Kodak

Trendsetter NEWS

Single Broadsheet Imaging Upgrade

Document Number
719-00556A-A

06 Feb 2007

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Revision History

Revision	Date	Author	Comments
A	Nov 15, 16	Henry Ho, Ken Johnston	Production release

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Trendsetter NEWS
Single Broadsheet Imaging Upgrade

CONTENTS

Revision History i

1. Background 1

2. Parts Required 1

3. Upgrade Procedure 1
   - 3.1 Procedure Overview 1
   - 3.2 Installing the SBI Manifold 2
   - 3.3 Installing the SBI Vacuum Sensor 3
   - 3.4 Upgrading the Cable Track 4
   - 3.5 Upgrading the Picker Vacuum Cup Bar 5
   - 3.6 Upgrading the Spreader Bar 8
   - 3.7 Upgrading the Unload Table Vacuum Coupling 11
   - 3.8 Installing the SBI Cables 14
   - 3.9 Upgrading the Firmware 16

4. Testing 16
   - 4.1 Testing the Mechanical Components 16
     - 4.1.1 Testing the Home and Away Picker Vacuum Generator Functions 16
     - 4.1.2 Testing the Home and Away Unload Table Vacuum Generator Functions 17
   - 4.2 Testing the System Operation 18
     - 4.2.1 NEWS 200 Tests 19

1. BACKGROUND

The Kodak® Trendsetter® NEWS™ single broadsheet imaging (SBI) feature allows the customer to image a single broadsheet plate for a remake when only one plate is required. Prior to the introduction of this feature, the Trendsetter NEWS device configuration required the loading of two broadsheet plates at a time in order to image a single file on one of the broadsheets, resulting in the second broadsheet being wasted. With the single broadsheet imaging feature, it is not necessary for the customer to select which stack the remake job comes from. The Trendsetter NEWS device automatically alternates between stacks for each single broadsheet job submitted.

2. PARTS REQUIRED

The following kit is required for this upgrade procedure.

Part Number	Part Name
512-00413A	KIT, UPGRADE, SBI, NWP

3. UPGRADE PROCEDURE

3.1 Procedure Overview

The single broadsheet imaging upgrade consists of the following procedures:

Installing the SBI Manifold (page 2)

This procedure installs the SBI manifold onto the existing manifold to control the SBI away-side vacuum picker generator.

Installing the SBI Vacuum Sensor (page 3)

This procedure installs a vacuum pressure sensor board and tubing connection. This sensor monitors the status of the SBI away-side vacuum picker generator.

Upgrading the Cable Track (page 4)

A wider cable track is needed for routing all the newly installed tubing through the picker system.

Upgrading the Picker Vacuum Cup Bar (page 5)

A picker cup bar with a modified suction cup arrangement is required for single broadsheet plate picking.

Upgrading the Spreader Bar (page 8)

The spreader bar assembly must to be modified to contain two vacuum generators—one for providing the vacuum suction for the eight home-side vacuum cups, and another for providing the vacuum suction for the seven away-side cups. This allows the home and away-side broadsheet plates to be picked independently.

Upgrading the Unload Table Vacuum Coupling (page 11)

In order for the unload table vacuum generator to generate enough vacuum for unloading the home and away-side broadsheet plates independently, plumbing for the unload cups must be modified with the unload table vacuum coupling assemblies.

Installing the SBI Cables (page 14)

This section describes the solenoid cable installation procedure.

Upgrading the Firmware (page 16)

The MCE Trendsetter NEWS firmware must be at least at the Controlled Release 5.0 level (MCE main firmware 1.42.10) in order to support the single broadsheet imaging feature.

Testing (page 16)

This section contains procedures for ensuring that the mechanical components of the SBI system are functional and that the system as a whole is operating correctly.

3.2 Installing the SBI Manifold

The following parts are required for this upgrade procedure.

Part Number	Part Name	Quantity
500-04252A	ASSY,MECH,MANIFOLD,SBI UPGRADE,NEWS	1

1. Shut off the compressed air supply to the output device.
2. Remove the plug from the home-side manifold. See Figure 1.
3. Connect the SBI manifold (part number 500-04252A) to the existing home-side manifold using the provided coupling.

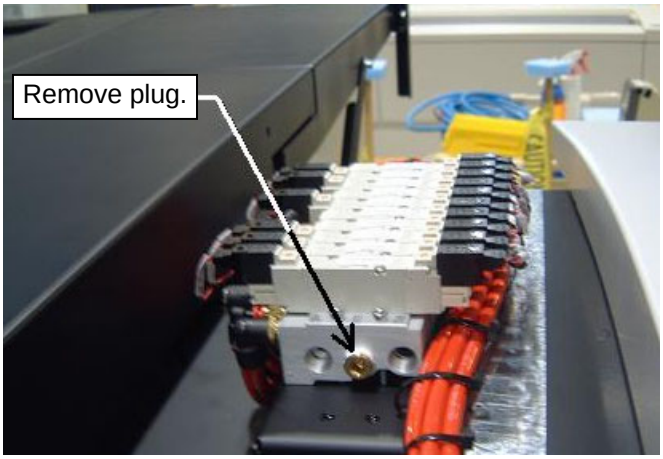


Figure 1: Removing existing plug on home-side manifold

3.3 Installing the SBI Vacuum Sensor

The following parts are required for this upgrade procedure.

Part Number	Part Name	Quantity
10-4581A	BRD,ASSY,PSEB,VAL	1
10-5005A	CAB,ASSY,VAC_SENS-ALE,TSM	1
52-4459	SCRW,M4*8,SOCK-CAP,S-PLATED	4
52-4586	WASH,M4,BEL,SERRATED,S-PLT	4
55-0134	FTG,LUER,MALE,2.25MM ID TUBE,NYLON,WHITE	1
55-0658	FTG,LUER FEMALE,3.0MM ID TUBE,NYLON	1
56-3290	TUBE,AIR,6MM OD BLUE,POLYURETHANE	0.3 m

1. Install the vacuum sensor board (10-4581A) in the power box, using four M4 screws (52-4459) and washers (52-4586). See Figure 2.

