

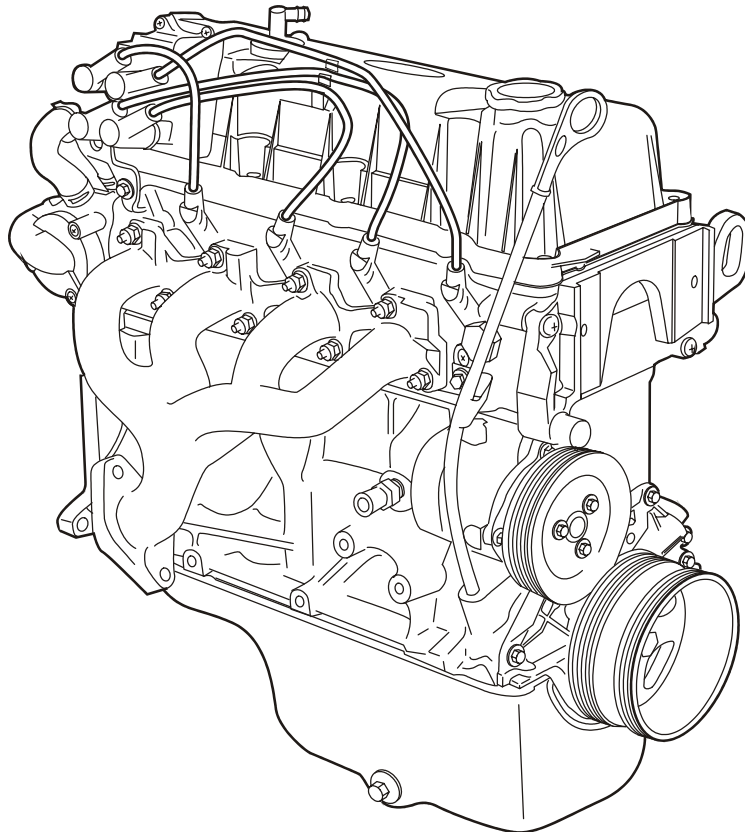


Ford Component Sales, LLC

A Subsidiary of
Ford Motor Company

TSG-416

SERVICE PARTS MANUAL



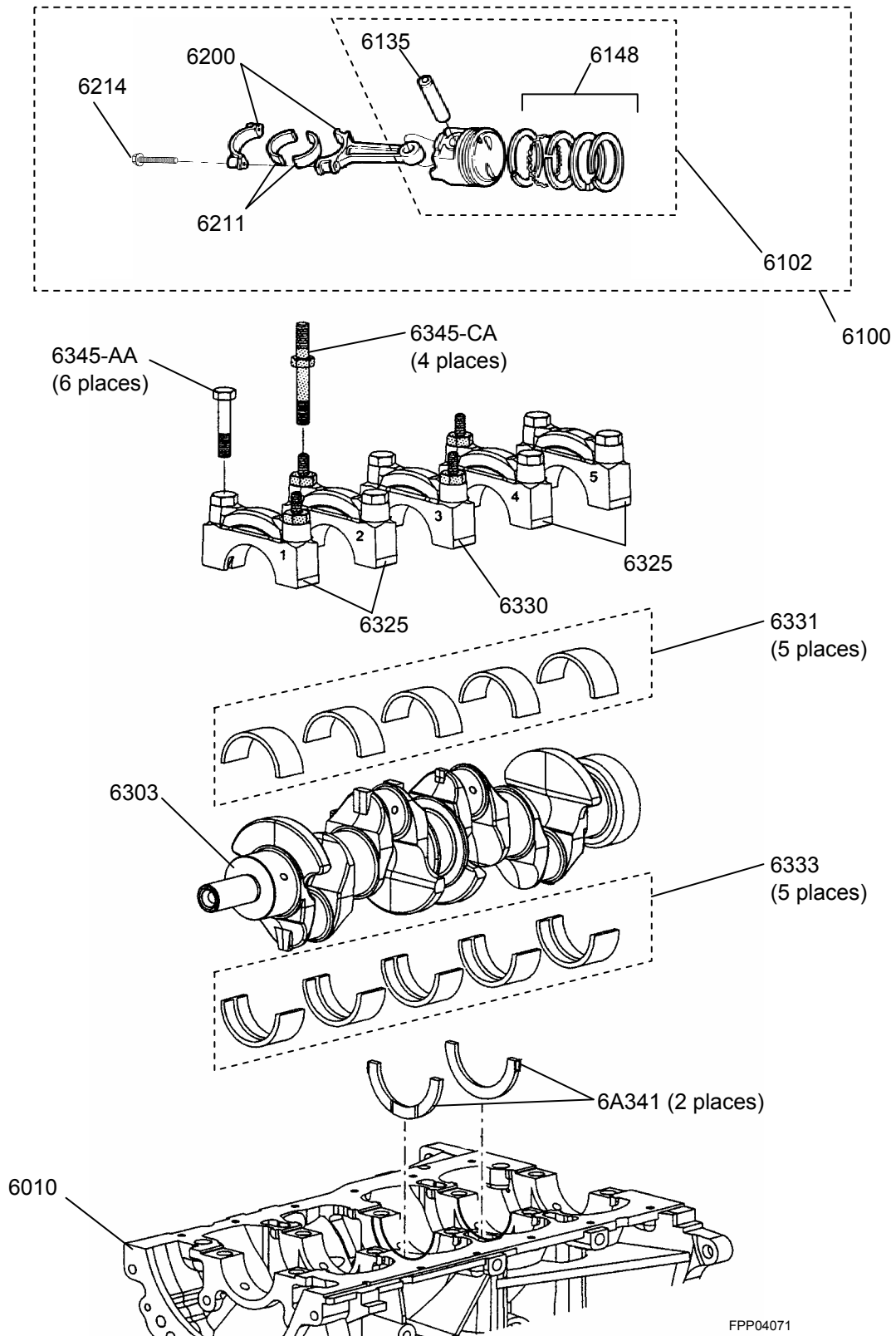
FPP-194-361
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BASE ENGINE - Engine Lower



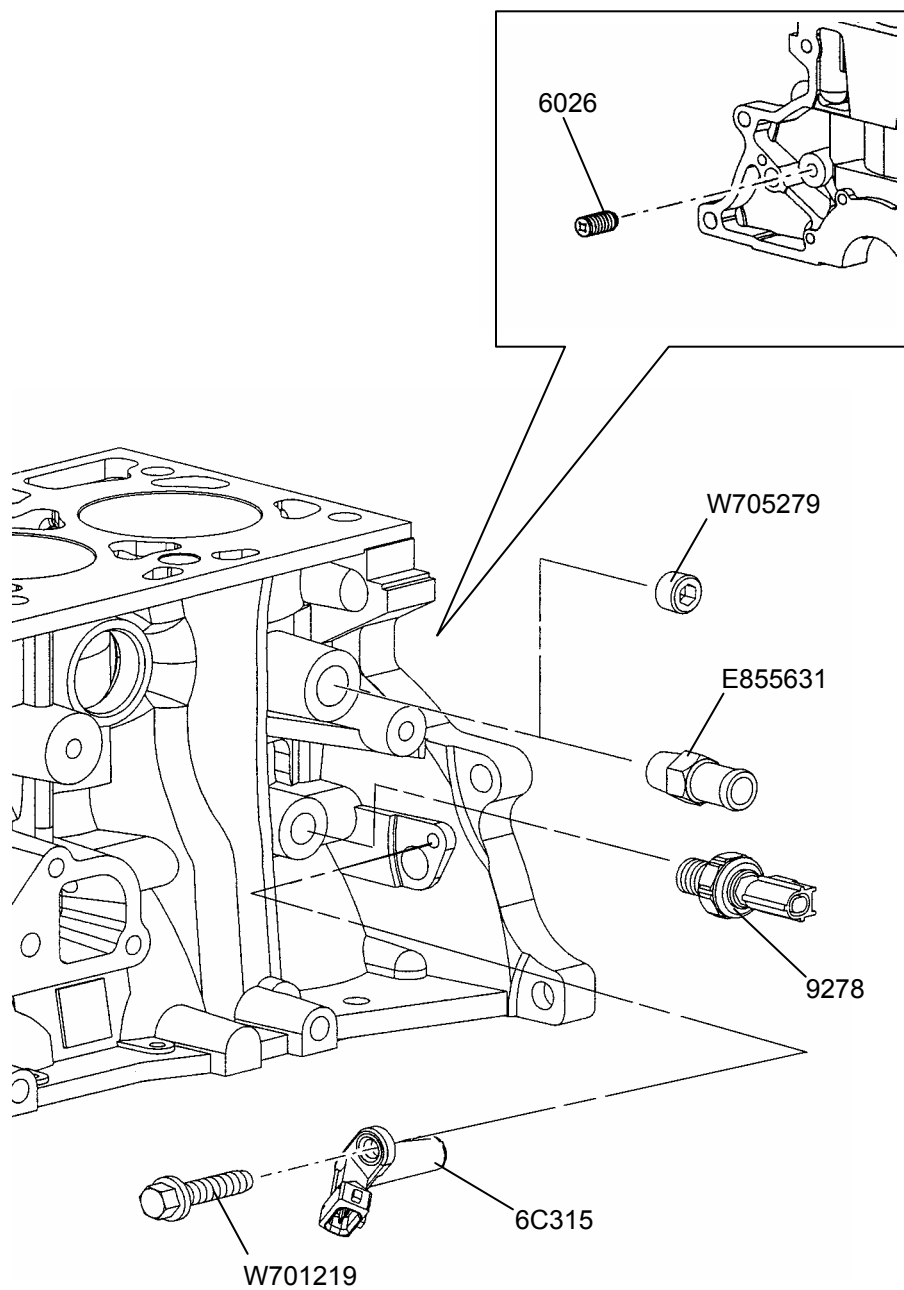
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ENGINEERING PART NUMBER			SERVICE PART NUMBER			DESCRIPTION	QTY.
BASE NO.			BASE NO.			BASE ENGINE Engine Lower	
Cylinder Block Related Parts							
XS6E	6102	G1H	XS6E	6102	G1H	Piston, Pin & Rings Asy. Std.	4
XS6E	6102	H1H	XS6E	6102	H1H	Piston, Pin & Rings Asy. .15 O/S	A/R
XS6E	6102	J1H	XS6E	6102	J1H	Piston, Pin & Rings Asy. .50 O/S	A/R
XS6E	6148	DA	XS6E	6148	DA	Piston Ring Set Std.	4
XS6E	6148	EA	XS6E	6148	EA	Piston Ring Set .15 O/S	4
XS6E	6148	FA	XS6E	6148	FA	Piston Ring Set .50 O/S	4
XS6E	6100	E1G	XS6E	6100	E1G	Piston & Connecting Rod - Asy	4
Connecting Rod & Related Parts							
XS6E	6200	A1D	XS6E	6200	A1D	Rod Asy. - Connecting	4
97BM	6211	AA	97BM	6211	AA	Bearing - Connecting Rod Std.	8
97BM	6211	BA	97BM	6211	BA	Bearing - Connecting Rod .025mm U/S (Yellow)	A/R
97BM	6211	CA	97BM	6211	CA	Bearing - Connecting Rod .25mm U/S (Green)	A/R
97BM	6211	DA	97BM	6211	DA	Bearing - Connecting Rod .50 MM O/S	A/R
97BM	6211	EA	97BM	6211	EA	Bearing - Connecting Rod .75 MM O/S	A/R
97BM	6211	FA	97BM	6211	FA	Bearing - Connecting Rod 1.00 MM O/S	A/R
89BM	6214	DB	89BM	6214	DB	Bolt - Connecting Rod	8
Cylinder Block & Related Parts							
XS6E	6010	BJ	XS6E	6015	BJ	Cylinder Block less Crankshaft, Pistons	1
XS6E	6011	CB	XS6Z	6009	CA	Cylinder Block with Crankshaft, Pistons	1
Crankshaft Bearings & Related Parts							
81SM	6345		81SM	6345	AA	Bolt - Main Bearing Cap M12 x 80	6
81SM	6345	CA	81SM	6345	CA	Bolt & Hex Stud - Main Bearing Cap	4
XS6E	6303	BB	XS6E	6303	BB	Crankshaft Asy.	1
XS6E	6333	A1B	XS6E	6333	A1B	Main Bearing - Upper (w/oil groove)	5
97BM	6331	AA	97BM	6331	AA	Main Bearing - Lower (grooveless)	5
XS6E	6333	C1B	XS6E	6333	C1B	Main Bearing - .25 MM O/S	A/R
XS6E	6333	E1B	XS6E	6333	E1B	Main Bearing - .50 MM O/S	A/R
XS6E	6333	F1B	XS6E	6333	F1B	Main Bearing - .75 MM O/S	A/R
97BM	6A341	AA	97BM	6A341	AA	Thrust Washer - Std.	2
XS6E	6325	A1D	XS6E	6325	A1D	Cap - Crankshaft Main Bearing	4
XS6E	6330	A1D	XS6E	6330	A1D	Cap - Crankshaft Main Bearing (center)	1

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BASE ENGINE - Engine Lower



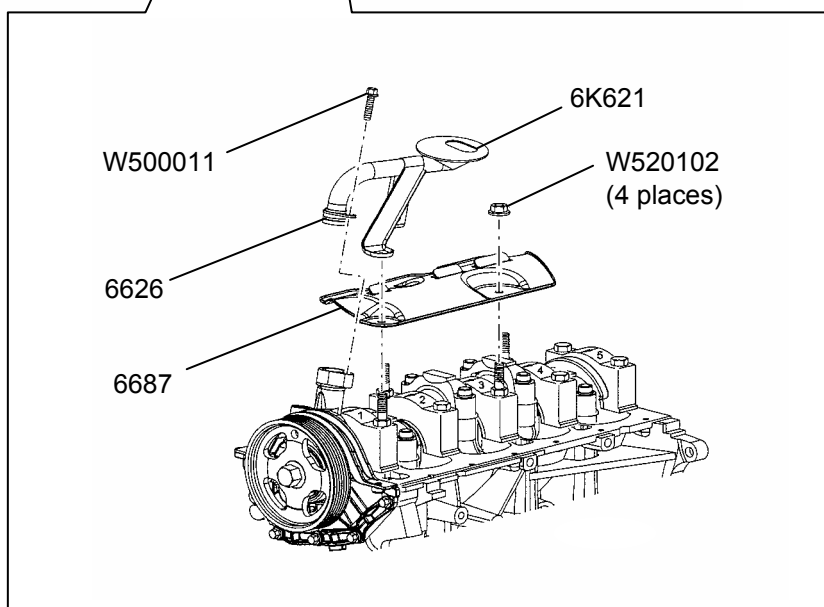
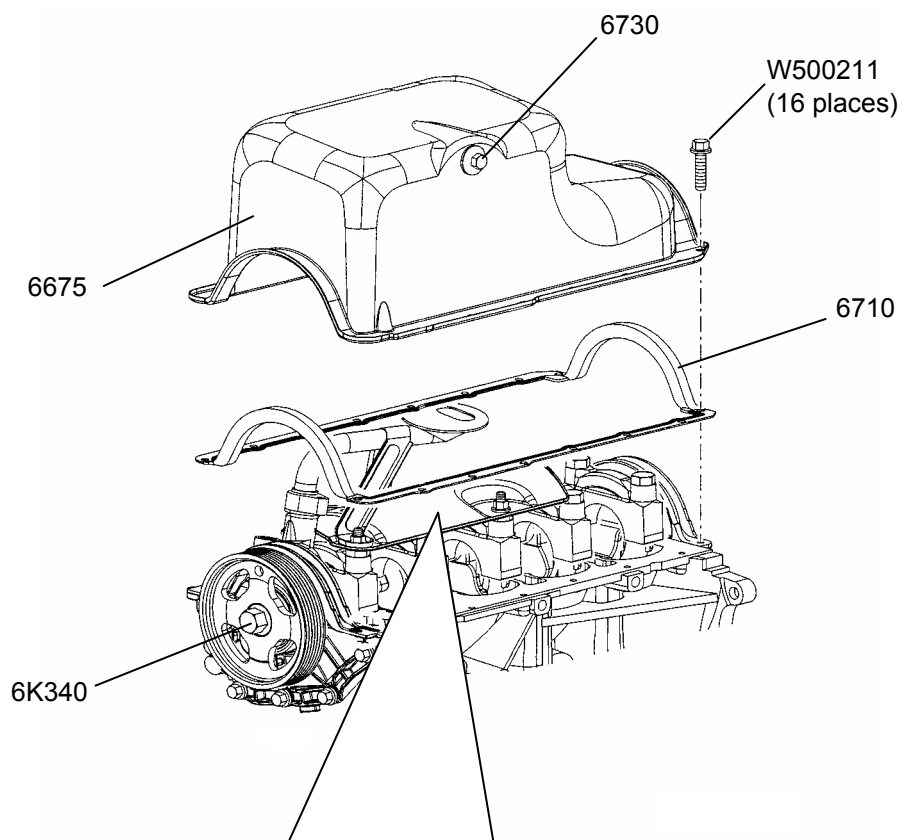
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ENGINEERING PART NUMBER			SERVICE PART NUMBER			DESCRIPTION	QTY.
BASE NO.			BASE NO.			BASE ENGINE Engine Lower	
Cylinder Block Related Parts							
	W700081	S1309	F5RZ	6026	A	Plug - Block 1/4 X 18 PTF - Oil Gallery, Rear of Block	1
						TORQUE: 14-18 LB-FT (19-23 Nm)	
	W700029	S1300	F5RZ	6026	D	Plug - Expansion 35 X 9 Stainless	2
948F	6C315	AA	F5RZ	6C315	AA	Sensor - Crankshaft Position (CPS)	1
	W701219	S309		W701219	S309	Screw - Crankshaft Sensor M6 X 16 Flat Head	1
						TORQUE: 5-9 LB-FT (7-13 Nm)	
98AB	9278	CA	XS2Z	9278	AA	Switch Asy. - Oil Pressure TORQUE: 13-16 LB-FT (18-22 Nm)	1
	W705279	S309		W705279	S309	Plug - 3/8-18 NPTF x 15 TORQUE: 13-16 LB-FT (18-22 Nm)	1
	E855631	S		E855631	S	Connector - Alum 3/8-18 NPTF x 15 TORQUE: 13-16 LB-FT (18-22 Nm)	1

