

Roadranger®

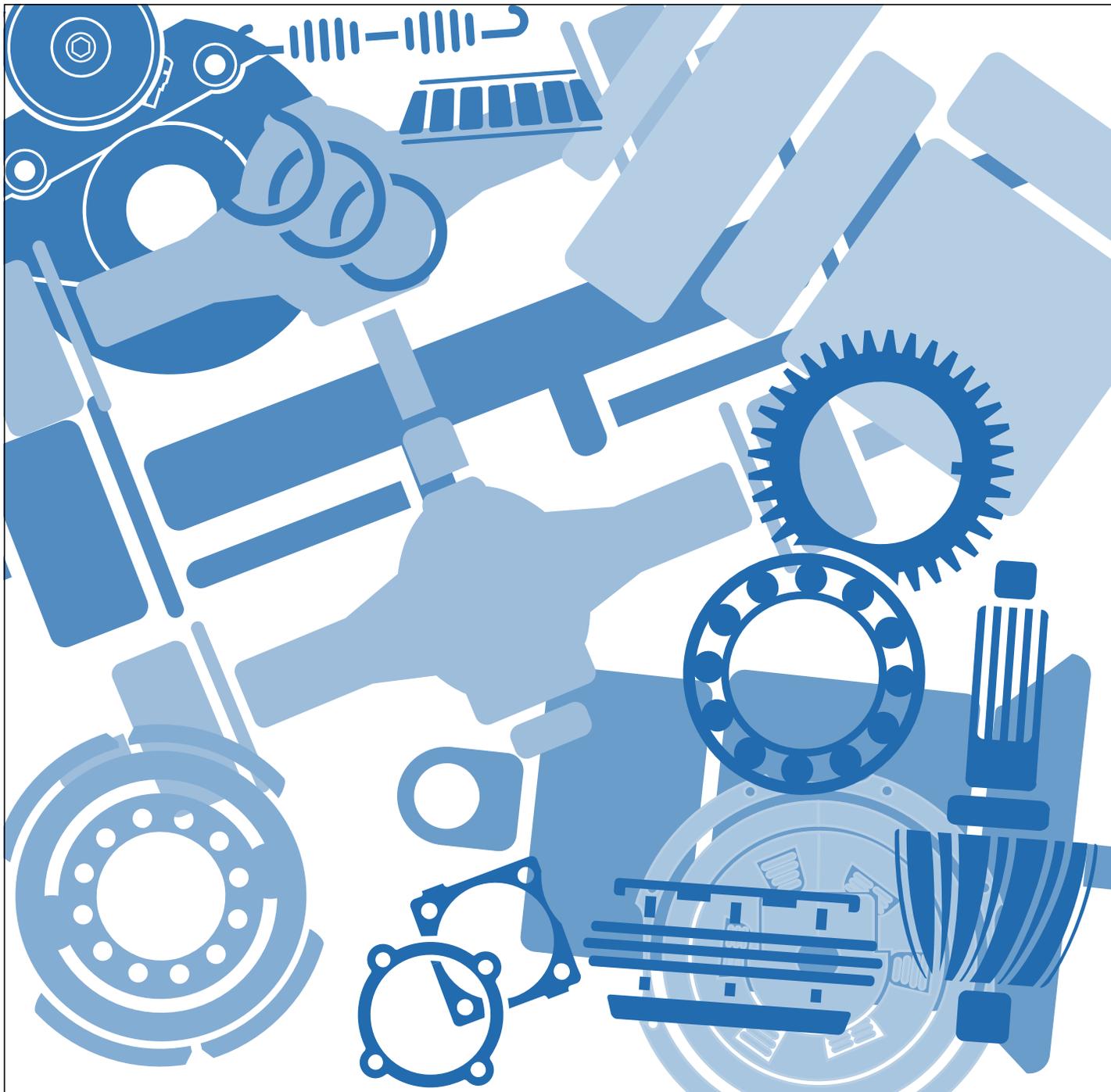
Dana® Spicer® Tandem Axles

Single Reduction, Dual Range, & Double Reduction
461 • 462 • 463 • 601 • 651 • 652 • 653 46,000 - 65,000 lbs



One Great Drivetrain from Two Great Companies

Illustrated Parts List AXIP-0085 January 1994



For the most current information, visit the Roadranger web site at www.roadranger.com

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Models Listing

The following models are represented in this publication.

Single Reduction Models

Forward Axle	Rear Axle	Axle Capacity	Gear Size
DS-461-P	RS-461	46,000 lbs	18" Gear
DS-521-P	RS-521	52,000 lbs	18" Gear
DS-581-P	RS-581	58,000 lbs	18" Gear

Dual Range Models

Forward Axle	Rear Axle	Axle Capacity	Gear Size
DT-461-P	RT-461	46,000 lbs	18" Gear
DT-521-P	RT-521	52,000 lbs	18" Gear
DT-601-P	RT-601	60,000 lbs	18" Gear
DT-651-P	RT-651	65,000 lbs	18" Gear

Planetary Double Reduction Models

Forward Axle	Rear Axle	Axle Capacity	Gear Size
DP-461(P)	RP-461	46,000 lbs	18" Gear
TP-461	SP-461	46,000 lbs	18" Gear
DP-521(P)	RP-521	52,000 lbs	18" Gear
TP-521	SP-521	52,000 lbs	18" Gear
DP-601(P)	RP-601	60,000 lbs	18" Gear
TP-601	SP-601	60,000 lbs	18" Gear
DP-651(P)	RP-651	65,000 lbs	18" Gear
TP-651	SP-651	65,000 lbs	18" Gear

Dual Planetary & Double Reduction Model Configurations

These configurations will accommodate a variety of applications and chassis types. Other combinations of Forward and Rear axles are also utilized. Common configurations are illustrated.

Forward Axles:

DP - Inter-axle differential w/ pressure lube pump

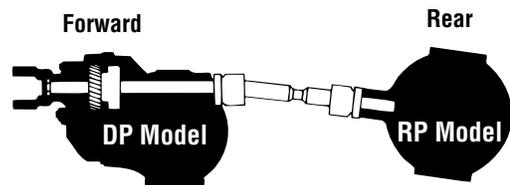
TP - Straight drive through shaft / no inter-axle differential

Rear Axles:

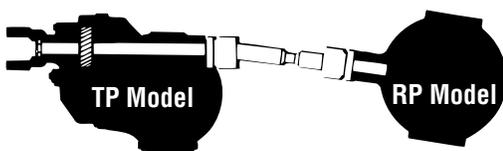
RP - Standard entry

SP - High entry

Standard Tandems

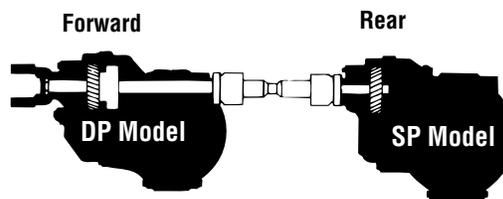


High-entry forward, standard rear w/ inter-axle differential & special lube system

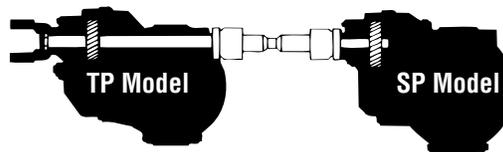


High-entry forward, standard rear w/o inter-axle differential

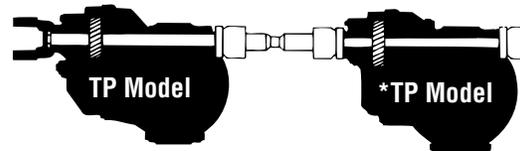
High-entry Tandems



Both high-entry w/ inter-axle differential & special lube system



Both high-entry w/out inter-axle differential



Both high-entry w/out inter-axle differential.
*Using Forward Axle model in Rear Axle application.

How To Use The Illustrated Parts List

Ordering Eaton® 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 Eaton 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.
- 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: ring gear
- **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**
- **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 additional is 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
 - **Description** - specifies part name or description
 - **Quantity (Qty)** - quantity required for assembly
 - **Order Part No.** - service part numbers are broken down by model, type or other applicable information
 - **Notes** - define unique characteristics or requirements
 - **Kits And Assemblies** - order the part numbers indicated

** Other pertinent information is listed in tables or parts listings as required.*

Effectively using a parts listing—Example

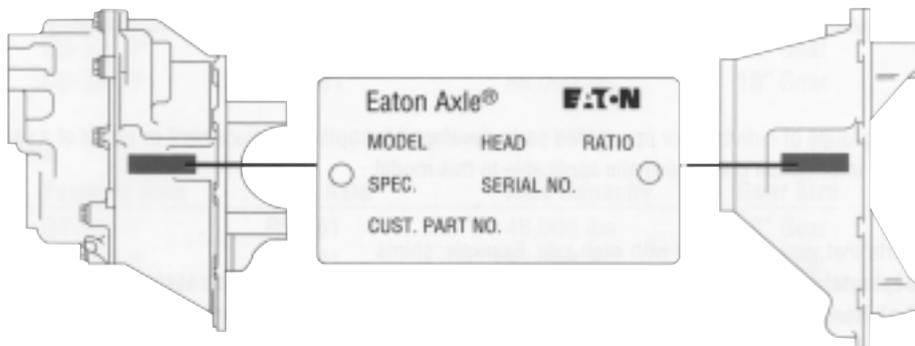
- Follow the example below to locate and order exactly what is required for servicing.

Match to items on illustration		Order this quantity for servicing		Indicates information important to ordering or use
Item	Description	Qty	Order Part No.	
84	Lockwasher	10	90417	
85	Pipe Plug	1	90325	
Kits And Assemblies				
	Basic Overhaul Kit	1	122437	Contents Identified with *
	Oil Seal & Shim Kit	1	118111	Includes 33,46,75,78 &RTV

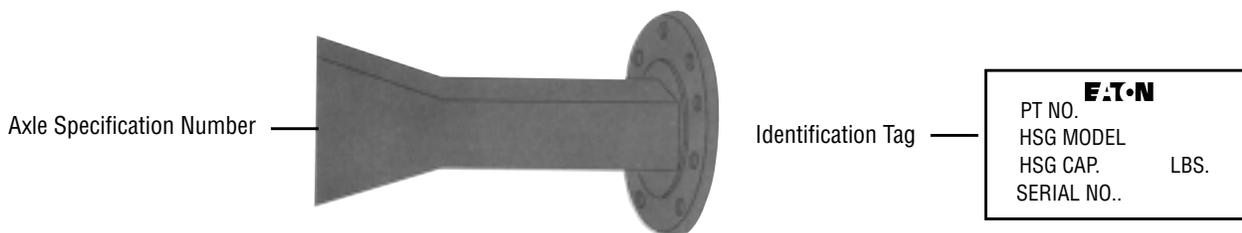
Model Identification

Locating Model Designation Information

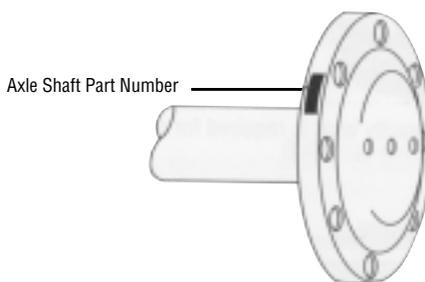
- Axle Model Identification, Part Number and / or Serial Number are located on the axle centerline. This information will help to locate information in this book and to identify the correct parts for servicing.



- Axle Housings are identified by the specification number stamped on the rear right-hand side of the axle housing. This number identifies all components of the axle as built by Eaton, including OEM special requirements such as yoke or flange. Some axles may also include an identification tag as shown.

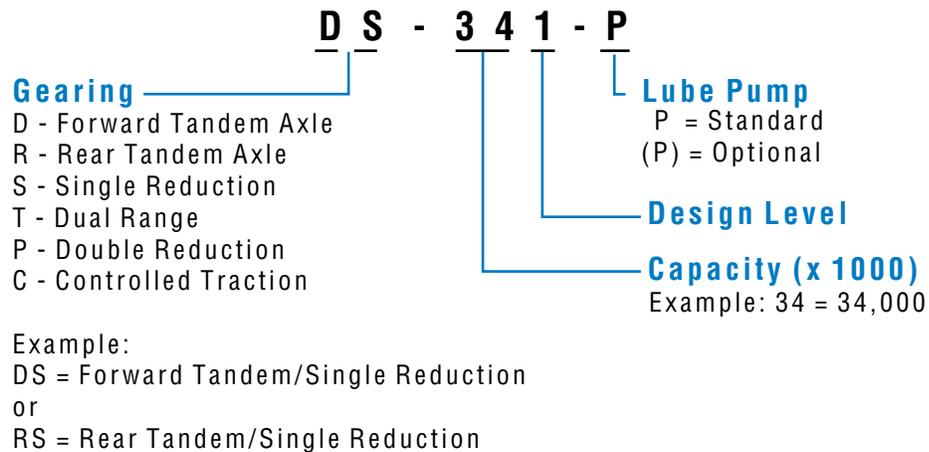


- The axles illustrated in this book are found on a number of different axle shafts, according to OEM specifications. **When ordering replacement axle shafts, note the part number stamped into the flange.**



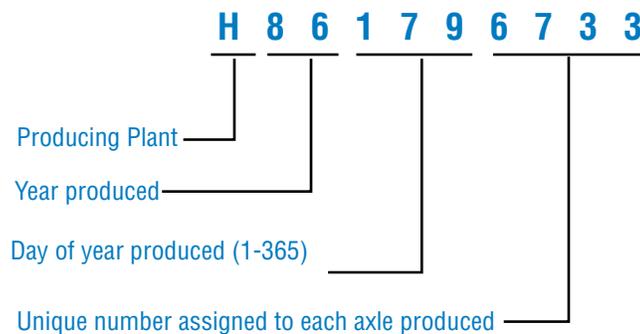
Using Model Designation to Identify Axle Components

- 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 Eaton Roadranger® Field Marketing regional representative.



