506 - Subaru Camlock Tool Instructions

SPECIAL NOTES:

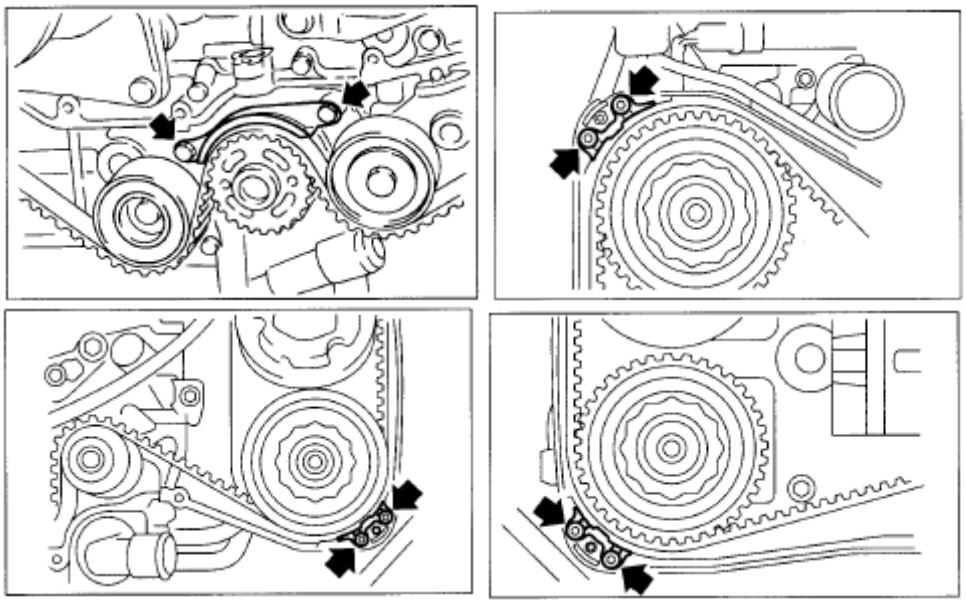
- The use of a factory service manual is highly recommended.
- Company23 is not responsible for damage done to your vehicle as a result of misuse of this product.
- Company23 does its best to ensure the accuracy of this manual but is not responsible for errors.
- WARNING: Never use the camlock tool to remove the camshaft sprocket bolt.

TIMING BELT REMOVAL INSTRUCTIONS:

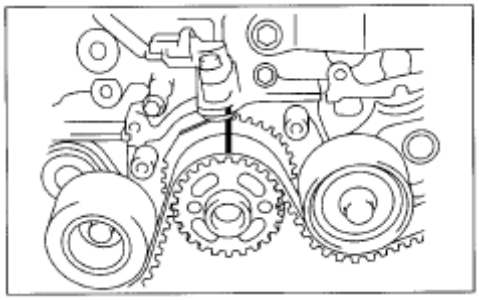
Step 1) We recommend removing the radiator and radiator fans after draining the coolant. Remove accessory belts. Remove engine covers.

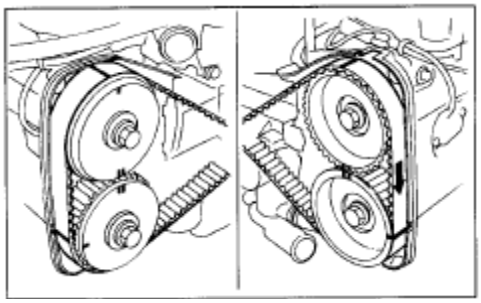
Step 2) Remove the crankshaft pulley. See Company23 Crank Pulley Instructions.

Step 3) If you have a manual transmission, remove the timing belt guides.

