

# CAVALIER SUP TOURING CARS



Our massive feature on one of the greatest competition Vauxhalls ever built, the Mk3 Cavalier Super Touring Car!

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**N**othing (and we mean nothing) goes down quite as well on the *Total Vauxhall* Facebook page as a picture of a Cavalier BTCC car, ideally with a certain ruddy-cheeked Scotsman at the wheel. It's impossible to overstate how well regarded these cars are amongst the Griffin faithful, and it's probably not a stretch to say that they're your most popular Vauxhall competition car. With that in mind, we

thought we'd put together an in-depth history of the Cavalier in the BTCC, covering the seasons it competed in, the results it netted, the developments undertaken to make it competitive and, most importantly, the people who made it into a winner!

## MOVING UP

John clinched the 1989 title in an Astra GTE, though he did it without setting foot on the podium. (He competed in a class below the Sierra RS500s, and won his title through regular points

finishes). For 1990 Vauxhall opted to step things up a gear, competing in the new Super Touring TOCA regulations with the Mk3 Cavalier GSi, and hired Chris Hodgetts to compete alongside Cleland. It wasn't ever going to be easy, especially as the team faced a steep learning curve and an already up to speed, Prodrive-backed BMW effort. Pre-season testing at Donington revealed how far there was to go if the GSi was ever going to be a winner.

"Out on the GP loop for the first time, the car was actually



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## CAV SUPER TOURING

“John lunged at Sytner, attempting to grab the Englishman by the neck”



Future F1 star David Coulthard samples the rough and ready world of the BTCC

cornering on two wheels, it really was that dramatic,” recalls Cleland. “We were also using diffs and transmissions developed for use in the WRC programme, so there was a lot of work involved to make them effective on circuits.”

All of this meant that the Cavalier versus BMW slugging match was eagerly anticipated. The front-wheel drive Cavalier was permitted to run at a lower weight than the rear-wheel drive M3s, and the competition raged all season. The most controversial incident of the year took place at the Birmingham Superprix, a short-lived but spectacular street circuit. The season long fight between Frank Sytner and Cleland was in full swing, with the former catching the latter at an alarming rate with just a handful of laps to go. We'll let Cleland take over the story...

“I was on a shot set of Dunlops, falling into Frank's clutches. On the penultimate lap, Frank made a lunge for the inside line of a corner that, with the best will in the world, was never



Rob Gravett's Sierra spent most of its career struggling to keep up with the Cavaliers!



BTCC in the early '90s was dominated by the Vauxhall versus BMW battles



### THE REAR-WHEEL DRIVE CAVALIER

In the very early days of the Cavalier programme, Vauxhall actually experimented with a rear-wheel drive version of the Cavalier. TOCA rules stated that if a four-wheel drive version of the road-going car was available (i.e. the GS2000 4x4), then a race version could be either front-rear- or four-wheel drive. Reacting to the early front-wheel drive car's tendency to eat its tyres, a rear-wheel drive version was developed. Though tested quite extensively, the project was eventually canned due to difficulties transmitting the car's power from the transverse XE to the rear axle. There was also the fact that Vauxhall had no intention of offering a rear-wheel drive Cavalier to the general public, so there was little commercial incentive. That's not to say the experimental car was bad though, and Cleland recalls it fondly.

"It drove really well, it was superbly balanced and you could corner confidently. It's just a shame that the technology of the time wasn't up to the task."

going to work."

The pair ended up in the barriers, Cleland's temper long past boiling point and not helped by being forced to extricate himself from the battered GSi through the driver's side window. John then lunged at Sytner, attempting to grab the Englishman by the neck.

"We were pulled apart by marshals and I started walking back to the pits. Then someone yelled out from the crowd 'I'd have hit him harder.'" I thought about it for a second, agreed, then went back to have another bash," chuckles John.

It's safe to say that though Sytner and the M3 finished above the Vauxhalls that year, it was Cleland who established himself as a firm favourite with the fans.

### IN THE GROOVE

1990 might have represented a steep learning curve, but 1991 was, if anything, even tougher. The Super Touring regulations had prompted an explosion in popularity, and



manufacturers were clamouring to get their racers on the grid on Sunday in order to sell cars on Monday. The battle again came down to Vauxhall versus BMW, with the Toyota Carina of Andy Rouse occasionally troubling the podium. The fact that there were so many more M3s on the grid than Cavaliers eventually took its toll though, and Cleland was forced to settle for second place, with Will Hoy taking overall honours.

