

# Service Dept Procedure

## CF-8 Calibration

Using CF8/15 Setup & Alignment Kit (P/N 821-1-115)

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## 1 - Inspect & Replace Worn Parts

Prior to calibrating the CF-8, inspect the following items to be sure they are in good working condition. Replace parts as needed.

- Wire Clamp Inserts
- Spring Plungers
- Transport Wheels
- Infeed Chute Guide Blades
- Knife Holders

## 2 - Install & Align Stations, Dies, & Transport Wheels

Using the CF8/15 Setup & Alignment Kit (P/N 821-1-115), make the following adjustments and alignments. If you do not have this kit, make all alignments manually.

**IMPORTANT:** All alignments must be accurate before proceeding to the calibration procedural steps.

1. Install .040 Horizontal Dies in Station 6 & 7.
2. Install Secondary Cutting Dies in Station 4 & 5.
3. Manually adjust die station 6 & 7 to 00195.
4. Manually adjust die station 4 & 5 to 00450.
5. Manually adjust cut station 2 & 3 to 650 on graduated scale.
6. Manually adjust Station 1 for body length. To prevent component tipping, the tips of the guide blades should be set up using GPD Procedure # CF8GB.120.
7. Install transport wheel system.

## 3 - Calibration

When calibrating forming equipment, use a molded 1/4 watt resistor to determine which side of the equipment needs to be adjusted.

**NOTE:** Maintain the resistor in an unchanging orientation throughout the procedure.

## Calibrate Station 6 & 7

1. Run enough components through the machine to fill up the Transport Wheel twice (2 times).
2. Measure the inside dimension of the formed component. If the measurement is .470, skip to [Step 3](#). If the measurement is not .470:
  - a. Subtract the dimension from .470. Using the absolute value, divide this number by 2 for an x value.
  - b. Adjust stations 6 & 7 by the x value. If the measurement is greater than .470, adjust inward; if less than .470, adjust outward.
  - c. Repeat the above process until the measurement is .470 ±.002.
  - d. Run the count stations to the furthest position out, then back to ensure the adjusted position is true.
3. Measure the distance from the inside of the lead to the edge of the component body. If this measurement is equal on both side, skip to [Calibrate Station 4 & 5](#) (pg 2). If the measurements are unequal:
  - a. Subtract the smaller dimension from the larger. Divide by 2 for an x value. Adjust the greater difference inward toward the component body. If the measurement is smaller, adjust outward by the same x value.
  - b. Repeat the above process until the measurement is within .002".
  - c. Recheck the overall inside measurement for .470. If it is not .470, repeat the above process beginning with [Step 1 \(pg 2\)](#).
  - d. Carefully remove the counter box **WITHOUT moving the die stations**. Reset the counter boxes to 00195. Carefully reinstall the counter box.
  - e. Remove .040 horizontal dies from stations 6 & 7.

## Calibrate Station 4 & 5

1. Run several components through the machine, removing them from the transport wheel prior to forming.
2. Measure the overall length of the components. If this dimension is 1.000, skip to [Step 3](#). If the dimension is not 1.000:
  - a. Subtract the dimension from 1.000, divide the difference by 2 for an x value. If the dimension is greater than 1, adjust the station inward by x value. IF the dimension is smaller than 1, adjust the station outward by x value.
  - b. Repeat the above process until the overall measurement is 1.000.
3. Measure from the end of the component lead to the edge of the component body. If the dimensions are the same, skip to [Calibrate Station 2 & 3](#) (pg 3). If the dimensions are unequal:
  - a. Subtract the smaller dimension from the larger and then divide by 2 for an x value. Adjust the station with the greater dimen-

- sion inward toward the component body by the x value. Adjust the station with the smaller dimension outward by the x value.
- b. Repeat the above process until both sides are equal.
  - c. Recheck your overall 1.000 dimensions. As needed, repeat calibration beginning with [Step 1 \(pg 2\)](#) until the overall dimension is 1.000.
  - d. Carefully remove the counter box.

**NOTE:** DO NOT move the die stations.

- e. Reset each counter box to 00450. Carefully reinstall the counter box.
- f. Remove the secondary cutting dies from station 4 & 5.

### Calibrate Station 2 & 3

1. Manually rotate the machine while feeding in one component.
2. Just before the component enters the cutting blades, manually adjust station 1 to the component body.
3. Turn the machine on and run the component through the machine.
4. Check the component to ensure no bending occurs during the cutting procedure:
  - a. Measure the length of the component body. Note the dimension as station 1.

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- b. Measure from the end of the component lead cut by station 2 to the component body edge. Add the dimension to half (1/2) the body length as station 2.

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- c. Perform [Step b](#) for the lead cut by station 3.

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## 4 - Set Transport Wheels

Tools Needed:

- GPD Timing Tool
- Dial Indicator and Stand
- Allen Wrench

### Adjust Transport Wheels

1. Remove screws from transport wheel holder and disassemble both wheels.

2. Using a surface plate, check the flatness of the wheel holders. If one or both wheels are not flat, replace both wheels. Smooth out the surface using a mild abrasive.
3. Smooth out the surface of the hub. On the surface plate, check the flatness using a dial indicator. If it is not within 5.0 on the indicator, you may bead blast it, and then recheck it. The surface may also be filed with a flat file.
4. With the wheel turning clockwise, the outside bend of the wheel should be toward the hub. Both red dots on the hub should be facing you. The red arrow on the wheel and red dot on the hub should line up with each other.
5. Place the wheel on the hub. Place the plate on the wheel. The center hole of the wheel should slide easily around the shaft of the hub. If it does not, use fine grit sandpaper to smooth out the inner edge.
6. Place all six (6) screws in and hand tighten.
7. Using the customer's shaft and GPD timing tool, place the hub on the shaft, line up a notch on the wheel shim with the point of the timing tool. Hold centered and tighten screws.
8. On the second wheel, the red dot on the hub should face you. Line up the red dot with the red arrow on the wheel.

**NOTE:** You may use the first wheel to set the timing of the second wheel by lining up the notches on both wheels and adjusting until notches are even.

## Tweak Transport Wheels

**NOTE:** All new or replaced transport wheels should be checked for a proper indicator reading prior to (re)assembly.

1. Use a clean, flat surface plate and wheel fixture for this procedure.
2. Place wheel on tweaking fixture matching the red dots. While depressing the shim to avoid hitting the indicator needle, the wheel fixture rod should stop at the back of the indicator stand.

To get an accurate reading, the indicator should be positioned close to a notch on the shim.

**NOTE:** The indicator reading should be  $.300 \pm .003$ .

- If the reading is above .303, bend the wheel shim down and retake reading.
  - If reading is under .297, bend the wheel shim up and retake reading.
3. Once all wheel shims have been set, reread all settings to ensure none have settled out of specification.