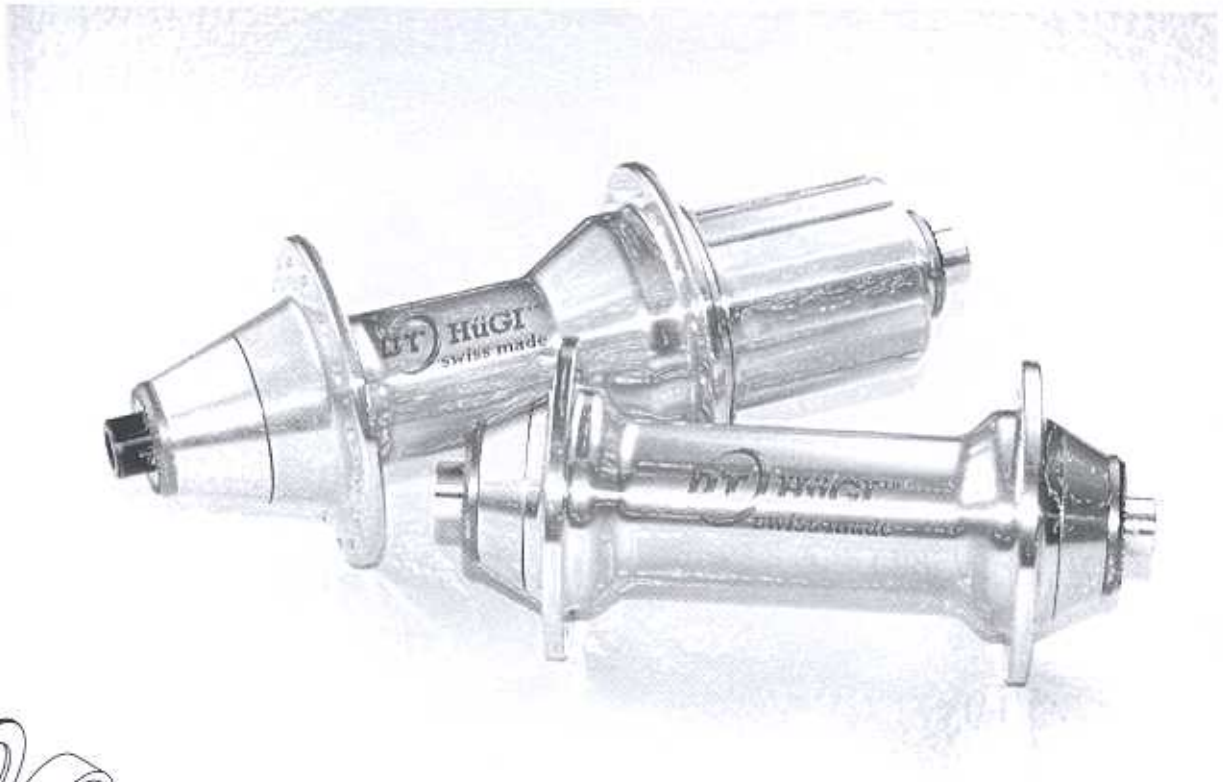
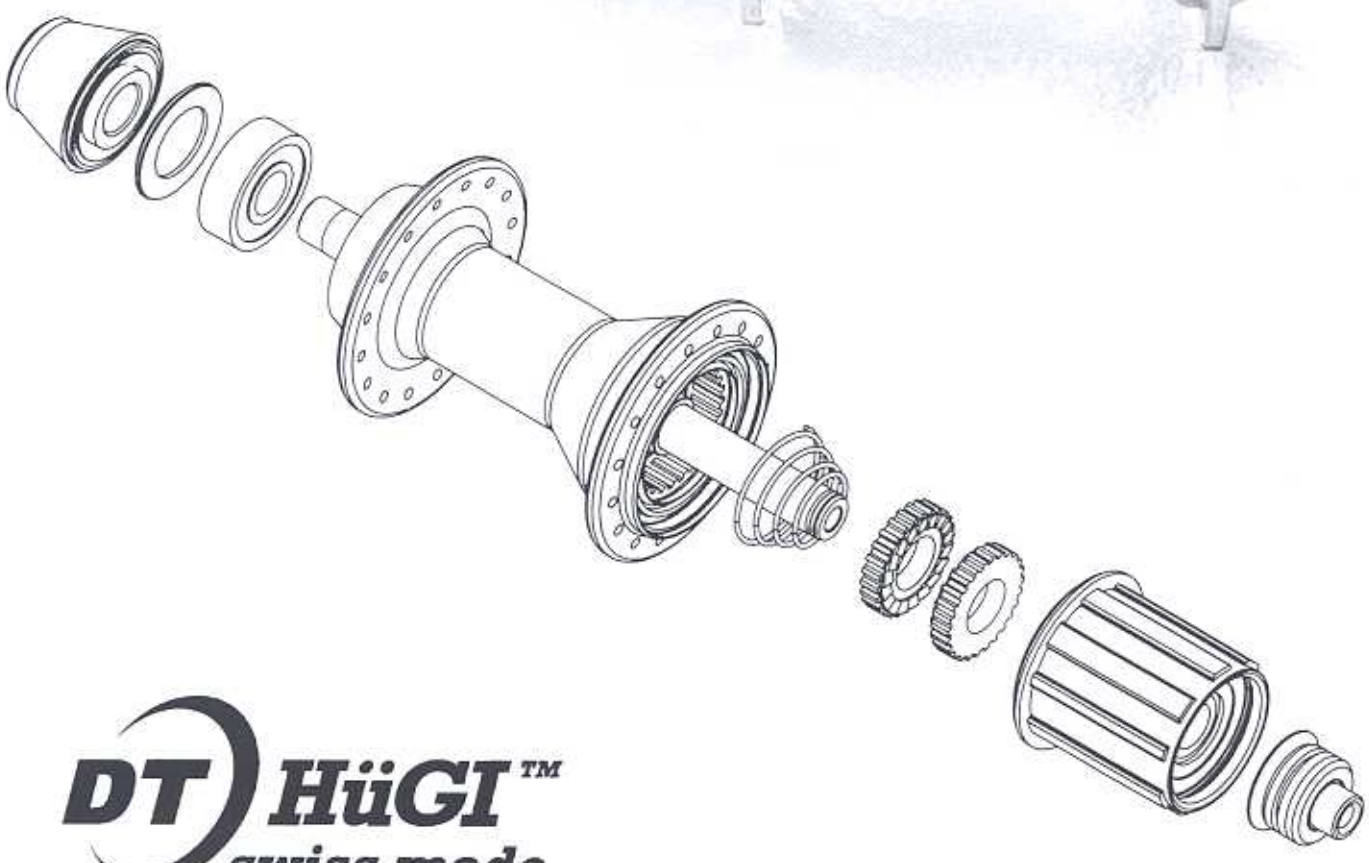
TECHNICAL MANUAL

English





DT HüGI™
swiss made

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Instructions

This manual is intended for retailers with appropriate skills and knowledge. It details the principle design features of DT Hügi hubs and also provides instruction as to maintenance and repair work. Please take special care to only use original DT Hügi special tools in order to undertake the work detailed in this manual. In the event of improper servicing of the hubs, DT Swiss, Inc. has the right to refuse any warranty.

Due to continual improvements that are made to DT Hügi products is it possible that some of the instructions that are described in this manual will be different for future models of the DT-Hügi hubs. For the newest version of service documentation, or for miscellaneous questions, please consult the official DT Swiss, Inc. representative for the country in which you reside.

Maintenance of the hubs

Maintenance of the rear and front wheel hubs should be performed at least once a year. A more regular maintenance is required when used under more extreme conditions (heavy rain, mud, open transport in the rain etc.)

Please give special attention to the following notice which is listed under the title below:

CAUTION :



Disregarding these instructions will limit the function of the freewheel and can lead to injury or other severe consequences and the loss of the product warranty.

Assembly/ disassembly tool `98















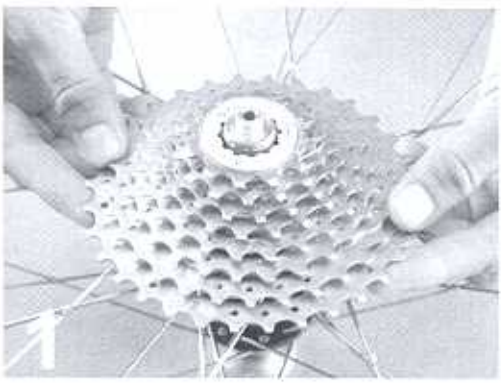




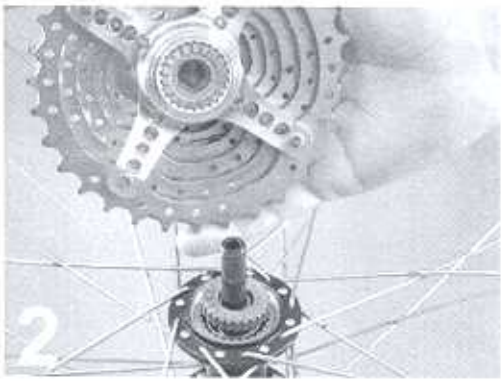
Pos.	Description	Part No.
1	Long rear wheel installation cylinder	vwxxxx005017
2	Short rear wheel installation cylinder	vwxxxx005016
3	Front wheel installation cylinders	vwxxxx005008
4	Installation tool for seal `98	vwxxxx005018
5	Special screwdriver	vwxxxx005019
6	Multi-purpose grease (ASEOL Aquares LT 810-61)	vFettmzweck
7	DT Hügi special grease MOLYKOTE TP 42 (with 5% mineral oil additive)	vFett20
8	Axle holder (Park Tool)	---
9	Synthetic head hammer	---

