

ThermoFlex Wide

Upgrade TFX Debris Removal Nozzle

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Revision History

Revision	Date	Author	Comments
A	07 MAY 2003	A.Blignaut / G.Edge/ P.Lagodzki	Added information, pics and steps, update logo and company name. BOM 05-2046 replaced by 512-00056A.

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1. PURPOSE

The new nozzle available for TFX head offers better protection for the head window from debris and plate fly-off and little to no setup is required to install it. It is more effective at removing debris with the Morgan Cabinet and is designed to also be compatible with the new Universal Debris Removal Cabinet (UDRC). The Morgan Cabinet is the original cabinet shipped with earlier ThermoFlex machines.

2. RELATED DOCUMENTATION

- TFX Head install documentation – see technical library

3. TOOLS

- Flathead screwdriver
- Allen key set
- TFX head power disconnect tool

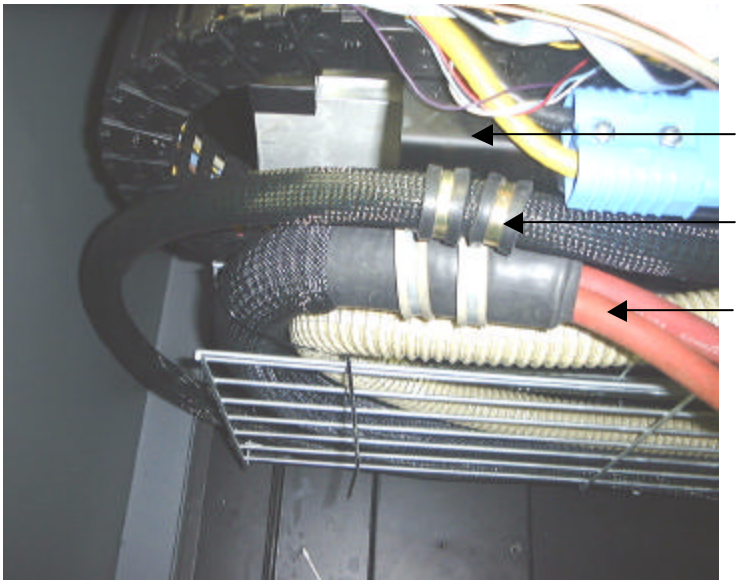
4. PROCEDURE

There are three components to the upgrade:

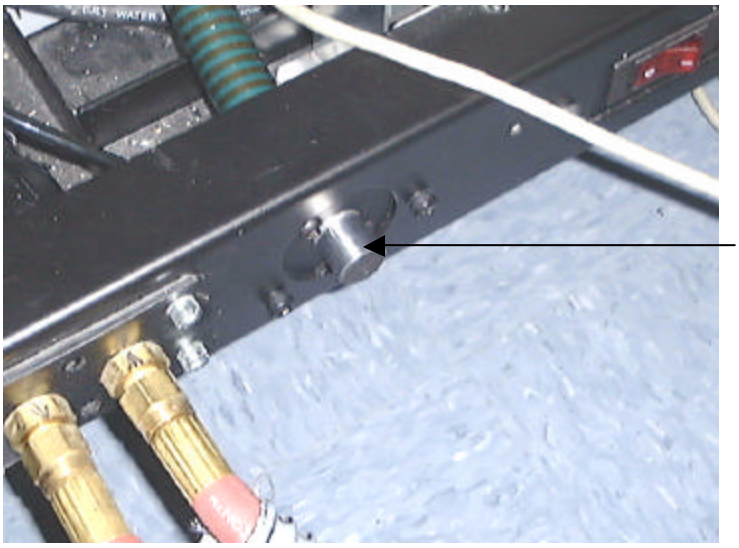
1. Removing old parts
2. Installing new parts
3. Set-up of the debris removal nozzle.

4.1 REMOVE PARTS

1. Remove TFX Head and place in a secure, ESD safe location for reinstallation later.
2. Remove the adapter plate with the nozzle assembly and its air fittings. A single ¼" air line from the dblow supply remains.
3. Remove the debris hose clamps and the ¾" PVC debris removal hose from the inside of the machine.
4. Temporarily remove the chiller hoses from the Flex-track bracket.



5. Remove the debris removal hose bulkhead (near the power switch), but leave the ¼" tubing to the TEE board installed. This will be used to connect the debris vacuum sense from the nozzle to the TEE board.

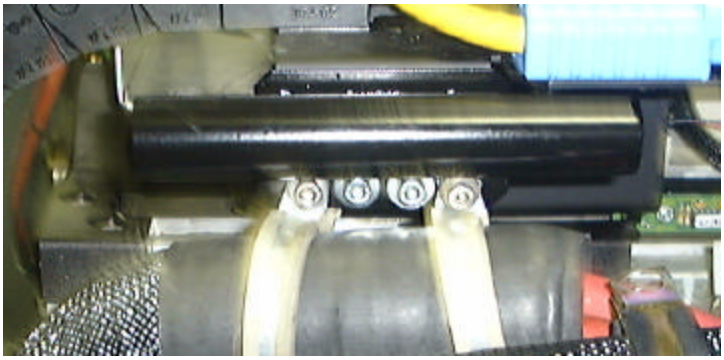


4.2 INSTALL PARTS

1. Install adapter plate 57-5765B-C. Ensure the alignment blocks are correctly installed and push the plate towards the drum to ensure correct alignment at the back of the head stage. Transfer the flexure blades from the old plate to the new one (for attaching TFX head).

