Suspension System

GENERAL

SPECIFICATIONS E8EECBBE

FRONT SUSPENSION SYSTEM

Items			Specification
Type			Double Wishbone
Shock Absorber	Type		Gas
	Stroke mm (in)		96
	Expansion mm (in)		424.0 ± 3
	Compression mm (in)		328.0 + 3, -∞
	I.D. Color		Green
	Damping force (0.3 m/s)	Expansion N(kgf)	249 ± 34
		Compression N (kgf)	101 ± 18
Spring	3.3/3.8 GSL	Free height mm (in)	347.1
		I.D. Color	Yellow - Red
	3.3/3.8 GSL (HIGH)	Free height mm (in)	353.7
		I.D Color	Yellow - Blue

REAR SUSPENSION SYSTEM

Items			Specification
Type			Multi Link
Shock Absorber	Type		Gas
	Stroke mm		160.5
	Expansion mm		584.6 ± 3
	Compression mm		324.1 + 3, -∞
	I.D. Color		Green
	Damping force (0.3 m/s)	Expansion N(kgf)	128 ± 19
		Compression N (kgf)	43 ± 9
Spring	3.3/3.8 GSL	Free height mm (in)	327.2
		I.D. Color	Yellow - Pink
	3.3/3.8 GSL (HIGH)	Free height mm (in)	333.5
		I.D. Color	Yellow - Green

WHEELS AND TIRES

Items		Specification
Tire Size		225/60 R16
		235/55 R17
Wheel Size	Aluminium	6.5J×16, OFFSET=38.5
		7.0J×17, OFFSET=38.5
Tire Pressure KPa(kg/cm², psi)		210 (2.1, 30)

WHEEL ALIGNMENT

Items		Front	Rear
Camber		0°±30′	-0°30′±30′
Caster	to Ground	4°50′±45′	-
	to Body	5°3′	-
Toe-in mm(in)		0±2(0±0.0787)	2±2(0.0787±0.0787)
King pin angle		9°27′	-
Tread mm(in)		1565(61.61)	1550(61.02)

TIGHTENING TORQUE E3FC8282

FRONT SUSPENSION

Items	Nm	kgf·m	lb-ft
Front strut assembly mounting nut	45 ~ 60	4.5 ~ 6.0	32.5 ~ 43.4
Front strut assembly self-locking nut	20 ~ 25	2.0 ~ 2.5	14.5 ~ 18.1
Front shock absorber to fork nut	60 ~ 80	6 ~ 8	43.4 ~ 57.8
Front lower arm ball joint self-locking nut	75 ~ 90	7.5 ~ 9.0	54.2 ~ 65.1
Front lower arm ball joint mounting bolt	100 ~ 120	10 ~ 12	72.3 ~ 86.8
Front upper arm ball joint self-locking nut	35 ~ 45	3.5 ~ 4.5	25.3 ~ 32.5
Front upper arm mounting bolt	55 ~ 65	5.5 ~ 6.5	39.8 ~ 47.0
Front lower arm bushing(A) mounting bolt	140 ~ 160	14 ~ 16	101.2 ~ 115.7
Front lower arm bushing(G) mounting bolt	140 ~ 160	14 ~ 16	101.2 ~ 115.7
Front lower arm connector nut (to fork)	140 ~ 160	14 ~ 16	101.2 ~ 115.7
Front stabilizer link self-locking nut	100 ~ 120	10 ~ 12	72.3 ~ 86.8
Front stabilizer bar bracket mounting bolt(to Subframe)	45 ~ 55	4.5 ~ 5.5	32.5 ~ 39.8
Wheel nut	90 ~ 110	9 ~ 11	65.1 ~ 79.5

REAR SUSPENSION

Items	Nm	kgf·m	lb-ft
Rear shock absorber self-locking nut	20 ~ 25	2.0 ~ 2.5	14.5 ~ 18.1
Rear shock absorber bracket mounting bolt	50 ~ 65	5.0~ 6.5	36.2 ~ 47.0
Rear shock absorber nut (to rear axle assembly)	140 ~ 160	14 ~ 16	101.2 ~ 115.7
Rear upper arm ball joint nut (to rear axle assembly)	80 ~ 90	8 ~ 9	57.8 ~ 65.1
Rear upper arm self-locking nut (to cross member)	100 ~ 120	10 ~ 12	72.3 ~ 86.8
Rear lower arm mounting bolt (to rear axle assembly)	140 ~ 160	14 ~ 16	101.2 ~ 115.7
Rear lower arm mounting nut (to cross member)	110 ~ 120	11 ~ 12	79.5 ~ 86.8
Assist arm mounting bolt (to rear axle assembly)	140 ~ 160	14 ~ 16	101.2 ~ 115.7
Assist arm mounting nut (to cross member)	110 ~ 120	11 ~ 12	79.5 ~ 86.8
Trailing arm mounting nut (to body)	140 ~ 160	14 ~ 16	101.2 ~ 115.7
Trailing arm self-locking nut (to rear axle assembly)	140 ~ 160	14 ~ 16	101.2 ~ 115.7
Cross member mounting bolt	140~ 160	14 ~ 16	101.2 ~ 115.7
Rear stabilizer bar bracket mounting bolt	45 ~ 55	4.5 ~ 5.5	32.5 ~ 39.8
Rear stabilizer link self-locking nut	35 ~ 45	3.5 ~ 4.5	25.3 ~ 32.5
Wheel nut	90 ~ 110	9 ~ 11	65.1 ~ 79.5

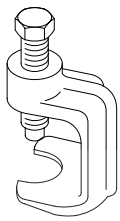
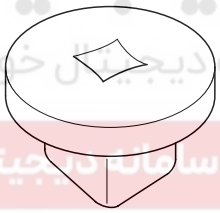
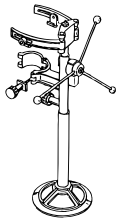
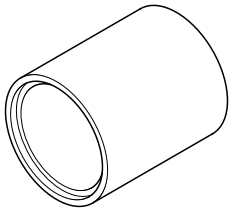
CAUTION

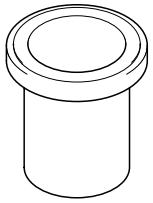
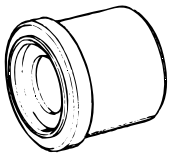
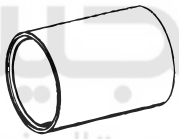
Replace the self-locking nuts with new ones after removal.

LUBRICANTS

Items	The recommended	Quantity
Front upper arm ball joint	Dust cover : LUBCHEM SB 6042M Joint boot : Varicant R2 or Polylub 801K	As required
Front lower arm ball joint		
Rear upper arm ball joint		
Stabilizer link ball joint (Front and Rear)	BJM-2	1.2 ~ 1.7 g

SPECIAL SERVICE TOOLS ECA1BB92

Tool (Number and Name)	Illustration	Use
09568-4A000 Ball joint remover	 KPRE103I	Removal of Ball joint (Front upper arm/lower arm, & Rear upper arm)
09532-11600 Preload socket	 EIRF001C	Measurement of the front lower arm ball joint starting torque. (Use with torque wrench)
09546-26000 Strut spring compressor	 KHRE900A	Compression of the coil spring
09214-32000 Mount bushing remover and installer	 KHRE900B	Removal & installation of lower arm bushing(G) (Use with 09216-21100)

Tool (Number and Name)	Illustration	Use
09216-21100 Mount bushing remover and installer	 KHRE900C	Removal & installation of lower arm bushing(G) (Use with 09216-32000)
09216-21600 Mount bushing remover and installer arbor	 KHRE900D	Removal and installation of trailing arm bushing (Use with 09552-38100)
09552-38100 Rear trailing arm bushing remover and installer	 KHRE900E	Removal and installation of the rear trailing arm bushing (Use with 09216-21600)

TROUBLESHOOTING E05DCEB0

VEHICLE INSPECTION

To assist the service advisor and the technician, check the suspension and wheel/tire condition with the questions listed below by filling them. It serves as a place to record information as well as data from the testing to be carried out. To begin a successful diagnosis, fill out the questions.

WHEEL/TIRE/CHECK :

Balance Check **Yes / No**

Maximum Runout Allowed :

Wheel : Radial _____ Lateral _____

Tire : Radial _____ Lateral _____

Measured Runout :

Tire/Wheel	Radial :	LF	_____	LR	_____	RF	_____	RR _____
	Lateral :	LF	_____	LR	_____	RF	_____	RR _____
Wheel Only	Radial :	LF	_____	LR	_____	RF	_____	RR _____
	Lateral :	LF	_____	LR	_____	RF	_____	RR _____

SUSPENSION INSPECTION :

Can Cause Shimmy ☐ Clunk ☐ Squeak ☐ Harshness ☐

Suspension Bushing : Loose ☐ Worn ☐ Missing ☐ OK ☐

Front stabilizer ☐ Rear stabilizer (sway bar) ☐ Rear trailing arm ☐

Front lower arm ☐ Rear suspension front ☐ Rear suspension rear arm ☐

Other _____

Suspension/Components : Loose Worm Missing OK

Ball Joint ☐ Shock absorbers F/R ☐ Springs F/R ☐ The rod ends/sleeve ☐

EHKE002A

SYMPTOM CHART

Symptom	Suspect Area	Remedy (See page)
Squeak or grunt-noise from the front suspension, occurs more in cold ambient temperatures-more noticeable over rough roads or when turning	Front stabilizer bar	Under these conditions, the noise is acceptable.
Clunk-noise from the front suspension, occurs in and out of turns	Loose front struts or shocks	Inspect for loose nuts or bolts. Tighten to specifications. See page SS-26.
Clunk-noise from the rear suspension, occurs when shifting from reverse to drive	Loose rear suspension components	Inspect for loose or damaged rear suspension components. Repair or install new components as necessary. See page SS-47.

Symptom	Suspect Area	Remedy (See page)
Click or pop-noise from the front suspension-more noticeable over rough roads or over bumps	Worn or damaged ball joints	Install new lower arm as necessary. See page SS-34.
Click or pop-noise occurs when vehicle is turning	Worn or damaged ball joints	Install new lower arm as necessary. See page SS-34.
Click or snap-occurs when accelerating around a corner	Damaged or worn Birfield joint	Repair or install a new Birfied joint as necessary. See DS group - driveshaft.
Front suspension noise-a squeak, creak or rattle noise-occurs mostly over bumps or rough roads	Steering components Loose or bent front struts or shock absorbers Damaged spring or spring mounts Damaged or worn arm bushings Worn or damaged stabilizer bar bushing or links	Go to detailed test A. See page SS-11.
Groaning or grinding-noise from the front strut, occurs when driving on bumpy roads or turning the vehicle	Uneven seating surface between the insulator and panel by the burrs around the strut insulator mounting bolts and the insulator boltes mounting holes	Repair or install a new parts as necessary. See page SS-29.
Rear suspension noise - a squeak, creak or rattle noise - occurs mostly over bumps or rough roads	Loose or bent rear shock absorbers Damaged spring or spring mounts Damaged or worn control arm bushings	Go to detailed test B. See page SS-12.
Shudder-occurs during acceleration from a slow speed or stop	Rear axle assembly mispositioned Damaged or worn front suspension components	Check the axle mounts and Rear suspension the rear suspension for damage or wear. Repair as necessary. Check for a loose stabilizer bar, damaged or loose strut/strut bushings or loose or worn ball joints. Inspect the steering linkage for wear or damage. Repair or Install new components as necessary.
Shimmy-most noticeable on coast/deceleration-also hard steering condition	Excessive positive caster	Check the caster alignment angle. Correct as necessary. See page SS-70.
Tire noise-hum/moan at constant speeds	Abnormal wear patterns	Spin the tire and Check for tire wear. Install a new tire as necessary. Inspect for damaged/worn suspension components. Carry out wheel alignment. See page SS-68, SS-72.
Tire noise-noise tone lowers as the vehicle speed is lowered	Out-of-balance tire	Balance the tire and road test. Install a new tire as necessary. See page SS-72.
Tire noise - ticking noise, change with speed	Nail puncture or stone in tire tread	Inspect the tire. Repair as necessary. See page SS-72.

Symptom	Suspect Area	Remedy (See page)
Wheel and tire-vibration and noise concern is directly related to vehicle speed and is not affected by acceleration, coasting or decelerating	Damaged or worn tire	Go to detailed test C. See page SS-13.
Tire wobble or shudder - occurs at lower speeds	Damaged wheel bearings	Spin the tire and check for abnormal wheel bearing play or roughness. Adjust or Install new wheel bearings as necessary. See DS group - front/rear axle.
	Damaged wheel	Inspect the wheel for damage. Install a new wheel as necessary. See page SS-72.
	Damaged or worn suspension components	Inspect the suspension components for wear or damage. Repair as necessary. See page SS-26.
	Loosen wheel nuts	Check the wheel nuts. Tighten to specification. See page SS-71.
	Damaged or uneven tire wear	Spin the tire and Check for abnormal tire wear or damage. Install a new tire as necessary. See page SS-72.
Tire shimmy or shake - occurs at lower speeds	Wheel/tire out of balance	See page SS-70.
	Uneven tire wear	Check for abnormal tire wear. Install a new tire as necessary. See page SS-72.
	Excessive radial runout of wheel or tire	Carry out a radial runout test of the wheel and tire. Install a new tire as necessary. See page SS-70.
	Worn or damaged wheel studs or elongate stud holes	Inspect the wheel studs and wheels. Install new components as necessary. See page SS-72.
	Excessive lateral runout of the wheel or tire	Carry out a lateral runout test of the wheel and tire. Check the wheel, tire and hub. Repair or Install new components as necessary. See page SS-70.
	Foreign materal between the brake disc and hub.	Clean the mounting surfaces of the brake disc and hub. See DS group - front/rear axle.
High speed shake or shimmy-occurs at high speeds	Excessive wheel hub runout Damaged or worn tires Damaged or worn wheel bearings Worn or damaged suspension or steering linkage Brake disc or drum imbalance	Go to detailed test D. See page SS-16.

Symptom	Suspect Area	Remedy (See page)
Drift left or right	Tires Steering linkage Alignment Base brake system	Go to detailed test E. See page SS-18.
Steering wheel	Alignment Steering linkage Front lower arm ball joint	Go to detailed test F. See page SS-19.
Tracks incorrectly	Rear suspension Caster	Go to detailed test G. See page SS-20.
Rough ride	Front strut and spring assembly Rear shock absor and spring assembly	Go to detailed test H. See page SS-20.
Excessive noise	Front or rear stabilizer bar components Springs Suspension components Shock absorbers	Go to detailed test I. See page SS-21.
Incorrect tire wear	Tire or unbalanced wheels Tire inflation Strut Alignment	Go to detailed test J. See page SS-22.
Vibration	Wheel/tire Front wheel drivshaft(s) Steering system Strut and spring assembly Spring and strut mounting Front lower arm ball joint Front lower arm mounting bolt bushing Stabilizer bar bushings Wheel hubs and bearing Rear suspension arms and bushings	Go to detailed test K. See page SS-22.
Vehicle leans	Tire/wheel Vehicle load Suspension components Incorrect ride height	Inflate tires to specification. Redistribute the load as necessary. Visually inspect the suspension system. Correct the ride height as necessary.
Poor returnability	High knuckle rotating torque Alignment	Go to detailed test E. See page SS-18.

DETAILED TEST A : FRONT SUSPENSION NOISE

CONDITIONS	DETAILS/RESULTS/ACTIONS
A1ROAD TEST THE VEHICLE	
	1. Test drive the vehicle. 2. During the road test, drive the vehicle over a rough road. Determine from which area/component the noise is originating. ● Is there a squeak, creak or rattle noise ? ⇒ **YES** Go to**A2.** ⇒ **NO** The suspension system is OK. Conduct a diagnosis on other suspect systems.
A2INSPECT THE STEERING SYSTEM	
	1. Check the steering system for wear or damage. Carry out a steering linkage test. Inspect the tire wear pattern. See page SS-25. ● Are the steering components worn or damaged ? ⇒ **YES** Repair the steering system. Install new components as necessary. Test the system for normal operation. ⇒ **NO** Go to**A3.**
A3FRONT SHOCK ABSORBER/STRUT CHECK	
	1. Check the front shock absorbers/strut mounts for loose bolts or nuts. 2. Check the front shock absorbers/struts for damage. Carry out a shock absorber check. ● Are the front shock absorbers/struts loose or damaged ? ⇒ **YES** Tighten to specifications if loose. Install new front shock absorbers/struts if damaged. Test the system for normal operation. ⇒ **NO** Go to**A4.**
A4CHECK THE FRONT SPRINGS	
	Check the front spring and front spring mounts/brackets for wear or damage ● Are the front springs or spring mounts/brackets worn or damaged ? ⇒ **YES** Repair or Install new components as necessary. Test the system for normal operation. ⇒ **NO** Go to**A5.**

CONDITIONS	DETAILS/RESULTS/ACTIONS
A5CHECK THE STABILIZER BAR	
	1. Check the stabilizer bar bushing and links for damage or wear. 2. Check the stabilizer bar for damage. 3. Check for loose or damaged stabilizer brackets. ● Are the stabilizer bar/track bar components loose, worn or damaged ? ⇒ **YES** Repair or Install new components as necessary. Test the system for normal operation. ⇒ **NO** Suspension system is OK. Conduct diagnosis on other suspect systems.

DETAILED TEST B : REAR SUSPENSION NOISE

CONDITIONS	DETAILS/RESULTS/ACTIONS
B1ROAD TEST THE VEHICLE	
	1. Test drive the vehicle. 2. During the road test, drive the vehicle over a rough road. Determine from which area/component the noise is originating. ● Is there a squeak, creak or rattle noise ? ⇒ **YES** Go to**B2.** ⇒ **NO** The suspension system is OK. Conduct a diagnosis on other suspect systems.
B2REAR SHOCK ABSORBER/STRUT CHECK	
	1. Raise and support the vehicle. See GI group - lift support point. 2. Check the rear shock absorber/strut mounts for loose bolts or nuts. 3. Check the rear shock absorbers/strut for damage. Carry out a shock absorber check. ● Are the rear shock absorbers/struts loose or damaged ? ⇒ **YES** Tighten to specifications if loose. Install new rear shock absorbers/struts if damaged. Test the system for normal operation. ⇒ **NO** Go to**B3.**

CONDITIONS	DETAILS/RESULTS/ACTIONS
B3CHECK THE REAR SPRINGS	
	Check the rear springs and rear spring mounts/brackets for wear or damage. ● Are the rear springs or spring mounts/brackets worn or damaged ? ⇒ **YES** Repair or Install new components as necessary. Test the system for normal operation. ⇒ **NO** Go to**B4.**
B4CHECK THE TRAILING ARMS	
	1. Inspect the trailing arm bushings for wear or damage. Check for loose trailing arm bolts. 2. Inspect for twisted or bent trailing arms. ● Are the trailing arms loose, damaged or worn ? ⇒ **YES** Repair or Install new components as necessary. Test the system for normal operation. ⇒ **NO** Suspension system is OK. Conduct diagnosis on other suspect systems.

DETAILED TEST C : WHEEL AND TIRE

CONDITIONS	DETAILS/RESULTS/ACTIONS
C1ROAD TEST THE VEHICLE	
	NOTE *Wheel or tire vibrations felt in the steering wheel are most likely related to the front wheel or tire. Vibration felt through the seat are most likely related to the rear wheel or tire. This may not always be true, but it can help to isolate the problem to the front or rear of the vehicle.* *Test drive the vehicle at different speed ranges.* During the road test, if the vibration can be eliminated by placing the vehicle in neutral or is affected by the speed of the engine, the cause is not the wheels or tires. ● Is there a vibration and noise ? ⇒ **YES** Go to**C2.** ⇒ **NO** The wheel and tires are OK. Conduct a diagnosis on other suspect systems.

CONDITIONS	DETAILS/RESULTS/ACTIONS
C2CHECK THE FRONT WHEEL BEARINGS	
	Check the front wheel bearings. Refer to Wheel Bearing Check (See DS group - front axle). ● Are the wheel bearings OK ? ⇒ **YES** Go to**C3.** ⇒ **NO** Inspect the wheel bearings. Adjust or Repair as necessary. Test the system for normal operation.
C3INSPECT THE TIRES	
	1. Check the tires for missing weights. 2. Check the wheels for damage. 3. Inspect the tire wear pattern. See page SS-25. ● Do the tires have an abnormal wear pattern ? ⇒ **YES** Correct the condition that caused the abnormal wear. Install new tire(s). Test the system for normal operation. ⇒ **NO** Go to**C4.**
C4TIRE ROTATION DIAGNOSIS	
	1. Spin the tires slowly and watch for signs of lateral runout. 2. Spin the tires slowly and watch for signs of radial runout. ● Are there signs of visual runout ? ⇒ **YES** Go to**C5.** ⇒ **NO** Check the wheel and tire balance. Correct as necessary. Test the system for normal operation.
C5RADIAL RUNOUT CHECK ON THE TIRE	
	Measure the radial runout of the wheel and tire assembly. A typical specification for total radial runout is 1.15mm (0.059 inch). ● Is the radial runout within specifications ? ⇒ **YES** Go to**C8.** ⇒ **NO** Go to**C6.**

CONDITIONS	DETAILS/RESULTS/ACTIONS
C6RADIAL RUNOUT CHECK ON THE WHEEL	
	Measure the radial runout of the wheel. A typical specification for total radial runout is 1.14mm (0.045 inch.). ● Is the radial runout within specifications ? ⇒ **YES** Install a new tire. Test the system for normal operation. ⇒ **NO** Go to**C7.**
C7CHECK THE HUB/BRAKE DISC OR DRUM PILOT RUNOUT OR BOLT CIRCLE RUNOUT	
	Measure the pilot or bolt circle runout. A typical specification for radial runout is : ● pilot runout - less than 0.15mm (0.006 inch.) ● bolt circle runout - less than 0.38 mm (0.015 inch.) ● Is the radial runout within specification ? ⇒ **YES** Install a new wheel. Test the system for normal operation. ⇒ **NO** Repair or Install new components as necessary. See page SS-26 for the front suspension or SS-47 for the rear suspension.
C8LATERAL RUNOUT CHECK ON THE TIRE	
	Measure the lateral runout of the wheel and tire assembly. A typical specification for total lateral runout is 2.5mm (0.098 inch). ● Is the lateral runout within specifications ? ⇒ **YES** Wheel and tires are OK. Conduct diagnosis on other suspect systems. ⇒ **NO** Go to**C9.**
C9LATERAL RUNOUT CHECK ON THE WHEEL	
	Measure the lateral runout of the wheel. A typical specification for total radial runout is 1.2mm (0.047 inch.) ● Is the lateral runout within specifications ? ⇒ **YES** Install a new tire. Test the system for normal operation. ⇒ **NO** Go to**C10.**

CONDITIONS	DETAILS/RESULTS/ACTIONS
C10CHECK THE FLANGE FACE LATERAL RUNOUT	
	Measure the flange face lateral runout. A typical specification for lateral runout is : ● hub/brake disc - less than 0.13mm (0.005 inch) ● Is the lateral runout within specifications ? ⇒ **YES** Install a new wheel. Test the system for normal operation. ⇒ **NO** Repair or Install new components as necessary. See page SS-26 for the front suspension or SS-47 for the rear suspension.

