Group 12
Engine Electrical Sy8tems

Bulletin Number
12 10 99

Woodcliff Lake, NJ
July 1999
Product Engineering

This Service Information bulletin supersedes S.I. 12 10 99 dated May 1999 which should be removed and discarded from your S.I. binder.

PERFORM THE PROCEDURE OUTLINED IN THIS SERVICE INFORMATION ON ALL AFFECTED VEHICLES THE NEXT TIME THEY ARE IN THE SHOP FOR MAINTENANCE OR REPAIRS AND ON EVERY AFFECTED VEHICLE PRIOR TO RETAIL.

Changes to this revision are identified by asterisks.

SUBJECT:
Voluntary Emissions Recall Campaign No. 99E-A01

MODEL:
E36 - 323i and 328i with M52 engine produced 6/95 - 12/98
E36 - M3 with 852 engine produced 1/96 - 12/98
E39 - 528i with M52 engine produced 3/96 - 8/98
Z3 - with M52 engine produced 7/96 - 9/98
Z3 - with 852 engine produced 1/98 - 1/99

Situation:
BMW of North America, Inc. has initiated a Voluntary Emission-Recall Campaign to correct vehicles that may have a faulty crankshaft position sensor. A customer notification letter will be sent out by May 1999. This action will address the illumination of the "Check Engine" lamp and the following faults being set in the Engine Control Module (ECM/DME):

Fault Code 83 - Crankshaft position sensor
Fault Code 244 - Crankshaft segment timing

Cause:
Internal failure of the sensor

Affected Vehicles:
This recall involves E36,E39 and Z3 vehicles with M52 and 852 engines which were produced from 6/95 - 1/99.

The procedure given in this bulletin must be performed on all affected vehicles identified

on DCS. (A copy of the letter which will be sent to all affected customers in a staggered mailing is attached to this 8.1.)

In order to determine if a specific vehicle is affected by this Recall, it will be necessary to utilize the "Service Menu" of the DCS (Dealer Communication System). Based on the response of the system, either proceed with the corrective action or take no further action.

The Chassis Number Ranges listed below are only for informational purposes and are not to be considered as the only deciding factor.

Model	Chassis Number Range		
328i/4	AV15000	-	AV25219
	LB10002	-	LB10479
328iA/4	AV35000	-	AV65890
	LB30004	-	LB31291
M3 Conv.	EC42001	-	EC43174
M3A Conv.	EC38005	-	EC40502
M3/4	EE05001	-	EE09665
M3A/4	EE10002	-	EE14165
M3/2	EY72008	-	EY81023
328i/2	ET00009	-	ET08059
328iA/2	ET30015	-	ET38036
328iC	ET60003	-	ET67400
328iCA	ET90006	-	ET99999
	EY85000	-	EY91136
323i/2	EH40001	-	EH43356
323iA/2	EH60002	-	EH63662
323iC	EA15000	-	EA18321
323iCA	EM20001	-	EM23874
528i	BV50010	-	BV56850
528iA	BW00026	-	BW49997
	GT90000	-	GT97785
Z3	LC00020	-	LC16358
Z3A	LB62000	-	LB63999
	LG20000	-	LG20708
Z3 M coupe	LC60010	-	LC60950
Z3 M roadster	LC85002	-	LC89198

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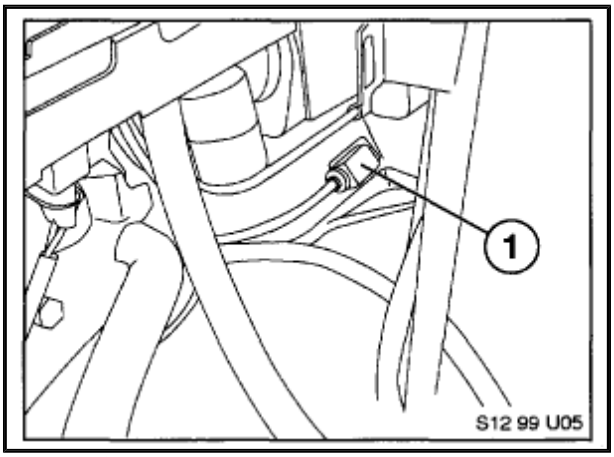
Correction:
The crankshaft position sensor needs to be replaced with the same type of sensor that is currently being used on the M52TU engine. Along with replacing the sensor an adapter harness must also be installed in order to supply the sensor with a 12V operating voltage instead of the 5 volts currently being supplied by the DME.

