

# 1987 Nissan FB12 Race Car



**Owner / Builder:**  
**CARVtech PC**

**Location:**  
Trinidad W.I.

**Chassis:**  
FB12-717526

**Engine:**  
SR20 DET (2000cc)

**Transmission:**  
5 speed Straight  
Cut (PAR).

**Cost:**  
US\$ 35,000.00  
Including list of spares.

**Contact:**  
868-678-7241  
[carvtechpc@gmail.com](mailto:carvtechpc@gmail.com)  
<http://www.carvtechpc.com>

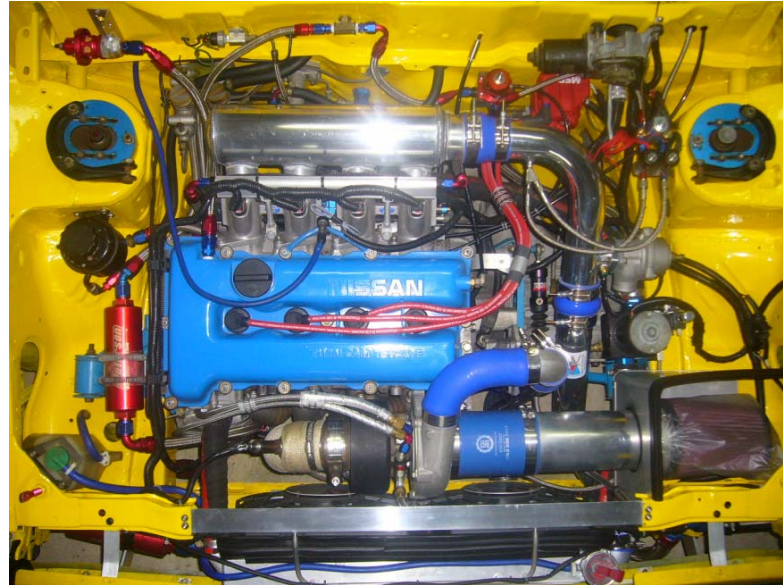
# Overview

- Still no Race Track in Trinidad and this is the primary reason we are offering the car for sale. In the four years that it took to build and partially develop the car, it has been raced a total of four times.
- This car has cost in excess of US\$ 79,000.00 and has been built with a highly professional, no cost spared approach. We would like to sell the car as a complete race ready package, inclusive of spares.
- Car comes with a full cost documentation file, electronic engine maps, wire diagrams and Owners Manual. All contacts for custom spares are also included. There are a bunch of other spares as well that are not listed.....small things that you would need on race day or in the event something simple got damaged.
- The car has not been fully developed due to limited track time, however the chassis and motor combination have tremendous potential with an experienced driver. The fastest lap time the car has done in Wallerfield to date was 46 seconds with a 180bhp Naturally Aspirated Motor (and a driver that was not very good).
- Car will be supplied with a 150hp Nitrous Oxide Kit which has already been installed for drag racing.
- CARVtech PC will be available to any purchaser for a first drive and any assist in mapping and familiarization with the Autronic SMC ECU along with the installed Dry Sumped Turbo Engine.
- Please feel free to call or e-mail for additional information or pictures. The attached pictures can be copied and pasted or simply expanded to show more details. The condition of the car is EXACTLY like in the pictures.
- Very Best Regards,

