



**M-6004-462V  
4.6L 2V Timing Kit  
INSTRUCTION SHEET**

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Please contact the Techline for the most current instruction information (800) FORD788

!!! PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY PRIOR TO INSTALLATION !!!

**Verify kit contents before starting.**

**Kit Contents:**

Qty.	Ford Part Number	Part Name
1	1L2E-6L253-AA	LH TENSIONER ARM
1	1L2E-6L253-BA	RH TENSIONER ARM
1	4R3E-6M256-CC	RH CHAIN GUIDE
1	4R3E-6B274-BB	LH CHAIN GUIDE
1	F1AE-6D081-CD	LH FRONT COVER GASKET- CR VIC/ Mustang / Aluminum
1	F6AE-6D081-BB	CENTER FRONT COVER GASKET- CR VIC/ Mustang
1	F1AE-6D081-AD	RH FRONT COVER GASKET - CR VIC/ Mustang / Aluminum
1	1L2E-6D081-AA	CENTER FRONT COVER GASKET - Aluminum
1	4R3E-6D081-EB	LH FRONT COVER GASKET - CAST IRON
1	4L1E-6D081-AA	CENTER FRONT COVER GASKET - CAST IRON
1	4R3E-6D081-DB	RH FRONT COVER GASKET - CAST IRON
1	F3AE-6700-AA	FRONT SEAL
2	5W7E-6268-AA	PRIMARY TIMING CHAIN
1	F81E-6L266-AA	RH CHAIN TENSIONER
1	F81E-6M269-AA	LH CHAIN TENSIONER
1	F8AE-6256-AA	RH CAM SPROCKET
1	F8AE-6256-BA	LH CAM SPROCKET
2	F4AE-6265-AA	CAM SPACER
2	N806164-S	CAM WASHER
1	XL3E-6306-AB	CRANKSHAFT SPROCKET

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**TIMING COMPONENT BOLT SET**

1	W503279-S437	CHAIN GUIDE BOLT (M6 *20)
4	N804958-S2	CHAIN GUIDE BOLT (M6 *20)
1	N606527-S2	CHAIN GUIDE BOLT (M6 *67)
4	N806177-S437	CHAIN TENSIONER BOLT (M8 * 53)
2	W705803-S	TENSIONER ARM STUD
2	N811085-S2	CAM BOLT (10 * 47.5)
2	N806040-S	Dowel - 8.0X45.5

**FRONT COVER BOLT SET**

1	W701512-S430	DAMPER BOLT
1	N806165-S2	DAMPER WASHER
8	N806177-S437	FRONT COVER BOLT (M8 * 53)
5	N806300-S2	FRONT COVER STUD (M8 * 68 + M 8 * 30)
1	W706560-S437	FRONT COVER STUD (M8 * 65 + M8 * 16)
1	W705128-S437	FRONT COVER BOLT (M8 * 41)
1	W706508-S437	FRONT COVER STUD (M8 * 60 + M6 * 10)
1	N808586-S437	FRONT COVER STUD (M8 * 51 + M6 * 26)
1	N808294-S437	FRONT COVER BOLT (M8 * 53)

1	XW1E-12A227-AC	TRIGGER WHEEL
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**This instruction sheet has three sections.**

The first section is overview of component locations.

The second section is timing chain and tensioner removal.

The third section is timing chain and tensioner installation.

**WARNING:** The removal and installation of all gears and chains must be done with the crank keyway at the 9 0'clock position.

