

***DT* SWISS**

180, 240 FRONT WHEEL HUBS
TECHNICAL MANUAL

V2020.12

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1. GENERAL

1.1 VALIDITY

This manual describes the component specified on the front page and the footer. This manual is valid for the design of the product as of 17.12.20. Deviations are possible and all items are subject to technical changes.

1.2 SAFETY

The safety instructions are classified as follows:



DANGER

...indicates a hazardous situation that, if not avoided, will result in death or serious injury.



CAUTION

... indicates a hazard with a medium level of risk which, if not avoided, may result in minor or moderate injury.



NOTICE

... indicates a potentially hazardous situation that may result in damage to property.

1.3 TARGET GROUP

This manual is intended for the user of the component and dealers. This manual offers the experienced user the possibility to carry out minor service work himself. If you have any doubts about your own abilities, you should definitely contact a specialist or a DT Swiss Service Center.

Any warranty claims will lapse if work is not carried out properly.

1.4 LAYOUT

The cover page and the footing provide information about the type of product and manual as well as the version of the manual. The DT Swiss contact details can be found on the back. A list of all DT Swiss service centers can be found at www.dtswiss.com.

This manual is intended for being printed as an A5 booklet. Only print this manual if electronic usage is not possible.

1.5 DT SWISS MANUAL CONCEPT

The DT Swiss manuals are split into the following types of manuals:

- User Manual: Information for the end user on how to install and use the component.
- Technical Manual: Detailed information for the end user and the dealer on how to maintain the component, spare parts and technical data.

1.6 HOW TO USE THE MANUAL

The steps described in this manual must be carried out in the order they are shown. If steps are ignored or executed in a wrong order, the function of the component cannot be guaranteed.

1.7 GENERAL MAINTENANCE INFORMATION

Unless otherwise specified, moving parts, threads, O-rings and seals must be greased before assembly.

CLEANING

For an optimal result of the maintenance works, every component that will be disassembled must be cleaned. Only use cleaners which do not damage the components. Especially the cleaning of O-rings and seals requires mild cleaners. Observe the instructions for use of the respective cleaner.

DT Swiss recommends the following cleaners:

- Motorex Rex
- Motorex Swissclean
- Motorex OPAL 2400, 3000 OPAL, OPAL 5000

Use soap water or similar mild cleaners for external cleaning.

TOOLS

To ensure a damage-free mounting and dismantling of the components, only use the tools which are mentioned in this manual. Special tools are indicated at the beginning of a chapter in the table "Required material".

The use of different tools is at the discretion of the user. If components are damaged by the usage of differing tools, the user is liable.

DT Swiss special tools are precision tools. Damage-free mounting and dismantling of the components can only be ensured if the tools are working properly and if the condition of the tools are perfect. Always keep the tools in their original packaging or adequate devices to prevent damage.

1.8 ENVIRONMENTAL PROTECTION

The statutory regulations shall apply. Whenever possible, avoid creating waste. Waste, especially carbon, lubricants, cleaners and any other fluids must be disposed in an environmentally compatible manner. Only print this manual if electronic usage is not possible.

1.9 EXCLUSION OF LIABILITY

The activities listed in this manual may only be carried out by persons with sufficient specialist knowledge. The user is liable for any damage or consequential damage caused by wrongly maintained or installed components. If you have doubts, please contact your region's DT Swiss pro level service center.

