

April 12, 2019

Version 2

Safety Recall: 3.5L V6 Timing Belt

Supersedes 19-045, dated April 12, 2019, to revise the information highlighted in **yellow**

AFFECTED VEHICLES

Year	Model	Trim	VIN Range
2019	Odyssey	ALL	Check the iN VIN status for eligibility.
2018-19	Pilot	ALL	Check the iN VIN status for eligibility.
2019	Ridgeline	ALL	Check the iN VIN status for eligibility.

REVISION SUMMARY

- Under **REQUIRED MATERIALS**, the Honda Genuine Motor Oil part number was updated.
- Under **INSPECTION**, Step 5 was changed.

BACKGROUND

During production, a supplier produced some timing belts that do not meet specification. These timing belts may shred or slip, causing the cam shafts to fall out of timing. Camshafts that are out of timing will set *DTC P0341: CMP Sensor and CKP Sensor Incorrect Phase Detected* and/or *DTC P0369: CMP Sensor Circuit Intermittent Interruption* and the engine will run rough. Additionally, shredded timing belts may cause the vehicle to stall and not be able to restart, which increases the risk of a crash.

CUSTOMER NOTIFICATION

Owners of affected vehicles will be sent a notification of this campaign.

Do an iN VIN status inquiry to make sure the vehicle is shown as eligible.

Some vehicles affected by this campaign may be in your new or used vehicle inventory.

Failure to repair a vehicle subject to a recall or campaign may subject your dealership to claims or lawsuits from the customer or anyone else harmed as a result of such failure. To see if a vehicle in inventory is affected by this safety recall, do a VIN status inquiry before selling it.

CUSTOMER INFORMATION: The information in this bulletin is intended for use only by skilled technicians who have the proper tools, equipment, and training to correctly and safely maintain your vehicle. These procedures should not be attempted by "do-it-yourselfers," and you should not assume this bulletin applies to your vehicle, or that your vehicle has the condition described. To determine whether this information applies, contact an authorized Honda automobile dealer.

CORRECTIVE ACTION

Inspect the timing belt and, if necessary, replace the timing belt. If the lot codes are not visible or the timing belt is damaged, a cylinder leak down test may be required and, based on those results, further repairs may be required.

NOTE

Only a small percentage of vehicles are expected to have timing belts that are out of specification. Only order replacement parts after you have identified an out-of-spec timing belt.

PARTS INFORMATION

NOTES

- Parts are applicable to all models unless otherwise noted.
- Only a small percentage of vehicles are expected to have timing belts that are out of specification. Only order replacement parts after you have identified an out-of-spec timing belt.
- Order the engine block and the applicable cylinder head(s) after a damaged engine is identified by completing a cylinder leak-down test.

Timing Belt Replacement

Part Name	Part Number	Quantity
Timing Belt	14400-R9P-A01	1
Timing Belt Idler Bolt	14551-RCA-A01	1
Flange Bolt (10 x 85)	90002-R70-A00	1
Flange Bolt (10 x 60)	90168-TA1-A00	2
Flange Bolt (10 x 105)	95801-10105-08	2

Engine Block and Cylinder Head Replacement - Odyssey

Part Name	Part Number	Quantity
Cylinder Block Assembly	10002-5MR-A10	1
Front Cylinder Head Assembly	10004-5MR-A00	1
Rear Cylinder Head Assembly	10005-5MR-A00	1
Self-Locking Nut (10 mm)	90212-SA5-003	6
Exhaust Pipe Gasket	18212-SA7-003	2
Pre-Chamber Gasket	18393-SDB-A00	2
Flange Bolt (12 x 30)	90161-SHJ-A00	8
Flange Bolt (14 x 125)	90165-TK8-A00	2
Flange Bolt (10 x 25)	90167-SAA-010	4
Self-locking Nut (8 mm)	90212-RCA-A01	8
Front Cylinder Head Gasket Kit	06110-5MR-A01	1
Rear Cylinder Head Gasket Kit	06120-5MR-A01	1
Cylinder Block Gasket Kit	06111-5J6-000	1
Washer Bolt (12 x 163)	90005-PAA-A01	12
Washer Bolt (12 x 188)	90005-5G0-A01	4
EGR Gasket Pipe A	18716-R70-A01	1
EGR Gasket Pipe B	18719-R70-A01	1

Engine Block and Cylinder Head Replacement - Odyssey (cont.)

Part Name	Part Number	Quantity
Exhaust Chamber Gasket (NIPPON LEAKLESS)	18115-5G0-A01	1
O-Ring (5/8")	80871-SN7-003	1
O-Ring (8 mm)	80873-ST7-000	1
Castle Nut (14 mm)	90365-STX-A00	2
Split Pin (M14)	90701-S3V-A01	2
Flange Nut (12 mm)	90362-SZA-A00	2
Split Pin (3.0 x 22)	94201-30220	2
Flange Nut (12 mm)	90362-SZA-A00	2
Flange Bolt (10 x 35)	90163-SDA-A01	2
Flange Nut (12 mm)	90371-SAA-010	4
Flange Bolt (10 x 30)	90163-SDB-A00	3
Flange Bolt (12 x 75)	90163-TA0-A00	4
Fuel Joint Pipe Set	16012-R9P-315	1
O-Ring	91311-5A2-A01	1
Injector Clip	16451-5R1-J01	6
Injector Seal Set	16452-RLV-A00	2

Engine Block and Cylinder Head Replacement - Pilot

Part Name	Part Number	Quantity
Cylinder Block Assembly	10002-5J6-A02	1
Front Cylinder Head Assembly	10004-RLV-A00	1
Rear Cylinder Head Assembly	10005-RLV-X00	1
Self-Locking Nut (10 mm)	90212-SA5-003	6
Exhaust Pipe Gasket	18212-SA7-003	2
Pre-Chamber Gasket	18393-SDB-A00	2
Flange Bolt (12 x 30)	90161-SHJ-A00	8
Flange Bolt (14 x 125)	90165-TK8-A00	2
Flange Bolt (10 x 25)	90167-SAA-010	4
Self-locking Nut (8 mm)	90212-RCA-A01	8
Front Cylinder Head Gasket Kit	06110-RLV-000	1
Rear Cylinder Head Gasket Kit	06120-RLV-000	1
Cylinder Block Gasket Kit	06111-5J6-000	1
Washer Bolt (12 x 163)	90005-PAA-A01	12
Washer Bolt (12 x 188)	90005-5G0-A01	4
EGR Gasket Pipe A	18716-R70-A01	1
EGR Gasket Pipe B	18719-R70-A01	1
Exhaust Chamber Gasket (NIPPON LEAKLESS)	18115-5G0-A01	1
O-Ring (5/8")	80871-SN7-003	1
O-Ring (8 mm)	80873-ST7-000	1
Castle Nut (14 mm)	90365-STX-A00	2
Split Pin (M14)	90701-S3V-A01	2
Flange Nut (12 mm)	90362-SZA-A00	2
Split Pin (3.0 x 22)	94201-30220	2
Flange Nut (12 mm)	90362-SZA-A00	2
Flange Bolt (10 x 35)	90163-SDA-A01	2
Flange Nut (12 mm)	90371-SAA-010	4
Flange Bolt (10 x 30)	90163-SDB-A00	3
Flange Bolt (12 x 75)	90163-TA0-A00	4

Engine Block and Cylinder Head Replacement - Pilot (cont.)

Part Name	Part Number	Quantity
Fuel Joint Pipe Set	16012-R9P-315	1
O-Ring	91311-5A2-A01	1
Injector Clip	16451-5R1-J01	6
Injector Seal Set	16453-R9P-A00	2

Engine Block and Cylinder Head Replacement - Ridgeline

Part Name	Part Number	Quantity
Cylinder Block Assembly	10002-5MJ-A00	1
Front Cylinder Head Assembly	10004-5MJ-A00	1
Rear Cylinder Head Assembly	10005-5MJ-A00	1
Self-Locking Nut (10 mm)	90212-SA5-003	6
Exhaust Pipe Gasket	18212-SA7-003	2
Pre-Chamber Gasket	18393-SDB-A00	2
Flange Bolt (12 x 30)	90161-SHJ-A00	8
Flange Bolt (14 x 125)	90165-TK8-A00	2
Flange Bolt (10 x 25)	90167-SAA-010	4
Self-locking Nut (8 mm)	90212-RCA-A01	8
Front Cylinder Head Gasket Kit	06110-RLV-000	1
Rear Cylinder Head Gasket Kit	06120-RLV-000	1
Cylinder Block Gasket Kit	06111-5J6-000	1
Washer Bolt (12 x 163)	90005-PAA-A01	12
Washer Bolt (12 x 188)	90005-5G0-A01	4
EGR Gasket Pipe A	18716-R70-A01	1
EGR Gasket Pipe B	18719-R70-A01	1
Exhaust Chamber Gasket (NIPPON LEAKLESS)	18115-5G0-A01	1
O-Ring (5/8")	80871-SN7-003	1
O-Ring (8 mm)	80873-ST7-000	1
Castle Nut (14 mm)	90365-STX-A00	2
Split Pin (M14)	90701-S3V-A01	2
Flange Nut (12 mm)	90362-SZA-A00	2
Split Pin (3.0 x 22)	94201-30220	2
Flange Nut (12 mm)	90362-SZA-A00	2
Flange Bolt (10 x 35)	90163-SDA-A01	2
Flange Nut (12 mm)	90371-SAA-010	4
Flange Bolt (10 x 30)	90163-SDB-A00	3
Flange Bolt (12 x 75)	90163-TA0-A00	4
Fuel Joint Pipe Set	16012-R9P-315	1

Engine Block and Cylinder Head Replacement - Ridgeline (cont.)