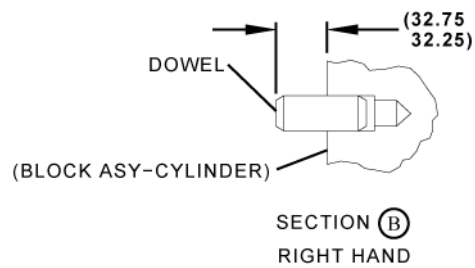
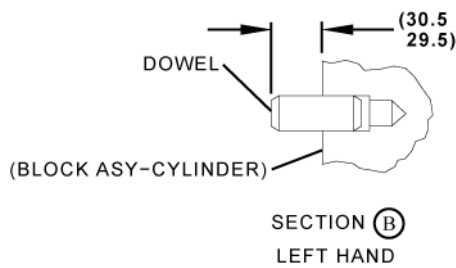
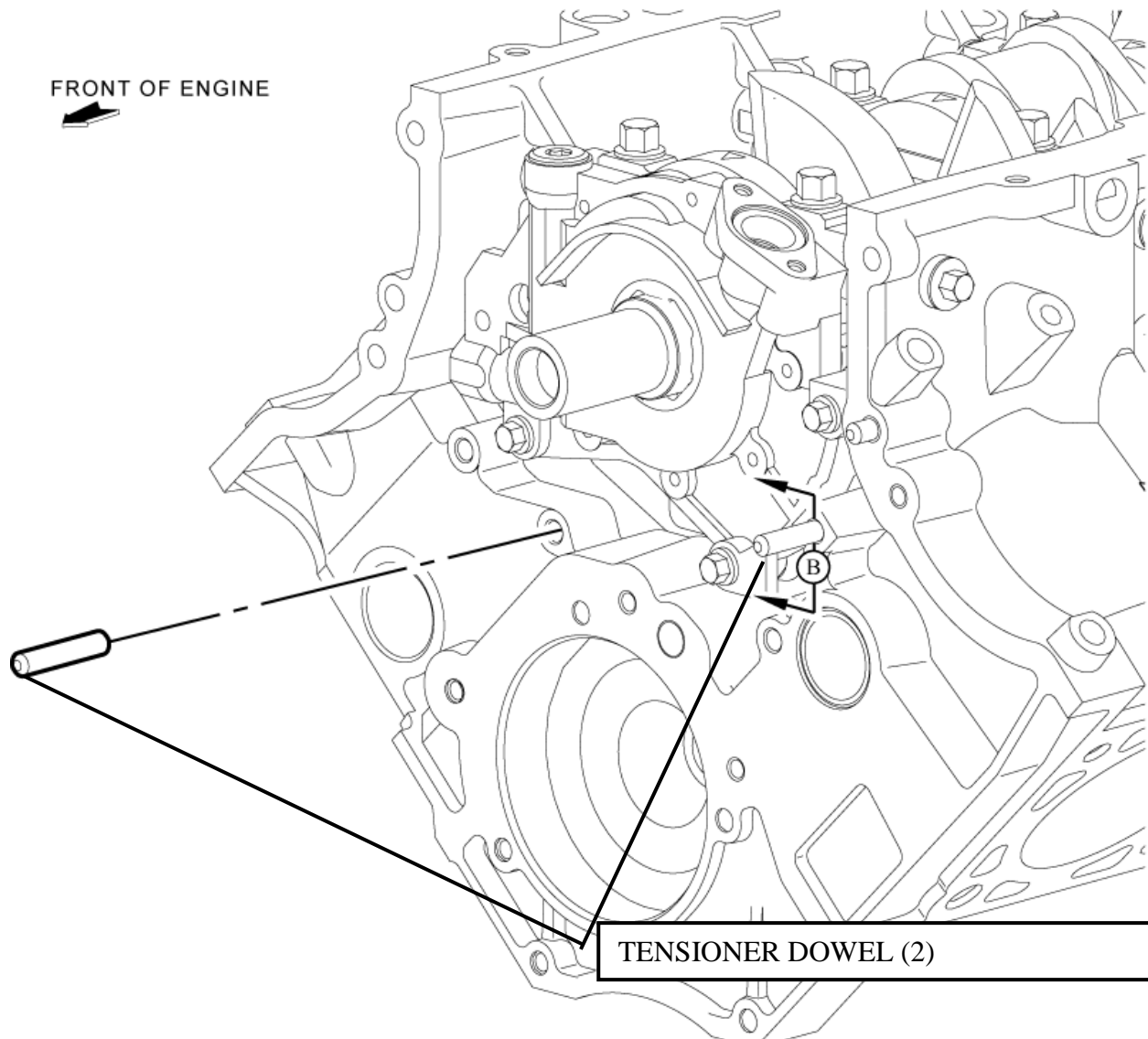
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