

# Roadranger®

## Dana® Spicer® Drive Axles

Single Speed  
S230-S/SL, S230-SB, S260-SB



One Great Drivetrain from Two Great Companies

Illustrated Parts List

AXIP-8942

March 1998



For the most current information, visit the Roadranger web site at [www.roadranger.com](http://www.roadranger.com)

# TABLE OF CONTENTS

Model Identification Numbering System ..... i  
 Axle Identification ..... 1  
 Components ..... 2  
 Parts List ..... 3-4  
 Axle Shafts ..... 4  
 End Yoke Assemblies ..... 4  
 Pinion Bearing Cage Shims ..... 4  
 Bearing Preload Spacers ..... 4  
 Housings ..... 5  
 Kits ..... 4-5

- Bearing Preload Spacers
- Differential Case with Bolts
- Ring Gear and Pinion
- Bearings and Seals
- Diff-Lock

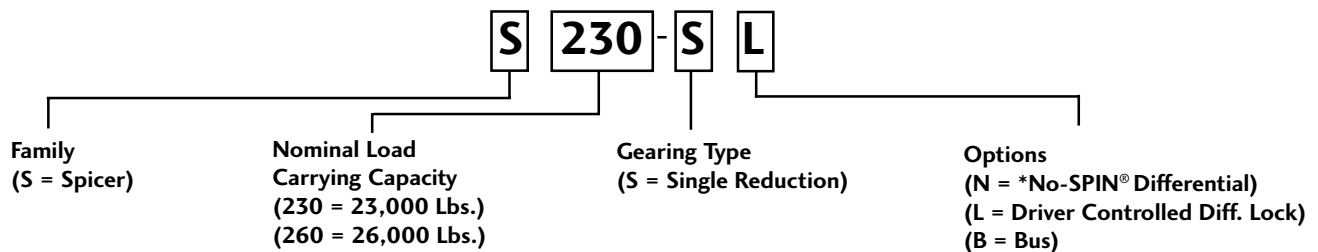


## GENUINE SPICER SERVICE PARTS

Should an axle assembly require replacement component parts, it is recommended that Spicer Heavy Axle Service Parts be used. Spicer Heavy Axle Service Parts are manufactured under the same rigid specification as are original equipment axle components. This assures the customer who uses genuine Spicer service parts maximum reliability for a Spicer Heavy Axle assembly. They may be obtained through your vehicle manufacturer. The use of non-original Spicer service parts may cause premature component failure and may void the warranty.

The items included in this book are currently being offered as service parts at the time of printing. The part numbers and illustrations are provided specifically for reference purposes only. Therefore, Spicer reserves the right to update this manual without notice or liability.

## MODEL IDENTIFICATION NUMBERING SYSTEM



# AXLE IDENTIFICATION

All axle assemblies are identified with two tags; one located on the differential carrier, and the other located on the right hand side of the axle housing.

The **differential carrier tag** contains the following: Dana part number, julian date code, and ratio. Optional items include customer part number, line set number, and the last six digits of the vehicle serial number.

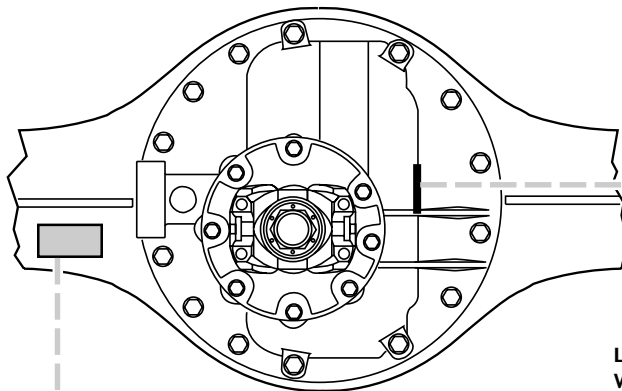
The **axle assembly tag** contains the following items: Dana part number, julian date code, axle model, and ratio. Optional items include customer part number, line set number, and the last six digits of the vehicle serial number.

