# Timing Chain Kits

COMLINE

## Precision Engineered for Long-Lasting Performance

4 YEAR WARRANTY

60,000mile / 100,000km


comline.uk.com

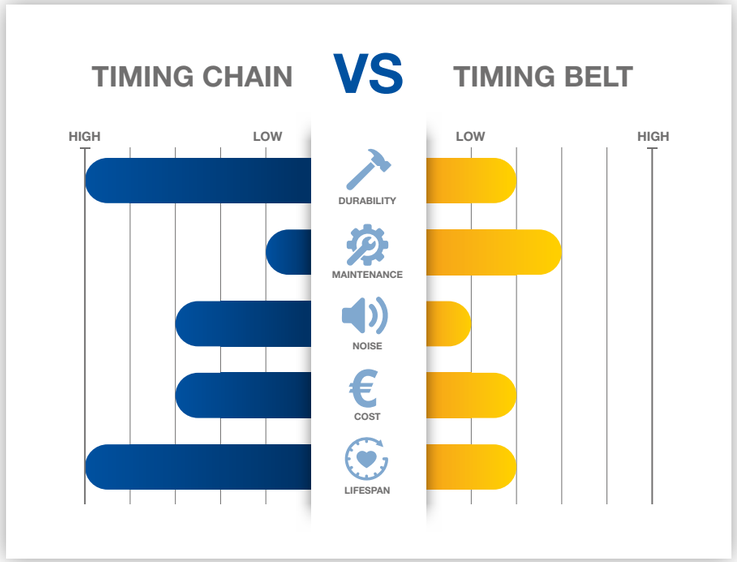
# TIME TO CHAIN'GE?

- 323 Timing Chain Kits in range
- 13 Timing Covers in range
- 11,000+ model coverage
- 56 Vehicle manufacturers
- 80%+ European vehicle parc coverage


**Timing chain systems have become the preferred timing (synchronisation) solution for modern internal combustion (IC) engines over the past quarter century. This shift back to chains has been driven by the need to improve engine performance and reduce both weight and emissions.**

**Original equipment (OE) manufacturers regard the timing chain as a "fit-for-life" component, eliminating the service cost of replacing a timing belt, which must be changed at set intervals to ensure continuous reliable engine operation.**

However, in practice, timing chains don't always live up to their "fit-for-life" promise. Over the past 15 years, aftermarket demand for timing chain kits has grown, driven by reports of failures in some engines as early as 30,000 miles (48,000 km). Common issues include engine noise and warning lights, suggesting that timing chains, while beneficial, are not immune to wear.




*In summary, timing chains are generally more durable and require less maintenance than timing belts. Timing belts are quieter but require regular replacement, increasing scheduled servicing costs. Both systems can cause serious damage if they fail.*

## REDEFINING RELIABILITY

Timing chain kits are now an established product line for many motor factors, and many garages have gained considerable experience over the past 15 years in the complexities of installing them. Unfortunately, many have had poor experiences, either due to being supplied with low-quality parts or encountering premature failures caused by hostile operating conditions.

