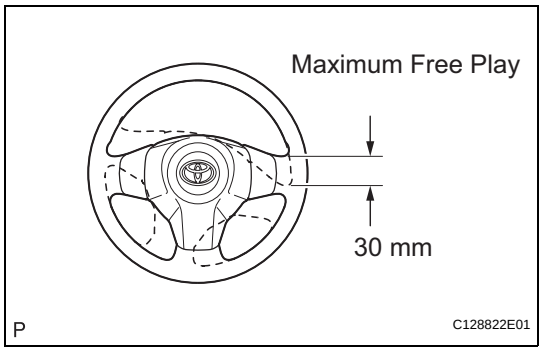
PROBLEM SYMPTOMS TABLE

(2006/01-)
HINT:
Use the table below to help determine the cause of the problem symptom. The potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.

Steering system

Symptom	Suspected Area	See page
Hard steering	1. Front tires (Improperly inflated or unevenly worn)	TW-1
	2. Front wheel alignment (Incorrect)	SP-3
	3. Front suspension (Lower ball joint)	SP-27
	4. Steering intermediate shaft	SR-11
	5. Steering column	SR-11
	6. Steering gear	PS-42
	7. Power steering ECU	PS-46
Poor return	1. Front tires (Improperly inflated or unevenly worn)	TW-1
	2. Front wheel alignment (Incorrect)	SP-3
	3. Steering column	SR-11
	4. Steering gear	PS-42
	5. Power steering ECU	PS-46
No free play or excessive play	1. Steering intermediate shaft	SR-11
	2. Steering gear	PS-42
Knocking (or clunking) sound occurs when steering wheel turned while power steering in operation	1. Steering intermediate shaft	SR-11
	2. Front suspension (Lower ball joint)	SP-27
	3. Front axle hub (Hub bearing)	AH-7
	4. Steering gear	PS-42
Friction sound occurs when steering wheel turned during low speed driving	1. Power steering motor	SR-11
	2. Steering column	SR-11
High-pitched sound (squealing sound) occurs when steering wheel turned slowly with vehicle stopped	1. Power steering motor	SR-11
Steering wheel vibrates and noise occurs when steering wheel turned while vehicle stopped	1. Power steering motor	SR-11
	2. Steering column	SR-11



ON-VEHICLE INSPECTION

1. CHECK STEERING WHEEL FREE PLAY

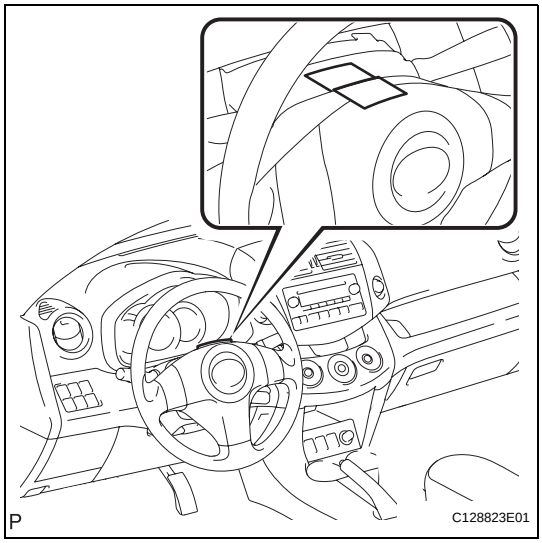
(a) Stop the vehicle and align the tires facing straight ahead.

(b) Turn the steering wheel gently right and left, and check the steering wheel free play.

Maximum free play:
30 mm (1.18 in.)

If the free play exceeds the maximum, replace the steering intermediate shaft sub-assembly or steering gear.

