



English

**SHIMANO NEXUS 8-SPEED HUB**

# SG-8R20

**SERVICE MANUAL** **vol.2**



**SHIMANO**

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## Disassembly of the Inter-8 hub



1. Hold the two bevelled surfaces of the hub axle on the sprocket side in a vice.



2. Remove the lock nut for left hand cone with 14 X14mm spanners.



Lock nut for left hand cone  
(Y-31Z 06020)

3. Remove the left hand cone.



Left hand cone  
(Y-308 98070)

- 
- 4.** Remove the ball retainer P (3/16"X13).



- 
- 5.** Remove the hub shell.



- 
- 6.** Remove the right hand dust cap.



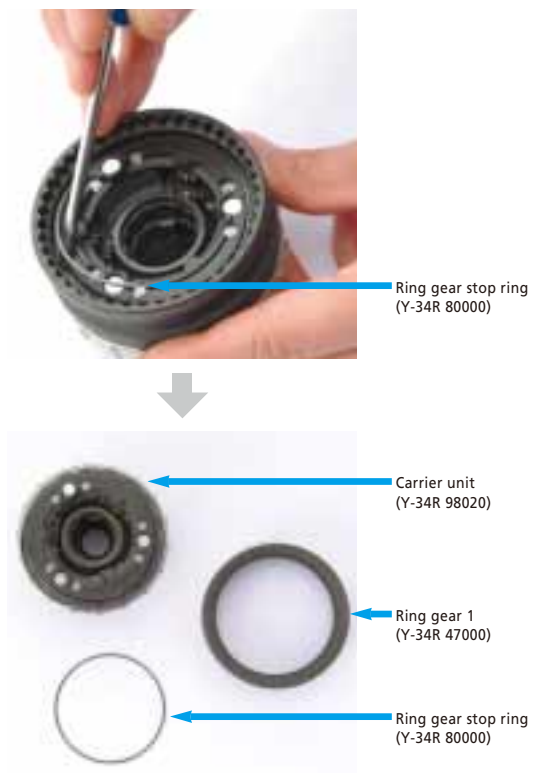
- 
- 7.** Remove the stop ring with screwdriver.  
At this time, the stop ring come off with great force. Be careful of the safety using cloth and so on.



- 
- 8.** Remove carrier unit and ring gear unit at the same time without tuning them to the left and right.



- 
- 9.** Remove the ring gear stop ring with a screwdriver.



- 
- 10.** Remove ball retainer O (3/16"X26).



Ball retainer O  
(Y-34R 98030)

- 
- 11.** Then hold the axle unit upside down in a vice.



- 
- 12.** Remove the right hand lock nut with 17mm spanner.



Right hand lock nut  
(Y-33Z 07020)

- 
- 13.** Remove stop washer.



Stop washer  
(Y-34R 09000)

---

**14.** Remove lock washer.



Lock washer  
(Y-34R 98090)

**15.** Remove driver plate.



Driver plate  
(Y-34R 12000)

---

**16.** Support the driver by the vice.

Set the tool and hit it with hammer until right hand cone and axle unit is separate.

If you try to disassemble the right hand cone without using this tool, the return spring in the axle unit may disengage.



Tool TL-8510  
(Y-70800100)

Set the tool into the groove so that the pawl A is on the surface of the tool.



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**17.** Remove right hand cone.



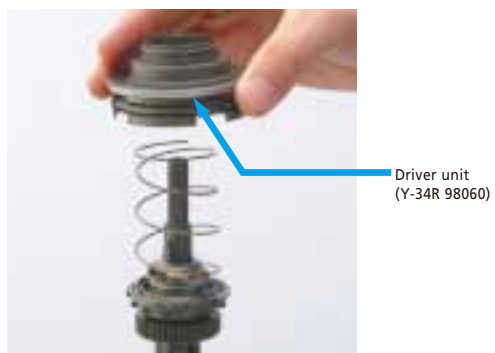
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**18.** Remove ball retainer P  
(3/16"X13).



