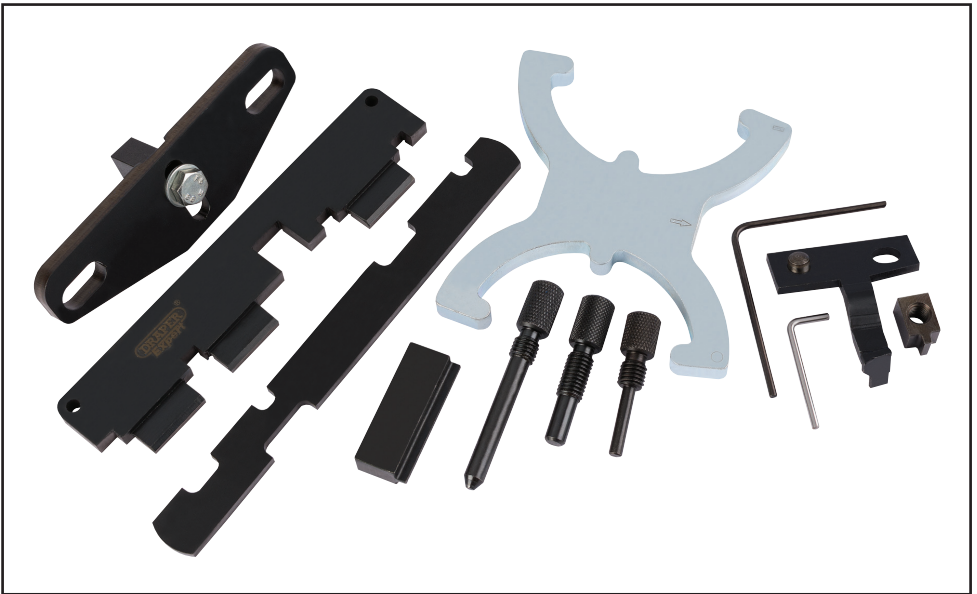




APPLICATION GUIDE FOR: ENGINE **TIMING KIT**

17785



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

1.1 INTRODUCTION:

USER GUIDE FOR: Engine Timing Kit

Stock No: 17785

Part No: ETK170

1.2 REVISIONS:

Date first published June 2018.

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>

Draper Tools Limited
Hursley Road
Chandler's Ford
Eastleigh
Hampshire
SO53 1YF
UK

Website: drapertools.com

Product Helpline: +44 (0) 23 8049 4344

General Fax: +44 (0) 23 8026 0784

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:

Copyright © Draper Tools Limited.

Permission is granted to reproduce this publication for personal and educational use only. Commercial copying, redistribution, hiring or lending is prohibited.

No part of this publication may be stored in a retrieval system or transmitted in any other form or means without written permission from Draper Tools Limited.

In all cases this copyright notice must remain intact.

2. CONTENTS

1. TITLE PAGE	
1.1 INTRODUCTION	2
1.2 REVISION HISTORY	2
1.3 UNDERSTANDING THIS GUIDE.....	2
1.4 COPYRIGHT NOTICE	2
2. CONTENTS	
2.1 CONTENTS	3
3. GUARANTEE	
3.1 GUARANTEE	4
4. GENERAL PRODUCT INFORMATION	
4.1 GENERAL PRODUCT INFORMATION	5
5. HEALTH AND SAFETY INFORMATION	
5.1 GENERAL SAFETY INSTRUCTIONS FOR USE	
Personal safety	6
6. CONTENTS	
6.1 PARTS DRAWING AND LISTING	7
7. APPLICATION	
7.1 PRODUCT APPLICATION AND COMPATIBILITY LISTING	8
8. PREPARATION	
8.1 ADVISORIES BEFORE USE	9
9. PROCEDURE AND APPLICATION GUIDE	
9.1 APPLICATION GUIDANCE	10-13
10. EXPLANATION OF SYMBOLS	
10.1 EXPLANATION OF SYMBOLS	14

3. GUARANTEE

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

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

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.

