

Magnus

Multi-Cassette Unit Setup Procedure

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Revision History

Revision	Date	Author	Comments
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1. PREPARATION

Before the Multi-Cassette Unit (MCU) can be set up, the following must be done:

- The MCU has been leveled and is aligned with the Magnus base device.
- The MCU must have power such that the fork position can be adjusted.
- The MCU must be connected to the airline.

2. ADJUST THE SHUTTER DOOR

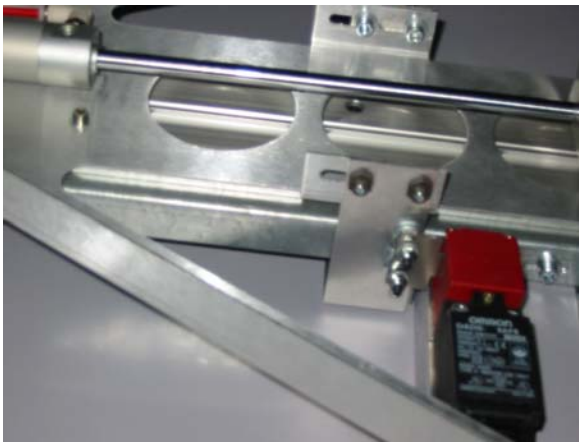
2.1.1 Shutter Door Open Position

1. Activate the "Shutter Door Open" solenoid from Print Console or by using the manual override button on the solenoid.
2. Adjust the optical interrupt sensor for the shutter open position. Make sure the sensor bracket does not contact the sensor when the door is fully open.



2.1.2 Shutter Door Close Position

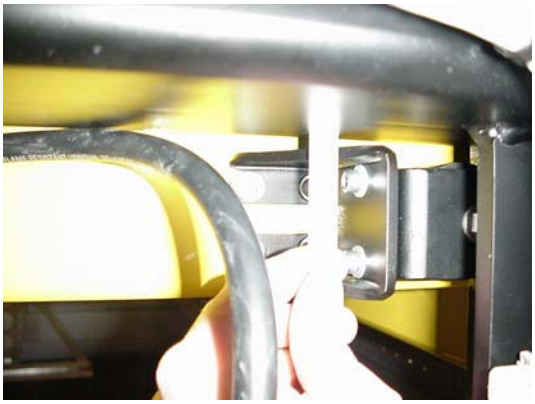
1. Close the cassette door (`cassette door close`).
2. Adjust the key position such that it is fully engaged when the shutter is fully down.



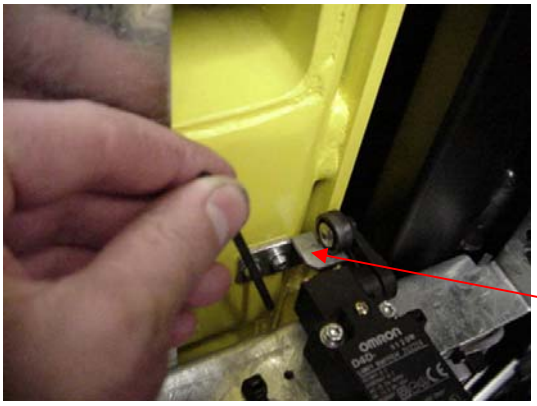
3. ADJUST THE FORK TRAVEL LIMIT

3.1.1 Upper Limit

1. In manual override mode, move the MCU forks to the maximum height such that there is approximately 3-5 mm of space between the upper alignment roller bracket and the frame.



2. Adjust the upper limit bracket and roller switch such that the Omron switch is triggered when it reaches this position.

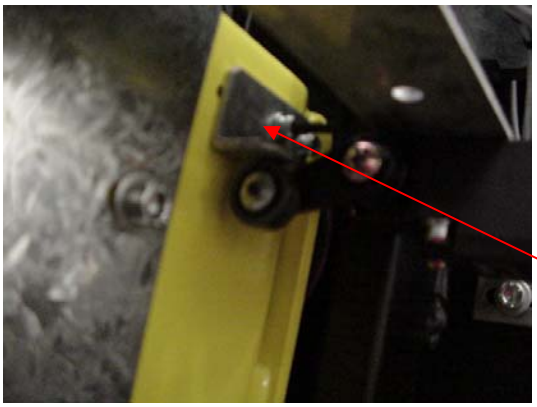


3.1.2 Lower Limit

1. In manual override mode, move the MCU forks to the minimum height such that there is approximately 3-5 mm of space between the lower alignment roller bracket and the frame.

