

August 6, 2020

14695 Version 5

Timing Belt Chirps

Supersedes 14-025, dated April 22, 2016, to revise the information highlighted in **yellow**.

AFFECTED VEHICLES

Year	Model	Trim Level	VIN Range
2014-18	MDX	ALL	ALL
2019	MDX	2WD	5J8YD3...KL000001 thru 5J8YD3...KL005096
2019	MDX	AWD	5J8YD4...KL000001 thru 5J8YD4...KL011104
2019	MDX	Sport Hybrid	5J8YD7...KL000001 thru 5J8YD7...KL000483
2014-18	RLX	ALL except Sport Hybrid	ALL
2019	RLX	ALL except Sport Hybrid	JH4KC1...KC000001 thru JHRKC1...KC000064
2014	RLX Sport Hybrid	ALL	ALL
2016-18	RLX Sport Hybrid	ALL	ALL
2019	RLX Sport Hybrid	ALL	JH4KC2...KC000001 thru JHRKC2...KC000369
2015-18	TLX	ALL with V6	ALL
2019	TLX	2WD with V6	19UUB2...KA000001 thru 19UUB2...KA007635
2019	TLX	AWD with V6	19UUB3...KA000001 thru 19UUB3...KA005453

REVISION SUMMARY

The AFFECTED VEHICLES section was extensively changed.

SYMPTOM

The timing belt area makes a chirping noise after the engine warms up.

POSSIBLE CAUSES

The timing belt contacts the back edge of the crankshaft pulley.

CORRECTIVE ACTION

Do the diagnosis and, based on the results, install an idler pulley shim.

PARTS INFORMATION

Required Parts for all models:

Part Name	Part Number	Quantity
Idler Pulley Shim	14559-RCA-305	1
Timing Belt Idler Bolt	14551-RCA-A01	1
Flange Bolt 10 mm x 60 mm	90168-TA1-A00	2

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For MDX, add the following:

Part Name	Part Number	Quantity
O-Ring	91319-R70-A01	1
Flange Bolt 10 mm x 85 mm	90002-R70-A00	1
Flange Bolt 10 mm x 105 mm	95801-10105-08	2
Flange Bolt 12 mm x 45 mm	90165-SDA-A00	1

For RLX (except Sport Hybrid), add the following:

Part Name	Part Number	Quantity
O-Ring	91319-PAA-A01	1
Flange Bolt 10 mm x 85 mm	90002-R70-A00	1
Flange Bolt 10 mm x 105 mm	95801-10105-08	2
Flange Bolt 12 mm x 45 mm	90161-SDA-A01	1

For RLX Sport Hybrid, add the following:

Part Name	Part Number	Quantity
Oil Filter Base Gasket	15302-5G0-A00	1
Pre-Chamber Gasket	18393-SJA-A01	1
Flange Bolt 10 mm x 35 mm	90163-SDA-A01	2
Flange Bolt 10 mm x 35 mm	90161-T2A-A00	2
Flange Bolt 10 mm x 60 mm	90164-TY3-A01	2
Flange Bolt 10 mm x 75 mm	90002-R8A-A00	3
Flange Bolt 12 mm x 45 mm	90161-SDA-A01	1
Flange Nut 12 mm	90371-SEF-000	4
Self-Lock Nut 10 mm	90212-SA5-003	3

For TLX, add the following:

Part Name	Part Number	Quantity
O-Ring	91319-R70-A01	1
Flange Bolt 10 mm x 85 mm	90002-R70-A00	1
Flange Bolt 10 mm x 105 mm	95801-10105-08	2
Flange Bolt 12 mm x 45 mm	90161-SDA-A01	1

REQUIRED TOOLS

Part Name	Tool Number	Quantity
Holder Handle	07JAB-001020B	1
Pulley Holder	07MAB-PY3010B	1
Breaker Bar (commercially available)	07JAA-001020A	1

WARRANTY CLAIM INFORMATION

The normal warranty applies.

Model	Operation Number	Description	Flat Rate Time	Defect Code	Symptom Code	Template ID	Failed Part Number
MDX	1110A7	Diagnose, and install an idler pulley shim.	2.6 hr	07403	04201	14-025N	14400-R9P-A01
RLX	1110A7	Diagnose, and install an idler pulley shim.	2.6 hr	07403	04201	14-025P	14400-R9P-A01
TLX	1110A7	Diagnose, and install an idler pulley shim.	2.6 hr	07403	04201	14-025Q	14400-R9P-A01
RLX Sport Hybrid	1110A7	Diagnose, and install an idler pulley shim.	4.3 hr	07403	04201	14-025R	14400-R9P-A01

Skill Level: Repair Technician

DIAGNOSIS

NOTE: During the diagnosis and repair, follow the procedures listed below. For more detail about any of these procedures, see the applicable service information.

- Wheel Removal and Installation
- Engine Undercover Removal and Installation
- Drive Belt Removal and Installation
- Crankshaft Pulley Removal and Installation
- Timing Belt Removal and Installation
- Side Engine Mount Removal and Installation
- Timing Belt Auto-Tensioner Removal and Installation

1. Start the engine, let it warm up, and listen for a chirp.

Below is an example of the chirp:



Timing Belt Chirp Noise.

NOTE: It can take up to 30 minutes for the engine to become hot enough to hear a chirp.

Do you hear a chirp?

- If you hear a chirp coming from the timing belt area, go to step 2.
 - If you hear a chirp coming from the high pressure fuel pump, refer to service bulletin 16-008, *High Pressure Fuel Pump Chirps*.
 - If you do not hear a chirp, this bulletin does not apply. Continue with normal troubleshooting procedures.
2. Remove the drive belt and retest the engine while it is hot.
 - If you hear a chirp, go to step 3.
 - If you do not hear a chirp, this bulletin does not apply. Continue with normal troubleshooting procedures.

