

SECTION 5 STEERING SYSTEM

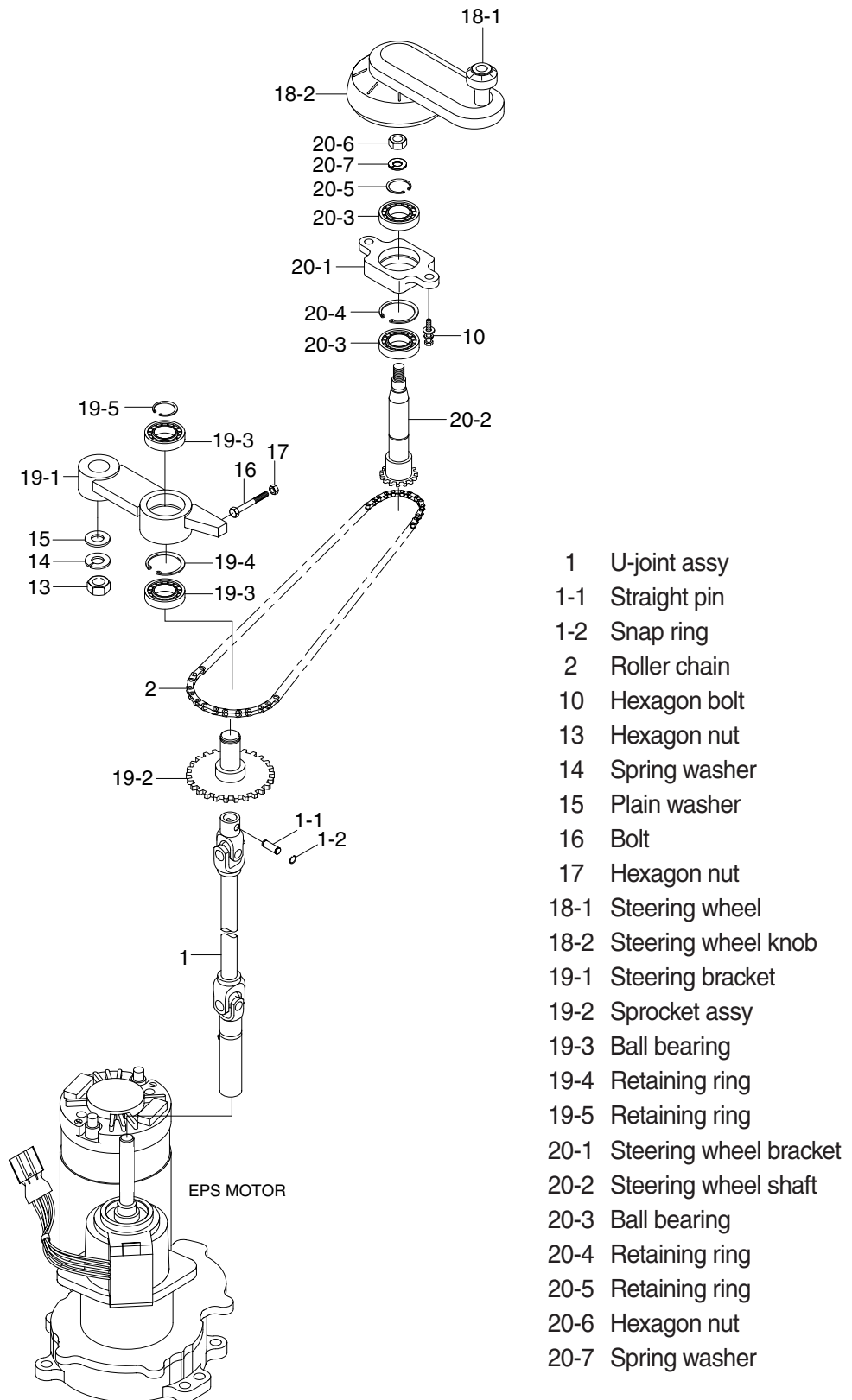


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SECTION 5 STEERING SYSTEM

GROUP 1 STRUCTURE AND FUNCTION

1. OUTLINE



2. SPECIFICATIONS AND SERVICE STANDARD

Type	Unit	1st stage	Chain
		2st stage	Gear
Steering wheel diameter (mm)		ø 300	
Steering wheel free play (mm)		25~50	
Steering chain slack (mm)		3~5	
Steering angle	Right turn	79°	
	Left turn	101°	
Minimum turning radius (mm)	10BR-9	1425	
	13BR-9	1460	
	15BR-9	1605	
	18BR-9	1775	
	20BR-9	1775	
	25BR-9	1985	
	30BR-9	2080	

3. TROUBLE SHOOTING

Problem		Cause	Remedy
Heavy steering	At traveling	<ul style="list-style-type: none"> • Damage of bearing at steering pinion • Damage of bearing of steering shaft of drive unit • Lack of grease of bearing 	<ul style="list-style-type: none"> • Replace bearing • Replace bearing • Lubricate grease
