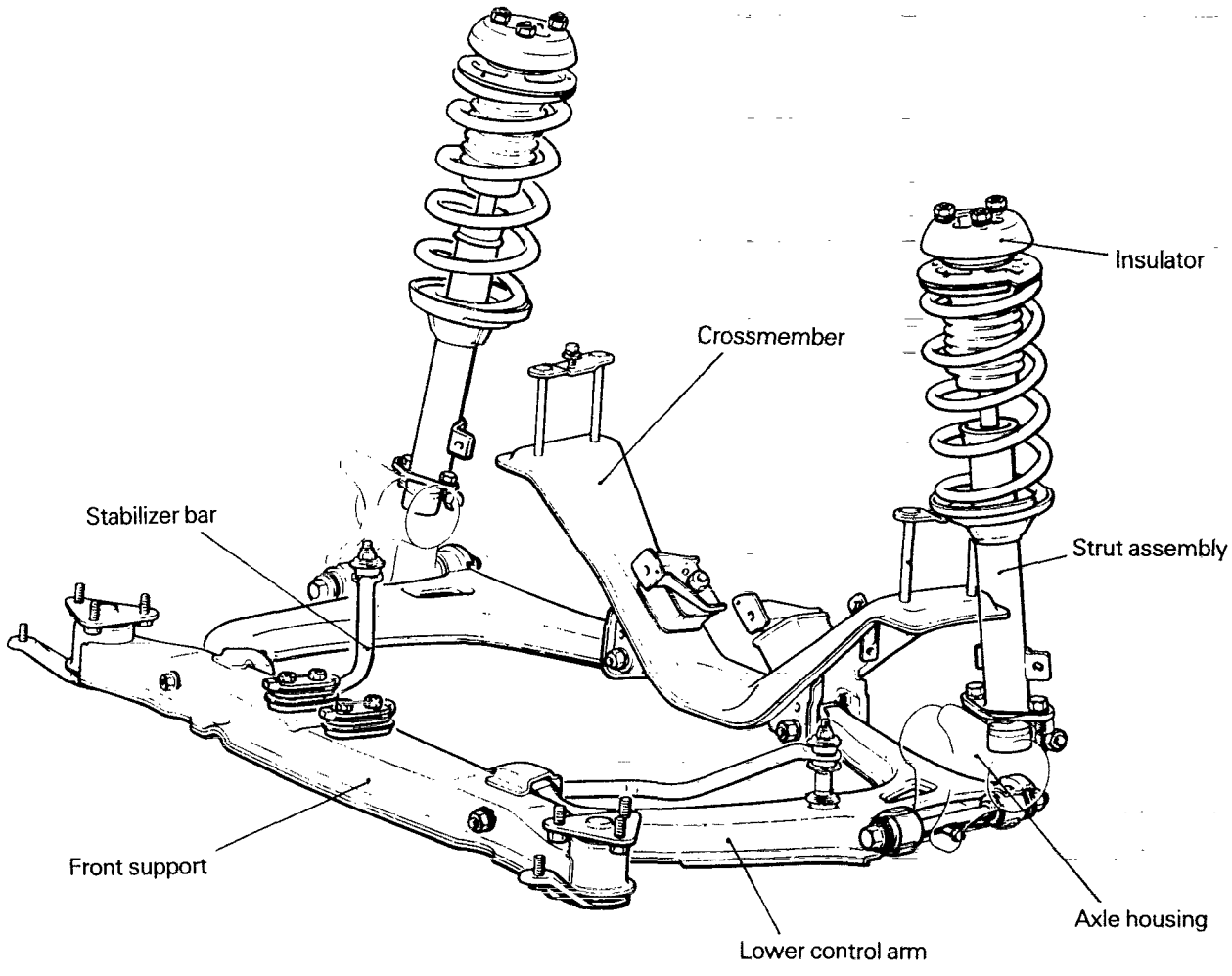
REAR SUSPENSION

CONTENTS

GENERAL INFORMATION

N17BAAG

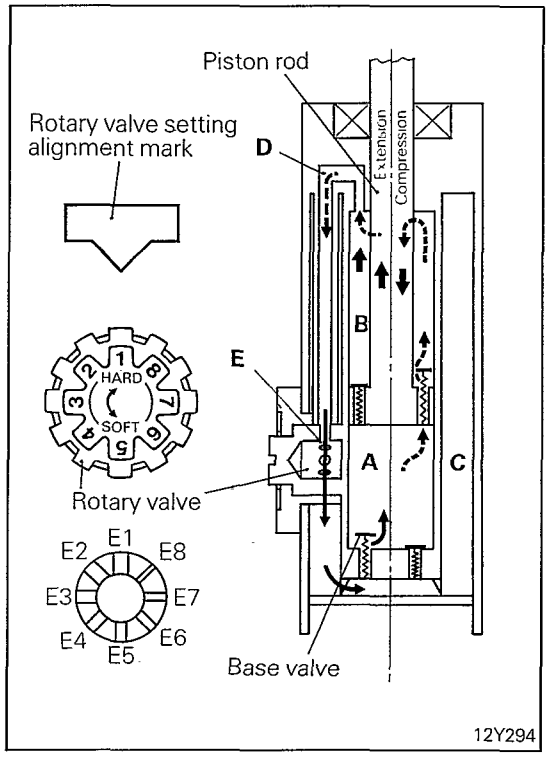
The rear suspension is a simply constructed McPherson Strut type independent suspension system with light unsprung weight.
The strut assembly is mounted, with its upper end supported by the wheel house through the insulator and its lower end connected to the axle housing.
The lower control arms are connected to the front support, crossmember and axle housing through bushings.
A cam mechanism is provided between each lower control arm and the crossmember for toe-in adjustment.
The stabilizer bars with their front ends bolted to the front support at two points, are connected to the respective lower control arms.
The front support holds the torque tube and the lower control arms through upper and lower cushions and bushings, respectively. The both ends of the front support are bolted to the body with the mediate use of bushings.



12Y679

ADJUSTABLE SHOCK ABSORBER (8 LEVELS)

The adjustable shock absorber can have its damping force adjusted manually to any of eight levels according to the road surface condition and driving condition. Rotary valve 1 gives the lowest (softest) damping force and 2, 3, 4, 5, 6, 7 and 8 give increasingly higher (harder) damping force, thus allowing adjustment of the shock absorber damping force according to the driving condition.



CONSTRUCTION AND FUNCTION

The rotary valve has eight orifices "E" (E1 to E8) of different sizes that give different levels of resistance to fluid flow. By changing the orifices, therefore, the damping force of the shock absorber can be changed.

OPERATION (FLUID FLOW WHEN EXTENDED)

The fluid in chamber B is pressurized and flows to chamber D. In chamber D, a damping force develops as the fluid flows through variable orifice E, and this force adds to the damping force that is generated as the fluid flows to chamber A. Therefore, by changing the size of orifice E, the damping force can be changed.

OPERATION (FLUID FLOW WHEN CONTRACTED)

Fluid in chamber A is pressurized and flows to chamber B; the amount of fluid corresponding to the volume displaced by the piston rod flows to chamber C. As the base valve is closed, this same volume flows to chamber D, flowing through variable orifice E and thus changing the damping force in the same way as when the shock absorber extended.

Handling Precautions

- Set both right and left damping forces at the same level. Setting them at different levels adversely affects steering stability.
- If set midway between numbers, the damper operates at the hardest level (8).

