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2013 - CX-5 - Engine

DRIVE BELT INSPECTION [SKYACTIV-G 2.0]

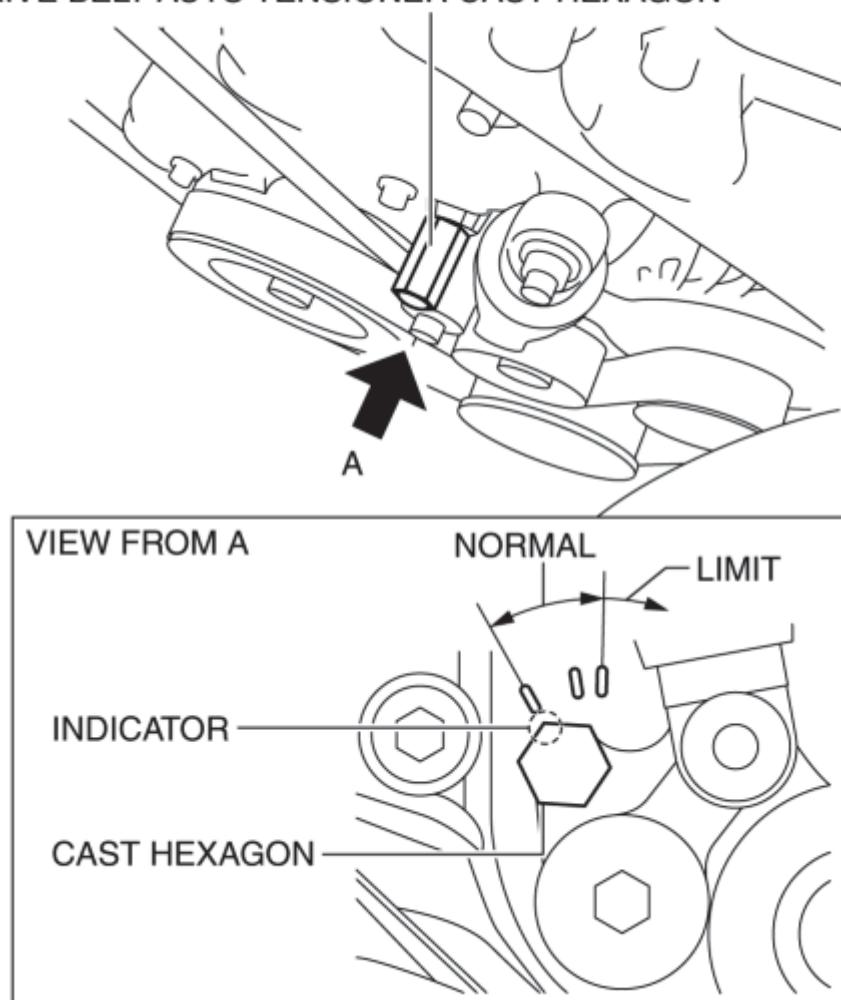
Generator Drive Belt

NOTE:

- The generator drive belt deflection/tension inspection is not necessary with the adoption of the drive belt auto tensioner.

1. Verify that the indicator part of the cast hexagon on the drive belt auto tensioner is within the normal range.

DRIVE BELT AUTO TENSIONER CAST HEXAGON



- If it exceeds the limit, replace the drive belt. (See **DRIVE BELT REMOVAL/INSTALLATION [SKYACTIV-G 2.0]**.)

Water Pump Drive Belt

NOTE:

- The water pump drive belt deflection/tension inspection is not necessary with the adoption of the stretch-type water pump drive belt.
1. Visually inspect or feel that there is no wear, damage, or cracking on the inside and sides of the entire the belt.
 - Even if there is a little wear, damage, or cracking, replace the water pump drive belt. (See **DRIVE BELT REMOVAL/INSTALLATION [SKYACTIV-G 2.0].**)
 2. Start the engine to verify that abnormal noise does not occur.
 - If abnormal noise occurs, replace the water pump drive belt. (See **DRIVE BELT REMOVAL/INSTALLATION [SKYACTIV-G 2.0].**)

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DRIVE BELT REMOVAL/INSTALLATION [SKYACTIV-G 2.0]

WARNING:

- A hot engine can cause severe burns. Turn off the engine and wait until it is cool before servicing.

