

SS-2

Suspension System

General Information

Specification

Front Suspension

Items				Specification
Suspension type				McPherson strut
Shock absorber	Type			Gas pressurized
	Stroke			161mm
	I.D. color			Violet
Coil spring	Diesel	2WD	Free height	381.0mm (15.00in.)
			I.D. color	Blue-White
		4WD	Free height	386.2mm (15.20in.)
			I.D. color	Blue-Yellow
	Gasoline	2WD	Free height	367.8mm (14.48in.)
			I.D. color	White-Pink
		4WD	Free height	373.1mm (14.69in.)
			I.D. color	White-Violet

Rear Suspension

Items				Specification
Suspension type				Multi-link
Shock absorber	Type			Gas pressurized
	Stroke			144mm
	I.D. color			Violet
Shock absorber (Self-levelizer)	Type			Gas pressurized
	Stroke			139mm (5.47in.)
	I.D. color			LH: Blue, RH: Blue/ Black
Coil spring	2WD	Free height	298.3mm (11.74in.)	
		I.D. color	Green-Blue	
	4WD	Free height	302.0mm (11.89in.)	
		I.D. color	Green-Pink	
Coil spring (Self-levelizer)	2WD	Free height	301.0mm (11.85in.)	
		I.D. color	Yellow-Orange	
	4WD	Free height	310.2mm (12.21in.)	
		I.D. color	Yellow-Violet	

General Information

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Wheel & Tire

Items		Specification
Tire		P245/65 R17
		P245/60 R18
Wheel		7.0J × 17
		7.0J × 18
Tire pressure	Front	2.1kg/cm ² (30psi)
	Rear	2.1kg/cm ² (30psi)

Wheel Alignment

Items	Front	Rear
Toe (Tire O.D. 750mm)	0°±0.2°	0.2°±0.2°
Camber angle	-0.5°±0.5°	-1°±0.5°
Caster angle	4.33°±0.5°	-
King-pin angle	12.93°±0.5°	-

Tightening Torques

Front Suspension

Item	Tightening torque (kgf.m)		
	N.m	Kgf.m	lb-ft
Hub nuts	90 ~ 110	9.0 ~ 11.0	65 ~ 80
Strut assembly to wheel housing penal bolts	45 ~ 60	4.5 ~ 6.0	33 ~ 43
Strut assembly to knuckle bolts	155 ~ 175	15.5 ~ 17.5	112 ~ 127
Strut assembly self locking nut	60 ~ 70	6.0 ~ 7.0	43 ~ 51
Stabilizer link to strut assembly nut	100 ~ 120	10.0 ~ 12.0	72 ~ 87
Lower arm to sub frame bolt & nut	140 ~ 160	14.0 ~ 16.0	101 ~ 116
Lower arm to knuckle bolts & nut	100 ~ 120	10.0 ~ 12.0	72 ~ 87
Stabilizer bar to stabilizer link nut	100 ~ 120	10.0 ~ 12.0	72 ~ 87
Stabilizer bracket mounting bolts	50 ~ 65	5.0 ~ 6.5	36 ~ 47
Sub frame to body bolts and nuts	140 ~ 160	14.0 ~ 16.0	101 ~ 116
Sub frame stay mounting bolts and nuts	70 ~ 90	7.0 ~ 9.0	51 ~ 65
Front & Rear roll stopper mounting bolt & nut	50 ~ 65	5.0 ~ 6.5	36 ~ 47
Tie rod end castle nut	24 ~ 34	2.4 ~ 3.4	17 ~ 25
Power steering pressure tube eye-bolt	55 ~ 65	5.5 ~ 6.5	40 ~ 47
Universal join to pinion of steering gear bolt	30 ~ 35	3.0 ~ 3.5	22 ~ 25

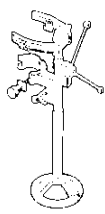
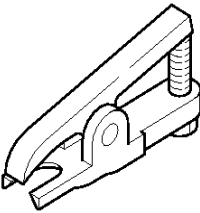
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Suspension System

Rear Suspension

Item	Tightening toque		
	N.m	kgf.m	lb-ft
Hub nuts	90 ~ 110	9.0 ~ 11.0	65 ~ 80
Shock absorber to housing panel bolts	140 ~ 160	14.0 ~ 16.0	101 ~ 116
Shock absorber to carrier bolt & nut	100 ~ 120	10.0 ~ 12.0	72 ~ 87
Upper arm ball joint castle nut	80 ~ 100	8.0 ~ 10.0	58 ~ 72
Upper arm to cross member bolts	100 ~ 120	10.0 ~ 12.0	72 ~ 87
Lower arm to cross member bolt & nut	140 ~ 160	14.0 ~ 16.0	101 ~ 116
Lower arm to carrier bolt & nut	140 ~ 160	14.0 ~ 16.0	101 ~ 116
Assist arm to cross member bolt & nut	140 ~ 160	14.0 ~ 16.0	101 ~ 116
Assist arm to carrier nut	100 ~ 120	10.0 ~ 12.0	72 ~ 87
Trailing arm to cross member nut	140 ~ 160	14.0 ~ 16.0	101 ~ 116
Trailing arm to carrier bolt & nut	140 ~ 160	14.0 ~ 16.0	101 ~ 116
Stabilizer link to carrier nut	60 ~ 80	6.0 ~ 8.0	43 ~ 58
Stabilizer link to stabilizer bar nut	60 ~ 80	6.0 ~ 8.0	43 ~ 58
Stabilizer bar bracket bolts	45 ~ 55	4.5 ~ 5.5	33 ~ 40
Cross member to body bolts	160 ~ 180	16.0 ~ 18.0	116 ~ 130
Cross member stay mounting bolt & nut	70 ~ 90	7.0 ~ 9.0	51 ~ 65

Special Service Tools

Tool (Number and Name)	Illustration	Use
09546-26000 Strut spring compressor	 E4626000	Compression of coil spring
09568-34000 Ball joint puller	 E6834000	Remover of ball joint

General Information

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Troubleshooting

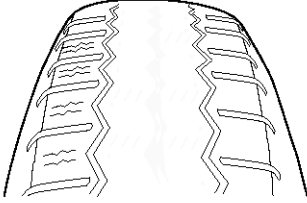
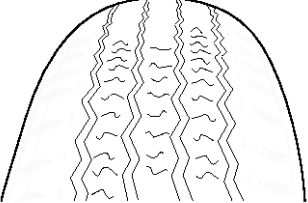
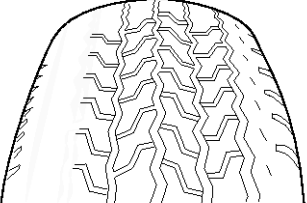
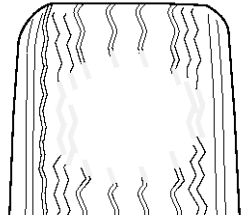
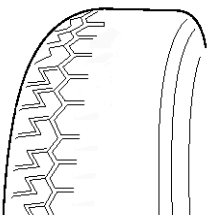
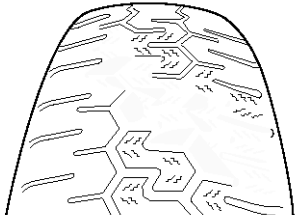
Symptom	Possible cause	Remedy
Hard steering	Improper front wheel alignment Excessive turning resistance of lower arm ball joint Low tire pressure No power assist	Correct Replace Adjust Repair and replace
Poor return of steering wheel to center	Improper front wheel alignment	Correct
Poor or rough ride	Improper front wheel alignment Malfunctioning shock absorber Broken or worn stabilizer Broken or worn coil spring Worn lower arm bushing	Correct Repair or replace Replace Replace Replace the lower arm assembly
Abnormal tire wear	Improper front wheel alignment Improper tire pressure Malfunctioning shock absorber	Correct Adjust Replace
Wandering	Improper front wheel alignment Poor turning resistance of lower arm ball joint Loose or worn lower arm bushing	Correct Repair Retighten or replace
Vehicle pulls to one side	Improper front wheel alignment Excessive turning resistance of lower arm ball joint Broken or worn coil spring Bent lower arm	Correct Replace Replace Repair
Steering wheel shimmy	Improper front wheel alignment Poor turning resistance of lower arm ball joint Broken or worn stabilizer Worn lower arm bushing Malfunctioning shock absorber Broken or worn coil spring	Correct Replace Replace Replace Replace Replace
Bottoming	Broken or worn coil spring Malfunctioning shock absorber	Replace Replace

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Wheel /tire noise, vibration and harshness concerns are directly related to vehicle speed and are not generally affected by acceleration, coasting or decelerating. Also, out-of-balance wheel and tires can vibrate at more than one speed. A vibration that is affected by the engine rpm, or is eliminated by placing the transmission in Neutral is not related to the tire and wheel. As a general rule, tire and wheel vibrations felt in the steering wheel are related to the front tire and wheel assemblies. Vibrations felt in the seat or floor are related to the rear tire and wheel assemblies. This can initially isolate a concern to the front or rear.

Careful attention must be paid to the tire and wheels. There are several symptoms that can be caused by damaged or worn tire and wheels. Perform a careful visual inspection of the tires and wheel assemblies. Spin the tires slowly and watch for signs of lateral or radial runout. Refer to the tire wear chart to determine the tire wear conditions and actions

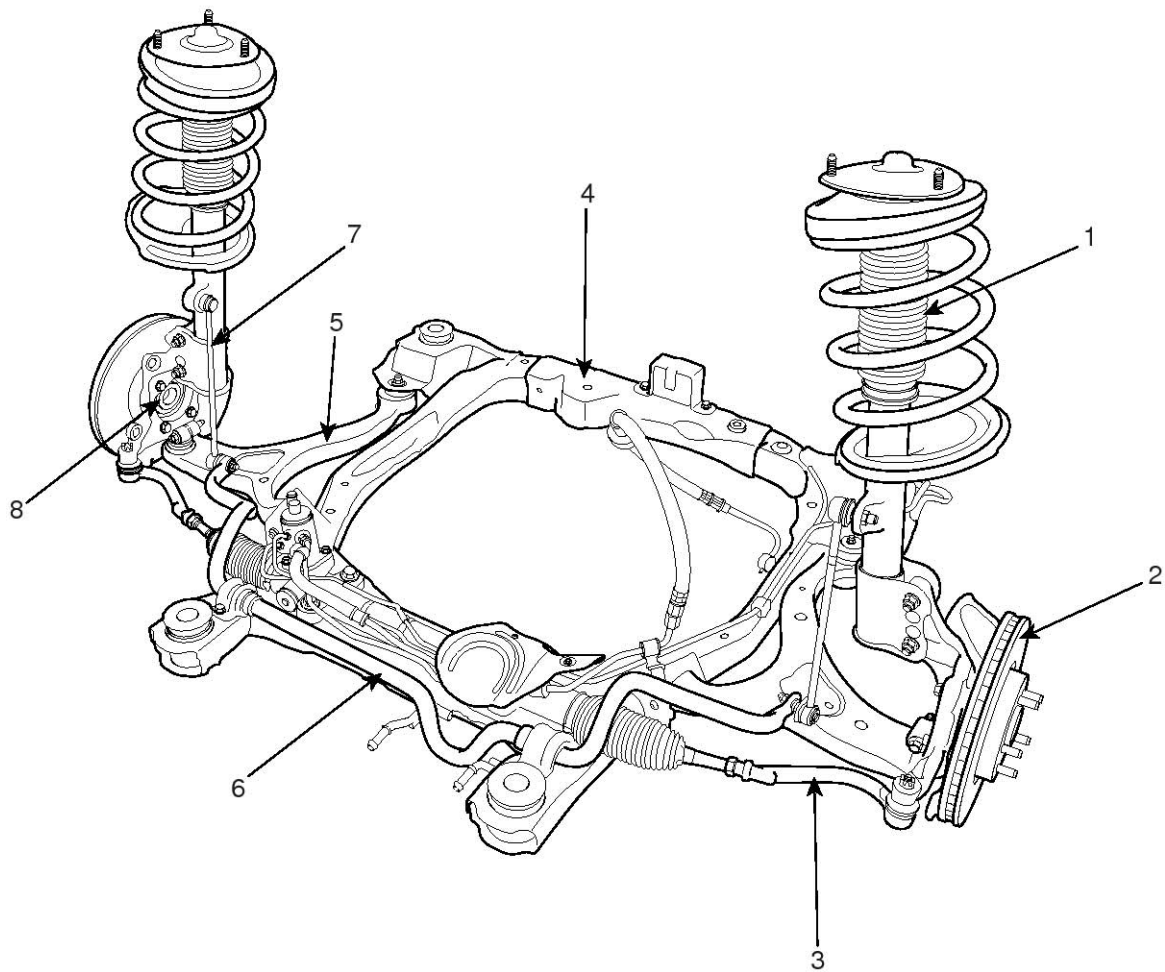
Wheel and tire diagnosis		
Rapid wear at the center	Rapid wear at both shoulders	Wear at one shoulder
 AHIE002A	 AHIE002B	 AHIE002C
- Center-tread down to fabric due to excessive over inflated tires - Lack of rotation - Excessive toe on drive wheels - Heavy acceleration on drive	- Under-inflated tires - Worn suspension components - Excessive cornering speeds - Lack of rotation	- Toe adjustment out of specification - Camber out of specification - Damaged strut - Damaged lower arm
Partial wear	Feathered edge	Wear pattern
 AHIE002D	 AHIE002F	 AHIE002G
Caused by irregular burrs on brake drums	- Toe adjustment out of specification - Damaged or worn tie rods - Damaged knuckle	- Excessive toe on non-drive wheels - Lack of rotation

Front Suspension System

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Front Suspension System

Components



SENS9300L

- 1. Front strut assembly
- 2. Front brake disc
- 3. Tie-rod end
- 4. Sub-frame

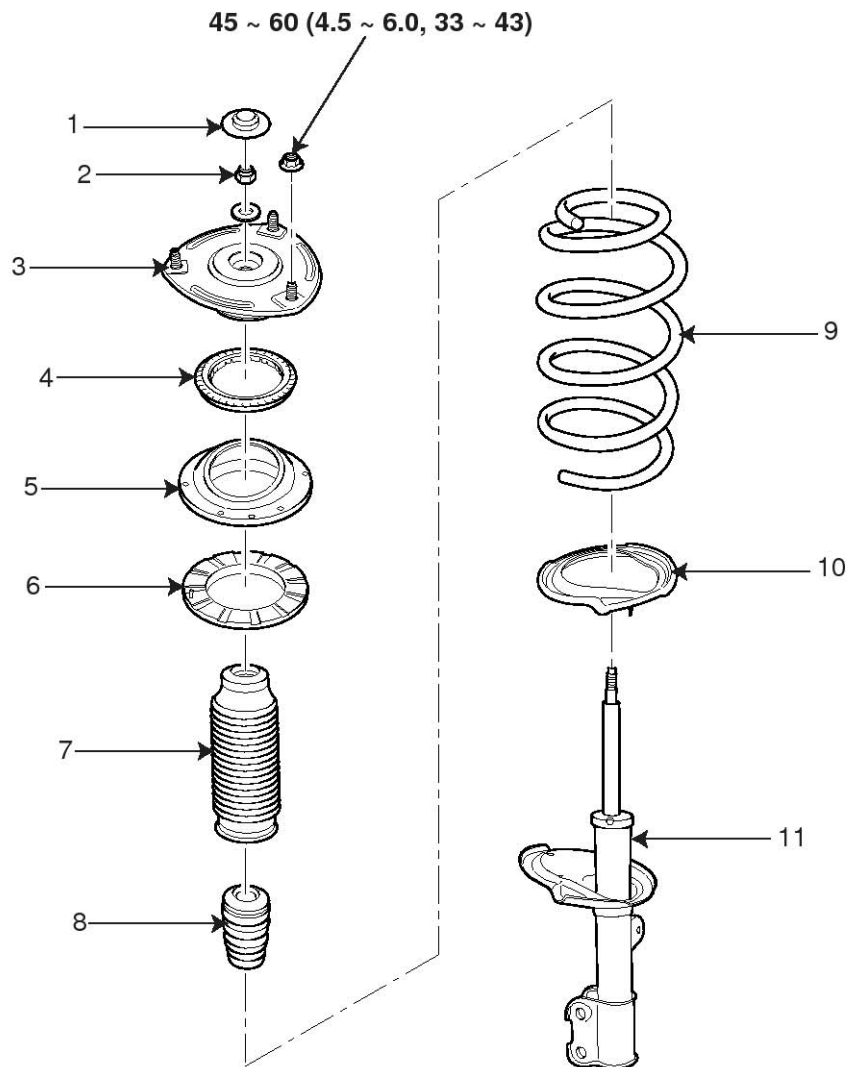
- 5. Front lower arm
- 6. Front stabilizer bar
- 7. Stabilizer link
- 8. Knuckle assembly

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Suspension System

Front Strut Assembly

Components



Torque : N.m (kgf.m, lb-ft)

SENS9301L

1. Insulator cap
2. Self-locking nut
3. Insulator assembly
4. Strut bearing
5. Spring upper seat
6. Spring upper pad

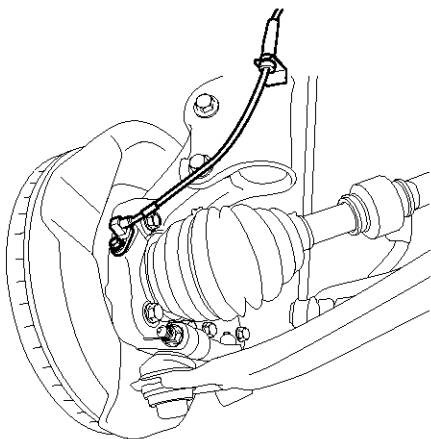
7. Dust cover
8. Bumper rubber
9. Coil spring
10. Spring lower pad
11. Shock absorber

Front Suspension System

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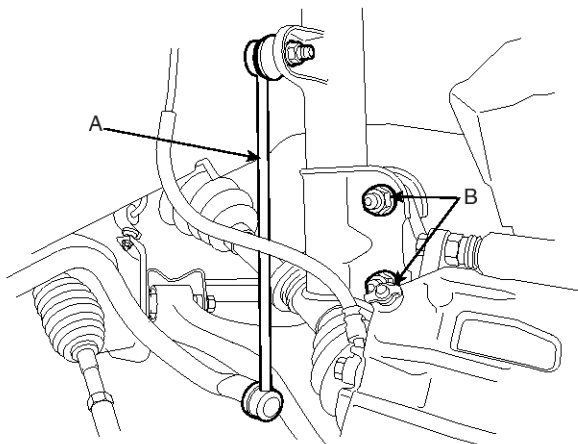
Removal

1. Remove the front wheel & tire.
2. Remove the wheel speed sensor cable from the front strut assembly.



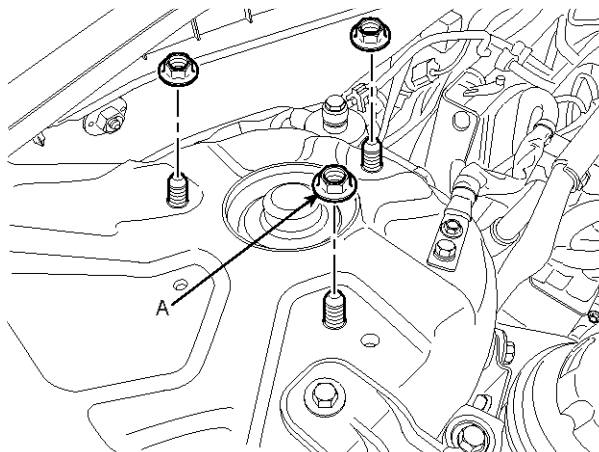
SENS7502D

3. Disconnect the stabilizer link (A) with the front strut assembly after loosening the nut.
4. Disconnect the front strut assembly with the knuckle by loosening the bolt & nut (B).



SENS7102D

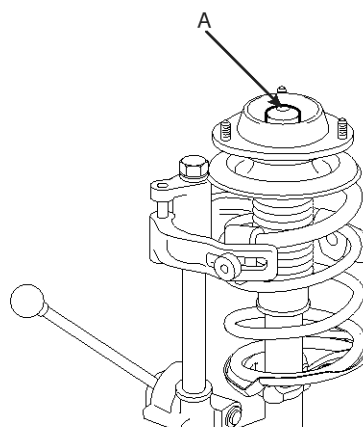
5. Remove the front strut assembly from the wheel housing panel by loosening the mounting nuts (A).



SENS7503D

Disassembly

1. Compress the coil spring with a SST (09546-26000). Do not compress the spring more than necessary.
2. Remove the insulator cap (A) and then loosen the self-locking nut.



SCMSS6525D

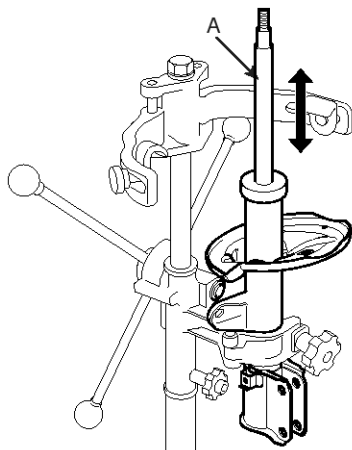
3. Disassemble the components of front strut assembly in sequence. (Refer to Front strut assembly components)

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Suspension System

Inspection

1. Check the components for damage or deformation.
2. Compress and extend the piston rod (A) and check that there is no abnormal resistance or unusual sound during operation.



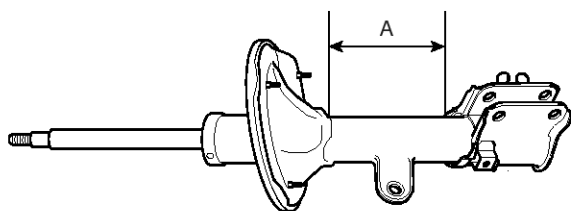
KHQE120A

Disposal

1. Fully extend the piston rod.
2. Drill a hole on the (A) section to discharge gas from the cylinder.

CAUTION

The gas coming out is harmless, but be careful of chips that may fly when drilling. Be sure to wear safety goggles or eye protection when performing this task.



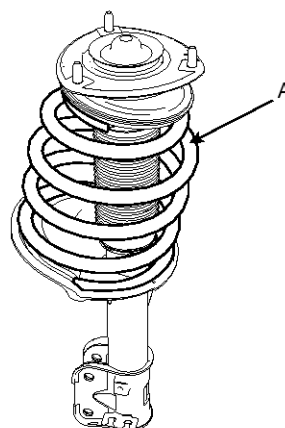
KHQE121A

Reassembly

1. Install the front shock absorber to SST (09546-26000).
2. Assemble the components of the front strut assembly in sequence. (Refer to Front strut assembly components)
3. After seating the upper and lower ends of the coil spring in the upper and lower spring seat grooves correctly, tighten new self-locking nut.

