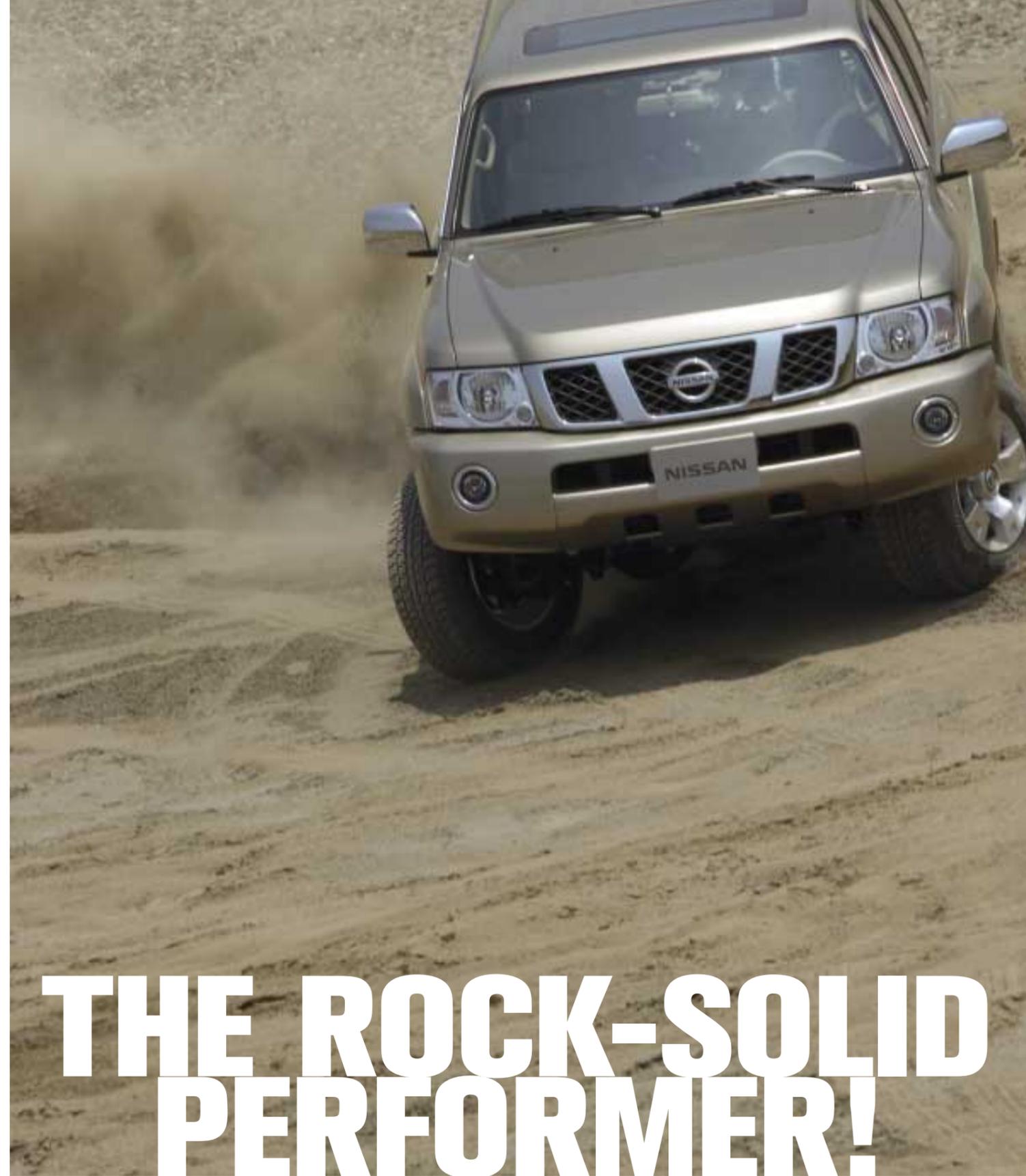


NISSAN



**THE ROCK-SOLID
PERFORMER!**

PATROL

SHIFT_expectations



Evolution of the Nissan Patrol



4W60

Sept. 1951

The Nissan Patrol is launched as a multipurpose vehicle designed for the roughest environments. Exported to South America, the Middle East and Africa, it wins widespread acclaim for its performance.



