

We tend to look back at the 'Roaring Twenties' and the 'Thirties' as an easy time. Safe, secure. Folks didn't lock their front doors, nor did they worry about car theft. It was just a better time. But wait a moment. Was it really? Seems that car makers were, in fact, very concerned about car theft and they incorporated anti-theft systems into the cars of the times. Some of those devices were quite sophisticated for their day.

Some of the cars used very simple switches that disconnected the ignition switch from the coil, but in addition a special device was built in that ran a steel plug or rod into the steering column disabling the steering (coincidental lock). On the 1925/'26 Studebaker, the system was designed so that without the steering column lock key (whether you were a car thief or an owner who lost the key) the only way to deactivate the system involved removing the entire steering column. Another type of lock, also used by Studebaker in the early 'twenties, locked the transmission (another type of coincidental lock) so that the gears could not be engaged. It did not disconnect the electrical current. But the most common type of lock was incorporated into the coil. No key, no spark. It was as simple as that.

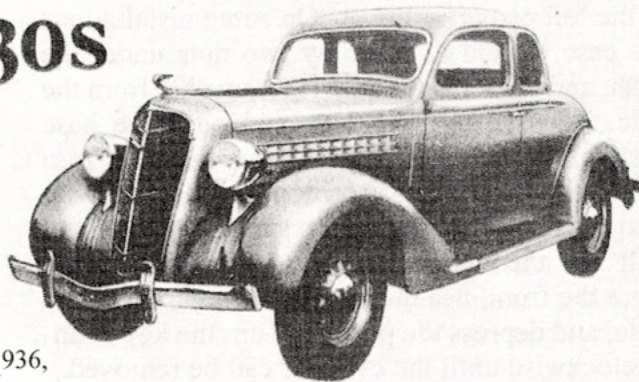
Whether you are servicing the ignition lock on your 1930s' era car, or are just curious about the security measures utilized to prevent car theft, you'll enjoy this article.

Editor

Cars of the '30s

Servicing Ignition Locks

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Many cars of the 'thirties used ignition locks mounted directly on the coil which was attached to the back of the instrument panel. Later practice called for the lock mounted on the instrument panel with the coil in the engine compartment to minimize radio interference. Also used on some cars were coincidental locks that locked the steering wheel so that the front wheels could not be turned. A second type of coincidental ignition lock also locked the transmission so that the gears could not be shifted. Tips on servicing the various types of ignition locks are covered in the article below. The information has been excerpted from an article by T.C. Stewart in the December 1936 issue of *Automobile Digest* and from Delco and AutoLite service bulletins.

BASCO LOCKS

Basco locks have been standard equipment on a large number of models. The type

shown at the lower right in Fig. 1 has a lock cylinder removable from the front of the instrument panel. The bezel has a right hand thread and can be removed with the aid of small holes in the rim. Take off washer and push through dash.

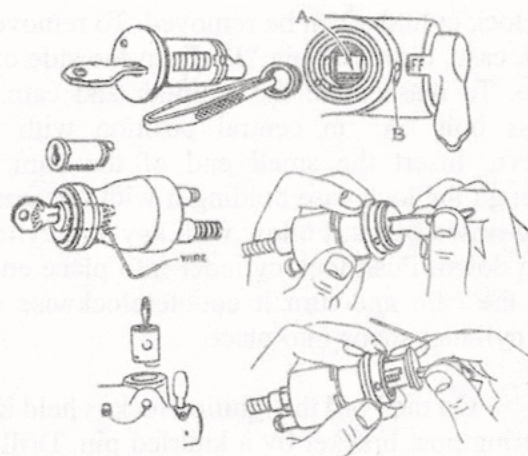


Fig. 1 - Various types of Basco locks. Top: steering wheel, Left Center and right: coil types, Lower left: Ford steering wheel lock.

Another type has the case held in the rear of dash by two nuts. Remove these and then push through dash.

Use the key and turn it clockwise until the cylinder stops. Insert a stiff wire in the face of the lock cylinder and depress the plunger. Continue to turn the key clockwise until the lock cylinder can be removed. To assemble the cylinder in the case, insert the cylinder with the key and turn counterclockwise until it stops. To replace the lock case, use a screwdriver or pliers and bend back three tangs to remove the lock case. New case can be slipped into place with narrow tang engaging narrow slot. Bend tangs back into place.

