GatorStitch can be bent successfully to a radius as small as 10". A successful bend is one that maintains the stapling channel opening between the allowable tolerances of .300 and .260 inches. When the stapling channel opens beyond .300 in. the pvc ZipStrip® that covers the channel will have a tendency to fall out of the channel over time. When the stapling channel closes to less than .260 in. the pvc ZipStrip® will be too large for the opening and therefore becomes difficult to insert into the channel. Additionally, when the channel closes to less than .260 it also becomes difficult to insert the stapling tool completely into the channel.

At this time, GatorStitch™ bend tests have involved bending GatorStitch™ using the Steel Stitch PRB-3000. The Steel Stitch PRB-3000 is fundamentally the same as most roller benders used in the industry. It has three in-line roller wheels (two "drive wheels" and one "idler wheel") through which tubing is fed. The center idler wheel adjusts to determine the radius of the bend (see Figure 1).

Bend testing GatorStitch™ with the PRB-3000 has shown that a combination of technique and modification to the standard bender wheels allows GatorStitch™ to be bent to a radius as small as 10" while maintaining the allowable stapling channel dimensions.

Modified Bending Wheels General Information
Two types of modifications can be made to bender wheels to reduce either channel opening or channel closure. **To reduce channel opening** we recommend a center idler wheel that is machined with chamfers on each side of the bottom of the wheel grooves (see Figure 2). These chamfers should be sized per Figure 2 to match the dimensions of the chamfers on each corner of the GatorStitch™. Idler wheels without these chamfers flatten the side of the GatorStitch™ that rides against the base of the wheel groove during bending. As this flattening occurs, the GatorStitch™ stapling channel is forced open. Idler wheels with the chamfers provide adequate support to the GatorStitch™ chamfers and thus reduce the opening forces at the stapling channel.

To reduce channel closure we recommend the two outer drive wheels be fitted with a *split* collar (see Figure 3) that rides inside the stapling channel during bending. The split feature to the collars allows quick installation when needed for GatorStitch™ bends. The collars can then be quickly removed for bending of other metal. The presence of the collars prevents the GatorStitch™ stapling channel from closing while under bending stress.

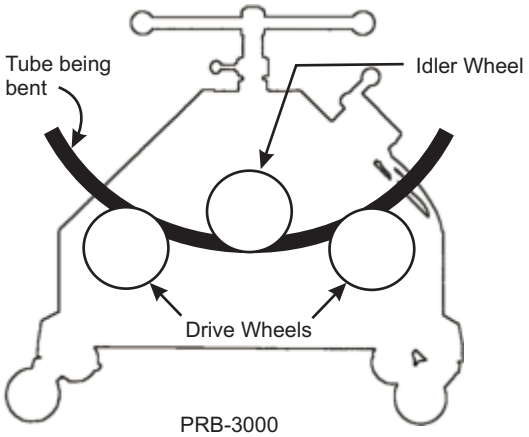
Modified Wheels for the PRB-3000
Fabricators who own a PRB-3000 bender can obtain both the chamfered idler wheel and the collar set through their GatorStitch™ distributor. The complete PRB-3000 bender including the chamfered idler wheel and the collar set can also be purchased from your GatorStitch™ distributor. Please contact your nearest distributor for pricing and availability.

Modified Wheels for Other Benders
There are basically two ways to set up a non PRB-3000 bender with the modified wheels and collars.

1. Have the parts required machined by your local machine shop to the specification shown in Figures 1 and 2. You will need an idler wheel that is identical to your current idler wheel with the exception of the machined chamfers shown in Figure 2. You will also need two collars (one for each drive wheel) per the specifications in Figure 3.
2. Obtain the idler wheel and collars from Steel Stitch. This requires that you provide Steel Stitch with the specifications for the idler wheel on your machine as well as the "diameter" dimension in Figure 3. Please contact your GatorStitch™ distributor for prices on these items. Lead times: 2-3 weeks.