160

Oct. 1980

As 4WD vehicles come to be used for recreation as well as heavy-duty transport, the Patrol is restyled. As well as looking more contemporary, it now offers far better riding comfort than any cargo-carrying vehicle.

Oct. 1960

The Patrol evolves to meet diversified needs in the world market. Passenger comfort, handling and high-speed stability are enhanced, while body construction is modified to facilitate maintenance and repairs.



60

Nov. 1987

The Patrol gains a new engine and suspension, and also new bold styling. As a high-performance 4WD vehicle with sedan-style comfort and convenience, it earns high praise from 4WD enthusiasts.



Y60



Y61

Sept. 2004

Today, the Nissan Patrol continues to evolve. What was once a rugged 4WD is now a sophisticated SUV capable of serving in a wide range of roles from off-road exploration to highway cruising. But the design is still faithful to 4WD fundamentals. In response to changing needs, passenger comfort and high-speed stability have been steadily improved. But to ensure that it is not lacking when it comes to off-road performance and durability, essential qualities for a 4WD vehicle, the new Patrol still has the same basic construction: a ladder frame with rigid suspension, front and rear. In addition, Nissan engineers have chosen manual, mechanical solutions over electronics, as demonstrated by the part-time 4WD and differential lock. This makes them less likely to malfunction and easier to repair. And the straight-line drive transfer allows switching from 2WD to 4WD — even while in motion. After fifty years, the Patrol is more popular than ever, enjoying the confidence of customers all over the world.

Spanning the Globe



Nissan Patrol sales by region (excluding the Pickup model)

Japan	300
Asia	2,551
Oceania	9,765
Central/South America	912
GCC	8,022
Mediterranean	275
Africa	1,199
Central/East Russia	20
Europe	6,579
Total	29, 623

The Nissan Patrol is truly international: it has been exported to more than 150 countries around the world. In many cases, it is now playing a key role in transportation across some of the wildest terrains and in the most grueling conditions faced by any vehicle. Tough challenges, but the Patrol has built a reputation for rugged reliability.

Sand, Ice and Snow — the Patrol Takes It All in Stride

For business & leisure

A Dubai businessman uses two Patrols: "I own a pair of 4.8-liter Super Safari Patrols, a manual and an automatic. The automatic is for in-town use, while the manual is for driving in the desert. Falconry is a hobby of mine and many of us drive Patrols. It's tough".

The proud owner is pictured here with one of his two Patrols — standard specification, except for tinted film on all the windows. He has already ordered a 2003 model.



For disaster relief

Those who work for non-profit organizations, serving vital humanitarian needs in regions affected by natural disasters, almost always find themselves far from the comforts of civilization. And as a means of transport in such desolate areas, the Patrol is highly valued for its robustness and reliable off-road performance. Many international organizations use Patrols for such mission-critical work.



Reliable in any situation, Patrols assure the power needed to transport heavy loads of supplies and equipment.

For adventure

Boris and Katarina, an adventurous young couple from Croatia, set off in their car, crossed Russia and made it all the way to Japan, the birthplace of the Patrol — a journey of 10,000 kilometers. To get there and back required a reliable 4WD vehicle, so they did not hesitate to pick a Nissan Patrol. And it did not let them down.



The greater part of their journey across Russia was actually off-road, but it was an excellent opportunity for the Patrol to show that it has the right stuff.