Tool kit for `98 hub (Parts 1-7)	vwxxxx98Satz

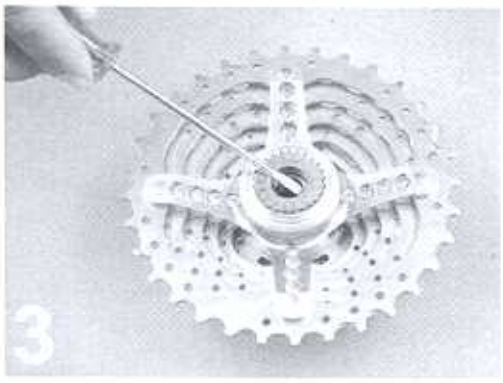
Removing the rear hub `98



1. Manually lift off and remove the rotor together with the gear cluster.



2. Removing the ratchet, spacer and spring from the hub housing.

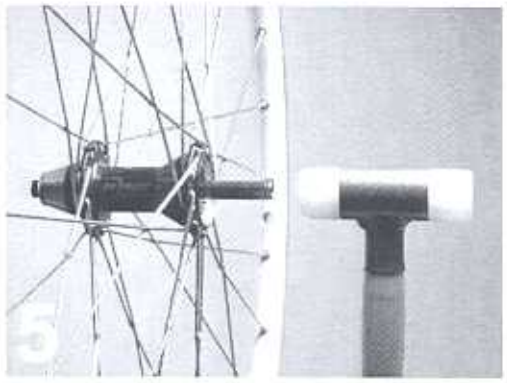


3. Use a small screwdriver to gently lift the second star ratchet out the rotor.

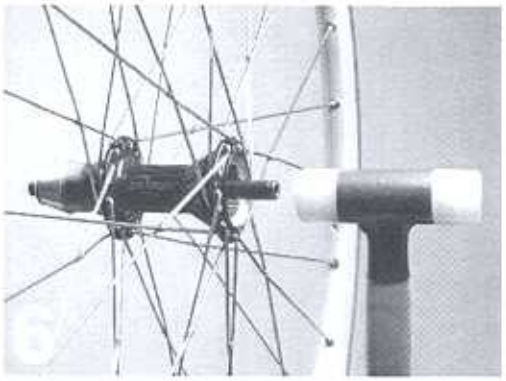


4. Use the special screwdriver to remove the seal.

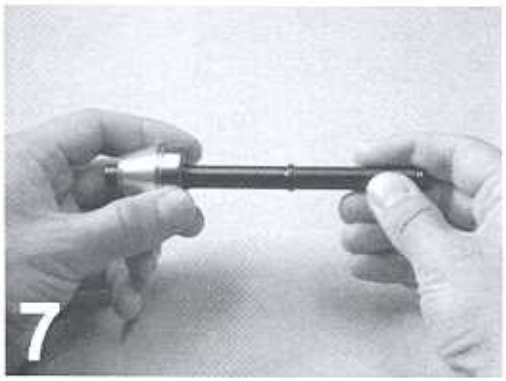
   Replace the seal only if it is worn or otherwise damaged.



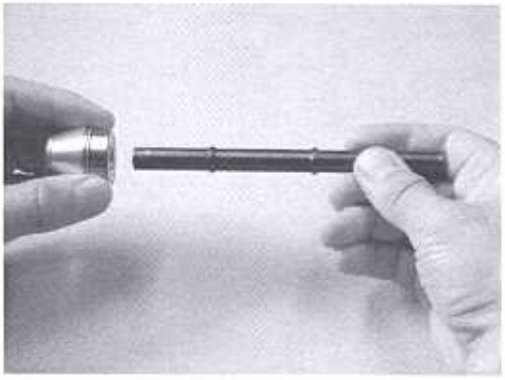
5. Use a synthetic head hammer to hammer the axle from the wheel center.



6. Remove the axle.

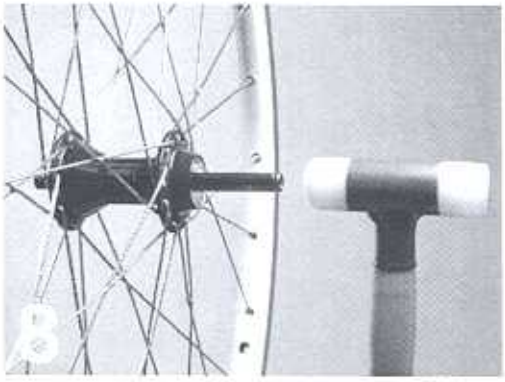


7. Pull the adapter, the cover and the bearing from the axle.

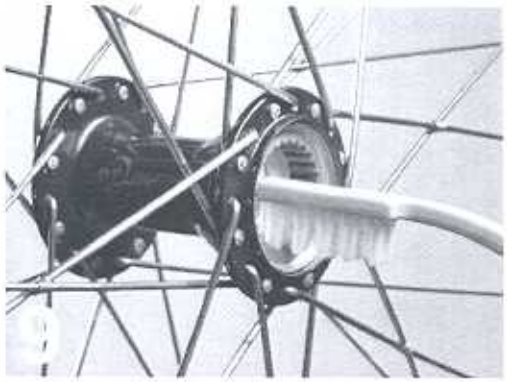


CAUTION:

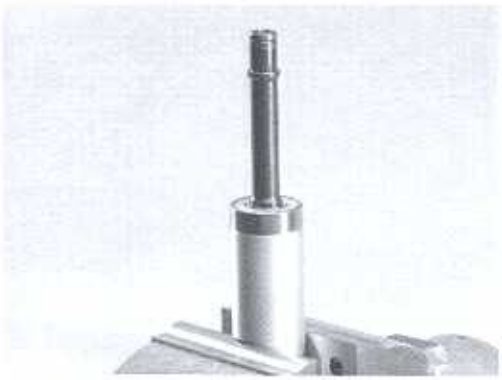
All components should be cleaned and inspected. If any cracks or other damage is visible, the parts must be replaced using original DT Hügi components.



8. Turn the dismantled axle around and insert it into the hub housing until the axle collar butts against the bearing. Use a synthetic head hammer to hammer the second bearing out.

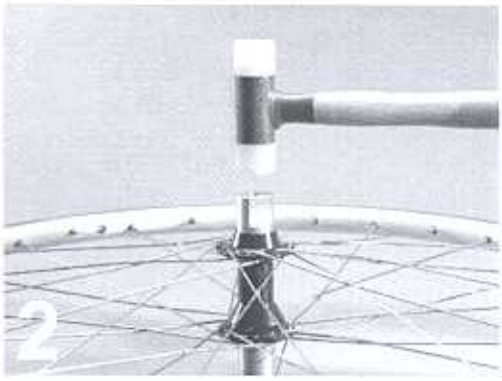


9. Thoroughly remove the old grease from inside the hub housing using a toothbrush (use a cleaning agent).



Installing the rear hub bearing `98

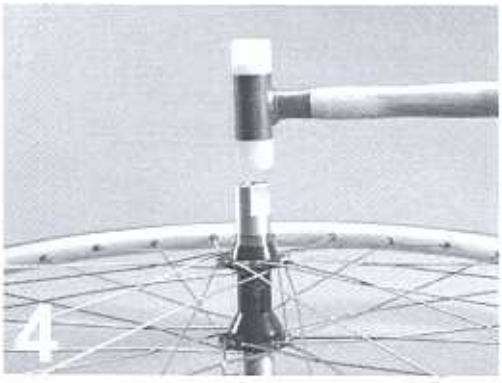
1. Clamp the long rear wheel installation cylinder into a vise. Push the new 6000 bearing (grey side inwards) and the shorter end of the rear wheel axle into the cylinder.



2. Place the wheel's drive side over the axle. Push the short rear wheel installation cylinder over the axle. Press the first bearing into place using a synthetic head hammer.



3. Pull the rear axle out approx. 10mm (half an inch). Push the second 6000 bearing (black side outwards) over the axle.



4. Push the short cylinder over the axle. Press the second 6000 bearing into place using a synthetic head hammer. Remove the short cylinder.

When you turn the axle, you should not be able to feel any irregular friction. Push and pull the axle in order to make sure that there is no play in the axle.



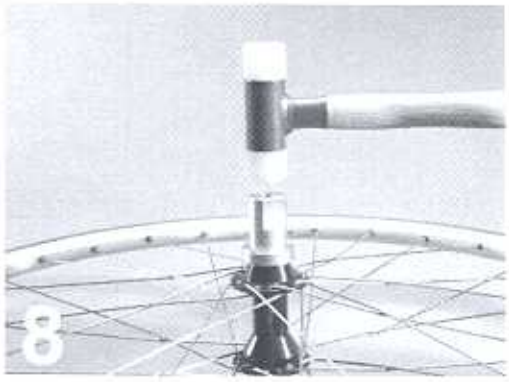
5. Place the cap with its edge facing upwards over the bearing on the left hand side.



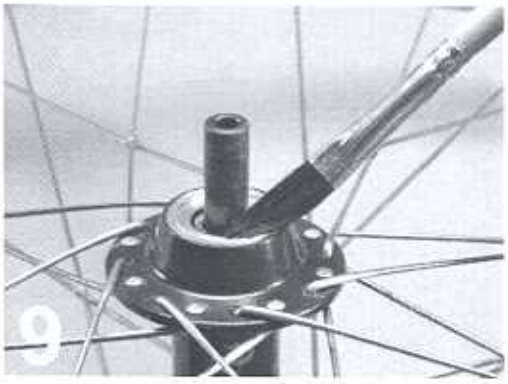
6. Push the seal installation tool (edge uppermost) over the axle.



7. Place the short cylinder over the seal installation tool.



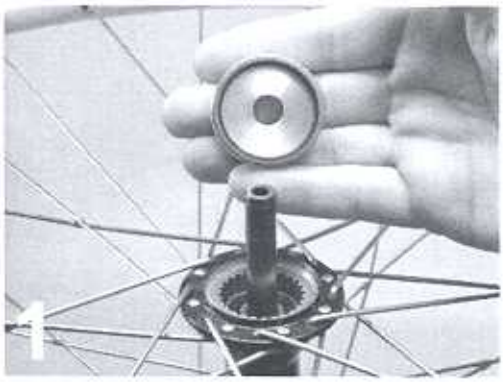
8. Tap the left hand cap into place using a synthetic head hammer.



