

**SECTION 310-00 Fuel System — General Information**

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## GENERAL PROCEDURES

### Quick Connect Coupling

#### Material

Item	Specification
Motorcraft® SAE 5W-20 Premium Synthetic Blend Motor Oil (US); Motorcraft® SAE 5W-20 Super Premium Motor Oil (Canada) XO-5W20-QSP (US); CXO-5W20-LSP12 (Canada)	WSS-M2C945-A

#### Disconnect — Type I



#### WARNING:

Do not smoke, carry lighted tobacco or have an open flame of any type when working on or near any fuel-related component. Highly flammable mixtures are always present and may be ignited. Failure to follow these instructions may result in serious personal injury.



#### WARNING:

Do not carry personal electronic devices such as cell phones, pagers or audio equipment of any type when working on or near any fuel-related component. Highly flammable mixtures are always present and may be ignited. Failure to follow these instructions may result in serious personal injury.



#### WARNING:

Always disconnect the battery ground cable at the battery when working on an evaporative emission (EVAP) system or fuel-related component. Highly flammable mixtures are always present and may be ignited. Failure to follow these instructions may result in serious personal injury.



#### WARNING:

Before working on or disconnecting any of the fuel tubes or fuel system components, relieve the fuel system pressure to prevent accidental spraying of fuel. Fuel in the fuel system remains under high pressure, even when the engine is not running. Failure to follow this instruction may result in serious personal injury.

#### NOTICE:

When reusing liquid or vapor tube connectors, make sure to use compressed air to remove any foreign material from the connector retaining clip area before separating from the tube or damage to the tube or connector retaining clip can occur. Apply clean engine oil to the end of the tube before inserting the tube into the connector.

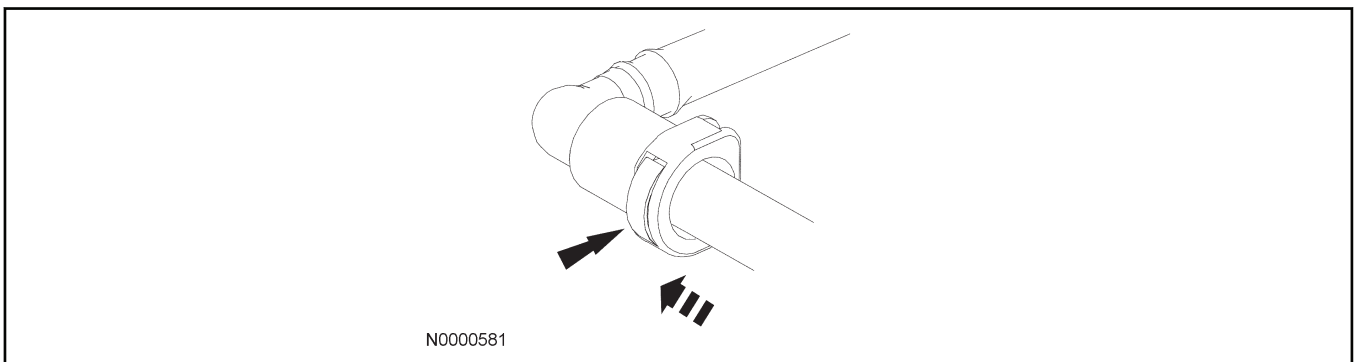
#### NOTICE:

Fuel injection equipment is manufactured to very precise tolerances and fine clearances. It is essential that absolute cleanliness is observed when working with these components or component damage can occur. Always install blanking plugs to any open orifices or tubes.

#### NOTICE:

Do not use any tools. The use of tools may cause a deformity in the clip components which may cause fuel leaks.

1. If servicing a liquid fuel tube, release the fuel system pressure. For additional information, refer to Fuel System Pressure Release in this section.
2. Disconnect the battery ground cable. For additional information, refer to Section 414-01.
3. Depress the retainer clip and disconnect the quick connect coupling from the tube.

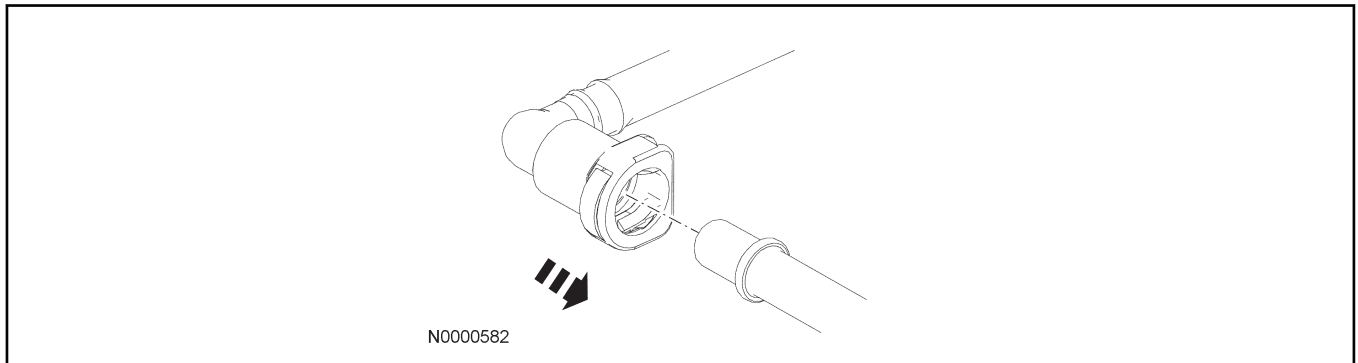


**GENERAL PROCEDURES (Continued)****Connect — Type I**

1. **NOTE:**  
Apply clean engine oil to O-ring seals.

