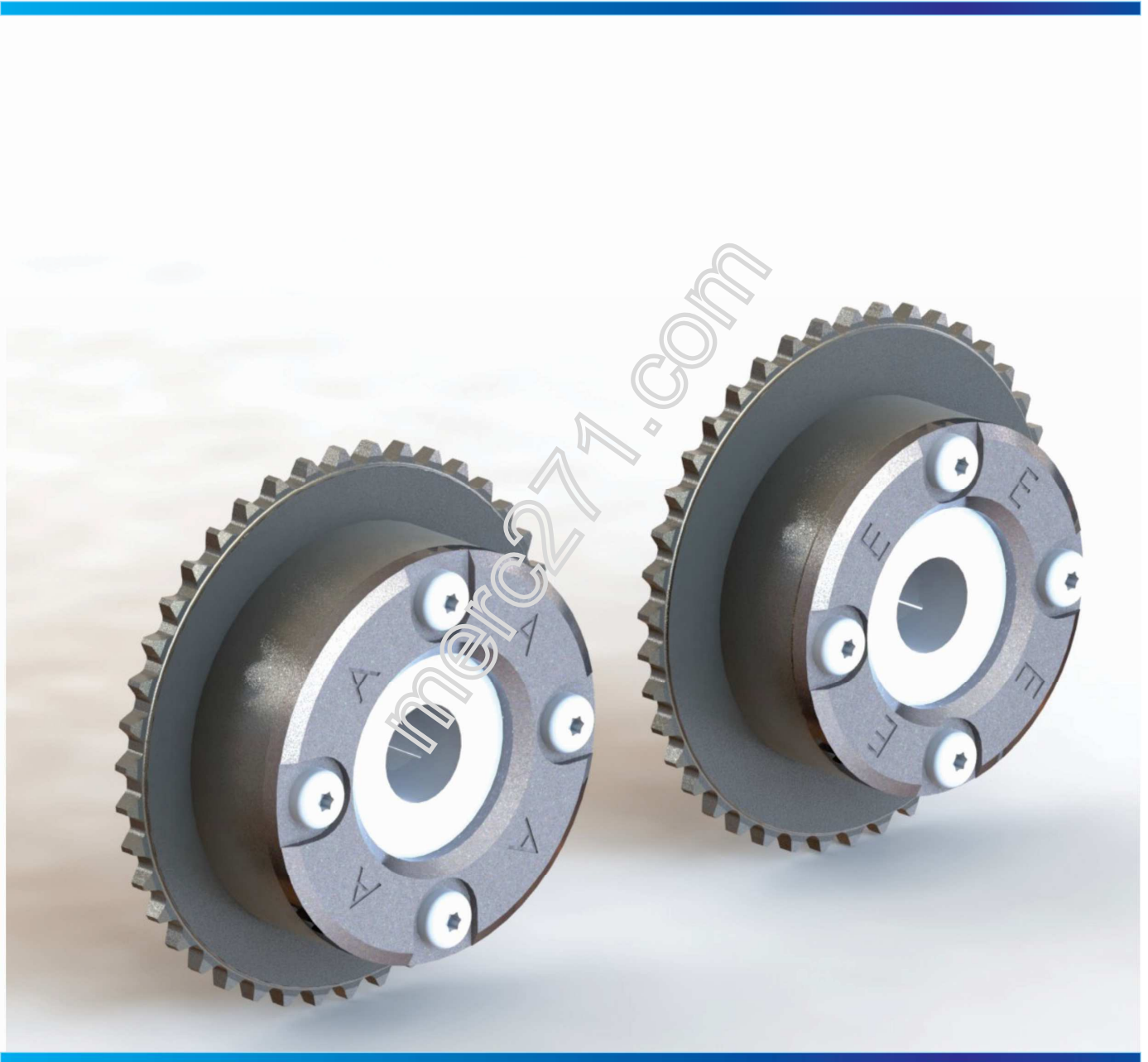


# Timing Sprocket kit

Suitable for Mercedes Benz M271 Motor



**Thank you for purchasing our repair kit for your Mercedes M271 timing sprockets.**

Great care has been taken to ensure that this kit is of the highest quality to ensure the performance and reliability of your engine. This repair kit has been precision manufactured using the best quality Austrian high tensile steel, surface hardened to ensure toughness, long life and a low friction coefficient.