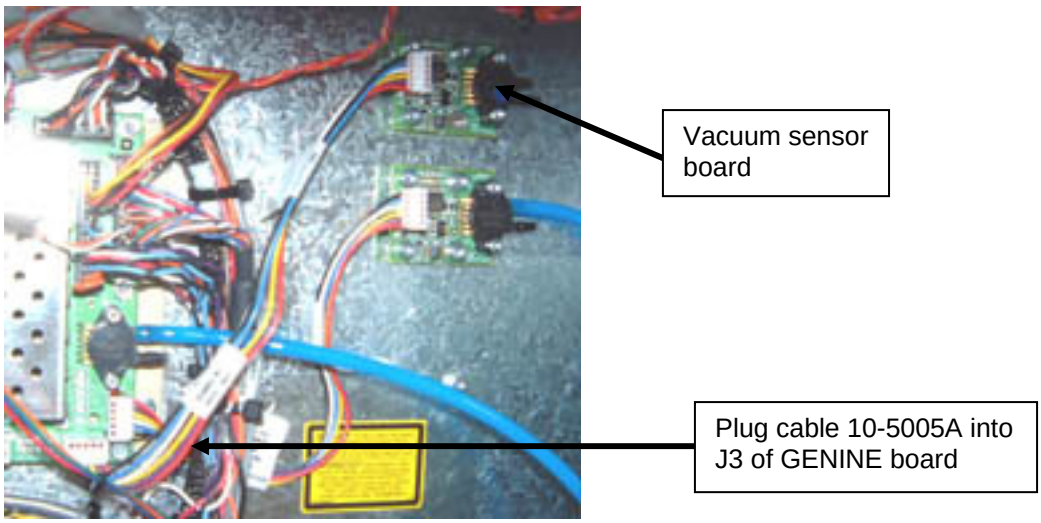


Figure 2: Vacuum sensor board installation

2. Connect the vacuum cable (10-5005A) to J3 of the GENINE board and J1 of the vacuum sensor board. See Figure 3.

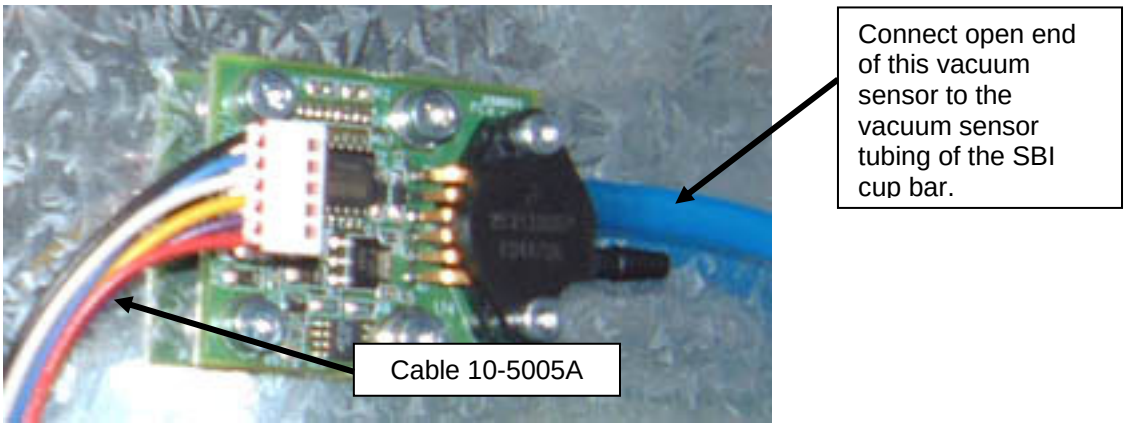


Figure 3: Cable and tubing installation

3. Connect 0.3 m of the vacuum tubing (56-3290) onto the vacuum sensor board. Then insert luer fittings (55-0134 and 55-0658) into the vacuum tubing.

3.4 Upgrading the Cable Track

The following parts are required for this upgrade procedure.

Part Number	Part Name	Quantity
390-00330	CAB,CARRIER,FLEX,PLSTC,10*39,30 RAD	16

1. Remove the existing cable track assembly.
2. Replace the cable track assembly you removed in step 1 and replace it with the wide cable track assembly (390-00330) shown in Figure 4.



Figure 4: Wide cable track attached to mounting bracket

Do not snap the wide cable track openings closed until you have completed the picker vacuum cup bar upgrade (section 3.5) and spreader bar upgrade (section 3.6), and have straightened out all the tubing.

3.5 Upgrading the Picker Vacuum Cup Bar

The following parts are required for this upgrade procedure.

Part Number	Part Name	Quantity
55-0643	ELBOW,AIR,MALE,10-32,1/16",EXT HEX,BARB	4
55-0744	ADAPT,3MM HOSE BARB,1.5MM HOSE BARB,NYL	4
55-0743	FTG,TJOINT,1.5MM HOSE BARB,10-32THD,NYL	5
55-0252	FTG,TJOINT,1/8"HOSE BARB,BLACK NYLON	2
55-0607	FTG,AIR,TEE,1/8"-3/32",BARB	2
55-0536	FTG,TJOINT,1/8"HOSE BARB,10-32 THRD,NYL	6
55-0634	FTG,1/8NPT TO 10-32 BUSHING,NYLON	1
52-4072	WASH,M10,FLT,SS	2
52-4683	WASH,M16,16ID,28OD*3MM,S-PLATED	2
55-0706	SUCTION CUP,40DIA,SILICONE,W/O VALVE	1
56-3281	TUBE,AIR,3MM OD,BLUE,POLYURETHANE	0.25 m
56-1039	TUBE,AIR,1/4"OD,BLUE,POLYURETHANE	2.5
56-1041	TUBE,AIR,4 OD(5/32"),BLUE,POLYURETHANE	10

1. Disconnect all of the vacuum tubing and plastic barb fittings from the existing picker vacuum cup bar.
2. Install an extra vacuum cup (consisting of parts 55-0634, 52-4072, 52-4683, and 55-0706) between the two sets of seven vacuum cups on the cup bar.
3. Use the listed required parts to re-plumb all the suction cups. See Figure 5 and Figure 6 for installation details.

