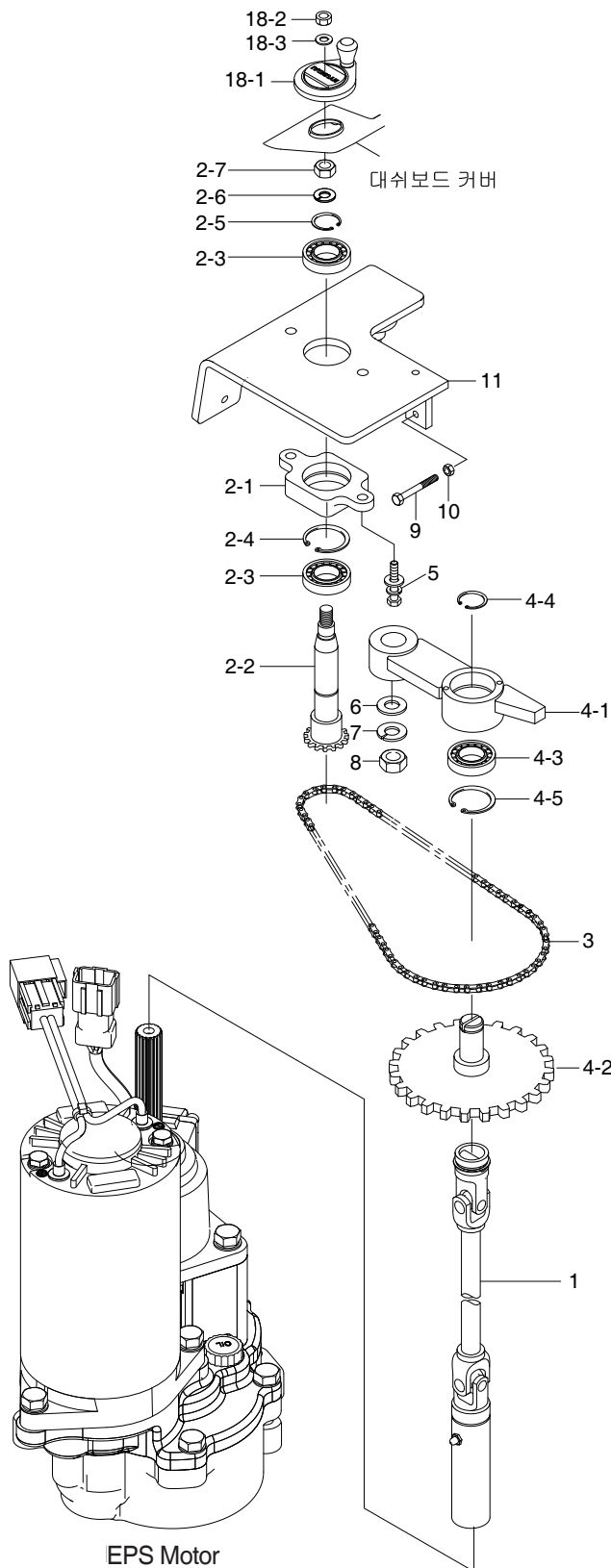


CHAPTER 5 STEERING SYSTEM

Group 1 Structure and Functions	5-1
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GROUP 1 STRUCTURE AND FUNCTIONS

1. INTRODUCTION



- 1 U-Joint
- 2 Shaft Sub-assembly
- 2-1 Steering Wheel Bracket
- 2-2 Steering Wheel Shaft
- 2-3 Bearing
- 2-4 Retainer Ring
- 2-5 Retainer Ring
- 2-6 Flat Washer
- 2-7 Hexagon Nut
- 3 Roller Chain
- 4 Sprocket Sub-assembly
- 4-1 Steering Bracket
- 4-2 Sprocket
- 4-3 Bearing
- 4-4 Retainer Ring
- 4-5 Retainer Ring
- 5 Washer Based Bolt
- 6 Flat Washer
- 7 Spring Washer
- 8 Hexagon Nut
- 9 Bolt
- 10 Nut
- 11 Mounting Bracket
- 12 Washer Based Bolt
- 18-1 Steering Wheel Cover
- 18-2 Hexagon Nut
- 18-3 Flat Washer