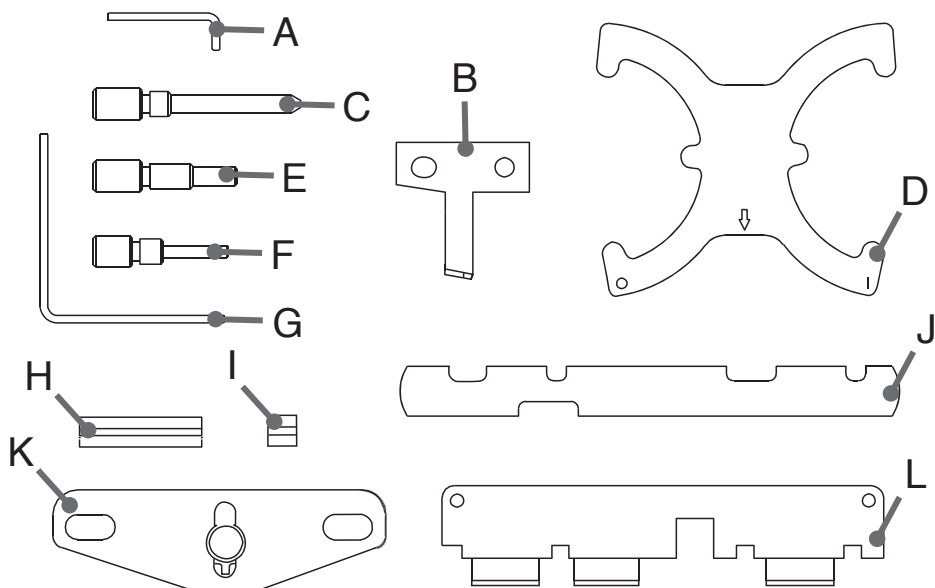
1) Personal safety

- 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



ITEM	DESCRIPTION	OEM	STOCK No.
A	Timing Belt Tensioner Retaining Pin	303-1054	28410
B	Crankshaft Vibration Dampener Alignment Tool	303-1550	28647
C	Crankshaft Timing Pin	303-620	28733
D	Camshaft Sprocket Locking Tool	303-1097	29000
E	Crankshaft Locking Pin	303-748	29184
F	Crankshaft Setting Pin	303-507	29185
G	3mm Tensioner Pin	N/A	29198
H	Tooth Block Item 2	303-393-02	29259
I	Short Tooth Block	303-393-02	29295
J	Camshaft Alignment Strap	303-376B	29302
K	Flywheel Locking Tool	303-734	29342
L	Camshaft Alignment Tool	303-1552	29345

7. APPLICATION

The **17785** has been developed as an **engine timing kit** for the vehicles listed below. Allows the user to lock the engine in the 'timed' position so that the camshaft drive belt can be removed and replaced or the engine timing checked.

Used on the following Vehicles:

Used on the following Vehicles:

Ford B-MAX 2012 - 2015
Ford C-MAX 2007 -2015
Ford S-MAX 2006 - 2015
Ford Fiesta 1995 - 2015
Ford Focus 1998 - 2015
Ford Puma 1997 - 2002
Ford Fusion 2002 - 2011
Ford Mondeo 1993 - 2015
Ford Focus C-MAX 2003 - 2007
Ford -urneo Connect 2002 - 2006
Ford Cougar 1998 - 2001
Ford Galaxy 2006 - 2015
Ford Transit 2006 -2011
Mazda 121 1995 - 2000
Mazda 2 2002 - 2007
Volvo S60 2011 - 2015 16V
Volvo S80 2010 - 2015 Ti-VCT
Volvo V40 2012 -2015 SCTi EcoBoost
Volvo V60 2011 - 2015 Mountune
Volvo V70 2010 - 2015 Cross Country T4

Engine Codes:

1.25cc

DHA, DHB, DHC, DHD, DHE, DHF, DHG, F8JA, F8JB, FUJA, FUJB, M7JA, M7JB, SNJA, STJA

1.4cc

ASDA, ASDB, FHA, FHD, FHE, FHF, FXDA/C, FXDB/D, FXJA, FXJB, SPJA

1.6cc

FYDA/C, FYDB/D, FYJA, FYJB, L1F, L1J, L1L, L1N/Q, L1T, L1V, L1W, HWDA, HWDB, JTWB, JTWA, JTDB, JTDA, JQDB, JQDA, IQJA, IQDB, IQDA, B4164T4, B4164T3, B4164T2, B4164T

1.7cc

MHA, MHB

1.8cc

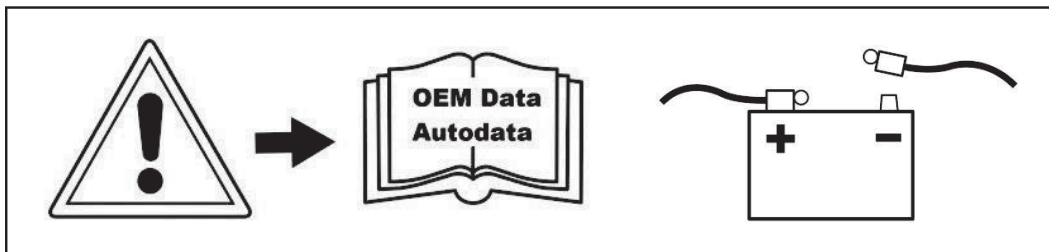
EYDB, EYDC, EYDD/E, EYDF, EYDG, EYDI, EYDJ, EYPA, EYPC, RKA, RKB, RKF, RKH, RKJ, RKK, CDBB, CGBA/B, CHBA/B, CSDA, CSDB, QQDA, QQDB, QQDC

2.0cc

EDBA/C, EDBB, EDBD, EDDB, EDDC, EDDD, EDDF, NGA, NGB, NGC, NGD, ALDA, HMDA, AOBA, AODA, AODB, AOWA, CJBA/B, N4JB, 2.3, SEBA, SEWA, GZFA, GZFB.

8. PREPARATION

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.



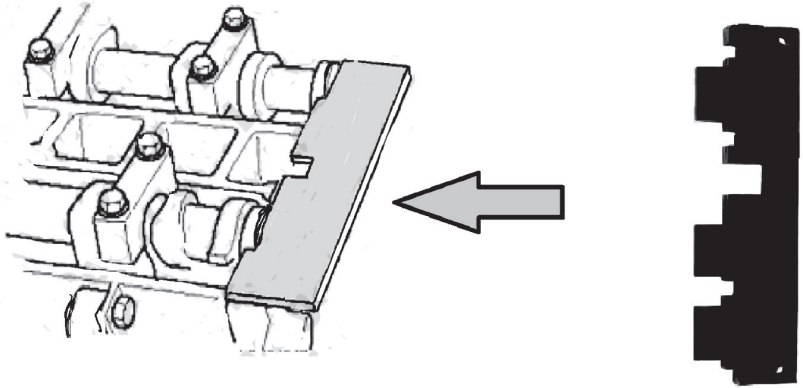
9. PROCEDURE AND APPLICATION GUIDE

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

Component Descriptions:

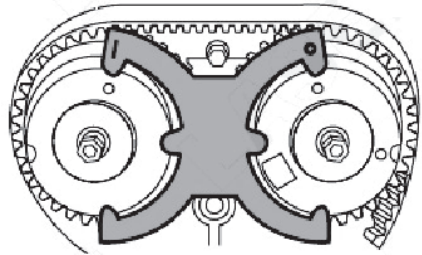
Component 1 = Camshaft alignment Tool

Component 1 is used to locke the camshaft on the 1.6 EcoBoost Sigma engines from 2010



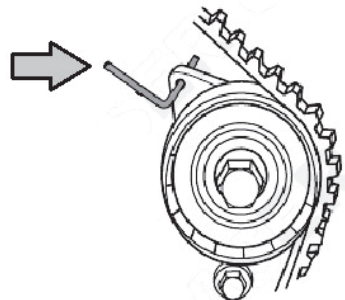
Component 2 = Camshaft Sprocket Locking tool

Component 2 is used to lock the VVT (Variable Valve Timing) camshaft sprockets as shown.



