

SECTION 4B

RACK AND PINION

GENERAL DESCRIPTION	4B — 209
Steering Gear Case	4B — 209
ON-CAR SERVICE	4B — 210
TIGHTENING TORQUE	4B — 215
SPECIAL TOOLS	4B — 215

GENERAL DESCRIPTION**STEERING GEAR CASE**

Steering angle is set according to tire size.

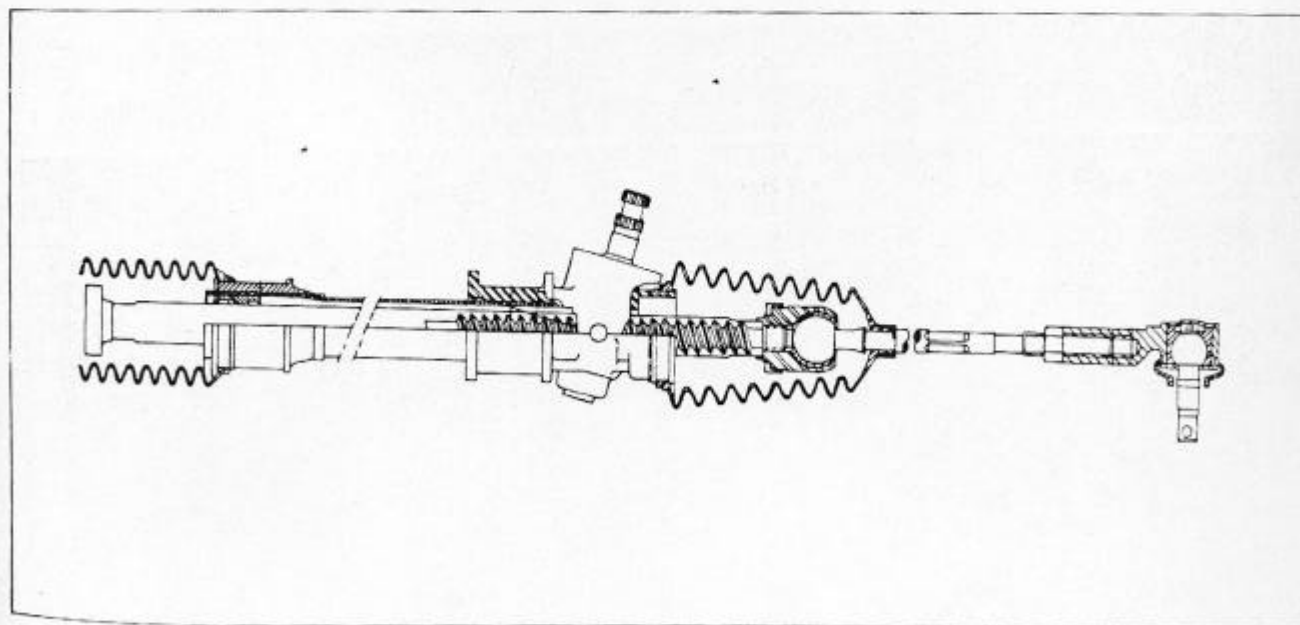


FIG. 4B — 1

Wheel size	Tire specification
12 inch	135 SR 12

ON-CAR SERVICE

RACK AND PINION COMPONENTS

