



Cummins Diesel Deutschland GmbH



Customer:
Ammann Czech Republic a. s.

Engine: BT4.5-C99
Machine: AP240 Tier 2
Specification: Z02-590-2

Date: 30.04.2007

OPTION	DESCRIPTION
ap9348	APPROVAL,AGENCY
bb9776-1	FRONT GEAR HOUSING
bb9776-2	TIMING PIN HOUSING
bb9840-1	CRANKSHAFT AND BEARINGS
bb9840-2	BLOCK,CYLINDER
bb9840-3	VALVE TAPPET
br9121	CRANKCASE BREATHER
cc9245	PLUMBING,CPR COOLANT
ch9071	COOLANT HEATER STARTING AID
ci9149	AIR COMPRESSOR INLET PLUMB
cm9710	CAM FOLLOWER COVER
cp9468	COMPRESSOR,AIR
da9747	VIBRATION DAMPER
df9108	FRONT GEAR TRAIN ACCESSORY
ec9706	THERMOSTAT
ee9242	ALTERNATOR
eh9455	MOUNTING,ALTERNATOR
fa9336	DRIVE,FAN
fa9739	FAN DRIVE MOUNTING
fe9007	AIR FUEL CONTROL PLUMBING
ff9413	FILTER,FUEL
ff9490	PLUMBING,FUEL FILTER
fh9343	FLYWHEEL HOUSING
fp99323	FUEL PUMP
fp99348	MOUNTING,FUEL PUMP
fr91170	RATING,FUEL
fs9757	PUMP,FUEL TRANSFER
ft9055	FUEL PLUMBING
fw9580	FLYWHEEL
fw9934	FLYWHEEL MOUNTING
gg9785	COVER,FRONT GEAR
hc9035	CABIN HEATER PLUMBING
la9075	LIFTING ARRANGEMENT
lc9732	ENGINE OIL COOLER
lf9100	LUBE OIL FILTER
lg9655	GAUGE,OIL LEVEL
lo9701	LUBE OIL
lp9071	PUMP,LUBRICATING OIL
ob9286	OIL FILLER ARRANGEMENT
ob9719	HAND HOLE COVER
op9317	OIL PAN
op9736	OIL PAN MOUNTING
pp8204-1	CAMSHAFT GEAR
pp8204-2	CONNECTING ROD
pp8204-3	INJECTOR
pp98267-1	TURBOCHARGER
pp98267-2	TURBOCHARGER
pp98464	INJECTOR PLUMBING
pp98468	CYLINDER HEAD
rl9740	ROCKER LEVER
rp9033	ENGINE COOLANT VENT
sm9790	STARTING MOTOR MOUNTING
sp9080	STARTING MOTOR MOUNTING
ss9241	SKID,4B STD
st9323	STARTING MOTOR
tb97053	EXHAUST MANIFOLD MOUNTING
tb97054	EXHAUST MANIFOLD
tb9832	ARRANGEMENT,TURBOCHARGER
th9701	THERMOSTAT HOUSING
tk9025	TORQUE CONVERTER OIL COOLER
tp97168	TURBOCHARGER OIL PLUMBING
vc9162	ARRANGEMENT,VALVE COVER
vc9763	COVER,VALVE
wi9178	WATER INLET CONNECTION
wo9053	WATER OUTLET CONNECTION
wp9927	WATER PUMP
wp9947	WATER PUMP DRIVE
wp9949	TENSIONER,BELT

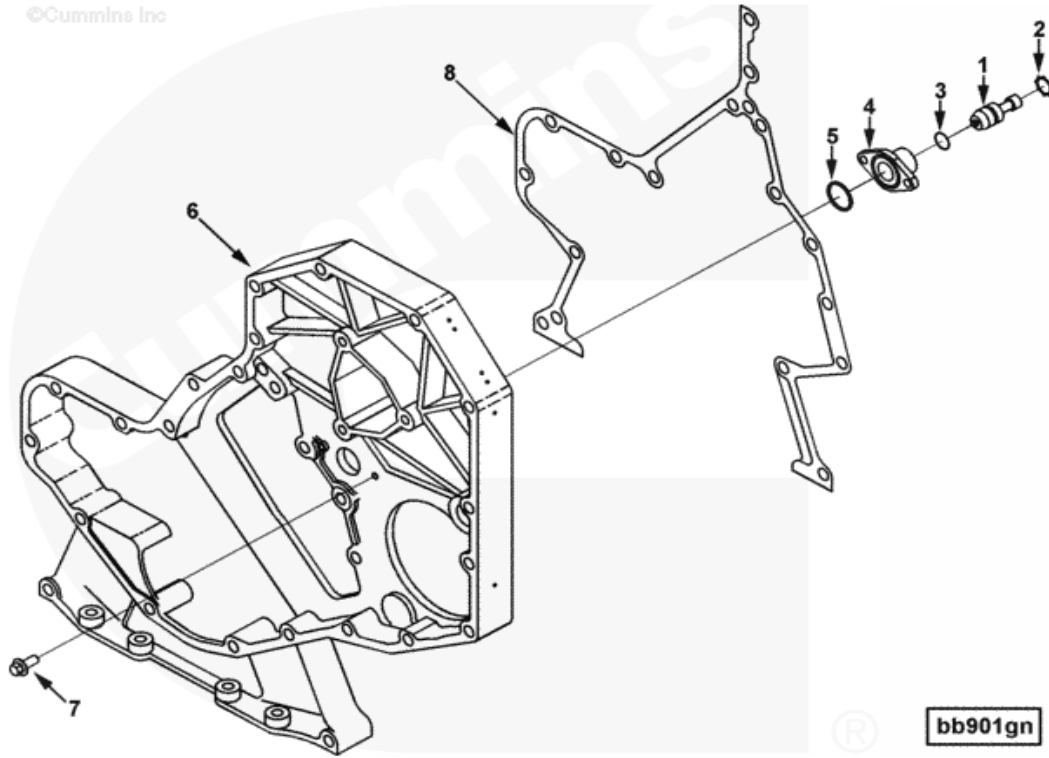
Group No.

TIMING PIN HOUSING

Option No.

BB9776-01

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Ref. No.	Part Number	Part Name	Required	Remarks
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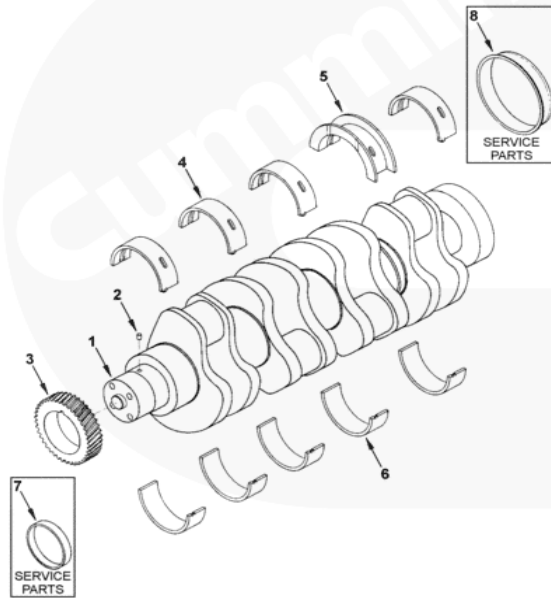
	BB9776-01	TIMING PIN HOUSING		
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Engine Family: "B" Series
FUEL PUMP Type:
Bosch VE, Delphi DP210
Fuel
Pump Centerline from Crank
Centerline (mm): 271.7
FUEL PUMP Centerline from
Engine Centerline (mm): 179.0
Accessory Drive Centerline
from Crank Centerline (mm):
130.1
Accessory Drive Centerline
from Engine Centerline (mm):
225.7

	3913995	Housing, Timing Pin	1	
1	3903924	Pin, Timing	1	
2	3904849	Ring, Retaining	1	
3	3913994	Seal, O Ring	1	
4	3919683	Housing, Timing Pin	1	
5	3915772	Seal, Rectangular Ring	1	
6	3920758	Housing, Gear	1	
7	3926846	Screw, Hex Flange Head Cap	5	M8 X 1.25 X 20
8	3938156	Gasket, Gear Housing	1	

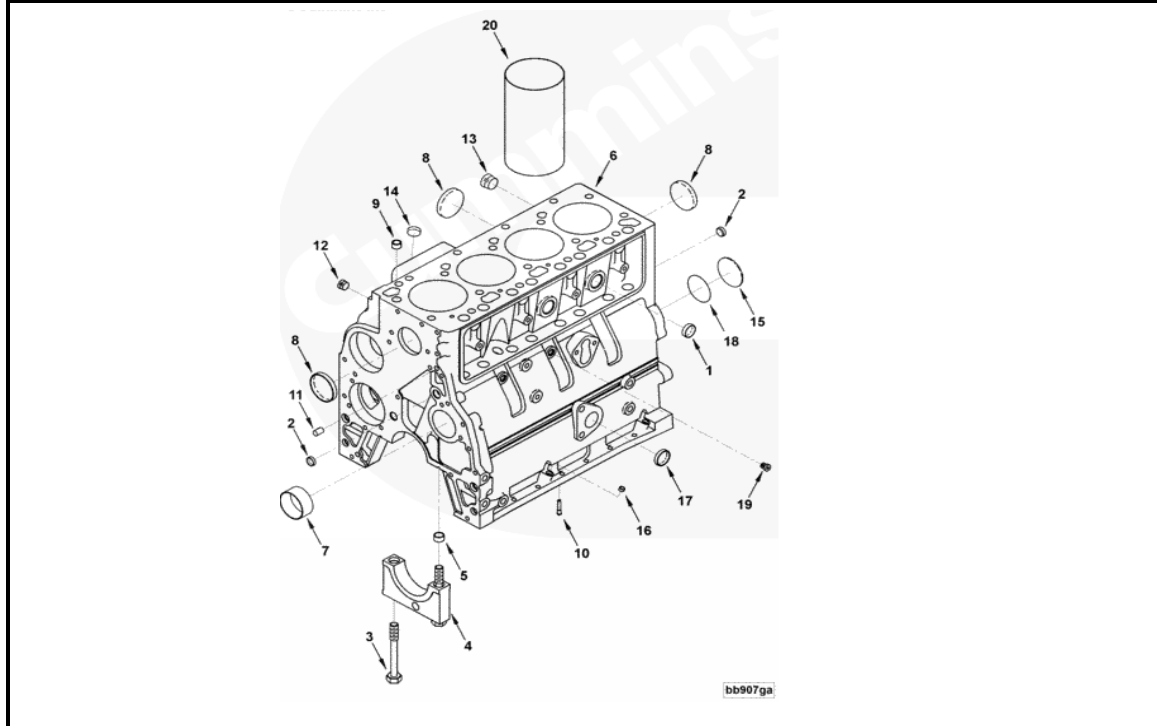
Group No.	CRANKSHAFT AND BEARINGS	Option No. BB9840-01
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Ref. No.	Part Number	Part Name	Required	Remarks
	BB9840-01	CRANKSHAFT AND BEARINGS		
1	3939367	CRANKSHAFT, Engine	1	
2	3904483	Dowel, Pin	1	
3	3929027	Gear, CRANKSHAFT	1	
4	3802010	Set, Main Bearing	1	Standard
	3929016	Bearing, Main	4	Standard
5	3926723	Bearing, CRANKSHAFT Thrust	1	
6	3929021	Bearing, Main	5	Standard
4	3802011	Set, Main Bearing	A/R	0.25 mm Oversize
	3929017	Bearing, Main	4	0.25 mm Oversize
5	3283065	Bearing, CRANKSHAFT Thrust	1	Serviced as mult kits.
6	3929022	Bearing, Main	5	0.25 mm Oversize
4	3802012	Set, Main Bearing	A/R	0.50 mm Oversize
	3929018	Bearing, Main	4	0.50 mm Oversize
5	3283066	Bearing, CRANKSHAFT Thrust	1	
6	3929023	Bearing, Main	5	0.50 mm Oversize
4	3802013	Set, Main Bearing	A/R	0.75 mm Oversize
	3929019	Bearing, Main	4	0.75 mm Oversize
5	3283067	Bearing, CRANKSHAFT Thrust	1	Serviced as mult kits.
6	3929024	Bearing, Main	5	0.75 mm Oversize
4	3802014	Set, Main Bearing	A/R	1.00 mm Oversize
	3929020	Bearing, Main	4	1.00 mm Oversize
5	3283068	Bearing, CRANKSHAFT Thrust	1	
6	3929025	Bearing, Main	5	1.00 mm Oversize
5	3802702	Bearing, CRANKSHAFT Thrust	A/R	0.50 mm Oversize
	3283066	Bearing, CRANKSHAFT Thrust	1	
6	3929023	Bearing, Main	1	0.50 mm Oversize
5	3802704	Bearing, CRANKSHAFT Thrust	A/R	1.00 mm Oversize
	3283068	Bearing, CRANKSHAFT Thrust	1	
6	3929025	Bearing, Main	1	1.00 mm Oversize
Service Parts				