Component 3 = 3mm Tensioner Pin

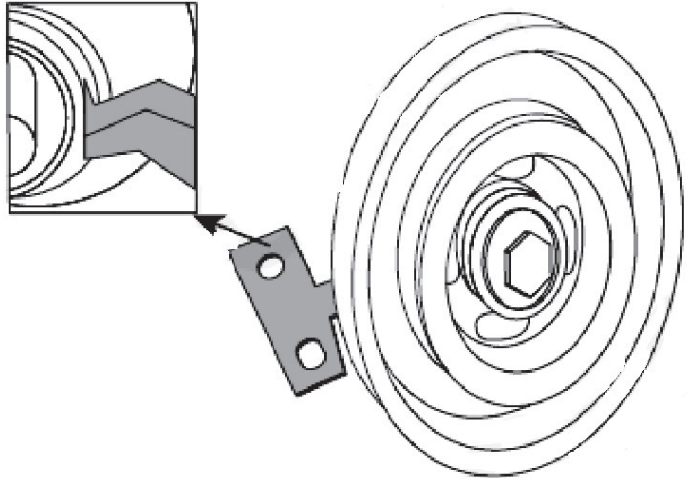
Component 3 is used to lock the belt tensioner as shown, use with Component 2.



9. PROCEDURE AND APPLICATION GUIDE

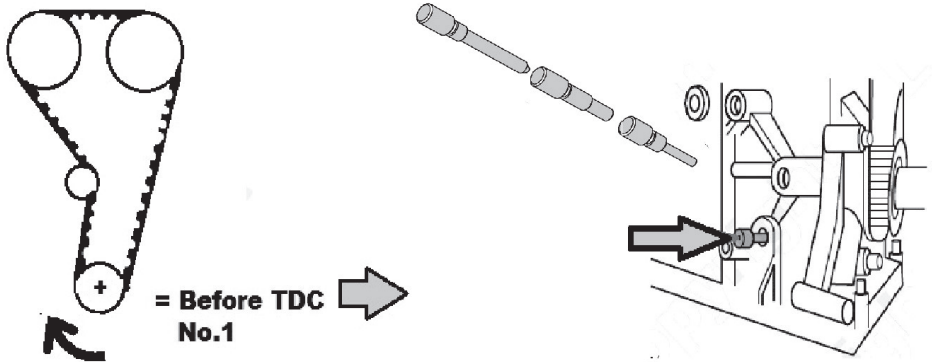
Component 4 = Crankshaft Pulley alignment tool

Component 4 is used to align the crankshaft front pulley as shown on 1.6 direct injection engines from 2010. Remove component 4 before final tightening of the pulley bolt.



Components 5, 6 & 8 = Crankshaft timing Pins

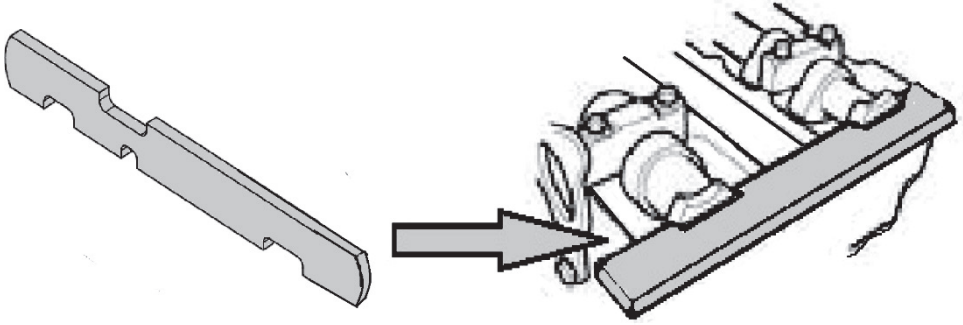
Components 5, 6 & 8 are all use to lock the crankshaft position by screwing in to the side of the block and locking against the crankshaft web. Select the correct component according to the OEM vehicle application data.