9. Remove the short cylinder and the installation tool. Lubricate the cap using commercially available multi-purpose grease and a paint brush.

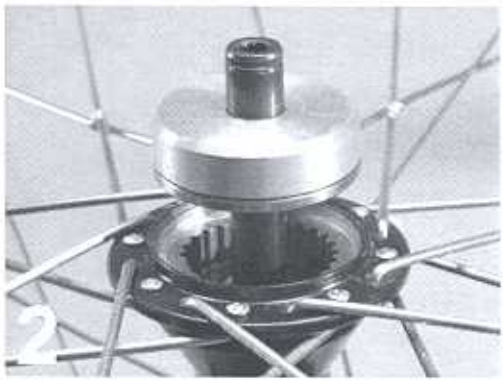


10. Thoroughly clean the left hand adapter and V-seal, lubricate it using commercially available multi-purpose grease and place it over axle.

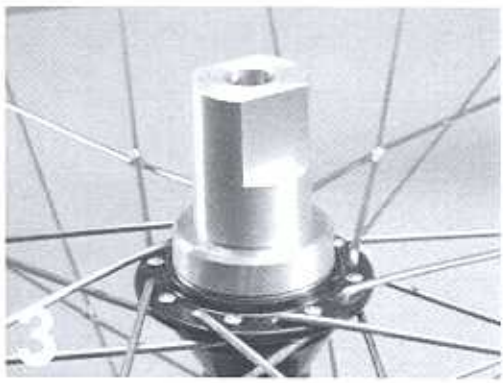


Installing the seal for hub/ rotor `98

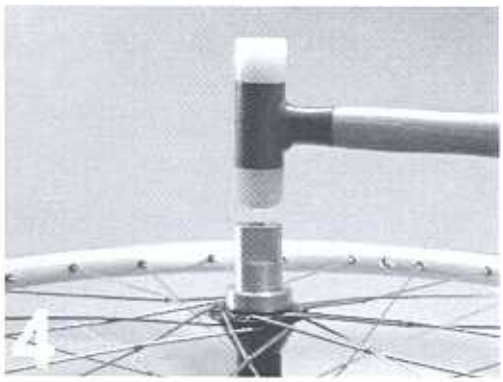
1. Place the seal over the rotor seal installing tool.



2. Push the rotor seal installing tool over the axle.



3. Place the short installation cylinder on the axle.



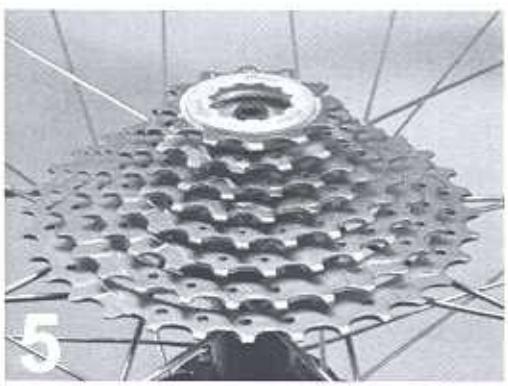
4. Press the seal down by tapping with a synthetic head hammer.











Installing the freewheel `98

1. Use DT Hügi special grease to lubricate the cleaned ratchet toothing inside its housing.

2. Push the spacer down over the axle until it butts against the bearing. Insert the spring (large diameter on bearing ring). After insertion the spring must be rotated through approx. 180 degrees so that it lays against the bearing ring.

Star ratchet

Carefully clean the star ratchet with a dry cloth. Inspect both star ratchets for damage. If any damage is visible, the parts must be replaced using original DT Hügi components. **LIGHTLY** grease both star ratchets.

CAUTION :

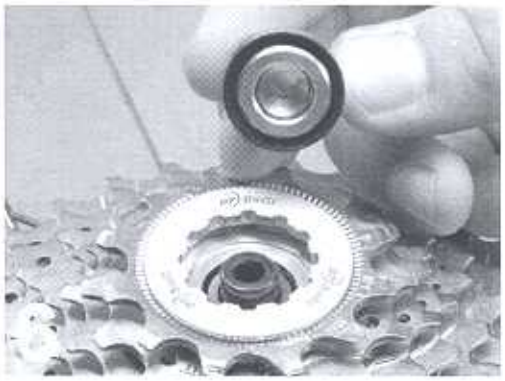
Never use normal grease in the freewheel mechanism, because this will impair the function of the star ratchet teeth. Only use DT Hügi recommended special grease for this procedure !

Before positioning the ratchet in the rotor, check that the rotor bearing spins cleanly without binding. If any binding or scratching is detected, replace the rotor with a new or reconditioned one.

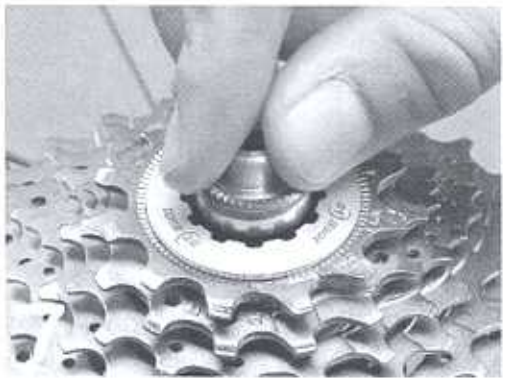
3. Place one ratchet, with its toothing towards the outside, into the rotor.

4. Place the second ratchet onto the one installed in step 3.

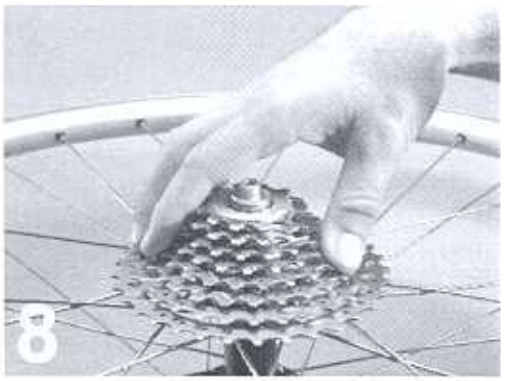
5. Push the rotor together with the cassette and the gear cluster over the axle.



6. Thoroughly clean the end adapter and the V-seal and lubricate them using commercially available grease.



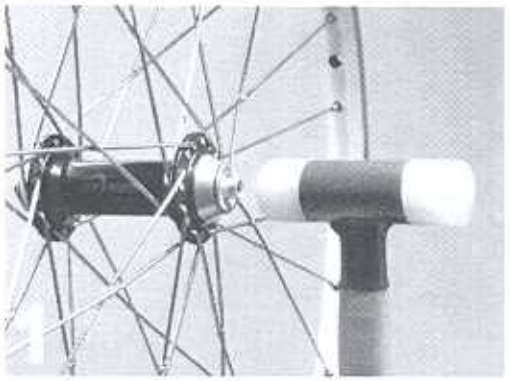
7. Place the end adapter over the right-hand end of the axle and press into place manually.



8. After installing the hub, check its function by holding the sprocket and giving it a sharp, quick spin.

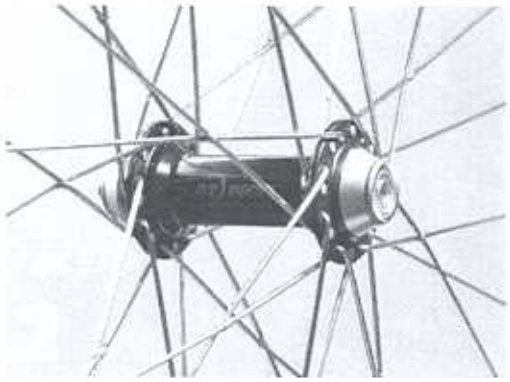
CAUTION :

If the ratchets do not catch, there could be too much grease inside the rotor or the wrong type of grease was used. In this case, remove some of the grease or replace it using grease of the correct type.

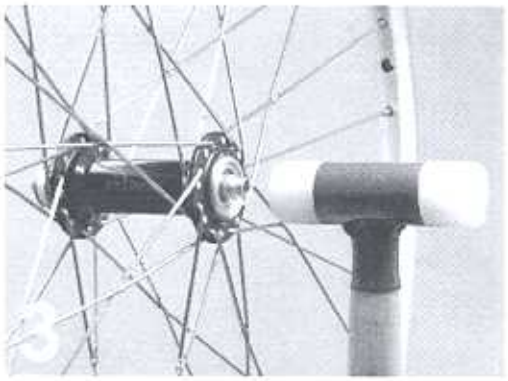


Removing the front hub `98

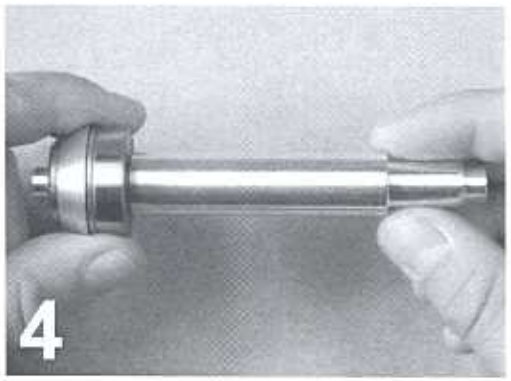
1. Tap the end of the axle using a synthetic head hammer until the axle reaches the adapter.



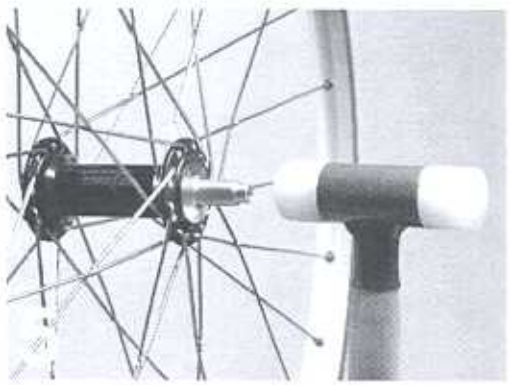
2. Lift off the adapter.