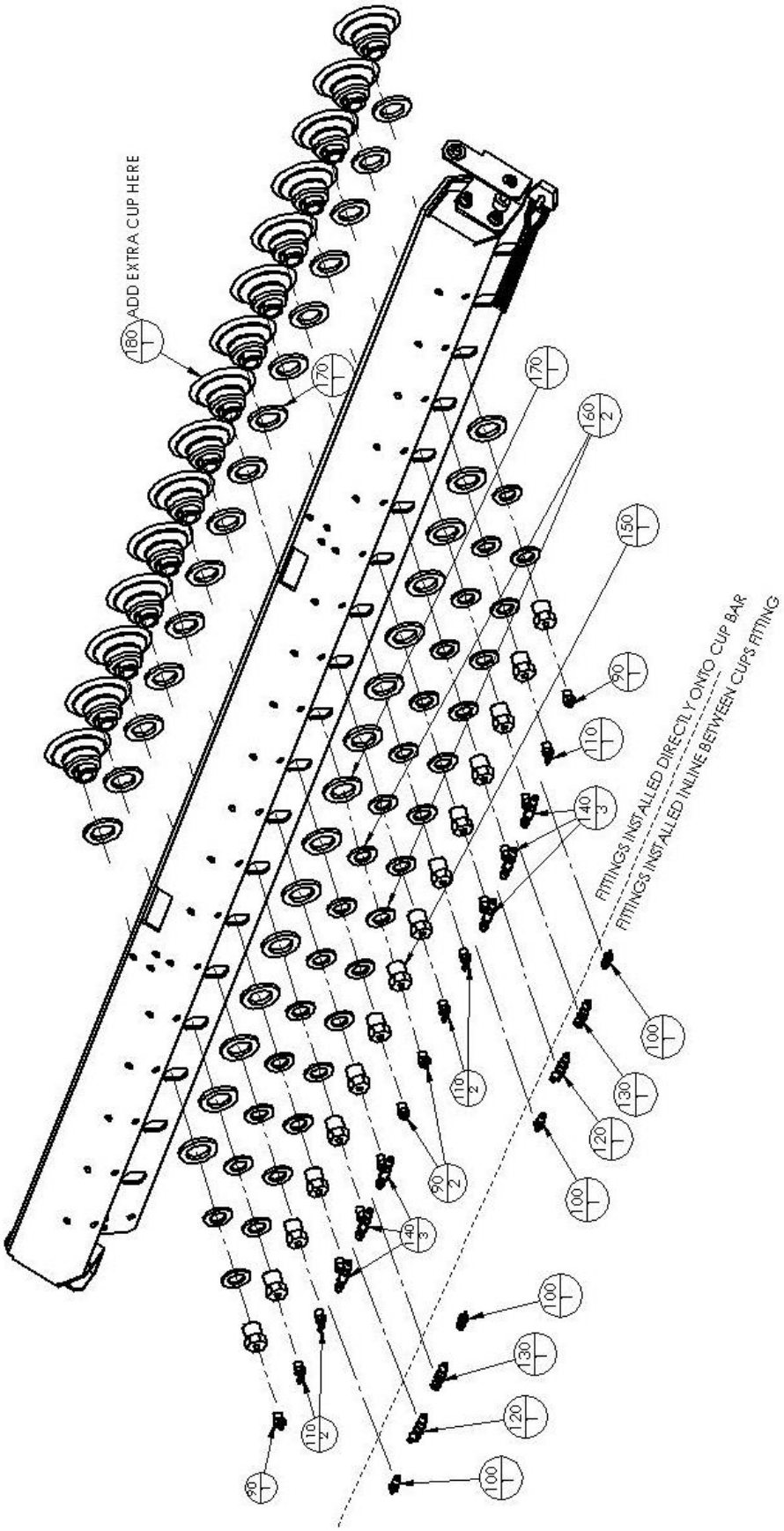


Figure 5: Picker vacuum cup bar fitting installation

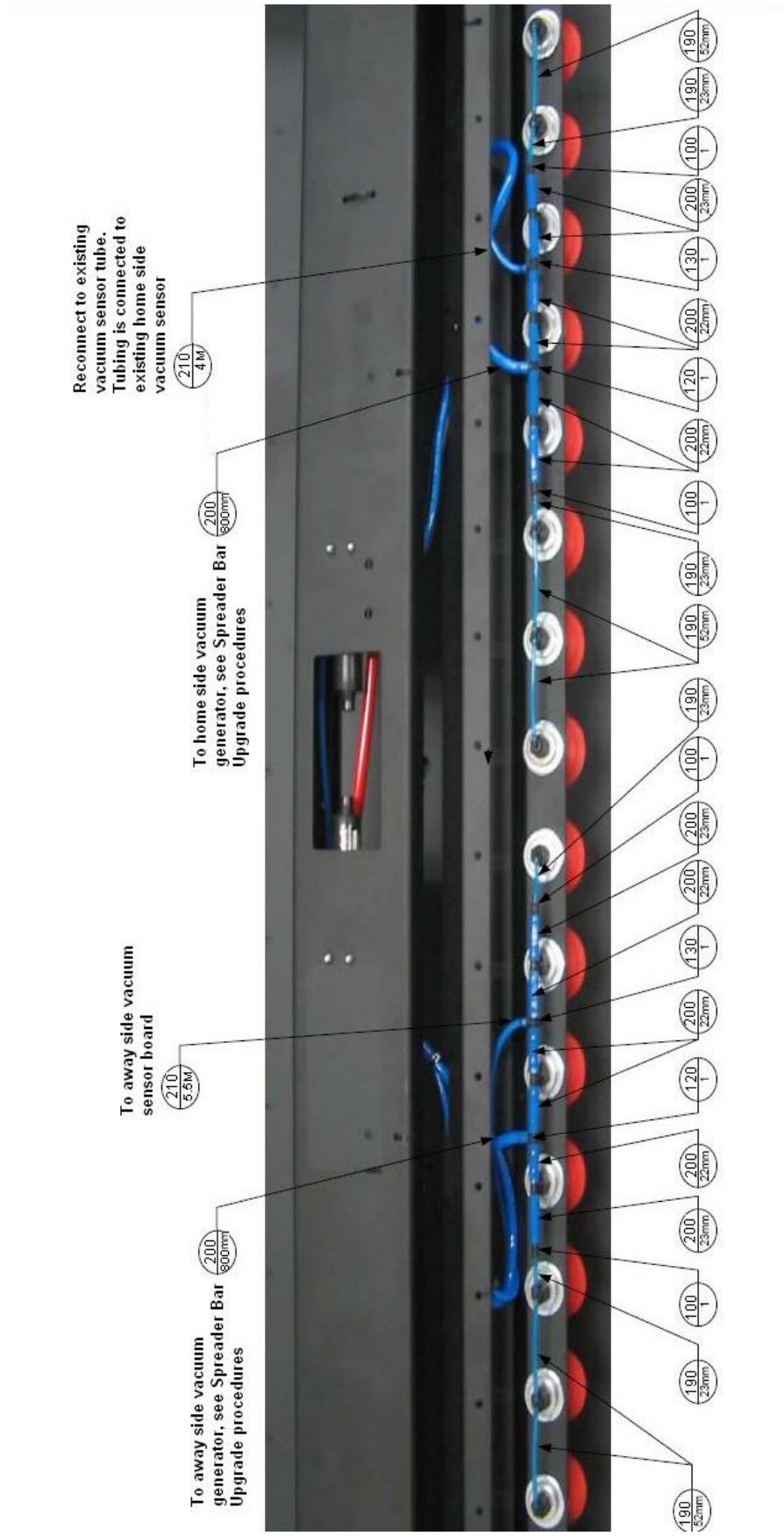


Figure 6: Picker vacuum cup bar tubing installation

3.6 Upgrading the Spreader Bar

The following parts are required for this upgrade procedure.

