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| Technical Service Bulletin Number | Revision Level | Date | Group Number |
| TSB100890 | SB-10051979-2461 | | |



Technical Service Bulletin

Subject

Heater, Insulation, and Related Parts For Use on Crankcase Breather Systems

Original Topic Number: 10T3-2.

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 announces the release of a crankcase breather heater, insulation, and related parts for the external crankcase breather system on ISM CM876, ISX CM871, ISX11.9/12 CM2250, QSX11.9 CM2250, ISX15 CM2250, QSX15 CM2250, ISX12 CM2350, and ISX15 CM2350 engines.

Due to condensation in the breather system, freezing may occur in certain cold weather environments and operating conditions. This can affect all Heavy Duty applications that have an external crankcase breather system. Freezing of the breather system can lead to engine, turbocharger, and aftertreatment system damage, if **not** addressed properly.

The heater and insulation are designed to reduce the possibility of freezing occurring in the external crankcase breather system. The parts include a heated/insulated external crankcase breather assembly, Part Number 3688698 (12 volt) or Part Number 3688716 (24 volt), molded insulated breather inlet hose, Part Number 3688609, and molded insulated breather outlet (draft tube) hose, Part Number 3688597 or Part Number 3688643.

Beginning December 12, 2012 with ESN first 79629425, ISX15 CM2250, and QSX15 CM2250 (12 volt systems), and ISX15 CM2350 engines are assembled with the heated/insulated external crankcase breather assembly, and molded insulated breather inlet and outlet hoses.

For ISM CM876, ISX CM871, ISX11.9/12 CM2250, QSX12 CM2250, ISX15 CM2250, and QSX15 CM2250 engines built prior to December 12, 2012 with ESN first 79629425, the parts can be purchased and installed to upfit on units that operate in cold weather conditions to prevent freezing from occurring. See the tables below for the correct Part Numbers and Installation Instruction Bulletin Numbers for the specific engine model. Installation Instructions can be found on QuickServe™ Online.

**Table 1. Heater and Related Components
ISX15 CM2250 (With Rocker Lever Cover Crankcase Pre-separator),
QSX15 CM2250, and ISX15 CM2350 Engines**

| Description | Part Number | Quantity |
|--|--------------------------|----------|
| Installation Instruction | 4907873 | N/A |
| *Heated/Insulated External Crankcase Breather Assembly (12 volt) or *Heated/Insulated External Crankcase Breather Assembly (24 volt) | 3688698 or 3688716 | 1 |
| **Crankcase Breather Cover-Service Insulation | 3688689 | 1 |
| **Crankcase Breather Heater (12 volt) or **Crankcase Breather Heater (24 volt) | 2878181 or 2878184 | 1 |
| Breather Inlet Hose | 3688609 | 1 |
| ***Breather Outlet (Draft Tube) Hose | 3688597 or 3688643 | 1 |
| ****P-clip | 172558 | 1 |
| Wire ties | 4952223 | 10 |

NOTE: The engine can be upfit with either a heated/insulated external crankcase breather assembly or crankcase breather heater and crankcase breather cover-service insulation can be installed on the engine's existing external crankcase breather assembly.

***Only** one external crankcase breather assembly per application is required, either a 12 volt or 24 volt, depending on the engine system.

The crankcase breather cover service insulation and **only one heater per application is required if the engine is being upfit using the engine's existing external crankcase breather assembly. Either a 12 volt or 24 volt heater is required, depending on the engine system.

*****Only** one outlet (draft tube) hose per application is required, the part number will depend on the engine application.

