

REFERENCE:	Nova Bus Manuals
SECTION:	05 Rear Axle ZF AV-132
RS N°:	MQR 7621-183
EFFECTIVE IN PROD.:	L574 (2010OC19)

APPLICATION DEADLINE: 2014OC25

SUBJECT:	ZF Differential Thrust Washer rear axle AV-132, vehicle with centered engine
JUSTIFICATION:	ZF Differential Thrust Washer Failure

LEVEL	DESCRIPTION	DIRECT CHARGES		TIME
		LABOUR	MATERIAL	
1	Differential oil sampling and copper level analysis	Nova Bus	–	15min
2	If non-compliant, proceed with ZF differential portal axle conversion	Nova Bus	Client*	14hrs

* The cost of the material will be reimbursed when claiming for this service document.

MATERIAL

QTY	PART N°	REV.	DESCRIPTION	REPLACES PART N°
LEVEL 1				
1 Note 1	N8900046	–	Oil-PEK oil sampling kit (Sample bottle and hose)	–
Note 2	N8900047	–	Oil pump	–
LEVEL 2 (only if required*)				
4	N8893152	–	Slot pin	–
4	N8893153	–	Slot pin	–
1	N8894835	–	O-ring	–
2	N8898604	–	Differential side gear	–
2	N8893147	–	Thrust washer	–

Materials in level 1 will be available within 49 days. To order, please contact Prevost Parts by phone at 1-800-771-6682, by fax at 1-888-668-2555 or by email at prevostparts.commandes@volvo.com. Specify document number, quantity of parts required and shipping address.

* The material identified in Level 2 is to be ordered only for vehicles that respect the criteria defined in Level 1. Order information will be provided by your Service Representative.

Note 1: ONE oil sampling kit with hose per vehicle is essential to avoid any cross-contamination of the samples and ensure the accuracy of the results.

Note 2: One oil pump can be used to sample multiple vehicles, therefore, ORDER THE QUANTITY OF PUMPS ACCORDING TO YOUR NEEDS.

DISPOSAL OF PARTS

REMOVED PARTS ARE:	DISCARDED	RETAINED *	* To be reimbursed, the parts must be retained and presented to your after-sales service representative at the time of the claim.
	–	Yes	

REVISION HISTORY

REV.	DATE	CHANGE DESCRIPTION	WRITTEN BY
NR	2012OC23	Initial release	Isabel Estañ
R1	2013OC25	Procedure level 1 reviewed. Procedure level 2, fill the form in annex and include pictures. Part N8898597 replaced by N8894835. The customer list was revised and posted by SN and corresponding VIN No. BS2015 was released for vehicles with off-center engines.	Wilder Galiano

IMPORTANT: CERTAIN ORDERS MAY NOT INDICATE ALL UNITS.

CLIENT	ORDER	ROAD N°	VIN	REAR AXLE SERIAL N°	
Arrow Coach Line - Arkansas	L494	1	N/A	2NVYL82U793000397	1853419
BC Transit - BCT - British Columbia	L463	4	9322	2NVYL82U693000276	1849714
BC Transit - BCT - British Columbia	L463	3	9321	2NVYL82U493000275	1849715
BC Transit - BCT - British Columbia	L463	6	9324	2NVYL82UX93000278	1849716
BC Transit - BCT - British Columbia	L463	2	9320	2NVYL82U293000274	1849717
BC Transit - BCT - British Columbia	L463	11	9329	2NVYL82U393000283	1849719
BC Transit - BCT - British Columbia	L463	5	9323	2NVYL82U893000277	1849860
BC Transit - BCT - British Columbia	L463	8	9326	2NVYL82U893000280	1849861
BC Transit - BCT - British Columbia	L463	9	9327	2NVYL82UX93000281	1849862
BC Transit - BCT - British Columbia	L463	10	9328	2NVYL82U193000282	1849863
BC Transit - BCT - British Columbia	L463	13	9331	2NVYL82U793000285	1852498
BC Transit - BCT - British Columbia	L463	1	9319	2NVYL82U093000273	1852499
BC Transit - BCT - British Columbia	L463	15	9333	2NVYL82U093000287	1852500
BC Transit - BCT - British Columbia	L463	12	9330	2NVYL82U593000284	1852501
BC Transit - BCT - British Columbia	L463	14	9332	2NVYL82U993000286	1853414
BC Transit - BCT - British Columbia	L463	7	9325	2NVYL82U193000279	1853415
BC Transit - BCT - British Columbia	L481	4	9337	4RKYL82U294000007	1859444
BC Transit - BCT - British Columbia	L481	5	9338	4RKYL82U494000008	1859445
BC Transit - BCT - British Columbia	L481	2	9335	4RKYL82U994000005	1859446
BC Transit - BCT - British Columbia	L481	1	9334	4RKYL82U794000004	1859447
BC Transit - BCT - British Columbia	L481	3	9336	4RKYL82U094000006	1863297
BC Transit - BCT - British Columbia	L481	7	9340	4RKYL82U294000010	1863298
BC Transit - BCT - British Columbia	L481	11	9344	4RKYL82UX94000014	1863299
BC Transit - BCT - British Columbia	L481	6	9339	4RKYL82U694000009	1863300
BC Transit - BCT - British Columbia	L481	13	9346	4RKYL82U394000016	1867477
BC Transit - BCT - British Columbia	L481	12	9345	4RKYL82U194000015	1867478
BC Transit - BCT - British Columbia	L481	18	9351	4RKYL82U794000021	1867479
BC Transit - BCT - British Columbia	L481	17	9350	4RKYL82U594000020	1867480
BC Transit - BCT - British Columbia	L481	9	9342	4RKYL82U694000012	1869433
BC Transit - BCT - British Columbia	L481	10	9343	4RKYL82U894000013	1869434
BC Transit - BCT - British Columbia	L481	8	9341	4RKYL82U494000011	1869435
BC Transit - BCT - British Columbia	L481	14	9347	4RKYL82U594000017	1872218
BC Transit - BCT - British Columbia	L481	15	9348	4RKYL82U794000018	1872219
BC Transit - BCT - British Columbia	L481	16	9349	4RKYL82U994000019	1872220
BC Transit - BCT - British Columbia	L481	19	9352	4RKYL82U994000022	1872235
BC Transit - BCT - British Columbia	L481	20	9353	4RKYL82U094000023	1872236
BC Transit - BCT - British Columbia	L484	4	9373	4RKYL82UX94000093	1897916
BC Transit - BCT - British Columbia	L484	9	9378	4RKYL82U994000098	1897917
BC Transit - BCT - British Columbia	L484	8	9377	4RKYL82U794000097	1897918
BC Transit - BCT - British Columbia	L484	2	9371	4RKYL82U694000091	1897919

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CLIENT	ORDER	ROAD N°	VIN	REAR AXLE SERIAL N°	
BC Transit - BCT - British Columbia	L484	3	9372	4RKYL82U894000092	1897920
BC Transit - BCT - British Columbia	L484	1	9370	4RKYL82U494000090	1897921
BC Transit - BCT - British Columbia	L484	6	9375	4RKYL82U394000095	1897922
BC Transit - BCT - British Columbia	L484	10	9379	4RKYL82U094000099	1897923
BC Transit - BCT - British Columbia	L484	14	9383	4RKYL82U994000103	1897924
BC Transit - BCT - British Columbia	L484	24	9393	4RKYL82U194000113	1897925
BC Transit - BCT - British Columbia	L484	16	9385	4RKYL82U294000105	1901095
BC Transit - BCT - British Columbia	L484	17	9386	4RKYL82U494000106	1901096
BC Transit - BCT - British Columbia	L484	20	9389	4RKYL82UX94000109	1901097
BC Transit - BCT - British Columbia	L484	7	9376	4RKYL82U594000096	1901098
BC Transit - BCT - British Columbia	L484	18	9387	4RKYL82U694000107	1901099
BC Transit - BCT - British Columbia	L484	12	9381	4RKYL82U594000101	1901100
BC Transit - BCT - British Columbia	L484	22	9391	4RKYL82U894000111	1901101
BC Transit - BCT - British Columbia	L484	13	9382	4RKYL82U794000102	1901102
BC Transit - BCT - British Columbia	L484	29	9398	4RKYL82U094000118	1901103
BC Transit - BCT - British Columbia	L484	30	9399	4RKYL82U294000119	1901104
BC Transit - BCT - British Columbia	L484	15	9384	4RKYL82U094000104	1901105
BC Transit - BCT - British Columbia	L484	27	9396	4RKYL82U794000116	1903271
BC Transit - BCT - British Columbia	L484	28	9397	4RKYL82U994000117	1903272
BC Transit - BCT - British Columbia	L484	32	9401	4RKYL82U094000121	1903274
BC Transit - BCT - British Columbia	L484	19	9388	4RKYL82U894000108	1903275
BC Transit - BCT - British Columbia	L484	31	9400	4RKYL82U994000120	1903276
BC Transit - BCT - British Columbia	L484	33	9402	4RKYL82U294000122	1903277
BC Transit - BCT - British Columbia	L484	11	9380	4RKYL82U394000100	1906323
BC Transit - BCT - British Columbia	L484	5	9374	4RKYL82U194000094	1906324
BC Transit - BCT - British Columbia	L484	34	9403	4RKYL82U494000123	1906325
BC Transit - BCT - British Columbia	L484	23	9392	4RKYL82UX94000112	1906326
BC Transit - BCT - British Columbia	L484	25	9394	4RKYL82U394000114	1906327
BC Transit - BCT - British Columbia	L484	26	9395	4RKYL82U594000115	1906328
BC Transit - BCT - British Columbia	L484	21	9390	4RKYL82U694000110	1906329
BC Transit - BCT - British Columbia	L486	14	9367	4RKYL82U094000037	1853417
BC Transit - BCT - British Columbia	L486	16	9369	4RKYL82U494000039	1859448
BC Transit - BCT - British Columbia	L486	15	9368	4RKYL82U294000038	1859450
BC Transit - BCT - British Columbia	L486	1	9354	4RKYL82U294000024	1872217
BC Transit - BCT - British Columbia	L486	3	9356	4RKYL82U694000026	1872234
BC Transit - BCT - British Columbia	L486	4	9357	4RKYL82U894000027	1872237
BC Transit - BCT - British Columbia	L486	9	9362	4RKYL82U194000032	1872238
BC Transit - BCT - British Columbia	L486	11	9364	4RKYL82U594000034	1878799
BC Transit - BCT - British Columbia	L486	2	9355	4RKYL82U494000025	1878800
BC Transit - BCT - British Columbia	L486	13	9366	4RKYL82U994000036	1878801
BC Transit - BCT - British Columbia	L486	8	9361	4RKYL82UX94000031	1878802

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CLIENT	ORDER		ROAD N°	VIN	REAR AXLE SERIAL N°
BC Transit - BCT - British Columbia	L486	5	9358	4RKYL82UX94000028	1878803
BC Transit - BCT - British Columbia	L486	12	9365	4RKYL82U794000035	1878804
BC Transit - BCT - British Columbia	L486	10	9363	4RKYL82U394000033	1878805
BC Transit - BCT - British Columbia	L486	6	9359	4RKYL82U194000029	1880494
BC Transit - BCT - British Columbia	L486	7	9360	4RKYL82U894000030	1880495
BC Transit - BCT - British Columbia	L487	4	9407	4RKYL82U094000152	1903268
BC Transit - BCT - British Columbia	L487	9	9412	4RKYL82UX94000157	1903269
BC Transit - BCT - British Columbia	L487	3	9406	4RKYL82U994000151	1903270
BC Transit - BCT - British Columbia	L487	8	9411	4RKYL82U894000156	1903273
BC Transit - BCT - British Columbia	L487	12	9415	4RKYL82UX94000160	1913486
BC Transit - BCT - British Columbia	L487	16	9419	4RKYL82U794000164	1913487
BC Transit - BCT - British Columbia	L487	1	9404	4RKYL82U094000149	1913488
BC Transit - BCT - British Columbia	L487	25	9428	4RKYL82U894000173	1913489
BC Transit - BCT - British Columbia	L487	10	9413	4RKYL82U194000158	1913490
BC Transit - BCT - British Columbia	L487	13	9416	4RKYL82U194000161	1913491
BC Transit - BCT - British Columbia	L487	5	9408	4RKYL82U294000153	1913492
BC Transit - BCT - British Columbia	L487	14	9417	4RKYL82U394000162	1913493
BC Transit - BCT - British Columbia	L487	17	9420	4RKYL82U994000165	1913494
BC Transit - BCT - British Columbia	L487	6	9409	4RKYL82U494000154	1913495
BC Transit - BCT - British Columbia	L487	30	9433	4RKYL82U794000178	1923365
BC Transit - BCT - British Columbia	L487	21	9424	4RKYL82U694000169	1923366
BC Transit - BCT - British Columbia	L487	7	9410	4RKYL82U694000155	1923367
BC Transit - BCT - British Columbia	L487	2	9405	4RKYL82U794000150	1923368
BC Transit - BCT - British Columbia	L487	24	9427	4RKYL82U694000172	1924352
BC Transit - BCT - British Columbia	L487	23	9426	4RKYL82U494000171	1924353
BC Transit - BCT - British Columbia	L487	26	9429	4RKYL82UX94000174	1925059
BC Transit - BCT - British Columbia	L487	22	9425	4RKYL82U294000170	1925060
BC Transit - BCT - British Columbia	L487	19	9422	4RKYL82U294000167	1926027
BC Transit - BCT - British Columbia	L487	20	9423	4RKYL82U494000168	1926028
BC Transit - BCT - British Columbia	L487	27	9430	4RKYL82U194000175	1926029
BC Transit - BCT - British Columbia	L487	28	9431	4RKYL82U394000176	1926030
BC Transit - BCT - British Columbia	L487	18	9421	4RKYL82U094000166	1927494
BC Transit - BCT - British Columbia	L487	15	9418	4RKYL82U594000163	1927495
BC Transit - BCT - British Columbia	L487	29	9432	4RKYL82U594000177	1928779
BC Transit - BCT - British Columbia	L487	11	9414	4RKYL82U394000159	1928780
Belleville Transit - Ontario	L542	1	N/A	2NVYL82UXA3000088	1843051
Belleville Transit - Ontario	L542	3	N/A	2NVYL82U8A3000090	1848368
Belleville Transit - Ontario	L542	2	N/A	2NVYL82U1A3000089	1849718
Brampton - Ontario	L501	8	924	2NVYL82U493000521	1849721
Brampton - Ontario	L501	9	925	2NVYL82U693000522	1849855