DETAILED TEST D :

CONDITIONS	DETAILS/RESULTS/ACTIONS
D1CHECK FOR FRONT WHEEL BEARING ROUGHNESS	
	1. Raise and support the front end of the vehicle so that the front wheel and tire assemblies can spin. See GI group - lift support point. 2. Spin the front tires by hand. ● Do the wheel bearings feel rough ? ⇒ **YES** Inspect the wheel bearings. Repair as necessary. Test the system for normal operation. ⇒ **NO** Go to**D2.**
D2CHECK THE END PLAY OF THE FRONT WHEEL BEARINGS	
	Check the end play of the front wheel bearings. ● Is the end play OK ? ⇒ **YES** Go to**D3.** ⇒ **NO** Adjust or Repair as necessary. Test the system for normal operation.
D3MEASURE THE LATERAL RUNOUT AND THE RADIAL RUNOUT OF THE FRONT WHEELS ON THE VEHICLE	
	Measure the lateral runout and the radial runout of the front wheels on the vehicle. Go to detailed test C. ● Are the measurements within specifications ? ⇒ **YES** Go to**D4.** ⇒ **NO** Install new wheels as necessary and Balance the assembly. Test the system for normal operation.

CONDITIONS	DETAILS/RESULTS/ACTIONS
D4MEASURE THE LATERAL RUNOUT OF THE FRONT TIRES ON THE VEHICLE	
	Measure the lateral runout of the front tires on the vehicle. Go to detailed test C. ● Is the runout within specifications ? ⇒ **YES** Go to**D5.** ⇒ **NO** Install new tires as necessary and Balance the assembly. Test the system for normal operation.
D5MEASURE THE RADIAL RUNOUT OF THE FRONT TIRES ON THE VEHICLE	
	Measure the radial runout of the front tires on the vehicle. Go to detailed test C. ● Is the runout within specifications ? ⇒ **YES** Balance the front wheel and tire assemblies. If any tire cannot be balanced, Install a new tire. Test the system for normal operation. ⇒ **NO** Go to**D6.**
D6MATCH MOUNT THE TIRE AND WHEEL ASSEMBLY	
	Mark the high runout location on the tire and also on the wheel. Break the assembly down and rotate the tire 180 degrees (halfway around) on the wheel. Inflate the tire and measure the radial runout. ● Is the runout within specifications ? ⇒ **YES** Balance the assembly. Test the system for normal operation. ⇒ **NO** If the high spot is not within 101.6mm (4 inches) of the first high spot on the tire, Go to**D7.**
D7MEASURE THE WHEEL FLANGE RUNOUT	
	Dismount the tire and mount the wheel on a wheel balancer. Measure the runout on both wheel flanges. Go to detailed test C ● Is the runout within specifications ? ⇒ **YES** Locate and Mark the low spot on the wheel. Install the tire, matching the high spot on the tire with the low spot on the wheel. Balance the assembly. Test the system for normal operation. If the condition persists, Go to**D8.** ⇒ **NO** Install a new wheel. Check the runout on the new wheel. If the new wheel is within limits, locate and Mark the low spot. Install the tire, matching the high spot on the tire with the low spot on the wheel. Balance the assembly. Test the system for normal operation. If the condition persists, Go to**D8.**

CONDITIONS	DETAILS/RESULTS/ACTIONS
D8CHECK FOR VIBRATION FROM THE FRONT OF THE VEHICLE	
	Spin the front wheel and tire assemblies with a wheel balancer while the vehicle is raised on a hoist. Feel for vibration in the front fender or while seated in the vehicle. ● Is the vibration persent ? ⇒ **YES** Substitute known good wheel and tire assemblies as necessary. Test the system for normal operation. ⇒ **NO** Check the driveline components. Test the system for normal operation.

DETAILED TEST E : DRIFT LEFT OR RIGHT

CONDITIONS	DETAILS/RESULTS/ACTIONS
E1CHECK THE TIRES	
	Inspect the tires for excessive wear or damage. ● Are the tires excessively worn or damaged ? ⇒ **YES** Install new tires. ⇒ **NO** Go to**E2.**
E2CHECK THE STEERING LINKAGE	
	1. Raise and support the vehicle. 2. Check the steering components for indications of excessive wear or damage. See ST group - specification. ● Is there an indication of excessive wear or damage ? ⇒ **YES** Repair or Install new components as necessary. ⇒ **NO** Go to**E3.**
E3CHECK THE VEHICLE ALIGNMENT	
	1. Place the vehicle on an alignment rack. Check the vehicle alignmnt. ● Is the alignment within specification ? ⇒ **YES** Go to**E4.** ⇒ **NO** Adjust the alignment as necessary. See page SS-68 (wheel alignment).

CONDITIONS	DETAILS/RESULTS/ACTIONS
E4BRAKE DRAG DIAGNOSIS	
	Apply the brakes while driving. ● Does drift or pull occur when the brakes are applied ? ⇒ **YES** See BR group - specification. ⇒ **NO** If the steering wheel is in the center, the vehicle is OK. If the steering wheel is off-center, Go to Detailed Test**F.**

DETAILED TEST F : STEERING WHEEL OFF-CENTER

CONDITIONS	DETAILS/RESULTS/ACTIONS
F1CHECK THE CLEAR VISION	
	Place the vehicle on an alignment rack. ● Is the clear vision within specification ? ⇒ **YES** Go to**F2.** ⇒ **NO** Adjust the clear vision to specification.
F2INSPECT THE STEERING COMPONENTS	
	1. Raise and support the vehicle. 2. Inspect the steering components for excessive wear or damage. See ST group - specification. ● Are the steering components excessively worn or damaged ? ⇒ **YES** Repair or Install new components as necessary. ⇒ **NO** If it tracks corectly, vehicle is OK. If it tracks incorrectly, Go to Detailed Test**G.**

DETAILED TEST G : TRACKS INCORRECTLY

CONDITIONS	DETAILS/RESULTS/ACTIONS
G1CHECK THE CASTER	
	Place the vehicle on an alignment rack. ● Is the caster within specification ? ⇒ **YES** Go to**G2.** ⇒**NO** Replace bent or damaged parts.
G2CHECK THE REAR SUSPENSION	
	1. Measure the vehicle wheel base for LH and RH. 2. Compare the measurements. ● Are the measurements the same ? ⇒ **YES** If the ride is smooth, vehicle is OK. If the ride is rough, Go to Detailed Test**H.** ⇒ **NO** Inspect the rear suspension components for wear or damage. Repair or Install new components as necessary. See page SS-47 (rear suspension).

DETAILED TEST H : ROUGH RIDE

CONDITIONS	DETAILS/RESULTS/ACTIONS
H1CHECK THE FRONT SHOCK ABSORBER	
	1. Raise support the vehicle. 2. Inspect the front shock absorber for oil leaks or damage. ● Are the tires excessively worn or damaged ? ⇒ **YES** Install new front shock absorbers. See page SS-29 (front strut assembly). ⇒ **NO** Go to**H2.**

CONDITIONS	DETAILS/RESULTS/ACTIONS
H2CHECK THE REAR SHOCK ABSORBERS	
	Inspect the rear shock absorbers for oil leaks or damage. ● Are the rear shock absorbers leaking ? ⇒ **YES** Install new rear shock absorbers. See page SS-50 (rear strut assembly). ⇒ **NO** The vehicle is OK. Go to**TROUBLESHOOTING.**

DETAILED TEST I : EXCESSIVE NOISE

CONDITIONS	DETAILS/RESULTS/ACTIONS
I1INSPECT THE SUSPENSION	
	1. Raise and support the vehicle. 2. Inspect the shock absorber mounting bolts. ● Are the mounting bolts loose or broken ? ⇒ **YES** Tighten or Install new shock absorber mounting bolts. See page SS-29 and SS-49 (front/rear suspension) ⇒ **NO** Go to**I2.**
I2INSPECT THE SPRING AND TORSION BARS	
	Inspect the springs and stabilizer bars for damage. ● Are the spring or stabilizer bars damaged ? ⇒ **YES** Install new spring and/or stabilizer bars. See page SS-44 and SS-67 (front/rear stabilizer bars). ⇒ **NO** Go to**I3.**
I3INSPECT THE FRONT SUSPENSION	
	Inspect the front suspension components for excessive wear or damage. ● Are the front suspension components worn or damaged ? ⇒ **YES** Install new front suspension components. See page SS-26 (front suspension). ⇒ **NO** The vehicle is OK. Go to**TROUBLESHOOTING.**

DETAILED TEST J : INCORRECT TIRE WEAR

CONDITIONS	DETAILS/RESULTS/ACTIONS
J1INSPECT THE TIRES	
	1. Raise and support the vehicle. 2. Inspect the tires for uneven wear on the inner or outer shoulder. ● Is there uneven tire wear ? ⇒ **YES** Align the vehicle. Install new tires if badly worn. ⇒ **NO** Go to**J2.**
J2UNEVEN TIRE WEAR	
	Inspect the tires for a feathering pattern. ● Do the tires have a feathering pattern ? ⇒ **YES** Align the vehicle. Install new tires if badly worn. ⇒ **NO** Go to**J3.**
J3CHECK FOR CUPPED TIRE	
	Inspect the tires for cupping or dishing. ● Are the tires cupped or dished ? ⇒ **YES** Balance and Rotate the tires. ⇒ **NO** The vehicle is OK. Go to**TROUBLESHOOTING.**

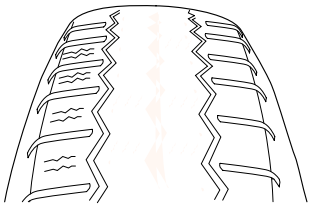
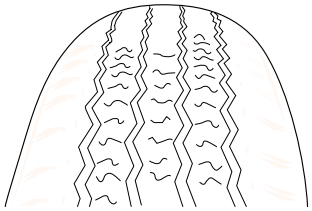
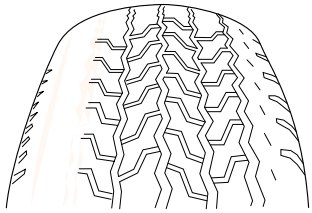
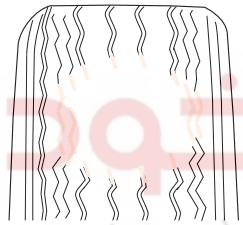
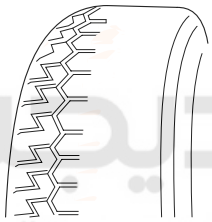
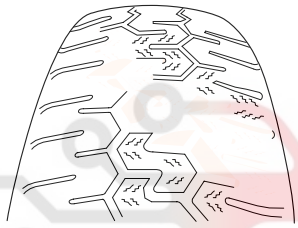
DETAILED TEST K : VIBRATION

CONDITIONS	DETAILS/RESULTS/ACTIONS
K1ROAD TEST	
	Accelerate the vehicle to the speed at which the customer indicated the vibration occured. ● Is the vibration present ? ⇒ **YES** Go to**K2.** ⇒ **NO** The vehicle is OK. Go to**TROUBLESHOOTING.**

CONDITIONS	DETAILS/RESULTS/ACTIONS
K2INSPECT THE TIRES	
	1. Raise and support the vehicle with a frame contact hoist. 2. Inspect the tires for extreme wear or damage, cupping, or flat spots. ● Are the tires OK ? ⇒ **YES** Go to**K3.** ⇒ **NO** Check the suspension components for misalignment, abnormal wear, or damage that may have contributed to the tire wear. Correct the suspension concerns and Install new tires.
K3INSPECT THE WHEEL BEARINGS	
	Spin the tires by hand to check for wheel bearing rougness. ● Is the front wheel bearing OK ? ⇒ **YES** Go to**K4.** ⇒ **NO** Install new front wheel bearings as necessary. See Ds group - front axle.
K4TIRE/WHEEL BALANCE	
	Check the tire/wheel balance. ● Are the tires balanced ? ⇒ **YES** Go to**K5.** ⇒ **NO** Balance the tires and wheels as necessary.
K5MEASURE THE RUNOUTS	
	For each wheel position measure, locate and mark the following items. See page SS-70 (wheel/tire). - High point of the tire/wheel assembly total radial runout - High point of the wheel radial runout - High point of the wheel lateral runout ● Are the runouts as specified ? ⇒ **YES** Go to**K7.** ⇒ **NO** Go to**K6.**

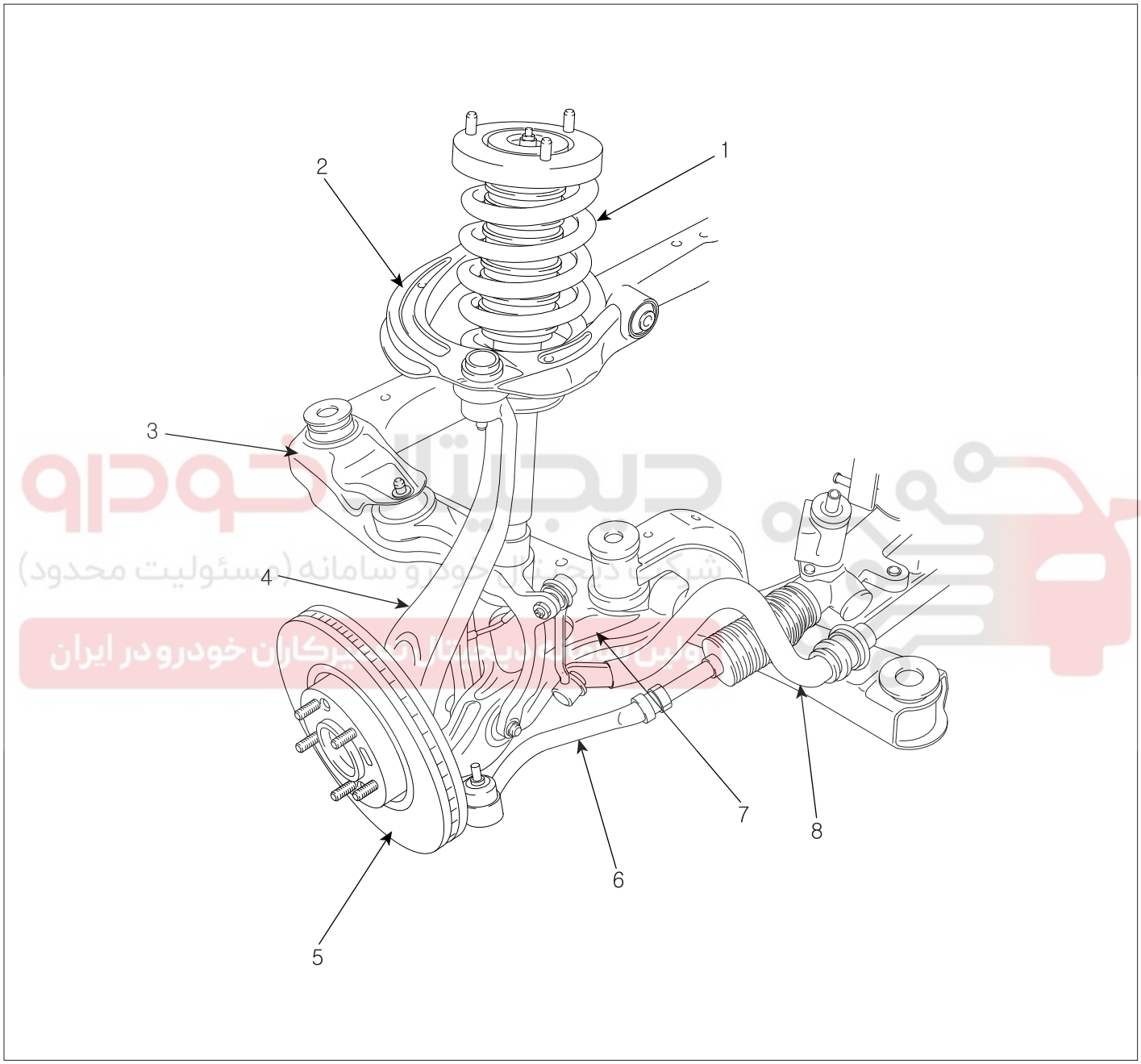
CONDITIONS	DETAILS/RESULTS/ACTIONS
K6SUBSTITUTE THE WHEELS AND TIRE	
	1. Substitute a known good set of wheels and tires. 2. Carry out a road test. 3. If the vehicle still exhibits a shake or vibration, note the vehicle speed and/or engine rpm which it occurs. ● Is the vibration felt ? ⇒ **YES** Engine/transmission imbalance. See the specification of TR group, EM group, FL group and EC group. ⇒ **NO** Install the original tire/wheel assemblies one by one, Road testing at each step until the damaged tire(s)/wheel(s) as necessary. Test the system for normal operation.

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. Carry out 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

COMPONENTS E8C59A6B

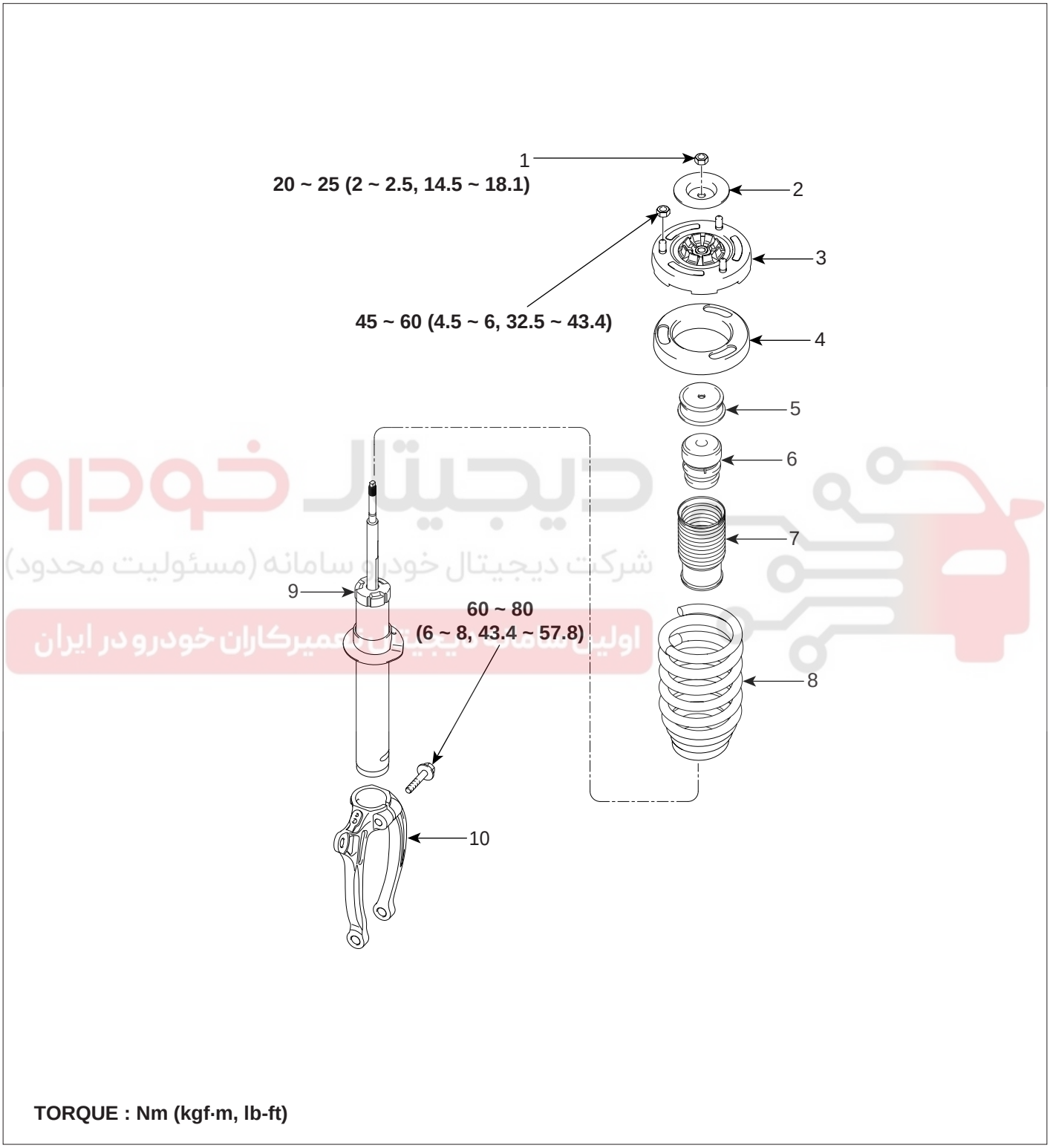


1. Front strut assembly
2. Front upper arm
3. Front subframe
4. Front knuckle
5. Front disk
6. Tie rod end assembly
7. Front lower arm
8. Front stabilizer bar assembly

EHBF100A

FRONT STRUT ASSEMBLY

COMPONENTS E96AC2DC



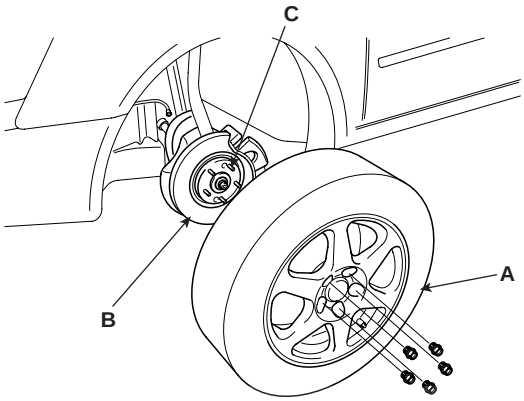
1. Self-locking nut
2. Plate
3. Insulator
4. Upper pad
5. Cup assembly
6. Urethane bumper
7. Dust cover
8. Spring
9. Shock absober
10. Fork

EHBF100B

REMOVAL E051662B

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).

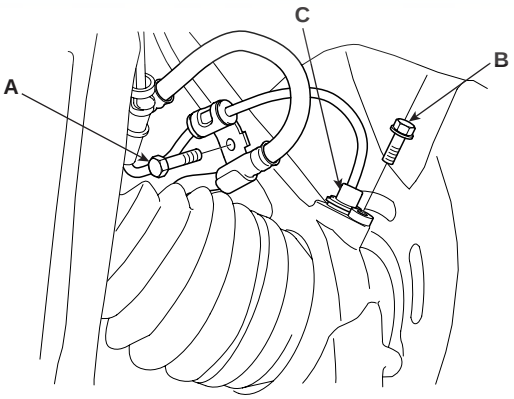


KHBF101A

CAUTION

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

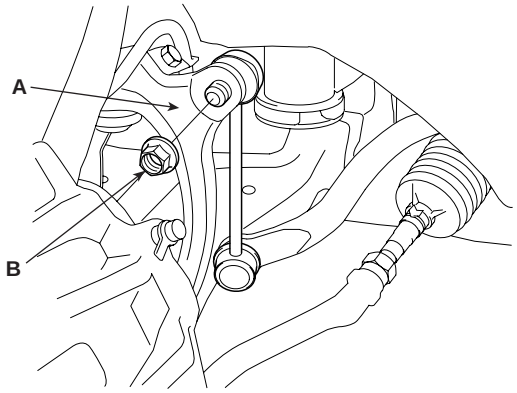
3. Remove the brake hose bracket bolt(A) and speed sensor cable mounting bolt(B) from the front axle assembly.