---

**19.** Remove driver unit.



---

**20.** Remove return spring.





- 
- 21.** Remove the clutch unit while turning it counterclockwise and fixing two pawls to two grooves as shown in the picture.



Clutch unit  
(Y-34R 98050)



## Assembly of the Inter-8 hub

1. When installing the clutch unit, align two pawls of the clutch unit with two grooves. After installing the clutch unit, turn it clockwise.



Clutch unit  
(Y-34R 98050)



2. Install the return spring while aligning it with the blue line shown in the picture. Be careful not to install it upside-down. (The bigger part is downside.)



Return spring  
(Y-34R 21000)



3. Set the drive unit while align the shallow side of groove of driver unit and wider portion of swelling on the clutch unit.



Set drive unit while turn it counterclockwise.

4. Install the ball retainer P (3/16"X13).



Ball retainer P  
(Y-34R 98070)



(Y-041 20600)

- 5.** When installing the right hand cone, adjust two serration as shown in the picture. Set the tool and hit it until it stops.



Right hand cone  
(Y-34R 98080)



Tool TL-8520  
(Y-70800200)

Make sure that seal is installed equally, and install right hand cone properly.



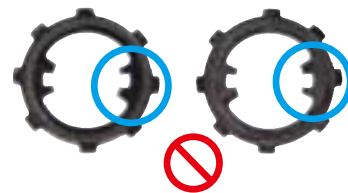
seal



- 6.** Install the driver plate. Be careful of the setting direction as shown in the picture.



Driver plate  
(Y-34R 12000)



- 7.** Install lock washer.



Lock washer  
(Y-34R 98090)

- 8.** When installing the stop washer, align two pawls of the stop washer with the grooves of lock washer.



- 9.** Install the right hand lock nut (3.4mm) with 17mm spanner. Take care that the stop washer does not turn.



- 10.** Then hold the axle unit upside down in a vice.

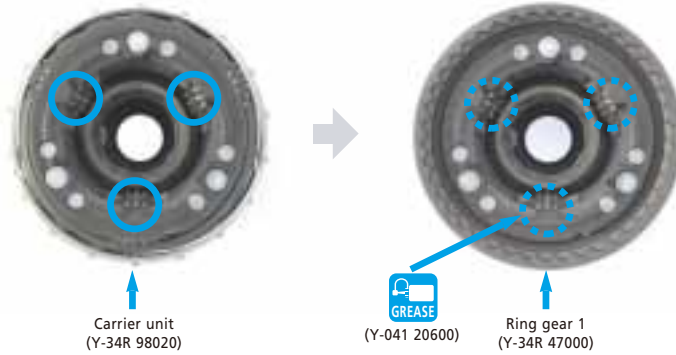


- 11.** Install the ball retainer O (3/16"X26) while pressing in pawl on the driver & axle unit.



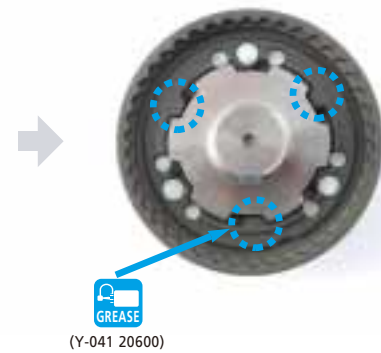
**12.** How to install the carrier unit and ring gear.

(Without any tools)  
Align three marks of the ring gear with three grooves as shown in the picture.



Tool TL-8530 (Y-70800300)

(With tool)  
Align the grooves of the tool with the marks of the ring gear.



Install the ring gear stop ring with a screwdriver.



