

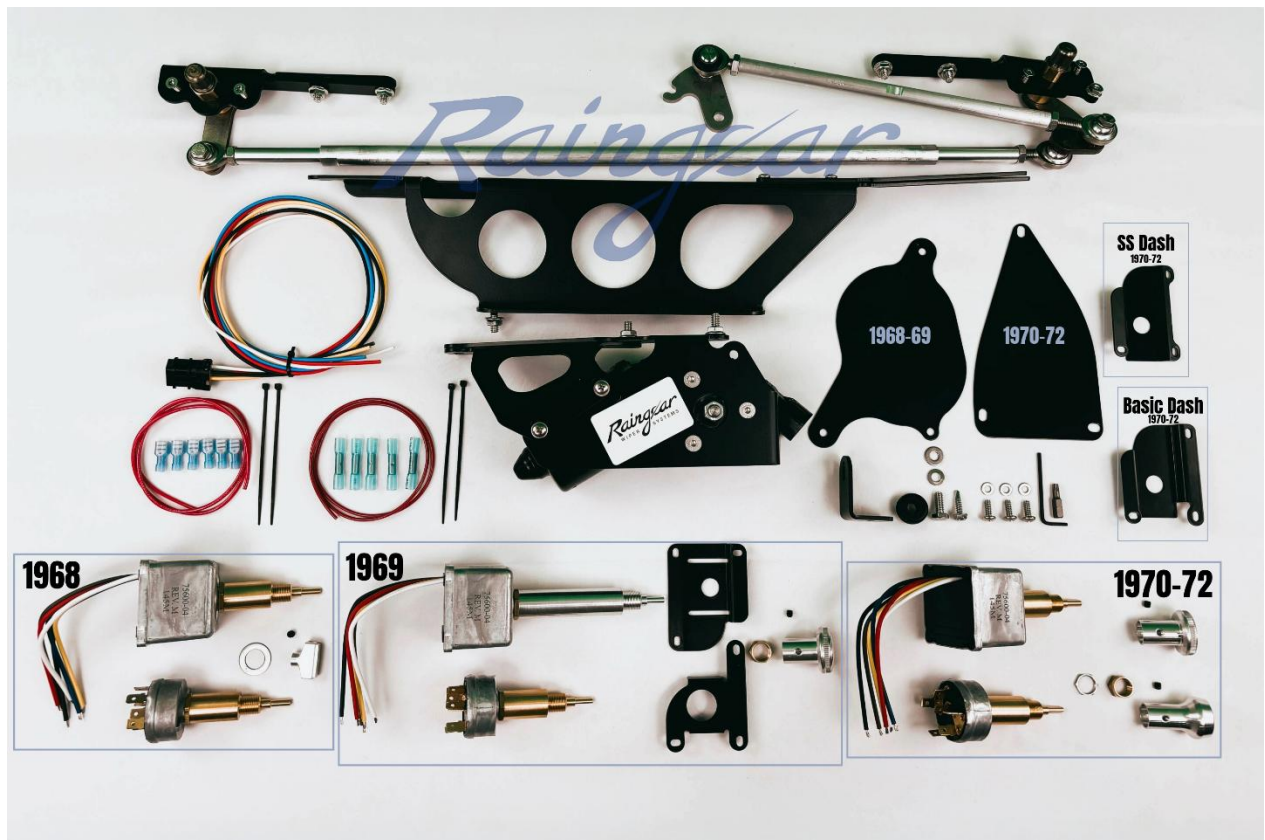
COMMITTED TO THE BUILD

Raingear

HIDDEN WIPER SYSTEM
ASSEMBLED IN ARIZONA USA

FOR YOUR CLASSIC CAR
RAINGEARWIPERS.COM

Installation Instructions 1968-72 Chevelle Raingear Wiper System



The Raingear Wiper System is designed for ease of installation as well as reliability.

But this cowl has such limited space it's still difficult.

Please note This wiper system will "hide" the wiper motor in the Airbox.

It doesn't have the feature that parks the wiper arm/blade out of sight.

The arms/blades will rest at the bottom of your windshield, above the trim.

You will need to use 2 passenger side arms and blades if you had an original hidden system, and you might have to bend them a little to make them rest correctly on the glass.

Please review these instructions before beginning installation.

This machine is designed with precision in mind.

We do "tweak" our designs from time to time, so there may be parts that have slight variations from the photos.

If you think you need to alter it to accommodate your installation, please email us first.

