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Model 5200A Inline Feeder Instructions

INTRODUCTION

Inline feeders manufactured before February of 1992 were factory tuned for a specific track weight which is also referred to as the load rating. The standard load ratings were 8, 12, and 16 ounces. Field adjustments were not practical. Changing the track weight required both the track and inline to be returned to the factory for retuning. A method for adjusting (or tuning) the inline feeder in the field was developed which allows the user to tune the unit for different tracks and weights. The full range of adjustment is achieved as the adjusting screw slides up the $\frac{3}{4}$ inch long slot in the outer spring on the backside of the Model 5200A Inline.

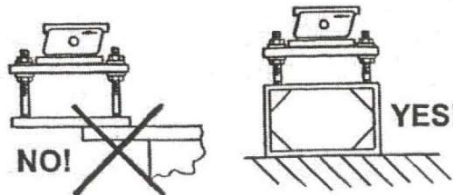
DESCRIPTION

The Model 5200A Inline Feeder is designed so that it is possible to add the weight of the track to the top or action mass and this will in most cases, bring the centers of gravity very close together. The track should have its center of gravity as close to the midpoint of the top of the Inline Feeder as possible for optimum results.

INLINE MOUNTING & INSTALLATION

The Model 5200A should be rigidly attached to the mounting surface using for #8 (or equivalent) screws through the holes in each corner of the base, or with four 8-32 screws from the underside of the mounting surface. Never mount

an Inline feeder on an overhanging plate. Heavy tracks swinging .050 inches in each direction need a solid mounting base. Typical Inline applications require that they be elevated to bring the track up to the level of the discharge of the vibratory feeder. See below.



Inlines are tuned *without* rubber feet unless specified at the time of ordering. However, some applications may require rubber feet. If any form of rubber mount will be used, the Inline may have to be retuned.

***Please consult the factory to discuss any difficult parts feeding problems (oily or glass parts) or any other abnormal parts feeding conditions (track weight or length).*

LOAD RATING

The Load Rating is the total weight of all components including hardware that will be

placed on the top of the Inline (i.e. the track, shim stock, screws, washers, etc.). The Model 5200A has a minimum practical load rating of 8 ounces and a maximum limit of 16 ounces (1 pound). **Note: The weight of the parts you are feeding do not add to the Load Rating.**

The figure you give should not be off more than 5%. A unit tuned for a 16 ounce load rating will exhibit very little part movement when trying to vibrate a 16.8-ounce track. If the track weighs only 15 $\frac{1}{2}$ ounces, add weight to move it closer to the 16 ounce rating.

OPERATION

The Model 5200A Inline Feeder will operate on 60 Hz standard line current; however, units may be ordered for 50 Hz operation. Units are manufactured for 120 VAC and 240 VAC power sources and must be specified when ordered. The Inline will operate continuously at the full rated voltage; however, ADI manufactures a Model 6000 Series controller which when set for AC operation (7200 vibrations per minute), will provide an adjustable AC output to control the vibration amplitude of the Model 5200A Inline Feeder.

TUNING AND ADJUSTING

Refer to the drawing below as you follow these steps to adjust the Model 5200A Inline:

1. After mounting the track to the Inline, secure the Inline to the table.

2. Make sure the Adjustment Screw (P/N 8416) is both tight and centered in the slot of the Long Spring (P/N 5243B).

3. Turn the controller on and set the dial for maximum output (the controller must be set for 120 Pulse).

4. For heavy loads, loosen the Adjustment Screw and slide it upward in 1/16 inch increments, stopping after each changed to tighten the Adjustment Screw. While doing this, observe the part movement in the track.

5. Using the same procedure, slide the Adjustment Screw downward for light loads.

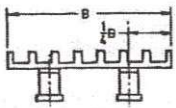
6. When maximum feed rate has been reached, further adjustment will result in a decrease of feed rate. Return the Adjustment Screw to its previous position and carefully tighten it.

NOTE: Do not over tighten the ADJUSTMENT SCREW since excessive torque will damage the LONG SPRING.

TRACK DESIGN

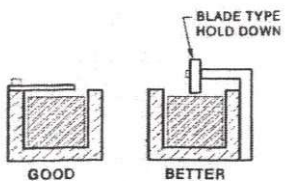
The maximum length of the track should not exceed 10 inches. The track should be centered over the Inline with no more than three inches of overhand at either end.

If you use 1/8 inch thick material on gravity tracks, you may want to use 3/16 inch thick material for the sides of the Inline tracks. **Note:** Any material that lies directly on top of the Inline (shims, risers, etc.) can be of thinner stock. If you need a thicker riser, use light-weight material.