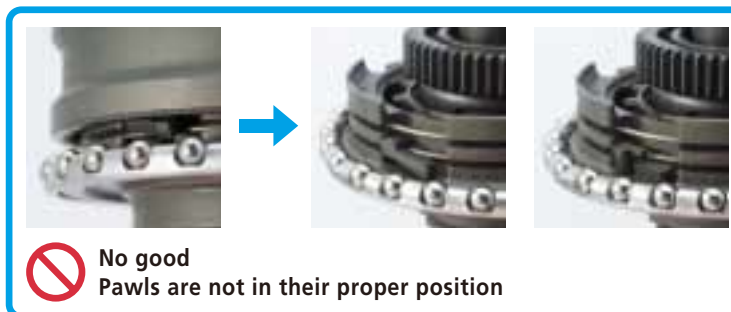
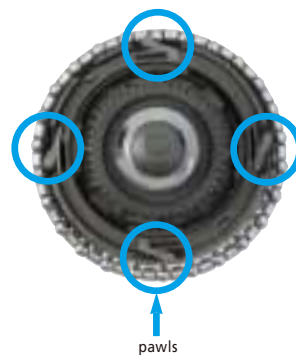
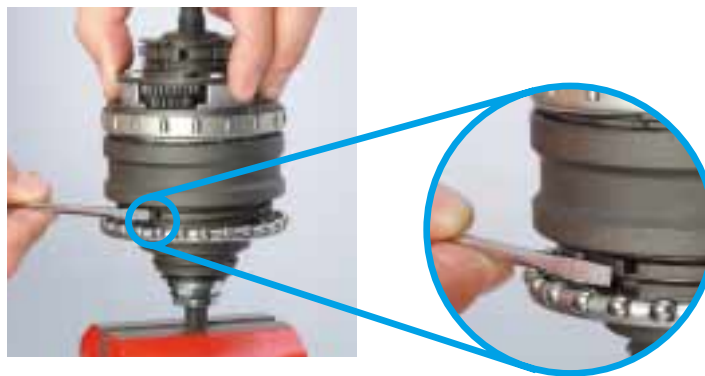
Ring gear stop ring (Y-34R 80000)

**13.** Align the swelling of ring gear/carrier unit and the groove of axle unit.

After installing ring gear and carrier unit, turn units firmly and check that pawls are in their position.



To proceed this section, it is important to set four pawls in their position. Use flat blade screwdriver to push pawls as shown in the instruction then install ring gear and carrier unit slowly.



**14.** Insert the stop ring.



Stop ring  
(Y-34R 79000)

**15.** Install the hub shell unit while turning it counterclockwise.



**16.** Insert ball retainer P (3/16"X13) in the hub shell.



Ball retainer P  
(Y-34R 98070)



(Y-041 20600)

**17.** Install the left hand cone.



Left hand cone  
(Y-308 98070)

- 
- 18.** Install the lock nut for left hand cone with 14X14mm spanners. Adjust the hub with the left hand cone so that there is a small amount of play. This play should disappear after tightening the locknut.



**Tightening torque:**  
25 - 30 N·m {218 - 261 in.lbs}

Lock nut for left hand cone  
(Y-31Z 06020)

- 
- 19.** Install the right hand dust cap.

Make sure that the seal of dust cap also installed correctly.



Right hand dust cap  
(Y-34R 98110)

  
(Y-041 20600)



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**This completes assembly of the Inter-8 hub.**





