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SA4x4's GIANT ALL-TERRAIN TYRE TEST

You want tyres fit for the bush, which are also comfortable on tar? Yup, you have entered the realm of All-Terrain Rubber which must grip and grind its way over a variety of surfaces. But which brand is best? The SA4x4 team amassed 17 sets of AT tyres for the biggest local tyre-showdown ever...

17 TYRES, 5 TOUGH TESTS – THE MOTHER OF SHOWDOWNS

With a contact patch that's not much bigger than a big human hand to provide grip, stability and ride comfort, tyres nowadays are marvels of modern technology.

Since the first pneumatic tyre was made 130 years ago by John Boyd Dunlop (actually patented 40 years earlier by fellow Scotsman Robert William Thomson), the only feature that has remained unchanged since 1888 is the round shape.

Many innovations have followed over the years. Besides synthetic rubber, the most prominent has been the development of radial tyre construction by Michelin exactly 70 years ago (though was patented by Arthur Savage in 1915).

Radial construction, better compounds

and computer-aided tread designs have allowed for even more specialised tyre applications, and led to three main tyre options in the world of 4x4s and all-wheel-drive SUVs: mud-terrain (MT), all-terrain (AT) and highway-terrain (HT).

MTs are the preferred option for tough off-road conditions, where maximum grip in mud and sand is required, with suitable sidewall protection against punctures at low pressures.

But the aggressive tread patterns of MT tyres are less than ideal on tar because of unacceptable noise and vibration levels, making long-distance trips harsh and uncomfortable.

On the other side of the spectrum, highway-terrain tyres offer higher speed ratings, better grip on tar, but less traction in off-road conditions, and they are more

prone to damage off road because of their softer sidewalls.

In theory, all-terrain tyres are developed to find the middle ground between MT and HT tyres – that balance between off-road prowess and asphalt performance. They represent a compromise, and as such a multitude of options exists within the segment – from more off-road-biased choices to more on-road-inclined versions.

But which tyre brand makes the best all-rounder? That is the question we wanted answered; your choice of tyres, just like the nameplate on your 4x4, can lead to heated campfire debates...

For this tyre-showdown, we assembled 17 sets of tyres from 16 different brands – 85 tyres in total (including spares) – and subjected them to an exhaustive set of tests to find the best all-rounder in the game.

THE TYRES

The tyre market in South Africa is rapidly expanding – in volume as well as in brand diversity. World-renowned manufacturers such as Bridgestone, Goodyear, Continental (General) and Sumitomo (Dunlop) have facilities here, and a plethora of brands is imported through companies like TiAuto, SA Tyre, Stamford, Tubestone, Minty's and Lombards, to name a few.

We identified at least 26 different brands of AT tyres available locally, and in the end, received the correct type and size of tyre from 16 different makes – BF Goodrich, Bridgestone, Continental, Cooper, Dunlop, Firestone, General, Goodyear, GT Radial, Hankook, Kumho, Michelin, Nexen, Pirelli, Velocity and Yokohama – with Dunlop supplying two different types of AT patterns.

All the members of the South African Tyre Manufacturers Conference (SATMC) – Bridgestone, Continental, Goodyear and Sumitomo Rubber (Dunlop) – entered their tyres, as well as Michelin SA, also representing BF Goodrich.

The Tyre Importers Association of South Africa (TIASA) was also represented – with Minty's supplying their new Nexen

Rodian Pro AT tyres, but not the Toyo Open Country AT, as it was deemed outdated in terms of technology.

Yokohama SA sent a set of their Geolandars, and Lombards entered their Kumho Road Ventures, while TiAuto supplied GT Radial, Hankook and Velocity tyres, but not their Achilles brand – no stock.

We also approached Pirelli SA; but, as the company is expecting a new-generation Scorpion AT soon, they declined the opportunity. However, we purchased a set of Pirellis as we felt it would make the test more representative. We also procured a set of Cooper Discoverer A/T3s for the same reason.

Other imported makes that we would have liked to include were Falken with its Wildpeak AT (importer Stamford did not want to participate), Maxxis (no stock), Mickey Thompson (not available in the correct size) and Windforce (distributor SA Tyre did not want to supply); and we decided not to include Goodride, Federal, Maxtrek and Hercules.

