

Spicer® Drive Axles

SPICER®



Illustrated Parts List

AXIP-0054

March 2014

S110 Model

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General Information

How To Use Illustrated Parts List

Ordering Parts

- This parts book is organized in sections according to parts servicing requirements. Use the Contents or page headings and colored tabs to find information.
- Use this book to order parts for your Dana® Spicer® Axle.
- For convenience, part numbers have been included for all pieces of the carrier assembly. Some of these parts, such as the carrier and caps, are serviced only in kits or assemblies. Part numbers are for your reference only. Those parts not serviced separately are identified with NSS.

Kits and Assemblies

- Kits and Assemblies contain groups of individual or assembled parts developed for optimal replacement or repair of a service problem.
- Kits and Assemblies are shown with applicable parts groupings in the parts listing.
- See the Appendix for detailed information concerning kits applicable to this model.

Abbreviations

- AR - As Required - Parts that vary in quantity with each axle. Example: shims
- NSS - Not Serviced Separately - Items which can only be purchased in sets, kit form or service assemblies. Example: brake shoes.
- RH/LH - Right Hand/Left Hand - Determined as viewed from behind the vehicle looking forward.
- "RTV" - Gasket Compound - Formed-in-place gasket sealer. It is recommended for use on all surfaces requiring a gasket.
- Assy - Assembly
- Brg - Bearing
- Diff - Differential
- Hsg - Housing
- Inv - Involute
- ABS - Antilock Brake System
- N/A - Not Applicable
- Str - Straight

Illustrations

- Illustrations show parts in assembly groups.
- Item numbers on illustrations correspond with parts listings on pages that accompany the drawings.
- Notes are included on illustrations where needed.

Parts Listings

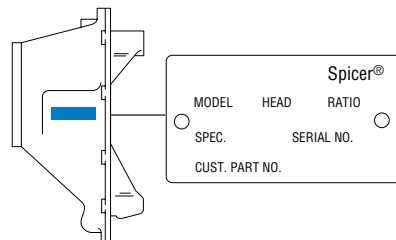
- Parts listings are defined by parts groupings and are broken down by service assemblies.
- Parts Listings identify a part for servicing with the following categories:
- Item - corresponds with numbers on illustrations for part identification
- Part Name - specifies part name or description
- Quantity (Qty) - quantity required for assembly
- Current Part - service part numbers are broken down by model, type or other applicable information
- Notes - define unique characteristics or replacement notes
- Kits / Assy's Where Used - indicates Kits or Assemblies that contain a particular part
- *Other pertinent information is listed in tables or parts listings as required.*

Model Identification

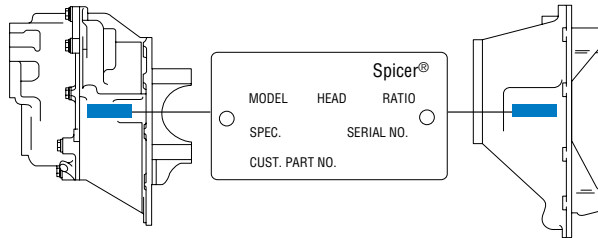
Locating Model Designation Information

- Axle Model Identification, Part Number and Serial Number are located on a tag at the axle centerline. This information will help to locate information in this book and to identify the correct parts for servicing.

Drive Axles



Single Drive Axles

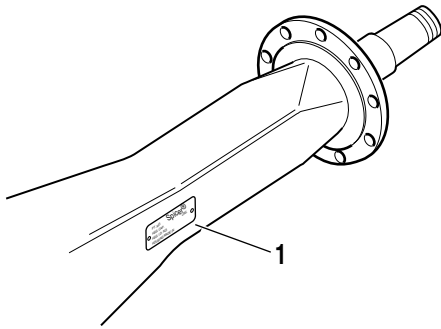


Tandem Drive Axles

- 1 - Country or origin**
- 2 - Axle model identification**
- 3 - Specification number assigned to the axle built by Spicer. Identifies all component parts of the axle including special OEM requirements such as yokes or flanges.**
- 4 - OEM part number assigned to the axle build**
- 5 - Carrier assembly serial number assigned by the manufacturing plant**
- 6 - Axle gear ratio**
- 7 - Carrier assembly production or service part number**

