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# 1956 Triumph s

A white, blue and red cigar-shaped projectile droned across the Bonneville Salt Flats in September 1956 to make history and give Triumph its greatest ever marketing coup. In hoisting the world motorcycle speed record to 214mph, the streamliner, powered by a Meriden 650 engine, was to inspire the company to its most successful product – the Bonneville – named after the record venue.

The record breaker was no factory machine. It was designed and built in Texas. The idea for the project was triggered by a conversation that took place several years earlier at Dalio's Triumph Sales, a Fort Worth Mecca for speed lovers. A customer, an army colonel of German extraction, had commented that the world record set by NSU at 180mph in 1950 looked unbeatable. This provoked Dalio's engine tuning wizard Jack Wilson and regular shop visitor Captain J H 'Stormy' Mangham, an airline pilot and skilled engineer with a passion for fast vehicles.

Mangham decided to plan his own assault on the NSU record. The enterprising ▶

## BODY SHELL

Streamlined body consists of four sections of moulded glass fibre. Screws secure the glass fibre sections to the canoe shaped frame welded up from half inch diameter tubes with two vertical hoops and other bracing members. A cut down Triumph frame is built into the structure to support the engine and gearbox

## FUEL STORAGE

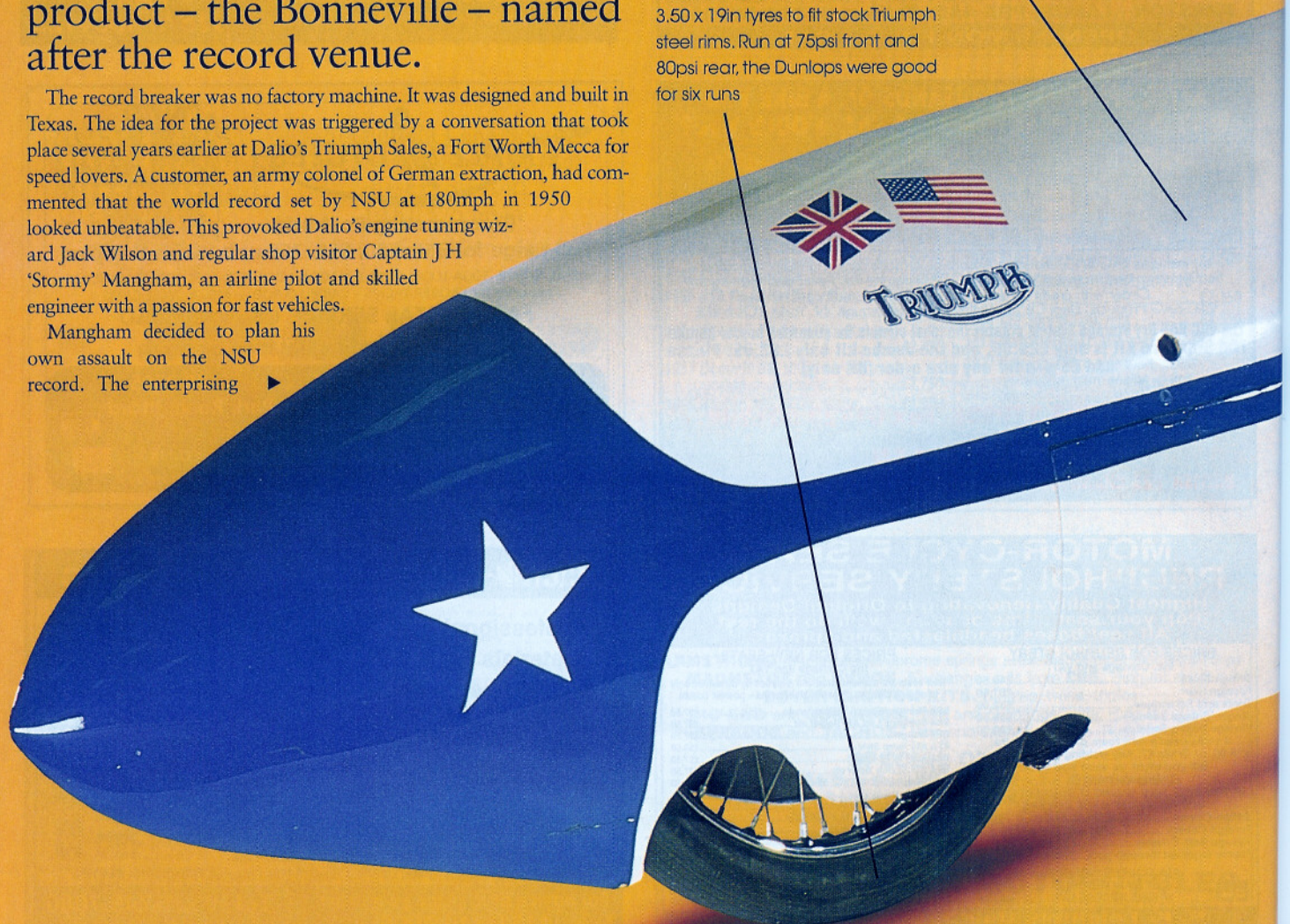
A fuel tank behind the driver's headrest was filled with a mix of 65 per cent nitro methane and 35 per cent methanol for the record run