SPECIFICATIONS

N17CA--

GENERAL SPECIFICATIONS

Items	A187AM	A187 (Option)
Suspension system	Strut type independent suspension	Strut type independent suspension
Coil spring		
Wire dia. x O.D. x free length mm (in.)	12.2 x 132.2 x 327.7 (.48 x 5.20 x 12.90)	12.0 x 132.0 x 320.4 (.47 x 5.20 x 12.61)
Coil spring identification color	Pink–2	Pink–1
Shock absorber		
Type	Hydraulic, cylindrical, double-acting type	Gas damper type (Adjustable shock absorber)
Max. length mm (in.)	542 (21.3)	542 (21.3)
Min. length mm (in.)	362 (14.3)	362 (14.3)
Stroke mm (in.)	180 (7.1)	180 (7.1)
Stabilizer bar O.D. mm (in.)	19 (.75)	19 (.75)

SERVICE SPECIFICATIONS

N17CE--

Items	Specifications
Standard value	
Toe-in mm (in.)	0 ± 2 (0 ± .08)
Camber	–0°15′ ± 30′
Protruding length of stabilizer bar installation bolt mm (in.)	15 – 17 (.59 – .67)
Limit	
Piston rod O.D. mm (in.)	21.95 (.8642)

TORQUE SPECIFICATIONS

N17CC--

Items	Nm	ft.lbs.
Center exhaust pipe	20 – 30	14 – 22
Brake line flare nut	13 – 17	9 – 12
Propeller shaft	50 – 60	36 – 43
Lower control arm to front support	130 – 150	94 – 108
Lower control arm to crossmember	130 – 150	94 – 108
Lower control arm to axle housing	110 – 130	80 – 94
Lower control arm locking pin	15 – 20	11 – 14
Strut assembly to axle housing	50 – 70	36 – 51
Strut piston rod nut	70 – 90	51 – 65
Strut assembly to body	25 – 35	18 – 25
Stabilizer bar to front support	30 – 40	22 – 29
Stabilizer bar to lower control arm	10 – 20	7 – 14
Front support lower stopper bolt to body	40 – 50	29 – 36
Front support nut to pin assembly	70 – 85	51 – 61
Pin assembly to body	70 – 85	51 – 61

Items	Nm	ft.lbs.
Support insulator to crossmember	25 – 30	18 – 22
Support insulator to rear support	30 – 35	22 – 25
Rear support to differential carrier	50 – 70	36 – 51
Bolt assembly to body	8 – 10	6 – 7
Bolt assembly to crossmember	70 – 85	51 – 61

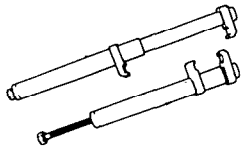
LUBRICANTS

N17CD- -

Items	Specification lubricant	Quantity
Lower arm shaft	MOPAR Multi-Mileage Lubricant Part No. 2525035 or equivalent	As required

SPECIAL TOOL

N17DA- -

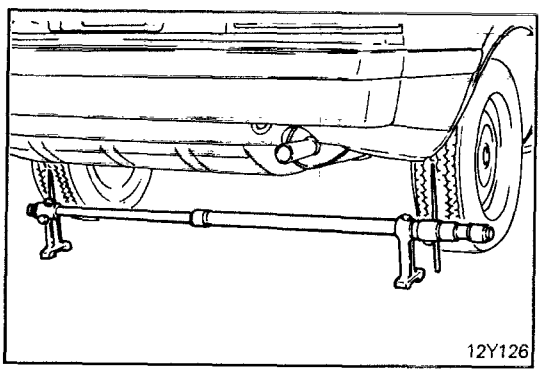
Tool (Number and name)	Use
L-4514 Spring compressor 	Removal and installation of the coil spring

SERVICE ADJUSTMENT PROCEDURES

N17FDAAa

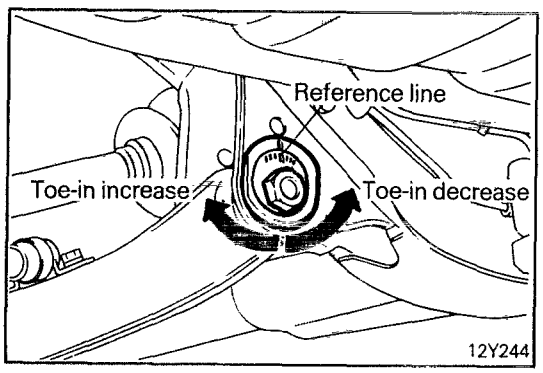
WHEEL ALIGNMENT INSPECTION AND ADJUSTMENT

Measure the wheel alignment with the vehicle parked on level ground.
The rear suspension and wheels should be serviced to the normal condition prior to measurement of wheel alignment.



1. TOE-IN

(1) Measure the toe-in with a toe-in gauge.
Standard value: 0 ± 2 mm (0 ± .08 in.)



(2) If the toe-in is not within the standard value, adjust it by moving the mounting bolts located on the crossmember side of the lower control arm.

NOTE
Make the adjustment by moving the left and right bolts equally.
Movement of one division on the scale will cause toe-in variation of about 1 mm (.04 in.).

2. CAMBER

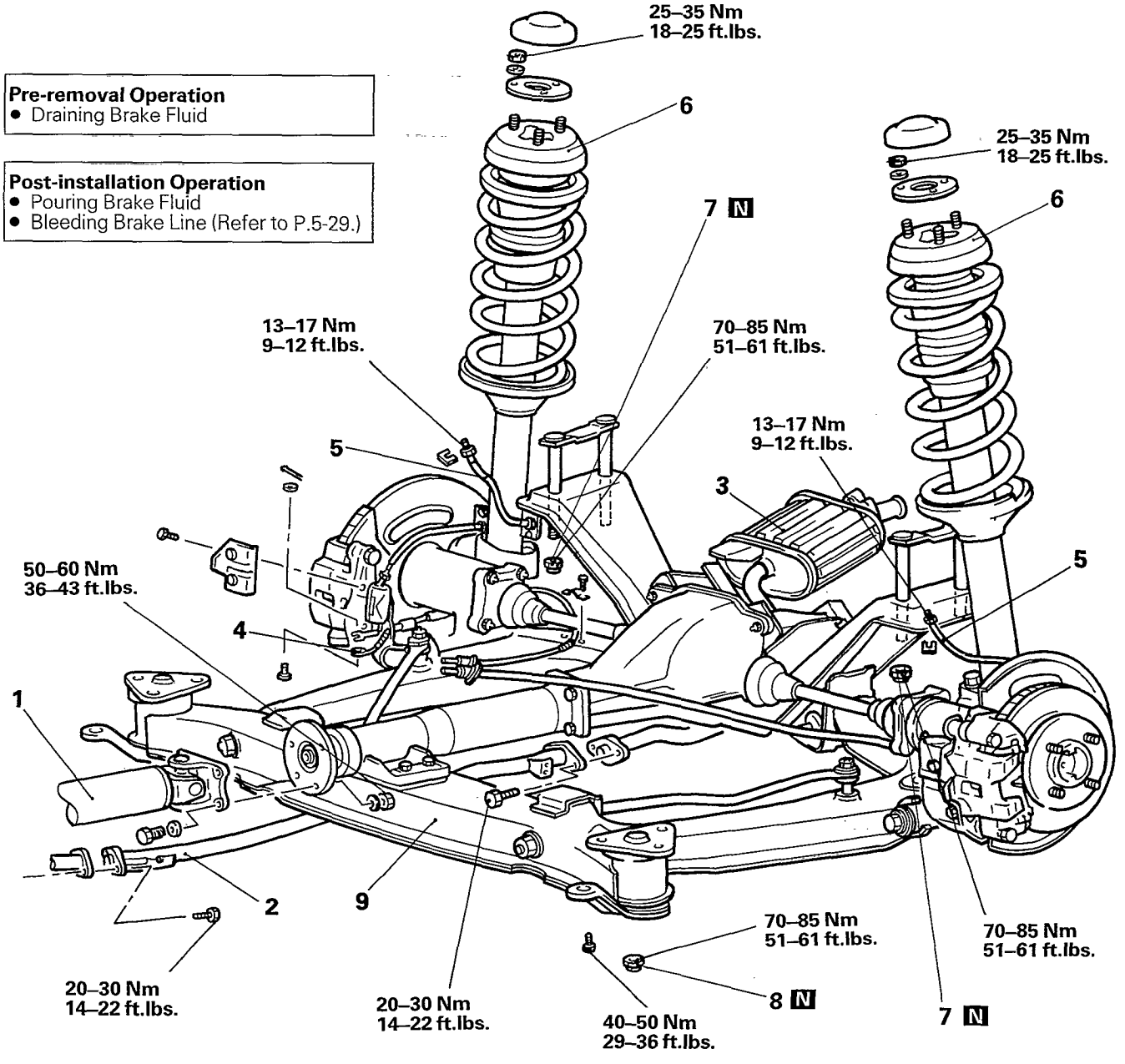
Measure the camber with a camber/caster/kingpin gauge. (Refer to GROUP 2 FRONT SUSPENSION – Service Adjustment Procedures.)

