

E36 BMW CRUISE CONTROL RETROFIT

1. 0 INTRODUCTION

• This document combines the OEM Install Instructions with my experience installing OEM Cruise Control into my June 1998 BMW E36 M3 Coupe with S52 Engine. Delivery options included 5spd Manual Transmission, Sunroof, LTW wheels, Black Nappa Leather and Heated Seats.

2. 0 README

• **PLEASE READ THE ENTIRE DOCUMENT CAREFULLY BEFORE ORDERING PARTS OR STARTING.**

- Accompanying this DIY should be the OEM Installation Instructions for E36 vehicles (p/n: F 36 62 106), which are on a separate/attached pdf document. This DIY includes as much of the OEM Install Instructions as possible.
- References, in this document, to "Figure X" refer to the figures in the OEM Instructions. References to "Picture X" or "Item X" refer to this DIY only.
- The wiring set was difficult to get, so make sure you can get your hands on one before ordering everything else, otherwise you could get stuck with a lot of unneeded parts.
- The OEM Instructions do not directly show instructions for the S52 Engine, so I used the M52 and S50 portion of the instructions, but did not remove throttle body.
- If you get your hands on a used Cruise Control Unit (item #13), it will already be coded. If you buy it brand new, then you'll need to have it coded at the dealer. Cost me an hour of labor, which included test drive to make sure it worked as well as verifying that the Bowden Cable (item #15) was adjusted properly.
- Make sure to note that some of the instructions are different for automatic transmission cars or different engine models.
- Comb Connector = Fan Connector, in this document.
- Bowden Cable Bearing Accelerator = Retaining Clip
- Please email me any helpful information or corrections concerning this install. I will update this document accordingly.
- This upgrade is tedious so you'll need some patience.

3. 0 REFERENCES

- My contact info: Jeremy Reyna (jjreyna@sbcglobal.net) March/2005
- F 36 62 106 - BMW Cruise Control Installation Instructions; Used for E36 3-Series Petrol Engine as from 9/94 and as from 1/95 with EWS II

4.0 PARTS NEEDED

• **Method 1** - Attempt to attain Cruise Control Retrofit Kit p/n: 65 71 1 469 707 (superceding 65 71 9 404 609), which includes items 1-16 below. If this kit is not available proceed to Method 2 below.

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1) 07 11 9 915 502	HEX NUT M5	1
2) 13 54 1 747 519	BEARING ACCELATOR BOWDEN CABLE SCHWARZ	1
3) 61 12 9 404 605	WIRING SET	1
4) 61 13 1 367 599	CABLE STRAP L=200MM/B=3,6MM	10
5) 61 13 1 383 903	PROTECTION CAP	1
6) 61 31 8 360 421	CLUTCH SWITCH 2 POL.	1
7) 61 31 8 360 926	CRUISE CONTROL SWITCH	1
8) 63 21 1 371 401	HEX NUT M5	3
9) 65 71 1 387 003	ACTUATOR SUPPORTING PLATE	1
10) 65 71 8 353 068	BRACKET F BOWDEN CABLE (S50 Engines)	1
11) 65 71 8 360 043	CRUISE CONTROL ACTUATOR	1
12) 65 71 8 366 496	ACTUATOR SUPPORTING PLATE (4 Cyl. Engines)	1

E36 BMW CRUISE CONTROL RETROFIT

13) 65 71 8 375 498	CONTROL UNIT F CRUISE CONTROL, UNCODED	1
14) 61 31 1 390 968	BUTTON FOR CRUISE CONTROL SWITCH	1
15) 65 71 2 228 748	BOWDEN CABLE F CRUISE CONTROL	1
16) 07 11 9 915 502	HEX NUT M5 (4 Cyl. Engines)	1

•**Method 2** - IF THE KIT IN METHOD 1 IS NOT AVAILABLE, then the items will need to be purchased separately. The following component list is exactly what I needed for Cruise Control installation into my 1998 E36 M3. Notice I did not need all the components that would have come with the cruise control retrofit kit above. Item #'s are kept consistent from Method 1.

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>PRICE</u>
*3) 61 12 9 404 605	WIRING SET	1	\$65.06
5) 61 13 1 383 903	PROTECTION CAP	1	\$0.80
6) 61 31 8 360 421	CLUTCH SWITCH 2 POL.	1	\$10.65
7) 61 31 8 360 926	CRUISE CONTROL SWITCH	1	\$48.19
8) 63 21 1 371 401	HEX NUT M5	3	\$0.87
9) 65 71 1 387 003	ACTUATOR SUPPORTING PLATE	1	\$2.85
11) 65 71 8 360 043	CRUISE CONTROL ACTUATOR	1	\$154.50
13) 65 71 8 375 498	CONTROL UNIT F CRUISE CONTROL, UNCODED	1	\$279.00
14) 61 31 1 390 968	BUTTON FOR CRUISE CONTROL SWITCH	1	\$4.43
15) 65 71 2 228 748	BOWDEN CABLE F CRUISE CONTROL	1	\$20.25
15) 65-71-8-380 077	BOWDEN CABLE F CRUISE CONTROL	1	\$20.25
17a) 12-52-1-737-668	HOUSING, 7-PIN	1	TBD
17b) 12-52-1-718-125	TERMINAL	1	TBD
17c) 12-52-1-718-127	LOCK RING	1	TBD
18) 61-13-1-389-400	Cable Clamp/Clip	1	\$0.19

