

How to Install Buckets and Console

by George Nenadovich

Car Courtesy of Dennis Wheeler

In order to change a car from a bench seat to buckets and console a few items are needed before starting the project.

Items Needed:

1. Bucket seats correct for year, 68-9 are the same while 70-2 are the same.

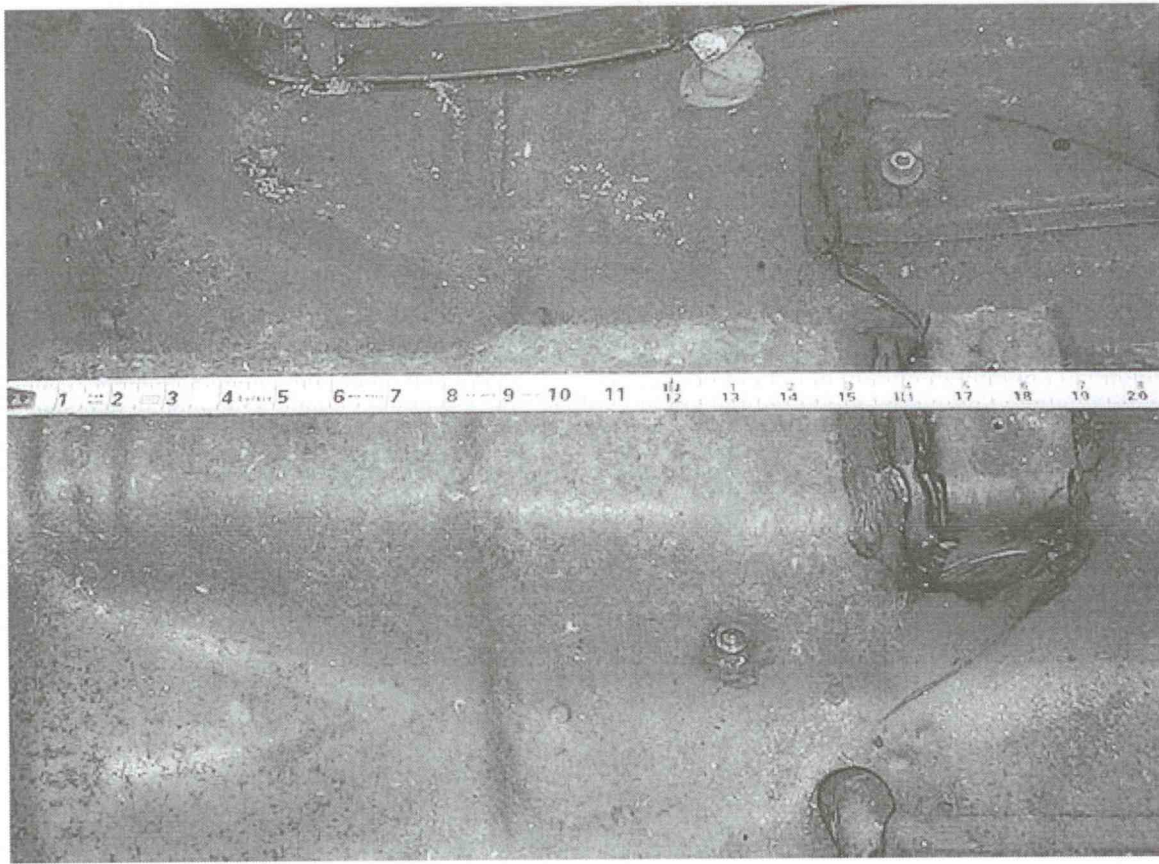
All GM A-bodies share the same bucket seats for the same years. Included in A-body designation are 68-72 Chevelle, LeMans, Skylark, Cutlass and 70-2 Monte Carlo and Grand Prix.

2. Console, 68-9 console are the same, 70-2 consoles are the same. 1973-77 Regal/Century consoles can be used but will need to be modified as stated in an article on the site. The shifter and cable from the 73-77 Regal/Century will not work but you can use the trans cable bracket and selector bracket.

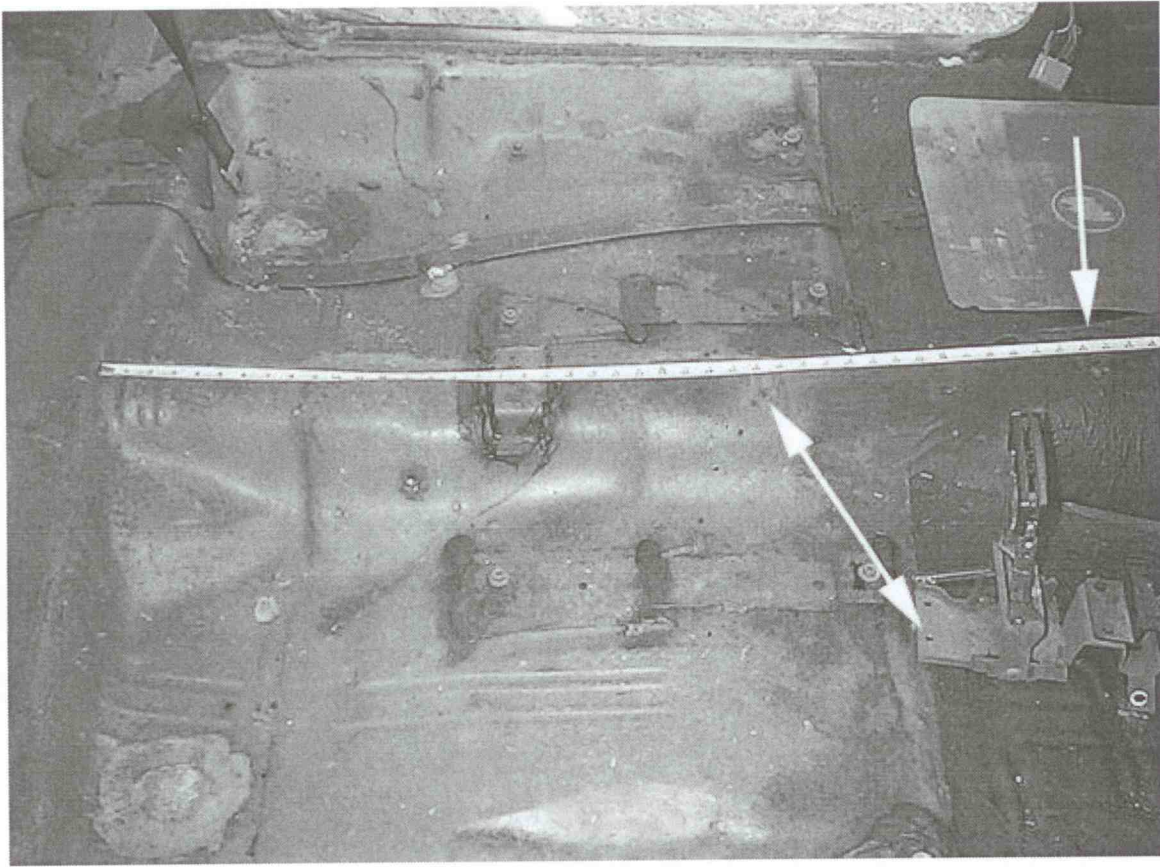
3. Shifter assembly which includes: shifter w/handle, cable, cable bracket that mounts to the trans pan (TH350 and TH400 brackets are different). Trans selector bracket which attaches direct to trans gear selector input shaft.

4. Steering column, either tilt or non-tilt.

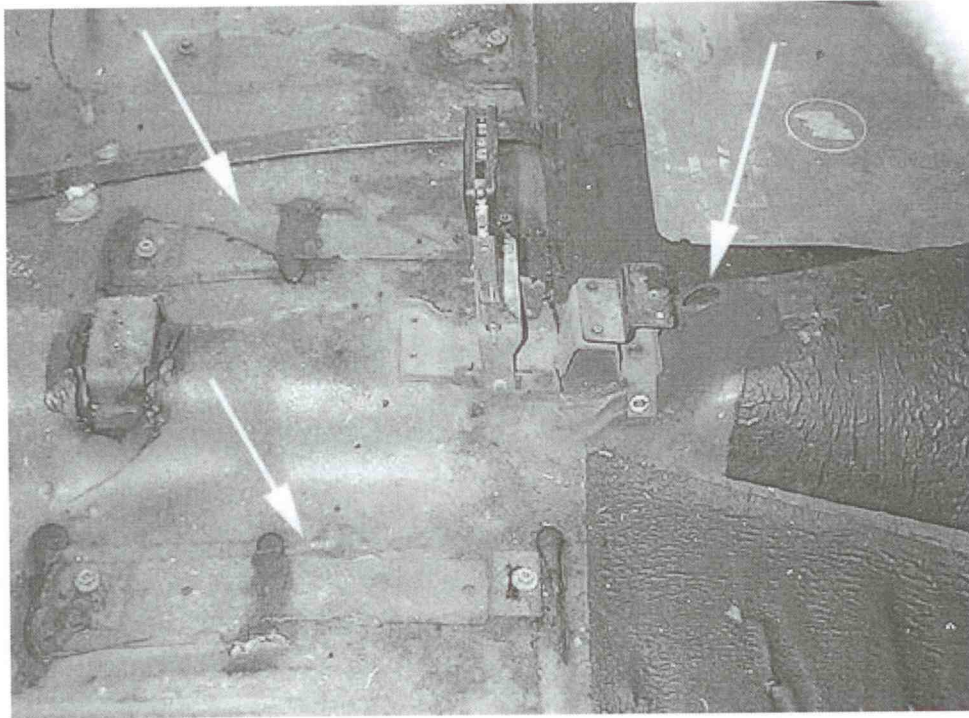
5. Bucket seat brackets. If installing a power driver's seat, floor bracket will be different than non-power seat. Brackets are available as repro units.