Standard value: –0°15′ ± 30′ (non-adjustable)
Difference between left and right wheels within 30′

SUSPENSION ASSEMBLY

N17GA--

REMOVAL AND INSTALLATION

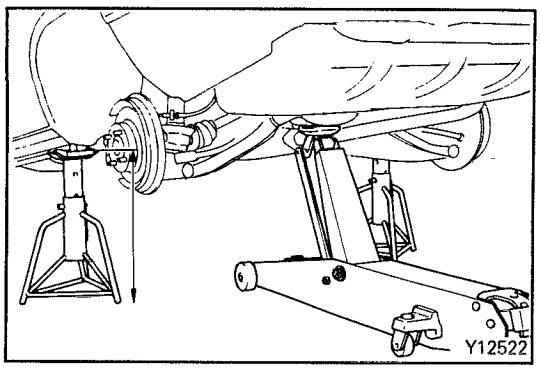


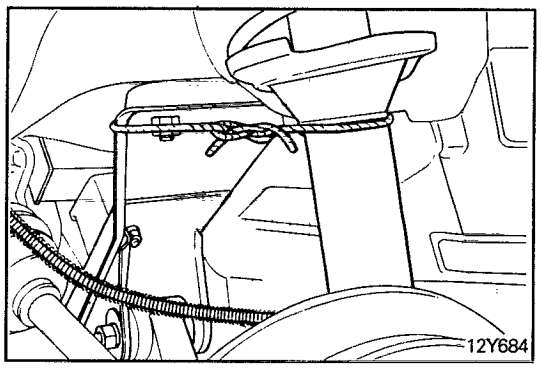
Removal steps

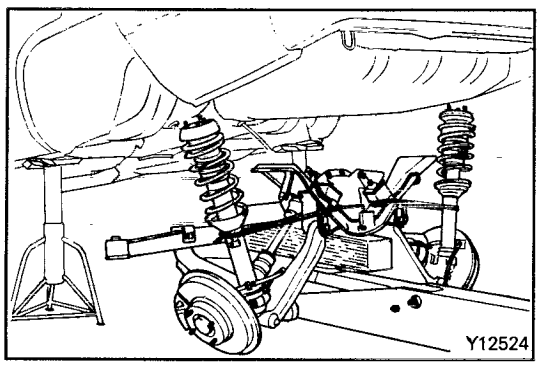
◆◆ ▶◀ 1. Propeller shaft
▶◀ 2. Center exhaust pipe
▶◀ 3. Main muffler
▶◀ Parking brake cable adjustment
4. Parking brake cable connection
5. Rear brake hose connection
▶◀ 6. Strut assembly connection
7. Crossmember mounting nut (Self-locking nut)
8. Pin assembly to front support mounting nut (Self-locking nut)
◆◆ 9. Suspension assembly

NOTE
(1) Reverse the removal procedures to reinstall.
(2) ◆◆: Refer to "Service Points of Removal".
(3) ▶◀: Refer to "Service Points of Installation".
(4) N: Non-reusable parts

12Y714







SERVICE POINTS OF REMOVAL N17GBAH

1. REMOVAL OF PROPELLER SHAFT

Refer to GROUP 16 PROPELLER SHAFT AND UNIVERSAL JOINTS – Propeller Shaft.

9. REMOVAL OF SUSPENSION ASSEMBLY

(1) Support the vehicle with rigid racks at the specified points, and remove the rear wheels.

NOTE
The height of the rigid racks should be 600 mm (24 in.) or more.

(2) Secure the strut assembly to the crossmember with rope.

(3) Lower the jack slowly, being sure to support both of the left and right lower control arms and the strut assemblies.

SERVICE POINTS OF INSTALLATION

6. INSTALLATION OF STRUT ASSEMBLY

Refer to P.17-12.

• PARKING BRAKE ADJUSTMENT

Refer to GROUP 5 BRAKE – Service Adjustment Procedures.

3. INSTALLATION OF MAIN MUFFLER / 2. CENTER EXHAUST PIPE

Refer to GROUP 11 INTAKE AND EXHAUST SYSTEM – Exhaust Pipes and Mufflers.

