

# Technical Bulletin

Division: Automotive  
 Category: Technical

Section Title: Engine  
 TSB No. TS 28 07140R

**SUBJECT:** SAFETY RECALL CAMPAIGN: SB, POWER STEERING TENSIONER PULLEY DAMAGE.  
**MODEL(S):** XL-7 (JA627), GRAND VITARA (JB627)  
**YEAR:** XL-7 2005~2006, GRAND VITARA 2006  
**VIN RANGE:**

Model Name	Engine (Model) Type	Drive type	VIN Range
Grand Vitara	H27A (JB627)	2WD	JS3TE947064100001~JS3TE947964104905 JS3TE945264100001~JS3TE945864100049 JS3TE944364100001~JS3TE944064103678 JS3TE943464100001~JS3TE943164106953 JS3TE941664100001~JS3TE941364104023
		4WD	JS3TD947764100001~JS3TD947764106753 JS3TD945964100001~JS3TD945164100753 JS3TD944X64100001~JS3TD944864104399 JS3TD943064100001~JS3TD943564104075 JS3TD941264100001~JS3TD941264104338
XL-7	H27A (JA627)	2WD	JS3TY92V354107998, JS3TY92VX54108002 JS3TY92V164100002~JS3TY92V064103571
		4WD	JS3TX92V854110253, JS3TX92V154110255, JS3TX92V254110264 JS3TX92V164100004~JS3TX92V864107922

**CONDITION:** The plastic outer race of the power steering tensioner pulley could break, allowing the belt to slip or derail, causing abnormal noise, and in worst cases may result in increased effort to steer the vehicle.

**CAUSE:** Improper material used in the plastic outer race of the tensioner pulley used for adjusting tension of the belt that drives the power steering pump.

**CORRECTION:** Suzuki dealers are required to inspect and if replacement has not been previously performed with countermeasure part, replace the power steering tensioner pulley. This service will be performed at no cost to the customer for parts or labor.

Technical Service Department  
 Dealership Circulation – Initial and file:

Service Manager	Parts Manager	Service Advisor	Technicians						

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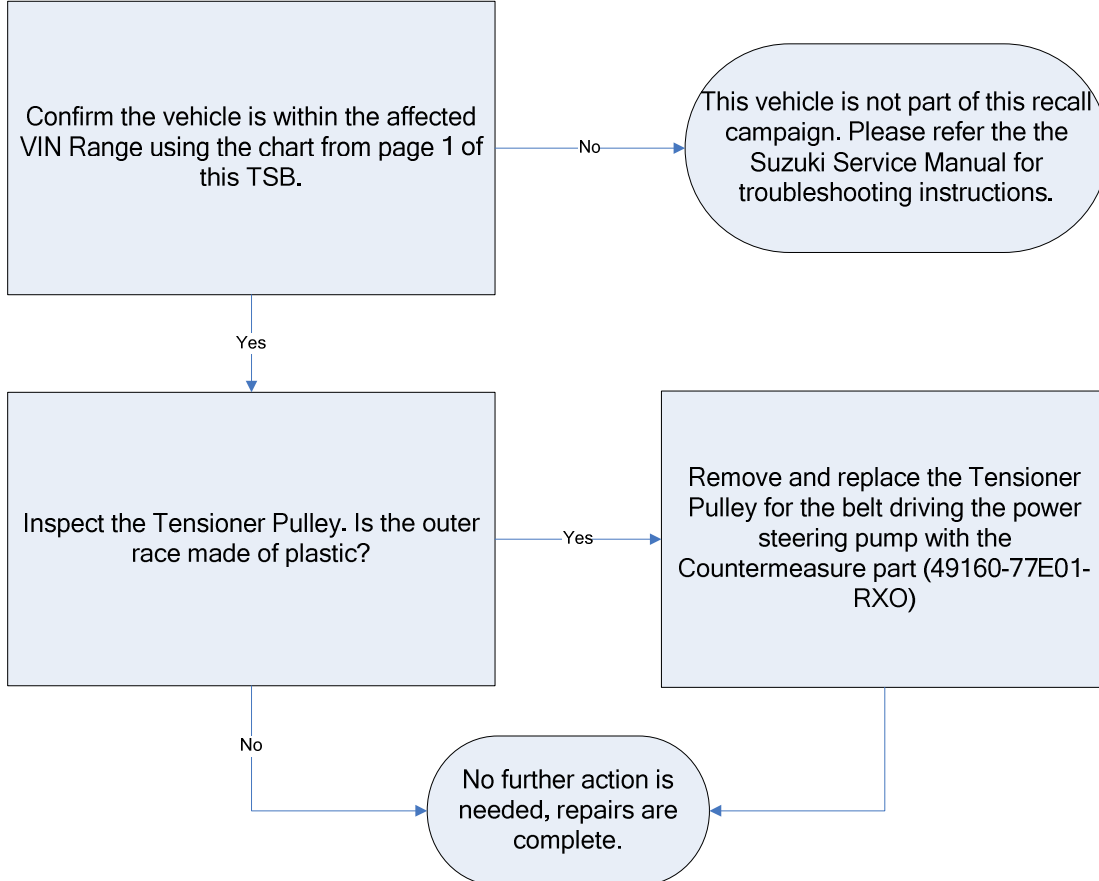
**PART(S) INFORMATION:**

