



## APPLICATION GUIDE FOR: ENGINE

# TIMING KIT

27232



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 information before operating product.

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

All photographs and drawings in this guide 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 guide, the Draper Tools policy of continuous improvement determines the right to make modifications without prior warning.

# 1. TITLE PAGE

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## 1.1 INTRODUCTION:

**USER GUIDE FOR: Engine Timing Kit**

**Stock No: 27232**

**Part No: ETK135**

## 1.2 REVISIONS:

**Date first published June 2018.**

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As our user manuals are continually updated, users should make sure that they use the very latest version.

**Downloads are available from:** <http://drapertools.com>

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## 1.3 UNDERSTANDING THIS GUIDES SAFETY CONTENT:

**WARNING!** – Information that draws attention to the risk of injury or death.

**CAUTION!** – Information that draws attention to the risk of damage to the product or surroundings.

## 1.4 COPYRIGHT © NOTICE:

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## 3. GUARANTEE

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### 3.1 GUARANTEE

Draper tools have been carefully tested and inspected before shipment and are guaranteed to be free from defective materials and workmanship.

Should the tool develop a fault, please return the complete tool to your nearest distributor or contact:

**Draper Tools Limited, Chandler's Ford, Eastleigh, Hampshire, SO53 1YF. England.**

**Telephone Sales Desk: (023) 8049 4333** or:

**Product Helpline (023) 8049 4344.**

A proof of purchase must be provided.

If upon inspection it is found that the fault occurring is due to defective materials or workmanship, repairs will be carried out free of charge. This guarantee period covering parts/labour is 12 months from the date of purchase except where tools are hired out when the guarantee period is 90 days from the date of purchase. This guarantee does not apply to normal wear and tear, nor does it cover any damage caused by misuse, careless or unsafe handling, alterations, accidents, or repairs attempted or made by any personnel other than the authorised Draper warranty repair agent.

Note: If the tool is found not to be within the terms of warranty, repairs and carriage charges will be quoted and made accordingly.

This guarantee applies in lieu of any other guarantee expressed or implied and variations of its terms are not authorised.

Your Draper guarantee is not effective unless you can produce upon request a dated receipt or invoice to verify your proof of purchase within the guarantee period.

Please note that this guarantee is an additional benefit and does not affect your statutory rights.

**Draper Tools Limited.**

## 4. GENERAL PRODUCT INFORMATION

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This product is designed to be used correctly and with care for the purpose for which it is intended. No liability is accepted by Draper Tools Limited for incorrect use or application of any of our products, and Draper Tools Limited cannot be held responsible for any damage to personnel, property or equipment when using this product. Incorrect use will also invalidate any warranty.

The applications database and any instructional information provided has been designed to offer general guidance for a particular product's use and while all attention is given to the accuracy of the data, no project should be attempted without referring first to the manufacturer's technical documentation (workshop or instruction manual) or the use of a recognised authority such as Autodata.

It is our policy to continually improve our products and thus we reserve the right to alter specifications and components without prior notice. It is the responsibility of the user to ensure the suitability of the product and information prior to use.

## 5. HEALTH AND SAFETY INFORMATION

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### GENERAL SAFETY INSTRUCTIONS

**Warning:** Please read all safety warnings and all details carefully. Failure to follow the warnings may result in serious injury or major component damage.

**Important:** Draper Tools recommends that this product should not be modified or used for any application other than that for which it was designed.

**Save all warnings and instructions for future reference.**

#### 1) Personal safety

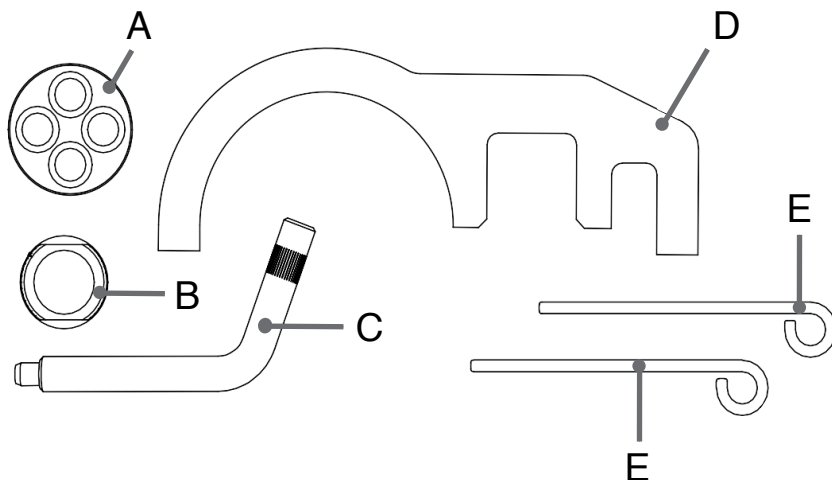
- a) Stay alert, watch what you are doing and use common sense when using this product. Do not use this product while you are tired or under the influence of drugs, alcohol or any medication. A moment of inattention while using this product may result in serious personal injury.
- b) Use personal protective equipment as necessary.
- c) Check and remove any part of the product before turning/testing the engine. A part left attached to a rotating part of the engine may result in personal injury or major component damage.
- d) Carefully clean the tool components after every use.
- f) Keep the tool components safe and tidy.
- g) Do not use this product for any purpose other than for which it is designed.