Tightening torque :

60 ~ 70N.m (6.0 ~ 7.0kgf.m, 43 ~ 51lb-ft)



SENS57103D

4. Install the insulator cap.
5. Remove the special service tool.

Front Suspension System

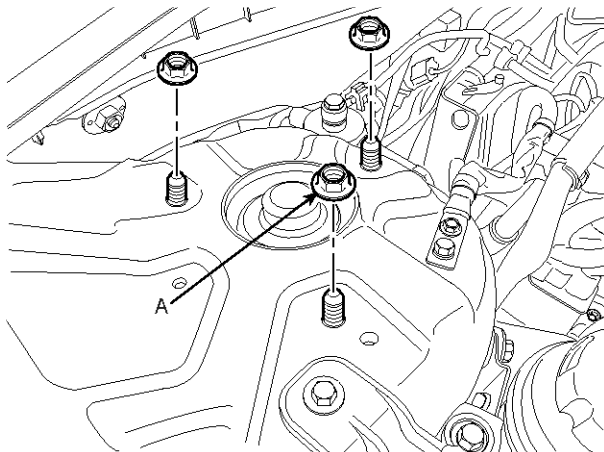
SS-11

Installation

1. Install the front strut assembly to the wheel housing panel by tightening the mounting nuts (A).

Tightening torque :

45 ~ 60N.m, (4.5 ~ 6.0kgf.m, 33 ~ 43lb-ft)



SENSS7503D

2. Connect the front strut assembly with the knuckle by tightening the bolt & nut (B).

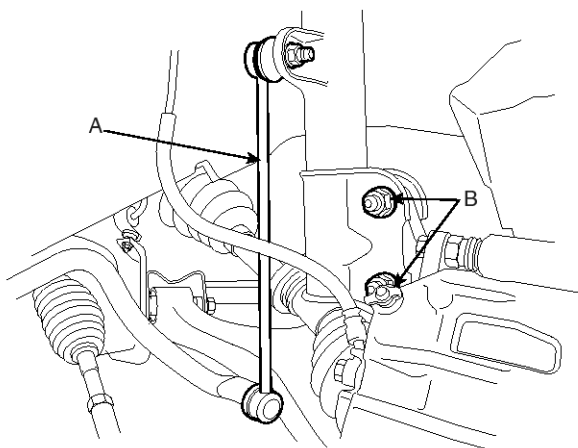
Tightening torque :

15.5 ~ 17.5N.m (15.5 ~ 17.5kgf.m, 112 ~ 127lb-ft)

3. Connect the stabilizer link (A) with front strut assembly and then tighten the nut.

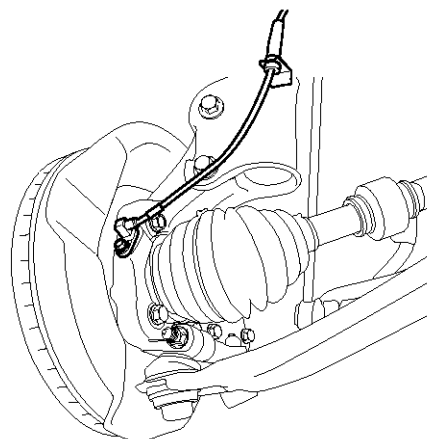
Tightening torque :

100 ~ 120N.m (10.0 ~ 12.0kgf.m, 72 ~ 87lb-ft)



SENSS7102D

4. Install the wheel speed sensor cable to front strut assembly.



SENSS7502D

5. Install the front wheel & tire.

Tightening torque :

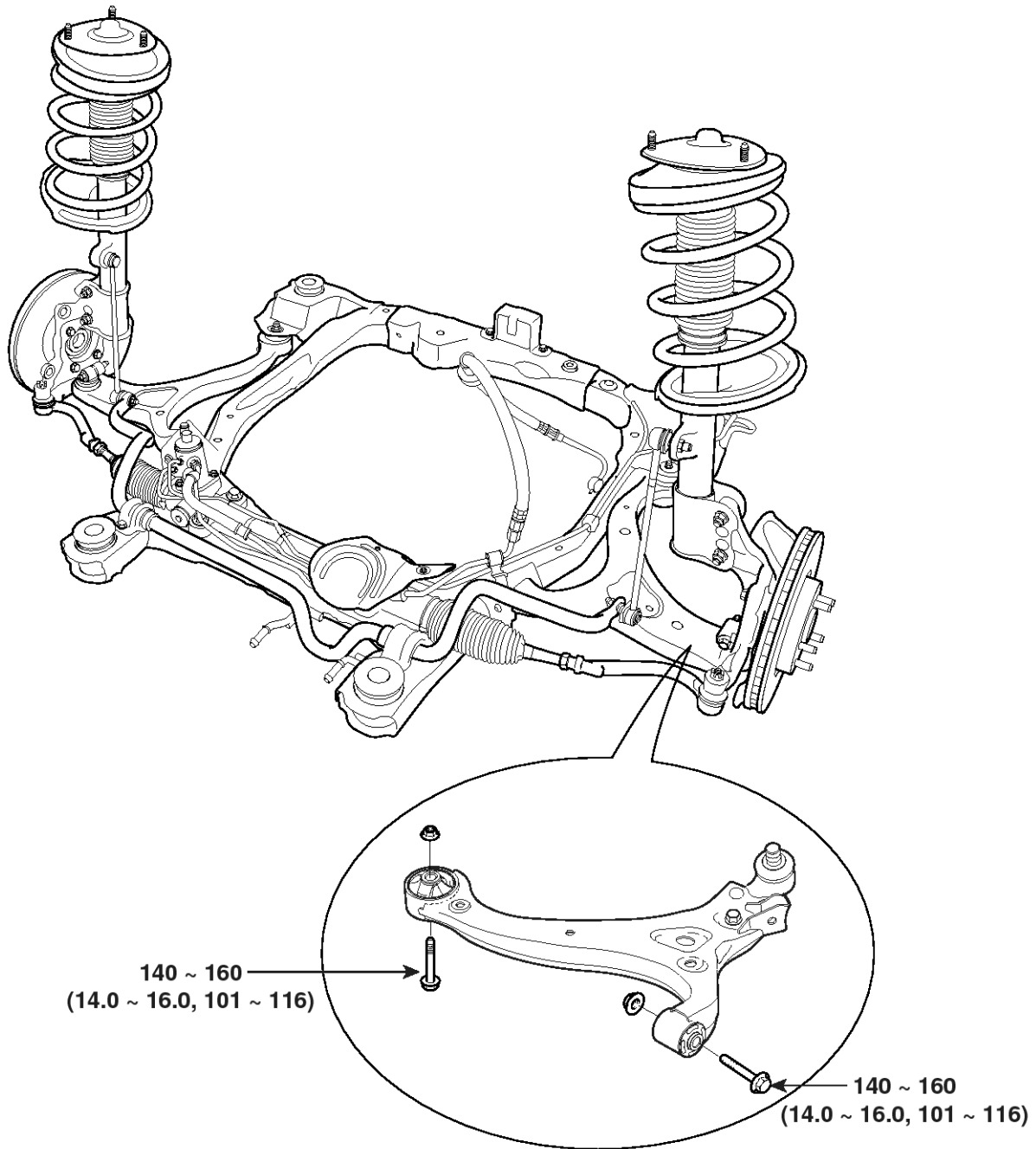
90 ~ 110N.m (9.0 ~ 11.0kgf.m, 65 ~ 80lb-ft)

SS-12

Suspension System

Front Lower Arm

Components



Torque : N.m (kgf.m, lb-ft)

SENSS9302L

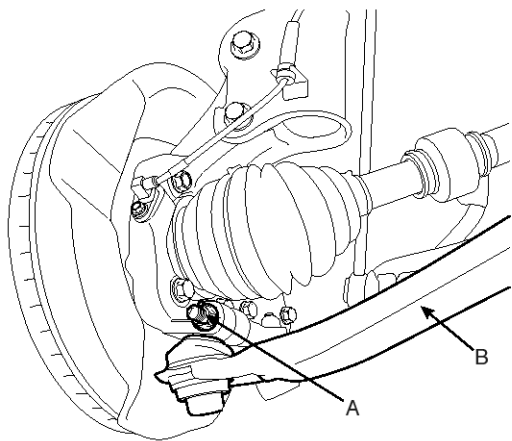
1. Front lower arm

Front Suspension System

SS-13

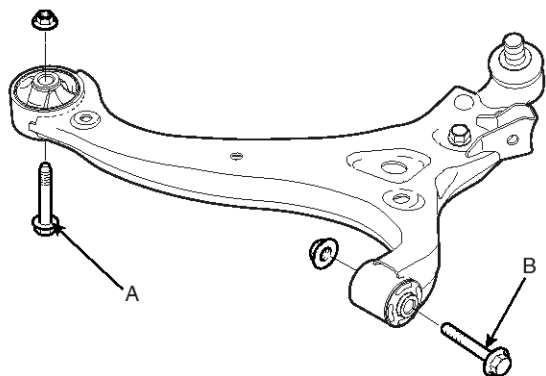
Removal

1. Remove the front wheel & tire.
2. Remove the split pin, bolt, and nut (A).
3. Disconnect the lower arm (B) ball joint with the knuckle.



SENS7105D

4. Loosen the bolts and nut (A, B) and then remove the lower arm from the sub-frame.



SENS7106D

Inspection

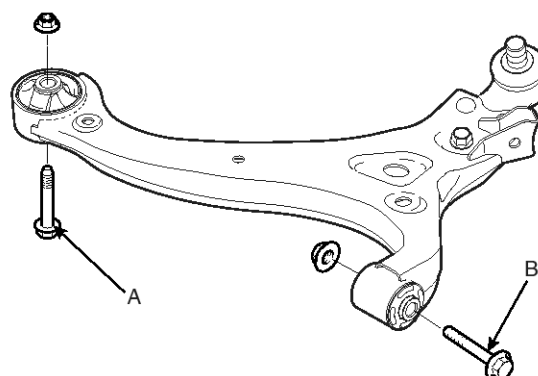
1. Check the bushing for wear and deterioration.
2. Check the lower arm for deformation.
3. Check the all bolts and nuts.

Installation

1. Install the front lower arm to the sub-frame and then tighten the bolts (A, B) and nuts.

Tightening torque :

140 ~ 160N.m (14.0 ~ 16.0kgf.m, 101 ~ 116lb-ft)



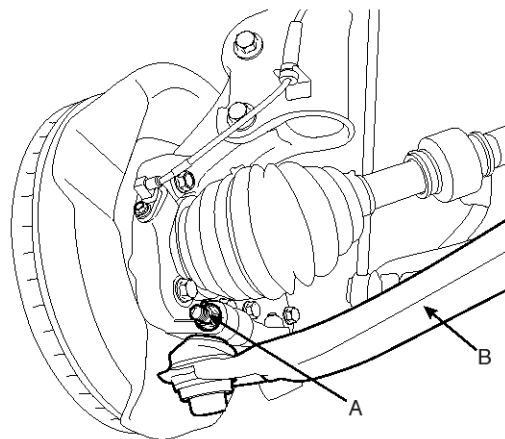
SENS7106D

2. Connect the lower arm (B) ball joint with the knuckle and then tighten the bolt and nut (A).

Tightening torque :

100 ~ 120N.m (10.0 ~ 12.0kgf.m, 72 ~ 87lb-ft)

3. Install the split pin to the bolt.



SENS7105D

4. Install the front wheel & tire.

Tightening torque :

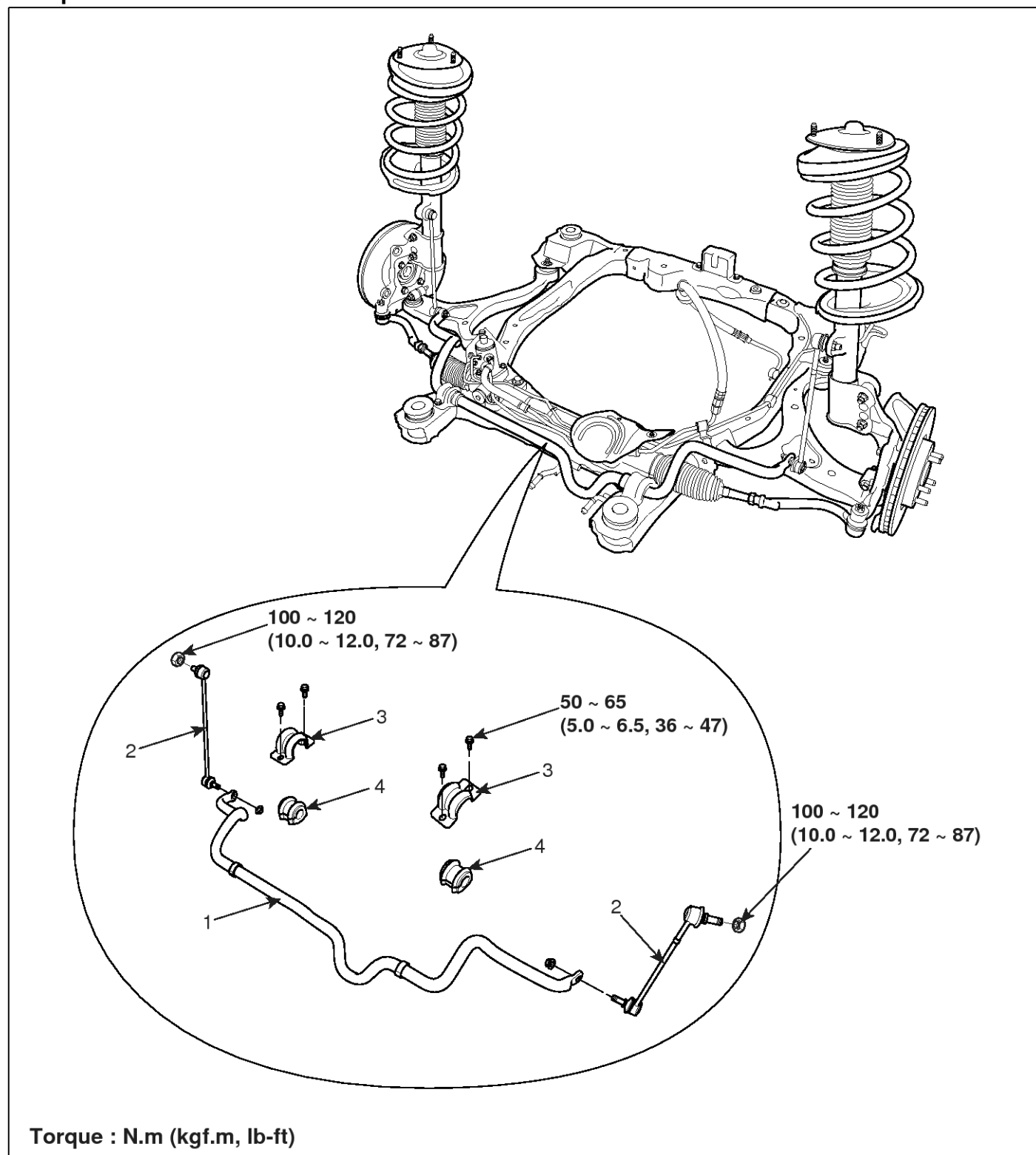
90 ~ 110N.m (9.0 ~ 11.0kgf.m, 65 ~ 80lb-ft)

SS-14

Suspension System

Front Stabilizer Bar

Components



SENSS9303L

- 1. Front stabilizer bar
- 2. Front stabilizer link

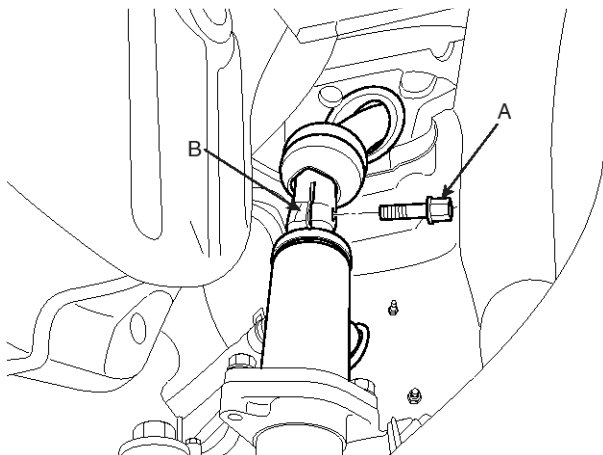
- 3. Mounting bracket
- 4. Bushing

Front Suspension System

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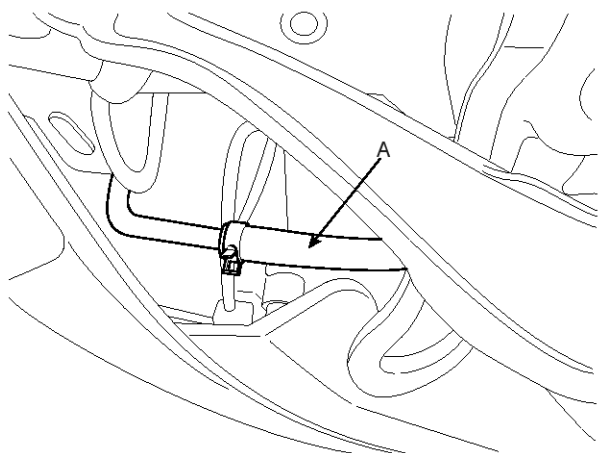
Removal

1. Remove the front wheel & tire.
2. Disconnect the power steering pressure tube from the power steering pump by loosening the eye-bolt.
3. Loosen the bolt (A) and then disconnect the universal joint assembly (B) from the pinion of the steering gear box.



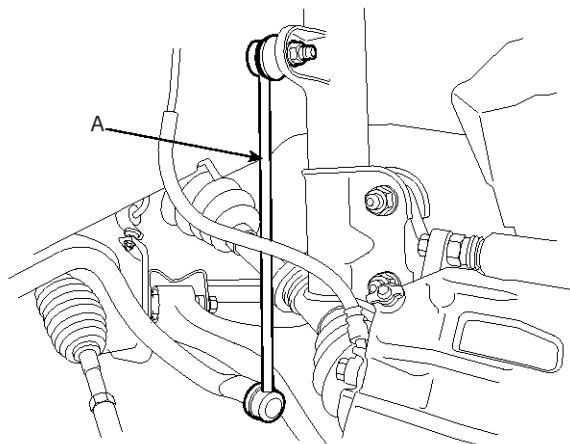
SENS7504D

4. Drain the power steering fluid by disconnecting the return hose (A).



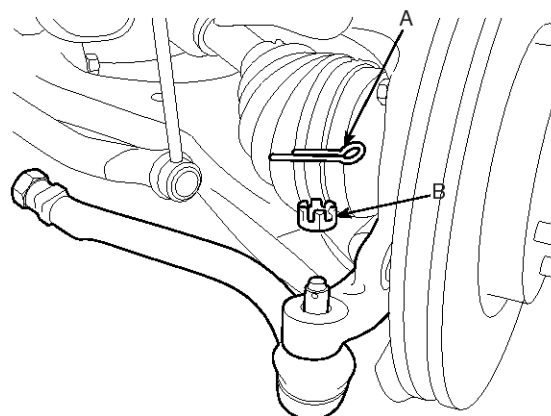
SENS7505D

5. Disconnect the stabilizer link (A) from the front strut assembly by loosening the nut.



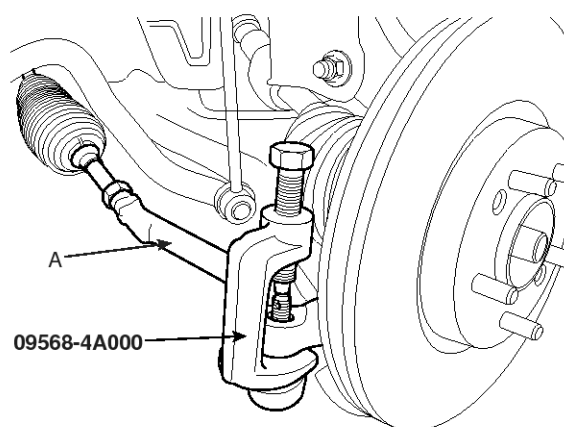
SCMSS6503D

6. Remove the split pin (A) and castle nut (B).



SCMST6007D

7. Disconnect the tie-rod end (A) from the front knuckle by using SST (09568-34000).

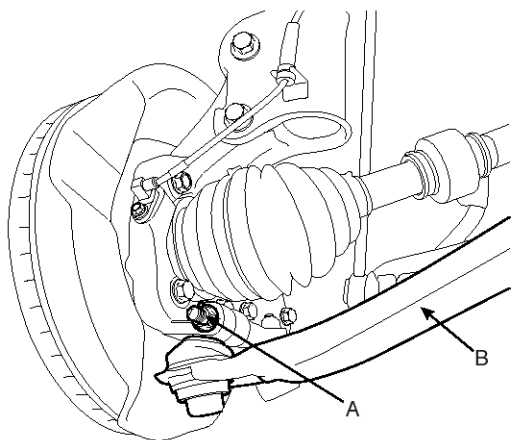


SCMST6008D

SS-16

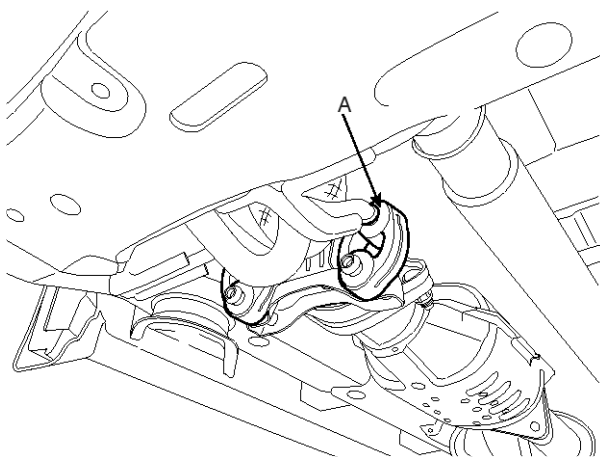
Suspension System

8. Remove the split pin and bolt and nut (A) and then Disconnect the lower arm (B) ball joint with the knuckle.



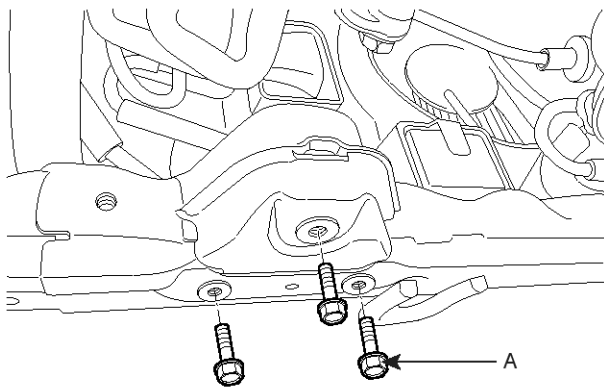
SENS7105D

9. Remove the muffler rubber hanger (A).

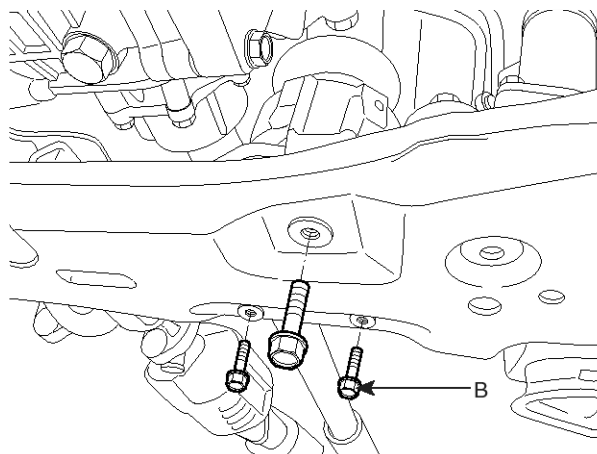


SENS7509D

10. Loosen the front and rear roll stopper mounting bolts (A, B).

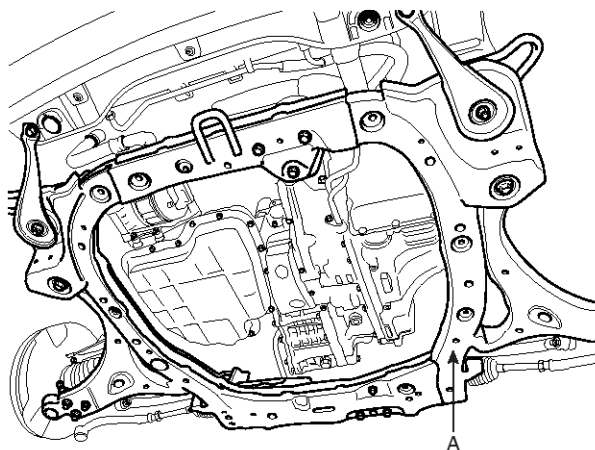


SENS7506D



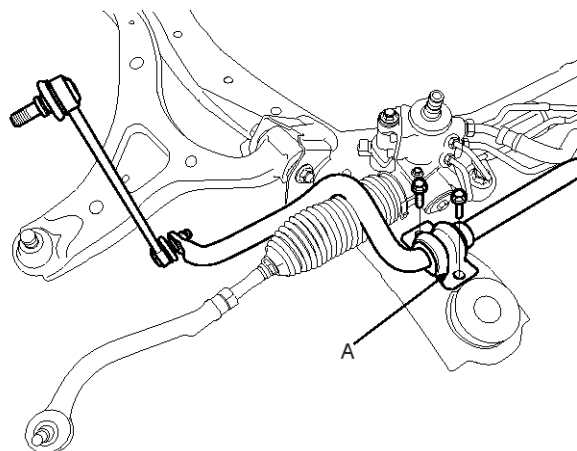
SENS7507D

11. Remove the sub-frame (A) and sub-frame stay by loosening the mounting bolts and nuts.



SENS7508D

12. Remove the stabilizer bar from the sub-frame by loosening the bracket (A) mounting bolts.

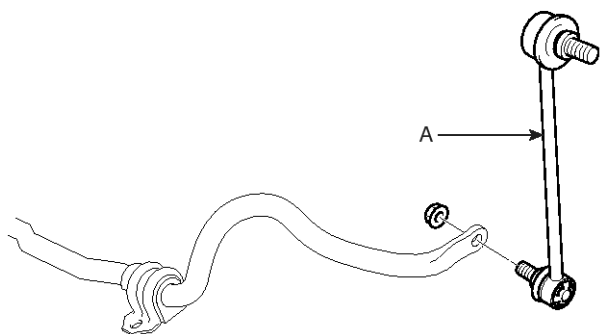


SENS7108D

Front Suspension System

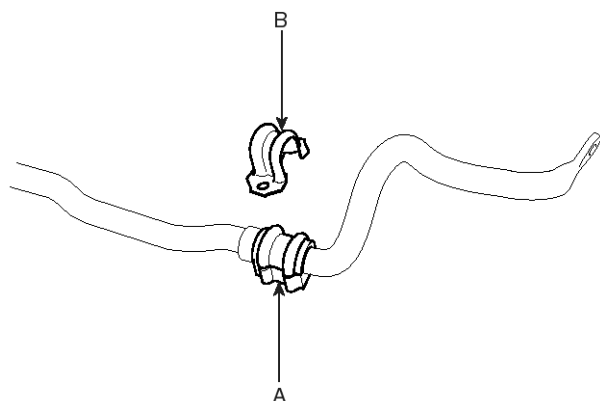
SS-17

13. Disconnect the stabilizer link (A) with the stabilizer bar by loosening the nut.



SHDSS6002D

14. Remove the bushing (A) and the bracket (B) from the stabilizer bar.



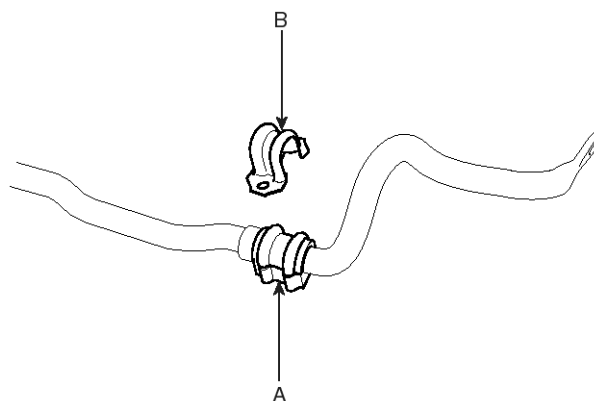
SHDSS6003D

Inspection

1. Check the bushing for wear and deterioration.
2. Check the front stabilizer bar for deformation.
3. Check the front stabilizer link ball joint for damage.