Part Number	Description	Qty.	Notes
49160-77E01-RXO	Pulley, Belt Tension	1	



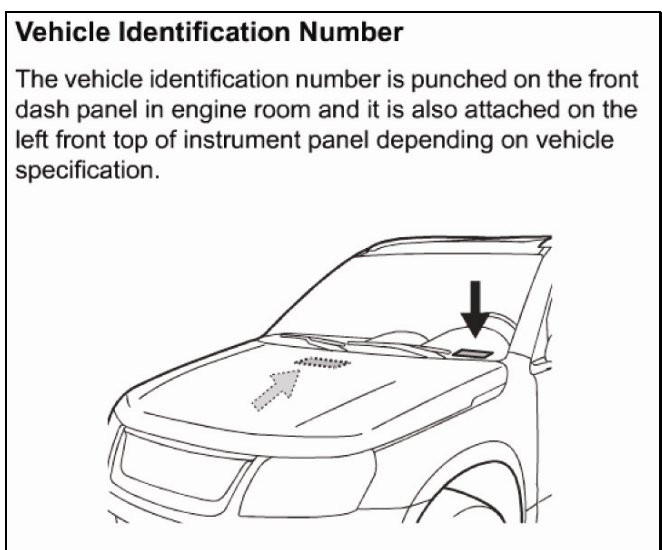
Campaign Code	Operation Code	Complaint Code	Defect Code	Labor Time	
SB	LJ9999	99	SB	Inspect only	0.1 hrs.
				Inspect and replace pulley	0.6 hrs.

**Workflow**

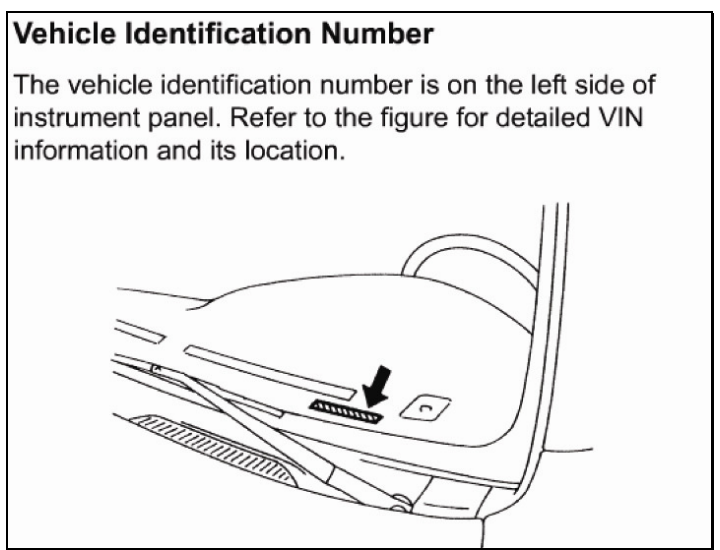


**Confirmation of Affected Vehicle**

- 1. Check the vehicle identification number to verify if the vehicle is eligible.