## JULIAN DATE CODE

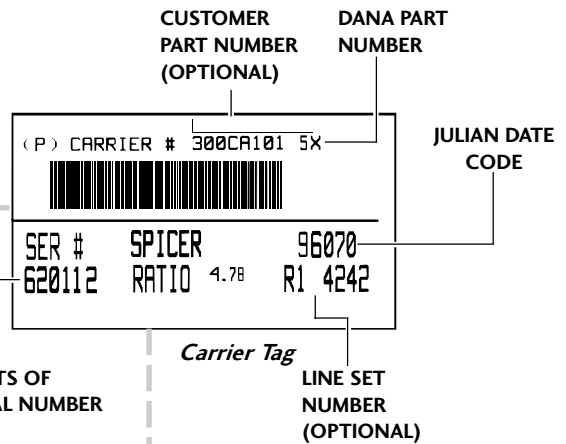
**96 070**

MODEL YEAR

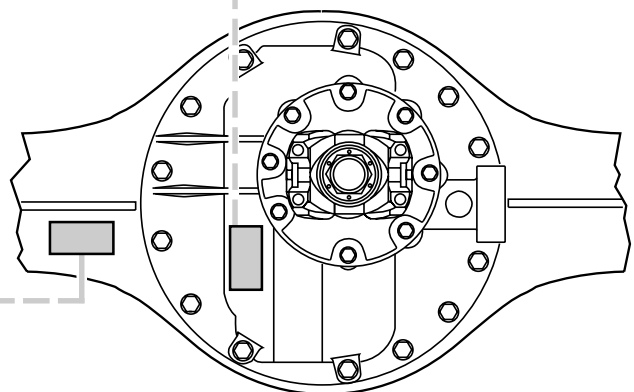
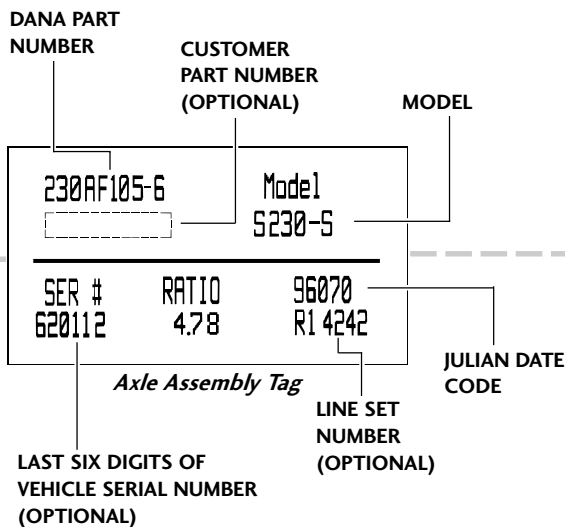
DAY OF YEAR