Part Name	Part Number	Quantity
O-Ring	91311-5A2-A01	1
Injector Clip	16451-5R1-J01	6
Injector Seal Set	16452-RLV-A00	2

REQUIRED TOOLS

Tool Name	Part Number	Quantity
Holder Handle	07JAB-001020B	1
50 mm Offset Holder Attachment	07MAB-PY3010A	1
19 mm Socket	07JAA-001020A	1
Cylinder Leak Down Tester	Commercially available	1

REQUIRED MATERIALS

Material Name	Part Number	Quantity
Honda Long-Life Antifreeze/Coolant Type 2	OL999-9011	3
Honda Genuine Motor Oil 0W-20	08798-9036	6
Hondabond HT (1 tube repairs 4 vehicles)	08718-0004	1

WARRANTY CLAIM INFORMATION

Timing Belt Inspection

Operation Number	Description	Flat Rate Time	Defect Code	Symptom Code	Template ID	Failed Part Number
1105C3	Odyssey	0.5 hr	6CX00	L4M00	A19045A	14400-R9P-A01
1105C3	Pilot	0.5 hr	6CX00	L4M00	A19045B	14400-R9P-A01
1105C3	Ridgeline	0.5 hr	6CX00	L4M00	A19045C	14400-R9P-A01

Timing Belt Inspection, Replacement, Diagnosis (Cylinder Leak Down and Valve Timing), and Verify Valve Timing

Operation Number	Description	Flat Rate Time	Defect Code	Symptom Code	Template ID	Failed Part Number
1105C5	Odyssey	3.1 hr	6CX00	L4M00	A19045D	14400-R9P-A01
1105C5	Pilot	3.2 hr	6CX00	L4M00	A19045E	14400-R9P-A01
1105C5	Ridgeline	3.4 hr	6CX00	L4M00	A19045F	14400-R9P-A01

Timing Belt Inspection, Diagnosis, and Replace the Engine Block and One Cylinder Head

Operation Number	Description	Flat Rate Time	Defect Code	Symptom Code	Template ID	Failed Part Number
1105C6	Odyssey	13.6 hr	6CX00	L4M00	A19045G	14400-R9P-A01
1105C6	Pilot 2WD	12.4 hr	6CX00	L4M00	A19045H	14400-R9P-A01
1105C6	Pilot AWD	12.4 hr	6CX00	L4M00	A19045I	14400-R9P-A01
A	Add for AWD	0.4 hr				
1105C6	Ridgeline 2WD	12.4 hr	6CX00	L4M00	A19045J	14400-R9P-A01
1105C6	Ridgeline AWD	12.4 hr	6CX00	L4M00	A19045K	14400-R9P-A01
A	Add for AWD	0.4 hr				

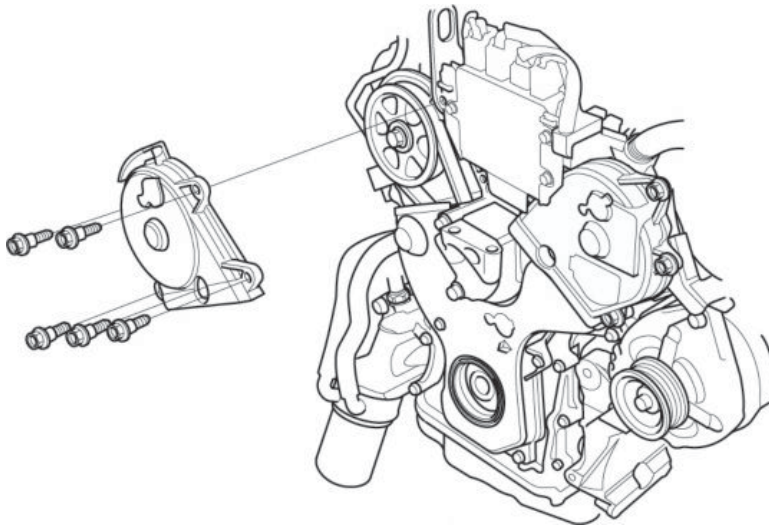
Timing Belt Inspection, Diagnosis, and Replace the Engine Block and Two Cylinder Heads

Operation Number	Description	Flat Rate Time	Defect Code	Symptom Code	Template ID	Failed Part Number
1105C7	Odyssey	13.9 hr	6CX00	L4M00	A19045L	14400-R9P-A01
1105C7	Pilot 2WD	12.7 hr	6CX00	L4M00	A19045M	14400-R9P-A01
1105C7	Pilot AWD	12.7 hr	6CX00	L4M00	A19045N	14400-R9P-A01
A	Add for AWD	0.4 hr				
1105C7	Ridgeline 2WD	12.7 hr	6CX00	L4M00	A19045O	14400-R9P-A01
1105C7	Ridgeline AWD	12.7 hr	6CX00	L4M00	A19045P	14400-R9P-A01
A	Add for AWD	0.4 hr				

Skill Level: Repair Technician

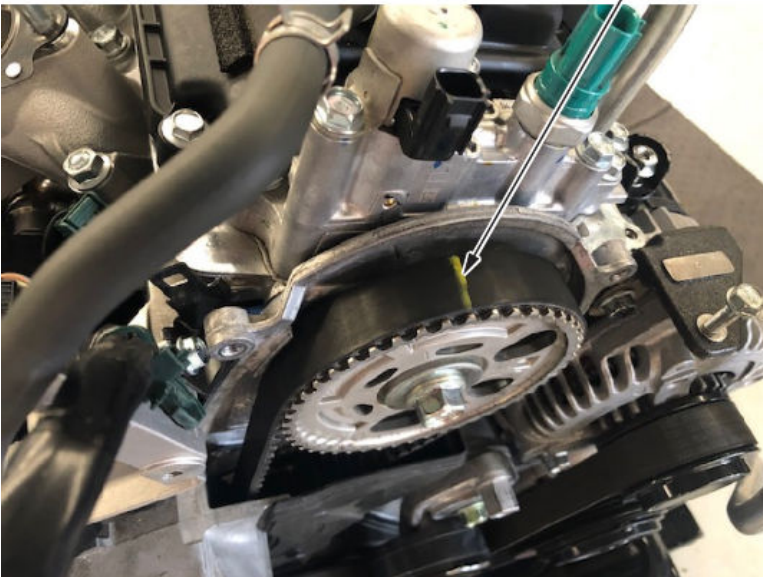
INSPECTION

1. Place the vehicle on a lift, and remove the right front wheel.
2. Remove the top engine cover.
3. Remove the rear upper timing belt cover.
 - 3.1. Remove the 5 bolts.



- 3.2. Remove the rear upper timing belt cover.
4. Mark the side of the timing belt as shown with a grease pen or marker.

GREASE PENCIL MARK



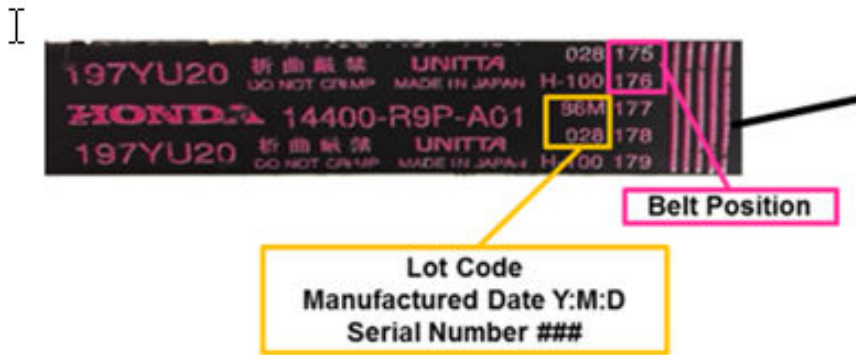
5. Rotate the engine clockwise until you see the timing belt manufacturing information (lot code) or until the mark you made on the timing belt is visible again.

NOTES

You may need to rotate the engine several times before either the lot code or the mark you made is visible.