**CARVtech PC**



# Nissan SR20DET Dry Sump\_Installed



# Nissan SR20DET\_Installed (technical)

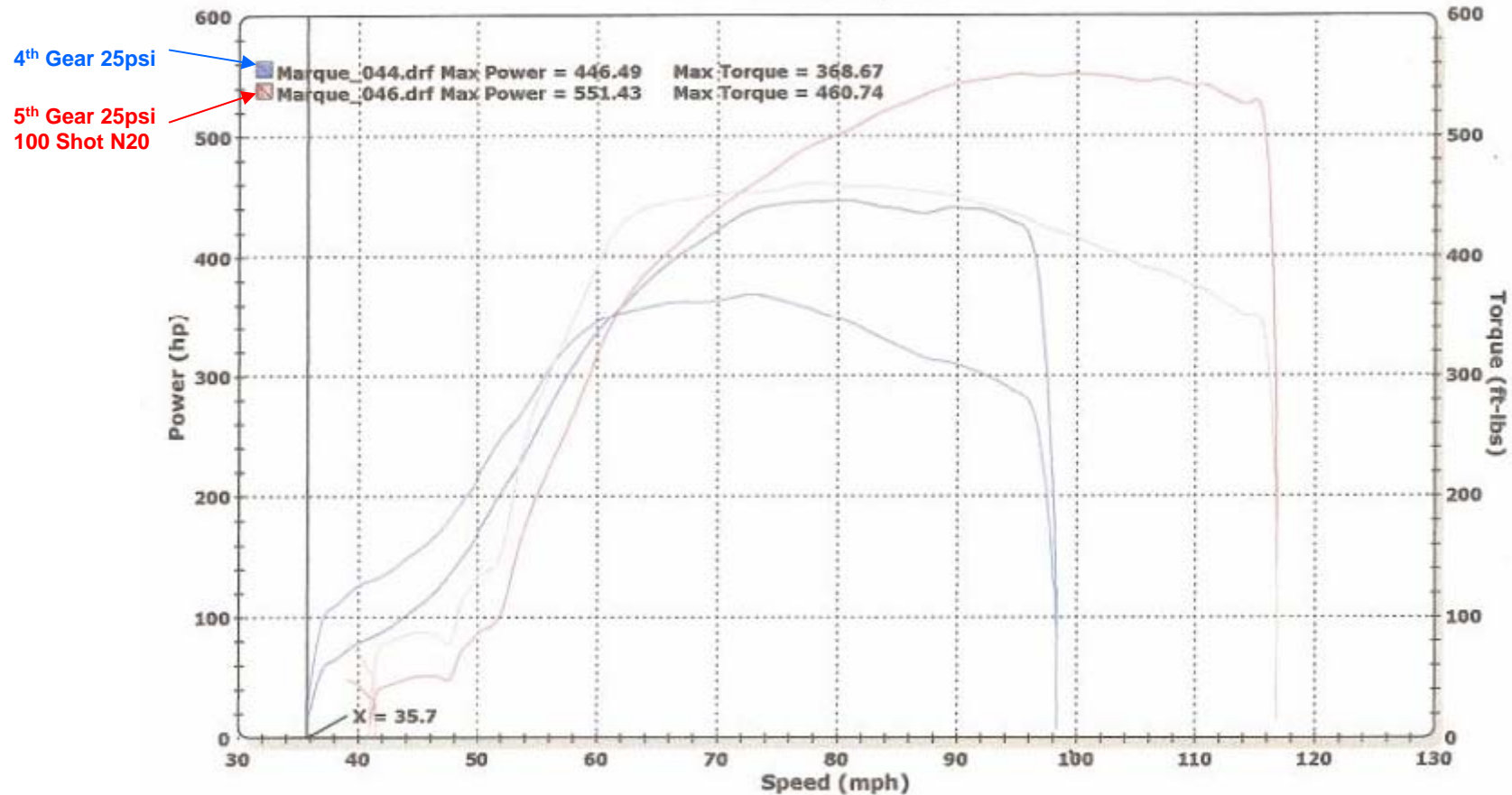
- SR20 DET (Block Code 78E). Main Oil Gallery converted for Dry Sump system by CARVtech PC.
- 0.020" Overbore.
- Piston Oil Coolers assembled in Block.
- 53J High Port Cylinder Head with 32mm Sodium filled Exhaust Valves and 34mm Inlet Valves. Hand Ported and Polished.
- Jim Wolf Technologies C1 Cams (0.476" x 264°) with JWT HD Springs. JWT Vernier Gears.
- Tomei Rocker Stoppers, Nissan Rockers modified and assembled with twin groove type lash caps.
- EFI Hardware quad 50mm Individual Throttle Bodies with 4in Plenum Chamber. RC 1000cc Injectors.
- Cometic Head Gasket.
- Weisco 8.5:1 CR Forged Pistons with hand finished crowns.
- SCAT Performance Forged Steel Rods with ARP 2000 Bolts.
- ARP Main Studs, Nissan OEM DET Head Bolts.
- Forged Steel 8 counterweight Crankshaft.
- Calico Bearings – Coated Mains and Rods – Tri-metal bearing construction.
- CARVtech PC Custom fabricated Dry Sumped Lower Oil Pan, Pump Bracket and OEM Front Cover modification.
- Peterson Fluid Systems 3 stage Dry Sump Components with extended vacuum pressure stage and regulator.
- Full Earls Aircraft Type Fittings.
- Quarter Master 7.25in Twin Plate V-Drive Copper Clutch Assembly and Quarter Master CrMo Flywheel. Clutch is rated to 800ft-lb Torque.
- Garret GT30-R Dual Ball Bearing Turbo Charger assembly with 0.63 AR Back End, external Waste Gate.
- Turbonetics 38mm Waste Gate Assembly.
- Protech Fabrication Equal Length full Stainless Steel Exhaust Manifold with EGT bung on each runner. Manifold will easily accommodate the GT35-R Turbo Charger.
- CARVtech PC Vacuum Damper Chamber for Instrumentation and ECU signal conditioning.
- Full integrated Autronic engine control with twin Crane CDIs and dual coil wasted spark ignition system.
- Mezier Electrical Water Pump System (OEM Pump condemned on block).
- Cold Fusion Nitrous Oxide Injection, (150hp capable solenoids ) jetted at 100hp (ECU activated).

