

FLA COE  
FLB COE  
FLD Conventional  
Business Class  
FLC 112 Conventional

> Century Class Conventional  
> Argosy COE  
Cargo  
Columbia

122SD and Coronado  
Business Class M2  
Cascadia  
108SD/114SD

**Freightliner  
Service Bulletin**

**Description of Revisions:** *This bulletin replaces the version dated October 2015. Part numbers are revised, and speedometer ordering is detailed in [Table 4](#).*

## General Information

Production of the ICU2M instrumentation control unit has been discontinued. The ICU4M should be installed if the ICU2M needs replacement.

Several circuits need to be relocated before the ICU4M can be installed. Refer to the guidelines in this bulletin to relocate the circuits, then refer to the applicable workshop manual for instructions on removing and replacing the ICU. See [Table 1](#).

| ICU Replacement Procedures |                    |                                            |
|----------------------------|--------------------|--------------------------------------------|
| Vehicle                    | Procedure          | Section                                    |
| Century Class              | ICU2M Removal      | <a href="#">Section 54.19, Subject 100</a> |
|                            | ICU4M Installation | <a href="#">Section 54.25, Subject 100</a> |

**Table 1, ICU Replacement Procedures**

NOTE: None of the original ICU2M parts, except mounting screws, will be reused. All replacement part numbers should be supplied in the tables below.

## ICU2M to ICU4M Conversion

1. Disconnect the batteries.

NOTE: The keypad for the ICU2M is not used on the ICU4M. The keypad will remain in place after the conversion, but will not be operational.

2. Remove the ICU2M. Refer to the applicable workshop manual for instructions.

NOTE: Refer to 23-13143 for a description of connectors used on the ICU2M.

3. Remove circuit 442B from cavity A2, and seal the circuit.
4. Remove circuit GND C from cavity D10, and seal the circuit.

NOTE: On the Argosy only, optional telltale 24-01347-009 must be moved to slot 5 of the new cluster.

5. Install the ICU4M. Refer to the applicable workshop manual for instructions.

NOTE: The top row of indicating lamps in the ICU are optional lens locations and must be replaced with new ones for the ICU4. Use ShopTech to refer to the engineering ICU warning lamp legend for ordering replacements. See [Table 2](#).

6. Connect the batteries.
7. Once installation is complete, test the ICU4M to ensure there are no errors in ServiceLink related to parts or parameters not matching the new ICU.
8. When the operation of the ICU4M is verified, add a global annotation in PartsPro per Parts Technical Bulletin 00-009.

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| ICU Warning Lamp Legend |          |
|-------------------------|----------|
| ICU2                    | ICU4     |
| 24-00585                | 24-01347 |

