

VIC – THE TORANA STATE

KBC ♦ 564

- *Updates since Litre8's December 1991 SummerNats 5 debut -*

Engine:

Capacity: *564 Cubic Inches (Approximately 9.24 Litres)*

Block: *Keith Black Aluminium Big Block Chevrolet Replica (4.53" Bore), Dry Steel Liners, Mains & Head Stud Kit, Stainless Steel Lifter Valley Screens, Tuff Mounts Polyurethane Bushed Engine Mounts, Five Cylinder Head Studs Per Cylinder*

Crankshaft: *Manley 4340 Non-Twist Forged Steel, 4.375" Stroke, Nitride Heat Treated, Large Fillet Radii, Eight Counterweights, Internally Balanced, ATI Super Damper (8"), Hard Anodised Gilmer Drive (Dry Sump Pump, Water Pump, Alternator), Rotating Assembly Neutral Balanced*

Conrods: *Molnar H-Beam, Billet 4340 Steel, 6.48" (Std + .345"), ARP 2000 Rod Bolts (200,000 psi)*

Pistons: *JE BBC Lightweight FSR, 1.120" Comp Height, Fully Floating, Double Spiro locks, Total Seal Gapless 440B Stainless Steel Rings C33 (Chrome Nitride) Face Coated (1.0mm, 0.043", 3.0mm), 13:1 Compression, Tool Steel Piston Pins, 42cc Dome, Lateral Gas Ports*

Camshaft: *Howards Cams Custom Steel Billet Mechanical Roller (.765"/.765", 265°/269° @ .050" Intake/Exhaust, 109° LSA), 4/7 Swap, Trend One-piece Centreless-ground 4130 Chrome Molybdenum Pushrods (.136" wall x 3/8" diameter), Keith Black Gear Drive, Howards Pro-Max Direct Lube Mechanical Roller Lifters (+.300)*

Cylinder Heads: *AFR 335 CNC Aluminium V2, Open Chamber (120cc), Flow 406/324 cfm @ 0.750"/28" H2O Intake/Exhaust (900+hp), Ferrea F1224P Competition Plus 2.3" Intake Valves, Ferrea F1270P Super Alloy 1.9" Exhaust Valves, Isky Tool Room RAD*

Racing Valve Springs (1.6" OD, 250 lbs closed, 735 lbs open), Crower Enduro Stainless Steel Roller Rockers (1.7:1), AFR Aluminium Stud Girdle, Isky Chrome-Moly Seat Cups, Isky Super-7 Titanium Retainers, Isky Super-7 Chrome-Moly Valve Locks, Nitrile Valve Stem Seals (Intake Only), GM Performance Parts Cast Aluminium Valve Covers, Comp Cams Guide Plates, Cometic Head Gasket (.051"), ARP Rocker Studs

Flywheel: 28lb McLeod Steel, 10¹/₂" Disc, Neutral Balance, 153 Tooth

Sump: Fabricated Dry Sump by AMRaceparts (Depth Extended 0.25" for Crankshaft Clearance by Nankervis Performance Boats Pty Ltd), Features 3 Scavenge Pickups, Windage Tray, Dash 16/12 AN Fittings & Stainless Steel Braided Lines

Lubrication: Modified Jenkin Bros 4 Stage Dry Sump Pump (Gear Style, 3 Scavenge, 1 Pressure, 75+psi Adjustable), Gilmer Drive, Serck 44 Row Oil Cooler (Boot Located with Dedicated Thermatic Fan), Moroso Billet Oil Filter Bypass Plate, Hamburger's Billet Remote Oil Filter Mount, K&N HP-5001 'Nascar' Oil Filter, Stainless Steel Pre-Pump Screen Filters, Boot Mounted 14 Litre Dry Sump Tank, Joe Gibbs Racing DRIVEN XP6 15w/50 Racing Synthetic Oil, Alloy Catch Tanks

Exhaust: 2¹/₈" x 37" Primaries, 4" Collectors, HPC Coated, Dual 3¹/₂" with 2¹/₂" Balance 'H' Pipe, Dual Custom Race Mufflers (3¹/₂" Inlet / Outlet)