Group No.	BLOCK,CYLINDER	Option No. BB9840-04
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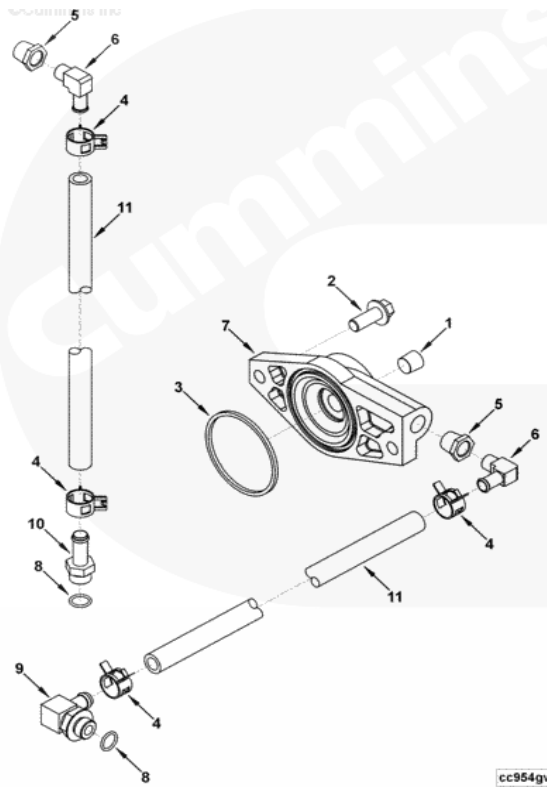


Ref. No.	Part Number	Part Name	Required	Remarks
	BB9840-04	BLOCK,CYLINDER		Mr - cylinder block Engine: "B" Series Cylinders: 4 Aspiration: Turbocharged block painted: No 360 degrees thrust bearing: No fuel system type: Mechanical engine displacement (l): 4.5 reduced width main bearing: No cns may use 3900965 expansion plug in place of 3922072 expansion plug. BZL may use 3900965 expansion plug in place of 3922072 expansion plug.
	4089546	Kit, Cylinder Block	1	
	3938366	Block, Cylinder	1	Serviced as 4089546.
1	3007635	Plug, Expansion	2	
2	3900956	Plug, Expansion	3	
3	3927948	Screw, Hex Flange Head Cap	10	M12 X 1.50 X 119
	3974157	Cap, Main Bearing	5	
4	3974156	Cap, Main Bearing	1	
5	3900068	Dowel, Ring	2	
6	3938364	Block, Cylinder	1	
7	3940059	Bushing	1	
8	3975796	Plug, Expansion	3	
	3933224	Kit, Cyl Block Hardware	1	
5	3900068	Dowel, Ring	2	
9	3902343	Dowel, Ring	2	
10	3937214	Nozzle, Piston Cooling	6	
11	3900257	Dowel, Pin	2	
12	3008468	Plug, Pipe	1	1/2 NPT
13	3008469	Plug, Pipe	1	3/4 NPT
14	3920706	Plug, Expansion	2	
15	3900687	Plug, Expansion	1	
16	3900955	Plug, Expansion	2	
17	3900958	Plug, Expansion	1	
18	3926047	Seal, O Ring	1	
19	3977851	Plug, Threaded	2	

Group No.

PLUMBING,CPR COOLANT

Option No.
CC9245-01



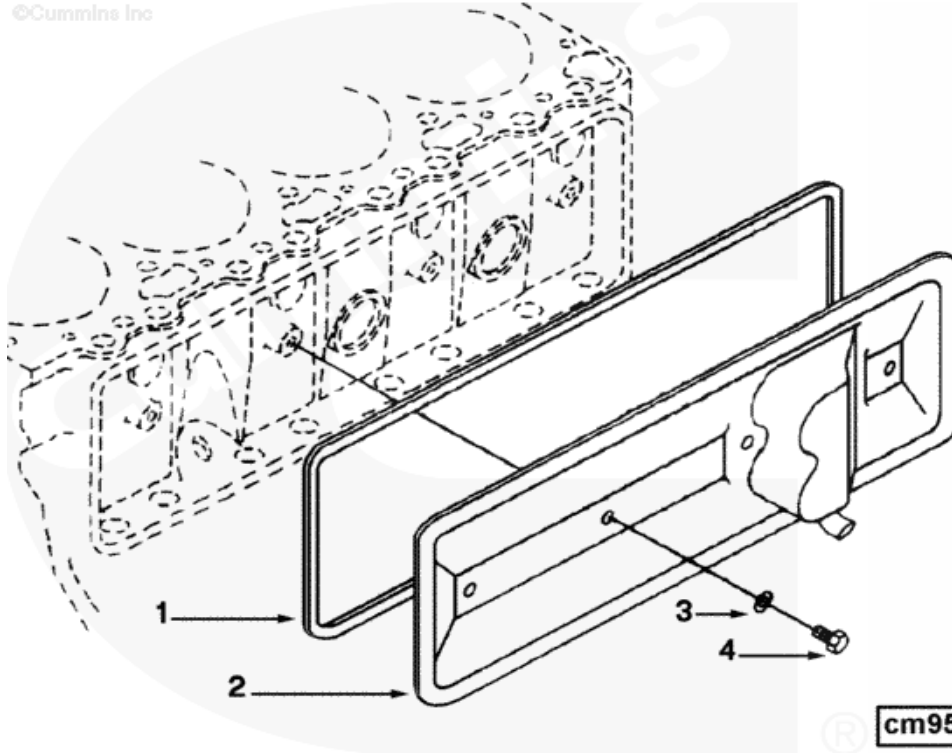
Ref. No.	Part Number	Part Name	Required	Remarks
	CC9245-01	PLUMBING,CPR COOLANT		Mr - compressor coolant
1	3008468	Plug, Pipe	1	1/2 NPT.
2	3910495	Screw, Hex Flange Head Cap	2	M12 x 1.75 x 30
3	3910530	Seal, Rectangular Ring	1	
4	3923369	Clamp, Spring Hose	4	
5	3924146	Bushing, Reducing Pipe	2	
6	3924633	Coupling, Elbow Hose	2	
7	3925226	Connection, Water Transfer	1	
	3927325	Coupling, Elbow Hose	1	
8	3046201	Seal, O Ring	1	
9	3927732	Coupling, Elbow Hose	1	
	3931014	Coupling, Plain Hose	1	
8	3046201	Seal, O Ring	1	
10	3932443	Coupling, Plain Hose	1	
11	3936832	Hose, Plain	2	

Group No.

CAM FOLLOWER COVER

Option No.
CM9710-01

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Ref. No.	Part Number	Part Name	Required	Remarks
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	CM9710-01	CAM FOLLOWER COVER		
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				MR - CAM FOLLOWER COVER Engine Configuration: 4B CRANKCASE BREATHER Included: Yes Breather Exit Angle: Provision For Noise Enclosure: No Mounting Capscrews in Fuel Drain Plumbing: None Provision for Mounting ECM: No
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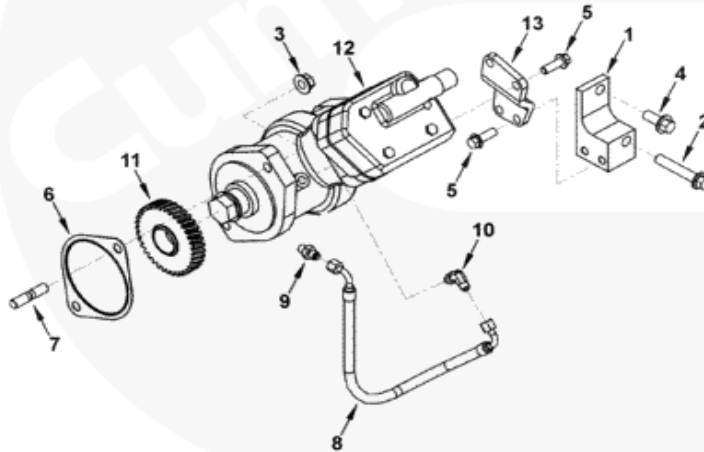
1	3283767	Gasket, Push Rod Cover	1	
2	3936188	Cover, Push Rod	1	
3	3928759	Seal, Grommet	4	
4	3900629	Screw, Hex Flange Head Cap	4	M8 X 1.25 X 16

Group No.

COMPRESSOR,AIR

Option No.
CP9468-04

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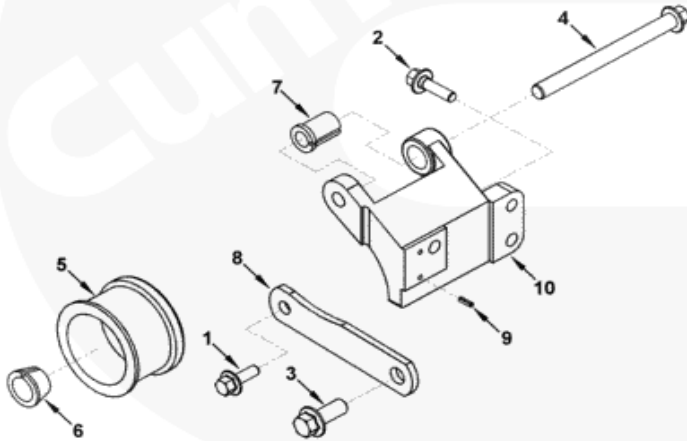
Ref. No.	Part Number	Part Name	Required	Remarks
	CP9468-04	COMPRESSOR,AIR Engine Family: "B" Series		Mr - air compressor
1	3283528	Brace, Air Compressor	1	
2	3681065	Screw, Hex Flange Head Cap	1	
3	3903210	Nut, Hexagon Flange	2	M12 X 1.75
4	3910495	Screw, Hex Flange Head Cap	1	M12 X 1.75 X 30
5	3925344	Screw, Hex Flange Head Cap	4	M10 X 1.50 X 30
6	3929751	Gasket, Acc Drive Cover	1	
7	3937122	Stud	2	
8	3937218	Hose, Flexible	1	
9	3941472	Union, Male	1	
10	3945212	Elbow, Plain Union	1	
	3976362	Compressor, Air	1	Recon Equivalent 3976362 RX
11	3944516	Gear, Accessory Drive	1	
12	3976361	Compressor, Air	1	
13	3991825	Brace, Air Compressor	1	

Group No.