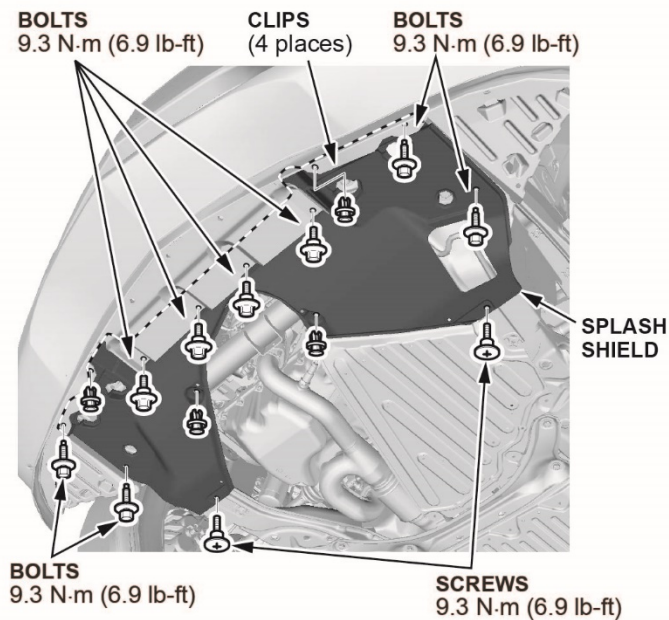
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3. *RLX Sport Hybrid only:* Disconnect the high-voltage cable to the electric A/C compressor (the compressor is not removed). Refer to the electric A/C compressor removal procedure in the service information (steps 2, 3, and 8).
NOTE: Because there is limited space between the timing belt covers and the shock tower, remove the front strut brace and lift the engine about 35 mm to remove the timing belt covers.
4. *RLX Sport Hybrid only:* Remove the timing belt covers. Refer to the timing belt removal procedure in the service information (steps 1–4 and 7–17)
5. *RLX Sport Hybrid only:* Install/connect the following components: exhaust pipe A, the lower half of the side engine mount bracket, the high-voltage cable to the electric A/C compressor, and the oil filter base/oil cooler/oil filter assembly. Then, install the service plug and connect the 12-volt battery terminal. Go to step 12.
NOTE: Reuse the original oil filter base gasket and replace with the new gasket during final assembly.
6. Remove the right front wheel.

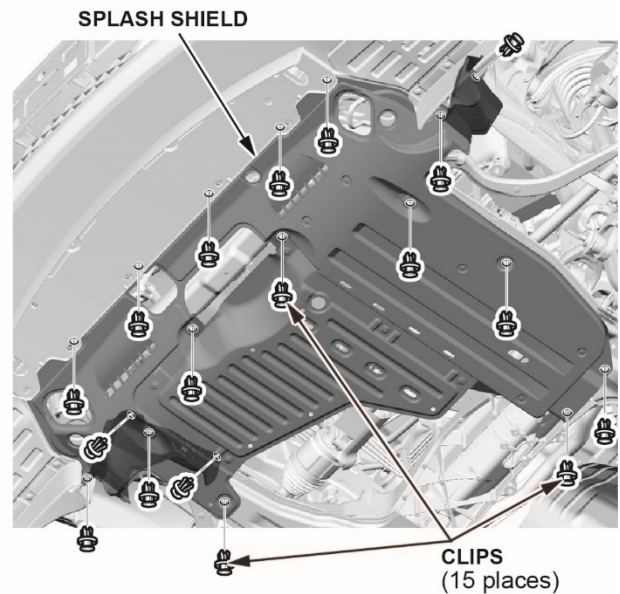
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7. Remove the engine undercover.

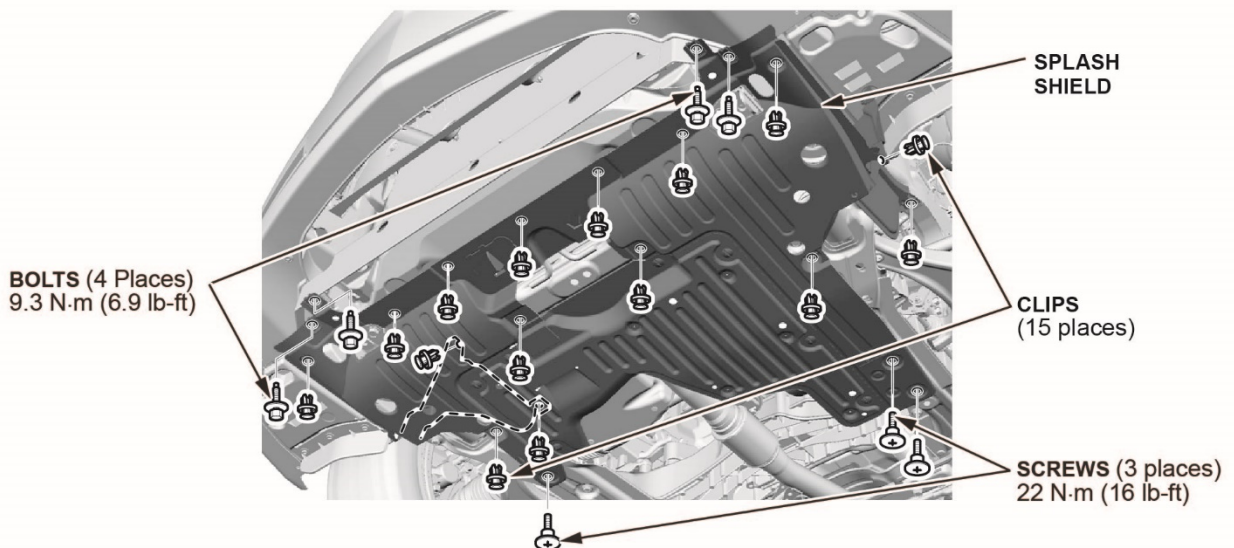
MDX:



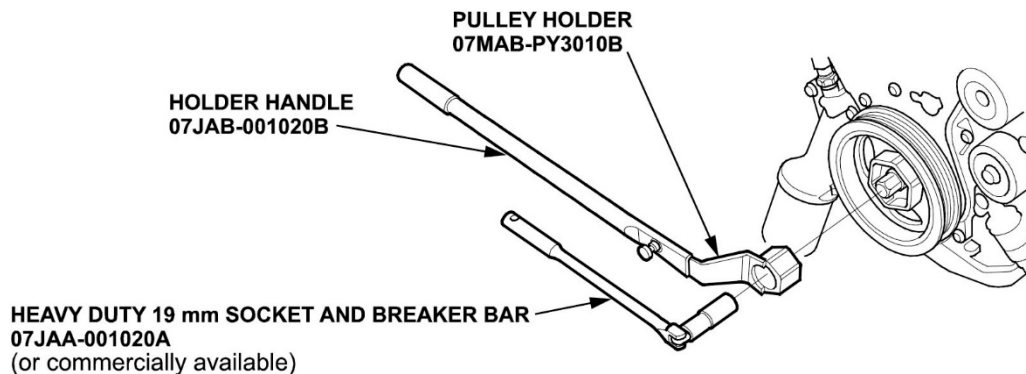
RLX:



TLX:

