

Ginetta G50 Cup Car Build Manual v.5





Typical chassis number

G50 LT 001





Ginetta G50 Cup Car





Ginetta G50 Dimensions

Minimum weight

940

kg

Overall length

<u>4124</u>

+/- 5 mm

Wheelbase

2445

+/- 10 mm

Overhang

Overall width

1890

mm +/- 1 %

Width of bodywork at axle centreline

Maximum track

Front	Rear		
<u>846</u> +/- 10 mm	<u>831</u> +/- 10 mm		

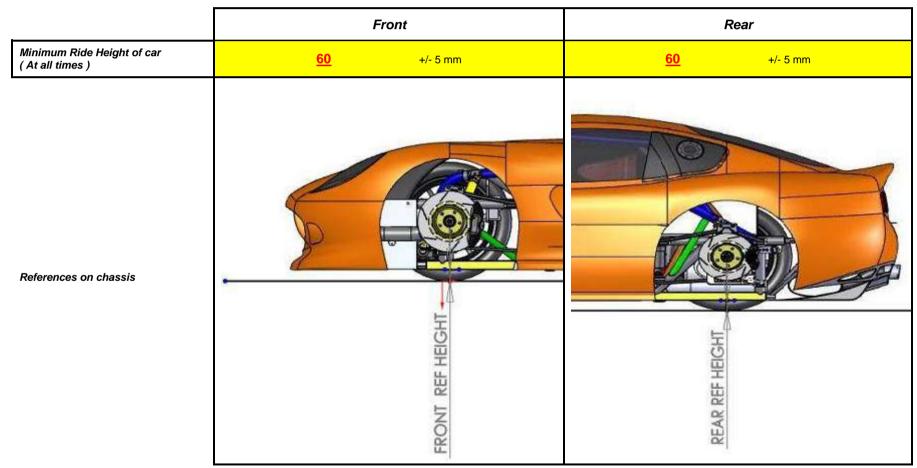
Where measured FRONT AXLE

Front	Rear	
<u>1890</u> mm +/- 1 %	<u>1890</u> mm +/- 1 %	

Front				Rear		
mini maxi		Mini		maxi		
<u>1876</u>	mm +/- 1 %	<u>1894</u>	mm +/- 1 %	<u>1876</u>	mm +/- 1 %	<u>1894</u> mm +/- 1 %



Ginetta G50 Ride Height Reference



This measurement is for set-up use only, and should not be used as a measurement for the championship regulations minimum ride height



Ginetta G50 Initial Run Recommendations

It is important to realise when running a car for the first time, that painted, powder coated, and plated surfaces tend to bed together and can work loose during the initial running period.

Consequently, it is strongly recommended that one out lap is completed after which all oil, water, and fuel lines are checked for security, along with the wheel nuts.

After this, a further run of four laps should be completed, after which a thorough spanner check must be carried out, checking the security of all components.

Particular attention should be paid to hub nuts, CV joints, braking and steering systems, suspension mounts and lock nuts, and also the airjack locking rings.

As with all new car builds, it can be increasingly difficult to get all the air from the brake system, at sometime during the first run it is also advised that you should bleed the brakes and clutch to remove any excess air from the systems.

At all times during testing, visual checks should be made whenever the car is stationary.

Once testing is complete the car must be thoroughly cleaned, spanner checked, all fluid levels checked, and generally inspected, before returning to the track.

Extra attention should be paid to all engine drive belts, after any visits to gravel traps, for damage or misalignment.

Please note that the regulations for the G50 Cup will be very closely controlled and we would strongly advise that you consult Ginetta before making **any** alterations to the car, no matter how miniscule this may be. The regulations will focus primarily upon maintaining the original specification of the car and you should work on the assumption that **any modifications will render the car ineligible**.



Ginetta G50 Car Set Up

ALL THESE ITEMS CAN BE SET UP IN THE AIR

DAMPER TYPE	Ohlin	Ohlin	
DAMPER SETTING	- 10	- 10	
AEON TYPE / SIZE	Rubber / 25mm	Rubber / 25mm	
A R BAR & SETTING	Hole 3	Full Soft	
MASTER CYLINDER SIZE	0.7 inch	0.7 inch	
BRAKE DISCS / PADS	Alcon / PF 01	Alcon / PF 01	
BIAS SETTING			
SPRINGS	800lbs	650lbs	
PRELOAD STATIC	Zero	Zero	
DAMPER PLATFORM AIR	58mm ^ 58mm	57mm ^ 57mm	
CAMBER SHIMS	8mm ^ 8mm	4mm ^ 4mm	
CASTOR SETTINGS	^	۸	
TYRE	Michelin Slick	Michelin Slick	
ALL THESE ITEMS TO BE	SET UP ON FLAT PATCH		
TYRE PRESSURE HOT	28psi ^ 28psi	28psi ^ 28psi	
CAMBER ANGLE DEGREES	3.25 ^ 3.25	2.0 ^ 2.0	
TOE IN / OUT	1mm out ^ 1mm out	2mm in ^ 2mm in	
RIDE HEIGHT	62mm ^ 62mm	72mm ^ 72mm	
THESE ITEMS REFERENCE ONLY			
BRAKE DUCTS	None Fitted	None Fitted	
TYRE PRESSURE COLD	22psi ^ 22psi	20psi ^ 20psi	
Wing Setting	-	5 ⁰	

This set-up is based on a complete car with all fluids, (water, oil, etc.), no driver, and 10 litres of fuel.

Alternative Camber shims are available in sizes 2mm, 3mm, and 5mm.



Ginetta G50 Set-up Details

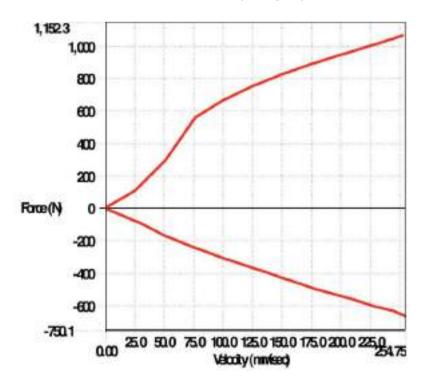
	Front	Rear	
Ride Height Change	1 TURN SPRING PLATFORM = 2.5 MM RIDE HEIGHT	1 TURN SPRING PLATFORM = 2.5 MM RIDE HEIGHT	
Camber Change	3 MM SHIM = 0.5 DEGREES	3 MM SHIM = 0.5 DEGREES	
Toe Change	1/4 TURN TRACK ROD = 2.5 MM TOE CHANGE @ WHEEL	1/4 TURN TOE LINK = 2.5 MM TOE CHANGE @ WHEEL	
Ride Height Change With Camber Change	1 DEGREE CAMBER CHANGE = 3 MM RIDE HEIGHT	1 DEGREE CAMBER CHANGE = 3 MM RIDE HEIGHT	
Toe Change With Camber Change	NO CHANGE	NO CHANGE	
Damper Adjustment	1 CLICK = 70% BUMP, AND 30% REBOUND	1 CLICK = 70% BUMP, AND 30% REBOUND	
Anti-rollbar adjustment, hole 1 – hole 2	STIFFNESS INCREASE = 22.8%	STIFFNESS INCREASE = 17.3%	
Anti-rollbar adjustment, hole 2 – hole 3	STIFFNESS INCREASE = 25.7%	STIFFNESS INCREASE = 19.0%	
Anti-rollbar adjustment, hole 3 – hole 4	STIFFNESS INCREASE = 29.1%	STIFFNESS INCREASE = 20.8%	



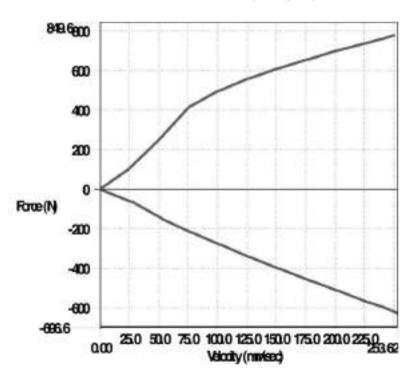
Ginetta G50 Damper Detail

Make and Type	OHLINS OIL FILLED SINGLE ADJUSTER	OHLINS OIL FILLED SINGLE ADJUSTER	
Maximum open length	<u>437</u> mm	<u>437</u> mm	
Minimum closed length	350 mm	350 mm	

Front damper graph



Rear damper graph





Ginetta G50 Mileage Advice of Critical Components

The following parts must follow a life-mileage program for periodic maintenance / replacement / refurbishment / dimensional and crack checks.

Listed below are typical expected life (in kilometres) to be intended just as a starting reference.

For safety reasons, please contact Ginetta Cars immediately if you discover premature wear or problems.

SUSPENSION	
Suspension wishbones	5000 km
Anti Roll Bars and anti roll bar drop links	5000 km
Suspension ball joints	3000 km
Front hubs	10000 km
Rear hubs	10000 km
STEERING	
Steering column and track rods	5000 km
Steering rack	10000 km
CONTROLS	
Brake pedal	5000 km
Chassis to Engine installation bolts	5000 km
WHEELS, TRANSMISSION and STAR	TER MOTOR
Brake disc bell (unless fretting occurs)	3000 km
Wheel rims	5000 km
Wheel bearings	5000 km
SYSTEMS	
Wiring Loom	10000 km
Water Radiators & Oil coolers (unless fins getting damaged)	10000 km



Ginetta G50 Crack Checking of Critical Components

CRACK CHECKS

Routinely performing crack checks on structural parts at regular intervals and after every accident, is strongly recommended.