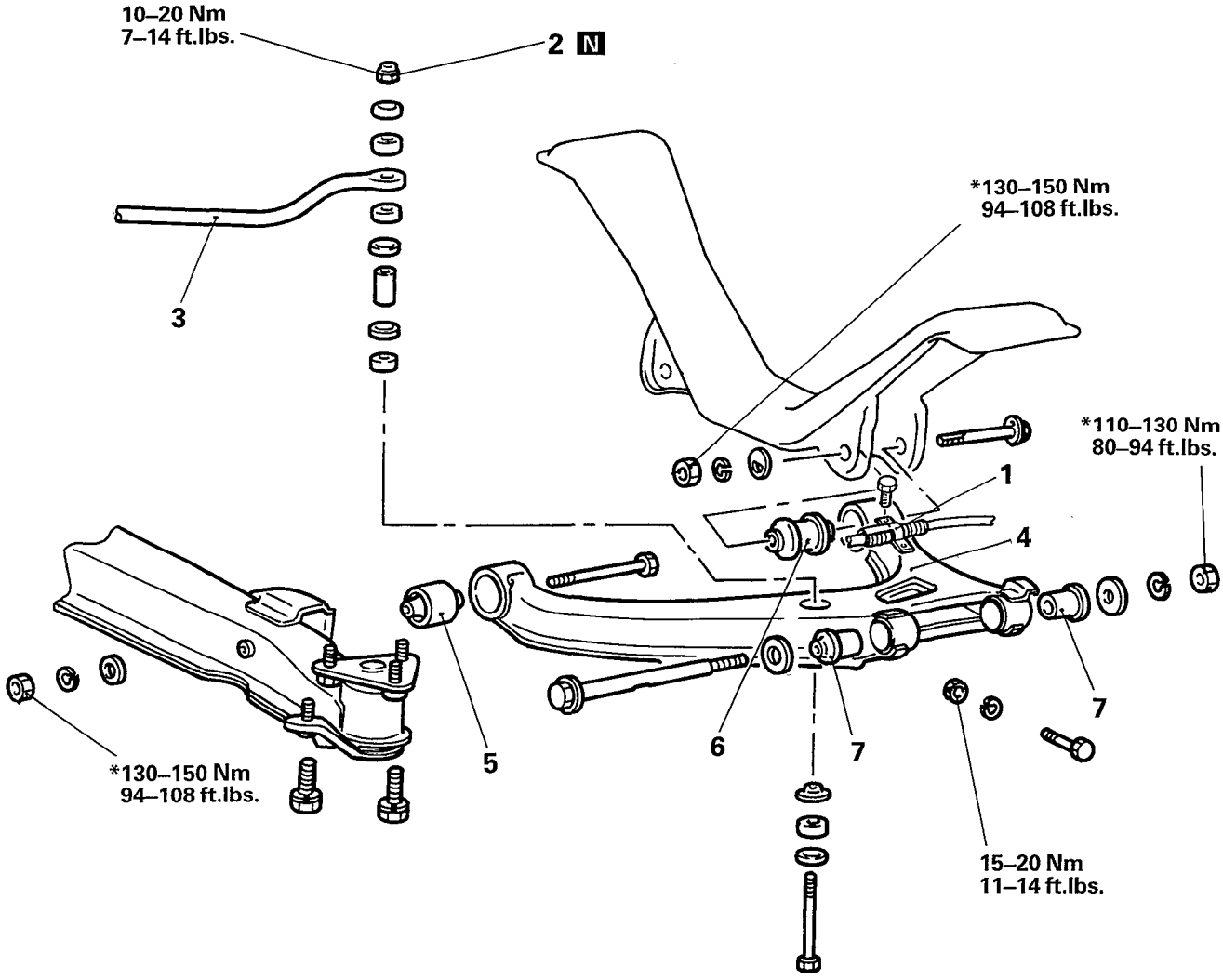
1. INSTALLATION OF PROPELLER SHAFT

Refer to GROUP 16 PROPELLER SHAFT AND UNIVERSAL JOINTS – Propeller Shaft.

LOWER CONTROL ARM

N17HAAA

REMOVAL AND INSTALLATION



Removal steps

1. Parking brake cable mounting stay connection
2. Stabilizer bar mounting nut
3. ◆◆ Stabilizer bar connection
4. ◆◆ Lower control arm
5. Bushing A
6. Bushing B
7. Bushing C

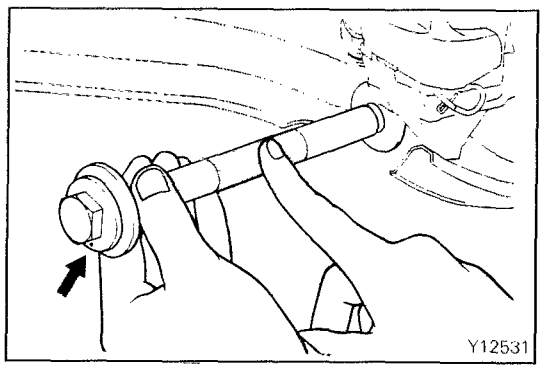
NOTE
(1) Reverse the removal procedures to reinstall.
(2) ◆◆: Refer to "Service Points of Installation".
(3) N: Non-reusable parts
(4) *: Must be tightened while vehicle is unladen.

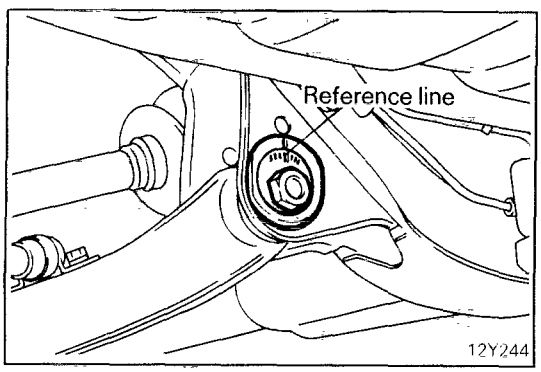
12Y713

INSPECTION

N17HBAA

- Check the lower control arm for deformation and damage.
- Check the bushings for damage and wear.
- Check the bolts for bend.





SERVICE POINTS OF INSTALLATION

N17HDAD

4. INSTALLATION OF LOWER CONTROL ARM

(1) Apply specified grease to the concave part of the shaft connecting the lower control arm to the axle housing.

***Specified grease*: MOPAR Multi-Mileage Lubricant Part No. 2525035 or equivalent**

Caution
Apply a thin coat of specified grease, taking care that it does not adhere to the bushing.

(2) Insert the shaft with the mark on its head facing downward.

(3) When installing the lower control arm to the crossmember, align the mark on the crossmember with the reference line on the plate.

(4) Measure the wheel alignment.

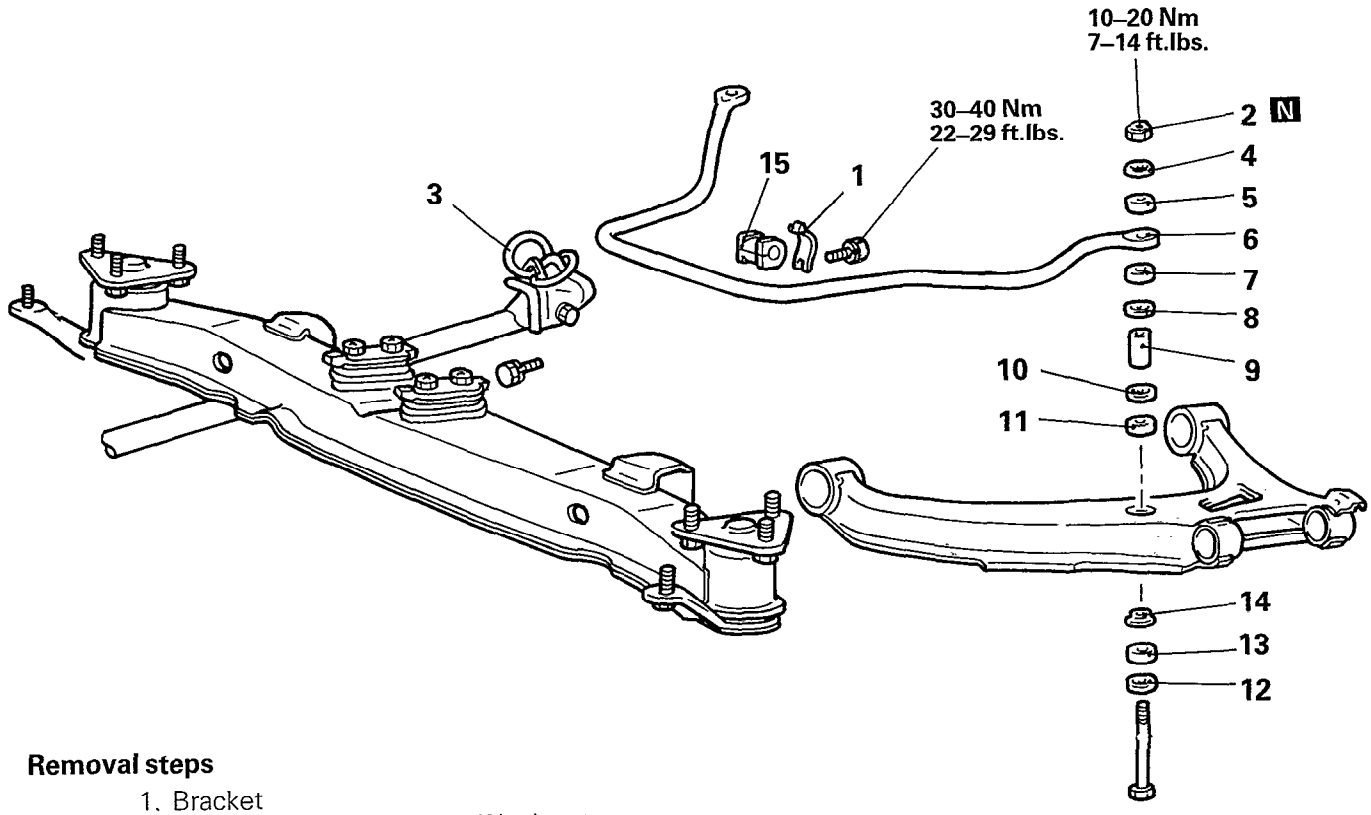
3. INSTALLATION OF STABILIZER BAR CONNECTION

