

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.

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

- MODEL:**
- E36 - 323i and 328i with M52 engine produced 6/95 - 12/98
 - E36 - M3 with S52 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 S52 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 S52 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 S.I.)

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 |

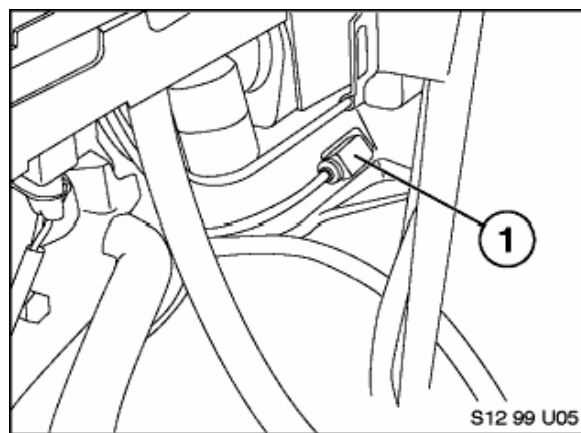
Correction:

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.

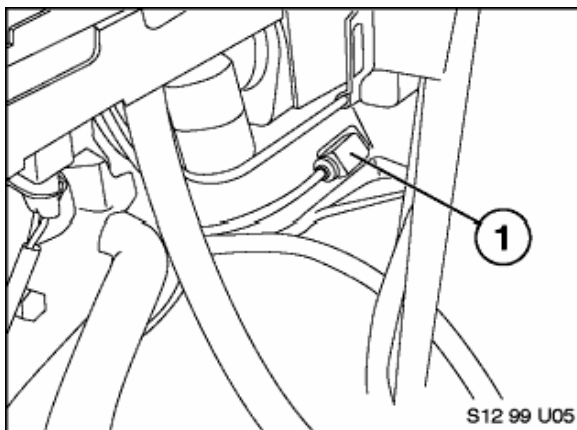
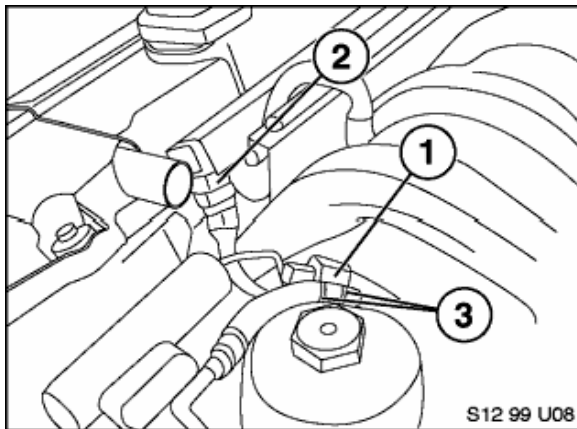
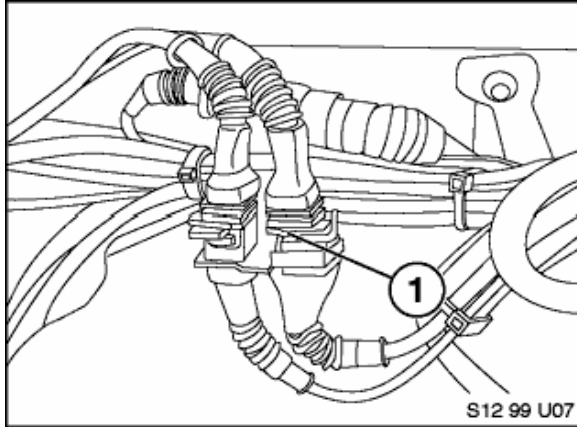
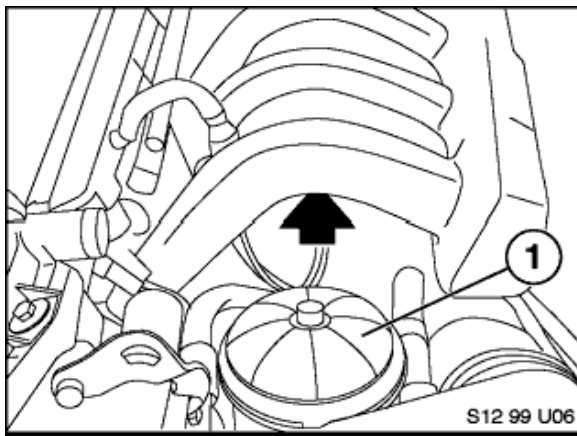


1. Remove the crankshaft position sensor which is located below the starter motor.

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.