KHBF110A

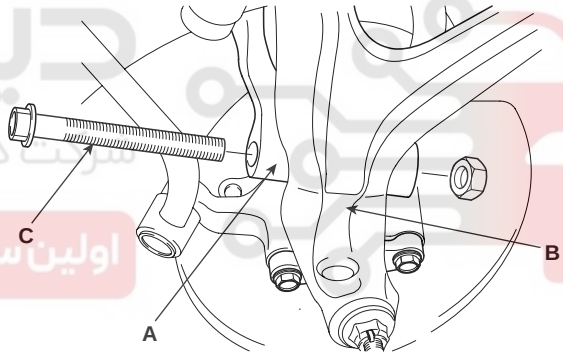
4. Remove the speed sensor(C) from the knuckle.

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



KHBF110B

6. Remove the fork(A) from the front lower arm(B) connecting bolt(C).

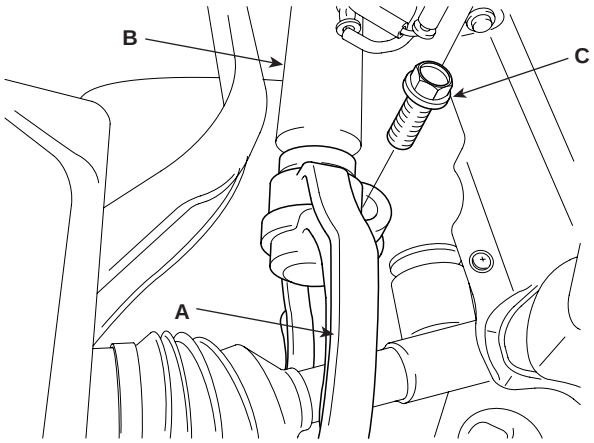


KHBF110C

CAUTION

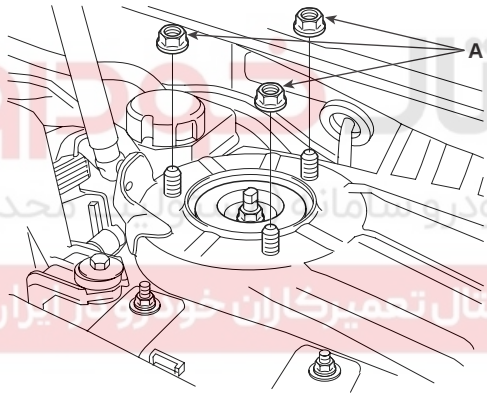
Be careful not to damage to the aluminum lower arm.

7. Remove the front strut assembly(B) bolt(C) from the fork(A).



EHBF500B

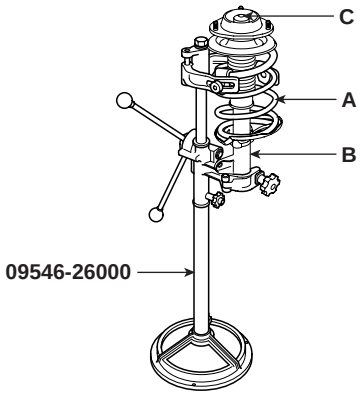
8. Remove the strut upper mounting nuts(A).



KHRE110E

DISASSEMBLY EBFDFBBD

1. Using the special tool (09546-26000), compress the coil spring(A).

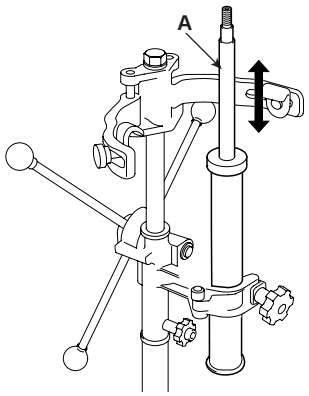


KHRE111A

2. Remove the self-locking nut(C) from the strut assembly(B).
3. Remove the insulator, spring seat, coil spring and dust cover from the strut assembly.

INSPECTION E1E7425F

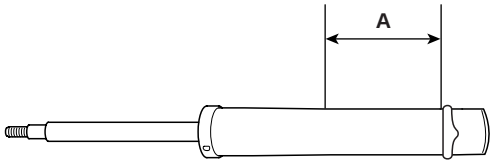
1. Check the strut insulator for wear or damage.
2. Check rubber parts for damage or deterioration.
3. Compress and extend the piston rod(A) and check that there is no abnormal resistance or unusual sound during operation.



KHRE112A

DISPOSAL EBA91F3B

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



KHRE112B

CAUTION

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

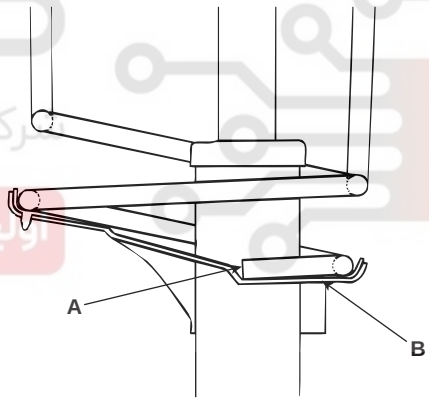
REASSEMBLY EB9A5E17

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

   NOTE

   a. There are two clolor marks on the coil spring. One corresponds to model option (see page SS-2), and the other corresponds to load classification. Ensure that the correct parts are being installed.
   b. Install the coil spring with the identification mark directed toward the knuckle.

2. After fully extending the piston rod, install the spring upper seat and insulator assembly.
3. 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.



KHRE113A

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

Tightening torque Nm (kgf·m, lb-ft) :
20 ~ 25 (2.0 ~ 2.5, 14.5 ~ 18.1)

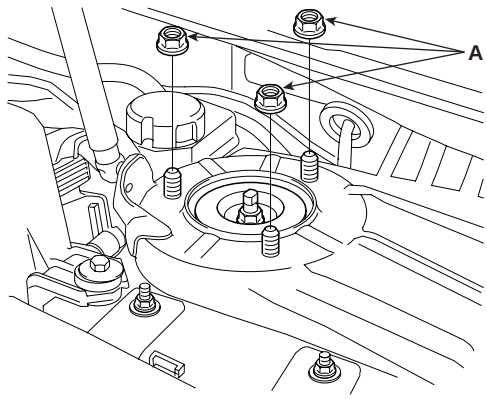
CAUTION

Do not reuse the self-locking nut.

INSTALLATION E2353C6C

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

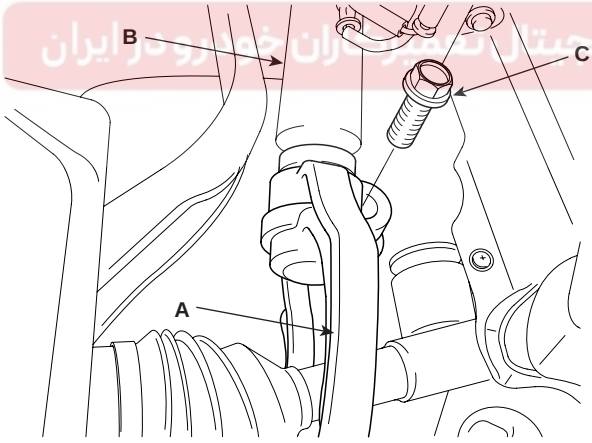
Tightening torque Nm (kgf·m, lb-ft) :
45 ~ 60 (4.5 ~ 6.0, 32.5 ~ 43.4)



KHRE110E

2. Install the fork(A) mounting bolt(C) to the strut assembly(B) with the I.D. mark facing outward.

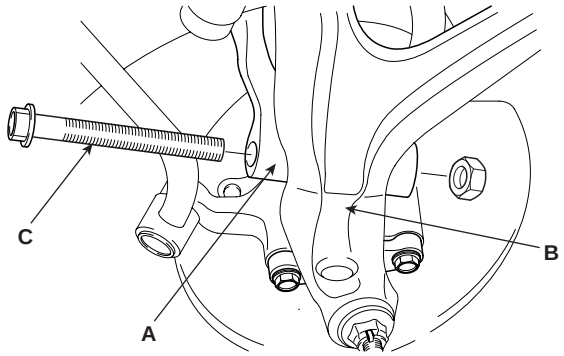
Tightening torque Nm (kgf·m, lb-ft) :
60 ~ 80 (6.0 ~ 8.0, 43.4 ~ 57.8)



EHBF500B

3. Install the fork(B) to the front lower arm(A) connecting bolt(C).

Tightening torque Nm (kgf·m, lb-ft) :
140 ~ 160 (14~16, 101.2~115.7)



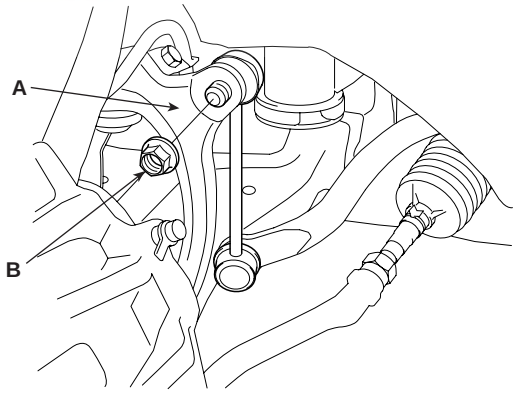
KHBF110C

CAUTION

Be careful not to damage to the aluminum lower arm.

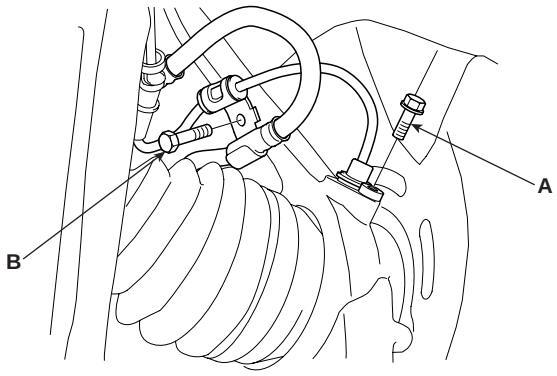
4. Install the front stabilizer link nut(B) to the fork(A).

Tightening torque Nm (kgf·m, lb-ft) :
100 ~ 120 (10 ~ 12, 72.3 ~ 86.8)



KHBF110B

5. Install the speed sensor bolt(A).

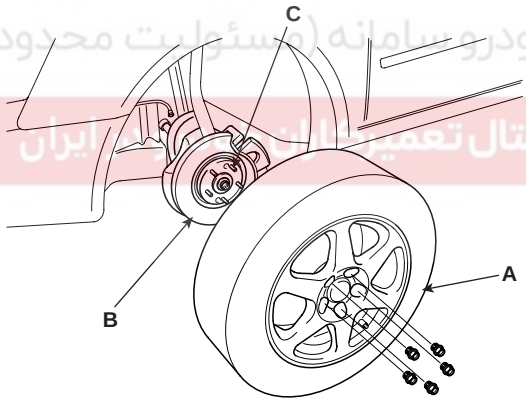


KHBF110F

6. Install the brake hose bracket to the fork and speed sensor cable mounting bolt(B) to the axle assembly.

7. Install the wheel and the tire(A) to the front hub(B).

Tightening torque Nm (kgf·m, lb-ft) :
90 ~ 110 (9 ~ 11, 65.1 ~ 79.5)



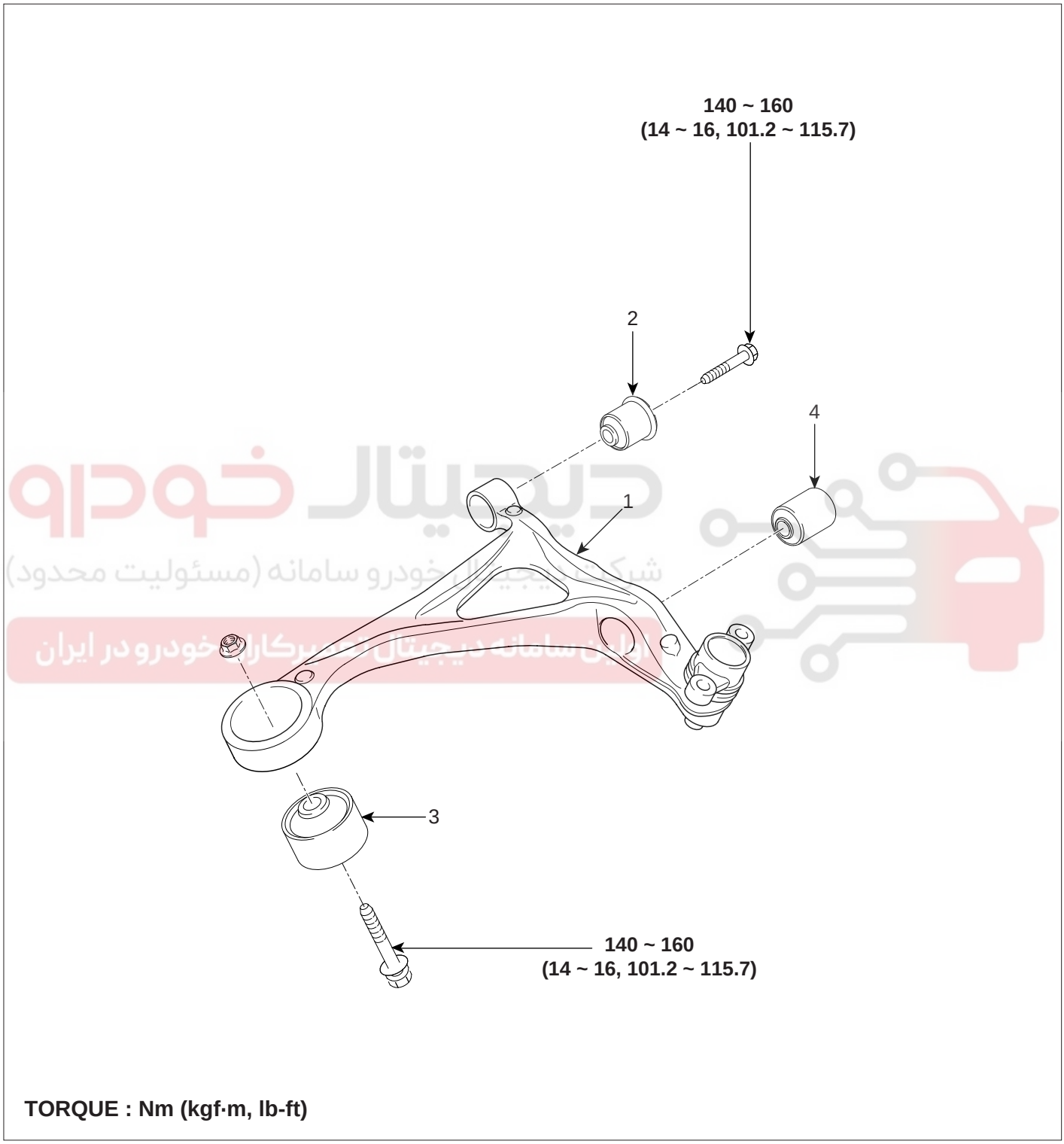
KHBF101A

CAUTION

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

FRONT LOWER ARM

COMPONENTS E8DA8891



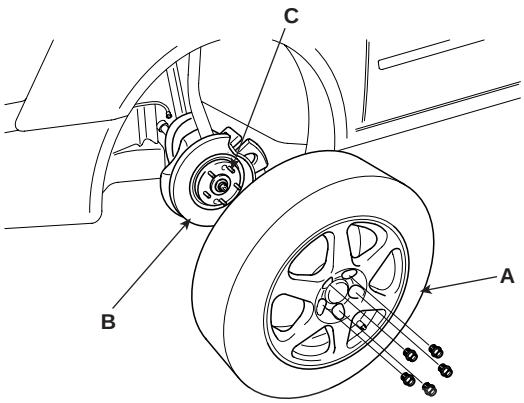
1. Front lower arm
2. Bushing (A)
3. Bushing (G)
4. Bushing

EHBF100C

REMOVAL EDFA84B2

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).

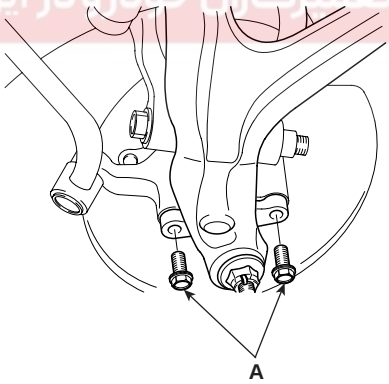


KHBF101A

CAUTION

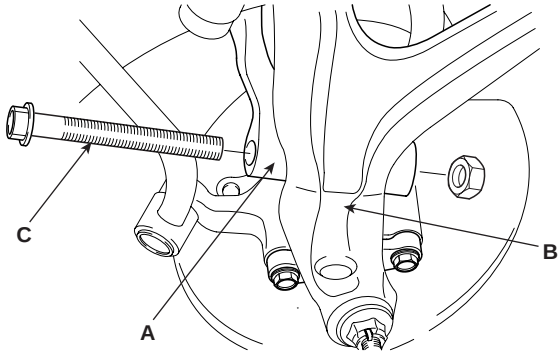
Be careful not to damage the hub bolts(C) when removing the front wheel and tire(A).

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



KHBF120A

4. Remove the front lower arm(B) connecting bolt(C) from the fork(A).

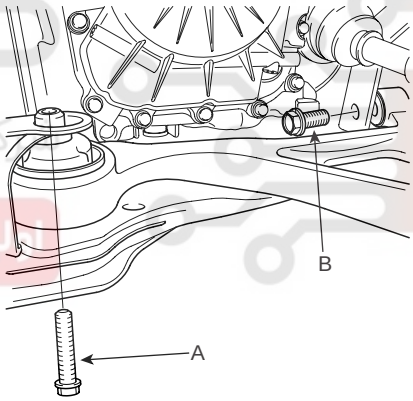


KHBF110C

CAUTION

Be careful not to damage to the aluminium lower arm.

5. Remove the lower arm mounting bolts(A, B).



EHBF500A

INSPECTION E933436C

1. Check the bushing for wear and deterioration.
2. Check the lower arm for bending or breakage.
3. Check the ball joint dust cover for cracks.
4. Check all bolts.
5. Check the lower arm ball joint for rotating torque.
   1) If a crack is noted in the dust cover, replace the ball joint assembly.
   2) Move the ball joint stud several times in a circular motion.
   3) Measure the ball joint rotating torque.

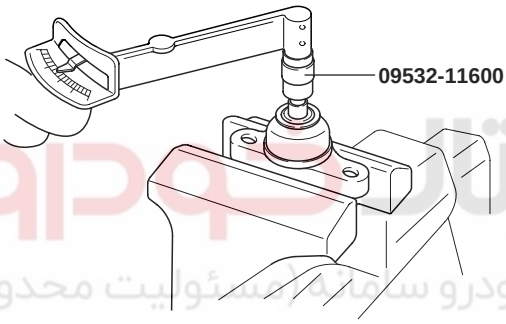
Standard value :
0.4 ~ 2 Nm (4 ~ 20 kgf·cm, 0.29 ~ 1.45 lb-ft)

NOTE

Measure torque using the special tool(09532-11600) and torque wrench at the range of 0.5 - 2 rpm after moving the ball joint stud at degree 3° several times at room temperature.

4) If the rotating torque is below the lower limit of standard value, replace the ball joint assembly.

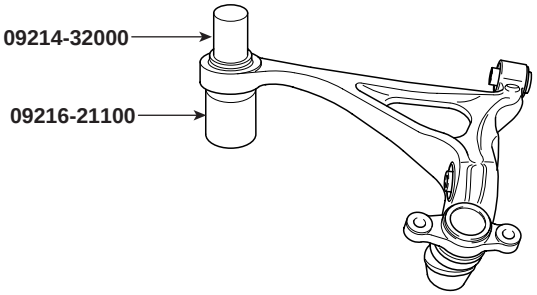
5) Even if the rotating toque is below the lower limit of the standard value, the ball joint may be reused unless it has drag and excessive play.



EHRF122A

REPLACEMENT EAE1BAD1

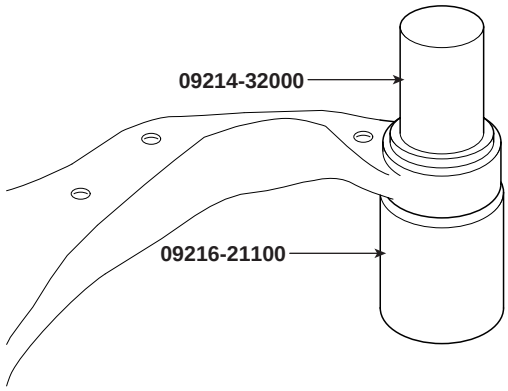
1. Using the special tools(09214-32000 & 09216-211000), remove the bushing from the lower arm.



KHBF123A

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.

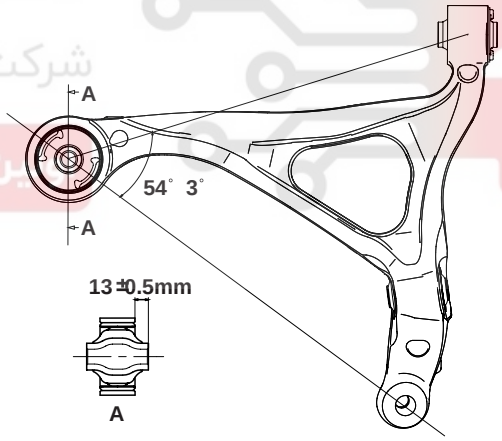


KHRE123B

CAUTION

Insert bushing in the direction shown in the illustration.

Separation force is over 800 Nm (800Kgf, 1763 lbf)

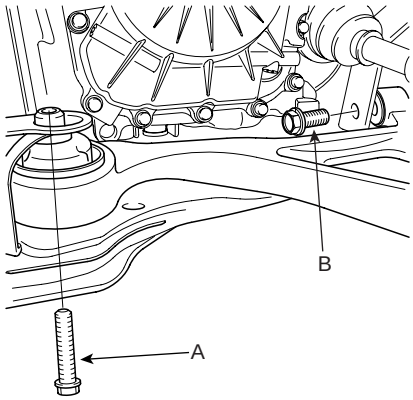


EHBF500C

INSTALLATION EF4DA19F

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

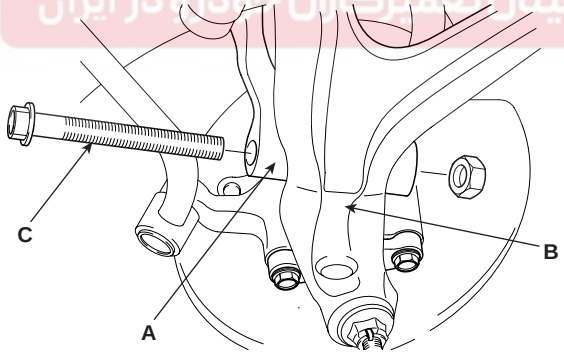
Tightening torque Nm (kgf·m, lb-ft) :
140 ~ 160 (14 ~ 16, 101.2 ~ 115.7)



EHBF500A

2. Install the lower arm(B) connecting bolt(C) to the fork(A).

Tightening torque Nm (kgf·m, lb-ft) :
140~160 (14~16, 101.2~115.7)



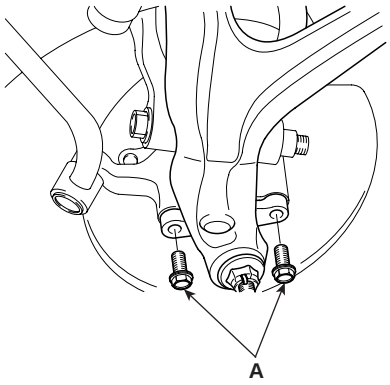
KHBF110C

CAUTION

Be careful not to damage to the aluminium lower arm.