Three Reasons Why the Nissan Patrol Is Unbeatable

1 Extreme durability

However smartly it may perform on the road, a 4WD vehicle is really no more than a sedan if it lacks durability. There is no soft option; this is not an area for compromise. But thanks to a super-tough chassis, robust ladder frame and Zinc-coated steel plates, the Patrol is ready for any challenge. This structural strength not only gives it the ability to conquer rough terrain but also enhances impact safety for the occupants.

2 Supreme performance

Steep slopes, sand dunes, potholes and even deep water — these are challenges the Patrol welcomes. Its rigid suspension and long-stroke suspension allow it to take rough terrain in stride, while also enhancing high-speed performance. And the Patrol's engine provides powerful torque throughout the rpm range. Off-road and on-road, the Patrol performs like a thoroughbred.

3 Trustworthy equipment

Professional items such as free-running hubs, a differential lock and twin-line electric winch form the third element in the Patrol's formula for success. Whether it has to negotiate dusty desert tracks in scorching heat or icy roads and snowdrifts, the Patrol is equipped to deal with the most demanding climates and terrains.

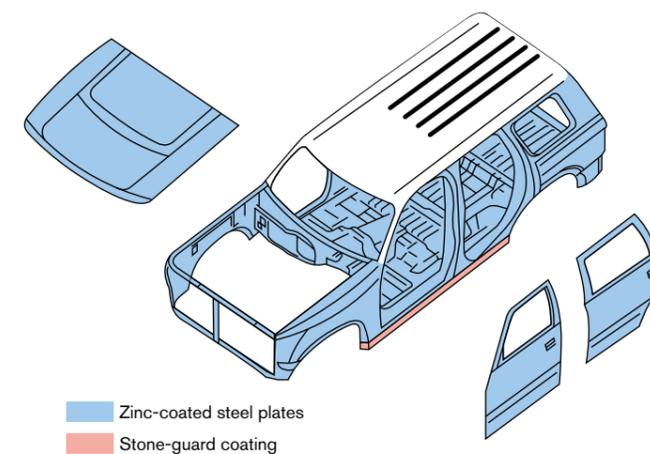
1 Extreme durability

1-1 Chassis strength

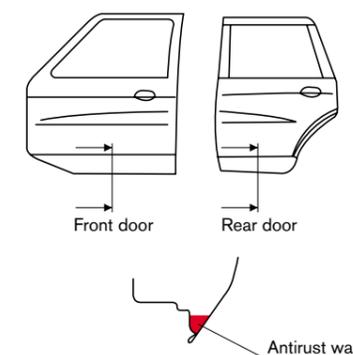
The chassis has the advantage of having a simple construction, making it very sturdy and easy to repair. Since durability is a must for any heavy-duty vehicle, the ladder frame is a natural choice, but in the case of the Patrol this has been refined for improved strength.



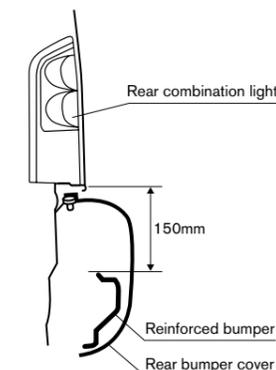
1-2 Designed-in durability



Careful calculation of the strength demanded of each body component allows designers to reinforce where necessary, using the best materials for the job. For example, the hood is made from high-tensile sheet steel to ensure that the Patrol can withstand the roughest use. As with all Nissan luxury vehicles, Zinc-coated steel plates — which is highly resistant to corrosion — is employed for key exterior panels such as floor, fenders, hood and doors. As a result, the Patrol complies with the tough legal requirements of northern European countries, where roads are regularly salted to prevent freezing. The outer surface of the body sill is also treated with a special stone-guard coating that helps to protect against paint chipping from stones kicked up by the wheels.



Anti-rust wax
 Sections of the door where water tends to collect are treated with a special anti-rust wax to prevent corrosion and increase durability.