Here is the rear floor console bracket, it is welded to the floor and can be fabricated from simple sheet metal if need. Distance from the rear vertical portion (just in front of back seat bottom cushion) of driveshaft tunnel is 17.5 inches. This dimension is not critical but gives a close approximation where bracket should be located. Notice width of bracket to allow for some console movement from front to back.



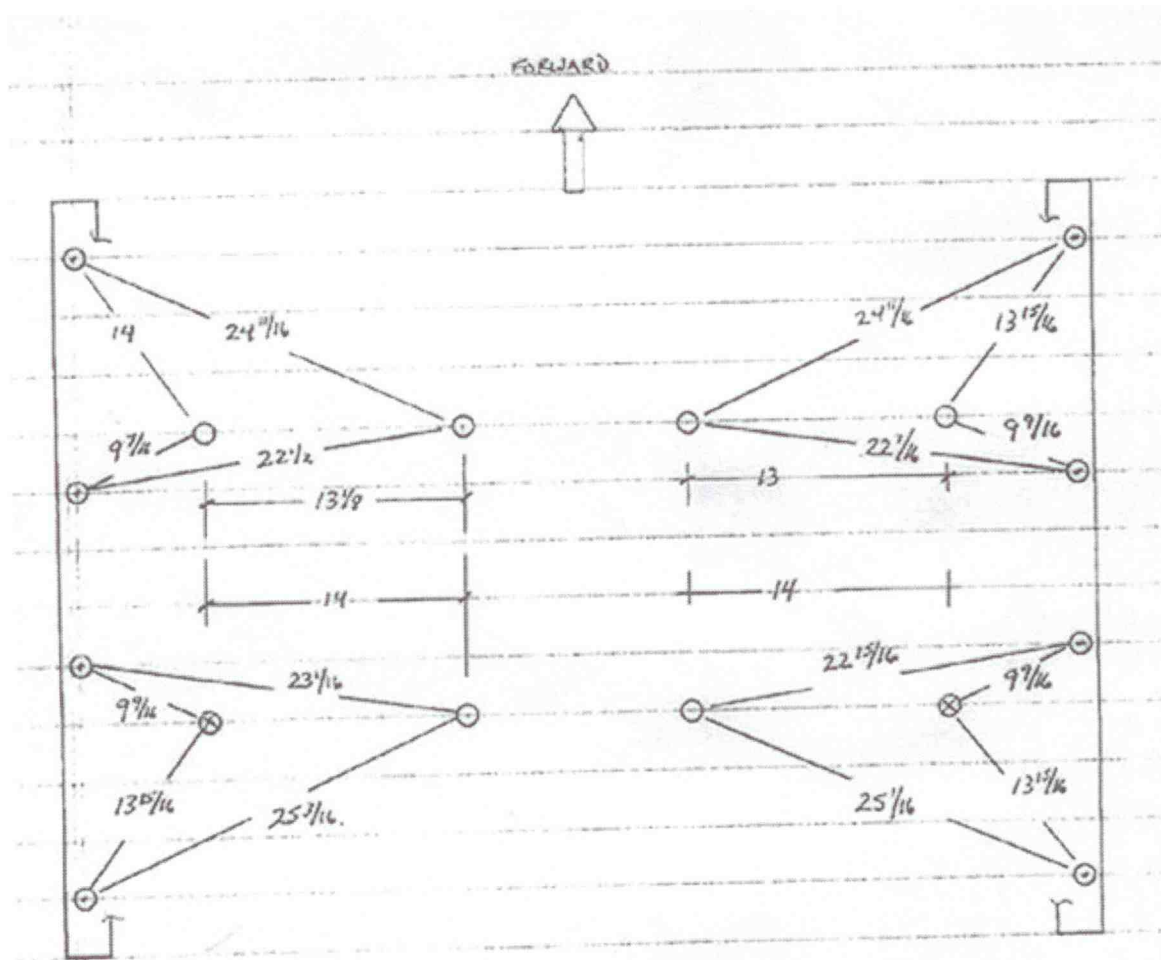
Another pic which shows the location of the shifter's rear screw holes and the front floor bracket. Distance to rear shifter holes is 28.5". Use sheet metal screws to mount shifter to floor. Distance to center of front bracket is 42" as measured from rear as stated above. Also, notice shifter handle is black for this car which is a 72 GS455. 1970 versions are woodgrain. 1968-9 are black. You can use the upper handle section (chrome part) from a 73-77 Regal/Century if needed.



Right arrow indicates the hole for shifter cable to pass through to transmission. Hole is pre-located on floor pan with a 1/8" diameter dimple. Use a door hole saw available from Home Depot to drill the hole, approx 1.5" diameter. Use low drill motor speed and some lubricating oil to keep the saw blade cool as you drill through the metal pan.

Left arrows indicate factory floor brackets for manual bucket seats. These are available as repros. These MUST be welded for proper anchorage. Do NOT use sheet metal screws to attach these to the floor pans.

Here is a diagram showing stud locations for manual bucket seats. If you have a power driver's seat. The rear studs will be closer to the firewall by approximately 3".



- 5/16" stud.
- ⊗ threaded hole +/- 5/16
- ⊙ sill plate screw.

Taken From '70 OLDS VIN # 344870Z129701

All dimensions are ϕ to ϕ .

N.T.S. MAY -04.

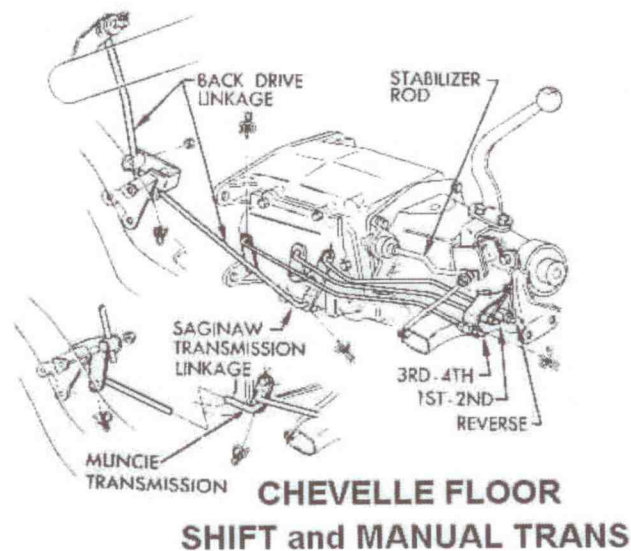
Total time to install all items including welding should take approx. 2 hours which

also includes changing steering columns and ignition key cylinders.

Floor Shift and Manual Transmission

The system that is used with a manual transmission and floor shifter is similar to the automatic transmission system. It was decided that the manual transmission must be shifted into REVERSE before the ignition key could be rotated to the OFF LOCK. This required a rod or a cable to be attached between the reverse gear lever on the transmission and the lower steering column lever. The movement of that transmission lever to the REVERSE gear position also moved the column lever to the full UP position unblocking the ignition key.

Manual transmission vehicles do not require a neutral start switch since GM incorporates a clutch pedal/start switch that requires that the clutch pedal be depressed in order to start the car. Also another, separate switch is usually attached directly to the manual transmission to actuate the backup lights when the transmission is placed in REVERSE.



Disconnecting the Backdrive System

For various reasons, some people with console or floor shifters disconnect the rod or cable from the column lower lever. They then wire the lever permanently in the UP position. This defeats the interlock system and results in the following:

- 1). This allows the ignition key to be rotated to OFF LOCK at any time.
- 2). If the vehicle is a type of console shift automatic with the neutral start switch inside the car on the steering column, then the backup lights will not operate and the car can be started with the transmission in any gear.

