Picture this: Two gorgeous big-block Chevelles parked side by side, both packing identical firepower. One’s got the standard SS hood, the other’s equipped with a cowl induction setup.

What’s the big difference you ask? Five, 10, maybe 15 more horses? Nope. Actually the cowl induction system adds zero horsepower to your Chevelle. What’s the point then? How about a super-cool flap that opens up under full throttle acceleration announcing to the world that this car’s not to be messed with! Well if you think that’s cool, you’ll love how easy it is to install one of these systems on your ‘70 through ‘72 Chevelle or El Camino.

Whether your car was originally cowl induction equipped or not, in this project we’ll show you how to install the complete system. So follow along with us. In a few hours, you’ll be flashing warning signs to all the other muscle on the street.

What you’ll need: hood, cowl induction door assembly, hood screen, air cleaner spacer, cowl induction air cleaner assembly, A/C intake relay, A/C wingnut, vacuum actuator, vacuum actuator support, cowl induction wiring harness, firewall grommet, valve frame kit, air control switch and bracket, flow control valve, hood pins (if desired).

These parts are included in Eckler’s Chevelle’s 1970-1972 Cowl Induction System, part #606556.

Tip: Whether you’re using your existing cowl hood or a brand new one, you should remove the hood from the car and place it upside down on a firm level surface, at least a foot off the ground. You can install the system with the hood still attached, but it’s much easier when removed.

For a technical diagram of how the cowl induction system fits, please visit: http://www.ecklerschevelle.com/diagram/view/index/id/4/

Performance gains: Nothing measurable in terms of acceleration, but you’ll gain the legendary look and action of a cowl induction system!
First, a few words of advice and precautions:

• A cowl induction system can be installed on any '70-'72 Chevelle that is equipped with a four-barrel carburetor. This includes the following engines: 350, 396 and 454.

• You’ll want to prime and paint your hood before installing the cowl system. Be sure to paint the cowl door and screen body color.

• Be very careful working around the underside of the hood. It is stamped sheetmetal, and all the edges are very sharp!

• When reinstalling the hood, make sure you line it up correctly on its hinges. This is done by lightly tightening the bolts, then gently shutting the hood to check for fit. Once you’re satisfied, tighten all 4 bolts with a socket wrench.

In our first step, we’ve inserted the valve frame cage flap into the valve frame cage using the 3 supplied retaining clips. We’ve also inserted the electric solenoid into its pre-attached retaining bracket.

With the cowl induction hood (part #605679) placed upside down on a firm surface and raised off the ground, insert the assembled valve frame setup into the hood opening. Secure with 6 self-tapping screws using a 5/16” socket wrench.

Next, we insert the firewall grommet into the pre-stamped hole in the hood, and feed the tan colored wire from the wiring harness through the grommet. Then, attach the tan colored wire terminal to the solenoid. You will access the solenoid through the large air cleaner hole in the center of the hood.

Now we will assemble the hood door. Attach the 2 door supports (one at each side of the hood door) using the supplied bushings and pivot screws. Don’t get confused here! Even with the screws fully tightened, the door supports will feel loose and not really firmly connected to the hood door. This is normal, as the hood door must be allowed to open and close freely.

Now that the hood door is assembled, we’re going to install it into the hood. Lay the hood door into the pre-stamped hole in the hood, and attach it by screwing 4 (2 each side) 3/8” self-tapping bolts through the hood door supports. NOTE: due to irregularities in metal stampings, you will need to shim the door supports (using washers) in order to properly align the hood door. Look under the hood (actually, on top of the hood) and make sure that you shim the door so that it sits flush with the hood surface!

Before you finally tighten down those door supports, make sure the hood door is able to open and shut freely. There should be at least 1/16” of clearance between the door and the actual hood. Don’t forget to take into consideration the thickness of new paint.

Next, insert the vacuum actuator into the vacuum actuator support and fasten to the hood using 4 1¼” self-tapping bolts. Then, attach the vacuum actuator “throw” to the cowl hood door using the supplied screw.

Now that we’ve got all the hood hardware in place, we’re going to attach the cowl hood screen to the rear of the hood opening using 8 self-tapping screws. This will keep out those pesky leaves and unusually large bugs!
Don’t freak- Because there’s no vacuum in the system yet, the door will remain in its open position.

You may be wondering why your ’70–’72 A-body has three big gaping holes in the cowl grille area (just below the windshield). Well, they’re for airflow, but for some strange reason the factory left them open and unprotected. To keep out leaves and other extraneous junk, you may want to invest in a set of cowl grille inserts. They simply snap into place.

The entire hood should be reattached to the car at this point. Have a friend help, and take your time to make sure both sides of the hood align properly with the fenders.

Now we’re going to get the whole system activated. If wire routing and switch installation intimidate you, you’re in for a treat here. This is a pretty simple set-up. Just follow along.

Attach the air cleaner intake valve relay assembly to the firewall using a #10 self-tapping screw. This unit sends a “hot” signal from the wiring harness to the cowl induction solenoid.

There’s a black colored “plug” located in the firewall just behind the engine’s valve cover. Pop it open and insert the pink and brown colored leads from the wiring harness, as well as the braided section of wire. The pink and brown leads will feed down and attach to the air control valve solenoid switch which we will install at the gas pedal. The braided section of the wiring harness will also feed down and attach to the car’s existing wiring harness. At the gas pedal, you will need to remove the existing retaining plate.

Attach the air control valve solenoid switch to its bracket using the supplied screw. Now fit the bracket to the existing holes where you removed the retaining plate before. The protruding post on the side of the solenoid switch will press against the gas pedal linkage upon full throttle acceleration, actuating the vacuum and opening the cowl hood door.

Back in the engine compartment, plug the 2 remaining short wires into the air cleaner intake valve relay assembly (again, the fitting shape will be obvious). Now route the tan colored wire (that attaches to the electric solenoid we installed at the beginning of this project) through the wiring sheath on the firewall to protect it.

You’ll need to place the cowl induction spacer assembly on top of the carburetor. This ring simply sits atop of the carb, and allows the air cleaner to sit up a little higher, into the cowl hood.

Attach the cowl induction air cleaner flange and seal kit.

Now you’ll have to fit a 1/4” rubber hose to the vacuum actuator. Then route the hose to fit the other end to the vacuum port located on the intake manifold just behind the carburetor. The vacuum port is standard on all Chevelles, as it is used for other vacuum operated accessories.

Fire it up and grab a few shifts. Watching that cowl door open under full throttle makes it all worthwhile!