

SPICER



HX700-8-2013

August 2013

King Pin Kits and Tie Rod Ends - Dana Spicer® Applications Quick Reference Guide



The Spicer HX700 is a quick reference guide that delivers the information you need about Spicer king pin kits and tie rods — all in one convenient place.



SPICER



*The Latest Technology.
The Greatest Performance.*

Spicer® King Pin Kits with Pre-Sized, No-Ream Bushings.

Engineered from high-quality steel and heat-treated for optimal strength and durability, Spicer components are the result of decades of research and development.

Pre-sized/No-Ream Bi-metal/Bronze

The highest ratings for wear characteristics in the steer axle knuckle, even under tough operating conditions

Pre-sized/No-Ream Garlock Bushings DX®

Featuring grease grooves, which aid the flow of grease through the bearings to the tapered roller thrust bearing

Pre-sized/No-Ream Garlock Bushings DX®10

Add 3x the wear to king pin operating life

Spicer steer axle components are manufactured to original equipment standards, so you get longer intervals between service, which saves you time and money.



Tested. Proven. Trusted. Driven.
Talk to your Spicer parts representative today!
www.spicerparts.com

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SPICER® FRONT STEER AXLES

D SERIES



D-600N/F, D-700N/F, D-800F/W, D850F/W



D-2000, D-2200

N (Narrow), F (Standard), W (Wide)

For an illustrated parts listing (IPL) of all D Series components, refer to AXIP-0090 on Spicerparts.com

MAJOR OEM & MODEL INFORMATION	AXLE RATING LBS	OEM PART NUMBER	SPICER PART NUMBER	COMMENT	DESCRIPTION	PIN SIZE OR TIE ROD LENGTH STUD CENTER TO END
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D-600N/F, D-700N/F, D-800F/W, D850F/W

	6-8500	KING PIN KITS 329182	329182	DUAL DRAWKEY SAME SIDE	DX BUSHING *	8.07" X 1.35"
	6-8500	101KK111	101KK111	DX BUSHING	D800F/W PRE 9/18/02	8.07" X 1.35"
	6-8500	TIE ROD ENDS 817018	817018	LEFT HAND	PURGE VALVE	6.19"
	6-8500	817019	817019	RIGHT HAND	PURGE VALVE	6.19"
	6-8500	971714	971714	LEFT HAND	PURGE VALVE	9.26"
	6-8500	971715	971715	RIGHT HAND	PURGE VALVE	9.26"

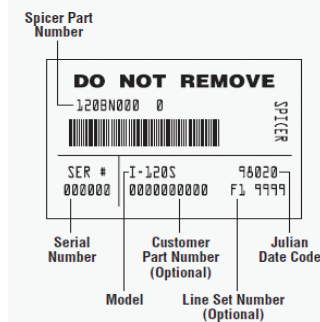
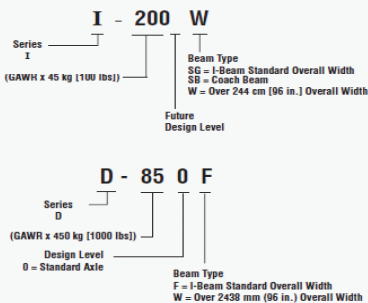
D-2000F (with 5" Drop)

	20-22000	KING PIN KITS 331434	331434	DUAL DRAWKEY OPPOSITE SIDES	DX BUSHING *	10.06" X 2.04"
	20-22000	TIE ROD ENDS 220TR118	220TR118	LEFT HAND	PURGE VALVE	12.69"
	20-22000	220TR119	220TR119	RIGHT HAND	PURGE VALVE	12.69"

D-2000F (with 3.5" Drop)

	20-22000	KING PIN KITS 331435	331435	DUAL DRAWKEY SAME SIDE	DX BUSHING *	10.06" X 2.04"
	20-22000	TIE ROD ENDS 220TR130	220TR130	LEFT HAND	PURGE VALVE	7.50"
	20-22000	220TR131	220TR131	RIGHT HAND	PURGE VALVE	7.50"

Model Identification Numbering System

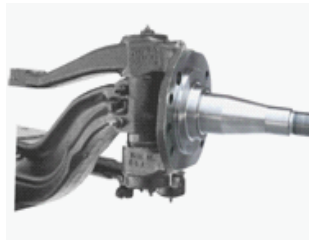


* Spicer® King Pin Kits that contain Garlock composite DX and DX10 bushings are presized and do not require reaming. Please see the inside front cover for details and pictures.

E SERIES



E-1002I/W, E-1202I/W



E-1322I/W, E-1462I/W

Model Identification Numbering System

E - 120 0 1

- Steer Axle Family
- GCW x 100 lbs.
- Beam Style
 - I - I Beam
 - T - Tubular
 - W - Wide Track
- Design Level
 - 0 - Standard
 - 1 - Severe Duty
 - 2 - Dual Draw Key Pin
 - 3 - Variation

Examples

1202BN103-42	1202BN205-69
E1202 Series Spec ID #	E1202 Series Spec ID #
100 Suffix = Axle	200 Suffix = Axle with Brakes

For an illustrated parts listing (IPL) of all E Series components, refer to AXIP-0075 on Spicerparts.com

E-SERIES SINGLE DRAWKEY DESIGN



Typical Single Drawkey Kit



DX® Bushings have grease grooves to aid in grease flow through bearings and to the tapered roller thrust bearing



Sealed Boot

Patented One Way Purge Valve

MAJOR OEM & MODEL INFORMATION	AXLE RATING LBS	OEM PART NUMBER	SPICER PART NUMBER	COMMENT	DESCRIPTION	PIN SIZE OR TIE ROD LENGTH STUD CENTER TO END
E-1000I/W, E-1200I/W, E-1320I/W						
	10-13200	KING PIN KITS	328344	DX BUSHING *		9.06" X 1.79"
	10-13200		328342	BRONZE BUSHING		9.06" X 1.79"
		TIE ROD ENDS				
	10-13200		817018	LEFT HAND	PURGE VALVE	6.19"
	10-13200		817019	RIGHT HAND	PURGE VALVE	6.19"
	10-13200		970579	LEFT HAND	BOOT STYLE	9.26"
	10-13200		970580	RIGHT HAND	BOOT STYLE	9.26"
	10-13200		970701	LEFT HAND	BOOT STYLE	6.00"
	10-13200		970702	RIGHT HAND	BOOT STYLE	6.00"
	10-13200		818472	LEFT HAND	PURGE VALVE	7.50"
	10-13200		818471	RIGHT HAND	PURGE VALVE	7.50"
E-1460I/W						
	14600	KING PIN KITS	329404	DX BUSHING *	PRE 2000	9.06" X 1.87"
	14600		328345	DX BUSHING *	AFTER 2000	9.06" X 1.87"
	14600		329405	BRONZE BUSHING	PRE 2000	9.06" X 1.87"
	14600		328343	BRONZE BUSHING	AFTER 2000	9.06" X 1.87"
		TIE ROD ENDS				
	14600		818472	LEFT HAND	PURGE VALVE	7.50"
	14600		818471	RIGHT HAND	PURGE VALVE	7.50"

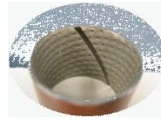
* Spicer® King Pin Kits that contain Garlock composite DX and DX10 bushings are presized and do not require reaming. Please see the inside front cover for details and pictures.



E-SERIES DUAL DRAWKEY DESIGN



DX® Bushings have grease grooves to aid in grease flow through bearings and to the tapered roller thrust bearing



Grey DX® 10 bushing adds **Three Times** more wear to king pin operating life.



