HP InkJet Cartridge Refill Instructions
(For #5100RK Kit)

Specific Cartridges:
970, 970XL, 971, 971XL, 980
Contents of Kit:
- (1) each #1103, Ball Plug Pusher
- (1) each, Ball Plug Punch Tool
- (4) each #1904B, Blunt Tip Needles, 1.5”x 18g
- (20) each #1914, Ball Plug, 4.1mm Dia.
- (4) each #1952, 60cc Syringe

Inks: 16 ounces of Black, 8oz Cyan, 8oz Magenta, and 8oz Yellow

<table>
<thead>
<tr>
<th>Cartridge #</th>
<th>Color</th>
<th>Ink #</th>
</tr>
</thead>
<tbody>
<tr>
<td>970, 970XL, 980</td>
<td>Black</td>
<td>BKP260 or WPHK3</td>
</tr>
<tr>
<td>971, 971XL, 980</td>
<td>Cyan</td>
<td>CP260 or WPHC2</td>
</tr>
<tr>
<td>971, 971XL, 980</td>
<td>Magenta</td>
<td>MP260 or WPHM2</td>
</tr>
<tr>
<td>971, 971XL, 980</td>
<td>Yellow</td>
<td>YP260 or WP HY2</td>
</tr>
</tbody>
</table>

Approximate Weights and Fill Volumes

<table>
<thead>
<tr>
<th>Cartridge #</th>
<th>Color</th>
<th>Empty Wt [grams]</th>
<th>Ink Amount</th>
<th>*Fill Port 2</th>
<th>Fill Port 1</th>
<th>Full Wt [grams]</th>
</tr>
</thead>
<tbody>
<tr>
<td>970 Starter</td>
<td>Black</td>
<td>68</td>
<td>118 ml</td>
<td>75 ml</td>
<td>43 ml</td>
<td>186</td>
</tr>
<tr>
<td>971 Starter</td>
<td>Cyan</td>
<td>67</td>
<td>100 ml</td>
<td>57 ml</td>
<td>43 ml</td>
<td>167</td>
</tr>
<tr>
<td>971 Starter</td>
<td>Magenta</td>
<td>67</td>
<td>100 ml</td>
<td>57 ml</td>
<td>43 ml</td>
<td>167</td>
</tr>
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<td>Yellow</td>
<td>67</td>
<td>100 ml</td>
<td>57 ml</td>
<td>43 ml</td>
<td>167</td>
</tr>
<tr>
<td>970</td>
<td>Black</td>
<td>68</td>
<td>82 ml</td>
<td>42</td>
<td>40</td>
<td>150</td>
</tr>
<tr>
<td>971</td>
<td>Cyan</td>
<td>67</td>
<td>43 ml</td>
<td>Do Not Fill</td>
<td>43 ml</td>
<td>110</td>
</tr>
<tr>
<td>971</td>
<td>Magenta</td>
<td>67</td>
<td>43 ml</td>
<td>Do Not Fill</td>
<td>43 ml</td>
<td>110</td>
</tr>
<tr>
<td>971</td>
<td>Yellow</td>
<td>67</td>
<td>43 ml</td>
<td>Do Not Fill</td>
<td>43 ml</td>
<td>110</td>
</tr>
<tr>
<td>970XL</td>
<td>Black</td>
<td>94</td>
<td>250 ml</td>
<td>207 ml</td>
<td>43 ml</td>
<td>344</td>
</tr>
<tr>
<td>971XL</td>
<td>Cyan</td>
<td>69</td>
<td>102 ml</td>
<td>59 ml</td>
<td>43 ml</td>
<td>171</td>
</tr>
<tr>
<td>971XL</td>
<td>Magenta</td>
<td>69</td>
<td>102 ml</td>
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<td>102 ml</td>
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</tr>
</tbody>
</table>

*Always Start with Fill Port #2, and then go to Fill Port #1.

Cartridges for Leap Frog Method
You will need to have at least 3 sets of cartridges for this refill method to work correctly in your printer (unless replacement chips are used). This refill process is called the Leap-Frog method, because you will alternate between different sets of cartridges. Always have a refilled set of cartridges ready to go at all times. Caution: When replacing cartridges never leave a cartridge slot in the printer empty for more than a moment, and never power off the printer. This could cause drying and damage to the printhead.