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BASE ENGINE - Engine Lower



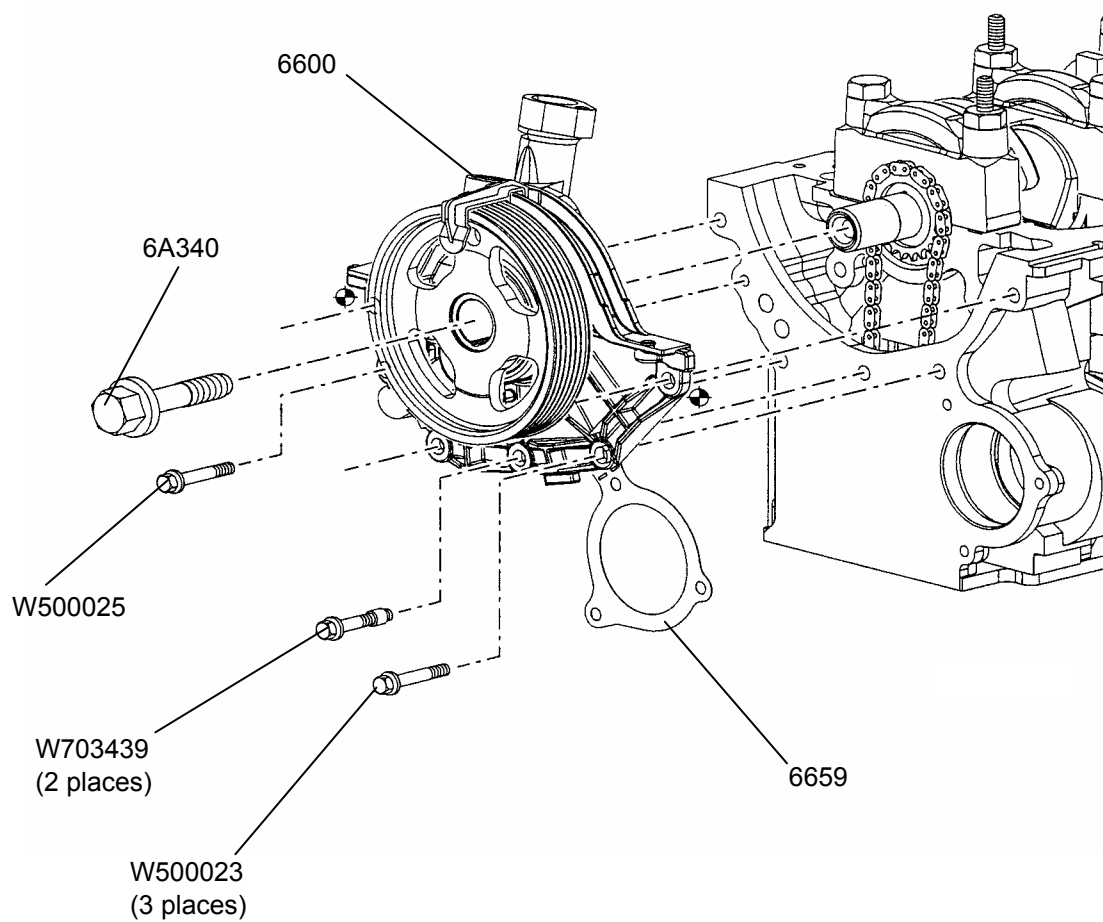
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ENGINEERING PART NUMBER			SERVICE PART NUMBER			DESCRIPTION	QTY.
BASE NO.			BASE NO.			BASE ENGINE Engine Lower	
Cylinder Block Related Parts							
XS6E	6K621	AD	XS6E	6K621	AD	Tube & Screen Asy - Oil Pump Inlet	1
	W701437	S300	XS6E	6626	AA	O-Ring - 20.6 x 2.4	1
	W500011	S309		W500011	S309	Bolt M6x12 TORQUE: 7-8 LB-FT (9-11 Nm)	1
Oil Pan & Related Parts							
XS6E	6675	AE	XS6E	6675	AE	Pan Assembly - Oil (Steel)	1
XS6E	6710	A2B	XS6E	6710	A2B	Gasket - Oil Pan to Block	1
	W500211	S303		W500211	S303	Bolt - M6x12, Oil Pan to Block TORQUE: See Assembly Manual	16
97JM	6730	BA	F6TZ	6730	BA	Plug - Oil Pan Drain TORQUE: 16-20 LB-FT (21-28 Nm)	1
97JM	6734	BA	F5TZ	6734	BA	Gasket - Oil Pan Drain Plug	1
XS6E	6687	AE	XS6E	6687	AE	Baffle - Oil Pan	1
	W520102	S309		W520102	S309	Nut - M8, Oil Pan Baffle TORQUE: 13-15 LB-FT (17-21 Nm)	4

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BASE ENGINE - Engine Lower



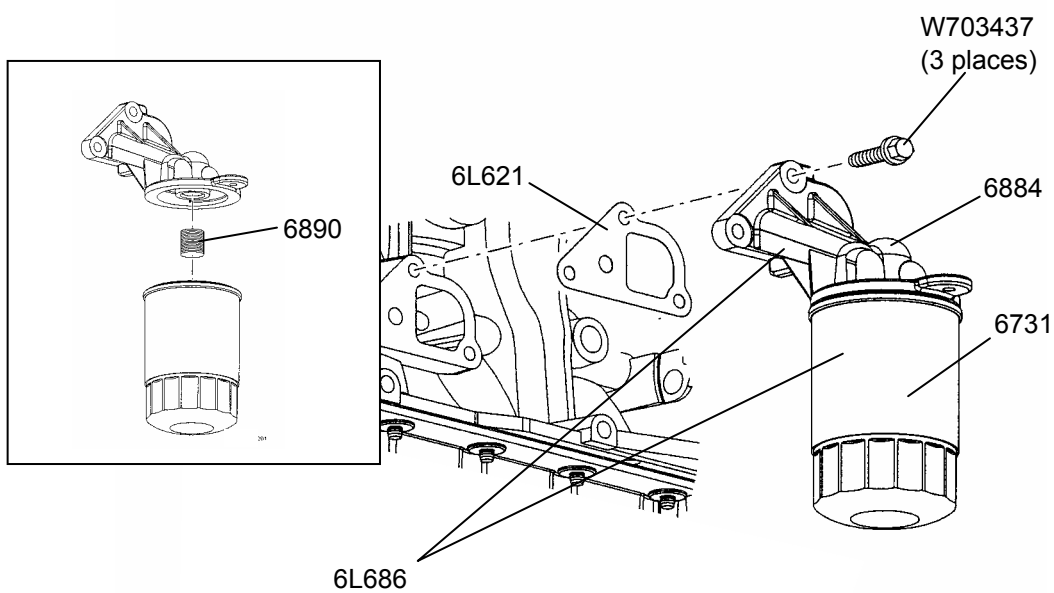
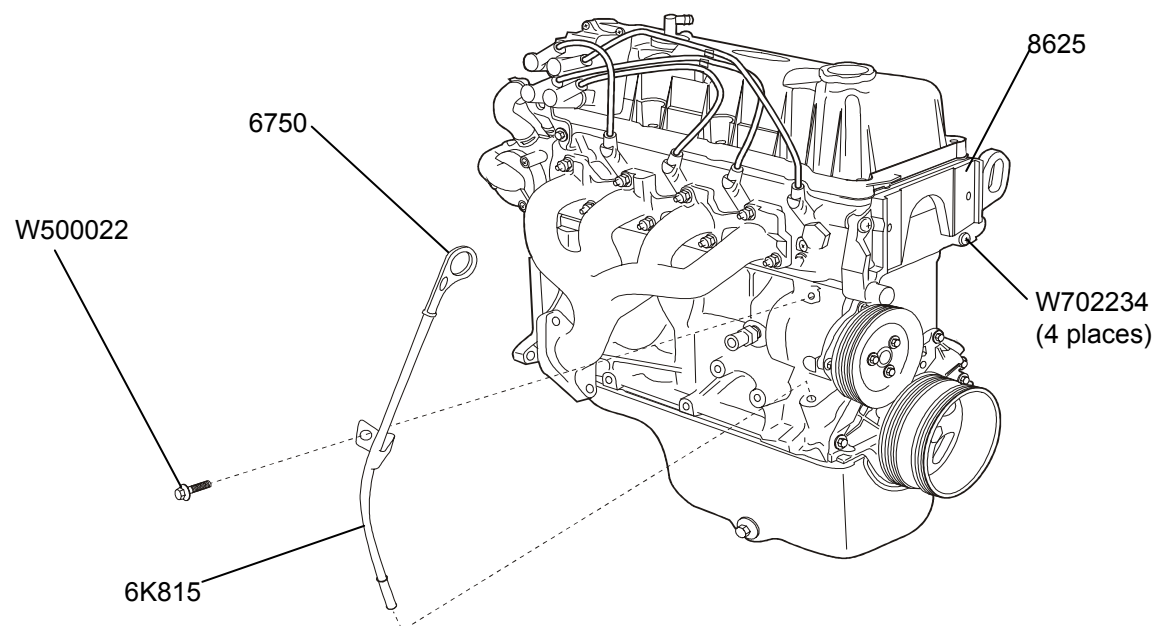
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ENGINEERING PART NUMBER			SERVICE PART NUMBER			DESCRIPTION	QTY.
BASE NO.			BASE NO.			BASE ENGINE Engine Lower	
<i>Cylinder Block Related Parts</i>							
2S6G	6600	AC	2S6G	6600	AC	Pump Asy - Oil	1
XS6E	6K340	AB	XS6E	6A340	AB	Bolt - M12X48 TORQUE:90-94 FT-LB (122.5-127.5 Nm)	1
	W500025	S303		W500025	S303	Bolt - Oil Pump to Block M8x30 TORQUE: 13-16 FT-LB (18-22 Nm)	1
	W703439	S414		W703439	S414	Bolt - Oil Pump to Block M8x16 Pre-Sealed	2
						TORQUE:13-16 FT-LB (18-22 Nm)	
	W500023	S303		W500023	S309	Bolt, Oil Pump to Block M8x20 TORQUE:13-16 FT-LB (18-22 Nm)	3
XS6E	6659	A2B	XS6E	6659	A2B	Gasket - Water/Oil Pump to Block	1

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BASE ENGINE - Engine Lower



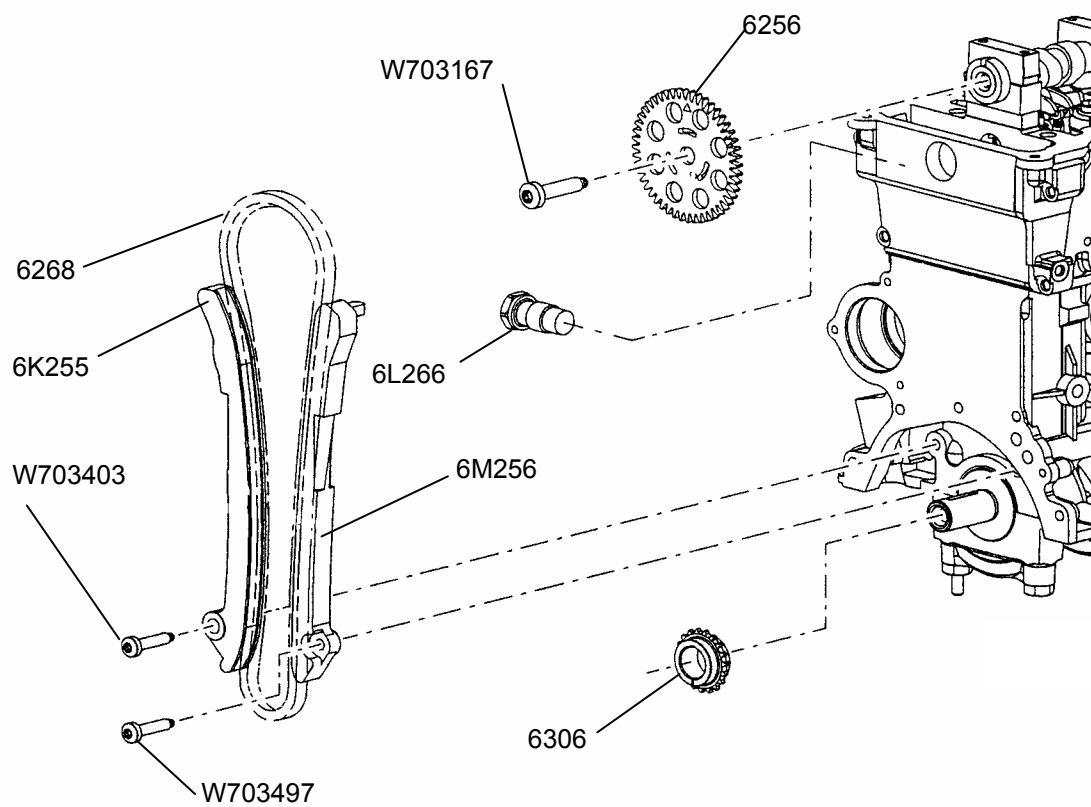
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ENGINEERING PART NUMBER			SERVICE PART NUMBER			DESCRIPTION	QTY.
BASE NO.			BASE NO.			BASE ENGINE Engine Lower	
Cylinder Block Related Parts							
XS6E	6L686	B1A	XS6E	6L686	B1A	Adapter Asy. - Oil Filter	1
XS6E	6L621	AD	XS6E	6L621	AD	Gasket - Oil Filter Adapter	1
	W703437	S309		W703437	S309	Bolt - Oil Filter Adapter M8x22 TORQUE:13-16 FT-LB (18-22 Nm)	3
XS6E	6890	AA	XS6E	6890	AA	Insert - Oil Filter Mounting Bolt	1
XS6E	6884	AC	XS6E	6884	AC	Adapter - Oil Filter	1
XW4E	6714	EA	E4FZ	6731	AB	Oil Filter	1
2U1L	8625	AA	2U1L	8625	AA	Bracket & Ply Asy - Fan	1
	W702234	S309		W702234	S309	Bolt - Bracket & Ply Asy M8x35 TORQUE: 15-21 LB-FT (21-28 Nm)	4
Oil Level Indicator & Related Parts							
2U1L	6750	EA	2U1L	6750	EA	Indicator - Oil Level	1
2S6G	6K815	A1A	2S6G	6K815	A1A	Ext. Asy. - Oil Level Indicator Tube	1
	W500022	S309		W500022	S309	Bolt - Indicator Tube to Block M8x16 TORQUE: 13-17 LB-FT (17-23 Nm)	1

