



## KILIAN PROVIDES POWERTRAIN SOLUTIONS FOR AUTOMOTIVE APPLICATIONS

Kilian is the world leader in designing, developing, and manufacturing machined race bearings and custom engineered powertrain components. Kilian's powertrain products serve OEM requirements for demanding automotive applications.

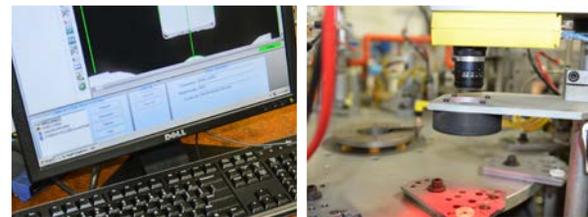


With expert mechanical engineers on staff and thousands of innovative designs, Kilian works as an extension of your own, in-house engineering team to create cost-effective solutions and deliver the support you need to speed new product development and dramatically cut time to market. Our engineers leverage years of experience in design to build a custom solution that perfectly meets your application needs.

With a reputation built on rapid, professional response that spans over 80 years in business, Kilian produces the finest precision-machined bearings and components available today.

## KILIAN PRODUCTS DESIGNED SPECIFICALLY FOR AUTOMOTIVE POWERTRAIN APPLICATIONS

Kilian designs a wide range of products to meet a broad spectrum of automotive powertrain application needs. Our major application areas are: **Transmission, Transfer Case, Shift Actuation, & Variable Cam Timing.**



### Allow Kilian to be your Automotive Powertrain Component Supplier

- Design and manufacturing engineering
- Quantities up to 8,000,000 pieces annually
- CNC precision machining
- Automated assembly
- Heat treating
- Plating
- Injection molding

## LEVERAGE THE STRENGTH OF KILIAN'S DESIGN ENGINEERING TEAM

**We develop our products to meet the customer's design needs.**

Our engineers will work closely with your engineering team to develop a custom solution, making on site visits whenever necessary.



### Tools used for rapid and robust design engineering:

- Solid modeling
- FEA
- On-site test lab for design verification
- Rapid prototyping capability

# DUAL CLUTCH TRANSMISSION ACTUATION PISTON IN APPLICATION



Actuator Piston and Detent

## MANUFACTURING CAPABILITIES

### DCT Piston



- Precision machined
- Broached and milled slot
- Carburized for wear resistance
- Engineered polymer overmold
- Neodymium magnet



### DCT Detent



- Injection molded polymer insert
- High fatigue limit spring
- Precision bored I.D.
- Through hardened housing for durability
- Assembly pre-form and staking operation
- Plated for corrosion protection
- Machine and precision ground O.D.

### Shift Fork



- Heat treated casting
- CNC machined finishing operation
- Staked actuation bearing
- Assembled to mating components
- Low friction engineered polymer pads

## Kilian Facilities

### North America

#### USA

1728 Burnet Avenue  
Syracuse, NY 13206 - USA  
315-432-0700

*Engineered Bearing  
Assemblies*

## The Brands of Altra Motion

### Couplings

**Ameridrives**  
[www.ameridrives.com](http://www.ameridrives.com)

**Bibby Turboflex**  
[www.bibbyturboflex.com](http://www.bibbyturboflex.com)

**Guardian Couplings**  
[www.guardiancouplings.com](http://www.guardiancouplings.com)

**Huco**  
[www.huco.com](http://www.huco.com)

**Lamiflex Couplings**  
[www.lamiflexcouplings.com](http://www.lamiflexcouplings.com)

**Stromag**  
[www.stromag.com](http://www.stromag.com)

**TB Wood's**  
[www.tbwoods.com](http://www.tbwoods.com)

### Linear Systems

**Thomson**  
[www.thomsonlinear.com](http://www.thomsonlinear.com)

### Geared Cam Limit Switches

**Stromag**  
[www.stromag.com](http://www.stromag.com)

### Engineered Bearing Assemblies

**Kilian**  
[www.kilianbearings.com](http://www.kilianbearings.com)

### Electric Clutches & Brakes

**Matrix**  
[www.matrix-international.com](http://www.matrix-international.com)

**Stromag**  
[www.stromag.com](http://www.stromag.com)

**Warner Electric**  
[www.warnerelectric.com](http://www.warnerelectric.com)

**Deltran**  
[www.thomsonlinear.com](http://www.thomsonlinear.com)

### Belted Drives

**TB Wood's**  
[www.tbwoods.com](http://www.tbwoods.com)

### Heavy Duty Clutches & Brakes

**Twiflex**  
[www.twiflex.com](http://www.twiflex.com)

**Stromag**  
[www.stromag.com](http://www.stromag.com)

**Svendborg Brakes**  
[www.svendborg-brakes.com](http://www.svendborg-brakes.com)

**Wichita Clutch**  
[www.wichitaclutch.com](http://www.wichitaclutch.com)

### Gearing & Specialty Components

**Bauer Gear Motor**  
[www.bauergears.com](http://www.bauergears.com)

**Boston Gear**  
[www.bostongear.com](http://www.bostongear.com)

**Delevan**  
[www.delevan.com](http://www.delevan.com)

**Delroyd Worm Gear**  
[www.delroyd.com](http://www.delroyd.com)

**Nuttall Gear**  
[www.nuttallgear.com](http://www.nuttallgear.com)

### Engine Braking Systems

**Jacobs Vehicle Systems**  
[www.jacobsvehiclesystems.com](http://www.jacobsvehiclesystems.com)

### Precision Motors & Automation

**Kollmorgen**  
[www.kollmorgen.com](http://www.kollmorgen.com)

### Miniature Motors

**Portescap**  
[www.portescap.com](http://www.portescap.com)

### Overrunning Clutches

**Formsprag Clutch**  
[www.formsprag.com](http://www.formsprag.com)

**Marland Clutch**  
[www.marland.com](http://www.marland.com)

**Stieber**  
[www.stieberclutch.com](http://www.stieberclutch.com)

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