

## ZZ572/620 (12498793) and ZZ572/720R (12498827) Deluxe Specifications

Specifications Part Number 88962929

**This ZZ572 deluxe documentation should be used in conjunction with the ZZ572 short block, GM part number 88962927, and ZZ572 long block, GM part number 88962928. The documentation included within this information packet builds on the ZZ572 short block and ZZ572 long block information. Please locate the ZZ572 short block and ZZ572 long block information and begin there. This is the final (third) section of the instruction for the ZZ572 deluxe engine assembly.**

Thank you for choosing GM Performance Parts as your high performance source. GM Performance Parts is committed to providing proven, innovative performance technology that is truly.... more than just power. GM Performance Parts are engineered, developed and tested to exceed your expectations for fit and function. Please refer to our catalog for the GM Performance Parts Authorized Center nearest you or visit our website at [www.gmperformanceparts.com](http://www.gmperformanceparts.com).

This publication provides general information on components and procedures that may be useful when installing or servicing a ZZ572 deluxe assembly. Please read this entire publication before starting work. Also, please verify that all of the components listed in the Package Contents section below were in fact shipped in the kit.

The information below is divided into the following sections: package contents, torque information, ZZ572/620 and ZZ572/720R deluxe engine assembly specifications, engine start-up procedures, component information, and a service parts list.

The ZZ572 deluxe engine assembly includes additional components to the long block assembly which make up the deluxe engine. Additional key items include the intake manifold, carburetor, distributor, and the water pump. GM recommends that you use a minimum octane rating of 92 (R+M/2) fuel in the ZZ572/620 (9.6:1 compression ratio) and 110 octane fuel in the ZZ572/720R (12:1 compression ratio) to prevent preignition.

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 ZZ572 tall deck big block Chevrolet (BBC) deluxe assembly in any vehicle. Wear eye protection and appropriate protective clothing. Support the vehicle securely with jackstands when working under or around it. 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.

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.

<b>TITLE</b> ZZ572/620 and ZZ572/720R Deluxe Specifications	<b>REV</b> 15JA08	<b>PART NO.</b> 88962929	<b>PAGE</b> 1 <b>OF</b> 21
---	-------------------	--------------------------	----------------------------

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
	07OC03	Initial Release - Shawn Smith	
	16FE07	Revised - Rusty Sampsel	

**Legal and Emissions Information**

This publication is intended to provide information about the ZZ572 engine and related components. This manual also describes procedures and modifications that may be useful during the installation of a ZZ572 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.

Chevrolet, Chevy, the Chevrolet Bow Tie Emblem, General Motors, and GM are all registered trademarks of the General Motors Corporation.

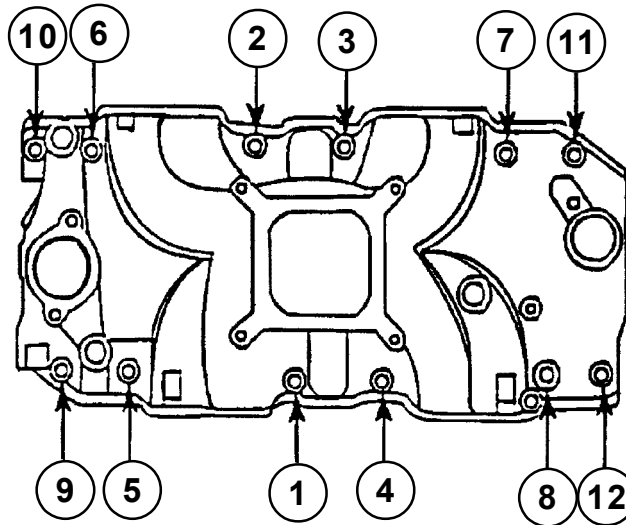
**Package contents:**

<u>Item</u>	<u>Description</u>	<u>Quantity</u>	<u>GM Part Number</u>
1	Deluxe Engine Assembly (ZZ572/620)	1	12498793
	OR		
1	Deluxe Engine Assembly (ZZ572/720R)	1	12498827
2	Short Block Instructions	1	88962927
3	Long Block Instructions	1	88962928
4	Deluxe Engine Instructions	1	88962929
5	Carburetor Package (ZZ572/620)	1	88961560
	OR		
	Carburetor Package (ZZ572/720R)	1	88962217

**ZZ572/620 and ZZ572/720R High Performance Engine Torque Specifications:**

<u>Fastener</u>	<u>Torque (lb.ft.)</u>	<u>Torque (Nm)</u>	<u>Thread Treatment</u>	<u>Notes</u>
Flex plate bolt	65	88	Blue Loctite	.
Intake bolt	25	34	Teflon pipe sealant	Torque sequence, see below
Thermostat housing bolt	25	34	Blue Loctite	.
Water pump bolt	30	41	30 weight oil	.