Part Number	Part Name	Quantity
340-00017	VACUUM GENRTR,0.5SCFM,10"HG	2
55-0764	FTG,AIR,MALE,1/4"NPT,5/16"TUBE,INT HEX	2
55-0137	ELBOW,AIR,MALE,1/8NPT,1/4"TUBE,BLACK,PBT	2
52-4480	SCRW,M3*25,SOCK-CAP,S-PLATED	2
56-3215	TUBE,AIR,8 OD (5/16"),RED,POLYURETHANE	4
18-3017	CAB,TIE,10CM,BLACK	10

1. Remove the top 2 x M4 screws and loosen the bottom 2 x M4 screws that connect the spreader bar to the picker assembly. See Figure 7.

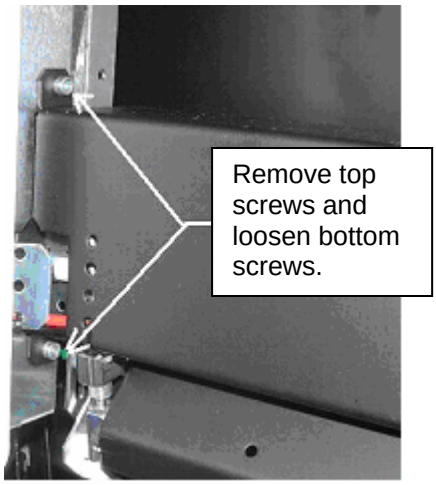


Figure 7: Removing screws to flip open spreader bar

2. Assemble the two SBI vacuum generator units using parts 340-00017, 55-0764, and 55-0137.
3. Remove the existing vacuum generator, and replace it with the SBI vacuum generator unit.
4. Install the away-side SBI vacuum unit with M3 screws (52-4480).
5. Connect the 8 mm red air tube (56-3215) to the away-side vacuum generator. Route the tube through picker's cable track. See Figure 8.

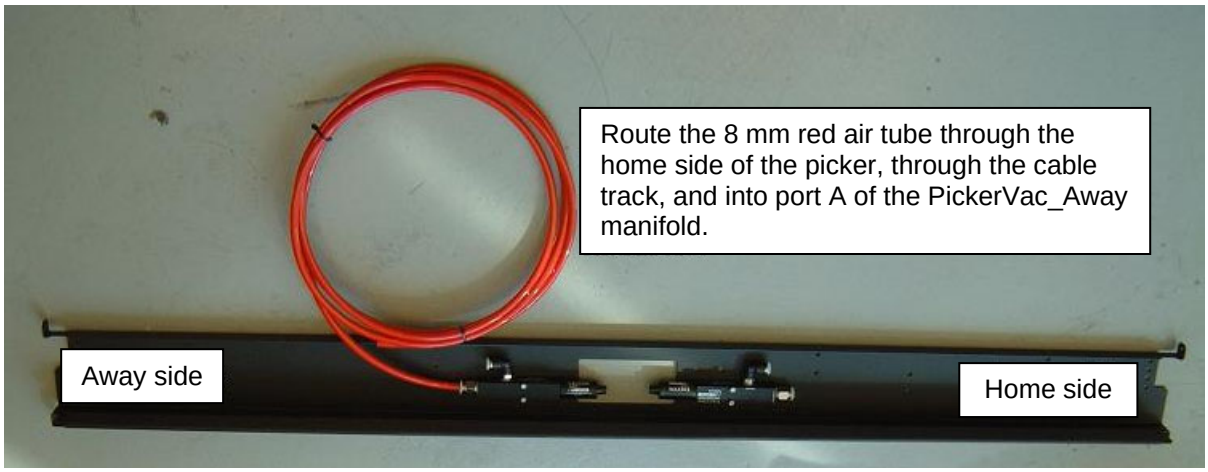


Figure 8: Spreader bar upgrade

6. Reroute the existing 8 mm red picker vacuum tube to the home-side vacuum generator. Reroute the existing 4 mm red and black picker head tubes along the spreader bar. See Figure 9.



Figure 9: Rerouting the existing tubing

7. Connect the picker cup bar's home-side 6.35 mm blue vacuum tubes to the home-side vacuum generator. Trim and connect the existing 4 mm vacuum sensor tube onto the SBI cup bar. Connect the existing picker wrist sensor cable onto the SBI cup bar home-side picker wrist sensor. Fasten the tubing with the supplied cable ties (18-3017). See Figure 10.

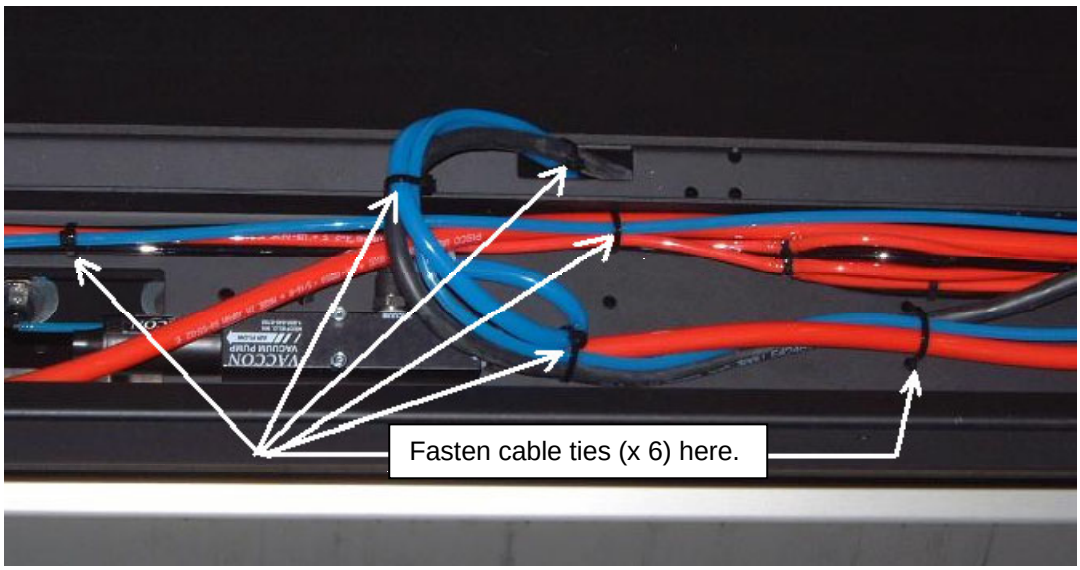


Figure 10: SBI spreader bar tubing routing, home side

8. Connect the picker cup bar's away-side 6.35 mm blue vacuum tubes to the away-side vacuum generator. Fasten the tubing with the supplied cable ties (18-3017). See Figure 11.