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CLIENT	ORDER		ROAD N°	VIN	REAR AXLE SERIAL N°
Brampton - Ontario	L501	4	920	2NVYL82U393000509	1849857
Brampton - Ontario	L501	1	917	2NVYL82U893000506	1859344
Brampton - Ontario	L501	5	921	2NVYL82UX93000510	1859345
Brampton - Ontario	L501	6	922	2NVYL82U693000519	1859346
Brampton - Ontario	L501	3	919	2NVYL82U193000508	1859348
Brampton - Ontario	L501	7	923	2NVYL82U293000520	1859350
Brampton - Ontario	L501	10	926	2NVYL82U893000523	1859353
Brampton - Ontario	L501	2	918	2NVYL82UX93000507	1871928
Brantford - Ontario	L547	5	10105	2NVYL82X3A3000086	1944877
Brantford - Ontario	L547	2	10102	2NVYL82X8A3000083	1944878
Brantford - Ontario	L547	3	10103	2NVYL82XXA3000084	1944879
Brantford - Ontario	L547	1	10101	2NVYL82X6A3000082	1944880
Brantford - Ontario	L547	4	10104	2NVYL82X1A3000085	1944881
CMBC (TransLink) - British Columbia	L412	1	9401	2NVYL82X993000136	1812049
CMBC (TransLink) - British Columbia	L454	4	9405	2NVYL82X793000362	1862899
CMBC (TransLink) - British Columbia	L454	68	9469	2NVYL82X893000452	1863650
CMBC (TransLink) - British Columbia	L454	69	9470	2NVYL82XX93000453	1866641
CMBC (TransLink) - British Columbia	L454	7	9408	2NVYL82XX93000369	1866642
CMBC (TransLink) - British Columbia	L454	12	9413	2NVYL82X393000374	1866643
CMBC (TransLink) - British Columbia	L454	11	9412	2NVYL82X193000373	1866644
CMBC (TransLink) - British Columbia	L454	1	9402	2NVYL82X793000359	1866645
CMBC (TransLink) - British Columbia	L454	2	9403	2NVYL82X393000360	1866646
CMBC (TransLink) - British Columbia	L454	15	9416	2NVYL82X993000377	1866647
CMBC (TransLink) - British Columbia	L454	3	9404	2NVYL82X593000361	1866648
CMBC (TransLink) - British Columbia	L454	13	9414	2NVYL82X593000375	1866650
CMBC (TransLink) - British Columbia	L454	23	9424	2NVYL82X593000389	1866651
CMBC (TransLink) - British Columbia	L454	14	9415	2NVYL82X793000376	1866652
CMBC (TransLink) - British Columbia	L454	27	9428	2NVYL82X793000393	1867897
CMBC (TransLink) - British Columbia	L454	9	9410	2NVYL82X893000371	1867898
CMBC (TransLink) - British Columbia	L454	8	9409	2NVYL82X693000370	1867900
CMBC (TransLink) - British Columbia	L454	10	9411	2NVYL82XX93000372	1867901
CMBC (TransLink) - British Columbia	L454	6	9407	2NVYL82X893000368	1867902
CMBC (TransLink) - British Columbia	L454	5	9406	2NVYL82X993000363	1867903
CMBC (TransLink) - British Columbia	L454	18	9419	2NVYL82X693000384	1871816
CMBC (TransLink) - British Columbia	L454	17	9418	2NVYL82X493000383	1871817
CMBC (TransLink) - British Columbia	L454	16	9417	2NVYL82X293000382	1871819
CMBC (TransLink) - British Columbia	L454	25	9426	2NVYL82X393000391	1871820
CMBC (TransLink) - British Columbia	L454	20	9421	2NVYL82XX93000386	1871821
CMBC (TransLink) - British Columbia	L454	21	9422	2NVYL82X193000387	1871822
CMBC (TransLink) - British Columbia	L454	19	9420	2NVYL82X893000385	1871823
CMBC (TransLink) - British Columbia	L454	24	9425	2NVYL82X193000390	1871824

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CLIENT	ORDER		ROAD N°	VIN	REAR AXLE SERIAL N°
	L454	22			
CMBC (TransLink) - British Columbia	L454	22	9423	2NVYL82X393000388	1871825
CMBC (TransLink) - British Columbia	L454	29	9430	2NVYL82X093000395	1871826
CMBC (TransLink) - British Columbia	L454	30	9431	2NVYL82X293000396	1871827
CMBC (TransLink) - British Columbia	L454	26	9427	2NVYL82X593000392	1871828
CMBC (TransLink) - British Columbia	L454	43	9444	2NVYL82X493000416	1871829
CMBC (TransLink) - British Columbia	L454	42	9443	2NVYL82X293000415	1871831
CMBC (TransLink) - British Columbia	L454	41	9442	2NVYL82X093000414	1871834
CMBC (TransLink) - British Columbia	L454	28	9429	2NVYL82X993000394	1871843
CMBC (TransLink) - British Columbia	L454	62	9463	2NVYL82X293000446	1871844
CMBC (TransLink) - British Columbia	L454	38	9439	2NVYL82X593000411	1871845
CMBC (TransLink) - British Columbia	L454	39	9440	2NVYL82X793000412	1871846
CMBC (TransLink) - British Columbia	L454	31	9432	2NVYL82X893000404	1871847
CMBC (TransLink) - British Columbia	L454	37	9438	2NVYL82X393000410	1871848
CMBC (TransLink) - British Columbia	L454	36	9437	2NVYL82X793000409	1871850
CMBC (TransLink) - British Columbia	L454	53	9454	2NVYL82X093000431	1871851
CMBC (TransLink) - British Columbia	L454	40	9441	2NVYL82X993000413	1871852
CMBC (TransLink) - British Columbia	L454	32	9433	2NVYL82XX93000405	1874011
CMBC (TransLink) - British Columbia	L454	35	9436	2NVYL82X593000408	1874012
CMBC (TransLink) - British Columbia	L454	34	9435	2NVYL82X393000407	1874013
CMBC (TransLink) - British Columbia	L454	44	9445	2NVYL82X693000417	1874014
CMBC (TransLink) - British Columbia	L454	33	9434	2NVYL82X193000406	1874015
CMBC (TransLink) - British Columbia	L454	66	9467	2NVYL82X493000450	1874016
CMBC (TransLink) - British Columbia	L454	47	9448	2NVYL82X593000425	1874674
CMBC (TransLink) - British Columbia	L454	65	9466	2NVYL82X893000449	1874676
CMBC (TransLink) - British Columbia	L454	60	9461	2NVYL82X393000438	1874677
CMBC (TransLink) - British Columbia	L454	59	9460	2NVYL82X193000437	1874678
CMBC (TransLink) - British Columbia	L454	46	9447	2NVYL82X393000424	1874679
CMBC (TransLink) - British Columbia	L454	67	9468	2NVYL82X693000451	1878728
CMBC (TransLink) - British Columbia	L454	45	9446	2NVYL82X893000418	1878729
CMBC (TransLink) - British Columbia	L454	54	9455	2NVYL82X293000432	1878731
CMBC (TransLink) - British Columbia	L454	55	9456	2NVYL82X493000433	1880367
CMBC (TransLink) - British Columbia	L454	56	9457	2NVYL82X693000434	1880368
CMBC (TransLink) - British Columbia	L454	49	9450	2NVYL82X993000427	1880369
CMBC (TransLink) - British Columbia	L454	48	9449	2NVYL82X793000426	1880370
CMBC (TransLink) - British Columbia	L454	50	9451	2NVYL82X093000428	1880371
CMBC (TransLink) - British Columbia	L454	51	9452	2NVYL82X293000429	1880372
CMBC (TransLink) - British Columbia	L454	52	9453	2NVYL82X993000430	1880373
CMBC (TransLink) - British Columbia	L454	63	9464	2NVYL82X493000447	1880374
CMBC (TransLink) - British Columbia	L454	57	9458	2NVYL82X893000435	1880375
CMBC (TransLink) - British Columbia	L454	58	9459	2NVYL82XX93000436	1880376
CMBC (TransLink) - British Columbia	L454	61	9462	2NVYL82X093000445	1882007

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CLIENT	ORDER	ROAD N°	VIN	REAR AXLE SERIAL N°	
CMBC (TransLink) - British Columbia	L454	64	9465	2NVYL82X693000448	1882008
CMBC (TransLink) - British Columbia	L455	19	9489	2NVYL82X593000487	1863647
CMBC (TransLink) - British Columbia	L455	17	9487	2NVYL82X193000485	1863648
CMBC (TransLink) - British Columbia	L455	18	9488	2NVYL82X393000486	1863649
CMBC (TransLink) - British Columbia	L455	2	9472	2NVYL82X793000460	1866649
CMBC (TransLink) - British Columbia	L455	21	9491	2NVYL82X993000489	1867892
CMBC (TransLink) - British Columbia	L455	16	9486	2NVYL82XX93000484	1867893
CMBC (TransLink) - British Columbia	L455	15	9485	2NVYL82X893000483	1867894
CMBC (TransLink) - British Columbia	L455	20	9490	2NVYL82X793000488	1867895
CMBC (TransLink) - British Columbia	L455	13	9483	2NVYL82X493000481	1867896
CMBC (TransLink) - British Columbia	L455	12	9482	2NVYL82X293000480	1871818
CMBC (TransLink) - British Columbia	L455	6	9476	2NVYL82X493000464	1871832
CMBC (TransLink) - British Columbia	L455	11	9481	2NVYL82X393000469	1871833
CMBC (TransLink) - British Columbia	L455	14	9484	2NVYL82X693000482	1871835
CMBC (TransLink) - British Columbia	L455	7	9477	2NVYL82X693000465	1871837
CMBC (TransLink) - British Columbia	L455	10	9480	2NVYL82X193000468	1871839
CMBC (TransLink) - British Columbia	L455	1	9471	2NVYL82X093000459	1871840
CMBC (TransLink) - British Columbia	L455	9	9479	2NVYL82XX93000467	1871841
CMBC (TransLink) - British Columbia	L455	8	9478	2NVYL82X893000466	1871842
CMBC (TransLink) - British Columbia	L455	3	9473	2NVYL82X993000461	1871849
CMBC (TransLink) - British Columbia	L455	5	9475	2NVYL82X293000463	1878727
CMBC (TransLink) - British Columbia	L455	4	9474	2NVYL82X093000462	1878732
CMBC (TransLink) - British Columbia	L482	5	9496	4RKYL82X594000044	1874675
CMBC (TransLink) - British Columbia	L482	23	9515	4RKYL82X794000062	1878730
CMBC (TransLink) - British Columbia	L482	19	9511	4RKYL82X594000058	1884051
CMBC (TransLink) - British Columbia	L482	10	9502	4RKYL82X494000049	1884052
CMBC (TransLink) - British Columbia	L482	22	9514	4RKYL82X594000061	1884053
CMBC (TransLink) - British Columbia	L482	7	9498	4RKYL82X994000046	1884054
CMBC (TransLink) - British Columbia	L482	4	9495	4RKYL82X394000043	1884055
CMBC (TransLink) - British Columbia	L482	21	9513	4RKYL82X394000060	1884056
CMBC (TransLink) - British Columbia	L482	20	9512	4RKYL82X794000059	1884058
CMBC (TransLink) - British Columbia	L482	15	9507	4RKYL82X894000054	1888440
CMBC (TransLink) - British Columbia	L482	2	9493	4RKYL82XX94000041	1888442
CMBC (TransLink) - British Columbia	L482	1	9492	4RKYL82X894000040	1888445
CMBC (TransLink) - British Columbia	L482	25	9517	4RKYL82X094000064	1891276
CMBC (TransLink) - British Columbia	L482	6	9497	4RKYL82X794000045	1891281
CMBC (TransLink) - British Columbia	L482	16	9508	4RKYL82XX94000055	1892675
CMBC (TransLink) - British Columbia	L482	17	9509	4RKYL82X194000056	1892676
CMBC (TransLink) - British Columbia	L482	12	9504	4RKYL82X294000051	1892677
CMBC (TransLink) - British Columbia	L482	11	9503	4RKYL82X094000050	1892678
CMBC (TransLink) - British Columbia	L482	14	9506	4RKYL82X694000053	1892679

IMPORTANT: CERTAIN ORDERS MAY NOT INDICATE ALL UNITS.