**NOTE:**  
Make sure the retainer clip is fully seated and locked onto the tube by pulling on the quick connect coupling.

Install the quick connect coupling onto the tube until it is fully seated.



2. Connect the battery ground cable. For additional information, refer to Section 414-01.

**Disconnect — Type II****⚠ WARNING:**

Do not smoke, carry lighted tobacco or have an open flame of any type when working on or near any fuel-related component. Highly flammable mixtures are always present and may be ignited. Failure to follow these instructions may result in serious personal injury.

**⚠ WARNING:**

Do not carry personal electronic devices such as cell phones, pagers or audio equipment of any type when working on or near any fuel-related component. Highly flammable mixtures are always present and may be ignited. Failure to follow these instructions may result in serious personal injury.

**⚠ WARNING:**

Always disconnect the battery ground cable at the battery when working on an evaporative emission (EVAP) system or fuel-related component. Highly flammable mixtures are always present and may be ignited. Failure to follow these instructions may result in serious personal injury.

**NOTICE:**

When reusing liquid or vapor tube connectors, make sure to use compressed air to remove any foreign material from the connector retaining clip area before separating from the tube or damage to the tube or connector retaining clip can occur. Apply clean engine oil to the end of the tube before inserting the tube into the connector.

**NOTICE:**

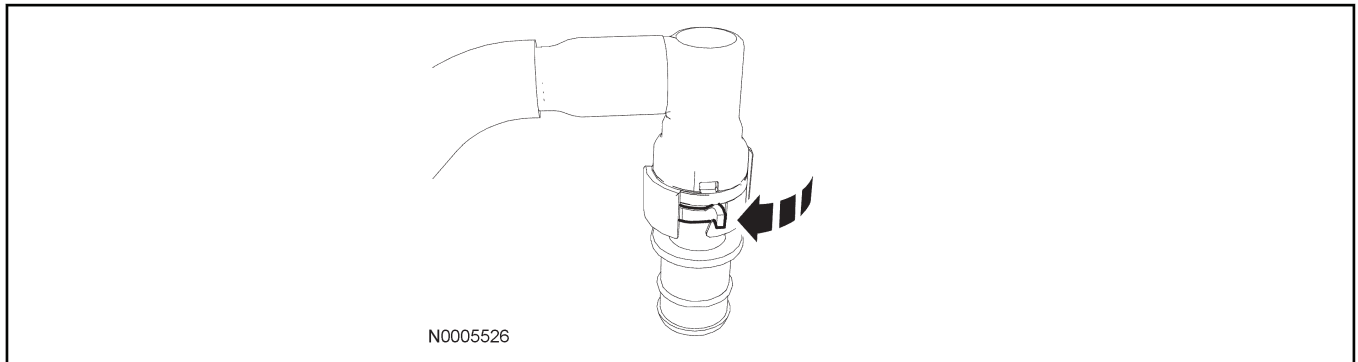
Fuel injection equipment is manufactured to very precise tolerances and fine clearances. It is essential that absolute cleanliness is observed when working with these components or component damage can occur. Always install blanking plugs to any open orifices or tubes.

**NOTICE:**

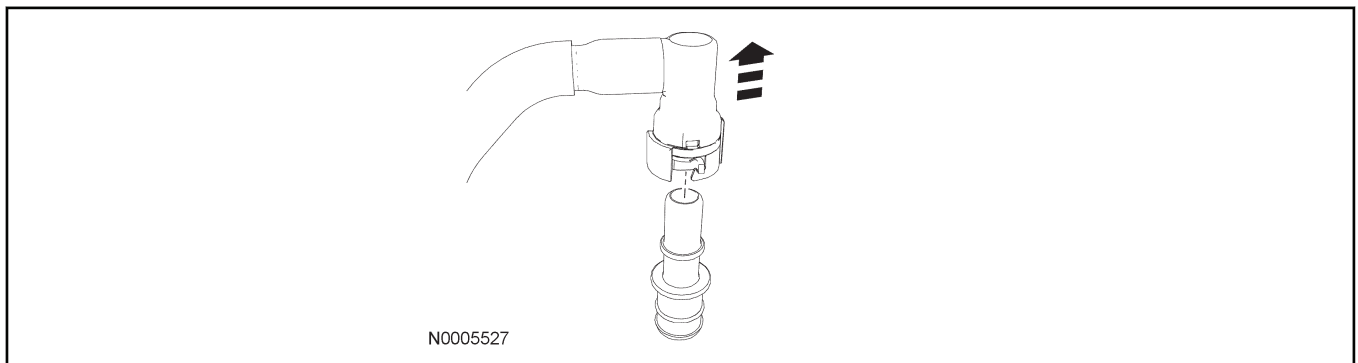
Do not use any tools. The use of tools may cause a deformity in the clip components which may cause fuel leaks.

