



**FORD PERFORMANCE**

**M-6004-A5018  
2018-2023 Mustang 5.0L  
Chain-drive kit**

NO PART OF THIS DOCUMENT MAY BE REPRODUCED WITHOUT PRIOR WRITTEN PERMISSION OF FORD PERFORMANCE PARTS  
© Ford Motor Company 2021

**PRIOR TO INSTALLATION READ THESE INSTRUCTION COMPETELY  
For questions, Call the FORD PERFORMANCE Techline 1-800-367-3788**

Please visit <https://www.performanceparts.ford.com> for warranty information

<b>Part #</b>	<b>Description</b>	<b>Qty</b>
9L8Z-6C683-A	VCT/camshaft filter	2
BR3Z-6A340-A	Damper bolt	1
BR3Z-6268-A	Secondary timing chain	2
FR3Z-6268-A	Primary timing chain	2
BR3Z-6279-A	VCT phaser bolt	6
FR3Z-6256-C	Intake VCT sprocket	2
JL3Z-6L266-C	Primary chain tensioner	2
JL3Z-6B274-B	Chain guide	1
JL3Z-6K255-A	Tensioner arm	2
JL3Z-6M256-A	Chain guide	1
JR3Z-6C525-A	Exhaust VCT sprocket	2
JR3Z-6279-A	Exhaust phaser bolt	2
KR3Z-6306-B	Crank sprocket	1
ML3Z-6K254-A	Secondary chain tensioner	2
ML3Z-6K297-A	Secondary tensioner guide	2
N806183-S437	Oil pump bolt	2
N807033-S439	Damper bolt washer	1
W503282-S437	Chain guide bolt	2
W701501-S	Dowel	1
W714251-S300	Oil pump stud bolt	1
W714252-S300	Oil pump stud bolt	1
W714258-S300	Dowel	3
W718243-S437	Primary tensioner bolt	4

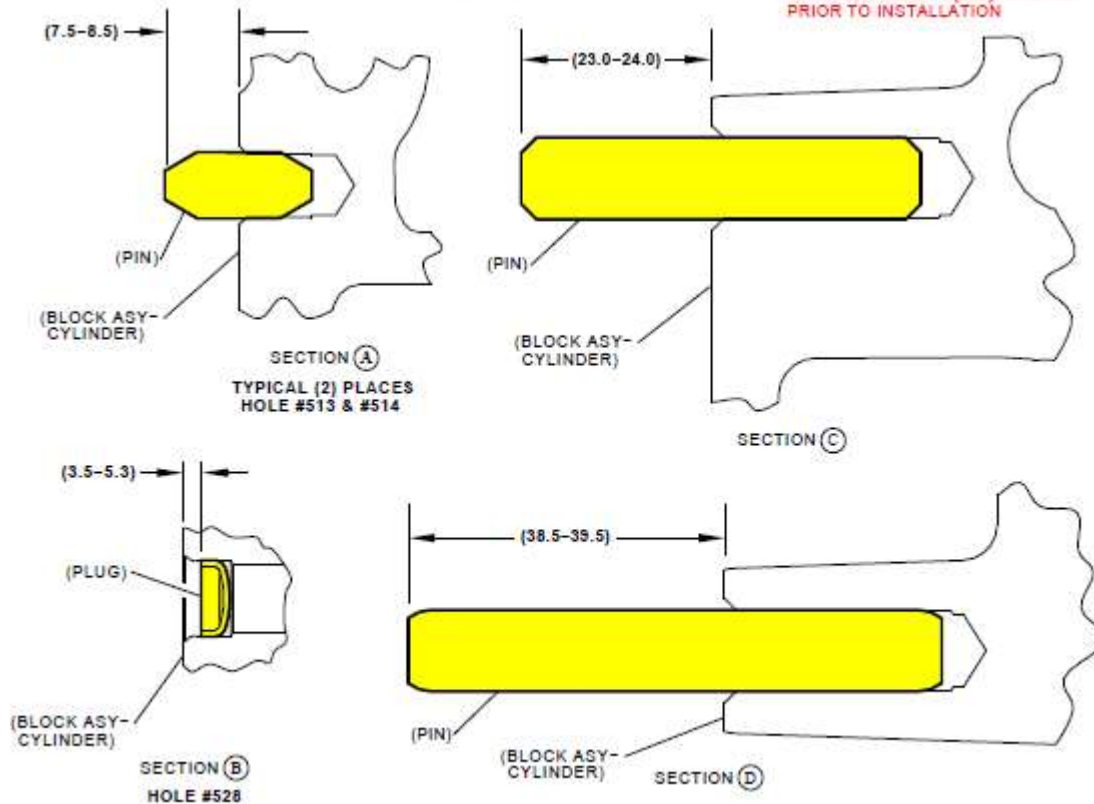
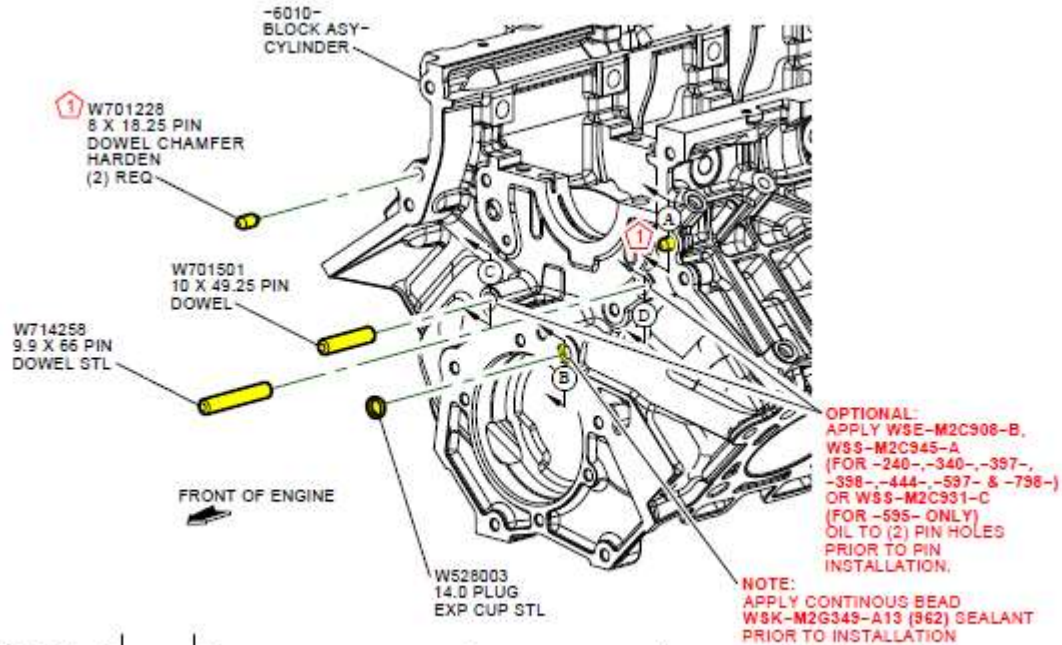
Ford Factory Shop Manual purchase options [www.motorcraftservice.com](http://www.motorcraftservice.com)



FORD PERFORMANCE

# M-6004-A5018 2018-2023 Mustang 5.0L Chain-drive kit

NO PART OF THIS DOCUMENT MAY BE REPRODUCED WITHOUT PRIOR WRITTEN PERMISSION OF FORD PERFORMANCE PARTS  
© Ford Motor Company 2021



