

350HO Deluxe Engine (12496968) Specifications

Specifications Part Number 12487544

This 350HO Deluxe Crate Engine documentation should be used in conjunction with the 350HO long block instruction sheet, GM part number 19172475. The documentation included within this information packet builds on the 350HO long block information. Please locate the 350HO long block information and begin there. This is the second section of the instruction for the 350HO deluxe engine assembly.

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This publication provides general information on components and procedures which may be useful when installing or servicing a 350HO Deluxe Engine. Please read this entire publication before starting work. Also, please verify that all of the components listed in the Package Contents section below were shipped in the kit.

The information below is divided into the following sections: package contents, component information, 350HO Deluxe Engine specifications, additional parts that you may need to purchase, torque specifications, and a service parts list.

The 350HO Deluxe Engine incorporates modern technology in a package that can be installed in applications where 265-400ci small block Chevrolet V-8's were originally used. This complete engine is assembled using brand new, premium quality components. Due to the wide variety of vehicles in which a 350HO Deluxe Engine can be installed, some procedures and recommendations may not apply to specific applications.

The 350HO Deluxe Engine is manufactured on current production tooling; consequently you may encounter dissimilarities between the 350HO Deluxe Engine assembly and previous versions of the small block V-8. In general, items such as motor mounts, accessory drives, exhaust manifolds, etc. can be transferred to a 350HO Deluxe when it is installed in a vehicle originally equipped with a small block V-8 engine. However, as noted in the following sections, there may be minor differences between a 350HO Deluxe Engine and an older small block V-8 engine. These differences may require modifications or additional components not included with the 350HO Deluxe Engine. When installing a 350HO Deluxe Engine in a vehicle not originally equipped with a small block V-8, it may be necessary to adapt or fabricate various components for the cooling, fuel, electrical, and exhaust systems.

It is not the intent of these specifications to replace the comprehensive and detailed service practices explained in the GM service manuals.

For information about warranty coverage, please contact your local GM Performance Parts dealer.

Observe all safety precautions and warnings in the service manuals when installing a 350HO Deluxe Engine in any vehicle. Wear eye protection and appropriate protective clothing. When working under or around the vehicle support it securely with jackstands. Use only the proper tools. Exercise extreme caution when working with flammable, corrosive, and hazardous liquids and materials. Some procedures require special equipment and skills. If you do not have the appropriate training, expertise, and tools to perform any part of this conversion safely, this work should be done by a professional.

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ALL INFORMATION WITHIN ABOVE BORDER TO BE PRINTED EXACTLY AS SHOWN ON 8 1/2 x 11 WHITE 16 POUND BOND PAPER. PRINT ON BOTH SIDES, EXCLUDING TEMPLATES. TO BE UNITIZED IN ACCORDANCE WITH GMSPO SPECIFICATIONS.	DATE	REVISION	AUTH
	21MY07	Initial Release - Rusty Sampsel	
	16JL08	Revised - Rusty Sampsel	

The information contained in this publication is presented without any warranty. All the risk for its use is entirely assumed by the user. Specific component design, mechanical procedures, and the qualifications of individual readers are beyond the control of the publisher, and therefore the publisher disclaims all liability incurred in connection with the use of the information provided in this publication.

Legal and Emissions Information

This publication is intended to provide information about the 350HO Deluxe Engine and related components. This manual also describes procedures and modifications that may be useful during the installation of a 350HO Deluxe Engine. It is not intended to replace the comprehensive service manuals and parts catalogs which cover General Motors engines and components. Rather, it is designed to provide supplemental information in areas of interest to "do-it-yourself" enthusiasts and mechanics.

This publication pertains to engines and vehicles which are used off the public highways except where specifically noted otherwise. Federal law restricts the removal of any part of a federally required emission control system on motor vehicles. Further, many states have enacted laws which prohibit tampering with or modifying any required emission or noise control system. Vehicles which are not operated on public highways are generally exempt from most regulations, as are some special interest and pre-emission vehicles. The reader is strongly urged to check all applicable local and state laws.