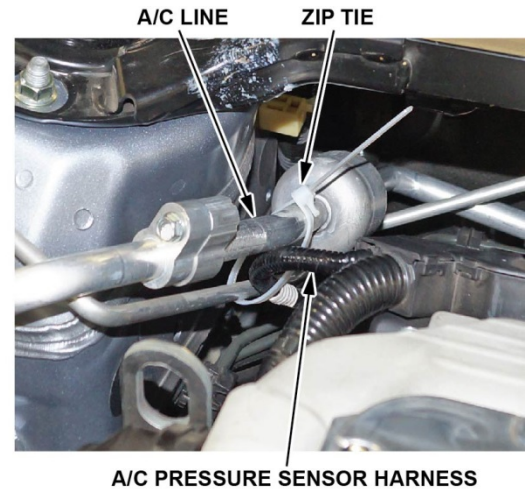
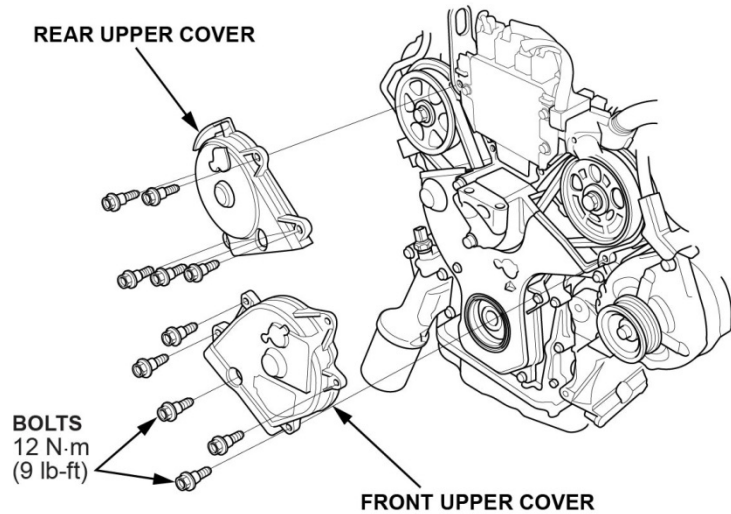


8. Hold the crankshaft pulley with the holder handle and the pulley holder.

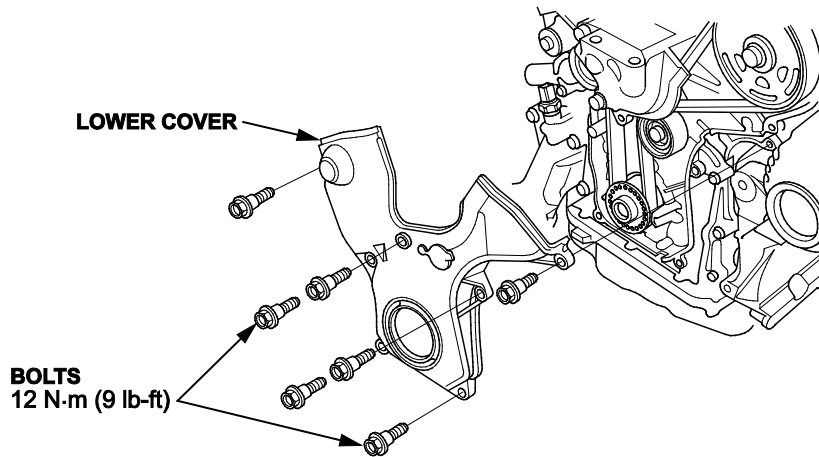


9. Remove the crankshaft bolt with a heavy duty 19 mm socket and a breaker bar, then remove the crankshaft pulley and washer. Temporarily reinstall the crankshaft bolt.
10. If equipped, remove the ECU and move to the side. Then, remove the front and rear upper covers, and install the ECU.

NOTE: Keep the A/C pressure sensor harness out of the way of moving parts by attaching it to the A/C line with a zip tie.



11. Remove the lower cover.



12. Start the engine while it is still hot, then spray the back edge of the timing belt with water while it is running.

NOTE: On RLX Sport Hybrid models there are more disassembly steps that could allow the engine to cool, you may have to warm up the engine before squirting the timing belt with water to see if the chirp lessens.

Do you still hear a chirp?

- If the chirp lessens, changes pitch, or goes away, go to REPAIR PROCEDURE.
- If the chirp does not change, this bulletin does not apply. Continue with normal troubleshooting procedures.

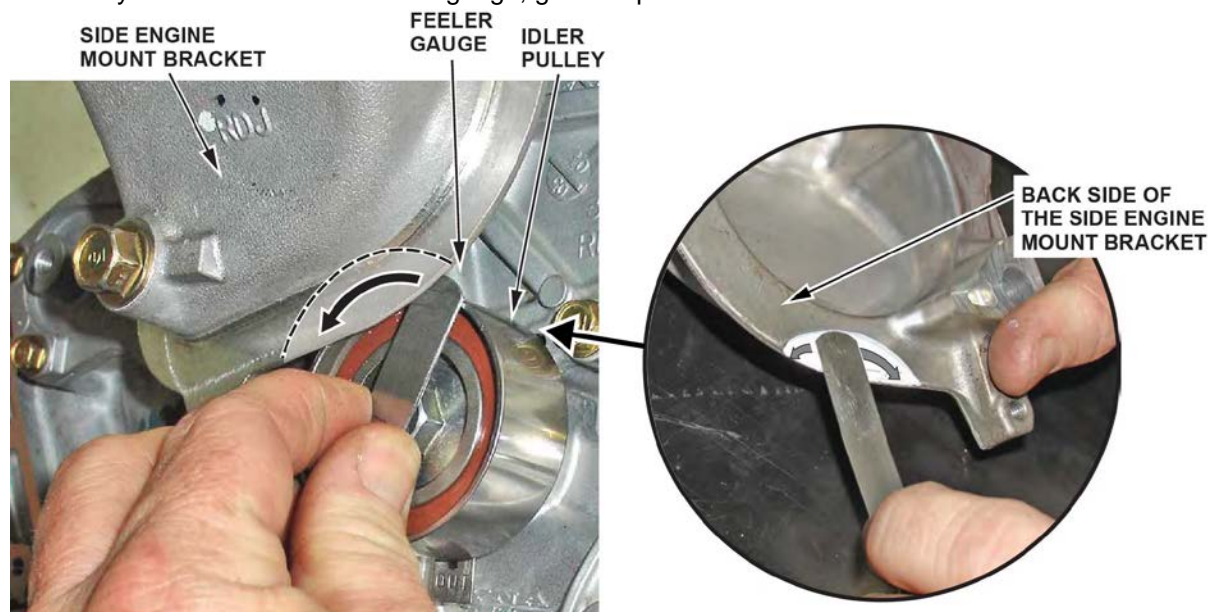


REPAIR PROCEDURE

1. Make sure the engine is off, then try to insert a 0.95 mm feeler gauge between the top edge of the timing belt idler pulley and the back side of the side engine mount bracket that overhangs the pulley.

