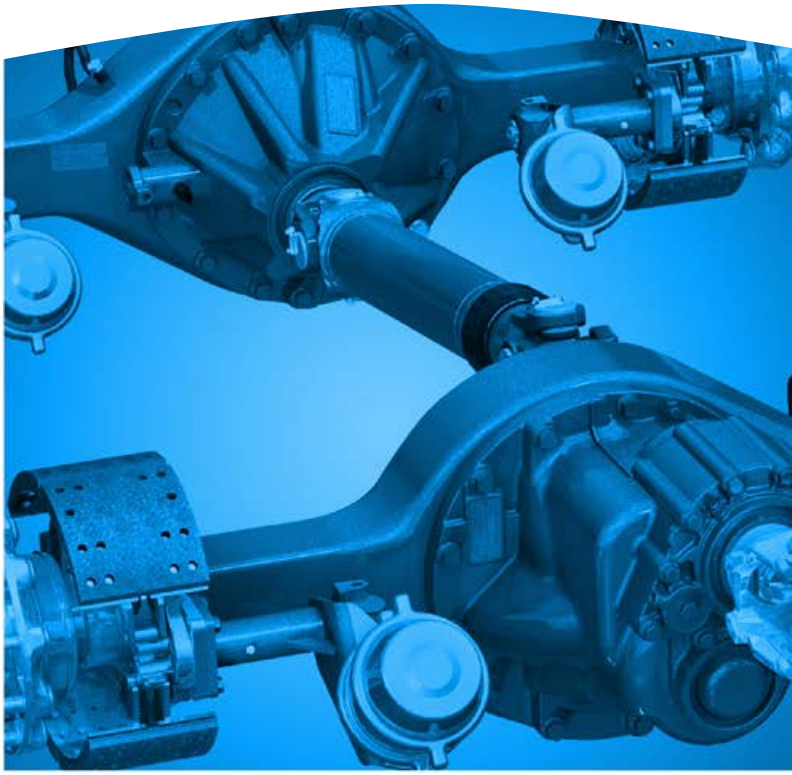
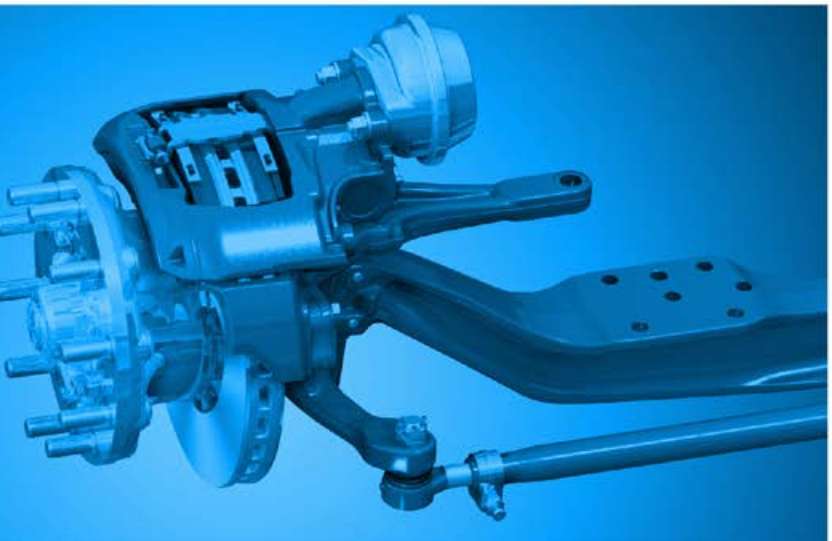
Spicer® Axle, Driveshaft, Tire-Pressure Management Systems, and Wheel-End Systems

DANA SPICER®
Drivetrain Products



Specifications Guide

2016/2017 Revised



Specifications Guide

Drive Axle

Steer Axle

Driveshaft

Tire-Pressure Management Systems

Wheel-End Systems

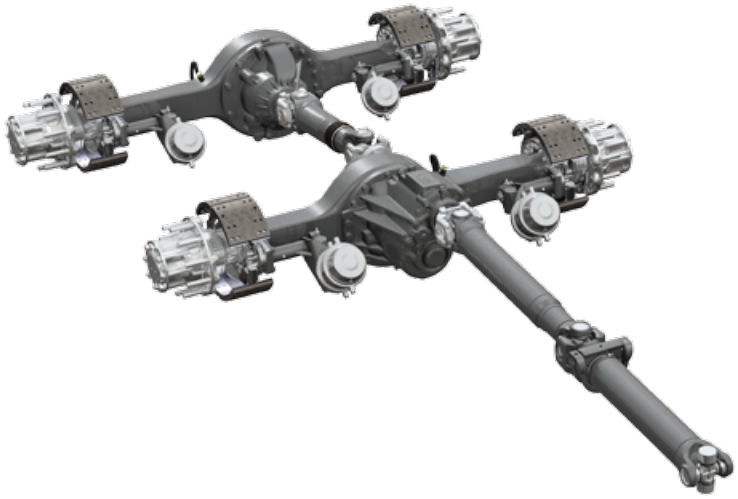
Service and Support

EFFICIENCY THROUGH INNOVATION

Our Innovation Keeps You Moving

Efficiency Through Innovation

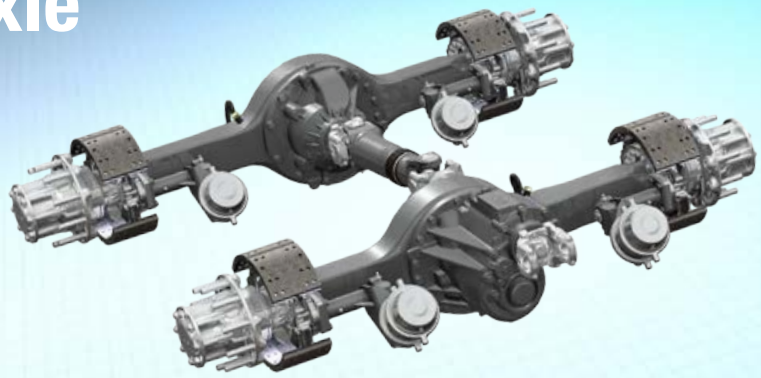
As a world leader in drivetrain technology, Dana is focused on keeping your business optimized and running strong. From breakthrough, patented technologies to industry-leading innovations, our commercial-vehicle products increase durability, reliability, and efficiency.



Reducing Operating Costs to Increase Bottom Lines

Armed with cutting-edge information and superior under-the-vehicle knowledge, our Dana Nationwide Support Team is committed to helping customers increase efficiencies to increase profits. From supplying the latest information and technical support tools to servicing your drivelines quickly and cost efficiently, you'll be happy we're on your side.

Drive Axle



General Information – Heavy- and Medium-Duty

As a world leader in innovative axle technology, Dana provides a full line of the most efficient light-duty, medium-duty, heavy-duty, and specialty rear axle products available for commercial-vehicle applications. Our exclusive combination of patented technologies and designs ensures long service life, reduced maintenance, and more durable axle products.

Nomenclature

Tandem Drive Axle

D 40 - 1 5 5 D

- D- Dual Drive Forward Axle with Inter-axle Differential; R- Dual Drive Rear Axle
- GAW Rating x 1000 lbs.
- Gear Type: 1-Standard Single Reduction
- Options: D - Differential Lock; H - Heavy Wall; P - Optional Lube Pump; R - Retarder Ready; S - SelecTTrac™; W - Wide Track
- Design Level
- Head Assembly Series

D S 40 4 - (P)

- D - Forward Tandem Axle with Interaxle Differential; R - Rear Tandem Axle
- Gearing: S - Single Reduction; D - Single Reduction with Wheel Differential Lock
- GAWR x 1000 lbs.
- Design Level
- (P) - Optional Lube Pump

Single Drive Axle

19 060 S

- GAWR x 1000 lbs.; GCW x 1000 lbs.
- Gearing: D - Single Reduction with Wheel Differential Lock; H - High Performance; S - Single Reduction; L - Limited Slip Differential; W - Wide Track

S 23 - 1 9 0 D

- S - Single Rear Axle
- GAWR x 1000 lbs.
- Gear Type: 1 - Standard Single Reduction
- Head Assembly Series
- Design Level
- Options: D - Differential Lock; E - High Entry; F - Rolled Over; H - Heavy Wall; N - No Spin; R - Retarder Ready; W - Wide Track

Drive Axle

Applications – Heavy- and Medium-Duty

Tandem Drive Axles

Model	Description	Max. GAW lbs. [kg]	Linehaul	Heavy Haul	Logging	Mining	Oil Field	Construction	City Delivery	School Bus	Rescue	Refuse	Recreational	Intercity Coach
DS344	Medium-Duty	34,000 [15,422]	■						■					
DS404	Highway	40,000 [18,144]	■						■					
DS405	Vocational	40,000 [18,144]	■		■	■	■	■	■			■		
D40-145	Pro-40™	40,000 [18,144]	■						■					
D40-155/156	AdvanTEK® 40	40,000 [18,144]	■		■	■	■	■	■			■		
DSH40	High Performance-40	40,000 [18,144]	■		■	■	■	■	■			■		
DSH44	High Performance-44	44,000 [19,958]	■				■	■				■		
D40-170	Super 40	40,000 [18,144]	■		■	■	■	■	■			■		
D46-170	Vocational	46,000 [20,865]	■	■	■	■	■	■			■	■		
D50-170	Vocational	50,000 [22,680]		■	■	■	■	■			■	■		
D52-190	Vocational	52,000 [23,587]		■	■	■	■	■			■	■		
D60-190	Vocational	60,000 [27,216]		■	■	■	■	■			■	■	■	

Dual Range

DT463-P	Two-Speed	46,000 [20,865]		■	■	■	■	■				■		
DT521-P	Two-Speed	52,000 [23,587]		■	■	■	■	■				■		

Double Reduction

D46-590P	Helical	46,000 [20,865]		■	■	■	■	■				■		
D52-590P	Helical	52,000 [23,587]		■	■	■	■	■				■		
D60-590P	Helical	60,000 [27,216]		■	■	■	■	■				■		
D70-590P	Helical	70,000 [31,751]		■	■	■	■	■				■		

Tridem

T69-170HP	Heavy-Duty	69,000 [31,298]		■	■	■	■							
T78-190P	Heavy-Duty	78,000 [35,380]		■	■	■	■							
T78-590P	Heavy-Duty	78,000 [35,380]		■	■	■	■							

6x2

S21-170 / S20-045B	EconoTrek™	40,000 (18,144)	■					■						
S23-190 / S20-045B	EconoTrek™	40,000 (18,144)	■					■						

BLUE AREAS INDICATE AVAILABILITY.