# Nissan SR20DET\_Initial Tuning

DYNOJET RESEARCH

CF: SAE Smoothing: 5

1-868-636-0822 / 719-2734



ENJOY REAL POWER

Marque\_044.drf - 9/22/2008 2:00:22 PM Run Type: RO Run Conditions: 94.18 °F, 29.95 in-Hg, Humidity: 48%, SAE: 1.02  
Max Power = 446.49 Max Torque = 368.67

Marque\_046.drf - 9/22/2008 2:04:33 PM Run Type: RO Run Conditions: 94.86 °F, 29.94 in-Hg, Humidity: 48%, SAE: 1.02  
Max Power = 551.43 Max Torque = 460.74



# 5 Speed manual Transmission (1)

- 5 Speed, Straight Cut 1<sup>st</sup>, through to 5<sup>th</sup>, Helical Final Drive.
  - Built by Performance Automotive and Robotics, Australia.
  - ATS 16 plate 1.5 way Limited Slip Differential Assembly.
  - Billet Synchro System. Not a Dog-box.
- 
- 1<sup>st</sup> Gear: 1.2727:1
  - 2<sup>nd</sup> Gear: 1.9333:1
  - 3<sup>rd</sup> Gear: 1.5333:1
  - 4<sup>th</sup> Gear: 1.200:1
  - 5<sup>th</sup> Gear: 1.000:1
  - Final Drive: 4.43:1.



