



SHIMANO NEXUS 7-SPEED HUB

SG-7R46

SERVICE MANUAL

vol. 1



SHIMANO

Disassembly of the Inter-7 hub



SG-7R46

Tools



TL-HS10

Hub spanners
Part no. Y-230 90010
13 mm x 14 mm(2 pcs.)

Plier

Screwdriver

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



Note:

Do not damage the threads of the hub axle.

2. Remove the lock nut for left hand cone and the left hand cone with dust cap from the hub axle.



Sections A

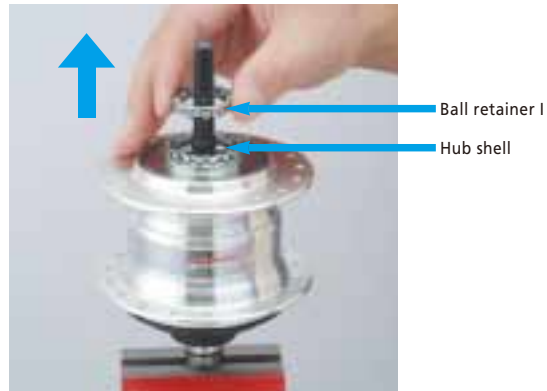
Note:

Be careful not to damage the sections A of the lock nut for left hand cone when using the spanner.



Left hand cone with dust cap

3. Remove the ball retainer I from the hub shell.



4. Remove the right hand dust cap with a screwdriver.



5. Remove the hub shell.



Internal assembly

For 182 mm axle length : Part no. Y-35D 9801

For 201 mm axle length : Part no. Y-35D 9802



6. Use pliers or similar to remove the stop spring for carrier guide 2.

Note:
Cover the internal assembly with a cloth to prevent the stop spring for carrier guide 2 from flying off during removal.

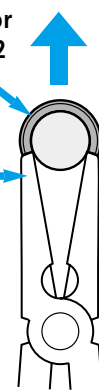
Stop spring



Stop spring for carrier guide 2

Plier

Plier



7. Remove ring gear unit 2, carrier unit 2 and carrier guide 2 at the same time while turning ring gear unit 2 slightly to the left and right.

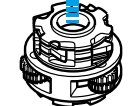
Carrier guide 2

Carrier unit 2

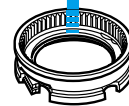
Ring gear unit 2



Carrier guide 2



Carrier unit 2



Ring gear unit 2

After removing them at the same time, remove carrier unit 2 and carrier guide 2 from ring gear unit 2.

8. Remove sun gear unit 2 & 3 while turning them slightly to the left and right.

Sun gear unit 2 & 3



Note:

If undue force is applied during removal, the pawls inside will become damaged, which will cause operation problems.

9. Remove carrier unit 1.



Carrier unit 1

10. Remove ball retainer M from the driver unit.

Be careful not to bend ball retainer M.



This completes the disassembly of the Inter-7 hub.



Assembly of the Inter-7 hub

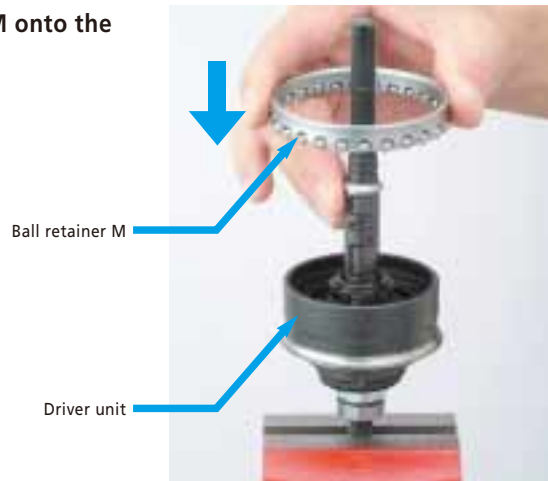
1. Hold the two bevelled surfaces of the hub axle on the sprocket side in a vice.



Note:

Do not damage the threads of the hub axle.

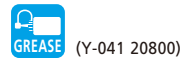
2. Place ball retainer M onto the driver unit.



Note:

Be careful of the setting direction.

Apply a liberal coating of internal hub grease.



Be careful not to bend ball retainer M.

