

# LASER®

# Instructions



## Introduction

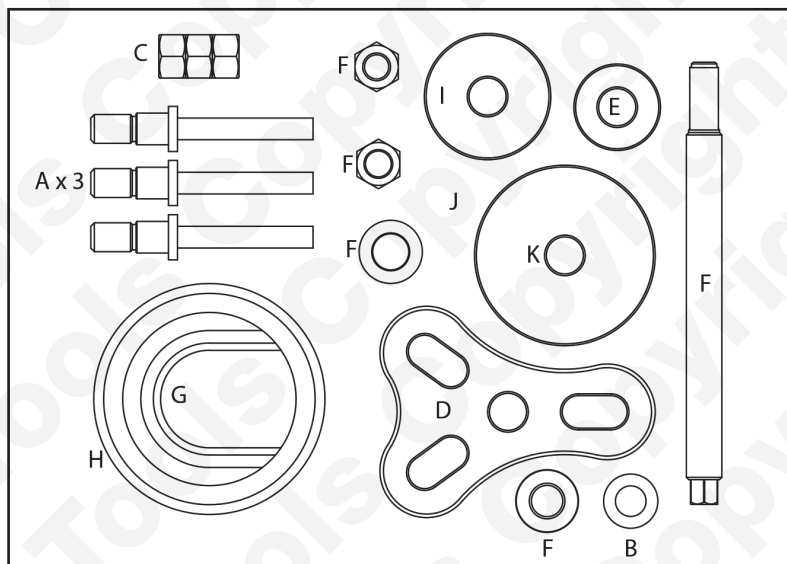
The Laser 8446 wheel bearing kit has been specifically designed to allow the Mercedes-Benz Vito & Viano rear wheel bearings to be removed and fitted on vehicle with the minimum amount of component removal required.

The kit has been designed to ensure the bearing is fitted by applying pressure to the outer casing of the bearing only to ensure no damage to the new bearing.

- Applications Include: Mercedes-Benz chassis type W639 including Viano (from 2003), Vito Mixto (from 2003), Vito Mini Bus (From 2003), Vito Van (from 2003).
- Special 'C' plate for safe removal of the inner bearing ring from the drive flange included, no need to use an angle grinder!
- This kit has been designed so the ABS sensor does not need to be removed.
- Designed to work with OEM bearing numbers 639 981 04 27, A 639 981 04 27, 713667980, 639 334 00 06.

**IMPORTANT:** ensure the threaded bar & thrust bearing are well lubricated with molybdenum disulphide grease before use.

## Components



Ref.	Description	Spare Part No.
A	Compression Rods x3	61972
B	Washers (use with A) x3	
C	Nuts (use with A) x3	
D	Force Plate	
E	Hub Extraction Plate	
F	Force Screw Assembly	61973

Ref.	Description	Spare Part No.
G	Inner Race Removal Wedge	
H	Support Ring	
I	Outer Race Removal & Hub Insertion Plate	
J	Bearing Insertion Plate (under K)	
K	Bearing Reaction Plate (larger diameter)	

## Instructions

The following instructions are for guidance only; please refer to OEM derived data such as the vehicle manufacturer's own data or Autodata. The use of this bearing tool kit is purely down to the user's discretion and Laser Tools cannot be held responsible for any damage caused whatsoever.



## Applications

Make	Model	Year	Fitment
Mercedes-Benz	Viano (W639)	From 2003	Rear Axle
	Vito Mixto (W639)		
	Vito Minibus (W639)		

### NOTE:

- To gain access to the hub and allow removal of the wheel bearing the brake calliper, brake disc and drive shaft must be removed.
- Removal of the ABS wheel speed sensor is not required for use of this 8446 bearing tool.
- Ensure the force screw components are kept clean and greased with molybdenum disulphide grease during removal and fitting of the bearings.

## Instructions

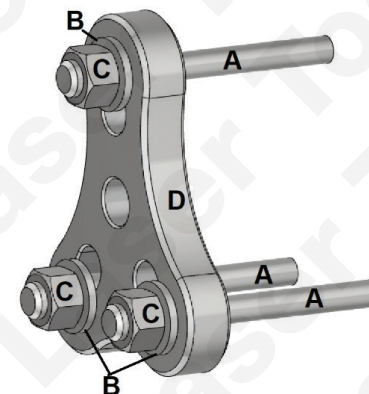
### Drive flange extraction:

- Assemble the force screw (F), half nut (F), extraction plate (E) and full nut (F) as shown in figure 1a and assemble the force plate (D) with the compression rods (A), washers (B) and nuts (C) as shown in Figure 1b. Ensure that the nuts (C) are only finger tight at this point.

