FCO CA08150: Picker wrist out orifice/wrist sensor flag upgrade

Document number: 709-00579A-EN Rev A

Product	FCO priority
Trendsetter® NEWS 200 with 25 mm-deep plate ledge	Next Failure

Background

Trendsetter NEWS 200 output devices with the 25 mm-deep plate ledge (also known as the 100-plate ledge) have an excessive number of plate-loading, double-picking, and picker wrist position errors. These problems are the result of inaccurate sensing of the picker wrist position due to the deeper plate ledge (25 mm deep compared to 20 mm deep for other autoloaders).

Solution

Upgrade the autoloader manifold and add an adjustable sensor flag (part number 252-09391A) to the picker.

Part 1: Upgrade manifold

Parts required

Upgrade kit #512-00310A. Contains the following parts for the picker wrist out orifice upgrade:

Part Number	Part Name	Quantity
55-1211	Fitting, air, choke, 0.15 mm type B, 1/8 NPT to 4 mm	1

Procedure

1. From the autoloader manifold, remove fixed orifice fitting B0.20 from Picker Wrist port A.
2. Install the new B0.15 fixed orifice fitting (part number 55-1211) into the Picker Wrist port A, as shown in Figure 1.

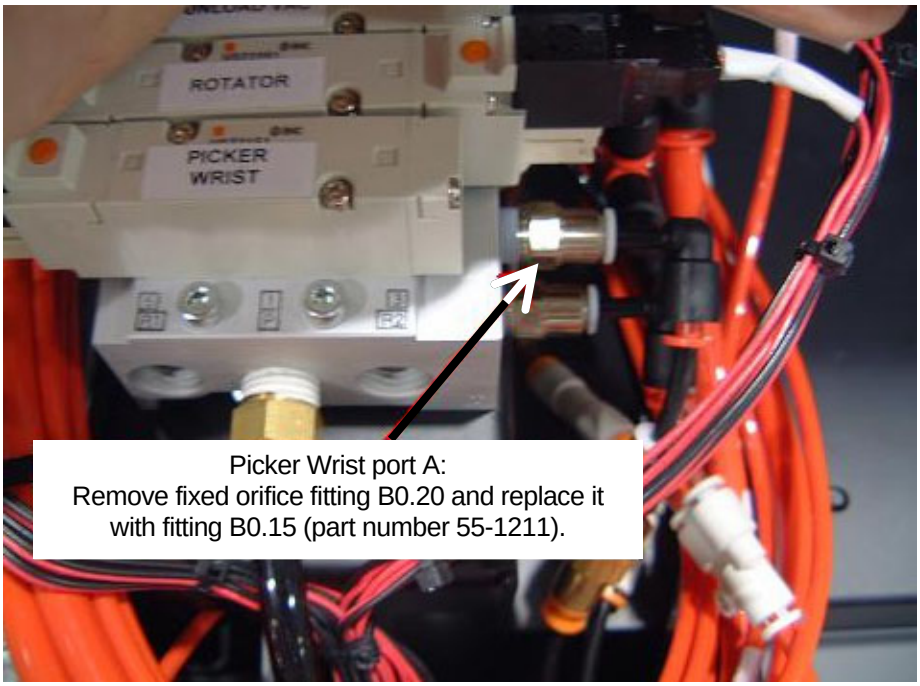


Figure 1: Replacing the Picker Wrist fixed orifice in the picker manifold

Part 2: Picker wrist sensor flag upgrade

Prerequisites

Before installing the picker wrist sensor flag upgrade, ensure that the picker wrist stopper upgrade has been installed. This upgrade is also part of FCO CA08150, but the procedure is described in a separate document (709-00578A), because it applies to all Trendsetter NEWS and Autoloader devices using version 3 of the picker, and not just NEWS 200 devices with the 25 mm-deep plate ledge.

Parts required

Upgrade kit #512-00310A. Contains the following parts for the picker wrist sensor flag upgrade:

Part Number	Part Name	Quantity
252-09391A	100 plate ledge wrist flag, TSM	1
52-4128	Screw, M4 x 10, socket cap, button head, stainless steel	2
52-3247	Washer, M4, heavy, 4.3 x 12 x 1.6, steel-plated	2
52-4042	Nut, M4, Nylock	2