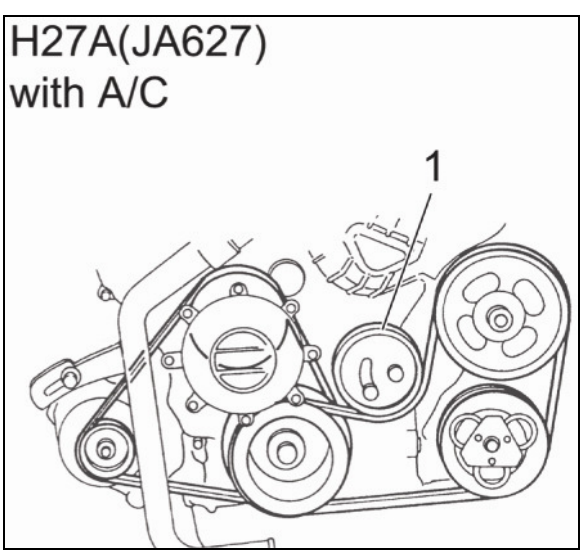
Grand Vitara (JB627)



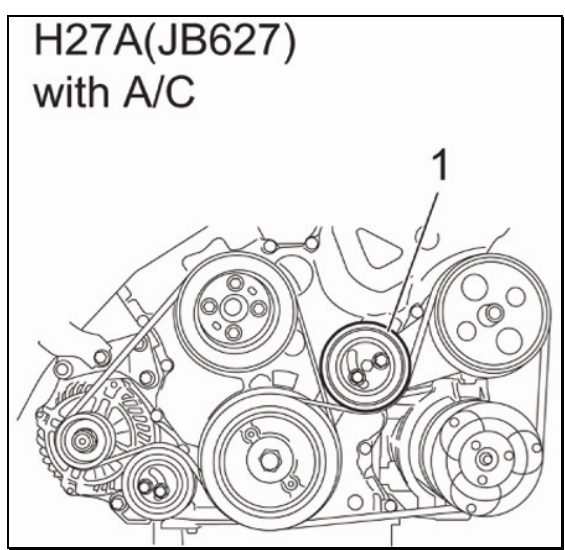
XL-7 (JA627)

**Inspection of Tensioner Pulley**

- 2. Visually check the tensioner pulley (1) outer race to determine if it is plastic or steel.