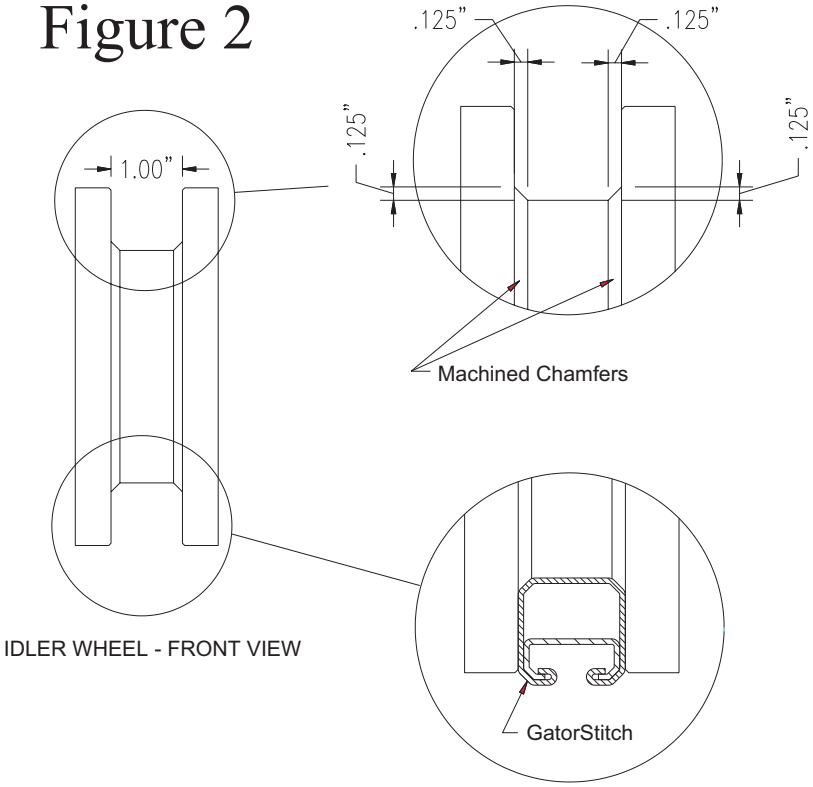
Bending Technique
Our tests have shown that the stapling channel of GatorStitch™ opens during the first bending pass through a roller bender. Then on subsequent passes the stapling channel closes. As such, if the stapling channel is opening beyond tolerance, we recommend that the bend be made using multiple passes through the roller bender. Usually three passes are optimal. Note, that multiple passes are usually not required for bends made on PRB-3000 machines fitted with chamfered idler wheels and collars on the drive wheels. Steel Stitch has successfully bent radii as small as 12" in one pass through the modified PRB-3000.

Figure 1



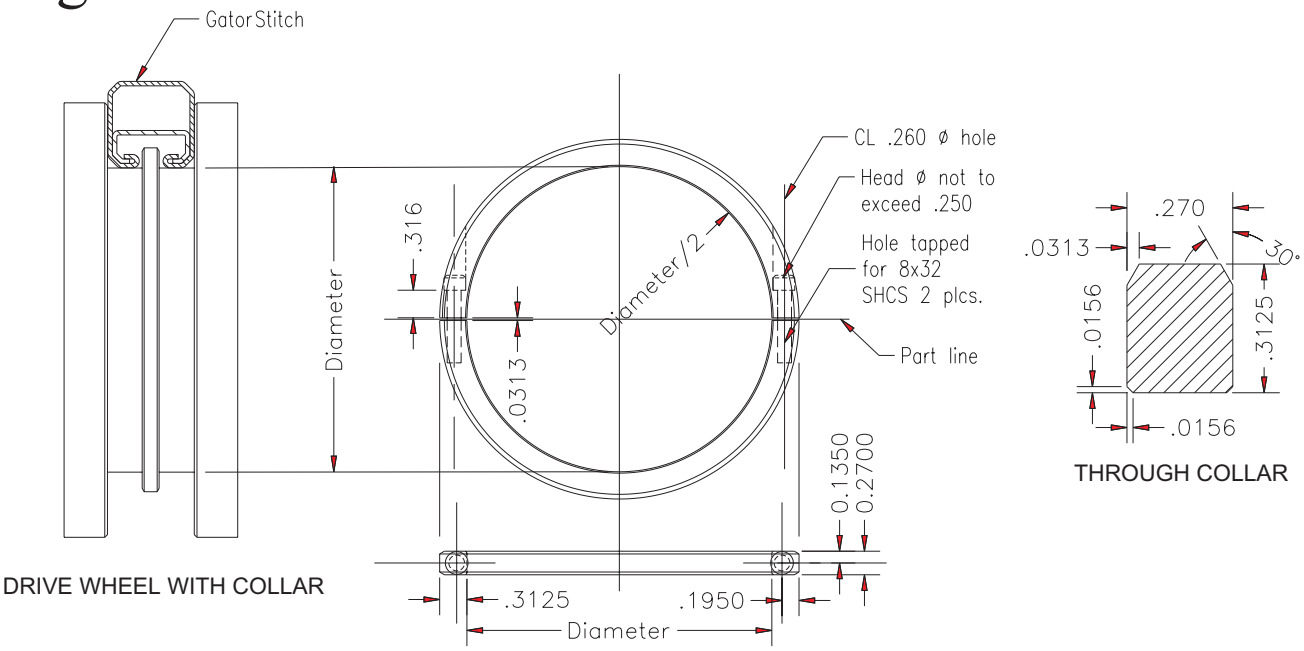
PRB-3000

Figure 2



IDLER WHEEL - FRONT VIEW

Figure 3



DRIVE WHEEL WITH COLLAR

THROUGH COLLAR

DRIVE WHEEL SPLIT COLLAR

GATORSTITCH™
A STEEL STITCH™ STAPLE-IN FRAMING SYSTEM