Installation

1. Install the bushing (A) and the bracket (B) to the stabilizer bar.

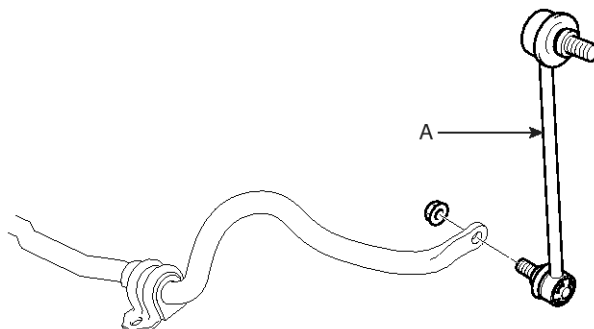


SHDSS6003D

2. Connect the stabilizer link (A) with the stabilizer bar by tightening the nut.

Tightening torque :

100 ~ 120N.m (10.0 ~ 12.0kgf.m, 72 ~ 87lb-ft)



SHDSS6002D

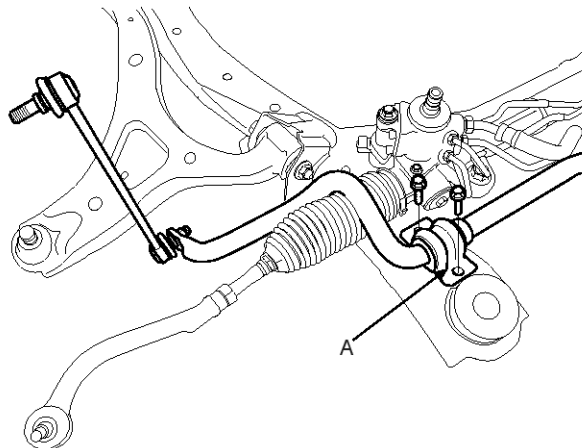
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Suspension System

3. Install the stabilizer to the sub-frame by tightening the bracket (A) mounting bolts.

Tightening torque :

50 ~ 65N.m (5.0 ~ 6.5kgf.m, 40 ~ 47lb-ft)



SENS7108D

4. Install the sub-frame (A) and stay.

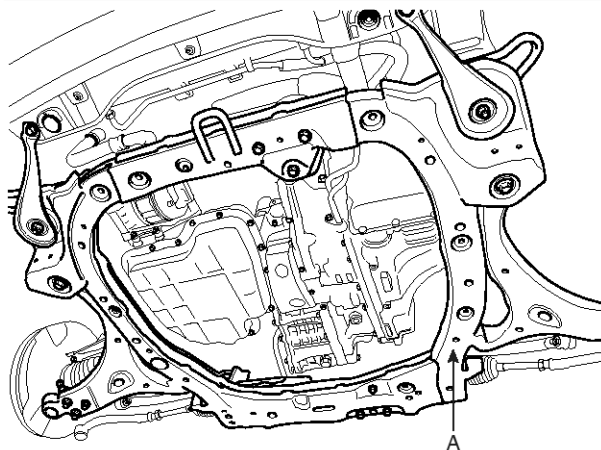
Tightening torque

Sub-frame mounting bolts:

140 ~ 160N.m (14.0 ~ 16.0kgf.m, 101 ~ 116lb-ft)

Sub-frame stay mounting bolts & nuts:

70 ~ 90N.m (7.0 ~ 9.0kgf.m, 51 ~ 65lb-ft)

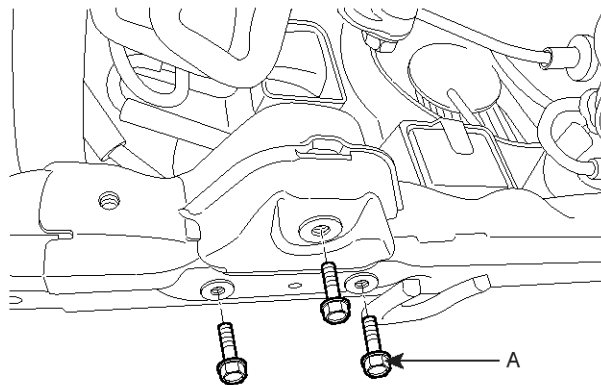


SENS7508D

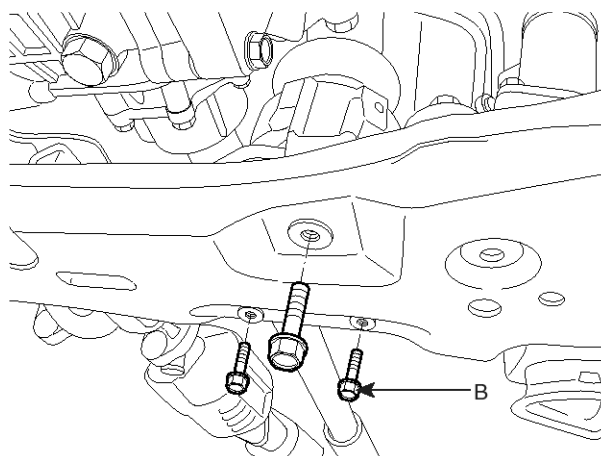
5. Install the front and rear roll stopper mounting bolts (A, B) and then tighten the nuts.

Tightening torque :

50 ~ 65N.m (5.0 ~ 6.5kgf.m, 40 ~ 47lb-ft)

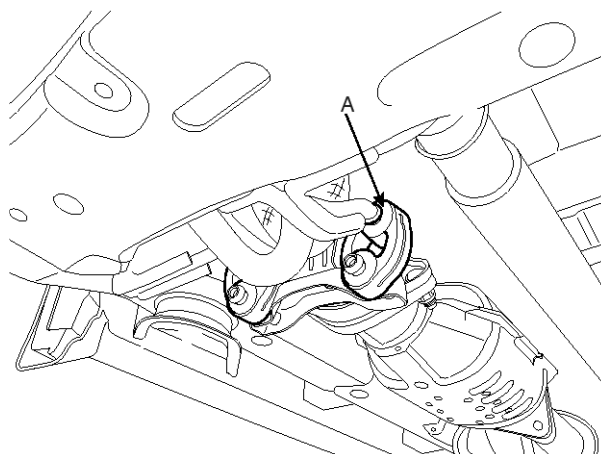


SENS7506D



SENS7507D

6. Install the muffler rubber hanger (A).



SENS7509D

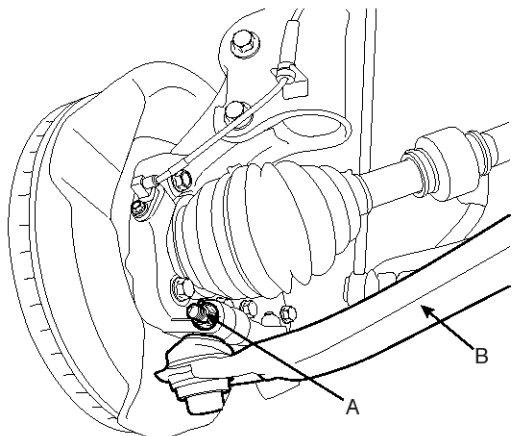
Front Suspension System

SS-19

7. Connect the lower arm (A) with the knuckle and then install the bolt, nut (A) and split pin.

Tightening torque :

100 ~ 120N.m (10.0 ~ 12.0kgf.m, 72 ~ 87lb-ft)

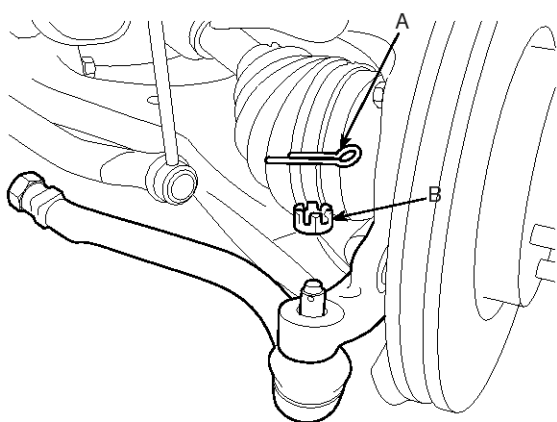


SENS7105D

8. Connect the tie-rod end with the knuckle and then install the castle nut (B) and split pin (A).

Tightening torque :

24 ~ 34N.m (2.4 ~ 3.4kgf.m, 17 ~ 25lb-ft)

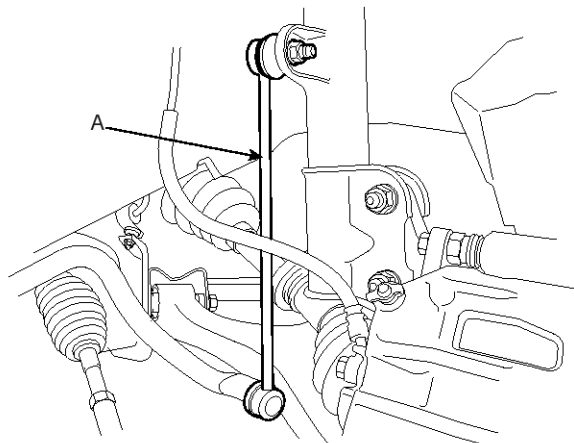


SCMST6007D

9. Connect the stabilizer link (A) with front strut assembly and then tighten the nut.

Tightening torque :

100 ~ 120N.m (10.0 ~ 12.0kgf.m, 72 ~ 87lb-ft)

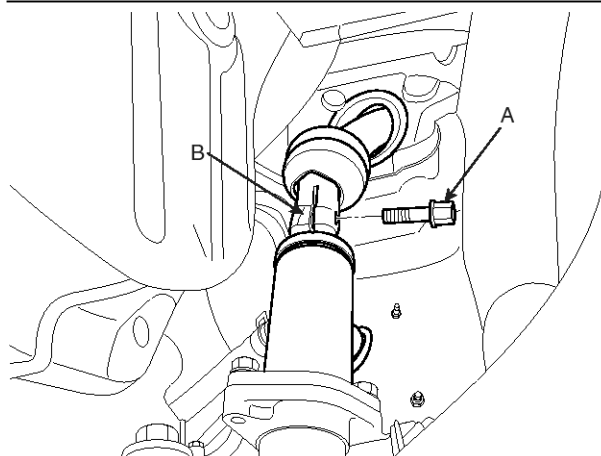


SCMSS6503D

10. Connect the universal joint assembly (B) with the steering column assembly and then tighten the bolt (A).

Tightening torque :

30 ~ 35N.m (3.0 ~ 3.5kgf.m, 22 ~ 25lb-ft)

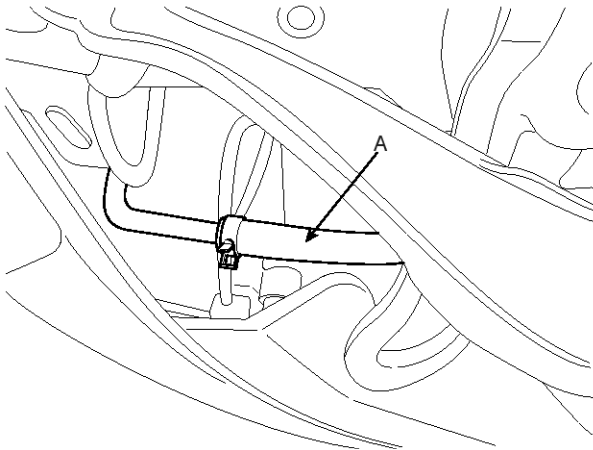


SENS7504D

SS-20

Suspension System

11. Connect the power steering return hose (A).



SENS7505D

12. Connect the power steering pressure tube to the power steering pump by tightening the eye bolt.

Tightening torque :

55 ~ 65N.m (5.5 ~ 6.5kgf.m, 40 ~ 47lb-ft)

13. Install the front wheel & tire.

Tightening torque :

90 ~ 110N.m (9.0 ~ 11.0kgf.m, 65 ~ 80lb-ft)

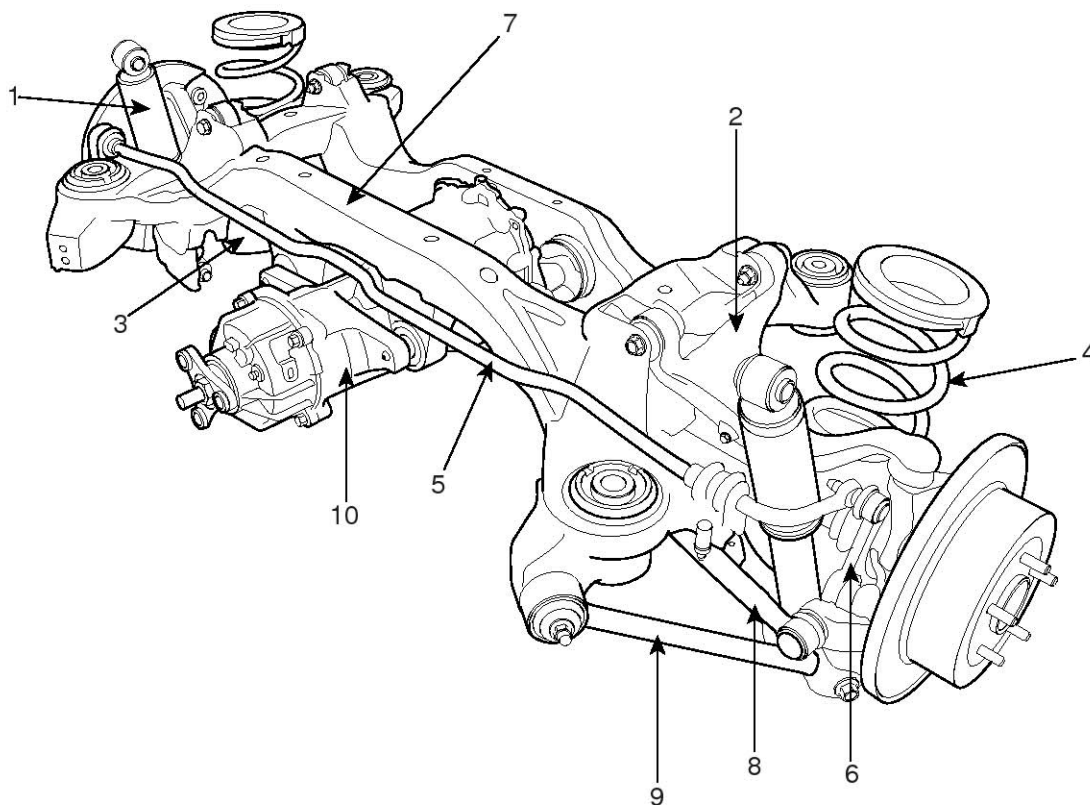
14. Bleed the power steering system. (Refer to ST group).

Rear Suspension System

SS-21

Rear Suspension System

Components



SENS9304L

- 1. Rear shock absorber
- 2. Rear upper arm
- 3. Rear lower arm
- 4. Coil spring
- 5. Rear stabilizer bar

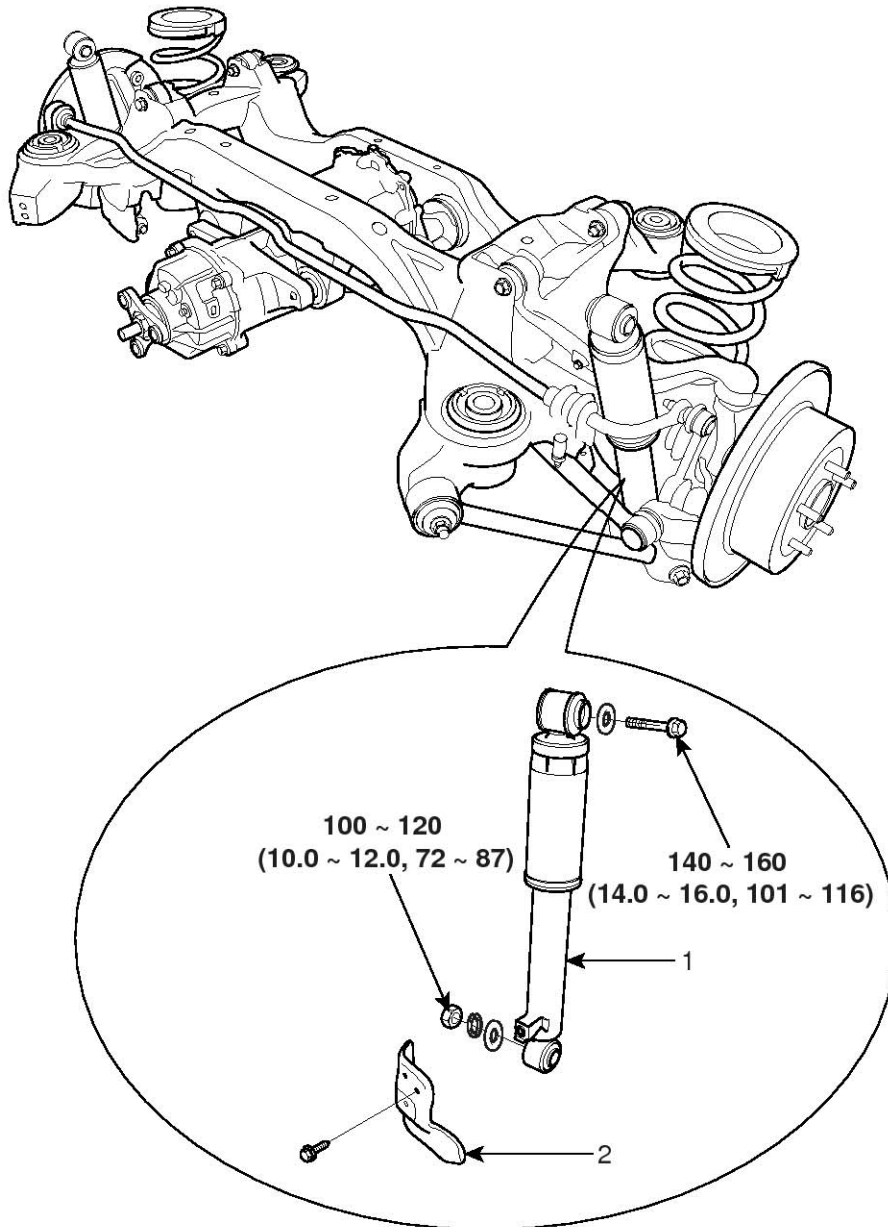
- 6. Rear stabilizer link
- 7. Rear cross member
- 8. Assist arm
- 9. Trailing arm
- 10. Differential carrier (4WD)

SS-22

Suspension System

Rear Shock Absorber

Components



Torque : N.m (kgf.m, lb-ft)

SENSS9305L

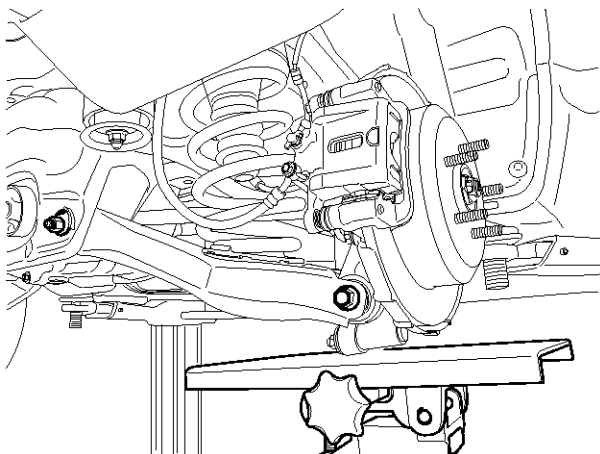
1. Rear shock absorber
2. Dust cover

Rear Suspension System

SS-23

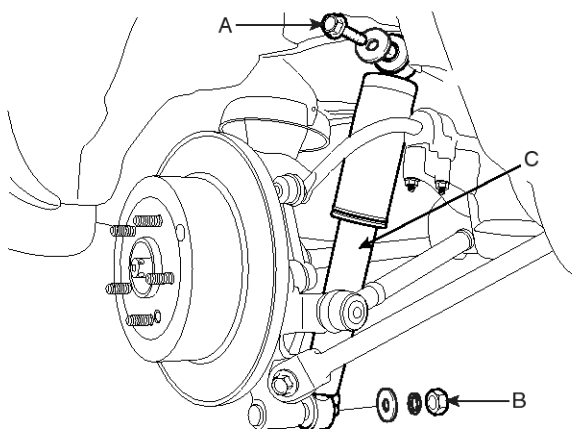
Removal

1. Remove the rear wheel & tire.
2. Support the lower portion of the rear lower arm the jack.



SENS7001D

3. Remove the rear shock absorber (C) by loosening the bolt (A) and nut (B).



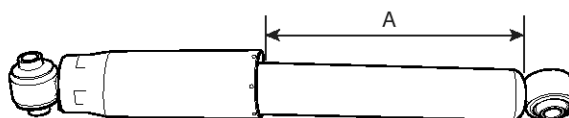
SENS7203D

Inspection

1. Check the rubber parts for wear and deterioration.
2. Compress and extend the piston rod (A) and check that there is no abnormal resistance or unusual sound during operation.

Disposal

1. Fully extend the piston rod.
2. Drill a hole on the (A) section to discharge gas from the cylinder.



AHKF210G

CAUTION

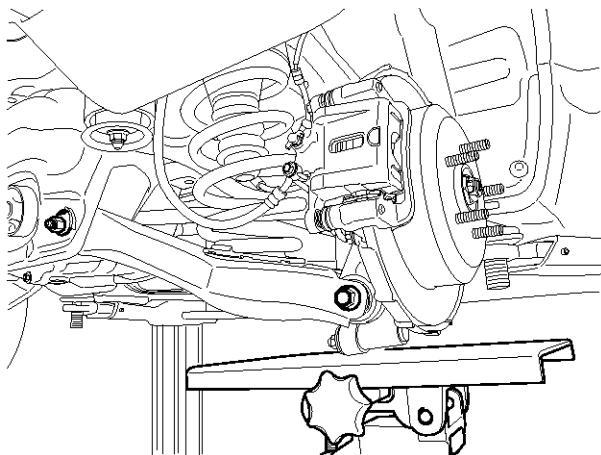
The gas coming out is harmless, but be careful of chips that may fly when drilling. Be sure to wear safety goggles or eye protection when performing this task.

SS-24

Suspension System

Installation

1. Support the lower portion of the rear lower arm with a jack.



SENS7001D

2. Connect the rear shock absorber (C) with the carrier assembly and then tighten the nut (B).

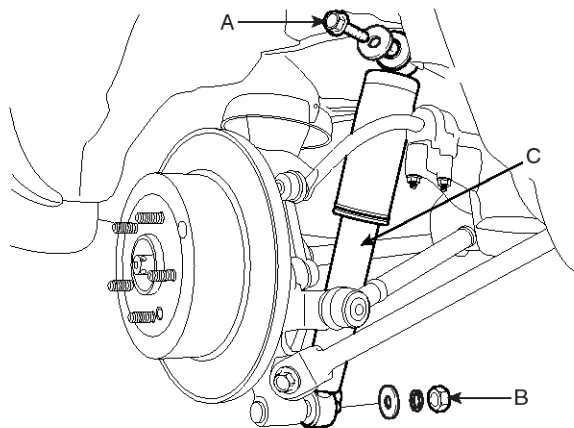
Tightening torque :

100 ~ 120N.m (10.0 ~ 12.0kgf.m, 72 ~ 87lb-ft)

3. Adjust height of the jack to place the bolt (A) holding rear shock absorber (C) and body through the mating holes and then tighten the bolt (A).

