Suspension System

GENERAL

SPECIFICATIONS EHTB0100

FRONT SUSPENSION

Items	Double wishbone torsion bar spring type					
	WGN (short)		VAN (short)	WGN (long)	VAN (long)	4WD
	General	EC	All arear	All arear	All arear	All arear
Front shock absorber						
Type	Oil, Gas (opt)	Gas	Oil	Oil, Gas (opt)	Oil	Oil
Stroke mm(in)	152 (5.98)	147 (5.79)	152 (5.98)	152 (5.98)	152 (5.98)	140 (5.51)
Damping force at 0.3m/sec						
Expansion N(kg)	1540±220 (154±22)	1400±200 (140±20)	1530±220 (153±22)	1530±220 (153±22)	1530±220 (153±22)	2540±340 (245±34)
Compression N(kg)	470±100 (47±10)	580±110 (58±11)	660±130 (66±13)	660±130 (66±13)	660±130 (66±13)	720±140 (72±14)
Front torsion bar						
Length x O.D mm(in)	1065x23 (41.93x0.91)	1065x22 (41.93x0.87)	1065x24 (41.93x0.95)	1065x24 (41.93x0.95)	1065x24 (41.93x0.95)	1165x24 (45.87x0.95)
Spring constant (kg·m/deg)	3.65	3.06	4.31	4.31	4.31	3.92

OPT : Option, WGN : Wagon, Short : Short wheel base, Long : Long wheel base

REAR SUSPENSION

ITEMS	Asymmetrical semielliptic leaf spring type/5-link coil spring type					
	WGN (short)		VAN (short)	WGN (long)	VAN (long)	4WD
	General	EC	All arear	All arear	All arear	All arear
Rear shock absorber						
Type	Oil	Gas	Oil	Oil	Oil	Oil
Stroke mm(in.)	191 (7.52)	190 (7.48)	206 (8.11)	206 (8.11)	206 (8.11)	231.5 (9.11)
Damping force at 0.3m/sec.						
Expansion N(kg)	1260±180 (126±18)	1030±150 (103±15)	1140±170 (114±17)	1140±170 (114±17)	1140±170 (114±17)	2450±340 (245±34)
Compression N(kg)	520±100 (52±10)	510±100 (51±10)	550±110 (55±11)	550±110 (55±11)	550±110 (55±11)	720±140 (72±14)
Leaf spring						
Number of springs	-	-	4	4	4	-
Spring thickness	-	-	9t (1,2,3), 16t (4)	7t (1,2,3), 14t (4)	9t (1,2,3), 16t (4)	-
Spring constant kg/mm	-	-	7.5/15.1	3.52/8.38	7.5/15.1	-
Coil spring						
Free length mm(in.)	347.8(13.69)	347.8(13.69)	-	-	-	376.2(14.81)
I.D color	Violet-1	Violet-1	-	-	-	Yellow

WGN : Wagon, Short : Short wheel base, Long : Long wheel base, t : thickness(mm)

SERVICE STANDARD EHTB0200

FRONT WHEEL ALIGNMENT

ITEM		Specification	Remark
Toe-in		0 ± 3mm (0 ± 0.118 in.)	
Camber	2WD	0° ± 30'	Difference between right and left within 30'
	4WD	-20' ± 30'	Difference between right and left within 30'
Caster	2WD	3° ± 30'	Difference between right and left within 30'
	4WD	3°25' ± 30'	Difference between right and left within 30'
King pin angle	2WD	15°40'	
	4WD	16°5' ± 30'	
King pin offset	2WD	3.38mm (1.33 in.)	
	4WD	2.4mm (0.09 in.)	
Side slip		0 ± 3mm (0 ± 0.118 in.)	When the vehicles move forward (1m)

WHEEL AND TIRE

Classification	Wheel size	Tire size	Tire inflation pressure kg·cm² (psi)	
			Front	Rear
Steel wheel	5.5J x 14	195R14 - 6PR	2.8 (40)	2.8 (40)
		195R14C - 8PR	2.8 (40)	4.5 (65)
Aluminum wheel	6.0JJ x 15	205/70R 15	2.8 (40)	2.8 (40)
		215/80R 15	2.2 (32)	2.2 (32)

EHTB020A

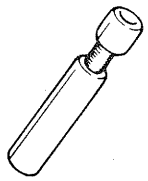
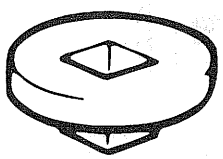
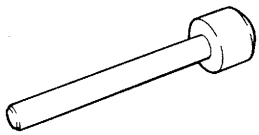
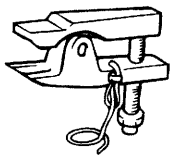
TORQUE SPECIFICATIONS EHTB0300

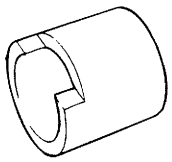
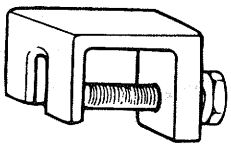
Items	Nm	kg·cm	lb·ft
Wheel nut 2WD 4WD	 150-200 120-140	 1500-2000 1200-1400	 111-148 89-104
Front hub bearing locking nut (2WD)	30→0→18	300→0→180	22→0→13
Upper/lower arm ball joint and knuckle tightening nut	120-180	1200-1800	89-133
knuckle and tie rod end mounting nut	35-45	350-450	26-33
Front shock absorber upper mounting	12-18	120-180	9-13
Front shock absorber lower mounting	70-95	700-950	52-70
Strut bar and lower arm mounting (2WD)	110-130	1100-1300	81-96
Strut bar caster adjusting nut (2WD)	140-190	1400-1900	103-140
Upper/lower arm ball joint mounting	120-180	1200-1800	89-133
Stabilizer ball joint mounting	100-120	1000-1200	74-89
Stabilizer bracket mounging bracket	70-95	700-950	52-70
U-bolt (Leaf spring rear mounting)	90-120	900-1200	67-89
Rear shock absorber mounting (Leaf spring rear mounting)	60-85	600-850	44-63
Shackle mounting nut (Leaf spring rear mounting)	30-45	300-450	22-33
Shackle mounting nut (Leaf spring front mounting)	180-220	1800-2200	133-162

⚠ ***CAUTION***

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

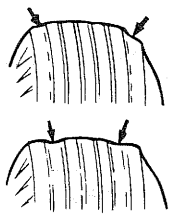
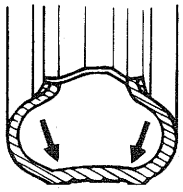
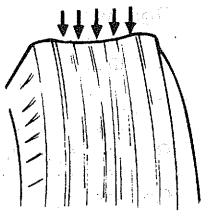
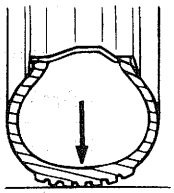
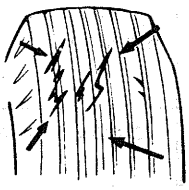
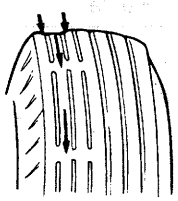
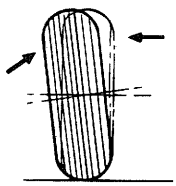
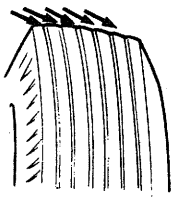
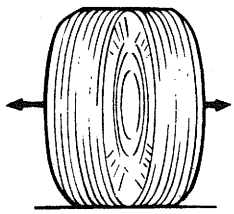
SPECIAL TOOLS EHTB0400

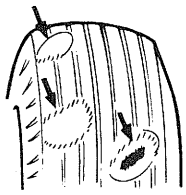
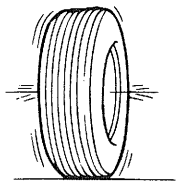
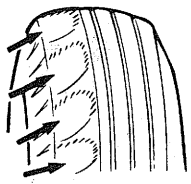
Tool (Number and name)	Illustration	Use
09544-43000 Knuckle arm puller	 E4443000	Removal of upper ball joint and lower ball joint to knuckle
09532-11600 Preload socket	 E3211600	Measurement of the upper and lower ball joint starting torque
09551-43001 Bushing remover and installer support	 E5143001	Removal and installation the lower arm bushing (Use with 99541-43001, 09541-43301)
09541-43301 Lower arm bushing remover and installer	 E4143301	Removal and installation of the lower arm bushing (Use with 09541-43001, 09551-43001)
09568-34000 or 09568-31000 Steering linkage puller	 E6834000	Removal of the tie rod ball joint to knuckle

Tool (Number and name)	Illustration	Use
09541-43001 Lower arm bushing remover and installer	 E4143001	Removal and installation of the lower arm bushing (Use with 09541-43301 and 09551-43001)
09545-4A000 Ball joint remover	 E454A000	Removal of the lower arm ball joint and upper arm ball joint (4WD)

TROUBLESHOOTING EHLB0040

Symptom	Probable cause	Remedy
Steering wheel is heavy	Suspension malfunctioning	Inspect, adjust or replace the part
Vibration	Torsion bar	
Pull to one side	Wheel alignment	
Excessive vehicle rolling	Broken or deteriorated stabilizer	Replace
	Shock absorber malfunctioning	
Poor riding	Excessive tire inflation pressure	Adjust the tire inflation pressure
	Shock absorber malfunctioning	Replace
	Deformed torsion bar	Replace
	Broken or deteriorated torsion bar	Replace
Noise	Loosen or deformed anchor bolt	Retighten or replace
	Worn torsion bar serration	Replace
	Oil leaks from shock absorber	
	Inadequate lubrication of various sections	Lubricate
	Worn or deformed bushing	Replace
	Shock absorber malfunctioning	
Inclination of vehicle	Anchor arm assembly not in correct position	Retighten or replace
	Inadequately tightened anchor bolt	
	Deformed crossmember	Replace
	Broken or deteriorated torsion bar	Replace

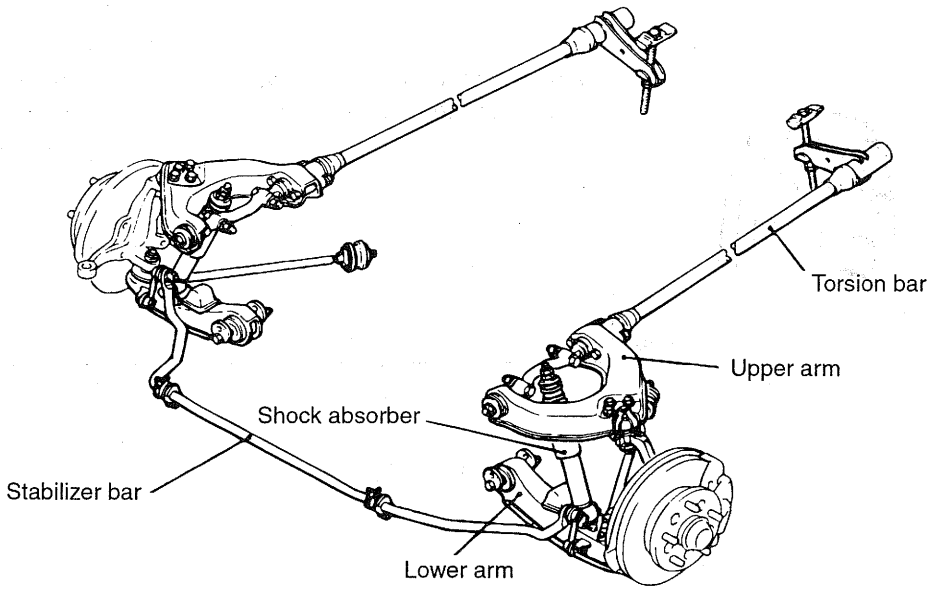
Symptom	Illustration	Use
Rapid wear at shoulders  H7WT0010	Under-inflation or lack of rotation  AU53-03B	Adjust the tire pressure
Rapid wear at shoulders  AU53-03C	Overinflation or lack of rotation  AU53-03D	
Cracked brads  AU53-03E	Under-inflation	
Wear on one side  AU53-03F	Exessive camber  AU53-03G	Inspect the camber
Feathered edge  AU53-03H	Incorrect toe-in  AU53-03I	Adjust the toe-in

Symptom	Illustration	Use
Bald spots  AU53-03J	Unbalanced wheel  AU53-03K	Adjust the imbalanced wheels
Scalloped wear  AU53-03L	Lack of rotation of tires or worn or out-of alignment suspension	Rotate the tires inspect the front suspension alignment

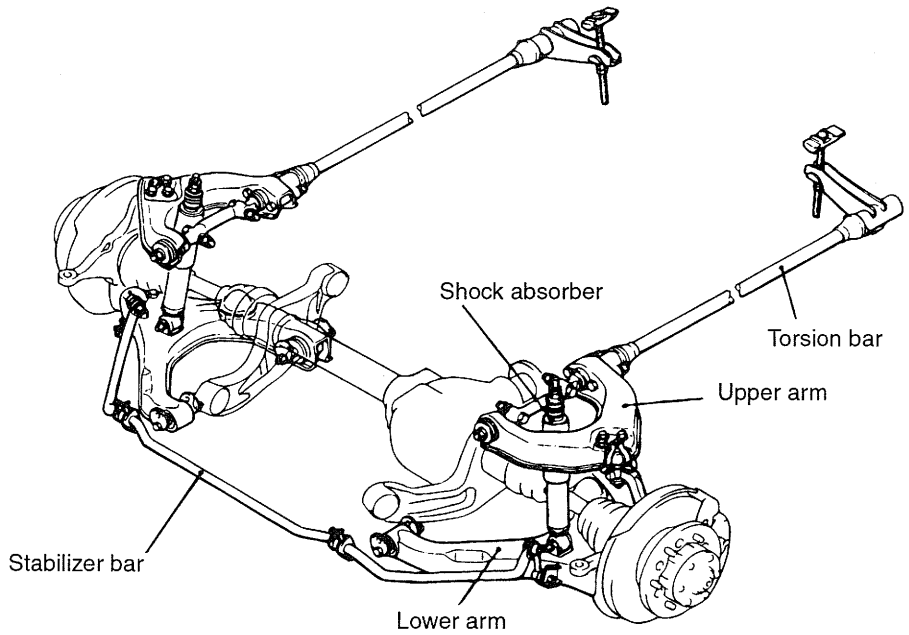
FRONT SUSPENSION SYSTEM

COMPONENTS EHTB0600

[2WD]