SR



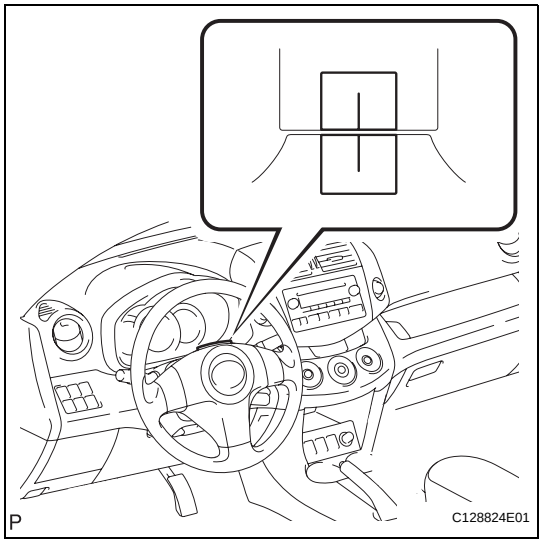
REPAIR

1. CORRECT STEERING OFF CENTER

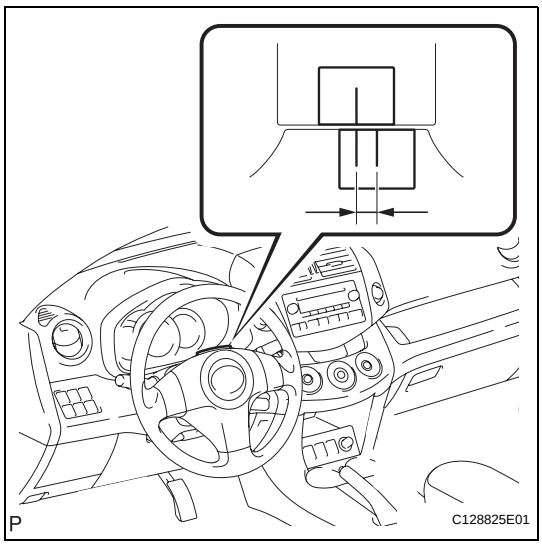
(a) Check whether the steering wheel is off-center.

(1) Apply masking tape to the top center of the steering wheel and the upper steering column cover.

(2) Drive the vehicle in a straight line for 100 meters at a constant speed of 56 km/h (35 mph), holding the steering wheel to maintain the course.



(3) Draw a line on the masking tape, as shown in the illustration.



(4) Turn the steering wheel to the center position.
HINT:
Look at the upper surface of the steering wheel, the steering spokes and the SRS airbag line to determine the center position.

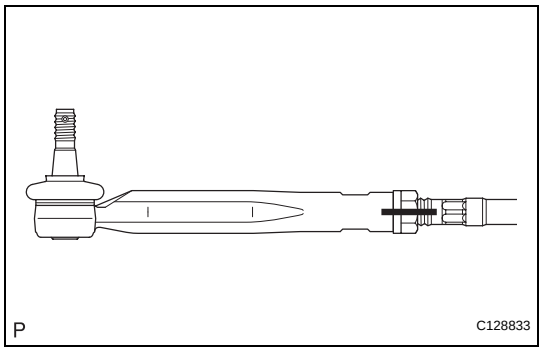
(5) Draw another line on the masking tape on the steering wheel, as shown in the illustration.

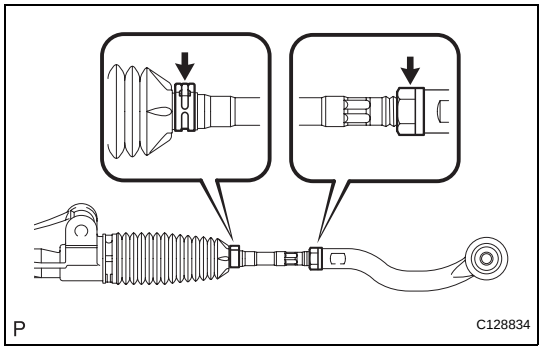
(6) Measure the distance between the 2 lines on the masking tape on the steering wheel.

(7) Convert the measured distance to the steering angle.
HINT:
- Measured distance of 1 mm (0.04 in.) = Approximately 1 degree steering angle.
- Make a note of the steering angle.

(b) Adjust the steering angle.

SR





(c) For the following 2steps, carry out the RH and LH procedures separately.
  (1) Draw a line on the tie rod and rack end where it can easily be seen.
  (2) Using a paper gauge, measure the distance between the tie rod end and the rack end screw.
  (3) Remove the RH and LH boot clips from the rack boots.
  (4) Loosen the RH and LH lock nuts.
  (5) Turn the RH and LH rack ends by the same amount (but in opposite directions) in accordance with the steering angle.
  HINT:
  Electronic power steering: 1 turn (360°) of rack end (1.5 mm (0.059 in.) horizontal movement) - 10.8° of steering angle.
  (6) Tighten the RH and LH lock nuts.
  Torque: 88 N*m (897 kgf*cm, 65 ft.*lbf)
  NOTICE:
  Make sure that the difference in length between the RH and LH tie rod ends and rack end screws is less than 1.5 mm (0.059 in.).
  (7) Install the RH and LH boot clips.