

When we make letters, we must make sure the feeding length correct.

Once the feeding length is incorrect, we could fix it by adjust the following parameters:

Calc. Encoder Ahead(Pulse)

Encoder Pulse/MM

Calc. Encoder Ahead(Pulse) and Encoder Pulse/MM

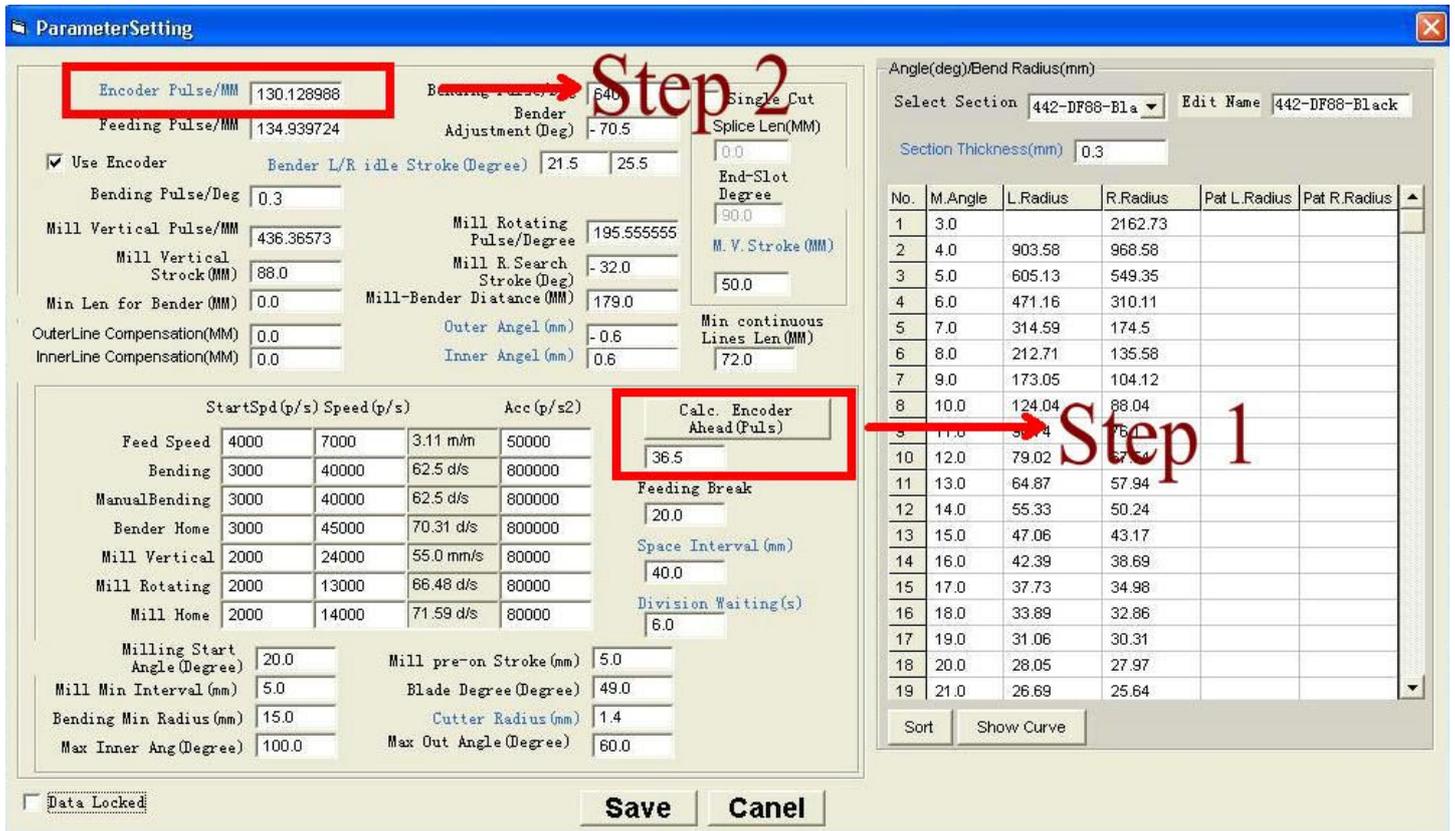
It is the most important parameter to ensure the feeding length correctly.