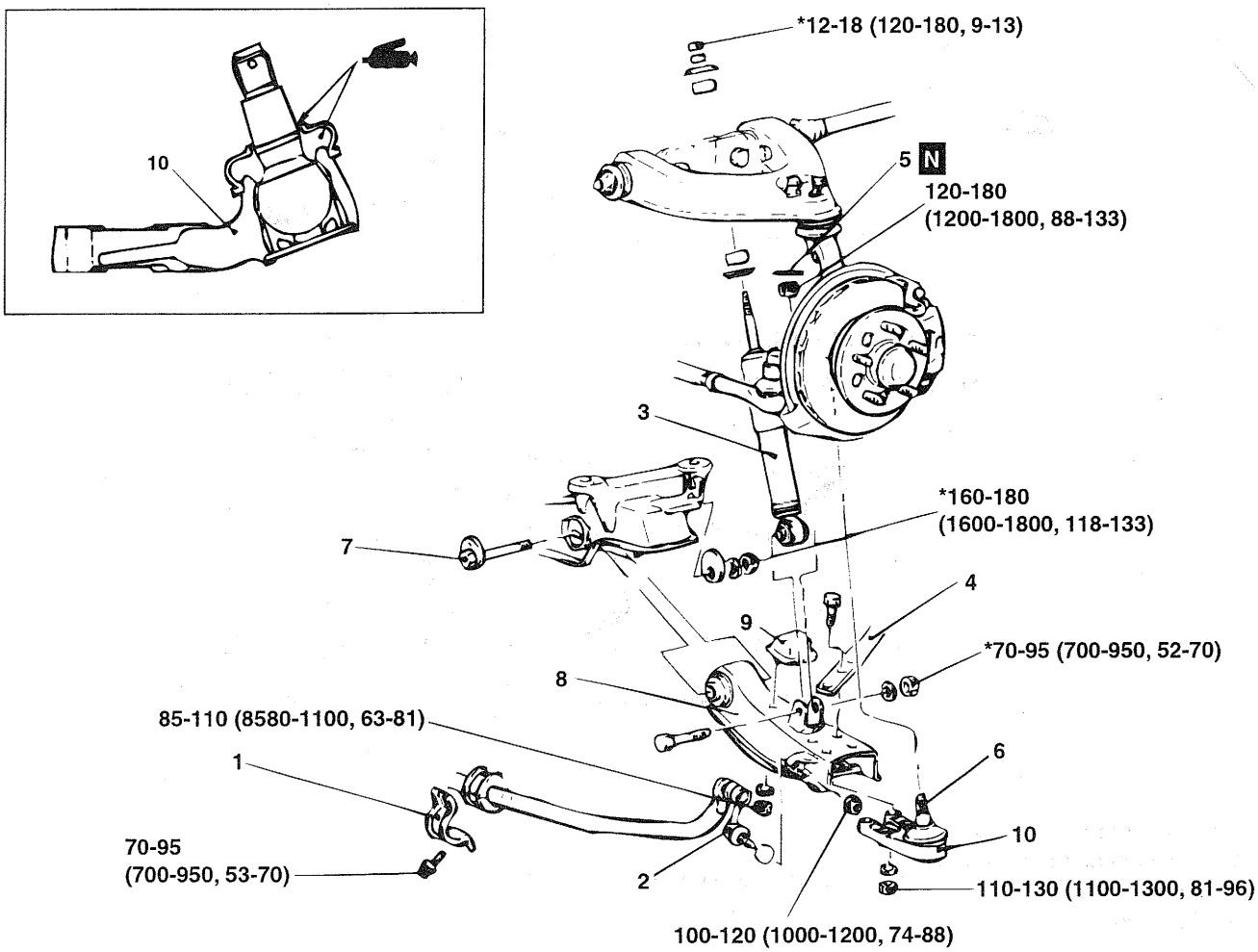
[4WD]



EHTB060A

LOWER ARM

COMPONENTS (2WD) EHTB0700



Removal steps

1. Clamp
2. Connection for stabilizer link
3. Shock absorber
4. Connection for strut bar
5. Split pin
6. Connection for lower arm ball joint
7. Lower arm bolt assembly (for adjusting camber)
8. Lower arm
9. Bump stopper
10. Lower arm ball joint

CAUTION

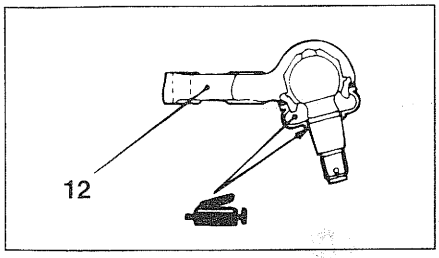
*** : Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the ground in the unladen condition.**

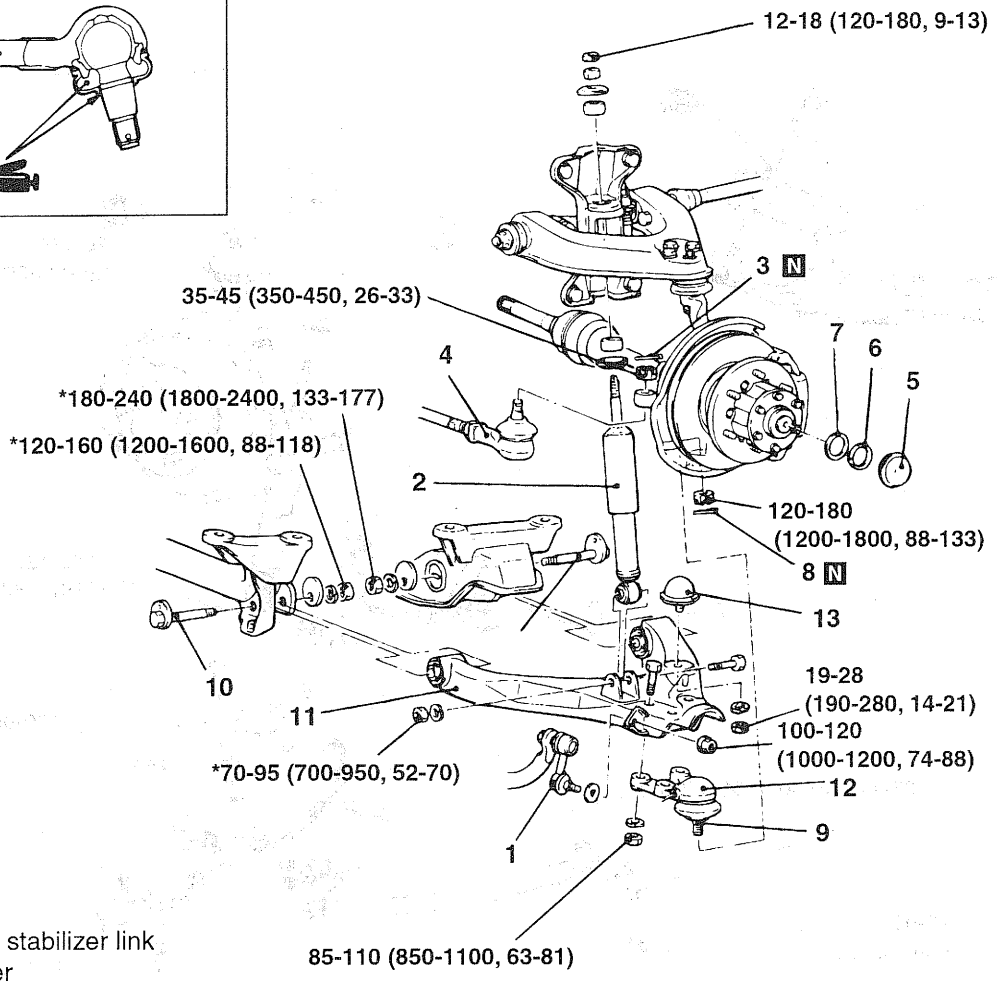
N : Replace the parts with new one after removal.

TORQUE : Nm (kg·cm, lb·ft)

EHTB070A

COMPONENTS (4WD) EHTB0800





Removal steps

1. Connection for stabilizer link
2. Shock absorber
3. Split pin
4. Connection for tie-rod end
5. Free wheel hub
6. Snap ring
7. Shim
8. Split pin
9. Connection for lower arm ball joint
10. Lower arm bolt assembly (for adjusting camber and caster)
11. Lower arm
12. Lower arm ball joint
13. Bump stopper

CAUTION

*** : Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the ground in the unladen condition.**

N : Replace the parts with new one after removal.

TORQUE : Nm (kg·cm, lb·ft)

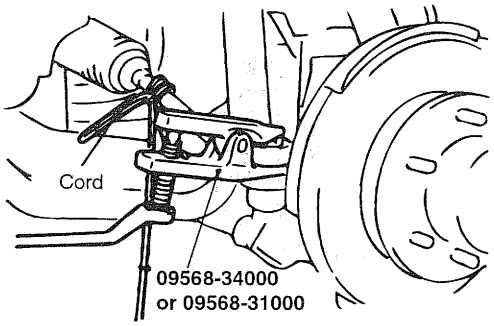
EHTB080A

REMOVAL EHTB0900

TIE-ROD END DISCONNECTION

⚠ *CAUTION*

1. *Use the special tool to loosen the tie-rod end mounting nut. Only loosen the nut; do not remove it from the ball joint.*
2. *Support the special tool with a cord, etc. Not to let it come off.*



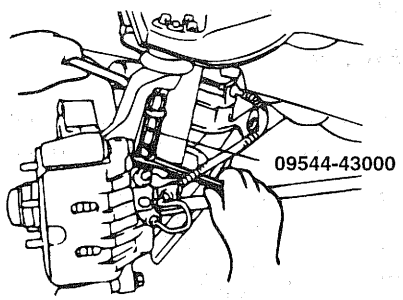
H7FS0100

LOWER ARM BALL JOINT DISCONNECTION

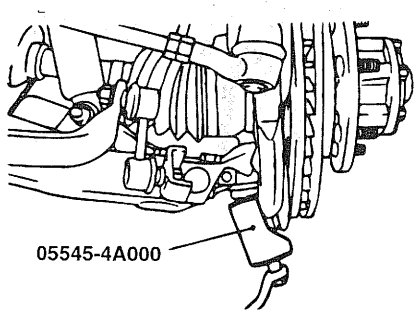
⚠ *CAUTION*

Use the special tool to loosen the nut. Only loosen the nut; do not remove it from the ball joint.

[2WD]



[4WD]



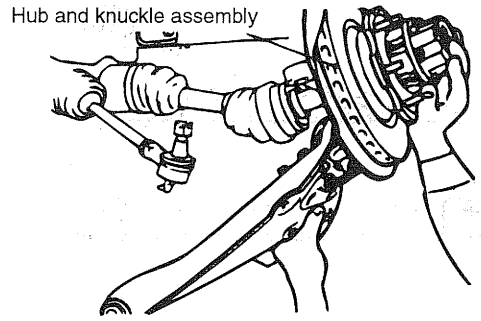
KHTB090B

LOWER ARM REMOVAL

Raise the hub and knuckle assembly to remove the lower arm assembly from the knuckle.

⚠ *CAUTION*

Do not damage drive shaft dust cover, lower arm ball joint or ball joint dust cover.



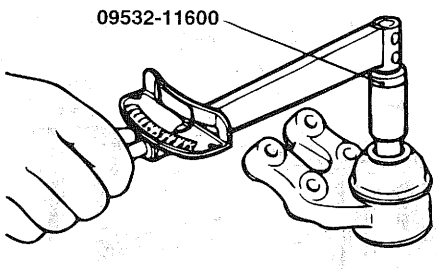
EHTB090A

INSPECTION EHTB1000

LOWER ARM BALL JOINT ROTATING TORQUE CHECK

1. After shaking the lower arm ball joint stud several times, install the nut to the stud and use the special tool (09532-11600) to measure the rotating torque of the lower arm ball joint.

Standard value
0.8-3.5 Nm (8-35 kg·cm, 7-31 lb.in)

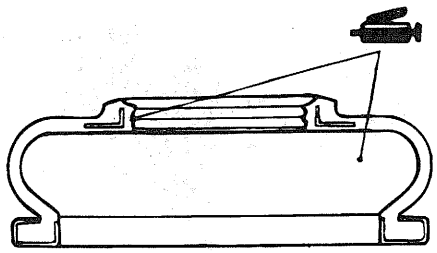


H7FS0310

2. If the rotating torque exceeds the standard value, replace the lower arm ball joint.
3. If the rotating torque is lower than the standard value, check that the ball joint does not feel stiff. If it doesn't feel stiff, it is possible to use the ball joint.

LOWER ARM BALL JOINT DUST COVER REPLACEMENT EHTB1100

1. Apply multipurpose grease to the lip and inside of the dust cover.
2. Install the dust cover.



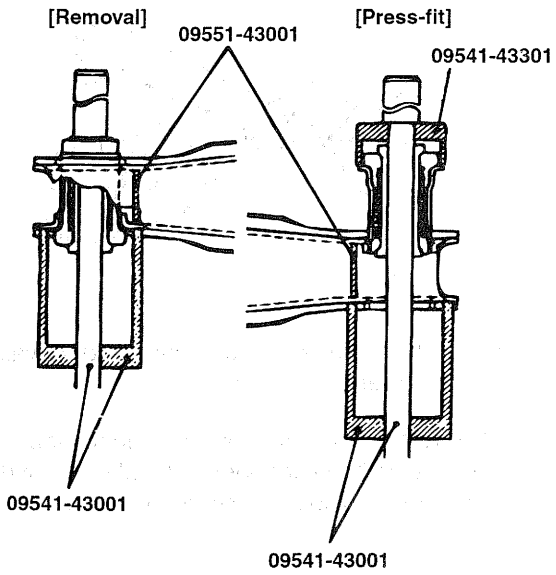
H7FS0140

LOWER ARM BUSHING REPLACEMENT

1. Use the special tool to remove the lower arm bushing.
2. Use the special tool to press-fit the lower arm bushing until the flange of the bushing touches the lower arm.
3. Check that the press-fitting force is at the standard value while press-fitting the bushing.