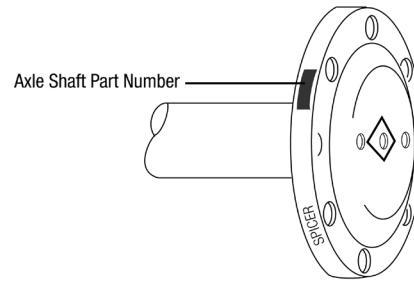
Model Identification

Axle Housing



1 - ID Tag

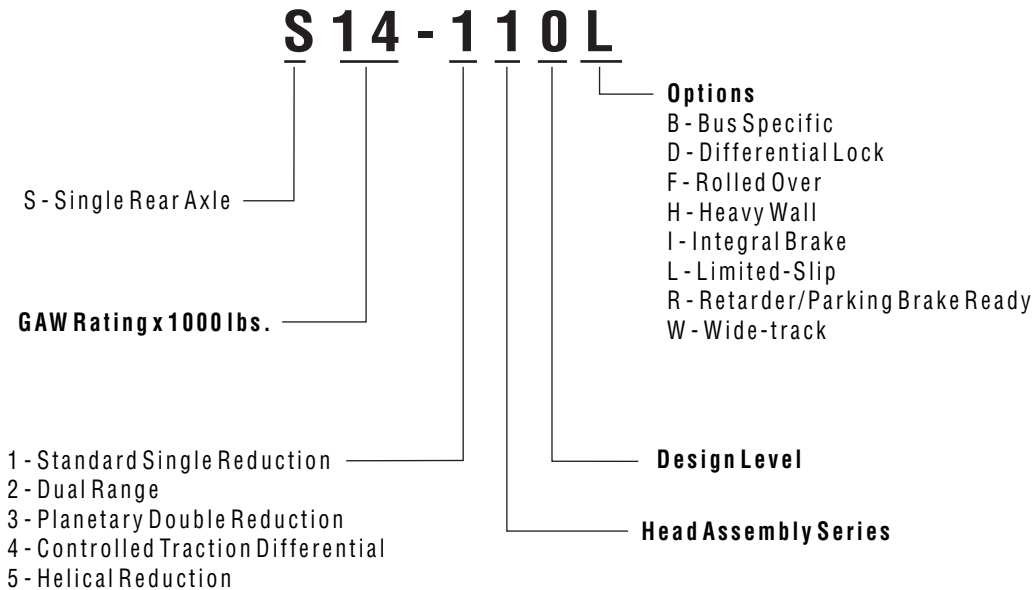
Axle Shaft



2 - Axle shaft part number

Using Model Designation to Identify Axle Components

The Axle Model Identification number contains information that is important to understand when purchasing service parts or new components. The Model Identification number provides important vehicle, capacity and application information and model features. Use this guideline to understand your Axle Model Identification. If you need assistance, contact your Dana Aftermarket representative.



Effectively using a Parts Listing - Example

- Follow the example below to locate and order exactly what is required for servicing.

Match to items on illustration	Use to identify Part	Order this quantity for servicing	Order Part Number		Indicated information important to ordering or use
Item	Part Name	Qty	MODEL1	MODEL2	Notes
1	Axle Shaft	2	xxxxxx	xxxxxx	See Axle Shaft Chart
2	Flat Washer	4	xxxxxx	xxxxxx	

Kits and Assemblies					
Item	Part Name	Qty	MODEL1	MODEL2	Notes
Bearing Kits		1	xxxxxx	xxxxxx	Contents Identified with *

Models

The following models are included in this publication:

Single Reduction Models

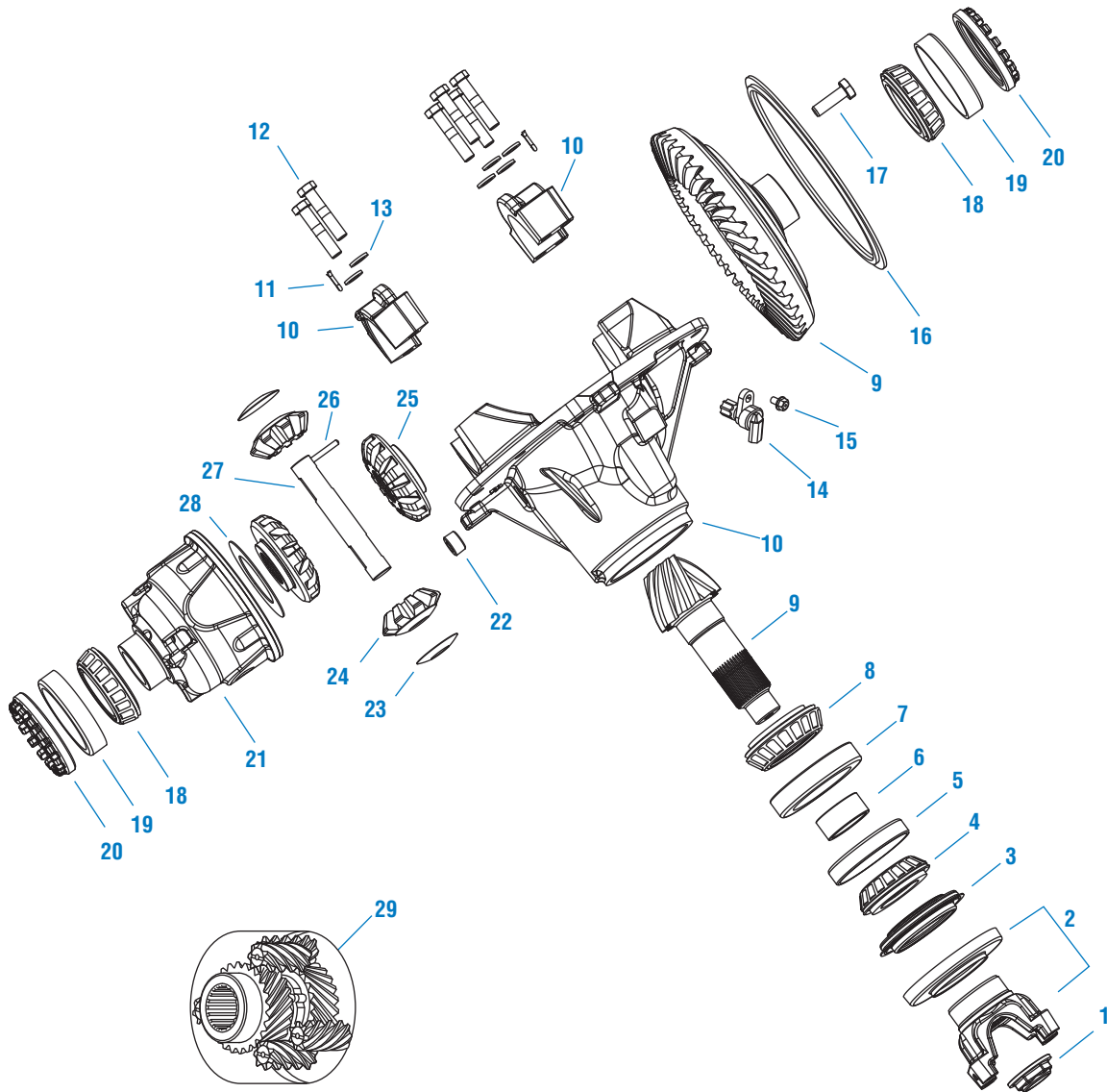
Model	Axle Capacity	Gear Size
S110	15,500 Lbs	12.25" (311 mm) Hypoid Gear, Nom.

Single Reduction Models with Limited Slip

Model	Axle Capacity	Gear Size
S110LS	15,500 Lbs	12.25" (311 mm) Hypoid Gear, Nom.

Axle Parts Explode

Axle Parts Explode



Axle Parts List

Axle Parts List

Item	Part Name	Qty	S110	Notes
CARRIER BEARING REBLD KIT (incl RTV)			504070	Contents Identified with •
BEARING KIT - (less RTV)			504068	Contents Identified with *
1	Pinion Nut	1	130542	M36-1.5 (45mm socket)
2	Yoke & Slinger Assy	1		See page 14
3	Pinion Oil Seal	1	127591* •	
4	Outer Pinion Bearing Cone	1	134308* •	was MJAHB101 or 012496
5	Outer Pinion Bearing Cup	1	134295* •	was MJAHA101 or 012495
6	KIT - PINION BEARING SPACER	1	504039	See page 8
7	Inner Pinion Bearing Cup	1	134292* •	was 360HA100 or 129561
8	Inner Pinion Bearing Cone	1	134306* •	was 130598 or 129562
9	Ring & Pinion - NSS	1		See page 9
10	Carrier Sub-Assy.	1		See page 8
11	Cotter Pin	2	090873	
12	Carrier Cap Bolts	6	130596	
13	Carrier Cap Washer	6	128415	
14	Sensor - speed (tone wheel)	1	2011750	Navistar - ABS Models Only, replaces 130944, 2006251
			50311	Ford - ABS Models Only
15	Capscrew	1	48672-1	ABS Models Only
16	Tone Ring	1		ABS Models Only
	Ratios 3.73-4.10		130770	
	Ratios 4.30-4.88		130602	
	Ratio 5.38		130647	
17	Ring Gear Bolts	12	130595	
18	Bearing Cone	2	HB105* •	
19	Bearing Cup	2	HA102* •	
20	Diff Bearing Adjuster	2	360HR101	
21	Differential Case - Plain Half	1	130509	
22	Fill Plug	1	054254	
WHEEL DIFF SIDE GEAR KIT			511861	Includes items 23-28
WHEEL DIFF SIDE GEAR KIT w/o GEARS			511862	Includes items 23-24, 26-28
23	Side Pinion Thrust Washer	2	129305	
24	Side Pinion	2	133761	Replaces 127364
25	Side Gear 34inv	2	130522	
26	Dowel Pin	1	130605	
27	Differential Shaft	1	133771	Replaces 130541
28	Side Gear Thrust Washer	1	127386	
TRUETRAC KIT			504038	Includes items 17 & 29 (replaces 512105)
29	Optional Truetrac - NSS	1	134240	Replaces 130642,130743 & 134001
30	RTV - Sealant	1	107276S*	Not Illustrated
31	Thread Adhesive Loctite 271 .5ml	1	129293	Not Illustrated