Parts which should be monitored are:

- Rims
- Seat mounting brackets
- Brake disc bells
- Wishbones, Toe links, and Track rods
- Uprights
- Suspension mounts, and Steering arms
- Anti roll bars and anti roll bar drop links
- The crack checking of any components can be carried out at Ginetta Cars.



Ginetta G50 Systems

Fuel System

The Ginetta G50 Cup Car has an ATL Saver Cell 60 litre. This style of fuel cell regulates the fuel pressure with a 5 bar fixed regulator at the tank. This means that there is only one fuel line to run through the car to the engine.

In a case of running out of fuel the engine may take around 30 seconds of running to self-bleed itself.

Below is the schematic of the fuel cell:





Ginetta G50 Systems

Checking fluid levels

Checking the fluid levels on the Ginetta G50 Cup Car should be carried out at the start of each day the car will be running. The oil, water and power steering levels should be checked using the following procedure:

- Before starting the engine remove all caps and check the levels. The oil should be around 20-30mm below the top baffle, the water and power steering levels should be around half their tank capacity.
- The engine should now be started. Whilst waiting for the thermostat to open (around 70-75 degrees C), several cycles of the steering should be carried out, ensuring a full sweep each time from full left hand lock to full right hand lock. During this time the power steering fluid level should be monitored, keeping its level around half the tank capacity. The cap should now be replaced.
- As the engine temp rises, attention should be paid to the radiator, ensuring that as the thermostat opens the whole area of the radiator is hot. If this isn't the case then the bleed screw on top of the radiator should be carefully opened to bleed out any air in the system. After any air is removed the water level should topped up to two thirds of the tank capacity and the cap replaced.
- After the fan starts at 95 degrees C, the engine revs should be raised to 3000 rpm, held for 5 seconds then switched off. The oil level should now be checked and topped up if required. The level at this point should be around -0 +10mm above the top baffle.

Ginetta Cars recommends the follow lubricants: 5w30 synthetic oil in the Engine, 75w90 gear oil in both the gearbox and in the Differential, and a premium grade of power steering fluid.



Ginetta G50 Battery care

Dry Cell Battery Care

Charging Procedure:

Only use specific DRY BATTERY chargers

- The charger must give a constant tension between 14.0V and 14.7V.
- The charger must be able to charge with a current of at least 40% of the nominal capacity of 26-27Ah, which is about 10A. The current will come down during charging.
- A complete charge can take up to 10 hours.

SAFETY NOTES:

- Never charge the battery when the battery is "HOT".
- Tighten the cable-nuts not more than 4Nm.
- Charge an empty battery immediately. Do not leave it empty.
- When the battery is stored do not let the tension come down under 12V. Charge it again as soon as possible.
- Store the batteries in ambient temperature of about 25°C. Hotter conditions will reduce the life of the battery.



TO ALL GINETTA OWNERS AND DRIVERS

As you are probably aware there was an accident involving Hunter Abbott in the Ginetta G50 GT4 car which has made everybody at Ginetta think – particularly about the fact that motor racing is dangerous and that the cars we build are going to be entering into an environment where accidents happen and the unexpected occurs.

Whilst we do all that we can within the constraints of providing affordable cars for people to compete in, to make the cars as safe as possible to meet the expected unexpected we cannot eliminate all risks of accidents happening or provide a totally safe environment in which those who drive the cars compete.

Every driver and every person involved in the preparation of the cars for circuit use can and should take steps themselves to limit the risks of accidents happening and to minimise the consequences of any accidents.

Whilst Hunter's accident was completely out of the ordinary Lawrence Tomlinson has his own experience of flight at Oulton Park in a Ginetta G20 and he has done his best to make sure that everybody learns from the mistakes of others.

Whilst the following are not directly related to these accidents there are points which Ginetta Cars Ltd feel should be borne in mind when Ginetta Cars are used.

- All racing cars require regular inspection and mechanical checks to make sure that everything is as it should be. If you are in any doubt there are normally Ginetta staff at the circuit that will be happy to inform and advise as best they can on any problems you experience.
- All drivers should be fully familiar with the use and proper operation of their seat harnesses. They are fitted and required for reasons of safety and their proper operation should be second nature to a driver before he or she goes out on circuit. The harness should be properly secured to hold the driver in the seat and all points connected. Whilst we cannot offer training in evacuation from a burning car whilst it is upside down drivers have to be aware that they may need to get out guick and should prepare for this.



- Fire is an ever present risk and so caution should be taken when fuelling cars. Hot metal can ignite fuel and precautions should be taken to ensure that cars are not overfilled with fuel.
- A closed visor does help prevent burns to the face. The element of choice available to drivers is something they can decide upon when open face helmets are permitted but I lost eyebrows when my Dodge Viper caught fire and I was wearing a partial visor. Never again was my decision.
- Check to ensure that safety pins from internal fire extinguishers are removed when the car goes on circuit. The pin provides security against accidental discharge when the car is being worked on and in the paddock. On circuit the extinguisher should be ready for instant activation by driver or marshals. Again drivers should be aware that they might need to activate a fire extinguisher and know what to do before they go out on circuit.
- Tyres are not wholly predictable in the amount of grip which they provide and care should be taken when trying to warm them. Grip can suddenly appear and if this is not expected in circumstances where a driver is weaving an accident can occur.

We are studying the wreckage of Hunter's chassis to see whether there are areas for improvement.

Any lessons which we learn will be passed on as soon as we are able to.