Drive Axle

Applications – Heavy- and Medium-Duty

Single Drive Axles

Model	Description	Max. GAW lbs. [kg]	Linehaul	Heavy Haul	Logging	Mining	Oil Field	Construction	City Delivery	School Bus	Rescue	Refuse	Recreational	Intercity Coach
S14-110	Medium-Duty	14,000 [6,350]						■	■	■			■	
S16-130	Medium-Duty	16,000 [7,257]						■	■	■			■	
S17-140	Medium-Duty	17,000 [7,711]						■	■	■			■	
S19-140	Medium-Duty	19,000 [8,618]						■	■	■			■	
17060S	Medium-Duty	17,000 [7,711]						■	■	■			■	
19060S	Medium-Duty	19,000 [8,618]						■	■	■			■	
S20-140	Medium-Duty	20,000 (9,072)						■	■	■			■	
S21-140	Medium-Duty	21,000 (9,525)						■	■	■			■	
21060S	Medium-Duty	21,000 [9,525]	■					■	■	■		■	■	
22060S	Medium-Duty	22,000 [9,979]	■					■	■	■		■	■	■
23060SH	Medium-Duty	23,000 [10,433]	■					■	■	■		■	■	■
S21-170	Heavy-Duty	21,000 [9,525]	■					■	■	■		■	■	
S23-170	Heavy-Duty	23,000 [10,433]	■					■	■	■	■	■		■
S23-190	Heavy-Duty	23,000 [10,433]	■					■	■		■	■		■
S25-170	Heavy-Duty	25,000 [11,340]						■	■		■	■		■
S26-190	Heavy-Duty	26,000 [11,793]						■			■	■		■
S30-190	Heavy-Duty	30,000 [13,608]						■			■	■		

Two-Speed

19055T	Medium-Duty	19,000 [8,618]						■	■					
21065T	Medium-Duty	21,000 [9,525]						■	■					
22065T	Medium-Duty	22,000 [9,979]						■	■					
23082T	Heavy-Duty	23,000 [10,433]						■	■					
26082T	Heavy-Duty	26,000 [11,793]						■						

Double Reduction

S23-590	Heavy-Duty	23,000 [10,433]						■						
S26-590	Heavy-Duty	26,000 [11,793]						■						
S30-590	Heavy-Duty	30,000 [13,608]						■				■		
S35-590	Heavy-Duty	35,000 [15,876]						■				■		

BLUE AREAS INDICATE AVAILABILITY.

Drive Axle

Heavy-Duty Drive Axle

Spicer® Single Reduction Single Drive Axles

Axle Model	Ratings		Ratios	Axle Shaft			Ring Gear Diameter in. [mm]	Axle Housing			Weight lbs. [kg] (Nominal)	Spindle Type	Options				
	Max. GAW lbs. [kg]	Max. GCW HWY lbs. [kg]		Body Diameter in. [mm]	Number of Splines	Spline Diameter in. [mm]		Box Section Width in. [mm]	Box Section Height in. [mm]	Wall thickness at spring seat in. [mm]			LMS™ Hub	Central Tire Inflation System (CTIS)	Differential Lock	Electromagnetic Retarder	No Spin Differential
S21-170	21,000 [9,525]	100,000 [45,359]	3.07, 3.21, 3.42, 3.58, 3.73, 3.91, 4.10, 4.30, 4.56, 4.78, 5.25, 5.38, 5.57, 6.14, 6.83, 7.17	2.06 [52]	46	2.35 [60]	17.7 [450]	4.61 [117]	5.24 [133]	0.43 [11]	758 [343.8]	R	■	■	■	■	■
S21-190	21,000 [9,525]	125,000 [56,699]	2.53, 2.69, 2.87, 2.93, 3.07, 3.21, 3.42, 3.58, 3.73, 3.91, 4.10, 4.30, 4.56, 4.78, 5.25, 5.38, 5.57, 6.14, 6.83, 7.17, 7.83				18.5 [470]				779.6 [353.6]		■	■	■	■	
S23-170	23,000 [10,433]	100,000 [45,359]	3.07, 3.21, 3.42, 3.58, 3.73, 3.91, 4.10, 4.30, 4.56, 4.78, 5.25, 5.38, 5.57, 6.14, 6.83, 7.17				17.7 [450]				758 [343.8]		■	■	■	■	■
S23-190		125,000 [56,699]	2.53, 2.69, 2.87, 2.93, 3.07, 3.21, 3.42, 3.58, 3.73, 3.91, 4.10, 4.30, 4.56, 4.78, 5.25, 5.38, 5.57, 6.14, 6.83, 7.17, 7.83				18.5 [470]			0.50 [12.5]	795.6 [360.9]		■	■	■	■	
S25-170	25,000 [11,340]	100,000 [45,359]	3.42, 3.58, 3.73, 3.91, 4.10, 4.30, 4.56, 4.78, 5.25, 5.38, 5.57, 6.14, 6.83, 7.17	2.25 [57]			17.7 [450]				785 [356.1]		■	■	■	■	■
S26-190	26,000 [11,793]	125,000 [56,699]	3.42, 3.58, 3.73, 3.91, 4.10, 4.30, 4.56, 4.78, 5.25, 5.38, 5.57, 6.14, 6.83, 7.17, 7.83				18.5 [470]			0.63 [16]	838.6 [380.4]		■	■	■	■	
S30-190	30,000 [13,608]							5.31 [135]	5.91 [150]		896 [406]	W			■	■	

Rating is subject to Dana engineering application approval.

Spicer High Entry Single Reduction Single Drive Axles

Axle Model	Ratings		Ratios	Axle Shaft			Ring Gear Diameter in. [mm]	Axle Housing			Weight lbs. [kg] (Nominal)	Spindle Type	Options				
	Max. GAW lbs. [kg]	Max. GCW HWY lbs. [kg]		Body Diameter in. [mm]	Number of Splines	Spline Diameter in. [mm]		Box Section Width in. [mm]	Box Section Height in. [mm]	Wall thickness at spring seat in. [mm]			LMS™ Hub	Central Tire Inflation System (CTIS)	Differential Lock	Electromagnetic Retarder	No Spin Differential
S21-170E	21,000 [9,525]	100,000 [45,359]	3.07, 3.21, 3.42, 3.58, 3.73, 3.91, 4.10, 4.30, 4.56, 4.78, 5.25, 5.38, 5.57, 6.14, 6.83, 7.17	2.06 [52]	46	2.35 [60]	17.7 [450]	4.61 [117]	5.24 [133]	0.43 [11]	897 [407]	R	■	■	■	■	■
S23-170E	23,000 [10,433]										897 [407]		■	■	■	■	■
S23-190E		125,000 [56,699]	3.42, 3.58, 3.73, 3.91, 4.10, 4.30, 4.56, 4.78, 5.25, 5.38, 5.57, 6.14, 6.83, 7.17, 7.83				18.5 [470]			0.50 [12.5]	885 [401]		■	■	■	■	
S25-170E	25,000 [11,340]	100,000 [45,359]	3.42, 3.58, 3.73, 3.91, 4.10, 4.30, 4.56, 4.78, 5.25, 5.38, 5.57, 6.14, 6.83, 7.17	2.25 [57]			17.7 [450]				868 [394]		■	■	■	■	■
S26-190E	26,000 [11,793]	125,000 [56,699]	3.42, 3.58, 3.73, 3.91, 4.10, 4.30, 4.56, 4.78, 5.25, 5.38, 5.57, 6.14, 6.83, 7.17, 7.83				18.5 [470]			0.63 [16]	926 [420]		■	■	■	■	
S30-190E	30,000 [13,608]							5.31 [135]	5.91 [150]		984 [446]	W			■	■	

Rating is subject to Dana engineering application approval.

BLUE AREAS INDICATE AVAILABILITY.

Drive Axle

Heavy-Duty Drive Axle

Spicer® Single Reduction Tandem Drive Axles

Product	Axle Model	Ratings		Ratios	Axle Shaft			Ring Gear Diameter in. [mm]	Axle Housing			Weight Difference lbs. [kg] (Nominal)	Wheel-end Series	Options				
		Max. GAW lbs. [kg]	Max. GCW** Turnpike lbs. [kg]		Body Diameter in. [mm]	Number of Splines	Spline Diameter in. [mm]		Box Section Width in. [mm]	Box Section Height in. [mm]	Wall thickness at spring seat in. [mm]			Thickwall Housing	LMS™ Hub	Differential Lock	SelecTTrac™	Pump
Pro-40™	D40-145	40,000 [18,144]	110,000 [49,895]	3.36, 3.42, 3.55, 3.70, 3.91, 4.10, 4.88, 5.29, 5.57	1.81 [46]	41	2.10 [53]	F- 15.4 [391] R- 13.4 [340]	4.61 [117]	5.24 [133]	0.37 [9.5]	-89 [-40]	R	0.43 [11]	■	■	■	■
AdvanTEK® 40	D40-155		145,000 [65,771]	2.26, 2.39, 2.47, 2.53, 2.64, 2.79	1.88 [48]			15.75 [400]				-6 [-3]		0.43 [11]	■	■	■	■
AdvanTEK® 40	D40-156			2.79 , 2.93, 3.08, 3.23, 3.36, 3.42, 3.55, 3.70, 3.91								-37 [-14]			■	■	■	■
Standard Tandem	DS404		143,000 [64,864]	2.85, 2.93, 3.08, 3.25, 3.36, 3.42, 3.55, 3.70, 3.90, 4.11, 4.33, 4.63, 4.88, 5.29, 5.57, 6.17, 6.50				15.4 [391]				Base		0.43 [11] 0.50 [12.5]	■	■		■
Standard Tandem	DS405										0.43 [11]	31 [14]		STD	■	■		■
High Performance-40	DSH40			3.08, 3.25, 3.36, 3.42, 3.55, 3.70, 3.90, 4.11, 4.33, 4.63, 4.88, 5.29, 5.57, 6.17, 6.50				15.7 [400]				75 [34]			■	■		■
High Performance-44	DSH44	44,000 [19,958]	72,000 [32,659] GVW	3.36, 3.42, 3.55, 3.70, 3.90, 4.11, 4.33, 4.63, 4.88, 5.29, 5.57, 6.17, 6.50, 7.17							0.50 [12.5]	111 [50]		STD	■	■		■
EconoTrek™ 6x2	S21-170 and S20-045B	40,000 [18,144]	100,000 [45,359]	3.07, 3.21, 3.42, 3.58, 3.73, 3.91, 4.10, 4.30, 4.56, 4.78, 5.25, 5.38, 5.57, 6.14, 6.83, 7.17	2.06 [52]	46	2.35 [60]	17.7 [450]			0.43 [11] and 0.37 [9.5]	-313 [-142]		0.50 [12.5] and 0.43 [11]	■	■	■	
EconoTrek™ 6x2	S21-190 and S20-045B		140,000 [63,503]	2.53, 2.69, 2.87, 2.93, 3.07, 3.21, 3.42, 3.58, 3.73, 3.91, 4.10, 4.30, 4.56, 4.78, 5.25, 5.38, 5.57, 6.14, 6.83, 7.17, 7.83				18.5 [470]				-271 [-123]			■	■	■	

Rating is subject to Dana engineering application approval. ** For 3% max. grade.