- If the lot code is visible, go to step 6.
- **If the lot code is not visible, go to TIMING BELT REPLACEMENT.**

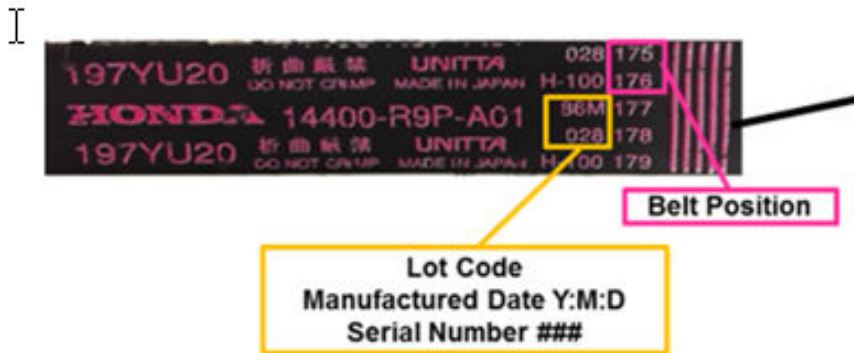
6. Check the Lot Code.



- If the Lot Code is listed in the table, go to step 7.
- If the Lot Code is not listed in the table, the timing belt is okay, and the inspection is complete. Reassemble the vehicle in the reverse order of removal.

85B001	85B013	85E013	85E021	85E029	85E033	85E037	85E041	85F006	85F017
85F021	85F037	85F045	85F053	85G012	85G024	85G032	85G036	85G043	85G054
85H004	85H012	85H024	85H052	85I017	85I032	85I037	85I040	85I044	85L013
85L017	85L021	85L025	85L029	85L037	85L045	85M005	85M009	85M013	85M021
85N029	85N045	868039	868052	86B003	86B007	86B026	86B034	86C018	86C044
86C048	86I004	86I010	86I014	86J001	86J045	86J049	86J053	86K005	86K009
86K013	86K025	86K029	86K033	86K039	86L016	86L028	86L032	86L040	86L044
86L056	86M028	86M044	86M048	86M052	86M056	86P028	86P044	86R003	86R019
86R043	86R051	86S054	86T064	876006	876039	87A038	87B007	87B015	

7. Check the belt position code.



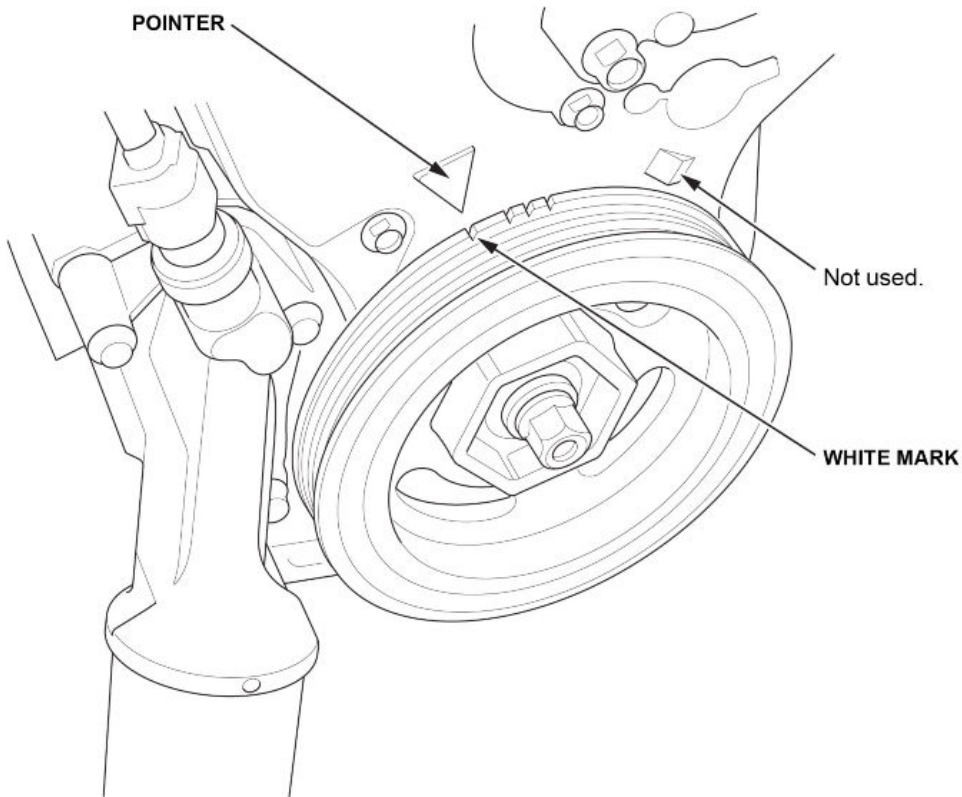
- If **all of the belt position values are less than 170**, the timing belt is okay. Reassemble the vehicle in the reverse order of removal.
- If **any of the belt position values are 170 or more**, go to TIMING BELT REPLACEMENT.

TIMING BELT REPLACEMENT

1. Turn the crankshaft so its white mark on the crankshaft pulley lines up with the pointer.

NOTE

The other pointer is not used.



2. Install the upper timing belt cover, and check that the No. 1 piston top dead center (TDC) mark on the front camshaft pulley and the pointer on the front upper covers are aligned.

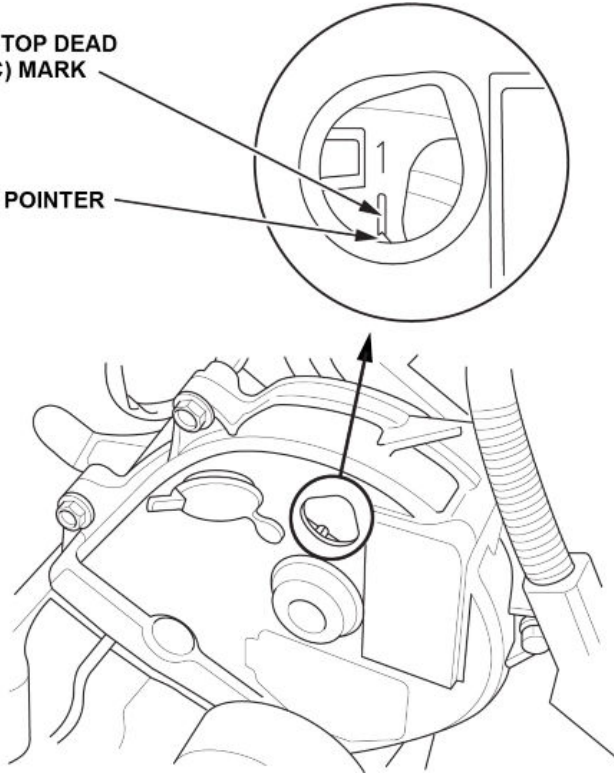
NOTES

- If the marks are not aligned, rotate the crankshaft 360 degrees, and recheck the camshaft pulley mark.
- If the marks still do not align, remove the original timing belt, install the new timing belt, then check the alignment again.

