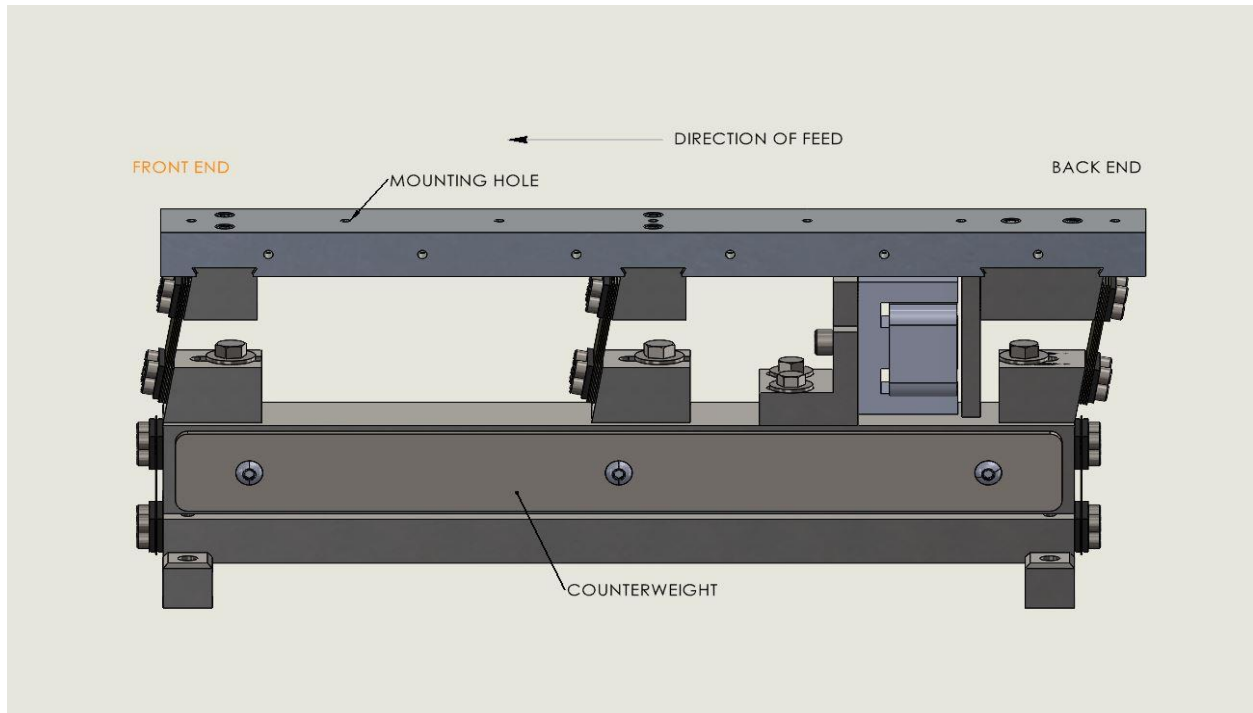


# Automation Devices Inc.

## MODEL 5400 IN-LINE FEEDER INSTRUCTIONS



### Description

The Model 5400 Series In-Line Feeders are designed to convey oriented parts in a linear motion along specially designed tracks tailored for specific components. These feeders are intended for direct mounting to a machine base and do not require rubber mounting feet.

### Pre-Tuning Installation Requirements

Before proceeding with the tuning process, ensure the following installation criteria are met:

#### 1. Track Length and Overhang Limits

- Maximum overall track length: **34 inches**
- Maximum front overhang (discharge end): **10 inches**
- Maximum rear overhang (pickup end): **4 inches**
- Maximum weight: 15 pounds

Exceeding these limits may negatively impact system performance and stability.

#### 2. Mounting Surface Guidelines

- Mount the drive to a **rigid, vibration-resistant steel surface**. The surface must not absorb or interfere with vibratory motion.
- If height adjustment is required, use a **solid steel riser** to maintain structural integrity and vibration efficiency.

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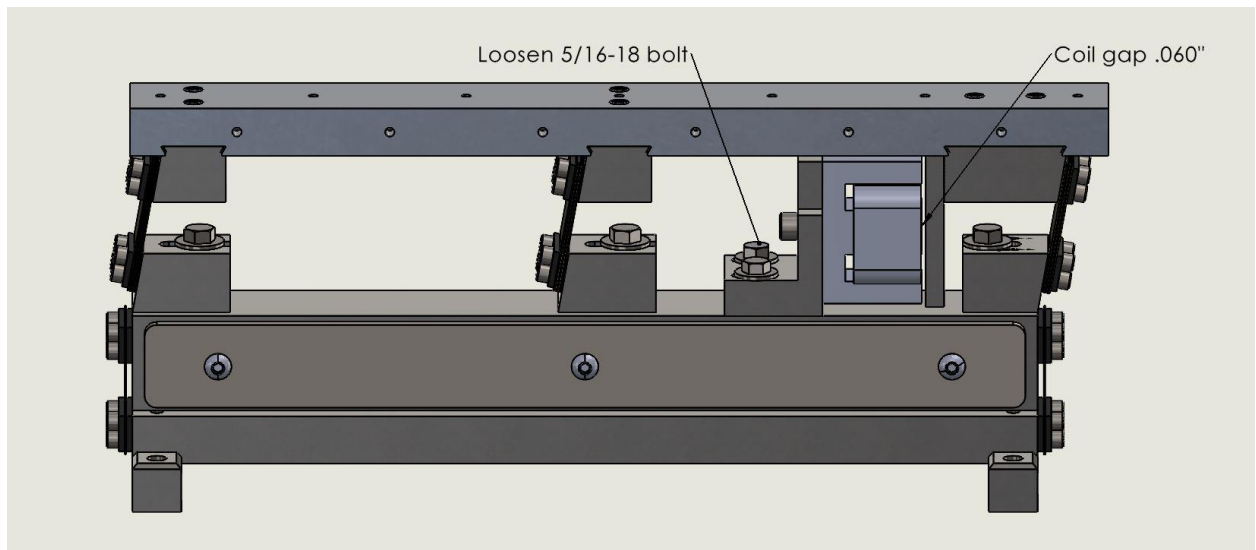
- **Note:** Custom steel stands meeting these specifications are available from Automation Devices, Inc. (ADI).

