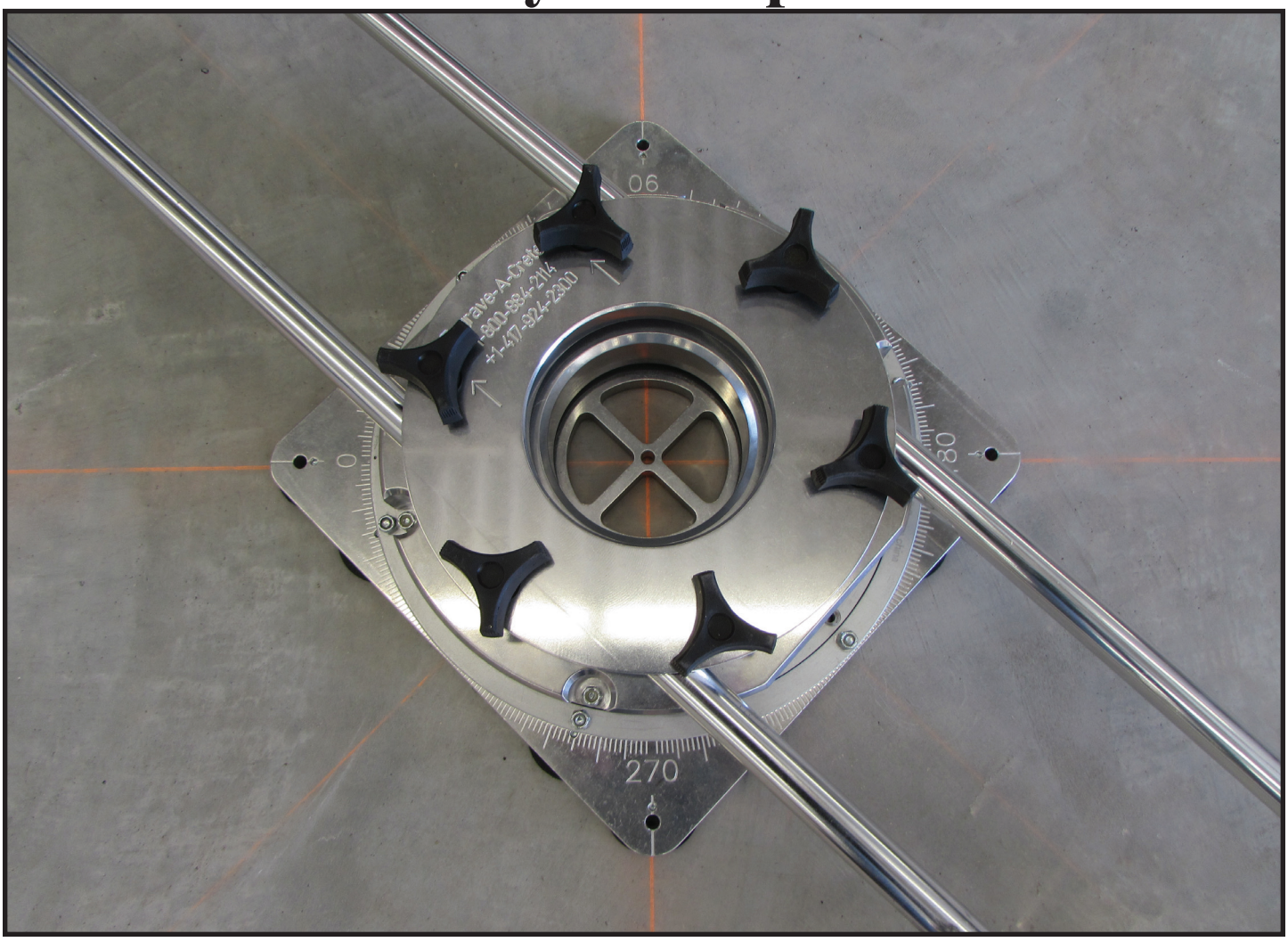
Precision Center Pivot

Assembly and Operation



Engraving perfect circles and arcs just became a one-man operation using the Precision Center Pivot. The aluminum 12” pivot provides smooth, accurate action and features a rubber, non-skid base that’s heavy enough to remain in place without attaching to the floor. When additional weight is required for intricate patterns, a bucket of weights set atop the bucket tray won’t interfere with maneuverability. Twin connecting tubes stabilize the Precision Center Pivot to eliminate racking. Located in the exact center is a sighting hole and alignment “cross hair” for precise marking and engraving. Parallel connecting tubes extend to attach the pivot to the cutting tool. Multiple connecting tubes can be added to perfectly cut large arcs and circles. Optional connecting tube support wheels support long tube extensions, preventing connecting tube drag on the slab.

PARTS LIST:

Pivot Assembly:
- Aluminum base plate with rubber skid reducing pads
- 12-inch plate bearing
- Aluminum main body

Aluminum tube clamp ring
Aluminum tube spreaders(2)
48-inch connecting tubes (2)
20-inch connecting tubes (2)
3-1/2-inch tool connecting tube
3/8”-16 x 3/4” bolts (2)
3/8”-16 x 1-1/4” star knobs (6)
3/8”-16 serrated flange nuts (3)
3/8”-16 washer
HDPE plastic bucket tray (Fig. 2)

Recommended: Dynamic Directional wheel kit for cutting tool; allows for easier one man operation and easier circles and arcs.
(Part #SC 182)

