



# INSTALLATION INSTRUCTIONS

## Water Pumps

### IMPORTANT

**CAREFULLY READ THESE INSTRUCTIONS BEFORE INSTALLATION!**

*Proper installation of this water pump is the responsibility of the installer. Improper installation will void your warranty and may result in vehicle damage or personal injury. If you have any installation questions, call our Tech Service personnel at 216-961-1800 from 7am to 4pm EDT.*

### CAUTION!

#### NEVER REMOVE RADIATOR CAP WHEN ENGINE IS HOT!

These are custom water pumps designed for performance applications. Water pumps for race applications are available from Tuff Stuff - see catalog for complete information. Always refer to your vehicle manufacturer repair manual for exact replacement procedure and torque specifications when replacing your water pump. If you do not feel qualified to perform this installation, have a professional mechanic install the pump.

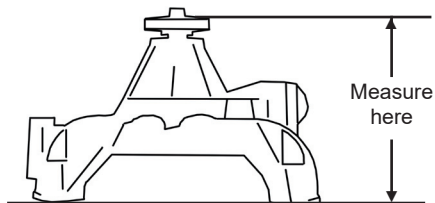
#### FLUSH COOLING SYSTEM BEFORE REPLACING WATER PUMP!

Any fluid contamination or dirt in the cooling system could ruin the seal on the new pump.

*If used on a Vortec block or Ramjet engine without a bypass port on the block that mates with the bypass port on the pump mounting flange, you must use a bypass thermostat or modify existing thermostat by drilling two 1/8 inch holes in thermostat.*

#### WATER PUMP HEIGHTS

A long or short water pump may be used on any Chevy V8 (Gen I SB - Gen II BB) engine as long as the correct pulleys are used and the belts are in alignment.



Measure from the top fan hub surface to the water pump mounting surface

APPLICATION	Short Water Pump	Long Water Pump
Chevy Small Block		
All except Corvette	5.659"	6.932"
Corvette	5.800"	
Chevy Big Block		
All including Corvette	5.752"	7.287"

#### Removal Of Stock Water Pump

1. Drain cooling system.
2. Disconnect the lower radiator hose and heater hose at the water pump. Inspect all hoses for dry rot, cracks and tears. Replace if necessary.
3. Remove all drive belts to the water pump pulley.
4. Loosen and remove the fan, fan clutch (if equipped) and pulley assembly.
5. Remove the water pump to cylinder block bolts and remove water pump.
6. Compare the new and the old water pumps and verify that the hub height dimensions are the same. Water pumps are available in a number of heights - it is the installer's responsibility to make sure the correct height water pump is installed.

#### Water Pump Installation

1. Clean the water pump mounting surface before installation.
2. Inspect the fan, fan clutch and pulley to verify that all are in good working condition. A defective or out of balance fan, fan clutch or pulley will cause premature pump failure.
3. Inspect the belt tensioner (if equipped) and verify that it is in good working order.
4. If water pump is equipped with a steel back plate covering the impeller, verify that all fasteners are tight. If the water pump has a threaded nipple, verify that it is tight. **CAUTION - do not over-tighten the nipple as it can crack the housing!**
5. Install the water pump on the block using new gaskets and gasket sealer to assure a positive seal. Tighten the mounting bolts gradually and evenly in a staggered sequence to factory torque specifications.
6. Install the pulley and fan onto the pump, making sure that the pulley does not scrape the face of the pump. If scraping occurs, use a 1/16" shim between the pump hub and pulley to solve the problem. Tighten securely.
7. Rotate the fan / water pump shaft by hand to make sure it turns freely.
8. Connect all hoses and fill the cooling system.
9. Install and tighten the fan belts to factory specifications. Reinstall any brackets or fasteners that may have been removed during disassembly.
10. Check belt alignment as additional shimming may be required.
11. Start the engine and check for leaks. Let engine cool down, top off radiator coolant and recheck for leaks.

#### Water Pump Leaks From The Weep Hole

If the water pump leaks from the weep hole after driving - and the engine is turned off - you have a **Bad Radiator Cap**. A bad radiator cap will push coolant out of the weep hole but does not harm the pump or seal.

If the water pump leaks from the weep hole when the engine is running, the pump seal is bad.