*Pinion Below Center*

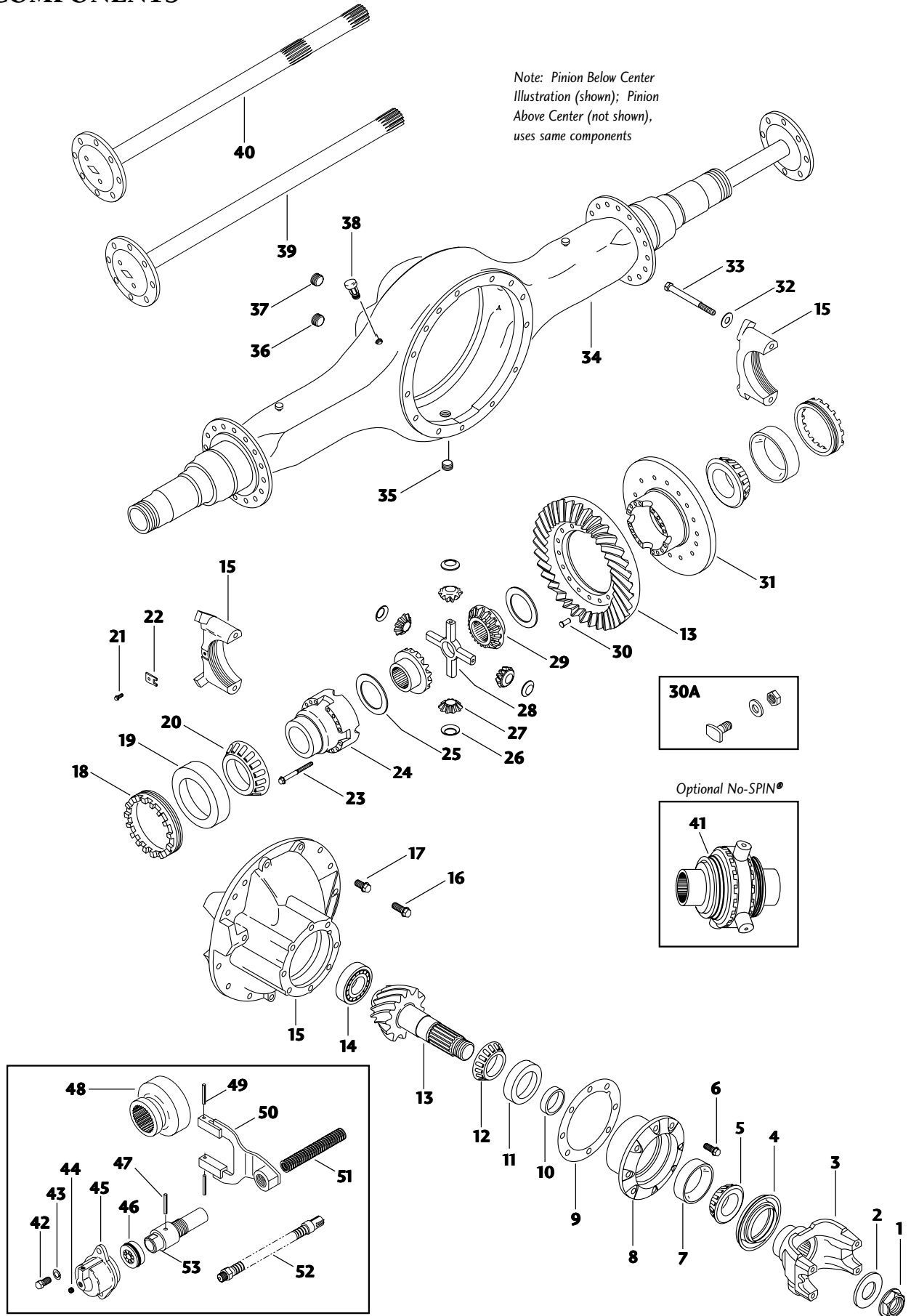


LAST SIX DIGITS OF VEHICLE SERIAL NUMBER (OPTIONAL)



*Pinion Above Center*

# COMPONENTS



See Pages 3, 4 and 5 for Diff-Lock Part Numbers and Kits.

