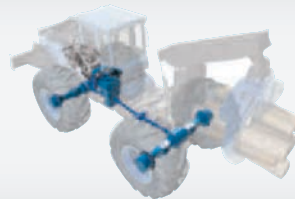
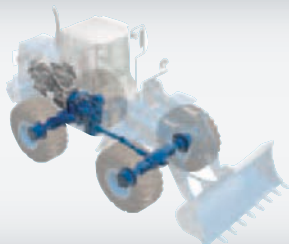
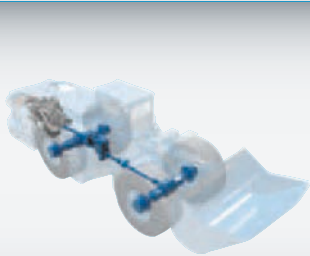


# Off-Highway Driveshafts



**SPICER®**  
Off-Highway Systems





More than 100 years ago, Clarence Spicer developed the first practical application of the cardan universal joint. Since then, Dana has continuously developed new designs, materials, and processes for Spicer® driveshafts that provide more power, greater efficiency, and better overall performance.

A century of quality and innovation is reflected in every Spicer product, ranging from 400 Nm driveshafts for leisure/utility vehicles up to 15,000,000 Nm driveshafts used in industrial applications.

Today, Dana can meet any need through the Spicer Ayra-Cardan™, Spicer 10™ Series, Spicer Wing™ Series, Spicer Life Series®, Spicer Compact™ Series, and Spicer® Centered Double Joint lines of driveshafts. Dana also offers multiple end-fittings, including wing-style end yokes and full round or Quick Disconnect™ options for round-style bearings. SAE, DIN, and cross-serrated flanges are also available.

Dana provides a competitive advantage to original equipment manufacturers (OEMs) with a truly global footprint that supplies Spicer driveshaft products and support all over the world, wherever customers are located. With offices and facilities in 26 countries, Dana offers its OEM customers supply-time flexibility and local support that delivers custom-made driveshafts and fittings when they need them.



◀ Since every vehicle is different, Dana works closely with OEMs to deliver custom-made driveshafts that live up to the Spicer® reputation for performance.



◀ Dana driveshafts are inspected throughout the manufacturing process to meet customer expectations for quality and durability.





Customers can rely on consistently superior solutions everywhere Spicer driveshafts are manufactured because Dana is committed to producing reliable, high-quality components everywhere they are made.

In addition, Dana offers a range of warranties, service, and parts, as well as options such as low-maintenance and lube-for-life products.

▲  
*Dana testing facilities feature on- and off-road test tracks that subject drivetrain systems to extreme operating conditions.*



▶  
*With facilities strategically located around the globe, Dana can accommodate a wide range of production and delivery demands.*



# Driveshafts

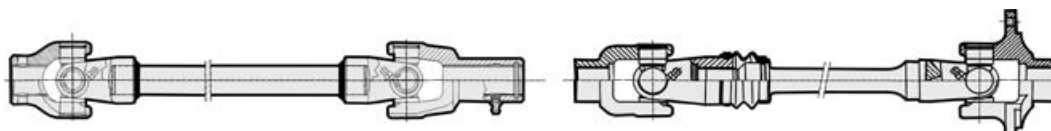
## Spicer Ayra-Cardan™

Spicer Ayra-Cardan driveshafts are ideal for smaller applications such as all-terrain vehicles (ATVs) and leisure/utility vehicles.

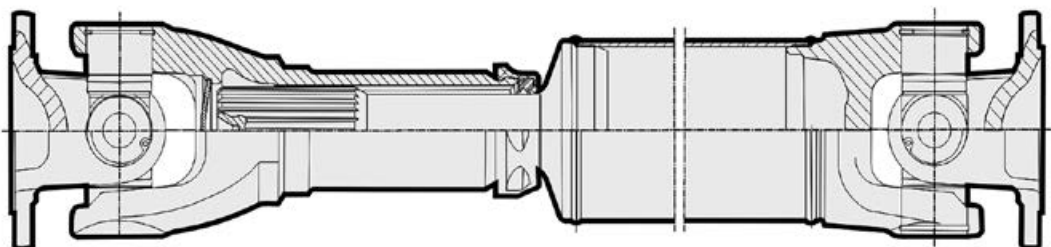
With torque capacities ranging from 1,000 to 2,400 Nm, Dana has the right driveshaft to fit your smallest application.