Tightening torque :

140 ~ 160N.m (14.0 ~ 16.0kgf.m, 101 ~ 116lb-ft)



SENS7203D

4. Install the rear wheel & tire.

Tightening torque :

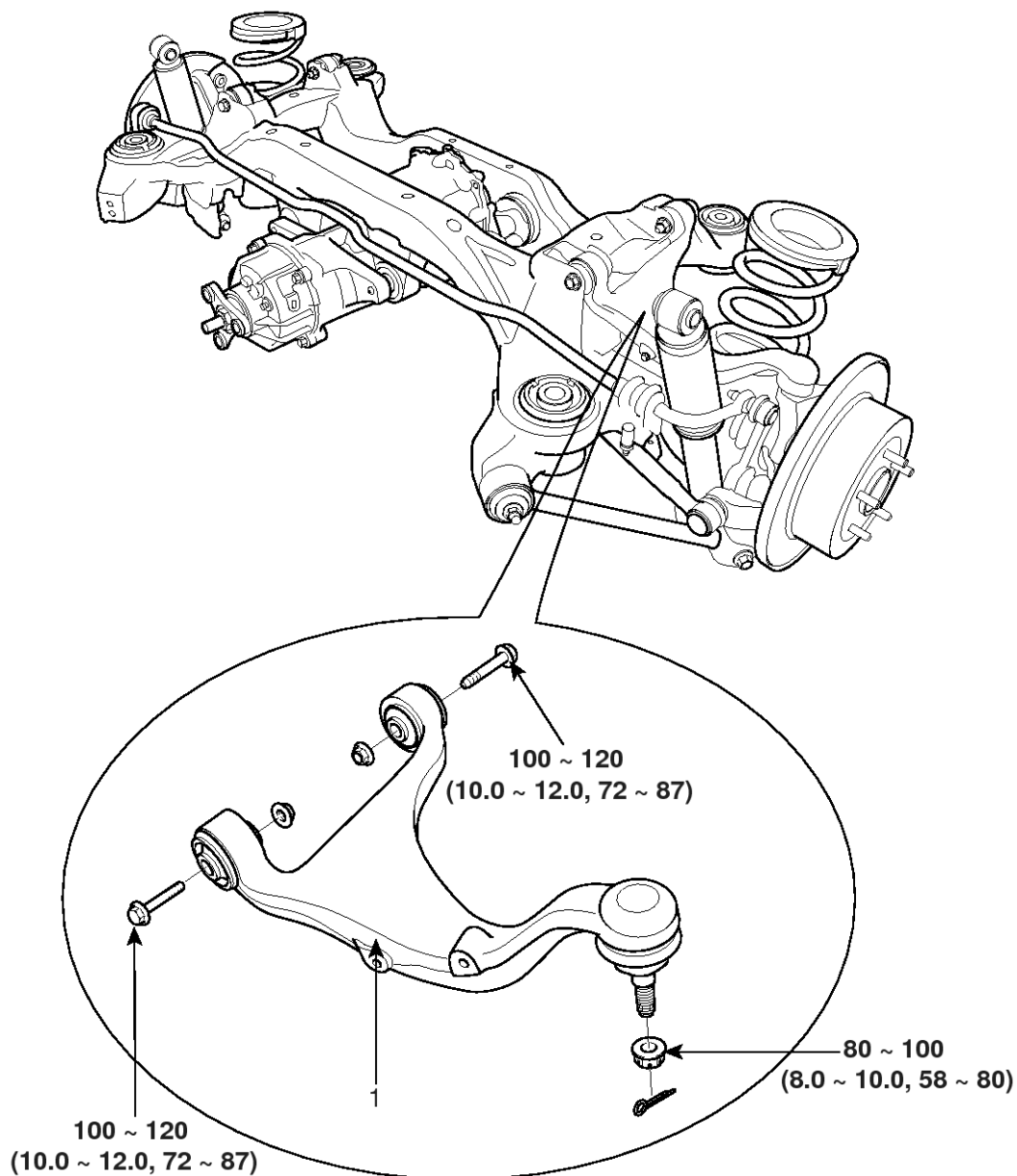
90 ~ 110N.m (9.0 ~ 11.0kgf.m, 65 ~ 80lb-ft)

Rear Suspension System

SS-25

Rear Upper Arm

Components



SENS9306L

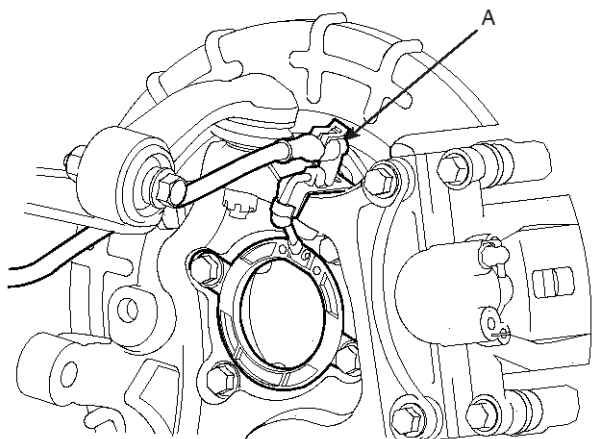
1. Rear upper arm

SS-26

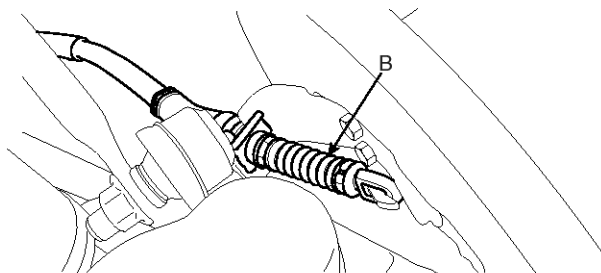
Suspension System

Removal

1. Remove the rear wheel & tire.
2. Remove the wheel speed sensor connector (A) and the parking brake cable (B) from the rear axle carrier.

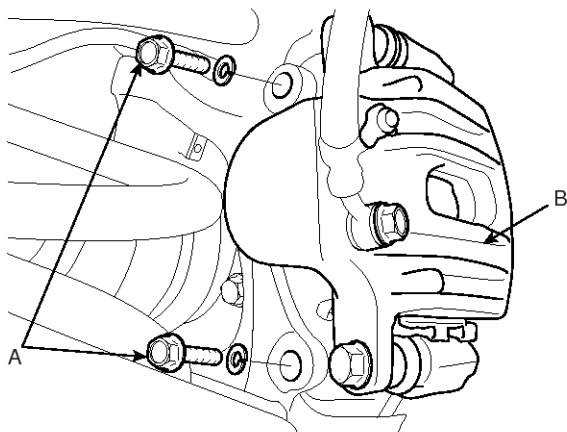


SENS7514D

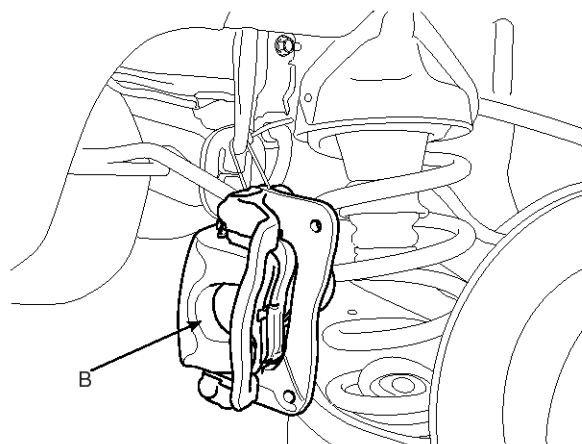


SENDS7522D

3. Remove the caliper assembly (B) by loosening the mounting bolts (A) and then suspend it with wire.

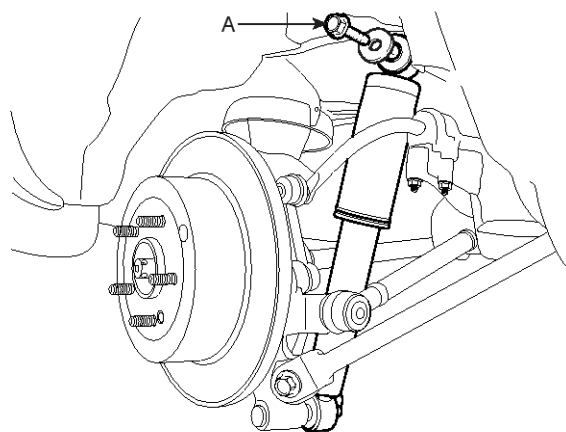


SCMSS6515D



SCMSS6516D

4. Support the lower portion of the rear lower arm the jack.
5. Disconnect the shock absorber with body by loosening the bolt (A).



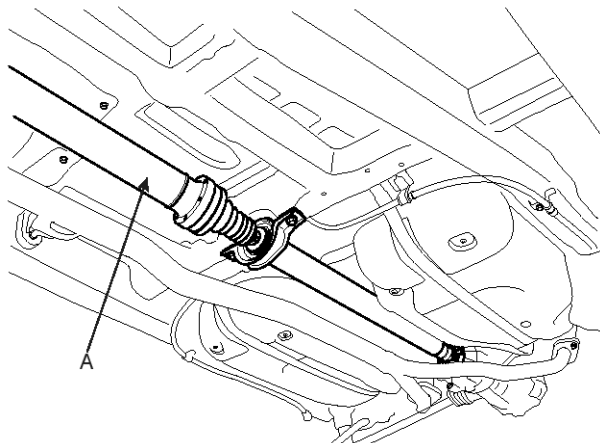
SENS7205D

6. Remove the center and main muffler. (Refer to EM group)

Rear Suspension System

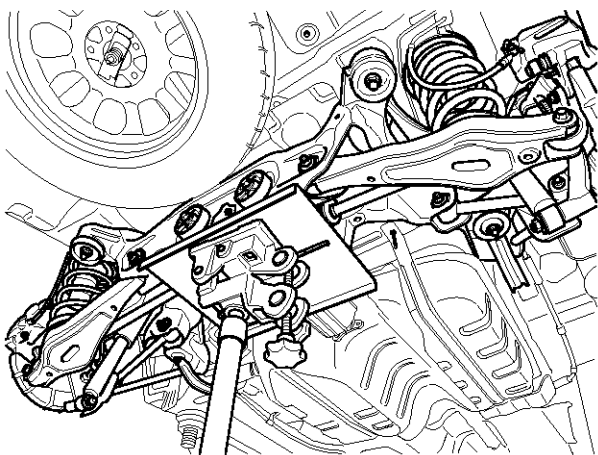
SS-27

7. Remove the propeller shaft assembly (A). (Refer to DS group)



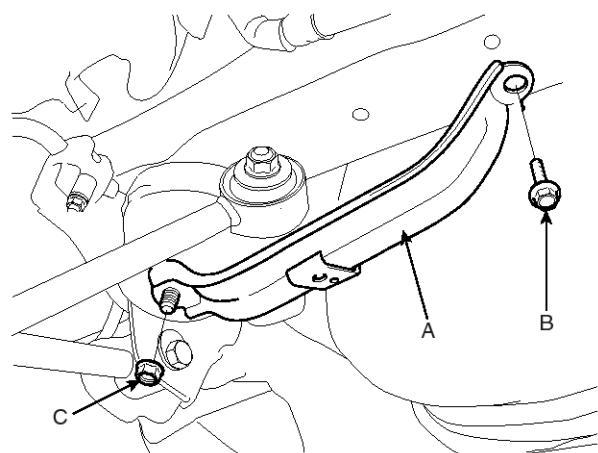
SENSS7500D

8. Support the rear cross member assembly with a jack.



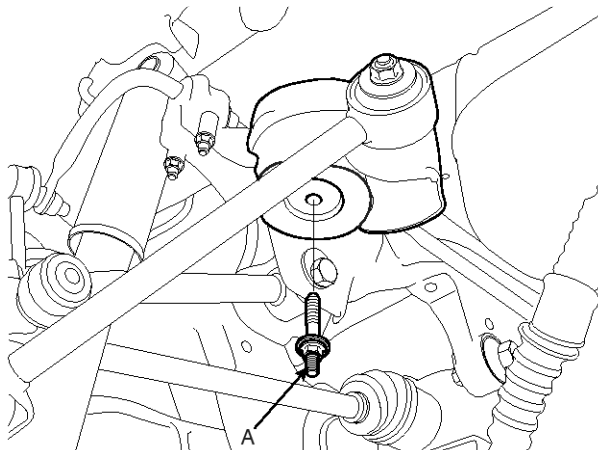
SENSS7002D

9. Remove the rear cross member stay (A) by loosening the mounting bolt (B) and nut (C).

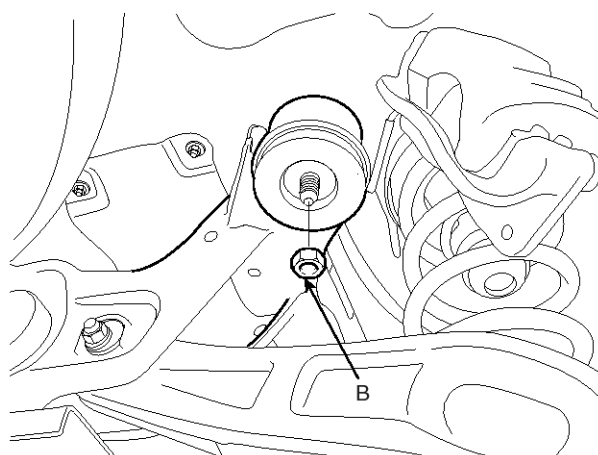


SENSS7206D

10. Remove the cross member from the body by loosening the mounting bolts (A) and nuts (B).

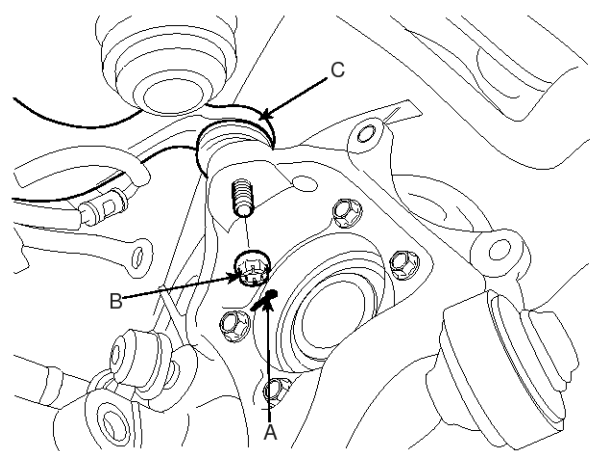


SENSS7207D



SENSS7208D

11. Remove the split pin (A) and castle nut (B) from the upper arm ball joint (C).

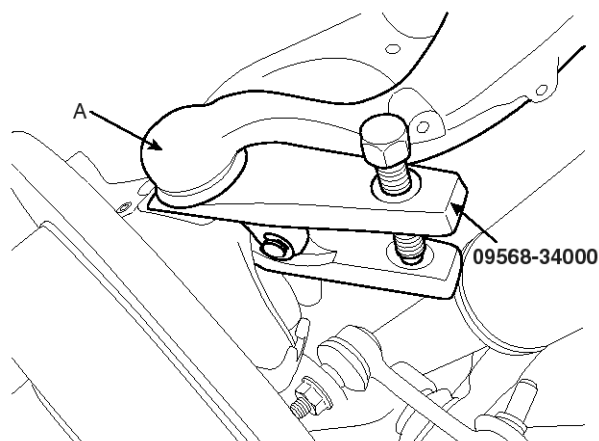


SCMSS6521D

SS-28

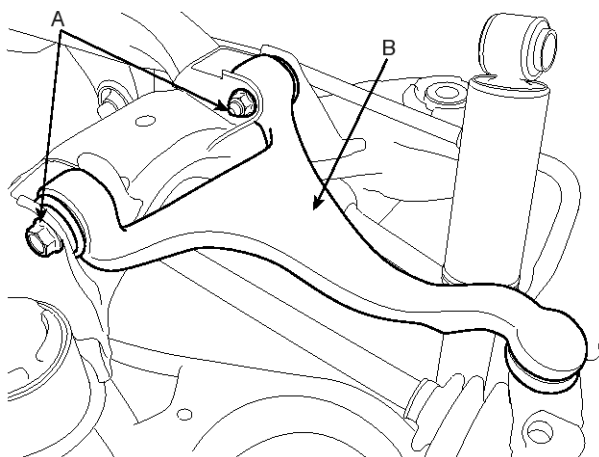
Suspension System

12. Disconnect the upper arm ball joint (A) with the rear carrier assembly using a SST (09568-34000).



SENS7511L

13. Remove the rear upper arm (B) by loosening the bolts and nut (A).



SENS7209D

Inspection

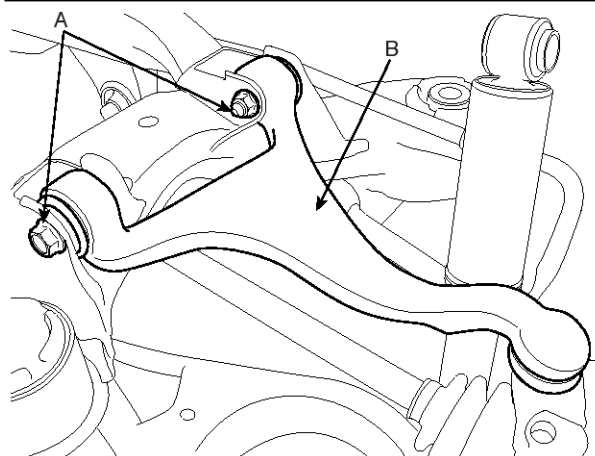
1. Check the bushing for wear and deterioration.
2. Check the rear upper arm or damage and deformation.
3. Check for all bolts and nut.

Installation

1. Connect the rear upper arm with the cross member (B) and then tighten the bolts and nuts (A).

Tightening torque :

100 ~ 120N.m (10.0 ~ 12.0kgf.m, 72 ~ 87lb-ft)

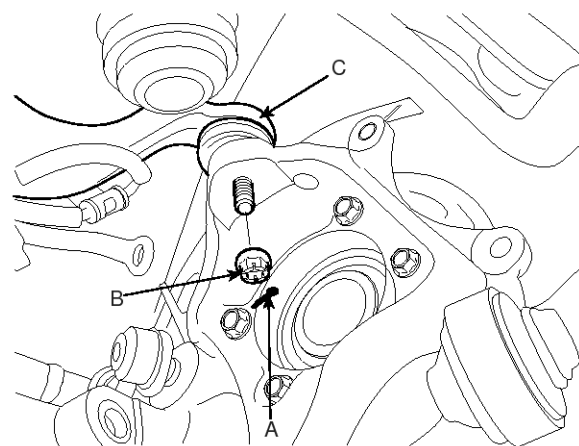


SENS7209D

2. Connect the rear upper arm ball joint (C) with the carrier assembly and then install the castle nut (B) and the split pin (A).

Tightening torque :

80 ~ 100N.m (8.0 ~ 10.0kgf.m, 58 ~ 72lb-ft)



SCMSS6521D

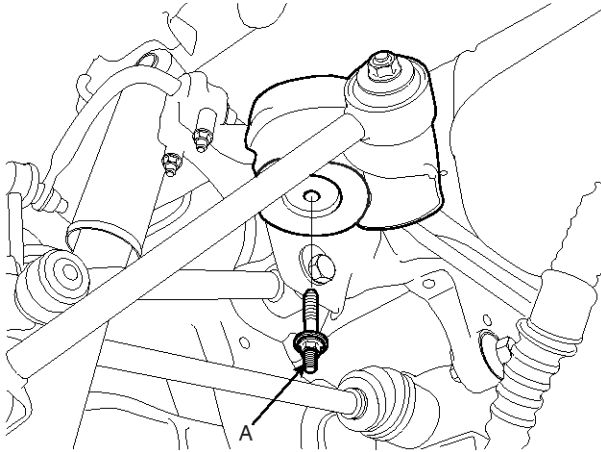
Rear Suspension System

SS-29

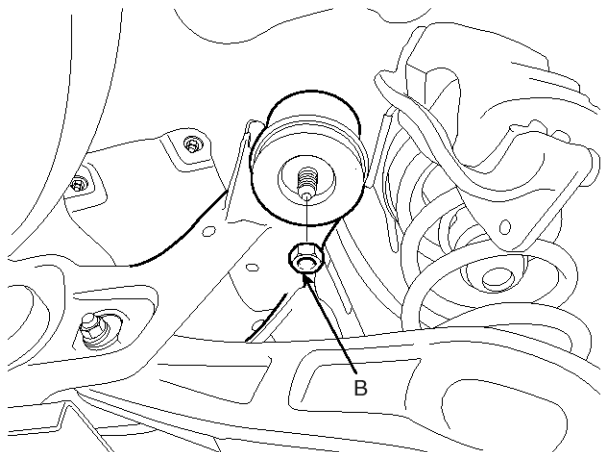
3. Install the rear cross member to the body by tightening the mounting bolts (A) and nuts (B).

Tightening torque :

160 ~ 180N.m (16.0 ~ 18.0kgf.m, 116 ~ 130lb-ft)



SENSS7207D

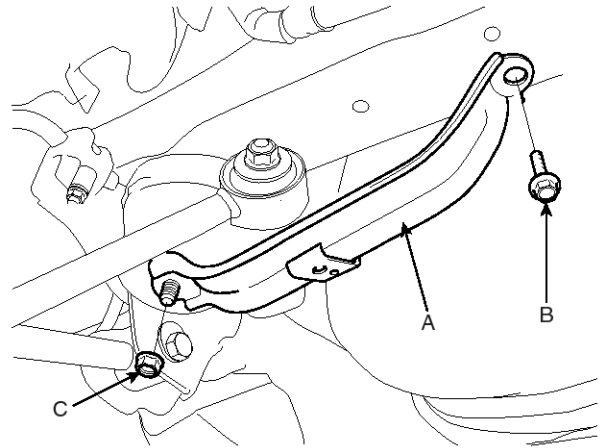


SENSS7208D

4. Install the rear cross member stay (A) by tightening the mounting bolt (B) and nut (C).

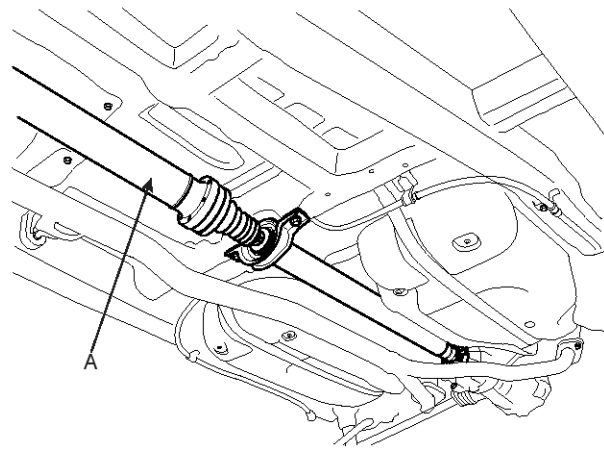
Tightening torque :

70 ~ 90N.m (7.0 ~ 9.0kgf.m, 51 ~ 65lb-ft)



SENSS7206D

5. Install the propeller shaft (A). (Refer to DS group)



SENSS7500D

6. Install the center and main muffler. (Refer to EM group)

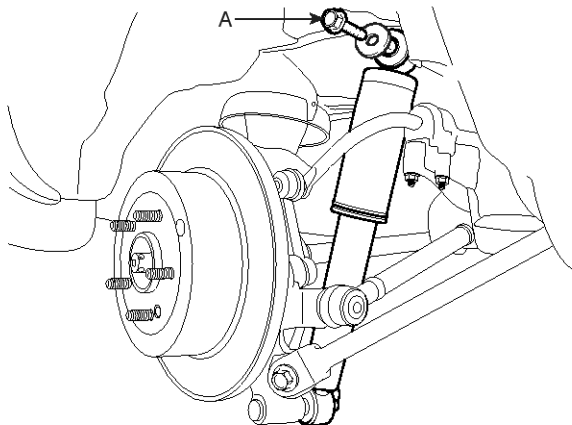
SS-30

Suspension System

7. Connect the rear shock absorber to the body and then tighten the bolt (A).

Tightening torque :

140 ~ 160N.m (14.0 ~ 16.0kgf.m, 101 ~ 116lb-ft)

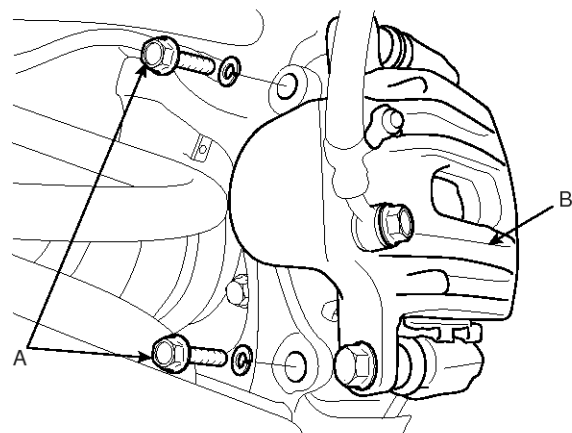


SENS7205D

8. Install the rear caliper assembly (B) to the carrier assembly and then tighten the mounting bolts (A).

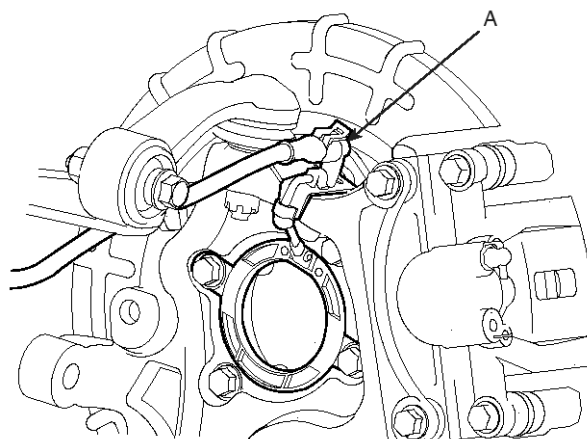
Tightening torque :

50 ~ 60N.m (5.0 ~ 6.0kgf.m, 36 ~ 43lb-ft)

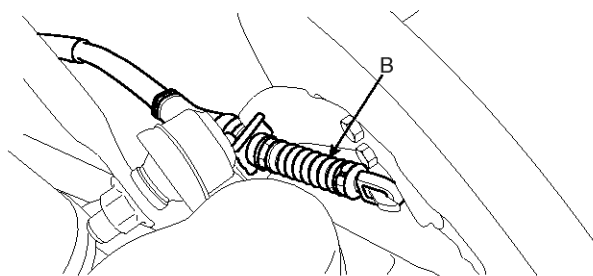


SCMSS6515D

9. Install the wheel speed sensor (A) and parking brake cable (B) to the carrier assembly.



SENS7514D



SEND57522D

10. Install rear wheel & tire.

Tightening torque :