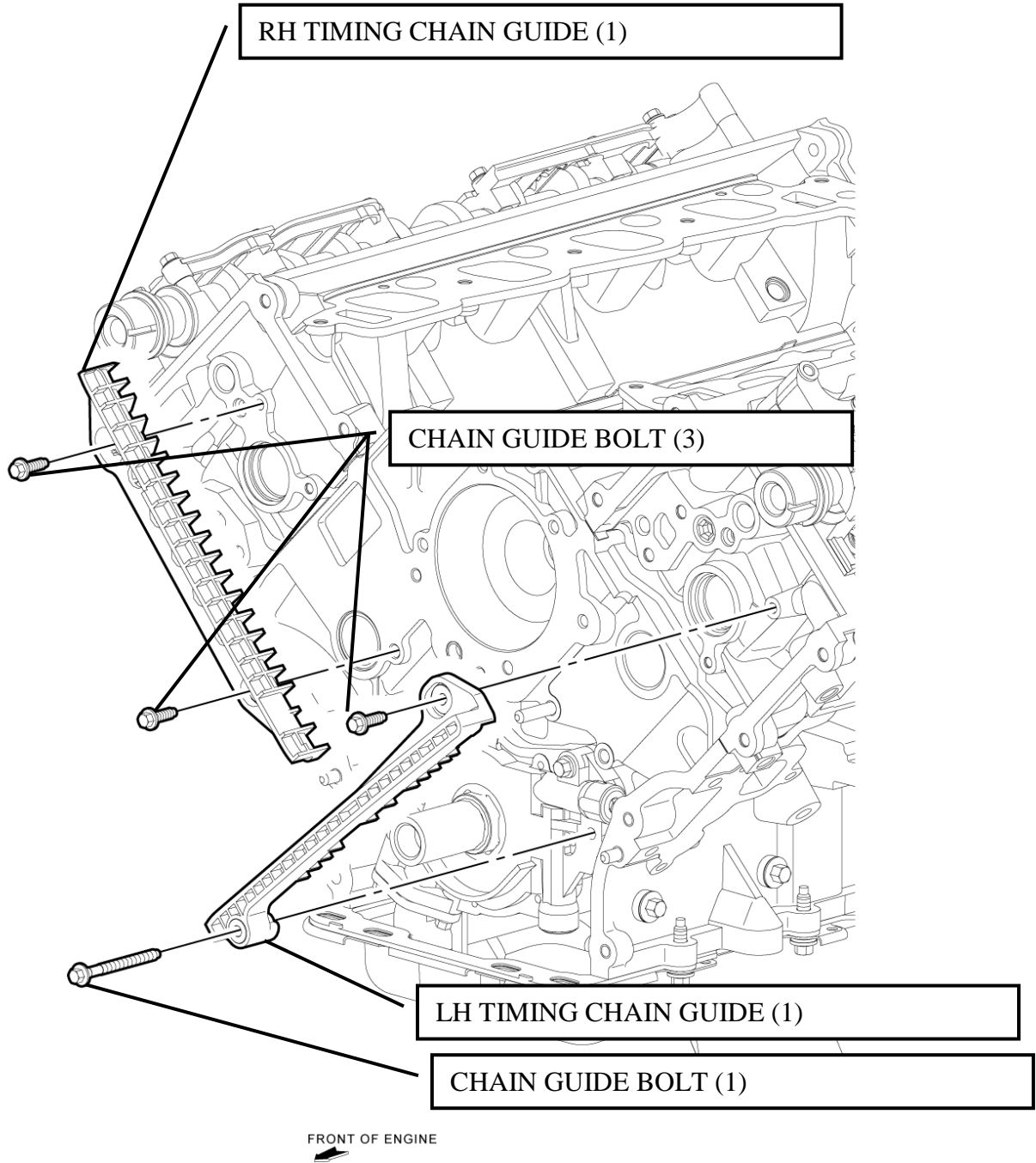
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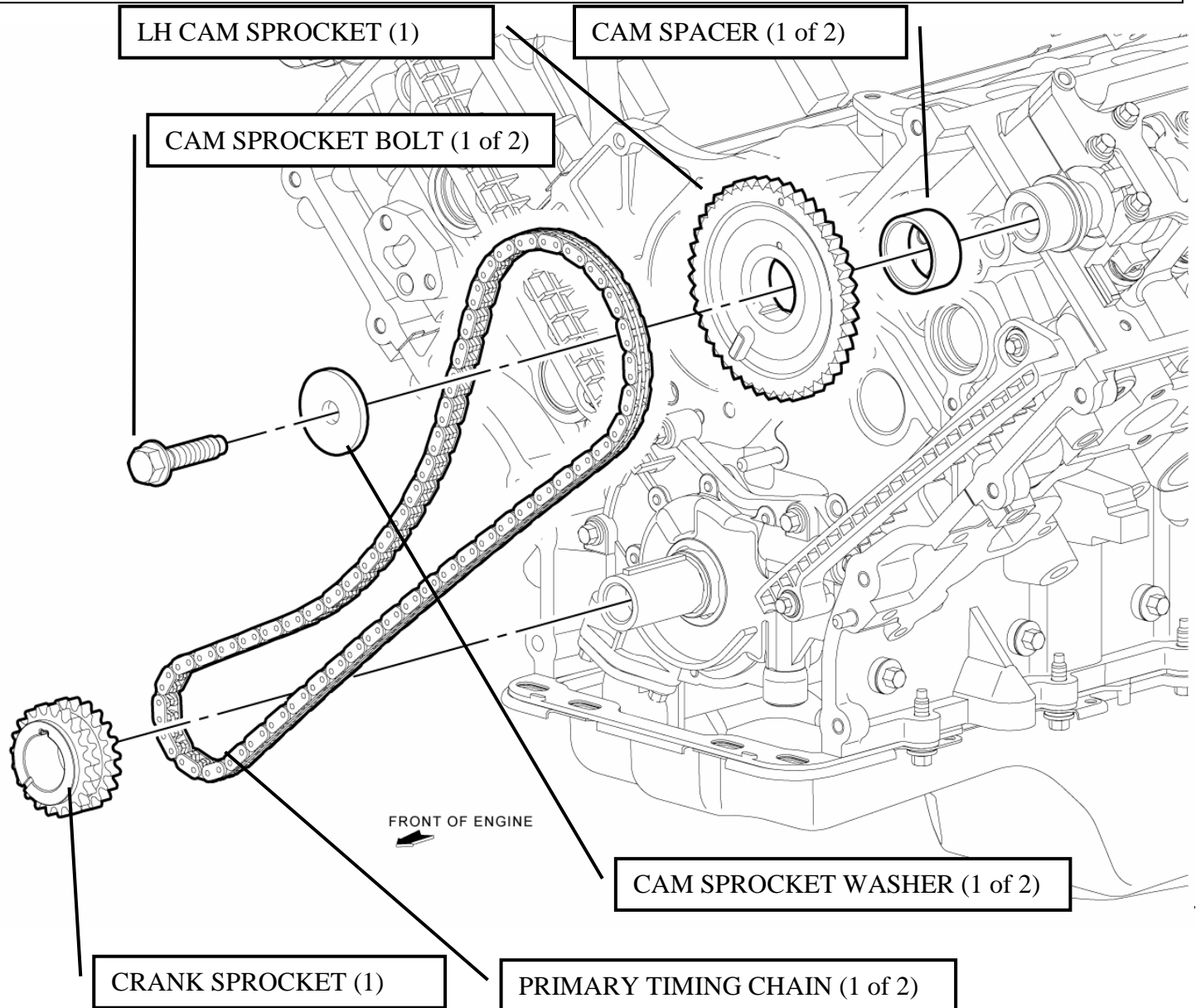