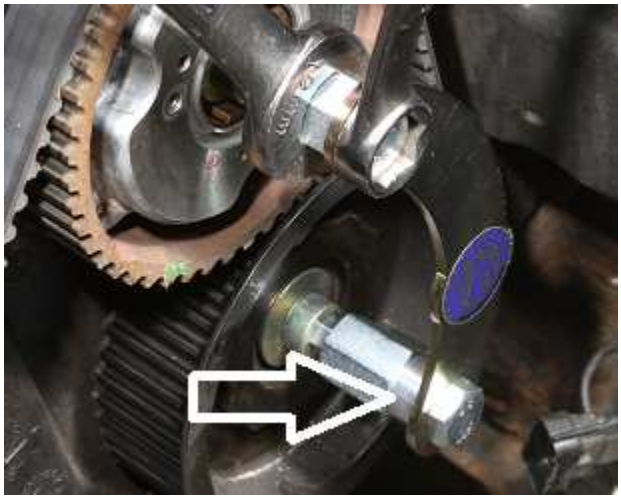


Step 4) Using Company23 crank socket #513, turn the engine over to align alignment marks on crankshaft sprocket, left-hand intake camshaft sprocket, left-hand exhaust camshaft sprocket, right-hand intake camshaft sprocket, and right-hand exhaust camshaft sprocket with notches of backside belt cover and cylinder block.



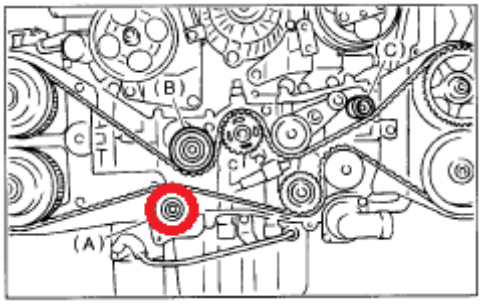


Step 5) For AVCS cam sprockets, remove the cover plates and set aside. Install Company23 Camlock onto left-hand side exhaust and intake camshaft sprockets. If you have intake AVCS cam sprockets only, install spacer on bottom side of the tool between the hex lock pin and the curved tie bar. The tool should be parallel to the cam pulley surfaces.

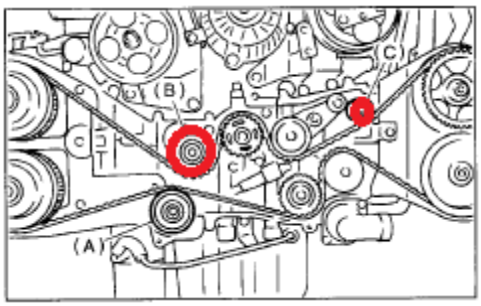


Step 6) Using a 19mm wrench and a 17mm wrench, tighten the top and the bottom camlock bolt while holding the hex of the hex lock pin. This locks the cam positions so they do not rotate when the belt is removed. WARNING: Do not apply torque to camlock bolt without having a wrench on the hex lock pin to react the torque.

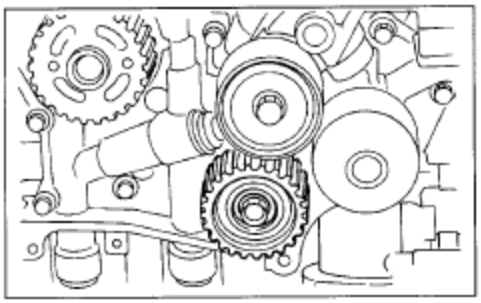
Step 7) Remove the belt idler A.



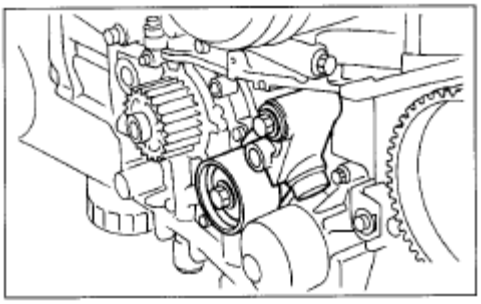
Step 8) Remove the belt idler B and C. The left-hand camshaft sprockets will not rotate.



Step 9) Remove toothed idler.

