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1. INSTALLATION

Note: It takes at least two people to do the jobs according to chapt. 1.2., 1.5., 1.6. and 1.7.

1.1. Selection of a convenient site

For the setting up of the VMS 80 disk cutting installation a room should be chosen which will serve no other purpose but the cutting of disks. The room must be free from dust and dirt and should not be subject to building rumble or noise. The preferred temperature range is $+15^{\circ}$ to $+30^{\circ}$ C (60° to 80° F).

For maintenance purpose and for emptying the chip jar it is necessary to have ample access to the rear of the lathe console. It should therefore never be placed with its back to the wall, but rather should be freely accessible from all sides.

It is suggested that the lathe be placed in the center of the room in such a way as to permit the engineer to operate it while facing the room's entry door while at the same time having the best possible positions with relationship to the loudspeakers.

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1.2. Setting up the lathe console

For an easy transport to its final position remove back and side panels after unlatching its Camlock-latches. Further unscrew the cover plate of the main connecting board of the machine. Fig. 1.2.1.

1.3. Installing the power supply

Unscrew the 4 large Philips screws, two on each side of the 19" opening in the console front plate, and slide in the power supply unit. Fasten with the 4 designated screws.

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1.4. Installing the vacuum pump

Place the vacuum pump in the free space at the left hand side of the console. Make the electrical and vacuum tube connections.
Fig. 1.4.1.

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1.5. Installing the lathe

Position the lathe from above in such a way into the console that it's mounting frame lies on the respective support. Turn the nuts of the rubber suspension fully clockwise towards the rubber parts and place them at their bearing seats according to fig. 1.5.1. and 1.5.2.

Turn the mentioned nuts counter-clockwise so that the rubber suspension will lift the lathe. Adjust a distance of 5 mm between lathe mounting frame and console support by means of these nuts.

The electrical connection between lathe and the electronics is done by the multiwire cable AM-MS.

Remove rubber strips between carriage and carriage bed. Remove spacer in the carriage foot after unscrewing both screws fig. 1.5.3. Remove stopper at the carriage bed by unscrewing both fastening screws fig. 1.5.3. Remove both red spacers under lead screw motor fig. 1.5.3.

In addition for transport purpose the feed nut is decoupled from the carriage. To connect it turn the screws, which you will find close to its thread-hole into that thread. Fig. 1.5.4.

1.6. Installing the console cabinet

Remove the leather covered front lid from the cabinet by unscrewing both hinge screws fig. 1.6.1. and both stopper screws. Fig. 1.6.2.

Unscrew the four cabinet fastening screws from the console and place them and their rectangular nuts ready to hand. Now position the cabinet from the back over the lathe and lower it carefully down to the console. Fasten it with the screws and rectangular nuts mentioned above.

Finally fasten the front lid.

1.7. Installing the operating terminal

Remove both Allen set screws from the support arm block. Fig. 1.7.1. Pass the multiwire-connector of the operating terminal through the rectangular cut-out of the console cabinet and then through the slot of the above mentioned block. Guide the multiwire cable carefully down.

Put the Allen set screws into the block but do not fasten them yet. Put the circular rod of the support arm into the block and fasten Allen set screws.

Arrange the multiwire cable according to Fig. 1.7.2. in the console and screw its connector onto its receptacle at the main connector board. Fig. 1.7.3.

1.7.1. Adjustment of the operating terminal

The adjustments described below are intented to position the operating terminal in accordance to the requirements of the cutting engineer.

When loosen the screw of the support arm, fig. 1.7.1.1., one may lengthen this arm by drawing it out.
Attention: When pulling or pushing the arm telescope, guide the multiwire cable in it by hand in the respective way.

When loosening both screws fig. 1.7.1.2., one may swivel the operating terminal within a 30° angle.

When loosening both Allen set screws fig. 1.7.1.3., one may turn the entire operating terminal around its fastening block.

1.8. Installing the inner turntables

To protect the hydrodynamic turntable bearing, it remains oil filled, also during transportation. To prevent the oil from running out there is an O-shape rubber ring around the turntable spindle fig. 1.8.1. and a M2 screw in the ventilation hole fig. 1.8.2. of the oil filling nozzle. Remove this screw.

To remove the rubber ring unscrew the upper tightening ring, remove it and the rubber ring, too, screw the 3 short Allen screws attached in a plastic bag into the empty thread holes.