Both of the above conditions can result in unsafe operation of your vehicle.

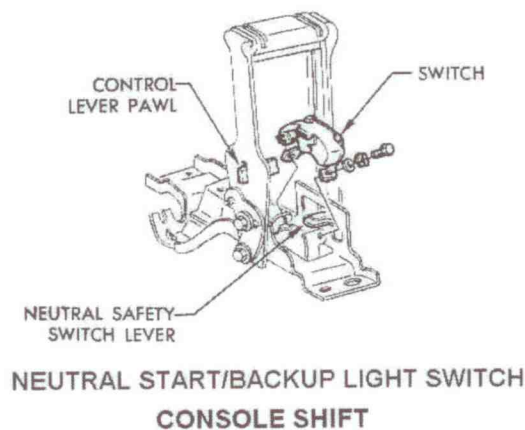
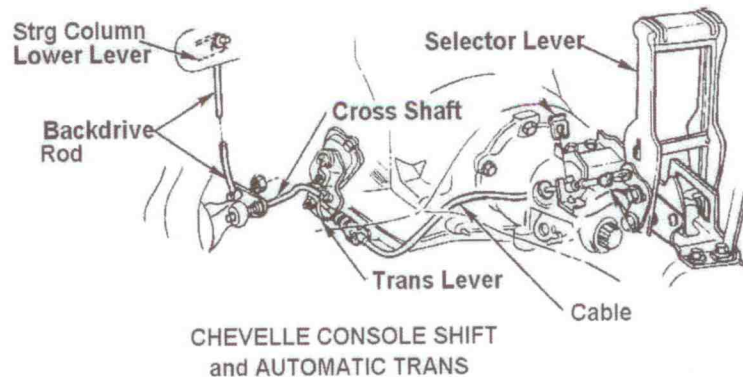
JIML82@aol.com

StrgColumnTransInterlockSystems.doc

Console Shift and Automatic Transmission

GM passenger cars with automatic transmissions and the shift lever on the console were also designed so that the operator had to place the shift lever in PARK in order to lock the steering column. With a console shift, the system works opposite from the steering column shift previously described. When the console shift is placed in PARK, this motion pushes on a cable or rod that is connected to a lever on the lower end of the steering column. This backdrive system moves the lever to the full "UP" position and thus opens the internal steering column gate.

Also please note that with a console shift automatic, there can be two possible mounting locations for the neutral start/backup light switch. The first and most straightforward location is for the switch to be mounted directly on the shifter mechanism in the console. Many GM vehicles have it mounted there. However, the switch can also be mounted directly on the steering column (the same as column shift modes). So when the shifter is moved, the lower lever on the column moves to various positions and the neutral start/backup light switch is positioned accordingly.

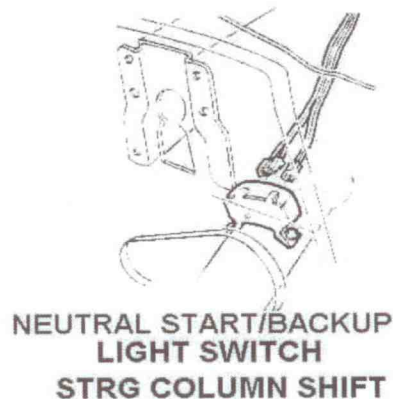
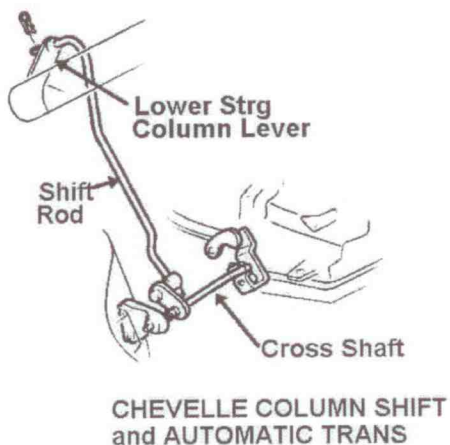


GM Steering Column to Transmission Interlock Systems

General Motors introduced the second generation, energy absorbing, function locking steering column in all of their passenger cars starting in the 1969 model year. One of the features of this system was the ability to lock the steering wheel and the transmission shift lever when the ignition key was rotated to OFF-LOCK. There was a great concern that a vehicle operator might inadvertently lock the steering system while the vehicle was moving forward on the road. To prevent this from happening, GM and Saginaw Steering Gear Division came up with a blocking system inside the steering column that interacted with the transmission control position. This system prevented the ignition key from being turned all the way to OFF LOCK unless the automatic transmission was placed in PARK or a manual transmission was shifted into REVERSE. The following are descriptions of the three systems that were developed to provide this interlock function.

Steering Column Shift and Automatic Transmission

GM passenger cars with automatic transmissions and the shift lever on the steering column require that the operator place the shift lever into PARK in order to be able to lock the steering column. Moving the shift lever into PARK opens a gate inside the steering column allowing the ignition key to rotate all the way to OFF-LOCK. When placing the column shift lever in PARK, there is also a lever on the lower end of the steering column that is rotated to the full "UP" position. This lever pulls on a rod or cable that is connected to another small lever on the transmission, placing it in PARK. Also please note that the steering column has a neutral start/backup light switch mounted on top of the steering column down under the dash by your feet. This switch is also actuated by the motion of the shift lever on the steering column and performs the following functions (PARK & NEUTRAL – enable engine start; REVERSE – backup lights.



1968-1972 AUTOMATIC FLOOR CONSOLE INSTALLATION

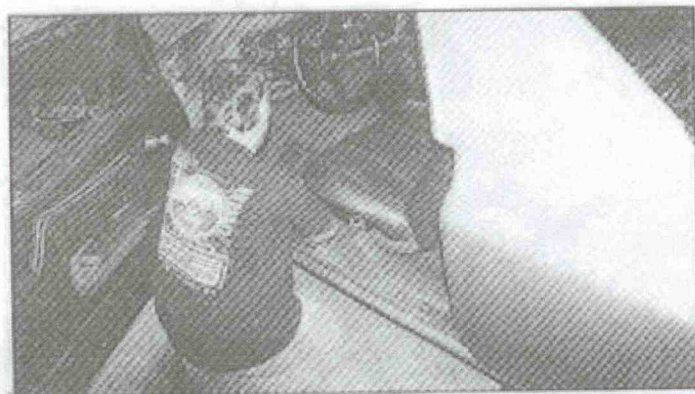
by James Hinshaw and Mark Meekins

Chevrolet jargon for the floor console is "seat separator". This expression sounds more like a politically correct term, but in reality it's a good description of a floor console. This device does separate the bucket seats. It also gives an air of flare and performance to a car and a meaningful purpose for the right hand.

Consoles were standard equipment on 1964 and 1965 Chevelle Super Sports. They were an extra cost option for 1966-up models, therefore, many cars weren't equipped with this feature. But that situation can be remedied. James Hinshaw, owner of Hinshaw's Chevelle Parts, 100 Bell Street, Burlington, NC 27215, 910-226-8242, recently installed an automatic floor console into a 1971 El Camino. The project was rather simple, but then James carries all the needed parts to install such equipment. From the console, shifter and cable to lens, clips, brackets and braces . . . he stocks it all and then some. His business is Chevelle and El Camino parts as

well as restoration services.

Provided all the equipment and parts are available, this operation can be completed in 3-4 hours. The interior will have to be gutted, the transmission floor hump drilled, bracket welded, levers changed on the transmission unit, console housing bolted in place and cable adjustments made. The following step-by-step photos show the adaptation of a console into a car. A cable adjustment article from a contemporary Chevrolet Chassis Service manual is listed elsewhere in this issue.



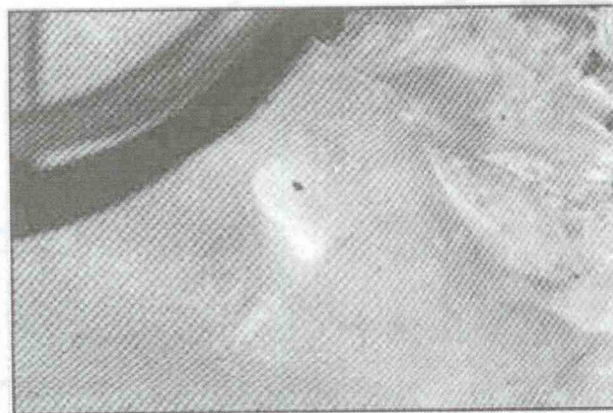
Obviously, the first step for console installation is removal of bench seat. Move seat forward to remove rear hardware and then backward to remove front attaching hardware.