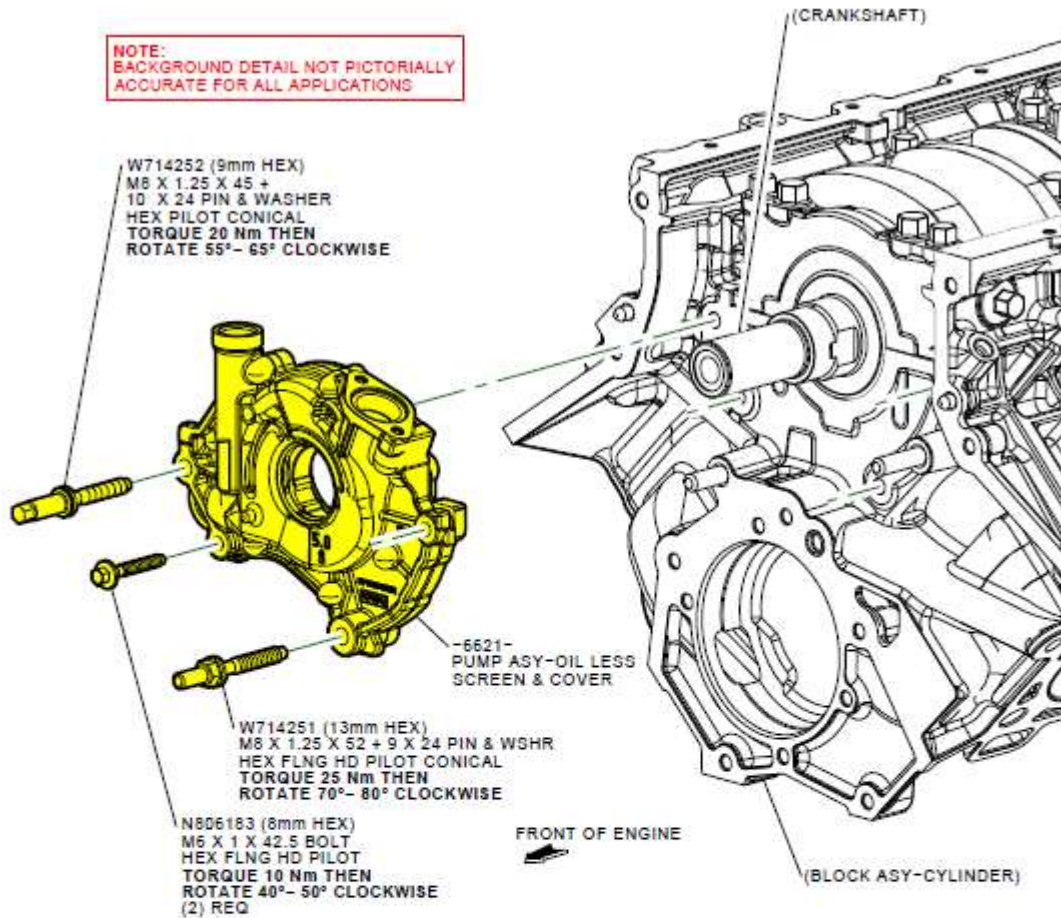
Ford Factory Shop Manual purchase options [www.motorcraftservice.com](http://www.motorcraftservice.com)



FORD PERFORMANCE

# M-6004-A5018 2018-2023 Mustang 5.0L Chain-drive kit

NO PART OF THIS DOCUMENT MAY BE REPRODUCED WITHOUT PRIOR WRITTEN PERMISSION OF FORD PERFORMANCE PARTS  
© Ford Motor Company 2021



### ASSEMBLY PROCEDURE

1. ROTATE INNER ROTOR OF OIL PUMP ASY (-6621-) TO ALIGN WITH FLATS ON CRANKSHAFT POST AND SLIP OIL PUMP OVER UNTIL SEATED AGAINST BLOCK.

**NOTE:**  
PUMP MUST BE HELD AGAINST BLOCK UNTIL BOLTS ARE TORQUED.

2. ROTATE OIL PUMP ASY, ALIGN BOLT HOLES, INSTALL (4) FASTENERS AND SIMULTANEOUSLY TORQUE TO SPECIFICATION.

**NOTE:**  
FOR PRODUCTION, ROTATION OF CRANKSHAFT DURING TORQUE PROCEDURE IS REQUIRED.

### SINGLE WRENCH METHOD (SERVICE)

1. ROTATE INNER ROTOR OF OIL PUMP ASY TO ALIGN WITH FLATS ON CRANKSHAFT POST AND SLIP OIL PUMP OVER UNTIL SEATED AGAINST BLOCK.

**NOTE:**  
PUMP MUST BE HELD AGAINST BLOCK UNTIL BOLTS ARE TORQUED.

2. ROTATE OIL PUMP ASY, ALIGN BOLT HOLES, INSTALL (4) FASTENERS.
3. TORQUE FASTENERS 0 Nm.
4. TORQUE M8 FASTENER W714251 25 Nm, M8 FASTENER W714252 20 Nm AND M6 FASTENERS N806183 10 Nm.
5. ROTATE M8 FASTENER W714251 70°- 80° CLOCKWISE, ROTATE M8 FASTENER W714252 55°- 65° CLOCKWISE AND M6 FASTENERS N806183 40°- 50° CLOCKWISE.

Ford Factory Shop Manual purchase options [www.motorcraftservice.com](http://www.motorcraftservice.com)



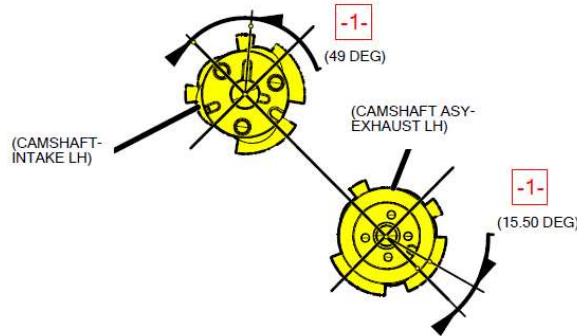
FORD PERFORMANCE

# M-6004-A5018 2018-2023 Mustang 5.0L Chain-drive kit

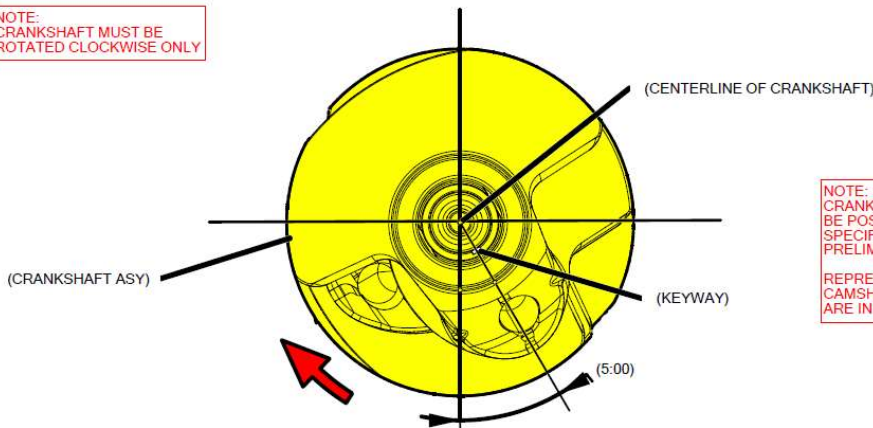
NO PART OF THIS DOCUMENT MAY BE REPRODUCED WITHOUT PRIOR WRITTEN PERMISSION OF FORD PERFORMANCE PARTS  
© Ford Motor Company 2021

PROPRIETARY

## CRANKSHAFT AND LH CAMSHAFT COMPONENTS FOR S550 ONLY NEUTRAL POSITION



NOTE:  
CRANKSHAFT MUST BE  
ROTATED CLOCKWISE ONLY



NOTE:  
CRANKSHAFT, CAMSHAFTS, PRIMARY SPROCKETS & CHAINS, MUST  
BE POSITIONED TO  
SPECIFICATION SHOWN, PRIOR TO FASTENER INSTALLATION AND  
PRELIMINARY RUNDOWN.

