
GVM Upgrade Wheel & Tyre Selection

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Wheel & Tyre Load Selection

It is important to consider the following factors when selecting wheels and tyres for any vehicle, especially those being approved for a GVM upgrade. Requirements and limitations of wheels and tires are regulated on a state and territory basis including:

- Tyre load and speed rating.
- Wheel load rating.
- Track width changes.

Tyre Load & Speed Ratings

It is important that the tyres fitted to the vehicle are adequately rated for the maximum loads and speeds for the application of the vehicle. Properly rated and sized tyres are a legal requirement on Australian roads for vehicle and occupant safety. Illegally fitted tyres pose critical safety risks, can result in substantial police fines and may void vehicle warranty and insurance policies.

Approved tyre sizes can vary based on differing state or territory transport department regulations.

Increasing the rolling diameter of tyres reduces the effectiveness of the braking systems' ability to slow and/or stop a moving vehicle. This reduction in braking performance becomes critical when carrying or towing heavy loads such as are expected with GVM upgrades.

As part of the GVM upgrade process, Outback Armour re-rate the front & rear axles of the vehicle, providing for increased load carrying capacity. Tyres fitted must be rated to carry at least half of the re-rated axle capacity that they are fitted to.

Outback Armour GVM Upgrade Tyre Placards vary per vehicle and GVM upgrade rating selected.




OUTBACK ARMOUR - MAKE - MODEL - VARIANT

Front Axle Rating	1800 kg	Recommended cold inflation pressures kPa (PSI)			
Rear Axle Rating	2400 kg				
GVM Rating (max)	3800 kg	UNLADEN		LADEN	
Standard Tyre Sizes	Load/Speed	Front	Rear	Front	Rear
245/75R17	115H	230 (33)	230 (33)	240 (35)	310 (45)
265/65R18	115V	230 (33)	230 (33)	240 (35)	310 (45)
265/55R20	115V	230 (33)	230 (33)	240 (35)	310 (45)

The load carrying capacities of the rims and tyres fitted to this vehicle must meet or exceed the relevant axle ratings shown above

Standard Tyre Sizes

The Standard Tyre Sizes listed on Outback Armour Tyre Placards are the same sizes provided by the original vehicle manufacturer (excluding those where a load rated tyre cannot be readily acquired).

The tyre sizes listed on the Outback Armour Tyre Placard are those approved for fitment with Outback Armour GVM upgrades. Tyre sizes may be increased or varied in accordance with normal state/territory regulations where applicable to the vehicle's intended place of registration, provided that:

- tyre load ratings meet or exceed the required ratings for the GVM upgrade.
- tyre speed ratings are not less than "N" rated (140km/h).
- tyre diameter does not exceed that of the largest tyre size listed on the Outback Armour Tyre Placard for the specific GVM upgrade by 50mm.

The speed rating (speed index) listed on the Outback Armour Tyre Placard are the same as specified by the original vehicle manufacturer. The recommended cold tyre inflation pressures are provided for the nominated tyres stated on the Tyre Placard. It is possible to fit and approve tyres with lower speed ratings than nominated on the Tyre Placard (minimum "N" rated 140km/h), however cold inflation pressures may vary depending on tyre construction.

Outback Armour will accept tyres that conform to state/territory size modification and load ratings suitable for the increased axle ratings of the GVM upgrade.

Wheel Load Ratings

It is important that the wheels fitted to the vehicle are adequately rated for the maximum expected loads of the fully laden vehicle. Properly rated wheels are a legal requirement on Australian roads for insurance purposes, vehicle and occupant safety.

Note: Most Original Vehicle Manufacturers (OEMs) do not and will not provide ratings for the wheels that are supplied with the vehicles. Due to the lack of available rating information, it can only be assumed that any wheel supplied by an original vehicle manufacturer is rated to half the maximum axle rating of the vehicle that it is fitted to.

As part of the GVM upgrade process, Outback Armour re-rate the front & rear axles of the vehicle, providing for increased load carrying capacity. Wheels/rims fitted must be rated to carry at least half of the re-rated axle capacity that they are fitted to. Front and rear axle ratings are recorded on the tyre placard and in the owner's manual supplement associated with each GVM upgrade.

Axle Rating Example - Original Vehicle

Axle Rating	Maximum Wheel Load Rating (Assumed)
OEM - Front Axle (1630kg)	965kg / wheel
OEM - Rear Axle (1930kg)	

Axle Rating Example - Outback Armour GVM Upgraded Vehicle

Axle Rating	Minimum Wheel/Tyre Load Rating (Required)
OA GVM - Front Axle (1800kg)	1200kg / wheel
OA GVM - Rear Axle (2400kg)	

Track Width

“Track Width” is defined as the centre-to-centre measurement of the wheels/tyres. Variations to track width are limited on a state/territory basis and should be considered when selecting wheels or approving GVM upgrades. Changes in wheel offset values change the track width by twice the difference in offset (2x wheels worth of change).

- Increasing the track width wider than original results in substantially more force being applied to the wheel lug nuts and wheel bearings.
- Decreasing the track width narrower than original results in less stability of the vehicle.

Original vehicle track width can be ascertained from the Road Vehicle Descriptor (RVD) issued by the Original Vehicle Manufacturer or Outback Armour.

TYRE REFERENCE CHARTS

Tyre Speed Rating Chart

The tyre speed rating is a letter code that relates to the speed that a tyre is rated to. Tyre speed ratings are printed on the side wall of tyres approved for use on Australian roads.

Tyre Speed Rating Chart												
Speed Rating Code	N	P	Q	R	S	T	U	H	V	Z	W	Y
Speed Rating (km/h)	140	150	160	170	180	190	200	210	240	240+	270	300

Tyre Load Rating Chart

The tyre load rating is a numeric code that relates to the load that a tyre is rated to. Tyre load ratings are printed on the side wall of tyres approved for use on Australian roads.

Tyre Load Rating Chart									
Load Index	Weight (kg)	Load Index	Weight (kg)	Load Index	Weight (kg)	Load Index	Weight (kg)	Load Index	Weight (kg)
62	265	75	387	88	560	101	825	114	1180
63	272	76	400	89	580	102	850	115	1215
64	280	77	412	90	600	103	875	116	1250
65	290	78	425	91	615	104	900	117	1285
66	300	79	437	92	630	105	925	118	1320
67	307	80	450	93	650	106	950	119	1360
68	315	81	462	94	670	107	975	120	1400
69	325	82	475	95	690	108	1000	121	1450
70	335	83	487	96	710	109	1030	122	1500
71	345	84	500	97	730	110	1060	123	1550
72	355	85	515	98	750	111	1090	124	1600
73	365	86	530	99	775	112	1120	125	1650
74	375	87	545	100	800	113	1150	126	1700