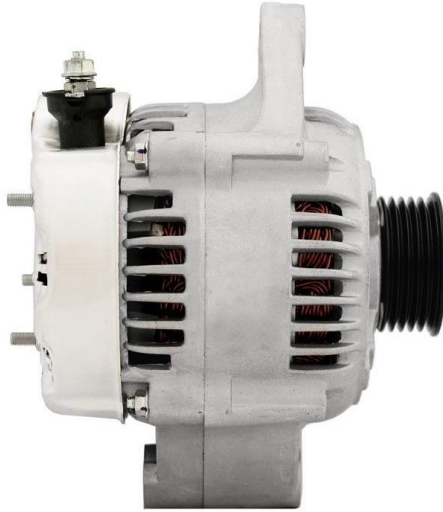


Alternator Upgrades for Suzuki Jimny

Original Alternators



1998 to present

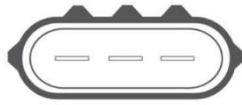
G13BB – 60 amp

M13A – 70 amp

M13A – 75 amp

Plug Configurations

G13BB and early M13A terminal configuration



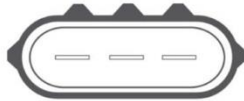
D IG L

D – Dummy terminal

IG – Ignition terminal

L – Dash Light terminal

M13A late model terminal configuration



C IG L

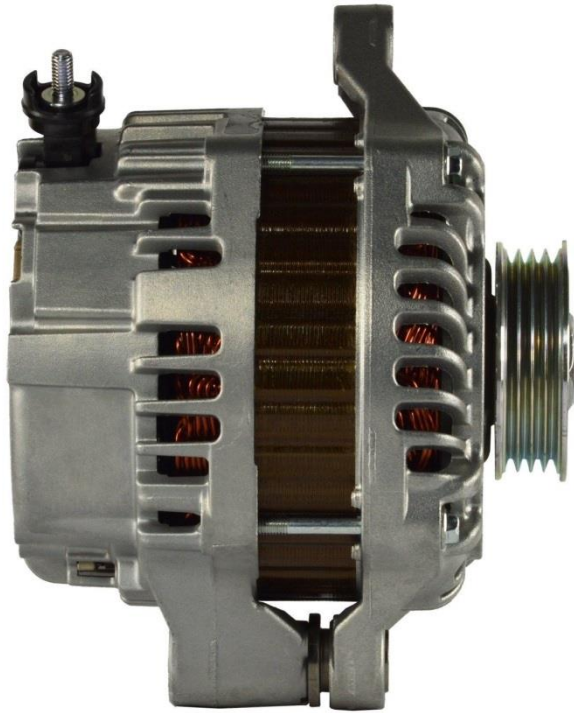
C – C terminal (dummy?)

IG – Ignition terminal

L – Dash Light terminal

Jimny wiring diagrams for all years indicate that only IG and L have function. C terminals generally accept an output signal from the ECM but all wiring diagrams indicate no such function.

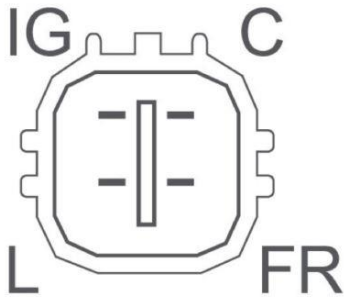
2006 – 2008 Suzuki Grand Vitara Alternator



110, 115 or 120 amp

2001 – 2004 Grand Vitara alternators are available with 95 amp output. This is a straight swap with the same plug configuration as the stock Jimny alternator.

Plug Configuration



IG – Ignition terminal

C – C terminal (output from ECM)

L – Dash Light terminal

FR – Field Duty Monitor terminal (input to ECM)

Mounting Modifications

Need dimensions or installation report to determine if this is physically a straight swap.

EL Ford Falcon Alternator



110 amps

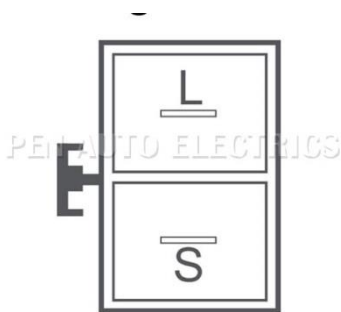
Use a Mitsubishi alternator from 6 cylinder EF/EL Ford Falcon

Do not use Bosch from the V8 Falcon

Older Jimnys will require multi-groove crank and water pump pulleys from newer Jimnys.

Multi-groove pulleys are required to allow proper alternator function and prevent belt squeal.