Front

**NO. 1 PISTON TOP DEAD
CENTER (TDC) MARK**

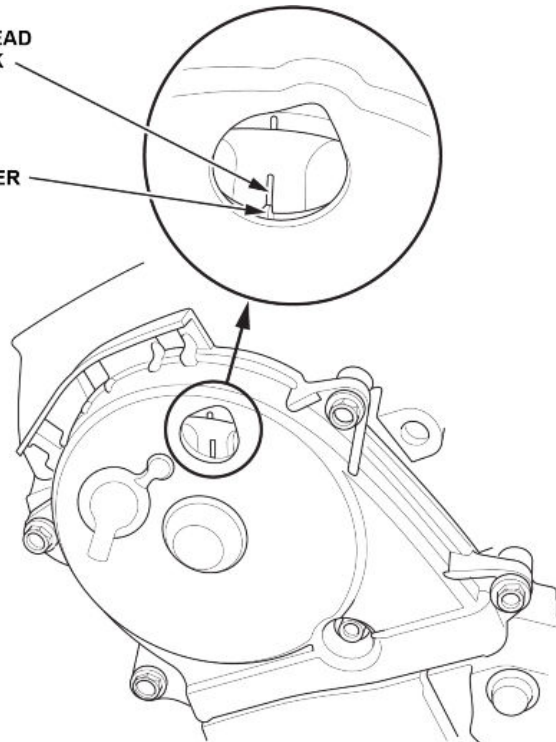
OTHER POINTER



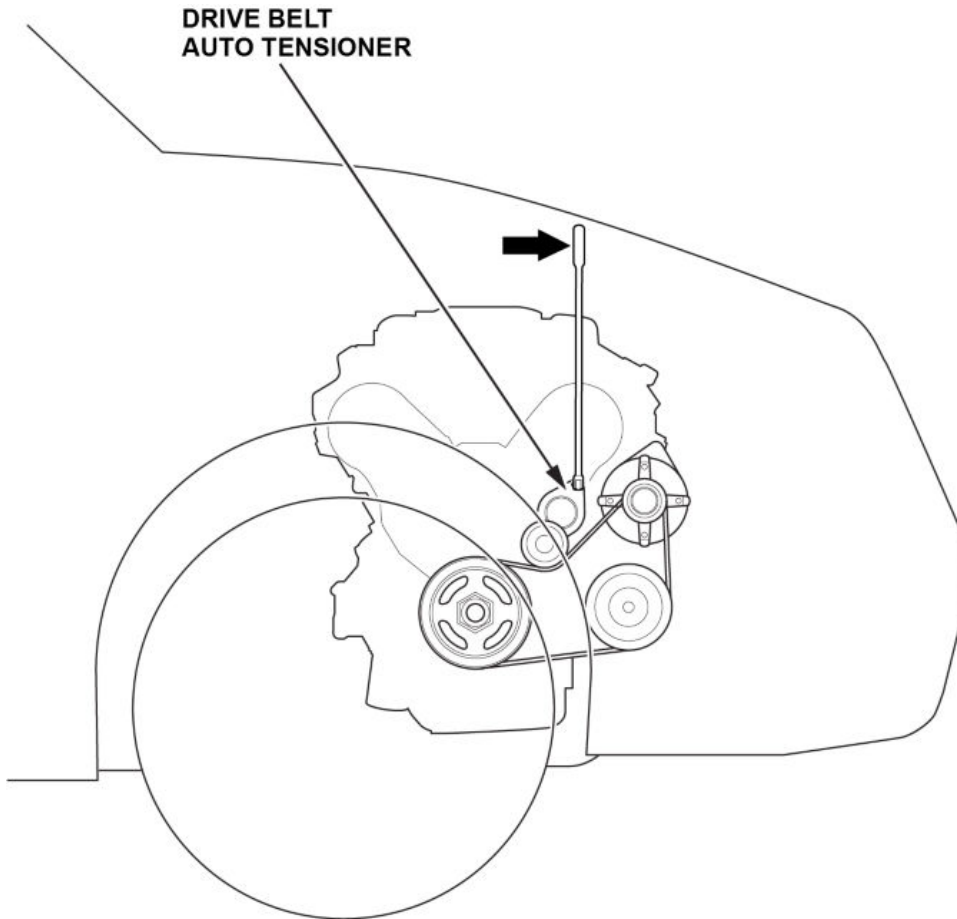
Rear

**NO. 1 PISTON TOP DEAD
CENTER (TDC) MARK**

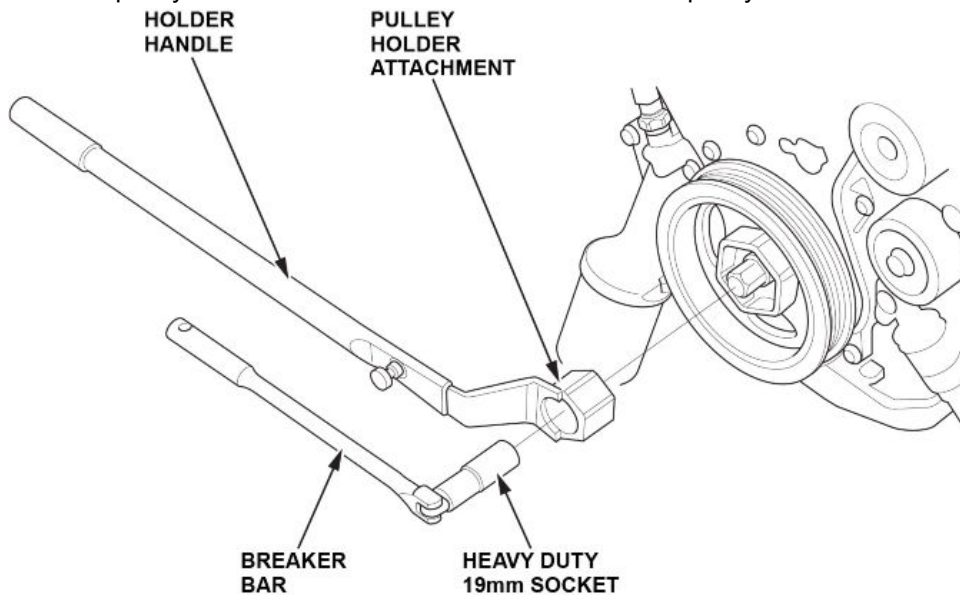
OTHER POINTER



3. Remove the drive belt.



4. Partially remove the right side splash shield to gain access to the lower half of the engine.
5. Remove the crankshaft pulley.
 - 5.1. Hold the pulley with the holder handle and the crankshaft pulley holder attachment.



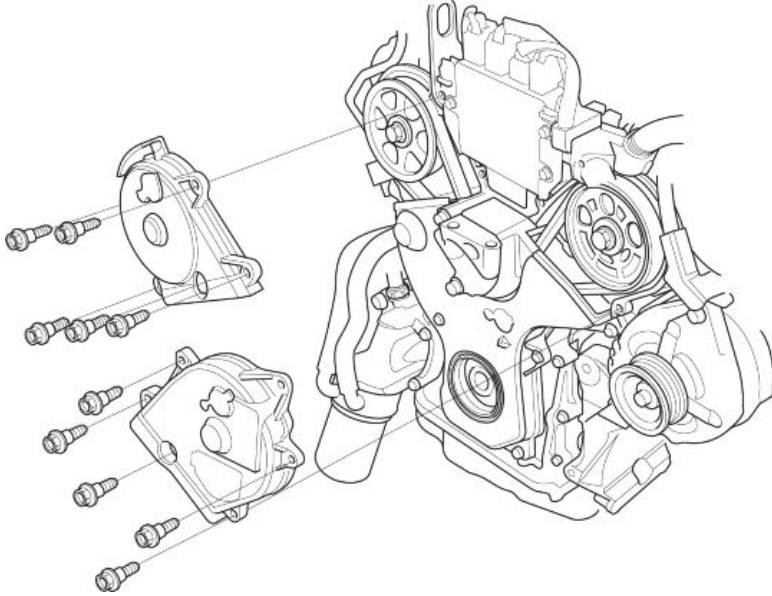
- 5.2. Remove the bolt with a heavy duty 19 mm socket and a breaker bar, then remove the crankshaft pulley.
6. Lift and support the engine with a jack and a wood block under the oil pan.

7. Remove the upper part of the side engine mount.
 - 7.1. Disconnect the ground cable.
 - 7.2. Remove the harness clamp bracket and the upper half of side engine mount bracket.

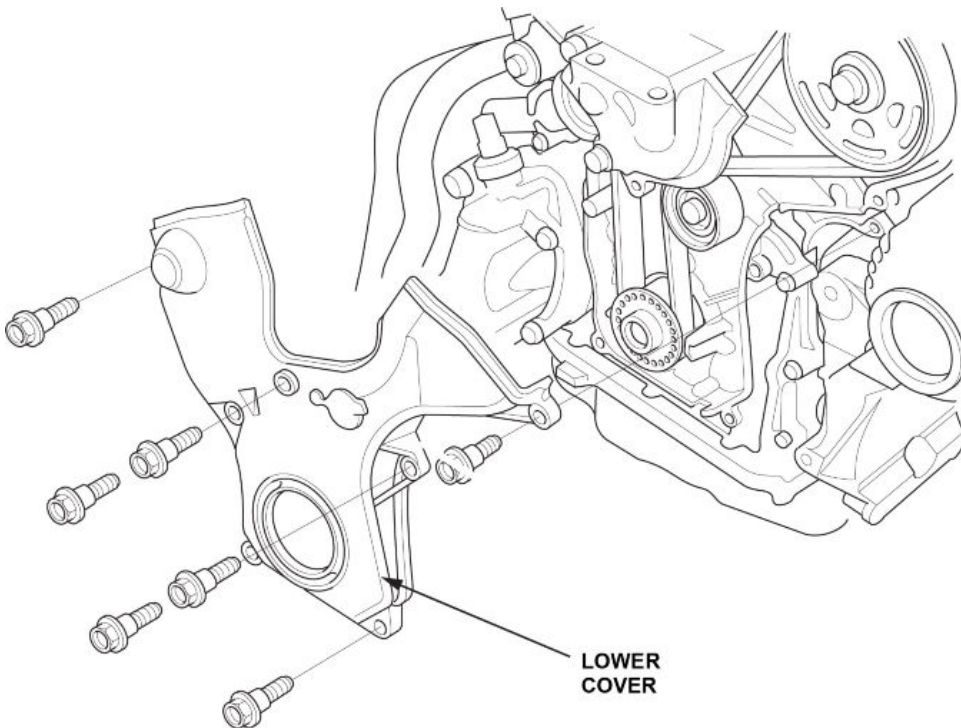
NOTE

You do not need to move the VSA modulator control unit.