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BASE ENGINE - Engine Front



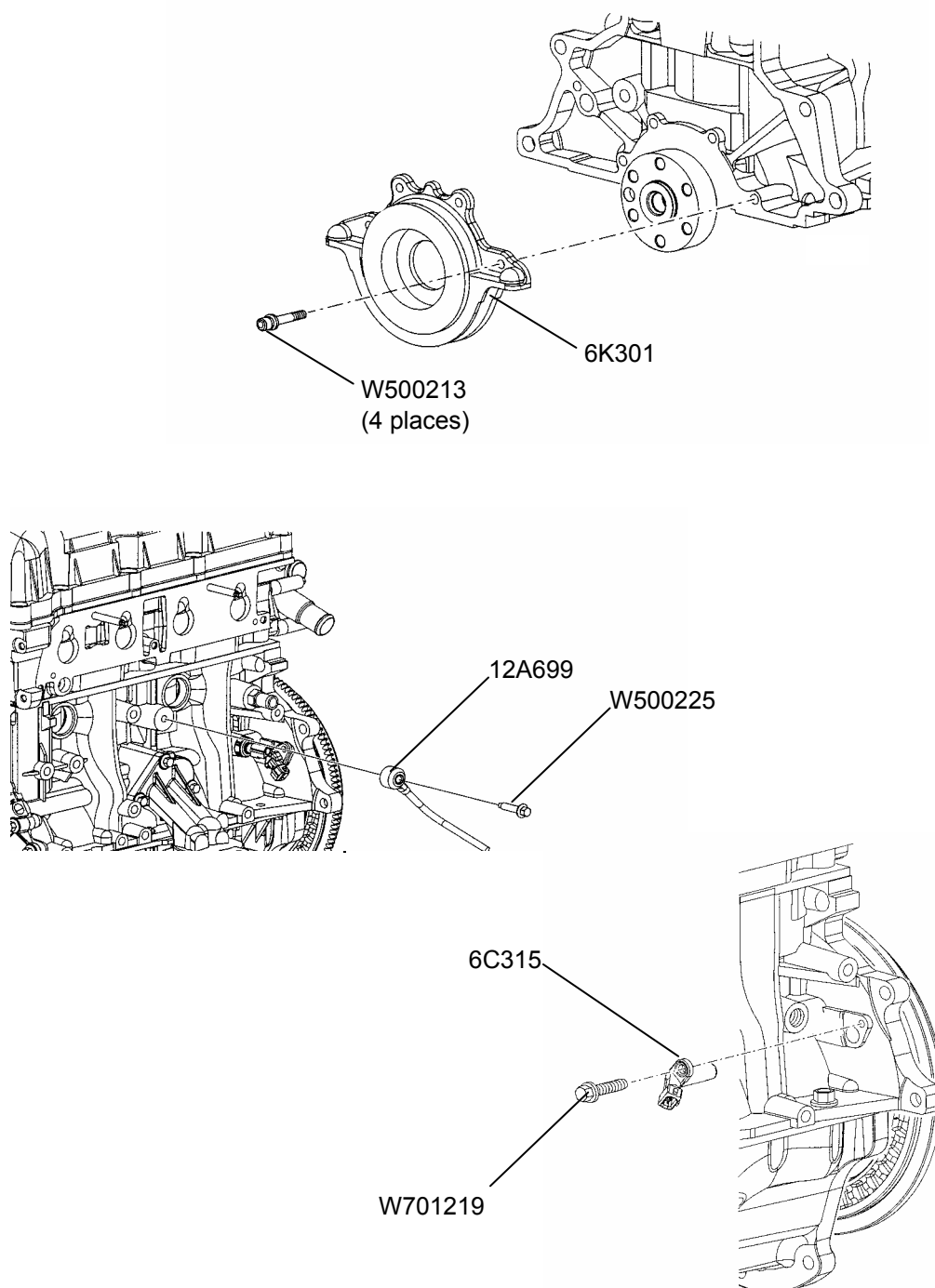
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ENGINEERING PART NUMBER			SERVICE PART NUMBER			DESCRIPTION	QTY.
BASE NO.			BASE NO.			BASE ENGINE Engine Front	
Pulleys & Tensioners							
XS6E	6256	AB	XS6E	6256	AB	Sprocket - Camshaft	1
XS6E	6306	AA	XS6E	6306	AA	Sprocket - Crankshaft	1
XS6E	6268	AA	XS6E	6268	AA	Chain - Timing	1
XS6E	6K255	AA	XS6E	6K255	AA	Arm Asy. - Timing Chain Tensioner	1
XS6E	6M256	AD	XS6E	6M256	AD	Guide Asy. - Timing Chain	1
XS6E	6L266	AE	XS6E	6L266	AE	Tensioner - Timing Chain TORQUE: 27-32 LB-FT (36-44 Nm)	1
	W703167	S430		W703167	S430	Bolt - Sprocket to Camshaft TORQUE: 52-59 LB-FT (70-80 Nm)	1
	W703403	S430		W703403	S430	Bolt - Timing Chain Tensioner Arm to Block	1
						TORQUE: 18-20 LB-FT (24-28 Nm)	
	W703497	S430		W703497	S430	Bolt - Timing Chain Guide to Block TORQUE: 18-20 LB-FT (24-28 Nm)	1

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BASE ENGINE - Engine Rear



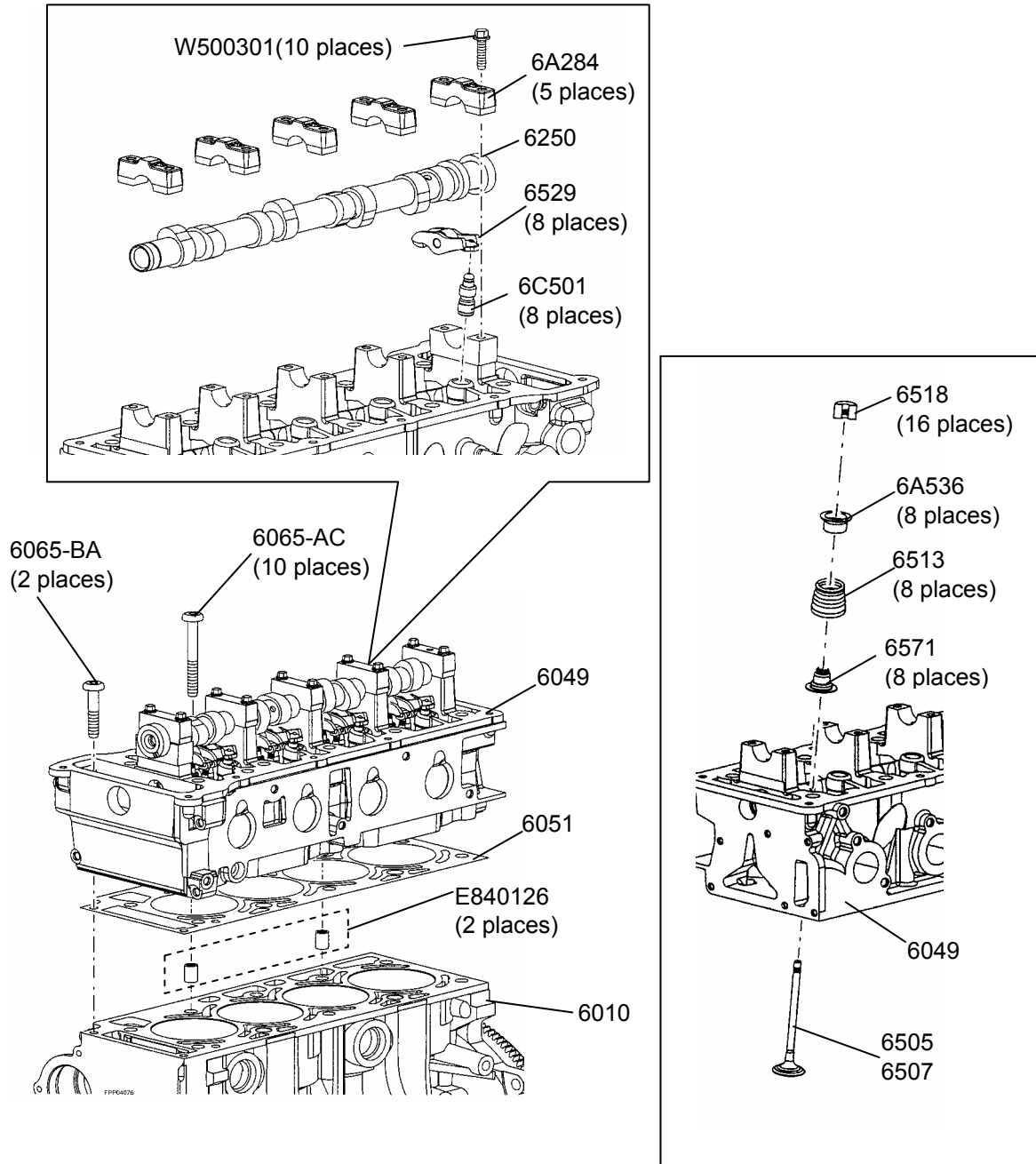
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ENGINEERING PART NUMBER			SERVICE PART NUMBER			DESCRIPTION	QTY.
BASE NO.			BASE NO.			BASE ENGINE Engine Rear	
Cylinder Block Related Parts							
XS6E	6K301	CA	XS6E	6K301	CA	Retainer Asy. - Rear Crankshaft Oil Seal	1
2S6G	6A321	AA	2S6G	6A321	AA	Oil Seal - Rear Crankshaft	1
	W500213	S303		W500213	S303	Bolt - M6x16 Hex - Retainer to Block TORQUE: 7-8 LB-FT (9-11 Nm)	4
948F	6C315	AA	948F	6C315	AA	Sensor Asy. - Crankshaft Timing	1
	W701219	S309		W701219	S309	Bolt - M6x16 - Crank Sensor to Block TORQUE: 5-9 LB-FT (7-13 Nm)	1
1N1A	12A699	AA	1N1A	12A699	AA	Sensor Asy. - Engine Spark Knock	1
	W500225	S309		W500225	S309	Bolt - M8x30 - Knock Sensor to Block TORQUE: 13-17 LB-FT (17-23 Nm)	1

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BASE ENGINE - Engine Upper



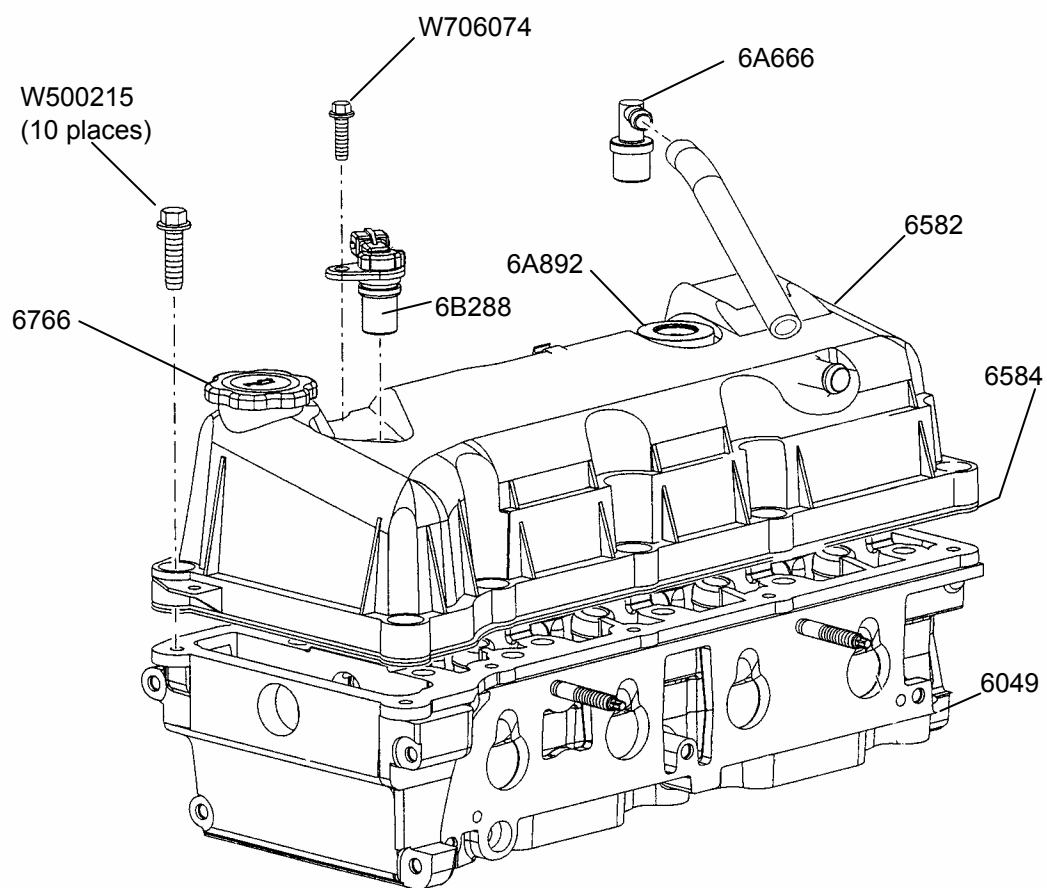
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ENGINEERING PART NUMBER			SERVICE PART NUMBER			DESCRIPTION	QTY.
BASE NO.			BASE NO.			BASE ENGINE Engine Upper	
Cylinder Head Related Parts							
XS6E	6250	BB	XS6E	6250	BB	Camshaft	1
XS6E	6529	AB	XS6E	6529	AB	Roller - Finger Follower	8
XS6E	6C501	AC	XS6E	6C501	AC	Lash Adjuster Asy. - Valve	8
98MM	6518	A3A	2M5Z	6518	AA	Key - Valve Spring	16
XS6E	6A536	AA	XS6E	6A536	AA	Retainer - Valve Spring	8
XS6E	6513	AB	XS6E	6513	AB	Spring - Valve	8
XS6E	6571	AB	XS6E	6571	AB	Seal - Valve Stem	8
XS6E	6090	FJ	XS6E	6090	FJ	Cylinder Head - Bare	1
2U1L	6049	BB	2U1L	6049	BB	Cylinder Head - with Valves	1
XS6E	6505	BB	XS6E	6505	BB	Valve - Exhaust	4
YS4E	6507	AA	YS4E	6507	AA	Valve - Intake	4
XS6E	6065	AC	XS6E	6065	AC	Bolt - Cylinder Head T55 x 158 mm TORQUE: See Asy Manual	10
XS6E	6065	BA	XS6E	6065	BA	Bolt - Cylinder Head T40 x 45 mm TORQUE: See Asy Manual	2
XS6E	6051	BF	XS6E	6051	BF	Gasket - Cylinder Head	1
	W500301	S309		W500301	S309	Bolt - M6x35 Camshaft Cap TORQUE: 6-7 LB-FT (8-10 Nm)	10
	E840126	S		E840126	S	Dowel Pin - Head to Block	2
RFXS6E	6A284	CA	RFXS6E	6A284	CA	Cap - Camshaft Bearing Casting	5

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BASE ENGINE - Engine Upper



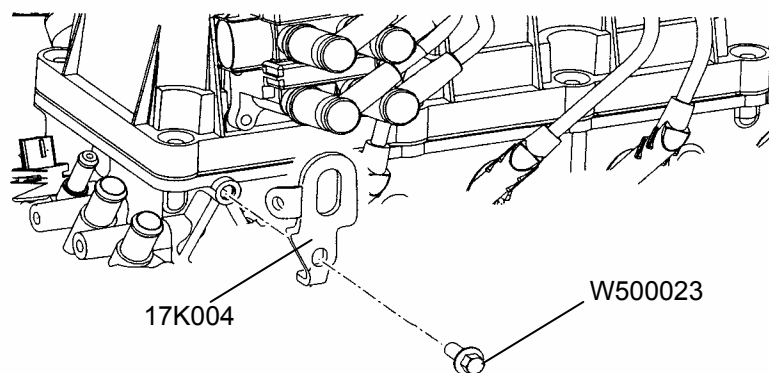
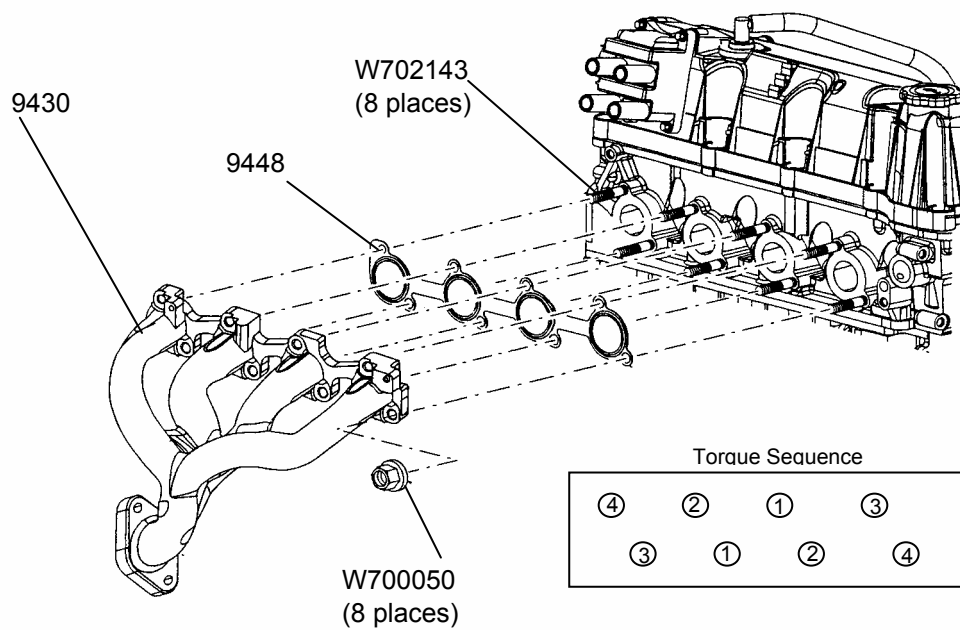
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ENGINEERING PART NUMBER			SERVICE PART NUMBER			DESCRIPTION	QTY.
BASE NO.			BASE NO.			BASE ENGINE Engine Upper	
Cylinder Block Related Parts							
XS6G	6582	A1B	XS6G	6582	A1B	Cover Asy. - Valve	1
XS6E	6584	AB	XS6E	6584	AB	Gasket - Valve Cover	1
F33E	6B890	A2A	F33Z	6A666	A	PCV Valve	1
YS4G	6766	AA	YS4G	6766	AA	Oil Filler Cap	1
XS6E	6K780	AC	XS6Z	6A892	AC	Grommet - PCV Valve	1
1L2E	6B288	AA	1L2Z	6B288	AA	Sensor - Camshaft	1
	W500215	S301		W500215	S301	Bolt - Cam Cover to Head M6x25 TORQUE: 6-7 LB-FT (8-10 Nm)	10
	W706074	S901		W706074	S901	Screw & Washer - Camshaft Sensor to Cam Cover 5.9x23	1
						TORQUE: 4-5 LB-FT (5-6 Nm)	