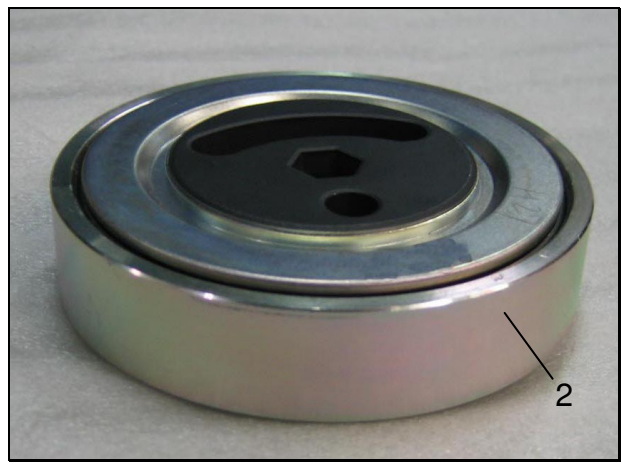


XL-7



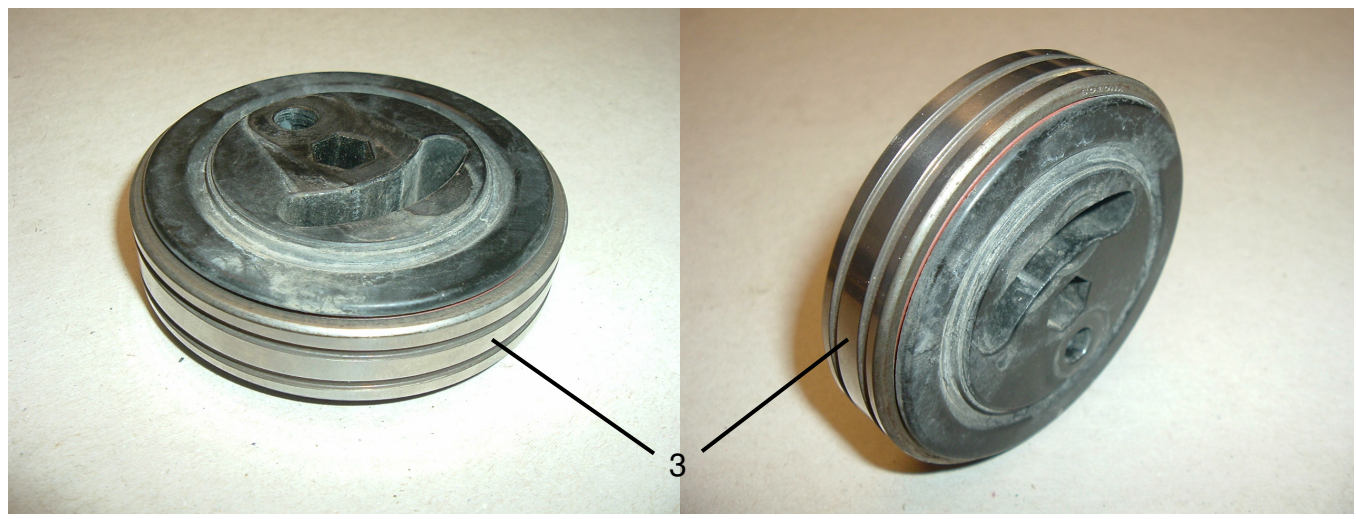
Grand Vitara

3. They can be easily distinguished by checking the color of the outer race.



Black: Plastic outer race (1)  
(Replace)

Silver: Steel outer race (2)  
(Do Not Replace)



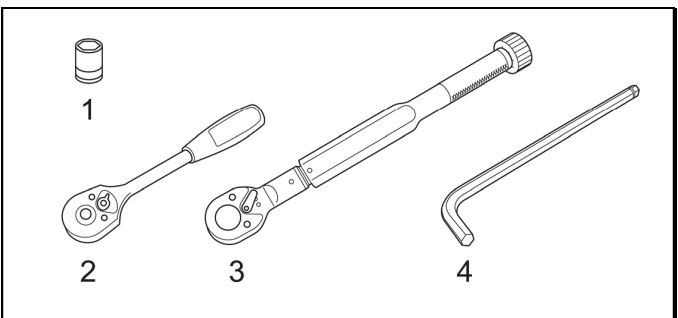
Failed: Black plastic outer race missing (3)  
(Replace, this Does Not Pass inspection as OK)

### Replacement of the Tensioner Pulley

Necessary tools

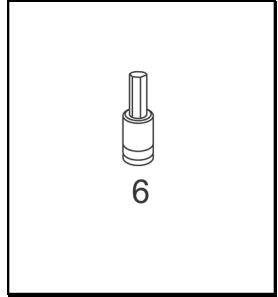
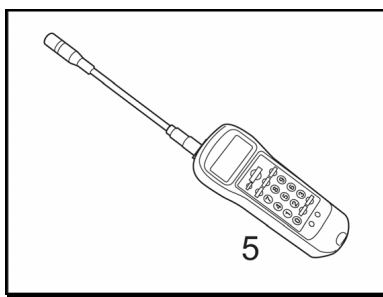
XL-7 (JA627), Grand Vitara (JB627)