Typical Dual Drawkey Kit

MAJOR OEM & MODEL INFORMATION	AXLE RATING LBS	OEM PART NUMBER	SPICER PART NUMBER	COMMENT	DESCRIPTION	PIN SIZE OR TIE ROD LENGTH STUD CENTER TO END
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E-1002I/W, E-1202I/W, E-1302I

	10-13000	KING PIN KITS 328349	328349	DX BUSHING *	TOP DEAD CENTER MOUNTED ADB	9.06" X 1.87"
	10-13000	328347	328347	BRONZE BUSHING		9.06" X 1.87"
	10-13000	503701	503701	DX10 BUSHING *		9.06" X 1.87"
	10-13000	503700	503700	DX10 BUSHING *		8.66" X 1.87"
	10-13000	TIE ROD ENDS 817018	817018	LEFT HAND	PURGE VALVE	6.19"
	10-13000	817019	817019	RIGHT HAND	PURGE VALVE	6.19"
	10-13000	818472	818472	LEFT HAND	PURGE VALVE	7.50"
	10-13000	818471	818471	RIGHT HAND	PURGE VALVE	7.50"

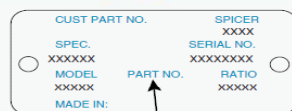
E-1203I

	12000	KING PIN KITS 328348	328348	DX BUSHING *		9.06" X 1.72"
	12000	328346	328346	BRONZE BUSHING		9.06" X 1.72"
	12000	TIE ROD ENDS 817018	817018	LEFT HAND	PURGE VALVE	6.19"
	12000	817019	817019	RIGHT HAND	PURGE VALVE	6.19"

E-13221I/W, E1462I/W

	13-14600	KING PIN KITS 328349	328349	DX BUSHING *		9.06" X 1.87"
	13-14600	328347	328347	BRONZE BUSHING		9.06" X 1.87"
	13-14600	503701	503701	DX10 BUSHING *		9.06" X 1.87"
	13-14600	TIE ROD ENDS 817018	817018	LEFT HAND	PURGE VALVE	6.19"
	13-14600	817019	817019	RIGHT HAND	PURGE VALVE	6.19"
	13-14600	971714	971714	LEFT HAND	PURGE VALVE	9.26"
	13-14600	971715	971715	RIGHT HAND	PURGE VALVE	9.26"
	13-14600	818472	818472	LEFT HAND	PURGE VALVE	7.50"
	13-14600	818471	818471	RIGHT HAND	PURGE VALVE	7.50"
	13-14600	971748	971748	LEFT HAND	PURGE VALVE	14.28"
	13-14600	971749	971749	RIGHT HAND	PURGE VALVE	14.28"

Axle Assembly Tag



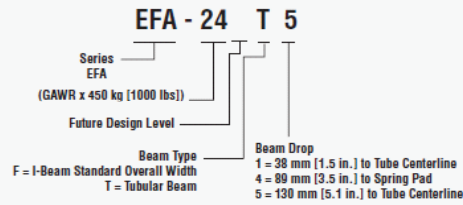
AXLE ASSEMBLY NUMBER

4 * Spicer® King Pin Kits that contain Garlock composite DX and DX10 bushings are presized and do not require reaming. Please see the inside front cover for details and pictures.

EFA SERIES



Model Identification Numbering System



For an illustrated parts listing (IPL) of all EFA Series components, refer to AXIP-0074 on Spicerparts.com

MAJOR OEM & MODEL INFORMATION	AXLE RATING LBS	OEM PART NUMBER	SPICER PART NUMBER	COMMENT	DESCRIPTION	PIN SIZE OR TIE ROD LENGTH STUD CENTER TO END
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EFA10F4, EFA12F3, EFA13F3

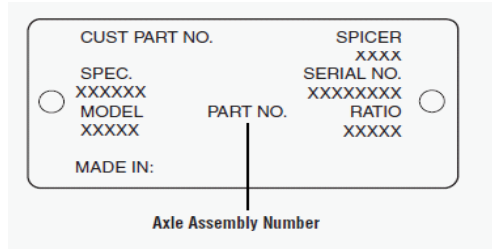
	10-13000	KING PIN KITS 806356 **	806356	DX BUSHING *		9.12" x 1.625"
		TIE ROD ENDS				
	10-13000	1009009	1009009	LEFT HAND	BOOT STYLE	8.13"
	10-13000	1009009	1009010	RIGHT HAND	BOOT STYLE	8.13"
	10-13000	1009009	140TR109	LEFT HAND	BOOT STYLE	5.44"
	10-13000	1009009	140TR110	RIGHT HAND	BOOT STYLE	5.44"

EFA12F4, EFA13F5

	12-13000	KING PIN KITS 806355	806355	DX BUSHING *		9.12" x 1.625"
		TIE ROD ENDS				
	12-13000	1009009	1009009	LEFT HAND	BOOT STYLE	8.13"
	12-13000	1009010	1009010	RIGHT HAND	BOOT STYLE	8.13"
	12-13000	140TR109	140TR109	LEFT HAND	BOOT STYLE	5.44"
	12-13000	140TR110	140TR110	RIGHT HAND	BOOT STYLE	5.44"

EFA18F3, EFA20F4, EFA22T2/T5, EFA24T2/T5

	18-24000	KING PIN KITS 811525	811525	DX BUSHING *		9.965" X 1.87"
		TIE ROD ENDS				
	18-24000	220TR130	220TR130	LEFT HAND	PURGE VALVE	7.50"
	18-24000	220TR131	220TR131	RIGHT HAND	PURGE VALVE	7.50"



** Discontinued / no longer available

* Spicer® King Pin Kits that contain Garlock composite DX and DX10 bushings are presized and do not require reaming. Please see the inside front cover for details and pictures.



I SERIES



I100W, I120W, I140W, I160W, I180W, I200W, I220W



I100SG, I120SG, I130SG, I132SG, I140SG

No Suffix or SG(Standard), W (Wide)

For an illustrated parts listing (IPL) of all I Series components, refer to AXIP-0090 on Spicerparts.com

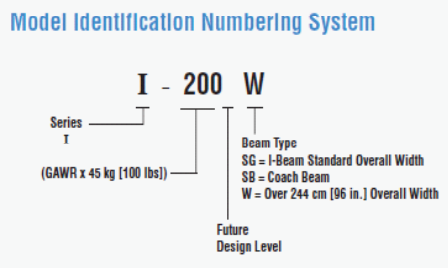
MAJOR OEM & MODEL INFORMATION	AXLE RATING LBS	OEM PART NUMBER	SPICER PART NUMBER	COMMENT	DESCRIPTION	PIN SIZE OR TIE ROD LENGTH STUD CENTER TO END
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160, 180

	6-8000 6-8000	KING PIN KITS 101KK111 101KK110	101KK111 101KK110	DUAL DRAWKEY OPPOSITE SIDES SINGLE DRAWKEY	DX BUSHING * DX BUSHING *	8.07" X 1.36" 7.97" X 1.36"
	6-8000 6-8000	TIE ROD ENDS 080TR116 080TR117	080TR116 080TR117	LEFT HAND RIGHT HAND	BOOT STYLE BOOT STYLE	11.89" 11.89"

I100I/W, I120I/W

	10-12000 10-12000	KING PIN KITS 120KK100 220KK100	120KK100 220KK100	DUAL DRAWKEY OPPOSITE SIDES DUAL DRAWKEY OPPOSITE SIDES	DX BUSHING * DX BUSHING *	9.87" X 1.92" 10.94" X 2.05"
	10-12000 10-12000 10-12000 10-12000 10-12000 10-12000 10-12000 10-12000 10-12000 10-12000 10-12000 10-12000 10-12000	TIE ROD ENDS 140TR111 140TR112 220TR118 220TR119 817018 817019 220TR130 220TR131 140TR142 140TR143 818472 818471	140TR111 140TR112 220TR118 220TR119 817018 817019 220TR130 220TR131 140TR142 140TR143 818472 818471	LEFT HAND RIGHT HAND LEFT HAND RIGHT HAND LEFT HAND RIGHT HAND LEFT HAND RIGHT HAND LEFT HAND RIGHT HAND LEFT HAND RIGHT HAND	PURGE VALVE PURGE VALVE PURGE VALVE PURGE VALVE PURGE VALVE PURGE VALVE PURGE VALVE PURGE VALVE PURGE VALVE PURGE VALVE PURGE VALVE PURGE VALVE	9.18" 9.18" 12.69" 12.69" 6.19" 6.19" 7.50" 7.50" 14.80" 14.80" 7.50" 7.50"