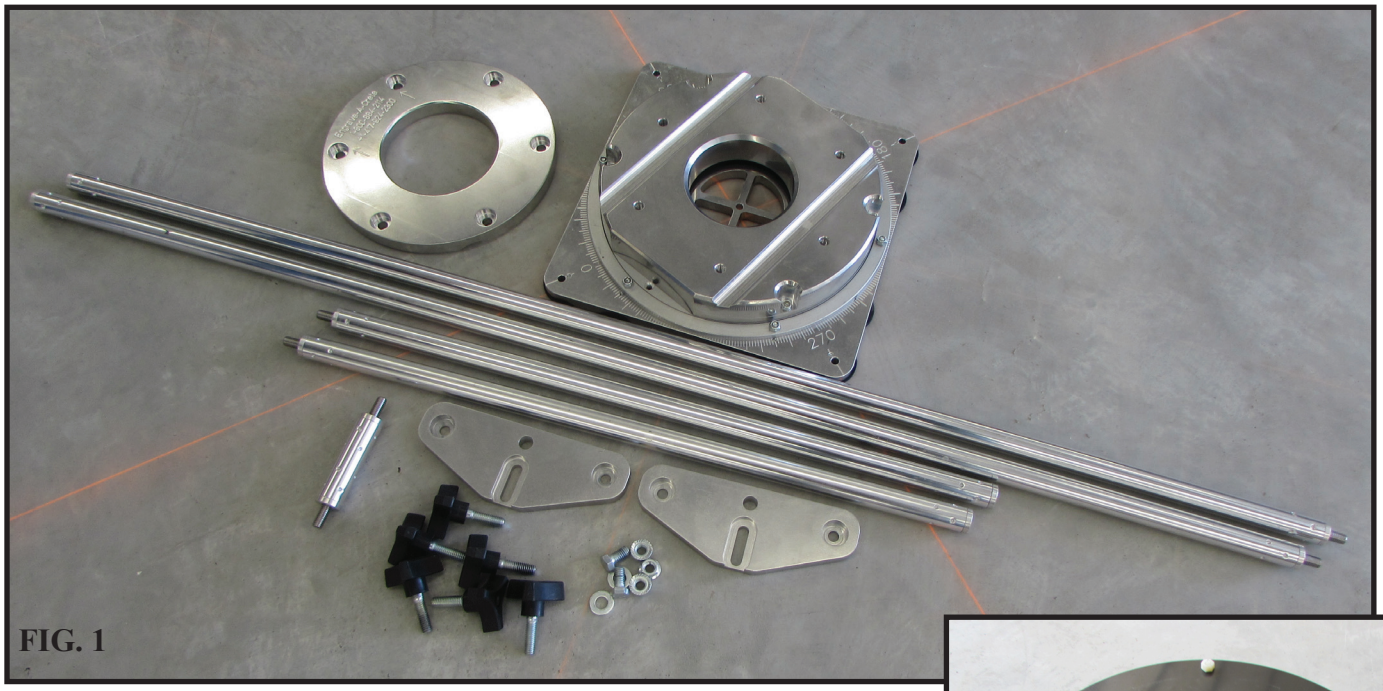


FIG. 1

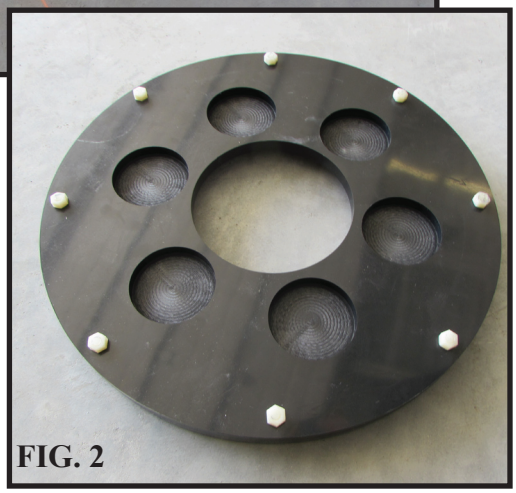


FIG. 2

OPTIONAL ACCESSORIES:

Additional 20”, 48” or 60” connecting tubes (pair)

Tube spreader

Dynamic Directional connecting tube support wheel

Recommended: Dynamic Directional wheel kit for cutting tool; allows for easier one man operation. (Part #SC 182)

ASSEMBLY:

Slide or lay the 48-inch connecting tubes into the contoured grooves of the main body, then place the tube clamping ring over the tubes.

Loosely place the star knobs in the tube clamping ring.