Sales@RaingearWipers.com

Installation notes:

1. You will be working in the area of the car with the greatest concentration of electrical wires. Please disconnect your battery.
2. When you remove the OEM wiper system and Wiper Switch from your car be aware that none of the original wires will work with the Raingear system. You may use the 12v+ lead from the Fuse Panel but the rest of the wires need to go.
3. We will continuously call the space inside of the Cowl the "Airbox".
4. The space inside the Airbox is very tight. Removing your hood before getting started is very helpful.
5. Practice.... We also suggest assembling this system on a bench to familiarize yourself with the individual parts before starting.
6. The main pictures show some washers. We no longer use washers in most locations. We are using locking flange nuts everywhere except for the motor brace. It gets 1 lock washer, 1 flat

washer and a ¼ 20 x 5/8 bolt 7. All fasteners are shipped in place. Please remove and re-use them

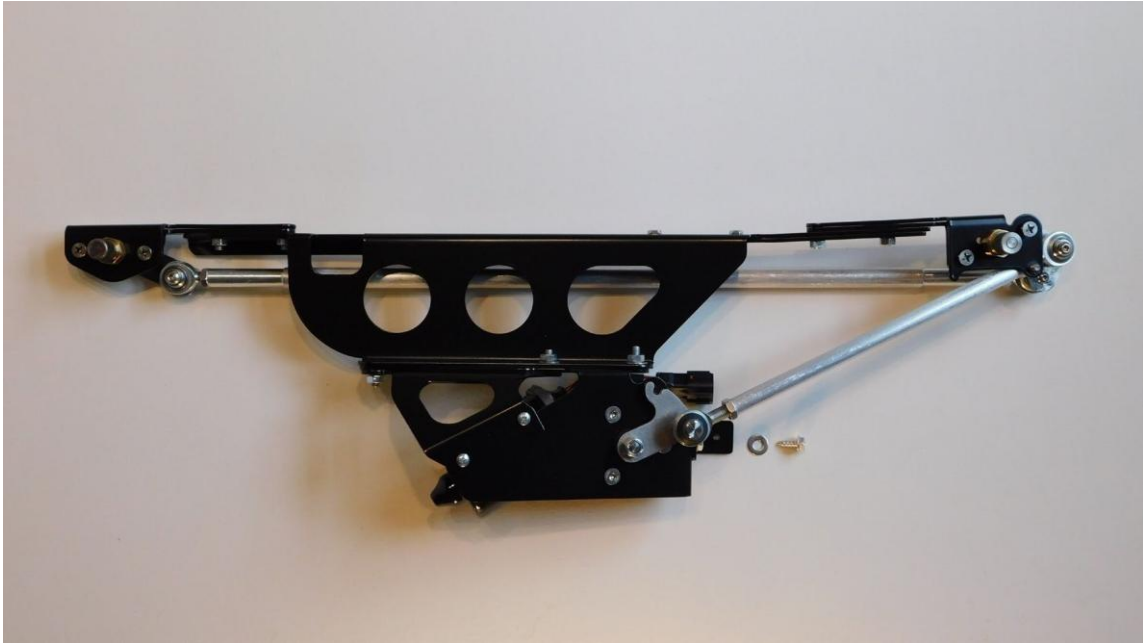


Fig 1: Above - Assembled

Preambly

1. NOTE: We have already installed the stiffener for you.
Bridge Tip Stiffener (Nomenclature part F) to the Bridge.
(See Fig 2 Bridge Stiffener & 3 Bridge Stiffener)
We Used two S/S 10-24 Panhead Screws and two S/S 10-24 Nylock Nuts to secure the two pieces.



Fig 2: Bridge Stiffener



Fig 3: Bridge Stiffener

Drill the Airbox Floor for the Wire Harness Grommet

Refer to Fig 4 Grommet. When drilling this hole, you want to hold the drill perpendicular to the floor of the Airbox.



Fig 4 Grommet

When drilling this hole, hold your drill body against the inboard, aft corner of the large opening forward of the windshield.

Lay down some masking tape to protect your paint. Use a small drill bit to start a pilot hole through the sheet metal. (See Fig 5 Grommet)



Fig 5 Grommet

Follow this with a step drill bit and open this hole to 5/8" dia. (See photo 6 Grommet) If you don't have a step drill bit, go buy one. You'll be happy you did.



Fig 6 Grommet Install

the Rubber Grommet supplied in the kit.

Run the wires of the Wire Harness into the inside of the car.