Carrier Sub-Assembly - Item #10

Carrier & Cap Kit Part Number	Sub Assy Part Number	Base Part Number	Casting Number	Notes
514121	130511-NSS	130747-NSS	130500	ABS Design - Ford
516606	10000226-NSS	130747-NSS	130500	ABS Design - 3.73 ratio only
504044	130739-NSS	130748-NSS	130737	Parking Brake Opt. - Workhorse
511860	130994-NSS	130746-NSS	130500	Standard Non-ABS - Ford/Gm/Workhorse

Diff Carrier & Bearing Caps Kit - 514121 abs design (ALL BUT 3.73 RATIO) (Includes Items 5, 7, 10-15 page 7)

Diff Carrier & Bearing Caps Kit - 516606 abs design (3.73 ONLY) (Includes Items 5, 7, 10-15 page 7)

Diff Carrier & Bearing Caps Kit - 504044 parking brake desgin (Includes Items 5, 7, 10-13 page 7)

Diff Carrier & Bearing Caps Kit - 511860 non-abs design (Includes Items 5, 7, 10-13 page 7)

Pinion Bearing Spacers

Pinion Bearing Spacer Kit P/N: 504039

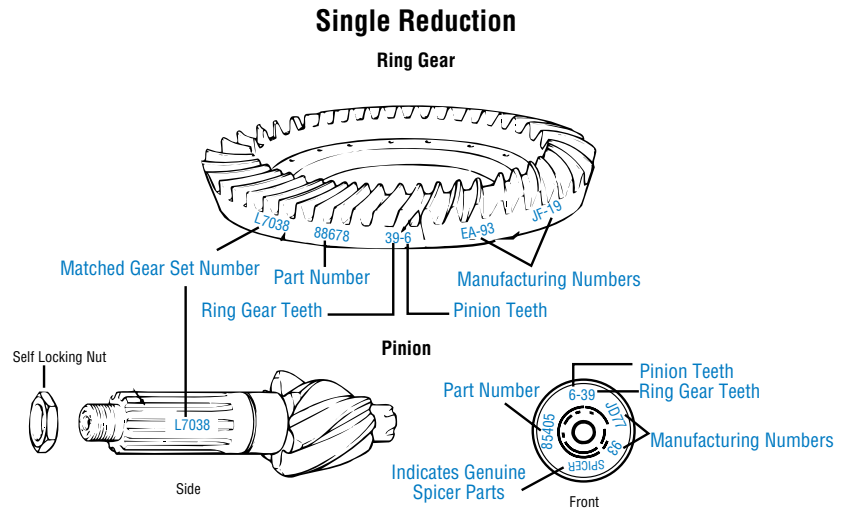
Part Number	Spacer (mm)	Thickness (in)
130543	27.230	1.072
130545	27.280	1.074
130547	27.330	1.076
130549	27.390	1.078
130551	27.440	1.080
130553 *	27.490	1.082
130555	27.540	1.084
130557	27.590	1.086
130559	27.610	1.087
130561	27.640	1.088
130563 *	27.660	1.089
130565 *	27.690	1.090
130567 *	27.720	1.091
130569	27.740	1.092
130571	27.770	1.093
130573 *	27.790	1.094
130575 *	27.820	1.095
130577 *	27.840	1.096
130579	27.870	1.097
130581	27.890	1.098
130583 *	27.920	1.099
130585	27.940	1.100
130587	27.970	1.101
130589	28.000	1.102
130591	28.050	1.104
130593	28.100	1.106

*Most popular used spacers. Brg Spacer Kit 504039 contains qty 1 each of these items.

Ring Gear & Pinion Identification

Dana has highly developed primary axle gearing which is only used in matched sets. These sets are identified by the mating parts listed below. Within any Dana production drive axle or genuine Spicer® Gear & Pinion service kits, these mated part numbers will appear. Because they are developed as a set with precision machining, never mix gears and pinions from different mated sets within an axle. Shortened gearing life, noise and failure may occur. Always use genuine Spicer® products.

- Ring Gear and Drive Pinion are matched parts and must be replaced in sets.
- Identification of mated parts are shown on the drawing below.
- The Service Gear & Pinion kits below include ABS option cutout on ring gear. Tone rings are sold separately.



