

6. MACHINE CONTROL STATION

6.1 SWITCHING UNITS ON THE CONTROL STATION

Fig. 6.1.0 shows the layout of switching units on the control station. For details, refer to the machine tool builder's manual.

6.1.1 MODE SELECT SWITCH

This switch gives the operator a choice among the following eight modes of operation (RAPID, JOG, STEP, HANDLE, TAPE, MDI, MEM, EDT). RAPID, JOG, and HANDLE modes are called manual operation mode, and TAPE, MDI, and MEM, automatic-operation mode in this manual.

RAPID: Allows the tool to traverse rapidly or return to reference zero by manual operation.

JOG: Allows the tool to feed continuously by manual operation. Feedrate is set by JOG FEEDRATE switch.

STEP: Allows the tool to feed manually by step each time JOG pushbutton is depressed.

HANDLE[†]: Allows the tool to feed by operating the manual pulse generator[†].

TAPE: Automatically controls the system from NC tape.

MDI: Allows the operator to insert up to 10 blocks of data through the DATA keyboard and control the system automatically with the data.

MEM: Automatically controls the system with the stored part program.

EDT: Stores the part program into memory and edit the part program.

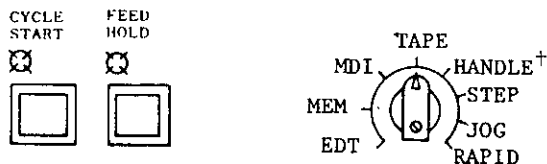


Fig. 6.2

6.1.2 CYCLE START PUSHBUTTON AND LAMP

Depress this pushbutton to start the system in the automatic operation mode (TAPE, MDI and MEM). The CYCLE START indicating lamp lights when automatic operation starts. Depress it again to start the operation after temporary stop by operating FEED HOLD pushbutton or MODE SELECT switch.

6.1.3 FEED HOLD PUSHBUTTON AND LAMP

When the FEED HOLD pushbutton is depressed during automatic operation, the feedrate is decreased immediately and machine motion is stopped. Feedhold is not active during tapping by G84, however, it functions during positioning before tapping. Depressing the FEED HOLD pushbutton during dwell by G04 works on completion of the current block.

If it is depressed while M-, S-, T or B[†]-function without move command is being executed, the FEED HOLD lamp will light, but these functions will be continued until finished. On completion of the function, the lamp goes off and machine operation is stopped. Depress the CYCLE START pushbutton to resume the operation after temporary stop by operating FEED HOLD pushbutton.

FEED HOLD lamp is automatically illuminated when the machine stops temporarily during canned cycles if SINGLE BLOCK switch is set on.

6.1.4 EMERGENCY STOP PUSHBUTTON

Depress this pushbutton to immediately stop all machine movement in an emergency. The servo power is turned off and the machine is stopped immediately by dynamic brake. The NC ALARM lamp lights and alarm code "330" and "310" are displayed.

To recover the system from an emergency stop after the cause has been removed, take the following procedure.

1. Turn the EMERGENCY STOP pushbutton clockwise to release the locking.
2. Depress the RESET key. Alarm code "330" is deleted from page.
3. Turn on the servo power again by depressing POWER ON pushbutton. NC ALARM LAMP is extinguished and READY lamp lights up.

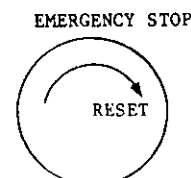


Fig. 6.3