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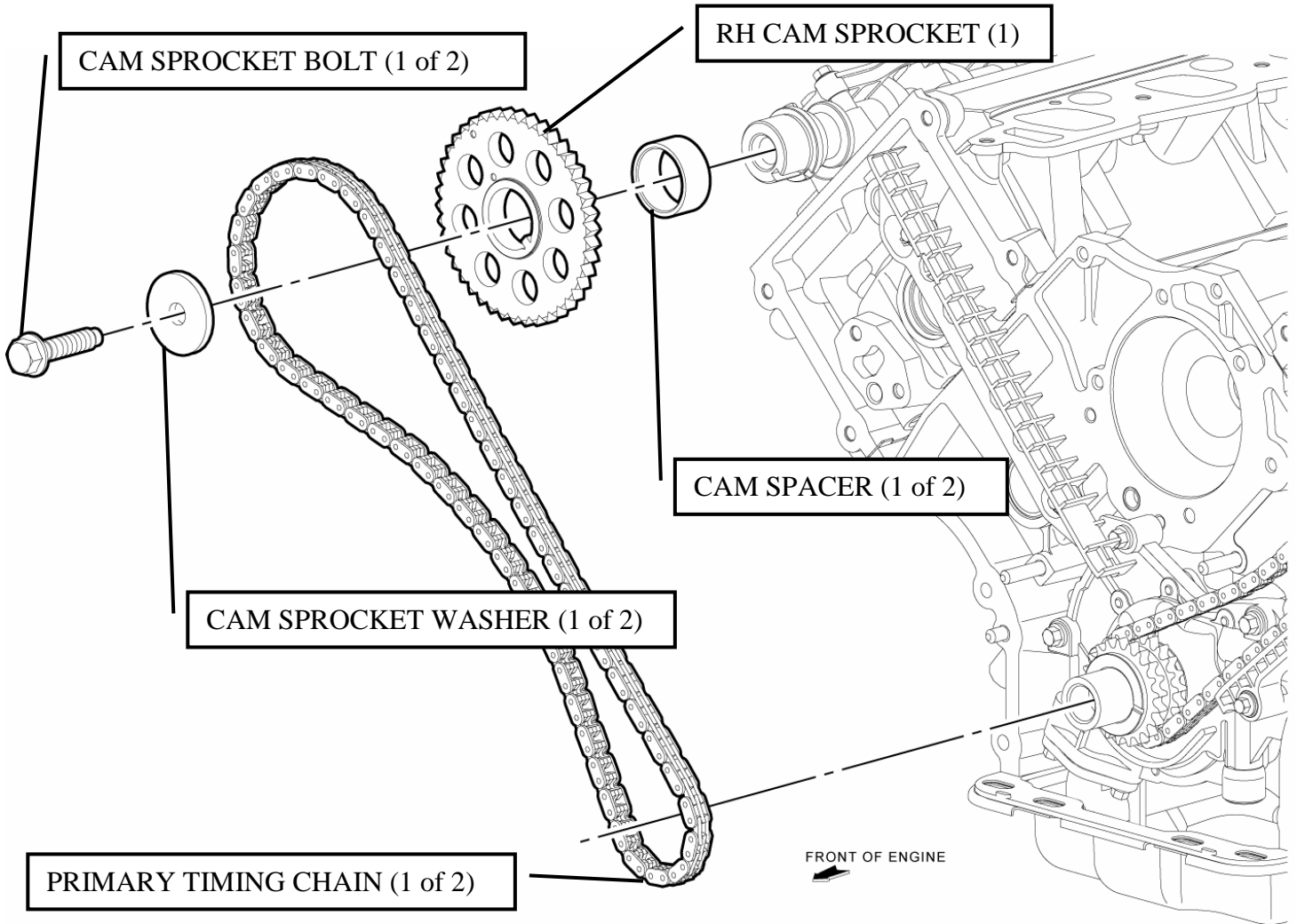
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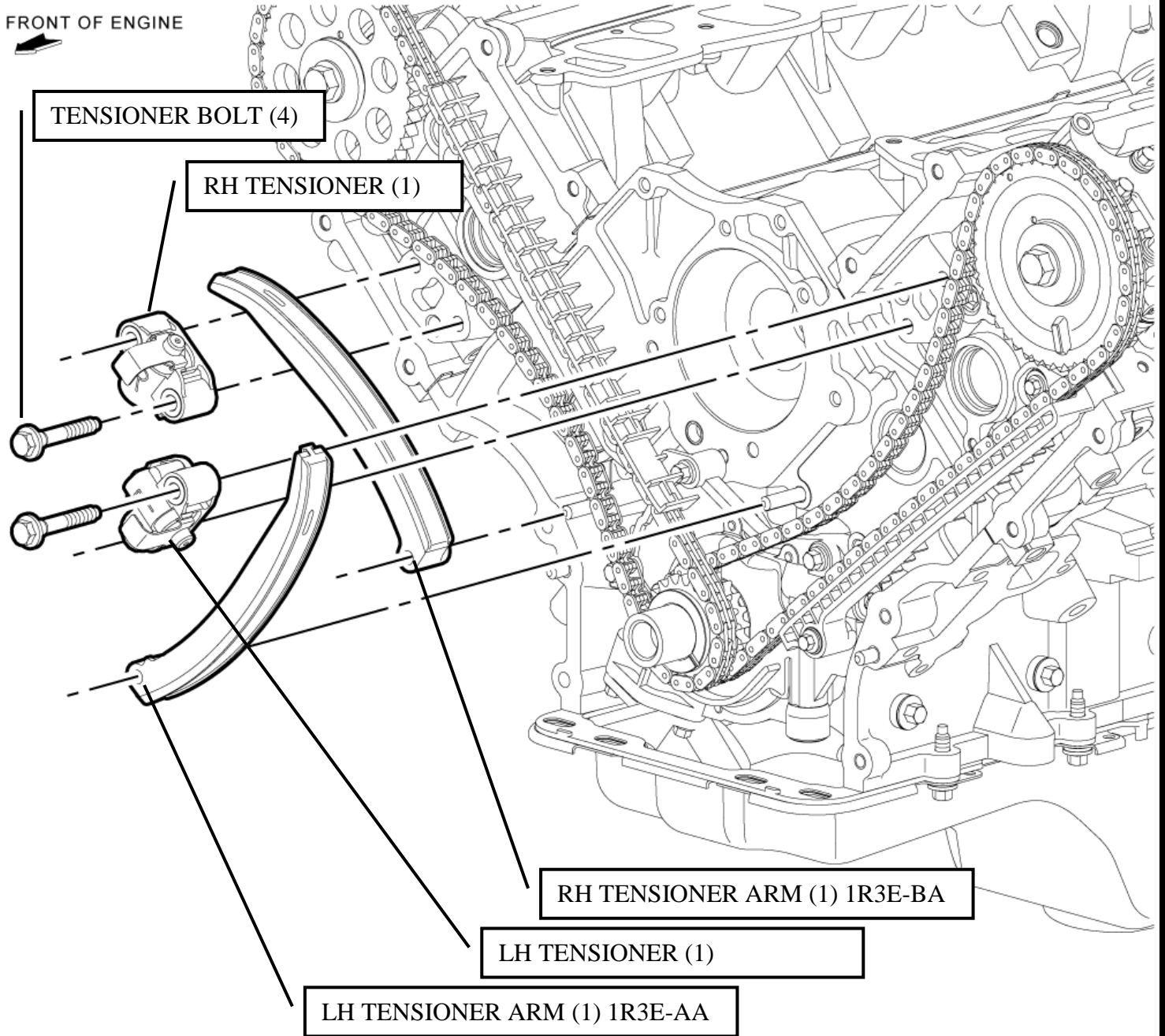


