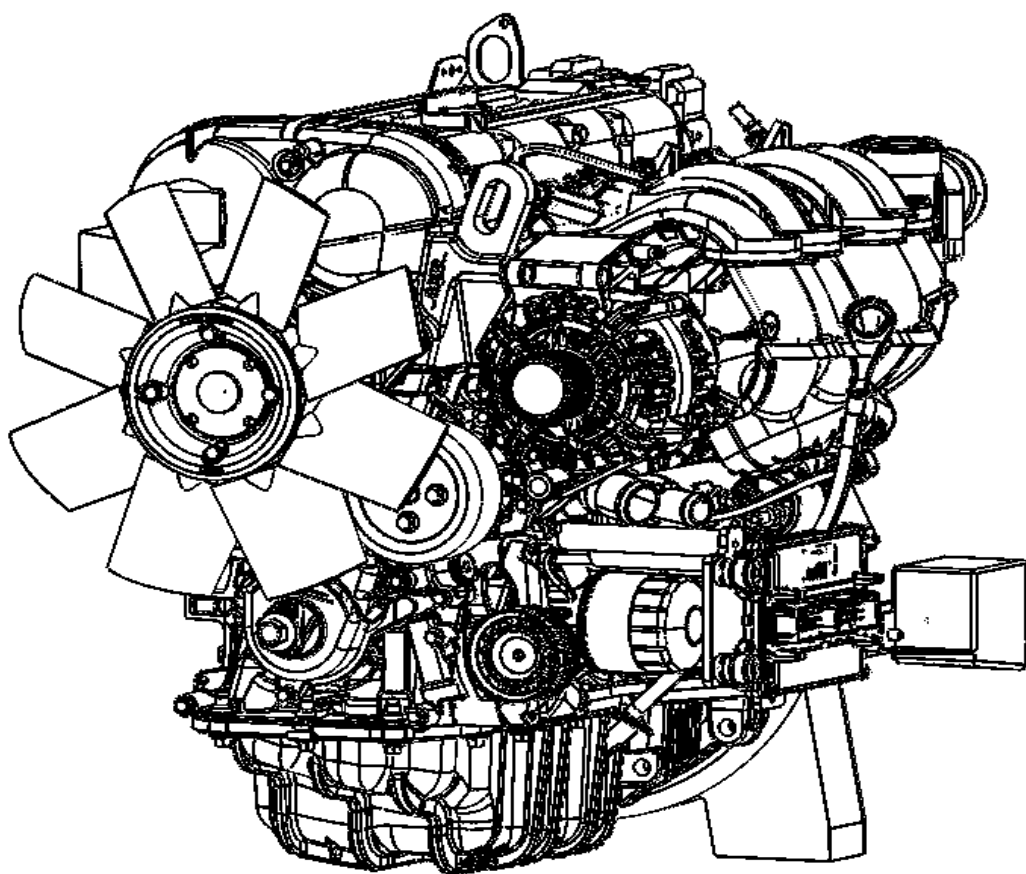




TSG415 Service Parts Manual



Part#: 1050140

Rev 2

8/14/2017

General Information

This catalog has been prepared to assist you, the owner, in identifying the correct replacement

Parts Information

Each listing contains base part number, part description and the quantity required to assist in indentifying and ordering the correct part.

NOTE: The descriptions and specifications contained in this manual were in effect at the time the book was released for printing. Engine Distributors, Inc. (EDI) reserves the right to discontinue models at any time, or change specifications or design, without notice and without

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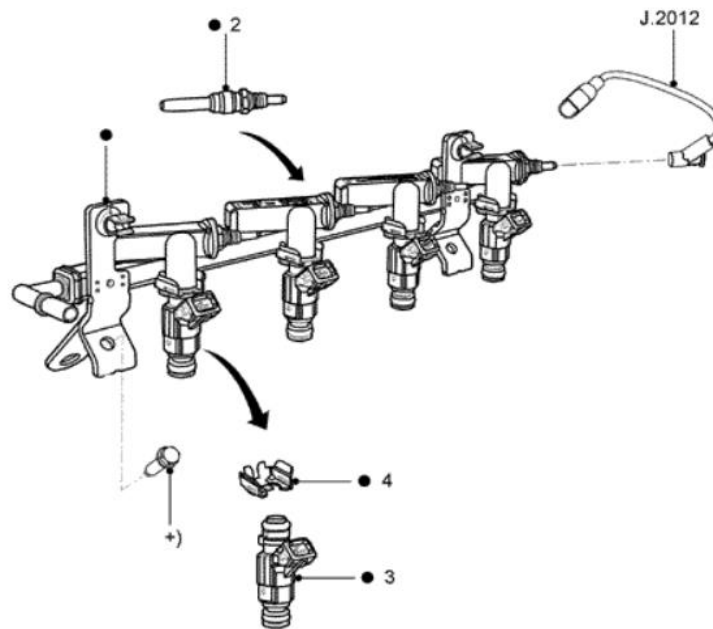
Engine Distributors Inc
400 University Ct.
Blackwood, NJ 08012
800-220-2700

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Gasoline Fuel Rail and Injectors

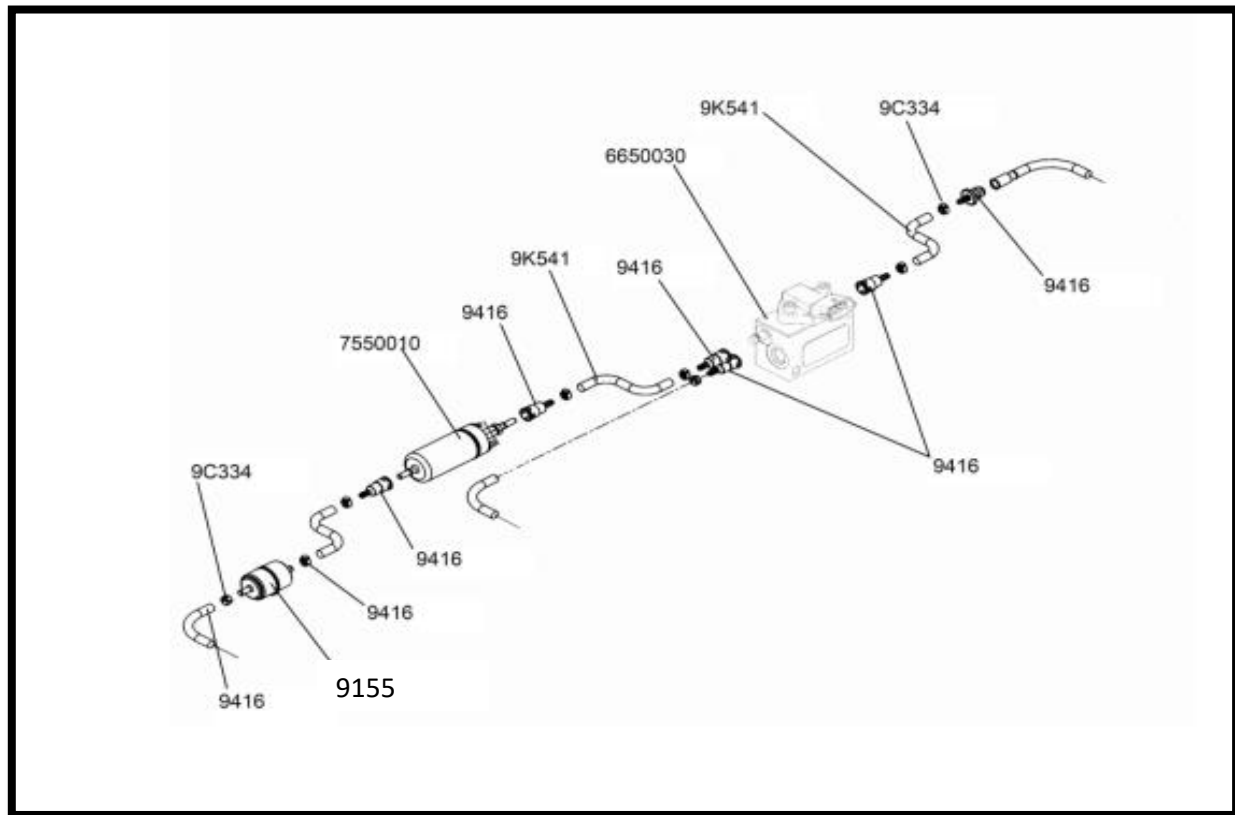
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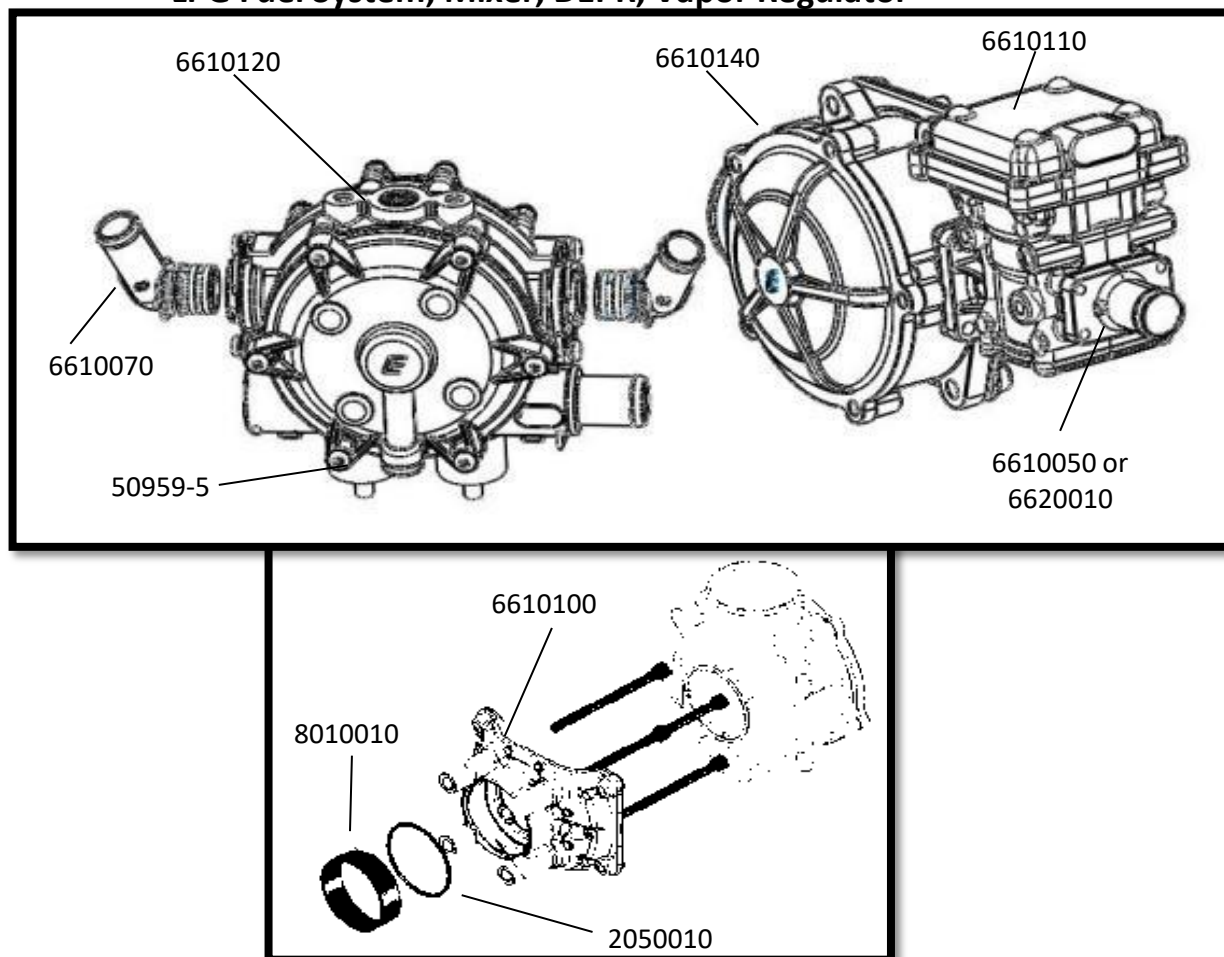
S.5020
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0000000

Quantity	Description	Part #
4	Fuel Injector (3)	F3B5-9F593-AA
4	Fuel Injector Retainer (4)	D3B5-9C995-AA
1	Fuel Rail (1)	D3B5-9V455-BA

