

Optimize your tooling investment

Regional Meeting • Cincinnati, Ohio



ASSOCIATION OF ROTATIONAL MOLDERS



Tom Innis – VP Sales & Marketing



The logo features a blue and white graphic element on the left, which looks like a stylized arrow pointing upwards and to the right, or perhaps a flag with a crescent and a star. To the right of this graphic, the word "avantech" is written in a large, bold, lowercase, sans-serif font.

OPTIMIZE

op-tuh-mahyz

Verb:

1. to make as effective, perfect, or useful as possible.
2. to make the best of.

OPTIMIZE

what do we mean relative to tooling?

- Consistent part production that meets quality requirements.
- Safe & efficient tooling operation in the rotomolding environment.
- Durability of tooling which minimizes maintenance and repair costs.
- Maximum return-on-investment for tooling expenditure.

In spite of our best intentions...



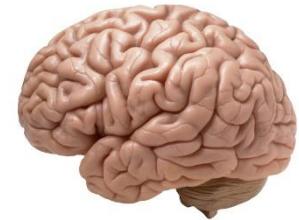
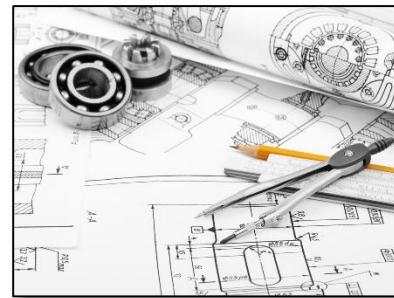
You built my tool wrong!

Tool-builder involvement at the earliest stage of design development invariably improves project outcomes:

- ▶ Cost reduction.
- ▶ Speed-to-market.
- ▶ High quality parts from onset of production.
- ▶ Safe & efficient operation.
- ▶ Effective supply chain management.

TYPICAL MOLDER » TOOLBUILDER COMMUNICATION:





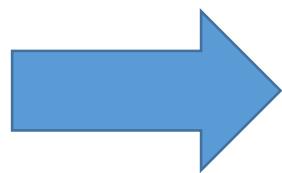
Tool-builders tend to be far-removed from product development and design.

“Your suggestions for part design revisions proved invaluable: we lowered tool cost, received them (tools) quicker than anticipated, and ran good parts from the first cycle.”

(actual rotomolder comments!)

The look of a satisfied customer!





Identifying cost drivers = tool optimization

- Design input from tool-builder:

- Tool type (fabricated, cast aluminum, CNC machined, etc.)
- Parting line location & configuration
- Number of tool pieces
- Part texture requirements
- Graphics location
- Fill ports
- Slide mechanisms
- Through-cores
- Safe, efficient part removal

“Working cohesively with the molder and end-customer during the design phase is critical in driving project success. It always pays off for all parties.”



- Vince Costello,
Diversified Mold & Castings



Use the right tool for the job, or you could be screwed.

Right tools. Right solutions. Right now.

At Avantech, our diverse tool manufacturing capabilities — cast aluminum, CNC-machined, and custom fabrication — help rotomolders choose solutions that will drive successful project outcomes. With a team focused on what you need, we'll provide the right tool for the job, and our first-time quality, on-time delivery will ensure you won't get screwed in the process.

Not all ad concepts make it to print.

(but you get the idea)

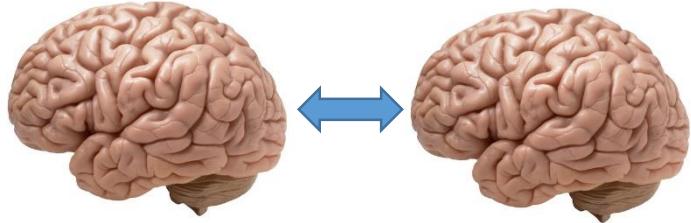
PURE
ICE

I C E

BUY INLAND ICE

We engaged in a mind-meld with
customer & customer's customer...