3. Tap the axle out of the hub using the same type of hammer.



4. Slide the adapter, covering cap and bearing off the axle.



5. Insert the axle back into the hub and tap the second bearing out.

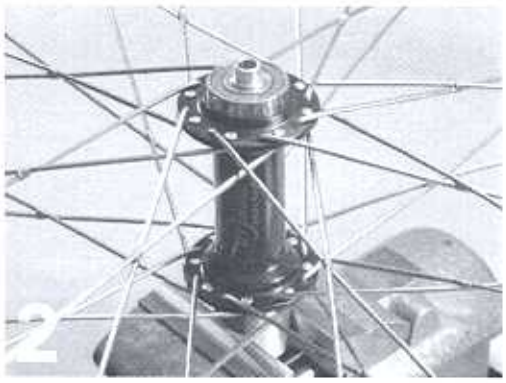
CAUTION:

All components should be cleaned and inspected. If any cracks or other damage is visible, the parts must be replaced using original DT Hügi components.

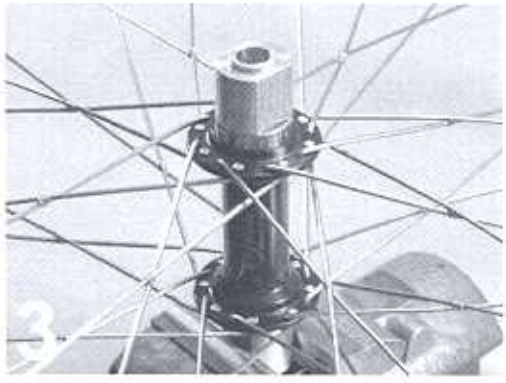


Installing the front hub `98

1. Clamp the front wheel installation cylinder into a vise. Place the new 6001 bearing (black side inwards) together with the front axle into the cylinder.



2. Place the wheel onto the axle and install the second 6001 bearing, with its black side inwards, over the axle.

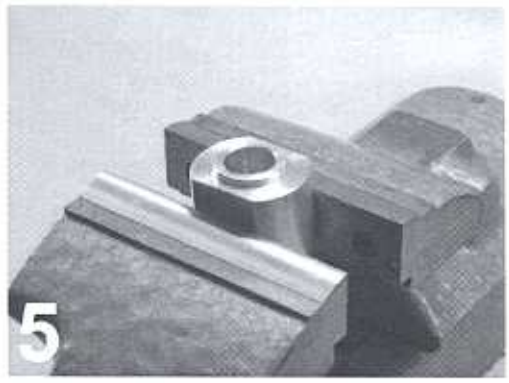


3. Center the wheel using the second front wheel installations cylinder.

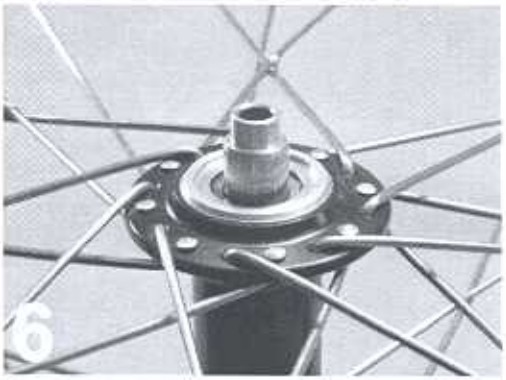


4. Press both bearings into place using the hammer.

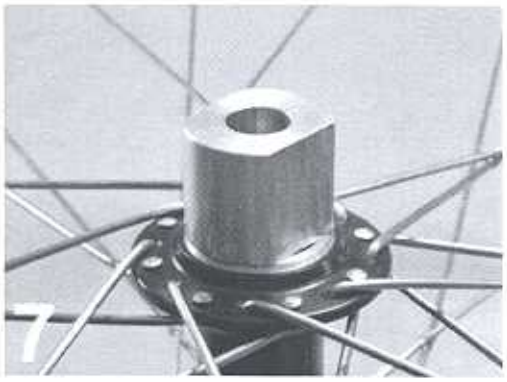
When you turn the axle, you should not be able to feel any irregular friction. Push and pull the axle in order to make sure that there is no play in the axle.



5. Pull the wheel out of the installation cylinder. Loosen the vise and turn the front wheel installation cylinder over, so that the collar is uppermost.



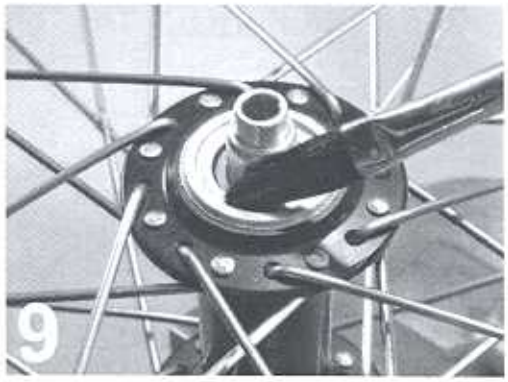
6. Place the dust cap with its collar downwards onto the installations cylinder. Place the wheel onto the cylinder and install the second dust cap with its collar upwards, over the housing.



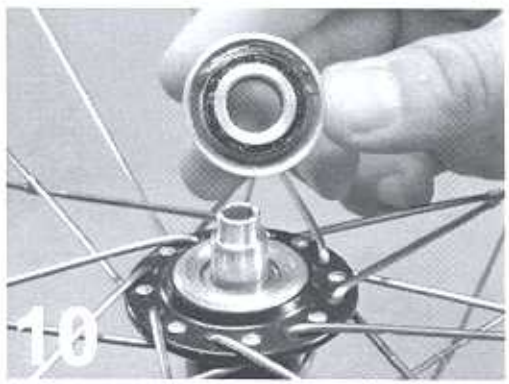
7. Push the second installation cylinder over the axle.



8. Press both caps into place using the hammer.



9. Remove the front wheel installation cylinder. Apply commercially available multi-purpose grease to both caps using paint brush.

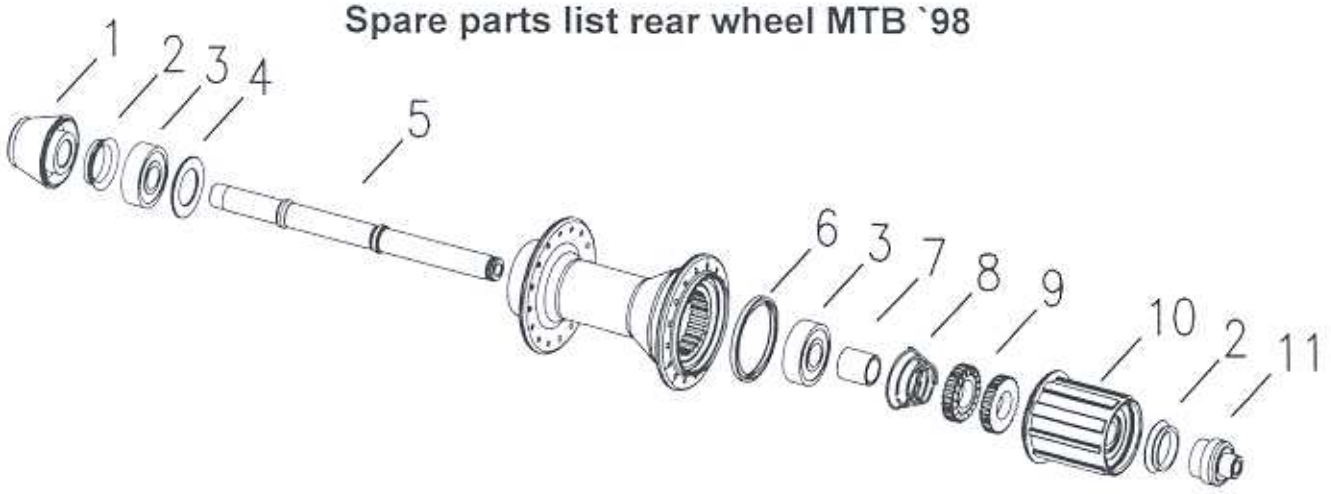


10. Thoroughly clean the adapter and V-seal, then apply commercially available multi-purpose grease.



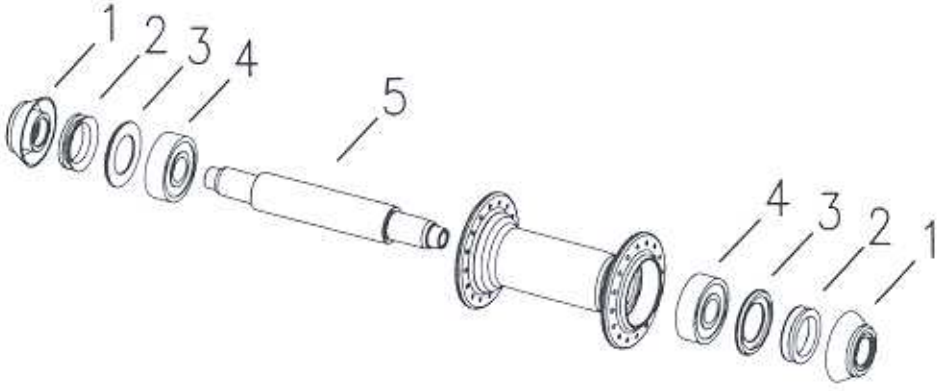
11. Install the adapter onto the axle.