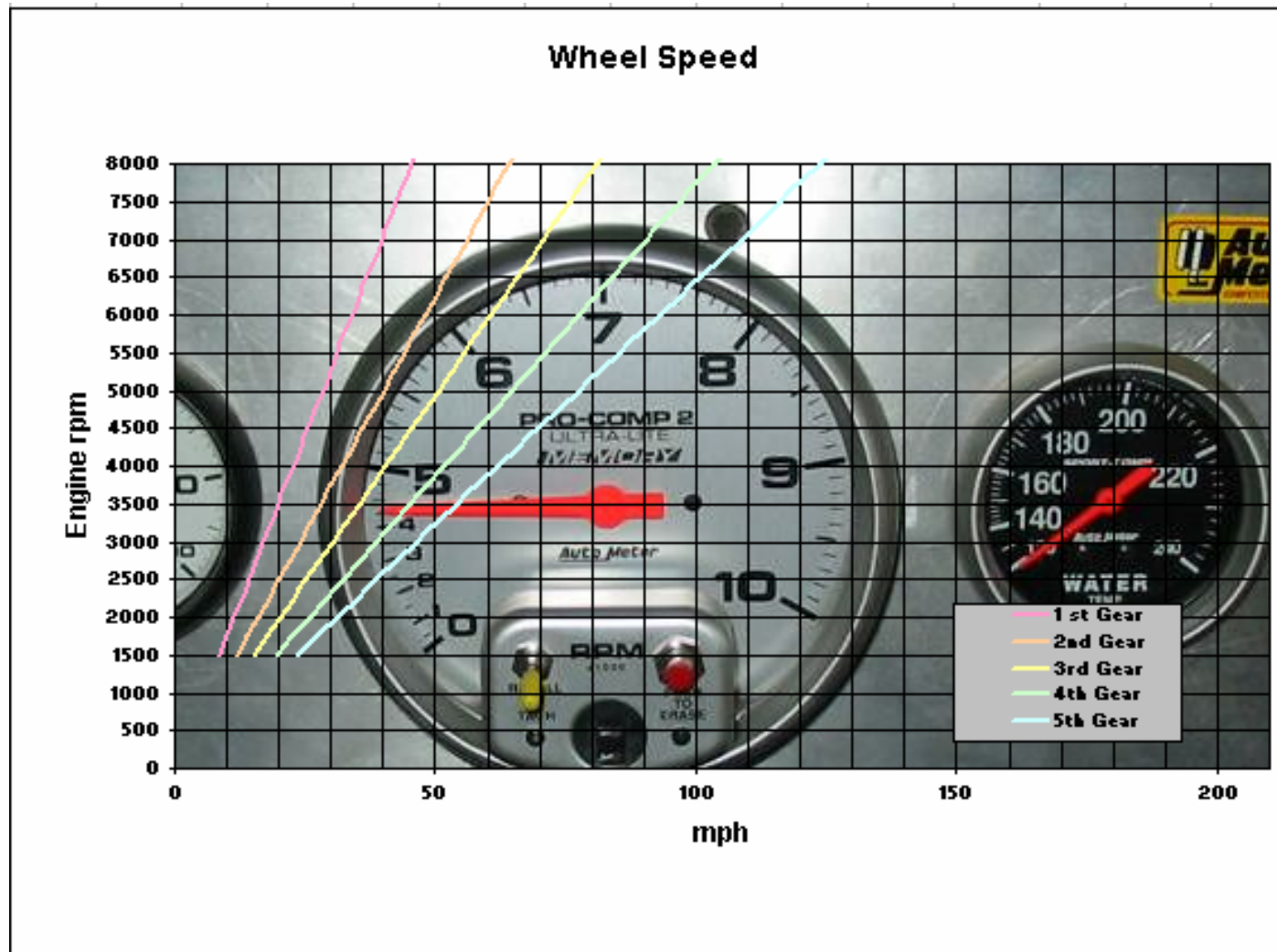
Gear Cluster on Main Shaft is same machine detail as the OEM, “small spline” LSD Gear Box from Nissan. Changing just the Main Shaft and Crown Gear will bring the box back to 3.9:1 Final Drive.

