

7.3L FIRE RING INSTALLATION INSTRUCTIONS

Check head and block to ensure they are within spec. This is a very critical step; if the block or heads are out of spec they must be resurfaced. Otherwise, Fire Rings will not seat properly, leading to potential failure.

(+/-) .002 Front to Back

(+/-) .001 Side to Side

GROOVE RECOMMENDATIONS

Ring Groove Width = .120

Make the total groove diameter .008 (+/-) .001 bigger than the Fire ring O.D.

Example – 4.550” O.D. ring = 4.558

In low boost applications (80-psi under) rings can be installed in head or engine block

Ring Groove Depth

Min .030

Max .032

In high boost applications (80-psi above) we recommend machining grooves in the head and the engine block.

Ring Groove Depth in Head

Min .015

Max .016

Ring Groove Depth in Block

Min .015

Max .016

The Fire Ring compressed height = .090 (.015 compression of wire)

GASKET INSTALLATION

Install water jacket support tubes in heads and block. Make sure these are installed with a brass hammer and are flush with the surface. (see diagram for installation location)

Take 12mm x 1.75 bottoming tap and clean holes in block.

Coat threads of studs with motor oil (use conservative amount of oil, a small paint brush works best for application).

Install studs by hand in each hole on the block finger tight. **DO NOT TORQUE STUDS IN BLOCK.** Verify that the chamfered shoulder on the stud bottoms out in the block. If it does not, remove stud, tap hole deeper with bottoming tap, re-check for proper fit.

Install new head dowels in block.

Coat the (16) small machined steel o-ring support tubes with red hydraulic loctite, then carefully drive them (with a brass punch) into both the block & cylinder heads, so that they are flush with the block deck surface. (see diagram)

Place gasket on block and install the small rubber o-rings in gasket, atop the small machined 'dowels' that were driven into the block/flush. (see diagram)

Place fire rings in gasket. (see diagram)

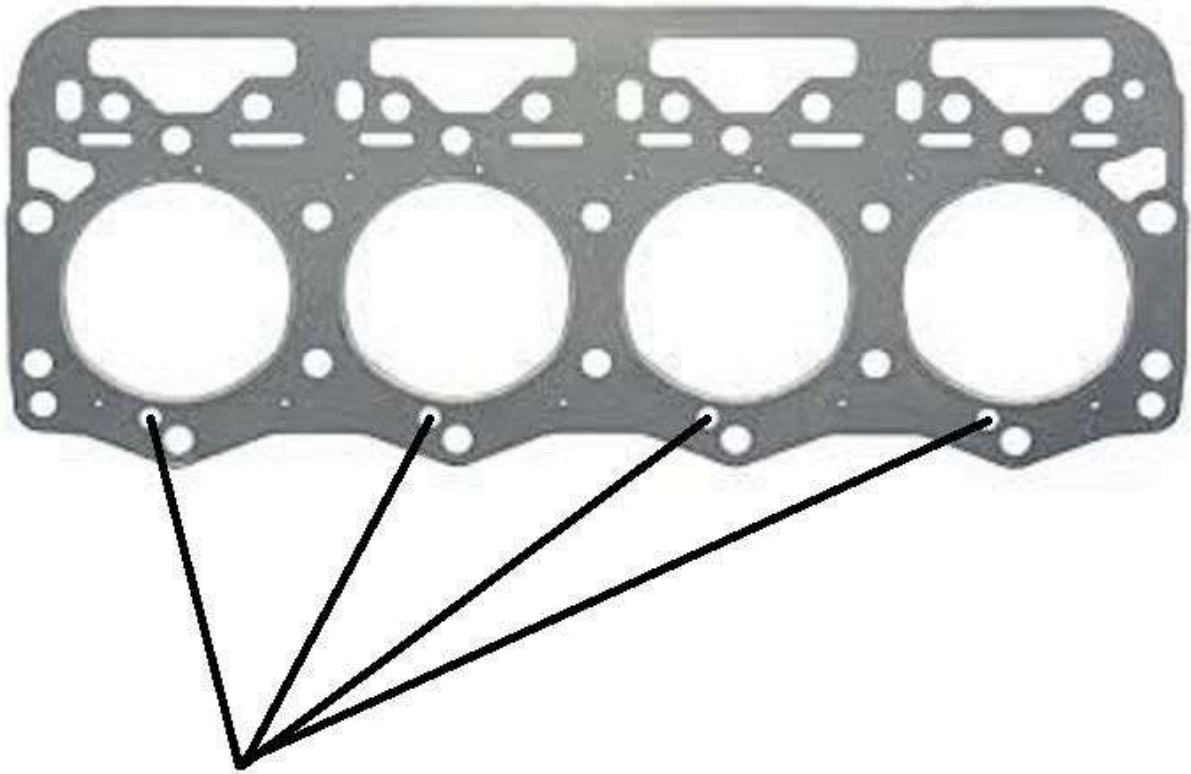
Carefully install head, make sure fire rings are centered in grooves.