FIG:1a



FIG:1b



## Instructions

- Insert the assembled force screw (F) from the back of the bearing through the drive flange, see figure 2a. Grease the force screw with the molybdenum disulphide grease supplied and fit the assembled force plate over the force screw so the 3 compression rods (A) insert directly through three of the wheel bolt holes as shown in figure 2b. Fit the force nut and bearing (F) as shown in figure 2. Tighten the compression rod nuts (C).

FIG:2a

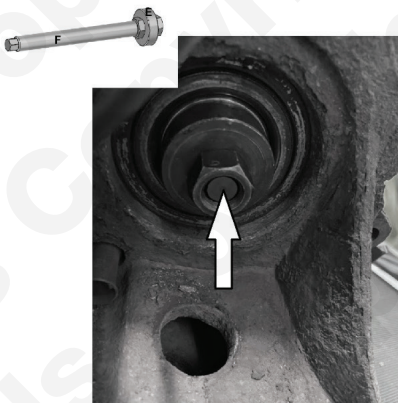
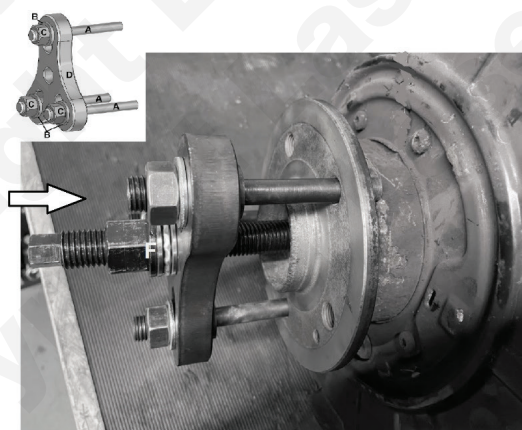


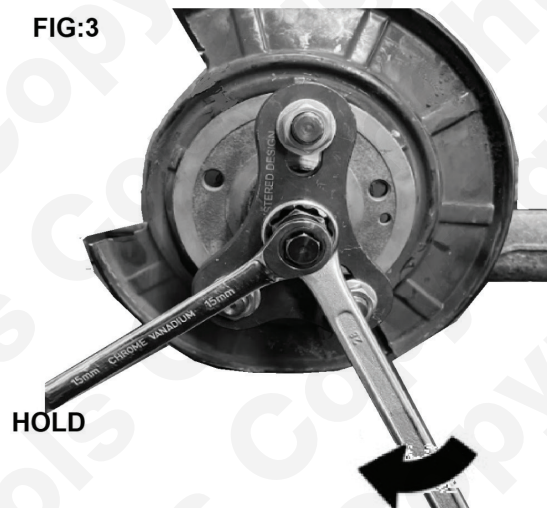
FIG:2b



- Holding the force screw thread with a suitable spanner, tighten the force nut in a clockwise direction to extract the drive flange. See figure 3.

**NOTE:** As the force is applied, double check the alignment of the force screw components. Remove the drive flange.

FIG:3

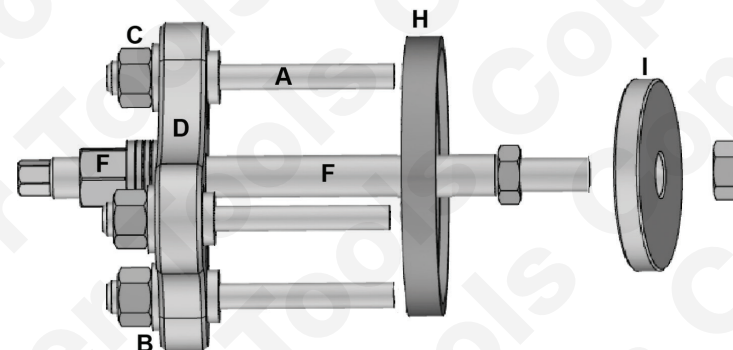


## Instructions

### Outer Bearing Extraction:

- Assemble the force screw (F), half nut (F), outer race removal plate (I) and full nut (F) as shown in figure 4 and assemble the force plate (D) with the compression rods (A), washers (B), nuts (C) and the support ring (H) as shown in figure 4. Ensure that the nuts (C) are only finger tight at this point.

FIG:4



- Mount the assembly on to the vehicle hub as shown in figure 5a and tighten the nuts (C) so that the compression rods (A) align with the support ring (H).
- Fit the outer removal plate (I) and full nut to the inner end of the force screw and tighten, see figure 5b.