1. Disconnect the battery ground cable. For additional information, refer to Section 414-01.
2. Release the retainer clip on the quick connect coupling.

## GENERAL PROCEDURES (Continued)

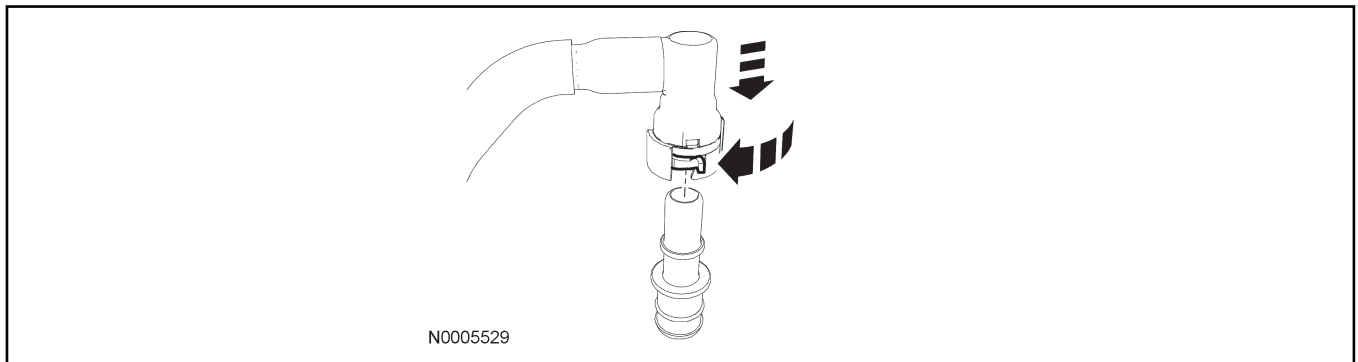


3. Disconnect the quick connect coupling from the fitting.

**Connect — Type II**

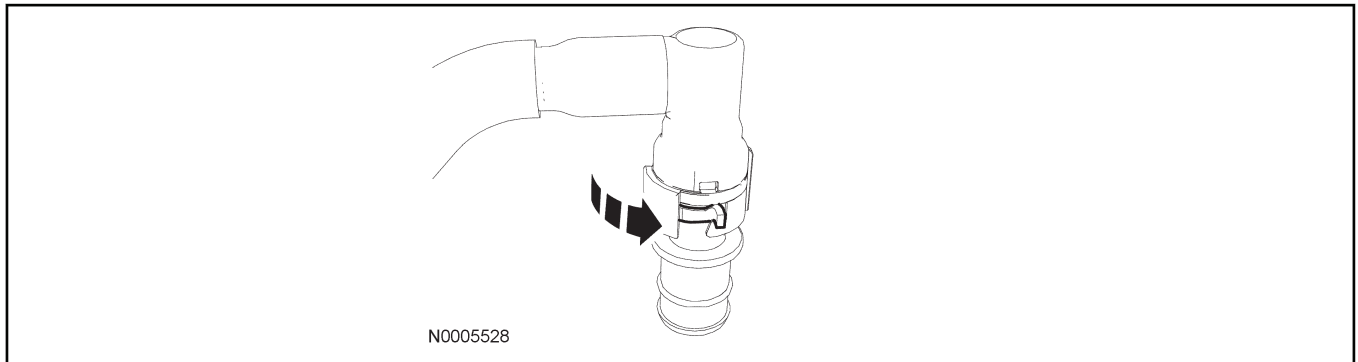
1. **NOTE:**  
Apply clean engine oil to O-ring seals.

Release the retainer clip and install the quick connect coupling onto the fitting until fully seated.



2. **NOTE:**  
Make sure the retainer clip is fully seated and locked onto the tube by pulling on the quick connect coupling.

Apply retainer clip into the latched position.

**GENERAL PROCEDURES (Continued)**

3. Connect the battery ground cable. For additional information, refer to Section 414-01.

**Disconnect — Type III****⚠ WARNING:**

Do not smoke, carry lighted tobacco or have an open flame of any type when working on or near any fuel-related component. Highly flammable mixtures are always present and may be ignited. Failure to follow these instructions may result in serious personal injury.

**⚠ WARNING:**

Do not carry personal electronic devices such as cell phones, pagers or audio equipment of any type when working on or near any fuel-related component. Highly flammable mixtures are always present and may be ignited. Failure to follow these instructions may result in serious personal injury.

**⚠ WARNING:**

Always disconnect the battery ground cable at the battery when working on an evaporative emission (EVAP) system or fuel-related component. Highly flammable mixtures are always present and may be ignited. Failure to follow these instructions may result in serious personal injury.