## Cassette Joint

CJ-8S20 for 8 speed



CJ-NX10 for 7 speed



CJ-8S40 for 8 speed

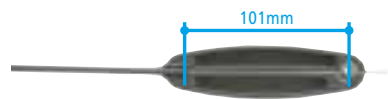


CJ-7S40 for 7 speed

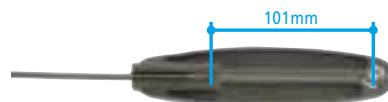


## Measurement Tool

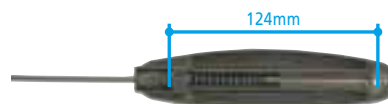
TL-CJ10 for CJ-8S20



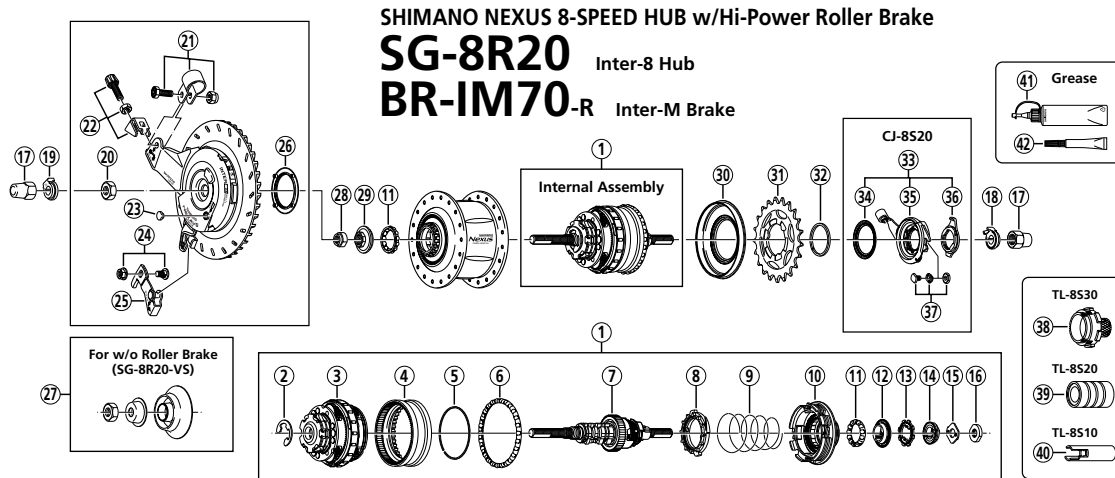
TL-CJ40 for CJ-8S20



TL-CJ40 for CJ-8S40



## Spare parts list

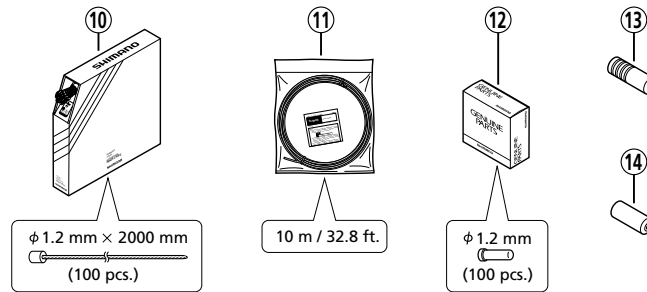
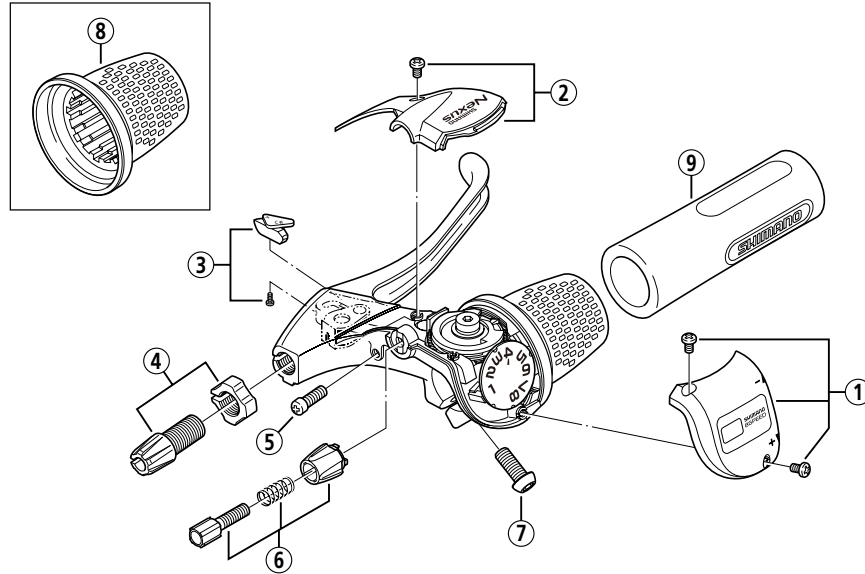