Another coil type ignition lock is shown at the left center in Fig. 1: On some installations the case is held in place by two nuts under the dash, and the lock cylinder is removable from the side. Remove the two nuts and push the base casting through the dash. Using the key, turn clockwise to the "ON" position. Insert a stiff wire into the hole, push down the spring retainer, and pull out the cylinder. On cylinders removable from the front, use the key, insert a wire through hole, and depress the plunger. Turn the key counterclockwise until the cylinder can be removed.

A steering column type lock is shown at the top in Fig. 1. To remove the lock cylinder from the case, use the key and turn it clockwise until the stop is reached. Insert a stiff wire through the hole in face of lock and depress the plunger. Continue to turn the key clockwise until the lock cylinder can be removed. To remove the lock case, drive out pin "B" from the side of the case. To reassemble the cylinder and cam, put cross bolt "A" in central position with lock sleeve. Insert the small end of the cam first through the lock case holding it with tweezers or long-nosed pliers. Follow with key and cylinder, cam down. Push lock cylinder into place engaging the cam and turn it counterclockwise until the cylinder snaps into place.

On the Ford the ignition lock is held in the steering post bracket by a knurled pin. Drill and tap the pin for easy removal. Put the lever in the "OFF" position and insert a new lock with key.

Use a new pin. This lock is shown at the lower left in Fig. 1.

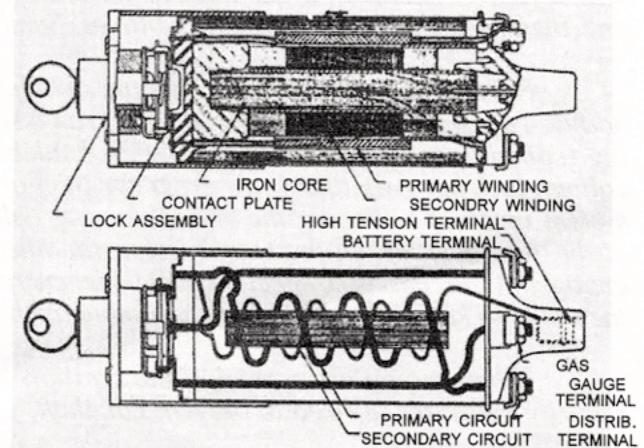


Fig. 2 Delco coil with integral lock.

LOCK MOUNTED ON COIL

In this type, the ignition switch is integral with the coil as shown in Fig. 2, which depicts a sectional view of a Delco coil. The ignition is turned off when the key is removed. If the contact arm in the switch touches the case of the coil, the primary winding of the coil will be grounded. This can be determined with 110-volt test lamp between either of the primary terminals and the switch and cover of the coil. If the lamp lights, the primary circuit is grounded.

On Auto-Lite lock type coils, the lock plate and rotor should be removed and the tension of the spring between the contact and insulating parts of the rotor increased. This can be done by springing out one of the lugs which holds the contact member on the rotor, removing the spring, and stretching it to a free length of one inch. When removing the lock plate and rotor from the coil, carefully note their position in order to reassemble so as to give proper contact on the various positions of the key.

Some of the lock plates have two bosses on the lock hub with one of them tapped and drilled for the screw which holds the lock cylinder in the lock. The boss which is not tapped and drilled should be ground off flush with the lock hub so as to have no chance of interference between the live member of the rotor and the lock

plate on the coil. The contacts should be given a light film of Vaseline for lubrication.

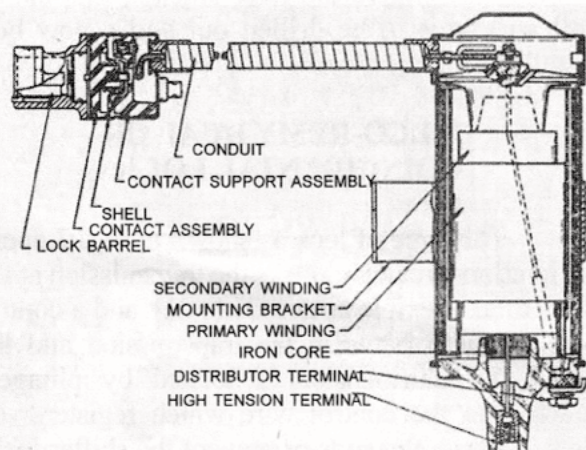


Fig 3. Delco-Remy switch extension type lock and coil assembly.

