

JUNGLE, SOUTHERN MALAYSIA

The engine was filled exclusively with fully synthetic Shell Helix Ultra motor oil

A custom made snorkel was fitted to the engine air intake to minimise the risk of water damaging the engine in very deep water

Upgraded headlight bulbs were installed and spotlights were fitted to the front bumper for improved night-time visibility

A roll cage was fitted for occupants' safety – the external section was designed to allow for maximum roof storage for additional expedition equipment

A heavy-duty front 'bull bar' was fitted with an electric winch to ensure the vehicle could be pulled to safety without assistance

All electrical components including relays and fuses were sealed to protect against water damage

The ride height was raised by 4 inches to help negotiate deep water and rough surfaces – this was achieved by fitting longer coil springs and special polyurethane spacers

33" extreme mud tyres were fitted to cope with the unpredictable jungle roads and the thick mud caused by tropical rain

The gearbox and differential breathers were extended to prevent water contaminating the oil

VEHICLE SPECIFICATIONS & MODIFICATIONS

This Nissan Patrol was used in the Shell Helix Driven to Extremes television series and was specially modified to withstand the extreme driving conditions encountered in all three episodes. The vehicle pictured above displays the modifications made in preparation for entering the southern Malaysian rainforest; below is an outline of the modifications that also relate to the expeditions in Siberia and China.

EXTERNAL MODIFICATIONS:

- Front & rear jacking points
- Front & rear towing points

UNDER BODY MODIFICATIONS:

- Heavy-duty coil springs with a 2" ride height lift
- Heavy-duty adjustable front & rear shock absorbers
- Heavy-duty steering damper
- Raised axle and transmission breather kit
- Steel rims (2 spare tyres per vehicle)

UNDER BONNET MODIFICATIONS:

- Air horns fitted to warn oncoming traffic at blind corners

INTERIOR VEHICLE MODIFICATIONS:

- Improved insulation – complete interior trim, including all side panels, door cards, roof lining, seats and floor mats, was removed and refitted to allow installation of additional insulating material
- Independent interior air heater fitted
- A rear seat was removed and replaced with steel storage frame to carry emergency provisions, shelter and food. Film recording equipment was fitted to the top of this frame
- Fire extinguisher fitted in front of passenger seat – accessible to both driver and passenger in an emergency
- Emergency windscreen hammer with seatbelt cutter fitted to centre console for emergency escape from vehicle
- Gauge for external temperature and battery condition fitted to dash
- Communication equipment and power to charge fitted into vehicle
 - Two-way radio with external aerial
 - Iridium satellite phone with external aerial
 - Immarsat satellite phone
 - Personal locator beacon
- Passenger-side and rear windows tinted to assist with cooling
- Battery fitted with isolator switch
- All battery cables were run inside the vehicle to the main battery and insulated to reduce the voltage drop in extreme temperatures
- A second insulated, heavy-duty gel battery was fitted to the interior

ORIGINAL VEHICLE SPECIFICATIONS

Model	Nissan Patrol
Description	Patrol SW 4WD STD 10S TD42 MT P12
Body Type	Station Wagon
Seating Capacity	10
Engine	
Displacement (cc)	4169
Max Power (kw/rpm)	85 / 4800
Max Torque (Nm/rpm)	264 / 2000
Transmission	5 Speed Manual Transmission
Steering	Power Steering
Fuel Tank Capacity (litres)	95 + 40 (Sub Tank)
Suspension	All Terrain Suspension
Front	3 Link Coil Type with Stabilizer
Rear	5 Link Coil Type with Stabilizer
Brakes (Power Assisted):	
Front	Ventilated Disc
Rear	Drum
Tyres	235 / 80 R16 with Silver Steel Wheel



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