

Legends Car Kill switch installation procedure.

Written by Greg MacLean, March 27, 2014

Scotia Speedworld's kill switch rule states that a kill switch "must shut off the engine and fuel pump". Normally the ignition and fuel pump power are shut off via the ignition "On/OFF" switch located on the interior dash. However, in case of an emergency situation, "the track" wants to be able to shut all power down with a kill switch which "is to be mounted high on the left side rear deck of the interior tin" (See pic 1 indicating location). The roll cage beneath the sheet metal makes this a tight fit for the switch on some models of Legends cars (i.e. '37 Coupes). The Longacre kill switch shown in pic 2 measures just over 2 5/8" at its widest point. But remember that the hole size for the threaded retaining portion of the switch only has to be approximately 3/4" in size. If your kill switch will not fit on the tin horizontal surface Scotia Speedworld will permit owners of the smaller style coupes to mount them on the vertical surface of the tin, just behind your left shoulder. Ensure the ON/OFF positions are clearly indicated.

Master disconnect switches come in 2 main types. One type simply interrupts one of the battery's main heavy cables. I recommend installing it on the ground cable side to prevent running heavy current to and from the kill switch. Interrupting the ground cable does the same job without the chance of a short circuit. The second type has the same battery heavy cable connection terminals as the first type, but in addition it has two smaller terminals to disconnect power to the alternator field. The second type is the type required for Legends cars (See pic 2). The reason the second type is required is as follows. If you disconnect either the positive or negative battery cables from the battery while the engine is running, it will continue to run. This is actually a tech inspection procedure to ensure your alternator is operational. We need to stop the alternator from charging to shut the engine down. To do this, the kill switch's small connections are used to interrupt the alternator field wire. Note: An ohmmeter was used on the Longacre switch pictured to confirm that the small terminals and the large terminals were separate (non-connected) circuits inside of the switch. If you use a different switch confirm this.

To start your kill switch installation, disconnect both battery cables at the battery. Next, locate the alternator field wire on the front side of the firewall area (see pic 3). The wire is tagged "ALT Brown" from the factory (although the actual wire from the alternator on 1250 sealed motors is blue, and turns to brown on the firewall side of the connector). I recommend that you leave the factory connector in place. Follow the wire back towards the alternator and when you are approx. half way between the alternator and the factory connection cut the field wire (blue wire on 1250s, brown wire on 1200s). Now connect a new wire (of the same size) to the end of the cut wire that comes out of the firewall connection. Carefully run this wire back through the firewall, along the square bar found inside the passenger side door, across the area behind the seat (outside of the sheet metal) to one of the kill switch small terminals. Connect another new wire to the other small terminal on the kill switch and run it ahead (beside the first wire) to the alternator wire that you previously cut. Make a connection there. Tie the two wires up carefully so they don't rub or chafe through resulting in a short. Use a grommet where you go through the firewall. Basically what you did was cut the alternator field wire and installed the kill switch small terminals "in the cut". It just took two long wires to get you back to the kill switch location.

To connect the battery ground cable to the kill switch heavy connection terminals first insure the Kill switch is in the "off" position. Next run one heavy cable from the battery negative terminal up to the

switch and bring another heavy cable back down to the ground connection on the right hand battery hold down stud. Now connect the positive cable to the battery. That should be it. To check that for proper operation, turn the kill switch to the "On" position, make sure your transmission is in neutral, and start your engine in the usual manner. Test the kill switch by turning it to the "Off" position with the engine at idle to ensure the engine and the fuel pump stop running. Before you pat yourself on the back for a job well done, ensure you turn the dash ignition switch off. It's a good habit to shut your kill switch off when you're not racing to prevent battery drain (i.e. from the transponder).



Pic 1 - Proposed Kill Switch location.



Pic 2 - Typical Kill switch with heavy terminals for battery cables and smaller terminals for alternator field disconnect.

Pic 3 Alternator field wire location - factory label "ALT Brown".



Note wire is brown on the upper side of the connector, and blue on the lower side of the connector. On older motors (i.e.1200s) the blue wire will be a brownish red color. It will be smaller than the larger red charging wire from the alternator. DO NOT CUT THE LARGER RED WIRE FROM THE ALTERNATOR!



The black cable on the right hand side is the ground cable. Install your kill switch heavy terminals in the ground cable circuit (i.e. from the negative battery post to the kill switch, back to the ground stud).