Many of the parts described or listed in this manual are merchandised for off-highway application only, and are tagged with the "Special Parts Notice" reproduced here:

Special Parts Notice

This part has been specifically designed for Off-Highway application only. Since the installation of this part may either impair your vehicle's emission control performance or be uncertified under current Motor Vehicle Safety Standards, it should not be installed in a vehicle used on any street or highway. Additionally, any such application could adversely affect the warranty coverage of such an on-street or highway vehicle.

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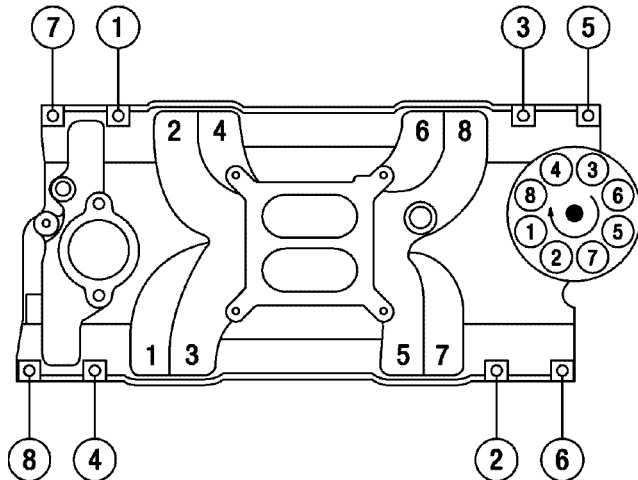
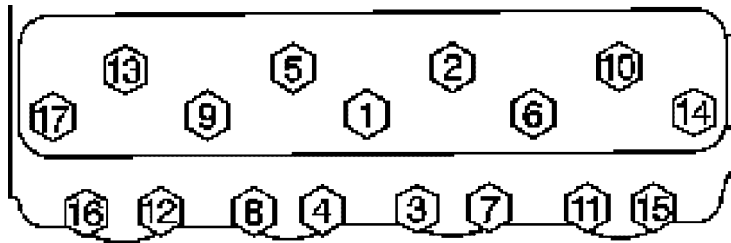
Package contents:

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>GM Part Number</u>
1	Engine Assembly	1	12496968
2	Long Block Instructions	1	19172475
3	Deluxe Instructions	1	12487544

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350HO Deluxe Engine Torque Specifications:

Camshaft retainer bolt/screw	106 in.-lbs. / 12 N·m
Camshaft sprocket bolt/screw	18 ft.-lbs. / 25 N·m
Connecting rod nut006" bolt stretch preferred 20 ft.-lbs. + additional 55°
.....	(45 ft.-lbs. if no angle gauge is available)/ 27 N·m +
.....	additional 55° (61 N·m if no angle gauge is available)
Crankshaft balancer bolt/screw	63 ft.-lbs. / 85 N·m
Crankshaft balancer pulley	35 ft.-lbs. / 47 N·m
Crankshaft bearing cap bolt/screw and stud	Inner: 70 ft.-lbs. Outer: 65 ft.-lbs. /
.....	Inner: 95 N·m Outer: 88 N·m
Crankshaft rear oil seal housing nut/bolt/screw	11 ft.-lbs. / 15 N·m
Cylinder head bolt /screw	65 ft.-lbs. / 88 N·m
Distributor bolt/screw	25 ft.-lbs. / 34 N·m
Drain plug	15 ft.-lbs. / 20 N·m
Engine block oil gallery plug	15 ft.-lbs. / 20 N·m
Engine front cover bolt screw	97 in.-lbs. / 11 N·m
Flywheel bolt/screw	65-70 ft.-lbs. / 88-95 N·m
Intake manifold bolt/screw and stud	
Final pass	11 ft.-lbs. / 15 N·m
Oil filter adapter bolt/screw	18 ft.-lbs. / 24 N·m
Oil level indicator tube bolt/screw	106 in.-lbs. / 12 N·m
Oil pan assembly	
Corner nut/bolt/screw	15 ft.-lbs. / 20 N·m
Side rail bolt/screw	97 in.-lbs. / 11 N·m
Oil baffle nut	30 ft.-lbs. / 40 N·m
Oil pan drain plug	15 ft.-lbs. / 20 N·m
Oil pump bolt/screw to rear crankshaft bearing cap	66 ft.-lbs. / 90 N·m
Oil pump cover bolt/screw	80 in.-lbs. / 9 N·m
Spark plug	15 ft.-lbs. / 20 N·m (tapered seat)
Starter motor bolt/screw	35 ft.-lbs. / 48 N·m
Valve lifter guide retainer bolt/screw	18 ft.-lbs. / 24 N·m
Water pump bolt/screw	30 ft.-lbs. / 40 N·m