**For optimum results it is vitally important that the condition of the crankshaft drive sprocket on your engine is in good condition and that the chain and chain tensioner/wear strips be replaced.**

In order to be sure that you will be completely satisfied with your purchase, **Please read the following instructions carefully and confirm that you have received the following **SIX** items:**

1 Instruction manual.



1 Sprocket "A" Outer.



1 Sprocket "E" Outer.



1 Loctite Thread Locker.



1 Torx Bit "T30"



**You will need the following items to strip, clean and assemble this product:**

Small circlip pliers



Small socket set.



Small torque wrench.



Suitable brush.



Solvent for Cleaning eg. lacquer thinners or engine cleaner.



Clean cloth





# CAUTION

THE REFURBISHMENT OF THE TIMING SPROCKETS SHOULD ONLY BE ATTEMPTED BY TECHNICALLY COMPETANT PERSONS.

PLEASE NOTE WHEN CLEANING PARTS WITH HAZARDOUS CHEMICALS OR SOLVENTS, PLEASE FOLLOW THE RELEVANT SAFETY INSTRUCTIONS AS INDICATED BY THE CHEMICAL OR SOLVENT SUPPLIER.

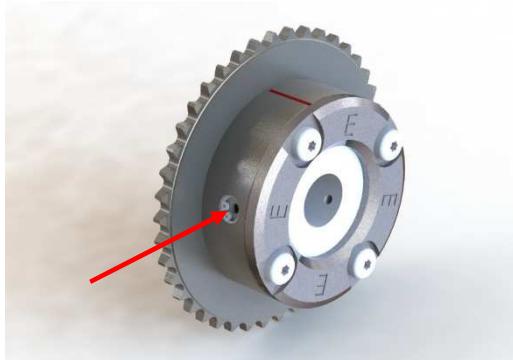
1. WORK IN A CLEAN WELL VENTLATED AREA.
2. AVOID SKIN CONTACT WITH SOLVENTS OR CHEMICALS.
3. ENSURE THERE ARE NO NAKED FLAMES OR IGNITION SOURCES NEARBY.
4. CARE SHOULD BE TAKEN WHEN WORKING WITH HAND TOOLS TO AVOID INJURY.

**STOP:** IF YOU FEEL THE NEED TO USE HAMMERS ON ANY OF THE FOLLOWING STEPS, YOU ARE DOING SOMETHING WRONG! 😊



### **STRIPPING ORIGINAL SPROCKETS:**

1. On the side of the original sprockets remove the two circlips that hold the retaining washer, spring and plunger. The original circlips may be discarded. Carefully remove the retaining washer, spring and plunger. Please note that sprocket "E" has a short plunger and sprocket "A" has a long plunger, the springs and retaining washers are the same.



