MANUAL

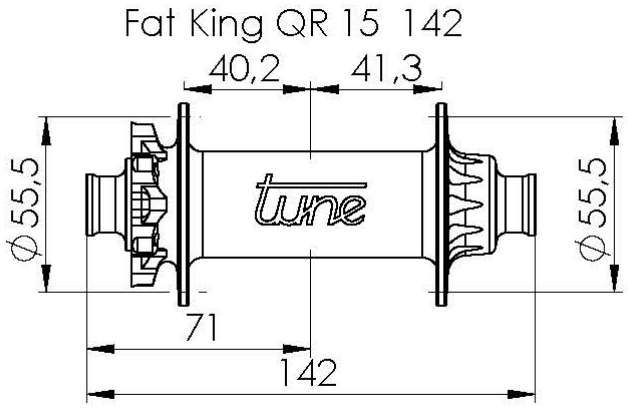
FAT KING
FRONT HUB

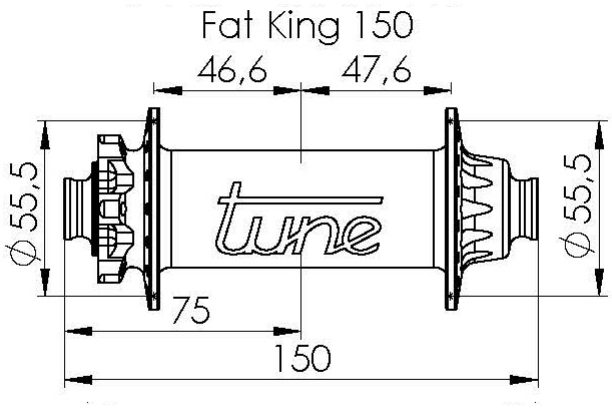
BORN IN THE BLACK FOREST BUILT TO ENJOY NATURE
As of May 2016

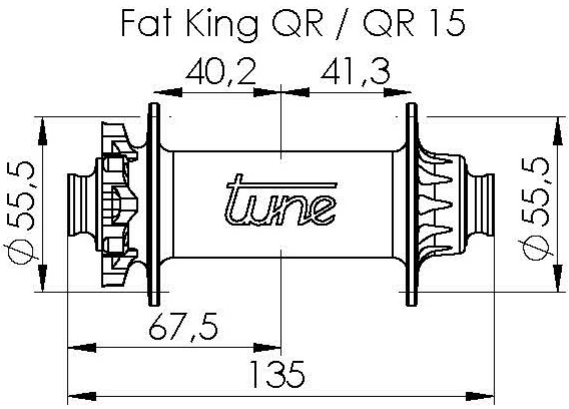
Number of holes	32
Disc mount	6-hole (IS2000)
Hub spacing	135mm (QR5 / QR15), 142mm (QR15), 150mm (QR15)
Axle diameter	17mm
Colours	black, silver, red, gold, blue, green, orange, froggy-green and white (powder-coated)
Bearings hub body	2 specific Tune grooved ball bearings (2x 61803)
Sealing	dust cap, washer and rubber lip seal
Weight limit	none

Material:

Hub body	aluminium, CNC machined
Axle	aluminium, CNC machined
Endcaps	aluminium, CNC machined







Instructions

General:

- Before every ride, make sure that your tune product is in a good condition and functioning properly. If there seems to be any irregularities the product should not be used. Contact your retailer for help.
- The Quickrelease resp. the Thru-axle must be mounted properly.
- Never clean your Tune products directly with high water pressure (pressure cleaner) and do not use aggressive detergents.
- Only use tires that suit the rim, pay attention not to exceed the maximum tire pressure of the rim and tire.

Maintenance:

The hub should be maintained at least once a year. If used in extreme conditions (rain, mud, salted streets, transport in the rain) regularly, the hub should be maintained more often. A regular service supports the technical condition, as well as the durability of the hub.

What does the regular maintenance include?

- The mounted hub, with removed brake disk, should be cleaned. Afterwards it should be undertaken a detailed visual and technical examination.
- When disassembled, the bearings should be examined. The maintenance is described in detail below.

Installation of the brake disc:

- The disc brake must be mounted with a tension of 4-5Nm.
- Possible old thread-locking remains must be removed before mounting the brake disc.

