Installation Guide
English

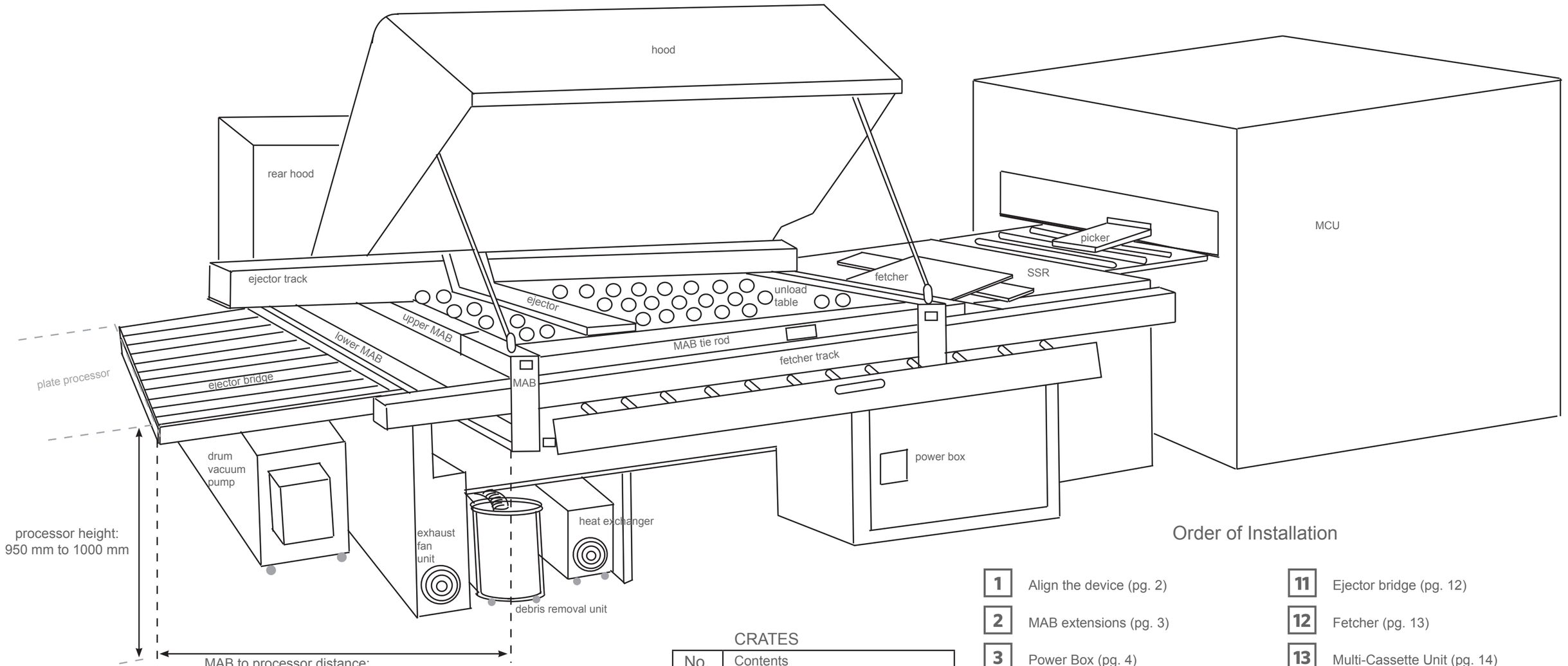
Magnus VLF with Multi-Cassette Unit

653-00841D-EN-A

Internal 725-00111D-EN-RevA
February 2007

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CRATES

No.	Contents
1	Magnus VLF device
2	Thermal head
3	MCU
4	MCU cassettes
5	Ejector track
6	Fetcher track
7	Panels / Bridge
8	Hood
9	SSR unit
10	Debris removal unit
11	Drum vacuum pump
12	Heat Exchanger

Note: The crate numbers listed in this document may differ from the actual crate numbers. Refer to the shipping list documentation to verify the actual crate numbers.

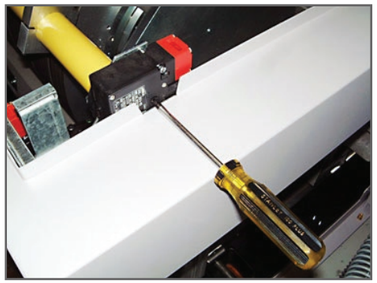
Order of Installation

1 Align the device (pg. 2)
2 MAB extensions (pg. 3)
3 Power Box (pg. 4)
4 Heat exchanger, debris removal unit, exhaust fan unit (pg. 5)
5 Load table (pg. 6)
6 Fetcher track / MAB upper tierod (pg. 7)
7 Unload table (pg. 8)
8 Ejector (pg. 9)
9 TH3 Filter / registration camera (pg. 10)
10 Front hood (pg. 11)
11 Ejector bridge (pg. 12)
12 Fetcher (pg. 13)
13 Multi-Cassette Unit (pg. 14)
14 Picker (pg. 16)
15 Slipsheet Removal Unit (pg. 17)
16 Drum Vacuum Pump (pg. 19)
17 Thermal Head (pg. 19)
18 Load table rails / Unload table panels (pg. 20)
19 Startup procedure (pg. 21)
20 MCU cart adjustments (pg. 22)

1 Uncrate device.

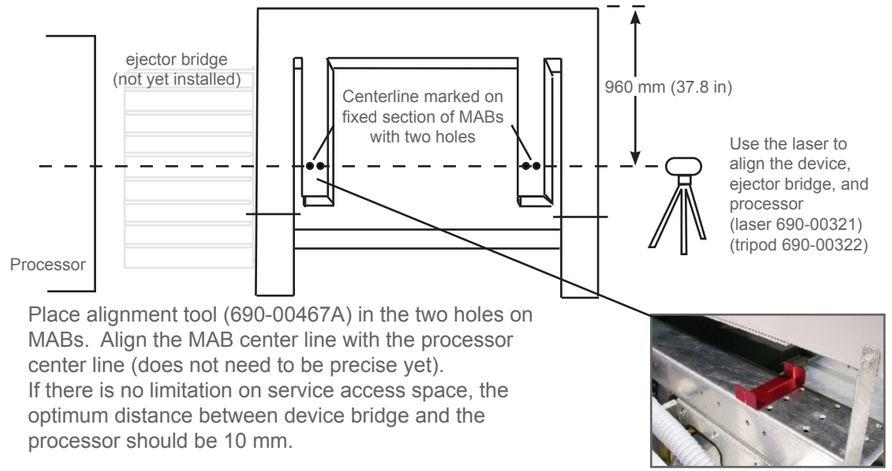


Insert forklift arms under the casting at the rear of the device.



Turn solenoid to unlock position.

2 Position the device in line with the processor.



Place alignment tool (690-00467A) in the two holes on MABs. Align the MAB center line with the processor center line (does not need to be precise yet).
If there is no limitation on service access space, the optimum distance between device bridge and the processor should be 10 mm.

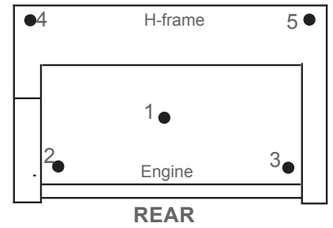
NOTE: When calculating the distance between device and processor, consider:

- the ejector stops 170 mm from the end of the bridge
- the minimum plate to be ejected at subscan size
- the distance from edge of processor in to the first rollers (if applicable)
- the distance needed for processor service access (if applicable)

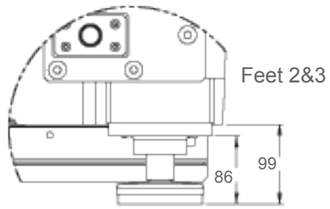
For more information, see “Footprint and Working Area” of the *Magnus VLF MCU Site Preparation Guide* (725-00034B).

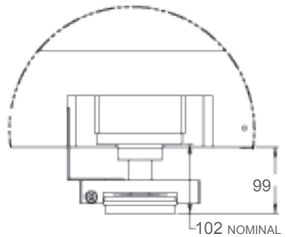
3 Check the nominal foot height (adjust if required).

Foot locations



Drum sizes 5183 & 4570



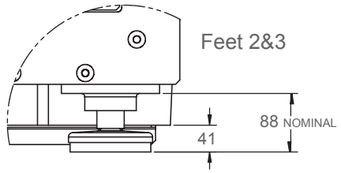


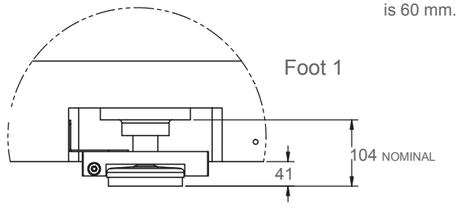
Foot 1

NOTE: Foot 1 is factory adjusted-do not adjust it.

Check the nominal foot height continued.

Drum sizes 6383 & 5570





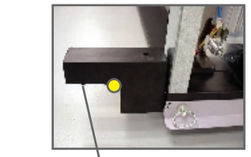
Feet 4&5

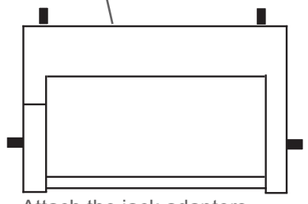
Loosen the clamp and turn the rod
(each full turn = 5 mm).

Nominal height is 60 mm.



4 Remove the casters.





Attach the jack adapters (4 locations).



Raise the device evenly until the weight is off all the casters.



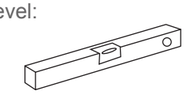
Place wooden blocks under the casting and remove the casters. Lower the device evenly until the feet take its weight. Remove the jacks and adapters.

Re-check the alignment of the MAB center line to the processor center line.

If needed, put greased pads under the jacks and move the device.

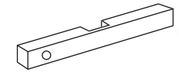
5 Calibrate the level.

Before starting, calibrate the digital level:



Cal 1

press **cal**, flip the level around and press **cal** again.

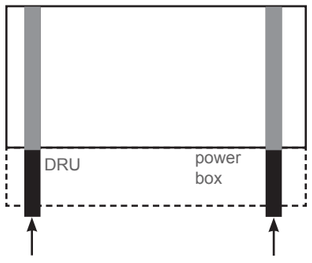


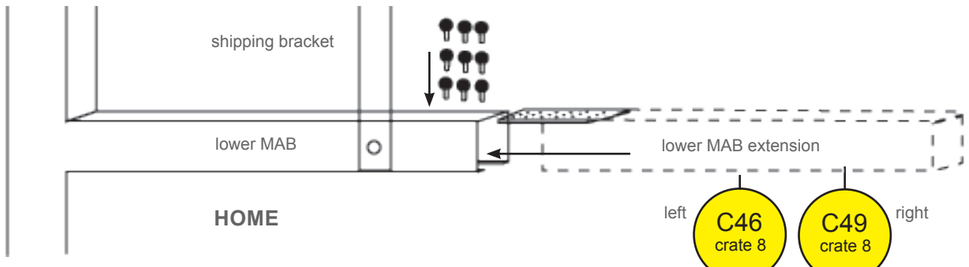
Cal 2

Parts in crate 8 .

1 Insert the lower MAB extensions and fasten.

NOTE: Do not remove the shipping brace and side screws yet.

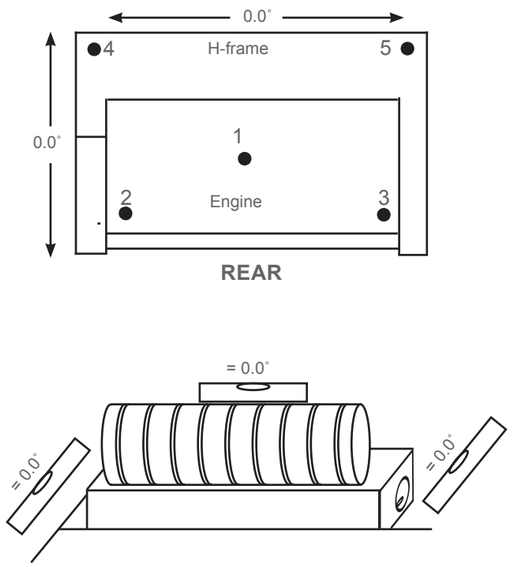




Attaching the lower extension.



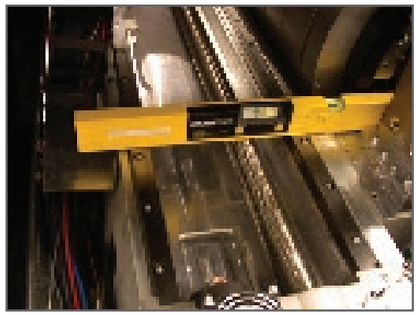
2 Level the device (first pass).



a Adjust feet 2 & 3 until drum is level.

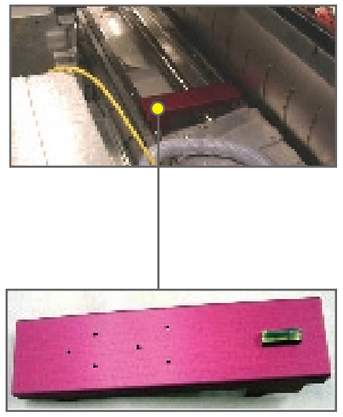


b Place level on the carriage tracks. Make a mark on feet 2 & 3 and raise/lower equally until 10° ± 0.1° is achieved.



OR

If you do not have a digital level, use the jig on the frame as shown. Adjust feet 2 & 3 equally for 0° ± 0.1°.



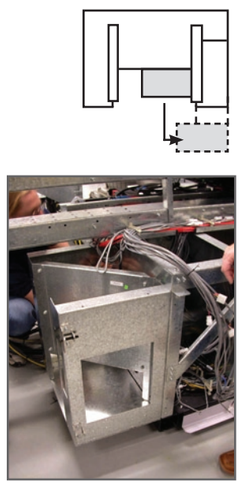
c Adjust feet 4 & 5 so that the lower MAB is 0.1°+ (angled up slightly).
Note: Ensure that all of the feet are touching the ground.

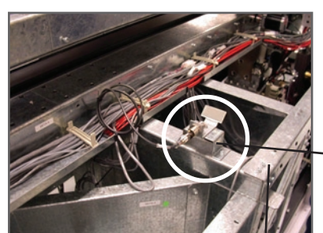


NOTE: Once you finish building the subassemblies on to the Magnus, the weight of the of the assemblies will level the MAB to 0.0°. Final leveling will take place after the Magnus has been assembled (pg. 11).

Parts in crate 7.

1 Install the power box extension.

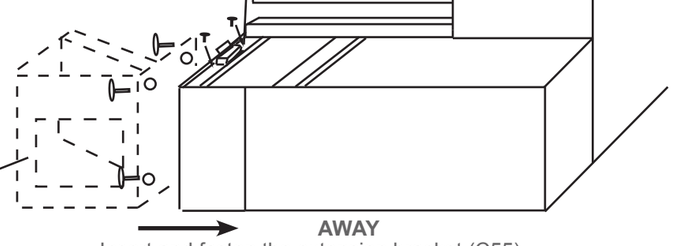




Attach SS sensor with mirror (C59) to the frame - left eject configurations only.

C59

Secure the outside holes with M8 screws.



Insert and fasten the extension bracket (C55).

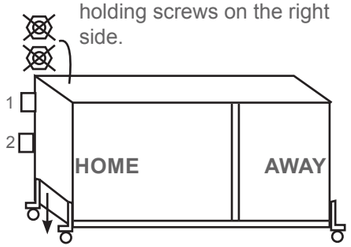
2 Move the power box.

a Lower the casters.



NOTE: Casters must be lowered all the way to avoid damaging the power box.

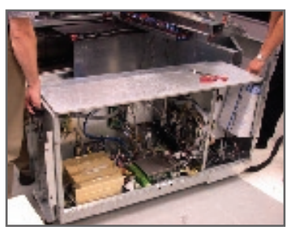
b Remove both M5 nylock nuts on left side and remove both holding screws on the right side.