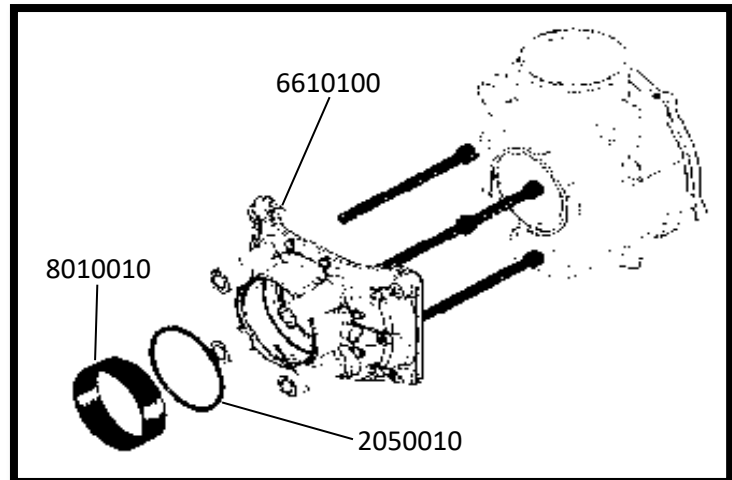
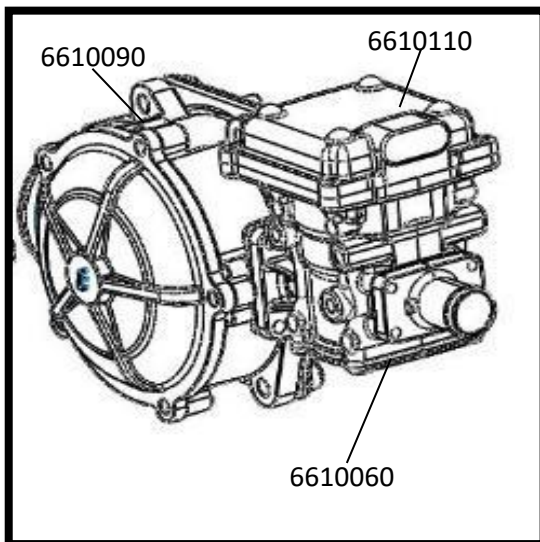
Gasoline Fuel Pump, Block, and Lines

Quantity	Description	Part #
1	Gasoline Fuel Pump	7550010
1	Gasoline Fuel Block	6650030
2	Fuel Block Fitting - SAE 6	2050040
1	Fuel Block Fitting - SAE 3	2050060
1	Fuel Pump Fitting - M10	2050030
1	Fuel Pump Fitting Washer	1118659
1	Fuel Filter	F89Z-9155-A
1	Fuel Pump Mounting Clamp	6660020
8	Fuel Line Clamps	F8JL-9C334-AA
8	Fuel Clips (Quick Disconnects)	F68A-9416-BA
NA	Fuel Line	6590010

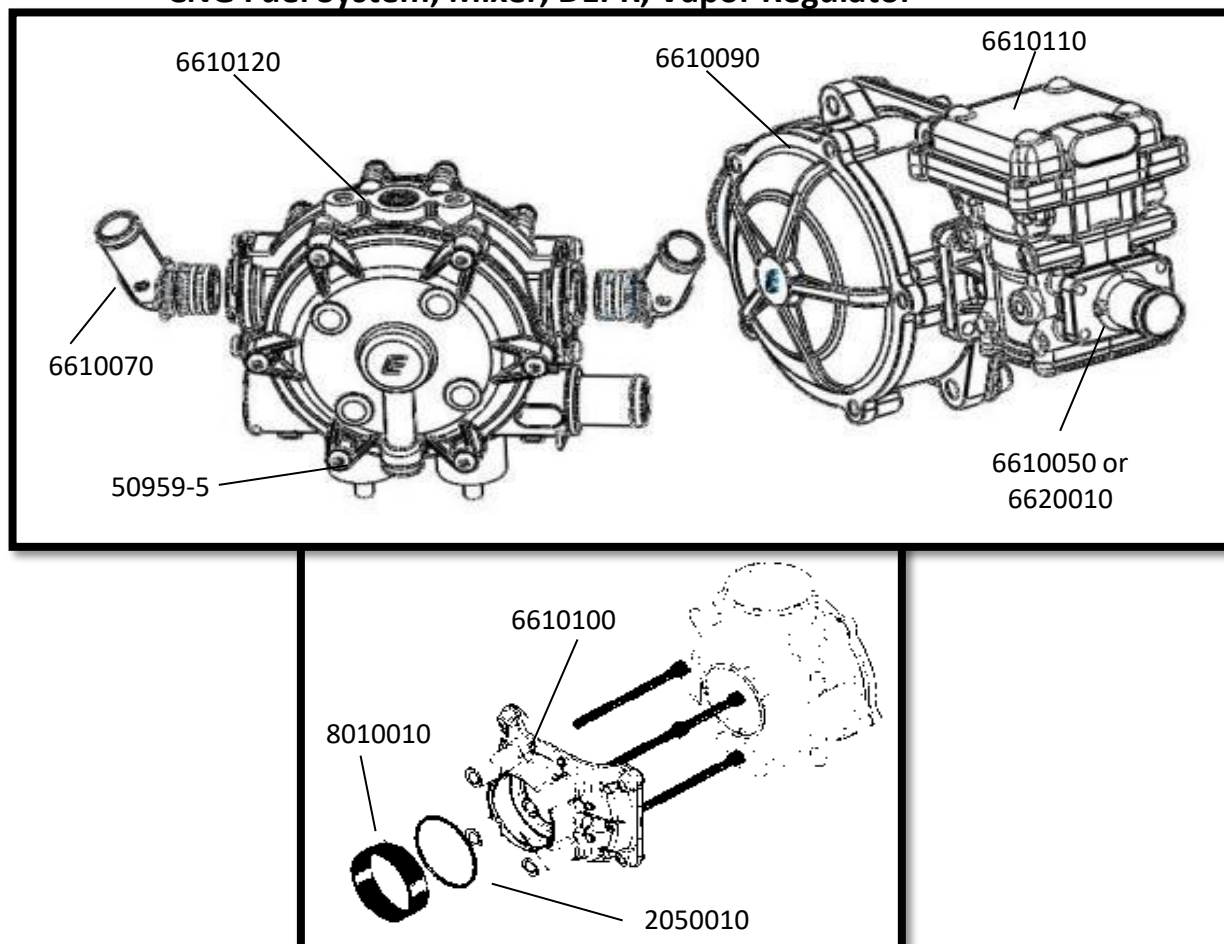
LPG Fuel System; Mixer, DEPR, Vapor Regulator



Quantity	Description	Part #
1	LPG Mixer	6610140
1	Mixer to Governor Adapter	6610100
1	Mixer to Governor Adapter Thin O-ring	2050010
1	Mixer to Governor Adapter Thick O-ring	8010010
1	LPG Vapor Regulator	6610120
1	Direct Electronic Pressure Regulator (DEPR)	6610110
1	DEPR LPG Fitting (pictured)	6610050
1	90 [degree] DEPR LPG Fitting (Genie)	6620010
2	LPG Vapor Regulator Rubber Isolators	50959-5
2	LPG Vapor Regulator Coolant Fitting (straight)	6610080
2	LPG Vapor Regulator Coolant Fitting (70 degree)	6610070
1	LPG Vapor Regulator Fuel Outlet Fitting	6650050
NA	LP Vapor Hose	VH34
1	Mixer Diaphragm Replacement Kit	6630020
2	LPG Vapor Regulator Coolant Hose	68901558
1	LPG Vapor Regulator Mounting Bracket	4040030
3	Vapor Regulator Locking Pins	1060230

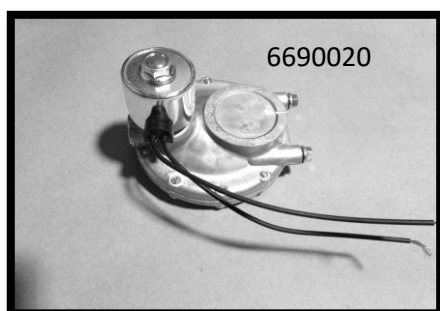
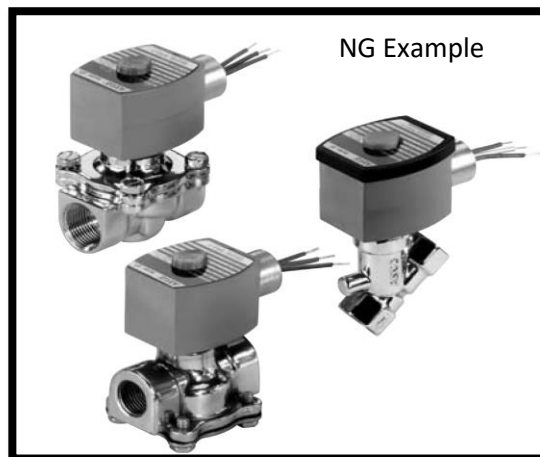
NG Fuel System

Quantity	Description	Part #
1	NG Mixer	6610090
1	Mixer to Governor Adapter	6610100
1	Mixer to Governor Adapter Thin O-ring	2050010
1	Mixer to Governor Adapter Thick O-ring	8010010
1	Direct Electronic Pressure Regulator (DEPR)	6610110
1	DEPR NG Fitting (threaded)	6610060
1	Mixer Diaphragm Replacement Kit	6630020

CNG Fuel System; Mixer, DEPR, Vapor Regulator

Quantity	Description	Part #
1	NG Mixer	6610090
1	Mixer to Governor Adapter	6610100
1	Mixer to Governor Adapter Thin O-ring	2050010
1	Mixer to Governor Adapter Thick O-ring	8010010
1	Vapor Regulator	6610120
1	Direct Electronic Pressure Regulator (DEPR)	6610110
1	DEPR Straight Fitting (pictured)	6610050
1	90 [degree] DEPR Fitting	6620010
2	Vapor Regulator Rubber Isolators	50959-5
2	Vapor Regulator Coolant Fitting (straight)	6610080
2	Vapor Regulator Coolant Fitting (70 degree)	6610070
1	Vapor Regulator Fuel Outlet Fitting	6650050
NA	Vapor Hose	VH34
1	Mixer Diaphragm Replacement Kit	6630020
1	Vapor Regulator Mounting Bracket	4040030
3	Vapor Regulator Locking Pins	1060230

Lockoff Valves

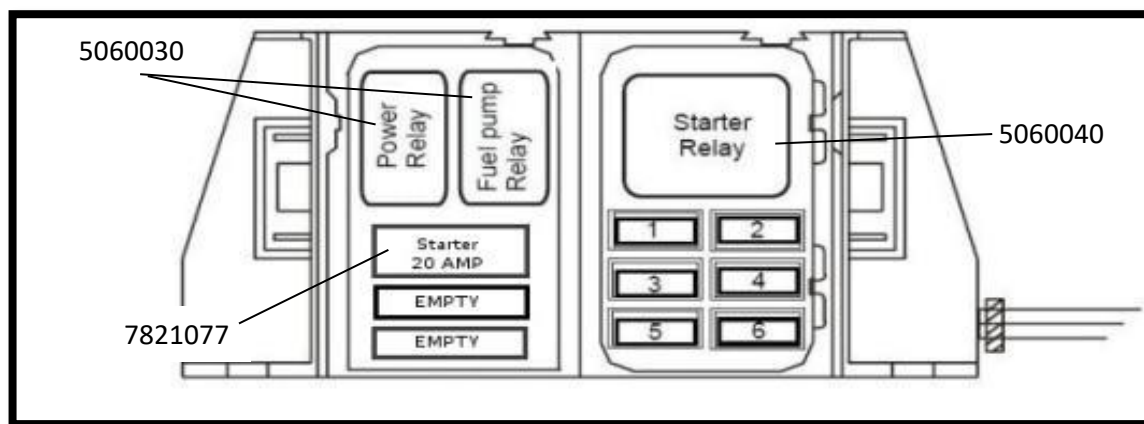
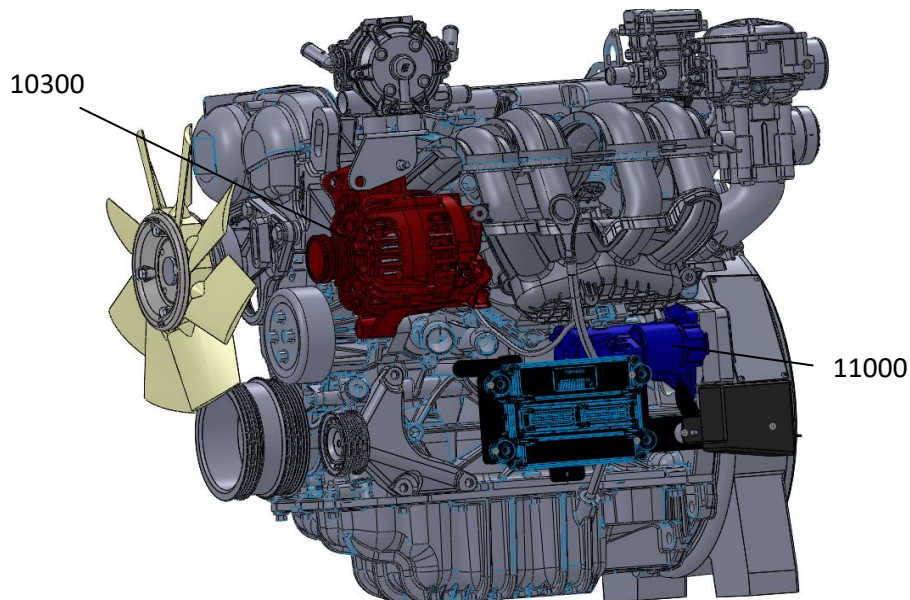