Gear & Pinion Kits - S110 Models

34 Inv. Spline

12.25" (311 mm) Hypoid Gearing

Pinion Nut Part No. 130542

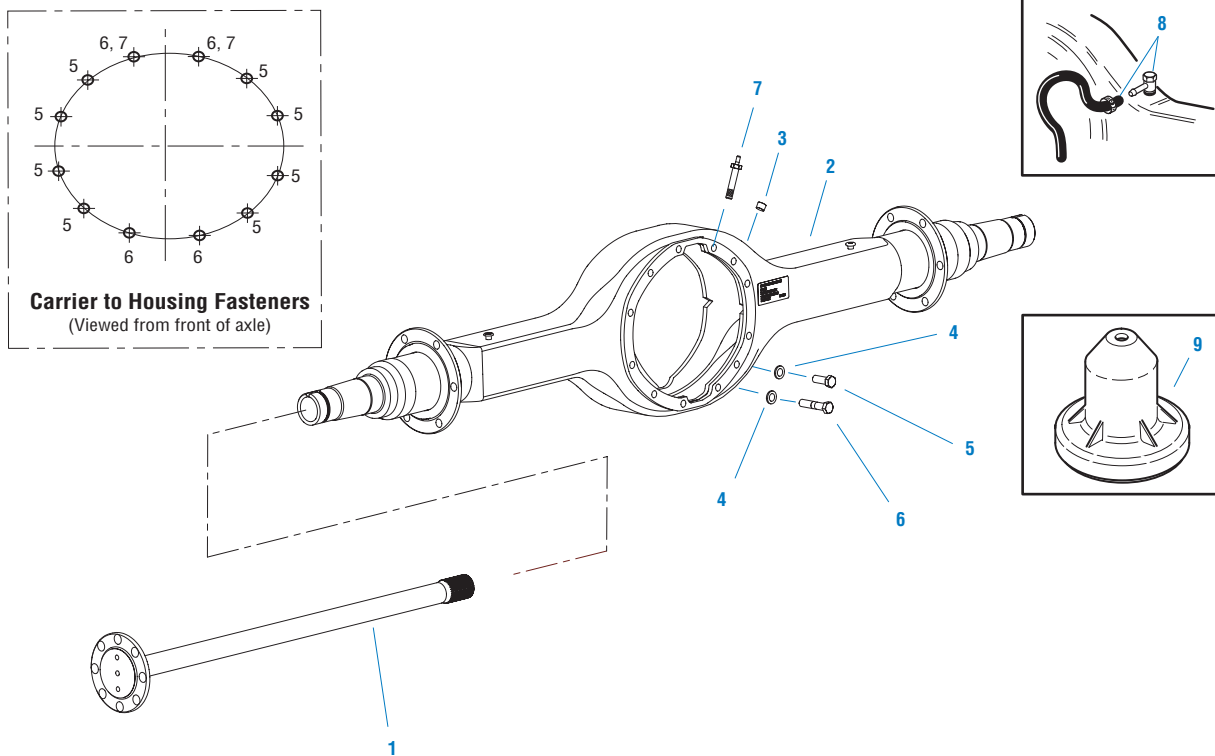
The original Gear/Pinion kits listed in "column 2" contain multiple parts. They are Qty-2 HB105 brg cones, Qty-2 HA102 brg cups and Qty-12 130595 ring gear capscrews. The kits listed in column 1 are now available and only contain current Gear/Pinion & Pinion Nut. Refer to Dana Bulletin HAXL-PNI-49 for additional details.

SPICER GEAR & PINION KITS			Mated Gear/Pinion Set (note-1)						
	New Kits	Original Kits	Generation 1		Generation 2		Generation 3 Current		Tooth Combo
Ratio	column 1	column 2	Gear (NSS)	Pinion (NSS)	Gear (NSS)	Pinion (NSS)	Gear (NSS)	Pinion (NSS)	
3.73	10005947	511831	130519	130537	132953	132898	132953	139758	41/11
3.91	10005948	511832	130604	130535	132954	132899	132954	139759	43/11
4.10	10005949	511833	130519	130536	132955	132900	132955	139760	41/10
4.30	10005950	512277	130604	130534	132956	132901	132956	139761	43/10
4.56	10005951	511835	130513	130527	132957	132902	132957	139763	41/9
4.78	10005953	511836	130515	130530	132958	132903	132958	139764	43/9
4.88	10005955	511837	130517	130533	132959	132904	132959	139765	39/8
5.13	10005956	511838	130513	130526	132960	132905	132960	139766	41/8
5.38	10005957	512279	130515	130529	132961	132906	132961	139767	43/8
5.57	10005958	511840	130517	130532	132962	132907	132962	139768	39/7
5.86	10005959	511841	130513	130525	132963	132908	132963	139769	41/7
6.14	10005960	511842	130515	130528	132964	132909	132964	139770	43/7
6.50	10005961	511843	130517	130531	132965	132910	132965	139771	39/6

Note 1: Dana has produced various generations of gear sets as detailed above. In doing this unique individual part numbers were used to identify either the supplying plant location or manufacturing differences. Dana Genuine Service kits are supplied with the most current design parts for service.