### Design Features

- Reduced Weight
- Maintenance Free
- Smaller Swing Diameter
- Improved Retention: Circlip and Staked



| Driveshaft Series | Functional Torque Limit | Swing Diameter |
|-------------------|-------------------------|----------------|
|                   | Nm                      | mm             |
| S.103             | 1,000                   | 65.0           |



| Driveshaft Series | Functional Torque Limit | Swing Diameter |
|-------------------|-------------------------|----------------|
|                   | Nm                      | mm             |
| S.1125            | 1,800                   | 84.0           |
| S.1300            | 2,400                   | 90.0           |

### Available on Request

- Paint
- Special Types
- DIN Flanges
- SAE Flanges
- Permanent Lubrication for High and Low Temperatures

**Definition of Functional Torque Limit:** The torque to which the driveshaft can be loaded without yielding or creating plastic deformation of any of the parts that adversely affect the driveshaft kinematics or durability.

# Driveshafts

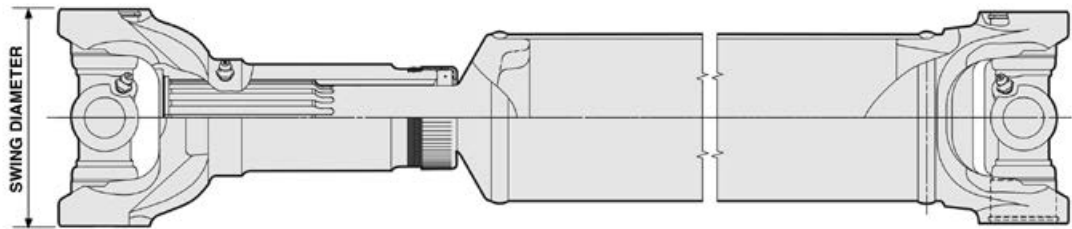
## Spicer 10™ Series

Spicer 10 Series driveshafts have been an industry standard for more than 50 years and are ideal for the rigorous demands of most mobile off-highway applications. The Spicer 10 Series offers driveshafts with torque capacities

up to 15,700 Nm. Larger capacities previously available in this series are now offered by Spicer Life Series® driveshafts. This ensures Dana has the right driveshaft to fit all your off-highway needs.

### Design Features

- Extended Spline Life
- Reduced Thrust Load under Pressure
- Lower Friction under Load
- Superior Needle Bearing Retention
- Easy to Service Universal Joints



| Driveshaft Series | Functional Torque Limit                       |        | Swing Diameter |       |
|-------------------|---|--------|----------------|-------|
|                   | Ft.-Lb.                                       | Nm     | Inches         | mm    |
| 1310              | 1,500   | 2,000  | 4.000          | 101.6 |
| 1350              | 2,500   | 3,400  | 4.560          | 115.8 |
| 1410              | 2,600   | 3,600  | 4.940          | 125.5 |
| 1480              | 4,000   | 5,500  | 5.310          | 134.9 |
| 1550              | 5,100   | 7,000  | 6.000          | 152.4 |
| 1610              | Use Spicer Life Series (SPL 100)              |        |                |       |
| 1710              | 11,500  | 15,700 | 7.880          | 200.2 |
| 1760              | Use Spicer Life Series (SPL 170)              |        |                |       |
| 1810              | Use Spicer Life Series (SPL 250)              |        |                |       |
| 1810HD            | Use Spicer Life Series (SPL 250 or SPL 250HD) |        |                |       |
| 1880              | Use Spicer Wing Bearing (9C and above)        |        |                |       |
|                   | Use Spicer Compact 2000 (2060 or SPL 2065)    |        |                |       |

For additional configurations, contact Dana for specific application information.

### Available on Request

- Paint
- Special Types
- DIN Flanges
- SAE Flanges
- Extended Lubrication
- Permanent Lubrication

Definition of Functional Torque Limit: The torque to which the driveshaft can be loaded without yielding or creating plastic deformation of any of the parts that adversely affect the driveshaft kinematics of durability.



