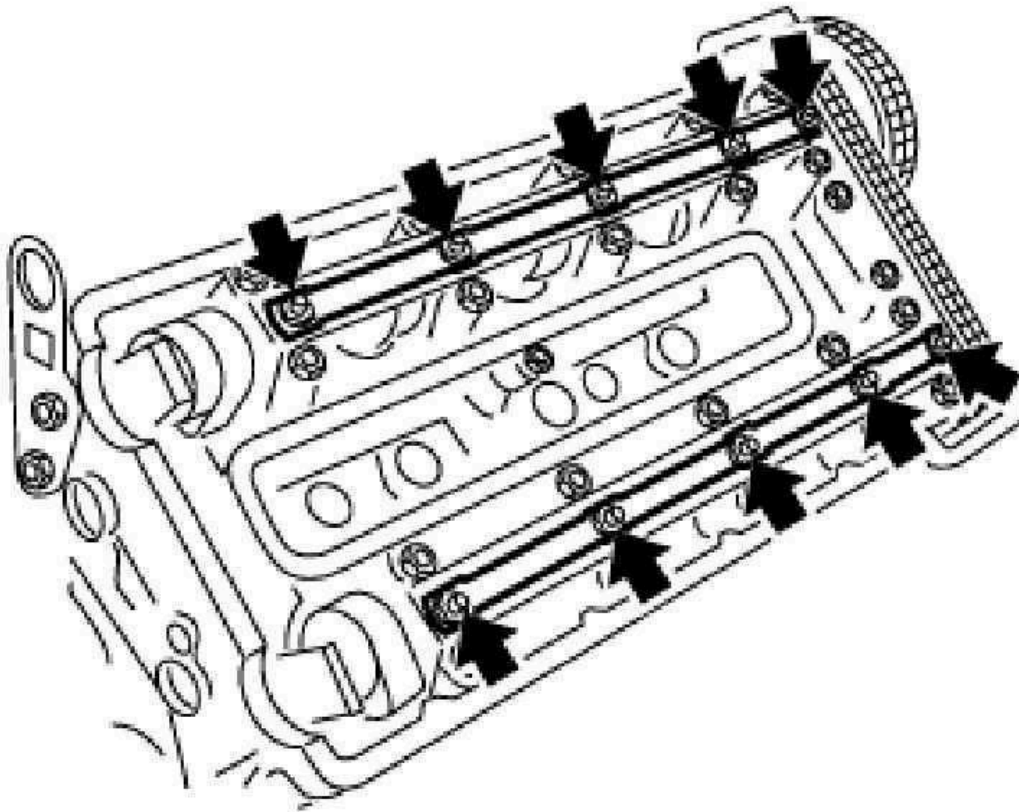


G03152215

Fig. 318: Identifying Cylinder Head Covers
Courtesy of BMW OF NORTH AMERICA, INC.