1.10 WARRANTY

Warranty conditions, see www.dtswiss.com

2. SERVICING THE FRONT HUB 180, 240

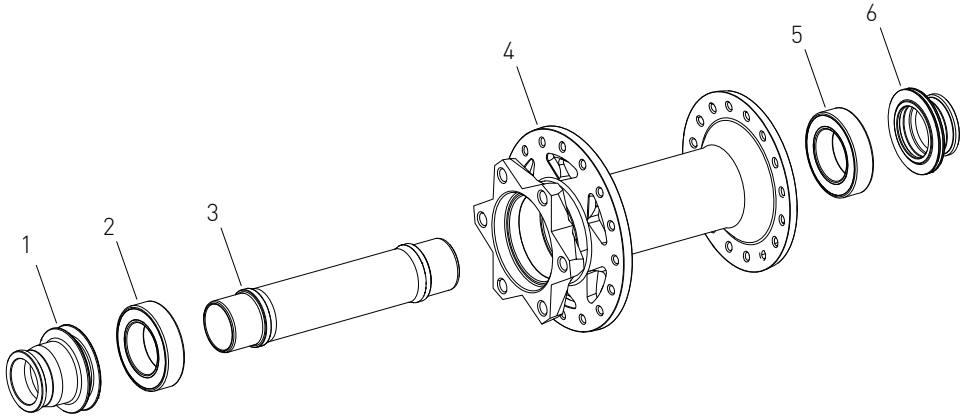
Preparatory Steps:

Link

Dismount the brake rotor

Clean the hub

2.1 OVERVIEW



1 end cap non drive side

2 ball bearing non drive side

3 axle

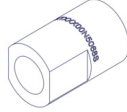

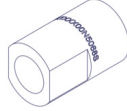

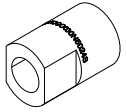
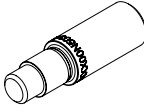
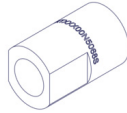
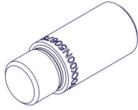
4 hub shell

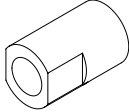
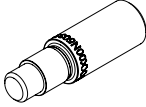
5 ball bearing drive side

6 end cap drive side


The illustration shows the exemplary structure of a 180 and 240 hub. Details such as end caps, hub shells and bearing and axle diameters may vary.

REQUIRED TOOLS

Tools	Specification	Quantity	Article number
Tools for front wheel hubs with $\varnothing 17 / 28$ mm ball bearings			
installation cylinder $\varnothing 17 / 28$ mm x 40 mm		2	HXTXXX00N9345S
axle tool $\varnothing 17$ mm		1	HXTXXX00N5067S
Tools for front wheel hubs with $\varnothing 18 / 30$ mm ball bearings			
Tool kit HWTXXX00NTK15S, includes:		2	HXTXXX00N5167S
<ul style="list-style-type: none"> installation cylinder $\varnothing 18 / 30$ mm x 40 mm 			
<ul style="list-style-type: none"> axle tool $\varnothing 18$ mm 		1	HXTXXX00N5168S
Tools for front wheel hubs with $\varnothing 15 / 28$ mm ball bearings			
installation cylinder $\varnothing 15 / 28$ x 35 mm		2	HXTXXX00N5024S
axle tool $\varnothing 15$ mm		1	HXTXXX00N5031S
Tools for front wheel hubs with $\varnothing 17 / 26$ mm ball bearings			
Tool kit HWTXXX00NTRAS, includes:		2	HXTXXX00N5068S
<ul style="list-style-type: none"> installation cylinder $\varnothing 17 / 26$ mm 			
<ul style="list-style-type: none"> axle tool $\varnothing 17$ mm 		1	HXTXXX00N5067S

Tools	Specification	Quantity	Article number
Tools for front wheel hubs with $\varnothing 15 / 26$ mm ball bearings			
installation cylinder $\varnothing 15 / 26 \times 40$ mm		2	HXTXXX00N5314S
axle tool $\varnothing 15$ mm		1	HXTXXX00N5031S

2.2 REQUIRED WEARING PARTS AND MATERIALS

Wearing parts / Materials	Specification	Quantity	Article number
DT Swiss universal grease		20 g	HXTXXX00NMG20S

Due to the large variety of spare parts, they cannot be listed here.

At dtswiss.com/support/product-support you will find all suitable spare parts after selecting your components.



NOTICE

RISK OF DAMAGE TO THE END CAPS BY THE CLAMPING JAWS OF THE VISE!