# Driveshafts

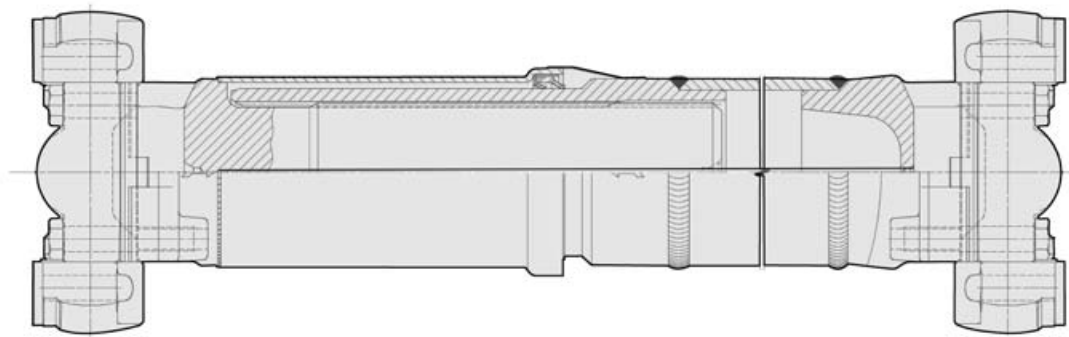
## Spicer Wing™ Series

Spicer wing-bearing style driveshafts are designed for longer life, minimal maintenance, and lower operating cost. Dana is capable of offering the most comprehensive range of wing-style driveshafts today. With torque

capacities ranging from 1,500 to more than 120,000 Nm and lubrication packages from extended to permanently lubricated, Dana has the right driveshaft to fit all your off-highway needs.

### Design Features

- Sealed Slip Spline System
- Triple-Lip Seal, Thrust Washer, and Seal Guard Package
- Reduced Maintenance
- Increased Torque Capacity



| Driveshaft Series | Functional Torque Limit | Swing Diameter |
|-------------------|-------------------------|----------------|
|                   | Nm                      | mm             |
| 2C                | 1,500                   | 87.0           |
| 4C                | 3,300                   | 116.0          |
| 5C                | 5,600                   | 123.0          |
| 6C                | 7,200                   | 150.0          |
| 7C                | 10,700                  | 158.0          |
| 8C                | 15,500                  | 216.0          |
| 8.5C              | 20,300                  | 175.0          |
| 9C                | 27,400                  | 223.0          |
| 10C               | 39,700                  | 225.0          |
| 11C               | 41,600                  | 235.0          |
| 12C               | 62,200                  | 301.0          |
| 12.5C             | 63,000                  | 295.0          |
| 14.5C             | 108,000                 | 326.0          |
| 15C               | 75,400                  | 273.0          |
| 14C               | 120,600                 | 360.0          |

For additional configurations, contact Dana for specific application information.

### Available on Request

- Paint
- Special Types
- Permanent Lubrication for High and Low Temperatures

Definition of Functional Torque Limit: The torque to which the driveshaft can be loaded without yielding or creating plastic deformation of any of the parts that adversely affect the driveshaft kinematics of durability.

# Driveshafts

## Spicer Life Series®

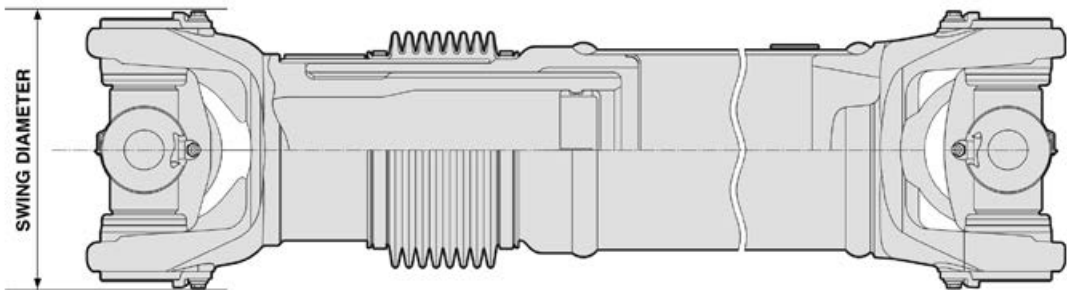
As with the Spicer 10™ Series, Spicer Life Series driveshafts offer features such as longer life, reduced maintenance, and Quick Disconnect™ end yokes that can provide operating benefits to our customers.