Steering column shield panel around steering column was removed to disengage front carpet from firewall.



Seats and seat belts removed. Sill plates are removed and kick panels loosened to remove both halves of carpet. Items were stored under car.



Automatic consoles have raised area on hump with locating dimples for applications. Cable dimple has been highlighted.

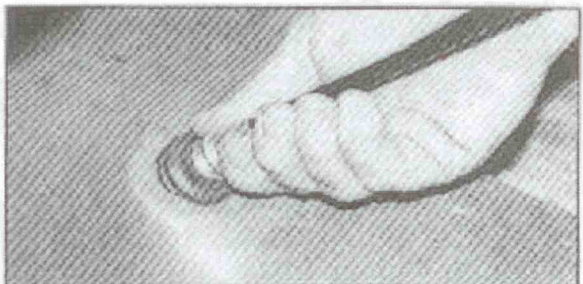




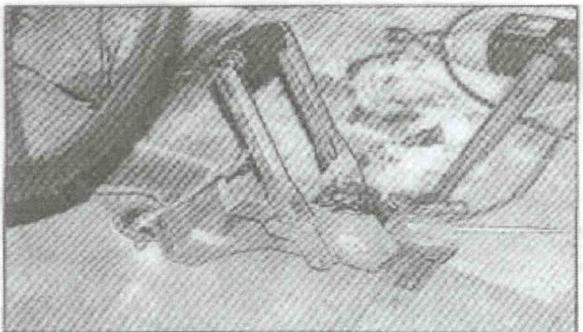
Punch is used to deepen dimple so drill bit will not travel. There are numerous locating dimples found on transmission hump.



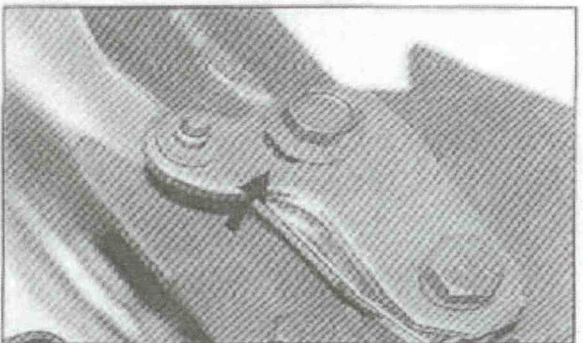
1/4-inch diameter hole saw makes smooth opening for console cable installation. Hinshaw's Chevelle Parts stocks the cables.



End of cable with boot is pushed through hole. It might be slightly snug, but boot compresses.



Push cable through until grommet and retainer and approximately 8 inches of cable remain. Pin on shifter is where cable will attach.



Cable adjustments are made at transmission, but there appears to be adjustment slot behind (arrow) upper bolt beside cable pin.

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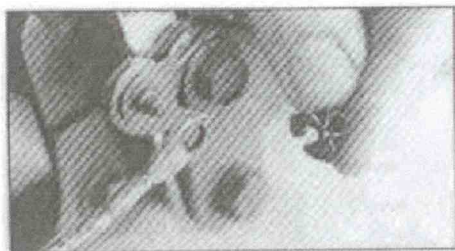
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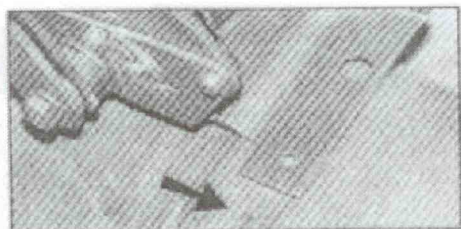
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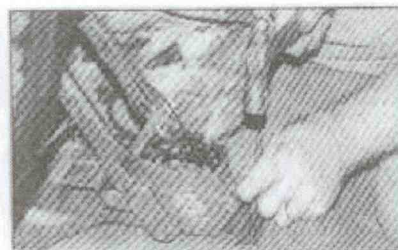




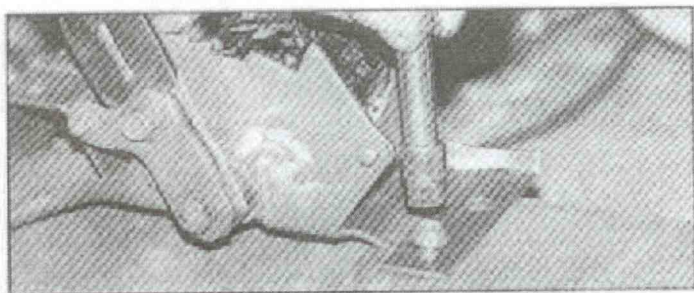
Cable slides over pin and retainer clip locks itself within groove of pin.



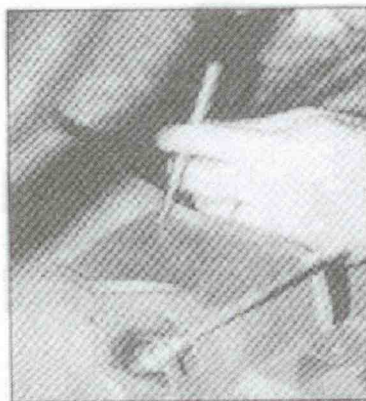
Dimple on transmission hump is highlighted (arrow). Back half of shifter plate will be bolted to floor by two bolts.



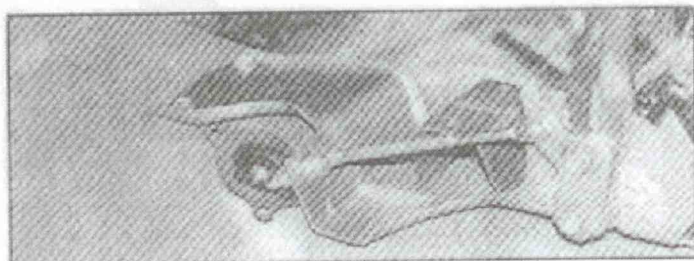
Hammer and punch guarantee correct drilling location for attaching bolts.



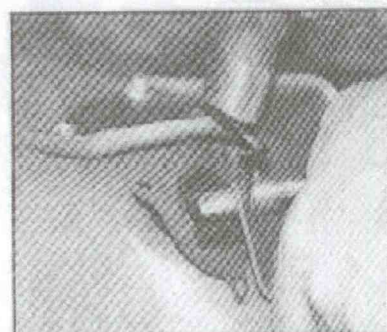
Verify that shifter housing sits centerline of hump before tightening bolt. These bolts will be removed and installed on console brace.



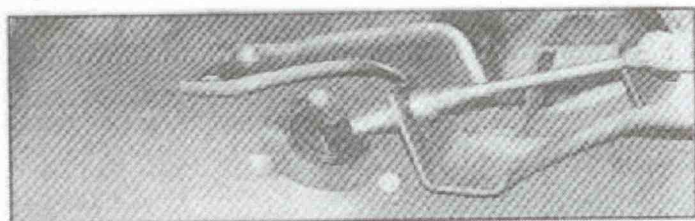
With housing properly centered, punch two front shifter plate holes.



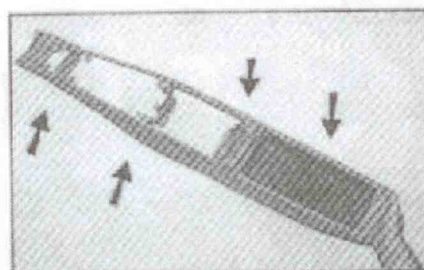
Bolt housing down, situate cable in holder and secure cable to shifter handle pin with snap on clip.



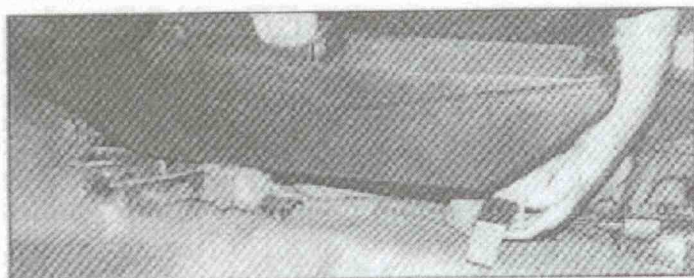
Cable retainer clip goes on shifter side of housing. It prevents cable from slipping.