Two-ply, three-ply and synthetics

Three-ply sidewall construction and Light Truck (LT) designation are the watchwords in 4x4 tyre selection. Besides the three-ply KO2 tyres supplied by BF Goodrich and Dunlop, we would ideally have liked to include three-ply AT rubber from Cooper, Mickey Thompson and Maxxis in the test.

While the Discoverer A/T3 (the correct tyre for this test in the Cooper range) may have a stronger sidewall and a higher cord strength in the carcass, it has a two-ply construction, and the same

applies to the Mickey Thompson Deegan 38 A/T. Both, however, are also rated as LT (Light Truck) tyres.

The LT-rated three-ply Maxxis Bravo AT-980 tyre would have been a great addition, but unfortunately no stock was available at the time, thus leaving the BFG and GrandTrek AT3 Gs as the only three-ply tyres in the test.

That said, a number of the new-generation two-ply tyres are using synthetic materials in their sidewall construction, and although these go by confusing proprietary names, they appear to have improved the load index and added strength. Examples of these include the use of Kevlar (Goodyear Wrangler), Tectonic (Dunlop Grandtrek) and DuraGen (General Grabber). For example, the new Tectonic-infused Dunlop Grandtrek AT3 G has a load index rating of 120 (meaning that it can handle a load of up to 1400kg per tyre), which is similar to the 117/120 rating of the BFGs, while most contenders are rated at 112 (1120kg per tyre). The exceptions in this line-up are the GT Radials with a rating of 110 (1060kg per tyre).

The speed index ratings for our 17 contenders vary from S (good for speeds of up to 180km/h), to T (190km/h), and even H (210km/h), in the case of the Grabbers and Yokohama Geolandars.

If you regularly haul heavy loads over large distances, it is important to consider a tyre with a higher load index, and the speed rating becomes important when choosing rubber for your trailer or off-road caravan, as it needs to be compatible with the rating of the tyres on your vehicle.



THE VEHICLES

For the tests, we used two identical Ford Ranger FX4 double-cab auto models, which are based on the 3.2-litre XLT Double Cab 4x4. The FX4 incorporates some distinctive styling changes, including attractive black finishes for the radiator, fog-light bezels, side-mirrors, roof rails, and the door and tailgate handles. This derivative, introduced in April 2017, proved so popular that Ford has now expanded it to include (in limited quantities) all XLT double cab derivatives, including the 2.2-litre models, with manual or automatic transmissions.

Our two black Rangers, with 147kW at 3000rpm and 470Nm between 1500 and 2750rpm underfoot, worked hard in the sand, and on rock, gravel and tar while completing the 85 tests required over a period of three days. While they ran hot at times, there was nary a problem – the Rangers handling with aplomb the sudden acceleration and continuous hard stopping required by the tests.

They were equipped as standard with Continental CrossContact 265/65 R17 tyres on striking black 17-inch alloys, and we decided to keep this tyre size for the tests, as it is still the more popular option – even with 18-inch tyres now being offered as standard on the Toyota Hilux, Nissan Navara, Isuzu KB and VW Amarok, and as an option on the Ranger.

THE TEST VENUE

We decided upon the Klipbokkop 4x4 Academy near Worcester as the testing venue for a number of reasons, the most important being its versatile terrain. It offers an excellent mixture of tar, gravel, sand and rocky routes that is ideal for our purposes, with the spectacular scenery another benefit. Klipbokkop has been involved in tyre-testing for over a decade, and the venue has been rated as a world-class off-road testing venue. So, the team, under the guidance of Gerhard Groenewald, knows its way around rubbery black stuff...

TEST PROCEDURES

Since gravel, sand and rocky terrains are by nature unstable, the greatest challenge of testing in these types of terrain is to ensure measurability and repeatability. No prescribed testing procedures exist for off-road tests in “real-world” conditions, and it took time and effort (and input from manufacturers and organisations within the tyre industry) to devise measurable tests. The most important consideration was to find off-road oriented tests that simulate local conditions. We finally settled on five tests – two braking tests (one on tar, one on gravel), a gravel acceleration test, a sand traction test (to measure traction in these conditions) and an incline traction test on a compacted earth surface. We considered a wet braking test, but the technical committee vetoed this, as they felt its repeatability was questionable. A test to measure sidewall strength was also discarded, as it was felt that due to differences in sidewall construction it could not be standardised for all tyres, leading to questionable results. We also contemplated a handling test on the earth track, but this was rejected as it was clear that even with continuous track maintenance, changing grip levels would make any measurable result impossible. (All we could really expect was a subjective opinion from our test driver...)