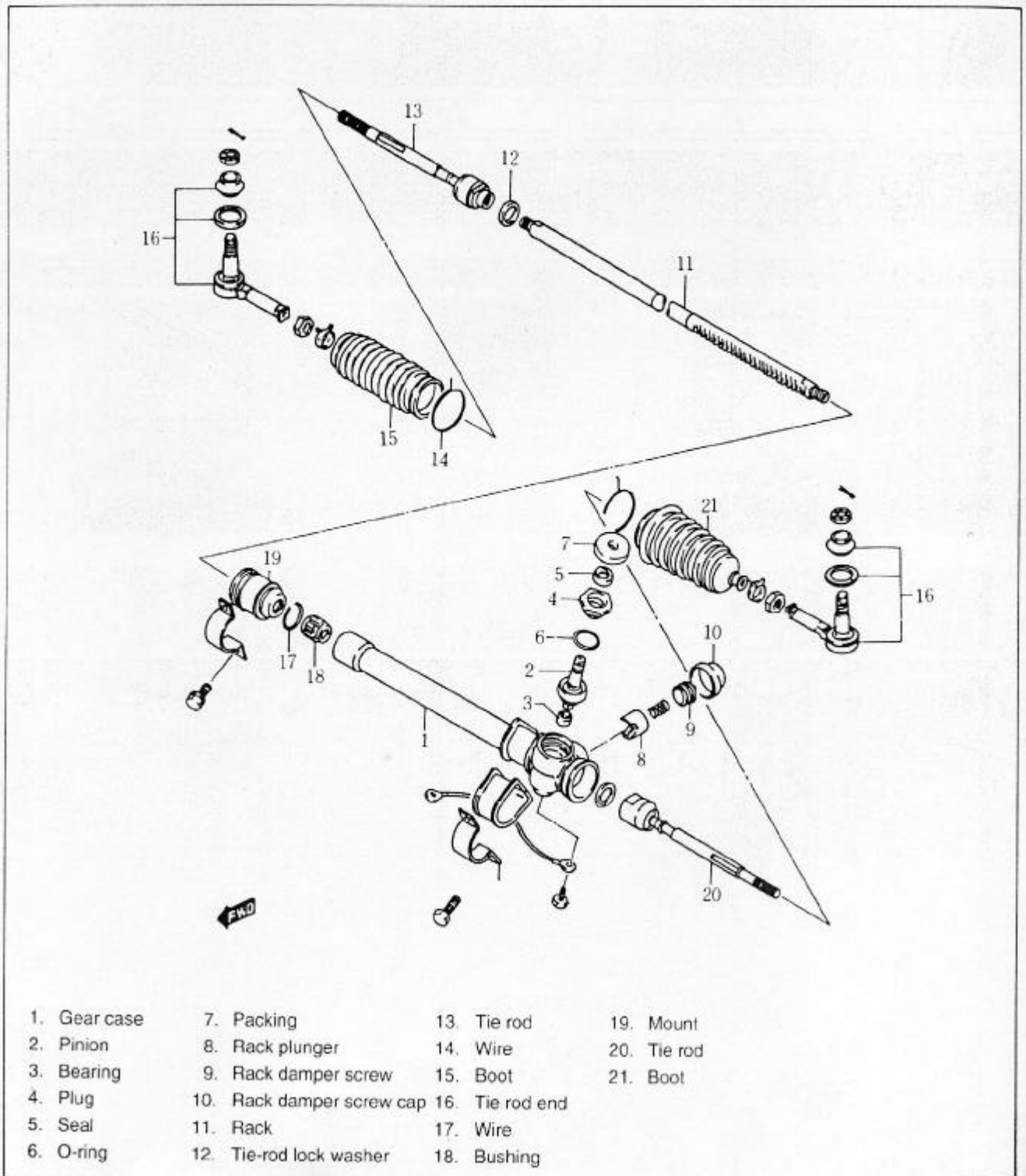


FIG. 4B — 2 RACK AND PINION COMPONENTS

Removal

1. Steering joint bolt

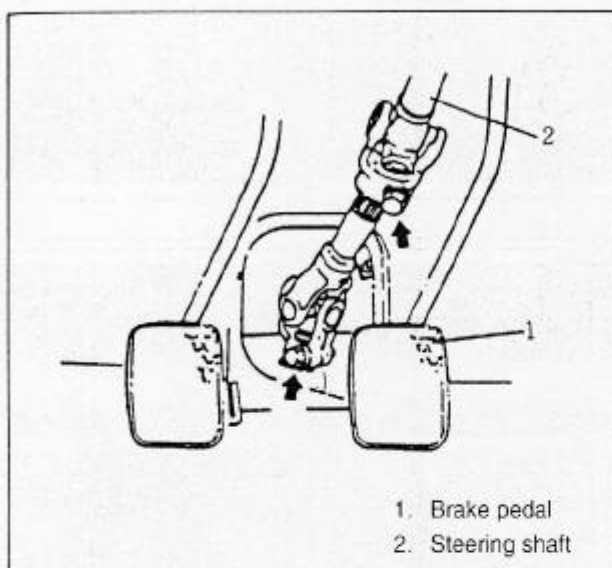


FIG. 4B — 3 REMOVING STEERING JOINT

2. Left and right wheel nut
3. Remove left and right tie rod ends using special tool.

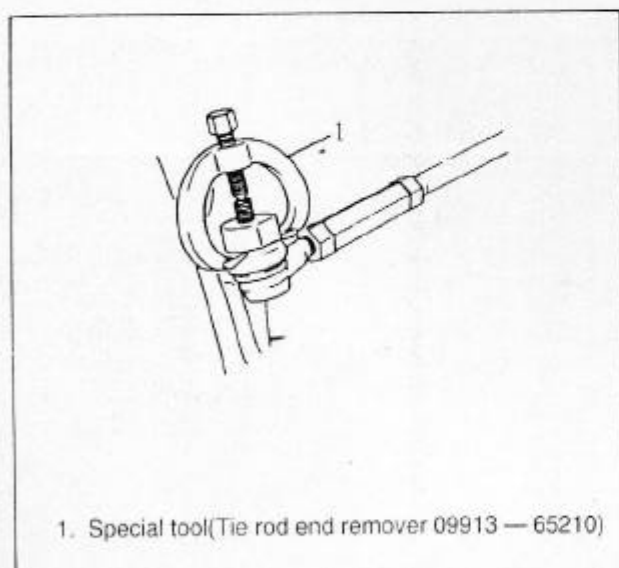


FIG. 4B — 4 REMOVING TIE ROD END

4. Remove steering gear case installing bolts and gear case assembly.