Standard value : 2000N (204 kg, 450 lbs.) or more

4. If the press-fitting force is less than the standard value, replace the lower arm.



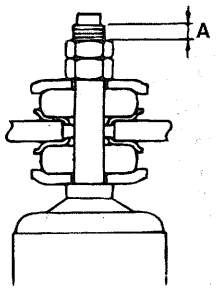
H7FS0150

INSTALLATION SERVICE POINTS EHTB1200

SHOCK ABSORBER

1. Install the shock absorber so that distance (A) shown in the illustration is at the standard value.

Standard value(A)
2WD : 4.5-5.5 mm (0.177-0.217 in.)
4WD : 9-10 mm (0.354-0.394 in.)



H7FS0160

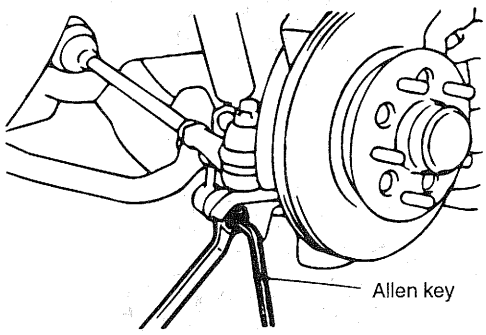
2. Insert the shock absorber lower mounting bolt from the front of the vehicle for 2WD vehicles, and from the rear of the vehicle for 4WD vehicles.

NOTE

Never insert the bolt from the opposite side, or the bolt may touch a nearby part.

STABILIZER LINK

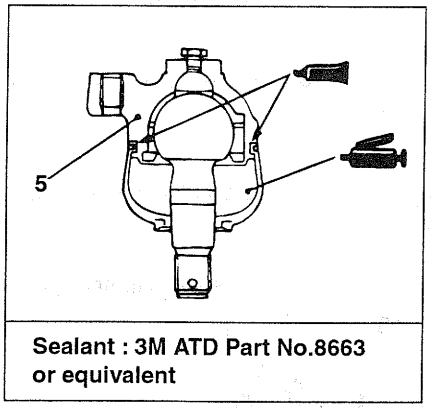
Use an Allen key to tighten the nut while making sure that the stud on the stabilizer link does not turn as well.

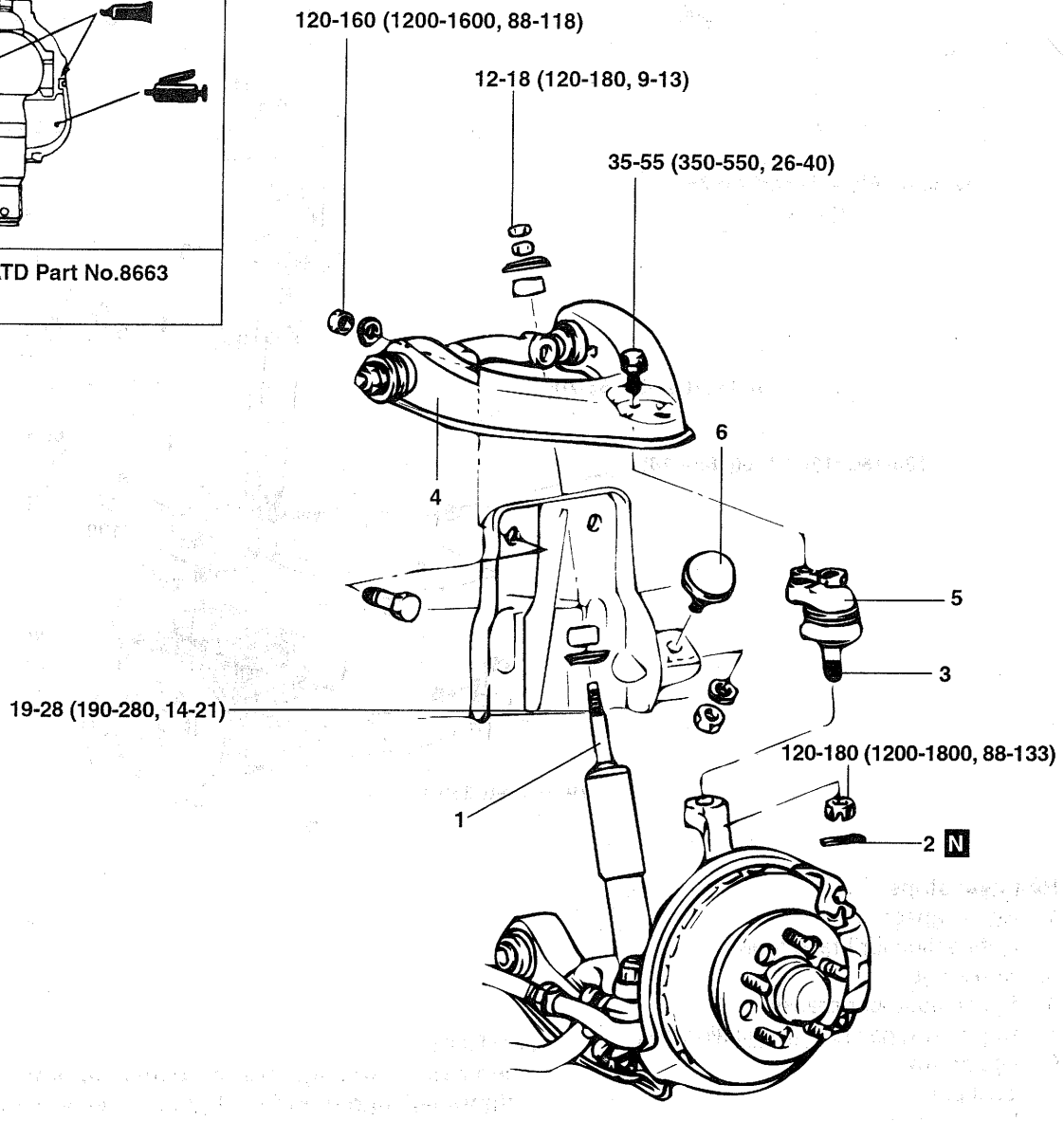


EHTB120A

UPPER ARM

COMPONENTS (2WD) EHTB1300





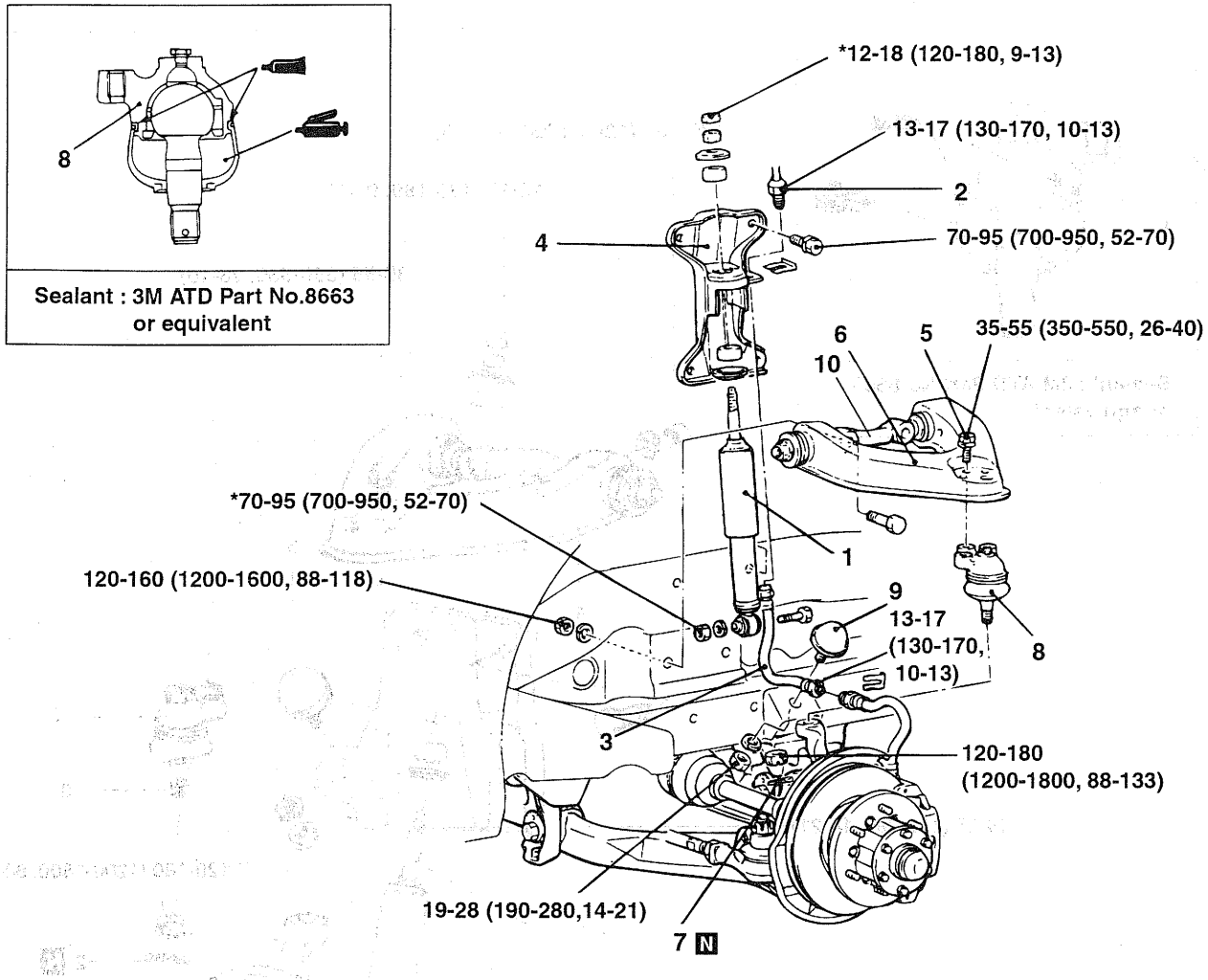
Removal steps
1. Connection for shock absorber
2. Split pin
3. Connection for upper arm ball joint
4. Upper arm
5. Upper arm ball joint
6. Rebound stopper

CAUTION
N : Replace the split pin with new one after removal.

TORQUE : Nm (kg·cm, lb·ft)

ESRSS30F

COMPONENTS (4WD) EHTB1400



Removal steps

1. Shock absorber
2. Connection for brake tube
3. Brake hose
4. Shock absorber bracket
5. Upper arm ball joint installation bolt
6. Upper arm
7. Split pin
8. Upper arm ball joint
9. Rebound stopper
10. Upper arm shaft

CAUTION

*** : Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the ground in the unladen condition.**

N : Replace the parts with new one after removal.

TORQUE : Nm (kg·cm, lb·ft)

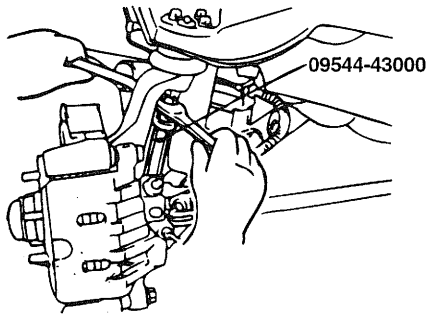
EHTB140A

REMOVAL EHTB1500

UPPER ARM BALL JOINT DISCONNECTION

⚠ *CAUTION*

Use the special tool to loosen the nut only; do not remove it from the ball joint.

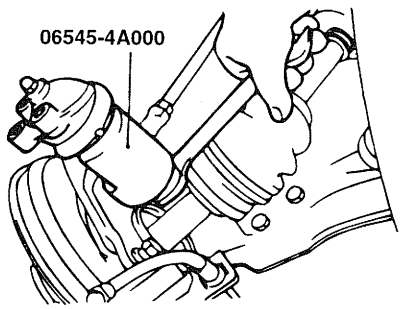


H7FS0200

UPPER ARM BALL JOINT REMOVAL

⚠ *CAUTION*

Use the special tool to loosen the nut only; do not remove it from the ball joint.



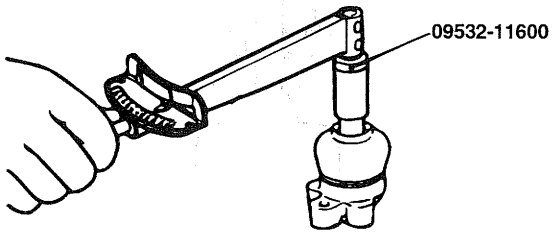
EHTB150A

INSPECTION EHTB1600

UPPER ARM BALL JOINT ROTATING TORQUE CHECK

1. After shaking the upper arm ball joint stud several times, install the nut to the stud and use the special tool to measure the rotating torque of the upper arm ball joint.

Standard value
0.8-3.5 Nm (8-35 kg·cm, 0.592-2.59 lb·ft)



H7FS0220

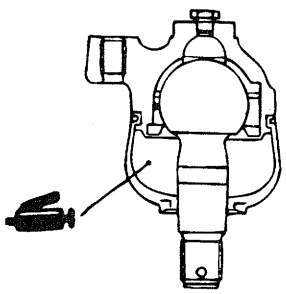
2. If the rotating torque exceeds the standard value, replace the upper arm ball joint.
3. If the rotating torque is lower than the standard value, check that a the ball joint does not feel stiff. If it doesn't feel stiff, it is possible to use the ball joint.

UPPER ARM BALL JOINT DUST COVER REPLACEMENT EHTB1700

1. Apply multipurpose grease to inside of the dust cover.

Multipurpose grease : SAE J310. NLGI NO.2

2. Securely install the dust cover.



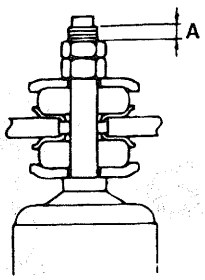
H7FS0230

INSTALLATION EHTB1800

SHOCK ABSORBER

1. Install the shock absorber so that the distance (A) shown in the illustration is at the standard value.

Standard value (A)
2WD : 4.5-5.5 mm (0.177-0.217 in.)
4WD : 9-10 mm (0.354-0.394 in.)