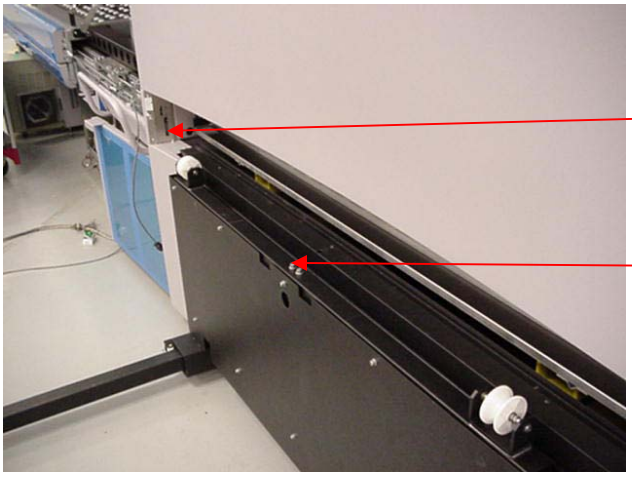


2. Adjust the bracket and roller switch such that the Omron switch is triggered when it reaches this position.



4. ALIGN THE CART FRONT FRAME TO MCU CENTER

1. Measure and mark the centerline between the cassette out sensor guide plates.



2. Measure and mark the centerline of the cart front frame.
3. Center the cart front frame to the cassette out sensor guide plate centerline.
4. Using a digital level, determine if the frame is level.

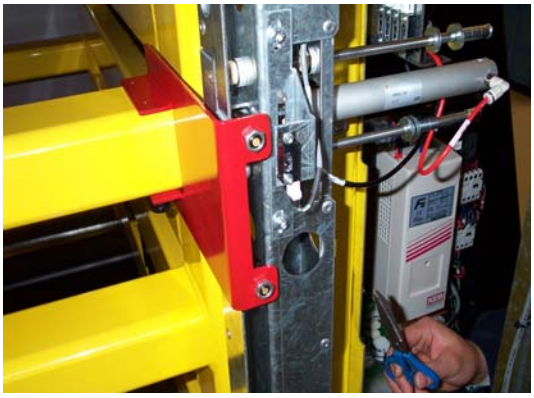
5. If the frame is not level, raise the lower side until it is level.
6. Tighten the screws to fix the frame in position.

5. ADJUST THE LOAD/UNLOAD AND LOCK/EJECT HEIGHT

1. Move the cart to the park position (`cassette cartpin up`).
2. Raise the cassette door and ensure that it stays open by blocking it with two pieces of foam (`cassette door open`)
3. Install the Fork Lock/Eject Height Jig (690-00201A) onto the cart front frame using the thumbscrew provided.



4. Install the Lock/Eject Rail Height Jig (690-00199A) as shown and tighten the thumbscrews.



5. Attach the Creo Universal Sensor Adaptor (90-1112A) to the jig and position it such that the LED can be seen from the rear motor housing.
6. Use the MCU override panel to move the forks upwards to the Lock/Eject position. This position is indicated when the LED is lit and should be just as the top of the fork blocks the sensor.



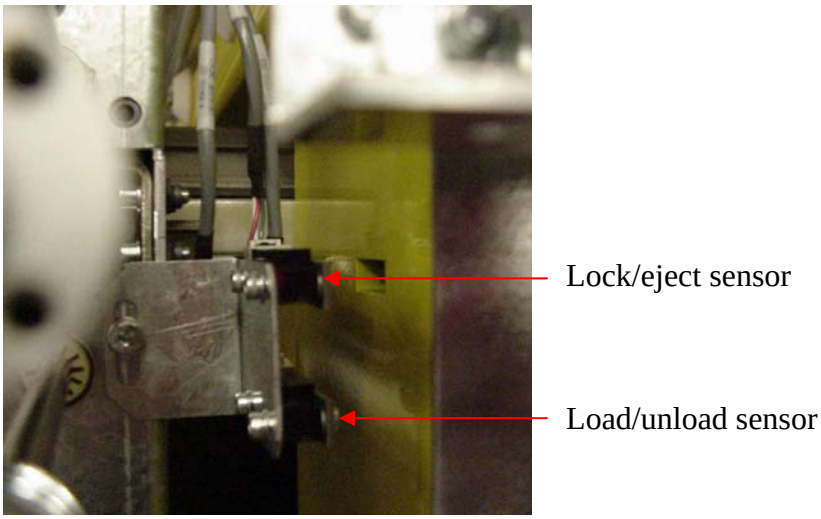
7. Loosen the cassette lock & eject rail vertical adjustment screws.