Replacement Chips – Alternate Method (not included in this kit) Replacing the chips is not required for the Leap Frog Method, but is an alternative to the Leap Frog Method. They can also be used in cases where the cartridges are being rejected by the printer. The replacement chips can be purchased separately from R-JetTek. These replacement chips will provide ink levels through the cartridge’s new refill cycle. The chips will need to be replaced for each refill. Instructions for replacing the chips can be found on page 8.

Caution: Do not allow cartridges to go to “Depleted” If you are using the Leap-Frog method on cartridges that have been used until the “Depleted” message appears, then they may not work again due to the chip being marked as “Depleted.” Always replace the cartridges when they reach their “Low” status. The “Low” message will appear on the printer screen. You can repair this cartridge by replacing the chip.

Caution: To prevent damage to the chips follow common ESD safety procedures - for example see: [http://en.wikipedia.org/wiki/Electrostatic_discharge](http://en.wikipedia.org/wiki/Electrostatic_discharge)
Refill Instructions – HP 970/971 Cartridges

Revised: 02.15.2017

Refill Process

**HP 970 and 971 Cartridges**

**Before Getting Started:** Please read through the instructions. Please note that the Standard size color cartridges hold less than half the amount of ink as the XL’s and Starters, so only the first chamber is filled. However, for all Black, XL, and Starter cartridges you will need to fill both chambers 1 and 2 (see Figures 1 & 2).

**Ball Plug Removal Instructions** – For the 971 Standard size cartridges only remove the ball plug in Fill Port #1 (chamber 2 is not used in the 971 Standard size cartridges), and for the 970 Standard size Black, XL’s, and Starters remove both ball plugs in Fill Ports #1 and #2.

**Note:** For the next steps you will need a small hammer.

1. To remove the ball plugs use the Ball Plug Punch Tool (see Figure 3), and align the tip of the ball plug punch tool into the very center of the ball plug (reference Figure 1, Fill Port 1 and 2). This is to avoid damaging the cavity that the ball plug resides in. **Caution:** If not done properly the cartridge will leak and cannot be used.
2. Once the Ball Plug Punch Tool is centered on the ball plug, take a small hammer and gently strike the punch. The ball plug should fall inside the chamber, and remain there.
3. Inspect the cavity opening for damage. If damaged, discard the cartridge.

**Refilling Preparation** – The 970/971 cartridges have 2 Filling Ports, one on the left and one on the right. For 971 Standard size only fill port #1. For the Standard Black, XL’s, and Starters fill both ports 1 and 2. Refer to the Weight Chart on page 2 for the exact amount for each port.

- The refill kit includes (4) 60ml syringes and (4) blunt needles, one for each color. Attach the needles to the syringes.
- Pour as much of one color as needed for the refill into a glass measuring cup to facilitate the refilling process. Refer to the weight chart for the total ink amount needed for the color you are refilling.
Refilling – HP 971 Standard Size

1. Remove the ball plug in Fill Port 1 (see ball plug removal instructions on page 3).
2. Weigh the cartridge, and use this weight to adjust the filling amount (see the Weight Chart on page 2). Or, completely empty the cartridge.
3. Fill the designated syringe with the correct ink and ink amount for the cartridge you are filling. Either using the adjusted weight from Step 1, or the Ink Amount shown on the Ink Chart and Weight Chart on page 2.
4. Stand the cartridge on end with the Fill Port facing up, and insert the blunt needle of the syringe into Fill Port 1. Inject the designated amount of ink, see Figure 4. Please note that the cartridge in the picture shows Fill Port 1 on the Left side, and the Egress Port at top.
5. There may be some foaming from the fill port. If it does just pull back on the syringe to pull the foam into the syringe. Then continue filling until the syringe is empty.

Ball Plug Replacement

Now that the cartridge is filled you will need to reseal the Fill Port with the new black rubber ball plugs that came with the kit. These plugs are also much easier to replace than the OEM plugs.

Caution: To prevent leaks always replace the ball plug with a new replacement ball plug.