Spare parts list rear wheel MTB `98



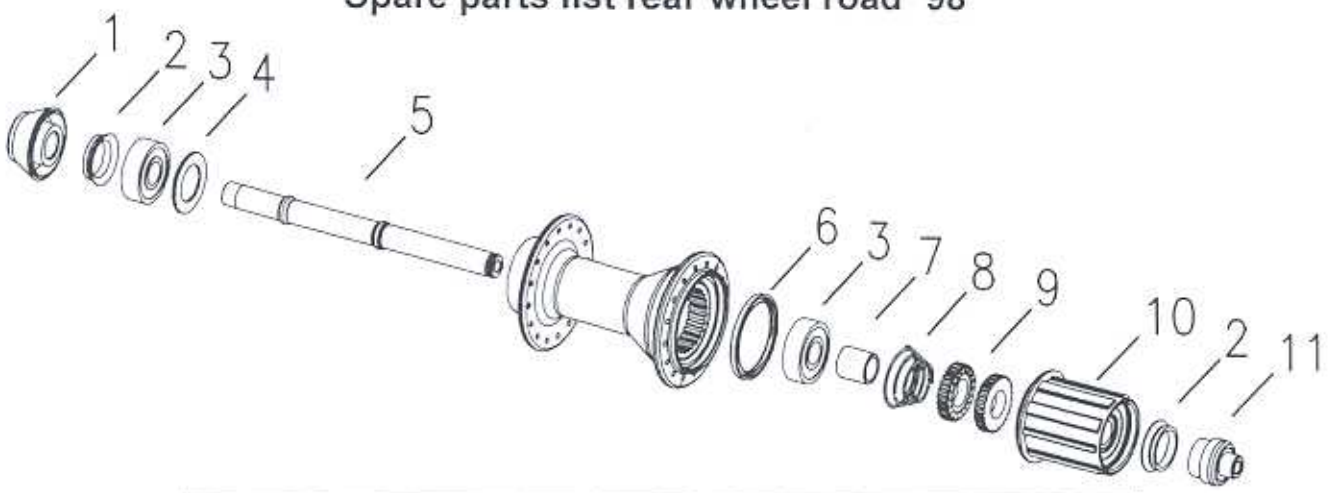
Pos.	Description	Part No.
1	RW-Adapter 135mm (left side) `98	vehmxx001204
2	V-Seal V 16	vxrxxx001030
3	Bearing 6000	vxrxxx001002
4	RW-Dust cap (left side) `98	vxrxxx001029
5	RW-Axle 135mm `98	vx5mxx001207
6	Seal hub shell/rotor `98	vxrxxx001031
7	Spacer 13,5mm (steel)	vxrxxx001003
8	Conical spring	vxrxxx001008
9	Star ratchet	vxrxxx001006
10	Rotor `98 aluminum	vxhxax001033
	Rotor `98 steel	vxhxsx001034
11	RW-Adapter right side `98 (Rotor)	vehxxx001035

Spare parts list front wheel MTB `98



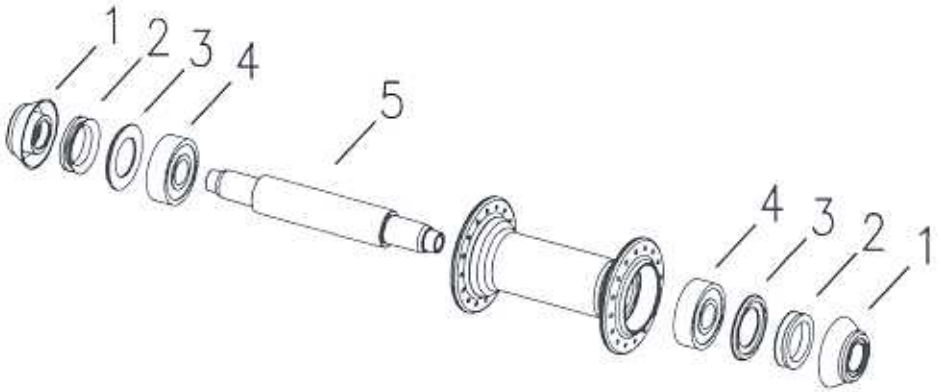
Pos.	Description	Part No.
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2	V-Seal V 16	vxrxxx001030
3	FW-Dust cap `98	vxrmxx003019
4	Bearing 6001	vvrmxx003005
5	FW-Axle MTB	vvrmxx003002

Spare parts list rear wheel road `98



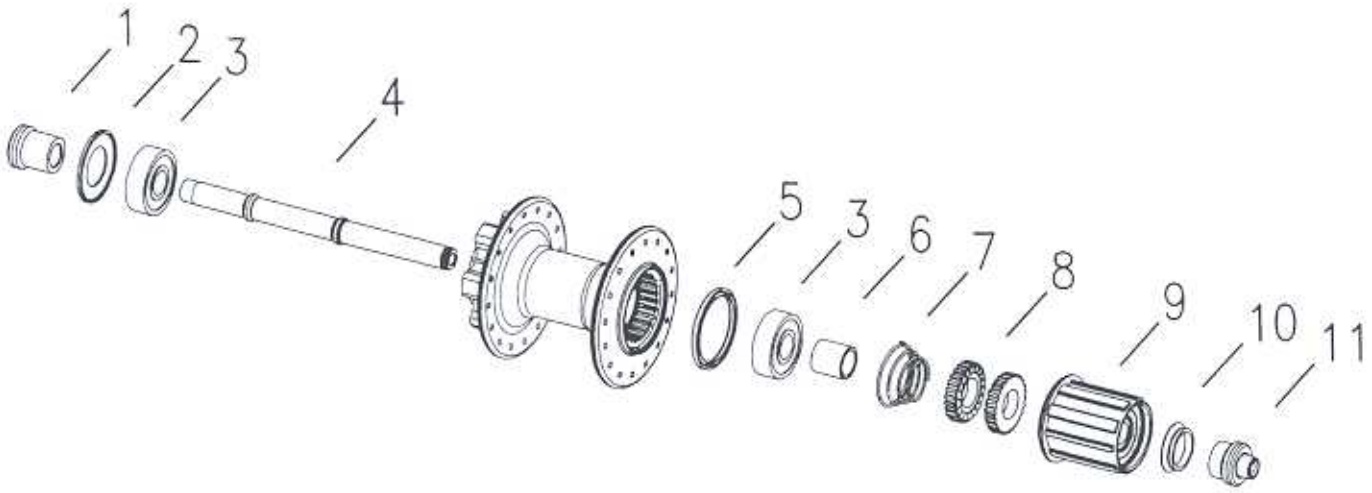
Pos.	Description	Part No.
1	RW-Adapter 130mm (left side) `98	vehsxx001051
2	V-Seal V 16	vxrxxx001030
3	Bearing 6000	vxrxxx001002
4	RW-Dust cap (left side) `98	vxrxxx001029
5	RW-Axle 130mm `98	vx3sxx001050
6	Seal hub shell/ rotor `98	vxrxxx001031
7	Spacer 13,5mm (steel)	vxrxxx001003
8	Conical spring	vxrxxx001008
9	Star ratchet	vxrxxx001006
10	Rotor `98 aluminum	vxhxax001033
	Rotor `98 steel	vxhxsx001034
11	RW-Adapter right side `98 (Rotor)	vehxxx001035

Spare parts list front wheel road `98



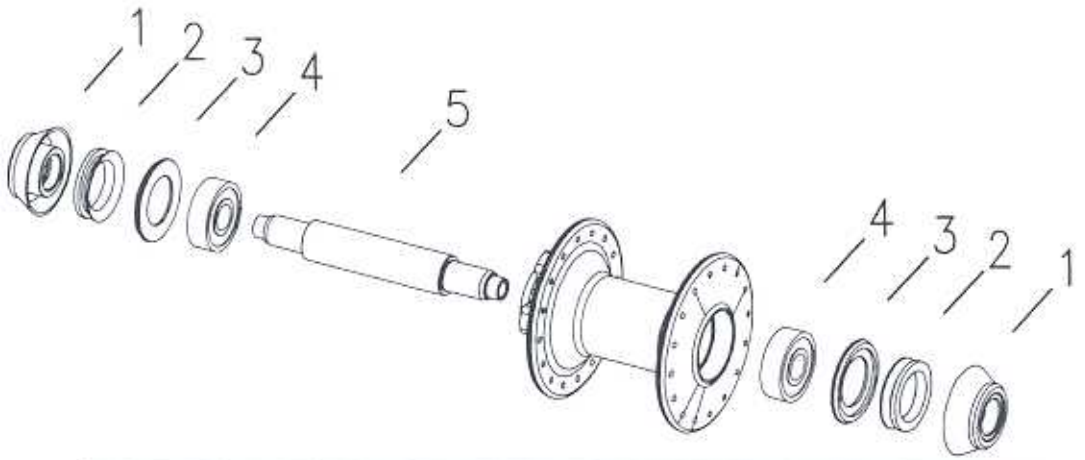
Pos.	Description	Part No.
1	FW-Adapter MTB`98	vehmxx003025
2	V-Seal V 16	vxrxxx001030
3	FW-Dust cap `98	vxrmxx003019
4	Bearing 6001	vvrmxx003005
5	FW-Axle MTB	vvrmxx003002

Spare parts list rear wheel disc brake `98



Pos.	Description	Part No.
1	RW-Adapter disc brake (left side)	vehdxx001449
2	RW-Dust cap (hub shell)	vxrxxx001016
3	Bearing 6000	vxrxxx001002
4	RW-Axle 135mm `98	vx5mxx001207
5	Seal hub/rotor `98	vxrxxx001031
6	Spacer 13,5mm (steel)	vxrxxx001003
7	Conical spring	vxrxxx001008
8	Star ratchet	vxrxxx001006
9	Rotor `98 aluminum	vxhxax001033
	Rotor `98 steel	vxhxsx001034
10	V-Seal V 16	vxrxxx001030
11	RW-Adapter (Rotor) right side `98	vehxxx001035

Spare parts list front wheel disc brake `98



Pos.	Description	Part No.
1	FW-Adapter MTB`98	vehmxx003025
2	V-Seal V 16	vxrxxx001030
3	FW-dust cap `98	vxrmxx003019
4	Bearing 6001	vvrmxx003005
5	FW-Axle MTB	vvrmxx003002