8. Move the rail such that the ejector lock/eject tab is at the position where the top roller center is inline with the center of the tab.

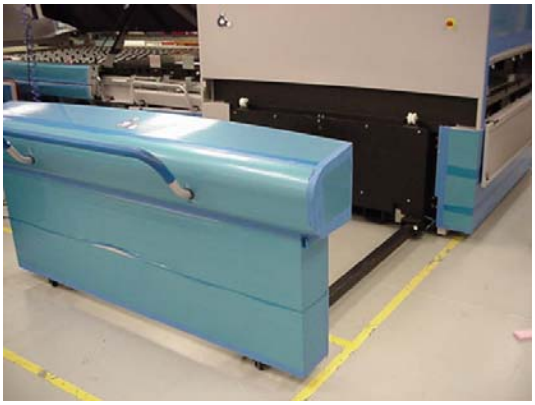


9. Tighten the cassette lock & eject rail vertical adjustment screws.
10. Adjust the sensor bracket on the side of the rail such that the lock/eject sensor is reading "0" at this position or is at the centerline of the obround slot in the forks.



6. LEVEL THE CART

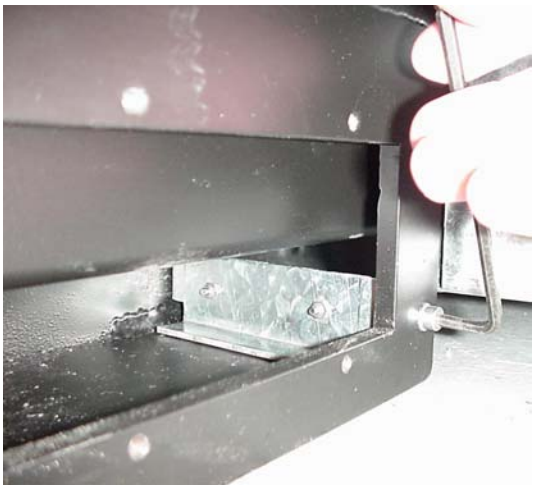
1. Move the cart to the park position with the cart pin in the up position (`cassette cartpin up`)



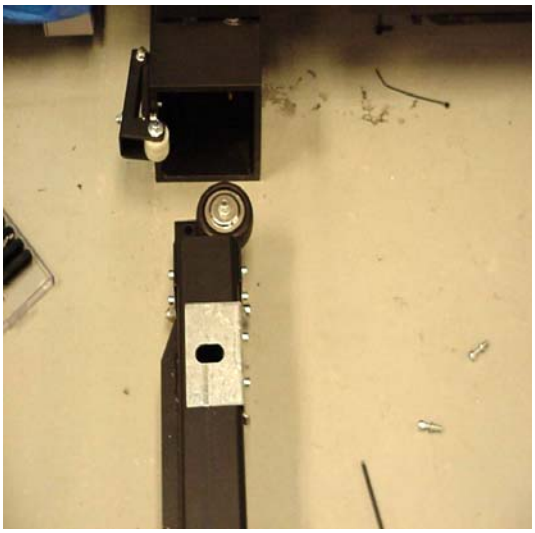
2. Check the level of the cart parallel to the axis of the base machine using a digital level.



3. Raise the lower of the two main wheel brackets so that the cart is level.
4. Remove the cart stop brackets within the cart front frame.



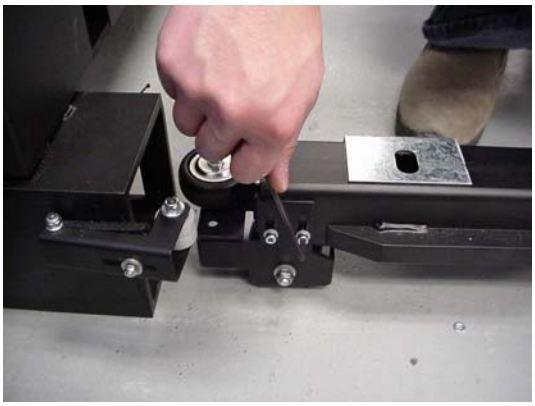
5. Pull the cart out of the front frame.



6. Check the level of the cart perpendicular to the axis of the base machine using a digital level on the left cart rail.