Spicer Part Number

DO NOT REMOVE

1208N000 0

SERIAL

SER # 000000 I-120S 96020
0000000000 FJ 9999

Serial Number Model Line Set Number (Optional) Customer Part Number (Optional) Julian Date Code

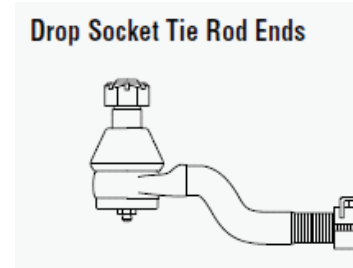
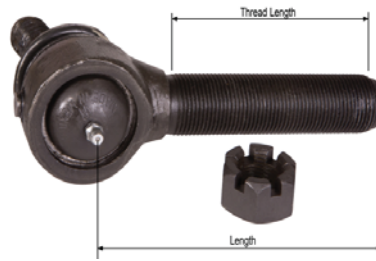
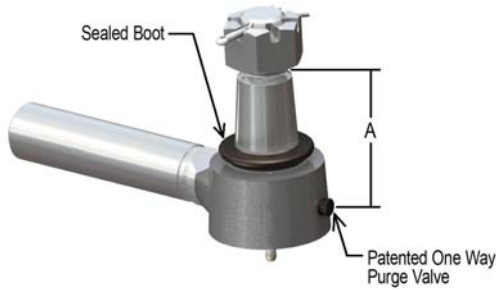
* Spicer® King Pin Kits that contain Garlock composite DX and DX10 bushings are presized and do not require reaming. Please see the inside front cover for details and pictures.

MAJOR OEM & MODEL INFORMATION	AXLE RATING LBS	OEM PART NUMBER	SPICER PART NUMBER	COMMENT	DESCRIPTION	PIN SIZE OR TIE ROD LENGTH STUD CENTER TO END
I132, I140, I146, I140W						
	14-14600	KING PIN KITS 220KK100	220KK100	DUAL DRAWKEY OPPOSITE SIDES	DX BUSHING *	10.94" X 2.05"
	14-14600	120KK102	120KK102	DUAL DRAWKEY OPP SIDES I120/ 140	DX BUSHING *	10.77" X 1.86"
	14-14600	140KK100	140KK100	DUAL DRAWKEY OPPOSITE SIDES	DX BUSHING *	10.12" X 2.05"
	14-14600	329022	329022	I140W	DX BUSHING *	10.12" X 2.05"
		TIE ROD ENDS				
	14-14600	140TR111	140TR111	LEFT HAND	PURGE VALVE	9.18"
	14-14600	140TR112	140TR112	RIGHT HAND	PURGE VALVE	9.18"
	14-14600	220TR118	220TR118	LEFT HAND	PURGE VALVE	12.69"
	14-14600	220TR119	220TR119	RIGHT HAND	PURGE VALVE	12.69"
	14-14600	817018	817018	LEFT HAND	PURGE VALVE	6.19"
	14-14600	817019	817019	RIGHT HAND	PURGE VALVE	6.19"
	14-14600	220TR130	220TR130	LEFT HAND	PURGE VALVE	7.50"
	14-14600	220TR131	220TR131	RIGHT HAND	PURGE VALVE	7.50"
	14-14600	140TR142	140TR142	LEFT HAND	PURGE VALVE	14.80"
	14-14600	140TR143	140TR143	RIGHT HAND	PURGE VALVE	14.80"
	14-14600	818472	818472	LEFT HAND	PURGE VALVE	7.50"
	14-14600	818471	818471	RIGHT HAND	PURGE VALVE	7.50"
I160, I180, I160W, I180W, I200W, I220W, I161						
	16-22000	KING PIN KITS 151KK101	151KK101	I160, I180	DX BUSHING *	10.94" X 2.05"
	16-22000	329023	329023	I160W	DX BUSHING *	10.94" X 2.05"
	16-22000	220KK100	220KK100	I180W - I220W	DX BUSHING *	10.94" X 2.05"
	16-22000	161KK100	161KK100	MCI BUS I160	DX BUSHING *	11.00" X 2.05"
	16-22000	329116	329116	NEOPLAN BUS I161	DX BUSHING *	11.00" X 1.79"
		TIE ROD ENDS				
	16-22000	220TR115	220TR115	LEFT HAND	BOOT STYLE	5.75"
	16-22000	220TR116	220TR116	RIGHT HAND	BOOT STYLE	5.75"
	16-22000	818472	818472	LEFT HAND	PURGE VALVE	7.50"
	16-22000	818471	818471	RIGHT HAND	PURGE VALVE	7.50"
	16-22000	220TR130	220TR130	LEFT HAND	PURGE VALVE	7.50"
	16-22000	220TR131	220TR131	RIGHT HAND	PURGE VALVE	7.50"
<p>FOR TECHNICAL SERVICE ASSISTANCE CALL 1- 877-777-5360</p> <p>For Technical Information reference Dana Spicer® Steer Axle Service Manual AXSM-0038</p>						

* Spicer® King Pin Kits that contain Garlock composite DX and DX10 bushings are presized and do not require reaming. Please see the inside front cover for details and pictures.



E Series, I Series, D Series, & EFA Tie Rod Ends by Length (Ball Center to End)



LEFT HAND	RIGHT HAND	NOTE	TIE ROD END LENGTH BALL CTR TO END IN.	TYPE	ROD THREAD	THREAD LENGTH	STUD TAPER LENGTH CTR SOCKET TO THREADS	TAPER	DANA DESIGN TYPE	STEER AXLE SERIES	
140TR109	140TR110		5.44	Straight	1.125 - 12 UNF-2A	3.44	2.22	1.5 per ft	Non Purge Valve	I & EFA	
220TR115	220TR116		5.75	Straight	1.25 - 12 UNF-2A	3.88	2.61	1 to 8	Non Purge Valve	I	
970701	970702		6.00	Straight	1.125-12 UNF2B	4.32	CROSSLINK OBSOLETE	1 to 8	Non Purge Valve	E	
817018	817019		6.19	Straight	1 1/8-12 UNF2A	4.09		2.22	Purge Valve	I & D & E	
818472	818471		7.50	Straight	1 1/4-12 UNF2A	5.25	2.40	1 to 8	Purge Valve	I & D & E	
220TR130	220TR131		7.50	Straight	1 1/4-12UNF2A	5.25	2.61	1 to 8	Purge Valve	I & D & EFA	
1009009	1009010		8.13	Dropped	1 1/4-12UNF2A	3.12	2.41	1 to 8	Non Purge Valve	EFA	
140TR111	140TR112		9.18	Straight	1 1/8-12UNF2A	3.43	2.22	1 to 8	Purge Valve	I	
120TR109	120TR110	NLA	9.18	<i>REPLACED BY 140TR111, 140TR112</i>						Non Purge Valve	I
971714	971715		9.26	Dropped	1 1/4-12 UNF2A	4.13	2.47	1 to 8	Purge Valve	E	
970579	970580	NLA	9.26	<i>REPLACED BY 971714 & 971715</i>					1 to 8	Non Purge Valve	E & D
080TR116	080TR117		11.89	Dropped	1.375 -12UNF-2A	3.60	2.60	1 to 8	Non Purge Valve	I	
220TR118	220TR119		12.69	Dropped	1 7/8-12UNF-2A	4.75	2.60	1 to 8	Purge Valve	I & D	
971748	971749		14.28	Dropped	1.625-12UN-2A	4.75	2.42	1.5 to 1 ft	Purge Valve	E	
140TR142	140TR143		14.80	Dropped	1 5/8 -12 UN2A	4.55	2.22	1 to 8	Purge Valve	I	
140TR130	140TR131	NLA	14.80	<i>REPLACED BY 140TR142, 140TR143</i>						Non Purge Valve	I
140TR114	140TR115	NLA	14.80	<i>REPLACED BY 140TR142, 140TR143</i>						Non Purge Valve	I
161TR115	161TR116		15.45	Dropped	1.625-12UN2A	4.55	2.61	1.5 per ft	Non Purge Valve	I	

Note: For tie rod assemblies, reference the Steer Axle Illustrated Parts List (IPL) located on page 22.