3. Engage the teeth of the planet pinion in carrier unit 1 with the teeth of the driver unit, and then press in the driver unit while turning it slightly to the left and right.



Note:

Apply a liberal coating of internal hub grease to the planet pinions (3 places) in carrier unit 1.

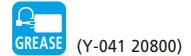
4. Engage the teeth of sun gear unit 2 & 3 with the teeth of the planet pinion in carrier unit 1 while turning sun gear unit 2 & 3 slightly to the left and right, and then press in carrier unit 1.



Teeth of sun gear unit 2 & 3

Teeth of planet pinion in carrier unit 1

Note:
Apply a liberal coating of internal hub grease to the teeth of sun gear unit 2 & 3.



The gear with the smooth ring section is at the top



Be careful of the setting direction. If the setting is reversed, installation will not be possible. If undue force is applied, the pawls inside will become damaged, which will cause operation problems.

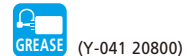
5. Place ring gear unit 2 onto carrier unit 1.



Ring gear unit 2

Carrier unit 1

Note:
Apply a liberal coating of internal hub grease to the teeth of ring gear unit 2.



Set so that the part with the teeth is at the top.

6. Engage the teeth of the planet pinion in carrier unit 2, carrier guides 2 and the teeth of ring gear unit 2 while turning carrier unit 2 slightly to the left and right, and then press in ring gear unit 2.



Teeth of planet pinion in carrier unit 2

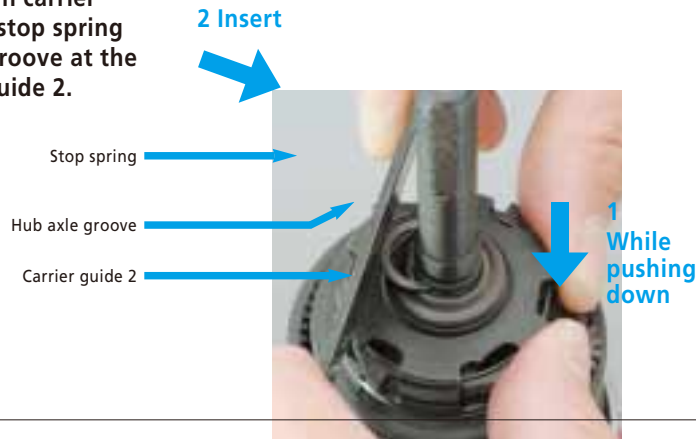
Teeth of ring gear unit 2

Groove in stop ring for carrier guide 2 should be visible

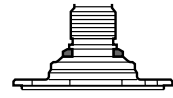


Check:
Check that the groove in the stop spring for carrier guide 2 is visible from the edge of carrier unit 2 while carrier unit 2 is pushed down.

- 7.** While pushing down carrier guide 2, insert the stop spring into the hub axle groove at the surface of carrier guide 2.



Note:
Be careful of the setting direction.



Insert securely as far as it will go.



OK



Not OK

- 8.** Install the internal assembly while turning the hub shell slightly to the right and left so that seal spring R of the hub shell is sitting in the right hand dust cap of the internal assembly.



Note:

Apply a liberal coating of internal hub grease to the grease groove of the hub shell.



(Y-041 20800)

If seal spring R hooks into the wrong part of the right hand dust cap, push seal spring R with a screwdriver.

Check:

After installing the hub shell, turn the hub shell counterclockwise and check that it turns smoothly.

- 9.** Place ball retainer I onto the hub shell.



Note:

Be careful of the setting direction. Apply a liberal coating of internal hub grease.



(Y-041 20800)

- 10.** Screw the left hand cone with dust cap to adjust so that the hub shell can be turned smoothly without any play. After adjusting, secure the left hand cone with dust cap with the lock nut for left hand cone.



Sections A

Note:

Be careful not to damage the sections A of the lock nut for left hand cone when using the spanner.



Left hand cone with dust cap

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- 11.** Hold the two bevelled surfaces of the hub axle in a vice.



Note:
Do not damage the threads of the hub axle.