# 5 Speed manual Transmission (2)

rpm	1st Wheel Speed mph	2nd Wheel Speed mph	3rd Wheel Speed mph	4th Wheel Speed mph	5th Wheel Speed mph
1500	8.52	12.03	15.16	19.37	23.25
1750	9.95	14.03	17.69	22.60	27.12
2000	11.37	16.03	20.22	25.83	31.00
2250	12.79	18.04	22.74	29.06	34.87
2500	14.21	20.04	25.27	32.29	38.75
2750	15.63	22.05	27.80	35.52	42.62
3000	17.05	24.05	30.32	38.75	46.50
3250	18.47	26.05	32.85	41.98	50.37
3500	19.89	28.06	35.38	45.21	54.25
3750	21.31	30.06	37.91	48.43	58.12
4000	22.73	32.07	40.43	51.66	62.00
4250	24.15	34.07	42.96	54.89	65.87
4500	25.57	36.08	45.49	58.12	69.75
4750	26.99	38.08	48.01	61.35	73.62
5000	28.42	40.08	50.54	64.58	77.50
5250	29.84	42.09	53.07	67.81	81.37
5500	31.26	44.09	55.60	71.04	85.24
5750	32.68	46.10	58.12	74.27	89.12
6000	34.10	48.10	60.65	77.50	92.99
6250	35.52	50.11	63.18	80.72	96.87
6500	36.94	52.11	65.70	83.95	100.74
6750	38.36	54.11	68.23	87.18	104.62
7000	39.78	56.12	70.76	90.41	108.49
7250	41.20	58.12	73.29	93.64	112.37
7500	42.62	60.13	75.81	96.87	116.24
7750	44.04	62.13	78.34	100.10	120.12
8000	45.47	64.14	80.87	103.33	123.99
8250	46.89	66.14	83.39	106.56	127.87
8500	48.31	68.14	85.92	109.78	131.74
8750	49.73	70.15	88.45	113.01	135.62
9000	51.15	72.15	90.97	116.24	139.49

Wheel Speed based on 205 x 50 x 15 Kumho tires at 1841mm circumference and 4.43:1 Final Drive

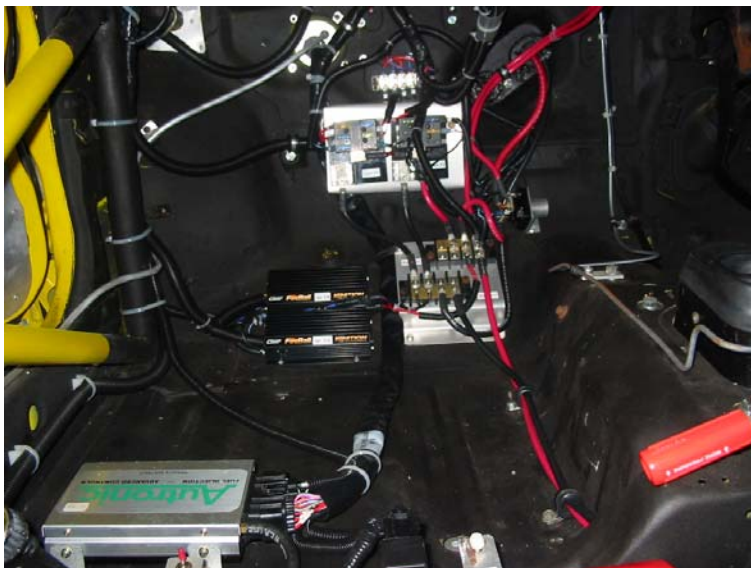
# 5 Speed manual Transmission (3)



Wheel Speed based on 205 x 50 x 15 Kumho tires at 1841mm circumference and 4.43:1 Final Drive