Note: Cross tubes are only sold as an assembly with tie rod ends. They are not available separately.

KING PIN KIT CONTENTS

D Series

101KK111 160, 180 DX BUSHINGS *

101SC101	Knuckle Pin	2
101HD101	Bushings-DX GARLOCK	4
101HH101	Seals	4
071HP101	Drawkeys Inner	2
HP119-5	Drawkeys Outer	2
HP119-3	Drawkeys Outer	2
080HC100	Thrust Bearing	2
HH103	O-Rings	4
819790	Grease Fitting	4
HS111	Shim .005	2
HS112	Shim .010	2
1460HN100	Belleville Washer	4
220HN103	Drawkey Hex Nut	2

329182 D SERIES DX BUSHINGS *

085SC100	KNUCKLE PIN	2
101HD101	BUSHING	4
HS111	SHIM .005	2
HS112	SHIM .010	2
HH103	RING - O	4
819790	GREASE FITTING	4
101HH101	OIL SEAL	4
071HP101	DRAW KEY	4
1460HN100	BELLEVILLE WASHER	8
220HN103	DRAW KEY HEX NUT	4
080HC100	THRUST BEARING	2

331434 D SERIES 5" DROP BRONZE

220HC100	THRUST BEARING	2
220HP100-1	DRAWKEY - INNER	2
220HP100-2	DRAW KEY	2
1460HN100	BELLEVILLE WASHER	8
220HN103	DRAW KEY HEX NUT	4
160HS100-1	SHIM	2
160HS100-2	SHIM	2
160HS100-3	SHIM	2
160HH100	OIL SEAL	4
1001414	GREASE FITTING	4
220SC110	KINGPIN	2
971010	FOAM INSERT	4
971370	KNUCKLE CAP	4
160HD105	BRONZE BUSHING	4

331435 D SERIES 3.5" DROP DX BUSHINGS *

220HC100	THRUST BEARING	2
220HP100-2	DRAW KEY	4
1460HN100	BELLEVILLE WASHER	8
220HN103	DRAW KEY HEX NUT	4
160HS100-1	SHIM	2
160HS100-2	SHIM	2
160HS100-3	SHIM	2
160HH100	SEAL-OIL	4
1001414	GREASE FITTING	4
220SC112	KINGPIN	2
971010	FOAM INSERT	4
160HD105	DX BUSHING	4
971370	KNUCKLE CAP	4

* Spicer® King Pin Kits that contain Garlock composite DX and DX10 bushings are presized and do not require reaming. Please see the inside front cover for details and pictures.



EFA Series

806355 EFA SERIES 12F4 13F5 DX BUSHINGS *

1004783	SEAL	4
1004785	GASKET	4
1004800	SHIM (.005)	4
1004801	SHIM (.010)	4
1004802	SHIM (.015)	4
1004803	SHIM (.025)	4
1004804	LOCKNUT	2
1008360	THRUST BRG	2
1008924	DX BUSHING	4
1009304	KNUCKLEPIN	2
816239	DRAW KEY	2

811525 EFA18, 20, 22 & 24 DX BUSHINGS *

1004804	LOCKNUT	2
107276S	SEALANT RTV	1
806333	KNUCKLE PIN	2
806334	DX BUSHING	4
811523	THRUST BRG	2
820518	SEAL	4
820587	DRAW KEY	2
817492	SHIM (.030)	2
817493	SHIM (.005)	4
817494	SHIM (.010)	2

E Series

328342 E1000-E1320I,W BRONZE BUSHINGS

815284	Knuckle Pin	2
1320HD100	Bushings-Bronze	4
815237	Seals	4
816239	Drawkeys	2
971011	Thrust Bearing	2
971370	Knuckle Cap	4
971010	Foam Insert	4
819790	Grease Fitting	4
817493	Shim .005	4
817494	Shim .010	2
817492	Shim .030	2
1004804	Locknut	2

328343-E1460 I,W BRONZE BUSHINGS (After 2000)

817452	Knuckle Pin	2
1460HD100	Bushings-Bronze	4
820518	Seals	4
816239	Drawkeys	2
220HC104	Thrust Bearing	2
971370	Knuckle Cap	4
971010	Foam Insert	4
819790	Grease Fitting	4
817493	Shim .005	4
817494	Shim .010	2
817492	Shim .030	2
067592	Locknut	2

* Spicer® King Pin Kits that contain Garlock composite DX and DX10 bushings are presized and do not require reaming. Please see the inside front cover for details and pictures.

E Series Continued

328344 - E1000 - E1320 I,W DX BUSHINGS *

815284	Knuckle Pin	2
1329HD101	Bushings-DX	4
815237	Seals	4
816239	Drawkeys	2
971011	Thrust Bearing	2
971370	Knuckle Cap	4
971010	Foam Insert	4
819790	Grease Fitting	4
817493	Shim .005	4
817494	Shim .010	2
817492	Shim .030	2
1004804	Locknut	2

328345 - E1460 I,W DX BUSHINGS * (After 2000)

817452	Knuckle Pin	2
806334	Bushings-DX	4
820518	Seals	4
816239	Drawkeys	2
220HC104	Thrust Bearing	2
971370	Knuckle Cap	4
971010	Foam Insert	4
819790	Grease Fitting	4
817493	Shim .005	4
817494	Shim .010	2
817492	Shim .030	2
067592	Locknut	2

328346 - E1203 I - BRONZE BUSHINGS

1320SC100	Knuckle Pin	2
1320HD100	Bushings-BRONZE	4
815237	Seals	4
160HP104-1	Drawkey Upper	2
160HP104-2	Drawkey Lower	2
971011	Thrust Bearing	2
971370	Knuckle Cap	4
971010	Foam Insert	4
819790	Grease Fitting	4
817493	Shim .005	4
817494	Shim .010	2
817492	Shim .030	2
1460HN100	Bellville Washer	8
220HN103	Drawkey Hex Locknut	2

328347 - E1002 - E1462 I,W BRONZE BUSHINGS

1460SC102	Knuckle Pin	2
1460HD100	Bushings-Bronze	4
820518	Seals	4
160HP104-1	Drawkey Upper	2
160HP104-2	Drawkey Lower	2
220HC104	Thrust Bearing	2
971370	Knuckle Cap	4
971010	Foam Insert	4
819790	Grease Fitting	4
817493	Shim .005	4
817494	Shim .010	2
817492	Shim .030	2
1460HN100	Bellville Washer	8
220HN103	Drawkey Hex Locknut	2

* Spicer® King Pin Kits that contain Garlock composite DX and DX10 bushings are presized and do not require reaming. Please see the inside front cover for details and pictures.