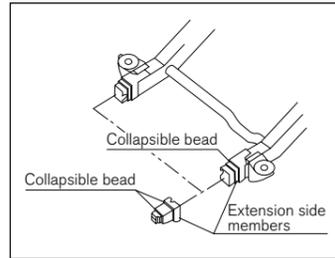
The clearance between the reinforced bumper and rear combination lights has been maximized to protect them from damage when traversing rough terrain. Meticulous care has thus been taken in every detail of the engineering to ensure durability.

1-3 High impact safety

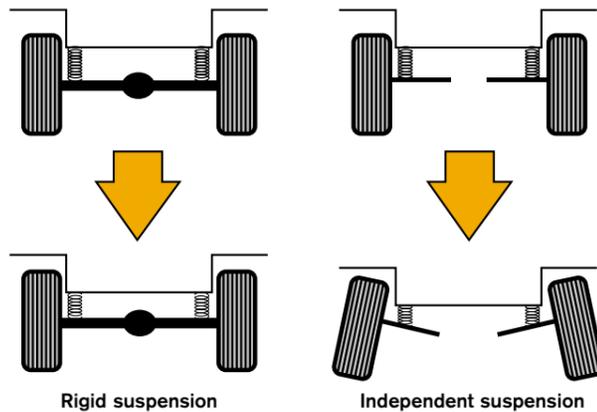


The impact-absorbing ladder frame features added extension members in front of the side members. There are also collapsible beads, and the side members themselves have been reinforced internally. This results in very effective absorption of the energy of a collision, helping to restrict damage to the front of the engine compartment. Like the chassis, the body is designed to be impact absorbing, with collapsible bead sections strategically located at the hood ridge reinforcement.

Measures like this help to protect the passengers in the event of a collision by preventing the engine from being pushed through into the cabin, which is what would result if the engine compartment were to collapse.



1-4 Suspension durability



A rigid design was chosen for both front and rear suspension systems because not only does this assure excellent off-road performance, but also its very simplicity means high durability. A rigid structure effectively runs through the length of the chassis. Compared to a vehicle with independent suspension, it is much better at surviving shock treatment, as when one wheel drops down into a pothole or bounces up on hitting a rock. Moreover, with independent suspension systems the axles are exposed, whereas on the Patrol a solid housing protects both axles.

1-5 Active under severe conditions

Desert heat

As demonstrated by African car rallies, the heat and dust of typical desert environments can cause severe problems for vehicles of all types. But the Nissan Patrol combines rugged construction with the power and handling needed to negotiate sand-swept roads with confidence.



Arctic cold

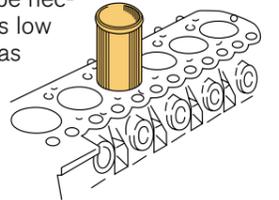
The Patrol is equally at home at the other end of the climatic scale, thanks to an engine that generates high torque at low rpm. Freezing temperatures, icy road conditions and thick snow represent the sort of challenge that this all-terrain vehicle handles on a daily basis. The Patrol can be equipped with two batteries as well as a heavy-duty alternator, exhaust manifold, heater, etc. for dependable performance in any situation.



1-6 Reliable TD42 diesel engine



The camshaft and fuel injection pump are driven via gears, making them very reliable. And since there is neither a timing belt nor chain, there is no danger of a belt breaking, nor is there any need to replace a belt or adjust a chain. The vacuum pump is driven not by a belt but by gears, so it too is highly reliable; there is no need to adjust or replace any belt. With the mechanical fuel injection pump, maintenance and repairs are easy compared to an electronically controlled pump. And should it be necessary to replace the pump, the cost of new parts is low (there is no need for special workshop equipment, as there is for electronic devices.) The cylinder block features a liner. This means that should repairs be required — for example, if a piston seizes — rather than replacing the entire block assembly, it is only necessary to replace the liner.



Superseding the snorkel, the Patrol's cyclone air cleaner is very effective at filtering out dust, allowing clean air to swirl into the engine and thus raising combustion efficiency.