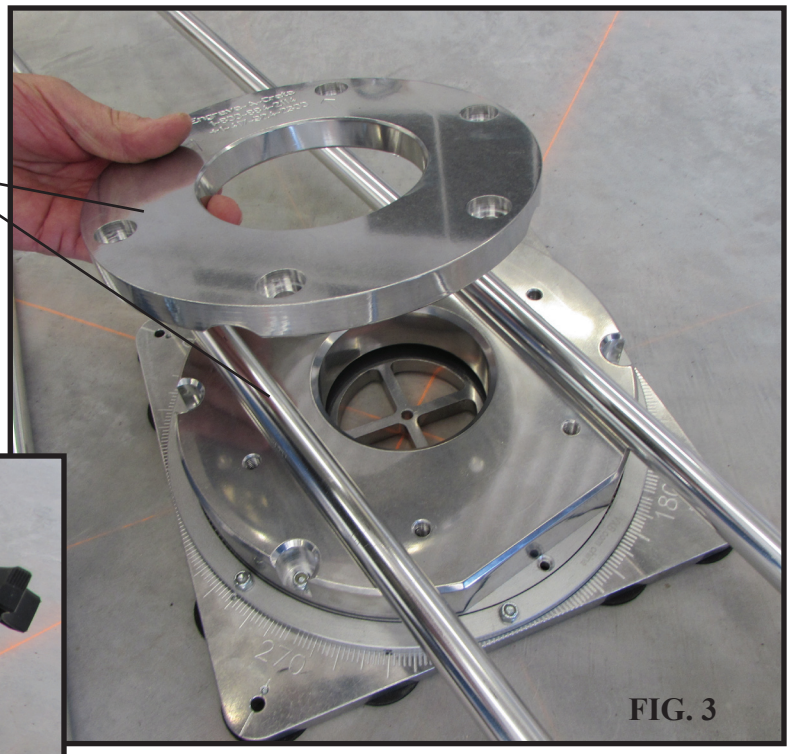


FIG. 3

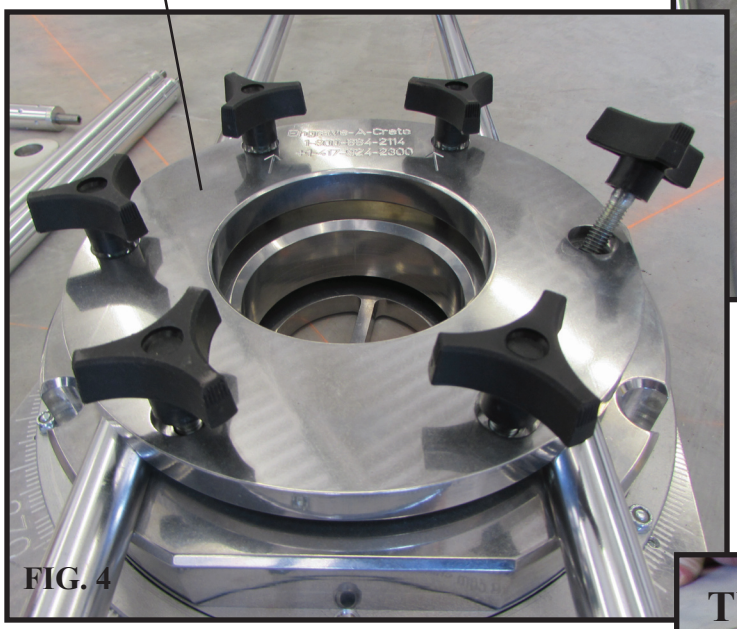


FIG. 4

Attach a tube spreader on the threaded studs of the connecting tubes, with the slot facing down. Fasten using two 3/8”-16 serrated flange nuts.

Your cutting tool will be fastened to this plate.

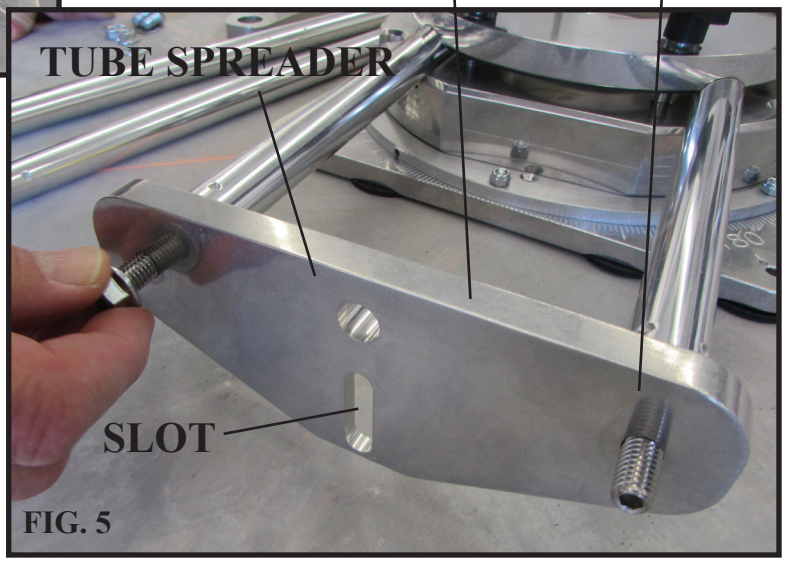


FIG. 5

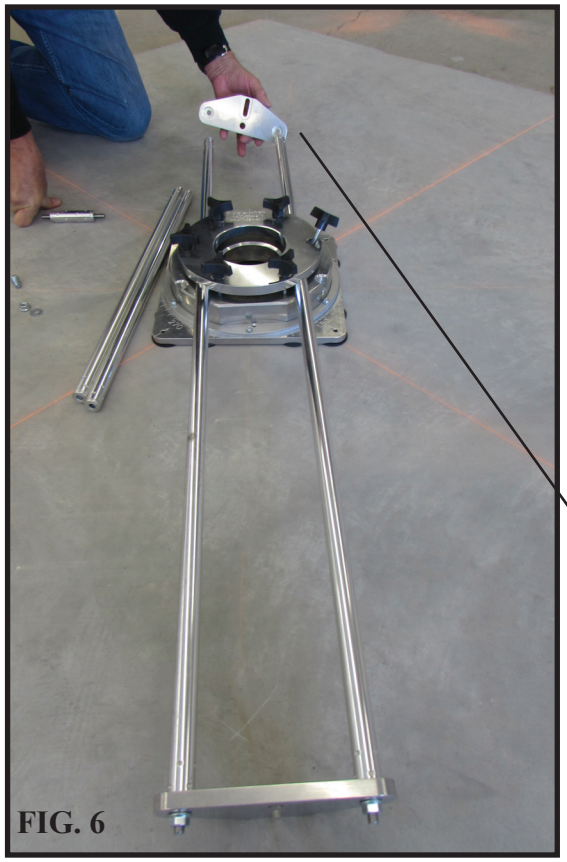


FIG. 6

Fasten the 2nd tube spreader to the other end of the connecting tubes using two 3/8”-16 x 3/4” bolts.