Table 2, ICU Warning Lamp Legend

**Parts**

| ICU2M to ICU4M Conversion |                      |             |           |                        |               |              |
|---------------------------|----------------------|-------------|-----------|------------------------|---------------|--------------|
| ICU2M Parts               |                      |             |           | ICU4M Conversion Parts |               |              |
| ICU2M (732)               | English/Metric (810) | EPA (99C)   | RSA (49B) | Light Bar              | Top Trim      | Gauge Panel* |
| A22-48313-019             | MPH/KPH              | PRE EPA2007 | No        | A22-61097-300          | A18-49740-001 | 22-59420-xxx |
| A22-48313-019             | KPH/MPH              | PRE EPA2007 | No        | A22-61097-320          | A18-49740-001 | 22-59420-xxx |
| A22-48313-019             | KPH Only             | PRE EPA2007 | No        | A22-61097-330          | A18-49740-001 | 22-59420-xxx |
| A22-48313-019             | MPH/KPH              | PRE EPA2007 | Yes       | A22-61097-400          | A18-49740-001 | 22-59420-xxx |
| A22-48313-019             | KPH/MPH              | PRE EPA2007 | Yes       | A22-61097-420          | A18-49740-001 | 22-59420-xxx |
| A22-48313-019             | KPH Only             | PRE EPA2007 | Yes       | A22-61097-430          | A18-49740-001 | 22-59420-xxx |
| A22-48313-019             | MPH/KPH              | EPA2007     | No        | A22-61097-100          | A18-49740-001 | 22-59420-xxx |
| A22-48313-019             | KPH/MPH              | EPA2007     | No        | A22-61097-120          | A18-49740-001 | 22-59420-xxx |
| A22-48313-019             | KPH Only             | EPA2007     | No        | A22-61097-130          | A18-49740-001 | 22-59420-xxx |
| A22-48313-019             | MPH/KPH              | EPA2007     | Yes       | A22-61097-200          | A18-49740-001 | 22-59420-xxx |
| A22-48313-019             | KPH/MPH              | EPA2007     | Yes       | A22-61097-220          | A18-49740-001 | 22-59420-xxx |
| A22-48313-019             | KPH Only             | EPA2007     | Yes       | A22-61097-230          | A18-49740-001 | 22-59420-xxx |
| A22-48313-020 or -022     | MPH/KPH              | PRE EPA2007 | No        | A22-61097-300          | A18-49740-000 | 22-59223-xxx |
| A22-48313-020 or -022     | KPH/MPH              | PRE EPA2007 | No        | A22-61097-320          | A18-49740-000 | 22-59223-xxx |
| A22-48313-020 or -022     | KPH Only             | PRE EPA2007 | No        | A22-61097-330          | A18-49740-000 | 22-59223-xxx |
| A22-48313-020 or -022     | MPH/KPH              | PRE EPA2007 | Yes       | A22-61097-400          | A18-49740-000 | 22-59223-xxx |
| A22-48313-020 or -022     | KPH/MPH              | PRE EPA2007 | Yes       | A22-61097-420          | A18-49740-000 | 22-59223-xxx |
| A22-48313-020 or -022     | KPH Only             | PRE EPA2007 | Yes       | A22-61097-430          | A18-49740-000 | 22-59223-xxx |
| A22-48313-020 or -022     | MPH/KPH              | EPA2007     | No        | A22-61097-100          | A18-49740-000 | 22-59223-xxx |
| A22-48313-020 or -022     | KPH/MPH              | EPA2007     | No        | A22-61097-120          | A18-49740-000 | 22-59223-xxx |
| A22-48313-020 or -022     | KPH Only             | EPA2007     | No        | A22-61097-130          | A18-49740-000 | 22-59223-xxx |
| A22-48313-020 or -022     | MPH/KPH              | EPA2007     | Yes       | A22-61097-200          | A18-49740-000 | 22-59223-xxx |
| A22-48313-020 or -022     | KPH/MPH              | EPA2007     | Yes       | A22-61097-220          | A18-49740-000 | 22-59223-xxx |

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| ICU2M to ICU4M Conversion |                      |             |           |                        |               |              |
|---------------------------|----------------------|-------------|-----------|------------------------|---------------|--------------|
| ICU2M Parts               |                      |             |           | ICU4M Conversion Parts |               |              |
| ICU2M (732)               | English/Metric (810) | EPA (99C)   | RSA (49B) | Light Bar              | Top Trim      | Gauge Panel* |
| A22-48313-020 or -022     | KPH Only             | EPA2007     | Yes       | A22-61097-230          | A18-49740-000 | 22-59223-xxx |
| A22-48313-021             | MPH/KPH              | PRE EPA2007 | No        | A22-61097-330          | A18-49741-000 | 22-59449-xxx |
| A22-48313-021             | KPH/MPH              | PRE EPA2007 | No        | A22-61097-330          | A18-49741-000 | 22-60373-xxx |
| A22-48313-021             | KPH Only             | PRE EPA2007 | No        | A22-61097-330          | A18-49741-000 | 22-63524-xxx |
| A22-48313-021             | MPH/KPH              | PRE EPA2007 | Yes       | A22-61097-430          | A18-49741-000 | 22-59449-xxx |
| A22-48313-021             | KPH/MPH              | PRE EPA2007 | Yes       | A22-61097-430          | A18-49741-000 | 22-60373-xxx |
| A22-48313-021             | KPH Only             | PRE EPA2007 | Yes       | A22-61097-430          | A18-49741-000 | 22-63524-xxx |
| A22-48313-021             | MPH/KPH              | EPA2007     | No        | A22-61097-130          | A18-49741-000 | 22-59449-xxx |
| A22-48313-021             | KPH/MPH              | EPA2007     | No        | A22-61097-130          | A18-49741-000 | 22-60373-xxx |
| A22-48313-021             | KPH Only             | EPA2007     | No        | N/A                    | N/A           | N/A          |
| A22-48313-021             | MPH/KPH              | EPA2007     | Yes       | A22-61097-230          | A18-49741-000 | 22-59449-xxx |
| A22-48313-021             | KPH/MPH              | EPA2007     | Yes       | A22-61097-230          | A18-49741-000 | 22-60373-xxx |
| A22-48313-021             | KPH Only             | EPA2007     | Yes       | N/A                    | N/A           | N/A          |