PART NOTES:

- Items #1, #2, #12 and #16 – Are only needed for 4 cylinder engine models.
- Item #3 - Again, the wiring set was difficult to get and took some time. GET THIS PART FIRST.
- Item #4 - Cable Straps were not needed as I already had cable ties.
- Item #5 – Used to cover open wires on 7-pin socket housing (Item #17) that plugs into Cruise Control Actuator.
- Item #6 – Mounted behind clutch pedal.
- Item #7 – Switch mounted to steering column and comes with integrated wiring harness.
- Item #8 – Nuts used to mount Actuator Supporting Plate (item #9) to Cruise Control Actuator (item #11).
- Item #10 – Small cable bracket required on S50 Engines to accommodate lead, while Bowden Cable mounts to lead's previous location (strut mount cover).
- Item #11 – Mounted next to airbox.
- Item #13 – Mounted behind glovebox.
- Item #14 – Slides onto end of steering column mounted switch.
- Item #15 - Only one Bowden Cable is needed. Part number 748, which I was told by the dealer was the one I needed for a 98M3, did not fit in my car (See Picture 1). The end that interfaces to the throttle body had a 2" solid rod. My car needed a Bowden cable with all cable and no rod. After going to a junk yard and looking at a Bowden cable in a 97M3, I found out I needed p/n: 65-71-8-362-206. When I asked my dealer for this part, they told me it was superseded by the 077 part number.

E36 BMW CRUISE CONTROL RETROFIT



Picture 1 – Throttle Body side of Bowden Cable 65 71 2 228 748

•Item #17 - The wiring set (item #3) did not come with the 7-pin Housing (item #17). The 7-Pin Housing is identified as "A" in Figure 1 of the OEM instructions. It is needed b/c wire set sockets A1-A7 (Figure 1) are plugged into this housing and then the housing is screwed onto the Cruise Control Actuator (item 11). Item #5, Protection Cap, is mounted to the 7-Pin Housing and covers wires A1-A7. The Cruise Control Actuator does not come with this 7-Pin Housing, nor did the dealer ever find a p/n that would allow me to order it. I found a used one and cut it off the car with the pigtail. Then I had a BMW service tech punch out the old sockets from the housing so I could insert the sockets (A1-A7) from my new wiring set. After the fact, my friend Tyrone says he thought he had found the p/n's for this 7-Pin Housing: Housing (12-52-1-737-668), Terminal (12-52-1-718-125) and Lock Ring (12-52-1-718-127). I already had the used one working, so I didn't order these to see what I'd get.

5.0 INSTALLATION

•The OEM instructions are pretty good, so I plagiarized them. I meant this DIY to be an addendum, but I thought it would be prudent to add the OEM Instructions here in case someone couldn't acquire the OEM instructions. In that case, the only thing missing would be the figures. I followed the OEM instructions exactly with the exception of the order since I didn't get the right Bowden Cable until the very end of my install. The notes below are in order of the OEM instructions. Figures are referenced from the OEM Install Instructions.

1. Vehicle Preparation
 - a. Disconnect negative battery cable.
 - b. Remove driver's side lower dash.
 - c. Remove glovebox.
 - d. Loosen fusebox for access through firewall.
 - e. Remove air intake for access to throttle body.
2. Quick Overview of Install
 - a. Install Cruise Operating Switch to steering column.
 - b. Install Aux Wiring Harness
 - c. Install Cruise Actuator to Airbox bracket.
 - d. Install Bowden Cable
 - e. Adjust Bowden Cable
 - f. Encode Cruise Control Unit (if brand new)
 - g. Functions on Use
3. Overview of Aux Wiring Harness (Item #3, **Figure 1**).

