

Vmx Vacuum Mandrel System™

U.S. Patent #7,344,674

Vmx TLSO Mandrel™

Instructions for Use



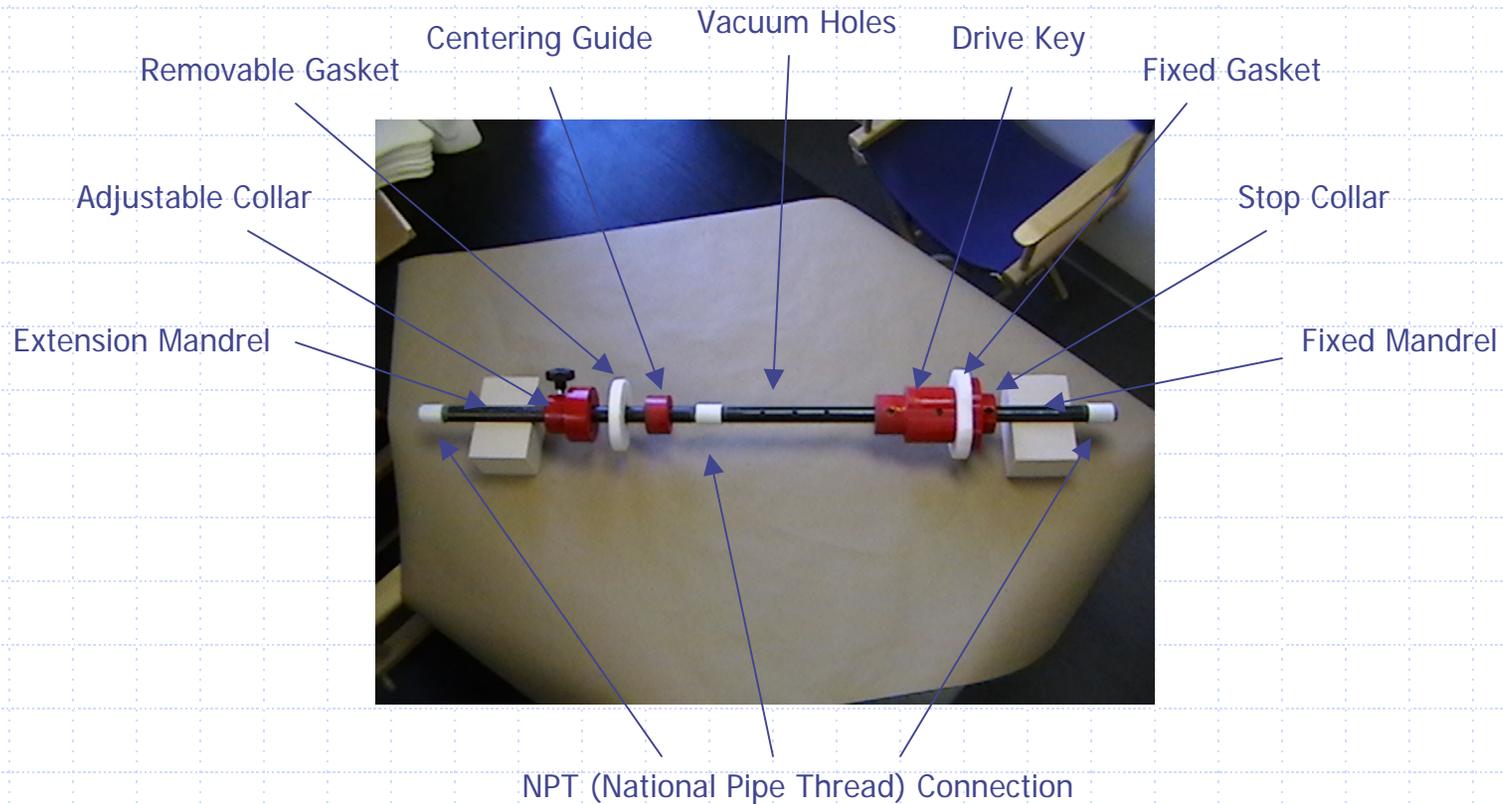
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Instructions for Use

Components



Vmx Vacuum Mandrel System™

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Vmx TLSO Mandrel™

Instructions for Use

- Place a foam blank on top of another foam blank or empty bucket with the keyed end facing upwards