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BASE ENGINE - Engine Upper



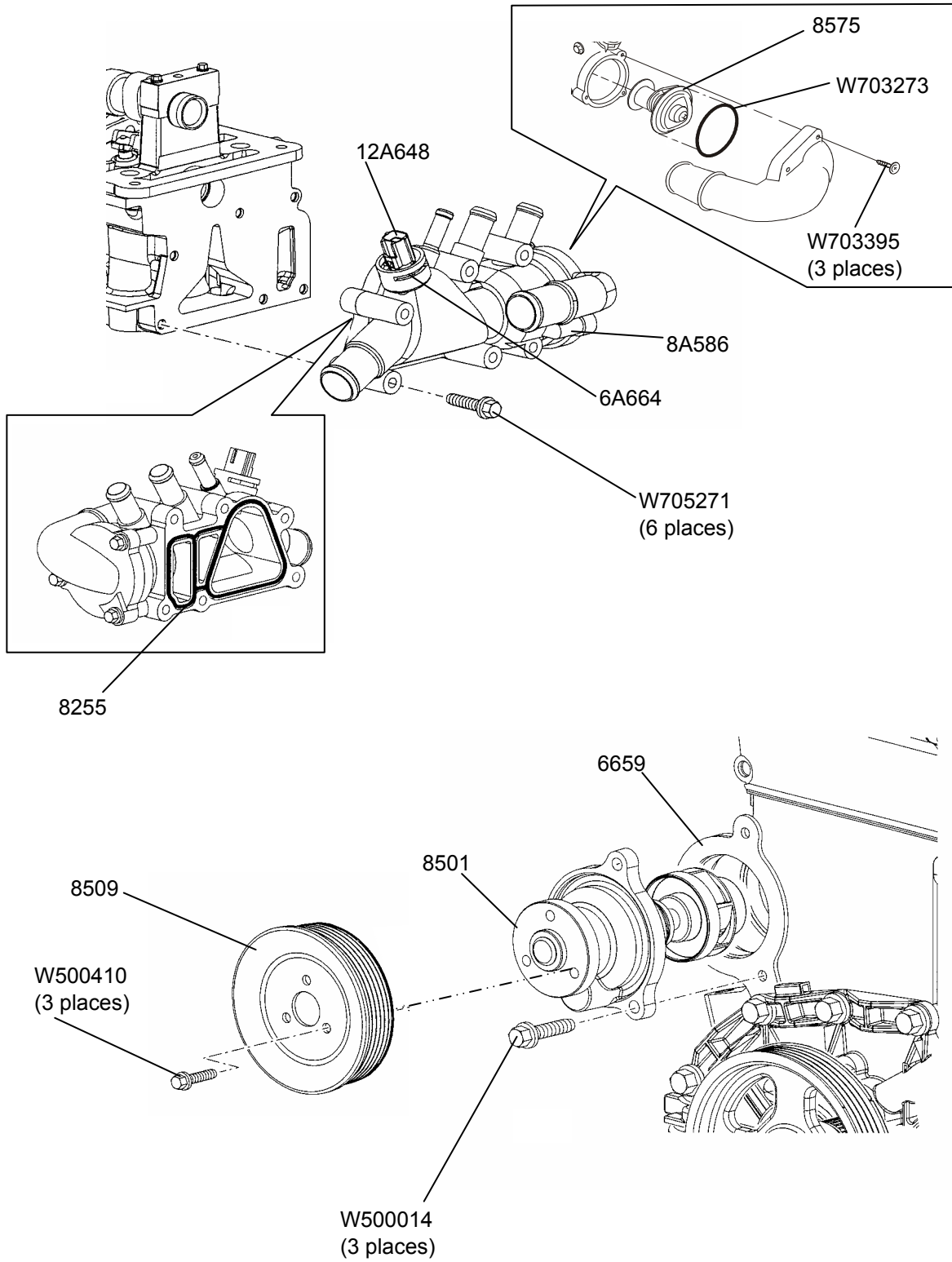
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ENGINEERING PART NUMBER			SERVICE PART NUMBER			DESCRIPTION	QTY.
BASE NO.			BASE NO.			BASE ENGINE Engine Upper	
Cylinder Block Related Parts							
2U1L	9430	CA	2U1L	9430	CA	Exhaust Manifold	1
YS6G	9448	EC	YS6G	9448	EC	Gasket - Exhaust Manifold	1
	W702143	S309		W702143	S309	Stud - M8x16 - M8x25 Exhaust Manifold TORQUE:3-4 LB-FT (4-6 Nm)	8
	W700050	S403		W700050	S403	Nut - M8 Exhaust manifold - TORQUE: First Step: 12.5-15.5 Nm	8
						in sequence shown. Second Step:18-22 Nm in sequence shown.	
XS6E	17K004	CA	XS6E	17K004	CA	Eye - Engine Lifting Rear RH	1
	W500023	S303		W500023	S309	Bolt - M8x20 Lift Eye TORQUE: 13-17 LB-FT (17-23 Nm)	1

TSG-416 - Service Parts Manual

BASE ENGINE - Cooling System



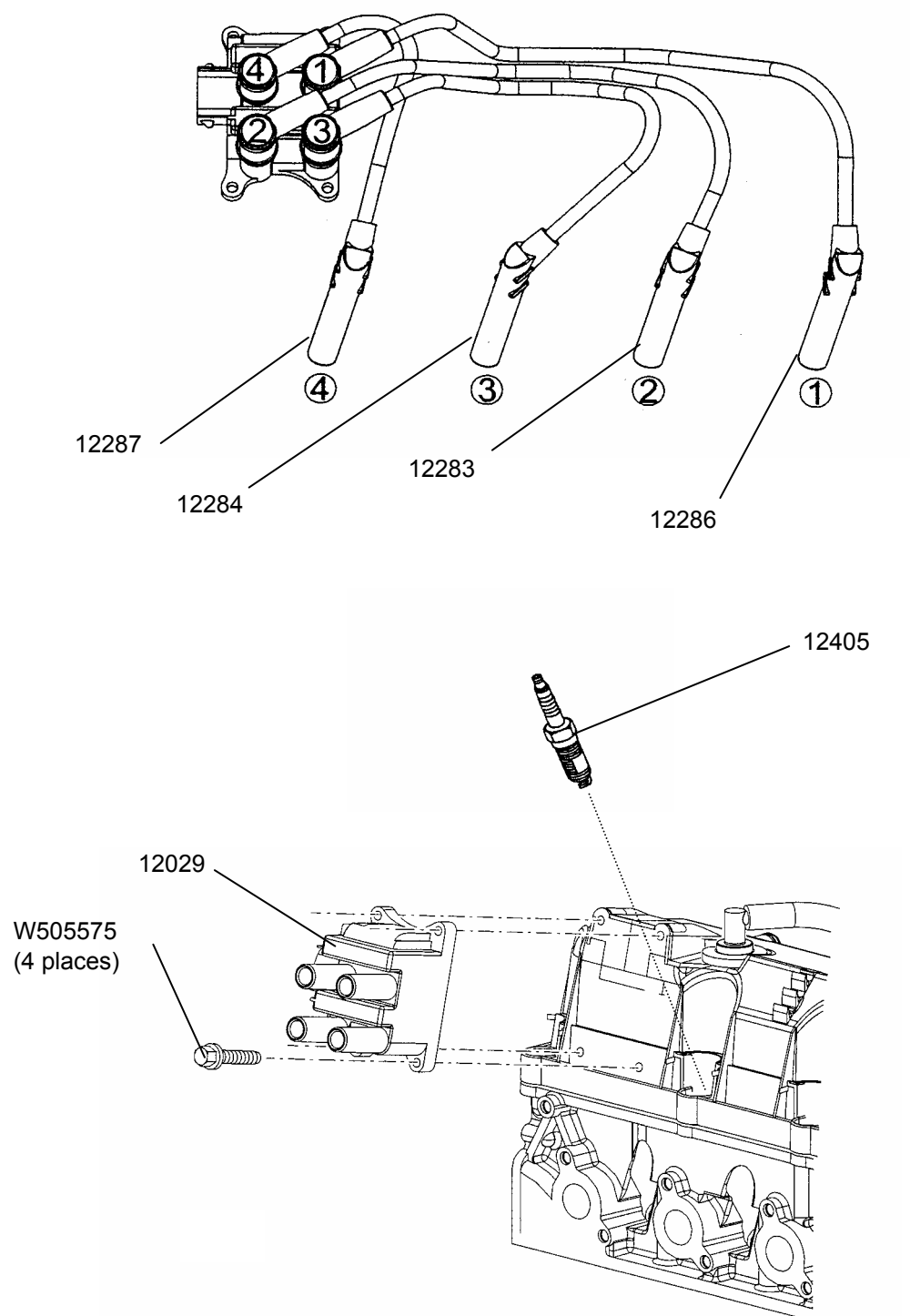
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ENGINEERING PART NUMBER			SERVICE PART NUMBER			DESCRIPTION	QTY.
BASE NO.			BASE NO.			BASE ENGINE Cooling System	
Cylinder Block Related Parts							
XS6E	8501	AD	XS6E	8501	AD	Pump Asy - Water	1
XS6E	6659	A2B	XS6E	6659	A2B	Gasket - Water/Oil Pump to Block	1
	W500014	S309		W500014	S309	Bolt - M6x20 Water Pump to Block TORQUE: 6-9 LB-FT (8-12 Nm)	3
1S5Q	8509	AA	1S5Q	8509	AA	Pulley Asy - Water Pump	1
	W500410	S309		W500410	S309	Bolt - M6x10 - Water Pump Pulley TORQUE: 6-9 LB-FT (8-12 Nm)	3
Thermostat & Related Parts							
2S6G	8A586	D1B	2S6G	8A586	D1B	Housing Asy. - Thermostat	1
2S6G	8575	A1A	2S6G	8575	A1A	Thermostat Asy. - Water	1
	W705271	S309		W705271	S309	Bolt - M6x63 Housing to Cylinder Head TORQUE: 6-9 FT-LB (8-12 Nm)	6
XS6E	8255	BC	XS6E	8255	BC	Gasket - Thermostat Housing	1
	W703273	S300		W703273	S300	"O" Ring - 46x4.2 Thermostat	1
	W703395	S309		W703395	S309	Screw - 5x25 Pan Thread Thermostat Cover	3
XS6F	12A648	BA	XS6Z	12A648	BA	Sensor Assembly - Engine Electronic Coolant Temperature	1
XS6E	6665	AA	XS6Z	6A664	AA	Clip - Sensor Retaining	1

TSG-416 - Service Parts Manual

BASE ENGINE - Ignition System



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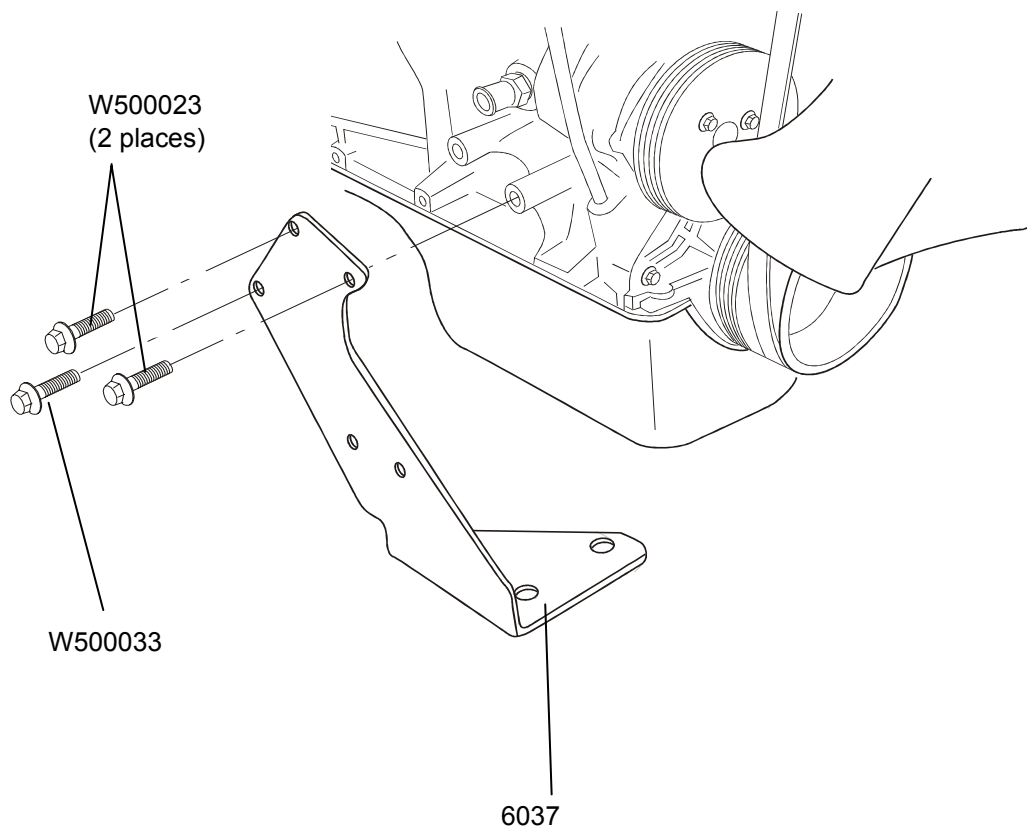
ENGINEERING PART NUMBER			SERVICE PART NUMBER			DESCRIPTION	QTY.
BASE NO.			BASE NO.			BASE ENGINE Ignition System	
Cylinder Block Related Parts							
5G5E	12405	AA	AYFS	22F	MF4	Spark Plug TORQUE: 10-12 LB-FT (13-17 Nm)	4
988F	12029	AD	XS8Z	12029	AD	Coil Assembly - Ignition	1
	W505575	S309		W505575	S309	Screw - M5x20 Coil to Cam Cover TORQUE: 4-5 LB-FT (5-7 Nm)	4
XS6F	12286	B3C	XS6F	12286	B3C	Plug Wire #1	1
XS6F	12283	B3C	XS6F	12283	B3C	Plug Wire #2	1
XS6F	12284	B3C	XS6F	12284	B3C	Plug Wire #3	1
XS6F	12287	B3C	XS6F	12287	B3C	Plug Wire #4	1

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ENGINEERING PART NUMBER			SERVICE PART NUMBER			DESCRIPTION		QTY.
BASE NO.			BASE NO.			BASE ENGINE Gasket Sets		
Cylinder Block Related Parts								
2S6G	6013	AA	2S6G	6013	AA	GASKET SET - LOWER		1
						CONTENTS:		
XS6E	6L621	AD				GASKET - OIL FILTER ADAPTER		1
XS6E	6659	A2B				GASKET - OIL PUMP TO BLOCK		1
XS6E	6710	A2B				GASKET - OIL PAN		1
XS6E	8255	BC				GASKET - THERMOSTAT HOUSING		1
2S6G	6A321	AA				REAR CRANKSHAFT SEAL & RETAINER		1
2S6G	6D316	AA				FRONT CRANKSHAFT SEAL		1
97JM	6734	BA				GASKET - OIL PAN DRAIN PLUG		1
	W700050	S403				NUT - M8 HEX FLANGE		8
	W701437	S300				RING - SE 20, 6 X 2.4 PLAS		1
Cylinder Block Related Parts								
2S6G	6014	BA	2S6G	6014	BA	GASKET SET - UPPER		1
						CONTENTS:		
XS6E	6K780	AC				GROMMET		1
XS6E	6051	BF				GASKET - CYLINDER HEAD		1
XS6E	6065	AC				BOLT - CYLINDER HEAD		10
XS6E	6065	BA				BOLT - CYLINDER HEAD		2
XS6E	6571					SEAL - VALVE STEM		8
XS6E	6571	AB				SEAL - VALVE STEM		8
XS6E	6584	AB				GASKET - VALVE COVER		1
XS6E	9441	BA				GASKET - INTAKE MANIFOLD		1
XS6E	9448	AD				GASKET - EXHAUST MANIFOLD		1

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ENGINE MOUNTING



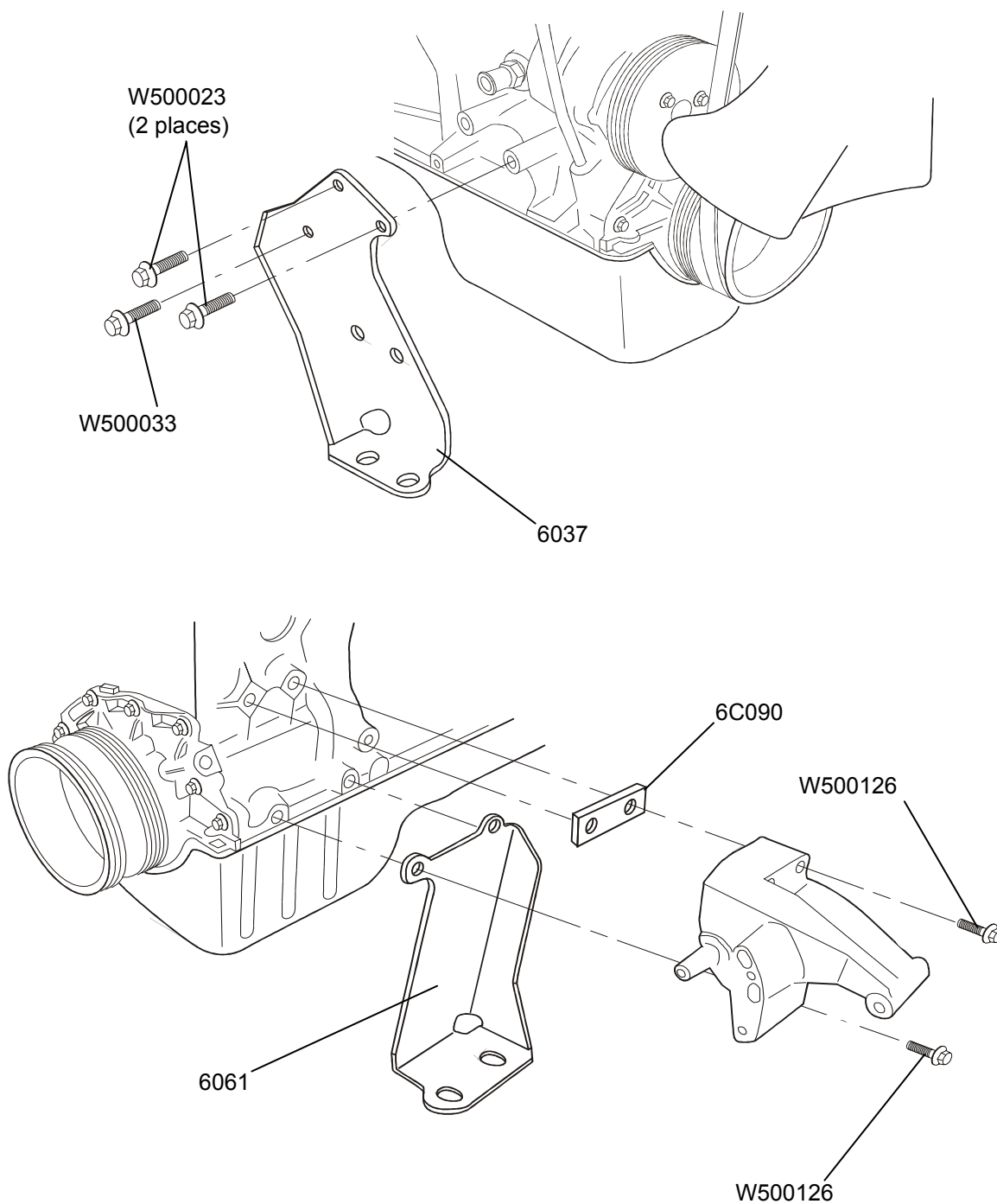
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ENGINEERING PART NUMBER			SERVICE PART NUMBER			DESCRIPTION	QTY.
BASE NO.			BASE NO.			PRODUCTION GROUPS Engine Mounting	
JA3U1L-6K007-AA: Single Foot Support - w/o Radiator							
2U1L	6037	CA	2U1L	6037	CA	Bracket - Eng. Front Mount Support RH	1
	W500023	S309		W500023	S309	Screw - M8X20 Hex Flng. 8 TORQUE: 15-22 LB-FT (20-30 Nm)	2
	W500033	S426		W500033	S426	Screw - M10X25 Hex Flng. 8 TORQUE: 30-40 LB-FT (40-55 Nm)	1