A special duct serves to lower the temperature of the battery fluid. As simple as it sounds, this significantly lengthens the life of the battery — another reason why the Patrol is so economical to operate.

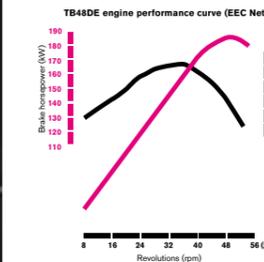
Engine variations



Gasoline engine

Max. power: 185kW/4,800rpm (EEC Net)
Max. torque: 420Nm/3,600rpm (EEC Net)

The addition of the 4.8-liter 24-valve TB48DE means more power and more torque, with all the durability that comes with Nissan's proven engine technology.

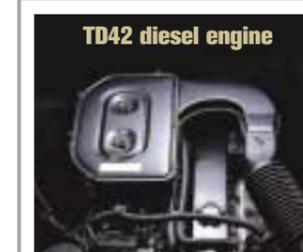


A new 5-speed automatic transmission with manual mode provides the secure feel of manual shifting in all driving situations.



Providing increased torque and power is the Valve Timing Control (VTC) system that advances valve closing at lower speeds and delays it at high speeds.

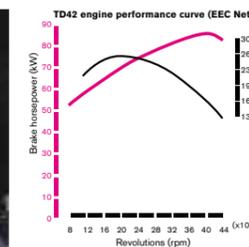
The Nissan Induction Control System (NICS) boosts torque at all speeds using a variable induction valve.



Diesel engine

Max. power: 85kW/4,000rpm (EEC Net)
Max. torque: 264Nm/2,000rpm (EEC Net)

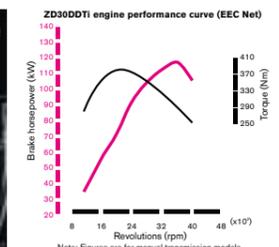
Nissan's TD42 diesel engine is simple in design, which means it is durable and easy to maintain as well as being economical.



Turbo-Diesel engine with Intercooler

Max. power: 118kW/3,600rpm (EEC Net)
Max. torque: 380Nm/2,000rpm (M/T, EEC Net), 354Nm/2,000rpm (A/T, EEC Net)

The ZD30DDTi turbo diesel engine with intercooler is both powerful and economical.



Note: Figures are for manual transmission models.

2 Supreme performance



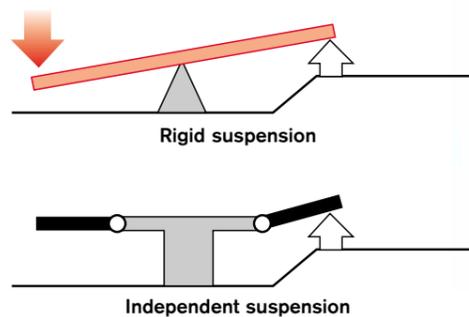
Improved stability

With front and rear rigid axles, plus its tough ladder frame, the Patrol behaves impeccably at high speeds. When designing a vehicle's suspension, it is not just the type (rigid or independent) that is important to consider: there is much that can be done with the tuning. The suspension on the Patrol has been tuned so as to give priority to the safety of the occupants and the ability to traverse rough terrain.

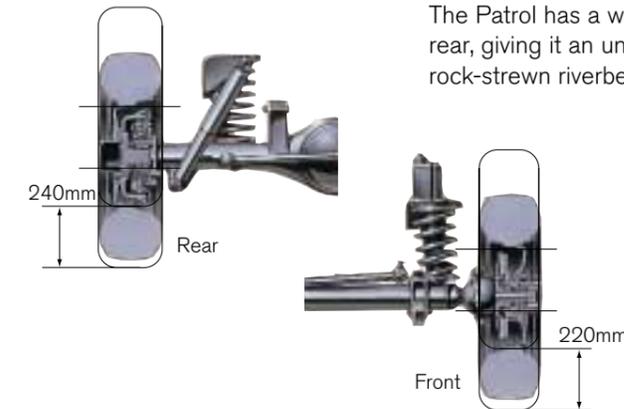
Of course, it is possible to tune a suspension so as to give the passengers a more comfortable ride, but a softer suspension comes at the expense of steering stability since it increases body roll on cornering. It is even possible that the vehicle could turn over on a sharp bend. The objective in the case of the Patrol has been to raise safety and steering stability, especially on rough terrain, to world-class levels, while at the same time ensuring sufficient comfort for the passengers.