E Series Continued

328348 - E1203 I DX BUSHINGS *

1320SC100	Knuckle Pin	2
1320HD101	Bushings-Bronze	4
815237	Seals	4
160HP104-1	Drawkey Upper	2
160HP104-2	Drawkey Lower	2
971011	Thrust Bearing	2
971370	Knuckle Cap	4
971010	Foam Insert	4
819790	Grease Fitting	4
817493	Shim .005	4
817494	Shim .010	2
817492	Shim .030	2
1460HN100	Bellville Washer	8
220HN103	Drawkey Hex Locknut	2

328349 - E1002 - E1462 I,W DX BUSHINGS *

1460SC102	Knuckle Pin	2
806334	Bushings-DX	4
820518	Seals	4
160HP104-1	Drawkey Upper	2
160HP104-2	Drawkey Lower	2
220HC104	Thrust Bearing	2
971370	Knuckle Cap	4
971010	Foam Insert	4
819790	Grease Fitting	4
817493	Shim .005	4
817494	Shim .010	2
817492	Shim .030	2
1460HN100	Bellville Washer	8
220HN103	Drawkey Hex Locknut	2

329404 - E1460 I,W Pre-2000 DX BUSHINGS *

817452	Knuckle Pin	2
806334	Bushings-DX	4
820518	Seals	4
816239	Drawkeys	2
811523	Thrust Bearing	2
971370	Knuckle Cap	4
971010	Foam Insert	4
819790	Grease Fitting	4
817493	Shim .005	4
817494	Shim .010	2
817492	Shim .030	2
067592	Locknut	2

329405 - E1460 I,W Pre-2000 BRONZE BUSHINGS

817452	Knuckle Pin	2
806334	Bushings-DX	4
820518	Seals	4
816239	Drawkeys	2
811523	Thrust Bearing	2
971370	Knuckle Cap	4
971010	Foam Insert	4
819790	Grease Fitting	4
817493	Shim .005	4
817494	Shim .010	2
817492	Shim .030	2
067592	Locknut	2

* Spicer® King Pin Kits that contain Garlock composite DX and DX10 bushings are presized and do not require reaming. Please see the inside front cover for details and pictures.

E Series Continued

503700 - E1202 TOP DEAD CENTER MOUNT ADB

1460SC103	Knuckle Pin (shorter)	2
1460HD103	Bushings-DX10 1.8"	2
1460HD104	Bushings-DX10 1.4"	2
820518	Seals	4
160HP104-1	Drawkey Upper	2
160HP104-2	Drawkey Lower	2
220HC104	Thrust Bearing	2
971370	Knuckle Cap	4
971010	Foam Insert	4
819790	Grease Fitting	4
817493	Shim .005	4
817494	Shim .010	2
817492	Shim .030	2
1460HN100	Bellville Washer	8
220HN103	Drawkey Hex Locknut	2

503701-E1002 - E1462 SERIES DX10 BUSHINGS *

1460SC102	Knuckle Pin	2
1460HD103	Bushings-DX10 1.8"	4
820518	Seals	4
160HP104-1	Drawkey Upper	2
160HP104-2	Drawkey Lower	2
220HC104	Thrust Bearing	2
971370	Knuckle Cap	4
971010	Foam Insert	4
819790	Grease Fitting	4
817493	Shim .005	4
817494	Shim .010	2
817492	Shim .030	2
1460HN100	Bellville Washer	8
220HN103	Drawkey Hex Locknut	2

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I Series

101KK110 160, 180 (DX BUSHINGS) *

101SC100	Knuckle Pin	2
101HD102	BUSHINGS DX	4
101HH101	Seals	4
071HP101	Drawkeys Inner	2
080HC100	Thrust Bearing	2
HH103	O-Rings	4
819790	Grease Fitting	4
HS111	Shim .005	6
HN173	Belleville Washer	4
25522R1	Hex Nut	2

101KK111 160, 180 (DX BUSHINGS) *

101SC101	Knuckle Pin	2
101HD101	Bushings-DX GARLOCK	4
101HH101	Seals	4
071HP101	Drawkeys Inner	2
HP119-5	Drawkeys Outer	2
HP119-3	Drawkeys Outer	2
080HC100	Thrust Bearing	2
HH103	O-Rings	4
819790	Grease Fitting	4
HS111	Shim .005	2
HS112	Shim .010	2
1460HN100	Belleville Washer	4
220HN103	Drawkey Hex Nut	2

120KK100 (DX BUSHINGS) *

120SC100	Knuckle Pin	2
120HD102	Bushings-DX GARLOCK	4
120HH100	Seals	4
160HP102-2	Drawkeys Inner	2
071HP101	Drawkeys Outer	2
120HC100	Thrust Bearing	2
220HH102	O-Rings	4
819790	Grease Fitting	4
160HS100-1	Shim .005	2
160HS100-2	Shim .010	2
160HS100-3	Shim .020	2
1460HN100	Belleville Washer	8
220HN103	Drawkey Hex Nut	2

120KK102 (DX BUSHINGS) *

140SC100	Knuckle Pin	2
140HD100-2	BUSHINGS DX	4
140HH100	Seals	4
160HP102-2	Drawkeys Inner	2
071HP101	Drawkeys Outer	2
220HC101	Thrust Bearing	2
220HH102	O-Rings	4
819790	Grease Fitting	4
160HS100-1	Shim .005	6
160HS100-2	Shim .010	2
160HS100-3	Shim .020	2
1460HN100	Belleville Washer	8
220HN103	Drawkey Hex Nut	2

* Spicer® King Pin Kits that contain Garlock composite DX and DX10 bushings are presized and do not require reaming. Please see the inside front cover for details and pictures.

I Series Continued

140KK100 (DX BUSHINGS) *

160SC100	Knuckle Pin	2
160HD102	BUSHINGS DX	4
160HH100	Seals	4
160HP102-2	Drawkeys Inner	2
071HP101	Drawkeys Outer	2
220HC100	Thrust Bearing	2
220HH102	O-Rings	4
819790	Grease Fitting	4
160HS100-1	Shim .005	6
160HS100-2	Shim .010	2
160HS100-3	Shim .020	2
1460HN100	Belleville Washer	8
220HN103	Drawkey Hex Nut	2

151KK101 (DX BUSHINGS) *

819790	Knuckle Pin	2
160HD102	BUSHINGS DX	4
160HH100	Seals	4
160HP102-2	Drawkeys Inner-Long	2
071HP101	Drawkeys Outer	2
220HC100	Thrust Bearing	2
220HH103	O-Rings	4
819790	Grease Fitting	4
160HS100-1	Shim .005	6
160HS100-2	Shim .010	2
160HS100-3	Shim .020	2
1460HN100	Belleville Washer	8
220HN103	Drawkey Hex Nut	2

161KK100 (DX BUSHINGS) *

161SC100	Knuckle Pin	2
160HD102	BUSHINGS DX	4
160HH100	Seals	4
160HP102-2	Drawkeys Inner-Long	2
071HP101	Drawkeys Outer	2
220HC100	Thrust Bearing	2
220HH103	O-Rings	4
819790	Grease Fitting	4
160HS100-1	Shim .005	6
160HS100-2	Shim .010	2
160HS100-3	Shim .020	2
1460HN100	Belleville Washer	8
220HN103	Drawkey Hex Nut	2

220KK100 (DX BUSHINGS) *

220SC108	Knuckle Pin	2
160HD102	Bushings- DX GARLOCK	4
160HH100	Seals	4
220HP100-1	Drawkeys Inner	2
220HP100-2	Drawkeys Outer	2
220HC100	Thrust Bearing	2
220HH103	O-Rings	4
819790	Grease Fitting	4
160HS100-1	Shim .005	6
160HS100-2	Shim .010	2
160HS100-3	Shim .020	2
1460HN100	Belleville Washer	8
220HN103	Drawkey Hex Nut	2

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I Series Continued

329022 (DX BUSHINGS) *

160SC100	Knuckle Pin	2
160HD102	BUSHINGS DX	4
160HH100	Seals	4
160HP102-3	Drawkeys Inner	2
071HP101	Drawkeys Outer	2
220HC100	Thrust Bearing	2
220HH102	O-Rings	4
819790	Grease Fitting	4
160HS100-1	Shim .005	6
160HS100-2	Shim .010	2
160HS100-3	Shim .020	2
1460HN100	Belleville Washer	8
220HN103	Drawkey Hex Nut	2

329023 I 160 (DX BUSHINGS) *

220SC108	Knuckle Pin	2
160HD102	BUSHINGS DX	4
160HH100	Seals	4
220HP100-3	Drawkey Short	2
220HP100-2	Drawkey	2
220HC100	Thrust Bearing	2
220HH103	O-Rings	4
819790	Grease Fitting	4
160HS100-1	Shim .005	6
160HS100-2	Shim .010	2
160HS100-3	Shim .020	2
1460HN100	Belleville Washer	8
220HN103	Drawkey Hex Nut	2

**329070 (DX BUSHINGS) *
REPLACED BY 220KK100 KIT**

220SC108	Knuckle Pin	2
160HD102	BUSHINGS DX	4
160HH100	Seals	4
220HP100-1	Drawkeys Inner	2
220HP100-2	Drawkey	2
220HC100	Thrust Bearing	2
220HH103	O-Rings	4
819790	Grease Fitting	4
160HS100-1	Shim .005	6
160HS100-2	Shim .010	2
160HS100-3	Shim .020	2
220HN102	Belleville Washer	8
220HN103	Drawkey Hex Nut	2

329116 (DX BUSHINGS) * NEOPLAN

161SC101	Knuckle Pin	2
1320HD101	BUSHINGS DX	4
815237	Seals	4
-----	Drawkeys Inner-Long	2
-----	Drawkeys Outer	2
971011	Thrust Bearing	2
220HH103	O-Rings	4
819790	Grease Fitting	4
817493	Shim .005	6
817494	Shim .010	2
817492	Shim .030	2
-----	Belleville Washer	8
161HN105	Drawkey Hex Nut	2

* Spicer® King Pin Kits that contain Garlock composite DX and DX10 bushings are presized and do not require reaming. Please see the inside front cover for details and pictures.