Spicer Single Reduction Heavy Tandem and Tridem Drive Axles

Axle Model	Ratings		Ratios	Axle Shaft			Ring Gear Diameter in. [mm]	Axle Housing			Weight lbs. [kg] (Nominal)	Spindle Type	Options					
	Max. GAW lbs. [kg]	Max. GCW HWY lbs. [kg]		Body Diameter in. [mm]	Number of Splines	Spline Diameter in. [mm]		Box Section Width in. [mm]	Box Section Height in. [mm]	Wall thickness at spring seat in. [mm]			LMS™ Hub	Central Tire Inflation System (CTIS)	Differential Lock	Pump	Electromagnetic Retarder	No Spin Differential
D40-170	40,000 [18,144]	160,000 [72,575]	3.07, 3.21, 3.42, 3.58, 3.73, 3.91, 4.10, 4.30, 4.56, 4.78, 5.25, 5.38, 5.57, 6.14, 6.83, 7.17	2.06 [52]	46	2.35 [60]	17.7 [450]	4.61 [117]	5.24 [133]	0.43 [11]	1658 [752]	R	■	■	■	■	■	■
D46-170	46,000 [20,865]									0.50 [12.5]	1702 [772]		■	■	■	■	■	■
D50-170	50,000 [22,680]									0.63 [16]	1739 [789]		■	■	■	■	■	
D52-190P	52,000 [23,587]	225,000 [102,058]	3.42, 3.58, 3.73, 3.91, 4.10, 4.30, 4.56, 4.78, 5.25, 5.38, 5.57, 6.14, 6.83, 7.17	2.25 [57]			18.5 [470]	5.31 [135]	5.91 [150]		1903 [863]		■	■	■	STD	■	
D60-190P	60,000 [27,216]										1909 [866]	W			■		■	
T69-170HP*	69,000 [31,298]	160,000 [72,575]	3.07, 3.21, 3.42, 3.58, 3.73, 3.91, 4.10, 4.30, 4.56, 4.78, 5.25, 5.38, 5.57, 6.14, 6.83, 7.17	2.06 [52]			17.7 [450]	4.61 [117]	5.24 [133]		2701 [1225]	R	■	■	■		■	
T78-190P*	78,000 [35,380]	240,000 [108,862]	3.42, 3.58, 3.73, 3.91, 4.10, 4.30, 4.56, 4.78, 5.25, 5.38, 5.57, 6.14, 6.83, 7.17	2.25 [57]			18.5 [470]	5.31 [135]	5.91 [150]		3010 [1365]		■	■	■		■	

Rating is subject to Dana engineering application approval. * Tridem axle configuration.

BLUE AREAS INDICATE AVAILABILITY.

Drive Axle

Heavy-Duty Drive Axle

Spicer® Two-Speed and Double Reduction Single Drive Axles

Axle Model	Ratings		Ratios	Axle Shaft			Ring Gear Diameter in. [mm]	Axle Housing			Weight lbs. [kg] (Nominal)	Spindle Type	Options			
	Max. GAW lbs. [kg]	Max. GCW HWY lbs. [kg]		Body Diameter in. [mm]	Number of Splines	Spline Diameter in. [mm]		Box Section Width	Box Section Height	Wall thickness at spring seat			LMS™ Hub	Central Tire Inflation System (CTIS)	Electromagnetic Retarder	Differential Lock
23082T	23,000 [10,433]	80,000 [36,287]	3.70/5.04, 3.90/5.31, 4.11/5.60, 4.33/5.90, 4.56/6.20, 4.88/6.64, 5.43/7.39, 6.17/8.40, 6.67/9.08	2.06 [52]	36	2.31 [59]	18 [457]	4.61 [117]	5.24 [133]	0.55 [14]	779 [353]	R	■	■		
26082T	26,000 [11,793]												■	■		
S23-590	23,000 [10,433]	125,000 [56,699]	4.75, 4.99, 5.19, 5.44, 5.70, 5.98, 6.34, 6.65, 7.30, 7.48, 7.75, 8.55, 9.51, 9.97, 10.90	2.25 [57]	46	2.35 [60]	18.5 [470]			0.50 [12.5]	885 [401]		■	■	■	■
S26-590	26,000 [11,793]									0.63 [16]	926 [420]		■	■	■	■
S30-590	30,000 [13,608]							5.31 [135]	5.91 [150]		984 [446]	W			■	■
S35-590	35,000 [15,876]							5.63 [143]	6.73 [171]	0.87 [22]	1104 [501]				■	■

Rating is subject to Dana engineering application approval.

Spicer Two-Speed and Double Reduction Tandem and Tridem Drive Axles

Axle Model	Ratings		Ratios	Axle Shaft			Ring Gear Diameter in. [mm]	Axle Housing			Weight lbs. [kg] (Nominal)	Spindle Type	Options			
	Max. GAW lbs. [kg]	Max. GCW HWY lbs. [kg]		Body Diameter in. [mm]	Number of Splines	Spline Diameter in. [mm]		Box Section Width	Box Section Height	Wall thickness at spring seat			LMS™ Hub	Central Tire Inflation System (CTIS)	Pump	Differential Lock
DT463-P	46,000 [20,865]	160,000 [72,575]	3.70/5.04, 3.90/5.32, 4.11/5.60, 4.33/5.90, 4.56/6.21, 4.88/6.64, 5.43/7.39, 6.17/8.40	2.06 [52]	36	2.31 [59]	18 [457]	4.61 [117]	5.24 [133]	0.56 [14]	1883 [854]	R	■	■	STD	
DT521-P	52,000 [23,587]			2.25 [57]				5.31 [135]	5.91 [150]	0.63 [16]	1,956 [880]		■	■		
D46-590HP	46,000 [20,865]	240,000 [108,862]	4.75, 4.99, 5.19, 5.44, 5.70, 5.98, 6.34, 6.65, 7.30, 7.48, 7.75, 8.55, 9.51, 9.97, 10.90		46	2.35 [60]	18.5 [470]	4.61 [117]	5.24 [133]		1910 [866]		■	■		■
D52-590P	52,000 [23,587]							5.31 [135]	5.91 [150]		2098 [952]		■	■		■
D60-590P	60,000 [27,216]											W				■
D70-590P	70,000 [31,751]							5.63 [143]	6.73 [171]	0.87 [22]	2238 [1015]					■
T78-590P*	78,000 [35,380]							5.31 [135]	5.91 [150]	0.63 [16]	3212 [1457]	R	■	■		■

Rating is subject to Dana engineering application approval. * Tridem axle configuration.

Spicer 6x2 Tag Axle Option

Axle Model	Max. GAW lbs. [kg]	Width in. [mm]	Height in. [mm]	Wall in. [mm]	Weight lbs. [kg]	Spindle Type	Options	
							LMS™ Hub	Central Tire Inflation System (CTIS)
S20-045B	20,000 [9,072]	4.61 [117]	5.24 [133]	0.37 [9.4]	210 [95]	R	■	■
S21-060B	21,000 [9,525]			0.43 [11]	260 [118]			
S23-070B	23,000 [10,433]			0.50 [12.5]	312 [142]			

Rating is subject to Dana engineering application approval. **BLUE AREAS INDICATE AVAILABILITY.**

Drive Axle

Medium-Duty Drive Axle

Spicer® Single Reduction Single Drive Axles

Axle Model	Ratings		Ratios	Axle Shaft			Ring Gear Diameter in. [mm]	Axle Housing			Weight lbs. [kg] (Nominal)	Spindle Type	Options					
	Max. GAW lbs. [kg]	Max. GCW HWY lbs. [kg]		Body Diameter in. [mm]	Number of Splines	Spline Diameter in. [mm]		Box Section Width in. [mm]	Box Section Height in. [mm]	Wall thickness at spring seat in. [mm]			LMS™ Hub	Central Tire Inflation System (CTIS)	Differential Lock	Parking Brake	Limited Slip	No Spin Differential
S14-110*	14,000 [6,350]	35,000 [15,876]	3.73, 3.91, 4.10, 4.30, 4.44, 4.56, 4.78, 4.88, 5.13, 5.38, 5.57, 5.86, 6.14, 6.50	1.57 [40]	34	1.75 [44]	11.8 [300]	4.25 [108]	4.25 [108]	0.31 [8]	345 [156]	Varies by OEM				■	■	
S16-130*	16,000 [7,257]	40,000 [18,144]		1.61 [41]	36	1.89 [48]	12.2 [310]			0.39 [9.5]	367 [166]					■	■	
S17-140*	17,000 [7,711]	50,000 [22,680]	3.31, 3.58, 3.73, 3.91, 4.10, 4.30, 4.56, 4.88, 5.29, 5.57, 6.14, 6.50	1.81 [46]	39	2.00 [51]	13.4 [340]	4.61 [117]	5.24 [133]	0.39 [9.5]	433 [196]	L				■		
S19-140*	19,000 [8,618]	50,000 [22,680]	3.31, 3.58, 3.73, 3.91, 4.10, 4.30, 4.56, 4.88, 5.29, 5.57, 6.14, 6.50	1.81 [46]	39	2.00 [51]	13.4 [340]	4.61 [117]	5.24 [133]	0.39 [9.5]	433 [196]	L				■		
S20-140	20,000 [9,071]	50,000 [22,680]	3.31, 3.42, 3.58, 3.73, 3.91, 4.10*, 4.30*, 4.56*, 4.88*, 5.29*, 5.57*, 6.14*, 6.50*	1.81 [46]	39	2.00 [51]	13.4 [340]	4.61 [117]	5.24 [133]	0.39 [9.5]	479 [217]	R	■	■		■		
S21-140	21,000 [9,525]	50,000 [22,680]	3.31, 3.42, 3.58, 3.73, 3.91, 4.10*, 4.30*, 4.56*, 4.88*, 5.29*, 5.57*, 6.14*, 6.50*	1.81 [46]	39	2.00 [51]	13.4 [340]	4.61 [117]	5.24 [133]	0.43 [11]	485 [220]	R	■	■		■		
17060S ◊	17,000 [7,711]	60,000 [27,216]	3.08, 3.25, 3.36, 3.55, 3.70, 3.90, 4.11, 4.30, 4.33, 4.63, 4.78, 4.88, 5.29, 5.57, 6.17, 6.50, 7.17	1.81 [46]	39	2.00 [51]	15.4 [391]	4.61 [117]	5.24 [133]	0.37 [9.5]	519 [235]	L			■	■		■
19060S ◊	19,000 [8,618]														■	■		■
21060S ◊	21,000 [9,525]			1.89 [48]	41	2.10 [53]				0.43 [11]	562 [255]	R	■	■	■	■		■
22060S ◊	22,000 [9,979]												■	■	■	■		■
23060SH ◊	23,000 [10,433]		3.36, 3.55, 3.70, 3.90, 4.11, 4.33, 4.63, 4.88, 5.29, 5.57, 6.17, 6.50, 7.17	1.88 [48]						0.50 [12.5]	589 [267]	R	■	■	■	■		■

Rating is subject to Dana engineering application approval. * GenTech™ gearing is standard for this model. ◊ Optional GenTech™ gearing for coach and bus applications available on this model.

