

# LABOUR OF LOVE

Mark Brewin couldn't afford a 750 F1 Montjuich in 1985. 27 years on, he's built his own instead

WORDS MARK BREWIN  
PICTURES ANDY SMITH, GILDENBURGH





## HARRIS DUCATI 600 TT2 KIT – Jan 2014

Mono shock frame bare metal	£1938
Swingarm bare metal	£480
Swingarm chain slipper	£23
Side stand option	£125
Surcharge for rocker suspension variant	£250
Powder coating frame and swingarm	£150
Rear wheel eccentrics	£65
Rear wheel spindle stainless steel	£85
2 x Machined aluminium footpegs	£27.50
Gear lever linkage	£75
Brake lever linkage	£67
Front fairing bracket	£90
Side fairing brackets	£28
Rear engine bolts	£14.50
Battery box	£55
Fibreglass rear mudguard / shock baffle	£79
Fairing – Race type no headlight cut-outs	£231
Fairing as above with twin headlight facility	£251
Cibie headlight with fittings rings (pair)	£100
Screen	£45
Seat - Short hump / Long hump	£120
Foam self-adhesive seat pad	£16
Tank shell only carbon composite or aluminium	£575
Tank, classic lever type cap, tap boss one way breather valve	£685
Fire retardant tank baffle foam	£46
Pingel single outlet fast flow fuel tap	£75
Pingel twin outlet fast flow fuel tap	£80
Race exhaust system stainless steel	£495
Six round "frame tube" tank rubbers	£21
Pair "finger tab" type front tank rubbers	£6.30
Race rear stand in stainless steel	£63
Ohlins bespoke rear shock absorber	POA
Nitron bespoke rear shock absorber	£550
Aluminium yoke assembly to accommodate fork choice	£525
Oil Cooler (1/2 width 10 cw -6 fittings)	£75
Rear stand Harris prong type	£63

*All prices subject to VAT*

*This list of component parts is for information and guidance.*

*We welcome the opportunity to discuss and agree the final specification of your bespoke project.*

# HARRIS

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*"Racing improves the breed"*

Units 4A-B Fountain Drive, Mead Lane, Hertford, Herts, SG13 7UB, England  
Tel: +44 (0) 1992 532 500 – [www.harris-performance.com](http://www.harris-performance.com)



*Street legal version of TT2 race bike*



## HARRIS FRAME

Ducati's factory F2 (600cc) and F1 (750cc) racers from the early 1980s were fabulous, but they didn't sell customer versions. So Harris offered chassis kits for Pantah engines. They still do

## PERFECT ALIGNMENT

Mark used a Maxton Ronometer and "a bloody great set square" to align the frame, swing arm and chain precisely, measuring the gaps with slip gauges and making shims to suit



**T**HIS BIKE HAS ITS BEGINNING in 1983, a time before track days when I was a naive young man riding a Ducati Darmah. I'd converted it to SS spec, with Contis and 40mm Dell'Ortos, and brought it to Donington for the Three Parks festival organised by the Italian Owners' Club. They'd line up 40 of us on the grid, and off we'd go for a 20-minute blast.

So I'm sat at the back with my mate on a Jota, and Morgan three-wheelers and Guzzis in front of me – and I look over to see F2 world champion Tony Rutter. His 600 Pantah is a noisy, rattly old thing, but he left me for dead. Four laps later he came past again. I've never got over it.

Two years later, still on the Ducati, I'm at Moto Vecchia, SW19, gazing at Ducati's new 750 F1 Montjuich. It was the F1 Corse of its day: full-spec motor, four-pot Brembos, floating discs, Forcella forks, light wheels, everything.

It was also £5350 – an amazing amount of money. Mary and I did some calculations on a beer mat and realised we were going to struggle to buy it. Then the salesman told us he could sell it 25 times over, and he didn't want my Darmah anyway!

Well, the years of Japanese bikes came and went. In 1997 I set up BSD Performance, and began building racebikes – first at club level, then BSB and the TT with riders such as Gus Scott and Ronnie Smith.

Then the 1098 came out, and in 2007 we won the Sound of Thunder championship with Paul Noble

## UPDATED CRANKCASES

The original Pantah cases were fragile. Mark found a set of what were effectively 750 F1 cases in his loft, cast by LEM for the 400cc Japan market version. Much machining and welding followed

riding, and struck up a fantastic relationship with the factory. At the time Davide Tardozzi was in charge, and when I asked him why Ducati were bothering with this level of racing he said, "Every level has an audience. If we're winning at every level, then everyone is seeing it." That made an awful lot of sense to me.

