

FUNCTION EXPLANATIONS FOR VMS 80 LATHE

Only functions which are not obvious are explained:

SWITCH PITCH/DEPTH CONTROL TEST

Serves to test pitch and depth control systems. When switched on it blinks a red LED to show that lathe is not in cutting function. In this position the LEAD IN and ADD LAND functions are not triggered automatically. To warn of this fact, the selected diameter button blinks also. Aside from this the phase recognition in the pitch control is disabled (which normally allows snuggling of grooves), so that control is effected only on a peak envelope basis.

Switch DAMPING TEST

Switch for optimizing the dash pot damping of the suspension. When operated its red LED blinks as a warning that normal cutting is not possible. The depth of cut is controlled in such a way that a square wave signal of 2.17 Hz (blinking frequency) is applied to the depth coil so that the suspension switches between a fixed depth of about 2 mils (width) and the adjustable BASIC DEPTH value, allowing observation of the overshoot characteristics of the suspension. The dash pot piston is to be rotated until the overshoot reaches a minimum.

Function of the STOP Button:

If the lathe is in one of the operating conditions (START, FAST, TIME), then these may be terminated at any time by pushing STOP.

Should the cutterhead be located:

- | | |
|-------------------------------|--|
| outside the 14" \emptyset : | Lead screw is stopped. |
| inside the 14" \emptyset : | (Cutterhead down and cutting) lead screw is stopped
and cutter is held down for concentric groove and
then fully raised. |

In such a case a STOP order is transmitted to the tape machine.

Function of the TIME Button:

Can only be activated from the START condition. Activates spiraling function for the time selected on the rotary switch, while TIME button lights. The execution of a TIME function while cutting is indicated by a lit button. Spiraling may be stopped at any time by pushing START.

Rotary switch TIME:

Offers the possibility of selecting duration of spiral between 0.3 and 3.6 seconds. In the last position "Cont.", spiraling is continuous. It is terminated by pushing START.

26. Button CUTTER OFF:

Raises the cutter mechanically and disconnects it from the amplifier. It indicates this condition by lighting.

27. Button CUTTER READY:

Connects the cutterhead electrically to the amplifier even if the cutterhead is mechanically UP. From the position CUTTER DOWN, it is raised to a position just above the lacquer and is thereby ready for electrical dropping.

28. Button CUTTER DOWN:

Lowers the cutterhead to cut as long as the following conditions are met:

- a) The lowering lever of the suspension must be down.
- b) Inside the 14" Ø, the lead screw must additionally be started and the turntable must have reached its selected rpm.

Should one of these conditions not be met, the READY ~~function~~ function is in operation and the CUTTER DOWN button blinks.

29. Potentiometer LAND:

Space between grooves adjustment. The adjusted land width is not influenced by the BASIC DEPTH adjustment.

37. Potentiometer BASIC HEAT:

Adjustment for stylus heat. For testing and adjustment, push the thumb button. To avoid misadjustment, this adjustment must either be made with the carriage at the right end of its travel, or with INCREASED HEAT control turned fully OFF.

38. Potentiometer INCREASED HEAT:

Adjustment for stylus heat increase.

To adjust, run carriage to concentric end groove diameter. Should no radius compensation of heating current be desired, potentiometer must be fully turned off.

39. Instrument HEAT:

Indication of stylus heat current, only operable during cutting and when adjusting (see 37. and 38.).

46. Button ADD LAND:

Triggers increased pitch space for suppression of groove echo. After operation it blinks until pushed again, however maximally for 10 turntable revolutions. It also signals increased lead screw rpm after cutting a TIME groove.

47. Potentiometer ADD LAND:

Adjustment pot for the amount of increased lead screw rpm (see 46.). The increased land is indicated on the instrument LAND. When turned fully counter-clockwise, there is no ADD LAND function either from TIME function or manually from ADD LAND button.

48. Button MICROSCOPE:

Switches microscope light on and lights to indicate this state. After being switched on, the microscope light remains on for 16 minutes. It may be extinguished at any time by pushing the button once again.