NOTE: **SOME VEHICLES LISTED IN DCS MAY ALREADY HAVE THE NEW STYLE

SENSOR INSTALLED, FOR THESE VEHICLES A CHECK/VERIFICATION WILL ONLY BE NEEDED.**

Procedure:
The following steps must be followed when replacing the original M52 crankshaft sensor with the new M52TU sensor.



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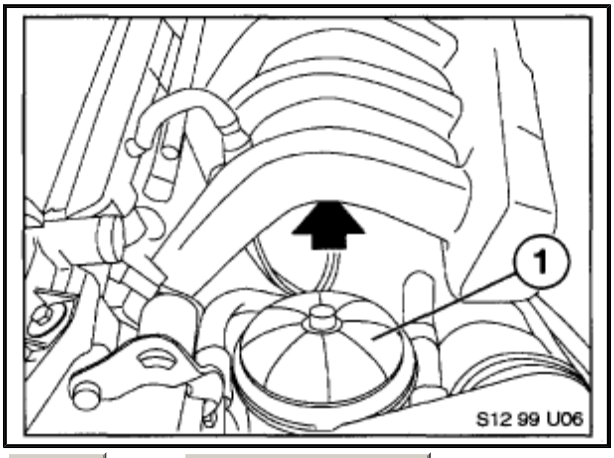
1. Remove the crankshaft position sensor which is located below the starter motor.

   Remove the Sensor (1)

   If the sensor currently installed in the vehicle has a connector directly on the sensor which can be disconnected, then the new sensor is already installed. No further action is required and the DCS contact can be closed.

   Note: Illustration shows location of component with air filter housing and air mass meter removed. It is not necessary to remove these components to perform this repair.



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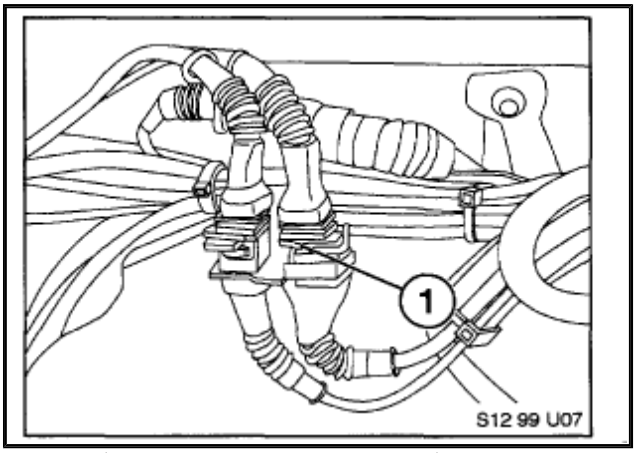
2. The electrical connection of the crankshaft sensor to the engine harness is located below the intake manifold.

To access this connector, the cap of the oil filter housing (1) should be removed and the oil filter and housing should then be covered to prevent dirt from getting onto the oil filter.



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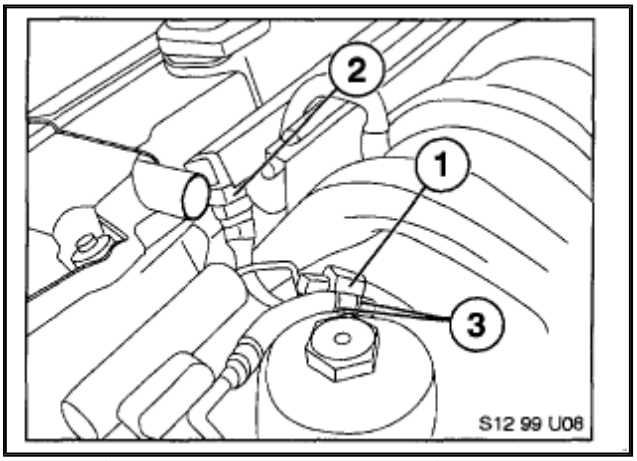
3. Disconnect the crankshaft position sensor (1) from the engine harness.