PROCEDURES

The following procedures were followed to ensure that all tyre-sets would be fitted in the same way and would be identical to any set purchased at a standard retail outlet by any customer.

- To prevent the supply of any specially prepared tyres, most sets were procured through the Tiger Wheel & Tyre network.
- Where this was not possible (as some tyres were on special order) the sets were inspected by representatives of other tyre manufacturers as well as a technical committee.
- After fitting, all the tyres were inflated to 3 bars and left to seat for about a day.
- All fitting was done by expert technicians from Tiger Wheel & Tyre on the same machine, and tyre changes were done in front of the different tyre companies’ representatives.





Gerhard Groenewald gives his evaluation of the next set of tyres to Ferdi de Vos.

CONTROL MEASURES

For the tests, the following control measures were imposed:

- A control tyre (Continental CrossContact LX2) with a more on-road bias was specifically chosen to ensure that no AT tyre would gain an advantage.
- Control runs were regularly completed for the sand-traction and incline-traction tests to establish a reference point, and repeated during testing to reconfirm this point.
- For the tar-braking test, each set was warmed up (driven) beforehand and a practice stop done to increase temperature. Tyre pressures were checked before each test-run sequence.
- At least three runs per tyre were allowed. If a run was not representative, (for instance when the speed was too low before braking,) up to two extra runs were allowed.
- The best and worst runs were dropped and the average of three runs was recorded.
- The track for the gravel braking test was swept before every test sequence, and the tracks for the traction and incline tests were regularly checked and maintained.
- The prescribed tyre pressures were confirmed on the test vehicles before every test.
- Representatives of all tyre manufacturers were invited to attend the tests. They could also appeal should they notice anything untoward.
- A technical committee consisting of a representative from Klipbokkop and SA4x4, as well as three different tyre brands, was elected daily to address any problems or complaints. The decision of this committee was final.
- Representatives from the controlling bodies in the tyre industry (SATMC and TIASA) were invited as independent observers.

THE TEST

With all the sets of tyres and rims assembled, two Rangers standing by, a trusty V-Box, a sound-meter, and the full team assembled at Klipbokkop, testing commenced in earnest. We were lucky with the weather, as temperatures ranged from 19° to 23°C – ideal for our testing schedule. Tyre sets for testing were selected at random, and the tyres pumped to 2.4 bars – according to manufacturer specification for the Ranger. A full test sequence was completed before the next set was fitted. We also fitted the sound meter (kindly supplied by Willie de Witt of SA Metrology in Brackenfell, Cape Town) to measure any variance in cabin noise-levels generated by the different tyres. However, the level changes were so slight that in our view they were negligible. (I learnt only afterwards that any minute decibel difference actually has a major impact on noise levels – so, lesson learnt: next time we will invite a sound specialist as well.)



OUR TESTER

Funny how things work out. We initially considered using a current off-road champion as our test driver, but conflicting sponsorship affiliations quickly killed this idea, so we defaulted to the obvious choice – Mr Klipbokkop himself.

With over a decade of tyre testing and more than 20 years of 4x4 experience behind him, Gerhard Groenewald's track record speaks for itself. And it showed. It's no easy task to repeat every test with ultimate precision, but that is exactly what Gerhard did – time after time.

Some of the test results differed literally by millimetres, and Gerhard's feedback (and comments) on the diverse collection of tyres was invaluable, giving us good insight on every tyre's strengths and weaknesses.



TEST 1: Braking distance – Tarred surface

This brake test measured the tyre’s stopping performance from 100km/h to standstill on a flat, yet rough and coarse, tar surface. Tyre pressure for this test was 2.4 bars. It was clear that the difference in stopping distances of the tyres on this surface were minuscule. This says a lot about the latest tyre technology. However, the performance of both sets of Dunlops and the Coopers surprised all and sundry, with the Grandtrek AT3 M tyres bringing the Ranger to a halt in 45.31m – just ahead of the Coopers and the three-ply AT3 G. Gerhard’s efforts saw virtually all the tyres stopping the Ford in less than 50m on the rough tar surface, the exception being the BFGs (52.6m) with the Velocity Raptors scraping in at 49.27m. In the BFGs case it was probably because of their more aggressive tread pattern and weight; and the Raptors have an older tread pattern. Note, however, that tyres with patterns that perform well in braking tests don’t necessarily do well in off-road conditions, as was clearly reflected in our tests.