# PARTS LIST

Item	Part Name	Qty.	S230-S/SL	S230-SB	S260-SB
1	Flanged Hex Nut	1	HN162	HN162	HN162
2	Pinion Nut Washer	1	HN139	HN139	HN139
3	End Yoke Assembly	1	See Page 4 for correct part numbers		
4+	Pinion Seal	1	300HH100	300HH100	300HH100
5+	Outer Pinion Bearing Cone	1	HB106	HB106	HB106
6	Bearing Cage Bolt	8	HM117	HM117	HM117
7+	Outer Pinion Bearing Cup	1	Included in Item 8		
8	Pinion Bearing Cage	1	300CP106-X, Includes items 7 and 11		
9+	Pinion Bearing Cage Shim	A/R	See Page 4 for correct part numbers		
10+	Bearing Preload Spacer	1	See Page 4 for correct part numbers		
11+	Inner Pinion Bearing Cup	1	Included in Item 8		
12+	Inner Pinion Bearing Cone	1	300HB100	300HB100	300HB100
13+	Ring Gear & Pinion Set	1	Kit only - See Page 5 for correct part numbers		
14+	Pinion Pilot Bearing	1	300HD100	300HD100	300HD100
15	Carrier Sub-Assembly (Standard)	1	300CS101-X	300CS101-X	300CS101-X
	Carrier Sub-Assembly (Diff-Lock Only)	1	300CS102-X	----	----
16	Carrier Mounting Bolt (Grade 8, 5/8" - 11 UNC x 2 1/4")	4	HM110	HM110	HM110
17	Carrier Mounting Bolt (Grade 8, 5/8" - 11 UNC x 1 3/4")	10	HM109	HM109	HM109
18	Adjusting Ring	2	300HR101	300HR101	300HR101
19+	Differential Bearing Cup	2	HA101	HA101	HA101
20+	Differential Bearing Cone	2	HB102	HB102	HB102
21	Adjusting Ring Lock Hex Bolt	2	HM201	HM201	HM201
22	Adjusting Ring Lock	2	401HR104	401HR104	401HR104
23+	Differential Case Bolt	16	HM127	HM127	HM127
24+	Differential Case Cap Half (Standard)	1	300DT103	300DT103	300DT103
	Differential Case Cap Half (Diff-Lock Only)	1	300DT101	----	----
25+	Differential Gear Thrustwasher	2	Kit only - 300KR100-X		
26+	Differential Pinion Mate Thrustwasher	4			
27+	Differential Pinion Mate	4			
28+	Differential Cross Shaft	1			
29+	Differential Side Gear	2			
30	Ring Gear Rivet	16	HM203	HM203	HM203
30A	Ring Gear Bolt Kit	16	Kit only - 300KY100-X		
31+	Differential Case Flange Half				
	3.07 thru 3.54 Ratio	1	300DU103	300DU103	300DU103
	3.73 thru 4.44 Ratio	1	300DU105	300DU105	300DU105
	4.78 and Up	1	300DU107	300DU107	300DU107
32	Differential Bearing Cap Washer	4	HN125	HN125	HN125
33	Differential Bearing Cap Bolt	4	HM202	HM202	HM202
34	Axle Housing	1	See Page 5 for correct part numbers		
35	Magnetic Drain Plug	1	MJAHM106	MJAHM106	MJAHM106
36	Temperature Sensor Plug	1	MJAHM115	MJAHM115	MJAHM115
37	Fill Plug	1	MJAHM120*	MJAHM120	MJAHM120
38	Vent	1	MJAHN110	MJAHN110	MJAHN110
39	Single Splined Axle Shafts (Standard)	2	See Page 4 for correct part numbers Note: Diff-Lock shafts are combined with one Standard shaft		
40	Double Splined Axle Shaft (Diff-Lock)	1			
41	No-SPIN® Differential	1	300GN100	300GN100	300GN100
42+	Hex Bolt, Air Shift Cylinder	2	HM201	----	----
43+	Washer, Air Shift Cylinder	2	HN138	----	----
44+	Plug, Air Shift Cylinder	1	HM234	----	----
45+	Air Shift Cylinder	1	See Page 5 for Kit	----	----
46+	Air Shift Piston	1	390SH103-X	----	----

\* Item included in Kit A/R - As Required

\* 401HM103-2, Mack Plug

# PARTS LIST (CONTINUED)

Item	Part Name	Qty.	S230-S/SL	S230-SB	S260-SB
47+	Shift Fork Shaft Pin	1	300HP100	----	----
48+	Clutch Collar	1	300SH101	----	----
49+	Shift Fork Pin	2	300HP101	----	----
50+	Shift Fork	1	See Page 5 for Kit	----	----
51+	Compression Spring	1	300HE101	----	----
52+	Switch Assembly	1	300HY100	----	----
53+	Shift Fork Shaft	1	300SS101	----	----

\* Item included in Kit

## AXLE SHAFTS

STANDARD				
Spline	Length	Hole Dia.	Hole Type	Spicer Part Number
Single	39.98"	.78"	Straight	230SR100-1
Single	39.98"	.69"	Tapered	230SR100-2
Single	39.98"	.73"	Tapered	230SR100-3
Single	39.98"	.69"	Tapered	230SR102 <sup>@</sup>
Single	43.61"	.69"	Tapered	300SR101-1 <sup>@</sup>
Single	40.84"	.69"	Tapered	057SR102-1

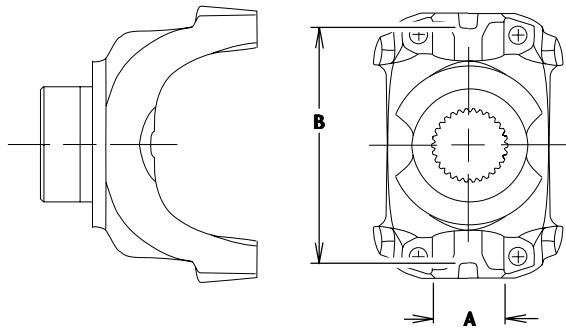
<sup>@</sup> Lubricant fill hole through flange

DIFF-LOCK (SEE NOTE)				
Spline	Length	Hole Dia.	Hole Type	Spicer Part Number
Double	39.98"	.78"	Straight	057SR107-1*
Double	39.98"	.69"	Tapered	057SR107-2**
Double	39.98"	.73"	Tapered	057SR107-3***

Note: Use with corresponding standard shaft as noted below.