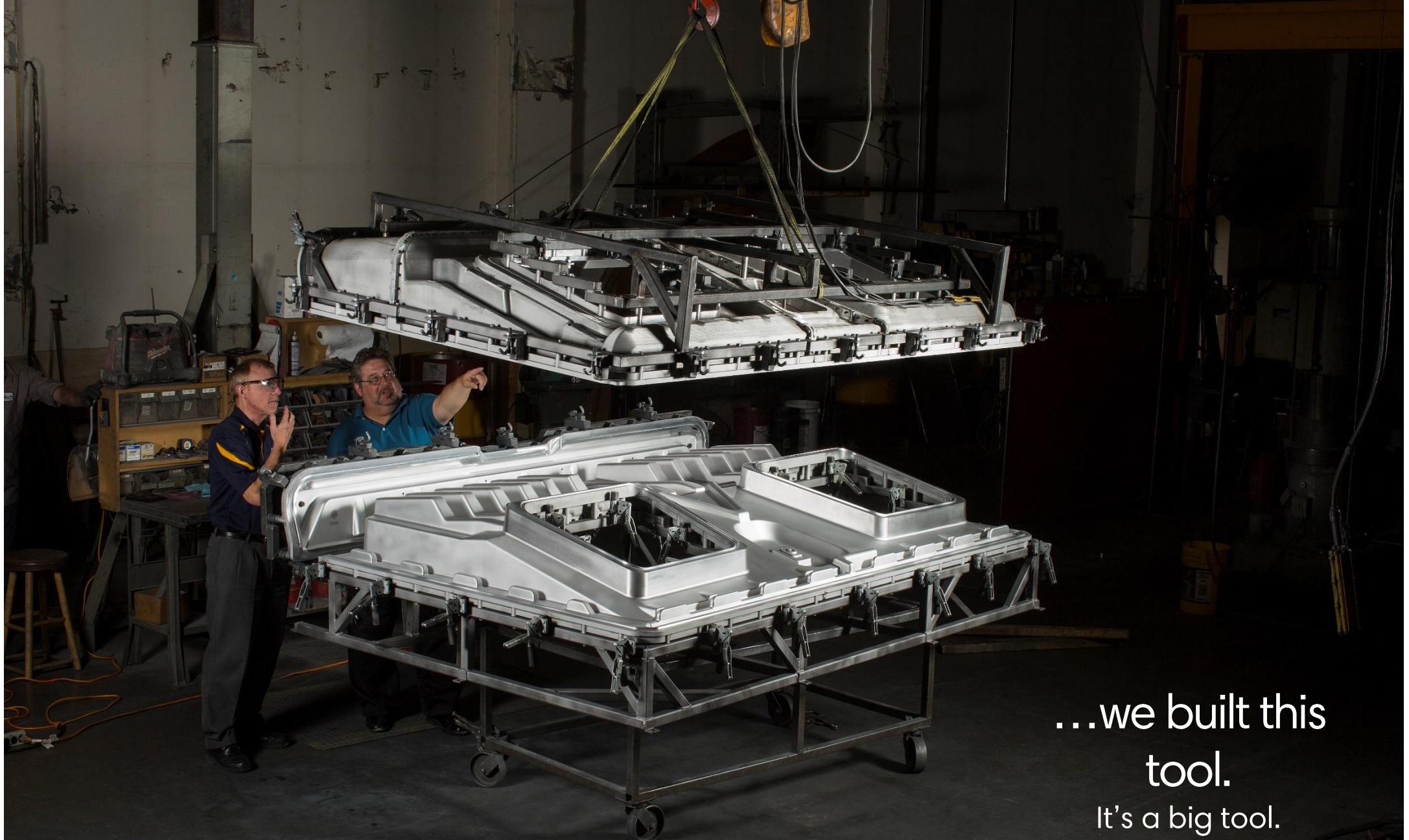




- Finish & texture requirements
- Dimensional tolerance
- Machine type & size
- Material fill and dispersion
- Part removal
- Stay in-cycle
- Safety concerns
- Wear and tear of tooling



