

# 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.

ense Part (5)		Arti-Better *	Sev Cook Typ.*			196900 *	New York *		Additional Features/Special/Connects
9100	None	No	A/A	N/A	Long Lever			Catalog item	
9513	None	No	10 Codes		World		83379	Catalog tiam	
9510	None	50	Mixed	250-Codes	Wetd		83406	Catalog item	
4554	None	No	Keyed Alke	N/A	pie Hencol (8354 & 6535			Special Order	
9376	None	No	AVA	N/A	A/A			Catalog item.	Push Pull Start Switch, no key - knob
7500	None	50	Mixed	230	MVGd		83406	Catalog tam	
9576	Aone	No.	10 Codes	068	Wetd		65379	Catalog item	
9579	None	No	Mined		Hetal		83379	Catalog Fam.	
9186	None	No	A/A	76/A	Long Lever	Long		Special Order	Anti-notation pin made for part mercor and key suppress
9611	None	No	Keyed Alka	N/A	pit Hencol (8394 & 833)			Special Order	many or Statistical Country Support
9672	None	No	Seyed Alke	N/A	six Pencul (\$354 & 8335			Special Order	
9422	None	No	Mined	8L1014L136	Held			Special Order	Key aut in OFF only
9622-61	None	No	Mixed	EL101-EL136	Wood			Special Order	Key Out in Off and On Positions
	None Order team or	No.	505	N/A	Lever	Long		Catalog item	Reversing switch, for use with reversing relay
95002		No	Keyed Alke	N/A	sit Hencol (#394 & #33)			Special Order	
95013	Sone U-mg sear m	50	Reynd Alke	O+516	Netal			Special Order	Key removable only in first OT position
90533		50	A/A	N/A	Long Lever			Catalog tam	Silver contacts
91212	None	No	Keyed Alke	0-693	Metal			Special Order	Any removation of the Commission Commission of the Commission of t
31213	None	No	Keyed Alba	HC401	Held			Special Order	
91060	United the in	No	Mixed	OHE00-CH799	Boot		83430-0	Catalog ram	Reptionent boot 81/255
55333		No.	A/A	N/A	Long Lever			Catalog item	
55400	None	No	Seyed Alke	C210	Held			Catalog item.	Similar to Pollak 31-112
95405	None	No	Rayed Alka	N/A	Hercol	DR DR		Special Order Special Order	Simbir to Pollak 31-159
	None	50	Royal Alka	N/A	Hencel				NO DOX EUROSE, E ground terminal connect to nothing in
95408	None	No.	A/A	N/A	N/A			Catalog item	No sex consult. If prode sufferfact contact to receive
					N/A	14		Catalog Fam.	
25411	None None	NO	Rayed Alka	N/A	Hencoi		83379	Special Order Catalog from	Similar to \$5405 except 3 poetson blade terminals
95532		No.			Metal		#3379 #3379		
91111	None None	No	Mixed 10 Codes		Hetal World		83379	Catalog item	No Acc terminal
95533		No	10 Codes				#3379 #3379		CONTRACT CONNECTED IN THE UPT DOSCORE, THE CONTRACT IN THE
95537	None	No.	10 Codes		Wetd		83379 83379	Special Order	
	None	No		9676				Catalog item	Acc familial contacts connected in the CVT position, he compare in Ho
95566	None None	No.	A/A	N/A	Long Lever			Special Grain	
91069	Uning team in		10 Codes	CHURCHING			83373		
95582	- Distriction	No.	10 Codes	ON MONTE	Metal		83373	Canalog iram Special Order	Made terrotody
	* O'RECTARTO	No.	10 Codes	0434-0437	Hetd				
95550	Acce	No.	Miner	0000	Lever	Long	65372	Catalog fam Special Order	Sher contacts - higher current Blade terrografia
23392			Severi Aldre	900				Catalina dans	State contacts : Noter current
91197		No.	Keyed Alike		Hereof	Long	83373		
91618	None None	No.	10 Codes	10/0	Metal	Store	83379	Catalog fam.	
95613	None None	No.	A/A	N/A		Short		Cacarog cam Source Order	Silver contacts - higher current. No Acc terminal Blade terminals
33612	O'NEED THESE IN	No.	A/A	N/A	Lever	Short Short		Openial Order	Blade terminals Sharr contacts - higher current. No Acc terminal
93412	1100000	No.	202	N/A	Lever	Short		Catalog dam	
25514				N/A (0.161.6) 311		3005	43379		Same as \$5611 but with seal at bushing , Blade terminals Witnes and hours on hark
95614	None Literature	No.	Mixed	0,161-6(351	Metal		85579	Canalog iram	Wires and boot on back

# 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



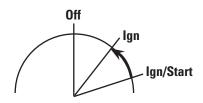
## **Switch action**

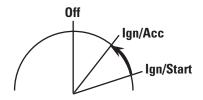
#### • 4 position:

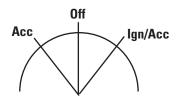
Accessory - Off - Ignition/Accessory - Ignition/Start

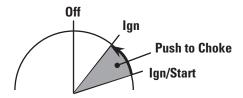
#### • 3 position:

Off - Ignition - Ignition/Start or Off - Ignition/Accessory - Ignition/Start or Accessory - Off - Ignition/AccessoryOr with Push-to-Choke







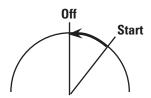


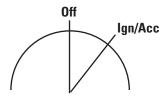
#### • 2 position:

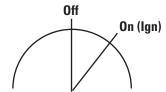
Off - Start

Or Off - Ignition/Accessory

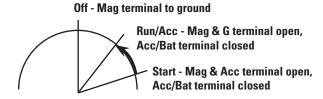
Or Off – On (Ignition)

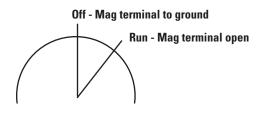






#### • Magneto start





#### **Magneto Start**

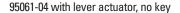


Some lighter engines don't use a starter motor... and don't carry a heavy lead-acid battery, either. Think of a lawn mower. For these applications a magneto works fine, as it does for gas-powered generators, chainsaws, portable pumps, and snowmobiles. The magneto start was common on pre-1960 motorcycles,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

## **Keys**

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







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 they "Key removable in the Off position", when you're likely to leave the vehicle and take they keys with you. You don't want the engine running when they 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 waterresistant plastic and corrosionresistant.



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.







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.

## **Mouser Electronics**

**Authorized Distributor** 

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83288 97298