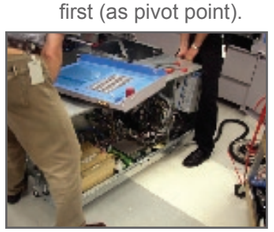
c Release the cables from their shipping position (untrimmed cable ties are only for shipping).



d Lift off and roll to new position.



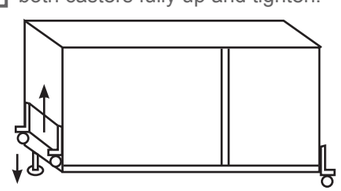
e Lift powerbox onto C55 extension bracket. Hook up the right corner first (as pivot point).

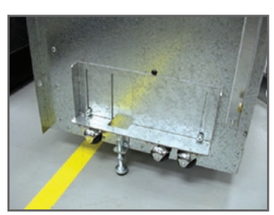


f Fasten screw on inside at the bottom.



g Lower foot down to the floor, then raise both casters fully up and tighten.

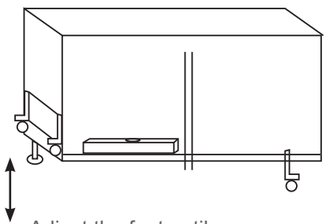




NOTE: Casters must be raised all the way up to avoid damaging the power box and so that the sub panel and right front panel can be installed.

3 Level the power box.

Place digital level on the frame.



Adjust the foot until power box is level.

4 Make the power box connections.

E77

Connect drum motor to J4 drum amp.

E04

Connect drum motor to J2 drum resistive brake.

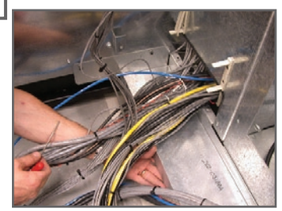




Inside the power box, make the connections.

5 Install the fire gutter tray.

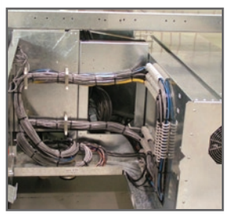
a Install fire gutter tray 1 (C51).

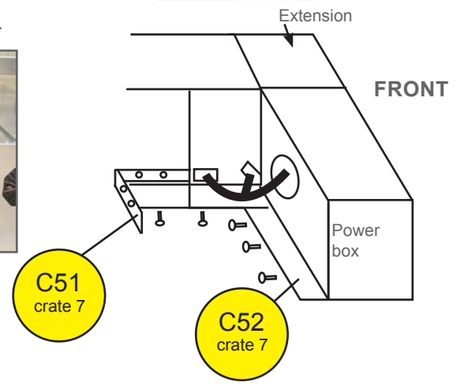


b Install fire gutter tray 2 (C52).

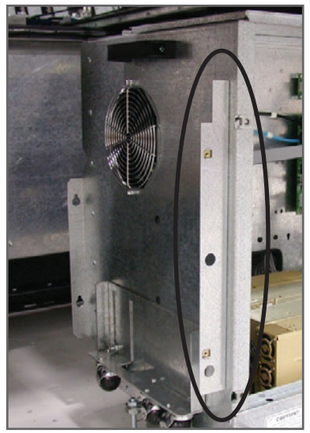


c Secure cable bundles.

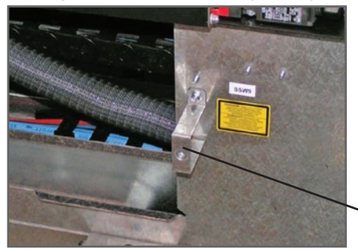




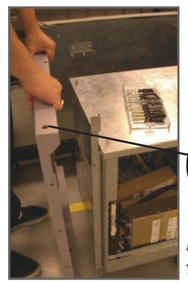
6 Install the support bracket for P19.



7 Install the right sub panel (P19) and the laser safety panel bracket (C97).



Head cover panel bracket





P19
crate 7

C97
crate 7

Also check that the power box filters are in place.

Parts in crates 7, 10, 11, 12.

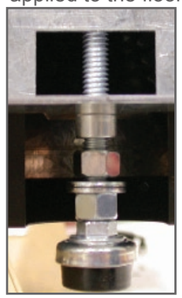
1 Install the hot air exhaust unit.

a Install the exhaust unit (C56).



C56
crate 7

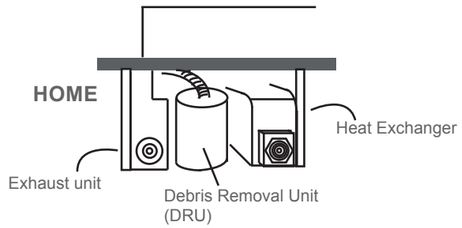
b Put the foot down until pressure is applied to the floor.



c Install the hot air exhaust extension duct (C77).



C77
crate 7

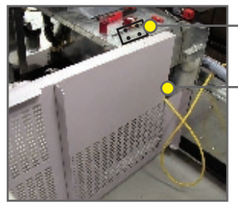


2 Install the left sub panel.



Adjust the panel's foot if needed.

P18
crate 7



Two M5 screws on top bracket.

Three M5 nuts with bel and heavy washer.

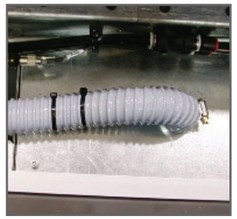
3 Install the Magnus Debris Removal Cabinet (MDRC).



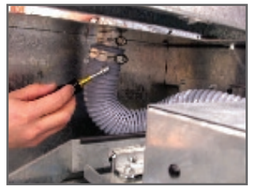
Roll the debris removal unit (C44) into place beside the heat exchanger.

C44
crate 10

Attach the DR holding bracket to the frame.



Route the debris hose from the head.



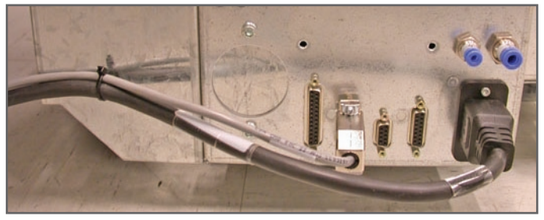
Clamp the hose.

P23
crate 7



Install the safety panel (P23) over the unit.

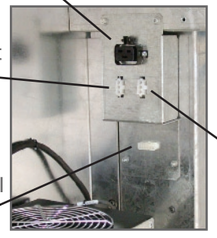
4 Make the MDRC connections.



E09 Connect debris blower AC plug to PEB AC receptacle.

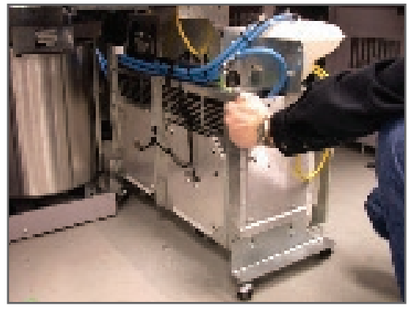
E06 Connect hot air exhaust cable to PDB (J24).

E08 Connect debris removal sensor to LIONEL (J8).

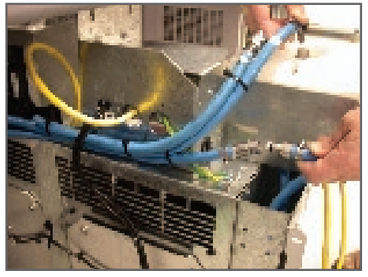


E07 Connect debris AC fan to PDB (J24).

5 Install the heat exchanger (TH2 configurations only)



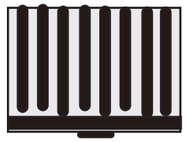
Roll the unit (C0) into place.

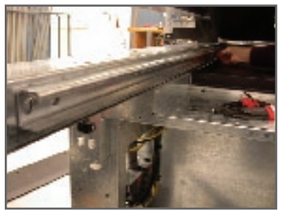


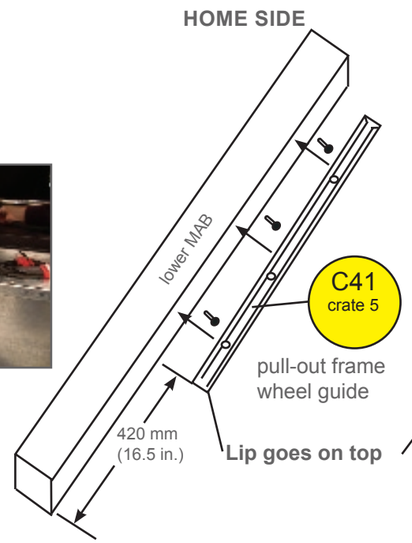
Connect the cables and tubes.

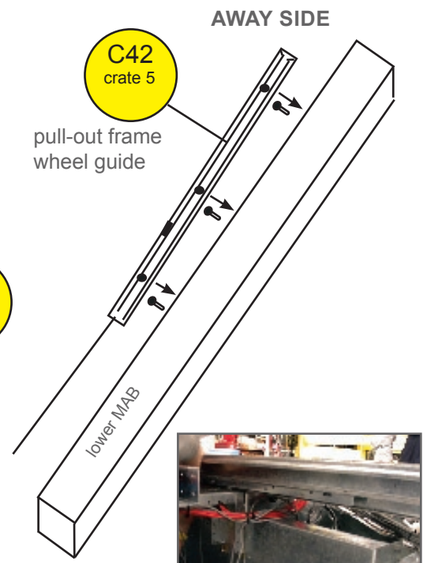
Parts in crates 5, 7, 8.

1 Install the wheel guide rails for the pull-out load table frame.



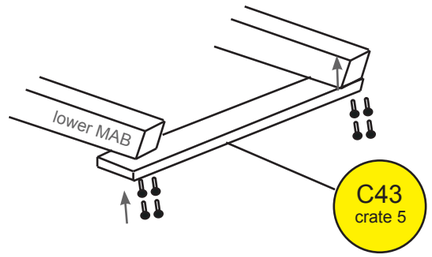






2 Install the pull-out load table frame support.

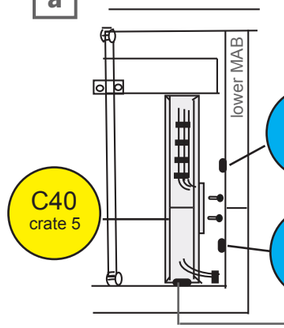
Lift the pull-out frame support assembly (C43) into place and fasten.





3 Install the flex track tray.

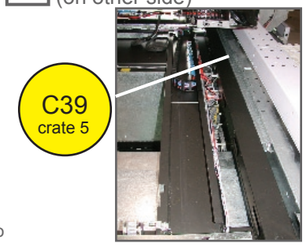
a Connect GENINE 1 to load table



Connect GENINE 1 to load table closed 1.

Connect GENINE 1 to load table closed 2.

b Right guide rail extension (on other side)



c

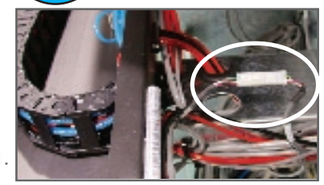
E62 Connect load table plate stop up/down.



Secure flex track to wall of tray (transition must be smooth).



E54 Connect GENINE 1 to load table traveler away sensor.



Connect E61.

4 Install extensions to the guide rails.

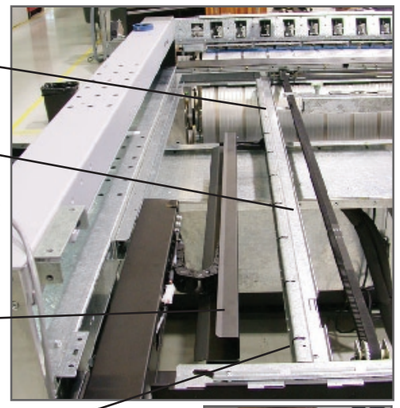
a Attach the join carriage guide at engine side and to pull-out table.

C76 crate 5

Left guide rail extension

C38 crate 5

C76 and C38 may be shipped as one piece

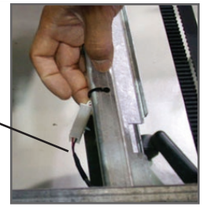


b Attach pull-out table cable guide to LT join carriage guide and to pull-out frame.

C75 crate 5

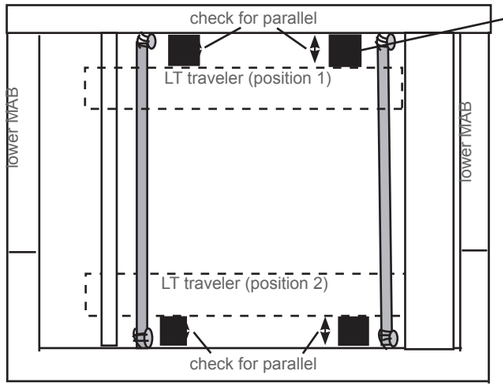
c Start button external cable

E63



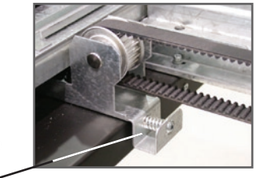
5 Align the traveler.

Start with the right hand side.



tension spacer jig 690-00117A or wooden blocks





a Undo two locking screws underneath.

b Connect the traveler belt - the belt bottom must be above the traveler.

c Belt tension compressed spring length - 17 mm.

NOTE: Do not use the moveable (pivoting) position of the traveler for adjustment.

6 Install the pull-out load table frame.

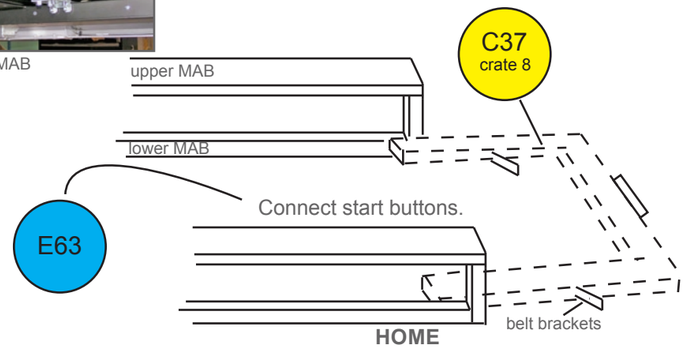


Tilt the frame (C37) and slide it in until the belt brackets have cleared the tie rod.

Untilt the frame and fasten the belt brackets to the inside edge of the tie rod.



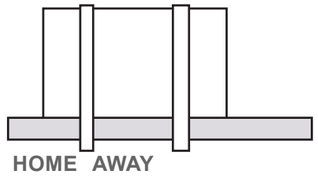
Lower MAB



Parts in crates 6, 8, 9.

1 Install the fetcher track.

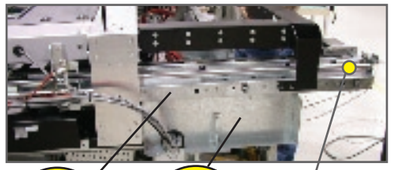
Install bracket C28.



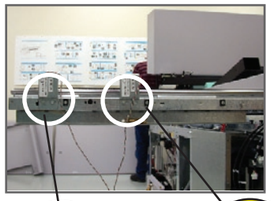


Insert the fetcher track (C32) on the lower MABs from the front.

Secure it on the bracket.



Motor will be at other end for left eject configurations.

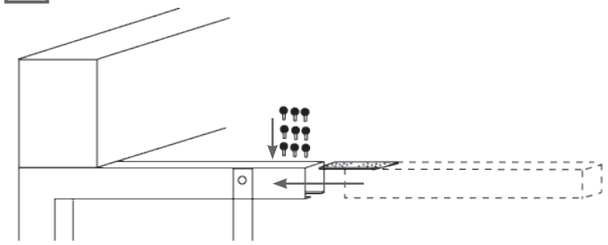


Install fetcher home sensor with bracket (C30).

Install fetcher safe home sensor with bracket (C31).

2 Attach upper MAB sections with the end plates

a Insert the upper MAB extensions and fasten.