Clamping methods:

Nearly all Tune hubs can be used for Quickrelease or different Thru-axle systems, by using the according endcap.

	Short-code	Type	Width (Fat Kong, Fat King)
FRONT	QR5	Quickrelease	135mm
	QR15	15mm Thru-axle	135mm, 142mm, 150mm
	QR20	20mm Thru-axle	
REAR	QR5	Quickrelease	170mm, 190mm
	Maxle	12mm Thru-axle	170mm, 190mm
	X-12	12mm Thru-axle	177mm, 197mm

Lacing:

The Tune hub must not be laced radially. Triple crossed spokes are optimal, however they must be crossed at least twice. It´s allowed to tie the spoke crossings with carbon. The construction of twisted laced or tied and soldered spoked wheels is forbidden.

FAT KING:

The highest permitted spoke tension is **1100N.**

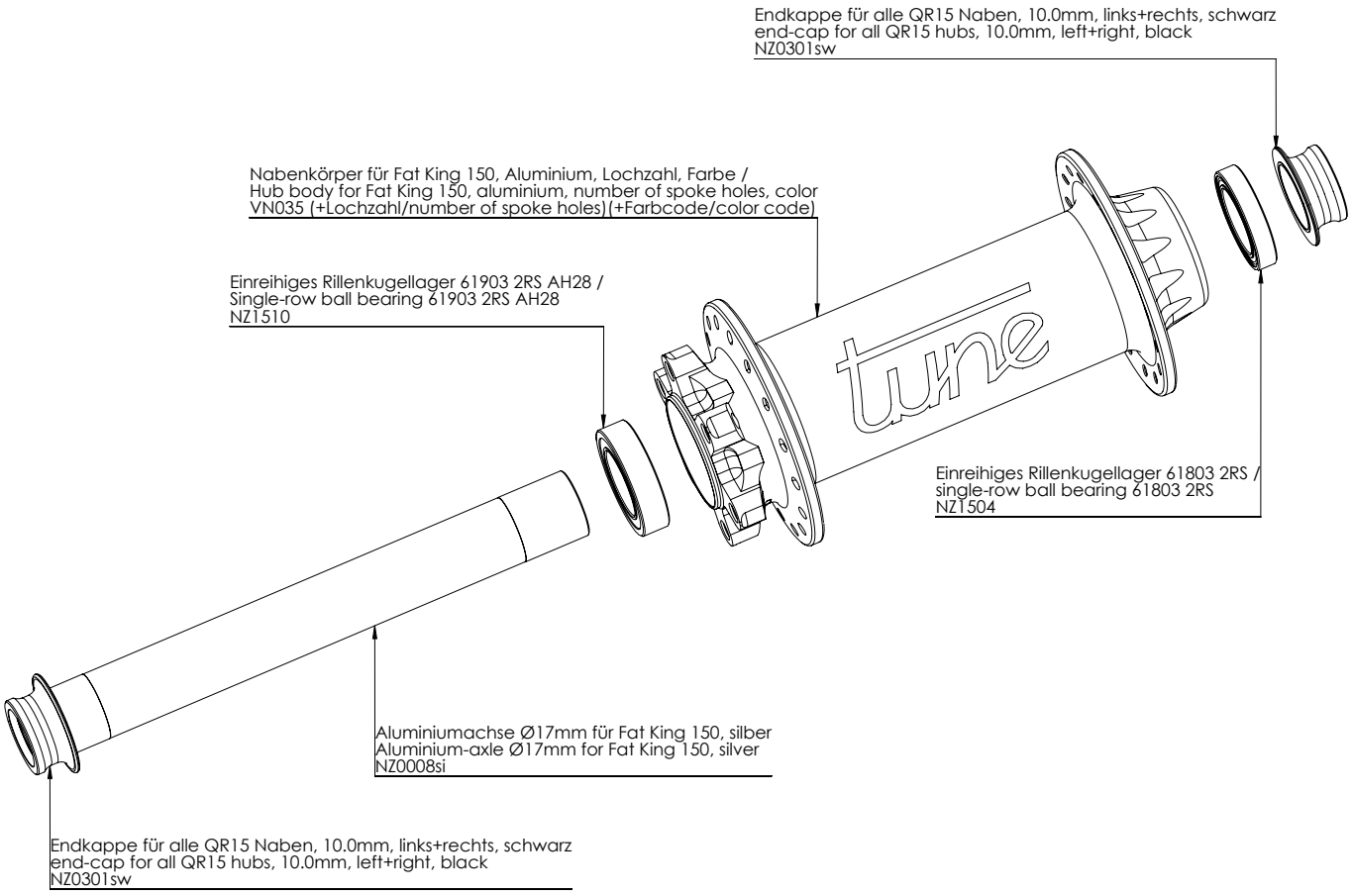
Pitch circle diameter Ø	55.5mm
Distance hub flange to wheel center line (l / r)	40.2mm / 41.3mm (QR5, 135mm width) 40.2mm / 41.3mm (QR15, 142mm width) 46.6mm / 47.6mm (QR15, 150mm width)
Spoke hole diameter Ø	2.4mm