Place flat washers on studs, lube washer and upper (fine) threads with ARP Assembly Lube. Torque heads using the provided torque sequence. (see diagram)

Install injectors, glow plugs, and valve cover gasket. Install valve cover using only four bolts.

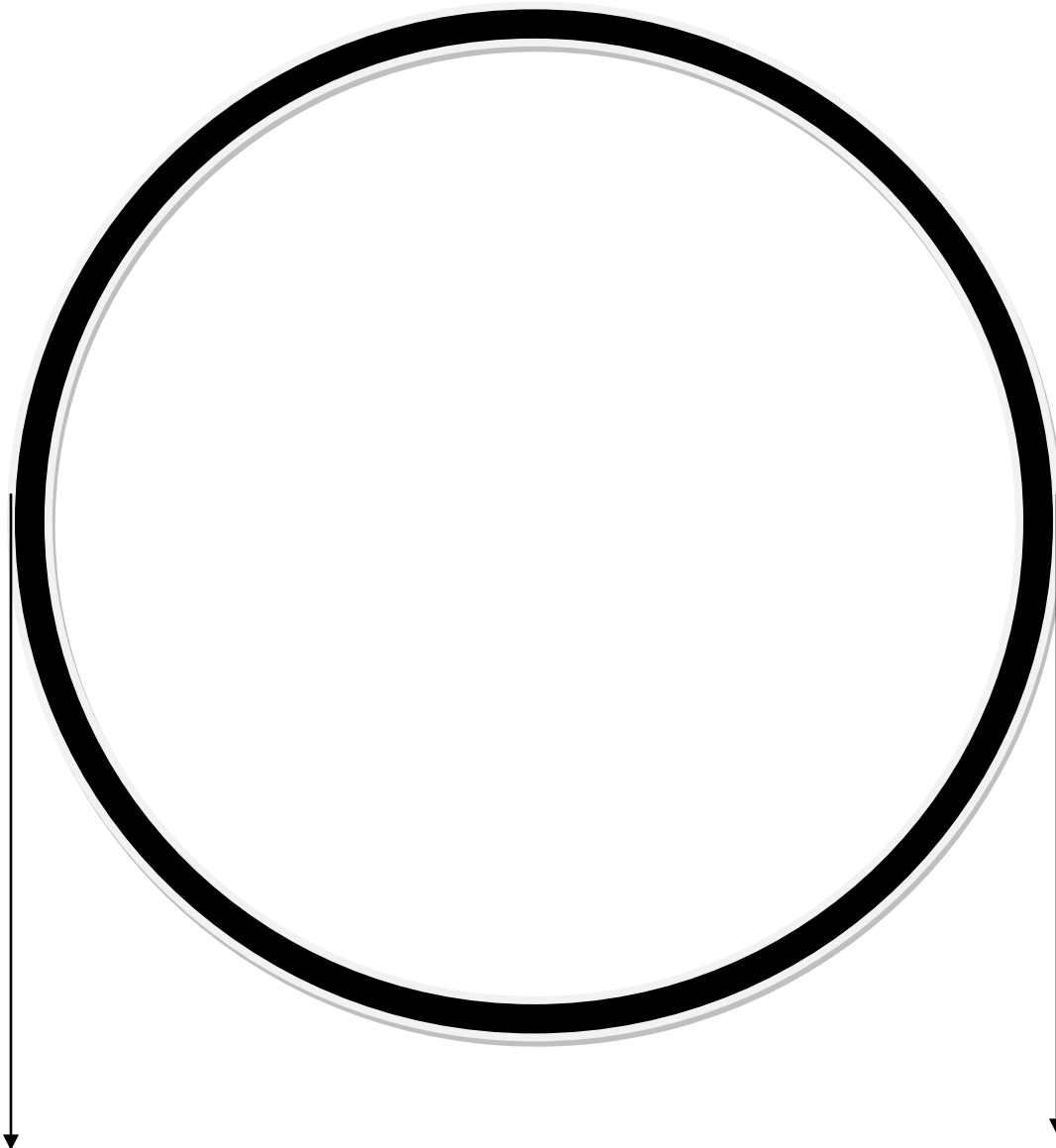
Start the truck and let it idle until it reaches operating temperatures. Shut the truck off and remove valve covers, glow plugs and injectors. Re-torque all studs to 135 ft-lbs. This must be done while the engine is hot. Failure to re-torque studs while engine is hot could lead to possible fire ring failure.