**Note: These torque values are in addition to those documented within the short and long block instructions.**



**ZZ572/620 and ZZ572/720R Deluxe Engine Assembly Specifications:**

Distributor	High Energy Ignition (HEI) for ZZ572/620. Competition multiple spark discharge unit with an adjustable collar for ZZ572/720R
Intake Manifold	Aluminum single plane for Holley 4150 series carburetors for ZZ572/620. Aluminum single plane for Holley 4500 series carburetors for ZZ572/720R
Carburetor	850cfm four-barrel with mechanical secondaries and electric choke for ZZ572/620. 1090cfm four-barrel with mechanical secondaries and no choke for ZZ572/720R
Water Pump	Short legged aluminum pump
Flex plate	Standard automatic transmission flex plate for ZZ572/620. No flex plate included for ZZ572/720R
Horsepower Rating	620 HP @ 5500 RPM for ZZ572/620. 720 HP @ 6250 RPM for ZZ572/720R
Torque Rating	650 ft.lbs. @ 4500 RPM for ZZ572/620. 685 ft.lbs. @ 4500 RPM for ZZ572/720R
Maximum Engine Speed:	6000 RPM for ZZ572/620. 6750 RPM for ZZ572/720R
	Ignition Timing 15° initial advance, 36° total advance

**Note: These specifications are in addition to those documented within the short and long block instructions.**

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

**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.**

**Start-up and Break-in Procedures**

1. After installing the engine, ensure the crankcase has been filled with 20w50 racing 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.

DATE	REVISION	AUTH

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. Start the engine and adjust the initial timing. Set the ignition timing to 15° before top dead center (BTDC) and the engine idle to 950 RPM (ZZ572/620) or 1200 RPM (ZZ572/720R) with a timing light and the vacuum disconnected and plugged. Rotate the distributor counterclockwise to advance the timing. Rotate the distributor clockwise to retard the timing. Leave the vacuum advance disconnected.
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 36° 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 5000 RPM and back to idle (0% throttle) in gear.
9. Run two or three hard throttle (WOT 100%) accelerations to about 5000 RPM and back to idle (0% throttle) in gear.
10. Change the oil and filter. Replace with 20w50 racing motor oil (non synthetic) and a PF35L 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.

**ZZ572/620 and ZZ572/720R Component Information**

**Ignition System**

The high energy ignition (HEI), GM part number 88961867, included with the ZZ572/620 is a self-contained ignition system that includes a magnetic pick up, a module, coil, rotor, and 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 under hood components in vehicles not originally equipped with HEI systems. Check for adequate clearance before installation. The HEI distributor incorporates a hardened (melanized) drive gear that is compatible with a cast iron cam gear. Use of a non-hardened distributor gear will result in excessive wear.

<b>TITLE</b> ZZ572/620 and ZZ572/720R Deluxe Specifications	<b>REV</b> 15JA08	<b>PART NO.</b> 88962929	<b>PAGE</b> 4 <b>OF</b> 21
---	-------------------	--------------------------	----------------------------

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

The HEI system requires a 12-volt power supply for proper operation. The HEI system should be connected directly to the battery with a 10 or 12 gauge wire through a high quality ignition switch. If you are installing an HEI 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, GM part number 12167658, which includes connectors and wires for the HEI tachometer and 12-volt terminals.

The multiple spark discharge distributor, GM part number 10093387, included with the ZZ572/720R does not include a coil or ignition control module. Both must be purchased separately. This distributor requires the use of GM heavy duty ignition control, GM part number 10037378, and heavy duty ignition coil, GM part number 10037380, to function properly. Follow the installation instructions included with the ignition control and coil components.

**Timing Information For Both Engines**

Set spark timing at 36° BTDC at 4000 RPM with the vacuum advance line to the distributor disconnected and plugged. This setting will produce 36° of total advance at wide open throttle. The HEI vacuum advance canister should remain disconnected.

**Flexplate**

The ZZ572/620 has an automatic flexplate included with the engine assembly, GM part number 12561217. If a manual transmission is to be used, a manual flywheel, GM part number 12555135, must be purchased separately.

The ZZ572/720R does not include a flexplate with the engine assembly due to wide variety applications and event sanctioning body regulations. You must choose one that suits your requirements.

**Important**

Both engines are internally balanced and require internally (zero) balance mating components. Always tighten the fasteners in a star pattern to 30 ft.lbs. first then to final torque value.

