



**FRANKE**



**VOLVO S60 Challenge Racer**



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## **Franke Volvo S60 Challenge Racer**

### **Engine:**

- 2.4 litre T5 turbocharged engine with lightened flywheel and reduced exhaust back-pressure through use of a three-inch pipe and a racing catalytic converter.
- Oil trap in sump.
- Power: 265 hp @ 6000 rpm, 260 lb-ft @ 2000-4500 rpm.
- Maximum rpm 6500, maximum turbo boost 85 Kpa.

### **Drivetrain:**

Tracktive M56H five-speed gearbox. Final ratio 3.235/1. Ratios: 1st 2,545  
2nd 1,786, 3rd 1,412, 4th 1,20, 5th 1,053, Race limited-slip differential, sintered clutch and a stronger clutch plate. Stronger driveshafts from diesel variant.

- Top speed approximately 230 km/h at 6500 rpm in fifth gear.

### **Chassis:**

- Based on standard parts with Öhlins competition shock absorbers and racing springs. Individual adjustments of rebound and compression plus ride-height.
- Rubber bushings replaced with uniballs or nylon bushings in wishbones and front and rear subframes.
- Front lower wishbone from Volvo S80.
- Ride-height – 80 mm. Standard anti-sway bars; hollow in front – diameter 23.5 mm, solid in rear – diameter 21.0 mm.

### **Steering:**

- Standard servo with detachable Sparco competition steering wheel.

### **Brakes:**

- AP-brakes, four-piston calipers, 355 mm brake discs front.
- Standard brakes rear.

### **Wheels:**

- 8x18-inch BBS "Nebula" rims with Dunlop 210/640/18 radial racing slicks for dry conditions, and Pirelli PZero Corsa tires for wet conditions.

### **Body shell:**

- Standard S60 shell equipped with an FIA-homologated roll cage made of 25CrMo4 material. Built to strengthen the body shell and to absorb suspension forces. Reinforced suspension struts front and rear, plus a stabilizing cross bar in front. Weight reduced to approximately 1,250 kg, including liquids and 10 litres of fuel, excluding driver.

**Interior:** FIA-approved Sparco racing seat and three-inch six-point seat belts. Aim data acquisition system

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Photo Louis Butcher

## GRAND PRIX LABATT DE TROIS-RIVIÈRES 1983



## BERNARD FRANKE / RICHARD CYR: CHAMPIONS DU QUÉBEC DES RALLYES 1983

Photo D. Bouthillette



**VOLVO 242 Turbo**



**FRANKE**

**VOLVO 240 Turbo Groupe A**



# VOLVO 240 TURBO R 1986 CANADIAN RALLY CHAMPION



## Engine and Drive train

Type .....B23ET sohc inline 4  
 Displacement.....2,300cc  
 Compression ratio.....7.5:1  
 Bhp @ rpm.....280hp/6000rpm  
 Torque.....290 lb-ft/4500rpm  
 Induction.....Bosh K-jetronic euro spec  
     Group A Turbo charged  
     Group A race intercooler  
     Group A water injection  
 Transmission.....M45 racing 4 speed  
     4th.....1.00:1  
     3rd.....1.27:1  
     2nd.....1.63:1  
     1st.....2.50:1  
     Final drive.....4.88:1

Rear Axle (Ratios 4.11, 4.88 and 5.38)  
 Torsen differential and locking units used  
 race modified with extra cooling  
 Rally specific  
 6 Bosch Rally lights with 100 watts  
 Halda and Teratrip navigational systems  
 Roll cage FIA homologation Group A

## Chassis & Body

Layout...front engine/rear drive  
 Curb weight.....2,700 lb  
 Weight distribution Fr/R.....52/48  
 Wheel base inches.....104  
 FIA Roll Cage Group A

## Suspension

Front...MacPherson struts Volvo R-sport  
 Rear.....Live axle coil-shocks R-sport  
 Wheels...Volvo alloy 14 inch and 15 race  
 Tires.....BF Goodrich Mud TA 195/75/14  
     ...BF Goodrich Comp TA 205/60/15  
 Volvo R-sport  
     ...Coils, springs, shocks, and sway bars  
 Steering  
     ...Modified rack & pinion 3.5 lock to lock