NOTE:

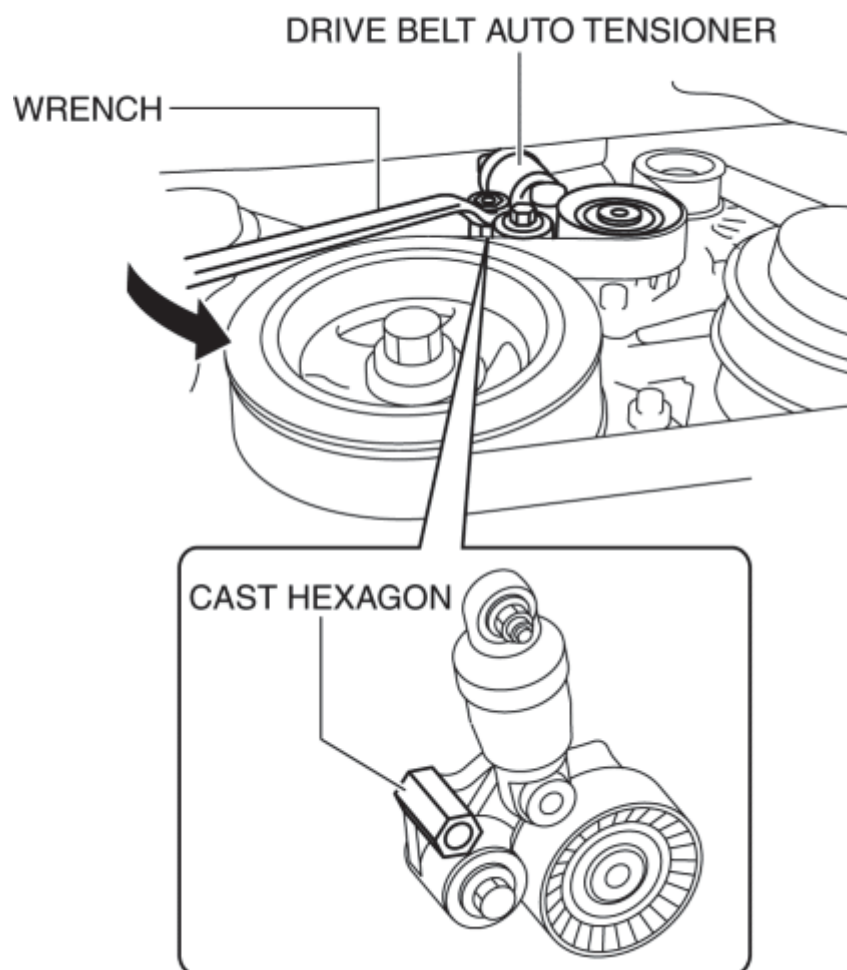
- Remove/install the drive belt from the underside of the vehicle.

Generator Drive Belt Removal/Installation

CAUTION:

- To prevent damage to the drive belt auto tensioner, do not apply excessive torque after the tensioner moves full-stroke.

1. Remove the splash shield. (See [SPLASH SHIELD REMOVAL/INSTALLATION](#).)
2. Insert a wrench onto the cast hexagon on the drive belt auto tensioner and release the tension by slowly turning in the direction shown in the figure.