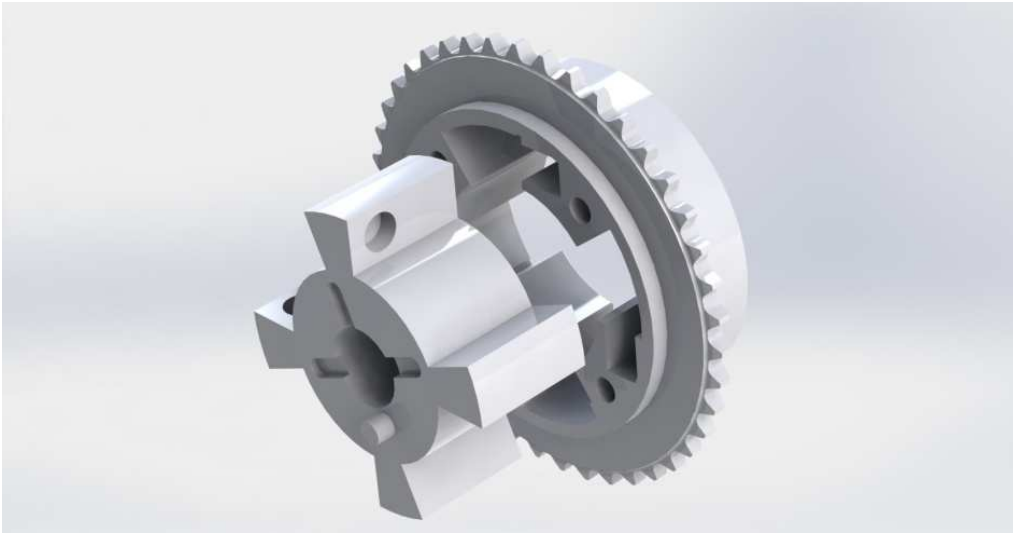
2. Using the ¼ inch drive Torx Bit supplied, remove the bolts that hold the sprocket caps. Clean excess old engine oil off end caps and bolts, taking care not to damage the end cap working surfaces. Please note that sprocket "E" has smaller diameter caps and sprocket "A" has larger diameter caps. The bolts are all the same.



3. Remove 4 springs from Sprocket "A" and clean off excess old engine oil.



4. Carefully remove centre core of each sprocket and clean off excess old engine oil.

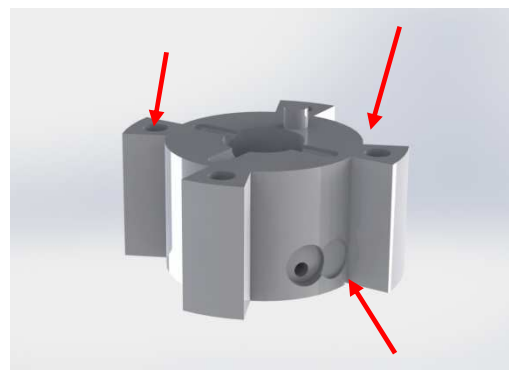
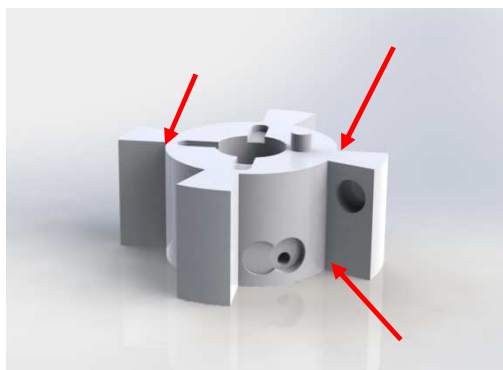


5. Clean all parts properly with suitable non corrosive solvent. **PLEASE FOLLOW SOLVENT SAFETY INSTRUCTIONS.**
6. The original sprocket outers may be discarded. Please do so taking into account the environment, by making sure that there is no excess oil discarded with them.

#### **PREPARING FOR ASSEMBLY:**

Using a brush, suitable cloth and solvent carefully clean all parts, removing all build up of old engine oil. Take special care when cleaning the ends of the bolts and the threaded side of the sprocket caps as when we assemble, we will be using Loctite thread locker and we will need clean surfaces for the Loctite to stick.

Inspect both cores for cracks. If the core is cracked (very rare) the repair cannot be completed using this kit. Please contact your supplier for options.