7. Adjust the left cart rail wheel bracket so that the rail is level.



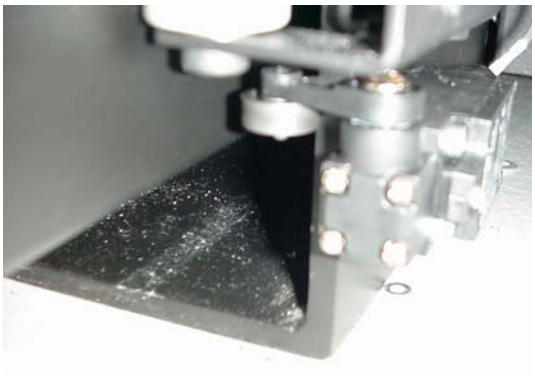
8. Check the level of the cart perpendicular to the axis of the base machine using a digital level on the right cart rail.
9. Adjust the right cart rail wheel bracket so that the rail is level.

7. ADJUST THE CART PARK SENSOR AND SPEAR PIN PLATE

1. Move the cart to the park position with the cart pin in the up position (`cassette cartpin up`). The cart rail wheel bracket should be flush with the end of the front frame shoe.
2. Adjust the spear pin plate on each side such that the pin will freely enter the bracket hole.
3. Lock the cart in this position.
4. Adjust the rail guide wheel brackets so that they are both in full contact with the rail.



5. Adjust the cart park sensor so that it is triggered in this position.

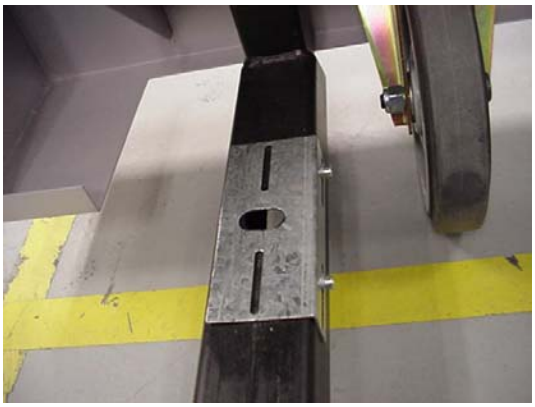


8. ADJUST THE CART HOME SENSOR

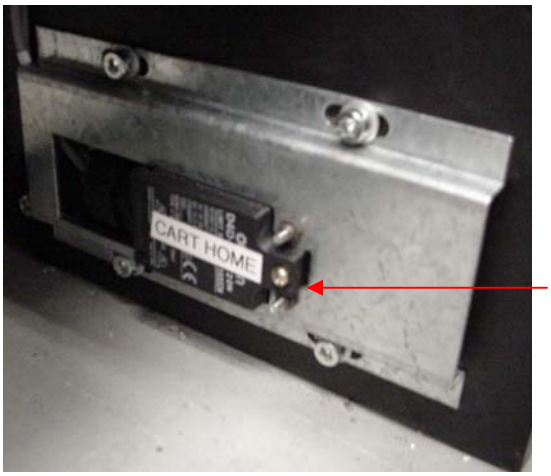
1. Move the cart to the home position with the cart pin in the up position (`cassette cartpin up`)



2. Adjust the spear pin plate on each side such that the pin will freely enter the bracket hole.



3. Lock the cart in this position.
4. Adjust the cart home sensor so that it is not triggered in this position.



Cart home sensor

9. INSTALL THE CASSETTES

1. Ensure that the cart is in the home position and there are no obstructions to the MCU fork movement.
2. Power up the machine and start Service Shell.
3. Initialize the device.
4. Type >>`cassette load 1` to load the cassette into the MCU.
5. When prompted, pull the cart to the park position.
6. Lift and position the cassette on the V-Rollers and the cart pin.
7. Push the cart to the Home position when prompted. The cassette should rise to the lock/eject position and then be retracted into the rail.
8. Repeat for cassettes 2,3, and 4.

10. ADJUST THE CASSETTE OUT SENSOR AND LOCKED TO CART SENSOR

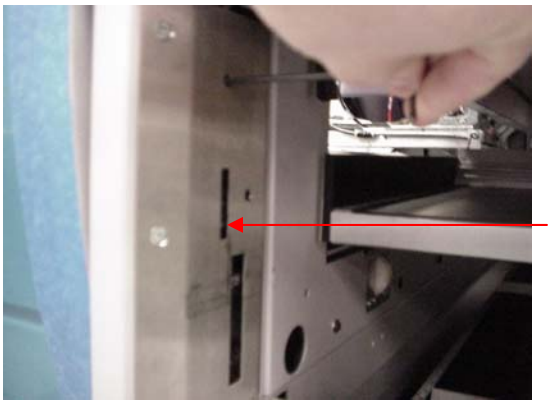
1. Position a cassette at the lock/eject position. The lock/eject sensor should be reading “0” at this position or is at the centerline of the obround slot in the forks (`cassette move lock up`).

