Suspension System

GENERAL

SPECIFICATIONS EA2B6C53

Items		Specifications			
Front suspension	**Model**	Macpherson strut type			
	Shock absorber Type Stroke mm(in) Identification color	 Gas type 160.7(6.33) Red			
	Coil spring	GSL2.0 M/T	GSL2.0, GSL2.7 A/T DSL2.0 M/T	DSL2.0 A/T	
	[2WD] Inside dia. mm(in) Outside dia. mm(in) Load rate Kgf/mm Free height mm(in) Identification color	 Ø137.6(5.42) Ø166.5±1.5(6.55±0.059) 3.1±0.15 325.8(12.83) YELLOW	 Ø137.6(5.42) Ø166.5±1.5(6.55±0.059) 3.1±0.15 332.3(13.08) GREEN	 Ø137.5(5.41) Ø166.5±1.5(6.55±0.059) 3.1±0.15 338.7(13.34) ORANGE	
	[4WD] Inside dia. mm(in) Outside dia. mm(in) Load rate Kgf/mm Free height mm(in) Identification color	 Ø137.5(5.41) Ø166.5±1.5(6.55±0.059) 3.2±0.16 328.1(12.92) YELLOW-YELLOW	 Ø137.4(5.41) Ø166.6±1.5(6.55±0.059) 3.2±0.16 334.3(13.16) GREEN-GREEN	 Ø137.4(5.41) Ø166.7±1.5(6.56±0.059) 3.2±0.16 340.6(13.41) ORANGE-ORANGE	
Rear suspension	**Model**	Dual link			
	Shock absorber Type Stroke mm(in) Identification color	 Gas type 191.0(7.52) WHITE			
	Coil spring	2WD		4WD	
	Inside dia. mm(in) Outside dia. mm(in) Load rate Kgf/mm Measurement range of rate mm(in) Free height mm(in) Identification color	Ø100 (3.94) Ø170 (6.69) 2.8±0.14 154.3~300.8(6.08~11.84) 356.5(14.03) YELLOW		Ø100 (3.94) Ø170 (6.69) 2.9±0.15 156.6~301.5(6.17~11.87) 360.1(14.17) WHITE	
Wheel & Tire	**Wheelalignment**	**Front**		**Rear**	
	Dimension Toe-in mm(in) Camber Caster angle(to ground) Caster angle(to body) King pin angle King pin offset mm(in) Side slip mm(in)	P215/65R16 0±2(0.079) 0°±30′ 3°36′±30′ 3°52′ 12°46′±30′ -9.73(0.383) 0±3(0.118)	P235/60R16 0±2(0.079) 0°±30′ 3°36′±30′ 3°52′ 12°46′±30′ -10.41(0.410) 0±3(0.118)	P215/65R16 4.6+3,-1 -0°55′±30′ - - - - 1~7(0.039~0.275)	P235/60R16 4.6+3,-1 -0°55′±30′ - - - - 1~7(0.039~0.275)

Items		Specifications
Wheel & Tire	**Wheel** Size Run out mm(in)	AL wheel 6.5JX16 Radial : 0.(0.01), Lateral : 0.3(0.1)
	Tire Size Inflation pressure kg/cm² (psi)	 P215/65R16, P235/60R16 2.1±0.07(30+1.0)

TIGHTENING TORQUE

Items	Nm	Kgf·m	lbf·ft
Front suspension			
Wheel nut	90~110	9~11	66.4~81.2
Strut upper mounting nut	45~60	4.5~6	33.2~44.3
Strut lower mounting nut	140~160	14~16	103.3~118.0
Strut mounting self-locking nut	60~70	6~7	44.3~51.6
Speed sensor cable mounting bolt	7~11	0.7~1.1	5.2~8.1
Lower arm mounting nut	80~90	8~9	59.0~66.4
Lower arm bush(A) mounting bolt	100~120	10~12	73.8~88.5
Lower arm bush(G) mounting bolt	140~160	14~16	103.3~118.0
Lower arm ball joint mounting bolt	100~120	10~12	73.8~88.5
Stabilizer bracket mounting bolt	45~55	4.5~5.5	33.2~40.6
Stabilizer link mounting nut	100~120	10~12	73.8~88.5
Tie rod end ball joint mounting nut	45~60	4.5~6	33.2~44.3
Tie rod toe adjustment nut	50~60	5~6	36.9~44.3
Stabilizer bar link mounting nut	100~120	10~12	73.8~88.5
Rear suspension			
Wheel nut	90~100	9~11	66.4~81.2
Strut upper mounting nut	30~40	3~4	22.1~29.5
Strut lower mounting nut	140~160	14~16	103.3~118.0
Strut mounting self-locking nut	40~55	4~5.5	29.5~40.6
Speed sensor cable mounting bolt	7~11	0.7~1.1	5.2~8.1
Stabilizer bracket mounting bolt	45~55	4.5~5.5	33.2~40.6
Stabilizer link mounting nut	100~120	10~12	73.8~88.5
Tie rod toe adjustment nut	50~60	5~6	36.9~44.3
Suspension arm mounting bolt[2WD]	160~180	16~18	118.0~132.8
Suspension arm mounting bolt[4WD]	140~160	14~16	103.3~118.0
Cross member mounting bolt	100~120	10~12	73.8~88.5
Trailing arm bracket mounting bolt	100~120	10~12	73.8~88.5
Trailing arm to carrier mounting bolt	100~120	10~12	73.8~88.5
Differential mounting bolt	90~120	9~12	59.0~88.5

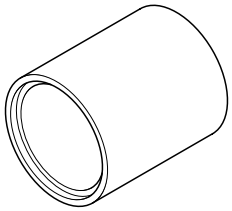
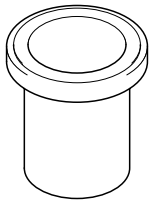
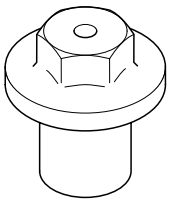
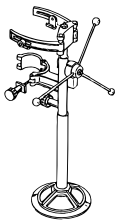
CAUTION

Replace the self-locking nuts with new ones after removal.

LUBRICANTS

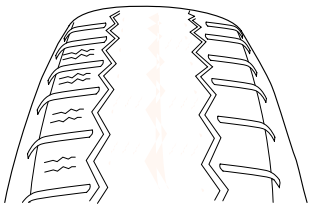
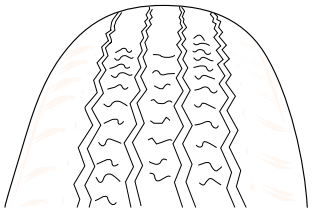
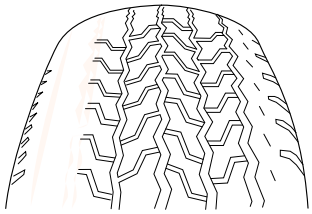
Item	Quantity
In insulator of strut	As required

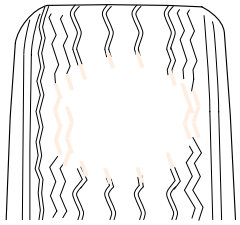
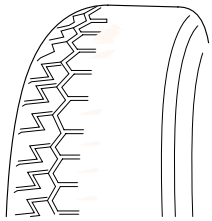
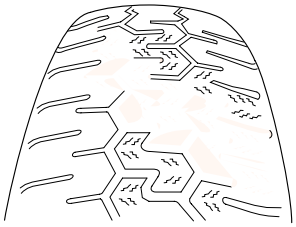
SPECIAL TOOLS E1B0886F

Tool(Number and Name)	Illusstration	Use
09261-2100 Mount bushing remover and installer	 AHIE001A	Removal & installation of lower arm bushing(G)
09214-32000 Mount bushing remover and installer	 AHIE001B	Removal & installation of lower arm bushing(G)
09529-21000 Trailing arm bushing remover installer	 AHIE001C	Removal & installation of trailing arm bushing
09546-26000 Strut spring compressor	 AHIE001D	Compression of the coil spring

TROUBLESHOOTING EEC036E3

Trouble sysmptom	Probable cause	See page
Hard steering	Improper front wheel alignment Excessive turning resistance of lower arm ball joint Flat tire No power assist	SS - 39 - - -
Poor return of steering wheel to center	Improper front wheel alignment	SS - 39
Poor ride quality	Improper front wheel alignment Damaged shock absorber Varied or dameged stabilizer Varied or dameged coil spring Worn lower arm bushing	SS - 39 SS - 7,22 SS - 17,36 SS - 9 SS - 14
Abnormal tire wear	Improper front wheel alignment Worn of shock absorber	SS - 39 SS - 7,22
Wandering	Improper front wheel alignment Poor turning resistance of lower arm ball joint Loose or worn lower arm bushing	SS - 39 - SS - 14
Vehicle pulls to one side	Improper front wheel alignment Excessive turning resistance of lower arm ball joint Varied or dameged coil spring Bent lower arm Improper tire inflation pressure	SS - 39 - SS - 9,25 SS - 13 -
Steering wheel shimmy	Improper front wheel alignment Excessive turning resistance of lower arm ball joint Varied or dameged stabilizer Worn lower arm bushing Worn of shock absorber Varied or dameged coil spring Improper front wheel alignment	SS - 39 - SS - 17 SS - 14 SS - 7 SS - 9 -
Bottoming	Broken or worn spring Malfunction of shock absorber	SS - 9,25 SS - 7,22

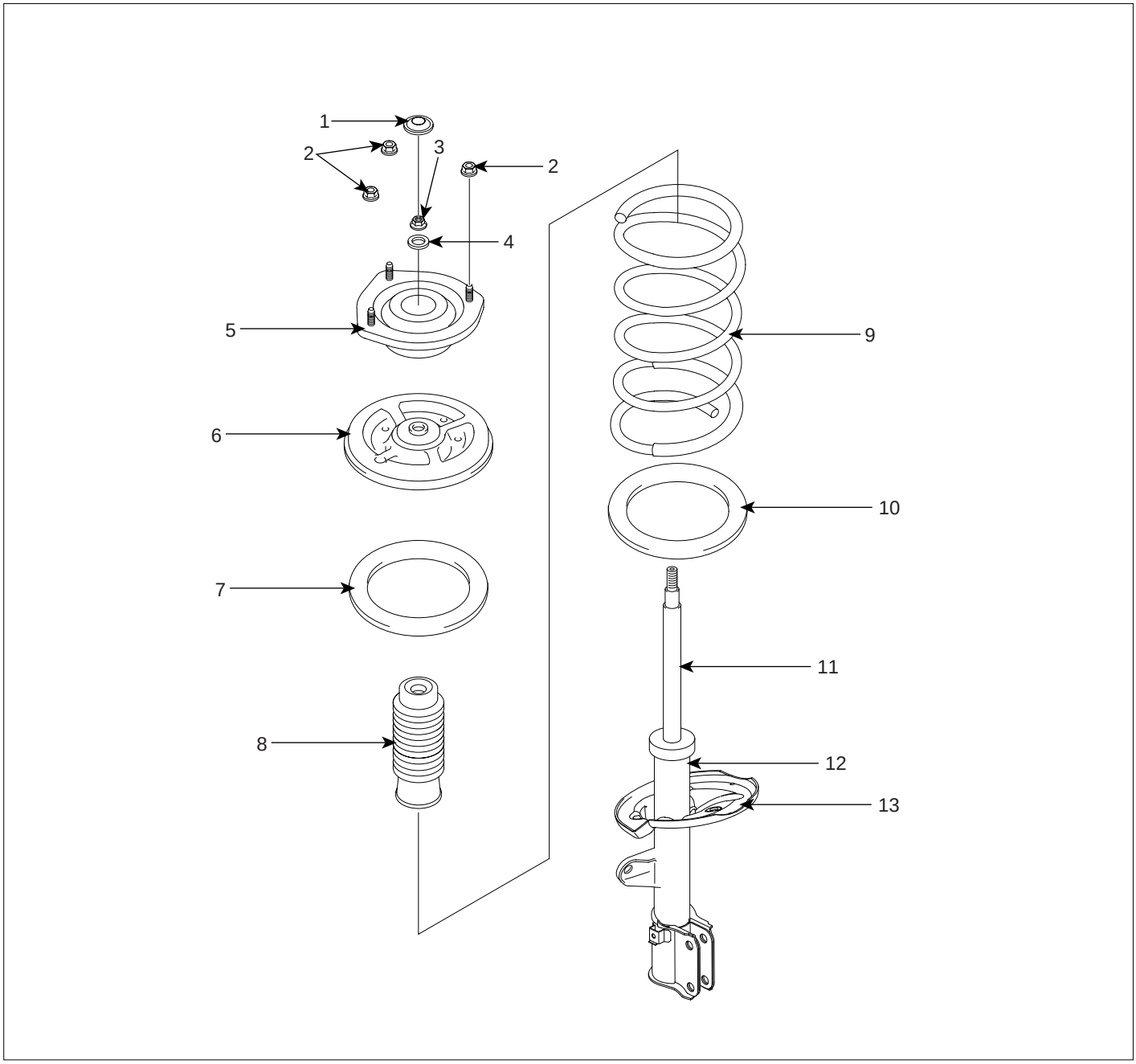
WHEEL AND TIRE DIAGNOSIS		
Radid wear at the center	Rapid wear at both shoulders	Wear at one shoulder
 AHIE002A	 AHIE002B	 AHIE002C
• Center-tread down to fabric due to excessive over inflated tires • Lack of rotation • Excessive toe on drive wheels • Heavy acceleration on drive	• Underinflated tires • Worn suspension components • Excessive cornering speeds • Lack of rotation	• Toe adjustment out of specification • Camber out of specification • Damaged strut • Damaged lower arm

WHEEL AND TIRE DIAGNOSIS		
Partial wear	Feather edges wheels	Wear pattern
 AHIE002D	 AHIE002F	 AHIE002G
• Cansed by irregular burrs on brak 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

FRONT STRUT ASSEMBLY

COMPONENTS ED7C1187



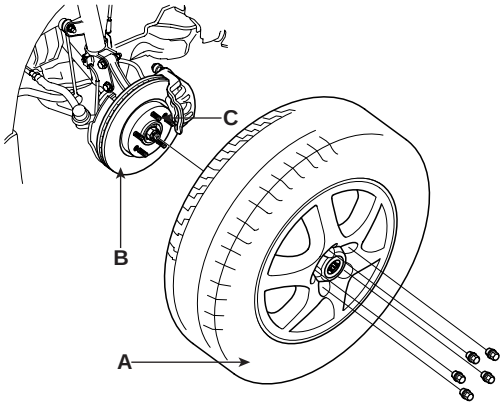
1. Insulator dust cover
2. Upper mounting nuts
3. Self-locking nut
4. Spacer
5. Insulator
6. Spring upper seat
7. Spring upper pad
8. Strut dust cover & bumper rubber
9. Coil spring
10. Spring lower pad
11. Piston rod
12. Strut assembly
13. Spring lower seat

LHIE101A

REMOVAL EBBCF8AE

1. Loosen the wheel nuts slightly.
   Raise the front of the vehicle, and make sure it is securely supported.

2. Remove the front wheel and tire(A) from front hub(B).

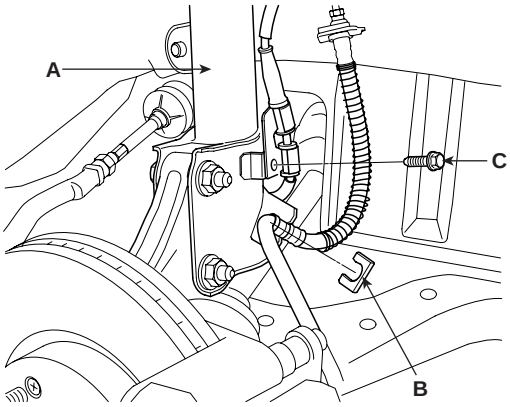


AHIE101B

CAUTION

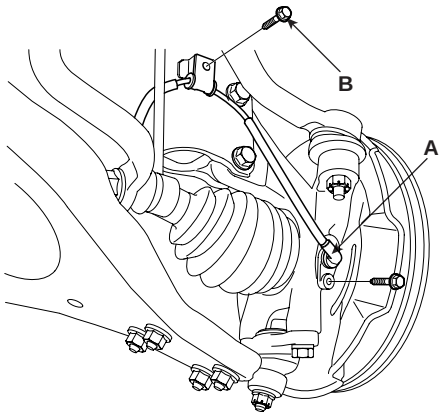
Bej careful not to damage the hub bolts(C) then remove the front wheel and tire(A).