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ENGINE MOUNTING



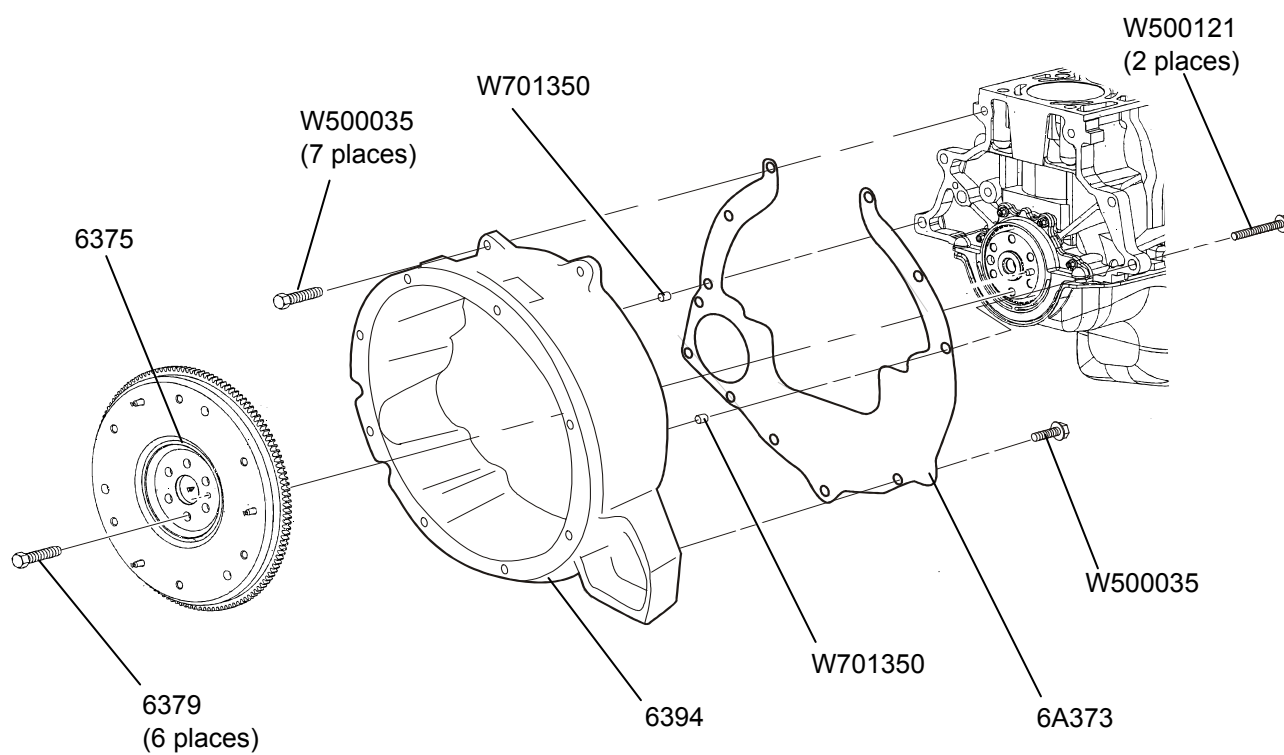
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ENGINEERING PART NUMBER			SERVICE PART NUMBER			DESCRIPTION	QTY.
BASE NO.			BASE NO.			PRODUCTION GROUPS Engine Mounting	
JA3U1L-6K007-BA: Dual Foot Support - w/o radiator							
2U1L	6C090	BA	2U1L	6C090	BA	Spacer - Engine Front Support - LH	1
2U1L	6061	BA	2U1L	6061	BA	Bracket - Engine Front Mount Support - LH	1
	W500126	S309		W500126	S309	Bolt - M10x70 Hex Flange 8 TORQUE: 30-40 LB-FT (40-55 Nm)	4
2U1L	6037	BA	2U1L	6037	BA	Bracket - Engine Front Mount Support - RH	1
	W500023	S309		W500023	S309	Screw - M8x20 Hex Flange 8 TORQUE: 15-22 LB-FT (20-30 Nm)	2
	W500033	S426		W500033	S426	Screw - M10x25 Hex Flange 8 TORQUE: 30-40 LB-FT (40-55 Nm)	1

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FLYWHEEL & FLYWHEEL HOUSING



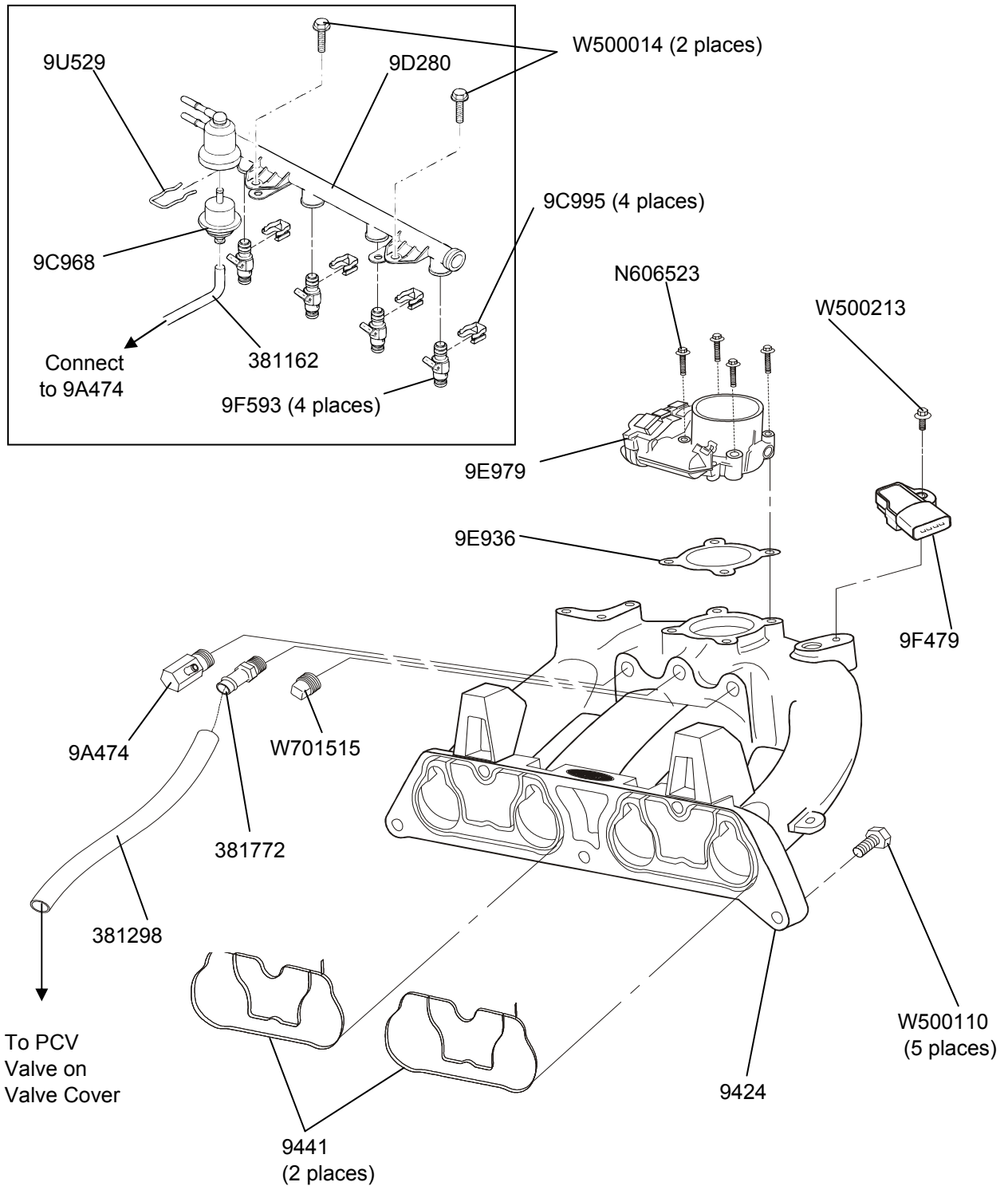
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ENGINEERING PART NUMBER			SERVICE PART NUMBER			DESCRIPTION	QTY.
BASE NO.			BASE NO.			PRODUCTION GROUPS Flywheel, & Flywheel Housing	
JA3U1L-6426-AA: Flywheel Housing - SAE 5M w/Feet & w/Side Pads							
2U1L	6394	JA	2U1L	6394	JA	Housing - Flywheel (SAE 5M)	1
	W701350	S309		W701350	S309	Pin - 12.7X 16.5 Hollow Dowel	2
2U1L	6A373	AA	2U1L	6A373	AA	Plate - Engine Rear Cover	1
	W500121	S309		W500121	S309	Bolt - M10x45 Hex Flange 8 TORQUE: 30-40 LB-FT (40-55 Nm)	2
	W500035	S309		W500035	S309	Screw - M10X35 Hex Flange Head 8 TORQUE: 30-40 LB-FT (40-55 Nm)	7
JA3U1L-6K390-AA: Flywheel - 7.5" O/C Clutch							
2U1L	6375	BA	2U1L	6375	BA	Flywheel Assembly - SAE 7.5" O/C	1
89BM	6379	BA	89BM	6379	BA	Bolt - M10x1.0x22.5 Hex Head TORQUE: 47-52 LB-FT (64-70 Nm)	6
2U1L	7A673	BA	2U1L	7A673	BA	Adap -Pwr T/O Input Shaft Bearing	1
	W500014	S309		W500014	S309	Screw - M6x20 Hex Flange Head TORQUE: 6-9 LB-FT (8-12 Nm)	3
JA3U1L-6K390-BA: Flywheel - Automotive							
XS6E	6375	AD	XS6E	6375	AD	Flywheel Assembly - Automotive (Flat Faced)	1
89BM	6379	BA	89BM	6379	BA	Bolt - M10x1.0x22.5 Hex Head TORQUE: 47-52 LB-FT (64-70 Nm)	6

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INTAKE MANIFOLD & ACTUATOR



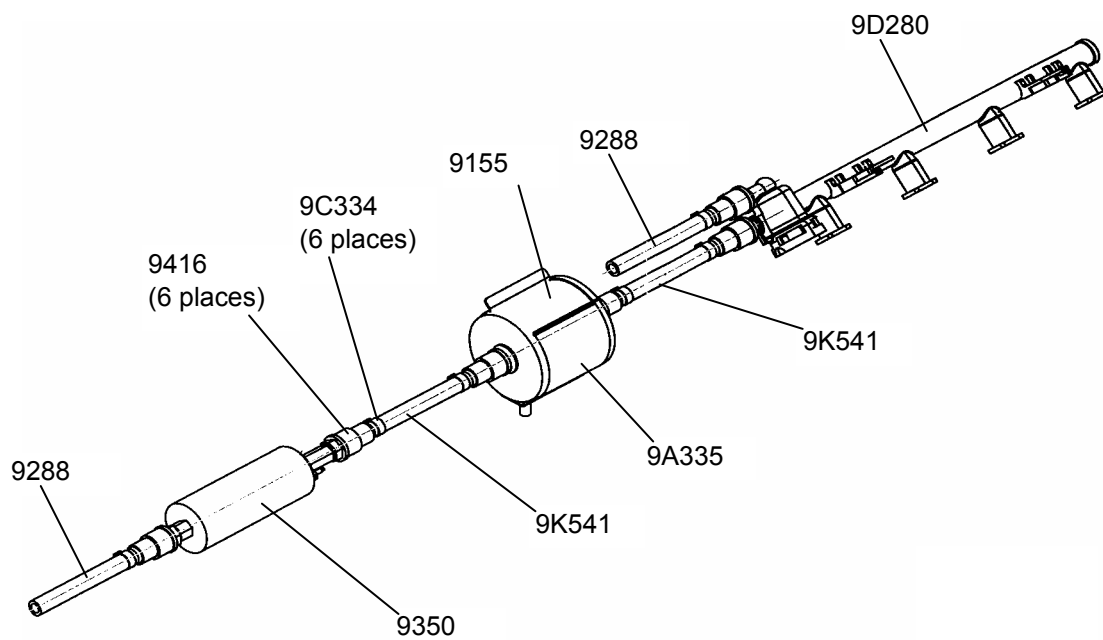
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ENGINEERING PART NUMBER			SERVICE PART NUMBER			DESCRIPTION	QTY.
BASE NO.			BASE NO.			PRODUCTION GROUPS Intake Manifold & Actuator	
JA3U1L-9E473-AA: Intake Manifold & Actuator - Bi Fuel							
XS6E	9441	BA	XS6E	9441	BA	Gasket - Intake Manifold	2
2U1L	9424	BA	2U1L	9424	BA	1.6L Intake Manifold w/Holes	1
	W500110	S426		W500110	S426	Bolt - M8X1.25X35 Hex Head Flange TORQUE: 12-15 FT-LB (16-20 Nm)	5
1U1L	9E936	AA	1U1L	9E936	AA	Gasket - Air Chg Cntl to Intake Manifold	1
1U1L	9E979	BA	1U1L	9E979	BA	Bosch 40MM Elec Throttle Body	1
	N606523	S2		N606523	S2	Bolt - M6x45 Hex Head Flanged TORQUE: 6-9 FT-LB (8-12 Nm)	4
2U1L	9F479	AA	2U1L	9F479	AA	Sensor Assembly - Manifold Absolute Pressure (MAP)	1
	W500213	S309		W500213	S309	Screw - M6-1.0x16 Hex Flange Pilot TORQUE: 6-9 FT-LB (8-12 Nm)	1
	381772	S101		381772	S101	Connector - 3/8" Hose x 1/4" Ex Pipe TORQUE: 8-12 FT-LB (11-16 Nm)	1
E77A	9D446	CA	E77A	9A474	CA	Fit & Cap Assembly Int Man Vac Cnt TORQUE: 8-12 FT-LB (11-16 Nm)	1
	381162	S220A		381162	S220A	Hose 3/16" (Connects from 9C968 to 9A474)	1
YS6U	9F593	HA	YS6U	9F593	HA	Injector Assembly - Fuel	4
98BF	9C995	AA	98BF	9C995	AA	Retainer - Fuel Injector	4
XS6U	9D280	AB	XS6U	9D280	AB	Manifold Assembly - Fuel Injector Fuel Supply	1
96MF	9C968	DA	96MF	9C968	DA	Regulator - Fuel Pressure	1
98BF	9U529	AA	98BF	9U529	AA	Retainer - Fuel Pressure Regulator	1
	W500014	S309		W500014	S309	Screw - M6X20 Hex Flange Head TORQUE: 6-8 FT-LB (8.3-11.3 Nm)	2
	W701515	S309		W701515	S309	Plug - 1/4"-18 PTF TORQUE: 8-12 FT-LB (11-16 Nm)	1
	381298	SX28A		381298	SX28A	Hose - 3/8" Vacuum (connects from 381772 to PCV valve)	1
JA3U1L-9E473-BA: Intake Manifold & Actuator - Dry Fuel							
XS6E	9441		XS6E	9441	BA	Gasket - Intake Manifold	2
2U1L	9424	CA	2U1L	9424	CA	1.6L Intake Manifold w/o Holes	1
	W500110	S426		W500110	S426	Bolt - M8x1.25x35 Hex Head Flange TORQUE:12-15 LB-FT (16-20 Nm)	5
1U1L	9E936	AA	1U1L	9E936	AA	Gasket - Air Chg Cntl to Intake Manifold	1
1U1L	9E979	BA	1U1L	9E979	BA	Bosch 40MM Electric Throttle Body	1
		S2		N606523	S2	Bolt - M6x45 Hex Head Flanged TORQUE: 6-9 FT-LB (8-12 Nm)	4
2U1L	9F479	AA	2U1L	9F479	AA	Sensor Assembly - Manifold Absolute Pressure	1
	W500213	S309		W500213	S309	Screw - M6-1.0x16 Hex Flange Pilot TORQUE: 6-9 FT-LB (8-12 Nm)	1
	381772	S101		381772	S101	Connector - 3/8" Hose x 1/4" Ex Pipe TORQUE: 8-12 FT-LB (11-16 Nm)	1
	W701515	S309		W701515	S309	Plug - 1/4"-18 PTF TORQUE: 8-12 FT-LB (11-16 Nm)	2
	381298	SX28A		381298	SX28A	Hose 3/8" Vacuum (connects from 381772 to PCV valve)	1
JA3U1L-9E473-CA: Intake Manifold - Dry Fuel							
XS6E	9441	BA	XS6E	9441	BA	Gasket - Intake Manifold	2
2U1L	9424	CA	2U1L	9424	CA	1.6L Intake Manifold w/o Holes	1
	W500110	S426		W500110	S426	Bolt - M8X1.25X35 Hex Head Flange TORQUE: 12-15 FT-LB (16-20 Nm)	5
2U1L	9F479	AA	2U1L	9F479	AA	Sensor Assembly - Manifold Absolute Pressure	1
	W500213	S309		W500213	S309	Screw - M6-1.0x16 Hex Flange Pilot TORQUE: 6-9 FT-LB (8-12 Nm)	1
	381772	S101		381772	S101	Connector - 3/8" Hose x 1/4" Ex Pipe TORQUE: 8-12 FT-LB (11-16 Nm)	1
	W701515	S309		W701515	S309	Plug - 1/4"-18 PTF TORQUE: 8-12 FT-LB (11-16 Nm)	2
	381298	SX28A		381298	SX28A	Hose 3/8" Vacuum (connects from 381772 to PCV valve)	1