**Remove New sprockets from packaging and make sure that they are clean.**

**You should now have the following parts clean and ready to assemble:**

1 Sprocket Outer "A"



1 Sprocket Outer "E"



1 inner core "A"



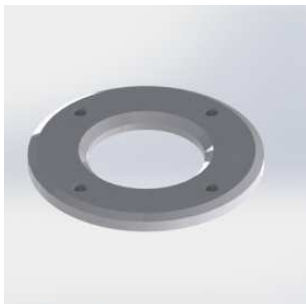
1 inner core "E"



2 large sprocket caps "A"



2 small sprocket caps "E"





4 large springs from sprocket "A"



8 Torx head bolts.



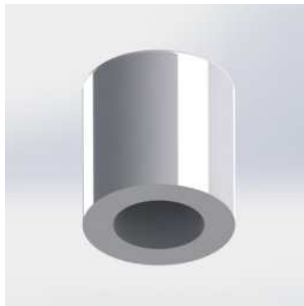
1 large plunger from sprocket "A"



2 plunger springs.



1 small plunger from sprocket "E"



2 retaining washers.



The circlips are already installed in the new sprockets.



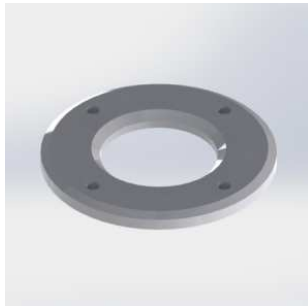
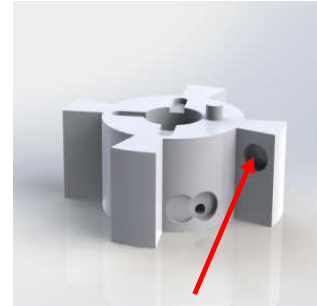


### PREPARATION OF NEW SPROCKETS:

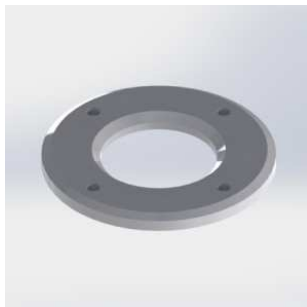
Separate the parts into the parts for the sprocket “A” and the parts for the sprocket “E”

Sprocket “A” is the sprocket with the slightly larger hub, 84mm and has place for the four springs removed earlier.

1. The internal core, has place for the four springs removed earlier.
2. The one sprocket cap is clearly marked “A” and its partner is the same diameter.
3. The retaining washers are the same.
4. The plunger is the **LONGER** of the two.
5. The plunger springs are both the same.
6. The four larger springs are for this sprocket.
7. The four Torx head bolts are the same.



8. Sprocket "E" is the sprocket with the slightly smaller hub, 78mm. It does **NOT** have place for the four springs.
9. The internal core does **NOT** have place for the springs to locate.
10. The one sprocket cap is clearly marked "E" and its partner is the same diameter.
11. The retaining washers are the same.
12. The plunger is the **SHORTER** of the two.
13. The plunger springs are the same.
14. The four Torx head bolts are the same.



Using the grease supplied, lightly grease the inside of the new sprocket s. Make sure to grease the bore where the retaining washer, spring and plunger will need to go back. You will notice that the new circlips have already been installed. Try not to get excess grease in the holes where the bolts will be going through as this may cause a problem with the Loctite thread locker later.

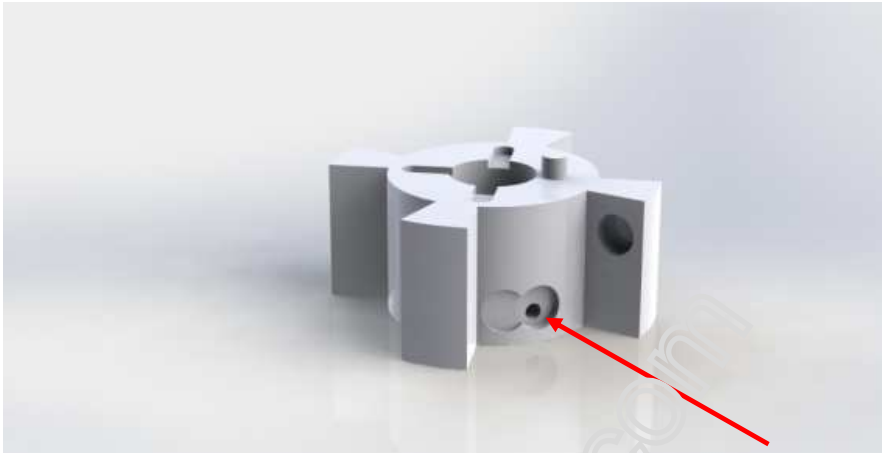
Lightly grease the internal cores as well as the sprockets caps. Take care not to get excess grease in the threads of the sprocket caps.