E36 BMW CRUISE CONTROL RETROFIT

- a. Route branches A1 to A7 thru firewall, fusebox and to airbox bracket area.
 - i. Connects to Socket Housing (Item 17).
 - b. Route branch B to thru firewall up to fusebox.
 - i. Used only for Automatic transmissions.
 - ii. For Manual transmissions tie back and leave in fusebox.
 - c. Route branches C, D, E, F, G and H to Fan Connector.
 - d. Route branch J to clutch pedal.
 - i. Connects to Clutch Switch (Item 6).
 - e. Route branch I to connector station at steering column.
 - i. Connects to Cruise Switch (Item 7) wiring harness.
 - f. Route branch L to Fan Connector.
 - g. Route branch M to control unit behind glovebox.
 - i. Connects to Cruise Control Unit (Item 13).
 - h. Use housing K with auto transmissions only
 - i. Connects to Aux Harness branch J.
4. Install Operating Switch
 - a. F36 62 126 (**Figure 2**)
 - i. Remove lower steering cover
 - ii. Install Cruise Control Operating Switch (item #7) to steering column.
 1. It just slides into place and auto locks.
 - iii. Install Cruise Control Switch Button (item #14) to Cruise Control Op. Switch.
 1. Just slide over end of switch.
 - b. F36 65 760 M (**Figure 3**)
 - i. Route harness from operating switch down steering column
 - ii. There's a white cowling that most of the wiring harness are routed through, I cut the tie wraps and routed the switch harness inside this cowling and then replaced the tie wraps.
 - c. F36 62 108 (**Figure 4**)
 - i. Cut out pre-punched section on bottom steering column cover.
 1. Located just under windshield wiper control switch.
 2. Easier than I thought it would be. I used a utility knife. I put some masking tape over the area on the outside to keep the cutting edges clean. Then I cut from the inside.
5. Install Auxillary Wiring Harness
 - a. F 36 65 743 M (**Figure 5**)
 - i. Review and understand where the parts of the wiring harness (shown in **Figure 1 and 5**) will be routed. You will be referring to these diagrams often. If not already removed as described in Step 1, the following parts will need to be removed from your car in order to make the connections:
 1. Remove driver's side lower dash panel.
 2. Remove driver's side kick panel.
 3. Remove passenger side panel under glovebox.
 4. Remove glovebox.
 - ii. All steps apply to all vehicles, unless otherwise noted.
 - b. F 36 65 761 M (**Figure 6**)
 - i. Remove driver's side lower dash cover.
 - c. F 36 51 128 M
 - i. Remove Fan Connector (shown in **Figure 12**)

E36 BMW CRUISE CONTROL RETROFIT

1. Above the speaker and below the dash is the Fan Connector. It is a black box, where a bunch of wire connectors are plugged into it. Normally you wouldn't have to remove the entire fan connector if you just needed to plug wires into one of these connectors b/c the connectors are attached to the box mechanically (they clip in, like the relays and cartridges in fusebox top). You can pry out the set of wires you need with a flathead.
 2. But to remove the fuse box, you'll need to remove the fan connector. In the center of the box, next to the wall, there is a tab you need to pull toward the center of the car and then push the entire box up and out. It just comes off. Slide your whole hand under the box with your palm flush on the wall underneath and your thumb on the side of the box facing you
- ii. Remove Fusebox (**Figure 7**)
1. Notes: Be careful when removing fusebox, don't pull hard on the wires and don't yank on anything. For reference, I'll use the following system to id each firewall fusebox screw: from inside the car, Top Left (TL), Top Right (TR), Bottom Left (BL) and Bottom Right (BR)
 2. Begin by taking the lid off of the fusebox, then removing the four T10 torx screws holding the top of the fusebox. I bought extra screws since these easily strip. The top of the fusebox was still pretty hard to move out of the way.
 3. To get more room, I next removed the relays and fuse cartridges from the fusebox top. They have tabs underneath that you press and simultaneously push down on the relay/cartridge. I didn't have luck with a flathead screwdriver. I reached underneath with my fingers. It's not easy and takes some work. Note that on the fuse cartridges you should probably remove the fuse nearest the latched side, otherwise it will interfere as you push it down and windup popping out anyway.
 4. Next use a 13mm socket to remove the nut under the fuse box where I had two red wires attached with a ring connector. There is a red wire on the outside as well, but I left that on. One of the red wires prevented one of the closest relays from coming out until I removed the red wires. You should now be able to fold the fusebox top over the brake reservoir and have full access to the fusebox. What a mess of wires.
 5. Inside the car, under driver's dash, you'll have to remove the lower dash panel, kick panel, knee bolster and kickpanel speaker (so as not to damage it). Fold back the carpet under where the dead pedal is located.
 6. Now you have to remove three of the four 7mm screws holding the fusebox. In the engine, looking at the fusebox/firewall, you can see three of the screws (TR, BR, BL), the fourth (TL) you will not see. Inside the car, the TR screw is seen thru a circular punch out in the gray insulation to the left and up of the clutch pedal. The BR screw is behind the carpet where the dead pedal is located. The BL screw is located behind the wire bundle that is behind the dead pedal.
 7. Before removing the TL fusebox screw, you have to clear the way. Above the speaker, on that same wall, you'll need to remove what bmw calls the fan connector. It is a black box, where a bunch of wire connectors plugged into it. Normally you wouldn't have to remove the whole box if you needed to plug wires into one of these connectors b/c the connectors are attached to the box mechanically (they clip in, like the relays and cartridges in fusebox top). You can pry out the set of wires you need with a flathead. But to access the fusebox TL

E36 BMW CRUISE CONTROL RETROFIT

bolt, you'll need to remove it. In the center of the box, next to the wall, there is a tab you need to pull toward the center of the car and then push the entire box up. It just comes off. Slide your whole hand under the box with your palm flush on the wall underneath and your thumb on the side of the box facing you.