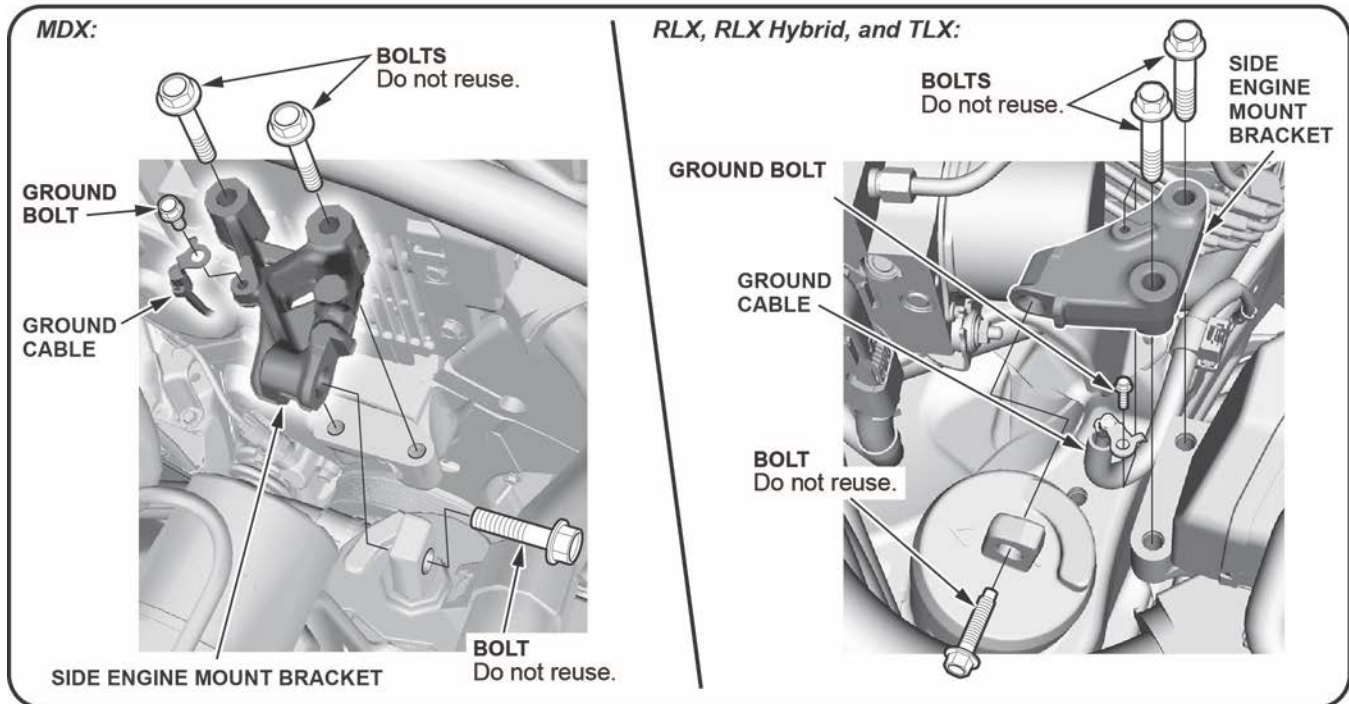
NOTE: Make sure you remove the feeler gauge from its holder to get a more accurate measurement.

- If you can insert the feeler gauge between the timing belt idler pulley and engine mount bracket, go to step 4.
- If you cannot insert the feeler gauge, go to step 2.

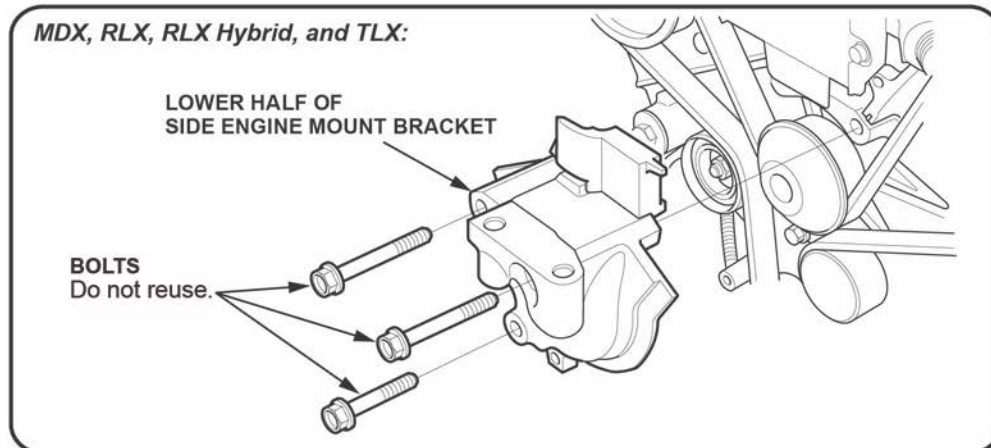


- Remove the side engine mount bracket.

UPPER HALF OF SIDE ENGINE MOUNT

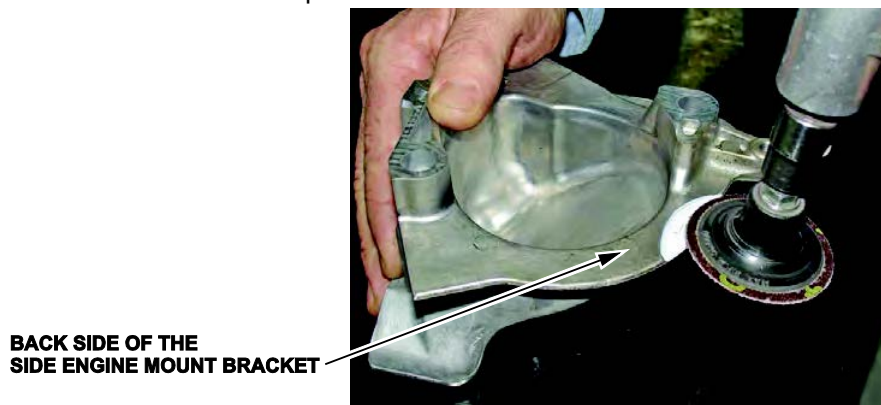


LOWER HALF OF SIDE ENGINE MOUNT



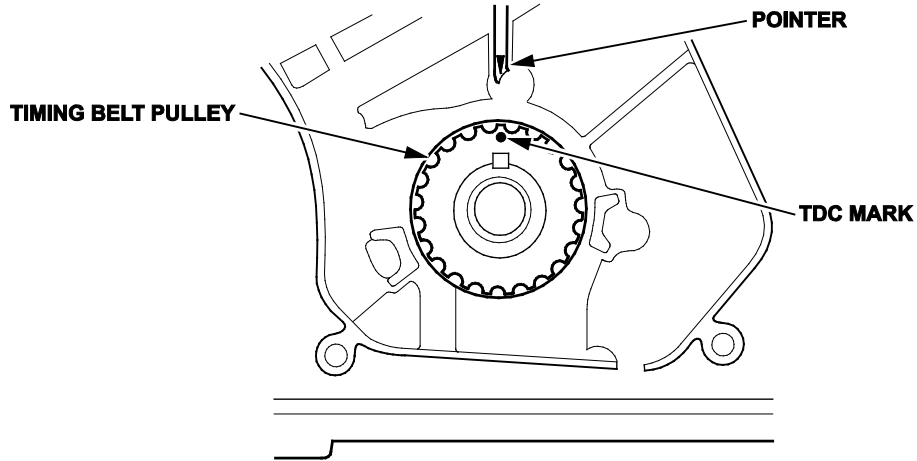
- Using a die grinder with a 2-inch grinding disc, use the circular casting offset as a guide to grind the side engine mount bracket until the lip measures 2 mm in thickness.