Construction of the hub:

This hub is built up from firmly connected parts, i.e. the axle goes all the way through, with endcaps at both sides, and all parts are fixed exactly in place.

Tune uses specific bearings not available from any other manufacturer. The bearings distinguish themselves by there unusual high amount of special grease and a radial play adjusted for the use. The bearings have a double slid sealing, the hub therefore will run comparatively sluggishly when new. This will change after the first rides, when the grease has been dispersed evenly in the ball-bearings and the seals are working optimally.

Spare parts can be ordered through your local Tune retailer.



The construction is identical for hubs with Thru-axle or different freewheel body types, only the endcaps differ.

Disassembly and assembly of the hub:

Important notes:

- All contact surfaces, except between the bearings and the hub body, should be greased.
- Always remember the exact position of all parts.
- Please contact your dealer, if you feel insecure, don´t have appropriate skills or the needed equipment.

Needed tools / material:

- tool kit **Tune Tool 08** (No. BWZ0000)
- plastic hammer
- an rob (old Quickrelease axle)
- hot air blower
- vernier caliper
- 1 Grease (we recommend Molykote Rapid Plus Paste, alternative bearing grease)
- 2 Glue (e.g. 3M Scotch-Weld TL-70, Loctite 641)

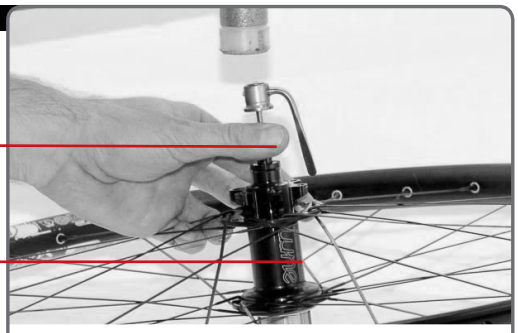
This manual leads you through the complete disassembly, assembly and adjustment of the hub. Not all steps have to be carried out maintaining the hub.
If you only want to adjust the bearing play you can start with the first step **„Removing the endcap“** afterwards you can continue with the step **„Setting the bearing play“.**

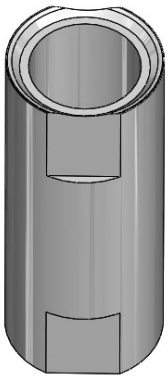
1 Removing the endcap

Needed tools:

- plastic hammer
- old Quickrelease axle
- main tool **TT08.1**
- For Thru-axles**:**
  TT08.4

fig.1





For Quickrelease hubs:
The hub gets placed on the main tool **TT08.1** with the brake disc side showing up.
An Quickrelease axle gets pushed through the left endcap into the hub axle, so that it touches the inner side of the right endcap.
The right end cap can now be pushed of the axle by hitting the Quickrelease with the plastic hammer.

For Thru-axle hubs:
The endcap of hubs with a Thru-axle can be pulled of using the tool TT08.4. Hereto thread the thorn of the tool into the notch of the axle on the right side. Now you can pull the end cap of the axle.