CLIENT	ORDER		ROAD N°	VIN	REAR AXLE SERIAL N°
CMBC (TransLink) - British Columbia	L482	18	9510	4RKYL82X394000057	1892682
CMBC (TransLink) - British Columbia	L482	9	9501	4RKYL82X294000048	1892684
CMBC (TransLink) - British Columbia	L482	13	9505	4RKYL82X494000052	1892685
CMBC (TransLink) - British Columbia	L482	24	9516	4RKYL82X994000063	1892686
CMBC (TransLink) - British Columbia	L483	1	9518	4RKYL82X294000065	1882009
CMBC (TransLink) - British Columbia	L483	25	9542	4RKYL82X594000089	1884057
CMBC (TransLink) - British Columbia	L483	3	9520	4RKYL82X694000067	1888439
CMBC (TransLink) - British Columbia	L483	24	9541	4RKYL82X394000088	1888443
CMBC (TransLink) - British Columbia	L483	2	9519	4RKYL82X494000066	1888444
CMBC (TransLink) - British Columbia	L483	20	9537	4RKYL82X694000084	1891274
CMBC (TransLink) - British Columbia	L483	10	9527	4RKYL82X394000074	1891275
CMBC (TransLink) - British Columbia	L483	4	9521	4RKYL82X894000068	1891277
CMBC (TransLink) - British Columbia	L483	5	9522	4RKYL82XX94000069	1891278
CMBC (TransLink) - British Columbia	L483	19	9536	4RKYL82X494000083	1891279
CMBC (TransLink) - British Columbia	L483	22	9539	4RKYL82XX94000086	1891280
CMBC (TransLink) - British Columbia	L483	7	9524	4RKYL82X894000071	1892680
CMBC (TransLink) - British Columbia	L483	8	9525	4RKYL82XX94000072	1892681
CMBC (TransLink) - British Columbia	L483	6	9523	4RKYL82X694000070	1892687
CMBC (TransLink) - British Columbia	L483	16	9533	4RKYL82X994000080	1892688
CMBC (TransLink) - British Columbia	L483	14	9531	4RKYL82X094000078	1892689
CMBC (TransLink) - British Columbia	L483	17	9534	4RKYL82X094000081	1892690
CMBC (TransLink) - British Columbia	L483	9	9526	4RKYL82X194000073	1892691
CMBC (TransLink) - British Columbia	L483	18	9535	4RKYL82X294000082	1892692
CMBC (TransLink) - British Columbia	L483	21	9538	4RKYL82X894000085	1892693
CMBC (TransLink) - British Columbia	L483	11	9528	4RKYL82X594000075	1897981
CMBC (TransLink) - British Columbia	L483	13	9530	4RKYL82X994000077	1897982
CMBC (TransLink) - British Columbia	L483	15	9532	4RKYL82X294000079	1897983
CMBC (TransLink) - British Columbia	L483	12	9529	4RKYL82X794000076	1897984
CMBC (TransLink) - British Columbia	L483	23	9540	4RKYL82X194000087	1897985
CMBC (TransLink) - British Columbia	L532	6	9548	2NVYL82U093000502	1859000
CMBC (TransLink) - British Columbia	L532	9	9551	2NVYL82U693000505	1869393
CMBC (TransLink) - British Columbia	L532	7	9549	2NVYL82U293000503	1878721
CMBC (TransLink) - British Columbia	L532	8	9550	2NVYL82U493000504	1878722
CMBC (TransLink) - British Columbia	L532	5	9547	2NVYL82U993000501	1878724
CMBC (TransLink) - British Columbia	L532	1	9543	2NVYL82U093000497	1878858
CMBC (TransLink) - British Columbia	L532	3	9545	2NVYL82U493000499	1878860
CMBC (TransLink) - British Columbia	L532	4	9546	2NVYL82U793000500	1878861
CMBC (TransLink) - British Columbia	L532	2	9544	2NVYL82U293000498	1878862
CMBC (TransLink) - British Columbia	L533	17	9568	2NVYL82U993000532	1611116
CMBC (TransLink) - British Columbia	L533	8	9559	2NVYL82U493000518	1866054
CMBC (TransLink) - British Columbia	L533	5	9556	2NVYL82U993000515	1866055

IMPORTANT: CERTAIN ORDERS MAY NOT INDICATE ALL UNITS.

CLIENT	ORDER	ROAD N°	VIN	REAR AXLE SERIAL N°	
CMBC (TransLink) - British Columbia	L533	6	9557	2NVYL82U093000516	1866056
CMBC (TransLink) - British Columbia	L533	7	9558	2NVYL82U293000517	1866057
CMBC (TransLink) - British Columbia	L533	3	9554	2NVYL82U593000513	1869392
CMBC (TransLink) - British Columbia	L533	4	9555	2NVYL82U793000514	1869394
CMBC (TransLink) - British Columbia	L533	2	9553	2NVYL82U393000512	1878723
CMBC (TransLink) - British Columbia	L533	1	9552	2NVYL82U193000511	1878726
CMBC (TransLink) - British Columbia	L533	10	9561	2NVYL82U193000525	1882904
CMBC (TransLink) - British Columbia	L533	15	9566	2NVYL82U593000530	1882905
CMBC (TransLink) - British Columbia	L533	13	9564	2NVYL82U793000528	1882906
CMBC (TransLink) - British Columbia	L533	16	9567	2NVYL82U793000531	1882907
CMBC (TransLink) - British Columbia	L533	22	9573	2NVYL82U893000537	1882908
CMBC (TransLink) - British Columbia	L533	9	9560	2NVYL82UX93000524	1882909
CMBC (TransLink) - British Columbia	L533	14	9565	2NVYL82U993000529	1884062
CMBC (TransLink) - British Columbia	L533	21	9572	2NVYL82U693000536	1884063
CMBC (TransLink) - British Columbia	L533	11	9562	2NVYL82U393000526	1884064
CMBC (TransLink) - British Columbia	L533	18	9569	2NVYL82U093000533	1884065
CMBC (TransLink) - British Columbia	L533	19	9570	2NVYL82U293000534	1886112
CMBC (TransLink) - British Columbia	L533	12	9563	2NVYL82U593000527	1886114
CMBC (TransLink) - British Columbia	L533	20	9571	2NVYL82U493000535	1886116
CMBC (TransLink) - British Columbia	L534	12	9586	4RKYL82U094000135	1905847
CMBC (TransLink) - British Columbia	L534	6	9579	4RKYL82U594000129	1905848
CMBC (TransLink) - British Columbia	L534	11	9585	4RKYL82U994000134	1905849
CMBC (TransLink) - British Columbia	L534	13	9587	4RKYL82U294000136	1905850
CMBC (TransLink) - British Columbia	L534	5	9578	4RKYL82U394000128	1905852
CMBC (TransLink) - British Columbia	L534	7	9580	4RKYL82U194000130	1905853
CMBC (TransLink) - British Columbia	L534	10	9584	4RKYL82U794000133	1905854
CMBC (TransLink) - British Columbia	L534	3	9576	4RKYL82UX94000126	1907311
CMBC (TransLink) - British Columbia	L534	14	9588	4RKYL82U494000137	1907312
CMBC (TransLink) - British Columbia	L534	2	9575	4RKYL82U894000125	1907313
CMBC (TransLink) - British Columbia	L534	9	9583	4RKYL82U594000132	1907315
CMBC (TransLink) - British Columbia	L534	8	9581	4RKYL82U394000131	1907317
CMBC (TransLink) - British Columbia	L534	1	9574	4RKYL82U694000124	1907318
CMBC (TransLink) - British Columbia	L534	4	9577	4RKYL82U194000127	1907319
CMBC (TransLink) - British Columbia	L534	16	9590	4RKYL82U894000139	1911405
CMBC (TransLink) - British Columbia	L534	15	9589	4RKYL82U694000138	1911406
CMBC (West Vancouver) - British Columbia	L539	9		4RKYL82U994000148	1905851
CMBC (West Vancouver) - British Columbia	L539	3		4RKYL82U894000142	1907314
CMBC (West Vancouver) - British Columbia	L539	4		4RKYL82UX94000143	1907316
CMBC (West Vancouver) - British Columbia	L539	2		4RKYL82U694000141	1911407
CMBC (West Vancouver) - British Columbia	L539	1	901	4RKYL82U494000140	1911408

IMPORTANT: CERTAIN ORDERS MAY NOT INDICATE ALL UNITS.

CLIENT	ORDER	ROAD N°	VIN	REAR AXLE SERIAL N°
CMBC (West Vancouver) - British Columbia	L539	8	4RKYL82U794000147	1911409
CMBC (West Vancouver) - British Columbia	L539	7	4RKYL82U594000146	1911410
CMBC (West Vancouver) - British Columbia	L539	5	4RKYL82U194000144	1911411
CMBC (West Vancouver) - British Columbia	L539	6	4RKYL82U394000145	1911412
Demo - Articulated Bus	L433	1	N/A	2NVYS92UX93000029
Demo - Articulated Bus APTA US	L359	1	N/A	2NVYS92U583000289
Demo - Engineering Platform 2010 (Altoona)	L373	1	373-1	2NVYL82UX83000151
Demo - Plateforme 2010 (ATQ)	L456	1	N/A	2NVYL82U893000019
Demo - Proto Platform 2010	L271	1	N/A	2NVYL82U283000001
Demo - Proto Platform 2010	L271	2	N/A	2NVYL82U483000002
Grand River Transit - GRT - Ontario	L464	5	20905	2NVYL82UX93000300
Grand River Transit - GRT - Ontario	L464	3	20903	2NVYL82U593000298
Grand River Transit - GRT - Ontario	L464	6	20906	2NVYL82U193000301
Grand River Transit - GRT - Ontario	L464	1	20901	2NVYL82U193000296
Grand River Transit - GRT - Ontario	L464	4	20904	2NVYL82U793000299
Grand River Transit - GRT - Ontario	L464	7	20907	2NVYL82U393000302
Grand River Transit - GRT - Ontario	L464	8	20908	2NVYL82U593000303
Grand River Transit - GRT - Ontario	L464	9	20909	2NVYL82U793000304
Grand River Transit - GRT - Ontario	L464	10	20910	2NVYL82U993000305
Grand River Transit - GRT - Ontario	L464	2	20902	2NVYL82U393000297
Grand River Transit - GRT - Ontario	L464	11	20911	2NVYL82U093000306
Grand River Transit - GRT - Ontario	L464	12	20912	2NVYL82U293000307
Grand River Transit - GRT - Ontario	L464	13	20913	2NVYL82U493000308
Greater Toronto Airports Authority - GTAA - Ontario	L432	1	432-1	2NVYL82U793000061
Greater Toronto Airports Authority - GTAA - Ontario	L477	1	477-1	4RKYL82U194000001
Lethbridge - Alberta	L489	1	165	2NVYL82U493000454
Lethbridge - Alberta	L489	2	166	2NVYL82U693000455
Lethbridge - Alberta	L489	3	167	2NVYL82U893000456
Lethbridge - Alberta	L489	4	168	2NVYL82UX93000457
Lethbridge - Alberta	L489	5	169	2NVYL82U193000458
Moncton (Codiac) - New Brunswick	L358	1	358-1	2NVYL82U093000001
Moncton (Codiac) - New Brunswick	L361	1	361-1	2NVYL82U293000002
Moncton (Codiac) - New Brunswick	L569	1		4RKYL82U4B4000001
Moncton (Codiac) - New Brunswick	L570	1		4RKYL82U6B4000002
New York City Transit - New York	L536	1	1200	2NVYS92U793000490
New York City Transit - New York	L536	2	1201	2NVYS92U993000491
New York City Transit - New York	L545	65	1266	4RKYS92U1A4000075
New York City Transit - New York	L545	64	1265	4RKYS92UXA4000074
New York City Transit - New York	L545	6	1207	4RKYS92U7A4000016

IMPORTANT: CERTAIN ORDERS MAY NOT INDICATE ALL UNITS.