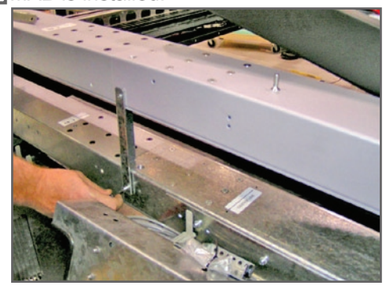




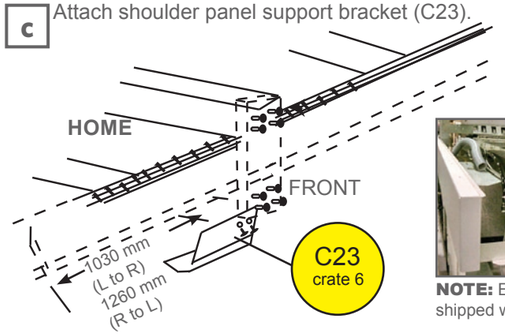
Attaching the upper extension.

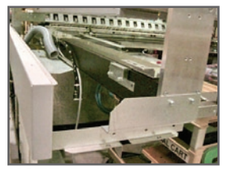


b Remove shipping braces once upper MAB is installed.



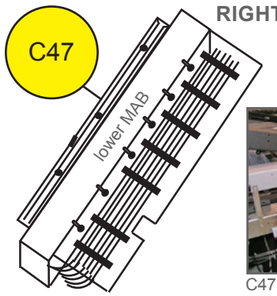
c Attach shoulder panel support bracket (C23).





NOTE: End plates are shipped with upper MAB

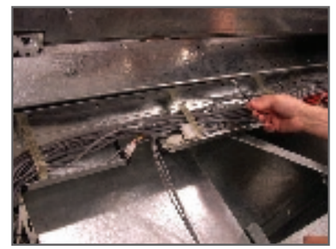
3 Install the MAB cable tray.



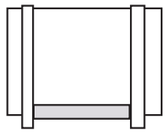


C47 is tucked loosely inside the device

Secure removable cable tray (C47) to outside of right lower MAB.

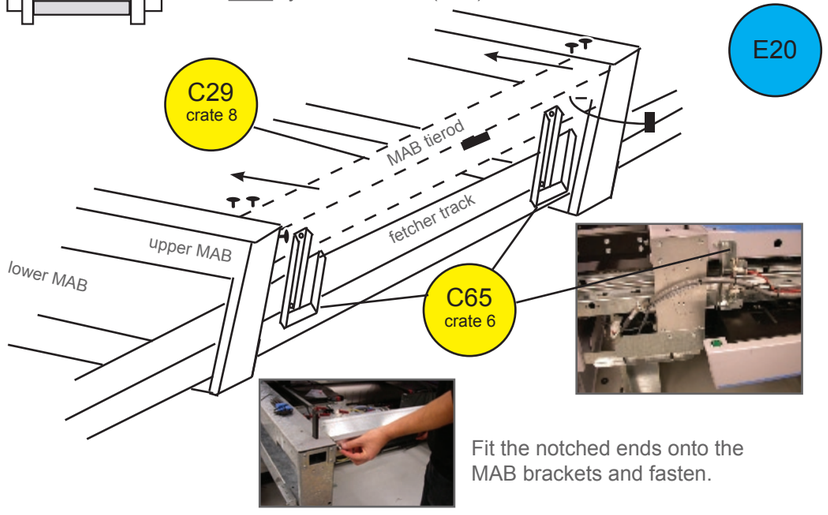


4 Install the MAB upper tierod.



a Slide the upper tierod (C29) into place from outside going in.

b Install the load table air cylinder bracket (C65).

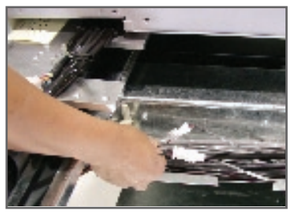


Fit the notched ends onto the MAB brackets and fasten.

c

E19 Connect front hood unlock solenoid SSW 12 to PBO (J30).

E20 Connect front hood unlock solenoid SSW 12 to PBO (J29).

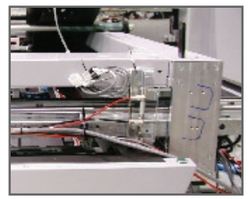


5 Connect the cables and air hoses.

Secure and connect the cables and tubes for the fetcher motor and acuators located behind the chin panel.







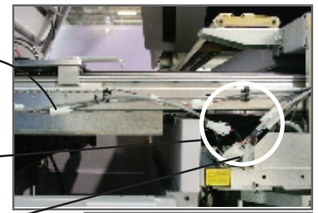
E14 Connect fetcher away to GENINE 0 (J14).

E16 Connect GENINE 0 (J2) to fetcher safe away.

E17 Connect fetcher motor to carriage amp (J3).

E18 Connect fetcher home to GENINE 0 (J14).

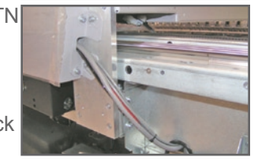
E15 Connect GENINE 0 (J2) to fetcher safe home.





Right eject Left eject

E75 **E11** Fetcher sensors EXTN GENINE 0 (J1 J3).



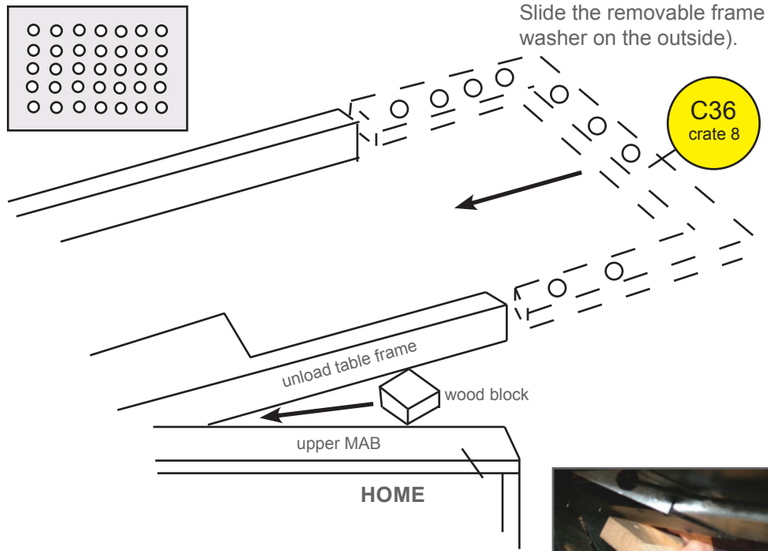
E73 **E12** Fetcher manifold track to GENINE 0 (J21).

E74 **E13** Fetcher sensors EXTN GENINE 0 (J4).

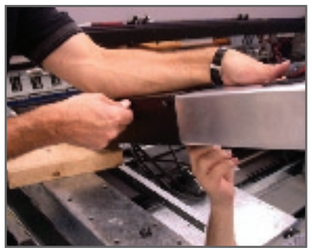


Parts in crates 5, 8.

1 Insert the removable unload table frame.





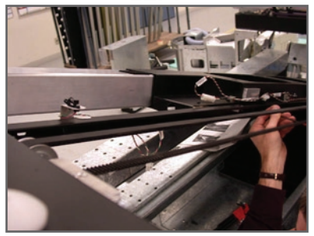




NOTE: Tilt cylinder tubes are removed for ease of handling. Reconnect them when the unload table has been secured.

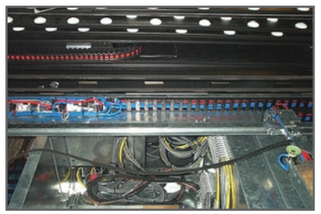
2 Install the extensions for the guide rails.

LEFT

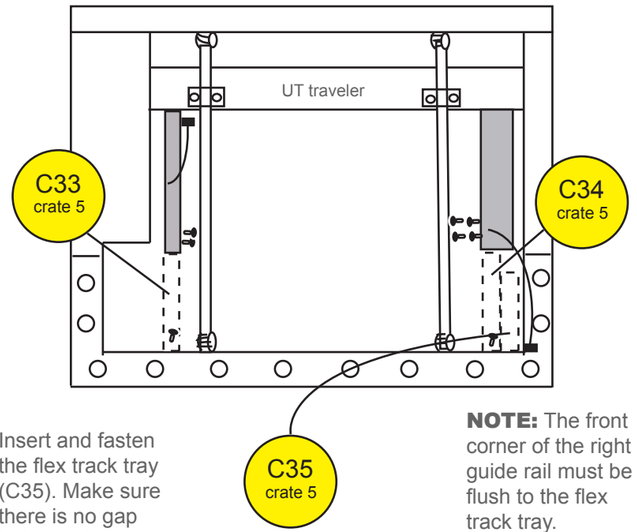


Place the end of the left guide rail (C33) against the end of the fixed rail.

Align height so the joint will allow smooth travel.



Insert and fasten the flex track tray (C35). Make sure there is no gap between tray and guide rail.



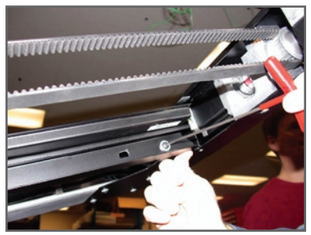
NOTE: The front corner of the right guide rail must be flush to the flex track tray.

RIGHT

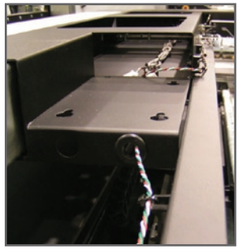


Place the end of the right guide rail (C34) against the end of the fixed rail.

Align height so the joint will allow smooth travel.



3 Connect the sensor and motor.

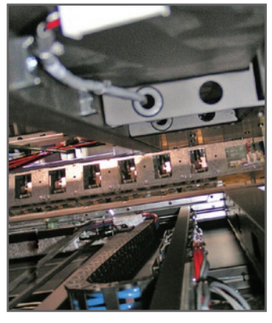


Connect unload traveler away sensor to GENINE 2.



Connect unload traveler motor to GENINE 2.

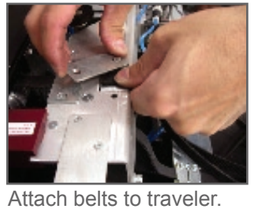




4 Connect the belts.



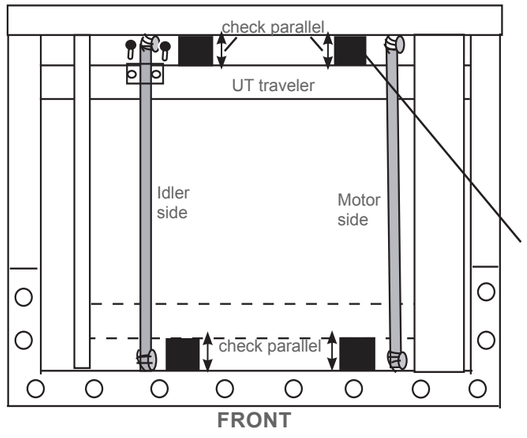
Starting on the right side: feed belts through pulleys.

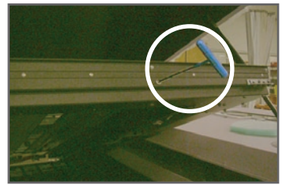


Attach belts to traveler.

Align the traveler parallel with the frame.

The traveler must be aligned parallel to the front of the unload table frame.



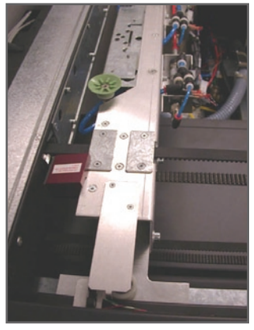


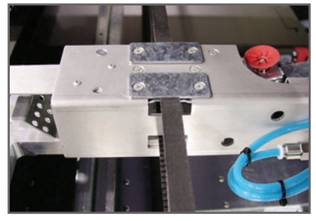
Belt tension on the motor side should match the self-tensioning idler side.

Use jigs or wood blocks as spacers.



tension spacer jigs 690-00117A

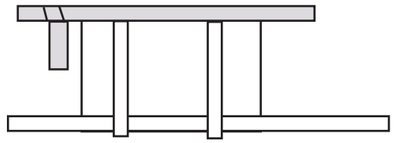




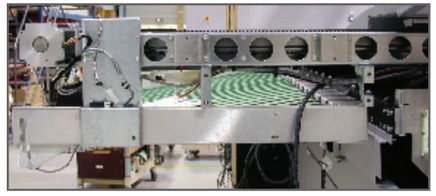
- **a** Loosen the pulley block (access is through the cutout in the frame).
- **b** Connect the belt.
- **c** Adjust the belt by adjusting the pulley block.

Parts in crates 5, 7.

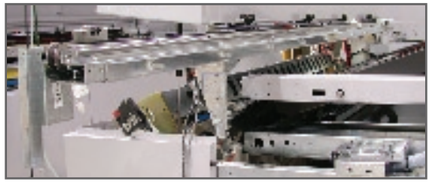
1 Install the ejector track.



Right eject



Left eject

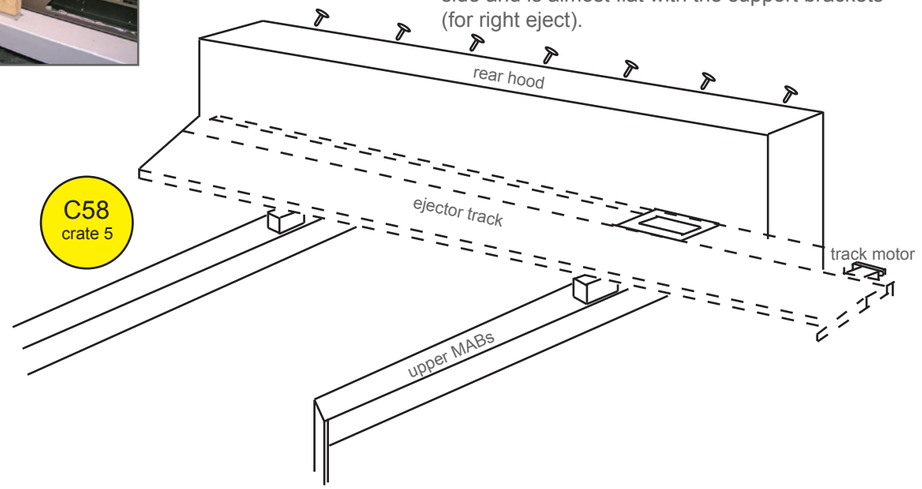


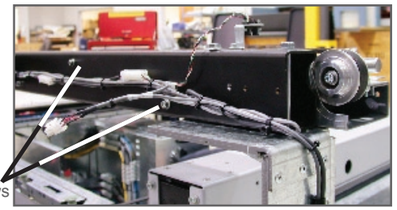
a Lift the ejector track (C58) onto 10 x10 cm (2 x 4 in.) wood blocks at rear of MABs.



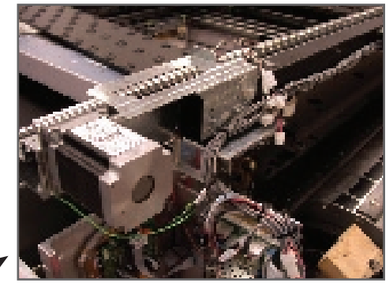
b Fasten the ejector track to the frame, inserting screws from behind the hood.

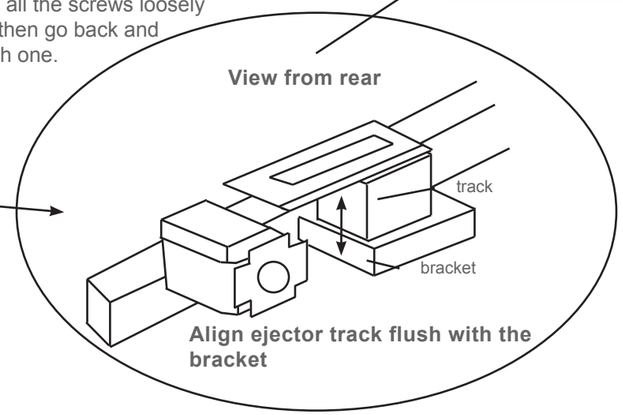
- The ejector motor always mounts on the right (power box) side.
- The ejector motor pulley mounts on the opposite side and is almost flat with the support brackets (for right eject).





TIP: Install all the screws loosely (by hand), then go back and tighten each one.