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FUEL SYSTEM - GASOLINE



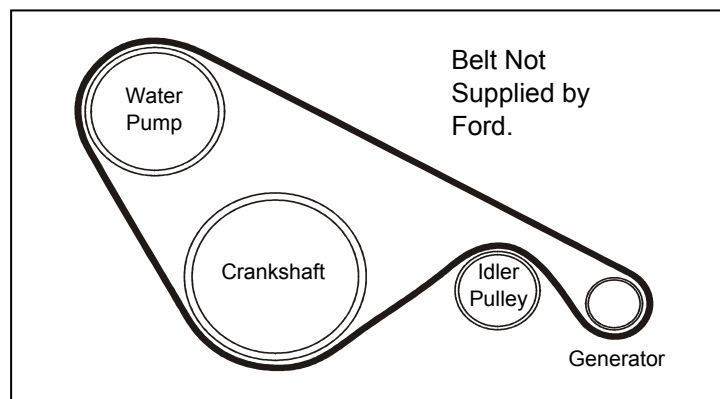
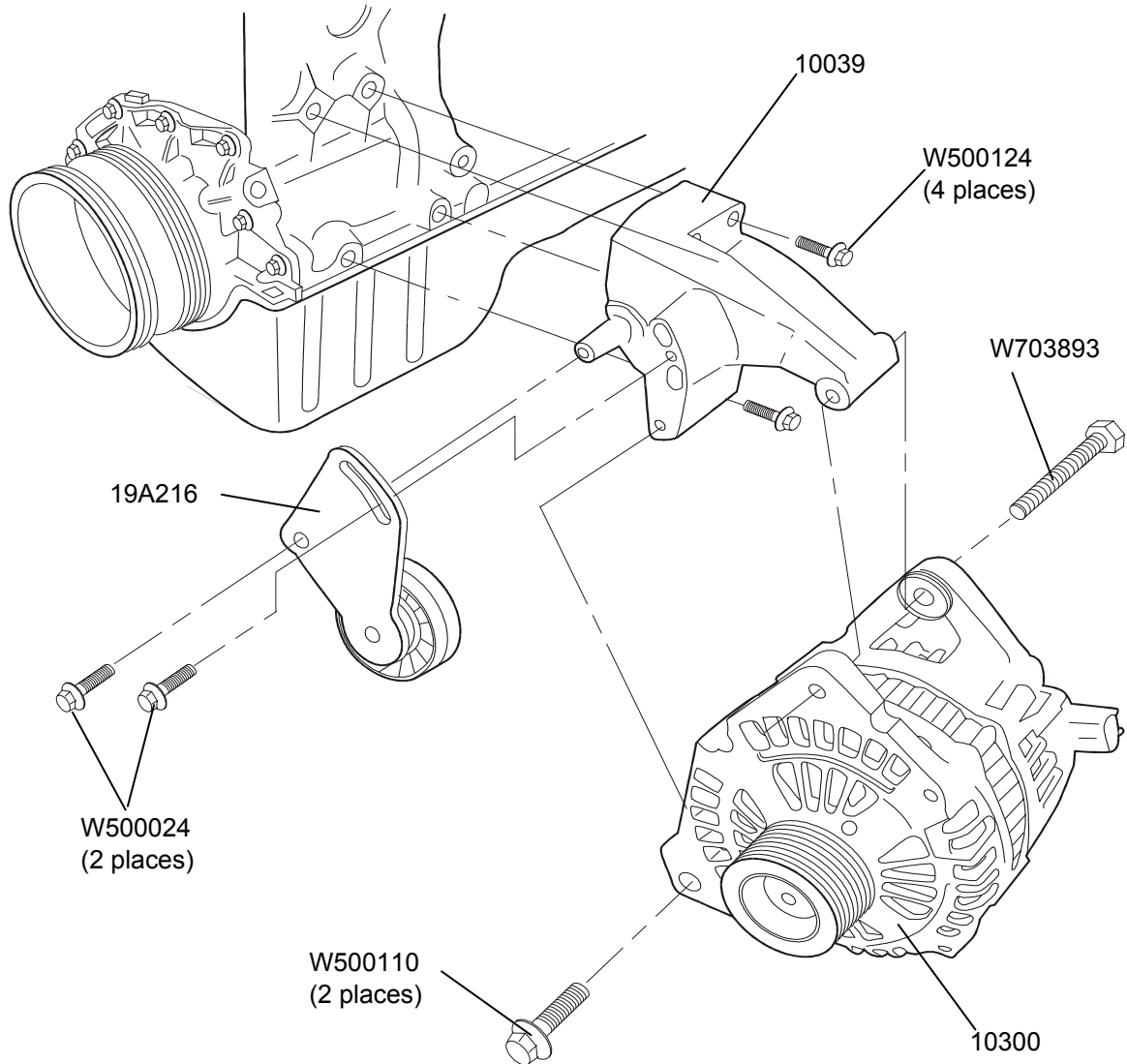
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ENGINEERING PART NUMBER			SERVICE PART NUMBER			DESCRIPTION	QTY.
BASE NO.			BASE NO.			PRODUCTION GROUPS Fuel System	
JA3U1L-9B357-AA: Fuel System - Gasoline							
2U1L	9350	AA	2U1L	9350	AA	Fuel Pump	1
F57A	9A335	AA	F57Z	9A335	A	Bracket Assembly - Fuel Filter	1
E7DE	9155	AA	E7DZ	9155	A	Filter Assembly - Fuel	1
F8JL	9K541	AA	F8JL	9K541	AA	Tube - Fuel Supply (high pressure)	1
F68A	9416	BA	F68A	9416	BA	Adaptor - Fuel Pump	6
F8JL	9C334	AA	F8JL	9C334	AA	Clamp - Fuel Tube	6
XU1L	9288	AA	XU1L	9288	AA	Hose - Low Pressure Fuel	1

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FRONT END ACCESSORY DRIVE



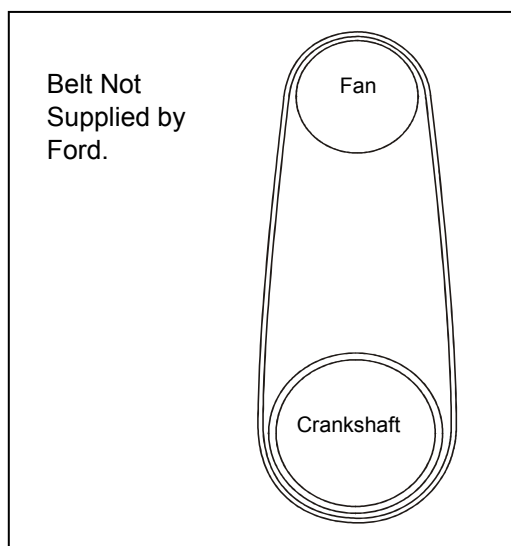
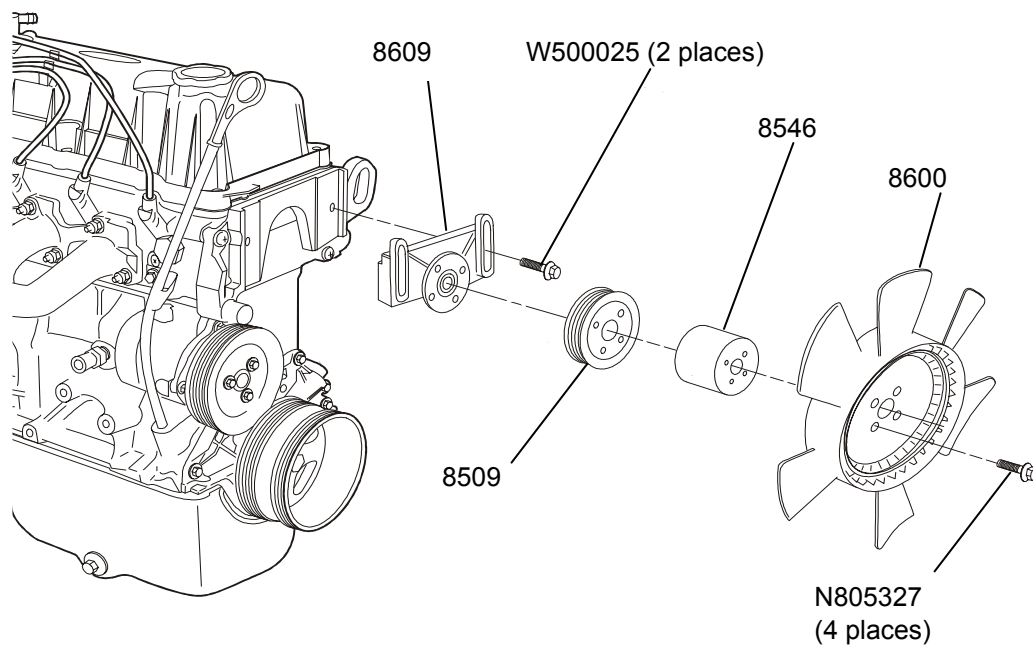
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ENGINEERING PART NUMBER			SERVICE PART NUMBER			DESCRIPTION	QTY.
BASE NO.			BASE NO.			PRODUCTION GROUPS Front End Accessory Drive (FEAD)	
JA3U1L-6D314-AA: FEAD - Standard Mount							
XS6E	10039	AF	XS6E	10039	AF	Bracket - Generator Mounting	1
	W500124	S309		W500124	S309	Bolt - M10 X 60 Hex Flange 8 TORQUE: 30-40 LB-FT (40-55 Nm)	4
2U1L	10300	BA	2U1L	10300	BA	Generator Assembly	1
	W500110	S426		W500110	S426	Bolt - M8X1.25X35 Hex Head Flange TORQUE: 15-21 LB-FT (20-28 Nm)	2
	W703893	S309		W703893	S309	Bolt & Washer - M8X112.5 Hex Flange TORQUE: 15-21 LB-FT (20-28 Nm)	1
XS6E	19A216	BC	XS6E	19A216	BC	Idler Assembly - Accessory Drive Belt	1
	W500024	S426		W500024	S426	Screw - M8x25 Hex Flange 8 TORQUE: 15-21 LB-FT (20-28 Nm)	2
						Belt - 6 Groove Serpentine - Effective Length: 1055 ± 5mm	1
						(not supplied by Ford)	

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FANS



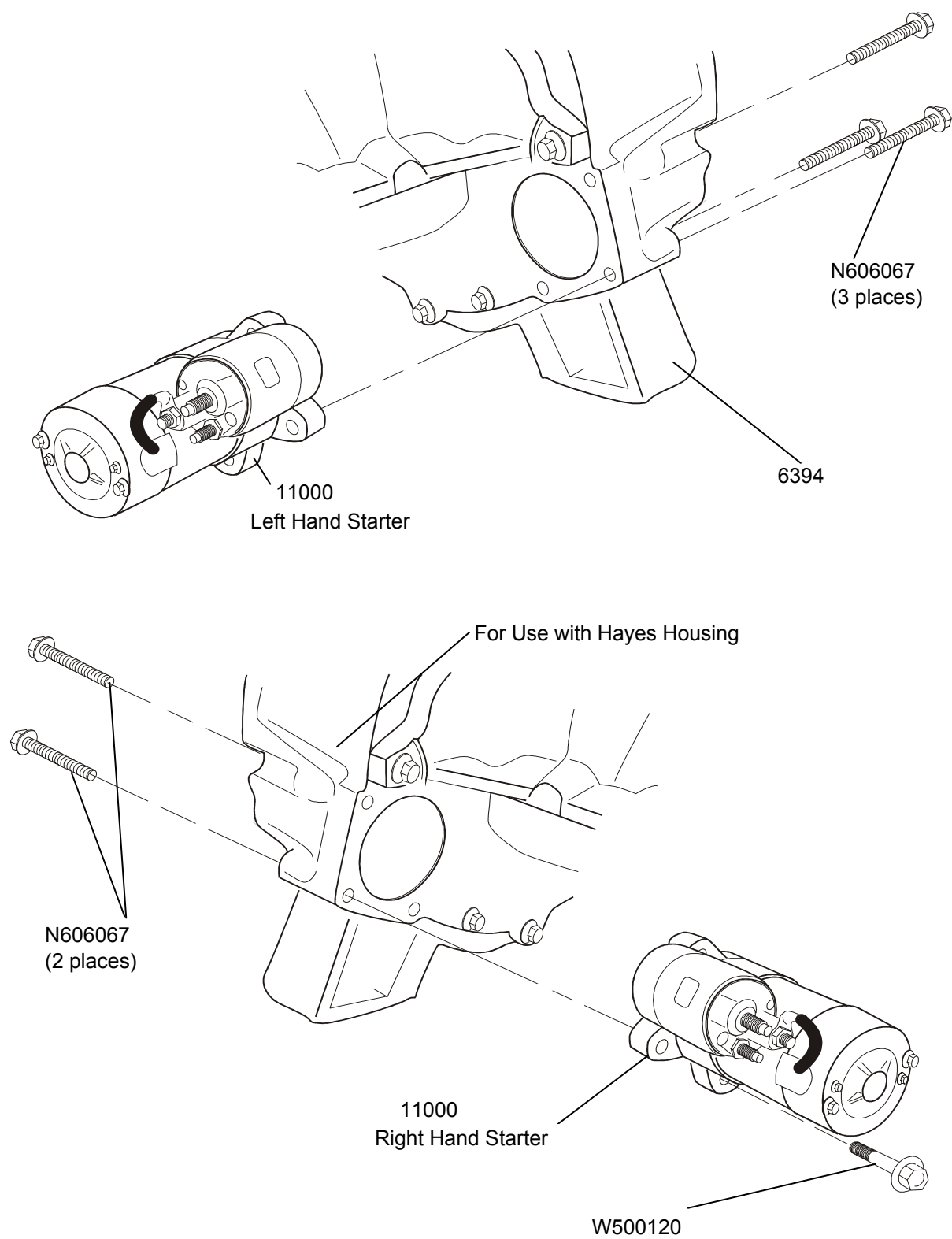
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ENGINEERING PART NUMBER			SERVICE PART NUMBER			DESCRIPTION	QTY.
BASE NO.			BASE NO.			PRODUCTION GROUPS Fans	
JA3U1L-8A646-AA: Fan - Suction							
2U1L	8609	AA	2U1L	8609	AA	Bracket & Bearing Assembly - Fan Mounting	1
	W500025	S309		W500025	S309	Bolt M8-1.25x30 Hex Flange Head TORQUE: 15-22 LB-FT (20-30 Nm)	2
XF52	8509	AA	XF5Z	8509	AA	Pulley - Fan	1
2U1L	8546	AA	2U1L	8546	AA	Spacer - Water Pump Pulley to Fan	1
2U1L	8600	DA	2U1L	8600	DA	Fan Assembly - Engine Cooling (Suction)	1
	N805327	S		N805327	S	Bolt M6-1.0x66 Hex Flange Head TORQUE: 6-9 LB-FT (8-12 Nm)	4
JA3U1L-8A646-BA: Fan - Pusher							
2U1L	8609	AA	2U1L	8609	AA	Bracket & Bearing Assembly - Fan Mounting	1
	W500025	S309		W500025	S309	Bolt M8-1.25x30 Hex Flange Head TORQUE: 15-22 LB-FT (20-30 Nm)	2
XF52	8509	AA	XF5Z	8509	AA	Pulley - Fan	1
2U1L	8546	AA	2U1L	8546	AA	Spacer - Water Pump Pulley to Fan	1
2U1L	8600	EA	2U1L	8600	EA	Fan Assembly - Engine Cooling (Pusher)	1
	N805327	S		N805327	S	Bolt M6-1.0x66 Hex Flange Head TORQUE: 6-9 LB-FT (8-12 Nm)	4
						Belt - 4 Groove Serpentine - Effective Length: 860 ± 5mm	1
						(not supplied by Ford)	