RESULT (Adapted out of 50 points, V-Box measured, shortest distance counts most):

Rank	Manufacturer/tyre	Distance	Points
1	Dunlop AT3M	45,31	50,00
2	Cooper	45,88	49,38
3	Dunlop AT3G	46,09	49,16
4	Hankook	46,41	48,82
5	Kumho	46,54	48,68
6	Nexen	47,21	47,99
7	Bridgestone	47,39	47,81
8	General	47,39	47,31
9	Pirelli	47,49	47,71
10	Continental	47,60	47,60
11	GT Radial	48,14	47,06
12	Goodyear	48,27	46,93
13	Yokohama	48,35	46,86
14	Michelin	48,53	46,69
15	Firestone	49,10	46,15
16	Velocity	49,27	45,98
17	BF Goodrich	52,60	43,07



TEST 2: Braking distance – Gravel surface

For this test, the 2.4 bars pressure level was kept, but runs were done from 80km/h – that being the legal speed limit on gravel roads in South Africa. The control vehicle did regular test runs to confirm the control reference mark, and after each test, the track was swept again. In a complete reversal of the tar-brake test results, the Velocity and BF Goodrich tyres stopped the best on gravel (the Raptors grinding to a halt in less than 35m), with the Grandtrek AT3 M’s posting the third-best result. Surprisingly, the Coopers (second in the tar-brake test) fell right to the bottom in this test. The majority of tyres dragged the FX4 to a standstill in under 38m, with minute differences in points the result – highlighted by the 0.11m difference between the Goodyears (9th), Kumhos (10th) and Dunlop AT3 Gs (11th). Also conspicuous was the way in which the Velocitys, Kumhos and BFGs stopped the bakkie by building up a wall of gravel in front of the wheels...

RESULT (Adapted out of 50 points, V-Box measured, shortest distance counts most):

Rank	Manufacturer/tyre	Distance	Points
1	Velocity	34,73	50,00
2	BF Goodrich	35,02	49,60
3	Dunlop AT3 M	35,32	49,17
4	Continental	35,38	49,09
5	Firestone	35,88	48,40
6	Yokohama	36,01	48,23
7	Michelin	36,34	47,79
8	Bridgestone	36,50	47,39
9	Goodyear	36,67	48,27
10	Kumho	36,69	47,33
11	Dunlop AT3 G	36,77	47,23
12	General	37,01	46,93
13	Hankook	37,26	46,61
14	Pirelli	37,46	46,36
15	GT Radial	37,77	45,98
16	Nexen	38,07	45,61
17	Cooper	38,31	45,33



TEST 3: Traction in sand

This test was a make-or-break affair. A Jurgens XT140 off-road trailer weighing 600kg was loaded with 150kg (therefore 750kg in total) and then hitched to the Ranger. The bakkie had to pull its own weight and that of the loaded trailer through a prepared sand track with a 10-degree inclination. The control Ranger, with tyres deflated to 1.4 bars and all electronic systems switched off, drove the track until it got stuck. The starting point was then set from the point where the vehicle only just made it through the course. (The rationale behind this was that the control tyre and vehicle would fare slightly better than the test bakkie with AT tyres, therefore a distance could be set from the control reference point to where the test vehicle had ground to a halt.) If any of the test tyres successfully negotiated the course, the control mark was to be moved forward until the test vehicle could no longer make it. However, this was not necessary. In this test, the new Goodyear Wrangler AT Adventure showed its mettle – setting the benchmark nearly 3m clear of its closest challenger. The new Generals, the GT Radials and the new Dunlops also fared well, while the gap between the BFGs, the Michelins and the Bridgestone tyres were achingly small. We expected more from the Cooper and Velocity runs, but it was clear that the 1.4 bars limit did not suit them, and the performance of the Pirellis was disappointing. This can perhaps be attributed in part to slightly warmer conditions, as the Scorpions were the last tyres to be tested in the sand on day three.