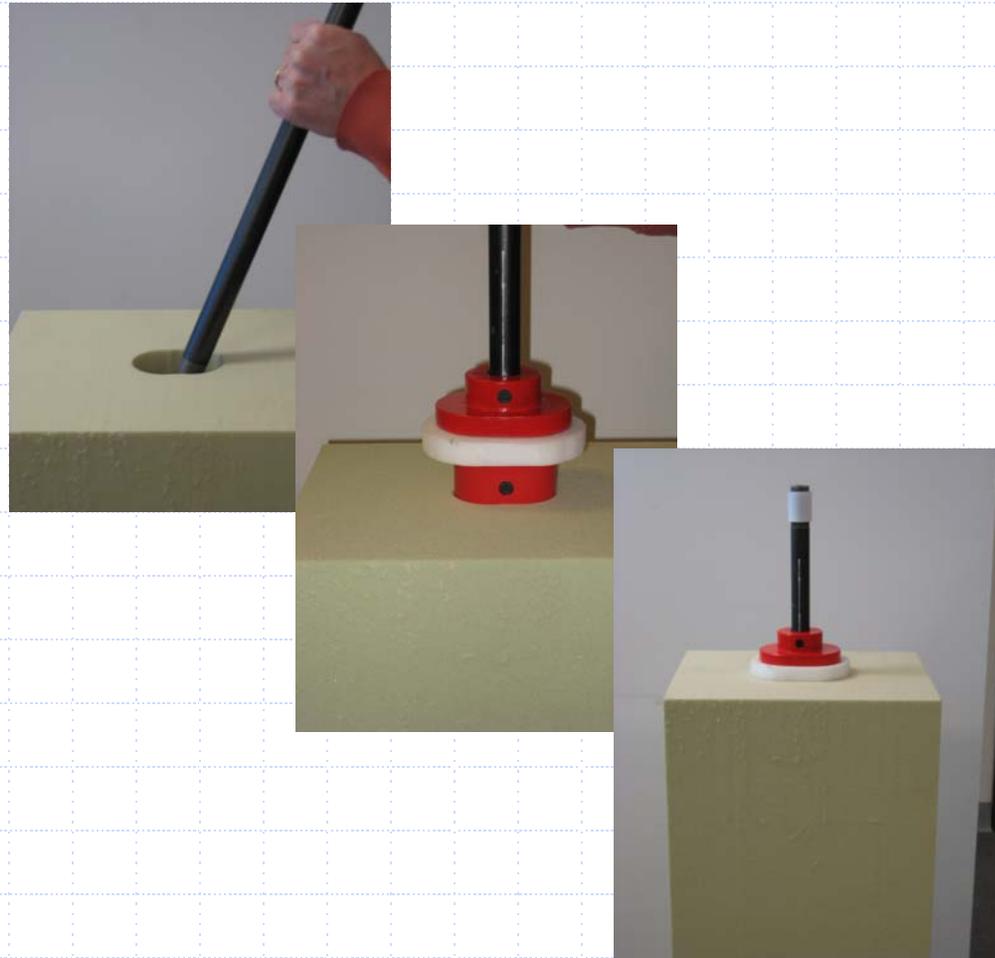
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Instructions for Use

- Insert the vacuum mandrel into the foam blank aligning the key in the foam to the key on the mandrel



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Instructions for Use

- Invert the foam blank and mandrel



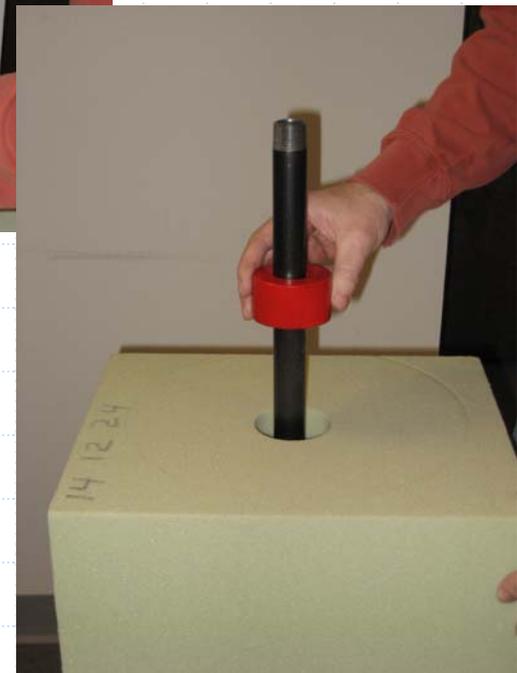
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Instructions for Use

- Place the centering guide on the mandrel and slide it down the mandrel towards the foam blank