Rigid suspension

The rigid suspension enables a longer stroke for the suspension. Conceptually, this design is like a seesaw: when one wheel is pushed upwards, the other is pushed downwards, giving it more traction. This gives the vehicle a significant advantage when traversing rough terrain. In contrast, an independent suspension system is unable to compensate in this way, so it cannot transmit as much torque to the road surface.



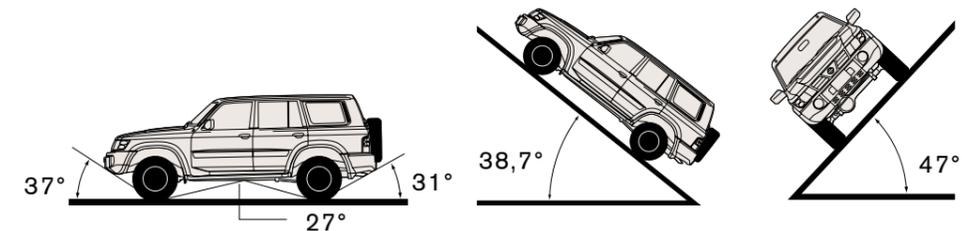
2-1 Wheel stroke



The Patrol has a wheel stroke of 220mm on the front and 240mm on the rear, giving it an unparalleled ability to traverse such difficult terrains as rock-strewn riverbeds.

2-2 Gradeability

The long wheel stroke is supplemented by high angles of approach, departure and ramp clearance to enable the Patrol to travel where lesser vehicles would become stuck. In deciding the exterior design, special attention was paid to wheel stroke and the optimum configuration of the lower part of the bumpers. Its off-road performance is further enhanced by superb stability, allowing slopes of up to 47 degrees to be traversed. And thanks to the high torque generated by its powerful engine, it can climb at up to 38.7 degrees.

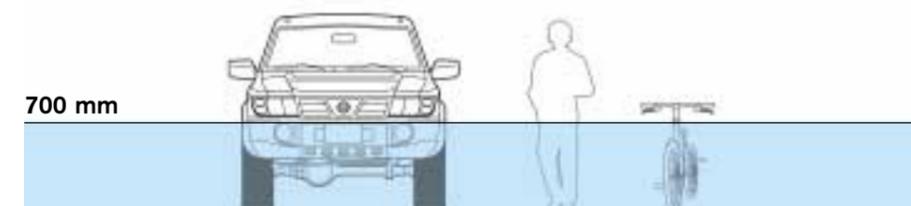


2-3 Wading depth



Able to cope with water up to 700mm deep, the Patrol is used all over the world in places and situations where there are no roads, transporting materials to remote areas and delivering aid to the victims of natural disasters.

Note: When negotiating a water crossing, you should first investigate water depth, currents, etc. Serious damage can result if the water is deeper than you imagined or if there are submerged obstacles.



3 Trustworthy equipment

Nissan Patrol offers a full range of dependable features and technologies.