Lightly grease the retaining washer and plunger.

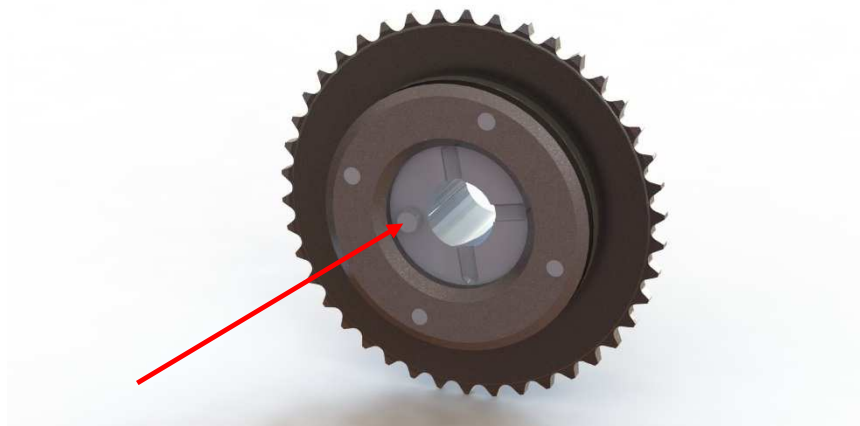
### ASSEMBLY OF NEW SPROCKETS:

Starting with sprocket "A" Replace the retaining washer up against the circlip from the inside. **Do not remove the circlip.** The retaining washer can be replaced from the inside of the sprocket. Once the retaining washer is in place, the spring and the plunger can be replaced.

1. While holding the plunger against the spring with your finger, select the already prepared inner core "A" **Note that on the side of the inner core there is a 10mm pocket for the plunger to locate.** This hole needs to line up and locate with the plunger.

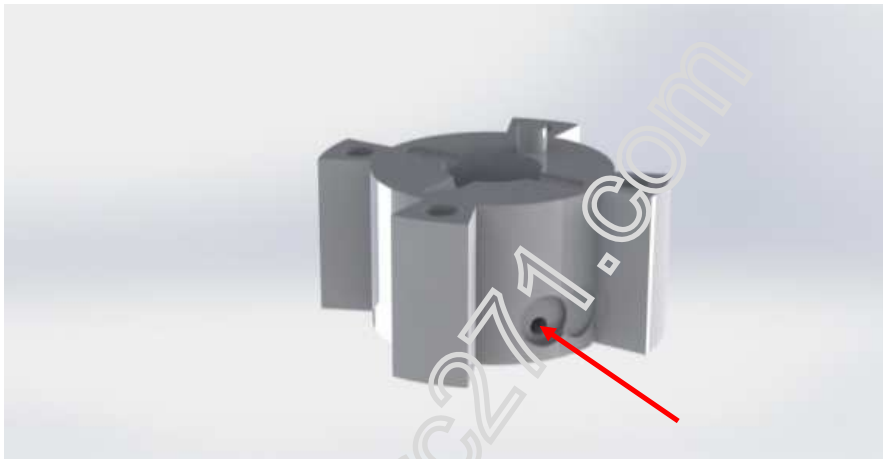


2. Press the plunger in against the spring all the way with your finger, it should move in and out freely. With the inner core properly aligned, insert the inner core. If the inner core is properly aligned, you should hear and feel the plunger locate into the 10mm pocket with a clicking sound. You will now not be able to remove the inner core anymore.
3. Replace the four springs into the sprocket core and outer sprocket making sure they locate correctly.
4. Replace the sprocket caps, you will notice the inner core has a 6mm locating pin sticking out approximately 5mm. The cap with the threads fits on this side of the assembly. The cap that is clearly marked "A" fits on the other side.

