KALAMAZOO INDUSTRIES, INC.

Edge Finishing Techniques:

Getting Consistent Results with the DS10

By Kalamazoo Industries Technical Staff

DS10 10" Industrial Disc Sander — Made in the USA

The DS10 is a 10" bench disc sander with a direct-drive ½ HP Baldor motor at 3,450 RPM, PSA disc system, and a 6” × 11” steel tilt table that locks from 45° down to 15° up. It handles deburring, beveling, squaring ends, and edge finishing on wood and metal. What follows covers how to get repeatable results from it.

Setup: Table and Disc Condition

Most edge finishing problems are setup problems. Two things matter every time: table angle and disc condition.

Verify table square with a machinist’s square — don’t assume zero is accurate. For angle work, run a test cut on scrap before committing to production. A small error compounds quickly across a batch.

A glazed or loaded disc burnishes instead of cuts, producing inconsistent material removal part to part. The PSA system on the DS10 makes grit changes fast — if the disc isn’t cutting clean, swap it.

Grit Selection

- 50 grit (KD1050) — Heavy stock removal and rough-cut cleanup. Always a starting point, never a finish grit.
- 80 grit (KD1080) — Workhorse for most edge finishing. Cuts efficiently, doesn't load quickly, and leaves a surface easy to refine.
- 100 grit (KD10100) — Finishing passes on wood or softer metals. On harder materials, follow with a finer abrasive or buffer.

When changing discs, peel the old one cleanly and clear any adhesive residue from the aluminum disc before applying the new one. Leftover adhesive causes the disc to sit off-plane, which shows up immediately as an uneven cut.

Technique for Square Edges

Work the Downward-Moving Side

On the DS10, the left side of the disc (facing the machine) moves downward. Always work here. The cutting forces push the part down onto the table, giving stable, consistent contact. The upward side lifts the part and causes chatter, uneven removal, and potential ejection.

Move Laterally, Don't Push In

Keep the part flat on the table and slide it across the disc rather than holding it static. Lateral movement distributes wear evenly across the disc and prevents localized heat buildup.

Light Pressure, Multiple Passes

Heavy pressure flexes the workpiece and loads the disc unevenly. Use moderate pressure, make multiple passes, and check progress as you go. The motor has the power — guide the cut, don't force it.

Angle Work and Bevels

- Always test on scrap first. A 45° setup at 44.5° is invisible on one part and a problem when parts need to fit together.
- On acute angles (under 30°), contact area is small and heat concentrates quickly. Move the part laterally more often and watch the disc for loading or burning.
- For repeat work, mark the table's locking position or use a stop so you can return to the same angle without re-measuring.

Chamfering — breaking sharp edges, weld prep, decorative bevels — is where the DS10's rigid table and direct-drive motor earn their keep. The results are clean and repeatable.

End Grain and End Rounding

End grain tears rather than shears if you move too fast or use too coarse a grit. Start with 80 grit, light pressure, slow lateral movement. Once flat and square, a pass at 100 grit finishes it cleanly.

For end rounding, work freehand against the disc in a controlled arc. Establish a consistent pivot point — the corner of the table works well — and hold it through the full arc. Practice on scrap before running parts.

Deburring Metal

The key difference from wood work is heat management. A part that discolors has had its surface properties altered, which matters for any downstream painting, coating, or welding.

Keep passes short, move the part laterally constantly, and let thinner stock cool between passes. For mild steel and aluminum, 80 grit is the right starting point. Stainless generates more heat — lighter pressure and more frequent checks. Laser-cut edges with a heat-affected zone take longer to break through before the disc cuts freely.

Consistency Across a Production Run

- Check the first part against a reference before running the batch.
- Replace discs on a schedule. A disc that's 70% used cuts differently than a fresh one, and variation creeps in when you're using a fixed number of passes per part.
- Brush the table between parts. Chips and dust change the workpiece angle in small but measurable ways.
- For high-volume repeat work, a simple stop block on the DS10's table eliminates most of the variation in how you're presenting the part to the disc.

Safety

- Keep the disc guard in place.
- Wear eye protection. Disc sanders throw debris, especially on metal.
- Don't work a worn disc. Loading or uneven cutting means it's time to change.
- Keep fingers clear. Handle small parts with a push stick or fixture.

Questions about the DS10 or a specific application? Call **(800) 592-2050** or visit kalamazooind.com. Made in Kalamazoo, Michigan since 1960.
