

# DRAPER®

## INSTRUCTIONS FOR **Ford Diesel Engine Timing Kit**

Stock No.52576 Part No.DTK-FORD

**IMPORTANT:** PLEASE READ THESE INSTRUCTIONS CAREFULLY TO ENSURE THE SAFE AND EFFECTIVE USE OF THIS PRODUCT.



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### GENERAL INFORMATION

These instructions accompanying the product are the original instructions. This document is part of the product, keep it for the life of the product passing it on to any subsequent holder of the product. Read all these instructions before assembling, operating or maintaining this product.

This manual has been compiled by Draper Tools describing the purpose for which the product has been designed, and contains all the necessary information to ensure its correct and safe use. By following all the general safety instructions contained in this manual, it will ensure both product and operator safety, together with longer life of the product itself.

All photographs and drawings in this manual are supplied by Draper Tools to help illustrate the operation of the product. Whilst every effort has been made to ensure the accuracy of information contained in this manual, the Draper Tools policy of continuous improvement determines the right to make modifications without prior warning.

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# Ford Diesel Engine Timing Kit

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**INSTRUCTIONS**

**04/2010**

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## OPERATING INSTRUCTION (FOR GUIDANCE ONLY)

### IMPORTANT:

For detailed and concise instructions on the correct use of this kit, refer to the vehicle manufacturer's service manual.

### WARNING:

Incorrect or out of phase engine timing can result in mechanical contact between the valve head and the piston crown causing serious damage to the engine. No responsibility can be accepted for any loss or damage arising from the incorrect use of this kit.

For 1.6 and 1.8 diesel engines as fitted to Ford Fiesta, Escort, Orion P100, Sierra and Mondeo models, and 2.5DI (direct injection) diesel engines as fitted to Ford Transit models, (February 1985 onwards).

This comprehensive kit enables correct engine timing alignment to be maintained when the engine timing belt either needs to be replaced, or removed and re-fitted as part of a service procedure.

### Suitable for use on the following vehicles: 1.6 Diesel Engine - 4 Cylinder 1608cc OHC

1. Follow workshop manual instructions to remove the camshaft cover and the timing belt cover.
2. Turn the engine (in the normal direction of rotation) until the timing mark on the injection pump sprocket lines up with the cast lug on the timing cover.
3. Remove the threaded plug from the cylinder block (between the alternator and the injection pump) and screw in the T.D.C. Setting Pin. Slowly turn the crankshaft clockwise, until contact is made with the setting pin, to put No.1 cylinder at Top Dead Centre.
4. Insert the Locking Plate into the groove in the tail of the camshaft with the larger semi-circle facing upwards. If required, pack each side of the plate with equal thickness feeler gauges to obtain a tight fit and the correct camshaft alignment.
5. Slacken the camshaft sprocket bolt (DO NOT REMOVE). If the timing belt is to be re-used, mark the direction of rotation with chalk to ensure correct re-fitting. Slacken the timing belt tensioner and remove the timing belt.
6. Check that the crankshaft has been turned clockwise against the setting pin and that the Locking Plate is correctly positioned (as in 4 above). Fit the timing belt (in the correct direction of rotation). Fasten the \*Torx belt tensioner bolt finger tight.
7. Ensure that the camshaft sprocket can turn on its taper, and turn the tensioner anticlockwise to obtain the correct tension (REFER TO WORKSHOP MANUAL). Tighten the \*Torx belt tensioner retaining bolt.
8. Tighten the camshaft sprocket bolt to the specified torque, and remove the Locking Plate and T.D.C. Setting Pin. Turn engine over twice by hand to complete a full cycle. Re-gain T.D.C. Position and re-check alignment by inserting the locking plate with the T.D.C. setting pin in place (see above). If necessary repeat steps 6 & 7 before proceeding. Remove the locking plate and T.D.C. pin before turning the engine over twice by hand to complete a full cycle to ensure that there is no obstruction.

9. Replace the threaded plug in the cylinder block and follow workshop manual instructions to refit the camshaft cover and the timing belt covers, etc.

### **1.8 Diesel Engine - 4 cylinder 1753cc OHC**

1. Follow workshop manual procedures to remove the timing belt covers. Remove the threaded plug for the crankshaft timing pin from the cylinder block and turn the engine until the slot in the injection pump pulley is at about 11 o'clock.
2. Screw the T.D.C. Setting Pin into the cylinder block and turn the crankshaft until it rests against the setting pin at T.D.C. The drilling in the (CAV) injection pump flange, or the recess (Bosch), should be aligned with the drilling in the pump housing. If the timing belt is to be re-used, mark the direction of rotation with chalk to ensure correct re-fitting. Release the belt tensioner to remove the camshaft toothed belt. **DO NOT REMOVE THE INJECTION PUMP TOOTHED BELT UNLESS NECESSARY, AS THE SPECIFIED TENSIONING PROCEDURE ONLY APPLIES TO NEW BELTS.**
3. Bosch pump - use pin 'B' to time the injection pump sprocket and pin 'D' to time the camshaft sprocket.  
CAV pump - use pin 'E' to time the injection pump sprocket and pin 'D' to time the camshaft sprocket.
4. Ensuring that the crankshaft is still in contact with the T.D.C. Setting Pin, fit the new injection pump toothed belt and/or the camshaft toothed belt. Ensure direction arrows point the correct way. **REFER TO WORKSHOP MANUAL FOR DETAILED BELT FITTING AND TENSIONING PROCEDURES.**
5. Remove all pins, and turn engine over twice by hand to complete a full cycle. Re-gain T.D.C. position and re-check alignment by inserting the appropriate pins. If the pins do not all fit correctly repeat step 4 before proceeding. Remove all pins and turn engine over twice by hand to complete a full cycle to ensure that there is no obstruction.
6. Replace threaded plug in the cylinder block and follow workshop manual procedures to re-fit timing belt covers, etc.

### **2.5DI Diesel Engine - 4 Cylinder 2496cc OHV Direct Injection.**

1. Follow workshop manual procedures to remove the timing belt covers. Remove the blanking plug for the crankshaft timing pin from the the cylinder block. Turn the engine in the normal direction of rotation until the Setting Pin 'A' can be inserted into the flywheel. Check that pin 'C' and pin 'D' can be inserted in the camshaft and injection pump sprockets respectively.
2. To remove the timing belt, slacken the tensioner bolts and lever the tensioner away from the belt. If the timing belt is to be re-used, mark the direction of rotation with chalk to ensure correct re-fitting.
3. Ensure that the three timing pins are correctly located and that the belt tensioner is held back against the spring with the clamping bolt. **REFER TO WORKSHOP MANUAL FOR DETAILED BELT FITTING AND TENSIONING PROCEDURES.**
4. Remove all pins, and turn engine over twice by hand to complete a full cycle. Re-gain timing position and re-check alignment by inserting the appropriate pins. If the pins do not all fit correctly repeat step 3 before proceeding. Remove all pins and turn engine over twice by hand to complete a full cycle to ensure that there is no obstruction/
5. Replace blanking plug in the cylinder block and follow workshop manual procedures to re-fit belt covers, etc.

### **IMPORTANT**

For detailed and concise instructions on the correct use of this kit, refer to the vehicle manufacturer's service manual.

\*Torx is the registered trademark of Camcar/Textron Inc.

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