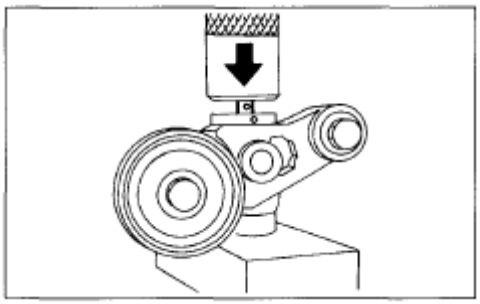


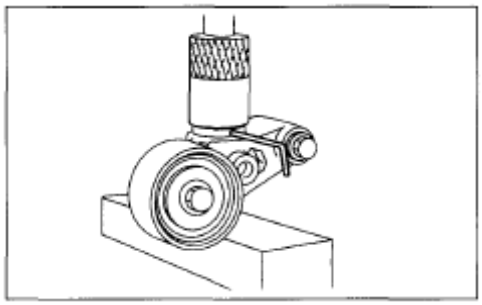
Step 10) Remove the automatic belt tension adjuster.



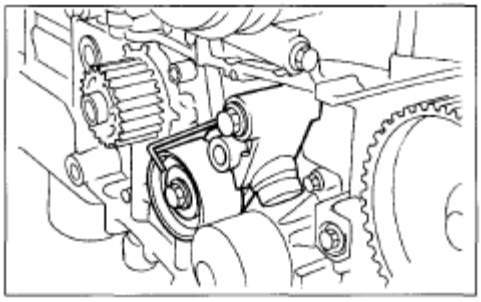
TIMING BELT INSTALLATION INSTRUCTIONS:

Step 11) Compress belt tensioner adjuster. Always use a vertical type pressing tool to move the adjuster rod down. Do not use a lateral type vise. Push the adjuster rod vertically. Be sure to slowly move the adjuster rod down applying a pressure of 294N (30kgf, 66 lb). Press-in the push adjuster rod gradually taking more than 3 minutes. Do not allow press pressure to exceed 9,807N (1,000 kgf, 2205lb). Press the adjuster rod as far as the end surface of the cylinder. Do not press the adjuster rod into the cylinder as it may damage the cylinder. Do not release the press pressure until 2mm (0.08 in) pin or hex bar wrench is completely inserted.

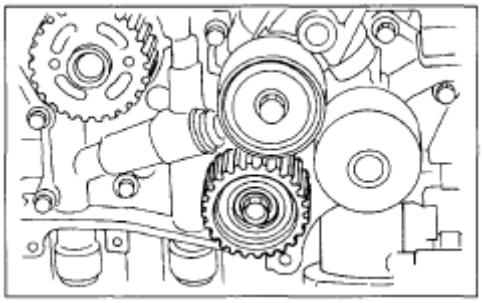


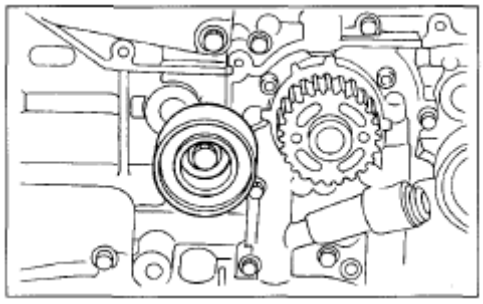


Step 12) Install the tensioner and tighten to 39 Nm (4.0kgf-m, 28.9 ft. lb)

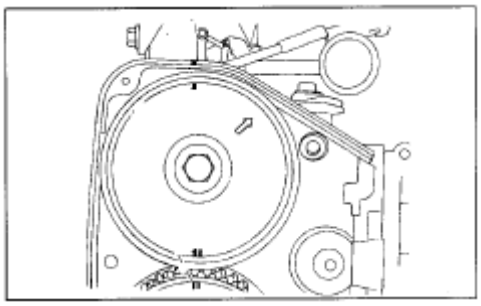


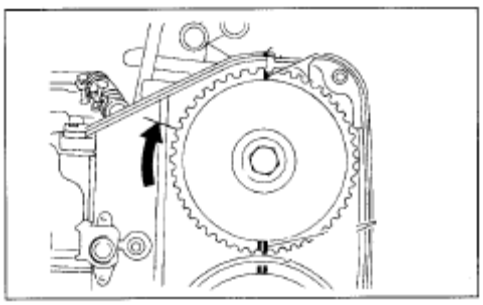
Step 13) Install these 2 idlers and tighten to 39 Nm (4.0kgf-m, 28.9 ft. lb)