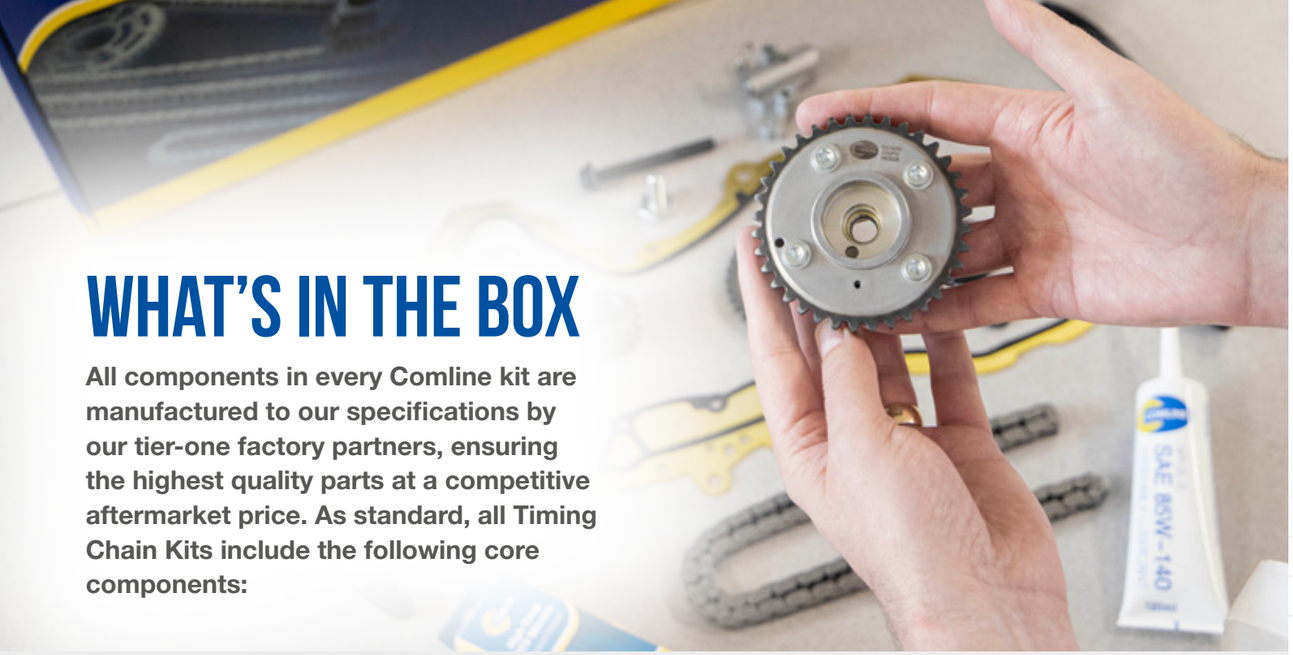
Comline is pleased to introduce a new premium-quality kit to the aftermarket, complete with a class-leading **4 year or 100,000 km (60,000 miles) parts and labour warranty.**

## WHY CHOOSE COMLINE?

**The range of over 300 SKUs offers comprehensive coverage of today's vehicle parc, with the option to supply either a basic or a full kit depending on the customer's needs and budget. The full kits are supplied with all gaskets, stretch bolts, seals, and other components required to complete the kit installation.**

Backed by more than **four decades of specialist engine and aftermarket expertise** from senior members within our new Engine Parts Division, the range delivers premium-quality products engineered for trusted performance, reliability, and peace of mind.


*Dominic Moxon*
*Vice President of Engine Management*



# WHAT'S IN THE BOX

**All components in every Comline kit are manufactured to our specifications by our tier-one factory partners, ensuring the highest quality parts at a competitive aftermarket price. As standard, all Timing Chain Kits include the following core components:**

TIMING CHAIN

GUIDES

TENSIONER

PRE-LUBE

The timing chain kit range offers two options: a basic kit for cost-sensitive repairs and a complete kit that provides all the components required for a full timing system replacement.

**BASIC (CTK094B)**

**Guide Rails / Pre-lube / Tensioner / Timing Chain**

**FULL (CTK094F)**

**Timing Chain / Guide Rails / RTV Sealant / Pre-Lube / Tensioner / Washer or Spacer / Oil Seal / Sprocket / Drive Hub / Profile Gasket / Nut / Oil Spray Pipe / Timing Cover Gasket / Tensioner Bracket / Gear / Rocker Gasket / Sump Gasket / Banjo Bolt / Misc Gasket / Camshaft Carrier / Crankshaft Sprocket / Bolt(s) / Sleeve**

**FULL VVT (CTK094FV)**

**FULL KIT PLUS: Variable Valve Timing Hub(s) (VVT)**

# COMPONENT FUNCTIONS

### VVT SPROCKET

The Variable Valve Timing (VVT) sprocket adjusts camshaft timing according to engine demands. By modifying the valve opening and closing times, it enhances performance, improves fuel efficiency, and reduces emissions.

### TENSIONER

The tensioner ensures the timing chain remains properly tensioned, preventing slack and reducing vibration. By keeping the chain aligned and taut, it minimises wear and maintains precise, consistent valve timing.

### SPROCKET

The sprocket engages with the timing chain, linking to the camshaft or crankshaft. It enables the transfer of rotational motion, ensuring synchronised operation of key engine components.