8. There was another box above the fan connector box. Two plastic nuts and it dropped out easily.
 9. Remove the TL screw. You can't see the screw b/c it's behind the gray insulation. I used a 14mm socket attached to a really long extension and used the TR and BL screw locations to approximate where I thought the screw would be. Then I pushed on the socket/extension and the socket easily cuts thru the insulation. I was about 1/3 of inch too high, but it was there. Once you remove all the screws you can pull back (toward front of car) on the fusebox, lift up the panel (**Figure 9**) and fit your wires thru easily. One last obstacle for me was to remove the panel b/c I broke mine. I pulled up on it and it seemed stuck. Turns out that panel consists of a tie wrap that is tied to the wire bundle. When you pull up on the panel, the entire bundle lifts up.
- d. F 36 63 068
 - i. Remove fusebox cover and four screws (**Figure 8**). I ordered extra T10 Torx Screws (61-13-1-392-845) as they strip easily.
 - e. F 36 65 762 M (**Figure 9**)
 - i. In this step you will be routing connections A1-A7 and B (see **Figure 1 and 5**) through the firewall.
 - ii. If you have a manual transmission, then you will not be using connection B (see **Figure 1**). I taped it off with electrical tape and tied it to harness such that it remained in the fusebox.
 - f. F 36 65 763 M (**Figure 10**)
 - i. For Automatic Transmission vehicles only.
 - ii. Disconnect plug connector X69 from support bracket on fusebox and connect branch B.
 - g. F 36 65 741 M (**Figure 11**)
 - i. In this step, you will be routing connections A1-A7 out of the fusebox through a rubber grommet on the front side of the fusebox housing. A hole in the grommet is already available for the cruise control cables. I did not make any final connections as you want to make sure there is enough harness left for routing inside the vehicle. Route A1-A7 down the driver's side of the engine bay to the airbox bracket and leave for now.
 - ii. Now install A1-A7 connectors into the appropriate position in the 7-pin socket housing (item 17). Follow CLOSELY the schematic provided to you in the OEM instructions under this step. The socket housing is labeled and matches the schematic. Just push them in until they click. You may need a small flat head to help them pop in, but do it gingerly. You don't want sever the wire. IF YOU MESS UP and put the wrong connection into the wrong socket location, then it gets a little harder. You'll have to punch it back it back out. They actually make tools for this task and your best bet (if you can't punch it out yourself) is to find an electrician that might have access to such a tool. You pop out the connection from the front of the housing. Study the prongs on the connections to see how it locks in there. The tool is little more than a very thin walled tube sized to the proper diameter. The following shows the wire colors that go in the specific pin slot. IF YOU ARE USING USED PARTS, THEN THESE ARE ALREADY INSERTED/ASSEMBLED INTO THE PROPER SLOTS.
 1. Pin 1 = Yellow/Violet

E36 BMW CRUISE CONTROL RETROFIT

2. Pin 2 = Brown/Orange
 3. Pin 3 = Red/Brown
 4. Pin 4 = Yellow/White
 5. Pin 5 = Black/Brown
 6. Pin 6 = Black/Green
 7. Pin 7 = Black/Blue
- h. F 36 65 773 M (**Figure 12**)
- i. In this step you must first route branches C, D, E, F, G and H wires to the Fan Connector Box. Some of these connections terminate in the Fan Connector box at individual connectors and some will go unused and tied back. In all cases you will attach the branch wire to the same color wire found in the Fan Connector Box.
 - ii. You will notice bundles, in the Fan Connector Box, of similar colored wires which tie into individual connectors which are clipped to the Fan Connector Box. The individual connectors are apparently identified with X numbers (as shown in the steps below), but I couldn't see the numbers on the connectors. I just followed wire color. If there no longer are any spare spaces in the individual connector of the same wire, then you will need to splice/solder into one of the wires of the same color going into that connector. Preferably, splice/solder to a wire of similar gauge.
 - iii. Write down the current configuration of how the wires/connectors are plugged into the Fan Connector Box so that you can easily reassemble the connectors back into the box. Otherwise you will spend time trying to place them in the proper order such that they all fit back. Once I did this, I removed most of the connectors from the box to have easy access to the wires I needed. Using a flathead screwdriver, pry from the short side of the connector and against the wall of the box. Once you clear out a few you can pull out the rest.
 - iv. Also, look at the colors carefully. Sometimes violet and purple were different colors or there were colors that looked similar but were subtly different by width of stripes, etc. Just put the wires next to each other and verify they are exactly the same. Make sure to keep in mind the routing of these wires so that you leave a clean install.
 - v. Connections G and H
 1. Manual Transmission
 - a. Insulate branch H, brown/black wire, with electrical tape and tie back.
 - b. Plug branch G, black wire, into connector X1047 of same color in Fan Connector box.
 2. Automatic Transmission
 - a. Insulate branch G, black wire, with electrical tape and tie back.
 - b. Plug branch H, brown/black wire, into connector X191 of same color in Fan Connector box.
 - vi. Plug branch C, violet/yellow wire, into connector X1182 with wire of same color.
 - vii. Plug branch D, black/white wire, into connector X188 with wire of same color.
 - viii. Plug branch E, white/violet wire, into connector X183 with wire of same color.
 - ix. Plug branch F, blue/red wire, into connector X181 with wire of same color.
- i. F 36 65 764 M (**Figure 13**)
- i. This step only for vehicles with manual transmission.
 - ii. Install the clutch switch (item #6) into square hole on pedal mounting support bracket (behind clutch pedal).
 - iii. Plug branch J connector (X121, white 2-pin socket of aux wiring harness) into clutch switch.