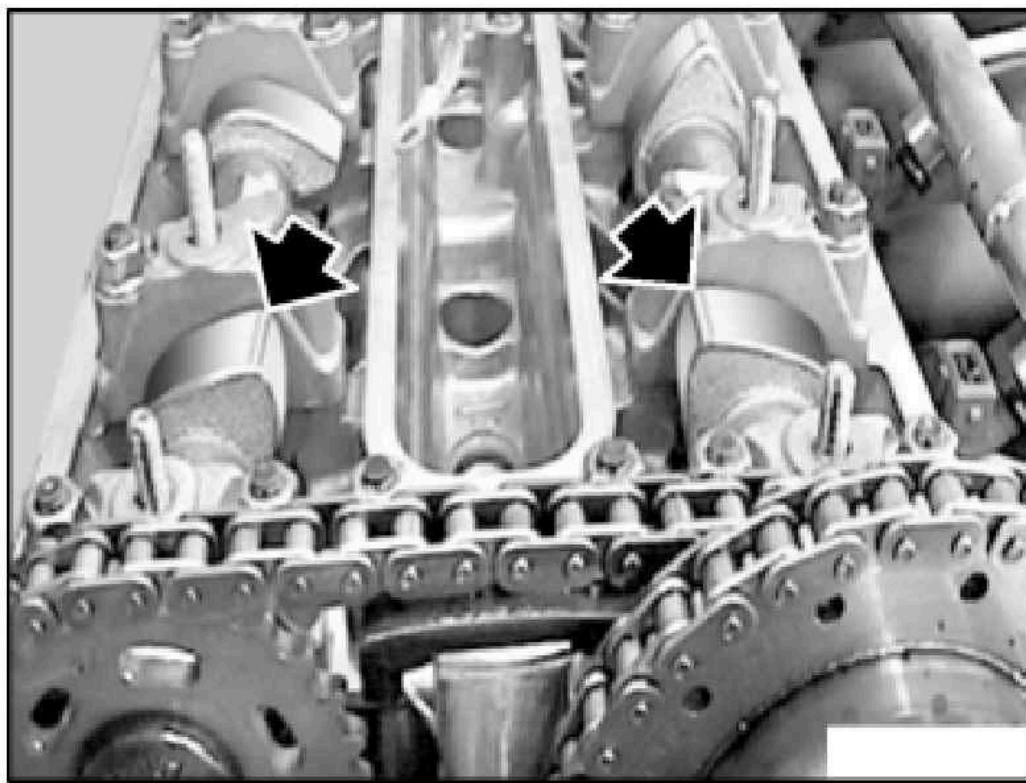
Remove oil lines on left and right of cylinder head.



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Fig. 319: Removing Oil Lines On Left And Right Of Cylinder Head
Courtesy of BMW OF NORTH AMERICA, INC.

Turn engine in direction of rotation as far as TDC firing position of first cylinder.



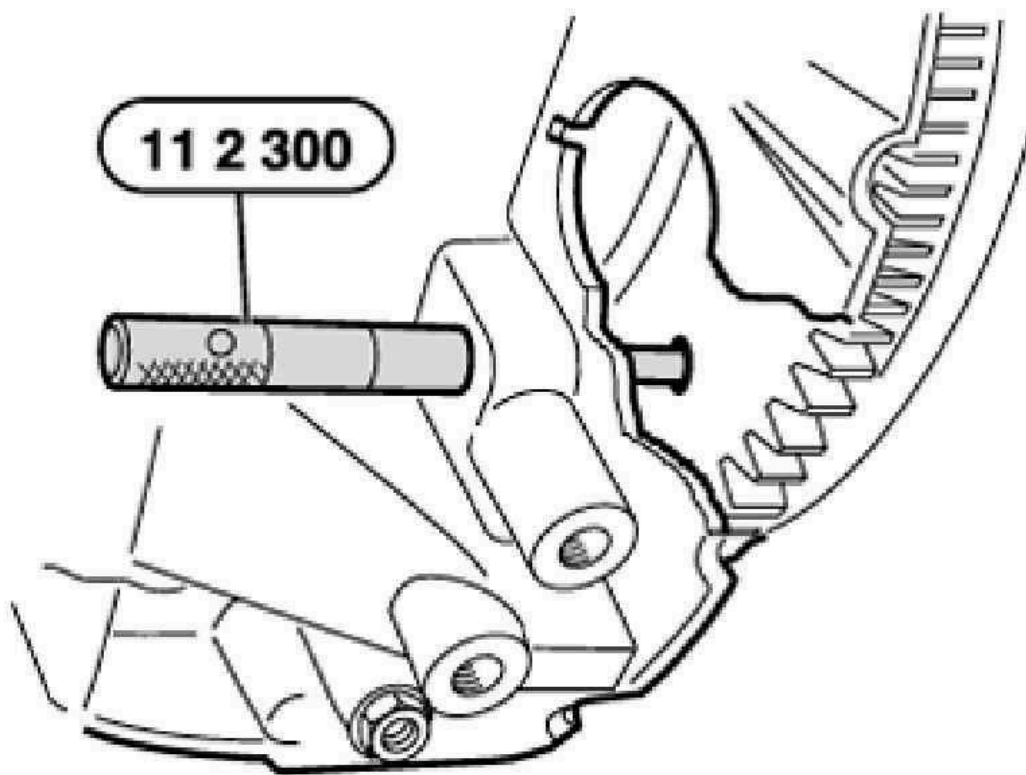
G03152217

Fig. 320: Turning Engine In Direction Of Rotation
Courtesy of BMW OF NORTH AMERICA, INC.