Axle Housing Parts Explode

Axle Housing Parts Explode



Axle Housing Parts List

Item	Description	Qty	Part No.	Notes
1	Axle Shaft	2		See Axle Shaft & Wheel Attaching Parts Charts on page 12
2	Axle Housing Assy	1		See Housing Chart on page 11
3	Plug	1	090897	.375 - 18 Thread, GM only
AXLE HOUSING HARDWARE KIT			514120	Includes items 4-6, 11
4	Washer	12	128415	
5	Capscrew, Carrier to Hsg - Short	8	210115	40mm - M14 X 2
6	Capscrew, Carrier to Hsg - Long	4	210091	70mm - M14 X 2
7	Capscrew, Double-ended	2	132803	GM Only for S110L Models
8	Breather Valve Assy Kit	1	507162	Note 8
8A	Breather Valve	1	809560	.375 - 18 thread, Note 8, Not Shown
9	Seal Driver - Pinion	1	126917	Also found in optional Service Kit 217414
10	Magnet - Axle Hsg (internal)	1	129494	Not Illustrated
11	RTV Sealant	1	107276S	Not Illustrated
12	Thread Adhesive Loctite 271 .5ml	1	129293	Not Illustrated

Note 8: Axle housings for Ford applications have a .437 threaded breather hole. Universal breather kit 507162 and the 809560 design valve will not work on these housings.

Axle Housings

Axle Housings

The Dana Axle housings listed below have various bracket configurations specifically for the OEM's listed. Items such as Brake Line Clips and Brake Hose Brackets are not listed down in the feature column.

Axle Series	Tag I.D. Number	Service P/N	OEM	Features / Notes
S110	321614	321615	Workhorse	Bare Housing
S110	321848	321849	Ford	Spring Seats, Shock Brackets
S110	321926	321927	GM	ABS Blocks, Shock Brackets
S110	322538	322539	Navistar	Shock Brackets
S110	322662	322663	GM	Shock Brackets
S110	322774	322775	GM	Shock Brackets
S110	322778	322778	Ford	Spring Seats, Shock Brackets
S110	322878	322878	Ford	Spring Seats, Shock Brackets
S110	323108	323108	Workhorse	Bare Housing
S110	323252	323252	Ford	Spring Seats, Shock Brackets (replaces 321974 & 321975)
S110	323396	502012	Navistar	Shock Brackets
S110	323559	502055	Paccar	Bare Housing
S110	323983	323983	Navistar	Torque Rod Bracket, Brake line clips
S110	324509	324509	Navistar	Bare Housing, Brake line clips

Note 1: Axle housings for Ford applications have a .437 threaded breather hole. Universal breather kit 507162 and the 809560 design valve will not work on these housings.

Axle Shafts

Axle Shafts

Dana S110 series axle shafts are used in “sets,” have unequal shaft lengths and may be “location specific” or “Wheel Equipment specific.” When replacing S110 axle shafts, locate the axle shaft part number or select the correct axle shaft from the chart below before placing your order. DO NOT MISPLACE AXLE SHAFTS FROM THEIR INTENDED LOCATION.

Part No.	Qty	Spline	Body O.D.	Shaft Length	Spline Length	Flange O.D.	Flange Holes	OEM
130523	1	34	1.56	39.290	3.23	6.079	8 (485-STR)	Ford
130524	1	34	1.56	41.000	3.23	6.079	8 (485-STR)	Ford
130610	1	34	1.56	37.480	3.23	6.223	8 (590-STR)	Workhorse
130611	1	34	1.56	39.173	3.23	6.223	8 (590-STR)	Workhorse
132856	1	34	1.56	38.740	2.56	6.223	8 (781-TPR)	GM
132857	1	34	1.56	40.433	2.56	6.223	8 (781-TPR)	GM
132858	1	34	1.56	40.287	2.56	6.079	8 (485-STR)	Ford
132859	1	34	1.56	42.000	2.56	6.079	8 (485-STR)	Ford
133684	1	34	1.56	38.091	2.56	6.223	8 (590-STR)	Android
133685	1	34	1.56	40.433	2.56	6.223	8 (590-STR)	Android
139793	1	34	1.56	36.790	3.23	6.079	8 (485-STR)	Ford
139795	1	34	1.56	38.500	3.23	6.079	8 (485-STR)	Ford

Wheel Attaching Hardware

Part No.	Description	Qty	Notes
45816	Axle Shaft Bolt	16	
47857	Axle Shaft O-Ring	2	
47860	Oil Seal - Wheel	2	replaces 131800
550348	Bearing Cone - Outer Spindle	2	
566071	Bearing Cone - Inner Spindle	2	
2001857	Locknut - Brake to Housing	10	

Note: Contact your OEM for wheel attaching parts not listed.