**⚠ WARNING:**

Before working on or disconnecting any of the fuel tubes or fuel system components, relieve the fuel system pressure to prevent accidental spraying of fuel. Fuel in the fuel system remains under high pressure, even when the engine is not running. Failure to follow this instruction may result in serious personal injury.

**NOTICE:**

When reusing liquid or vapor tube connectors, make sure to use compressed air to remove any foreign material from the connector retaining clip area before separating from the tube or damage to the tube or connector retaining clip can occur. Apply clean engine oil to the end of the tube before inserting the tube into the connector.

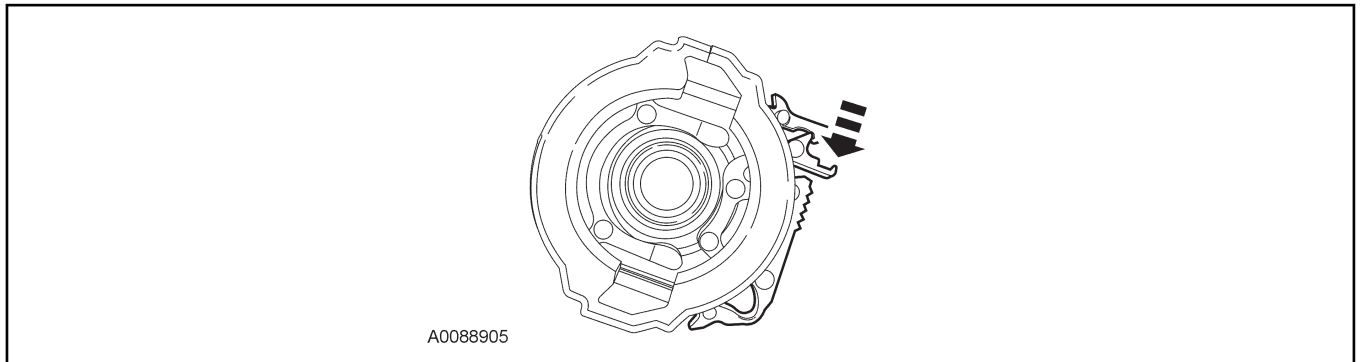
**NOTICE:**

Fuel injection equipment is manufactured to very precise tolerances and fine clearances. It is essential that absolute cleanliness is observed when working with these components or component damage can occur. Always install blanking plugs to any open orifices or tubes.

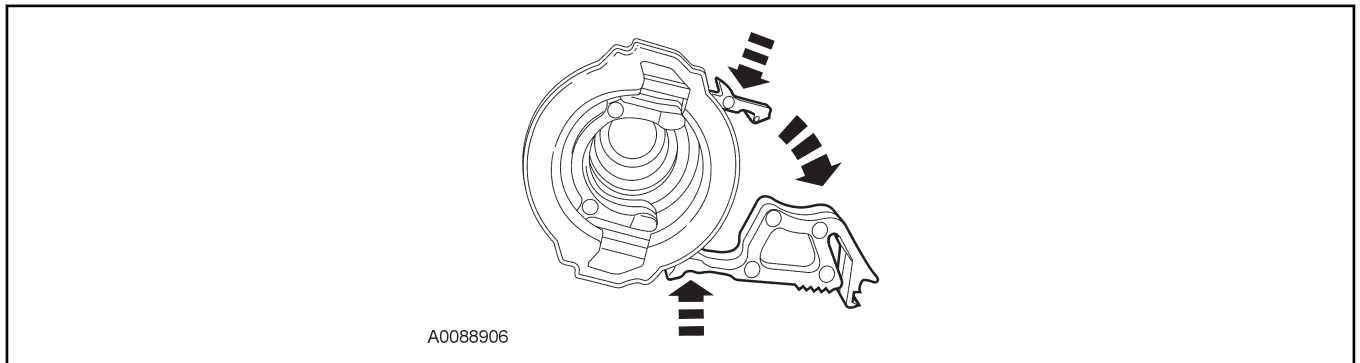
**NOTICE:**

Do not use any tools. The use of tools may cause a deformity in the clip components which may cause fuel leaks.

