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SEMI-AUTO REEL TO REEL INSTALL OF NEW WEB WIPE FOR 3D PRINTER AND WIDE FORMAT PRINTERS

HP INC

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Semi-auto reel to reel install of new Web Wipe for 3D printer and Wide Format printers

To handle the high volume of prints typical to 3D Printing or large format printing, Web Wipes are at a high frequency installed manually by heavily trained operators. Installing a Web Wipe is a challenging task that involves the user reaching into the machine from the front and the top simultaneously. This is very cumbersome and time-consuming, especially for smaller individuals, and can be very messy getting agent/ink on the user and the machine. In a production environment the downtime of this task contributes significantly to the overall operating expense of the equipment.

The need of making this task easier is of high value for the customers. This can be eased by the following method of installing web wipe in a semi-auto way only from the front of the machine cleanly and consistently. This method consists of using the old web wipe supply to assist in threading the new web wipe supply through the machine. Once new and used supply are connected, the machine moves the connection point through the system automatically (See Figure 1
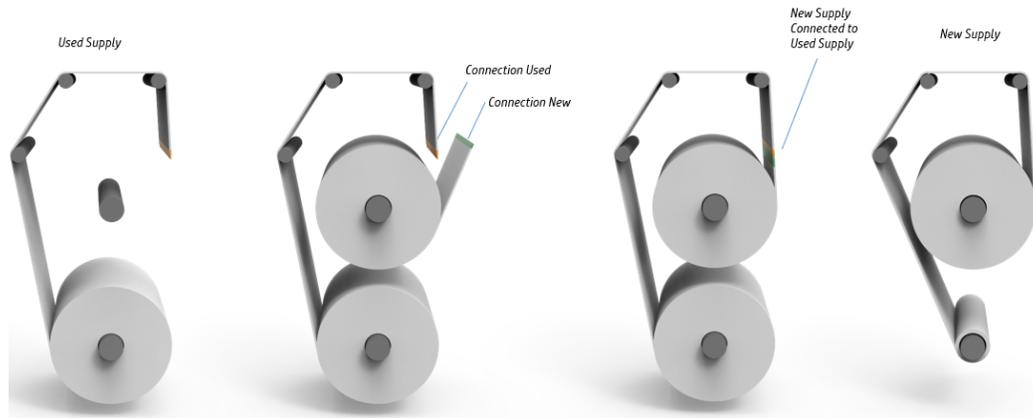

Figure 1: Installation of new Web Wipe Supply and removal of Old Web Wipe

In order to be able to implement this method, there is need to ensure that the system has:
- Space between roller bars big enough to ensure that both the used and new Web Wipe fit
- The web wipe supply has a connection feature at the beginning and ending edges. Alternatively, a tool featuring a connection could be used as well

The step by step is explained in the figure below (see Figure 2).

Semi-auto reel to reel install of new Web Wipe for 3D printer and Wide Format printers
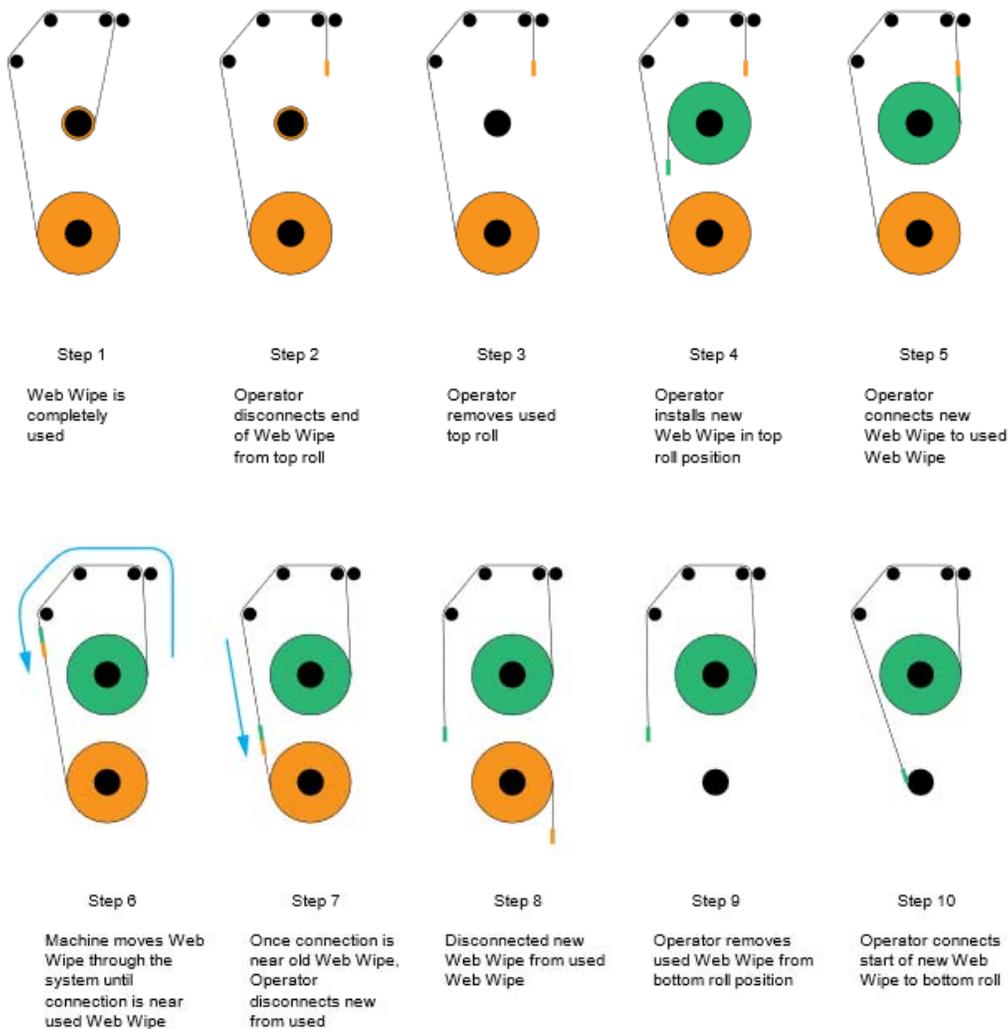

Figure 2: Step by step of the installation of new Web Wipe Supply and removal of Old Web Wipe

The concept advantages are:
- It allows all types of operators to install web wipes regardless of their size and flexibility.
- Because the machine is handling most of the installation, it removes human error making the operation more consistent.
- Because the machine is threading the web wipe, it can detect any errors during initial install saving time.
- It keeps the operator clean and safe.
- Operators can perform maintenance and repairs while device is threading web wipe, saving time and money.

Disclosed by Ben Coughlin, John Ennis, Martí Cot and Andreu Oliver, HP Inc.

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