Wheel Seal Repair Kit

Part No.	Description	Qty	Notes
513981	KIT-WHEEL SEAL REPAIR (w/tool)		Kit includes pts below and the Seal Driver Tool
513982	KIT-WHEEL SEAL REPAIR (less tool)		Kit includes pts below less the Seal Driver Tool
47860	Oil Seal - Wheel	2	
131664	Speedi Sleeve	2	
133632	Tool - Seal Installation	1	
133633	Sealant - Loctite 609	1	10ml tube

Service Carriers

S110 Standard Carrier 12.25" (311 mm) Hypoid Gearing Side Gear # 130522

Ratio	Side Gear Spline	New Carrier	New Carrier with ABS
3.73	34 Inv	676050	681482
3.91	34 Inv	676052	681564
4.10	34 Inv	676051	681480
4.30	34 Inv	676053	676069
4.56	34 Inv	676060	681481
4.78	34 Inv	676057	N/A
4.88	34 Inv	676054	676070
5.13	34 Inv	676061	N/A
5.38	34 Inv	676058	676074
5.57	34 Inv	N/A	N/A
5.86	34 Inv	N/A	N/A
6.14	34 Inv	676059	N/A
6.50	34 Inv	676056	N/A

S110FLR - Limited Slip / Parking Brake / Rolled Over 12.25" (311 mm) Hypoid Gearing Limited Slip # 134240

Ratio	Side Gear Spline	New Carrier	New Carrier with ABS
5.13	34 Inv	681383	N/A
6.14	34 Inv	681384	N/A

S110L Limited Slip 12.25" (311 mm) Hypoid Gearing Limited Slip # 134240

Ratio	Side Gear Spline	New Carrier	New Carrier with ABS
3.73	34 Inv	676082	681607
3.91	34 Inv	676084	N/A
4.10	34 Inv	676083	681565
4.30	34 Inv	676085	676101
4.56	34 Inv	676092	N/A
4.78	34 Inv	676089	N/A
4.88	34 Inv	676086	676102
5.13	34 Inv	676093	N/A
5.38	34 Inv	676090	676106
5.57	34 Inv	N/A	N/A
5.86	34 Inv	N/A	N/A
6.14	34 Inv	676091	N/A
6.50	34 Inv	N/A	N/A

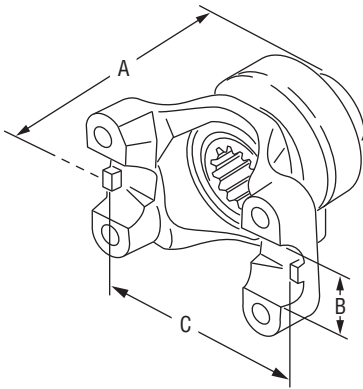
S110FR - Rolled Over / Parking Brake 12.25" (311 mm) Hypoid Gearing Side Gear # 130522

Ratio	Side Gear Spline	New Carrier	New Carrier with ABS
3.73	34 Inv	681451	N/A
3.91	34 Inv	681452	N/A
4.10	34 Inv	681453	N/A
4.30	34 Inv	681454	N/A
4.56	34 Inv	681455	N/A
4.78	34 Inv	513743	N/A
4.88	34 Inv	681456	N/A
5.13	34 Inv	681457	N/A
5.38	34 Inv	681458	N/A

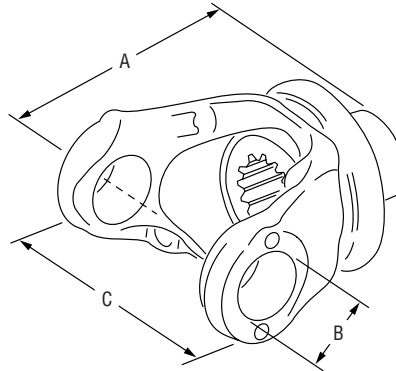
Yokes & Flanges - S110 Models

Spicer yoke part numbers shown below are PRODUCTION part numbers and are for reference only. The part numbers needed for service may vary. Please contact Driveshaft Division for price & availability of service yokes. For additional Yoke information reference Dana Bulletin ABIB-0607.