MOUNTING,ALTERNATOR

Option No.
EH9455-03

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Ref. No.	Part Number	Part Name	Required	Remarks
	EH9455-03	MOUNTING,ALTERNATOR		Mr - MOUNTING,ALTERNATOR
1	3900630	Screw, Hex Flange Head Cap	1	M8 X 1.25 X 20
2	3900631	Screw, Hex Flange Head Cap	3	M8 X 1.25 X 25
3	3902460	Screw, Hex Flange Head Cap	1	M10 X 1.50 X 25
4	3908226	Screw, Hex Flange Head Cap	1	M10 X 1.50 X 95
5	3908560	Pulley, Alternator	1	
6	3908563	Retainer, Pulley	1	
7	3974163	Spacer, Mounting	1	
8	3970453	Brace, Alternator	1	
	3939874	Support, Alternator	1	
9	3520815	Pin, Roll	2	
10	3939870	Support, Alternator	1	

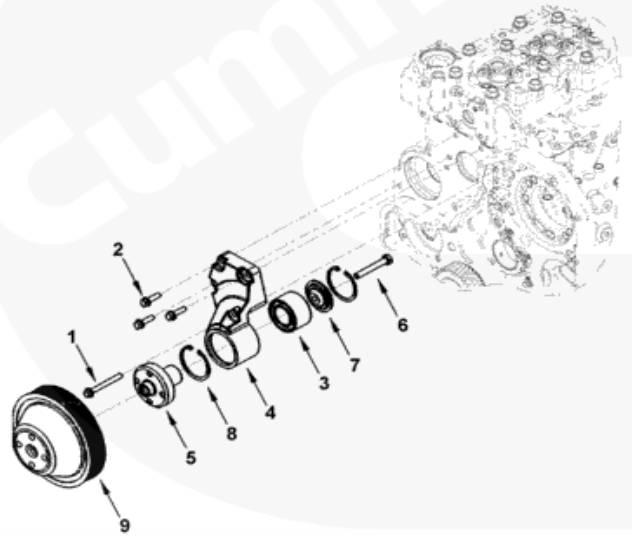
Group No.

DRIVE,FAN

Option No.

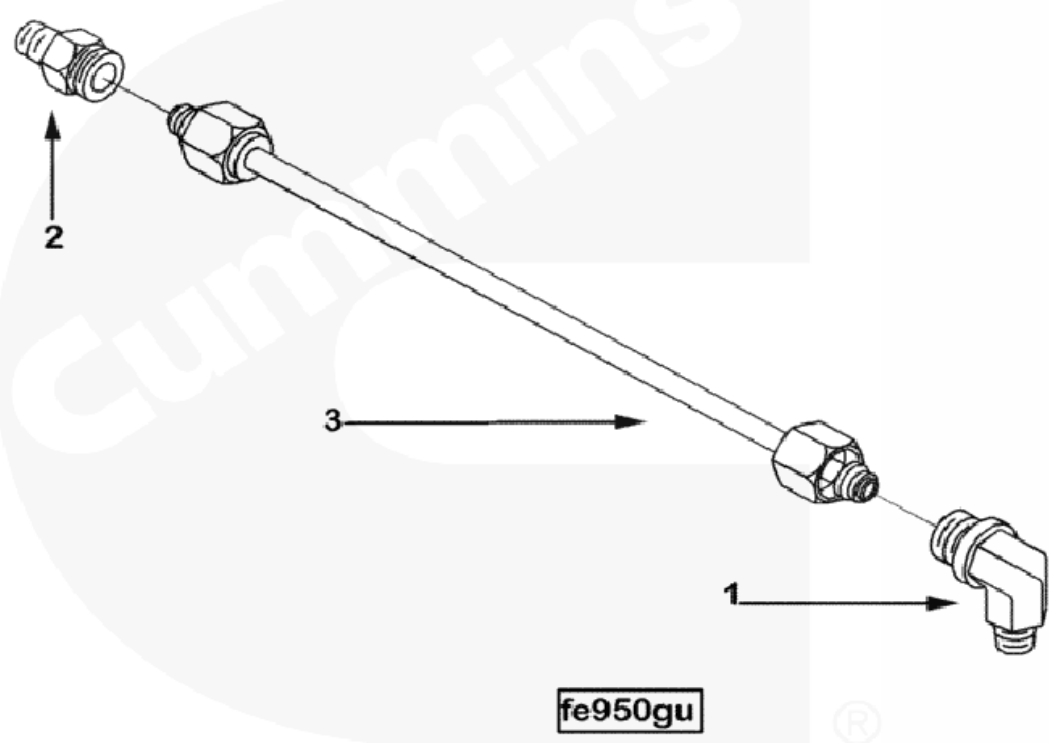
FA9336-04

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Ref. No.	Part Number	Part Name	Required	Remarks
	FA9336-04	DRIVE,FAN		Mr - fan drive Fan Drive Ratio: 1.1:1 fan drive centerline to crank centerline (mm): 203.2 fan drive centerline to engine centerline (mm): 49 fan pilot diameter (mm): 25.4 fan mounting bolt circle (mm): 60 Fan Pulley Thickness (mm): 5 Fan pulley diameter over 2.5mm gage balls (mm): 159.13 Crank Pulley Effective Diameter (mm): 173.76.
1	3975555	Screw, Hex Flange Head Cap	1	
2	2830411	Screw, Hex Flange Head Cap	3	
	3285949	Support, Fan	1	
3	3910739	Bearing, Ball	1	
4	3285946	Support, Fan	1	
5	3911924	Hub, Fan	1	
6	3907769	Screw, Hexagon Head Cap	1	M10 X 1.75 X 70
7	3923044	Retainer, Fan Hub	1	
8	3035960	Ring, Retaining	2	
9	3914462	Pulley, Fan	1	

Group No.	AIR FUEL CONTROL PLUMBING	Option No. FE9007-02
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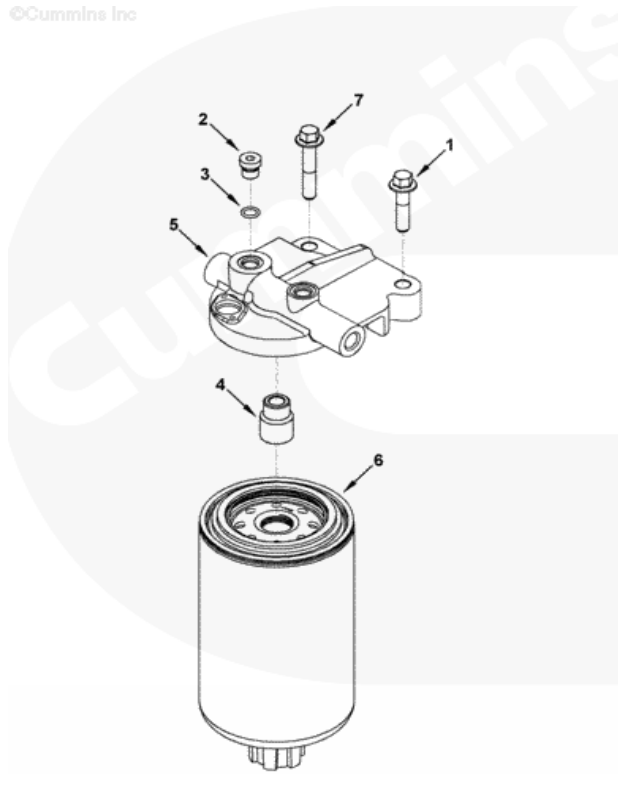
Ref. No.	Part Number	Part Name	Required	Remarks
	FE9007-02	AIR FUEL CONTROL PLUMBING		MR - Air Fuel Control Plumbing
				FUEL PUMP Connection
				Size: M10 x 1
				FUEL PUMP Connection
				Location:
				From Engine Centerline (mm):
				240
				From Crank Centerline (mm):
				372
				From Front Face of Block (mm): -55
				CYLINDER HEAD Connection
				Size: 1/8 inch NPT
				CYLINDER HEAD Connection
				Location:
				From Centerline of Engine (mm): 203
				From Centerline of Crank (mm): 409
				From Front Face of Block (mm): -184
				FUEL PUMP
				Manufacturer/Model: Delphi DP210
1	3970070	Elbow, Male Adapter	1	
2	3909552	Connector, Male	1	
3	3991513	Tube, Air Fuel Control	1	

Group No.

FILTER,FUEL

Option No.
FF9413-02

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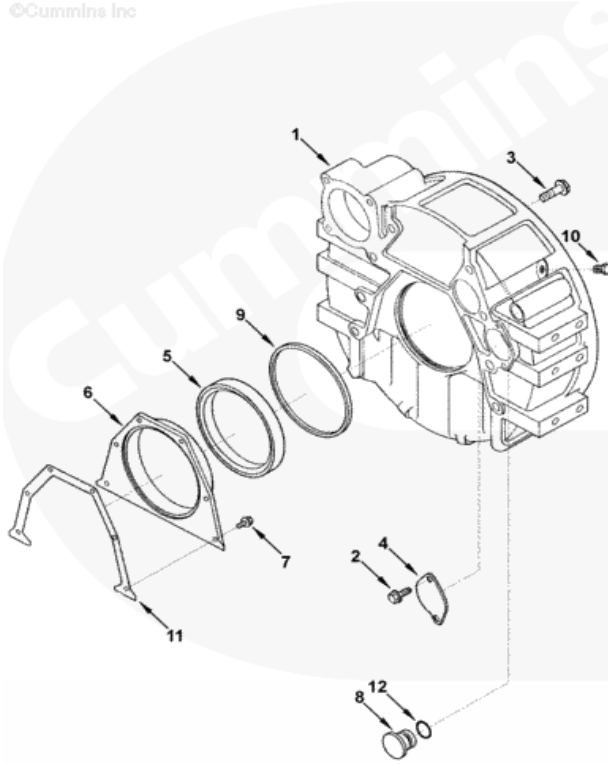


Ref. No.	Part Number	Part Name	Required	Remarks
	FF9413-02	FILTER,FUEL		Mr - fuel filter
1	3900632	Screw, Hex Flange Head Cap	1	M8 X 1.25 X 35
	3966139	Filter, Fuel	1	
	3678923	Plug, Threaded	2	M10 X 1.00 X 9.5
2	3678924	Plug, Threaded	1	M10 X 1.00 X 9.5
3	3678925	Seal, O Ring	1	M10 X 1.00
4	3942453	Adapter, Filter Head	1	Purchase From Fleetguard
5	3967401	Head, Fuel Filter	1	
6	3991350	Filter, Fuel	1	
7	3901445	Screw, Hex Flange Head Cap	1	M8 X 1.25 X 45

Group No.