Leave 10" of the Wire Harness inside the Airbox. (See Photo 7 Grommet)

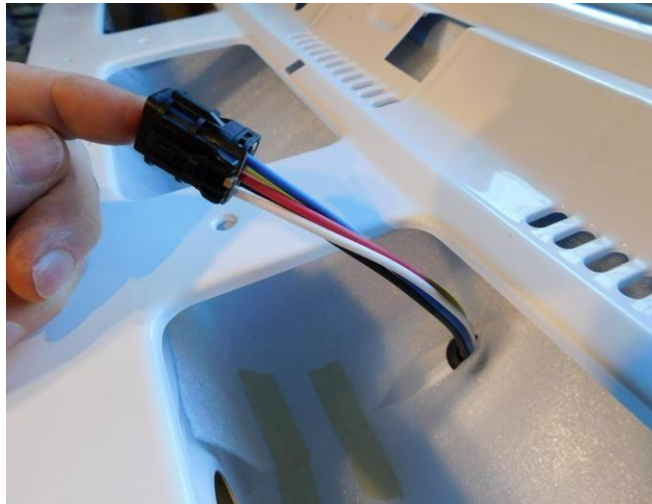


Fig 7 Grommet

You can always push the extra wire back in the hole after the connection has been made.

Place Links and Pivot Shaft Assembly into the Airbox:

If you have not removed your hood, you will want to think about it now.

From the driver side, insert the Links and Pivot Shafts Assembly (Nomenclature A) into the Airbox

Once inside you want to have the stainless-steel Knurled Heads on the Brass Pivot Shaft pointed towards the rear of the car. (See Fig 8 Pivot Shafts)



Fig 8 Pivot Shafts

Please start on the Passenger Side. (Space on the Passenger Side is very tight so be patient).

Orient the parts as shown in Fig 9 Pass Side.



Fig 9 Pass Side

Rotate the Knurled Head upward and forward into the pivot shaft hole until it rests flush against the cowl.

Use one or both of the 10-24 countersink screws (we are using torx not Phillips) to keep the Pivot Shaft Head in place.

Leave these screws loose.

Leave the links laying loose like Fig 10 Driver Side shows to install the bridge.



Fig 10 Driver Side

This is way easier on the Driver Side.

Orient the parts as shown in Fig 10 Driver Side.

Rotate the Knurled Head upward and into the position in the cowl.

Place two 10-24 countersink screws (we are using torx screws not Phillips head) and a 10-24 Flange Nut on the stud. (See Fig 11 Pivot Shafts) Leave these fasteners a bit loose also.



Fig 11 Pivot Shafts

Bridge Installation

This is the hard part. Really, really hard. Be patientto make things easier we have placed letters beside the 4 holes in the Bridge to show the best sequence of installing the fasteners. (See Fig 12 Fastener Sequence)

But we really don't care how you do it, it just needs to be done. The faster on the Passenger Side is practically a blind fastener. Someone with real small hands is very helpful with this part of the install. DON'T overtighten these studs. You don't want to break them off.

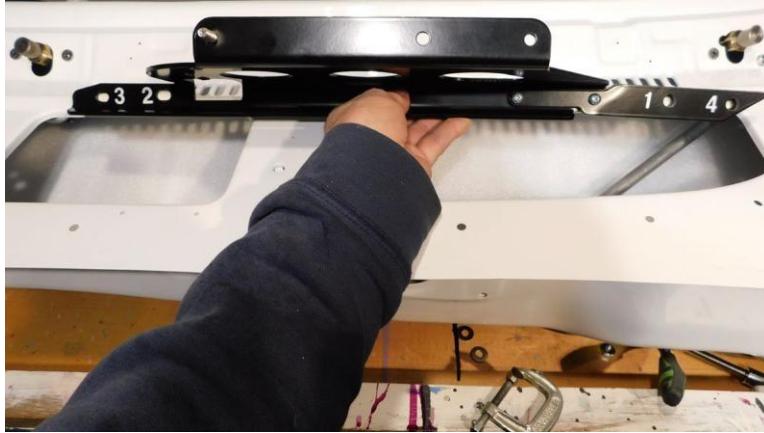


Fig 12 Fastener Sequence

On the Driver Side, insert the Bridge (Nomenclature E) into the Airbox. (See Fig 13 Bridge)



Fig 13 Bridge

Here you need to get the backside flanges of the Bridge past the aluminum Cross Link.

Slide the Bridge to the Driver Side of the car until you see the tip of the Bridge appear through the square hole in the middle of the Cowl just below the glass. (See Fig 14 Bridge)

At this point the Bridge should slide past the aluminum Cross Link.



