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9 25-AxleInquiryMY2002-MY2011Summary-V2-20140702

9.25 Axles-NHTSA Inquiry 6/16/14
Potential Previous Recall Associations (Recall M34-MY2009-MY2010)- (Recall N08-MY2009-MY2012)

NHTSA ID Number:	Vehicle	MY	Crash	Fire	Injuries	Deaths
10595057	RAM 1500	2005	No	No	0	0
10594050	RAM 1500	2008	No	No	0	0
10586970	RAM 1500	2006	No	No	0	0
10569302	RAM 1500	2003	No	No	0	0
10555973	RAM 1500	2008	No	No	0	0
10503157	RAM 1500	2005	No	No	0	0
10502707	RAM 1500	2005	No	No	0	0
10478873	RAM 1500	2005	No	No	0	0
10446068	RAM 1500	2005	No	No	0	0
10345614	RAM 1500	2002	No	No	0	0
10155019	RAM 1500	2004	No	Yes	0	0
767865	Unknown	2002	No	No	0	0

9.25 Axles-NHTSA Inquiry 6/16/14
Potential Previous Recall Associations (Recall M34-MY2009-MY2010)- (Recall N08-MY2009-MY2012)

MY	Incident Reports	Crash	Fire	Injuries	Deaths	Primary Vehicle
MY2002	2	No	No	No	No	1 RAM 1500/1 Unknown
MY2003	1	No	No	No	No	RAM 1500
MY2004	1	No	Yes	No	No	RAM 1500
MY2005	5	No	No	No	No	RAM 1500
MY2006	1	No	No	No	No	RAM 1500
MY2008	2	No	No	No	No	RAM 1500
Totals	12	0	1	0	0	

Summary:

NHTSA Inquiry Population was 12 ID Numbers

Primary Model Year identified per NHTSA Inquiry received June 2014 was MY2005 with 5 reports which is 41.67% of inquiry population

Secondary Model Years identified per the NHTSA Inquiry received June 2014 was the MY2002 & the MY2008 both having 2 reports which would represent 16.67% for the MY2002 & 16.67% for the MY2008 within the inquiry population.

The remaining Model Years reviewed based on the notifications was the MY2003 with 1 notification, the MY2004 with 1 notification, the MY2006 with 1 notification. This would represent approximately 8.33% of the inquiry population for each, MY2003-MY2004-MY2006.

Per the review of all 12 notifications there was "0" Crashes, "0" Injuries, "0" Deaths identified. Only "1" reported fire incident which was for the MY2004 with represented approximately 8.33% of the NHTSA inquiry population.

Per the PE review of the actual consumer comments could merit further review/investigate.

9.25 Axles-PE Further Review of NHTSA Inquiry Data 6/16/14

NHTSA ID Number:	Vehicle	MY	Crash	Fire	Injuries	Deaths	PE Review Possible Association (PE Identified potential by reviewing NHTSA Provided Narratives Supplied Via Consumer Input)
10595057	RAM 1500	2005	No	No	0	0	No
10594050	RAM 1500	2008	No	No	0	0	No
10586970	RAM 1500	2006	No	No	0	0	Would need further data/information
10569302	RAM 1500	2003	No	No	0	0	Would need further data/information
10555973	RAM 1500	2008	No	No	0	0	Would need further data/information
10503157	RAM 1500	2005	No	No	0	0	No
10502707	RAM 1500	2005	No	No	0	0	Would need further data/information
10478873	RAM 1500	2005	No	No	0	0	No
10446068	RAM 1500	2005	No	No	0	0	Would need further data/information
10345614	RAM 1500	2002	No	No	0	0	No
10155019	RAM 1500	2004	No	Yes	0	0	No
767865	Unknown	2002	No	No	0	0	No

9.25 Axles-Data Parameters utilized for the "Field Data Comparisons MY2002-MY2008 Vs. MY2009-MY2011"

Inquiry Criteria: MY2002-MY2011-DR-DS-HB-HG-ND-DN-AN-AB Units equipped with the 9.25 axle - (Axle Type: 9.25-DRB Sales Code & C235 Axle DRN Sales Code-C235 Axle was launched in the MY2011)

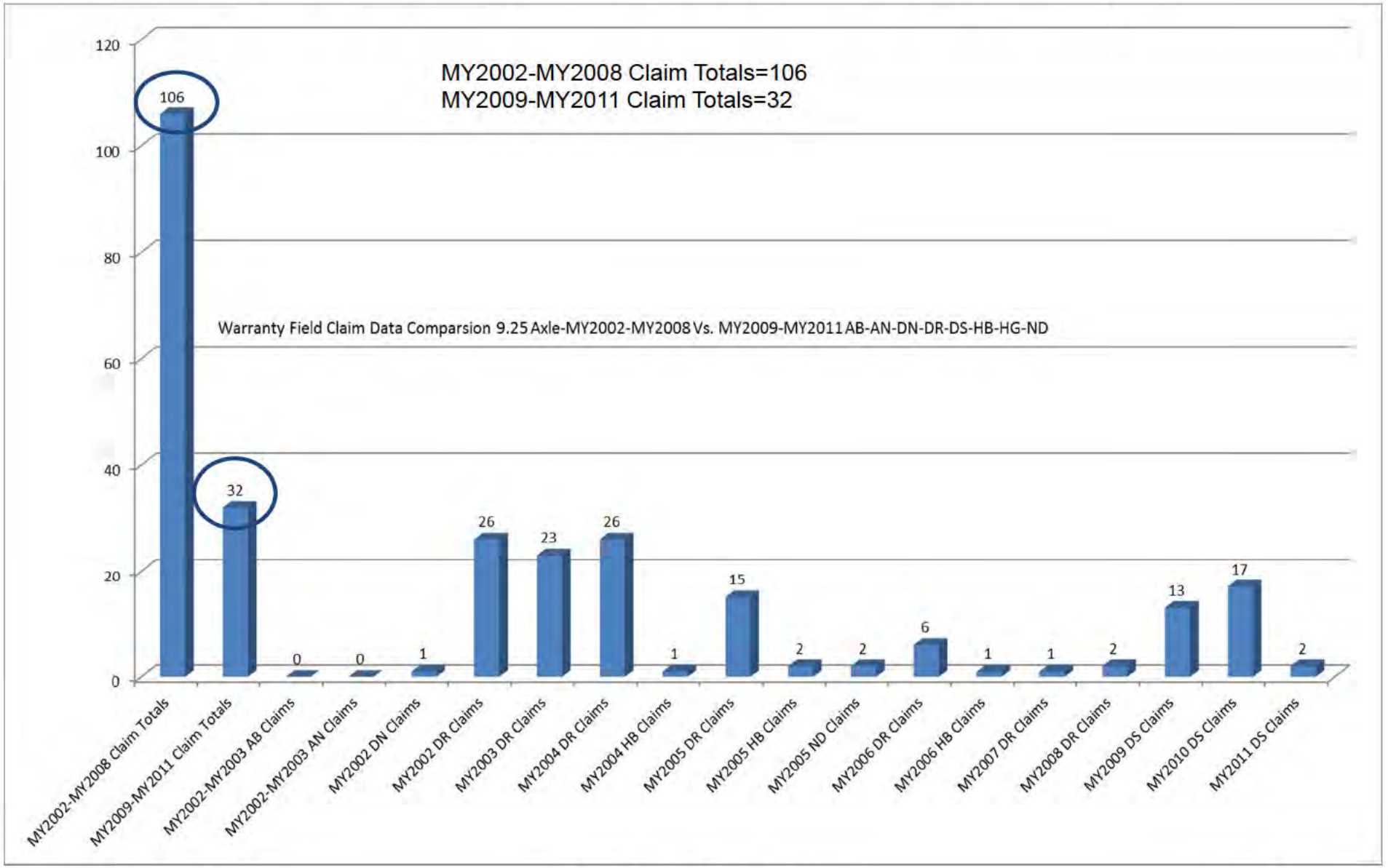
Primary Labor Operation 03300101 (Axle/Differential Assembly-Rear-8.25-9.25 axles)
Primary Labor Operation 03500010 (Ring Gear & Pinion Set: All other Axles)
Primary Labor Operation 03501502 (Flange, Propeller Shaft To Rear Axle: All Others)
Primary Labor Operation 03300101 (Axle/Differential Assembly-Rear-8.25-9.25 axles)
Primary Labor Operation 03100101 Housing, Rear Axle: 8.25/9.25 Rear Axles

Associated Fail Codes per the previous analysis for the Primary Labor Operations:

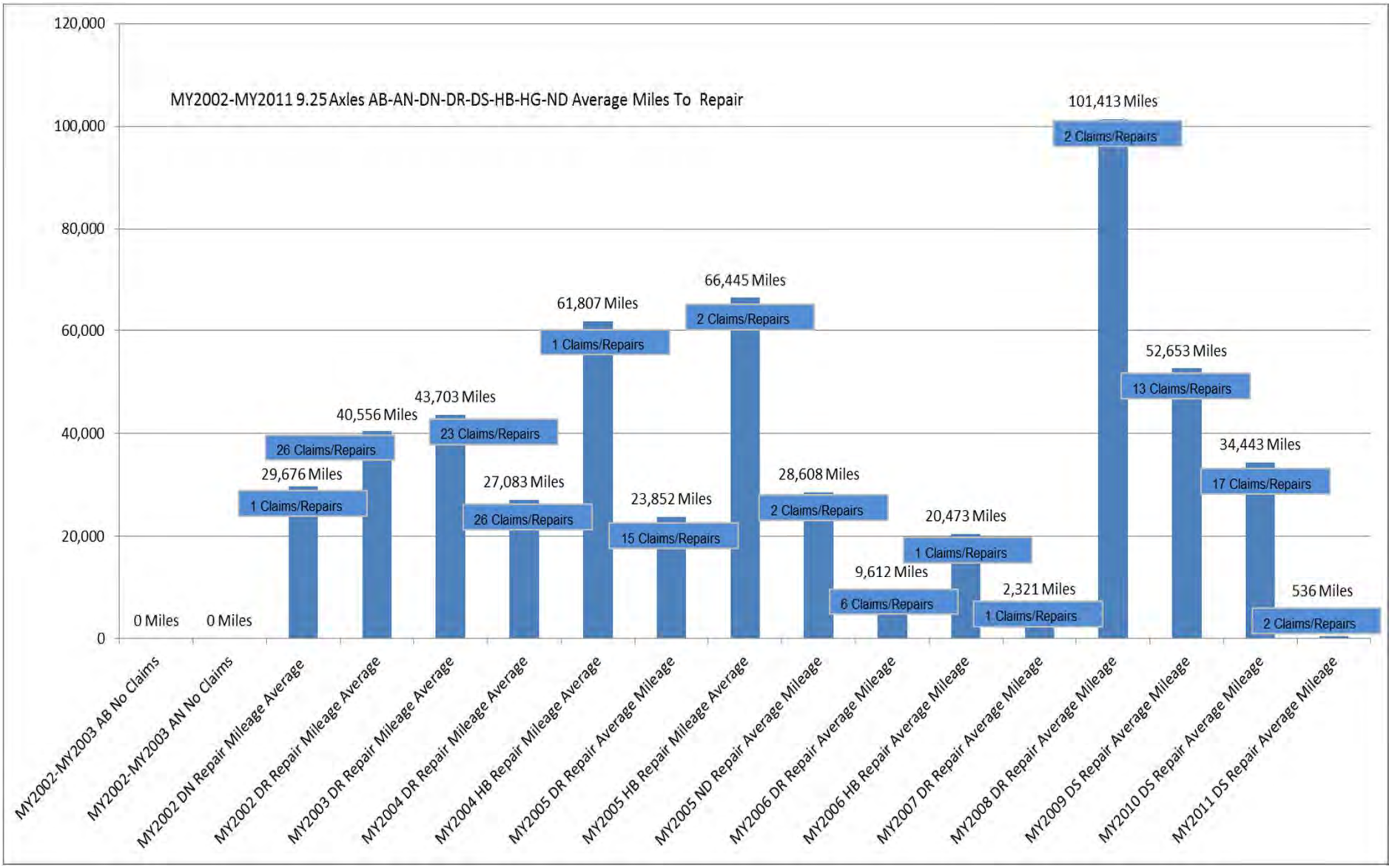
E1-HOUSING LEAKS
F1-DRIVE GEAR AND PINION BEARING
2A-DRIVE GEAR AND PINION DEFECT
41-FOREIGN MATERIAL
54-IMPROPERLY ASSEMBLED
6E-HOUSING IMPROPERLY MACHINED
60-INSUFFICIENT LUBRICATION