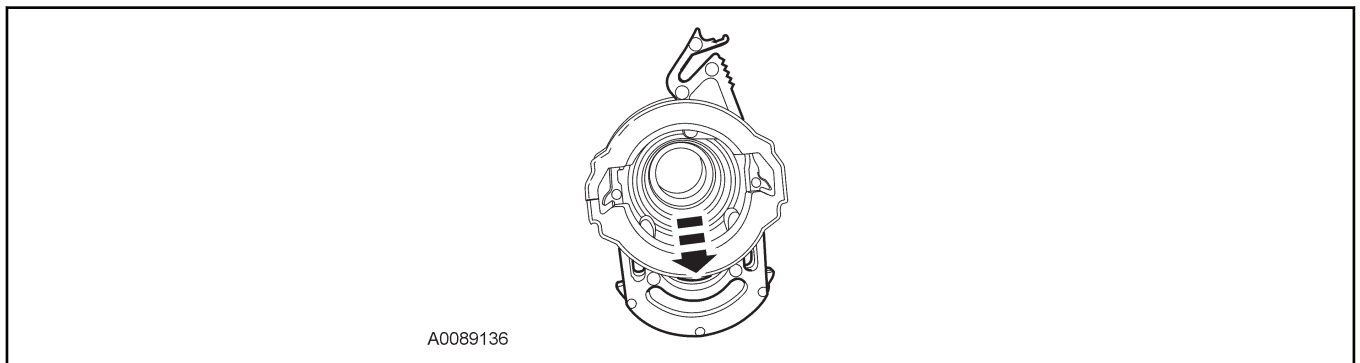
1. If servicing a liquid fuel tube, release the fuel system pressure. For additional information, refer to Fuel System Pressure Release in this section.
2. Disconnect the battery ground cable. For additional information, refer to Section 414-01.
3. Release the quick connect coupling primary retainer clip.

**GENERAL PROCEDURES (Continued)**

4. Rotate the primary retainer clip to the fully opened position and squeeze the secondary locking tabs to release the retainer clip.

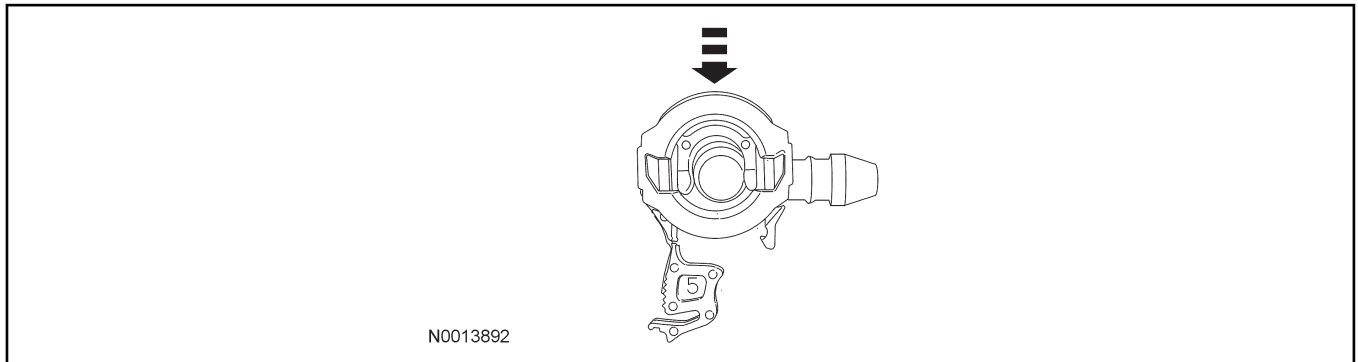


5. Position the retainer clip to the outward position and disconnect the quick connect coupling from the tube.

**Connect — Type III**

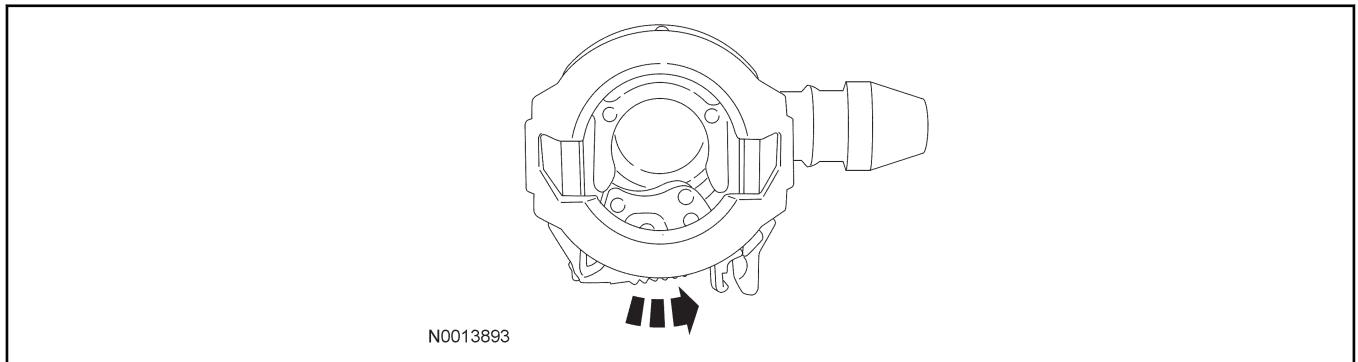
1. **NOTE:**  
Apply clean engine oil to O-ring seals.  
  
Install the quick connect coupling onto the tube until fully seated.
2. **NOTE:**  
Make sure the retainer clip clicks into place when installing.  
  
Depress the retainer clip until it is flush with the quick connect coupling housing.

## GENERAL PROCEDURES (Continued)



3. **NOTE:**  
Make sure the retainer clip is fully seated and locked onto the tube by pulling on the quick connect coupling.