Raise the cart pins and move the cart to the park position (`cassette cartpin up`).

Lock the cart pins (`cassette cartpin down`).

Open the cassette door (`cassette door open`).

Adjust the cassette out sensor optical centerline to approximately the center of the cassette side rail.



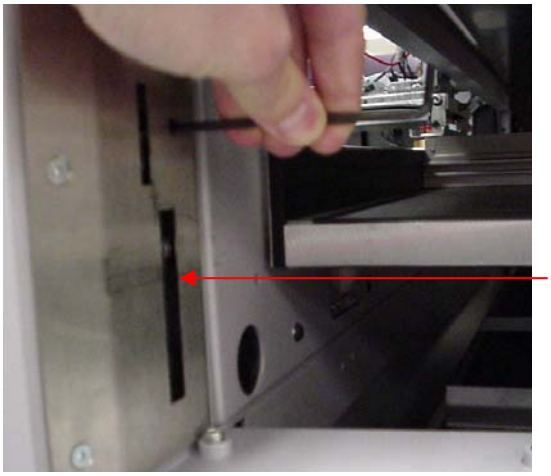
Cassette out sensor

Close the cassette door (`cassette door close`).

Position a cassette at the load/unload position (`cassette move load down`). The load/unload sensor should be reading "0" at this position or is at the centerline of the obround slot in the forks.

Open the cassette door (`cassette door open`).

2. Adjust the cassette locked to cart sensor optical centerline to approximately 3-5 mm above the bottom of the cassette on both the left and right sensor.



Cassette locked to cart sensor

11. ADJUST THE CASSETTE POSITION SENSORS

1. Move cassette 1 up to the pick position in the manual override mode. Have another person check the status of the pick position sensor in Service Shell. When the sensor transitions from 1 to 0 or 0 to 1 you are in the correct position.

2. Adjust the cassette 1 position sensor such that it is at a "1" condition at this position. The sensor optical centerline should be 3 mm below the edge of the fork height signal bar.





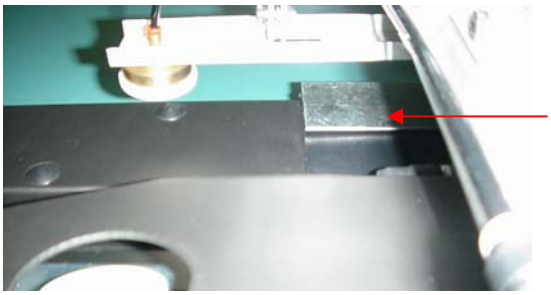
3. Repeat for cassettes 2,3, and 4.

12. CENTER THE CASSETTE TO THE PLENUM

1. Use the cassette alignment jig (# 690-00154A) to center the cassette to the plenum.
2. Move a cassette to the pick position using the manual override option.
3. Loosen the screws on the cassette lock & eject rail that control the horizontal position.



4. Mount the jig on the cassette plenum rail.
5. Adjust the position of the cassette lock & eject rail such that the side of the jig coincides with the side of the SS sensor mount bracket. The horizontal cassette play (+/- 2 mm) should be such that the nominal coincides with the edge of the SS sensor mount bracket.



6. Tighten the screws for the lock & eject rail.
7. Remove the jig from the cassette plenum rail.

Note: If the jig is not removed, it will damage the device.

8. Adjust the Lock/Eject and Load/Unload sensors such that they are in the center of the slot in the forks.

13. ADJUST THE LOCK AND EJECT CYLINDER TRAVEL

1. Open the cassette door (`cassette door open`).
2. In manual override mode, move a cassette to the lock eject position.
3. Eject the cassette.
4. In manual override mode, lower the cassette onto the cart pin and load/unload position.
5. Disconnect the air connections to the lock/eject cylinder.
6. Position the lock/eject cylinder so that the roller on the cassette is in line with the centerline of the gap between the brackets.
7. Install washers/spacers on the rods so that the cylinder can extend to that position.
8. Reconnect the airlines to the cylinder.
9. Raise the cassette to the lock/eject position.
10. Lock the cassette back into the rail.
11. Close the cassette door.

14. SITE INSTALL SETUP

Perform only the following steps for MCU setup at a customer site:

1. Align the cart front frame to MCU center.
2. Level the cart.
3. Adjust the Load/Unload and Lock/Eject Height.
4. Adjust the Cassette out sensor and locked to cart sensor.