V"OLV"OPENTA. .

Volvo Penta of the Americas
1300 Volvo Penta Drive
Chesapeake, Virginia 23320-9810

Parts Bulletin

Group	Number	Version
P-21-0	15	03

Longblock guidelines, 4.3L

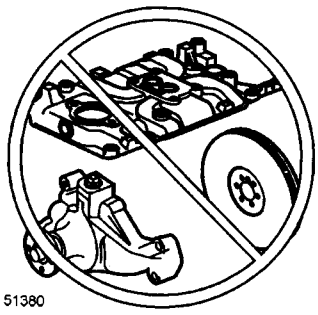
Models: 4.3Gi, GS, GL, see list

Distribution: Parts Date: JUly.2009 Binder: Parts Replaces: P-21-0-15v02

NOTICE! Please read and understand Parts Bulletin P-21-0-1 before ordering any parts or longblocks. Bulletin P-21-0-1 contains important information that applies to all gas engine long block service.

4.3L Models covered by this bulletin;

3868943	4.3GiPWTC
3868942	4.3GSPWTC
3868941	4.3GSPWTC
does not cover	PWTR
3868762	4.3GSJBYA
3868758	4.3GiPBYCCE
3868757	4.3GSPBYC
3868756	4.3GLPBYC
3868702	4.3GSPLKE
3868629	4.3GiPLKECE
3868628	4.3GLPLKE
3868620	4.3GiPLKDCE
3868619	4.3GSPLKD
3868618	4.3GLPLKD
3868605	4.3GSJLKD
3868566	4.3GLPNCB
3868487	4.3GSJNCC
3868485	4.3GiPNCBCE
3868484	4.3GSPNCB
3868479	4.3GiPNCSCE
3868478	4.3GSPNCS
3868477	4.3GLPNCS
3868453	4.3GSJNCS


51380

The current long block for these engines is **21165946.** The previous long block, 3862055 is no longer available from the supplier and is now replaced by new longblock 21165946.

The following parts **are not included** with 21165946;
Circulation pump
Intake manifold
Flywheel

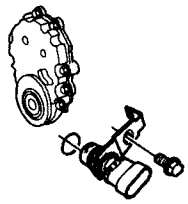
The flywheel from the original engine will not mount to the long block. For flywheel order;
1 ea. 3858694 flywheel

For 290DP applications, also order;
6 ea. 3856130 screw, flywheel

A new circulation pump should be installed. For pump order;
1 ea. 3853850 pump, circulation
2 ea. 3852477 gaskets, pump

The circualtion pump bolts from the original engine can be re-used to mount the pump.

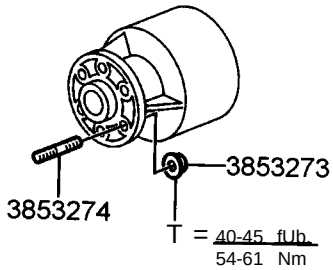
Additional model specific parts that are needed are listed later in this bulletin.



The Crankshaft Sensor is **not** included with the new long block. Move the sensor from the original engine to the long block.

NOTICE! Install sensor with o-ring. If original o-ring is worn or damaged, replace. See catalog for o-ring PIN.

On **GL/GS models** the sensor is installed in the timing cover but is not electrically functional. The sensor is not connected to the engine harness. The sensor is needed to seal the timing cover and crankcase.



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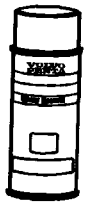
The following parts come with 21165946;

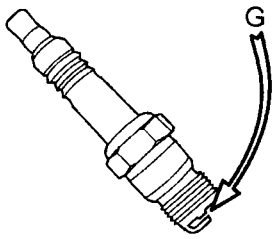
Part no.	name	#	use
3853273	locknut	6	coupler studs
3853274	stud	6	coupler, *SX/DP-SI* XDP
3857937	stud	2	ground



23603

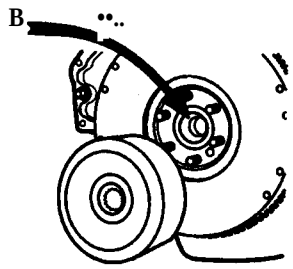
21165946 is painted red.
All from list were painted dark charcoal. For dark charcoal paint order;

3851221, 0.4L spray can



23625

21165946 comes with high quality spark plugs designed for late model ignitions. The plugs are gapped (G) at 0.060" (1.52mm). These plugs will work correctly in these engines, however the plugs will have to be re-gapped to match the ignition on the original engine.
All from list, plug gap is;
0.045" (1.14mm).