8. Remove the upper covers.

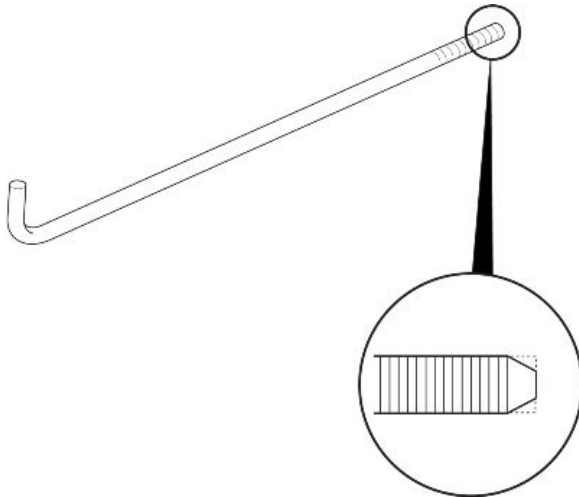


9. Remove the lower cover.



10. Hold the timing belt adjuster.

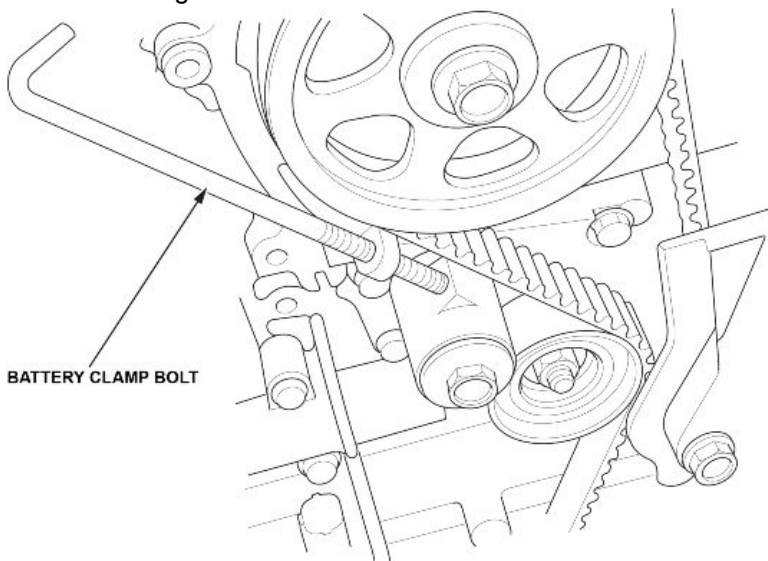
10.1. Remove one of the battery clamp bolts from the battery tray, and grind the end of it as shown.



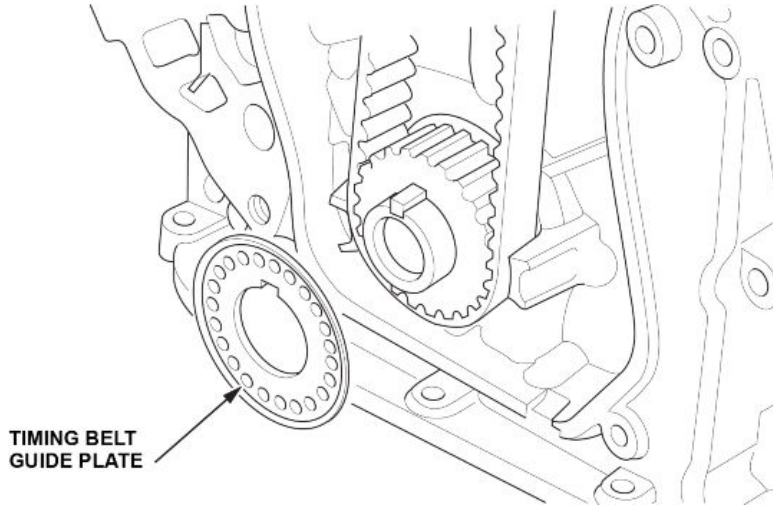
10.2. Thread the battery clamp bolt in as shown to hold the timing belt adjuster in its current position. Tighten it by hand.

NOTICE

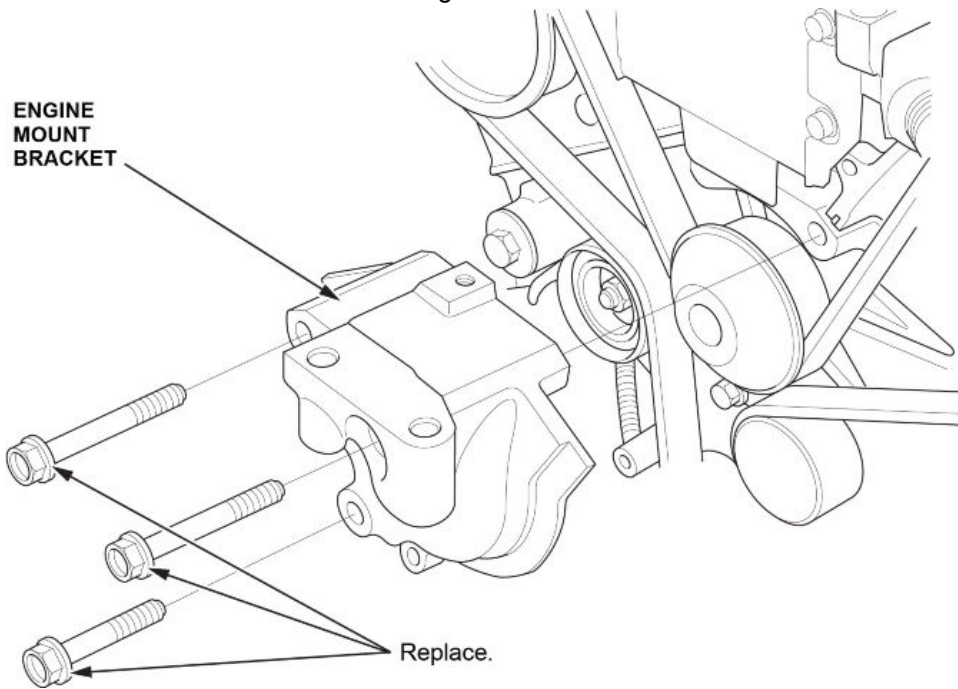
Do not tighten the bolt with a wrench.



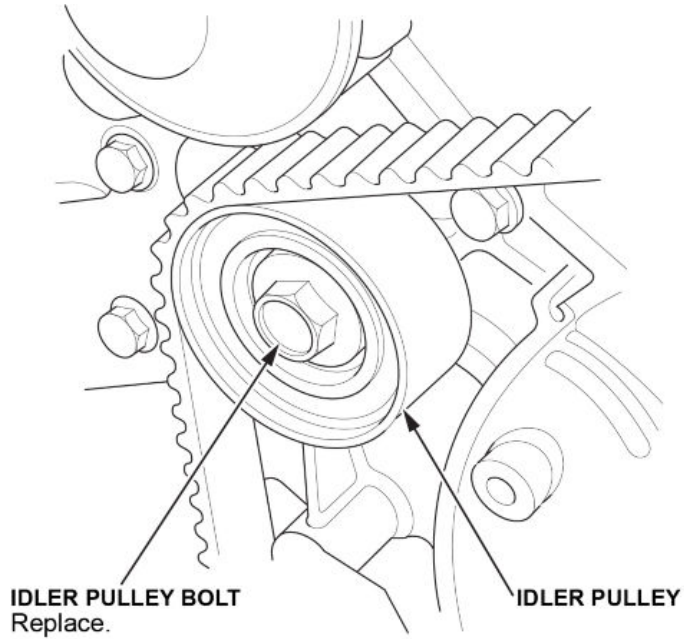
11. Remove the timing belt guide plate.