REPRESENTS APPROXIMATE CAMSHAFT KEYWAY POSITIONS WHEN  
CAMSHAFTS  
ARE IN NEUTRAL POSITION SHOWN

Ford Factory Shop Manual purchase options [www.motorcraftservice.com](http://www.motorcraftservice.com)



FORD PERFORMANCE

# M-6004-A5018 2018-2023 Mustang 5.0L Chain-drive kit

NO PART OF THIS DOCUMENT MAY BE REPRODUCED WITHOUT PRIOR WRITTEN PERMISSION OF FORD PERFORMANCE PARTS  
© Ford Motor Company 2021

S650 \_\_\_\_\_ SHOWN  
P552 \_\_\_\_\_ TYPICAL

-6C270-  
TENSIONER ASY-  
SECONDARY CHAIN

(CAP ASY-CAMSHAFT  
BEARING FRONT)  
NOTE:  
LUBRICATE BORE WITH  
WSS-M2C945-A OIL  
(FOR -240-, -340-, -397-, -398-,  
-444-, -597- & -798-) OR  
WSS-M2C931-C OIL  
(FOR -595- ONLY)

-6K297-  
GUIDE-  
TIMING CHAIN

-6C683-  
FILTER-  
ENGINE OIL  
(2) REQ (1 PER CAMSHAFT)

FRONT OF ENGINE  
➔

Ford Factory Shop Manual purchase options [www.motorcraftservice.com](http://www.motorcraftservice.com)



FORD PERFORMANCE

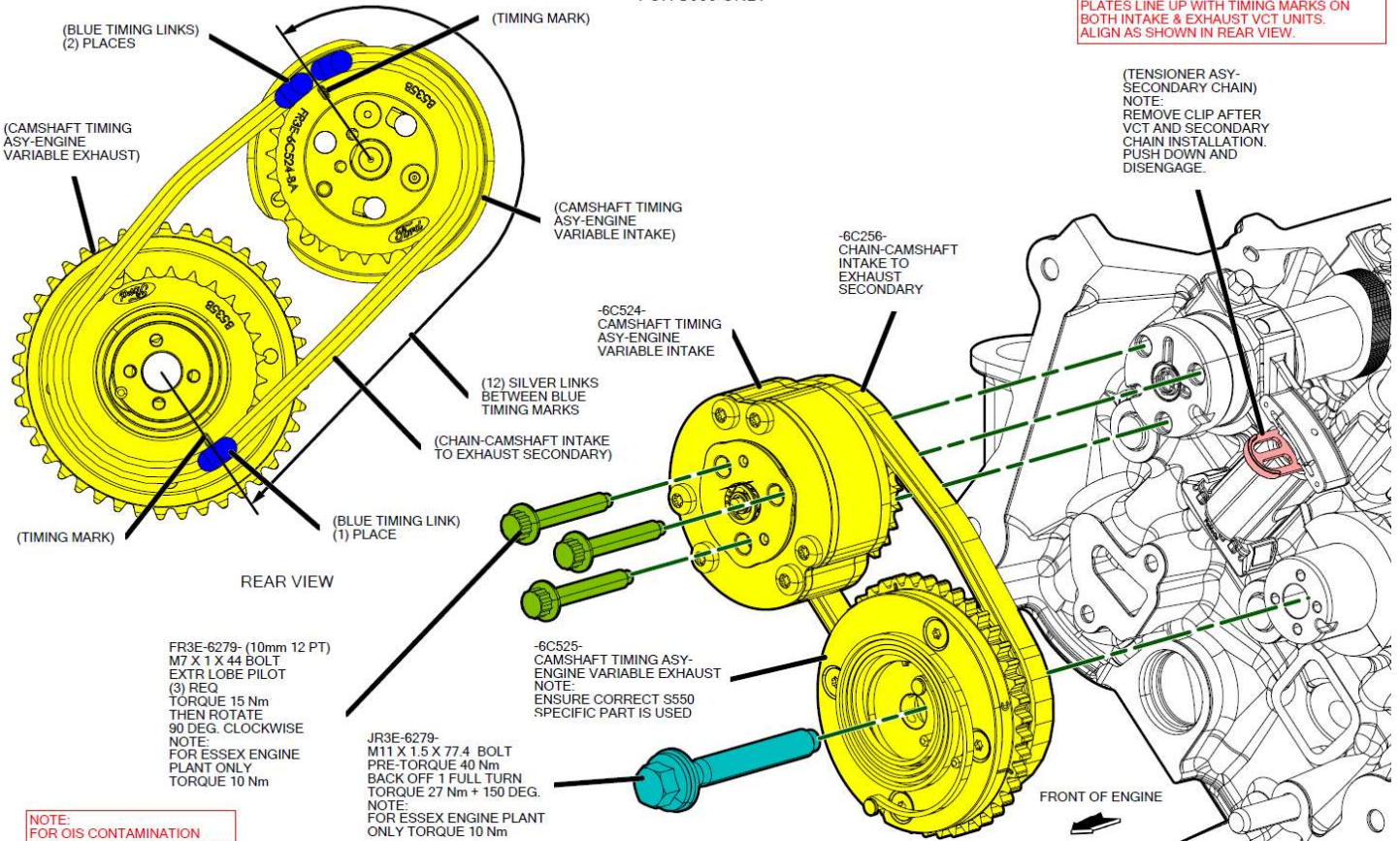
# M-6004-A5018 2018-2023 Mustang 5.0L Chain-drive kit

NO PART OF THIS DOCUMENT MAY BE REPRODUCED WITHOUT PRIOR WRITTEN PERMISSION OF FORD PERFORMANCE PARTS  
© Ford Motor Company 2021

PROPRIETARY

LH SECONDARY CHAIN CAMSHAFT INTAKE TO EXHAUST AND  
ENGINE VARIABLE CAMSHAFT TIMING ASY  
FOR S550 ONLY

NOTE:  
PRE-ASSEMBLE SECONDARY CHAIN TO  
INTAKE & EXHAUST VCT UNITS. MARKED LINK  
PLATES LINE UP WITH TIMING MARKS ON  
BOTH INTAKE & EXHAUST VCT UNITS.  
ALIGN AS SHOWN IN REAR VIEW.