Quantity	Description	Part #
1	12V LPG Shutoff valve	N301652
1	12V LPG Shutoff Valve 90 deg	N301641
1	12V NG Shutoff valve	8215G030
1	12V LPG Shutoff Valve w/ filter	6690020

Lock Off Accessories

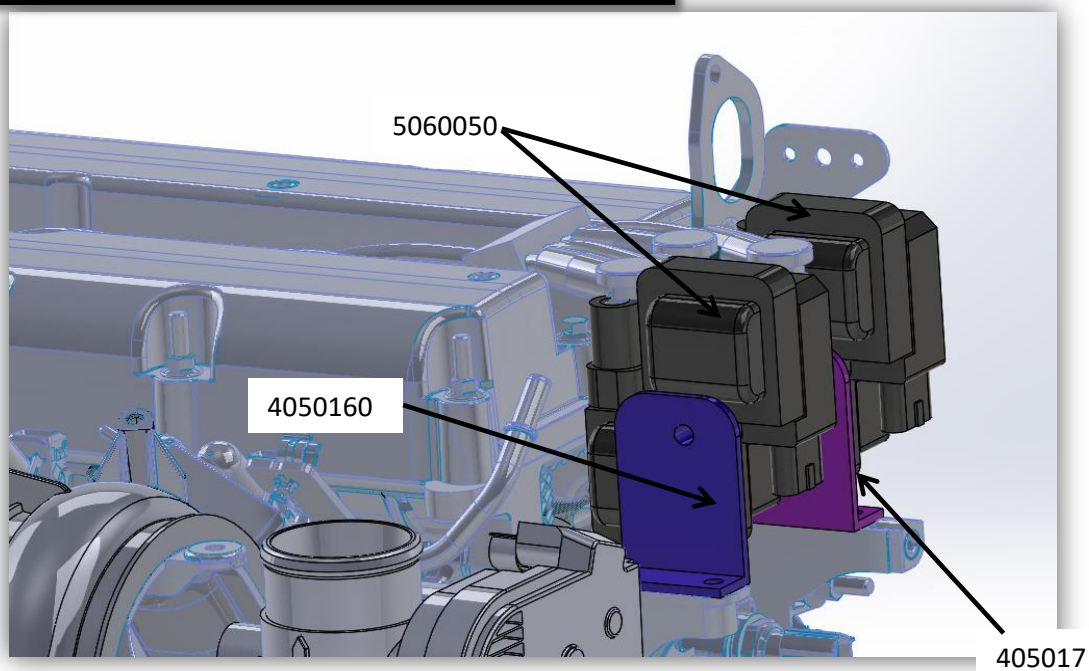
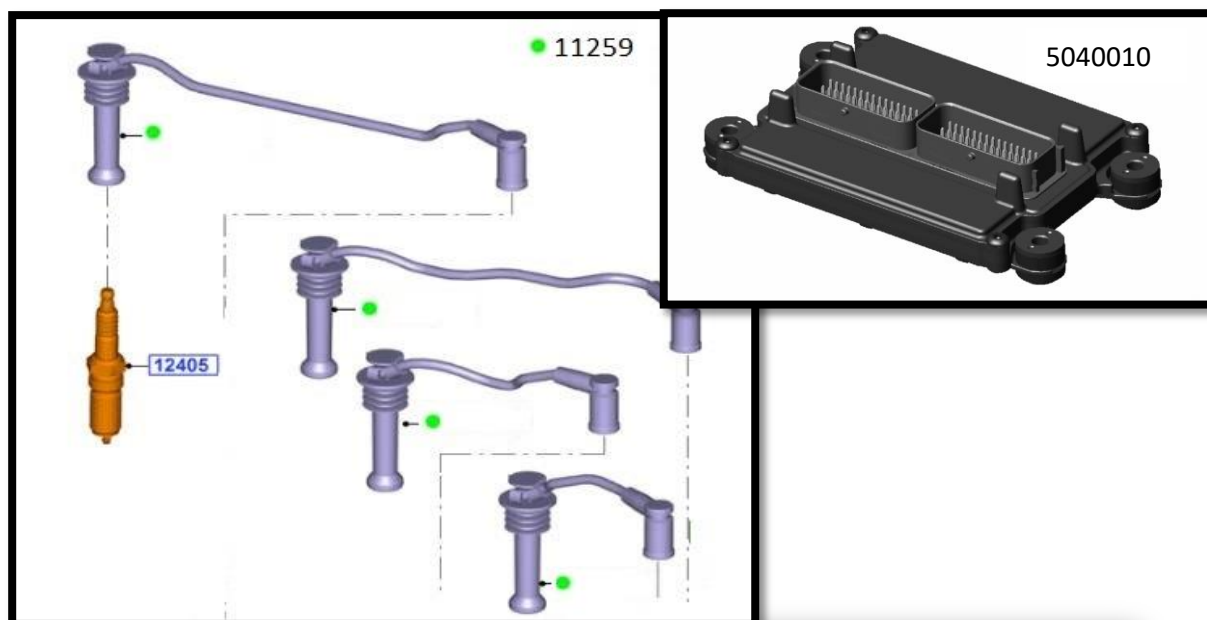
1	6690020 Filter Replacement	6630030
1	Shutoff Valve Connector kit	5010030A

Starter, Charging System, and Relays



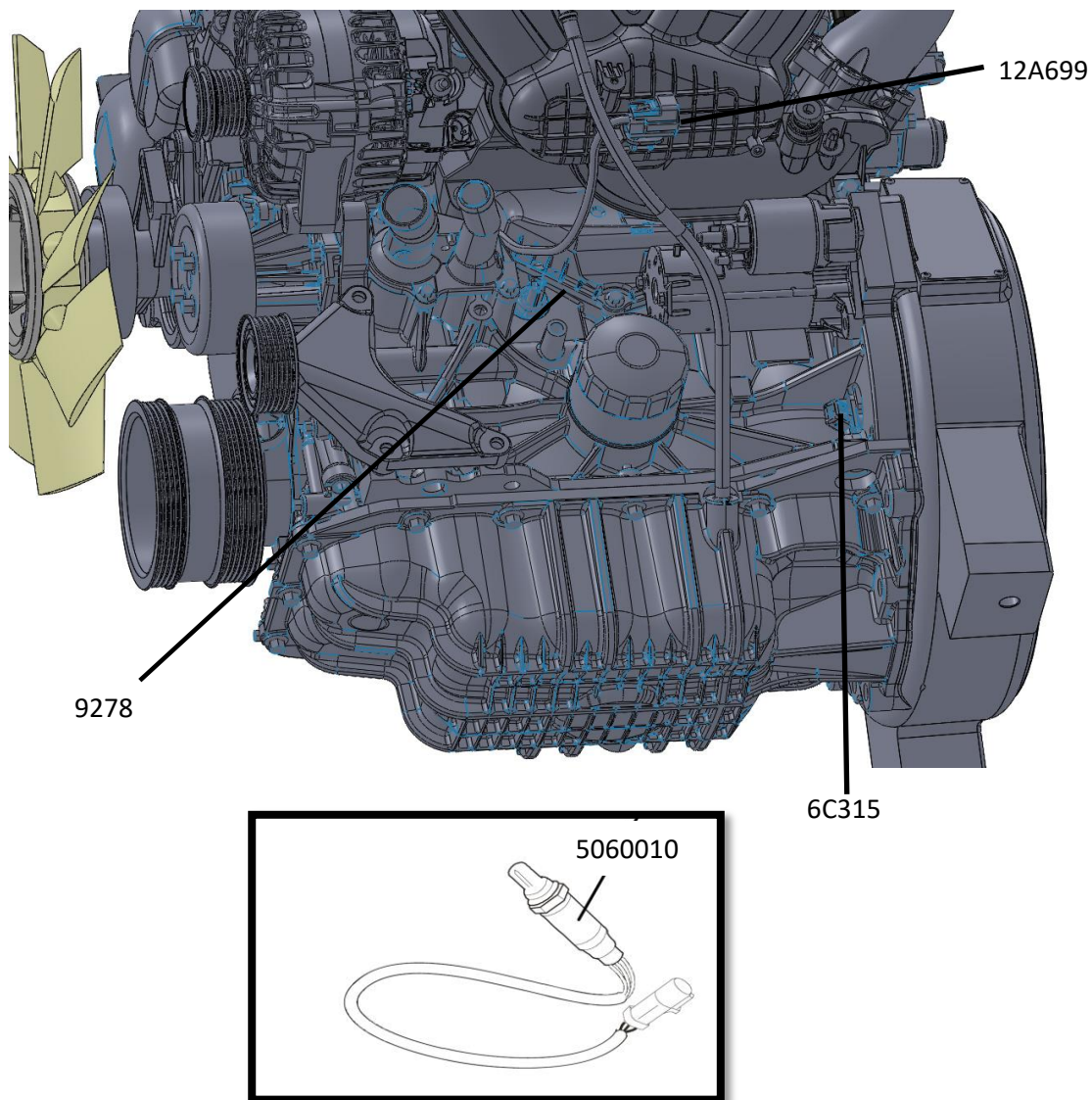
Quantity	Description	Part #
1	Starter	8V21-11000-BE
1	Alternator	CN15-10300-CB
2	Fuel Pump and Power Relays	5060030
1	Starter Relay	5060040
1	Relay Box Top	5210010
1	Relay Box Top Sticker	5210020
1	Fuse Box Mount, right	5210040
1	Fuse box mount, left	5210050
1	Starter Fuse 20 AMP	7821077