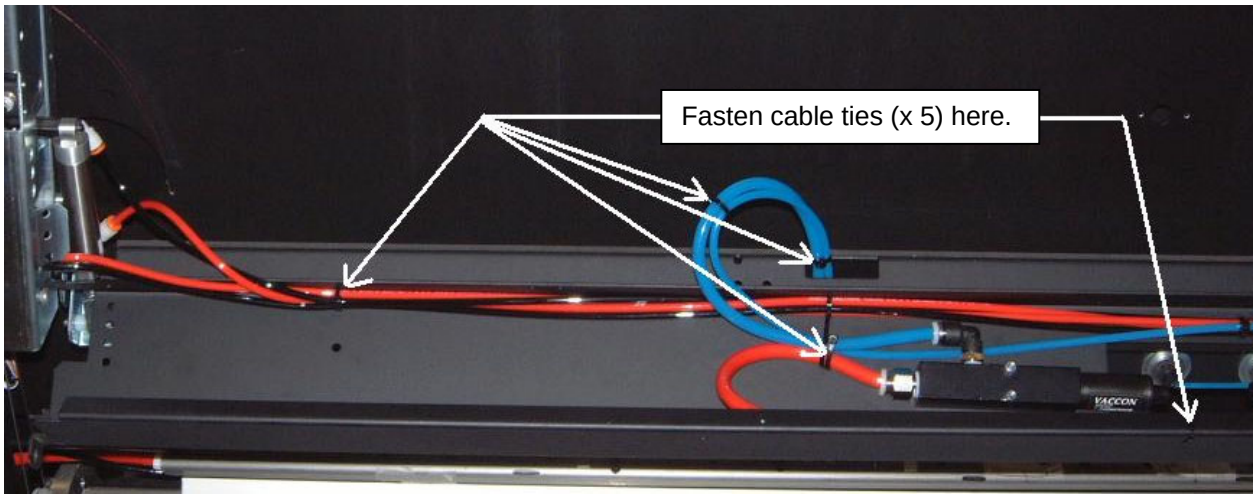


Figure 11: SBI spreader bar tubing routing, away side

9. Straighten and fit tubes through the home-side picker head assembly and through the wide cable track.
10. Connect the open end of the away-side 8 mm red vacuum generator tubing into port A of the PickerVac_Away manifold.
11. Connect the open end of the away-side 4 mm blue vacuum sensor tubing to the newly installed vacuum sensor.
12. Fasten the tubing with cable ties.
13. Ensure all tubes are aligned smooth and straight inside the newly installed cable track. Snap close cable track openings.

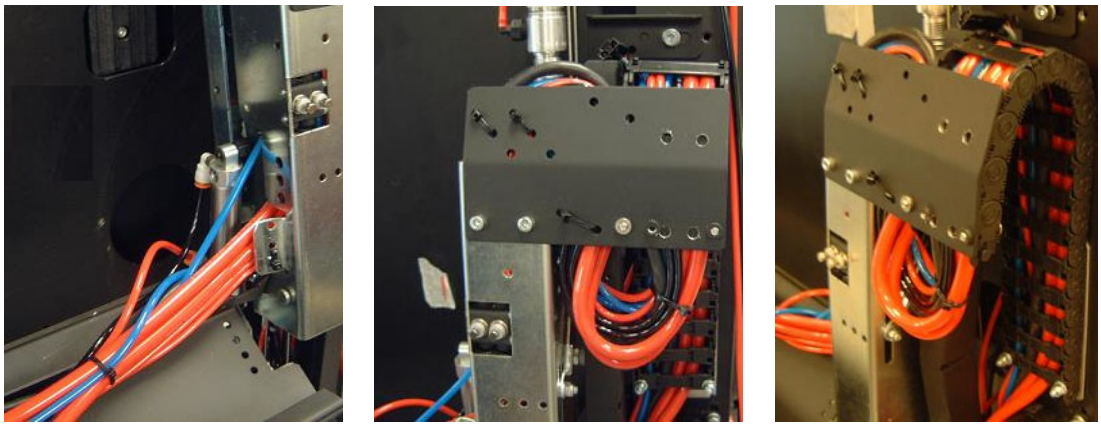


Figure 12: Fitting and straightening tubes through home-side picker head assembly and cable track

3.7 Upgrading the Unload Table Vacuum Coupling

The following parts are required for this upgrade procedure.

Part Number	Part Name	Quantity
252-09489A	COUPLING,VAC,UNLOAD VAC, SBI,NWP	2
55-0643	ELBOW,AIR,MALE,10-32,1/16",EXT HEX,BARB	2
55-0744	ADAPT,3MM HOSE BARB,1.5MM HOSE BARB,NYL	2
56-3281	TUBE,AIR,3MM OD,BLUE,POLYURETHANE	0.140 m
56-1039	TUBE,AIR,1/4"OD,BLUE,POLYURETHANE	0.080 m

1. Remove unload table panel.
2. Remove the two vacuum cups and vacuum cup hex couplings. Disconnect the two 6.35 mm blue vacuum tubes from their T-fittings. See Figure 13.

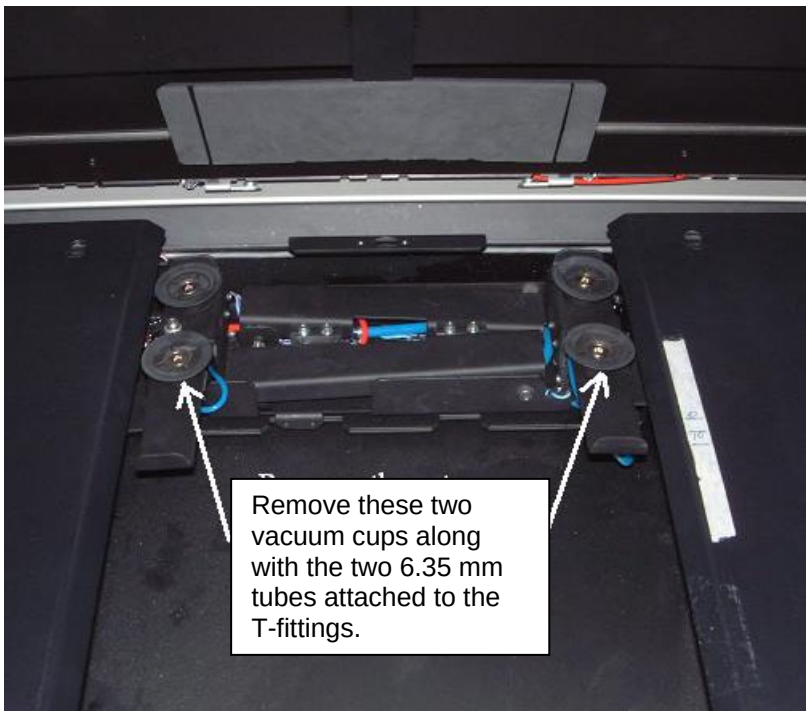


Figure 13: Removing the two existing vacuum cups and couplings

3. Assemble the two SBI unload table vacuum coupling assemblies using parts 252-09489A, 55-0643, 55-0744, 56-3281, and 56-1039. See Figure 14.