**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 roller pilot bearing, GM part number 14061685, is recommended for this engine. The heavy duty bearing adds an extra margin of reliability to a high performance drive train.

**Indicator Tube**

The indicator and indicator tube come installed on the engine. One end is pushed into the hole on the oil pan and sealed with an o-ring. The other end is fastened to the block using a bolt and a spacer. When removing the dipstick to install the engine or headers, be sure not to loose the small o-ring which seals the dipstick tube to the pan. The o-ring must be reinstalled on the dipstick tube before inserting it into the pan. Make sure the tube is bottomed out in the pan before tightening the dipstick tube to the header bolt. Also, the spacer and fastener that were attaching the dipstick tube to the engine will not be required once the headers are installed. They were for shipping purposes only.

**Carburetor**

Please refer to the documentation supplied with the carburetor for installation and tuning instructions. If you have technical questions regarding the carburetor or cannot locate the instructions, please contact the carburetor manufacturer at (706) 864-8544. The air cleaner size should be at least 14.0" in diameter and 4.0" tall or with equivalent surface area to allow adequate air flow to the engine.

**Exhaust Header Information**

The engines were developed using 2.25" diameter x 36" long primary tube headers with 3.50" diameter collectors.

**ZZ572/620 Service Parts List:**

<u>Part #</u>	<u>Quantity</u>	<u>Name</u>	<u>Part #</u>	<u>Quantity</u>	<u>Name</u>
88961891	01	Seal, Oil Lvl Ind Tube	12499200	1	Cover, Vlv Rocker Lh *572*
12561217	01	Flywheel Asm	12499200	1	Cover, Vlv Rocker Rh *572*
10105135	01	Gasket-Wtr Otlt	12361323	1	Arm Kit, Valve Rocker Alum Roll
12557083	01	Indicator Asm-Oil Lvl	5613878	8	Spark Plug
12550533	01	Tube Asm-Oil Lvl Ind	3864814	1	Washer-Cr/Shf Bal
14058915	01	Pump Asm, Wat	88961557	1	Camshaft Asm, Eng
12490680	01	Spacer, Brace (1.5" Long)	12499255	2	Head, Cyl
88961560	01	Carburetor Asm	3921912	8	Stud, Vlv Rkr Arm Ball
88961867	01	Distributor Asm	3860038	4	Guide, Vlv Lftr Push Rod
10202456	01	Thermostat Asm-Eng Cool	12366990	8	Cap, Vlv Spr
12499211	01	Wire Pkg, Splg	12366987	4	Valve, Int
88962213	01	Gasket,Int Manif	88963128	4	Valve, Exh
88963066	01	Bolt, Oil Lvl Ind Tube	88963935	4	Locator, Vlv Spring
12498792	01	Engine Asm, 572 Long Block	88963937	8	Shim, Vlv Spr
12499190	1	Engine Asm, Partial	88963933	8	Spring Asm, Vlv
25534368	1	Block Asm, Eng	88963936	8	Seal, Vlv Stem Oil
455005	5	Bolt/Screw, Cr/Shf Brg C (Long)	12366992	16	Key, Vlv Stem
15651246	10	Bolt/Screw, Cr/Shf Brg C (Short)	88960332	8	Bolt/Screw, Cyl Hd (Long)
88958656	5	Stud, Oil Pan Bfl	88960333	16	Bolt/Screw, Cyl Hd (Medium)
88962212	1	Bearing, Cr/Shf	88960334	8	Bolt/Screw, Cyl Hd (Short)
88961556	8	Bearing, Conn Rod (Kit)	17120060	16	Lifter Asm-Vlv
88961554	1	Crankshaft	88961558	8	Rod, Exh Vlv Push
12499434	1	Bearing Kit, Cam/Shf	88961559	8	Rod, Int Vlv Push
88962926	8	Rod Asm, Conn	25534355	1	Breather, C/Case Vent
6264902	1	Seal-Cr/Shf #5 Brg Cap Oil	88962074	1	Baffle Asm, Oil Fill
10101164	1	Seal Asm-Cr/Shf Rr Oil	12551397	8	Restrictor-Vlv Lifter Rot
12499212	8	Ring Kit, Pstn	12551399	1	Retainer-Vlv Lifter
88962925	8	Piston Asm, (W/Pin)	6487779	1	Valve Asm Unit-Cr/Case Vent
10126796	1	Bolt/Screw-Cr/Shf Bal	12341993	1	Cap, Oil Filler Push-In Chrome
12371053	1	Chain Pkg, Timing (Bb Chevy)	12341988	1	Grommets, Valve Cover
10230954	1	Cover Asm-Eng Frt (W/ Tmg Ind)	19131250	1	Pump Asm, Oil (W/ Scrn)
88962814	1	Dampener, Torsional	3865886	1	Shaft Asm
14085759	2	Gasket Asm-Vlv Rkr Cvr	3866604	1	Stud-O/Pmp
88961561	2	Gasket, Cyl Hd	88962187	1	Baffle Asm, Oil Pan
10106407	1	Gasket-Oil Pan	88962919	4	Bolt/Screw, Cyl Hd
10240721	1	Pan Asm-Oil			