## IGNITION

Ignition is by a Lucas K2F competition magneto and Lodge plugs. Both were provided by the manufacturers in sponsorship deals arranged by Triumph. Tuner Wilson actually preferred a BTH magneto. Spark timing is 38 degrees BTDC

## WHEELS

Dunlop supported the record attempt by supplying special shallow treaded rounded section 3.50 x 19in tyres to fit stock Triumph steel rims. Run at 75psi front and 80psi rear, the Dunlops were good for six runs



# streamliner

Mick Duckworth colour pics Phil Masters

## COOLING INTAKES

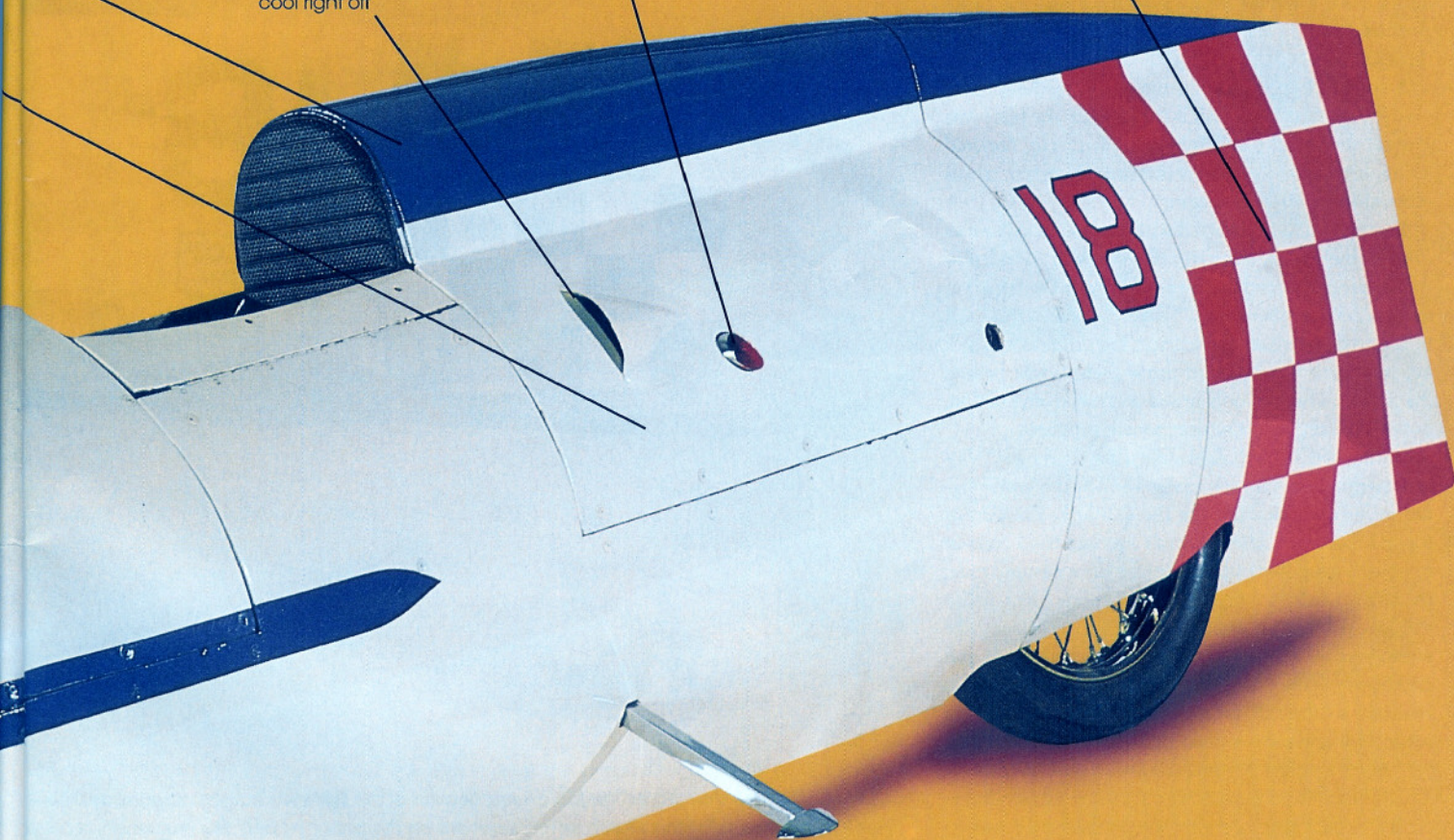
Keeping the enclosed engine cool was a problem, especially since the 20-minute turnaround allowed between the two timed runs was not long enough to let the engine cool right off