Ref #	Tool Name
1	12 mm Socket ( $\frac{3}{8}$ drive)
2	Ratchet ( $\frac{3}{8}$ drive)
3	Torque wrench ( $\frac{3}{8}$ drive) (7.5-18.5 lbf-ft, 10-25 N·m, 1.0-2.5kgf-m)
4	10mm Hex wrench (Allen)



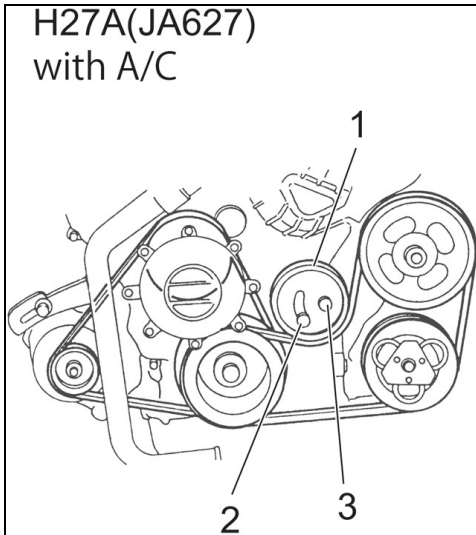
Used only for Grand Vitara (JB627)  
 (\*if available at dealership, can be ordered through SuzukiPitstopPlus.)

Ref #	Tool Name
*5	Sonic tension meter (made by Gates Corporation, Model: 507C w/0205 Mic)
6	10mm Hex socket ( $\frac{3}{8}$ drive)

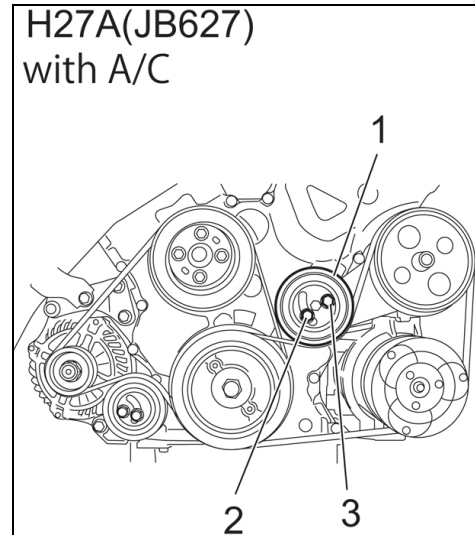


## Replacement Procedure

- To remove the **Plastic** Tensioner Pulley (1) from the H27A engine, loosen the tensioner pulley adjusting bolt (2) to relieve the tension on the power steering/AC belt, removing it along with the tensioner pulley bolt (3), and then the tensioner pulley.



XL-7



Grand Vitara

- Install the new Steel tensioner pulley, tensioner pulley bolt (3) and adjuster bolt, tightening by hand. Based on which vehicle is being repaired and the available tools, select the applicable method to adjust the belt tension from steps 6, 7, or 8, listed below.

### Belt Tension Adjustment

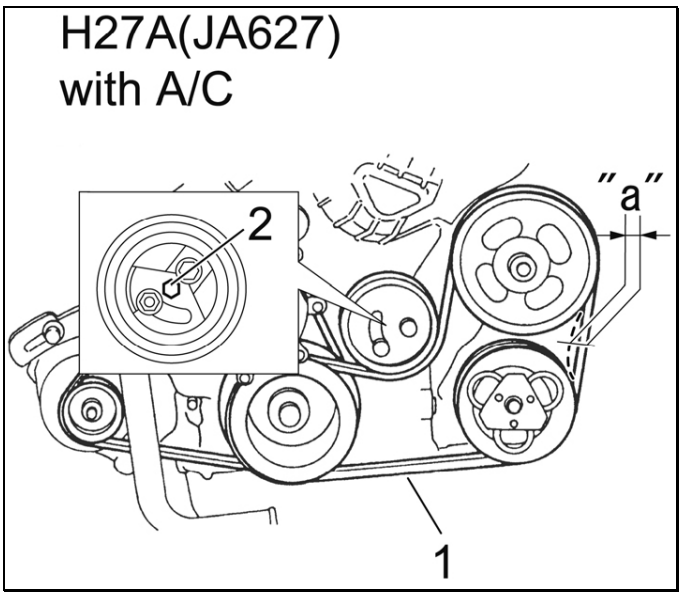
#### XL-7 (JA627) and Grand Vitara (JB627) Belt Deflection Method