Cross Reference

Competitive PIN	Brand	Dana Part Number	Competitive PIN	Brand	Dana Part Number	Competitive PIN	Brand	Dana Part Number
300218	DAYTON PARTS	101KK113	310425	DAYTON PARTS	220TR116	E9941B	EUCLID	120KK100
300257	DAYTON PARTS	806355	310425	DAYTON PARTS	220TR116	E9942B	EUCLID	329022
300258	DAYTON PARTS	806356	310433	DAYTON PARTS	820694	E9942B	EUCLID	140KK100
300267	DAYTON PARTS	811525	310434	DAYTON PARTS	820695	E9949	EUCLID	140TR109
300268	DAYTON PARTS	101KK111	310437	DAYTON PARTS	080TR116	E9949	EUCLID	140TR109
300271	DAYTON PARTS	120KK100	310438	DAYTON PARTS	080TR117	E9951	EUCLID	140TR111
300272	DAYTON PARTS	140KK100	310455	DAYTON PARTS	817019	E9952	EUCLID	140TR112
300274	DAYTON PARTS	806355	310456	DAYTON PARTS	817018	FKP101C	FLAGG	806356
300276	DAYTON PARTS	120KK100	310504	DAYTON PARTS	971748	FKP109B	FLAGG	329432
300277	DAYTON PARTS	140KK100	310505	DAYTON PARTS	971749	FKP109C	FLAGG	811525
300278	DAYTON PARTS	220KK100	E10107B	EUCLID	329432	FKP110B	FLAGG	101KK111
300283	DAYTON PARTS	329432	E10137	EUCLID	817019	FKP115B	FLAGG	806355
300294	DAYTON PARTS	329405	E10138	EUCLID	817018	FKP118B	FLAGG	120KK100
300295	DAYTON PARTS	817452	E10148	EUCLID	080TR116	FKP118C	FLAGG	120KK100
300297	DAYTON PARTS	328342	E11394B	EUCLID	328342	FKP119B	FLAGG	140KK100
300298	DAYTON PARTS	120KK102	E11394B	EUCLID	328344	FKP119C	FLAGG	140KK100
300303	DAYTON PARTS	328346	E11785B	EUCLID	220KK100	FKP131B	FLAGG	328342
300304	DAYTON PARTS	328348	E11808C	EUCLID	817452	FKP131C	FLAGG	328344
300305	DAYTON PARTS	328347	E4460B	EUCLID	101KK113	FKP134C	FLAGG	120KK102
300306	DAYTON PARTS	328349	E4616	EUCLID	220TR116	FKP139B	FLAGG	328346
300307	DAYTON PARTS	328343	E4617	EUCLID	220TR115	FKP144B	FLAGG	328347
300308	DAYTON PARTS	329404	E4617TU	EUCLID	220TR115	FKP145C	FLAGG	329182
300319	DAYTON PARTS	329182	E4628	EUCLID	820694	FKP75B	FLAGG	101KK113
300320	DAYTON PARTS	329022	E4628	EUCLID	820694	FKP98C	FLAGG	806355
300322	DAYTON PARTS	329023	E4629	EUCLID	820695	FAK4495	FLEETRITR	101KK113
310215	DAYTON PARTS	140TR111	E4629	EUCLID	820695	FAK4572	FLEETRITR	806355
310216	DAYTON PARTS	140TR112	E4696B	EUCLID	806355	FAK4573	FLEETRITR	806356
310222	DAYTON PARTS	140TR109	E4696C	EUCLID	806355	FAK4574	FLEETRITR	811525
310222	DAYTON PARTS	140TR109	E6194C	EUCLID	811525	FAK4582	FLEETRITR	101KK111
310223	DAYTON PARTS	140TR110	E6198B	EUCLID	101KK111	FAK4583	FLEETRITR	806355
310285	DAYTON PARTS	1009009	E6856	EUCLID	220TR119	FAK4596	FLEETRITR	329432
310286	DAYTON PARTS	1009010	E6857	EUCLID	220TR118	FAK4598	FLEETRITR	140KK100
310395	DAYTON PARTS	220TR119	E6869C	EUCLID	806356	FAK4601	FLEETRITR	120KK100
310396	DAYTON PARTS	220TR118	E8757	EUCLID	1009009	FAK4609	FLEETRITR	220KK100
310424	DAYTON PARTS	220TR115	E8758	EUCLID	1009010	FAK4610	FLEETRITR	328342

* Spicer® King Pin Kits that contain Garlock composite DX and DX10 bushings are presized and do not require reaming. Please see the inside front cover for details and pictures.



Cross Reference Continued

Competitive PIN	Brand	Dana Part Number	Competitive PIN	Brand	Dana Part Number	Competitive PIN	Brand	Dana Part Number
FAK4615	FLEETRITE	120KK102	50.102.09	KAISER	101KK111	K120E	KAISER	806355
FAK4626	FLEETRITE	329182	50.103.19	KAISER	329182	K120E	KAISER	806355
FAK4627	FLEETRITE	329022	50.120.05	KAISER	806355	K120I	KAISER	120KK100
FAK4628	FLEETRITE	329023	50.120.05	KAISER	806355	K120I	KAISER	120KK100
FAK5444	FLEETRITE	101KK111	50.120.09	KAISER	120KK100	K121E	KAISER	806356
FAK5454	FLEETRITE	101KK111	50.121.05	KAISER	806356	K122E	KAISER	328342
FAK5455	FLEETRITE	120KK100	50.122.05	KAISER	328342	K122E	KAISER	328344
FAK5456	FLEETRITE	140KK100	50.140.19	KAISER	140KK100	K140S	KAISER	140KK100
FAK5457	FLEETRITE	220KK100	50.146.05	KAISER	328345	K146E	KAISER	328345
FAK5500	FLEETRITE	328349	50.146.05	KAISER	329405	K146E	KAISER	329405
FAK5501	FLEETRITE	328348	50.147.05	KAISER	328347	K146S	KAISER	120KK102
FAK5506	FLEETRITE	328344	50.160.19	KAISER	220KK100	K147E	KAISER	328347
FAK5507	FLEETRITE	328347	50.180.05	KAISER	329432	K160S	KAISER	220KK100
FAK5508	FLEETRITE	328346	50.180.05	KAISER	811525	K161S	KAISER	161KK100
ES2090L	INDUSTRY	820694	70.101.09	KAISER	101KK113	K180E	KAISER	329432
ES2091R	INDUSTRY	820695	70.102.09	KAISER	101KK111	K180E	KAISER	811525
ES3030R	INDUSTRY	220TR119	70.103.19	KAISER	329182	A3144C549	MERITOR	220TR118
ES3031L	INDUSTRY	220TR118	70.120.05	KAISER	806355	A3144D550	MERITOR	220TR119
ES3204L	INDUSTRY	080TR116	70.120.09	KAISER	120KK100	A3144F448	MERITOR	820695
ES3205R	INDUSTRY	080TR117	70.120.95	KAISER	806355	A3144G449	MERITOR	820694
ES3217L	INDUSTRY	140TR109	70.120.99	KAISER	120KK100	A3144J296	MERITOR	220TR116
ES3218R	INDUSTRY	140TR110	70.121.05	KAISER	806356	A3144K297	MERITOR	220TR115
ES3219L	INDUSTRY	140TR111	70.122.05	KAISER	328342	R200052	MERITOR	101KK113
ES3220R	INDUSTRY	140TR112	70.122.95	KAISER	328344	R200250	MERITOR	811525
ES3297R	INDUSTRY	1009010	70.140.19	KAISER	140KK100	R200251	MERITOR	806356
ES3298L	INDUSTRY	1009009	70.146.05	KAISER	328345	R200267	MERITOR	806355
ES3476	INDUSTRY	817019	70.146.05	KAISER	329405	R200268	MERITOR	101KK111
ES3477	INDUSTRY	817018	70.147.05	KAISER	328347	R200269	MERITOR	806355
ES431L	INDUSTRY	220TR115	70.160.19	KAISER	220KK100	R200279	MERITOR	220KK100
ES431R	INDUSTRY	220TR116	70.180.05	KAISER	329432	R200281	MERITOR	328342
ES800422	INDUSTRY	971715	70.180.05	KAISER	811525	R200281	MERITOR	328344
ES800423	INDUSTRY	971714	K101I	KAISER	101KK111	R201419	MERITOR	817452
ES9001L	INDUSTRY	971714	K101I	KAISER	101KK113	R201426	MERITOR	120KK100
ES9001R	INDUSTRY	971715	K102I	KAISER	101KK111	R201427	MERITOR	140KK100
50.101.09	KAISER	101KK113	K103S	KAISER	329182	R201485	MERITOR	140KK100