Richard Dean



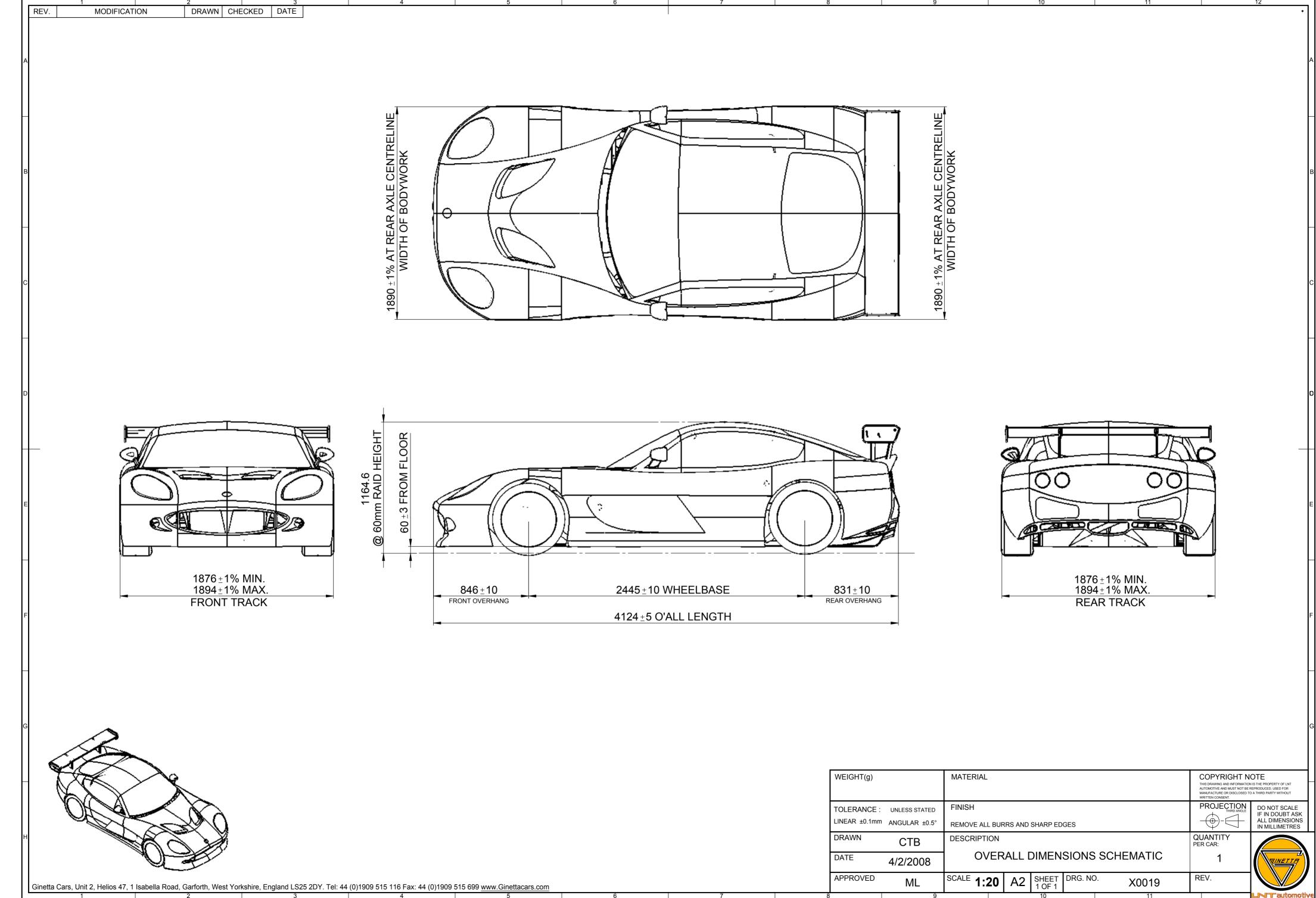
Ginetta Cars Contacts

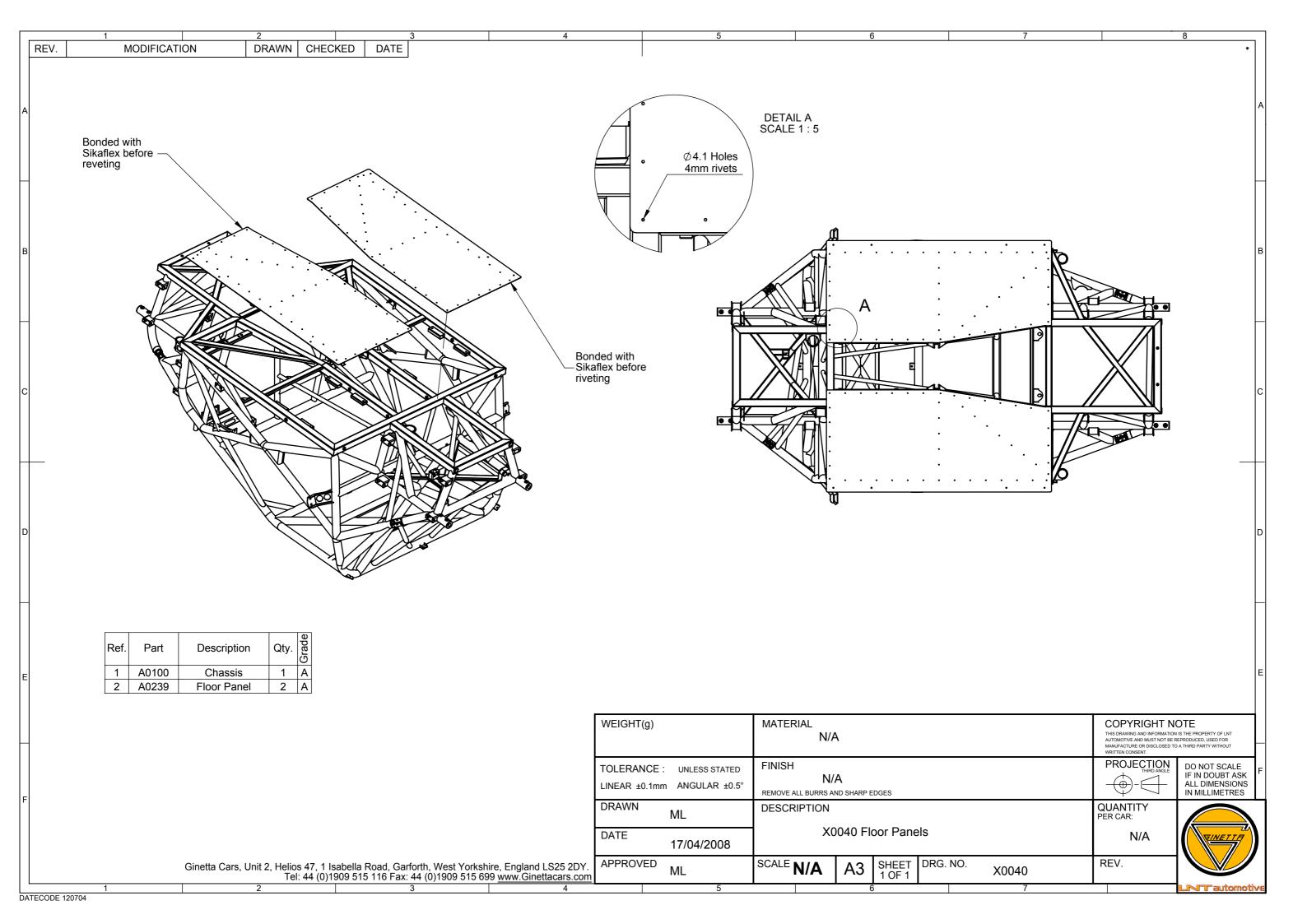
For any queries on the Ginetta G50, or about Ginetta Cars, please use the relative contacts below to help us deal with your queries as smoothly as possible.

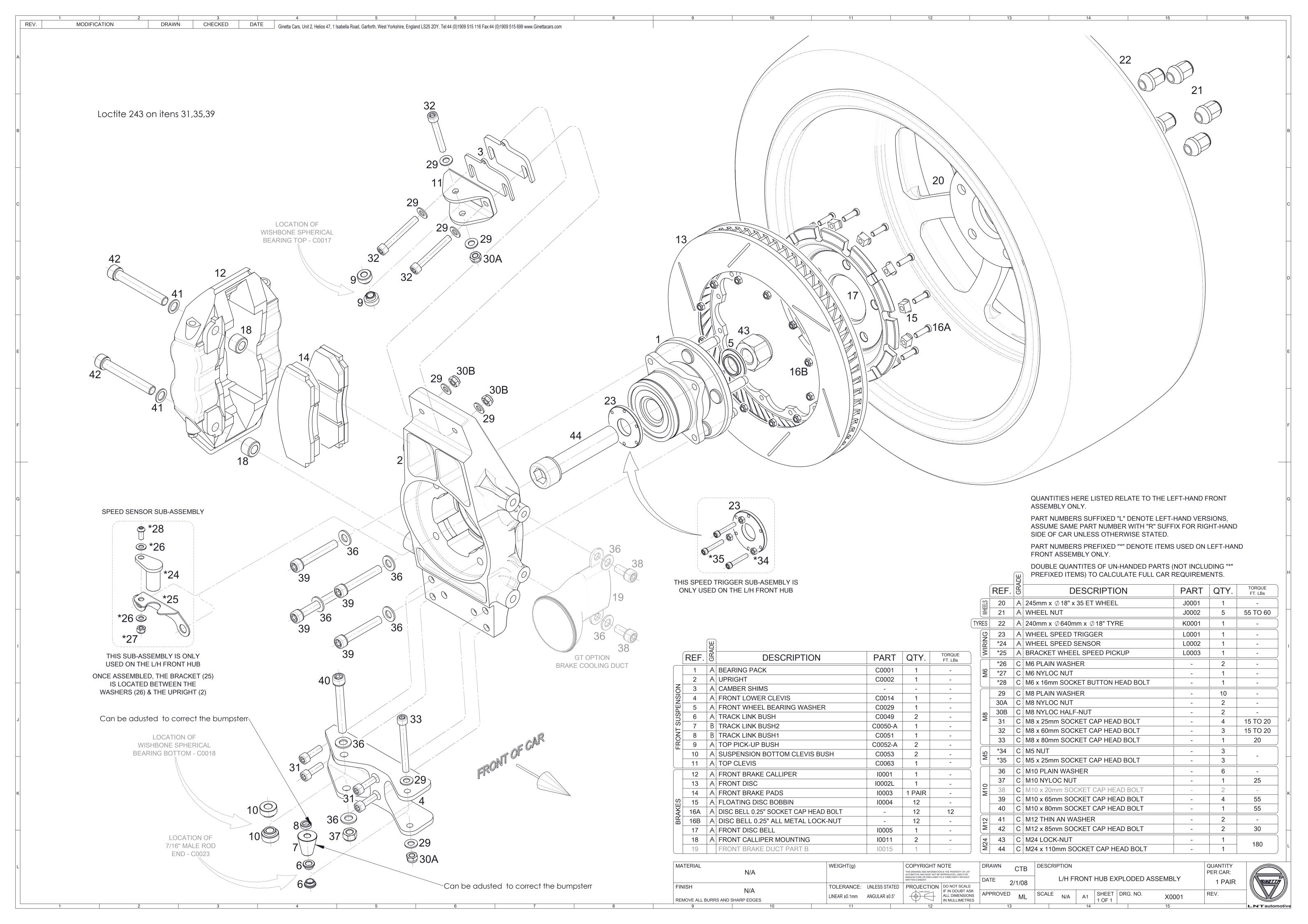
- Championship enquires Stewart Linn– 0113 385 4144172
- Technical enquires Simon Finnis, Dan Martin, or Marcos Lameirao 0113 3854148 0113 3854167 0113 3854170
- Parts and ordering James Morgan– 0113 3854164 (stores@ginettacars.com)
- General enquires Julie Harrison 0113 3854144
- Media enquires Aimi McNeill 0113 3853564
- Sales enquiries Mike Simpson- 0113 3854171
- Design enquires Marcos Lameirao, Dan Martin 0113 3854170 0113 3854167