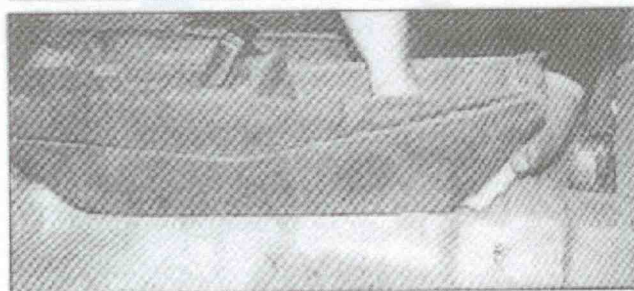
Sheet metal attaching screws were used to secure seal retainer to floor.



Console housing for automatic and manual transmissions is same. Four areas on console secure it to transmission hump, shifter housing and floor mounting bracket.

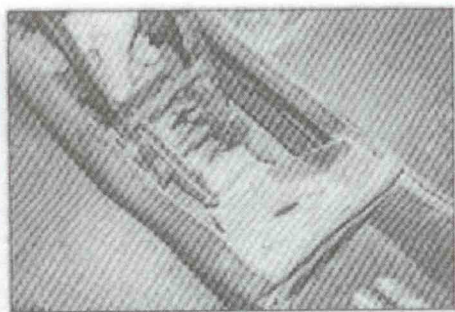


One bracket will have to be welded to the floor for console's glove compartment.

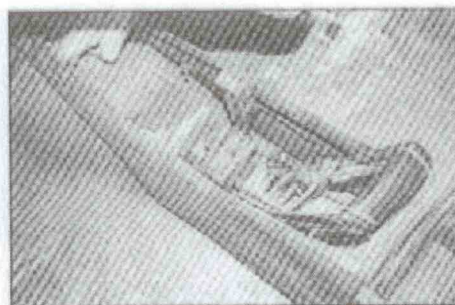


A locating pin is run through compartment floor to determine location for floor mounting bracket.

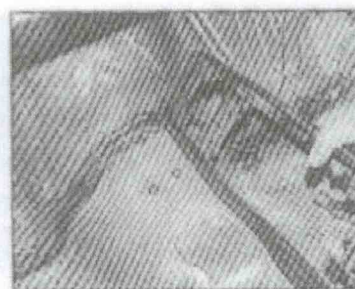




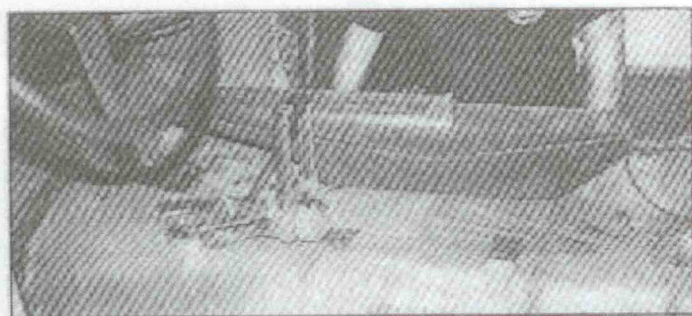
Be sure console braces align properly with shifter housing. Note shifter switch that harness will plug in to.



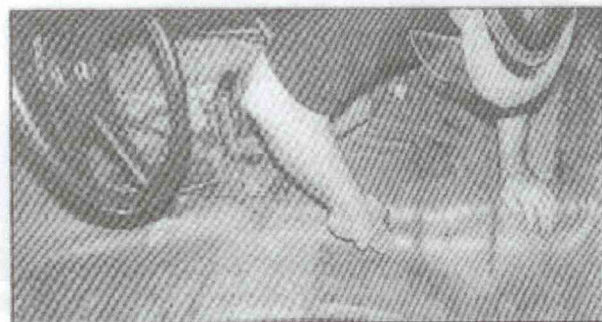
Front shifter housing and console brackets line up.



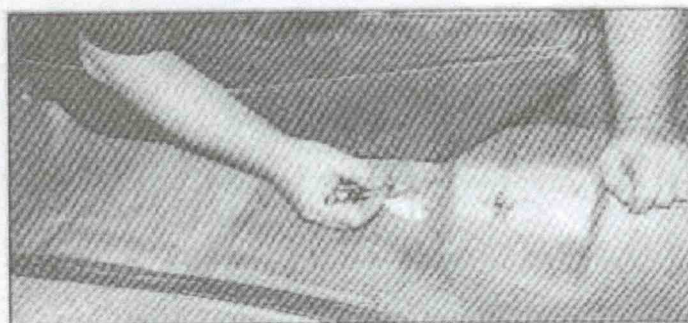
Two dimples were located on hump for front console bracket. They are highlighted for photo purposes before being drilled.



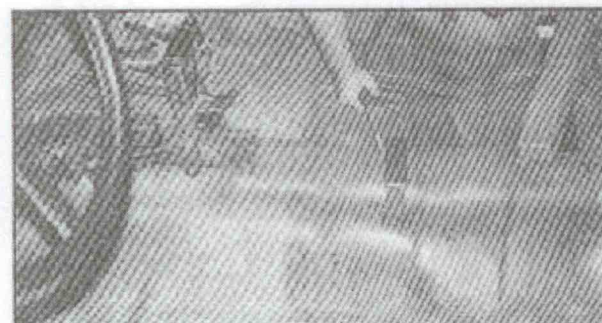
With all holes lining up, double check console compartment floor bracket location and remove console.



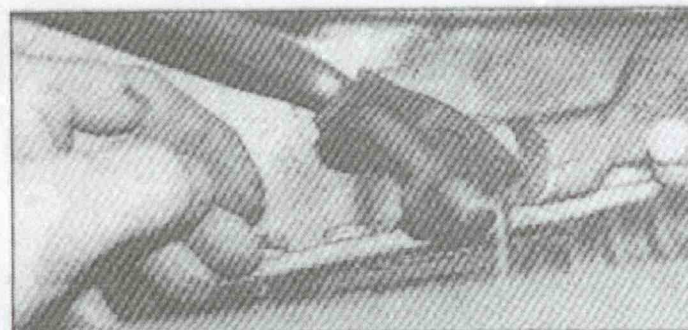
Remove bracket and grind either side of the hump for weld.



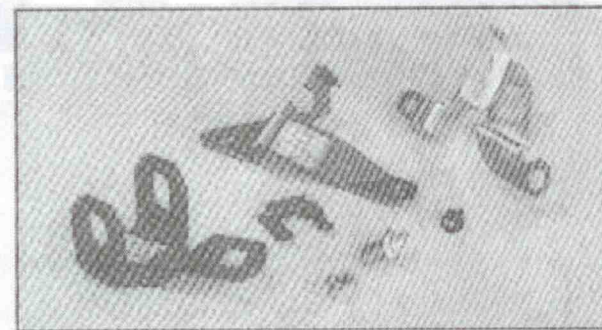
Replace bracket and console. Realign everything. Mark floor where bracket will be welded to transmission hump.



Bottom of bracket should be flush with floor hump and may have to be slightly hammered to spread bracket legs. Weld bracket to floor.



Column shift lever on side of transmission must be removed. Only one nut secures it to transmission shifter stud. Remove pin from back drive rod and force rod from lever. This rod activates backup and neutral safety switch and column lock.



Other than cable and console mounting bracket, Hushaw's Chevrole Parts carries Turbo cable brackets, cable bolt/pin, Turbo transmission lever, retainer clips and clip for cable to shifter handle assembly.





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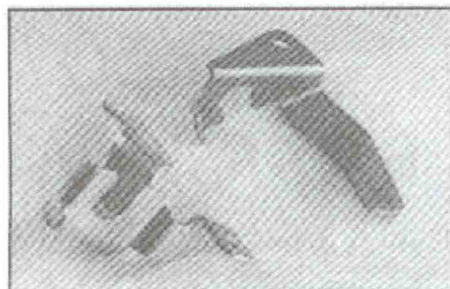
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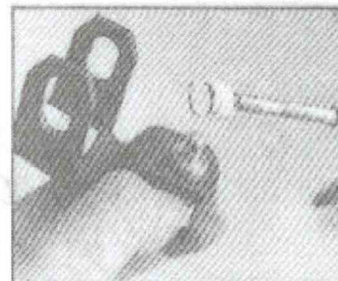
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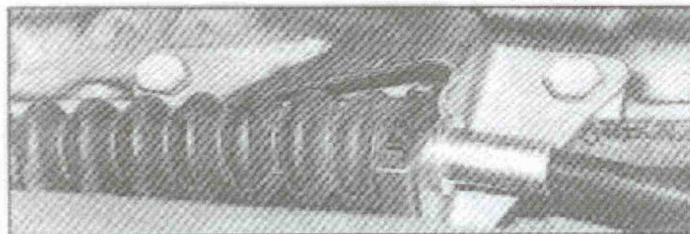
Turbo 400 bracket (left) mounts to bottom side of transmission. Turbo 350 bracket (right) mounts on side.