2. SPECIFICATIONS AND MAINTENANCE STANDARD

Type	Unit	1st Gear	Chain
		2nd Gear	Gear
Rotational radius of the steering wheel (mm)		Ø100	
Steering chain deflection (mm)		Within 10 (10 kg of force)	
Steering Angle	Right turn	77 degrees	
	Left turn	103 degrees	
Min. Steering Radius (mm)	15BR-X	1596 mm	
	18BR-X	1775 mm	
	20BR-X	1790 mm	
	25BR-X	1980 mm	

3. FAILURE DIAGNOSIS AND TROUBLESHOOTING

Nature of Trouble		Cause	Remedy
Steering is stiff	During the drive,	<ul style="list-style-type: none"> · bearing on the steering pinion damaged · Bearing damage on the driving unit steering shaft · Insufficient bearing grease 	<ul style="list-style-type: none"> · Replace bearing · Replace bearing · Lubricate grease
	When releasing the joint from the spline	<ul style="list-style-type: none"> · bearing on the steering bracket damaged · Excessive tension on the roller chain 	<ul style="list-style-type: none"> · Replace bearing · Adjust tension
High steering flow (Standard: 25~50 mm)		<ul style="list-style-type: none"> · Roller chain loosening · Roller chain extended · Excessive rubber coupling loosening · Excessive spline and joint loosening · Excessive backlash of steering pinion and gear 	<ul style="list-style-type: none"> · Adjust tension · Adjust tension or replace chain · Replace coupling · Replace · Replace
Steering wheel is leaned to one side while driving		<ul style="list-style-type: none"> · Eccentric wear of the tire · Driving unit - Rear axle deformation · Frame deformation 	<ul style="list-style-type: none"> · Replace · Repair or replace · Repair or replace

GROUP 2 DISASSEMBLY AND ASSEMBLY

1. TOOLS

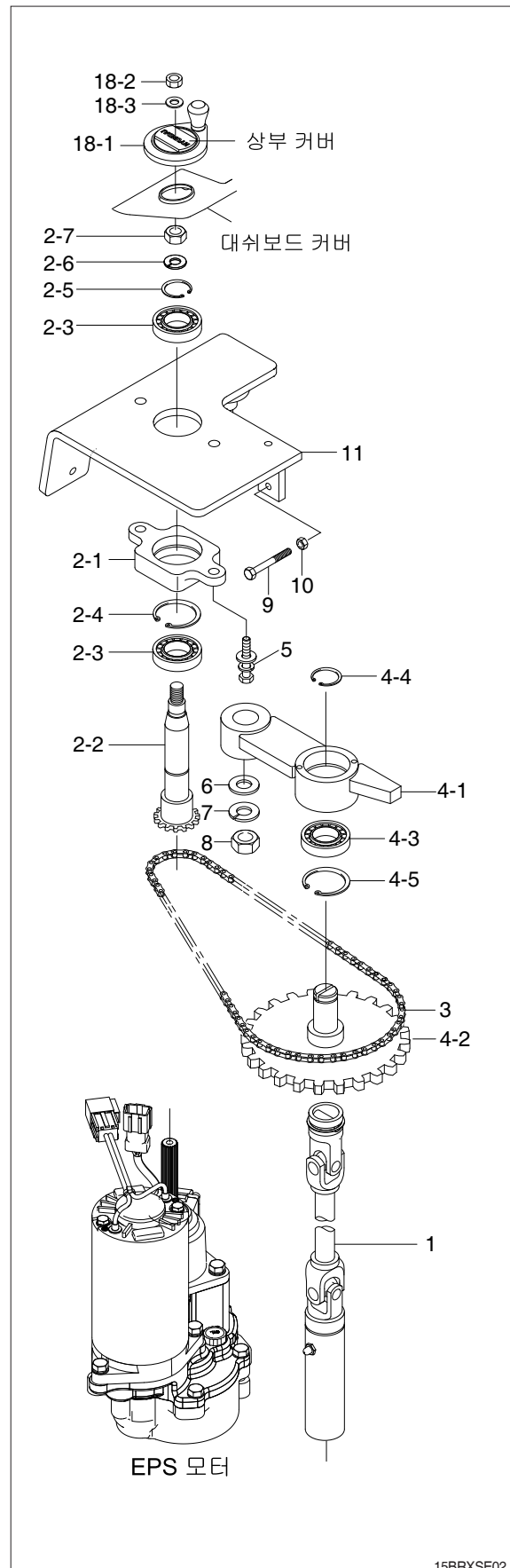
- 1) Standard tools
- 2) Universal puller
- 3) Vernier caliper