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Cross Reference Continued

Competitive PIN	Brand	Dana Part Number	Competitive PIN	Brand	Dana Part Number	Competitive PIN	Brand	Dana Part Number
R201486	MERITOR	120KK100	8655B	MOOG	120KK100	1668412C91	NAVISTAR	140KK100
R201487	MERITOR	329182	8655C	MOOG	120KK100	1668412C91	NAVISTAR	140KK100
R230070	MERITOR	220TR116	8657B	MOOG	140KK100	1668412C92	NAVISTAR	140KK100
R230071	MERITOR	220TR115	ES2090L	MOOG	820694	1685405C91	NAVISTAR	220KK100
R230072	MERITOR	820694	ES2090L	MOOG	820694	473695C91	NAVISTAR	101KK113
R230073	MERITOR	820695	ES2091R	MOOG	820695	2692311	PERFECT CIRCLE	220TR116
R230104	MERITOR	220TR119	ES2091R	MOOG	820695	2692311	PERFECT CIRCLE	220TR116
R230105	MERITOR	220TR118	ES3030R	MOOG	220TR119	2692312	PERFECT CIRCLE	220TR115
R230139	MERITOR	817019	ES3031L	MOOG	220TR118	2692485	PERFECT CIRCLE	820695
R230140	MERITOR	817018	ES3204L	MOOG	080TR116	2692485	PERFECT CIRCLE	820695
R230268	MERITOR	101KK113	ES3205R	MOOG	080TR117	2692486	PERFECT CIRCLE	820694
R230415	MERITOR	140TR111	ES3217L	MOOG	140TR109	2692486	PERFECT CIRCLE	820694
R230416	MERITOR	140TR112	ES3217L	MOOG	140TR109	2692645	PERFECT CIRCLE	220TR115
R230420	MERITOR	1009010	ES3218R	MOOG	140TR110	262-1555	PERFECT CIRCLE	101KK113
R230421	MERITOR	1009009	ES3218R	MOOG	140TR110	262-1585	PERFECT CIRCLE	806355
8001C	MOOG	329182	ES3219L	MOOG	140TR111	262-1586	PERFECT CIRCLE	806356
8002C	MOOG	329022	ES3220R	MOOG	140TR112	262-1594	PERFECT CIRCLE	811525
8003C	MOOG	329023	ES3297R	MOOG	1009010	262-1603	PERFECT CIRCLE	101KK111
8004C	MOOG	328349	ES3298L	MOOG	1009009	262-1609	PERFECT CIRCLE	806355
8005C	MOOG	328348	ES3476	MOOG	817019	262-1633	PERFECT CIRCLE	329432
8006C	MOOG	120KK102	ES3477	MOOG	817018	262-1635	PERFECT CIRCLE	120KK100
80070C	MOOG	140KK100	ES431L	MOOG	220TR115	262-1636	PERFECT CIRCLE	140KK100
80074B	MOOG	220KK100	ES431L	MOOG	220TR115	262-1652	PERFECT CIRCLE	328342
80075C	MOOG	220KK100	ES431R	MOOG	220TR116	262-1653	PERFECT CIRCLE	329405
80076B	MOOG	328342	ES431R	MOOG	220TR116	L20LV8041A13	TRW	1009009
80077B,	MOOG	329405	ES800422	MOOG	971715	L20LV8042A13	TRW	1009010
80078C	MOOG	817452	ES800423	MOOG	971714	L20LV8128B18	TRW	971715
8577B	MOOG	101KK113	ES9001L	MOOG	971714	L20LV8129B18	TRW	971714
8577C/B	MOOG	101KK111	ES9001R	MOOG	971715	L20LV8276A12	TRW	080TR117
8618C	MOOG	806355	1648204C91	NAVISTAR	101KK113	L20LV8277A12	TRW	080TR116
8631C	MOOG	806356	1660271C91	NAVISTAR	101KK111	L20SV8150B16	TRW	817019
8633B	MOOG	329432	1660271C92	NAVISTAR	101KK111	L20SV8151B16	TRW	817018
8633C	MOOG	811525	1660271C92	NAVISTAR	101KK111	L24LV8292A12	TRW	971749
8637C/B	MOOG	101KK111	1668411C91	NAVISTAR	120KK100	L24LV8292C12	TRW	140TR143
8647B	MOOG	806355	1668411C92	NAVISTAR	120KK100	L24LV8293A12	TRW	971748

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Cross Reference Continued

Competitive PIN	Brand	Dana Part Number
L24LV8293C12	TRW	140TR142
L24LV8441A13	TRW	140TR111
L24LV8442A13	TRW	140TR112
L24SV8000C20	TRW	140TR109
L24SV8001D20	TRW	140TR110
L24SV8002C13	TRW	140TR109
L24SV8003C13	TRW	140TR110
L24SV8100B13	TRW	820694
L24SV8101C22	TRW	820695
L24SV8102C13	TRW	820694
L24SV8103C12	TRW	820695
L24SV8200B21	TRW	220TR115
L24SV8201J21	TRW	220TR116
L24SV8202D16	TRW	220TR115
L24SV8203B16	TRW	220TR116
L24SV8454A16	TRW	220TR119
L24SV8455A16	TRW	220TR118

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Torque Specifications

E FAMILY FASTENER TORQUE SPECIFICATIONS

DESCRIPTION	FASTENER	TORQUE LBs Ft. (Nm)	SOCKET SIZE
Nut, Draw Key (Single)	1/2-20-UNF-2B	30-45 (41-61)	3/4" 6 point
Nut, Draw Key (Dual)	3/8-16-UNC-2A	24-36 (33-49)	9/16" 6 point
Stop Screw	5/8-18-UNF-2A	-	5/8" open end wrench
Jam Nut, Stop Screw	5/8-18-UNF-3B	90-120 (122-163)	15/16" open end wrench
Nut, Slotted	7/8-14-UNF-2B	120-160 (163-217)	15/16" 6 point
Bolt, Tie Rod Clamp	5/8-11-UNC-2A *	45-60 (61-81)**	15/16" 6 point
Cap, Knuckle	2.375-16-UNF-2A	50-75 (68-102)	15/16" 6 point
Nut, Outer Spindle	1.5-18-UNEF-2B	100-150 (135-203)	2 1/4" 6 point
Nut, Inner Spindle	1.5-18-UNEF-2B	see wheel bearing adjustment	2 5/8" 6 point
Nut, Pro-Torque Spindle	1.5-18-UNEF-2B	see wheel bearing adjustment	2 1/2" 6 point