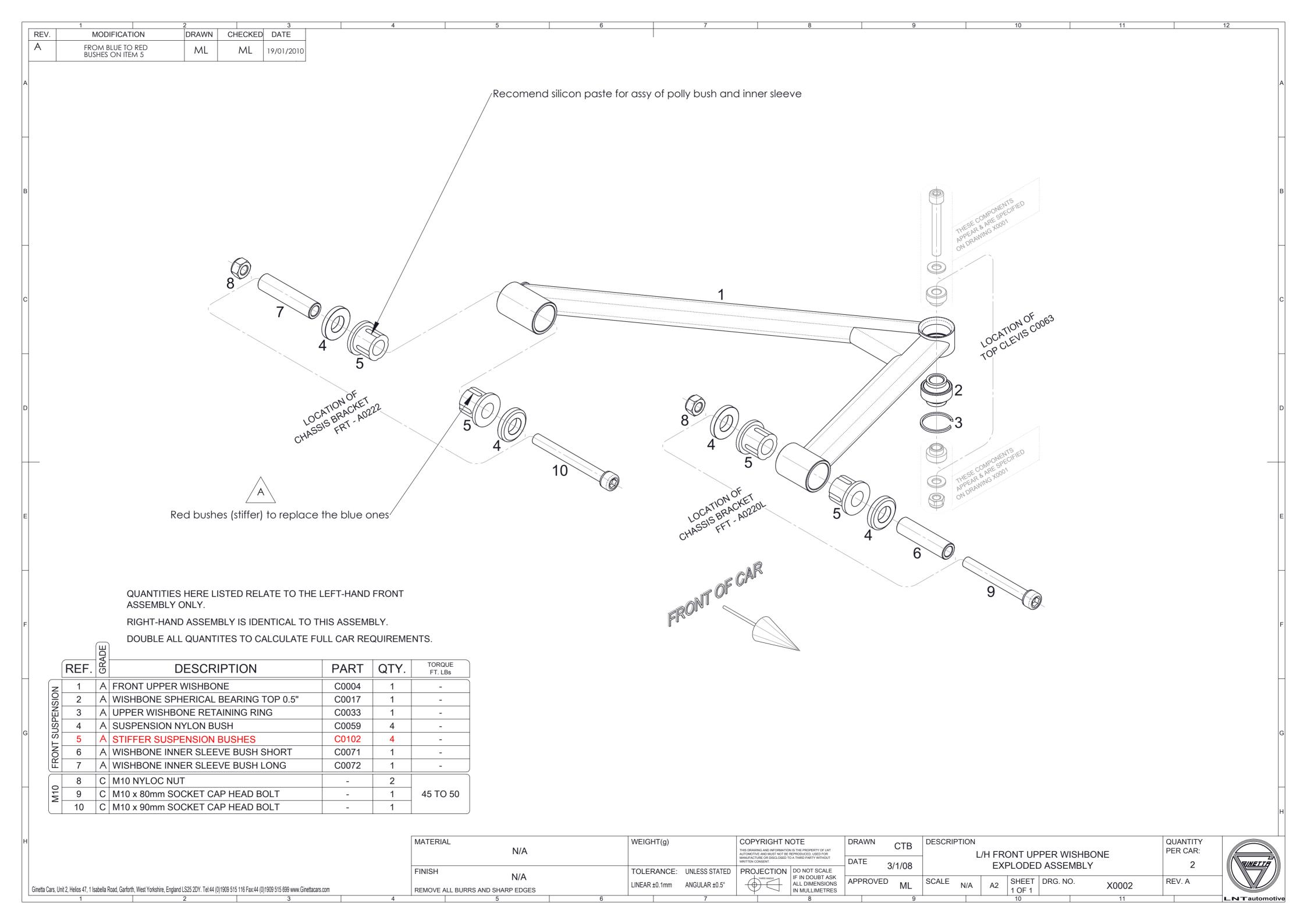
Alternatively Ginetta Cars can be reached by the following;

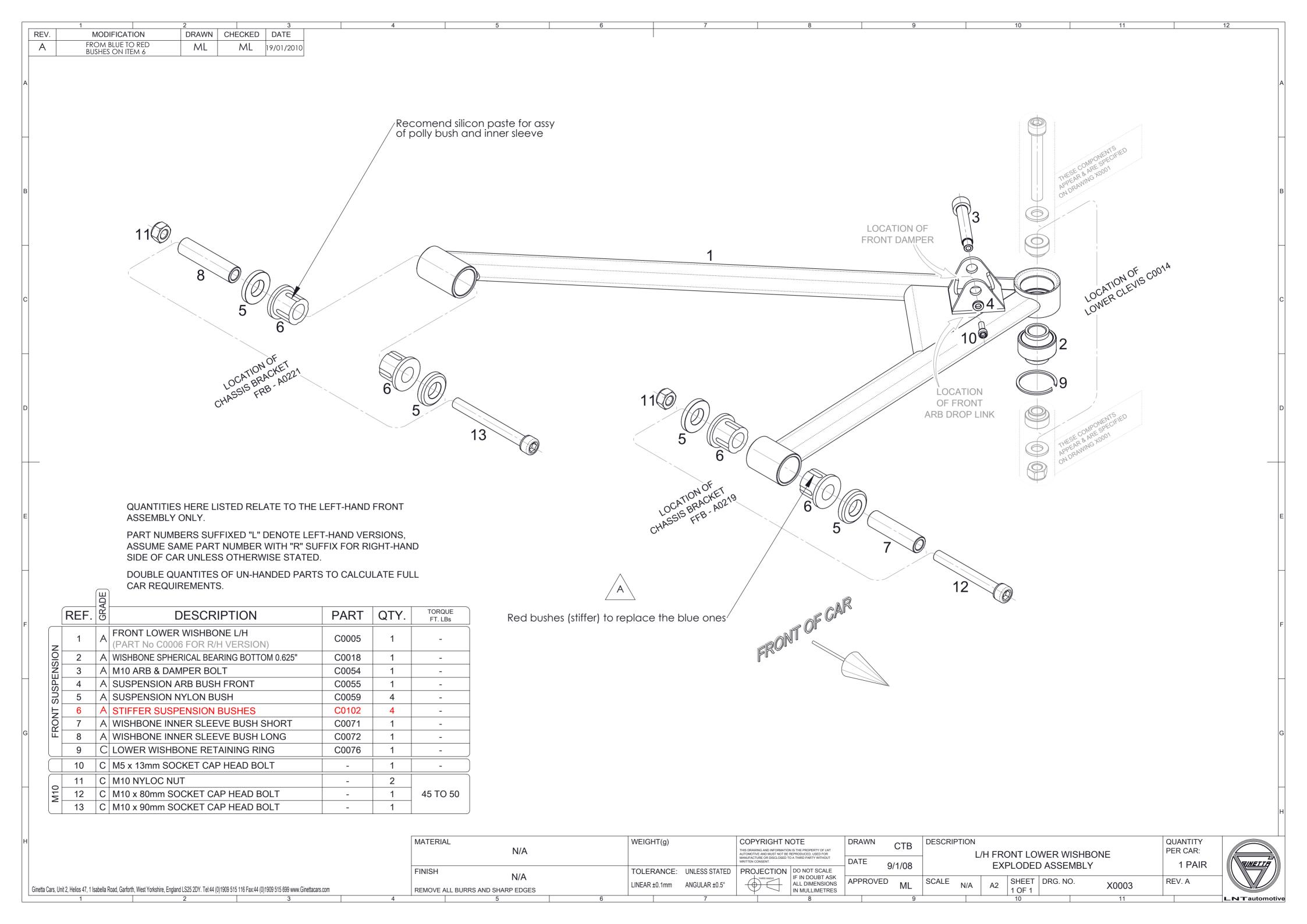
- Ginetta Main Line 08452 105050
- By Fax 0113 3854141
- E- mail enquires@ginettacars.com