Fig 14 Bridge

Before adding the four 1/4" flange nuts that hold the Bridge in place, load a 1/4" drive, 7/16" socket with a 1/4-20 flange nut. (See Figs 15 Bridge and 16 Bridge)

You will also need a 3" Socket Extension. The photos don't show flange nuts, but the flange nuts are correct.



Fig 15 Bridge



Fig 16 Bridge

Locate the 1/4-20 studs on the Driver Side Pivot Shaft Head (Nomenclature B).

Lift the Bridge onto the studs.

Follow this by using the Bridge itself to find the same studs on the Pass Side.

At Stud Position 1 on the Driver Side use the 7/16" socket and 3" extension setup to thread on a 1/4" flange nut.

Once in place, leave the nut very loose.

Go to the Passenger Side and thread on a 1/4" flange nut on the stud at Position 2.

Tighten this nut.

Follow this at Position 3.

Tighten this nut also. (We apologize for how difficult this one is) Go back to the Driver Side and apply nut at Position 4.

Now tighten Positions 1 and 4. (See Fig 17 Bridge and 18 Bridge)



Fig 17 Bridge



Fig 18 Bridge

On the outside of the Cowl, tighten the Pivot Shaft Head fasteners

Installing the Wiper Motor

Place the Motor (Nomenclature G) into the Airbox with the open 1/4- 20 studs pointed up.

Reach in and connect the Wire Harness plug into the Motor Socket. (See Fig 19 Motor)

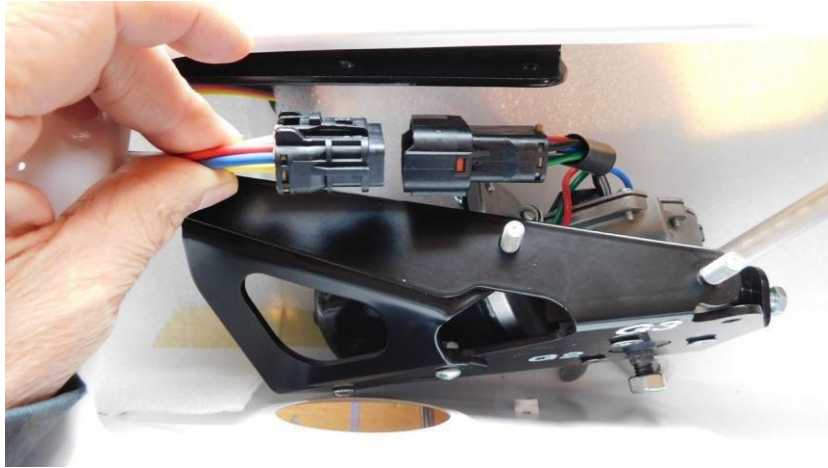


Fig 19 Motor

Place the Motor onto the Bridge and add a 1/4-20 flange Nuts on each stud.

Leave these fasteners loose as you tuck the Wire Harness next to the body of the Wiper Motor.
(See Fig Motor 20 and Motor 21)



Fig 20 Motor

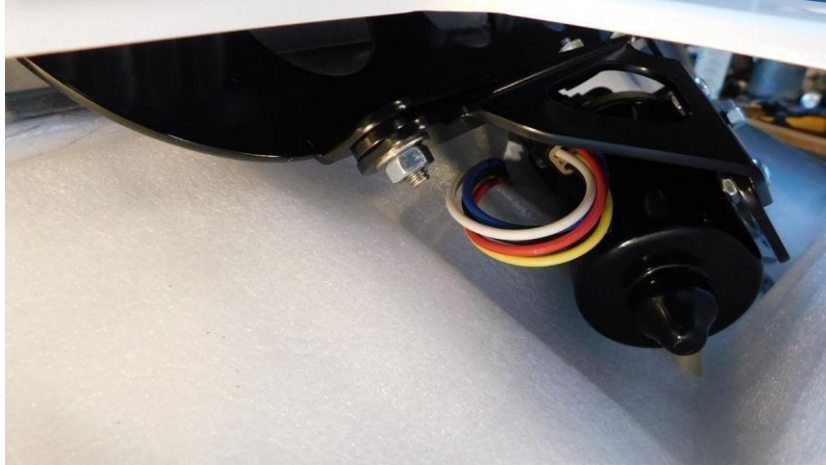


Fig 21 Motor

Tighten the 3 nuts.

The Motor Brace

The Motor Brace (Nomenclature H) attaches at the right side of the Motor Bracket. The slot goes against the motor.

