

| Technical Service Bulletin Number | Revision Level | Date | Group Number |
|-----------------------------------|----------------|------|--------------|
| TSB100982 | | | |



Technical Service Bulletin

Subject

New Single Piece, Steel, Closed Skirt, Reduced Diameter Top Land Pistons

Warranty Statement

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

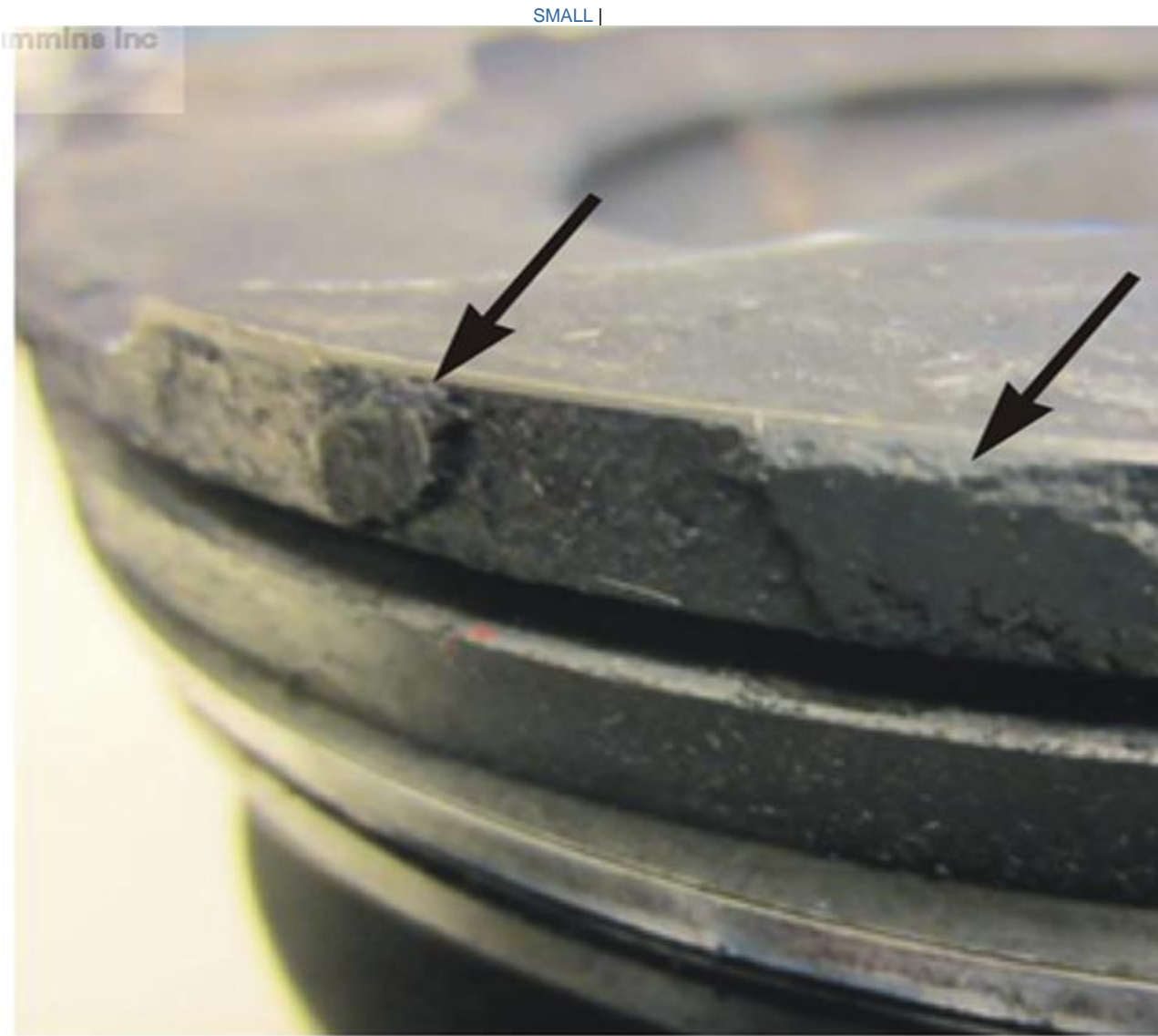
Contents

This document supersedes Service/Parts Topic 09T1-21 (TSB100763).