Reinstall injectors, glow plugs, valve covers, etc...



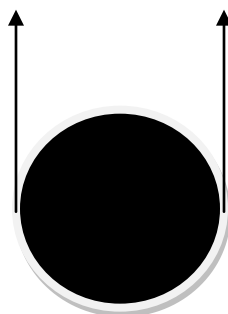
Install water jacket support tubes in heads & block at these locations

.105" diameter wire ring, 4.550" outside diameter (+/-)

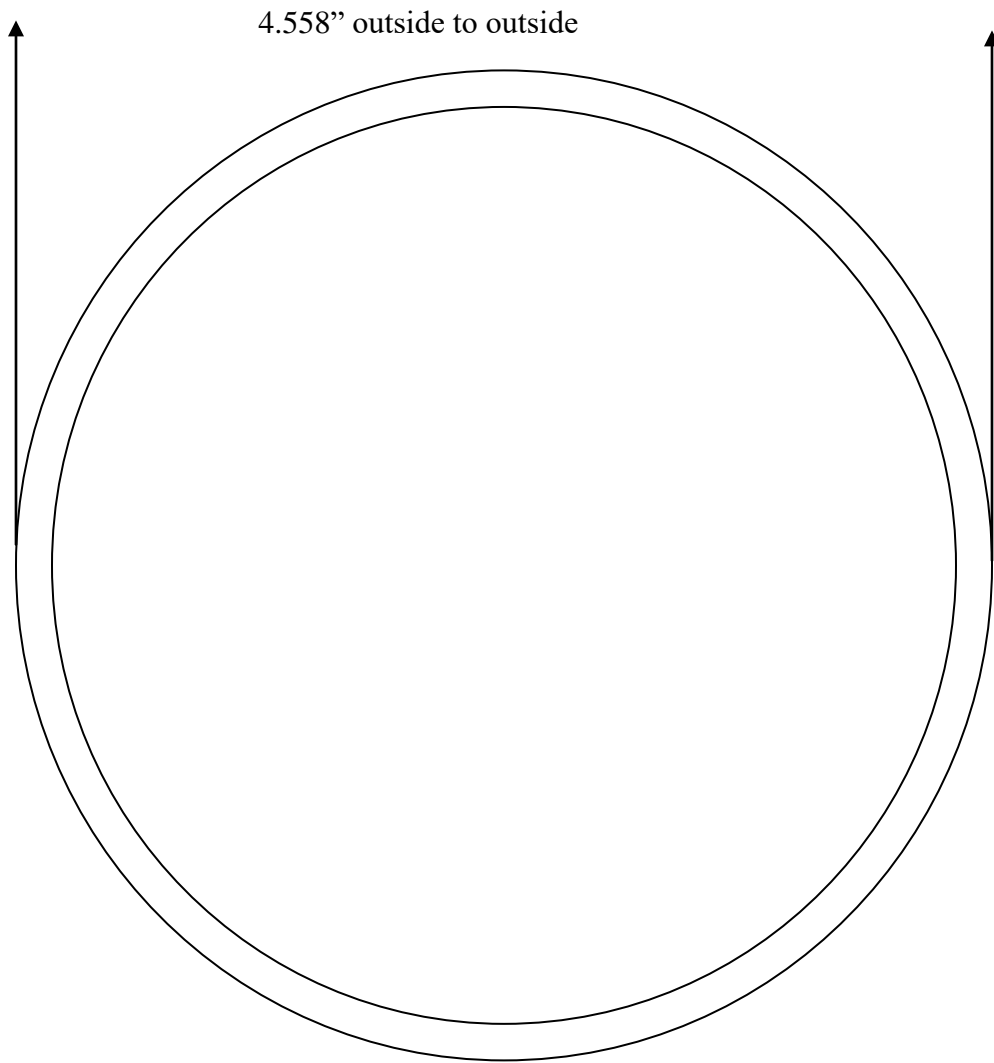