Assembly / disassembly tool `95



















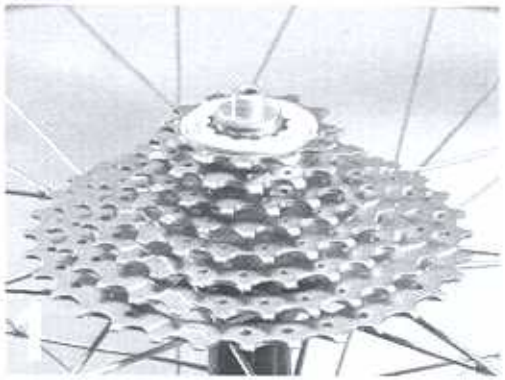




Pos.	Description	Part No.
1	Long rear wheel installation cylinder	vwxxxx005017
2	Short rear wheel installation cylinder	vwxxxx005016
3	Front wheel installation cylinders	vwxxxx005008
4	Installation tool for seal `98	vwxxxx005018
5	Special screwdriver	vwxxxx005019
6	DT Hügi 17mm wrench	vwxxxx005014
7	Installation tool for seal `95	vwxxxx005003
8	Multi-purpose grease (ASEOL Aquares LT 810-61)	vFettmzweck
9	DT Hügi special grease MOLYKOTE TP 42 (with 5% mineral oil additive)	vFett20
10	Axle holder (Park Tool)	---
11	Synthetic head hammer	---

Tool kit for `95 and `98 hub (Parts 1-9)	vwxxxx98Satz

Removing the rear hub `95



1. Remove the sprocket set from the rotor.



2. Remove the left-hand adapter by hand or using a vise.



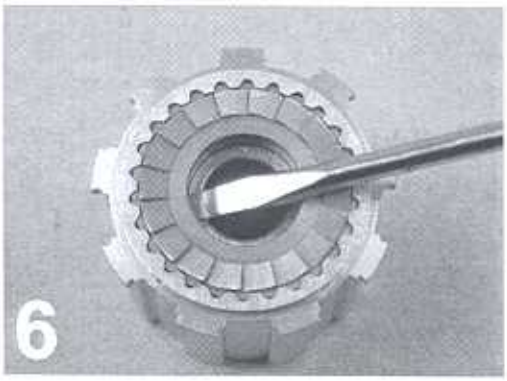
3. Hold the axle using a Park Tool axle holder (or similar)



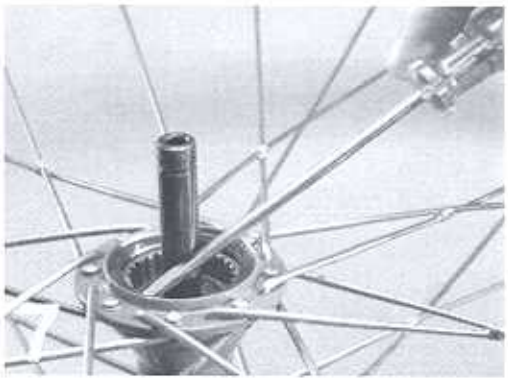
4. Loosen the adapter using the 17mm wrench and remove the washer which lays between the adapter and the rotor.



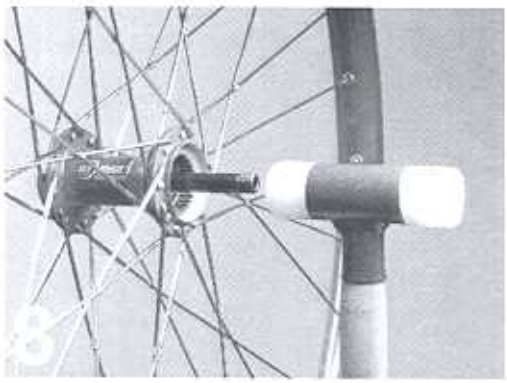
5. Remove the rotor, then pull the ratchet, the spring and spacer out of the housing.



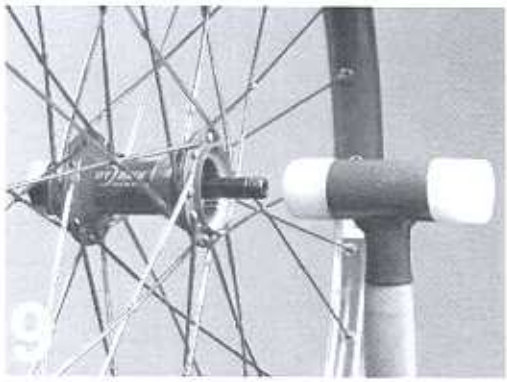
6. Use a screwdriver to gently pry the ratchet out of the rotor.



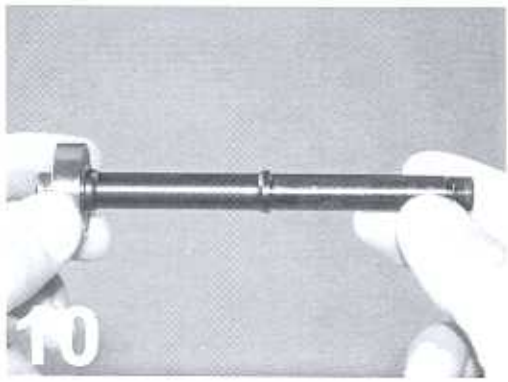
7. Use a screwdriver to gently remove the seal.



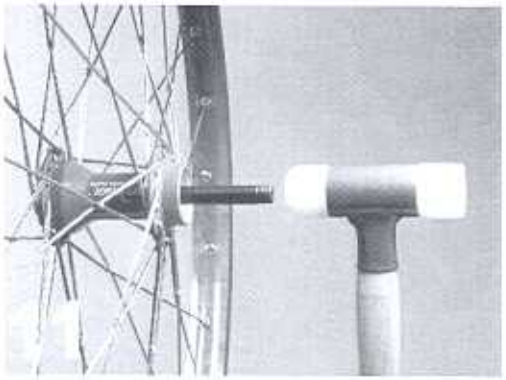
8. Use a synthetic head hammer to hammer the axle from the housing.



9. Remove the axle.



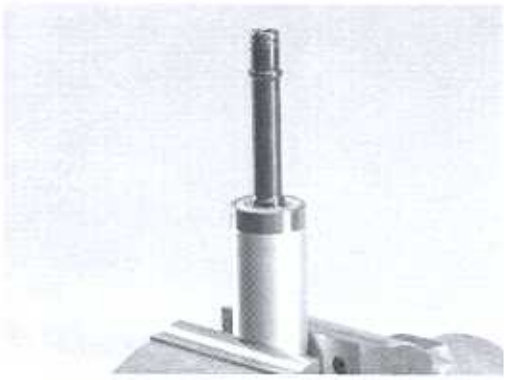
10. Pull the bearing off the axle.



11. Turn the dismantled axle around and insert it into the hub housing until the axle collar butts against the bearing. Use a synthetic head hammer to hammer the second bearing out.



12. Thoroughly remove the old grease from inside the hub housing using a toothbrush (use a cleaning agent).

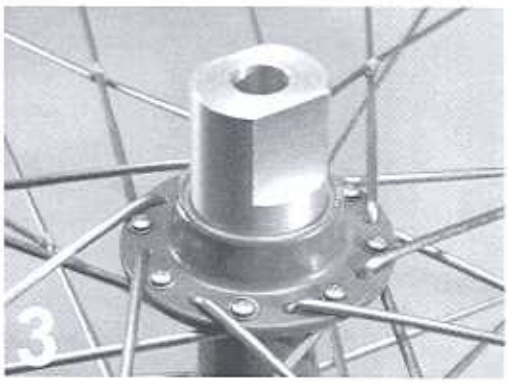


Installing the rear hub rotor `95

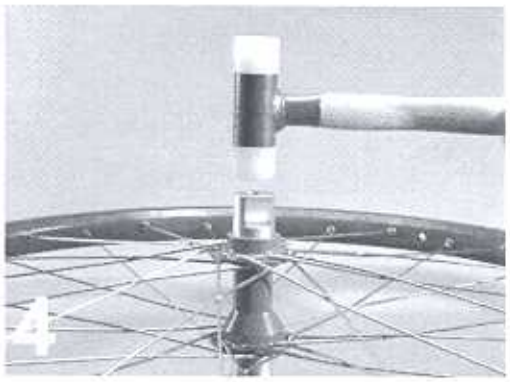
1. Clamp the long rear wheel installation cylinder into a vise and insert the short end of the axle together with the new 6000 bearing (grey side uppermost) into the cylinder.



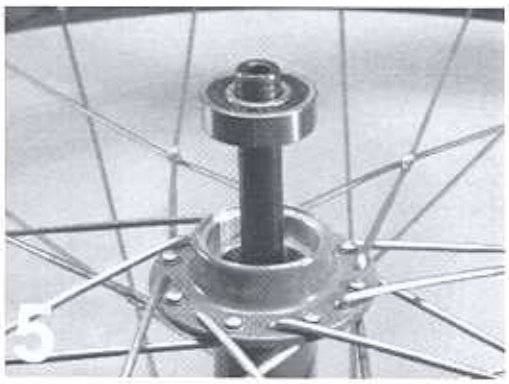
2. Slide the drive side of the wheel over the axle.



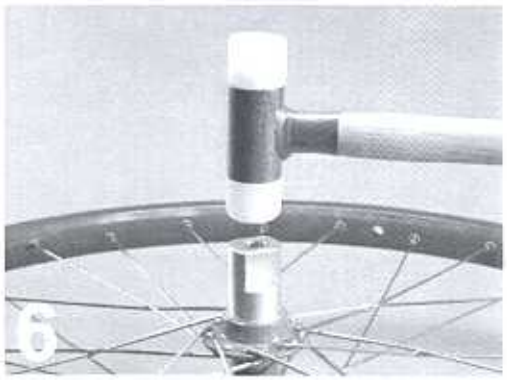
3. Slide the short cylinder over the axle.



