

<b>Technical Service Bulletin Number</b>
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TSB110277
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## Technical Service Bulletin

### Subject

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Signature™, QSX, and ISX CM570/CM870/CM871/CM2250 Replacement Cylinder Liner Compatibility

### Issue

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In January of 2010, a new cylinder block and cylinder liner were introduced for production and service for all 15 liter engines. The new cylinder block was designed to be backward compatible with previous 15 liter engines for service repairs. The cylinder liner design is **not** cross-compatible between cylinder block designs. There is the potential that QuickServe™ Online will list incorrect cylinder block and cylinder liner part numbers for these engines.

Implementation of the new cylinder block was performed in phases at the Jamestown Engine Plant (JEP). Because of the implementation schedule, the new engine could be built with either a small bore diameter cylinder block and cylinder liner, or a large bore diameter cylinder block and cylinder liner.

Any Signature™, QSX, and ISX CM570/CM870/CM871/CM2250 engines that have had a cylinder block kit, ReCon® short-block, ReCon® long-block, or ReCon® engine replaced after January 1st, 2010, could potentially have been built with either a small bore diameter cylinder block and cylinder liner, or a large bore diameter cylinder block and cylinder liner.

### Verification

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Before replacing a flat top designed cylinder liner, verify the size of the cylinder liner presently installed on the engine. The correct cylinder liner can be determined by measuring the outside diameter of the cylinder liner at the cylinder liner o-ring packing area. For a groove top design cylinder liner, the verification is **not** needed when replacing a groove top cylinder liner with

another groove top cylinder liner. See Figure 1 for the location where the measurement is to be taken.

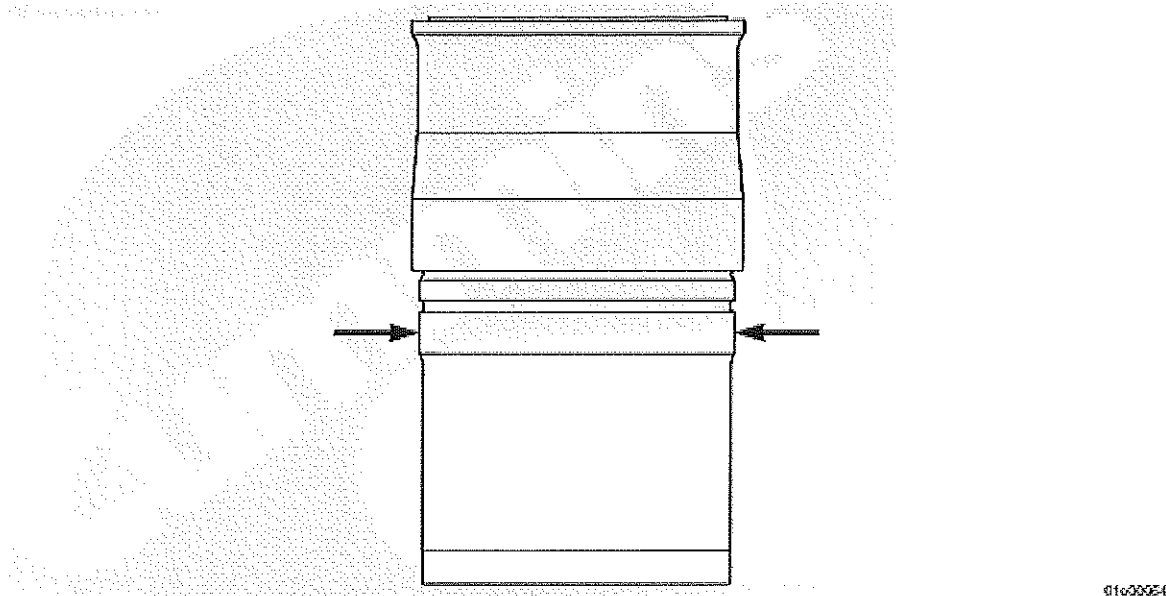


Figure 1, Location of Measurement

**NOTE:** A small outside diameter cylinder liner will visually appear to have been correctly installed into a large bore cylinder block. However, because of the smaller outside diameter of the cylinder liner, it will fit loosely into the cylinder block at the cylinder liner o-ring sealing area. This will result in excessive cylinder liner movement in the cylinder block.

## Resolution

Once the size of the cylinder liner has been determined, refer to the table below for the correct cylinder liner part number.

Cylinder Liner and Kit Part Number		
Liner Outside Diameter (OD)	Cylinder Liner	Cylinder Liner Kit
150 mm [5.906 in]	4311633	4309389
152 mm [5.984 in]	3685235	2881719

**NOTE:** All ISX engine configurations have overhaul kits available with the standard 150 mm [5.906 in] cylinder liners. If the measurement of the cylinder liner at the mid-stop indicates an oversized, 152 mm [5.984 in] cylinder liner is needed, please reference this ISX Overhaul Kit Quick Reference Guide to help you determine the appropriate kit part number to order: [https://quickserve.cummins.com/common/files/qsol/cms/isx\\_cpis\\_piston\\_overhaul\\_cross\\_ref.pdf](https://quickserve.cummins.com/common/files/qsol/cms/isx_cpis_piston_overhaul_cross_ref.pdf)

For engines that do **not** have an overhaul kit released with the oversized 152 mm [5,984 in] cylinder liners, please order the cylinder liners separately to complete the repair.

For Signature™, ISX, and QSX15 CM570/CM870/CM871 engines, use the following procedure for cylinder liner installation in the Signature, ISX, and QSX15 Service Manual, Bulletin 3666239. Refer to Procedure 001-028 in Section 1.

For ISX CM2250 engines, use the following procedure for cylinder liner installation in the ISX CM2250 Service Manual, Bulletin 4022250. Refer to Procedure 001-028 in Section 1.

## Warranty Statement

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The information in this document has no effect on present warranty coverage or repair practices, nor does it authorize TRP or Campaign actions.

## Document History

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Date	Details
2011-9-30	Module Created
2011-12-2	The effected population has expanded and improved the wording to more easily understand what the issue is.
2012-4-13	Due to changes made to the cylinder block the verification process was no longer valid and a new verification neede to be added.
2012-8-29	To include new liner part number and clarity on possible suspended engines.
2014-3-7	Add information on overhaul kits
2014-4-30	none
2014-9-15	Add CM2250 to the statement about engine that have been reblocked

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**Last Modified: 18-Sep-2014**

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