CLIENT	ORDER	ROAD N°	VIN	REAR AXLE SERIAL N°	
New York City Transit - New York	L545	14	1215	4RKYS92U6A4000024	1924350
New York City Transit - New York	L545	15	1216	4RKYS92U8A4000025	1924351
New York City Transit - New York	L545	17	1218	4RKYS92U1A4000027	1926883
New York City Transit - New York	L545	18	1219	4RKYS92U3A4000028	1926884
New York City Transit - New York	L545	16	1217	4RKYS92UXA4000026	1926885
New York City Transit - New York	L545	21	1222	4RKYS92U3A4000031	1926886
New York City Transit - New York	L545	43	1244	4RKYS92U2A4000053	1927488
New York City Transit - New York	L545	13	1214	4RKYS92U4A4000023	1927489
New York City Transit - New York	L545	3	1204	4RKYS92U1A4000013	1927491
New York City Transit - New York	L545	5	1206	4RKYS92U5A4000015	1927493
New York City Transit - New York	L545	9	1210	4RKYS92U2A4000019	1928302
New York City Transit - New York	L545	7	1208	4RKYS92U9A4000017	1928303
New York City Transit - New York	L545	11	1212	4RKYS92U0A4000021	1928306
New York City Transit - New York	L545	25	1226	4RKYS92U0A4000035	1928775
New York City Transit - New York	L545	20	1231	4RKYS92U1A4000030	1928777
New York City Transit - New York	L545	4	1205	4RKYS92U3A4000014	1935025
New York City Transit - New York	L545	22	1223	4RKYS92U5A4000032	1935026
New York City Transit - New York	L545	34	1235	4RKYS92U1A4000044	1935038
New York City Transit - New York	L545	12	1213	4RKYS92U2A4000022	1936134
New York City Transit - New York	L545	19	1220	4RKYS92U5A4000029	1936135
New York City Transit - New York	L545	8	1209	4RKYS92U0A4000018	1937173
New York City Transit - New York	L545	10	1211	4RKYS92U9A4000020	1938289
New York City Transit - New York	L545	1	1202	4RKYS92U5A4000001	1938290
New York City Transit - New York	L545	38	1239	4RKYS92U9A4000048	1938291
New York City Transit - New York	L545	2	1203	4RKYS92U7A4000002	1938848
New York City Transit - New York	L620	15	8029	4RKYL82U2B4000076	1848372
Niagara Falls - Ontario	L499	2	2987	2NVYL82U293000565	1848371
Niagara Falls - Ontario	L499	3	2988	2NVYL82U493000566	1850860
Niagara Falls - Ontario	L499	4	2989	2NVYL82U693000567	1850862
Niagara Falls - Ontario	L499	1	2986	2NVYL82U093000564	1853418
Peterborough - Ontario	L490	1	N/A	2NVYL82UX93000345	1860650
Peterborough - Ontario	L490	2	N/A	2NVYL82U193000346	1860651
Peterborough - Ontario	L490	4	N/A	2NVYL82U593000348	1863284
Peterborough - Ontario	L490	3	N/A	2NVYL82U393000347	1863288
Regina - Saskatchewan	L356	1	629	2NVYL82U883000150	1579528
Regina - Saskatchewan	L356	2	356-2	2NVYL82U883000231	1621288
Regina - Saskatchewan	L360	1	630	2NVYL82U283000290	1655478
Regina - Saskatchewan	L476	2	626	2NVYL82UX93000314	1847230
Regina - Saskatchewan	L476	3	627	2NVYL82U193000315	1847231
Regina - Saskatchewan	L476	4	628	2NVYL82U393000316	1847232
Regina - Saskatchewan	L476	1	625	2NVYL82U893000313	1847233

IMPORTANT: CERTAIN ORDERS MAY NOT INDICATE ALL UNITS.

CLIENT	ORDER		ROAD N°	VIN	REAR AXLE SERIAL N°
St. John - New Brunswick	L272	1	N/A	2NVYS92U483000011	1471626
St. John - New Brunswick	L273	1	N/A	2NVYS92U383000050	1508777
Stratford - Ontario	L493	1	N/A	2NVYL82U2A3000019	1942781
Strathcona County Transit - Alberta	L523	1	2010	2NVYL82U693000603	1850861
Strathcona County Transit - Alberta	L524	1	3005	2NVYL82X593000604	1921334
Strathcona County Transit - Alberta	L524	4	3008	2NVYL82X093000607	1931329
Strathcona County Transit - Alberta	L524	5	3009	2NVYL82X293000608	1931330
Strathcona County Transit - Alberta	L524	6	3010	2NVYL82X493000609	1931331
Strathcona County Transit - Alberta	L524	3	3007	2NVYL82X993000606	1931332
Strathcona County Transit - Alberta	L524	2	3006	2NVYL82X793000605	1931333
Strathcona County Transit - Alberta	L580	1	2011	2NVYL82U1A3000464	1848370
Strathcona County Transit - Alberta	L580	3	2013	2NVYL82U5A3000466	1852502
Strathcona County Transit - Alberta	L580	2	2012	2NVYL82U3A3000465	1853416
Strathcona County Transit - Alberta	L580	8	2018	2NVYL82U9A3000471	1854724
Sudbury - Ontario	L465	2	792	2NVYL82U793000318	1859354
Sudbury - Ontario	L465	1	791	2NVYL82U593000317	1859376
Sudbury - Ontario	L465	3	793	2NVYL82U993000319	1859378
Sudbury - Ontario	L465	4	794	2NVYL82U593000320	1859379
Sudbury - Ontario	L465	5	795	2NVYL82U793000321	1860647
Thunder Bay - Ontario	L488	2	N/A	2NVYL82U393000333	1859372
Thunder Bay - Ontario	L488	1	N/A	2NVYL82U193000332	1859373
Thunder Bay - Ontario	L488	3	N/A	2NVYL82U593000334	1859374
Timmins - Ontario	L475	1	N/A	2NVYL82U493000311	1843044
Timmins - Ontario	L475	2	N/A	2NVYL82U693000312	1849720
University of Alabama - Alabama	L479	1	479-1	4RKYL82U394000002	1849858
University of Alabama - Alabama	L480	1	480-1	4RKYL82U594000003	1859449
University of Colorado - Colorado	L427	1	N/A	2NVYS92U693000027	1757088
University of Colorado - Colorado	L428	1	N/A	2NVYS92U893000028	1793909
Walt Disney World - Florida	L535	10	N/A	4RKYL82U0A4000012	1928771
Walt Disney World - Florida	L535	2	N/A	4RKYL82U1A4000004	1928772
Walt Disney World - Florida	L535	7	N/A	4RKYL82U0A4000009	1928773
Walt Disney World - Florida	L535	6	N/A	4RKYL82U9A4000008	1928774
Walt Disney World - Florida	L535	8	N/A	4RKYL82U7A4000010	1930461
Walt Disney World - Florida	L535	9	N/A	4RKYL82U9A4000011	1931321
Walt Disney World - Florida	L535	3	N/A	4RKYL82U3A4000005	1931322
Walt Disney World - Florida	L535	4	N/A	4RKYL82U5A4000006	1931324
Walt Disney World - Florida	L535	5	N/A	4RKYL82U7A4000007	1933519
Walt Disney World - Florida	L535	1	N/A	4RKYL82UXA4000003	1933520
Woodstock - Ontario	L460	1	N/A	2NVYL82U693000309	1858976
Woodstock - Ontario	L492	1	N/A	2NVYL82U4A3000040	1942778
Woodstock - Ontario	L492	2	N/A	2NVYL82U6A3000041	1944613

**WARNING**

Follow your internal safety procedures.

**NOTE**

Ensure that the rear axle serial number is listed in this document.

Required documents for each level of this document

LEVEL 1: INSPECT: oil sampling, fill in the documents in Annex A and B. Wait for instructions from your Nova Bus representative.

Take a first sample then a second one at the latest opportunity possible before the next axle oil change.

Proceed with the instructions of **LEVEL 1: INSPECT**.

LEVEL 2 : INSTALL: fill in the form in Annex C and take pictures of the defective components. Include the form and the pictures (in PDF and JPEG format) with your claim.

Samples received without a link to a claim will not be processed for analysis. Each vehicle covered by this bulletin, requires a separate claim.

PROCEDURE

LEVEL 1: INSPECT

1.1. Raise the vehicle.

**CAUTION**

For more information on the raising and lowering of the vehicle, refer to section 18: HOISTING AND TOWING of the Nova LFS maintenance manual. Respect your current internal safety procedures. Use the proper hoisting equipment for your safety.

- 1.2. Locate the differential oil filler screw, located on the street side of the portal drive.
- 1.3. Take a differential oil sample. Follow the sampling and documentation instructions included in the Oil-PEK oil sampling kit. See Annex A.
- 1.4. Lower the vehicle.
- 1.5. Proceed with the warranty claim for Level 1 of this service bulletin. Return the oil sample according to the established procedure. The oil sample will serve to support your claim.
 - 1.5.1. Send the samples in the same way as a returned part under warranty.
- 1.6. Oil sample testing will be conducted by ZF. Based on the results, ZF will determine whether to proceed with **LEVEL 2: INSTALL**. Your service representative will inform you whether further action is required. In the interim, the vehicle can remain in service.

LEVEL 2: INSTALL

2.1. Raise the vehicle.

**CAUTION**

For more information on the raising and lowering of the vehicle, refer to section 18: HOISTING AND TOWING of the Nova LFS maintenance manual. Respect your current internal safety procedures. Use the proper hoisting equipment for your safety.

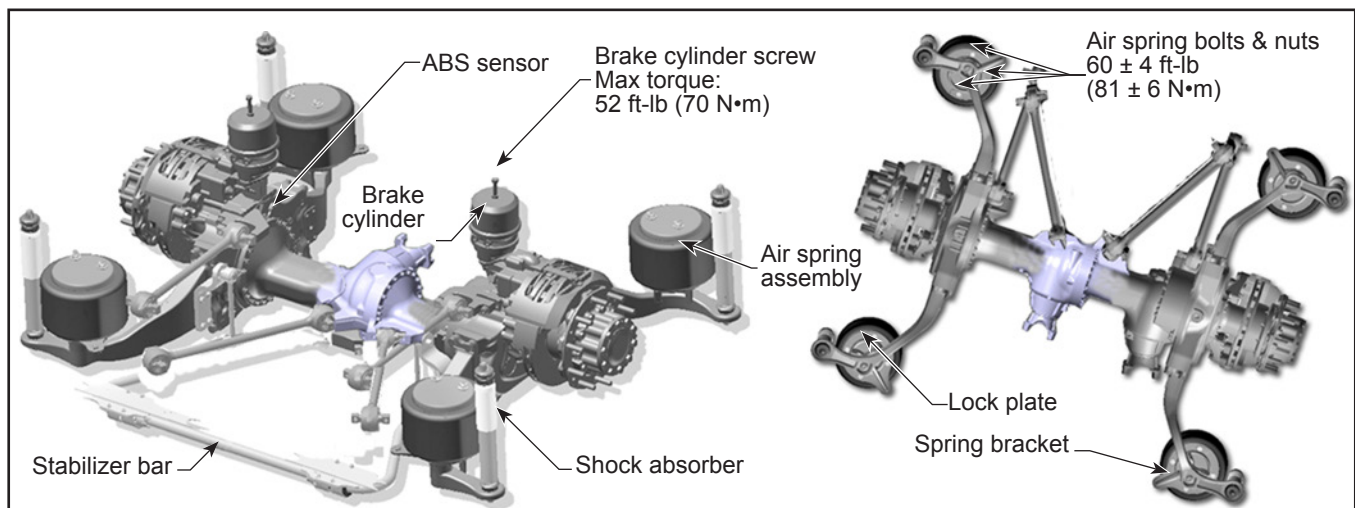


Figure 1 - Rear Axle AV 132 (ZF) Assembly

- 2.2. Use an additional lifting support under the axle housing to secure the rear axle in a slightly off-center position towards the differential.
- 2.3. Completely loosen the rear wheel hex nuts, but do not fully remove the nut in the 12 o'clock position.
- 2.4. Support the wheel with a wheel lift, remove the remaining hex nut, and remove the wheel.
- 2.5. Support the interior wheel with a wheel lift. Loosen and remove the hex nuts and remove the wheel.
- 2.6. Loosen the screw plug of the level check hole, located on the street side, of the portal drive and check the oil level. See Figure 2.