E36 BMW CRUISE CONTROL RETROFIT

- iv. Branch K, 2-pin housing, is not used/needed for manual transmission.
- j. F 36 65 774 M (**Figure 14**)
 - i. This step only for vehicles with automatic transmission.
 - ii. Connect branch J (X121, white 2-pin socket of aux wiring harness) to white 2-pin housing K.
- k. F 36 65 765 M (**Figure 15**)
 - i. Branch I should be routed under the dash to the steering column.
 - ii. Connect branch I (white 6-pin housing X72) of the aux wiring harness to the connector at the end of the Cruise Operating Switch wiring harness (6-pin socket housing) you routed in Step 4b. The bracket under the steering column has a slot for you to physically mount this connection.
- l. F 36 65 744 M (**Figure 16**)
 - i. Route branches L and M behind the heater, under the dash and over to the glovebox area. To get the wire across, I tied it to a hanger and then pushed the hanger through to the other side. I used tie wraps to secure it after everything was routed.
 - ii. There is another Fan Connector Box to the left of the tray holding all the EWS stuff behind the glovebox. Find the right connector corresponding to the color of the L wire.
 - iii. Plug branch L, brown/orange wire, into connector X10009 with wire of same color. If no spare socket is available, solder/splice it to the wire of the same color. Preferably a similar gauge.
 - iv. Route branch M, blue 26-pin socket housing X22, behind control unit carrier.
- m. F 36 65 766 M (**Figure 17**)
 - i. Plug branch M, blue 26-pin socket housing X22, to the Cruise Control Unit (item #13).
 - ii. The Cruise Control Unit (item #13) will normally mount on top of the EWS. My euro alarm module was mounted in that location so I had to relocate my control unit with Velcro on the right side. Route connector M to this control unit and plug in.
 - iii. Clean up the hanging cable with tie wraps.
- 6. Installing Cruise Actuator
 - a. F 36 65 775 M (**Figure 18**)
 - i. This step for all vehicles except those with M43 engine.
 - ii. Use the three Hex Nuts (item #8) to assemble the Support Bracket (item #9) to the Cruise Actuator (item #11).
 - iii. Mount the entire assembly to the airbox bracket using the two hex nuts as used by the OEM Airbox.
 - b. F36 65 767 M (**Figure 19**)
 - i. This step only for vehicles with four-cylinder M43 engine.
 - ii. Fit Support Bracket for M43 engines (item #12) to Support Bracket (item #9) and secure with Hex Nut (item #1).
 - iii. Use the three Hex Nuts (item #8) to assemble the Support Bracket (item #9) to the Cruise Actuator (item #11).
 - iv. Mount the entire assembly to the airbox bracket using the two hex nuts as used by the OEM Airbox.
 - c. F36 65 779 M (**Figure 20**)
 - i. Connect Bowden Cable (item #15) to Cruise Control Actuator (item #11).
 - 1. On Bowden Cable, there is a plastic part with two ears. Pull the cable out from that end and hook the cylindrical head at the end of the cable into the open slot on actuator (Picture 4).
 - 2. Then press plastic part with ears onto Cruise Actuator. It will snap in place.

E36 BMW CRUISE CONTROL RETROFIT



Picture 4 – Actuator and Bowden cable preassembly.

- d. F 36 65 781 M (**Figure 21**)
 - i. NOTE: This step basically instructs you to assemble the Cruise Actuator and Bowden Cable and then make all final connections at airbox bracket for all engine models except M52 Engines. I find this premature, as you still have to install the Bowden cable to the throttle body, which means the airbox must be removed.
 - ii. On M52 Engines do not yet install Cruise Actuator (item #11)
 - 1. Again, probably b/c you still have to remove airbox to install Bowden Cable.
 - iii. All other engines, install Cruise Actuator (item #11).
 - 1. Attach Cruise Actuator assembly to airbox bracket and secure with airbox hex nuts.
 - 2. Connect black 7-pin socket housing (item #17) to actuator connector by turning clockwise.
 - 3. Fit protective cap (item #5) on black 7-pin socket housing (item #17).
- 7. Installing Bowden Cable
 - a. This step describes how to install the Bowden Cable (item #15) into each engine variant.
 - b. There are no instructions for installing into an S52 engine. I used part of the M52 and S50 steps for install into my 98M3. I did not need to empty the coolant and remove throttle body.
 - c. Install Bowden Cable free of kinks or tight bends.
 - d. F 36 65 778 M (**Figure 23**)
 - i. Figure 23 shows arrangement of Bowden Cable assembly in M52 engines.
 - e. M42 Engine - Bowden Cable Installation
 - i. F 36 62 134 (**Figure 24**)
 - 1. Route Bowden Cable from Cruise Actuator to Bowden Operating Cable support bracket on intake pipe.
 - 2. Pass cable through hole in support bracket.
 - 3. Fit rubber retainer (grommet) on cable into hole on bracket.
 - 4. If your car doesn't have a strut cover, for the strut tower nuts, that has a channel to hold the Bowden Cable, then install the cable clamp/clip (item #18). At strut tower near path of cable, remove single nut and install cable clamp/clip and then re-install nut to proper torque.
 - ii. F 32 65 276 (**Figure 25**)
 - 1. Install Bowden Cable Bearing/Retaining Clip (item #2) on Bowden Cable end that interfaces with throttle valve.

