

Helical Broach

Off-normal gullet

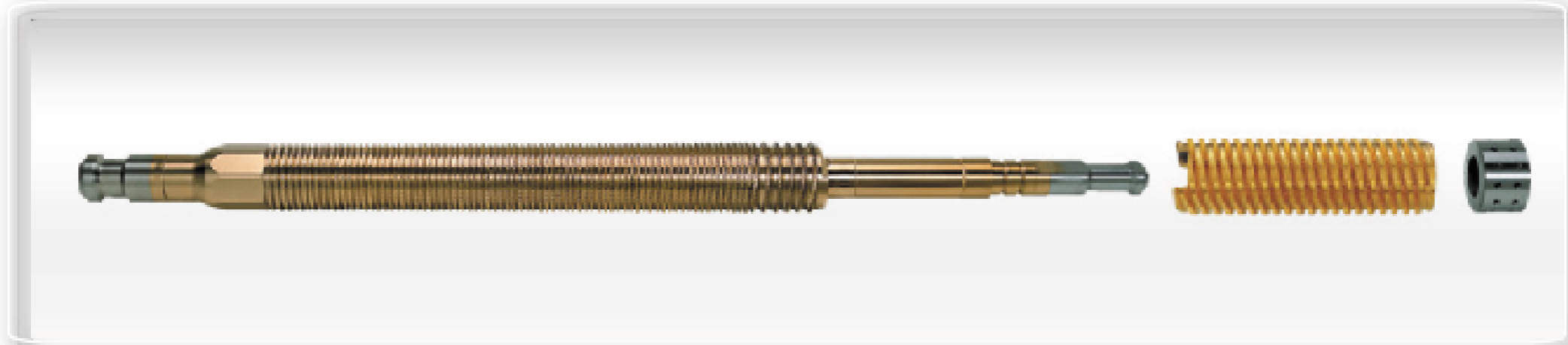
Taking into consideration the helical angle, cutting force and cutting depth etc., the off-normal angled spiral gullet (**patented**) provides the best balanced cutting.