Starter, Charging System, and Relays



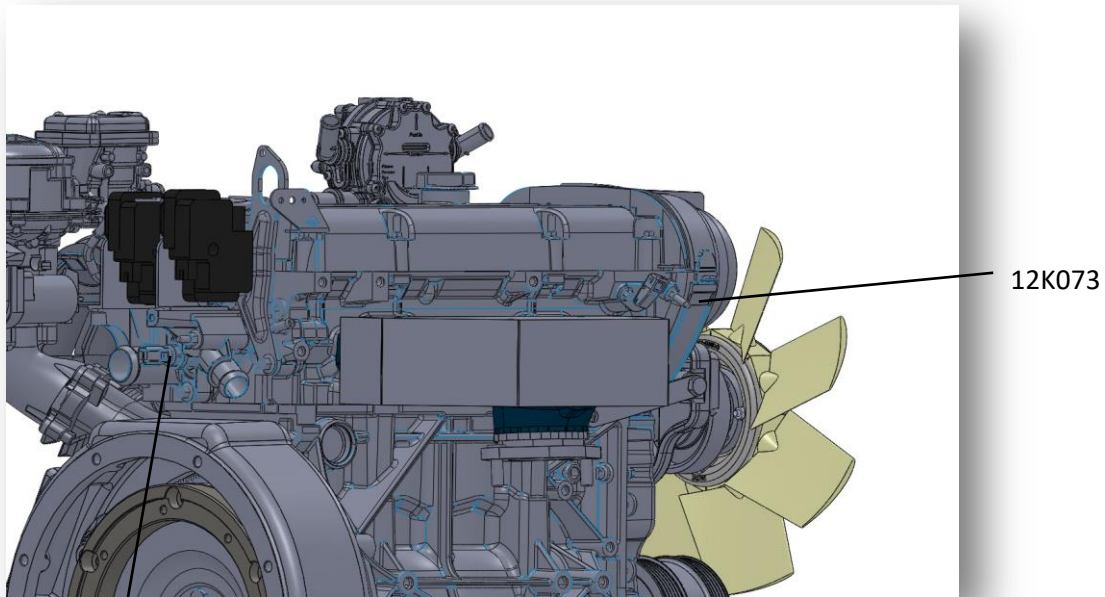
Quantity	Description	Part #
1	ECU (GCP)	5040010
2	Coil Packs	5060050
1	Coil Wire Assembly	BE8Z-12259-B
1	Coil Pack Bracket Left	4050160
1	Coil Pack Bracket Right	4050170
4	Spark Plug (12405)	CYFS-13Y-RC

Sensors - Page 1 of 2



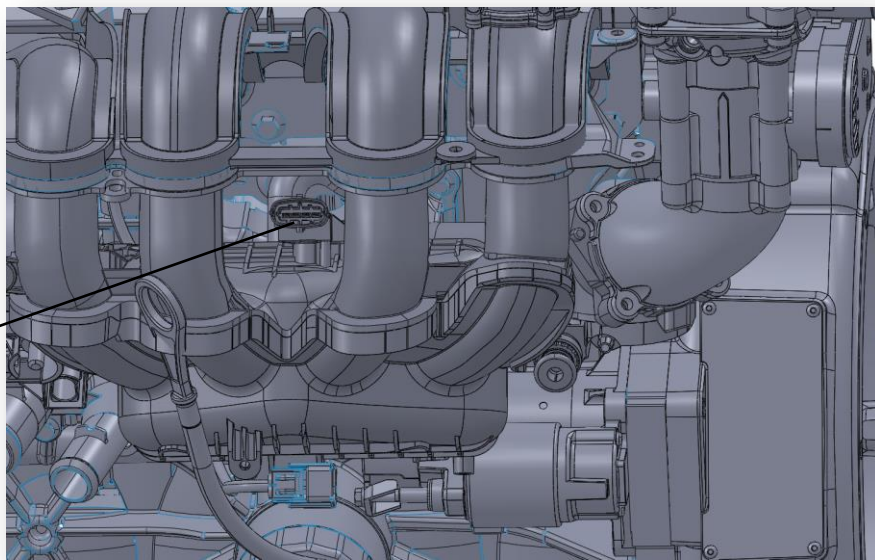
Quantity	Description	Part #
1	Oil Pressure Switch	3M51-9278-AB
1	Knock sensor	98MF-12A699-BA
1	Crank Sensor	YS6A-6C315-AB
2	Exhaust O2 Sensor (pre and post catalyst)	5060010

Sensors - Page 2 of 2



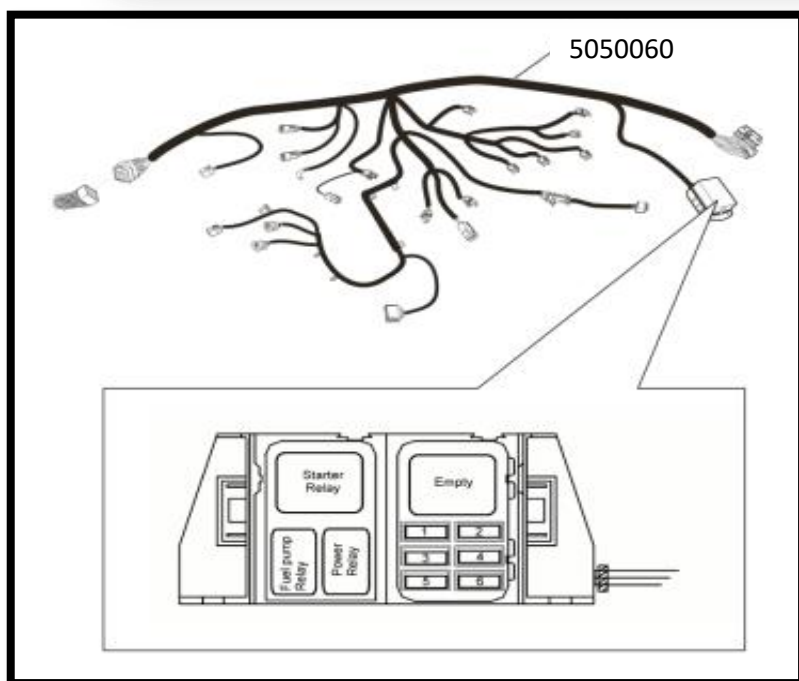
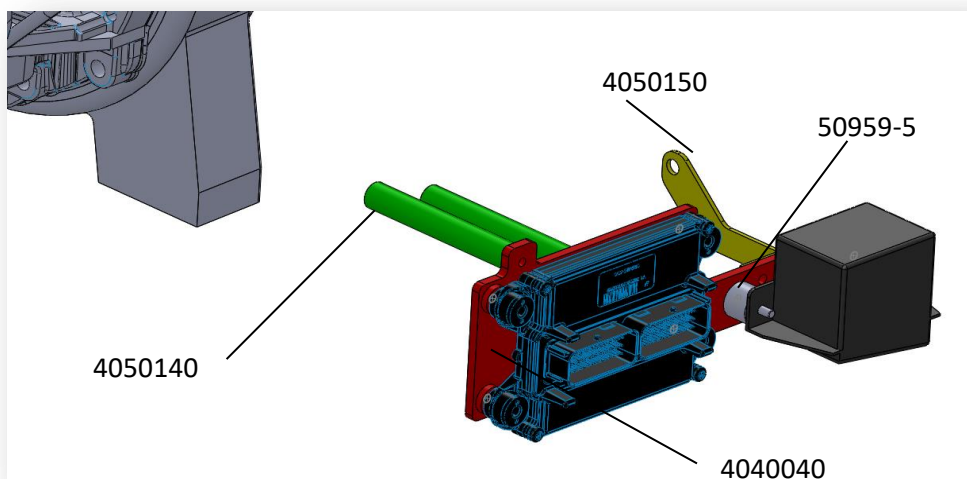
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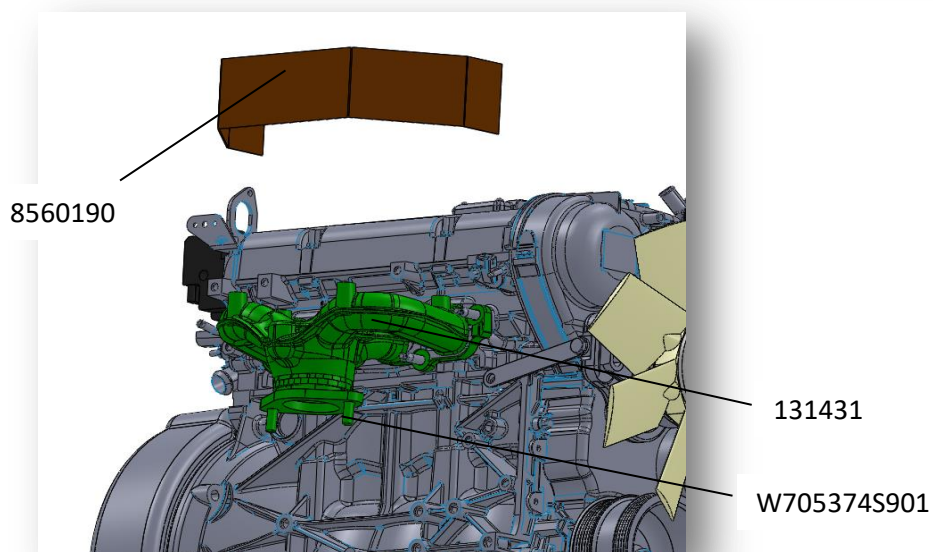
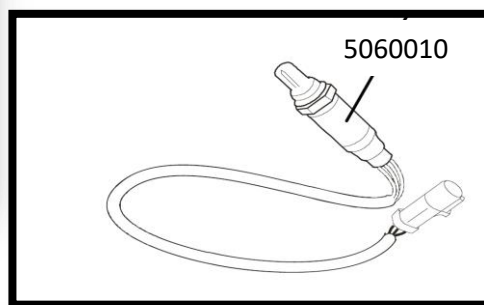
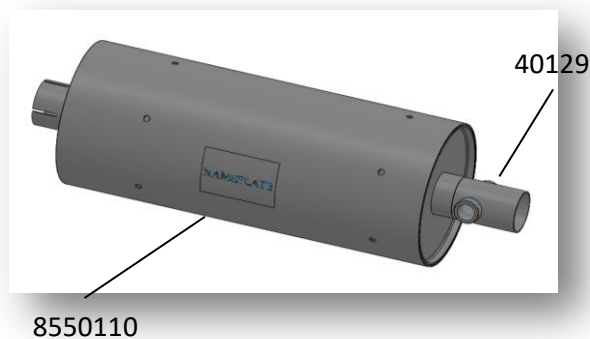
Quantity	Description	Part #
1	Coolant Temp Sensor	7M5Z-12A648-A
1	TMAP Sensor	5050030
1	CAM Position Sensor	YS6A-12K073-AB

Harnesses and Misc.



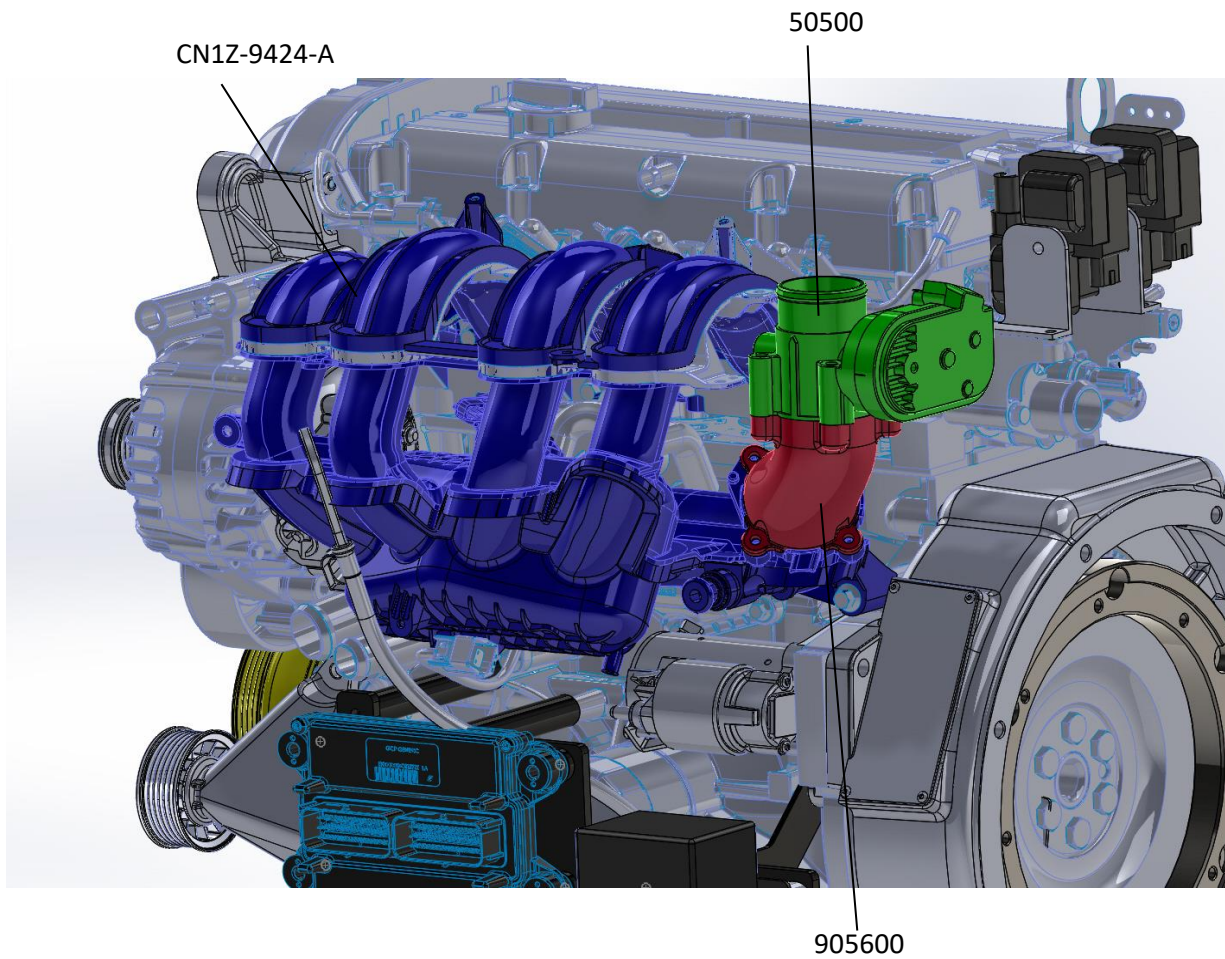
Quantity	Description	Part #
1	Engine Harness	5050060
1	Gasoline Fuel Block Harness	5260010
2	Fuse box isolators	50959-5
1	Engine Bracket for GCP and Fuse Box	4040040
2	GCP and FB Spacers	4050140
1	GCP and FB Support Bracket	4050150
1	Diagnostic Software and Cable	5080050
1	GCP Connector Slide Lock	5240030
1	GCP Connector Cover	5240020

