

This press pack accompanied the UK launch of the Celica GT-Four in the fourth generation Celica range in October 1987. The model underwent some changes during its time on sale and these can be tracked using the Timeline feature on the fourth generation Celica archive web page. Additional assets and information about the Celica range can be obtained from the Toyota press office.

TOYOTA

NOT FOR PUBLICATION OR BROADCAST PLEASE UNTIL WEDNESDAY,
OCTOBER 14, 1987

MORE POWER AND FOUR WHEEL DRIVE FOR CELICA GT

Although Toyota's newest model is on display at this year's Earls Court Motorfair, eager motorists will have to wait until next spring before they can get behind the wheel of the Toyota Celica GT-Four - a car which is likely to be the first on general sale in Britain fitted with a catalytic converter and a thirst for lead-free fuel.

A derivative of the 16 valve, fuel injected Celica GT which has been widely acclaimed as one of the best two litre coupes in the world, the Celica GT-Four has the addition of a turbocharger, permanent four wheel drive and ABS braking.

To the casual observer, there are few differences in appearance between the GT-Four and its tamer brother, but closer inspection will reveal wider 205/60 VR 14 tyres on new alloy wheels, a deeper front air dam and more aerodynamically styled sills for a much lower and wider look. The GT-Four also incorporates all the latest changes to the GT including revised front grille styling and a larger opening sunroof.

50 YEARS OF TOYOTA EXCELLENCE
1937 1987

more...

PRESS INFORMATION

More power and four wheel drive for Celica GT...2

But the heart of the GT-Four is the latest 3S-GTE engine - a development of the 147 bhp unit found in the front wheel drive car. The 3S-GTE is a modified version with strengthened block and crankshaft and a revised lubrication system which provides a cooling jet of oil up into the underside of the pistons. It has the same four valve per cylinder, double overhead camshaft arrangement with electronic fuel injection providing direct injection into each inlet port.

The big difference is the installation of a turbocharger with water cooled intercooler which increases the power output to 185 bhp at 6000 rpm. Torque is up from 133 lb ft to 184 lb ft with a wide spread across the rev range. That familiar drawback of turbocharging - turbo lag - is eliminated, with power coming in smoothly and progressively.

The turbocharger is a development of that used in the Supra Turbo, adapted for use on a two litre engine (the Supra is a three litre). The water cooled intercooler cools the turbocharged, high temperature intake air to obtain a higher air density, contributing to better power and torque figures. This intercooler has its own electric water pump and radiator.

The Celica GT-Four is also equipped with a new computer controlled engine management system which includes a sophisticated knock control sensor with a wide detection range. Linked to a high speed central processing unit (CPU),

more...

More power and four wheel drive for Celica GT...3

the system adjusts the ignition timing automatically to provide the best possible power output and driveability. The CPU takes into account the octane rating of the unleaded fuel, driving and atmospheric conditions.

The engine management system also has a charging pressure control system which regulates charging pressure by keeping a check on fuel octane ratings and the ignition timing which has, of course, been determined by the knock control CPU. Knocking is therefore prevented and the engine can always operate at maximum efficiency. The management system also incorporates a fuel pressure control device, and idle speed and fuel pump control systems which prevent problems with re-starting and idle speed stability which can occur when the fuel temperature gets very high.

The Toyota Celica GT-Four will accept only unleaded fuel, which is increasingly available throughout the country. It is also fitted with a full catalytic converter which decontaminates exhaust gases to give a "clean" exhaust, complying with the most stringent emission standards.

As engine power outputs have increased, so too has the problem of transmitting that power into forward motion through the grip of the tyres on the road. For a high performance car with increasing engine power, there comes a point when the power is more than the tyres can properly handle and the result is undesirable wheelspin. One solution is the use of drive to all four wheels instead of just two.

more...

With a four wheel drive car the gripping capabilities of all four wheels are utilized. It also follows that 4WD, by dividing the engine power between four wheels instead of two, distributes that power more evenly through the chassis, therefore making the car transmit its power more effectively for greater speed, faster cornering and better stability.

The 4WD system in the Celica GT-Four is full-time and features a centre differential with viscous coupling. Engine power is initially transmitted via the gearbox, to the centre differential. It is then transmitted to the front wheels through the front differential and to the rear wheels through the transfer gear, propellor shaft and rear differential. In the GT-Four, the transaxle unit houses the five speed transmission, the centre differential, the front differential and the transfer gear. It is compact, does not encroach on front passenger leg space and does not increase the car's height.

The GT-Four's centre differential, which controls the difference in rotational speed between the front and rear wheels, uses bevel gears for excellent durability and reliability. This centre differential is fitted with a viscous coupling which acts as a limited slip diff (LSD) and power transmission is split 50/50 front and rear.