SWITCH EXTENSION TYPE LOCK COIL

This type of installation is shown in Fig. 3, as employed on Oldsmobile. Due to the location of the coil, it is operated remotely by the switch which is located on the instrument panel and connected to the coil by a wire enclosed within an armored cable. When in the locked position, the primary circuit is open and the distributor grounded. On some installations, of which Pontiac eight is an example, this ignition switch is connected in series with the accelerator pedal and it is not possible to operate the starting motor with the accelerator pedal when the switch is in the "OFF" position.

The coil is designed to permit removal without disturbing the switch or switch extension. The coil is locked to the switch extension assembly by means of the lock in the coil end cover which engages the lock in the recess on the coil can. To remove the coil from the switch extension assembly, it is necessary to

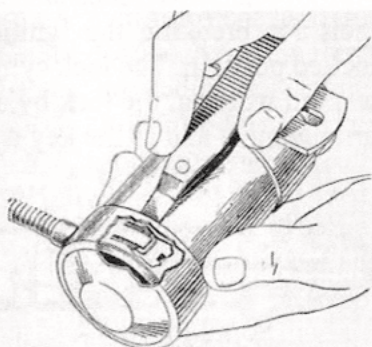


Fig. 4 Method of removing the coil cover from the Delco coil.

remove the coil from its mounting and then proceed as follows:

Insert a thin blade of spring steel (0.015" by 1/2") between the coil can and the coil end cover at a point approximately 1" to the left of the seam on the coil can. Push the tool between the lock and the recess as shown in Fig. 4. Twist the end cover toward the seam until the lock is released from the lock recess. Remove the tool to relieve the pressure between the coil end cover and the coil. Lift off coil end cover and disconnect the lead from the terminal on the coil.

To reassemble the coil and switch extension assembly, connect the extension lead to the terminal on the coil. Align the locating lugs on coil end cover with the "L" slots in the coil can so that the lock will be on the same side as the lock recess. Press the cover on by hand (but do not force) and twist end cover (in reverse direction to that when assembling) until the lock snaps into the lock recess. During installation of the cover, the tool is not necessary.

The Auto-Lite coil with extension switch has a flexible steel conduit within which the igni-

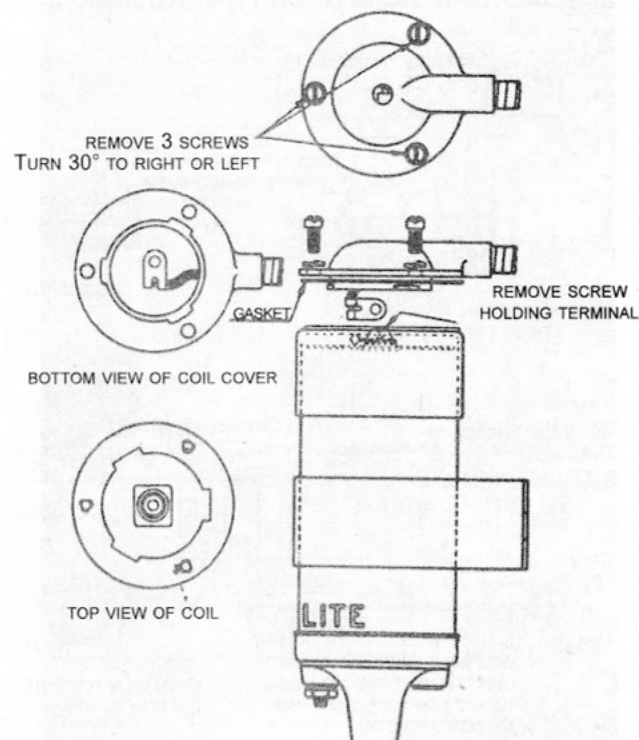


Fig 5 - Method for removing cover from the Auto-Lite coil.

The coil cover is held in position by three cap screws and three lugs as shown in Fig. 5 (on previous page). To remove the cover which supports the conduit, remove the cap screws and turn cover 30 degrees or one-twelfth turn to the right or left. Then lift up cover to remove the screw holding the terminal.

The Oakes lock is a combination type which locks the steering gear and the ignition. The lock is mounted in a housing integral with the steering gear bracket, and the steering gear may be locked only after the ignition lever is turned to the "OFF" position. The lock bracket is fastened directly to the lower flange of the instrument panel as shown in Fig. 6, which depicts the Buick installation. It will be noted the jacket clamp bolt is of the twist off type. After the lock



**DELCO-REMY DUAL OR
COINCIDENTAL LOCK**

The conduit is held in the transmission by a taper pin which registers with a groove in the support. The other end of the conduit is fastened to the dash and contains the lock cylinder and switch control mechanism. The lock cannot be removed from the transmission without first removing the cover and then driving out the taper pin when, with shift lever in neutral position, the lock plunger can be pulled out. When the transmission lock operates with difficulty, look for a sharp bend in the conduit as this will cause binding of the operating wire within the conduit.

