

This Service Information bulletin supersedes S.I. 13 02 90 (3009) dated March 1991, which should be removed from your S.I. binder and discarded.

**SUBJECT: Engine Control Module Codes**

**Versions:** M1.1, M1.2, M1.3, M1.7, M3.1, M3.3, M3.3.1

**Situation:** Successful diagnosis requires that BMW technicians be able to recognize and verify all engine control module codes.

**Solution:** The attachments provide a quick cross-reference of all known compatible U.S. engine control module codes and hardware numbers. The information provided is also available in a separate reference booklet format. One copy of the latest updated reference booklet is included with this bulletin.

**Note:**

Additional engine control module reference booklets are available. A pre-printed order form is enclosed for your convenience.

With the introduction of this new format, the previous slide chart insert (SD 90-012) and sleeve (SD 90-010) are invalid and no longer available.

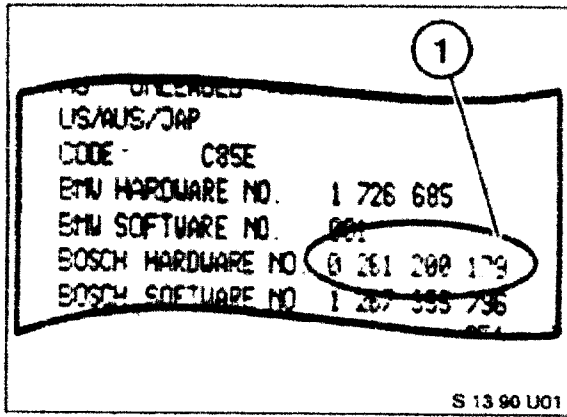
**Action:** The engine control module codes should be checked **whenever any troubleshooting** (drivetrain related) **is conducted** or when using the BMW MoDiC to enter an engine control module variant code.

A mismatch of engine control module codes can produce driveability complaints. Such complaints will generally elude regular troubleshooting techniques. **Therefore, when troubleshooting the first step is to verify all engine control module codes using the latest information available.**

**Identification Information:** Attachment "A" illustrates the locations of the codes on the engine control module as well as how the codes appear on the engine control module identification page when using the BMW Service Tester.

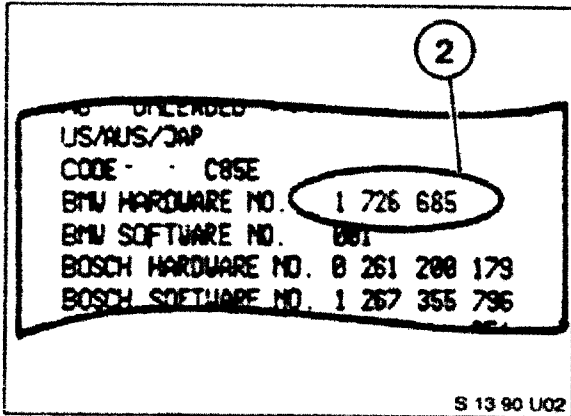
As shown, the engine control module codes are printed at various places on the outside of each control module. This information is helpful when handling the actual control module, but final verification must always be made electronically using the BMW MoDiC or Service Tester.

**Code Explanation:**



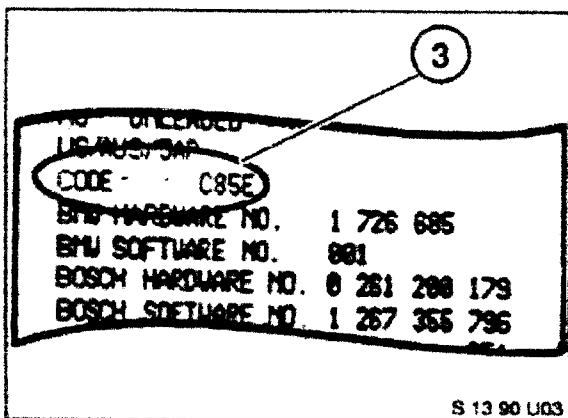
**Bosch Hardware Number (10 digits)**

Assigned by the vendor, this code is related to the engine control module series and engine size. Typically, only the last three digits indicate changes.



**BMW Hardware Number (7 digits)**

The application or use of the control unit is specified by the BMW Hardware Number. Application can include self-diagnosis, maximum RPM limit, and related system compatibility (ABS, EML, etc.).