The tube spreader may be installed with the slot facing down (for installation of an optional support wheel) or facing up for more clearance when not using a support wheel.

With the star knobs still loose, use a 9/16” wrench to tighten the 3/8”-16 screws and the 3/8”-16 flange nuts on both tube spreaders.

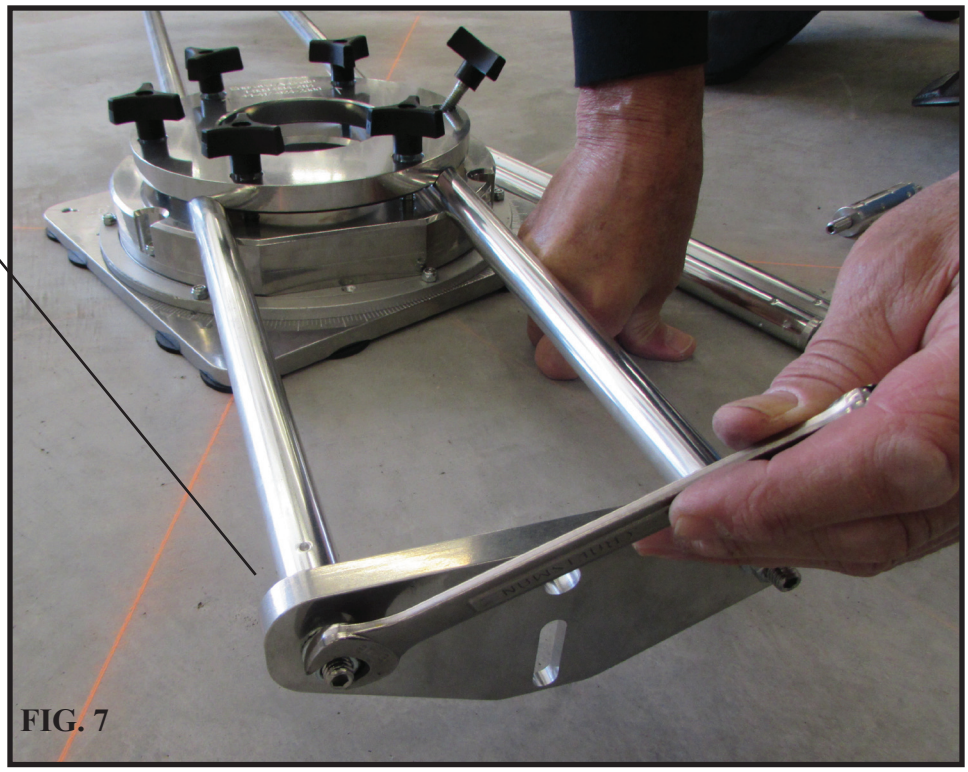


FIG. 7

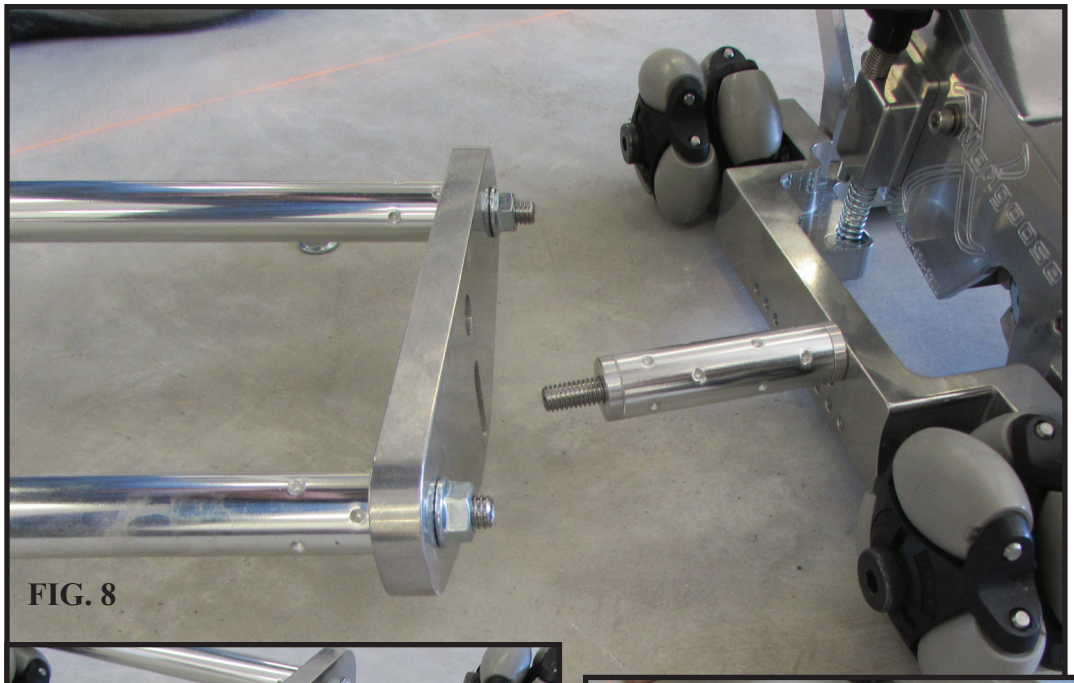


FIG. 8

Attach the 3-1/2-inch tool connecting tube to the chassis of the cutting tool, as shown.

Fasten the cutting tool to the tube spreader with a 3/8”-16 flange nut and washer.

For optimal cutting, it is recommended to outfit your cutting tool with Dynamic Directional wheels, as shown in Fig. 8 & 9.