Before set it, firstly we should make sure fore-end compensation and back-end compensation value as "0", like the pic shows:



Fore-End Compensation(MM)

Back-End Compensation(MM)



The screenshot shows the 'ParameterSetting' window with various parameters. Two red boxes and arrows highlight specific settings:

- Step 2:** A red box highlights the 'Encoder Pulse/MM' field with the value 130.128988. An arrow points from this box to the 'Calc. Encoder Ahead(Puls)' field.
- Step 1:** A red box highlights the 'Calc. Encoder Ahead(Puls)' field with the value 36.5. An arrow points from this box to the 'Encoder Pulse/MM' field.

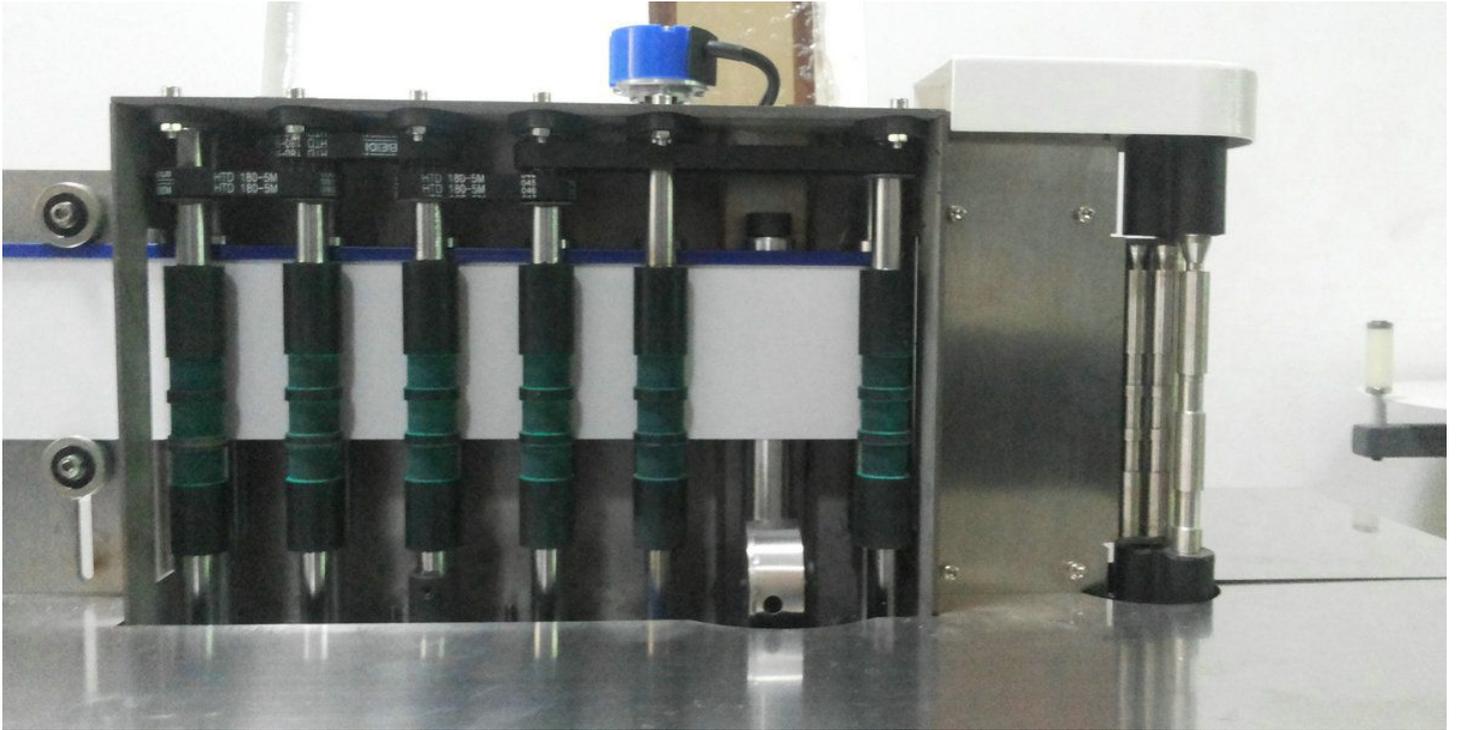
The 'Encoder Pulse/MM' field is set to 130.128988. The 'Calc. Encoder Ahead(Puls)' field is set to 36.5. The 'Feeding Pulse/MM' field is set to 134.939724. The 'Bending Pulse/Deg' field is set to 0.3. The 'Mill Vertical Pulse/MM' field is set to 436.36573. The 'Mill Vertical Stroke (MM)' field is set to 88.0. The 'Min Len for Bender (MM)' field is set to 0.0. The 'OuterLine Compensation(MM)' field is set to 0.0. The 'InnerLine Compensation(MM)' field is set to 0.0. The 'StartSpd(p/s)' field is set to 4000. The 'Speed(p/s)' field is set to 7000. The 'Acc(p/s2)' field is set to 3.11 m/m. The '50000' field is set to 50000. The 'Feeding Break' field is set to 20.0. The 'Space Interval (mm)' field is set to 40.0. The 'Division Waiting(s)' field is set to 6.0. The 'Milling Start Angle (Degree)' field is set to 20.0. The 'Mill pre-on Stroke (mm)' field is set to 5.0. The 'Mill Min Interval (mm)' field is set to 5.0. The 'Blade Degree (Degree)' field is set to 49.0. The 'Bending Min Radius (mm)' field is set to 15.0. The 'Cutter Radius (mm)' field is set to 1.4. The 'Max Inner Ang (Degree)' field is set to 100.0. The 'Max Out Angle (Degree)' field is set to 60.0. The 'Angle(deg)/Bend Radius(mm)' table is shown on the right side of the window.