If end caps are clamped in a vise with roughened jaws, the end caps will be damaged.

- Only use ground clamping jaws, aluminium or plastic clamping jaws for clamping the end caps.

2.3 REMOVING THE END CAPS

1. Pull off both end caps by hand.

If the end caps cannot be pulled off by hand, clamp the end caps carefully into a vise with ground clamping jaws and pull the hub / wheel upwards.



2.4 DISMOUNTING THE BEARINGS AND THE AXLE

1. Push the axle tool onto the axle.



2. Tap the bearing out of the hub shell using the disassembly tool and a hammer.



3. Turn the hub over, put the axle through the second bearing and put the axle tool on the axle.
4. Tap out the second bearing using the axle tool and a hammer.

2.5 CLEANING AND DEGREASING ALL PARTS

Clean all parts of the hub (see "Cleaning" on page 5)

2.6 MOUNTING BEARINGS AND AXLE

1. Slightly grease the seating of the bearings and the inner surface of the hub shell using universal grease.



2. Put the installation cylinder into the vise.
3. Push the drive side of the hub shell onto the installation cylinder.



4. Put the axle onto the installation cylinder.



5. Slightly grease the bearing and put it onto the non drive side with the colored side facing outwards.



6. Place the axle tool on the ball bearing and axle.



7. Put the installation cylinder onto the bearing.



8. Tap the bearing into the hub shell with slight hammer strokes.



9. Remove the installation cylinder from the hub and remove the hub from the vise.

10. Put the non drive side of the hub with the axle onto the installation cylinder.



11. Slightly grease the bearing and put it with its colored side facing outwards onto the drive side.



12. Attach the axle tool to the axle.
 - The axle tool centers the installation cylinder on the ball bearing and thus prevents the ball bearing from tilting during press-fitting.
13. Fit the installation cylinder onto the axle tool and ball bearing.



14. Drive the second bearing into the hub shell with slight hammer strokes.
15. Remove both installation cylinders from the hub.



16. Check the bearing.
 - The hub must turn smoothly.
 - The axle must not have axial play.
17. If necessary, drive in the bearing on the non drive side or loosen the bearing.
18. Repeat previous steps until the hub is turning smoothly.



2.7 PUTTING ON THE END CAPS

1. Grease the bearings and the inner surface of both end caps.



2. Put on both end caps by hand.
3. Caution: If the end caps have different lengths, the longer one must be put to the non drive side.



Closing Steps:

Mount the brake rotor

[Link](#)

3. SERVICING THE FRONT HUB 240 OVERSIZE

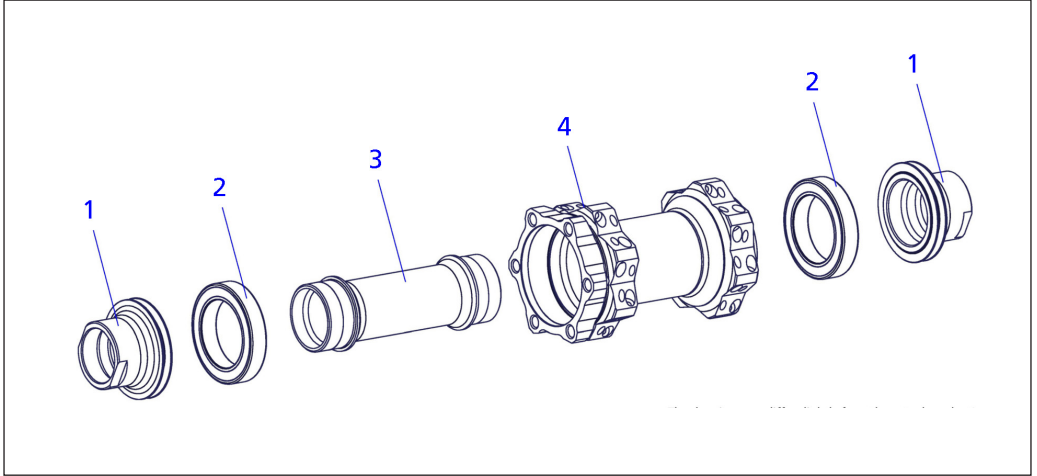
Preparatory Steps:

Link

Dismount the brake rotor

Clean the hub

3.1 OVERVIEW



1 end cap




2 ball bearing

3 axle

4 hub shell

The illustration shows the exemplary construction of a 240 oversized hub. Details such as end caps and hub shell may vary.