E36 BMW CRUISE CONTROL RETROFIT

- iii. F 36 62 136 (**Figure 26**)
 - 1. Install Bowden Cable Assembly (with item #2) in aperture of cruise control lever for throttle valve
 - 2. Adjust Bowden Cable as described in Step 8 below.
- f. M43 Engine - Bowden Cable Installation
 - i. F 36 65 771 M (**Figure 27**)
 - 1. Remove throttle valve cover using slotted head screwdriver to remove two screws.
 - ii. F 36 65 768 M (**Figure 28**)
 - 1. Route Bowden Cable from Cruise Actuator to Bowden Operating Cable support bracket on intake pipe.
 - 2. Pass cable through hole in support bracket.
 - 3. Fit rubber retainer (grommet) on cable into hole on bracket.
 - 4. Press adjusting screw into rubber retainer.
 - 5. Install Bowden Cable Assembly (with item #2) with Retaining Clip in aperture of cruise control lever for throttle valve.
 - 6. Adjust Bowden Cable as described in Step 8 below.
- g. M44 Engine - Bowden Cable Installation
 - i. F 36 65 696 M (**Figure 29**)
 - 1. Remove throttle valve cover using slotted head screwdriver to remove single screw.
 - ii. F 36 65 697 M (**Figure 30**)
 - 1. Route Bowden Cable from Cruise Actuator to Bowden Operating Cable support bracket on intake pipe.
 - 2. Pass cable through hole in support bracket.
 - 3. Fit rubber retainer (grommet) on cable into hole on bracket.
 - 4. Press adjusting screw into rubber retainer.
 - 5. Install Retaining Clip (item #2) on nipple of Bowden Cable (item #15).
 - 6. Install Bowden Cable Assembly (with item #2) with Retaining Clip in aperture of operating lever for throttle valve.
 - 7. Adjust Bowden Cable as described in Step 8 below.
- h. M52 Engine - Bowden Cable Installation
 - i. F 36 65 772 M (**Figure 31**)
 - 1. Remove air intake.
 - ii. F 36 65 776 M (**Figure 32**)
 - 1. Remove air intake duct.
 - iii. F 36 65 769 M (**Figure 33**)
 - 1. Remove air intake duct hose.
 - iv. F 36 65 777 M (**Figure 34**)
 - 1. This step requires coolant collection.
 - 2. Detach Throttle Bowden Cable for throttle body.
 - 3. Remove hoses.
 - 4. Remove hexagon nuts to remove throttle body.
 - v. F36 65 770 M (**Figure 35**)
 - 1. Route Bowden Cable from Cruise Actuator over strut housing, next to fusebox, around firewall and down to Bowden Operating Cable support bracket on intake pipe.
 - 2. Pass cable through hole in support bracket, just behind throttle body.