### GUIDES

Guides support and align the timing chain, minimising friction and wear. By keeping the chain on its correct path, they prevent deviation and help maintain accurate timing - crucial for engine efficiency and long-term reliability.

### TIMING CHAIN

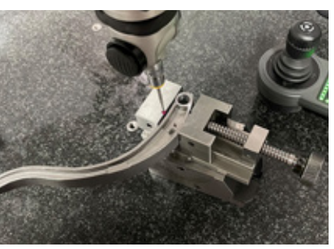
The chain transfers motion from the crankshaft to the camshaft, ensuring synchronised rotation. This precise coordination is essential for the accurate timing of the engine's valve train and piston assemblies.

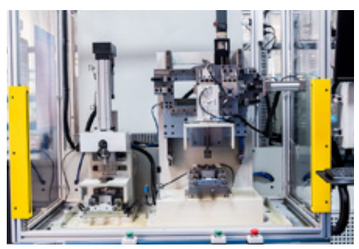
# SUPPLIED AS STANDARD

**Every kit comes with a 120ml tube of "Pre-Lube" oil. This high-viscosity oil should be used to coat/lubricate the chain(s) as the final stage of the assembly process. It promotes hydrodynamic separation of the moving parts of the timing chain kit, preventing avoidable premature wear on initial start-up.**

# QUALITY MATTERS

**Synchronisation of the IC engine is an essential process controlled by the timing system. Regardless of the method used (gears, timing belt, or timing chain), the quality of the materials and the production methods employed are vital to the engine's performance and long-term operation. For these reasons, Comline specifies that premium materials are used in all our mass production.**





## MANUFACTURING

All components are produced by selected factory partners, each dedicated to the production of individual key parts. The production methods for each component type require specialist equipment and knowledge to consistently produce a tier-one quality product.

## CHAIN

Comline chains are manufactured using high-quality materials and tooling to produce a superior finished product. Unlike standard aftermarket roller chains, Comline pins are **"staked" using a full-load 360° press**, providing uniform load and support between the pin and plate(s), in contrast to aftermarket chains, where the pin "overlaps" in two places.


## TECHNICAL DATA

Where possible, every tensioner in our range has the **torque setting(s) laser-marked onto the outer surface.** This is intended to assist the installer, reducing the time spent looking up technical data. All components within the kit are stamped for full product traceability.

OXICOAT

# INTRODUCING NEW OXICOAT® TECHNOLOGY

## SUPERIOR SURFACE HARDNESS.

Comline chains are **produced in a tier-one OE factory using our own specialised OXICOAT® material**. This pin coating provides high wear resistance, extending the performance and lifespan of Comline chains even in hostile operating conditions.

- **Prevents premature wear when operating in a hostile environment.**
- **Protects the chain pin during low lubrication events.**
- **Offers greater protection against oil contaminants (metallic particles, fuel/ detergents, silicon (dirt), oxidation, cavitation)**

*OXICOAT® heat treatment machinery.*


*Close up shows heat treated 'staked' pins and brand marking.*

# COMLINE'S BEST PRACTICE ADVICE

## PREVENTION IS BETTER THAN CURE

**All engines requiring a timing chain kit replacement must be thoroughly cleaned as part of the installation process. This includes both the engine components and the oil system. Failure to do so will jeopardise the integrity of the installation and may void any warranty.**

Depending on the complexity of the installation, Comline recommends that a minimum of two to four hours be spent cleaning components such as the oil pump/pick-up pipe, sump pan, timing cover, and any other parts showing evidence of oil sludge build-up. Any silicone RTV or foreign objects must be removed, and any internal engine areas made accessible during the installation should also be cleaned. Once the engine and components have been thoroughly cleaned, the new kit can be installed along with the new oil and filter.


**Visit the eCatalogue at comline.uk.com where you can find the correct grade of oil for the vehicle. Filter part numbers can also be found on our eCatalogue.**

## INSTALLATION GUIDE & BEST PRACTICE

**The information below serves as general guidance for Timing Chain Kit best practice installation and maintenance. Comline recommends always following the specific installation instruction provided with each part number application.**

### PREPARATION

If possible, always **flush the engine** prior to stripping it.