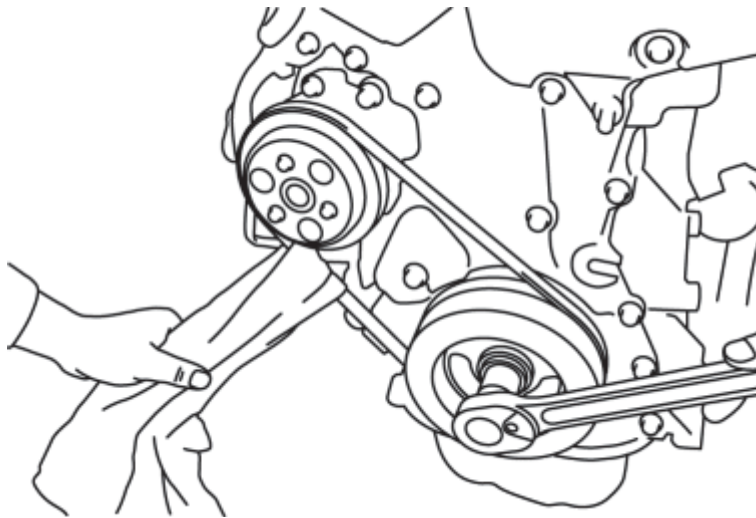


3. Remove the generator drive belt.
4. Install the generator drive belt.
5. Rotate the crankshaft pulley clockwise approx. halfway and verify that the generator drive belt is installed correctly.
 - If the rib of the drive belt and the groove of each pulley are not aligned, remove the drive belt and re-install it.
6. Verify that the indicator part of the cast hexagon on the drive belt auto tensioner is within the normal range. (See **DRIVE BELT INSPECTION [SKYACTIV-G 2.0]**.)
7. Install the splash shield. (See **SPLASH SHIELD REMOVAL/INSTALLATION.**)

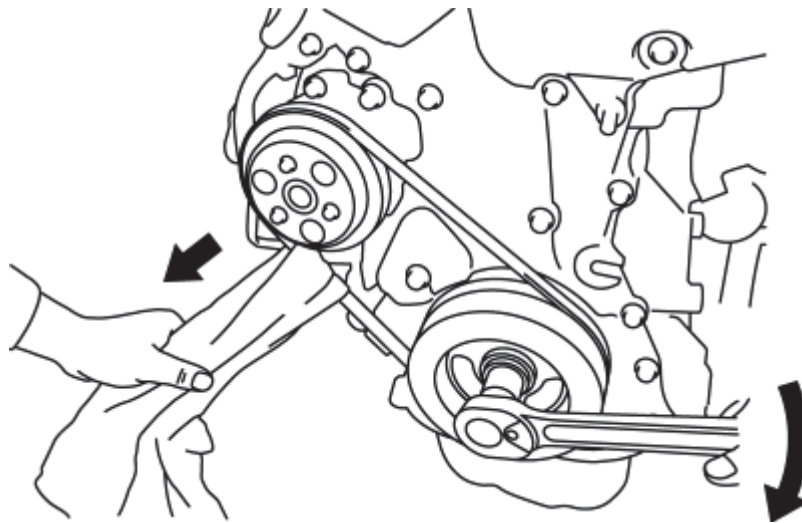
Water Pump Drive Belt

Removal

1. Remove the generator drive belt. (See **Generator Drive Belt Removal/Installation.**)
2. Apply a clean cloth to the water pump drive belt as shown in the figure.



3. Pull the cloth in the direction of the arrow and rotate the crankshaft pulley clockwise.



CAUTION:

- To prevent damaging the drive belt, do not stop rotating the crankshaft pulley while performing the removal procedure (with inserted cloth between drive belt and water pump pulley).

