

# Removing the chainring spider from a Brose motor safely



Chainring



Spider



Lockring



Removal Tool  
Part No PLA00938

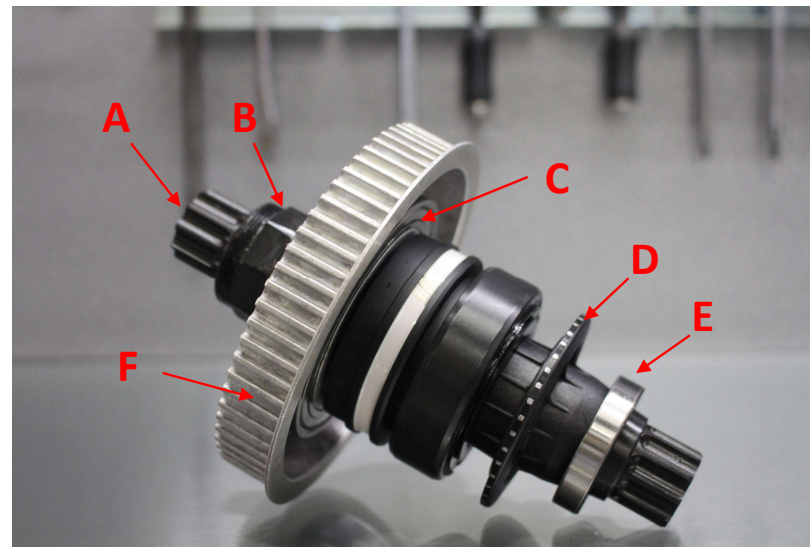
## To remove the chainring spider safely from a Brose motor:

Removing the chainring spider by pulling on the spider and pushing against the end of the crankshaft can damage the internal bearings and movement sensor. It can also lift the belt pulley bearing out of position causing belt damage.

Inside your motor is a crankshaft assembly as shown in the picture below. Drive pulley bearing (C) is fixed into the motor case and the spider sits on the hexagonal boss (B). These parts are separate from the crankshaft (A)

If the puller is used to remove a spider without the special tool, it will push against crankshaft (A) while trying to pull the spider from hexagon boss (B). This can cause the left hand crankshaft bearing (E) to be pushed up into the plastic movement sensor (D) causing it to split and push into the left hand inner bearing seal.

Sometimes the large pulley bearing (C) can be pulled out of the motor body, this will damage the drive belt, drive pulley (F) and can deform the belt cover.



## To remove spider safely:

1. Remove the crankarm **A**, this may have self extracting bolts as shown, if not, our crankarm puller maybe required. Part No PLA00932
2. Once the crankarm has been removed, the spider lockring **B** can be removed using our lockring tool PLA00931. This lockring is a standard right hand thread.

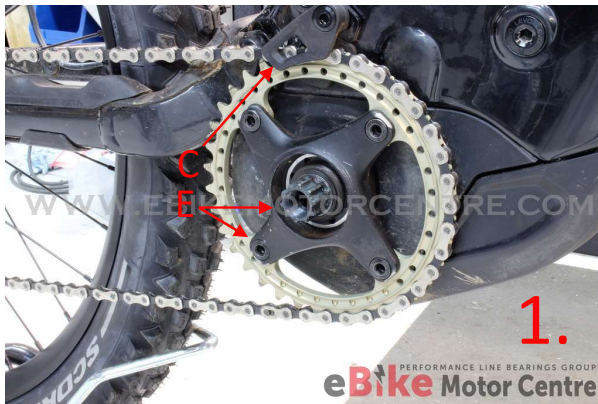


3. If you have a chain guide fitted **C**, this may need to be moved or removed.
4. Fit our spider puller tool **D**. Part No PLA00938. This must fit over the crankshaft as shown.
5. Connect a two legged puller as shown and remove the chainring and spider **E**. The puller shown is a standard 100mm puller, and commonly available.

## To refit spider:

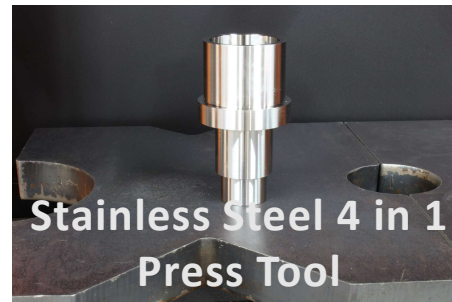
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1. Refit/adjust and tighten the chain guide **C**. Refit the spider and chainring **E**.
2. Refit the spider lockring **B**, using a torque wrench tighten to 50Nm.
3. Refit the crankarm and check your bikes manual for the tightening torque of your particular crankarm bolt.



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You can find other tools in this range such as crankarm pullers, lockring tools, or the 4 in 1 press tool for Brose motors pictured on the left, just visit our website:

[www.ebikemotorcenter.com](http://www.ebikemotorcenter.com) search Brose tools.