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Instructions for Use

- Insert the centering guide into the foam blank along the mandrel
- Keep the centering guide flush with the foam blank



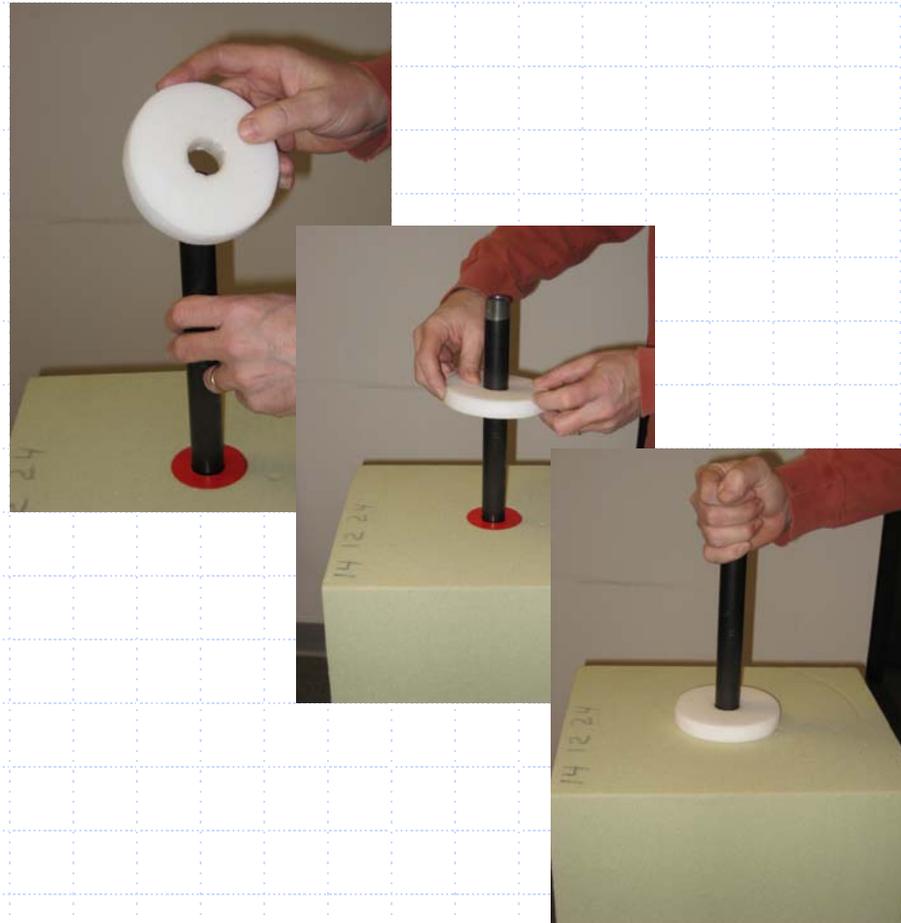
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Instructions for Use

- Place the removable foam gasket on the mandrel and slide it down the mandrel till flush with the foam blank



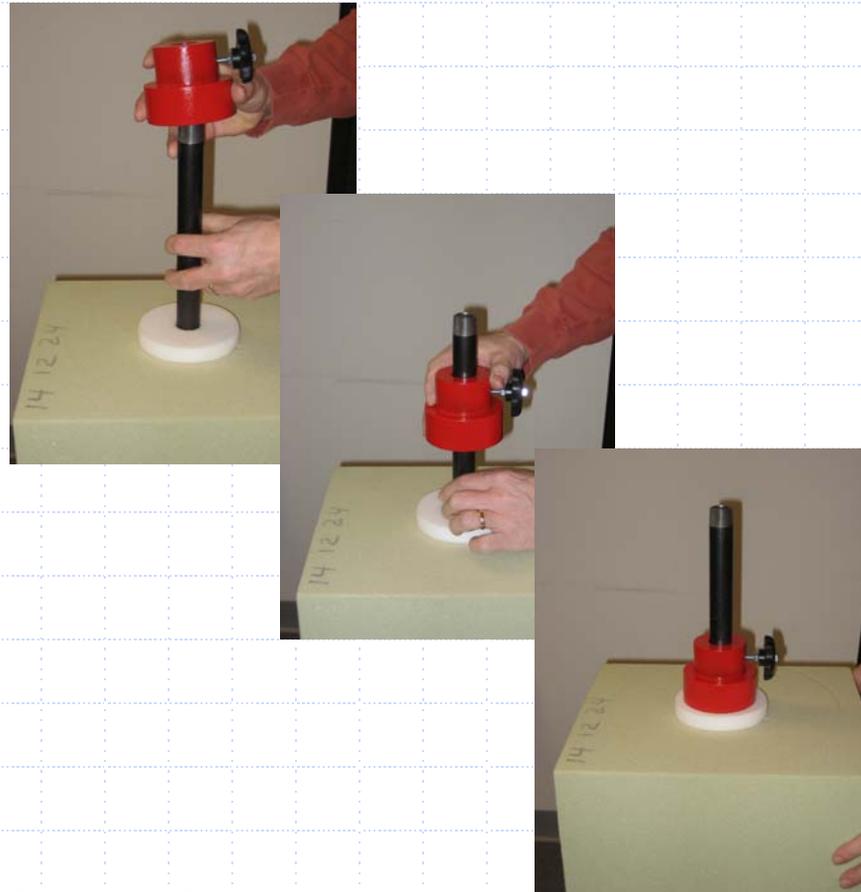
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Instructions for Use