Secondary Labor Operation 16300101 (Propeller Shaft with Universal Joints-Transmission To Rear Axle)
Secondary Labor Operation 16300102 (Propeller Shaft with Universal Joints-Rear Axle to Center Bearing)
Secondary Labor Operation 16300104 (Propeller Shaft with Universal Joints-Transfer Case To Rear Axle)
Secondary Labor Operation 16301002 (Yoke Propeller Shaft Sliding Center Bearing to Rear Axle)
Secondary Labor Operation 16301004 (Yoke Propeller Shaft Sliding-Transfer Case To Rear Axle)

9.25 Axles-Field Warranty Data Comparison
MY2002-MY2008 Vs. MY2009-MY2011 (Warranty Claim Analysis Data Provided by Nancy Smith/Jeremy Mills)



9.25 Axles-MY2002-MY2011 Claim Counts & Repair Mileage Averages (Warranty Claim Analysis Data Provided by Nancy Smith/Jeremy Mills)



9.25 Axles-Part Return Data Matrix-MY2002-MY2011 AN-AB-DR-DS-HB-HG-ND-DN Summary

MY2002-MY2011 AB-AN-DR-DS-HB-HG-ND-DN Axle Associated PRAS Data																													
PN#s-MY2002-MY2011	AN			AN Total	AB			AB Total	DR			DR Total	DS			DS Total	HB			HB Total	HG			HG Total	ND			ND Total	Grand Total
	DPA	DSG	SMI		DPA	DSG	SMI		DPA	DSG	SMI		DPA	DSG	SMI		DPA	DSG	SMI		DPA	DSG	SMI		DPA	DSG	SMI		
02070316	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	2	0	0	2	3
02070317	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
02800484	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	1	0	0	1	2	0	0	2	5
03723148	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2	0	0	2	2	0	0	2	6
03723149	2	0	0	2	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	4
04531216AB	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
04798912AC	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05010321AD	0	0	0	0	0	0	0	0	37	0	0	37	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	38
05010321AE	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05010321AF	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	0	0	1	0	0	1	10
05010322AF	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	2	0	0	2	3	0	0	3	2	0	0	2	13
05010322AH	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	1	0	0	1	5
05014044AA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
05014097AA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
05014733AA	0	0	0	0	0	0	0	0	0	8	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
05017438AA	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2
05072498AA	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	7
05072506AA	0	0	0	0	0	0	0	0	9	0	0	9	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	11
05086666AB	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05086667AB	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05135540AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
05135550AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
05135943AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
05135943AC	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	2	0	0	2	6	0	0	6	12
05140875AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
05143420AA	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05161549AA	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05170822AA	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
52028879AF	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
52070339AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
52070340AB	1	0	0	1	0	0	0	0	11	8	0	19	3	0	0	3	2	1	0	3	2	0	0	2	0	0	0	0	28
52070427AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3		0	3	3
52070457AA	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
52105598AA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
52105918AA	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
52105919AA	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
52105924AF	0	0	0	0	0	0	0	0	1	6	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
52105933AD	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
52111198AB	0	0	0	0	0	0	0	0	0	0	0		1	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2

9.25 Axles-Part Return Data Matrix-MY2002-MY2011 AN-AB-DR-DS-HB-HG-ND-DN Summary (Continued)

MY2002-MY2011 AB-AN-DR-DS-HB-HG-ND-DN Axle Associated PRAS Data																													
PN#s-MY2002-MY2011	AN			AN Total	AB			AB Total	DR			DR Total	DS			DS Total	HB			HB Total	HG			HG Total	ND			ND Total	Grand Total
	DPA	DSG	SMI		DPA	DSG	SMI		DPA	DSG	SMI		DPA	DSG	SMI		DPA	DSG	SMI		DPA	DSG	SMI		DPA	DSG	SMI		
52113141AI	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
52114377AB	0	0	0	0	0	0	0	0	1	0	0	1	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	3
52114718AA	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
52114916AA	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
52114916AC	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
52123100AA	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
52123112AA	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
52123117AA	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
52123122AA	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
52123197AA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	2
52123197AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
52123492AB	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
52853017AE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	3
52853018AE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
52853038AC	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
52853099AA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	4	7	7
52853161AB	0	0	0	0	0	0	0	0	1	0	7	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
52853314AA	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
68000638AA	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
68000640AA	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
68000641AA	0	0	0	0	0	0	0	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
68000645AA	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
68000646AA	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
68002298AA	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
68002298AC	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
68003502AA	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
68003657AA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
68003663AA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
68031088AA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
68034551AB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2
68034651AA	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	2
68034653AA	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
68053299AB	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
68056356AA	0	0	0	0	0	0	0	0	5	0	0	5	9	0	0	9	0	0	0	0	0	0	0	0	2	0	0	2	16
68083462AB	0	0	0	0	0	0	0	0	0	0	0	0	0	34	0	34	0	0	0	0	0	0	0	0	0	0	0	0	34
68083462AD	0	0	0	0	0	0	0	0	0	0	0	0	1	5	1	7	0	0	0	0	0	0	0	0	0	0	0	0	7
68083462AE	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
68083464AB	0	0	0	0	0	0	0	0	0	0	0	0	1	13	0	14	0	0	0	0	0	0	0	0	0	0	0	0	14
68083464AF	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
68088164AA	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
68088164AC	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
68088177AA	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	5	0	0	0	0	0	0	0	0	0	0	0	0	5
68090482AA	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
68105730AE	0	0	0	0	0	0	0	0		0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	4	0	0	4	0	0	0	0	98	36	12	146	47	71	5	123	21	2	2	25	15	0	2	17	25	5	6	36	351

9.25 Axles-Part Return Analysis Summary-(MY2002-MY2011 AB-AN-DN-DR-DS-HB-HG-ND)

MY	Family	Vin last 8	Ticket #	Status	Part #	Part Description	Part MFG Date	Miles	Root Cause	RCC	eCIMS
2004	DR	4[redacted]3 QNA	71706165AA	AP	05010322AF	GEAR KIT	2004	39733	The pinion broke at the stem. The met lab examined the pinion and determined that it broke due to cracks from the straightener.	DPA	0
2005	DR	5[redacted] QNA	79964846AA	AP	05010322AF	GEAR KIT	12/8/04	28331	The pinion is broken. See attachment.	DPA	0
2005	ND	5[redacted] QNA	73908780AA	AP	05010322AF	GEAR KIT	2004	24939	The pinion broke. See attachment.	DPA	0
2005	ND	5[redacted] QNA	74856176AA	AP	05135943AC	GEAR KIT	10/2004	18559	The pinion broke due to a crack from the straightener. See attachment.	DPA	0
2005	ND	5[redacted] QNA	79339727MA	AP	05135550AC	AXLE		22005	Gear set returned for broken pinion. Pinion given to Martin Brigger for material analysis at CTC.	DPA	0
2005	ND	5[redacted] QNA	80118464AA	AP	05135943AC	GEAR KIT	2005	13389	The pinion broke due to a crack from the straightener.	DPA	0
2005	ND	5[redacted] QNA	80329013AA	AP	05135943AC	GEAR KIT	2/05	41462	The pinion broke due to a crack from the straightener.	DPA	0
2009	DS	9[redacted] QNA	90822522AB	AP	05072506AA	BEARING KIT	na	8498	Pinion nut backed off per QNA it had no lock tite. Bearing is good	DPA	0
2011	DS	B[redacted] QNA	11G07440AA	AP	68105730AE	AXLE ASSEMBLY	04/06/2011	24	scrapped at qec broken pinion. Design issue. Fully hardened thread according to Chrysler design. Design was changed to fix the issue.	DSG	0
2011	DS	B[redacted] QNA	11E24001MA	AP	68083462AE	AXLE ASSEMBLY	N/A	1	Pinion design allows fully hardened threads, becoming too brittle. Design was changed and ZF is currently applying isolation paste to prevent carburizing, creating a softer and less brittle thread. ZF is not design responsible for this product.	DSG	0
Reviewed 351 PRAS Updates for the MY2002-MY2011 AB-AN-DN-DR-DS-HB-HG-ND related to Axle Components/Assemblies in the Part Return Analysis System.											
Out of the 351 Part Analysis Updates reviewed found 10 associations that may be related to the investigation.											

Dodge Ram 1500 rear axle pinion nut retention issue
New NHTSA PE for MY2005-(NHTSA Previous Recall #'s M34 & N08).
MY2005 Work Order 2005-1929-9.25 Axle-3.92 Ratio-Loose Pinion Nut.