Use a 1/4-20 x 1" S/S hex bolt/lock wash and flat washer to apply the Motor Brace to the side of the Motor Bracket.

The fastener is shipped in place.

Remove and reuse.

Hold the flange tight against the floor of the Airbox as you tighten this bolt. (See Fig 22 Motor Brace)



Fig 22 Motor Brace

Use a transfer punch to mark the hole center.

Otherwise just run a 9/64th drill through the sheet metal. (See Fig 23 Motor Brace)

If you are installing a 1970- 72 Chevelle you will be drilling through two layers of sheet metal.

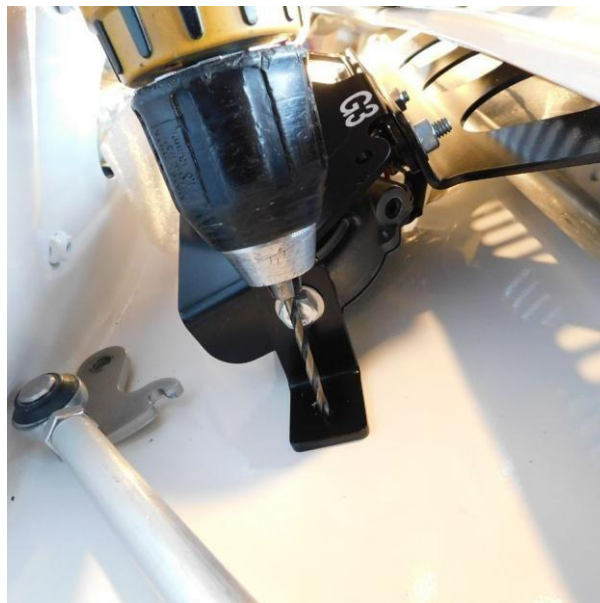


Fig 23 Motor Brace

Secure the Motor Brace with the hex head Sheet Metal Screw and 3/16 lock Washer.

DON'T over tighten the screw; they strip very easily.

The screw and lock washer come in the bag with the Motor Brace.

The photo shows a flat washer. We don't use those. You can apply some type of sealer under the brace to prevent water creeping in the car if you wish.



Fig 24 Motor Brace

Attach the Drive Arm (Nomenclature D) to the Drive Shaft of the Wiper Motor

Referring to the Nomenclature Photo at the beginning, the Drive Arm has additional callouts.

Callout D1 is the open tapered hole.

Callout D2 is the Hex Nut that holds the Drive Arm to the Drive Shaft.

Callout D3 is a slot on the Drive Arm used to locate the correct "Park Position" for the Wiper System

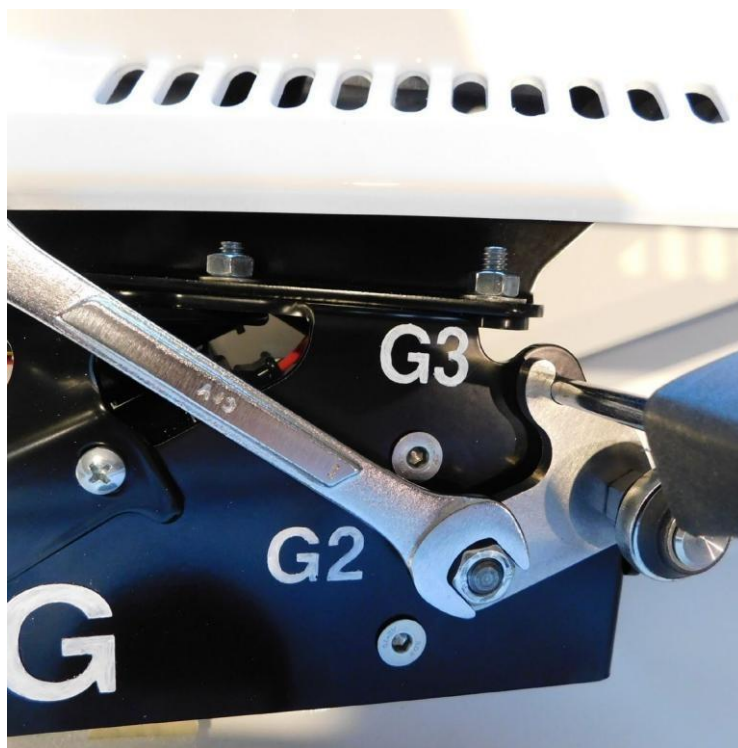
Place the open, tapered hole (D1) in the Drive Arm onto the Wiper Motor's Drive Shaft.