- Place the adjustable collar on the mandrel and slide it down till it meets the foam gasket



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Instructions for Use

- Using hand pressure or mechanical means, push the adjustable collar towards the foam blank
- This will compress the gaskets at both ends to provide a seal for the internal vacuum chamber created within the foam blank



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Instructions for Use

- Keeping downward pressure, tighten the hand knob on the adjustable collar to secure it to the mandrel



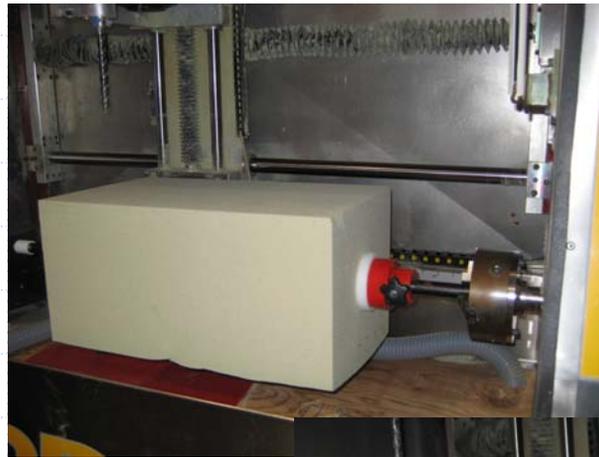
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Instructions for Use

- Insert the completed assembly into your carver
- Tighten the mandrel securely in the chuck or work piece holder
- Carve the foam blank according to your CAD/CAM system



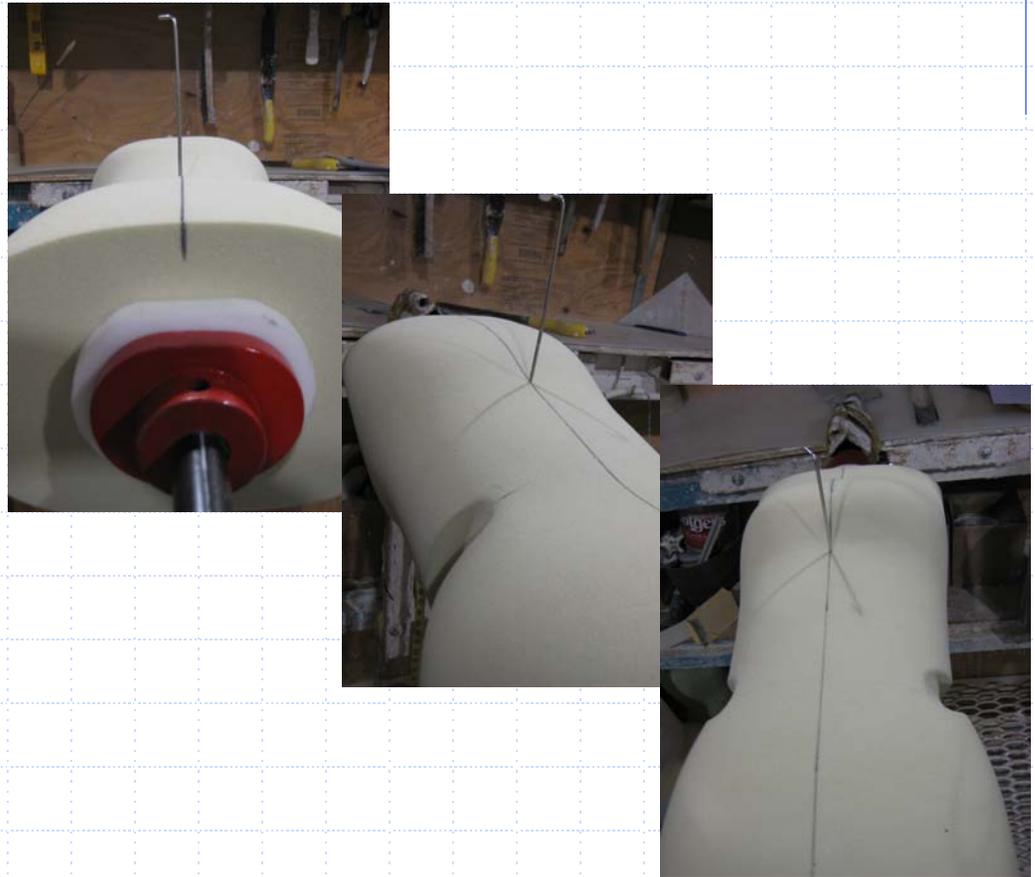
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Instructions for Use