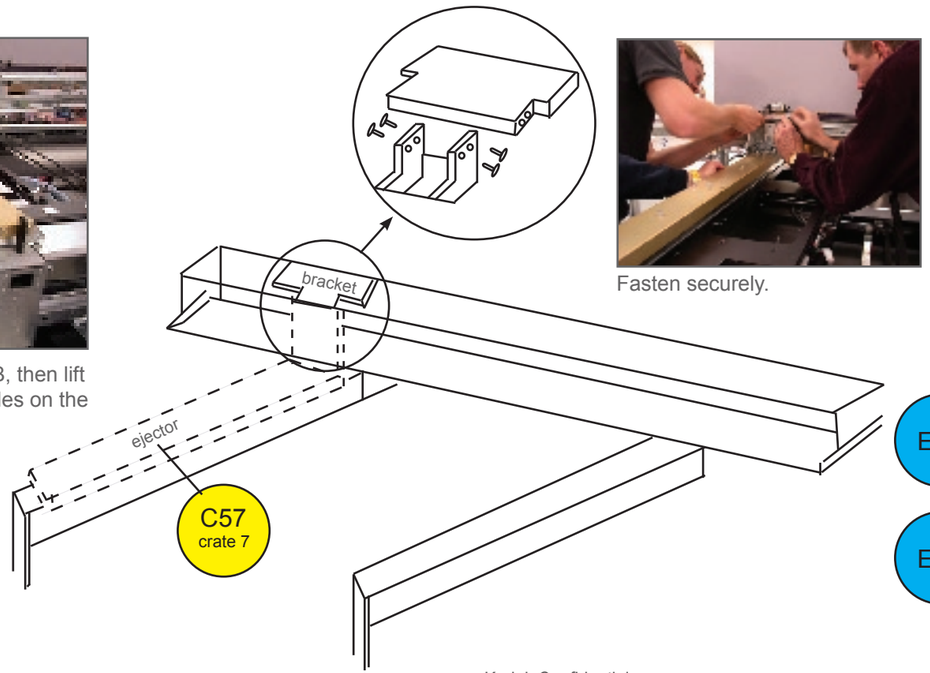
2 Install the ejector.



Move the carriage along the ejector track until it is above the MAB. Be careful of the sensors.



Rest the ejector on the MAB, then lift it up and align it with the holes on the carriage.



Fasten securely.



Connect the motor, air hoses, and sensor cables.

E24 Connect the ejector motor to carriage amp (J3).

E25 Connect side eject away sensor to GENINE 1.

3 Install the bridge support bracket.

C80 crate 7 Install the bridge support bracket (C80).



Connect bridge in position sensor. **E35**

Parts in crate 7.

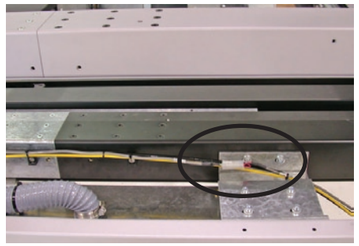
1 Install the TH3 filter/regulator.

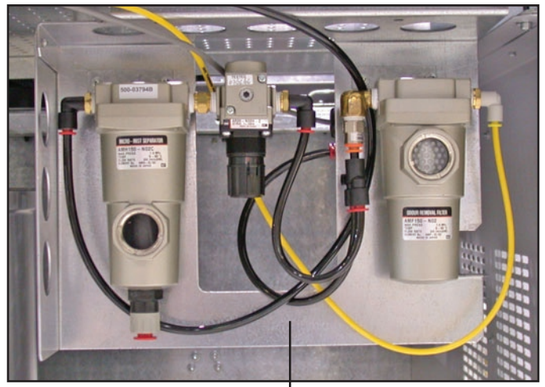
a Attach the TH3 filter/regulator assembly (C98) to the underside of the pullout load table frame support (C43).

b Connect the yellow and black tubes to the filter/regulator assembly.

Note: The yellow tube may have a blanking plug inserted to keep the tube free of debris during shipping.

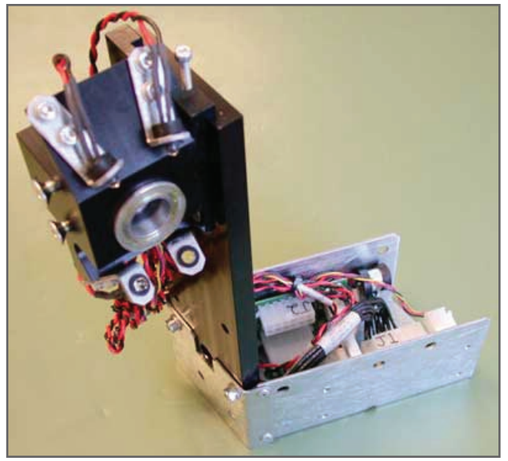
c Connect the pressure switch cable (E82) on the home side of the device.





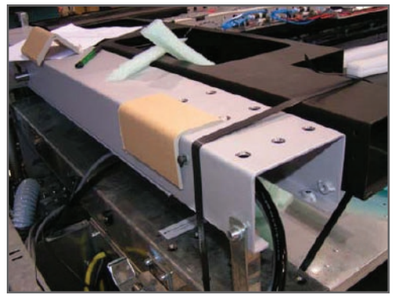
2 Install the edge detect camera assembly.

See *Edge Detect Camera Installation and Calibration* (710-00696A) for details.



3 Remove punch assembly packing material.

For punch head setup, go to Magnus VLF Punch on Techplanet:
http://techplanet.creo.com/output/computer_to_plate/magnus_vlf_al/nav/punch.htm.



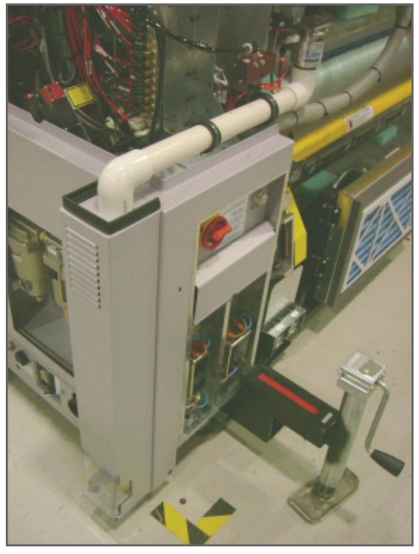
Cut securing straps



Remove foam blocks

4 Install the punch chip collection unit.

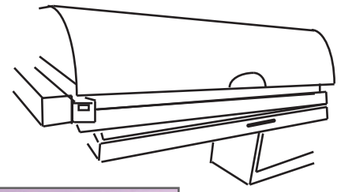
For more information, see the *Chip Collection System* assembly drawing (500-03543A).



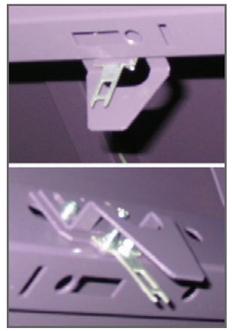


Parts in crates 8.

1 Position the hood and lock it.

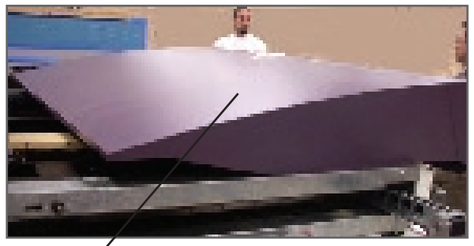


NOTE: Be careful not to damage the ejector home and away cables and sensors.



The hood lock switch bracket is rotated for shipping (top). Rotate the bracket back before installing the hood.

Move the ejector close to either one of the MABs (away from the center) ...



... then lift the hood (P1) and place it on the MABs.



Go under the hood and lift from the inside, settling the back edge onto the hinges (space the plastic washers evenly on the hinges).

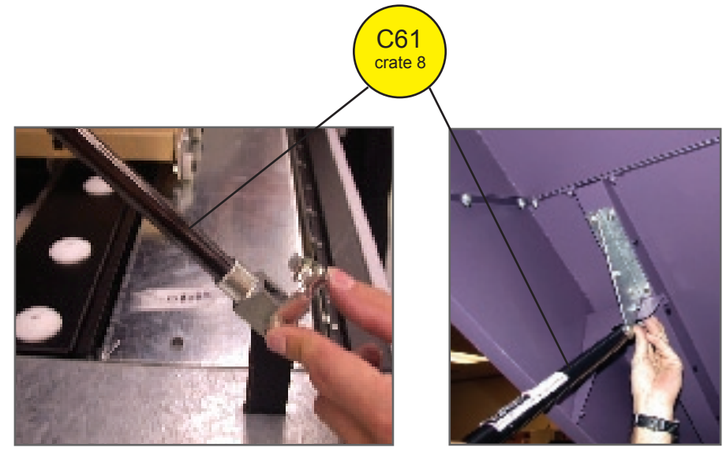
Secure the hood by sliding the locking bar from left to right (until the locking plates are all the way in the slots).


Open


Closed

Fasten the M6 flathead screws and shoulder bolts.

2 Attach the hood struts.

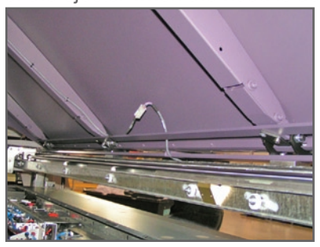


While one person holds the hood up, a second person attaches the two gas struts (C61).

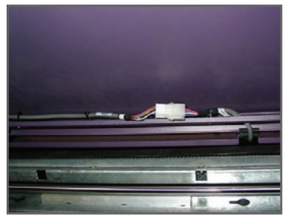
NOTE: The main cylinder must be connected at the top, the piston at the bottom.

3 Connect the status light cable.

a The status light cable must be routed underneath the hood locking bar. Ensure that the cable is tied out of the way of the ejector when the hood is down.



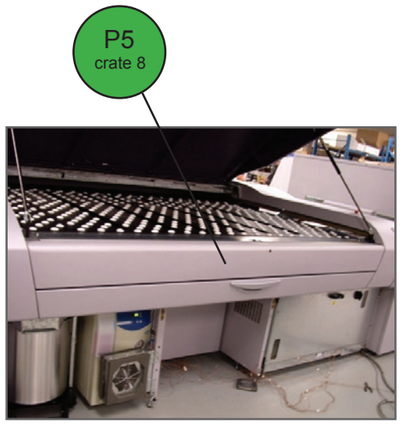
b Connect the status light cable.





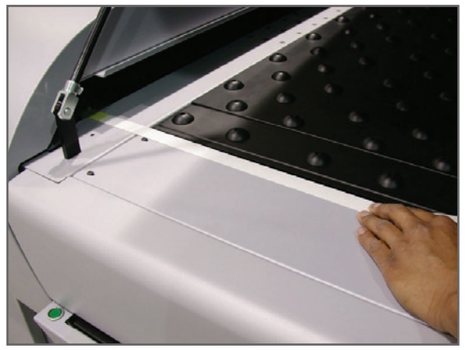
Connect LIONEL EXTN to status LED EXTN.

4 Install the front chin panel.



Install the upper front chin panel (P5).

5 Apply UHMW Tape.



- Apply a strip of UHMW tape on the upper front chin panel where the ejector rollers run.
- Apply the tape all the way across the upper front chin.
- Wrap the tape over the corner to prevent the tape from lifting.

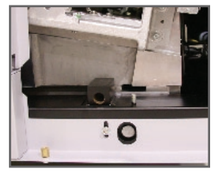
6 Final device leveling.

For a more detailed explanation, see *Align the Device* on page 2.

a Check that the device is still level by placing the level on the drum and on the carriage tracks. Adjust feet 2 & 3 if necessary.

b Place level on upper MAB beams and adjust feet 4 & 5 until you measure 0° ± 0.1°. To confirm that the device is level, reach in and check that the front pins on both sides of the casting slide freely. Adjust feet 2 & 3 if necessary.

c Recheck steps a & b to confirm that the device is level.





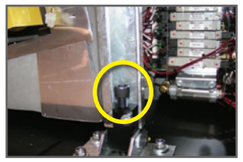
7 Check weight off-load alignments.



There should be 1 mm gap between upper and lower bracket.



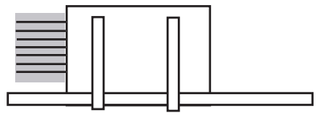
If there is no gap, loosen the two side locking screws for the weight off-loading posts.



Adjust the height with the jackscrew and tighten the side locking screws.

Parts in crates 6, 7, 8, 10.

1 Install the lower shoulder panels.



Install lower shoulder panels (P8R and P8L) on each end of the device. Depending on the configuration, either P8R or P8L will have a black panel attached to it.

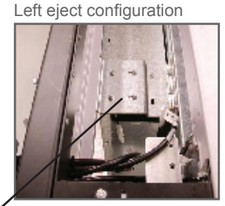
LEFT EJECT CONFIGURATION



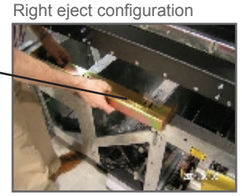
RIGHT EJECT CONFIGURATION



Left eject configuration

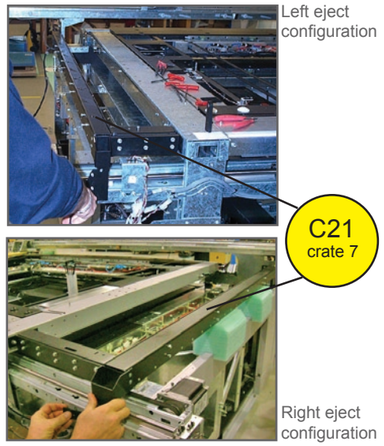


Right eject configuration



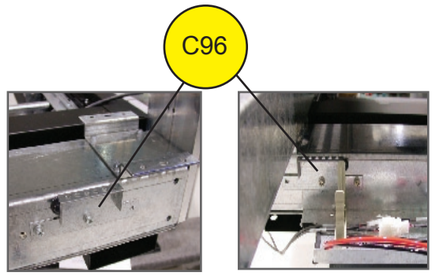
Install the bridge moment bracket (C68) so that it butts up against the lower shoulder panel.

2 Install the bridge support beam.



Attach the bridge support beam (C21).

3 Install the fetcher level blanking panel (bridge plug).



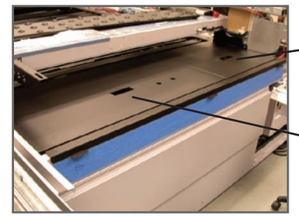
Install C96—one on each side of the device.



Install the fetcher level blanking (bridge plug) panel (P55) to the bridge support beam (C21).
Note: P55 may already be installed on C21.

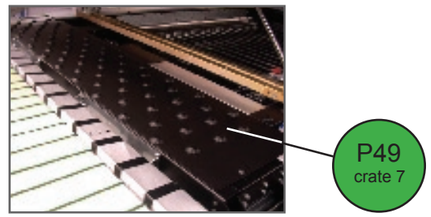
4 Install the lower MAB panels.

Install the MAB-to-skin short panels.



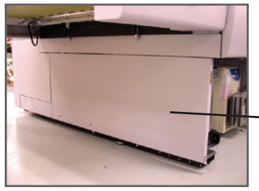
P52 and P53 are on the opposite side. The shorter cover always goes to the drum side at the end of the MAB.

Install the bridge transition panel (P49).

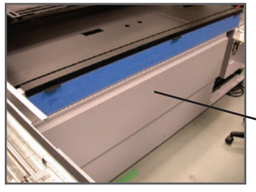


5 Install the bridge.

a Install the side panels.



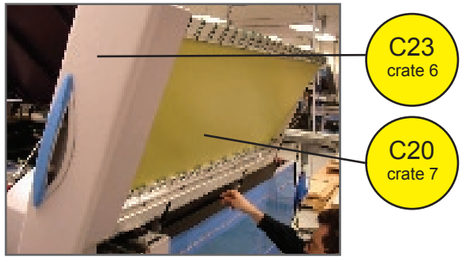
Always on the left side, regardless of configuration.



Always on the right side, regardless of configuration.