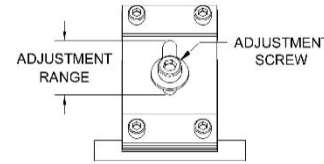


Covers may be required to assist in maintaining the

orientation of parts that are being conveyed via Inline Feeders. Care should be taken not to restrict part movement.



Remember that the track is, in fact, moving up and down under vibration. The clearance between the underside of the cover and the top of a part is critical with regard to the forward movement of the part under vibration. It is also worthy of note to minimize the area that the covers occupy in the event that a bent part would need to be removed from the track. Where practical, designs using a round rod or thin blade are less restrictive to the forward motion of parts while still assisting with maintaining part orientation.



MOUNTING THE TRACK

Four #8-32 mounting holes in the top mounting plate fasten to the track. The track should be sufficiently rigid so that any overhanging portion does not flex and defeat the feeding action of the Inline Feeder. The track should have its center of gravity as close to the midpoint of the top of the Inline Feeder as possible for optimum results. Avoid excessive track overhang. No more than 1/4 of the track should overhang either end of the Inline's top casting.

Long Tracks - This drawing illustrates the preferred location of two Inlines, in series or tandem, that power a long track. We recommend to split the track whenever possible.

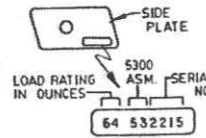
Wide Tracks – Two Inlines in parallel, or side-by-side, are the solution when the track is *short but very wide*.

Auxiliary Spring Assemblies are another option when dealing with long tracks. This springing method uses only one Inline Feeder.

TROUBLESHOOTING AFTER INSTALLATION

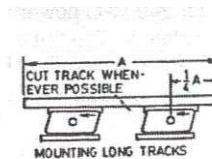
Find out what differences exist from how the Inline feeder was tested at ADI versus the way the Inline is set up at your facility.

- Does the unit make any noise...a slight hum? Check your power source up to the connection to the Inline's coil.
- Does the weight of your track and mounting hardware match the load rating stamped on the Inline's side plate?
- Are you using the correct controller? Is it set to 120 Pulse?
- Are the track mounting screws *too long* and restricting the movement of the reaction mass inside the Inline?
- Is there enough clearance between the Inline track and the parts feeder's discharge? What about between the track and the device receiving the Inline's parts?



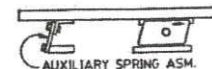
REPAIR PARTS

Replacement parts are listed in the exploded view shown for the 5200A. When placing a parts order, please provide the operating voltage and the serial number of each Inline feeder.



SOLENOID TO ARMATURE GAP ADJUSTMENT

After a feeder's springing has been adjusted, a higher amplitude of vibration may cause the



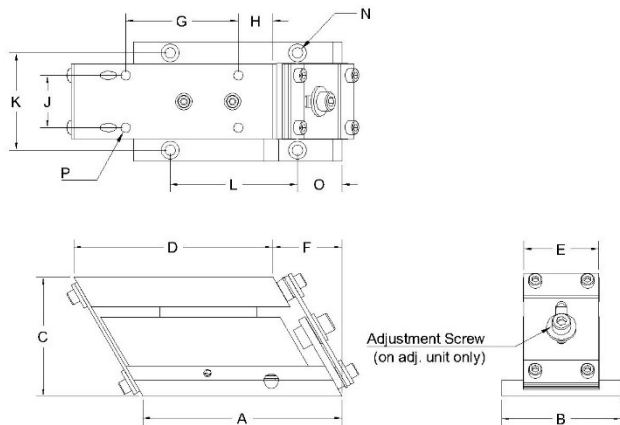
laminations of the feeder's solenoid (Part Number 5211) to begin hammering or striking, on the armature plate. (Part Number 5216). When this occurs, you can hear the noise emitted from the Inline. *Another common cause of this hammering is a line voltage increase at your plant.*

Determine the present gap before making the adjustment to the 5200A. Loosen or tighten evenly the two #6-32 bolts on top holding the armature in position until the desired gap is attained between the armature and coil.

The Model 5200A should have a coil gap of .018 inches.

If you have a relatively constant line voltage supply, then increasing the size of the solenoid/armature gap will decrease the feeder's amplitude. Conversely, decreasing the size of the gap will increase the feeder's amplitude.

Model 5200A Dimension



A	B	C	D	E	F	G	H
3 ¹¹ / ₃₂	2	2	3 ¹¹ / ₃₂	1 ¹ / ₄	1 ⁵ / ₃₂	1 ⁷ / ₈	1 ¹⁹ / ₃₂
J	K	L	N Holes	O	P Holes	Shipping Weight	
⁷ / ₈	1 ⁵ / ₈	2 ¹ / ₈	³ / ₁₆	³ / ₄	#8-32 (4 holes)	2 pounds	