FIG:5a

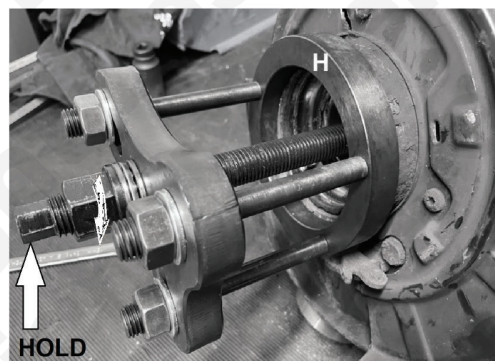


FIG:5b



- Grease the force screw with the molybdenum disulphide grease supplied then hold the force screw end with a suitable spanner and pull the bearing out by turning the force screw nut in a clockwise direction.

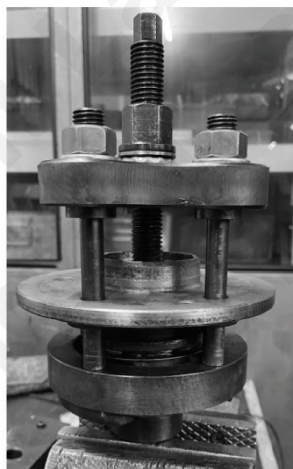
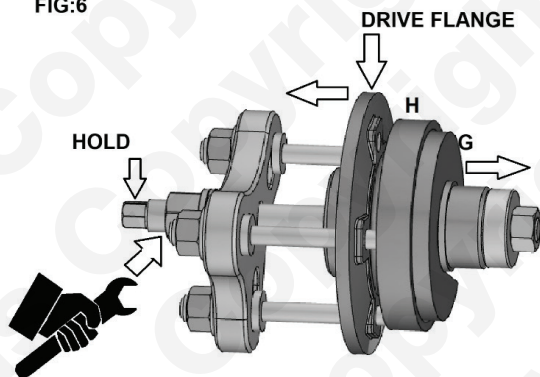


## Instructions

### Inner bearing race removal:

- To remove the inner bearing ring from the drive flange, assemble the puller components as shown in figures 1a and 1b.
- Place the support ring (H) over the drive flange so it sits behind the inner bearing ring. Insert the inner bearing ring wedge (G) between the bearing ring and the support ring so the support ring will hold the wedge in place.
- Assemble the puller as shown in figure 6 and grease the force screw if required. Holding the force screw turn the force screw nut so that the drive flange is pulled out of the inner bearing ring.

FIG:6

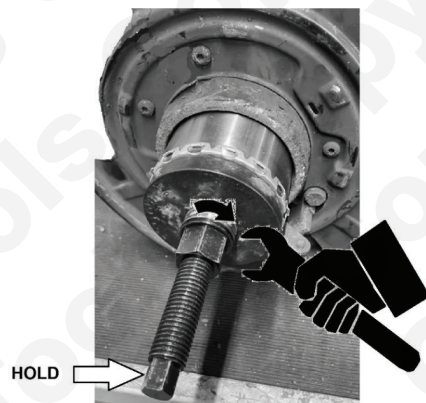
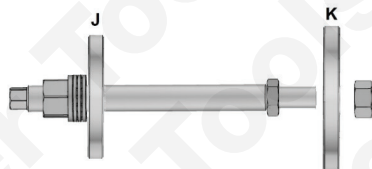


### Fitting new bearing:

- Assemble the force screw components (F) as shown in figure 7 and grease the force screw if required.
- Place the bearing insertion plate on the force screw and insert the assembly in to the new bearing and into the hub, put the reaction plate (K) on to the force screw and tighten the nut.
- Press the bearing in as shown in figure 7. Ensure the bearing is fully pulled in and the holding ring has fully engaged in the hub.

**NOTE:** Check alignment during the fitting process.

FIG:7



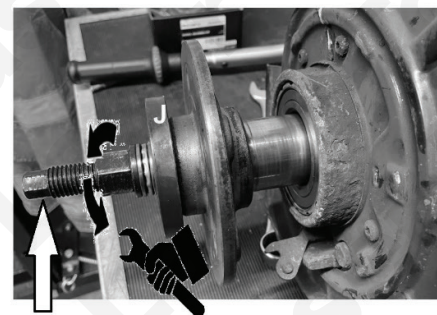
## Instructions

### Fitting the drive flange:

- Assemble the force screw components (F) as shown in figure 8.
- Place the bearing insertion plate (J) on the force screw followed by the drive flange. Mount the drive flange & force screw assembly in to the hub and place the hub insertion plate (I) onto the force screw and fix in place with the nut.
- Holding the force screw with a suitable spanner turn the force screw nut to press the drive flange in. Grease the force screw as required.

**NOTE:** Check drive flange alignment during the insertion process.

FIG:8



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