**Engine Control Module Variant Code (4 digits)**

The variant code "personalizes" the Bosch and BMW Hardware characteristics by signaling anticipated fuel grade, on-board emissions equipment, and transmission control type.

Only the engine control module variant code can be changed using the BMW MoDiC (**except on M3.1, M3.3, M3.3.1**). Control modules having hardware numbers which are incorrect for the subject vehicle must be replaced. In such instances, the vehicle repair history should be reviewed for previous repairs involving engine control module replacement.

**A control module which has been installed in the wrong vehicle and is not defective is not a warranty matter. Any claim of this type will be declined.**

**All available resources should be consulted when an incorrect control module application is suspected. In addition to the information contained in this bulletin, an international listing of control module hardware numbers and variant codes can be found in Group 13 of the Technical Data microfiche. If these resources lead you to believe that the control module is incorrect for the application, it is recommended that this be confirmed with the BMW Technical Hotline.**

The variant code can be entered or changed up to seven times using the BMW MoDiC. See IDC 03/92-14 for complete MoDiC operating information.

**NOTE:**

**ENGINE CONTROL MODULE VERSIONS M3.1, M3.3, AND M3.3.1 CANNOT BE CODED USING A VARIANT CODE.**

Variant code entry or changes are only approved for the following situations:

- A) Replacement engine control modules supplied in a "basic state" bearing the variant code **FF01**. After installation, the correct variant code should be entered using the BMW MoDiC.
- B) Variant code changing provides greater utilization of existing parts stock. Engine control modules having compatible BMW and Bosch Hardware Numbers can undergo a variant code change using the BMW MoDiC.

Example:

One engine control module bearing the following hardware numbers can be used in six different U.S. models.

BMW Hardware Number: 1 722 611  
 Bosch Hardware Number: 0 261 200 179

Model	DME	Trans	Variant	BMW	BOSCH
Engine Family	Series		Code	Hardware	Hardware
Engine Size				Numbers	Numbers
535i - M30/3.5	M1.3	M	C83E	1 722 611	
		EH	CB3E	1 726 685	0 261 200 179

635CSi - M30/3.5	M1.3	M	C87E	1 722 611	0 261 200 179
		EH	CB7E	1 726 685	
735i/L - M30/3.5	M1.3	M	C85E	1 722 611	0 261 200 179
		EH	CB5E	1 726 685	

Entering or changing of variant codes is only approved with strict adherence to the following designation limitations:

- engine family
- BMW Hardware Number
- engine size
- Bosch Hardware Number

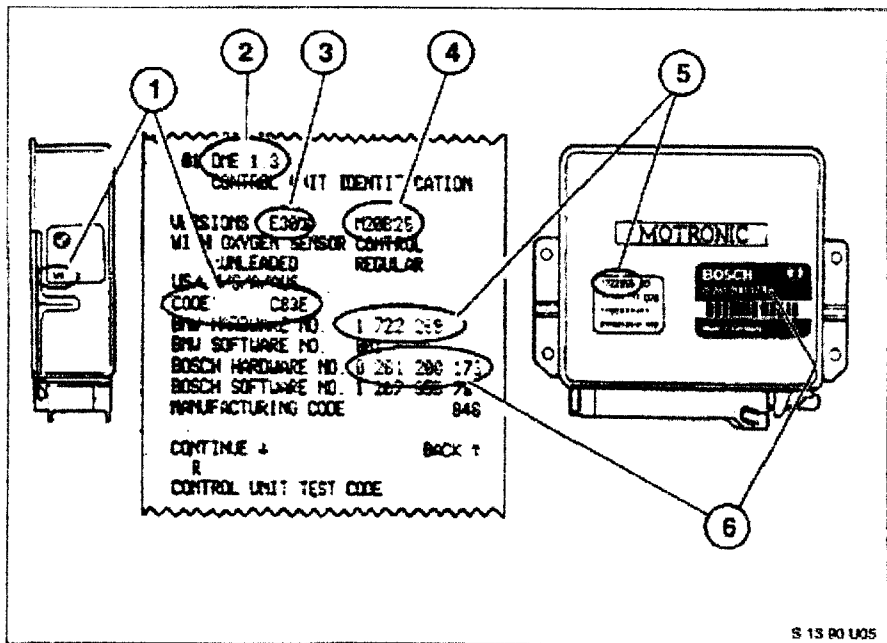
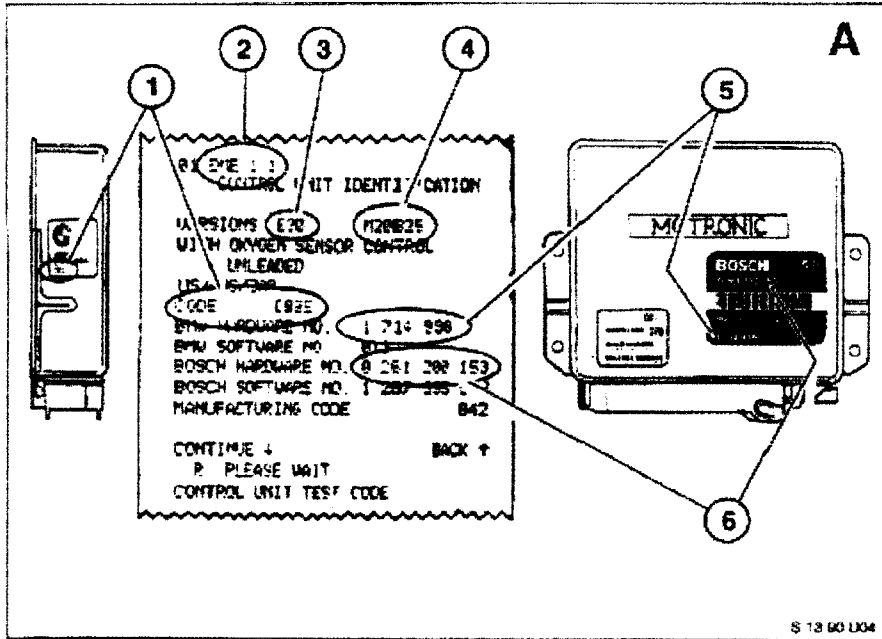
These classifications are fixed and limited to each specific engine size. Attachment "B" illustrates all known approved U.S. variant code/hardware number combinations. An international listing of control module hardware numbers and variant codes can be found in Group 13 of the Technical Data microfiche.