2. Install the debris removal nozzle 50-2130C onto the adapter plate. The two screws should be partially installed and final tightening should occur on the home side first, this will ensure that the part references to the adapter plate correctly.

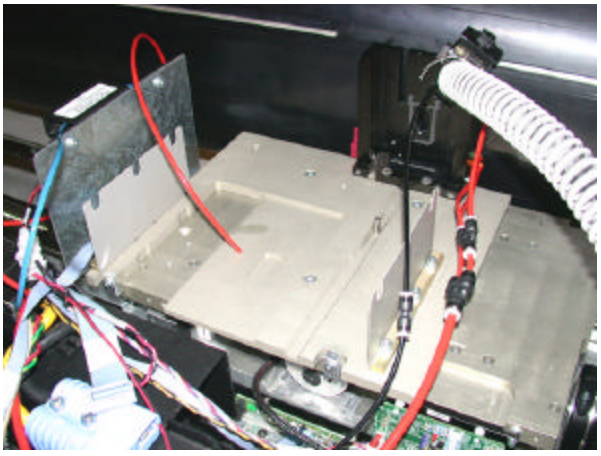
3. Install the flex track hose union (57-9338A). Attach the chiller hose to the holes provided in the union using the existing chiller hose brackets.



4. Install the new bulkhead fitting (50-1733B) in the same manner as the previous version. This fitting may have a plug or a vacuum sense tap that is plugged. Leave the plug in place because the vacuum sensing is done at the nozzle after the upgrade is complete.

5. Run the 5/32" black tubing from the vacuum sense tap union on the nozzle through the flex track to the bulkhead where the debris hose exits the machine. Connect to the ¼" vacuum sense line with the supplied union. Connect the nozzle vacuum sense port to the sensor on the TEE board.

6. Install the flexible corrugated clear PVC hose (56-3457) from the nozzle to the flex track hose union. Use hose clamps on each end and arrange the hose so there is the least amount of force on the nozzle and so that the hose clamps do not prevent the nozzle from sliding all the way down.



7. Install the new debris hose assembly (50-1953B) from the bulkhead inside the machine, through the wire rack to the flex track hose union and secure with the supplied hose clamps.
8. Connect the existing ¼" DBLOW air line from the flex track to the air jet hoses on the new nozzle assembly. Refer to Step 2, section 4.1.
9. Install cable 10-4146C (See Appendix A – Cable 10-4146C). This cable is for the implementation of the smart UDRC (UDRC-BF)
10. Reconnect the ¾" external PVC debris removal hose to the bulkhead fitting. Externally the machine looks the same as before the upgrade.
11. Reinstall the TFX head as per the installation document.

Note: The nozzle should be at its forward position with the z-stage home when the head is installed and only after the flexure blades are tightened should the nozzle be pushed back.

WARNING: Do not plot with the nozzle in the forward position as this will cause damage to the output device as well as exposure head