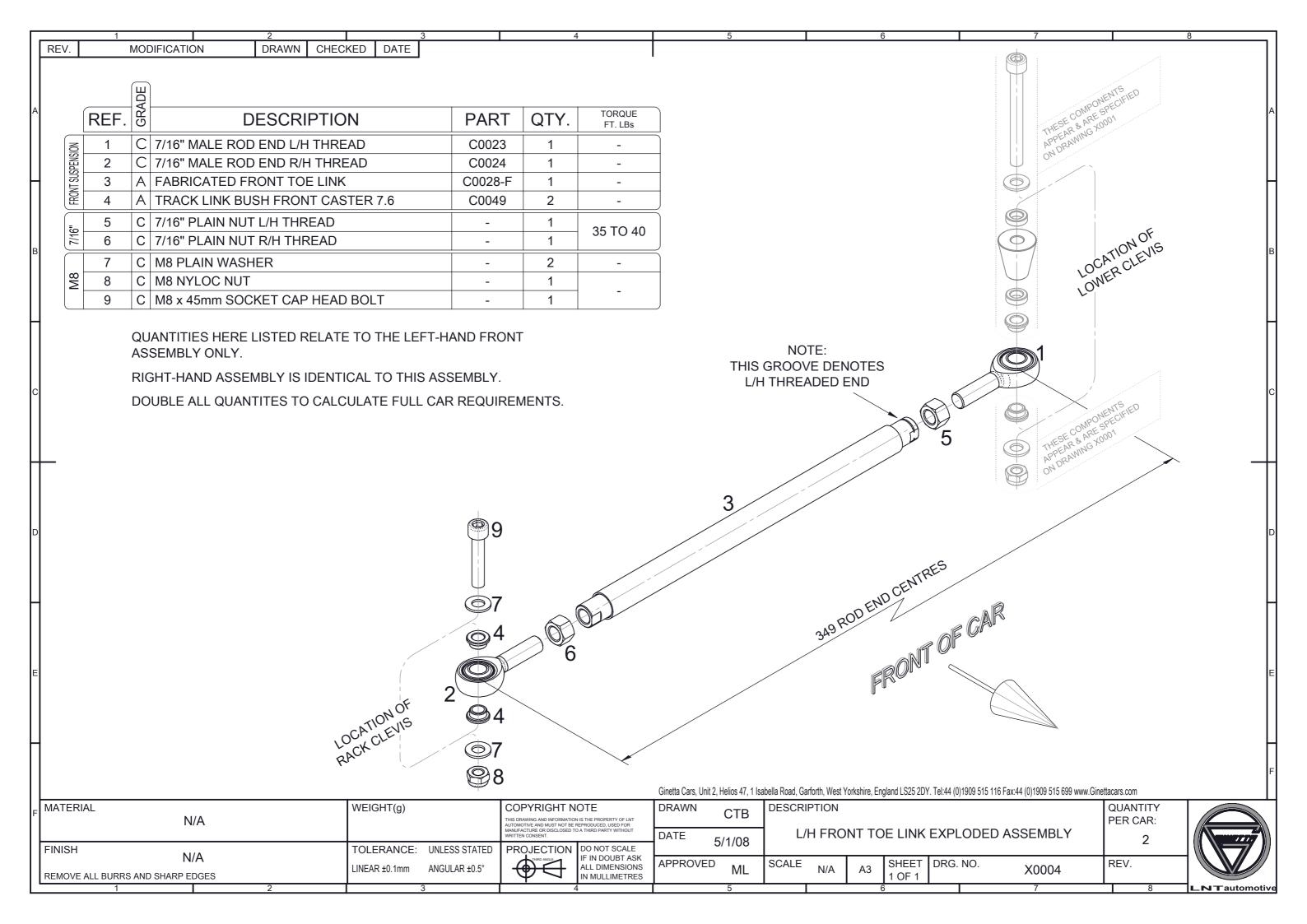


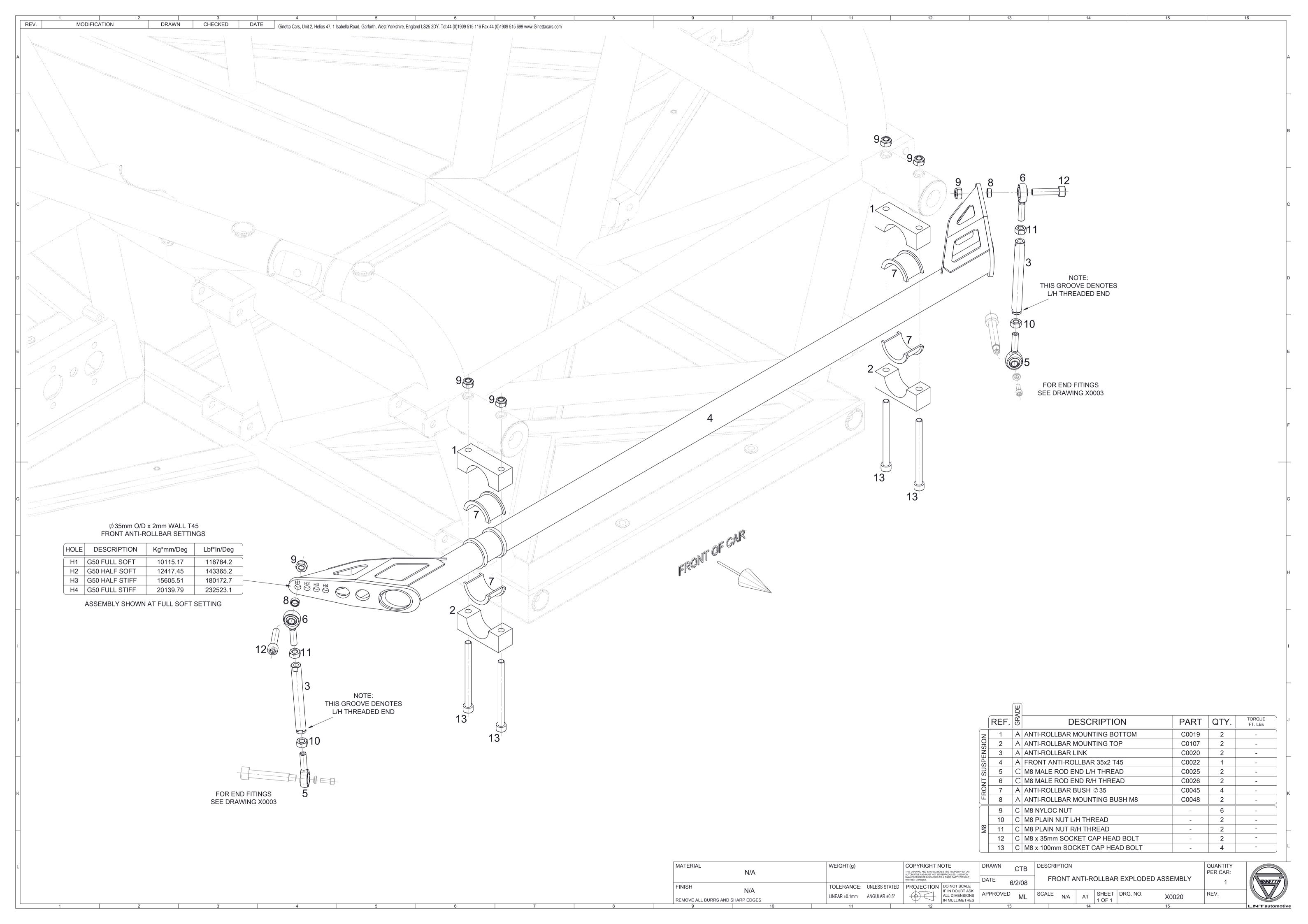


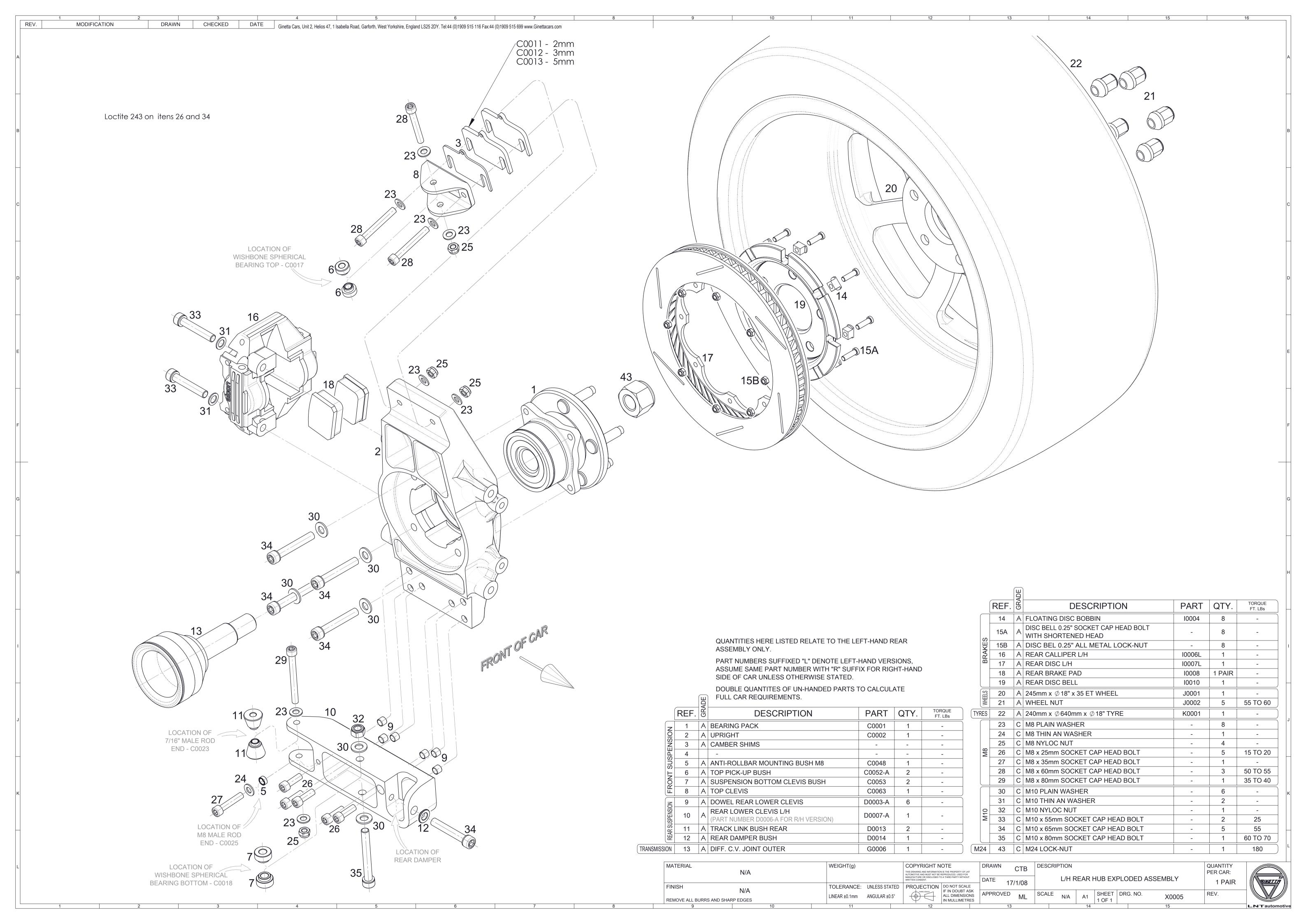