Figure 2 - Oil Level Check



WARNING

Some oil may escape. Waste oil must be disposed of according to local environmental regulations.

- 2.7 Enter the oil level in ANNEX B: DOCUMENTATION SHEET, at the end of this document.
- 2.8. Open the screw plug of both portal drives (oil drain holes) located on the underside of the axle, and drain the oil.

**WARNING**

Waste oil must be disposed of according to local environmental regulations.

- 2.9. Inspect the screw plugs (and magnetic plugs). Note any chips or abrasions.
- 2.10. Loosen the bolts from the mud flap cover, and remove the cover. See Figure 3.



Figure 3 - Releasing Cover

- 2.11. Release the pressure from both rear suspension air spring bellows.

**NOTE**

Pressure must be released from both air spring bellows prior to proceeding to the next steps.

- 2.12. Loosen the lower screws of both air springs.
- 2.13. Manually open the spring brake actuator on the brake cylinder.
- 2.14. Loosen the screws at the potentiometer (wear indicator) and pull off the releasing plug.
- 2.15. Loosen the cylindrical screw on the ABS sensor, and remove the ABS sensor.
- 2.16. Loosen the screws on the brake cylinder and remove the brake cylinder carrier plate. Loosen the locknuts and remove the brake cylinder. See Figure 4.

- 2.17. Fix the brake cylinder within the wheelhouse with a tie-wrap, wire, or rope, and cover its opening. Protect the mounting face of the brake caliper with an adequate cover or cloth. See Figure 4.

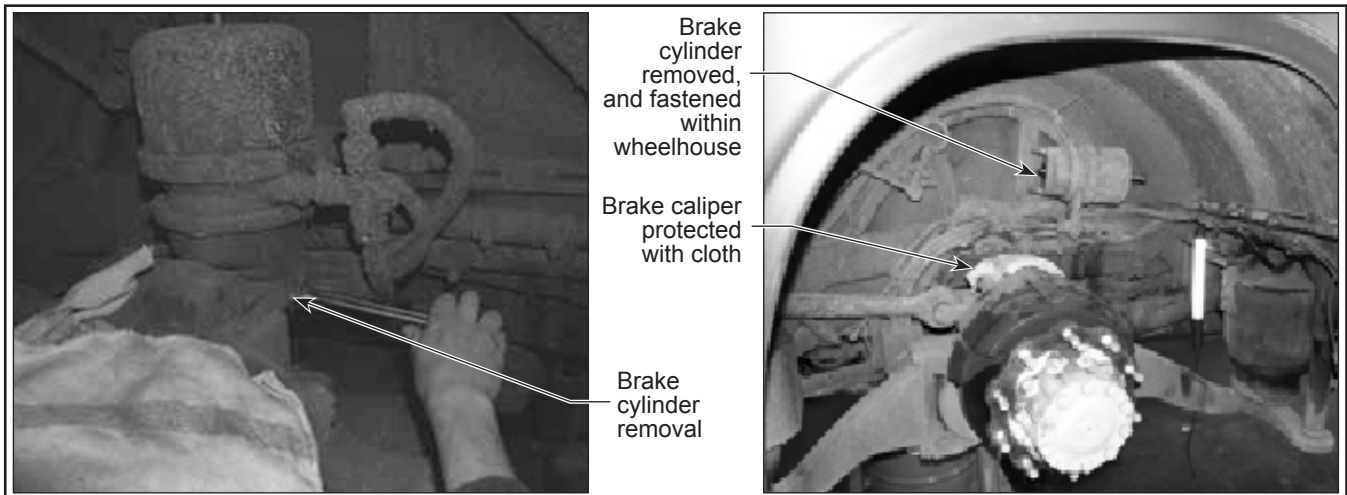


Figure 4 - Brake Cylinder Removal

- 2.18. Remove the screws from the stabilizer bar in order to release it.
- 2.19. Loosen the screws on the fixing plate for the compressed air lines.
- 2.20. With a tie-wrap, wire, or rope, temporarily fasten the fixing plate and the ABS sensor in a suitable location in the wheelhouse.
- 2.21. Raise the axle until the radius rod is in a horizontal position. See Figure 5. Loosen the threaded connection between the radius rod and the bracket.
- 2.22. Loosen the portal drive nuts from the street side portal, except for the nuts in the 6 and 12 o'clock positions. See Figure 6.

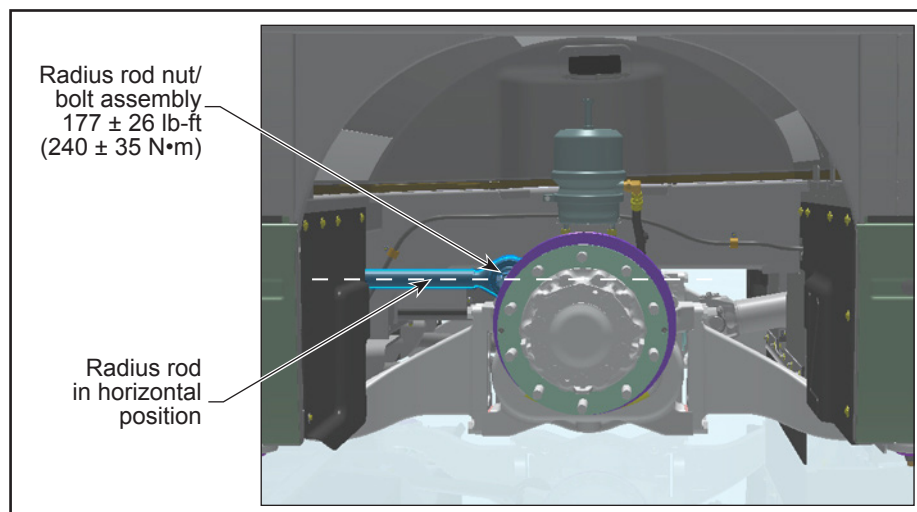


Figure 5 - Radius Rod

- 2.23. Secure the portal drive onto the lifting bracket (NOVA # 19506090 or equivalent) and lift truck or boom. Slightly lift the portal drive.

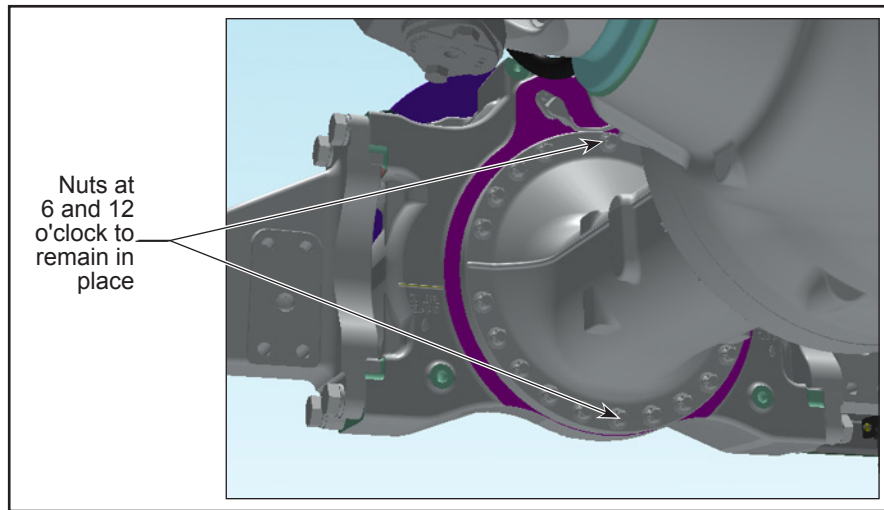


Figure 6 - Portal Drive Mounting Nuts

- 2.24. Loosen the lower threaded connection of the two shock absorbers, and push the shock absorber upwards to release. See Figure 7.
- 2.25. Remove the two remaining portal drive mounting nuts and separate the entire portal drive carefully from the axle.

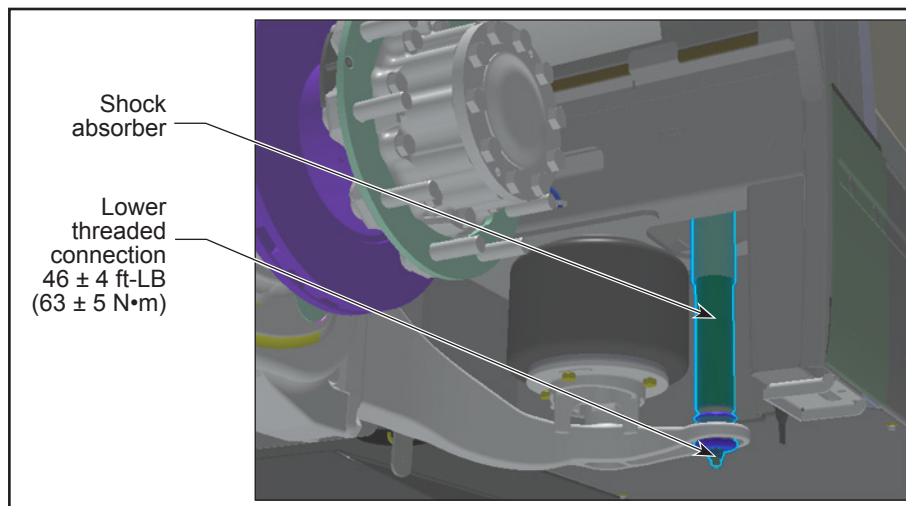


Figure 7 - Shock Absorber

**NOTE**

Ensure the axle remains in the horizontal position and that the differential does not drop.

**CAUTION**

Ensure the air spring bellows do not drop.

2.26. Remove the differential from the axle housing with the appropriate tool. See Figure 8.

2.27. Pull the long stub shaft out of the axle housing, and remove the O-ring. See Figure 9.



Figure 8 - Differential Removal

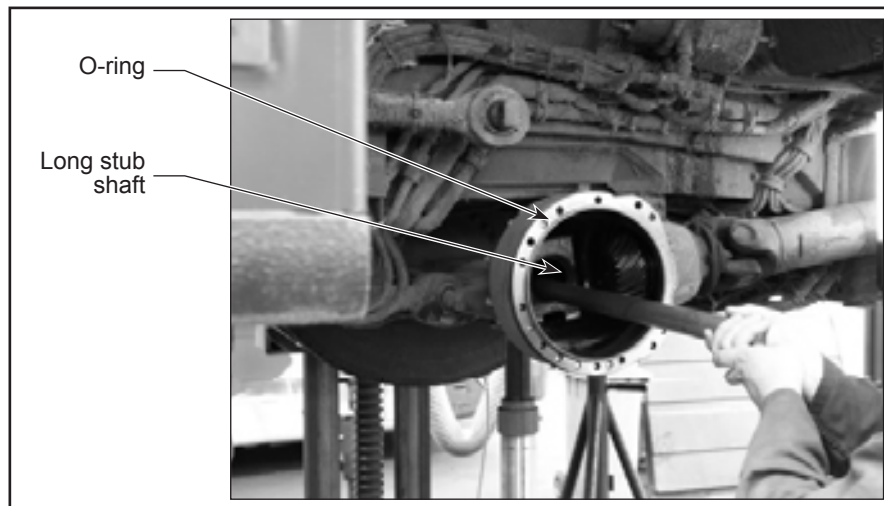


Figure 9 - Axle Housing



NOTE

Enter the exact designation of the long stub shaft in ANNEX B: DOCUMENTATION SHEET.

2.28. Pull the short stub shaft out of the drive gear in the portal drive. See Figure 10.

2.29. Look into the portal drive in order to inspect the intermediate and drive gears for damage. See Figure 10.

Also, on the opposite side of the portal drive, look through the oil drain hole on the bottom of the portal drive in order to have a different view to inspect the intermediate and drive gears.