NOTE: Use a vernier caliper or micrometer to confirm the amount of material removed.



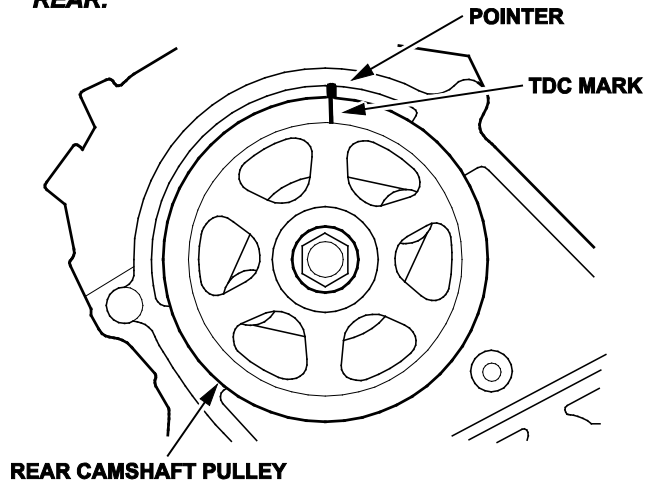
4. Set the engine to TDC (top dead center).

- Align the TDC mark on the tooth of the timing belt drive pulley with the pointer on the oil pump.



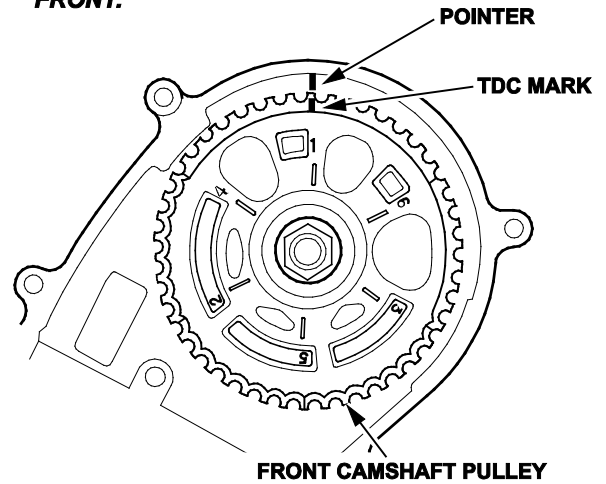
- Align the TDC marks on the camshaft pulleys with the pointers on the back covers.

REAR:



REAR CAMSHAFT PULLEY

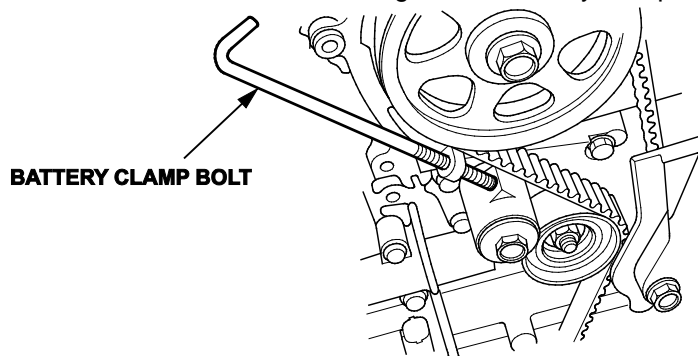
FRONT:



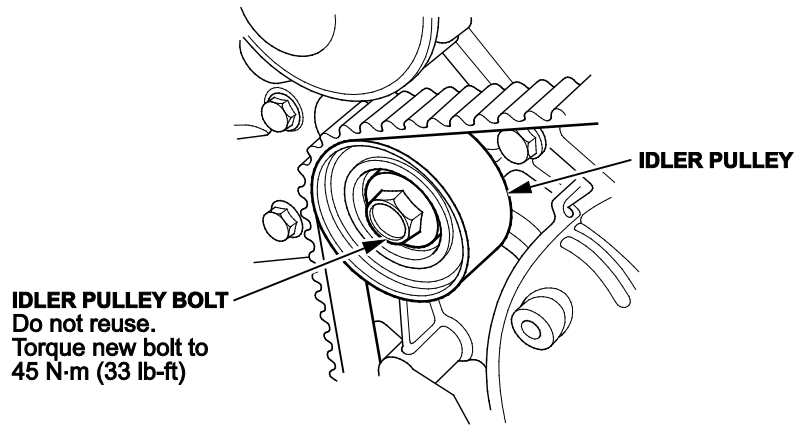
FRONT CAMSHAFT PULLEY

5. Thread and hand-tighten a battery clamp bolt as shown to hold the timing belt adjuster in its current position.

NOTE: Do not use a wrench to tighten the battery clamp bolt.

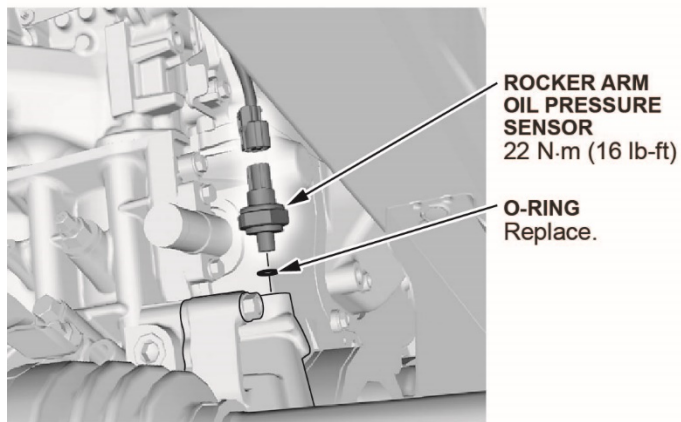


6. Remove the idler pulley.

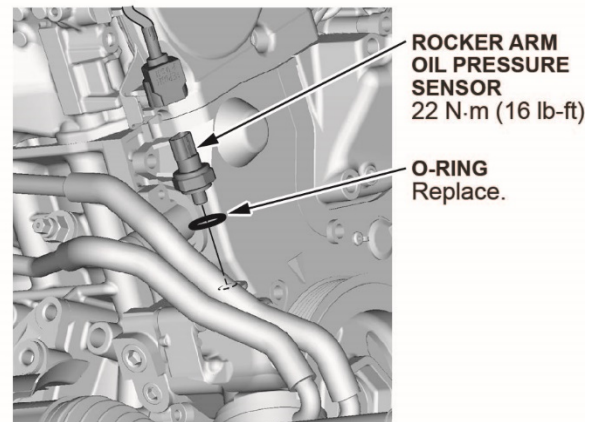


7. Keep timing belt timed to both cam pulleys.
8. *RLX Sport Hybrid only:* Remove the oil filter base/oil cooler/oil filter assembly without disconnecting the water hoses to access the timing belt auto-tensioner bolts.
9. *All except RLX Sport Hybrid:* Remove the rocker arm oil pressure sensor from the oil filter housing to access the timing belt auto-tensioner bolts.
 - Disconnect the rocker arm oil pressure sensor connector.
 - Remove the rocker arm oil pressure sensor.
 - Remove any old liquid gasket from the switch and the switch mounting hole.