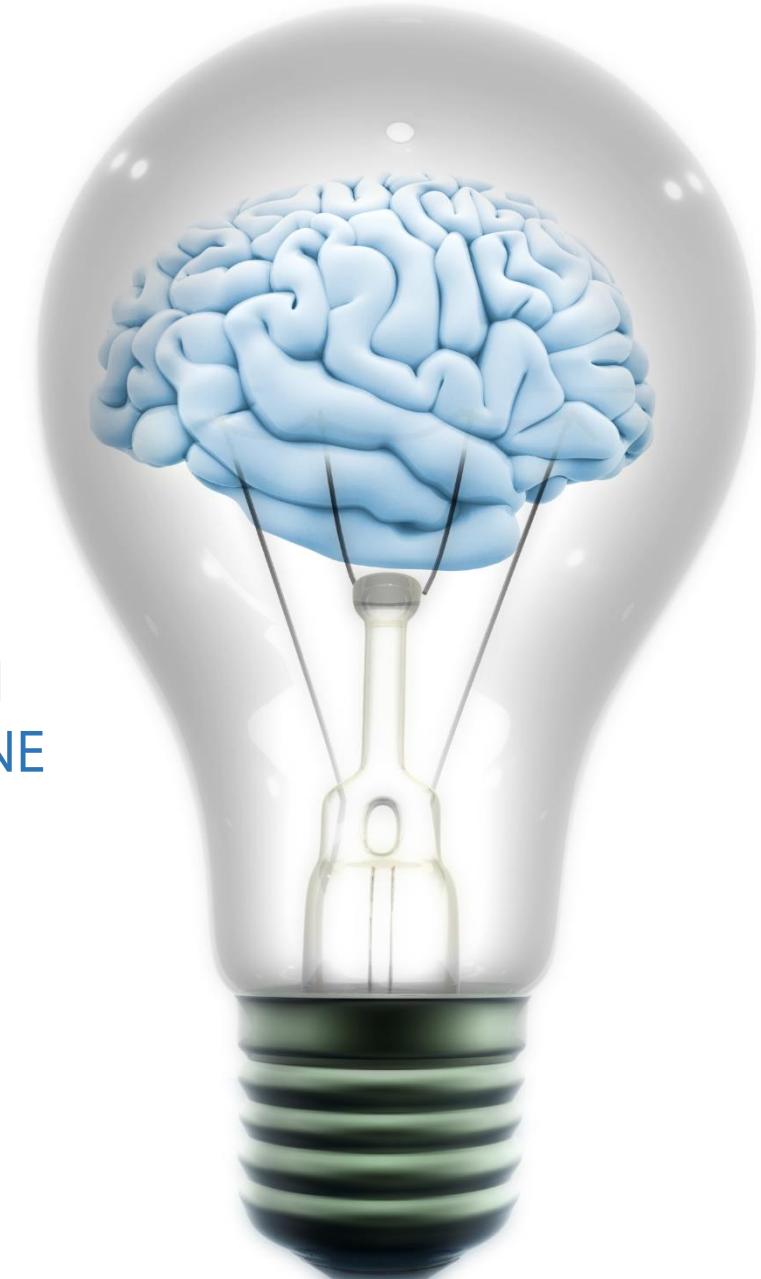
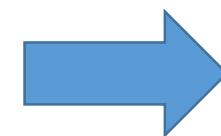
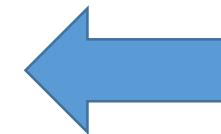
Machine operators &
manufacturing
personnel provided input
on all of these issues!



...we built this
tool.
It's a big tool.



COLLABORATION
OPTIMIZATION ZONE



“I view my Craftsman® tools as my go-to to ensure project success: you know it’s going to work when you grab it. The same thing with rotomolds – think of them as a key investment to driving success in your rotomolding project.”



- Erik Adams, Norstar

Once your tools have arrived...

Incoming Quality Inspection

- Check all threaded fittings to make sure there is no binding.
- Check mounting plate for strength, size, mounting hole locations, etc.
- Inspect internal walls of tool cavity for correct surface finish, porosity, contamination, etc.
- Clean tool cavity prior to charging for first prototype run.
- Inspect parting lines.
- Check for proper location and adjustment of air amplifiers, core pins, loose pieces, fill ports, etc. Continuous re-adjustment will be necessary during tool life.
- Check tool and frame dimension to confirm clearance in the oven.

Incoming Quality Inspection

- Check proper vent location and size. Ensure vent tubes and any packing material are placed in tool prior to production.
- Ensure that clamp type and location is per-spec. Confirm proper closure operation of clamping system.
- If bolt-receivers are used, confirm correct location, adjustment and operation.

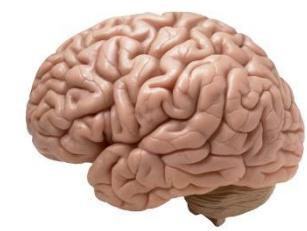
Other post-arrival ways to optimize tooling investment

THANKS CAPTAIN
OBVIOUS





This is your brain.



This is your brain on
drugs.

Any questions?





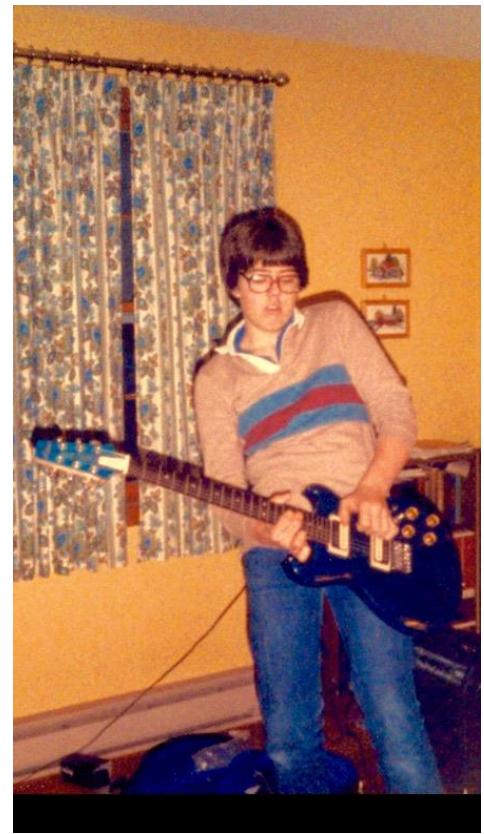
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AXEL

“Cleaning your parting lines are like flossing your teeth:
you only need to floss the teeth you want to keep.”