Spicer Two-Speed and Planetary Double Reduction Single Drive Axles

Axle Model	Ratings		Ratios		Axle Shaft			Ring Gear Diameter in. [mm]	Axle Housing			Weight lbs. [kg] (Nominal)	Spindle Type	Options		
	Max. GAW lbs. [kg]	Max. GCW HWY lbs. [kg]	Two-Speed	Double Reduction	Body Diameter in. [mm]	Number of Splines	Spline Diameter in. [mm]		Box Section Width in. [mm]	Box Section Height in. [mm]	Wall thickness at spring seat in. [mm]			LMS™ Hub	Central Tire Inflation System (CTIS)	No Spin Differential
19055T 19055P	19,000 [8,618]	60,000 [27,216]	3.90/5.32, 4.11/5.61, 4.33/5.91, 4.63/6.31, 4.88/6.65, 5.29/7.21, 5.57/7.60, 6.17/8.42, 6.50/8.87, 7.17/9.77	5.32, 5.61, 5.91, 6.31, 6.65, 7.21, 7.60, 8.42, 8.87, 9.77	1.81 [46]	39	2.00 [51]	16.5 [419]	4.61 [117]	5.24 [133]	0.37 [9.5]	605 [274]	L			■
21065T 21065P	21,000 [9,525]				1.89 [48]	41	2.10 [53]						R	■	■	■
22065T 22065P	22,000 [9,979]										0.43 [11]	634 [288]		■	■	■

Rating is subject to Dana engineering application approval.

Spicer Single Reduction Tandem Drive Axles

Axle Model	Ratings		Ratios	Axle Shaft			Ring Gear Diameter in. [mm]	Axle Housing			Weight lbs. [kg] (Nominal)	Spindle Type	Options	
	Max. GAW lbs. [kg]	Max. GCW HWY lbs. [kg]		Body Diameter in. [mm]	Number of Splines	Spline Diameter in. [mm]		Box Section Width in. [mm]	Box Section Height in. [mm]	Wall thickness at spring seat in. [mm]			Limited Slip	No Spin Differential
DS344	34,000 [15,422]	90,000 [40,823]	3.36, 3.55, 3.70, 3.90, 4.11, 4.33, 4.63, 4.88, 5.29, 5.57, 6.17, 6.50	1.81 [46]	39	2.00 [51]	15.4 [391]	4.61 [117]	5.24 [133]	0.37 [9.5]	1202 [545]	L	■	■

Rating is subject to Dana engineering application approval.

BLUE AREAS INDICATE AVAILABILITY.

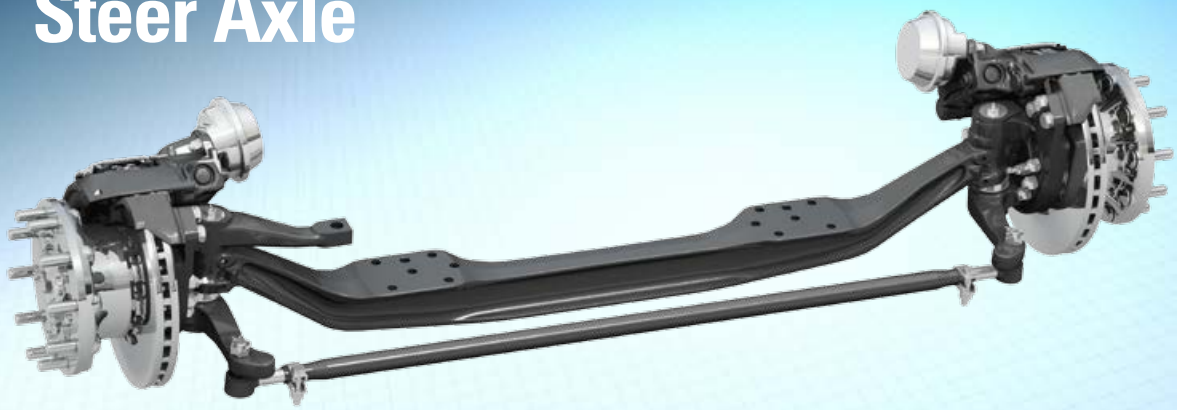
Drive Axle

Lubrication Intervals – Heavy- and Medium-Duty

Spicer® Drive Axle Lubrication Intervals				
Synthetic or Mineral	**Lubricant**	**SAE**	**Linehaul**	**On/Off-Hwy**
Synthetic	SHAES-256	75W-90	500,000 mi (800,000 km) or 5 years (whichever comes first)	120,000 mi (193,000 km) or 1 year (whichever comes first)
Mineral Base	MIL-L-2105E/J02360, API GL-5 Gear oil, MIL-PRF-2105E	75W, 75W-90, 75W-140, 80W-90, 85W-140	120,000 mi (193,000 km) or 1 year (whichever comes first)	60,000 mi (96,500 km) or 1 year (whichever comes first)

We recommend genuine Spicer® lubricants approved to SHAES 256, Rev. C

Steer Axle



General Information – Heavy- and Medium-Duty

At Dana, our world-class innovations offer the highest efficiencies in a full line of medium-duty, heavy-duty, and specialty axle products for all commercial-vehicle applications. As a world leader in front axle technology, we provide our customers with the most versatile, durable, and reliable steer axles on the market.

Nomenclature

Steer Axle

E-125 1 I

- **E** — Series E, Integrated Knuckle
- **125** — GAWR x 100 lbs.
  - Example:
  - 125 x 100 =12,500 lbs.
  - 132 x 100 =13,200 lbs.
  - 146 x 100 =14,600 lbs.
- **1** — Design Level:
  - 0 - Standard
  - 1 - Heavy-Duty Beam
  - 2 - Maximum Contact Kingpin Joint
  - 3 - Maximum Contact Kingpin Joint and Heavy-Duty Beam
  - 4 - Top Dead Center Air Disc Brake Mount Knuckle
- **I** — Beam Type:
  - I - Beam, Standard 69" KPI
  - L - Light Weight Beam
  - W - Wide Track 71" KPI

D-125 1 I

- **D** — Series D, Dana Axle
- **125** — GAWR x 1000 lbs.
  - Example:
  - 70 X 1,000 = 7,000 lbs.
  - 85 X 1,000 = 8,500 lbs.
- **1** — Knuckle Configuration:
  - 0 - Tapered Bore Knuckle, Steer and Ackerman Arm
  - 1 - Integral Knuckle, Integrated Air Disc Brake Flange with Bolt-on Steer Arm
  - 2 - Integral Knuckle with Tapered Bore Steer Arm
  - 3 - Integral Knuckle with Bolt-on Steer Arm
- **I** — Beam Type:
  - I - Standard Beam 69" KPI
  - L - Light Weight Beam
  - W - Wide Track 71" KPI

GAWR x 100 lbs.

Example:

125 x 100 =12,500 lbs.

132 x 100 =13,200 lbs.

146 x 100 =14,600 lbs.

220 x 100 = 22,000 lbs.

EFA - 125 T 5

- **EFA** — Series E, EFA
- **125** — GAWR x 1000 lbs.
- **T** — Future Design Level
- **5** — Beam Drop:
  - 1 - 1.5 in. to Tube Centerline
  - 4 - 3.5 in. to Spring Pad
  - 5 - 5.1 in. to Tube Centerline
- **T** — Beam Type:
  - F - I-Beam Standard Overall Width
  - T - Tubular Beam

Steer Axle

Applications – Heavy- and Medium-Duty

Steer Axles

Model	Description	Max. GAW lbs. [kg]	Linehaul	Heavy Haul	Logging	Mining	Oil Field	Construction	City Delivery	School Bus	Rescue	Refuse	Recreational
D-600 – D-850	Medium-Duty	8,500 [3,856]							■	■	■		■
I-100SG – I-140SG	Medium-Duty	14,600 [6,622]							■	■	■		■
E-1002 – E-1252	Linehaul	12,500 [5,670]	■					■			■		■
E-1203, E-1322, E-1462	Linehaul/ Severe Service	14,600 [6,622]	■	■	■			■				■	■
I-100W – I-220W	Severe Service/ Wide Track	22,000 [9,979]		■	■	■		■				■	
D-2000F, D-2200F	Severe Service	22,800 [10,342]		■	■	■	■	■				■	
EFA-22T – EFA-24T	On/Off Highway Tubular Beam	24,000 [10,886]		■		■	■						

BLUE AREAS INDICATE AVAILABILITY.

Steer Axle

Heavy- and Medium-Duty

Spicer® Integral Arm Steer Axles

Nominal Load Rating lbs. [kg]	Model	Beam Width** (KPI) in. [mm]	Beam Drop in. [mm]			LMS™ Hub Option	Tire-Pressure Management (optional)	Bearing Cone Inner / Outer*
			3.5 [89]	3.74 [95]	5.0 [127]			
10,000 [4,536]	E-1002I	69.0 [1753]	■			■		HM212049/ 3782
	E-1002W	71.0 [1803]	■			■		
		71.5 [1816]		■		■		
12,500 [5,670]	E-1252I	69.0 [1753]	■			■		
	E-1252W	71.0 [1803]	■			■		
		71.5 [1816]		■		■		
13,200 [5,987]	E-1322I	69.0 [1753]	■		■	■		
	E-1322W	71.0 [1803]	■		■	■		
		71.5 [1816]		■		■		
14,600 [6,622]	E-1462I	69.0 [1753]	■		■	■		
	E-1462W	71.0 [1803]	■		■	■		
		71.5 [1816]		■		■		

* Standard bearing numbers shown. Does not apply with LMS hub. **"W" version models provide additional turning angle. Beam width dimension contingent on vehicle manufacturer.

Spicer Conventional Arm Steer Axles

Nominal Load Rating lbs. [kg]	Model	Beam Width (KPI) in. [mm]	Beam Drop in. [mm]			LMS™ Hub Option	Tire-Pressure Management (optional)	Bearing Cone Inner/Outer
			3.5 [89]	3.74 [95]	5.0 [127]			
6,000 [2,722]	D-600N	62.7 [1593]		■		N/A		45284/25880
7,000 [3,175]	D-700N	62.7 [1593]		■				
	D-700F	71.0 [1803]	■					JM207049A/ 25877
8,000 [3,629]	D-800F	71.0 [1803]	■					
	D-800W	72.0 [1829]	■					
8,500 [3,856]	D-850F	71.0 [1803]	■					
	D-850W	72.0 [1829]	■					
20,000 [9,072]	D-2000F	68.0 [1727]	■		■	■	■	6461A/ 555S
	D-2000W	70.66 [1795]			5.24 [133]	■	■	
22,000 [9,979]	EFA-22T2	Variable	1.5 [38]			N/A	■	
	EFA-22T5	Variable			5.1 [130]		■	
22,800 [10,342]	D-2200F	68.0 [1727]		■			■	
	D-2200W	70.66 [1795]			5.24 [133]	■	■	
24,000 [10,886]	EFA-24T2	Variable	1.5 [38]			N/A	■	
	EFA-24T5	Variable			5.1 [130]		■	

BLUE AREAS INDICATE AVAILABILITY.