NOTE:  
FOR OIS CONTAMINATION  
INSTRUMENTATION SEE QUEST 28

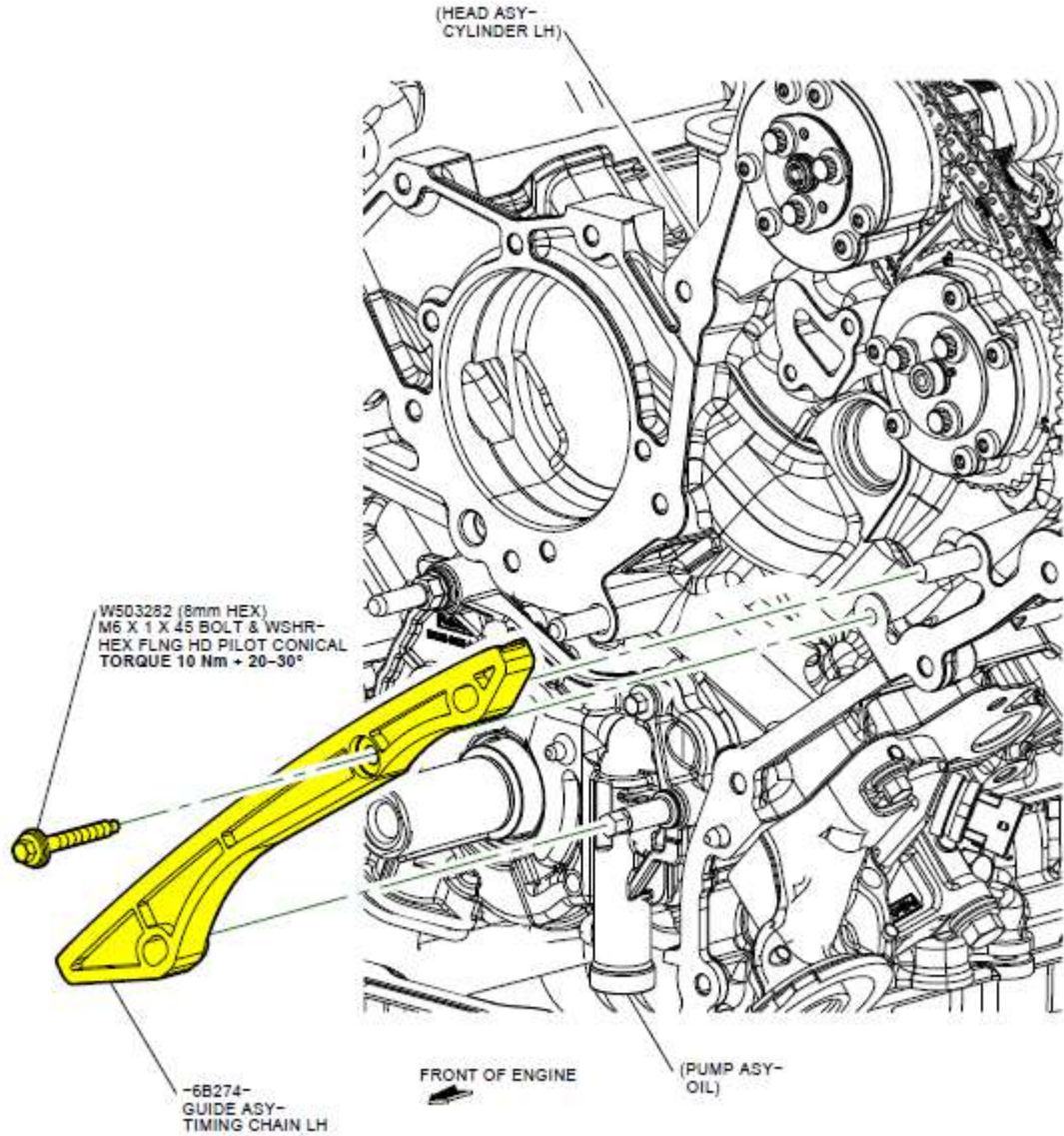
Ford Factory Shop Manual purchase options [www.motorcraftservice.com](http://www.motorcraftservice.com)



FORD PERFORMANCE

M-6004-A5018  
2018-2023 Mustang 5.0L  
Chain-drive kit

NO PART OF THIS DOCUMENT MAY BE REPRODUCED WITHOUT PRIOR WRITTEN PERMISSION OF FORD PERFORMANCE PARTS  
© Ford Motor Company 2021



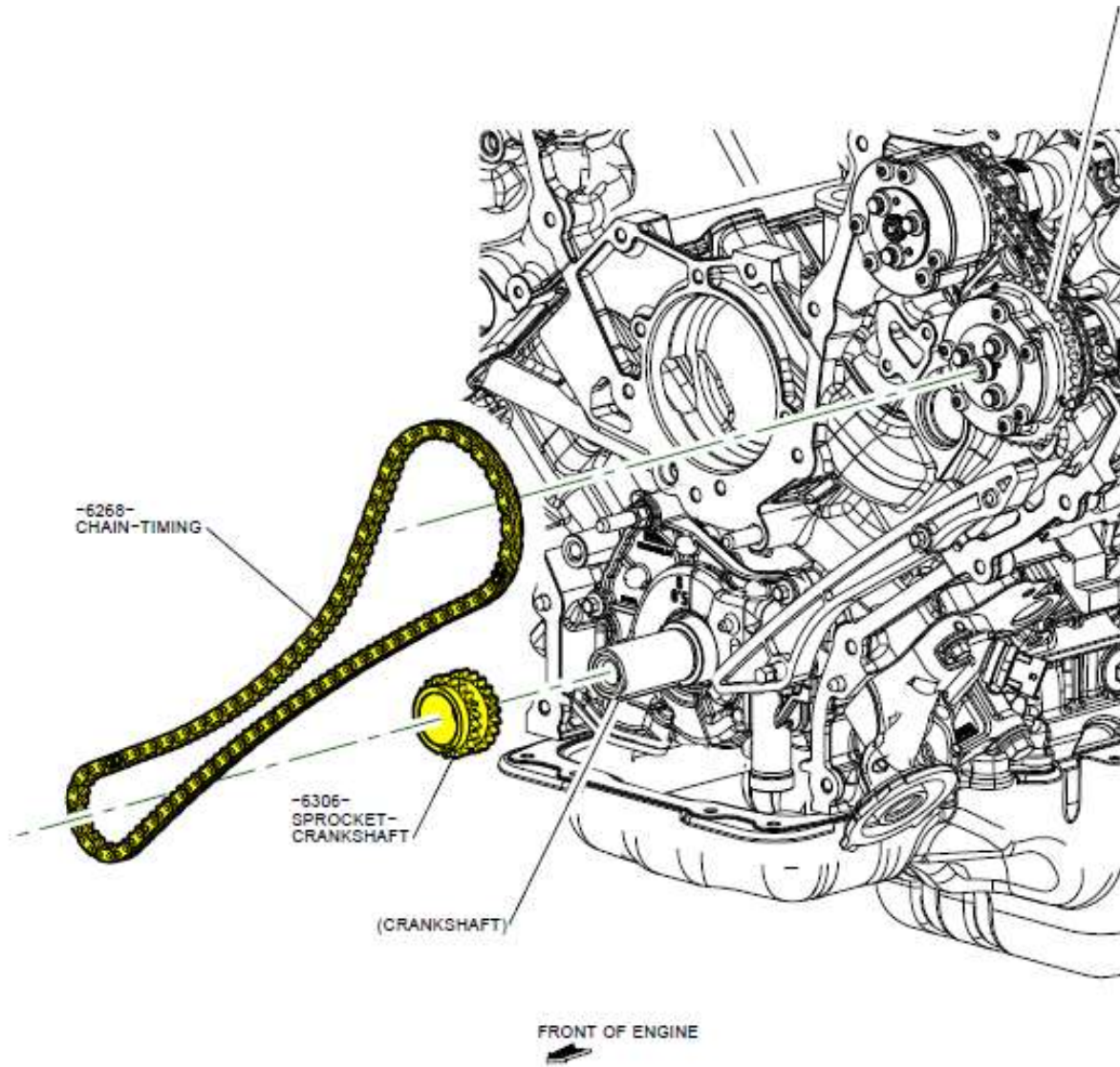
Ford Factory Shop Manual purchase options [www.motorcraftservice.com](http://www.motorcraftservice.com)



FORD PERFORMANCE

M-6004-A5018  
2018-2023 Mustang 5.0L  
Chain-drive kit

NO PART OF THIS DOCUMENT MAY BE REPRODUCED WITHOUT PRIOR WRITTEN PERMISSION OF FORD PERFORMANCE PARTS  
© Ford Motor Company 2021