**WARNING: BMW personnel are reminded that it impossible to change the engine family or size through variant code changing. The variant code is only used to precisely match the control module hardware with other variables such as vehicle type, market, equipment, and so forth. Intentional miscoding will not serve any useful purpose and ma result in poor engine performance or engine damage. Repairs for poor engine performance or engine damage as a result of miscoding are not covered under warranty.**

**Parts Information:**

Refer to the appropriate film area to find the engine control module that fits your vehicle. Precoded engine control modules can be identified on the microfilm by the description field, which contains the variant code for the vehicle for which you are replacing the control module.

Non-coded engine control modules contain the description, "Basic Control Unit" or "Control Unit DME Without Code" and must have the variant code entered using the BMW MoDiC after installation.



MODEL ENGINE FAMILY ENGINE SIZE	DME SERIES	TRANS	VARIANT CODE	BMW HARDWARE NUMBER	BOSCH HARDWARE NUMBER	APPLICABLE SERVICE INFORMATION BULLETINS
318i/s - M42/1.8 Model Year 90	M1.7	M	801E	1 734 080	0 261 200 175	12 09 88 (1719)
318i/s - M42/1.8	M1.7	M	801E	1 734 131 1 734 560 1 734 659	0 261 200 175	12 09 88 (1719)
318i/s/iA/iSA (E36) - M42/1.8	M1.7	M	801E	1 739 045 1 739 678	0 261 200 990	12 09 88 (1719)
		EH	821E			
325e - M20/2.7	M1.1	M	C81E	1 722 220 1 714 999	0 261 200 154	12 09 88 (1719)
		A	CA1E	1 730 450 1 730 793		13 03 87 (1351) 13 04 87 (1452)
325i - M20/2.5 Model Year 87	M1.1	M	C81E	1 722 210 1 714 998	0 261 200 153	12 01 88 (1574)
		A	CA1E			12 07 88 (1678) 12 09 88 (1719) 13 03 87 (1351) 13 04 87 (1452)
325i - M20/2.5 Model Year 88	M1.1	M	C85E	1 722 210 1 714 998	0 261 200 153	12 07 88 (1678)
		A	CA5E			12 09 88 (1719) 12 05 89 (1862) 13 03 87 (1351) 13 04 87 (1452)