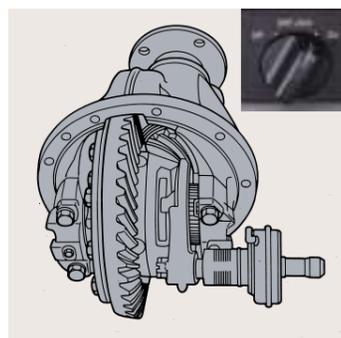


Free-running hubs

Even when using rear-wheel drive (2WD), the front wheels and axle still turn; this friction increases fuel consumption and creates noise. To avoid this, you can release the front hubs so that the wheels turn but the axle does not. When the free-running hubs are set to Auto, selecting 4WD (4H or 4L) causes the hubs to be automatically locked, allowing the engine to power the front wheels.

LSD (limited slip differential)

The differential on a vehicle is essential for preventing torque loss to the wheels when braking in tight corners. However, should one wheel lose traction, either from spinning on ice or just spinning in the air after hitting a rock, there will be no load on it. As a result, the full torque of the engine will be concentrated on that wheel, making progress impossible. A limited slip differential (LSD) includes a mechanism designed to control the way a differential performs. Should one wheel lose traction, then the LSD adjusts differential performance automatically, preventing the loss of torque. The vehicle moves forward without the driver having to take any action. Equipping a vehicle with an LSD thus reduces the danger of getting stuck.



Differential lock

In essence, a differential lock completely stops the differential from functioning. Thus, if the rear differential is locked, even if one wheel is lifted into the air, there is no change in the torque delivered to the one that is still in contact with the ground, so the vehicle can move forward without a problem. However, if the differential is temporarily inoperative, it is difficult to steer the vehicle since it wants to go in a straight line. You should thus only use the differential lock when extracting the Patrol from snow or mud. It is up to the driver to decide when to lock the differential and when to unlock it. In the case of the Patrol, it can be operated conveniently from inside the cabin.

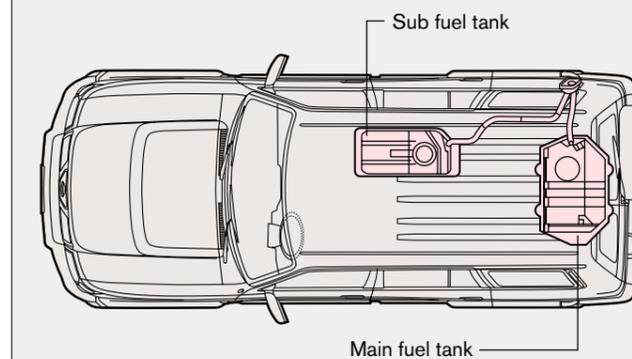
Electric winch



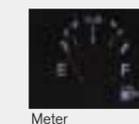
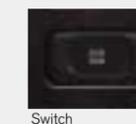
A powerful electric-powered winch (manufactured by WARN), concealed within the front bumper, is very useful in emergencies. Operated by remote control, it employs a double line for surer performance and reduced wear on the winch mechanism. Using the double line increases the rated capacity from 1.8 tons to 3.6 tons.



Sub fuel tank



The Patrol is built to go the distance, as it is fully equipped with a sub fuel tank. Pressing the sub fuel tank switch causes a green light to go on indicating that gasoline is being pumped from the sub tank to the main tank. This transfer process can be stopped at any time by pressing the switch again, but the pump stops automatically once the sub fuel tank is empty.



Switch

Meter

Double filler tubes



Immobilizer

For extra security, the advanced engine immobilizer makes it virtually impossible to start the vehicle without an authentic ignition key.



Pintle hook

A newly designed pintle hook is useful for moving stuck vehicles.

SPECIAL PURPOSE VEHICLES

Ambulance



Nissan Patrol ambulances are at work all over the world, especially in regions of Central & South America, Africa and Asia where many communities are not served by good roads or medical facilities. When people's lives are at stake, the Patrol's uncompromising performance and durability make it invaluable. Customized versions are available.

Movie Van

Thanks to this special purpose Patrol, equipped with a video projector and screen, communities in remote districts are able to access educational materials, including films dealing with vital health issues. This can play an important role in aid programs for developing countries. There is even a generator if no electricity supply is available locally.



VIDEO PROJECTION

