



# Technical Service Bulletin

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|--------------------------------------------------------|-----------------------------------|
| <b>Technical Service Bulletin:</b><br>TSB170066        | <b>Released Date:</b> 20-Mar-2018 |
| <b>New Diamond-Like Coated Steel Fuel Pump Plunger</b> |                                   |

## New Diamond-Like Coated Steel Fuel Pump Plunger

### 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.

### Contents

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#### Product Affected

- ISC CM850
- ISCe CM2150
- ISL CM850
- ISL8.9 CM2150 L110
- ISL9 CM2150 SN
- ISL9.5 CM2150 SN
- ISLe4 CM850
- QSC8.3 CM850
- QSL9 CM850

#### Description of Change

- Fuel pump head ceramic plungers have been replaced with steel diamond-like coated plungers.
- New diamond-like coated steel fuel pump plunger is available for service.
- See Figures 1, 2, and 3 in Part Identification section below for visual difference between ceramic and steel fuel pump plungers.

#### Reason for Change

New diamond-like coated steel fuel pump plungers are more robust and are resistant to

fractures and breakage.

### Service Instructions

#### **⚠ CAUTION ⚠**

**Fuel pump barrel and plunger assemblies and individual plungers are not interchangeable between different fuel pumps or even within the same fuel pump. Excess fuel in the lubricating oil and severe fuel pump damage may result.**

#### **⚠ CAUTION ⚠**

**Debris generated by fractured fuel pump plungers will damage the fuel pump and impact engine performance. Extensive fuel pump damage can result in a mission disabling event.**

- Changing from ceramic to diamond-like coated steel plungers will require a quantity of two Service, Kit(s) Part Number 5472940. See Table 1 for part numbers.
- Troubleshoot any performance symptoms and active or recently inactive fault codes related to fuel system before proceeding. Example: no start or hard start or Fault Codes: 559, 1911.
- If ceramic fuel pump plunger(s) are damaged, inspect fuel pump head using reuse guidelines. See corresponding Service Manual. Reference Procedure 005-227 in Section 5. Repairs can be performed by replacing steel fuel pump plunger and barrel assembly with steel fuel pump plunger and barrel assembly kit. See Table 1 below for part numbers.
- Fuel pumps being repaired or inspected for any symptoms listed above **must** reuse original fuel pump head.

The fuel pump assembly **must** be replaced if any of the following conditions exists:

- Broken tappet spring(s)
- Broken spring retainer(s)
- Broken ceramic plunger(s)
- Complaints/confirmed excessive fuel in lubricating oil

### Service Parts Availability

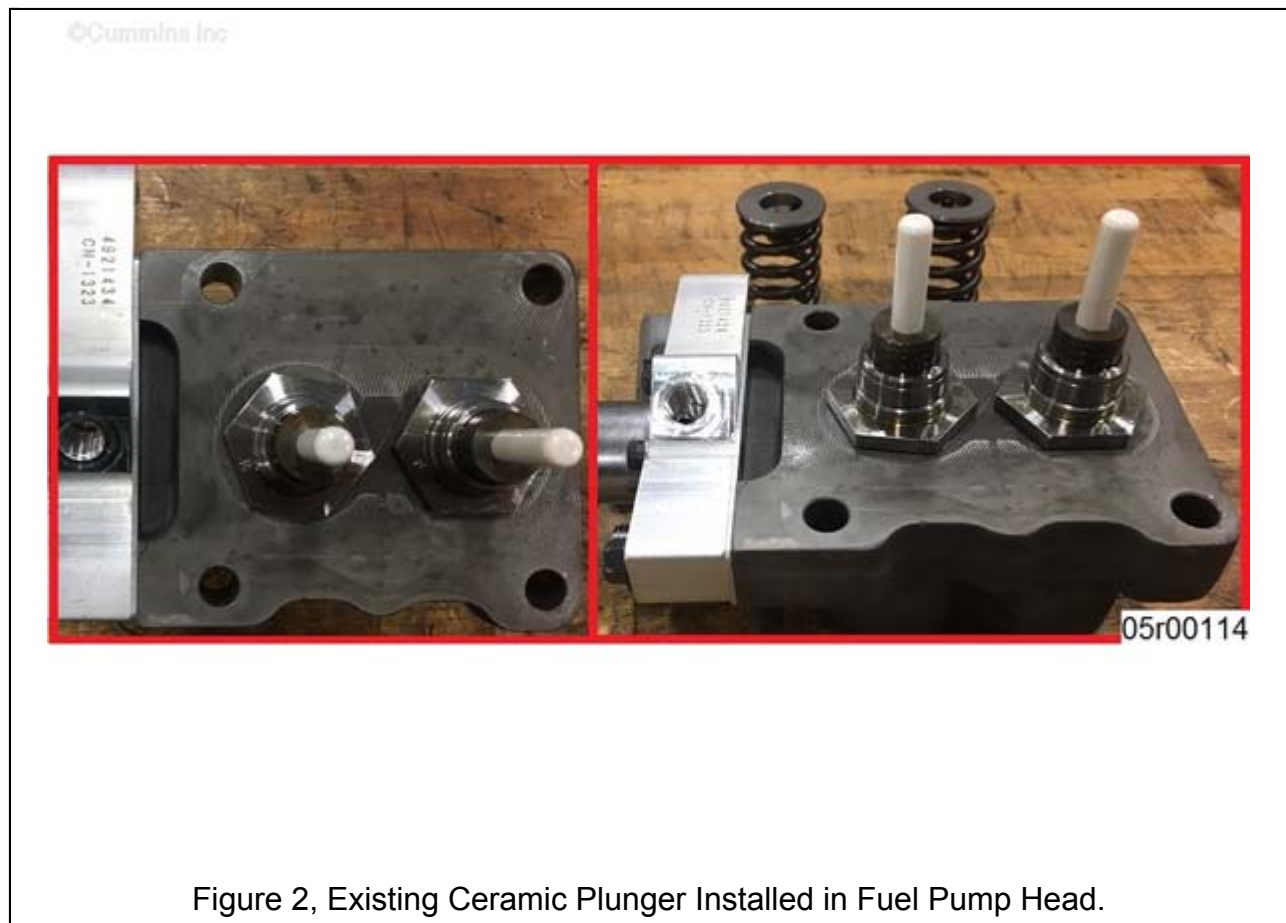
Service parts are available. See Table 1 for part numbers.

