

OFF ROAD 101

Low Range

Low Range: When riding a mountain bike up a hill it is always easier to gear down, or you will run out of energy. This is the same concept with your vehicle. Low range is implemented to help you gear down and make good use of your engine power to help you over those steep hills, and to save your brakes when going downhill. Low range keeps your tires spinning at a slow pace with lots of power behind it. It can hold your engine back without constantly riding the brakes.

TeraFlex Low Range gear conversion products can increase your low range crawl ratio by as much as 50%, resulting in improved off road control and performance.



TeraLow gear sets

Rockcrawling with the TeraLow gives you the advantage of being able to start your engine on very steep inclines without using your clutch and with automatics compression braking is improved when coming down a hill.

The key benefit of TeraLow conversion kits is that they improve gearing for off-roading without sacrificing the high-range gearing for highway driving.

Because TeraLow transfer case conversions are designed to be used in the vehicle's native application, there is much less labor expense involved when compared to other gearing options. In addition stock driveshafts can be used with most applications.



Low 300

The TeraLow Low231 and the Low300 provide about 50 percent more reduction than stock. The 4.0:1 ratio means that, in low range, your Jeep will move four times slower than it does in high range.



The TeraFlex 2Low kit provides the benefit of true low range gearing, while allowing the front to freely turn. It lets you choose 2 Low in addition to the other standard options. The 2 Low kit will eliminate drive train bind and most of your three-point turns. This kit is completely internal and does not require any external modifications. Disassembly of the transfer case is required for installation.



2Low231

LOW RANGE CRAWL RATIOS

Trying to figure your final low range crawl ratio can sometimes become difficult. There is a zone that is ideal for rock crawling and other off-roading. Generally, a crawl ratio between 50:1 and 75:1 works well in high-traction terrain.

Crawl ratios are calculated by multiplying the axle ratio by the transmissions first gear ratio by the transfer case low range ratio. This gives you the final crawl ratio. Generally a final crawl ratio of 50.0:1 to 100.0:1 is a good off-road crawl ratio. This chart shows improved gear reduction benefits of the TeraFlex Low231 case.

RING & PINION AXLE RATIO	TRANSMISSION 1ST GEAR RATIO <small>(AX-15 5spd. Manual)</small>	TRANSFER CASE LOW RANGE		FINAL CRAWL RATIO	
		<small>Stock NV231</small>	<small>Tera LOW231</small>	<small>Stock NV231</small>	<small>Tera LOW231</small>
3.07	4.03	<small>2.72</small>	4.0	33.65	49.49
3.31		<small>36.28</small>		53.36	
3.55		<small>38.91</small>		57.23	
3.73		<small>40.89</small>		60.13	
4.10		<small>44.94</small>		66.09	
4.56		<small>49.98</small>		73.51	

To find your crawl ratio, use this simple formula (refer to the chart). Multiply the first gear ratio by the transfer case ratio. Multiply that number by the axle ratio (of the ring and pinion) to get your crawl ratio.

Check out the product section on our website to learn more about our low range gearing.