3. Remove the brake hose bracket(B) and speed sensor cable mounting bolt(C) from the strut assembly(A).



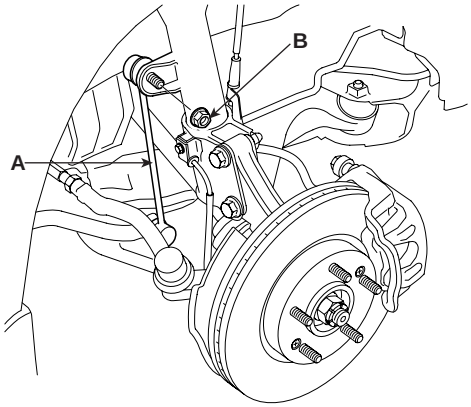
AHIE101C

4. Remove the speed sensor cable mounting bolt(B) and speed sensor(A).



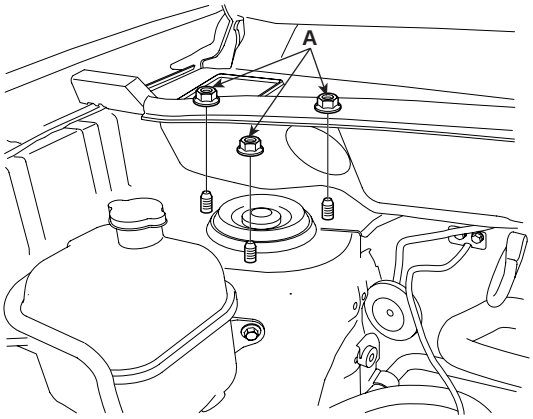
AHIE101D

5. Remove the nut(B) from the stabilizer bar link(A).



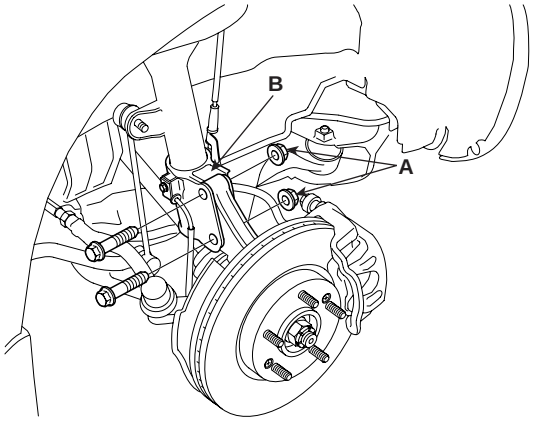
AHIE101E

6. Remove the strut upper mounting nuts(A).



AHIE101F

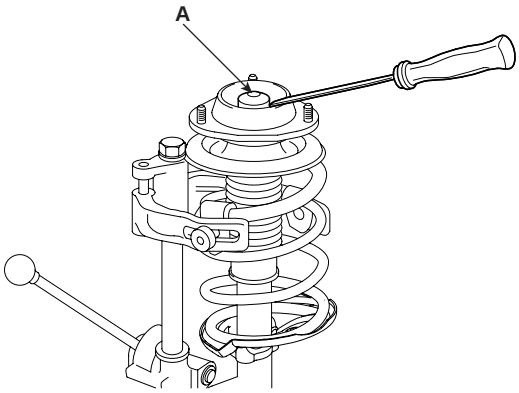
7. Remove the strut lower mounting bolts(A) and then remove the strut assembly(B).



AHIE101G

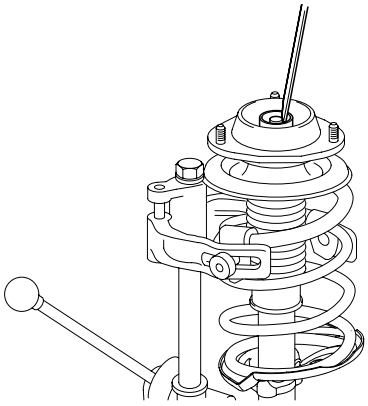
DISASSEMBLY E00EC886

1. Remove the dust cover(A) with a flat-tipped (-) screw driver.



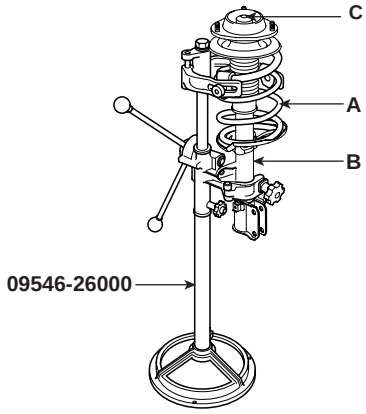
AHIE101H

2. Open the dust cover and wipe off grease in the insulator.



AHIE101I

3. Using the special tool (09546-26000), compress the coil spring(A) until there is only a little tension of the spring on the strut.



AHIE101J

4. Remove the self-locking nut(C) from the strut assembly(B).

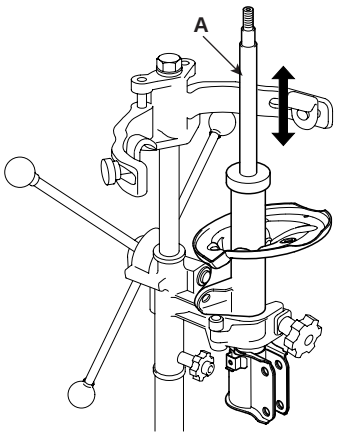
5. Remove the insulator, spring seat, coil spring and dust cover from the strut assembly.

INSPECTION E5BF969A

1. Check the strut insulator bearing for wear or damage.

2. Check rubber parts for damage or deterioration.

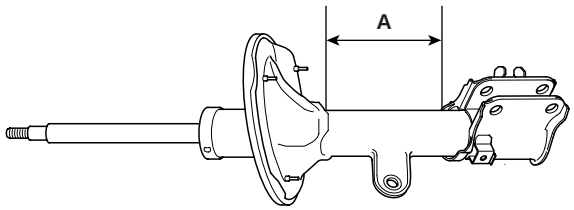
3. Compress and extend the piston rod(A) and check that there is no abnormal resistance or unusual sound during operation.



AHIE101L

DISPOSAL E8FF5AAE

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



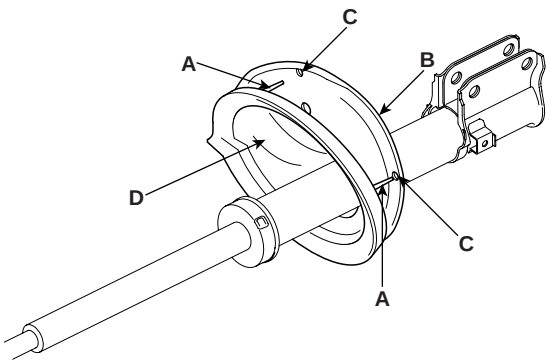
AHIE101K

CAUTION

The gas coming out is harmless, but be careful of chips that may fly when drilling.

REASSEMBLY E1A5EC0B

1. Install the spring lower pad(D) so that the protrusions(A) fit in the holes(C) in the spring lower seat(B).



AHIE101S

2. Compress coil spring using special tool (09546-26000).
   Install compressed coil spring into shock absorber.

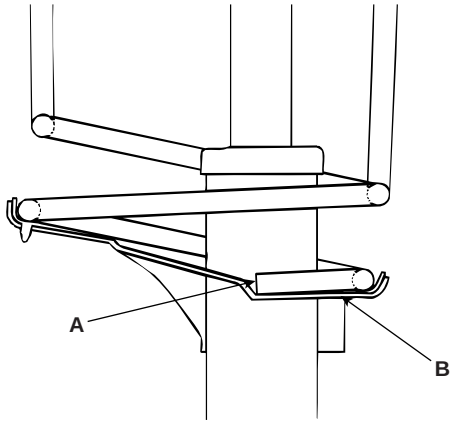
NOTE

a. Indicated two identification color marks on the coil spring one follows model option (see page SS-2) the other follows load classification according to the below.

Pay attention to distiuguish between the two marks and then install them.

b. Install the coil spring wth the idemtification mark directed toward the knuckle.

3. After fully extending the piston rod, install the spring upper seat and insulator assembly.
4. After seating the upper and lower ends of the coil spring(A) in the upper and lower spring seat grooves(B) correctly, tighten new self-locking nut temporarily.



AHIE101T

5. Remove the special tool(09546-26000).
6. Tighten the self-locking nut to the specified torque.

Tightening torque :
60~70 Nm(6~7 kgf·m, 44.3~51.6 lbf·ft)

7. Apply grease to the strut upper bearing and install the insulator cap.

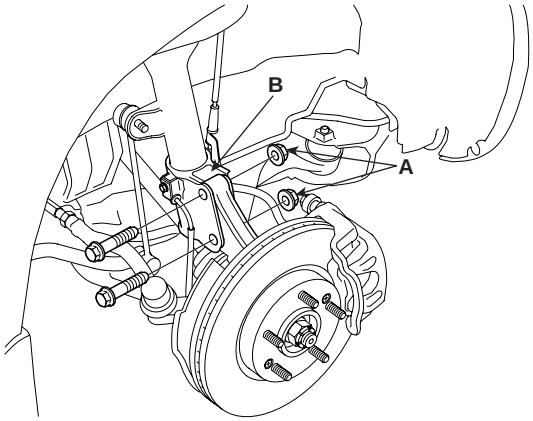
CAUTION

When applying the grease, be careful so that it isn't smeared on the insulator rubber.

INSTALLATION EE2C4D2B

1. Install the strut assembly(B) and then install the strut lower mounting bolts(A).

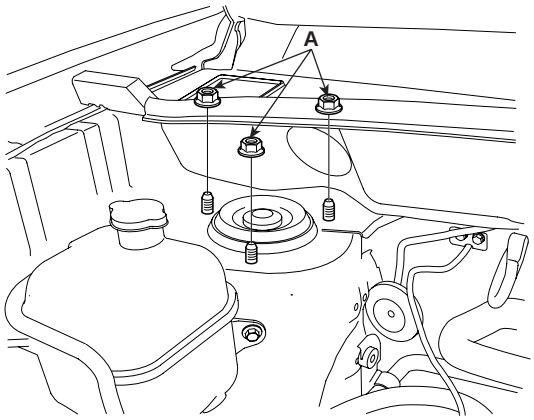
Tightening torque :
140~160 Nm (14~16 Kgf·m, 103.3~118.0 Ibf·ft)



AHIE101G

2. Install the strut upper mounting nuts(A).

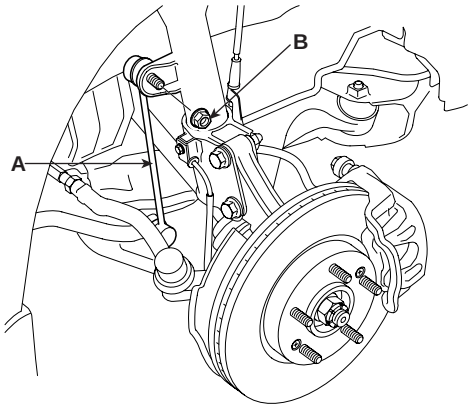
Tightening torque :
45~60 Nm (4.5~6 Kgf·m, 33.2~44.3 Ibf·ft)



AHIE101F

3. Install the nut(B) on the stabilizer bar link(A).

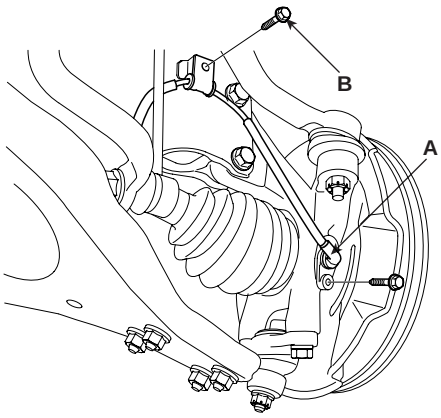
Tightening torque :
100~120 Nm (10~12 Kgf·m, 73.8~88.5 Ibf·ft)



AHIE101E

4. Install the speed sensor cable mounting bolt(B) and speed sensor(A).

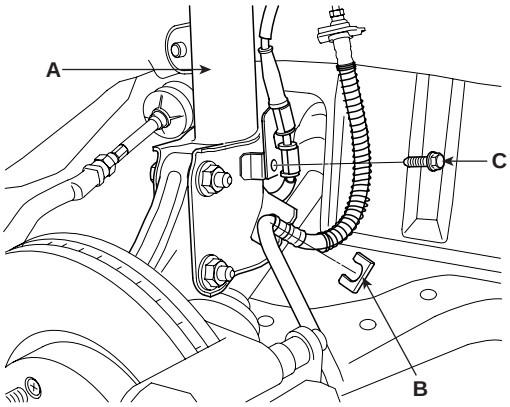
Tightening torque :
7~11 Nm (7~1.1 Kgf·m, 5.2~8.1 Ibf·ft)



AHIE101D

5. Install the brake hose bracket(B) and speed sensor cable mounting bolt(C) on the strut assembly(A).

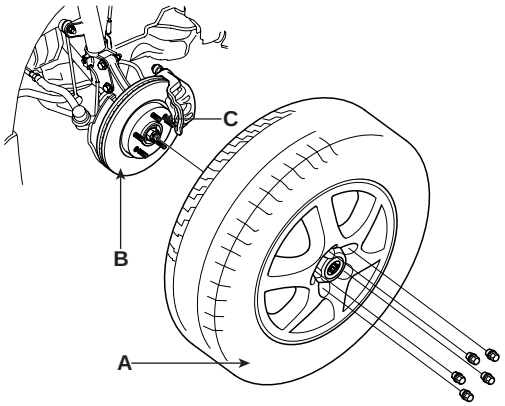
Tightening torque :
7~11 Nm (7~11 Kgf·m, 5.2~8.1 Ibf·ft)



AHIE101C

6. Install the front wheel and tire(A) on the front hub(B).

Tightening torque :
90~110 Nm (9~11 Kg·m, 66.4~81.2 lbf·ft)



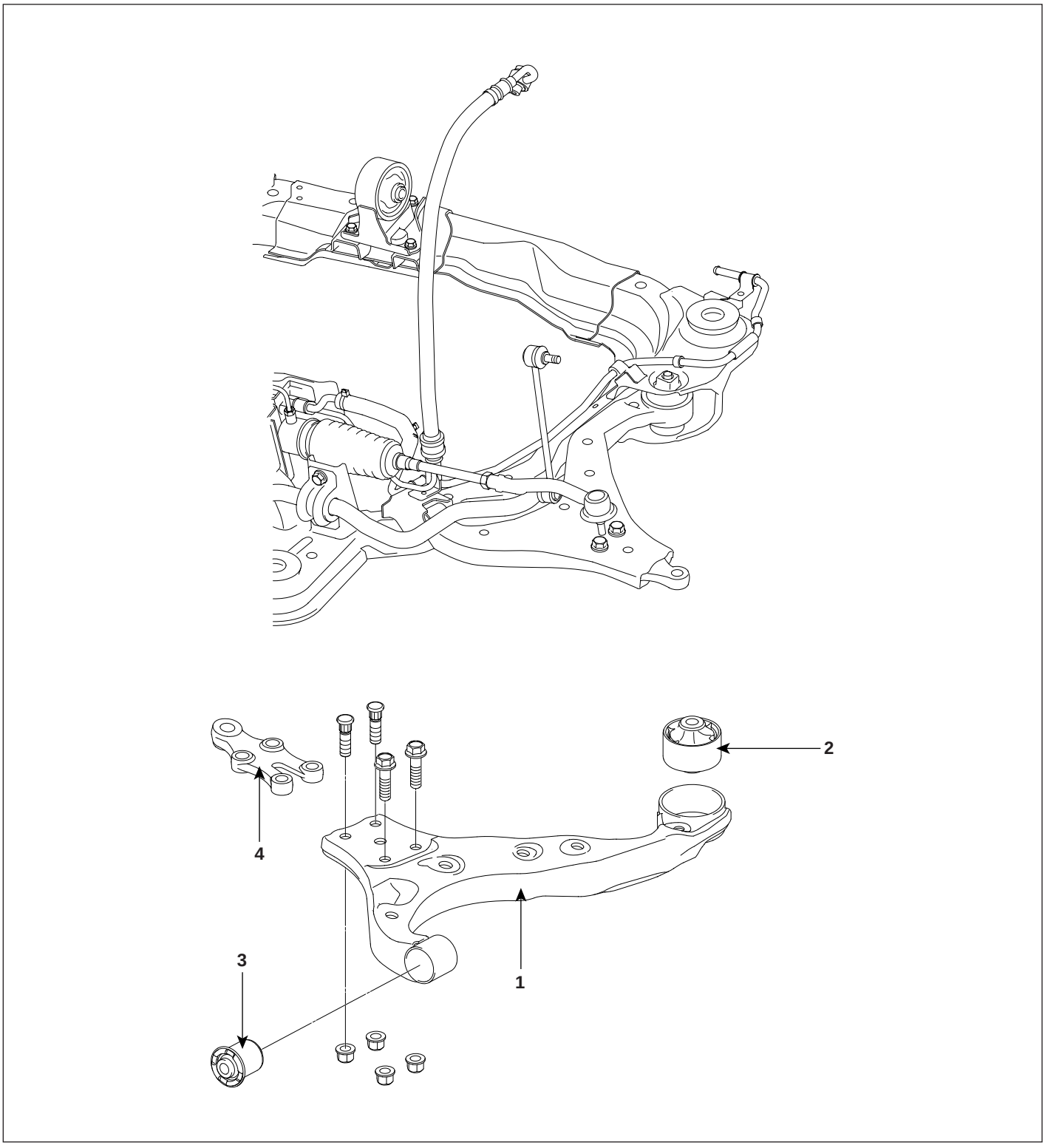
AHIE101B

CAUTION

Be careful not to damage the hub bolts(C) then install the front wheel and tire(A).

