Replace Upper Column

Multi-Function Switch
   Electric Wiper Control
   Electronic Cruise Switch
   Dimmer Switch

Telescopic Feature-
   Directions not addressed in this presentation

By Richard Sowers, annotated 2013 by John Sharpe

Original available at:
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Donor Columns

88-94 Chevrolet/GMC Pick-ups/ Suburbans/ Astravans/ Lumina APV’s, Most GM cars
For Telescoping- Cadillacs full-size 85-94
(wiper switch probably won’t be compatible/)

List
1. Find a column. The key is to find one that has a multi-function switch with only three wires.
2. Once you find a column, you need everything from the lower tilt block up. If you want to move your dimmer from the floor to the column, you need those parts also. Buying the complete column may be the best option.
3. Buy one of Ken Henderson’s Electric Wiper Conversion Kits.
4. Add Cruise Switch for electronic cruise control
Tools needed to remove steering wheel

OR

Harbor Freight
ITEM 43072-0VGA

OR
Pull Steering wheel

Remove
• Horn switch
• Nut safety clip
• Nut
Remove Cover Plate
Depress Lock Plate
Only enough to remove clip
Cranking down too much will smash parts beneath
Remove Lock ring

Probably depressed too far. It’s easier to work with if only the minimum room to remove the clip is exposed.
Then remove the Spring compressor, and take off the locking plate, and the horn link/flasher return cam.
**Use the Maintenance Manual as a guide for performing this teardown and assembly. Remove the single screw located here**
This is the lever screw on the donor column.

The other end of the lever rides in a groove in the Wiper Switch.
Remove the spring and the spring seat.
Remove 3 signal switch screws & 4way knob
Disconnect the signal wires on the steering column and pull them up to remove the switch from the lock housing.
Remove the key reminder switch. Note how the tension spring is installed as you remove it. There are some different styles of the spring. Some are one piece, making them easier to install.
This is the button you need to push to get the key cylinder out.

Remove this Torx screw to remove the key cylinder. If so equipped.
Depress the plunger and remove the ignition lock.

Some cylinders are held in place by a flat plunger in this slot.
Remove the Gear by

- Drive the rod back toward the cylinder hole
- Remove the retaining screw
- Lift the spring up and disengage from the locking pin
- Remove the gear
Remove the column bracket & the plastic wire chase. Feed the wires up through the lock housing.
Remove the three screws and slide the cover off

On late model columns these will be torx head screws. On the GMC column they will be phillips head screws.

On the donor column, feed the wiper wires up though the column as you remove the upper lock housing
Put the tilt lever back on and tilt the column to the up position. This takes some of the tension off the spring.
Remove the tilt spring. Do this by putting a screw driver in the slotted spring cover, push down and turn to the left. The spring retainer will twist and come right out. Now remove the spring.
If working with the column in the coach, take precautions not to accidently start the engine. Loosen and disengage the rod from the ignition switch or remove a battery cable or etc.

Remove both pivot pins
Lift the tilt lever and hold to full up and work the upper tilt housing to disengage from the pivot pins.
Start rod upper push block and gear ride in these slots.
Upper shaft will only disengage from the lower shaft if they are 90 degrees to each other

The shafts have to be separated in order to get access to all four bolts. Removing the lower shaft is in Richard Sowers original presentation but is not included here.
Several of these blocks have found to be cracked or broken so inspect them carefully.
Made a guide from a washer to put under torx bolt. Avoided removing steering shaft.

It’s been reported that the guide is only a convenience for holding the dimmer push rod in place for assembly. If you are not using the dimmer switch on the column then having the guide is a non-issue.
Grease and install the lower bearing in the upper tilt block. Note that only grease holds these bearings in place.
This is the relationship of the gears in the start position.

Place the lobe of the gear into the notch on the push gear, get this right because it sets up the relationship between the push rod and the start switch.

If a small flat spring with a hook on each end fell out when you took the push gear out. This is where it goes. Hooks down, bend up.

Note the location of the flat spring that provides the tension for the gears.
Multi-function Wiper Switch

Note the switch shown in this photo in the wrong switch. The switch we are after has only three wires. See Ken Henderson’s wiper documentation for more info on the correct switch.

Wiring for the cruise control needs to be fed down with the wiper wires.

Housings are 1 or 2-piece, either will work. If using a telescoping upper, the slot for the lever usually has to be enlarged.
Feed the cruise control wires down through the opening at this time.
The teeth in these two bars

Sit on these two bars when it is in place.

Now install the tilt lever. Pull the lever forward as you slide the upper tilt block into place. Make sure the push gear moves into place as you slide the two parts together.
Install the pivot pins, add the locking pin and it’s spring.

Note that the pivot pins have been installed. Tap them into place with a hammer and a small peace of wood.

Hook of the spring slides into the groove of the steering column locking rod.
Push cylinder rod into center of gear.

Place the loop of the spring into the groove in the gear.

Put the screw in to hold the spring in. This is the position of the gear when the key is in the run position. Note the relationship of the starter gear, spring, and the locking pin.

Position of the gear, locking pin, and spring with the key in the lock position.

Position of the gear locking pin, and spring with the starter engaged.
Reinstall the tilt spring.

1. Locate to full TILT.
2. Put the spring in the retainer and Install by put a screw driver in the slotted spring cover, push down and turn to the right. The spring retainer will twist and locate in the retainer slot.
Modify donor housing for GMC ignition lock

Using a switch with groove for the pin could have been used without modification by simply installing the removed cylinder retaining screw.
The dimmer switch push block.

This is the pin it rides on. Note the position. Grease can aid in holding it in place during assembly.
Slide the upper cover on, make sure to guide the wires (Wiper & Turn-signal) and the dimmer push block into place. Note: push block is not shown in this picture

If using a two piece housing, assemble it as they are slid into place.

Dimmer switch push block
Install the lock housing retainer screws from the donor column.
Install the lock cylinder. Line up the cylinder with the slots and rotate the key so the tail shaft engages the rod. If so equipped install the retaining pin screw.
Install the key reminder switch

Note: most late model switches are one piece with an intergraded spring

Feed wires down through column to work the turn signal switch into place. Install the mounting screws and 4-way flasher knob.
Slide the pin that is on the arm down the underside of the arm on the multi function switch.

Screw into place
Install the wires into the plastic wire conduit
Install upper bearing and race.
Note: Grease is a great aid in holding the bearings in cage during assembly.

Install the spring seat.
Note: how it is placed, with the slits going down.
Set the spring and horn brush into place

Locate slot onto upper shaft

Install the retainer clip
Mount the dimmer switch sharing the ignition switch screw(s)

Sometimes the pushrod has to be modified. This one was too short.
Push rod welded together.

Slot ground for clearance.

Chuck Boyd uses a piece of brake line for a splice sleeve and crimps it to each rod.
Floor switch wiring

- Blue wire = Power
- Bigger Green wire = High beam
- Brown wire = Low beam
- Small green wire = High beam dash indicator
- Dimmer switch
Run a fused 12 volt line here if you want to be able to flash your brights without having your lights on.

Both Green wires for the high beam go here.

Blue power wire goes here.

Brown wire for the low beams goes here.

Note:
1990 Jeep Wrangler Dimmer switch.
Review the instructions that Ken Henderson provides with his wiper kit on how to wire the multi function switch for wipers.  

Review the instructions that John Sharpe provides for the Delphi Stepper Motor Cruise Control.  

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*Thanks to Richard Sowers and Chuck Boyd for there input and insight.*