Exhaust System Components



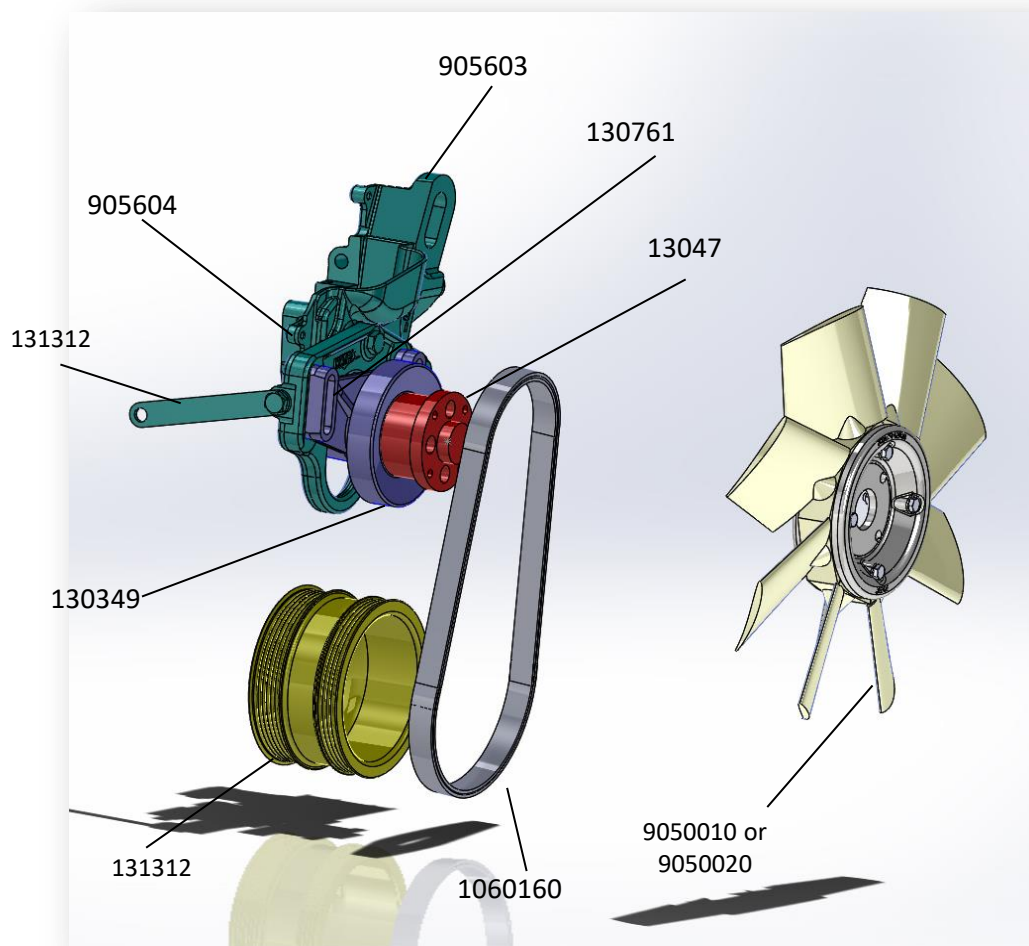
Quantity	Description	Part #
1	Catalyst Muffler	8550110
1	Cat Muffler O2 Plug (M18)	40129
1	Exhaust Manifold	131431
1	Exhaust Manifold Heat Shield	8560190
1	Exhaust Manifold gasket	BE8Z9448D
1	Manifold Mounting Bolt	W500634S442
4	Manifold Mounting Nuts	W520113S403
1	Manifold Outlet Gasket	AB39-9451-AA
2	Exhaust Manifold Outlet Studs	W705374S901
2	Exhaust O2 Sensor (pre and post catalyst)	5060010
1	Pre-Cat Sensor Pipe Bung	F5AC9J467CA

Intake Air System



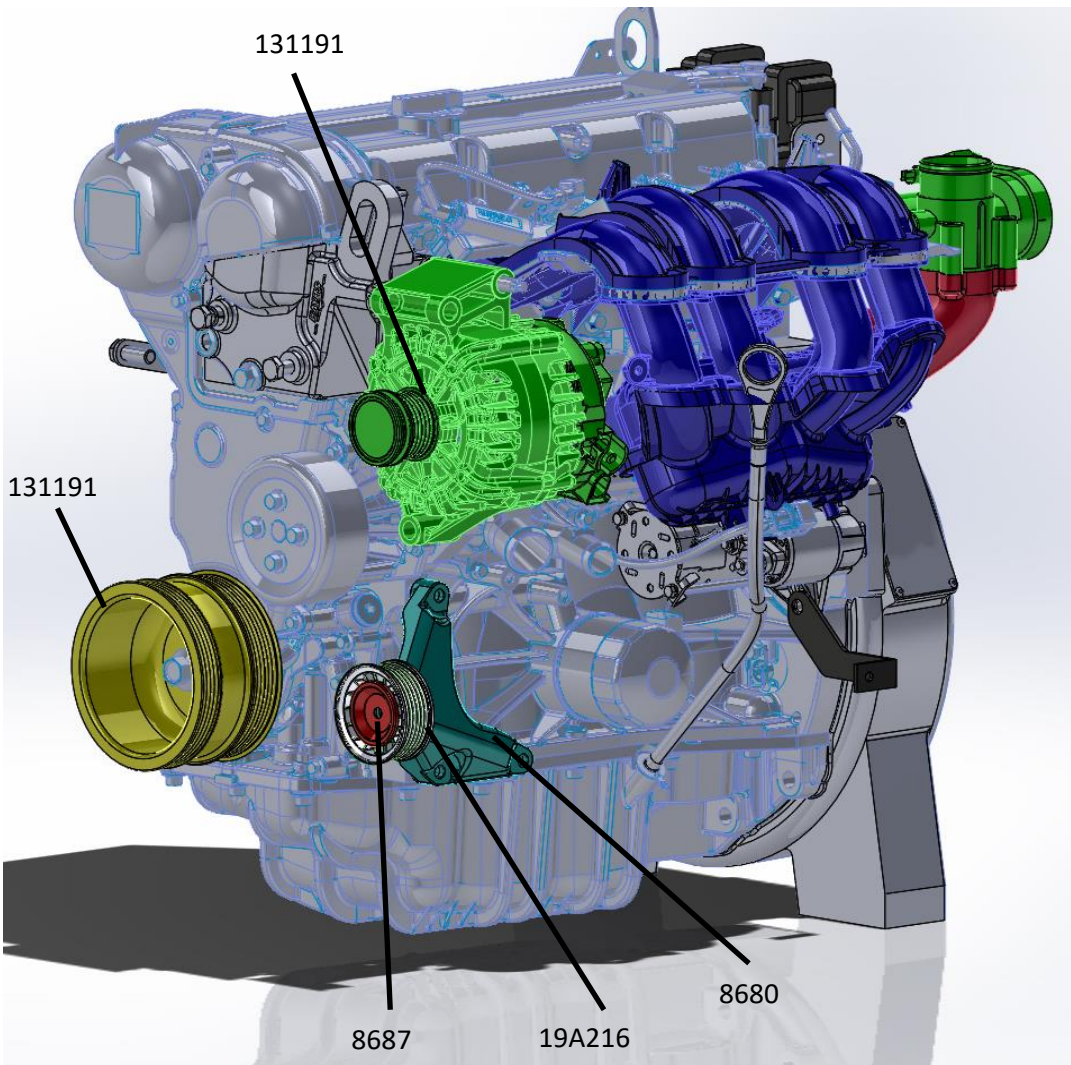
Quantity	Description	Part #
1	Bosch Governor	5050020
1	Bosch Governor Gasket	1U1L-9E936-AA
1	Governor to Intake Manifold Adapter	905600
1	Intake Manifold	CN1Z-9424-A

Cooling Fan Drive and Pulleys



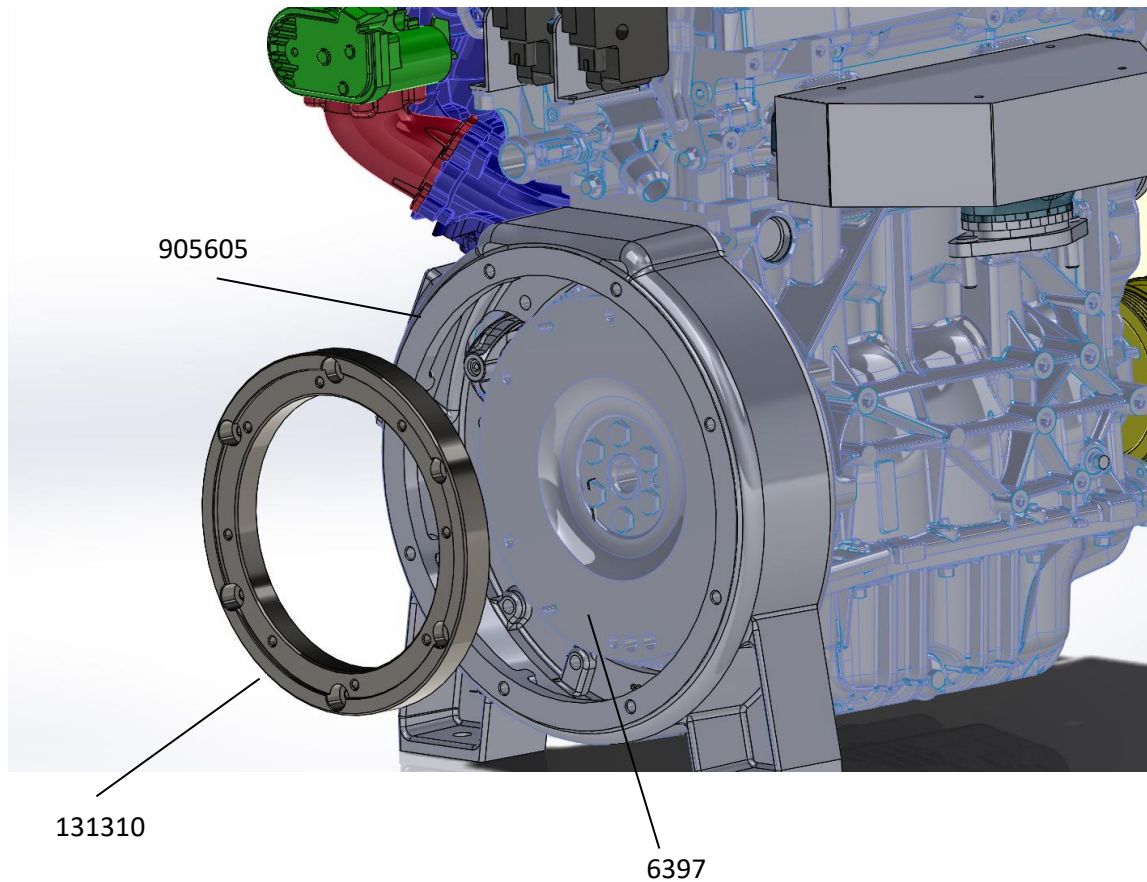
Quantity	Description	Part #
1	Fan Spacer 39mm	130473
1	Fan Pulley	130349
1	Fan Belt	1060160
1	Fan Bearing and bracket	130761
1	Fan Mounting Bracket	905603
1	Fan Mounting Bracket 2	905604
1	Fan Bracket Support	131312
1	Fan Drive Pulley	131191
1	Suction Cooling Fan	9050010
1	Pusher Cooling Fan	9050020