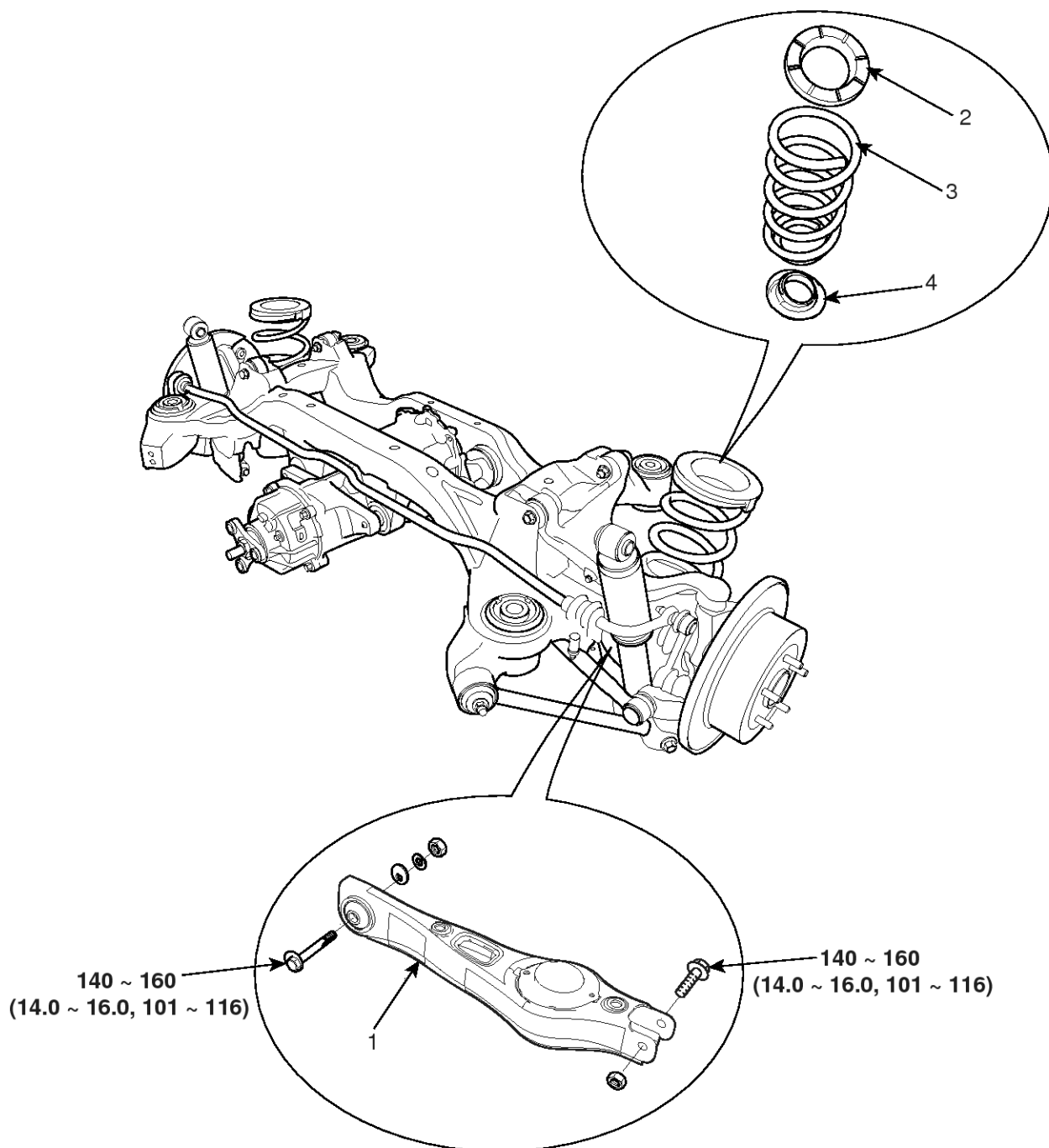
90 ~ 110N.m (9.0 ~ 11.0kgf.m, 65 ~ 80lb-ft)

Rear Suspension System

SS-31

Rear Lower Arm

Components



Torque : N.m (kgf.m, lb-ft)

SENSS9307L

- 1. Rear lower arm
- 2. Spring upper pad

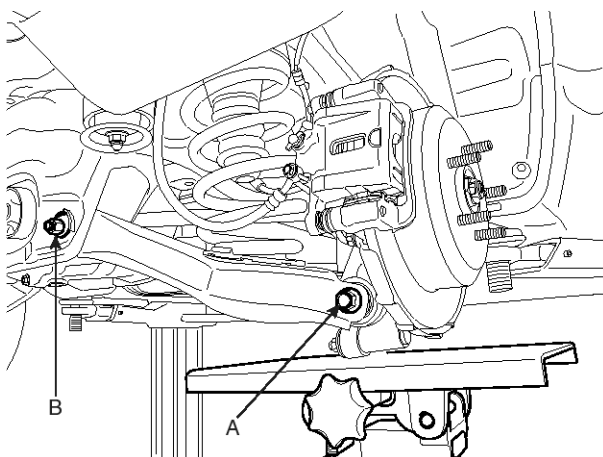
- 3. Coil spring
- 4. Spring lower pad

SS-32

Suspension System

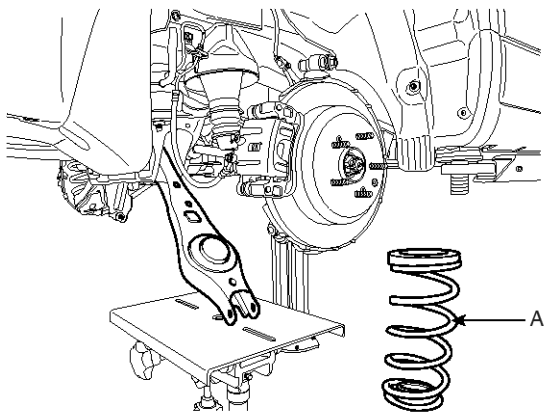
Removal

1. Remove the rear wheel & tire.
2. Support the lower portion of the rear lower arm the jack.
3. Temporarily loosen the nut (B) holding the cross member to the rear lower arm.
4. Remove the bolt and nut (A) holding the rear lower arm to the carrier assembly.



SENS7501D

5. Lower the jack and then remove the coil spring (A) and the spring pad.



SENS7003D

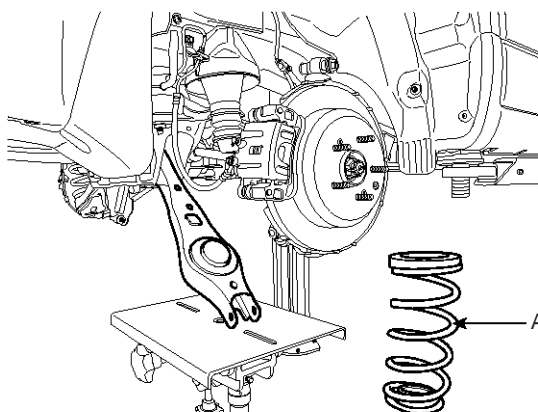
6. Remove the rear lower arm from the cross member by removing the cam bolt completely.

Inspection

1. Check the bushing for wear and deterioration.
2. Check the rear lower arm for deformation.
3. Check the coil spring and spring pad for deterioration and deformation.
4. Check for all bolts and nut.

Installation

1. Connect the rear lower arm with the cross member by installing the cam bolt.
2. Install the coil spring and pad (A) and then support the lower portion of the rear lower arm with a jack.

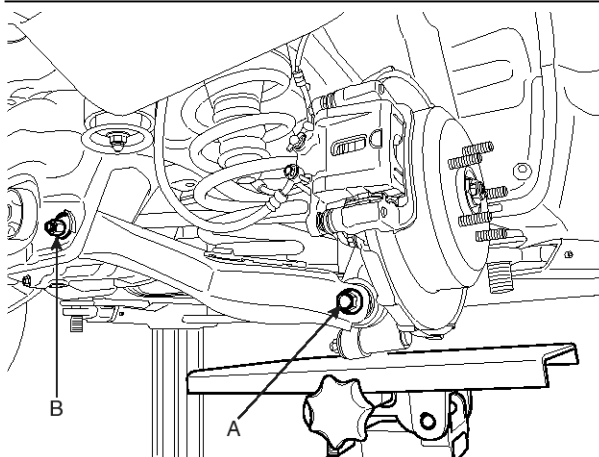


SENS7003D

3. Connect the rear lower arm with the carrier assembly and then tightening the bolt (A) and nut (B).

Tightening torque :

140 ~ 160N.m (14.0 ~ 16.0kgf.m, 101 ~ 116lb-ft)



SENS7501D

4. Install the rear wheel & tire.

Tightening torque :

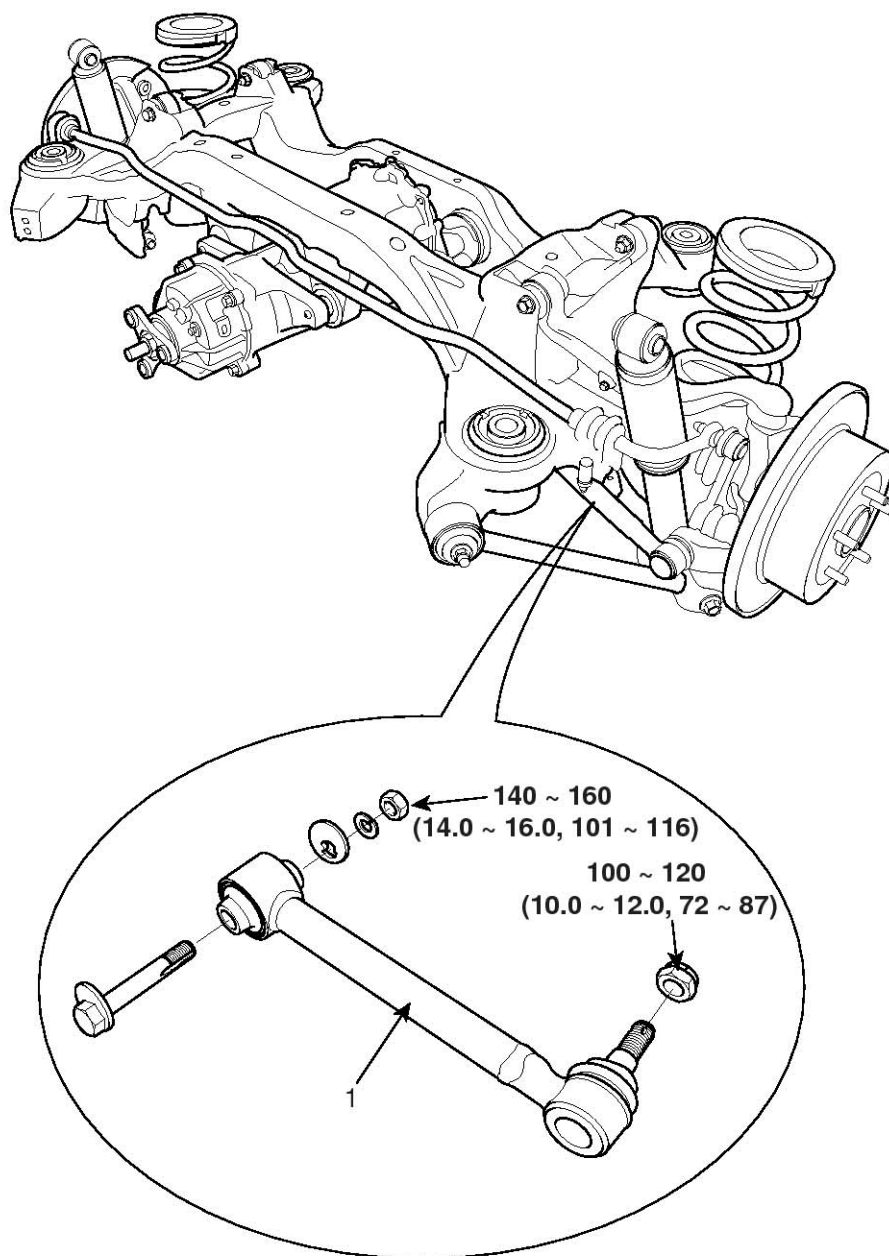
90 ~ 110N.m (9.0 ~ 11.0kgf.m, 65 ~ 80lb-ft)

Rear Suspension System

SS-33

Rear Assist Arm

Components



Torque : N.m (kgf.m, lb-ft)

SENS9308L

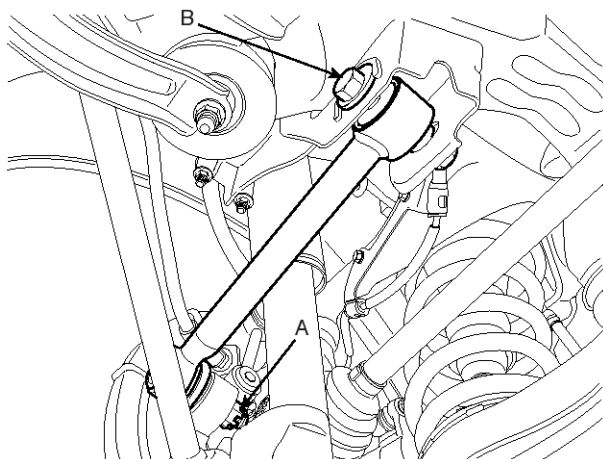
1. Rear assist arm

SS-34

Suspension System

Removal

1. Remove the rear wheel & tire.
2. Remove the split pin and the castle nut (A) and then disconnect the rear assist arm with the carrier assembly.
3. Remove the rear assist arm from the cross member by loosening the cam bolt (B) and nut.



SENS7004D

Inspection

1. Check the bushing for wear and deterioration.
2. Check the rear assist arm for deformation.
3. Check the ball joint for damage.
4. Check for the all bolts and nut.

Installation

1. Connect the rear assist arm with the cross member and then tighten the cam bolt (B) and nut.

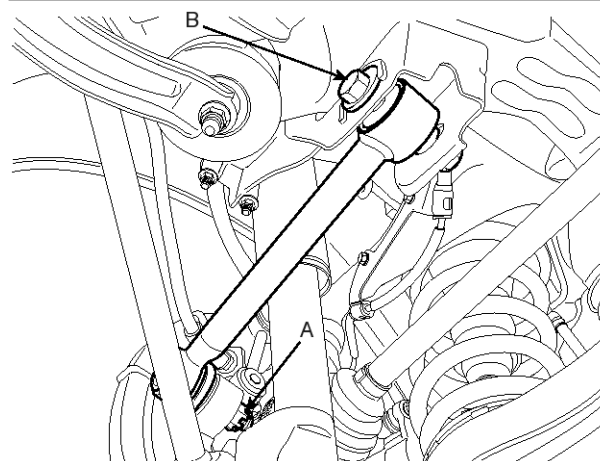
Tightening torque Nm (kgf.m, lb-ft):

140 ~ 160N.m (14.0 ~ 16.0kgf.m, 101 ~ 116lb-ft)

2. Connect the rear assist arm with the carrier assembly and then install the castle nut (A) and the split pin.

Tightening torque Nm (kgf.m, lb-ft):

100 ~ 120N.m (10.0 ~ 12.0kgf.m, 72 ~ 87lb-ft)



SENS7004D

3. Install the rear wheel & tire.

Tightening torque Nm (kgf.m, lb-ft):

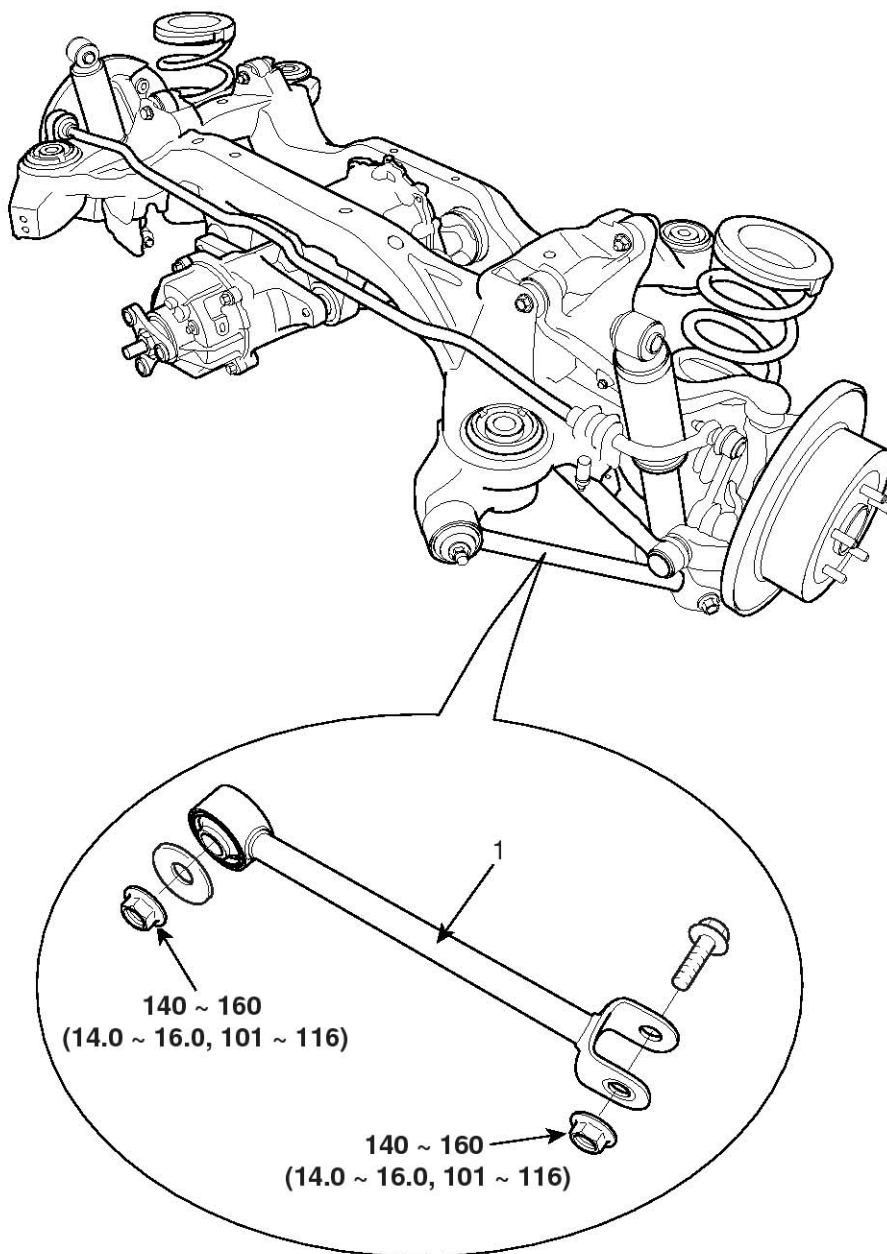
90 ~ 110N.m (9.0 ~ 11.0kgf.m, 65 ~ 80lb-ft)

Rear Suspension System

SS-35

Trailing Arm

Components



Torque : N.m (kgf.m, lb-ft)

SENS9309L

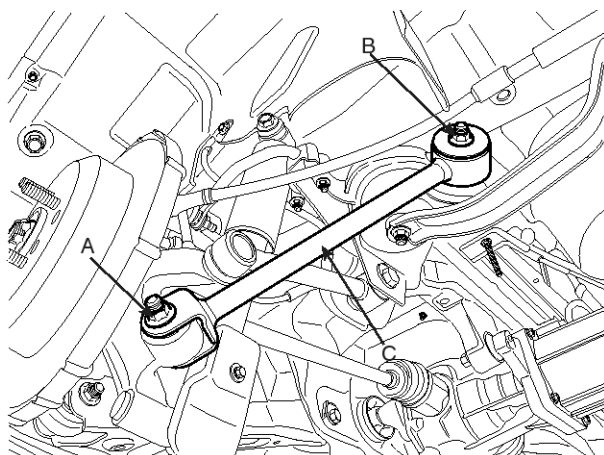
1. Rear trailing arm

SS-36

Suspension System

Removal

1. Remove the rear wheel & tire.
2. Remove the bolt and nut (A) and then disconnect the trailing arm with the carrier assembly.
3. Loosen the nut (B) and then disconnect the trailing arm (C) with the cross member.



SENS7005D

Inspection

1. Check the bushing for wear and deterioration.
2. Check the rear trailing arm for deformation.
3. Check for all bolts and nuts.

Installation

1. Connect the rear trailing arm (C) with the cross member and then tighten the nut (B).

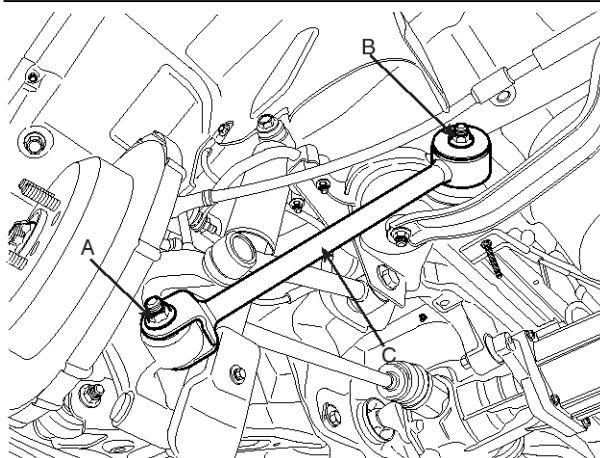
Tightening torque :

140 ~ 160N.m (14.0 ~ 16.0kgf.m, 101 ~ 116lb-ft)

2. Connect the trailing arm with the carrier assembly and then tighten the bolt and nut (A).

Tightening torque :

140 ~ 160N.m (14.0 ~ 16.0kgf.m, 101 ~ 116lb-ft)



SENS7005D

3. Install the rear wheel & tire.

Tightening torque :

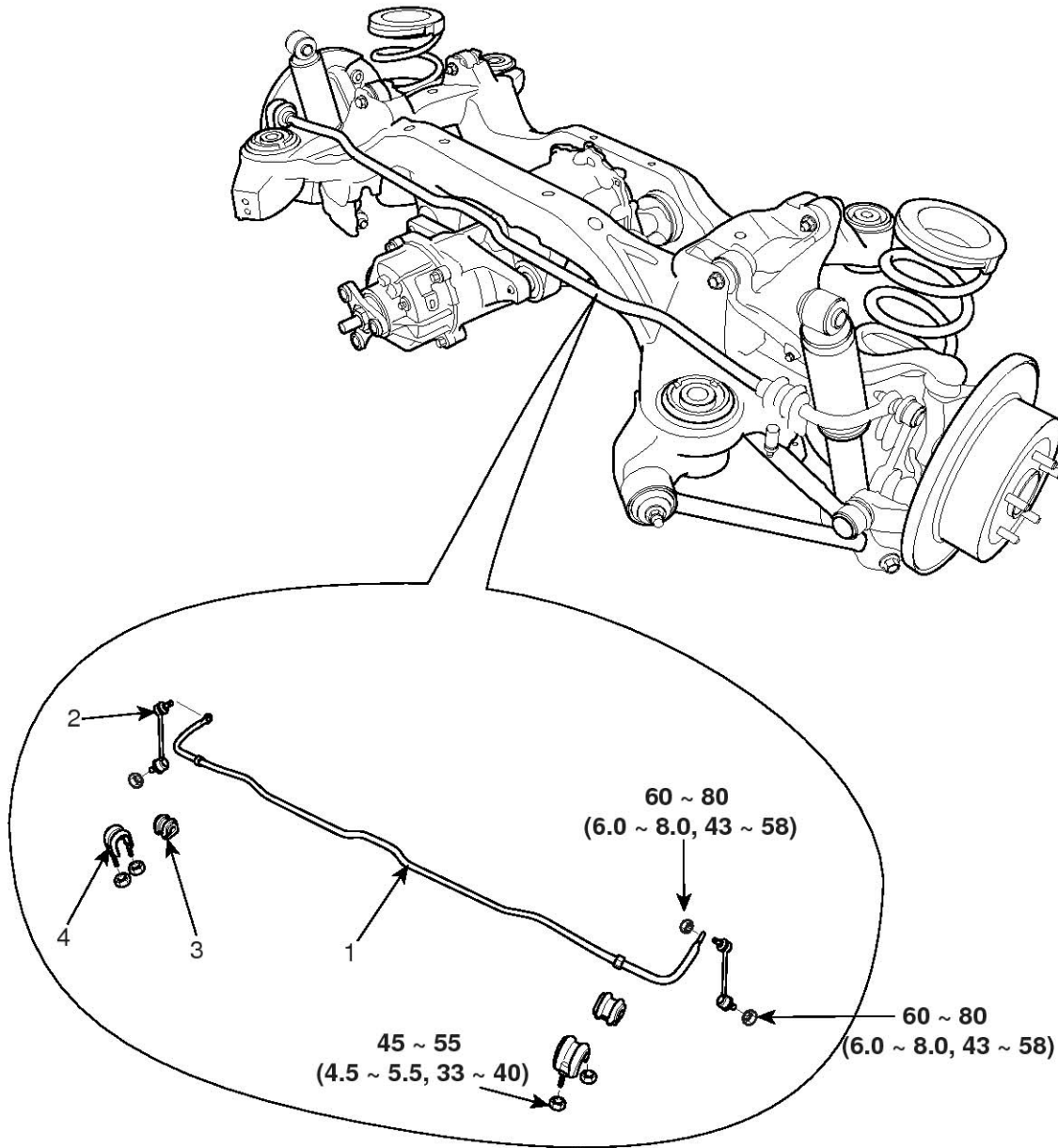
90 ~ 110N.m (9.0 ~ 11.0kgf.m, 65 ~ 80lb-ft)

Rear Suspension System

SS-37

Rear Stabilizer Bar

Components



Torque : N.m (kgf.m, lb-ft)

SENS9310L

- 1. Rear stabilizer bar
- 2. Stabilizer link

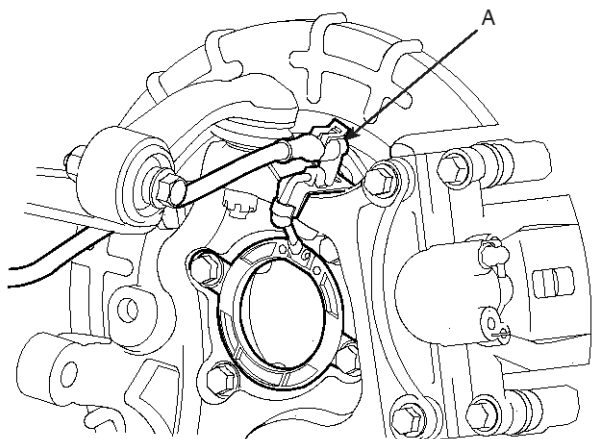
- 3. Bushing
- 4. Bracket

SS-38

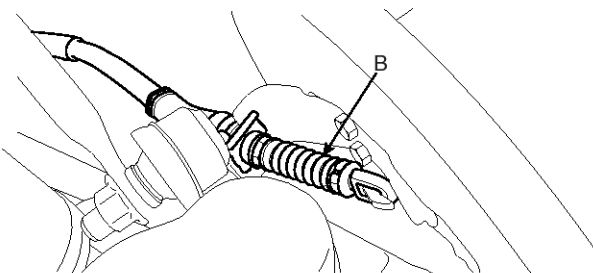
Suspension System

Removal

1. Remove the rear wheel & tire.
2. Remove the wheel speed sensor connector (A) and the parking brake cable (B) from the rear axle carrier.