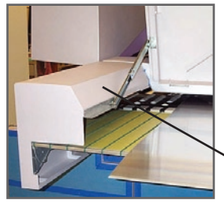
NOTE: Leave the panel for the MCU side off until the MCU is fully installed.

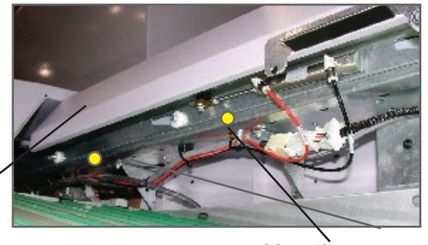
b Loosen off the eight M5 bridge installation screws. Lift the bridge (C20), insert its slotted bracket onto the screws, and fasten.
Install C23.



NOTE: Check that the cables do not interfere with the bridge when it is moving from its normal operation position to its service positions.

c Install the rear bridge panel (P46).





Mounting screws for panel brackets.

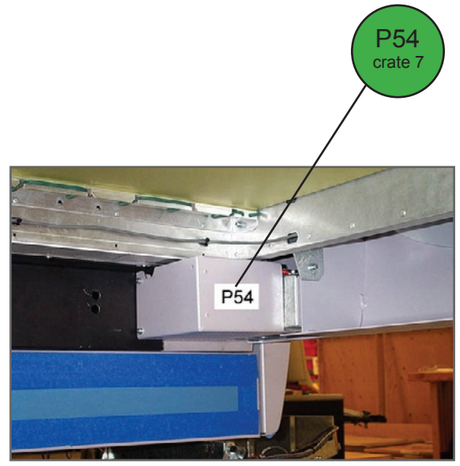
d Make the connections.



E37 Connect plate on processor to GENINE 1 (J4).

E36 Connect SSW11 (bridge cover) to SSW9 (hood cover).

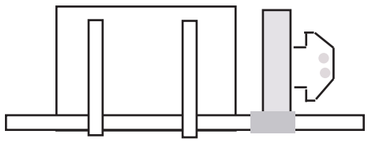
7 Install the fetcher motor cover.

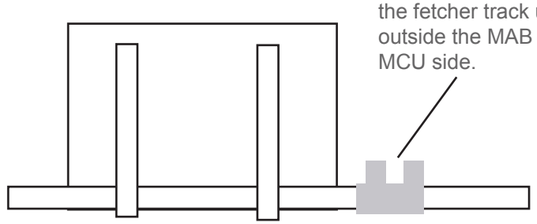


Install the fetcher motor cover (P54).

Parts in crates 6, 7.

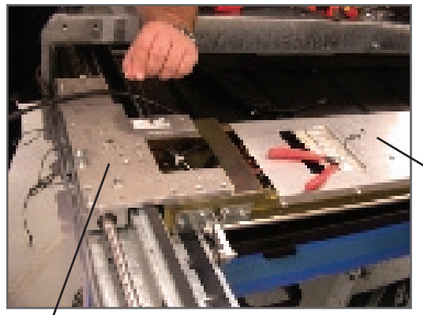
1 Position the fetcher carriage.

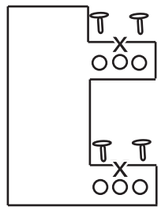


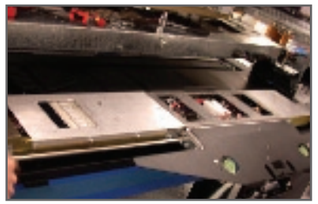


Note: Do not pull the fetcher carriage too far - it will slide off the track and fall on the floor.

2 Install the fetcher.







3 Connect the fetcher cables and tubes.

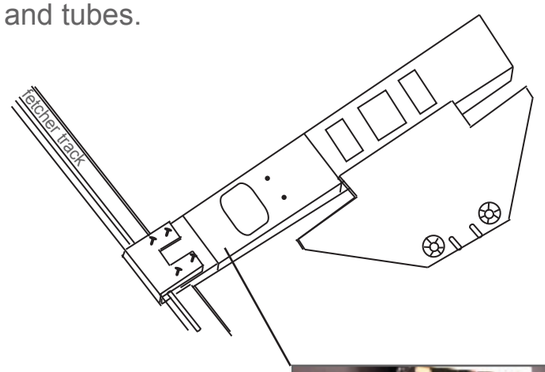
E27 Connect fetcher pressure BRD to fetcher pressure track EXTN.

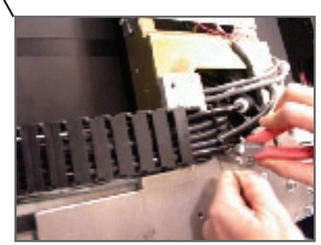
E55 Connect fetcher wedge track to EXTN to wedgemaster.

E29 Connect fetcher manifold track EXTN to fetcher manifold.



Cable tie up the Wedgemaster temporarily until startup.

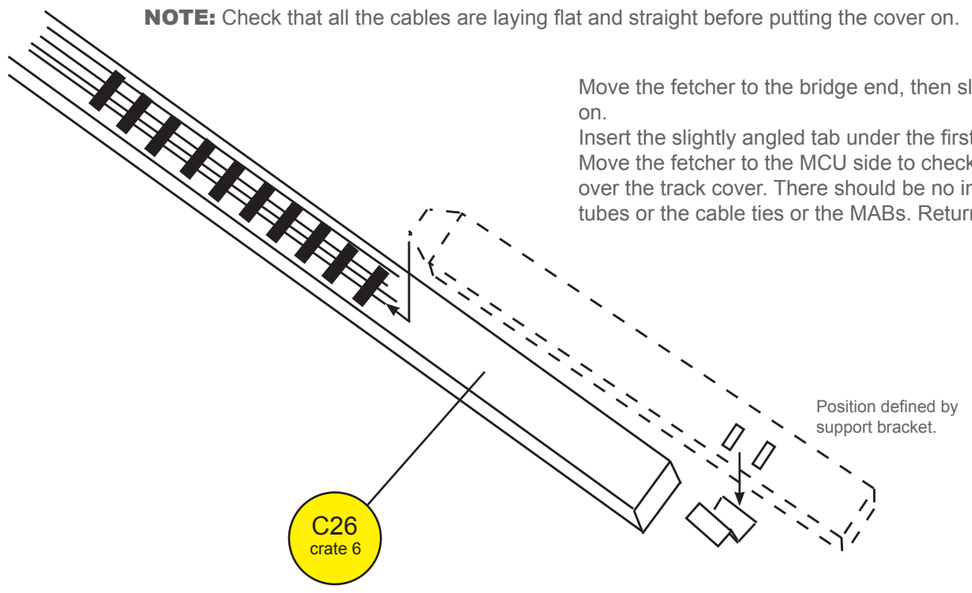




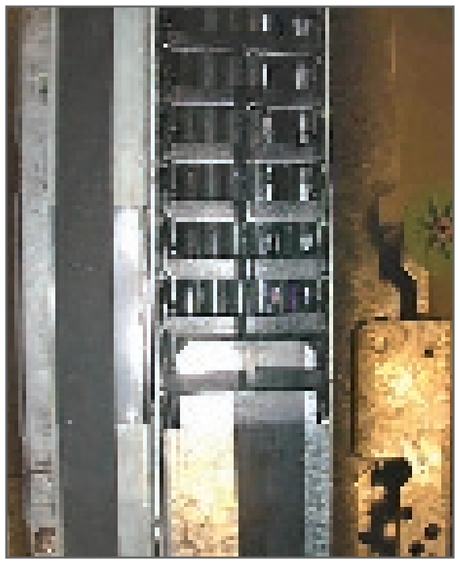
Make the connections on both sides of the cable track. Tuck excess cables and tubes neatly inside the fetcher body.

4 Cover the track cables.

NOTE: Check that all the cables are laying flat and straight before putting the cover on.



Move the fetcher to the bridge end, then slide the flex track cover (C26) on.
Insert the slightly angled tab under the first link of the flex track.
Move the fetcher to the MCU side to check that the fetcher moves freely over the track cover. There should be no interference with the fetcher tubes or the cable ties or the MABs. Return the fetcher to the bridge side.



Metal cover over the flex track.

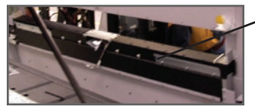


Parts in crate 9.

1 Install the plenum (outside CAM only).



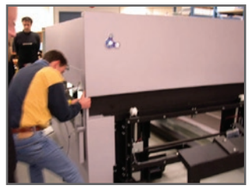
Lift the plenum (C15) into position.

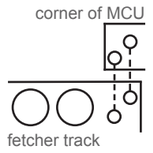


Secure the plenum from inside the MCU with 8 screws.

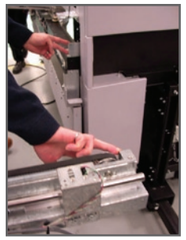


2 Roll the MCU into position.

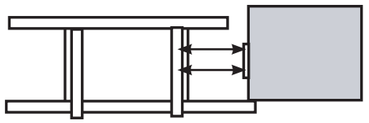




a Roughly line up the 2 reference holes on the front corner of the MCU with the reference holes on the end of the fetcher track.

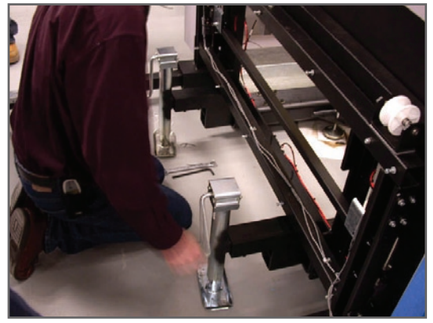


Height doesn't matter for now.



b Measure the distance from the MCU plenum to the MAB at each end. Shift the MCU until they are roughly parallel.

3 Set the MCU on its feet.



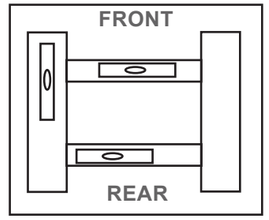
a Put jacks with adapters into the channels (front and back) and lift the casters off the floor. Place safety blocks from installation toolkit under the MCU frame.

b Remove the casters.

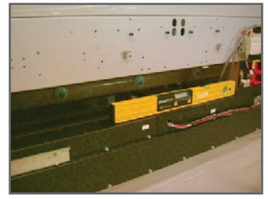
c Lower the jacks down until the feet touch the floor. Completely remove the jacks from the adapters, **but** leave the adapters installed for now.

4 Level the MCU.

Adjust the MCU feet to level it to a tolerance of ± 0.1. It doesn't matter that the MCU may not be at the right height yet.



Place a digital level on the MCU's plenum.



Place a digital level on the front cart cross-member.

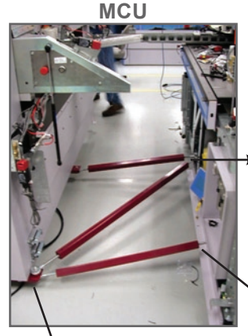


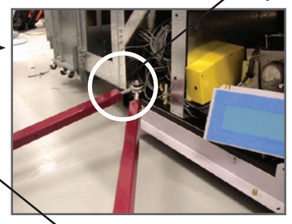
Place a digital level on the frame at the rear.

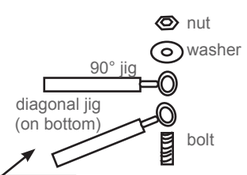


Once device is leveled, adjust all four feet evenly in the correct direction until the fetcher track reference holes are lined up for height.

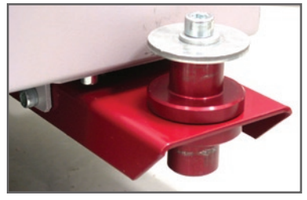
5 Install the alignment jigs.



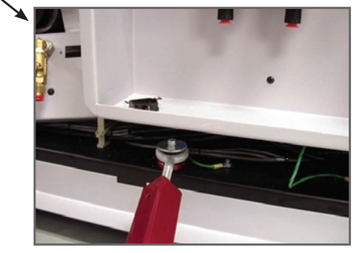




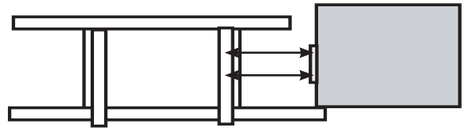
Longer single-post bracket always mounts to the front of device.



Two-post bracket always mounts to the rear of the MCU unit.



6 Adjust the MCU position.



a Put jacks back into the adapters. Use the installation grease pads located under the jack base.

b Lift the MCU up 1-1.5 turns from the floor to check that the feet are just off the floor.

c Measure the distance from the MCU plenum to the MAB at each end. Maximum tolerance = 1 mm.

d Adjust for distance and parallel using the alignment jigs.

NOTE: The jigs should turn easily. If one of them binds, adjust a looser one to relieve the load.

NOTE: Rotate the rear straight jig and the diagonal jig at the same time so the MCU does not twist.

e When finished with this alignment, the reference holes should still be roughly aligned as they were before.

f Ensure MAB to plenum distance is parallel - skew should be no more than ±0.05 mm.

g Once the MCU is in position, the alignment jigs must be relieved of any pressure. This may require a bit of 'over-travel' and then backing them off to achieve the position properly.

h Once the alignment jigs are loose, and the MCU is in the correct position, recheck the parallels and remove the alignment jigs.

7 Final adjustment.

a Carefully lower the MCU back to the ground. The MCU must stay even.

b Check the alignment of holes on the fetcher track to the plenum. By this point, height, distance and parallel should be perfectly algined.

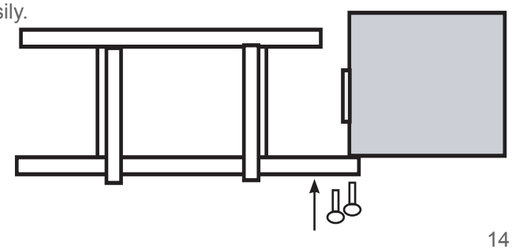
c Remove the floor jacks.

d Recheck that the MCU is level (± 0.1).

e Adjust each foot evenly and gradually, since each movement will change the position of the reference holes.

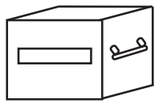
f Recheck the distance from the plenum to MAB and the level of the MCU. Readjust if needed. Parallel must be ±0.5 mm.

g When the position is accurate, fasten the fetcher track to the MCU. You should be able to insert the screws easily.



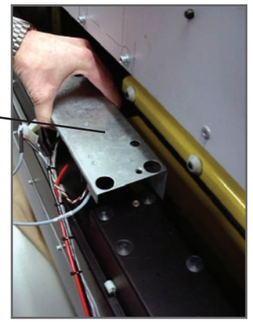
Parts in crates 4, 9.

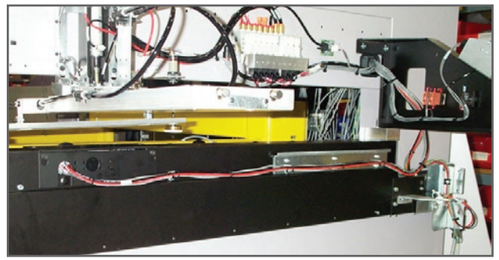
8 Install the SSR detector (if necessary).



C14
crate 9

Attach the SSR detector (C14) to the MAB plenum.





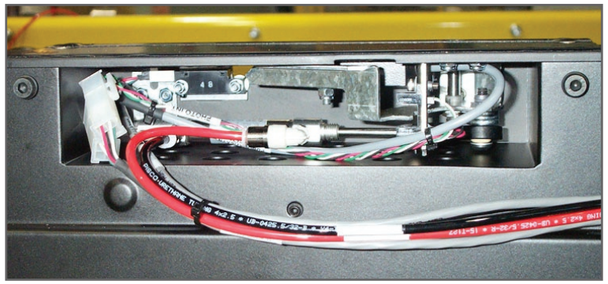
Ensure that the cables and tubes are secured tightly against the plenum before installing the SSR unit.

E30 Connect GENINE 3 (J1) to slip sheet sensor.

