



## Formula Two Turns Up the Wick

by Michael Plitkins

The Lotus 48 was Colin Chapman and Maurice Philippe's first design for the new 1.6 litre Formula 2 for 1967. Chassis 48/1 was one of three type 48s constructed and the first to be fitted with Cosworth's new FVA (Four Valve A series) engine.

The FVA incorporated a Cosworth designed sixteen valve cylinder head sitting on a Ford Cortina block. This very successful engine design was effectively a test bed for the famous Double Four Valve that immediately followed. Being in-between the previous SCA (Single Cam A series) and DFV, the FVA bridges both, looking forward and backward (e.g. waterpump inherited from the SCA, valve design shared with the DFV and gear drive to the cylinder head somewhere in-between them). Lotus 48/1 still retains the original ZF 5DS12 type transaxle. For the 1968 Formula 2 season Lotus switched all of the cars to a Hewland FT200 type transaxle. Both designs have five forward gears plus reverse.

The monocoque chassis design of the 48 is similar to that of the much better known type 49 Formula 1 car (and lesser known type 43 Formula 1 as well), but rather than

using the engine as a stressed member, it sits in a space-frame "cradle" attached to the rear bulkhead. Beginning with the type 38 and 42 Indy cars and following on to the type 43, 48 and 49 Formula cars, the chassis design was a departure from all previous Lotus monocoques.

In earlier designs the monocoque was formed in the lower half of the body of the car, while the upper half was a non-structural piece of glass fiber. The glass fiber bodywork began at the nose of the car and extended all the way around to the back of the cockpit. The new design extended the monocoque portion over the driver's knees and around the cockpit. This gave added stiffness to the chassis and for the stressed engine designs of the 43/49, etc. was essential to give the engine solid mounting points at the top of the rear bulkhead/firewall.

While the type 48 did not incorporate a stressed engine, the spaceframe cradle was effectively the same and the same overall chassis design was used. All of the new designs used a glass fiber nose cone attached to the top of the leading edge of the monocoque and the 48 uniquely



had a glass fiber engine cover. The monocoque of the type 48 is constructed from alloy panels with a steel front bulkhead for attachment of the inboard rocker arm suspension and steel cradle at the rear. Solid rivets were used in the construction.