FLYWHEEL HOUSING

Option No.
FH9343-03

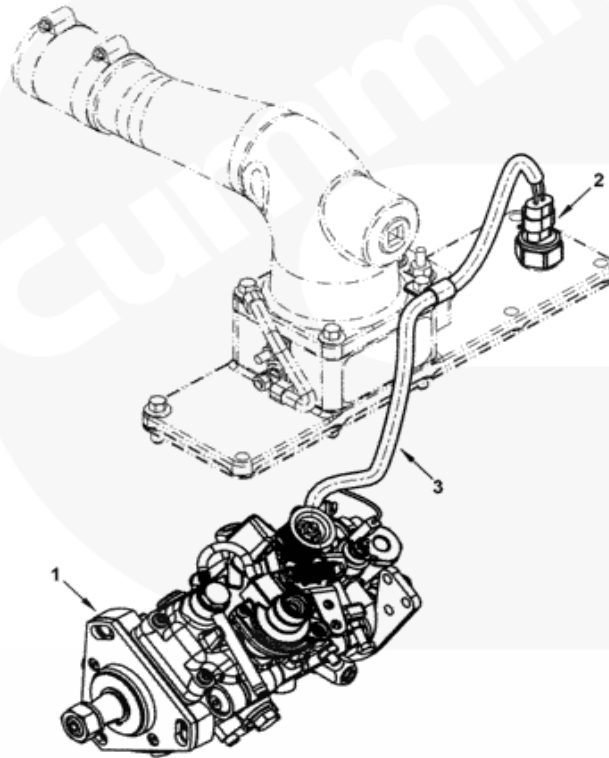


Ref. No.	Part Number	Part Name	Required	Remarks
	FH9343-03	FLYWHEEL HOUSING		FLYWHEEL HOUSING
1	3937426	Housing, FLYWHEEL	1	
2	3912072	Screw, Self Tapping Metal	2	M8 X 1.25 X 15
3	3920447	Screw, Hex Flange Head Cap	8	M12 X 1.75 X 40
4	3925234	Plate, Cover	1	
5	4089342	Kit, CRANKSHAFT Seal	1	
6	3970548	Seal, Oil	1	
7	3936895	Cover, Rear	1	
8	3991306	Screw, Hex Flange Head Cap	6	M6 X 1.00 X 16
9	3910248	Plug, O Ring	1	
10	3912473	Seal, Rectangular Ring	1	
11	3904181	Plug, Threaded	1	3/4 - 16 UNF
12	3938159	Gasket, Rear Cover	1	
	3910260	Seal, O Ring	1	

Group No.

FUEL PUMP

Option No.
FP99323-03



Ref. No. Part Number Part Name Required Remarks

FP99323-03 FUEL PUMP MR - FUEL PUMP

1 3957700 Pump, Fuel Injection 1 On Manual Allocation Until PPAP approved. If no Inventory in Memphis, CSR to Contact CDC to get Part.

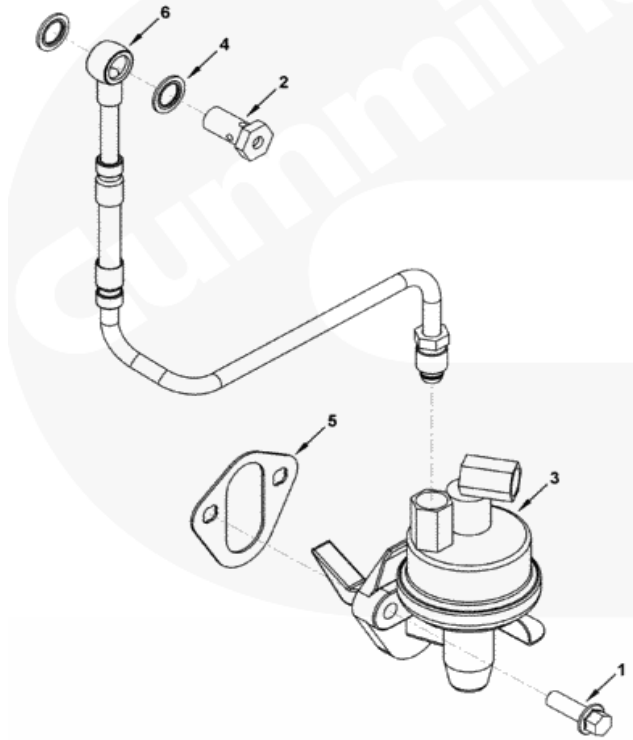
2 3408645 Switch, Thermo 1

3 3923303 Harness, Wiring 1

Group No.

PUMP,FUEL TRANSFER

Option No.
FS9757-02



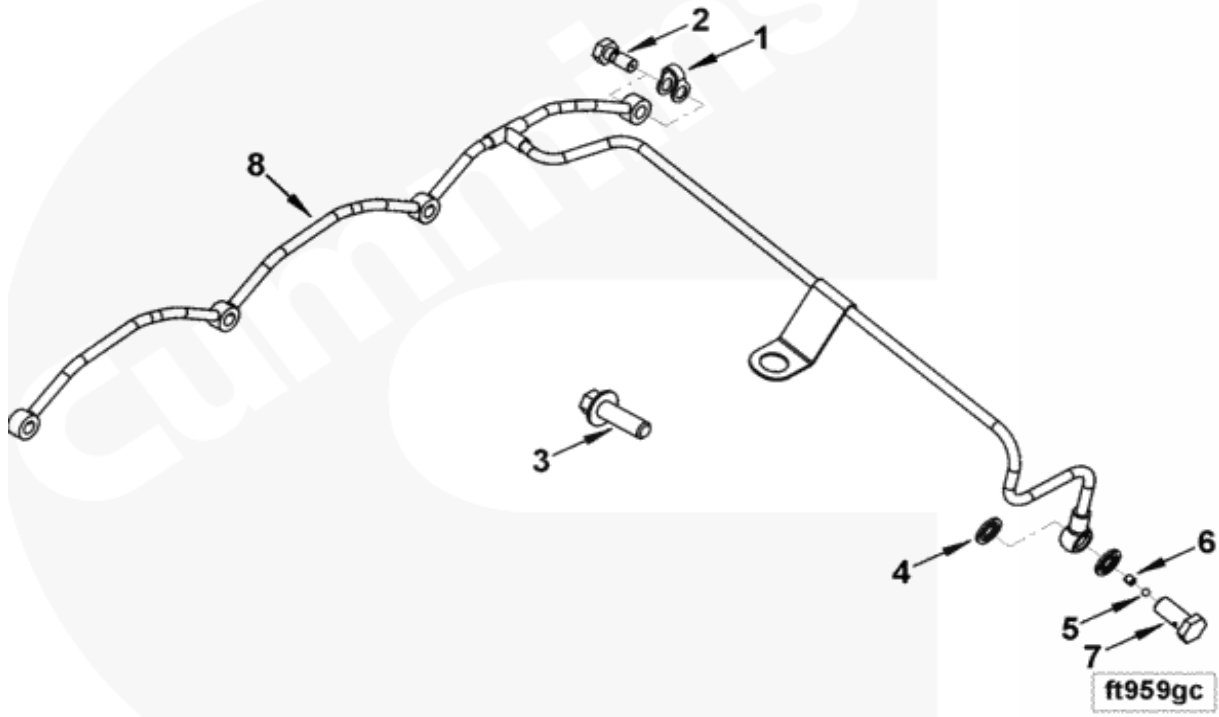
Ref. No.	Part Number	Part Name	Required	Remarks
	FS9757-02	PUMP,FUEL TRANSFER		Mr - fuel transfer pump engine configuration: 4B4.5 pump style: Mechanical, lever Fuel Inlet Port Size: 1/4 NPT Fuel Inlet Port Location: From crank centerline to inlet centerline: 221.7 from engine centerline to inlet centerline: 192.9 from front face of block to inlet centerline: 330.1 Filter Mounting Location: Top Of CYLINDER HEAD fuel filter fuel inlet location: Vertical from crank centerline (mm): 454.7 horizontal from engine centerline (mm): 258.0 horizontal from front face of block (mm): -436.7 Provision for INJECTOR drain to fuel filter inlet: M8.
1	3900631	Screw, Hex Flange Head Cap	2	M8 X 1.25 X 25
2	3916361	Screw, Banjo Connector	1	
3	3970882	Pump, Fuel Transfer	1	
4	3963983	Washer, Sealing	2	
5	3939258	Gasket, Cover Plate	1	
6	3973161	Tube, Fuel Supply	1	

Group No.

FUEL PLUMBING

Option No.
FT9055

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Ref. No.	Part Number	Part Name	Required	Remarks
	FT9055	FUEL PLUMBING		FUEL PLUMBING
1	3903380	Seal, Banjo Connector	4	6.2 mm
2	3905307	Screw, Banjo Connector	4	M6 X 1.00 X 14.3
3	3918109	Screw, Hex Flange Head Cap	1	M8 X 1.25 X 25
4	3918188	Washer, Sealing	2	8.0 mm
	3924726	Valve, Check	1	M8 X 1.25 X 17.5
5	167157	Ball, Check	1	
6	3916895	Pin, Roll	1	
7	3924723	Screw, Banjo Connector	1	M8 X 1.25 X 17.5
8	3966863	Manifold, Fuel	1	

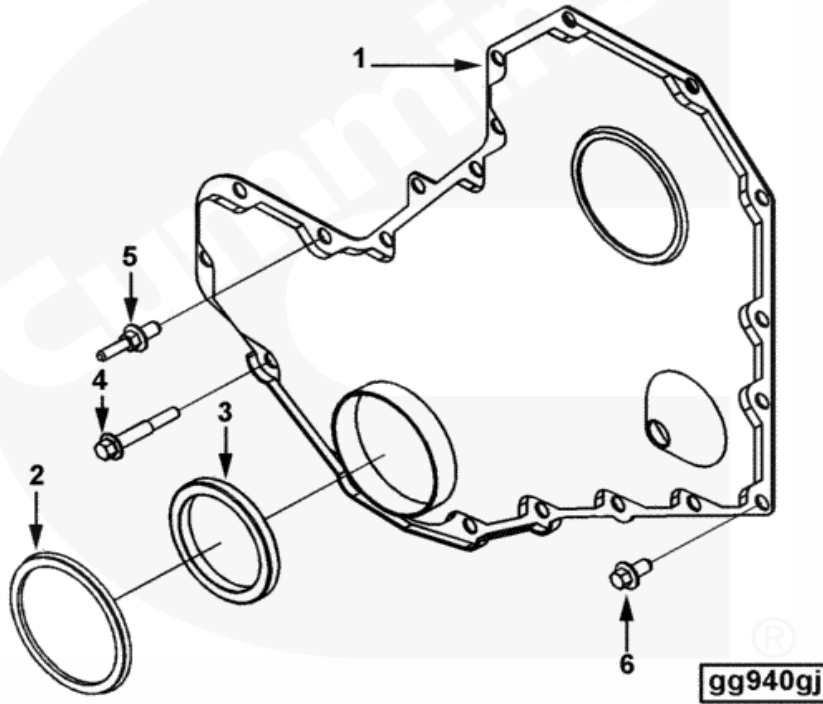
Group No.

COVER,FRONT GEAR

Option No.

GG9785-01

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Ref. No.	Part Number	Part Name	Required	Remarks
	GG9785-01	COVER,FRONT GEAR		COVER,FRONT GEAR Accessory Drive CL From Crank CL (mm): 130.1 Accessory Drive CL From Engine CL (mm): 225.7 FUEL PUMP Model: Bosch VE Delphi DP210 FUEL PUMP CL From Crank CL (mm): 271.7 FUEL PUMP CL From Engine CL (mm): 179.0 Double Wall for Noise Suppression: No Includes Belt Retainer: No Stud #1 location (X,Y): 221.5, 370.5 Stud #2 Location (X,Y): 277, 316 BZL May Use P/N 3969976 Instead 3287075
	3287075	Cover, Gear	1	
1	3286312	Cover, Gear	1	
	3804899	Kit, Front Seal Service		Contains Debris Shield
	3937111	Kit, Front Seal Service	1	
2	3933261	Shield, Dust	1	
3	3935959	Seal, Oil	1	
4	3900633	Screw, Hex Flange Head Cap	9	M8 X 1.25 X 50
5	3921816	Screw, Hex Flange Head Cap	2	M8 X 1.25 X 45
6	3924962	Screw, Hex Flange Head Cap	9	M8 X 1.25 X 16

Group No.