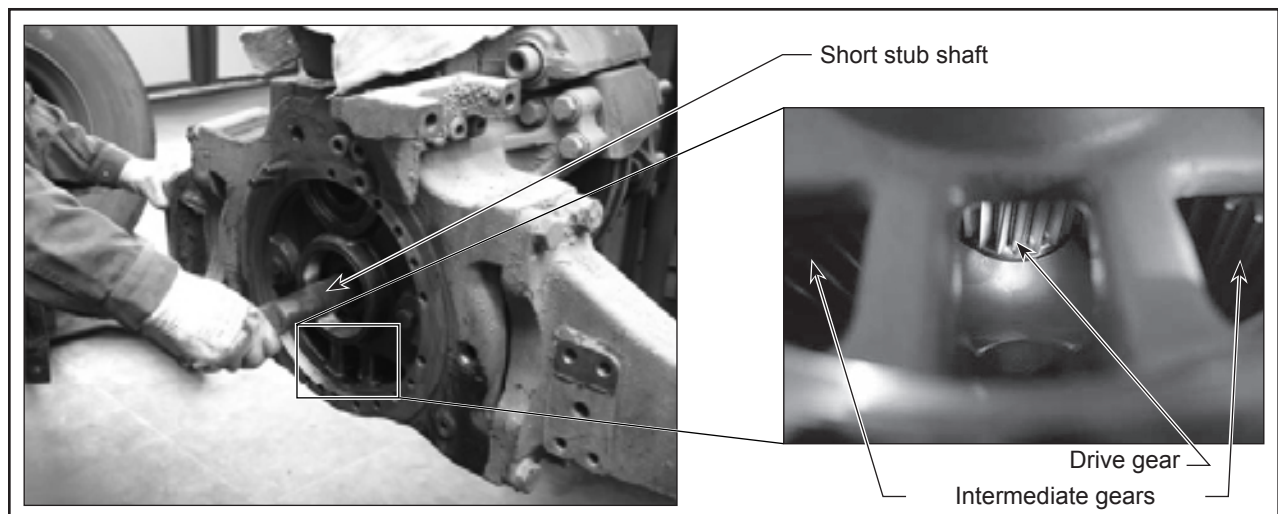


Figure 10 - Portal Drive Gear

- 2.30. Mount and support the differential bearing on the pressure piece.
- 2.31. Loosen the crown wheel connection on the differential bearing. Remove and retain the locking bolts. See Figure 11.

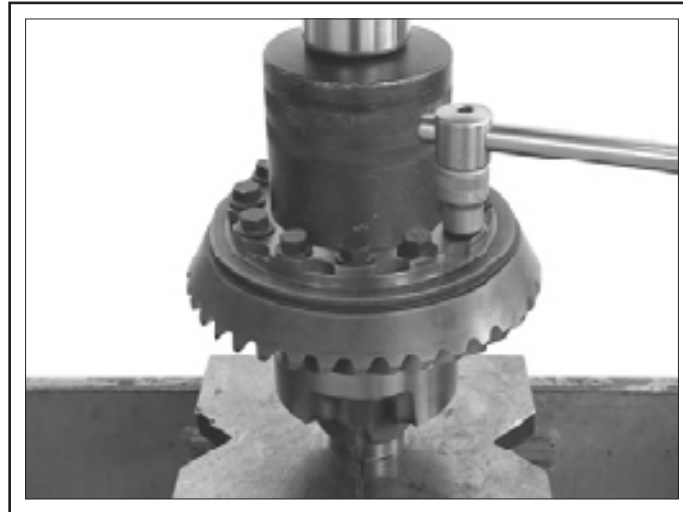


Figure 11 - Differential Bearing Crown Wheel

- 2.32. Press the crown wheel off the differential carrier.
- 2.33. Pull the differential cover out of the differential carrier using a pulling device. See Figure 12.



Figure 12 - Differential Cover Removal

2.34. Remove the axle bevel gear and thrust washer (crown wheel side) from the differential carrier. See Figure 13.



Figure 13 - Bevel Gear and Thrust Washer Removal

2.35. Measure the thickness of the thrust washer with a caliper.



NOTE

Enter the installation position of the axle bevel and thrust washer, along with the washer thickness (in mm) in ANNEX B: DOCUMENTATION SHEET at the end of this document.

2.36. Force the slotted pins out of the cross joint. See Figure 14.

2.37. Force the four differential pins out of the differential carrier. See Figures 14b and 14c. Remove the differential pins, cross joint, axle bevel gear, and thrust washer from the carrier.

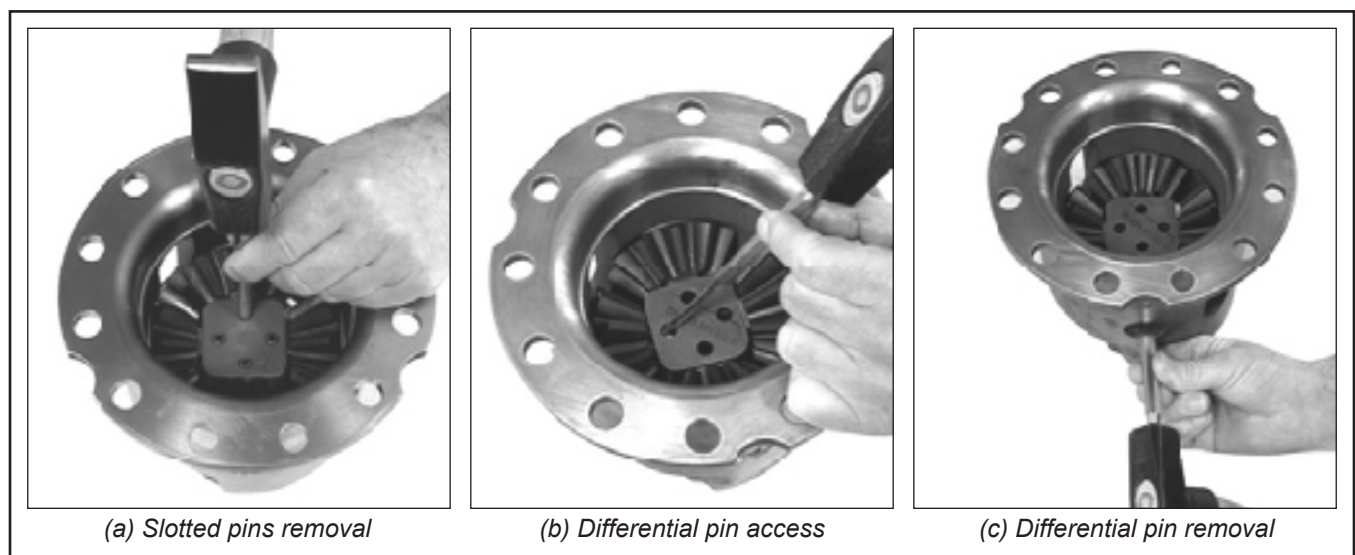


Figure 14 - Differential Carrier Disassembly

2.38. Measure the thickness of the thrust washer on the axle bevel gear (on the axle housing side) with a caliper.

**NOTE**

Enter the installation position of the axle bevel and thrust washer (on the axle housing side), along with the washer thickness (in mm) in ANNEX B: DOCUMENTATION SHEET.

2.39. Clean all mounting faces and components of the rear axle assembly and portal.

**NOTE**

During cleaning, cover components and roller bearings, and plug the housing openings.

2.40. Support the differential carrier on the pressure piece.

2.41. Place a new thrust washer (part # N8893147) and axle bevel gear (part # N8898604) into the differential carrier.
Apply oil on all components according to the ZF List of Lubricants TE-ML. See Figure 15.

**NOTE**

Ensure radial alignment of the thrust washer, and all subsequent parts during re-assembly

2.42. Insert the retained cross joint and the four differential pins into the differential carrier. See Figures 15b and 15c.

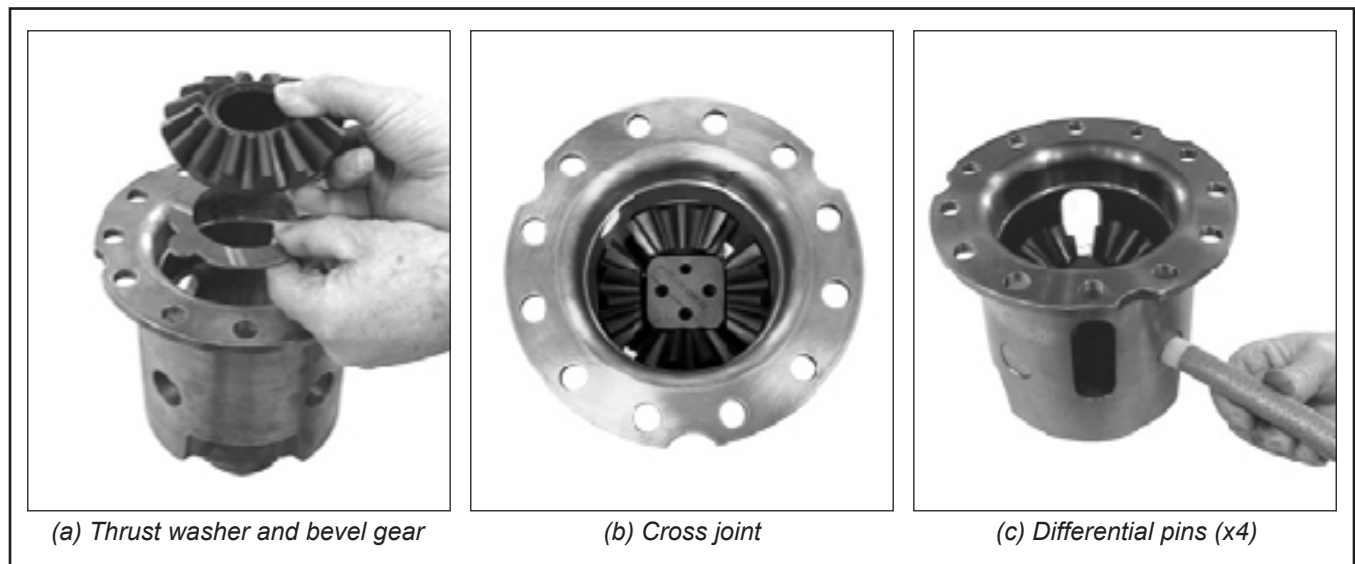


Figure 15 - Differential Carrier Re-assembly

2.43. Force the slotted pins (part # N8893152 and N8893153) into the cross joints and differential pins. Ensure the openings of the slotted pins are offset in a 180° position to each other. See Figure 16.

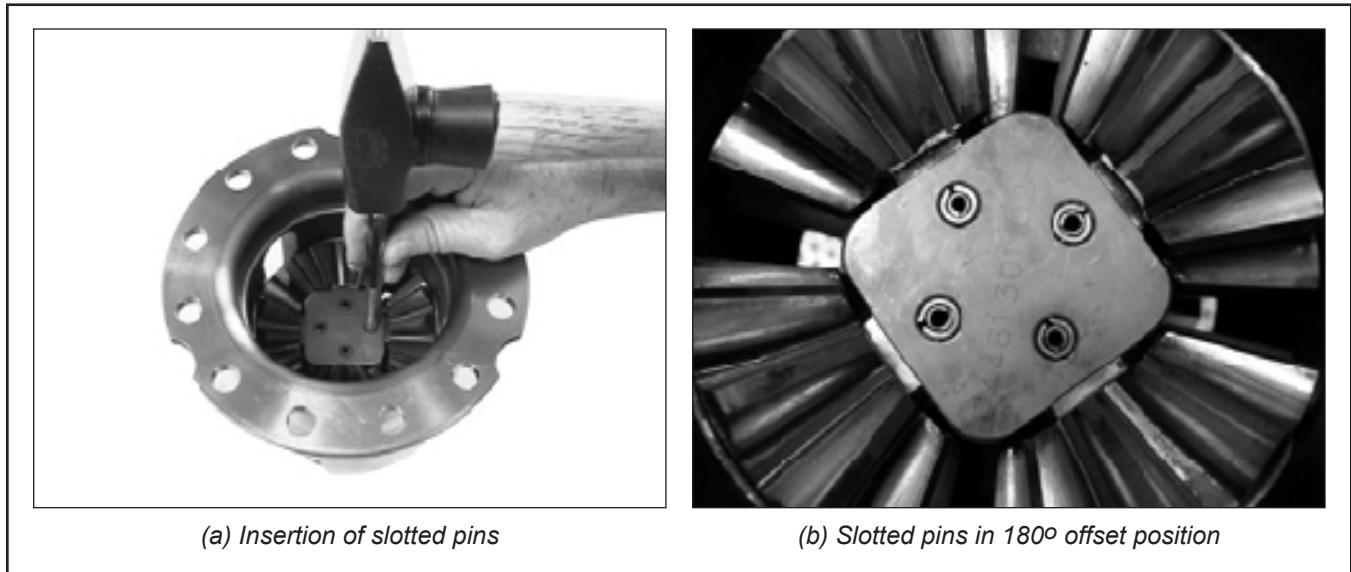


Figure 16 - Slotted Pins

2.44. Insert the second axle bevel gear (part # N8898604) into the differential carrier. See Figure 17.

2.45. Grease the sliding surface of the second thrust washer (part # N8893147) according to the ZF List of Lubricants TE-ML 12. Insert the thrust washer into the differential carrier cover. See Figure 17.