4. Press the first bearing into place using the hammer.



5. Pull the axle out approx. 10mm (half an inch). Push the second 6000 bearing (black side uppermost) over the axle.



6. Push the short cylinder over the axle. Press the second 6000 bearing into place using a synthetic head hammer. Remove the short cylinder.

When you turn the axle, you should not be able to feel any irregular friction. Push and pull the axle in order to make sure that there is no play in the axle.



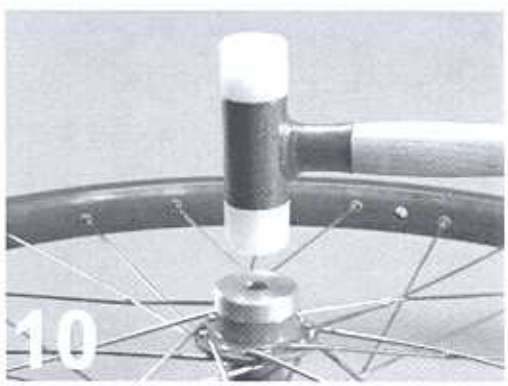
7. Lubricate the bearing using commercially available multi-purpose grease and paint brush.



8. Position the dust cap with its collar facing inwards.

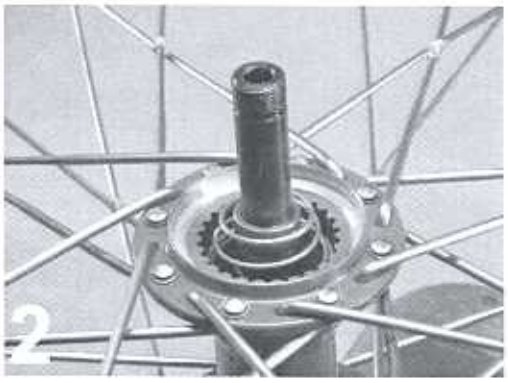


9. Lay the seal installation tool onto the axle.



10. Press the dust cap into place using the hammer.









Installing the freewheel `95

1. Hold the axle holder in a vise and insert the axle into it. Lightly grease the toothing in the housing using DT Hügi special grease.

2. Push the spacer down over the axle until it butts against the bearing. Insert the spring (large diameter on bearing ring). After insertion the spring must be rotated through approx. 180 degrees so that it lays against the bearing ring.

Star ratchets

Carefully clean the star ratchet with a dry cloth. Inspect both star ratchets for damage. If any damage is visible, the parts must be replaced using original DT Hügi components. **LIGHTLY** grease both star ratchets.

CAUTION :

Never use normal grease in the freewheel mechanism, because this will impair the function of the star ratchet teeth. Only use DT Hügi recommended special grease for this procedure !

Before positioning the ratchet in the rotor, check that the rotor bearing spins cleanly without binding. If any binding or scratching is detected, replace the rotor with a new or reconditioned one.

3. Place one ratchet, with its toothing towards the outside, into the rotor.

4. Place the second ratchet onto the one installed in step 3. Before installing the seal, the seal collar and its contact should be greased.

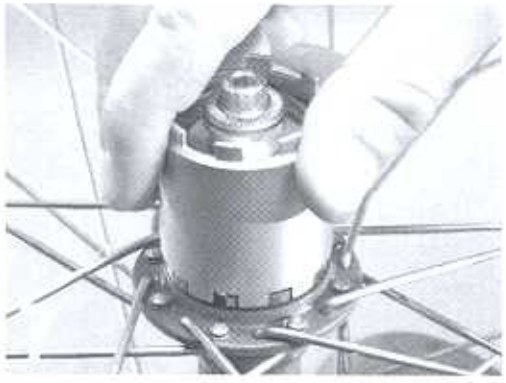
Make sure that the black side of the seal is laying against the rotor. Turn the seal so that the sealing lip clicks into the groove.



5. Push the rotor together with the sprocket set and ratchets over the axle.



6. Tighten the adapter using 17 Nm (13lbs/ft).



7. Depending on the make of the rotor (Shimano or Campagnolo), one or the other side of the seal installation tool can be used for centering the seal. Position the teeth of the installation tool in such a way that they fit between the teeth of the rotor. Hold the tool tight and turn it towards the left, at the same time exerting slight pressure on the hub housing.



8. After assembling the hub, check its function by giving it a sharp, quick spin.

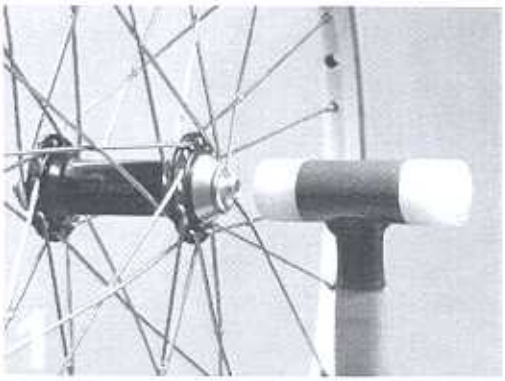
CAUTION :



If the ratchets do not catch, there could be too much grease inside the rotor or the wrong type of grease was used. In this case, remove some of the grease or replace it using grease of the correct type.

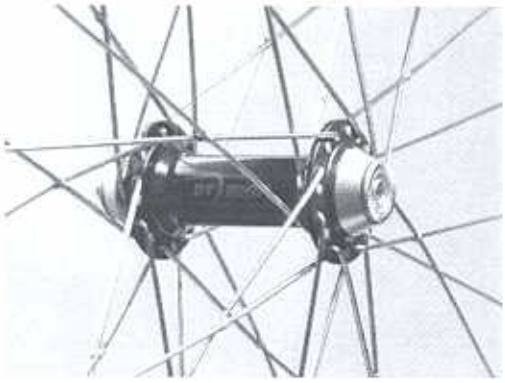


9. Push the left-hand adapter over the axle. Check that the adapter fully clicks into place.

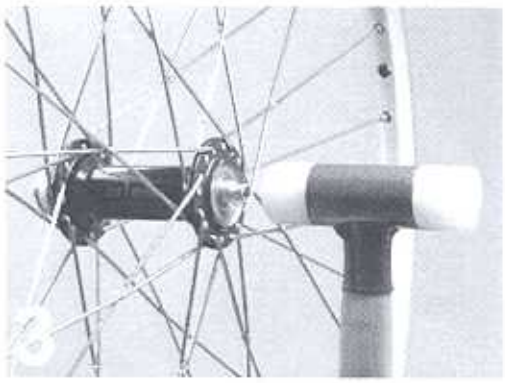


Removing the front hub `95

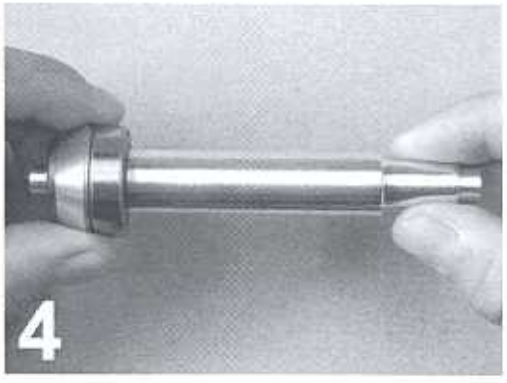
1. Tap the end of the axle using a synthetic head hammer until the axle reaches the adapter.



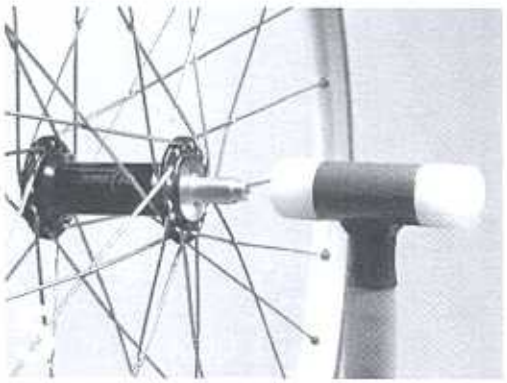
2. Lift off the adapter.



3. Tap the axle out of the hub using the same type of hammer.



4. Slide the adapter, covering cap and bearing off the axle.



5. Insert the axle back into the hub and tap the second bearing out.

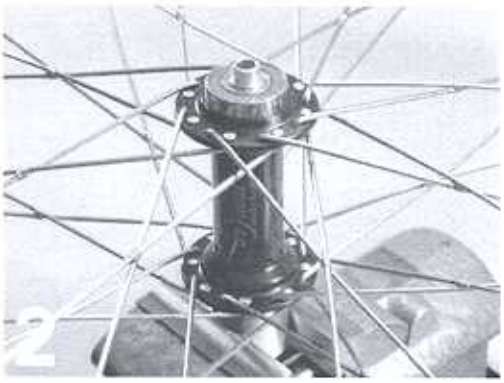
CAUTION:

All components should be cleaned and inspected. If any cracks or other damage is visible, the parts must be replaced using original DT Hügi components.

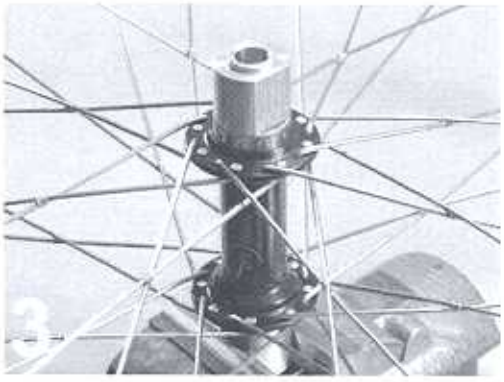


Installing the front hub `95

1. Clamp the front wheel installation cylinder into a vise. Place the new 6001 bearing (black side inwards) together with the front axle into the cylinder.