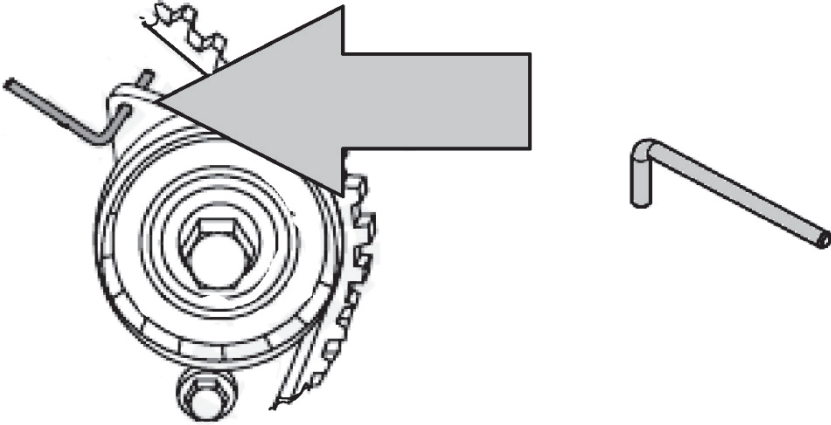
9. PROCEDURE AND APPLICATION GUIDE

Component 7 = Camshaft Alignment Strap

Component 7 is used to lock both the camshafts in their timed position independently of the camshaft pulleys. (for 1.6 Ecoboost Sigma engines use Component 1)



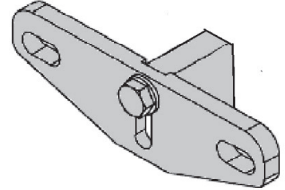
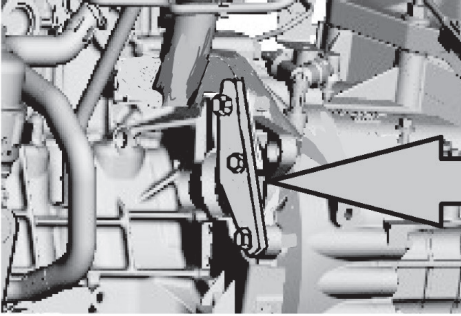
Component 9 = Tensioner pin



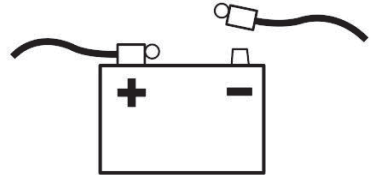
9. PROCEDURE AND APPLICATION GUIDE

Components 10, 11, & 12 = Flywheel Locking Tool

Components 10, 11 & 12 are used together to hold the flywheel in place of the starter motor to allow tightening and loosening of the front crankshaft pulley.



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



10. EXPLANATION OF SYMBOLS

10.1 EXPLANATION OF SYMBOLS



Read the guide.



Refer to website.

CONTACTS

Draper Tools Limited, Hursley Road,
Chandler's Ford, Eastleigh, Hampshire. SO53 1YF. U.K.

Helpline: (023) 8049 4344

Sales Desk: (023) 8049 4333

Internet: drapertools.com

E-mail: sales@drapertools.com

General Enquiries: (023) 8026 6355

Service/Warranty Repair Agent:

For aftersales servicing or warranty repairs, please contact the
Draper Tools Helpline for details of an agent in your local area.

YOUR DRAPER STOCKIST

MCDB0618

©Published by Draper Tools Limited.

No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical photocopying, recording or otherwise without prior permission in writing from Draper Tools Ltd.