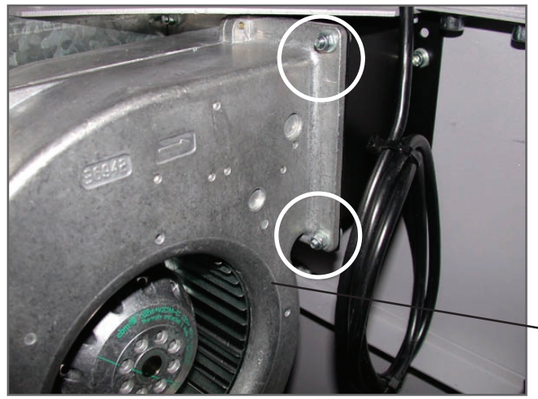
E68 Connect GENINE 3 (J4) to SSR mirror extend.

E45 Connect to cassette pick position.

E80 Connect plenum slip sheet sensor 2 cable.



9 Install the blower if required (outside CAM only).

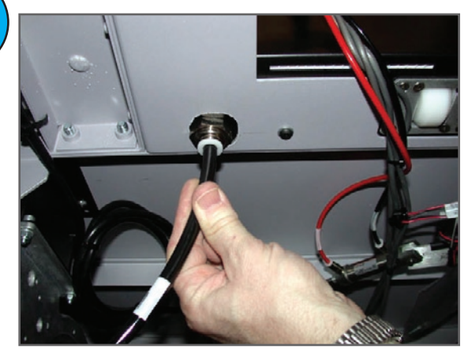


C81
crate 9

Detach the blower as shipped. Install it inside the MCU (two screws).

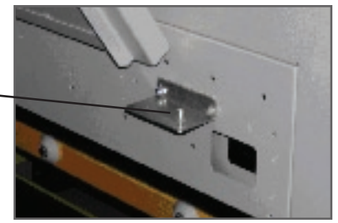
E66

Connect the plenum blower

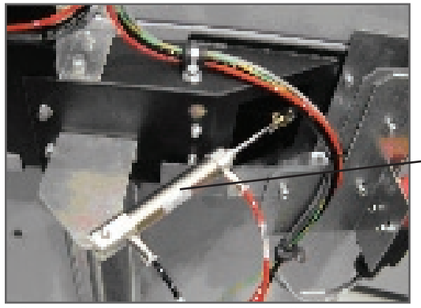


Connect the air hose (inside the MCU).

C82
crate 9

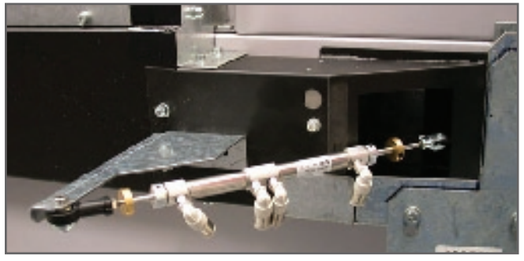


10 Install the air flow cylinder.



C71
crate 9

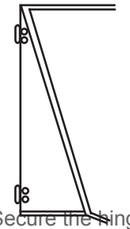
Connect the single air flow cylinder for regular pickers, or the double air flow cylinder for the DM picker option.



11 Install the two MCU rear doors.



Position the MCU rear doors (P42 and P43).

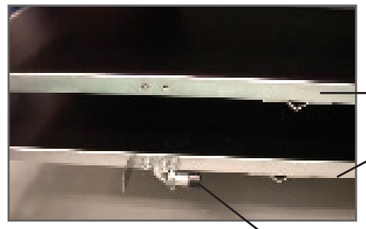


Secure the hinges.

P42 P43



12 Install lock rollers on cassettes.

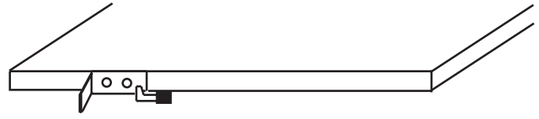


four cassettes

C1-4
crate 4

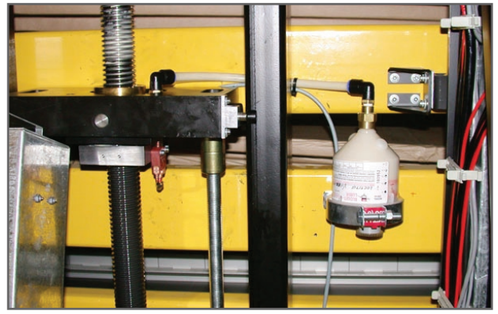
C63
crate 4

Mount the cassette lock rollers (C63) on the side of the cassette that will be furthest from the plenum.



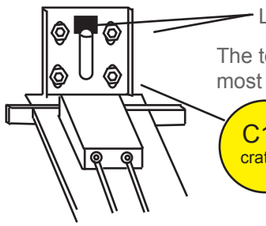
NOTE: Rollers must always face towards the centerline of the cassette.

13 Check that the lubricator is turned on.



Use a mirror to look for the flashing light that indicates the lubricator is turned on.

1 Install the wedgemaster picker (C10 & C93).

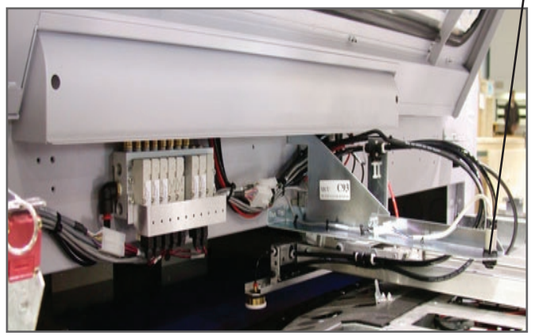


Loosen 4 screws.

The top screws must be loosened the most to clear the slotted bracket.

C10 crate 9

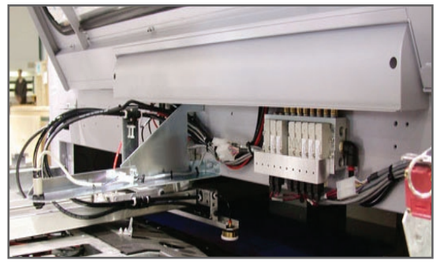
C93 crate 9



Install plate clear sensor (C93).

2 Install the picker manifold and manifold cover.

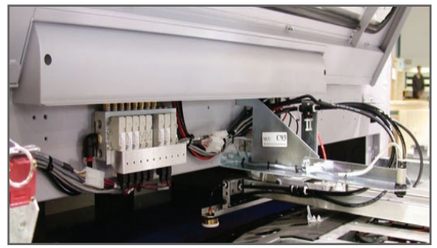
Install the manifold (C9) using 4 screws.
The bottom two holes in the bracket are for the manifold guard.
Install the manifold cover (P56).



Right eject configuration

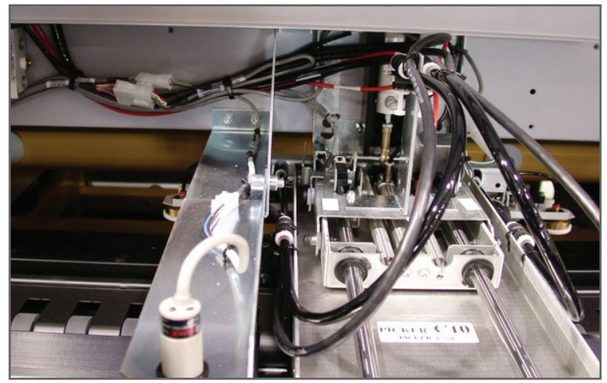
C9 crate 9

P56 crate 9



Left eject configuration

3 Connect the cables and tubes.

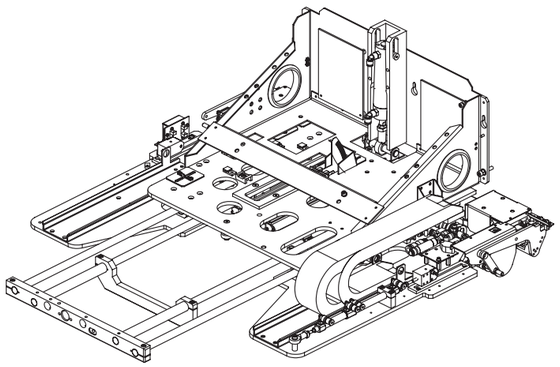


NOTE: Carefully secure the cables and hoses out of the way of picker movement with cable ties.

Connect:

- E56 P-cups arm up
- E57 P-cups slider retract
- E58 P-cups down
- E59 GENINE 3 (J18) to picker manifold
- E78 Picker plate sensors

Delicate Media (DM) Picker



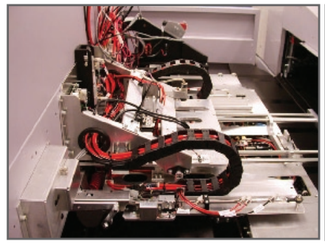
1 Install the DM picker.

For details on installing a DM picker, refer to the *DM Picker Upgrade document* (719-00609A) on TechPlanet.

Hang the picker on the four screws on the picker mounting panel—add the washers after hanging the picker.

Note: Do not tighten the screws or level the picker yet.
Connect all DM picker cables and tubes.

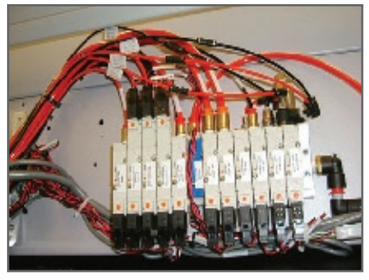
Install the DM picker test box.





2 Install the DM picker manifold and manifold cover.

Install the manifold (C9) using 4 screws.
The bottom two holes in the bracket are for the manifold guard.
Connect the manifold cables and tubes.
Install the manifold cover (P56).

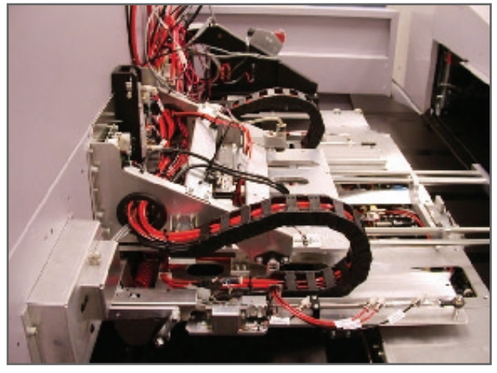


Right eject configuration shown

C9 crate 9

P56 crate 9

3 Connect the cables and tubes.

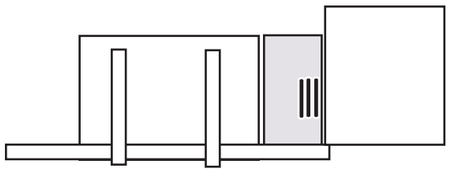


Connect the picker cables and tubes.

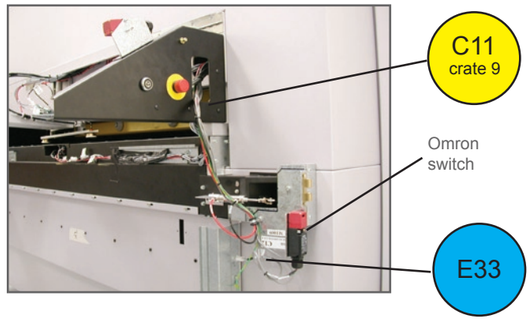
NOTE: Carefully secure the cables and hoses out of the way of the picker movement with cable ties.

Parts in crates 6, 9.

1 Install the SSR bracket.

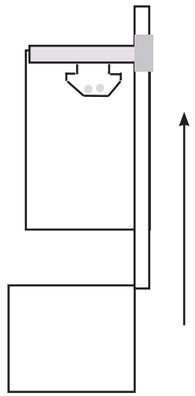


Connect the emergency stop and push button.



Install the SSR bracket (C11), the Omron switch, and SSR bulkhead #1 EXTN to SSR bin detect sensor E33.

2 Move the fetcher.



Move the fetcher close to its away position.

3 Roll in the SSR unit.

a Install SSR jack onto SSR bin. Attach the jacks in the positions marked on either end of the SSR bin.

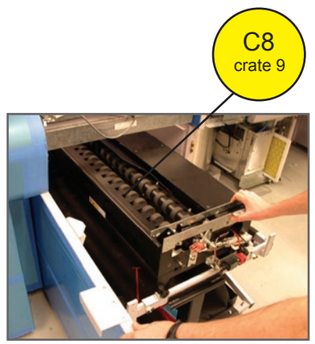


"REMOVE SSR" position

b Put the SSR bin locking pin into the "NORMAL" position.

c Roll the unit between the device and MCU with the motor end at the rear.

d Secure the SSR assembly (C8) on the SSR bin.

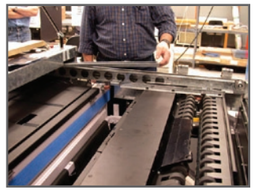


4 Raise and position the SSR unit.



Raise the SSR into position between the MCU and the base device.

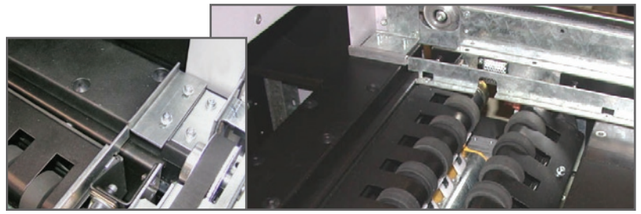
Positioning - device side



Lift the end of the fetcher track cover to make it easier to position the SSR unit.



Positioning - MCU side



The bracket of the roller assembly fits on the MCU plenum bracket.

5 Lower and secure the SSR unit.

Lower the jacks until the SSR is secured in position.

Check alignment







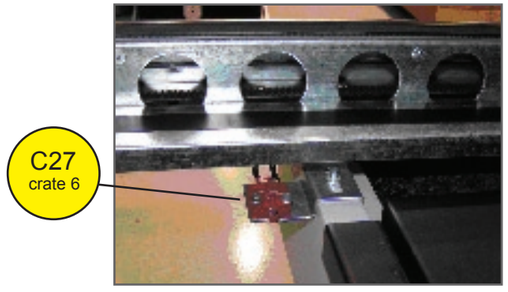
The long screw must fit into one of the two holes marked on the bracket.

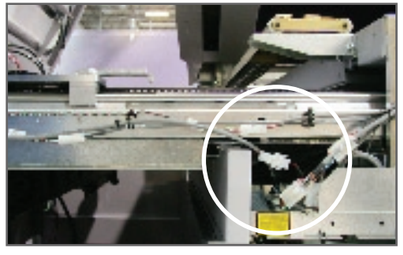


Connect MCU to SSR umbilical cable.

Remove the SSR position clips and attach panel and stopper bracket for drop down panel (P74).

6 Install the SSR access panel sensor bracket (C27).

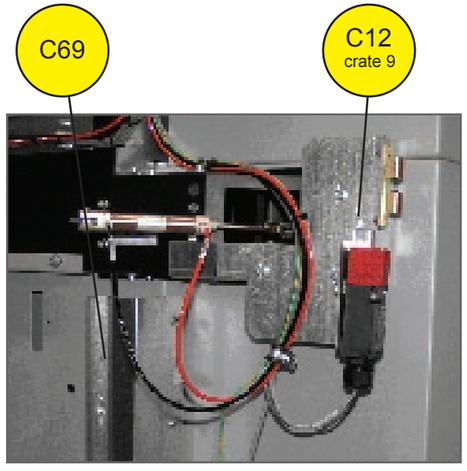




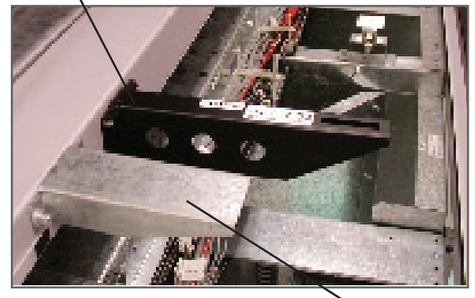
Connect access panel close SW to GENINE 1 (J5).

7 Install the rear door lock (C13 & C69).

NOTE: C69 is in crate 10 when ground shipped, and in crate 7 (attached to P75) when air shipped.