FRONT LOWER ARM

COMPONENTS EF9CCCB9



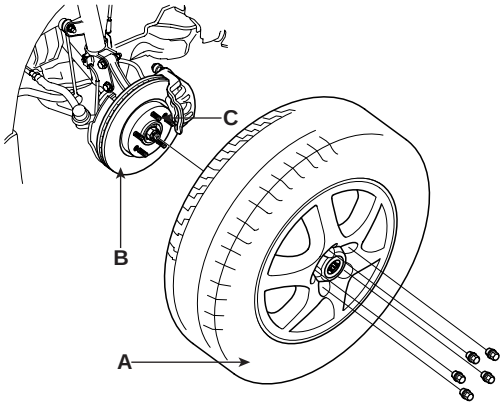
1. Lower arm
2. G bushing
3. A bushing
4. Connector

LHIE102A

REMOVAL E6E7213D

1. Loosen the wheel nuts slightly.
   Raise the front of the vehicle, and make sure it is securely supported.

2. Remove the front wheel and tire(A) from front hub(B).

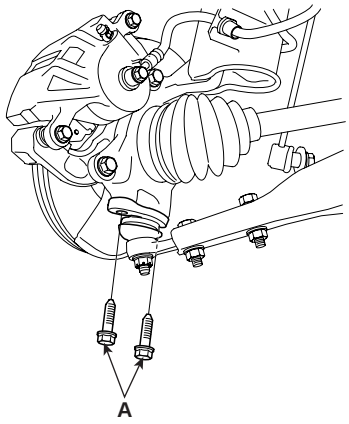


AHIE101B

CAUTION

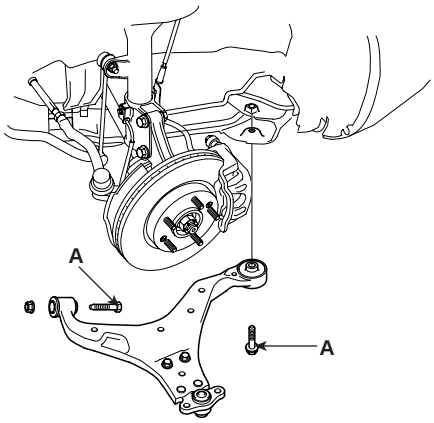
Be careful not to damage the hub bolts(C) then remove the front wheel and tire(A).

3. Remove the lower arm ball joint mounting bolts(A).



AHIE102B

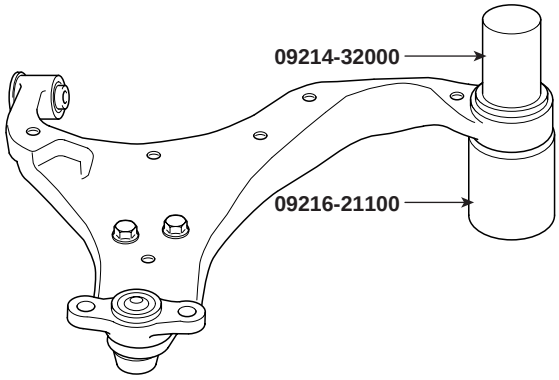
4. Remove the lower arm mounting bolts(A).



AHIE102C

REPLACEMENT EA91D83C

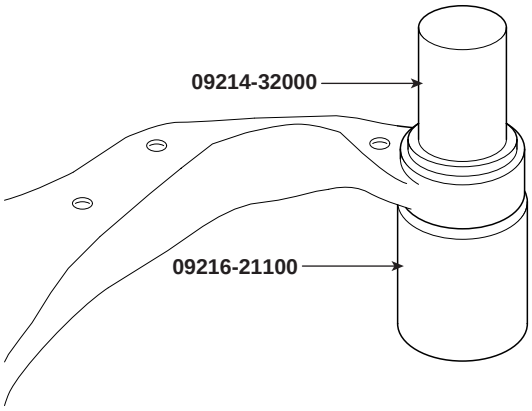
1. Using the special tools (0921-32000 & 09216-211000), remove the bushing from the lower arm.



AHIE102D

2. Apply soap solution to the following parts.
   - Outer surface of the bushing.
   - Inner surface of the lower bushing mounting part.

3. Using the special tools (09214-32000 & 09216-21100), install the busing on the lower arm.

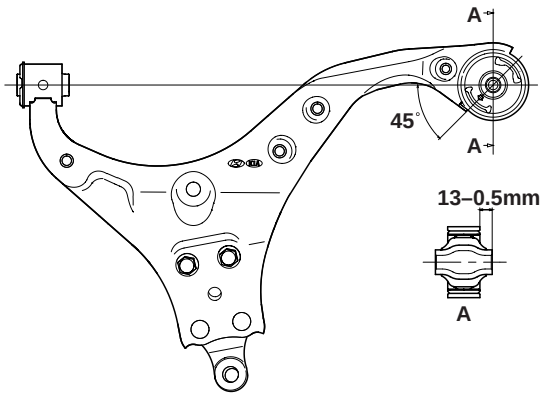


AHIE102E

CAUTION

Insert bush as to arrow direct toward this dir shown.

Separation force is over 800Kg

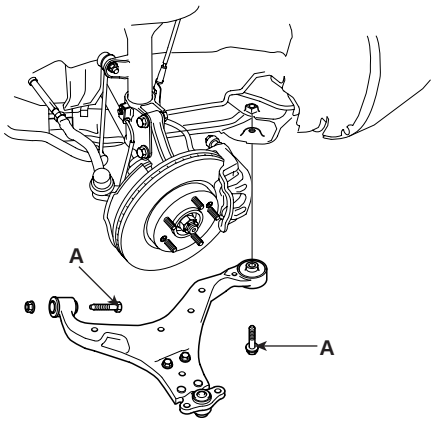


AHIE102F

INSTALLATION EDA1A6C9

1. Install the lower arm mounting bolts(A).

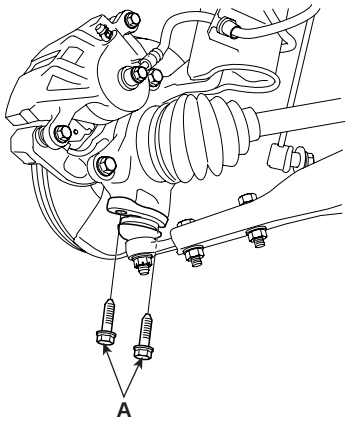
Tightening torque :
A bushing :
100~120 Nm (10~12 Kgf·m, 73.8~88.5 Ibf·ft)
G bushing :
140~160 Nm (14~16 Kgf·m, 103.3~118.0 Ibf·ft)



AHIE102C

2. Install the lower arm ball joint mounting bolts(A).

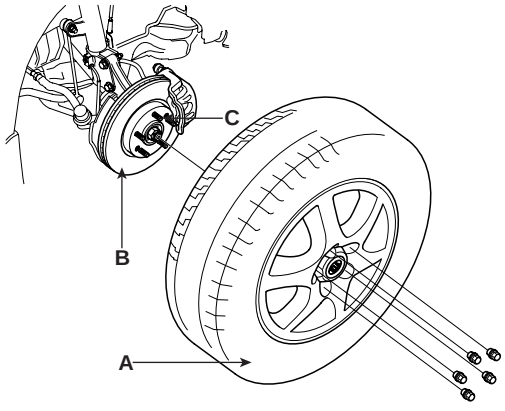
Tightening torque :
100~120 Nm (10~12 Kgf·m, 73.8~88.5 Ibf·ft)



AHIE102B

3. Install the front wheel and tire(A) on the front hub(B).

Tightening torque :
90~110 Nm (9~11 Kgf·m, 66.4~81.2 Ibf·ft)



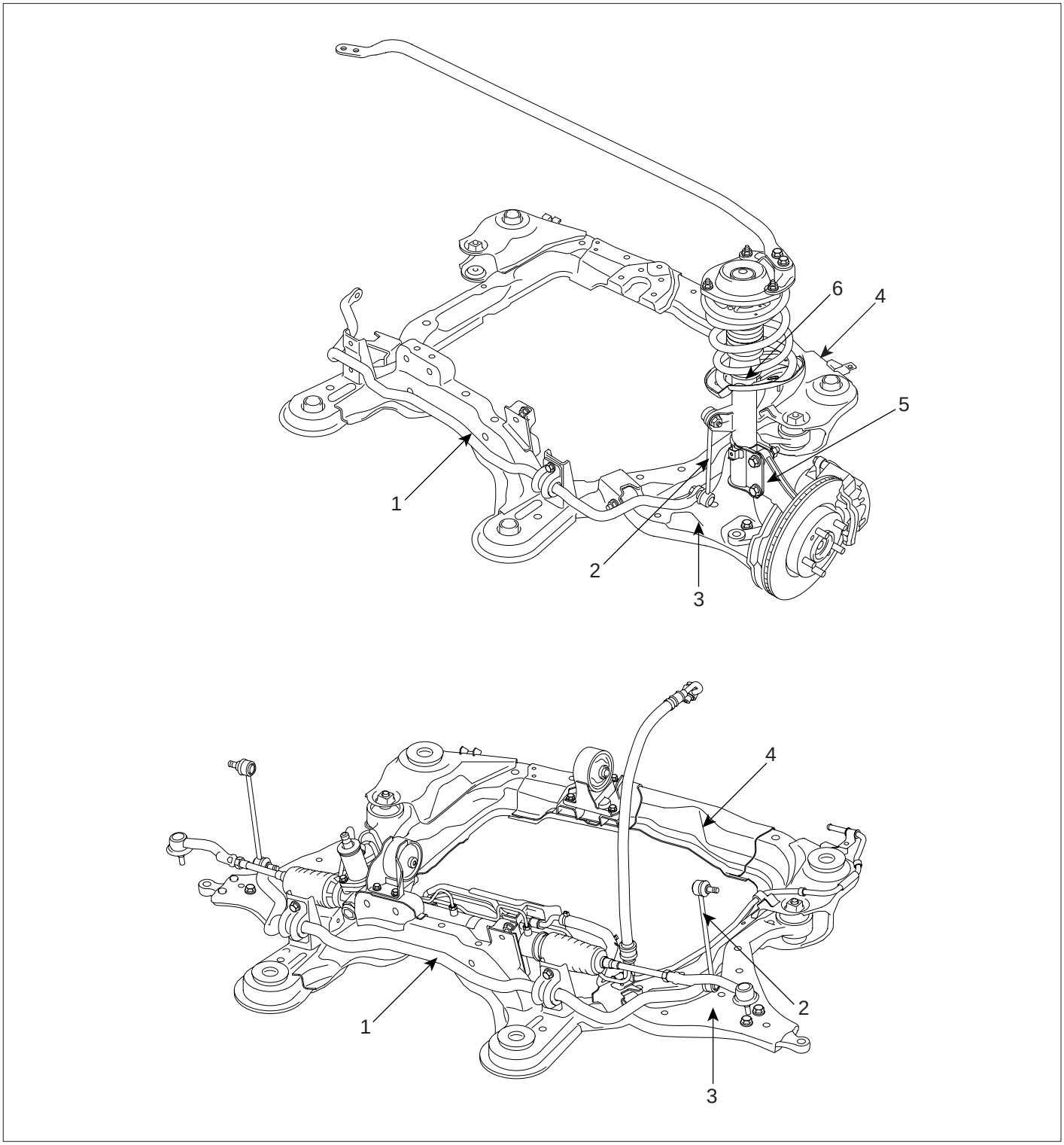
AHIE101B

CAUTION

Be careful not to damage the hub bolts(C) then install the front wheel and tire(A).

FRONT STABILIZER BAR

COMPONENTS E1AFECDF



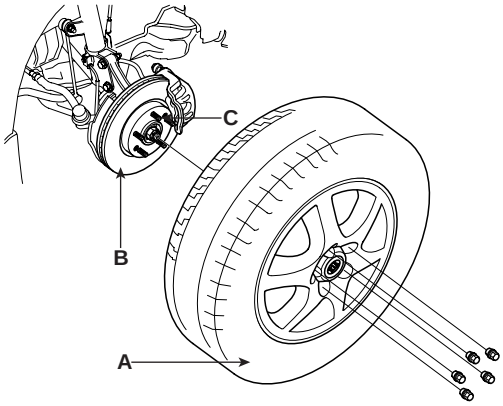
1. Stabilizer bar
2. Stabilizer bar link
3. Lower arm
4. Sub-frame
5. Knuckle
6. Strut assembly

LHIE103A

REMOVAL E44DF1D2

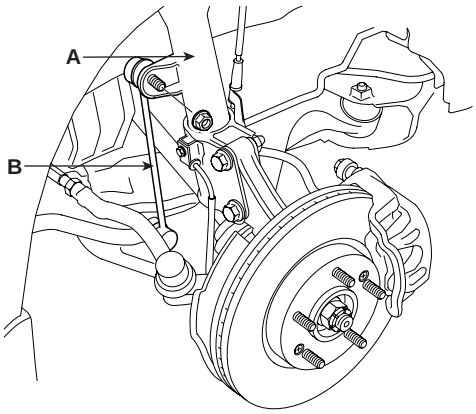
1. Loosen the wheel nuts slightly.
   Raise the front of the vehicle, and make sure it is securely supported.

2. Remove the front wheel and tire(A) from front hub(B).



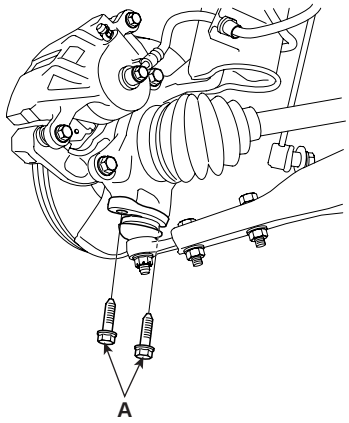
AHIE101B

3. Remove the stabilizer bar link(B) from the strut assmembly(A).



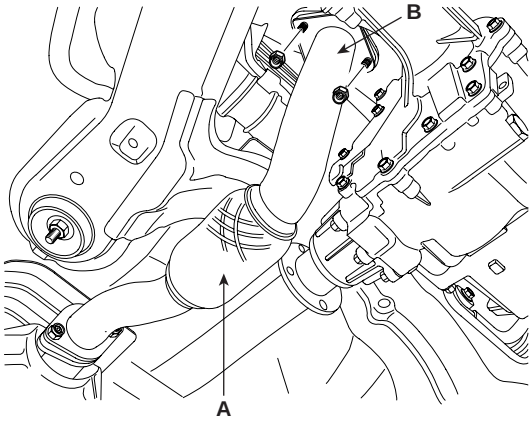
APIE103F

4. Remove the two bolts(A) for lower arm ball joint.



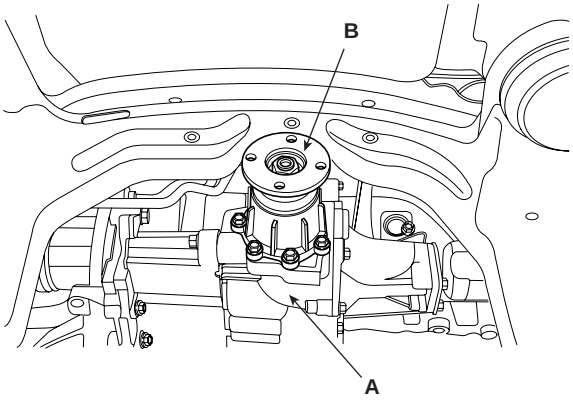
APIE103G

5. Dissassemble the propeller shaft(A) to the front muffler assembly(B).



APIE103H

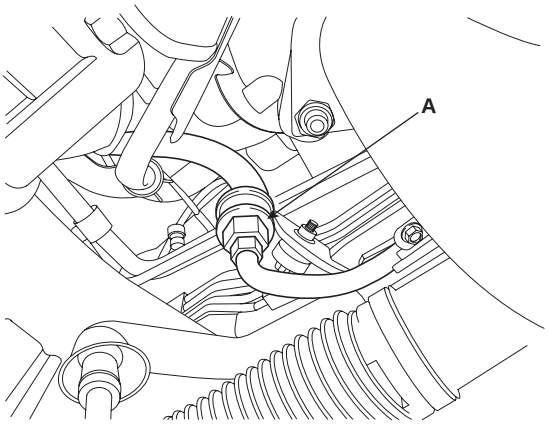
6. Drain oil from the transfer case(A). then remove the rear flange assmbly(B).