Ford Factory Shop Manual purchase options [www.motorcraftservice.com](http://www.motorcraftservice.com)





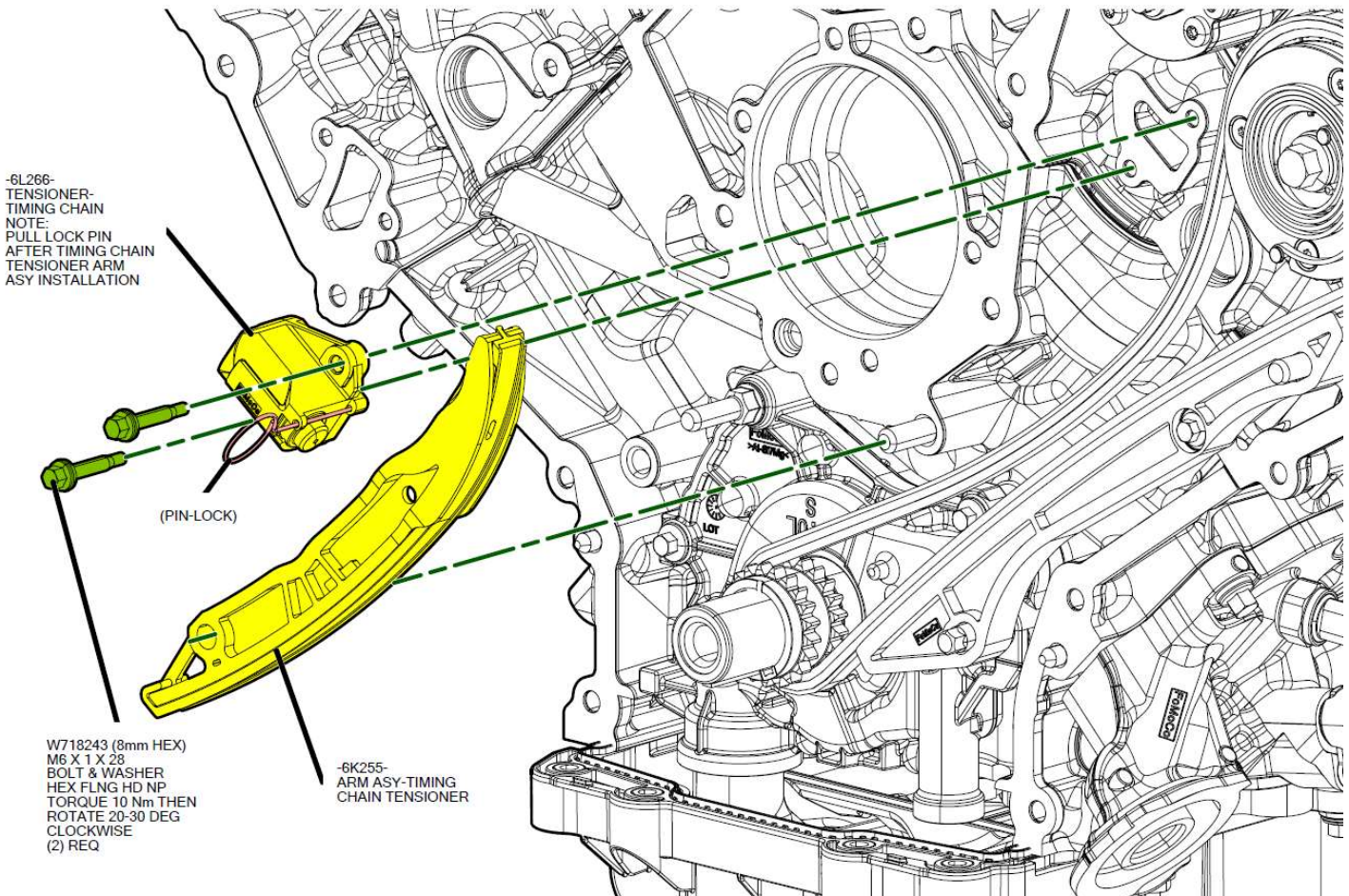
FORD PERFORMANCE

M-6004-A5018  
2018-2023 Mustang 5.0L  
Chain-drive kit

NO PART OF THIS DOCUMENT MAY BE REPRODUCED WITHOUT PRIOR WRITTEN PERMISSION OF FORD PERFORMANCE PARTS  
© Ford Motor Company 2021

PROPRIETARY

TIMING CHAIN TENSIONER ARM ASY AND TIMING CHAIN TENSIONER LH  
FOR S550 ONLY



Ford Factory Shop Manual purchase options [www.motorcraftservice.com](http://www.motorcraftservice.com)



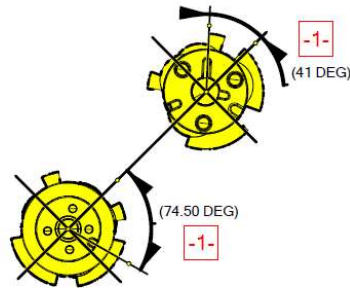
FORD PERFORMANCE

# M-6004-A5018 2018-2023 Mustang 5.0L Chain-drive kit

NO PART OF THIS DOCUMENT MAY BE REPRODUCED WITHOUT PRIOR WRITTEN PERMISSION OF FORD PERFORMANCE PARTS  
© Ford Motor Company 2021

PROPRIETARY

## CRANKSHAFT AND RH CAMSHAFT COMPONENTS FOR S550 ONLY (NEUTRAL POSITION)



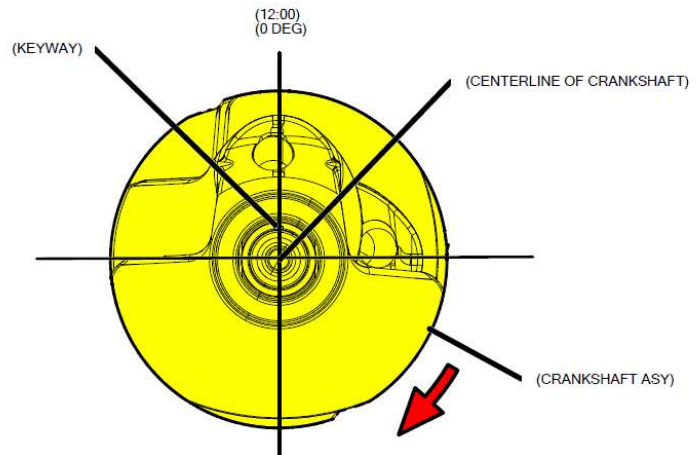
NOTE:  
CRANKSHAFT KEYWAY MUST BE CLOCKED AT (12 O'CLOCK).  
CAMSHAFT MUST BE CLOCKED RELATIVE TO CAM COVER RAIL AS SHOWN,  
PRIOR TO CAM DRIVE COMPONENTS RUNDOWN AND TIGHTENING.

NOTE:  
CRANKSHAFT MUST BE  
ROTATED CLOCKWISE ONLY

NOTE:  
CRANKSHAFT, CAMSHAFTS, PRIMARY SPROCKETS & CHAINS, MUST  
BE POSITIONED TO SPECIFICATION SHOWN, PRIOR TO FASTENER  
INSTALLATION AND PRELIMINARY RUNDOWN.

-1- REPRESENTS APPROXIMATE CAMSHAFT KEYWAY POSITIONS WHEN  
CAMSHAFTS ARE IN NEUTRAL POSITION SHOWN

NOTE:  
PRIOR TO RH CAMSHAFT INSTALLATION, ROTATE CRANKSHAFT 360 DEG.  
FROM POSITION FOR LH CAMSHAFT INSTALLATION (SHEET 28A). THEN,  
WITH ADDITIONAL ROTATION, CRANKSHAFT KEYWAY MUST BE ORIENTED  
AT 12:00 POSITION AS SHOWN. CAMSHAFTS MUST BE CLOCKED RELATIVE  
TO CAM COVER RAIL AS SHOWN PRIOR TO CAM BEARING CAP INSTALLATION.