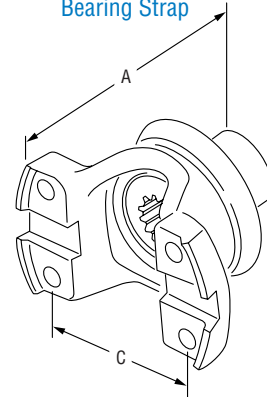
STYLE X
Half Round



STYLE Y
Full Round



STYLE Z
Half Round
Tapped Holes
Bearing Strap



S110 Series - 39 Inv. Spline

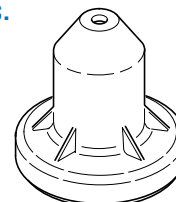
Production Yoke & Slinger	Service Part Number	Series	Joint Angle	Style	Dim. A	Dim. B	Dim. C	Notes
5006976	3-4-06976-1X	1480	19	X	3.878"	1.83"	4.19"	Replaces 3-4-14841-1X
5003328	55-4-03328-1X	1480	19	X	3.878"	1.83"	4.19"	Balanced Yoke
131881	131881	1480	22.5	comp flg	---	---	---	Parking Brake Mdls

Oil Seal Installation Tools

Oil seal installation tools are available for installing drive axle pinion seals. Using these tools ensures proper installation of the seal. Failure to use these tools may result in an improperly installed or damaged seal.

Oil Seal Driver Installation Tool Dana P/N 126917

Note you can find the 126917 Seal Driver in other kits like Kit P/N 217414 used on R404 models.



126917

Service Kits - Quick Reference List

Description	Part Number	Notes
Axle Housing Hardware Kit	514120	Carrier-to-housing
Carrier Bearing Reblld Kit (incls rtv)	504070	Replaces 511859
Bearing Kit (less rtv)	504068	Replaces 513279
Diff Carrier & Bearing Caps Kit - with ABS	514121	
Diff Carrier & Bearing Caps Kit - with ABS	516606	3.73 ratio only
Diff Carrier & Bearing Caps Kit - non ABS	511860	
Diff Carrier & Bearing Caps Kit - Parking Bk	504044	
Oil Seal Driver Installation Tool	126917	
Pinion Oil Seal	127591	
Pinion Bearing Spacer Kit	504039	
RTV Sealant	107276S	
Thread Adhesive Loctite 271 .5ml	129293	
Thread Adhesive Loctite 609 .10ml	133633	
Truetrac Kit - Limited Slip	504038	Replaces 512105
U-Tube Breather Kit	507162	.375"
Breather Valve	809560	.375"
Wheel Diff Side Gear Kit	511861	34 Inv
Wheel Diff Side Gear Kit - Less Side Gears	511862	
Wheel Hub Seal	47860	Replaces 131800
Wheel Seal Driver Installation Tool	133632	
Wheel Seal Kit w/ Seal Tool	513981	
Wheel Seal Kit Less Seal Tool	513982	



SPICER®

Drivetrain Products

Axles

Driveshafts

Off-Highway Transmissions

LONG®

Thermal Products

Transmission Oil Coolers

Engine Oil Coolers

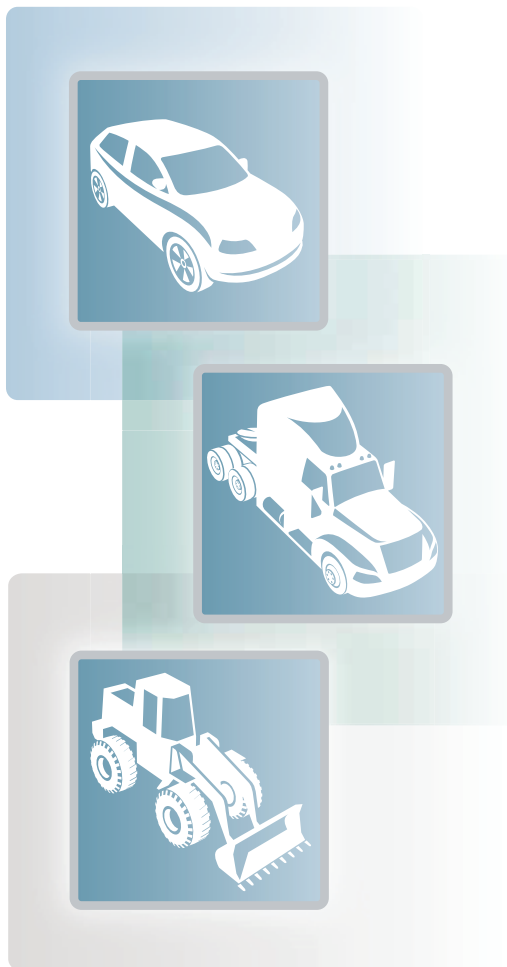
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