### TRADING PAINT

1992 was even closer, and Cleland and Allam started well, with victories for the Cavalier at Silverstone, Snetterton and Knockhill. There were also two other Cavaliers on the grid driven



This is actually the car that was tested in rear-wheel drive configuration

# CAV SUPER TOURING



The hugely varied grids the Super Touring rules generated were a large part of its appeal

by David Leslie and Alex Portman. These were prepared and run by Ray Mallock, a man that'd go on to play a very significant role in the Cavalier programme. As the season progressed, the BMWs of Tim Harvey and Steve Soper became more of a problem, eventually culminating in that legendary coming together at the season finale at Silverstone. Cleland and Harvey were separated by one point going into the round, and both



<b>ESSO</b>	
RAC British Touring Car Championship	
<b>CHAMPIONSHIP</b>	<b>POSIT</b>
<b>WINNER</b>	
<b>DRIVERS</b>	
TIM HARVEY	_____
WILL HOY	_____
JOHN CLELAND	_____
<b>MANUFACTURERS</b>	
VAUXHALL MOTORS	_____

The Cavalier was always a force to be reckoned with, and the silverware quickly mounted up

men were hungry for the title. In the closing stages of the race Cleland was in fourth, with Soper fifth and Harvey sixth – an order that would give the Scot the championship. Later in the lap Soper snuck into fourth, resulting in Murray Walker's now legendary 'I'm going for first' commentary, and the race was well and truly on. Harvey edged past the Cavalier, and Soper ever the loyal team-mate, instantly ceded his fourth place to the Englishman, then closed the door on Cleland. This culminated in the infamous coming together at Luffield, Soper cutting in front of Cleland before barging into him, sending both into the gravel and instant retirement.

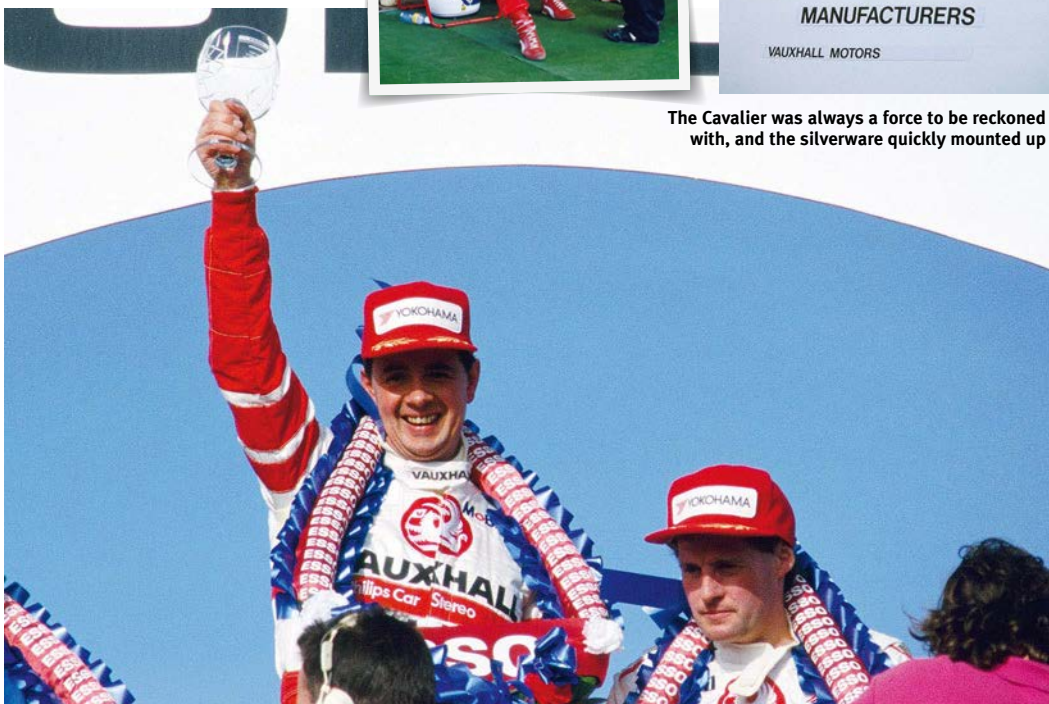
At the time, Cleland's indignation was palpable, and he went on to vent his fury in no uncertain terms.

"Is this stock car racing or is this motorsport? He might get away with that in Germany where he might be Mr Superstar, but this is clean. The man's an animal!"

It's fair to say his feelings on the subject have mellowed somewhat, and asking him about it nowadays prompts a wry smile and a comment about spending that whole period of his careers battling BMWs left right and centre. Cleland had to settle for third in the standings, though Vauxhall netted manufacturers' honours.