## EXHAUST PIPES

Short exhaust stubs passing through bodyshell are of large diameter 1 3/4in steel tube

## SLOWING DOWN

A parachute was stowed in the tail section, but not used in the 1956 runs. When slowing, Allen had to aim the streamliner carefully at a 'catch crew' who would grab it as it came to a halt. The retractable leg stands now fitted are a later addition



## BOTTOM END BEARINGS

Triumph con-rods were machined by Froyd and Weller in Pasadena to take unburstable lead-bronze Cadillac V8 big-ends. Main bearings are standard-sized rollers

## CRANKSHAFT

A heavy duty one-piece crankshaft was machined from a scrapped steam locomotive piston by Californian engineer Rich Richards. It weighs 10lb more than the standard three-piece crank, and for strength the internal sludge trap is of small diameter

## CAMS

Triumph's 3134 camshaft - called the 'Q' cam in the US - is fitted on both the inlet and exhaust sides. Triumph's earliest race cam, the 3134 first appeared in a performance kit marketed for 500cc twins in 1951. Three keyways in each camshaft pinion enable spot-on valve timing

## GEARBOX

Triumph supplied gearbox internals to make second, third and top ratios close while retaining a low first gear for starting off. Gear operation is by a linkage from a right foot pedal. Primary and final drives are by Renold chains. A detachable kickstarter is used for firing up the twin-cylinder engine

aviator would build a streamliner and, through Dalio's, Wilson would be the engine man and development engineer, drawing on experience in drag racing and dirt track preparation.