E38/E39

Secure crankshaft with special tool 11 2 300 in TDC firing position of first cylinder.

CAUTION: Remove special tool 11 2 300 before starting engine.



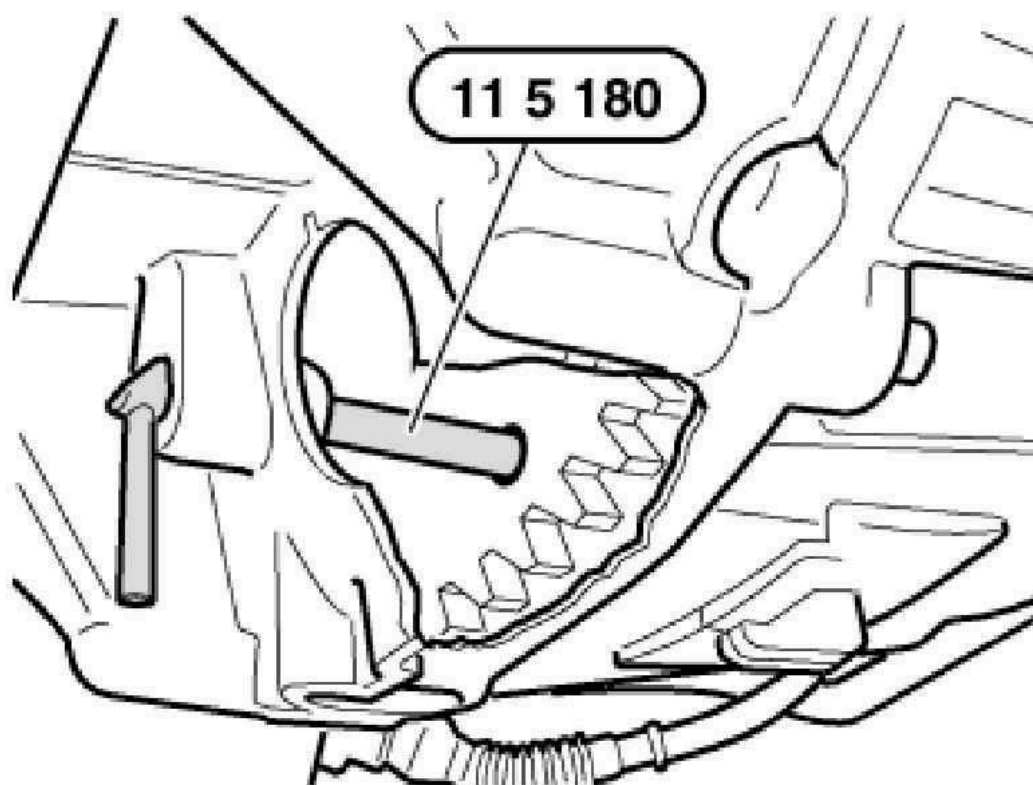
G03152218

Fig. 321: Holding Crankshaft With Special Tool 11 2 300 In TDC Firing Position Of First Cylinder
Courtesy of BMW OF NORTH AMERICA, INC.

E53 (X5)

Secure crankshaft with special tool 11 5 180 in TDC firing position of first cylinder.

CAUTION: Remove special tool 11 5 180 before starting engine.