FEAD



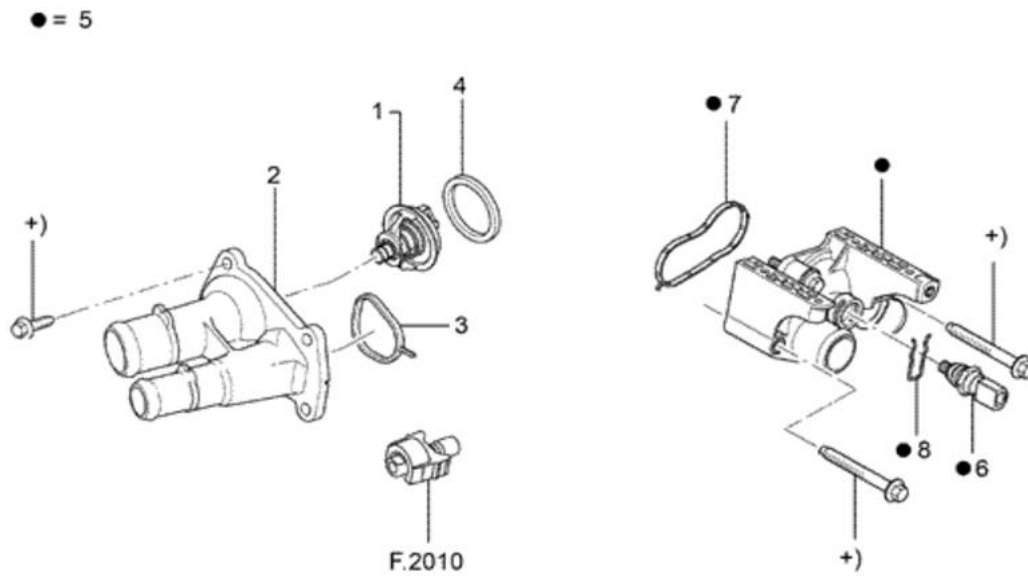
Quantity	Description	Part #
1	Alternator	CN15-10300-CB
1	Bracket for Idler	BE8Z-8680-A
1	Idler/Bearing	BE8Z-19A216-A
1	idler Bolt	W709601-S437
1	Idler Shield	BE8Z-8687-A
1	Water Pump Pulley	BE8Z-8509-A
1	Belt - FEAD	1030100
1	Crank Pulley	131191

Flywheel and Housings

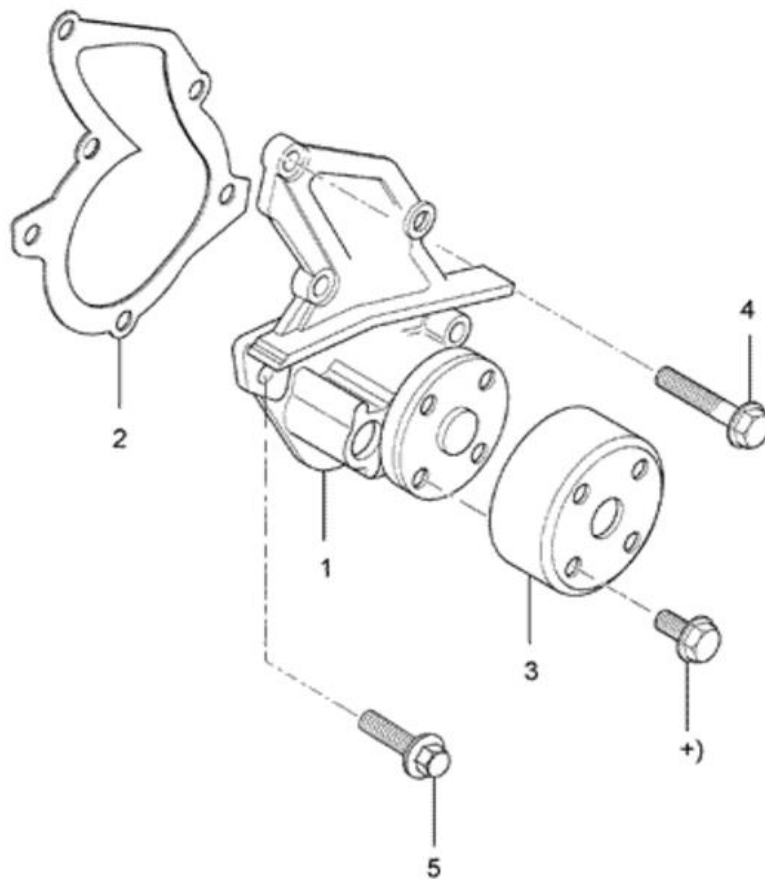


Quantity	Description	Part #
1	Flat Face Flywheel Assy.	BE8Z-6375-B
6	Flywheel bolts to crank shaft	BE8Z-6379-AB
1	SAE 7.5" Flywheel	131310
1	SAE 5 Housing	905605

Thermostat Assembly

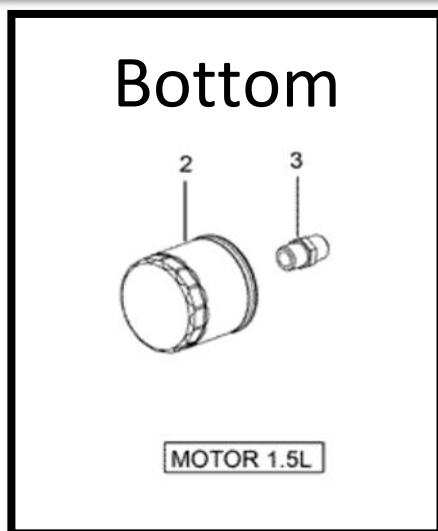
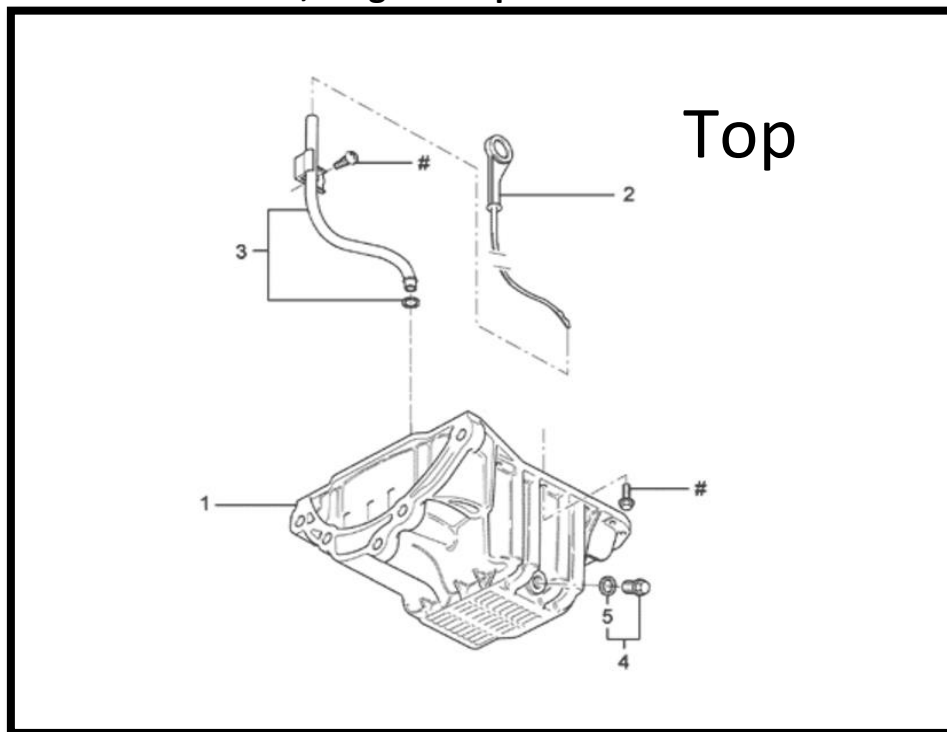


Quantity	Description	Part #
1	Thermostat housing (2)	BE8Z-8592-B
1	Thermostat (1)	BE8Z-8575-Z
1	Water Outlet Adaptor (5)	BE8Z-8K556-A
1	Thermostat Seal (4)	BE8Z-8255-Z
1	Thermostat Gasket (3)	BE8Z-8255-A

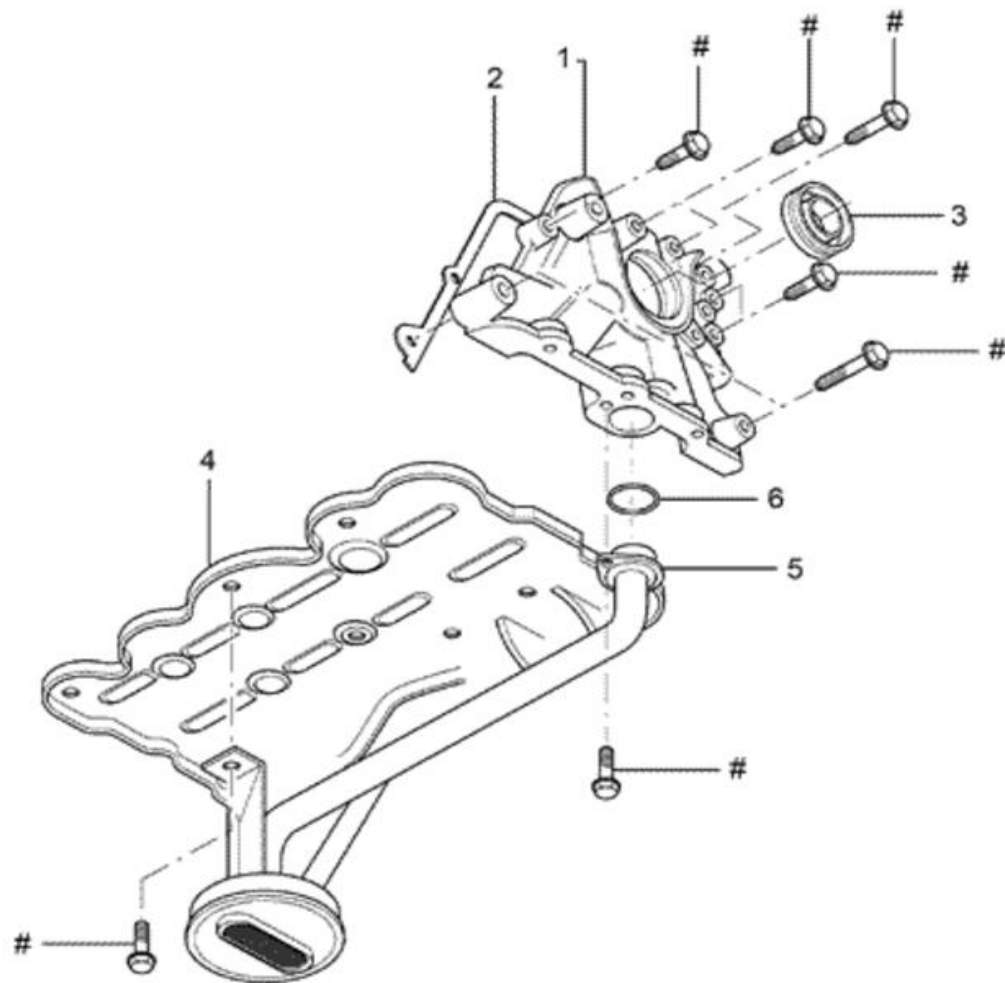
Water Pump Assembly

Quantity	Description	Part #
1	Water Pump Assembly (1)	7S7G-8501-DA
1	Water Pump Gasket (2)	BE8Z-8507-A
1	Water Pump Pulley (3)	BE8Z-8509-A
1	Bolt M8 x 46,7 (4)	BE8Z-00812-A
6	Bolt M6 x 25mm (5)	W713043-S4-37