NHTSA Inquiry Summary-MY2002 – MY2011 9.25 Axles

- **Any Field Data Comparisons between MY2002-MY2008 Vs. MY2009-MY2011 (Continued)**

- **MY2002-MY2011 Claims to Product & Average Miles To Axle Repair-(Pages 6-8)**

MY2002-MY2003 AB (No Claims)	MY2002-MY2003 AN (No Claims)	MY2002 DN Repair Mileage Average (1 Claim)	MY2002 DR Repair Mileage Average (26 Claims)	MY2003 DR Repair Mileage Average (23 Claims)	MY2004 DR Repair Mileage Average (26 Claims)	MY2004 HB Repair Mileage Average (1 Claim)	MY2005 DR Repair Average Mileage (15 Claims)	MY2005 HB Repair Mileage Average (2 Claims)	MY2005 ND Repair Average Mileage (2 Claims)	MY2006 DR Repair Average Mileage (6 Claims)	MY2006 HB Repair Average Mileage (1 Claim)	MY2007 DR Repair Average Mileage (1 Claim)	MY2008 DR Repair Average Mileage (2 Claims)	MY2009 DS Repair Average Mileage (13 Claims)	MY2010 DS Repair Average Mileage (17 Claims)	MY2011 DS Repair Average Mileage (Claims)
0	0	29676	40556	43703	27083	61807	23852	66445	28608	9612	20473	2321	101413	52653	34443	536

- **MY2002-MY2011 Part Return Data Analysis/Review-(Pages 12-16)**

MY	Family	Vin last 8	Ticket #	Status	Part #	Part Description	Part MFG Date	Miles	Root Cause	RCC	eCIMS
2004	DR	4[redacted] QNA	71706165AA	AP	05010322AF	GEAR KIT	2004	39733	The pinion broke at the stem. The met lab examined the pinion and determined that it broke due to cracks from the straightener.	DPA	0
2005	DR	5S[redacted] QNA	79964846AA	AP	05010322AF	GEAR KIT	12/8/04	28331	The pinion is broken. See attachment.	DPA	0
2005	ND	5S[redacted] QNA	73908780AA	AP	05010322AF	GEAR KIT	2004	24939	The pinion broke. See attachment.	DPA	0
2005	ND	5S[redacted] QNA	74856176AA	AP	05135943AC	GEAR KIT	10/2004	18559	The pinion broke due to a crack from the straightener. See attachment.	DPA	0
2005	ND	5S[redacted] QNA	79339727MA	AP	05135550AC	AXLE		22005	Gear set returned for broken pinion. Pinion given to Martin Brigger for material analysis at CTC.	DPA	0
2005	ND	5S[redacted] QNA	80118464AA	AP	05135943AC	GEAR KIT	2005	13389	The pinion broke due to a crack from the straightener.	DPA	0
2005	ND	5S[redacted] QNA	80329013AA	AP	05135943AC	GEAR KIT	2/05	41462	The pinion broke due to a crack from the straightener.	DPA	0
2009	DS	9S[redacted] QNA	90822522AB	AP	05072506AA	BEARING KIT	na	8498	Pinion nut backed off per QNA it had no lock tite. Bearing is good	DPA	0
2011	DS	BS[redacted] QNA	11G07440AA	AP	68105730AE	AXLE ASSEMBLY	04/06/2011	24	scrapped at qec broken pinion. Design issue. Fully hardened thread according to Chrysler design. Design was changed to fix the issue.	DSG	0
2011	DS	BS[redacted] QNA	11E24001MA	AP	68083462AE	AXLE ASSEMBLY	N/A	1	Pinion design allows fully hardened threads, becoming too brittle. Design was changed and ZF is currently applying isolation paste to prevent carburizing, creating a softer and less brittle thread. ZF is not design responsible for this product.	DSG	0
Reviewed 351 PRAS Updates for the MY2002-MY2011 AB-AN-DN-DR-DS-HB-HG-ND related to Axle Components/Assemblies in the Part Return Analysis System.											
Out of the 351 Part Analysis Updates reviewed found 10 associations that may be related to the investigation.											

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ENCLOSURE 14

ENGINEERING DOCUMENTS

Design views subject vehicle

Pictures for Safety 2005DR

DR Wheelbases

120.5	Reg cab, short box	4x2 and 4x4
140.5	Reg cab, long box Quab cab short box	4x2 and 4x4
160.5	Quab cab, long box	4x2 and 4x4

Primary components

9.25 rear axle, Exhaust, Suspension, Prop shaft, Fuel Tank, Brake Lines, Electrical, Vapor Canister, Frame and Body

EBOM Screens used

ESVM	SPECIFY THE VEHICLE SYSTEM
ESVJ	EQUIPMENT LIST INQUIRY
ENNK	PART VEHICLE FAMILY INQUIRY
ENCF	PART SUMMARY INQUIRY
ENBD	PART USAGE DEFINITION INQUIRY

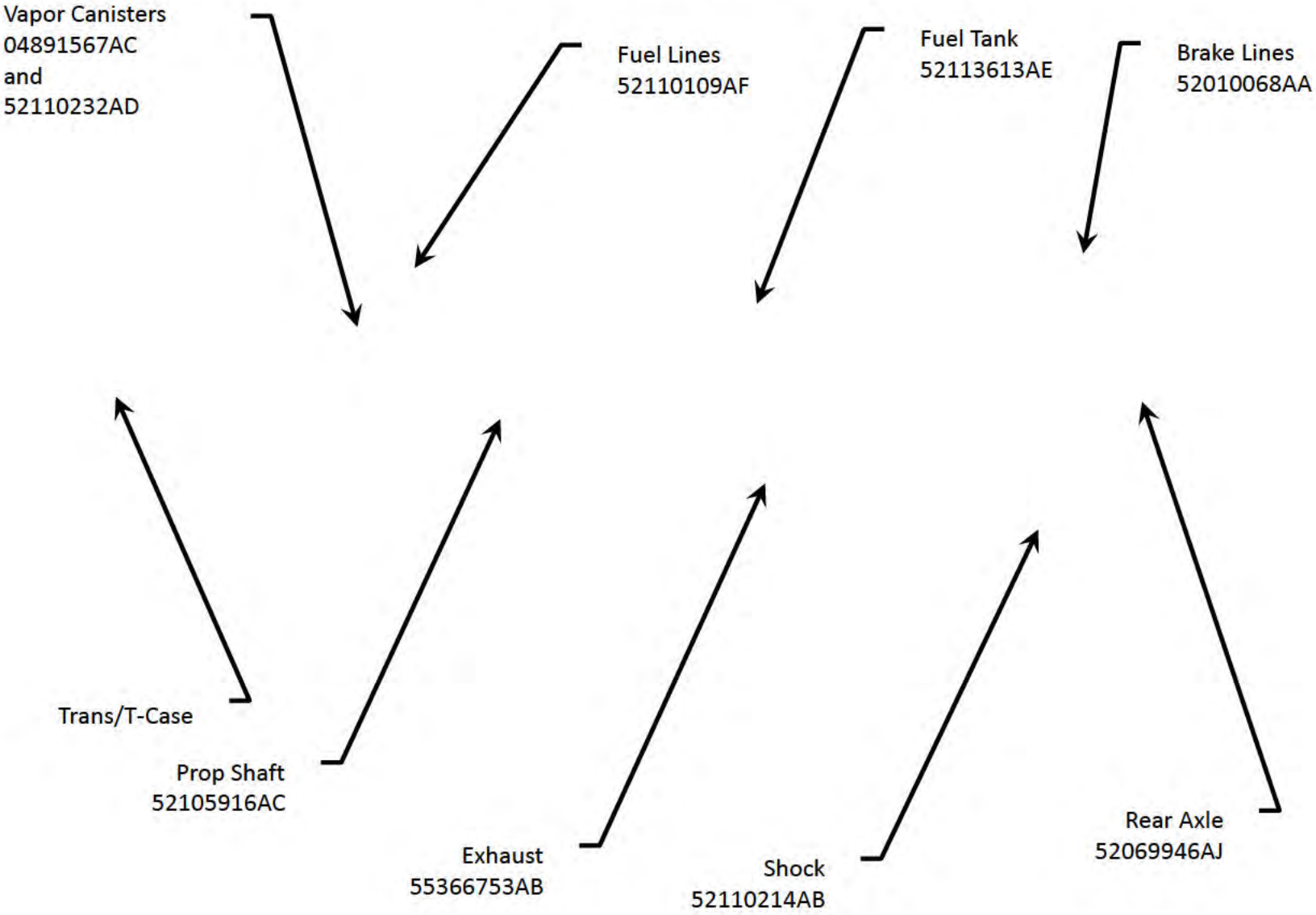
Create by: S. Bronner and D. Rosiek
Special thanks to: D. Schaefer

05DR 4x4
160.5WB
Two piece propshaft

Create by: S. Bronner and D. Rosiek
Special thanks to: D. Schaefer

05DR 4x4 160.5WB

Bottom View of Vehicle



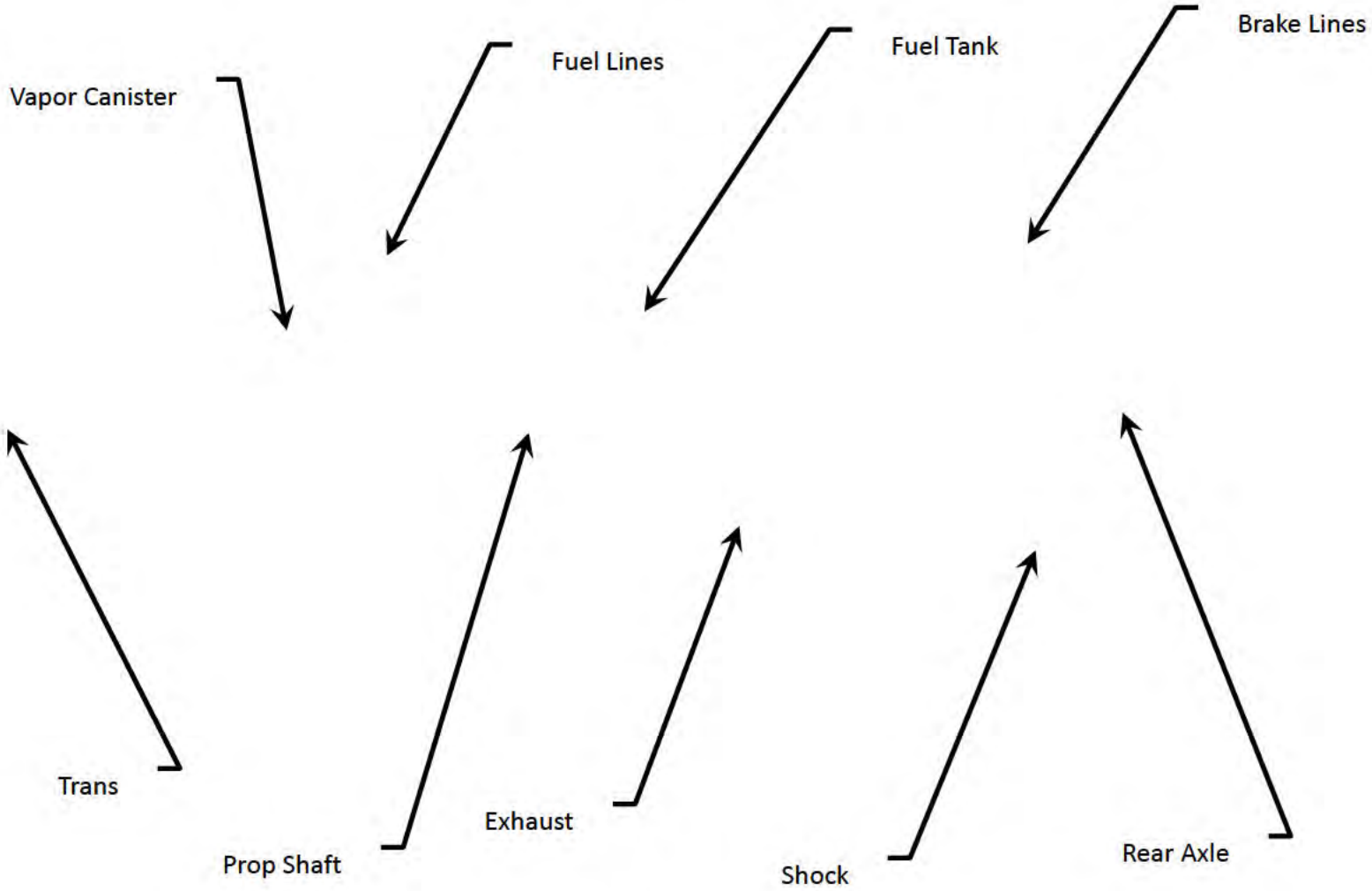
Create by: S. Bronner and D. Rosiek
Special thanks to: D. Schaefer