\* Refer to "Parts Bulletin 54-053 - Driver's Instrument Panel" for information on ordering instrument panels with pre-punched gauge panels.

**Table 3, ICU2M to ICU4M Conversion**

NOTE: A mounting screw P/N 23-11345-707 is required to mount the panel to the top trim.

## Feature Modifications

NOTE: A06-41592-007 is 7 inches (17 cm) long. If longer lengths are required use one of the following: A06-41592-020 = 20 inches (50cm) or A06-41592-094 = 94 inches (246 cm).

| Speedometer Conversion |           |           |                  |               |
|------------------------|-----------|-----------|------------------|---------------|
| ICU2M                  |           |           | ICU4M Conversion |               |
| ICU2M (838)            | Trim Ring | US/Metric | ICU4M            | Jumper        |
| 22-46507-000           | Black     | MPH/KPH   | A22-59203-001    | A06-41592-007 |
| 22-46507-001           | Black     | KPH/MPH   | A22-59203-021    | A06-41592-007 |
| 22-46507-002           | Black     | KPH Only  | A22-59203-031    | A06-41592-007 |
| 22-46507-010           | Chrome    | MPH/KPH   | A22-59203-101    | A06-41592-007 |
| 22-46507-011           | Chrome    | KPH/MPH   | A22-59203-121    | A06-41592-007 |
| 22-46507-012           | Chrome    | KPH Only  | A22-59203-131    | A06-41592-007 |

**Table 4, Speedometer Conversion**

| Tachometer Conversion |           |                  |               |
|-----------------------|-----------|------------------|---------------|
| ICU2M                 |           | ICU4M Conversion |               |
| ICU2M (812)           | Trim Ring | ICU4M            | Jumper        |
| 22-46508-000          | Black     | A22-59204-001    | A06-41592-007 |

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| Tachometer Conversion |           |                  |               |
|-----------------------|-----------|------------------|---------------|
| ICU2M                 |           | ICU4M Conversion |               |
| ICU2M (812)           | Trim Ring | ICU4M            | Jumper        |
| 22-46508-010          | Chrome    | A22-59204-101    | A06-41592-007 |

**Table 5, Tachometer Conversion**

| Voltmeter Conversion |           |                  |               |
|----------------------|-----------|------------------|---------------|
| ICU2M                |           | ICU4M Conversion |               |
| ICU2M (836)          | Trim Ring | ICU4M            | Jumper        |
| 22-46509-000         | Black     | A22-59209-001    | A06-41592-007 |
| 22-46509-010         | Chrome    | A22-59209-101    | A06-41592-007 |

**Table 6, Voltmeter Conversion**

NOTE: The Air Pressure Gauges for the ICU2 were mechanical gauges. Refer to the note above regarding jumper lengths.

| Air Pressure Gauge Conversion |           |           |                  |               |
|-------------------------------|-----------|-----------|------------------|---------------|
| ICU2M                         |           |           | ICU4M Conversion |               |
| ICU2M (838)                   | Trim Ring | US/Metric | ICU4M            | Jumper        |
| 22-53813-000<br>or -100       | Black     | PSI       | A22-59219-201    | A06-41592-007 |
| 22-53813-001<br>or -101       | Black     | KPA       | A22-59219-221    | A06-41592-007 |
| 22-53813-010<br>or -110       | Chrome    | PSI       | A22-59219-301    | A06-41592-007 |
| 22-53813-011<br>or -111       | Chrome    | KPA       | A22-59219-321    | A06-41592-007 |