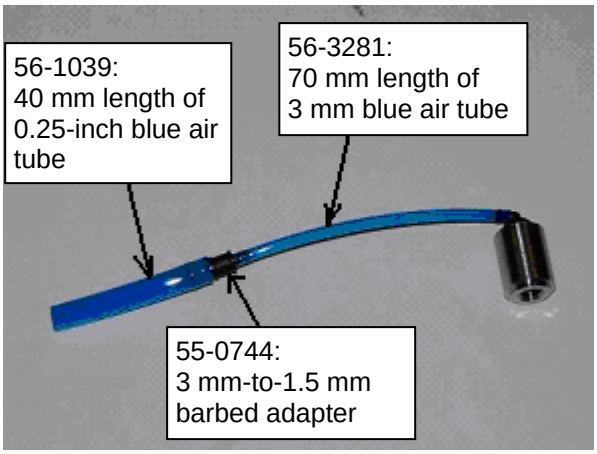
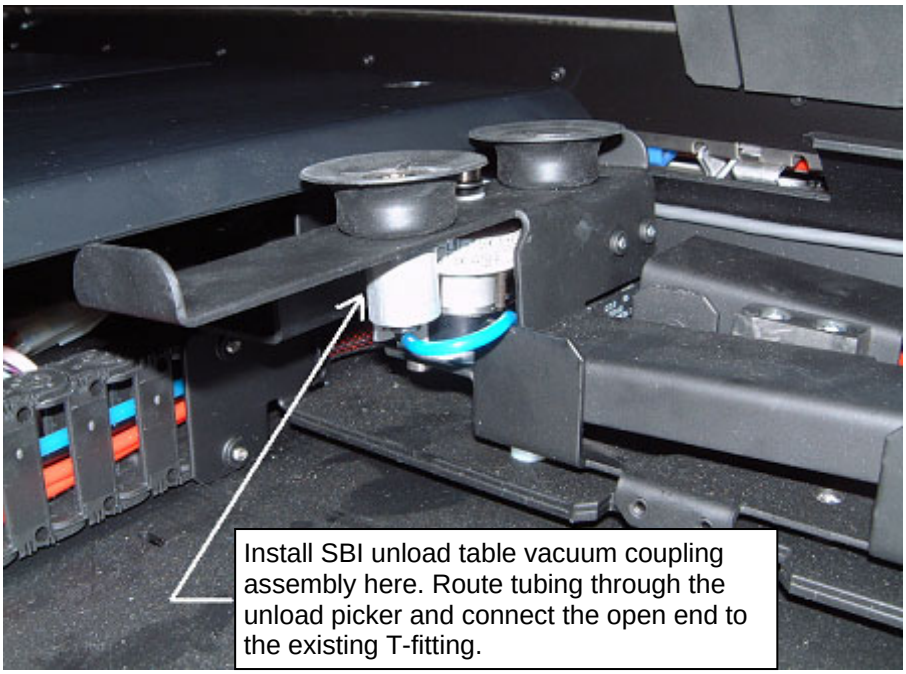


Figure 14: SBI Unload table vacuum coupling assembly

4. Replace the home-side hex vacuum cup coupling with the SBI unload table vacuum coupling assembly. Secure the SBI unload table vacuum coupling assembly with the unload table suction cup, and connect the assembly tube to the existing T-fitting. Ensure that there are no kinks in the vacuum tubes.

   See Figure 15.



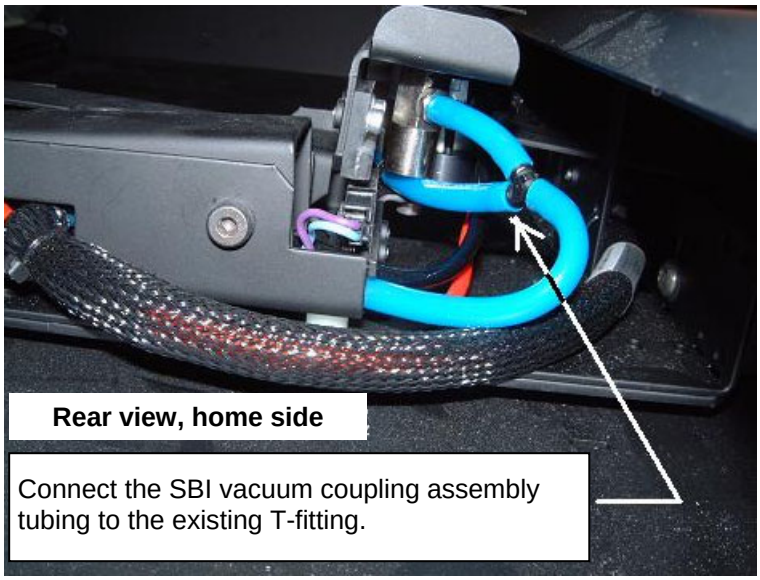


Figure 15: Home-side SBI vacuum coupling assembly installation

5. Replace the away-side hex vacuum cup coupling with the SBI unload table vacuum coupling assembly. Secure the SBI unload table vacuum coupling assembly with the unload table suction cup, and connect the assembly tube to the existing T-fitting. Ensure that there are no kinks in the vacuum tubes.

   See Figure 16.