Rotate the primary locking tab on the retainer clip to the closed position.



4. Connect the battery ground cable. For additional information, refer to Section 414-01.

**Disconnect — Type IV**

 **WARNING:**

Do not smoke, carry lighted tobacco or have an open flame of any type when working on or near any fuel-related component. Highly flammable mixtures are always present and may be ignited. Failure to follow these instructions may result in serious personal injury.

 **WARNING:**

Do not carry personal electronic devices such as cell phones, pagers or audio equipment of any type when working on or near any fuel-related component. Highly flammable mixtures are always present and may be ignited. Failure to follow these instructions may result in serious personal injury.

 **WARNING:**

Always disconnect the battery ground cable at the battery when working on an evaporative emission (EVAP) system or fuel-related component. Highly flammable mixtures are always present and may be ignited. Failure to follow these instructions may result in serious personal injury.

**NOTICE:**

When reusing liquid or vapor tube connectors, make sure to use compressed air to remove any foreign material from the connector retaining clip area before separating from the tube or damage to the tube or connector retaining clip can occur. Apply clean engine oil to the end of the tube before inserting the tube into the connector.

**NOTICE:**

Fuel injection equipment is manufactured to very precise tolerances and fine clearances. It is essential that absolute cleanliness is observed when working with these components or component damage can occur. Always install blanking plugs to any open orifices or tubes.

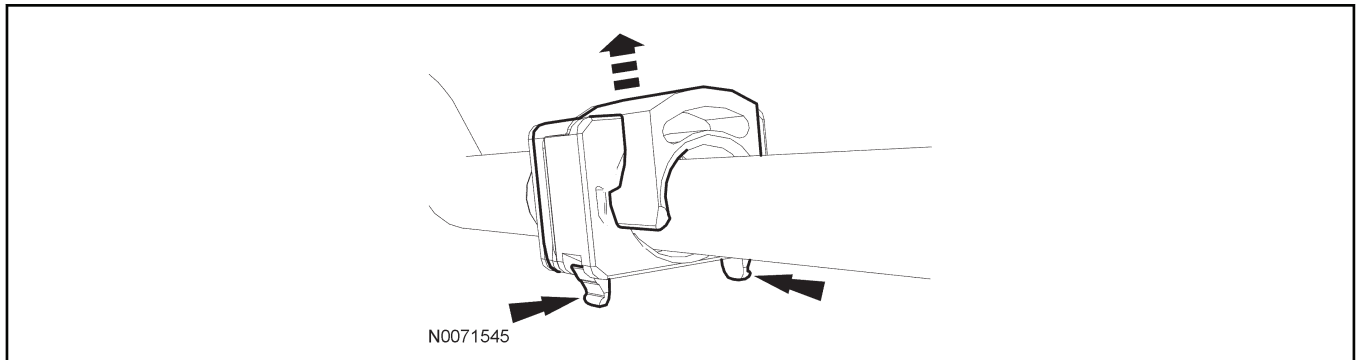
**NOTICE:**

Do not use any tools. The use of tools may cause a deformity in the clip components which may cause fuel leaks.

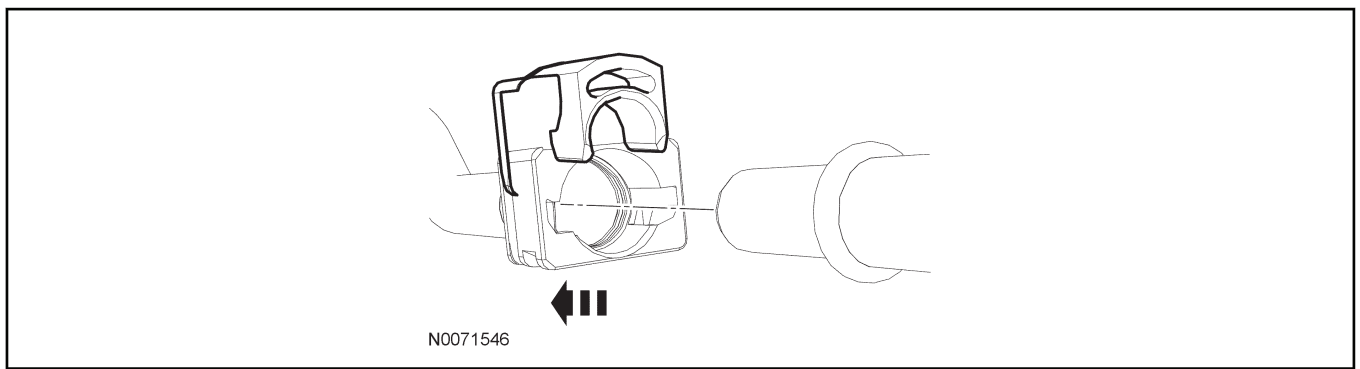
1. If servicing a liquid fuel tube quick connect coupling, release the fuel system pressure. For additional information, refer to Fuel System Pressure Release in this section.