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FRONT OF ENGINE

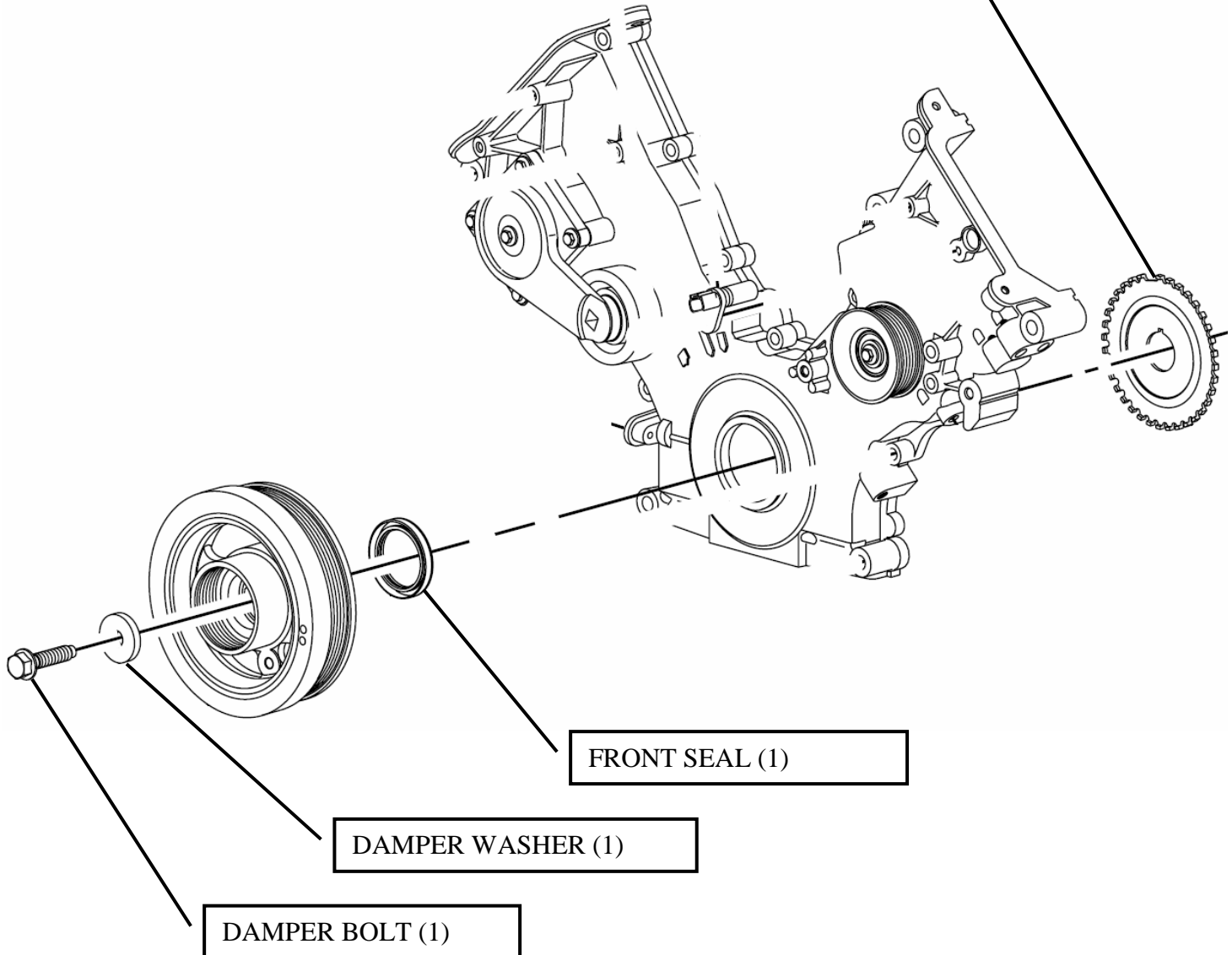


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TRIGGER WHEEL (1)



FRONT SEAL (1)

DAMPER WASHER (1)

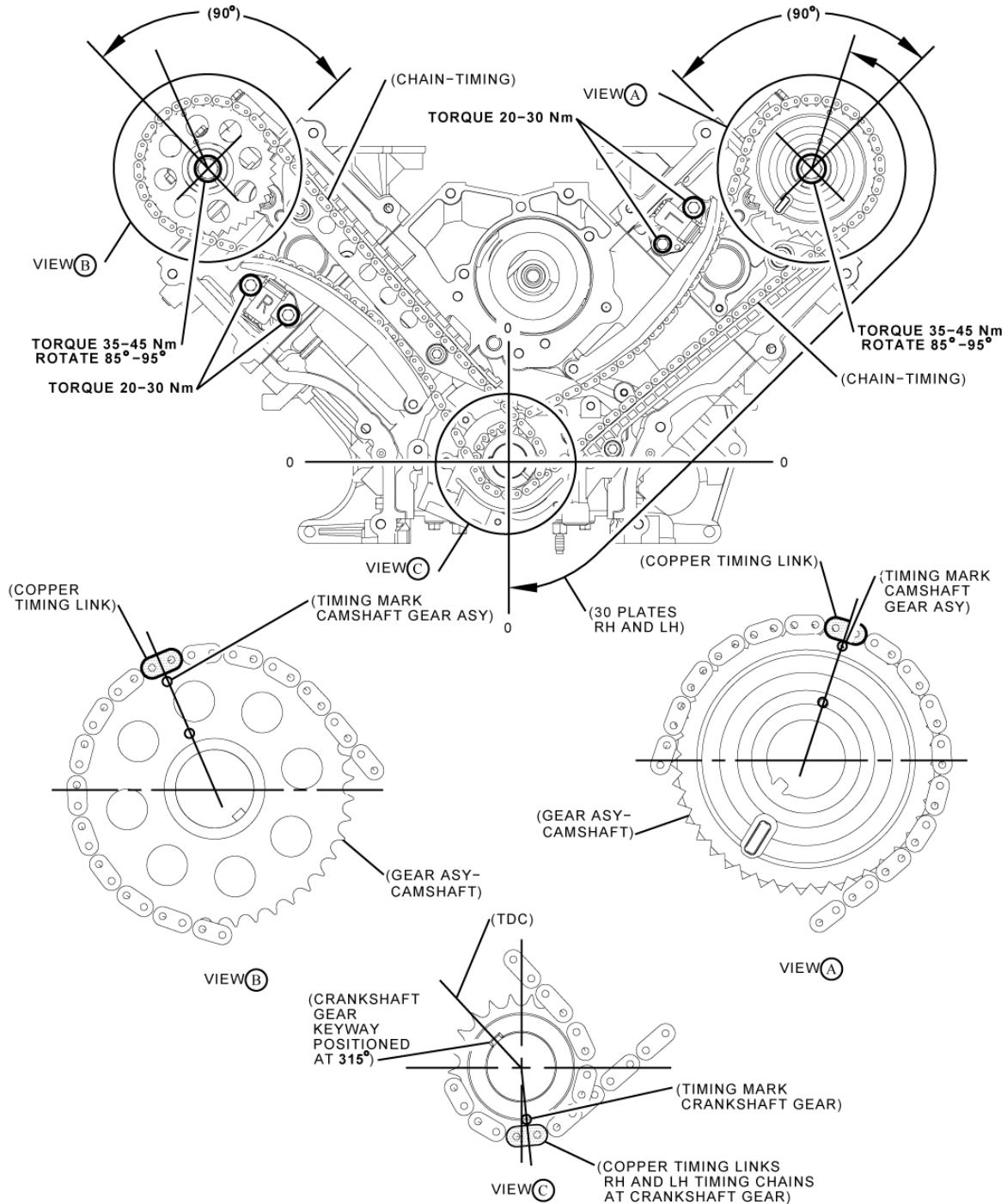
DAMPER BOLT (1)