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

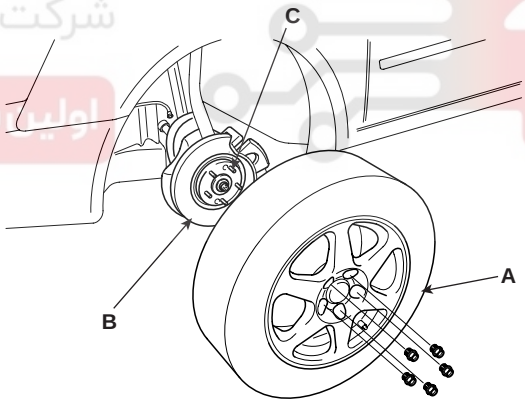
Tightening torque Nm (kgf·m, lb-ft) :
100 ~ 120 (10 ~ 12, 72.3 ~ 86.8)



KHBF120A

4. Install the wheel and the tire(A) to the front hub(B).

Tightening torque Nm (kgf·m, lb-ft) :
90 ~ 110 (9 ~ 11, 65.1 ~ 79.5)



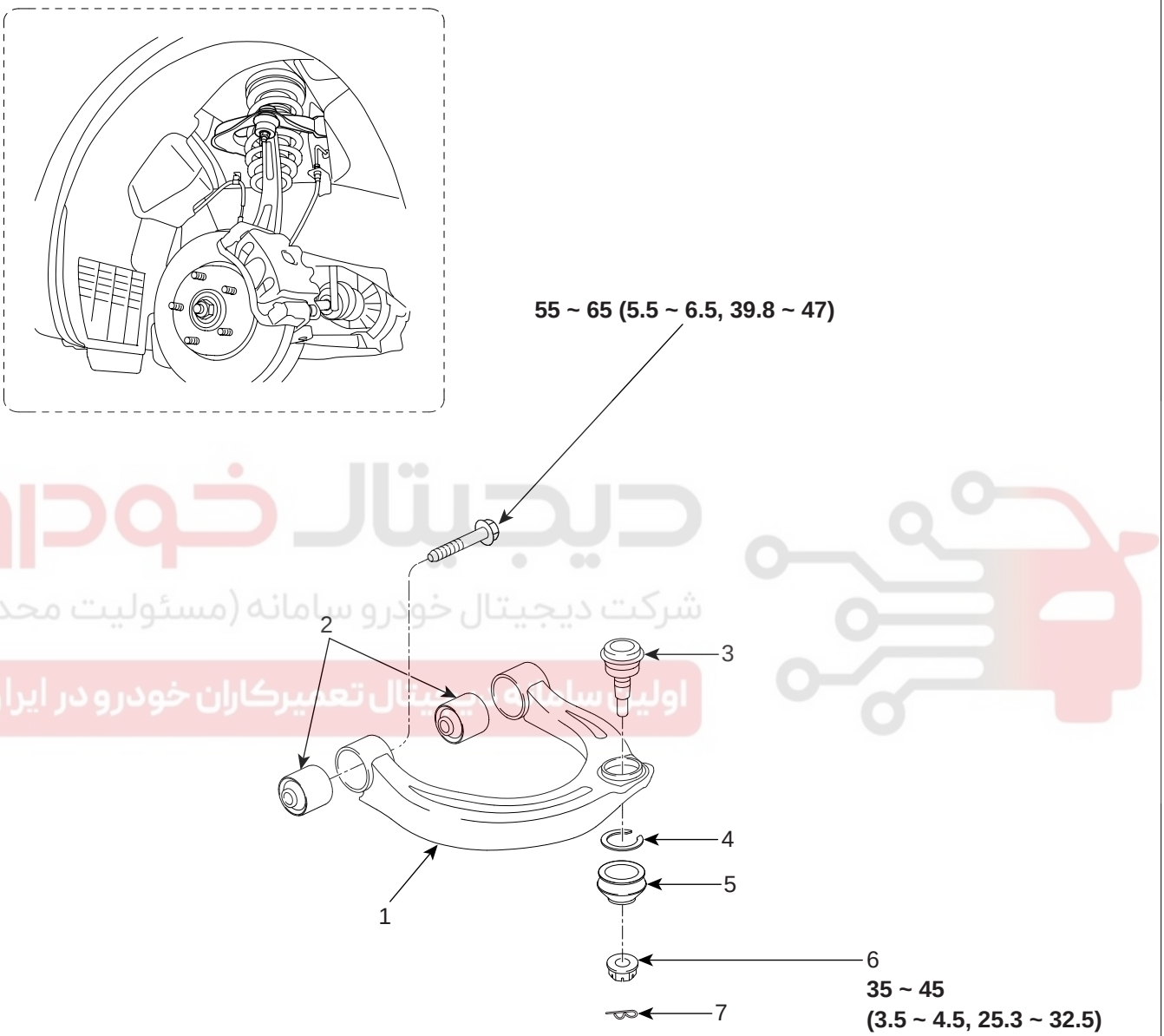
KHBF101A

CAUTION

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

FRONT UPPER ARM

COMPONENTS E4F2EAE6



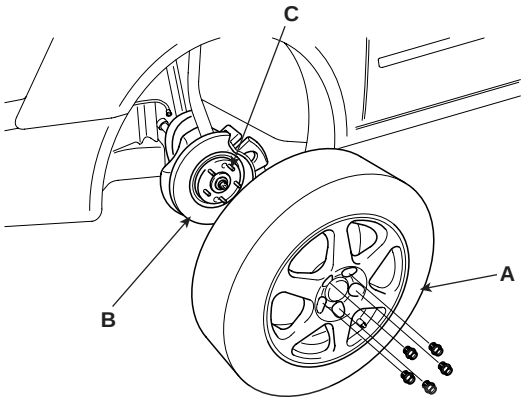
1. Front upper arm
2. Bushing
3. Ball joint
4. Snap ring
5. Boot
6. Self-locking nut
7. Split pin

EHBF100D

REMOVAL E2CDA723

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).

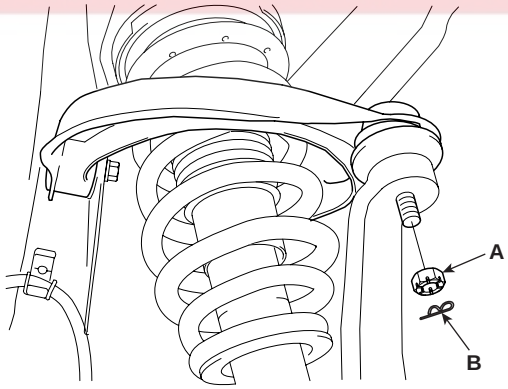


KHBF101A

CAUTION

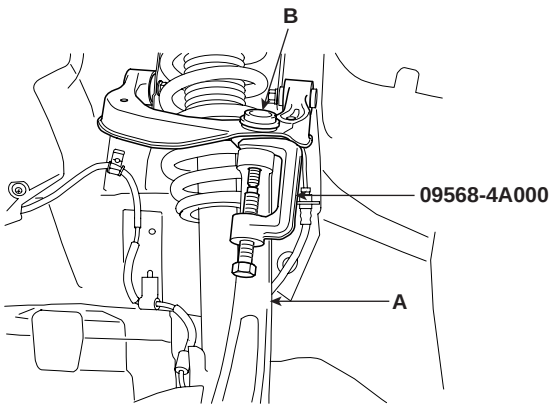
Be careful not to damage the hub bolts(C) when removing the front wheel and tire(A).

3. Remove the upper arm ball joint self-locking nut(A) and the split pin(B).



KHBF130A

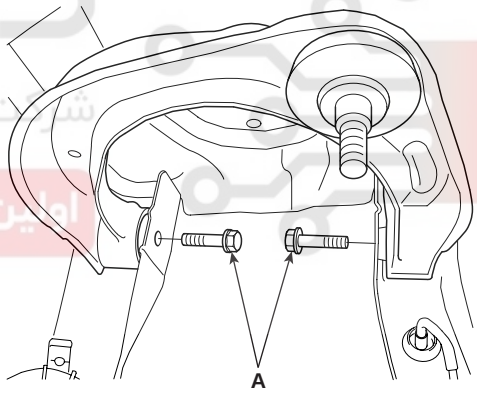
4. Using the special tools(09568-4A000), disconnect the upper arm ball joint(B) from the knuckle(A).



KHBF130B

5. Remove the front strut assembly (Refer to SS-10).

6. Remove the two upper arm mounting bolts(A) from the body.



KHRE130C

INSPECTION E41AF84F

1. Check the bushing for wear and deterioration.

2. Check the upper arm for bending or breakage.

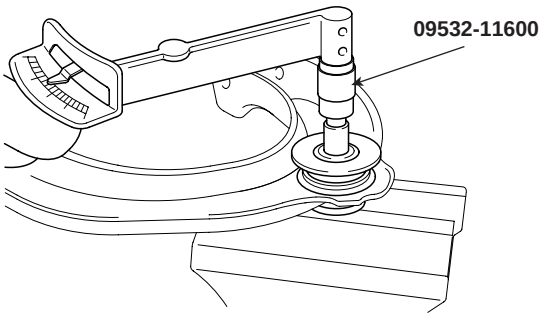
3. Check the ball joint for rotating torque.

   1) If there is a crack in the dust cover, replace it and add grease.

   2) Move the stabilizer link ball joint stud several times in a circular motion.

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

Standard value :
0.5 ~ 1.5 Nm (5 ~ 15 kgf·cm, 0.36 ~ 1.09 lb-ft)



EHRF132A

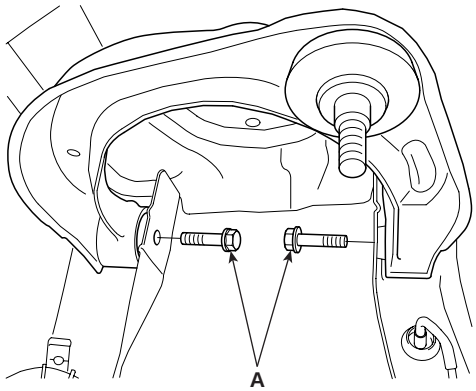
4) If the rotating torque exceeds the upper limit of standard value, replace the upper arm assembly.

5) Even if the rotating toque is below the lower limit of the standard value, the ball joint may be reused unless it has drag and excessive play.

INSTALLATION EBFBE35C

1. Install the two upper arm mounting bolts(A) to the body.

Tightening torque Nm (kgf·m, lb-ft) :
55 ~ 65 (5.5 ~ 6.5, 39.8 ~ 47.0)

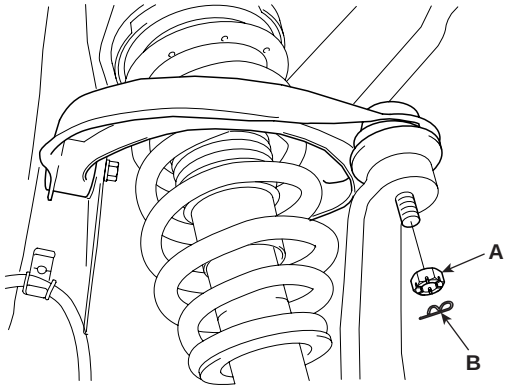


KHRE130C

2. Install the front strut assembly (Refer to SS-12).

3. Install the upper arm ball joint self-locking nut(A) and the split pin(B).

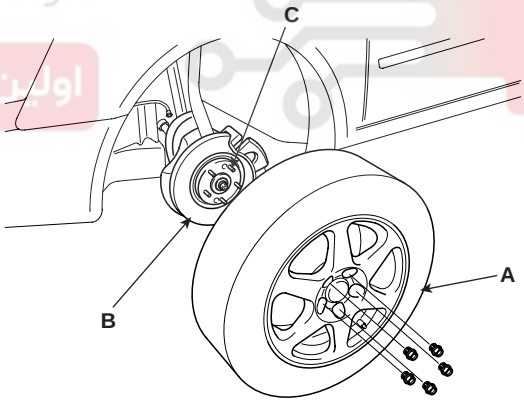
Tightening torque Nm (kgf·m, lb-ft) :
35 ~ 45 (3.5 ~ 4.5, 25.3 ~ 32.5)



KHBF130A

4. Install the wheel and the tire(A) to the front hub(B).

Tightening torque Nm (kgf·m, lb-ft) :
90 ~ 110 (9 ~ 11, 65.1 ~ 79.5)



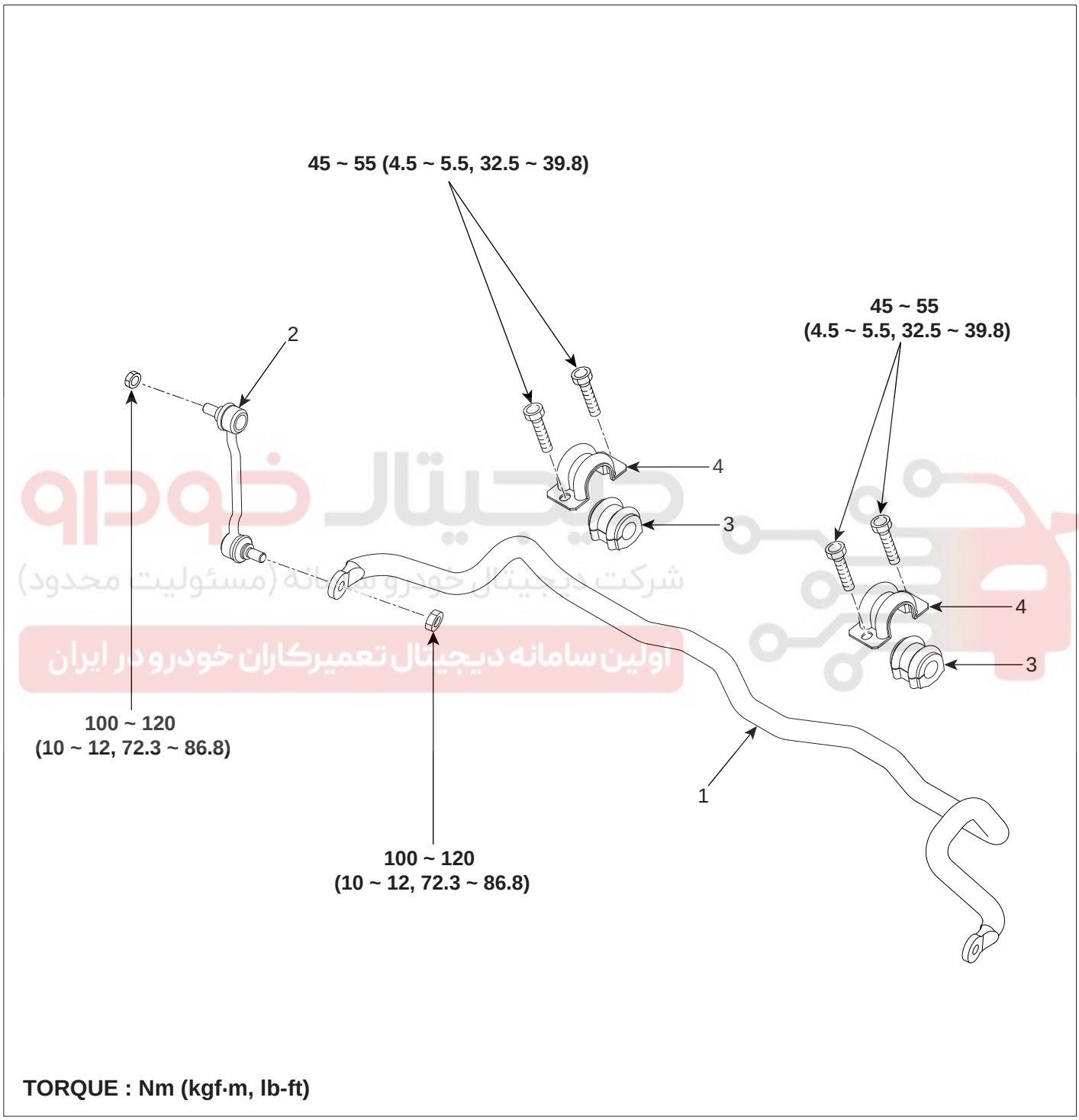
KHBF101A

CAUTION

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

FRONT STABILIZER BAR

COMPONENTS EFEDF04D

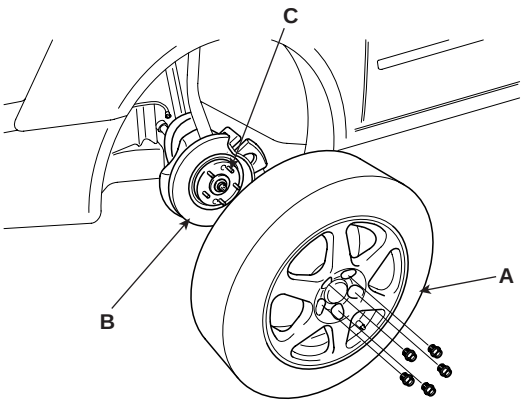


1. Front stabilizer bar
2. Front stabilizer link
3. Bushing
4. Bracket

EHBF100E

REMOVAL EE28D0FF

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).

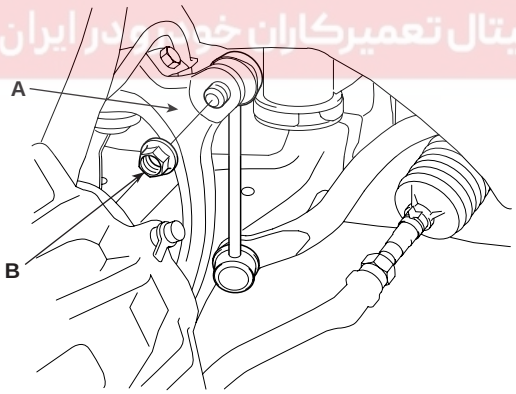


KHBF101A

CAUTION

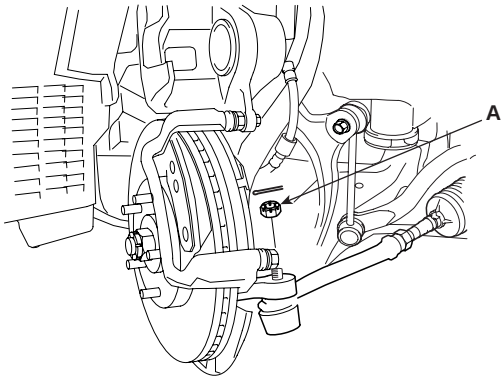
Be careful not to damage the hub bolts(C) when removing the front wheel and tire(A).

3. Remove the stabilizer link(B) from the fork(A).

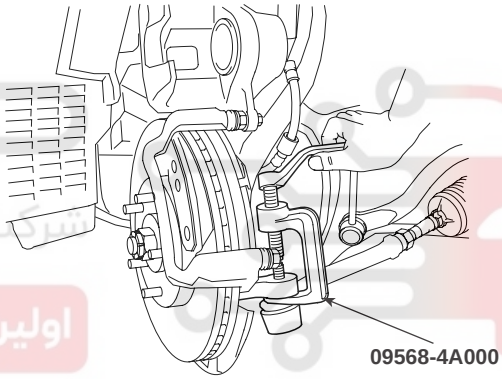


KHBF110B

4. After removing both sides of the tie rod end self-locking nuts(A), remove the ball joint by using the special tool(09568-4A000).

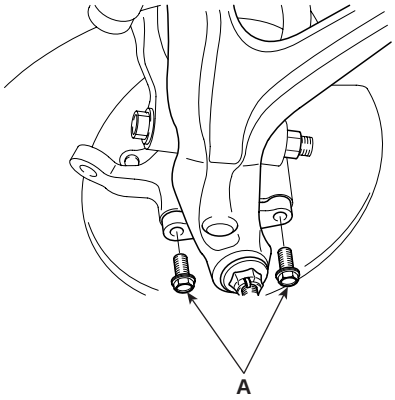


KHBF140G



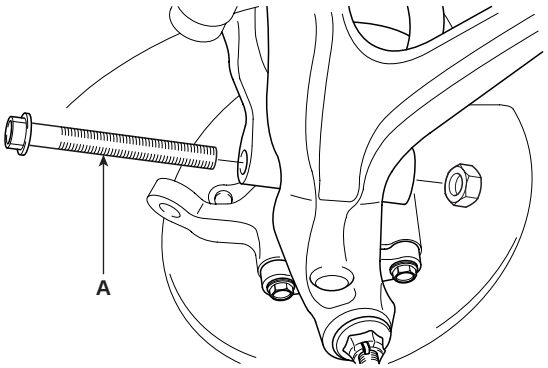
KHBF105B

5. Remove both sides of the lower arm mounting bolts(A).



KHBF140D

6. Remove both sides of the connecting bolts(A) between the lower arm and the fork.

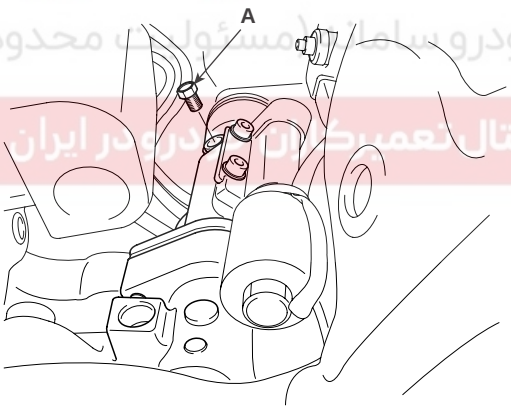


KHBF140E

CAUTION

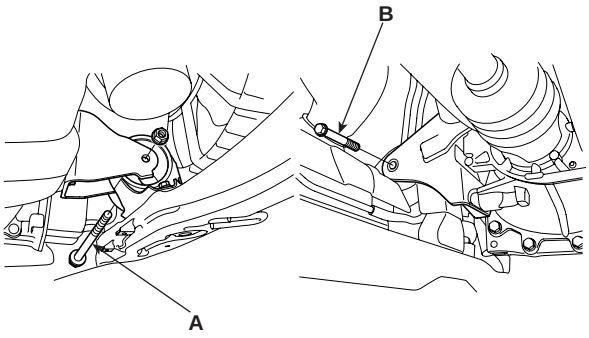
Be careful not to damage to the aluminium lower arm.

