

**Haynes**
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BMW 3-Series 320i & 320xi (12-14), 325i, 325xi, 330i & 330xi (06) & 328i & 328xi (07-14) Haynes Online Manual

21 Vacuum pump - removal and installation

Note:

Due to the Valvetronic system, very little vacuum is created in the intake manifold for the brake booster, creating the need for a vacuum pump. On 3.0L models, the vacuum pump is located on the left-hand face of the cylinder block, and is driven by a chain from the crankshaft sprocket. On 2.0L models, the vacuum pump is located at the rear of the valve cover, and is driven by the exhaust camshaft.

3.0L models (E-series chassis)

1 Remove the drivebelt and drivebelt tensioner (see [Chapter 1](#)).

2 Remove the vacuum pump sealing cover. BMW specifies the use of several special tools (No 11 9 200, 11 4 362, 11 4 361 and 11 4 364) to remove and install the cover. However, it is possible to carefully pry the cover off using a screwdriver, and install a new cover without the use of special tools.

3 Remove the intake manifold (see [Chapter 4](#)).

4 Rotate the crankshaft pulley bolt clockwise until the three holes in the vacuum pump drive sprocket align with the pump mounting bolts.

5 Secure the pump sprocket in position prior to removing the retaining bolt. BMW specifies the use of tools No 11 4 362 and 11 0 290 (see illustration) .

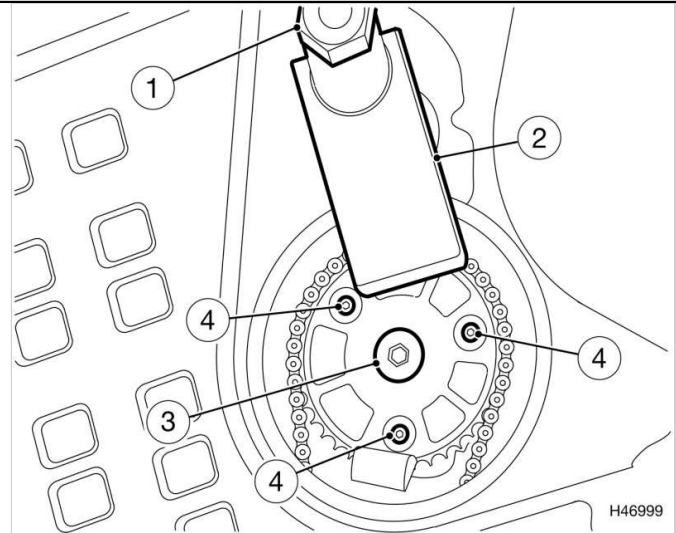
21.5 Vacuum pump mounting details

1 BMW tool No 11 4 362

2 BMW tool No 11 0 290

3 Sprocket retaining bolt

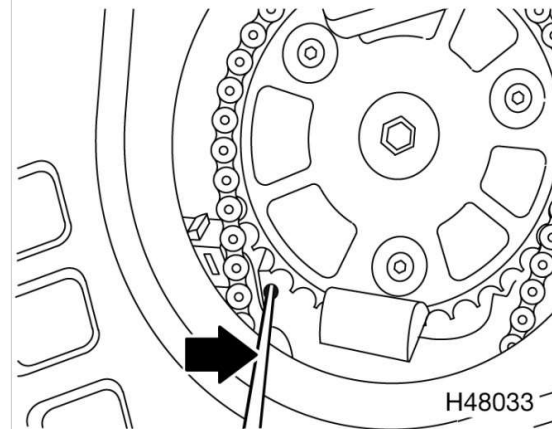
4 Pump mounting bolts



6 Loosen the sprocket retaining bolt and the bolts securing the vacuum pump.

7 Use a screwdriver to push the drive chain tensioner to the right-hand side, and lock it in this position with a 4.0 mm rod or drill bit (see illustration) .

21.7 Push the chain tensioner to the right-hand side and insert a 4.0 mm drill bit or rod



8 Fully unscrew the sprocket bolt and the pump mounting bolts, then pull out the pump. Replace the gasket between the pump and housing.

9 Installation is the reverse of removal. Make sure the drive sprocket engages correctly with the pump shaft. Tighten the pump retaining bolts securely.

2.0L models (F-series chassis)

10 Turn the locks on the engine covers 90-degrees clockwise, then lift the covers up and off.

11 Remove the trailing link from the two strut towers by prying open the fastener covers the removing the bolts and link.

12 Remove the engine sound insulation cover plastic rivets and lift the insulation cover off of the engine.

13 Disconnect both quick-connect ends of the vacuum line and remove the line.

14 Pull the positive battery cable out from the holder on the bottom of the vacuum pump.

15 Remove the turbocharger vacuum line screw at the pump and disconnect the line to the turbocharger control unit.

16 Remove the three mounting screws and pull the pump off of the cover.

17 If necessary, replace the vacuum pump O-ring.

18 Lubricate the O-ring on the pump, then make sure the slot in the vacuum pump is aligned with the gear on the exhaust camshaft.

19 Slowly install the vacuum pump while rotating and pushing the pump into the exhaust camshaft gear.

Note:

Do not force the vacuum pump on to the gear, if the gear is not aligned properly the pump will not fully seat against the valve cover.

20 Install the vacuum pump screws and tighten them securely.

21 The remainder of installation is the reverse of removal.