\*230SR100-1, \*\*230SR100-2, \*\*\*230SR100-3

## END YOKE ASSEMBLIES



Series	A	B	Spline	Spicer Part Number
1610	1.88"	5.31"	2.364" - 36	5-4-9411-1X
1710	1.94"	6.09"	2.364" - 36	6-4-8801-1X
1760	1.94"	7.00"	2.364" - 36	6.3-4-1611-1X
1810	1.94"	7.55"	2.364" - 36	6.5-4-4481-1X
SPL170	55mm	164mm	2.364" - 36	170-4-1041-1X
SPL250	60mm	163mm	2.364" - 36	250-4-461-1X

## PINION BEARING CAGE SHIMS

Thickness		
Inches	MM	Spicer Part Number
.003	.076	300HS101-1
.005	.127	300HS101-2
.010	.254	300HS101-3
.030	.762	300HS101-4

## BEARING PRELOAD SPACERS

Thickness			
Inches	MM	Spicer Part Number	Spacer Kit
.893	22.682	474HS101-1	
.894	22.708	474HS101-2	
.895	22.733	474HS101-3	
.896	22.758	474HS101-4	
.897	22.784	474HS101-5	
.898	22.809	474HS101-6	
.899	22.835	474HS101-7	
.900	22.860	474HS101-8	
.901	22.885	474HS101-9	
.902	22.911	474HS101-10	
.903	22.936	474HS101-11	
.904	22.962	474HS101-12	
.905	22.987	474HS101-13	
.906	23.012	474HS101-14	474KV100-X
.907	23.038	474HS101-15	
.908	23.063	474HS101-16	
.909	23.089	474HS101-17	
.910	23.114	474HS101-18	
.911	23.139	474HS101-19	
.916	23.266	474HS101-20	

# HOUSINGS

Suspension	ABS Blocks	Locator Pin Centers	OEM	S230-S/SL	S230-SB	S260-SB
Spring	No	40.20"	Navistar	230CH100	----	----
Air	No	40.20"	Navistar	230CH101	----	----
Spring	Yes	40.20"	Navistar	230CH102	----	----
Air	Yes	40.20"	Navistar	230CH103	----	----
Air	Yes	40.20"	Navistar	230CH106	----	----
Air	Yes	40.24"	Mack	230CH107	----	----
Spring	Yes	40.24"	Mack	230CH108	----	----
Spring	No	35.06"	Ford	230CH109	----	----
Air	No	40.25"	MCI	----	230CH105-X	----
Air	No	----	Nova	----	----	260CH101-X
Air	No	40.94"	American Ikarus	----	----	260CH102

# KITS

DIFFERENTIAL CASE WITH BOLTS				
Ratio	Differential	S230-S/SL/SB	S260-SB	Items Included
3.07 thru 3.54	Standard	300KQ105-X	----	23, 24, 31
	Diff-Lock	300KQ100-X	----	
3.73 thru 4.44	Standard	300KQ106-X	----	
	Diff-Lock	300KQ101-X	----	
4.78 and Up	Standard	300KQ107-X	300KQ107-X	
	Diff-Lock	300KQ102-X	----	

RING GEAR AND PINION			
Ratio	S230-S/SL/SB	S260-SB	Items Included
3.07	300KG100-X	300KG100-X	1, 13
3.21	300KG101-X	300KG101-X	
3.54	300KG107-X	300KG107-X	
3.73	300KG103-X	300KG103-X	
3.91	300KG108-X	300KG108-X	
4.10	300KG109-X	300KG109-X	
4.44	300KG105-X	300KG105-X	
4.78	300KG106-X	300KG106-X	

BEARINGS AND SEALS			
Description	S230-S/SL/SB	S260-SB	Items Included
All Bearings and Seals	300KS100-X	300KS100-X	4, 5, 7, 11, 12, 14, 19, 20

DIFF-LOCK			
Description	S230-S/SL	S260-SB	Items Included
Shift Shaft Kit	300KT103-X	----	47, 53
Shift Fork Kit	300KT102-X	----	49, 50
Air Shift Cylinder Kit	300KT101-X	----	42, 43, 44, 45, 46
Shifter Assembly	300KT100-X	----	42 thru 53