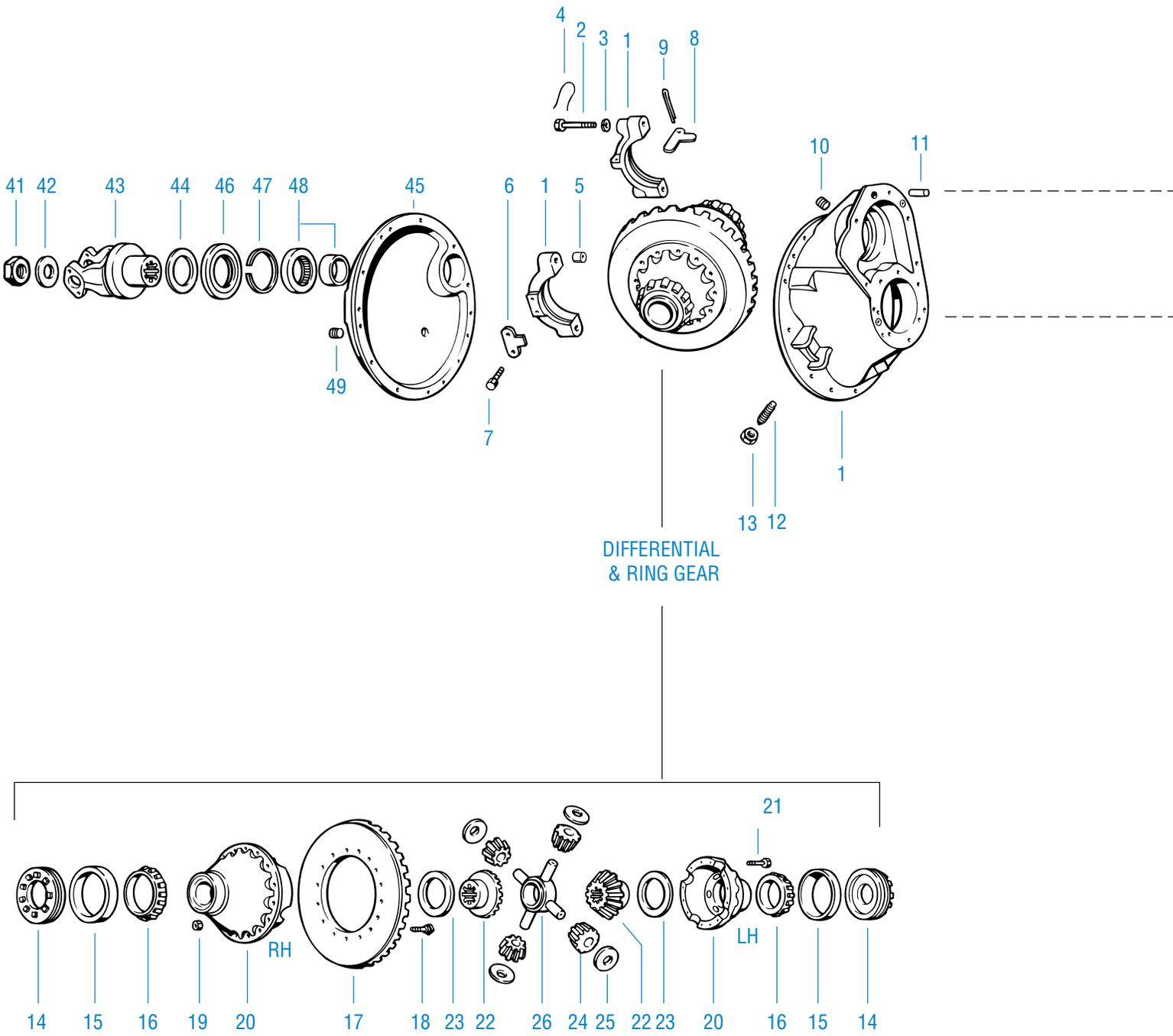
Older Model Serial Numbers

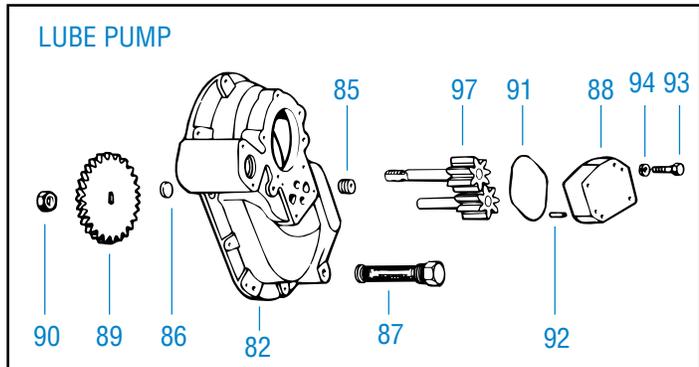
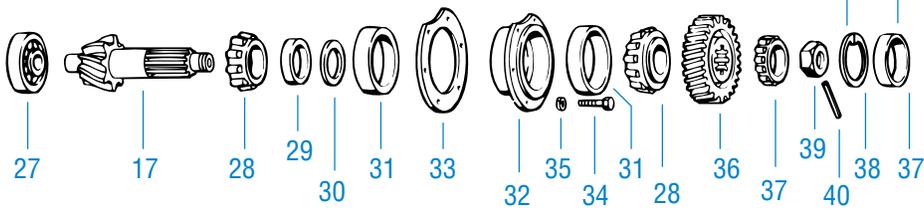
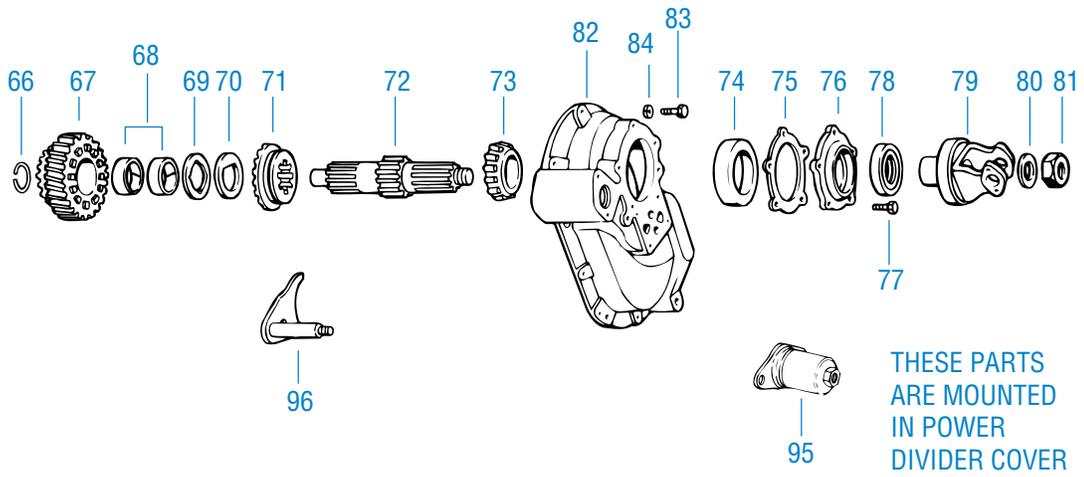
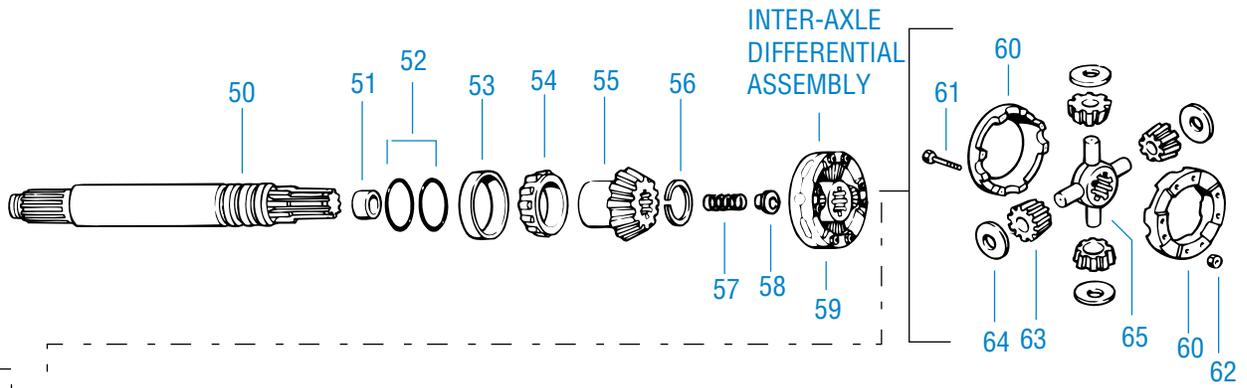
- Units built before May 1987 were identified with a date coding system. Carrier assemblies produced after this date are assigned unique serial numbers. Serial numbers are stamped into the carrier casting or contained on a metal tag attached to the carrier.



Single Reduction

Forward Axle





Forward Axle

Item	Description	Qty	Order Part No.	Notes
1	Diff. Carrier & Bearing Caps Carrier Casting no. 128282C NSS	1	122474	Includes items 2-5, 8-14
2	Bearing Cap Screw	4	127180	
3	Flat Washer	4	32912	
4	Lockwire	4	12563	
5	Dowel Bushing	2	32730	
6	Bearing Cap Adjuster Lock (RH)		45448	See Note 1
7	Cap Screw (RH)		210601	See Note 1
8	Bearing Cap Adjuster Lock	2	14275	LH & RH
9	Cotter Pin	2	90876	LH & RH
10	Filler Plug	1	90325	
11	Carrier Cover Dowel Pin	2	7641	
12	Ring Gear Thrust Screw	1	126193	
13	Thrust Screw Jam Nut	1	210184	
14	Diff. Bearing Adjuster (RH)	1	39448	Replaced old #79898
14	Diff. Bearing Adjuster (LH)	1	21637	
15	Diff. Bearing Cup (RH)	1	19529*	
15	Diff. Bearing Cone (LH)	1	15092*	
16	Diff. Bearing Cone (RH)	1	27666*	
16	Diff. Bearing Cone (LH)	1	27876*	
17	Ring Gear & Drive Pinion Set	1		See Appendix: Gear & Pinion Information
18	Bolt	16	67856	In Kit 70745
19	Nut	16	60600	In Kit 70745
20	Diff Case (Flanged Half) NSS	1	88501	Ratios 3.55-4.11 - order 98610
			126234	Ratios 4.33-6.67 - order 121845
	Diff. Case (Plain Half) NSS	1	86777	
21	Diff. Case Cap Screw	12	88503	
22	Diff Side Gear (36 Involute)	2	93401	
23	Side Gear Thrust Washer	2	27274*	
24	Side Pinion	4	86780	
25	Side Pinion Thrust Washer	4	86781*	
26	Spider	1	86778	
27	Pinion Pilot Bearing	1	126187*	
28	Pinion Bearing Cone	2	14218*	
29	Pinion Bearing Spacer Washer	1	78904*	
30	Pinion Bearing Spacer	AR		See Appendix: Gear & Pinion Information
31	Pinion Bearing Cup	2	14217*	
32	Pinion Bearing Cage & Cup Assy	1	78914	Cage #78932, Includes Item 31

Note 1: Current Production uses (2) 14275 Adjuster Locks (Item #8) & (2) 90876 Cotter Pins (Item #9). Old Style Adjuster Lock #45448 & Capscrews # 210601 remain available for service.

Item	Description	Qty	Order Part No.	Notes
33	Pinion Bearing Cage Shim	AR		
	.003"		45461*	
	.005"		62829*	
	.010"		45462*	
	.020"		62830*	
34	Bearing Cage Cap Screw	6	62158	
35	Lockwasher	6	37207	
36	Pinion Helical Gear	1	119995	
37	Outer Pinion Bearing & Race	1	78916*	
38	Outer Pinion Bearing Snap Ring	1	78937*	
39	Pinion Shaft End Nut	1	126182	
40	Pinion Nut Spring Pin	1	118807	
41	Output Shaft Nut	1	210508	
42	Output Shaft Washer	1	210509	
43	Output Shaft Yoke	1		See Appendix:Input/Output Yoke Information
44	Rear Bearing Retaining Washer	1	78922*	
45	Axle Housing Cover Assy (Cover 84546) NSS	1	107863	Includes Items 46-49
46	Output Shaft Oil Seal	1	119429* or 210737*	See Appendix:Input/Output Yoke Information
47	Bearing Snap Ring	1	78937*	
48	Output Shaft Bearing Race – Inner	1	118787*	Order #78936 Brg Assy
48	Output Shaft Bearing Race – Outer	1	118788*	Order #78936 Brg Assy
49	Magnetic Filler Plug	1	75130	$\frac{7}{8}$ "
49	Retainer Plug	1	90898	$\frac{1}{2}$ "
50	Output Shaft Kit (Shaft 119991, 41 Splines 2.100" dia) NSS	1	122419	Includes Items 41,42, 51,52,56
51	Output Shaft Bushing	1	48922*	
52	Output Shaft "O" ring	2	78931*	
53	Output Shaft Bearing Cup (Inner)	1	24328*	
54	Output Shaft Bearing Cone (Inner)	1	24330*	
55	Output Shaft Side Gear	1	78911	
56	Side Gear Snap Ring	1	85994*	
57	Output Shaft Compression Spring	1	127095	
58	Output Shaft Thrust Bearing	1	51228	
59	Inter-axle Diff. Assy	1	121681	Includes Items 60-65
60	Inter-axle Diff Case Kit	1	211252	Includes Items 60-62
60	Case Half NSS	2	126151	Order 211252
61	Case Bolt	8	57636	

Note: Item 46 Output Shaft Oil Seal — See Appendix:Input/Output Yoke Information before ordering.

DS461-P
DS581-P

DS521-P

Forward Axle

Item	Description	Qty	Order Part No.	Notes
62	Case Nut	8	57637	
63	Side Pinion	4	95218	
64	Side Pinion Thrust Washer	4	126180*	
65	Spider	1	126152	
66	Helical Side Gear Snap Ring	1	78909*	
67	Helical Side Gear & Bushing Assy (Side Gear 113328) NSS	1	113331	Includes Item 68
68	Helical Side Gear Bushing	2	75063*	
69	Helical Side Gear Thrust Washer	1	79034*	
70	Helical Side Gear "D" Washer	1	56360*	
71	Lockout Sliding Clutch	1	119948	
72	Input Shaft Kit (Shaft 119990, 46 Splines 2.350" dia.) NSS	1	122418	Includes Item 81
73	Input Shaft Bearing Cone	1	98387*	
74	Input Shaft Bearing Cup	1	98388*	
75	Input Bearing Cover Shim	AR		
	.003"		78918*	
	.005"		78919*	
	.010"		78920*	
	.020"		113130	
76	Input Bearing Cover, Cup & Oil Seal Assy (Cover 111690) NSS	1	111691	Includes Items 74, 78
77	Bearing Cover Cap Screw	5	126243	
78	Input Shaft Oil Seal	1	119430* or 210736*	See Appendix:Input/Output Yoke Information
79	Input Yoke & Slinger	1		See Appendix:Input/Output Yoke Information
80	Input Shaft Nut Washer	1	126242*	
81	Input Shaft Nut	1	126155	
82	Diff. Carrier Cover Assy	1	117311	Includes Items 85-86, 37 & 47 (Cover 103526) NSS
83	Carrier Cover Cap Screw	8	90069	(short)
		1	9309	(long)
		1	81855	(socket head)

Note: Item 78 Input Shaft Oil Seal — See Appendix:Input/Output Yoke Information before ordering.

Item	Description	Qty	Order Part No.	Notes
84	Lockwasher	10	90417	
85	Pipe Plug	1	90325	
86	Expansion Plug	1	9797	
87	Magnetic Filter Screen	1	102611*	
88	Lube Pump Cover	1	102607	
89	Pump Drive Gear	1	119946	
90	Drive Gear Locknut	1	111451	
91	Cover "O" Ring	1	102620*	
92	Cover Dowel Pin	2	102617	
93	Cover Cap Screw	4	102618	
94	Lockwasher	4	90419	
95	Air Operated Lockout Assy Complete	1	123218	See Shift System: Lockout Assembly
96	Shift Fork & Push Rod Assy	1	103529	See Shift System: Lockout Assembly
97	Pump Gear & Shaft Assy	1	102625	Order Complete Lube Pump Replacement Kit
	Gasket Compound	AR	107276*	

Kits And Assemblies

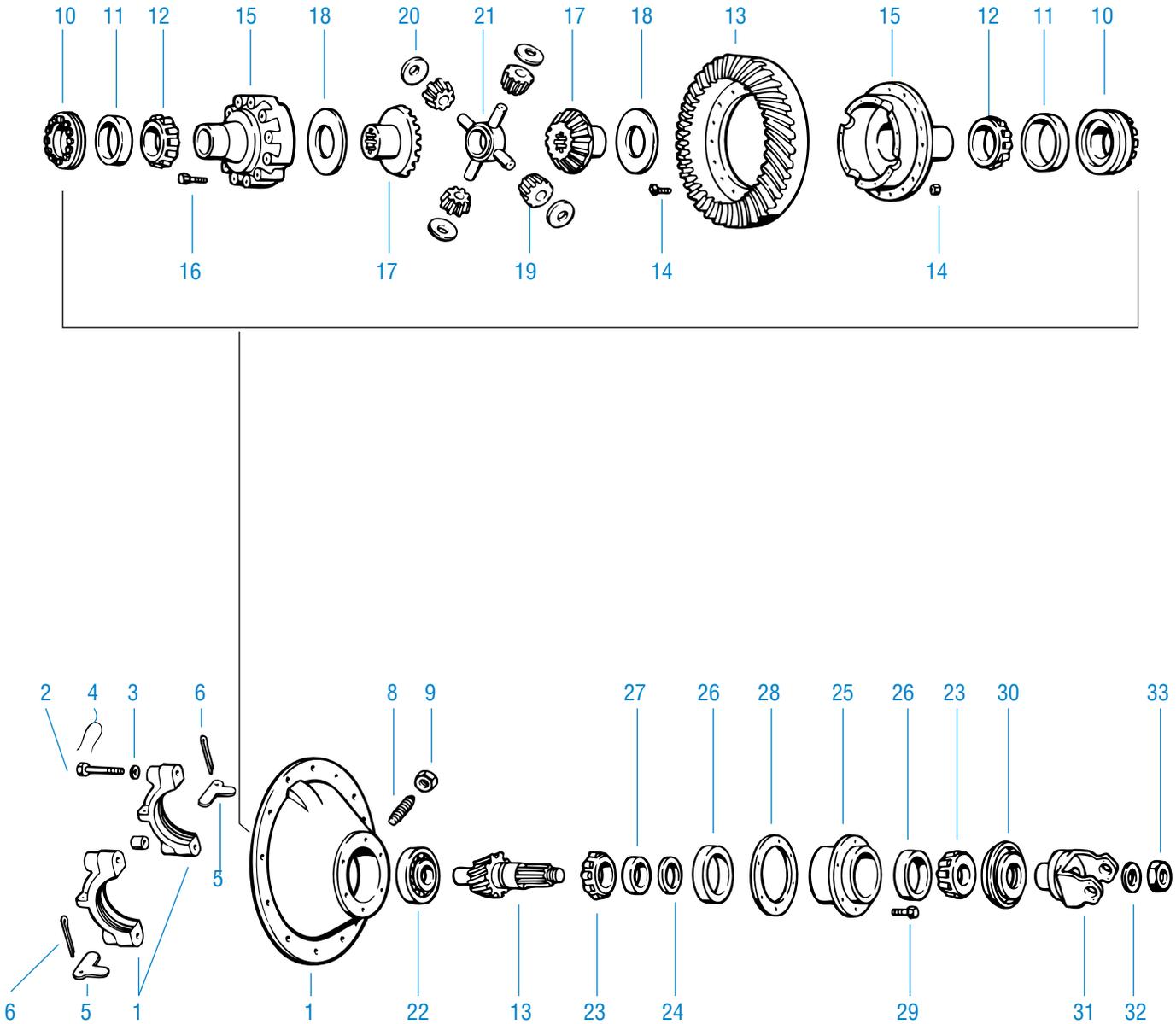
Basic Overhaul Kit	122437	Contents Identified with *
Oil Seal & Shim Kit	118111	Includes 33,46,75,78 &RTV
Lube Pump Replacement Kit	121302	Includes 88-94, 97
Wheel Diff Case Kit	98610	Ratios 3.55-4.11 / Includes Items 20-21
Wheel Diff Case Kit	121845	Ratios 4.33-6.67 / Includes Items 20-21
Wheel Diff Side Gear Pinion Kit	114472	Includes Items 22-26
Wheel Diff Kit Less Side Gears	118749	Includes Items 23-26