wire ring= 4.550" outside to outside

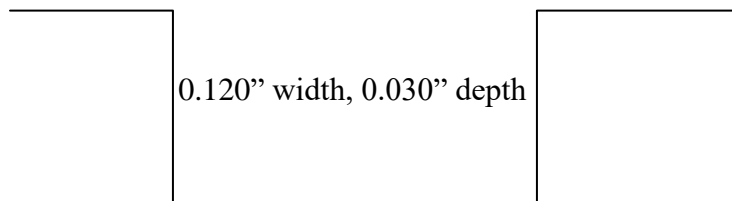
0.105" diameter wire



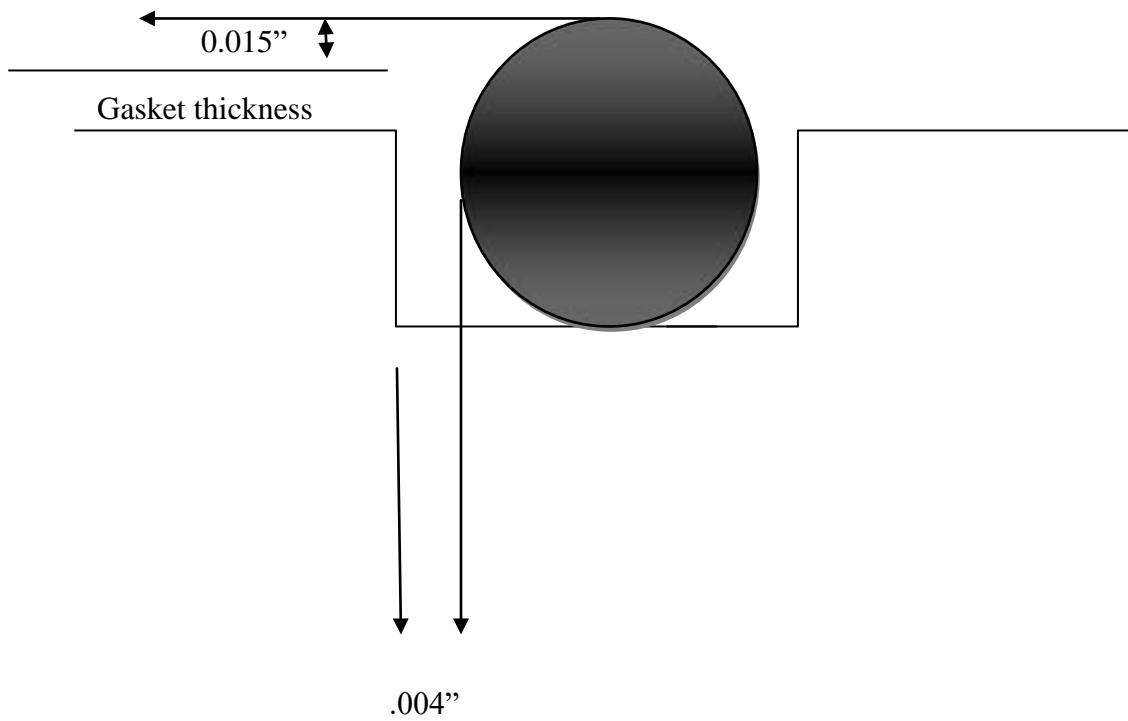
Machined Groove (square cross section)



Cross section of machined groove



Ideal placement of wire in groove



Drawings not to scale