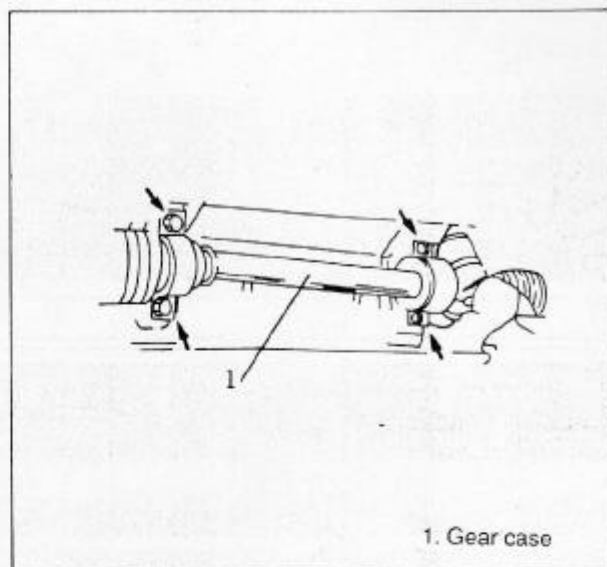


FIG. 4B — 5 REMOVING GEAR CASE

Disassembly

1. Steering rack boot
2. Shock damper ring
3. Steering tie rod

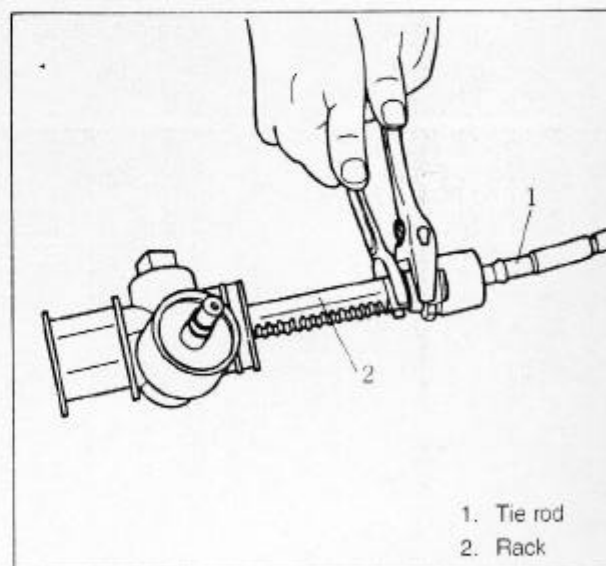


FIG. 4B — 6 DISASSEMBLING STEERING TIE ROD

4. Adjusting plug(quadrilateral plastic plug)
5. Spring and plunger

6. Removing steering pinion seal

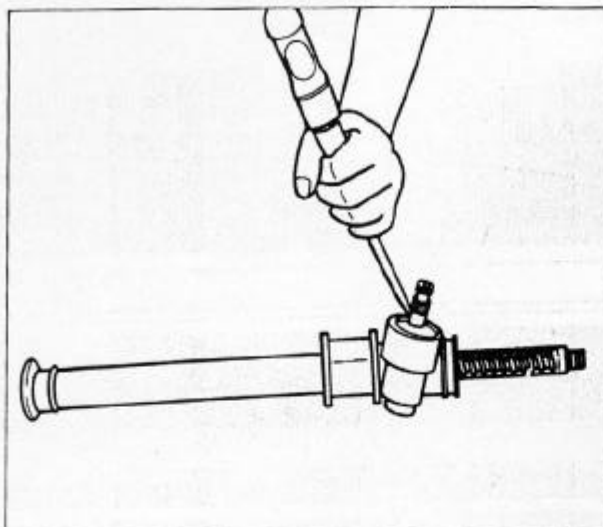