FIRING ORDER: **1-8-4-3-6-5-7-2**

Component Information:

Cylinder Heads:

The 350 HO Deluxe Engine has Vortec Cast Iron Cylinder Heads. These cylinder heads were first used on 1996 trucks with port fuel injection, RPO L31. The intake and exhaust ports are very similar to the Corvette 350 LT1 heads. The heads have 1.94" intake valves and 1.50" exhaust valves with pressed-in 3/8" studs. The water passages are the same as the original 1955 small block Chevy design. These cylinder heads have an eight (8) bolt intake manifold mounting pattern, four (4) bolts per cylinder head.

Intake Manifold:

This kit comes with a GM Performance Parts dual plane intake manifold GM Part Number 12486571 designed for use with Vortec cylinder heads. This intake manifold was designed to use a standard flange Holley carburetor. This intake manifold does not have provisions for an exhaust gas recirculation (EGR) valve or a hot air choke.

Water Pump:

The 350 HO Deluxe engine comes with a long style cast iron water pump, GM Part Number 12529305. The cooling system has a 180° F thermostat installed.

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Ignition System:

The HEI (High Energy Ignition) distributor part number 93440806 included with the 350HO Deluxe engine and is a self-contained ignition system that includes a magnetic pickup, a module, a coil, a rotor, and a cap. The HEI's large diameter cap minimizes arcing and cross-firing between adjacent spark plug terminals. The cap's male terminals provide a reliable, positive connection for the spark plug leads. However, the HEI's large diameter cap may interfere with other underhood components in vehicles not originally equipped with HEI ignition systems. Check for adequate clearance before installation. This HEI distributor has a hardened (melonized) drive gear that is compatible with a steel camshaft. Use of a non-hardened distributor gear will result in excessive wear.

The HEI system requires a 12 volt power supply for proper operation. The HEI ignition system should be connected directly to the battery with 10 or 12 gauge wire through a high quality ignition switch. If you are installing an HEI ignition in an early-model vehicle originally equipped with a point-type ignition, be sure to remove or bypass the resistor in the wiring harness to ensure the HEI receives 12 volts continuously. Use distributor connector package Part number 12167658, which includes connectors and wires for the HEI's tachometer and 12 volt terminals.

Set spark timing at 32° before top dead center (BTDC) at 4000 RPM with the vacuum advance line to the distributor disconnected and plugged. This setting will produce 32° of total advance at wide open throttle (WOT). The HEI vacuum advance canister should remain disconnected. This engine is designed to operate using only the internal centrifugal advance to achieve the correct timing curve.

Oil Pan / Filter / Adapter / Dipstick:

The 350HO Deluxe engine includes an oil pan part number 12557558 the same pan as the production ZZ4. This is a four quart, right-hand dipstick oil pan and gasket.

The 350HO Deluxe engine assembly includes an oil filter adapter but no oil filter element. The 350HO uses an AC # PF 25 oil filter. A premium oil filter (AC # UPF25) is available for your 350HO engine. This has a 100% wire backed synthetic media with 6 micron filtration.

The oil dipstick for the 350HO Deluxe engine is on the right-hand (passenger) side of the block and is included with the 350HO Deluxe engine.

Carburetor / Air Cleaner:

A 670 cfm Holley four-barrel carburetor with vacuum operated secondaries and electric choke is included with the 350HO Deluxe engine. You may need to change jets and or adjust your carburetor to suit your environment (i.e. altitude and ambient temperatures) and driving style.