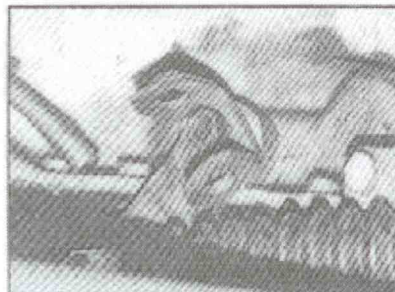
Turbo transmission control lever is same for 350 and 400. It has feature for back drive rod and slot for transmission stud. Extension for cable bolt/pin has slot to adjust cable. In DRIVE position, bolt/pin lock nut should be tightened at distance of 5 1/2 inches from centerline of bolt/pin to retainer clip.



Cable slides over pin and is secured with cotter key.



Turbo 350 bracket (shown) is mounted to side of transmission. Turbo 400 brace is attached on bottom. Retainer goes on boot side of bracket.

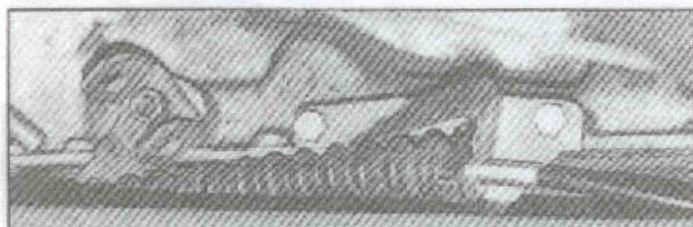


Slot on transmission shifter lever fits over slotted stud and nut is tightened down. Back drive rod is then reinserted in lever holes and secured with cotter key.

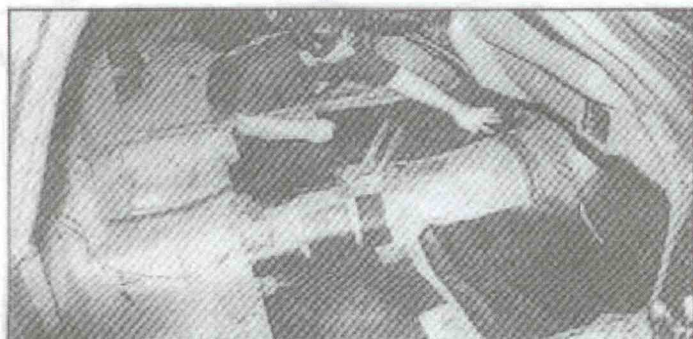
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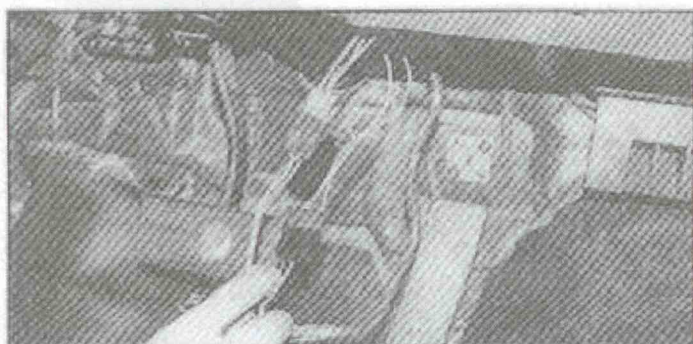
CONSOLE • from page 11



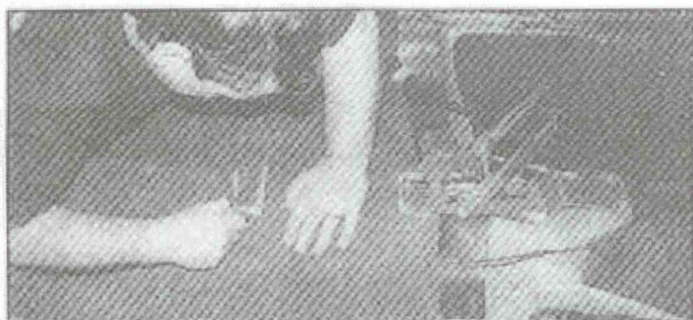
Both cable bracket and lever mounted to LH side of transmission case. Transmission has provision for side and bottom mount Turbo brackets.



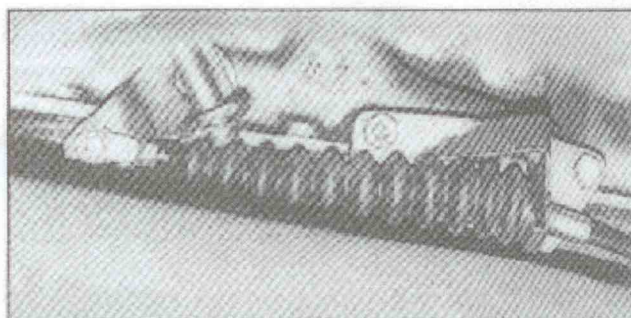
Carpet insulation is installed before carpet. Extra wires are for aftermarket rear speakers.



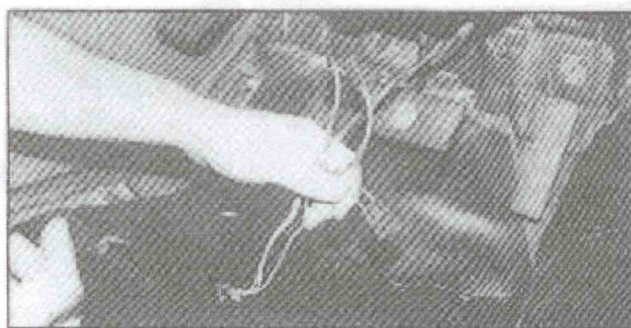
Jumper wiring harness is attached to main harness and routed behind and under heater panel duct.



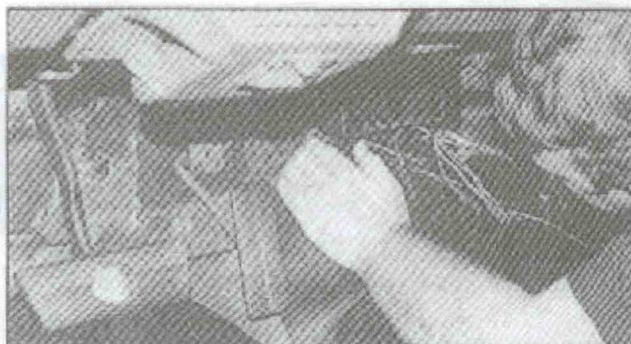
Rear compartment carpet is installed and centered. Be sure side lengths are equal for sill plate installation. Razor is used to cut around shifter housing and floor bracket. Keep numerous sharp razors to make various carpet cuts.



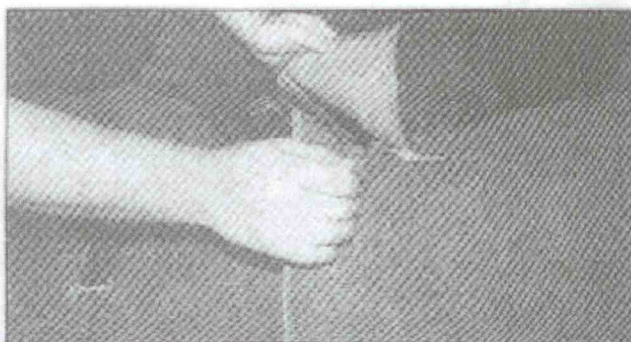
End of cable is placed over pin on lever after adjustment. Back drive rod is in place. See adjustment section elsewhere.



1968-1972 main harness is already equipped with connections for floor console harness. A jumper harness will connect under dash and console harnesses.

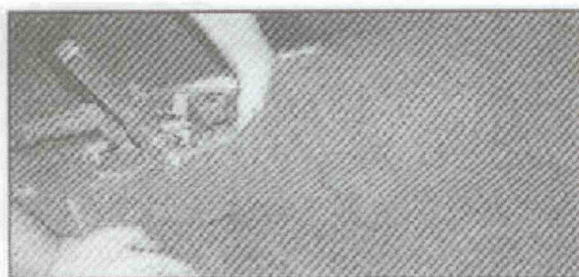


Jumper harness should be located directly center of heater panel duct and transmission hump.

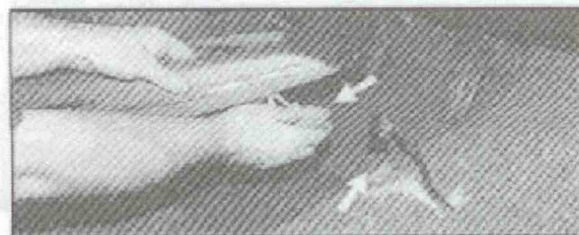


Align front carpet side to side and up to firewall. Once positioned, use razor to cut one seam down the center of shifter handle towards front of housing.