DR 4x2
160.5WB

Create by: S. Bronner and D. Rosiek
Special thanks to: D. Schaefer

DR 4x2 160.5WB

Bottom View of Vehicle



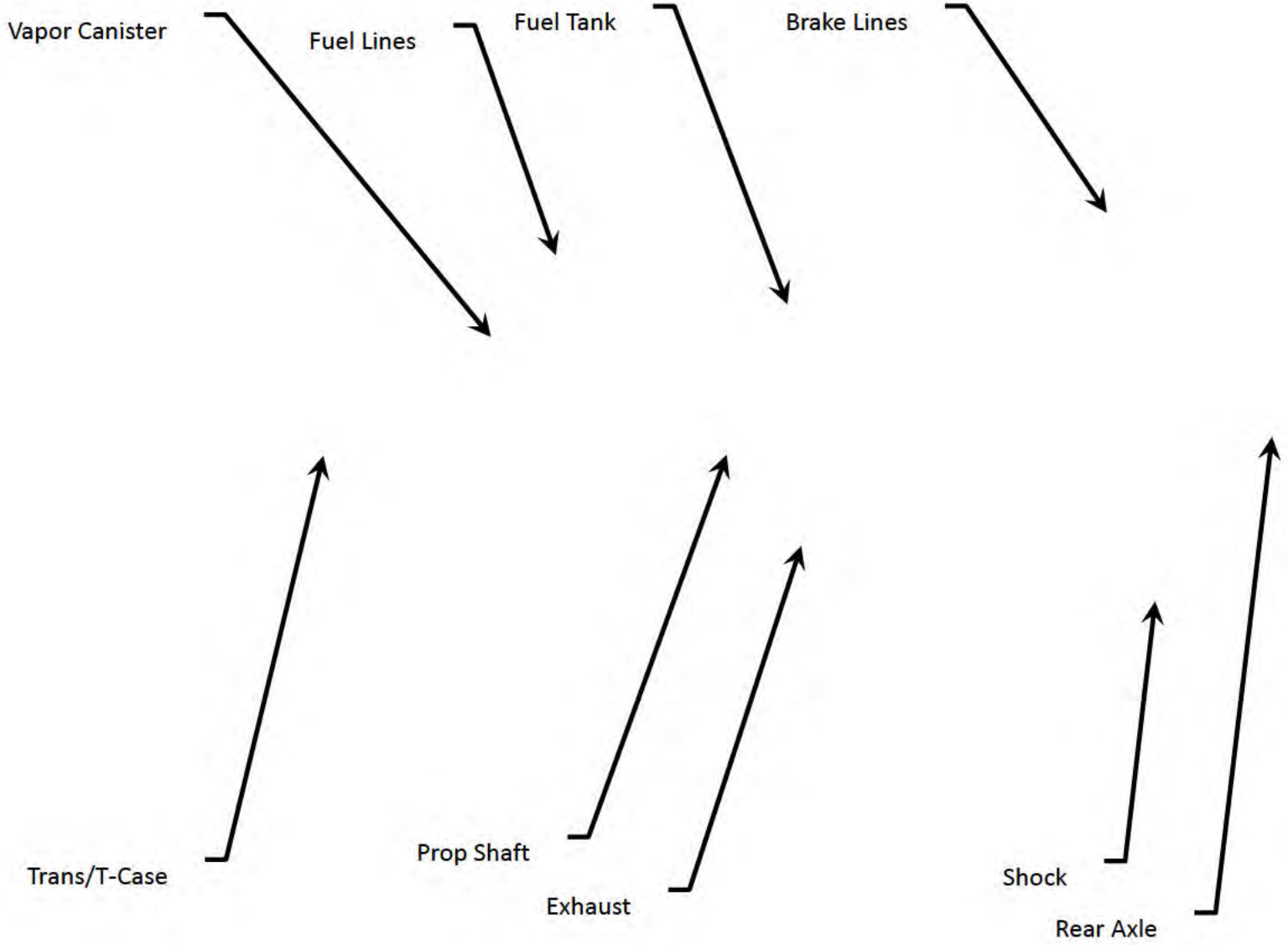
Create by: S. Bronner and D. Rosiek
Special thanks to: D. Schaefer

DR 4x4
140.5WB

Create by: S. Bronner and D. Rosiek
Special thanks to: D. Schaefer

DR 4x4 140.5WB

Bottom View of Vehicle



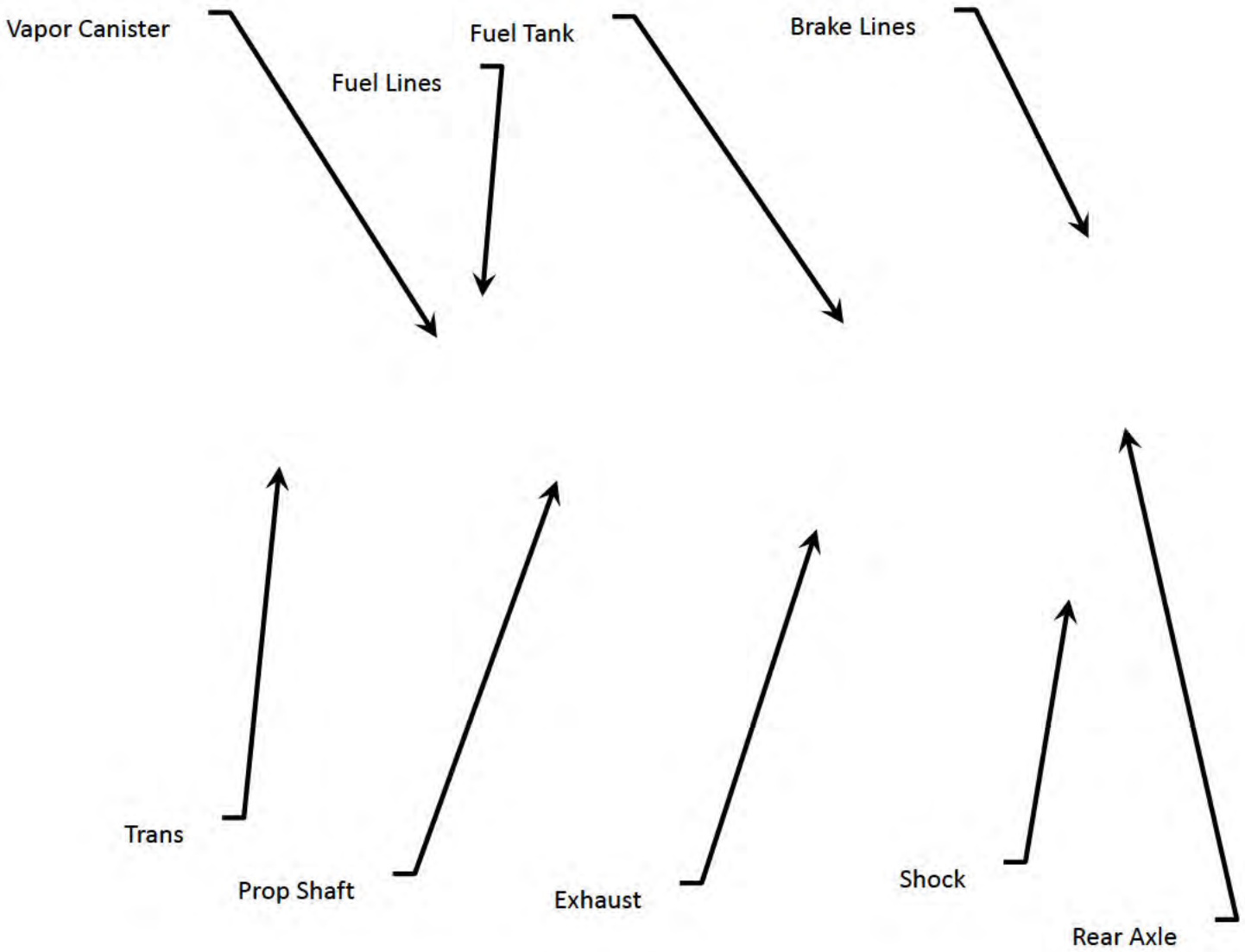
Create by: S. Bronner and D. Rosiek
Special thanks to: D. Schaefer

DR 4x2
140.5WB

Create by: S. Bronner and D. Rosiek
Special thanks to: D. Schaefer

DR 4x4 140.5WB

Bottom View of Vehicle



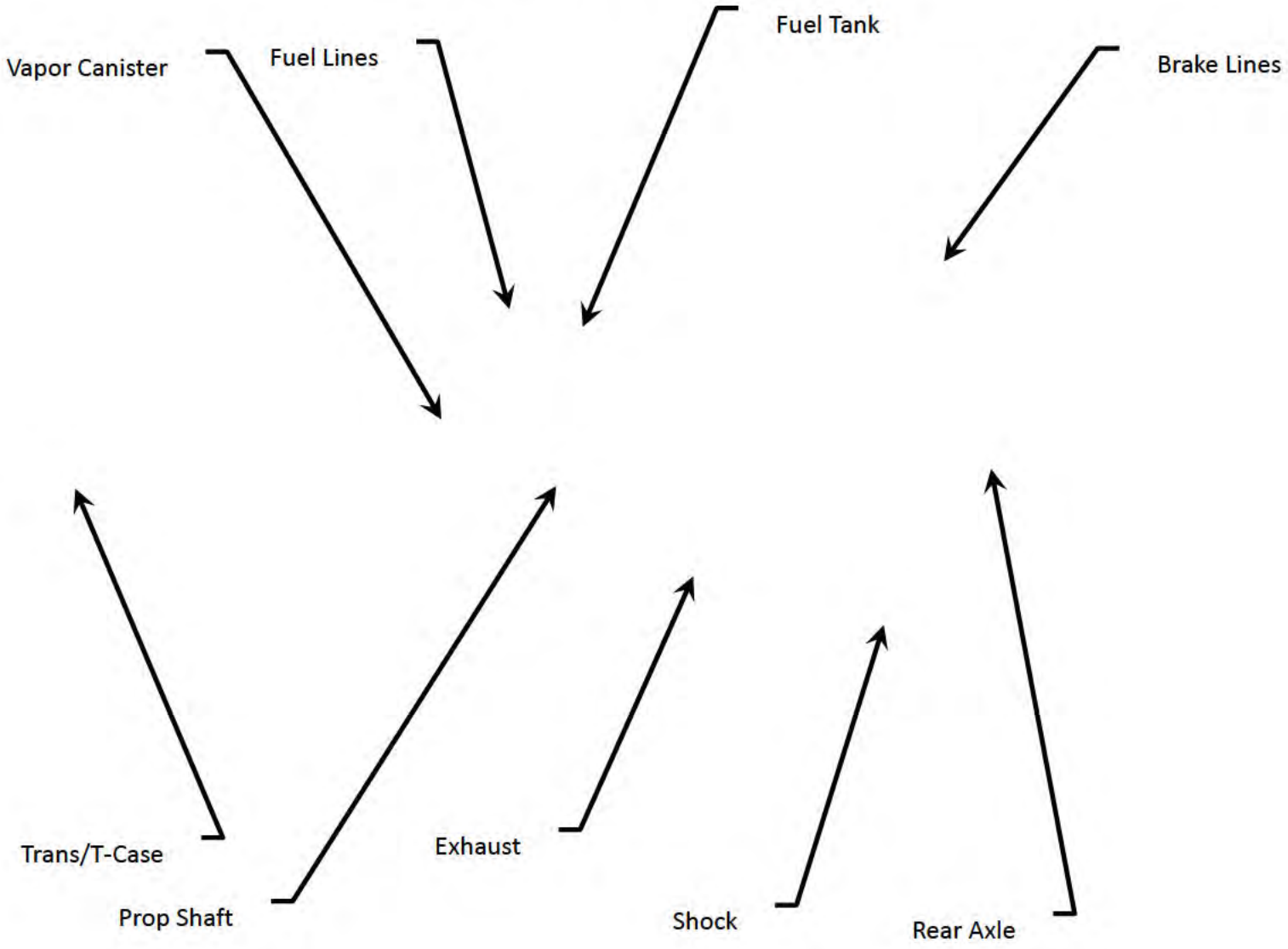
Create by: S. Bronner and D. Rosiek
Special thanks to: D. Schaefer