Oil Filter, Plug and Dipstick

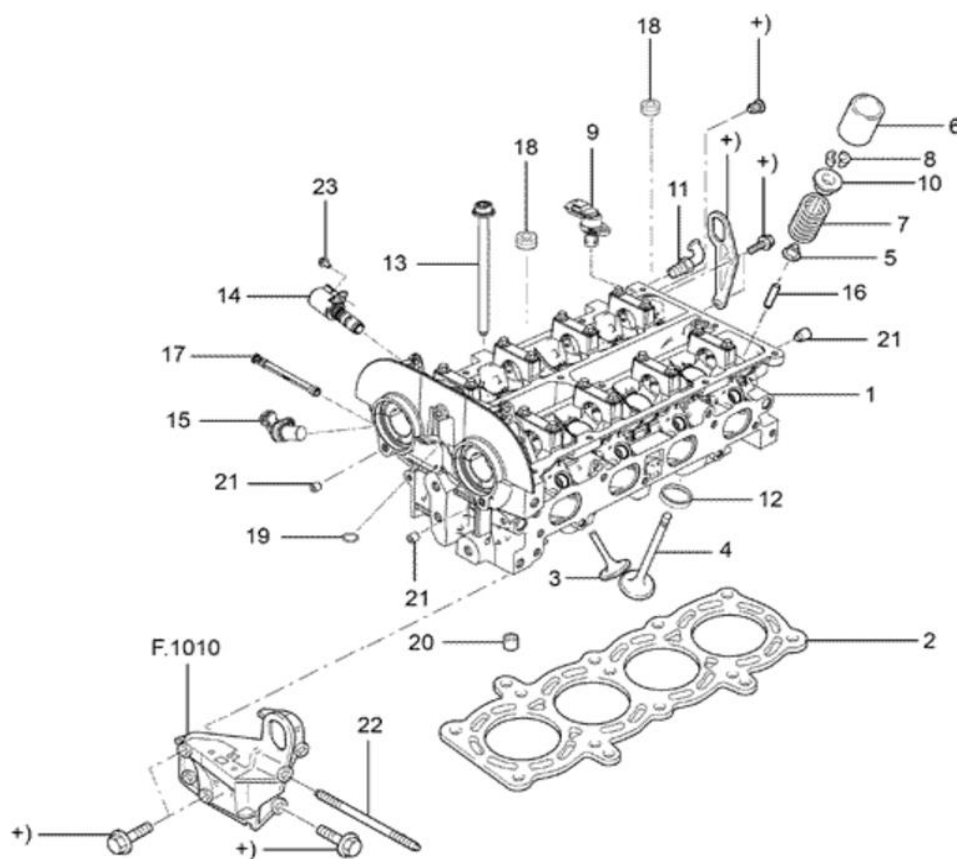


Quantity	Description	Part #
1	Oil Filter (Bottom 2)	EM5G-6714-AA
1	Oil drain plug (Top 4)	F6TZ-6730-BA
1	Oil indicator Standard (Top 2)	YS6G-6750-BC
1	Oil Indicator Tube (Top 3)	4M5G-6754-BA
***4 Quarts refill of 5W-20 to 5W-30		

Oil Pump Assembly

Quantity	Description	Part #
1	Oil Pump Assembly (1)	98MM-6600-D7-B
1	Oil Pump Gasket (2)	BM5Z-6659-B
1	Front Crankshaft Seal (3)	6M5G-6700-BA
1	Crankshaft Windage Oil Baffle (4)	96MM-6B660-BC
1	Inlet Tube (5)	BE8Z-6622-C
1	Ring Seal (6)	W701437-S3-00

Base Engine Components

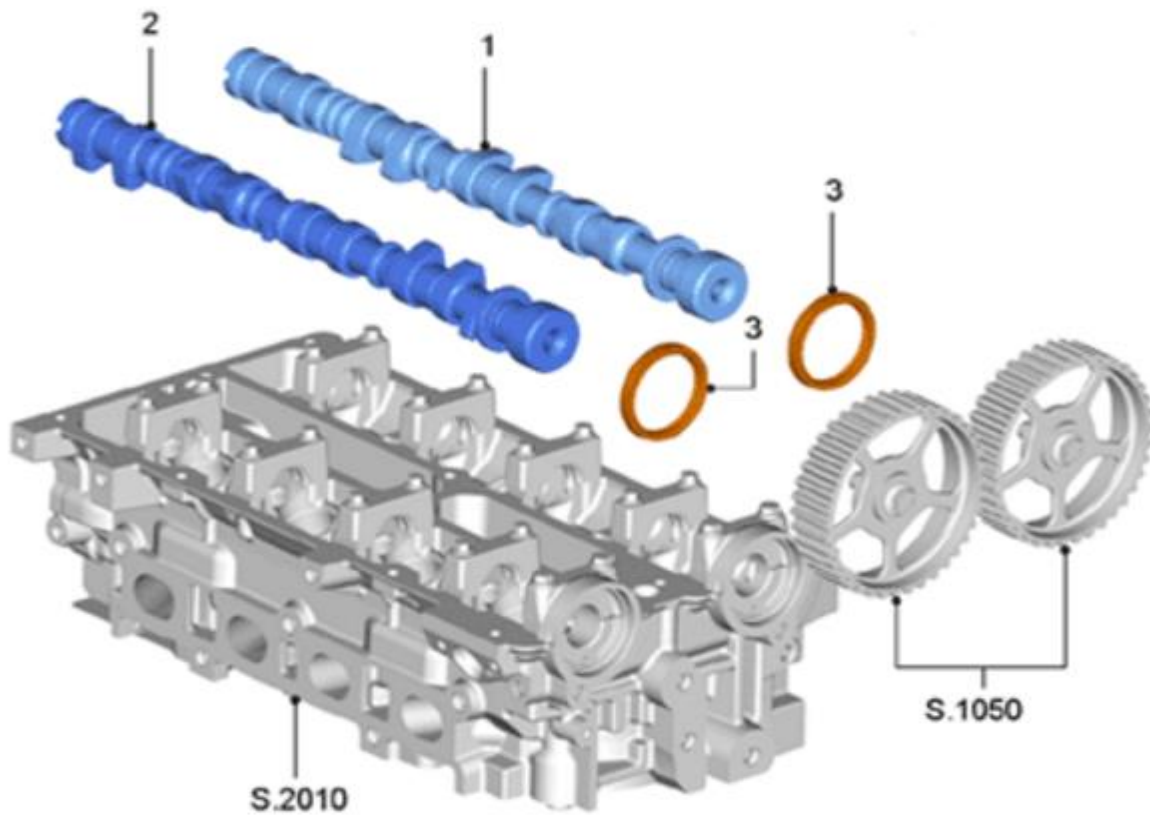
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Quantity	Description	Part #
1	Head Gasket (2)	BE8Z-6051-A
8	Exhaust Valve (3)	1S6G-6505-GA
8	Intake Valve (4)	1S4G-6507-CB
8	Valve Stem Seal, Intake (5)	96MM-6571-AH
8	Valve Stem Seal, Exhaust (5)	96MM-6571-BH
16	Tappets (6)	LIST ON NEXT PAGE
16	Valve Spring (7)	4M5G-6513-CA
32	Valve Spring Retainer Key (8)	98MM-6518-A3-A
16	Valve Spring Retainer (10)	BE8Z-6514-A
1	Oil Return Tube (11)	BE8Z-7610-A
10	Top Cylinder Head Bolt (13)	BE8Z-6065-B
1	Oil Supply and Solenoid Valve (14)	CN1Z-6M280-C
16	Valve Guide Bushing (16)	98MM-6510-AA
1	Oil Filter Mounting Post (17)	4M5Z-6C683-A
4	Side Cylinder Head Bolt (21)	W710167-S3-00
2	Steel Bushing 11.6 x 14.116 x 12 (20)	W701183-S1-300
1	Valve Cover Gasket	1S6G-6K260-AA (1141575)

Tappets

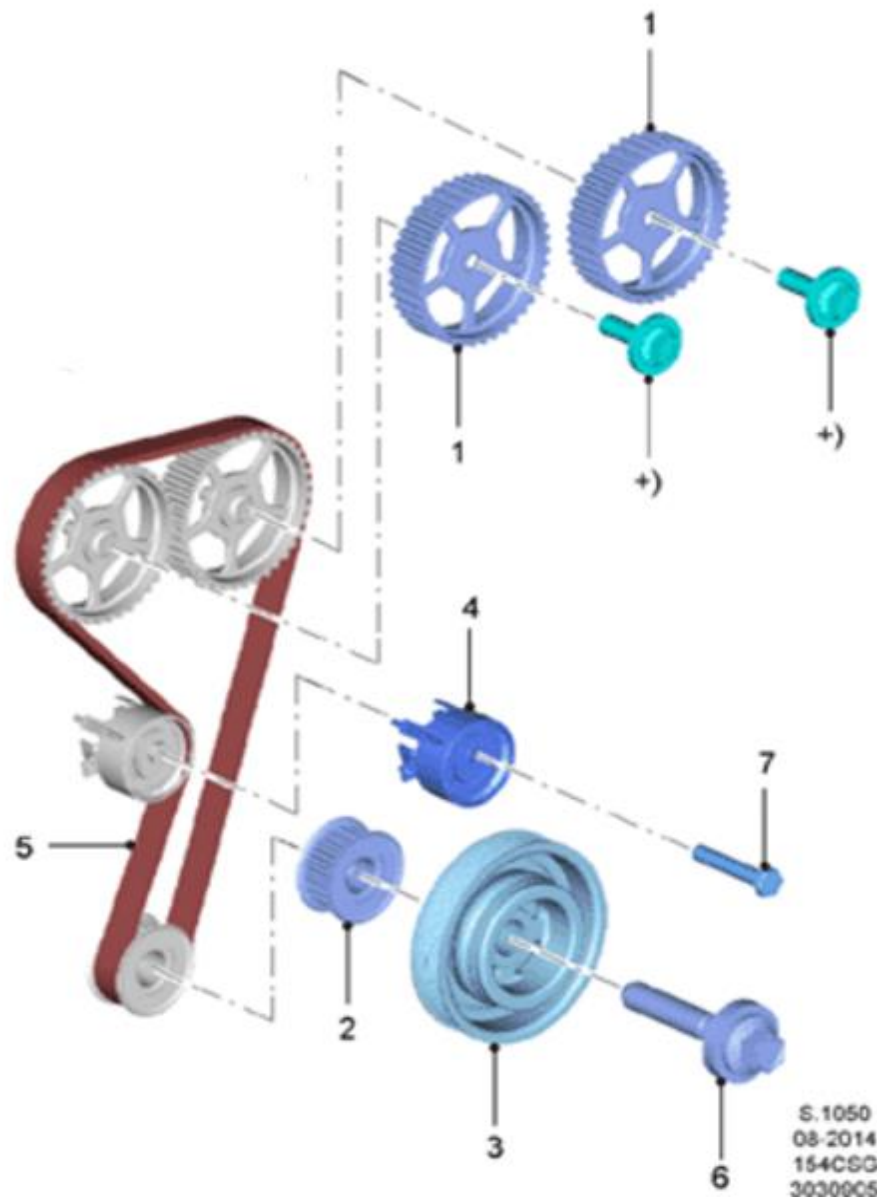
Quantity	Description	Part #
A/R	2.7mm Tappet	BM5G-6500-DA-AA
A/R	2.725mm Tappet	BM5G-6500-DA-BA
A/R	2.75mm Tappet	BM5G-6500-DA-CA
A/R	2.775mm Tappet	BM5G-6500-DA-DA
A/R	2.8mm Tappet	BM5G-6500-DA-EA
A/R	2.825mm Tappet	BM5G-6500-DA-FA
A/R	2.85mm Tappet	BM5G-6500-DA-GA
A/R	2.875mm Tappet	BM5G-6500-DA-HA
A/R	2.9mm Tappet	BM5G-6500-DA-JA
A/R	2.925mm Tappet	BM5G-6500-DA-KA
A/R	2.95mm Tappet	BM5G-6500-DA-LA
A/R	2.975mm Tappet	BM5G-6500-DA-MA
A/R	3mm Tappet	BM5G-6500-DA-NA
A/R	3.025mm Tappet	BM5G-6500-DA-PA
A/R	3.05mm Tappet	BM5G-6500-DA-QA
A/R	3.075mm Tappet	BM5G-6500-DA-RA
A/R	3.1mm Tappet	BM5G-6500-DA-SA
A/R	3.125mm Tappet	BM5G-6500-DA-TA
A/R	3.15mm Tappet	BM5G-6500-DA-UA
A/R	3.175mm Tappet	BM5G-6500-DA-VA
A/R	3.2mm Tappet	BM5G-6500-DA-WA
A/R	3.225mm Tappet	BM5G-6500-DA-YA
A/R	3.25mm Tappet	BM5G-6500-DA-ZA
A/R	3.275mm Tappet	BM5G-6500-DB-AA
A/R	3.3mm Tappet	BM5G-6500-DB-BA
A/R	3.325mm Tappet	BM5G-6500-DB-CA
A/R	3.35mm Tappet	BM5G-6500-DB-DA
A/R	3.375mm Tappet	BM5G-6500-DB-EA
A/R	3.4mm Tappet	BM5G-6500-DB-FA
A/R	3.425mm Tappet	BM5G-6500-DB-GA
A/R	3.45mm Tappet	BM5G-6500-DB-AHA
A/R	3.475mm Tappet	BM5G-6500-DB-JA
A/R	3.5mm Tappet	BM5G-6500-DB-KA
A/R	3.525mm Tappet	BM5G-6500-DB-LA
A/R	3.55mm Tappet	BM5G-6500-DB-MA
A/R	3.575mm Tappet	BM5G-6500-DB-NA
NOTE: 2.7MM TAPPET STANDARD		