## TOUGH TIMES

The following two seasons would prove very trying for all the teams running Cavaliers. 1993 saw the BMW E36s prove tough to beat, a



David Leslie's unmistakable saltire liveried car was often seen near the head of the field



## ENGINE ENGINEERING

One of the most discussed elements of the BTCC Cavaliers is the reverse-head C20XE. This was developed by Swindon Race Engines early on in the Cavalier programme, and was first used in the 1992 season. We spoke to Sean Orafferty of Swindon to get the low down on this amazing piece of engineering.

"The reverse-head idea came about as we wanted to get the best performance and cooling characteristics from the engine. The OE engine has the exhaust manifold at the front, so all the heat goes back towards the inlet – not good," recalls Sean.

Obviously swapping inlet and induction sides took a huge amount of work, and Sean reckons each engine probably took

about a week's work to complete. Some of the work included re-routing oil ways and altering the position of the cam throat with a Swindon designed outrigger. The heads were also ported and polished, then fitted with some very high-end components. Valves grew by 2mm, stems shrank from 7 to 5mm in order to lose weight, double springs prevented valve bounce, and the hydraulic tappets of the road engine were exchanged for solid lifters.

"The hydraulic tappets just couldn't keep up with the race engine's RPM, which would regularly go as high as 9000".

Obviously the cams bore very little resemblance to those in a factory-fresh XE, and

Swindon ones were far more aggressive.

"Lift was 13.5mm, and we ran very tight piston to valve clearances, which were about 1.5mm.

"The blocks were highly modified too, and the race car's bore and stroke was changed to 82x88mm. They were fitted with billet cranks, rods and pistons and extensively tested.

"These were highly stressed engines, and we'd consider ourselves lucky if a block lasted more than two races without cracking, and a crank more than four without failing."

Sean estimates that they were extracting 310bhp from the C20XE, well over double the factory engine's output. With figures like that, is it any wonder these engines are so revered?



"Is this stock car racing or is this motorsport? The man's an animal!"

A pair of Cavaliers lead a Ford, the way things would be for most of the '90s!



# CAV SUPER TOURING



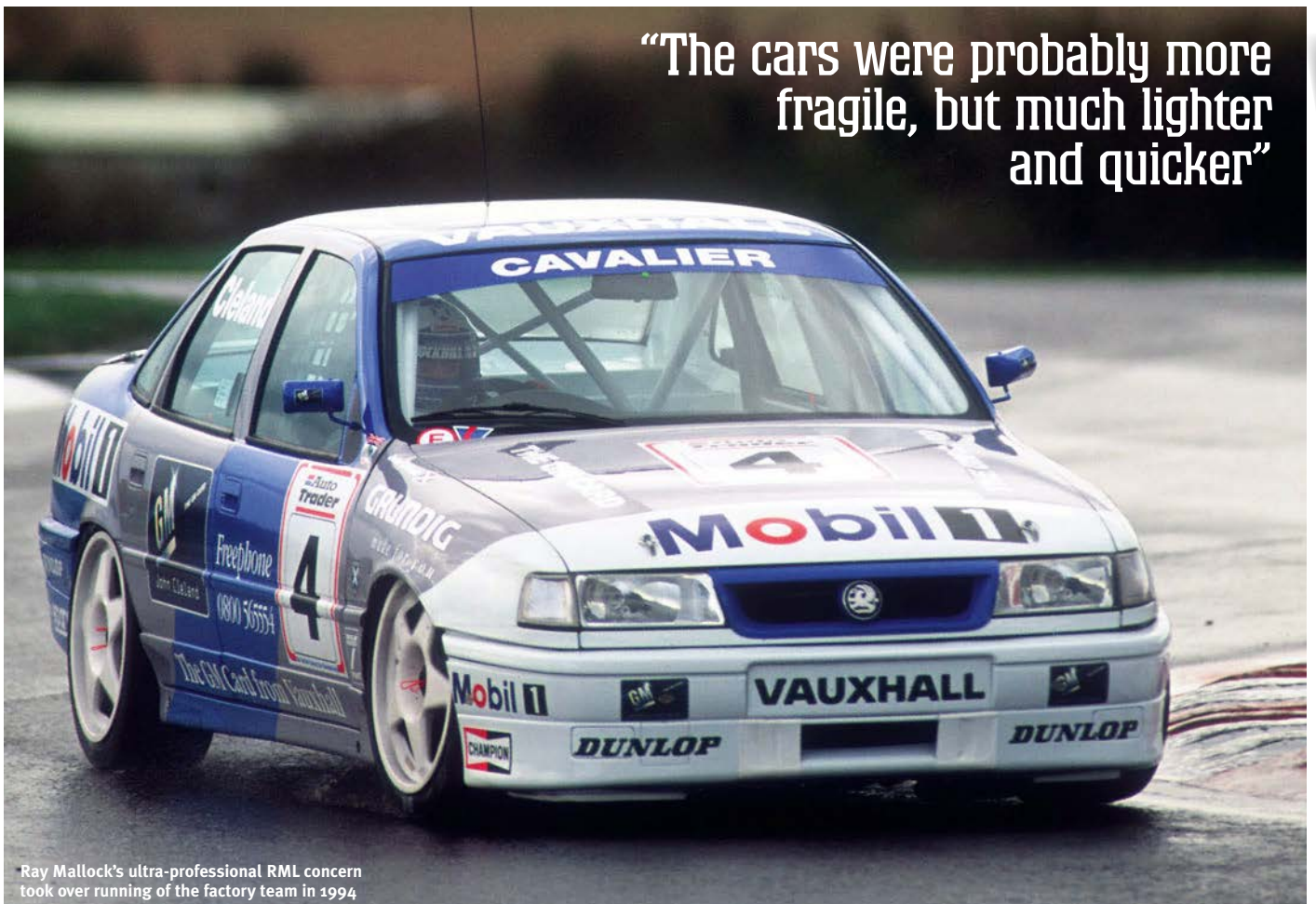
↙ situation certainly not helped by Joachim Winkelhock punting David Leslie's Cavalier out of first place at Brands Hatch. Cleland took a patriotic victory at Knockhill and Leslie continued the Scottish success with first at Thruxton. That was it though, and Winkelhock took a commanding championship victory with 163 points. Cleland was back in fourth with 102.

