

SearchParts.com Heavy Duty Engine Installation and Core Return Instructions

**SERVICE PARTS OPERATIONS
REMANUFACTURED ENGINES**

INSTALLATION INSTRUCTIONS

ATTENTION: THE TECHNICIAN MUST IDENTIFY AND REPAIR, IF APPLICABLE, THE PROBLEM(S) THAT CAUSED THE ORIGINAL ENGINE REPLACEMENT OR ADDITIONAL ENGINE FAILURES THAT ARE NOT COVERED UNDER WARRANTY MAY OCCUR. DIAGNOSIS OF PROPER OPERATION OF THE FUEL, LUBRICATION, COOLING, IGNITION, INDUCTION, EXHAUST, E.G.R., VACUUM AND ELECTRICAL SYSTEMS IS MANDATORY.

WARNING: WHEN CLEANING GASKET SEALING SURFACES ON THE REMANUFACTURED ENGINES AND OR CLEANING PARTS FROM THE FAILED ENGINE TO BE REUSED, THE USE OF SURFACE CONDITIONING DISCS WHICH CONTAIN ABRASIVES SUCH AS ALUMINUM OXIDE MAY CAUSE INFANT BEARING FAILURE.

THE USE OF SURFACE CONDITIONING DISCS IS STRICTLY FORBIDDEN I.E. SCOTCH BRITE, ROLO BRISTLE DISCS, SOC ATT, ABRASIVE DISCS

REPLACEMENT OF OIL RELATED PARTS: IF THE ORIGINAL ENGINE FAILED EITHER CATASTROPHICALLY OR DUE TO BEARING FAILURE, THE ENGINE OIL COOLER MUST BE REPLACED IF THE VEHICLE IS SO EQUIPPED. THE OIL LINES AND REMOTE FILTER ADAPTER MUST BE REMOVED FROM THE VEHICLE AND THOROUGHLY FLUSHED OR REPLACED. WARRANTY DATA SHOWS THAT MORE THAN HALF OF ALL WARRANTY CLAIMS FOR INFANT FAILURES ARE ASSOCIATED WITH LACK OF PROPER LUBRICATION AND CONTAMINATION (I.E. DEBRIS).

THIS ENGINE HAS BEEN REMANUFACTURED SUBSEQUENT TO THE MODEL YEAR OF THE VEHICLE AND AS SUCH MAY CONTAIN DESIGN REFINEMENTS NOT INCLUDED IN ORIGINAL SERVICE INFORMATION.

ENGINE INSTALLATION: BEFORE INSTALLING THIS ENGINE, VERIFY THAT YOU HAVE THE CORRECT ENGINE FOR YOUR APPLICATION. YOUR DIESEL REMANUFACTURED ENGINE COMES COMPLETE WITH ROCKER COVERS, FRONT COVERS AND OIL PAN. CHECK THEIR COMPATIBILITY WITH YOUR SPECIFIC APPLICATION. REFER TO THE APPROPRIATE VEHICLE SERVICE MANUAL FOR COMPONENT REPLACEMENT, PROPER REPAIR PROCEDURES AND SPECIFICATIONS

(I.E FASTENER TORQUE, TORQUE SEQUENCING, SEALING TECHNIQUES, IGNITION TIMING, COOLANT FILL AND AIR PURGE FLUID VOLUMES).

1)SEALS, GASKETS & COMPONENTS: AFTER REMOVING THE OLD ENGINE, USE NEW SEALS, GASKETS, FILTERS (OIL, AIR, FUEL) AND GLOW PLUGS OR TURBO. TRANSFER ALL NECESSARY COMPONENTS TO THE REPLACEMENT SERVICE ENGINE. PRIOR TO TRANSFERRING, THOROUGHLY CLEAN AND INSPECT OR REPLACE ALL PARTS YOU WILL BE TRANSFERRING SUCH AS THE INTAKE MANIFOLD, IGNITION WIRES, HARMONIC BALANCE AND FRONT OIL SEAL SURFACE AND INSTALL THE NEW SEAL SLEEVE INCLUDED WITH YOUR WARRANTY INFORMATION, OIL FILTER ADAPTER AND LINES, AND FUEL SYSTEM. (THIS WILL AVOID POSSIBLE CONTAMINATION, INSTALLATION OF WORN OR DAMAGED PARTS AND OR LESS THAN NORMAL PERFORMANCE THAT COULD DAMAGE THE SERVICE ENGINE.) ON VEHICLE WHERE THE ENGINE HAS BEEN DAMAGED DUE TO OVER HEATING, CHECK AND RECONDITION OR REPLACE THE RADIATOR, WATER PUMP, COOLANT HOSES, THERMOSTAT, FAN CLUTCH AND COOLING FAN SENSORS. ALWAYS ADD COOLING SYSTEM TABS OR EQUIVALENT INCLUDED WITH YOUR GASKET SET. COOLING SYSTEM TABS AID IN SEALING POROSITY IN ALUMINUM AND REMOVE SILICATES FROM THE WATER PUMP SHAFT THAT FORM FROM THE COOLANT TO EXTEND WATER PUMP SEAL LIFE.

2)PRE-LUBE: ADD AN API CERTIFIED ENGINE OIL. REFER TO YOUR SERVICE MANUAL FOR THE PROPER GRADE VOLUME, AND SEASONAL VISCOSITY.

CAUTION!!

YOUR WARRANTY MAY BE VOID IF THE OIL PAN SEAL IS BROKEN WITHOUT PRIOR CONSENT.