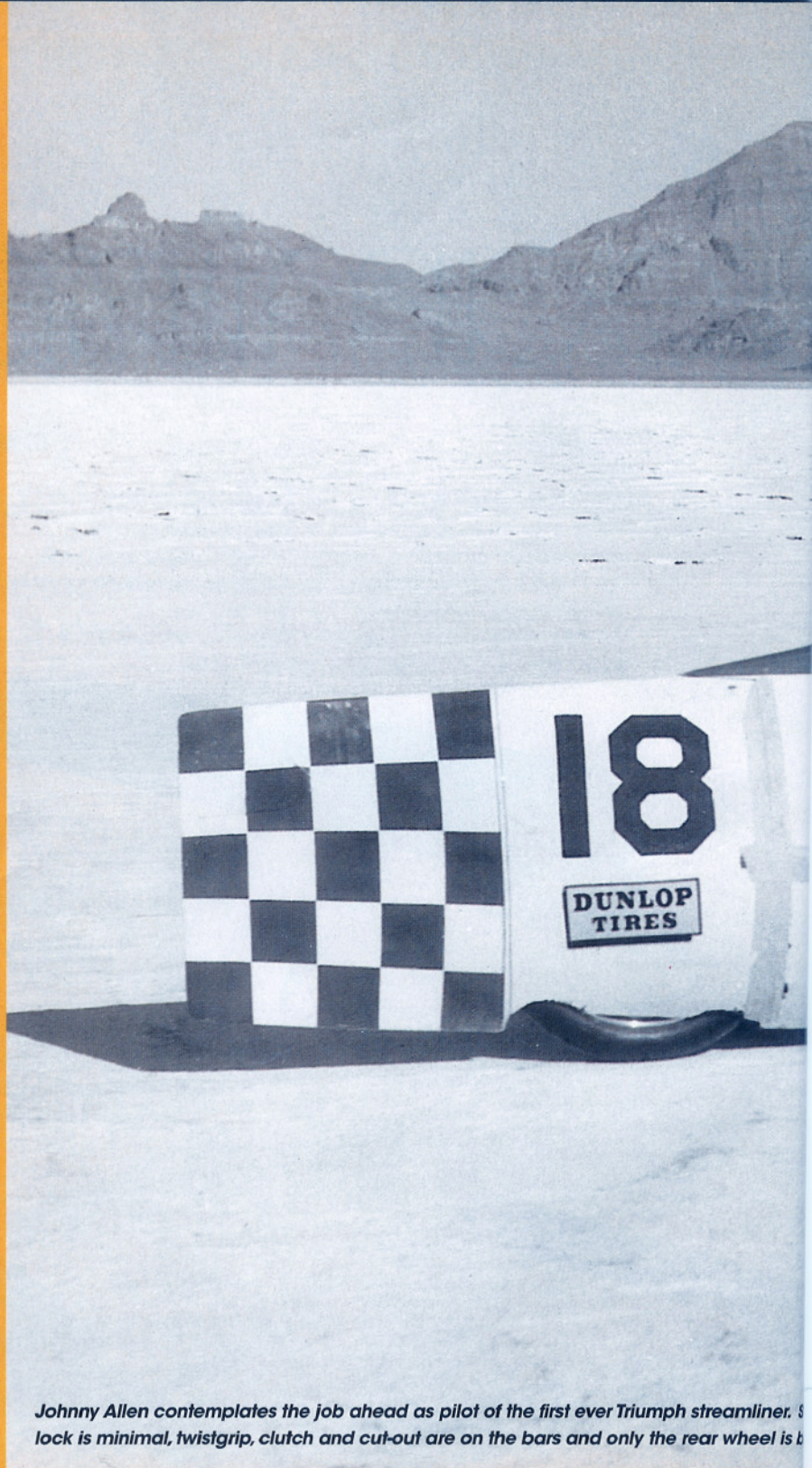
Triumph was the obvious choice of power. The British twins responded to tweaks better than anything else available at the time, and a record would be sure to boost business at Dalio's. NSU, on the other hand, had reaped little commercial benefit from its record in the US because its production 250 singles had little appeal to American riders.

Within six months Mangham had built a sleek, low-slung projectile based on aircraft experience. In mid-1954 he trucked it to the Bonneville course near Wendover, Utah, for trial runs with a near stock 650cc Thunderbird engine. Squeezing into the bright red moulded body shell feet first, holding handlebars connected to the remote front fork by a rod, he easily clocked 144mph on the wide open expanses of the dried salt lake bed.

A special Wilson motor running on methanol was used for the next Utah visit in 1955 when the pilot was former dirt track ace Johnny Allen. He bettered 190mph on a one-way pass but shredding tyre treads prematurely ended the session.

Triumph's main Western distributor Johnson Motors came to the rescue, using its influence with Meriden to source proper record attempt tyres from Dunlop. Triumph's cost-conscious boss Edward Turner could not be counted on to back the scheme, but unknown to him key members of senior staff threw their weight behind the project. They not only priced six tyres from Dunlop, but enlisted support from component suppliers.