E36 BMW CRUISE CONTROL RETROFIT

3. Fit rubber retainer (grommet) on cable into hole on bracket.
 4. Secure Bowden Cable (item #15) to cruise control plate on throttle body.
 5. Re-install throttle body and all associated parts
 6. Check coolant level and bleed system.
 - i. S50 Engine - Bowden Cable Installation
 - i. F 36 65 778 M (**Figure 36**)
 1. Fit Bowden Cable (item #15) with Retaining Clip (item #2) in cruise control lever/plate.
 2. Press Bowden Cable with rubber grommet into retaining bracket.
 - j. S52 Engine - Bowden Cable Installation (Deduced instructions for my 98M3).
 - i. Note: The following instructions are not oem. I used some of the M52 and S50 engine instructions. I did not need to remove air intake duct or throttle body to install Bowden cable on my 98M3.
 - ii. Remove Air Intake.
 - iii. Route Bowden Cable from Cruise Actuator over strut housing, next to fusebox, around firewall and down to Bowden Operating Cable support bracket on intake pipe.
 - iv. Press Bowden Cable with rubber grommet into retaining bracket.
 - v. Secure Bowden Cable to cruise control plate on throttle body. The plate is below the accelerator plate on the throttle body.
 - vi. Clip the Bowden Cable into the strut tower black nut cover as there is a u-shaped channel integrated into the cover. Then on to the actuator location next to the airbox.
 - vii. Use tie wraps to secure the Bowden cable to wiring harnesses on the firewall.
 - viii. Mount the Bowden Cable (item #15) to the Cruise Control Actuator (item #11).
 - ix. I tightened the Bowden Cable taught as the adjusting instructions in Step 8 didn't seem applicable to my S52 Engine. It seemed to work. A possible symptom might be that when I set the cruise speed I get a tiny jump in acceleration, which may indicate I should loosen it a little. But it works as-is and I will leave it alone.
8. Adjusting Bowden Cable Assembly
 - a. F36 62 138 (**Figure 37**)
 - i. Run engine to operating temperature.
 - ii. With throttle valve closed and actuator in neutral position (no set speed), adjust the knurled nut and adjusting screw of Bowden Cable Assembly such that the stop of throttle valve rests on the stop of adjusting screw.
9. Encoding
 - a. If you purchased your control unit brand new you definitely have to have it encoded by the dealer.
 - b. Coding is stored (additionally) in the central encoding code of the instrument cluster. This encoding procedure is carried out automatically with the currently valid program in the "Retrofit" path. The procedure is user-prompted, the relevant text notes must be observed when carrying out the individual steps. The retrofit encoding procedure for the this product is included in the encoding diskette as from 15.0.
 - c. Procedure:
 - i. Connect DIS/MoDiC to vehicle
 - ii. Ignition "ON"
 - iii. Select "Encoding ZCS"
 - iv. Enter date, confirm with "Y" (for MoDiC only)
 - v. Series "E36"
 - vi. Path "2 Retrofit"

E36 BMW CRUISE CONTROL RETROFIT

- vii. System "6 Cruise Control II"
- viii. Start automatic encoding (confirm with "Y")
- ix. Ignition "OFF", wait at least 10 seconds and then switch ignition "ON" again.
- x. Having coding label printed out and adhere in vehicle interior under bench seat next to old coding label.
- xi. Print out fault code memory
- xii. Check Functions.

10. Function

a. F36 62 139 – see also owner's manual

i. Accelerate

1. Press lever in position 1

- a. The current speed is maintained and stored. The speed is increased by approximately 1 km/h every time the lever is pressed

2. Hold lever in position 1

- a. The vehicle accelerates without pressing the accelerator pedal. On release, the speed reached is maintained and stored.

ii. Decelerate

1. Press lever in position 2

- a. Once cruise control has been activated, the speed is reduced by approximately 1 km/h every time the lever is pressed. On release, the speed reached is maintained and stored.

2. Hold lever in position 2

- a. Once cruise control has been activated, the vehicle decelerates automatically. On release, the speed reached is maintained and stored.

iii. Retrieve

1. Press lever in position 3

- a. The speed last stored is reached again and maintained

iv. Off

1. Press lever in position 4

- a. Cruise control is switched off irrespective of the driving or traffic situation.

v. Cruise Control switches off automatically:

- 1. After exceeding the set speed by approximately 16 km/h
- 2. After dropping below the set speed by 8 km/h
- 3. When braking and pressing the clutch or shifting the automatic transmission selector lever from D to N.
- 4. In the event of substantial deceleration ($>1.5 \text{ m/s}^2$), e.g. on gradients

vi. Note

- 1. When the ignition key is turned to position "0", the system is switched off and the stored speed is deleted.

Hope this helps someone.

E36 BMW CRUISE CONTROL RETROFIT

6.0 MANY THANKS

- Vaheh Bashikian
- Tyrone Davoodian
- I annoyed these guys with countless questions and they came up with all the answers to help me.

E36 BMW CRUISE CONTROL RETROFIT

7.0 BACKUP INFORMATION

Cruise Control Actuator (3) – Under hood connected to throttle body
Cruise Control Actuator Bracket (4) – Usually attached to cc actuator.
Cruise Control Switch (13) – Right side of steering column
Cruise Control Control Unit (1) – Behind glovebox
Cruise Control Control Unit Bracket – Behind glovebox
Cruise Control Bowden Cable (7) – Under hood to cruise control actuator (3).
Bowden Cable Bracket (9) – Under hood fastens Bowden cable
Bowden Cable Clamp (10) – Under hood near firewall
Clutch Switch – Near the clutch pedal.
Hex Nut (6) – Used to mount CC Actuator Bracket. [3]

CRUISE

Retrofit Kit not longer available, must buy individual parts and DIY.

Servo

Module

Switch

For sale is the entire **cruise control** assembly. The actuator, mounting bracket, cable, connecting piece, and part of the harness. I will let this piece go for \$75 shipped firm. I will throw in a **cruise control** switch for \$100 shipped, otherwise the switch is \$40 shipped alone

I've been comparing the **parts** list for a 92 US-spec to my 94 eurospec.
There's only 2 **parts** I will NOT need from you (please refer to snapshot above):

part 7 - bowden cable f **cruise control**
part 8 - bearing accelerator bowden cable

I will need **parts** 1,3,4,6,9,10,12,13,14

My understanding is that you have **parts** 3,4,(7,8),9,10,13,14

You probably have part 1 and 2 as well. I believe they are in the footwell. The diagram above suggests this as well since the clutch switch (12) is located closer to the firewall than 1 and 2.