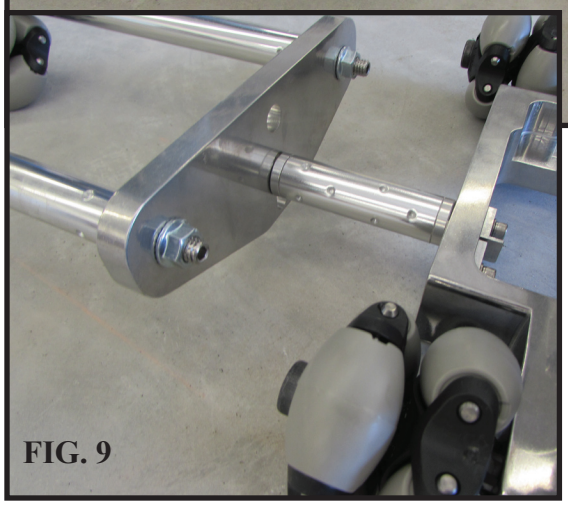


FIG. 9

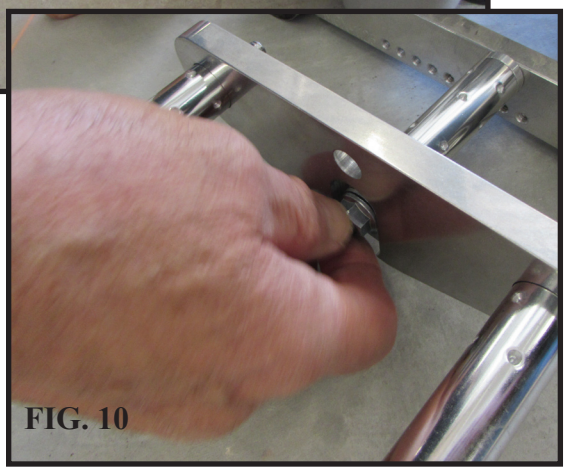


FIG. 10

TIPS FOR THE PRECISION CENTER PIVOT:

Position the center pivot over your reference points, chalk lines, or other, using the center hole and corner marks to locate it accurately.

Degrees indicators (0°, 90°, 180°, and 270°) are provided for the purpose of orientation in the event that you need to remove then replace the center pivot accurately.

