

Allis Chalmers WC with RC Ring & Pinion Ground Speed Chart – USAP & NATPA RPM



By changing the stock ring and pinion in the transmission, it is possible to slow down the Allis WC about 10%. Stock ring and pinion are 7:32, while an RC set is 5:33.

See actual ground speeds below. Note gear reduction numbers.



Ring and Pinion example. Not actual Allis Chalmers gears.

Special note: WC high crop tractors also used the 5:33 ring & pinion set.

Allis Chalmers WC w/RC Ring & Pinion - USAP & NATPA											
12.4-28		DIV I	DIV II & III	DIV IV	DIV V	Data from Firestone Field & Road Data Chart					
Gear	Gear	Standard rpm	10%	20%	30%	Tire Size	Static Load Radius (in)	Tire Size	Load Rad (in)		
	Reduction	1720	1892	2064	2236						
		mph	mph	mph	mph						
1st	97.68	2.37	2.60	2.84	3.08	12.4-28	22.6	18.4-28	26.7		
2nd	67.16	3.44	3.79	4.13	4.47	13.6-28	23.6	12.4-38	27.2		
3rd	50.58	4.57	5.03	5.48	5.94	14.9-28	24.5	13.6-38	28.4		
4th	26.40	8.76	9.63	10.51	11.38	16.9-28	25.6	See pg 2 for more tire sizes			
13.6-28		DIV I	DIV II & III	DIV IV	DIV V	18.4-28		DIV I	DIV II & III	DIV IV	DIV V
Gear	Gear	Standard rpm	10%	20%	30%	Gear	Gear	Standard rpm	10%	20%	30%
	Reduction	1720	1892	2064	2236						
		mph	mph	mph	mph			mph	mph	mph	mph
1st	97.68	2.47	2.72	2.97	3.21	1st	97.68	2.80	3.08	3.36	3.63
2nd	67.16	3.59	3.95	4.31	4.67	2nd	67.16	4.07	4.47	4.88	5.29
3rd	50.58	4.77	5.25	5.73	6.20	3rd	50.58	5.40	5.94	6.48	7.02
4th	26.40	9.14	10.06	10.97	11.89	4th	26.40	10.35	11.38	12.41	13.45
14.9-28		DIV I	DIV II & III	DIV IV	DIV V	12.4-38		DIV I	DIV II & III	DIV IV	DIV V
Gear	Gear	Standard rpm	10%	20%	30%	Gear	Gear	Standard rpm	10%	20%	30%
	Reduction	1720	1892	2064	2236						
		mph	mph	mph	mph			mph	mph	mph	mph
1st	97.68	2.57	2.82	3.08	3.34	1st	97.68	2.85	3.13	3.42	3.70
2nd	67.16	3.73	4.10	4.48	4.85	2nd	67.16	4.14	4.56	4.97	5.39
3rd	50.58	4.95	5.45	5.95	6.44	3rd	50.58	5.50	6.05	6.60	7.15
4th	26.40	9.49	10.44	11.39	12.34	4th	26.40	10.54	11.59	12.65	13.70
16.9-28		DIV I	DIV II & III	DIV IV	DIV V	13.6-38		DIV I	DIV II & III	DIV IV	DIV V
Gear	Gear	Standard rpm	10%	20%	30%	Gear	Gear	Standard rpm	10%	20%	30%
	Reduction	1720	1892	2064	2236						
		mph	mph	mph	mph			mph	mph	mph	mph
1st	97.68	2.68	2.95	3.22	3.48	1st	97.68	2.97	3.27	3.57	3.87
2nd	67.16	3.90	4.29	4.68	5.07	2nd	67.16	4.33	4.76	5.19	5.62
3rd	50.58	5.18	5.69	6.21	6.73	3rd	50.58	5.74	6.32	6.89	7.47
4th	26.40	9.92	10.91	11.90	12.89	4th	26.40	11.00	12.10	13.20	14.30

Ground speeds shown are calculated based on gear reduction and tire size. Actual ground speeds may vary due to tire pressure, wear/modification and engine rpm.