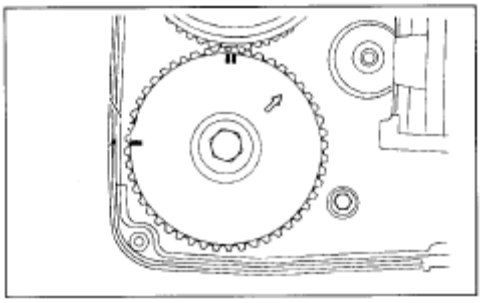


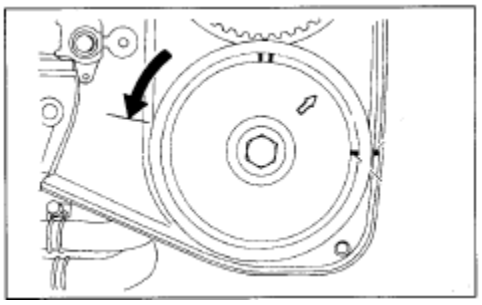


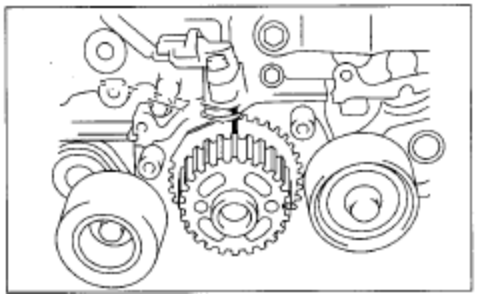
Step 14) Your camshaft sprockets and crankshaft should not have moved since you removed the belt but it is a good idea to double check the marks. The camshaft sprocket double lines should line up with each other on both sides and the single marks should line up with the back side of the timing cover. The crankshaft should line up with the mark on the block.



