

350 H.O. (High Output) TURN KEY ENGINE KIT (12499711) Specifications

Specifications Part Number 88963869

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This "350 H.O. Turn Key Kit" 88963869 documentation should be used in conjunction with the "350 H.O. Deluxe Engine Specifications" 12496968 and the "Serpentine Belt Accessory Drive Package Specifications" 12490896. This documentation is included within the information packet, as it builds on the 350 H.O. Deluxe and Serpentine Belt Accessory Drive Package. Please locate these documents and start there first.

This publication provides general information on components and procedures that may be useful when installing or servicing a 350 H.O. Turn Key Engine Kit. 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 with the kit.

The information below is divided into the following sections:

- Package contents
- Torque specifications
- 350 H.O. Deluxe Turn key Engine Kit assembly specifications
- Service parts list.

The 350 H.O. Turn key Engine Kit includes additional components to the 350 H.O. Deluxe Crate engine assembly which make up the turn key kit. Some key items included are the starter, fuel pump, ignition wires and supports, filters and bypass hoses. Specific items and part numbers are listed at the end of these instructions.

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

Observe all safety precautions and warnings in the service manuals when installing the 350 H.O. Turn Key Kit in any vehicle. Wear eye protection and appropriate protective clothing. Support the vehicle securely with jack stands 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 don't 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 1/2x11 WHITE 16 POUND BOND PAPER, PRINT ON BOTH SIDES, EXCLUDING TEMPLATES. TO BE UNITIZED IN ACCORDANCE WITH GM SPOS SPECIFICATIONS.	DATE	REVISION	AUTH
	15SE04	Initial Release - Jeff Kremkow	
	29OC04	Revised - Jeff Kremkow	

Package Contents:

Item	Description	Qty.	GM Part Number
1	Engine, 350 H.O.	1	12496768 (350 H.O. Deluxe)
2	Kit, Serpentine front dress with A/C	1	12497698
3	Pump, Mechanical fuel pump w/ gasket	1	6415325
4	Push rod, fuel pump	1	3704817
5	Plate, fuel mounting	1	3719599
6	Gasket, Fuel pump plate	1	12560223
7	Bolts, fuel pump	2	88891769
8	Bolts, fuel pump plate	2	9440033
9	Breather	1	12341989
10	Motor, Starter	1	10465143
11	Bolt, starter (short)	1	14097279
12	Bolt, starter (long)	1	14097278
13	Hose, bypass	1	1485552
14	Fitting, bypass hose	2	6272959
15	Clamp, bypass hose	2	1470030
16	Wires, spark plug	1	12361057
17	Supports, sparkplug wires	1	12496806
18	Bracket, Wire support	2	12554210
19	Bracket, Wire support	1	12554084
20	Bracket, Wire support	3	88891792
21	Bracket, Wire support	1	12554085
22	Plug, 3/8" NPT (National Pipe Thread) internal hex	1	14090911
23	Plug, 1/2" NPT (National Pipe Thread) internal hex	1	25522466
24	Kit, Lift bracket	1	10198918
25	Instruction sheet	1	88963869
26	Bolt lift bracket	2	88963065

350 H.O. Turnkey Engine Torque specifications:

*Note: The torque values below are in addition to those documented within the 350 H.O. Crate Engine and Serpentine Belt Accessory Drive Package instructions.

Fastener	Torque (lb.ft.)	Torque (Nm)	Thread Treatment	Notes
Bolts, Fuel pump plate	9	12.0 +/- 2.0	Light Oil	
Bolts, Fuel pump	30	40.0 +/- 5.0	Light Oil	
Bolts, Starter motor	30	40	Light Oil	
Bolts, Lift bracket	35	47.5	None	
Bolts, Wire support	9	12 +/- 2.0	None	

NOTE: The following procedures may be performed before during or after your engine is installed. Your application will help you determine when the procedure should be performed.

Fuel Pump Installation:

Installation is the same as for original equipment cylinder mechanical fuel pumps.

Remove fuel pump block off plate from engine block.

Clean off any residual gasket material from block.

Slide fuel pump pushrod into engine block, and then install fuel pump mounting plate, gasket and bolts.

Install fuel pump, gasket and bolts. Ensure fuel pump pushrod is in correct contact with the top of the fuel pump lever. Connect fuel supply and return lines to pump.

Breather, and Air cleaner installation

Push supplied breather into grommet on driver side valve cover.

Install double ended threaded rod into top center of the carburetor, then install air cleaner assembly and gasket.

Secure air cleaner assembly with the wing nut.

Bypass Hose and Plugs

*Note: Before installing bypass hose be sure you have the correct rotation water pump installed on your engine.

The correct water pump is supplied with the Serpentine Belt Accessory Drive Package.

Install 1 bypass hose fitting into intake manifold and one into water pump.

Take the supplied bypass hose and cut to size, to fit between the water pump and intake manifold fittings.

Install bypass hose and secure with supplied clamps.

Starter Motor Installation

Bolt starter to engine block using supplied bolts gear end of starter will mesh with flexplate.

Connect wires to starter. (see instructions enclosed in starter box)

Lift Bracket Kit Installation

Install one bracket and bolt onto front of passenger side cylinder head.

Install the other bracket and bolt onto the rear of the drivers side head.

Note: If installing the lift brackets before the spark plug wires and brackets you will have to remove the rear lift bracket when installing the driver side spark plug wire support.

Spark plug wires and support installation

Install spark plug wires from distributor cap to spark plugs. See chart below.

V-8 Small Block 90° Boots

Cylinder 1 : 39.0" Cylinder 2 : 41.5"

Cylinder 3 : 37.0" Cylinder 4 : 35.5"

Cylinder 5 : 32.0" Cylinder 6 : 31.5"

Cylinder 7 : 30.0" Cylinder 8 : 29.0"

Install large metal support brackets to the back of the cylinder heads. Install small metal support brackets to the sides of the head. Route the spark plug wires into the plastic clips and slide clips onto the metal supports.

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350 HO Turnkey Engine Specifications:

*Note: The specifications below are in addition to those documented within 350 HO Crate Engine and Serpentine Belt Accessory Drive Package instructions.

Component	Characteristics
Pump, Fuel	Heavy Duty mechanical fuel pump. This high capacity pump has a removable lower housing that can be rotated to position the inlet and outlet as required by the chassis and plumbing.
Motor, Starter	Lightweight high performance starter originally used on Camaro Z28 LT-1. Can be used on any big or small block Chevy V8 WITH 12 3/4" (153 tooth) flywheel.
Wires, Spark Plug wires and Supports	Performance spark plug wire set, with GM Performance Parts logo and 90° spark plug boots.

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

350 HO Turnkey Engine Service Parts List - See Package Contents