

BLACKWATER E N G I N E S

LONG BLOCK INSTALLATION INSTRUCTIONS

- THE INSTALLER IS RESPONSIBLE FOR DETERMINING THE LONG BLOCK RECEIVED IS LIKE FOR LIKE BEFORE INSTALLATION IN THE VEHICLE. ALTHOUGH WE BASE THE SHIPMENT FROM VIN NUMBERS AND ESN'S PROVIDED BY THE CUSTOMER, DUE TO MULTIPLE VARIABLES IN APPLICATIONS AND CONFIGURATIONS, IT IS THE INSTALLERS RESPONSIBILITY TO DETERMINE COMPATABILITY WITH THEIR SPECIFIC APPLICATION.
- YOU MUST PRIME THE OIL SYSTEM! DO NOT USE THE STARTER!!!! USE AN AIR OVER HYDRAULIC SYSTEM SUCH AS:
MELLING MPL-101 (<http://www.melling.com/Aftermarket/Stock-Products/Engine-PreLube>) OR
GOODSON EPL-120 (<http://www.goodson.com/EPL-120-Engine-Pre-Lube-Tank/>).
DO NOT USE THE STARTER UNDER ANY CIRCUMSTANCE!!! YOU WILL BURN UP THE ENGINE.
- MUST USE A ZINC OIL ADDITIVE WITH FLAT TAPPET CAMSHAFT ENGINES! WE RECOMMEND ZDDP PLUS (<http://www.zddplus.com/>) OIL ADDITIVE. REFER TO TECHNICAL BULLETIN NUMBER OA1010 FOR MORE INFORMATION.
- MUST REPLACE **OIL COOLER** & LINES (IF APPLICABLE) WITH THE LONG BLOCK.
- MUST REPLACE THE **AIR COMPRESSOR** IF IT IS OIL FED OR IF IT IS COOLED BY THE ENGINE COOLANT.
- MUST RESET COMPUTER SYSTEM & SCAN TO VERIFY CORRECT FUEL SYSTEM & COMPUTER SYSTEM OPERATION! MODIFIED PROGRAMMING WILL IMMEDIATELY VOID ANY WARRANTY FROM BLACKWATER ENGINES.
- MUST BLEED AIR FROM THE COOLING SYSTEM IF IT IS A CLOSED COOLING SYSTEM! USE AN **EVACUATION SYSTEM** FROM MAC, SNAP ON, ETC. http://mityvac.com/pages/products_cse.asp REFER TO TECHNICAL BULLETIN ES-1210.
- MUST CLEAN INTAKE SYSTEM & ANY OTHER INTERNAL PART INSTALLED ON ENGINE. TRASH WILL DESTROY THE ENGINE. USE THE PROPER EQUIPMENT TO CLEAN THE PARTS. NO ABRASIVE DISCS TO CLEAN GASKET SURFACES!
- MUST CLEAN & TEST THE FUEL INJECTORS AT AN AUTHORIZED FUEL INJECTION SHOP OR PROVIDE NEW INJECTORS! **DO NOT USE THE OLD INJECTORS.** BAD



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INJECTORS ARE THE MAIN CAUSE OF ENGINE FAILURES! MODIFIED INJECTORS ARE NOT RECOMMENDED & WILL VOID THE WARRANTY.

- USE OF ANY AFTER MARKET COMPUTER PROGRAMERS OR TUNERS WILL VOID THE BLACKWATER ENGINES WARRANTY.
- CHANGE OIL AFTER INITIAL START-UP (THIS IS TO REMOVE ENGINE ASSEMBLY LUBRICANTS).
- CHANGE OIL AFTER 500 MILES OR 10 HOURS
- CHANGE OIL AFTER 1000 MILES OR 50 HOURS
- CHANGE OIL AT RECOMMENDED INTERVALS
- NO SYNTHETIC OILS!!!! USE THE OIL RECOMMENDED BY THE MANUFACTURER. REFER TO TECHNICAL BULLETIN SO-1109.

PRINTED NAME _____
SIGNED _____
DATE _____