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STARTER MOTOR



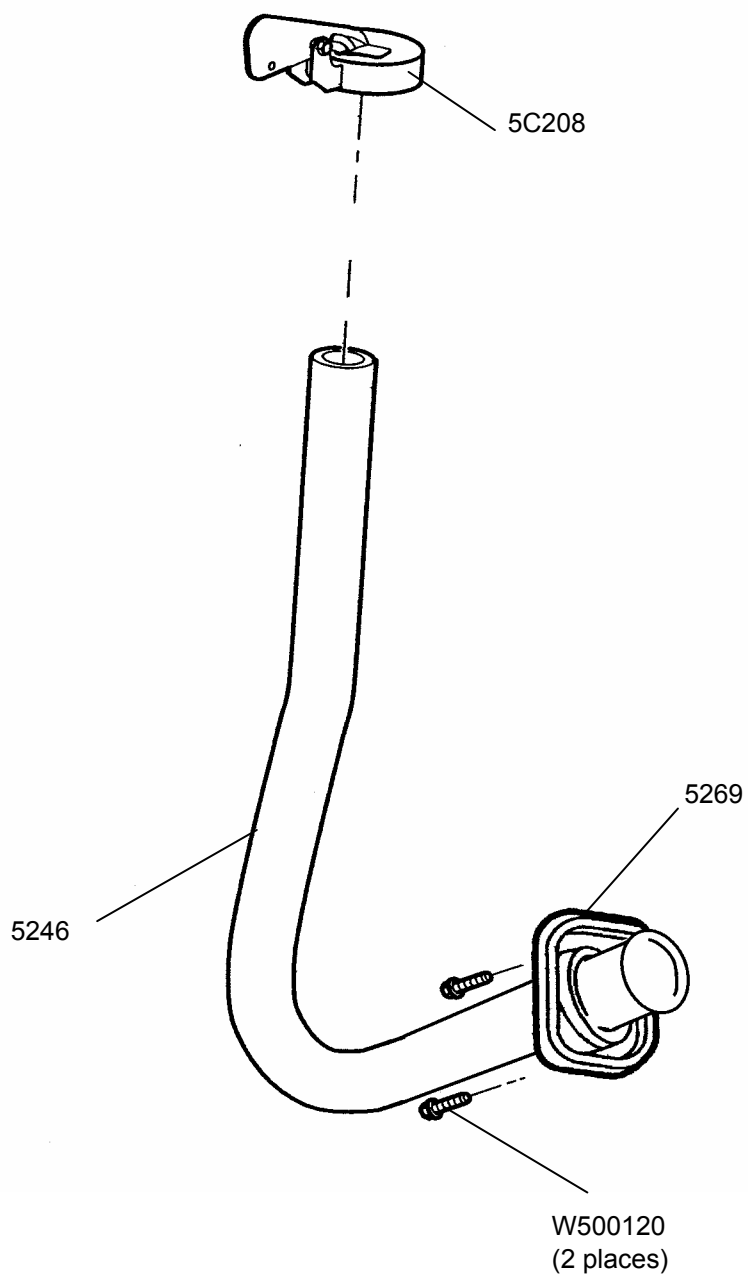
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ENGINEERING PART NUMBER			SERVICE PART NUMBER			DESCRIPTION	QTY.
BASE NO.			BASE NO.			PRODUCTION GROUPS Starter Motor	
JA3U1L-11K162-AA: Starter - LH							
2U1L	11000	AA	2U1L	11000	AA	Starter Assembly	1
	N606067	S2		N606067	S2	Bolt - M10-1.5 x 75 (UBS) TORQUE: 21-30 LB-FT (29-41 Nm)	3
F68U	11N087	AC	F68Z	11N087	A	Cover Assembly	1
JA3U1L-11K162-BA: Starter - Marine LH							
2U1L	11000	AA	2U1L	11000	DA	STARTER ASSEMBLY	1
	N606067	S2		N606067	S2	BOLT - M10-1.5 X 75 (UBS) TORQUE: 21-30 LB-FT (29-41 Nm)	3
F68U	11N087	AC	F68Z	11N087	A	COVER ASSY	1
JA3U1L-11K162-CA: Starter - Marine RH							
2U1L	11000	EA	2U1L	11000	EA	Starter Assembly	1
	N606067	S2		N606067	S2	Bolt - M10-1.5 x 75 (UBS) TORQUE: 21-30 LB-FT (29-41 Nm)	2
	W500120	S415		W500120	S415	Screw - M10x40 Hex Flange 8 TORQUE: 21-30 LB-FT (29-41 Nm)	1
F68U	11N087	AC	F68Z	11N087	A	Cover Assembly	1

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EXHAUST PIPE & RAIN CAP



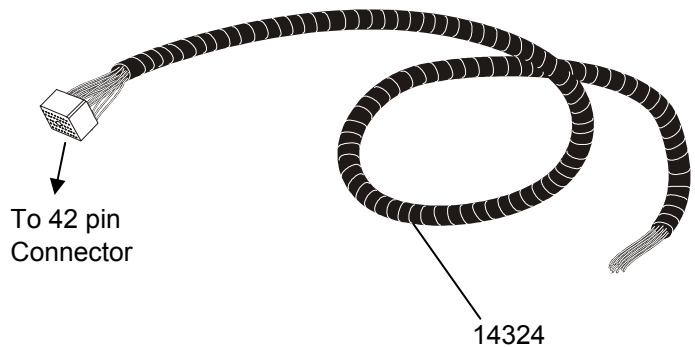
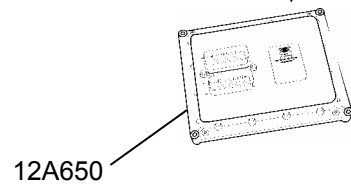
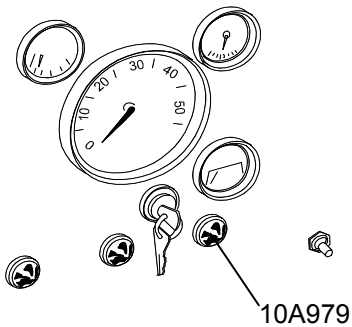
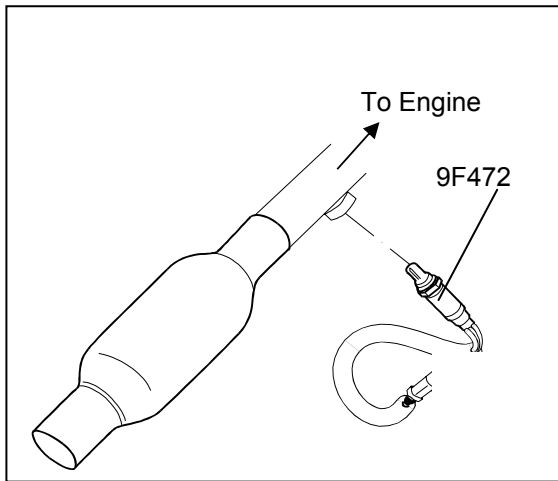
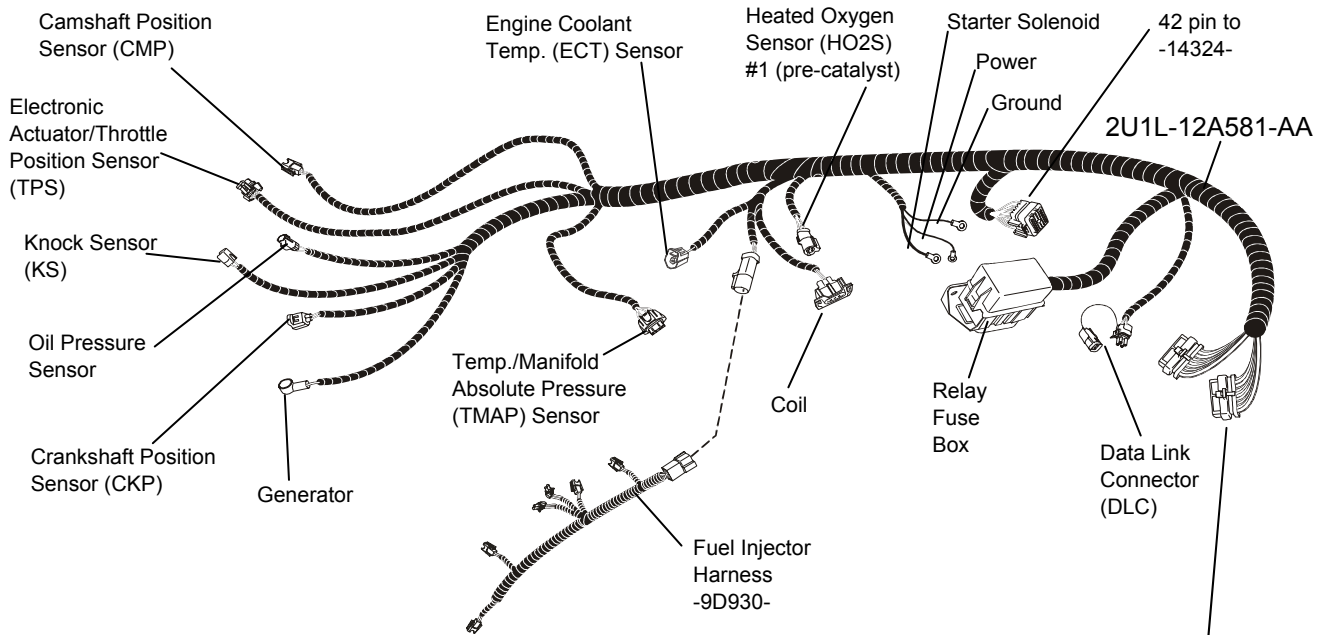
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ENGINEERING PART NUMBER			SERVICE PART NUMBER			DESCRIPTION	QTY.
BASE NO.			BASE NO.			PRODUCTION GROUPS Exhaust Pipe & Rain Cap	
JA3U1L-5210-AA: Exhaust Pipe & Rain Cap							
2U1L	5A235	BA	2U1L	5A235	BA	Bracket - Muffler Outlet Pipe	1
2U1L	5246	BA	2U1L	5246	BA	Pipe Assembly - Muffler Inlet	1
2U1L	5269	AA	2U1L	5269	AA	Coupling - Muffler Inlet Pipe	1
	W500120	S309		W500120	S309	Screw - M10x40 Hex Flange 8 TORQUE: 30-40 LB-FT (40-55 Nm)	2
1U1L	5A231	AA	1U1L	5A231	AA	Clamp Assembly	1
D3JL	5C208	F	D3JL	5C208	F	Rain Cap Assembly	1

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EPM & HARNESS



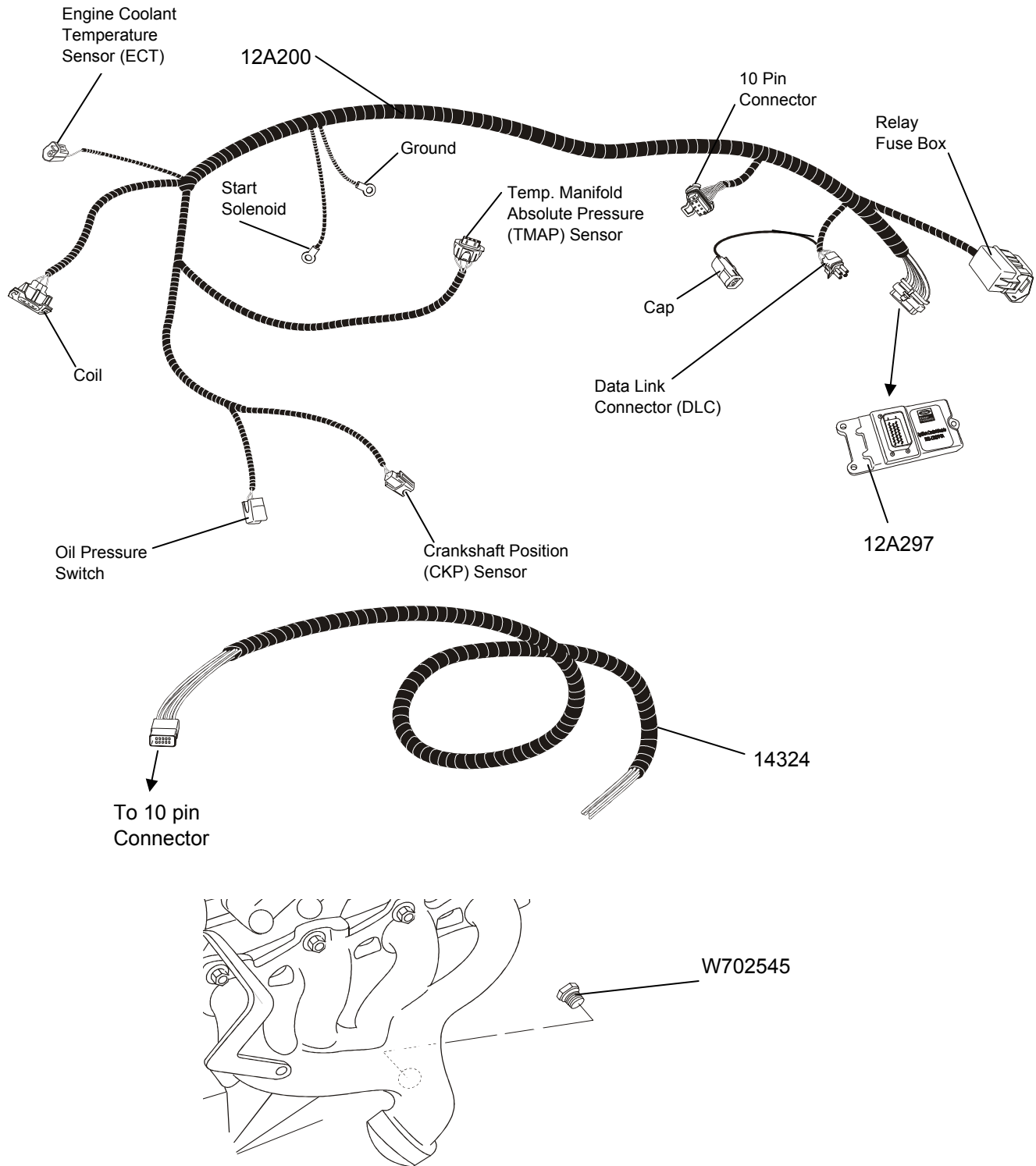
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ENGINEERING PART NUMBER			SERVICE PART NUMBER			DESCRIPTION	QTY.
BASE NO.			BASE NO.			PRODUCTION GROUPS EPM & Harness	
JA3U1L-12A643-AA: EPM & Harness							
1U1L	12A650	AA	1U1L	12A650	AA	Processor Assembly - Engine Electronic Control	1
2U1L	12A581	AA	2U1L	12A581	AA	Wire Assembly - Engine Control Sns	1
F88F	9F472	EA	F88Z	9F472	EA	HO2S Sengor	1
F8JL	10A979	AA	F8JL	10A979	AA	Light - Malfunction Indicator	1
2U1L-9D930-AA: Harness - EPM Injector Harness (w/lock & trim)							
2U1L	9D930	AA	2U1L	9D930	AA	Harness - EPM Injector Harness (w/lock & trim)	1
F8JL-14324-AC: Harness - EPM Body Side (6 foot)							
F8JL	14324	AC	F8JL	14324	AC	Harness - EPM Body Side (6 foot)	1
F8JL-14324-BA: Harness - EPM Body Side (12.8 feet)							
F8JL	14324	BA	F8JL	14324	BA	Harness - EPM Body Side (12.8 feet)	1
YU1L-14293-AA: Harness Kit - EPM Body Side (25 Assemblies)							
YU1L	14293	AA	YU1L	14293	AA	Harness Kit - EPM Body Side (for 25 assys)	1