With torque capacities ranging from 5,500 to more than 25,000 Nm, Dana has the right driveshaft to fit all your on- and off-highway needs.

### Design Features

- Larger Diameter Slip Member with Longer Splines
- Two Boot Options: Thermoplastic Hytrel® or Seal Can Style
- Smaller Swing Diameter
- Centrally Located Grease Fitting
- Permanently Lubricated Slip Spline
- Increased Torque Capacity

Hytrel is a registered trademark of DuPont.



| Driveshaft Series | Functional Torque Limit | Swing Diameter |
|-------------------|-------------------------|----------------|
|                   | Nm                      | mm             |
| SPL55             | 5,500                   | 134.9          |
| SPL70             | 7,000                   | 152.4          |
| SPL100            | 10,000                  | 154.0          |
| SPL140            | 12,000                  | 194.0          |
| SPL140 HD         | 14,000                  | 194.0          |
| SPL170            | 17,000                  | 193.0          |
| SPL250            | 22,000                  | 193.0          |
| SPL250 HD         | 25,500                  | 193.0          |

For additional configurations, contact Dana for specific application information.

### Available on Request

- Paint
- Special Types
- DIN Flanges
- SAE Flanges
- Extended Lubrication
- Permanent Lubrication

Definition of Functional Torque Limit: The torque to which the driveshaft can be loaded without yielding or creating plastic deformation of any of the parts that adversely affect the driveshaft kinematics of durability.

# Driveshafts

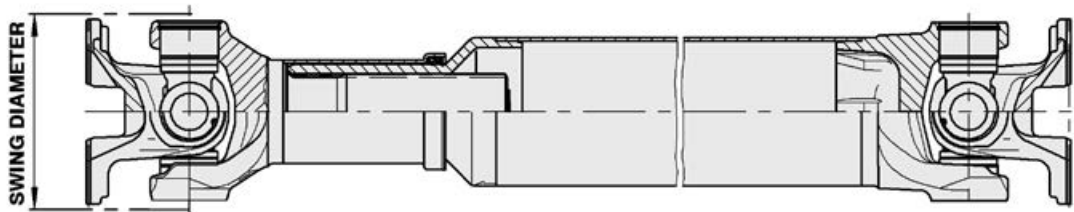
## Spicer Compact™ Series

From the industry standard in Europe to the commercial vehicle market, the Spicer Compact Series offers a wide variety of end-fittings, from SAE to DIN and cross-serrated, allowing Spicer driveshafts

to attach to nearly any axle or transmission. With torque capacities ranging from 2,400 to 35,000 Nm, Dana has the right driveshaft to fit all your on- or off-highway needs.

### Design Features

- Smaller Swing Diameters
- Bearing Package with Reduced Maintenance or Maintenance-Free Options
- Increased Torque Capacity



| Driveshaft Series | Functional Torque Limit | Swing Diameter |
|-------------------|-------------------------|----------------|
|                   | Nm                      | mm             |
| 2015              | 2,400                   | 90.0           |
| 2020              | 3,500                   | 98.0           |
| 2025              | 5,000                   | 113.0          |
| 2030              | 6,500                   | 127.0          |
| 2035              | 10,000                  | 144.0          |
| 2040              | 14,000                  | 160.0          |
| 2045              | 17,000                  | 174.0          |
| 2047              | 19,000                  | 174.0          |
| 2055              | 25,000                  | 178.0          |
| 2060              | 30,000                  | 196.0          |
| 2065              | 35,000                  | 206.0          |

For additional configurations, contact Dana for specific application information.

### Available on Request

- Paint
- Special Types
- DIN Flanges
- SAE Flanges
- Permanent Lubrication for High and Low Temperatures

Definition of Functional Torque Limit: The torque to which the driveshaft can be loaded without yielding or creating plastic deformation of any of the parts that adversely affect the driveshaft kinematics of durability.