Camshaft



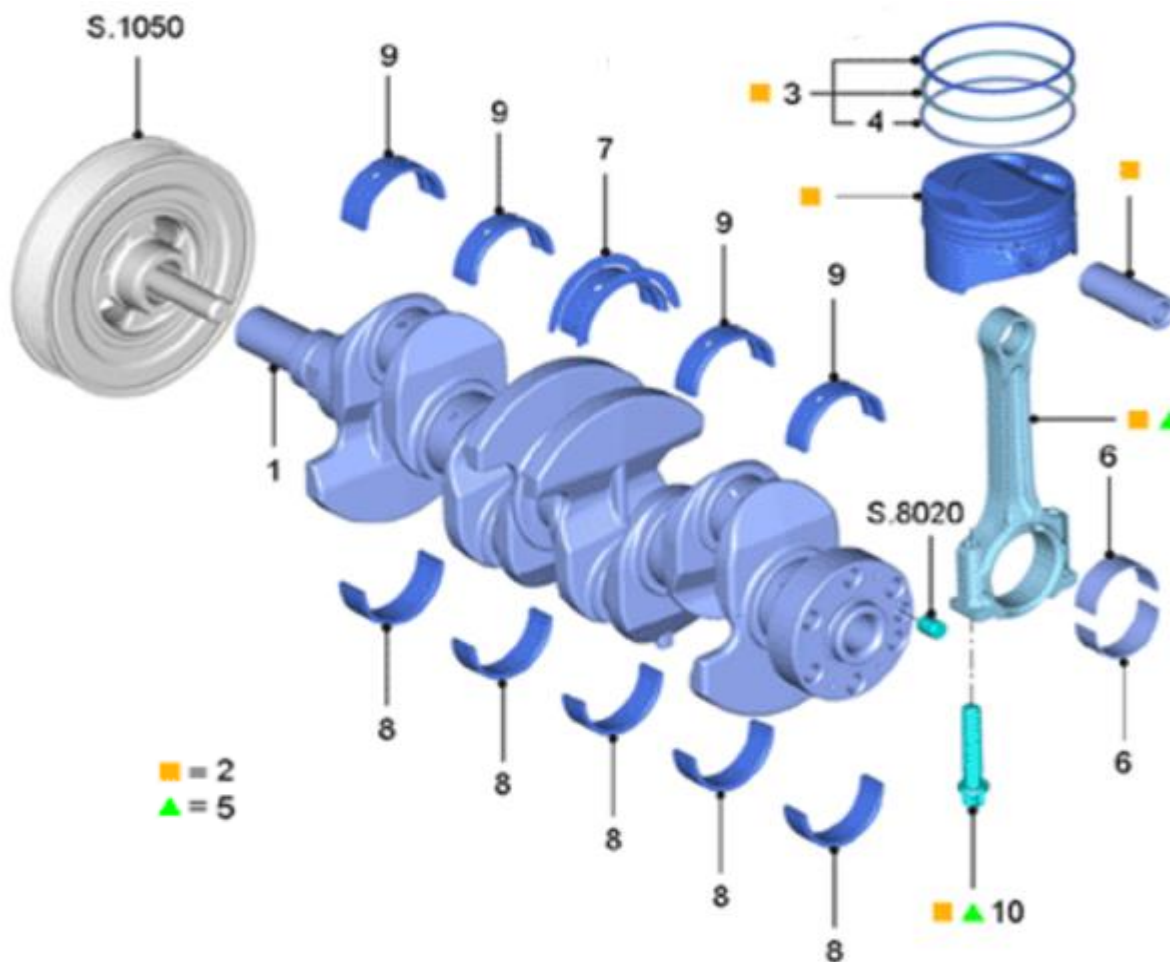
Quantity	Description	Part #
1	Admission Camshaft (1)	AM5G-6A266-AC
1	Exhaust Camshaft (2)	AM5G-6A269-AC
2	Camshaft Seal (3)	6M5G-6K292-BA

Timing



Quantity	Description	Part #
1	Camshaft Sprocket (1)	98MM-6256-A7-C
1	Crankshaft Sprocket Assembly (2)	96MM-6306-AD
2	Crankshaft Pulley (3)	BE8Z-6312-B
1	Tensioner (4)	BE8Z-6K254-A
1	Timing Belt (5)	96MM-6K288-BA
1	Bolt (6)	BE8Z-6A340-A
1	Bolt M8 x 46,7 (7)	BE8Z-00812-A

Pistons, Crankshaft, and Bearings



Quantity	Description	Part #
1	Crankshaft (1)	96MM-6303-EA
4	Piston And Connecting Rod Assembly (2)	BV2G-6100-C7-A
4	Piston Ring Kit (3)	AM5G-6148-B7-A
4	Piston oil Control Ring (4)	BM5G-6159-AA
4	Connecting Rod Assembly (5)	BV2E-6200-AA
8	Connecting Rod Bearings (6)	LIST ON NEXT PAGE (28)
1	Center Crankshaft Bearing (7)	LIST ON PAGE 29
5	Crankshaft Bearings, Bottom (8)	LIST ON PAGE 30
4	Crankshaft Bearings, Top (9)	LIST ON PAGE 31
8	Connecting Rod Bolt (10)	BJ5Z-6214-A

Connecting Rod Bearings (5 on Piston, Crankshaft and Bearings)

Quantity	Description	Part #
A/R	Connecting Rod Bearing - Yellow (1499/1506mm)	BE8Z-6211-AA
A/R	Connecting Rod Bearing - Green (1506/1513mm)	BE8Z-6211-BA
A/R	Connecting Rod Bearing - Blue (1513/1520mm)	BE8Z-6211-CA
A/R	Connecting Rod Bearing - Red (1520/1527mm)	YS6G-6211-DA
NOTE: YELLOW IS STANDARD		

Top Center Crankshaft Bearing (6 on Piston, Crankshaft and Bearings)

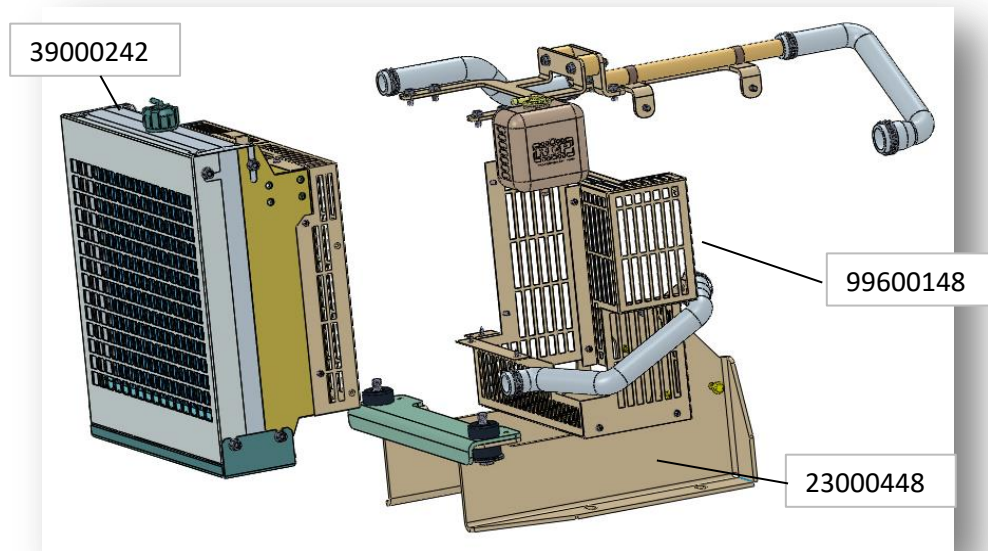
Quantity	Description	Part #
A/R	Center Crankshaft Bearing - Black & Green (3.117mm)	BE8Z-6377-D
A/R	Center Crankshaft Bearing - Black & Blue (3.124mm)	BE8Z-6377-E
A/R	Center Crankshaft Bearing - Black & Red (3.131mm)	BE8Z-6377-F
A/R	Center Crankshaft Bearing - Green (2.992mm)	BE8Z-6377-A
A/R	Center Crankshaft Bearing - Blue (2.999mm)	BE8Z-6377-B
NOTE: GREEN IS STANDARD		

Crankshaft Bearings, Bottom (7 on Piston, Crankshaft and Bearings)

Quantity	Description	Part #
A/R	Crankshaft Bearing, Bottom - Black & Yellow (3.135mm)	F3B5-6A338-EF
A/R	Crankshaft Bearing, Bottom - Black & Green (3.142mm)	F3B5-6A338-FF
A/R	Crankshaft Bearing, Bottom - Black & Blue (3.149mm)	F3B5-6A338-GF
A/R	Crankshaft Bearing, Bottom - Black & Red (3.156mm)	F3B5-6A338-HF
A/R	Crankshaft Bearing, Bottom - Yellow (3.010/3.017mm)	F3B5-6A338-AA
A/R	Crankshaft Bearing, Bottom - Green (3.017/3.024mm)	F3B5-6A338-BA
A/R	Crankshaft Bearing, Bottom - Blue (3.024/3.031mm)	F3B5-6A338-CA
NOTE: YELLOW IS STANDARD		

Crankshaft Bearings, Top (8 on Piston, Crankshaft and Bearings)

Quantity	Description	Part #
A/R	Crankshaft Bearing, Top - Red (3.031/3.038mm)	6M5Z-6333-E
A/R	Crankshaft Bearing, Top - Black & Green (3.117mm)	BE8Z-6333-D
A/R	Crankshaft Bearing, Top - Black & Red (3.131mm)	BE8Z-6333-F
A/R	Crankshaft Bearing, Top - Black & Blue (3.117mm)	BE8Z-6333-E
A/R	Crankshaft Bearing, Top - Green (2.992/2.999mm)	6M5Z-6333-C
A/R	Crankshaft Bearing, Top - Blue (2.999/3.006mm)	6M5Z-6333-D
A/R	Crankshaft Bearing, Top - Brown (3.003/3.010mm)	F3B5-6A338-JA
NOTE: GREEN IS STANDARD		



Quantity	Description	Part #
1	Radiator	39000242
1	Radiator and Bracket Hose Kit	23000448
1	Finger Guards	99600148



Quantity	Description	Part #
1	Operators Manual	1050090
1	Emission Install Instructions	1050100
1	Parts Manual	1050140
1	Service Manual	1050130
1	Emission Label	1050160
1	Model & Serial # Label	1050150
1	Specification Sheet	1050110