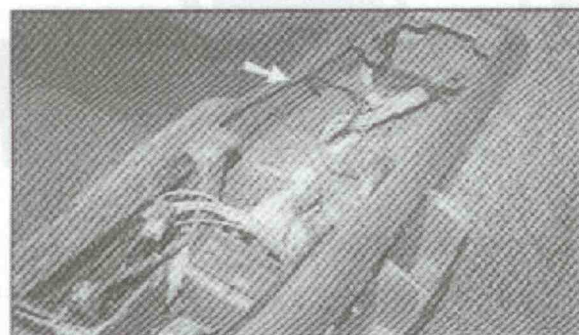




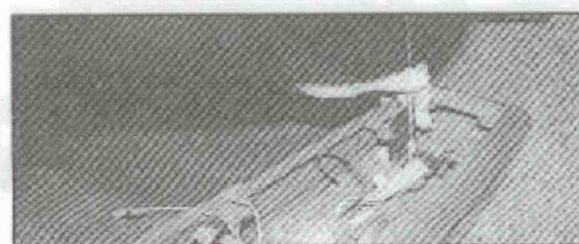
Excess can be trimmed on either side of initial cut to expose shifter assembly.



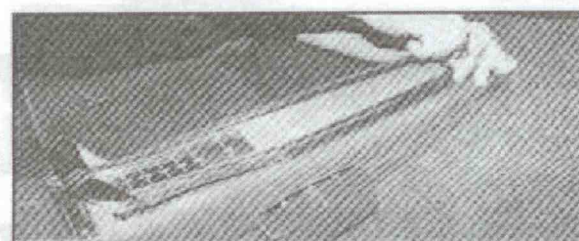
After locating the jumper harness, carpet was notched and connector was pulled through. The arrows show connector ends of jumper and console harnesses.



Harness will lie flat under plate. Ground wire (arrow) is secured to front brace bolt, but has yet to be attached.



Once all holes are aligned, secure console braces to transmission hump, shifter housing and compartment bracket. Bolts for shifter housing will have to be removed and reinstalled through console braces. One bolt at front of console is used for ground wire.



Hinshaw's stocks new indicator lenses and aluminum inserts for console top plates. Six screws attach plate to console.



Results look like factory job. Next month we'll cover installation of bucket seats.

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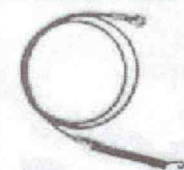


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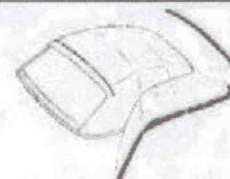


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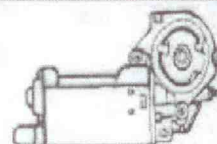
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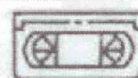


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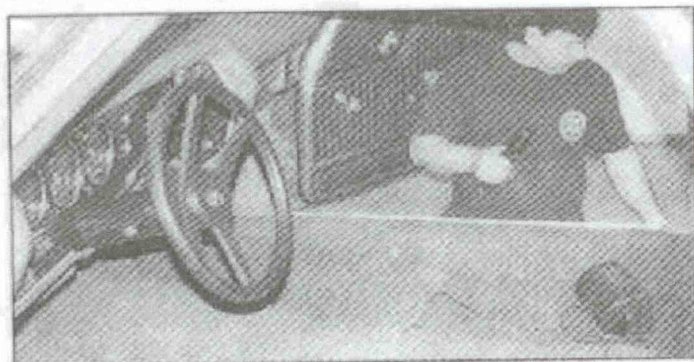


1968-1972 BUCKET SEAT INSTALLATION

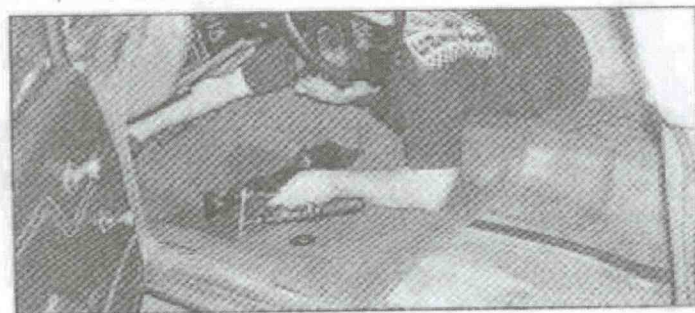
by James Hinshaw and Mark Meekins

Last month we covered the installation of a floor console in a 1971 El Camino. In addition to the console the El Camino's bench seat was replaced with a pair of bucket seats.

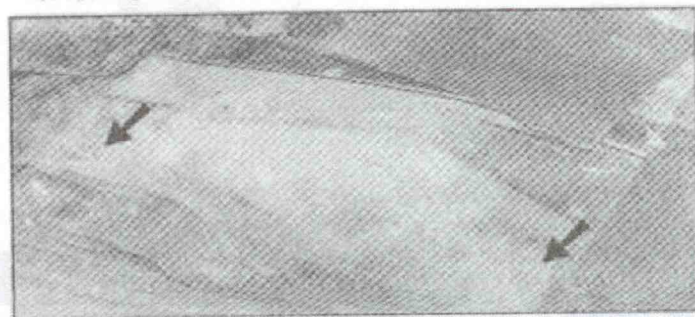
Bucket seats were standard equipment on 1964 and 1965 Malibu Super Sports. On all 1966-up models the bench seat was standard cockpit equipment. Bucket seats were an extra-cost factory option available on 1966-up Super Sport and Malibu models. Chevilles without these sporty seats can be easily remedied. All that's needed is a pair of seats, the necessary floor mounting brackets and about 3 hours of spare time.



Seats and seat belts removed. Door sill plates are removed and kick panels loosened to remove both halves of carpet.



Steering column shield cover was removed to disengage front carpet from firewall.



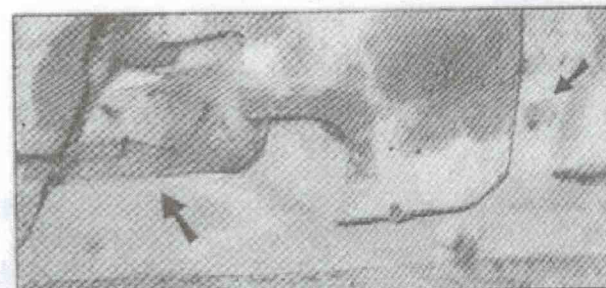
Unfortunately photo doesn't clearly show front and rear bench seat floor mounting holes (arrows) for attaching bolts. This LH view shows flat floor pan.

This operation was performed by James Hinshaw, owner of Hinshaw's Chevelle Parts, 100 Bell Street, Burlington, NC 27215, phone 910-226-8242 M-F. James manufactures the bucket seat floor brackets and carries the carpet underlay, carpet and other items to complete this operation. Besides selling Chevelle and El Camino parts he also offers restoration services.

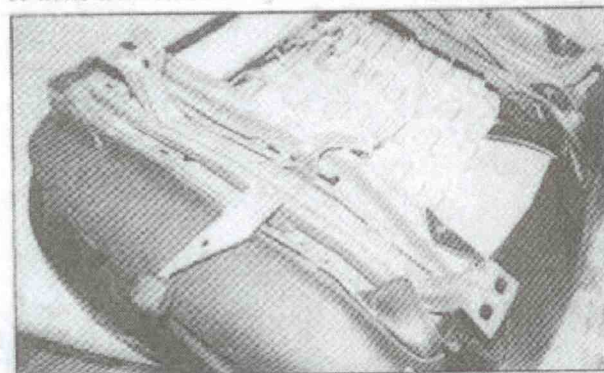
For bucket seat installation the interior will have to be gutted. Essentially, the upgrade consists of removing the bench seat and carpet, welding the seat mounting brackets into place, replacing all or part of the carpet underlay (sound deadener and insulation), repositioning the carpet, cutting the carpet for the seat and seat belt installation and bolting the components into place.



Arrows show location of seat belt mounting location (beside door sill) and seat mounting location for rear seat runner.



Factory-installed bucket seats used in outer front bracket (arrow) with stud in addition to bracket closest to transmission tunnel. We didn't install this mount, but it can be done with extra set of brackets.



Bucket seat runner has single hole on front and two mounting holes on rear seat foot of runner. Outer hole of rear seat foot runner is used for installation.