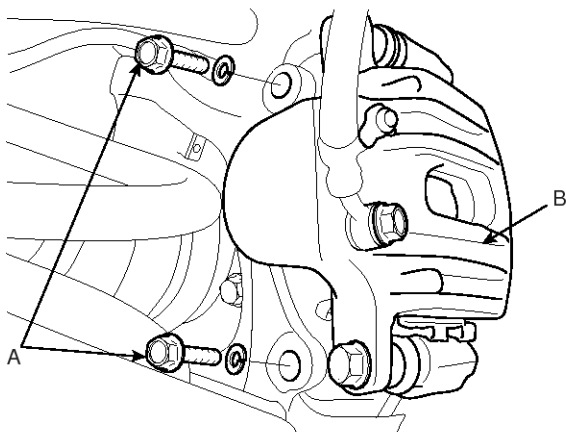


SENS7514D

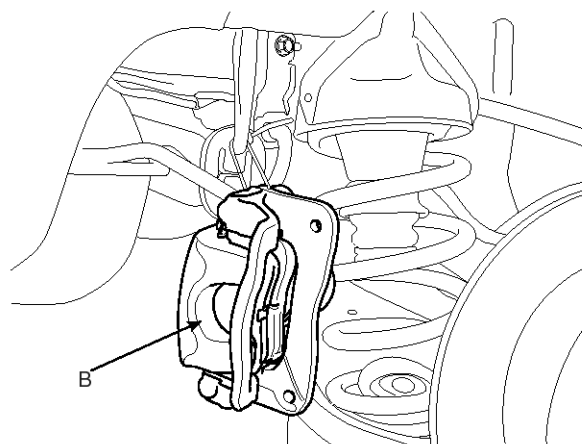


SENDS7522D

3. Remove the caliper assembly (B) by loosening the mounting bolts (A) and then suspend it with wire.

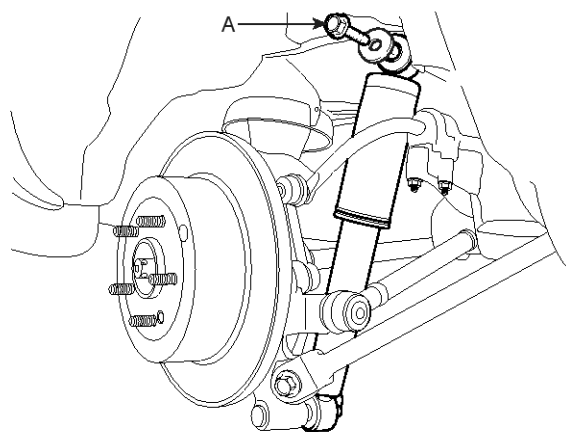


SCMSS6515D



SCMSS6516D

4. Support the lower portion of the rear lower arm the jack.
5. Disconnect the shock absorber with body by loosening the bolt (A).



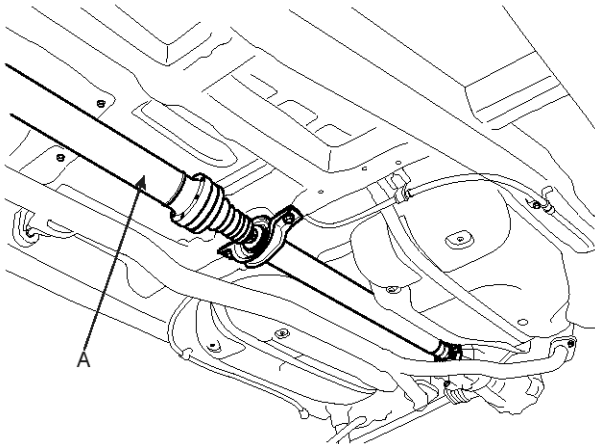
SENS7205D

6. Remove the center and main muffler. (Refer to EM group)

Rear Suspension System

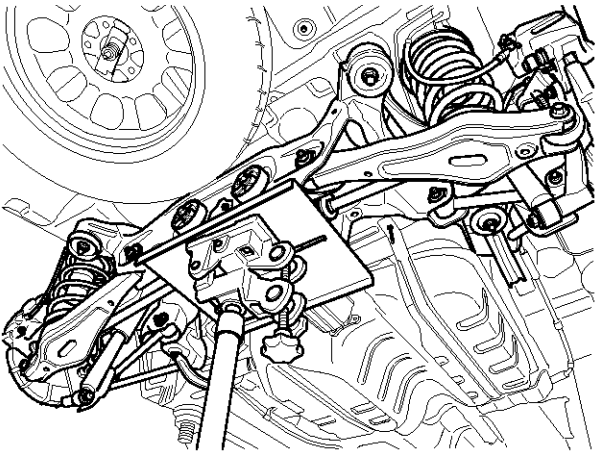
SS-39

7. Remove the propeller shaft assembly (A). (Refer to DS group)



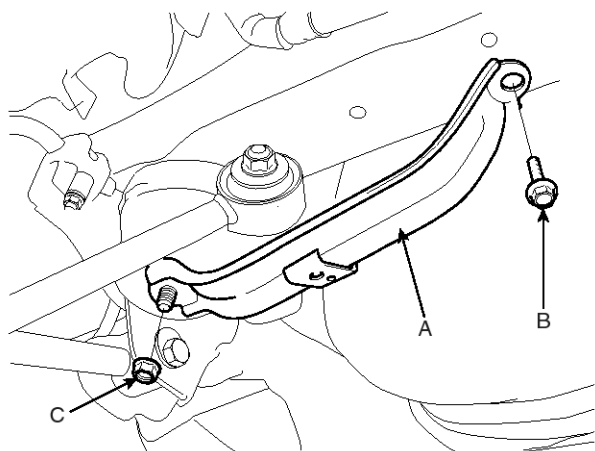
SENS7500D

8. Support the rear cross member assembly with a jack.



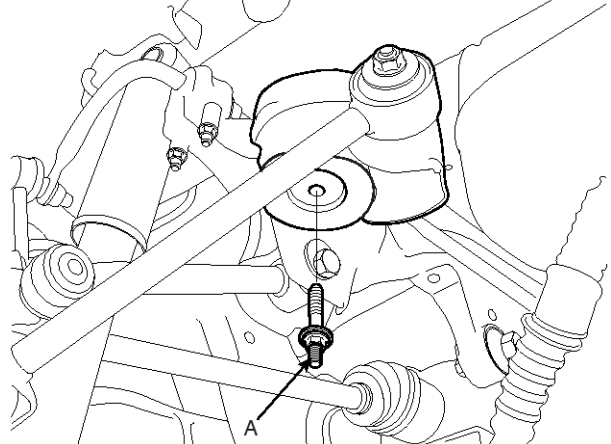
SENS7002D

9. Remove the rear cross member stay (A) by loosening the mounting bolt (B) and nut (C).

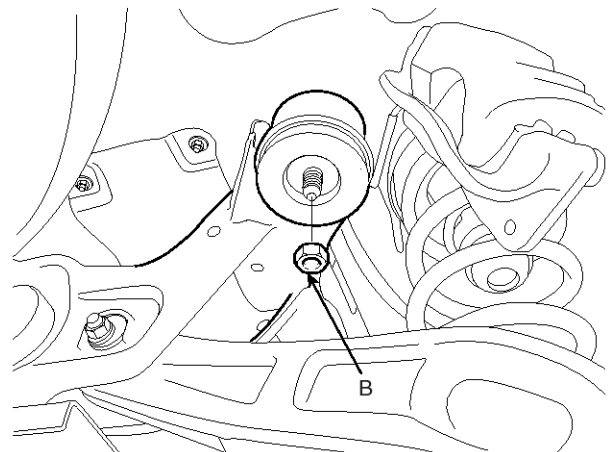


SENS7206D

10. Remove the cross member from the body by loosening the mounting bolts (A) and nuts (B).

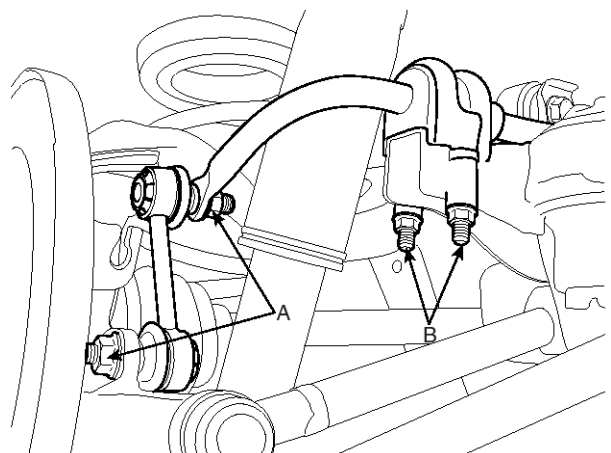


SENS7207D



SENS7208D

11. Loosen the nuts (A, B) and then remove the rear stabilizer bar from the cross member.

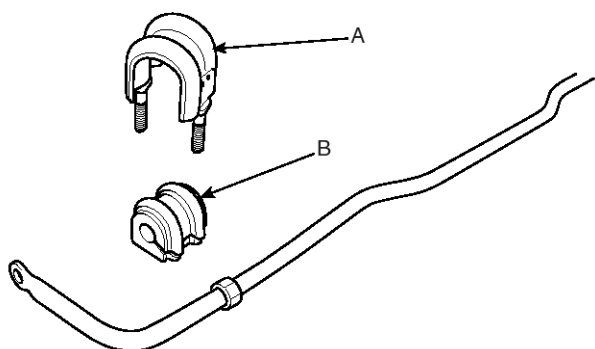


SENS7214D

SS-40

Suspension System

12. Remove the mounting bracket (A) and bushing (B) from the rear stabilizer bar.



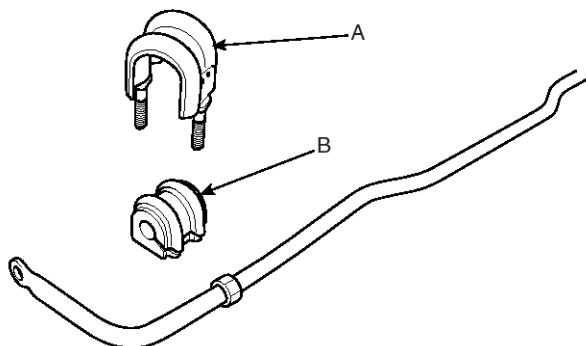
SENS7215D

Inspection

1. Check the rear stabilizer bar for deformation.
2. Check the rear stabilizer link ball joint for damage.

Installation

1. Install the mounting bracket (A) and bushing (B) to the rear stabilizer bar.



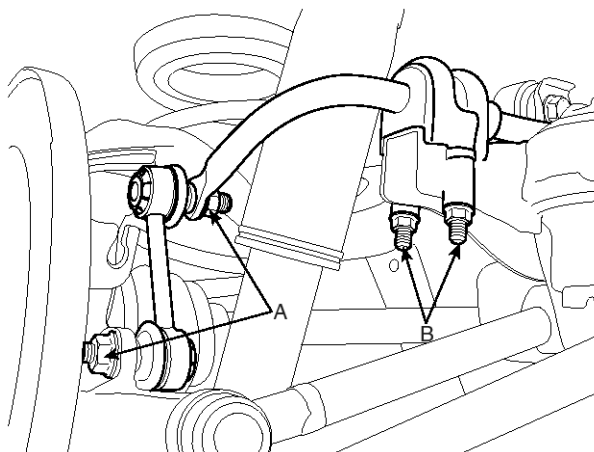
SENS7215D

2. Install the rear stabilizer bar to cross member and then tighten the nuts (A, B).

Tightening torque :

Nuts (A) : 60 ~ 80N.m (6.0 ~ 8.0kgf.m, 43 ~ 58lb-ft)

Nuts (B) : 45 ~ 55N.m (4.5 ~ 5.5kgf.m, 33 ~ 40lb-ft)



SENS7214D

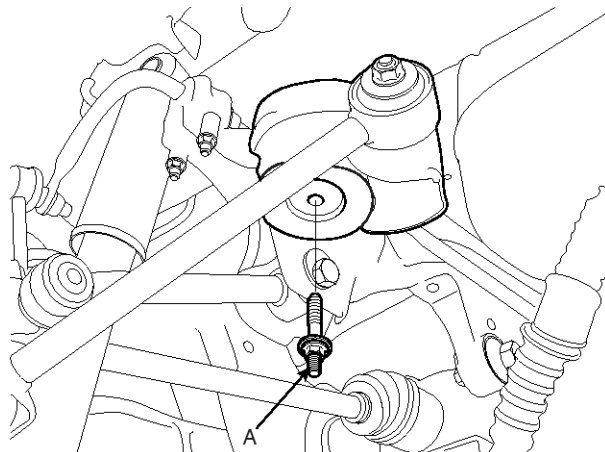
Rear Suspension System

SS-41

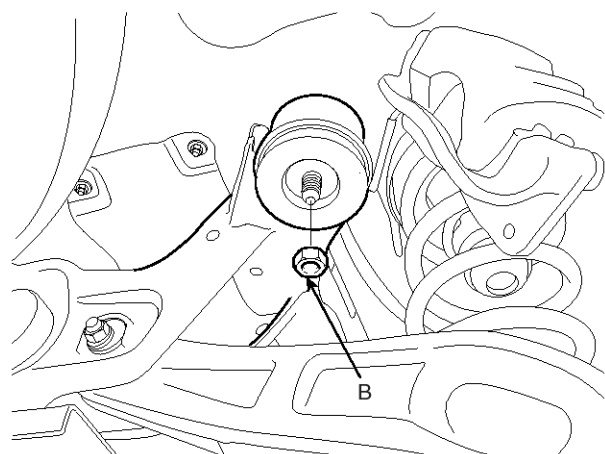
3. Install the rear cross member to the body by tightening the mounting bolts (A) and nuts (B).

Tightening torque :

160 ~ 180N.m (16.0 ~ 18.0kgf.m, 116 ~ 130lb-ft)



SENSS7207D

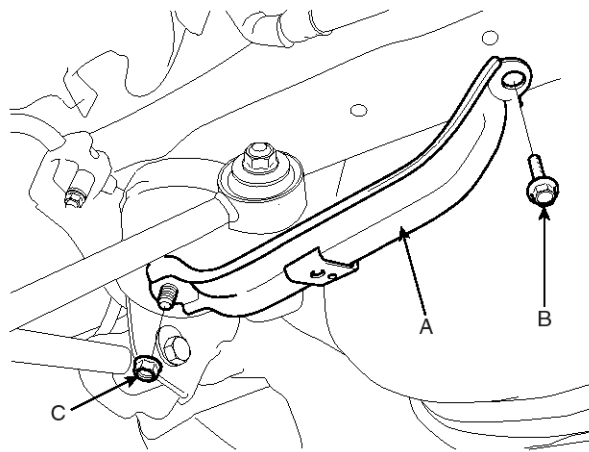


SENSS7208D

4. Install the rear cross member stay (A) by tightening the mounting bolt (B) and nut (C).

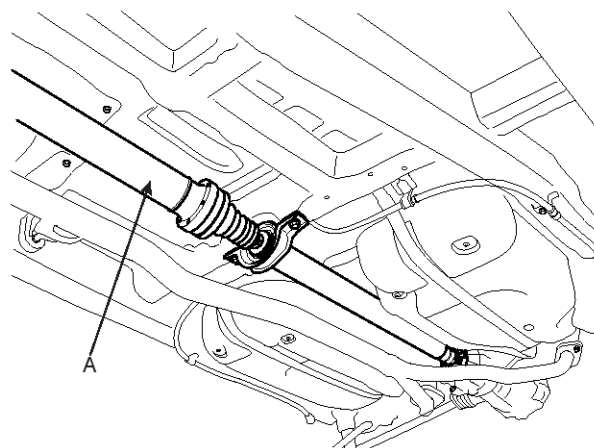
Tightening torque :

70 ~ 90N.m (7.0 ~ 9.0kgf.m, 51 ~ 65lb-ft)



SENSS7206D

5. Install the propeller shaft (A). (Refer to DS group)



SENSS7500D

6. Install the center and main muffler. (Refer to EM group)

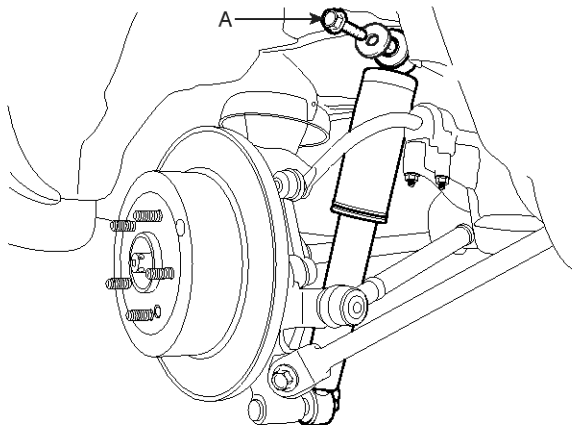
SS-42

Suspension System

7. Connect the rear shock absorber to the body and then tighten the bolt (A).

Tightening torque :

140 ~ 160N.m (14.0 ~ 16.0kgf.m, 101 ~ 116lb-ft)

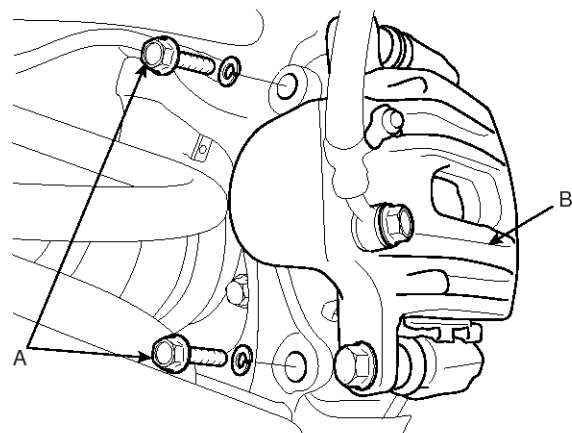


SENS7205D

8. Install the rear caliper assembly (B) to the carrier assembly and then tighten the mounting bolts (A).

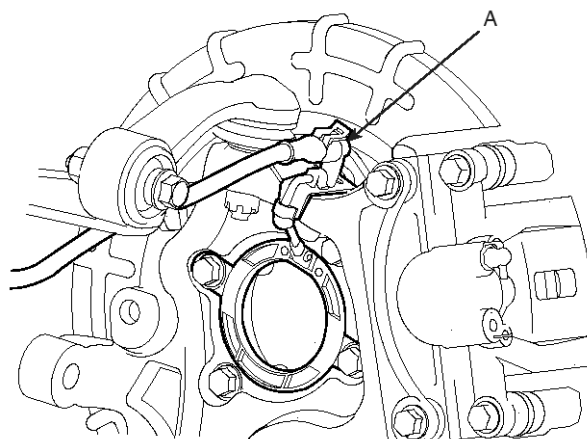
Tightening torque :

50 ~ 60N.m (5.0 ~ 6.0kgf.m, 36 ~ 43lb-ft)

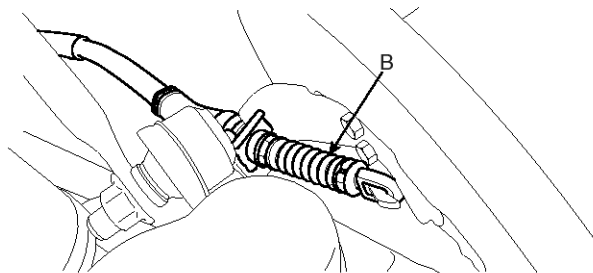


SCMSS6515D

9. Install the wheel speed sensor connector (A) and parking brake cable (B) to the carrier assembly.



SENS7514D



SEND57522D

10. Install rear wheel & tire.

Tightening torque :

90 ~ 110N.m (9.0 ~ 11.0kgf.m, 65 ~ 80lb-ft)

Tires/Wheels

Alignment

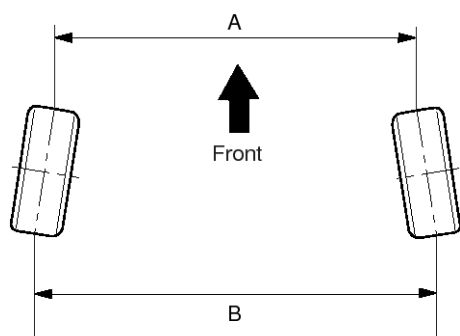
Front Wheel Alignment

⚠CAUTION

When using a commercially available computerized wheel alignment equipment to inspect the front wheel alignment, always position the vehicle on a level surface with the front wheels facing straight ahead.

Prior to inspection, make sure that the front suspension and steering system are in normal operating condition and that the tires are inflated to the specified pressure.

Toe



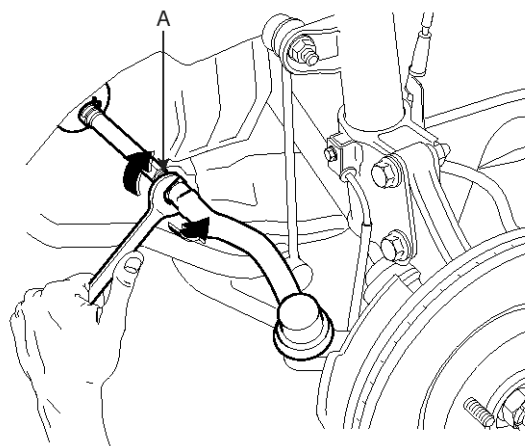
SHDSS6512L

B - A > 0: Toe in
B - A < 0: Toe out

Toe adjustment

1. Loosen the tie rod end lock nut.
2. Remove the bellows clip to prevent the bellows from being twisted.
3. Adjust the toe by screwing or unscrewing the tie rod. Toe adjustment should be made by turning the right and left tie rods by the same amount.

Toe: $0^\circ \pm 0.2^\circ (0 \pm 0.079)$



AHIE107B

4. When completing the toe adjustment, install the bellows clip and tighten the tie rod end lock nut to specified torque.

Tightening torque :

50 ~ 55N.m (5.0 ~ 5.5kgf.m, 36 ~ 40lb-ft)

Camber and Caster

Camber and Caster are pre-set at the factory, so they do not need to be adjusted. If the camber and caster are not within the standard value, replace or repair the damaged parts and then inspect again.

Camber angle: $-0.5^\circ \pm 0.5^\circ$

Caster angle : $4.33^\circ \pm 0.5^\circ$

SS-44

Suspension System

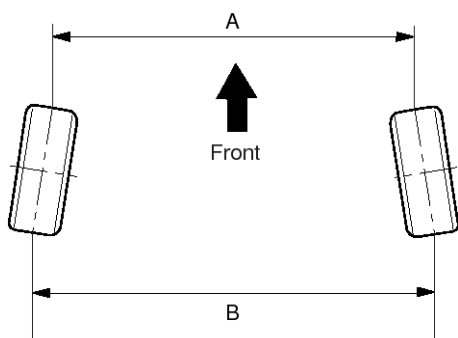
Rear Wheel Alignment

⚠CAUTION

When using a commercially available computerized wheel alignment equipment to inspect the rear wheel alignment, always position the vehicle on a level surface.

Prior to inspection, make sure that the rear suspension system is in normal operating condition and that the tires are inflated to the specified pressure.