Brake system.....10.3" ventilated disc fr.  
     ..11" solid disc rear  
     Adjustable brake bias

## Instrumentation

VDO race gauges including exhaust temp  
 and turbo boost measurement

Volvo 242 Turbo R  
 2 door sedan  
 FIA Group A Modified  
 Open Class Rally racer

## Performance

0-60mph.....5.9sec  
 0-80mph.....9.7sec  
 0-100mph.....14.7sec  
 0-1/4 mile...14.4 sec  
 Top speed..120 mph



**VOLVO**  
 240 turbo

This Volvo was Rally raced by Rally Champion Bernard Franke between 1982 and 1987. A total of 7, Provincial, Eastern Canadian and National championships where won at the wheel of this very fast 240

The 240 model was produced between 1974 and 1993. It was raced on track and Pro-rally all over the world



VOLVO 940 Police Pack  
VOLVO S70 Police Pack 168hp



**FRANKE**



VOLVO S70 Police Pack 168hp  
VOLVO S70T5 Police Pack 236hp



**FRANKE**



## Mercedes-Benz C280 Touring racer



2.8 liter DOHC 24V 245hp at 6,200rpm ( engine type 104). Transmission 5 speed Getrag from 190-16v  
Differential limited slip 3.45 ratio. suspension Koni Custom coil overs with Hyperco coils. Full race setup.



## Description of the car cont.



### Body:

The car was stripped to reduce weight as much as possible. The car stands at 2875 pounds fuel and driver on board (weight regulated by series). There is plenty of weight that can still be removed. It depends on the series the car would compete in. Front bumper is from C36 AMG with a small removable lip spoiler. All glass except for windshield has been replaced with lexan.



## Description of the car

Model: Mercedes-Benz C280 (Chassis type W202)

Engine: 6 hours since rebuilt

modified 6 cylinder 2.8 liter DOHC 24V (engine type 104).

(Class regulated max 2.8 liter no forced induction allowed)

SDS programmable fuel injection ( programmer and maps included)

Race ported and polished cylinder head with Race Cams.

Balanced and blueprinted. 3 inch stainless steel race exhaust system



Transmission: Top shape very durable

Getrag 5 speed close ratio dog leg type.

5th gear 1 to 1 ratio.

Differential: 4 hours since rebuild

limited slip 3.45 ratio



## Description of the car cont.

### Suspension: New installed August 2005

New Koni Coil over racing shocks with compression and rebound adjustable on the car . Hyperco coils with wide range of availability to suit any race situation. Adjustable front and rear suspension ride heights as well as caster camber, and toe. Eibach front and rear and sway bars . Special suspension bushings. 17 inch Evolution wheels with Hankook spec tire. The suspension alone accounted for 2 seconds per lap faster at Le Circuit Mont-Tremblant.



### Brakes: New high performance system installed July 2005

Mercedes Brembo calipers with 13 inch cross drilled and vented rotors for the front with off the shelf Hawk blue racing pads. SL 500 ATE rear calipers with 11.5 rotors. Full race Tilton floor mount master cylinders and pedal system race with cockpit adjustable brake bias. Special air ducks with temp silicone hoses. No fading feels real nice.



## Description of the car cont.

### Fuel system:

Mercedes fuel Tank located ahead of rear axle made of composite material with special race foam inside to prevent fuel starvation during high speed cornering. Fuel pump AMG model C43.

### Safety equipment:

Full roll cage approved for SCCA (US) and FAQ (Québec sports federation). On board fire extinguishing system, 6 point safety harness and window net and kill switch that shuts down engine while running. OMP racing seat.

### Wiring/electronics: Installed March 2005

Light weight custom made dash board with full instrumentation. VDO gauges for rpm , oil psi, oil temp, water temp and fuel level. Auto meter fuel pressure gauge and programmable shift light. Wiring harness stripped of all non essentials and quick removable connectors for dash board. Headlights, tail lights are all operational as per series rules.