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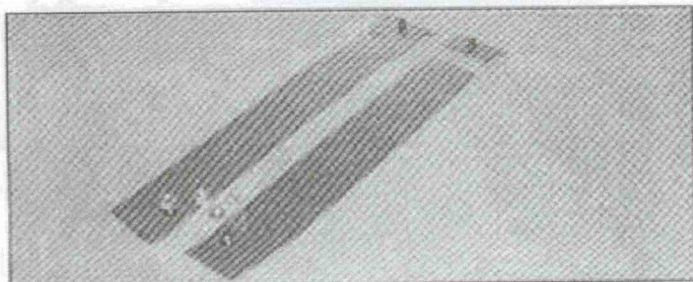
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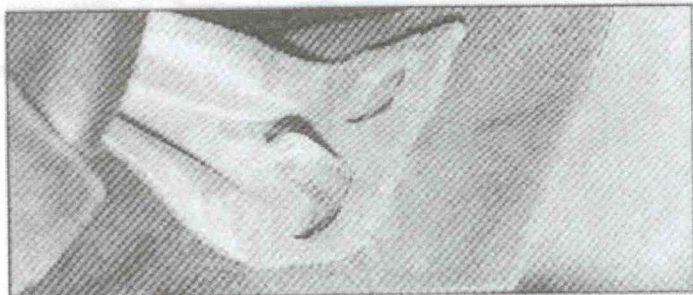
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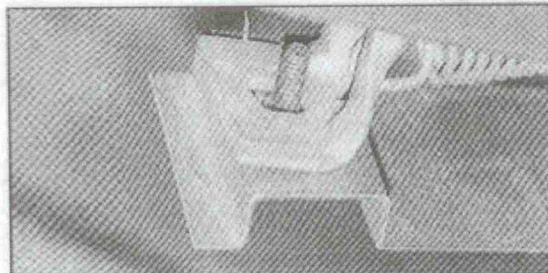
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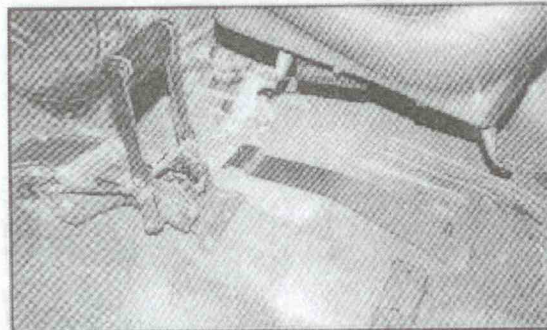
Hinshaw's bucket seat mounting bracket kit includes left and right section with serrated lock nuts for front and rear studs. This kit is for floor pan closest to transmission hump.



Rear seat foot of runner is mounted to flat portion of bracket. Outer hole of two-hole pattern (closest to transmission hump) is used. This is passenger side view.



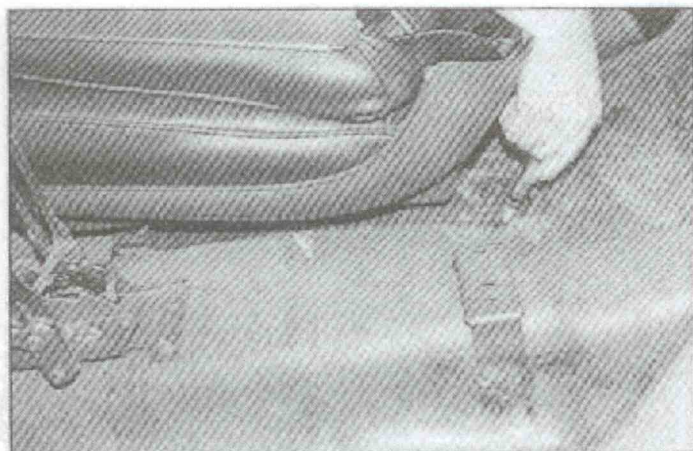
Front runner mounts atop raised section of bracket. Tighten securing nut to stud to 12-18 foot pounds.



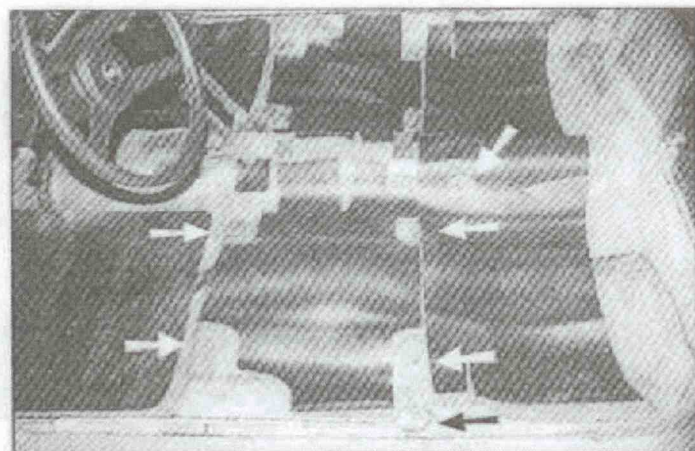
Using bench seat floor holes as guides, bucket seat is positioned. Besides stability, floor bracket raises height of bucket seat to correct stature.

Say You Saw It In *The Chevelle Report*

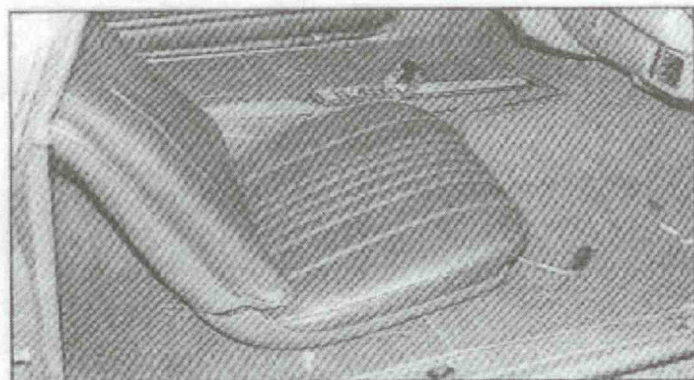




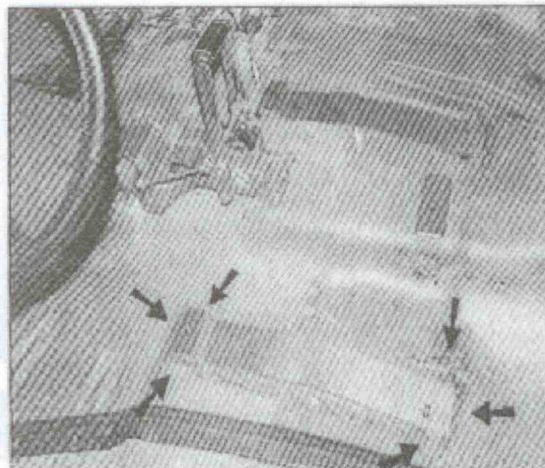
Seats were installed one last time to assure bracket location. Seats were removed after bracket locations were marked.



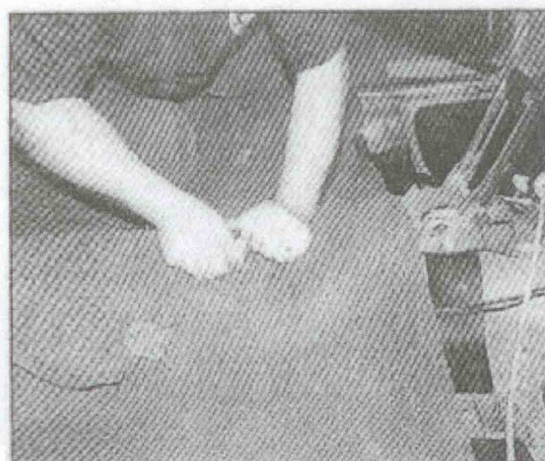
Carpet underlay segments are positioned on floor pan. Once in place, each piece is lifted and coated with spray adhesive. Arrows point out two seat belt holes and four seat mounting areas.



Position bucket seat over bracket studs and over bench seat holes nearest door. Move seat forward for access to rear mounting bolts and nuts. Move seat backward for access to front mounting bolts and nuts. Fisher Body suggested mounting torque for nuts and bolts is 12-18 foot pounds.



Around ends ("U" shape) of front and rear of bracket (arrows) were welded to floor pan. Sides were spot welded.



Install rear section of carpet and position it equally from side-to-side. Cut carpet for mounting bracket studs. Front carpet will lay atop back half of carpet. Place seat over studs and holes for pattern to cut flap of carpet to cover feet of runners.



Both seats installed and tightened. Bolt down seat belts, reinstall door sill plates and enjoy the results.