When a four wheel drive car turns a corner, a difference in rotational speed occurs between the front and rear wheels, just as also occurs between the inside and offside wheels,

More power and four wheel drive for Celica GT...5

since the rear wheels pass inside the tracks of the front wheels. In the Celica GT-Four, the centre differential has the function of compensating for these speed differences. But the centre diff works in other ways too, because road conditions constantly change with dry and wet patches, bumps and even snow or ice. There will also be a variety of outside forces acting on the car while it is in motion. The centre diff will absorb any changes in rotation speed between the front and rear wheels caused by any road condition or external force, always ensuring the smooth transmission of engine power through all four wheels.

The viscous coupling functions automatically by regulating the difference in speed between front and rear whenever a wheel starts to spin. Traction on any slippery surface such as mud, is greatly improved. Unlike some 4WD vehicles with a centre diff lock system, the Celica GT-Four with viscous coupling always allows the ABS braking function to operate.

To cope with increases in traction and power, and therefore overall performance, the GT-Four has modified brakes with twin piston, ventilated discs at the front and solid discs at the rear. The brake pad area is larger than on the Celica GT.

more...

More Power and Four Wheel Drive for Celica GT...6

The floor pan of the GT-Four is a specially strengthened one in order to maintain very high rigidity, and while the suspension is the same basic layout as the GT - with MacPherson and dual link struts - the springs and rear dampers have been updated and thicker diameter anti-roll bars fitted.

In other respects, the GT-Four has the same level of equipment as the GT with power assisted steering, air conditioning, electric windows and central locking. A price will be announced prior to the GT-Four's appearance in Toyota showrooms, in the New Year.

ends...

For further information, please contact Simon Small,
Redhill (0737) 768585.

Note to journalists: colour slides and mono prints of the Celica GT-Four are currently being prepared and will be available at Motorfair. If you require pictures before then, please let us know and we will do our best to supply them by return.

0178/61087

TOYOTA

NOT FOR PUBLICATION OR BROADCAST PLEASE UNTIL WEDNESDAY,
OCTOBER 14, 1987

TOYOTA CELICA GT-FOUR

<u>Dimensions</u>	overall length	mm (in)	4365 (171.8)
	" width		1710 (67.3)
	" height		1290 (50.8)
	wheelbase		2525 (99.4)
	track front		1465 (57.7)
	rear		1445 (56.9)
	interior length		1755 (69.1)
	width		1415 (55.7)
	height (with sunroof)		1045 (41.1)
	ground clearance		155 (6.1)
<u>Weights</u>	kerb weight	kg (lb)	1410 (3108)
	gross vehicle weight		1835 (4045)
	max towing weight with brake		1200 (2646)
	without brake		600 (1323)

more...

50 YEARS OF TOYOTA EXCELLENCE
1937 1987

PRESS INFORMATION

Toyota Celica GT-Four...2

Luggage capacity cu m (cu ft) 0.244 (8.59)
 Fuel tank capacity (unleaded) 60 litres
 (13.2 gal)

Engine type 3S-GTE
 fuel unleaded only
 configuration transverse, front engine.
 4 cylinder in-line, double
 overhead camshafts, 4 valves
 per cylinder. Pent roof
 combustion chambers.
 bore and stroke 86 mm x 86 mm
 displacement 1998 cc
 compression ratio 8.5:1
 main bearings 5
 turbocharger with water cooled intercooler
 max power 185 bhp/6000 rpm
 max torque 184.4 lb ft/3600 rpm
 fuel injection electronic with electro
 magnetic injection pump
 ignition transistorized
 lubrication full pressure with water
 cooled oil cooler and piston
 spray jets

Transmission clutch hydraulic, single plate,
 diaphragm spring dry type

gearbox 5 forward speeds

ratios 1st 3.583
 2nd 2.045
 3rd 1.333
 4th 0.972
 5th 0.731
 reverse 3.583

transfer drive hypoid gear with 0.341
 reduction ratio

more...

Toyota Celica GT-Four...3

Drive units - differentials	<u>front and centre</u>	<u>rear</u>
housing	integral with transmission	integral, under floor
gear type	helical with viscous coupling	hypoid
axle ratio	3.933	2.928
pinions	4	2
propellor shaft	3 piece with 4 universal joints	
drive shafts	4, of 25.2 mm dia	

<u>Suspension</u>	type, front and rear	independent with MacPherson struts, gas filled shock absorbers and coil springs
spring rates front	2.5 kg/mm	
rear	2.6 kg/mm	
anti roll bars		
front	26 mm dia	
rear	17 mm dia	

Steering, wheels and tyres

steering type	rack and pinion, power assisted
turns lock to lock	2.86
tyres	205/60 VR 14
wheels	alloy, 6 JJ x 14

more....

Toyota Celica GT-Four...4

<u>Brakes</u>	type	vacuum servo assisted dual circuit, tandem master cylinder
	front	twin piston caliper, ventilated discs, 255 mm dia
	rear	discs, 269 mm dia
	parking	mechanical, acting on rear wheels

<u>Performance</u>	max speed	138 mph (estimated)
	0 - 60 mph	7.7 secs (estimated)
	0 - 400 metres	15.6 secs (estimated)

ends....

For further information please contact Simon Small,
Redhill (0737) 768585.

0178/S/61087