

331-318 INSTRUCTIONS

IMPORTANT: THIS IS A HIGH PERFORMANCE PART AND IMPROPER INSTALLATION COULD RESULT IN INJURY OR DEATH! NEVER WORK UNDER AN AUTOMOBILE THAT IS NOT PROPERLY SUPPORTED AND BLOCKED FROM ROLLING. NO CREDIT OR REFUND WILL BE ISSUED FOR PARTS DAMAGED DUE TO IMPROPER INSTALLATION. REMEMBER THAT YOUR ADAPTER PLATE IS ALUMINUM AND NOT CAST IRON. DO NOT OVERTORQUE THE FASTENERS. IF AT ANYTIME YOU HAVE ANY QUESTIONS ABOUT THIS INSTALLATION, CONTACT WILCAP IMMEDIATELY. THE INSTALLATION AND USE OF THIS PRODUCT IS DONE AT YOUR OWN RISK!

CHECK THAT ALL OF THE FOLLOWING PARTS ARE IN THE PACKAGE AND FREE OF DAMAGE;

1 ALUMINUM ADAPTER PLATE
1 FLEX PLATE
1 ALUMINUM HUB SPACER
1 REBUILT FRONT PUMP

FASTENERS;

10 - 3/8-16 X 1 1/4" CAP SCREWS
7- 5/16-18 X 1 3/4" FLANGE HEAD CAP SCREWS
7 – SEALING WASHERS
2- 3/8-16 X 1 3/4" CAP SCREWS
2 - 5/16-18 X 1/2" SOCKET HEAD SET SCREWS.
8 – 7/16-20 X 1 1/2" GRADE 8 HEX BOLTS, WASHERS AND LOCK NUTS.
2- 1/2" HOLLOW DOWEL PINS.

NOTE; IF YOU PURCHASED THE KIT WITHOUT AN ALIGNED FRONT PUMP, PROCEED TO THE LAST SECTION; ALIGNING ADAPTER TO FRONT PUMP

MODIFICATION OF THE TRANSMISSION CASE

1, PLACE THE TRANSMISSION IN A VERTICAL POSITION AND SECURE IT SO THAT IT DOES NOT MOVE.

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A 30 GALLON BARREL WITH WOOD BRACES IS SHOWN ABOVE.

2. SEAL OFF THE INPUT SHAFT, COOLER LINE FITTINGS, DIP STICK HOLE, AND THE VENT HOLE TO KEEP ANY SHAVINGS FROM FALLING INTO THE TRANS CASE



3. LOOKING DOWN THE FRONT OF THE TRANSMISSION, STARTING AT WHAT WOULD BE THE 8 O'CLOCK, USING A 1/4" DRILL BIT, DRILL AROUND THE INSIDE OF THE CASE TO THE 4 O'CLOCK POSITION. PUT THE HOLES AS CLOSE AS POSSIBLE TO EACH OTHER MAKING CERTAIN TO ONLY DRILL THROUGH THE BELLHOUSING PORTION OF THE CASTING. THE DANGER AT THIS POINT IS DRILLING INTO THE INTERIOR OF THE TRANSMISSION CASE. THE FURTHER AWAY FROM THE CASE YOU CUT, THE MORE HAND WORK IS REQUIRED.

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4. FROM THE BOTTOM OF THE CASE, LINED UP WITH THE EDGE OF THE OIL PAN, DRILL ACROSS THE BOTTOM OF THE CASE WITH THE 1/4" DRILL BIT.

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5. ONCE THE HOLES ARE DRILLED, WORK OPEN ONE HOLE OPEN WIDE ENOUGH TO FIT THE SAW BLADE THROUGH THE HOLE. WORK YOUR WAY AROUND THE CASE.

