



# FASTENING & JOINING SOLUTIONS FOR AGRICULTURE, CONSTRUCTION EQUIPMENT AND OTHER OFF-HIGHWAY APPLICATIONS

**Threaded Inserts**  
in Air Cleaners

**Compression Limiters**  
in Plastic Seat Framing

**Threaded Inserts**  
in GPS Receivers

**Compression Limiters**  
in Air Conditioning Ductwork

**Compression Limiters**  
in Plastic Framing of Head Liners

**Precision Shims**  
in Sensor Alignment

**Machined Nuts**  
on In-Cab Control Panels

**Coiled Pins and Solid Pins**  
in Interior Handles

**Coiled Pins**  
in Seat Adjust Mechanisms

**Alignment Dowels**  
in Hydraulic Pumps

**Threaded Inserts**  
in Throttle Controls

**Compression Limiters**  
in Dashboard Assemblies

**Machined Nuts**  
in Fuel Delivery Systems

**Precision Shims**  
for Engine Gaskets

**Disc Springs**  
in Steering Columns

**Compression Limiters**  
in Filters, Covers and other Engine Components

**Alignment Dowels**  
locate Cylinder Heads to Engine Blocks

**Coiled Pins**  
in Camshafts

**Threaded Inserts**  
in Lamp Assemblies

**Coiled Pins**  
in Fuel Pumps

**Disc Springs**  
in Steering Columns

**Coiled Pin**  
as Steering Column Shear Pin

**Spacers**  
in Rear Bucket Linkages

**Precision Shims**  
for Component Spacing

**Coiled Pins and Solid Pins**  
in Exterior Handles

**Coiled Pins**  
in Drum Brake Assemblies

**Disc Springs**  
in Transfer Cases

**Disc Springs**  
in Clutch Assembly

**Coiled Pins and Dowels**  
in Gearboxes and Transfer Cases

**Precision Shims**  
for Bearing Preloads

**Machined Nuts**  
for Fine Drivetrain Adjustments

**Coiled Pins**  
secure Teeth to Buckets

**Precision Shims**  
in Pivot Points

**Threaded Inserts**  
in Electronic Modules

**Precision Shims**  
for Power Couplings

**Disc Springs**  
in Brake Clearance Adjusters

**Coiled Pins and Compression Limiters**  
in Grab Handles

**Wear Bushings**  
in all Pivot Points

**Coiled Pins**  
in Brake and Clutch Master Cylinders

**Machined Nuts**  
in Brake Systems

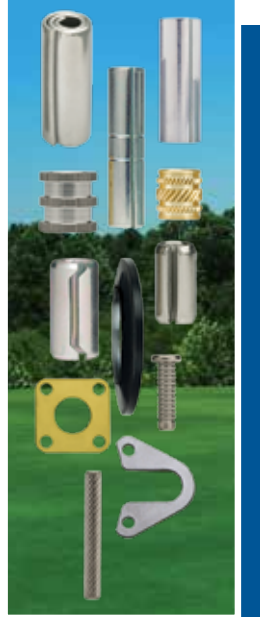
**Alignment Dowels**  
in Clutch Plates

**Precision Shims and Thrust Washers**  
in Powertrain for Alignment and Wear Resistance

**Delivering components to the off-highway market at the lowest-installed cost since 1948.**

# SPIROL®

**FASTENING & JOINING SOLUTIONS  
FOR AGRICULTURE, CONSTRUCTION  
EQUIPMENT AND OTHER OFF-HIGHWAY  
APPLICATIONS**



**Coiled Spring Pins • Threaded Inserts • Precision Shims  
Disc Springs • Solid Pins • Special Machined Nuts • Thrust Washers  
Alignment Dowels/Bushings • Compression Limiters • Spacers**

Seemingly small components can play a major role in your overall manufacturing cost and product quality. Lowering your total assembly cost while improving quality enhances your competitive position in today's global market.

**SPIROL** Application Engineers will review your application needs and work with your design team to recommend the best solution. One way to start the process is to select our **Optimal Application Engineering** portal at [www.SPIROL.com](http://www.SPIROL.com).

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ISO/TS 16949  
ISO 9001  
ISO 14001  
AS9100 Rev D  
Nadcap Chemical Processing - AS7108 Rev G  
Nadcap Laser Beam Machining - AC7116 Rev B and AC7116/4 Rev C

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