8 Install the ejector rail extension support bracket.

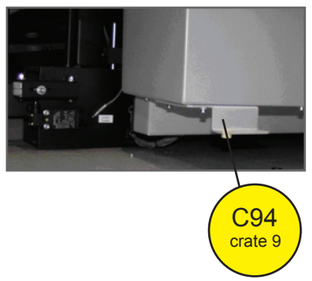


NOTE: C72 is only on left eject configuration devices.

Attach the ejector rail extension on the outside of the upper MAB on the MCU side.
C16 is always on the opposite side of the bridge.

10 Install the SSR panels.

a Install the SSR front door mount bracket (C94).



b Install the SSR rear door panel (P33).



Install the SSR front door panel (P32).



NOTE: Check the alignment of the door omron switches.

c Install the main shoulder panels.

LEFT



Install shoulder panels (P3 & P4).

RIGHT



d Connect the cables attached to the panels.



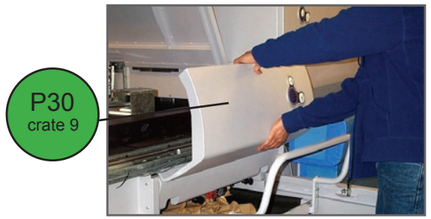
Connect ES5 to ES4/ES6.



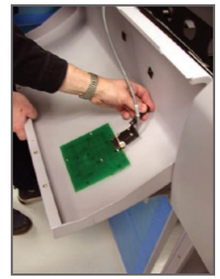
Connect start button 1 EXTN to GMCE.

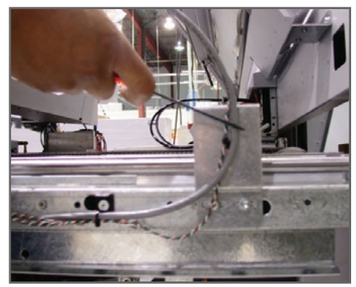
Connect ES2 to adapter EXTN.





Install the SSR front panel (P30).

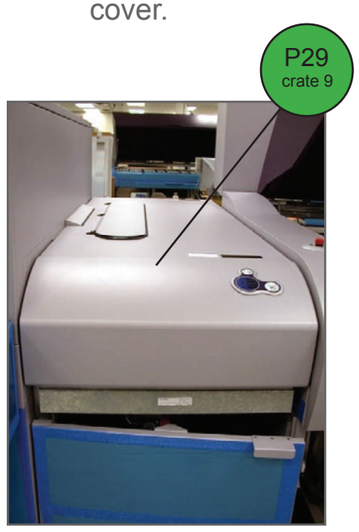




Connect bulkhead to J1 SSR user interface panel.

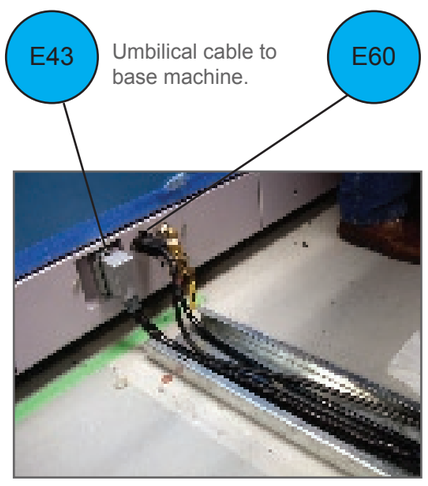
NOTE: Secure the cable to the sensor bracket with a cable tie so that it does not interfere with the fetcher movement.

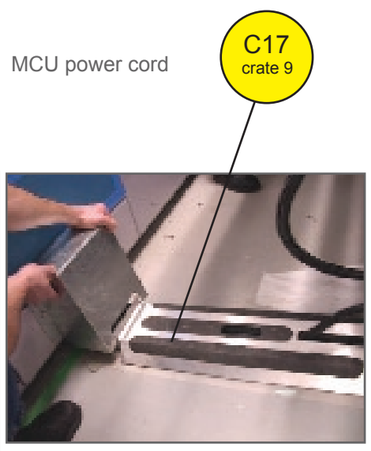
11 Install the SSR top cover.



One person will need to crawl inside the MCU to install the nuts from the inside, while two other people hold the top cover in position.

12 Make the umbilical connections.





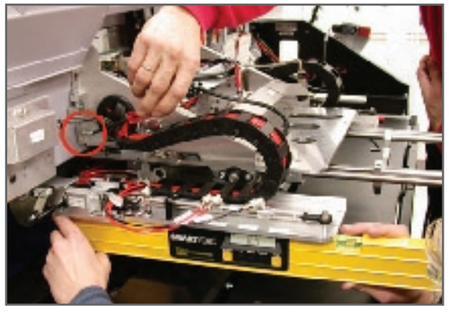
Cover the cables (**3 pcs**).

ON DEVICE

Remove the SSR bin and connect the SSR and MCU cables.

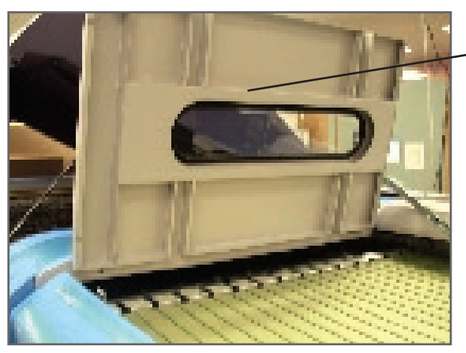
13 Level the DM Picker.

If a DM picker was installed, level the picker now to 0 ± 0.1°.





14 Install the bridge cover.



Install the top bridge cover (P47).

NOTE: Shoulder panel P4 or P3 must be in place before the top cover is installed.

NOTE: Check that the ejector moves freely and there is no interference between the ejector and the rear bridge panel.

Parts in crates 2, 7, 11.

Install the drum vacuum pump (DVP).



Roll the drum vacuum pump (C73) into position (usually under the bridge).



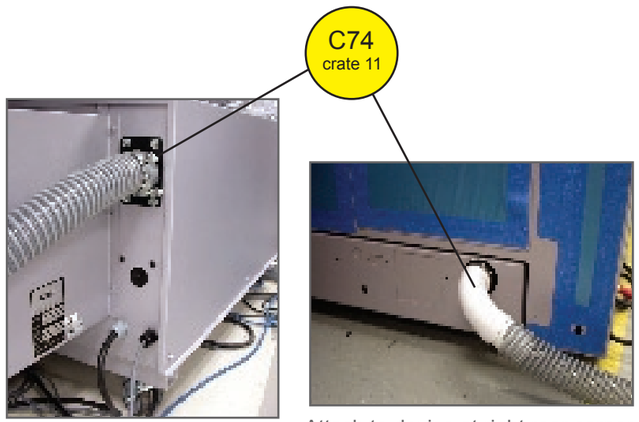
Connect the power cord and the electrical cable.

E65

Connect DVP to LIONEL 0 (J1) in the power box.

Install the drum vacuum pump hose (C74).

NOTE: 15 m (50 ft) of hose is supplied to allow flexibility in where the DVP is located. Cut what you need.

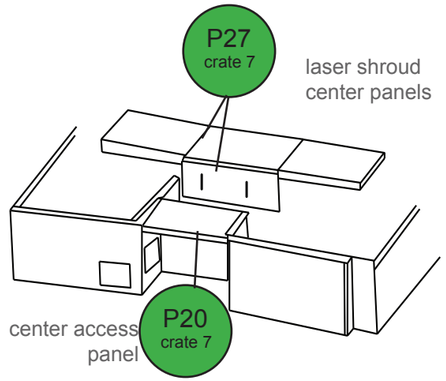


Attach at rear of DVP (use hose clamp).

Attach to device at right rear corner (use elbow and hose clamp).

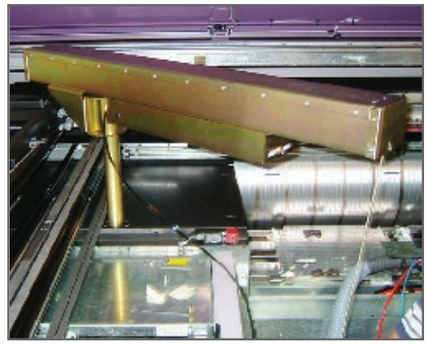
1 Access the carriage area.

Access the carriage by removing the center access panel (P20) and the two laser shroud center panels (P27).



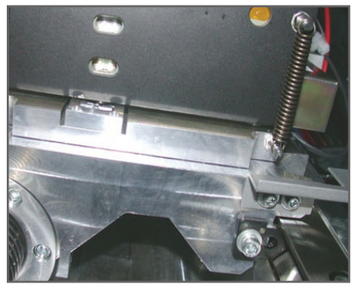
2 Install the head lifting crane (for TH3 equipped devices only).

Install the TH3 head lifting crane for devices with themal 3 heads—not required for devices with thermal 2 heads.
See *TH3 Head Lifting Crane* document (719-00564A).
For TH3, attach the flexure blocks and remove the lens cover before installing on the carriage.



Place the thermal head on the carriage—use the head lifting crane for TH3.

3 Install the hanger springs and clamp cylinder (TH2 equipped devices only).



For TH2, use a ball hex key to attach the four hanger springs between the head and the carriage. See the TH2 replacement procedure for details.

TH3 attaches to the carriage via the flexure blocks. See the TH3 installation guide for details.



Add the shims to the clamp cylinder's pull pin and install the clamp cylinder onto the guide rod.

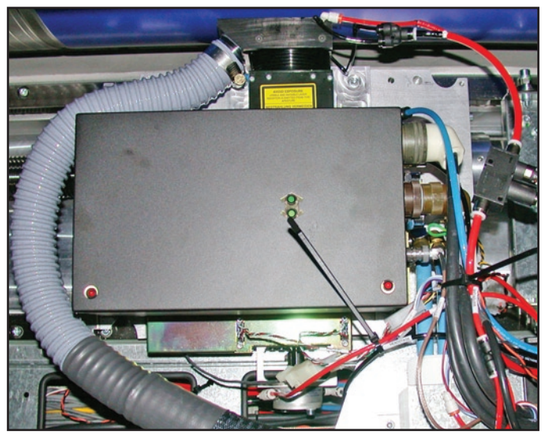
Connect the air tubes (black left and red on right.

4 Connect the debris vacuum hose.



Connect the debris vacuum hose to the nozzle and secure it with a hose clamp. Rotate the drum by hand and check for interference with the hose and clamp.

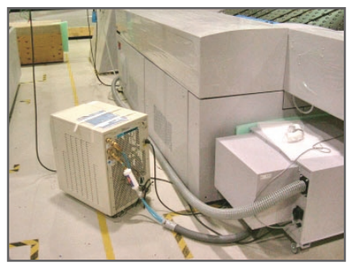
5 Connect the coolant hoses, tubes, and all cables.

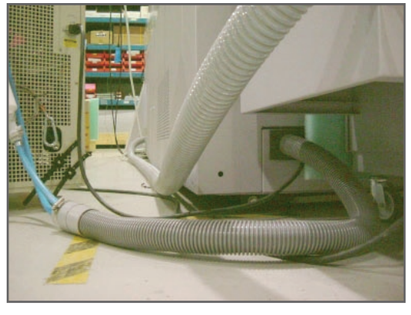


Attach the coolant hoses, air tubes, and cable connectors—TH2 shown.
For TH3, see the *TH3 Head Installation Guide* (719-00438A).

Install the center access panel (P20) and the laser shroud panel (P27).

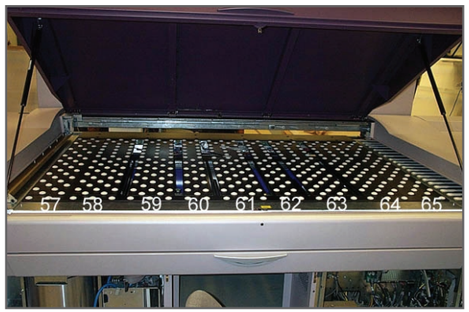
6 Install TH3 chiller (TH3 equipped devices only).





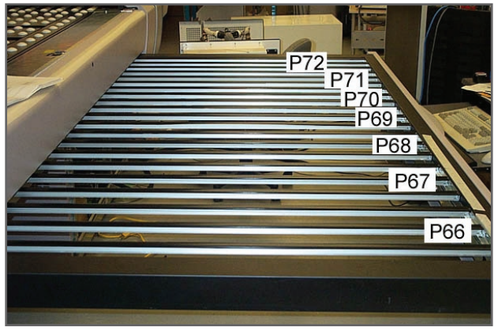
1 Install the unload table panels.

No.	Panel Name
P57	UT Left
P59	UT Center Left Wide
P60	UT Left Narrow
P61	UT Central
P62	UT Right Narrow
P63	UT Center Right Wide
P65	UT Right



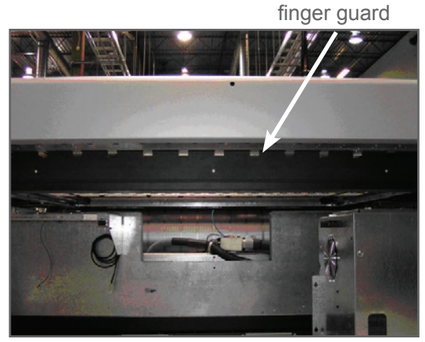
2 Install the load table rails.

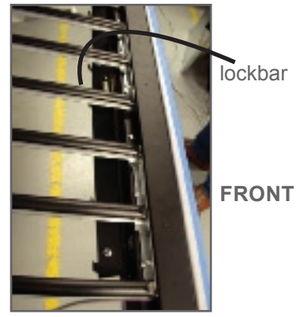
No.	Panel Name
P66 to P72	LT Rails from Left to Right



NOTE: Plate stop cylinder - on left side when looking from front - should be extended (fully open).
To install the load table rails:
1. Rest the back end of the rail panel on the back frame.
2. Holding the rails level, insert the front end of the panel between the guard and the table frame.
3. Push the front end down securely into the slots provided in the front frame.
4. Adjust the spring on the rails so that the back end is in position on the slots on the back frame.
5. Push the guard panel up on its slotted screws.
6. Use the lockbar to lock the rails in place.

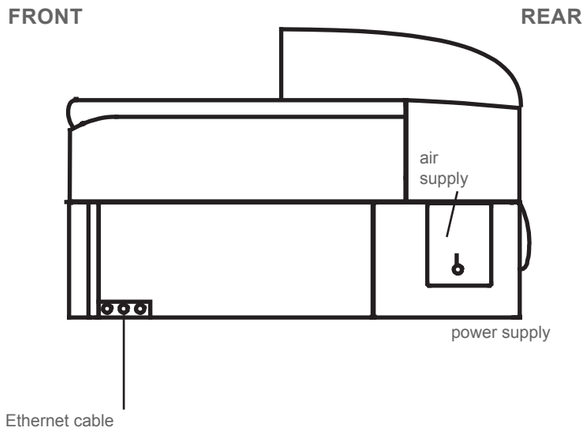






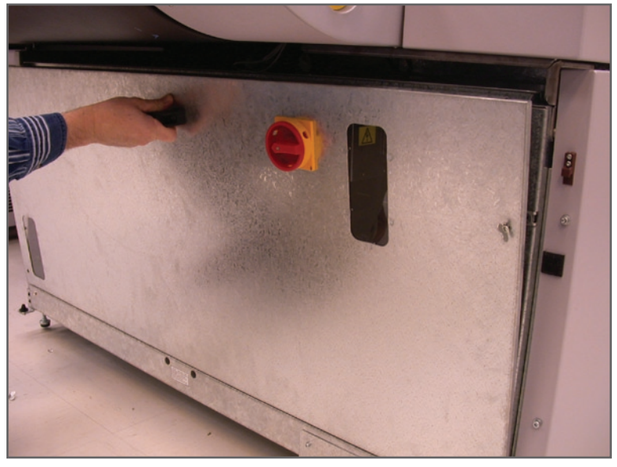
Power Up

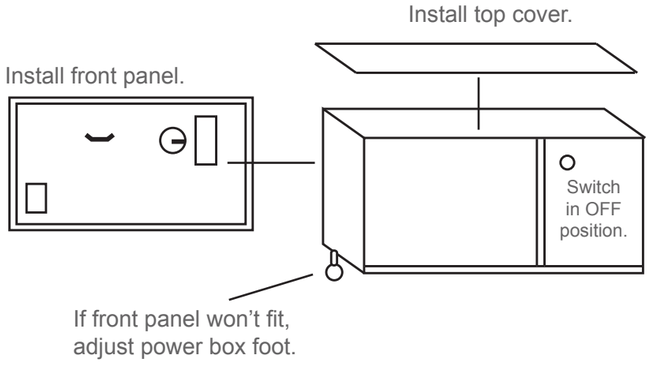
1 Connect the device and power up.