12. Remove the lower half of the side engine mount bracket.

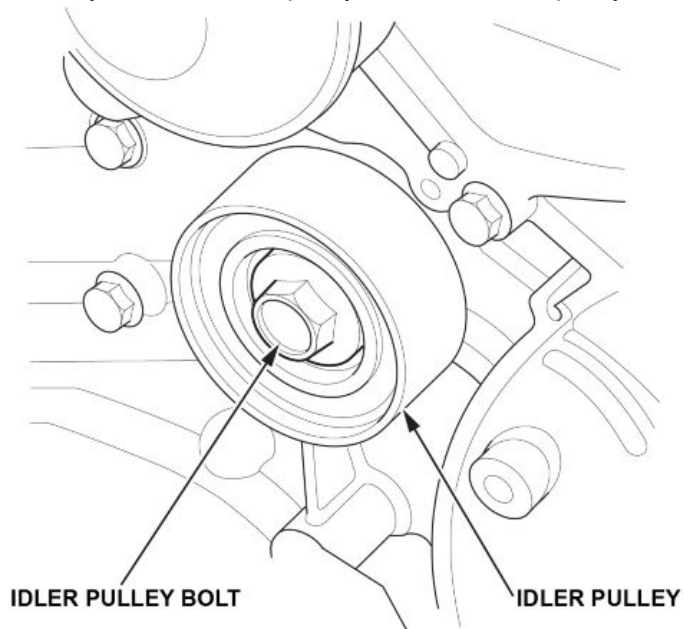


13. Remove the idler pulley bolt and the idler pulley, then remove the timing belt.

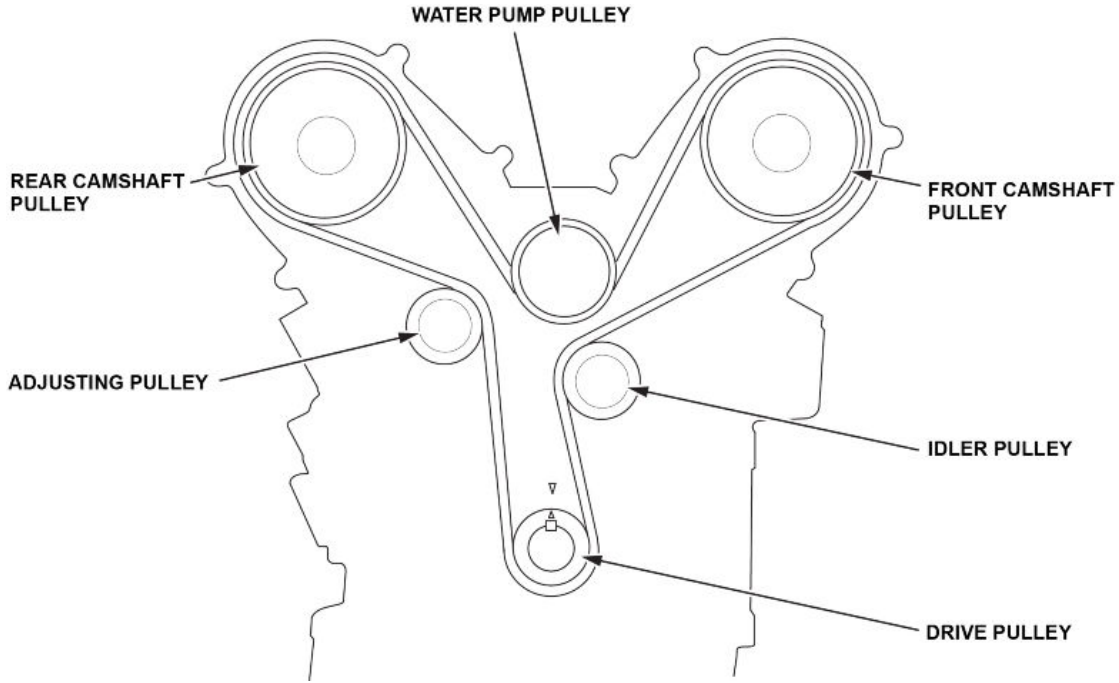


14. Check the timing marks are still in the proper position as mentioned in steps 1 and 2.

15. Loosely install the idler pulley with a new idler pulley bolt so the pulley can move, but does not come off.



16. Install the timing belt in a counter-clockwise sequence starting with the drive pulley:

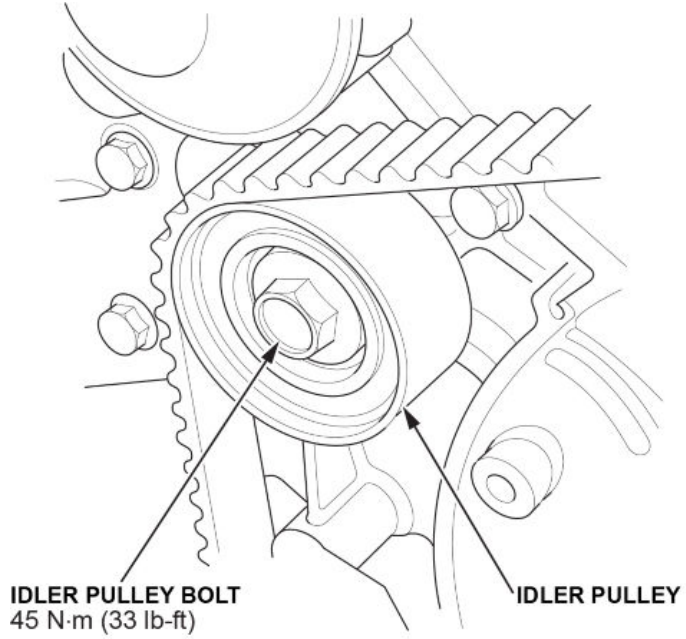


- 16.1. Drive Pulley
- 16.2. Idler Pulley
- 16.3. Front Camshaft Pulley
- 16.4. Water Pump Pulley
- 16.5. Rear Camshaft Pulley
- 16.6. Adjusting Pulley

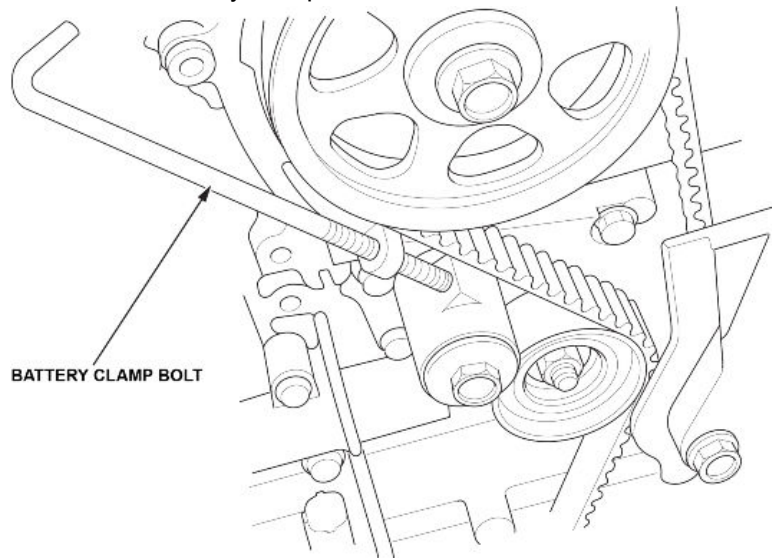
NOTE

If the timing belt auto-tensioner has extended and the timing belt cannot be installed, do the timing belt auto-tensioner installation procedure. Refer to the service information.

17. Torque the idler pulley bolt to **45 N·m (33 lb·f)**.



18. Remove the battery clamp bolt.



19. Check the cam timing and do a cylinder leak down test.

NOTE

The following steps will determine if there was any valve to piston contact requiring the replacement of the cylinder block and one or both cylinder heads.

19.1. Remove all the spark plugs.

19.2. Do the cylinder leak down test. For information about the cylinder leak down test, refer to the following:

- See the Tech2Tech video titled Cylinder Leak Down Testing
- See the Online University Self-Study Module WAENC10 Pump Theory and Cylinder Performance Testing

NOTES

- Rotate the engine only in a clockwise direction.
- Confirm each cylinder is tested at TDC.
- A good cylinder should have less than 10% cylinder leakage.

19.3. If the cylinder leak down test results show that all six cylinders have a **leak down rate of 10% or less**, go to step 20 and finish installing the timing belt.

19.4. If the cylinder leak down test results show that at least one cylinder has a **leak down rate that is more than 10%**, and the leak is from the intake or exhaust valves, replace the short block and the cylinder head(s) where the leak is coming from. Refer to the service information.