FIG. 4B — 7 REMOVING PINION SEAL

7. Snap ring
8. Pinion

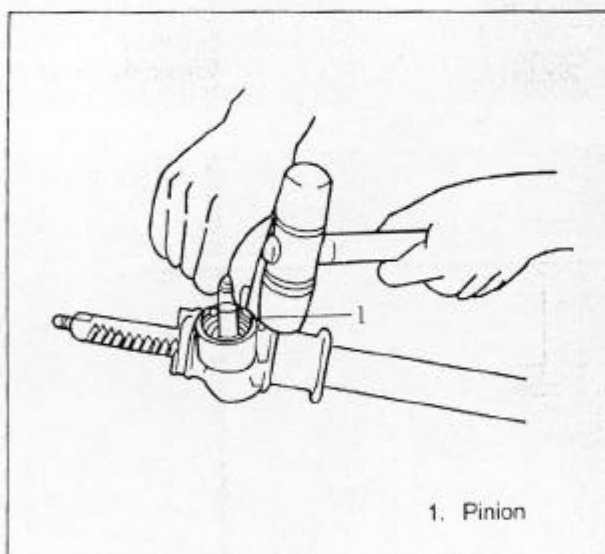


FIG. 4B — 8 REMOVING PINION

9. Steering rack

CAUTION

When removing steering rack, rack bush may be damaged by teeth face, remove it in housing direction.

Replacing Steering Rack Bush

1. Cir clip
2. Remove rack bush using special tool. Check rack bush for wear and damage and replace it if it is defective.