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MODEL ENGINE FAMILY ENGINE SIZE	DME SERIES	TRANS	VARIANT CODE	BMW HARDWARE NUMBER	BOSCH HARDWARE NUMBER	APPLICABLE SERVICE INFORMATION BULLETINS
325iX - M20/2.5	M1.1	M	C83E	1 722 210 1 714 998	0 261 200 153	12 07 88 (1678)
		A	CA3E			12 09 88 (1719) 12 05 89 (1862) 13 03 87 (1351) 13 04 87 (1452) 34 02 89 (1857)
325i - M20/2.5 Model Year 87	M1.3	M	C81E	1 722 269 1 726 102 1 726 683 1 730 576	0 261 200 173 0 261 200 380 0 261 200 525	12 01 88 (1574) 12 09 88 (1719) 12 06 89 (1878)
		A	CA1E	1 722 245 1 730 527 1 730 576		
325i - M20/2.5 Model Year 88 And Later	M1.3	M	C85E	1 722 269 1 726 102 1 726 366 1 726 600 1 726 683 1 726 686 1 730 523	0 261 200 173 0 261 200 380 0 261 200 382 0 261 200 524 0 261 200 525	12 01 88 (1574) 12 09 88 (1719) 12 05 89 (1862) 12 06 89 (1878)
		A	CA5E	1 730 525 1 730 527 1 730 529 1 730 575 1 730 576 1 722 245 1 735 365 1 748 264		

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MODEL ENGINE FAMILY ENGINE SIZE	DME SERIES	TRANS	VARIANT CODE	BMW HARDWARE NUMBER	BOSCH HARDWARE NUMBER	APPLICABLE SERVICE INFORMATION BULLETINS
325iX - M20/2.5	M1.3	M	C83E	1 722 269 1 726 102 1 726 366 1 726 683 1 730 525 1 730 527 1 730 575 1 730 576 1 722 245 1 748 264	0 261 200 173 0 261 200 380 0 261 200 525	12 01 88 (1574) 12 09 88 (1719) 12 05 89 (1882) 12 06 89 (1878) 34 02 89 (1857)
325iXA - M20/2.5	M1.3	A	CA3E	1 726 190 1 726 367 1 726 600 1 726 686 1 730 523 1 730 528 1 730 529 1 735 365 1 748 206 1 748 255 1 748 262	0 261 200 351 0 261 200 382	12 09 88 (1719)
325i - M50/2.5	M3.1	M	NA	1 730 784 1 735 614 1 748 037 1 748 401	0 261 200 402 0 261 200 403 0 261 200 405	12 09 88 (1719) 12 08 91 (3409) 12 10 91 (3424) 13 05 92 (3682)
		EH				
325i - M50 TU/2.5	M3.3.1	M/EH	NA	1 703 325 1 703 326 1 703 563	0 261 200 413	12 09 88 (1719)

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MODEL ENGINE FAMILY ENGINE SIZE	DME SERIES	TRANS	VARIANT CODE	BMW HARDWARE NUMBER	BOSCH HARDWARE NUMBER	APPLICABLE SERVICE INFORMATION BULLETINS
528e - M20/2.7	M1.1	M	C87E	1 722 220 1 714 999 1 730 450 1 730 793	0 261 200 154	12 08 88 (1687) 12 09 88 (1719) 13 03 87 (1351) 13 04 87 (1452)
		A	CA7E			
525i - M20/2.5	M1.3	M	C89E	1 726 102 1 726 366 1 726 683 1 730 525 1 730 527 1 730 575 1 730 576 1 722 245 1 722 269 1 726 366 1 748 264	0 261 200 173 0 261 200 380 0 261 200 524 0 261 200 525	12 09 88 (1719) 12 04 89 (1840) 12 05 89 (1862) 12 06 89 (1878) 13 05 90 (3056)
		A	CA9E			
525i - M50/2.5	M3.1	M	NA	1 730 784 1 735 614 1 748 037 1 748 401	0 261 200 402 0 261 200 403 0 261 200 405	12 09 88 (1719) 12 08 91 (3409) 12 10 91 (3424) 13 05 92 (3682)
		EH				
525i - M50 TU/2.5	M3.3.1	M/EH	NA	1 703 325 1 703 326 1 703 563	0 261 200 413	12 09 88 (1719)
530i - M60/3.0	M3.3	M/EH	NA	1 703 400	0 261 200 404	12 09 88 (1719)