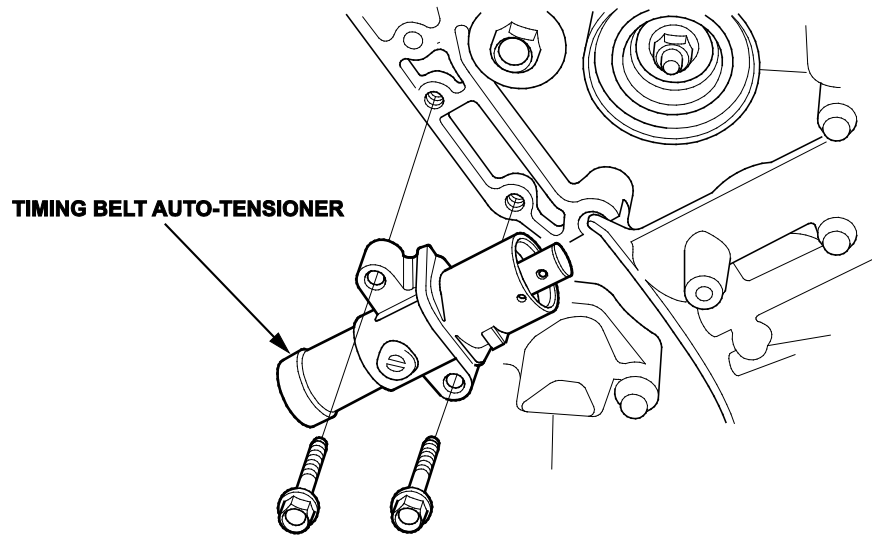
MDX:



RLX and TLX:

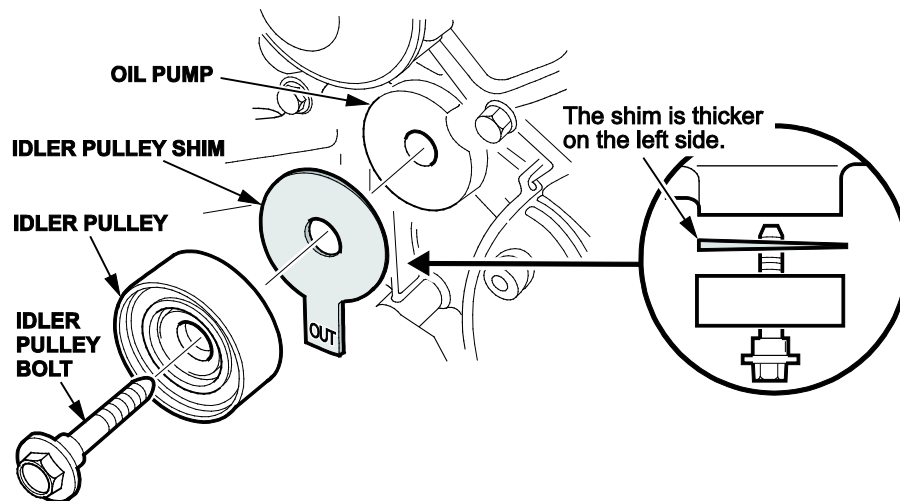


10. Remove the battery clamp bolt from the timing belt adjuster, then remove the timing belt auto-tensioner.



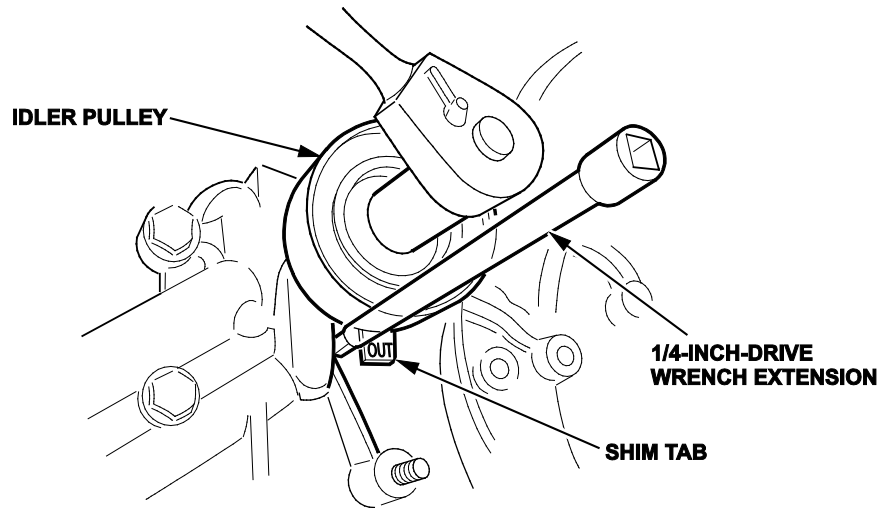
11. Place the idler pulley shim between the idler pulley and the oil pump housing; loosely install the new idler pulley bolt with Hondalock 1 applied to its threads. Make sure you follow the instructions on the Hondalock 1 container.

NOTE: The shim is tapered from left to right. The word **OUT** is stamped into the tang and painted white. It should be readable after the shim is installed.



12. Install the new idler pulley bolt:

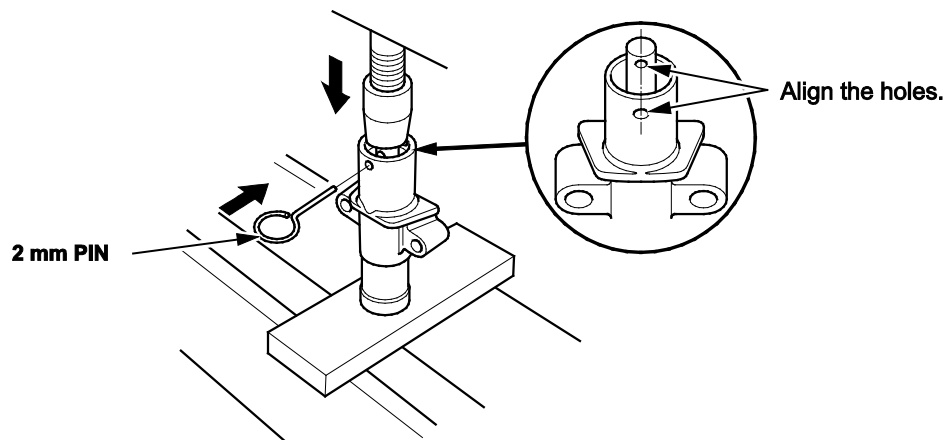
- Insert the square end of a ¼-inch-drive ratchet extension to keep the shim's tang in the correct position.