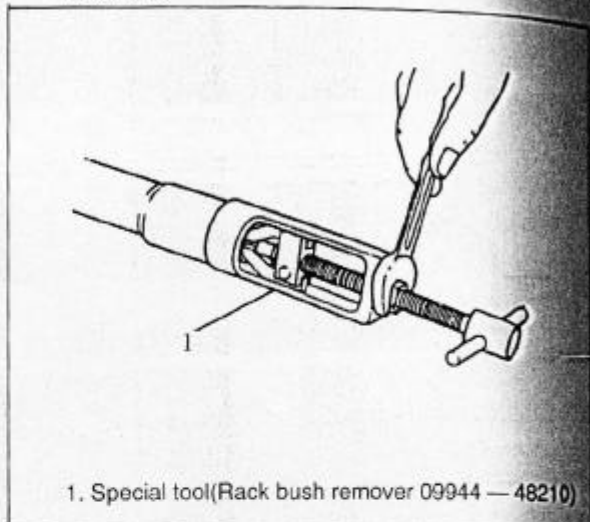


FIG. 4B — 9 REMOVING RACK BUSH

3. When assembling rack bush, insert it using special tool and hammer, install cir-clip and apply grease on inner side of bush.

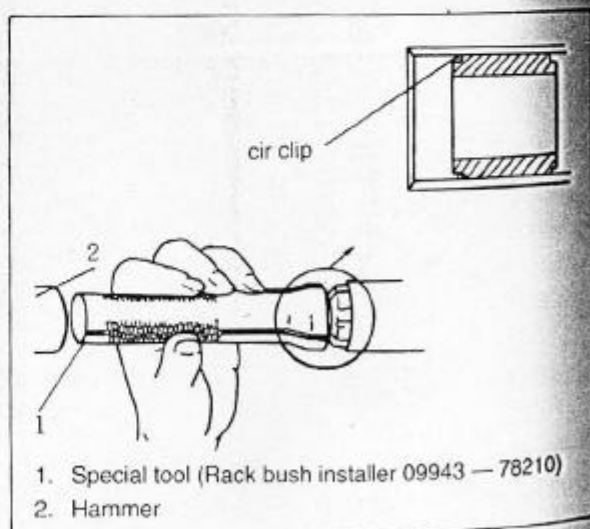
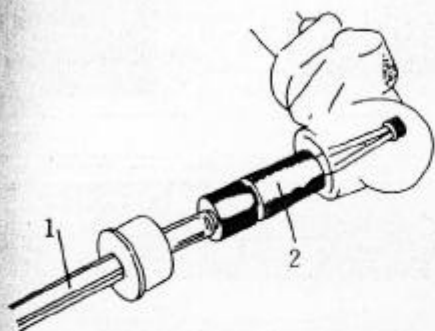


FIG. 4B — 10 ASSEMBLING RACK BUSH

Replacing Pinion Bearing

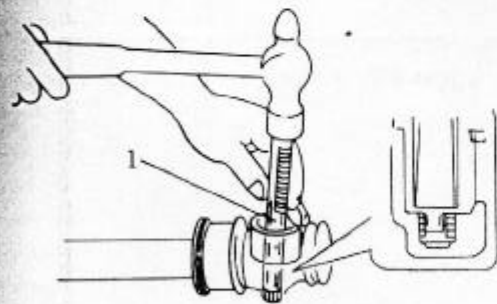
Remove pinion bearing using special tool.



- 1. Special tool (Sliding hammer 09930 — 30102)
- 2. Special tool (Pinion bearing remover 09921 — 20200)

FIG. 4B — 11 REMOVING PINION BEARING

Apply grease on bearing, and insert it using special tool.



- 1. Special tool (Pinion bearing installer 09943 — 88211)

FIG. 4B — 12 INSTALLING PINION BEARING

Tie rod end

CAUTION

When removing tie rod end, it is recommended to mark tie rod length "B".

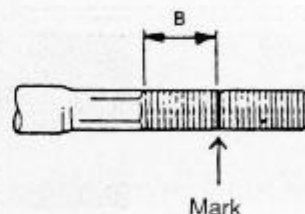


FIG. 4B — 13 MARKING TIE ROD

Assembly

It is the reverse of disassembly procedures. Take care of the followings.

CAUTION

When installing steering rack on case, take care that rack bush may not be damaged.