7. Remove the connecting bolt(A) between the steering universal joint assembly and the pinion assembly.



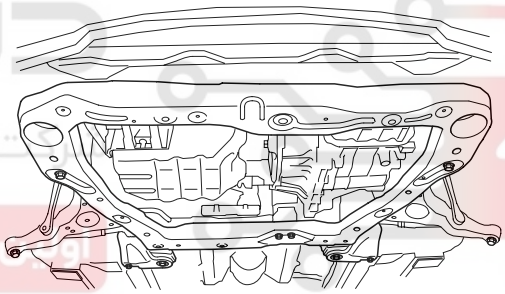
KHBF140F

8. Remove the engine mounting bolts(A,B)



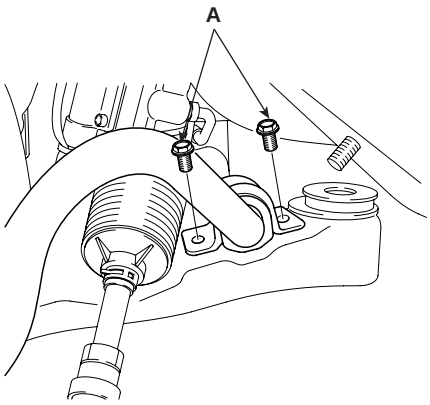
KHBF301A

9. Remove the eight bolts and nuts of the sub frame by supporing it with a jack.



KHBF301C

10. After lowering the jack which supports the sub frame in a proper level, remove both sides of the stabilizer bar assembly mounting bolts(A).



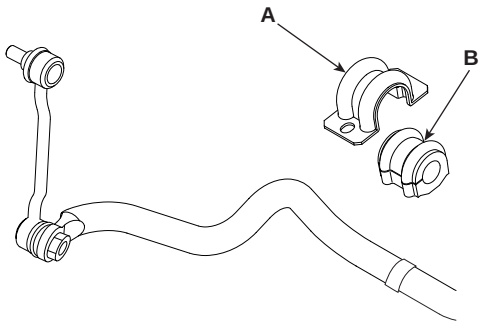
KHBF140H

11. Remove the stabilizer bar assembly through the gap between the body and the rear side of the sub frame.

CAUTION

Be careful not to damage to the powersteering related tubes.

12. Remove the brackets(A) and the bushings(B).



KHBF140I

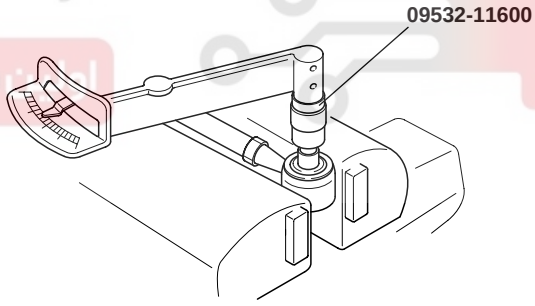
INSPECTION EEC76BAA

1. Check the bushing for wear and deterioration.
2. Check the stabilizer bar for bending or breakage.
3. Check the ball joint for rotating torque.
   1) If there is a crack in the dust cover, replace it and add grease.
   2) Move the stabilizer link ball joint stud several times in a circular motion.
   3) Mount the self-locking nut on the ball joint, and then measure the ball joint rotating torque.

Standard value :
0.7 ~ 2 Nm (7 ~ 20 kgf·cm, 0.51 ~ 1.45 lb-ft)

NOTE

Measure torque using the special tool(09532-11600) and torque wrench at the range of 0.5 - 2 rpm after moving the ball joint stud at degree 3 several times at room temperature.

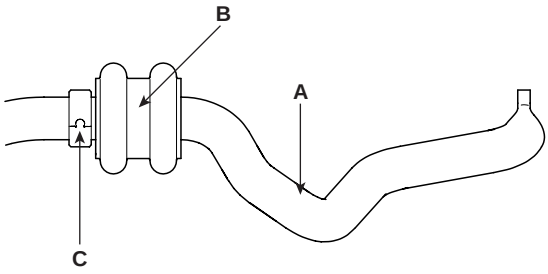


EHRF142A

   4) If the rotating torque exceeds the upper limit of standard value, replace the upper arm assembly.
   5) Even if the rotating toque is below the lower limit of the standard value, the ball joint may be reused unless it has drag and excessive play.

INSTALLATION ED3F0B95

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



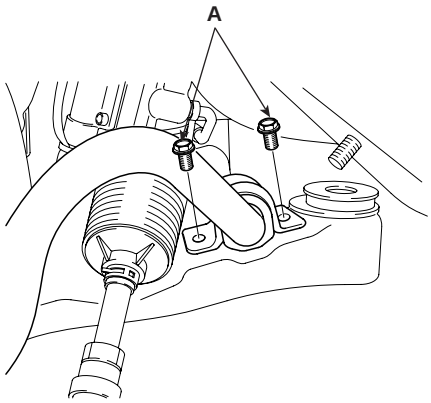
KHRE144A

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.
4. Install the stabilizer bar bracket mounting bolts(A) to the sub frame.

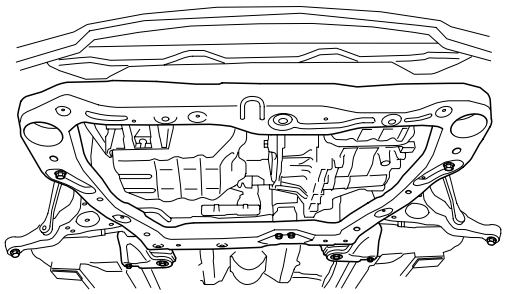
Tightening torque Nm (kgf·m, lb-ft) :
45 ~ 55 (4.5 ~ 5.5, 32.5 ~ 39.8)



KHBF140H

5. After lifting the jack which supports the sub frame, install the eight bolts and nuts of the sub frame.

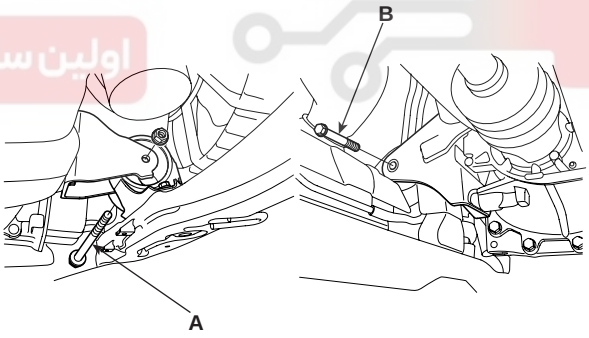
Tightening torque Nm (kgf·m, lb-ft) :
140 ~ 160 (14 ~ 16, 101.2 ~ 115.7)



KHBF301C

6. Install the engine mounting bolts(A,B)

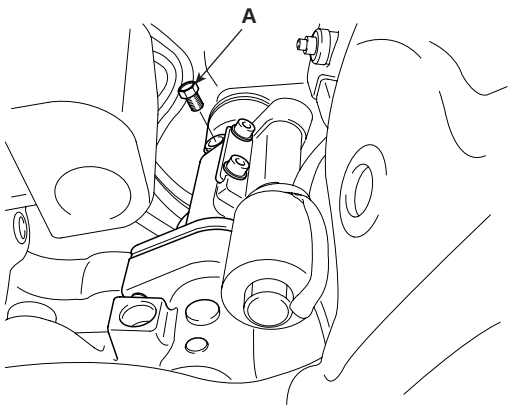
Tightening torque Nm (kgf·m, lb-ft) :
50 ~ 65 (5 ~ 6.5, 36.2 ~ 47.0)



KHBF301A

7. Install the connecting bolt(A) between the steering universal joint assembly and the pinion assembly.

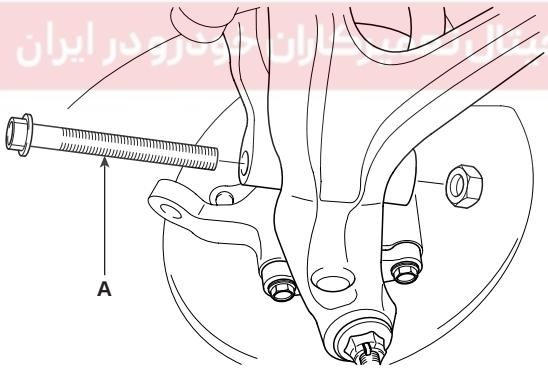
Tightening torque Nm (kgf·m, lb-ft) :
15 ~ 20 (1.5 ~ 2.0, 10.8 ~ 14.5)



KHBF140F

8. Install both sides of the connecting bolts(A) between the lower arm and the fork.

Tightening torque Nm (kgf·m, lb-ft) :
140 ~ 160 (14 ~ 16, 101.2 ~ 115.7)



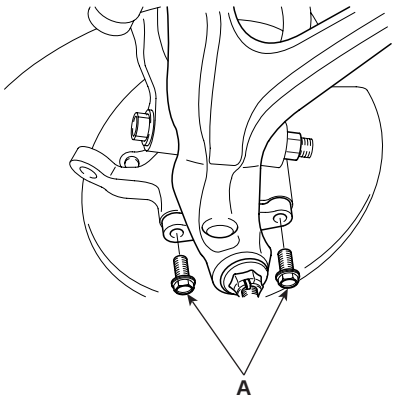
KHBF140E

CAUTION

Be careful not to damage to the aluminium lower arm.

9. Install both sides of the lower arm mounting bolts(A).

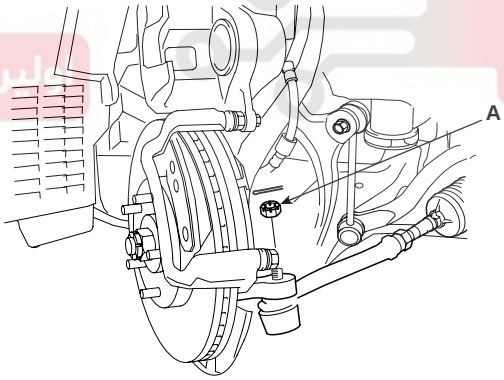
Tightening torque Nm (kgf·m, lb-ft) :
100 ~ 120 (10 ~ 12, 72.3 ~ 86.8)



KHBF140D

10. Install both sides of the tie rod end self-locking nuts(A).

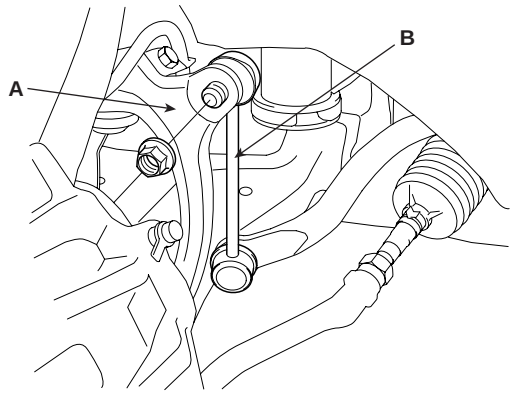
Tightening torque Nm (kgf·m, lb-ft) :
50 ~ 55 (5 ~ 5.5, 36.2 ~ 39.8)



KHBF140G

11. Install the stabilizer link(B) to the fork(A).

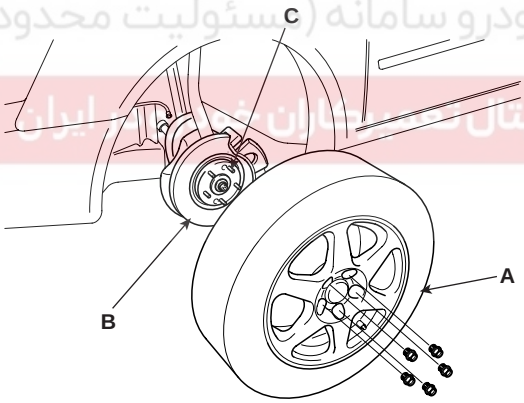
Tightening torque Nm (kgf·m, lb-ft) :
100 ~ 120 (10 ~ 12, 72.3 ~ 86.8)



KHRE110B

12. Install the wheel and the tire(A) to the front hub(B).

Tightening torque Nm (kgf·m, lb-ft) :
90 ~ 110 (9 ~ 11, 65.1 ~ 79.5)



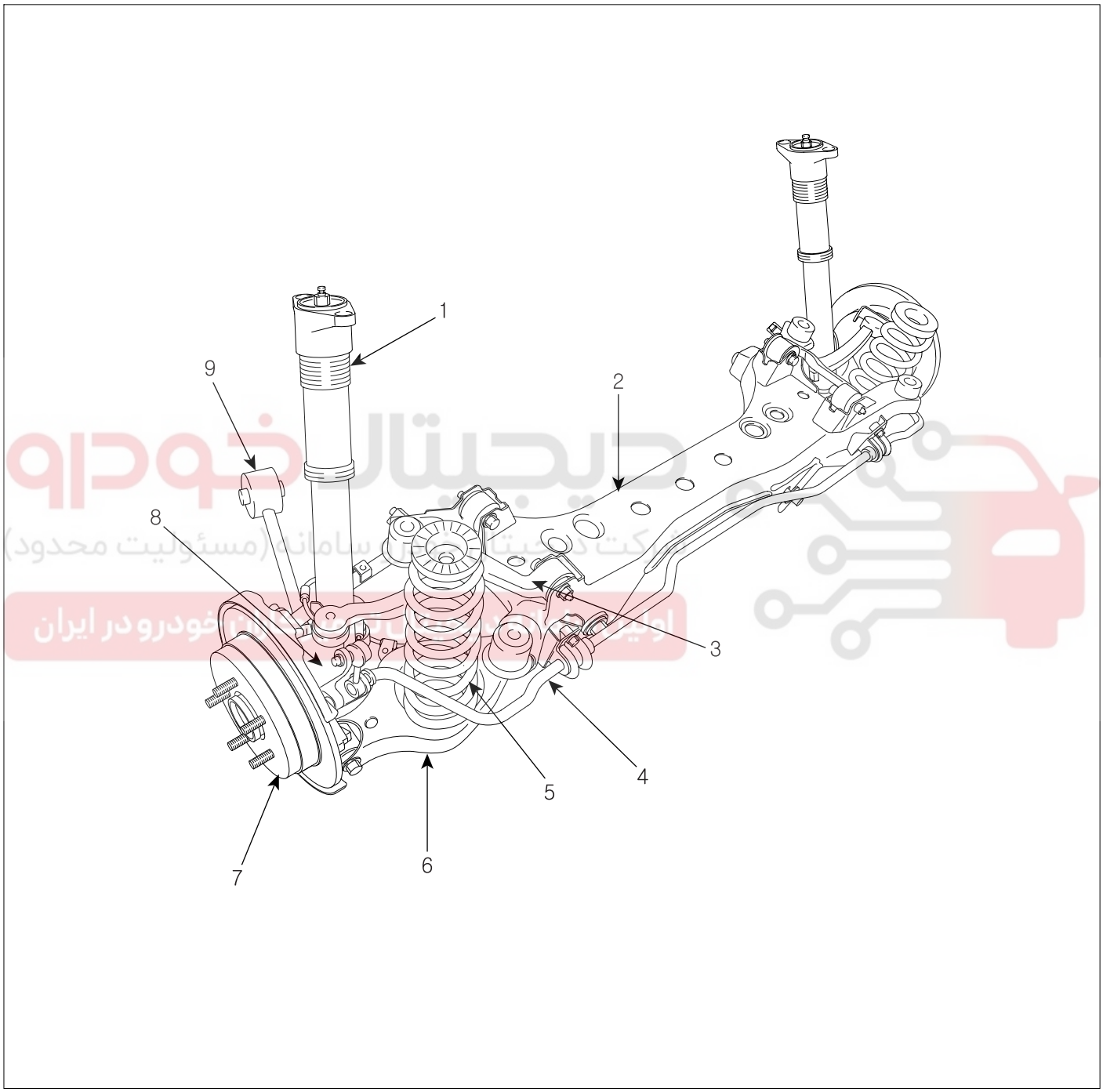
KHBF101A

CAUTION

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

REAR SUSPENSION SYSTEM

COMPONENTS EEFCF5CF

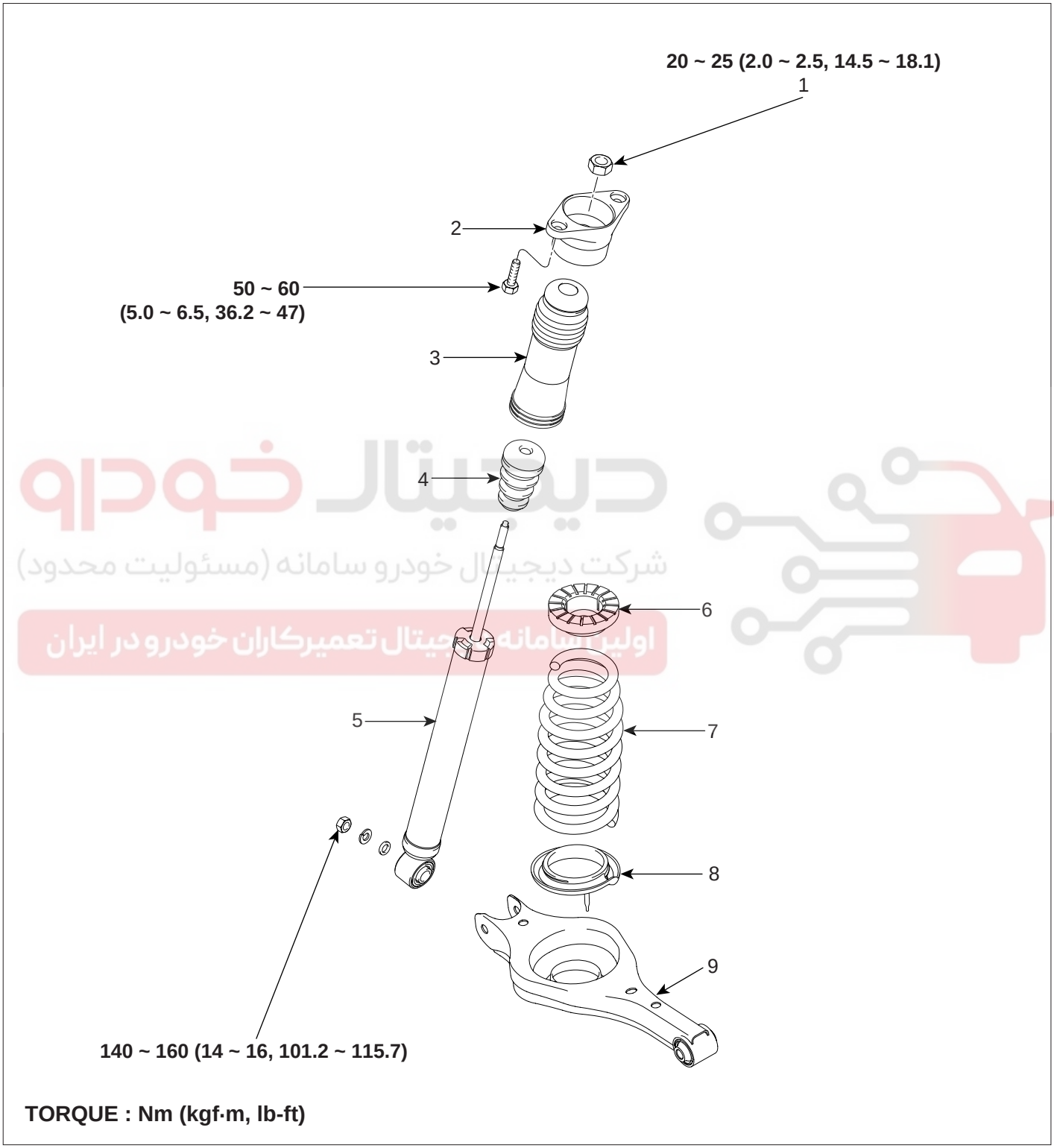


1. Rear shock absorber assembly
2. Rear cross member
3. Rear upper arm
4. Rear stabilizer bar assembly
5. Coil spring
6. Rear lower arm
7. Rear brake assembly
8. Rear knuckle
9. Trailing arm

EHBF200G

REAR STRUT ASSEMBLY

COMPONENTS E063D863

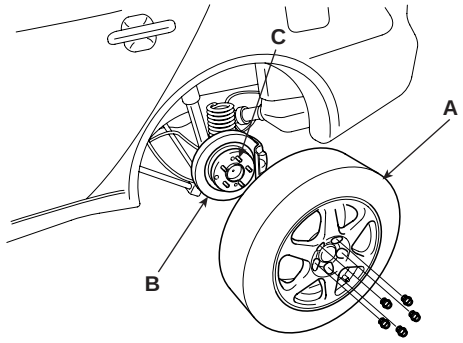


1. Self-locking nut
2. Bracket
3. Dust cover
4. Urethane bumper
5. Shock absorber
6. Upper pad
7. Spring
8. Lower pad
9. Rear lower arm

BHRF200A

REMOVAL E976D9BC

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).

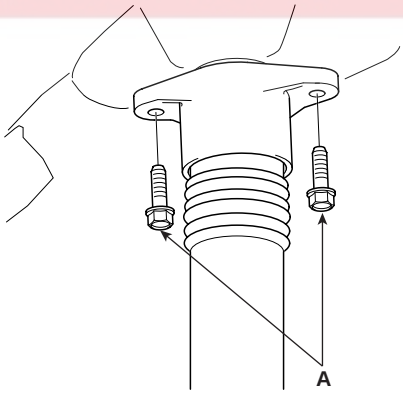


KHBF201A

CAUTION

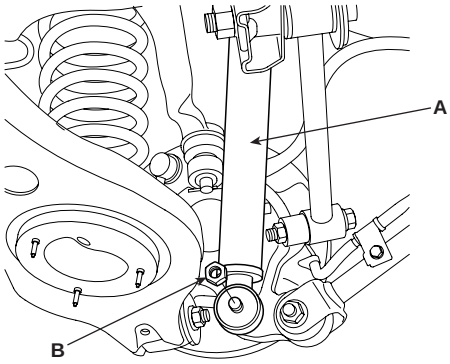
Be careful not to damage the hub bolts(C) when removing the rear wheel and tire(A).

3. Remove the two rear shock absorber assembly mounting bolts(A).



KHRE210A

4. Remove the rear shock absorber assembly nut(B) from the rear knuckle, then remove the shock absorber assembly(A).

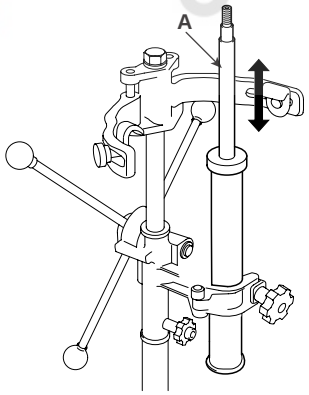


KHBF210B

5. Disassembly the rubber bumper and the dust cover from the rear shock absorber.

INSPECTION E10EB2E3

1. Check the rubber parts for damage or deterioration.
2. Check the shock absorber for abnormal resistance or unusual sounds.



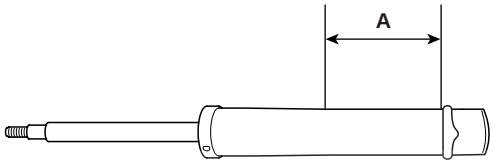
KHRE112A

DISPOSAL EFABC1FD

1. Fully extend the shock absorber rod.
2. Drill a hole to remove gas from the cylinder.

CAUTION

The gas coming out is harmless, but be careful of chips that may fly up when drilling. Be sure to use face shield and safety goggles.