- Tighten the idler pulley bolt to **44 N·m (33 lb-ft)**.
- Bend the shim's tang slightly towards the oil pump housing to keep it away from the idler pulley.

13. Compress the timing belt auto tensioner.

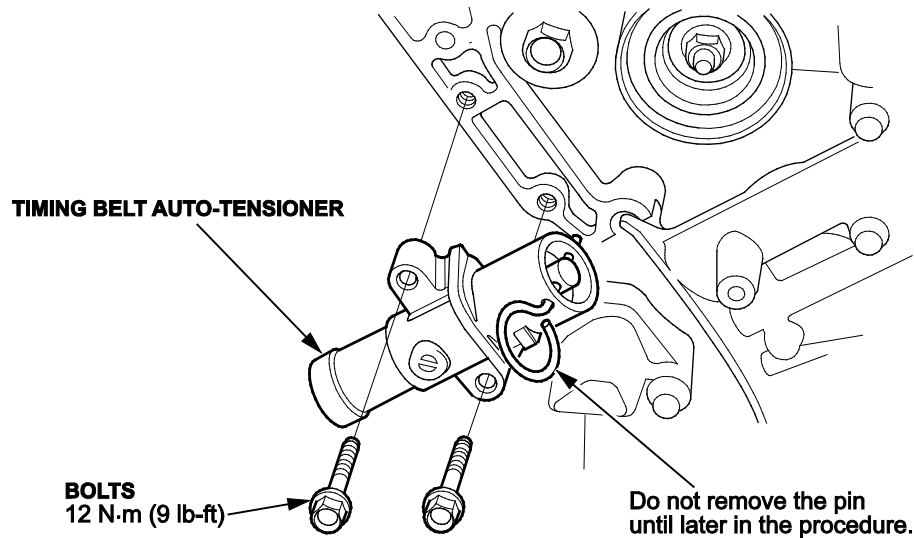
- Align the holes on the rod and timing belt auto-tensioner housing.
- Use a hydraulic press to slowly compress the timing belt auto-tensioner. Insert a 2 mm (5/64 in) pin through the housing and the rod.



14. Thread and hand-tighten a battery clamp bolt to hold the timing belt adjuster.

NOTE: Do not use a wrench to tighten the battery clamp bolt.

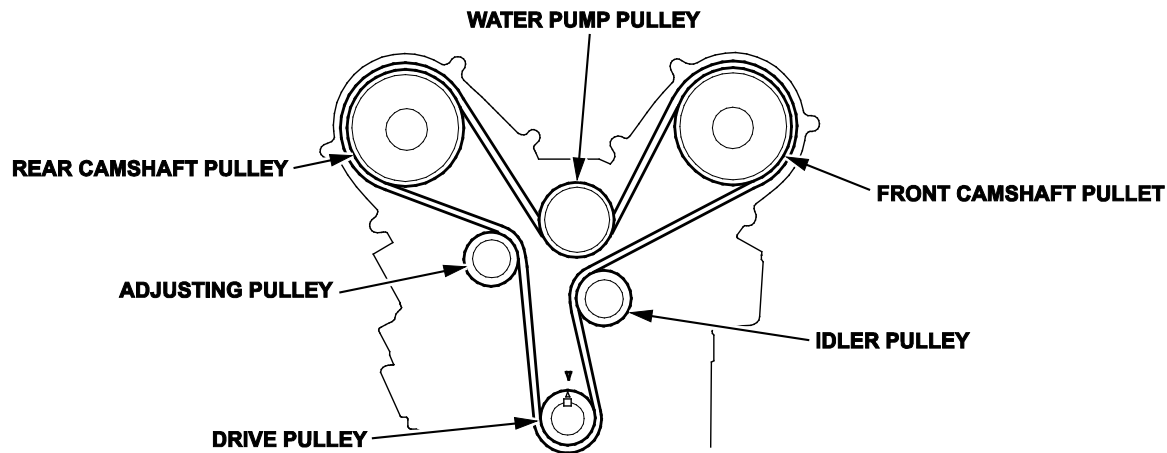
15. Install the timing belt auto-tensioner. Do not remove the pin.



16. All except RLX Sport Hybrid: Install the rocker arm oil pressure sensor.

- Apply Hondabond 4 liquid gasket to the rocker arm oil pressure sensor threads.
NOTE: Do not use too much liquid gasket because excessive liquid may enter the oil passages or block the end of the sensor.
- Install the rocker arm oil pressure switch with a new O-ring.
- Connect the rocker arm oil pressure switch connector.

17. Confirm the timing belt is in correct time.



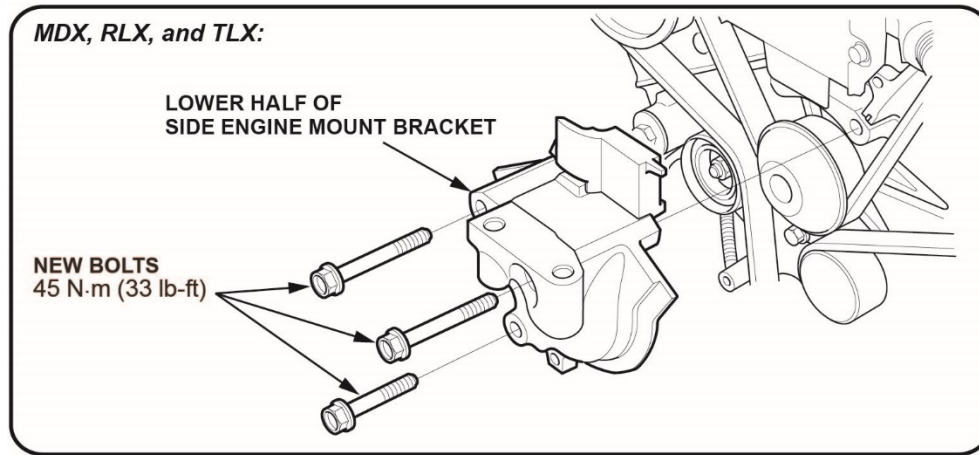
18. Remove the pin from the timing belt auto-tensioner.

19. *RLX Sport Hybrid only*: Disconnect the high voltage cable to the electric A/C compressor. Refer to the electric A/C compressor installation procedure in the service information (steps 2, 3, and 8).