Thread on the Hex Nut (D2).

Rotate the Drive Arm Around until the Slot (D3) on the Drive Arm sits directly over the Park Position hole (G3) on the Motor Bracket.

Use something that is 1/4" in dia. (We use a Phillips Screwdriver), and insert it through Drive Arm Slot D3, into the Park Position Hole (G3) on the Motor Bracket.

Hold this while you tighten the Nut.



Cover Plate; Finish up the outside

The last thing to do on the outside is to plug the hole in the Firewall.

We provide two styles of Cover Plates: One for the 1968-69 Firewall and a completely different Cover Plate for the 1970-72 Firewall. (See Fig 26 Cover Plates)

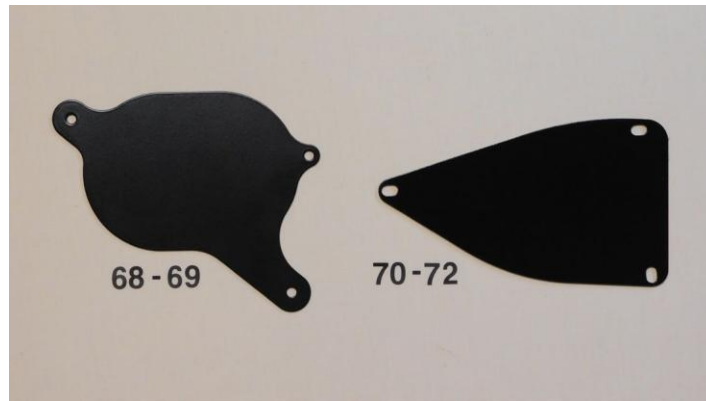


Fig 26 Cover Plates

We supply three stainless 10-24 Phillips Head Screws and three stainless flat washers to secure your Cover Plate. (See Fig 27 The Hole and 28 Cover Plate)



Fig 27 The Hole



Fig 28 Cover Plate

1968 Chevelle Switch Installation

Refer to the 1968 Chevelle Nomenclature photo. It shows the correct orientation of the switch installation.

Part F is not supplied; please use your original (we can't find a source for these currently).

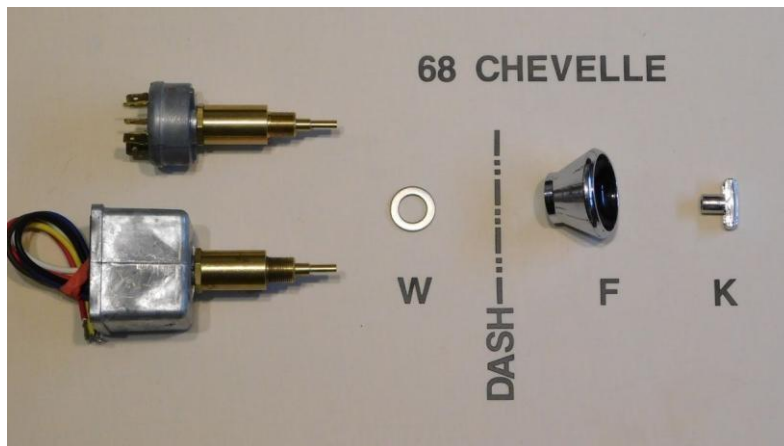


Fig 29: 68 Switch Nomenclature

Because the OEM 1968 Chevelle used a rotary Wiper Switch, it is very simple to install the Raingear Wiper Switch.

Make sure the Raingear Wiper switch is in the "off" position.

When installing the Raingear Wiper Switch be sure to place a 1/2" AN flat washer on the Brass Switch Extension before inserting the assembly into the back side of the Dash Panel.



Fif 30: 68 Switch

On the outside of the Dash Panel thread the Finishing Nut onto the Brass Switch Extension.
Tighten.

Apply the Switch Knob to the Switch Spindle. Tighten the Set Screw



Fig 31: 68 Switch

Switch Installation 1969 Chevelle

Refer to the 1969 Chevelle Nomenclature photo. It shows the correct orientation of the switch installation.