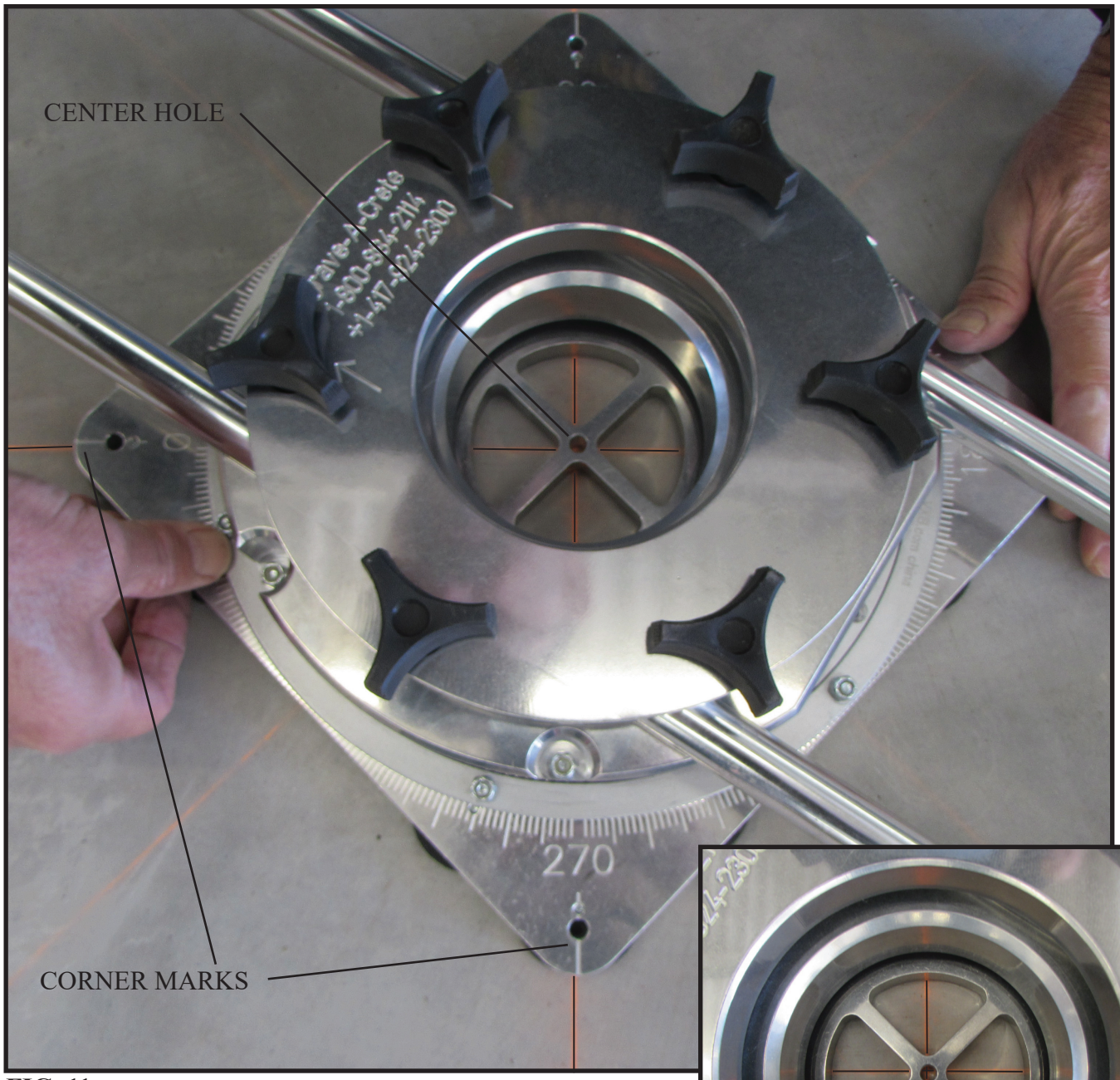


FIG. 11

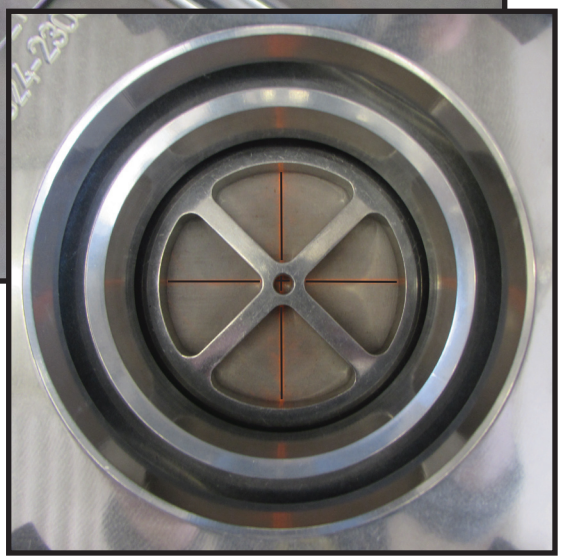


FIG. 12

Some designs require relocating the pivot to the same point multiple times. To easily relocate the pivot for alignment, it may be helpful to drill a hole at the center point. In Fig. 14, a 3/16" concrete bit is used to mark the location.

The hole should be drilled slightly deeper than your deepest cut lines.

To make small, accurate realignment adjustments, use a rod placed inside the hole. Twirl the rod around to slide the center pivot until it is accurately located.

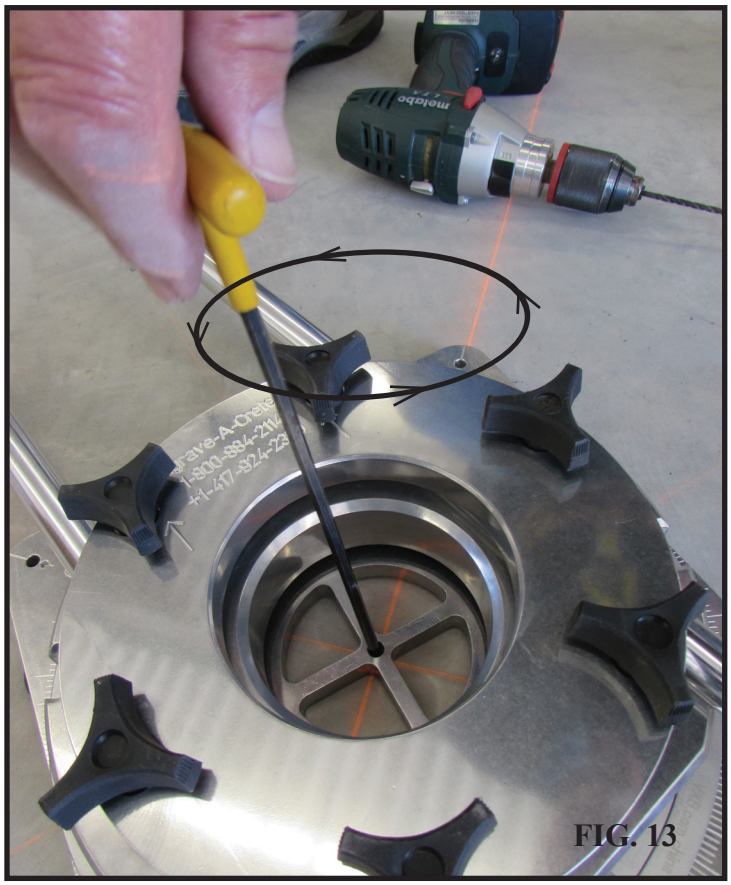


FIG. 13


FIG. 14

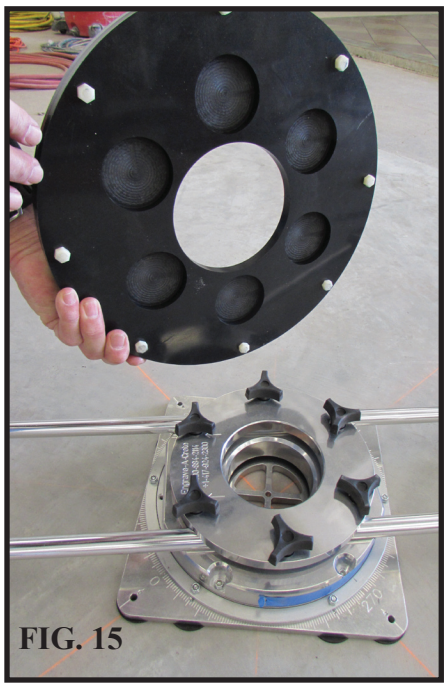


FIG. 15

Place the plastic bucket tray on top of the star knobs.

Use a 5-gallon bucket full of your choice: dirt, sand, shot, rocks, etc. on top of the weight plate.

Heavier cutting tools may require more weight to keep the center pivot in place. Consider stacking 2 buckets or securing the pivot to the slab.


FIG. 16


FIG. 17

Instead of using a weighted bucket to secure the center pivot, you can optionally use Tapcon concrete screws, as shown in Fig. 17.