APIE103I

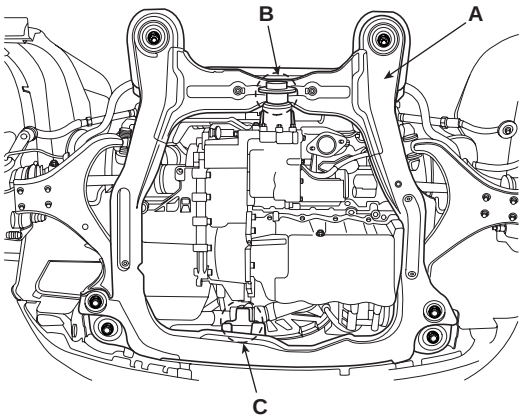
7. Drain power steering oil.

8. Remove the connecting bolt(A) for pressure tubes.



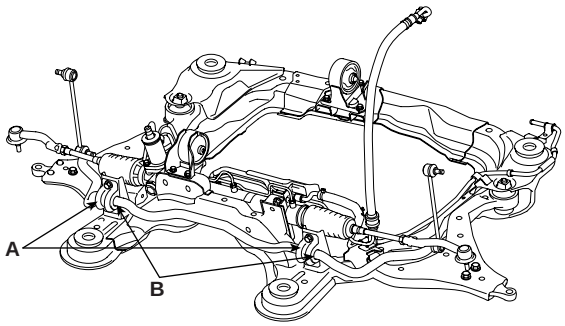
APIE103J

9. Remove two engline mounting bolts(B,C) and six subframe mounting bolts in order to remove the subframe(A).



APIE103K

10. Remove both two stabilizer brackets and two bushes respcetively.



AHIE103H

11. Remove the stabilizer bar.

CAUTION

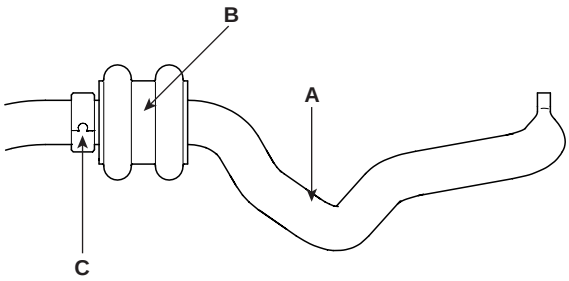
Be careful not to do damage to pressure tubes.

INSPECTION E19858DE

1. Check the stabilizer bar for deterioration and damage.
2. Check all bolts for damage and deformation.
3. Check the stabilizer link dust cover for cracks or damage.

INSTALLATION EE2B0DA3

1. Install the bushing(B) on the stabilizer bar(A).



AHIE106I

NOTE

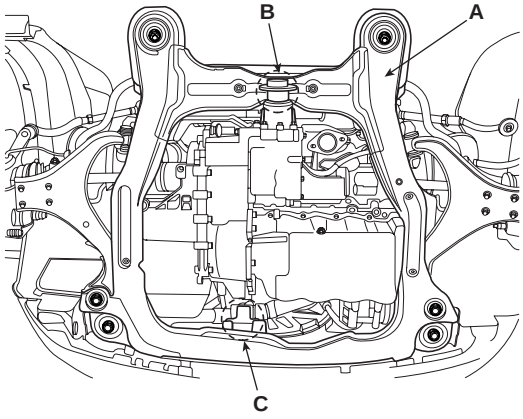
Bring clamp(C) of stabilizer bar(A) into contact with bushing(B).

2. Install the bracket on the bushing(B).
3. After tightening the bolts of the bushing bracket temporarily, install the bushing bracket on the opposite side.

Tightening torque :
45~55 Nm (4.5~5.5 Kgf·m, 33.2~40.6 Ibf·ft)

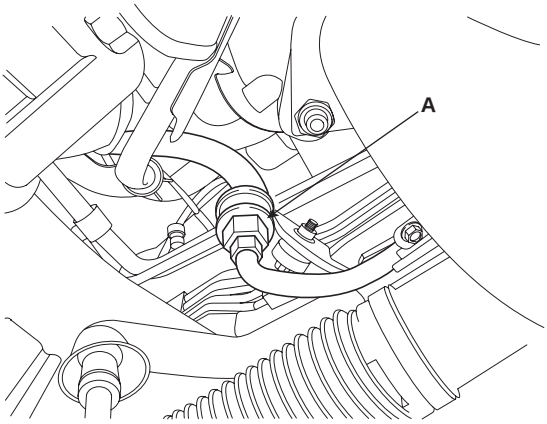
4. Install the six subframe mounting bolts, then the two engine mounting bolts(B,C).

Tightening torque :
50~65 Nm (5~6.5 Kgf·m, 36.9~48.0 Ibf·ft)



APIE103K

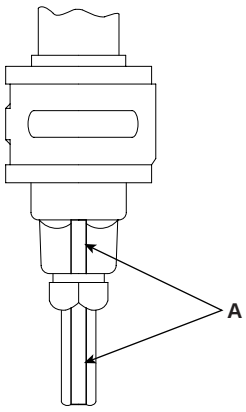
5. Install the connecting blot(A) for pressure tubes.



APIE103J

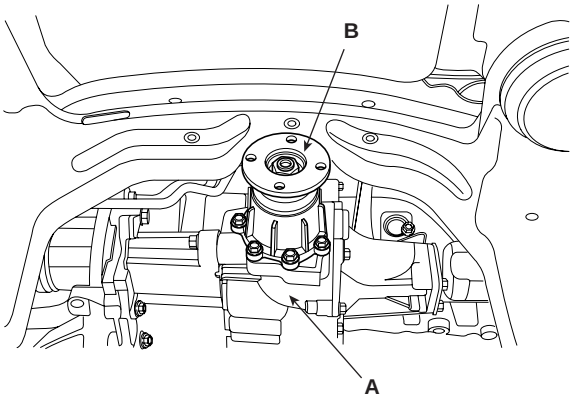
CAUTION

Be sure to parallel the white marks(A) on the tube and the hose.



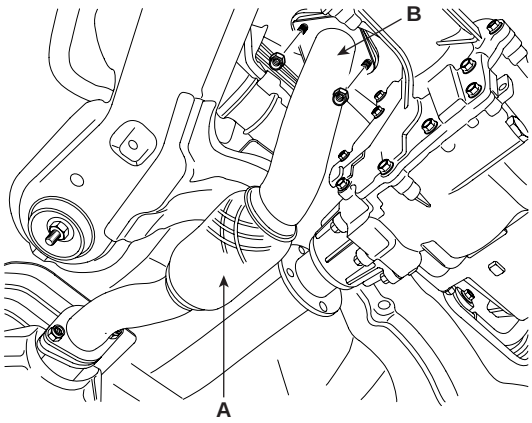
APIE105G

6. Install the rear flange assembly(B) to the transfer case(A).



APIE103I

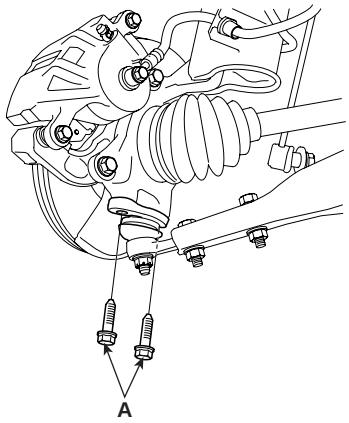
7. Install the propeller shaft(A), then the front mufler assembly(B).



APIE103H

8. Install the two bolts(A) for the lower arm ball joint.

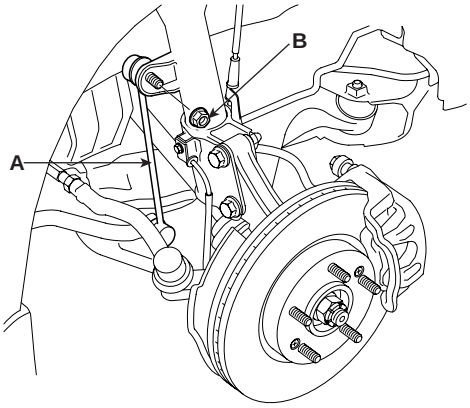
Tightening torque :
100~120 Nm (10~12 Kgf·m, 73.8~88.5 Ibf·ft)



APIE103G

9. Install the nut(B) on the stabilizer bar link(A).

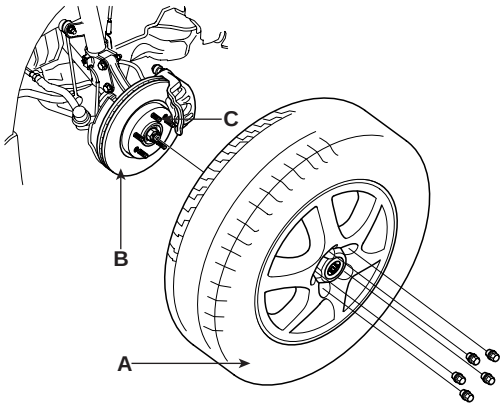
Tightening torque :
100~120 Nm (10~12 Kgf·m, 73.8~88.5 Ibf·ft)



AHIE101E

10. Install the front wheel and tire(A) on thr front hub(B).

Tightening torque :
90~110 Nm (9~11 Kgf·m, 66.4~81.2 Ibf·ft)



AHIE101B

CAUTION

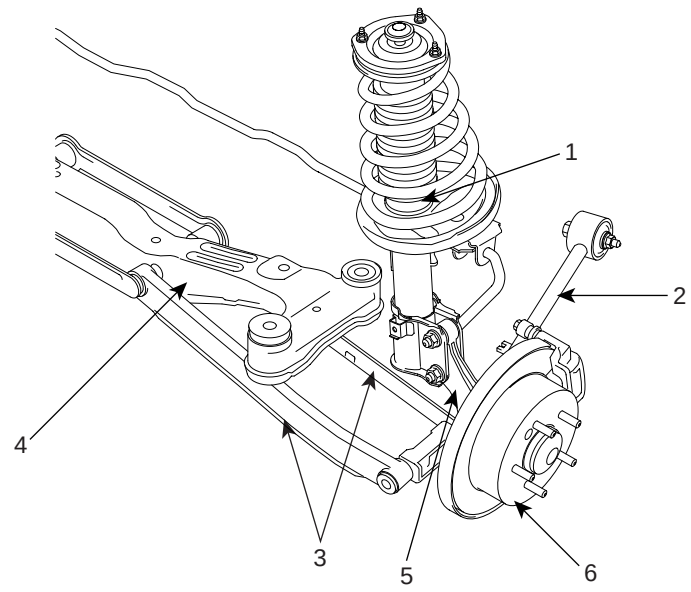
Be careful not to do damage the hub bolts(C) then install the front wheel and tire(A).

REAR SUSPENSION SYSTEM

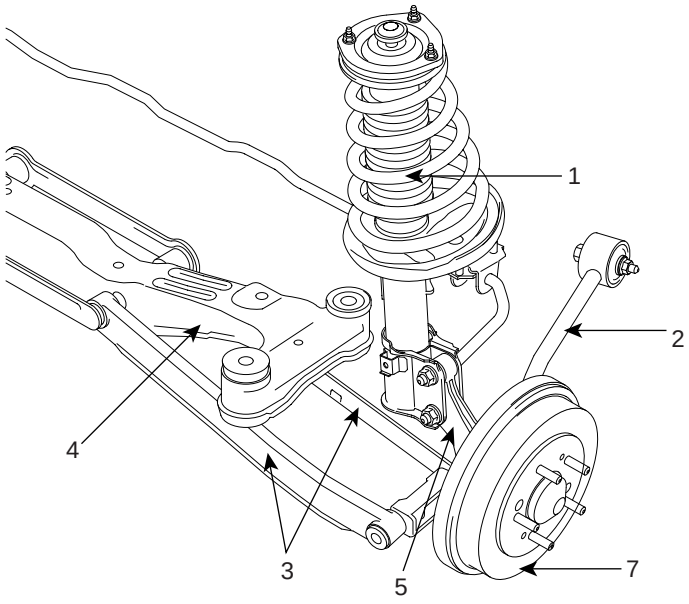
REAR STRUT ASSEMBLY

COMPONENT LOCATION E35ED6D4

[2WD-DISC TYPE]

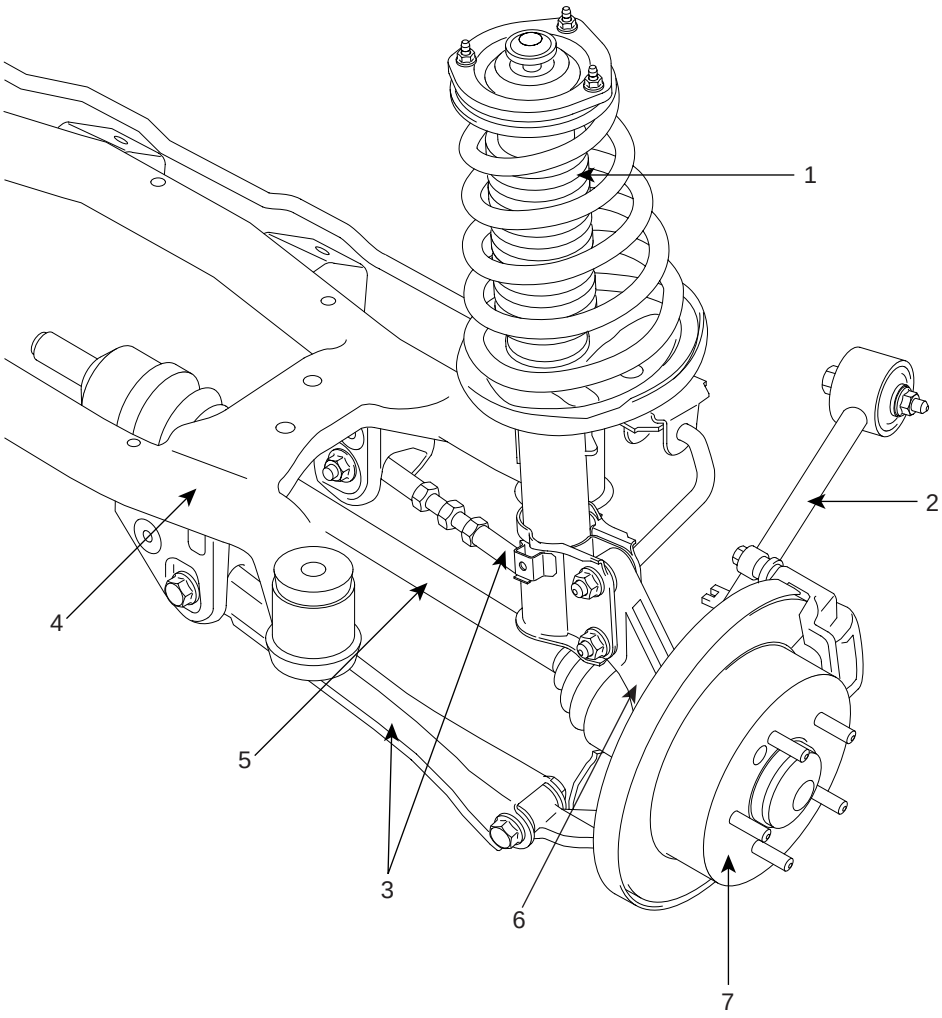


[2WD-DRUM TYPE]



1. Strut assembly
2. Trailing arm
3. Suspension arm
4. Cross member
5. Carrier
6. Disc brake assembly
7. Drum brake assembly