Cooling: Race Radiators Crossflow Aluminium with Recovery Tank, Dual Thermatic Fans, Edelbrock Victor Aluminium Waterpump, Penrite Race Coolant Inhibitor, EMP Stewart Hi-Flow 72c Thermostat

Induction: MoTeC "Black" M48 Sequential Electronic Direct Port Fuel Injection, Kinsler Aluminium Cross-Ram Manifold, 8 x 2¹¹/₁₆" (69mm) Butterflies, Custom Polished Aluminium Ram Tubes, Bosch Motorsport 351 Injectors (160hp, 940cc/min@5 Bar)

Fuel: Aluminium 120 Litre Tank, Dash 6/8/10 AN Fittings & Stainless Steel Braided Fuel Lines, Dual Bosch Motorsports Injection Pumps Drawing from 4 Litre Aluminium Surge Tank, AeroFlow 'Black' Electric 140 gph EFI Lift Pump, Oberg 28 Micron Pre-Pump Stainless Steel Screen Filter, Dual Post-Pump Fuelab 6 Micron Billet Aluminium Filters, Aeromotive Adjustable Pressure Regulator (5 Bar/ 73 PSI), PowerPlus 105+ Racing Unleaded Fuel

Ignition: *Scorcher Modified Distributor (Bronze Gear) with Narrow-Tooth Trigger, Billet Aluminium Hold-down Clamp, 8mm Magnecore leads, MoTeC M48 Controlled Ignition Advance, MoTeC Single Channel CDI, Crane PS92N Coil, NGK R5671A-10 Racing Spark Plugs*

Bearings: *Calico (Clevite) CT-1 Coated Bearings*

Assembly: ~ *Nankervis Performance Boats Pty Ltd*
(Mark I in 1991 & latest Mark III in 2018)
~ *Neil Burns Developments (Mark II in 2000)*
~ *Dyno Tuned by Melbourne Performance Centre*

Performance Details:

Maximum RPM: *7000rpm Sprint / 6500rpm Endurance*

Horsepower: ~ *886 hp (664 kw) @ 6560 rpm (704 rw hp)*
~ *864 ft/lbs (1172 Nm) torque @ 4370rpm (685 rw ft/lbs)*

Ancillaries:

Electrical: ~ *80 Amp Chrome Alternator (Gilmer Drive)*
~ *CAE 2.5hp Gear Reduction Starter Motor*
~ *Optima 900 cca Dry Cell Battery (Boot located)*
~ *Battery Isolation Switch (Boot located)*

Brakes:

~ *Tilton Driver Adjustable Balance Bar, Dual Alcon Master Cylinders ($1\frac{3}{16}$ " & $\frac{7}{8}$ "), Adjustable Rear Proportioning Valve*
~ *Stainless Steel Braided/Tube Steel Brake Lines*

Front: ~ *$13\frac{1}{2}$ " (343mm) x $1\frac{1}{4}$ " (32mm) Harrop Ventilated Disc with TWR* Billet 4 Piston Calipers (Staggered Titanium Pistons $1\frac{5}{8}$ " & $1\frac{3}{4}$ ", Titanium Guides)*
~ *Billet Aluminium Radial Mount Caliper Adaptors, Hi-Tensile Studs with 12 Point Retaining Nuts*
~ *Gold Anodised Aluminium Adaptor Hats, 12-Point Bolts*
~ *Ferodo DS3000 Pads*

Rear: ~ *$12\frac{1}{2}$ " (318mm) x $1\frac{1}{10}$ " (27mm) Harrop Ventilated Disc with TWR* Billet 4 Piston Calipers (Staggered Titanium Pistons $1\frac{1}{2}$ " & $1\frac{3}{4}$ ", Titanium Guides)*
~ *Billet Aluminium Radial Mount Caliper Adaptors, Hi-Tensile Studs with 12 Point Retaining Nuts*
~ *Gold Anodised Aluminium Adaptor Hats, 12-Point Bolts*
~ *Ferodo DS3000 Pads*

Suspension:

- Front:** ~ **White Line Custom Front Mount Sway Bar (28mm) with Heim Joint Links**
~ **K-Mac Sway Mounting Brackets (Chassis & Lower Control Arms)**
~ **Bilstein Shock Absorbers**
~ **Browns Springs Custom Springs (1100 lb/in)**
~ **A9X Upper Control Arms (with lowered cross-member mounting)**
~ **A9X Steering Arms**
~ **A9X Stub Axles (..595/..596 - Bearing Spacers by Motorsport Engineering Services)**
~ **3° Negative Camber, 3° Positive Castor, 1/16" Toe-out**
~ **SuperPro Polyurethane Bushings - Upper & Lower Control Arms**
~ **Nolathane Polyurethane K-Frame Bushings**
~ **Nolathane Polyurethane Outrigger Bushings**
~ **Moog Upper and Lower Balljoints (K5108 & K5103)**

- Rear:** ~ **K-Mac Competition Rear Mount Sway Bar (21mm) with Heim Joint Links, Nolathane Mounting Bushes, Fabricated Mounts**
~ **Fabricated Differential Trailing Arm Mountings**
~ **Custom Chrome Moly Panhard Rod (Heim Joints)**
~ **K-Mac Competition Variable Rate L34 springs (450 lb/in)**
~ **Bilstein Shock Absorbers**
~ **McDonald Bros Adjustable Chrome-Moly Upper & Lower Trailing Arms With SuperPro Polyurethane Bushings**

Steering:

- ~ **AXIS Power Steering Conversion (Modified Subaru Rack)**
~ **Astra TS Electric Power Steering Pump (Boot located)**
~ **Derafe Compact Power Steering Cooler (Boot located)**
~ **Dash 6/8 AN Fittings & Stainless Steel Braided Lines**

Driveline:

- Rear Axle:** ~ **Heavy Duty 9" Housing (Baffled) with 2.5:1 Gears**
~ **Harrop Engineering Aluminium Centre with Aluminium Bearing Support Extension, Harrop Modified Detroit Locker**
~ **Harrop Engineering Fully Floating Axle Assembly**
~ **Hy-Tuff 31 Spline Axles**
~ **1/2° Negative Camber, 1/4° Toe-in**
~ **Billet Aluminium U-Joint Bearing Girdle**
~ **Penrite Pro Gear 75w/90 Synthetic Gear Oil**

- Clutch:** ~ **McLeod 10 1/2" B&B Twin Plate**
~ **McLeod Hydraulic Throw Out Bearing**

~ **Wilwood ¾" Alloy Master Cylinder**

Gearbox: ~ **Jerico 5 Speed (Side Cluster Gear), Magnesium Case, Straight Cut 9310 Alloy Gears, Dog Engagement, 80lbs Dry Weight**
~ **Rated @ 900+ ft/lbs torque**
~ **Ratios: 1st- 2.643:1, 2nd- 1.933:1, 3rd- 1.46:1, 4th- 1.208:1, 5th- 1:1**
~ **Lakewood Hydroformed Steel Safety Bellhousing**
~ **MVE Shure Shifter**
~ **Mark Williams Forged Yoke**
~ **Tilton 2 GPM Electric Oil Pump**
~ **Earls 10 Row Oil Cooler, Earl's In-line S/Steel Mesh Filter**
~ **Earls Dash 8 AN Fittings & Stainless Steel Braided Lines**
~ **AmsOil 75w/90 Synthetic Gear Oil**
~ **Energy Suspension Urethane Gearbox Mount**

Tailshaft: ~ **3" Diameter, 0.083" Wall Thickness Steel by Balancing Services Australia**

Body:

~ **Paint: Mandarin Red, Trim: Tuxedo Black (originally), Midnight Black (now)**
~ **Paint, Chrome, Tyre and Glass Care by Autoglym**
~ **Aluminium Care by Lucas Oil Metal Polish**
~ **L34 Style Wheel Arch Flares**
~ **L34 Style Front Spoiler, modified A9X Brake Ducts**
~ **A9X Bonnet Scoop (s-t-r-e-t-c-h-e-d 15cm), Extended Bonnet Hole**
~ **Standard SLR 5000 Rear Spoiler**
~ **Custom SLR 8000 Stencils**
~ **Additional Boot Air Extraction Vents**

Interior:

~ **Scheel 401s Driver and Scheel 401 Passenger Seats**
~ **8 point Brown-Davis Alloy Roll Cage (Extended Steel Bracing)**
~ **Custom Dash – Full Complement of VDO Electric/Mech. Gauges including oil pressure, oil temp (engine/gearbox/diff.), water temp, volts and VDO Electronic 300kph Speedometer.**
~ **Externally Mounted Mechanical VDO Fuel Pressure Gauge, VDO Vacuum Gauge (Crankcase) and Air/Fuel Ratio Gauge**
~ **SpeedHut 8000rpm Electronic Tachometer (Shift Light/Memory)**
~ **Total 4-Point Harnesses for Driver and Front Passenger**
~ **Sony Xplode 4x45w CD-Tuner (Garage Music)**
~ **Modified Trans Tunnel, Custom Shifter with Reverse Lockout**
~ **Alloy Pads for Clutch, Brake and Accelerator**

- ~ **SAAS 'Moderna' Sports Steering Wheel**
- ~ **VB Commodore Indicator/Wiper Stalk**

Chassis:

- ~ **Front Rails:**
 - ~ **Shaved Inner Lip (Spark Plug Access & Header Clearance)**
 - ~ **Stitch Welded with Plasma Cut 3mm Steel Plate**
 - ~ **Internally Braced**
- ~ **RHS (3" x 2") Stitch Welded Inside Subframe (Front Outrigger Pickup to Lower Rear Suspension Pickup)**
- ~ **RHS (3" x 2") Welded Subframe Connector (Incorporating Tailshaft Catch Strap)**

Weight:

- ~ **Corner Weights(kg):**
 - ~ **RF- 431, LF- 421, RR- 329, LR- 341 (56/44 front/rear bias)**
- ~ **Total Weight (incl Coolant, Oil and 20L Fuel): 1521 kg (3346 lbs)**
- ~ **Approximate Standard SLR 5000 Weight: 1320 kg (2906 lbs)**

Wheels:

- ~ **17" x 10" Customised Compomotive Composite TS (3 piece)**
(5 spoke, Body Colour Matched, 4.24"/120mm PCD Front/Rear)
- ~ **Dunlop 265/625 R17 D11 Radial Slicks**

A Brief History:

- ~ **1976 – 1978 - Purchased new (genuine LX SLR 5000) in April 1976 \$6,800. Modifications commenced in July 1976: Globe Bathurst Mags, Gown-Hindhaugh L34 Heads, HM Headers, Speco 162c Camshaft, Holley 780, Scorchers Distributor, Edelbrock Torker Manifold, 14"x8" Gold Hotwires, L34 Flares, Brown Davis 8 Point Cage & 90 Litre Fuel Tank, Dual 2" Exhaust, K-Mac Sway Bars and Panhard Rod, Dual Thermatic Fans.**
- ~ **1978 – May 1989 – 202(!!!), NGM Strata 6+ Turbo Kit (1.52 A/R), Water Cooled Centre Bearing, Carrillo H-Beam Conrods, Roller Rockers, Head Stud Girdle, Arias Forged Pistons, Y/T Turbo Head, Holley 850 D/P S/Bore, Straight Cut Steel Timing Gears, Remote Purolator Oil Filter, Serck Oil Cooler, Blue Motor Crank, Marvin Miller NOS Kit, 3" Side Exhaust, Brown Davis 120 Litre Fuel Tank, 16"x9" Simmons B45 Rims, 12½" Front Discs with AP-Lockheed 4 Piston Calipers (ex-HDT), 11" Ventilated Rear Discs with Single Piston Calipers, DNE 5 Speed, Hadfield 9" Diff (2.75:1) with Traction-Loc centre.**
- ~ **1989 June – November 1991 – Mark I Revolution**

~ **December 1991** – **Litre8** debuted at SummerNats 5

~ **May 2018** – **Current** – **Mark III Evolution**

Time & Cost:

~ **This incarnation: 34+ years (June 1989 to Present) and \$221,000 (Ongoing)**

~ **Car Owned, Financed & Enjoyed by Howard & Marilyn Bell**

~ **Member of the Sydney Torana Club & the Victorian Torana Club**

Did You Say More?: <http://litre8.com>

Parts & Services (in no particular order):