This document introduces the new ISX15 single piece, steel, closed skirt piston with a reduced diameter top land. The reduced diameter top land design has been implemented to reduce oil consumption and liner polishing due to carbon packing. This new design prevents carbon from packing on the top land of the piston and forming a bridge between the liner and the piston. The reduced diameter allows any carbon that is formed to flake off rather than pack. This new design is backward compatible with previous designs of the closed skirt piston.

If the pistons are closed skirt, non-reduced diameter top land, and bridged carbon packing is found, the pistons should be updated to the new reduced diameter top land design.

In many cases, carbon packing will reoccur if the non-reduced diameter top land pistons are cleaned and reused.



| LARGE

Bridged Carbon Pack Piston (between piston and liner)

| Table 1: Single Piece, Steel, Closed Skirt, Reduced Diameter Top Land Piston Production Start Information | | | |
|---|------------------------|---------------------------------|----------------------------|
| Engine Family | New Piston Part Number | Jamestown Production Start Date | Engine Serial Number First |

Table 1: Single Piece, Steel, Closed Skirt, Reduced Diameter Top Land Piston Production Start Information

| | | | |
|--|--------------------|---------|----------|
| ISX15 Family 1 (EGR Engines CM2250) | 3688405 or 3687897 | 7-29-12 | 79600476 |
| ISX15 Family 2 (EGR Engines CM2250) | 3688099 | 7-10-12 | 79596839 |
| ISX15 Family 3 (EGR Engines CM2250) | 3688100 | 7-16-12 | 79598044 |
| ISX15 Family 1 (EGR Engines CM870/CM871) | 2882630 | 6-15-10 | 79429401 |
| ISX15 Family 2/3 (EGR Engines CM870/CM871) | 2882631 | 6-24-10 | 79430381 |
| ISX15 Family 1/2 (Pre-EGR Engines) | 2882635 | 6-10-10 | 79428939 |
| ISX15 Family 3 (Pre-EGR Engines) | 2882636 | 6-7-10 | 79428675 |

CAUTION

You can not mix closed skirt pistons with open skirt pistons.

Table 2: Single Piece, Steel, Closed Skirt, Reduced Diameter Top Land Piston/Piston Kit Supersession Information

| Engine Family | New Piston Part Number | New Piston Kit Part Number | Old Piston Part Number | Old Piston Kit Part Number |
|---|------------------------|----------------------------|------------------------|----------------------------|
| ISX15 Family 1 (EGR Engines CM2250) Engines built 1-1-2010 to 3-1-2011 | 3688099 | 2881758 | 3686366 | 2881758 |
| ISX15 Family 1 (EGR Engines CM2250) Engines built after 3-1-2011 | 3688405 or 3687897 | 2882080 | 3687605 | 2882080 |
| ISX15 Family 2 (EGR Engines CM2250) | 3688099 | 2881758 | 3686366 | 2881758 |
| ISX15 Family 3 (EGR Engines CM2250) | 3688099 | 2881758 | 3686366 | 2881758 |