Work got busier than ever – but I never forgot about that Moto Vecchia bike. Then, one day, I realised I had the opportunity to build my own.

In fact, after a false start, I decided to build a couple. One was this F1 750 for me; the other, an F2 600, was for my mate Dick Leeton, who was going to do the running around and sourcing parts. Because it's not easy to build a bike like this, and you need to choose your partners well. In my case that was

Dick, and Steve Harris at Harris Performance, who first built this TT F1/F2 frame in 1982. Dick would nip down and pick up bits from Steve, run down the anodisers or the powder coating place. For a time it seemed he was going to fetch nuts and bolts every day. And then we'd machine every one.

We started with two 600 Ducati Pantahs off eBay, took the engines out and sold the rest. The only thing I've still got from the original bike is the heads. So that was a complete waste of time.

Our main idea was to build the bikes to Classic Racing Motorcycle Club regs, so we could parade them. That meant pre-1986. The problem is a lot of these parts are no longer easily available, so I decided pretty early on I'd adhere to the look, but use bits which were quite widely available. ➤





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MARK BREWIN

So the calipers are 89/90, not 86. The brake discs are early 1990s Brembo, and 320mm rather than the old 280s. The forks should be Marzocchi M1R, but they're rocking horse shit, so we ended up with Harris outers with Öhlins cartridges. I'd find it very hypocritical if the CRMC take issue with any of this when they allow titanium and magnesium Manx Nortons.

The 600 Pantah heads run the same small valves as Ducati's 750F1 roadbike. That limits the engine to about 80bhp, whereas factory F1 bikes with big valves and small spark plugs got up to about 90. On the plus side, my bike carburates properly, and pulls cleanly from nothing.


I knew the 750 F1 cams gave 11.5mm of lift, but I couldn't get any. I trawled through every spec I could find, and eventually found that the pre-1994 900SS had the same lift. I ported the heads, cut the seats and valves right to the edge, and turned up some short tapers to go from the head to the exhaust. There is nothing in there to impede gas flow. Ditto the inlet.

I'd used crankcases from the Japanese market 400 F3, with the throats bored out. I wanted six speeds, and Alistair Wager, who builds Ducati Supermonos, said, "I've got a gearbox that'll fit." In fact it touched everywhere, but after a lot of machining it finally fitted, with the selector forks and drum from a 1098. Then I found some gorgeous straight-cut 900SS primary gears that meshed perfectly (some run tight, some loose).

If you read Ducati forums the Ignatech ignition is a nightmare. This is people who don't know what they're doing. It's superb. The bike starts instantly, ticks over, and is fully programmable for up to 41 degrees of advance.

All I had to do then was check the chassis. I used slip gauges to measure the shims I needed for frame, swing arm and chain alignment. Steve had the swing arm back twice to tweak it, but now the wheels are in line within half a millimetre.

Of course there's a lot more besides, and for every hour I've worked on this bike I've spent another hour just thinking.

I earn a living working with modern bikes, but this one comes from the era when motorcycles were real. It's not a project where I'm starting a business and want to make them for other people. I don't want to make them. I've done what I've done for me. 



**Engine**

748cc. Paso crank and barrels, 600 Pantah heads, 900SS cams, Pistal pistons, Carillo rods, straight-cut primaries, modified Ducati 400 F3 crankcases, Supermono six-speed box, 1098 oil pump, selector forks and drum, 1098 kit starter motor and gears, dry clutch, Harris replica factory exhaust, 38mm Dell'Orto carbs, Ignatech ignition, Earls oil cooler, Harris/BSD breather tank. Output around 78bhp @ 9000rpm.

with Öhlins internals, 17in Dymags with 120/70-17, 150/60-17 Dunlop Sportmax Qualifiers. Front brakes: Brembo four-pots, 320mm floating discs, BSD caliper adaptors. Rear brake: Harris master cylinder, Brembo two-pot. 144.5kg inc battery, starter and gallon of fuel.

**Details**

Harris bars, footrests, fairing brackets, yokes and pedals. Öhlins steering damper. BSD fuel cap. Adapted Inboard brake and clutch reservoirs.

**Chassis**

Harris TT1/2 frame, swing arm, tank and bodywork. Öhlins shock, Harris forks

**Useful people**

Harris Performance: [harris-performance.com](http://harris-performance.com)  
BSD: <http://bsd.uk.com>



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