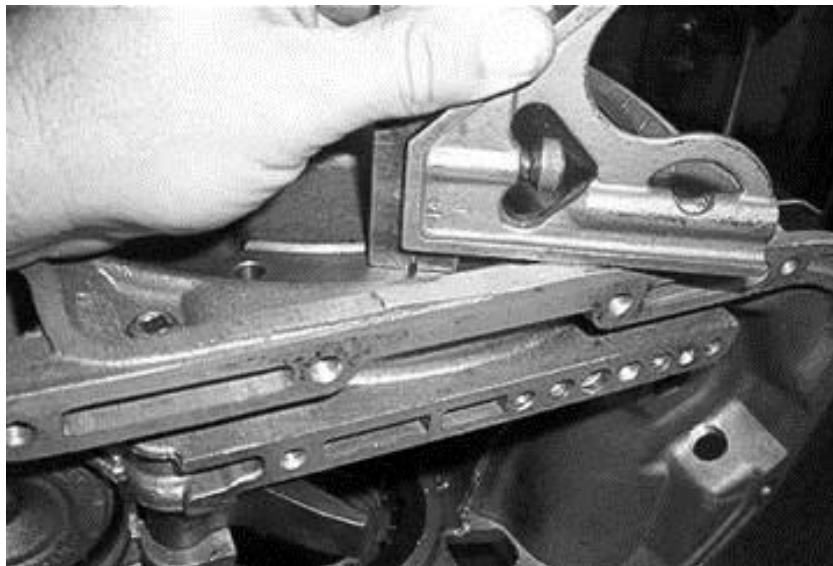


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6. ONCE THE BELLHOUSING HAS BEEN REMOVED, CUT AWAY ANY PART OF THE CASE THAT SITS HIGHER THAN THE LIP AROUND THE FRONT PUMP OR HIGHER THAN 3/8" ABOVE THE SURFACE OF THE FRONT PUMP



7. ONCE YOU ARE SATISFIED WITH THE CUT, CLEAN ALL SHAVINGS, CHIPS, OFF OF THE CASE AND REMOVE THE 7 FRONT PUMP BOLTS.

8. INSERT THE SET SCREWS IN TO THE TWO HOLES THAT ARE AT 8 AND 2 O'CLOCK. THESE HOLES ARE THE THREADED HOLES IN THE FRONT PUMP.

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9. ONCE THE SET SCREWS ARE THREADED INTO THE CASE ABOUT 2-3 TURNS, THREAD THE 3/8-16 X 1 1/2" BOLTS INTO THE FRONT PUMP AND

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TIGHTENING ALTERNATIVELY, THREAD THEM IN UNTIL THE FRONT PUMP IS REMOVED FROM THE CASE. WHEN REMOVING THE FRONT PUMP, BE CAREFUL NOT TO DISTURB THE INPUT SHAFT OR ANY OTHER INTERNAL PARTS. REMOVE THE SET SCREWS.



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10. WITH HE FRONT PUMP REMOVED, CLEAN THE GASKET SURFACE AND PLACE THE NEW GASKET INTO THE CASE. MAKE CERTAIN THE FLUID PORTS LINE UP. DO NOT USE ANY GASKET SEALER. LUBRICATE THE O RING AND PLACE THE REBUILT PUMP INTO THE CASE, BEING CAREFUL TO LINE UP THE PUMP GASKET AND CASE.



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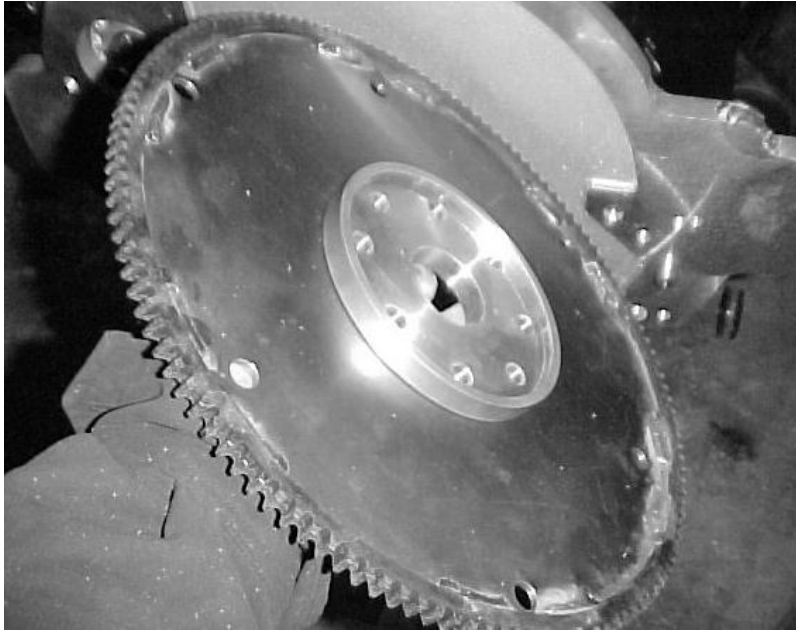
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11. PLACE THE ADAPTER PLATE ONTO THE PUMP, BEING CAREFUL TO LINE UP THE HOLLOW DOWEL PINS WITH THEIR HOLES. INSTALL THE 7 5/16-18 X 1 3/4" FLANGE HEAD CAP SCREWS AND SEALING WASHERS AND TORQUE IN A CRISSCROSS PATTERN.