Steer Axle

Lubrication Intervals – Heavy- and Medium-Duty

Spicer® Steer Axle Lubrication Intervals

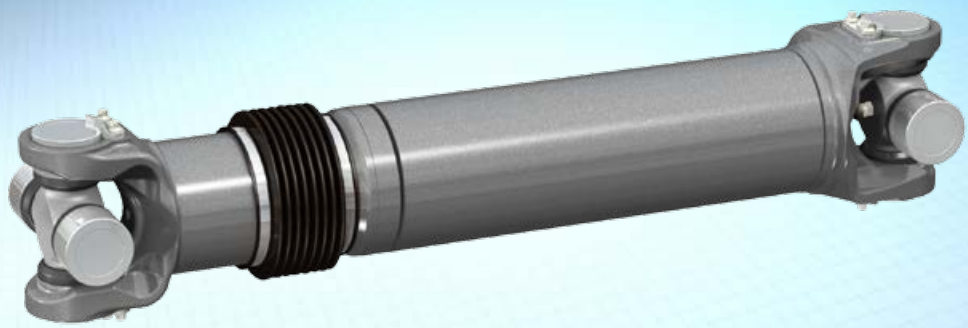
Type of Lube System	Lubricant	SAE	Linehaul	On/Off-Hwy
King Pin Joint Grease/ Tie Rod Ends	Heavy-Duty Multipurpose Lithium Based*	#1 Grade** or #2 grade	25,000 miles (40,000 km) or 6 months (whichever comes first)	Every 50 hours

* Do not mix with sodium-based grease. Do not use greases other than what is indicated above.

** #1 grade is used for extra cold.

We recommend genuine Spicer® lubricants.

Driveshaft



General Information – Heavy- and Medium-Duty

At Dana, we offer a complete line of light-duty, medium-duty, heavy-duty, and specialty driveshaft products for every commercial-vehicle application. As a world leader in driveshaft technology, our innovative, industry-leading products provide the most efficient, reliable, and durable performance on the road.

- Robust, patented driveshaft technologies
- High-Power Density™ (HPD™) provides more strength
- Lighter weight than competitive products
- Service-free designs available for reduced maintenance

Nomenclature

Driveshaft

250 DS 55 001 C

- **Series**
  - 055 - SPL®55
  - 070 - SPL70
  - 100 - SPL100
  - 140 - SPL140
  - 170 - SPL170
  - 250 - SPL250
  - 350 - SPL350
- **Description**
  - CS - Coupling Shaft
  - DS - Driveshaft
  - IA - Inter Axle
  - JS - Jack Shaft
  - SC - Short Couple
- **End Fitting**
  - 0 - No Fitting
  - 1 - Companion Flange
  - 2 - Flange Yoke
  - 3 - Slip Yoke
  - 4 - End Yoke
  - 5 - Cross
- **Sequential Number**
- **Options**
  - C - Spicer® XL; SPL170 & SPL250
  - G - Spicer XS; SPL55, SPL70 & SPL100
  - F - Spicer Service Free; SPL170, SPL250 & SPL350

Driveshaft

High Torque, Low RPM Applications

Handling heavy loads over the long haul has never been easier or more efficient, thanks to Dana's Spicer Life® Series driveshafts. Now enhanced to offer even greater torque, durability, and savings, SPL® products offer 70 percent more power density than their nearest competitor and a 40 percent increase in bearing life. No other U-joint meets the needs of high-efficiency truck applications better than the SPL U-joint. This product is now available with a service-free option for even greater savings.

Spicer Life® Series Operating Parameters

Series	Max. Momentary Joint Angle	Standard Slip		Rotating Diameter of Shaft		Rotating Diameter of End Yoke	
SPL140	25°	110 mm	4.33 in	160 mm	6.30 in	174 mm	6.22 in
SPL170	25°	110 mm	4.33 in	185 mm	7.28 in	193 mm	7.60 in
SPL170 I/A	45°	150 mm	5.91 in	185 mm	7.28 in	193 mm	7.60 in
SPL250	25°	110 mm	4.33 in	185 mm	7.28 in	193 mm	7.60 in
SPL250HD	25°	110 mm	4.33 in	185 mm	7.28 in	193 mm	7.60 in
SPL250 I/A	45°	150 mm	5.91 in	185 mm	7.28 in	193 mm	7.60 in
SPL350	15°	110 mm	4.33 in	206 mm	8.11 in	219 mm	8.62 in
SPL350HD	15°	110 mm	4.33 in	206 mm	8.11 in	219 mm	8.62 in

Tubing Sizes for Spicer Life® Series

Series	Torque Rating (lbs. ft.)	Tubing OD		Wall Thickness	
SPL140	7,744	107 mm	4.21 in	3.5 mm	.138 in
SPL140HD	10,325	110 mm	4.33 in	5 mm	.197 in
SPL170	12,539	126 mm	4.96 in	3 mm	.118 in
SPL170HD	12,539	128.5 mm	5.06 in	4.25 mm	.167 in
SPL170 I/A	11,063	116.7 mm	4.59 in	4.57 mm	.180 in
SPL250	16,595	128.5 mm	5.06 in	4.25 mm	.167 in
SPL250HD	18,439	130 mm	5.12 in	5 mm	.197 in
SPL250 I/A	15,489	128.5 mm	5.06 in	4.25 mm	.167 in
SPL350	22,127	138.5 mm	5.45 in	4.25 mm	.167 in
SPL350HD	25,815	140 mm	5.51 in	5 mm	.197 in

Journal Cross and Bearing Kits

Series	U-Joint Kit for Quick Disconnect™ End Yoke
SPL140	SPL140X
SPL170	SPL170-4X
SPL170SF	SPL170-SF4X
SPL250	SPL250-3X
SPL250SF	SPL250-SF3X
SPL350	SPL350X
SPL350SF	SPL350SFX

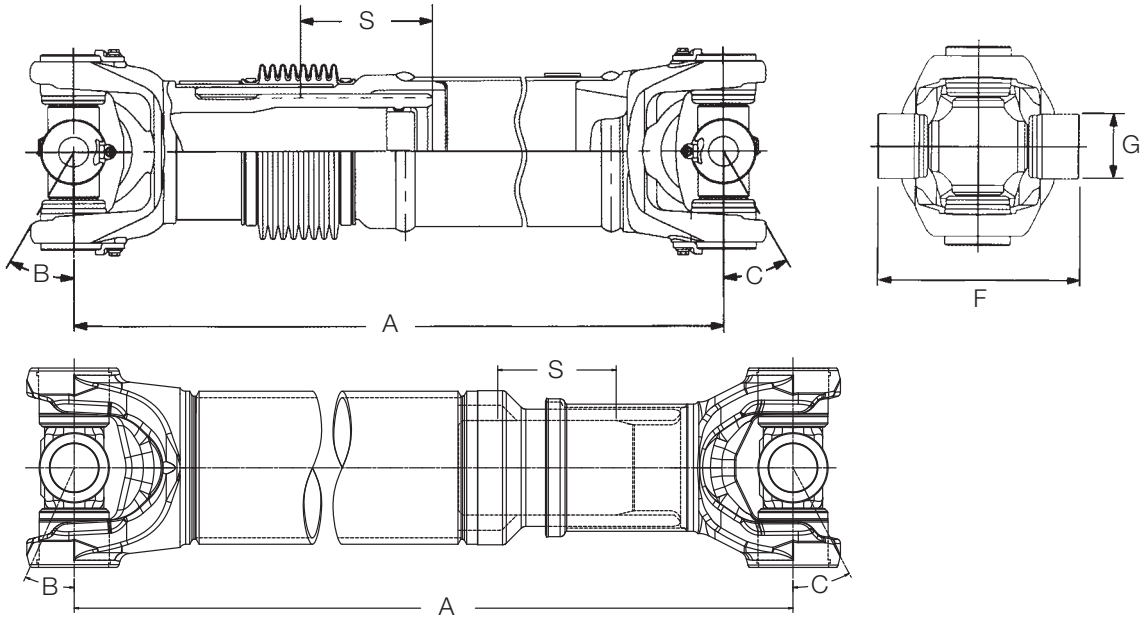
SF = Service Free

Driveshaft

Spicer Life® Series – Heavy-Duty

Slip Between Center Driveshaft

Driveshaft Assembly Part Number	Minimum Length Collapsed Centerline to Centerline of Cross "A"		Slip Joint End			Tight Joint End			U-Joint Span "F"		Bearing Cup Diameter "G"	
			Slip "S"		Maximum Angle "B"	Tube Size		Maximum Angle "C"				
	mm	in	mm	in		mm	in		mm	in	mm	in
SPL140 140DS55007	430	16.93	110	4.33	25°	107.0 x 3.5	4.21 x .138	25°	139	5.46	49	1.93
SPL140HD 140DS55001						110.0 x 5.0	4.33 x .197					
SPL170 170DS55007C 170DS55007F	440	17.34	110	4.33	25°	126.0 x 3.0	4.96 x .118	25°	164	6.46	55	2.16
SPL170HD 170DS55011C 170DS55011F						128.5 x 4.25	5.06 x .167					
SPL170I/A 170IA55010C 170IA55010F	528.6	20.81	150	5.91	45°	116.7 x 4.57	4.59 x .180	45°				
SPL250 250DS55007C 250DS55007F	450.3	17.73	110	4.33	25°	128.5 x 4.25	5.06 x .167	25°	163	6.42	60	2.37
SPL250HD 250DS55011C 250DS55011F						130.0 x 5.0	5.12 x .197	25°				
SPL250 I/A 250IA55001C 250IA55001F	507.7	19.99	150	5.91	45°	128.5 x 4.25	5.06 x .167	45°	163	6.42	60	2.37
SPL350 350DS55001 350DS55001F	483	19.01	110	4.33	15°	138.5 x 4.25	5.45 x .167	15°	172	6.77	65	2.56
SPL350HD 350DS55002 350DS55002F						140.0 x 5.0	5.51 x .197					