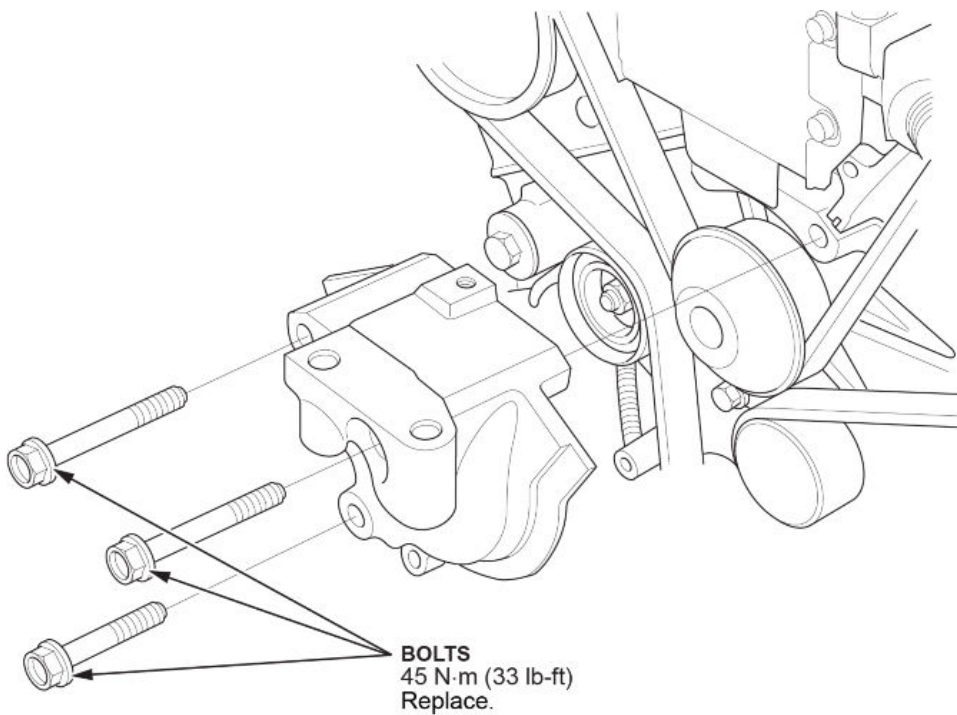
NOTE

If the leak is coming through the crankcase, this bulletin does not apply. Continue with normal troubleshooting.

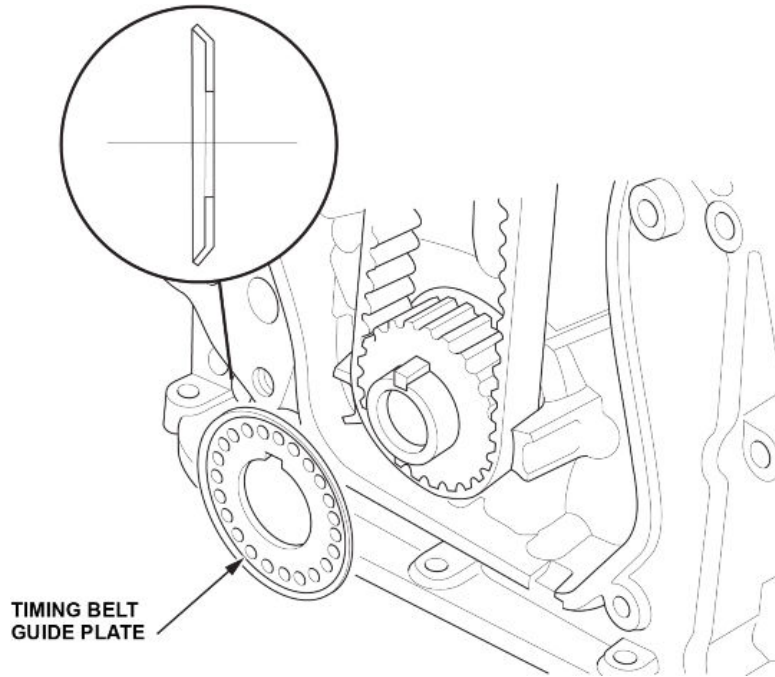
20. Install the lower half of the side engine mount bracket using new bolts. Torque the bolts to **45 N·m (33 lb-f)**.

NOTE

Make sure the lower half of the side engine mount bracket is installed and the new bolts are torqued to specification before installing the upper half of the engine mount.

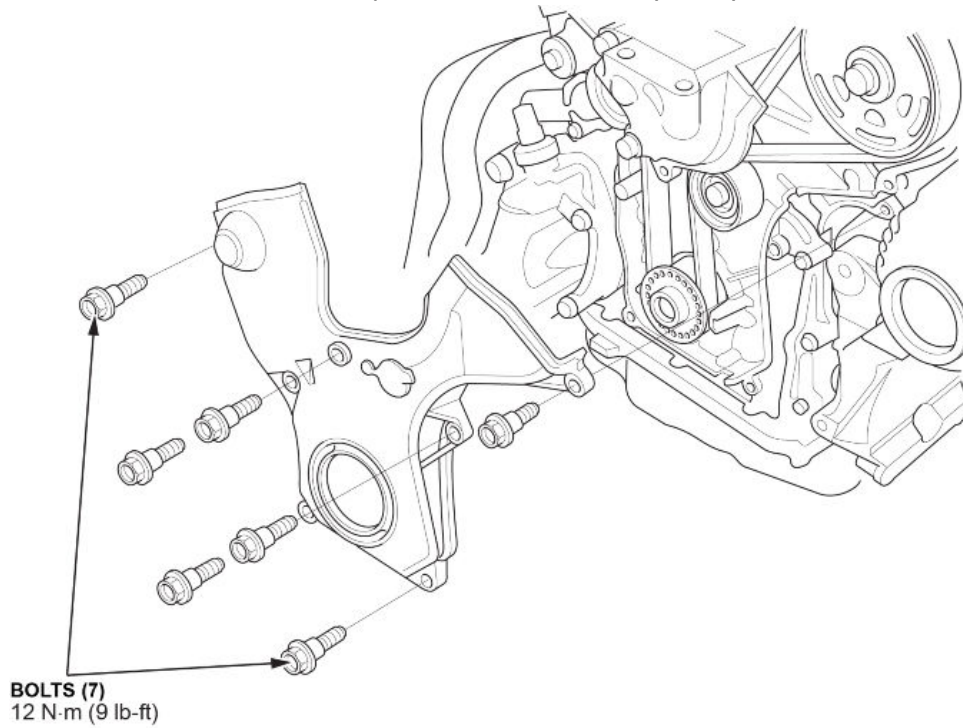


21. Install the timing belt guide plate as shown.

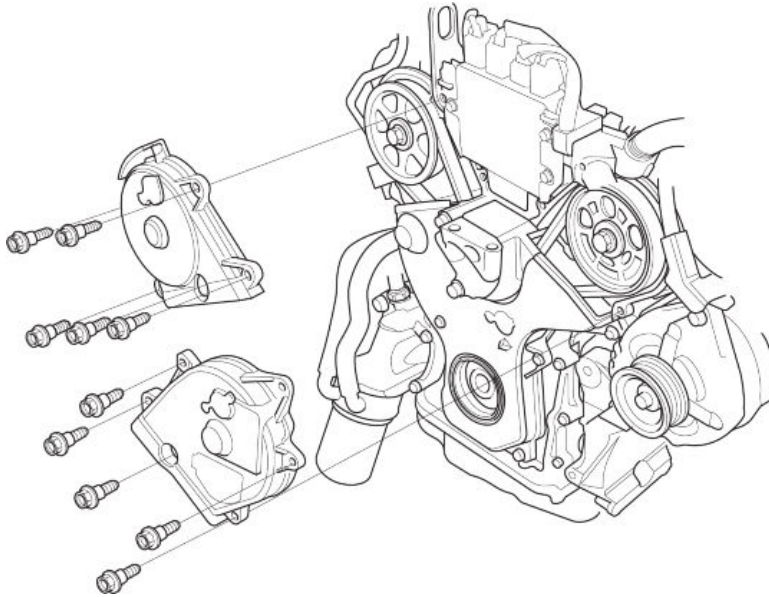


22. Install the timing belt covers:

22.1. Install the lower cover, and torque the bolts to **12 N·m (9 lb-ft)**.



22.2. Install the upper covers, and torque the bolts to **12 N·m (9 lb-ft)**.



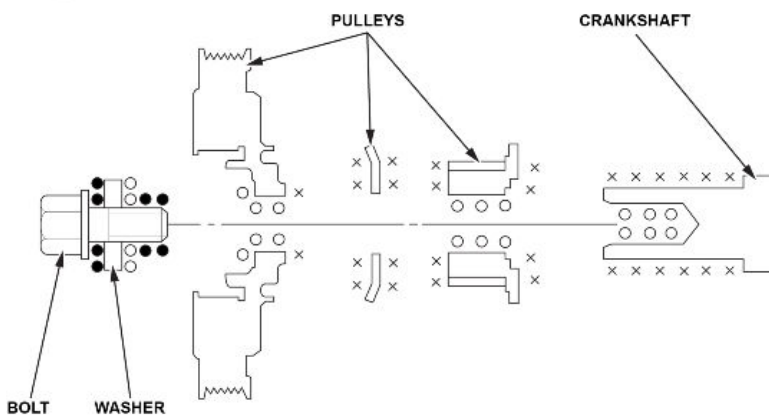
23. Install the upper half of the side engine mount bracket using new bolts:

- 23.1. Loosely install the upper half of the side engine mount bracket using new bolts.
- 23.2. Connect the ground cable.
- 23.3. Remove the jack and wood block.
- 23.4. Tighten the side engine mount bracket mounting bolts in the sequence shown.

24. Install the crankshaft pulley.

24.1. Remove any oil and clean the pulleys, the crankshaft, the bolt, and the washer. Lubricate with new engine oil as shown.

- ✕ Remove any oil.
- Clean.
- Lubricate with new engine oil.