DR 4x4
120.5WB

Create by: S. Bronner and D. Rosiek
Special thanks to: D. Schaefer

DR 4x4 120.5WB

Bottom View of Vehicle



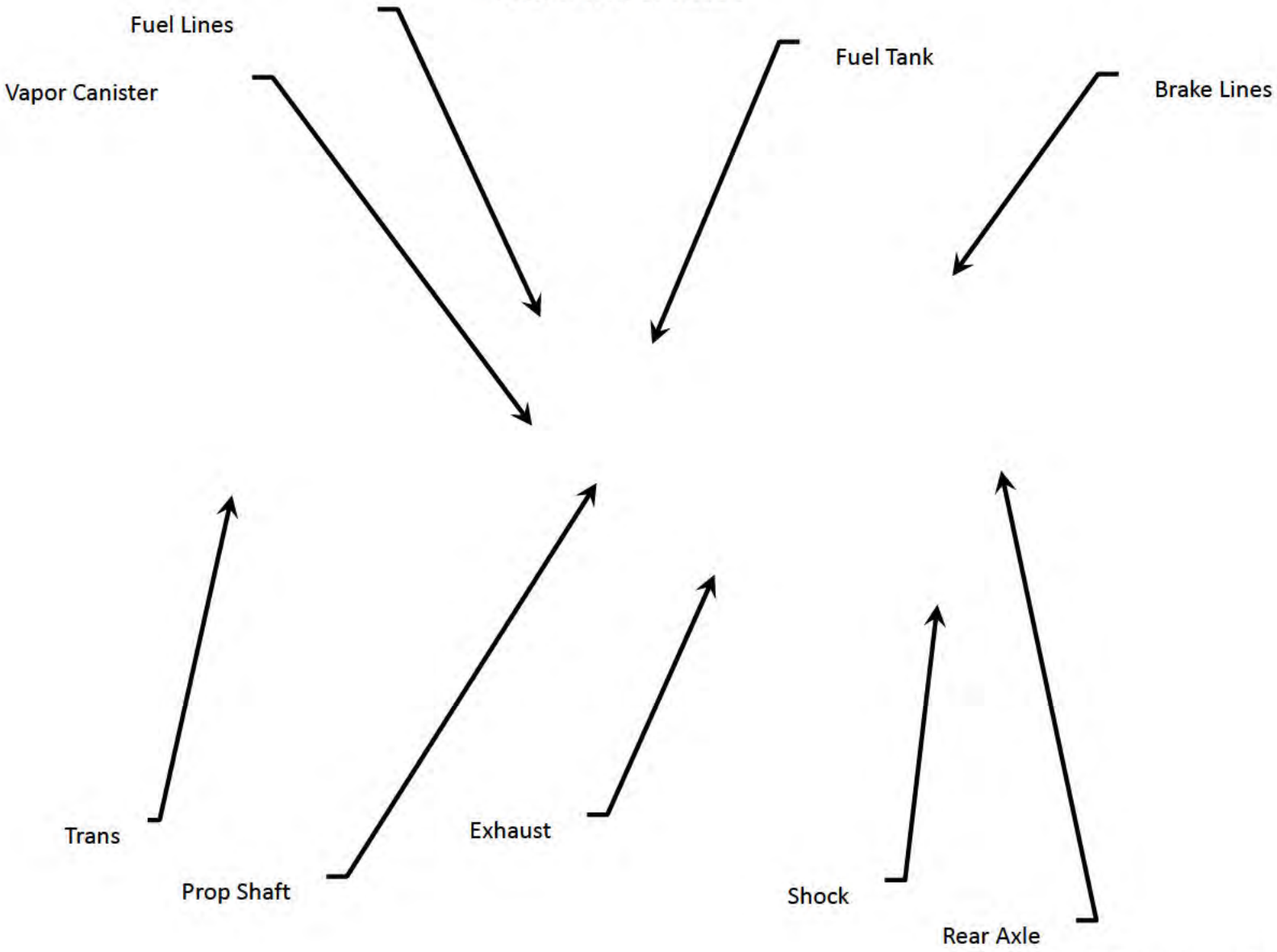
Create by: S. Bronner and D. Rosiek
Special thanks to: D. Schaefer

DR 4x2
120.5WB

Create by: S. Bronner and D. Rosiek
Special thanks to: D. Schaefer

DR 4x2 120.5WB

Bottom View of Vehicle



Create by: S. Bronner and D. Rosiek
Special thanks to: D. Schaefer

05DR rear axle with single piece propshaft

Create by: S. Bronner and D. Rosiek
Special thanks to: D. Schaefer

05DR 4x4 140.5WB

Single piece prop shaft

05DR 140.5WB
Side View

52105918AA
Prop Shaft

05DR 140.5WB
Plan View

52069947AJ
Rear Axle

05DR 140.5WB
Front View

Create by: S. Bronner and D. Rosiek
Special thanks to: D. Schaefer

05DR rear axle with two piece propshaft

Create by: S. Bronner and D. Rosiek
Special thanks to: D. Schaefer

05DR 4x2 160.5WB

2 piece prop shaft

52105584AB
Prop Shaft

05DR 160.5WB
Side View

05DR 160.5WB
Plan View

52069942AJ
Rear Axle

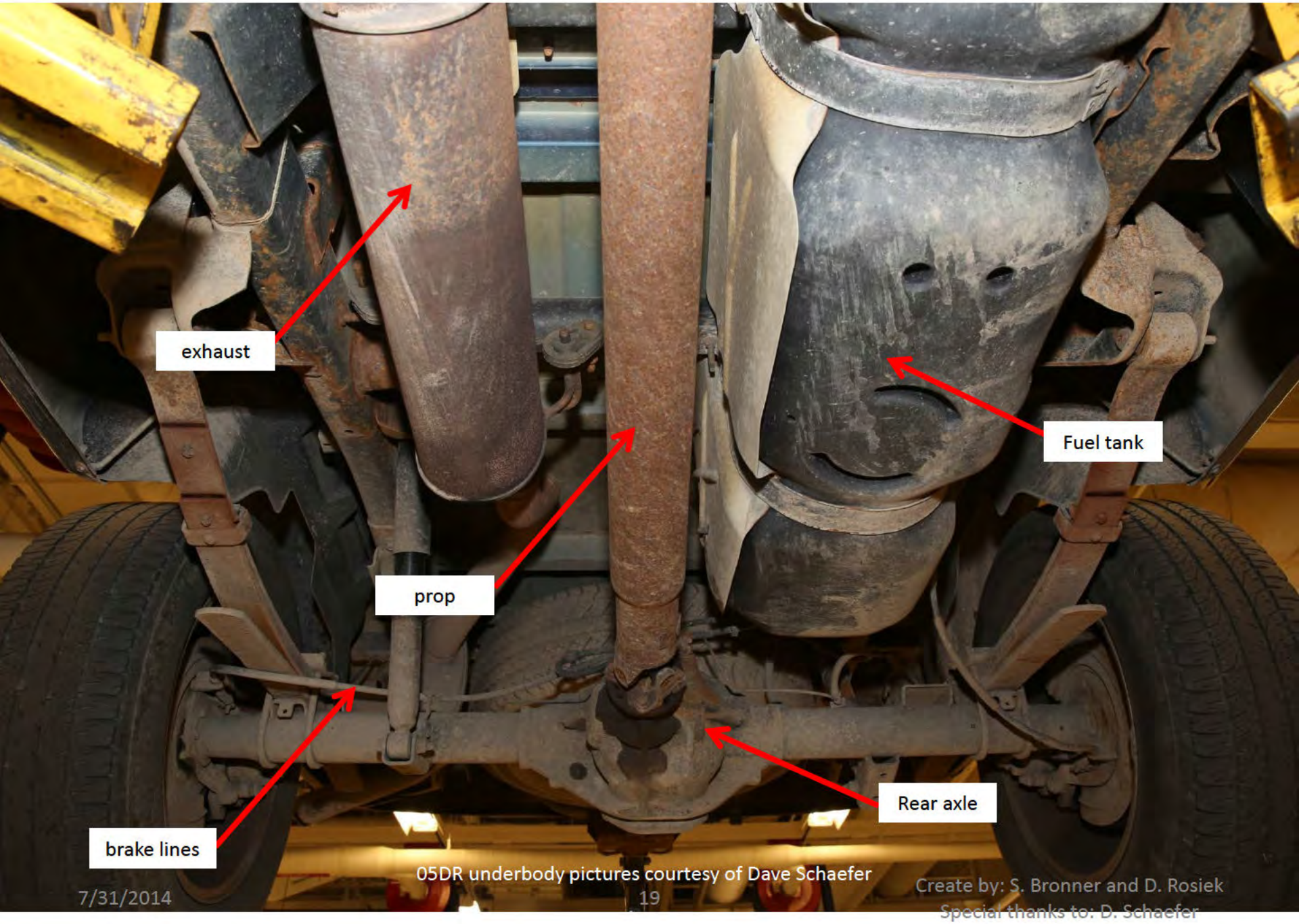
05DR 160.5WB
Front View

Create by: S. Bronner and D. Rosiek
Special thanks to: D. Schaefer

Actual 05DR 4x4 140.5WB Single piece propshaft

05DR underbody pictures courtesy of Dave Schaefer

Create by: S. Bronner and D. Rosiek
Special thanks to: D. Schaefer



05DR underbody pictures courtesy of Dave Schaefer

Create by: S. Bronner and D. Rosiek
Special thanks to: D. Schaefer


prop
vapor canister
exhaust
DR underbody pictures courtesy of D e Schaefer

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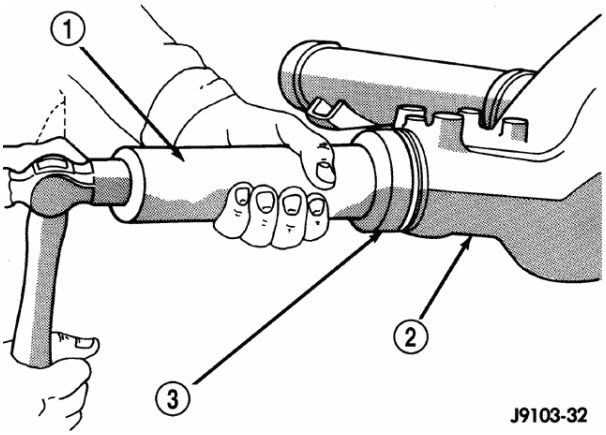
ENCLOSURE 14