	At releasing joint at spline	<ul style="list-style-type: none"> • Damage of bearing in steering racket • Over tension of roller chain 	<ul style="list-style-type: none"> • Replace bearing • Adjust the tension
Steering play is large (STD : 25~50 mm)		<ul style="list-style-type: none"> • Looseness of roller chain • Extension of roller chain • Looseness of rubber coupling is large • Looseness of spline and joint is large • Backlash of steering pinion and gear is large 	<ul style="list-style-type: none"> • Adjust the tension • Adjust the tension or replace the chain • Replace coupling • Replace • Replace
Steering wheel is robbed in one way during traveling		<ul style="list-style-type: none"> • Eccentric wear of tire • Transformation of drive unit-rear axle • Transformation of frame 	<ul style="list-style-type: none"> • Replace • Repair or replace • Repair or replace

GROUP 2 DISASSEMBLY AND ASSEMBLY

1. TOOL

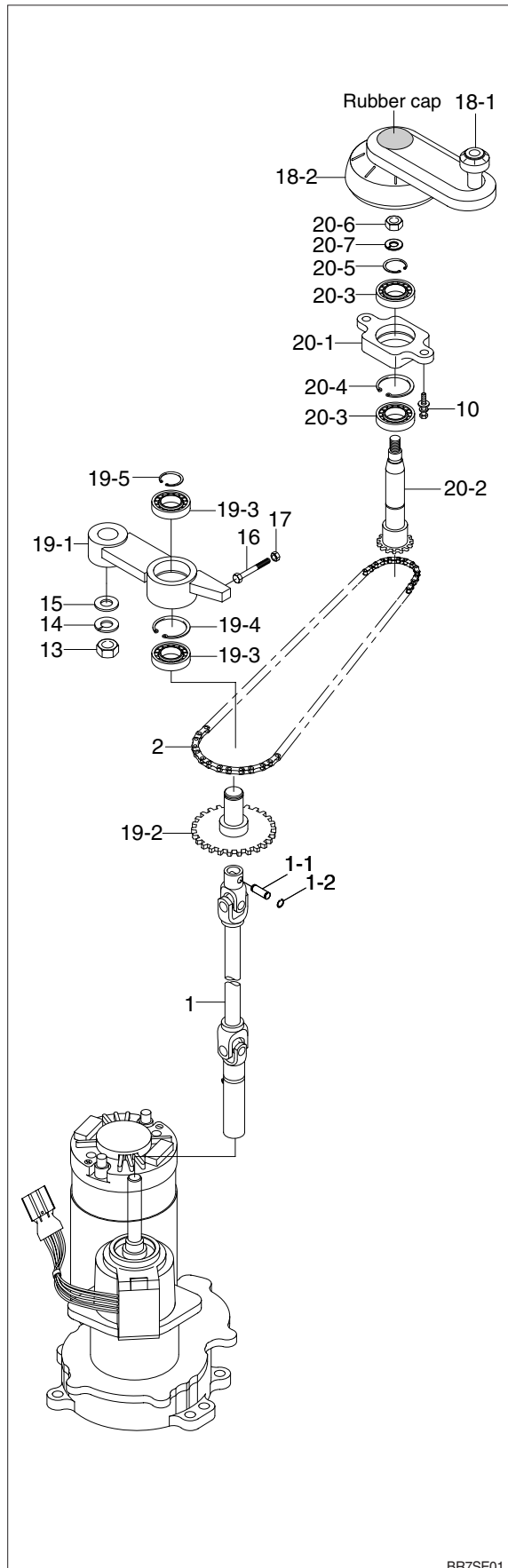
- 1) Standard tool
- 2) Universal puller
- 3) Vernier caliper