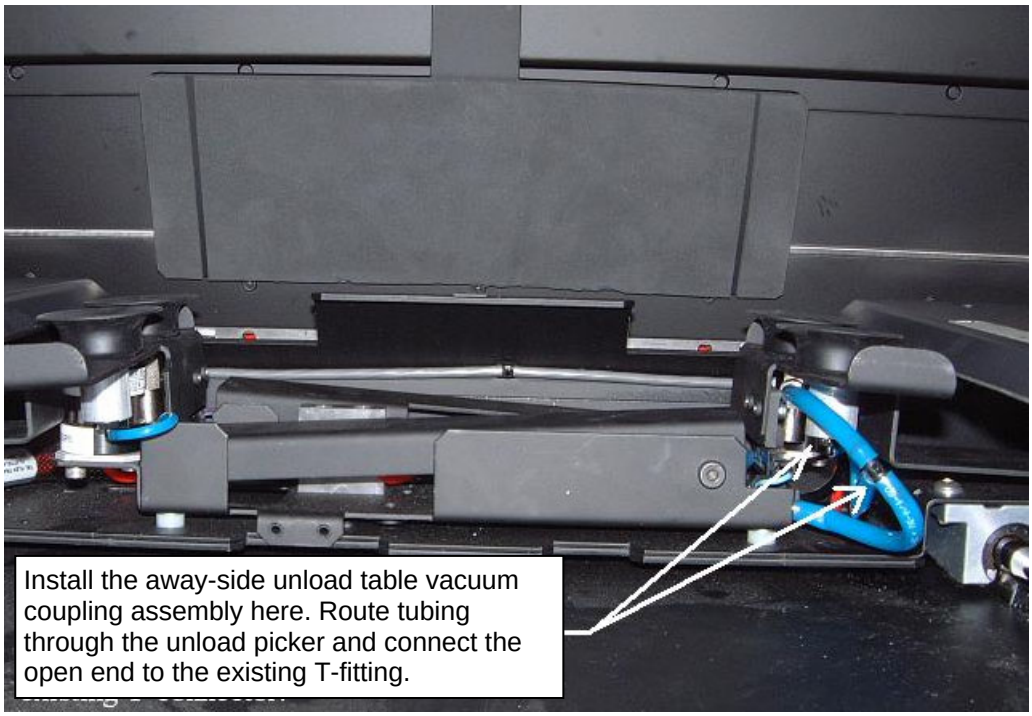


Figure 16: Away side SBI vacuum coupling assembly installation

6. Replace the unload table panel.

   Note: Ensure that when the unload table is in the following state…
   `table up` + `table cups out` + `plate pusher on`
   …the plate pusher is pressed flat against the two cups that do not have the SBI vacuum coupling.

3.8 Installing the SBI Cables

The following parts are required for this upgrade procedure.

Part Number	Part Name	Quantity
220-01326A	CABL,ASSY,PVAC AW SOL DRV,NWP	1
10-4871C	CAB,ASSY,ALE-SOLENOID DRIVE,TSM	1
18-3017	CAB,TIE,10CM,BLACK	10

1. Identify which version of cable 10-4871 is installed by looking at its label close to the connection at J21 of GENINE board. If the version is 10-4871**C**, then skip to step 4. If the version is 10-4871**B**, proceed to step 2.

2. Open the power box and disconnect cable 10-4871B from the following points:

- J21 of the GENINE board
- Cable 10-4872
- Cable 220-00733
- Cable 220-00737 (if there is no cable 220-00737 installed, ignore this step)

Cut the cable ties and remove cable 10-4871B. Along the way towards the picker manifold, disconnect it from the cable 10-4036 at the picker manifold end.

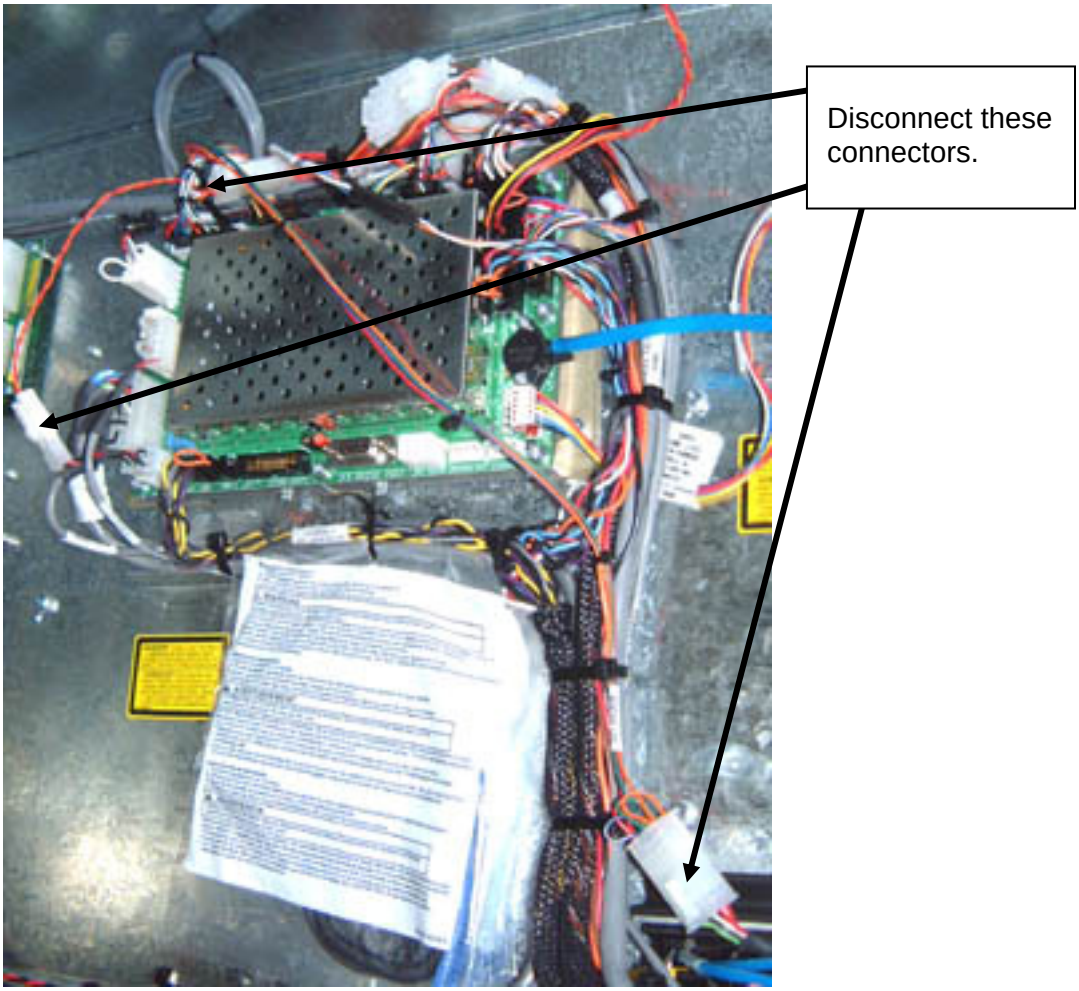


Figure 17: Solenoid cable installation

3. Install new cable 10-4871C, starting from inside the power box. Along the way towards the picker manifold, connect it, route it, and fasten it cable ties in exactly the same way as cable 10-4871B, which you removed in the previous step.

4. At the manifold end, connect cable 10-4871C to cable 10-4036 and one end of new cable 220-01326A.

5. Plug the other ends of cable 220-01326A to picker vacuum away side solenoid.

3.9 Upgrading the Firmware

1. Upgrade device firmware with MCE Trendsetter NEWS Controlled Release 5.0 (or later, if available). See the Control/settings page on the Trendsetter NEWS TechPlanet site for more information.