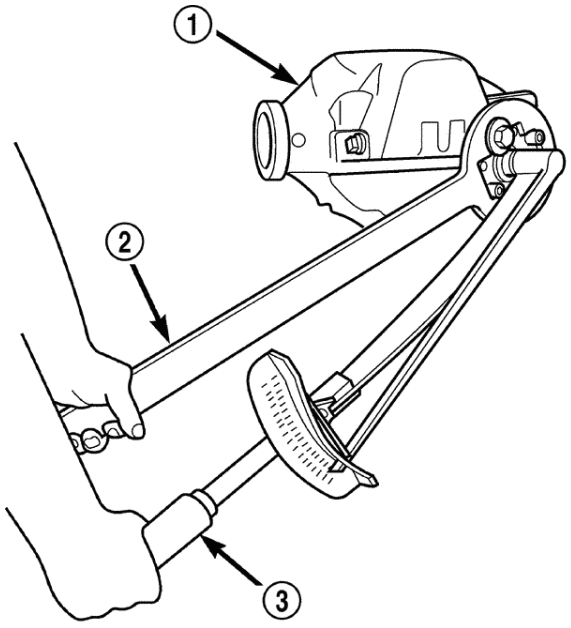
ENGINEERING DOCUMENTS

REAR DIFFERENTIAL PINION SEAL INSTALLATION

INSTALLATION



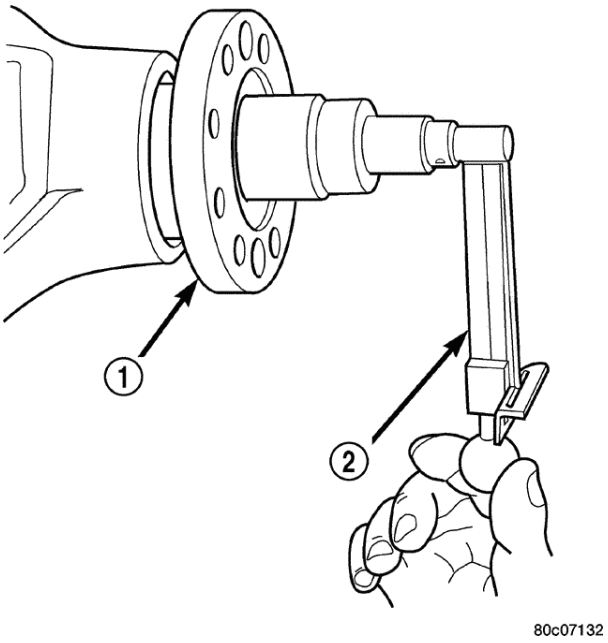
1. Apply a light coating of gear lubricant on the lip of pinion seal.
2. Install **new** pinion seal (3) with Handle C-4735 and Installer C-4076-B (1).



3. Install flange on the pinion shaft with the reference marks aligned.

4. Install two bolts into the threaded holes in the companion flange, 180° apart.
5. Position Holder 6719A (2) against the companion flange and install a bolt and washer into one of the remaining threaded holes. Tighten the bolts so holder is held to the flange.
6. Install companion flange on pinion shaft with Installer C-3718 and Holder 6719A.
7. Install pinion washer and a **new** pinion nut. The convex side of the washer must face outward.
8. Hold companion flange with Holder 6719A (2) and tighten pinion nut with a torque wrench (3) to 285 N·m (210 ft. lbs.).

   NOTE: Do not exceed the minimum torque 285 N·m (210 ft. lbs.) when installing the pinion nut at this point.



9. Rotate pinion several times to ensure pinion bearings are seated.
10. Measure pinion torque to rotate (1) with an inch pound torque wrench (2). Pinion torque to rotate should be equal to recorded reading plus an additional 0.56 N·m (5 in. lbs.).

    If pinion torque to rotate is low, tighten pinion nut in 6.8 N·m (5 ft. lbs.) increments until pinion torque to rotating is achieved.

CAUTION: Never loosen pinion nut to decrease pinion bearing rotating torque. If pinion torque to rotating is exceeded, a new collapsible spacer must be installed. Failure to follow these instructions will result in damage to the axle.

11. Install propeller shaft.
12. Install rear brake rotors components.

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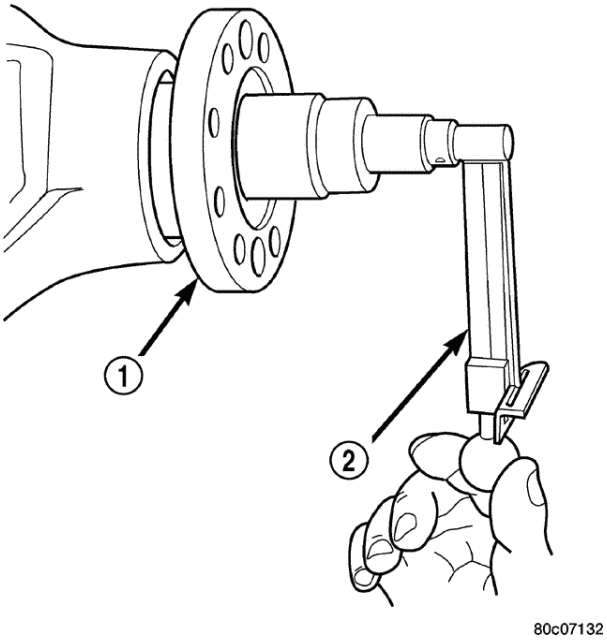
ENCLOSURE 14

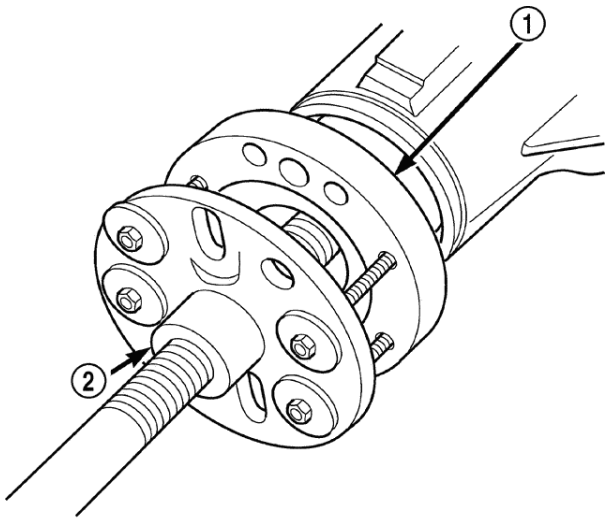
ENGINEERING DOCUMENTS

REAR DIFFERENTIAL PINION SEAL REAR DIFFERENTIAL PINION SEAL REMOVAL

REMOVAL



1. Mark universal joint, companion flange and pinion shaft for installation reference.
2. Remove propeller shaft from the companion flange.
3. Remove the brake rotors to prevent any drag.
4. Rotate companion flange three or four times.
5. Record pinion torque to rotating (1) with an inch pound torque wrench (2).



80c07130

6. Install two bolts into the companion flange threaded holes, 180° apart. Position Holder 6719A against the companion flange and install and tighten two bolts and washers into the remaining holes.
7. Hold the companion flange with Holder 6719A and remove pinion nut and washer.
8. Mark a line across the pinion shaft and flange for installation reference.
9. Remove companion flange with Puller C-452 (2).
10. Remove pinion seal with seal puller or slide-hammer mounted screw.

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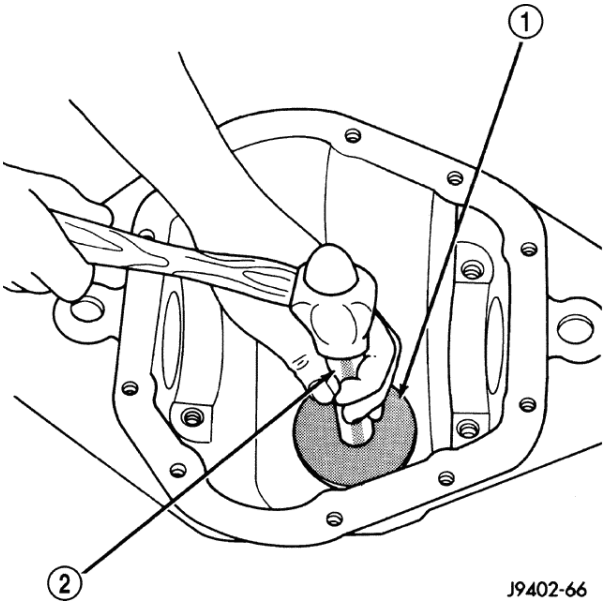
ENCLOSURE 14

ENGINEERING DOCUMENTS

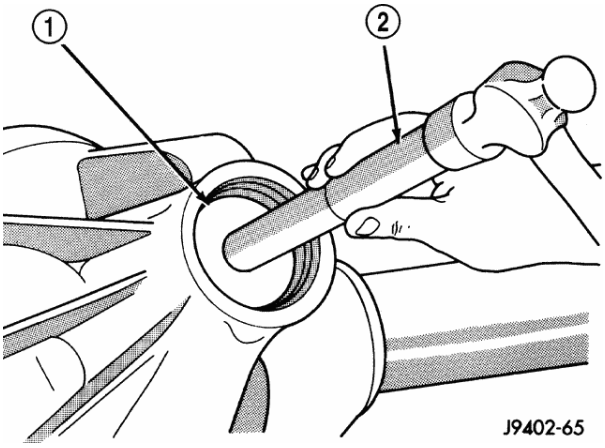
REAR DIFFERENTIAL RING GEAR AND PINION INSTALLATION

INSTALLATION

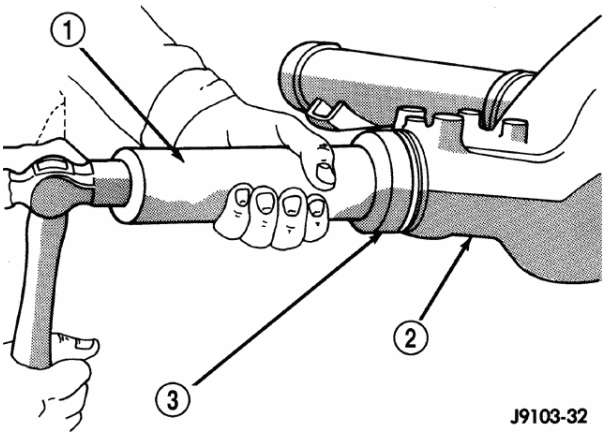


NOTE: The ring gear and pinion are serviced in a matched set. Do not replace one gear without replacing the other matching gear. If ring and pinion gears or bearings are replaced, Refer to Adjustments for Pinion Gear Depth Setting.