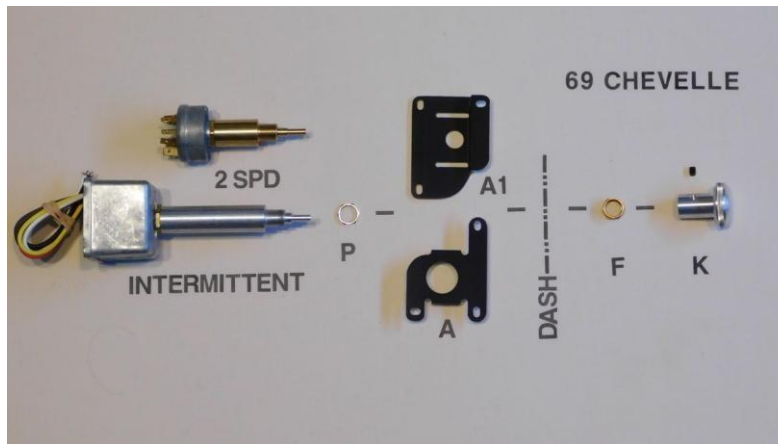


Fig 32: 69 Switch Nomenclature

The 1969 Chevelle came from the factory with a "Slider" Wiper Switch. The Raingear Wiper Switch is a "Rotary" Switch.

The Raingear Intermittent Switch has a long, aluminum Switch Extension Assembly.

The Raingear 2 Speed Switch uses a shorter, brass Switch Extension.

Make sure the Wiper switch is in the "off" position.

First you must remove the OEM, Slider Switch.

Next, you need to use the same screws to install the Rotary Switch Adapter plates. (See Fig 33: The photo shows a machined aluminum part, but the furnished part is powdered coated steel)



Fig 33: Dash 3

The 1969 plastic dash panel used a thin steel strap to ground the OEM Slider Switch and Headlight Switch. (See Fig 34 Dash 1)



Fig 34: Dash 1

Thread the Panel Nut all the way down the threads of the Switch Extension.

On the back side, insert the Switch Extension through the Rotary Adapter Plate.

Be aware that the Switch Spindle has a flat milled onto it.

To hide the Wiper Knob set screw, rotate the Switch to place this flat as close to the 6 o'clock position as it will allow.

The Intermittent Switch only gives you 4 options. (See Fig 35 Dash 13)

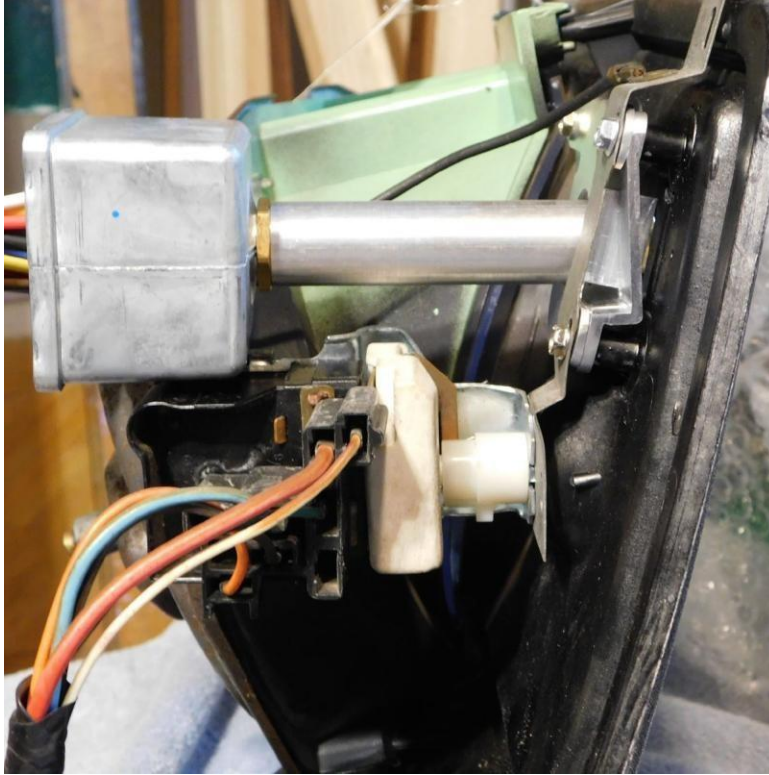


Fig 35: Dash 13

On the front side of the Dash Panel thread the brass Finishing Nut onto the Switch Extension.

Use a 9/16 deep socket to tighten the Finishing Nut. (See Fig 36 Install 2)

Place the 1969 Wiper Switch Knob onto the switch spindle. Tighten the set screw.



Fig 36: Install 2

Switch Installation 1970, 1971 and 1972 Chevelle

The 1970 to 1972 Chevelles came with two different instrument panels: One for the "SS" Model, and one for the "Basic Models"



Fig 37: 1970-72 SS Dash



Fig 38: 1970-72 Basic Model Dash

To further complicate matters, all 1970 Chevelles continued to use the 1969 headlight Knob. Then in 1971 and 1972 all Chevelles got a new, radically different headlight knob.