Place the inner turntable onto the turntable spindle in such a way that the two red dots are facing towards each other. Make sure, that the V-shaped rubber gaskets on this turntable, fig. 1.8.3., are clean and flexible in any direction.

1.9. Installing the vacuum chuck turntable

The vacuum chuck turntable is resting on three studs with spherical heads. The height of two of them is adjustable, while the third is rigid fastened. Their counter bearings in the vacuum chuck turntable are a face plate, a V-shaped plate and an inside taper plate. The rigid stud and its corresponding plate are each indicated with a red dot. The vacuum chuck turntable has to be placed from above carefully onto the inner turntable in such a way that the indicated bearing parts faces to each other. Turn the vacuum chuck turntable slidely to make sure that the plates are positioned in their respective studs correctly.

An estimation of the vertical movement of the turntable may be done by means of the chip microscope.

If you have to optimize the vertical movement of the turntable without having a special measuring gauge, use the groove microscope for this purpose after mounting it according to chapt. 1.10. Focus this microscope on the metallic surface of the vacuum chuck turntable. Turn the turntable until the next stud is under the microscope and adjust its height by means of a 3 mm Allen key fig. 1.9.1. until the metallic surface of the turntable is again in the microscope focus. Do the same job with the third stud. Then the vacuum chuck turntable will be positioned with its minimal vertical movement.

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GOTHAM AUDIO CORPORATION

ENGINEERING BULLETIN

Bull C

TO: All VMS 80 Owners

FROM: Engineering Department

RE: Additional instructions on the leveling of the turntable; To be added to Chapter 1.9 of the Instruction Manual (P.18)

DATE: 10 November 1980

1. Be sure to note that only two (2) of the three (3) adjustment screws under the turntable may be rotated. One is fixed (red dot) to prevent the total height of the turntable from being changed.
2. The two screws which are to be used for adjustment have been dipped in a viscous, non-hardening lacquer to make fine adjustment easier.
3. DO NOT use the outermost ring of the vacuum chuck turntable as as reference when making the vertical run-out adjustment. This ring is about 0.3 mm lower than all the others and is machined at a different time from the rest.
4. Use the ring which lies directly above the adjustment screws themselves as the reference surface for alignment.

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1.10. Installing the groove microscope

At its mounting arm assembly the lower part of the microscope with its objective is ready assembled. Loosen its transport latching. Insert the upper part of the microscope and fasten it with the three screws provided. Remove and save the white protection plug over the ocular opening, insert the ocular. The lamp of the lighting unit is housed in the mounting arm assembly. Illumination is done by a two-leg light fiber optics. Insert the fiber optic onto the lamp-holder opening, fig. 1.8.1., guide both legs of the fiber optic to the objective and fasten them in the fiber optic holder by means of a 1.5 mm Allen screw each. Fig. 1.10.1.

When loosening the central 1.5 mm Allen screw the objectiv-fiber optics holder may be slided vertically and turned on the objective to obtain an optimum and even groove illumination.

1.11. Installing the chip jar

Behind the carriage bed you will find a circular hole intended for the chip collection jar. The cover of this jar has four openings. At its top there is a double-bended tube for the vacuum pump hose, and a small hole intended for the tube coming from the cutter-head. At the edge of the cover there are tow pipes intended for the vacuum chuck hose and the vacuum meter hose.

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1.12. Installing the TV-monitor (optional)

If the VMS 80 is equipped with the optional TV-monitor, it comes with the following additional parts:

1. Additional TV power supply and TV-signal cables.
2. A phototubus to mount the TV-camera onto the groove microscope.
3. Pivot stand for the TV-monitor fastened at the console cabinet.

Attach the C-mount of the TV-camera to the vertical stud of the microscope phototubus. Connect its cable to the 7-pole DIN pin connector.

Place the TV-monitor onto the pivot stand and connect it to the power supply and to the TV-signal (BNC-plug). This plug may be connected to each of both BNC-receptacles of the monitor. Press the push button with the indication "75 ohms" between both BNC-receptacles. For further informations read the instruction manual of the TV-equipment.

Attention: To prevent the Newicon tube in the TV-camera from burning in do not place for a longer time the microscope over the bright reflecting surface of the turntable, when the microscope light is switched on.