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



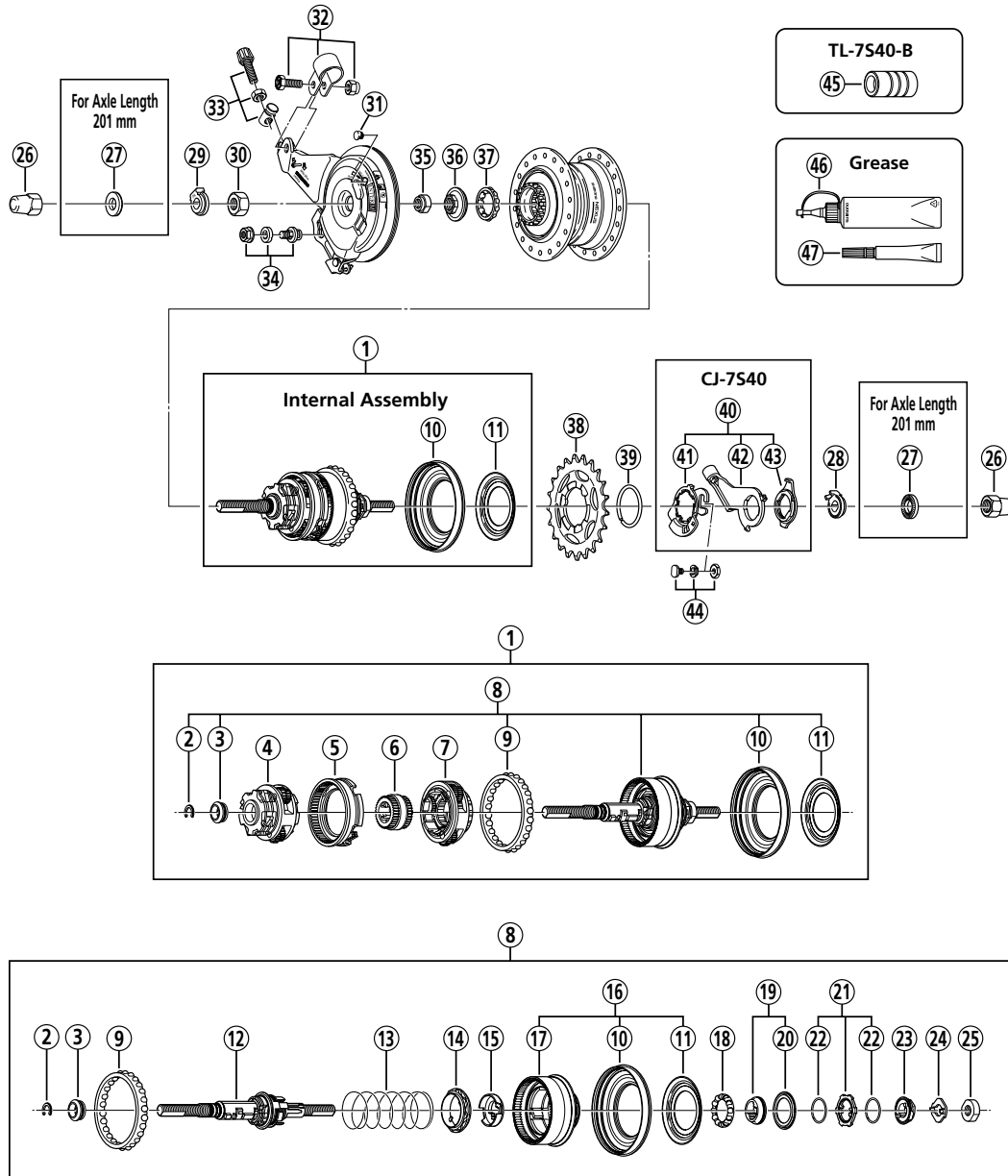
Check:

After installing right hand dust cap to the hub shell, turn the hub shell clockwise and check that it turns smoothly. If the hub shell does not turn smoothly, re-install right hand dust cap.

This completes the assembly of the Inter-7 hub.