| No. | M.Angle | L.Radius | R.Radius | Pat L.Radius | Pat R.Radius |
|-----|---------|----------|----------|--------------|--------------|
| 1 | 3.0 | | 2162.73 | | |
| 2 | 4.0 | 903.58 | 968.58 | | |
| 3 | 5.0 | 605.13 | 549.35 | | |
| 4 | 6.0 | 471.16 | 310.11 | | |
| 5 | 7.0 | 314.59 | 174.5 | | |
| 6 | 8.0 | 212.71 | 135.58 | | |
| 7 | 9.0 | 173.05 | 104.12 | | |
| 8 | 10.0 | 124.04 | 88.04 | | |
| 9 | 11.0 | 87.74 | 76.11 | | |
| 10 | 12.0 | 79.02 | 67.11 | | |
| 11 | 13.0 | 64.87 | 57.94 | | |
| 12 | 14.0 | 55.33 | 50.24 | | |
| 13 | 15.0 | 47.06 | 43.17 | | |
| 14 | 16.0 | 42.39 | 38.69 | | |
| 15 | 17.0 | 37.73 | 34.98 | | |
| 16 | 18.0 | 33.89 | 32.86 | | |
| 17 | 19.0 | 31.06 | 30.31 | | |
| 18 | 20.0 | 28.05 | 27.97 | | |
| 19 | 21.0 | 26.69 | 25.64 | | |

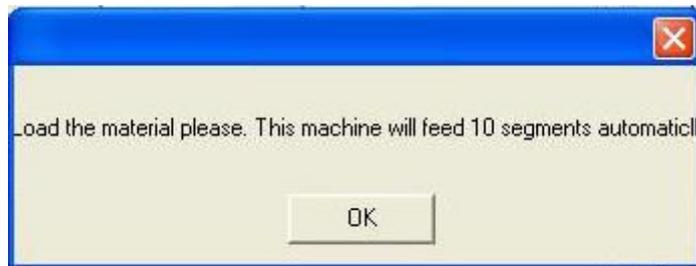
We set the parameter **Calc. Encoder Ahead(Pulse)** and **Encoder Pulse/MM** together as the following steps:

STEP 1--Calc. Encoder Ahead(Pulse):