# Driveshafts

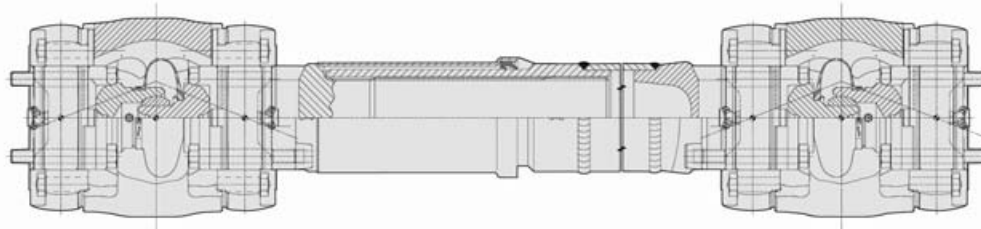
## Spicer® Centered Double Joints

Spicer Centered Double Joints are suitable for many applications, including main or wheel drive applications. Available either as a single

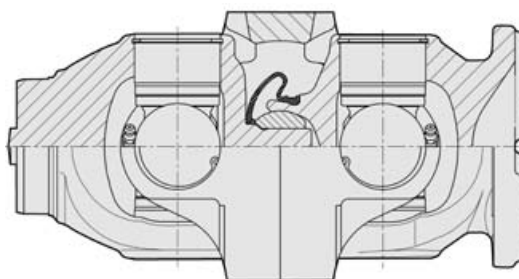
double joint or double/double jointed shafts, ranging from 2,000 to 17,000 Nm, Dana has the right driveshaft to fit your needs.

### Design Features

- Permanently Lubricated
- Equalized Angles for Constant Velocity
- Fully Centered
- Round and Wing-Bearing Styles Available



| Driveshaft Series | Functional Torque Limit | Swing Diameter |
|-------------------|-------------------------|----------------|
|                   | Nm                      | mm             |
| 6C                | 7,200                   | 155.0          |
| 7C                | 10,700                  | 163.0          |
| 8.5C              | 20,300                  | 190.0          |

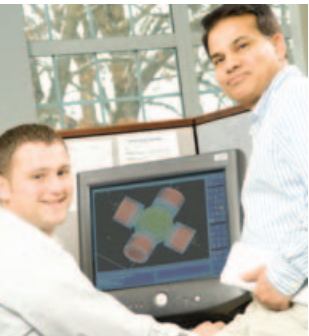


| Driveshaft Series | Functional Torque Limit | Swing Diameter |
|-------------------|-------------------------|----------------|
|                   | Nm                      | mm             |
| 1310              | 2,000                   | 105.4          |
| 1330              | 2,200                   | 109.0          |
| 1350              | 3,400                   | 118.0          |
| 2015              | 2,400                   | 104.0          |
| 2030              | 6,500                   | 140.0          |
| 587.20            | 8,300                   | 150.0          |
| 587.35            | 17,000                  | 180.0          |