A foam or paper element, low restriction air cleaner should be used to protect the engine from excessive wear and diffuse the air entering the carburetor. The fuel mixture distribution can be upset if no diffuser is used, causing poor power and misfiring at high engine speeds. Always check for adequate hood clearance when installing a new air cleaner. GM Performance Parts has two chrome 14" air cleaner assemblies for single 4 barrel engines.

12342071 is the Classic design and 12342080 is the high performance design.

Spark Plugs / Spark Plug Wires:

The 350 HO Deluxe engine's cast iron cylinder heads have straight spark plugs. Check for spark plug and wire clearance when using exhaust manifolds or aftermarket headers designed for straight plugs. Sparkplug wires, GM Part Number 12361057 are installed on the 350 HO Deluxe engine. These wires have 90° sparkplug boots, and the GM Performance Parts logo.

Caution

This engine assembly needs to be filled with oil and primed. You should add the specified oil (see start-up instructions) to your new engine. Check the engine oil level on the dipstick and add accordingly.

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Start-up and Break-in Procedures

1. After installing the engine, ensure the crankcase has been filled with 10w30 motor oil (non-synthetic) to the recommended oil fill level on the dipstick. Also check and fill as required any other necessary fluids such as coolant, power steering fluid, etc.
2. The engine should be primed with oil prior to starting. Follow the instructions enclosed with the tool. To prime the engine, first remove the distributor to allow access to the oil pump drive shaft. Note the position of the distributor before removal. Install the oil priming tool, GM part number 12368084. Using a 1/2" dill motor, rotate the engine oil priming tool clockwise for three minutes. While you are priming the engine, have someone else rotate the crankshaft clockwise to supply oil throughout the engine and to all the bearing surfaces before the engine is initially started. This is the sure way to get oil to the bearings before you start the engine for the first time. Also, prime the engine if it sits for extended periods of time. Reinstall the distributor in the same orientation as it was removed.

After the engine has been installed in the vehicle, recheck the oil level and add oil as required. It is also good practice to always recheck the ignition timing after removal and reinstallation of the distributor. See step 4 or engine specifications for the proper timing information.

3. Safety first. If the vehicle is on the ground, be sure the emergency brake is set, the wheels are chocked and the car cannot fall into gear. Verify everything is installed properly and nothing was missed.
4. Set initial spark timing at 10° before top dead center (BTDC) at 650 rpm with the vacuum advance line to the distributor disconnected and plugged. This setting will produce 32° of total advance at wide-open throttle (WOT). The HEI vacuum advance canister should remain disconnected. This engine is designed to operate using only the internal centrifugal advance to achieve the correct timing curve. Rotate the distributor counterclockwise to advance the timing. Rotate the distributor clockwise to retard the timing.
5. When possible, you should always allow the engine to warm up prior to driving. It is a good practice to allow the oil sump and water temperature to reach 180°F before towing heavy loads or performing hard acceleration runs.
6. Once the engine is warm, set the total advance timing to 32° at 4000 RPM.
7. The engine should be driven at varying loads and conditions for the first 30 miles or one hour without wide open throttle (WOT) or sustained high RPM accelerations.
8. Run five or six medium throttle (50%) accelerations to about 4000 RPM and back to idle (0% throttle) in gear.
9. Run two or three hard throttle (WOT 100%) accelerations to about 4000 RPM and back to idle (0% throttle) in gear.
10. Change the oil and filter. Replace with 10w30 motor oil (non synthetic) and a PF25 AC Delco oil filter. Inspect the oil and the oil filter for any foreign particles to ensure that the engine is functioning properly.
11. Drive the next 500 miles under normal conditions or 12 to 15 engine hours. Do not run the engine at its maximum rated engine speed. Also, do not expose the engine to extended periods of high load.
12. Change the oil and filter. Again, inspect the oil and oil filter for any foreign particles to ensure that the engine is functioning properly.
13. Do not use synthetic oil for break-in. It would be suitable to use synthetic motor oil after the second recommended oil change and mileage accumulation. In colder regions, a lower viscosity oil may be required for better flow characteristics.