CABIN HEATER PLUMBING

Option No.

HC9035



rp950ge

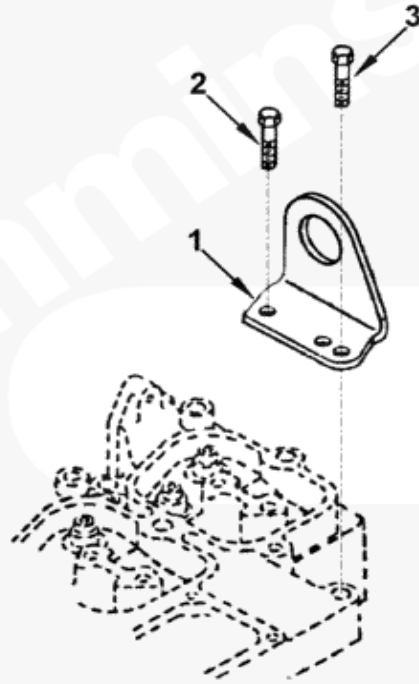
Ref. No.	Part Number	Part Name	Required	Remarks
	HC9035	CABIN HEATER PLUMBING		MR - CABIN HEATER PLUMBING Engine Configuration: 4B No provision for cab heater plumbing.
1	3008468	Plug, Pipe	2	1/2 NPT

Group No.

LIFTING ARRANGEMENT

Option No.
LA9075-02

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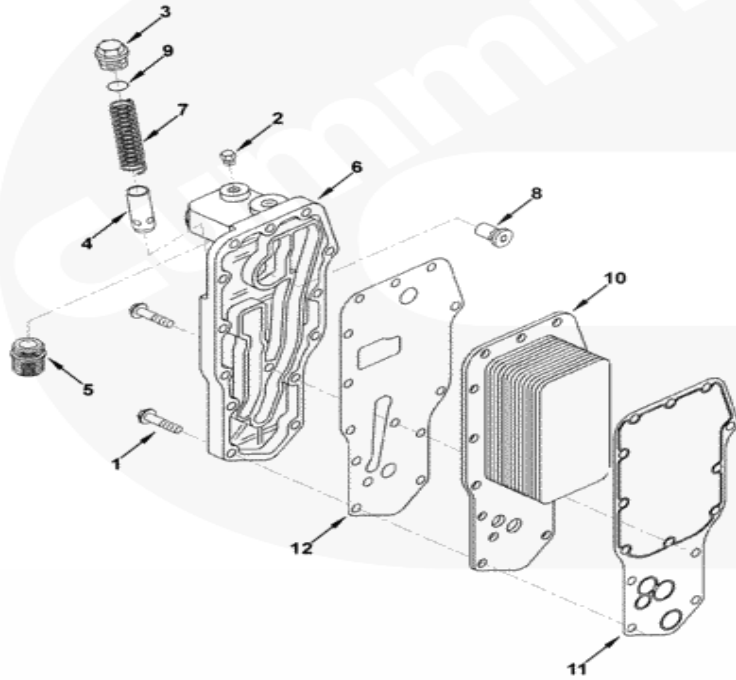
la950gw

Ref. No.	Part Number	Part Name	Required	Remarks
	LA9075-02	LIFTING ARRANGEMENT		MR - Engine Lifting Arrangement Engine Configuration: 4B Lifting Brackets Provided: Front and Rear Front Bracket Location: Exhaust Side of CYLINDER HEAD Centerline CRANKSHAFT to Eye Centerline (mm): 461 Centerline Engine to Eye Centerline (mm): -90 Eye Diameter (mm): 35 Rear Bracket Location: Top of CYLINDER HEAD Centerline CRANKSHAFT to Eye Centerline (mm): 467.4 Centerline Engine to Eye Centerline (mm): 141 Eye Diameter (mm): 40 Front Lifting Bracket Configuration: Angled rear, Bent Inboard 30 Degrees Includes Studded Capscrew: Yes Stud Size: M8 x 21 Stud Location: From Engine Centerline (mm): 179.5 From Crank Centerline (mm): 426 From Front Face of Block (mm): -438
1	3917599	Bracket, Lifting	1	
2	3910495	Screw, Hex Flange Head Cap	1	M12 X 1.75 X 30
3	3944061	Screw, Hex Flange Head Cap	1	M12 x 1.75 x M8 x 1.25

Group No.

ENGINE OIL COOLER

Option No.
LC9732-02



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Ref. No.	Part Number	Part Name	Required	Remarks
	LC9732-02	ENGINE OIL COOLER		MR - ENGINE OIL COOLER Engine Configuration: 4B Lube Filter Mounting Position: Vertical Filter Thread: 1 inch-16 UN Number Of Cooler Plates: 5 Auxilliary Oil Supply Port Size: 1/8 inch NPT Turbocharger Oil Supply Port: M12 x 1.5-6 H Turbocharger Oil Supply Port Position: Inboard
1	3900632	Screw, Hex Flange Head Cap	14	M8 X 1.25 X 35
2	3906619	Plug, Pipe	1	1/8 NPT
3	3915787	Plug, Threaded	1	M22 X 1.50
4	3918428	Plunger, Prs Regulator	1	
	3918954	Head, Lub Oil Filter	1	
5	3909355	Adapter, Filter Head	1	
6	3924338	Head, Lub Oil Filter	1	
7	3918427	Spring, Compression	1	
8	3936365	Valve, Pressure Relief	1	
9	3929457	Seal, O Ring	1	
10	3957543	Core, Cooler	1	
11	4932124	Gasket, Oil Cooler Core	1	
12	3942915	Gasket, Filter Head	1	

Group No.

LUBE OIL

Option No.
LO9701



Ref. No. Part Number Part Name Required Remarks

LO9701 LUBE OIL

Tag Identification: No Oil
Tag Location: Front Lifting
Bracket
BZL Plant May Substitute
P/N 3916103 for P/N 3352918
Instruction Tag

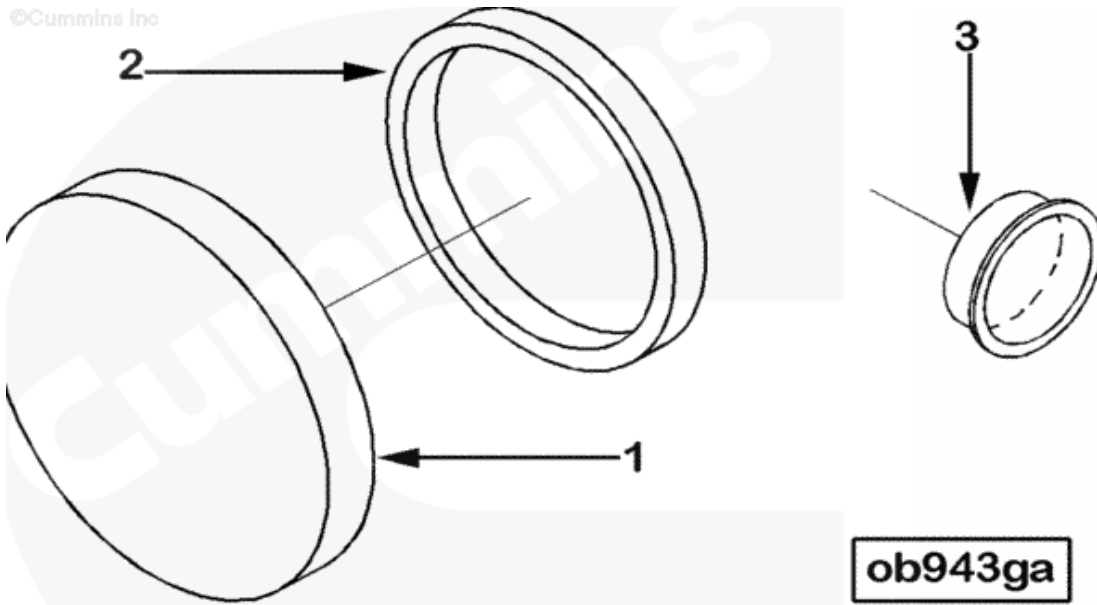
1 3916103 Tag, Instruction 1

Group No.

HAND HOLE COVER

Option No.

OB9719-02



Ref. No.	Part Number	Part Name	Required	Remarks
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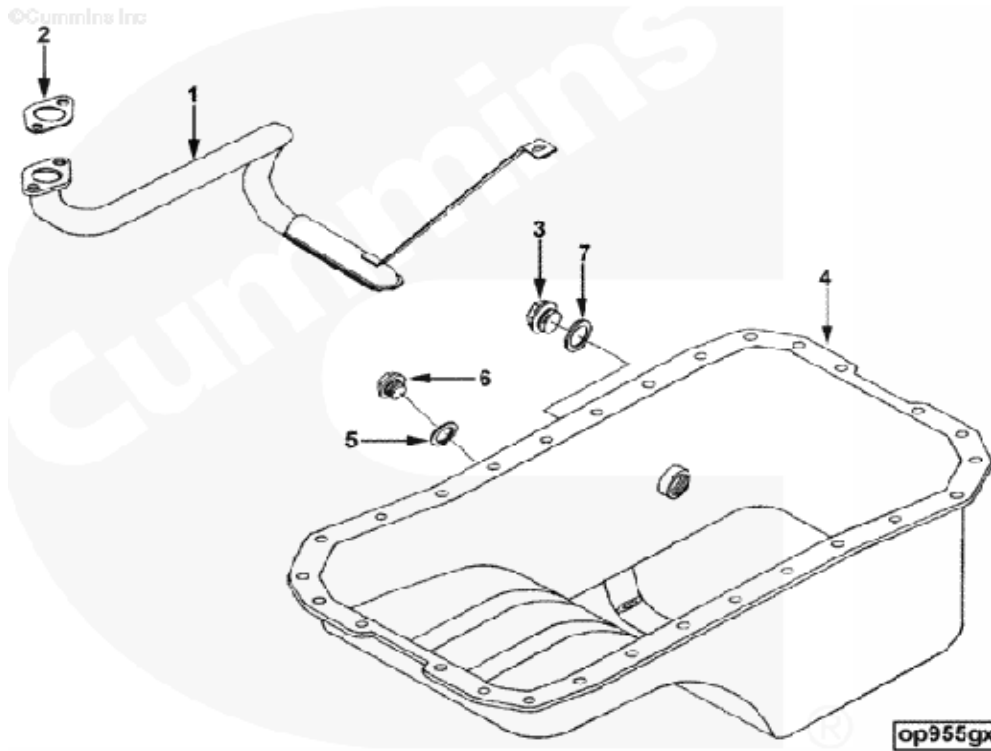
	OB9719-02	HAND HOLE COVER		MR - HAND HOLE COVER Oil Fill Location: Valve Cover or Exhaust Side Oil Fill Supplier: Cummins 4-Bolt Air Compressor Support: No Breather Location: Cam Follower Cover Mechanical Tachometer Drive: No * BZL may use P/N 3968355 in place of 3903463.
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1	3903463	Cover, Access Hole	1	
2	3903475	Seal, Rectangular Ring	1	
3	3900958	Plug, Expansion	1	

Group No.