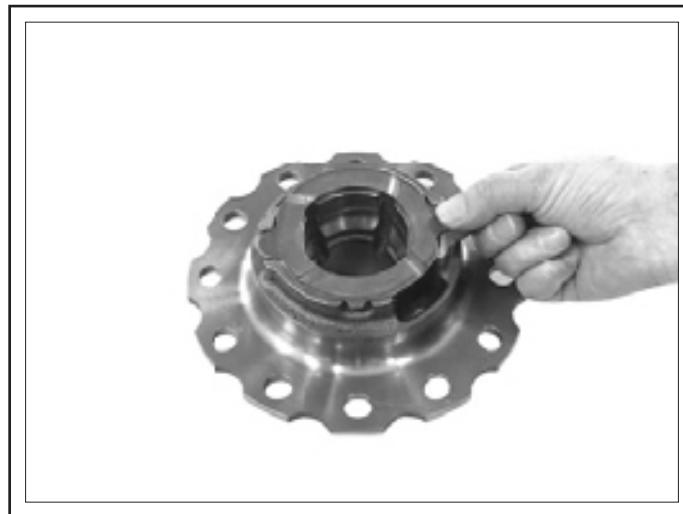


Figure 17 - Thrust Washer Placed in Differential Cover Carrier

2.46. Radially align the differential cover by means of locating pins and then press it into the differential carrier until contact is obtained. See Figure 18.

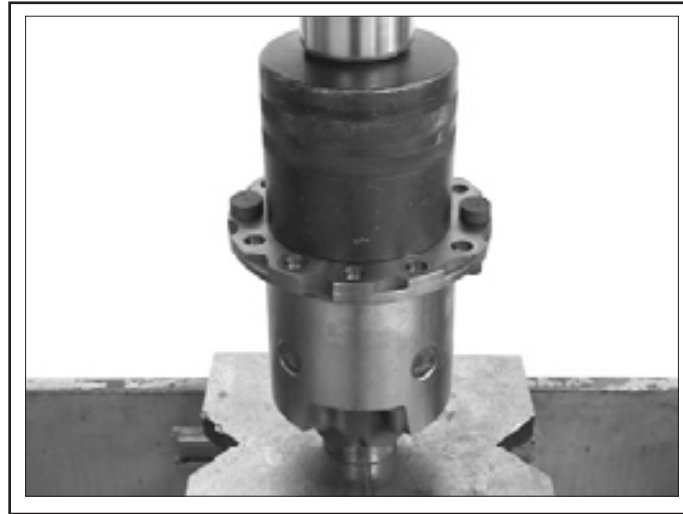


Figure 18 - Differential Cover Alignment

2.47. Mount two locating pins on the crown wheel, insert the differential carrier and bring it into contact position by means of the press. See Figure 19.

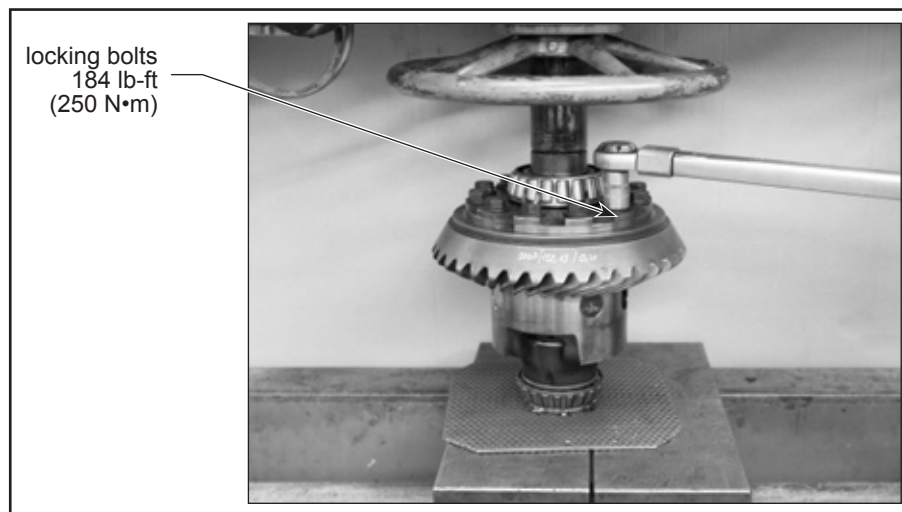


Figure 19 - Mounting of Crown Wheel on Differential Carrier



NOTE

Protect the gears of the crown wheel with a rag or cloth.

2.48. Fix the differential carrier onto the crown wheel by means of a press. Place and tighten the retained locking bolts. Secure the locking bolts with Loctite type-no.2701 (or equivalent). See Figure 19.

2.49. Install the stud bolts of the portal drive and secure with Loctite Type no. 262 (or equivalent). See Figure 20.

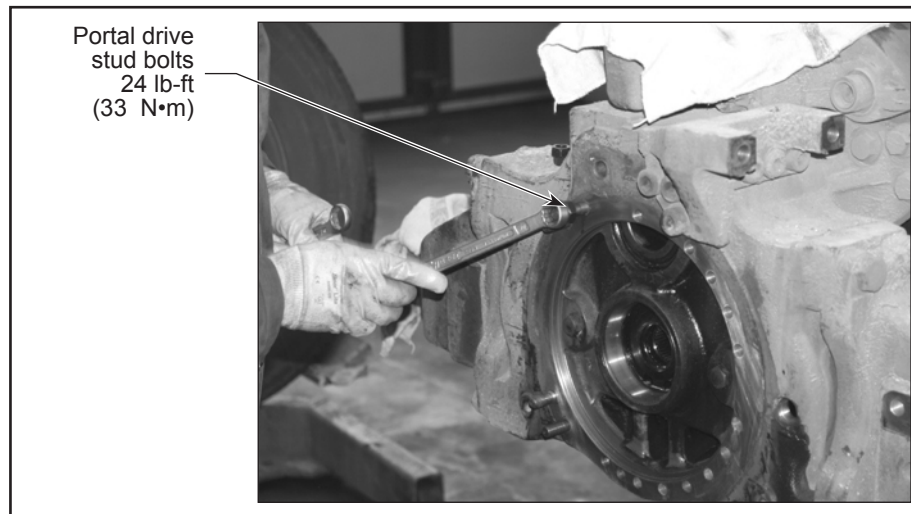


Figure 20 - Portal Drive Stud Bolts

2.50. Mount the short stub shaft on the portal drive gear. See Figure 10.

2.51. Insert the long stub shaft into the axle housing. See Figure 9.

2.52. Mount the differential onto the long stub shaft until contact is reached. See Figure 8.

2.53. Install the new O-ring (part # N8894835). Apply sealing compound DREI-BOND SILIKON 1207 (or equivalent) onto the mounting face immediately before assembly of the portal drive.

2.54. Using a lifting bracket, carefully attach the complete portal drive onto the axle housing. Simultaneously mount the short stub shaft on the differential.

2.55. Secure the portal drive in place with the retained Torx screws and hex nuts. See Figure 21.

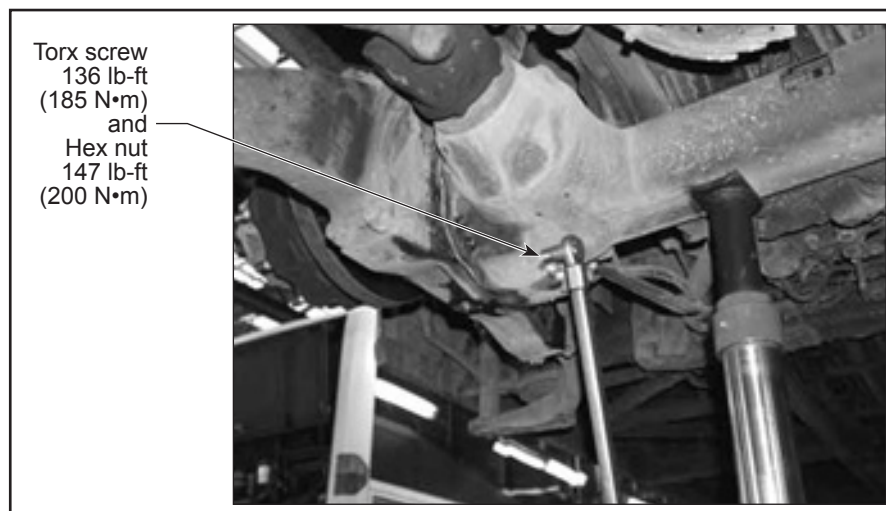


Figure 21 - Portal Drive Mounting

- 2.56. Attach both shock absorbers and rubber joint on the spring carrier, and fix using the appropriate retained hex nuts. See Figure 7. Apply a lubricant such as Never-Seez or equivalent.
- 2.57. Remove the lifting bracket from the portal drive.
- 2.58. Raise the axle until the radius rod can be attached in a horizontal position. See Figure 5.
- 2.59. Fix the radius rod in place with the retained hex screws. See Figure 5. Apply a lubricant such as Never-Seez or equivalent.
- 2.60. Insert and secure the air spring bellows with the retained washers and mounting screws. See Figure 1. Apply a lubricant such as Never-Seez or equivalent.
- 2.61. Mount the brake caliper onto the brake cylinder and secure it with the retained locknuts. Apply a torque of 144 ± 11 lb-ft (195 ± 15 N•m).
- 2.62. Mount the air line carrier plate on the brake cylinder and secure it with the retained hex nut. Refer to section 8: BREAKING SYSTEM of the Nova LFS maintenance manual for detailed installation procedures and torque.
- 2.63. If required, install a new O-ring onto the ABS sensor. Apply a torque of 7 lb-ft (9.5 N•m).
- 2.64. Screw the potentiometer (wear indicator) in place.
- 2.65. Install and secure the stabilizer bar with the retained screws. Refer to section 5: ZF AV-132 REAR AXLE of the Nova LFS maintenance manual for detailed installation procedures and torque.
- 2.66. Position the fixing plate for the compressed air lines and secure it with the retained hex screws.
- 2.67. Clean both sides of the screw plugs on the bottom of the portal drive and mount them with new O-rings. Apply a torque of 96 lb-ft (130 N•m).
- 2.68. Fill the axle until the oil reaches the level check hole on the opposite side of the portal drive (approximately 16 liters). Use oil according to the ZF List of Lubricants TE-ML 12.

**NOTE**

For further information, refer to **Lubrication and Maintenance Instructions AV-132**.

- 2.69. Turn the screw in the brake cylinder in order to close the spring brake actuator. Apply torque according to Figure 1.
- 2.70. Mount the mud flap cover with the retained screws.
- 2.71. Use a suitable wheel lift in order to mount both wheels. Place wheel nuts and tighten crosswise. Apply a torque of 443 lb-ft (600 N•m). See section 6: WHEELS AND TIRES of the Nova LFS maintenance manual.

**CAUTION**

Retighten wheel nuts after 31 miles (50 km) of travel.

2.72. Stamp the letter "A" in the "Version" field of the identification plate in order to indicate the completed axle conversion. See Figure 22.



Figure 22 - Identification Plate

2.73. Place the lifting jack under the wheel and raise slightly. Remove all supports and evenly lower the vehicle.



CAUTION

Prior to the first test drive, check the vehicle on the brake test rig.



NOTE

Following the first test drive, check the axle for leaks. ❖

ANNEX A (page 1 of 3)

The following information is provided by ZF. Nova Bus cannot be held responsible for its content.

Ordner/Files:	7	Service Information	
Type:	AV-132		
Seite/Page:	1 von/of 3		
lfd. Nr/ Current No.:	70/10e		
			Arbeitsmaschinen-Antriebstechnik und Achssysteme Off-Road Driveline Technology and Axle Systems

Introduction of new oil sampling kits (oil PEK) for AV-132

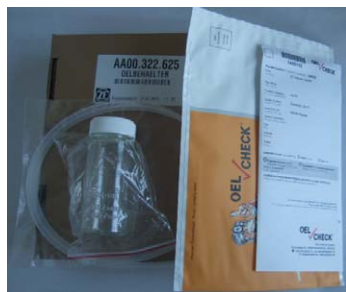
This Service Info has been designed to inform you about the introduction of new oil sampling kits (ZF order no. AA00 322 625) for AV bus axles. In future this oil PEK shall replace the previous oil sampling device („gun“).

The ZF P/N AA00322 625 is equivalent to Nova Bus P/N N8900046

The oil-PEK includes 1 sample bottles as well as the related hose.
It also contains 1 addressed mailing bag and 1 oil sample form.

In addition, a pump (ZF order no. AA00 315 961) is required for oil sampling (one time). *The ZF P/N AA00 315 961 is equivalent to Nova Bus P/N N8900047*

Important: For each oil sample a new hose must be used to avoid any contaminations of the oil! The pump can be used many times, as it is not in direct contact with the oil.



