotary switch.

See our spreadsheet of switches, with an ignition switch for every purpose.

What is an Ignition Switch?

Gasoline-powered vehicles need a starter system to ignite the internal combustion engine, by means of a spark in the engine cylinder. Diesel engines rely on fuel compression for ignition, and some have glowplugs to preheat the combustion chamber in cold weather. We make diesel starter switches, too.

The starter system is composed of the ignition system, plus the battery, and starter switch, electric starter motor and solenoid. Cole Hersee manufactures over 50 solenoids.

The basis of any ignition system is to generate an extremely high voltage (about 20,000 volts) at precisely the right time. The voltage causes a spark to jump across the spark plug gap, which ignites the fuel in the cylinder. The ignition switch gives access to the ignition system.

Ignition switches usually require a key to be inserted, that engages a lock built into the switch. It is frequently combined with the starter switch which activates the starter motor, but if you need an ignition switch without keys, we make those.

Since we generally initiate the motion of a vehicle commencing with the ignition, having a keyed ignition is also a basic form of security. Heavy vehicles may also use a master disconnect switch to completely and safely isolate the electrical power. You guessed it. Cole Hersee makes dozens of Master Disconnect switches, as well. In fact, when you're looking for switches for your commercial vehicle, you can't do better than Cole Hersee brand switches.



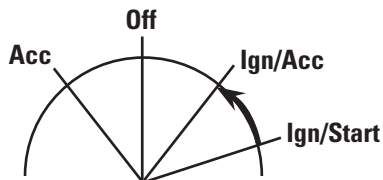
[Much more on ignition systems](#)

http://en.wikipedia.org/wiki/Ignition_system

Switch action

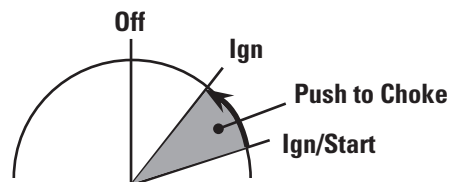
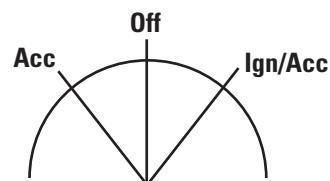
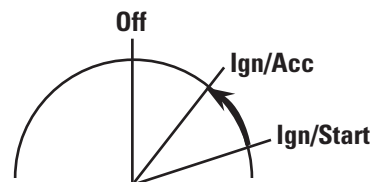
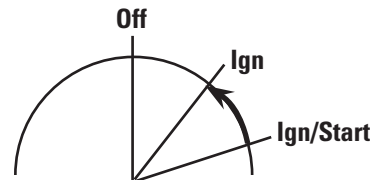
• 4 position:

Accessory – Off – Ignition/Accessory – Ignition/Start



• 3 position:

Off – Ignition – Ignition/Start
or Off - Ignition/Accessory – Ignition/Start
or Accessory – Off – Ignition/Accessory
Or with Push-to-Choke

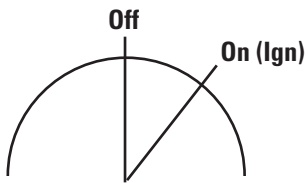
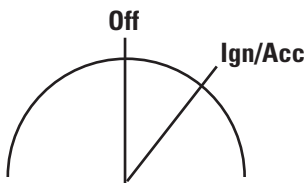
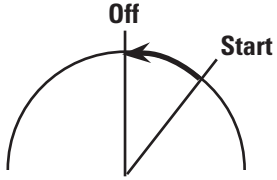


• 2 position:

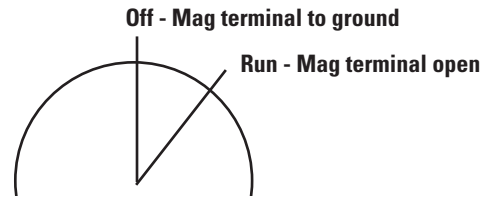
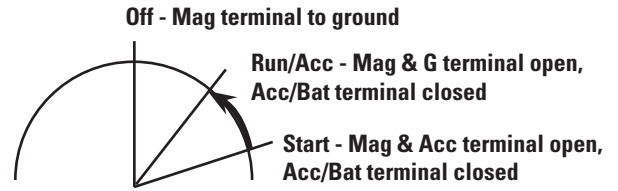
Off – Start

Or Off – Ignition/Accessory

Or Off – On (Ignition)



• Magneto start



Magneto Start



Some lighter engines don't use a starter motor... and don't carry a heavy lead-acid battery, either. Think of a lawn mower. For these applications a magneto works fine, as it does for gas-powered generators, chainsaws, portable pumps, and snowmobiles. The magneto start was common on pre-1960 motorcycles, and is still used on some small aircraft engines, like Cessna.