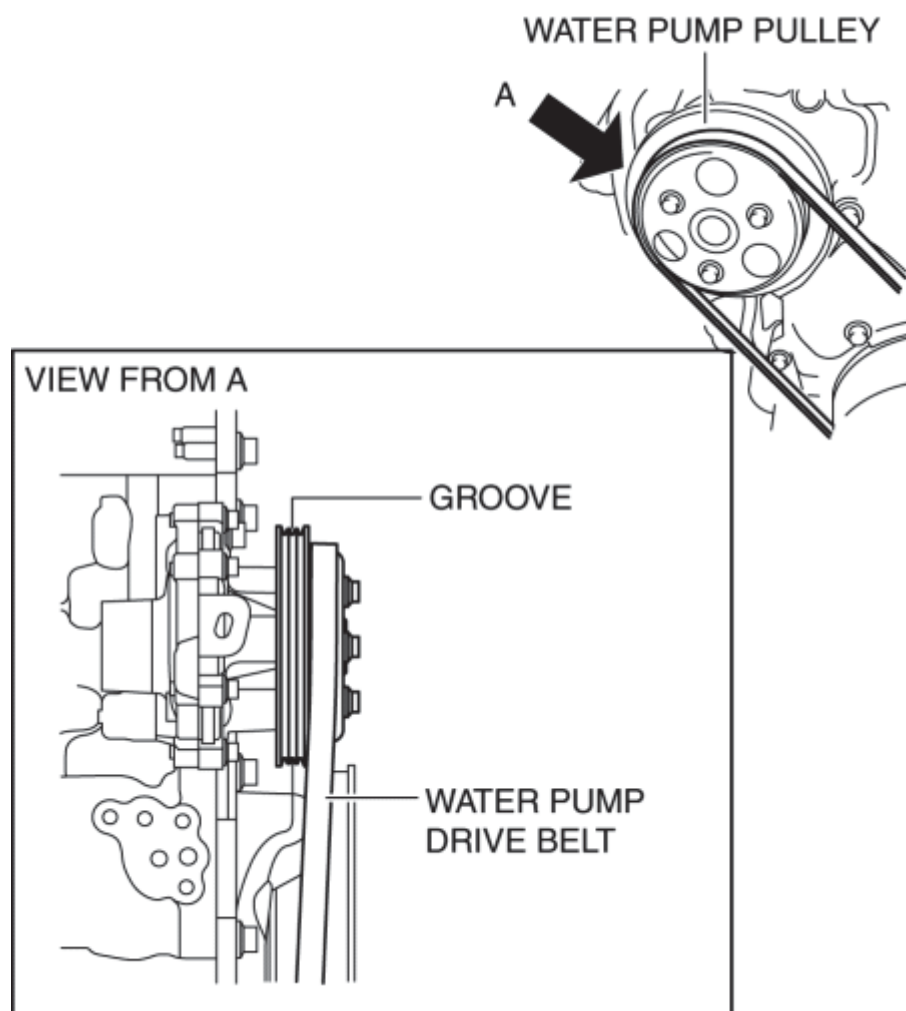
NOTE:

- The rib of the drive belt can be slid from the groove of the water pump pulley by rotating the crankshaft pulley while pulling the cloth in the direction of the arrow.

4. Remove the water pump drive belt.

Installation

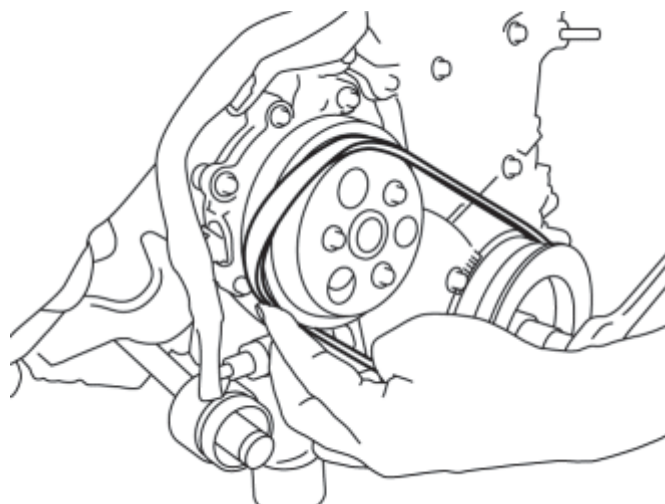
1. Set one side of the water pump drive belt into the groove of the crankshaft pulley.
2. Set the other side of the water pump drive belt into the groove of the water pump pulley with the smaller circumference.



CAUTION:

- Be careful not to get a finger caught in between the drive belt and pulley when performing the following procedure.
- Wearing gloves could result in fingers getting caught between the drive belt and pulley. Do not wear cotton gloves when performing the procedure.

3. Press the drive belt up from the smaller circumference pulley into the groove of the larger circumference pulley, and rotate the crankshaft pulley clockwise.