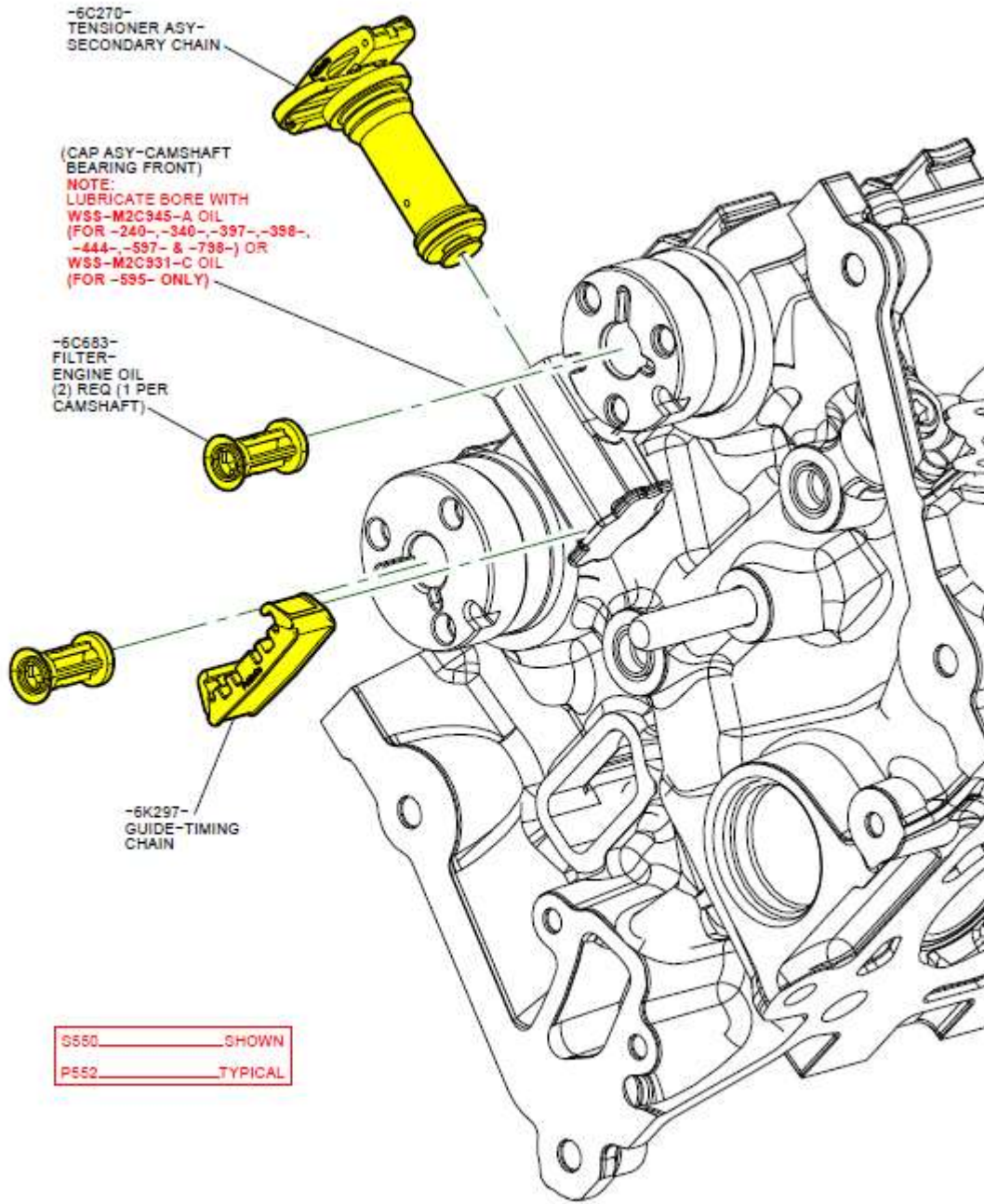
Ford Factory Shop Manual purchase options [www.motorcraftservice.com](http://www.motorcraftservice.com)



FORD PERFORMANCE

# M-6004-A5018 2018-2023 Mustang 5.0L Chain-drive kit

NO PART OF THIS DOCUMENT MAY BE REPRODUCED WITHOUT PRIOR WRITTEN PERMISSION OF FORD PERFORMANCE PARTS  
© Ford Motor Company 2021



Ford Factory Shop Manual purchase options [www.motorcraftservice.com](http://www.motorcraftservice.com)



FORD PERFORMANCE

# M-6004-A5018 2018-2023 Mustang 5.0L Chain-drive kit

NO PART OF THIS DOCUMENT MAY BE REPRODUCED WITHOUT PRIOR WRITTEN PERMISSION OF FORD PERFORMANCE PARTS  
© Ford Motor Company 2021

