

CHANGE TIRES - THIS IS HOW IT WORKS!

THE COMPREHENSIVE

# WHEEL CHANGE GUIDE

NOTHING CAN GO WRONG WITH THAT



**PRINT  
&GO**

## THE IDEAL

# TOOLS FOR THE PERFECT WHEEL SWAP

- Gloves
- Car jack
- Trestle
- Telescopic wrench or cross wheel wrench
- Wrench sockets or impact sockets, preferably with plastic coating
- Torque wrench
- Box for wheel bolts
- Wheel bolts/nuts
- Wire brush
- Copper or ceramic spray
- Tyre chalk
- Tyre storage protocol
- Tread depth gauge



## PREPARATION

# SECURE, PREPARE, PROTECT

## 1. SECURE THE VEHICLE

Before you start, secure the vehicle so that it cannot roll away:

- ✓ Put on the hand brake
- ✓ In vehicles with manual transmission: engage a gear
- ✓ In vehicles with automatic transmission: shift into "P"
- ✓ Stop the engine

In addition to that you may secure the car with wheel chocks.

**Important:** the vehicle should **always** be on a level surface. If the surface is steep or uneven the car may slip from the jack or trestle!



**Never change wheels on busy roads or at the roadside.**

## 2. PREPARE TOOLS AND MATERIALS

The tools you need for a wheel change can usually be found onboard of the vehicle (in the boot). Apart from the telescopic wrench they include the wheel lock if necessary and a hook to extract bolt covers. If you need anything else you should place it near the vehicle preferably.

If you are unsure, the manual of your vehicle also offers all necessary information, such as the position where to place the car jack for example. Most cars have a marking on the bottom of the vehicle.

## 3. PROTECT YOURSELF WITH GLOVES FROM DIRT AND INJURIES

Almost self-explanatory: wear gloves when changing your wheels. This is how you do not only protect yourself from annoying and stubborn dirt but you also significantly reduce the risk of hurting yourself on sharp-edged parts.

## REMOVAL

# LIFT, LOOSEN, UNSCREW, REMOVE

## 4. POSITION THE CAR JACK AND LIFT THE VEHICLE

Position the car jack under the marked position and lift it steadily until the contact surface touches the underbody of the vehicle. This way, the wheel cannot rotate when loosening the wheel bolts/nuts in the next step.



**Advice:** investing into a stable car jack pays off. Smaller models might save space but they also have a much smaller contact surface which results in a higher risk of the car slipping off.



## 5. LOOSEN THE WHEEL BOLTS

In the next step, the wheel bolts are loosened with the help of the telescopic wrench and the matching wheel nut. The plastic coating ensures that the rim is not scratched. To loosen the wheel studs, 1/4 turn counterclockwise is usually enough.



## 6. LIFT THE VEHICLE AND UNSCREW THE WHEEL BOLTS

After that, the vehicle is lifted until the wheel is hanging down freely. In order to protect yourself from the car slipping off the jack place a trestle under the vehicle in the middle between the front or rear wheels.

The wheel bolts, which have already been loosened, can now be unscrewed with the respective socket only and without using the telescopic wrench. There usually is a lot of tension on the last wheel bolt that can usually be reduced by slightly pressing one hand against the centre of the wheel and using the other hand to unscrew the last bolt. This also prevents the wheel from falling off the hub accidentally.



## 7. REMOVE THE WHEEL

Grasp the wheel with both hands firmly and lift it off the hub. Keep in mind to always pull the wheel straight towards your body.



## CONTROL & CLEANING

# CHECK, CLEAN, SEAL

### 8. CHECK THE AXLE

Once the wheel is removed it is possible to check the axle. Damages can usually be seen immediately. For example a broken spring or loose hoses.

### 9. CLEAN AND SEAL THE WHEEL HUB

You can use any commercially available wire brush to clean the wheel hub from dirt and rust thoroughly. After that, seal the wheel hub (and only the hub!) with ceramic spray to protect it from corrosion and facilitate the removal of the wheel when changing it again.

**⚠ Attention: If the wheel hub is not cleaned and sealed uneven spots of rust may lead to imbalances. This becomes noticeable when the steering wheel starts to vibrate while the car is moving.**



## MOUNTING

# PUT ON THE WHEEL, SCREW IN THE BOLTS, LOWER THE JACK, TIGHTEN THE BOLTS

### 10. PLACE THE WHEEL ONTO THE HUB


The first step is to place the "new" wheel onto the hub. Note the marking on the wheel (e.g. FL for front left) and position the wheel on the hub cautiously and straightly before turning it to make the bore holes match.





## 11. SCREW IN THE WHEEL BOLTS BY HAND

Now the wheel bolts can be placed into the thread and screwed in cautiously until the wheel is tightened and a resistance can be felt.