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350HO Deluxe Engine Specifications:

Displacement: 350 cubic inches
 Bore x Stroke: 4.00 inch x 3.48 inch
 Compression 9.1:1
 Block: Cast iron, four-bolt intermediate mains
 Cylinder Head: Cast iron
 Valve Diameter (Intake/Exhaust):... 1.94"/1.50"
 Chamber Volume: 62cc
 Crankshaft: Nodular iron, 1 piece rear seal
 Connecting Rods: Forged, powdered metal, 3/8" bolts
 Pistons: Cast aluminum
 Rings: Moly coated cast iron
 Camshaft: Hydraulic roller tappet
 Lift:435" intake, .460" exhaust
 Duration: 212° intake, 222° exhaust @ .050" tappet lift
 Centerline: 109° ATDC intake, 116° BTDC exhaust
 Rocker Arm Ratio: 1.5:1
 Timing Chain: 8 mm single roller design
 Oil Pan: 4-quart
 Oil Pressure (Normal): 40 psi @ 2000 RPM
 Recommended Oil: 10w30 synthetic motor oil (after break in)
 Oil Filter: AC Delco part # PF25
 Premium AC Delco part # UPF25
 Valve Lash: 1/8 turn down from zero lash
 Fuel: Premium unleaded - 92 (R+M/2)
 Maximum Engine Speed: 5700 RPM
 Spark Plugs: AC Delco part # MR43LTS
 Spark Plug Gap040"
 Spark Timing: 32° maximum @ 4000 RPM
 Firing Order: 1-8-4-3-6-5-7-2

Information may vary with application. All specifications listed are based on the latest production information available at the time of printing.

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Additional parts that may be needed:

Flywheel / Flexplate:

Like all small block V-8 engines produced since 1986, the 350HO Deluxe engine has a 3.00" diameter flywheel flange bolt pattern. Small block V-8 engines produced from 1958 through 1985 had a 3.58" diameter flywheel flange bolt pattern. This change in bolt circle diameter was made to accommodate a leak-resistant one-piece rear main seal. Due to revisions in the crankshaft design, a 350HO Deluxe engine must have a counter-weighted flywheel (or flexplate) for proper balance. The 350HO Deluxe engine includes a flexplate part number 14088765. Additional flywheels and flexplates are available from the chart below.

350HO Deluxe Engine - Manual Transmission Flywheels

<u>Part Number</u>	<u>Outside Diameter</u>	<u>Clutch Diameter</u>	<u>Starter Ring Gear Teeth</u>	<u>Notes</u>
14088648	14"	11.0,11.58"	168	For one-piece crank seal
14088646	12 3/4"	10.4,11.0"	153	Lightweight nodular iron flywheel, weighs approximately 15 lbs.; for one-piece crank seal
14088650	12 3/4"	10.4"	153	Standard weight flywheel; for one-piece crank seal

350HO Deluxe Engine - Automatic Transmission Flexplates

<u>Part Number</u>	<u>Outside Diameter</u>	<u>Torq Conv. Patt.</u>	<u>Starter Ring Gear Teeth</u>	<u>Notes</u>
14088765	12 3/4"	10.75"	153	For one-piece crank seal
12554824	14"	11.50"	168	Heavy-duty flexplate with increased thickness for one-piece crank seal
14088761	14"	10.75,11.50"	168	For one-piece crank seal

Pilot Bearing:

You must install a pilot bearing in the rear of the crankshaft if the engine will be used with a manual transmission. The pilot bearing aligns the transmission input shaft with the crankshaft centerline. A worn or misaligned pilot bearing can cause shifting problems and rapid clutch wear. A roller pilot bearing Part number 14061685 is recommended for this engine. This heavy-duty bearing adds an extra margin of reliability to a high performance drivetrain.

Starter:

The 350HO Deluxe does not include a starter. The starter must be matched to flywheel (or flexplate) diameter when installing a 350HO Deluxe engine. Small diameter flywheels are 12 3/4" in diameter, and have starter ring gears with 153 teeth. Large diameter flywheels are 14" in diameter, and have 168 teeth on the starter ring gear. This difference in flywheel diameters requires two different starter housings. Starter noses used with 14" diameter flywheels have two offset bolt holes; starters used with 12 3/4" diameter flywheels have bolt holes that are straight across from each other.