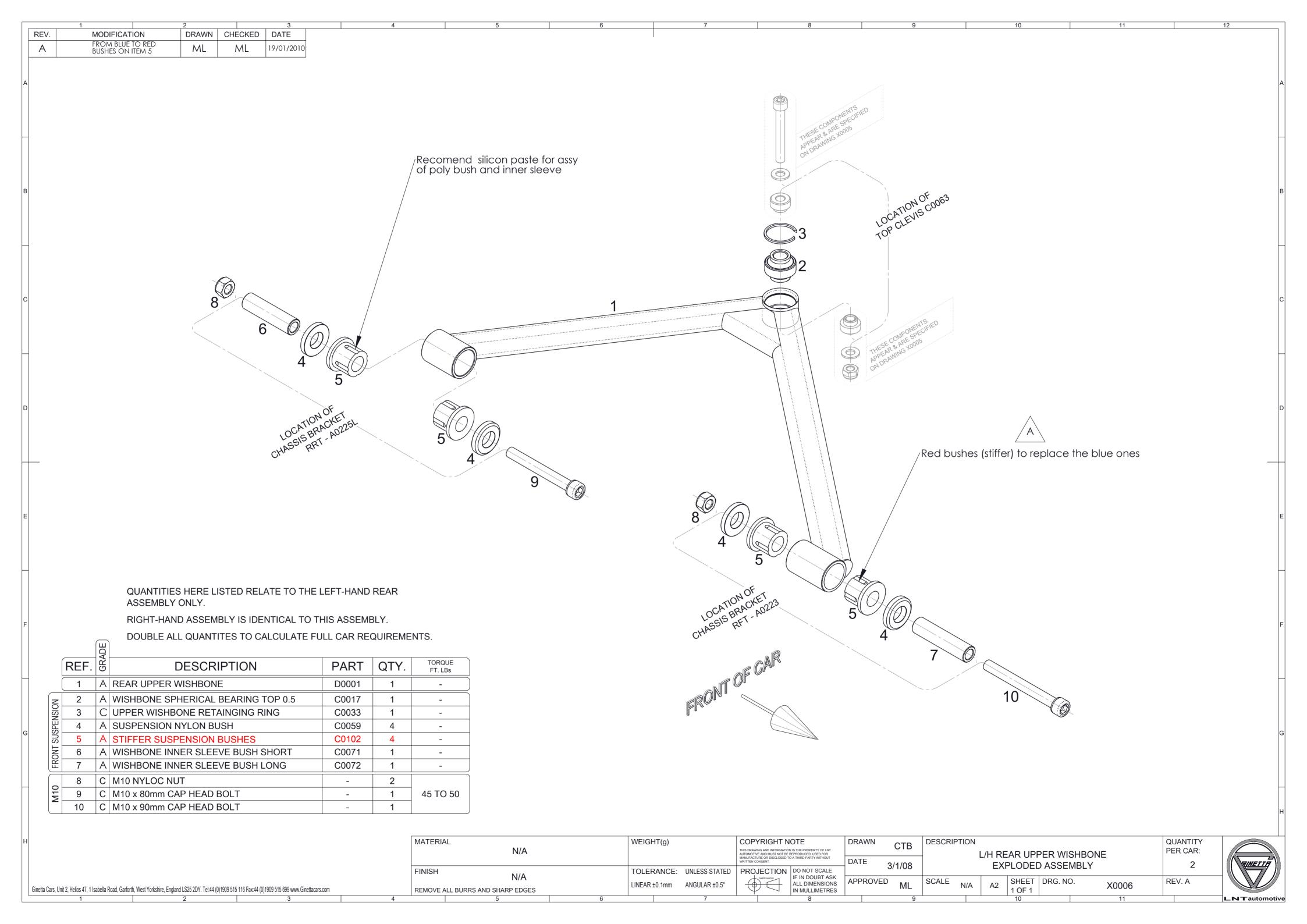


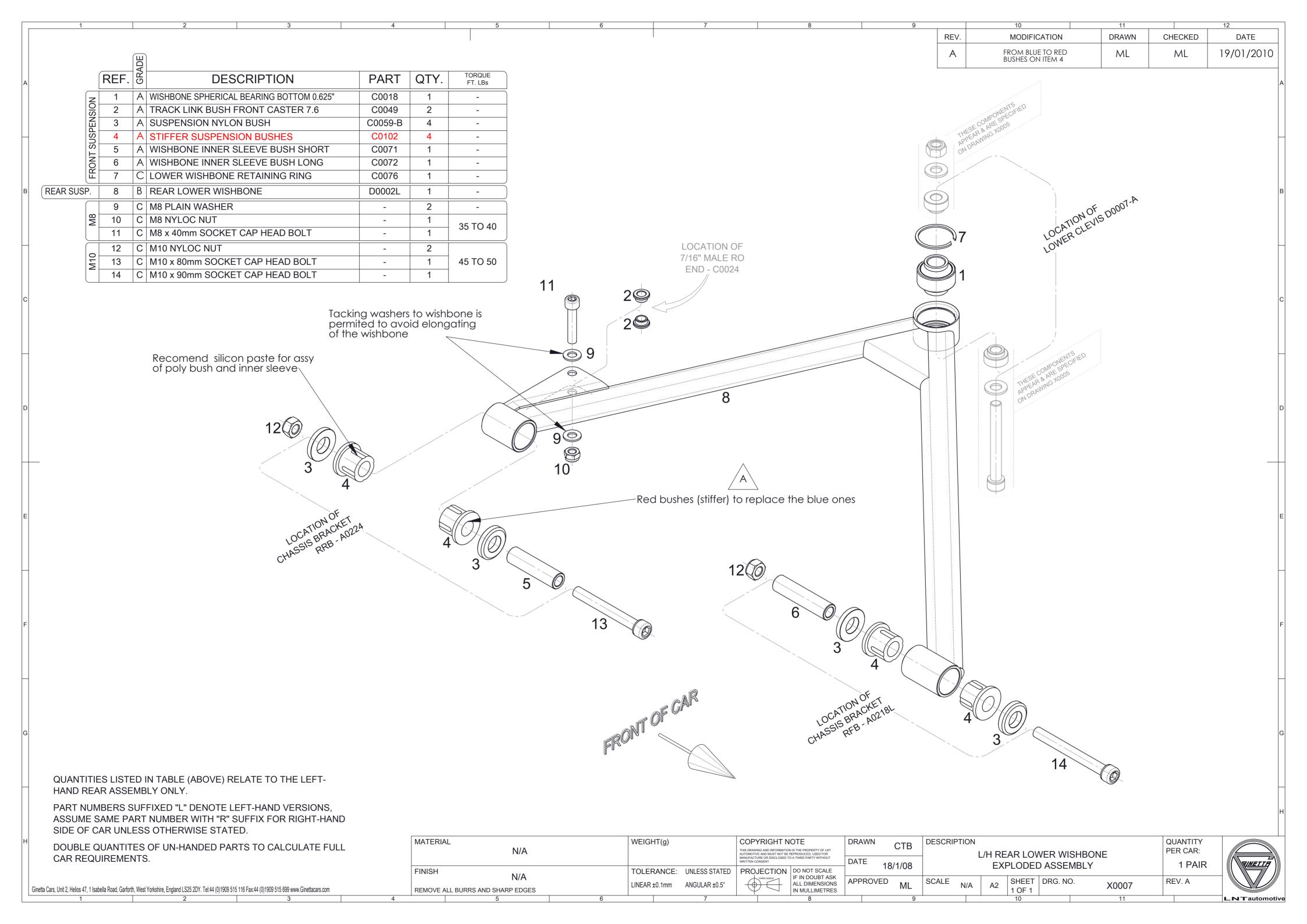