**Table 7, Air Pressure Gauge Conversion**

| Primary and Secondary Air Gauges |           |                |                   |                    |
|----------------------------------|-----------|----------------|-------------------|--------------------|
| ICU2M                            |           |                | ICU4M Conversion  |                    |
| Air Pressure ICU2 (840)          | Trim Ring | English/Metric | Primary/Secondary | Air Pressure ICU4) |
| 22-46511-000                     | Black     | PSI            | Primary           | A22-59217-201      |
| 22-46511-001                     | Black     | KPA            | Primary           | A22-59217-221      |
| 22-46511-010                     | Chrome    | PSI            | Primary           | A22-59217-301      |
| 22-46511-011                     | Chrome    | KPA            | Primary           | A22-59217-321      |
| 22-46512-000                     | Black     | PSI            | Secondary         | A22-59218-201      |
| 22-46512-001                     | Black     | KPA            | Secondary         | A22-59218-221      |
| 22-46512-010                     | Chrome    | PSI            | Secondary         | A22-59218-301      |
| 22-46512-011                     | Chrome    | KPA            | Secondary         | A22-59218-321      |

**Table 8, Primary and Secondary Air Gauges**

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| Turbo Boost Gauge Conversion |           |           |                  |               |
|------------------------------|-----------|-----------|------------------|---------------|
| ICU2M                        |           |           | ICU4M Conversion |               |
| ICU2M (842)                  | Trim Ring | US/Metric | ICU4M            | Jumper        |
| 22-46513-000                 | Black     | PSI       | A22-59211-001    | A06-41592-007 |
| 22-46513-001                 | Black     | KPA       | A22-59211-021    | A06-41592-007 |
| 22-46513-010                 | Chrome    | PSI       | A22-59211-101    | A06-41592-007 |
| 22-46513-011                 | Chrome    | KPA       | A22-59211-121    | A06-41592-007 |

**Table 9, Turbo Boost Gauge Conversion**

| Fuel Gauge Conversion |           |                  |               |
|-----------------------|-----------|------------------|---------------|
| ICU2M                 |           | ICU4M Conversion |               |
| ICU2M (844)           | Trim Ring | ICU4M            | Jumper        |
| 22-46514-000          | Black     | A22-59207-001    | A06-41592-007 |
| 22-46514-010          | Chrome    | A22-59207-101    | A06-41592-007 |

**Table 10, Fuel Gauge Conversion**

| Engine Oil Pressure Gauge Conversion |           |           |                  |               |
|--------------------------------------|-----------|-----------|------------------|---------------|
| ICU2M                                |           |           | ICU4M Conversion |               |
| ICU2M (854)                          | Trim Ring | US/Metric | ICU4M (852)      | Jumper        |
| 22-46516-000                         | Black     | PSI       | A22-59205-001    | A06-41592-007 |
| 22-46516-001                         | Black     | KPA       | A22-59205-021    | A06-41592-007 |
| 22-46516-010                         | Chrome    | PSI       | A22-59205-101    | A06-41592-007 |
| 22-46516-011                         | Chrome    | KPA       | A22-59205-121    | A06-41592-007 |

**Table 11, Engine Oil Pressure Gauge Conversion**

| Engine Oil Temperature Gauge Conversion |           |           |                  |               |
|-----------------------------------------|-----------|-----------|------------------|---------------|
| ICU2M                                   |           |           | ICU4M Conversion |               |
| ICU2M (854)                             | Trim Ring | US/Metric | ICU4M (854)      | Jumper        |
| 22-46517-000                            | Black     | F         | A22-59210-001    | A06-41592-007 |
| 22-46517-001                            | Black     | C         | A22-59210-021    | A06-41592-007 |
| 22-46517-010                            | Chrome    | F         | A22-59210-101    | A06-41592-007 |
| 22-46517-011                            | Chrome    | C         | A22-59210-121    | A06-41592-007 |

**Table 12, Engine Oil Temperature Gauge Conversion**

| Coolant Temperature Gauge Conversion |           |           |                  |               |
|--------------------------------------|-----------|-----------|------------------|---------------|
| ICU2M                                |           |           | ICU4M Conversion |               |
| ICU2M (856)                          | Trim Ring | US/Metric | ICU4M (856)      | Jumper        |
| 22-46518-000                         | Black     | F         | A22-59206-001    | A06-41592-007 |
| 22-46518-001                         | Black     | C         | A22-59206-021    | A06-41592-007 |
| 22-46518-010                         | Chrome    | F         | A22-59206-101    | A06-41592-007 |
| 22-46518-011                         | Chrome    | C         | A22-59206-121    | A06-41592-007 |