Note: Chevrolet starter motors use special shouldered mounting bolts, which register the starter on the block.

The following starters and hardware can be used with the 350HO engine:

- 10496870 Heavy-duty, remanufactured starter for 12 3/4" diameter flywheel/flexplate
- 1876552 Heavy-duty starter for 14" diameter flywheel/flexplate
- 14097278 Bolt, starter mounting, long, for heavy-duty starter
- 14097279 Bolt, starter mounting, short, for heavy-duty starter
- 10455709 Remanufactured permanent magnet gear reduction (PMGR) starter for 12 3/4" diameter flywheel/flexplate (10 lb.)
- 12606096 Permanent magnet gear reduction (PMGR) starter for 14" diameter flywheel/flexplate (10 lb.)
- 14037733 Bolt, starter mounting, inner for 12 3/4" PMGR starter
- 12338064 Bolt, starter mounting, outer for 12 3/4" PMGR starter; also for 14" PMGR starter (2 required)

Fuel Pump:

The 350HO Deluxe engine does not include a fuel pump. However, it does have a mechanical fuel pump boss with a block off plate installed. The fuel system must be capable of supplying adequate fuel volume at a minimum of 6 psi pressure when the engine is operating at wide open throttle (WOT). A high volume in-line electric fuel pump is available from GM Performance Parts Part number 25115899. This heavy duty pump flows 72 gallons per hour at 6-8 psi outlet pressure.

Headers:

A 350HO Deluxe engine can be equipped with a header exhaust system for maximum performance in applications where a nonproduction exhaust system is legal. For street performance and limited competition applications, the recommended header configuration is 1 3/4" diameter primary pipes, 32 to 36 inches long, with 3" diameter collectors. Use 2 1/2" diameter tailpipes with a balance tube ("H" pipe) and low restriction mufflers.

Accessory Drive Brackets:

Two Accessory Drive Kits are available from GM Performance Parts to fit the 350HO engine. P/N 12497698 is used for vehicles with air conditioning and P/N 12497697 is used for vehicles without air conditioning. Please see your GM Performance Parts dealer or visit us on the web at www.gmperformanceparts.com.

Spark Plugs / Spark Plug Wires:

The 350HO Deluxe engine comes with spark plugs Part number 5614210 (AC # MR43LTS).

When installing the engine in a vehicle originally equipped with a small block V-8 with HEI ignition, standard replacement spark plug wires can be used. High performance 8mm diameter wire sets with the Chevrolet Bow Tie logo or with the GM Performance Parts logo are available from GM Performance Parts for custom installations. The GM Performance Parts logo wire sets are available as Part number 12361056 (135° spark plug boots) and Part number 12361057 (90° spark plug boots). The Chevrolet logo wire sets are Part number 12361050 (135° spark plug boots) and 12361051 (90° spark plug boots). The 135° spark plug boot sets are recommended for routing the spark plug wires over the valve covers, 90° spark plug boot sets are recommended for routing the spark plug wires under the exhaust headers.

Rocker Covers:

The 350HO Deluxe engine comes equipped with chrome stamped steel, center hold-down bolt rocker covers. A wide variety of valve cover choices are available at your GM Performance Parts dealer or visit us on the web at www.gmperformanceparts.com. Pre-1987 flange mount rocker covers can be installed on the 350HO Deluxe engine using adapter Part number 24502540. This adapter is machined from billet aluminum, and uses an O-ring seal between the adapter and cylinder head rocker cover rail.

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Oil Filter Adapter

An offset oil filter adapter may be installed to provide additional clearance for headers, clutch linkage, and suspension components. This offset oil filter adapter uses a small diameter spin-on filter element.