During 1955, New Zealander Russell Wright (Vincent streamliner) had set a new 184.83mph world figure in his own country. On the Dunlops, the Texans topped that with a 193.30mph average (two runs in opposite directions) over the Bonneville measured mile. In August 1956 at Bonneville, Wilhelm Herz (NSU 500cc supercharged dohc twin streamliner) upped the world record to 211.40mph. NSU reputedly put £50,000 into the attempt. A month later, the US team returned to the salt with their streamliner – now in white, blue and red – containing Wilson's hottest engine yet. Allen notched a convincing two-way average at 214.17mph. Triumph was 'The World's Fastest Motorcycle' – a fact that Meriden was immediately able to splash in advertising. Triumph was the king of speed.



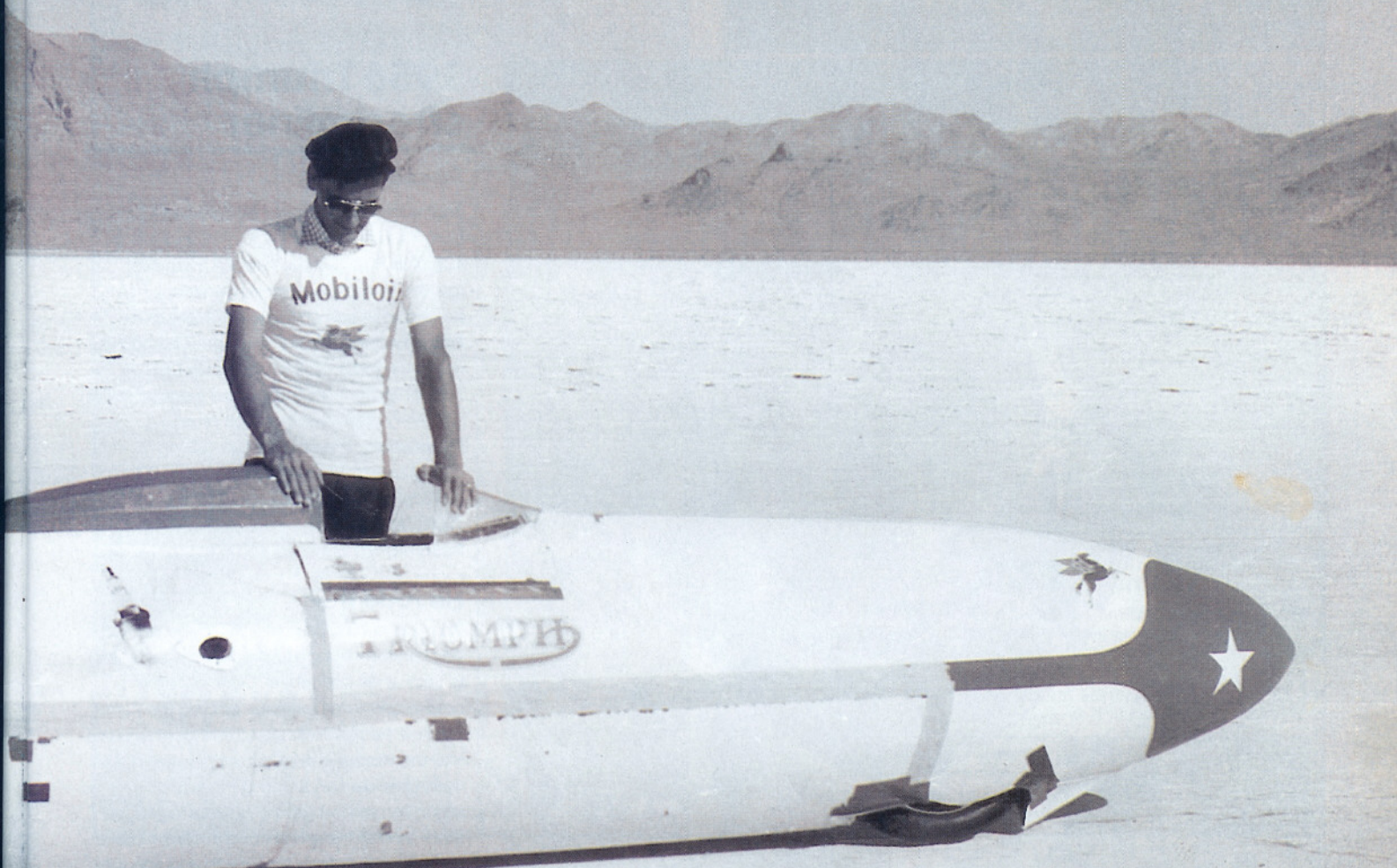
*Johnny Allen contemplates the job ahead as pilot of the first ever Triumph streamliner. Shock lock is minimal, twistgrip, clutch and cut-out are on the bars and only the rear wheel is b*