3.2 REQUIRED TOOLS

Tools	Specification	Quantity	Article number
Tool kit 240 oversize, includes		1	HWTXXX00NTKFRS
<ul style="list-style-type: none"> installation cylinder Ø20 / 37 mm 		2	HXTXXX00N5038S
<ul style="list-style-type: none"> axle tool Ø20 mm 		1	HXTXXX00N5046S
special fabric tape		1	HXTXXX00N5139S

3.3 REQUIRED WEARING PARTS AND MATERIALS

Wearing parts / Materials	Specification	Quantity	Article number
DT Swiss universal grease		20 g	HXTXXX00NMG20S

Due to the large variety of spare parts, they cannot be listed here.

At dtswiss.com/support/product-support you will find all suitable spare parts after selecting your components.

3.4 REMOVING THE END CAPS

1. Using a suitable wrench, loosen the first end cap and unscrew it from the axle.
 - 20 mm, 15 mm and 9 mm end caps: 22 mm wrench
 - QR end caps: 5 mm hex key



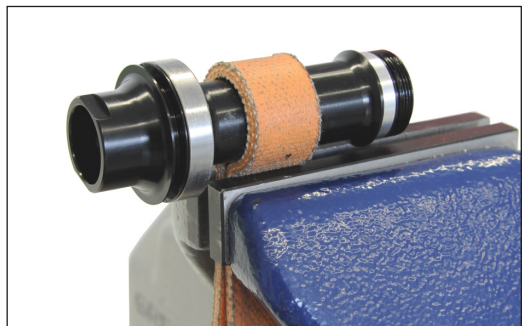
2. Slide the disassembly tool onto the axle.



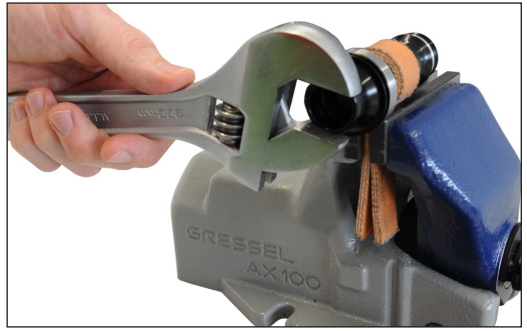
3. Tap the bearing out of the hub shell using the disassembly tool and a hammer.



4. Fix the axle in the vice using the special fabric tape.



5. Loosen and remove the end cap with a suitable open-end wrench.



6. Remove the ball bearing from the axle.



7. Put the axle into the hub shell.



8. Tap out the second bearing using the disassembly tool and a hammer.



3.5 CLEANING AND DEGREASING ALL PARTS

Clean all parts of the hub (see "Cleaning" on page 5).

3.6 MOUNTING BEARINGS AND AXLE

1. Slightly grease the seating of the bearings and the inner surface of the hub shell using universal grease.



2. Put the axle onto the installation cylinder.



3. Put the drive side of the hub shell onto the installation cylinder and the axle.



4. Slightly grease the bearing and put it onto the non drive side with the colored side facing outwards.

5. Put the disassembly tool onto the axle.
6. Put the installation cylinder onto the bearing.
→ The disassembly tool centers the mounting tool on the axle.



7. Tap the bearing into the hub shell with slight hammer strokes.
8. The lower installation cylinder must rest on a flat surface.
9. Remove the installation cylinder from the hub.