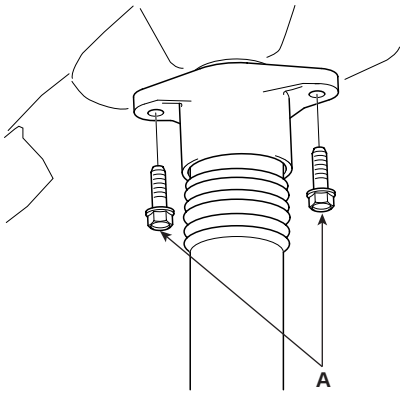


KHRE112B

INSTALLATION EDF88DCF

1. Assembly the rubber bumper and the dust cover to the rear shock absorber, after pulling the rod of the rear shock absorber completely.
2. Install the two rear shock absorber mounting bolts(A).

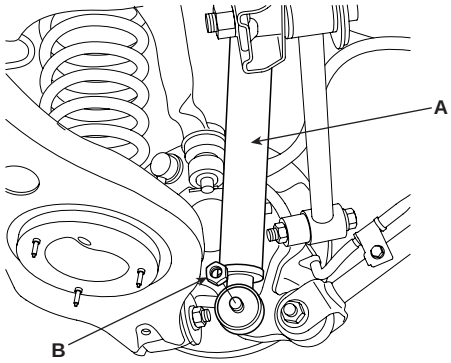
Tightening torque Nm (kgf·m, lb-ft) :
50 ~ 65 (5.0 ~ 6.5, 36.2 ~ 47.0)



KHRE210A

3. Install the shock absorber assembly(A) nut(B) to the rear knuckle with the specified torque.

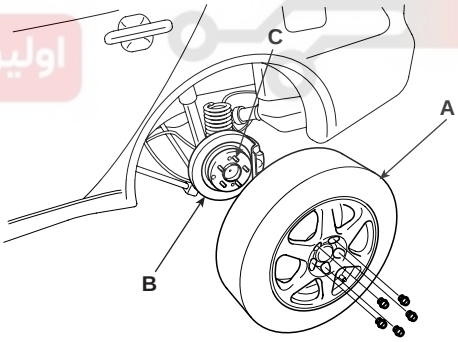
Tightening torque Nm (kgf·m, lb-ft) :
140 ~ 160 (14~16, 101.2~115.7)



KHBF210B

4. Install the wheel and the tire(A) to the rear hub(B).

Tightening torque Nm (kgf·m, lb-ft) :
90 ~ 110 (9 ~ 11, 65.1 ~ 79.5)



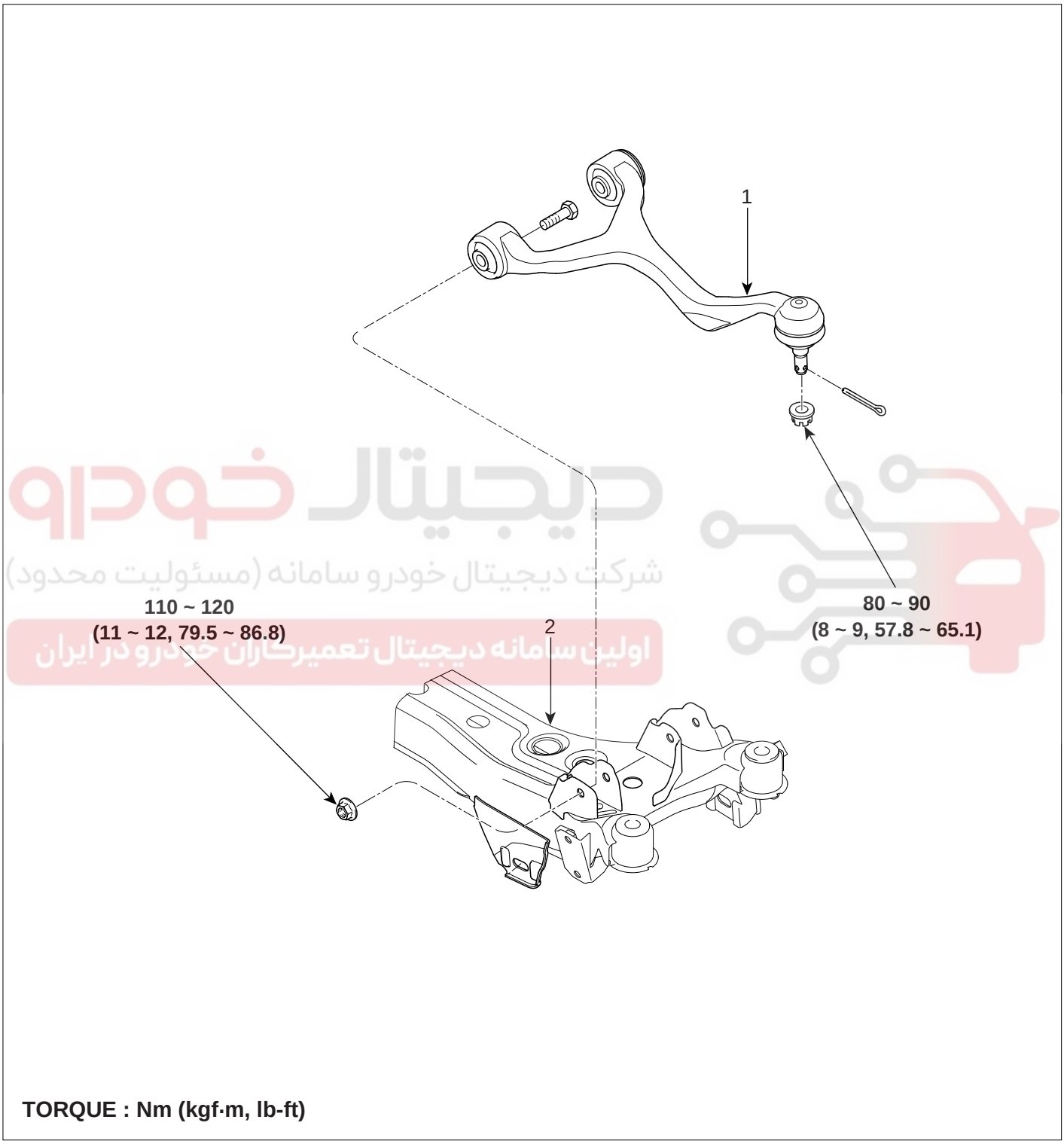
KHBF201A

CAUTION

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

REAR UPPER ARM

COMPONENTS EADB2BA3

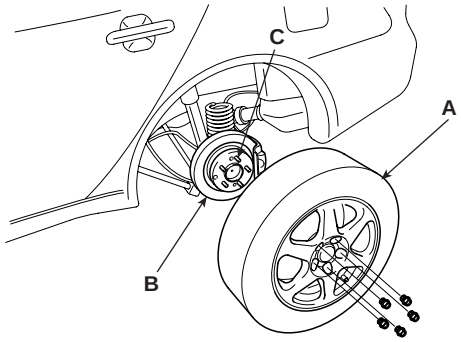


1. Rear upper arm
2. Rear cross member

EHBF200B

REMOVAL EE90DAFA

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).

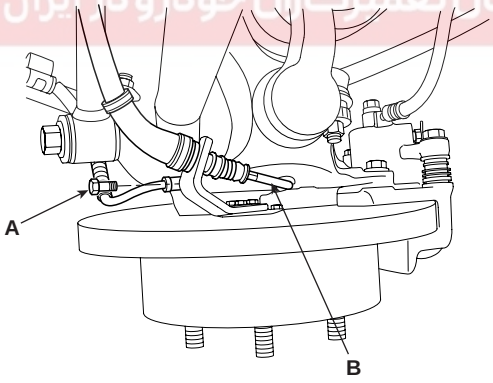


KHBF201A

CAUTION

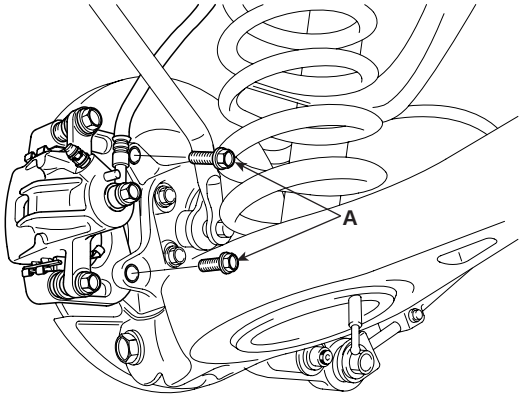
Be careful not to damage the hub bolts(C) when removing the rear wheel and tire(A).

3. Remove the wheel speed sensor bolt(A) and the parking brake cable(B).

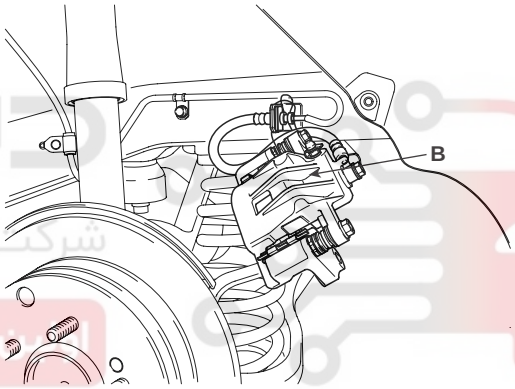


KHBF220A

4. Remove the brake caliper mounting bolts(A), and then place the brake caliper assembly with wire as shown in the illustration.

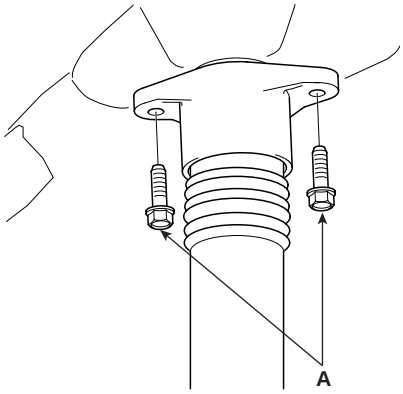


KHBF220F

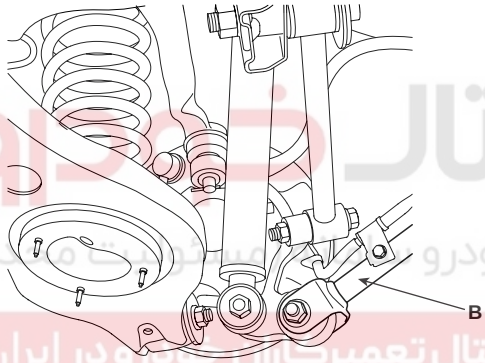


KHBF220G

5. Remove the rear shock absorber mounting bolts(A) and the trailing arm(B) from the knuckle.

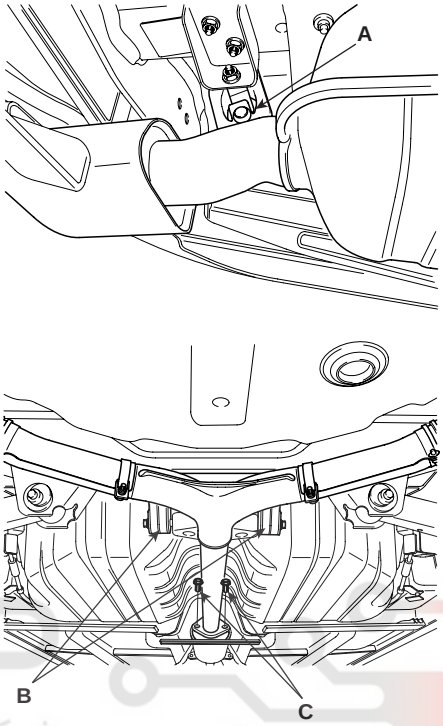


KHRE210A



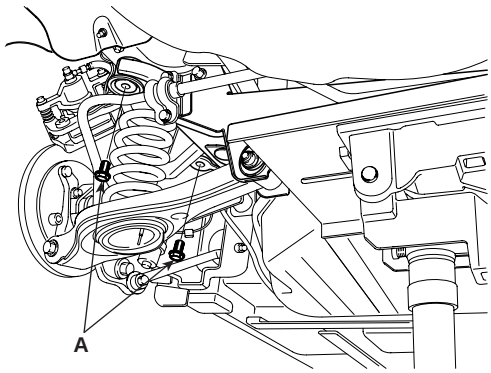
KHBF220B

6. Remove the four rear muffler mounting rubbers(A,B) and the connecting bolts(C).



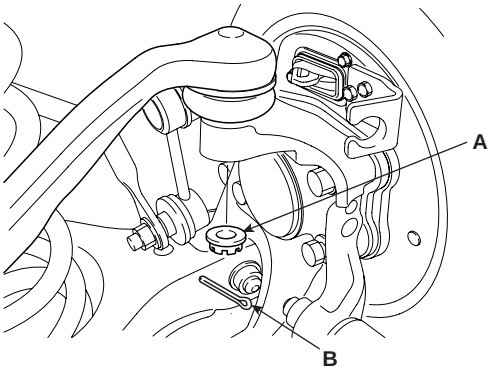
KHBF220E

7. After securely supporting the cross member by a jack, remove the four cross member mounting bolts(A).



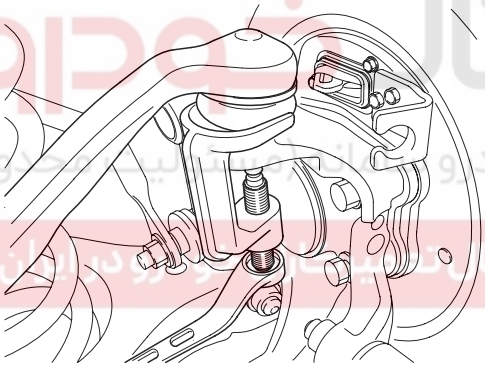
KHBF220C

8. Remove the rear upper arm ball joint self-locking nut(A) and the split pin(B).



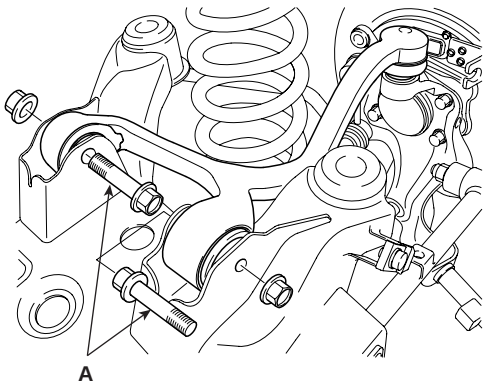
KHBF220D

9. Remove the rear upper arm ball joint(A) by using the special tool(09568-4A000).



KHBF220H

10. Remove the rear upper arm mounting bolts(A).



KHBF220I

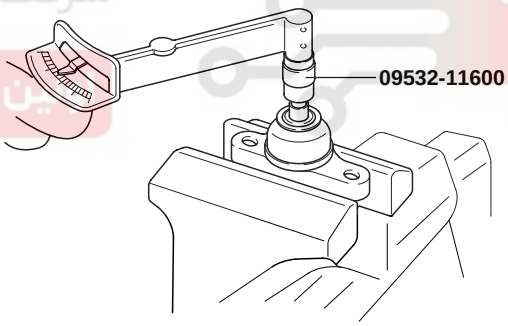
INSPECTION E8B22EB7

1. Check the bushing for wear and deterioration.
2. Check the upper arm for bending or breakage.
3. Check the ball joint for rotating torque.
   1) If there is a crack in the dust cover, replace it and add grease.
   2) Move the stabilizer link ball joint stud several times in a circular motion.
   3) Mount the self-locking nut on the ball joint, and then measure the ball joint rotating torque.

Specified torque :
1 ~ 5 Nm (10 ~ 50 kgf·cm, 0.73 ~ 3.64 lb-ft)

NOTE

Measure a torque by using the special tool(09532-11600) and torque wrench, at the range of 3 rpm at room temperature, 10 seconds after moving the ball joint stud 10 times



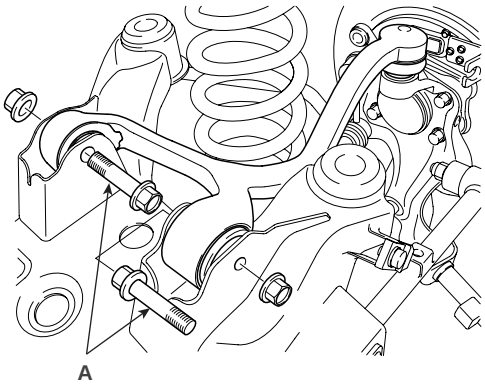
EHRF122A

   4) If the rotating torque exceeds the upper limit of standard value, replace the upper arm assembly.
   5) Even if the rotating toque is below the lower limit of the standard value, the ball jointmay be reused unless it has drag and excessive play.

INSTALLATION EDBED3A7

1. Install the rear upper arm mounting bolts(A).

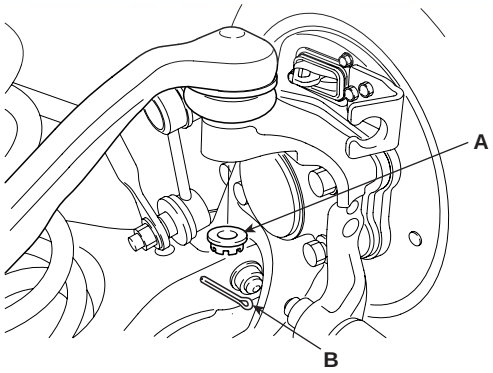
Tightening torque Nm (kgf·m, lb-ft) :
100 ~ 120 (10 ~ 12, 72.3 ~ 86.8)



KHBF220I

2. Install the rear upper arm ball joint self-locking nut(A) and the split pin(B).

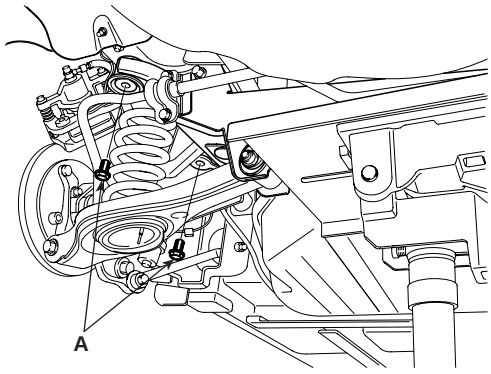
Tightening torque Nm (kgf·m, lb-ft) :
80 ~ 90 (8 ~ 9, 57.8 ~ 65.1)



KHBF220D

3. After securely supporting the cross member by a jack, Install the four cross member mounting bolts(A).

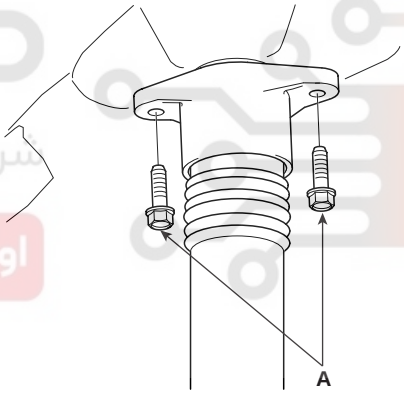
Tightening torque Nm (kgf·m, lb-ft) :
140 ~ 160 (14 ~ 16, 101.2 ~ 115.7)



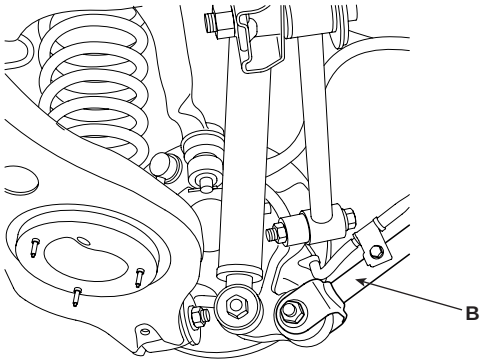
KHBF220C

4. Install the rear shock absorber mounting bolts(A) and the trailing arm(B) to the knuckle.

Tightening torque Nm (kgf·m, lb-ft) :
50 ~ 65 (5~ 6.5, 36.2 ~ 47.0)



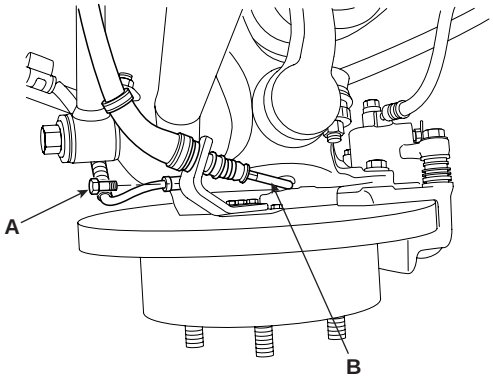
KHRE210A



KHBF220B

5. Install the wheel speed sensor bolt(A) and the parking brake cable(B).

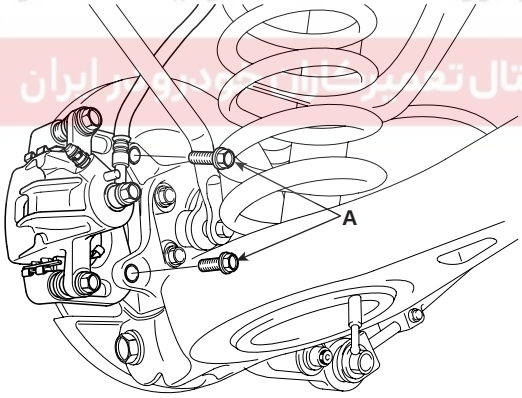
Tightening torque Nm (kgf·m, lb-ft) :
7 ~ 11 (0.7 ~ 1.1, 6.86 ~ 10.78)



KHBF220A

6. Install the brake caliper mounting bolts(A).

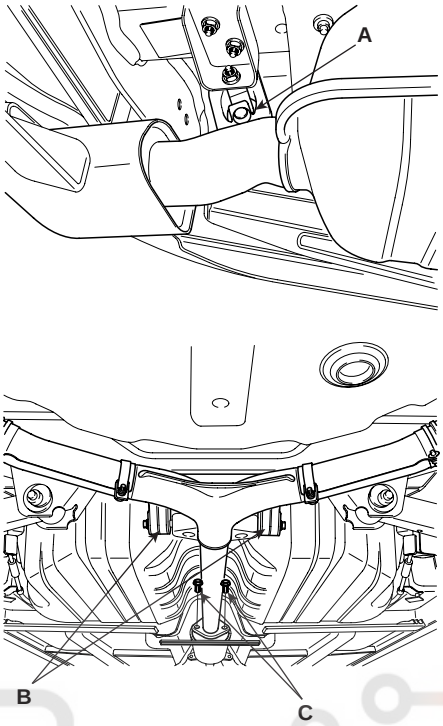
Tightening torque Nm (kgf·m, lb-ft) :
80 ~ 100 (8 ~ 10, 57.8 ~ 72.3)



KHBF220F

7. Install the four rear muffler mounting rubbers(A,B) and the connecting bolts(C).

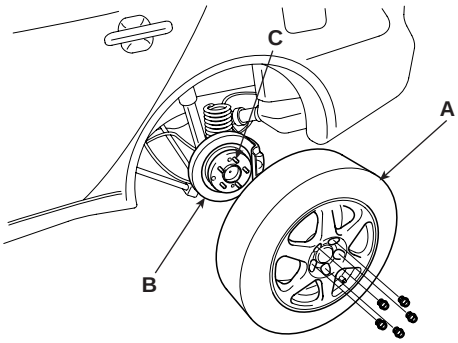
Tightening torque Nm (kgf·m, lb-ft) :
40 ~ 60 (4 ~ 6, 28.9 ~ 43.4)



KHBF220E

8. Install the wheel and the tire(A) to the rear hub(B).

Tightening torque Nm (kgf·m, lb-ft) :
90 ~ 110 (9 ~ 11, 65.1 ~ 79.5)