Plug configuration



L – Dash Light terminal

S – Sense terminal

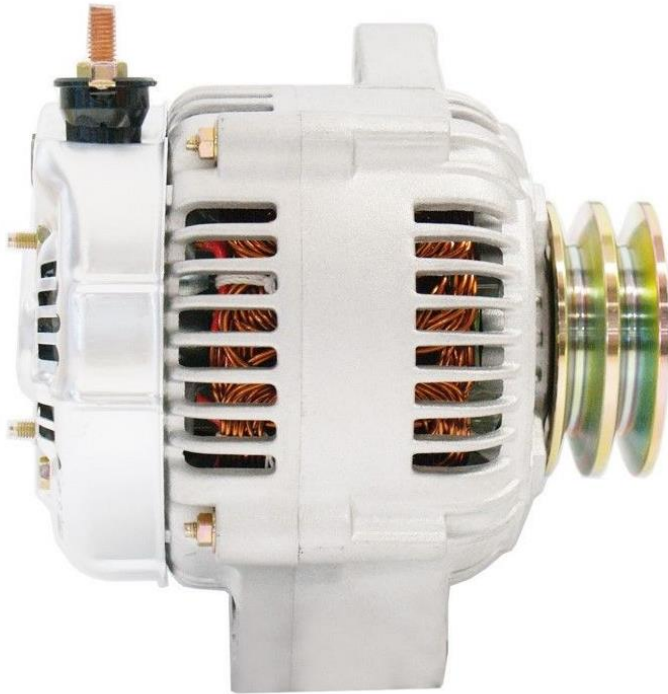
Mounting modifications



Fabricate and install a spacer to go where the red box is

The existing alternator mount needs to be drilled through where the blue arrow indicates. A longer bolt will go through and engage the captured nut on the alternator.

Toyota Land Cruiser 1HZ Alternator

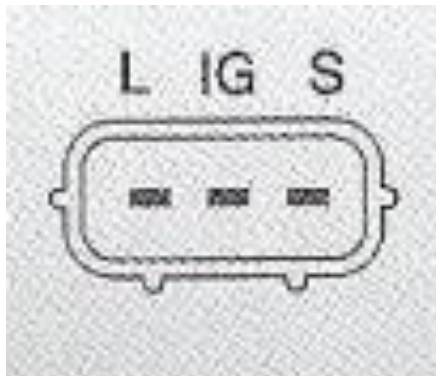


120 amp

120 amp is the most common but some aftermarket units are 110 amp.

180 – 390 amp from specialty shops. Fitment may be compromised.

Plug Configuration



L – Dash Light terminal

IG – Ignition terminal

S – Sense terminal

Except for a sense terminal, the plug is identical to the stock Jimny.

Mounting modifications

The 120 amp alternator for a Toyota 1HZ goes in with what is essentially the same bracketry, plug and battery out position.

The body is a bit bigger and longer, requiring the following mods:

Old pulley will have to be drilled out to 17mm as the Toyota unit has a larger diameter shaft.



Rear studs holding the rear plate on have to be shortened (hacksaw or dremel).



Even with the same plug, signal wire will have to be installed from the rear of the alternator (s terminal) to the battery +.

Electrical Connections for Alternator Upgrades

All upgrades using alternators with a dedicated sense function:

The Remote Sense terminal is identified with a “Remote Sense” label on the back cover plate or an “S” Terminal. Do not connect anything but the Remote Sense line to this terminal. If installing an alternator with a Remote Sense capability in a Jimny, connect a fused (5 Amp) insulated wire from the Alternator Remote Sense terminal to the positive (+) battery terminal or the starter solenoid battery (+) terminal. Use a #16 gauge red insulated wire, preferably with a 1/4” ID Convuluted Polyethylene Conduit. Also install a standard inline fuse holder with a protective cap. Use a low voltage (5 Amp) automotive standard blade style fuse.

It is extremely important to connect sense wire. Failure to do so can cause a catastrophic electrical system failure.

Refer to this experience from a Suzuki forum:

Quote 1:

The fail point of this mod was completely MY lazy assed fault and not so much upgrading main power cable from alt to battery but the lack of sensor wire from terminals on alt to battery causing regulator not to do its job and overcharge the system. We pulled alt out and ran it up on a bench and found with a slipping belt output charges in excess of 23v.....there's your problem! Fried all electricals including ecu etc. expensive exercise! Ordered new 110amp alt along with ecu and other bits but definitely all wiring will be upgraded this time including main power from alt to battery!

This is a great mod guys....IF done right and not half assed couldn't be bothered style! Costly mistake!

Update on damage done to jimny from overcharging alt!

Ecu, relays, fuses, globes, hid headlight kit, idle air solenoid, dash, stereo, alternator, so far replacement parts cost me \$1100 and still have labour bill to follow! Damn there are my lockers right there all for laziness! Guess I won't do that again!

Alternator plug connections

2006 – 2008 Grand Vitara alternator:

TBD

2001 – 2004 Grand Vitara alternator:

Use standard unmodified Jimny plug

EL Ford Falcon alternator:

Connect ignition wire to S terminal

Connect dash light to L terminal

Toyota 1HZ Alternator

Add sense wire to standard Jimny plug

Connect sense wire as described above

Fusible link installation:

At a minimum, using the existing cabling from the alternator B+ (generator output) terminal needs to be carefully evaluated. Jimnys use an 80 amp fuse as part of the lead from alternator to battery. A 70 amp wire with a 100 amp fusible link is typically used with these alternator upgrades. The exception to this was the Toyota 1HZ alternator upgrade. The fusible link can be integrated directly from the alternator to the battery (or B+ terminal on starter). The Toyota 1HZ upgrade used the existing Jimny cable without issue. Although a catastrophic failure is unlikely, anyone doing so runs some level of risk.

After Installation:

Check your Alternator's Charging voltage. It should be approximately 14.4V output.

If it is higher than this, check your sense cable. Make sure the fuse has not blown. In the case of the EL Alternator upgrade, there may be excessive resistance in the cable. This can be overcome by using a relay switch. Using a 40A relay, connect a lead from the battery with an inline fuse to pin 30. Connect a lead from pin 85 to earth. Pin 86 connects to the original ignition/sense wire. Connect a lead from pin 87 to alternator ignition/sense terminal.