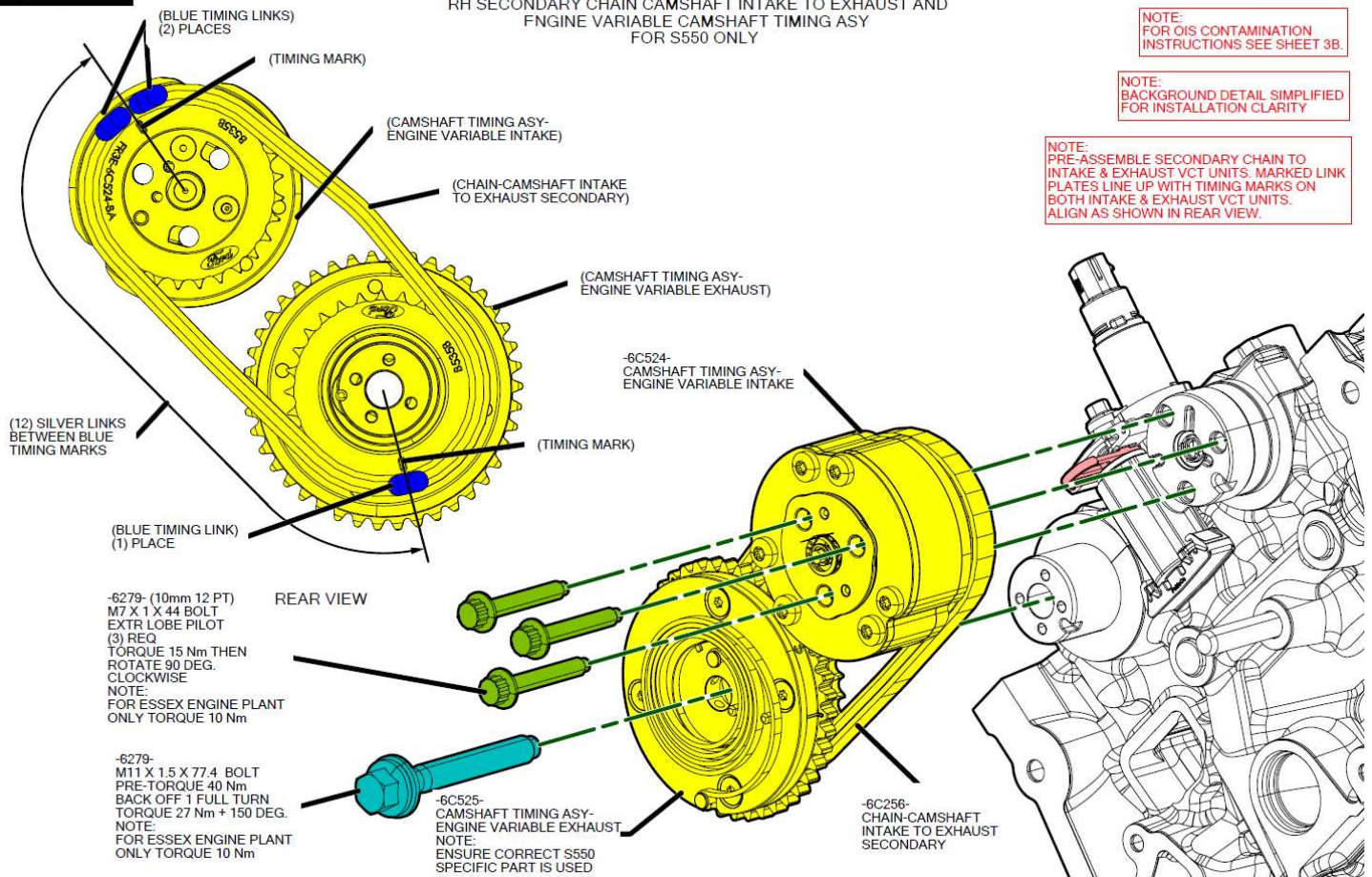
PROPRIETARY

RH SECONDARY CHAIN CAMSHAFT INTAKE TO EXHAUST AND  
ENGINE VARIABLE CAMSHAFT TIMING ASY  
FOR S550 ONLY

NOTE:  
FOR OIS CONTAMINATION  
INSTRUCTIONS SEE SHEET 3B.

NOTE:  
BACKGROUND DETAIL SIMPLIFIED  
FOR INSTALLATION CLARITY

NOTE:  
PRE-ASSEMBLE SECONDARY CHAIN TO  
INTAKE & EXHAUST VCT UNITS. MARKED LINK  
PLATES LINE UP WITH TIMING MARKS ON  
BOTH INTAKE & EXHAUST VCT UNITS.  
ALIGN AS SHOWN IN REAR VIEW.



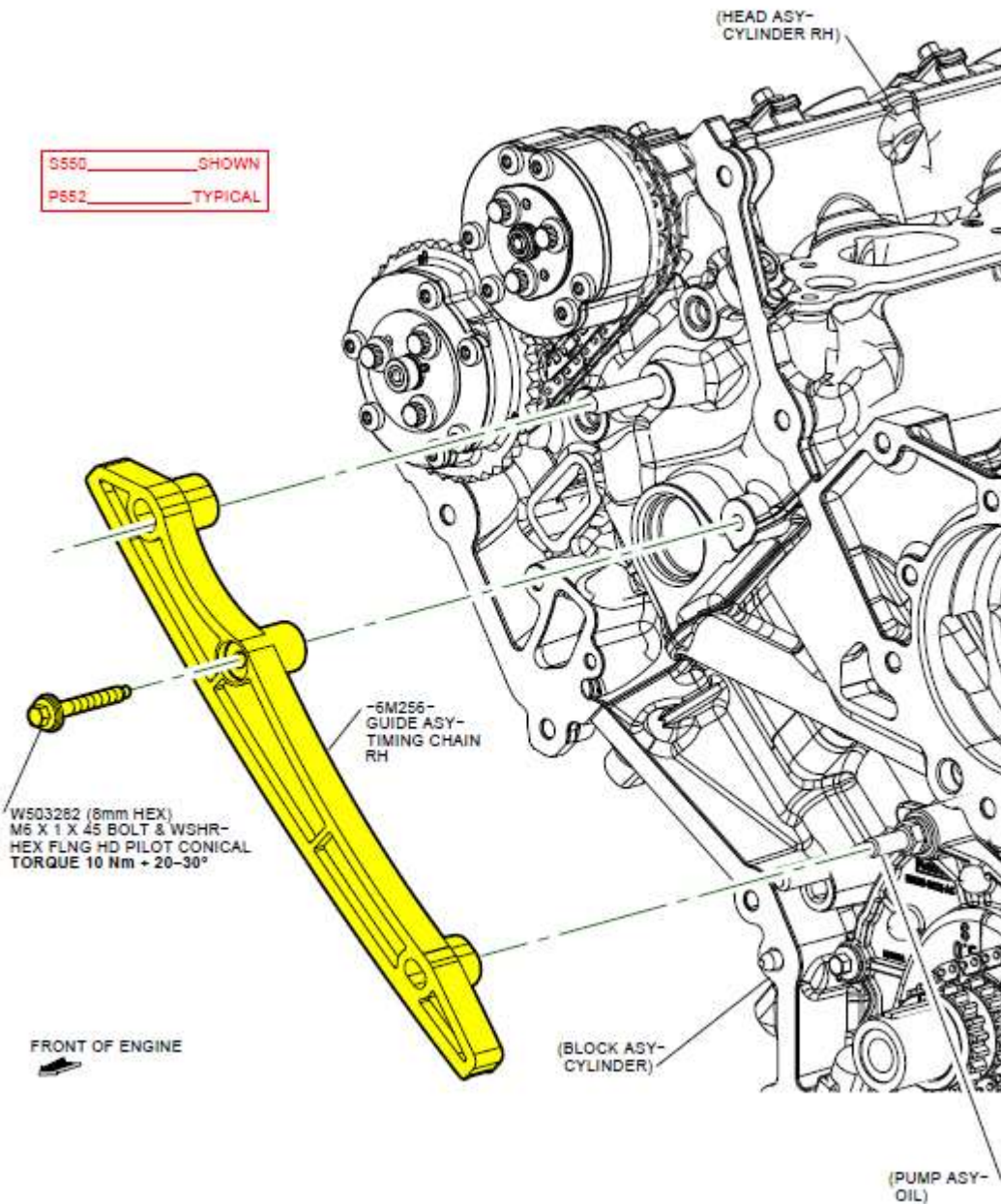
Ford Factory Shop Manual purchase options [www.motorcraftservice.com](http://www.motorcraftservice.com)



FORD PERFORMANCE

M-6004-A5018  
2018-2023 Mustang 5.0L  
Chain-drive kit

NO PART OF THIS DOCUMENT MAY BE REPRODUCED WITHOUT PRIOR WRITTEN PERMISSION OF FORD PERFORMANCE PARTS  
© Ford Motor Company 2021