**** The P-clip is needed to accommodate the thicker insulated outlet (draft tube) hose.

Table 2. Heater and Related Components

ISX15 CM2250 (With Upper Gear Cover Crankcase Pre-separator) Engines

| Description | Part Number | Quantity |
|--|--------------------------|----------|
| Installation Instruction | 4907873 | N/A |
| *Heated/Insulated External Crankcase Breather Assembly (12 volt) or *Heated/Insulated External Crankcase Breather Assembly (24 volt) | 3688698 or 3688716 | 1 |
| **Crankcase Breather Cover-Service Insulation | 3688689 | 1 |
| **Crankcase Breather Heater (12 volt) or **Crankcase Breather Heater (24 volt) | 2878181 or 2878184 | 1 |
| Tube Insulation (For Breather Inlet Hose) | 2878268 | 1 |
| ***Breather Outlet (Draft Tube) Hose | 3688597 or 3688643 | 1 |
| ****P-clip | 172558 | 1 |
| Wire ties | 4952223 | 10 |

NOTE: The engine can be upfit with either a heated/insulated external crankcase breather assembly or crankcase breather heater and crankcase breather cover-service insulation can be installed on the engines' existing external crankcase breather assembly.

***Only** one external crankcase breather assembly per application is required, either a 12 volt or 24 volt, depending on the engine system.

The crankcase breather cover service insulation and **only one heater per application is required if the engine is being upfit using the engine's existing external crankcase breather assembly. Either a 12 volt or 24 volt heater is required, depending on the engine system.

*****Only** one outlet (draft tube) hose per application is required. The part number will depend on the engine application.

**** The P-clip is needed to accommodate the thicker insulated outlet (draft tube) hose.

**Table 3. Heater and Related Components
ISM CM876 and ISX CM871 Engines**

| Description | Part Number | Quantity |
|--|--------------------------|----------|
| Installation Instruction | 4907873 | N/A |
| *Heated/Insulated External Crankcase Breather Assembly (12 volt) or *Heated/Insulated External Crankcase Breather Assembly (24 volt) | 3688698 or 3688716 | 1 |
| **Crankcase Breather Cover-Service Insulation | 3688689 | 1 |

| | | |
|--|--------------------------|----|
| **Crankcase Breather Heater (12 volt) or **Crankcase Breather Heater (24 volt) | 2878181 or 2878184 | 1 |
| Breather Inlet and Outlet Hose Insulation | 2878268 | 2 |
| *Wire Harness | 2878182 | 1 |
| Wire ties | 4952223 | 10 |
| Calibration as listed in the Installation Instruction | NA | NA |

NOTE: The engine can be upfit with either a heated/insulated external crankcase breather assembly or crankcase breather heater and crankcase breather cover-service insulation can be installed on the engine's existing external crankcase breather assembly.

***Only** one external crankcase breather assembly per application is required, either a 12 volt or 24 volt, depending on the engine system.

******The crankcase breather cover service insulation and **only** one heater per application is required if the engine is being upfit using the engine's existing external crankcase breather assembly. Either a 12 volt or 24 volt heater is required, depending on the engine system.

**Table 4. Heater and Related Components
ISX11.9/12 CM2250, QSX11.9 CM2250, and ISX12 CM2350 Engines**

| Description | Part Number | Quantity |
|---------------------------------------|-------------|----------|
| Installation Instruction | 4907993 | N/A |
| Crankcase Breather Cover Insulation | 2894622 | 1 |
| Crankcase Breather Housing Insulation | 2894623 | 1 |
| Tube Insulation | 2878268 | 2 |
| *Crankcase Breather Heater (12 volt) | 2878181 | 1 |
| *Crankcase Breather Heater (24 volt) | 2878184 | 1 |
| Wire ties | 4952223 | 10 |

***Only** one heater per application is required, either a 12 volt or a 24 volt system, depending on the engine application.

Document History

| Date | Details |
|------------|---|
| 2011-12-14 | TO include the additional release of parts list for the ISX 11.9L CM2250 and to also include the ISX 15L CM2250 on the current list of parts. |
| 2012-8-3 | Update TSB to reflect new service insulation part number. |
| 2012-12-14 | The addition of ISX CM2350, QSX CM2250 |

2013-1-28 Inclusion of ISX CM2350 into Table 4.

Last Modified: 30-Jan-2013

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