When cutting patterns that use arcs or circles with different diameters, it is helpful to mark the connecting tubes at each location.

FIG. 18

To keep track of exact arc swings, make alignment marks on both the main body and the bearing housing, as shown in Fig. 19. Using tape makes the marks more visible, and easy to reposition and/or remove.

FIG. 19

Short sections of standard Engrave-A-Crete connecting tubes can be added between the tube spreader and the tool to cut larger diameter circles.

When long lengths of paired sets of connecting tubes are used, install a Dynamic Directional support wheel to a tube spreader, as shown in Fig. 20.

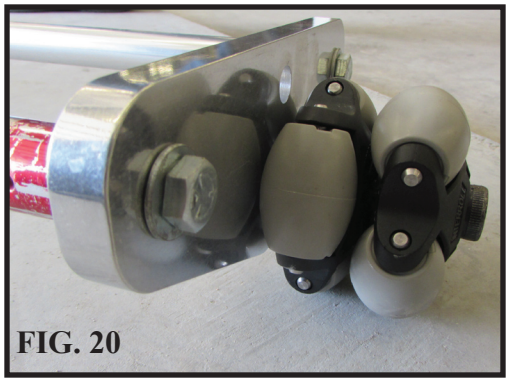


FIG. 20

FIG. 21

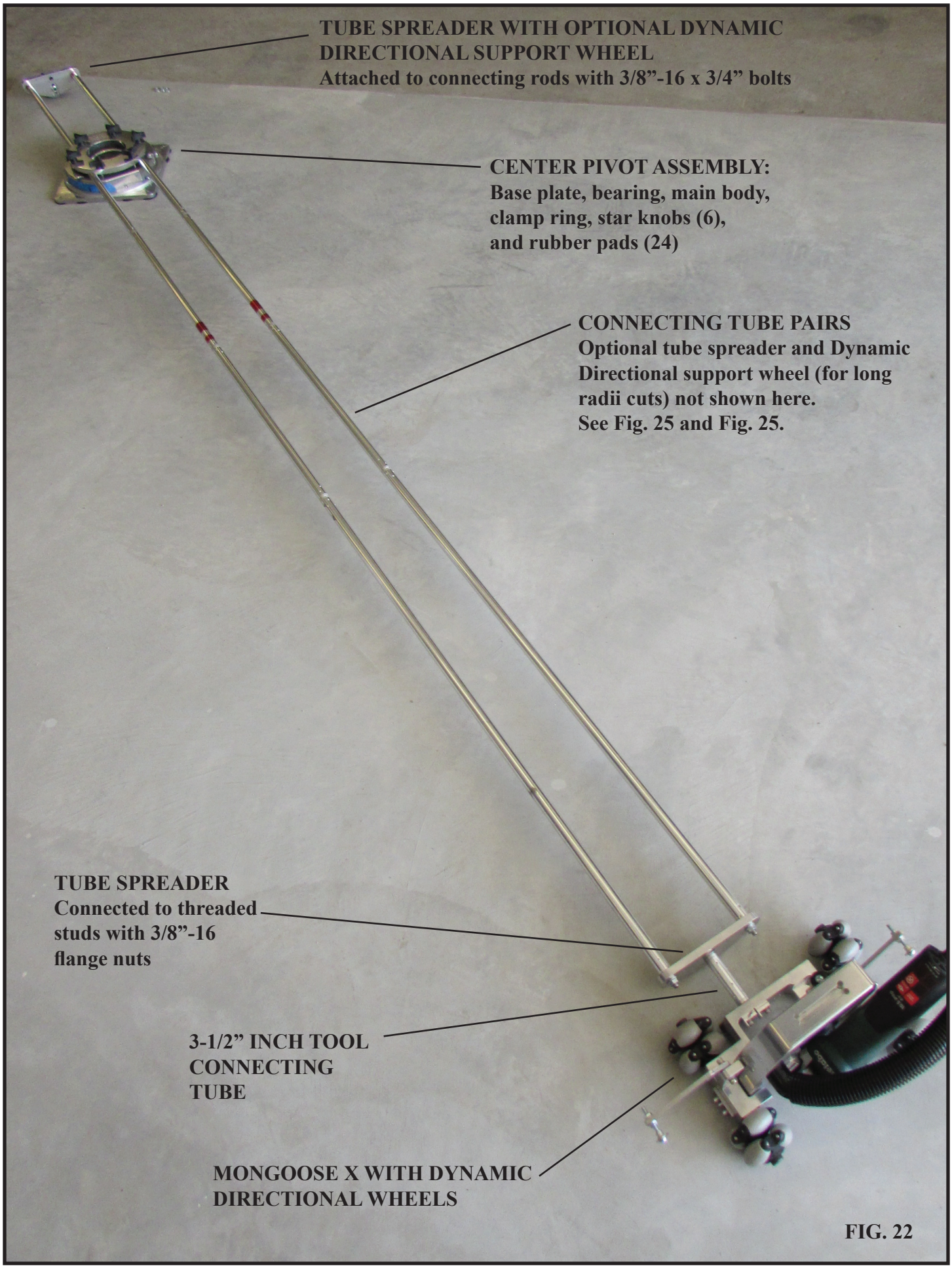


FIG. 22

Fig. 22 shows a setup capable of cutting large circles. To lengthen the connecting tubes, remove the tube spreader and add as many connecting tube pairs as needed.

Reinstall the tube spreader.

To prevent tube sag when long radii are to be cut, install a tube spreader with a Dynamic Directional wheel between tube splices, as shown in Fig. 24 & 25.