Oil-PEK
ZF-order no. AA00 322 625



Oil pump in the analysis case
ZF-order no. AA00 315 961

19079101 A2

Datum/Date:	2011-03-01
Abteilung/Dept.:	ASDS / März
Email:	Juergen.maerz@zf.com
Telefon/Phone:	+49 851 494 2855
Fax/Telefax:	+49 851 494 902855

ZF Passau GmbH
- Kundendienst / Service Department -
Donaustr. 25 - 71, 94030 Passau

ANNEX A (page 2 of 3)

Ordner/Files:	7	Service Information	 Arbeitsmaschinen-Antriebstechnik und Achssysteme Off-Road Driveline Technology and Axle Systems
Type:	AV-132		
Seite/Page:	2 von/of 3		
lfd. Nr/ Current No.:	70/10e		

Notes for sampling**Period of sampling**

The oil samples must be taken in operating temperature condition, immediately after standstill of the vehicle (max. 3 minutes).

Sampling point

Oil filler screw portal housing

Sampling

Please be careful that dirt / water does not penetrate into the oil sample!

- Carefully clean the sampling point before taking the sample
- Enter the hose through the oil filler hole into the oil bath

The hose may not come into contact with contaminated parts or floors!

- It is indispensable to **complete** the oil sample form **as specified**.

Attachment:

Sample template for oil sample form (see page 3)

ANNEX A (page 3 of 3)



OelCheck Oil Sample Form

Please enter only axle serial no. into the field Unit ID!

Barcode auf das Probengefäß kleben, jede Probe einen Begleitschein anfügen.
OELCHECK-Probengefäß hat zwei Ziffern für vorzählbare Analyse.
Stick barcode label on sample bottle. Stick OELCHECK-Labels on sample forms for each sample.
The original sample bottle indicates a previous analysis of this sample.

Analysenumfang
Analysis kit
Grund der Analyse Reason for analysis
○ Folgeuntersuchung, vorherige Labornr. Trend-analysis, previous lab-number
○ Routinekontrolle Routine control
○ Ölartenwechsel Oil type change
○ Schaden Damage
○ Sonstiger Grund/Problem Other

Name Besitzer/Vereinbetrieb
Name Owner/Transport company
City
Land
Country
Fahrzeug-Hersteller/OEM
Vehicle manufacturer/OEM
Fahrzeug-Typ
Vehicle type
Fahrgestellnummer
Vehicle identification number
Fahrzeug-Nummer
Vehicle number
Fahrzeugzulassung
Vehicle initial registration
Gemeindeg.
City
Gemeindeg.
City

e.g. 6HP 602
e.g. ZF, Voith

Very important information!

Achsenbezeichnung (Dieses Feld unbeschriftet ausfüllen)
Unit ID (Please enter same Unit-ID for same axle)
Axle serial no.
Achsennummer (max. 20 Zeichen) axle serial number (max. 20)

Achsen e.g. AV-132
Stückzahl 4472.036. xxx
Anwendung/Einsatz e.g. City traffic
Ölartbeschreibung Lubricant brand name
Viskosität Viscosity
Ölmenge im Getriebe Oil quantity
Nichtkürzung Top-up volume
Einfüllmengen Date sample taken
Ölwechseldatum Date oil changed
Ölstandzeit Oil in use
Gesamte Laufzeit Total operating time
Öl gewechselt Oil changed

IHR PROBENBELEG
KEEP FOR YOUR REFERENCE

Probe mit der Bezeichnung Unit ID
Axle serial no.
wurde versandt an
Labornummer Sample number
Send to Laboratory TT or MM mm JJ/yy



{*bc*}
{SPrtx} {SmpIno}

Kundennummer Customer number (MainCustNo) (CustNo)
Firma ZF Passau GmbH

Titel, Name
Funktion, Abteilung
Strasse, Postfach
Land, PLZ, Ort
Telefon, Durchwahl
Fax
Internet
E-Mail
Laborbericht per Lab-report by
Express-Analyse (25 €)
Datum, Unterschrift
Zusätzliche firmeninterne Angaben
(RELTO)

already completed!

OELCHECK
Kontakt: OELCHECK GmbH
Kontakt: OELCHECK GmbH
Kontakt: OELCHECK GmbH

AVTP

A-Achssysteme NKW ZF Passau

ANNEX B (page 1 of 1)

The following information is provided by ZF. Nova Bus cannot be held responsible for its content.

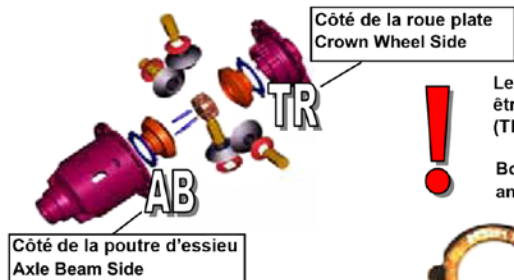
AV-132
Documentation - Campagne du différentiel
Documentation sheet - Differential campaign



Arbeitsmaschinen-Antriebstechnik
und Achssysteme

No. de série Serial-No.	<input type="text"/>	Liste de pièces Parts List	4472 _ _ _ _
Nom client/Compagnie de transport Name Owner/Transport company	<input type="text"/>		
Ville City	<input type="text"/>	Pays Country	<input type="text"/>
Manufacturier du véhicule/OEM Vehicle manufacturer/OEM	<input type="text"/>		
Type de véhicule Vehicle type	<input type="text"/>	Numéro du véhicule Vehicle number	<input type="text"/>
No. d'identification du véhicule Vehicle identification number	<input type="text"/>		
Premier enregistrement First registration	<input type="text"/>	Date de remise en état Date of rebuilding	<input type="text"/>
Millage Mileage	<input type="text"/> km	Type d'huile et marque Oil-brand/type	<input type="text"/>
Manufacturier d'engrenage Gear manufacturer	<input type="text"/>	Type d'engrenage Gear type	<input type="text"/>
Niveau d'huile AV-132 Oil level in AV-132	OK <input type="checkbox"/> pas OK <input type="checkbox"/> OK not OK <input type="checkbox"/> → <input type="text"/>		

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! Les deux planétaires et anneaux de butée doivent être identifiés avec le no. de série AV-132 et sa position (TR = côté roue plate, ou AB = côté poutre d'essieu)!

Both axle bevel gears and shims have to be marked with AV-132 serial no. and position (TR = Crown Wheel- or AB = Axle Beam-Side)!



Épaisseur de l'anneau de butée
Thickness of shims



TR: **X (TR) =** mm

AB: **X (AB) =** mm

Identification du faux arbre
Marking on stub shaft



z.B./e.g: elbe 43/08 ZF 4472 335 665

Id. du faux arbre court:
Stub shaft short:

Id. du faux arbre long:
Stub shaft long:

Les pièces retirées ainsi que ce document complété doivent être envoyés à:
Exchanged parts including filled documentation sheet have to be sent to:

ZF Passau GmbH
Werk 1, Kundendienst, AVTP
Donastr. 25-75
94034 Passau
Germany

Ville / Date
City / Date:

Sceau / Signature du garage
Rubber stamp / Signature of workshop

ANNEX C (page 1 of 1)

The following information is provided by ZF. Nova Bus cannot be held responsible for its content.

Serial number	Parts list (BoM)	Mileage (km)	Service Workshop (Stamp)
Submit the completed sheet of findings with every warranty / goodwill procedure!			
2) Portal right			
Input gear	<input type="checkbox"/> Pitting	<input type="checkbox"/> Tooth fracture	<input type="checkbox"/> broken
Int. gear	<input type="checkbox"/> Pitting	<input type="checkbox"/> Tooth fracture	<input type="checkbox"/> OK
Output gear	<input type="checkbox"/> Pitting	<input type="checkbox"/> Tooth fracture	<input type="checkbox"/> OK
Axial bearing gear	<input type="checkbox"/> Pitting	<input type="checkbox"/> broken	<input type="checkbox"/> OK
Intern. Gear beari	<input type="checkbox"/> Pitting	<input type="checkbox"/> Rolling passes	<input type="checkbox"/> OK
Output gear bear	<input type="checkbox"/> Pitting	<input type="checkbox"/> Rolling passes	<input type="checkbox"/> OK
Plug-in shaft	<input type="checkbox"/> broken	<input type="checkbox"/> Prod. date	<input type="checkbox"/> Manufacturer
Portal housing	<input type="checkbox"/> Run-in wear	<input type="checkbox"/> Run-in wear	<input type="checkbox"/> O-ring leakage
	<input type="checkbox"/> Intermediate gear bearing	<input type="checkbox"/> Thrust bearing	<input type="checkbox"/> PG - AB
Intern. bearing pi	<input type="checkbox"/> Run-in wear	<input type="checkbox"/> leaking	<input type="checkbox"/> OK
4) Differential			
Axle bevel gear (A)	<input type="checkbox"/> OK	<input type="checkbox"/> Wear	<input type="checkbox"/> Pitting
Thrust washers (A)	<input type="checkbox"/> OK	<input type="checkbox"/> TV dimension, TR	<input type="checkbox"/> TV dimension, AB
Differential gears	<input type="checkbox"/> OK	<input type="checkbox"/> Wear	<input type="checkbox"/> Pitting
Thrust washers	<input type="checkbox"/> OK	<input type="checkbox"/> Fretting / Scoring	<input type="checkbox"/> broken
Diff. bolt	<input type="checkbox"/> OK	<input type="checkbox"/> Fretting / Scoring	<input type="checkbox"/> broken
Straight pins	<input type="checkbox"/> OK	<input type="checkbox"/> Cracks	<input type="checkbox"/> loose
Crown gear conne	<input type="checkbox"/> OK	<input type="checkbox"/> Rolling passes	<input type="checkbox"/> Fitting
Diff. bearing, port;	<input type="checkbox"/> OK	<input type="checkbox"/> Rolling passes	<input type="checkbox"/> Fitting
Diff. bearing, outp	<input type="checkbox"/> OK	<input type="checkbox"/> Rolling passes	<input type="checkbox"/> Fitting
1) Portal left			
Input gear	<input type="checkbox"/> Pitting	<input type="checkbox"/> Tooth fracture	<input type="checkbox"/> broken
Int. gear	<input type="checkbox"/> Pitting	<input type="checkbox"/> Tooth fracture	<input type="checkbox"/> OK
Output gear	<input type="checkbox"/> Pitting	<input type="checkbox"/> Tooth fracture	<input type="checkbox"/> OK
Axial bearing gear	<input type="checkbox"/> Pitting	<input type="checkbox"/> broken	<input type="checkbox"/> OK
Intern. Gear beari	<input type="checkbox"/> Pitting	<input type="checkbox"/> Rolling passes	<input type="checkbox"/> OK
Output gear bear	<input type="checkbox"/> Pitting	<input type="checkbox"/> Rolling passes	<input type="checkbox"/> OK
Plug-in shaft	<input type="checkbox"/> broken	<input type="checkbox"/> Prod. date	<input type="checkbox"/> Manufacturer
Portal housing	<input type="checkbox"/> Run-in wear	<input type="checkbox"/> Run-in wear	<input type="checkbox"/> O-ring leakage
	<input type="checkbox"/> Intermediate gear bearing	<input type="checkbox"/> Thrust bearing	<input type="checkbox"/> PG - AB
Intern. bearing p	<input type="checkbox"/> Run-in wear	<input type="checkbox"/> leaking	<input type="checkbox"/> OK
3) Drive			
KRS	<input type="checkbox"/> OK	<input type="checkbox"/> Tooth fracture, TR	<input type="checkbox"/> Tooth fracture, pinion
Input flange ring, input	<input type="checkbox"/> OK	<input type="checkbox"/> Run-in wear	<input type="checkbox"/> Pitting
Grooved nut	<input type="checkbox"/> OK	<input type="checkbox"/> leaking	<input type="checkbox"/> Pitting line
Pinion head bear	<input type="checkbox"/> OK	<input type="checkbox"/> Securing lacquer cracked	<input type="checkbox"/> loose
Pinion flange be.	<input type="checkbox"/> OK	<input type="checkbox"/> Pitting	<input type="checkbox"/> Locite present
	<input type="checkbox"/> OK	<input type="checkbox"/> Pitting	<input type="checkbox"/> Rolling passes
	<input type="checkbox"/> OK	<input type="checkbox"/> Pitting	<input type="checkbox"/> Rolling passes
Other information			
Primary defective p	<input type="checkbox"/> Designation	<input type="checkbox"/> Part number	
Water in oil (visual judgement)	<input type="checkbox"/> yes	<input type="checkbox"/> no	
Comments:			



Rev. 3.02.2010

7/11