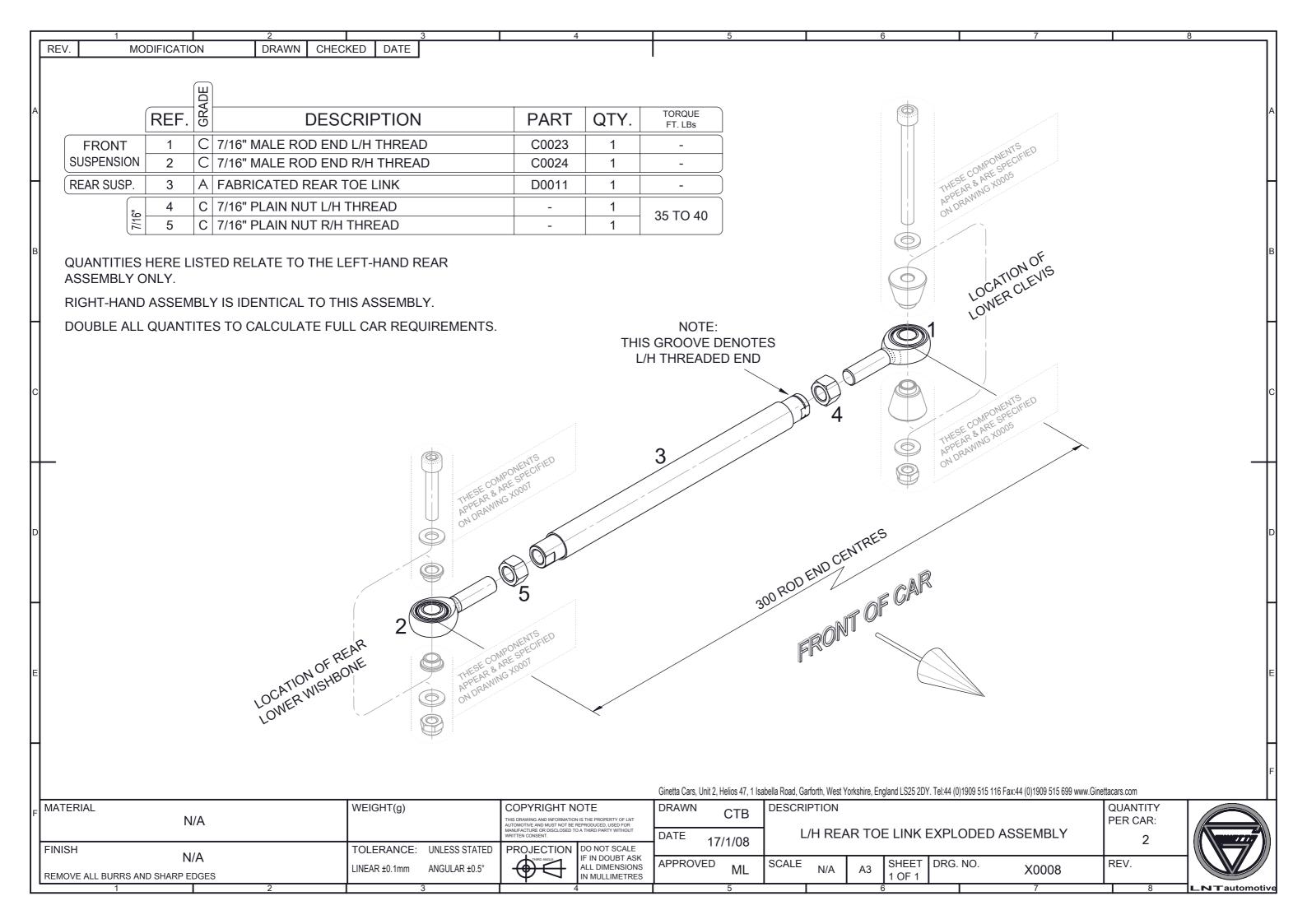


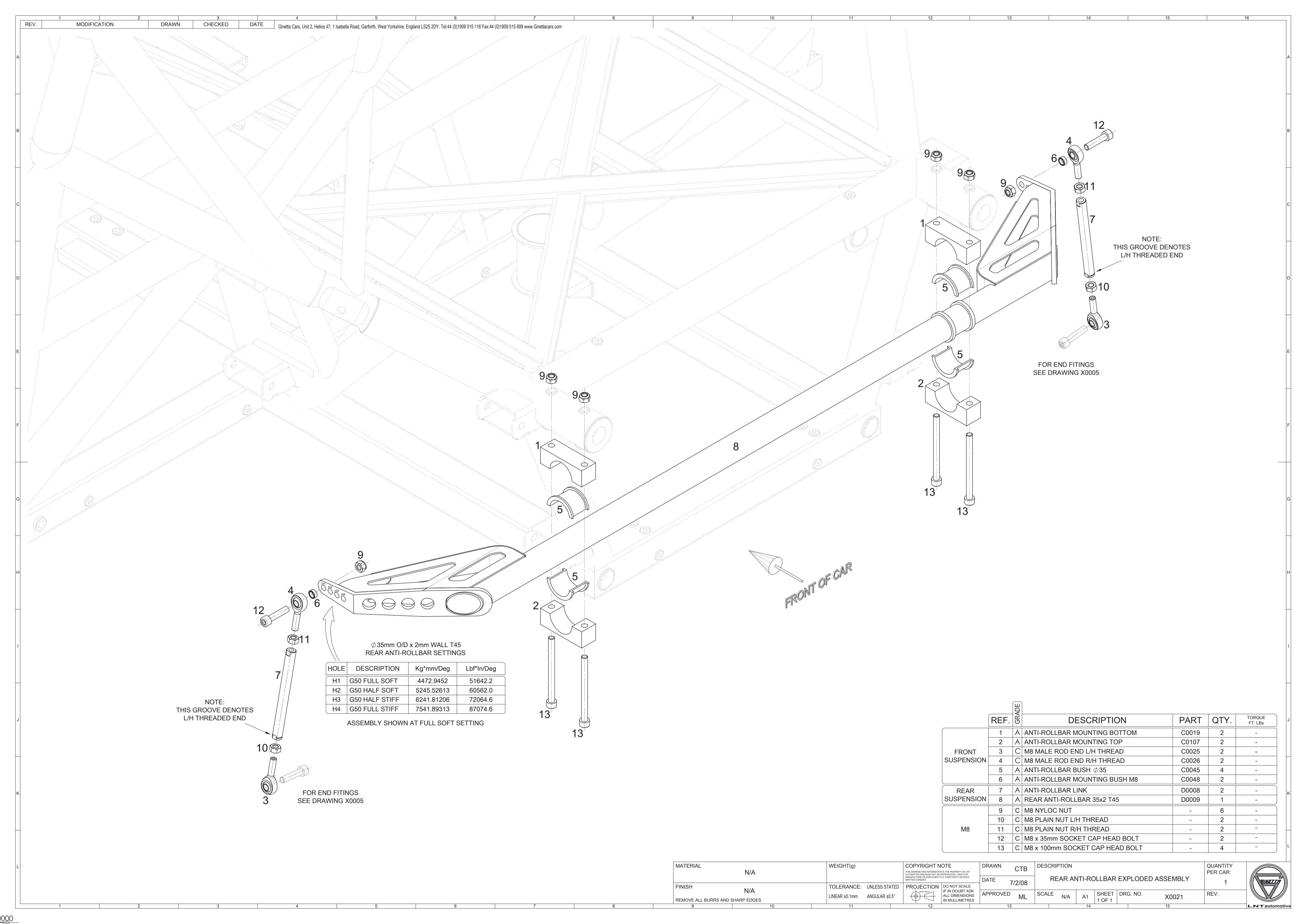


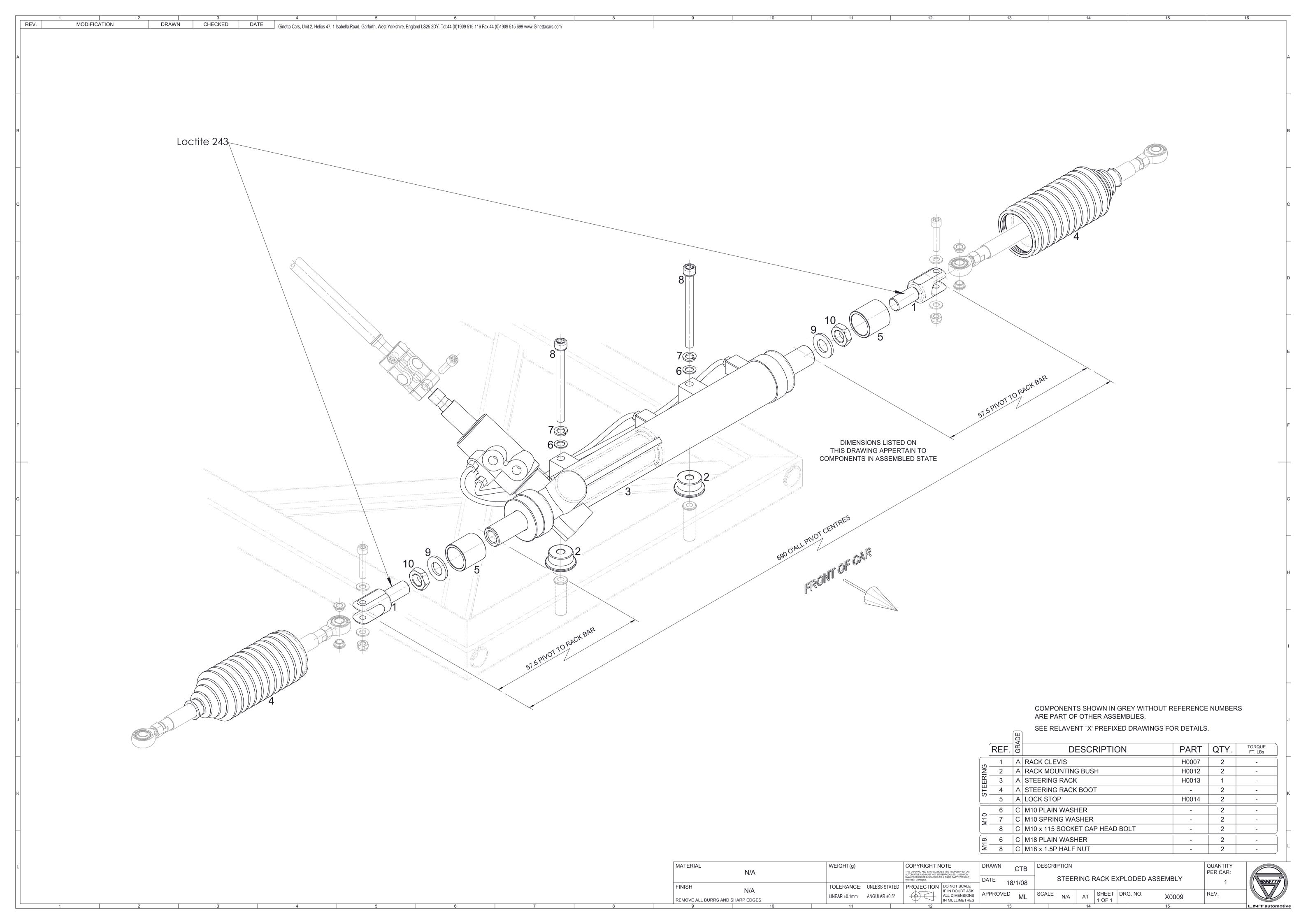