# Chassis Preparation (1)





## Chassis Preparation (2)



# Chassis Preparation (3)



# Chassis Preparation\_Technical

- Nissan 1987 FB12 Chassis, Number: 717526
- 10 Point Seamless Tubing Roll Cage (2 points through firewall to front Strut Towers).
- Fully stripped to bare steel and all welding and fabrication done.
- Fully Seam Welded and Rust Proofed.
- Complete (front and Rear) Rose / Heim Jointed Suspension on OEM locations (OEM Control Arms can be easily refitted).
- Custom Front and Rear Anti Sway Bars.
- Fully adjustable Front: Bump Steer, Camber, Caster, Toe, Track and Ackerman. Rear: Camber, Caster and Toe.
- Drummond Motor Sports (Custom made) Shock Absorbers with Tarmac valve calibration. Front Struts are mounted above apron.
- 350lb/in Front and Rear Spring sets.
- 52% Front Weight Bias , 48% Rear. 51% Right and 49% Left Weight Bias.
- SPARCO Seat.
- SIMPSON 5 point Harness.
- OMP CA303 Fire Suppression System.
- LINK Head Restraint System (2<sup>nd</sup> most effective system to the HANS Device).
- 12 Gallon Fuel Cell, dual electrical Fuel Pumps and Surge Tank. Pre and Post Filtration.
- Setrab 13 Row Oil Cooler.
- OEM Front Wind Screen, Plastic Rear and Sides.
- 15in x 7in x 30mm offset on 4x100mm centers; Team Dynamics Wheels with 205 x 50 x 15 Kumho Tires.
- Rear brakes: 10.5in slotted Rotors with Willwood Dynalite Single Calipers (two piston).
- Front Brakes: Wilwood 11.75in Slotted Rotors on Aluminum Hats, Forged Dynalite Calipers (4 piston).
- Dual Circuit Tandem Master Cylinders with Balance Bar and Tilton Proportioning Valve.
- Hydraulic Clutch Assembly.
- 2 Quart Accusump System (used for starting from cold).
- Carbon Fibre Rear View Mirrors.
- Fiberglass Front Bonnet and Rear Trunk.
- Front Splitter.
- Roof Mounted, cockpit open / close air vent.
- Ron Davis aluminum Radiator with Dual FAL Fans.
- The Chassis remains true to the sprit of a Homologated Monocoque and has not been tubed or partially sub framed.
- **2140lbs WET Weight.**



# Chassis Electrical\_Technical

## **Chassis:**

- Custom Wire Loom with all MSD Weather tight connections. Fully soldered, crimped and heat shrunk insulation.
- Front Head Lights, Rear Brake Lights, front and Rear Corner Markers – single switch in Cockpit.
- All switchgear rated to running amps with no relays (Long Acre Racing Products).
- Autometer Instrumentation: 0-10k Tachometer, Oil temperature, Oil Pressure, Fuel Pressure, Water Temperature, Crank Case depression.
- Mezier Electrical Water Pump System.
- Main Battery / Alternator Kill Switch.
- 50amp Ultra-Mini Nipodenso Alternator.

## **Engine and controls:**

- Autronic SMC, V1.99 ECU with Auto Tune chip and software.
- ECU built with High Current, low Impedance Injector Drive Circuits.
- ECU mounted on rubber grommets with finger pinch nuts for easy removal.
- Autronic Type B Harness. Data Logging and Program Ports.
- Harness can be removed from chassis without having to clip end terminations.
- Dual Crane Hi6S CDI systems on MSD Dual Post coils – multi spark to 8,000rpm.
- Magnecor 8.8mm Race Plug Wires.
- BOSCH Tachometer Driver.
- Aeromotive AE1000 primary, and Trick-Fow secondary Fuel Pumps.

# Spare Parts

## Chassis:

- Drummond Motor Sports front and rear shocks with springs.
- Front Cradles modified for use with 5/8in Rose Joints.
- Rear main Trailing Link / Sway Bar.
- Front Sway Bar.
- Complete set of Rear Spindles and Nissan Brakes.
- Complete set of 15in x 7in x 30mm offset on 4x100mm centers; Team Dynamics Wheels with 205 x 50 x 15 Kumho Tires.
- Full Service Kits for Willwood Calipers. Set of Wilwood Billet Dynalite 4 piston Calipers.
- Full Set of brake Pads.
- 11in Brembo spare front Rotors.
- Fiber Glass Front Bonnet.

## ECU:

- Autronics Type B Harness. Data Logging and Program Ports.

## Engine / Gear Box:

- One Complete Engine Gasket Set.
- One Standard Forged Steel Crankshaft.
- HTD Belts for Peterson Dry Sump System.
- Flush Line kit for Dry Sump oil system. Allows for priming or flushing motor in or out of car.
- 3.9 Final Drive (Crown and Main Shaft).
- Complete Bearing, Synchromesh and Seal rebuild kit for gear box.
- Nissan viscous LSD.