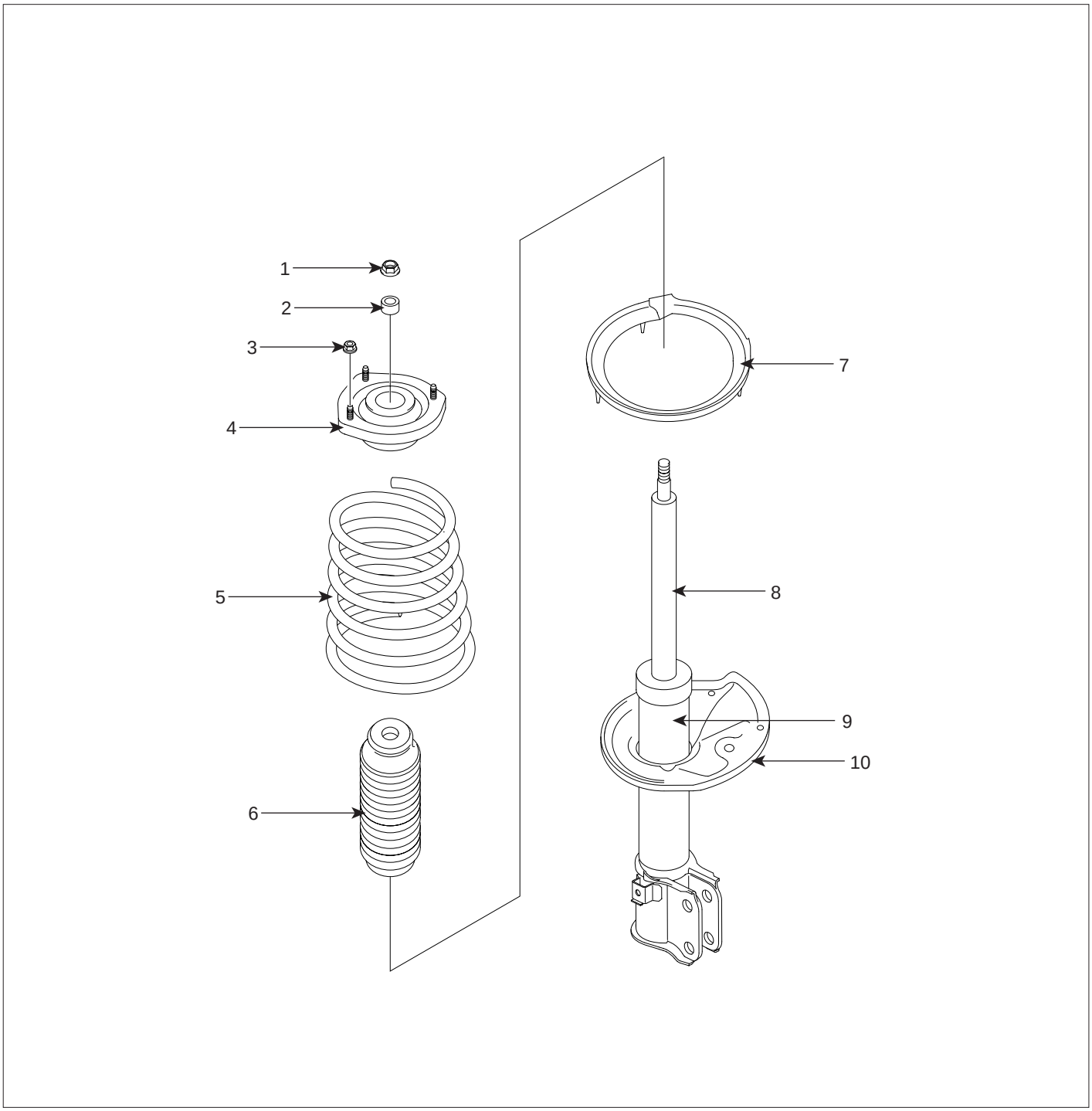
[4WD]



1. Strut assembly
2. Trailing arm
3. Suspension arm
4. Cross member
5. Drive shaft
6. Carrier
7. Disc brake assembly

LHIE105C

COMPONENTS EA324360



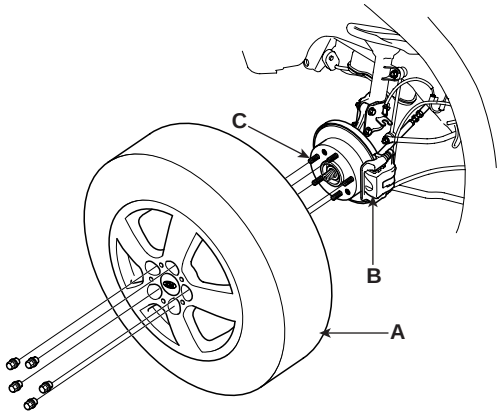
1. Self-locking nut
2. Spacer
3. Upper mounting nut
4. Insulator
5. Coil spring
6. Strut dust cover & bumper rubber
7. Spring lower pad
8. Piston rod
9. Strut assembly
10. Spring lower seat

LHIE105A

REMOVAL E465E169

1. Loosen the wheel nuts slightly.
   Raise the rear of the vehicle, and make sure it is securely supported.

2. Remove the rear wheel and tire(A) from rear hub(B).

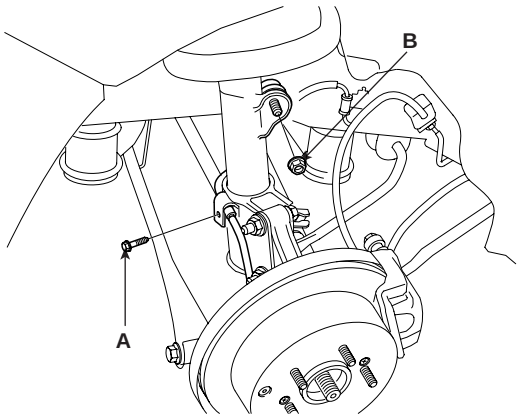


AHIE105D

CAUTION

Be careful not to damage the hub bolts(C) then remove the rear wheel and tire(A).

3. Remove the speed sensor cable monting bolt(A).



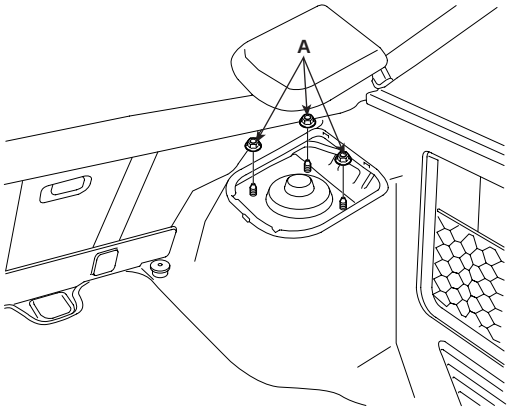
AHIE105E

NOTE

Drum brake type :
Remove the speed sensor cable mounting bolts(2EA) and the brake hose bracket.
Disc brake type :
Remove the speed sensor cable mounting bolt(1EA)

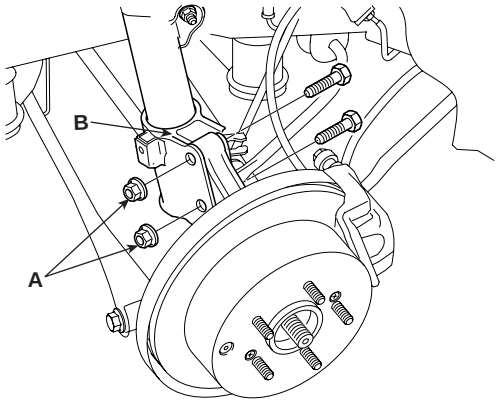
4. Remove the stabilizer bar link nut(B).

5. Remove the strut upper mounting nut(A).



AHIE105F

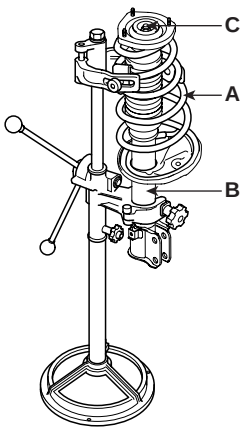
6. Remove the strut lower mounting bolts(A) and then remove the strut assembly(B).



AHIE105G

DISASSEMBLY EDE3FDFC

1. Using the special tool(09545-26000), compress the coil spring(A) until there is only a little tension on the strut(B).



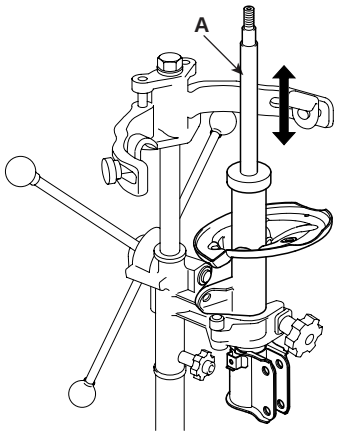
AHIE105H

2. Remove the self-locking nut(C) from the strut(B).

3. Remove the pipe, insulator, spring seat, coil spring and dust cover from the strut(B).

INSPECTION E81AA4F7

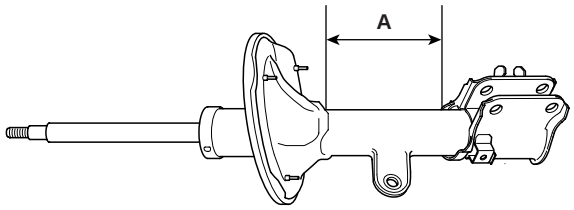
1. Check the insulator for wear or damage.
2. Check rubber parts for damage or deterioration.
3. Compress and extend the piston rod(A) and check that there is no abnormal resistance or unusual sound during operating.



AHIE101L

DISPOSAL EE54F99A

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



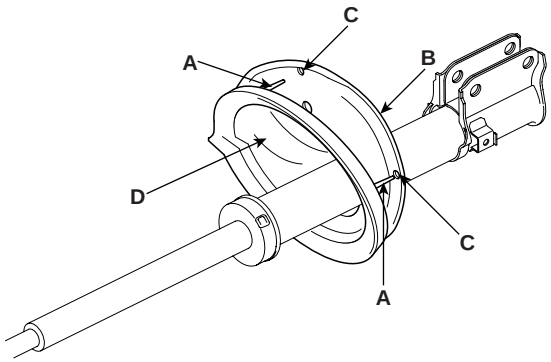
AHIE101K

CAUTION

The gas coming out is harmless, but be careful of chips that may fly when drilling.

REASSEMBLY EB4C4BF6

1. Install the spring lower pad(D) so that the protrusions(A) fit in the holes(C) in the spring lower seat(B).



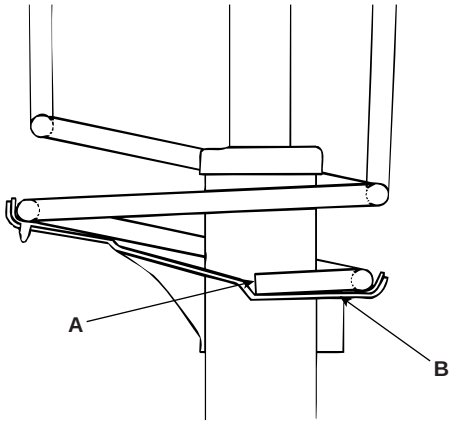
AHIE101S

2. Compress coil spring using special tool(09546-26000).
   Install compressed coil spring into shock absorber.

NOTE

a. Indicated two idenitification color marks on the coil spring one follows model option (see page SS-2) the other follows load classification according to the below.
Pay attention to distinguish between the two marks and then install them.
b. Install the coil spring with the identification mark directed toward the knuckle.

3. After fully extending the piston rod, install the spring upper seat and insulator assembly.
4. After seating the upper and lower ends of the coil spring(A) in the upper and lower spring seat grooves(B) correctly, tighten new self-locking nut temporarily.



AHIE101T

5. Remove the special tool(09546-26000).

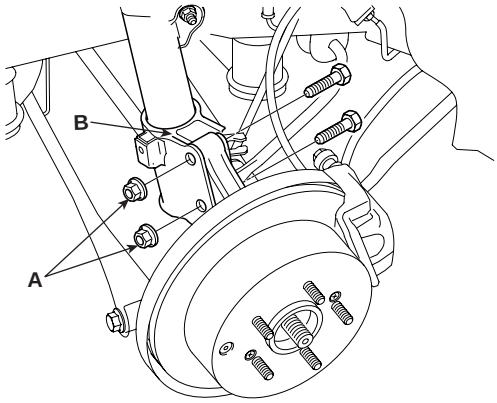
6. Tighten the self-locking nut to the specified torque.

Tightening torque :
40~55 Nm (4~5.5 Kgf·m, 29.5~40.6 lbf·ft)

INSTALLATION E9EDB9E4

1. Install the strut assembly(B) and then install the strut lower mounting bolts(A).

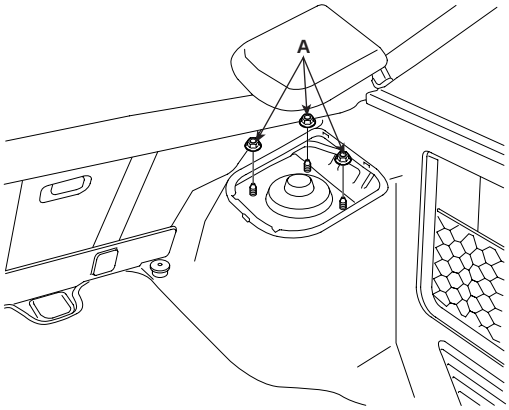
Tightening torque :
140~160 Nm (14~16 Kgf·m, 103.3~118.0 lbf·ft)



AHIE105G

2. Install the strut upper mounting nuts(A).

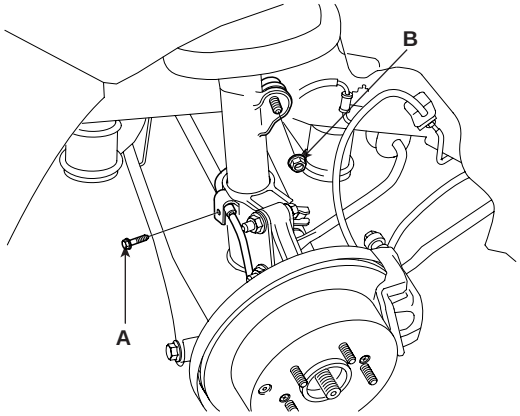
Tightening torque :
30~40 Nm (3~4 Kgf·m, 22.1~29.5 lbf·ft)



AHIE105F

3. Install stabilizer bar link nut(B).

Tightening torque :
100~120 Nm (10~12 Kgf·m, 73.8~88.5 lbf·ft)



AHIE105E

4. Install the speed sensor cable mounting bolt(A).

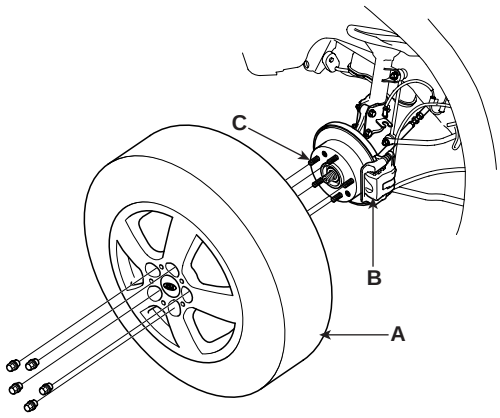
Tightening torque :
7~11 Nm (0.7~1.1 Kgf·m, 5.2~8.1 lbf·ft)

NOTE

Drum brake type :
Install the speed sensor cable mounting bolts(2EA) and the brake hose bracket.
Disc brake tyep :
Install the speed sensor cable mounting bolt(1EA)

5. Install the rear wheel and tire(A) on the rear hub(B).

Tightening torque :
90~110 Nm (9~11 Kgf·m, 66.4~81.2 lbf·ft)



AHIE105D

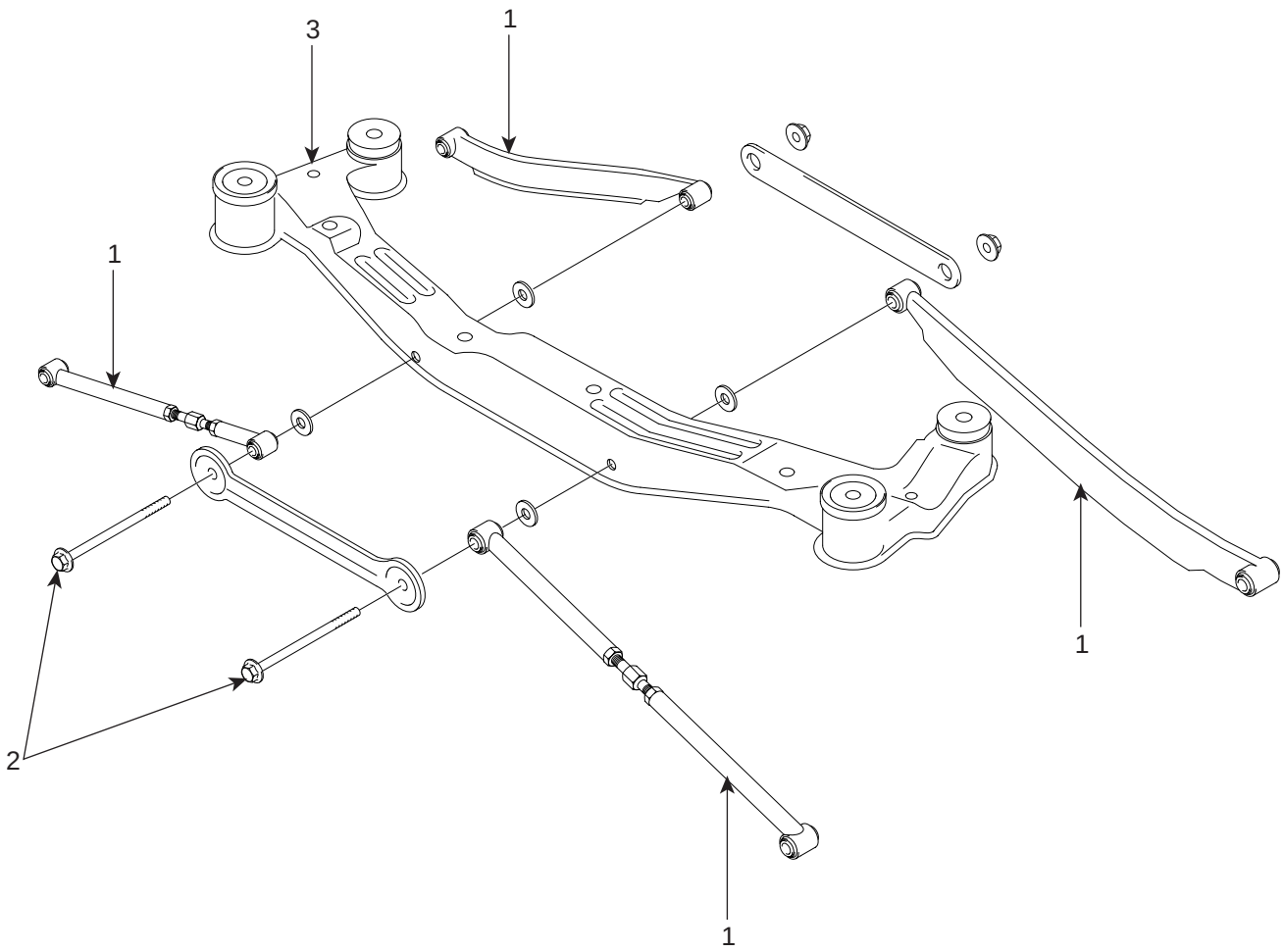
CAUTION

Be careful not to damage the hub bolts(C) then install the rear wheel and tire(A).