Q'TY	ITEM NO.	SHIMANO CODE NO.	DESCRIPTION
	1	Y-34R 98010	Internal Assembly (Axle Length 184 mm)
	2	Y-34R 79000	Stop Ring (φ12 mm)
	3	Y-34R 98020	Carrier Unit
	4	Y-34R 47000	Ring Gear 1
	5	Y-34R 80000	Ring Gear 1 Stop Ring
	6	Y-34R 98030	Ball Retainer O (3/16" x 26)
	7	Y-34R 98040	Hub Axle Unit (Axle Length 184 mm)
	8	Y-34R 98050	Clutch Unit
	9	Y-34R 21000	Return Spring A
	10	Y-34R 98060	Driver Unit
	11	Y-34R 98070	Ball Retainer P (3/16" x 13)
	12	Y-34R 98080	Right Hand Cone w/Seal
	13	Y-34R 12000	Driver Plate
	14	Y-34R 98090	Lock Washer
	15	Y-34R 09000	Stop Washer
	16	Y-33Z 07020	Right Hand Lock Nut (3.4 mm)
	17	Y-314 14010	Cap Nut (3/8")
		Y-33Z 20500	Non-turn Washer 5R (Yellow)
	18	Y-33M39600	Non-turn Washer 6R (Silver)
		Y-33M39700	Non-turn Washer 7R (Black)
		Y-33M39510	Non-turn Washer 5L (Brown)
	19	Y-33M39610	Non-turn Washer 6L (White)
		Y-33M39710	Non-turn Washer 7L (Gray)
	20	Y-75V 13041	Brake Unit Fixing Nut (7.2 mm)
		Y-75M98050	Brake Arm Clip Unit (φ15 mm)
	21	Y-33F 98090	Brake Arm Clip Unit (5/8")
		Y-75M98060	Brake Arm Clip Unit (11/16")
		Y-33F 98100	Brake Arm Clip Unit (3/4")
	22	Y-75E 98010	Brake Cable Adjusting Bolt Unit
	23	Y-75F 11000	Grease Hole Cap
	24	Y-75F 98020	Inner Cable Fixing Bolt & Nut
	25	Y-75E 98020	Link Unit
	26	Y-75T 05000	Seal Ring for Brake
	27	Y-34R 98100	Left Hand Dust Cap Unit
	28	Y-31Z 06020	Lock Nut for Left Hand Cone
	29	Y-308 98070	Left Hand Cone w/Dust Cap
	30	Y-34R 98110	Right Hand Dust Cap A w/Seal
		Y-322 03220	Sprocket Wheel 16T (Silver)
		Y-322 03420	Sprocket Wheel 18T (Silver)
		Y-322 03520	Sprocket Wheel 19T (Silver)
	31	Y-322 03620	Sprocket Wheel 20T (Silver)
		Y-330 60000	Sprocket Wheel 21T (Silver)
		Y-330 60100	Sprocket Wheel 22T (Silver)
	* 32	Y-321 20100	Snap Ring C
	33	Y-74Y 98120	CJ-8520 Cassette Joint Unit
	34	Y-74Y 18000	Driver Cap
	35	Y-74Y 98130	CJ-8520 Cassette Joint
	36	Y-33Z 98020	Cassette Joint Fixing Ring
	37	Y-74Y 98030	Inner Cable Fixing Bolt Unit
	* 38	Y-708 00300	TL-8530 Carrier Unit Tool
	* 39	Y-708 00200	TL-8520 Right Hand Cone Installation Tool
	* 40	Y-708 00100	TL-8510 Right Hand Cone Removal Tool
		Y-041 20600	Internal Hub Grease (Net. 100g)
	41	Y-041 20400	Roller Brake Grease (Net. 100g)
	42	Y-041 40020	Roller Brake Grease (Net. 10g)