TRANSMISSION TO ENGINE ASSEMBLY

1. CLEAN THE CRANKSHAFT FLANGE AND HUB USING SOLVENT AND A RAG AND INSPECT FOR BURRS, DINGS, NICKS, ETC. THIS IS CRITICAL! THE ALIGNMENT OF THE ENTIRE ROTATING ASSEMBLY RELIES ON THE FACE OF THE CRANKSHAFT AND THE HUB SPACER MATING EXACTLY. REMOVE ANY BURRS WITH A FINE PITCH FILE.
2. CLEAN AND INSPECT THE BLOCK MOUNTING SURFACE AND THE TRANSMISSION MOUNTING SURFACE AND REMOVE ANY BURRS. CHASE AND CLEAN ALL OF THE BLOCK TO BELL HOUSING BOLT HOLES AND REPAIR ANY DAMAGED THREADS. CHECK YOUR DOWEL PINS TO SEE THAT THEY ARE IN GOOD CONDITION AND NOT "MUSHROOMED". REPLACE IF NEEDED.
3. CHECK THAT YOUR FLEX PLATE IS THE CORRECT SIZE FOR YOUR TORQUE CONVERTER AND THAT THE HUB SPACER FITS OVER THE NOSE OF THE TORQUE CONVERTER.
4. WITH THE LOWER HALF OF THE BELLHOUSING REMOVED, PLACE THE CRANK HUB SPACER ONTO THE ENGINE AND LINE UP THE HOLES. PLACE THE FLEX PLATE ONTO THE HUB SPACER AND TIGHTEN THE CRANK BOLTS /NUTS. THE FLEX PLATE IS INSTALLED WITH THE RING GEAR OFFSET TO THE ENGINE SIDE.

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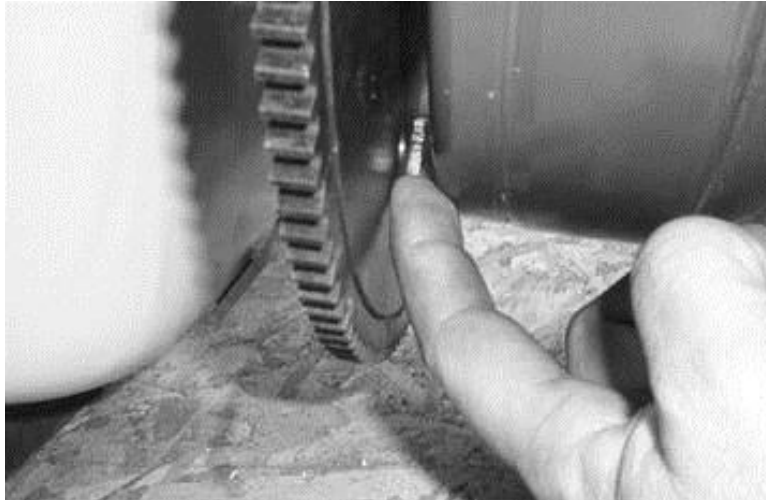
5. IT'S A GOOD IDEA AT THIS POINT TO INSTALL THE LOWER BELLHOUSING AND CHECK THE STARTER TO RING GEAR ENGAGEMENT. ONCE THIS HAS BEEN CHECKED, REMOVE THE LOWER BELLHOUSING.



6. LUBRICATE THE NOSE OF THE TORQUE CONVERTER AND INSTALL THE TRANSMISSION TO THE ENGINE. BEFORE INSTALLING THE CONVERTER TO FLEXPLATE BOLTS, CHECK THE CLEARANCE BETWEEN THE CONVERTER AND FLEXPLATE. IT SHOULD BE BETWEEN 5/16" AND 3/16". INSTALL THE LOWER HALF OF THE BELLHOUSING AND THE REMAINING BOLTS. INSTALL THE STARTER.