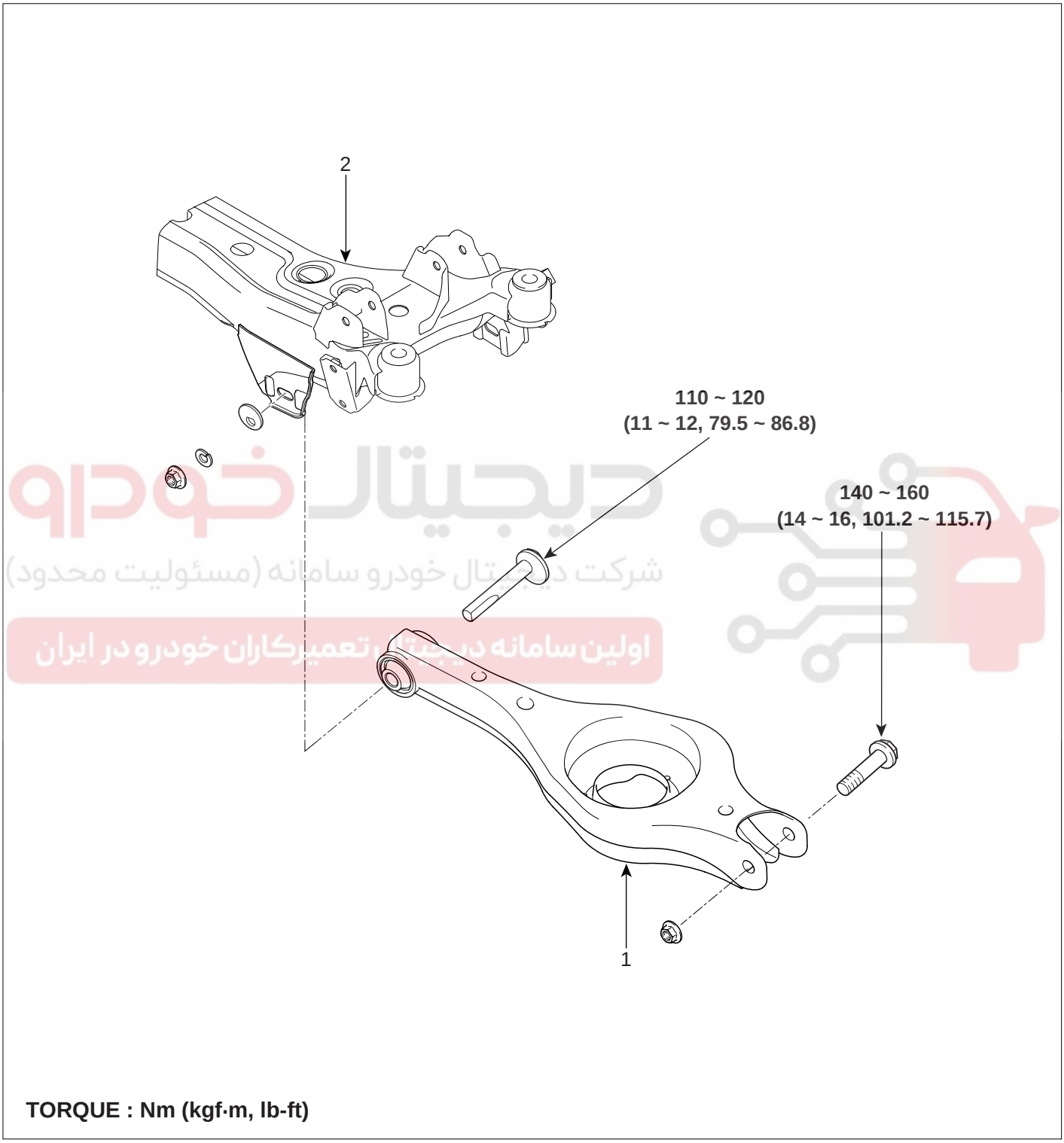
KHBF201A

CAUTION

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

REAR LOWER ARM

COMPONENTS E4AB7E1D



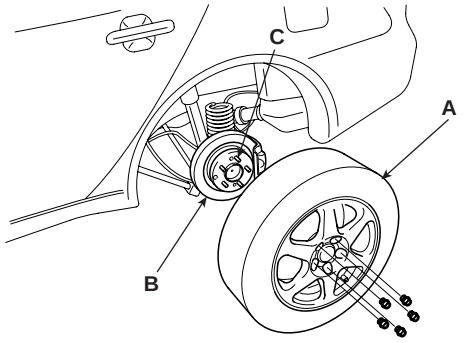
1. Rear lower arm
2. Rear cross member

EHBF200C

REMOVAL E2DD05DD

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).

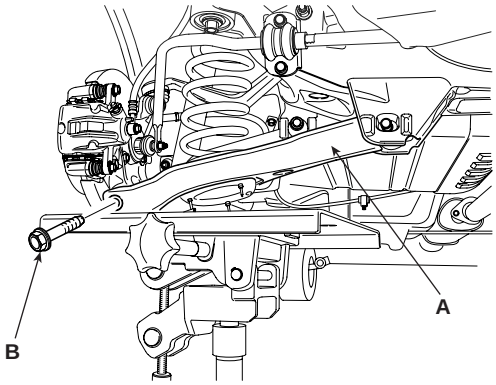


KHBF201A

CAUTION

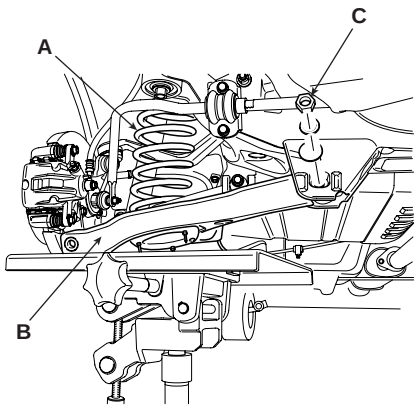
Be careful not to damage the hub bolts(C) when removing the rear wheel and tire(A).

3. Remove the lower arm bolt(B) from the rear knuckle, while supporting the lower arm(A) with a jack as shown in the illustration.



KHBF221F

4. Remove the spring(A), the lower seat, and the upper pad.



KHBF230D

5. Remove the lower arm mounting bolts(B) from the cross member(C).

INSPECTION E0D0CFA8

REAR LOWER ARM

1. Check the bushing for wear and deterioration.
2. Check the center arm for bending or breakage.
3. Check the bolts for damage.

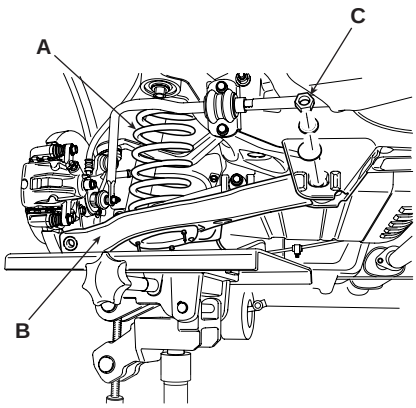
SPRING

1. Check the spring for distortion, aging or damage.
2. Check the spring upper pad for aging or damage.

INSTALLATION EF155EE1

1. Install the lower arm(B) mounting bolts(C) to the cross member with a specified torque.

Tightening torque Nm (kgf·m, lb-ft) :
110 ~ 120 (11 ~ 12, 79.5 ~ 86.8)

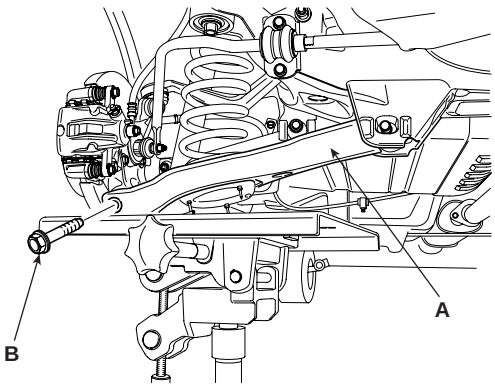


KHBF230D

2. Install the spring(A), the lower seat, and the upper pad.

3. Install the lower arm bolt(B) from the reark nuckle with a specified torque, while supporting the lower arm(A) with a jack as shown in the illustration.

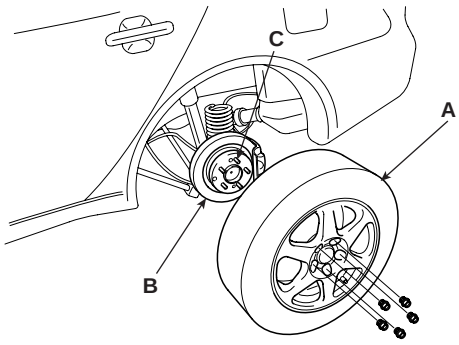
Tightening torque Nm (kgf·m, lb-ft) :
140~160 (14 ~ 16, 101.2~115.7)



KHBF221F

4. Install the wheel and the tire(A) to the rear hub(B).

Tightening torque Nm (kgf·m, lb-ft) :
90 ~ 110 (9 ~ 11, 65.1 ~ 79.5)



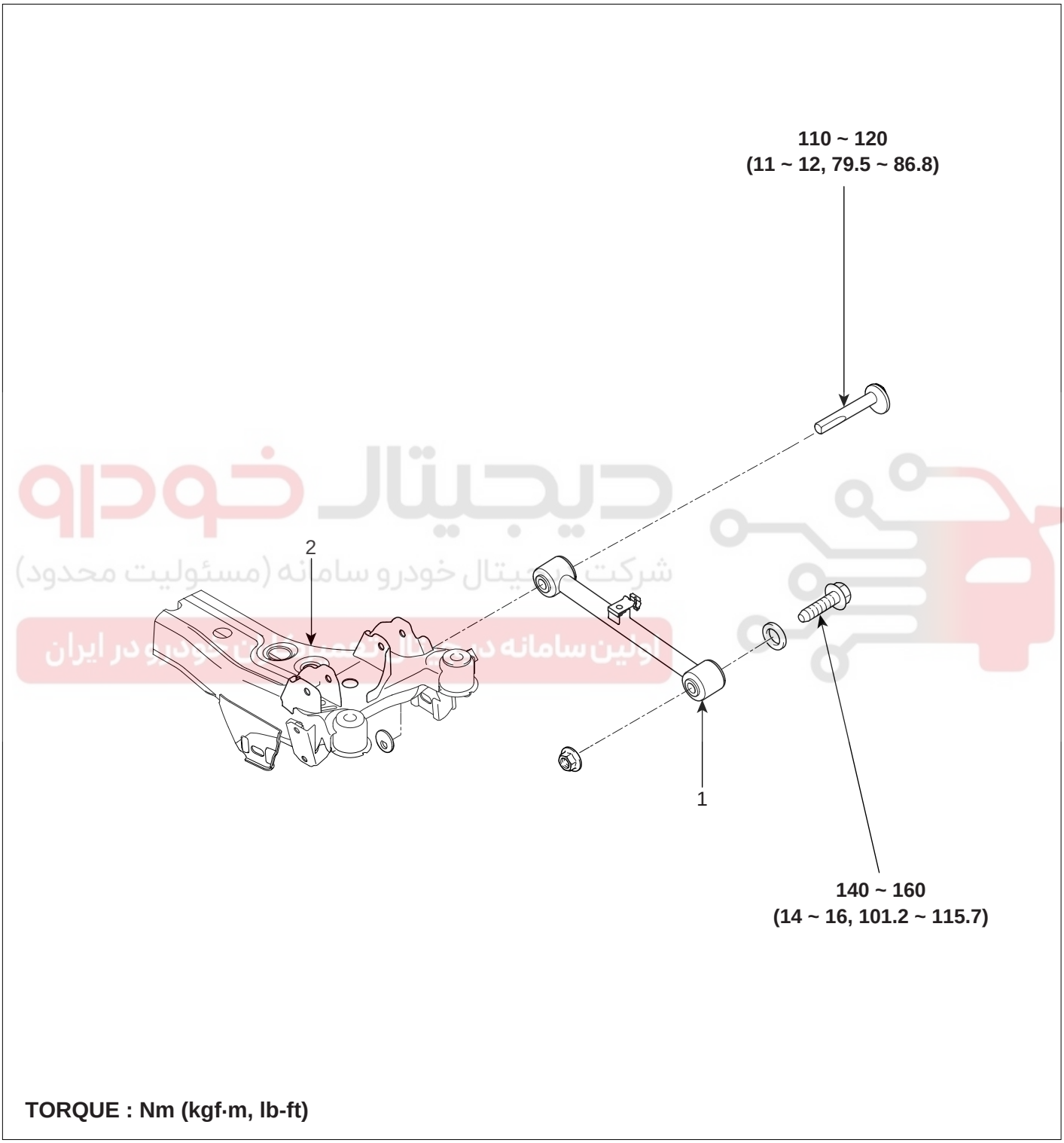
KHBF201A

CAUTION

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

REAR ASSIST ARM

COMPONENTS EDFFE8FE

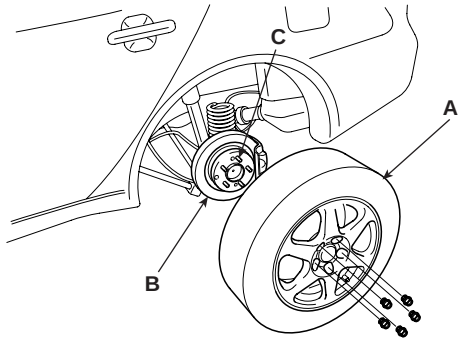


1. Rear assist arm
2. Rear cross member

EHBF200D

REMOVAL E1222C4D

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).

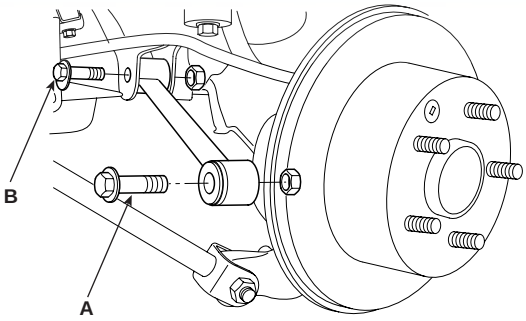


KHBF201A

CAUTION

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

3. Remove the assist arm mounting bolt(A) from the rear knuckle.



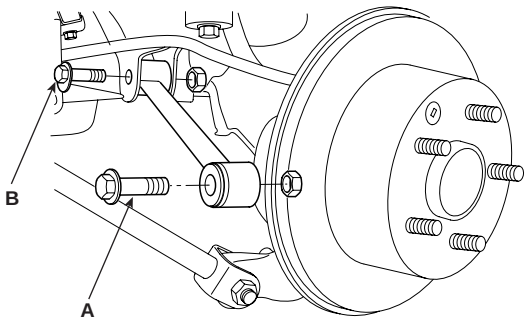
KHBF240A

4. Remove the assist arm mounting bolt(B) from the cross member.

INSTALLATION E665161F

1. Install the assist arm mounting bolt(A) to the cross member.

Tightening torque Nm (kgf·m, lb-ft) :
110 ~ 120 (11 ~ 12, 79.5 ~ 86.8)



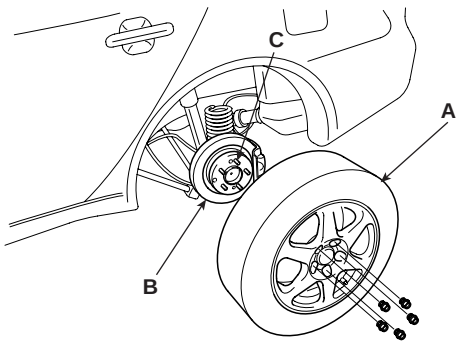
KHBF240A

2. Install the assist arm mounting bolt(B) from the rear knuckle.

Tightening torque Nm (kgf·m, lb-ft) :
140~160 (14~16, 101.2~115.7)

3. Install the wheel and the tire(A) to the rear hub(B).

Tightening torque Nm (kgf·m, lb-ft) :
90 ~ 110 (9 ~ 11, 65.1 ~ 79.5)



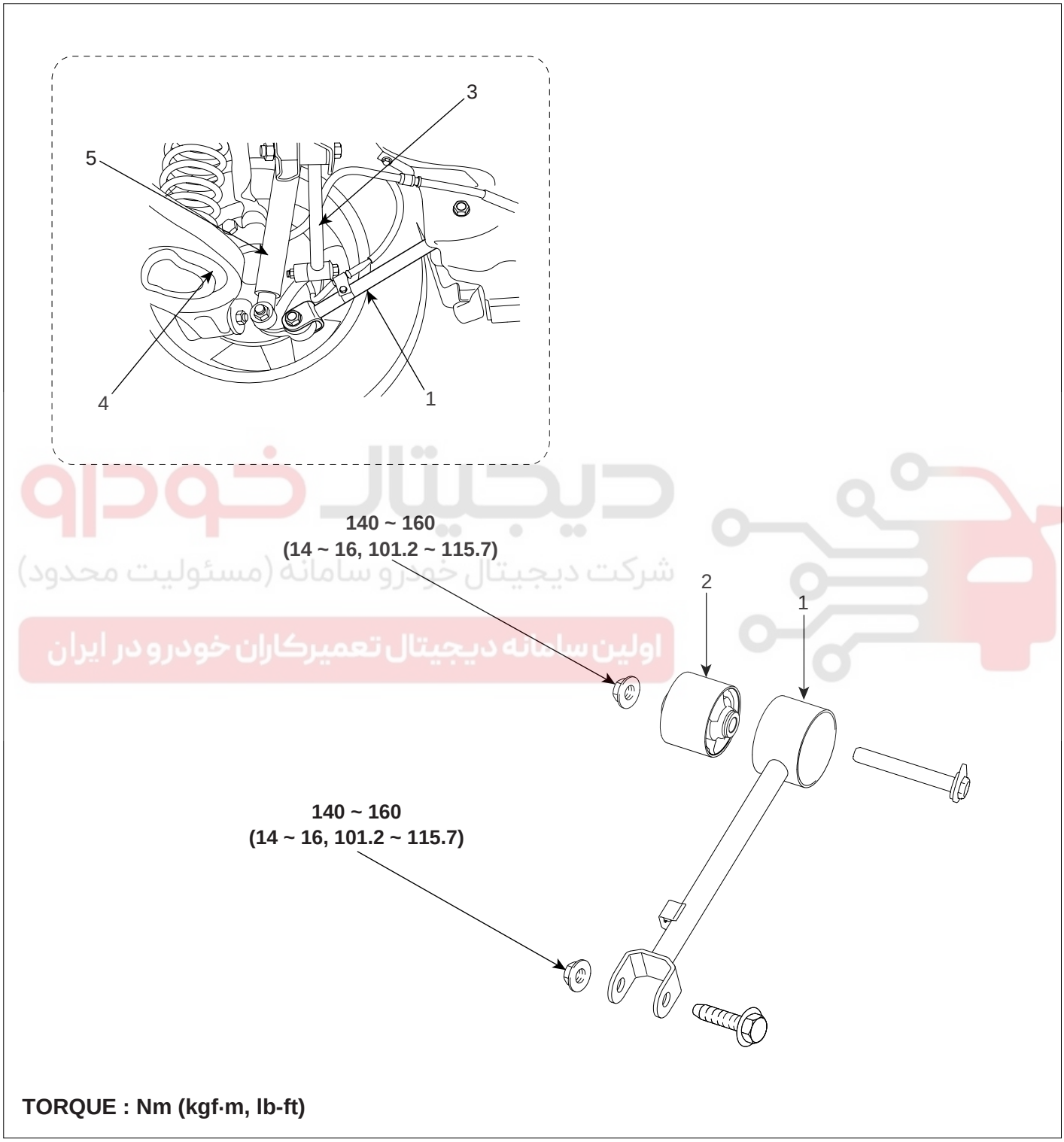
KHBF201A

CAUTION

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

TRAILING ARM

COMPONENTS E5824F6C

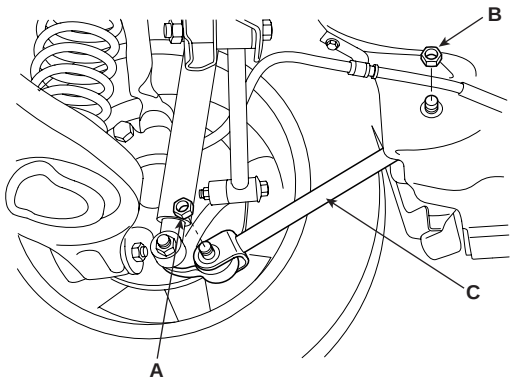


1. Trailing arm
2. Bushing
3. Assist arm
4. Rear lower arm
5. Rear strut assembly

EHBF200E

REMOVAL EFCC8733

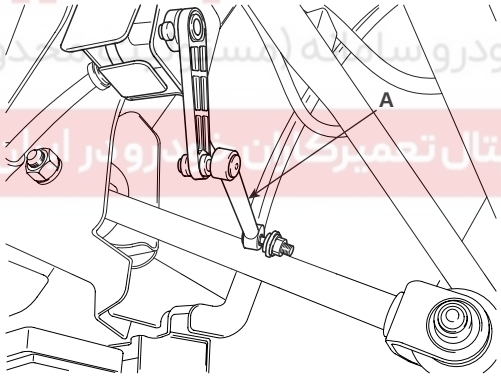
1. Remove the trailing arm mounting nut(A) from the rear knuckle.



KHBF250A

NOTE

After removing the head lamp leveling link(A), remove the right trailing arm.



EHBF250B

2. Remove the trailing arm mounting nut(B) from the body.
3. Remove the trailing arm(C).

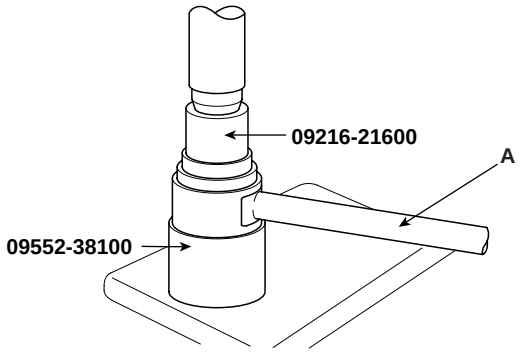
INSPECTION E951BFD3

1. Check the bushing for wear and deterioration.
2. Check the trailing arm for bending or breakage.
3. Check all the bolts for damage.

REPLACEMENT EAA9DE3F

TRAILING ARM BUSHING

1. Using the special tools(09216-21600, 09552-38100), press-fit the bushing.



EHRF252A

2. Remove the bushing from the trailing arm(A).
3. Using the special tool(09552-38000), replace the bushing.

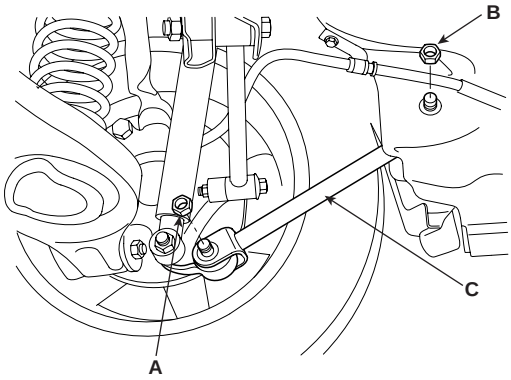
Pull out force :**over 100 kN (1000 kgf, 2204 lb)**

NOTE

Be sure to press the bushing with the jut of the bushing aligned to the longitude of the trailing arm.