Fig 39



Fig 40

The following "Wiper Switch Nomenclature" photos here look identical.

The difference between them is the black rectangular piece labeled "A".

This is the Rotary Switch Adapter Plate.

There is one plate designed for the "SS" model and a different design for the "Base models"

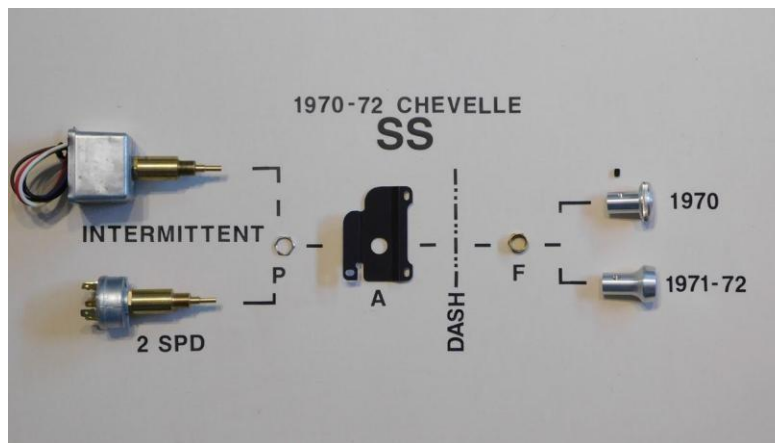


Fig 41

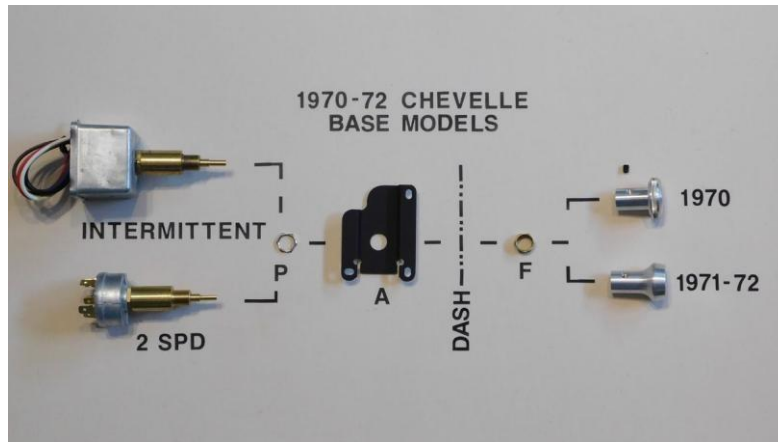


Fig 42

70-72 Switch Installation

Make sure the switch is rotated CCW into the "off" position.

You will want to have wired your switch before installing it in the dash panel. See the wiring instruction illustration.

Remove the OEM, Slider style wiper Switch. In its place, use the same screws to install the black rotary switch adapter plate supplied in this kit. (see Fig 42: 70- 72 SS Switch Nomenclature on the previous page)

Because GM molded these dash panels out of plastic, they had to use metal straps to provide an electrical ground to switches.

Because the Raingear 2 Speed Rotary Switch doesn't need to be grounded and the Intermittent Switch has its own ground wire, what you do with this strap is your choice.

Just beware that the Headlight Switch still needs a ground. (See Fig 43 70-72 Base Pic 2 and Fig 44 70-72 Base Pic 3)



Fig 43: 70-72 Base Pic 2



Fig 44: 70-72 Base Pic 3

Run the Panel Nut (Nomenclature Photo item P) all the way down the threads on the brass Switch Extension.

Reach under the dash and insert the Switch Extension through the hole in the Adapter Plate.

Note: the aluminum Wiper Knob supplied in this kit is held in place with a set screw.

You will notice that the brass spindle on the Wiper Switch Extension has a flat milled on it.

When inserting the switch spindle into the Adapter Plate, turn the entire switch body until the flat on the switch spindle is closest to the 6 o'clock position.

Once you are satisfied with the switch spindle, thread the brass finishing nut (Nomenclature Photo item F) onto the Switch Extension and tighten it with a 9/16 socket.

Install the aluminum Switch Knob. Tighten the set screw. (See Fig 45 70-72 Base Pic 4 and Fig 46 71-72 Knob SS Pic 6)



Fig 45 70-72 Base Pic 4



Fig 46 71-72 Knob SS Pic 6

Thank you for choosing Raingear Wiper systems, we look forward to working with you on your next project