High precision machining

Achieves high gear accuracy not possible with conventional products

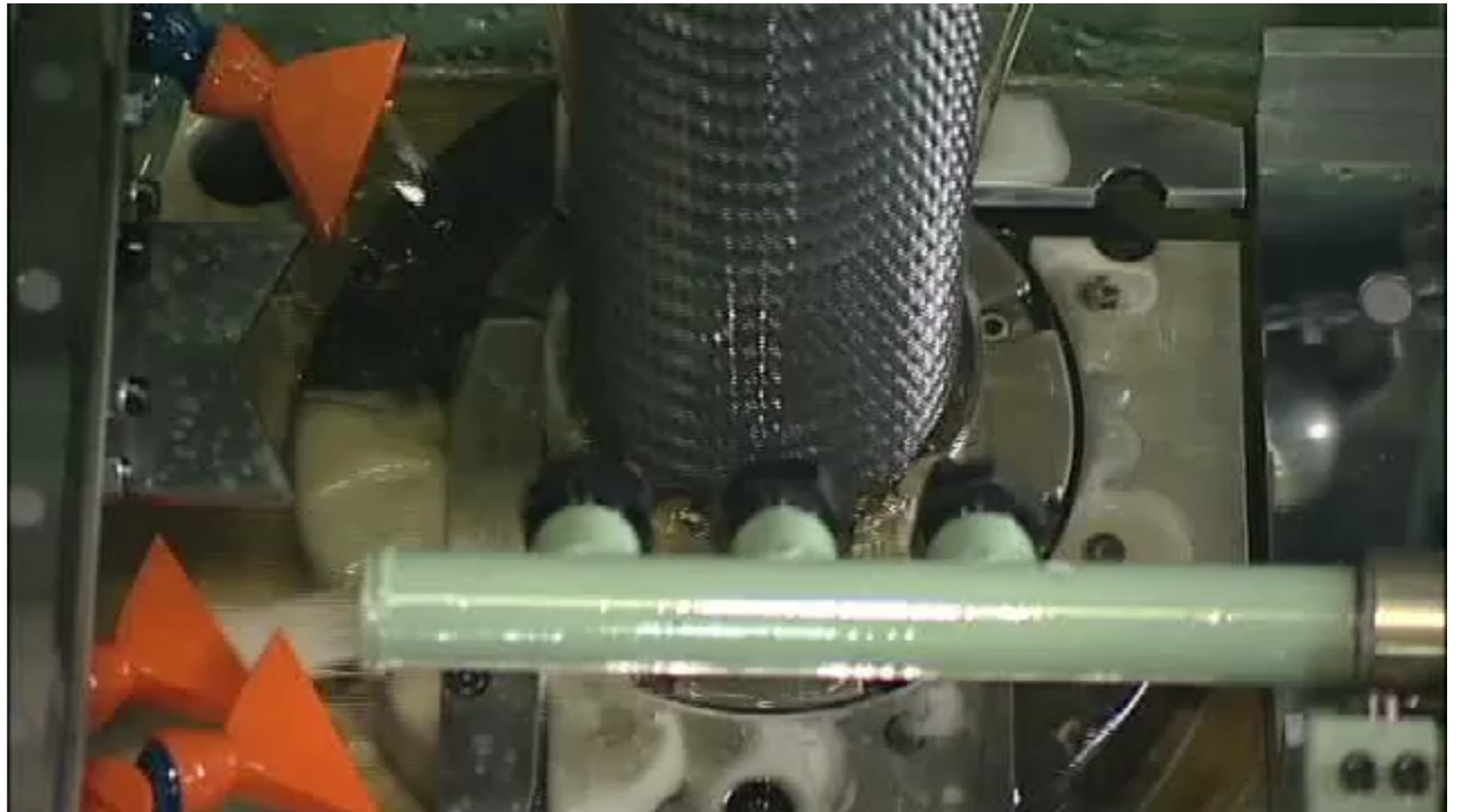
Long tool life

Reduced cutting load and cutting vibrations extend tool life



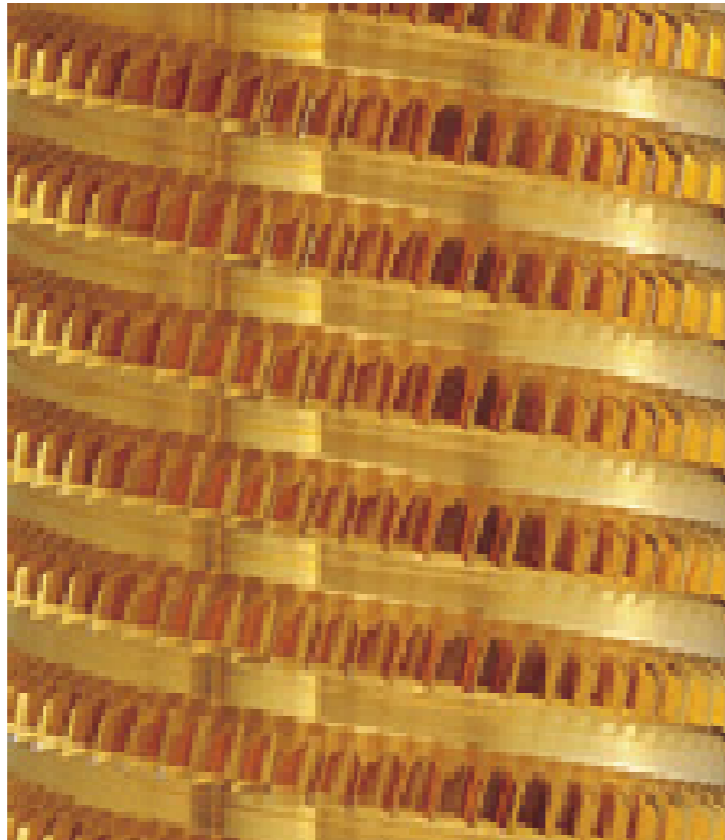
[Helical Broach machining](#)

Helical Broach is used for the finishing process of internal helical gears of automatic transmission

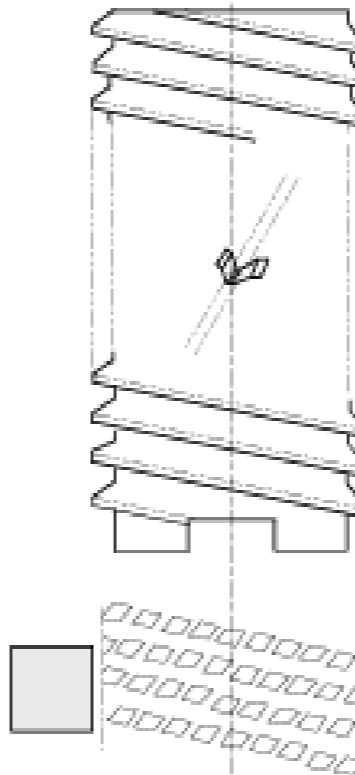


Off-normal gullet

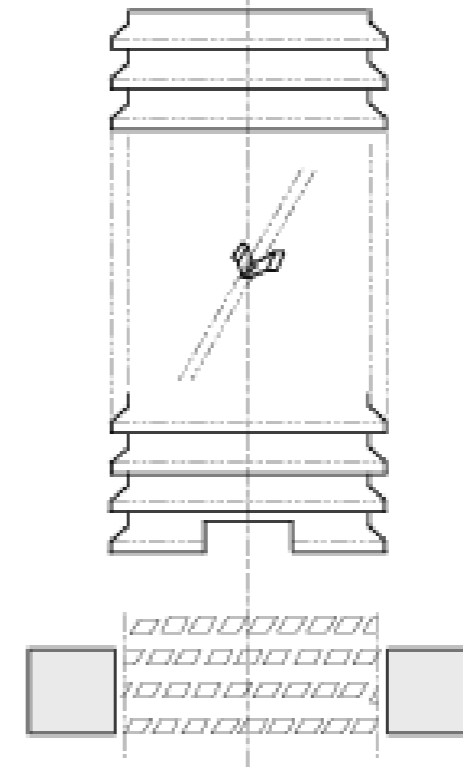
Optimized helical gullet provides the most stable cutting performance