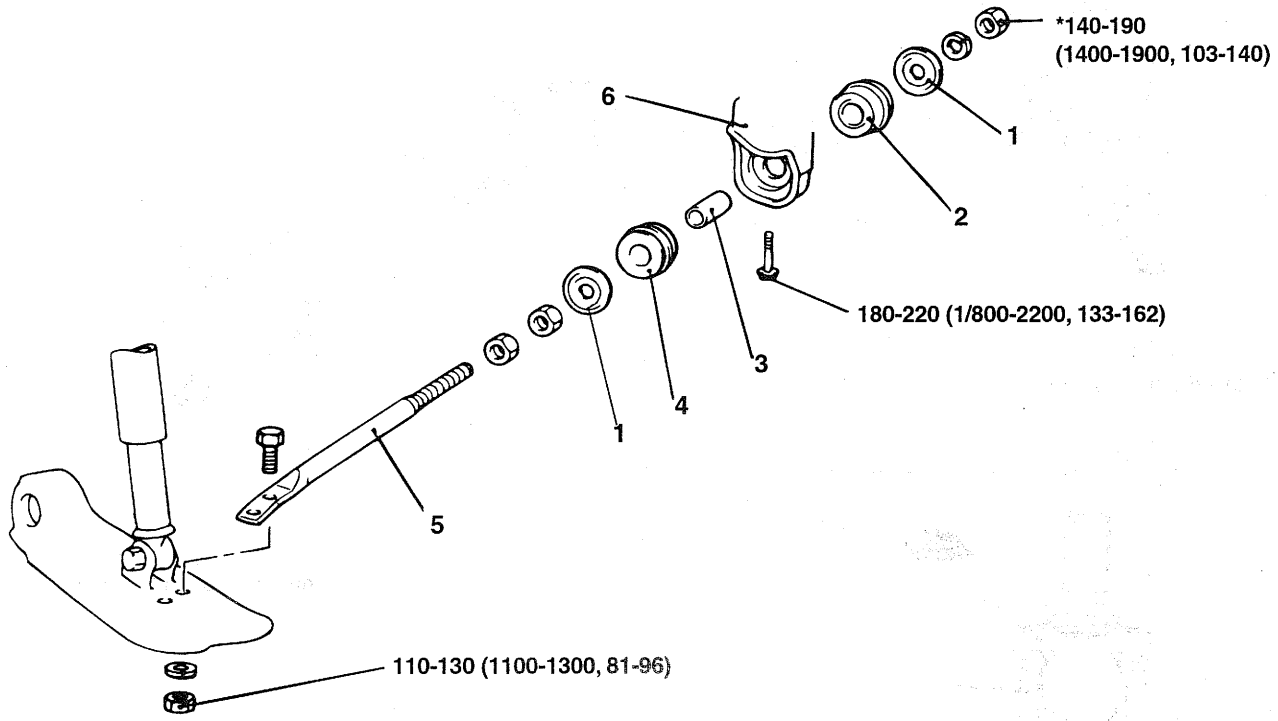


H7FS0240

2. Insert the shock absorber lower mounting bolt from the rear of the vehicle. (4WD)
Never insert the bolt from the opposite side, or the bolt may touch a nearby part.

STRUT BAR

COMPONENTS (2WD) EHTB2200



Removal steps

1. Washer
2. Strut bar bushing
3. Collar
4. Strut bar bushing
5. Strut bar
6. Strut bar bracket

CAUTION

*** : Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the ground in the unladen condition.**

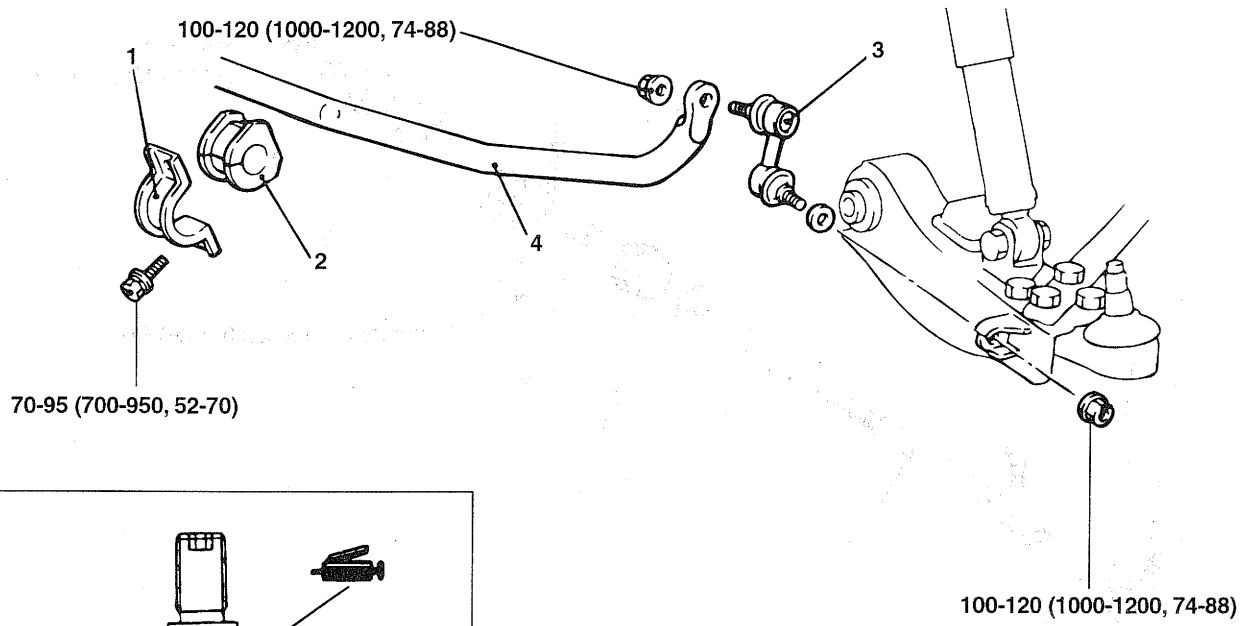
N : Replace the parts with new one after removal.

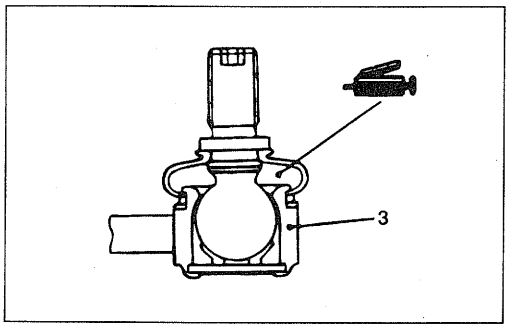
TORQUE : Nm (kg·cm, lb·ft)

EHTB220A

FRONT STABILIZER BAR

COMPONENTS EHLB0180





Removal
1. Clamp
2. Bushing
3. Stabilizer link
4. Stabilizer bar

TORQUE : Nm (kg·cm, lb·ft)

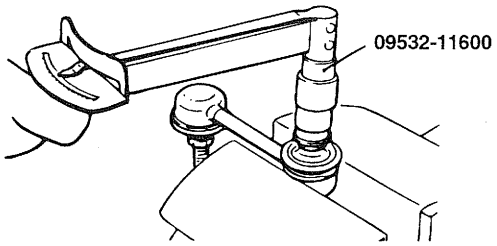
H7FS0320

INSPECTION EHLB0190

STABILIZER LINK BALL JOINT ROTATING TORQUE

1. Shake the stabilizer link ball joint stud several times before installing the nut to the stud. Then use the special tool to measure the rotating torque of the stabilizer link ball joint.

Standard value
0.7-2.0 Nm(7-20 kg·cm, 0.5-1.5 lb·ft)



H7FS0330

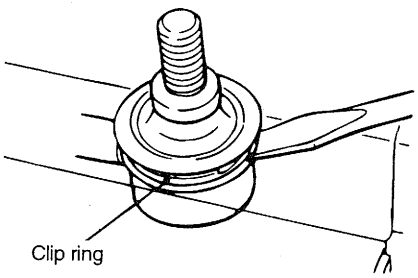
2. If the rotating torque exceeds the standard value, replace the stabilizer link.
3. If the rotating torque is lower than the standard value, check that the ball joint does not feel stiff. If it doesn't feel stiff, it is possible to use the ball joint.

STABILIZER LINK DUST COVER REPLACEMENT EHTB2500

1. Remove the clip ring and the dust cover.

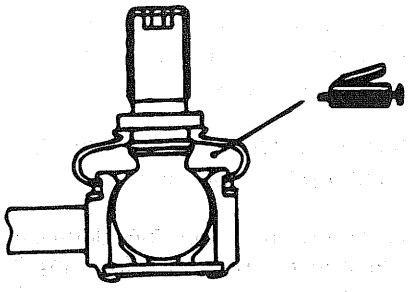
CAUTION

Do not damage the dust cover.



H7FS0350

2. Apply mutipurpose grease to the lip and inside of the dust cover.

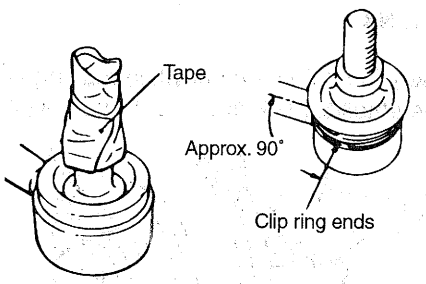


H7FS0360

3. Use vinyl tape to tape the stabilizer link where shown in the illustration, and then install the dust cover to the stabilizer link.
4. Secure the dust cover by the clip ring.

NOTE

When installing the clip ring, align it so that its ends are located at approx. 90° from the axis of the stabilizer link.

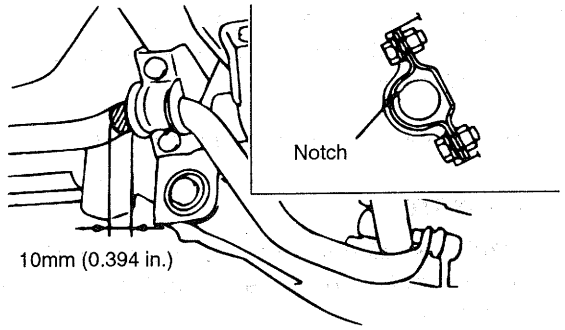


H7FS0370

INSTALLATION EHTB2600

STABILIZER BAR/BUSHING/CLAMP

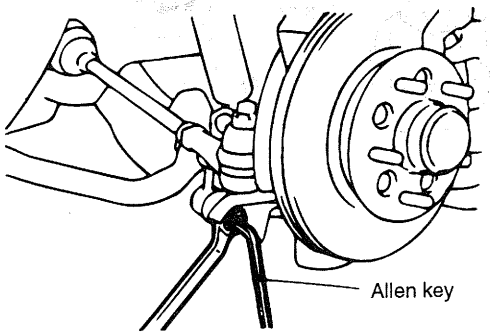
1. Position the stabilizer bar so that the identification colour is at the left and so that the notch in the bushing is facing upwards.
2. Position the stabilizer bar so that the link mounting hole is above the lower arm.
3. Install the clamp so that the identification colour on the stabilizer bar protrudes from the bushing by the amount shown in the illustration, and then tighten the clamp to the specified torque.



EHTB260A

STABILIZER LINK

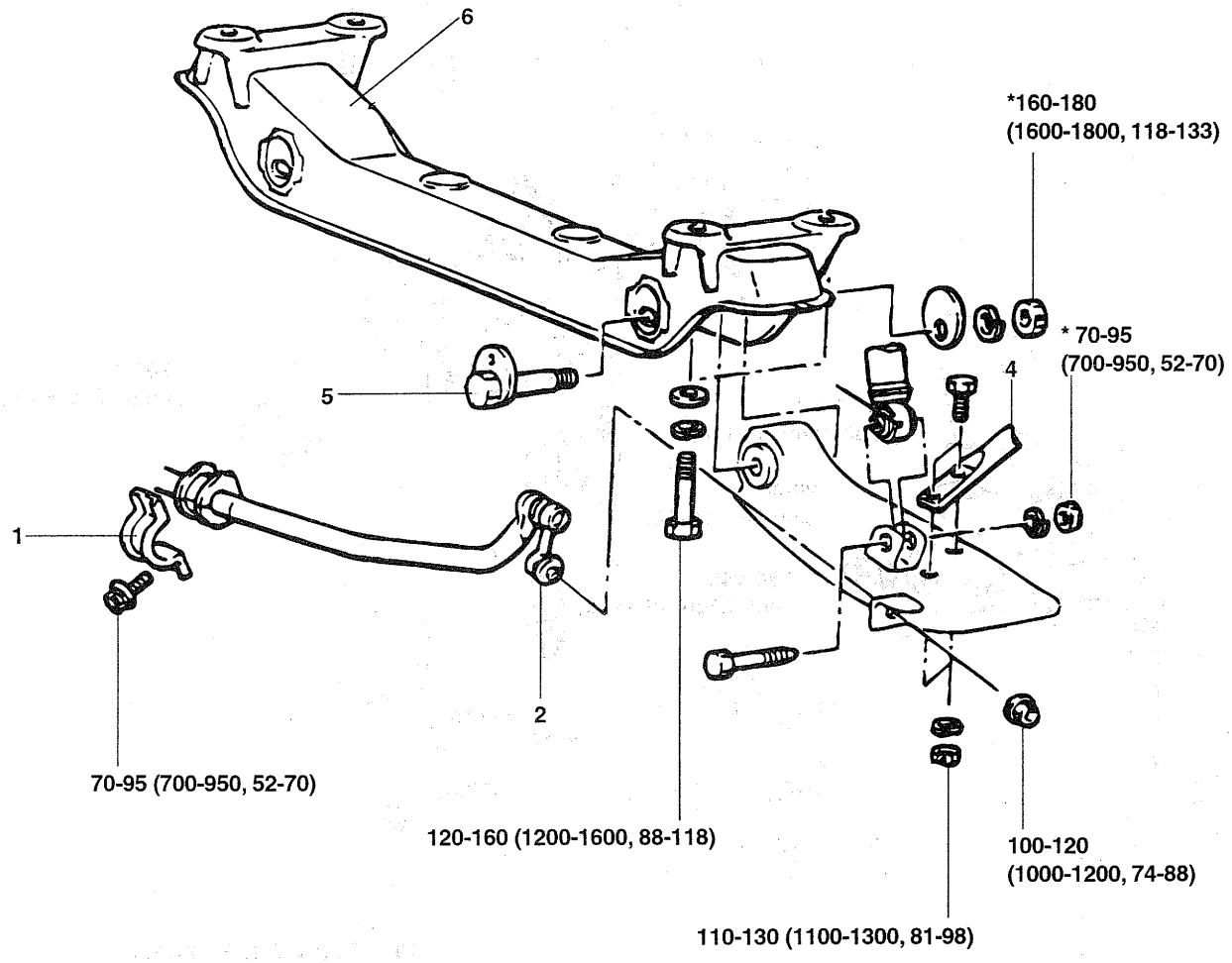
Use an Allen key to tighten the nut while making sure that the stud on the stabilizer link does not turn as well.