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ICM & HARNESS



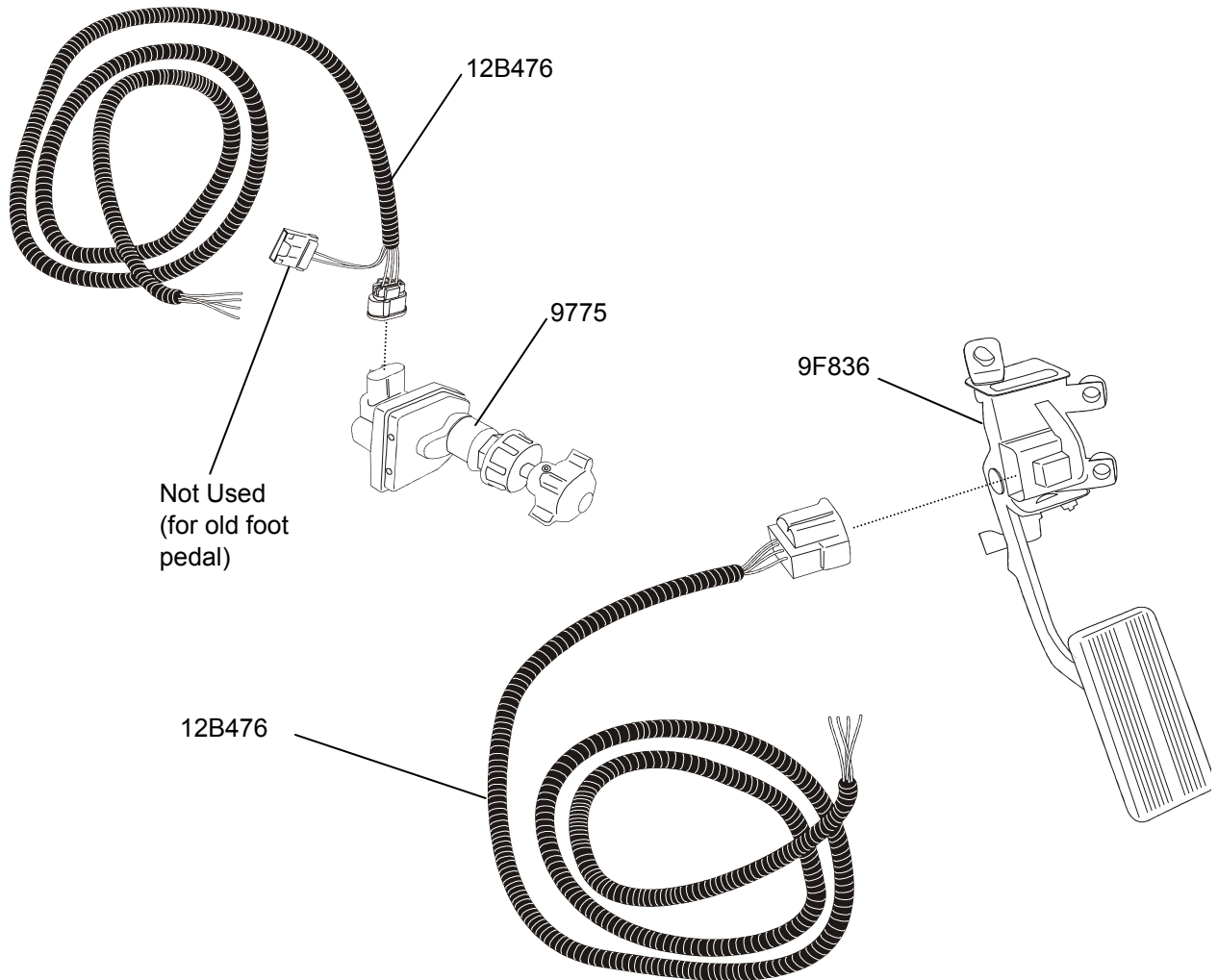
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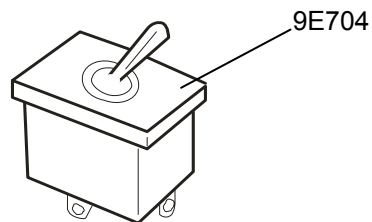
ENGINEERING PART NUMBER			SERVICE PART NUMBER			DESCRIPTION	QTY.
BASE NO.			BASE NO.			PRODUCTION GROUPS ICM & Harness	
JA3U1L-12A643-CA: ICM & Harness (non-certified)							
1U1L	12A297	EA	2U1L	12A297	EA	Control Assembly - Ignition Multiple Function	1
2U1L	12A200	AA	2U1L	12A200	AA	Wire Assembly - Ignition Module	1
	W702545	S303		W702545	S303	Plug - HO2S (M18x1.5x12)	1
XU1L-14324-AA: Harness - ICM Body Side							
XU1L	14324	AA	XU1L	14324	AA	Harness - ICM Body Side	1
YU1L-14293-BA: Harness Kit - ICM Body Side (25 Assemblies)							
YU1L	14293	BA	YU1L	14293	BA	Harness Kit - ICM Body Side (25 Assemblies)	1

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ENGINE SPEED CONTROL



GOVERNOR SELECT SWITCH WIRING GUIDE			
Terminal	Circuit	Color	Description
1	306	Tan	Speed Select Switch to Governor Speed Select 1
2	16	Red	Ignition Switch "F" Terminal to Speed Select Switch Power Terminal
3	307	Black	Speed Select Switch to Governor Speed Select 2



FPP01533, FPP01532, FPP01531, FPP01530

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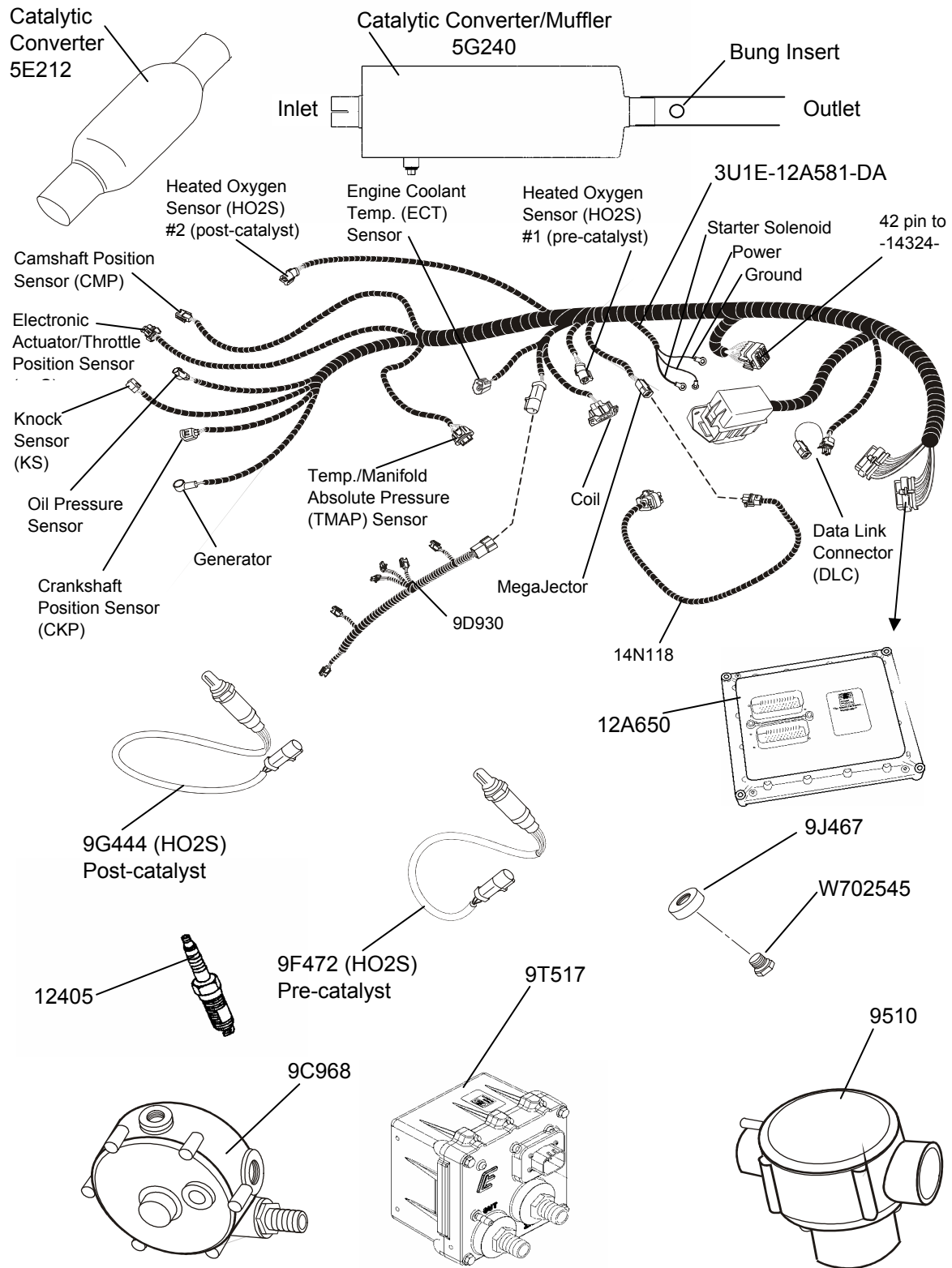
ENGINEERING PART NUMBER			SERVICE PART NUMBER			DESCRIPTION	QTY.
BASE NO.			BASE NO.			PRODUCTION GROUPS Engine Speed Control	
JA3U1L-12480-AA: Discrete Speed Switch							
F8JL	9E704	BA	F8JL	9E704	BA	Governor Select Switch	1
BA3U1L-6B742-BA or JA3U1L-12480-CA: Variable Speed Foot Pedal							
1C34	9F836	BA	1C3Z	9F836	BA	Pedal - Throttle Actuator	1
1U1L	12B476	AA	1U1L	12B476	AA	Footpedal - Jumper Harness	1
JA3U1L-12480-BA: Variable Speed Hand Control							
YU1L	9775	AA	YU1L	9775	AA	Control Assembly - Hand Throttle	1
F8JL	12B476	AA	F8JL	12B476	AA	Wire Assembly - Drive By Wire	1

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ENGINEERING PART NUMBER			SERVICE PART NUMBER			DESCRIPTION	QTY.
BASE NO.			BASE NO.			PRODUCTION GROUPS Owner's Literature	
JA3U1L-6974-AA: Owner's Literature							
FPP	194	354	FPP	194	354	Operator Handbook	1
FPP	194	103D	FPP	194	103D	Engine Warranty Registration Card	1
C3JZ	6404	E	C3JZ	6404	E	Decal - Service Information	1
C6JZ	6404	A	C6JZ	6404	A	Decal - 12V Electrical System	1
XW4Z	8653	BA	XW4Z	8653	BA	Decal - Fan Warning	1
PPO	194	106	PPO	194	106	Warning Tag	1
	ZL-3			ZL-3		Protective Envelope	1

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EMISSION CERTIFIED COMPONENTS



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ENGINEERING PART NUMBER			SERVICE PART NUMBER			DESCRIPTION	QTY.
BASE NO.			BASE NO.			EMISSION CERTIFIED COMPONENTS	
3U1E	5E212	CA	3U1E	5E212	CA	Converter Assembly - Exhaust (1.6 ROUND)	1
2U1L	9D930	AA	2U1L	9D930	AA	Wire Assembly - Injector w/Lock & Trim	1
3U1E	12A581	DA	3U1E	12A581	DA	Wiring Assembly - Engine Control	1
3U1E	12A650	AA	3U1E	12A650	AA	Processor Assembly - Engine Electronic Control	1
F88F	9F472	EA	F88Z	9F472	EA	Sensor - HO2S	1
F85F	9G444	BA	F85Z	9G444	BA	Sensor O2 - Cat Monitor	1
F5AC	9J467	CA	F5AC	9J467	CA	Insert - Sensor	2
	W702545	S303		W702545	S303	Plug - O2 Port Exhaust Manifold	1
5G5E	12405	AA	AYFS	22F	MF4	Spark Plug	4
4U1E	9510	AA	4U1E	9510	AA	Mixer Assembly	1
3U1E	9T517	CA	3U1E	9T517	CA	Kit - Regulator Fuel Pressure	1
3U1E	14N118	BA	3U1E	14N118	BA	Jumper Harness - MegaJector	1
3U1E	5G240	BA	3U1L	5G240	BA	Muffler & Converter Assembly - Exhaust	1
3U1E	9C968	AA	3U1E	9C968	AA	Regulator Assembly - Fuel Pressure (LPG)	1

MegaJector 14N118

Jumper Harness 4-way connector

Pin#	Circuit	Color
Pin A	570A	BK-W
Pin B	361A	R
	459	O-LG
Pin D	662	DG-P

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SAE J1701 (Issued 7/96)

Torque – Tension Relationships for SAE Grades 2,5 and 8

Diameter x Threads/in.	Stress Area in ²	Grade 2			Grade 5			Grade 8		
		Clamp load lb	Torque Dry k = 0.2	Torque Lub k = 0.15	Clamp load lb	Torque Dry k = 0.2	Torque Lub k = 0.15	Clamp load lb	Torque Dry k = 0.2	Torque Lub k = 0.15
1/4/2028	0.03637	1500	75 in-lb	56 in-lb	2319	116 in-lb	87 in-lb	3273	164 in-lb	123 in-lb
1/4/2020	0.03182	1313	66 in-lb	49 in-lb	2029	101 in-lb	76 in-lb	2864	143 in-lb	107 in-lb
5/16/2024	0.05806	2395	150 in-lb	112 in-lb	3700	230 in-lb	173 in-lb	5225	327 in-lb	245 in-lb
5/16/2018	0.05243	2163	135 in-lb	101 in-lb	3342	209 in-lb	157 in-lb	4719	295 in-lb	221 in-lb
3/8/2024	0.08783	3623	272 in-lb	204 in-lb	5600	420 in-lb	315 in-lb	7905	593 in-lb	445 in-lb
3/8/2016	0.07749	3196	240 in-lb	180 in-lb	4940	370 in-lb	278 in-lb	6974	523 in-lb	392 in-lb
7/16/2020	0.1187	4896	428 in-lb	321 in-lb	7567	662 in-lb	496 in-lb	10683	935 in-lb	700 in-lb
7/16/2014	0.1063	4385	384 in-lb	288 in-lb	6777	593 in-lb	445 in-lb	9567	837 in-lb	628 in-lb
1/2/2020	0.15995	6598	660 in-lb	495 in-lb	10197	1020 in-lb	764 in-lb	14396	1440 in-lb	1080 in-lb
1/2/2013	0.1419	5853	585 in-lb	439 in-lb	9046	904 in-lb	678 in-lb	12771	1277 in-lb	958 in-lb
9/16/2018	0.20298	8373	78 ft-lb	59 ft-lb	12940	121 ft-lb	91 ft-lb	18268	171 ft-lb	128 ft-lb
9/16/2012	0.18195	7505	70 ft-lb	53 ft-lb	11600	109 ft-lb	82 ft-lb	16376	154 ft-lb	115 ft-lb
5/8/2018	0.25595	10558	110 ft-lb	82 ft-lb	16317	170 ft-lb	127 ft-lb	23036	240 ft-lb	180 ft-lb
5/8/2011	0.226	9322	97 ft-lb	73 ft-lb	14407	150 ft-lb	113 ft-lb	20340	212 ft-lb	159 ft-lb
3/4/2016	0.37296	15385	192 ft-lb	144 ft-lb	23776	297 ft-lb	223 ft-lb	33566	420 ft-lb	315 ft-lb
3/4/2010	0.33446	13796	172 ft-lb	129 ft-lb	21532	269 ft-lb	201 ft-lb	30101	376 ft-lb	282 ft-lb
12-Jan	0.66304				42289	704 ft-lb	528 ft-lb	59674	995 ft-lb	746 ft-lb
8-Jan	0.60574				38616	644 ft-lb	483 ft-lb	54517	909 ft-lb	681 ft-lb
Tensile Strength					12,000 psi			150,000 psi		
Proof Load Stress		55,000 psi			85,000 psi			120,000 psi		

CAUTION: The previously listed torque and resulting tension are provided as an advisory guide. Individual application discretion is recommended. The content has been presented as accurately as possible but responsibility for its application lies with the

NOTE: The stress area of threaded series not included may be computed from the equation $A_s = 0.7854 (D - 0.9743/n)^2$

Where: A_s = Stress area in inches²

D = Diameter in inches

P = Threads per inch

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Torque – Tension Relationships for Metric Property Classes

Diameter x Pitch	Stress Area mm ²	Class 4.6			Class 4.8			Class 5.8		
		Clamp load kN	Torque Dry k = 0.2 Nm	Torque Lub k = 0.15 Nm	Clamp load kN	Torque Dry k = 0.2 Nm	Torque Lub k = 0.15 Nm	Clamp load kN	Torque Dry k = 0.2 Nm	Torque Lub k = 0.15 Nm
3.0 x 0.5	5.03	0.85	0.5	0.4	1.17	0.7	0.5			
3.5 x 0.6	6.78	1.14	0.8	0.6	1.58	1.1	0.8			
4.0 x 0.7	8.78	1.48	1.2	0.9	2.04	1.6	1.2			
5.0 x 0.8	14.2	2.4	2.4	1.8	3.3	3.3	2.5	4.05	4	3
6.0 x 1.0	20.1	3.4	4	3	4.67	5.66	4.2	5.73	6.9	5.2
8.0 x 1.25	36.6	6.18	9.9	7.4	8.51	13.6	10.2	10.4	16.7	12.5
10.0 x 1.50	58	9.79	19.6	14.7	13.48	27	20	16.5	33.1	24.8
12.0 x 1.75	84.3	14.22	34.1	25.6	19.6	47	35	24	58	43
14.0 x 2.00	115	19.41	54.3	40.8	26.74	75	56	32.8	92	69
16.0 x 2.00	157									
20.0 x 2.50	245									
24.0 x 3.00	353									
30.0 x 3.50	561									
36.0 x 4.00	817									
Tensile Strength		400 MPa			420 MPa			520 MPa		
Proof Load Stress		225 MPa			310 MPa			380 MPa		

Diameter x Pitch	Stress Area mm ²	Class 8.8			Class 9.8			Class 10.9		
		Clamp load kN	Torque Dry k = 0.2 Nm	Torque Lub k = 0.15 Nm	Clamp load kN	Torque Dry k = 0.2 Nm	Torque Lub k = 0.15 Nm	Clamp load kN	Torque Dry k = 0.2 Nm	Torque Lub k = 0.15 Nm
3.0 x 0.5	5.03									
3.5 x 0.6	6.78									
4.0 x 0.7	8.78									
5.0 x 0.8	14.2									
6.0 x 1.0	20.1									
8.0 x 1.25	36.6	16.5	26.4	19.8	17.8	28.5	21.4	22.8	36.5	27.3
10.0 x 1.50	58	26.1	52.2	39.2	28.3	56.6	42.4	36.1	72.2	54.2
12.0 x 1.75		37.9	91	68	41.1	99	74	52.5	126	94
14.0 x 2.00	115	51.8	145	109	56.1	157	118	71.6		150
16.0 x 2.00	157	70.6	226	170	76.5	245	184	97.7	313	235
20.0 x 2.50	245	110.2	441	331	119.4	478	358	152.5	610	458
24.0 x 3.00	353	158.9	762	572	172.1	826	620	220	1055	791
30.0 x 3.50	561	252.4	1515	1136	273.5	1641	1231	349	2095	1572
36.0 x 4.00	817	367.6	2647	1985	398.3	2868	2151	509	3662	2746
Tensile Strength		830 MPa			900 MPa			1040 MPa		
Proof Load Stress		600 MPa			650 MPa			830 MPa		

CAUTION: The previously listed torque and resulting tension are provided as an advisory guide. Individual application discretion is recommended. The content has been presented as accurately as possible but responsibility for its application lies with the

NOTE: The stress area of threaded series not included may be computed from the equation $A_s = 0.7854 (D - 0.9382 P)^2$

Where: A_s = Stress area in mm²

D = Diameter in mm

P = Pitch in mm



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