EFA FAMILY FASTENER TORQUE SPECIFICATIONS

DESCRIPTION	FASTENER	TORQUE LBs Ft. (Nm)	NOTATION
Knuckle Capscrew	-	22-28 (30-38)	
Steering and Ackermann	-	350-490* (47S-664)	
Arm Nuts - 12F, 13F Axle	-	-	
Steering and Ackermann	-	775-1050* (1051-1424)	
Arm Nuts - 18F, 20F, 22T, 24T Axle	-	-	
Wheel Bearing Adjustment	-	see wheel bearing adjustment	
Tie Rod End Nut	-	165-230" (224-312)	
Steering Arm Ball Stud Nut	-	165-230" (224-312)	
Draw Key Nut	-	30-45 (41-61)	
Cross Tube Clamp Screw Nut	-	90-120 (122-163)	

NOTE: Torque nut to the range minimum, then tighten further to align cotter pin hole. Check torque to make sure it does not exceed range maximum. If it does, use a new nut.

For Technical Information reference Dana Spicer Steer Axle Service Manual AXSM-0038

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Torque Specifications Continued

I & D FAMILY FASTENER TORQUE SPECIFICATIONS

DESCRIPTION	FASTENER	TORQUE Lbs Ft. (Nm)	NOTATION
Tie Rod End Nut - (Note 1)	-	120-160 (160-218)	NOTE 1: Cotter pin cannot be installed after minimum torque is attained. The nut must be advanced until the cotter pin can be installed. Torque specified is for taper and threads which are clean and oil free. NOTE 2: Torque to specifications. Tap unthreaded end of draw key sharply with a hammer, and re-torque draw key nut to specifications. NOTE 3: Drop tie rod ends: I-120SG and I-140SG = 55-70 lbs. ft. (75-95 Nm). I-200SG, I-200W, & I-220W = 150 - 180 lbs. ft. (203-244 Nm).
Tie Rod Clamp Bolt (Note 3)	-	45-60 (61-81)	
Steering Arm Nut & Tie Rod	-	450-650 (610-881)	
Arm Nut (Note 1)	-	775-1200 (1050-1625)	
Kingpin Draw Key Nut (Note 2)	-	25-31 (34-42)	
Kingpin Cap Bolts	-	17-25 (23-34)	

D 2000 FAMILY FASTENER TORQUE SPECIFICATIONS

DESCRIPTION	FASTENER	TORQUE Lbs Ft. (Nm)	NOTATION
Tie Rod End Nut (Note 1)	-	120-160 (160-218)	-
Tie Rod Clamp Bolt	-	Straight: 45-60 (61-81)	-
Steering Arm Nut & Tie Rod	-	Drop: 150-180 (203-244)	-
Arm Nut	-	775-1200 (1050-1625)	-
Kingpin Draw Key Nut	-	24-36 (32.5-49)	-
Kingpin Cap Bolts	-	65-80 (88-108)	-

Spicer® Steer Axles Illustrated Parts List (IPL) and Service Manual Reference

Publication Number	Publication Description / Name	
AXIP-0074	Spicer® Steer Axles - Spicer® EFA Family	Visit www.spicerparts.com to download these publications
AXIP-0075	Spicer® Steer Axles - E Series	
AXIP-0090	Spicer® Steer Axles - D & I Family	
AXSM-0038	Spicer® Steer Axles Service Manual	
AXWP-0403	Spicer® Tie Rod Inspection Procedure	
WESM-0060	Spicer® Steer and Drive Wheel Ends	

For Technical Information reference Dana Spicer Steer Axle Service Manual AXSM-0038

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King Pin Part Number Cross Reference to Kits

See the "King Pin Kit Contents" section (pages 9-16) for a complete listing of all Spicer® King Pin Kits and the components in each kit.

PIN PART NUMBER	APPLICATION	AXLE RATING LBS	DANA KIT	BUSHING TYPE	COMMENTS	PIN SIZE
806333	EFA	18-24000	811525	DX BUSHING *	--	9.965" X 1.87"
815284	E1000I, W E1200I,W E1320I,W	10-13200	328344	DX BUSHING *	--	9.06" X 1.79"
815284	E1000I, W E1200I,W E1320I,W	10-13200	328342	BRONZE BUSHING	--	9.06" X 1.79"
817452	E1460I,W	14600	329404	DX BUSHING *	PRE 2000	9.06" X 1.87"
817452	E1460I,W	14600	328345	DX BUSHING *	AFTER 2000	9.06" X 1.87"
817452	E1460I,W	14600	329405	BRONZE BUSHING	PRE 2000	9.06" X 1.87"
817452	E1460I,W	14600	328343	BRONZE BUSHING	AFTER 2000	9.06" X 1.87"
1009304	EFA	12-13000	806355	DX BUSHING *	--	9.12" x 1.625"
085SC100	D600N,F D700N, D800F,W D850F,W	6-8500	329182	DX BUSHING *	DUAL DRAWKEY SAME SIDE	8.07" X 1.35"
101SC100	I SERIES	6-8000	101KK110	DX BUSHING *	SINGLE DRAWKEY	7.97" X 1.36"
101SC101	I SERIES, D SERIES	6-8500	101KK111	DX BUSHING *	DUAL DRAWKEY OPPOSITE SIDES	8.07" X 1.36"
120SC100	I SERIES	10-12000	120KK100	DX BUSHING *	DUAL DRAWKEY OPPOSITE SIDES	9.87" X 1.92"
1320SC100	E1203	12000	328348	DX BUSHING *	--	9.06" X 1.72"
1320SC100	E1203	12000	328346	BRONZE BUSHING	--	9.06" X 1.72"
140SC100	I SERIES	14-14600	120KK102	DX BUSHING *	DUAL DRAWKEY OPPOSITE SIDES I120/ 140	10.77" X 1.86"
1460SC102	E1002 E1302, E1322, E1462	10-13000	328349	DX BUSHING *	--	9.06" X 1.87"
1460SC102	E1002 E1302, E1322, E1462	10-13000	328347	BRONZE BUSHING	--	9.06" X 1.87"
1460SC102	E1002 E1302, E1322, E1462	10-13000	503701	DX10 BUSHING *	--	9.06" X 1.87"
1460SC103	E1002 E1302	10-13000	503700	DX10 BUSHING *	TOP DEAD CTR MOUNTED ADB	8.66" X 1.87"
160SC100	I SERIES	14-14600	140KK100	DX BUSHING *	DUAL DRAWKEY OPPOSITE SIDES	10.12" X 2.05"
160SC100	I SERIES	14-14600	329022	DX BUSHING *	I140W	10.12" X 2.05"
161SC100	I SERIES	16-22000	161KK100	DX BUSHING *	MCI BUS I160	11.00" X 2.05"
161SC101	I SERIES	16-22000	329116	DX BUSHING *	NEOPLAN BUS I161	11.00" X 1.79"
220SC108	I SERIES, I-100 - I220	10-22000	220KK100	DX BUSHING *	DUAL DRAWKEY OPPOSITE SIDES	10.94" X 2.05"
220SC108	I SERIES	16-22000	151KK101	DX BUSHING *	I160, I180	10.94" X 2.05"
220SC108	I SERIES	16-22000	329023	DX BUSHING *	I160W	10.94" X 2.05"
220SC110	D2000F (5" DROP) D2200F	20-22000	331434	DX BUSHING *	DUAL DRAWKEY OPPOSITE SIDES	10.06" X 2.04"
220SC112	D2000F (3.5" DROP), D2200F	20-22000	331435	DX BUSHING *	DUAL DRAWKEY SAME SIDE	10.06" X 2.04"

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