Steering Rack Damper Adjusting Plug

After tightening the plug to the maximum, loosen it 0–90(°) and retighten adjusting play to specified torque measuring pinion shaft rotating torque using special tool.

Pinion rotating torque (kg • cm)

8 — 13

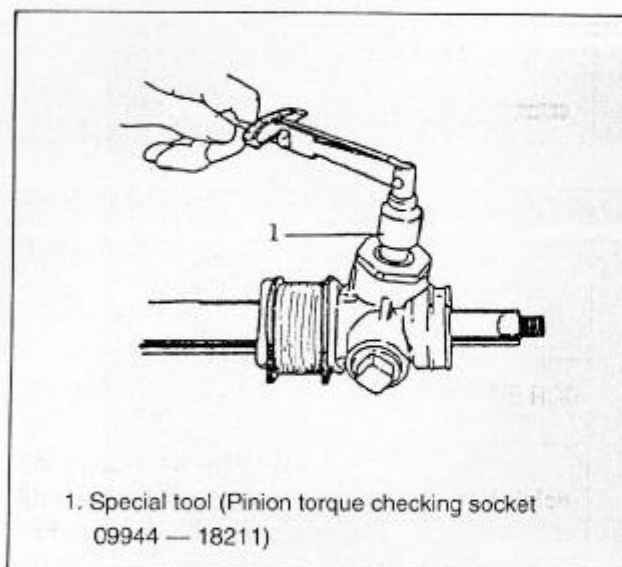


FIG. 4B — 14 ADJUSTING RACK ROTATING TORQUE

Steering Tie rod

Install tie rod steering rack to specified tightening torque and stamp the end of tie rod of tightened part with hammer to prevent loosening.

Tightening torque (kg • cm)

680 — 980

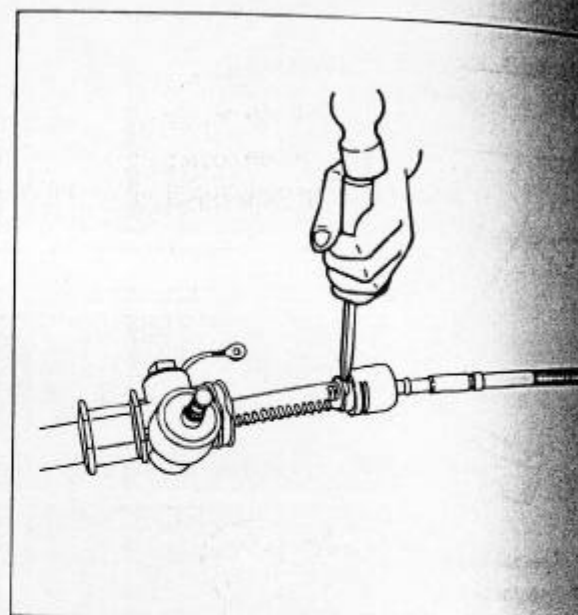


FIG. 4B — 15 ASSEMBLING STEERING TIE ROD




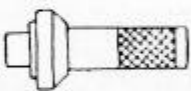


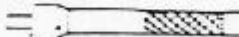
CAUTION

After applying grease around the teeth of pinion and rack, install them.

TIGHTENING TORQUE

Tightening Parts	Tightening Torque(kg • cm)
Steering shaft joint bolt	200 — 300
Tie rod end castle nut	350 — 550
Tie rod end lock nut	350 — 550
Pinion shaft rotating torque	8 — 13
Tie rod end steering rack	550 — 980

SPECIAL TOOLS

 <p>09913 — 65210 Tie rod end remover</p>	 <p>09944 — 18211 Pinion torque check socket</p>	 <p>09942 — 48210 Bush remover</p>	 <p>09943 — 78210 Bush installer</p>
 <p>09930 — 30102 Sliding hammer</p>	 <p>09921 — 20200 Pinion bearing remover</p>	 <p>09941 — 68210 Pinion bearing installer</p>	