Refer to P.17-11.

STABILIZER BAR

N17IA--

REMOVAL AND INSTALLATION

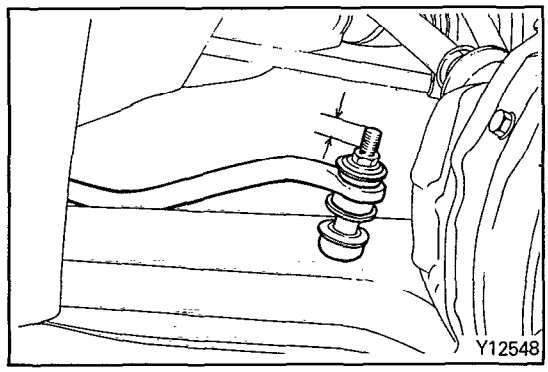


Removal steps

1. Bracket
2. Stabilizer bar mounting self lock nut
3. Center exhaust pipe rubber O-ring
4. Joint cup
5. Rubber bushing
- ◆◆ 6. Stabilizer bar
7. Rubber bushing
8. Joint cup
9. Collar
10. Joint cup
11. Rubber bushing
12. Joint cup
13. Rubber bushing
14. Joint cup
15. Bushing

NOTE
(1) Reverse the removal procedures to reinstall.
(2) ◆◆: Refer to "Service Points of Installation"
(3) N: Non-reusable parts

12Y712



INSPECTION

N17IBAA

- Check the stabilizer bar for deformation and weakness.
- Check the bushings for cracks and damage.

SERVICE POINT OF INSTALLATION

N17ICAA

6. INSTALLATION OF STABILIZER BAR

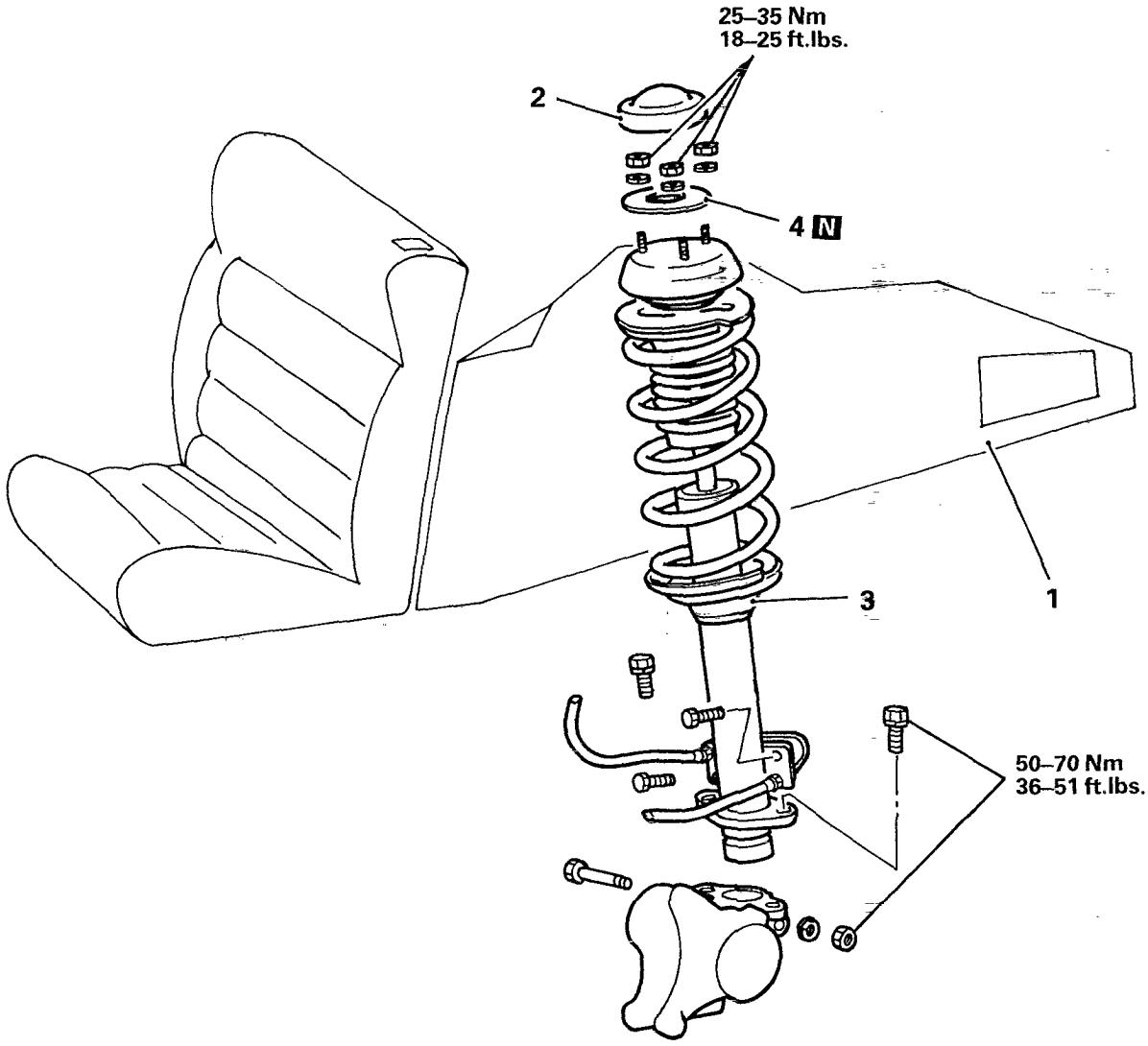
When installing the stabilizer bar to the lower control arms, tighten the nut so as to obtain the service standard.

Service standard: 15 – 17 mm (.59 – .67 in.)