DS461-P
DS581-P

DS521-P

Single Reduction

Rear Axle



Item	Description	Qty	Order Part No.	Notes
1	Diff. Carrier & Bearing Caps Carrier Casting No 127220R	1	122432	Includes Items 2-4, 7-9
2	Bearing Cap Screw	4	127180	
3	Flat Washer	4	32912	
4	Lockwire	4	12563	
5	Bearing Cap Adjuster Lock	2	14275	
6	Cotter Pin	2	90876	
7	Dowel Bushing	2	32730	
8	Ring Gear Thrust Screw	1	126193	
9	Thrust Screw Jam Nut	1	210184	
10	Diff. Bearing Adjuster (RH) Diff. Bearing Adjuster (LH)	1	21637 39448	

Item	Description	Qty	Order Part No.	Notes
11	Diff. Bearing Cup (RH)	1	15092*	
	Diff. Bearing Cup (LH)	1	19529*	
12	Diff. Bearing Cone (RH)	1	27876*	
	Diff. Bearing Cone (LH)	1	27666*	
13	Ring Gear & Drive Pinion Set	1		See Appendix: Gear & Pinion Information
14	Bolt	16	67586	In Kit 70745
	Nut	16	60600	In Kit 70745
15	Diff. Case (Flanged Half) NSS	1	88501	Ratios 3.55-4.11 - order 98610
			126234	Ratios 4.33-6.67 - order 121845
	Diff. Case (Plain Half) NSS	1	86777	
16	Diff. Case Cap Screw	12	88503	
17	Diff. Side Gear	2	93401	36 Involute
18	Side Gear Thrust Washer	2	27274*	
19	Side Pinion	4	86780	
20	Side Pinion Thrust Washer	4	86781*	
21	Spider	1	86778	
22	Pinion Pilot Bearing	1	126187*	
23	Pinion Bearing Cone (Inner)	1	27239*	
	Pinion Bearing Cone (Outer)	1	14218*	
24	Pinion Bearing Spacer*	AR		See Appendix: Gear & Pinion Information
25	Pinion Bearing Cage & Cup Assy	1	210592	Cage # 210591 Includes Item 26
26	Pinion Bearing Cup (Inner)	1	27238*	
	Pinion Bearing Cup (Outer)	1	14217*	
27	Pinion Bearing Spacer Washer	1	31366*	
28	Pinion Bearing Cage Shim	AR		
	.003"		67920*	
	.005"		67921*	
	.010"		67922*	
	.020"		67923*	
	.030"		67924*	
29	Bearing Cage Cap Screw	6	113327	
30	Oil Seal & Retainer	1	113866* or 210724*	See Appendix:Input/Output Yoke Information
31	Input Yoke	1		See Appendix:Input/Output Yoke Information
32	Flat Washer	1	210509	
33	Pinion Nut	1	210508	
	Gasket Compound	AR	107276*	

Kits And Assemblies

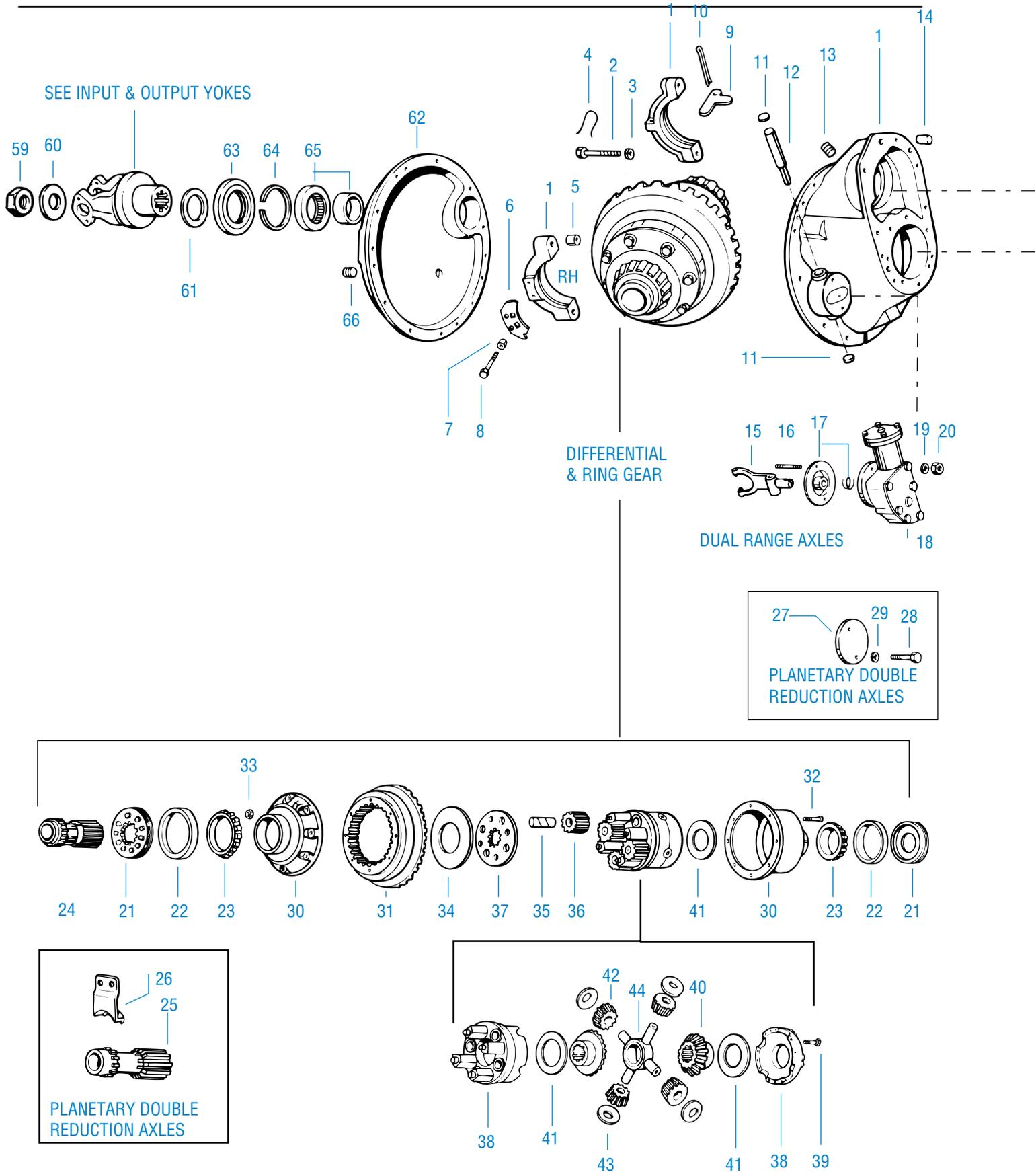
Basic Overhaul Kit	122434*	Contents identified with *
Wheel Diff. Case Kit	98610	Ratios 3.55-4.11 / Includes Items 15-16
Wheel Diff. Case Kit	121845	Ratios 4.33-6.67 / Includes Items 15-16
Wheel Diff Side Gear & Pinion Kit	114472	Includes Items 17-21
Wheel Diff Kit Less Side Gears	118749	Includes Items 18-21
Oil Seal & Shim Kit	122436	Includes Items 28, 30, & RTV

* Note: Pinion Bearing Spacer information is included in the Appendix: Gear & Pinion Information

Note: Item 30 Oil Seal & Retainer — See Appendix:Input/Output Yoke Information before ordering.

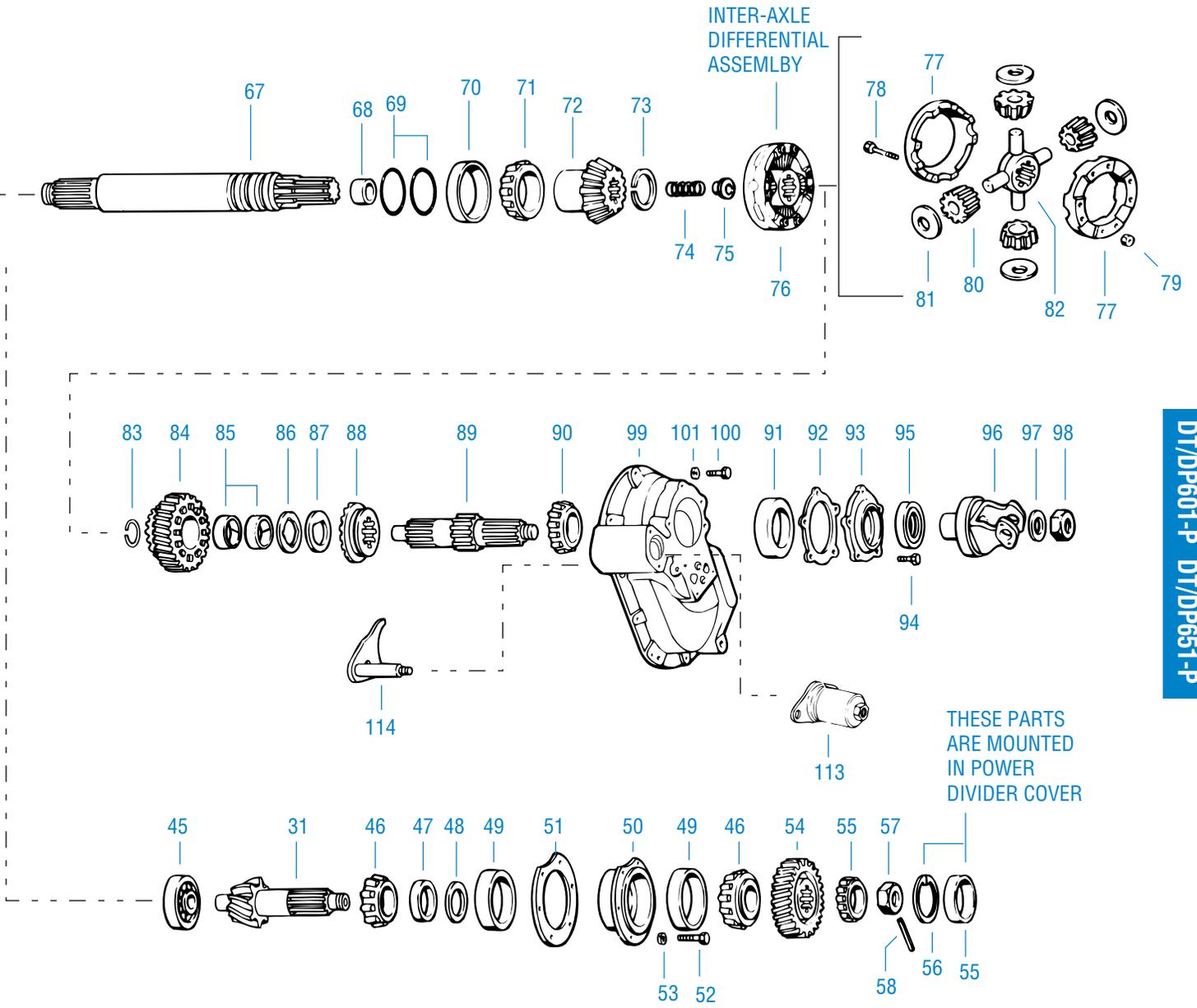
Dual Range & Planetary Double Reduction

Forward Axle

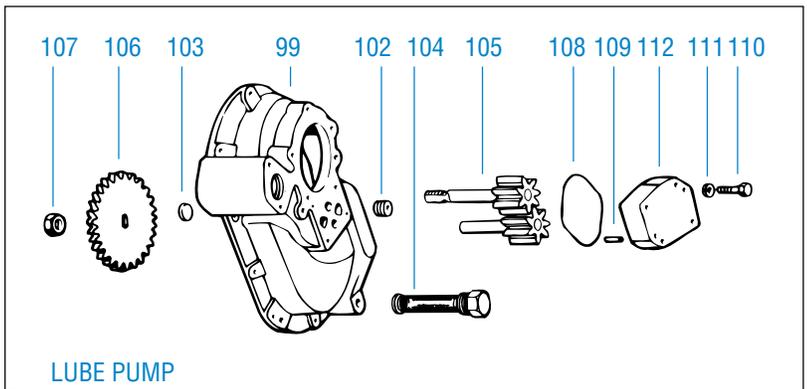


Dual Range & Planetary Double Reduction

Forward Axle



DT/DP461-P DT/DP521-P
DT/DP601-P DT/DP651-P



Dual Range & Planetary Double Reduction

Forward Axle

Item	Description	Qty	Order Part No.	Notes
1	Diff. Carrier & Bearing Caps Carrier Casting No 110500 NSS	1	106710	Includes 2-5, 7, 11-14, 16-17, 19-20, 27 & RTV
2	Bearing Cap Screw	4	32732	
3	Flat Washer	4	32912	
4	Lockwire	4	12563	
5	Dowel Bushing	2	32730	
6	Bearing Cap Adjuster Lock (RH)	1	78926	
7	Dowel Bushing (RH)	2	37746	
8	Cap Screw (RH)	2	210601	
9	Bearing Cap Adjuster Lock (LH)	1	14275	
10	Cotter Pin (LH)	1	90876	
11	Expansion Plug (Upper)	1	30703*	
	Expansion Plug (Lower)	1	9797*	
12	Shift Fork Shaft & "O" Ring Assy (Shaft 41103 NSS; "O" Ring 113140)	1	113801	DT only
13	Filler Plug	1	90325	DT only
14	Carrier Cover Dowel Pin	2	7641	DT only
15	Shift Fork & Roller Assy	1	84508	DT only
16	Shift Fork Mounting Stud	2	119863	DT only
17	Shift Fork Seal & Spring Assy	1	119855*	DT only
18	Shift Unit Assy	1	73503	DT only
19	Lockwasher	2	119857	DT only
20	Stud Nut	2	63028	DT only
21	Diff. Bearing Adjuster (RH)	1	126305	
	Diff. Bearing Adjuster (LH)	1	21637	
22	Diff. Bearing Cup (RH)	1	21632*	
	Diff. Bearing Cup (LH)	1	15092*	
23	Diff. Bearing Cone (RH)	1	102660*	
	Diff. Bearing Cone (LH)	1	27876*	
24	Sliding Clutch	1	126255	DT only
25	Sun Gear	1	119902	DP only
26	Sun Gear Retainer	1	43178	DP only
27	Shift Unit Opening Cover	1	45521	DP only
28	Cap Screw	2	20807	DP only
29	Lockwasher	2	90415	DP only
30	Gear Support Case (RH)	1	126301	
	Gear Support Case (LH)	1	108138	
31	Ring Gear & Pinion Set	1		See Appendix: Gear & Pinion Information
32	Bolt	8	44358	In Kit 87955
33	Nut	8	60599	In Kit 87955

Item	Description	Qty	Order Part No.	Notes
34	Thrust Washer (RH)	1	43271*	For High-Speed CL Plate
35	Idler Pinion Pin	4	126302	
36	Idler Pinion	4	126306	
37	High-Speed Clutch Plate	1	126307	
38	Diff. Case w/clutch plate pin	1	126304	NSS Casting #108139 - order 122417
	Diff. Case (RH)	1	108140	NSS - order 122417
39	Diff. Case Cap Screw	4	96285	Short
	Diff. Case Cap Screw	8	96284	Long
40	Diff. Side Gear	2	118959	36 Involute
41	Side Gear Thrust Washer	2	83726*	
	Gear Support Thrust Washer	1	83726*	
42	Side Pinion	4	108142	
43	Side Pinion Thrust Washer	4	108145*	
44	Spider	1	108141	
45	Pinion Pilot Bearing	1	126187*	
46	Pinion Bearing Cone	2	14218*	
47	Pinion Bearing Spacer Washer	1	78904*	
48	Pinion Bearing Spacer*	AR		See Appendix: Gear & Pinion Information
49	Pinion Bearing Cup	2	14217*	
50	Pinion Bearing Cage & Cup Assy	1	78914	Cage (78932) Includes Item 49
51	Pinion Bearing Cage Shim	AR		
	.003"		45461*	
	.005"		62829*	
	.010"		45462*	
	.020"		62830*	
	.030"		45463*	
52	Bearing Cage Cap Screw	6	62158	
53	Lockwasher	6	37207	
54	Pinion Helical Gear	1	119995	
55	Outer Pinion Support Brg & Race	1	78916*	
56	Outer Pinion Bearing Snap Ring	1	78937*	
57	Pinion Shaft End Nut	1	126182	
58	Pinion Nut Spring Pin	1	118807	
59	Output Shaft Nut	1	210508	
60	Output Shaft Washer	1	210509	
61	Washer - Brg Spacer	1	78922	
62	Axle Housing Cover Assy			
	(Cover 84546) NSS	1	107863	D461, D521, D601
	Includes Items 63-66			
	(Cover 78923) NSS	1	108099	D651, T651