RESULT (Distance adjustment against control mark, adjusted from 50 points)

Rank	Manufacturer/tyre	Distance	Points
1	Goodyear	40,00	50,00
2	General	37,73	47,17
3	GT Radial	36,77	45,96
4	Dunlop AT3G	36,00	45,00
5	BF Goodrich	35,80	44,75
6	Michelin	35,67	44,58
7	Bridgestone	35,53	44,42
8	Continental	34,77	43,46
9	Yokohama	34,53	43,17
10	Velocity	34,33	42,92
11	Cooper	34,03	42,54
12	Dunlop AT3M	33,47	41,83
13	Hankook	33,40	41,75
14	Firestone	33,37	41,71
15	Kumho	32,70	40,88
16	Nexen	32,23	40,29
17	Pirelli	31,90	39,88



TEST 4: Gravel acceleration (traction)

The object of this test was to measure traction on a loose gravel surface with the tyre pressures lowered to 1.4 bars. It entailed an acceleration test (foot flat, all electronic systems disengaged), and measuring the time it took each set of tyres to propel the Ranger to 80 km/h; the rationale being that the better the grip and traction on this surface, the shorter the time needed to reach the desired speed... As expected, it was a close affair, with all the times – excepting the Kumhos – separated by less than a second. The best performers were the Continentals, beating the Generals by a hundredth of a second, with the Firestones, Nexens, Pirellis, Michelins and BFGs also doing well. The three-ply KO2s and GrandTrek AT3 Gs with their stiffer sidewalls actually surprised with their traction on this surface, compared to the sophisticated two-ply Goodyear and Cooper tyres.

RESULT (V-Box measured, shortest time to 80km/h counts most)

Rank	Manufacturer/tyre	Time (sec)	Points
1	Continental	6,97	50,00
2	General	6,98	49,93
3	Firestone	7,09	49,15
4	Nexen	7,11	49,15
5	Pirelli	7,12	49,02
6	Michelin	7,14	48,81
7	Bridgestone	7,17	48,61
8	BF Goodrich	7,33	47,54
9	Goodyear	7,37	47,29
10	Dunlop AT3M	7,46	46,72
11	GT Radial	7,56	46,10
12	Dunlop AT3G	7,59	45,92
13	Velocity	7,64	45,62
14	Cooper	7,74	45,03
15	Hankook	7,74	45,03
16	Yokohama	7,85	44,39
17	Kumho	8,33	41,84



TEST 5: Incline traction test

This test – devised to challenge the tyres’ climbing ability against an incline – turned out to be a real tiebreaker. The Jurgens off-road trailer was again hitched to the Ranger, and the bakkie then had to pull its own weight, and that of the loaded trailer, up a steep incline in first gear low-range at 2000rpm with all traction control systems switched off. (More about that later.) With the participating tyres pumped to 2.4 bars, the degree of difficulty – even on a stable, firm surface – was further increased: not only testing the tyres’ grip and traction properties to the utmost, but also the flexibility of their construction under load. If a tyre completed the ascent, it scored maximum points, while tyres that didn’t make it were penalised 2.5 percent – the average percentage difference in the other tests. However, while scrabbling for grip, some tyres activated the safety override on the Ranger’s electronic brake distribution and stability control systems, and we decided to deduct a further 0.5 percent in these cases. While we expected tyres with a stiffer sidewall construction and more aggressive tread pattern to be somewhat compromised on the more-slippery surface, the Dunlop GrandTrek AT3 Gs, Velocity Raptors and Hankook Dynapros surprised by clawing their way through the test. Four tyres – the BFGs, Yokohamas, Pirellis and the Kumhos – did not make it, and the GT Radials and Nexen literally scraped through with (unsolicited) assistance from the Ranger’s electronic safety systems.

RESULT

(Maximum points on completion, 0.5 percent deducted for assistance, 2.5 percent deducted for a failed attempt)

Rank	Manufacturer/tyre	Points
1	General	50
2	Goodyear	50
3	Continental	50
4	Bridgestone	50
5	Michelin	50
6	Dunlop AT3M	50
7	Dunlop AT3G	50
8	Firestone	50
9	Velocity	50
10	Cooper	50
11	Hankook	50
12	GT Radial	49,5
13	Nexen	49,5
14	BF Goodrich	47,5
15	Pirelli	47,5
16	Yokohama	47,5
17	Kumho	47,5

THE RESULT

In an extremely close-run affair, it was the new General Grabber AT3 that emerged as the best all-rounder tyre in the country, but by only 0.26 percent from the recently released Goodyear Wrangler AT Adventure.

In third position was the Continental CrossContact AT, closely followed by Bridgestone's Dueler AT 694 and the LTX AT2 from Michelin. The difference between the Michelins and the two different Dunlop Grandtrek AT3 tyres (with the older M pattern just edging out the new three-ply G specification) was only 0.15 percent.