3)OIL PUMP PRIME PROCEDURE: WHERE APPLICABLE, USE A DRILL MOTOR ATTACHED TO THE OIL PUMP THROUGH THE DISTRIBUTOR HOLE. TURN THE OIL PUMP AT 200 TO 500 RPM FOR AN ADDITIONAL TWO MINUTES AFTER THE NORMAL OIL PRESSURE IS ACHIEVED. THIS WILL FLUSH ANY DEBRIS FROM THE ENGINE WITHOUT A LOAD ON THE CRANK BEARINGS WHILE MAXIMUM BEARING CLEARANCES ARE PRESENT. COAT THE DISTRIBUTOR GEAR WITH E.O.S. SUBSEQUENT TO DISTRIBUTOR INSTALLATION. FOR APPLICATIONS WITHOUT A DISTRIBUTOR DRIVE TYPE OIL PUMP, USE AN ENGINE PRESSURE PRE-LUBER FOLLOWING THE MANUFACTURERS RECOMMENDATIONS. WHEN THE ABOVE MENTIONED METHODS ARE NOT AVAILABLE, CRANK THE ENGINE FOR TWO MINUTES AFTER OIL PRESSURE IS REACHED. DISABLE THE SPARK AND FUEL WHILE CRANKING THE ENGINE DURING THIS PRE-LUBE PROCEDURE TO PREVENT CYLINDER WALL WASH DOWN. CHECK THE OIL LEVEL AND FILL TO THE PROPER LEVEL.

4) ENGINE BREAK-IN: THIS ENGINE ASSEMBLY HAS BEEN HOT RUN TESTED AND

SHOULD BE DRIVEN WITH THE FOLLOWING “BREAK-IN” SCHEDULE. AFTER PERFORMING STEPS 1, 2 AND 3, START THE ENGINE AND LET IT IDLE FOR 10 TO 20 MINUTES ALLOWING THE OIL PRESSURE TO STABILIZE. DURING THIS TIME, WHERE APPLICABLE, ADJUST THE TIMING AND CHECK FOR LEAKS. **ROAD TEST** THE VEHICLE FOR A MINIMUM OF 30 MILES WITH COMBINED CITY AND HIGHWAY DRIVING AND DO NOT EXCEED 50 MILES PER HOUR OR USE ANY FAST THROTTLE RESPONSES.

FIRST SERVICE INTERVAL FOR CHANGING OIL AND FILTER SHOULD BE BETWEEN 300 TO 500 MILES.

THE FOLLOWING PARTS ARE EITHER REQUIRED FOR REPLACEMENT AND/OR SHOULD BE INSPECTED AND REPLACED ONLY AS NECESSARY.

REQUIRED REPLACEMENT

- COOLING SYSTEM SEALING TABS
- FUEL FILTER/OIL FILTER/AIR FILTER
- GLOW PLUGS
- ENGINE OIL
- ANTI FREEZE/COOLANT
- ENGINE OIL COOLER (WITH EVERY BEARING AND TURBO FAILURE)

INSPECT AND REPLACE ONLY AS NECESSARY

- COOLANT-TEMP SENSORS/CAM SENSOR/CRANK SENSOR
- MASS AIR FLOW SENSOR/OXYGEN SENSOR
- MANIFOLD AIR TEMPERATURE SENSOR/MAP SENSOR
- PCV VALVE & BREATHER/CANISTER PURGE VALVE
- IDLE AIR CONTROLLER/E.G.R. VALVE

ENGINE CORE RETURN PROCEDURE

ALL CUSTOMERS MUST FOLLOW THEIR CURRENT P & A POLICY AND PROCEDURE MANUAL WHEN APPLYING TO RETURN CORE MATERIAL.

TO FACILITATE THE RETURN, THE CUSTOMER MUST TAKE THE FOLLOWING ACTION:

- 1) **ALL ENGINE FLUID MUST BE DRAINED.**
- 2) PLACE THE DRAINED CORE INTO THE PLASTIC BAG THAT IS SUPPLIED WITH THE ENGINE AND RE-CRATE THE CORE IN THE PACKAGING THAT THE NEW ENGINE WAS SHIPPED IN.
- 3) COMPLETE THE **CORE** BILL OF LADING FORM FORWARDED WITH THE ENGINE.
- 4) **THE MODEL OF THE CORE BLOCK RETURNED SHOULD ALSO COINCIDE WITH THE MODEL OF THE PURCHASED ENGINE.**

NOTE: CORES RECEIVED WITHOUT BILL OF LADING WILL RESULT IN A REDUCTION IN THE AMOUNT OF THE CORE REFUND.

ENGINE WARRANTY RETURN PROCEDURE

ALL CUSTOMERS MUST FOLLOW THEIR CURRENT P & A POLICY AND PROCEDURE MANUAL WHEN APPLYING TO RETURN WARRANTY MATERIAL.

TO FACILITATE THE RETURN, THE CUSTOMER MUST TAKE THE FOLLOWING ACTION:

- 1) **ALL ENGINE FLUID MUST BE DRAINED.**
- 2) PLACE THE DRAINED WARRANTY ENGINE INTO THE PLASTIC BAG THAT IS SUPPLIED WITH THE ENGINE AND RE-CRATE THE UNIT IN THE PACKAGING THAT THE NEW ENGINE WAS SHIPPED IN.
- 3) YOU MUST ENSURE THAT THE ENGINE IS STRAPPED PROPERLY TO THE CRATE AND THAT IT IS SITTING IN AN UPRIGHT POSITION TO AVOID ANY FREIGHT DAMAGE.
- 4) COMPLETE THE **WARRANTY** BILL OF LADING FORM FORWARDED WITH THE ENGINE.
- 5) COMPLETE THE WARRANTY FORM DESCRIBING IN DETAIL THE ENGINE FAILURE AND THE STEPS TAKEN WHEN INSTALLING THE ENGINE.

