

PLC Includes for X1366M/M4/M6 series profiles

mill_func.h

The mill_func.h features the lift_up as well as the coolant_motor_start code blocks.

lift_up

```
lift_up()
{
    if (proc==plc_proc_spindle) //Lift if spindle was ON
    {
        z1=gvarget(17003); //Use the absolute program coordinates
        timer=10; do{timer--;}while (timer>0);

        z2=gvarget(7020); //Use the lift value
        z2=z2*100; //multiply lift value by 100, since PLC motion commands
operate using 0.01 of chosen unit

        zmax=gvarget(17053)-5; //use Limit Z (in PLC motion command units)
        //(on older software versions which do not have Global Var #17053, can
use #5433*100)
        zmachine=gvarget(17023); //Current machine coordinates
        zmax=zmax-zmachine; //Calculate distance to limit

        if (absolute==0)
        { //If lift in incremental mode, then check if lift does not go above
limit and stop at limit in that case
            if (zmax<z2) {z2=zmax-5;};
            z2=z1+z2;
        }else
        { //same in absolute mode
            zlen=z2-z1;
            if (zmax<zlen)
            {
                z2=z1+zmax;
            };
        };

        z1=z1+10; //add 0,1mm gap

        if (z2>z1) //if lift less than 0,1mm, do not lift at all
        { //position coordinate in given axis in 0.01 units (mm)
            gvarset(7080,speed_z); //set speed
```

```
g0moveA(1,0x4,z2);          //absolute programming; Z axis;
timer=300; do{timer--;}while (timer>0); //wait motion started
//wait motion stopped
do
{ ex=0; code=gvarget(6060);
  if (code==0x4d) {ex=1;};
  if (code==0x57) {ex=1;};
} while(ex==0);
};
};
};
```

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