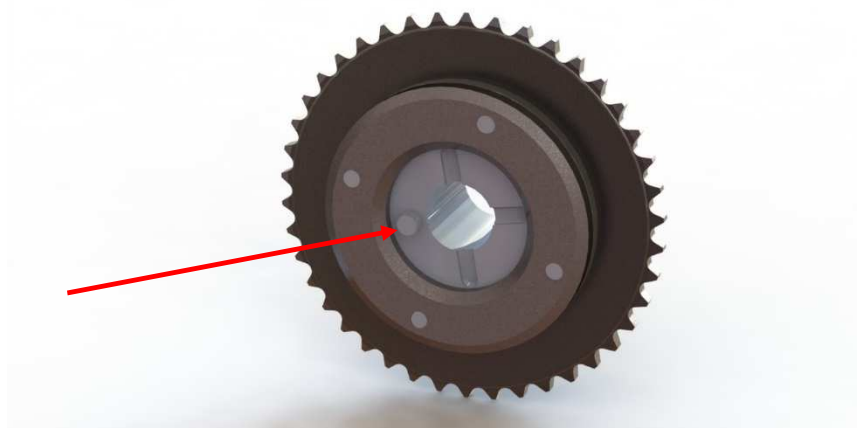


5. Carefully make sure that there is no excess grease in the holes or the threads. If there is, carefully wipe it out with some solvent and a cloth.

6. Carefully place a small amount (one to two drops per bolt) of Loctite Thread Locker on the ends of the four bolts. Loctite **Thread Locker sets in 20 minutes and cures fully in 24 hours**. This means that you have to work quite quickly once you start to screw the bolts it. Screw the bolts in avoiding any contact with excess grease. Using the Torx bit supplied and a Torque wrench, tighten the bolts all to 14 Nm.
7. Similarly with sprocket “E” Replace the retaining washer up against the circlip from the inside. **Do not remove the circlip**. The retaining washer can be replaced from the inside of the sprocket. Once the retaining washer is in place, the spring and the plunger can be replaced.
8. While holding the plunger against the spring with your finger, select the already prepared inner core “E” Note that on the side of the inner core there is a 10mm pocket for the plunger to locate. This hole needs to line up and locate with the plunger.



9. Press the plunger in against the spring all the way with your finger, it should move in and out freely. With the inner core properly aligned, insert the inner core. If the inner core is properly aligned, you should hear and feel the plunger locate into the 10mm pocket with a clicking sound. You will now not be able to remove the inner core anymore.
10. Replace the sprocket caps, you will notice the inner core has a 6mm locating pin sticking out approximately 5mm. The cap with the threads fits on this side of the assembly. The cap that is clearly marked “E” fits on the other side.



11. Carefully make sure that there is no excess grease in the holes or the threads. If there is, carefully wipe it out with some solvent and a cloth.
12. Carefully place a small amount (one to two drops per bolt) of Loctite Thread Locker on the ends of the four bolts. Loctite Thread Locker sets in 20 minutes and cures fully in 24 hours. This means that you have to work quite quickly once you start to screw the bolts in. Screw the bolts in avoiding any contact with excess grease. Using the Torx bit supplied and a Torque wrench, tighten the bolts all to 14 Nm.

**Congratulations, you are now finished assembling the Timing Sprockets for Mercedes M271 engine.**



**PLEASE NOTE:**

**Our sprockets have a small diameter 3mm hole just below the teeth. This hole is for manufacturing purposes only and not a timing reference.**

**The timing mark for assembly of the engine is marked on the side in red.**

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