**GENERAL PROCEDURES (Continued)**

2. Disconnect the battery ground cable. For additional information, refer to Section 414-01.
3. Depress the legs of the retainer clip and position the clip in an outward position.

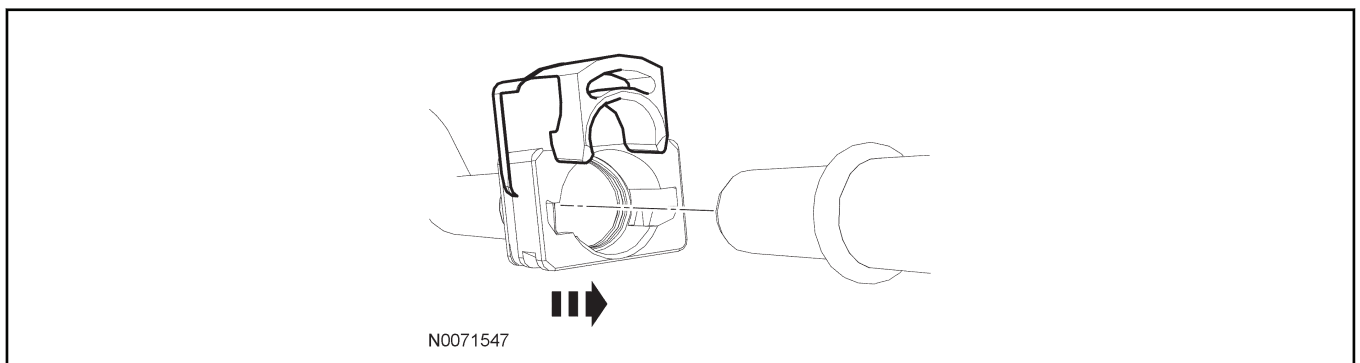


4. Disconnect the quick connect coupling from the tube.

**Connect — Type IV**

1. **NOTE:**  
Apply clean engine oil to the end of the tube and quick connect coupling O-ring seals.

Install the quick connect coupling onto the tube until fully seated.

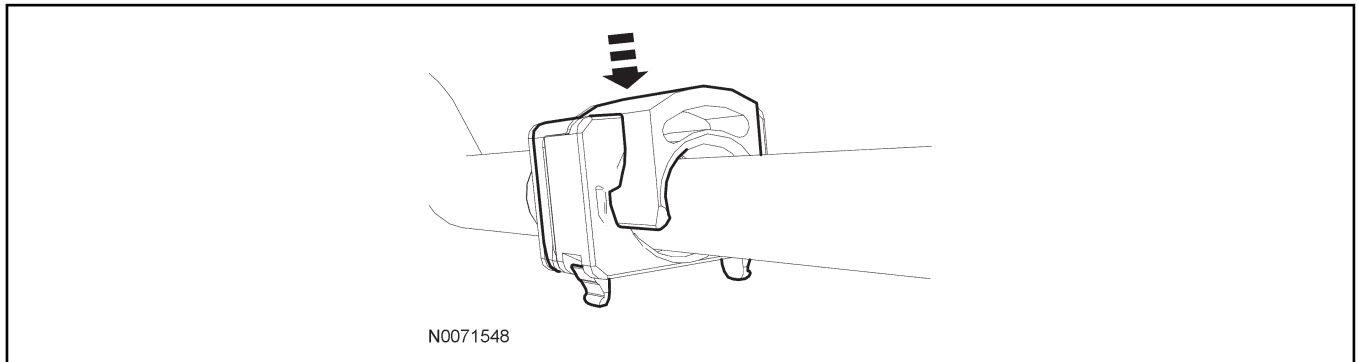


2. **NOTE:**  
Make sure the retainer clip is fully seated and locked onto the tube by pulling on the quick connect coupling.

Press the retainer clip into the quick connect coupling body until flush and the legs are locked in place.



## GENERAL PROCEDURES (Continued)



3. Connect the battery ground cable. For additional information, refer to Section 414-01.

**Disconnect — Type V****⚠ WARNING:**

Always disconnect the battery ground cable at the battery when working on an evaporative emission (EVAP) system or fuel-related component. Highly flammable mixtures are always present and may be ignited. Failure to follow these instructions may result in serious personal injury.

**⚠ WARNING:**

Do not smoke, carry lighted tobacco or have an open flame of any type when working on or near any fuel-related component. Highly flammable mixtures are always present and may be ignited. Failure to follow these instructions may result in serious personal injury.

**⚠ WARNING:**

Do not carry personal electronic devices such as cell phones, pagers or audio equipment of any type when working on or near any fuel-related component. Highly flammable mixtures are always present and may be ignited. Failure to follow these instructions may result in serious personal injury.

**⚠ WARNING:**

When handling fuel, always observe fuel handling precautions and be prepared in the event of fuel spillage. Spilled fuel may be ignited by hot vehicle components or other ignition sources. Failure to follow these instructions may result in serious personal injury.