EHTB120A

CROSS MEMBER

COMPONENTS (2WD) EHTB2700



Removal steps

1. Clamp
2. Stabilizer link connection
3. Shock absorber lower connection
4. Strut bar front connection
5. Lower arm bolt assembly (for camber adjustment)
6. Suspension crossmember assembly

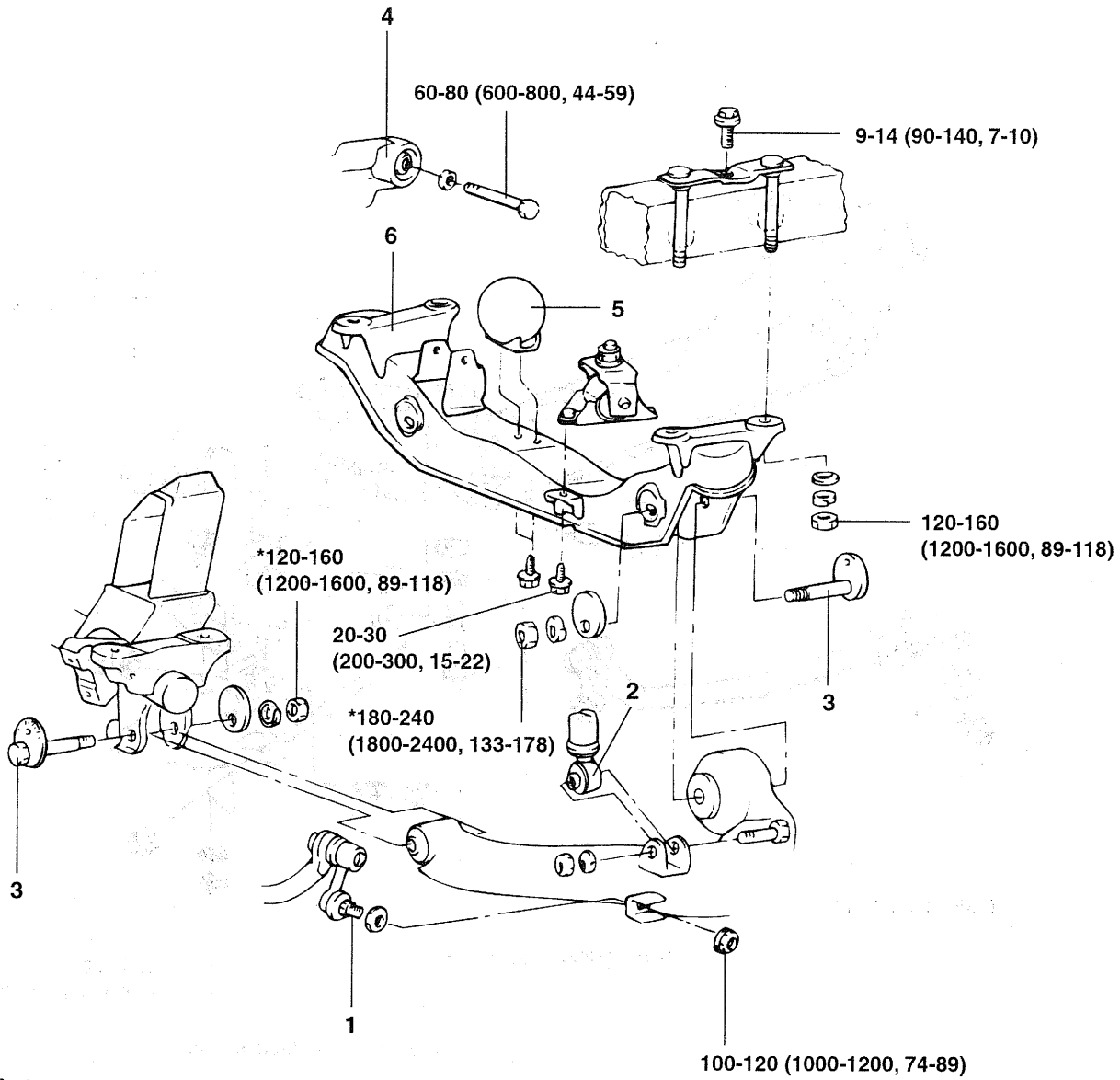
CAUTION

*** : Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the ground in the unladen condition.**

TORQUE : Nm (kg·cm, lb·ft)

EHTB270A

COMPONENTS (4WD) EHTB2800



Removal steps

1. Stabilizer link connection
2. Shock absorber lower connection
3. Lower arm bolt assembly
   (for camber, caster adjutsment)
4. Differential mount insulator assembly connection
5. Vacuum tank

CAUTION

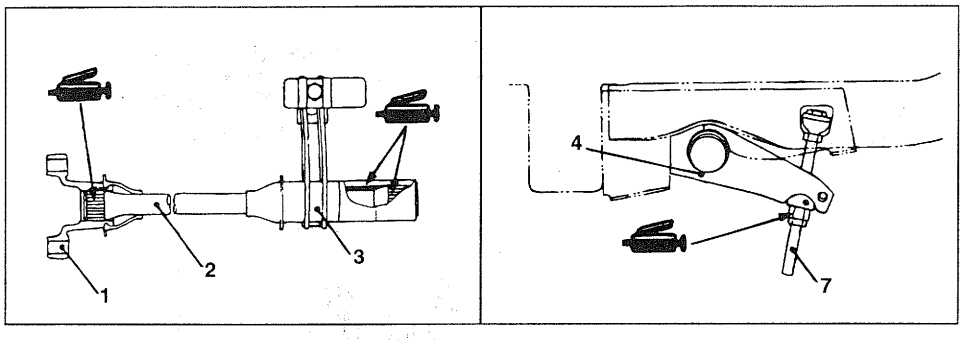
*** : Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the ground in the unladen condition.**

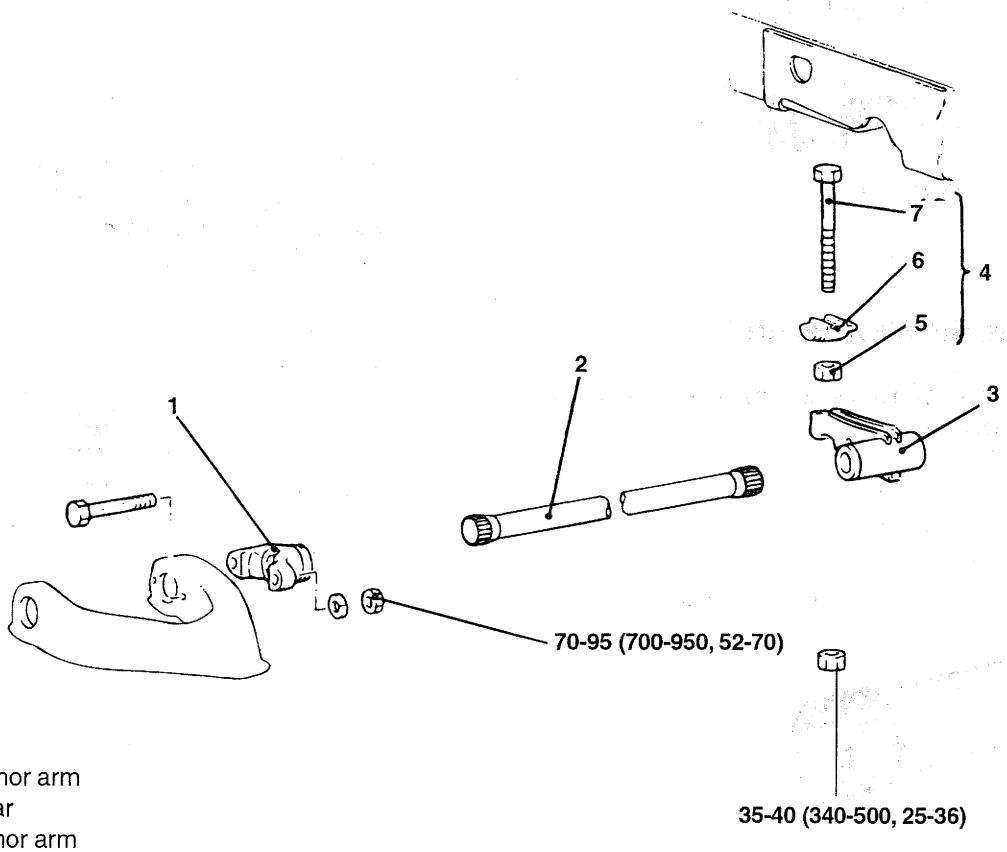
TORQUE : Nm (kg·cm, lb·ft)

EHTB280A

TORSION BAR

COMPONENTS EHLB0140





Removal

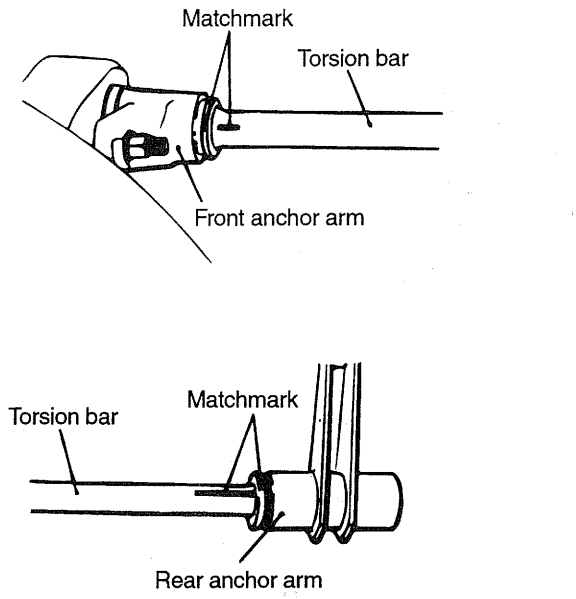
1. Front anchor arm
2. Torsion bar
3. Rear anchor arm
4. Anchor bolt assembly
5. Nut
6. Seat
7. Anchor bolt

TORQUE : Nm (kg·cm, lb·ft)

ESRSS03A

REMOVAL SERVICE POINT EHLB0150

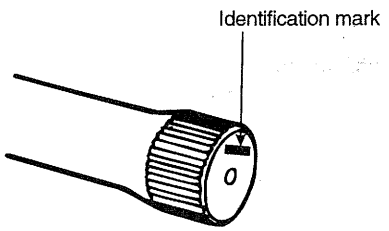
Place a matchmarks on the front anchor arm and torsion bar and the rear anchor arm, and remove torsion bar.



H7FS0510

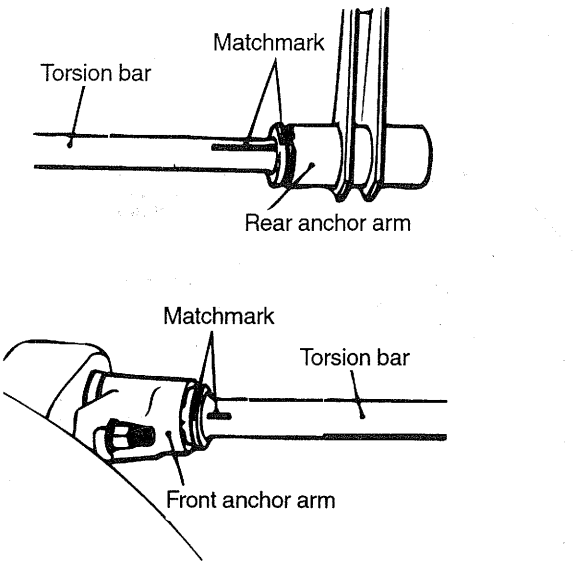
INSTALLATION SERVICE POINT EHTB2100

1. Check the identification marks on the ends of both the left and right torsion bars.
   R : Right end
   L : Left end



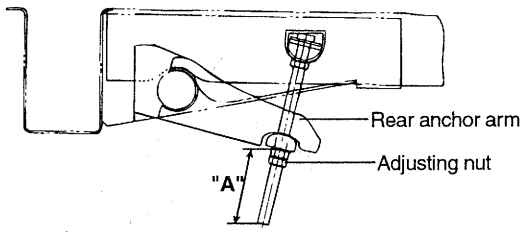
H7FS0270

2. Install the torsion bar so the ends with the identification marks are facing towards the rear of the vehicle.
3. To reuse the torsion bar, align the matchmark on the front anchor arm to torsion bar, and the matchmark on the rear anchor arm to torsion bar.



H7FS0520

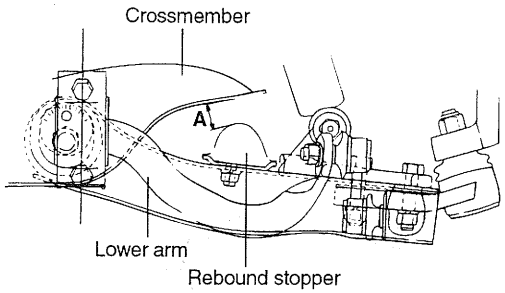
4. To replace the torsion bar, put the upper arm against the rebound stopper. Then install the rear anchor arm to the torsion bar until the distance of the anchor bolt is about 75mm (2.953 in.).