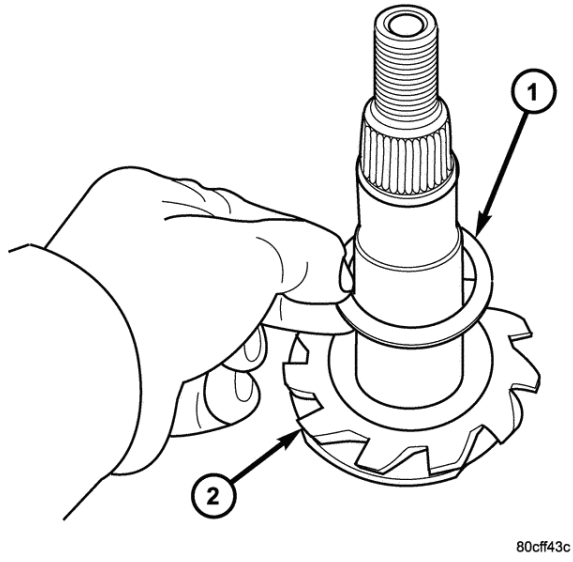
1. Install rear pinion bearing cup with Installer C-4310 (1) and Handle C-4171 (2) and verify cup is seated.



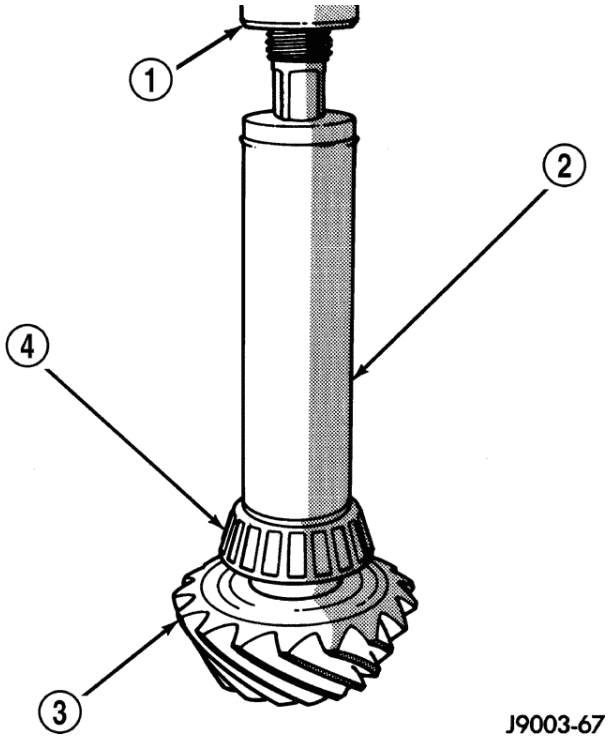
2. Install front pinion bearing cup with Installer D-129 (1) and Handle C-4171 (2) and verify cup is seated.
3. Lubricate and install front pinion bearing into the housing.



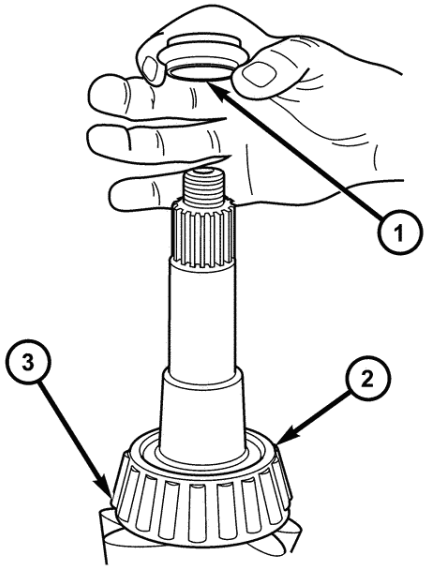
4. Apply a light coating of gear lubricant on the lip of pinion seal. Install seal with Installer C-4076-B (3) and Handle C-4735 (1).



5. Install pinion depth shim (1) on the pinion gear shaft (2).

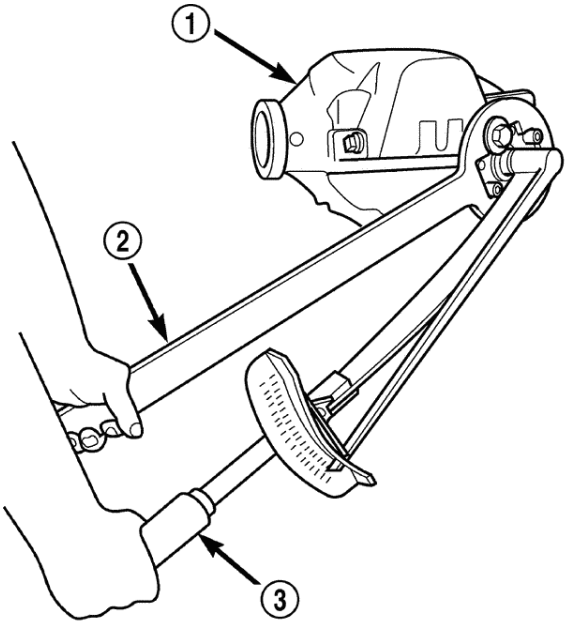


6. Install rear bearing (4) on the pinion (3) with Installer C-3095-A (2) and a press (1).



80cfe262

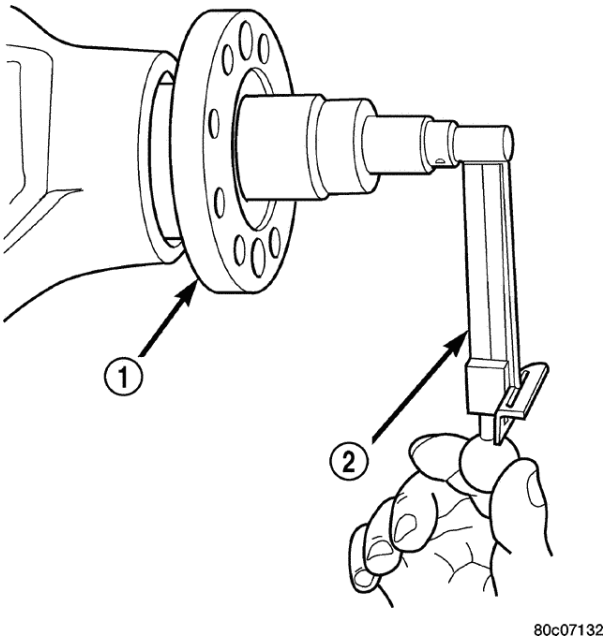
7. Install a **new** collapsible spacer (1) on the pinion shaft.
8. Lubricate rear pinion bearing and install pinion gear into the housing.
9. Install companion flange with Installer C-3718 and Holder 6719A.



80c07131

10. Install bolts into two of the threaded holes in the companion flange 180° apart.
11. Position Holder 6719A (2) against the companion flange and install a bolt and washer into one of the remaining threaded holes. Tighten the bolts so the Holder 6719A is held to the flange.
12. Install pinion washer and a **new** pinion nut. The convex side of the washer must face outward.
13. Hold companion flange with Holder 6719A (2) and tighten pinion nut with a torque wrench (3) to 285 N·m (210 ft. lbs.).

    NOTE: Do not exceed minimum torque 285 N·m (210 ft. lbs.) at this point.



14. Rotate pinion several times to seat pinion bearings.
15. Measure pinion torque to rotate (1) with an inch pound torque wrench (2). Measure pinion rotating torque frequently to avoid over-crushing the collapsible spacer.

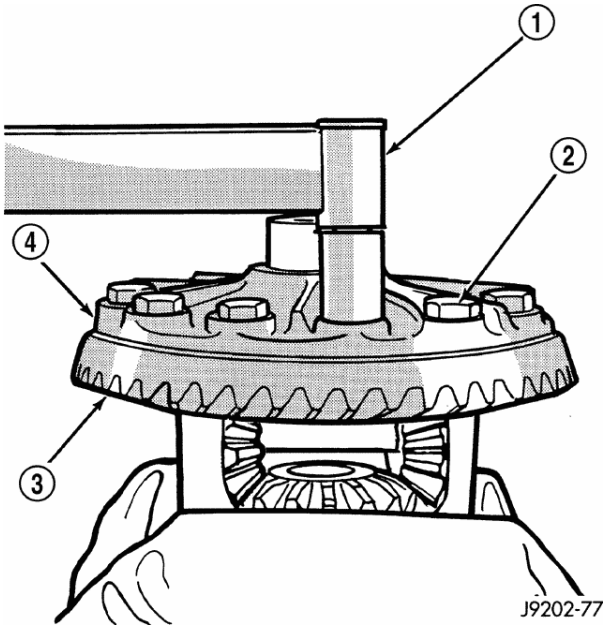
    Pinion Torque To Rotate is:

    - **Original Bearings:** 1 - 2.25 N·m (10 - 20 in. lbs.)

- **New Bearings:** 1.7 - 4 N·m (15 - 35 in. lbs.)

  NOTE: If pinion torque to rotate is low, tighten pinion nut in 6.8 N·m (5 ft. lbs.) increments until pinion torque to rotate is achieved.

CAUTION: Never loosen pinion nut to decrease pinion bearing rotating torque. If pinion torque to rotating is exceeded a new collapsible spacer must be installed. Failure to follow these instruction will damage the axle.



1. Position ring gear (3) on the differential case (4) and start two ring gear bolts (2). This will provide case-to-ring gear bolt hole alignment.
2. Invert the differential case in the vise.
3. Install **new** ring gear bolts and alternately tighten to 156 N·m (115 ft. lbs.).

   CAUTION: Never reuse the ring gear bolts. Failure to follow these instruction will result in damage.