Procedure

1. Install the picker wrist sensor flag (252-09391A) on the home side (only) of the picker, as shown in Figure 2.

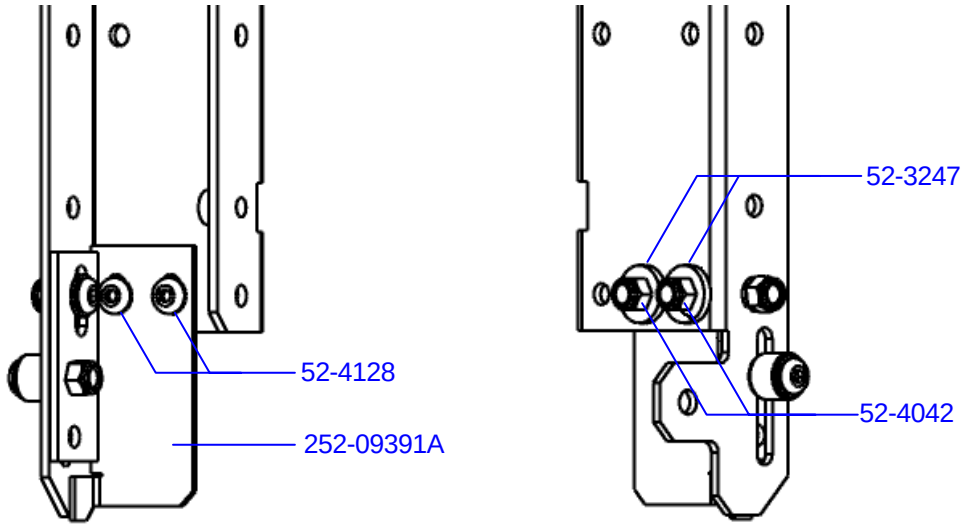


Figure 2: Picker wrist sensor flag upgrade kit installation (home side)

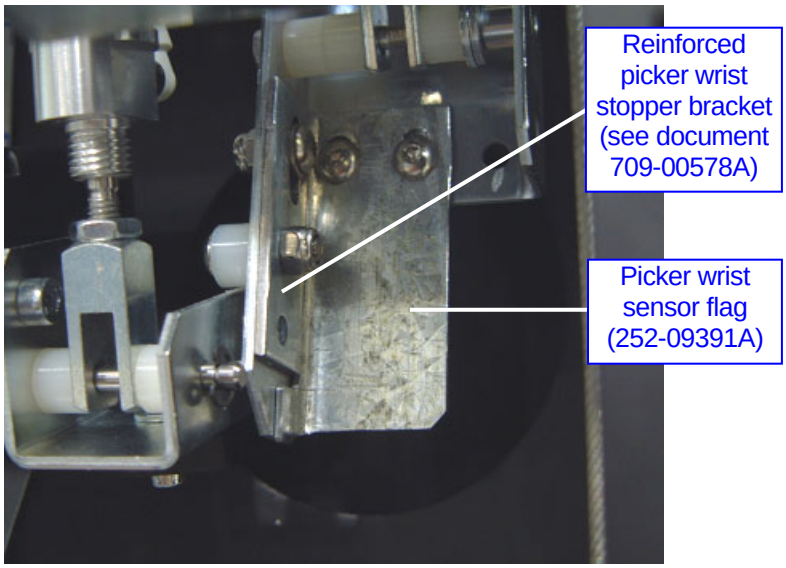


Figure 3: Picker wrist sensor flag installed (home side)

2. Adjust the position of the picker wrist sensor flag, along with picker wrist sensor, so that the picker wrist out time is in between 6000 and 8000 ms when picking an 800 mm x 1030 mm x 0.03 mm thick plate. To test this, perform the following “Test” procedure.

Test

Note: This procedure requires a timer capable of measuring seconds.

1. Load an 800 mm x 1030 mm x 0.03 mm thick plate in the bay.
2. Enter the following commands, and start the timer immediately after entering the last one (picker wrist out).

   ```
   picker up
   picker in
   picker vac on
   picker wrist in
   picker wrist out
   ```

   (Start the timer.)
3. Observe the leading edge of the plate as it is being pulled out of the bay, and stop the timer when the leading edge clears the plate ledge teeth and the outer edge of the 25 mm-deep plate ledge. The elapsed time should be between 6 and 7 seconds.
4. Check whether the firmware's `picker wrist out w` time measurement is within 6000 to 8000 ms when the autoloader picks an 800 mm x 1030 mm x 0.03 mm thick plate.

   ```
   picker wrist out w
   ```

   Note: The parameter `w` instructs the picker to wait for the sensor to trigger before returning.
5. Check whether the `picker wrist out time` reported for the firmware's `picker time` command is within 3500 and 5500 ms.

   ```
   picker time
   ```
6. If the picker wrist out timing is not within the ranges described above, readjust the position of the picker wrist sensor flag and sensor and repeat steps 2–5.

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