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## Spare parts list

### SHIMANO NEXUS Revo-Shift Lever SB-8S20 For 8-Speed

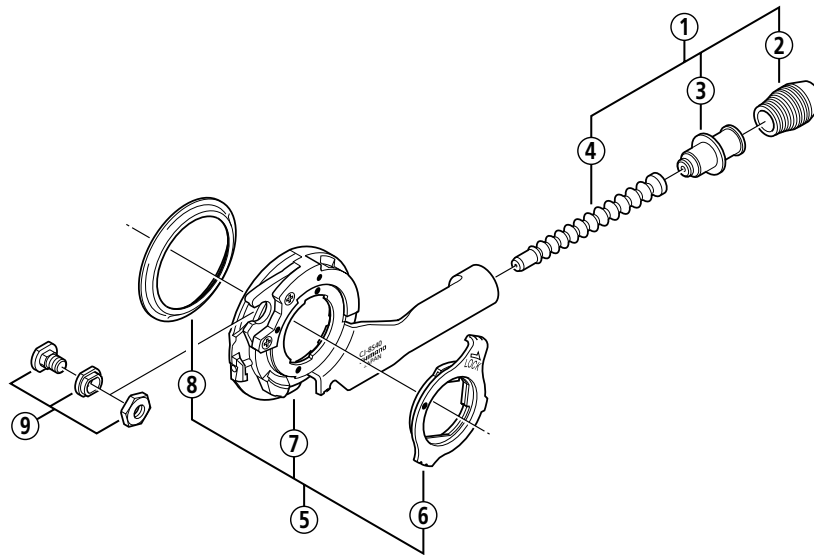


Q'TY	ITEM NO.	SHIMANO CODE NO.	DESCRIPTION
	1	Y-6J3 98010	Indicator Cover & Fixing Screws (M3 x 5)
	2	Y-6J3 98030	Upper Cover & Fixing Screw (M3 x 5)
	3	Y-8TS 98010	R.H. Adjustment Block & Screw
	4	Y-8S8 98010	Brake Cable Adjusting Bolt (M10 x 19) & Nut
	5	Y-89E 05010	Reach Adjusting Screw (M4 x 10.8)
	6	Y-61W98030	Cable Adjusting Bolt Unit
	7	Y-8SB 10000	Clamp Bolt (M6 x 14.8)
	8	Y-6J3 04000	Shift Actuator (Black)
	9	Y-61X 14010	Half Grip ( $\phi 22.2 \text{ mm}$ / Black)
	10	Y-600 98510	Inner Cable Box (Stainless / 100 pcs.) for Shift
	11	Y-6Z2 98100	SIS-SP40 Outer Casing (Black) for Shift
	12	Y-620 98030	Inner End Caps ( $\phi 1.2 \text{ mm}$ / 100 pcs.)
	13	Y-6Z2 98010	SIS-SP40 Sealed Outer Caps (Revo-Shift Lever Side / Black / $\phi 6 \text{ mm}$ / 100 pcs.)
	14	Y-6Z1 90010	SIS-SP40 Sealed Outer Cap (Cassette Joint Side / Silver / $\phi 6 \text{ mm}$ )