DT/DP461-P DT/DP521-P
DT/DP601-P DT/DP651-P

* Note: Pinion Bearing Spacer information is included in the Appendix: Gear & Pinion Information

Dual Range & Planetary Double Reduction

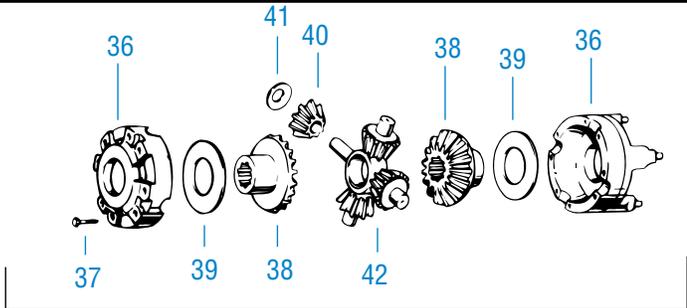
Forward Axle

Item	Description	Qty	Order Part No.	Notes
63	Output Shaft Oil Seal	1	119429* or 210737*	See Appendix: Input/Output Yoke Information
64	Bearing Snap Ring	1	78937*	
65	Output Shaft Bearing Race - Inner		118787*	Order 78936 Brg Assy
65	Output Shaft Bearing Race - Outer		118788*	Order 78936 Brg Assy
66	Magnetic Filler Plug	1	75130	$\frac{7}{8}$ "
	Retainer Plug	1	90898	$\frac{1}{2}$ "
67	Output Shaft Kit (Shaft 119991, 41 splines 2.100" dia.) NSS	1	122419	Includes Items 59-60, 68, 69, 73
68	Output Shaft Bushing	1	48922*	
69	Output Shaft "O" Ring	2	78931*	
70	Output Shaft Bearing Cup (Inner)	1	24328*	
71	Output Shaft Bearing Cone (Inner)	1	24330*	
72	Output Shaft Side Gear	1	78911	
73	Side Gear Snap Ring	1	85994*	
74	Output Shaft Compression Spring	1	127095	
75	Output Shaft Thrust Bearing	1	51228	
76	Inter-axle Diff. Assy	1	121681	Includes Items 77-82
77	Case Half (NSS)	2	126151	Order 211252 kit
78	Case Bolt	8	57636	
79	Case Nut	8	57637	
80	Side Pinion	4	95218	
81	Side Pinion Thrust Washer	4	126180*	
82	Spider	1	126152	
83	Helical Side Gear Snap Ring	1	78909*	
84	Helical Side Gear & Bushing Assy (Side Gear 113328) NSS	1	113331	Includes Item 70
85	Helical Side Gear Bushing	2	75063*	
86	Helical Side Gear Thrust Washer	1	79034*	
87	Helical Side Gear "D" Washer	1	56360*	
88	Lockout Sliding clutch	1	119948	
89	Input Shaft Kit (Shaft 119990, 46 Splines 2.350" dia.) NSS	1	122418	Includes Item 98
90	Input Shaft Bearing Cone	1	98387*	
91	Input Shaft Bearing Cup	1	98388*	
92	Input Bearing Cover Shim	AR		
	.003"		78918*	
	.005"		78919*	
	.010"		78920*	
	.020"		113130*	
93	Input Brg. Cvr, Cup/Oil Seal Assy (Cover 111690) NSS	1	111691	Includes Items 91, 95
94	Bearing Cover Cap Screw	5	126243	
95	Input Shaft Oil Seal	1	119430* or 210736*	See Appendix: Input/Output Yoke Information
96	Input Yoke & Slinger	1		See Appendix: Input/Output Yoke Information

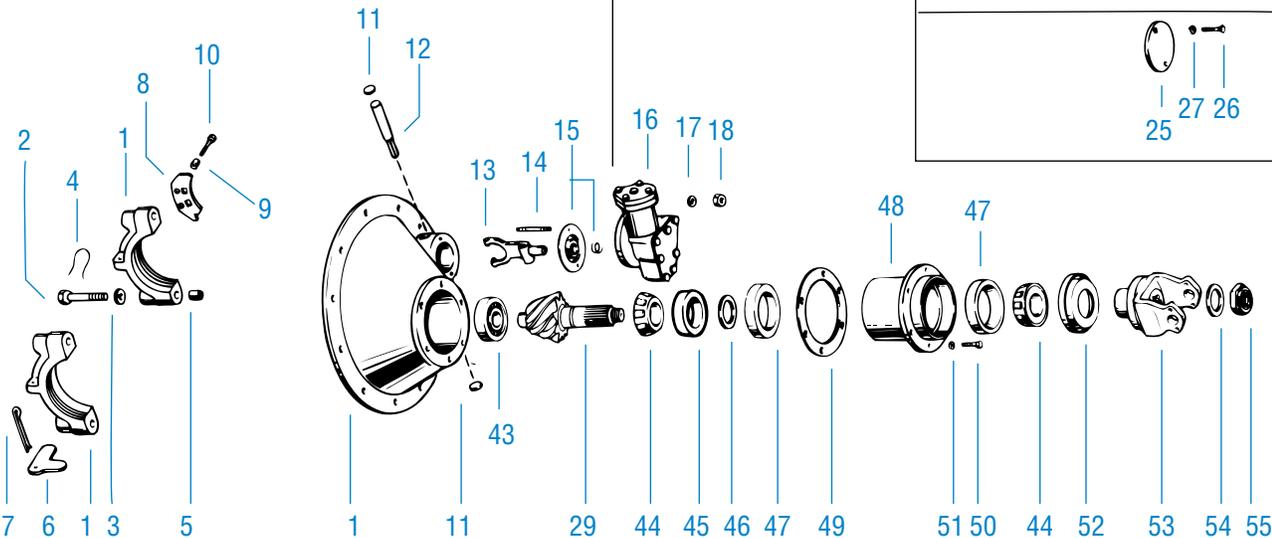
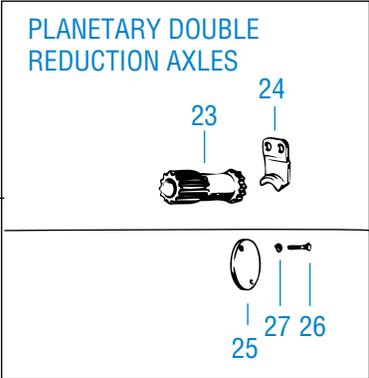
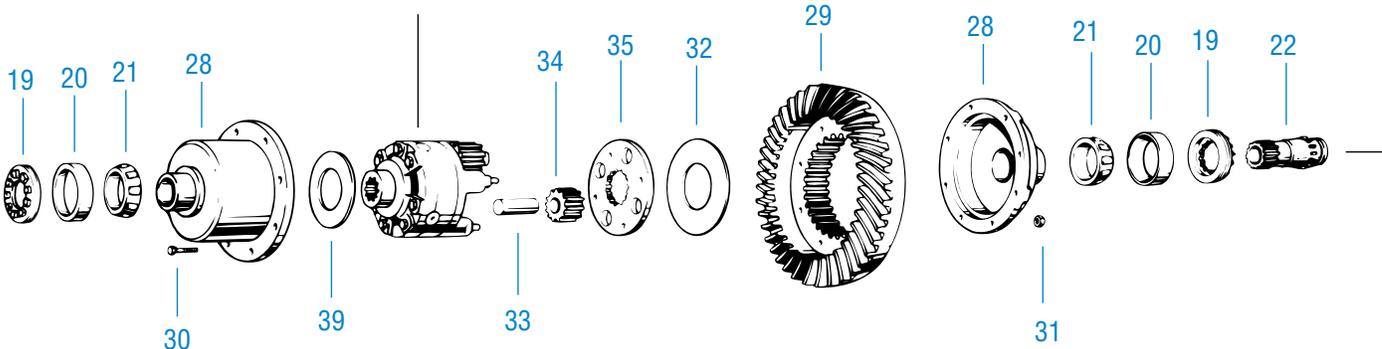
Item	Description	Qty	Order Part No.	Notes
97	Input Shaft Nut Washer	1	126242*	
98	Input Shaft Nut	1	126155	
99	Diff. Carrier Cover Assy (Cover 103526) NSS	1	103536	Includes Items 102-103
100	Carrier Cover Cap Screw	8	90069	(short)
		1	9309	(long)
		1	81855	(socket head)
101	Lockwasher	10	90417	
102	Pipe Plug	1	90325	
103	Expansion Plug	1	9797	
104	Magnetic Filter Screen	1	102611*	
105	Pump Gear & Shaft Assy	1	102625	Order Lube Pump Replacement kit
106	Pump Drive Gear	1	119946	
107	Drive Gear Locknut	1	111451	
108	Cover "O" Ring	1	102620*	
109	Cover Dowel Pin	2	102617	
110	Cover Cap Screw	4	102618	
111	Lockwasher	4	90419	
112	Lube Pump Cover	1	102607	
113	Air-Oper. Lockout Assy/Comp.	1	123218	See Shift System: Lockout Assy
114	Shift Fork & Push Rod Assy	1	103529	See Shift System: Lockout Assy
	Gasket Compound	AR	107276*	
Kits And Assemblies				
	Basic Overhaul Kit		122421*	Contents identified with *
	Wheel Diff. Case Kit		122417	Includes Items 38-39
	Wheel Diff. Side Gear & Pinion Kit		119393	Includes Items 40-44
	Wheel Diff kit Less Side Gears		118751	Includes Items 41-44
	Oil Seal & Shim Kit		118119	Includes Items 17, 51, 63, 92, 95 & RTV
	Sliding Clutch Kit - DT Models		122420	Includes Items 21 (RH), 24, 34 & 37
	Sun Gear Kit - DP Models		122620	Includes Items 21(RH), 25, 34 & 37
	Ring Gear Bolt & Nut Kit		87955	Includes Items 32-33
	Lube Pump Replacement Kit		121302	Includes 105-112
	Inter-axle Diff. Case Kit		211252	Includes 77-79

Dual Range & Planetary Double Reduction

Rear Axle



DIFFERENTIAL ASSEMBLY



Item	Description	Qty	Order Part No.	Notes
1	Diff. Carrier & Bearing Caps Carrier Casting No 127218R NSS	1	98590	Includes Items 2-5, 9, 11-12, 14-15, 17-18, 25 & RTV
2	Bearing Cap Screw	2	32732	
		2	127180	
3	Flat Washer	4	32912	
4	Lockwire	4	12563	
5	Dowel Bushing	2	32730	
6	Bearing Cap Adjuster Lock (RH)	1	14275	
7	Cotter Pin (RH)	1	90876	
8	Bearing Cap Adjuster Lock (LH)	1	78926	
9	Dowel Bushing	2	37746	For Bearing Adjuster Locks
10	Adjuster Lock Cap Screw	2	210601	
11	Expansion Plug (Upper)	1	30703*	
	Expansion Plug (Lower)	1	9797*	
12	Shift Fork Shaft & "O" Ring Assy (Shaft 41103 NSS; "O" Ring 113140)	1	113801	RT only
13	Shift Fork & Roller Assy	1	84508	RT only
14	Shift Fork Mounting Stud	2	119863	RT only
15	Shift Fork Seal & Spring Assy	1	119855*	RT only
16	Shift Unit Assy	1	73507	RT only
17	Flat Washer	2	119857	RT only
18	Stud Nut	2	63028	RT only
19	Diff. Bearing Adjuster (RH)	1	21637	
	Diff. Bearing Adjuster (LH)	1	126305	
20	Diff. Bearing Cup (RH)	1	15092*	
	Diff. Bearing Cup (LH)	1	21632*	
21	Diff. Bearing Cone (RH)	1	27876*	
	Diff. Bearing Cone (LH)	1	102660*	
22	Sliding Clutch	1	126255	RT only
23	Sun Gear	1	119902	RP only
24	Sun Gear Retainer	1	43178	RP only
25	Shift Unit Opening Cover	1	45521	RP only
26	Cap Screw	2	20807	RP only
27	Lockwasher	2	90415	RP only
28	Gear Support Case (RH)	1	108138	
	Gear Support Case (LH)	1	126301	

RT/RP461
RT/RP601
RT/RP521
RT/RP651

Dual Range & Planetary Double Reduction

Rear Axle

Item	Description	Qty	Order Part No.	Notes
29	Ring Gear & Drive Pinion Set	1		See Appendix: Gear & Pinion Information
30	Bolt	8	44358	In Kit 87955
31	Nut	8	60599	In Kit 87955
32	Thrust Washer (RH)	1	43271*	For High-Speed Clutch Plate
33	Idler Pinion Pin	4	126302	
34	Idler Pinion	4	126306	
35	High-Speed Clutch Plate	1	126307	
36	Diff. Case w/clutch plate pin	1	126304	NSS Casting #108139
	Diff. Case (RH)	1	108140	NSS
37	Diff. Case Cap Screw (short)	4	96285	
	Diff. Case Cap Screw (long)	8	96284	
38	Diff. Side Gear	2	118959	36 Involute
39	Side Gear Thrust Washer	2	83726*	
	Gear Support Thrust Washer	1	83726*	
40	Side Pinion	4	108142	
41	Side Pinion Thrust Washer	4	108145*	
42	Spider	1	108141	
43	Pinion Pilot Bearing	1	126187*	
44	Pinion Bearing Cone (Inner)	1	27239*	
	Pinion Bearing Cone (Outer)	1	14218*	
45	Pinion Bearing Spacer Washer	1	31366*	
46	Pinion Bearing Spacer*	AR		See Appendix: Gear & Pinion Information
47	Pinion Bearing Cup (Inner)	1	27238*	
	Pinion Bearing Cup (Outer)	1	14217*	
48	Pinion Bearing Cage & Cup Assy	1	210592	Cage # 210591 NSS Includes Item 47
49	Pinion Bearing Cage Shim	AR		
	.003"		67920*	
	.005"		67921*	
	.010"		67922*	
	.020"		67923*	
	.030"		67924*	
50	Bearing Cage Cap Screw	6	113327	
51	Lockwasher	6	90422	
52	Output Shaft Oil Seal	1	113866* or 210724*	See Appendix:Input/Output Yoke Information
53	Input Yoke	1		See Appendix:Input/Output Yoke Information
54	Flat Washer	1	210509	
55	Pinion Nut	1	210508	
	Gasket Compound	AR	107276*	

Note: Pinion Bearing Spacer information is found in Appendix: Gear & Pinion Information