ESRSS04A

5. Place the vehicle on the ground in the unladen condition.
   Then tighten the adjusting nut until the distance from the rebound stopper to the base of the crossmember is at the standard value.

Standard value (A)
2WD : 18±1 mm (0.709±0.04 in.)
4WD : 25±1 mm (0.98±0.04 in.)

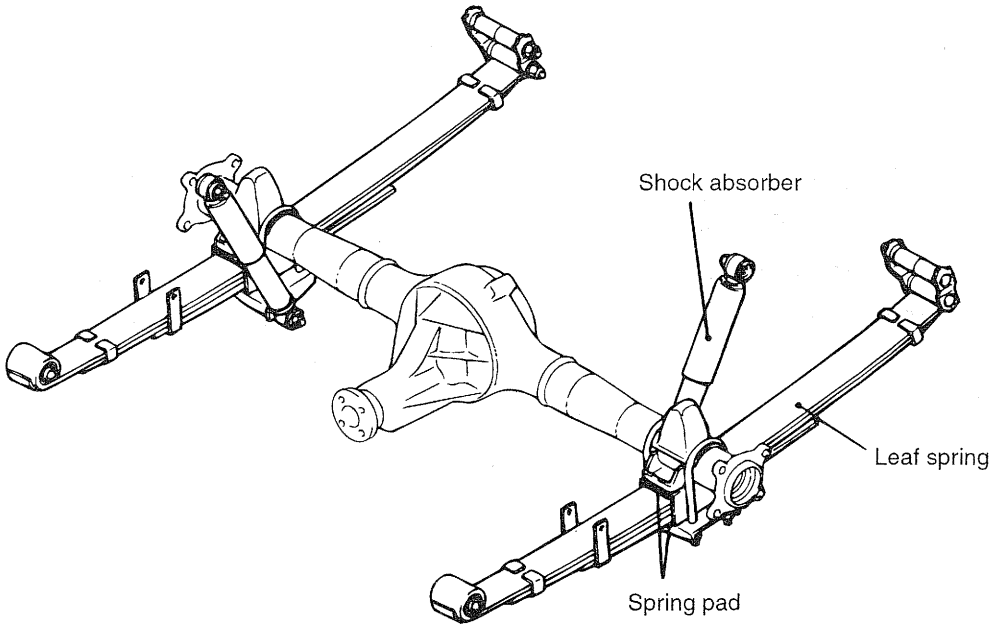


H7FS0530

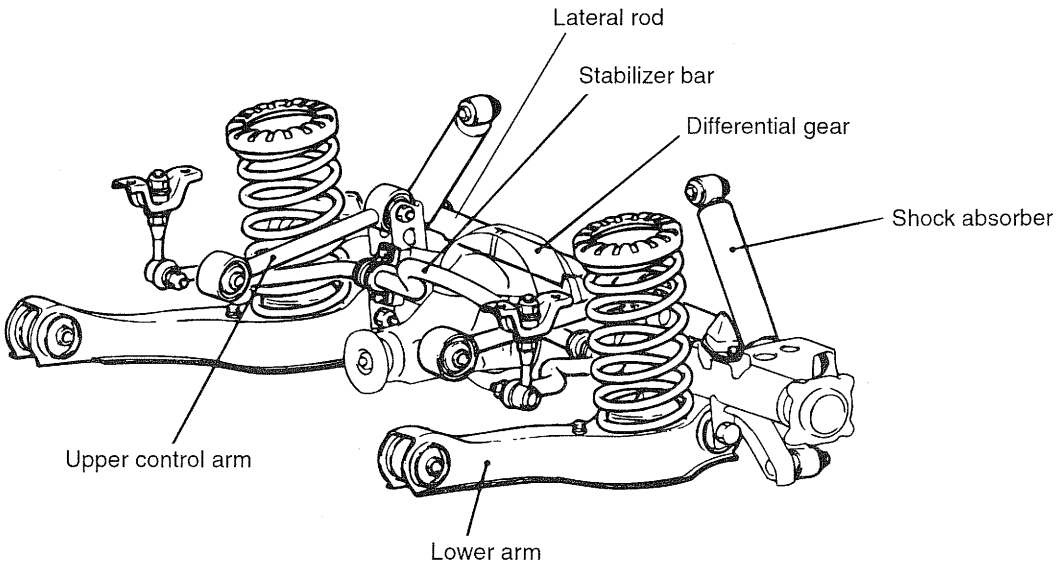
REAR SUSPENSION SYSTEM

COMPONENTS EHTB2900

[LEAF SPRING TYPE]



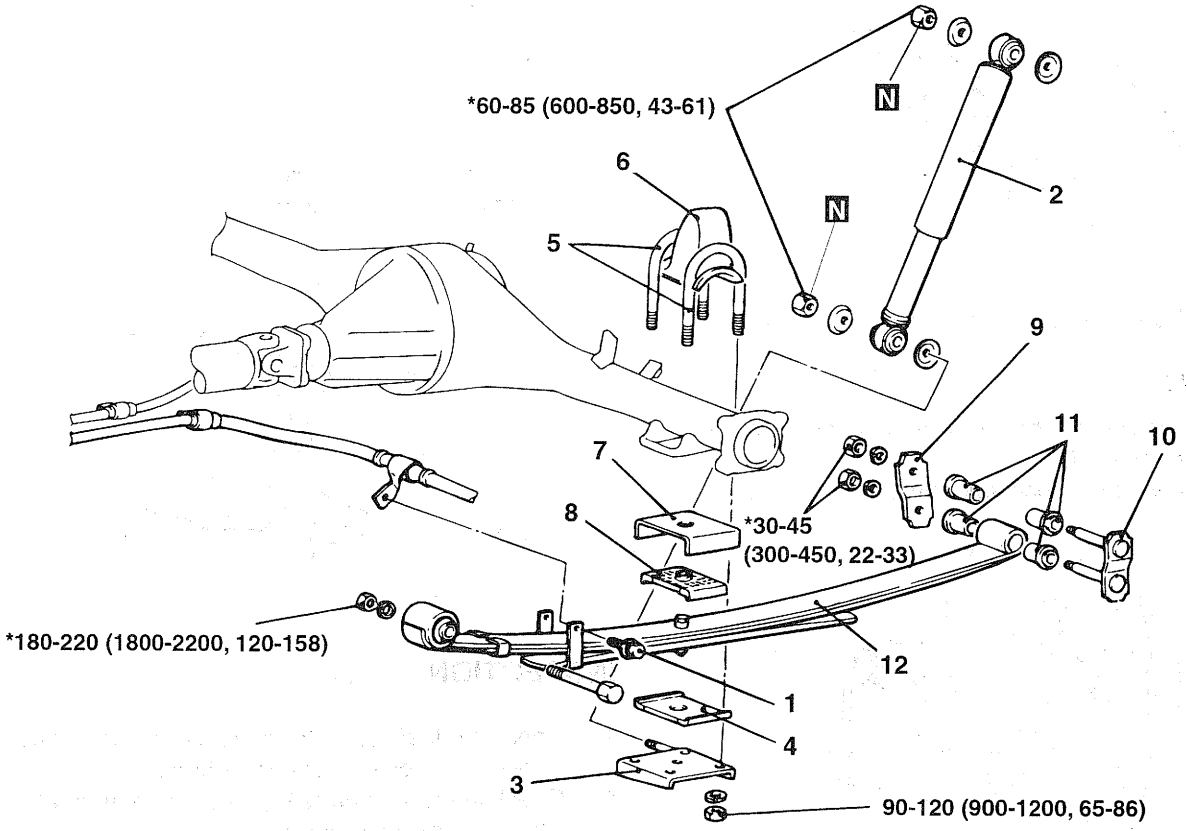
[COIL SPRING TYPE]



EHTB290A

COMPONENTS EHTB3000

[LEAF SPRING TYPE]



Removal steps

1. Parking brake cable attaching bolt
2. Shock absorber
3. U-bolt seat
4. Spring pad, lower
5. U-bolts
6. Bump stopper
7. Clamp
8. Spring pad, upper
9. Shackle plate
10. Shackle assembly
11. Rubber bushings
12. Rear spring

CAUTION

*** : Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the ground in the unladen condition.**

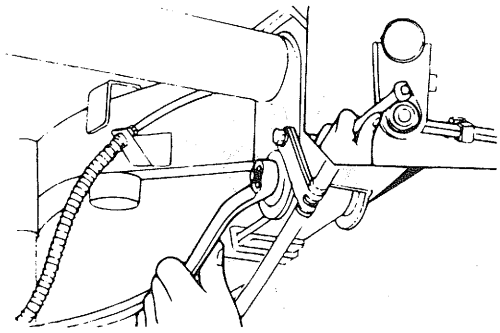
N : Replace the parts with new one after removal.

TORQUE : Nm (kg·cm, lb·ft)

EHTB300A

REMOVAL EHTB3100

1. Support the rear axle housing with rigid jack.
   Remove the parking brake cable clamp.

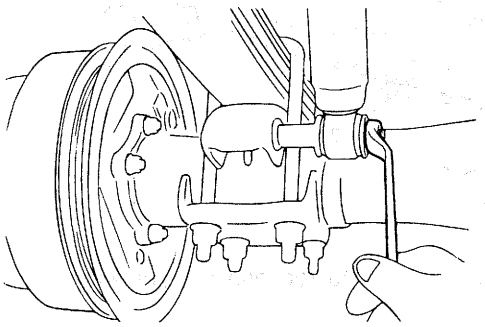


EHTB310A

2. Detach the shock absorber from the U-bolt seat.

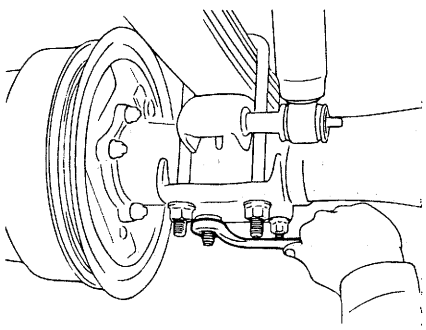
   NOTE

   Shock absorber can be easily detached by jacking up rear axle assembly.
   Do not reuse the shock absorber attaching nut.



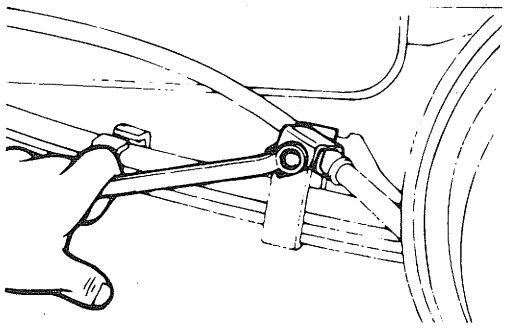
AU55-08D

3. Remove the U-bolts and take out the bump stopper.
   Jack up the rear axle assembly to make it free from the leaf spring.



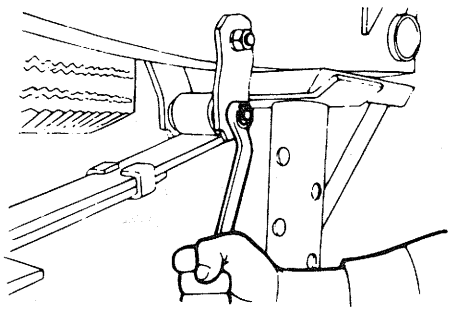
AU55-08C

4. Remove the spring pin attaching bolt.
   Pull out the spring pin and lower the front end of the leaf spring.



EHTB310B

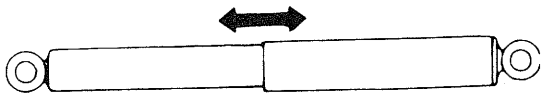
5. Remove the shackle assembly to separate the spring assembly from the frame.



AU55-08B

INSPECTION EHTB3200

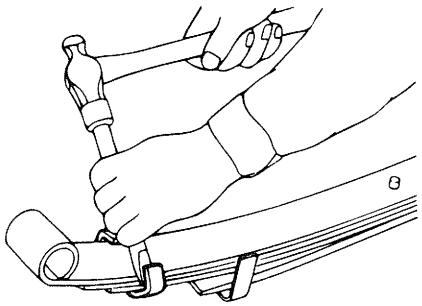
1. Check the leaf spring for damage or deterioration.
2. Check the U-bolt for cracks or bends.
3. Check the rubber parts for cracks or deterioration.
4. Check shock absorber action
   Expand and compress the shock absorbers to check whether they operate smoothly and with the same resistance. Also check for abnormal noise or oil leakage.



AU55-09A

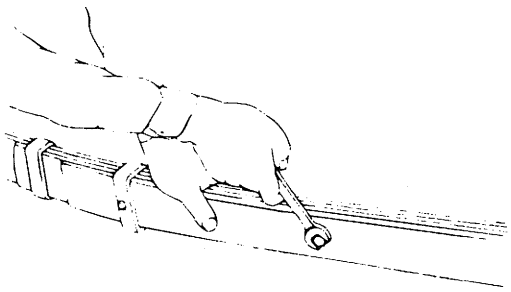
DISASSEMBLY EHTB3300

1. Unbend the leaf spring clips.



ESRSS30D

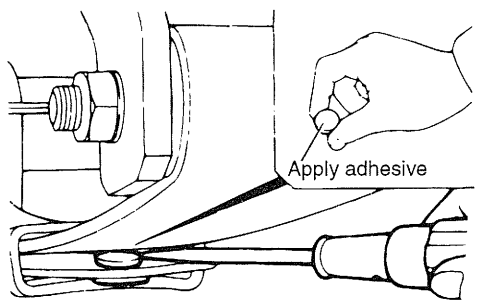
2. Remove the center bolt to separate the spring into leaves.
3. Remove the silencer, if so equipped.
4. Remove the clips from the spring leaves, if necessary.