**Table 13, Coolant Temperature Gauge Conversion**

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| Transmission Oil Temperature Gauge Conversion |           |           |                  |               |
|-----------------------------------------------|-----------|-----------|------------------|---------------|
| ICU2M                                         |           |           | ICU4M Conversion |               |
| ICU2M (864)                                   | Trim Ring | US/Metric | ICU4M (864)      | Jumper        |
| 22-46520-000                                  | Black     | F         | A22-59212-001    | A06-41592-007 |
| 22-46520-001                                  | Black     | C         | A22-59212-021    | A06-41592-007 |
| 22-46520-010                                  | Chrome    | F         | A22-59212-101    | A06-41592-007 |
| 22-46520-011                                  | Chrome    | C         | A22-59212-121    | A06-41592-007 |

**Table 14, Transmission Oil Temperature Gauge Conversion**

| Axle Oil Temperature Gauge Conversion |           |           |           |                  |               |
|---------------------------------------|-----------|-----------|-----------|------------------|---------------|
| ICU2M                                 |           |           |           | ICU4M Conversion |               |
| ICU2M (866)                           | Trim Ring | US/Metric | Axle Rear | ICU4M (866)      | Jumper        |
| 22-46521-000                          | Black     | F         | Forward   | A22-59213-001    | A06-41592-007 |
| 22-46521-001                          | Black     | C         | Forward   | A22-59213-021    | A06-41592-007 |
| 22-46521-010                          | Chrome    | F         | Forward   | A22-59213-101    | A06-41592-007 |
| 22-46521-011                          | Chrome    | C         | Forward   | A22-59213-121    | A06-41592-007 |
| 22-46522-000                          | Black     | F         | Rear      | A22-59214-001    | A06-41592-007 |
| 22-46522-001                          | Black     | C         | Rear      | A22-59214-021    | A06-41592-007 |
| 22-46521-010                          | Chrome    | F         | Rear      | A22-59214-101    | A06-41592-007 |
| 22-46521-011                          | Chrome    | C         | Rear      | A22-59214-121    | A06-41592-007 |

**Table 15, Axle Oil Temperature Gauge Conversion**

NOTE: Pre-EPA07 vehicles have TAMs (thermocouple amplifier modules) that are not compatible with the ICU4M, which uses a thermistor. Refer to the instructions in this bulletin for modifying the pyrometer on pre-EPA07 vehicles.

| Pyrometer Conversion |           |           |                  |               |
|----------------------|-----------|-----------|------------------|---------------|
| ICU2M                |           |           | ICU4M Conversion |               |
| ICU2M (858)          | Trim Ring | US/Metric | ICU4M (858)      | Jumper        |
| 22-46519-000         | Black     | F         | A22-59215-001    | A06-41592-007 |
| 22-46519-001         | Black     | C         | A22-59215-021    | A06-41592-007 |
| 22-46519-010         | Chrome    | F         | A22-59215-101    | A06-41592-007 |
| 22-46519-011         | Chrome    | C         | A22-59215-121    | A06-41592-007 |

**Table 16, Pyrometer Conversion**

## Modifying the Pyrometer on Pre-EPA07 Vehicles

NOTE: Refer to D06-24539 and BOM 858-C00727 when performing this procedure.

1. Disconnect the batteries.
2. Unplug both connectors on the pyrometer amplifier.
3. Cut both sets of wires at the amplifier.
4. Working with the harnesses on a work bench, connect the red wire to the brown wire, and the pink wire to the yellow wire.

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5. Install shrink tubing on the purple wire, and fold it back into the harness.
6. Remove the thermocouple from the exhaust, and install the new thermistor (p/n 06-53404-000).
7. Attach the spliced harness back on the vehicle.
8. Connect the batteries.
9. Check for proper gauge sweeping during the ignition sequence, and verify that there are no fault codes.

## Warranty

This is an informational bulletin only. Warranty does not apply.