CAUTION:

- To prevent damaging the drive belt, do not stop rotation of the crankshaft pulley while pressing the drive belt up from the height difference of the water pump pulley to the groove of the pulley.
4. After drive belt installation, rotate the crankshaft pulley clockwise approx. halfway and verify that the water pump drive belt is installed correctly.
- If the rib of the drive belt and the groove of the pulley are not aligned, remove the drive belt and re-install it.
5. Install the generator drive belt. (See **Generator Drive Belt Removal/Installation.**)

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2013 - CX-5 - Engine

DRIVE BELT AUTO TENSIONER INSPECTION [SKYACTIV-G 2.0]

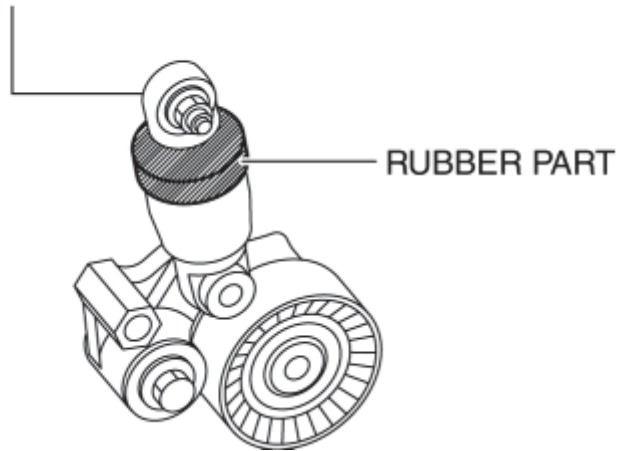
WARNING:

- A hot engine can cause severe burns. Turn off the engine and wait until it is cool before servicing.

CAUTION:

- If the rubber part of the drive belt auto tensioner is damaged by a screwdriver or other tool, oil in the hydraulic pressure unit could leak and the tensioner may not operate normally. Be careful not to damage the rubber part of the drive belt auto tensioner.