- Insert the 10mm Hex Wrench in the hexagonal hole (2) on the pulley and turn it counterclockwise, increasing the tension of the belt until the deflection reaches the specified value indicated in the table below, and then tighten the adjusting bolt and pulley bolt temporarily. Proceed to step 10.

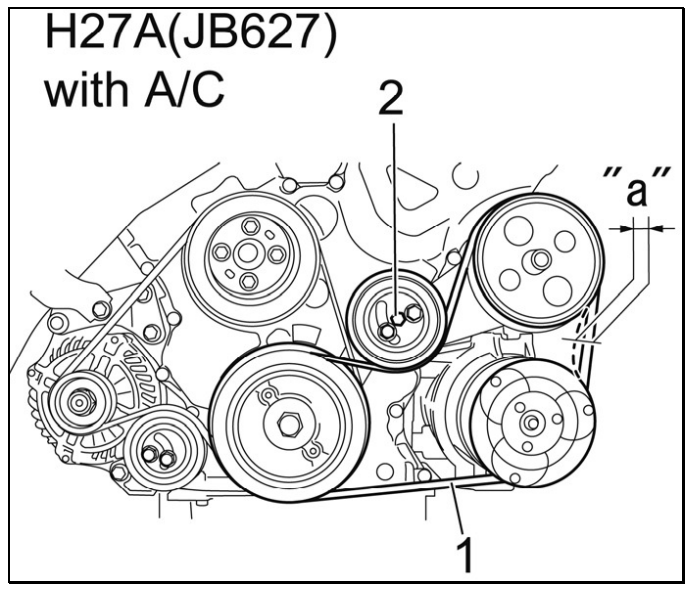
#### Specified value of belt deflection "a"

Drive Belt	Model	Pulley & new Belt installed* Pulley only & Re-adjustment	Deflection spec
Pwr Strg/AC	XL-7 (JA627)	Using a new belt	8 - 10mm (0.31 - 0.39 in.)
		Re-adjustment	10 - 12mm (0.39-0.47in.)
Pwr Strg/AC	Grand Vitara (JB627)	Using a new belt	5 - 6mm (0.19-0.23 in.)
		Re-adjustment	5.5 - 6.5mm (0.21-0.25in.)

**Measuring condition: When pushing on the belt at the center point between pulleys with 100N of force, as shown in the illustration below.**



XL-7 (JA627)



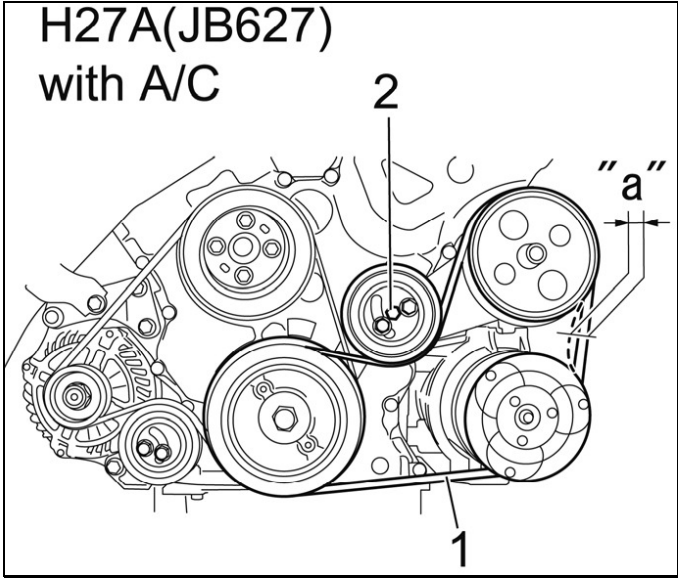
Grand Vitara (JB627)



**Grand Vitara (JB627) Sonic Tension Meter Method**

7. Set the Sonic Tension Meter to reflect the “Frequency Filter Setting” values from the table below. Insert the 10mm Hex tool in the hexagonal hole (2) on the pulley and turn it counterclockwise to increase, clockwise to decrease the tension on the belt to achieve the specified value indicated in the table below, and then tighten the adjusting bolt and pulley bolt temporarily. Proceed to step 10.