Connect the ethernet cable, the power cables, and the compressed air supply hose.

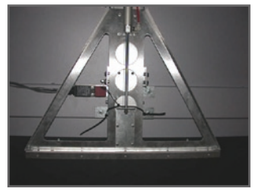
2 Install the power box covers.



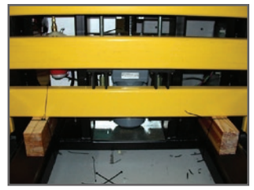


Startup Procedure.

1. Remove the cable tie from the inside of the MCU doors.



2. Turn the device power on and turn the SIO switch to the Interlock Override position. Use the MCU jog panel to lift the MCU forks and remove the wooden blocks from the MCU.



3. Connect the ethernet cable from the device to the workstation.
4. Run the Site Installer CD.
   This CD is supplied with the device and is not part of the controlled release CD. The site installer CD contains a simple installer that will copy the device NVS parameters to the workstation and will also set up a secondary backup location for the NVS parameters. For details, see **CTP Site Installer CD** in the release notes document for the latest controlled release.
5. Check the system pressure. Type:
   >>system (pressure should be approximately 84 psi)
6. Check the safety loop. Type:
   >>safety
7. Check that the fetcher is on the bridge side of the device.
8. Load cassettes: open the cassette door, move the cart pin up, pull the cassette cart out, and install a cassette on the cart. Type:
   >>set bay (n) cassetteinstall -1
   >>cassette load (n)
9. 8. Perform the cart adjustments for the MCU. For details, refer to *Cart Adjustments for FPL MCUs* on the next page.
10. Check the picker/fetcher alignment (719-00460A).
11. Initialize the device. Type:
    >>init
12. While the device is initializing, monitor the operation of the following sub-systems:
    Fetcher
    Ejector
    Load table traveler
    Unload table traveler
13. Check the flyoff alignment.
14. Manually check the bridge up/down movement.
    NOTE: When the bridge is fully in, it must not interfere with the ejector cable.
15. Check the positioning of the trailing edge clamp on the drum. Type:
    >>backbone init
    >>backbone tilted unload
    >>TEC getclampservicepark
16. Calibrate the load table plate sensors. Type:
    >>load calibrate 770 1118 manual (where 770 is mscan and 1118 is sscan)
17. Set up the media parameters.
18. Load a plate.
19. Position the head and check the head tilt.
    For detailed instructions on setting up a TH2, refer to the following document:
    Replacing a Thermal 2 Head on a Universal Carriage with Z-stage (719-00705A).
    For detailed instructions on setting up a TH3, refer to the following document:
    TH3 Installation Guide (719-00438A).
20. Check the edge detection.
    -Check the edge detect position. Type:
    >>edge test using the focus laser
    >>edge test camera using the edge detect camera
21. Check the image quality.
    -Check and adjust the image quality according to the media specifications (focus series, exposure series, bmslope, bmcurve, banding).
22. Adjust the ejector speed. Type:
    >>set exit velocity
23. Adjust the delay between dual plates. Type:
    >>set exit dualplateejectdelay
24. Install the plate positioning labels on the load table. For detailed instructions, refer to the following document: *Placing Registration Stickers on the Magnus VLF Load Table (719-00428A)*.
25. Monitor the picking sequence and adjust the NVS parameters if necessary. If you encounter plate handling issues, check the following NVS parameters:
    >>set mhauto
    >>set mhmedia
26. Monitor the eject period between the plates and adjust if necessary with the following parameters:
    >>exit EjectPeriod
    >>exit MediaChangeEjectDelay
    See the Firmware Release Notes version 1.14 for more details on these parameters.

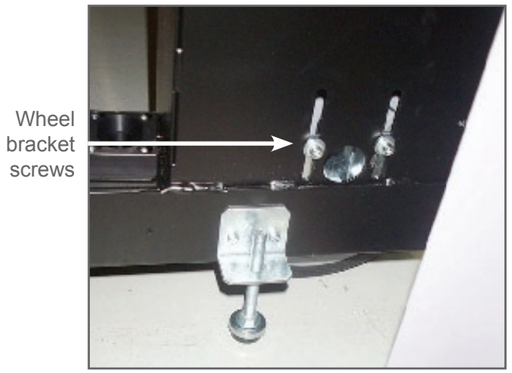
1 Adjust the cart height.

a Raise the cassette door and cassette cart pin.

b Measure the distance between the cart frame and the MCU frame. The cart frame should be 120 mm above the MCU frame.



c If you need to adjust the cart height, attach the cart lifting jigs on either side of the cart frame and raise the cart to the desired height plus 2 mm (to compensate for wheel compression).



d Loosen the wheel bracket screws and lower the wheels onto the ground. Tighten the screws.

e Remove the cart lifting jigs and check the cart height.

2 Set the cart rolling alignment.

The cart should roll in and out of the MCU straight or slightly to the right. Roll the cart out and check if the bumpers hit the alignment bracket at the same time.



a Adjust the bumper if necessary.

b With the cart fully out, raise the left side of the cart frame onto a wooden block.



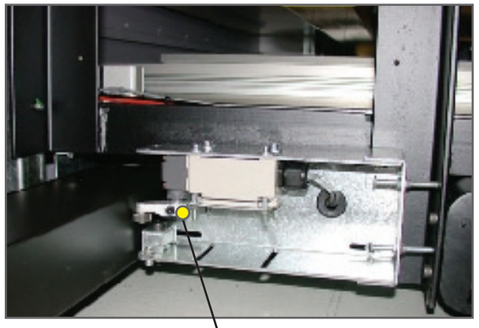
c Mark the height of the wheel bracket and loosen the wheel bracket screws.

d Twist the wheel slightly to correct the cart rolling alignment. Tighten the wheel bracket screws.

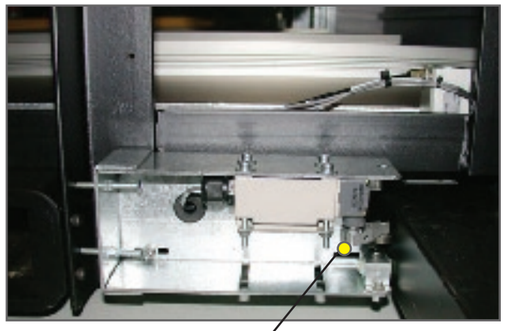
e Remove the wooden block and test the rolling alignment again. Repeat the adjustment if necessary.

3 Check the cart switch orientation.

a The rocker arm on the home sensor must point to the front of the MCU.

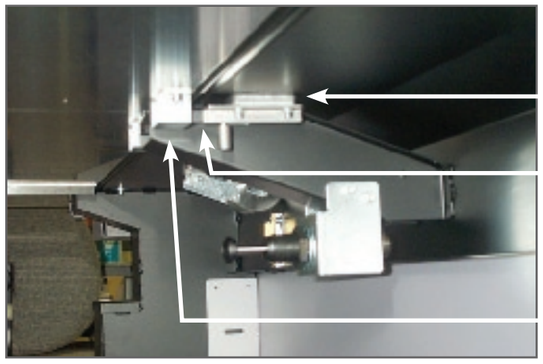


b The rocker arm on the park sensor must point to the rear of the MCU.



4 Set the cassette latch.

Check the floor slope in front of the MCU—if it slopes down as the cart comes out, then you may need to adjust the cassette latch to prevent interference between the cassette latch bolt and the cassette latch bracket.



a Pull the cart out and check the floor slope with a level on the cart legs. Also check for interference between the cassette latch bolt and the bracket when moving the cart in and out.

b If there is interference, remove one or both of the shims between the cassette latch and cart frame. Do not over-torque the screws when remounting the latch.

c Check that the cassette latch still snaps freely and that it holds the cassette to the cart. If not, you may need to adjust the shim thickness with washers or adjust the cart height.

d Do not overtighten the latch screws—the latch will seize if they are too tight.

No.	Cable Name	Part Number	Main Assembly
E01	Power entry box to power box SW2	10-9077A	power box
E02	Power entry box to power box SW2	10-9075A	
E03	Drum motor to J4 drum amp	10-9056A	
E04M	Drum motor to J2 drum resistive brake	10-9058A	
E04F	To drum motor	500-00058A	
E05M	PDB 0 (J24) to chiller fan	10-9067A	
E05F	Chiller fan to PDB 0 (J24)	10-1436A	left sub panel
E06F	PDB (J24) to hot air exhaust	10-9067A	power box
E06M	Hot air exhaust to PDB (J24)	220-00155A	hot air exhaust
E07F	PDB (J24) to debris AC fan	10-9067A	power box
E07M	Debris AC fan to PDB (J24)	500-00338A	debris assembly
E08F	LIONEL (J8) to debris removal sensor	10-9085A	power box
E08M	Debris removal sensor to LIONEL (J8)	220-00158A	debris assembly
E09F	PEB AC receptacle to debris blower AC plug	10-9084A	power entry box
E09M	Debris blower AC plug to PEB AC receptacle	220-00156A	debris assembly
E10F	PEB AC receptacle to fan box AC plug/chiller	10-9086A	power entry box
E10M	Fan box AC plug	11-1049A	fan box assembly
E10M	Chiller to PEB AC receptacle	220-00445A	chiller
E11F	GENINE 0 (J1/J3) to fetcher pressure track EXTN	220-00226A	power box
E11M	Fetcher pressure track EXTN to GENINE 0	220-00227A	fetcher track
E12F	GENINE 0 (J21) to fetcher manifold track EXTN	220-00201A	power box
E12M	Fetcher manifold track EXTN to GENINE 0 (J21)	220-00236A	fetcher track
E13M	GENINE 0 (J4) to fetcher wedge track EXTN	220-00231A	power box
E13F	Fetcher wedge track EXTN to GENINE 0 (J4)	220-00229A	fetcher track
E14F	GENINE 0 (J14) to fetcher away	220-00192A	power box
E14M	Fetcher away to GENINE 0 (J14)	10-4733A	fetcher track
E15F	GENINE 0 (J2) to fetcher safe home	220-00232A	power box
E15M	Fetcher safe away to GENINE 0 (J2)	10-4733A	
E16F	GENINE 0 (J2) to fetcher safe away	220-00232A	
E16M	Fetcher safe away to GENINE 0 (J2)	10-4733A	
E17F	Carriage amp (J3) to fetcher motor	220-00191A	
E17M	Fetcher motor to carraige amp (J3)	11-0851B	fetcher track
E18F	GENINE 0 (J14) to fetcher home	220-00192A	power box
E18M	Fetcher home to GENINE 0 (J14)	10-4733A	fetcher track assy

No.	Cable Name	Part Number	Main Assembly
E19F	PBO (J30) to front hood unlock solenoid SSW12	220-00374A	power box
E19M	Front hood unlock solenoid SSW12 to PBO (J30)	220-00375A	MABs
E20F	PBO (J29) to front hood unlock solenoid SSW12	220-00380A	power box
E20M	Front hood unlock solenoid SSW12 to PBO (J29)	220-00381A	MABs
E21F	GENINE 2 to unload traveler away sensor	220-00189A	unload table
E21M	Unload traveler away sensor to GENINE 2	10-4733A	
E22F	GENINE 2 to unload traveler motor	220-00172A	
E22M	Unload traveler motor to GENINE 2	500-00717A	
E24F	Carriage amp (J3) to ejector motor	220-00186A	wire frame kit
E24M	Ejector motor to carriage amp (J3)	11-0851B	ejector assembly
E25F	GENINE 1 to side eject away sensor (R to L)	220-00196A	wire frame kit
E25M	Side eject away sensor to GENINE 1 (R to L)	10-4982A	ejector assembly
E26M	LIONEL EXTN to status LED EXTN	220-00413A	hood
E26F	Status LED EXTN to LIONEL EXTN	220-00363A	
E27F	Fetcher pressure track EXTN to fetcher pressure BRD	220-00227A	fetcher track
E27M	Fetcher pressure BRD to fetcher pressure track EXTN	220-00225A	fetcher assembly
E29	Fetcher manifold track EXTN to fetcher manifold	220-00236A	fetcher track
E30F	GENINE 3 (J1) to slip sheet sensor	220-00354A	MCU
E30M	Slip sheet sensor to GENINE 3 (J1)	220-00329A	
E31	GENINE 1 to load table closed 1	220-00249A	load table
E32	GENINE 1 to load table closed 2	220-00249A	
E33F	SSR bulkhead #1 EXTN to SSR bin detect sensor	220-00409A	MCU
E33M	SSR bin detect sensor to SSR bulkhead #1 EXTN	220-00280A	
E34	To picker pressure sensor board	220-00288A	
E35	Bridge in position sensor	220-00251A	bridge
E36F	SSW11 (bridge cover) to SSW9 (hood cover)	220-00377A	
E36M	SSW9 (hood cover) to SSW11 (bridge cover)	220-00378A	wire frame kit
E37F	GENINE 1 (J4) to plate on processor	220-00251A	
E37M	Plate on processor to GENINE 1 (J4)	220-00364A	bridge
E38M	MCE to start button 1 EXTN	220-00328A	power box
E38F	Start button 1 EXTN to MCE	220-00401A	shoulder panel away
E39F	ES2 to adapter EXTN	220-00402A	
E39M	Adapter EXTN to ES2	220-00326A	wire frame

No.	Cable Name	Part Number	Main Assembly
E40F	ES5 to ES4/ES6	220-00330A	shoulder panel home
E40M	ES4/ES6 to ES5	220-00398A	wire frame
E41F	Access panel close to SW to GENINE 1 (J5)	220-00426A	wire frame kit
E41M	GENINE 1 (J5) to access panel close SW	220-00249A	
E42	Bulkhead to J1 SSR user interface panel	220-00372A	SSR panel
E43M	Umbilical cable to base machine	220-00451A	MCU
E43F	Base machine to umbilical cable	220-00333A	
E44	MCU to SSR umbilical cable	220-00453A	
E45	To cassette picker position	220-00298A	
E54F	Load table traveler away sensor to GENINE 1	220-00195A	load table
E54M	GENINE 1 to load table traveler away sensor	10-4733A	
E55F	Fetcher wedge track EXTN to Wedgemaster	220-00228A	fetcher track
E55M	Wedgemaster to fetcher wedge track EXTN	220-00229A	fetcher assy
E56	P-cups ArmUp	220-00298A	MCU
E57	P-cups slider retract	220-00298A	
E58F	P-cups down to P-cups sensor	220-00298A	
E58M	P-cups sensor to P-cups down	10-9084A	picker assy
E59F	GENINE 3 (J18) to picker manifold	220-00456A	MCU
E59M	Picker manifold to GENINE 3 (J18)	220-00290A	picker manifold
E60M	MCU power cord	220-00365A	MCU
E60F	MCU power cord	220-00352A	
E61F	Load table stopper up to sensor	220-00306A	load table
E61M	Sensor to load table stopper up	220-00537A	
E62F	Load table stopper down to sensor	220-00482A	
E62M	Sensor to load table stopper down	220-00250A	
E63F	Start button 1 to start button 2 EXTN	220-00538A	power box
E63M	Start button 2 EXTN to start button 1	220-00537A	load table
E64F	Start button 2 EXTN1 to EXTN2	220-00538A	unload table
E64M	Start button 2 EXTN2 to EXTN3	220-00539A	
E65M	LIONEL 0 (J1) to DVP	220-00611A	drum vacuum pump
E66F	Plenum blower (airway only)	500-00946A	MCU
E66M	Plenum blower (airway only)	220-00281A	
E68F	GENINE 3 (J4) to SSR mirror extend	220-00298A	
E68M	SSR mirror extend to GENINE 3 (J4)	10-4982A	
E80	Plenum SS sensor 2		plenum
E78	Picker plate sensors		picker