| Table 2: Single Piece, Steel, Closed Skirt, Reduced Diameter Top Land Piston/Piston Kit Supersession Information | | | | |
|---|-------------------------------------|----------------------------|-------------------------------------|----------------------------|
| Engine Family | New Piston Part Number | New Piston Kit Part Number | Old Piston Part Number | Old Piston Kit Part Number |
| Engines built 1-1-2010 to 11-1-2010 | | | | |
| ISX15 Family 3 (EGR Engines CM2250) Engines built after 11-1-2010 | 3688100 | 2882023 | 3687177 | 2882023 |
| ISX15 Family 1 (EGR Engines CM870/CM871) | 2882630 | 2881879 | 3684472 | 4955968 |
| ISX15 Family 2/3 (EGR Engines CM870/CM871) | 2882631 | 2881878 | 3684467 | 4955923 |
| ISX15 Family 1/2 (Pre-EGR Engines) | 2882635 | 2881873 | 2863938 | 4955966 |
| ISX15 Family 3 (Pre-EGR Engines) | 2882636 | 2881876 | 2863939 | 4955967 |
| Table 3: Single Piece, Steel, Closed Skirt, Reduced Diameter Top Land Piston Engine Overhaul Kit Part Number Supersession Information | | | | |
| Engine Family | New Engine Overhaul Kit Part Number | | Old Engine Overhaul Kit Part Number | |
| ISX15 Family 1 (EGR Engines CM2250) Engines built 1-1-2010 to 3-1-2011 | 4309341 | | — | |
| ISX15 Family 1 (EGR Engines CM2250) Engines built after 3-1-2011 | 4309343 | | — | |
| ISX15 Family 2 (EGR Engines CM2250) | 4309341 | | — | |
| ISX15 Family 3 (EGR Engines CM2250) Engines built 1-1-2010 to 11-1-2010 | 4309341 | | — | |
| ISX15 Family 3 (EGR Engines CM2250) Engines built after 11-1-2010 | 4309342 | | — | |
| ISX15 Family 1 (EGR Engines | 2881886 | | 4955636 | |

Table 3: Single Piece, Steel, Closed Skirt, Reduced Diameter Top Land Piston Engine Overhaul Kit Part Number Supersession Information

| Engine Family | New Engine Overhaul Kit Part Number | Old Engine Overhaul Kit Part Number |
|--|-------------------------------------|-------------------------------------|
| CM870/CM871) | | |
| ISX15 Family 2/3 (EGR Engines CM870/CM871) | 2881882 | 4955635 |
| ISX15 Family 2/3 (EGR Engines CM870/CM871 - Conversion Kit*) | 2881881 | 4955600 |
| ISX15 Family 1/2 (Pre-EGR Engines) | 2881872 | 4955683 |
| ISX15 Family 1/2 (Pre-EGR Engines - Conversion Kit*) | 2881871 | 4955597 |
| ISX15 Family 3 (Pre-EGR Engines) | 2881875 | 4955684 |
| ISX15 Family 3 (Pre-EGR Engines - Conversion Kit*) | 2881874 | 4955598 |

* - Conversion Kit denotes upgrade kit from articulated pistons (two-piece pistons) to Monotherm™ pistons (one-piece pistons). The kit includes connecting rods.

Table 4: Service Kits (Single piston kits which are not being superseded)

| Engine Family | Kit Part Number | Piston Contained within the Kit | Description |
|--|-----------------|---------------------------------|----------------------------|
| ISX15 Family 1 (EGR Engines CM870/CM871) | 4089898 | 4923747 | Open Skirt Piston Non-RDTL |
| ISX15 Family 2/3 (EGR Engines CM870/CM871) | 4089894 | 4923743 | Open Skirt Piston Non-RDTL |
| ISX15 Family 1/2 (Pre-EGR Engines) | 4089896 | 4923745 | Open Skirt Piston Non-RDTL |
| ISX15 Family 1/2/3 - QSX15 (Pre-EGR Engines) | 2882118 | 4298991 | Open Skirt Piston RTDL |
| ISX15 Family 3 (Pre-EGR Engines) | 4089897 | 4923746 | Open Skirt Piston Non-RDTL |
| QSX15 | 2882120 | 4298992 | Open Skirt Piston RTDL |

Document History

| Date | Details |
|------|---------|
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| Date | Details |
|-----------|--|
| 2010-7-23 | Module Created |
| 2012-5-30 | Updated TSB to include comments about replacing non-reduced diameter top land pistons with new design when bridged carbon packing is experienced. This will help reduce repeat failures. |
| 2012-8-10 | ISX15 CM2250 started in production at Jamestown with the RDTL pistons |
| 2012-8-14 | Update with ESN first information for pre-CM2250 I5 liter engines |
| 2012-8-20 | Add ISX15 CM871 piston kit and overhaul kit information |
| 2012-10-8 | Updating TSB100982 with engine ECM names and current part numbers |
| 2013-1-2 | Changes to TSB100982 to include the early ISX15 CM2250 engines with the same pistons for all three families |

Last Modified: 08-Jan-2013