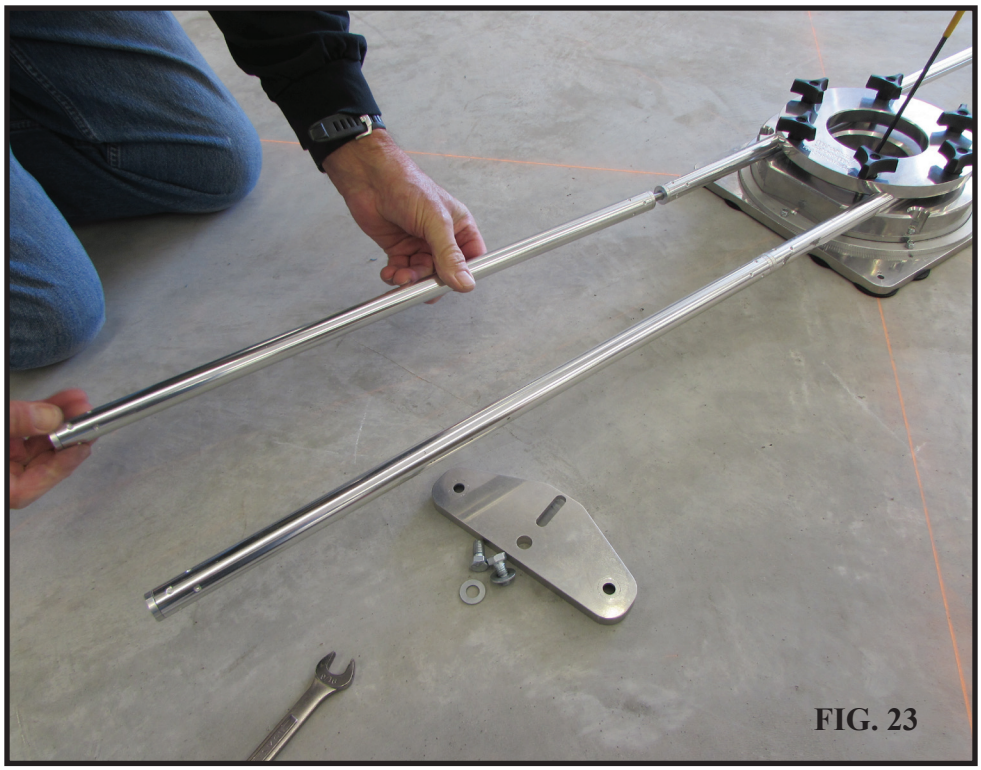


FIG. 23

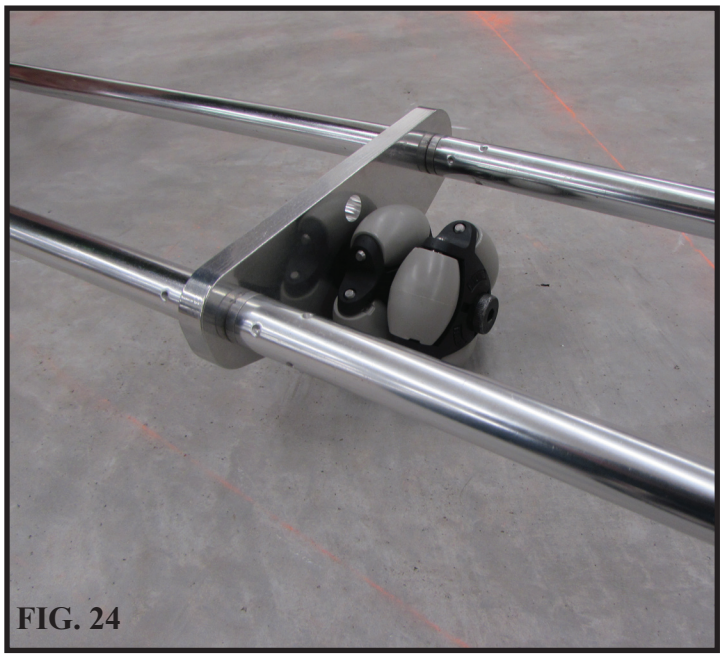


FIG. 24

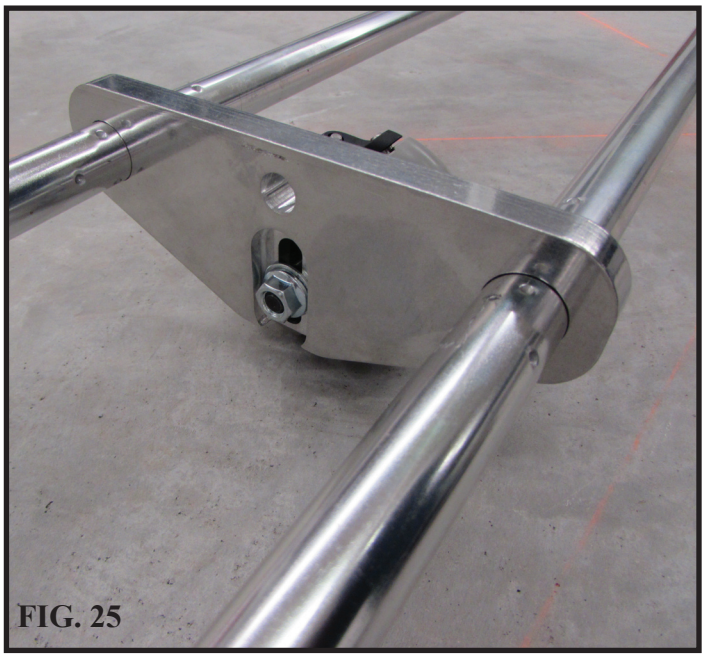


FIG. 25