4.3 SETUP

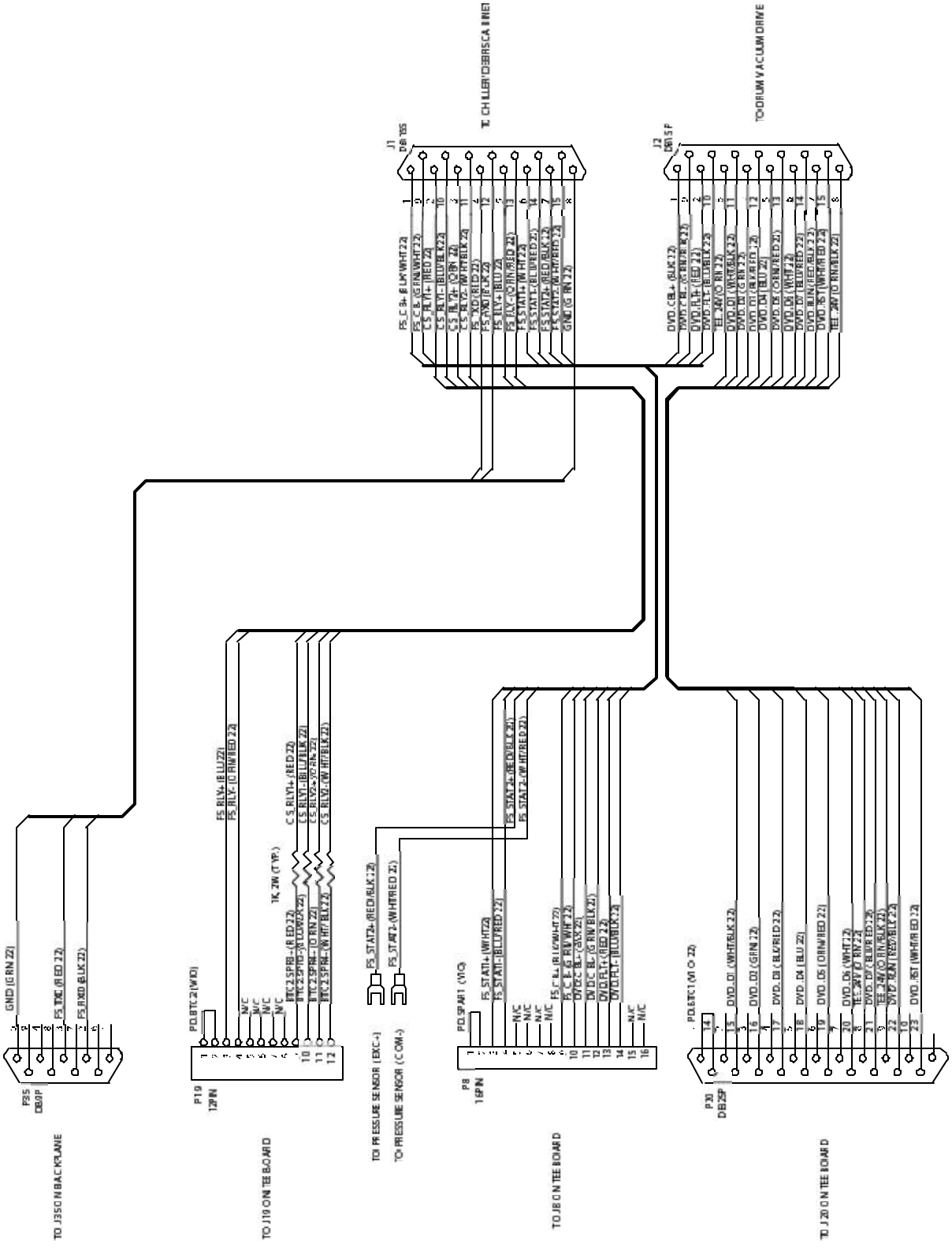
The debris vacuum sensing point has been moved from the bulkhead to the nozzle and may require a parameter adjustment. The parameter for this is SYS DBT – debris blower threshold. This parameter has been set to 10 for all machines. To test for problems, a plot cycle must be run verify that the debris vacuum level is high enough before plotting. The message "Debris Removal Vacuum Level Low" will be displayed if the DBT parameter requires adjustment. Reduce the dbt setpoint value to lower the threshold. This should not be used to overcome problems on other machines displaying this message unless it is verified that the sense port in the nozzle is not plugged with debris or it is unknown when the customer has last changed the debris filters.

Check that the air pressure reading at the regulator into the machine is set to 80psi.

Check that the Morgan cabinet is operating correctly and that the filter is changed appropriately. It is recommended that the cabinet be supplied by 240V for best nozzle efficiency and filter life.

Should the image quality be unacceptable use a rotameter to determine if the flow is acceptable. It should be 26.25cfh at 77psi in the main airline. Also ensure that the suction nozzle is clean. The image quality is very susceptible to the head being incorrectly set-up - please ensure that all parameters are correct.

5. APPENDIX A – CABLE 10-4146C



6. APPENDIX B – BOM 512-00056A-A

KIT, UPGRADE, DEBRIS NOZZLE, FX1

Item No.	Part No.	Description	Quantity
10	50-2130C	ASSY, MECH, DEBRIS NOZZLE W/AIR, FX1	1
20	57-5765B	FAB, PLATE, ADAPTER, HEAD, TFX	1
30	56-3457	HOSE, VACUUM, 1"ID, FLEX PVC	0.8m
40	57-9338A	FAB, MNT, 1" HOSE UNION TO FLEX TRACK BRKT	1
50	52-3125	SCRW, M5*16, SOCK-CAP, S-PLATED	2
60	52-4375	WASH, M5, FLT, S-PLATED	2
70	50-1953B	ASSY, MECH, DEBRIS REMOVAL HOSE, FX1	1
80	56-1037	TUBE, AIR, 4 OD (5/32"), BLACK, POLYURETHANE	5.0m
90	55-0412	UNION, STRAIGHT, AIR, 5/32"-1/4"TUBE	1
100	55-0183	UNION, STRAIGHT, AIR, 1/4" TUBE	1
110	50-1733B	ASSY, MECH, DEBRIS REMOVAL SENSING,TAP, FX1	1
120	52-4231	CLAMP, HOSE, SIZE 20, S-PLATED/SS	4
130	52-3127	SCRW, M6*10, SOCK-CAP, S-PLATED	2
140	10-4146C	CAB, ASSY, TEE (J8,J19,J20)-BKPL(J35)-BLKHD	1
150	56-1043	TUBE, AIR, 1/4"OD, RED, POLYURE THANE	0.5m