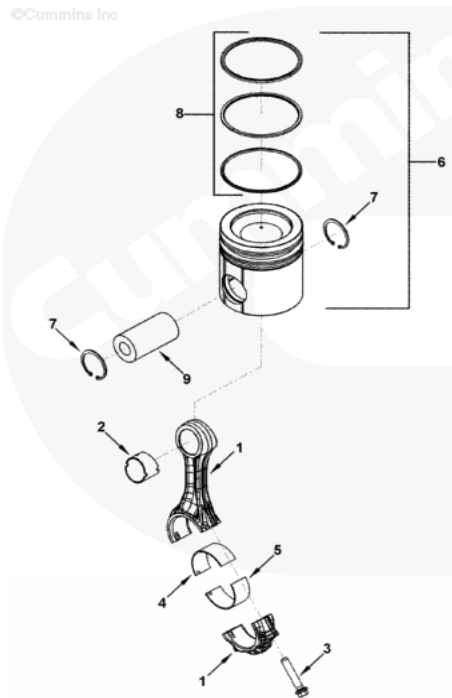
OIL PAN

Option No.
OP9317



Ref. No.	Part Number	Part Name	Required	Remarks
	OP9317	OIL PAN		OIL PAN Engine Configuration: 4B Sump Type: Standard Rear Oil Capacity High/Low-Qt (l): 10/8 (9.5/7.6) Material: Stamped Steel Drain Size/Location: M18/Exhaust Side Oil Heater Boss Size/Location: M22/Exh Side Oil Level Sensor Hole Type/Location: None Front Up Angularity (deg): 45 Front Down Angularity (deg): 45 Side to Side Angularity (deg): 45 Noise Isolated: No Suction Flange Thickness (mm): 5.16 No. of Suction Tube Braces to Block: 1
1	3905206	Connection, Oil Suction	1	
2	3938157	Gasket, Flange	1	
3	3924148	Plug, Threaded	1	m22 x 1.50
4	3901049	Pan, Oil	1	
5	3920773	Washer, Sealing	1	18 mm
6	3924147	Plug, Threaded	1	M18 X 1.50
7	3902425	Washer, Sealing	1	22 mm

Group No.	CONNECTING ROD	Option No. PP8204
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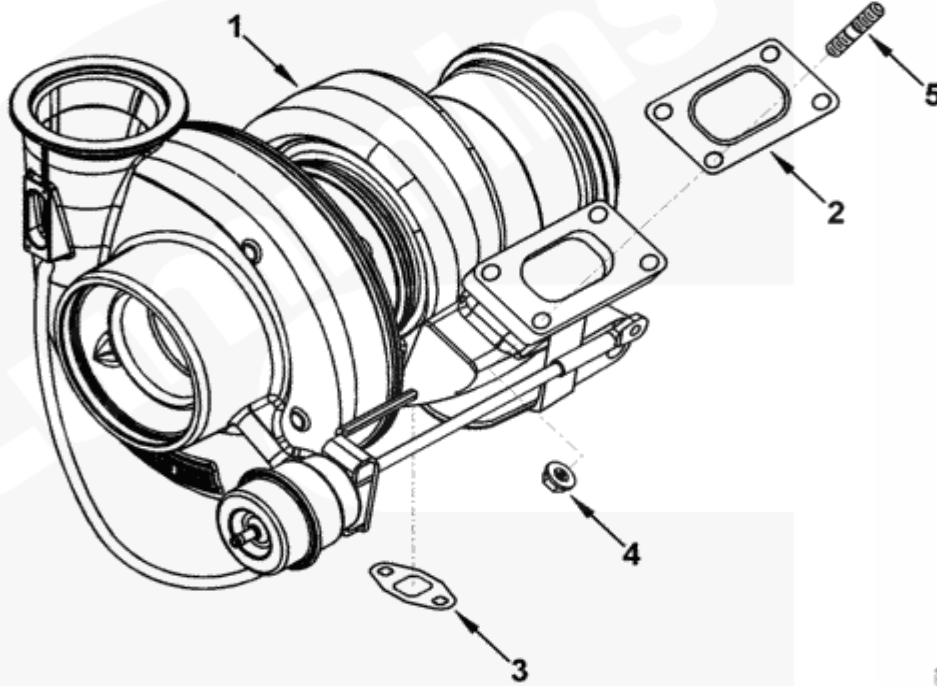
Ref. No.	Part Number	Part Name	Required	Remarks
	PP8204	CONNECTING ROD		MR - Performance Parts Engine Configuration: 4 BT4.5 Reference: CPL Number: 8204 Certified By: EPA, CARB, EU Application: Nonroad Certification Level: Tier 2, Tier 2, Stage 2 Aspiration: Turbocharged FUEL PUMP Manufacturer/Model: Delphi DP210
	3939407	Rod, Engine Connecting	4	
1	3939406	Rod, Engine Connecting	1	
2	3939409	Screw, CONNECTING ROD Cap	2	
3	3939371	Bushing	1	
4	3939390	Bearing, CONNECTING ROD	2	Upper
5	3939380	Bearing, CONNECTING ROD	2	Lower
6	4089462	Kit, Engine Piston	4	
	3939398	Piston, Engine	1	
7	3939375	Ring, Retaining	2	
8	4089460	Set, Piston Ring	1	
9	3939374	Pin, Piston	4	
6	4089620	Kit, Engine Piston	4	0.5 mm Oversize
	3965259	Piston, Engine	1	
7	3920691	Ring, Retaining	2	
8	4089614	Set, Piston Ring	1	0.50 mm Oversize
6	4089621	Kit, Engine Piston	4	1.0 mm Oversize
	3965260	Piston, Engine	1	
7	3920691	Ring, Retaining	2	
8	4089615	Set, Piston Ring	1	1.00 mm Oversize
4	3939391	Bearing, CONNECTING ROD	A/R	0.25 mm Oversize
4	3939392	Bearing, CONNECTING ROD	A/R	0.50 mm Oversize
4	3939393	Bearing, CONNECTING ROD	A/R	0.75 mm Oversize
4	3939394	Bearing, CONNECTING ROD	A/R	1.00 mm Oversize
5	3939381	Bearing, CONNECTING ROD	A/R	0.25 mm Oversize
5	3939382	Bearing, CONNECTING ROD	A/R	0.50 mm Oversize

Group No.

TURBOCHARGER

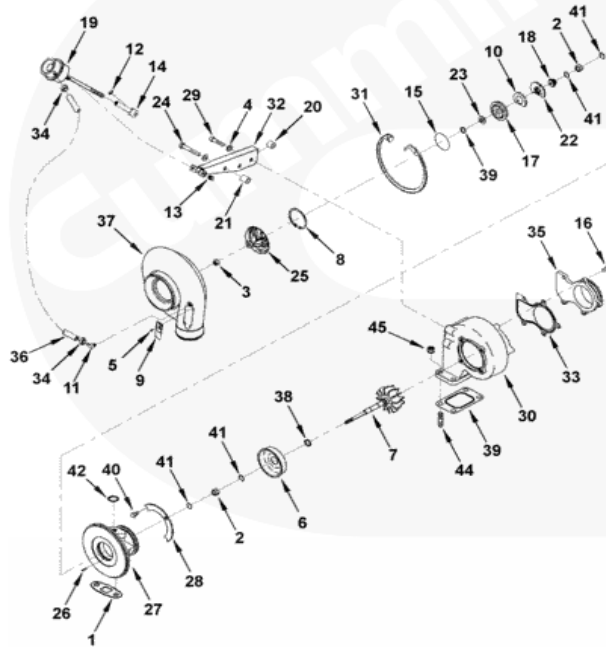
Option No.
PP98267-04

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Ref. No.	Part Number	Part Name	Required	Remarks
	PP98267-04	TURBOCHARGER		Mr - turbocharger engine configuration: 4B Turbocharger Location: HMRO ID17 turbocharger: 4035052 Turbocharger Type: Wastegate wastegate pressure setting (BAR): 0.85 Turbocharger Model: HX30 W- A7229 A/a12 GY33 Compressor Outlet Configuration: Hose Bead Compressor Outlet Angle On Engine (deg): 0 Turbocharger Attitude Settings: Compressor angle (deg): 340 turbine angle (deg): 20 Exhaust Outlet Configuration: Half Marmon.
	4089467	Kit, Turbocharger	1	
1	4035052	Turbocharger	1	Serviced as 4089467
2	3919369	Gasket, Turbocharger	1	
3	3937706	Gasket, Oil Drain	1	Holset P/N 3519807
4	3818824	Nut, Hexagon Flange	4	M10 X 1.50
5	3818823	Stud	4	M10 X 1.50 X 42

Group No.	TURBOCHARGER	Option No. PP98267-04
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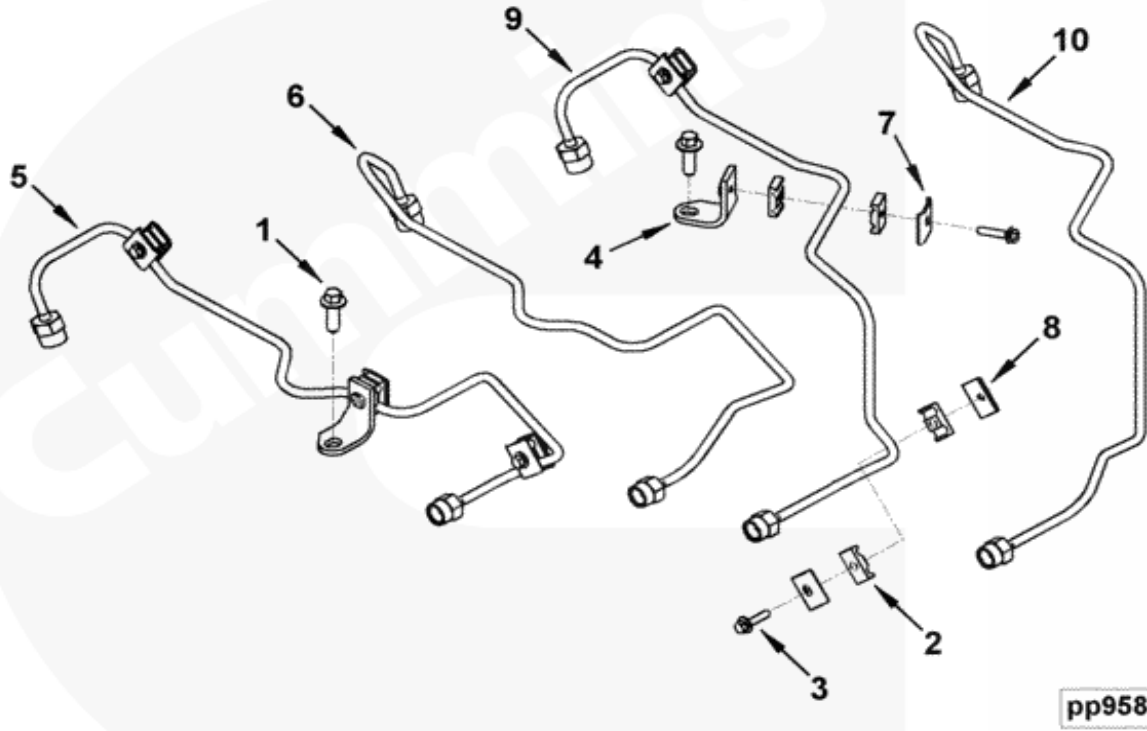
Ref. No.	Part Number	Part Name	Required	Remarks
	PP98267-04	TURBOCHARGER		Mr - turbocharger
	4089467	Kit, Turbocharger	1	
39	3919369	Gasket, Turbocharger	1	
1	3937706	Gasket, Oil Drain	1	Holset P/N 3519807
	4035052	Turbocharger	1	Serviced as 4089467
2	3503100	Bearing, Turbocharger	2	
3	3596402	Nut, Lock	1	
4	3504967	Washer, Plain	3	
5	3519163	Screw, Drive	2	
6	3519304	Shield, Turbocharger Heat	1	
7	3539805	Shaft & Wheel	1	
8	3527566	Ring, Retaining	1	
9	3762259	Ring, Retaining	4	
10	3528104	Baffle, Oil	1	
11	3594700	Coupling, Elbow Hose	1	
12	3528221	Ring, Retaining	1	
13	3528204	Nut, Lock	2	1/4 - 28 UNF
14	3528177	End, Adjusting Link	1	
15	3528933	Seal, O Ring	1	
16	3530556	Screw, Hexagon Head Set	5	M8 X 1.25 X 20
17	3530923	Plate, Oil Seal	1	
18	3530924	Slinger, Oil	1	
19	3534534	Actuator, Turbocharger	1	
20	3532195	Spacer, Mounting	3	
21	3532196	Spacer, Mounting	1	
22	3531419	Bearing, Tur Thrust	1	
23	3534451	Collar, Thrust	1	
24	3539209	Screw, Hexagon Head Set	1	
25	3599673	Impeller, Tur Compressor	1	
26	3522597	Pin, Roll	2	
27	3592214	Housing, Tur Bearing	1	
28	3758848	Seal, Split Ring	1	
29	3534291	Screw, Hexagon Head Set	2	
30	3539250	Housing, Turbine	1	
31	3535800	Ring, Retaining	1	
32	3533328	Bracket, Actuator	1	
33	3535001	Gasket, Adapter	1	
34	3535215	Clamp, Hose	1	
35	3527759	Connection, Adapter	1	

Group No.