1) Feed the material at the starting place, the following pic showed the starting place of the material should be:



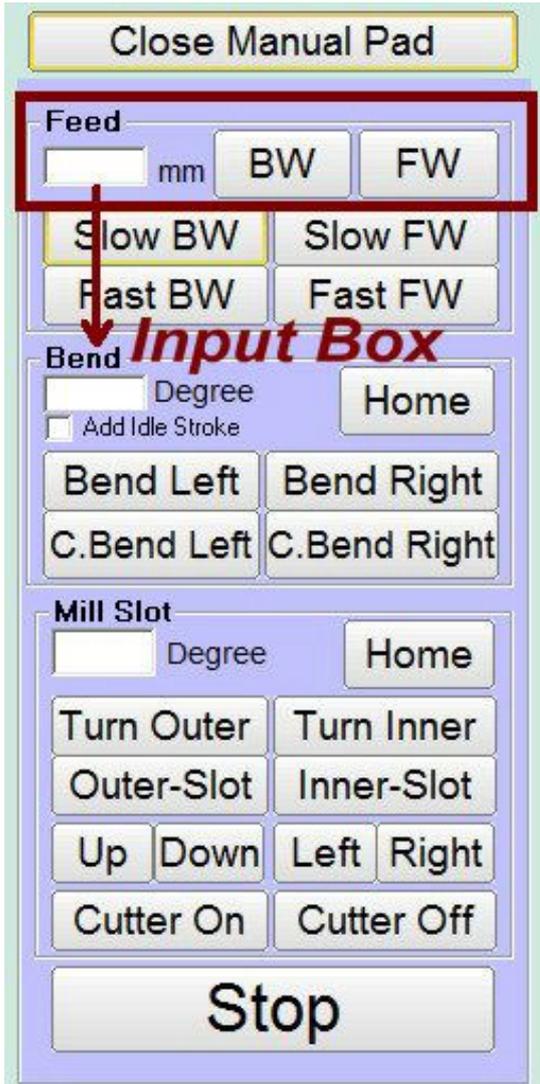
2) Open the settings, click **Calc. Encoder Ahead(Pulse)** . There will be the following Dialog Box pop-up.



Click OK. The material will feed 10 times automatically. Once the material stops, A new **Calc. Encoder Ahead(Pulse)** parameter will be generated automatically.

3) Click Save to save the new generated **Calc. Encoder Ahead(Pulse)** parameter.

STEP 2-- Encoder Pulse/MM



- 1) Feed the Material at the stating place or just leave the material at where the material stopped in the last step. Mark a line with a knife along the whole material width as the testing start line.
- 2) Come to the Manual Pad, input 1000 or 500(mm) into the Input Box as the testing value. Here we take 1000 or 500 as the **Input feeding length**.
- 3) Click **FW**, the material will feed forward. Mark another line at the same place with the knife along the whole material width as the testing stop line when the material stops.
- 4) Feed the material out of the machine, find a ruler to measure the length between the testing start line and testing stop line. Check out the length is 1000 or not. If not, keep the record of the actual feeding length. Here we assume **999mm as the actual feeding length**. Apparently, it is coming shorter 1 mm than the length of 1000mm we wanted. In this case, we should reset the **Encoder Pulse/MM** as the following mathematical formula:

$$\begin{aligned}
 & \frac{\text{Encoder Ahead(Pulse)} \times \text{Input feeding length}}{\text{Actual feeding length}} \\
 & = \frac{130.831281(\text{Original Encoder Ahead(Pulse)}) \times 1000}{999} \\
 & = 130.962243243 \\
 & \approx 130.962243
 \end{aligned}$$

- 5) Input 130.962243 to replace the **Original Encoder Ahead(Pulse)**.

6) Retest the feeding length as the order from 1) to 6). Usually, it will take 2-3 times, a correct **Encoder Pulse/MM** parameter could be done.

When should we reset the Calc. Encoder Ahead(Pulse) and Encoder Pulse/MM?

When you load a different material from the material you used previously. Especially, when the material has big difference from thickness, hardness and elasticity.