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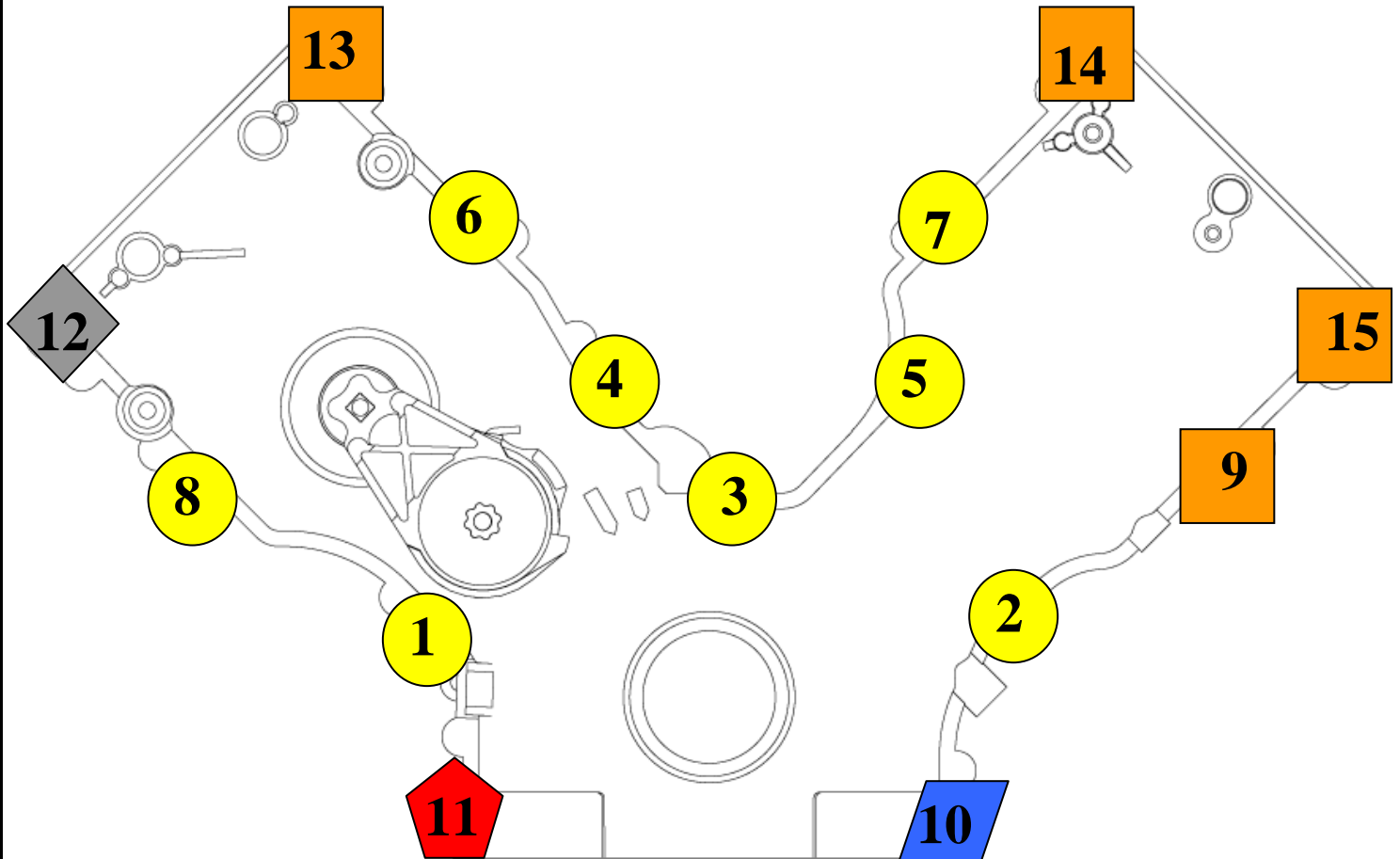
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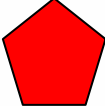
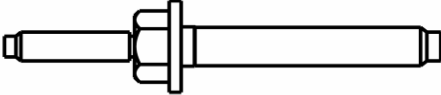
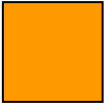
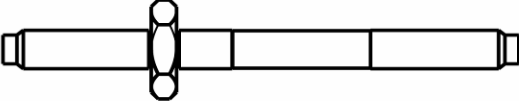
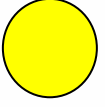
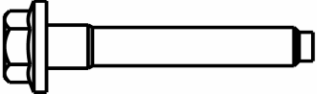

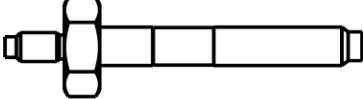
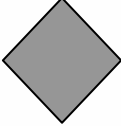
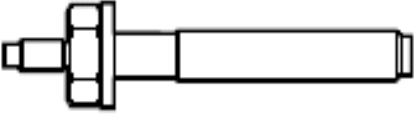
## 4.6R (2V) Mustang Front Cover Bolt Placement



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## 4.6R (2V) Mustang Front Cover Bolt Placement

HOLE NO.	FASTENER	PART NUMBER	TORQUE
		N808586	20-30 Nm
		N806300	20-30 Nm
		N806177	20-30 Nm
		W706508	20-30 Nm
		W706560	20-30 Nm

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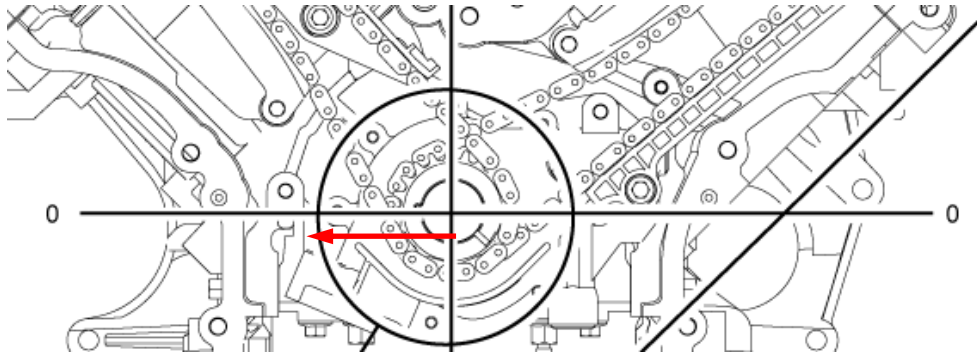
## **REMOVAL OF TIMING COMPONENTS:**

**WARNING:** The removal of all gears and chains must be done with the crankshaft keyway at the 9 o'clock position at all times.

**!!! CAUTION:** Timing chain procedures must be followed exactly or damage to the pistons or valves may result. !!!

**All engines:**

**STEP 1:** Once the valve covers, damper, front cover, and impulse ring are removed rotate the crank to a 9 o'clock position as shown below. If the crankshaft does not remain at this position damage may result!



**STEP 2:** With the crankshaft remaining in the 9 o'clock position loosen both camshaft sprocket bolts leaving them loose in the camshafts. While leaving the camshaft bolts loose in the camshafts remove all timing components followed by the camshaft bolts, washers, sprockets, and spacers.

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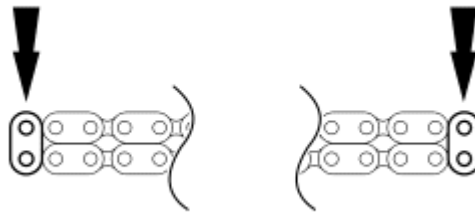
## INSTALLATION OF TIMING COMPONENTS:

**WARNING:** The installation of all gears and chains must be done with the crankshaft keyway at the 9 o'clock position at all times unless otherwise noted.