G03152219

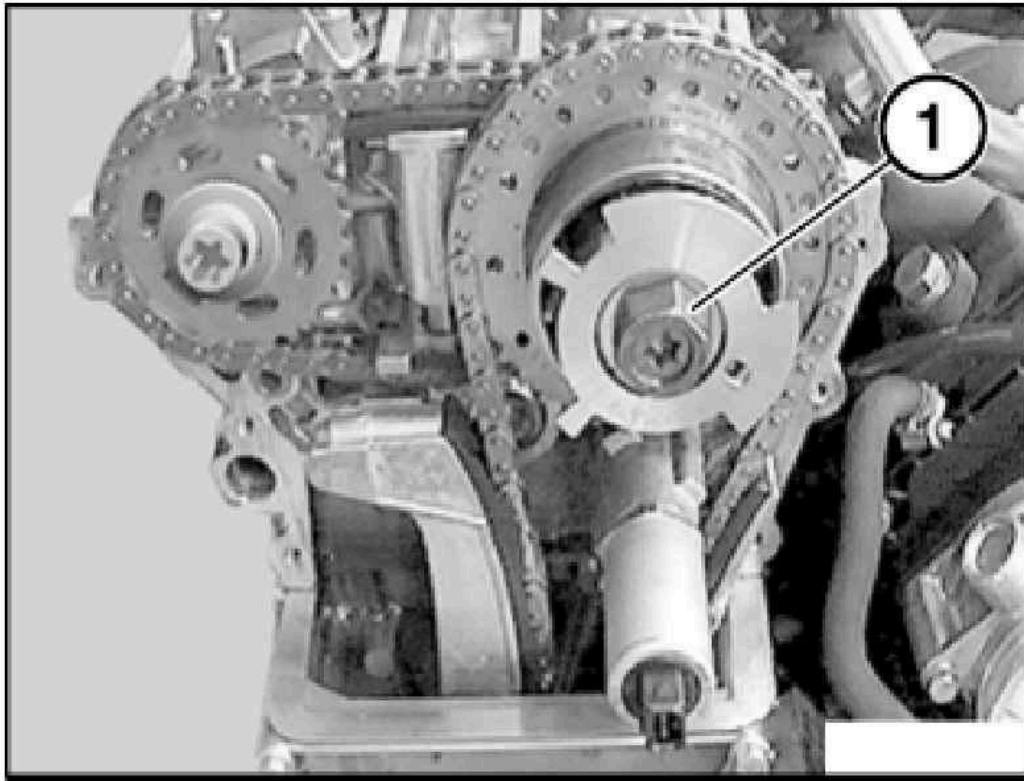
Fig. 322: Holding Crankshaft With Special Tool 11 5 180 In TDC Firing Position Of First Cylinder
Courtesy of BMW OF NORTH AMERICA, INC.

Remove chain tensioning piston.

Remove both timing case covers at top.

CAUTION: Left-hand threads.

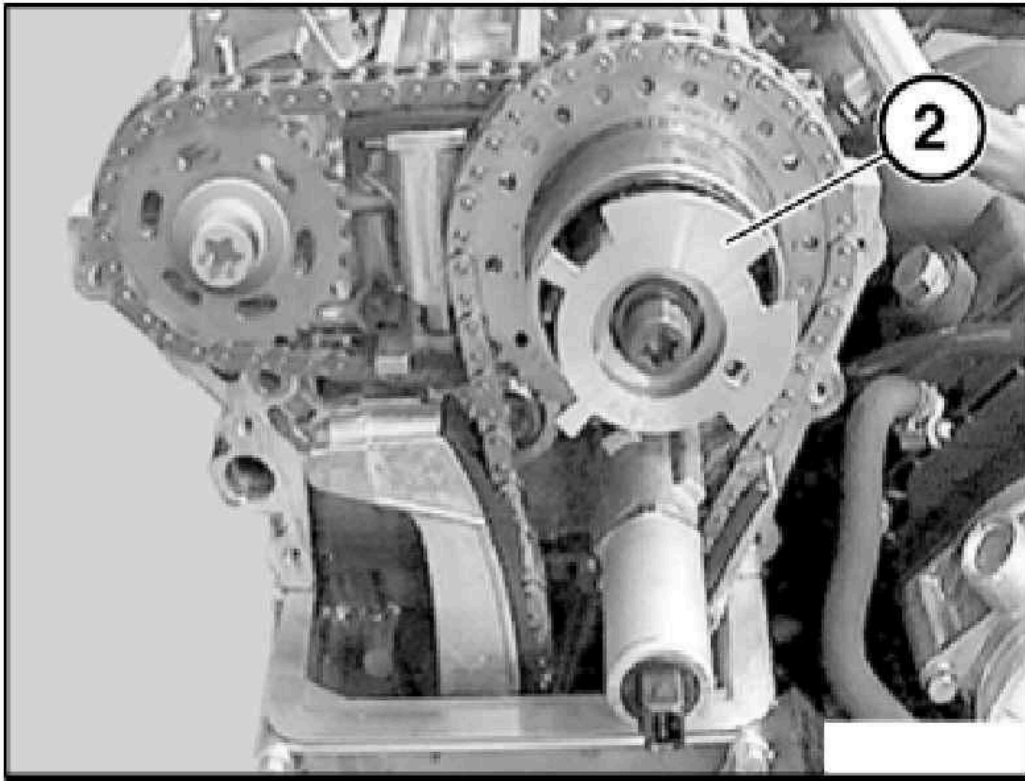
Release nut (1) on sensor gear screw connection on cylinder bank 1 to 4.



