



Choosing the appropriate auger size

Miller Curbilders can be equipped with one of four (4) different extrusion auger assembly sizes. These sizes are 5", 6", 8", and 10".

Each auger assembly works best with a particular range of curb sizes. Auger assemblies can be mounted on the left side or the right side of the machine. This will be determined by the required direction of Curbilder travel on the jobsite. Auger assemblies are interchangeable between all Miller Curbilder models, EXCEPT, 10" AUGER ASSEMBLY IS AVAILABLE FOR MODEL MC-850 ONLY.

Auger assemblies can be provided as "HOLLOW" assemblies allowing the insertion of 3/8" (#3) reinforcing rod into the curb during the extrusion process, or as "SOLID" assemblies for curbing without rebar.

Unless otherwise specified, machines are equipped with the standard 6" solid auger assembly, and the auger assembly and curb form are assembled for left side extrusion. The machine's left or right side is determined by standing at the end of the machine where the curbform is attached and looking at the open end of the curb form.

The square inch area and height of a curb form design are to a large degree, but not solely, what determines which auger assembly size is correct for any given curb form. The following example will help you determine the square inch area of a curb form.

For instance, a curb 6" wide at the base, 4" high with a 1" batter (slope), and a 5" wide top has an area of 22 square inches.

From the 24 square inches, the area of the batter, or slope, on each side must be subtracted to arrive at the actual area of the curb. In the example given, the 1" batter, 4" high is an area of 2 square inches. Therefore, 24 square inches minus 2 square inches equals 22 square inches. Because this curb has an area of 22 square inches, and is not less than 4" high, the recommended auger assembly would be a 5" auger assembly.

The relationship between the curb size and the auger size is critical and is one that must be given careful consideration when attempting to match a particular curb with the correct auger assembly.

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IMPROPER SIZING CAN CAUSE EXCESSIVE COMPONENT WEAR AND REDUCED LIFE, POOR MACHINE PERFORMANCE OR COMPLETE FAILURE TO OPERATE.

The following chart is a GENERAL GUIDE to choose the correct auger size for your curb form requirements. Always consult the factory for curb form and auger size recommendations. Some curb form shapes may require deviation from this chart.

Auger Size	Min Sq Inch Area	Max Sq Inch Area	Min Height	Max Height	Min Width	Max Width
5"	18	32	3 1/2"	6"	5"	9"
6"	33	55	4"	10"	6"	14"
8"	56	119	6"	18"	8"	18"
10"	120	220	8"	18"	10"	18"

The most common mistake in sizing curb sections to auger sizes is choosing a curb shape, which is too small for a particular auger. For example, the previously mentioned curb with an area of 22 square inches would work well with a 5" diameter auger assembly, but would most likely not work at all with a 6" diameter assembly.

The amount of material discharged by the 6" diameter auger into the curb mold would be so great in relation to the curb size that the mold would not be able to discharge or extrude the material fast enough. In effect, the mold becomes a "BOTTLENECK." As a result, excessive pressure would be created inside the form. When the density of the material in the curb form reached the point where it could be compacted no further, the excessive pressure in the form would be transmitted back through the drive train, causing repeated disengagement of the safety torque arm, or shear bolt breakage. To avoid the problem, the auger size must be reduced or the curb form size increased. *Do not adjust the safety torque arm beyond factory specifications.* Doing so will subject all drive train components to excessive load, causing premature wear or failure.

The second problem in sizing curb sections to auger sizes is choosing a form that is too large for a particular auger. Undersizing the auger in this manner will not cause problems as severe as oversizing, but will affect machine performance. If the curb form is only slightly larger than the recommended range, the form should still operate satisfactorily, although production will be slow. For instance, the upper recommended range for the 6" diameter auger is 55 square inches of area.

It is possible to add 5-10% to the recommended upper limit for any given auger size and still extrude satisfactorily. For a 6" auger assembly, the maximum area would be 60-65 square inches, if the job is small and the production rate is not important. Forms, which are larger than 5-10% above the recommended upper limit, will affect machine performance more drastically. An undersized auger may discharge enough material to propel the machine, but it will be incapable of achieving adequate density of the curb. The result will be a loose curb with voids, which may not stand. In the most severe cases of undersizing the auger, the auger will not discharge enough material to propel the machine. This can be corrected by either increasing the auger size or by reducing the curb form area.