REAR SUSPENSION ARM

COMPONENTS EC4A6D01

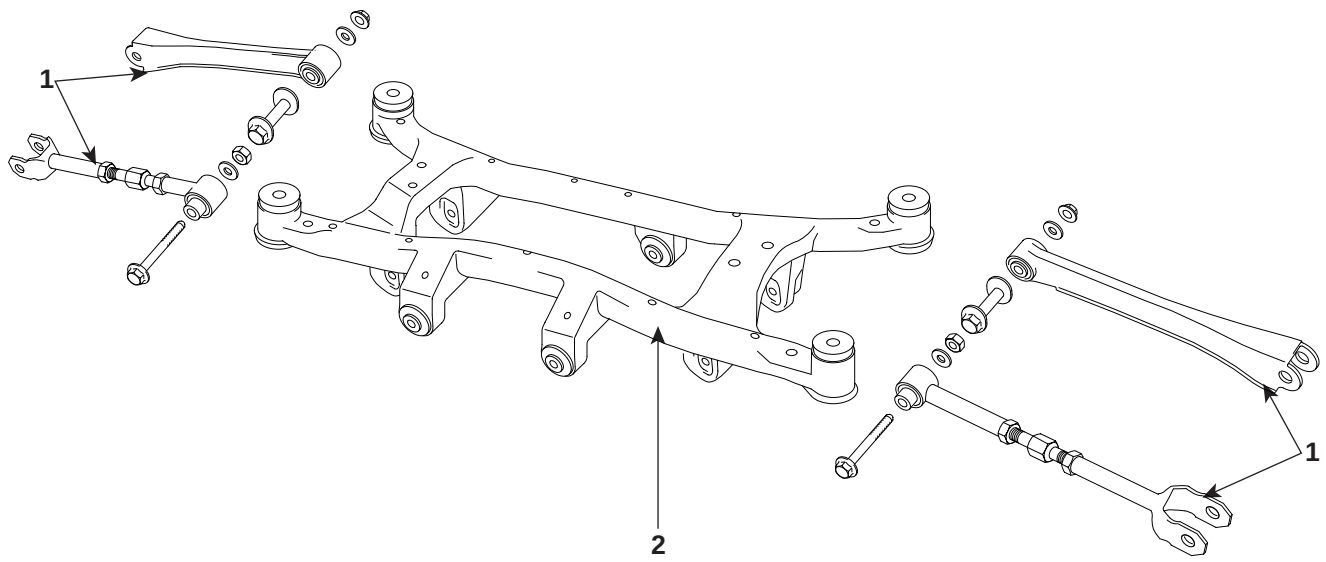
[2WD]



1. Suspension arm
2. Suspension arm bracket mounting bolt
3. Cross member

LHIE104A

[4WD]



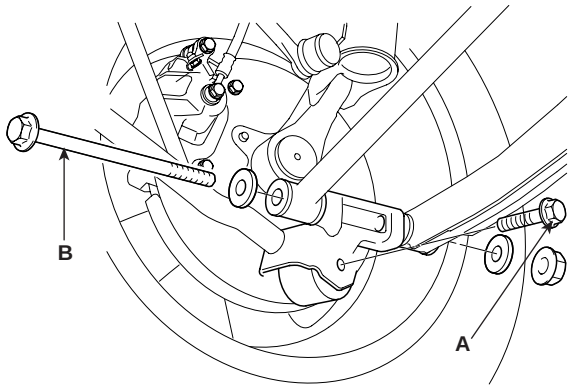
1. Suspension arm
2. Cross member

LHIE104B

REPLACEMENT E1BDDCAE

[2WD]

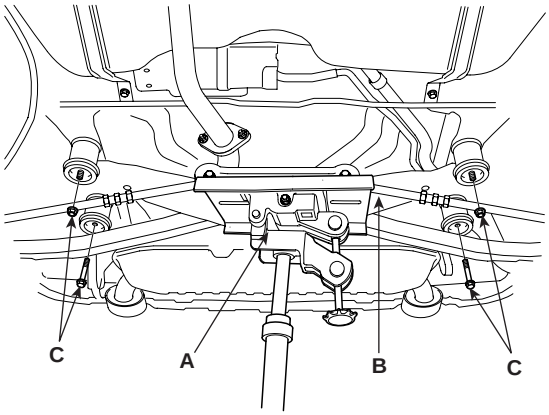
1. Remove the trailing arm mounting bolt(A) and suspension arm mounting bolt(B).



AHIE104C

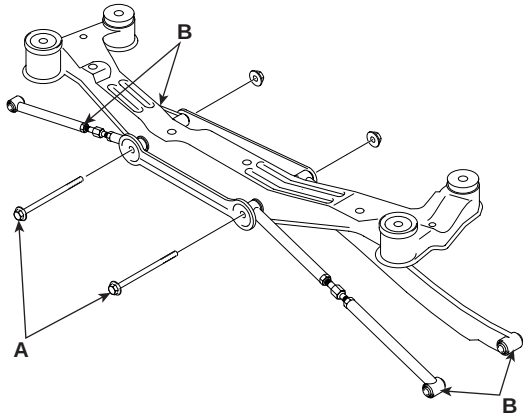
2. Remove the opposite side trailing arm mounting bolt and suspension arm mounting bolt.

3. After supporting the rear cross member assembly(B) with the jack(A), remove the cross member mounting bolts and nuts(C).



AHIE104D

4. Remove the suspension arm bracket mounting bolts(A).

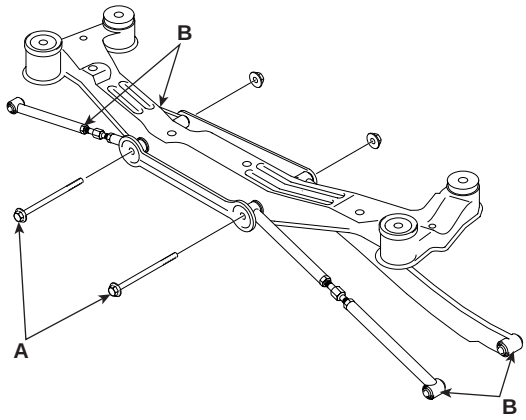


AHIE104E

5. Remove the suspension arm(B).

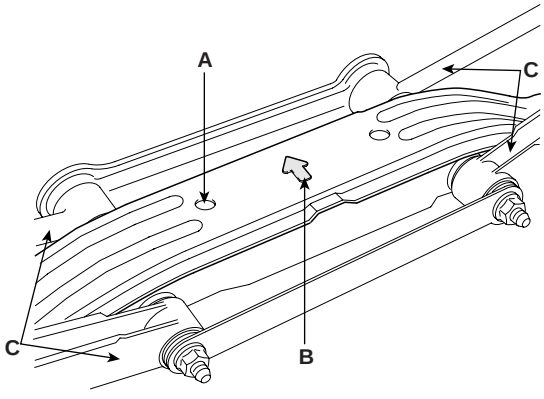
6. Install the suspension arm bracket mounting bolts(A).

Tightening torque :
160~180 Nm (16~18 Kgf·m, 118.0~132.8 Ibf·ft)



AHIE104E

7. Make sure that the arrow mark(B) on the rear cross member(A) should place the front face of the vehicle.



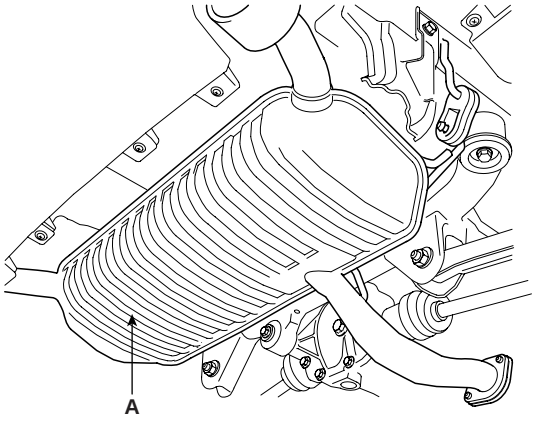
AHIE104G

8. Rear suspension arm(C)-to-rear carrier bolts should be temporarily tightened, and then fully tightened with the vehicle on the ground in unloaded condition.

Tightening torque :
160~180 Nm (16~18 Kgf·m, 118.0~132.8 Ibf·ft)

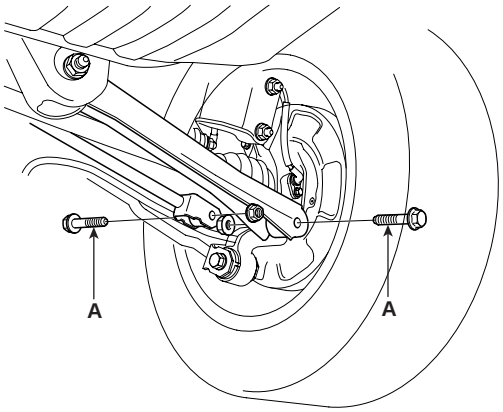
[4WD]

1. Remove the muffler(A).



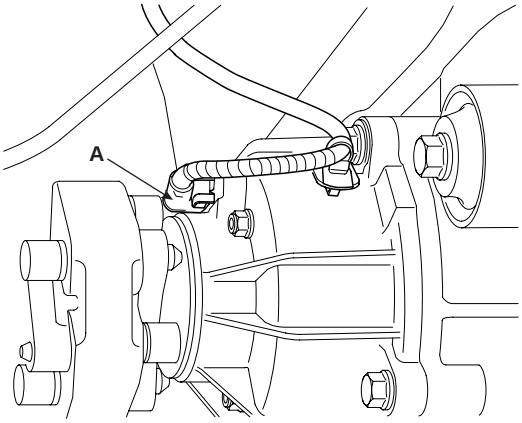
AHIE104H

2. Remove the suspension arm mounting bolts(A).



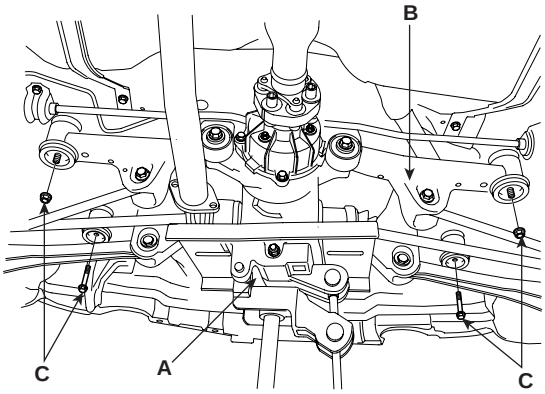
AHIE104I

3. Remove the opposite side suspension mounting bolts.
4. Remove the coupling control connector(A).



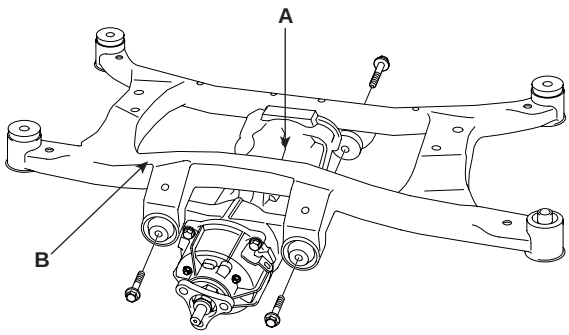
AHIE104J

5. After supporting the rear cross member assembly(B) with a jack(A), remove the cross member mounting bolts and nuts(C).



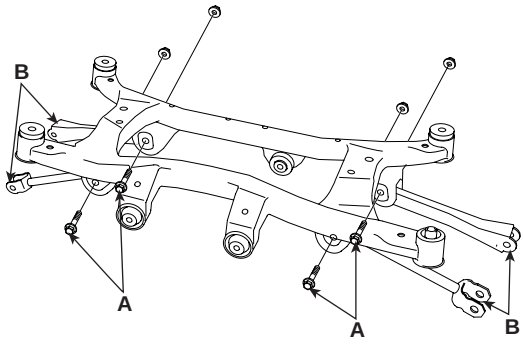
AHIE104K

6. Remove the propeller shaft. (see page DS-propeller shaft)
7. Remove the rear differential(A) from the cross member(B).



AHIE104L

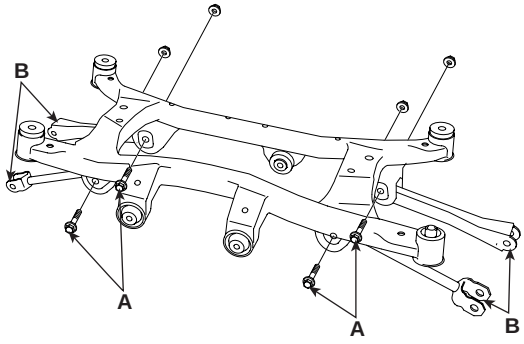
8. Remove the suspension arm bracket mounting bolts(A).



AHIE104M

9. Remove the suspension arm(B).
10. Install the suspension arm bracket mounting bolts(A).

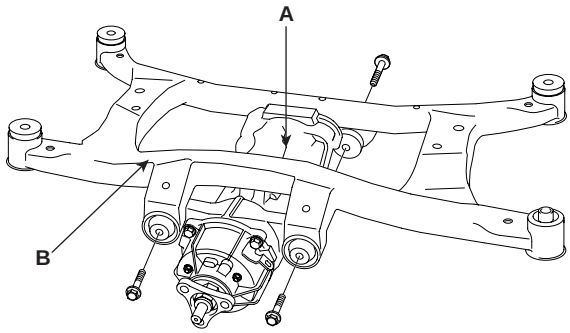
Tightening torque :
140~160 Nm (14~16 Kgf·m, 103.3~118.0 Ibf·ft)



AHIE104M

11. Install the rear differential(A) on the cross member(B).

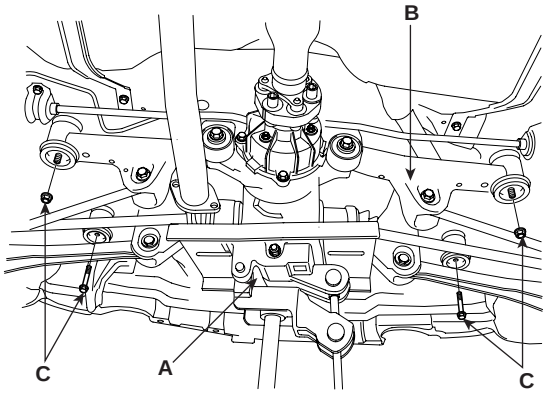
Tightening torque :
90~120 Nm (9~12 Kgf·m, 59.0~88.5 Ibf·ft)



AHIE104L

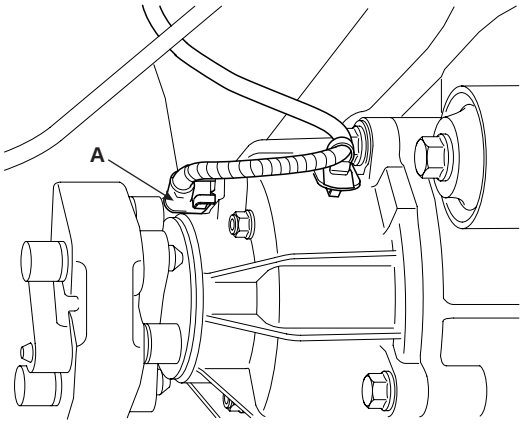
12. Install the propeller shaft. (see page DS-propeller shaft)
13. After supporting the rear cross member assembly(B) with the jack(A), install the cross member mounting bolts and nuts(C).