Allis Chalmers WC with RC Ring & Pinion Ground Speed Chart – USAP & NATPA RPM

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Allis Chalmers WC w/RC Ring & Pinion - USAP & NATPA												
14.9-38		DIV I	DIV II & III	DIV IV	DIV V	Data from Firestone Field & Road Data Chart						
Gear	Standard rpm	1720	1892	2064	2236	Tire Size	Static Load Radius (in)	Tire Size	Load Rad (in)			
	Gear Reduction	mph	mph	mph	mph							
1st	97.68	3.09	3.40	3.71	4.02	14.9-38	29.5	18.4-38	31.4			
2nd	67.16	4.49	4.94	5.39	5.84	15.5-38	28.4	16.9-34	28.2			
3rd	50.58	5.97	6.56	7.16	7.76	16.9-38	30.4	18.4-34	29.4			
4th	26.40	11.43	12.57	13.72	14.86							
15.5-38		DIV I	DIV II & III	DIV IV	DIV V	16.9-34		DIV I	DIV II & III	DIV IV	DIV V	
Gear	Standard rpm	1720	1892	2064	2236	Gear	Gear Reduction	Standard rpm	1720	1892	2064	2236
	Gear Reduction	mph	mph	mph	mph			mph	mph	mph	mph	mph
1st	97.68	2.97	3.27	3.57	3.87	1st	97.68	2.95	3.25	3.54	3.84	
2nd	67.16	4.33	4.76	5.19	5.62	2nd	67.16	4.29	4.72	5.15	5.58	
3rd	50.58	5.74	6.32	6.89	7.47	3rd	50.58	5.70	6.27	6.84	7.41	
4th	26.40	11.00	12.10	13.20	14.30	4th	26.40	10.93	12.02	13.11	14.20	
16.9-38		DIV I	DIV II & III	DIV IV	DIV V	18.4-34		DIV I	DIV II & III	DIV IV	DIV V	
Gear	Standard rpm	1720	1892	2064	2236	Gear	Gear Reduction	Standard rpm	1720	1892	2064	2236
	Gear Reduction	mph	mph	mph	mph			mph	mph	mph	mph	mph
1st	97.68	3.18	3.50	3.82	4.14	1st	97.68	3.08	3.39	3.69	4.00	
2nd	67.16	4.63	5.09	5.56	6.02	2nd	67.16	4.48	4.93	5.37	5.82	
3rd	50.58	6.15	6.76	7.38	7.99	3rd	50.58	5.95	6.54	7.13	7.73	
4th	26.40	11.78	12.96	14.13	15.31	4th	26.40	11.39	12.53	13.67	14.81	
18.4-38		DIV I	DIV II & III	DIV IV	DIV V	Ground speeds shown are calculated based on gear reduction and tire size. Actual ground speeds may vary due to tire pressure, wear/modification and engine rpm.						
Gear	Standard rpm	1720	1892	2064	2236							
	Gear Reduction	mph	mph	mph	mph							
1st	97.68	3.29	3.62	3.95	4.27							
2nd	67.16	4.78	5.26	5.74	6.22							
3rd	50.58	6.35	6.99	7.62	8.26							
4th	26.40	12.17	13.38	14.60	15.82							

Allis Chalmers WC with RC Ring & Pinion Ground Speed Chart – Factory Rated RPM Page 3



By changing the stock ring and pinion in the transmission, it is possible to slow down the Allis WC about 10%. Stock ring and pinion are 7:32, while an RC set is 5:33.

See actual ground speeds below. Note gear reduction numbers.



Ring and Pinion example. Not actual Allis Chalmers gears.

Special note: WC high crop tractors also used the 5:33 ring & pinion set.

Allis Chalmers WC with RC Ring & Pinion													
12.4-28 (stock)		Stock rpm	10%	20%	30%	40%	Tire Data from Firestone Field & Road Data Chart						
Gear	Gear	1300	1430	1560	1690	1820	Tire Size	Static Load Radius (in)	Tire Size	Static Load Radius			
	Reduction	mph	mph	mph	mph	mph							
1st	97.68	1.79	1.97	2.15	2.33	2.50	12.4-28	22.6	18.4-28	26.7			
2nd	67.16	2.60	2.86	3.12	3.38	3.64	13.6-28	23.6	12.4-38	27.2			
3rd	50.58	3.45	3.80	4.15	4.49	4.84	14.9-28	24.5	13.6-38	28.4			
4th	26.40	6.62	7.28	7.94	8.60	9.27	16.9-28	25.6	See pg 2 for more tire sizes				
13.6-28		Stock rpm	10%	20%	30%	40%	18.4-28		Stock rpm	10%	20%	30%	40%
Gear	Gear	1300	1430	1560	1690	1820	Gear	Reduction	1300	1430	1560	1690	1820
	Reduction	mph	mph	mph	mph	mph			mph	mph	mph	mph	mph
1st	97.68	1.87	2.05	2.24	2.43	2.62	1st	97.68	2.11	2.32	2.54	2.75	2.96
2nd	67.16	2.72	2.99	3.26	3.53	3.80	2nd	67.16	3.07	3.38	3.69	4.00	4.30
3rd	50.58	3.61	3.97	4.33	4.69	5.05	3rd	50.58	4.08	4.49	4.90	5.31	5.71
4th	26.40	6.91	7.60	8.29	8.98	9.68	4th	26.40	7.82	8.60	9.38	10.16	10.95
14.9-28		Stock rpm	10%	20%	30%	40%	12.4-38		Stock rpm	10%	20%	30%	40%
Gear	Gear	1300	1430	1560	1690	1820	Gear	Reduction	1300	1430	1560	1690	1820
	Reduction	mph	mph	mph	mph	mph			mph	mph	mph	mph	mph
1st	97.68	1.94	2.13	2.33	2.52	2.71	1st	97.68	2.15	2.37	2.58	2.80	3.01
2nd	67.16	2.82	3.10	3.38	3.67	3.95	2nd	67.16	3.13	3.44	3.76	4.07	4.38
3rd	50.58	3.74	4.12	4.49	4.87	5.24	3rd	50.58	4.16	4.57	4.99	5.40	5.82
4th	26.40	7.17	7.89	8.61	9.33	10.04	4th	26.40	7.97	8.76	9.56	10.35	11.15
16.9-28		Stock rpm	10%	20%	30%	40%	13.6-38		Stock rpm	10%	20%	30%	40%
Gear	Gear	1300	1430	1560	1690	1820	Gear	Reduction	1300	1430	1560	1690	1820
	Reduction	mph	mph	mph	mph	mph			mph	mph	mph	mph	mph
1st	97.68	2.03	2.23	2.43	2.63	2.84	1st	97.68	2.25	2.47	2.70	2.92	3.15
2nd	67.16	2.95	3.24	3.54	3.83	4.13	2nd	67.16	3.27	3.60	3.92	4.25	4.58
3rd	50.58	3.91	4.30	4.70	5.09	5.48	3rd	50.58	4.34	4.77	5.21	5.64	6.08
4th	26.40	7.50	8.25	9.00	9.75	10.50	4th	26.40	8.32	9.15	9.98	10.81	11.64