- Draw center lines on the TLSO mold and make any additional modifications
- Drill vacuum holes along the center lines from the surface to the internal vacuum chamber



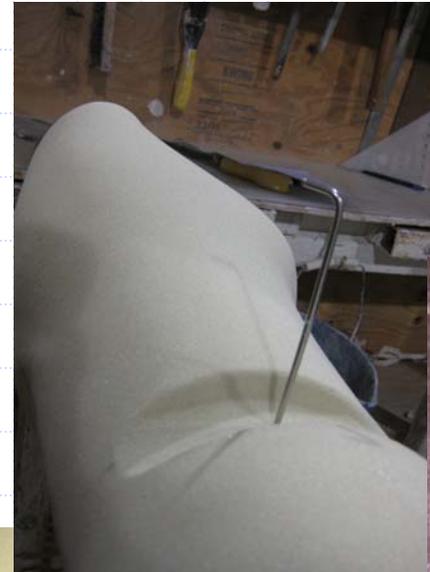
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Instructions for Use

- Drill additional holes to direct vacuum to deep draw areas on the mold such as iliac crests. This allows you to specifically target vacuum forming especially in these critical areas.



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Instructions for Use

- NPT (National Pipe Thread) fittings allow for easy connections
- Connect the mandrel directly to your vacuum source. Quick disconnects are recommended
- Cover the mold with stockinette and vacuum form as usual



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Instructions for Use

- Vacuum forming is more efficient under this method. You may have to reduce your vacuum pressure downwards.



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Instructions for Use

- With the internal vacuum chamber, TLSO's do not require sealing foam or plastic at both ends of the mold to vacuum form properly.



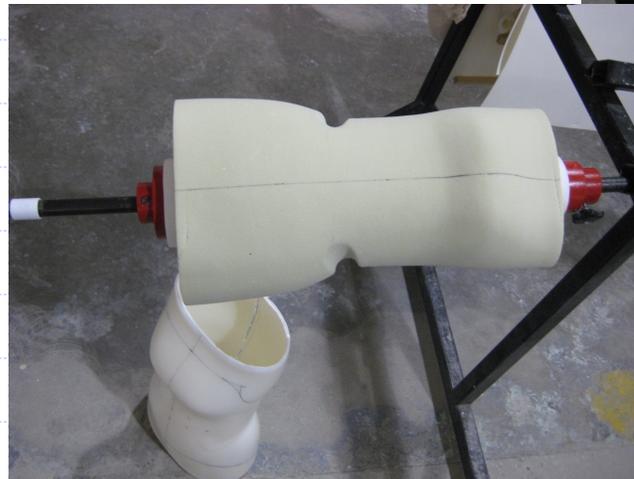
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Instructions for Use

- Draw trimlines and remove brace from mold



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Instructions for Use

- Mandrel is ready for disassembly.
- Loosen the hand knob on the adjustable collar and remove it together with the gasket
- Protect mandrel pipe threads from damage with fittings or rest threads only on wood or plastic



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Instructions for Use

- Invert the mandrel and foam mold and place on top of an empty bucket.



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Instructions for Use

- Partially remove mandrel from the foam mold and use it to push the centering guide downwards and out of the foam mold



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Instructions for Use

- Remove mandrel from foam mold and reassemble centering guide, removable foam gasket, and adjustable collar onto mandrel



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Instructions for Use

- Vmx TLSO Mandrel™ is ready for reuse