| <b>Table 1, Service Parts</b> |                    |
|-------------------------------|--------------------|
| <b>Part Description</b>       | <b>Part Number</b> |
| Fuel Pump Assembly            | 4954200            |

| Table 1, Service Parts                                                                                            |             |
|-------------------------------------------------------------------------------------------------------------------|-------------|
| Part Description                                                                                                  | Part Number |
| Head, Fuel Pump                                                                                                   | 4954199     |
| Kit, Service                                                                                                      | 5472940*    |
| * Changing from ceramic to diamond-like coated steel plungers will require a quantity of two of this part number. |             |

### Part Identification







### Publications Affected

| Table 3, Publications Affected    |                         |                 |                   |                                                                                   |         |
|-----------------------------------|-------------------------|-----------------|-------------------|-----------------------------------------------------------------------------------|---------|
| Manual Type                       | Engine                  | Bulletin Number | Procedure Title   | Procedure                                                                         | Section |
| Troubleshooting and Repair Manual | ISC/ISLe3/ISLe4/QSC/QSL | 4021418         | Fuel Pump Head(s) | Refer to Procedure 005-227 (/qs3/pubsys2/xml/en/procedures/45/45-005-227-tr.html) | 5       |

| <b>Table 3, Publications Affected</b> |                    |                        |                        |                                                                                         |                |
|---------------------------------------|--------------------|------------------------|------------------------|-----------------------------------------------------------------------------------------|----------------|
| <b>Manual Type</b>                    | <b>Engine</b>      | <b>Bulletin Number</b> | <b>Procedure Title</b> | <b>Procedure</b>                                                                        | <b>Section</b> |
| Service Manual                        | ISLe CM2150        | 4021630                | Fuel Pump Head         | Refer to Procedure 005-227 (/qs3/pubsys2/xml/en/procedures/45/45-005-227-tr-isclw.html) | 5              |
| Service Manual                        | ISL8.9 CM2150 L110 | 4358475                | Fuel Pump Head         | Refer to Procedure 005-227 (/qs3/pubsys2/xml/en/procedures/323/323-005-227.html)        | 5              |
| Service Manual                        | ISL9 CM2150 SN     | 4022190                | Fuel Pump Head(s)      | Refer to Procedure 005-227 (/qs3/pubsys2/xml/en/procedures/45/45-005-227-tr-isle5.html) | 5              |

## Document History

| <b>Date</b> | <b>Details</b> |
|-------------|----------------|
| 2017-5-16   | Module Created |
|             |                |

| Date      | Details                           |
|-----------|-----------------------------------|
| 2018-3-12 | Non-Product Problem Solving (PPS) |

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**Last Modified: 20-Mar-2018**

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