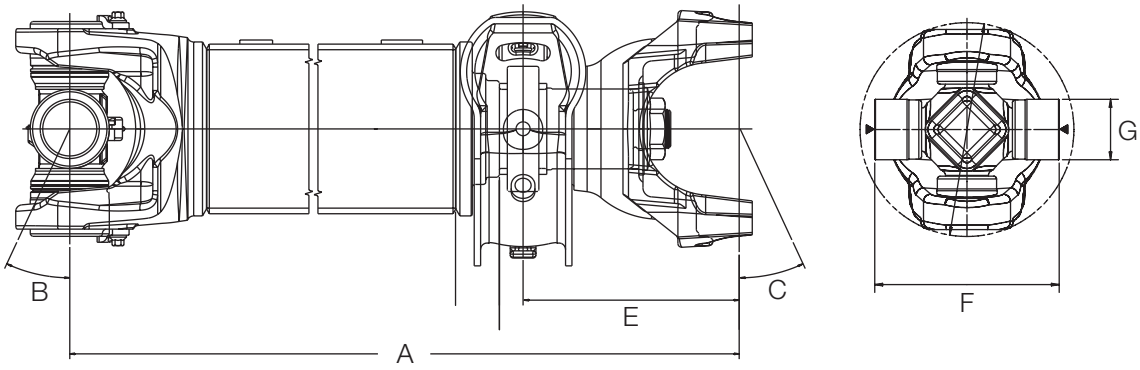


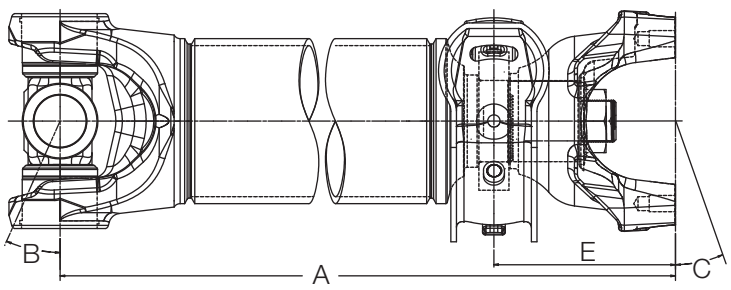
Driveshaft

Spicer Life® Series – Heavy-Duty

Fixed Yoke Coupling Shaft Assembly with Center Bearing

Coupling Shaft Assembly Part Number	Minimum Length Centerline of Cross to Centerline of End Yoke "A"		Maximum Angle "B"	Tube Size		Centerline of Bearing to Centerline of End Yoke "E"		Maximum Angle "C"	U-Joint Span "F"		Bearing Cup Diameter "G"	
	mm	in		mm	in	mm	in		mm	in	mm	in
SPL140 140CS54025	350	13.79	25°	107.0 x 3.5	4.33 x .138	152	5.98	25°	139	5.46	49	1.93
SPL140HD 140CS54013				110.0 x 5.0	4.33 x .197	154	6.08					
SPL170 170CS54019C 170CS54019F	368	14.50	25°	126.0 x 3.0	4.96 x .118	160	6.30	25°	164	6.46	55	2.17
SPL170HD 170CS54017C 170CS54017F				128.5 x 4.25	5.06 x .167							
SPL250 250CS54007C 250CS54007F	382	15.05	25°	128.5 x 4.25	5.06 x .167	164	6.46	25°	163	6.42	60	2.37
SPL250HD 250CS54014C 250CS54014F				130.0 x 5.0	5.12 x .197							
SPL350 350CS54001 350CS54001F	371.2	14.61	24°	140.0 x 5.0	5.51 x .197	156.2	6.15	16°	172	6.77	65	2.56
SPL350HD 350CS54002 350CS54002F				138.5 x 4.25	5.45 x .167							





Driveshaft

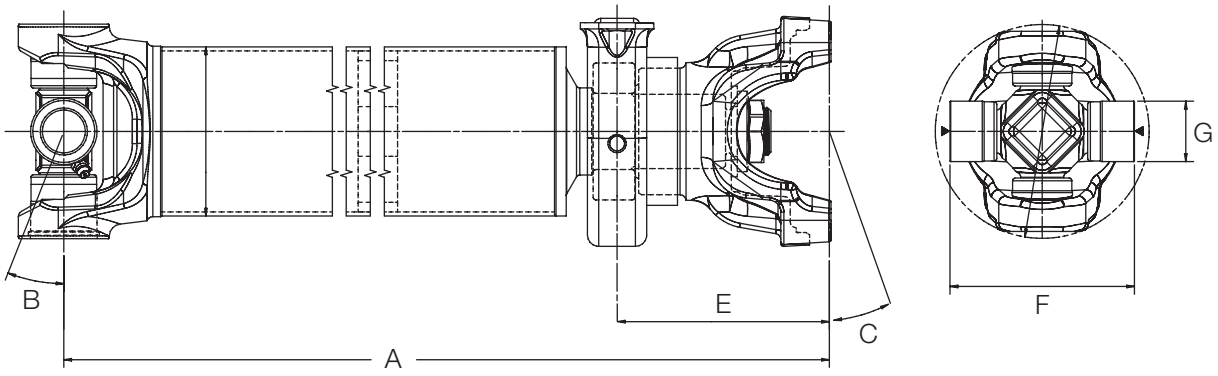
Spicer Life® Series – Medium-Duty

Medium-Duty Service Kits

Driveshaft Series	U-Joint Kit	Kit Type
SPL55	SPL55-1X	Re-Lube
SPL55XS	SPL55X	Pre-Lube
SPL70	SPL70-1X	Re-Lube
SPL70XS	SPL70X	Pre-Lube
SPL100	SPL100-1X	Re-Lube
SPL100XS	SPL100X	Pre-Lube

Fixed Yoke Coupling Shaft

Coupling Shaft Assembly Part Number	Minimum Length Centerline of Cross to Centerline of End Yoke "A"		Maximum Angle "B"	Tube Size		Centerline of Bearing to Centerline of End Yoke "E"		Maximum Angle "C"	U-Joint Span "F"		Bearing Cup Diameter "G"	
	mm	in		mm	in	mm	in		mm	in	mm	in
SPL55 055CS54006 SPL55XS 055CS54006G	233	9.17	22°	88.9 x 2.11	3.50 x .083	112	4.39	22°	106	4.19	35	1.37
SPL70 070CS54004 SPL70XS 070CS54004G	249	9.80	26°	88.9 x 2.41	3.50 x .095	120	4.71	22.5°	126	4.96	35	1.37
SPL100 100CS54003 SPL100XS 100CS54003G	289	11.39	25°	101.6 x 2.41	4.00 x .095	115	4.52	13.5°	126	4.96	41	1.63

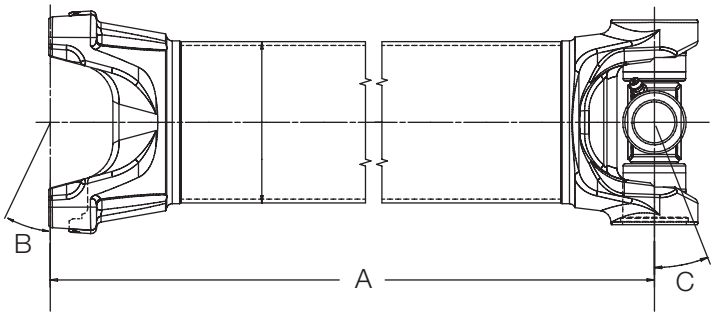


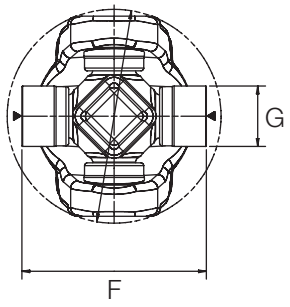
Driveshaft

Spicer Life® Series – Medium-Duty

Driveshaft

Driveshaft Assembly Part Number	Minimum Length Centerline of Cross to End Yoke "A"		Maximum Angle "B"	Tube Size		Maximum Angle "C"	U-Joint Span "F"		Bearing Cup Diameter "G"	
	mm	in		mm	in		mm	in	mm	in
SPL55 055DS05003 SPL55XS 055DS05003G	160	6.28	25°	88.9 x 2.11	3.50 x .083	22°	106	4.19	35	1.37
SPL70 070DS05003 SPL70XS 070DS05003G	168	6.62	25°	88.9 x 2.41	3.50 x .095	26°	126	4.96	35	1.37
SPL100 100DS05002 SPL100XS 100DS05002G	206	8.00	23.5°	101.6 x 2.41	4.00 x .095	14.5°	126	4.96	41	1.63



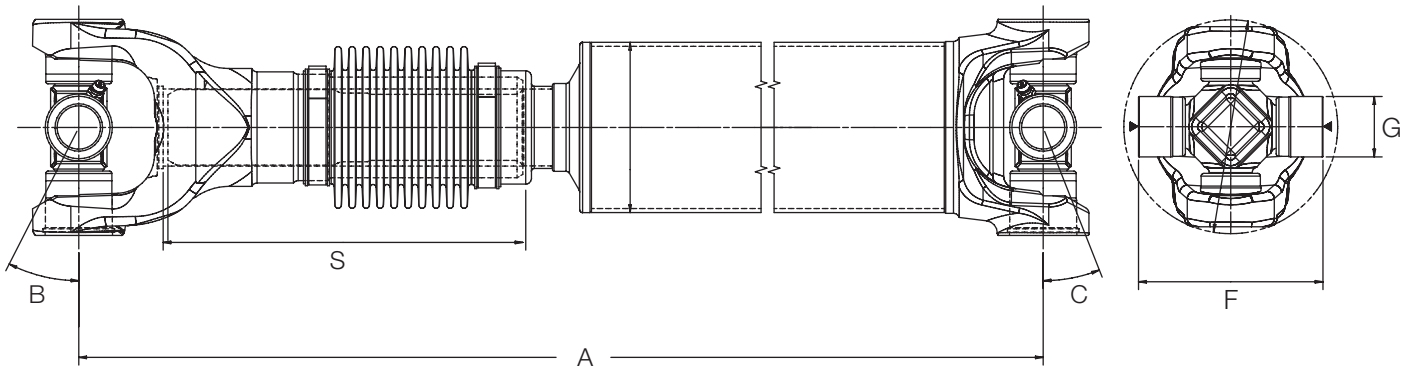


Driveshaft

Spicer Life® Series – Medium-Duty

Slip Between Center Driveshaft

Driveshaft Assembly Part Number	Minimum Length Collapsed Centerline to Centerline of Cross "A"		Slip Joint End			Tight Joint End			U-Joint Span "F"		Bearing Cup Diameter "G"	
			Slip "S"		Maximum Angle "B"	Tube Size		Maximum Angle "C"				
	mm	in	mm	in		mm	in		mm	in	mm	in
SPL55 055DS55006	356	14.00	110	4.33	27°	88.9 x 2.11	3.50 x .083	22°	106	4.19	35	1.37
SPL55XS 055DS55006G												
SPL70 070DS55007	366	14.41	110	4.33	25°	88.9 x 2.41	3.50 x .095	26°	126	4.96	35	1.37
SPL70XS 070DS55007G												
SPL100 100DS55006	421	16.58	110	4.33	25°	101.6 x 2.41	4.00 x .095	25°	126	4.96	41	1.63
SPL100XS 100DS55006G												