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7. USING THE SUPPLIED 3/8-16 BOLTS, BOLT THE ADAPTER PLATE TO THE BLOCK. DO NOT USE THE CAP SCREWS TO FORCE THE PLATE ONTO THE BLOCK. IT SHOULD FIT FLUSH TO THE BLOCK.

ALIGNING FRONT PUMP TO ADAPTER

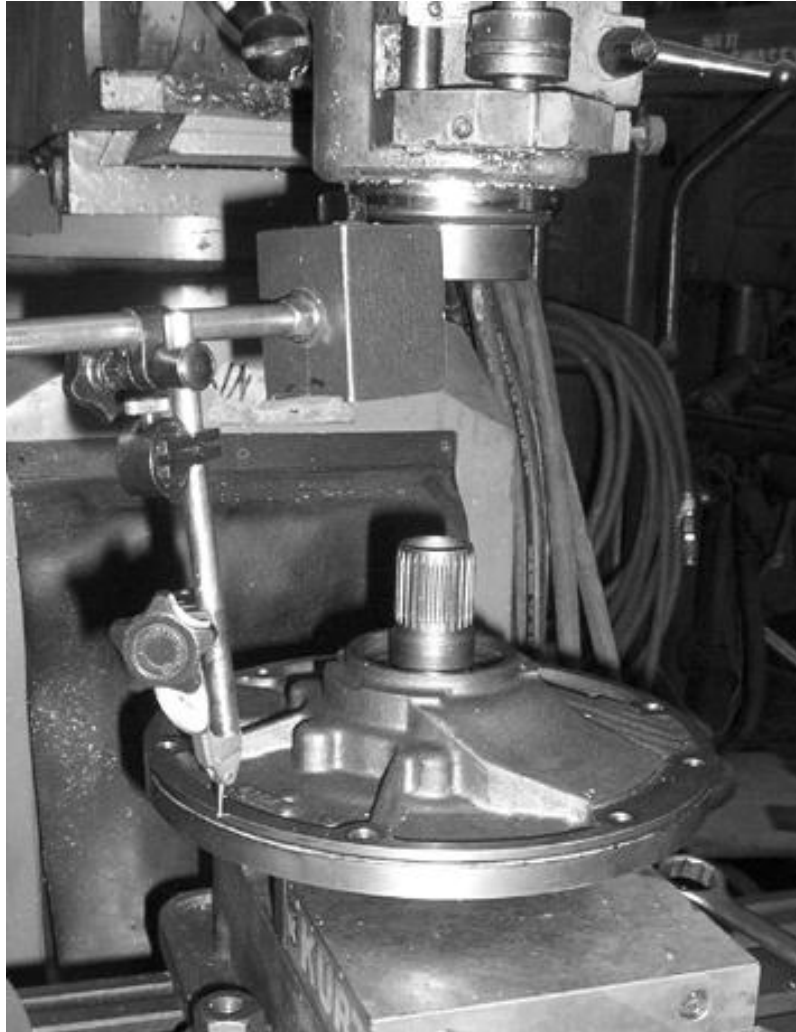
TOOLS NEEDED; MILL OR LATHE, COAXIAL, CENTER FINDER, OR TEST INDICATOR AND MAGNETIC BASE, .500" REAMER.

PHOTOS SHOW THE PROCEDURE IN A KNEE MILL USING A TEST INDICATOR. THE SAME BASIC PROCEDURE CAN BE PERFORMED IN A LATHE PROVIDED IT HAS A LARGE ENOUGH SWING OR IN THE MILL USING A COAXIAL INDICATOR.

1. FIXTURE YOUR FRONT PUMP TO THE MILL TABLE OR INTO THE CHUCK OF YOU LATHE. TO MAKE THE REAMING OPERATION EASIER, ROTATE THE PUMP SO THAT THE 2 HOLES THAT CORRESPOND TO THE COUNTER BORED HOLES IN THE ADAPTER PLATE ARE ACROSS FROM EACH OTHER ON THE X AXIS OR LONGEST TRAVEL AXIS OF YOUR MILL.