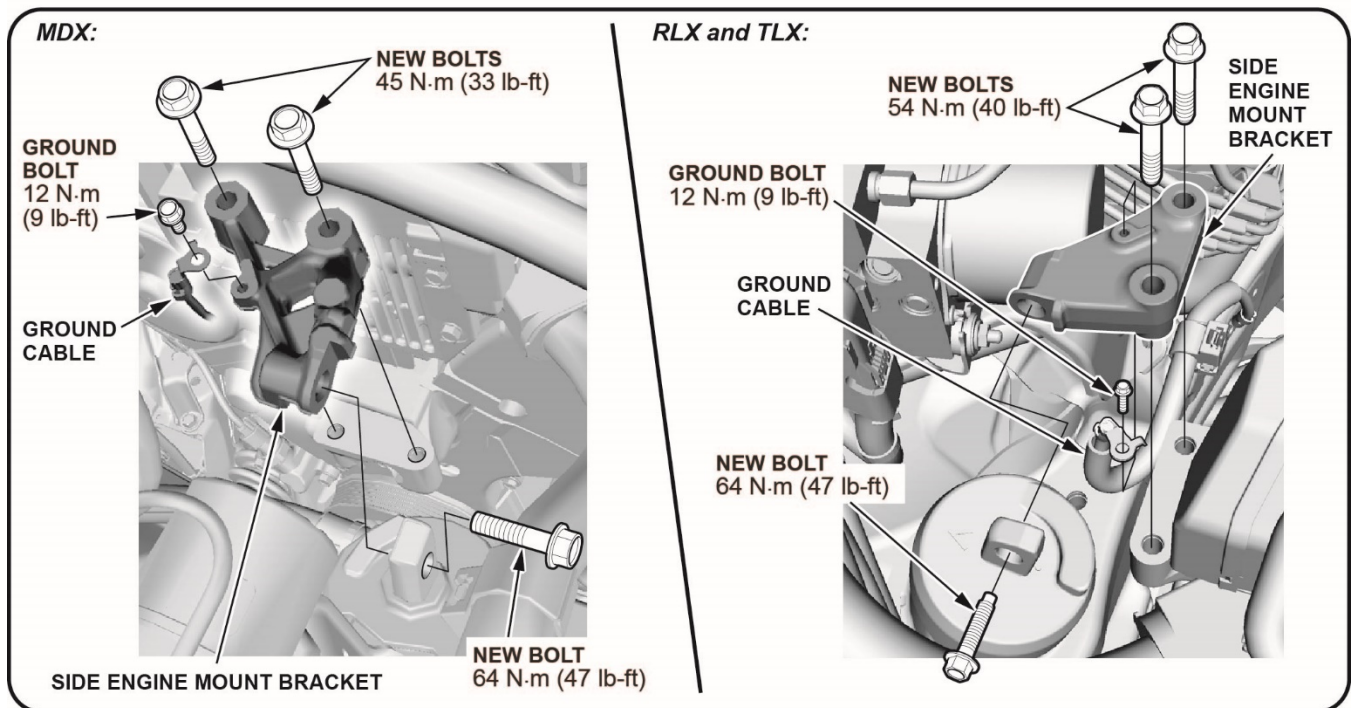
20. *RLX Sport Hybrid only*: Install the timing belt covers. Refer to the timing belt installation procedure in the service information (steps 7–27). Go to step 30.

21. Install the side engine mount with the new bolts and torque them as shown.

LOWER HALF OF SIDE ENGINE MOUNT



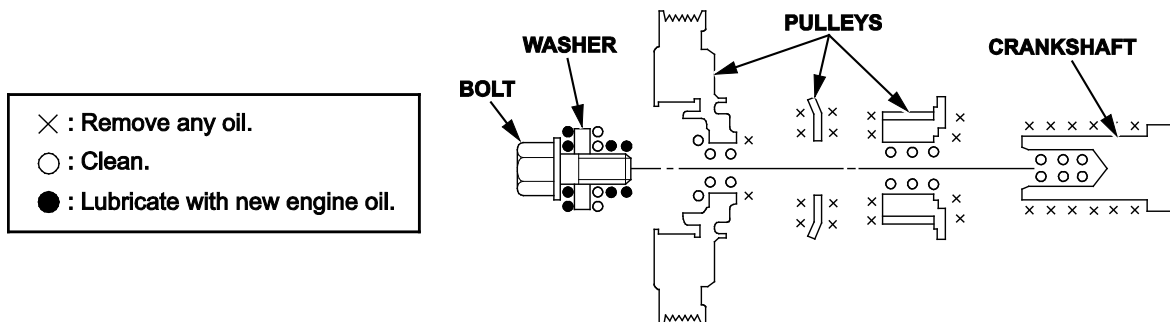
UPPER HALF OF SIDE ENGINE MOUNT



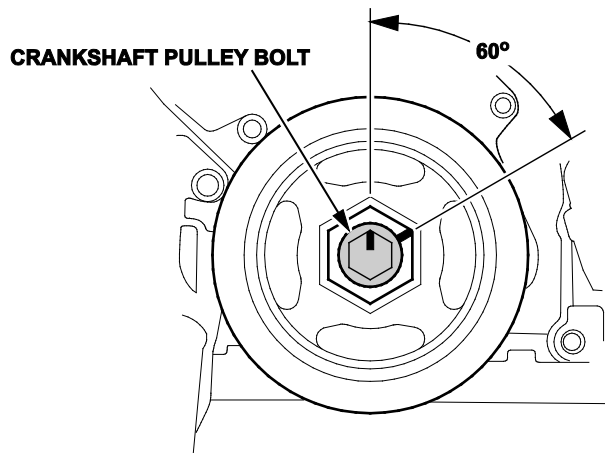
22. Remove the ECU. Install the upper and lower covers and torque the bolts to **12 N·m (9 lb-ft)**, then, install the ECU, and torque the bolts to **9.3 N·m (6.9 lb-ft)**.

23. Remove the crank pulley bolt.

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



25. Install the crankshaft pulley and torque the bolt to **65 N·m (48 lb-ft)**.
26. Tighten the bolt an additional 60 degrees.



27. Install the drive belt.
28. Install the engine undercover.
29. Install the right front wheel and torque the nuts.
 - RLX: **127 N·m (94 lb-ft)**
 - MDX: and TLX: **108 N·m (80 lb-ft)**
30. *RLX Sport Hybrid only:* Connect the high-voltage cable to the electric A/C compressor, install the service plug, and connect the 12-volt battery terminal. Refer to the electric A/C compressor installation procedure in the service information (steps 4, 9, and 10).
31. Do the CKP-pattern clear and the CKP-pattern learn procedure using the i-HDS.

NOTE: If you do not do these procedures, the PCM may falsely detect a misfire and set a DTC when there is no misfire.

END