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## Spare parts list

### SHIMANO NEXUS Cassette Joint CJ-8S40

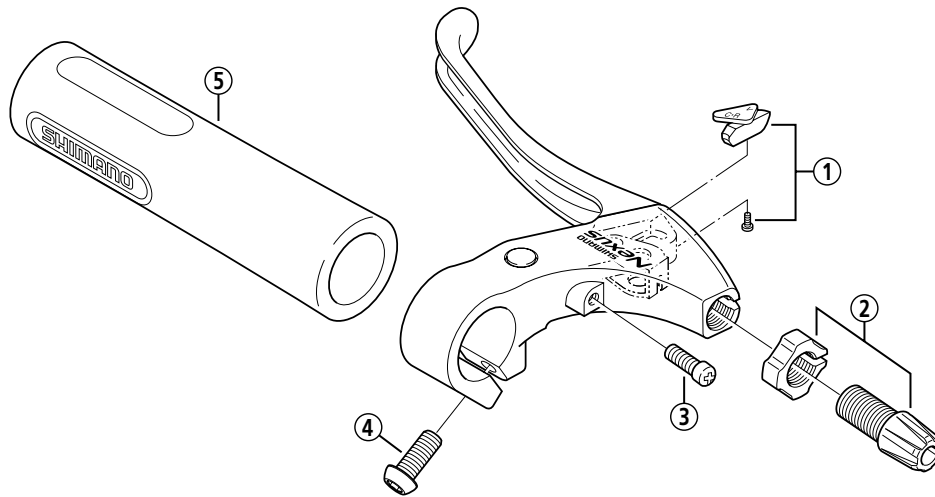


Q'TY	ITEM NO.	SHIMANO CODE NO.	DESCRIPTION
	1	Y-74Y 98160	Outer Casing Holder Unit
	2	Y-74Y 27000	Rubber Cover
	3	Y-74Y 28000	Outer Casing Holder
	4	Y-74Y 30200	Rubber Bellows
	5	Y-74Y 98140	Cassette Joint Unit
	6	Y-33Z 98020	Cassette Joint Fixing Ring
	7	Y-74Y 98150	Cassette Joint
	8	Y-74Y 18000	Driver Cap
	9	Y-74Y 98030	Inner Cable Fixing Bolt Unit

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## Spare parts list

### SHIMANO NEXUS Brake Lever BL-IM60 For Left Hand / 4-Finger

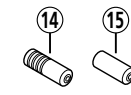
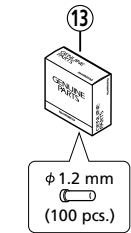
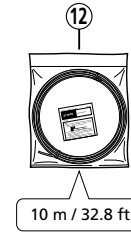
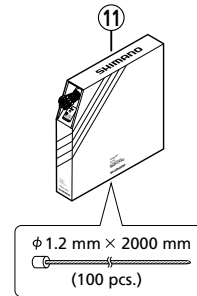
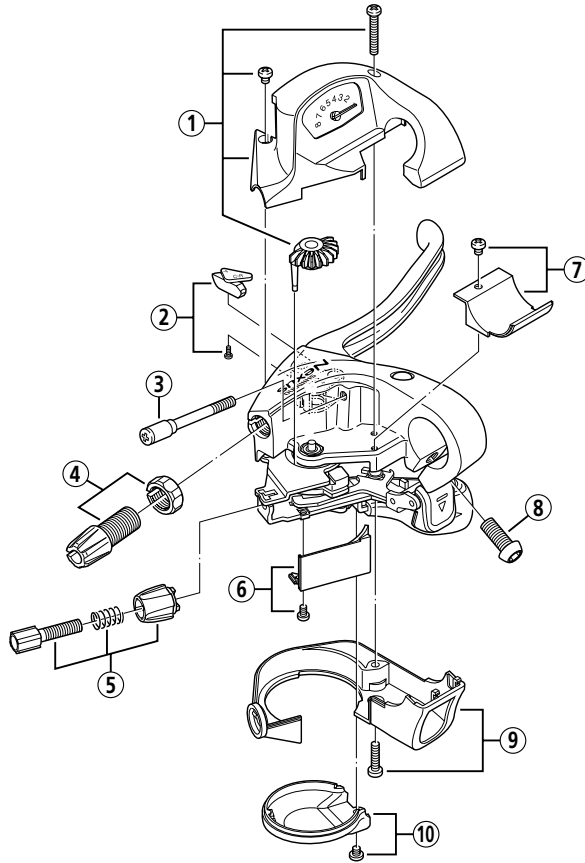


Q'TY	ITEM NO.	SHIMANO CODE NO.	DESCRIPTION
	1	Y-8TS 98020	L.H. Adjustment Block & Screw
	2	Y-8S8 98010	Cable Adjusting Bolt (M10 x 19) & Nut
	3	Y-89E 05010	Reach Adjusting Screw (M4 x 10.8)
	4	Y-8SB 10000	Clamp Bolt (M6 x 14.8)
	5	Y-89M08010	Grip (φ 22.2 mm / Black)