fig.2

2 Removing the axle

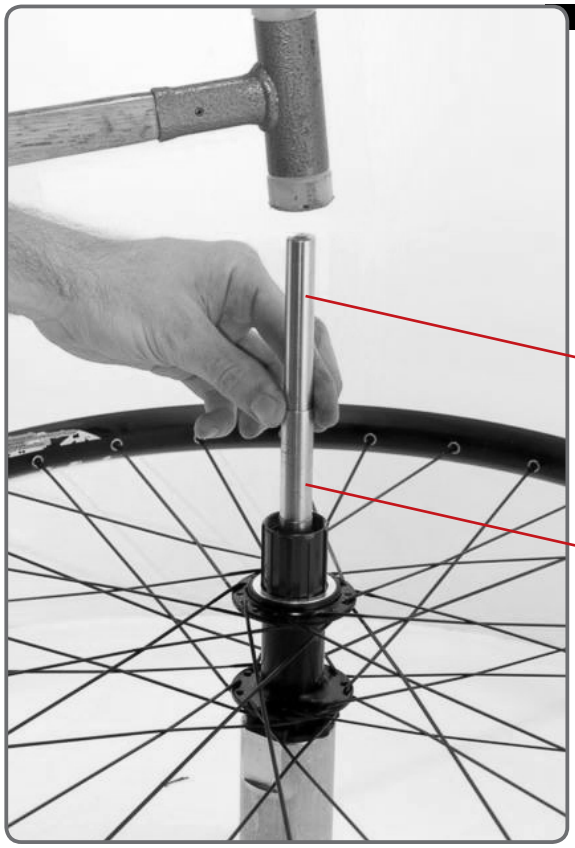


fig.3

Needed tools:

- plastic hammer
- TT08.3 article No. WZ0201
- TT08.2 article No. WZ0202
- TT08.1 article No. WZ0200

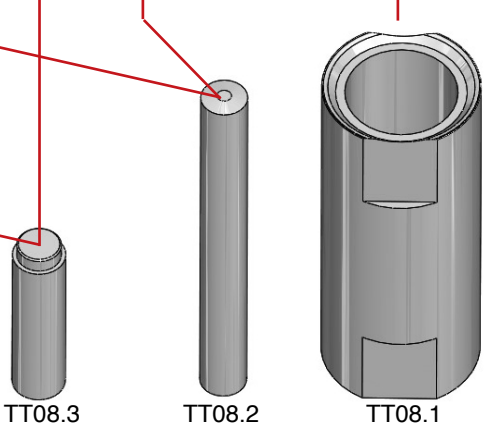


fig.4

Place the hub on the main tool **TT08.1** and push out the axle to the left (brake disc side). Use the tool **TT08.2** with the adapter **TT08.3.** fig. 4

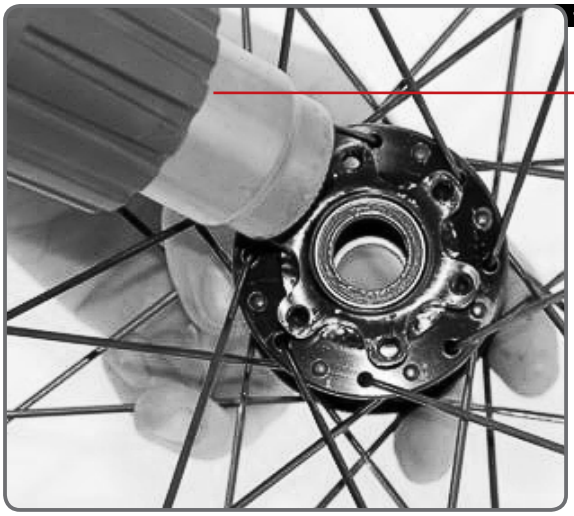


fig. 5

4 Removing the bearings

Needed tools:

- hot air blower
- TT08.2
- TT08.1

TT08.2

For easy removal of the bearing heat the hub body slightly. This loosens the glue and the aluminium expands. fig. 5

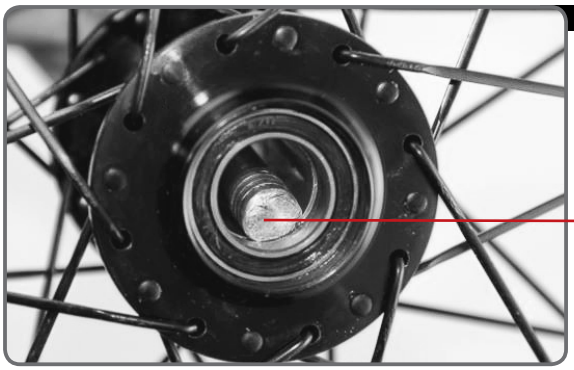


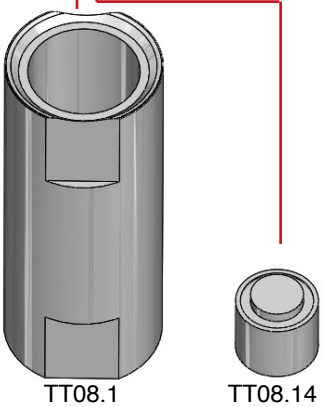
fig. 6

Now the bearings can be pushed out using the tool TT.08.2 and a plastic hammer. Always dispense the force all around the bearing to not damage both the bearing and the hub body. fig. 6