If you have **parts** 1,2,3,4,6,9,10,12,13,14 I'll take them all.

finally had a chance to check out the **cruise control** assembly under the hood. If necessary, I'll pull apart the under-dash pieces to find #12.

Don't bother looking for 10, I don't need it. However, I definitely need 12 (clutch switch). I will ALSO need the harnesses/plugs that connect to 1 and 3. I just looked at my euro and it doesn't have a loose wiring harness for 3. The wiring goes from 3 and disappears into bigger bundle of wires that runs along the driver's fender apron. If you cut the wires right where they disappear into the bigger harness, that should do. I'm not sure about the harness for 1, but I doubt it's there. So if you can pull as much as that particular harness out as possible, that would be great. It's also likely that this harness connects to 12, so it would be ideal if you could pull the whole combination

E36 BMW CRUISE CONTROL RETROFIT

out intact.

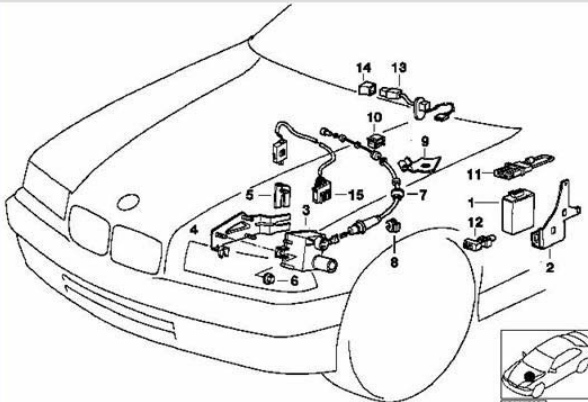
What I do NOT need: **Parts** 7,8,10

What I do need: **Parts** 1,3,4,6,9,12,13,14, the plugs/harnesses mentioned above, and the steering column trim piece with the additional cutout for the cc switch.

I'll give you \$100 shipped for everything as soon as you confirm that above listed of 'needed' **parts**....as well as a pic of everything

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Group EPC - Diagrams 66_0052 CRUISE CONTROL



No.	Description	Supplement	Qty	From	Up To	Cat	Tr	St	Part Number	AT	R	TI
1	CONTROL UNIT F CRUISE CONTROL		1		09/94				65 71 1 387 625			
3	CRUISE CONTROL ACTUATOR		1		09/94				65 71 1 378 315			
4	ACTUATOR SUPPORTING PLATE		1						65 71 1 387 003			
6	HEX NUT	M5	3						63 21 1 371 401			
7	BOWDEN CABLE F CRUISE CONTROL		1		09/94				65 71 1 387 004			
8	BEARING ACCELERATOR BOWDEN CABLE	SCHWARZ	1					L	13 54 1 747 519			
9	BRACKET F BOWDEN CABLE		1						65 71 8 353 068			
10	CABLE CLAMP		1						61 13 1 389 400			
12	CLUTCH SWITCH	2 POL.	1					M	61 31 8 360 421			
13	CRUISE CONTROL SWITCH		1		01/95				61 31 1 393 316			
14	BUTTON FOR CRUISE CONTROL SWITCH		1									

VIN: - Series: 3' E36 Model: 325i COUPE ECE Year/Month: 1992/08 Transmiss.: M Steering: L

•I looked in my repair maunals, and it looks like the system consists of an ECU (in the glove box), the actuator (in the engine bay). switches for the brakes and clutch(i cant tell if they share the switches already there) and obviously the stalk controller on the wheel. I would THINK that the wiring would already be there. Also of note, it seems that the system changed several times throughout production, so the compnents for the 1998 are unique from the other cars.

•Hello, has anyone retrofitted cruise control on their '99's? I've searched the archives and found many comments that it's virtually impossible or really expensive. I've gathered all of the parts - actuator, computer and stalk. I've successfully installed the stalk, it was very simple, there's a cut out in the plastic covering that you pop out and the stalk slides into a ready made slot in the column, for now I left the connector hanging. The actuator was another

E36 BMW CRUISE CONTROL RETROFIT

simple install, the mounts under the hood were already there, the extra connection on the throttle body was there, just pop in the cable and done. Next up, install the computer behind the glove-box, I'm hoping that the connector is already there, but I'm guessing that it's not. So all I need is the wiring harness, which I'll get from a salvage yard this spring! - adowless@yahoo.com <adowless@yahoo.com>

TROUBLE SHOOTING

- Check the clutch pedal switch, when you push the clutch in the **cruise** is disabled. Sooo check that switch. Also what guage did you **install**?
- Did you snap the little plastic tab off the side of the clutch pedal arm that pushes in the switch telling the **cruise control** system when the clutch is disengaged? I've seen that one before.