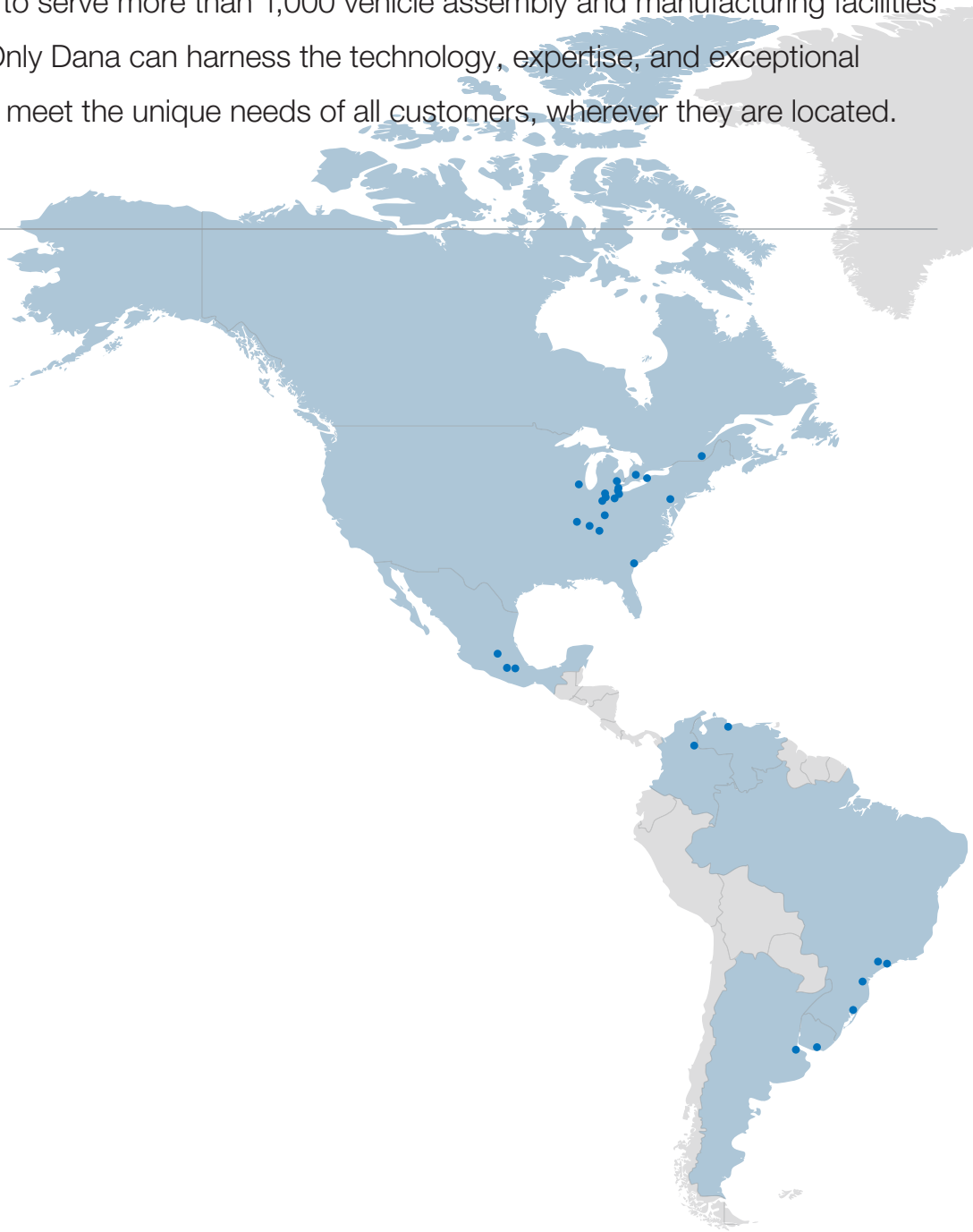
### Available on Request

- Paint
- Permanent Lubrication for High and Low Temperatures
- Special Types

**Definition of Functional Torque Limit:** The torque to which the driveshaft can be loaded without yielding or creating plastic deformation of any of the parts that adversely affect the driveshaft kinematics or durability.



**Global Footprint** Dana Holding Corporation supports operations strategically located on five continents to serve more than 1,000 vehicle assembly and manufacturing facilities in 30 countries. Only Dana can harness the technology, expertise, and exceptional service needed to meet the unique needs of all customers, wherever they are located.