**Warning!** Some of the packaging materials used may be harmful to children. Do not leave any of these materials in the reach of children.

If any of the packaging is to be thrown away, make sure it is disposed of correctly; according to local regulations.

## 6. CONTENTS

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ITEM	DESCRIPTION	OEM	STOCK No.
A	Crankshaft Pulley Turning Tool	11 6 480	29909
B	High-Pressure Fuel Pump Sprocket Removal Tool	11 8 740/030	29928
C	Flywheel Plate Timing Pin	11 5 320	30081
D	Camshaft Alignment Tool	11 8 760	30101
E	2x Loop Pins	11 3 340	30194

## 7. APPLICATION

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The **27232** has been developed as an **engine timing kit** for the vehicles listed below. Allows the user to lock camshafts and the crankshaft in the 'timed' position so the timing chain or timing belt can be removed and replaced safely.

### Used on the following Vehicles:

<b>BMW 1 Series 2007 - 2014</b>	<b>Mini Clubman 2015 - 2017</b>
<b>BMW 1 Series 2011 - 2015</b>	<b>Mini Convertible 2016 - 2017</b>
<b>BMW 2 Series Coupe 2014 - 2016</b>	<b>Mini Mini Hatch 2014 - 2017</b>
<b>BMW 3 Series 2007 - 2014</b>	<b>Mini Mini Hatch 2014 - 2017</b>
<b>BMW 3 Series 2012 - 2017</b>	<b>Mini Clubman 2010 - 2014</b>
<b>BMW 3 Series G T 2013 - 2016</b>	<b>Mini Clubvan 2012 - 2014</b>
<b>BMW 4 Series Cabriolet 2014 - 2017</b>	<b>Mini Countryman 2010 - 2017</b>
<b>BMW 4 Series Coupe 2013 - 2017</b>	<b>Mini Mini 2010 - 2015</b>
<b>BMW 4 Series G Coupe 2014 - 2017</b>	<b>Mini Paceman 2013 - 2017</b>
<b>BMW 5 Series 2007 - 2010</b>	<b>Mini Coupe 2011 - 2015</b>
<b>BMW 5 Series 2010 - 2017</b>	<b>Mini Roadster 2012 - 2015</b>
<b>BMW 5 Series G T 2009 - 2017</b>	
<b>BMW 6 Series 2011 - 2017</b>	
<b>BMW 6 Series G Coupe 2012 - 2017</b>	
<b>BMW 7 Series 2008 - 2015</b>	
<b>BMW X1 2009 - 2015</b>	
<b>BMW X3 2007 - 2010</b>	
<b>BMW X3 2011 - 2017</b>	
<b>BMW X4 2014 - 2017</b>	
<b>BMW X5 2013 - 2016</b>	
<b>BMW X5 2010 - 2013</b>	
<b>BMW X5 2013 - 2017</b>	
<b>BMW X6 2010 - 2014</b>	
<b>BMW X6 2014 - 2017</b>	

### Engine Codes:

#### 1.6cc

N47 D16C, N47 D16, N47 C16U1, N47 C16K1, N47 C16A/U1

#### 2.0cc

N47 D20A/K0, N47 D20A, N47S D20B/D/T0, N47 D20C/K1, N47 D20C, N47 D20C/U1, N47 D20C/O1, N47 D20D, N47 D20D/T1, N47 D20A/U0, N47T D20K1, N47 D20U0, N47T D20U1, N47T D20O1, N47 D20C/O, N47 D20C/O1, N47 D20O0, N47S D20D/T0, N47 D20A/O0, N47 C20K1, N47 C20U1, N47 C20A/K1

#### 3.0cc

N57 D30U0, N57 D30A/O0, N57 D30A/O1, N57 D30B, N57 D30A, N57 D30UO, N57 D30O0, N57 D30O1, N57 D30B/T1, N57 D30TO, N57 D30C/S1, N57 D30A0/O0, N57 D30T0, N57 D30C, N57 D30B/T0



## 8. PREPARATION

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The following is for guidance only. Please refer to OEM derived data such as the vehicle manufacturer's own data or Autodata. The use of this product is purely down to the user's discretion and Draper Tools Limited cannot be held responsible for any damage caused what so ever.