With a difference of less than two percent between the top three results, it means that, statistically speaking, there is no variance, while the disparities amongst the top seven are also negligible.

Firestone's Destination AT tyres also fared well, securing eighth position, ahead of the GT Radial Adventuros and Velocity Raptors, with BF Goodrich's three-ply KO2s placing 11th – even after losing points on the incline traction test.

Failing that test cost the Pirellis, Yokohamas and Kumhos dearly, as they dropped to the bottom of the scoreboard, while the inconsistent performance of the Cooper Discoverers and the Nexen Rodians harmed their overall results.

Taking the findings of an AT tyre test done in 2014 at Klipbokkop into account, the performance of the Hankook Dynapros and the Kumhos were disappointing, while BFG did well with its KO2s, compared to the results of its T/A KO tyres in the 2014 test.

FINAL RESULTS

Rank	Manufacturer/tyre	Test 1 (50)	Test 2 (50)	Test 3 (50)	Test 4 (50)	Test 5 (50)	TOTAL
1	General Grabber AT3	47,81	49,09	49,93	47,17	50,00	241,84
2	Goodyear AT Adventure	46,93	47,58	47,29	50,00	50,00	241,58
3	Continental CrossContact AT	47,60	47,79	50,00	43,46	50,00	240,15
4	Bridgestone Dueler AT 694	47,81	49,17	48,61	44,42	50,00	238,41
5	Michelin LTX AT2	46,69	47,23	48,81	44,58	50,00	237,87
6	Dunlop AT3 M	50,00	48,40	46,72	41,83	50,00	237,72
7	Dunlop AT3 G	49,16	45,98	45,92	45,00	50,00	237,31
8	Firestone Destination AT	46,15	50,00	49,15	41,71	50,00	235,41
9	GT Radial Adventuro AT3	47,06	49,60	46,10	45,96	49,50	234,60
10	Velocity Raptor AT	45,98	45,61	45,62	42,92	50,00	234,52
11	BF Goodrich KO2	43,07	45,33	47,54	44,75	47,50	232,46
12	Nexen Rodian Pro RA 8	47,99	46,61	49,02	40,29	49,50	232,41
13	Cooper Discoverer AT3	49,38	46,36	45,03	42,54	50,00	232,28
14	Hankook Dynapro AT M	48,82	48,23	45,03	41,75	50,00	232,20
15	Pirelli Scorpion ATR	47,71	47,33	48,95	39,88	47,50	230,39
16	Yokohama Geolander 15	46,86	48,35	44,39	43,17	47,50	230,15
17	Kuhmo Road Venture AT51	48,68	46,54	41,84	40,88	47,50	226,22





**17. Kumho
Road Venture AT51
(112T)
R2280-R2414**

While this brand from Korea is already well-established locally, its all-terrain tyres are not that well known. In terms of performance and feel, Gerhard's comment was that the Road Ventures gave a less comfortable ride and had limited traction and grip on gravel and in sand.



**13. Cooper
Discoverer AT3
(112T)
R3989-R4299**

As they were two-ply with a load rating of 112T, we expected the Coopers to do quite well, but their rigid LT (Light Truck) construction sidewalls did not help their cause. They impressed with their stability and stopping power on tar, but their traction on gravel and in sand was limited, possibly due to too-high pressures.



**16. Yokohama
Geolander AT GO15
(112H)
R1960-R2389**

Yokohama's Geolanders have always been viewed as good off-road tyres, but the new GO15s were disappointing. According to Gerhard, the Yokohamas had less traction than the competitors, and the regulated tyre pressure also did not suit them for the incline test.



**12. Nexen
Roadian Pro RA8
(112T)
R1900**

Although Nexen may be new to SA, it is a well-known brand overseas. In terms of overall performance and on tar, the Rodians did better than some of the more established brands, but weren't as composed on dirt, being penalised on the incline traction test for triggering the test vehicle's traction control system.



**15. Pirelli
Scorpion AT/R
(112T)
R2043-R2335**

Pirelli is widely acknowledged for its high-performance rubber, but its Scorpion ATs have been available locally for quite a while. Although their braking performance was fair, they did not do well in the sand and on gravel. However, Gerhard said that the Pirellis ensured a comfortable ride and a light steering response.