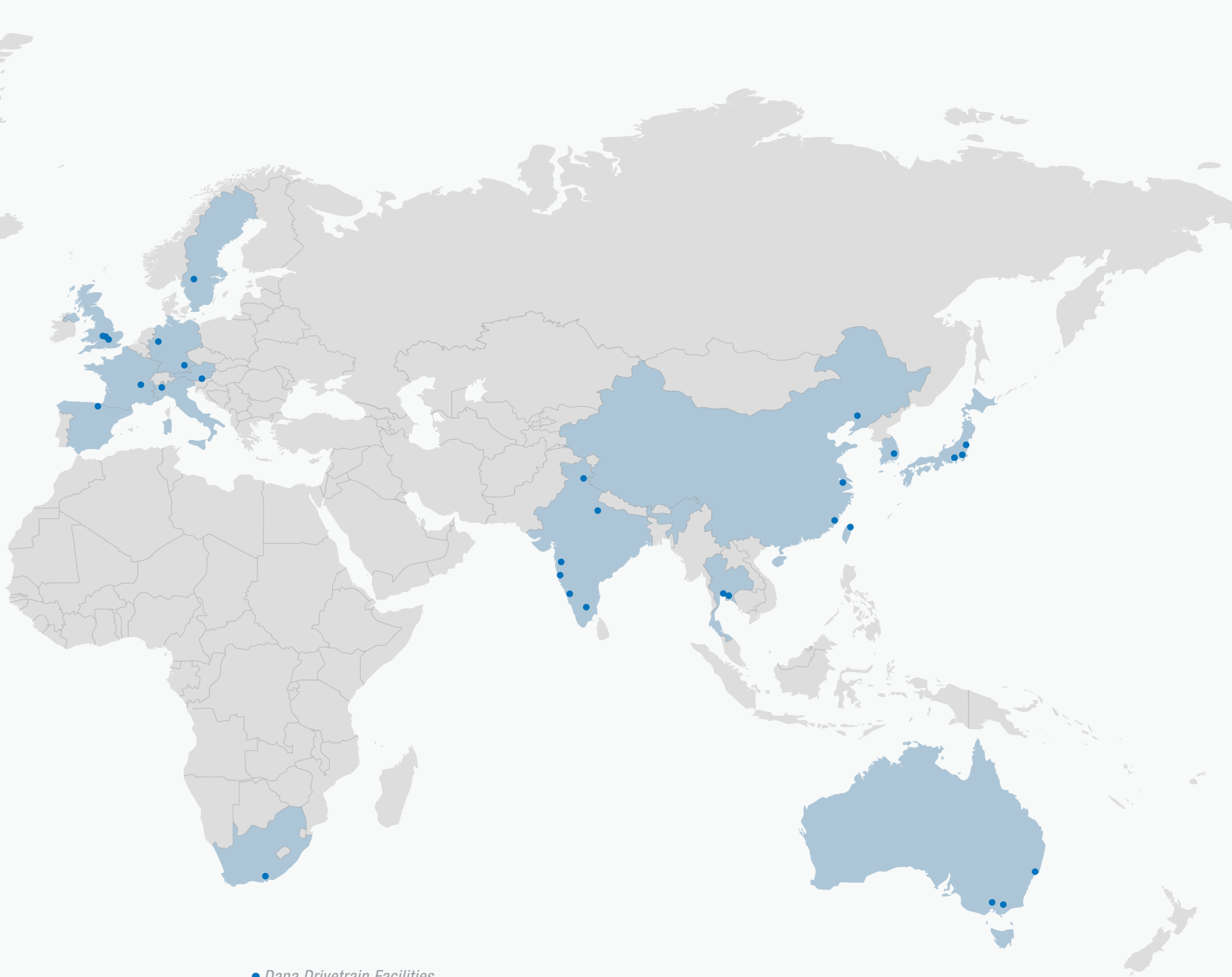
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▶  
*Engineering resource centers around  
 the world provide computer-integrated  
 manufacturing, rapid prototyping,  
 metallurgical service, advanced technical  
 training, and virtual engineering.*





## **SPICER®**

*Drivetrain Products*

Axles

Driveshafts

Off-Highway Transmissions

## **VICTOR REINZ®**

*Sealing Products*

Gaskets and Seals

Cylinder-Head Cover Modules

Thermal-Acoustic Protective Shielding

## **LONG®**

*Thermal Products*

Transmission Oil Coolers

Engine Oil Coolers



### **About Dana Holding Corporation**

Dana is an integral partner for virtually every major vehicle and engine manufacturer worldwide. Dana is a leading supplier of drivetrain, sealing, and thermal technologies to the global automotive, commercial-vehicle, and off-highway markets. Founded in 1904, the company employs thousands of people across five continents.

### **About the Dana Off-Highway Products Group**

The Dana Off-Highway Products Group includes research and development, manufacturing, and assembly operations in Belgium, Brazil, China, Hungary, India, Italy, Mexico, the United Kingdom, and the United States. It designs, manufactures, assembles, and markets Spicer® axles and transaxles, driveshafts and end-fittings, transmissions, torque converters, electronic controls, and brakes. The group also provides genuine replacement parts and service.

The Dana Off-Highway Products Group serves more than 1,000 vehicle assembly and manufacturing facilities in 30 countries. It also has two global distribution centers and more than 60 authorized service centers supporting customers in more than 100 countries. Construction, agriculture, forestry, underground mining, material handling, outdoor power, leisure/utility vehicles, and industrial equipment are just some of the markets that demand the quality found in Spicer products and genuine service parts.

#### **APPLICATION POLICY**

Capacity ratings, features, and specifications vary depending upon the model and type of service. Application approvals must be obtained from the Dana Off-Highway Products Group. We reserve the right to change or modify our product specifications, configurations, or dimensions at any time without notice.