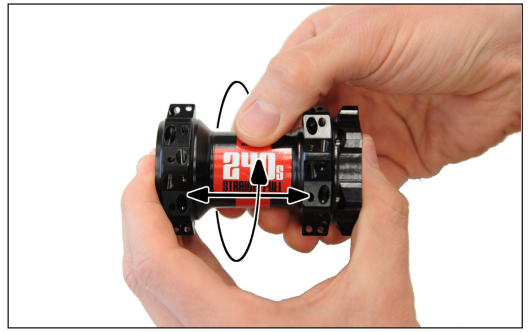
10. Fit the non-drive side of the hub onto one of the two installation cylinders.
11. Slightly grease the bearing and put it with its colored side facing outwards onto the drive side.



12. Drive the second bearing into the hub shell with slight hammer strokes.
→ The lower installation cylinder must rest on a flat surface.
13. Remove the installation cylinder from the hub.



14. Check the bearing.
 - The hub must turn smoothly.
 - The hub must not have axial play.
15. If necessary, drive in the bearing on the drive side or loosen the bearing.
16. Repeat previous steps until the hub is turning smoothly.



3.7 PUTTING ON THE END CAPS

1. Grease the bearings and the inner surface of both end caps.
 2. Screw on both end caps by hand.
3. Tighten the end caps with a suitable tool to 15 Nm.
 - 20 mm, 15 mm and 9 mm end caps: 22 mm wrench
 - QR end caps: 5 mm hex key



Closing Steps:

Mount the brake rotor

Link

4. SERVICING THE FRONT HUB 240 PREDICTIVE STEERING

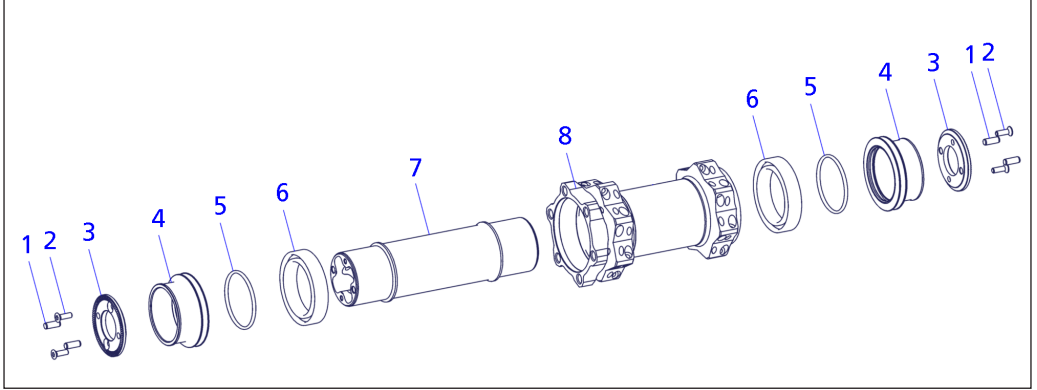
Preparatory Steps:

Link

Dismount the brake rotor

Clean the hub

4.1 OVERVIEW




1	pin	4	end cap	7	axle
2	fixing screw	5	O-ring	8	hub shell
3	knurled disc	6	ball bearing		

4.2 REQUIRED TOOLS

Tools	Specification	Quantity	Article number
tool kit 240 Predictive Steering, includes		1	HWTXXX00NTKPSS
<ul style="list-style-type: none"> installation cylinder $\varnothing 37 / 25$ mm 		2	HXTXXX00N5307S
<ul style="list-style-type: none"> disassembly tool for axle $\varnothing 18$ mm 		1	HXTXXX00N5168S
Torx T8		1	

4.3 REQUIRED WEARING PARTS AND MATERIALS

Wearing parts / Materials	Specification	Quantity	Article number
DT Swiss universal grease		20 g	HXTXXX00NMG20S

Due to the large variety of spare parts, they cannot be listed here.