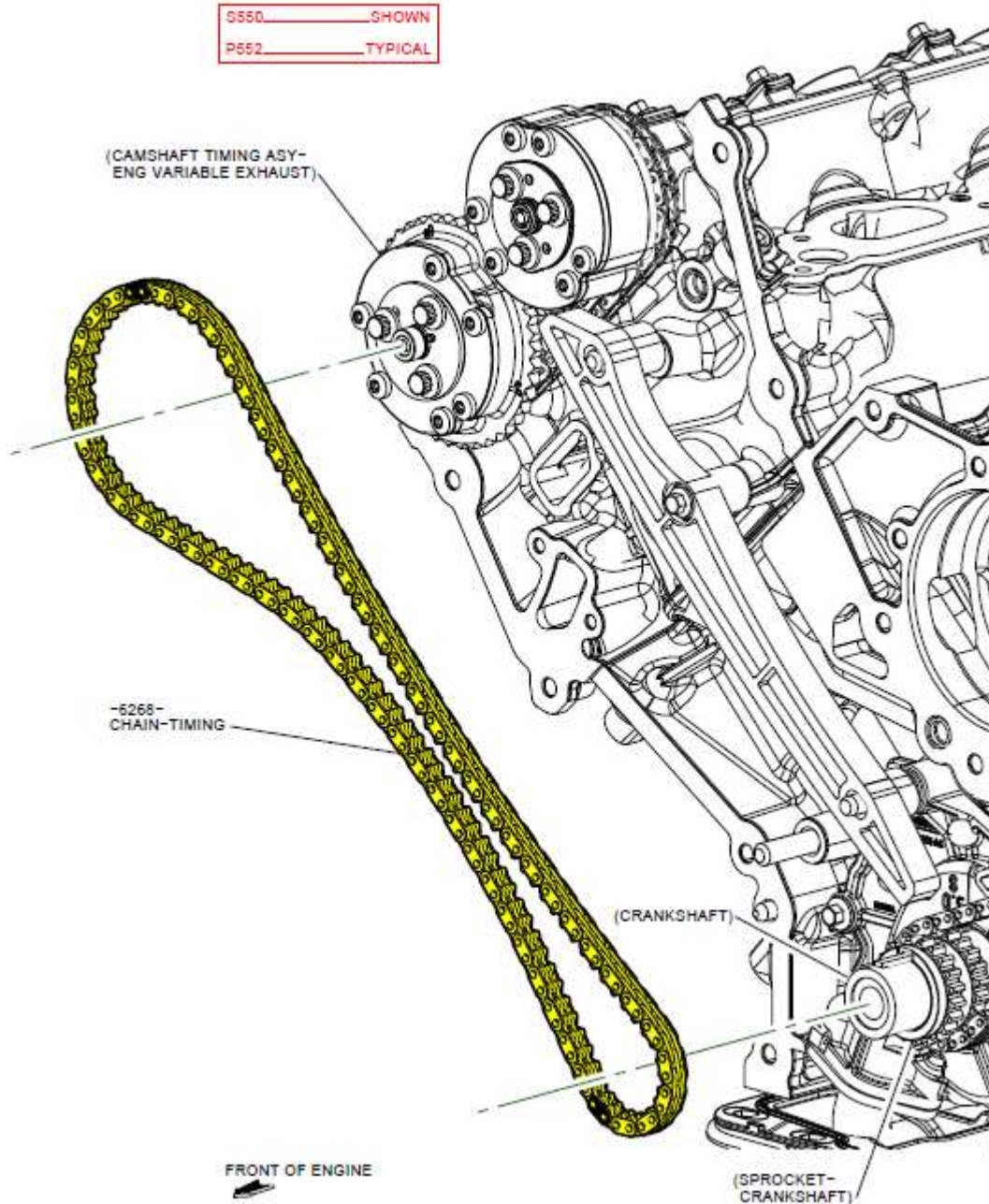
Ford Factory Shop Manual purchase options [www.motorcraftservice.com](http://www.motorcraftservice.com)



FORD PERFORMANCE

M-6004-A5018  
2018-2023 Mustang 5.0L  
Chain-drive kit

NO PART OF THIS DOCUMENT MAY BE REPRODUCED WITHOUT PRIOR WRITTEN PERMISSION OF FORD PERFORMANCE PARTS  
© Ford Motor Company 2021



Ford Factory Shop Manual purchase options [www.motorcraftservice.com](http://www.motorcraftservice.com)



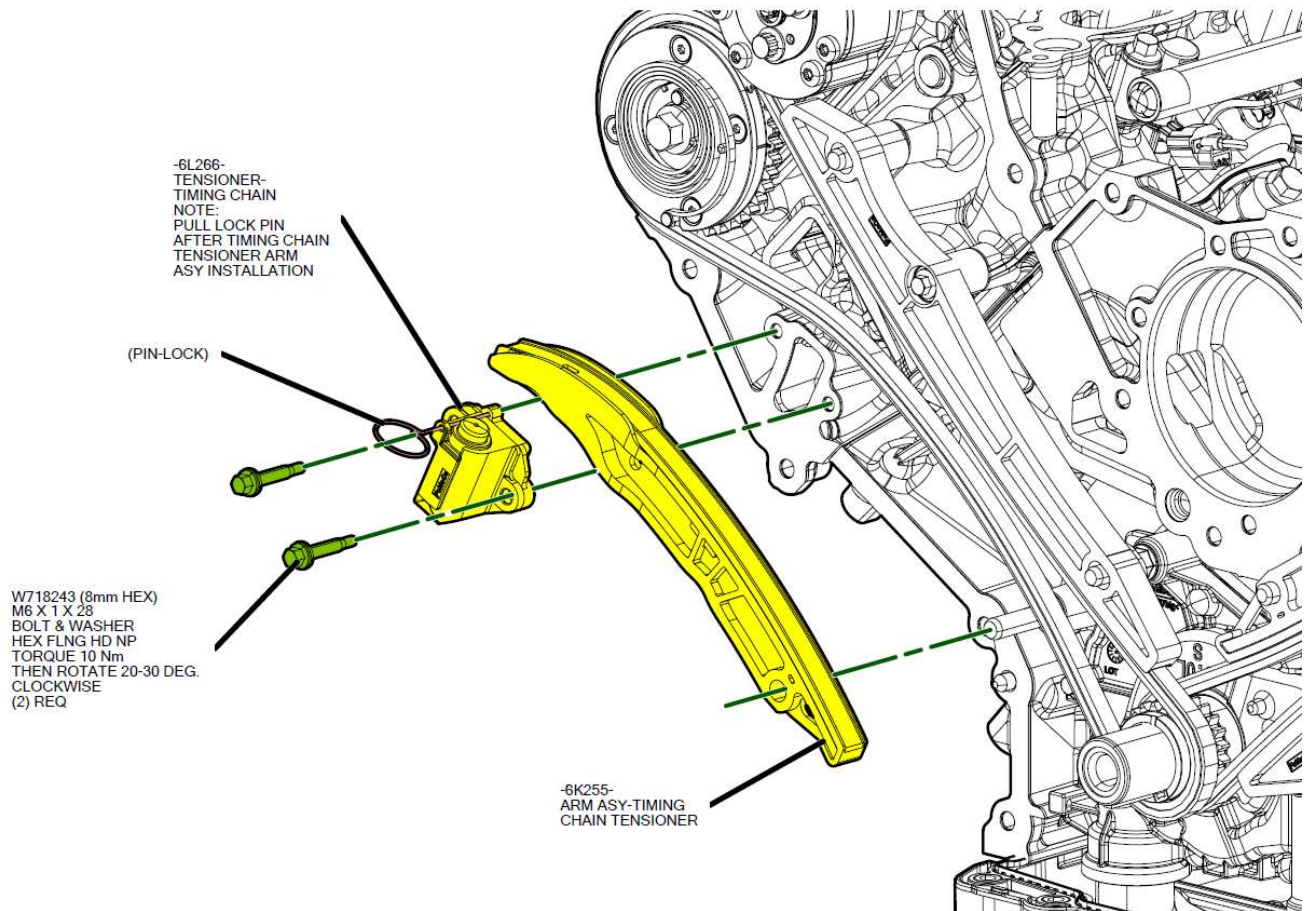
FORD PERFORMANCE

M-6004-A5018  
2018-2023 Mustang 5.0L  
Chain-drive kit

NO PART OF THIS DOCUMENT MAY BE REPRODUCED WITHOUT PRIOR WRITTEN PERMISSION OF FORD PERFORMANCE PARTS  
© Ford Motor Company 2021

PROPRIETARY

TIMING CHAIN TENSIONER ARM ASY AND TIMING CHAIN TENSIONER RH  
FOR S550 ONLY



Ford Factory Shop Manual purchase options [www.motorcraftservice.com](http://www.motorcraftservice.com)