Toe



SHDSS6512L

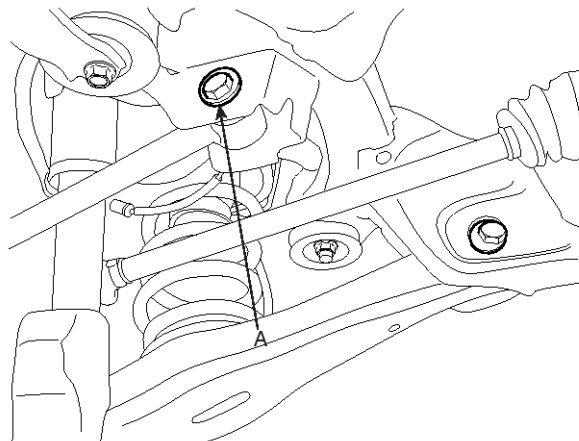
$B - A > 0$: Toe in

$B - A < 0$: Toe out

Toe adjustment

1. Loosen the nut holding the assist arm cam bolt (A).
2. Adjust rear toe by turning the rear assist arm cam bolt (A) clockwise or counter clockwise. Toe adjustment should be made by turning the right and left cam bolt by the same amount.

Toe: $0.2^\circ \pm 0.2^\circ (0.079 \pm 0.079)$



SENSS7007D

3. When completing the toe adjustment, tighten the nut to specified torque.

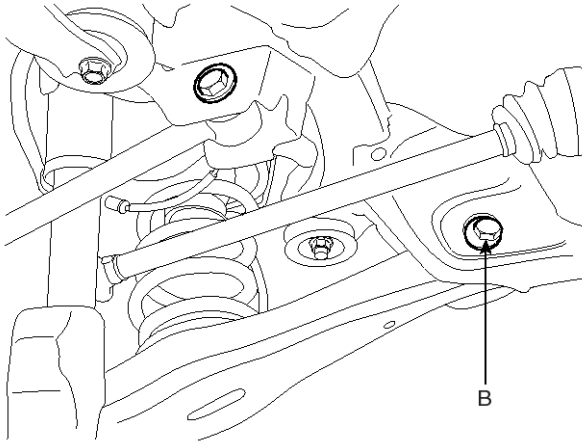
Tightening torque :

100 ~ 120N.m (10.0 ~ 12.0kgf.m, 72 ~ 87lb-ft)

Camber Adjustment

1. Loosen the nut holding the rear lower arm cam bolt (B).
2. Adjust rear camber by turning the rear lower arm cam bolt (B) clockwise or counter clockwise. Rear camber adjustment should be made by turning the right and left cam bolt by the same amount.

Camber: $-1^{\circ} \pm 0.5^{\circ}$



SENS57513D

3. When completing the rear camber adjustment, tighten the nut to specified torque.

Tightening torque :

140 ~ 160N.m (14.0 ~ 16.0kgf.m, 101 ~ 116lb-ft)

SS-46

Suspension System

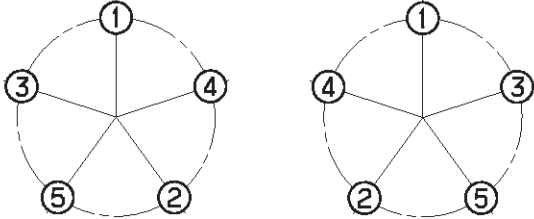
Wheel

Hub Nut Tightening Sequence

Tighten the hub nuts as follows.

Tightening torque :

90 ~ 110N.m (9.0 ~ 11.0kgf.m, 65 ~ 80lb-ft)



SUNSS6551D

⚠ CAUTION

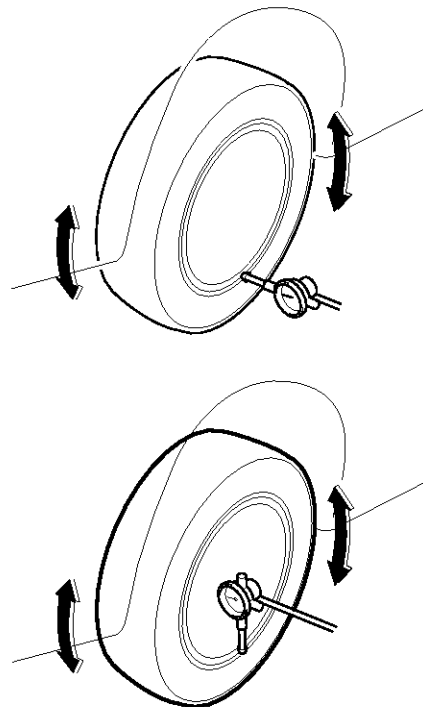
When using an impact gun, final tightening torque should be checked using a torque wrench.

Run Out Inspection

1. Jack up the vehicle.
2. Measure the wheel Run-out by using a dial indicator as illustration below.

Radial mm(in)	Below 0.3(0.012)
Lateral mm(in)	Below 0.3(0.012)

3. If measured value exceeds the standard value, replace the wheel.



KHRE402A

Tire

Tire Wear

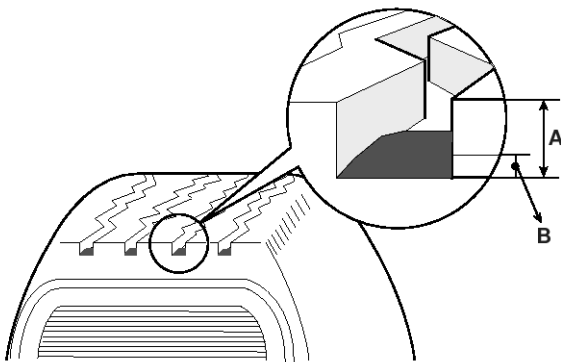
1. Measure the tread depth of the tires.

Tread depth [limit] : 1.6 mm (0.063 in)

2. If the remaining tread depth (A) is less than the limit, replace the tire.

NOTICE

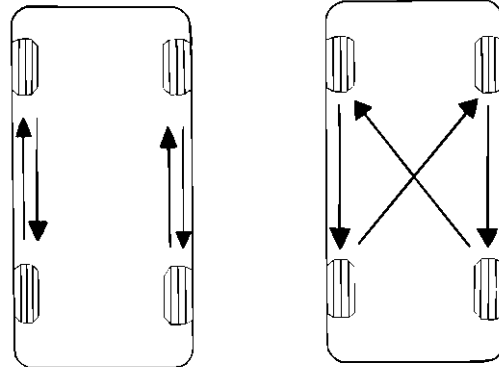
When the tread depth of the tires is less than 1.6 mm(0.063 in), the wear indicators (B) will appear.



KHRE404A

Tire Rotation

Rotate the tires in the pattern illustrated.



KHRE405A

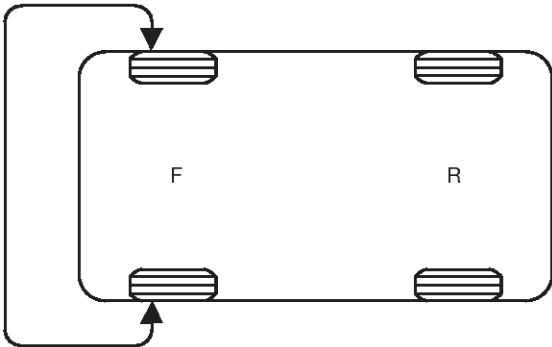
SS-48

Suspension System

Checking For Pull And Wander

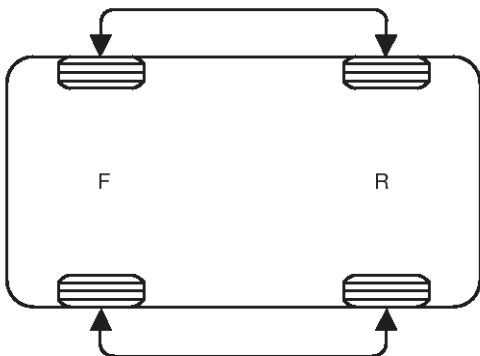
If the steering pulls to one side, rotate the tires according to the following wheel rotation procedure.

1. Rotate the front right and front left tires, and perform a road test in order to confirm vehicle stability.



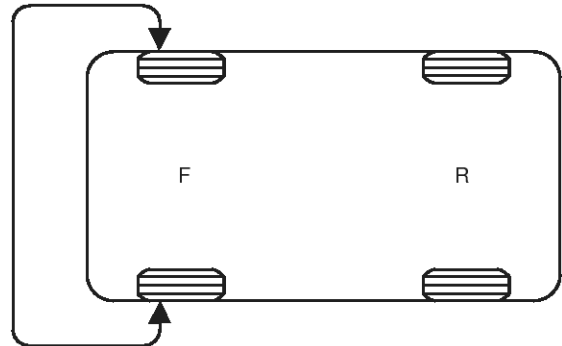
EHRF405B

2. If the steering pulls to the opposite side, rotate the front and rear tires, and perform a road test again.



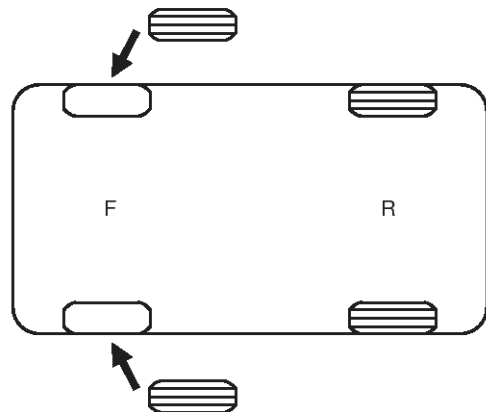
EHRF405C

3. If the steering continues to pull to one side, rotate the front right and left tires again, and perform a road test.



EHRF405B

4. If the steering continues to pull to the opposite side, replace the front wheels with new ones.



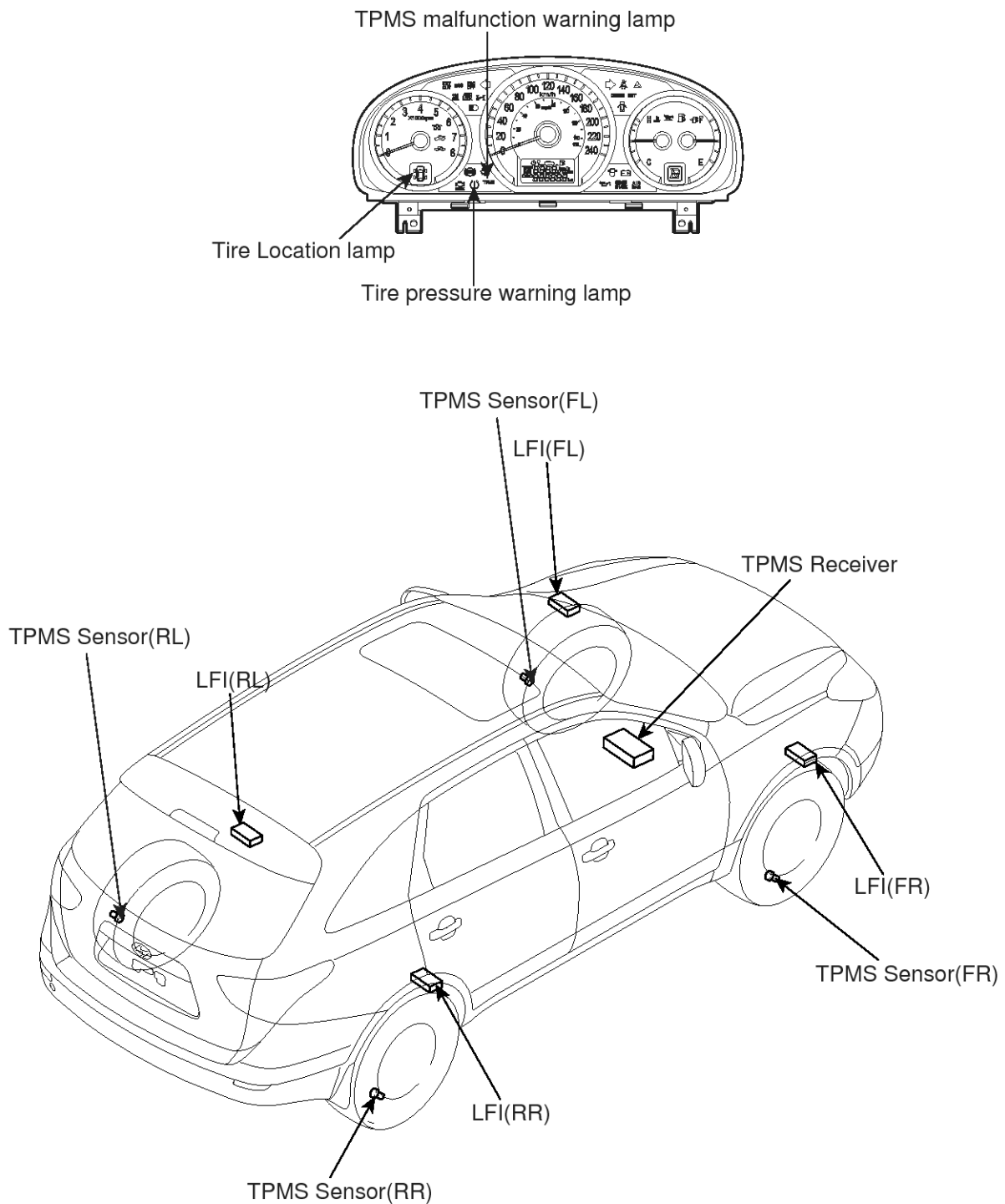
EHRF405E

Tire Pressure Monitoring System

SS-49

Tire Pressure Monitoring System

Components



* LFI (Low Frequency Initiator)

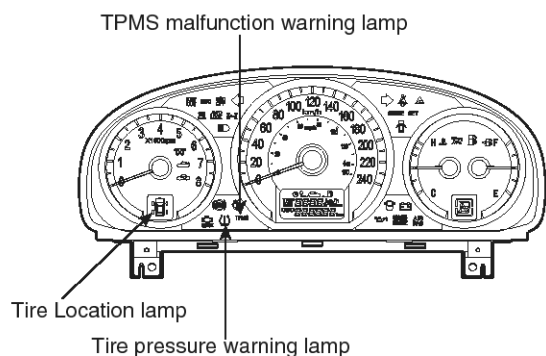
SENS7503N

SS-50

Suspension System

Description

Warning Lamps



SENS7504N

TREAD Lamp

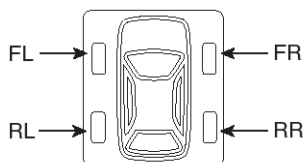
- Tire Under Inflation / Leak Warning.



BHIE500C

1. Turn on condition
 - When tire pressure is below allowed threshold.
 - When rapid leak is detected by the sensor.
 - Indicates that tire needs to be re-inflated to placard pressure / repaired.
2. Turn off condition
 - Under-inflation ; When tire pressure is above (warning threshold + hysteresis).
 - Rapid Leak ; When tire pressure is above (leak warning threshold).

Tire Location Lamp



SENS7505N

In a high line system the tire location lamp associated with a tire fault will illuminate.

DTC Warning

TPMS

BHIE500D

1. Turn on condition
 - When the system detects a fault that is external to the receiver/ sensor.
 - When the system detects a receiver fault.
 - When the system detects a sensor fault.
2. Turn off condition
 - If the fault is considered as 'critical', then the lamp is held on throughout the current Ignition cycle (even if the DTC has been demoted). This is because it is important to bring the problem to the drivers attention. On the following Ignition cycle, the demotion conditions will be re-checked. If the demotion conditions occur, the lamp will be turned off. It will be held on until DTC demotion checking is completed.
 - 'Non critical' faults are those that can occur temporarily e.g. vehicle battery under voltage. The lamp is therefore turned off when the DTC demotion condition occurs.

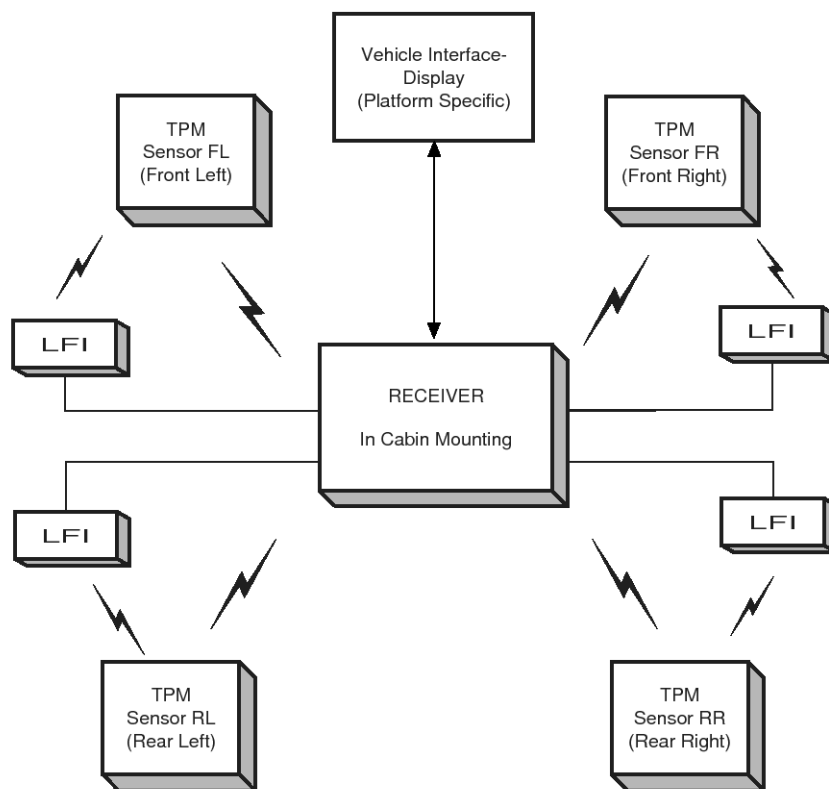
System Fault

1. General Function
 - The system monitors a number of inputs across time in order to determine that a fault exists.
 - Faults are prioritized according to which has the most likely cause.
 - Certain faults are not covered through DTC. The main ones are:
 - a. Control module Micro-controller lock up ; requires observation of lamps at Ignition ON to diagnose.
 - b. Ignition Line stuck ; requires observation of lamps at Ignition ON to diagnose.

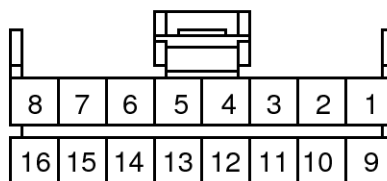
Tire Pressure Monitoring System

SS-51

Schematic Diagram



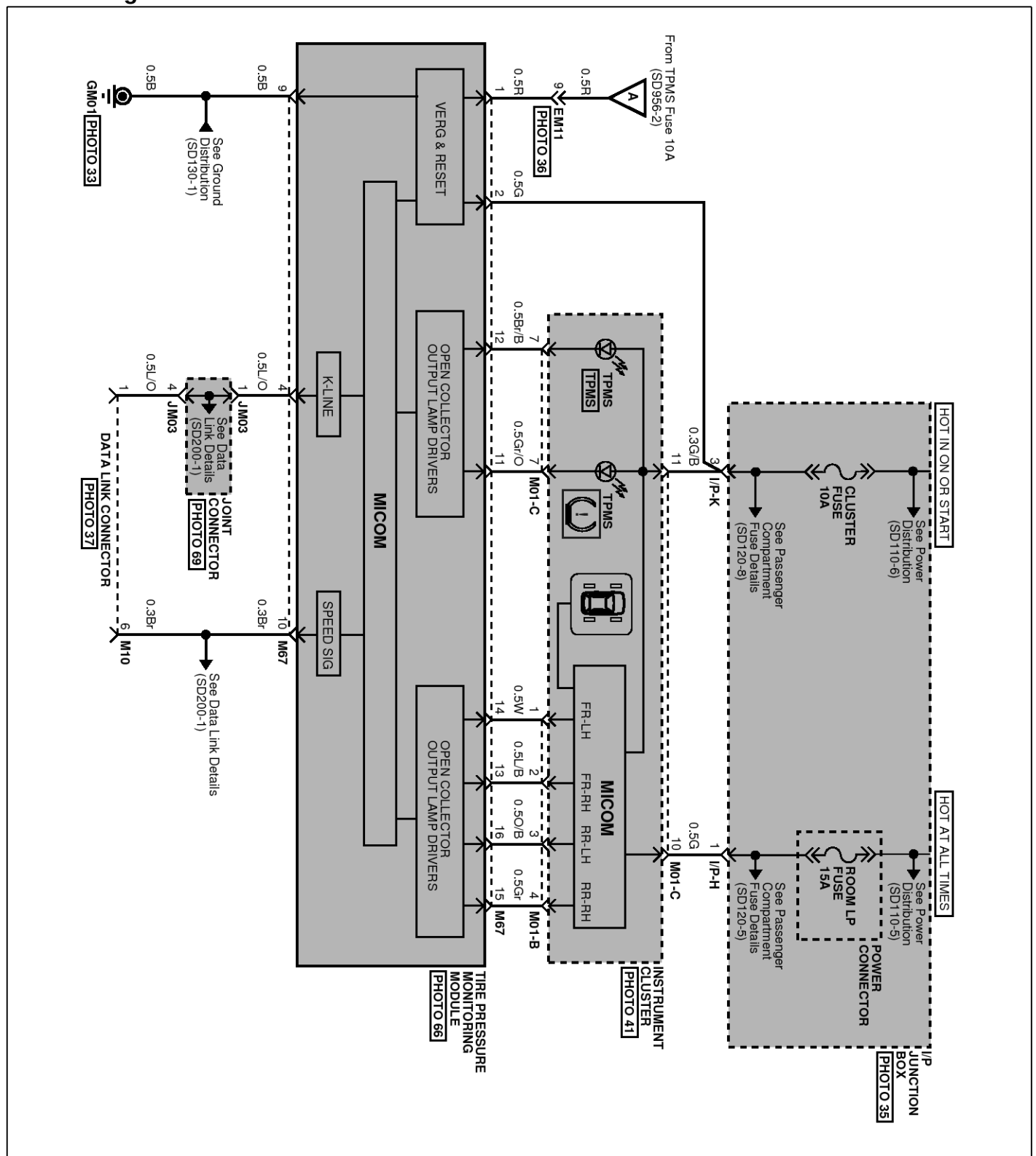
* LFI (Low Frequency Initiator)



SENS7506N

NO	Pin-out assignment	NO	Pin-out assignment
1	Battery	9	GROUND
2	IGN	10	SPEED SIG
3	-	11	TREAD
4	K-LINE	12	TPMS Warning
5	FR-LFI	13	FR Lamp
6	FL-LFI	14	FL Lamp
7	RR-LFI	15	RR Lamp
8	RL-LFI	16	RL Lamp

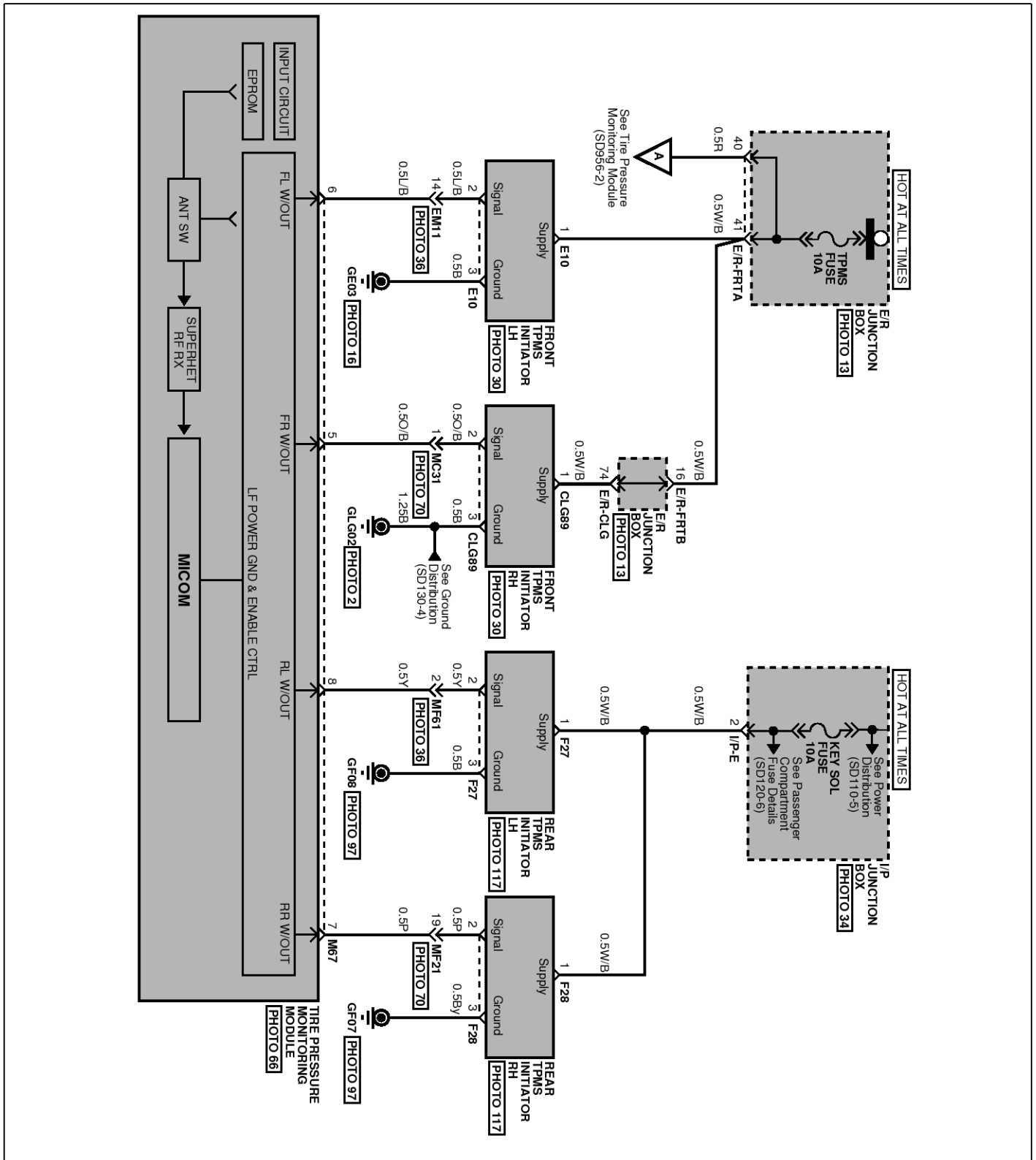
Circuit Diagram



SENS7508N

Tire Pressure Monitoring System

SS-53



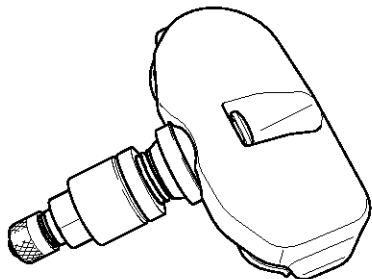
SENS7509N

SS-54

Suspension System

TPMS Sensor

Description



BHIE510A

1. Mode

1) Stationary/Rolling mode

- Measure pressure and temperature every 4 seconds.
- Measure acceleration every 60 seconds.
- High line TPMS sensors transmit data every 60 seconds while awake.