Kits And Assemblies

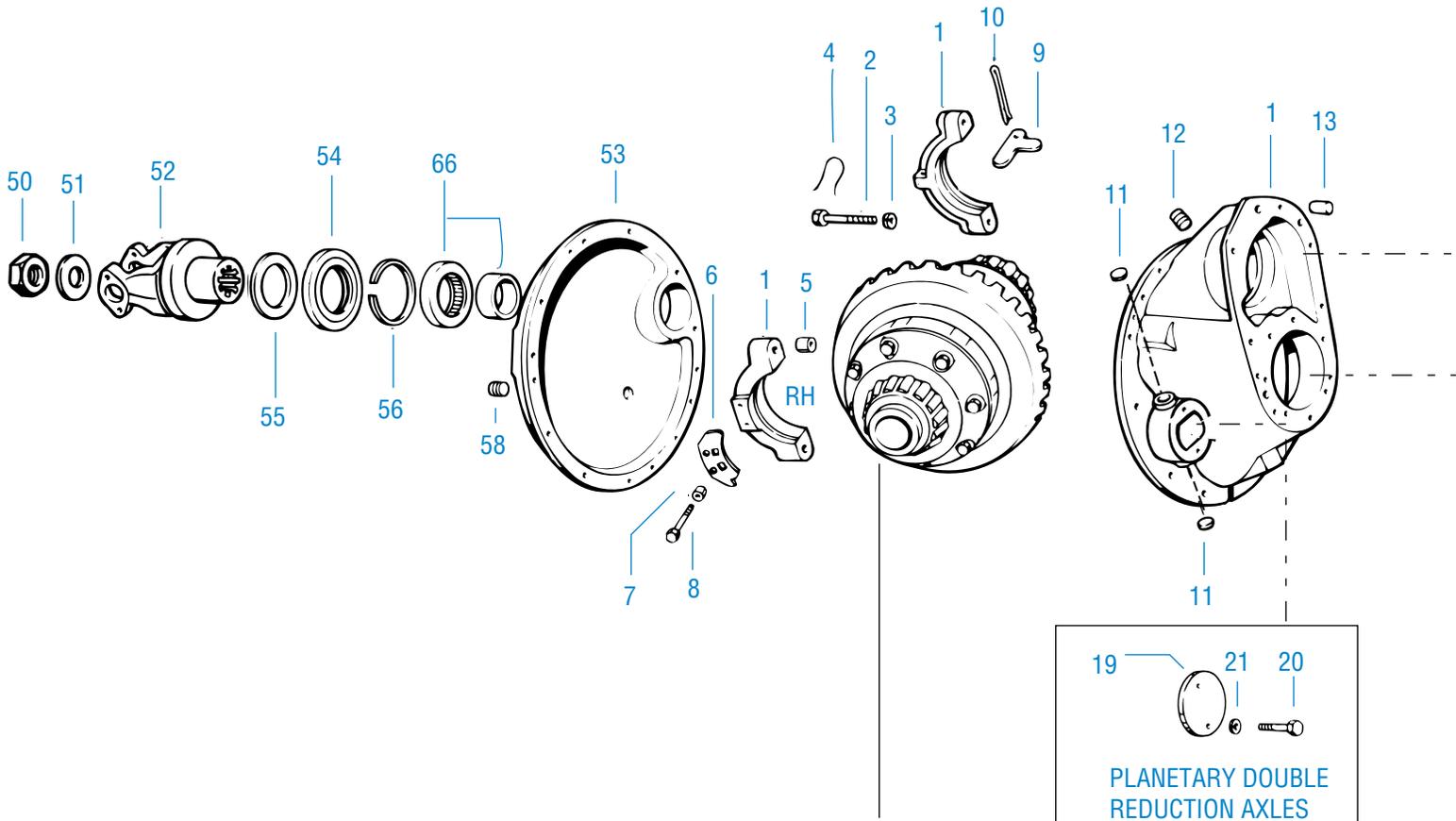
Basic Overhaul Kit	122424*	Contents identified with *
Wheel Diff. Case Kit	122417	Includes Items 36-37
Wheel Diff Side Gear & Pinion Kit	119393	Includes Items 38-42
Wheel Diff Less Side Gear	118751	Includes Items 39-42
Oil Seal & Shim Kit	122425	Includes Items 15, 49, 52 & RTV
Sliding Clutch Kit	122420	Includes Items 19 (LH), 22, 32 & 35
Sun Gear Kit	122620	Includes Items 19 (LH), 23, 32 & 35
Ring Gear Bolt & Nut Kit	87955	

RT/RP461
RT/RP601

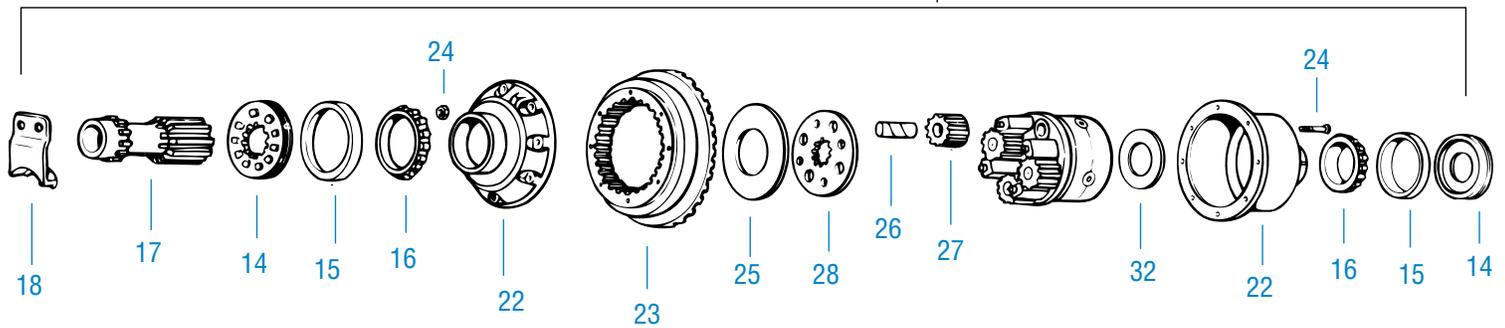
RT/RP521
RT/RP651

Planetary Double Reduction

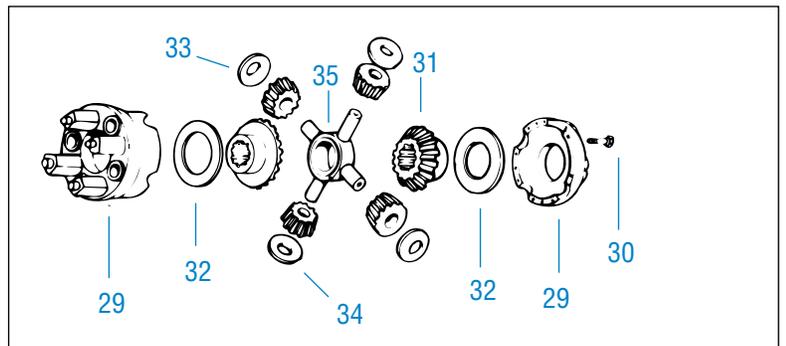
Forward Axle

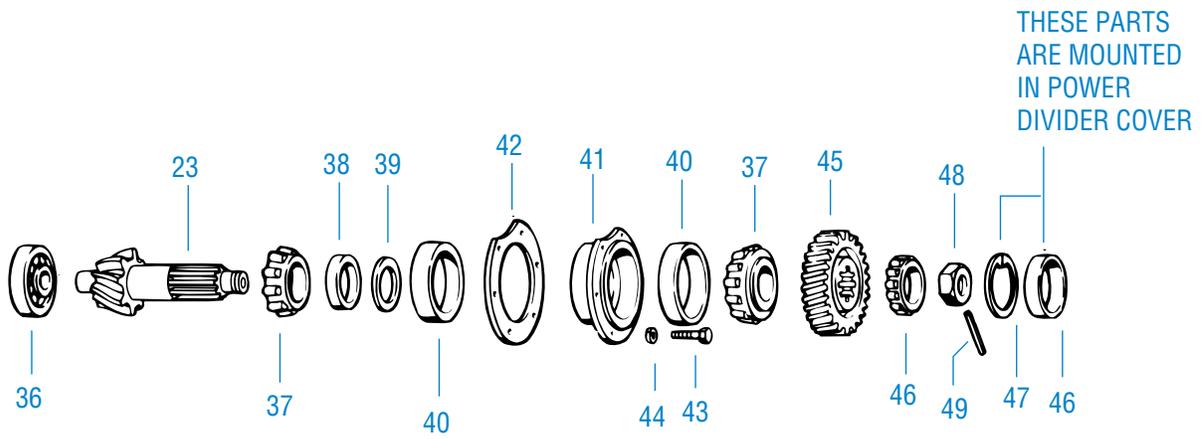
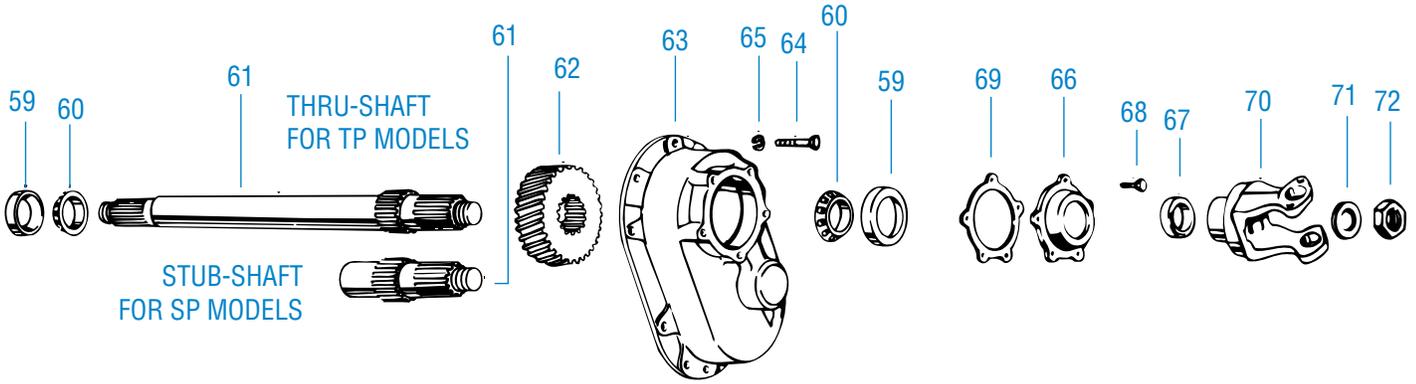


DIFFERENTIAL & RING GEAR



DIFFERENTIAL ASSEMBLY





TP/SP461
TP/SP601

TP/SP521
TP/SP651

Forward Axle

Item	Description	Qty	Order Part No.	Notes
1	Diff. Carrier & Bearing Caps Carrier Casting No 110500 NSS	1	106710	Includes Items 2-5, 7, 11-13, 19 & RTV Sealant
2	Bearing Cap Screw	4	32732	
3	Flat Washer	4	32912	
4	Lockwire	4	12563	
5	Dowel Bushing	2	32730	
6	Bearing Cap Adjuster Lock (RH)	1	78926	
7	Dowel Bushing (RH)	2	37746	
8	Cap Screw (RH)	2	210601	
9	Bearing Cap Adjuster Lock (LH)	1	14275	
10	Cotter Pin (LH)	1	90876	
11	Expansion Plug (Upper)	1	30703	
	Expansion Plug (Lower)	1	9797	
12	Filler Plug	1	90325	
13	Carrier Cover Dowel Pin	2	7641	
14	Diff. Bearing Adjuster (RH)	1	126305	
	Diff. Bearing Adjuster (LH)	1	21637	
15	Diff. Bearing Cup (RH)	1	21632	
	Diff. Bearing Cup (LH)	1	15092	
16	Diff. Bearing Cone (RH)	1	102660	
	Diff. Bearing Cone (LH)	1	27876	
17	Sun Gear	1	119902	
18	Sun Gear Retainer	1	43178	
19	Shift Unit Opening Cover	1	45521	
20	Cap Screw	2	20807	
21	Lockwasher	2	90415	
22	Gear Support Case (RH)	1	126301	
	Gear Support Case (LH)	1	108138	
23	Ring Gear & Drive Pinion Set	1		See Appendix: Gear & Pinion Information
24	Bolt	8	44358	In Kit 87955
24	Nut	8	60599	In Kit 87955
25	Thrust Washer (RH)	1	43271	For High-Speed CL Plate
26	Idler Pinion Pin	4	126302	
27	Idler Pinion	4	126306	
28	High-Speed Clutch Plate	1	126307	
29	Diff. Case w/clutch plate pin	1	126304	NSS Casting #108139
	Diff. Case (RH)	1	108140	NSS
30	Diff. Case Cap Screw	4	96285	Short
	Diff. Case Cap Screw	8	96284	Long
31	Diff. Side Gear	2	118959	36 Involute

Item	Description	Qty	Order Part No.	Notes
32	Side Gear Thrust Washer	2	83726	
	Gear Support Thrust Washer	1	83726	
33	Side Pinion	4	108142	
34	Side Pinion Thrust Washer	4	108145	
35	Spider	1	108141	
36	Pinion Pilot Bearing	1	126187	
37	Pinion Bearing Cone	2	14218	
38	Pinion Bearing Spacer Washer	1	78904	
39	Pinion Bearing Spacer*	AR		See Appendix: Gear & Pinion Information
40	Pinion Bearing Cup	2	14217	
41	Pinion Bearing Cage & Cup Assy	1	78914	Cage (78932) Includes Item 40
42	Pinion Bearing Cage Shim	AR		
	.003"		45461	
	.005"		62829	
	.010"		45462	
	.020"		62830	
	.030"		45463	
43	Bearing Cage Cap Screw	6	62158	
44	Lockwasher	6	37207	
45	Pinion Helical Gear	1	119997	1:1 Ratio
	Must be used with Helical Side			
	Gear of same ratio	1	119998	1.2:1 Ratio Old #98392
46	Outer Pinion Support Bearing & Race	1	78916	
47	Outer Pinion Bearing Snap Ring	1	78937	
48	Pinion Shaft End Nut	1	126182	
49	Pinion Nut Spring Pin	1	118807	
50	Output Shaft Nut	1	210508	TP only
51	Output Shaft Washer	1	210509	TP only
52	Output Yoke	1		See Appendix:Input/Output Yoke Information
53	Axle Housing Cover Assy - Not Sold Separately (NSS):			
	Cover 78923 (NSS)	1	108099	TP651 Includes Items 54, 56-58
	Cover 84546 (NSS)	1	107863	TP521, TP601 Includes Items 54, 56-58
	Cover 80269 (NSS)	1	98276	SP521, SP601, SP651
54	Output Shaft Oil Seal	1	119429or 210737*	See Appendix:Input/Output Yoke Information
				TP only
55	Rear Bearing Retaining Washer	1	78922	TP only
56	Bearing Snap Ring	1	78937	TP only
57	Output Shaft Bearing Race - Inner		118787	TP only, Order 78936 Brg Assy
57	Output Shaft Bearing Race - Outer	1	118788	TP only, Order 78936 Brg Assy
58	Magnetic Filler Plug	1	75130	$\frac{7}{8}$ "
	Retainer Plug	1	90898	$\frac{1}{2}$ "
59	Input Shaft Bearing Cup (Inner)	1	98388	
	Input Shaft Bearing Cup (Outer)	1	98385	Included with Item No. 66
60	Input Shaft Bearing Cone (Inner)	1	98387	
	Input Shaft Bearing Cone (Outer)	1	98384	

TP/SP461
TP/SP601
TP/SP521
TP/SP651

Note: Pinion Bearing Spacer information is found in Appendix: Gear & Pinion Information

Forward Axle

Item	Description	Qty	Order Part No.	Notes
61	Thru Input Shaft	1	214297	TP / Note 1 (Includes Items 50, 72)
	Stub Input Shaft	1	119992	SP / 16 Splines, 2.115"
62	Helical Drive Gear	1	98389	1:1 Ratio
	Must be used with Pinion Helical Gear of same ratio		98391	1.2:1 Ratio
63	Diff. Carrier Cover Assy (Cover 107274) NSS	1	107275	Includes 46-47, 59 inner cup
64	Carrier Cover Cap Screw	9	90069	(short)
		1	9309	(long)
65	Lockwasher	10	90417	
66	Input Bearing Cover Cup & Seal Assy (Cover 98380) NSS	1	98382	Includes Items 59, 67
67	Input Shaft Oil Seal	1	119430 or 210736	See Appendix:Input/Output Yoke Information
68	Bearing Cover Cap Screw	5	113324	
69	Input Bearing Cover Shim	AR		
	.003"		78918	
	.005"		78919	
	.010"		78920	
	.020"		113130	
70	Input Yoke & Slinger	1		See Appendix:Input/Output Yoke Information
71	Input Shaft Nut Washer	1	126242	
72	Input Shaft Nut	1	126155	Metric Nut
	Gasket Compound	AR	107276	

Kits And Assemblies

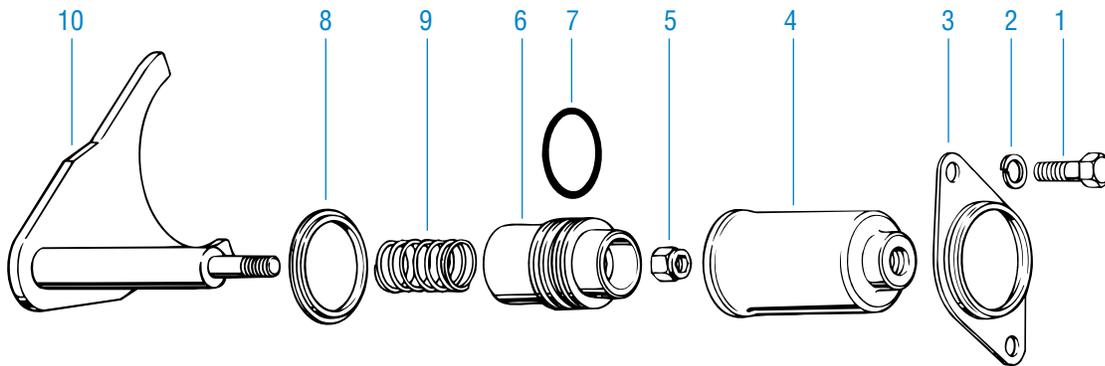
Ring Gear Bolt & Nut Kit	87955	Includes Items 24	
Wheel Diff. Case Kit	22417	Includes Items 29-30	
Wheel Diff. Side Gear & Pinion Kit	119393	Includes Items 31-35	
Wheel Diff.Kit Less Side Gears	118751	Includes Items 32-35	
Oil Seal & Shim Kit (TP only)	118111	Includes Items 42, 54, 67,	69 &
RTV			

NOTE 1: In July 1992 the 214297 Thru Shaft Input Kit replaced old P/N 98394. The 98394 has 18 splines, the 119993 shaft inside the 214297 has 49 splines. When the 214297 kit is used, both input and output yokes must also be updated. The 98394 is no longer made.