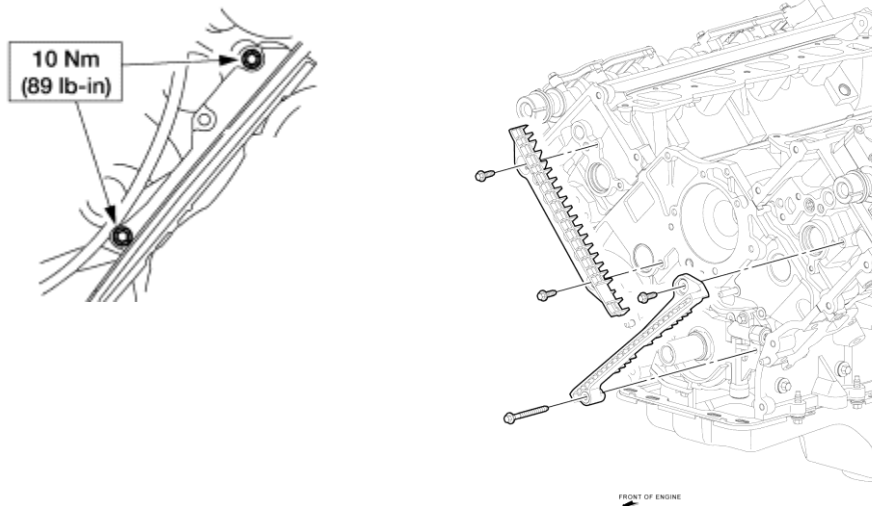
**!!! CAUTION:** Timing chain procedures must be followed exactly or damage to the pistons or valves may result. !!!

All engines:

**STEP 3:** If the copper links are not visible, mark one link on one end and one link on the other end, and use as timing marks.



**STEP 4:** Install the timing chain guides. Torque all fasteners to 10 Nm.

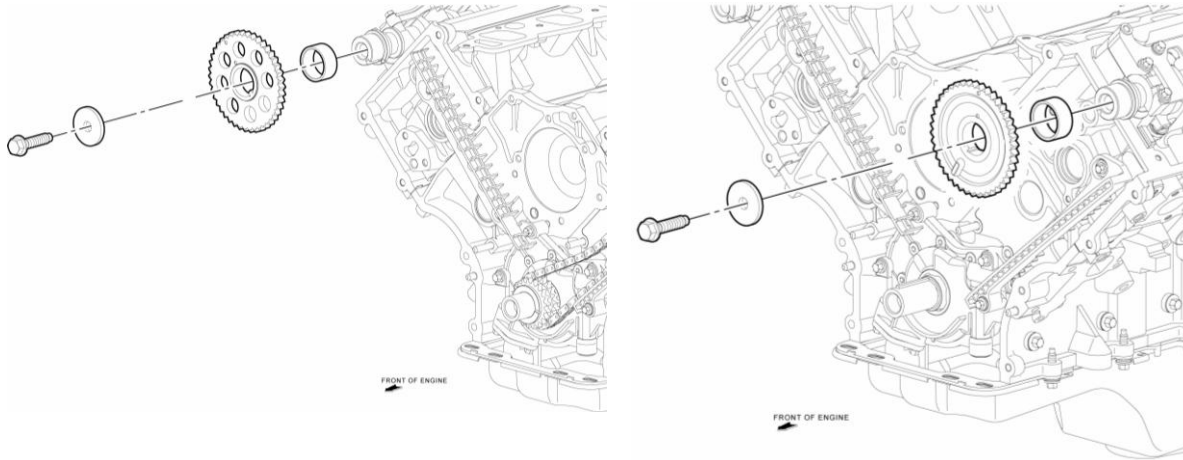


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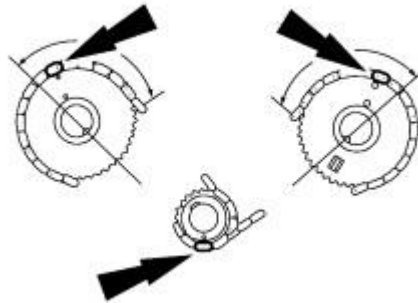
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**STEP 5:** Install the camshaft spacer, camshaft sprocket, washer and bolt, and hand-tighten the bolts.



**STEP 6:** Rotate the LH camshaft sprocket until the timing mark is approximately at the 12-1 o'clock position. Rotate the RH camshaft timing sprocket until the timing mark is approximately in the 11 o'clock position.



**!!! CAUTION:** Unless otherwise instructed, at no time when the timing chains are removed and the cylinder heads are installed is the crankshaft or the camshaft to be rotated. Severe piston and valve damage will occur if cam followers are installed. !!!

**!!! CAUTION:** Rotate the crankshaft counterclockwise only. Do not rotate past position shown or severe piston or valve damage will occur if cam followers are installed. !!!

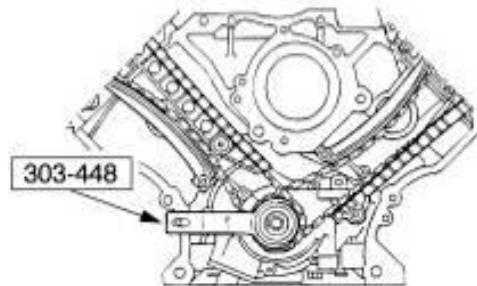
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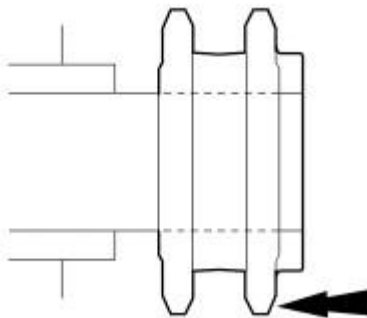
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**STEP 7:** Using the special tool, position the crankshaft so that the number one cylinder is at top dead center (TDC) (TOOL NOT INCLUDED).

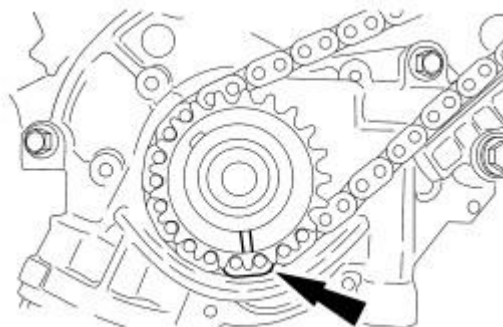
**NOTE:** The number one cylinder is at TDC when the stud on the engine block fits into the slot in the handle of the special tool.