G03152220

Fig. 323: Releasing Nut On Sensor Gear Screw Connection On Cylinder Bank 1 To 4
Courtesy of BMW OF NORTH AMERICA, INC.

Remove sensor gear (2) on cylinder bank 1 to 4.

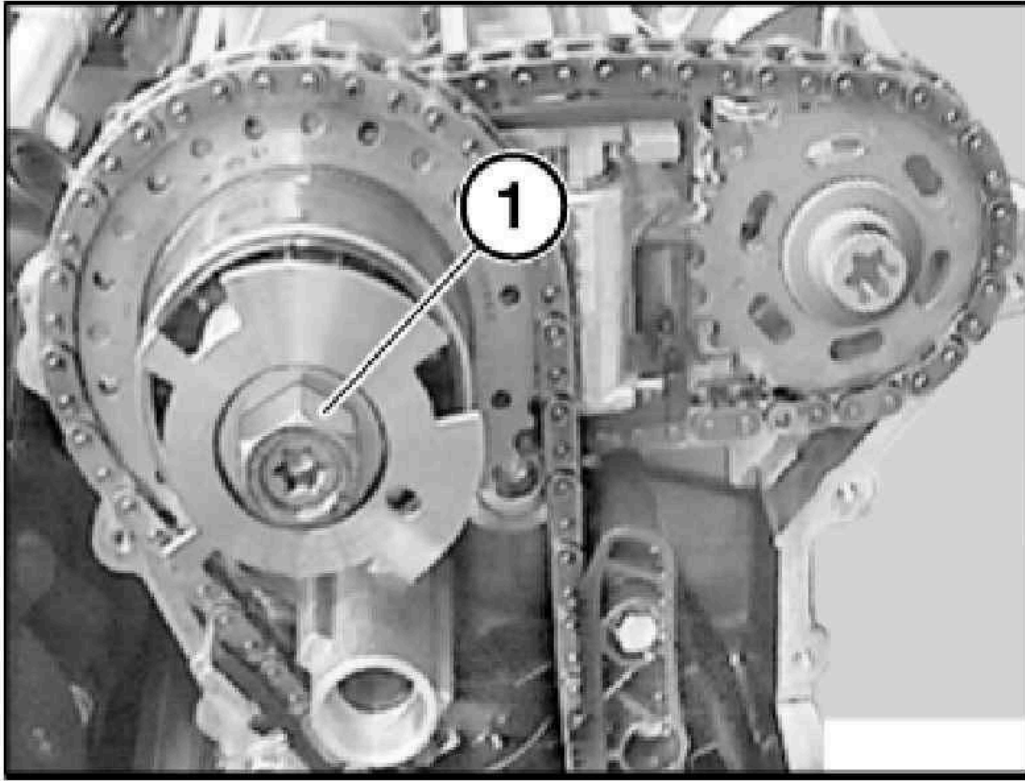


G03152221

Fig. 324: Removing Sensor Gear On Cylinder Bank 1 To 4
Courtesy of BMW OF NORTH AMERICA, INC.

CAUTION: Left-hand threads.

Release nut (1) on sensor gear screw connection on cylinder bank 5 to 8.



G03152222

Fig. 325: Releasing Nut On Sensor Gear Screw Connection On Cylinder Bank 5 To 8
Courtesy of BMW OF NORTH AMERICA, INC.

Remove sensor gear (2) on cylinder bank 5 to 8.