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## Spare parts list

### SHIMANO NEXUS Tap-Fire Lever ST-8S20 For 8-Speed

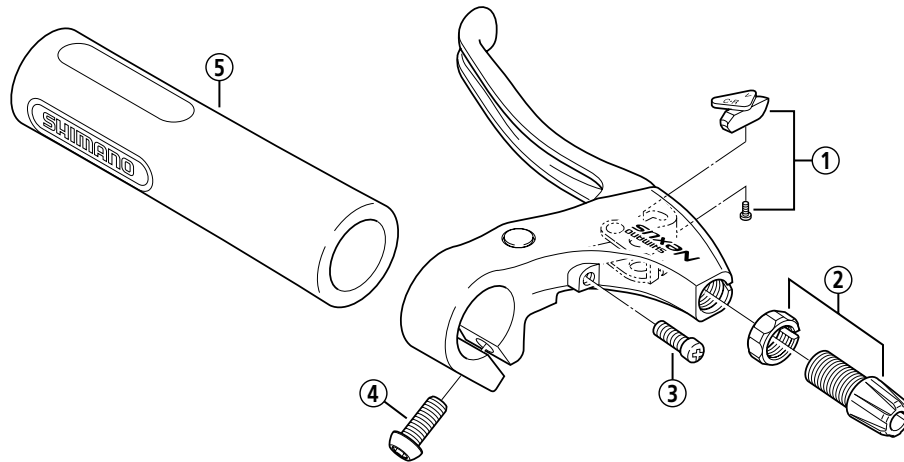


Q'TY	ITEM NO.	SHIMANO CODE NO.	DESCRIPTION
	1	Y-6JB 98010	Indicator Unit
	2	Y-8TS 98010	R.H. Adjustment Block & Screw
	3	Y-6JB 98030	Reach Adjusting Screw (M4 x 47) w/Cap
	4	Y-6JB 98040	Brake Cable Adjusting Bolt (M10 x 19) & Nut
	5	Y-61W98030	Cable Adjusting Bolt Unit
	6	Y-6JB 98050	Cable Cover & Cover Fixing Screw (M2.5 x 4)
	7	Y-6JB 98060	Tap Cover & Fixing Screw (M3 x 4)
	8	Y-8SB 10000	Clamp Bolt (M6 x 14.8)
	9	Y-6JB 98070	Lower Cover & Cover Fixing Screw (M3 x 12)
	10	Y-6JB 98080	Main Lever Cover & Fixing Screw (M3 x 4)
	11	Y-600 98510	Inner Cable Box (Stainless / 100 pcs.) for Shift
	12	Y-6Z2 98100	SIS-SP40 Outer Casing (Black) for Shift
	13	Y-620 98030	Inner End Caps (φ1.2 mm / 100 pcs.)
	14	Y-6Z2 98010	SIS-SP40 Sealed Outer Caps (Shift Lever Side / Black / φ6 mm / 100 pcs.)
	15	Y-6Z1 90010	SIS-SP40 Sealed Outer Cap (Cassette Joint Side / Silver / φ6 mm)

ILIST Printed in Japan 0305-2244

## Spare parts list

### SHIMANO NEXUS Brake Lever BL-IM65 For Left Hand / 3-Finger



Q'TY	ITEM NO.	SHIMANO CODE NO.	DESCRIPTION
	1	Y-8TS 98020	L.H. Adjustment Block & Screw
	2	Y-6JB 98040	Cable Adjusting Bolt (M10 x 19) & Nut
	3	Y-89E 05010	Reach Adjusting Screw (M4 x 10.8)
	4	Y-8SB 10000	Clamp Bolt (M6 x 14.8)
	5	Y-89M08010	Grip (φ22.2 mm / Black)

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**SHIMANO**  
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