TP/SP461
TP/SP601
TP/SP521
TP/SP651

Differential Lockout Assembly

Current Production Model



Item	Part Name	Qty	Order Part No.	Remarks
1	Cap Screw	2	210381	
2	Lockwasher	2	90415	
3	Mounting Bracket	1	127675	
4	Piston Housing	1	119923	
5	Locknut	1	128160	
6	Piston	1	119912	
7	Piston "O" Ring	1	210180	
8	Shoulder Washer	1	210452	
9	Compression Spring	1	31038	
10	Shift Fork & Push Rod Assy.	1	103529	
	Gasket Compound	AR	107276	

Kits And Assemblies

Air-Operated Lockout Assy.	123218	Includes Items 1-10
Repair Kit	211198	Includes Items 5-9
Piston Kit	121333	Includes Items 3-8

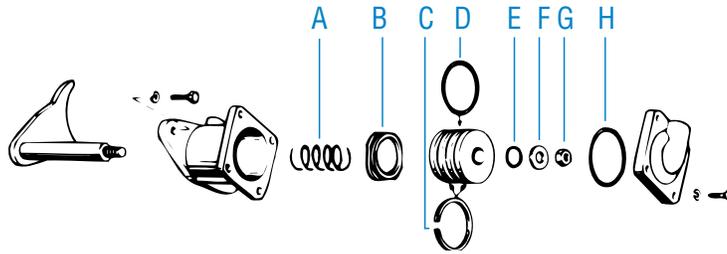
Air Operated Lockout Assembly

Non-Current Production

To service non-current production air-operated lockout assemblies (shown below), order service kit 211201. If additional parts are needed that are not identified below, order current production lockout assembly 123218.

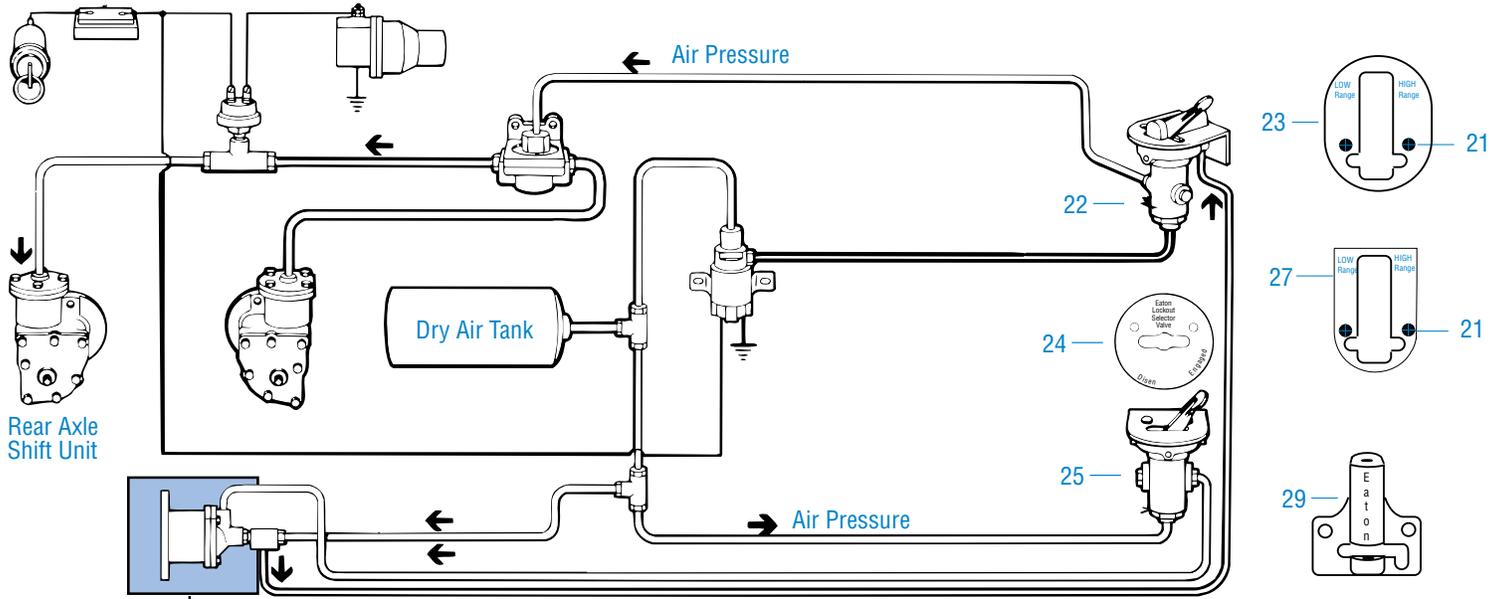
Item	Order Part No.
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A	31038
B	102616
C	96916
D	32832
E	32826
F	111406
G	90206
H	60817
and RTV sealant	

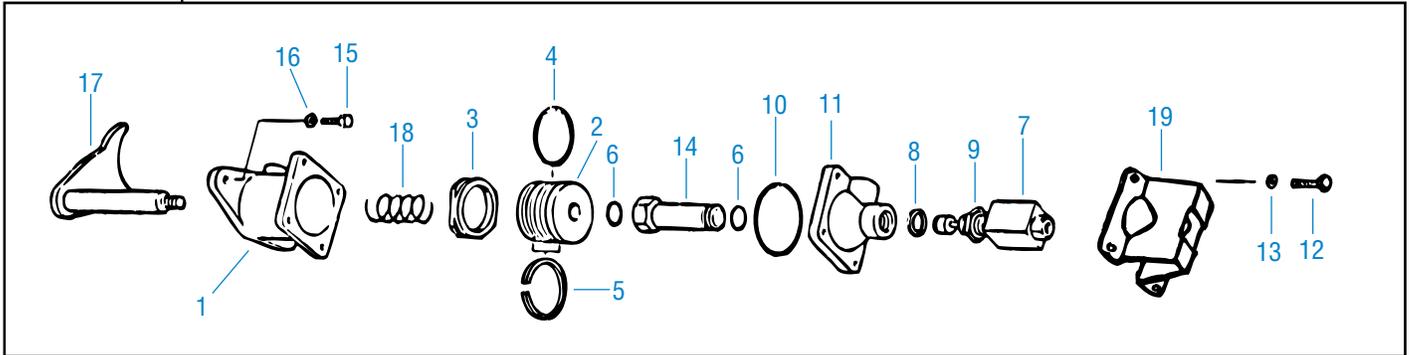


Shift System

Axle Range Selection and Inter-Axle Differential Lockout System with Axle Range Interlock and Straight-air type Lockout



Inter-Axle Differential Lockout Cylinder



Shift System

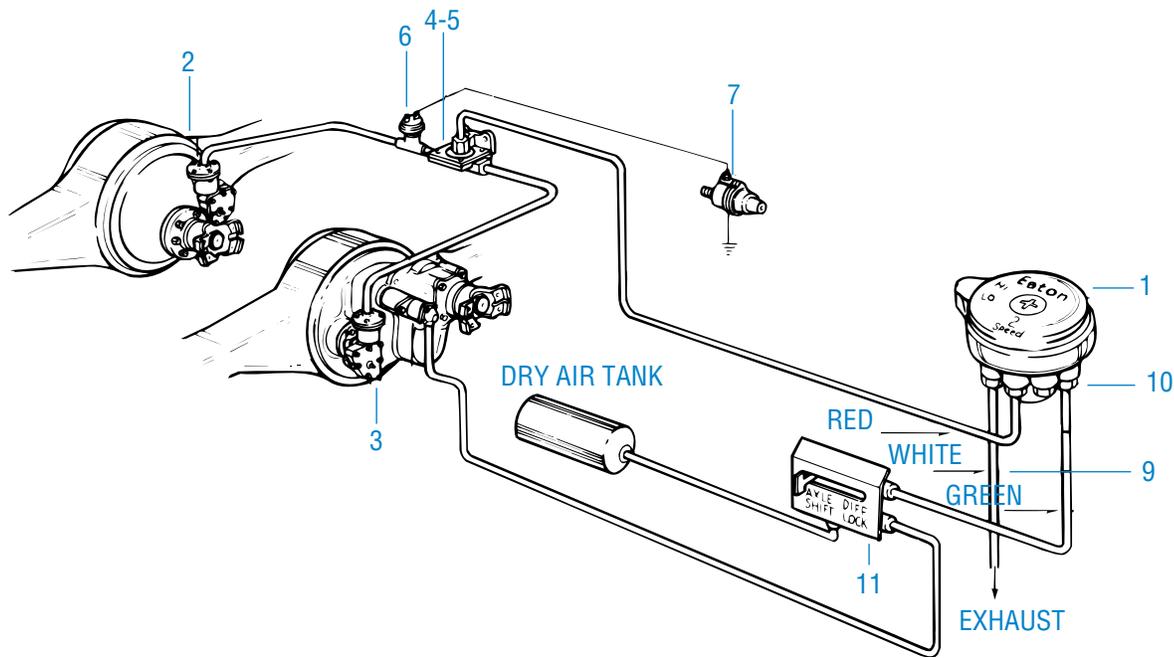
Item	Description	Qty	Order Part No.	Notes
1	Shift Cylinder Body	1	32828	
2	Shift Cylinder Piston	1	32834	
3	Piston Stop	1		
4	Piston O-ring	1	32832	
5	Piston Felt Oiler	2	96916	
6	Push-Rod O-ring	2	32826	
7	Valve Assy (includes 8-9)	1	113534	
8	Star Washer	1		
9	Nut			
10	Cover O-ring	1	60817	
11	Body Cover	1	113529	
12	Cover Cap Screw	4	79363	
13	Lockwasher	4	90419	
14	Hex Nut Piston	1	113530	
15	Body Cap Screw	2	90031	
16	Lockwasher	2	90415	
17	Shift Fork Assy	1	103529	
18	Compression Spring	1	31038	
19	Valve Protector	1	119878	
20	Shift Diagram	1	113545	Not Illustrated
21	Screw	2	113549	
22	Shift Valve	1	113661	
23	Cover Plate	1	126622	In Dash
24	Lockout Selector Label	1	111331	
25	Air Shift Valve	1	84678	
26	Instruction Label	1	109377	Not Illustrated
27	Mounting Plate	1	126621	Under Dash
28	Wrench	1	126407	Not Illustrated
29	Piston Hsg Assy	1	113543	

Kits and Assemblies

Air Control Front Lockout Parts Kit	118409	Included Items 1-11, 18
Power Divider Air Lockout Parts Kit	113650	Includes 1-19
Dual Range Tandem Protective Shift System Kit	121236	In Dash
		Includes Items 6-10,14,17,19-23,26,28
Dual Range Tandem Protective Shift System Kit	121237	Under Dash
		Includes Items 6-11,14,19-22,26-28
Shift Valve Assy	113544	Under Dash - Includes Items 21,22,27,29
Shift Valve Assy	113662	In Dash - Includes Items 21-23,29

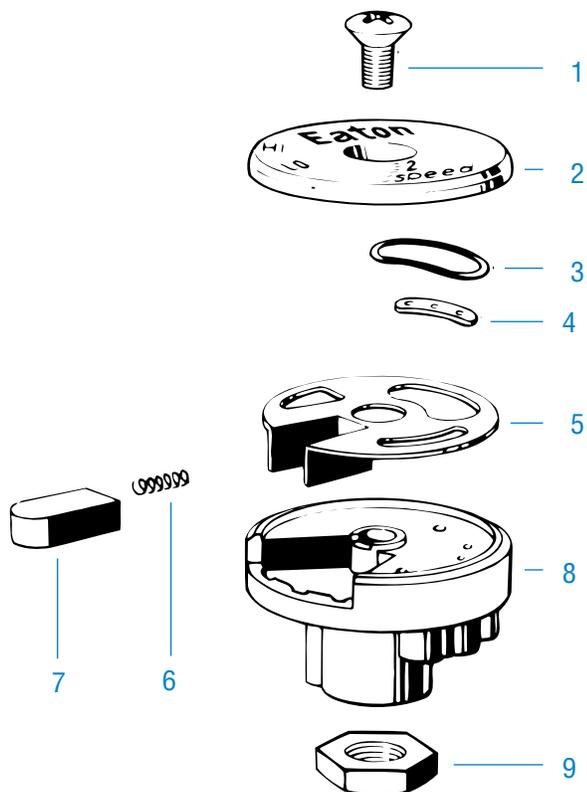
Note: This illustration is intended to help identify service parts used in the Protective Shift System for all Dual Range Eaton Tandem Axles. For System operation information, refer to Eaton Service Manual EA-44 or Service Parts Bulletin 85-03.

Axle Shift System



Item	Description	Qty	Order Part No.	Notes
1	Shifter Valve			See Air Shifter Valve
2	Rear Axle Shift Unit	1	73507	See Piston Air Shift System
3	Forward Axle Shift Unit	1	73503	See Piston Air Shift System
4	Quick Release Valve	2	66468	
5	Elbow Tube Connector	2	66476	(In Quick Release Valve)
6	Speedometer Adapter Pressure Switch	1	56071	(Normally Closed Type)
7	Speedometer Adapter	1		(Refer to OEM Catalog)
8	Lockout Valve (toggle-type)	1	74265	(In cab)
	Lockout Instruction Tag	1	104608	(In cab)
9	Tubing & Related Parts	AR		
	Green		66472	(Supply)
	Red		66473	(To Quick Release Valve)
	White		66475	(Exhaust)
	Loom		66479	
	Loom Clip		66478	
10	Connector	4	66471	$\frac{1}{4}$ " x $\frac{1}{16}$ "

Air Shifter Valve

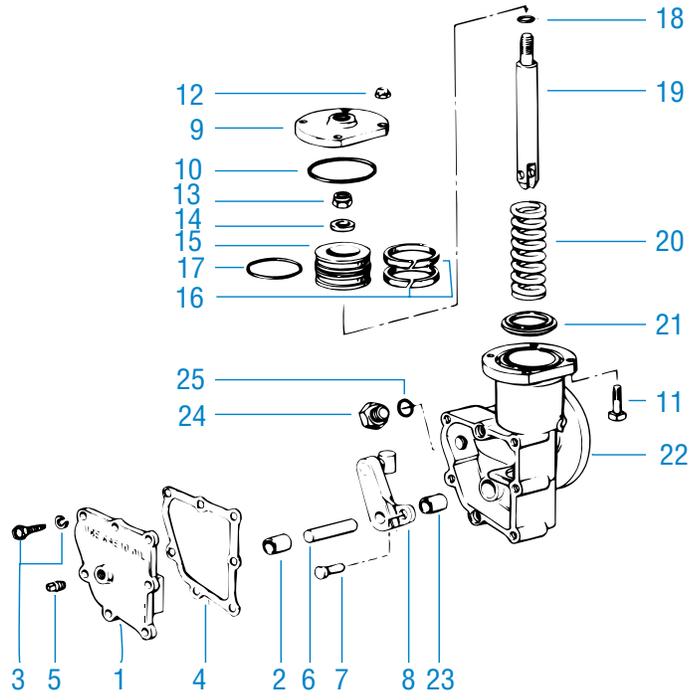


Item	Description	Qty	Order Part No.	Notes
1	Cover Screw	1	66459	
2	Cover	1	70740	
3	"O" Ring	1	66455	
4	"O" Ring Guide	1	66454	
5	Shifter Plate	1	74860	
6	Spring	1	74861	
7	Shifter Knob (Valve Lock)	1	74863	
8	Housing	1		Must order complete shift valve assy.
9	Jam Nut	1	56286	($\frac{5}{8}$ "-11)
	(Varies with lever size)		59600	($\frac{1}{2}$ "-20)
			NLA	($\frac{1}{2}$ "-13)
			56526	($\frac{3}{8}$ "-24)

Kits And Assemblies

Air Valve Repair Kit	78439	Includes Items 3-7
Air Shifter Valve Assy.	74876	Lever Size: $\frac{5}{8}$ "-11
(Varies with Lever Size)	74877	Lever Size: $\frac{1}{2}$ "-20
	74878	Lever Size: $\frac{1}{2}$ "-13
	74879	Lever Size: $\frac{3}{8}$ "-24