Tightening torque :
100~120 Nm (10~12 Kgf·m, 73.8~88.5 Ibf·ft)



AHIE104K

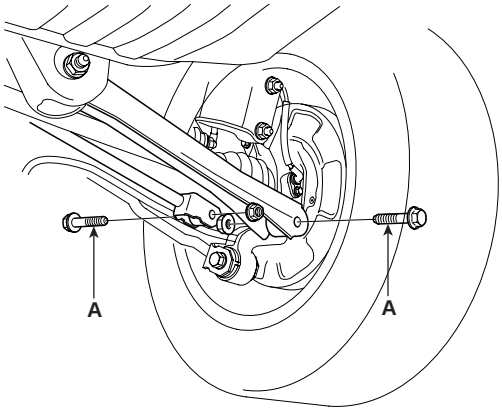
14. Install the coupling control connector(A).



AHIE104J

15. Rear suspension arm-to-rear carrier bolts(A) should be temporarily tightened, and then fully tightened with the vehicle on the ground in unloaded condition.

Tightening torque :
140~160 Nm (14~16 Kgf·m, 103.3~118.0 Ibf·ft)

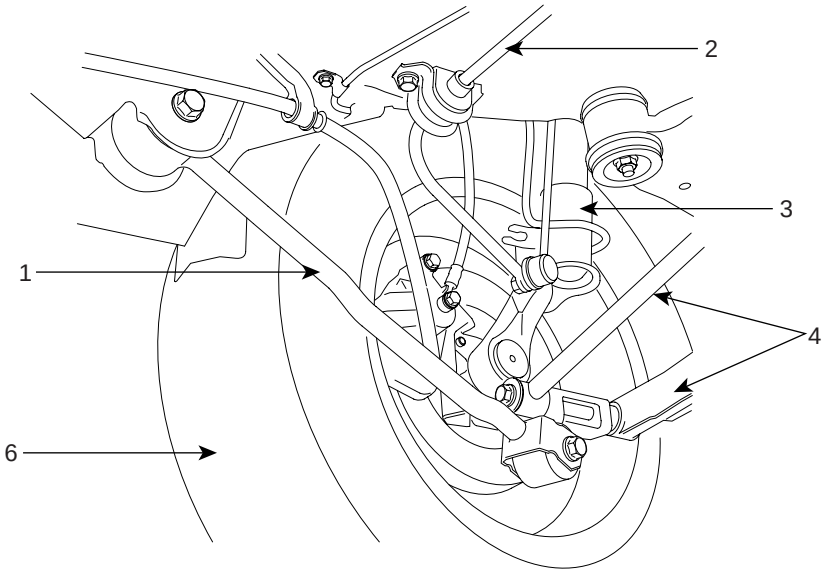


AHIE104I

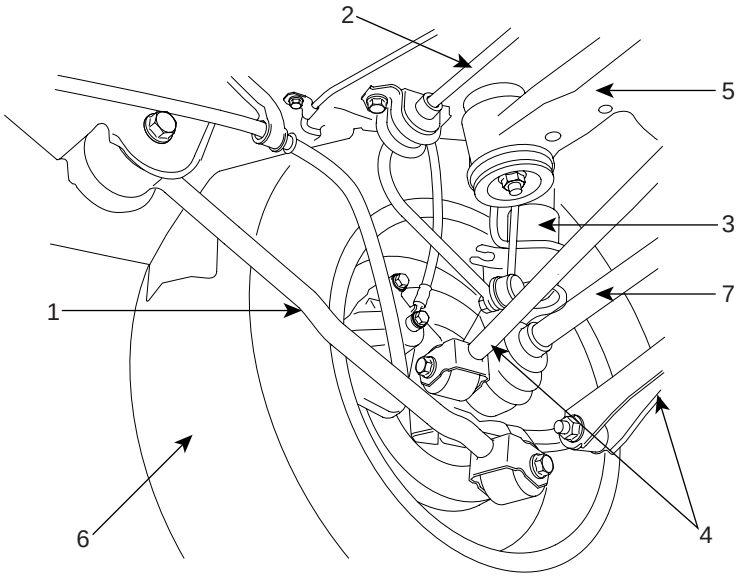
TRAILING ARM

COMPONENTS E5D9812E

[2WD]



[4WD]

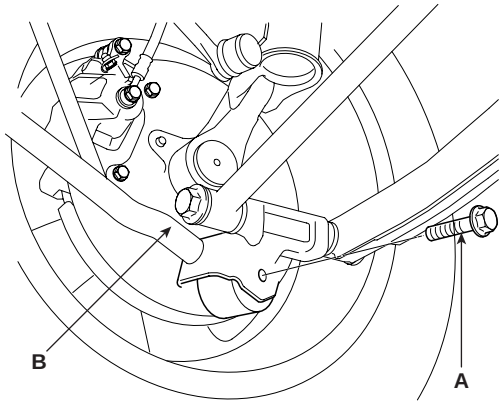


1. Trailing arm
2. Stabilizer bar
3. Strut assembly
4. Suspension arm
5. Cross member
6. Tire
7. Drive shaft

LHIE106A

REMOVAL E069C8BB

1. Remove the trailing arm mounting bolts(A).



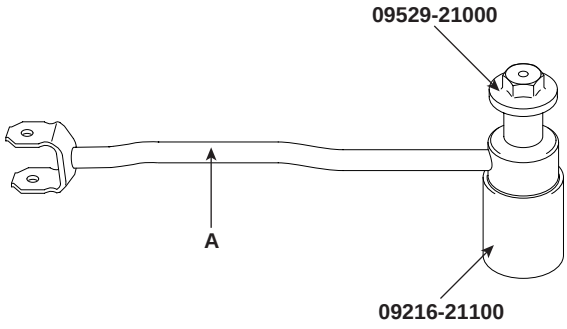
AHIE106B

2. Remove the bracket mounting bolt, nut of the vehicle side.
3. Remove the trailing arm(B).

REPLACEMENT E6DEADC2

TRAILING ARM BUSHING

1. Install the special tools(0952 -21000 & 09216-21100) on the trailing arm(A).



AHIE106C

2. Remove the bushing from the trailing arm(A).
3. Using the special tools(09529-21000 & 09216-21100), press-fit the rear trailing arm bushing.

Separation force is over 300Kg

NOTE

Insert bush as to arrow direct toward trailing arm length.

INSTALLATION EF03B435

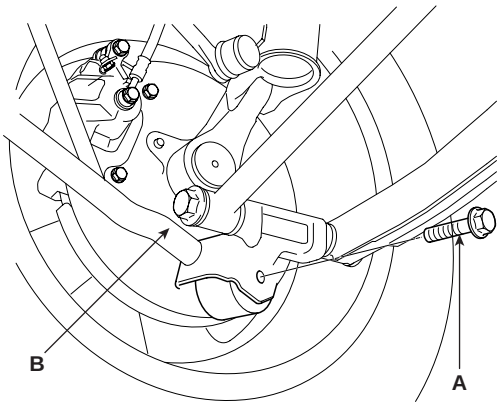
Install the trailing arm(B).

a. Install the trailing arm mounting bolt(A).

Tightening torque : 100~120 Nm (10~12 Kgf·m, 73.8~88.5 Ibf·ft)

b. Install the trailing arm bracket mounting bolt, nut.

Tightening torque : 100~120 Nm (10~12 Kgf·m, 73.8~88.5 Ibf·ft)



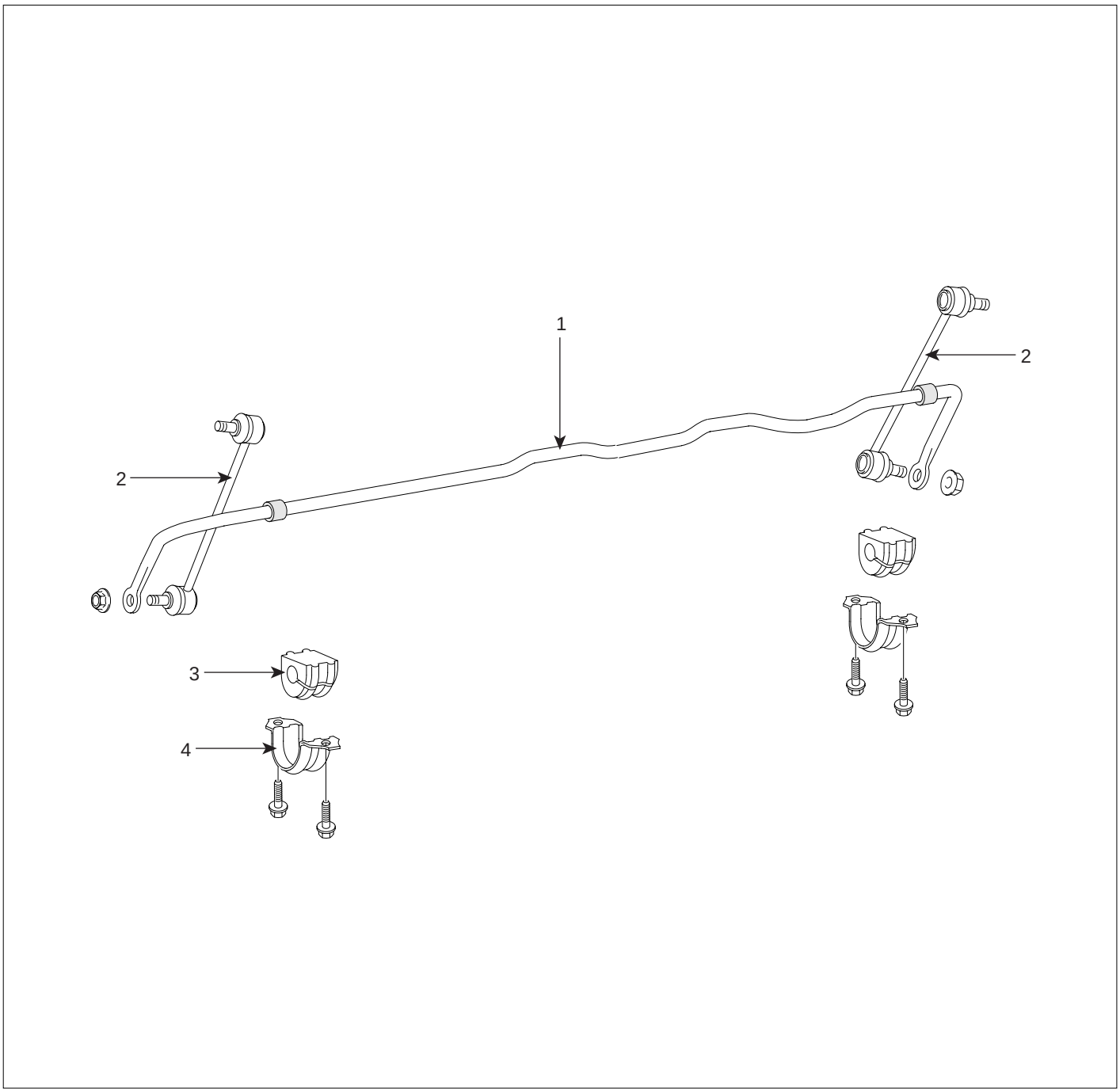
AHIE106B

NOTE

The trailing arm mounting bolts, then fully tightened with the vehicle on the ground in unloaded condition.

REAR STABILIZER BAR

COMPONENTS E33E5144



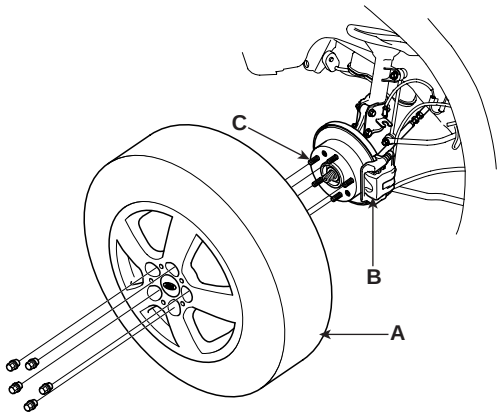
1. Stabilizer bar
2. Stabilizer bar link
3. Bushing
4. Bracket

LHIE106E

REMOVAL E8CE0949

1. Loosen the wheel nuts slightly.
   Raise the rear of the vehicle, and make sure it is securely supported.

2. Remove the rear wheel and tire(A) from rear hub(B).

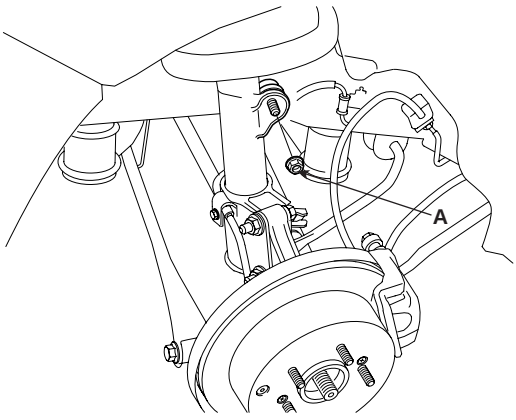


AHIE105D

CAUTION

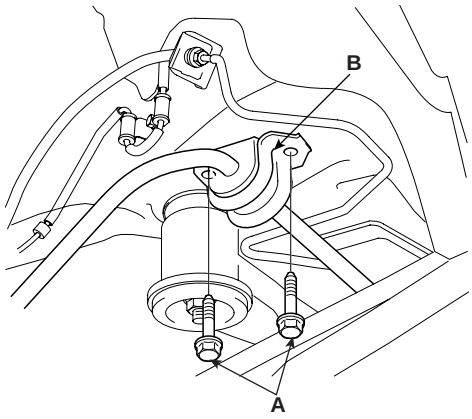
Be careful not to damage the hub bolts(C) then remove the rear wheel and tire(A).

3. Remove the stabilizer bar link mounting nut(A).



AHIE106F

4. Remove the stabilizer bar mounting bolts(A) and then remove the stabilizer bracket(B).



AHIE106G

5. Employ the same manner described above step 3 and 4 to the other side.

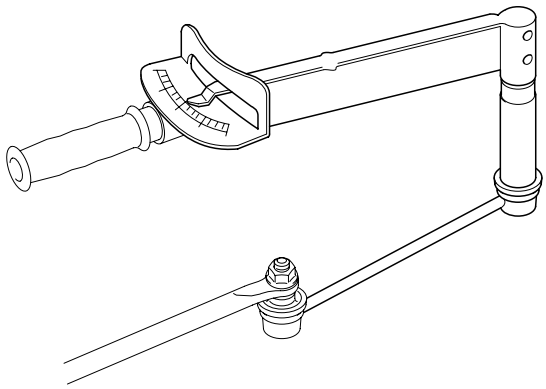
6. Remove the stabilizer bar.

INSPECTION E1BFDCD6

1. If there is a crack and damage in the dust cover, replace the stabilizer bar link.

2. Mount the self-locking nut on the ball joint, and then measure the ball joint rotating torque.

Tightening torque :
0.7~2 Nm (0.07~0.2 Kgf·m, Ibf·ft)



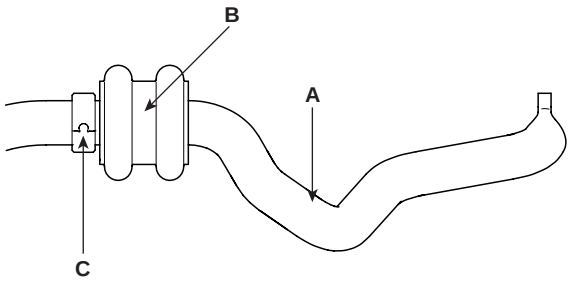
AHIE106H

3. If the rotating torque is above the upper limit of the standard value, replace the stabilizer link.

4. If the rotating torque is below the lower limit of the standard value, the ball joint may be reused unless it has drag and excessive play.