1994 wasn't much better as this was the year that Alfa Romeo turned up and utterly dominated with their aerodynamically perfected 155. There wasn't much to be done, and despite a late season upswing in form and a pair of victories, Cleland had to be content with fourth again. 1994 was also notable as it saw Vauxhall hand over running of the Cavaliers from David



Allam and Cleland's cars are serviced together during the hard-fought 1994 season

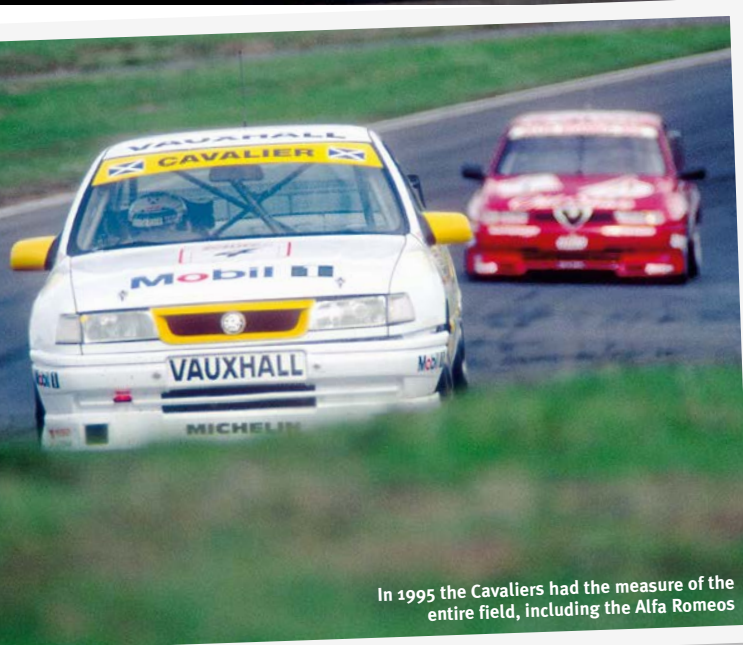
“The cars were probably more fragile, but much lighter and quicker”



Ray Mallock's ultra-professional RML concern took over running of the factory team in 1994



The cars were developed continually over the course of the season, so the Cavalier was never outdated



In 1995 the Cavaliers had the measure of the entire field, including the Alfa Romeos

## 1994/5 CAVALIER BTCC SPEC

### ENGINE

1998CC DOHC C20XE with 82x88mm bore and stroke, billet crank, rods and pistons, Swindon reverse head with associated modifications, ported and polished, enlarged valves, lightweight stems, double valve springs, solid lifters, Swindon cams, ITBs on Weber Alpha management, uprated fuelling and oil systems