2. Place the wheel onto the axle and install the second 6001 bearing, with its black side inwards, over the axle.

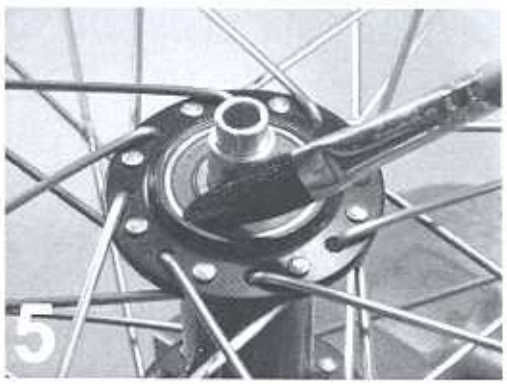


3. Center the wheel using the second front wheel installation cylinder.



4. Press both bearings into place using the hammer.

When you turn the axle, you should not be able to feel any irregular friction. Push and pull the axle in order to make sure that there is no play in the axle.

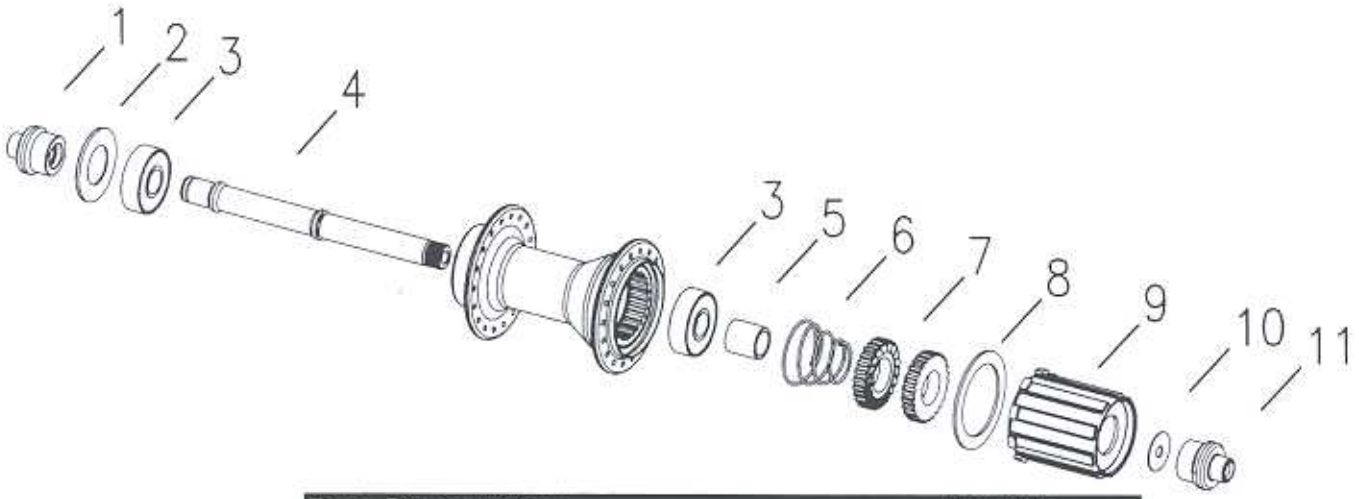


5. Grease the bearing well using commercially available grease and a paint brush.



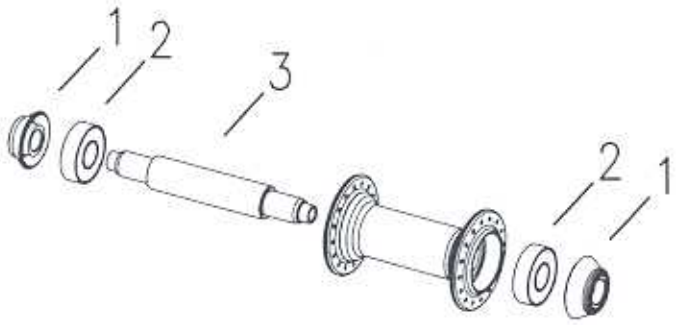
6. Replace the adapter.

Spare parts list rear wheel MTB `95



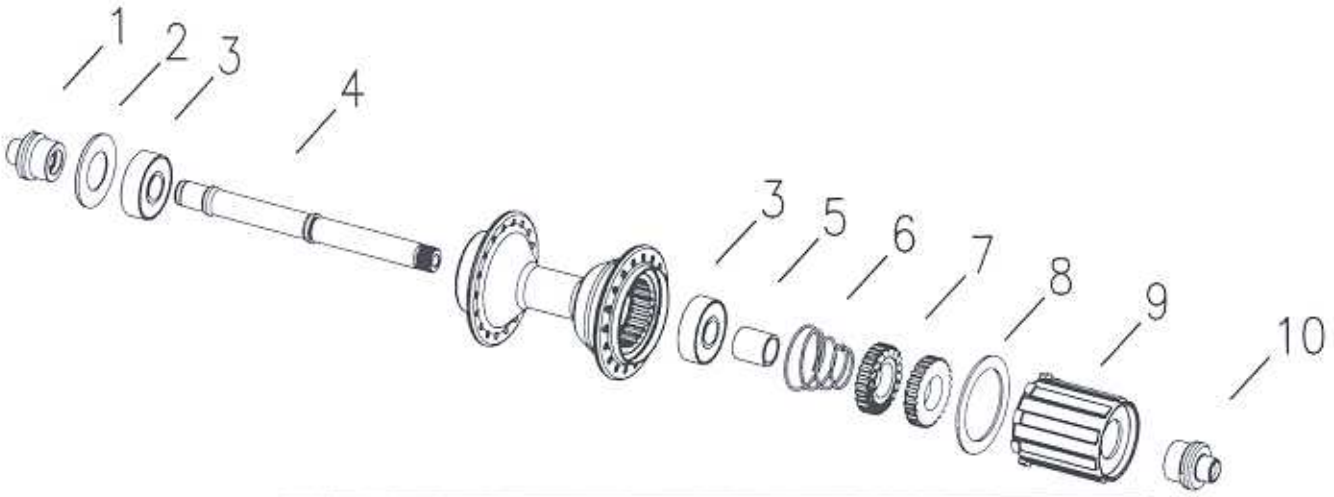
Pos.	Description	Part No.
1	RW-Adapter(135mm)	vxhxxx001213
2	RW-Dust cap	vxrxxx001016
3	Bearing 6000	vxrxxx001002
4	RW-Axle	vxrxxx001004
5	Spacer 13,5mm (steel)	vxrxxx001003
6	Conical spring	vxrxxx001008
7	Star ratchet	vxrxxx001006
8	Seal RS 905	vxrxxx001009
9	Rotor aluminum/ Shimano	vxhxax001005
	Rotor aluminum/ Campagnolo	vxhxcx001005
	Rotor steel/ Shimano	vxhxsx001005
	Rotor titan/ Shimano	vxhxtx001005
10	MTB-Washer (Rotor)	vxrxxx001019
11	RW-Adapter (Rotor)	vxhxxx001012

Spare parts list front MTB `95



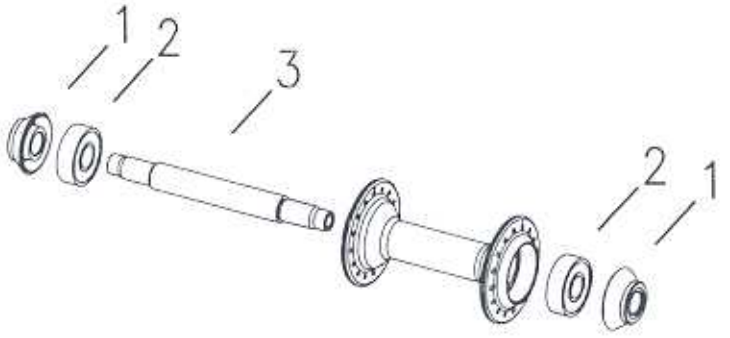
Pos.	Description	Part No.
1	FW-Adapter MTB	vvhmxx003003
2	Bearing 6001	vvrmxx003005
3	FW-Axle MTB	vvrmxx003002

Spare parts list rear wheel road `95



Pos.	Description	Part No.
1	RW-Adapter (130mm)	vxhxxx001013
2	RW-Dust cap	vxrxxx001016
3	Bearing 6000	vxrxxx001002
4	RW-Axle	vxrxxx001004
5	Spacer 13,5mm (steel)	vxrxxx001003
6	Conical spring	vxrxxx001008
7	Star ratchet	vxrxxx001006
8	Seal RS 905	vxrxxx001009
9	Rotor aluminum/ Shimano	vxhxax001005
	Rotor aluminum/ Campagnolo	vxhxcx001005
	Rotor steel/ Shimano	vxhxsx001005
	Rotor titan/ Shimano	vxhxtx001005
10	RW-Adapter (Rotor)	vxhxxx001012

Spare parts list front wheel road `95



Pos.	Description	Part No.
1	FW-Adapter MTB	vvhsxx002003
2	Bearing 6000	vxrxxx001002
3	FW-Axle road	vvrsxx002002

Warranty information

DT Swiss, Inc. based in Biel (Switzerland) guarantees DT Hügi products for one year (12 month) from the date of purchase against material or production defects.

Please keep your proof of purchase and see your dealer (US-customers contact DT-USA, Grand Junction, Colorado) in the case of a warranty claim.

DT Swiss, Inc. will repair or replace products which, according to their evaluation, are faulty. No other claims will be considered.

The warranty does not apply to:

- normal wear and tear
- incorrect installation or the use of DT Hügi products together with unsuitable products
- incorrect maintance, repair, alteration or modification
- incorrect usage, bad handling, misuse, negligence, carelessness, commercial usage or use in competition
- transportation damage

Neither DT Swiss, Inc. its representatives nor agents can be held responsible for indirect damage or injuries caused by, or as a result of, accidents.

The warranty is not extended if a product is replaced

Subject to change on technical grounds.

Seat of jurisdiction is Biel (Switzerland).
Swiss law applies.

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For further information please refer to the importer listed below:

Version 01/09.1998