4. Install differential in housing and verify gear mesh, backlash and contact pattern.

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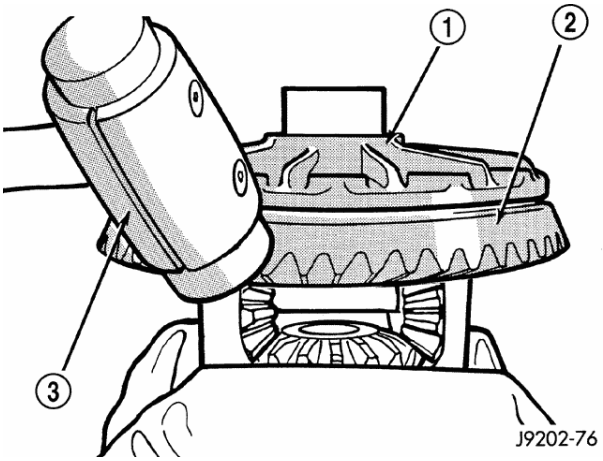
ENCLOSURE 14

ENGINEERING DOCUMENTS

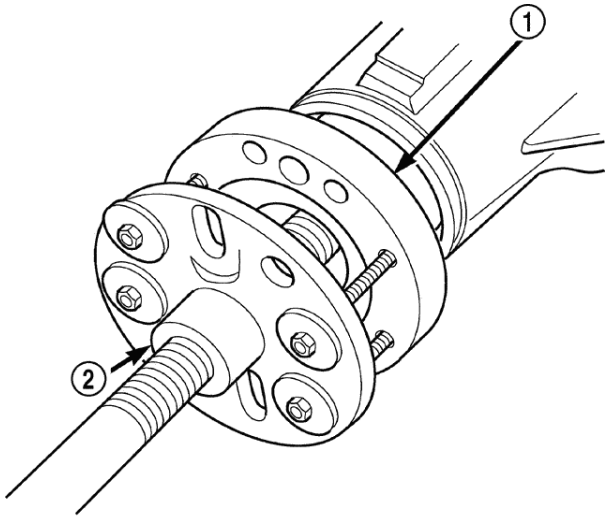
REAR DIFFERENTIAL RING GEAR AND PINION REMOVAL

REMOVAL



NOTE: The ring gear and pinion are serviced in a matched set. Never replace one gear without replacing the other matching gear.

1. Mark companion flange and propeller shaft for installation reference.
2. Remove propeller shaft.
3. Remove axle shafts.
4. Remove differential from the differential housing.
5. Place differential case (1) in a vise with soft metal jaw protectors.
6. Remove ring gear bolts from the differential case.
7. Drive ring gear (2) off the differential case (1) with a soft hammer (3).



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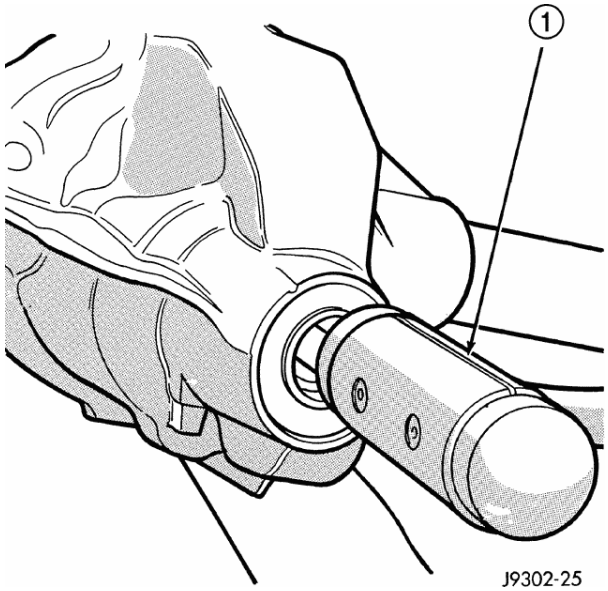
8. Install bolts into two of the threaded holes in the companion flange 180° apart.
9. Position Holder 6719A against the companion flange and install a bolt and washer into one of the remaining threaded holes. Tighten the bolts so the Holder 6719A is held to the flange.
10. Use Holder 6719A to hold companion flange and remove the companion flange nut and washer.
11. Remove companion flange (1) with Puller C-452 (2).



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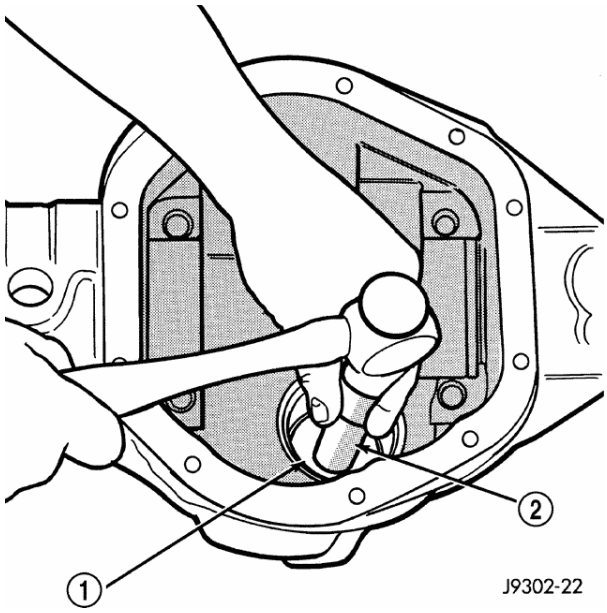
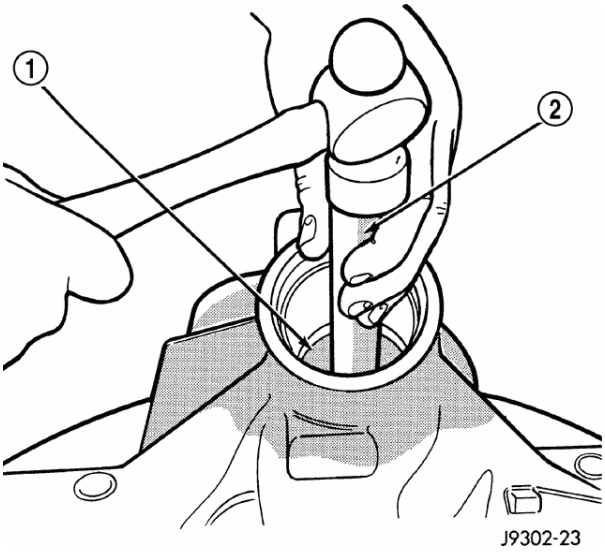
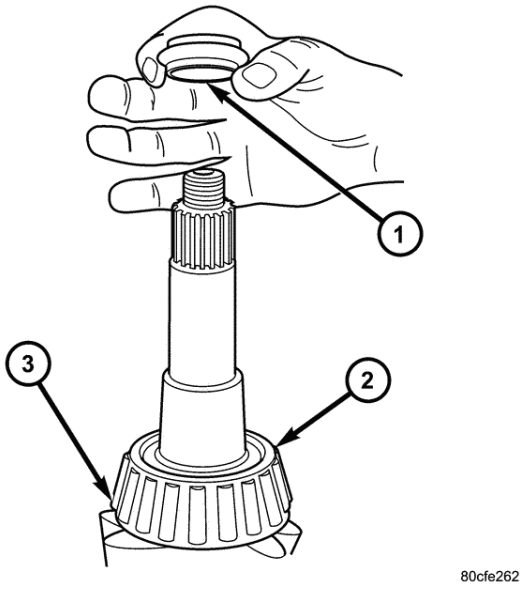
12. Remove pinion gear from the housing with a soft hammer (1).
13. Remove pinion seal with a pry tool or slide-hammer mounted screw.
14. Remove front pinion bearing and oil slinger if equipped.



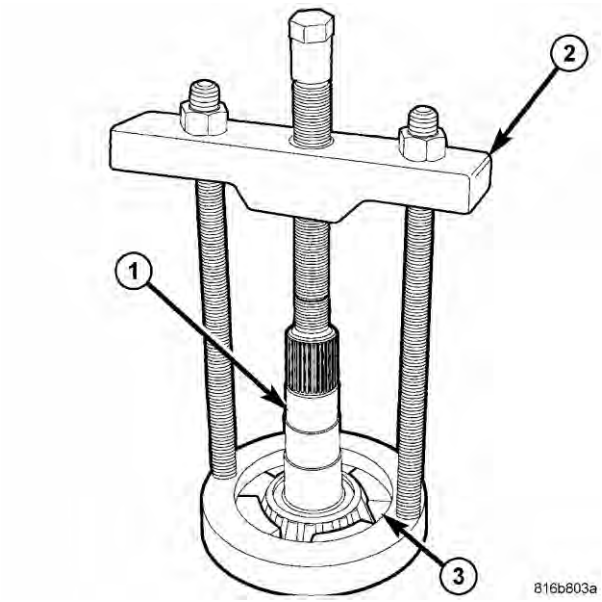
15. Remove front pinion bearing cup with Remover C-4345 (1) and Handle C-4171 (2).



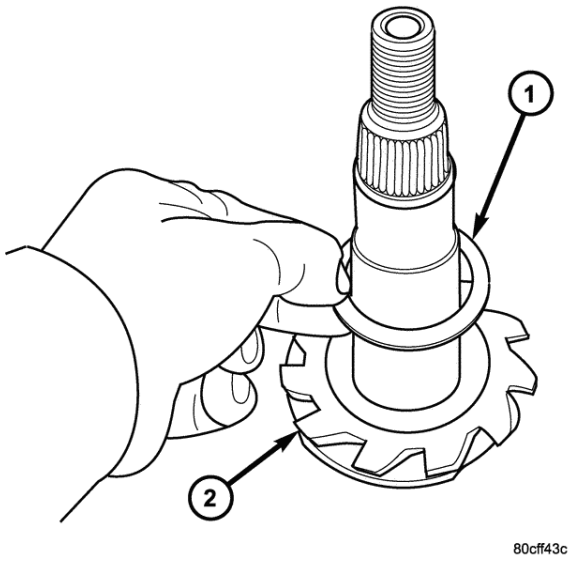
16. Remove rear pinion bearing cup from housing with Remover C-4307 (1) and Handle C-4171 (2).



17. Remove collapsible spacer (1) from the pinion shaft.



18. Remove rear pinion bearing from the pinion shaft (4) with Puller C-293-PA (1) and Adapters C-293-37 (3).



19. Remove pinion depth shim (1) from the pinion shaft (2) and record shim thickness.

PE14-019

CHRYSLER

8/25/2015

ENCLOSURE 14

ENGINEERING DOCUMENTS

Service Manual 9_25 REAR AXLE SPECIFICATIONS

REAR AXLE - 9 1/4

AXLE

DESCRIPTION	SPECIFICATION
Axle Ratio	3.21, 3.55, 3.92
Differential Case Flange Runout	0.076 mm (0.003 in.)
Differential Case Clearance	0.12 mm (0.005 in.)
Ring Gear Diameter	235 mm (9.25 in.)
Ring Gear Backlash	0.12 - 0.20 mm (0.005 - 0.008 in.)
Ring Gear Runout	0.12 mm (0.005 in.)
Pinion Torque To Rotate - New Bearings	1.7 - 4 N·m (15 - 35 in. lbs.)
Pinion Torque To Rotate - Original Bearings	1 - 2 N·m (10 - 20 in. lbs.)
Fill Level - From Bottom of Fill Hole	6 mm (1/4 in.) ± 6 mm (1/4 in.)

TORQUE

DESCRIPTION	N·m	Ft. Lbs.	In. Lbs.
Differential Cover Bolts	41	30	-
Bearing Cap Bolts	136	100	-
Ring Gear Bolts	157	115	-
Pinion Nut Minimum	285	210	-
Adjuster Lock Screw	10	7.5	90
Backing Plate Bolts	65	48	-
Pinion Mate Shaft Lock Screw	11	8	-
Axle U-Bolt Nuts	149	110	-