Off-normal gullet



Conventional
axis-perpendicular gullet



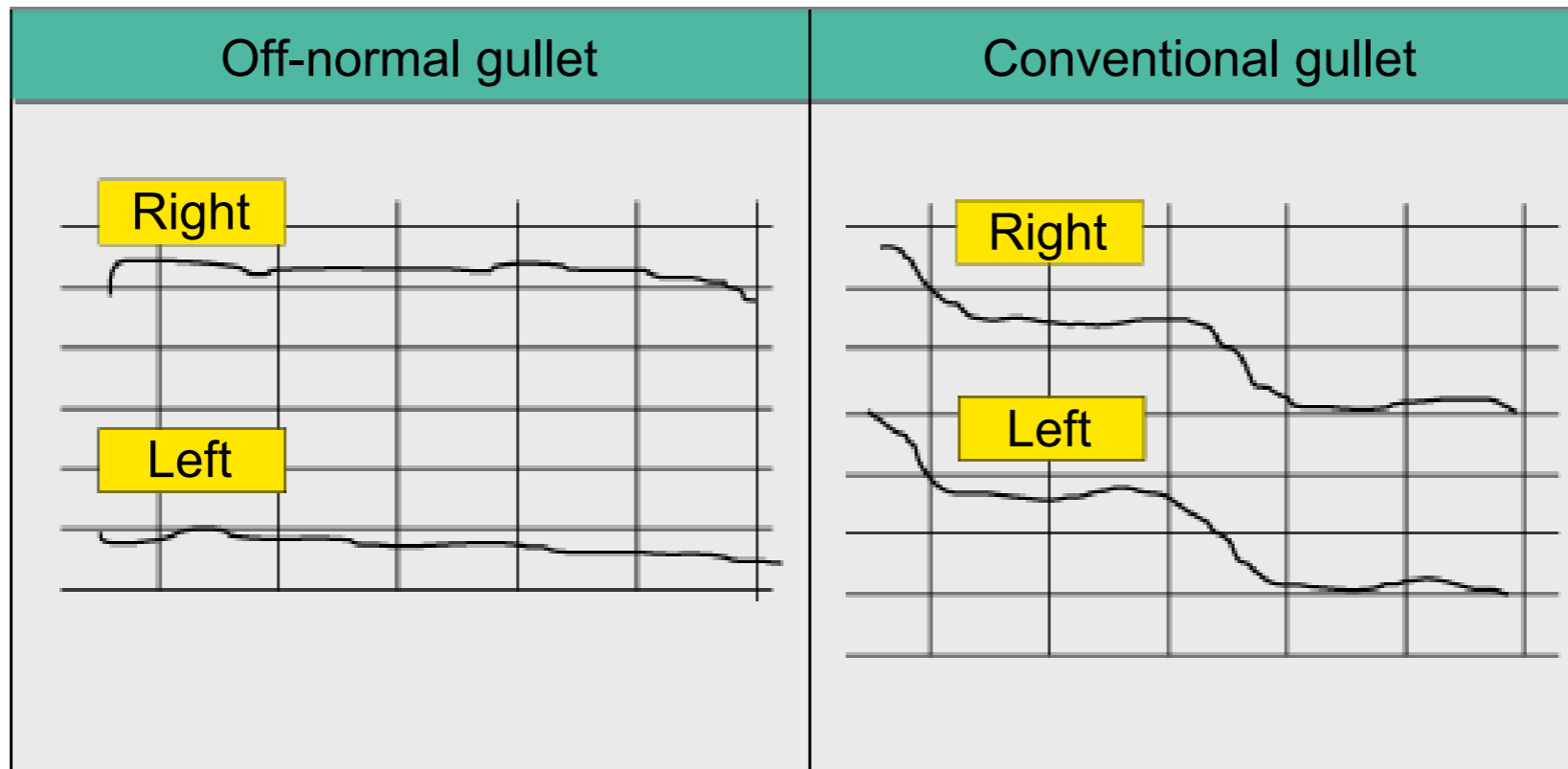
Off-normal gullet features

Feature \ Gullet type		Axis-perpendicular	Off-normal	Normal
Profile accuracy	Cutting force variation	High	Low	Low
	Profile error	○	◎	○
	Lead error	△	◎	△
Surface roughness		△	○	○
Tool life		△	◎	○
Initial cost		○	△	△
Running cost		△	◎	○
Easiness of re-grinding		○	△	△

(◎: Very Good → ○: Good → △: Fair)

Optimized machining precision

Comparison of lead error



Stable cutting load

Cutting load changes