## 9. PROCEDURE AND APPLICATION GUIDE

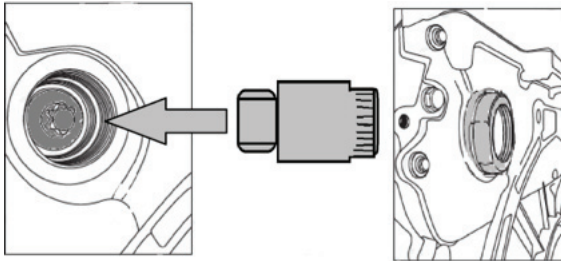
Depending on manufacture and model, some engine components do change. Please check with Autodata or the manufacturer's data before use.

### Component 1 = CRANKSHAFT TURNING TOOL

Component 1 is used to turn the front pulley and crankshaft to its required position.

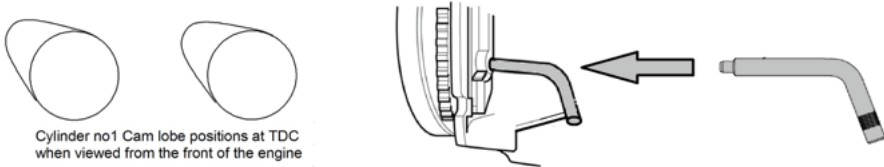
### Component 2 = HIGH PRESSURE FUEL PUMP SPROCKET RETAINING TOOL

Component 2 is designed to allow the HP diesel pump to be removed whilst holding the pump sprocket in place so the Cam Chain, Valve timing etc. do not need to be disturbed to remove/replace the HP pump. Locate and remove the plastic blanking plug that covers the HP pump sprocket holding bold. Ensure engine is at TDC No 1. Screw component 2 into the sprocket (do not remove the sprocket central fixing bolt till Component 2 is in place) Remove the HP pump mounting bolts and slacken the sprocket fixing via the centre of component 2. The HP pump will be pushed out of the back of the sprocket.



### Component 3 = FLYWHEEL TIMING PIN

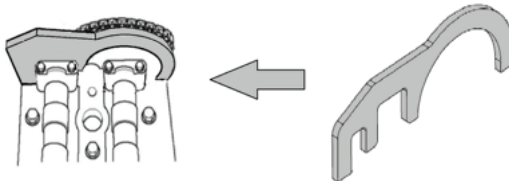
Component 3 is used to lock the crankshaft in its TDC no1 position. 3 locates through the engine block into the back of the Flywheel/flywheel Plate. Turn the engine in its normal direction of rotation until the pin can be located fully. Confirm TDC no 1 cylinder by checking the position of the Cam lobes on no 1 cylinder.



Cylinder no1 Cam lobe positions at TDC when viewed from the front of the engine

### Component 4 = CAMSHAFT ALIGNMENT TOOL

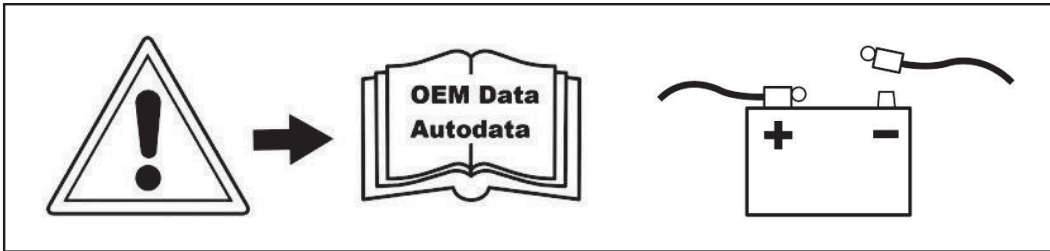
Locates on the exhaust Cam just behind the Camshaft drive gears. Both ends should sit flush on the cylinder head when in place if the timing is correct. If incorrect, check component 3 is in place correctly. If 3 is correctly fitted then the camshaft timing must be adjusted.



### Components 5 (x 2) = CHAIN TENSIONER LOCKING PINS

Components 5 are used to lock the Chain Tensioners in their retracted position.

Please note images are for guidance only and subject to change.



## 10. EXPLANATION OF SYMBOLS

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### 10.1 EXPLANATION OF SYMBOLS



Read the guide.



Refer to website.

## CONTACTS

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General Enquiries: (023) 8026 6355

Service/Warranty Repair Agent:

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YOUR DRAPER STOCKIST

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