Spare parts list

SHIMANO NEXUS 7-SPEED HUB w/Hi-Power Roller Brake **SG-7R46** Inter-7 Hub **BR-IM41-R** Inter-M Brake



Q'TY	ITEM NO.	SHIMANO CODE NO.	DESCRIPTION
	1	Y-35D 98010	Internal Assembly (Axle Length 182 mm)
		Y-35D 98020	Internal Assembly (Axle Length 201 mm)
	2	Y-308 07000	Stop Ring for Carrier Guide 2
	3	Y-33E 03000	Carrier Guide 2
	4	Y-33E 98070	Carrier Unit 2
	5	Y-308 98040	Ring Gear Unit 2
	6	Y-33F 98060	Sun Gear Unit 2 & 3
	7	Y-330 98060	Carrier Unit 1
	8	Y-35D 98030	Carrier guide 2 / Axle & Driver Unit (Axle Length 182 mm)
		Y-35D 98040	Carrier guide 2 / Axle & Driver Unit (Axle Length 201 mm)
	9	Y-330 91800	Ball Retainer M (3/16" x 26)
	10	Y-35C 07000	Right Hand Dust Cap B
	11	Y-33Z 26000	Right Hand Dust Cap C
	12	Y-34L 98050	Axle Unit (Axle Length 182 mm)
		Y-34L 98060	Axle Unit (Axle Length 201 mm)
	13	Y-330 24000	Return Spring A
	14	Y-33Z 10000	Gear Shifting Cam
	15	Y-33Z 11000	Feed Cam
	16	Y-35D 98050	Driver Unit w/Right Hand Dust Cap B & C
	17	Y-35D 98060	Driver Unit
	18	Y-330 91600	Ball Retainer F (3/16" x 12)
	19	Y-33Z 98030	Right Hand Cone w/Seal
	20	Y-33Z 28000	Right Hand Cone Seal
	21	Y-33F 98040	Driver Plate w/Seal
	22	Y-330 12000	Driver Plate Seal
	23	Y-33E 98120	Lock Washer
	24	Y-33Z 08000	Stop Washer
	25	Y-308 03020	Right Hand Lock Nut (6 mm)
	26	Y-314 14010	Cap Nut (3/8")
	27	Y-220 06040	Washer (3.2 mm) for Axle Length 201 mm
	28	Y-33Z 20500	Non-turn Washer 5R (Yellow)
		Y-33M39600	Non-turn Washer 6R (Silver)
		Y-33M39700	Non-turn Washer 7R (Black)
	29	Y-33M39510	Non-turn Washer 5L (Brown)
		Y-33M39610	Non-turn Washer 6L (White)
		Y-33M39710	Non-turn Washer 7L (Gray)
	30	Y-75V 13000	Brake Unit Fixing Nut (8.2 mm)
	31	Y-75V 16010	Grease Hole Cap
	32	Y-33F 98090	Brake Arm Clip Unit (5/8")
		Y-33F 98100	Brake Arm Clip Unit (3/4")
	33	Y-75P 98030	Brake Cable Adjusting Bolt Unit
	34	Y-75M98070	Inner Cable Fixing Bolt Unit
	35	Y-31Z 06020	Lock Nut for Left Hand Cone
	36	Y-308 98070	Left Hand Cone w/Dust Cap
	37	Y-308 98080	Ball Retainer I (3/16" x 11)
	38	Y-322 03220	Sprocket Wheel 16T (Silver)
		Y-322 03420	Sprocket Wheel 18T (Silver)
		Y-322 03520	Sprocket Wheel 19T (Silver)
		Y-322 03620	Sprocket Wheel 20T (Silver)
		Y-330 60000	Sprocket Wheel 21T (Silver)
		Y-330 60100	Sprocket Wheel 22T (Silver)
	39	Y-321 20010	Snap Ring C
	40	Y-74Y 98010	CJ-7540 Cassette Joint Unit
	41	Y-74Y 02000	Cassette Joint Pulley
	42	Y-74Y 98020	Cassette Joint Bracket
	43	Y-33Z 98020	Cassette Joint Fixing Ring
	44	Y-74Y 98030	Inner Cable Fixing Bolt Unit for CJ-7540
	45	Y-308 89000	TL-7540-B Right Hand Cone Tool
	46	Y-041 20800	Internal Hub Grease (Net. 100g)
		Y-041 20400	Roller Brake Grease (Net. 100g)
	47	Y-041 40020	Roller Brake Grease (Net. 10g)

ILISG Printed in Japan 0202-2128

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This publication is printed on recycled paper.

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