STRUT ASSEMBLY

N17JA--

REMOVAL AND INSTALLATION

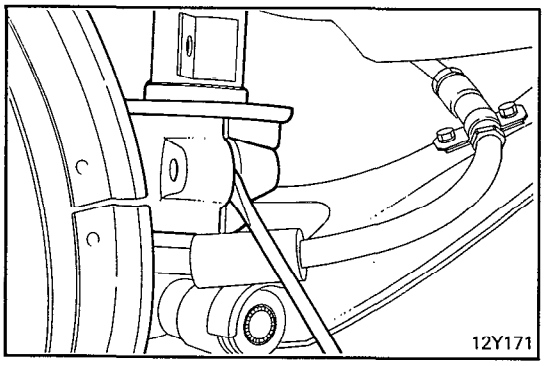


Removal steps

1. Trunk room side trim
2. Strut housing cap
3. Strut assembly
4. Gasket

◆◆ ◆◆

NOTE
(1) Reverse the removal procedures to reinstall.
(2) ◆◆: Refer to "Service Points of Removal".
(3) ◆◆: Refer to "Service Points of Installation".
(4) N: Non-reusable parts

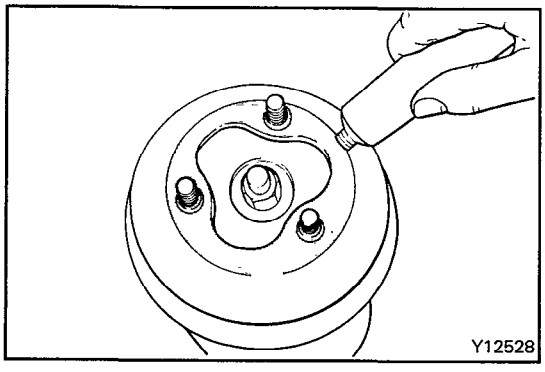


SERVICE POINT OF REMOVAL N17JBAA

3. REMOVAL OF STRUT ASSEMBLY

Detach the strut assembly from the axle housing.

NOTE
Push the axle housing downward while opening the coupling on the housing.



SERVICE POINT OF INSTALLATION N17JCAA

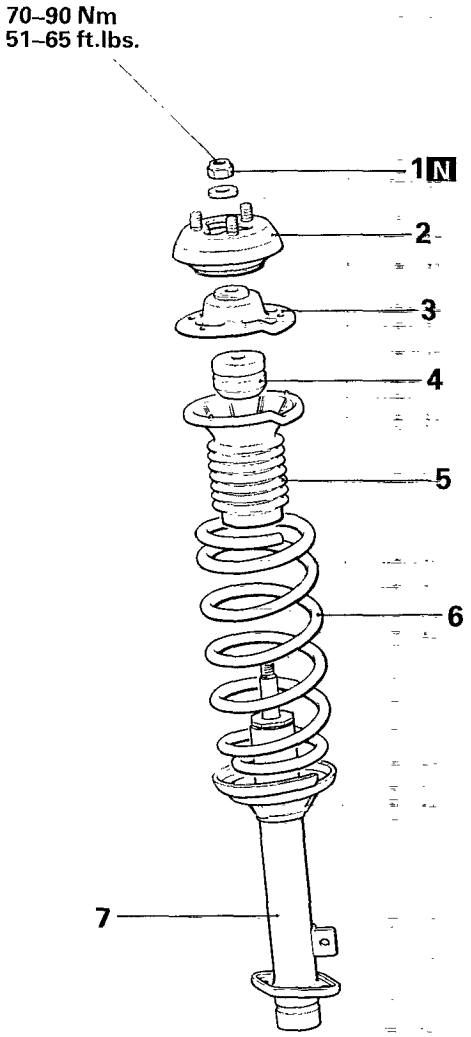
3. INSTALLATION OF STRUT ASSEMBLY

Apply semi-drying sealant to the surface of the insulator where it contacts the vehicle body.

NOTE
The gasket is installed at the factory.

DISASSEMBLY AND REASSEMBLY

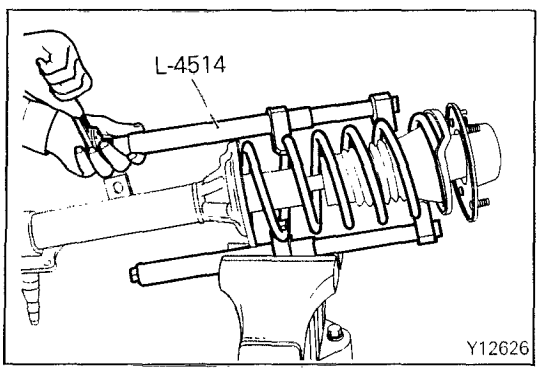
N17JD--



Disassembly steps

1. Self lock nut
2. Strut insulator
3. Spring seat
4. Rubber helper
5. Dust cover
6. Coil spring
7. Strut assembly

NOTE
(1) Reverse the disassembly procedures to reassemble.
(2) ◆◆: Refer to "Service Points of Disassembly".
(3) ◆◆: Refer to "Service Points of Reassembly".
(4) N: Non-reusable parts.

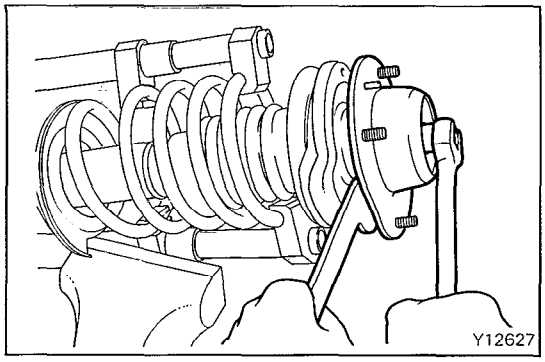


SERVICE POINT OF DISASSEMBLY

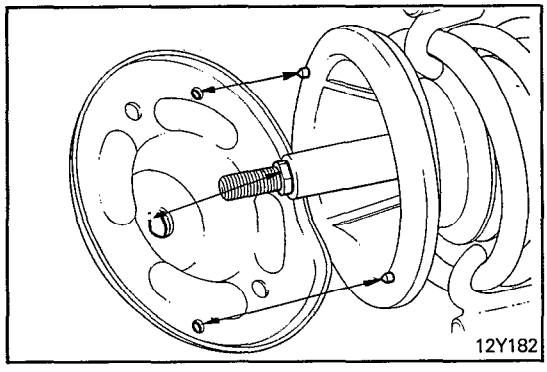
N17JEAD

6. REMOVAL OF COIL SPRING

(1) Compress the coil spring by using the special tool.



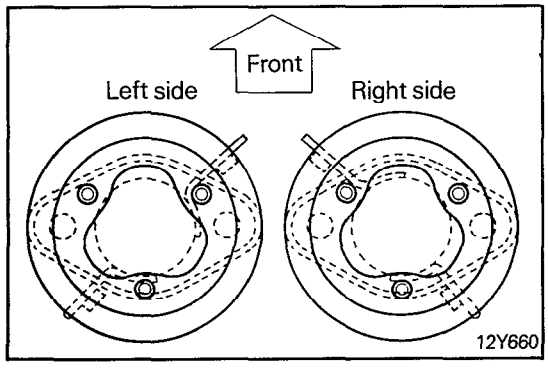
(2) Use power tool and remove the top end nut.
(3) Remove strut insulator, spring seat, dust cover and bump rubber.