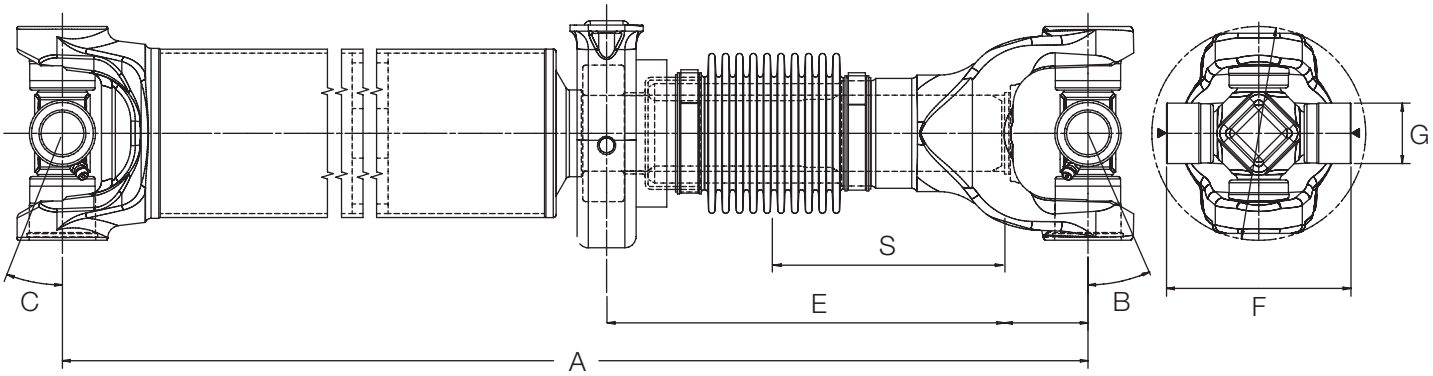


Driveshaft

Spicer Life® Series – Medium-Duty

Outboard Slip Coupling Shaft

Driveshaft Assembly Part Number	Minimum Length Collapsed Centerline to Centerline of Cross "A"		Slip Joint End			Tight Joint End					U-Joint Span "F"		Bearing Cup Diameter "G"	
			Slip "S"		Max. Angle "B"	Centerline of Bearing to Centerline of Slip Yoke Collapsed "E"		Tube Size		Max. Angle "C"				
	mm	in	mm	in		mm	in	mm	in		mm	in	mm	in
SPL55 055CS55003	375	14.77	110	4.33	22°	254	9.84	88.9 x 2.11	3.50 x .083	22°	106	4.19	35	1.37
SPL55XS 055CS55003G														
SPL70 070CS55003	390	15.34	110	4.33	26°	260	10.25	88.9 x 2.41	3.50 x .095	26°	126	4.96	35	1.37
SPL70XS 070CS55003G														
SPL100 100CS55002	449	17.66	110	4.33	25°	273	10.75	101.6 x 2.41	4.00 x .095	25°	126	4.96	41	1.63
SPL100XS 100CS55002G														



Driveshaft

Lubrication Intervals – Heavy- and Medium-Duty

Spicer® Driveshaft Lubrication Intervals*

Series	City	On-Hwy	Linehaul	On/Off-Hwy
Spicer® 10 Series™ (1480 thru 1810 and SPL90) Slip members also require lubrication.	8,000 mi (12,800 km) or 3 months (whichever comes first)	15,000 mi (24,000 km) or 3 months (whichever comes first)	15,000 mi (24,000 km) or 3 months (whichever comes first)	8,000 mi (12,800 km) or 3 months (whichever comes first)
Spicer Life® Series – Medium-Duty (SPL55, 70 and 100) Slip members are booted and permanently lubricated.	25,000 mi (40,000 km) or 6 months (whichever comes first)	25,000 mi (40,000 km) or 6 months (whichever comes first)	25,000 mi (40,000 km) or 6 months (whichever comes first)	25,000 mi (40,000 km) or 6 months (whichever comes first)
Spicer Life® Series – Heavy-Duty (SPL140) Standard Spicer Life® Series U-joint. Slip members are booted and permanently lubricated.	25,000 mi (40,000 km) or 6 months (whichever comes first)	100,000 mi (160,000 km) or 6 months (whichever comes first)	100,000 mi (160,000 km) or 6 months (whichever comes first)	25,000 mi (40,000 km) or 6 months (whichever comes first)

Spicer Life XL® First Lubrication Cycle*

Spicer Life XL®– Heavy-Duty (SPL170, 250 and 350) Extended lubrication U-joints. After initial miles (kilometers) or time is reached, the joints must be relubricated. Slip members are booted and permanently lubricated.	100,000 mi (160,000 km) or 1 year (whichever comes first)	350,000 mi (560,000 km) or 3 years (whichever comes first)	350,000 mi (560,000 km) or 3 years (whichever comes first)	100,000 mi (160,000 km) or 1 year (whichever comes first)

Spicer Life XL® Relubrication Cycle*

Spicer Life XL®– Heavy-Duty (SPL170, 250 and 350) Extended lubrication U-joints. Once greased, this relubrication interval must be followed. Slip members are booted and permanently lubricated.	25,000 mi (40,000 km) or 6 months (whichever comes first)	100,000 mi (160,000 km) or 6 months (whichever comes first)	100,000 mi (160,000 km) or 6 months (whichever comes first)	25,000 mi (40,000 km) or 6 months (whichever comes first)

***We require relubrication with lithium-based grease meeting NLGI Grade 2 specifications as well as ASTM D4950 "LB" specifications.**

NATIONAL LUBRICATING GREASE INSTITUTE NLGI AUTOMOTIVE WHEEL BEARING & CHASSIS LUBRICANT LB

For premium results, use a synthetic lubricant like Spicer® Ultra-Premium Grease

NOTE: We recommend that all driveshafts be inspected for wear and damage every time the vehicle is serviced. This includes any scheduled and/or unscheduled maintenance that occurs within the driveshaft lube intervals.

City is defined as all applications that require a minimum of 90% of operation time within the city limits.

On-Highway is defined as all applications requiring less than 10% of operating time on gravel dirt or unpaved roads.

Linehaul is defined as 100% of operation time on smooth concrete or asphalt.

On/Off-Highway is defined as all applications operating primarily on paved roads, but requiring more than 10% of operating time on gravel, dirt, or unpaved roads.

We recommend genuine Spicer® lubricants

Tire-Pressure Management Systems

CTIS for Mobility

Dana is a world leading supplier of enhanced mobility for government defense and vocational vehicles. With the press of a button from inside the cab, Spicer® Central Tire Inflation System (CTIS) maximizes vehicle mobility by adjusting tire pressure to provide the optimum footprint on any terrain. Whether in the field or at a construction site, Spicer CTIS promotes confidence on soft, sandy soil and other unpaved services.

Enhancing Vocational Vehicles

CTIS outperforms all-wheel drive (AWD) in soft soil applications. The performance enhancements are so great that Spicer CTIS can be used as an alternative to AWD for the majority of vocational truck applications. When used as an alternative to AWD, CTIS delivers reduced life cycle costs, as well as:

- Increased payload by eliminating 450 kg of weight
- Reduced vehicle height by 30 to 35 cm and improved stability
- Reduced overall vehicle cost, complexity, and required maintenance
- Available from all truck manufacturers for a wide range of heavy truck models and configurations
- Works with steer, drive, and trailer axles

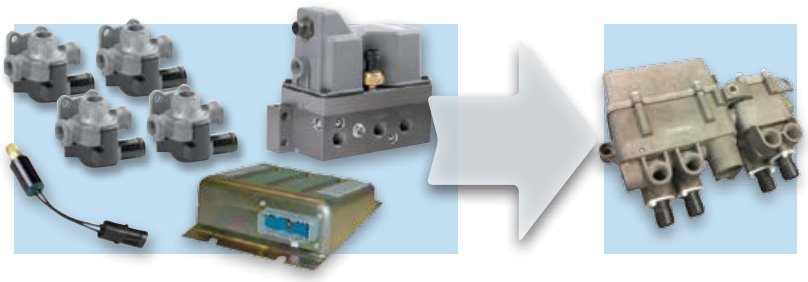
Enhancing Government Defense Vehicles

Reliability and performance are the most critical features in military applications. CTIS has been shown to significantly enhance the performance of AWD, maximizing mobility and delivering benefits, such as:

- Complete mobility optimization
- Limp home feature avoids disabling vehicle on the battlefield or other severe applications when most major tire leaks are encountered
- Wheel valves are sealed from environmental contamination
- Remote wheel-end venting for most demanding applications

New Mechatronic Control Unit (MCU) Option

Dana offers the Mechatronic Control Unit (MCU) as an option to meet the requirements of lower flow applications. The integrated system has a smaller footprint with reduced weight and less wiring complexity that allows for individual wheel control when needed. The MCU design integrates electronic, computer, and mechanical engineering into one package to bring about weight reduction and improved reliability.



Tire-Pressure Management Systems

Quick Release Valves

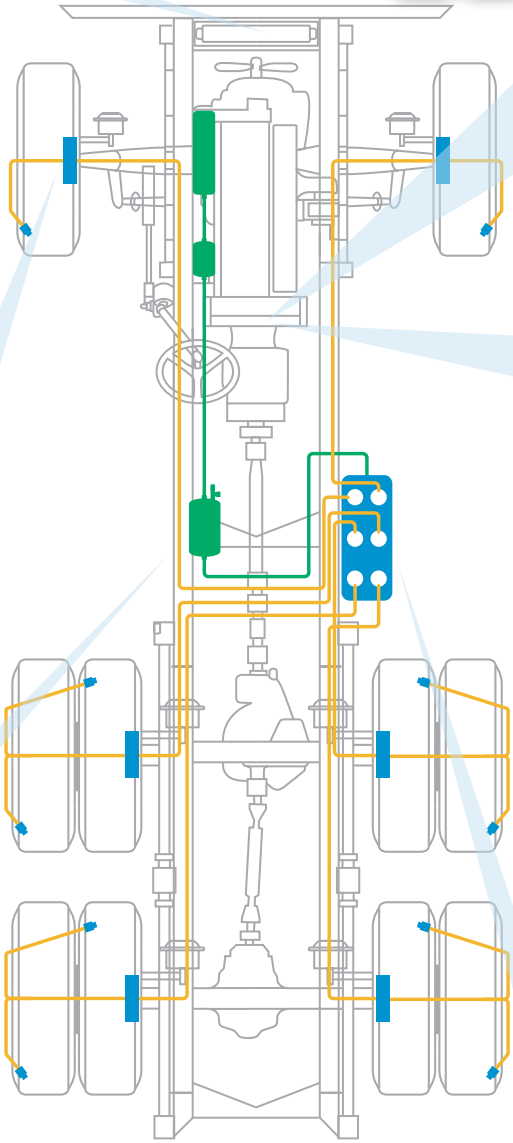
- Serve as a remote air exhaust port
- Can be fitted with an external hose to allow venting above deep-water fording levels

Wheel Valves

- Normally closed design isolates tires in the event of tire puncture or hose failure
- Prevents tire pressure leak-down automatically when parked
- No need for separate shut-off valves
- Available options allow for integration into aluminum wheels, eliminating the need for external hoses

Pressure Switch

- Monitors pressure of vehicle's supply air tank
- Provides air system priority to brakes, which suspends CTIS operation in the event of low truck air system pressure



Integrated Control Switch/ Driver Display Module (DDM)

- Compact rocker switches and DDM provide operator interface and are designed for instrument panel mounting
- Supports three terrain and two load selections
- Built-in diagnostic messaging
- Comes with a remote mounted ECU