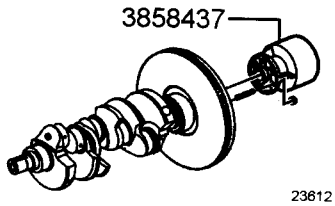
23611

The following applies to all engines in list:

There are several parts issues that must be considered;

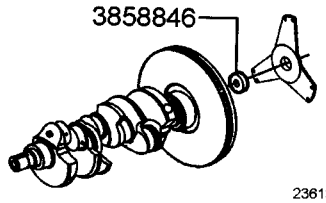
1. The bore (B) in the longblock's crankshaft where the drive coupler or pilot bushing sits is larger than on the original engine.

NOTICE! The coupler or bushing from the original engine will not mount correctly on the long block. Part or long block failure will occur if these parts are re-used on the longblock.



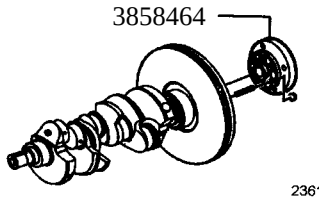
23612

For engines with SX, DP-S drives, order new coupler 3858437.
Studs and locknuts come with long block.



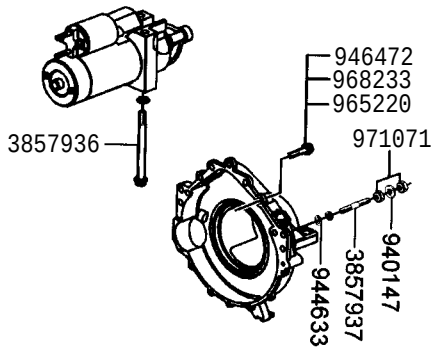
23613

For engines with DP-D (290) drive, new pilot bushing 3858846 is included in kit 3858443, see details below.
Re-use damper and hardware.



23614

For engines with PJX drives, order new coupler 3858464.
Studs and locknuts come with longblock.



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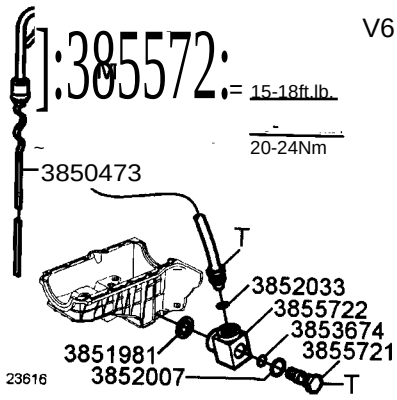
2. 21165946 has **metric** threads at the attaching points for the starter, flywheel housing, and motor mount brackets.

Order kit 3858443, which contains the following parts (A, B & C);

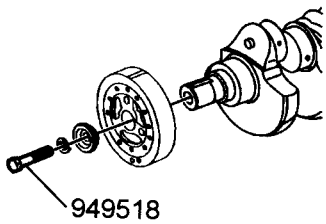
A. Metric hardware for motor mount brackets, starter and SXjDP-S flywheel housing, see picture.



B. Complete oil tube assembly, see picture.

Mounting tab (M) on oil tube assembly attaches to front of port cylinder head, outer hole. Most engines, tab mounts behind steering pump bracket.

NOTICE! do not bend tube to install, bending could alter oil level on dipstick and give incorrect oil fill reading.



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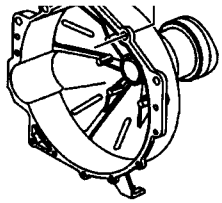
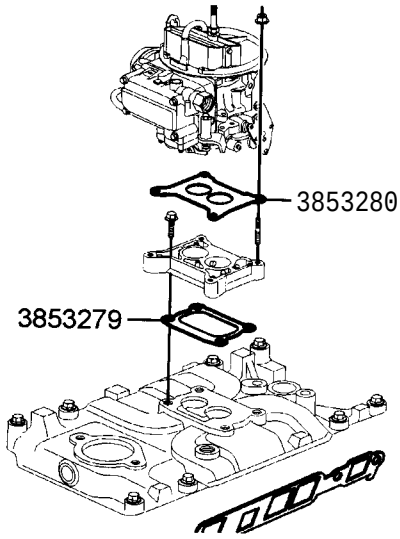
C. Bolt to secure damper and spacer to crankshaft. Use only with crank mounted sea water pumps