AU55-10A

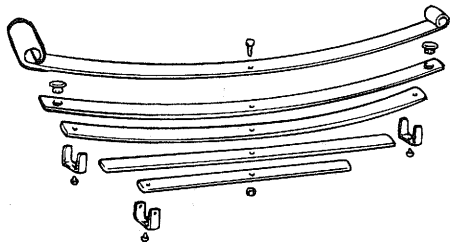
REASSEMBLY EHLB0270

1. Clean the spring leave with a wire brush.
2. Apply the adhesive to the silencer and install it on the spring leaves, if it is equipped.



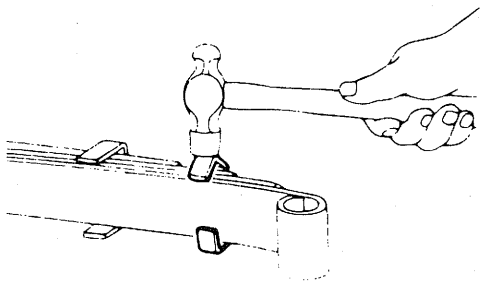
AU55-10B

3. Reassemble the spring leaves. Make sure that the distance from the front end to the center hole, each leaf, is shorter than from the rear end to the center hole.



KSRSS08A

4. Bend the leaf spring clips securely.



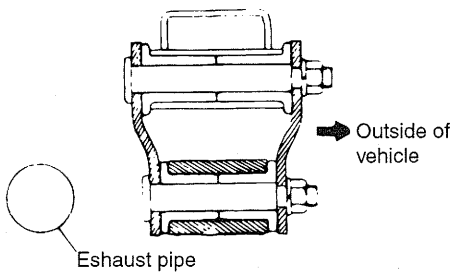
AU55-10D

INSTALLATION EHTB3500

1. Install the spring mounting bolt from the outside toward the inside of the vehicle.
2. Install the shackle assembly from the outside toward the inside of the vehicle.

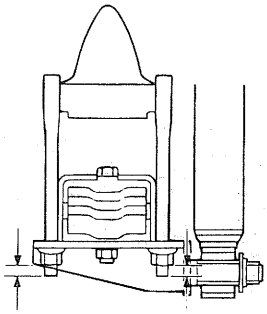
NOTE

Shackle assembly can be easily installed by jacking up rear axle assembly.



AU55-11A

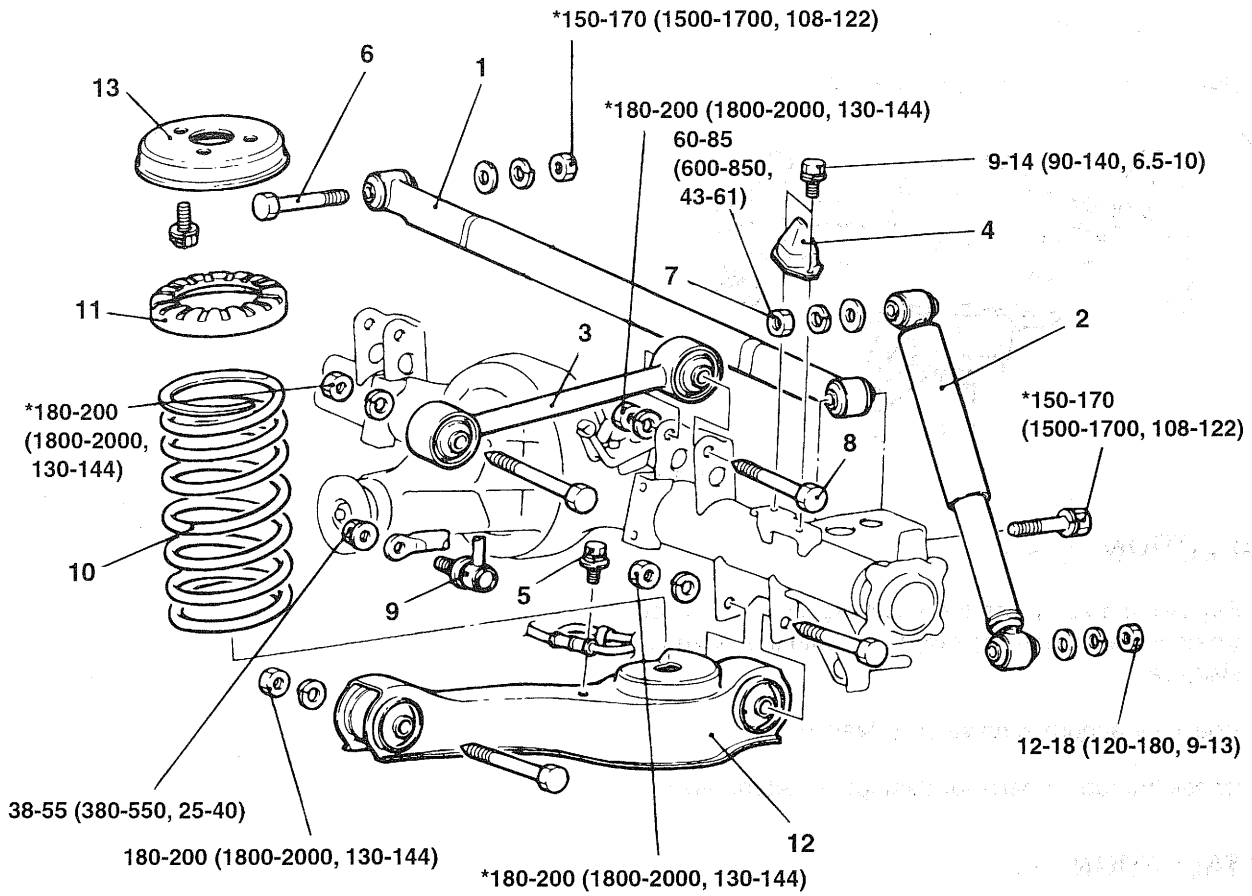
3. Tighten evenly the nuts of U-bolts to that protrusion of each bolt end out of the nut becomes uniform. Perform tightening of various points with vehicle lowered to the ground and eliminate torsion of bushing.



EHTB350A

COMPONENTS EHTB3600

[COIL SPRING TYPE]



Removal steps
1. Lateral rod
2. Shock absorber
3. Upper control arm
4. Bump stopper

Rear spring and lower arm removal steps
5. Parking brake cable attaching bolt
6. Lateral rod mounting bolt (body side)
7. Shock absorber mounting bolt (body side)
8. Upper control arm mounting bolt (axle housing side)
9. Connection for stablizer link
10. Rear spring
11. Rear spring pad
12. Lower arm
13. Rear spring support bracket

CAUTION
*** : Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the ground in the unladen condition.**

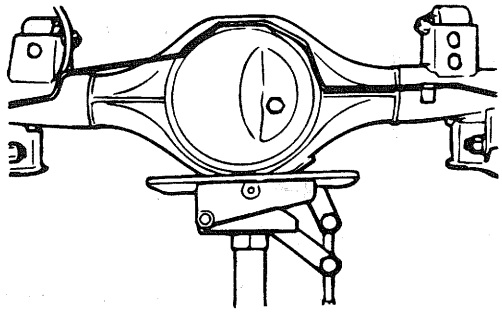
TORQUE : Nm (kg·cm, lb·ft)

EASS113A

SHOCK ABSORBER

REMOVAL EHTB4000

1. Support the rear axle housing with rigid jack.
2. Remove the shock absorber assembly.



EHTB400A

INSPECTION EHTB4100

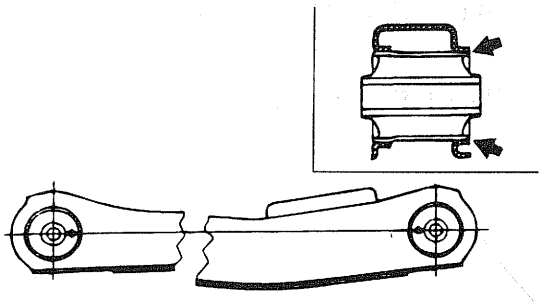
1. Expand and compress the shock absorber to check whether they operate smoothly and with the same resistance.
2. Check for abnormal noise or oil leakage.
3. Check the rubber parts for damage or deterioration.

INSTALLATION EHTB4200

Tighten the specified as bellows

Shock absorber upper mounting :	
	60-85 Nm (600-850 kg·cm, 43-61 lb·ft)
Shock absorber lower mounting :	
	12-18 Nm (120-180 kg·cm, 9-13 lb·ft)

UPPER ARM, LOWER ARM AND ASSIST LINK



EHTB430B

LOWER ARM BUSHING REPLACEMENT EHTB4300

1. Use the special tool to drive out and press-fit the lower arm bushing.

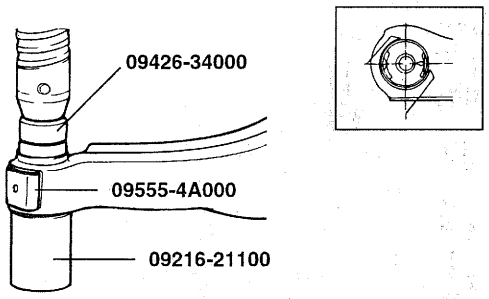
NOTE

If the special tool is hard to install tap it with a plastic hammer.

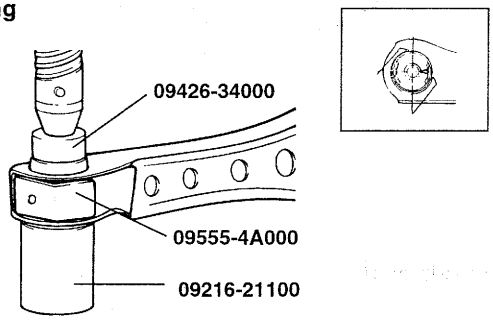
CAUTION

Because the outside diameter of both edges of the bushing are different, be careful not to mistake the direction when driving out and press-fitting.

Removal



Press-fitting



EHTB430A

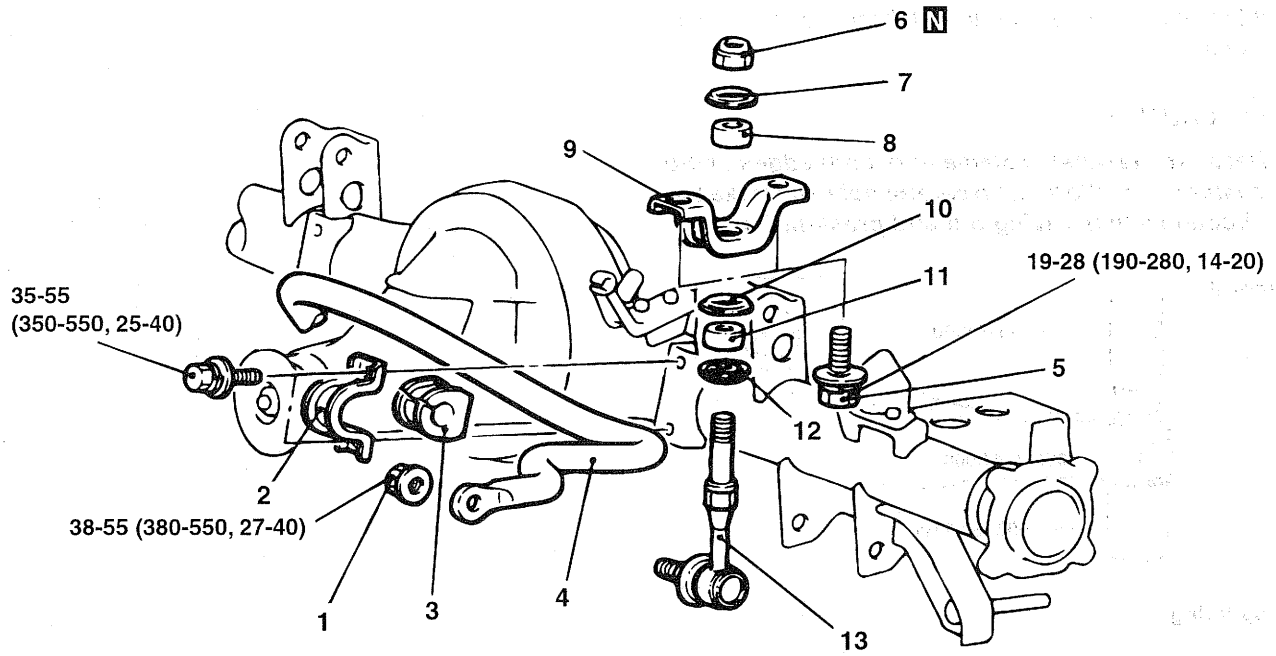
2. Check that the press-fitting force is at the standard value while press-fitting the bushing.

Standard value : 14700N (1499 kgf, 3305 lbf)

3. If the press-fitting force is less than the standard value, replace the lower arm.
4. Install so that the sections of the lower arm bushing and lower arm shown in the illustration are flush.
5. Install the lower arm bushing so that the arrow marks point as shown in the illustration.

REAR STABILIZER BAR

COMPONENTS EHTB4400



Stablizer link removal
1. Flange nut
2. Clamp
3. Bushing
4. Stabilizer bar

Stablizer link removal
1. Flange nut
5. Stabilizer link bracket mounting bolt
6. Self-locking nut
7. Joint cup (A)
8. Stabilizer rubber
9. Stabilizer link bracket
10. Joint cup (B)
11. Stabilizer rubber
12. Joint cup (A)
13. Stabilizer link

N: Replace the parts with new one after removal.

TORQUE : Nm (kg·cm, lb·ft)

EHTB440A

REMOVAL EHTB4500

1. Remove the stabilizer bar to stabilizer link mounting nut.
2. Remove the stabilizer bar mounting bracket assembly.
3. Remove the stabilizer link bracket.
4. Remove the stabilizer bar assembly.

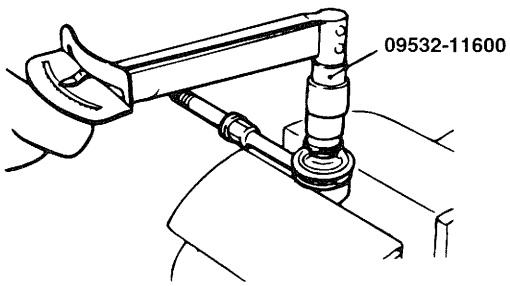
INSPECTION EHTB4600

1. Check all parts for cracks, damage and wear.
2. Check the stabilizer link ball joint rotation starting torque.
   1) If there is a crack in the dust cover, replace it, adding 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 starting torque.