INSTALLATION ECC47D5F

1. Install the bushing(B) on the stabilizer bar(A).

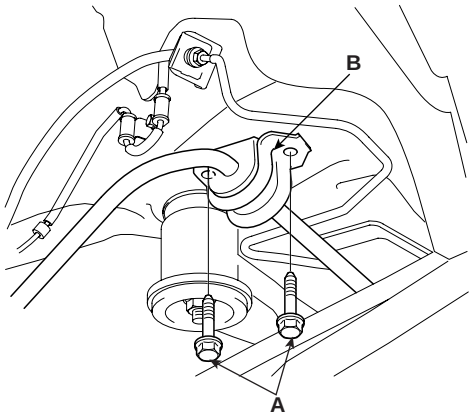


AHIE106I

NOTE

Bring clamp(C) of stabilizer bar(A) into contact with bushing(B).

2. Install the stabilizer bracket(B) and then install the stabilizer bar mounting bolts(A).



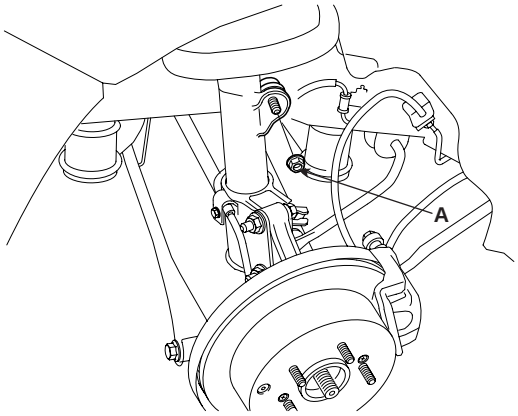
AHIE106G

3. One side bracket should be temporarily tightened, and then install the bushing on the opposite side.

Tightening torque :
45~65 Nm (4.5~6.5 Kgf·m, 33.2~40.6 Ibf·ft)

4. Install the stabilizer bar link mounting nut(A).

Tightening torque :
100~120 Nm (10~12 Kgf·m, 73.8~88.5 Ibf·ft)

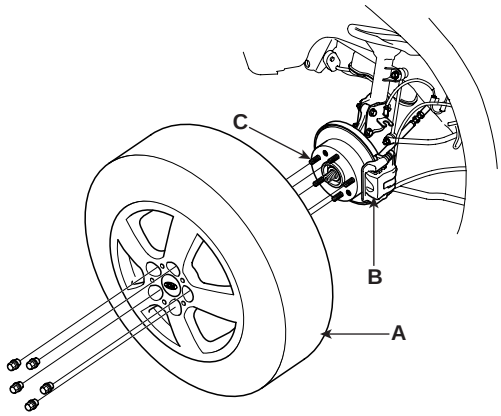


AHIE106F

5. Employ the same manner described above step 3 and 4 to the other side.

6. Install the rear wheel and tire(A) on the rear hub(B).

Tightening torque :
90~110 Nm (9~11 Kgf·m, 66.4~81.2 Ibf·ft)



AHIE105D

CAUTION

Be careful not to damage the hub bolts(C) then install the rear wheel and tire(A).

TIRES／WHEELS

FRONT WHEEL ALIGNMENT

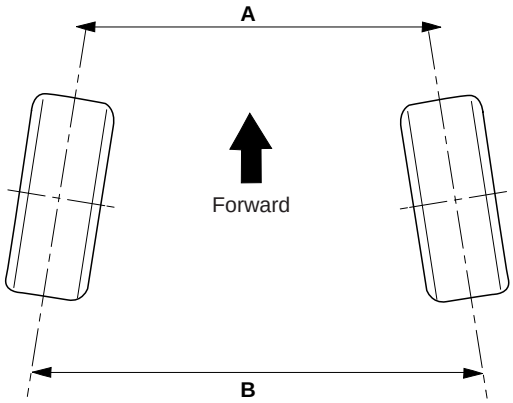
DESCRIPTION EDCB91E5

WHEEL ALIGNMENT

When using a commercially-available computerized four wheel alignment equipment (caster, camber, toe) to inspect the front wheel alignment, always position the car 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 wheels and tires facestraight ahead and the tires are inflated to the specified pressure.

TOE

Toe is a measurement of how much the front of the wheels are turned in or out from the straight-ahead position.



LHIE107A

ITEM	Description
A-B＜0	Positive (+) toe (toe in)
A-B＞0	Negative (-) toe (toe out)

When the wheels aree turned in toward the front of the vehicle, toe is positive (+) (toe in). When the wheels are turned out toward the front of the vehicle, toe is negative (-) (toe out). Toe is measured in degrees, from side to side, and totaled.

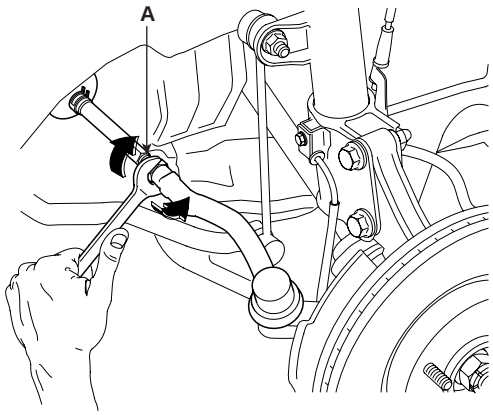
Toe-in(B-A or angle a+b) is adjusted by turning the tie rod turnbuckles. Toe-in on the left front wheel can be reduced by turning the tie rod toward the rear of the car. Toe- in change is adjusted by turning the tie rods for the right and left wheelss simultaneously at the same amount as follows.

Standard value
Toe-in (B-A) mm (in) : 0±2 mm (0±0.079 in)

NOTE

- *Toe-in adjustment should be made by turning the right and left tie rods at the same amount.*
- *When adjusting toe-in, loosen the outer bellows clip to prevent twisting the bellows.*
- *After the adjustment, tighten the tie rod end lock nuts firmly and reinstall the bellows clip.*
- *Adjust each toe-in to be the range of ±1mm.*

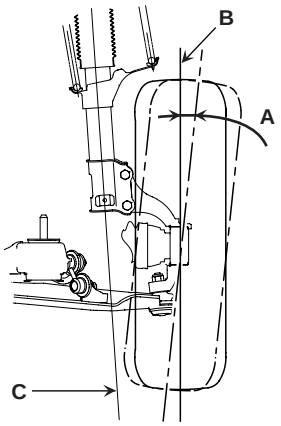
Tie rod end lock nuts(A) tightening torque :
50~60 Nm (5~6 Kgf·m, 36.9~44.3 lbf·ft)



AHIE107B

CAMBER

Camber is the inward or outward tilting of the wheels at the top.



AHIE107C

ITEM	Description
A	Positive camber angle
B	True vertical
C	Strut centerline

When the wheel tilts out at the top, then the camber is positive (+).
When the wheel tilts in at the top, then the camber is negative (-).
The stering knuckle which is installed with the strut assembly is pre-set to the specified camber at the factory and doesn't need to be adjusted.

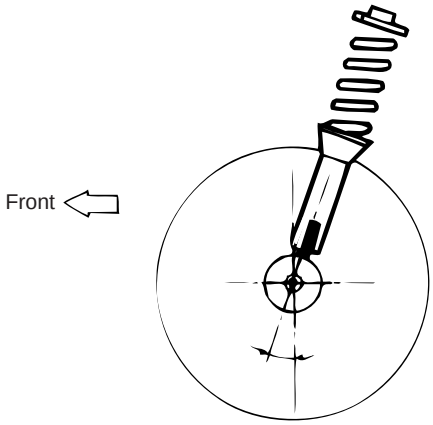
Camber : 0°±30´

CASTER

Caster is the tilting of the strut axis either forward or backward from vertical. A backward tilt is positive (+) and a forward tilt is negative (-).

Caster is pre-set at the factory and doesn't need to be adjusted. If the caster is not within the standard value, replace the bent or damaged parts.

Caster : 3°36´±30´



LHIE107D

NOTE

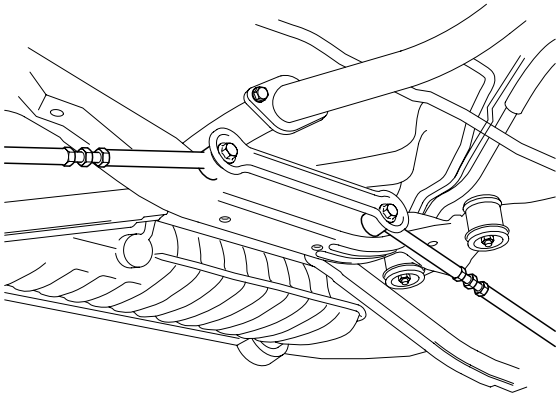
- *The worn loose or damaged parts of the front suspension assembly must be replaced prior to measuring front wheel alignment.*
- *Camber and caster are pre-set to the specified value at the factory and don't need to be adjusted.*
- *If the camber and caster are not within specifications, replace bent or damaged parts.*
- *The difference of left and right wheels about the camber and the caster must be within the range of 0°±30´.*

REAR WHEEL ALIGNMENT

DESCRIPTION EA5B4F79

TOE-IN

Standard value
1~7 mm [0.039~0.275 in]



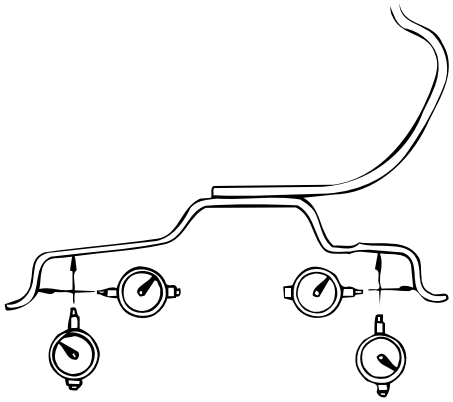
AHIE107E

WHEEL RUNOUT

DESCRIPTION E650168A

1. Jack up the vehicle and support it with jack stands.
2. Measure the wheel runout with a dial indicator as illustrated.
3. Replace the wheel if the wheel runout exceeds the limit.

Limit	Radial	Axial
Runout mm(in)	0.3(0.012)	0.3(0.012)



AHIE107F

WHEEL NUT TIGHTENING

DESCRIPTION E9F73C8C

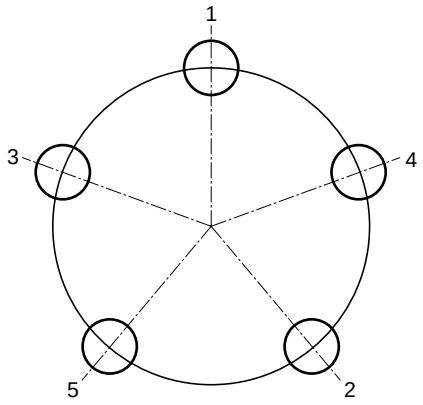
1. Tightening torque.

Tightening torque :
90~110 Nm (9~11 Kgf·m, 66.4~81.2 lbf·ft)

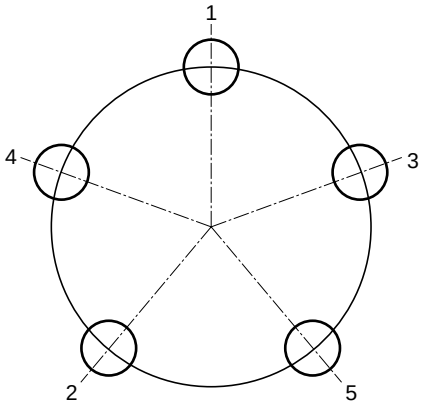
CAUTION

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

2. Tightening order.
Check the torque again after tightening the wheel nuts diagonally.



AHIE107G



AHIE107H

TIRE WEAR

DESCRIPTION ECB0D19B

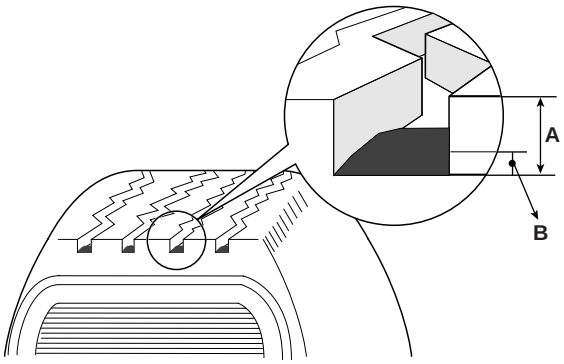
1. Measure the tread depth of the tires.

Tread depth of tire [Limit] : 1.6 mm (0.06 in)

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

NOTE

When the tread depth of the tires is less than 1.6 mm (0.06 in.), the wear indicators(B) will appear.

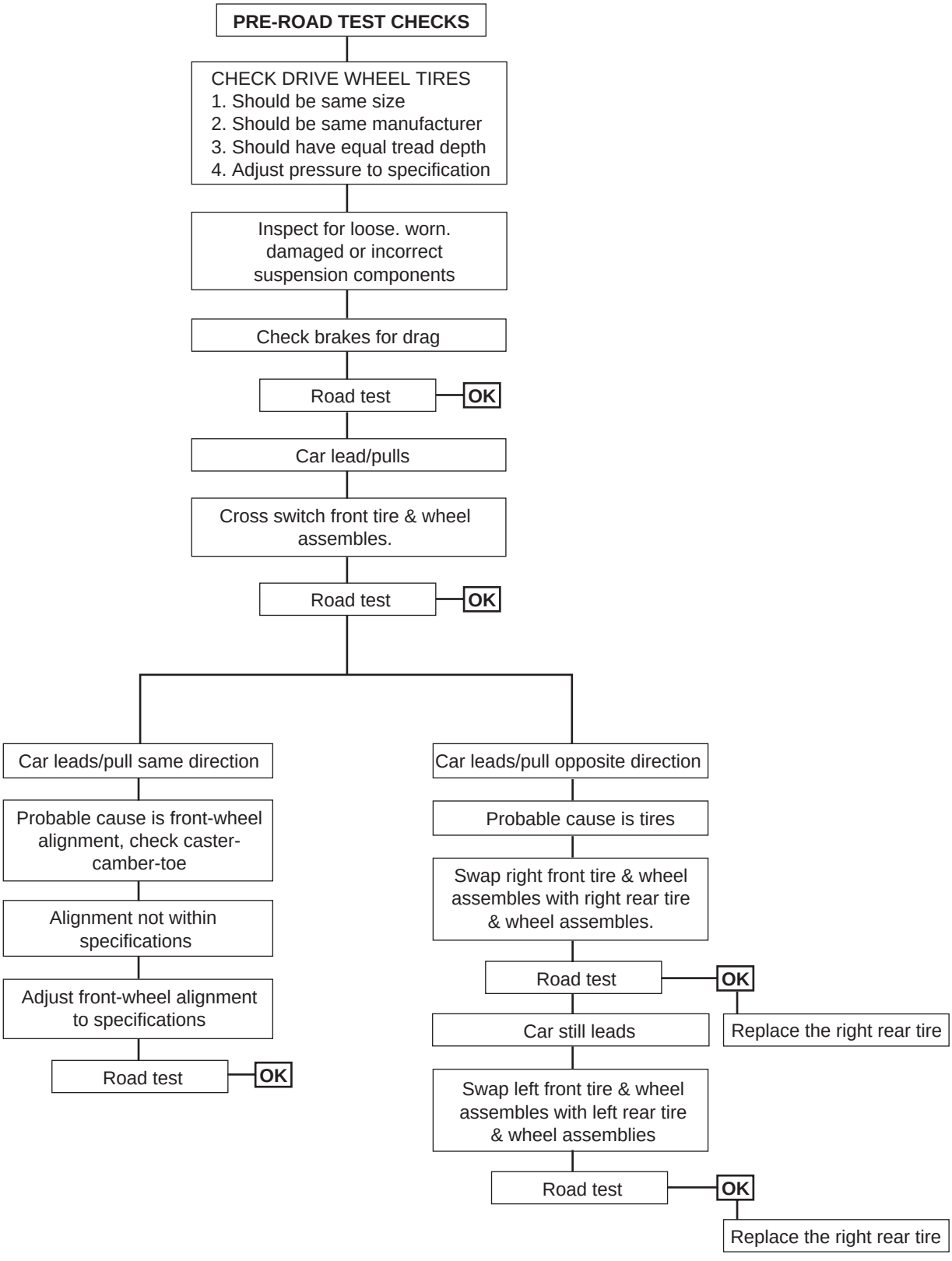


AHIE107I

TIRE ROTATION

DISCRIPTION EFC119AE

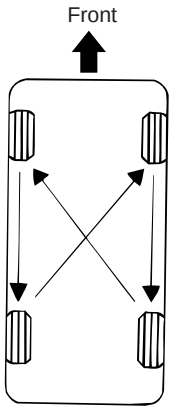
LEAD/PULL CORRECTION CHART



EHKE323A

ROTATION

Rotate the tires in the pattern illustrated.



LHIE107J