**⚠ WARNING:**

Before working on or disconnecting any of the fuel tubes or fuel system components, relieve the fuel system pressure to prevent accidental spraying of fuel. Fuel in the fuel system remains under high pressure, even when the engine is not running. Failure to follow this instruction may result in serious personal injury.

**NOTICE:**

When reusing liquid or vapor tube connectors, make sure to use compressed air to remove any foreign material from the connector retaining clip area before separating from the tube or damage to the tube or connector retaining clip can occur. Apply clean engine oil to the end of the tube before inserting the tube into the connector.

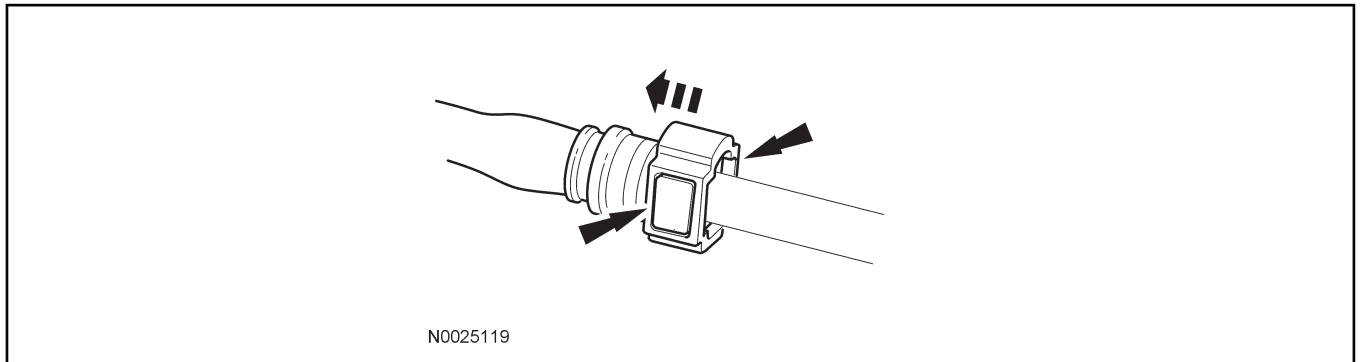
**NOTICE:**

Fuel injection equipment is manufactured to very precise tolerances and fine clearances. It is essential that absolute cleanliness is observed when working with these components or component damage can occur. Always install blanking plugs to any open orifices or tubes.

1. If servicing a liquid fuel tube quick connect coupling, release the fuel system pressure. For additional information, refer to Fuel System Pressure Release in this section.
2. If servicing an EVAP or fuel-related component, disconnect the battery ground cable. For additional information, refer to Section 414-01.
3. **NOTICE:**  
**Do not use any tools. The use of tools may cause a deformity in the clip components which may cause fuel leaks.**

Disconnect the fuel tube quick connect coupling.

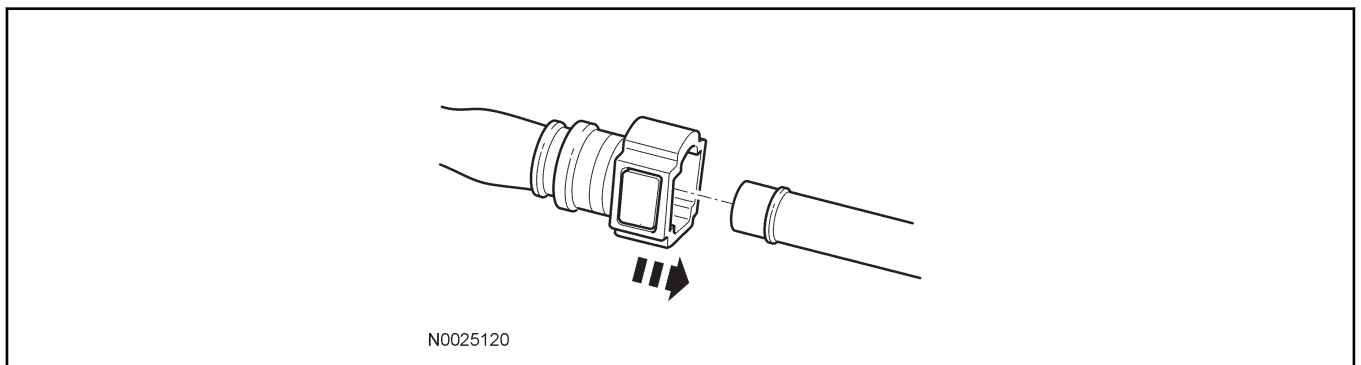
- Press the 2 fuel tube quick connect coupling buttons and pull the fuel tube to disconnect.

**GENERAL PROCEDURES (Continued)****Connect — Type V**

1. **NOTE:**  
Make sure the fuel tube clicks into place when installing the tube. To make sure that the fuel tube is fully seated, pull on the tube.

**NOTE:**  
Apply clean engine oil to O-ring seals.

Install the quick connect coupling onto the tube until it is fully seated.



2. If servicing an EVAP or fuel-related component, connect the battery ground cable. For additional information, refer to Section 414-01.