5 Installing a new bearing

Needed tools:

- TT08.1 No. WZ0200
- TT08.14 No. WZ0209
- plastic hammer
- glue 2



TT08.1 TT08.14

fig. 7

fig. 8

Tip:

Let the glue 3 dry before installing the axle and freewheel body. By doing so the bearings can not move while assembling.

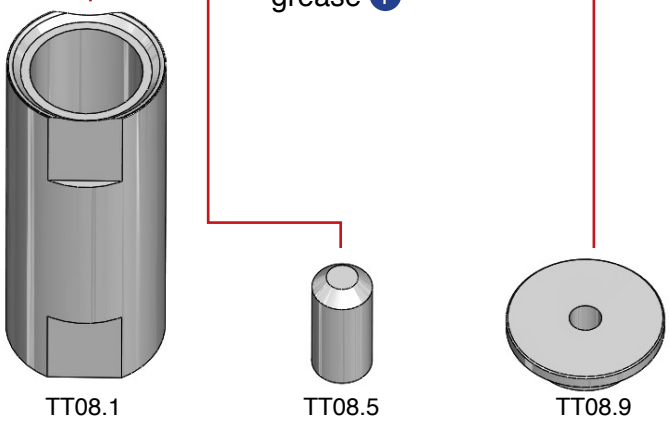
The cleaned bearing seat gets covered with a thin layer of glue 3. The bearing gets pressed in with some light hits from a hammer fig. 8, using the correct sized fitting stamp fig. 7.

Pay attention to not cant the bearings and always only strain the outer ring of the bearing.

6 Reassembling the hub

Needed tools:

- TT08.1 article No. WZ0200
- TT08.5 article No. WZ0218
- TT08.9 article No. WZ0204
- plastic hammer
- grease 1



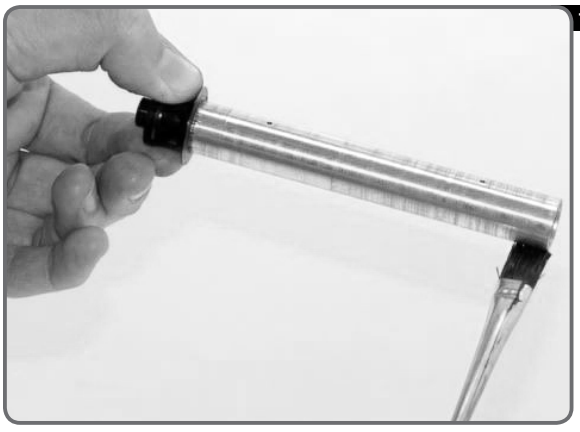
TT08.1 TT08.5 TT08.9

The axle gets slightly covered with grease 1 in the contact areas. **fig.10**

The hub gets placed on the main tool **TT08.1**. Using the tool **TT08.5** and a plastic hammer the axle gets pushed back into the hub. **fig.19**

fig.9

fig.10



Release axle and bearings

Place the hub on the main tool with the extra attachment **T08.9**, that only the left endcap touches the tool. Using the tool **TT08.5** and a plastic hammer hit the axle softly. **fig.11** By doing so, strain is taken of the axle and the bearings.

fig.11

7 Setting the bearing play

Reasons for bearing play can be worn bearings, a damaged axle or just the adjustment. A certain bearing play is normal and enables a soft and smooth rotation.

The axial bearing play is adjusted with washers. These are available in 0,1mm (NZ1604), 0,15mm (NZ1605) and 0,2mm (NZ1606) width. The washers are placed between the outer freewheel bearing and the right endcap. We adjust the bearing play during production for every hub in manual labour. With wear, or when new bearings are installed, the bearing play has to be readjusted.