2. Ensure the single broadsheet imaging option is enabled, as shown below.

```
NEWS>> option
Available Options
-----------------
        Autoloader option is enabled
        Dual-plate option is enabled
           Rotator option is disabled
        Film-guide option is disabled
     Unload-offset option is disabled
    Separator-arms option is disabled
ProcessorInterface option is disabled
         Preloader option is enabled
         No-buzzer option is disabled
      Debris UDRCB option is disabled
      Debris UDRCL option is disabled
          Dual-bay option is enabled
  Large-Dual-plate option is disabled
 Single-broadsheet option is enabled
      News-rotator option is disabled
*** Command Complete
```

4. TESTING

4.1 Testing the Mechanical Components

4.1.1 Testing the Home and Away Picker Vacuum Generator Functions

1. In Service Shell, enter command:
   `picker up`

2. Enter command:
   `picker`
   Confirm that the picker vacuum pressure is under the `PVacThresh` value. This value is typically set at `300` units.

3. Enter command:
   `picker vac on`
   Physically verify that the home-side picker generator is activated, and ensure that there is vacuum flow through the eight home-side vacuum cups.

4. Enter command:
   `picker vac_away on`
   Physically verify that the away-side picker generator is activated, and ensure that there is vacuum flow through the seven away-side vacuum cups.

5. Enter command:
   `picker`
   Verify that the home and away picker vacuum pressure values are still under the `PVacThresh` values.

6. Physically cover all eight home-side cups with a plate, and then enter command:
   `picker`
   Verify that the home-side picker vacuum pressure value is above the `PVacThresh` value (typically, this value reaches 600 to 800 units).

7. Physically cover the three cups on the right side of the seven away-side cups with a plate, and then enter command:
   `picker`
   Verify that the away-side picker vacuum pressure value is above `PVacThresh` value (typically, this value reaches above 300 units).

8. Enter command
   `picker vac off`
   to turn the home-side vacuum generator off.

9. Enter command:
   `picker vac_away off`
   to turn the away-side vacuum generator off.

4.1.2 Testing the Home and Away Unload Table Vacuum Generator Functions

1. Enter commands:

   `table down`

   `table away`

   `table cups up`

   `table`

   Verify that the table vacuum pressure value is below the `UVacThresh` value (this value is typically set at 140 units).

2. Enter command:
   `table vac on`
   Physically verify that the table vacuum generator is activated, and check to confirm that there is vacuum flow through the four unload table vacuum cups.

3. Enter command:
   `table`
   Verify that the table vacuum pressure is still below the `UVacThresh` value.

4. Physically cover only the two home-side unload table vacuum cups with a plate, and then enter command:
   `table`
   Verify that the unload table vacuum pressure value is above the `UVacThresh` value.

5. Physically cover only the two away-side unload table vacuum cups with a plate, and then enter command:
   `table`
   Verify that the unload table vacuum pressure value is above the `UVacThresh` value.

6. Enter command
   `table vac off`
   to turn unload vacuum generator off.

4.2 Testing the System Operation

User this test to confirm that the sensors and drives are responding correctly, as in the examples shown.

1. Enter command:
picker

```
Task     Initialized Sim mode State        Abort Fault   Step mode Aborted
-------------------------------------------------------------------------
picker   False       Enabled  Idle         0             Disabled  False

Picker Up Sensor:           Unblocked
Picker Down Sensor:         Unblocked
Wrist Out Sensor:           Unblocked

Plate Cover Closed Sensor:  Unblocked
Plate Stack Sensor (home):  Unblocked
Plate Stack Sensor (away):  Unblocked

Vacuum (home):          Off
Vacuum (away):          Off

Vacuum Pressure (home):    0 counts
Vacuum Pressure (away):    0 counts

Vacuum (home) threshold: low
Vacuum (away) threshold: low

ArmIn Sensor (home):        Blocked
ArmIn Sensor (away):        Blocked
PlateStackHeight Sensor:    Unblocked
ClampCylinderDrive = Off
StackerDrive = Off
ArmDrive = Off
*** Command Complete
```

2. Enter command:
scan al_picker

```
Bit Name                  State  Group                  Bit Mask
AL_PickerVacuumOnDrive    **** DO_ALE_0000              00000100h
AL_PickerVacuumOffDrive   **** DO_ALE_0000              00000200h
AL_PickerInDrive          **** DO_ALE_0000              00000400h
AL_PickerOutDrive         **** DO_ALE_0000              00000800h
AL_PickerUpDrive          **** DO_ALE_0000              00040000h
AL_PickerDownDrive        **** DO_ALE_0000              00080000h
AL_PickerWristInDrive     **** DO_ALE_0000              04000000h
AL_PickerVacAwayOnDrive   **** DO_ALE_0000              40000000h
AL_PickerVacAwayOffDrive  **** DO_ALE_0000              80000000h
*** Command Complete
```

3. Enter command:
scan ai_picker

```
Group Name            Status Value     Converted Value
AI_PickerVacuum           ** 00000000h
AI_PickerVacAway          ** 00000000h
*** Command Complete
```

4. Enter command:
   help picker

```
picker                              Display picker status

picker vac <on|off>                 Turn picker vacuum on or off
  <on|off>
picker vac <on|off> [w]             ..and wait for valid reading
  <on|off>
picker vac_away <on|off>            Turn picker vacuum on or off
  <on|off>
picker vac_away <on|off> [w]        ..and wait for valid reading
  <on|off>

 *** Command Complete
```

4.2.1 NEWS 200 Tests

1. Test master head-only plotting.

   a. On the home side stack, load a single broadsheet plate with mainscan dimension 590 mm and subscan dimension 340 mm.

   b. Plot test pattern 100 on the plate and unload the plate.

      Load ms 1 m 590 s 340 loc1

      Plot 100

      Unload

      Note: In the `load` command above, `loc1` specifies the home side, and `ms 1` specifies one media stack.

2. Test slave head-only plotting.

   a. On the away-side, stack, load a single broadsheet plate with mainscan dimension 590 mm and subscan dimension 340 mm.

   b. Plot a test pattern 100 on the plate and unload the plate.

      Load ms 1 m 590 s 340 loc2

      Plot 100

      Unload

      Note: In the `load` command above, `loc2` specifies the away side, and `ms 1` specifies one media stack.

3. Test both master and slave head plotting.

   a. On each of the home and away-side plate stacks, load a broadsheet plate with mainscan dimension 590 mm and subscan dimension 340 mm.

b. Plot a test pattern 100 on both plates and unload the plates.

```
Load ms 2 m 590 s 340

Plot 100

Unload
```

Note: In the `load` command above, `ms 2` specifies two media stacks. The default stack location (`0`) is used.