<b>Frequency Filter Setting</b>		
<b>Mass</b>	<b>Width</b>	<b>Span</b>
61.2	1.0	144.4



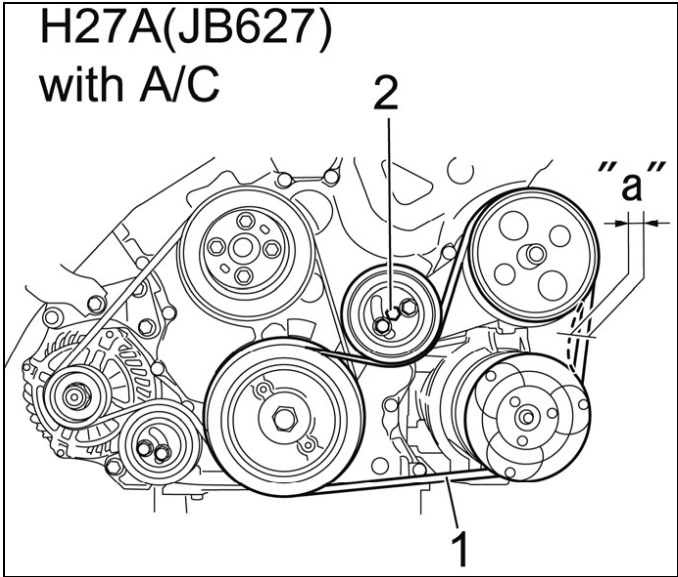
**Specification for Sonic Tension Meter Method: Power Steering/AC Belt**

<b>Pulley &amp; new Belt installed*</b>	<b>Tool indication specification</b>
Using a new belt	$500 \pm 50$ N
Re-adjustment	$400 \pm 50$ N



**Grand Vitara (JB627) Torque Method**

8. Using the 10mm Hex socket and torque wrench from the “tool list”, insert the 10mm Hex tool in the hexagonal hole on the pulley and turn it counterclockwise, increasing the tension until the prescribed amount of torque is being applied to the tensioner pulley as indicated in the table below, and then tighten the adjusting bolt and pulley bolt temporarily. Proceed to step 10.



<b>Pulley &amp; new Belt installed* Pulley only &amp; Re-adjustment</b>	<b>Torque specification</b>		
	Lb-ft	Kgf-m	N·m
Using a new belt	12.5 lb-ft	1.7 kgf-m	17 N·m
Re-adjustment	9.0 lb-ft	1.2 kgf-m	12 N·m

9. Re-check the belt tension to ensure that it is adjusted properly. If the measured value is not within the specified value, repeat the applicable adjustment step.

10. Using the 12mm socket and Torque wrench, tighten the tensioner bolt and adjusting bolt to the specified torque spec listed in the table below.

<b>Location</b>	<b>Torque specification</b>		
	Lb-ft	Kgf-m	N·m
Tensioner pulley bolt	18.5 lb-ft	2.5 kgf-m	25 N·m
Tensioner pulley adjusting bolt	18.5 lb-ft	2.5 kgf-m	25 N·m

11. Start the engine in order to stabilize the drive belt tension and stop it after it has run for 2-3 seconds, then measure the deflection or tension again. If the measured value is not within the specified value, repeat the applicable adjustment step. If the measurement is acceptable proceed to the next step.

12. The repair is now complete. Please affix the “SB” campaign label to the upper radiator support in a place where it can be easily seen and identified.