### POWER

310bhp

### TRANSMISSION

Xtrac six-speed

sequential gearbox, race clutch

### SUSPENSION

Front: RML-engineered McPherson struts and custom spring poundages, remote damper reservoirs, RML wishbones and ARB  
Rear: semi-trailing arms, ARB, remote dampers, custom, spring poundages

### BRAKES

Front: 355mm discs, AP Racing calipers, race compound pads  
Rear: 266mm discs, Brembo calipers and pads

### WHEELS & TYRES

19in Dymag centrelock wheels, Michelin tyres in various compounds

### INTERIOR

Stripped, FIA multi-point weld-in cage, Sparco carbon/Kevlar bucket seat, Sabelt harnesses, Momo wheel, fire suppression system, PI instruments, shift light, column mounted shift lever, 50-litre fuel tank

### EXTERIOR

Cavalier bodyshell with widened front arches, BTCC/Vauxhall graphics and sponsorship package

## GETTING IT TOGETHER

Cooke to Ray Mallock, a move that John Cleland remembers clearly.

“RML were a much more modern team, using computers to design components, that kind of thing. Their way of building cars was different too. For example, if you slammed a Cooke door you knew about it. If you did the same to a Mallock door you could tell there was very little weight there. The cars were probably more fragile, but much lighter and quicker.”

1995 was the year that it all came good for Cleland and the Cavalier, ironically enough when the car was actually the oldest on the grid. The RML-developed aerodynamic package undoubtedly played a large part in this success, and John is full of praise for that year's car.

“The difference it made in the dry was sensational, and it obviously had a positive effect on the tyres and dampers, all of which had been improved,” recalls John

In fact despite looking outwardly similar to the 1990 car, the 1995 Cavalier was massively different, with an ultra developed XE making 310bhp, improved differential and suspension, and wider arches to (just about) accommodate the 19in centre-lock wheels. It might've been the elder statesman of the BTCC, but the Cavalier was more than capable of taking the fight to the rest of the grid. It started well, with Cleland storming to victory and a second place at the

first two rounds at Donington Park. Vauxhall weren't to have it their own way though, and a trying round at Brands followed. The next round at Thruxton saw Cleland's fresh-faced new team mate James Thompson score a popular victory, but this was followed by a comparative lean spell that allowed Cleland to slip back in the standings. Not to worry though, four victories on the bounce at Brands, Donington and Silverstone put him back in the hunt, with



# CAV SUPER TOURING

It isn't hard to see why performance versions of the Cavalier were held in such high regard

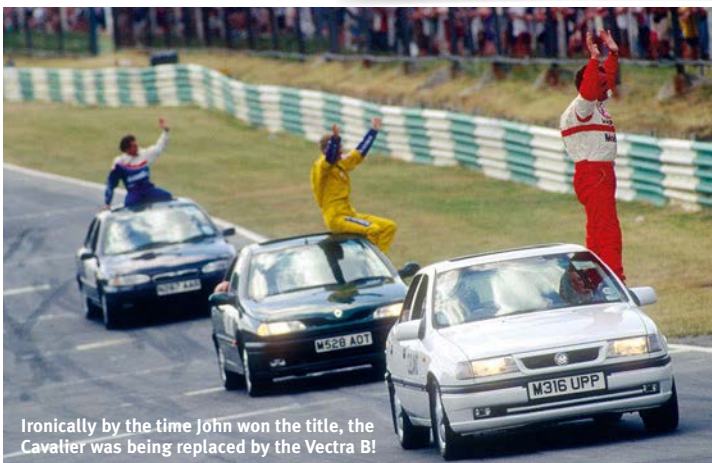


↳ another first at the Brands Indy circuit and consistent points finishes everywhere else enabling John to seal the title at round 12, Oulton Park. It was a massively popular victory and a richly deserved one, plus a fitting swansong to the Cavalier itself. It's ironic that by the time John clinched the championship in September, the Cavalier had actually been replaced by the Vectra on the forecourts, which is one of the reasons it can be tricky to get a model of the 1995 car.

"I don't have favourite cars, but I do like the Cavalier and the success I had in it. Winning in '89 was good, but we never set foot on the podium. '95 was much better, leading from the front and ending the season with more wins than anyone else," remembers Cleland. "It was a Ronseal car, really. It wasn't especially complex, it just did exactly what it said on the tin." A fitting tribute to one of the most iconic Vauxhalls ever to turn a wheel in anger. ○



1995 saw Cleland and the Cavalier finally claim overall championship honours



Ironically by the time John won the title, the Cavalier was being replaced by the Vectra B!



Cleland enjoys a hard-fought victory