Piston Air Shift System



Piston Air Shift System

Item	Description	Qty	Order Part No.	Notes
1	Cover Assy. (includes Item 2)	1	73486	(DT only) Cover# 73484-NSS
		1	73487	(RT only) Cover# 73485-NSS
2	Cover Bearing	1	73481	
3	Self-Tapping Screw & Washer Assy.	7	88053	
4	Cover Gasket	1	73488	
5	Cover Plug	1	28325	
6	Actuating Lever Pin	1	73456	
7	Clevis Pin	1	73498	
8	Actuating Lever, Pin & Block Assy.	1	84803	(DT only)
		1	84804	(RT only)
9	Shift Housing Cover	1	73490	
10	Seal Ring	1	73492	
11	Cover Bolt	4	73491	
12	Lock Nut	4	47641	
13	Lock Nut	1	73496	
14	Washer	1	111406	
15	Piston	1	73493	
16	Felt Piston Oiler (strip)	2	96916	
17	Piston "O" Ring	1	32832	
18	Grommet	1	32826	
19	Push Rod	1	73497	
20	Compression Spring	1	73494	
21	Piston Stop	1	73495	
22	Housing Assy. (Includes Items 3 & 23)	1	82428	(DT only) Hsg# 84797-NSS
		1	82429	(RT only) Hsg# 84798-NSS
23	Housing Bearing	1	73481	
24	Cap Screw	1	58309	(DT only)
25	"O" Ring	1	56659	(DT only)

Kits And Assemblies

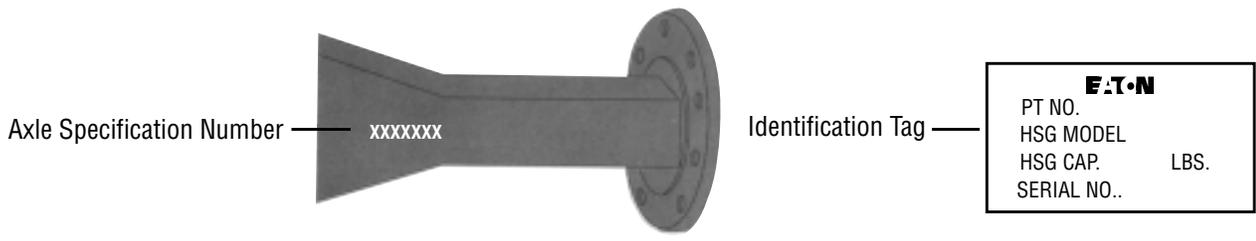
Piston Air Shift Unit Assy.*	73503	(DT only)
Piston Air Shift Unit Assy.*	73507	(RT only)
		(*Both Assy - Electric Over Air or Straight Air)
		(*Both Assy - Include Items 1-23)

Note: NSS-Not Serviced Separately

461, 521, 581, 601 Forward/Rear Housings

All drive axles are mounted in Eaton® fabricated steel axle housings. These housings are developed to meet specific OEM requirements for dimensions, suspension mounting and brakes. Many of the most commonly-used housings are referenced in the accompanying parts list along with the OEMs currently specifying them. If the housing being replaced is not listed and replacement is necessary, provide the truck dealer with the following information:

- a. Information from metal tag.
- b. Year, make and model of the truck.
- c. Axle model and ground loading capacity.
- d. Axle specification number.
- e. Type of brakes used.

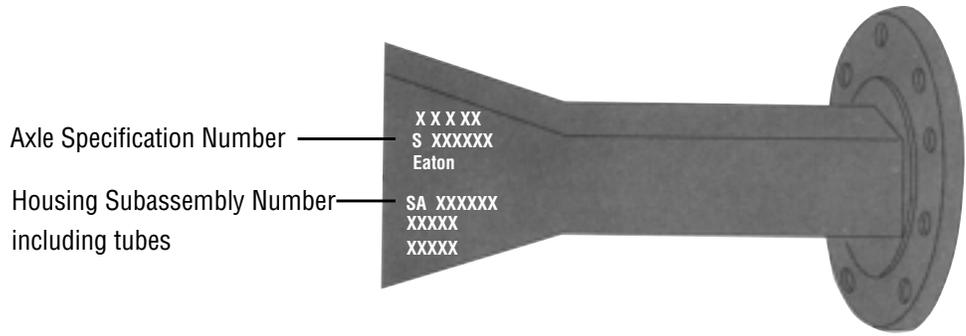


651 Housings

These tandem drive axles are mounted in Eaton® cast steel axle housings and are fitted with a wide variety of suspension mounting bracketry on the basis of OEM specification. Should replacement of the housing become necessary, provide the truck dealer with the housing subassembly number (SA No. - see drawing for location).

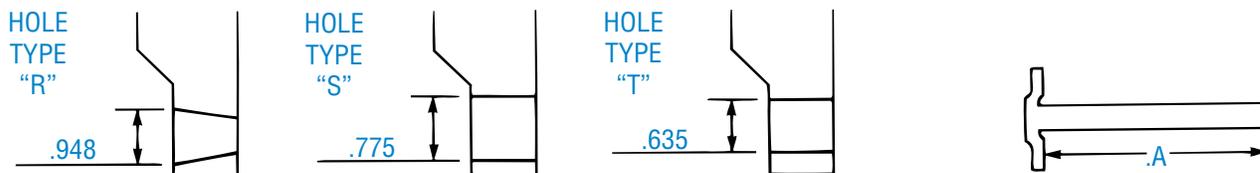
If this number is not available, provide the truck dealer with as much as the following information as possible:

- a. Axle specification number
- b. Year, make and model of the truck
- c. Axle, model and ground-loading capacity
- d. Type suspension (if known)



Axle Shaft Configurations

These axles will be found with a number of different axle shafts, on the basis of OEM specification. When ordering replacement axle shafts, note the part number stamped in to the flange.



Models D/R 521, 581, 601

36 Involute Spline

2-1/4 Diameter

Track		"A" Length	Type "R"	Type "S"	Type "T"
Narrow	72"	41 1/4"	119903	—	—
Intermediate	74"	42 1/4"	126195	126599	126601
Wide	78"	44 1/4"	126196	126600	126602
Wide Wide	80"	45 1/4"	119904	—	—

Model D/R 651

36 Involute Spline

2-1/4 Diameter

Track		"A" Length	Type "R"
Narrow	72"	41 1/4"	119903
Intermediate	75"	42 3/4"	119409
Wide	80"	45 1/4"	119904
Wide Wide	85"	47 3/4"	119905

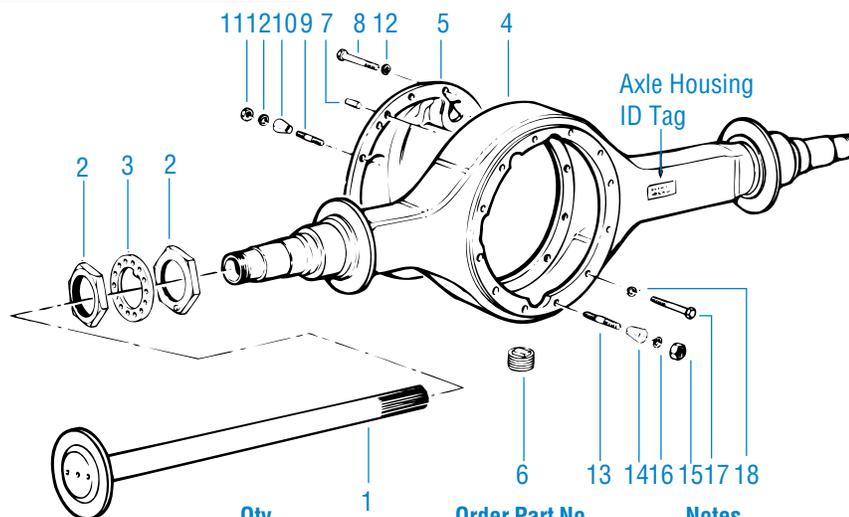
Track Width

Track width can be determined by measuring the distance between the brake flanges.

Track Width	Flange-to-Flange Measurement
72"	52.125"
75"	55.125"
80"	60.125"
85"	65.125"

Axle Housings & Shafts

D521 / D581 / D601 / T521 / T601 / S521 / S601



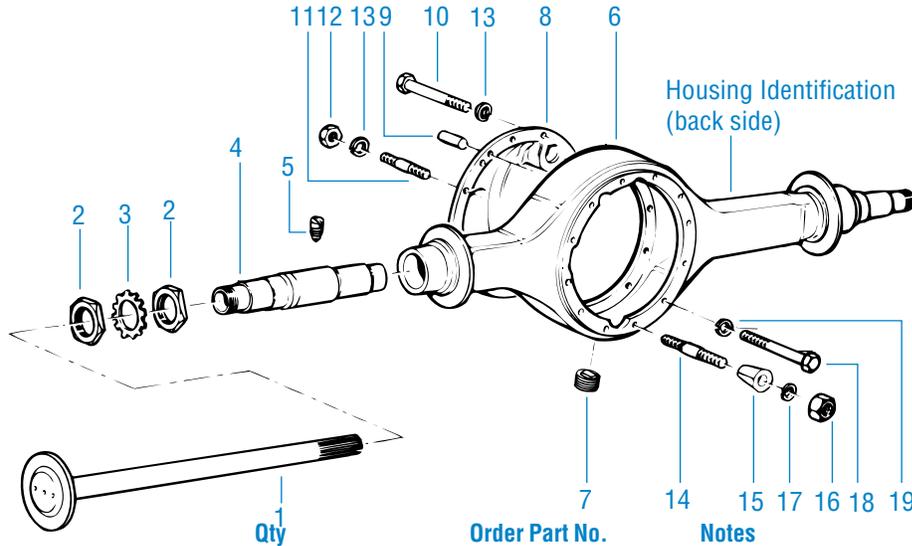
Item	Description	Qty	Order Part No.	Notes
1	Axle Shaft (36 Spline, 2-1/16" shaft dia.) 461 Series only For 521, 581, 601 & 651 Series see page 39	2	126958 110889 110890 113335	(42" long, .948 taper holes) (40 7/8" long, .638" thru holes) (41 1/16" long, .948" taper holes) (40 3/32" long, .762" thru holes)
2	Hub Bearing Adjuster Nut (Forward and Rear Axles)	2 2	119881 119882	(see Note 1) (varies by OEM)
3	Bearing Adjuster Lockwasher	2	119883	
4	Axle Housing Assy	1		See OEM Catalog
5	Axle Housing Cover			See corresponding model parts list in this catalog
6	Magnetic Drain Plug	1	54254	
	Magnetic Filler Plug	1	75130	
7	Cover Locating Dowel	1	7641	Forward Axle
8	Cover Cap Screw	1	79558	Forward Axle
9	Cover Stud	11	49982	Forward Axle
10	Taper Dowel	4	83481	
11	Nut	11	42364	
12	Lockwasher	12	90415	
13	Stud	10	36435	Forward Axle
13	Stud	8	36435	(Short) Rear Axle
		4	51212	(Long) Rear Axle
14	Taper Dowel	4	83482	Forward Axle
15	Nut	10	90208	Forward Axle
15	Nut	12	90208	Rear Axle
16	Lockwasher	10	90422	Forward Axle
16	Lockwasher	12	90422	Rear Axle
17	Cap Screw	2	99708	(12 pt.) Forward Axle
18	Lockwasher	2	11167	Forward Axle

Breather Valve	809560	Not Illustrated
Snap Cap	126980	Not Illustrated
Reducer Adapter	809561	3/8" to 1/2" Not Illustrated

Note 1: Not interchangeable with older design -78944 (3/8" thick), 95372 (9/16" thick), 11249 (7/16" thick) nuts, or 11245 bearing adjuster nut locks.

Axle Housings & Shafts

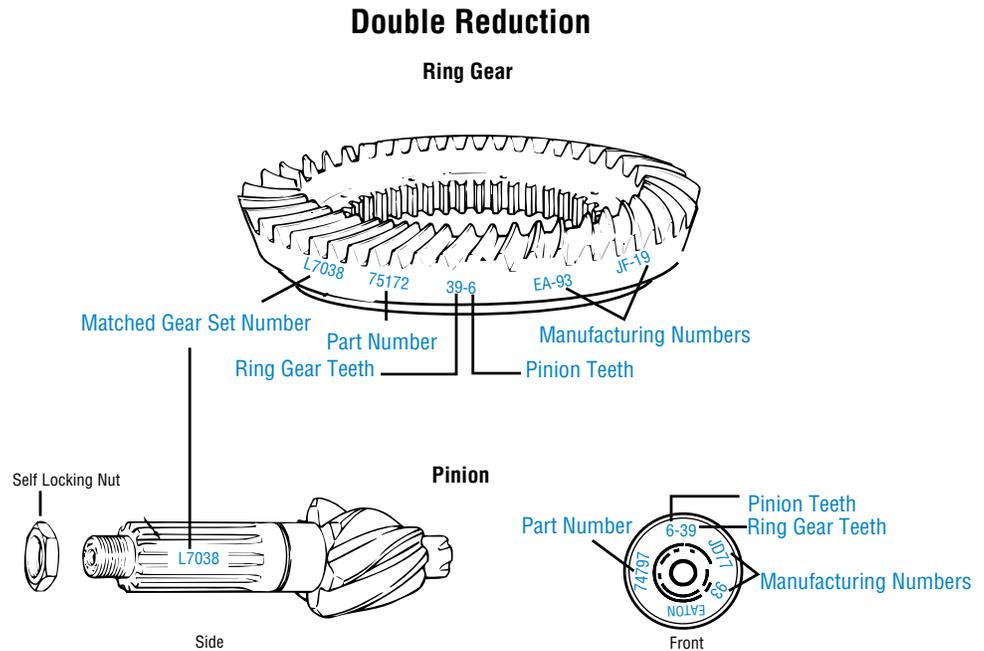
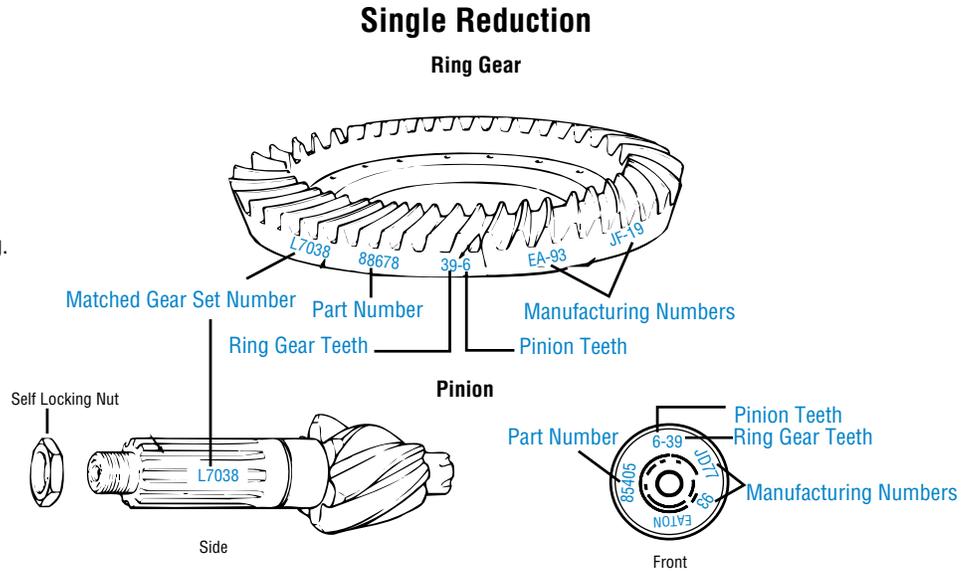
D651 / T651 / S651 Tandems



Item	Description	Qty	Order Part No.	Notes
1	Axle Shaft	2		See Axle Hsgs & Shafts: Axle Shaft Configurations
2	Hub Bearing Adjuster Nut	4	11249	
3	Bearing Adjuster Lockwasher	2	11245	
4	Axle Housing Spindle Tube	2	82620	
5	Spindle Tube Set Screw	2	NLA	
6	Axle Housing	1		See OEM Catalog
7	Magnetic Drain Plug	1	54254	
8	Axle Housing Cover	1		See corresponding model parts list in this catalog
9	Cover Locating Dowel	2	7641	
10	Cover Cap Screw	1	85454	
11	Cover Stud	11	85453	
12	Nut	11	25348	
13	Lockwasher	12	90414	
14	Stud	10	36435	Forward Axle
14	Stud	8	36435	(Short) Rear Axle
		4	51212	(Long) Rear Axle
15	Taper Dowel	4	83483	Forward Axle
16	Nut	10	90208	Forward Axle
16	Nut	12	90208	Rear Axle
17	Lockwasher	10	90422	Forward Axle
17	Lockwasher	12	90422	Rear Axle
18	Cap Screw	2	99708	(12 pt.) Forward Axle
19	Lockwasher	2	11167	Forward Axle
	Breather Valve		809560	Not Illustrated
	Snap Cap		126980	Not Illustrated
	Reducer Adapter		809561	$\frac{3}{8}$ " to $\frac{1}{8}$ " Not illustrated

Ring Gear and Pinion Identification

- Ring Gear and Drive Pinion are matched parts and must be replaced in sets.
- Complete identification is stamped on both parts shown in the adjacent drawing.
- Order by Eaton "Set No." which includes drive pinion nut.