INJECTOR PLUMBING

Option No.
PP98464-01

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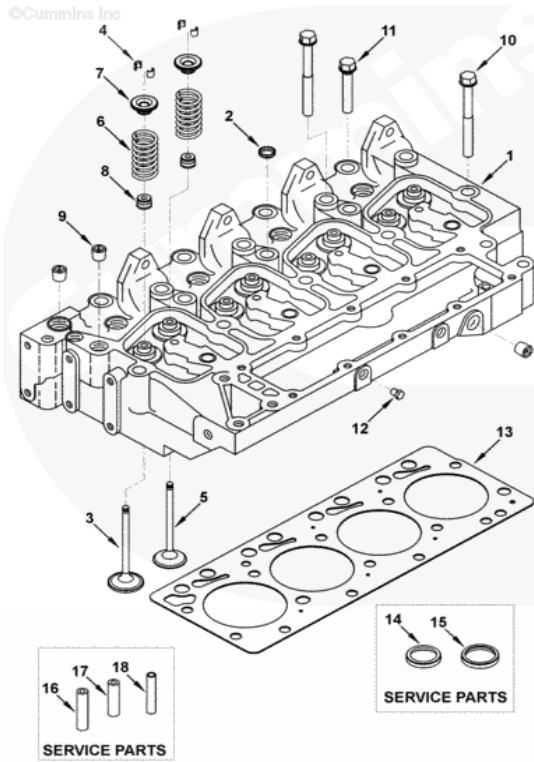


Ref. No.	Part Number	Part Name	Required	Remarks
	PP98464-01	INJECTOR PLUMBING		INJECTOR PLUMBING Engine Configuration: "4B" Line Length (mm): 750 Inside Diameter (mm): 1.8
				Pressure Limit (<BAR): 1000 INJECTOR Tube Nut Size (mm): 14 Delivery Valve Tube Nut Size (mm): 12 Location #1 Delivery Valve End (X, Y, Z): 172, 306, -213 Tube Brace Mounting Locations (X, Y, Z): 190.0, 431.7, -92.0 115.0, 431.7, -332.0 RPM Limitation (<RPM): None M8 X 1.25 X 25
1	3918109	Screw, Hex Flange Head Cap	2	
2	3917746	Isolator, Vibration	12	
3	3920854	Screw, Captive Washer Cap	6	M5 X 0.80 X 20
4	3975557	Brace, Tube	2	
5	3968451	Tube, INJECTOR Fuel Supply	1	#1 Cylinder
6	3968453	Tube, INJECTOR Fuel Supply	1	#2 Cylinder
7	3991276	Brace, Tube	6	
8	3991277	Brace, Tube	4	
9	3968456	Tube, INJECTOR Fuel Supply	1	#3 Cylinder
10	3968458	Tube, INJECTOR Fuel Supply	1	#4 Cylinder

Group No.

CYLINDER HEAD

Option No.
PP98468-02

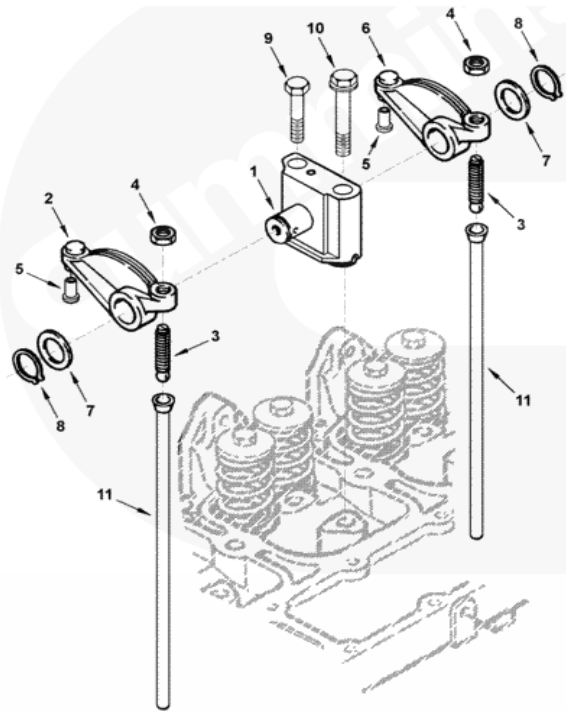


Ref. No.	Part Number	Part Name	Required	Remarks
	PP98468-02	CYLINDER HEAD		MR - CYLINDER HEAD Engine Configuration: 4B Coolant Temp Sensor For Fuel System: Yes
				AIR FUEL CONTROL PLUMBING: Yes Swirl Ratio: 39235
	3968196	CYLINDER HEAD	1	
	3965771	Head, Cylinder	1	
1	3965770	Head, Cylinder	1	
2	3922073	Plug, Expansion	3	
	3802355	Valve, Intake	4	
3	3920867	Valve, Intake	1	Serviced as 3802355
4	3900250	Collet, Valve	2	
	3802356	Valve, Exhaust	4	
4	3900250	Collet, Valve	2	
5	3920868	Valve, Exhaust	1	Serviced as 3802356
6	3932453	Spring, Valve	8	
7	3957913	Retainer, Valve Spring	8	
8	3957912	Seal, Valve Stem	8	
9	3008468	Plug, Pipe	4	1/2 NPT
10	3920779	Screw, Hex Flange Head Cap	4	M12 X 1.75 X 70
11	3920780	Screw, Hex Flange Head Cap	10	M12 X 1.75 X 120
12	3906619	Plug, Pipe	1	1/8 NPT
13	3283333	Gasket, CYLINDER HEAD	1	
\$SERVICE PARTS				
14	3925176	Insert, Valve	A/R	Exhaust
15	3925177	Insert, Valve	A/R	Intake
16	3904408	Guide, Valve Stem	A/R	Thick Wall 60.50mm Long Intake
17	3904409	Guide, Valve Stem	A/R	Thick Wall 51.75mm Long Exhaust
18	3906206	Guide, Valve Stem	A/R	Thin Wall Can be Used on Both Intake and Exhaust

Group No.

ROCKER LEVER

Option No.
RL9740-01



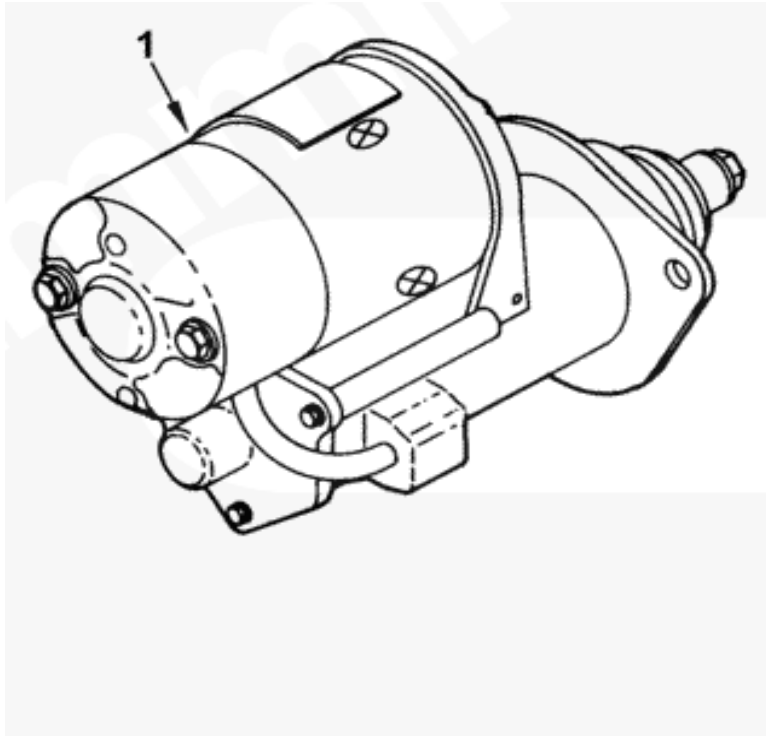
rh950ga

Ref. No.	Part Number	Part Name	Required	Remarks
	RL9740-01	ROCKER LEVER		ROCKER LEVER Engine Family: B Number Of Cylinders: 4 Design Phase: 2 Valve Head
1	3922488	Shaft, ROCKER LEVER	1	
	3911423	Support, ROCKER LEVER	1	
	3922487	Shaft, ROCKER LEVER	1	
2	3910811	Lever, Rocker	4	
	3910809	Lever, Rocker	1	
3	3937438	Screw, Rkr Lever Adjusting	1	
4	3927692	Nut, Heavy Hexagon	1	
5	3900705	Insert, ROCKER LEVER	1	
6	3910810	Lever, Rocker	4	
	3910808	Lever, Rocker	1	
3	3937438	Screw, Rkr Lever Adjusting	1	
4	3927692	Nut, Heavy Hexagon	1	
5	3900705	Insert, ROCKER LEVER	1	
7	3900245	Washer, Plain	8	M19.
8	3900242	Ring, Retaining	8	
9	3901221	Screw, Hexagon Head Cap	4	M8 X 1.25 X 75.
10	3920781	Screw, Hex Flange Head Cap	4	
11	3284377	Rod, Push	8	

Group No.