Ground speeds shown are calculated based on gear reduction and tire size. Actual ground speeds may vary due to tire pressure, wear/modification and engine rpm.

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Allis Chalmers WC with RC Ring & Pinion													
14.9-38		Stock rpm	10%	20%	30%	40%	Tire Data from Firestone Field & Road Data Chart						
Gear	Gear	1300	1430	1560	1690	1820	Tire Size	Static Load Radius (in)	Tire Size	Static Load Radius			
	Reduction	mph	mph	mph	mph	mph							
1st	97.68	2.33	2.57	2.80	3.04	3.27	14.9-38	29.5	18.4-38	31.4			
2nd	67.16	3.40	3.74	4.08	4.41	4.75	15.5-38	28.4	16.9-34	28.2			
3rd	50.58	4.51	4.96	5.41	5.86	6.31	16.9-38	30.4	18.4-34	29.4			
4th	26.40	8.64	9.50	10.37	11.23	12.09							
15.5-38		Stock rpm	10%	20%	30%	40%	16.9-34		Stock rpm	10%	20%	30%	40%
Gear	Gear	1300	1430	1560	1690	1820	Gear	Gear	1300	1430	1560	1690	1820
	Reduction	mph	mph	mph	mph	mph							
1st	97.68	2.25	2.47	2.70	2.92	3.15	1st	97.68	2.23	2.46	2.68	2.90	3.12
2nd	67.16	3.27	3.60	3.92	4.25	4.58	2nd	67.16	3.25	3.57	3.90	4.22	4.54
3rd	50.58	4.34	4.77	5.21	5.64	6.08	3rd	50.58	4.31	4.74	5.17	5.60	6.03
4th	26.40	8.32	9.15	9.98	10.81	11.64	4th	26.40	8.26	9.08	9.91	10.74	11.56
16.9-38		Stock rpm	10%	20%	30%	40%	18.4-34		Stock rpm	10%	20%	30%	40%
Gear	Gear	1300	1430	1560	1690	1820	Gear	Gear	1300	1430	1560	1690	1820
	Reduction	mph	mph	mph	mph	mph							
1st	97.68	2.41	2.65	2.89	3.13	3.37	1st	97.68	2.33	2.56	2.79	3.02	3.26
2nd	67.16	3.50	3.85	4.20	4.55	4.90	2nd	67.16	3.38	3.72	4.06	4.40	4.74
3rd	50.58	4.65	5.11	5.58	6.04	6.51	3rd	50.58	4.49	4.94	5.39	5.84	6.29
4th	26.40	8.90	9.79	10.68	11.57	12.46	4th	26.40	8.61	9.47	10.33	11.19	12.05
18.4-38		Stock rpm	10%	20%	30%	40%	Ground speeds shown are calculated based on gear reduction and tire size. Actual ground speeds may vary due to tire pressure, wear/modification and engine rpm.						
Gear	Gear	1300	1430	1560	1690	1820							
	Reduction	mph	mph	mph	mph	mph							
1st	97.68	2.49	2.73	2.98	3.23	3.48							
2nd	67.16	3.61	3.98	4.34	4.70	5.06							
3rd	50.58	4.80	5.28	5.76	6.24	6.72							
4th	26.40	9.20	10.11	11.03	11.95	12.87							