Magnus VLF Speed Upgrade

Product

Magnus VLF

Background

This document describes how to install the Magnus VLF speed upgrade kit. In this upgrade, the TH2 or P33 head is replaced by a TH2.7 head. Because this head requires a chiller, the fan box (heat exchanger) is replaced by a chiller running at 14º C. The reduced operating temperature requires that the fan box hoses be replaced by insulated hoses that run through a sleeve.

Time required Two days—one day for the hardware installation and one day for testing.

Procedure

1. Load a plate in the center of the drum and move the carriage close to the center of the carriage track. The plate is used to zero the new head once it is installed.
2. Turn off the power to the device.
3. Open the top cover and remove the load table panels and unload table rails. This will allow you to access the cable track.
4. Remove the lower front panels to access the fan box and the laser head cover panels. Remove the panels over the cable track.
5. Roll out the fan box and disconnect the hoses and the power cable. Remove the fan box from the device and dispose of the coolant as outlined in the MSDS for that coolant.

   Note: Do not use the pink coolant in the chiller.



Figure 1: Fan box

6. Disconnect the fan box hoses from the head and remove the hoses completely from the device.



Figure 2: Coolant hoses behind the fan box

7. Disconnect all other tubes and cables from the head and remove the head.
8. Feed the chiller hoses into the sleeve. Insert the end of the hose with the head connectors into the grey end of the sleeve.
9. Place the sleeve/hose assembly into the cable track as shown below. The coolant hose assembly is routed over top of the debris hose, around the bend, and below the debris hose in the bottom of the hose tray.

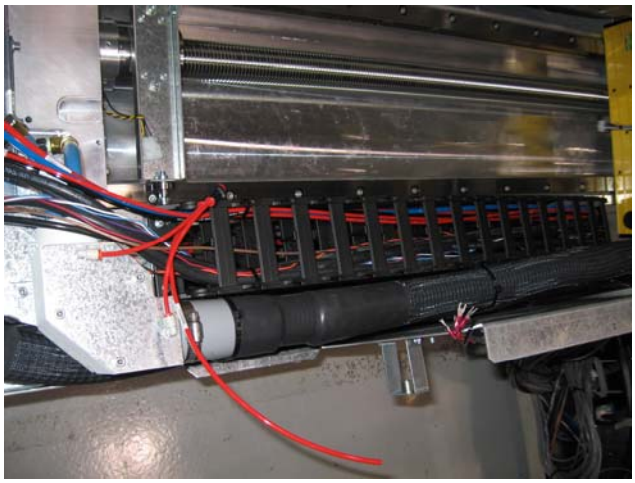


Figure 3: Chiller hose in the hose tray

10. Route the coolant hoses along the bottom of the hose tray and through the panel.

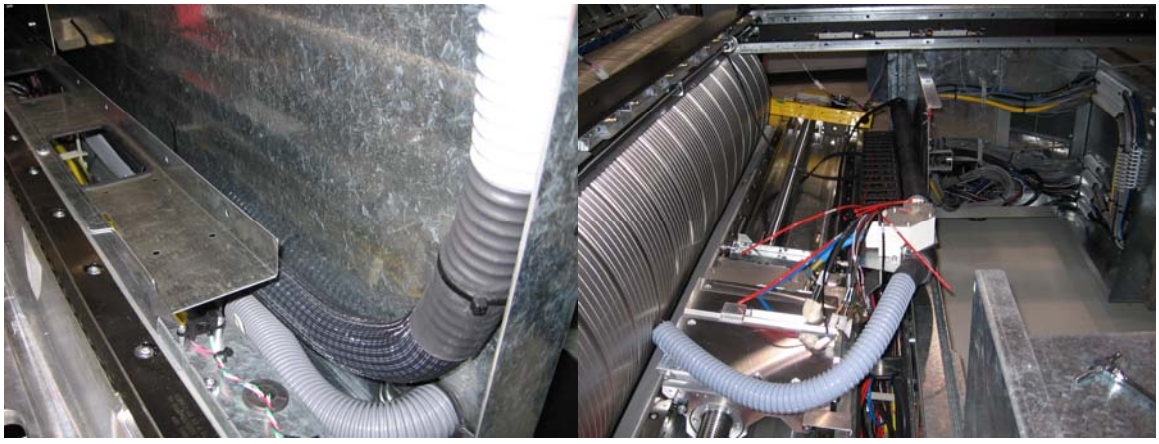


Figure 4: Coolant hose layout in the hose tray

11. Route the hoses into the area where the chiller is to be installed and attach them to the frame.



Figure 5: Routing of hoses from engine to the chiller area

12. Assemble the hose and coolant filter assembly.

Refer to the Magnus Installation guide and review the section *Chiller, DRU, Exhaust Unit*.

13. Attach the chiller fan to panel P18. Route the fan power cable and connect it to the AC power connection (locate where fan plugs in). Use cable ties to secure the fan cable to panel P18.

14. The coolant flow sensor is part of the hose assembly. Connect the extension cable 220-00411A to the LIONEL cable 10-9085A. The connector for the cable should be coiled behind the debris removal assembly. Secure the cable neatly with cable ties.



Figure 6: Chiller hoses behind the chiller

15. Assemble the chiller hose tail block to the carriage bracket. This consists of a two-piece molded block, (252-05143B), a top plate (252-05141B), and a bottom plate (252-05142B). The end of the chiller hose is clamped inside this assembly. Use three M5 x 65 screws (300-00215), six M5 flat washers (52-4375), and three M5 nylock nuts (52-3177). Do not clamp it until the hoses are attached to the head.

Refer to the Magnus Installation guide and review the section *DVP and Thermal Head*.

16. Install the head. Attach the coolant hoses and clamp them using the tail block. Slide the hose sleeve over the tail block and clamp it in place.

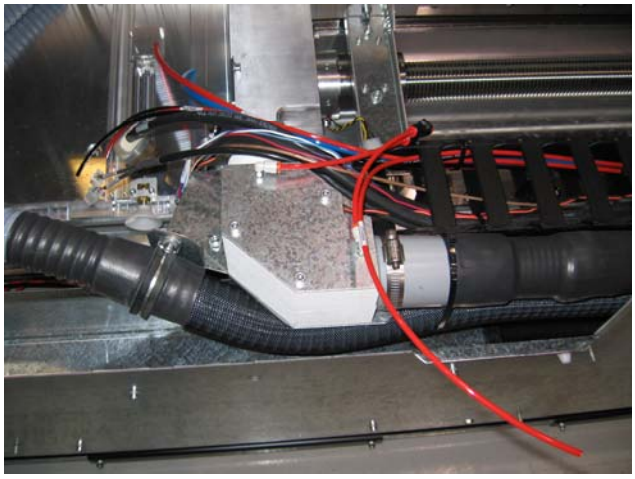


Figure 7: Hose tail clamp assembly attached to the carriage

See also	Magnus VLF Installation Guides: 725-00111A (MCU), 725-00262A (CL), 725-00001A (SA) MSDS for pink coolant
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