1. With the cartridge still standing on end take one of the new ball plugs and place it into Fill Port 1. See Figure 1 and 5.
2. Using the Ball Plug Pusher tool (#1103) push the ball plug firmly into place (see Figure 6). You will feel it stop. See Figure 2 for example of ball plugs correctly seated.
3. Turn the cartridge upside down to test the seal of the ball plug. If ink leaks from the port then first try pushing in on the ball plug again using the Ball Plug Pusher tool. If it continues to leak there may be damage to the ball plug or port. If it is the ball plug then replace. If it is the port then you will have to discard the cartridge.
4. If there are no leaks then rinse off any ink, and dry off the cartridge using a paper towel. Caution: DO NOT use a regular towel to dry, because most towels have static charges in them and could damage the chip. Follow all ESD precautions (see page 2 for link).
Refilling – HP 970 Standard, XL’s, & Starters

For these cartridges you will fill both chambers, but you must start with Fill Port #2 first.

1. Adjust filling amount or Empty cartridge after removing the ball plug if cartridge is not completely empty. See Weight Chart on page 2.
2. Remove the ball plugs in both Fill Ports 2 and 1 (see ball plug removal instructions on page 3).
3. Fill the designated syringe with the correct ink and ink amount for Fill Port #2 for the cartridge you are filling. See the Ink Chart and Weight Chart on page 2.
4. Stand the cartridge on end with the Fill Port facing up, and insert the blunt needle of the syringe into Fill Port 2. Inject the designated amount of ink, see Figure 7. Please note that the cartridge in the picture shows Fill Port 2 on the right side, and the Egress Port at top.
5. There may be some foaming from the fill port. If it does just pull back on the syringe to pull the foam into the syringe. Then continue filling until the syringe is empty.
6. Repeat steps 3 through 5 for Fill Port #1, and reference Figure 8. Please note that the cartridge in the picture shows Fill Port 1 on the Left side, and the Egress Port at top.

Ball Plug Replacement

Now that the cartridge is filled you will need to reseal both Fill Ports 1 and 2 with the new black rubber ball plugs that came with the kit. Caution: To prevent leaks always replace the ball plug with a new replacement ball plug.

1. With the cartridge still standing on end take two of the new ball plugs and place it into Fill Ports 1 and 2. See Figure 1 and 9.
2. Using the Ball Plug Pusher tool (#1103) push the ball plugs firmly into place (see Figure 10 and 11). You will feel it stop. See Figure 2 for example of ball plugs correctly seated.
3. Turn the cartridge upside down to test the seal of both ball plugs. If ink leaks from the port then first try pushing in on the ball plug again using the Ball Plug Pusher tool. If it continues to leak there may be damage to the ball plug or port. If it is the ball plug then replace it. If it is the port then you will have to discard the cartridge.
4. If there are no leaks then rinse off any ink, and dry off the cartridge using a paper towel.
Pop-Up Messages

You will see pop-up messages on your screen after inserting the refilled cartridge. Ink levels will not be available. However, the printer will still give the indication when the cartridge is getting low on ink, and will stop printing when it runs out. Always replace the cartridge as soon as it gives the “Ink Low” indication to prevent the cartridge from being disabled by the printer. Follow the instructions under each of these four screen messages shown below:

Click “OK”
Refill Instructions – HP 970/971 Cartridges

Refill Instructions

Click “Continue”

Click “Yes”

Click “OK”
Chip Installation Instructions

If you purchased the replacement chips for any of the HP 970 and 971 cartridges these instructions will provide you with proper installation for those chips. **Caution:** Please follow all necessary ESD procedures when handling the replacement chips. You can find ESD procedures on the internet. We recommend using a static grounding wrist strap.

1. Identify the correct chip has been selected and proceed to remove from the packaging. Please note that some of the HP 970 and 971 chips are longer than the ones shown in the photos below.
2. Carefully remove the white backing off the chip using a flat X-ACTO blade, or similar tool, exposing the adhesive underneath.

3. Once the adhesive is exposed, proceed to carefully place the chip over the existing OEM as shown. The flat X-ACTO blade works well for this.

4. Once the chip has been placed, press down on the chip gently to secure the adhesive in place.
5. Inspect the chip for proper location as shown below. Note that chip rest within the lips of the chip inset.