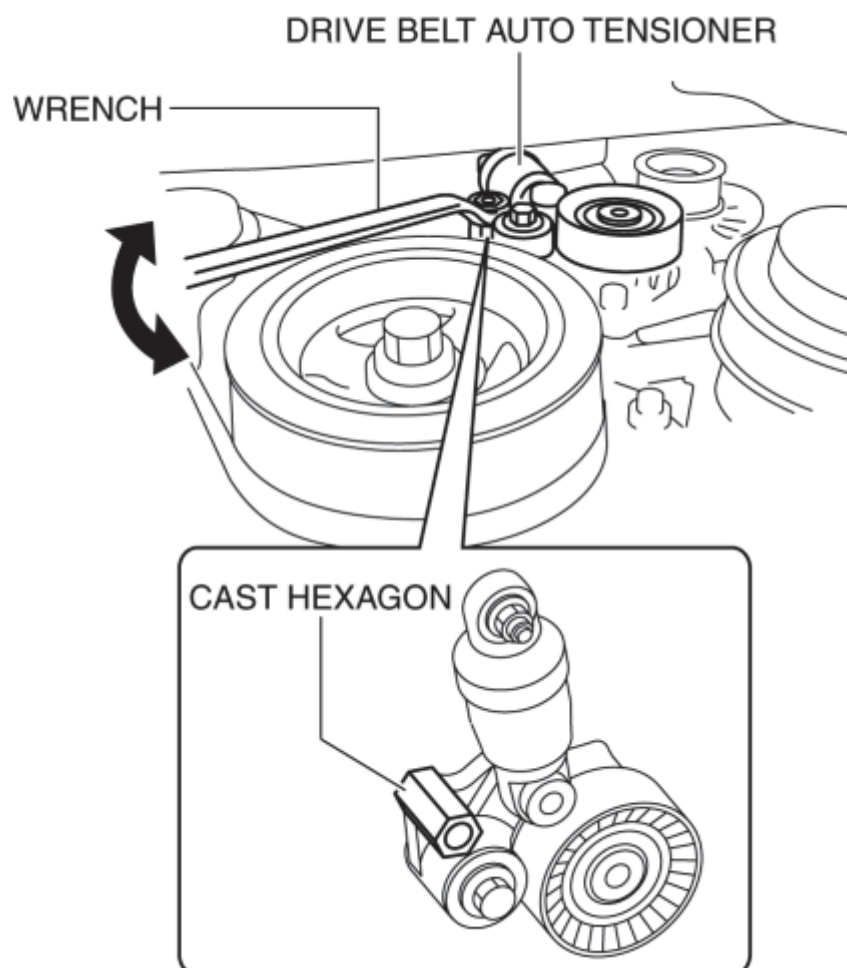
DRIVE BELT AUTO TENSIONER



1. Remove the generator drive belt. (See [DRIVE BELT REMOVAL/INSTALLATION \[SKYACTIV-G 2.0\]](#).)

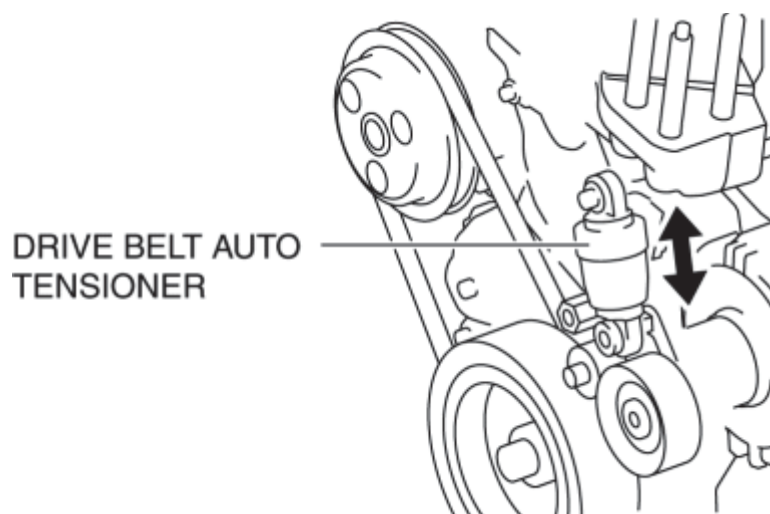
CAUTION:

- To prevent damage to the drive belt auto tensioner, do not apply excessive torque after the tensioner moves full-stroke.
2. Insert the wrench into the cast hexagon on the drive belt auto tensioner, slowly turn it in the direction of the arrow shown in the figure, and fully depress.



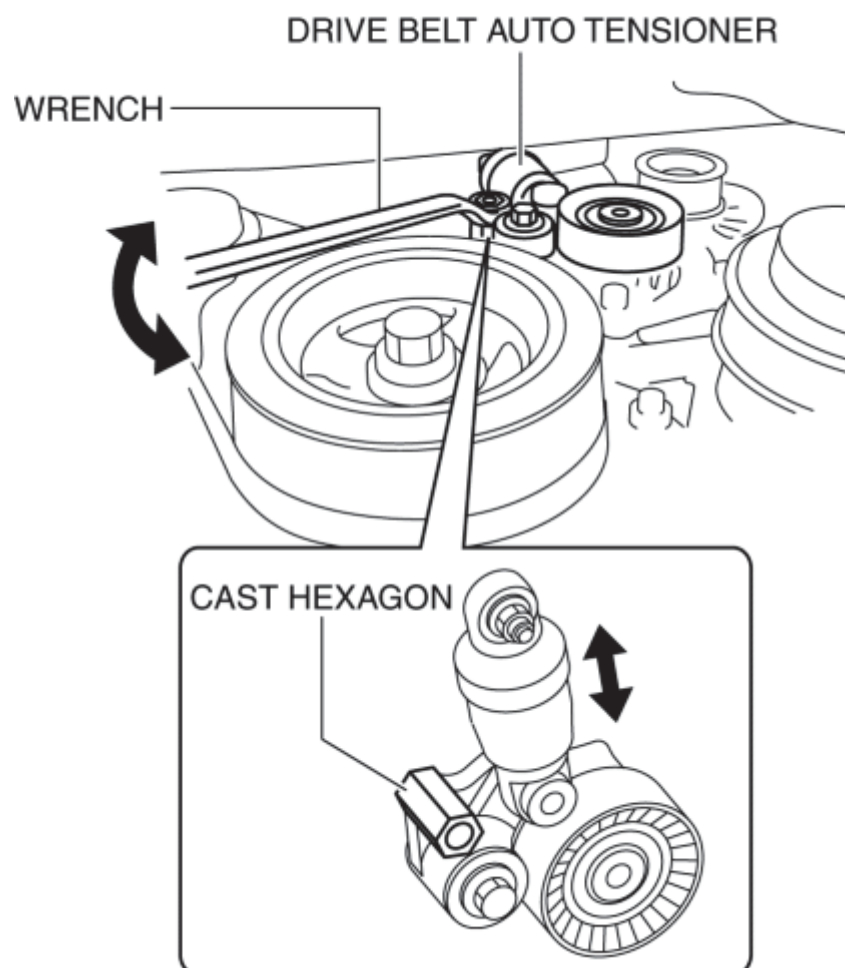
NOTE:

- The drive belt auto tensioner is operated in the direction of the arrow by turning the wrench.



3. Verify that the drive belt auto tensioner moves smoothly in the operational direction.

- If it does not move smoothly, air infiltration into the inner hydraulic pressure unit can be considered. Move the drive belt auto tensioner up and down at full-stroke three times to bleed the air.

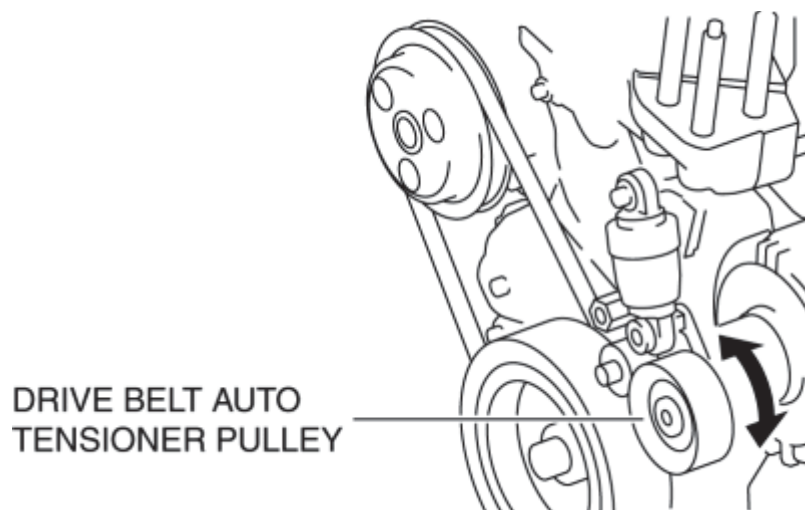


- After bleeding the air, if the drive belt auto tensioner still does not move smoothly when re-inspecting, replace the drive belt auto tensioner. (See **GENERATOR REMOVAL/INSTALLATION [SKYACTIV-G 2.0]**.)

NOTE:

- By moving the drive belt auto tensioner up and down full-stroke three times, the piston inside the tensioner moves to bleed the air.

4. Turn the drive belt auto tensioner pulley by hand and verify that it rotates smoothly.



- If it does not move smoothly, replace the drive belt auto tensioner. (See

GENERATOR REMOVAL/INSTALLATION [SKYACTIV-G 2.0].)

5. Install the generator drive belt. (See **DRIVE BELT REMOVAL/INSTALLATION [SKYACTIV-G 2.0].)**

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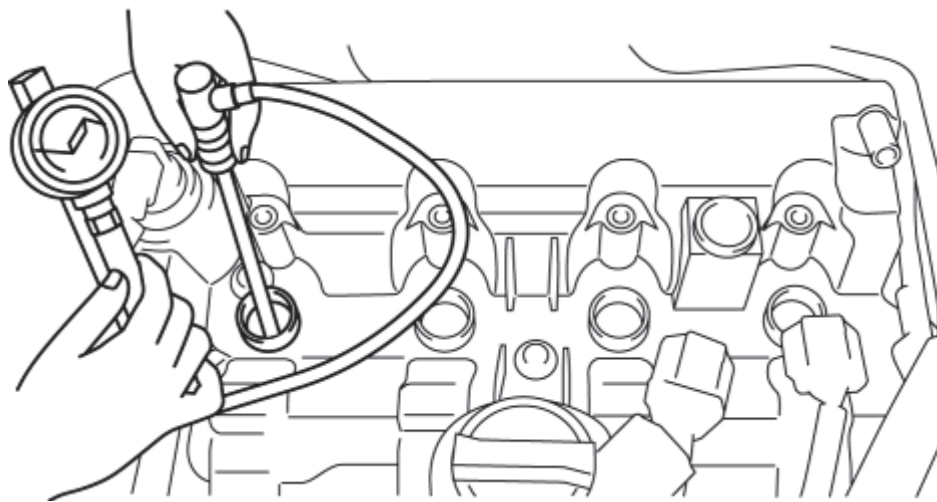
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2013 - CX-5 - Engine