Needed tools:

- TT08.1 No. WZ0200
- TT08.9 No. WZ0204
- TT08.5 No. WZ0218
- plastic hammer
- vernier caliper
- grease (1)

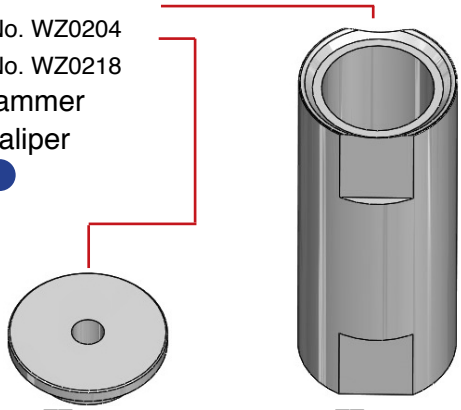


fig.12

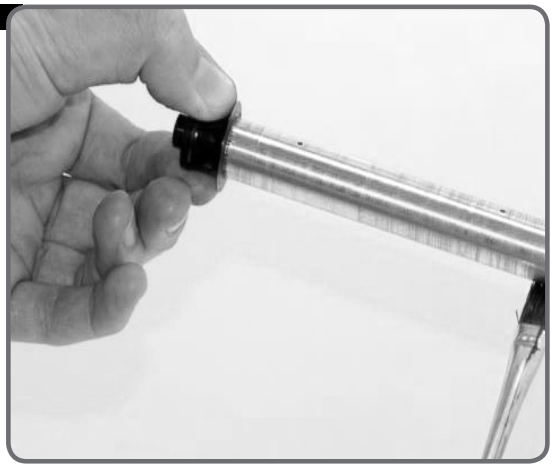
Now the open end of the axle on the right side has to be measured. With the depth gauge of a vernier caliper measure the axle from the inner ring of the bearing to the end of the axle. The measurement has to be extremely precise, we recommend to repeat the measurement a couple of times. fig.12

From the measured length **(e.g.: 9.8 mm)** subtract the depth of the endcap **(e.g.: 9.2 mm, see chart)**. The difference is the axial bearing play (**here 9.8 - 9.2 = 0.6 mm**).

The optimal axial bearing play amounts 0.15 - 0.20 mm. The difference between the **measured open end of the axle (e.g.: 9.8 mm)** and the **depth of the endcap (e.g.: 9.2 mm, see chart)** has to be adjusted to 0.15 - 0.20mm using washers. fig.13

The axial bearing play is adjusted perfectly, if the length of the open end of the axle with washers is set to the amounts given in the chart.

fig.13



Endcap (always on the right side)	Depth of the endcap	Overstanding axle end with washers (with adjusted axial play)
QR5 front	8.0 mm	8.15 - 8.20 mm
QR15 front	8.0 mm	8.15 - 8.20 mm

To finish of, the endcap is slightly covered with grease (1) on the inside. Now it can be pushed back on using a plastic hammer.

Now the wheel is usable again.

Service

Warranty:

Tune grants a two year warranty from the date of purchase on material defects and production errors. On bearings, rims and spokes we grant a one year Warranty, as these are wear parts. Claims can only be made if a copy of an original dealer invoice is presented.

There is no claim for warranty services in case of:

- normal wear
- improper use or careless treatment
- disregard of service instructions
- inappropriate repair, assembly, or maintenance works or negligence
- defects caused by wrong wheel building (spoke patterns, spoke crossings, spoke tension, etc.)

Warranty claims have to be sent to the local Tune distributor and are subject to the assessment of Tune. Based on this warranty, the company Tune is not liable for compensation, especially not for indirect damage caused by accidents, collateral damage and consequential damage. All anodized parts can bleach in sunlight.

Crash Replacement:

Tune offers a Crash Replacement in addition to the legal warranty. The service can be engaged if your Tune product is damaged and not be ridable any more, due to a crash, accident or overload .

Conditions:

- Due to our huge products variety, the discount we can give, is assessed individually for every case.
- The damaged part is replaced by the same model. Tune reserves the right to replace the damaged part with an equal alternative.
- The damage has to affect the functionality of the component (optical damage is excluded).
- Damaged parts pass into the ownership of Tune.
- The Crash Replacement offer does not cover the costs of transport and labour.

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Outside of Germany please contact your local distributor.

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