 **Attention:** If the bolt cannot be screwed in easily it is either misaligned or the thread is dirty or damaged. In any case stop turning in as this will inevitably cause bigger damages!



## 12. LOWER THE VEHICLE

With the bolts screwed in by hand the wheel cannot fall off the hub anymore. The car can now be lowered until the wheel slightly touches the ground. This way it cannot rotate when tightening the bolts afterwards.

 **Important:** Do not forget to remove the trestle before lowering the car!



## 13. TIGHTEN WHEEL BOLTS WITH TORQUE WRENCH

We highly recommend the use of a torque wrench to tighten the wheel bolts as otherwise you would risk to install the bolts either too tightly or too loosely. In the worst case this could lead to a wheel loosening, the thread being damaged or the bolt braking.

In order to avoid that, it is recommendable to invest into a torque wrench, which contains a spring that is tensioned to tighten the bolts with the exact force needed. The necessary tightening torque in Nm (Newton metres) can be found in the manual of the vehicle.

Once the correct value is set, the spring is locked and placed onto the bolt or nut using the respective socket. While tightening crosswise, the wrench starts clicking when the bolt has been firmly and correctly installed.



**Important: Always tighten the wheel bolts crosswise! Only this way you can ensure that the wheel has been mounted evenly.**



## STORAGE

# WASH, MARK, MEASURE

### 14. WASH UNINSTALLED WHEELS

When changing wheels people often forget to thoroughly clean the uninstalled wheels before placing them in storage. The result: brake dust and dirt damage the material and cannot be removed anymore later.

**This is why you should always wash your wheels thoroughly and check for residues before continuing with the next step.**

### 15. MARK THE WHEELS ACCORDING TO THEIR POSITION

When mounting the wheels again they should be installed in the same position of the car due to axle geometry and tyres with direction of rotation, which are becoming more frequent on the market. This is why you should mark the tyres with two letters: FL for front left, RR for rear right, etc.

### 16. MEASURE TREAD DEPTH AND NOTE IT DOWN

The last step before placing the wheels in storage is measuring the tread depth of the tyres. For that we recommend normal commercially available or digital tread depth gauges in order to obtain exact values. Note them down together with possible damages of the tyres in the tyre storage protocol.

## WRAP-UP

# CHECK, ACTIVATE, RETIGHTEN

## 17. CHECK THE TYRE PRESSURE

Over a longer period of time, stored wheels sometimes lose air. This is why after changing the wheels the first thing to be done is to check the tyre pressure at a petrol station. You can also do that with a tyre pressure compressor.

## 18. ACTIVATE THE TPMS SYSTEM

If a vehicle is equipped with an active tyre pressure monitoring system (TPMS) it needs to be recalibrated after every wheel swap. Depending on the model you can find more information in the manual of the car. After checking and adjusting the tyre pressure the TPMS can be programmed with the new values.

## 19. ACTIVATE THE TPMS SYSTEM

After a proper assembly process, please turn each complete wheel on the vehicle at least once by 360 degrees and check the clearance of the complete wheels regarding the brake and chassis components. In case of discrepancies, please contact us immediately to avoid any damage to the vehicle by using the complete wheels. We assume no liability for damage to the vehicle if you or your specialised garage do not comply with this duty of care.

## Watch these instructions in a video

Scan the QR code with your smartphone and watch these extensive step-by-step instructions in a detailed video.



[www.youtube.com/watch?v=GfOdhiQOajQ&feature=youtu.be](https://www.youtube.com/watch?v=GfOdhiQOajQ&feature=youtu.be) >

## CHECKLIST

# 7 THINGS YOU SHOULD NEVER FORGET WHEN CHANGING TYRES

- ✓ ALWAYS wash and mark the wheels before placing them in storage
- ✓ Retighten wheel bolts after 50 km
- ✓ Change wheels only on level surfaces
- ✓ Put oil and fat only on the hub, NEVER on the threads
- ✓ ALWAYS tighten wheel nuts crosswise
- ✓ If you are unsure check the manual of your vehicle
- ✓ DO NOT screw in rusty wheel bolts or nuts

At a tread depth of 4 mm the grip of tyres, especially of wide tyres, is already significantly reduced on wet roads. **This is why you should never use tyres down to the legal minimum tread depth of 1.6 mm.**



**Replace summer tyres at 3 mm, winter tyres at 4 mm remaining tread depth!**

## Need new tyres?

Profit now from our huge variety of wheel and tyre packages.

- ✓ 4 ready-to-mount complete wheels
- ✓ Including 4 TPMS sensors and accessories
- ✓ Balancing by specialised staff

In our Shop

