

# **Performance Steel™**

## **Step 1 Kolene®**

- **We begin with Kolene® the salt bath nitriding process advantages:**
  - **Hardened steel surfaces and resistance to spline tooth wear.**
  - **Increased heat resistance – less potential for warpage and hot spotting.**
  - **Maintains it's surface finish against many types of friction material.**
  - **Corrosion resistant.**
  - **Increased lubricity at the interface for improved shiftability which softens shift minimizing noise, vibration, and harshness (NVH).**



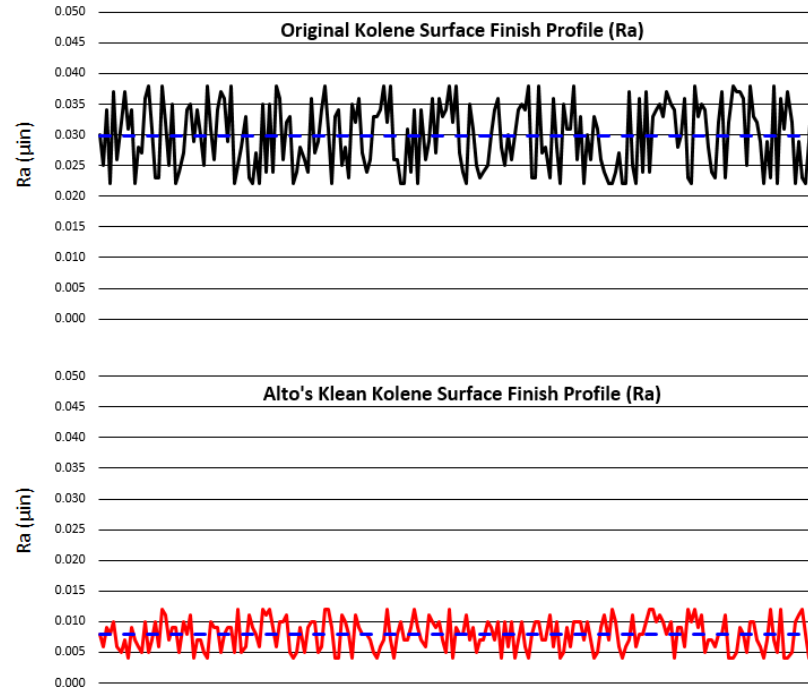
# Performance Steel™ Standard Kolene® Surface

- The Kolene® treatment creates an increased porous surface area.
- The treatment causes a retention of oil at the interface for an extended period during the shift.



# Performance Steel™ Surface

- The Alto proprietary process controls the surface finish which further improves the shiftability of our clutches.
- The process lowers the average Ra value.
- The process reduces the overall range or variation in the Ra value.



# **Performance Steel™**

## **Enhancements**

- **Strengthened wear and fatigue characteristics**
- **Increased heat resistance – reduced hot spotting and warpage**
- **Increased lubricity for improved shiftability minimizing noise, vibration, and harshness (NVH).**
- **The Alto Performance Steel surfaces are primed and ready for your extreme performance, heavy duty, and shift sensitive applications.**

