

TIMING CHAIN & KIT FITTING SUGGESTIONS

In All Circumstances, Chains Should Be Fitted In Accordance With The Instructions As Given In The Vehicle Manufacturers Manual. Failure To Adhere To These Recommendations Could Invalidate Your Guarantee.

ULTRA-PARTS TIMING CHAIN KITS ARE DESIGNED TO REINSTATE THE CORRECT TENSION & GEOMETRY BETWEEN CRANKSHAFT & CAMSHAFT SPROCKETS AND THUS PROVIDE QUIET RUNNING & IMPROVED PERFORMANCE. INSTALLATION AND TIMING TO BE AS PER MANUFACTURERS WORKSHOP MANUAL. SOME APPLICATIONS MAY REQUIRE THE ADDITIONAL PURCHASE OF A SUMP GASKET etc. DEPENDING ON THE DEPTH OF THE REPAIR.

1. Basic kits (without gears) will require the existing drive sprockets checking for teeth wear & fatigue pitting. Wrap the new chain around the cleaned camshaft sprocket so as to form a circle with the chain. Pinch the join of the chain with one hand with the rollers pushed firmly in towards the sprocket centre. With the other hand work your way around the chain/sprocket trying to pull the chain outwards. Any appreciable lift/free play could mean that the sprocket teeth are worn and replacement will be necessary. Visually, sprocket teeth wear can become "Hooked" on the drive side - again sprockets must be renewed. Repeat procedure on crankshaft sprocket and any auxiliary drive sprockets. VVC hubs should be cleaned in accordance with vehicle manufacturers manual.

2. When assembling the camshaft sprocket always support the camshaft to prevent it moving towards the back of the engine. If the camshaft does move it is possible to cause damage to drive gears (i.e. oil pump/distributor/auxiliary drives), fuel pump arms, camshaft followers, thrust retainer and lastly, if applicable, the rear core plug. Where a sprocket is retained by a thread, i.e. nut or bolt, then where possible pull the sprocket home using the retainer. DO NOT, under any circumstances, whatsoever use power guns to tighten camshaft sprockets. Ensure location keyways or dowels are in good condition.

3. Check the chain for provision of a connecting link visible by the "Omega/Horse Shoe" retaining clip. Chains with connector links must be fitted with the open end of the clip trailing in the direction of rotation, i.e. the rounded solid end of the clip should lead clockwise. As a general rule fit the retaining clip on the side facing the front of the engine - this will help anyone dismantling in the future. If new chain has "bright links" for timing purposes, always compare with those on the old chain. If in any doubt contact Ultra technical. It is recommended to soak the new chain in clean oil for at least an hour prior to fitment.

4. It is recommended to soak the new tensioner assembly in clean oil for at least an hour before fitting. Place so that the oil inlet is uppermost to help expel air. Fit tensioner as final assembly and action release mechanism. Ensure chain tension mechanism is working and is firmly pressed against the chain. Do **NOT** turn engine over backwards as some tensioners can retract causing the chain to jump and mistime.

5. Always double check timing before installation of the timing cover. Rotate engine clockwise by hand via the crank pulley nut/bolt and obtain top dead centre again. Do **NOT** rotate by the camshaft sprocket as it is possible that timing &/or the tensioner could jump. Recheck timing marks. Ensure any lock tabs are present and tabbed over.

6. Do **NOT** use silicone sealer on gaskets. A light coating of oil is sufficient to assemble good/clean/flat mating surfaces. However, if a propriety face fit sealer is to be employed we would recommend a thin application rather than to excess.

7. Oil seals must be installed squarely and without tearing. Check front pulley bosses for seal groove wear. If dirt/rust and/or a wear groove are present, then clean and polish with some fine wet & dry emery paper (say 320-400 grade). Assemble pulley to seal with either a smear of grease or good application of engine oil. Apply a loctite adhesive to front pulley nut/bolt or use lock tab as designated.

8. Engines that employ hydraulic tensioners should be purged for oil pressure prior to starting. Remove spark plugs or glow plugs to reduce compression. Crank engine at starter motor speeds for 20 second periods followed by 20 second rests. Repeat until oil pressure is attained. Starting an engine with an unprimed tensioner might cause catastrophic damage especially if higher revs are achieved. Oil purging is good practice following any engine repair. Refit spark/glow plugs & start engine. In the first instance keep R.P.M low until lubrication is thoroughly distributed.