### Tuning

#### Step 1

##### Coil Gap Adjustment

1. Loosen both 5/16-18 bolts to allow movement of the coil.
2. Using feeler gauges, set the coil gap to 0.060 inches.
3. Once the desired gap is achieved, securely tighten both bolts.



##### **Note:**

The coil gap may require further adjustment during the tuning process. The objective is to position the coil as close to the armature as possible without causing contact or "hammering."

#### Step 2

##### Pulse Setting

Determine whether a 60 pulses-per-second (pps) or 120 pps setting is appropriate for your application:

- **60 pps:** Easier to tune and typically requires fewer springs.
- **120 pps:** Requires more springs and is more difficult to tune, but provides a smoother feed, which helps prevent thin parts from overlapping (shingling).

Set the vibratory feeder controller to the selected pulse rate.

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### Step 3

#### Determining the Number of Springs

If the weight (in ounces) and length of the inline track are known at the time of ordering, ADI will configure the drive unit with the appropriate spring setup. If this information is unavailable, follow the steps below to determine the correct number of springs:

##### 1. Setup

- Mount the inline track to the stand or final surface where the drive will operate.
- Load the track with a normal quantity of parts.
- Ensure all 10-24 screws are torqued to 66 inch pounds before tuning.

##### 2. Under-Sprung Condition

- Turn the drive ON.
- If the parts **do not move at all**, the system is **under-sprung**.
- **Correction:**
  - Add **one spring** to the **rear upper spring bank**.
  - Continue adding springs **one at a time** to each upper spring bank until part movement begins.
  - Ensure the number of springs in each upper bank remains within **one spring** of each other.

##### 3. Over-Sprung Condition

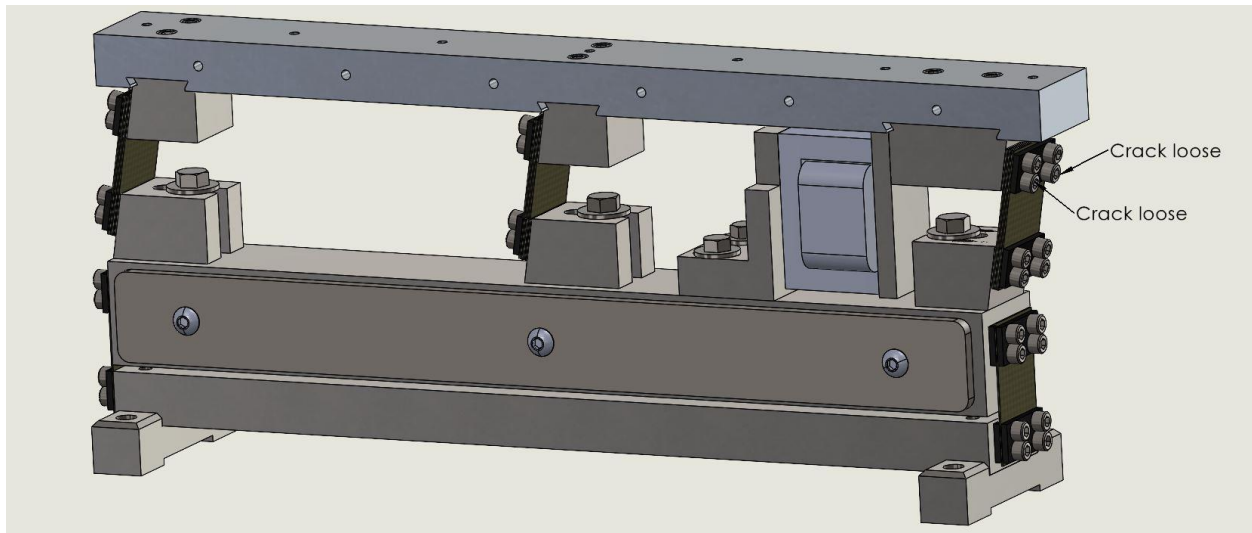
- If the parts **bounce in place** or **move backward**, the system is **over-sprung**.
- **Correction:**
  - Slightly loosen (crack loose) the **two screws** on the **rear upper spring bank**.
  - If forward movement does not occur, **remove one spring** from the **front upper spring bank**.
  - Maintain balance by keeping spring count within **one spring** between upper banks.

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### 4. Note on Lower Spring Banks

- **Do not adjust the lower spring banks** during standard tuning.
- **Exception:** If the track is near the **upper weight limit** of the drive, adding **one spring to the front lower spring bank** may assist with part movement toward the end of the track.



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