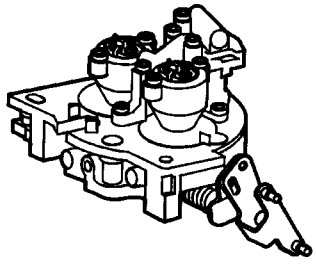
51382

Not included in kit 3858443.



For **4.3GL** engines, also order the following gaskets, seals;

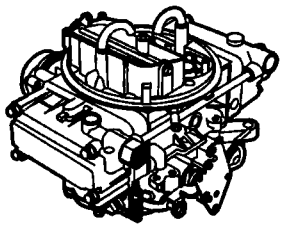
1 ea.	3852109	gasket, distributor
1 ea.	3852111	gasket, thermo housing
1 ea.	3852479	o-ring, pwr. strg. line
1 ea.	3853279	gasket, carb adapter
1 ea.	3853280	gasket, carb to adapter
2 ea.	3853412	gasket, exhaust manf.
1 ea.	3855807	gasket, intake set



23604

For **4.3Gi** engines, also order the following gaskets and seals;

1 ea.	3850423	o-ring, fuel pump
1 ea.	3850424	o-ring, fuel pump
1 ea.	3852109	gasket, distributor
1 ea.	3852111	gasket, thermo housing
2 ea.	3853412	gasket, exh. manifold
1 ea.	3853674	o-ring, oil fitting ret.
1 ea.	3855807	gasket, intake set
1 ea.	3852479	o-ring, pwr. strg. line
1 ea.	3850405	gasket, **TBI** adapter
1 ea.	3850355	gasket, **TBI** to adapter

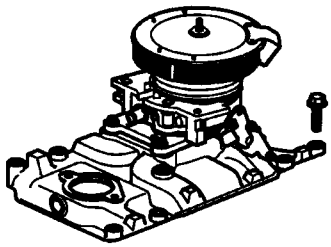


23608

For **4.3GS** engines, also order the following gaskets and seals;

1 ea.	3852109	gasket, distributor
1 ea.	3852111	gasket, thermo housing
2 ea.	3853412	gasket, exh. manifold
1 ea.	3853674	o-ring, oil fitting ret.
1 ea.	3855807	gasket, intake set
1 ea.	3852479	o-ring, pwr. strg. line
1 ea.	3852437	gasket, carb adapter
1 ea.	3853497	gasket, carb to adapter

3. 21165946 has no intake manifold. The intake from the original engine must be moved to the long block.



23605

Remove intake and fuel system from original engine. If possible remove as an assembly.

Gi - Disconnect fuel lines at fuel pump end, not TBI end.

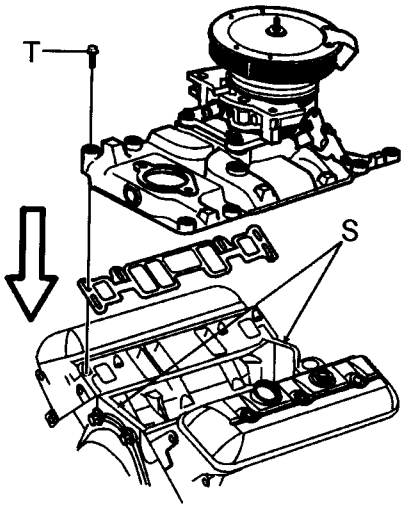
Discard intake gaskets.

Save intake/fuel assembly, intake screws.

Inspect all saved parts for condition, replace as needed.

Clean all saved parts with brush and cleaning solvent.

Do not immerse intake/fuel assembly in cleaning solvent.



23606

Install gasket, sealer and intake assembly on long block.

NOTICE! Engine failure may occur if intake is not installed correctly on long block.

Check Workshop Manual 7743365 covering 4.3L Engine Mechanical for the procedure for the sealer (S) and torquing the bolts (T) on the intake.

Both procedures are critical and must be followed.

Continue with longblock installation.