Identify the **cause of the part(s) failure** and rectify. The following could be causes of failure: general wear and tear, contaminated oil, other worn components, poor maintenance etc.

### ASSEMBLY

**Pre-lube any moving components** to prevent avoidable wear on initial start-up.

Do not add silicon RTV to gaskets, **all gaskets and profile seals should be fitted dry.** Adding RTV will jeopardise the gaskets' function and void any warranty.

**All PTFE seals must be fitted dry.** Do not add any lubrication. Oil can be added to the surface of a conventional rubber seal to reduce friction damage on initial start-up. Note: PTFE seals must be allowed a minimum of 4 hours to form a hydrodynamic seal.

After fitting a timing chain kit, always **rotate the engine by hand for 6–8 revolutions.** This ensures correct alignment of the chain and guides, and allows the hydraulic tensioner(s) to start to fill with oil, preventing rattle and reducing the risk of chain jump or timing failure. Before first start-up, crank the engine without starting it until the oil light goes out, this confirms oil pressure has built up to pressurise the new tensioner(s).

**Do not work on an "open" engine if there is airborne contamination**, such as high levels of dust etc. This material can settle within the engine and mix with the oil, potentially damaging the engine.

### ONGOING MAINTENANCE

Always **use the correct grade of oil** as recommended by the OEM. Failure to do so could result in engine failure and void any warranty.

Comline recommends that you **replace the oil and filter every 10,000km (6,000 miles)**. This will prevent any contaminants building up and compromising the efficiency of the vehicles lubrication system.

If there are any metallic particles present in the oil, it needs to be investigated where these have come from. **Particles are a sign of major component failure**. Non-ferrous is likely thin wall bearing material, ferrous material could be from timing chain(s), camshaft(s), camshaft followers, oil pump etc.


# TIMING CHAIN COVERS

**Engines with pressed steel timing chain covers are susceptible to damage during the cover removal process. This is due to the leverage force required to break the bond created by the silicon RTV used to seal the cover during the previous installation. Damage to the cover usually necessitates the fitting of a replacement cover.**

Poor quality covers can promote oil leaks and contribute to engine failure. They can also create installation issues, increasing labour costs. **To ensure a successful installation, it is imperative that the cover is made from high-quality steel and produced using precision tooling to ensure the flatness of the mating surface and accurate alignment of any rotary seals or physical gaskets.**

## MINIMISING RISK, MAXIMISING EFFICIENCY

**Where possible, Comline has developed physical gaskets to replace the standard RTV sealant. This benefits the installer in two ways: firstly, it removes the need to use RTV, as excessive application can contaminate the engine and/or lubrication system, potentially causing engine failure. Secondly, it means that if the cover does need to be removed it will not be deformed during the removal process, thereby reducing future repair costs.**

*Powder coating is used to prevent corrosion of the steel during operating lifetime.*

When installing a new timing cover, always ensure that the mating surfaces are clean, and if RTV is used, do not apply excessive amounts. **Always refer to the manufacturer's technical data to apply the correct torque to fixing bolts.**


4 YEAR WARRANTY

60,000mile / 100,000km

- **Market-leading 4-year / 100,000km warranty**
- **Comline technical support**

## WARRANTY & PRODUCT SUPPORT

Should you need to submit a warranty claim, all parts from the kit must be returned along with full supporting paperwork showing the vehicle history and any costs being claimed, as well as a 120 ml oil sample from the failed engine. Comline will endeavour to close the claim within 20 working days.

**For technical support do not hesitate to contact the technical line: UK +44 (0)1582 578 888 Ext. 605, España (EU) +34 916 84 60 44**

## SUPERIOR DATA

**Crucial to the go-to-market strategy of the Comline brand is delivering a portfolio of world-class product data.**

This ensures that any trade customer looking for the right Comline Timing Chain Kit can identify it quickly and easily. Find us on MAM Autocat+ and TecDoc, where Comline is proud to be listed as a Premier Data Supplier.


PREMIER TecDoc® DATA SUPPLIER

SCAN FOR ECATALOGUE

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# TIMING CHAIN KITS FOR THE PROFESSIONAL.

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