

# ALH timing belt checklist

This is a general guide, using factory lock-down tools, through the process of a timing belt change on a 1999 to 2003 Golf/Jetta TDI. The process for the 1998 to 2003 Beetle will be similar.

I have done my best to ensure this list is accurate, however it is possible there are errors. The mechanic is responsible for verifying all torque specs and procedures with the factory repair manual before proceeding.

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Remove engine cover  
Remove air-box and intake tube  
Remove CCV puck  
Disconnect fuel lines  
Remove EGR to intercooler pipe elbow  
Unscrew coolant tank  
Unbolt power steering reservoir  
Cap coolant tank and move towards headlight  
Remove timing belt cover  
Remove vac pump  
(10mm and 13mm box offset wrench)  
Remove valve cover  
Pull flywheel plug  
Raise car, place jack stand  
Remove belly pan  
Remove lower intercooler pipe  
Remove side skirt  
Loosen vibration damper  
Remove v-belt  
Remove vibration damper  
Rotate to TDC  
Lock camshaft  
Support engine from above and or below  
Remove upper engine mount alignment plate  
Remove upper engine mount  
Remove lower engine mount bracket (raise and lower motor to access bolts)

Remove upper and Lower timing belt covers  
Loosen timing belt tensioner  
Loosen camshaft sprocket bolt  
Break loose cam sprocket  
Remove cam sprocket  
Remove timing belt  
Remove tensioner  
Lock Injection Pump  
Remove idler rollers  
Install new water pump  
Water pump bolts (11 ft-lb)  
Install new large roller (30 ft-lb + 90°)  
Install new lower roller (16 ft-lb)  
Install new upper roller (15 ft-lb)  
Replace cam seal  
**DO NOT DROP NUTS!!!!**  
Bearing cap Torque (15 ft-lb)  
*(use sealant between bearing cap and head)*  
position new belt on pulleys  
Install new tensioner, verify tab properly located.  
Place new belt on cam pulley  
Loosen injection pump bolts  
Set tension on tensioner  
Tensioner torque (15 ft-lb)  
Install metal timing belt covers  
Install engine mount bracket (33 ft-lb)  
Check pump pin, crank at TDC, cam at TDC  
Tighten cam sprocket bolt (33 ft-lb)  
*(use counter-hold tool on cam pulley)*  
Tighten injection pump bolts (18 ft-lb)  
Remove cam-lock  
Remove pump-pin  
Rotate engine **BY HAND** 2 full turns  
*(use tool at crank pulley only)*  
Set crank at TDC  
Verify cam at TDC with cam-lock  
Install vac pump (15 ft-lb)  
Install valve cover (84 in-lb)  
*(use sealant where cover meets bearing caps)*  
Install CCV puck  
Install vibration damper/pulley (18 ft-lb)  
*(Use blue loctite)*

Install motor mount  
Mount bolts to mount bracket (74 ft-lb)  
Mount bolts to frame (30 ft-lb + 90°)  
Mount bracket bolts (18 ft-lb)  
Install coolant tank  
Install power steering reservoir  
Install Serpentine belt  
Install side skirt  
Install intercooler pipes and elbow  
Install air-box and intake tube  
Install belly pan  
Refill coolant  
Re-attach fuel lines.

Check and set timing via vag-com  
Injection pump bolts:  
(stretch type one time use): 15 ft-lb + 90°  
(non-stretch type): 18 ft-lb

*If the injection timing is advanced, Rotate pump shaft counterclockwise towards rear of car.  
If the injection timing is retarded, rotate pump clockwise towards front of car.*