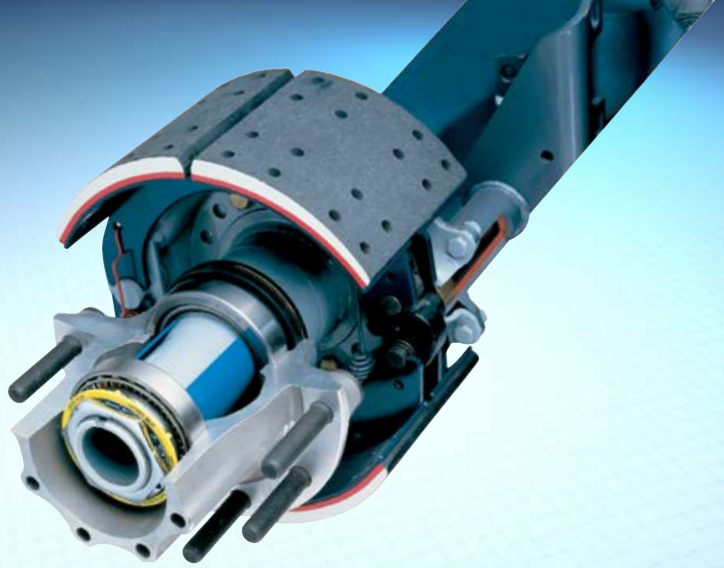
Electronic Control Unit (ECU) Option

- Microprocessor-based control center receives driver input from the DDM
- Option to communicate to the drive-train to optimize vehicle performance
- Supports industry standard diagnostic tools
- Provides operator selections for terrain and can be configured to optimize tire pressures based on axle loads
- Has ability to adjust engine speed, transmission shifting, ABS, and axle differential locks
- J1587 and J1939 data link compatible
- Built-in self diagnostics
- Field programmable

Pneumatic Control Unit (PCU)

- Solenoid-controlled manifold receives electrical commands from the ECU
- Controls wheel valves to inflate, deflate, or measure tire pressures by wheel position or axle groups
- Pressurizes the system only during inflate/deflate cycles, extending air seal life

Wheel-End Systems



Eliminate Wheel Bearing Adjustment, Extend Seal Life, and Lower Life Cycle Costs at Every Wheel End with Spicer® LMS™ (Low Maintenance System)

Spicer® LMS™ Hub

- The Spicer LMS hub design controls bearing adjustment and eliminates installation variables that cause excessive end play leading to premature wheel seal failures
- LMS hubs extend seal life because they are built to install precisely without manual adjustment

Spicer® LMSi™ Hub

LMSi is a premium hub system combining Dana's industry-leading low-maintenance technology with new even lower maintenance features to save customers more time and money over the life of their vehicles.

- Standard magnetic fill plug for reduced wheel-end contaminants
- Robust aluminum design reduces weight by 20 lbs. (steel designs optional)
- Premium spacer design for improved oil flow and elimination of cone spinning
- Patented integrated nut system enables even easier assembly and disassembly through a self-extracting method
- Eco-friendly performance and enhanced shop safety through controlled installation and removal of the hub
- Available for drive and steer axles

Spicer® LMS™ Hubcap and Vent

- New Spicer LMS hubcaps reduce and simplify maintenance, prevent contamination, and ensure the longevity of wheel-end components
- The new Spicer LMS hubcaps are lighter and stronger than aluminum hubcaps
- The vent offers a patented contaminant exclusion system through a high-precision, multi-labyrinth design. Proven to prevent water ingestion from both high-pressure washer sprays and wheel-end submersion

Blue Vent
For Spicer steer and trailer LMS hub systems only

Black Vent
For non-LMS industry conventional adjusted steer and trailer axle wheel ends

Wheel-End

Lubrication Intervals

Spicer® Drive Axle Wheel-End Lubrication Intervals

Product	Lubricant Type	SAE	Linehaul	On/Off-Hwy
Drive Axle LMS™	Synthetic* SHAES 256 Rev C SHAES 429	SAE75W-90 80W-140	500,000 mi (800,000 km) or 5 years (whichever comes first)	120,000 mi (193,000 km) or 2 years (whichever comes first)
Drive Axle (Adjustable)	Synthetic SHAES 256 Rev C SHAES 429	SAE75W-90, 80W-140	250,000 mi (400,000 km) or 3 years (whichever comes first)	60,000 mi (96,500 km) or 1 year (whichever comes first)
Drive Axle (Adjustable)	Mineral Base SAE J2360	SAE75W-90, 75W-140, 80W-90, 85W-140	120,000 mi (193,000 km) or 1 year (whichever comes first)	60,000 mi (96,500 km) or 1 year (whichever comes first)

Spicer® Steer Axle Wheel-End Lubrication Intervals

Steer Axle Oil Bath LMS	Synthetic* SHAES 256 Rev C	SAE75W-90	500,000 mi (800,000 km) or 5 years (whichever comes first)	120,000 mi (193,000 km) or 2 years (whichever comes first)
Steer Axle Oil Bath (Adjusted)	Synthetic SHAES 256 Rev C SHAES 429	SAE75W-140, 75W-90	120,000 mi (193,000 km) or 1 year (whichever comes first)	60,000 mi (96,500 km) or 1 year (whichever comes first)
Steer Axle Oil Bath (Adjusted)	Mineral Base SAE J2360	SAE75W, 75W-90, 80W-90, 85W-140	120,000 mi (193,000 km) or 1 year (whichever comes first)	60,000 mi (96,500 km) or 1 year (whichever comes first)
Steer Axle Semi Fluid (Adjusted)	Semi-Fluid Synthetic Grease	Delo SF, Mobil SHC 007**	120,000 mi (193,000 km) or 1 year (whichever comes first)	60,000 mi (96,500 km) or 1 year (whichever comes first)
Steer Axle Grease Pack (Adjusted)	Heavy-Duty Multipurpose Lithium Based***	#2 Grade	120,000 mi (193,000 km) or 1 year (whichever comes first)	60,000 mi (96,500 km) or 1 year (whichever comes first)

*Only approved lubricant for LMS wheel ends.
**Use of this grease requires a signed waiver from the customer.
***Do not mix with sodium-based grease.

We recommend genuine Spicer® lubricants

Service and Support

Warranty Requirements

Warranty

From the instant you develop drivetrain specifications, the Dana team provides easy-to-understand warranty coverage based on the vehicle's intended use, which means fairer and faster warranty administration.

Matching Coverage to Use

Dana plans set the standard for the most comprehensive drivetrain warranty coverage in the trucking industry. The Dana Warranty Manual gives a comprehensive look at what drives Dana Warranty Coverage for the U.S. and Canada. By matching the vehicle type to the job to be performed, the Dana Warranty Manual accurately and fairly aligns warranty coverage.

Warranty Claim Procedures and Guidelines

Filing a warranty claim can be a confusing process that oftentimes leads to reduced or rejected claims if some or all of the requirements are not met. To receive your maximum reimbursement in a timely manner, be sure to read through the Claim Procedures section of the Warranty Manual before you begin the warranty claim process.

Dana Real-Time Warranty

The Dana Real-Time Warranty System saves time for more than 800 dealers in the U.S. and Canada with over-the-phone warranty claim approval and online claim status tracking.

Dana Support System

The Dana Call Center plays a major role in the support of Dana products. The Call Center is made up of two different teams: the General Tech Team and the Real-Time Warranty Team.

Extended Protection Plans

Expanded Lineup of Extended Protection Plan Offerings from Dana

Keeping your truck on the road is critical to your livelihood. Dana Extended Protection Plans give you peace of mind knowing that, despite increasing parts and labor costs, or how severe the work conditions are, you can repair your truck to its original standard of quality.

Dana offers Extended Protection Plans for axles and 100% of parts and labor on all warrantable failures. For a relatively modest investment, you can rest easy knowing that Dana is there to support you throughout the life of your truck. You choose the protection that meets your needs.

Packages

Full coverage is provided for all Spicer® heavy- and medium-duty drive axles.

EPP - Steer Axles (PDF)

EPP - Drive Axles (PDF)

All Vocations – Extended Protection Plans cover all drivetrain components, regardless of the severity of use in your industry, including logging and mining vehicles.

Single Year Coverage Available – Dana Extended Protection Plans may be purchased for as little as a single year, so you do not have to purchase coverage for longer than you expect to own your vehicle.

Benefits

Full Warranty Protection

Full parts and labor on warrantable failures.

Service Available at All OEM Dealer Facilities

With our Extended Protection Plans, you are never far from parts and service, with over 3,500 dealers in the U.S. and Canada.

Genuine Parts

All replacement parts will be genuine Dana parts, so you know your repaired vehicle will have the same outstanding quality it had when it was first purchased.

Simple Payment Options

You can purchase a Dana Extended Protection Plan by rolling it into the financing of your new vehicle, or simply fill out the online registration form and pay by check. Peace of mind has never been easier to obtain.

Protection from Cost Inflation

Your Extended Protection Plan covers all repairs to your vehicle's drivetrain, regardless of increases in parts or labor that are certain to occur over time. One simple payment now can save you substantial repair charges in the future.

Enhanced Resale Value

Repairing your vehicle with genuine Dana parts increases its resale value. Plus, your extended warranty coverage is transferable, further enhancing your resale value.

DANA

SPICER®
Drivetrain Systems

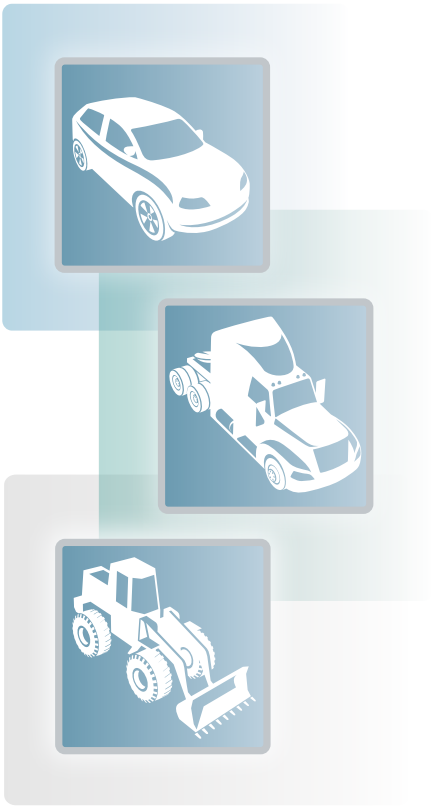
Axles
Driveshafts
Transmissions

VICTOR REINZ®
Sealing Products

Gaskets and Seals
Cylinder-Head Cover Modules
Thermal-Acoustical Protective Shielding

LONG®
Thermal Products

Transmission Oil Coolers
Engine Oil Coolers
Battery Coolers



About Dana Holding Corporation

Dana is a world-leading supplier of driveline, sealing, and thermal-management technologies that improve the efficiency and performance of passenger, commercial, and off-highway vehicles with both conventional and alternative-energy powertrains.

Our global network of engineering, manufacturing, and distribution facilities provides original-equipment and aftermarket customers with local product and service support. Founded in 1904, we employ thousands of people across five continents.

About Dana Commercial Vehicle Systems

Dana serves commercial-vehicle customers worldwide with over 40 facilities and five technical centers in 11 countries that design, market, and manufacture complete systems for medium and heavy-duty trucks.

We continuously illustrate our commitment to the commercial-vehicle industry by introducing new products with enhanced, award-winning technologies, including Spicer® axles, driveshafts, and tire management solutions; Victor Reinz® sealing systems; and Long® thermal-management products.

We back our offerings with world-class after-sales support and genuine service parts manufactured to the same high standards as original-equipment products to maximize the return on investment for your commercial vehicle.

DANA **SPICER®**
Drivetrain Products

Discover other performance driveline & axles on our website.