## RECORD PEOPLE

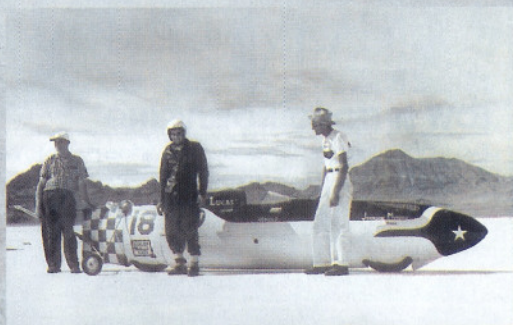
■ Driving force behind the first Triumph streamliner was Stormy Mangham. A seasoned flyer, he earned his nickname as a mail pilot who'd take off in bad weather when others refused. He had his own airfield and workshops near Fort Worth, Texas, where he used parts from a crashed plane and other scrap sources to fabricate the streamliner's frame. To shape the shell, forms were tested by pulling them through water and by fixing a balsa wood model outside the cockpit of an aircraft with lengths string attached to study how air flowed round it.

■ A man of very few words, Johnny Allen was Texas short track racing champion, mainly campaigning 500cc twins backed by Dalio's until sidelined by a serious foot injury. Few other riders would have been prepared to risk piloting such an unpredictable vehicle but, aged 27 in 1956, Allen adapted to the strange riding position and was unfazed by the likelihood of losing control at 200mph. According to a doctor in attendance at Bonneville, his pulse rate was normal immediately following the 214mph runs. Johnny Allen died in 1996.

■ Texas born Jack Wilson was trained in automotive engineering by the US Army. He joined Dalio's in 1951, his earliest performance tuning being on Indian V-twins. He soon focused on Triumph, working after hours to develop his own successful drag bikes. Before Dalio's got a dynamometer (1958), he perfected porting and valve timing by trial and error. His Thunderbird head with twin inlet tracts presaged the twin carb Bonneville, though Meriden development chief Frank Baker was also experimenting with a twin carb version of the alloy T110 head by the



*Pushing off the streamliner using a special wheeled undertray to give pilot Johnny Allen sufficient momentum to power away without toppling over*

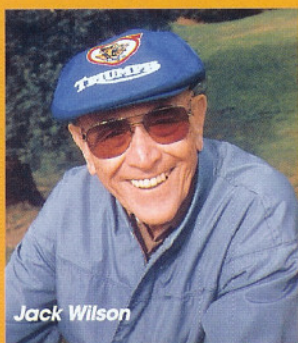


*Heroes of the speed legend that will be held forever dear on the hearts of Triumph enthusiasts. From left: 'Stormy' Mangham, Johnny Allen and Pete Dalio*

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time of the record. Wilson's more recent tuning projects have included T140 twin and T150 triple road racers, plus tuning the double-engined triple which clocked 250.63mph at Bonneville in 1992. He himself has travelled at over 190mph on the salt.

■ Shop owner Pete Dalio told Jack Wilson: "I don't mind my staff racing, but I don't want no