2. DISASSEMBLY

- 1) Remove the upper cover to remove also the hexagon nut (18-2) and the flat washer (18-3).
- 2) Remove the steering wheel cover (18-1).
- 3) The Hexagon nut (8) fixing the steering bracket (4-1) is disassembled along with the flat washer (8) and the spring washer (7).
· Tightening Torque (8) : 21.9 ± 3.3 kgf·m
- 4) The bolt (9) extending the chain is loosened.
- 5) The bolt (5) fixing the steering wheel bracket (2-1) is loosened.
· Tightening Torque (5) : 6.9 ± 1.4 kgf·m
- 6) Remove the steering wheel bracket (2-1).
- 7) Remove the snap ring (2-5) to take out the steering wheel shaft (2-2).
- 8) Remove the steering bracket (4-1).
- 9) Remove the snap ring (2-4) to take out the sprocket assembly (2-2).
- 10) U-joint assembly (1) is removed.

3. ASSEMBLY

Assemble the parts in reverse order of disassembling.



15BRXSE02

4. CHECKING

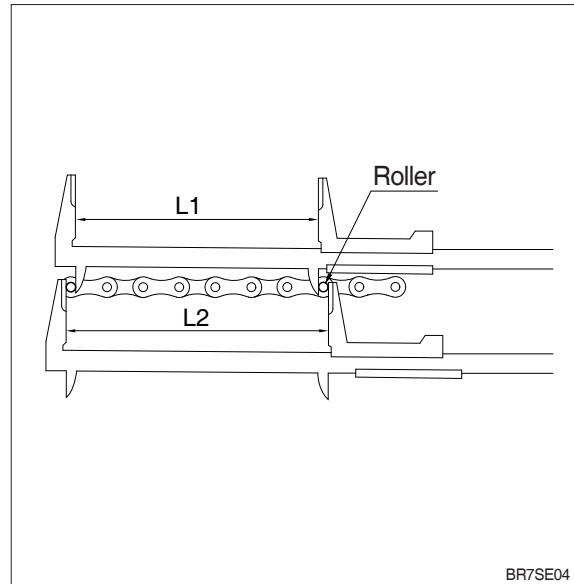
- 1) Check the extension, crack and damage on the steering wheel to replace if there are any defects.

$$L = \frac{L1 + L2}{2}$$

Standard : L = 76.20 mm (6 Link)

Limit : L = 77.34 mm

- 2) Check for crack and damage on the sprocket assembly and the steering wheel shaft, and replace if there are any defects.
- 3) Check for crack on the rubber coupling and defective operation of the universal joint, and replace if there are any defects.



5. ADJUSTMENT

- Adjustment link is used to adjust the chain deflection of the steering wheel tension to be 3~5 mm.
- Steering flow is adjusted to become 25~80 mm.
- Spline is fixed while driving, and the steering wheel is adjusted to be close to the driver stand.