rev 5/24

ITEM	ROTATION	ITEM	ROTATION	ITEM	ROTATION	ITEM	ROTATION
1310A	CW	1432C	CW	1469NREV	CCW	1511NBREV	CCW
1310B	CW	1432CBBLUE	CW	1470N	CW	1511NC	CW
1310C	CW	1432CRED	CW	1470NA	CW	1511NCBLUE	CW
1310D	CW	1432CREV	CCW	1470NC	CW	1511NCORANGE	CW
1317N	CW	1432CYELLOW	CW	1470NCBLUE	CW	1511NCRED	CW
1317NA	CW	1432N	CW	1470NCRED	CW	1511NCREV	CW
1317NB	CW	1444N	CW	1470NCYELLOW	CW	1511NCYELLOW	CW
1317NC	CW	1444NA	CW	1475	CW	1529A	CW
1353	CW	1444NB	CW	1475AA	CW	1529B	CW
1353NA	CW	1445N	CW	1475AB	CW	1529N	CW
1353NA7	CW	1445NA	CW	1475AC	CW	1534N	CW
1353NB	CW	1445NB	CW	1475N	CW	1534NA	CW
1353NC	CW	1448NA	CW	1475NA	CW	1534NAREV	CCW
1353REV	CCW	1448NA7	CW	1475NB	CW	1534NB	CW
1354N	CW	1448NB	CW	1476MC	CW	1534NC	CW
1354NA	CW	1448NC	CW	1484N	CW	1538N	CW
1354NAREV	CCW	1448NCBLK	CW	1484NA	CW	1548	CCW
1354NAS	CW	1449N	CW	1484NB	CW	1548NA	CCW
1354NASREV	CCW	1449NA	CW	1484NC	CW	1548NC	CCW
1354NB	CW	1449NAREV	CCW	1485AA	CW	1594AC	CW
1354NBREV	CCW	1449NB	CW	1485AB	CW	1594N	CCW
1354NBS	CW	1449NBREV	CCW	1485AC	CW	1594NA	CCW
1354NBSREV	CCW	1449NC	CW	1493AN	CCW	1594NC	CCW
1354NC	CW	1449NCBLUE	CW	1493ANA	CCW	1594NCBLUE	CCW
1354NCBLUE	CW	1449NCORANGE	CW	1493ANB	CCW	1594NCRED	CCW
1354NCORANGE	CW	1449NCRED	CW	1493ANC	CCW	1594NCYELLOW	CCW
1354NCRED	CW	1449NCREV	CCW	1493N	CCW	1594ND	CCW
1354NCREV	CCW	1449NCYELLOW	CW	1493NB	CCW	1594NE	CCW
1354NCS	CW	1459	CW	1493NC	CCW	1594NF	CCW
1354NCSREV	CCW	1459NA	CW	1494N	CW	1625AC	CW
1354NCYELLOW	CW	1459NA7	CW	1494NA	CW	1625N	CW
1354NS	CW	1459NB	CW	1494NAREV	CCW	1625NA	CW
1362A	CW	1459NC	CW	1494NB	CW	1625NC	CW
1362B	CW	1461AA	CW	1494NBREV	CCW	1625NCBLUE	CW
1362C	CW	1461AB	CW	1494NC	CW	1625NCRED	CW
1394NA	CW	1461AC	CW	1494NCBLUE	CW	1625NCYELLOW	CW
1394NAREV	CCW	1461N	CW	1494NCORANGE	CW	1625ND	CW
1394NB	CW	1461NA	CW	1494NCRED	CW	1625NE	CW
1394NBREV	CCW	1461NAREV	CCW	1494NCREV	CCW	1625NF	CW
1394NC	CW	1461NB	CW	1494NCYELLOW	CW	1625NG	CW
1394NCBLUE	CW	1461NBREV	CCW	1495AA	CW	1625NH	CW
1394NCORANGE	CW	1461NC	CW	1495AAREV	CCW	1625NI	CW
1394NCRED	CW	1461NCBLUE	CW	1495AB	CW	1625NJ	CW
1394NCREV	CCW	1461NCORANGE	CW	1495ABREV	CCW	1635E	CW
1394NCYELLOW	CW	1461NCRED	CW	1495AC	CW	1635EB	CW
1394ND	CW	1461NCREV	CW	1495ACBLUE	CW	1635N	CCW
1394NE	CW	1461NCYELLOW	CW	1495ACORANGE	CW	1635NA	CCW
1394NF	CW	1465NA	CW	1495ACRED	CW	1635NB	CCW
1394NG	CCW	1465NAREV	CCW	1495ACREV	CCW	1635ND	CCW
1394NH	CCW	1468A	CW	1495ACYELLOW	CW	1635NE	CCW
1394NI	CCW	1468B	CW	1495NA7	CW	1635NG	CCW
1421	CW	1468C	CW	1496	CW	1675A	CCW
1421AA	CW	1468CBBLUE	CW	1496NA	CW	1675AA	CCW
1421AC	CW	1468CRED	CW	1496NA7	CW	1675AB	CCW
1421C	CW	1468CYELLOW	CW	1496NB	CW	1675AC	CCW
1421N	CW	1468N	CW	1496NC	CW	1675N	CCW
1432	CW	1469A	CW	1504N	CW	1675NA	CCW
1432A	CW	1469B	CW	1504NA	CW	1675NB	CCW
1432AA	CW	1469C	CW	1504NA-2	CW	1675NC	CCW
1432AB	CW	1469CBBLUE	CW	1504NB	CW		
1432AC	CW	1469CRED	CW	1511NA	CW		
1432AREV	CCW	1469CYELLOW	CW	1511NAREV	CCW		
1432B	CW	1469N	CW	1511NB	CW		