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

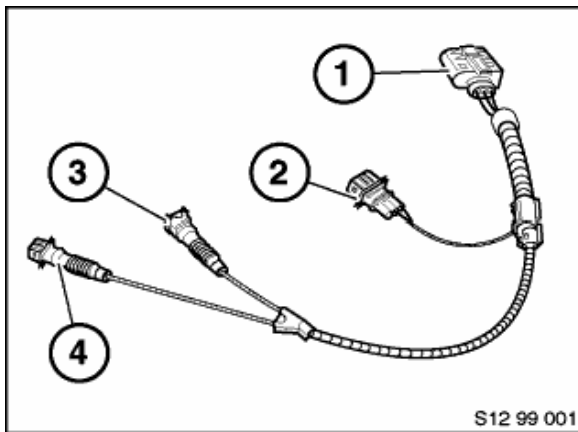
To access this connector, the cap of the oil filter housing (should be removed and the oil filter and housing should then be covered to prevent dirt from getting onto the oil filter.

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

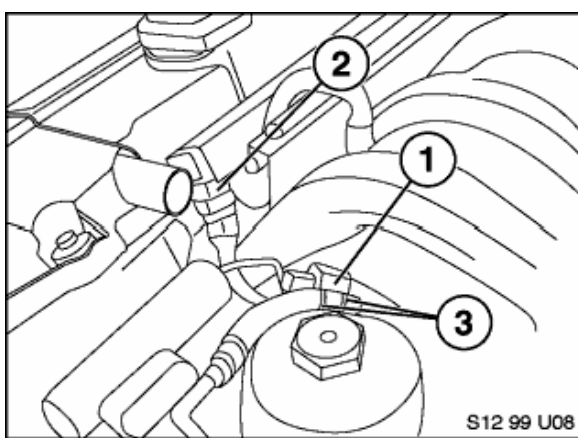
Note: This illustration shows the plug connectors with the intake manifold removed. **It is not necessary to remove the intake manifold in order to gain access to these connectors and complete this repair.**

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

5. Install the new crankshaft position sensor (1) P/N 12 14 1 709 616 and O-ring P/N 12 14 1 748 398.



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.



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 17x3 | 1 |
| 61 13 1 377 134 | Cable tie | 2 |

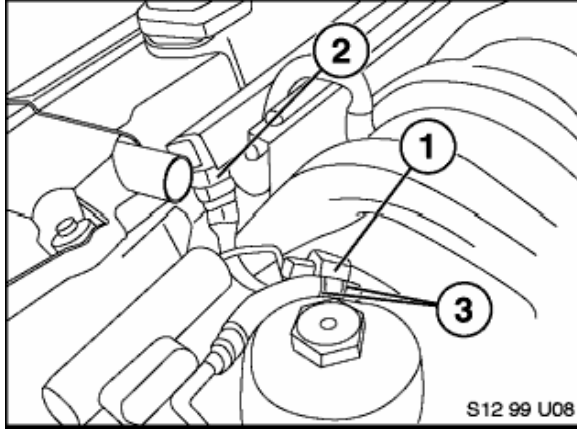
NOTE: The early style Crankshaft position sensors are no longer available from the Parts Department. Any retailer stock of Part Number 12 14 1 744 492 should be returned to your facing PDC using :

Return code: TEC 36

Order and invoice numbers do not need to be provided.

Recall Label Instructions:

After the vehicle has been checked and corrected, obtain a label (SD 92-124) and with a ball point pen print your dealer code (5 digits) on the Recall Completion Label (see illustration). An initial quantity of 100 labels will be sent to all BMW automotive centers. Peel the label from its backing and affix it to the left front strut tower (in the engine compartment) next to the Vehicle Emission Control Label.



For California centers only it is required by the California Code of Regulations that an executed orange "Vehicle Emission Recall - Proof of Correction" certificate (SD92-084, see illustration) be provided to each customer (for vehicles registered in the state of California) once the Recall on their vehicle has been completed.

| Vehicle Emission Recall - Proof of Correction | | | | |
|--|------|---|-----------|--|
| License Number | Make | Year Model | Body Type | Vehicle Identification Number <input style="width: 100%;" type="text"/> |
| Manufacturer _____ | | Recall Number _____ | | |
| The above described vehicle has been repaired, modified and/or equipped with new emission control devices to meet applicable California Emission Control Laws. | | | | |
| Dealer's Name _____ | | Address, City, State and Zip _____ | | |
| Date _____ | | Dealership's Authorized Signature _____ | | |
| Return this certificate to DMV <u>only</u> when required - otherwise retain for your records. | | | | SD92-084 |

S12 96 U31

Note: Additional labels can be ordered from Product Engineering (a pre-printed order form is enclosed).

Warranty Information: Reimbursement for this recall will be provided through campaign entry.

Defect Code: 00 12 27 01 00

Work Package #1: Replace crankshaft sensor & install adapter harness.

Models: E36 - 323i/iA, 328i/iA and M3
 E39 - 528i/iA
 Z3

Labor Operation: 00 51 404

Labor Allowance: 11 FRU

Work Package #2:

Check if new crankshaft sensor is already installed.
Replacement not required.

Models:

E36 - 323i/iA, 328i/iA and M3
E39 - 528i/iA
Z3

Labor Operation:

00 52 019

Labor Allowance:

3 FRU