

# CARDONE ProTech

Supporting Today's Professional Technician



## Why Did the Water Pump Shaft Break?

### Application:

All Ford 4.9L (300 CID) engines.

### Problem:

Possible engine block damage when installing replacement Water Pump.

### Cause:

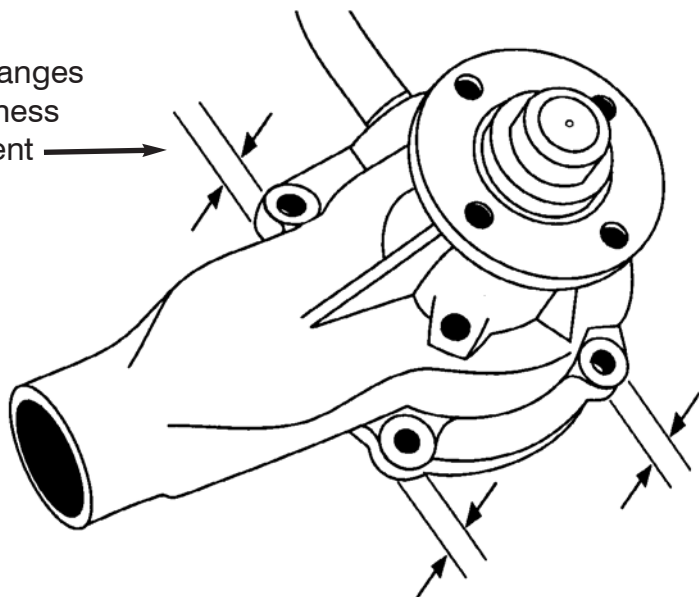
The water pump mounting hole flange thickness was increased by Ford after the 1992 model year. If a Pump with thin mounting flanges is installed using mounting bolts from a 1993 or newer engine, the bolts will bottom on the front cylinder wall causing distortion.

### Solution:

Compare the mounting flange thickness for each mounting hole of the replacement and original pump. **THEY MUST BE THE SAME THICKNESS.**

**NEVER** use mounting bolts from a 1993 or newer engine with the thinner flanges.

ALL FOUR mounting flanges  
MUST match the thickness  
of the original equipment



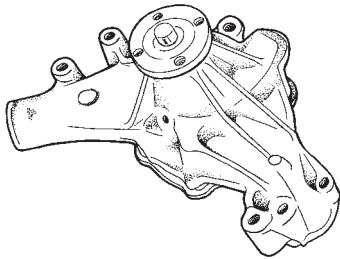
### Warning:

Installing the wrong size bolts will VOID THE WATER PUMP WARRANTY!

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CARDONE Industries, Inc. • 5501 Whitaker Ave. • Philadelphia, PA 19124-1799

# Water Pumps

## Remanufactured Best by CARDONE<sup>®</sup>



- Smog Air Pumps
- Vacuum Pumps
- Water Pumps

**Bearings** - Because CARDONE insists on high quality and reliability in every part, our use of bearings is dependent upon the type of application.

Ball/Ball bearings are used mainly on passenger cars and light duty truck applications. Ball/Roller bearings are used mainly on high torque applications, because they are more durable. This is because the roller takes up more surface area on the shaft.

CARDONE recognizes that high torque applications require Ball/Roller bearings. Therefore, when required, CARDONE will replace Ball/Roller bearings with Ball/Roller and **not substitute** a Ball/Ball bearing like some competitors. In various instances, a water pump with an OEM supplied Ball/Ball bearing is **upgraded** to a Ball/Roller bearing in order to better meet the application requirements.



Ball/Roller

Ball/Ball

- 36 month or 36,000 mile warranty
- Contact your local auto parts store or visit our web site, [www.cardone.com](http://www.cardone.com), for more information on this and other CARDONE products today!