Jack Wilson

Mick Duckworth

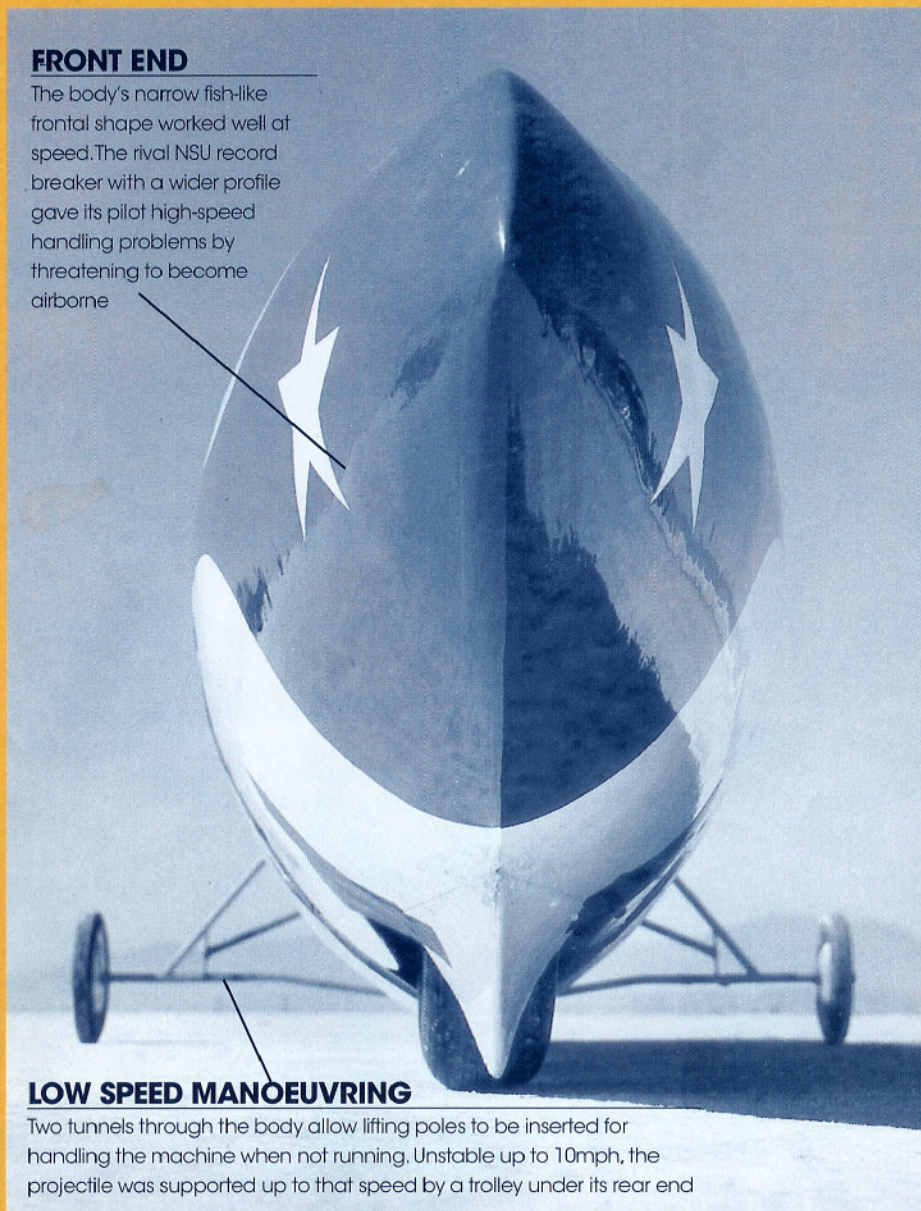
losers!" Wilson says that when the streamliner project began, Dalio said: "Go ahead, but you're wasting your time and my money." When the news of the record was phoned to him in Texas, he said: "I knew we could do it!" In 1963 Dalio and Wilson set up Big D Cycles at new premises in Dallas, Texas. Pete Dalio retired in 1974.

■ Wilbur Ceder, an industry veteran, was second in command to Bill Johnson at Johnson Motors, Triumph's Western distributor based at Pasadena, California. Ceder helped the Texan team by acting as a middleman between Dalio's Triumph Sales and the Meriden factory.

■ Neale Shilton, Triumph's international sales manager, and advertising manager Ivor Davies, backed the project from Meriden, persuading companies such as Amal and Lodge to provide components. Experimental chief Frank Baker helped with special parts.