INSTALLATION E19530D8

1. Place the trailing arm(D) as shown below.



KHBF250A

2. Install the trailing arm nuts.

NOTE

Fully tighten the trailing arm mounting nuts with the vehicle on the ground in unloaded condition.

a. Install the trailing arm mounting nut(B).

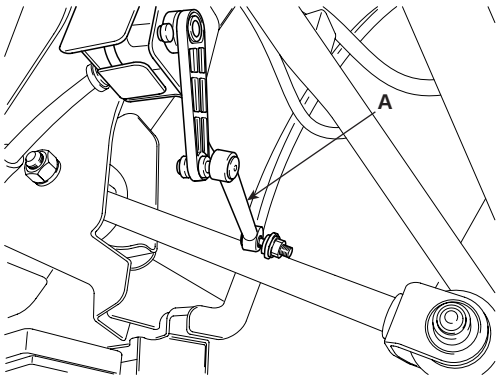
Tightening torque Nm (kgf·m, lb-ft) :
140~160 (14~16, 101.2~115.7)

b. Install the trailing arm bracket mounting nut(C).

Tightening torque Nm (kgf·m, lb-ft) :
140~160 (14~16, 101.2~115.7)

NOTE

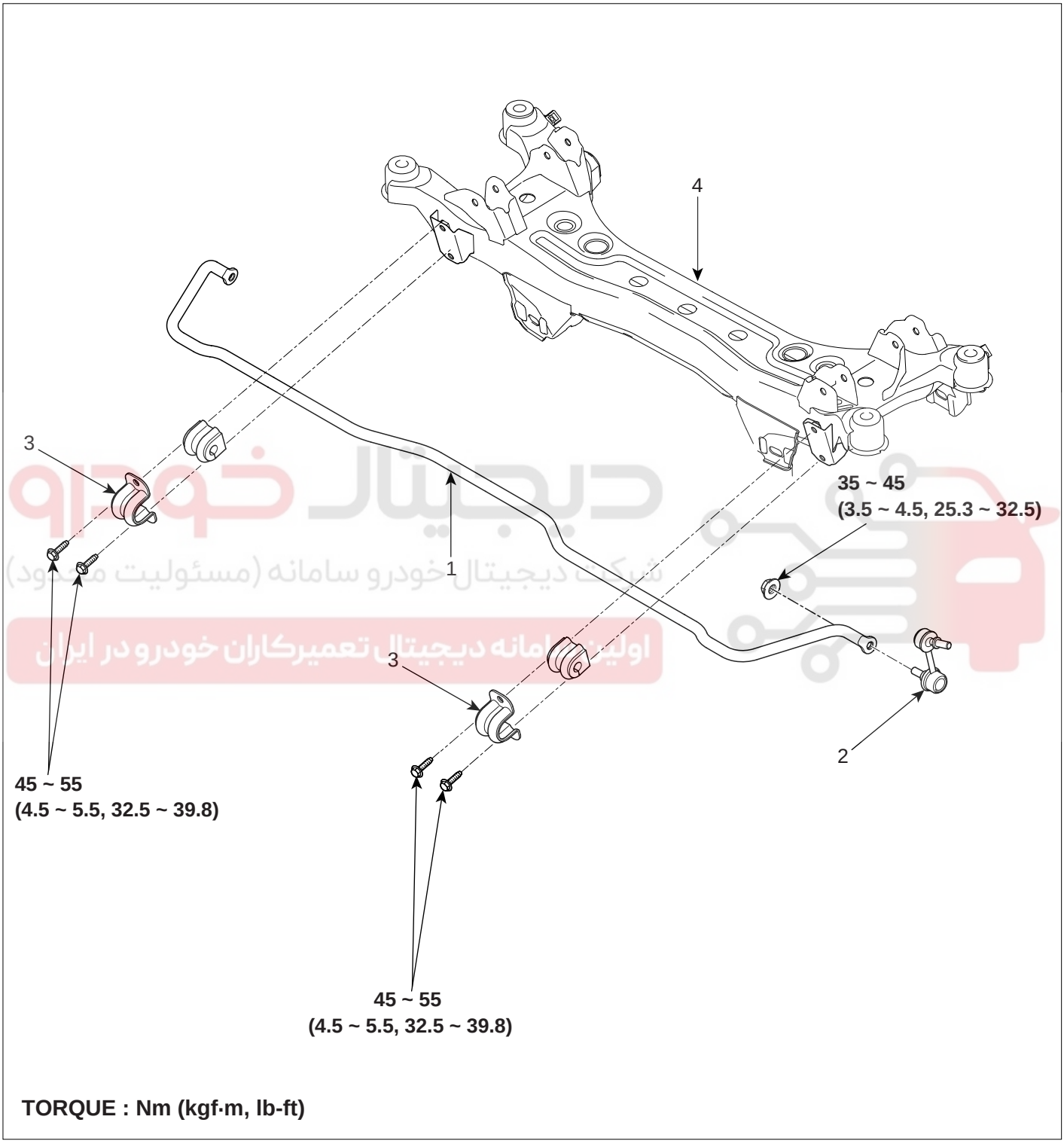
After installing the right trailing arm, install the head lamp leveling link(A).



EHBF250B

REAR STABILIZER BAR

COMPONENTS EC34B3E0

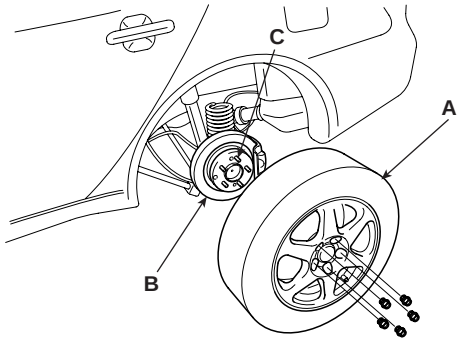


1. Rear stabilizer bar
2. Stabilizer link
3. Bracket
4. Cross member

EHBF200F

REMOVAL E1DD240C

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).

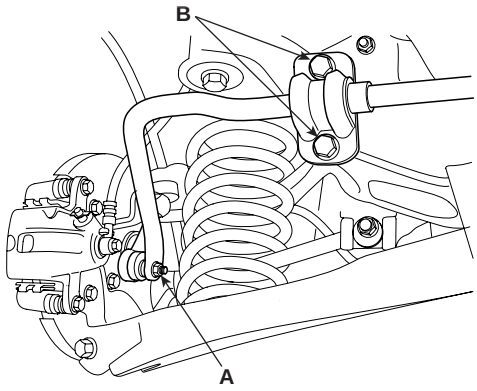


KHBF201A

CAUTION

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

3. Remove the left/right nuts(A) of the rear stabilizer links.
4. Remove the left/right mounting nuts(B) of the rear stabilizer bar brackets.



KHRE260A

5. Remove the rear stabilizer bar(C).

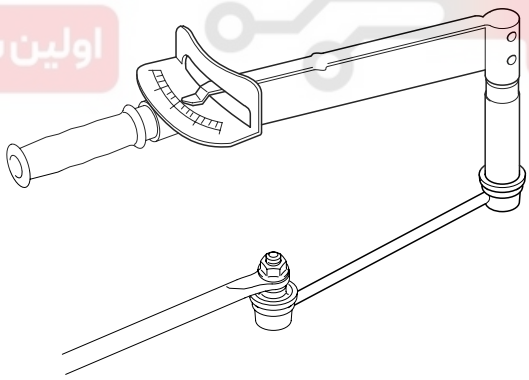
INSPECTION EAB1746A

1. Check the bushing for wear and deterioration.
2. Check the stabilizer bar for bending or breakage.
3. Check the ball joint for rotating torque.
   1) If there is a crack in the dust cover, replace it and add grease.
   2) Shake the stabilizer link ball joint stud several times.
   3) Mount the self-locking nut on the ball joint, and then measure the ball joint rotating torque.

Specified torque :
0.7 ~ 2 Nm (7 ~ 20 kgf·m, 0.51 ~ 1.45 lb-ft)

NOTE

Measure torque using the special tool(09532-11600) and torque wrench at the range of 0.5 - 2 rpm after moving the ball joint stud at degree 3° several times at room temperature.

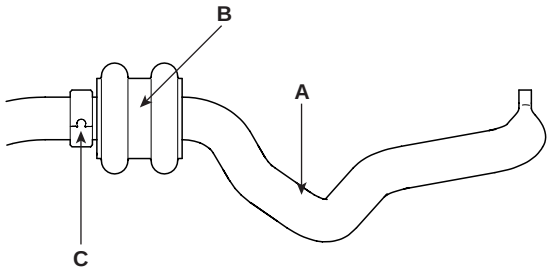


KHRE262A

   4) If the rotating torque exceeds the upper limit of standard value, replace the upper arm assembly.
   5) Even if the rotating toque is below the lower limit of the standard value, the ball joint may be reused unless it has drag and excessive play.

INSTALLATION E8987A53

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



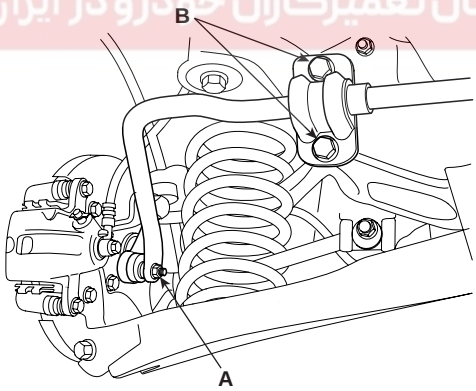
KHRE144A

NOTE

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

2. One side bracket should be temporarily tightened, and then install the bushing on the opposite side.
3. Install the stabilizer bracket bolt(B).

Tightening torque Nm (kgf·m, lb-ft) :
45 ~ 55 (4.5 ~ 5.5, 32.5 ~ 39.8)



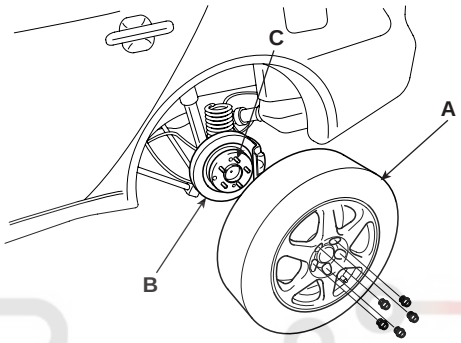
KHRE260A

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

Tightening torque Nm (kgf·m, lb-ft) :
35 ~ 45 (3.5 ~ 4.5, 25.3 ~ 32.5)

5. Repeat step 3 and 4 for the other side.
6. Install the wheel and the tire(A) to the rear hub(B).

Tightening torque Nm (kgf·m, lb-ft) :
90 ~ 110 (9 ~ 11, 65.1 ~ 79.5)



KHBF201A

CAUTION

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

TIRES / WHEELS

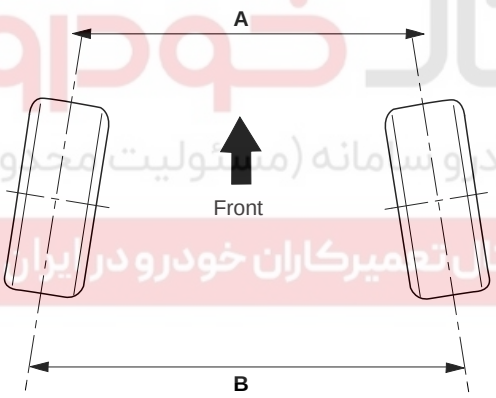
WHEEL

WHEEL ALIGNMENT EAFC7A2F

When using 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 face straight 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.



EHRF400A

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

When the wheels are 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.

[FRONT]

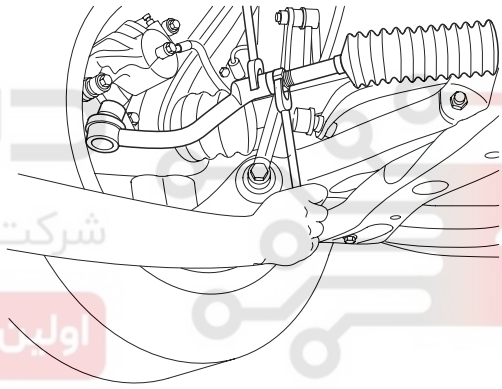
Toe-in(B-A or angle a+b) is adjusted by turning the tie rod turnbuckles. Toe-in on the left front wheel can be reduced by turning the tie rod toward the rear of the car. Toe- in change is adjusted by turning the tie rods for the right and left heels simultaneously at the same amount as follows.

Standard value :
Toe-in (B-A) mm (in) : 0 ± 2 (0 ± 0.0787)

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(A) Specified torque Nm (kgf·m, lb-ft) :
50~55 (5~5.5, 36.2~39.8)



KHRE400B

[REAR]

Standard value :
Toe-in (B-A) mm (in) : 2 ± 2 (0.0787 ± 0.0787)

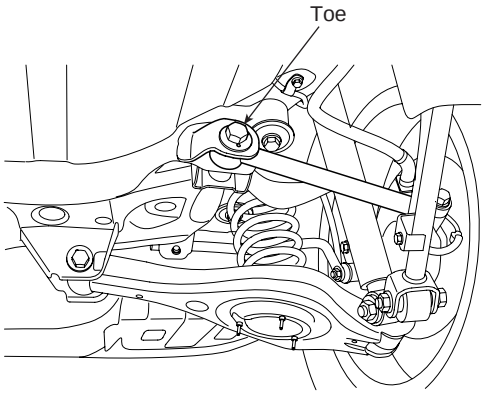
Adjust the toe-in by turning the cambolt of the assist arm.

Left cambolt : Clockwise → toe-in
Right cambolt : Clockwise → toe-out
The variation of toe by a rotation of the cambolt :
About 4.1 mm (0.4°)

CAUTION

- ***Each toe should be within 1±1 mm (0.039 ± 0.039 in).***
  If the difference between right and left is not within +2mm (0.079 in), repeat adjustment.

- ***After adjusting the cambolt, tighten the nut to the specified torque.***



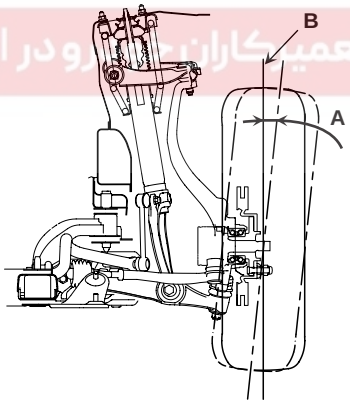
EHRF401A

Specified torque
110 ~ 120 Nm (11 ~ 12 kgf·m, 79.5 ~ 86.8 lb-ft)

CAMBER

[FRONT]

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



KHBF400C

Item	Description
A	Positive camber angle
B	True vertical

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(-).

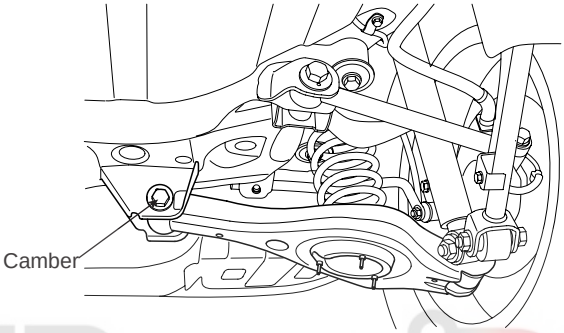
Standard value : 0° ± 30´
Difference between right and left angle is within 0° 30´

NOTE

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

[REAR]

Standard value : -0°30´ ± 30´
Difference between right and left angle is within 0° 30´



EHRF401B

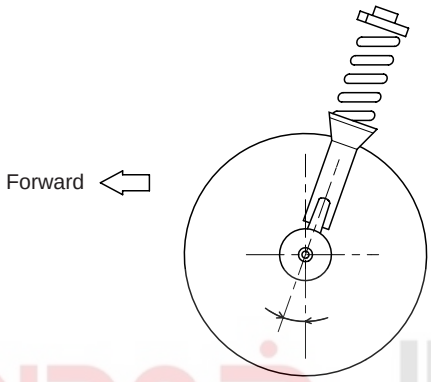
Adjust the camber by turning the cambolt of the rear lower arm.

Left cambolt : Clockwise → camber(+)
Right cambolt : Clockwise →camber(-)
The variation of camber by a rotation of the cambolt : About 0.2°

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 : 4°50´ ± 45´ (to ground), 5°3´ (to body)



EHOF400C

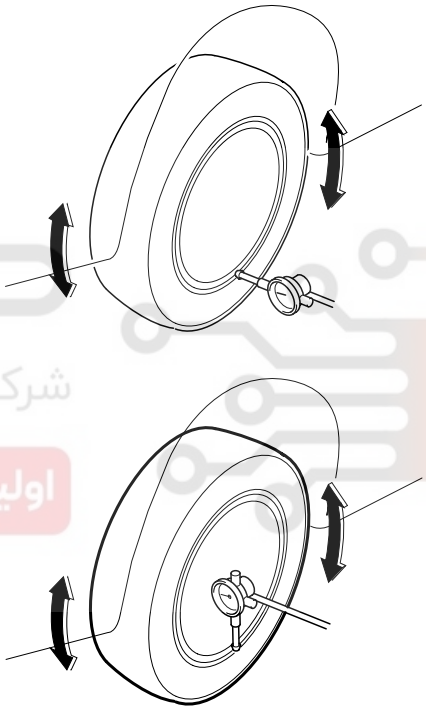
NOTE

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

WHEEL RUNOUT EA4AFE76

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)	Steel	0.9	1.4
	Aluminium	0.3	0.3



KHRE402A

WHEEL NUT TIGHTENING E66BFCFF

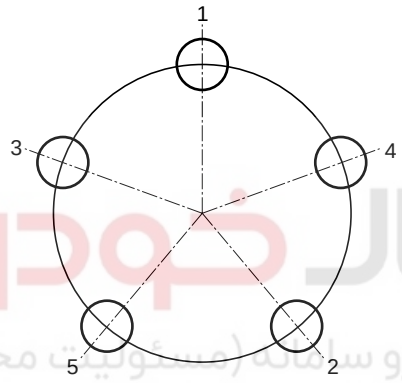
1. Tightening torque.

Tightening torque Nm (kgf·m, lb-ft) :
90 ~ 110 (9 ~ 11, 65.1 ~ 79.5)

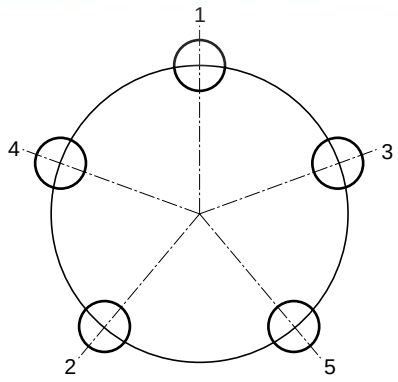
CAUTION

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.



KHRE403A



KHRE403B

TIRE

TIRE WEAR EB9DC487

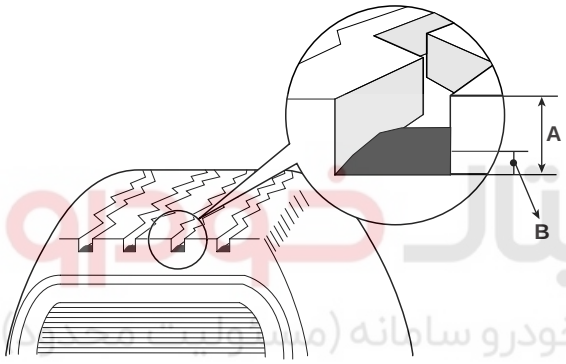
1. Measure the tread depth of the tires.

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

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

NOTE

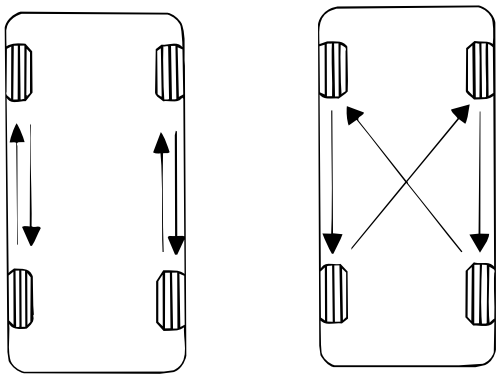
When the tread depth of the tires is less than 1.6 mm (0.063 in), the wear indicators(B) will appear.



KHRE404A

TIRE ROTATION E18EB20E

Rotate the tires in the pattern illustrated.

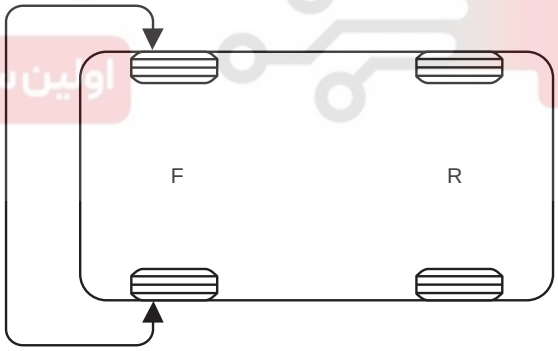


KHRE405A

CHECKING FOR PULL AND WANDER

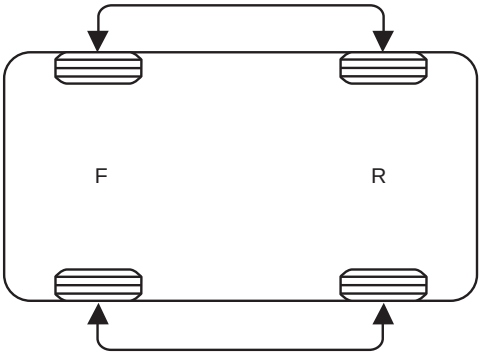
If the steering pulls to one side, rotate the tires according to the following wheel rotation procedure.

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



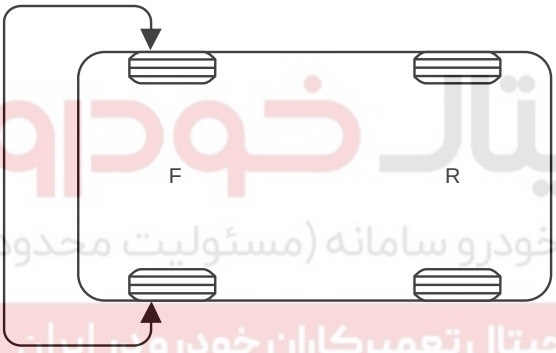
EHRF405B

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



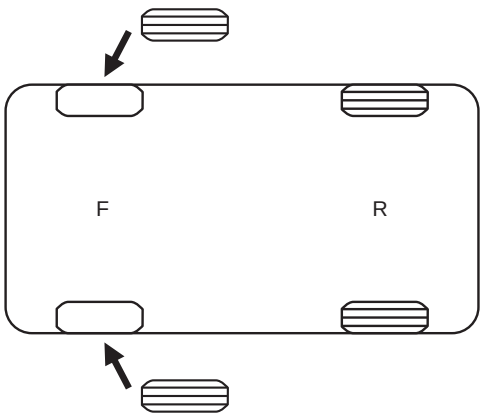
EHRF405C

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