COMPRESSION INSPECTION [SKYACTIV-G 2.0]

WARNING:

- Hot engines and oil can cause severe burns. Be careful not to burn yourself during removal/installation of each component.
 - Fuel vapor is hazardous. It can very easily ignite, causing serious injury and damage. Always keep sparks and flames away from fuel.
 - Fuel line spills and leakage are dangerous. Fuel can ignite and cause serious injuries or death and damage. Fuel can also irritate skin and eyes. To prevent this, always complete the "Fuel Line Safety Procedure". (See **BEFORE SERVICE PRECAUTION [SKYACTIV-G 2.0].**)
1. Verify that the battery is fully charged. (See **BATTERY INSPECTION [SKYACTIV-G 2.0].**)
 - Recharge it if necessary. (See **BATTERY RECHARGING [SKYACTIV-G 2.0].**)
 2. Warm up the engine to the normal operating temperature.
 3. Perform "Fuel Line Safety Procedures". (See **BEFORE SERVICE PRECAUTION [SKYACTIV-G 2.0].**)
 4. Remove the following parts.
 - a. Plug hole plate. (See **PLUG HOLE PLATE REMOVAL/INSTALLATION [SKYACTIV-G 2.0].**)
 - b. Ignition coil/ion sensors. (See **IGNITION COIL/ION SENSOR REMOVAL/INSTALLATION [SKYACTIV-G 2.0].**)
 - c. Spark plugs. (See **SPARK PLUG REMOVAL/INSTALLATION [SKYACTIV-G 2.0].**)
 - d. Fuel pump relay
 - e. Fuel injector relay
 5. Measure the compression pressure using the following procedure.
 - a. Press a compression gauge into the spark plug hole.



- b. Fully depress the accelerator pedal.
- c. Crank the engine and measure the compression pressure.

Compression

- Standard: 885 kPa {9.02 kgf/cm², 128 psi} [300 rpm]
- Minimum: 708 kPa {7.22 kgf/cm², 103 psi} [300 rpm]
- Maximum difference between cylinders: 150 kPa {1.53 kgf/cm², 21.8 psi}

NOTE:

- Because the SKYACTIV-G 2.0 retards the intake valve closing timing, compression pressure is low.

- d. Perform Steps (1) to (3) for all cylinders.
- e. If it is less than the minimum specification, or there is a cylinder with a maximum value that exceeds the other cylinders, add a small quantity of engine oil through the spark plug hole and perform Steps (1) to (3).
 - If the pressure increases by adding the engine oil, the piston ring or the cylinder surface is worn, or they are damaged. Perform overhaul servicing.
 - If the pressure does not increase, valve seizure, valve attachment malfunction, or pressure leakage from the cylinder head gasket might be occurring. Perform overhaul servicing.
- f. If the measured value is high, it is possible that there is an error in the electric variable valve timing system.

6. Remove the compression gauge.

7. Install the following parts.

- a. Fuel injector relay
- b. Fuel pump relay
- c. Spark plugs. (See **SPARK PLUG REMOVAL/INSTALLATION [SKYACTIV-G 2.0].**)

d. Ignition coil/ion sensors. (See **IGNITION COIL/ION SENSOR REMOVAL/INSTALLATION [SKYACTIV-G 2.0].**)

e. Plug hole plate. (See **PLUG HOLE PLATE REMOVAL/INSTALLATION [SKYACTIV-G 2.0].**)

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