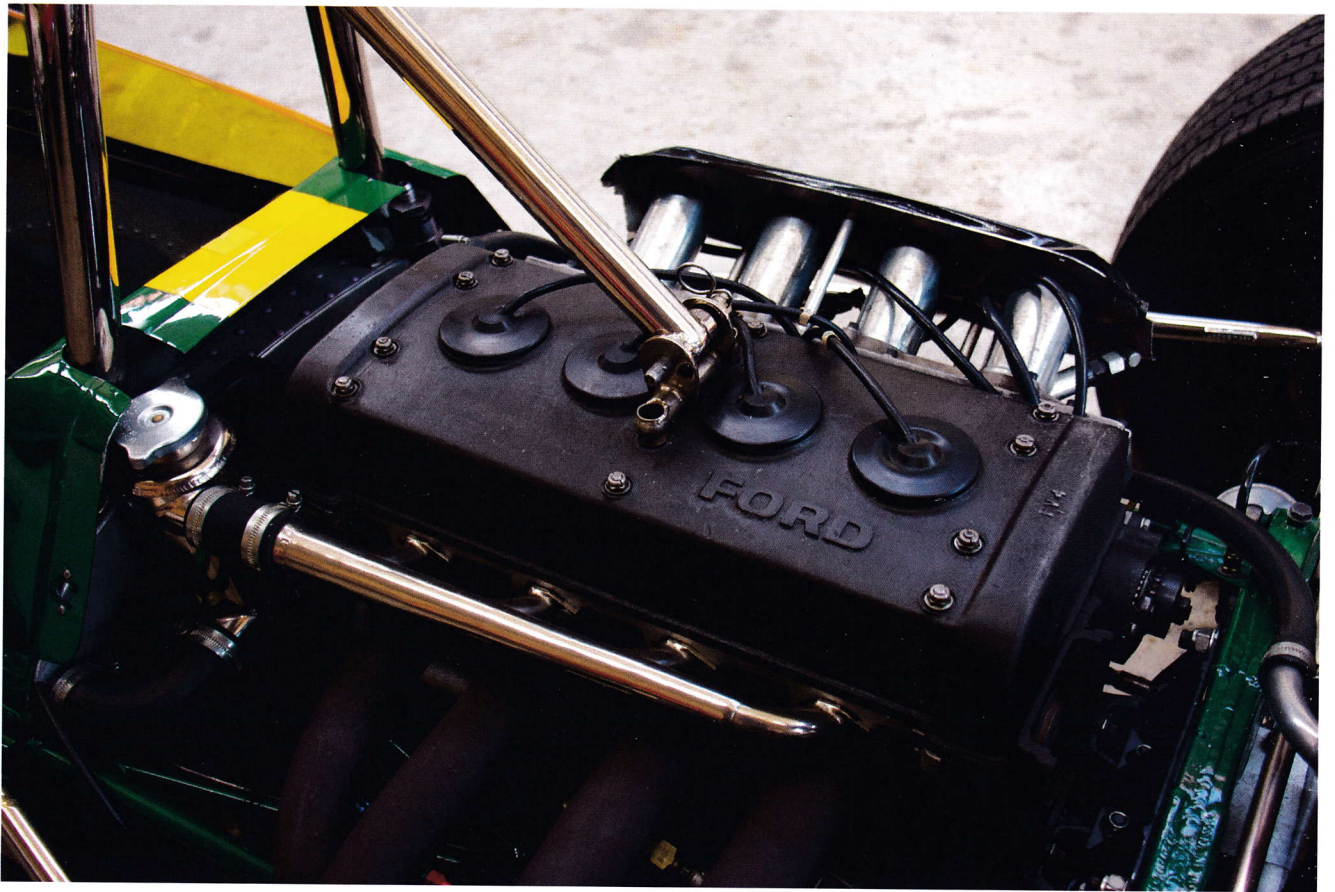
Rubber fuel bladders were present in the left and right side "pontoons" of the chassis formed by the inner and outer alloy panels as had been customary on all previous Lotus monocoque designs. The two layer Polycarbonate windscreen design was shared with the type 49 and many of the other newer monocoque design cars. Suspension uprights were shared with the type 33.

48/1 was first raced for Team Lotus at the Australian Grand Prix, Warwick Farm, 19 February, 1967 by Graham Hill. After one more run by Hill at the Eifelrennen in April it was Jim Clark's Formula 2 chassis for most of the events he competed in for the 1967 season with wins at Madrid and Helsinki. For 1968 all three of the cars were repainted in the now famous Gold Leaf Team Lotus livery (the new look premiered on the type 48).

Jackie Oliver was 48/1's driver for the 1968 season. As we all know, Jim Clark was tragically killed at Hockenheim in the second Gold Leaf Team Lotus event of the 1968 Formula 2 season racing one of 48/1's sister cars. A bit of mystery still surrounds just which of the other cars that was. At the end of 1968, 48/1 was raced by Jackie Oliver for the Herts and Essex Aero Club. By 1969 both of

the remaining type 48s had been sold by Lotus to Gerry Kinnane and were then raced by John Watson and John Pollock as Team Ireland. 48/1 was crashed in the first Formula 2 event of 1969 at Thruxton and quickly repaired. After racing under the Team Ireland banner, 48/1 was seldom seen and effectively went into storage to eventually be beautifully restored by Simon Hadfield in the late 1990's. 48/1 has most recently been seen at the 2013 Goodwood Revival as part of the Jim Clark Tribute.





Above: the Cosworth FVA. Below: monocoque Lotus compared. On the left is the type 48 and on the right is the last of the Lotus customer monocoque cars, the type 35

