Replacing the Needle and Seal Pack

This procedure describes how to replace the seal pack and needle in the 715, 717, and 717plus autosamplers and the LC Module I system.

NOTE: To be certain you have the latest version of this procedure, please visit the Waters Support Center (http://www.waters.com).

Parts required

Table 1: Kit WAT045559 Components

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>410001125</td>
<td>Injector Ferrule</td>
<td>1</td>
</tr>
<tr>
<td>405001338</td>
<td>Needle</td>
<td>1</td>
</tr>
<tr>
<td>WAT078739</td>
<td>Long Compression Screw</td>
<td>1</td>
</tr>
<tr>
<td>WAT045540</td>
<td>Seal Pack Assembly</td>
<td>1</td>
</tr>
</tbody>
</table>

Tools/materials required

- Flatblade screwdriver, long
- T10 Torx driver
- T20 Torx driver
- 5/16-inch open-end wrench
- 5/32-inch Allen wrench

Removing the injector

1. Turn off the instrument and disconnect the power cord.
2. Remove the instrument top cover.
3. Disconnect the injector motor and sensor cables from J2 and J3 on the CPU board.
4. Disconnect the injector fluid lines at the inlet side of the two in-line filters.
5. Disconnect the two needle wash lines from the seal pack tubing at the base of the injector.
6. Using the flatblade screwdriver, loosen the three captive screws securing the injector assembly to the chassis (Figure 1).

![Figure 1 - Fluid Pack and Injector Assemblies](image1)

7. Remove the injector assembly and lay it on its side.

**Removing the seal pack**

1. Using a wrench to hold the union on the bottom side of the mounting plate, disconnect the tubing.
2. Remove the four screws that secure the seal pack to the base.

![Figure 2 - Seal Pack Details](image2)

3. Pull the seal pack off the mounting plate.
Replacing the injector needle

1. Rotate the motor drive shaft until the needle mounting block moves to its highest position.

2. Unscrew the compression screw on the needle. Pull the needle down and out of the injector.
   
   **CAUTION:** **HOLD THE NEEDLE ONLY AT THE UPPER END (AWAY FROM THE NEEDLE PORT). USE A CLEAN WIPe AND 100% METHANOL TO CLEAN THE NEEDLE AFTER INSTALLATION.**

3. Orient the needle port towards the left side of the injector (Figure 3).

4. Slide the long compression screw (P/N WAT078739) over the blunt end of the needle (P/N 405001338). Slide the ferrule (P/N 4150001125) over the blunt end of the needle.

5. Push the needle into the mounting block until it is firmly seated. Tighten the compression screw finger tight.
   
   **CAUTION:** **TO AVOID INJURY, DO NOT PLACE YOUR HAND IN THE CAROUSEL COMPARTMENT TO CHECK THE NEEDLE FUNCTION.**

6. Check the orientation of the needle port. Ensure that it still faces the left side of the injector assembly. Use the 5/16-inch wrench to tighten the compression screw no more than 1/4-turn.

Installing the new seal pack

1. Slide the seal pack over the end of the needle and attach it to the bottom of the injector with the four screws.

2. Connect the seal pack outlet line to both the union in the injector base and to the seal pack.

3. Connect the seal pack inlet line to the seal pack.

4. Reverse the steps in "Removing the injector" to install the injector into the autosampler.

5. Reinstall the cover, reconnect the power cord, and turn power ON.

6. Perform a complete system purge and Auto-calibration.