Note: This illustration shows the plug connectors with the intake manifold removed. It is not necessary to remove the intake manifold in order to gain access to these connectors and complete this repair.



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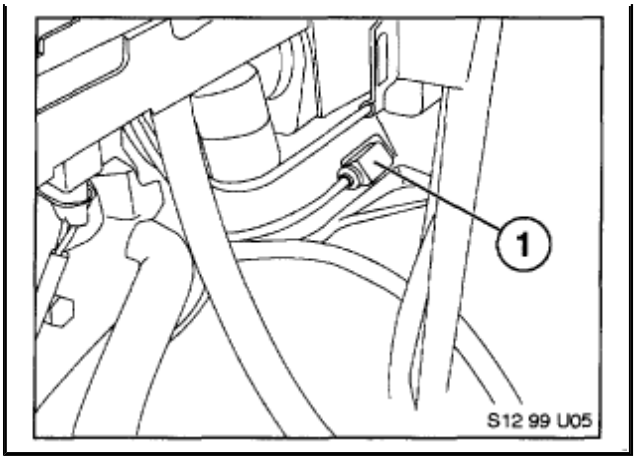
4. Remove the fuel rail cover and unplug the VANOS solenoid valve plug connector (2).



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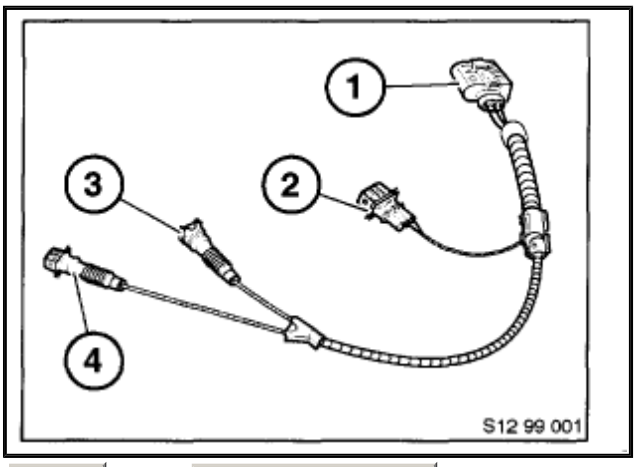
5. Install the new crankshaft position sensor (1) P/N 12 141 709616 and 0-ring P/N 12 14 1 748 398.



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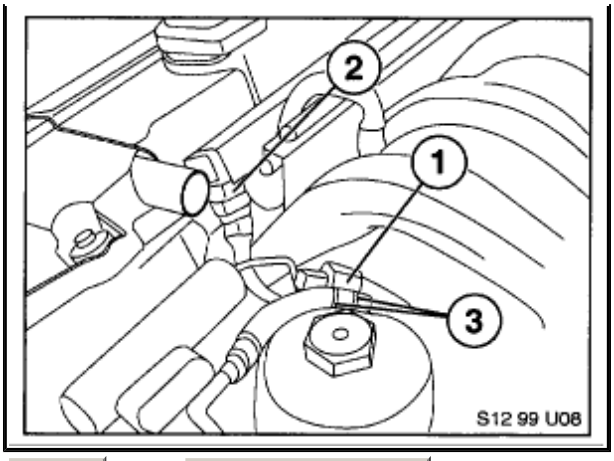
6. Install adapter harness P/N 12 51 4 592 703.
   a. Connect (1) to the new crankshaft position sensor.
   b. Connect (2) to the engine harness connector which was previously connected to the old crankshaft sensor located below the intake manifold.
   c. Connect (3) to the VANOS solenoid valve located on the VANOS unit.
   d. Connect (4) to the engine wiring harness connector which previously connected directly to the VANOS solenoid valve.



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7. After the adapter harness has been installed secure the harness lead going to the VANOS solenoid valve (1) to the VANOS oil line with 2 cable ties (3).

   Note: The harness lead going to the VANOS solenoid valve should not be under tension. The harness lead should be able to move.

Parts Information:

Part Number	Description	Qty.
12 14 1 709 616	Crankshaft position sensor	1
12 51 4 592 703	Adapter harness	1
12 14 1 748 398	O-ring, 17 x 3	1
61 13 1 377 134	Cable tie	2

NOTE: The early style Crankshaft position sensors are no longer available from the Parts Department.