Keys

Not all ignition switches are keyed. We make other types, too.



95061-04 with lever actuator, no key



95062 with SAE type knob, no key

Coded or Uncoded keys?

It's a tradeoff of security against convenience . An ignition switch with a knob has no security. A switch with an uncoded (non-bitted) key such as the Hencol key has a better level of security, and the coded key gives you maximum security. We offer all types.



956 series switch
with coded (bitted) key



956 series switch
with lever actuator



956 series switch
with Hencol key

Common Code or Mixed Code Keys?

We'll sell you a bunch of ignition switches that are all operated by the same tumbler key! Clearly it's not as secure a system as having one vehicle/one key... but there are lots of times when you have one vehicle/multiple operators – like a forklift truck or a golf cart. Some fleets also operate on the one key fits all principle which saves the hassle of maintaining a keybox, and the considerable bother of cutting multiple duplicate keys.



Other features you need to know about

Anti-Restart

If you've ever re-started your car when it was already running, you'll realize from the grinding noise that you can damage the starter motor if you do. In commercial vehicles there's likely to be ambient noise where the vehicle operator can't hear the engine. Anti-restart ignition switches will prevent re-starting when the engine is running. It's an available option in all our types of ignition switches, including the 95060 series.

Spring Return

Initiating current to the starter motor needs a momentary action only, so most ignition switches (but not all!) are "Spring return to Off"

Key Removal

It's useful to have them "Key removable in the Off position", when you're likely to leave the vehicle and take the keys with you. You don't want the engine running when the key is not in the ignition. That's why most (but not all!) ignition keys have this feature.

Sealing

Some ignition switches aren't mounted on a dashboard in a nice dry truck cab. They're mounted on the dash of a boat that's subjected to salt-spray, or for example in the open cab of a forklift truck that operates on a windswept marine dock. The next time you start up a golf cart, just think how much that switch is exposed to the sun, wind and rain... as well as being washed-down frequently with a hose.

We even have a school bus builder who installs our 95060 as a security lock that's hidden away inside the wheel well. That's location where you get all kinds of dirt and splash!



95060 Ignition Switch in an exposed position on the dash of a Stingray boat

New plastic Sealed Key Switch, series 95060

The plastic switch is as rugged as the metal ones, and in addition, won't rust or corrode.

Get all the info! Download a HotFeed sheet on this important product

<http://www.colehersee.com/assets/files/hotfeeds/1299596289-HotFeedD-613.pdf>



Metal body Ignition Switches



956-series is available with tumbler key, Hencol key or lever actuator.

Series has diecast metal case and brass blade terminals.

'Marine Grade Switches'

Switches used on boats are likely to need to stand up to severe conditions. They also need to be resistant to corrosion. Many of the marine grade switches have brass housings. Marine grade ignition are often spec'd in on- or off-road applications that encounter harsh conditions.

Some typical 'Marine Grade' Ignition Switches:



95060 series switches are water-resistant plastic and corrosion-resistant.



M-712-09 has a brass case and a rubber boot to prevent water entering at the key slot.



M-497 has a brass case and a lever actuator.

Not all Ignition Switches are rotary

We make some other types of switches that you could use.



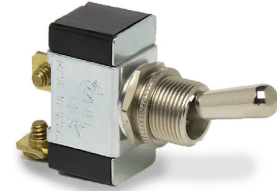
Push-pull ignition switch 9576



Foot-operated starter switch 9080



3-position rocker switch 58022-03. Special order item.



Toggle switch 55094 For starting and running coil type ignition motors.

Not all Ignition Switches are rotary, and not all rotary ignition switches are used for ignition. They can often be convenient locking (and relatively low cost) switch for many purposes.

Custom Ignition Switches

Littelfuse Commercial Vehicle Products can build any kind of switch you need! Remember though, that there will be a minimum order requirement. Contact Littelfuse CVP.

Most of our switches, like the 95060 series are originally designed to be versatile, and can be readily adapted to the differing needs of customers.



Switch Accessories

Protective Boots



83288 Chrome-plated brass knurled ring with rubber insert

Plastic Cap



97298 Plastic cap protects key slot when not in use.

Keys



Extra keys are available from Littelfuse CVP.