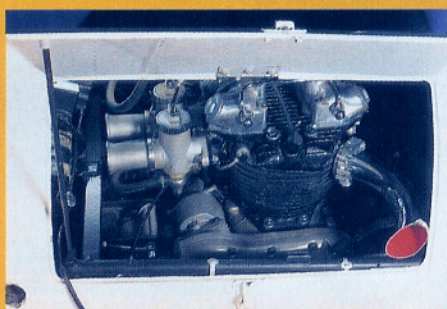
## FRONT END

The body's narrow fish-like frontal shape worked well at speed. The rival NSU record breaker with a wider profile gave its pilot high-speed handling problems by threatening to become airborne



## LOW SPEED MANOEUVRING

Two tunnels through the body allow lifting poles to be inserted for handling the machine when not running. Unstable up to 10mph, the projectile was supported up to that speed by a trolley under its rear end

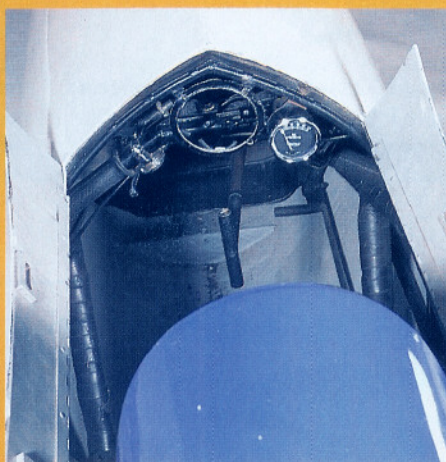


## CYLINDER HEAD

Large bore dual intakes were welded to 1950 Thunderbird iron head. Long inlet tracts (not as pictured) led to large Harley-Davidson inlet valves with shortened stems and S&W springs. Thunderbird pistons give compression ratio of 8.5:1 with gasket-less cylinder head

## CARBURETTORS

Two remote float 1 1/2 in Amal GPs on bored out inlet stubs to suit Bonneville's 4300ft altitude



## COCKPIT

The pilot sits in race car bucket seat with safety harness. The handlebar operates a rod linked to a fork with no suspension but turning via a conventional steering head. Steering lock minimal, hydraulic damper fitted

# 1956 Triumph streamliner

## Specification

**Engine:** 649cc aircooled ohv parallel twin, bore x stroke 71 x 82mm, 8.5:1 compression ratio, two Amal GP carburettors, magneto ignition. Triumph four-speed gearbox, multiplate clutch and chain primary drive  
**Frame:** welded tubular steel spaceframe with rigid rear end, solid front fork. Tyres: Dunlop 3.50 x 19in front and rear. Brake (rear only): 7in (17.8cm) single leading shoe drum  
**Dimensions:** wheelbase 113in (287cm), overall length 185in (469.9cm), width 20in (50.8cm), height: 37.75in (95.9cm), weight 700lb (318kg)  
**Performance:** 80bhp @ 7400rpm, 215mph

## He rode it

"I ran up to 7000rpm in first, watched the tach drop on the change to second and changed to third when it reached 7000 again. The acceleration was fantastic, pinning me to the back of the seat. I changed into fourth just as I saw the marker one mile from the start of the measured section. Entering the trap at 6500rpm, I started getting anxious to see the other marker. The marker and 7000rpm came up at the same time. It's a pretty wild ride with the wind tearing at your head!"  
*Johnny Allen describing his 1956 record run*

## Where can I see it?

The unique record breaking streamliner is on display at the National Motorcycle Museum, Bickenhill, Birmingham (0121 704 2784), which acquired it after it was restored by Jack Wilson in the Eighties. Our thanks to the NMM for allowing us to photograph the streamliner and for helping us to manhandle it.

## Triumph's long reign

To prove Triumph's superiority over NSU, the streamliner returned to Bonneville in 1958 with an unblown 500cc engine when 18-year-old Jess Thomas set a long-standing 212.27mph half-litre world record. Allen aimed to better his ultimate record in 1959, but lost control of the streamliner at 200mph. Luckily he escaped with cracked ribs and bruising.

In 1962 aero engineer Joe Dudek's new streamliner with a Johnson Motors-tuned 670cc T120 motor set an FIM-approved world record at 224.57mph. Thanks to Bob Leppan whose Gyronaut X-1 streamliner with two pre-unit 650 engines ran at 245.50mph in 1966, Triumph kept the 'World's Fastest' title until Yamaha grabbed it in 1970.

Several machines are being developed to attack the current record for a driven wheel two-wheeler. It's held by a double-engined Harley-Davidson streamliner at 322.15mph.