SERVICE POINTS OF REASSEMBLY N17JGAC

3. INSTALLATION OF SPRING SEAT

Align the D-shaped hole in the spring seat with the indentation on the piston rod, and be sure that the projections on the dust cover are aligned with the holes in the spring seat.



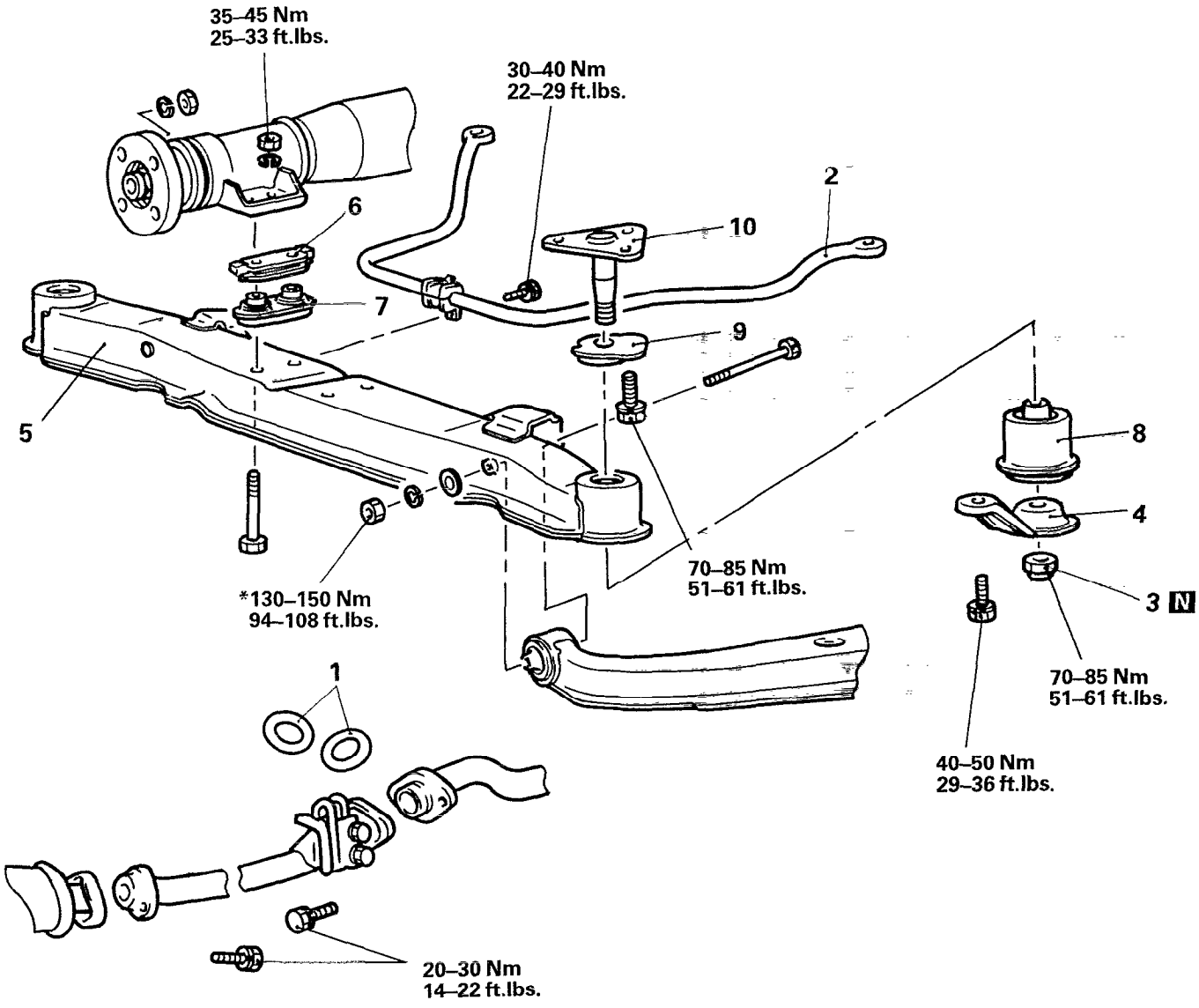
2. INSTALLATION OF STRUT INSULATOR

Temporarily tighten the strut insulator with a top end nut, and align the studs in the insulator with the holes in the bracket at the lower end of the strut, as shown in the illustration.

FRONT SUPPORT

N17KA--

REMOVAL AND INSTALLATION



Removal steps

- ◆◆ 1. Center exhaust pipe rubber O-ring
- 2. Stabilizer bar connection
- 3. Pin assembly to front support mounting nut (Self-locking nut)
- 4. Lower stopper
- ◆◆ 5. Front support
- 6. Upper cushion
- 7. Lower cushion
- 8. Bushing D
- 9. Upper stopper
- 10. Pin assembly

NOTE
(1) Reverse the removal procedures to reinstall.
(2) ◆◆: Refer to "Service Points of Removal".
(3) ◆◆: Refer to "Service Points of Installation".
(4) N: Non-reusable parts
(5) *: Must be tightened while vehicle is unladen.

12Y715

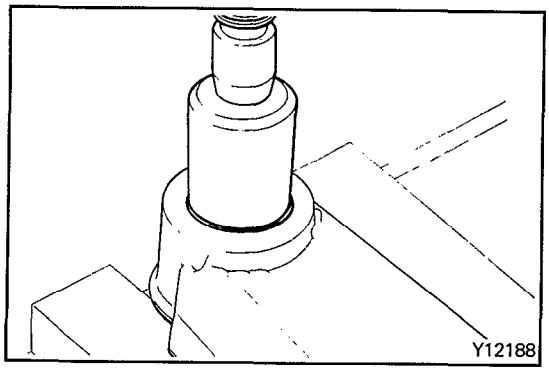
SERVICE POINT OF REMOVAL N17KBAA

4. REMOVAL OF FRONT SUPPORT

(1) Support the torque tube assembly with a jack or similar equipment.
(2) Remove the front support.

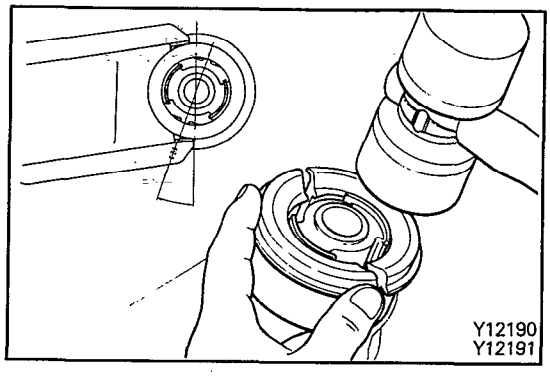
INSPECTION N17KCAA

- Check the front support for deformation.
- Check the bushings for cracks and wear.



BUSHING REPLACEMENT N17KDAD

(1) Press out bushing D.



(2) With the holes in bushing D located as shown in the illustration, use a plastic hammer to insert the bushing into the front support.