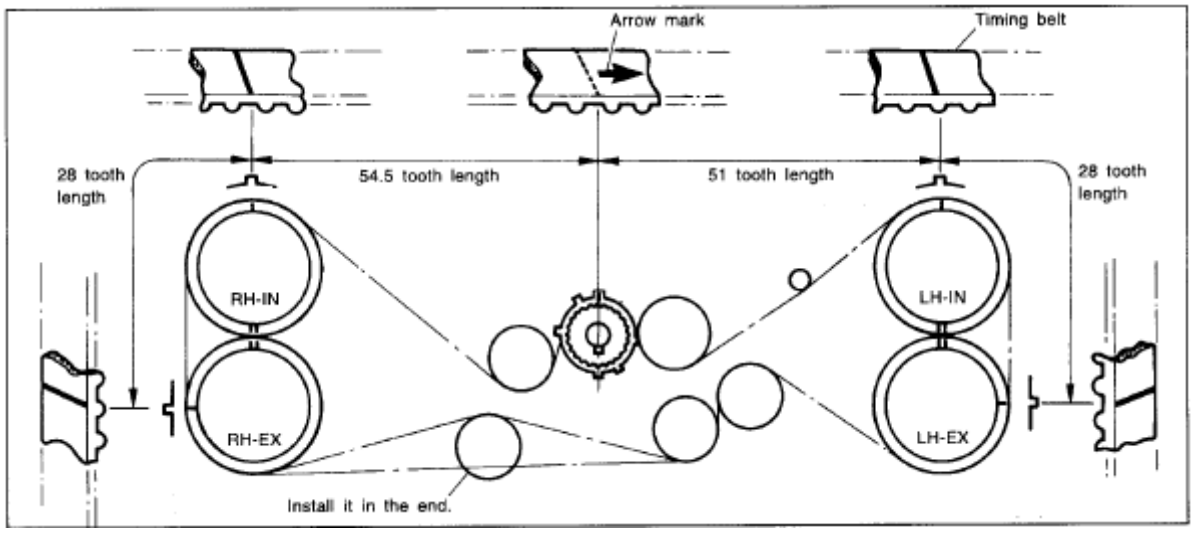




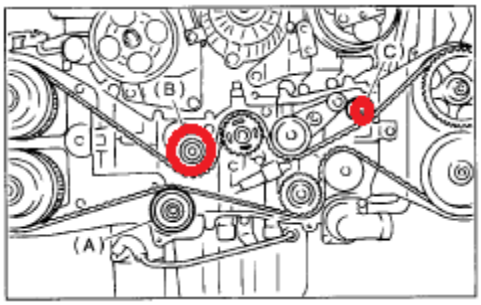




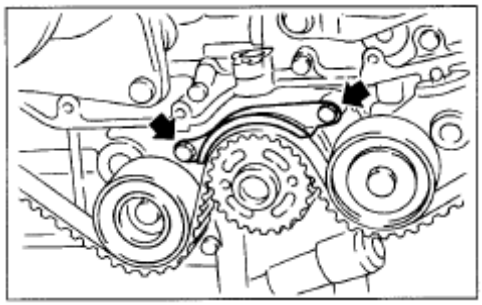
Step 15) Reinstall the timing belt. For reference, verify alignment marks from Step 15. Ensure the belts rotating direction is correct.

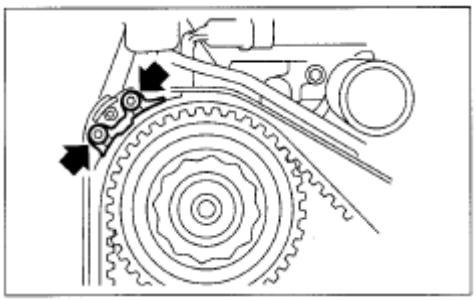


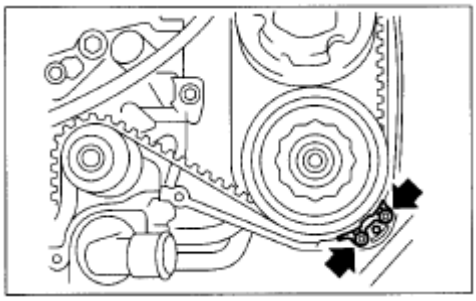
Step 16) Install belt idlers and tighten to 39 Nm (4.0kgf-m, 28.9 ft. lb)

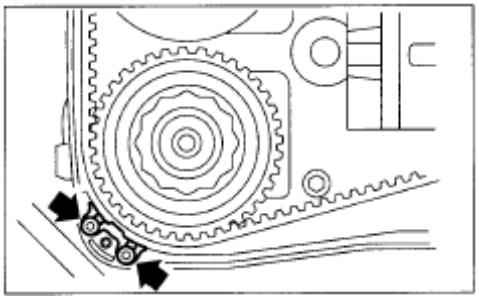


Step 17) Reinstall timing belt guides (manual transmission vehicles). Tighten bolts to 9.8Nm (1.0kgf-m, 7.2 ft-lb)

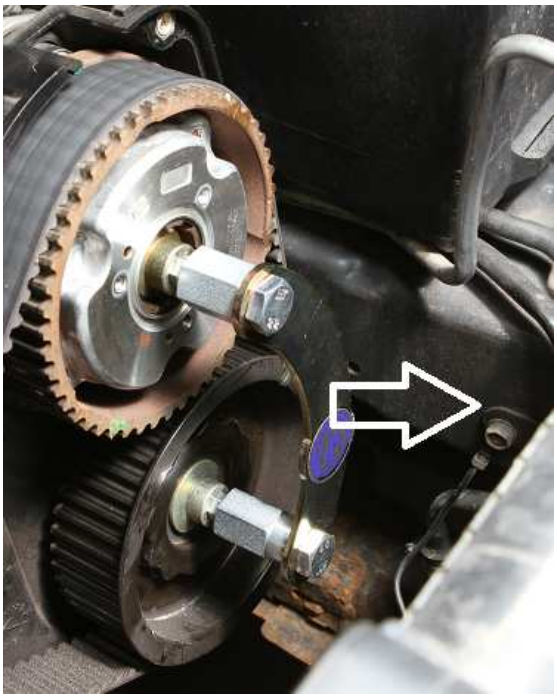








Step 18) Remove Company23 Camlock.



Step 19) Reinstall timing belt covers, crankshaft bolt, accessory belts, and radiator.