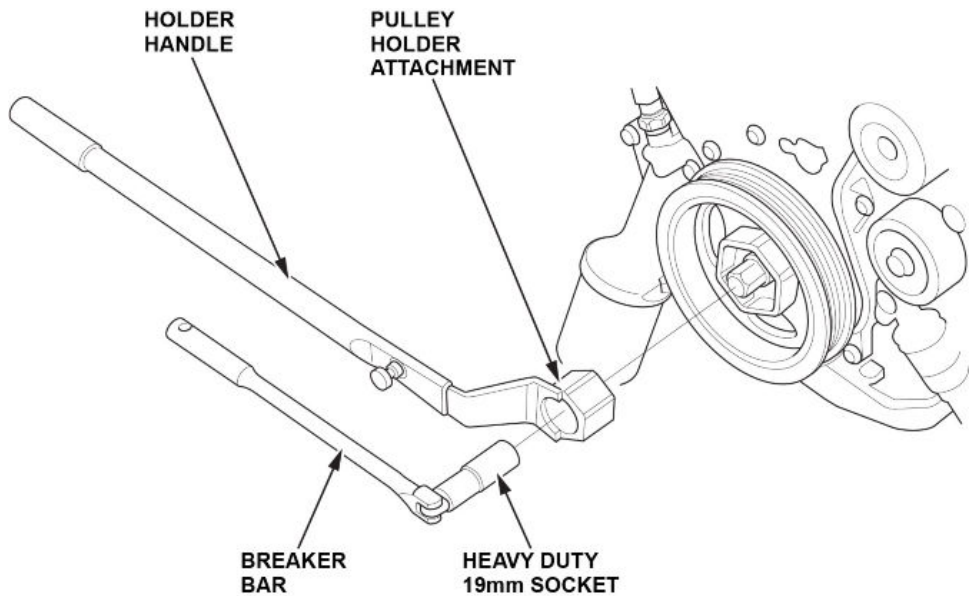
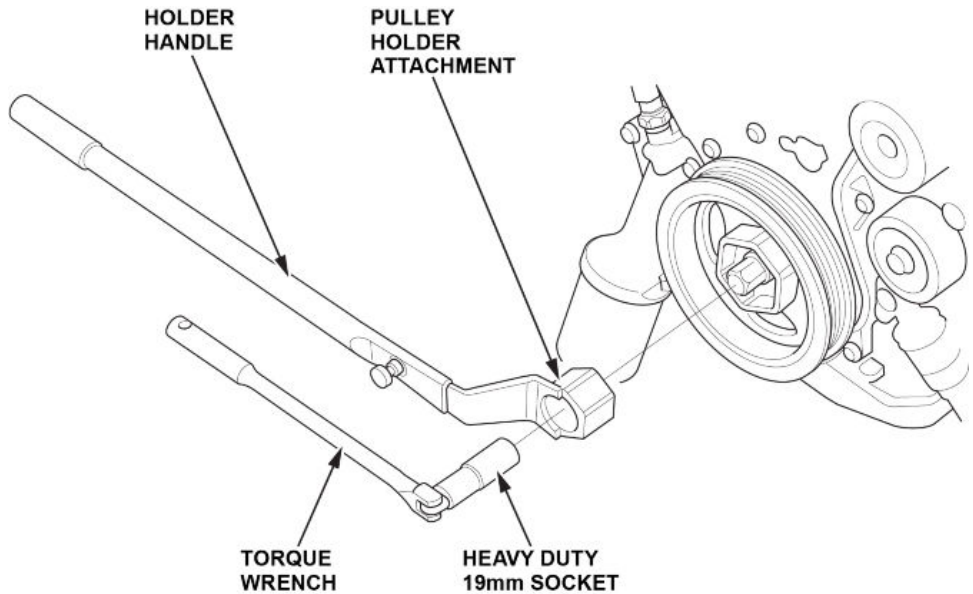


24.2. Install the crankshaft pulley.

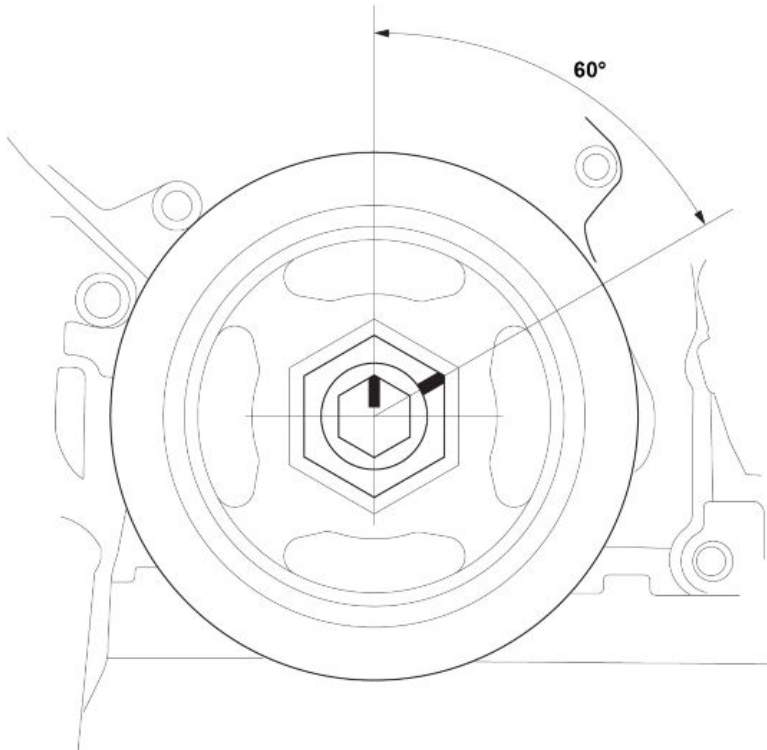
24.3. Hold the pulley with the holder handle and the pulley holder attachment (50 mm offset). Torque the bolt to **65 N·m (48 lb-ft)**.

NOTE

Do not use an impact wrench.



24.4. Tighten the bolt an additional 60°.



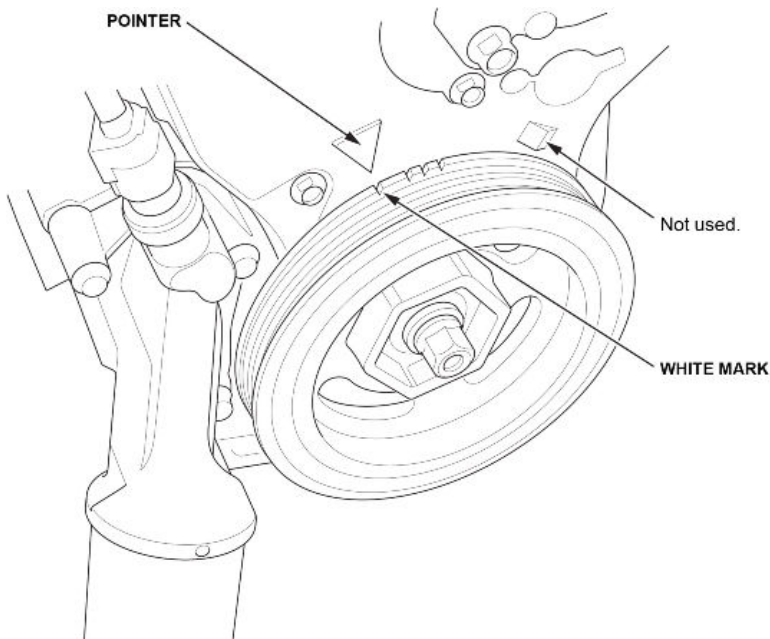
25. Check the camshaft timing.

25.1. Rotate the crankshaft pulley about 6 turns clockwise so the timing belt positions itself on the pulleys.

25.2. Turn the crankshaft pulley so the white mark lines up with the pointer.

NOTE

The other pointer is not used.



25.3. Check the camshaft pulley marks.

NOTES

If the marks are not aligned, rotate the crankshaft one full turn and recheck the camshaft pulley mark.

- If the camshaft pulley marks are at TDC, go to the next step.
- If the camshaft pulley marks are not at TDC, remove the timing belt and restart the installation procedure at step 16.

26. Install the drive belt tensioner.

27. Install the splash shield.

28. Install the passenger's side front wheel and torque the nuts to **127 N·m (94 lb-ft)** for 14 mm wheel bolts, or **108 N·m (80 lb-ft)** for 12 mm wheel bolts.

29. Do the CKP learn procedure.

29.1. Connect the HDS/i-HDS.

29.2. Select CRANK PATTERN in the ADJUSTMENT MENU with the HDS.

29.3. Select CRANK PATTERN CLEAR with the HDS, and clear the CKP pattern.

29.4. Select CRANK PATTERN LEARNING with the HDS, and follow the screen prompts.

END