STARTING MOTOR

Option No.
ST9323



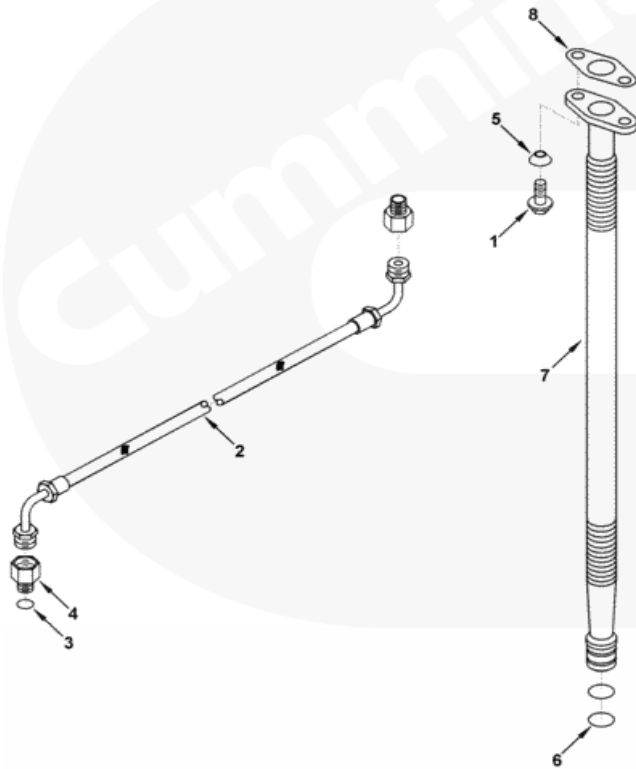
st950gc

Ref. No.	Part Number	Part Name	Required	Remarks
	ST9323	STARTING MOTOR		MR - STARTING MOTOR Pinion Diametral Pitch: 39426
				Pinion Gear Outside Diameter (mm): 39.8 Pinion Gear Offset (mm): 39297
				Pinion Drive Type: Offset Mounting Flange Type: SAE #1 2 Bolt 180 Frame Size Diameter: 90mm Pilot Diameter: 88.9mm Starter Motor Length: 221.5mm Starter Motor Engine Mounted Angle (deg): 56 (+/- 15) Sealing Provision: Sealed Supply Method: Mounted Removal Length: 74.5 Manufacturer: Denso Model: R2.7 Voltage: 12 Kilowatt Rating: 3.2 Nameplate Brand: Cummins Unique Characteristics: Jump Start Protection
1	3964432	Motor, Starting	1	

Group No.

TURBOCHARGER OIL PLUMBING

Option No.
TP97168-01

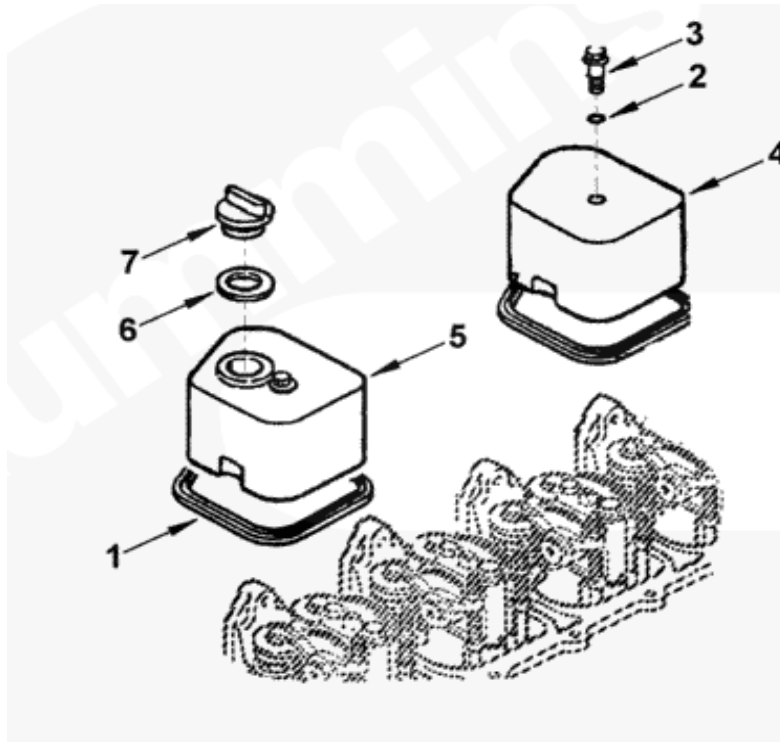


Ref. No.	Part Number	Part Name	Required	Remarks
	TP97168-01	TURBOCHARGER OIL PLUMBING		MR - Turbocharger Oil Plumbing Engine Configuration: 4B Turbocharger Exhaust Location: HMRO Oil Filter Mounting Position: Vertical Provision For Dipstick In Turbocharger Oil Drain: No Check Valve in Turbo Oil Supply: No
1	3900630	Screw, Hex Flange Head Cap	2	M8 X 1.25 X 20
2	3913759	Hose, Flexible	1	
	3919687	Connector, Female	2	
3	3037236	Seal, O Ring	1	
4	3284244	Connector, Female	1	
5	3924389	Washer, Sealing	2	7.2 mm
	3934084	Connection, Tur Oil Drain	1	
6	3928624	Seal, O Ring	2	
7	3934091	Connection, Tur Oil Drain	1	
8	3937706	Gasket, Oil Drain	1	Holset P/N 3519807

Group No.

COVER, VALVE

Option No.
VC9763-01



vc900gh

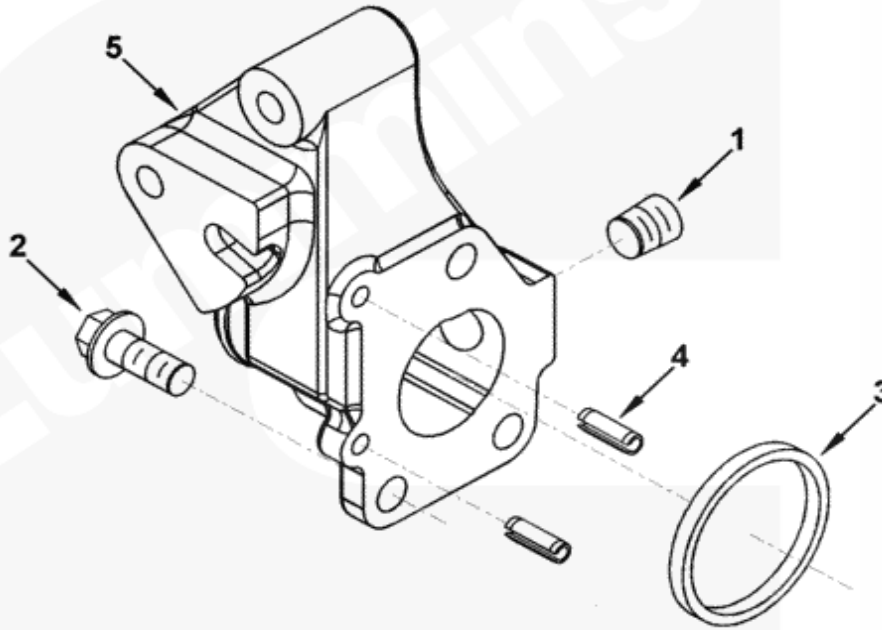
Ref. No.	Part Number	Part Name	Required	Remarks
	VC9763-01	COVER, VALVE		Mr - valve cover engine configuration: 4B Oil Fill Location: #1 Valve Cover Oil Fill Type: Filler Cap studded capscrew location: None crankcase breather provision: None isolator material: Neoprene Brazil may use pn 3967202 instead of pn 3935449 DEP may substitute part number 3914136 in place of 3901895 (cap, filler).
1	3930906	Gasket, Valve Cover	4	
2	3935449	Isolator, Noise	4	
3	3907049	Screw, Hex Flange Head Cap	4	M8 X 1.25 X 21
4	3928404	Cover, Valve	3	
5	3928405	Cover, Valve	1	
6	3936876	Seal, Rectangular Ring	1	
7	3914136	Cap, Filler	1	

Group No.

WATER INLET CONNECTION

Option No.
WI9178

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wi952gy

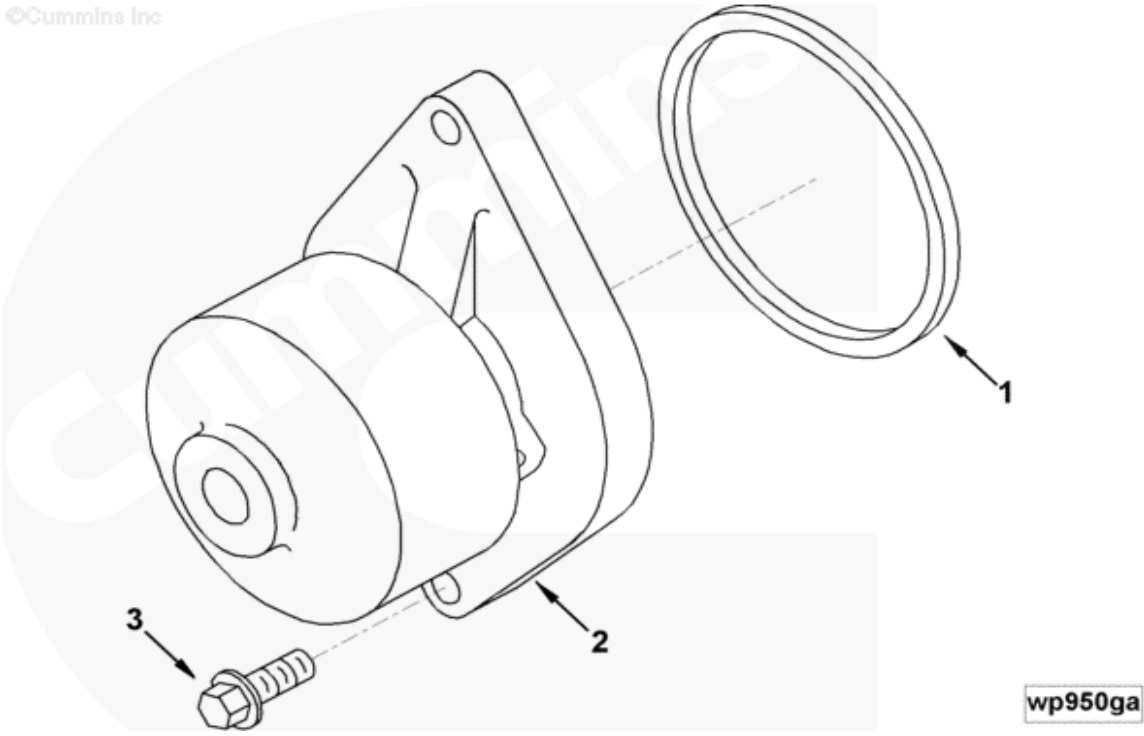
Ref. No.	Part Number	Part Name	Required	Remarks
	WI9178	WATER INLET CONNECTION		MR - WATER INLET CONNECTION Engine Family: "B" Series Connection Outside Diameter (mm): 50.8 Connection Type: Beaded Connection Location: Horizontal Out From Engine Centerline (mm): -242.0 From Crank Centerline (mm): 120.0 From Front Face of Block (mm): -32 Mounting for Belt Tensioner: Yes Provision For Alternator Brace: Yes Tensioner Pivot Location (mm): 1: X = -227.0, Y = 195.0 ER Plumbing Port Location (mm): None
1	3008468	Plug, Pipe	1	1/2 NPT
2	3902460	Screw, Hex Flange Head Cap	3	M10 X 1.50 X 25
3	3906697	Seal, Rectangular Ring	1	
	3943990	Connection, Water Inlet	1	
4	131584	Pin, Roll	2	
5	3943991	Connection, Water Inlet	1	

Group No.

WATER PUMP

Option No.
WP9927-01

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Ref. No.	Part Number	Part Name	Required	Remarks
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	WP9927-01	WATER PUMP		
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				WATER PUMP Pulley Type: Standard KCEC may use P/N 3283602 in place of P/N 3285410. Recon Equivalent 3286275 RX
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1	3286275	Kit, WATER PUMP	1	
2	3906698	Seal, Rectangular Ring	1	
3	3285410	Pump, Water	1	Serviced as 3286275
	3941981	Screw, Hex Flange Head Cap	2	