- | | | | |
|----------|---|----------|---------------------------------------|
| 12556204 | Offset oil filter adapter | 14092398 | Bolt, oil filter adapter (2 required) |
| 88893990 | Gasket and seal, oil filter adapter | AC PF52 | Filter to fit adapter, spin-on |
| 11610405 | Washer, oil filter adapter (2 required) | | |

350HO Deluxe Service Parts List:

Part #	Quantity	Name	Part #	Quantity	Name
12486041	1	Engine Asm,350cid/330hp Vortec	106751	2	Key-Crankshaft
12529305	1	Pump Asm-Wat	12514101	8	Piston Asm (W/Pin And Rings)
12603957	2	Gasket-W/Pmp	10108688	8	Rod Asm-Conn
12496820	1	Manifold Pkg,Int	12507985	8	Ring Kit
89017465	1	Gasket Kit,Int Manif	12493713	8	Bearing-Conn Rod
10202456	1	Thermostat Asm-Eng Cool	12561389	3	Stud-Cr/Shf Brg Cap
10108470	1	Outlet-Wat	12557558	1	Pan,Oil
10105135	1	Gasket-Wtr Otlt	12553058	1	Reinforcement-Oil Pan
93440806	1	Distributor Asm	12553059	1	Reinforcement-Oil Pan
88960604	1	Balancer Asm-Cr/Shf	10108676	1	Gasket-Oil Pan
3815933	1	Bolt, Balancer	12550042	1	Screen Asm,O/Pmp
14001829	1	Washer-Cr/Shf Pul Hub	93442037	1	Pump Asm,Oil
14088765	1	Flywheel Asm	10168528	1	Cover Asm,O/Pmp
14088764	6	Bolt/Screw-Flywhl	3998287	1	Shaft-O/Pmp Drv
6487779	1	Valve Asm Unit-Cr/Case Vent	3764554	1	Retainer-O/Pmp Drv Shf
5613611	8	Spark Plug	12554816	1	Deflector-Cr/Shf Oil
12361057	1	Wire Kit,Sp/Plug Sb/V8 90 De	12558060	2	Head Asm-Cyl (W/ Valves)
12342011	1	Tab, Engine Timing Chrome	10241743	8	Valve,Int
19170092	1	Carburetor Pkg,670 Cfm 4bbl	12550909	8	Valve Asm,Exh
12342080	1	Air Cleaner Kit, Chrome Hi-Per	10212811	16	Spring,Vlv
12453170	1	Bearing,Cm/Shf #1	3814692	AR	Stud,Vlv Rkr Arm Ball (.003" Os)
12453171	2	BEARING,CM/SHF #2 And #5	3815892	AR	Stud,Vlv Rkr Arm Ball (.013" Os)
12453172	2	BEARING,CM/SHF #3 And #4	24503856	32	Key,Vlv Stem
12338136	1	Plug Asm,Eng Blk Oil Ga	10212810	8	Seal,Int Vlv Stem Oil
3956686	3	Cap,Cr/Shf Brg	12564852	8	Seal,Exh Vlv Stem Oil
12561388	10	Bolt/Screw,Cr/Shf Brg C	10241744	16	Cap,Vlv Spr
3877669	6	Bolt/Screw,Cr/Shf Brg C	12342089	1	Cover, Engine Front - Chrome
10120990	3	Bearing-Cr/Shf Upr/Lwr	10108435	1	Gasket-Eng Frt Cvr
12528826	1	Bearing-Cr/Shf Upr/Lwr (Thrust)	10128346	1	Sprocket-Cr/Shf
10168527	16	Bolt/Screw-Cyl Hd (Short)	340235	1	Sprocket-Cm/Shf
10168526	4	Bolt/Screw-Cyl Hd (Med)	14087014	1	Chain Asm-Tmg
10168525	14	Bolt/Screw-Cyl Hd (Long)	24502476	1	Camshaft,Hyd Flat Tap
10105117	2	Gasket-Cyl Hd	14095256	16	Rod Asm-Vlv Push
10055724	1	Tube Asm-Oil Lvl Ind	5232720	16	Lifter Asm-Vlv
10077153	1	Indicator Asm-Oil Lvl	10066063	16	Arm-Vlv Rkr
10046089	2	Gasket-Vlv Rkr Arm Cvr	10089648	16	Ball-Vlv Rkr Arm
14088526	1	Crankshaft,	12557390	16	Nut-Vlv Rkr Arm
14061685	1	Bearing-Clu Pilot	12355350	1	Cover Kit, Valve Cover - Chrome
14101058	1	Stud-Cr/Shf Rr Oil Seal Ret			