2. DISASSEMBLY

- 1) Remove the cap of steering wheel (18-2) and remove the hexagon nut (20-6) by means of box spanner.
- 2) Remove the steering wheel (18-2).
- 3) Loosen the nut (13) fixing the steering bracket (19-1).
 - Tightening torque (13) : $16 \pm 2 \text{ kgf} \cdot \text{m}$
($116 \pm 4.5 \text{ lbf} \cdot \text{ft}$)
- 4) Loosen the bolt (16) that extends chain.
- 5) Remove the bolt (10) fixing the steering wheel bracket (20-1).
 - Tightening torque (10) : $7 \pm 0.7 \text{ kgf} \cdot \text{m}$
($50.6 \pm 5.1 \text{ lbf} \cdot \text{ft}$)
- 6) Lift up the cover straighting up and remove the cover.
- 7) Remove the steering wheel bracket (20-1).
- 8) Take off the steering wheel shaft (20-2) after removing the snap ring (20-5).
- 9) Remove the steering bracket (19-1).
- 10) Take off the sprocket assy (19-2) after removing the snap ring (19-5, 1-2) and straight pin (1-1).
- 11) Remove the U-joint assy (1).

3. ASSEMBLY

Perform the disassembly in reverse order.



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4. INSPECTION

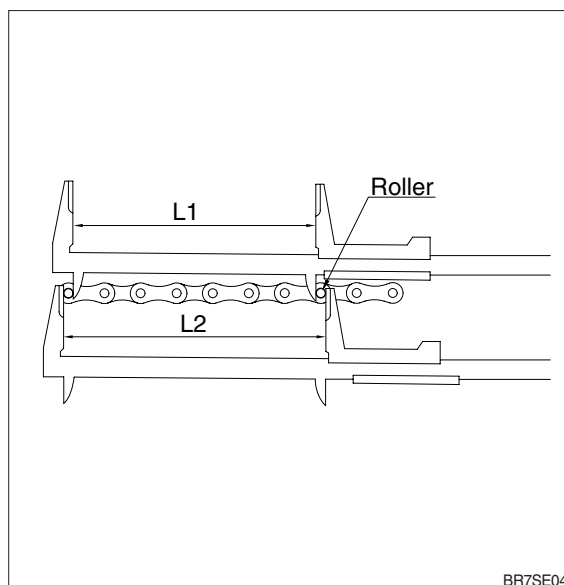
- 1) Inspect the steering chain for extension, cracks and damage and replace if defective.

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

Standard : L = 76.20 mm (3.00 in) (6Link)

Limit : L = 77.34 mm (3.04 in)

- 2) Inspect the sprockets assy and steering wheel shaft for cracks and damage, and replace if defective.
- 3) Inspect the rubber coupling for cracks and the universal joint for faulty operation, and replace if defective.



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5. ADJUSTMENT

- Adjust the steering chain tension through the adjusting link so that the chain deflection will be 3-5 mm (0.12~0.20 in).
- Adjust the steering play to 25~80 mm (1.0~3.0 in).
- Adjust the steering wheel to close to operator's stand through fixing of spline in traveling.