The top drawing is a cross-sectional view of a lock cylinder assembly. It shows a long cylindrical body with a handle on the left and a plug on the right. Labels include: "SWITCH TERMINAL" pointing to the handle's connection point, "LOCK CYLINDER RETAINING SCREW" pointing to a screw on the right side, "LOCK CYLINDER" pointing to the main body, and "SWITCH TERMINALS" pointing to the internal wiring connections. Below this is a detailed view of the handle and plug assembly, showing a "PLUNGER WIRE" connecting the handle to the plug, a "PLUNGER" at the handle end, a "CONDUIT SUPPORT" at the plug end, and a "CABLE" attached to the plug.

Fig 7 - Delco coincidental lock.

the locked position, the worm assembly with switch contacts moves toward the lock cylinder and contact is broken. As the key is turned to the locked position, the movement of the worm pulls the plunger in the transmission, which in turn locks the shift rods.

To remove the lock cylinder, turn the key to the unlocked position. Remove the lock cylinder retaining screw and turn the key slightly to the left. Pull out the key and the lock cylinder assembly, being careful not to move the key as this holds the tumblers in place. To assemble the lock cylinder in the switch, hold the switch and circuit in a vertical position to assist registering the tongue of the lock assembly in the switch spiral worm mechanism. Replace the lock retaining screw.

DELCO ELECTROLOCK

The design of this ignition lock is shown in Fig. 8, being placed in the primary circuit between the coil and the distributor. The lock is installed on the instrument panel and an armored cable extends from it to the distributor. The end of this cable is permanently attached to the distributor by means of a self-locking stud. When in the locked position, the primary circuit is open and the distributor grounded. When lock cylinder is pushed in as far as possible, the ignition is shut off and the car is locked. Turning the key to the right permits the lock cylinder to spring out and close the ignition contacts.

In case of ignition trouble, it may be necessary to determine whether the Electrolock is the

cause. Disconnect the wires from the switch to the battery, coil, and gasoline gauge. Use jumper wire between the two terminals which connect to the coil and see that the breaker points are open. With a six-volt test lamp and insulated leads, place one wire on the distributor primary terminal, inside the distributor, and other lead on the battery terminal. With the switch locked, the lamp should not light. Remove the test lead from the battery terminal and place it on the lock case. With the switch locked, the lamp should light; with the switch unlocked, the lamp should not light. If the lamp does not light in the above test, there is a ground in the switch or the condenser may be grounded or shorted. If tests indicate trouble in switch, remove switch assembly from the dash and the lock cylinder from lock.

To remove Electrolock from distributor, remove latter with Electrolock attached. Next, remove the nut on the inside primary terminal. The breaker plate screws must be removed and advance weights positioned 90 degrees from the terminal and the breaker plate tipped down at the primary terminal. The lever must then be raised in order to remove the nut from the primary terminal post. Cable and terminal assembly may now be removed as a unit.

MITCHELL ELECTROLOCK

There are a number of different types of these locks, varying with the method of locking the cable in the distributor and the number of terminals on the switch. With Electrolock in locked position, the ignition circuit is open and the portion of the circuit between the lock and the distributor is grounded. The key is not required to lock the car and it should be removed after the operation of unlocking the car is completed. To break the ignition circuit and lock the car, the plunger should be pushed completely in. The grounding of the circuit takes place both through the locking case and through the attachment at the distributor. When testing, the wires should be disconnected from the lock case.

S.K.

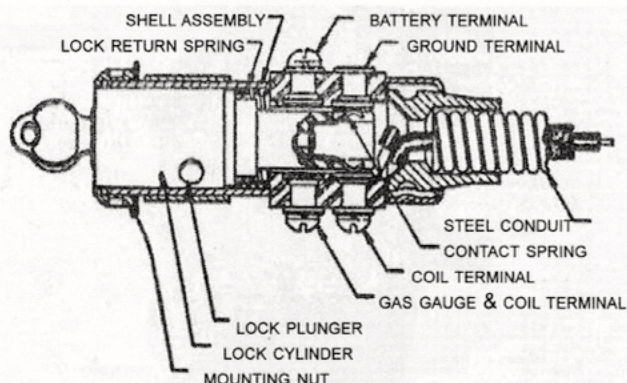


Fig 8 - Delco Electrolock shown in section