2) Sleep mode

- This state is a Low current consumption state.
- Sensors are in this state when they first arrive at the dealership (either on the vehicle or as replacement spares).
- In this state, the sensor does not measure pressure / temperature / battery level.
- The sensor will not transmit in this state unless requested to do so by the initiate command or woken by acceleration > 20 mph.
- Measure acceleration every 60 seconds.
- High line sensors return to this state if no LFI signals and the tire remains stationary for $\geq$ 10 minutes to conserve battery power .

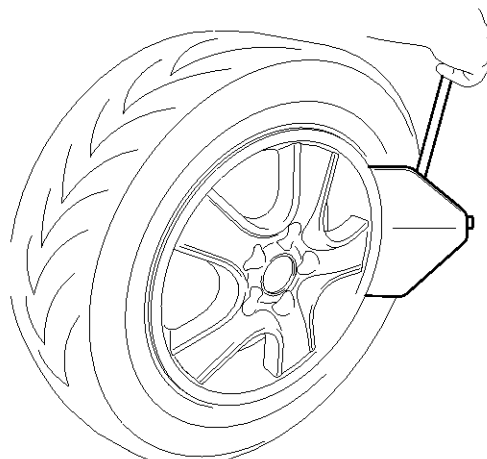
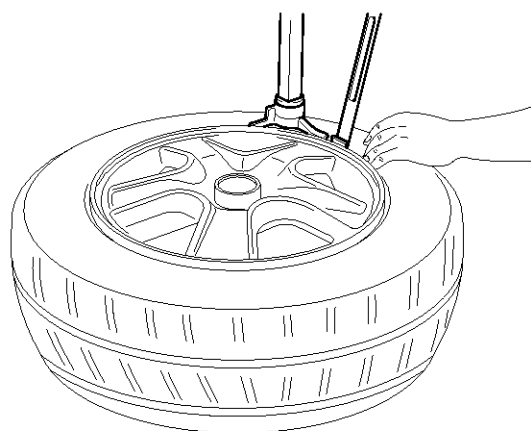
Removal

Tire Removal

1. Deflate tire & remove balance weights.

CAUTION

- The tire bead should be broken approx. 90° from the valve side of the wheel. The bead breaker should not be set too deep.
- Avoid tire/tool contact with the valve on dismount.
- Dismount should end near the valve.



BHIE511A

Tire Pressure Monitoring System

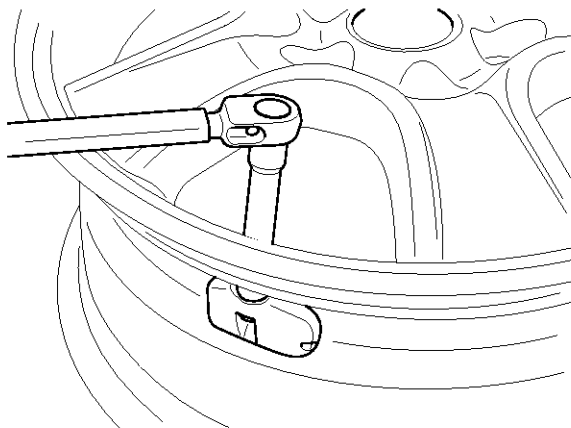
SS-55

Sensor Removal

⚠CAUTION

Handle the sensor with care.

1. Remove the valve nut.



BHIE511B

⚠CAUTION

The valve nut should not be re-used.

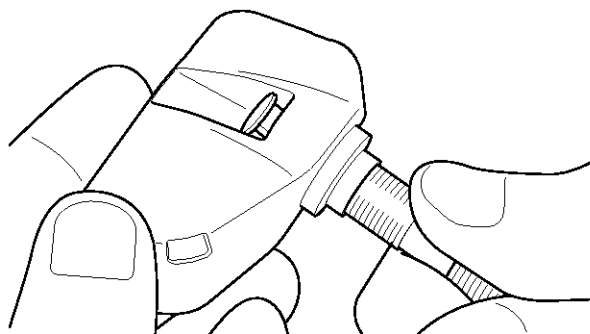
2. Discard the valve assembly.

Installation

Sensor Fit

⚠CAUTION

- Handle the sensor with care.
 - Avoid lubricant contact if possible.
1. Assemble valve to sensor and turn valve 3 times with the square part of the screw in the slot.



BHIE510B

⚠CAUTION

- The fit should not be tight i.e. it should still be possible to easily adjust valve angle.
 - Ensure that the wheel to be fitted is designed for sensor mount. There should normally be a mark to indicate this.
 - Ensure that the valve hole and mating face of the wheel are clean.
2. Mount assembly to wheel.

⚠CAUTION

Ensure sensor feet are against the wheel throughout the remainder of the assembly process.

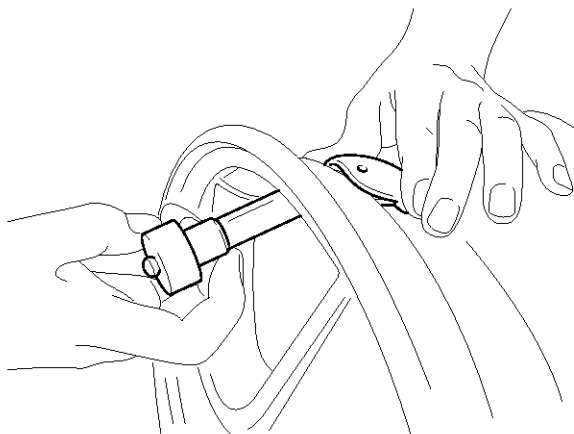
SS-56

Suspension System

3. Tighten washer and nut by hand until the valve thread meets the nut built-in calibrated stop.

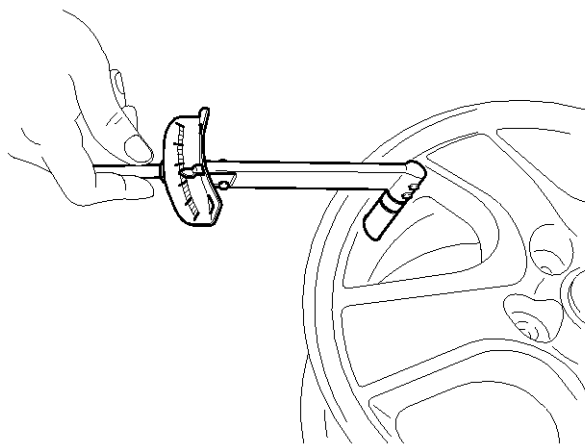
⚠CAUTION

Ensure that the grommet remains in contact with the wheel.



BHIE510C

4. Using a torque wrench, tighten the nut to 2.95 ± 0.37 lb-ft (4.0 ± 0.5 Nm) It is normal to feel a break as the 1.7 lb-ft (2.3Nm) calibrated stop in the nut snaps and the torque falls.



BHIE510D

⚠CAUTION

- Increase torque smoothly in order to achieve a clean break of the stop.
- Do not exceed allowed torque.
- Do not use electric or pneumatic tools.

Tire Fit

⚠CAUTION

Only use wheels designed to accommodate the TPMS sensor.

1. Lubricate the tire bead not the rim. Excessive lubrication should not be applied.
2. Start tire mounting approx. 5.9 in(15 cm) from valve.
3. Move the mounting tool away from the valve.

⚠CAUTION

Avoid tire / tool contact with the valve.

4. Finish with mounting tool near to valve.
5. Perform inflation / pressure correction and then fit valve cap.

Sensor Initiating Procedure

1. Read the four sensor's ids starting with sensor 1 (1 normally front left, 2 front right, 3 rear left, 4 rear right).

TIRE SENSOR CONFIG(EXCITER)
01. SET SENSOR STATUS
02. REGISTER SENSOR

BHIE530V

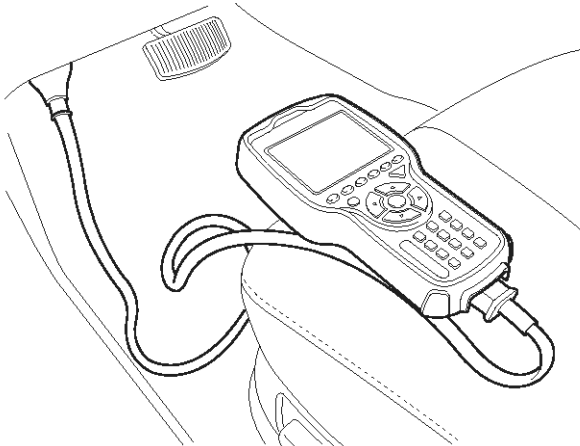
REGISTER SENSOR
READING SENSOR ID
1. FL : A00EA183
2. FR : A00E9FE6
3. RR : PRESS [ENTER] TO GET ID _s
4. RL :
CLR FL FR RL RR REG

SCMSS6512N

Tire Pressure Monitoring System

SS-57

2. Connect 'TPMS exciter' to the diagnostic connector.



BHIE511D

3. Register the four sensor's ids to the receiver.

REGISTER SENSOR	
READING SENSOR ID DONE	
1. FL : A00EA183	
ARE YOU SURE WRITE? [ENT]/[ESC]	
3. RR : A00E9B81	
4. RL : A00E9D1C	
TO REGISTER ID, CONNECT THE DLC CABLE AND PRESS [F6] IN IG ON CONDITION	
CLR	FL FR RL RR REG

SCMSS6513N

REGISTER SENSOR	
READING SENSOR ID DONE	
1. FL : A00EA183	
2. FR : A00E9FE6	
3. RR : A00E9B81	
4. RL : A00E9D1C	
WRITE SUCCESS!! PRESS[ESC]	
CLR	FL FR RL RR REG

SCMSS6514N

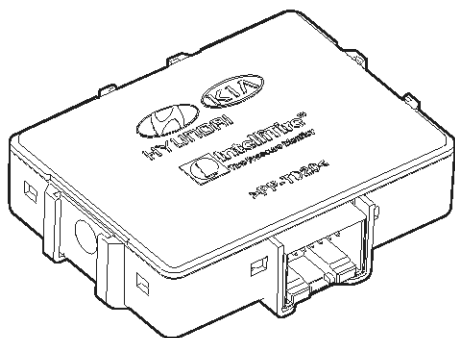
4. Disconnect diagnostic link.
5. Cycle Ignition, wait 1 minutes and check that Normal Receiver State is now indicated.

SS-58

Suspension System

TPMS Receiver

Description Receiver

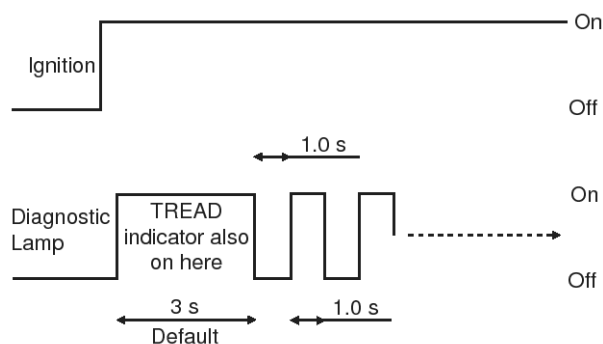


BPKG500S

1. Mode

1) Virgin State (No TPMS sensor id's learned)

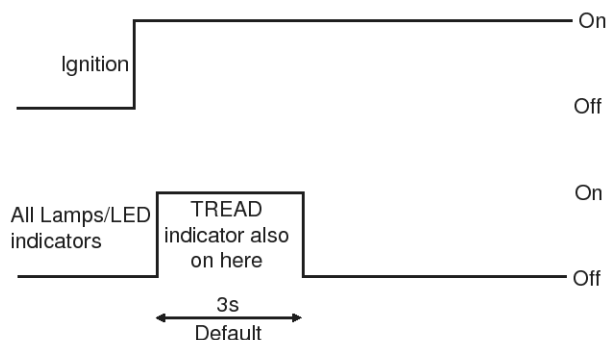
- The receiver as a sole part is shipped in this state. Replacement parts should therefore arrive in this state.
- In this state, there is no sensor monitoring and no DTC monitoring.
- The state indicates that platform specific parameters must be written to the receiver and that sensors are un-learned.
- In unlearned state when connected in the vehicle with ignition key on the TPMS lamp will flash at one second intervals.



SCMSS6515N

2) Normal State

- In order for tire inflation state and DTC monitoring to occur, the receiver must be in this state.
- In this state type 1, 2, or 3 sensor learning mode can be started.



SCMSS6516N

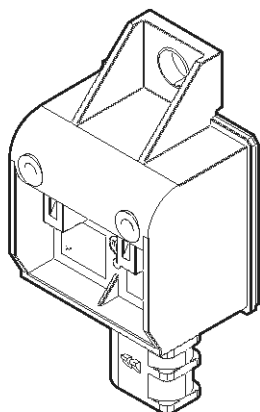
2. Overview

- Receives RF data from sensor.
- Uses sensor data to decide whether to turn on TREAD Lamp.
- Uses sensor information, background noise levels, Auto-learn status, short circuit output status, vehicle battery level, internal receiver states to determine if there is a system or a vehicle fault.
- Activates LFI for TPMS sensor location.

Tire Pressure Monitoring System

SS-59

LFI(Low Frequency Initiator)



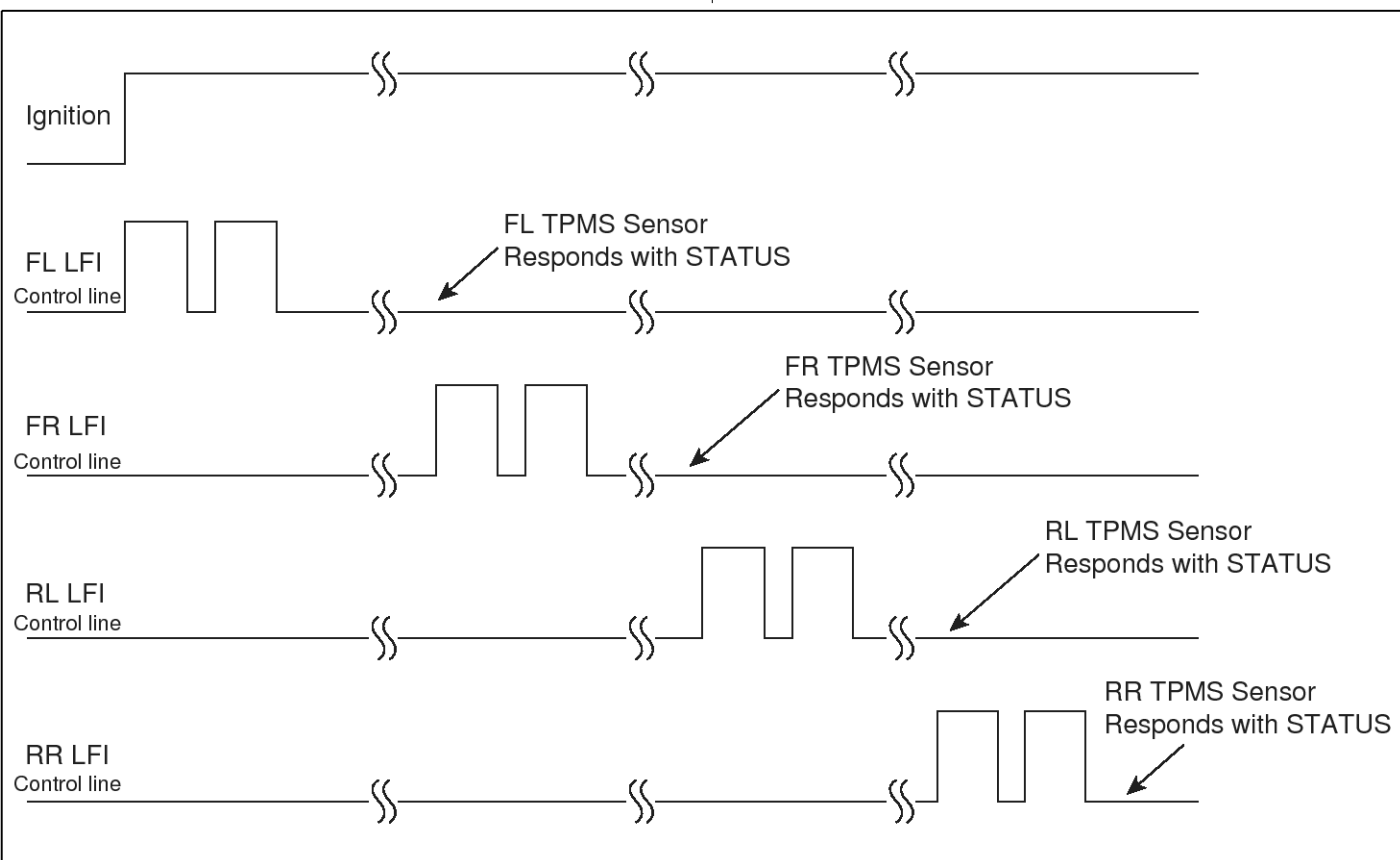
BPKG500X

1. Overview

- Only High Line systems are fitted with an LFI.
- The LFI is located in the wheel well of each tire, to enable the receiver to determine the vehicle position of each TPMS sensor for which it has a stored TPMS sensor ID code.
- When first turned on, the receiver activates the LFI's to wake up the TPMS sensors and get wheel status.
- The LFI's are activated every 10 minutes to keep the TPMS sensors awake while the key is on.

2. Operating mode

- When triggered by the receiver the LFI broadcasts a 125 KHz signal through the tire to the TPMS sensors to wake them up sequentially.
- After broadcasting the LFI returns to sleep mode until triggered again by the receiver.
- Once the TPMS sensor has received the 125 KHz wake up signal, it broadcasts it's ID and status. This information plus which LFI triggered it allows the receiver to record which tire has which sensor.



BPKG500V

SS-60

Suspension System

Operation

1. Type 1 learn mode
 - TPMS sensor learning via K-line diagnostic bus using TPMS Exciter.
2. Type 2 learn mode
 - Learn via LFI wand
 - Enter type 2 learn mode via K-line command.
 - Trigger each TPMS sensor in the following order FL,FR,RL,RR with the LFI wand.
 - Exit type II learn mode.
3. Type 3 learn mode (High line only)
 - Enter type 3 learn mode via K-line command.
 - Receiver triggers each LFI and programs TPMS sensors and received.

CAUTION

- If a vehicle equipped with TPMS is aside the vehicle being inspecting, the TPMS sensor may be learned in correctly.
- If a TPMS sensor of other vehicle is in the magnetic field of the LFI, the sensor ID may be learned.

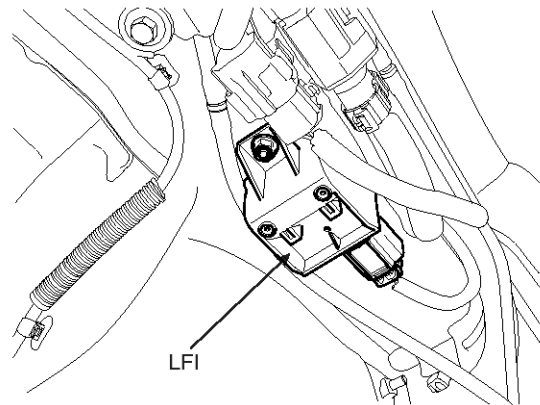
Replacement

NOTICE

When the receiver first arrives for replacement:

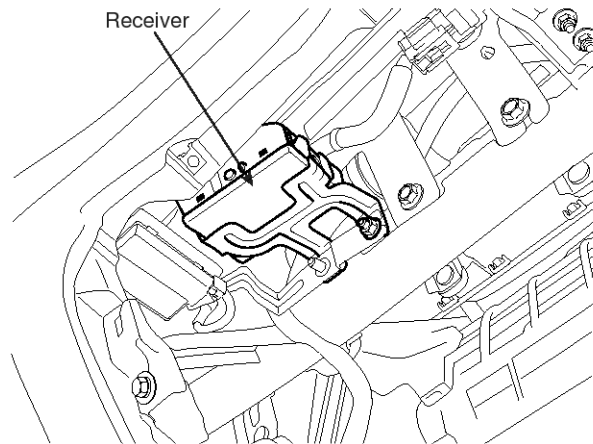
- a. *It will be in Virgin State.*
 - b. *It will not be configured for any specific platform.*
 - c. *It will not have any sensor ID's memorized.*
1. Disconnect vehicle battery.
 2. Remove malfunctioning part and fit bracket assembly to new part.

[LFI]



SENS7002N

[Receiver]



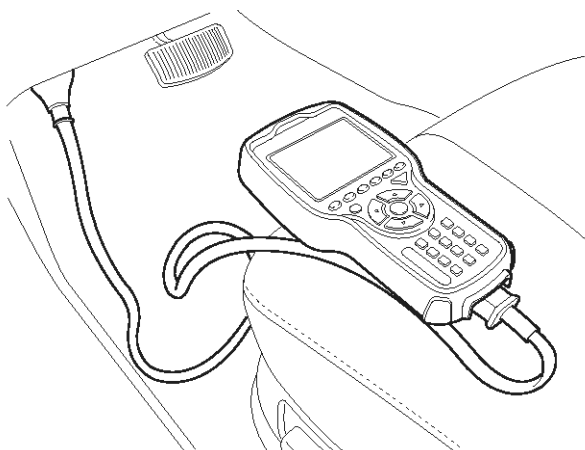
SENS7001N

3. Secure new part to vehicle and fit connector.
4. Re-connect battery and turn Ignition on.
5. Check that TPMS lamp flash rate matches Virgin State indication.

Tire Pressure Monitoring System

SS-61

6. Connect 'TPMS exciter' to the diagnostic connector.



BHIE511D

1. TPMS DIAGNOSIS
MODEL : EN 2009MY
SYSTEM : TPMS DIAGNOSIS
EN
01. DIAGNOSTIC TROUBLE CODES
02. CURRENT DATA
03. WARNING STATE
04. ACTUATION TEST
05. ECU INFORMATION
06. SPECIFIC DATA WRITING
07. DUAL DISPLAY

SENS9311N

7. Write vehicle name to receiver. receiver will now automatically update monitoring parameters.

SPECIFIC DATA WRITING
01. VEHICLE NAME
02. WHEEL SENSOR ID
03. VIN
04. MODE CONFIGURATION

BHIE530Y

WRITE DATA : [ENTER]

WRITE VALUE AND PRESS[ENTER]

READ :
WRITE : EN

SENS7507N

8. Read sensor's ids with the 'TPMS exciter'. (Refer to 'SENSOR INITIATING PROCEDURE')

9. Register sensor's ids to receiver.

SPECIFIC DATA WRITING
01. VEHICLE NAME
02. WHEEL SENSOR ID
03. VIN
04. MODE CONFIGURATION

BHIE531A

WHEEL SENSOR ID					
	CURRENT ID	CHANGE ID			
SNSR1 [FL]	4FA0009E	4FA0009E			
SNSR2 [FR]	69C19100	69C19100			
SNSR3 [RL]	00000000	00000000			
SNSR4 [RR]	00000000	00000000			
SENSOR 5	00000000	00000000			
MODIFY SENSOR ID AND PRESS[ENTER]					
A	B	C	D	E	F

BHIE531B

SS-62

Suspension System

10. Register VIN number of the vehicle.(17 digits)

SPECIFIC DATA WRITING
01. VEHICLE NAME
02. WHEEL SENSOR ID
03. VIN
04. MODE CONFIGURATION

BHIE531C

WRITE DATA : [ENTER]
WRITE VALUE AND PRESS[ENTER]
READ :
WRITE:00000000000000000
ABCD EFGH IJKL MNOP QR-U VW-Z

BHIE531D

11. Change receiver state from Virgin to Normal.

SPECIFIC DATA WRITING
01. VEHICLE NAME
02. WHEEL SENSOR ID
03. VIN
04. MODE CONFIGURATION

BHIE531E

MODE CONFIGURATION
CHANGE : [UP]/[DOWN]
WRITING : [ENTER]
#CURRENT MODE
VIRGIN
#CHANGE MODE
01. NORMAL

BHIE531F

12. Disconnect diagnostic link.

13. Turn ignition off for approximately 10 seconds then turn it back on and check that Normal State is now indicated.