- Chris DiFilippo, Al Cast Mold & Pattern







So what if we drop metal scrapers in the tool?

It can be a
crazy thing,
this “cause &
effect” stuff.

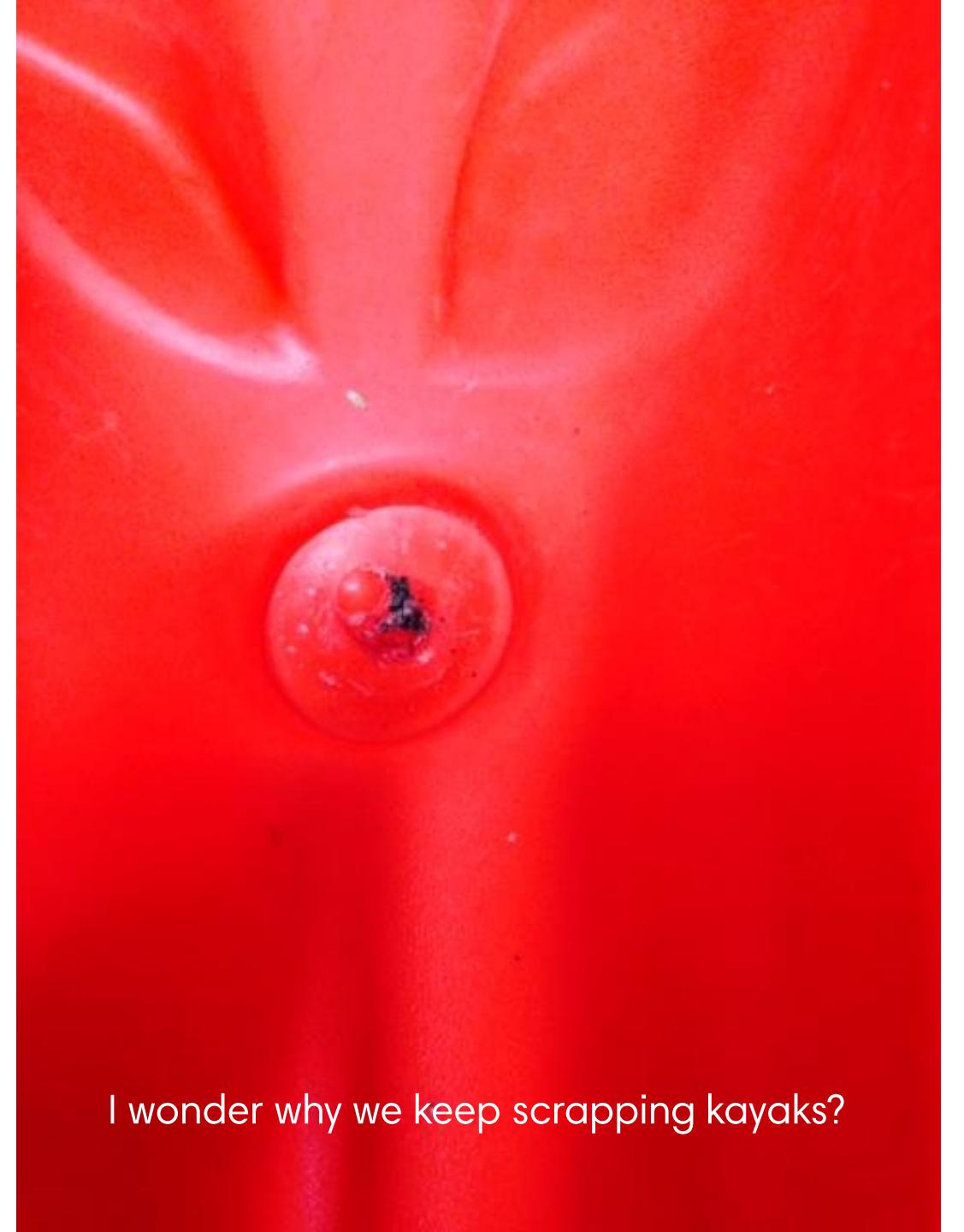
...it's not like it causes blemished parts.



We beat out of the s*** out of our scuppers to make sure the tool closes.



It can be a crazy thing, this “cause & effect” stuff.



I wonder why we keep scrapping kayaks?

Why is my
parting line flashing?



Summary

- Shorten the chain.
- Grab your favorite tool.
- Mr. Spock was onto something.
- Don't do drugs.
- Remember to floss your teeth.
- Thank you!



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