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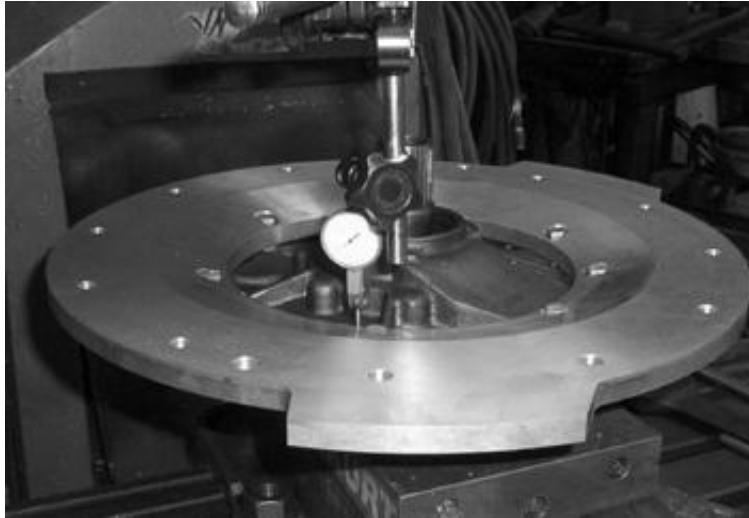
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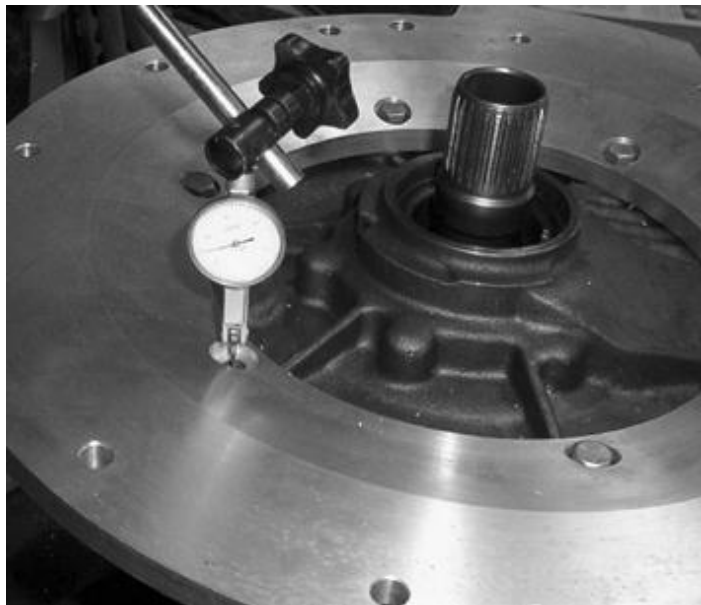
2. INDICATE IN THE OUTSIDE DIAMETER OF THE FRONT PUMP TO WITHIN +/- .003”.
3. PLACE THE ADAPTER PLATE ONTO THE FRONT PUMP, ROTATED TO THE CORRECT BOLT HOLES AND INSTALL THE FASTENERS WITH NUTS TIGHTENED TO “SNUG”.

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4. INDICATE IN THE ADAPTER PLATE TO THE SAME CENTERLINE AS THE FRONT PUMP WITH IN $\pm .003$ ", USING A SOFT MALLET TO TAP THE ADAPTER PLATE INTO LINE.
5. TIGHTEN THE FASTENERS AND RE-CHECK THE ALIGNMENT.



6. USING THE INDICATOR CENTER THE SPINDLE OF THE MILL OVER THE TOP OF COUNTER BORED BOLT HOLE ON THE ADAPTER PLATE.

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7. USING A .500" REAMER, MACHINE THROUGH THE ADAPTER PLATE AND AT LEAST .250" INTO THE FRONT PUMP CASTING. THIS HOLE WILL THEN ACCEPT THE SUPPLIED HOLLOW DOWEL PIN. REPEAT THE PROCESS FOR THE 2ND COUNTER BORED HOLE.
8. WITH THE DOWEL PINS IN PLACE, YOU ARE NOW READY TO MODIFY THE TRANSMISSION CASE (PAGE 1).

DO NOT HESITATE TO CONTACT US WITH ANY PROBLEMS, IDEAS OR SUGGESTION TO MAKE THIS PRODUCT BETTER. THANKS AGAIN FOR YOUR BUSINESS.

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