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MODEL ENGINE FAMILY ENGINE SIZE	DME SERIES	TRANS	VARIANT CODE	BMW HARDWARE NUMBER	BOSCH HARDWARE NUMBER	APPLICABLE SERVICE INFORMATION BULLETINS
535i - M30/3.5	M1.3	M	C83E	1 722 611 1 726 685 1 730 697 1 738 168 1 748 251 1 748 258	0 261 200 179	12 09 88 (1719) 12 06 89 (1878) 13 01 90 (3003) 13 05 90 (3056)
		EH	CB3E			
535i w/ASC - M30/3.5	M1.3	M	C83A	1 730 697 1 738 168 1 748 251 1 748 258	0 261 200 179	12 09 88 (1719)
		EH	CB3A			
M5 - S38/3.6	M1.2	M	881E	1 315 408 1 316 941 1 317 113 1 317 114	0 261 200 350	12 09 88 (1719)
540i - M60/4.0	M3.3	EH	NA	1 703 400	0 261 200 404	12 09 88 (1719)
635 CSI - M30/3.5	M1.1	M	C85E	1 718 807 1 720 980 1 720 981 1 708 598	0 261 200 150	12 05 88 (1638) 12 07 88 (1678) 12 09 88 (1719) 13 03 87 (1351) 13 04 87 (1452)
		EH	CB5E			

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MODEL ENGINE FAMILY ENGINE SIZE	DME SERIES	TRANS	VARIANT CODE	BMW HARDWARE NUMBER	BOSCH HARDWARE NUMBER	APPLICABLE SERVICE INFORMATION BULLETINS
635CSI - M30/3.5	M1.3	M	C87E	1 722 611 1 726 685 1 730 697 1 738 168 1 748 251 1 748 258	0 261 200 179	12 09 88 (1719) 12 06 89 (1878) 13 01 90 (3003)
		EH	CB7E			
735VL - M30/3.5	M1.1	M	C85E	1 718 807 1 720 980 1 720 981 1 708 598	0 261 200 150	12 05 88 (1638) 12 07 88 (1678) 12 09 88 (1719) 13 03 87 (1351) 13 04 87 (1452) 13 05 88 (1655)
		EH	CB5E			
735VL - M30/3.5	M1.3	M	C85E	1 722 611 1 726 685 1 730 697 1 738 168 1 748 251 1 748 258	0 261 200 179	12 09 88 (1719) 12 06 89 (1878) 13 01 90 (3003)
		EH	CB5E			
735VL w/ASC - M30/3.5	M1.3	EH	CB5A	1 730 697 1 738 168 1 748 251 1 748 258	0 261 200 179	12 09 88 (1719)
740iA/iL - M60/4.0	M3.3	EH	NA	1 703 400 1 748 359	0 261 200 404	12 09 88 (1719)

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MODEL ENGINE FAMILY ENGINE SIZE	DME SERIES	TRANS	VARIANT CODE	BMW HARDWARE NUMBER	BOSCH HARDWARE NUMBER	APPLICABLE SERVICE INFORMATION BULLETINS
'750iL - M70/5.0	M1.2	EH	C31A	1 718 519 1 725 694 1 729 708 1 718 620 1 720 429	0 261 200 156	12 05 88 (1638) 12 09 88 (1719) 12 07 89 (1921) 12 09 89 (1975) 12 02 91 (3274)
'750iL - M70/5.0	M1.7	EH	C312	1 731 823 <sup>3</sup> 1 731 991 <sup>3</sup> 1 733 300 <sup>3</sup> 1 736 370 <sup>3</sup> 1 736 635 <sup>3</sup> 1 738 703 <sup>4</sup> 1 748 201 <sup>3</sup>	0 261 200 352 0 261 200 998	12 09 88 (1719) 12 02 91 (3274)
'850i - M70/5.0	M1.7	M	C052	1 731 991 <sup>3</sup> 1 733 300 <sup>3</sup> 1 736 370 <sup>3</sup>	0 261 200 352 0 261 200 998	12 09 88 (1719) 12 02 91 (3274)
		EH	C352	1 736 635 <sup>3</sup> 1 738 703 <sup>4</sup> 1 748 201 <sup>3</sup>		

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### NOTES

- 1) 3 Series M1.3 Model Year 87 may use replacement control modules and variant codes from 3 Series M1.3 Model Year 88 and later
- 2) 6 Series M1.3 may use replacement control modules and variant codes from 7 Series M1.3
- 3) For vehicles without oxygen sensor heater relay
- 4) For vehicles with oxygen sensor heater relay or pull-up resistor installed in harness
- 5) Control modules on each bank may have different hardware numbers