At dtswiss.com/support/product-support you will find all suitable spare parts after selecting your components.

4.4 REMOVING THE KNURLED DISCS

1. Unscrew both fixing screws of the knurled discs on both sides using a T8 Torx key.



2. Carefully loosen both knurled discs carefully using a punch.
 - The knurled disc are fixed in the axle with two pins.
 - Be careful not to damage the end caps and the axle.
3. Remove both knurled discs.



4.5 DISMOUNTING THE END CAPS, THE BEARINGS AND THE AXLE

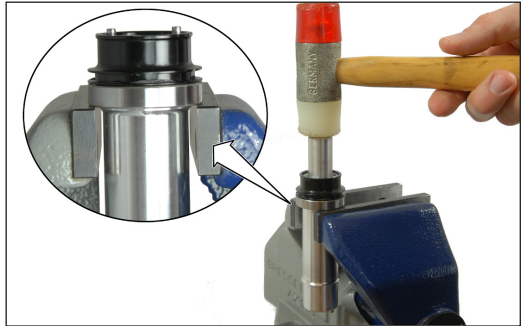
1. Place the disassembly tool on one side of the axle.
2. Tap out the bearing and one of the end caps with slight hammer strokes.



3. Remove the axle and one of the end caps.



4. Open the clamping jaws of the vise that much that the bearing rests on the jaws, but the axle is not clamped.
5. Push the disassembly tool into the axle.
6. Tap the end cap and the bearing from the axle with slight hammer strokes.



7. Insert the axle into the second ball bearing still in the hub.
8. Push the disassembly tool into the axle.



9. Tap out the bearing with slight hammer strokes.
10. Remove the bearing from the axle by hand.



4.6 CLEANING AND DEGREASING ALL PARTS

Clean all parts of the hub (see "Cleaning" on page 5).

4.7 MOUNTING BEARINGS AND AXLE

1. Put the axle in one of both installation cylinders.
2. Fit the bearing seat on the drive side of the hub onto the axle and the installation cylinder.
→ The installation cylinder must be fully seated in the bearing seat.
3. Place slightly greased, new ball bearing with the sealed (colored) side facing outward on the bearing seat of the non drive side of the hub.
4. Place the second installation cylinder on the ball bearing on the non drive side.
5. Drive the bearing completely into the hub shell with slight hammer strokes.
→ Make sure that the ball bearing does not jam.
6. Remove the installation cylinders.



7. Put the non drive side of the hub with the axle onto the installation cylinder.
8. Slightly grease the second new ball bearing and slide it onto the axle on the drive side with the sealed (coloured) side facing outwards.



9. Place the second installation cylinder on the ball bearing on the drive side.
10. Drive the bearing completely into the hub shell with slight hammer strokes.
→ Make sure that the ball bearing does not jam.
11. Remove the installation cylinders.

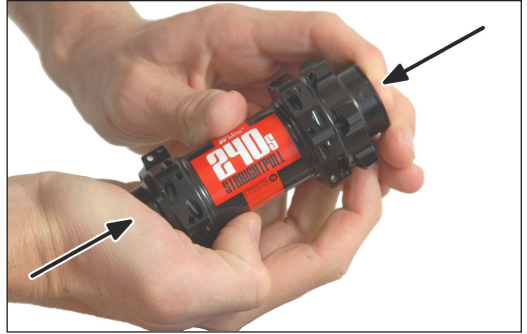


12. Check the ball bearings.
→ The hub must turn smoothly.
→ The hub must not have axial play.
13. If necessary, drive in the bearing on the non drive side or loosen the bearing.
14. Repeat previous steps until the hub is turning smoothly.



4.8 PUTTING ON THE END CAPS

1. Push the end caps onto the axle.



2. Fit the knurled discs.

3. Screw in the fixing screws of the knurled discs with a T8 Torx key and tighten with a maximum torque of 0.7 Nm.



Closing Steps:

[Link](#)

Mount the brake rotor

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