**11. BF Goodrich
T/A KO2
(120S)
R3833-R4299**

Given their rigid profile and aggressive tread pattern the BFG KO2s did well, outperforming the score of the previous generation in similar tests. They were surprisingly quiet on asphalt, but their braking performance wasn't on par. Braking on gravel was excellent, yet slightly uncontrolled, according to Gerhard. Its stiff sidewalls also compromised it in terms of traction on dirt and gravel, and in loose sand.



**14. Hankook
Dynapro ATM RF10
(112T)
R2160-R2499**

Based on previous performance, we expected good results from the Korean Hankook Dynapro ATMs, but the RF10s disappointed. While they impressed on tar, they did not do so well off-road, suffering from relative lack of grip on gravel and in the sand.



**10. Velocity
Raptor AT
(112T)
R1795-R1895**

Much like the BFGs, the Raptors gave excellent results on gravel (braking and acceleration) but were somewhat unstable. They were also comfortable on-road but inconsistent in the sand and dirt, scrabbling hard to complete the incline traction test.



**9. GT
Radial Adventuro AT3
(110T)
R1698**

The affordable GT Radials surprised all with their performance in the sand and on gravel. Yes, they may be a bit unruly under braking, and uncontrolled on tar surfaces, as Gerhard experienced, but they displayed good grip and traction given their quite old tech and tread pattern.



**5. Michelin
LTX AT2
(112S)
R3112**

During our tests, the Michelins impressed Gerhard immensely in terms of their level of ride-quality and road comfort on all surfaces. And they performed quite well in all our tests. "They are definitely the most comfortable and controllable tyres of all the contenders," he said.



**8. Firestone
Destination A/T
(112S)
R2034-R2192**

The unassuming Destinations impressed Gerhard by the way they quietly got on with the job. The Firestones, living in the shadow of big brother Bridgestone, performed very well on gravel but less so in sand. They were also comfortable on tar; and in terms of all-round performance, they are the bargain buy of the lot.



**4. Bridgestone
Dueler AT D694
(112S)
R2128-R2483**

Bridgestone's Duelers have performed well in previous AT tests, and this one was no exception. It was let down only by its gravel performance, but Gerhard complimented its predictability in all circumstances and its feeling of safety, particularly on broken surfaces.



**7. Dunlop
Grandtrek AT3 G
(120R)
R2 800**

The new three-ply Grandtrek AT3 G performed impeccably on tar and in sand, but less so on gravel, perhaps due to its tougher sidewall construction. However, Gerhard was impressed by its overall consistency and balance, more so when taking into account its high load rating.



**3. Continental
CrossContact AT
(112T)
R2591**

It was clear from our test results why the CrossContact AT was chosen as original equipment (OE) tyres for the top-spec Ford Ranger. The vehicle complements the tyres (or is it vice versa?) and it feels consistent and stable. However, the rating was slightly lowered by their tar-braking performance.



**6. Dunlop
Grandtrek AT3 M
(112S)
R1719-R1818**

Dunlop's stalwart Grandtrek AT tyre again performed acceptably, outscoring its AT3 G stablemate – albeit by a negligible margin – mostly due to its prowess on tar and gravel. The pick of the crop on tar and gravel, declared Gerhard.



**2. Goodyear
Wrangler AT Adventure
(112T)
R2500**

Goodyear's new Wrangler Adventure tyres have taken the market by storm, and our tests showed why. With its Kevlar-strengthened construction, it improves on the already brilliant AT/SA series; and according to Gerhard, and as our results show, there's nothing to choose between them and the winning Grabbers.



Writer Ferdi de Vos in discussion with Geshen Govender, Goodyear SA's Consumer Product Manager.

THE WINNER

1. General Grabber AT3 (112H) R2203-R2212

It was achingly close, but ultimately, the new General Grabber AT3s did just enough to be crowned the king of all-rounders in South Africa. Gerhard described it as a well-balanced tyre, with great off-road performance and good traction on all surfaces, complemented by good stopping power – making it the tyre of choice.



PRICE COMPARISON

So, which tyre is the best value for money when comparing price versus performance? Such an assessment may seem straightforward, but is not, as pricing per franchise, brand and specific tyre differs widely... and is further complicated by numerous special offers at the time of writing (December 2017).