SERVICE POINT OF INSTALLATION

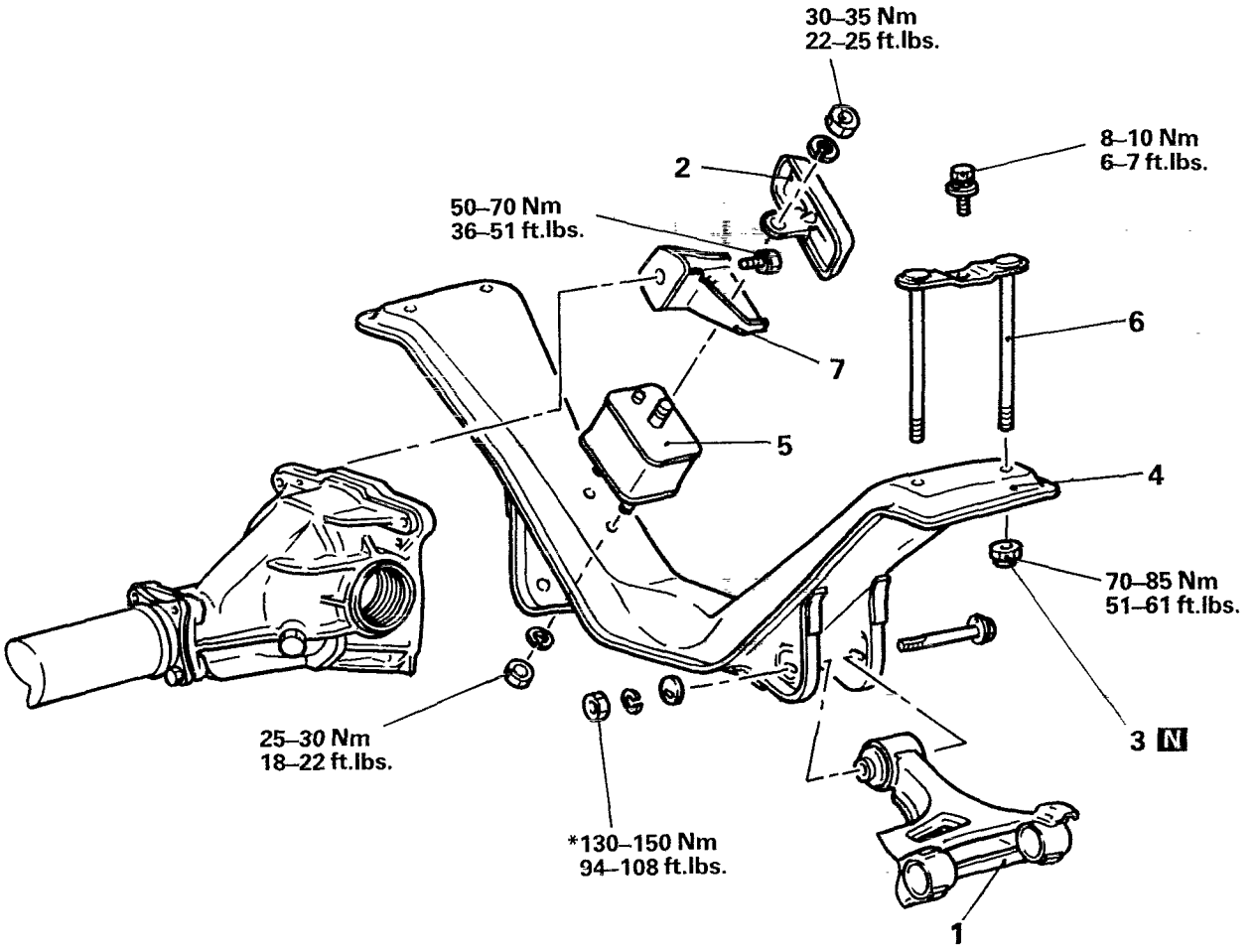
1. INSTALLATION OF CENTER EXHAUST RUBBER O-RING

Refer to GROUP 11 INTAKE AND EXHAUST SYSTEM – Exhaust Pipes and Mufflers.

REAR CROSSMEMBER

N17LA··

REMOVAL AND INSTALLATION



Removal steps

- ◆◆ 1. Lower control arm
- 2. Rear support protector
- 3. Crossmember mounting nut (Self-locking nut)
- ◆◆ 4. Crossmember
- ◆◆ 5. Rear support insulator
- 6. Bolt assembly
- ◆◆ 7. Rear support

NOTE
(1) Reverse the removal procedures to reinstall.
(2) ◆◆: Refer to "Service Points of Removal".
(3) ◆◆: Refer to "Service Points of Installation".
(4) N: Non-reusable parts
(5) *: Must be tightened while vehicle is unladen.

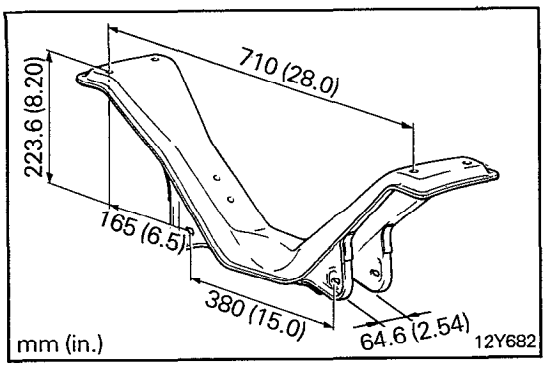
12Y718

SERVICE POINT OF REMOVAL

N17LBAA

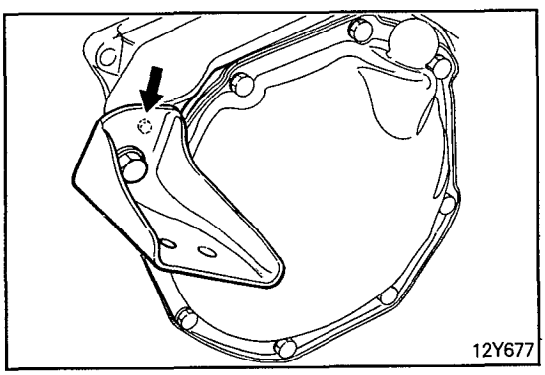
4. REMOVAL OF CROSSMEMBER

(1) Support the differential carrier with a jack.
(2) Remove the crossmember.



INSPECTION N17LCAA

- Check the crossmember for cracks, deflection and damage.
- Check the rear support insulators for cracks and peeling.
- Check the rear support for deformation and damage.



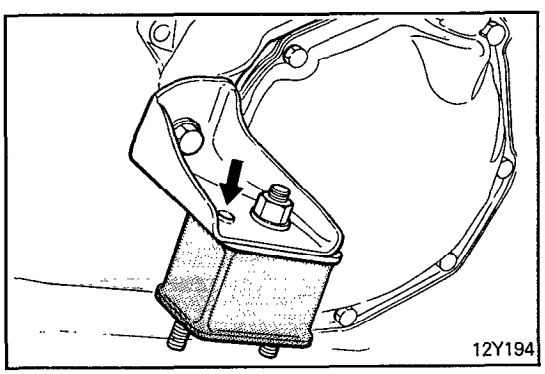
SERVICE POINTS OF INSTALLATION N17LDAB

7. INSTALLATION OF REAR SUPPORT

(1) Align the positions of the projections of the rear supports to the determining holes of the differential carrier, and then mount the rear supports to the differential carrier.
(2) Temporarily mount the rear support insulators to the rear supports.

5. INSTALLATION OF REAR SUPPORT INSULATOR

(1) Align the rear support insulators to the crossmember mounting holes, and then, while slanting the differential carrier, mount it to the crossmember.



(2) Align the positions of the projections of the rear support insulators to the determining holes of the rear supports, and then tighten the mounting nuts of the rear support insulators.

1. INSTALLATION OF LOWER CONTROL ARM

Refer to P.17-9.