**STEP 8:** Install the crankshaft sprocket with the flange facing forward.



**STEP 9:** Position the LH (inner) timing chain on the crankshaft sprocket, aligning the copper (marked) link with the timing mark on the sprocket.

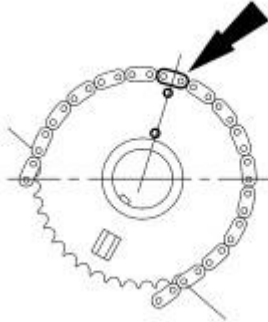


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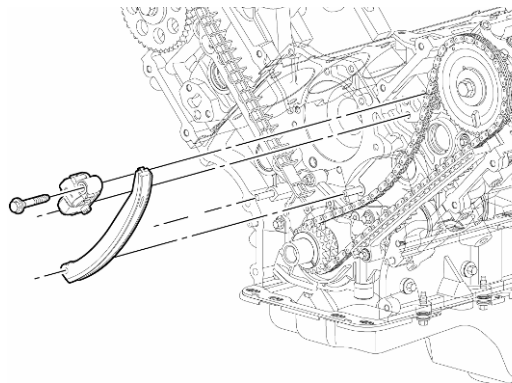
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- STEP 10:** Install the LH timing chain onto the crankshaft sprocket, aligning the copper (marked) link with the timing marks on the sprocket.

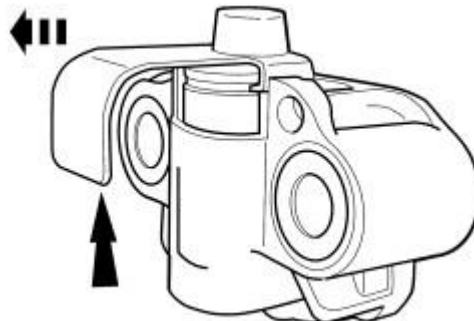


- STEP 11:** Position the LH timing chain tensioner arm on the dowel pin and install the LH timing chain tensioner. Hand start tensioner bolts and torque to 25 Nm.  
**NOTE:** The LH timing chain tensioner arm has a bump near the dowel hole for identification.



**Engines with non-ratcheting timing chain tensioners:**

- STEP 12:** Remove the retaining clips from the LH timing chain tensioner.



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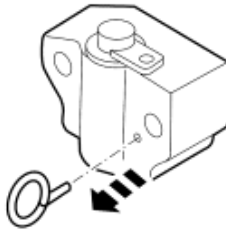
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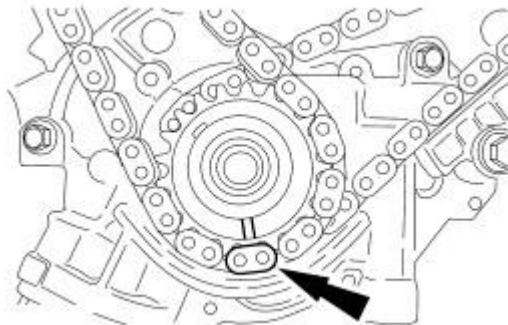
**Engines with ratcheting timing chain tensioners:**

**STEP 13:** Remove the retaining clip from the LH timing chain tensioner.

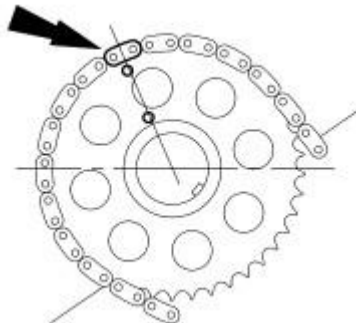


**All engines:**

**STEP 14:** Position the RH (outer) timing chain on the crankshaft sprocket, aligning the copper (marked) link with the timing mark on the sprocket.



**STEP 15:** Install the RH timing chain onto the crankshaft sprocket, aligning the copper (marked) link with the timing marks on the sprocket.

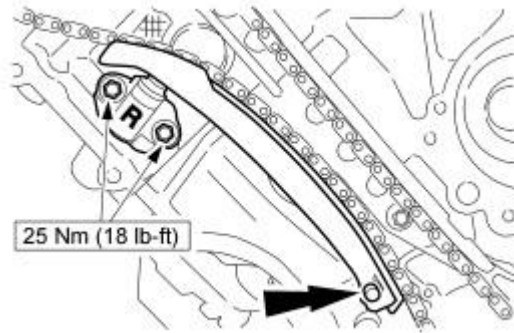


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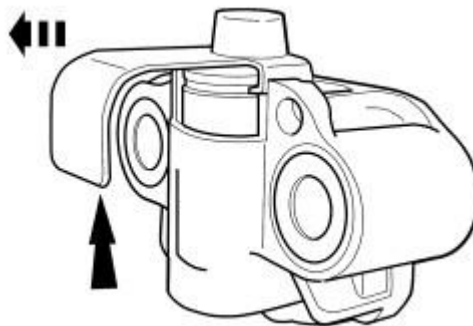
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- STEP 16:** Position the RH timing chain tensioner arms on the dowel pin and install the RH timing chain tensioner. Hand start tensioner bolts and then torque to 25Nm.



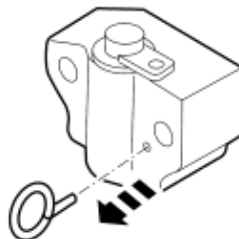
**Engines with non-ratcheting timing chain tensioners:**

- STEP 17:** Remove the retaining clips from the RH timing chain tensioner.



**Engines with ratcheting timing chain tensioners:**

- STEP 18:** Remove the retaining clip from the RH timing chain tensioner.



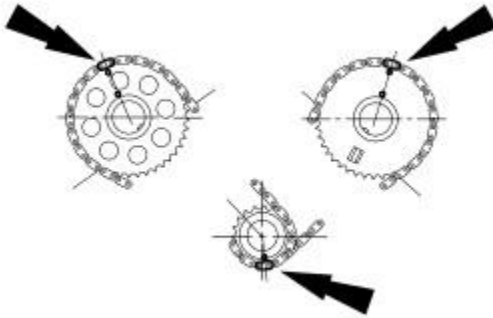
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**All engines:**

**STEP 19:** Make sure that the copper (marked) chain links are lined up with the dots on the crankshaft sprockets and the camshaft sprocket.



**STEP 20:** Rotate crankshaft by hand in a complete clockwise rotation to ensure the engine turns over freely.

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