In an attempt to ensure accuracy, we secured prices through six different tyre franchises: Errol's Tyres, Fundi Tyres, Tiger Wheel & Tyre, Barden Tyres, Tyres & More, and Autoquip, as well as brand-specific outlets such as Hi-Q (Goodyear), Mintys (Nexen), Lombard Tyres (Kumho), Supa Quick (Bridgestone/Firestone), BestDrive (Continental) and Dunlop Zone. To simplify matters, we have taken an average and then rounded off the amounts. According to this method, the GT Radials are the cheapest, closely followed by Velocity, Nexen, Firestone and Dunlop GrandTrek AT3 M. However, at the time of writing, the AT3 M tyres were heavily discounted (as low as R1800 per tyre), possibly due to the introduction of the new AT3 G. Keeping in mind its performance and price (at around R2800 per tyre) the AT3 G is a bargain for those wanting a three-ply tyre...

Two of the top contenders, General's Grabbers and Bridgestone's Duelers, were available for less than R10k per set, with the Goodyears and Contis also quite affordable at just above the R10k mark – more than justifying their prices given their performance. Keep in mind that this pricing is only indicative. If you shop around, you will probably find real bargains on most of the brands, and we have not included the additional expense of the fitting, balancing and alignment of your tyres, nor for extended warranties.

Pricing (most affordable to most expensive)*

Rank	Tyre	per unit	per set
1	GT Radial	R1700	R6800
2	Velocity	R1800	R7200
3	Nexen	R1900	R7600
4	Firestone	R2100	R8400
5	Dunlop AT3 M	R2200	R8800
6	Kumho	R2240	R8960
7	General	R2300	R9200
8	Bridgestone	R2350	R9400
7	Yokohama	R2390	R9560
8	Hankook	R2450	R9800
11	Pirelli	R2500	R10 000
12	Goodyear	R2500	R10 000
13	Continental	R2600	R10 400
14	Dunlop AT3 G	R2800	R11 200
15	Michelin	R3200	R12 800
16	Cooper	R4100	R16 400
17	BF Goodrich	R4200	R16 800

*Prices correct at time of going to print

PRICE/ PERFORMANCE RATIO

Taking performance versus price into account, it is clear that Firestone's Adventure A/T (in 8th position overall and 4th in terms of pricing) and Dunlop's GrandTrek AT3 M (6th overall and 5th in terms of pricing) are the budget bargains in our shootout.

They are closely followed by the GT Radials (9th overall and 1st on pricing) and Velocity Raptors (10th overall and 2nd on pricing), but their inconsistent behaviour in some of our tests, less-than-ideal road manners and uncertain longevity make us less inclined to recommend them.

Given this background, the Firestones are probably the safer bet, also given that the discounts on the Dunlops may only be temporary. In terms of three-ply tyre pricing, the GrandTrek AT3 Gs are the pick of the crop.

Budget bargains (Top 5)

1. Firestone Destination A/T
2. Dunlop Grandtrek AT3 M
3. GT Radial Adventuro GT3
4. Velocity Raptor AT
5. General Grabber AT3

CONCLUSION

Firstly, given the small points-and-percentage differences in our test results, it is clear one will nowadays not find a low-quality or bad AT tyre distributed through official channels in the country.

Also of interest is how quickly tyre technology is evolving, with synthetic materials playing a bigger role in each new-generation tyre. Not only does this lead to greater competition amongst the brands as they try to find an edge over their opponents, but also to better, safer and more efficient products.

In our tests, the notion that a more aggressive tread pattern would do better off-road did not necessarily prove true, as they confirmed that a smoother tread could be advantageous, especially in sandy conditions.

However, it did confirm that pressures are of utmost importance. Some tyres in our test – such as the BFGs, Coopers, Yokohamas, Velocitys, and perhaps the Kumhos – may have performed better with lower pressures. (However, keep in mind that the other tyres could similarly have performed better.)

That said, some manufacturers are finding better ways to build stronger and lighter AT tyres with high load and speed ratings, AND sturdy sidewalls.

It is therefore imperative that you make very sure for what purpose you are acquiring a specific tyre. If you need to regularly lug heavy loads over long distances, also off-road, rather choose a more robust tyre with a high load rating (120 R or S). If you are going to use your vehicle mostly on-road, and want to transport only light loads, rather opt for a less rugged pattern.

A final word: please do not generalise these specific test results – they were done under a specific set of circumstances, and therefore the outcome won't necessarily hold true under different conditions. Lastly, always keep in mind a specific tyre's requirements and limitations before you hit the road – on, or off, the beaten track. ●

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