Pinion Bearing Spacers

Pinion Bearing Spacer size is equal to thickness in inches. The most commonly used spacers are indicated with an asterisk*.

Size"	Part#	Size"	Part#	Size"	Part#	Size"	Part#
.167	91679	.176	91688	.185	91702*	.194	91719
.168	91680	.177	91689*	.186	91704*	.195	91720*
.169	91681	.178	91690*	.187	91706*	.196	91721
.170	91682	.179	91691*	.188	91708*	.197	91722
.171	91683	.180	91692*	.189	91710*	.198	91723*
.172	91684	.181	91694*	.190	91712	.199	91724
.173	91685	.182	91696*	.191	91714	.200	91725
.174	91686	.183	91698*	.192	91716	.201	91726
.175	91687	.184	91700*	.193	91718*	.202	91727

Drive Pinion and Gear Set

Single Reduction - 18" Gearing

Ratios	Forward Axle Models: DS461-P, DS521-P, DS581-P			Rear Axle Models: RS461, RS521, RS581		
	Gear Set	Gear (NSS)	Pinion (NSS) 41,2.100" Dia.	Gear Set	Gear (NSS)	Pinion (NSS) 41,2.100" Dia.
3.55	122667	126678(39)	126679(11)	122668	111349(39)	126677(11)
3.70	122334	98160(37)	126161(10)	121887	88500(37)	126120(10)
3.90	123333	99900(39)	127047(10)	123334	99896(39)	127048(10)
4.11	122335	94381(37)	126162(9)	121888	88502(37)	126121(9)
4.33	122336	78856(39)	126163(9)	121889	52999(39)	126118(9)
4.56	122337	78858(41)	126164(9)	121890	73312(41)	126125(9)
4.88	122338	78860(39)	126165(8)	121891	53001(39)	126119(8)
5.29	211333	127339(37)	127327(7)	211335	127338(37)	127328(7)
5.43	122339	78862(38)	126166(7)	121892	53003(38)	126122(7)
6.17	122340	78864(37)	126167(6)	121893	53005(37)	126123(6)
6.50	212890	128028(39)	128029(6)	212891	128030(39)	128031(6)
6.67	213287	107888(40)	128052(6)	213288	53007(40)	128054(6)

Dual Range and Planetary Double Reduction - 18" Gearing

Ratios	Forward Axle Models: DT461-P, DP461-P, DT521-P, DP521-P, DT601-P DP601-P, DT651-P, DP651-P, TP/SP601, TP/SP651			Rear Axle Models: RT461, RP461, RT521, RP521, RT601, RP601, RT651, RP651		
	Gear Set	Gear (NSS)	Pinion (NSS) 41,2.100" Dia.	Gear Set	Gear (NSS)	Pinion (NSS) 41,2.100" Dia.
3.70/5.04	122387	126567(37)	126161(10)	122394	126568(37)	126120(10)
3.90/5.32	124444	127183(39)	127047(10)	124445	127184(39)	127048(10)
4.11/5.60	122388	126569(37)	126162(9)	122395	126570(37)	126121(9)
4.33/5.90	122389	126571(39)	126163(9)	122396	126572(39)	126118(9)
4.56/6.20	122390	126573(41)	126164(9)	122397	126574(41)	126125(9)
4.88/6.64	122391	126575(39)	126165(8)	122398	126576(39)	126119(8)
5.43/7.39	122392	126577(38)	126166(7)	122399	126578(38)	126122(7)
6.17/8.40	122393	126579(37)	126167(6)	122400	126589(37)	126123(6)

Differential Carrier Assemblies

These assemblies are complete, less input yoke and dual range shift units.

Single Reduction Models
DS/RS461-P / 521-P / 581-P

Dual Range Models
DT/RT461-P / 521-P / 501-P / 651-P

Gear Ratio	Forward Assy 36 Involute Splines	Rear Assy
3.55	952103	952104
3.70	674514	674520
3.90	674611	674612
4.11	674515	674521
4.33	674516	674522
4.56	674517	674523
4.88	674518	674524
5.29	674613	674614
5.43	674519	674525
6.17	674707	674709
6.50	674708	674710
6.67	213370	213371

Gear Ratio	Forward Assy 36 Involute Splines	Rear Assy 36 Involute Splines
3.70/5.04	674609	674610
3.90/5.31	674828	674829
4.11/5.60	674526	674531
4.33/5.90	674527	674532
4.56/6.20	674528	674533
4.88/6.64	674529	674534
5.43/7.39	674530	674535
6.17/8.40	674912	674908

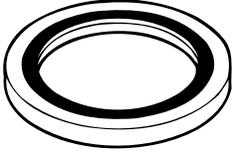
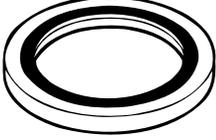
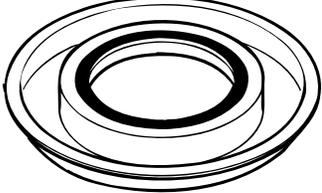
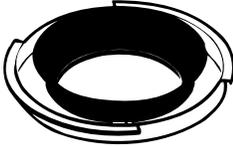
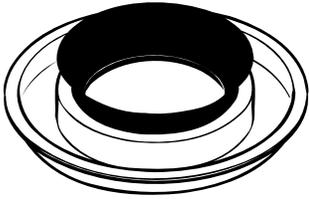
Differential Carrier Assemblies

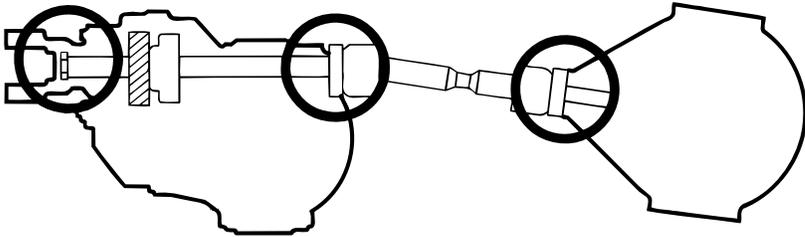
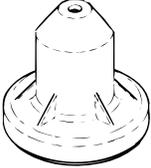
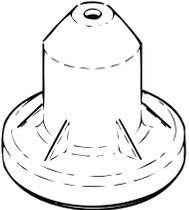
These assemblies are complete, less input yoke and dual range shift units.

Planetary Double Reduction Models DP/RP461-P / 521-P / 601-P / 651-P

Gear Ratio	Forward Assy 36 Involute Splines	Rear Assy 36 Involute Splines
5.04	952082	952089
5.31	952140	952141
5.60	952083	952090
5.90	952084	952091
6.20	952085	952092
6.64	952086	952093
7.39	952087	952094
8.40	952088	952095

Appendix

	D-Input	D-Output	R-Pinion
Old Seal Part Number	 119430	 119429	 113866
New Seal Part Number	 210736	 210737	 210724

	D-Input	D-Output	R-Pinion
Location			
Tool Number Used	210749  +  210750	210751 	210749 

New Oil Seals for Input and Output Yoke Assemblies

Starting in the 1st quarter of 1994, Eaton will begin servicing all 461,521,581,601,651 Axle Models with new Microlip Oil Seals. This product improvement will supersede existing Yoke/Slinger Assemblies. Using Oil Seal Driver Kits is recommended. The charts below show part supersession from "OLD" to "NEW" Yoke/Slinger Assy's and include other information concerning the inter-changeability of the "OLD" and "NEW" parts.

Basic Overhaul kits, Bearing kits with Oil Seals and other kits that have the old seals in them will be updated to include the new seals – these are still compatible with the "OLD" Yoke/Slinger assemblies.

New Yoke/Slinger Assemblies on Forward Axles must use the Microlip seals at the D-Output and D-Input, as result, the "NEW" Yoke/Slinger kits for Forward Axles will include the Microlip seal.

The Rear Axle pinion Yoke/Slinger assemblies will not contain Microlip seals – for Rear Axles you may use the "NEW" Yoke/Slinger assemblies with either the old Triple Lip seal or the new Microlip seals.

If you have any questions call your Eaton Field Marketing representative.

Yoke and Slinger Assemblies

R-Pinion (Rear Axle)

"NEW" Assemblies do not include Microlip Seal

Yoke Series	"OLD" Assy No#	"NEW" Assy No#
72N	126319	128888
1610	126547	128889
1610	126539	128882
1610	126587	128883
1710	126549	128890
1710	126541	128884
1710	126589	128885
1760	126551	128891
1760	126543	128886
1810	126545	128887
1810	126553	128892

- "OLD" Oil Seal # 113866
- "NEW" Oil Seal # 210724
- The 113866 Oil Seal may be used with the "NEW" Yoke/Slinger Assemblies.
- The 210724 Oil Seal may be used with "OLD" Yoke/Slinger Assemblies.
- Use Seal Driver #210749 for installation of the 210724 oilseal.

D-Output (Forward Axle)

"NEW" Assemblies include Microlip Seal

Yoke Series	"OLD" Assy No#	"NEW" Assy No#
72N	126317	216478
1610	126650	216479
1710	126651	216480
1760	126652	216481
1810	126653	216482

- "OLD" Oilseal # 119429
- "NEW" Microlip Oil Seal # 210737
- The 119429 Oil Seal cannot be used with the "NEW" style Yoke/Slinger Assy.
- The 210737 Oil Seal may be used with "OLD" Yoke/Slinger Assemblies
- Use Seal Driver #210751 for installation of the 210737 oilseal.

D-Input (Forward Axle)

"NEW" Assemblies include Microlip Seal

Yoke Series	"OLD" Assy No#	"NEW" Assy No#
82N	126318	216477
1710	126581	216471
1710	126686	216472
1760	126583	216473
1760	126688	216474
1810	126690	216475
1810	126585	216476

- "OLD" Oil Seal # 119430
- NEW" Oil Seal # 210736
- The 119430 Oil Seal cannot be used with the "NEW" style Yoke/Slinger Assemblies.
- The 210736 Oil Seal may be used with "OLD" Yoke/Slinger Assemblies.
- Use Seal Driver #210749 with Driver Insert 210750 for installation of the 210736 Oil Seal.

Input and Output Yokes

See information for New Oil Seals for Input and Output Yoke Assemblies before ordering

Forward Axles

Input (Yoke & Slinger) (46 involute splines)

Yoke Series	Joint Angle	Style	Part No.
82N	—	X	126318
1710	30.0°	Y	126581
1710	22.5°	Z	126686
1760	30.0°	Y	126583
1760	30.0°	Z	126688
1810	30.0°	Z	126690
1810	30.0°	Y	126585

Rear Axles

Pinion (Yoke & Slinger) (41 involute splines)

Yoke Series	Joint Angle	Style	Part No.
72N	—	X	126319
1550	18.0°	Z	126537
1610	24.0°	Z	126547
1610	26.0°	Y	126539
1610	45.0°	Y	126587
1710	29.0°	Z	126549
1710	30.0°	Y	126541
1710	39.0°	Z	127702
1710	42.5°	Y	126589
1760	29.0°	Y	126543
1760	30.0°	Z	126551
1810	30.0°	Y	126545
1810	30.0°	Z	126553

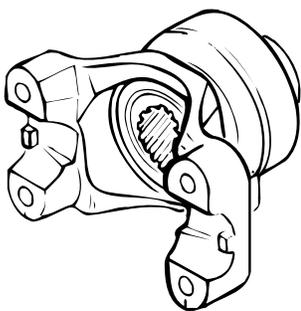
Yoke Styles:

- X — Thru Holes / Half Round (U-Bolt)
- Y — Full Round
- Z — Tapped Holes / Half Round (Brg. Strap)

Output (Yoke & Slinger) (41 involute splines)

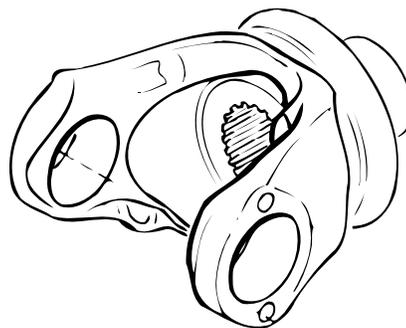
Yoke Series	Joint Angle	Style	Part No.
72N	—	X	126317
1610	45.0°	Y	126650
1710	38.0°	Y	126651
1760	38.0°	Y	126652
1810	30.0°	Y	126653

STYLE X



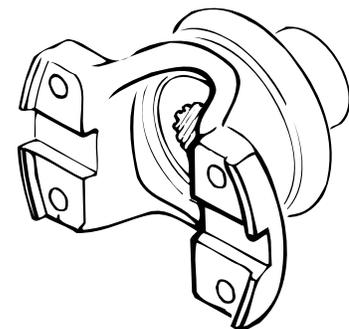
Thru Holes / Half Round
(U-Bolt)

STYLE Y

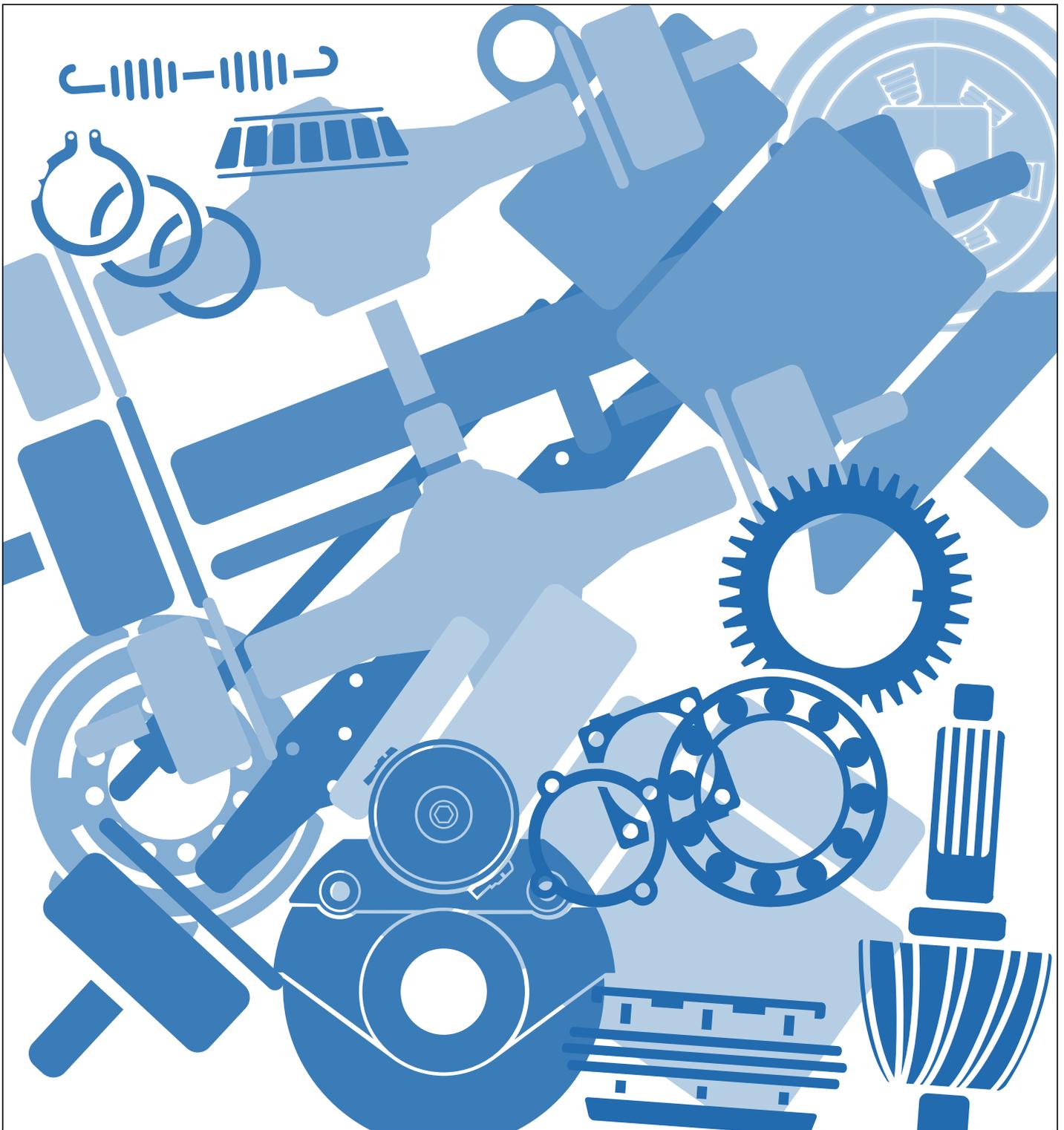


Full Round

STYLE Z



Tapped Holes/ Half Round
(Bearing Strap)



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