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

**ZZ572/720 Service Parts List:**

<u>Part #</u>	<u>Quantity</u>	<u>Name</u>
12498826	1	Engine Asm, 572 Long Block
88962217	1	Carburetor Asm,
10105135	1	Gasket-Wtr Otlf
10108470	1	Outlet-Wat
12557083	1	Indicator Asm-Oil Lvl
12550533	1	Tube Asm-Oil Lvl Ind
14058915	1	Pump Asm, Wat
10202456	1	Thermostat Asm-Eng Cool
12499211	1	Wire Pkg, Splg
10093387	1	Distributor Body, Alum Billet W
88962220	1	Cap, Distr
88962219	1	Rotor, Dist
88962218	1	Manifold, Int
88962213	1	Gasket, Int Manif
88961891	1	Seal, Oil Lvl Ind Tube
12498825	1	Engine Asm, Partial 572
25534368	1	Block Asm, Eng
455005	5	Bolt/Screw, Cr/Shf Brg C (Long)
15651246	10	Bolt/Screw, Cr/Shf Brg C (Short)
88958656	5	Stud, Oil Pan Bfl
88962212	1	Bearing, Cr/Shf
88961556	8	Bearing, Conn Rod (Kit)
12499434	1	Bearing Kit, Cam/Shf (All 5)
12508998	5	Bearing-Camshaft (Single)
88961554	1	Crankshaft
88963227	8	Piston Asm, (W/Pin)
12499212	8	Ring Kit, Pstn
88962926	8	Rod Asm, Conn Kit
6264902	1	Seal-Cr/Shf #5 Brg Cap Oil
10101164	1	Seal Asm-Cr/Shf Rr Oil
10126796	1	Bolt/Screw-Cr/Shf Bal
88961872	6	Bolt/Screw, Vlv Cvr
12371053	1	Chain Pkg, Timing (Bb Chevy)
10230954	1	Cover Asm-Eng Frt (W/ Tmg Ind)
88962814	1	Dampener, Torsional
14085759	2	Gasket Asm-Vlv Rkr Cvr

<u>Part #</u>	<u>Quantity</u>	<u>Name</u>
88961561	2	Gasket, Cyl Hd
10106407	1	Gasket-Oil Pan
10240721	1	Pan Asm-Oil
88962920	1	Lifter, Vlv
12499200	1	Cover, Vlv Rocker Lh *572*
12499200	1	Cover, Vlv Rocker Rh *572*
12361323	1	Arm Kit, Valve Rocker Alum Roll
5613100	8	Plug-Spark
3864814	1	Washer-Cr/Shf Bal
88961160	2	Head, Cyl
3921912	8	Stud, Vlv Rkr Arm Ball
3860038	4	Guide, Vlv Lftr Push Rod
12366990	8	Cap, Vlv Spr
12366987	4	Valve, Int
88963128	4	Valve, Exh
88963935	8	Locator, Vlv Spring
88963937	8	Shim, Vlv Spr
88963936	8	Seal, Vlv Stem Oil
12366992	16	Key, Vlv Stem
88963934	8	Spring Asm, Vlv
88962284	8	Rod, Int Vlv Push
88962283	8	Rod, Exh Vlv Push
25534355	2	Breather, C/Case Vent
88962074	2	Baffle Asm, Oil Fill
12341993	1	Cap, Oil Filler Push-In Chrome
3894337	2	Grommet-Oil Fil Cap
88960332	8	Bolt/Screw, Cyl Hd (Long)
88960333	16	Bolt/Screw, Cyl Hd (Medium)
88960334	8	Bolt/Screw, Cyl Hd (Short)
88962919	4	Bolt/Screw, Cyl Hd (Cyl Hd Valley)
88962216	1	Camshaft Asm, Eng
19131250	1	Pump Asm, Oil (W/ Scrn)
3865886	1	Shaft Asm
3866604	1	Stud-O/Pmp
88962187	1	Baffle Asm, Oil Pan

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