Standard value

0.7-2.0 Nm (7-20 kg·cm, 6.2-17 lb·in)

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

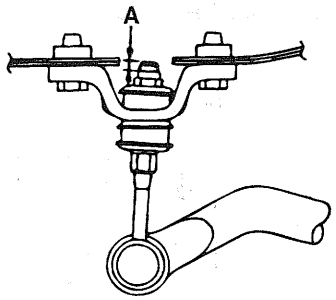


EHTB460A

INSTALLATION EHTB4700

Install the link assembly so that the projection length is at the standard value.

Standard value (A) : 3.8-5.8 mm (0.15-0.23 in)

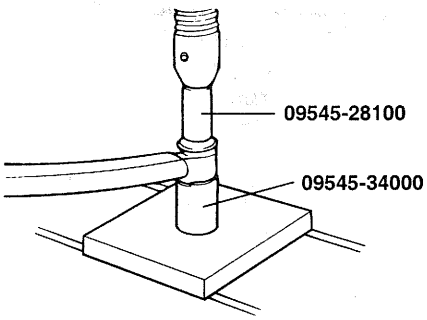


EHTB470A

LATERAL ROAD

REMOVAL EHTB3700

1. Remove the lateral rod assembly.
2. Remove the lateral rod bushing by using special tool (09545-34000, 09545-28100)



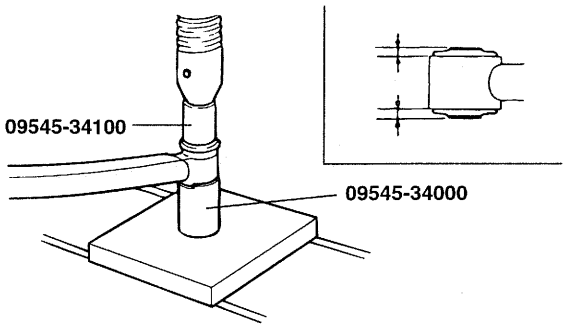
EHTB370A

INSPECTION EHTB3800

1. Check the lateral rod for cracks and deformation.
2. Check bushing for cracks deterioration and wear.

INSTALLATION EHTB3900

1. Installation the bushing so that the projection length is uniform.



EHTB390A

2. Temperaly tighten the right side bolt.
3. While jacking up the rear axle housing tighten the mounting bolt and nut to the specified torque.

TIRES/WHEELS

TIRE

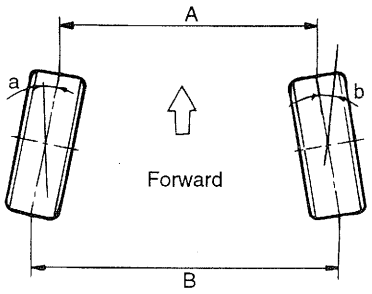
WHEEL AND TIRE EHTB4800

To measure the wheel alignment, place the vehicle on a level surface and place the steering wheel in the straight ahead position . The front suspension, steering system, and wheels should be serviced to normal condition prior to measurement of wheel alignment.

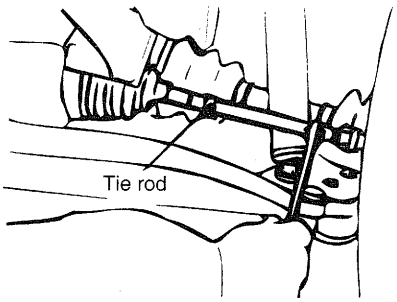
TOE-IN

Toe-in (B-A) is adjusted by rotating the tie rod turnbuckles. Left front wheel toe-in is reduced by rotating the tie rod toward the rear of the vehicle. Adjust toe-in in the same amount by turning the left and right wheel tie rod.

Toe-in (B-A) : 0±3mm (0±0.118in.)



E4ZR0010

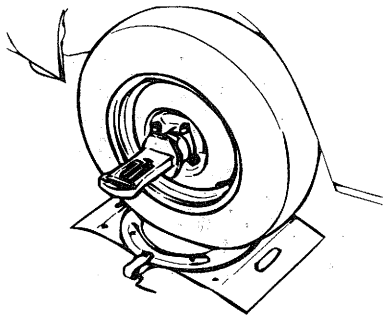


H7FS0020

CAMBER, CASTER AND KINGPIN INCLINATION

[2WD]

Standard value
Camber : 0°00′ ± 30′
(Difference between right and left within 30′)
Caster : 3° ± 30′
(Difference between right and left within 30′)
Kingpin inclination : 15°40′



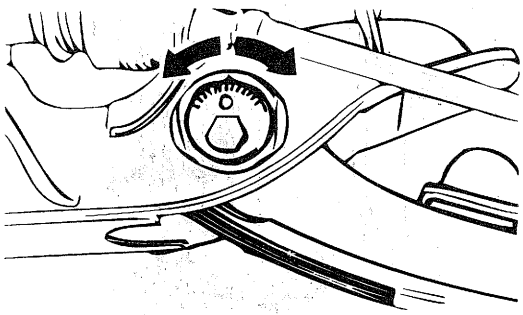
EHTB480A

CAMBER

If the camber is not withinthe standard value, turn the lower arm bolt assembly.

NOTE

If the lower arm bolt is turned clockwise, the camber increase.
If the lower arm bolt is turned counter-clockwise, the camber crease. (It changes 15′per 1pitch)



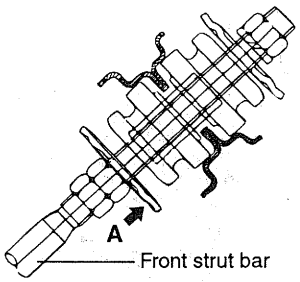
KHTB360B

CASTER

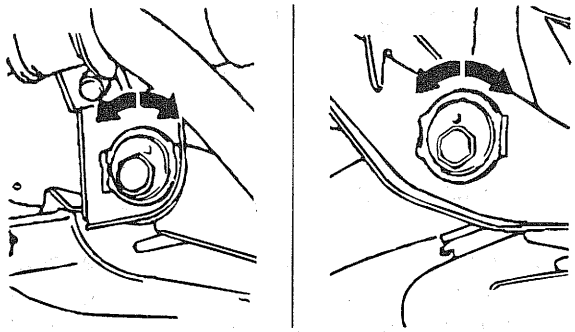
1. If the caster is not within the standard value, turn the nut of the strut bar bushing.
2. When turning the nut in the direction A in shown illustration, caster angle increse (30′ per 1 pitch)

NOTE

Available range of caster adjustment : ±2° - -1°



EASS114A

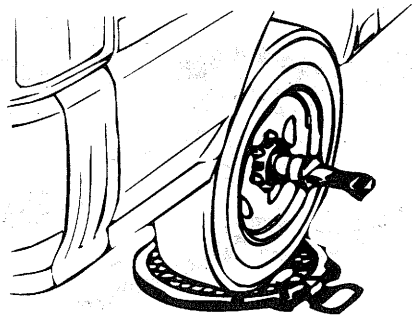


EHTB480D

[4WD]

Remove the free wheel hub assembly.
Use the special tool to measure the camber and caster.

Standard value :
Camber : 0°20′ ± 30′
(Difference between right and left within 30′)
Caster : 3°25′ ± 30′
(Difference between right and left within 30′)
Kingpin inclination : 16°30′



EHTB480B

If the camber or caster is not within the standard value, turn the lower bolt assembly (front and rear).
Check the alignment . If it is not within the standard value, repeat the adjustment procedure.

READING THE CAMBER/CASTER ADJUSTMENT TABLE (FOR 4WD)

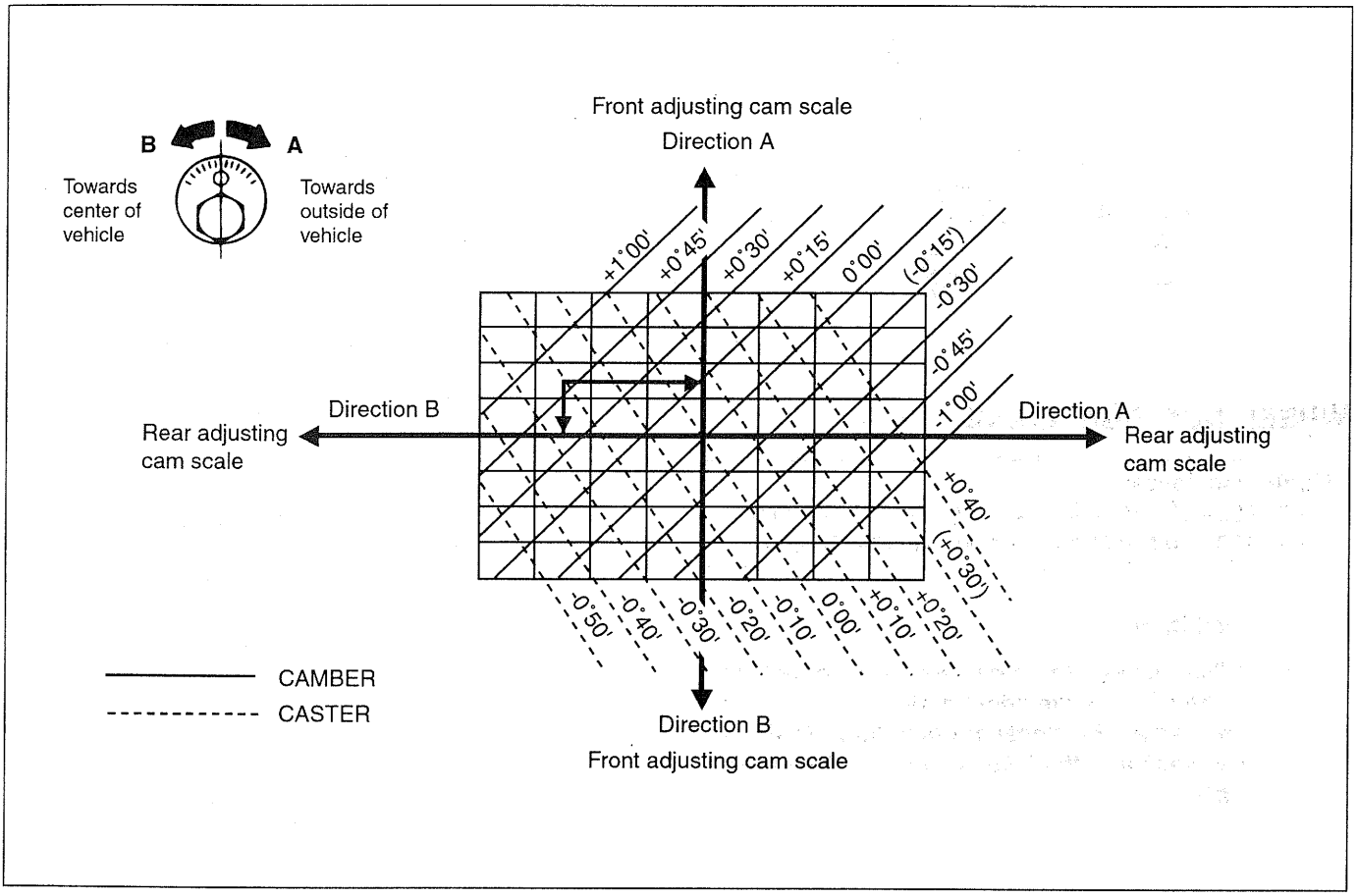
Calculate the differences between the measured values and the standard values, and obtain how far the adjusting cam should be turned.

Item	Measured value (A)	Standard value (B)	Difference (B-A)
Camber	0°0′	-0°20′	-0°20′
Caster	3°05′	3°50′	+0°45′

To reach the standard values in the above example, the front adjusting cam should be turned 1.5 points in direction A, and the rear adjusting cam should be turned 2.5 points in direction B. (See the table below).

NOTE

The values on the vertical and horizontal axes represent a single point on the adjusting cam scales.



EHTB480C

TIRE WEAR EHTB4900

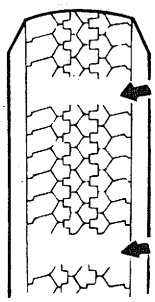
1. Measure the tread depth of the tire.

Tread depth of tire : 1.6mm (0.0630in.)

2. If the tread depth is less than the limit, replace the tire

NOTE

When the tread depth of the tire is reduced to 1.6mm (0.0630in.) or less, the wear indicators will appear



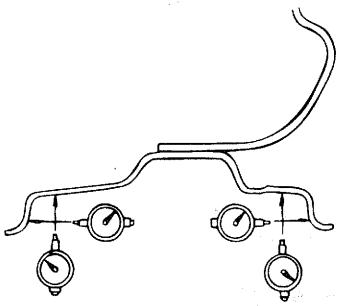
E4ZR0050

WHEEL

WHEEL RUNOUT EHTB5000

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

	Front wheel	Rear wheel
Radial	0.6mm (0.0630in.)	1.2mm (0.0472in.)
Horizontal	1.0mm (0.0394in.)	1.2mm (0.0472in.)



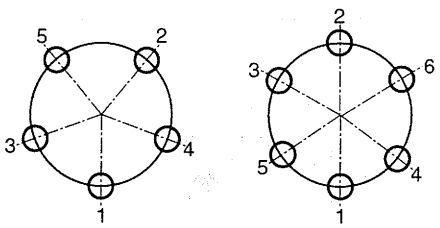
E4JR0010

WHEEL NUT TIGHTENING EHTB5100

Tightening torque
2WD : 150-220 Nm (1500-2000 kg·cm, 111-148 lb·ft)
4WD : 120-140 Nm (1200-1400 kg·cm, 89-104 lb·ft)

CAUTION

1. ***When using an impact-wrench, check the tightening torque completely.***
2. ***Tighten all the wheel nut according to the order shown in the illustration until they are all tight***



[2WD] **[4WD]**

EASS070A