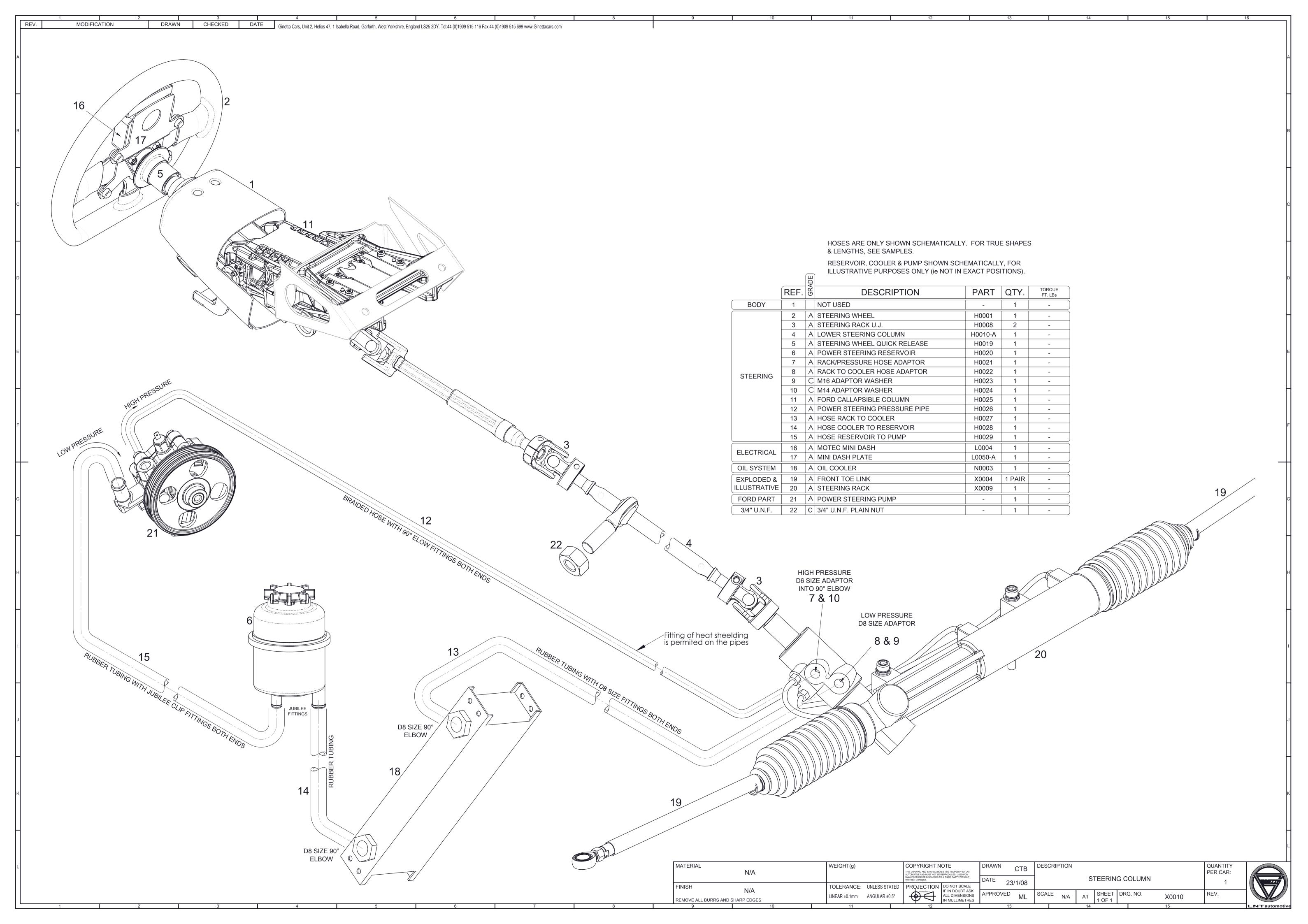


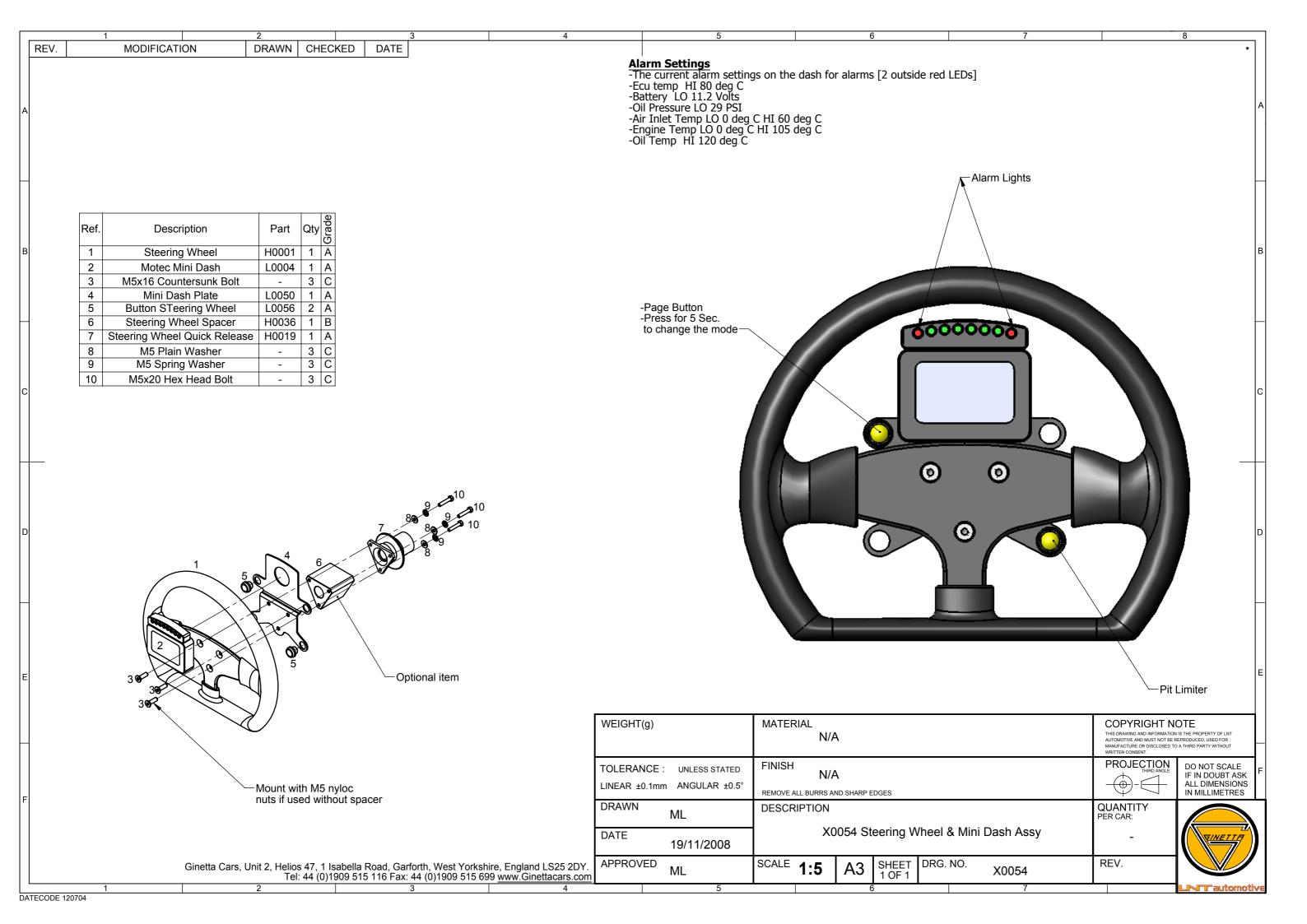


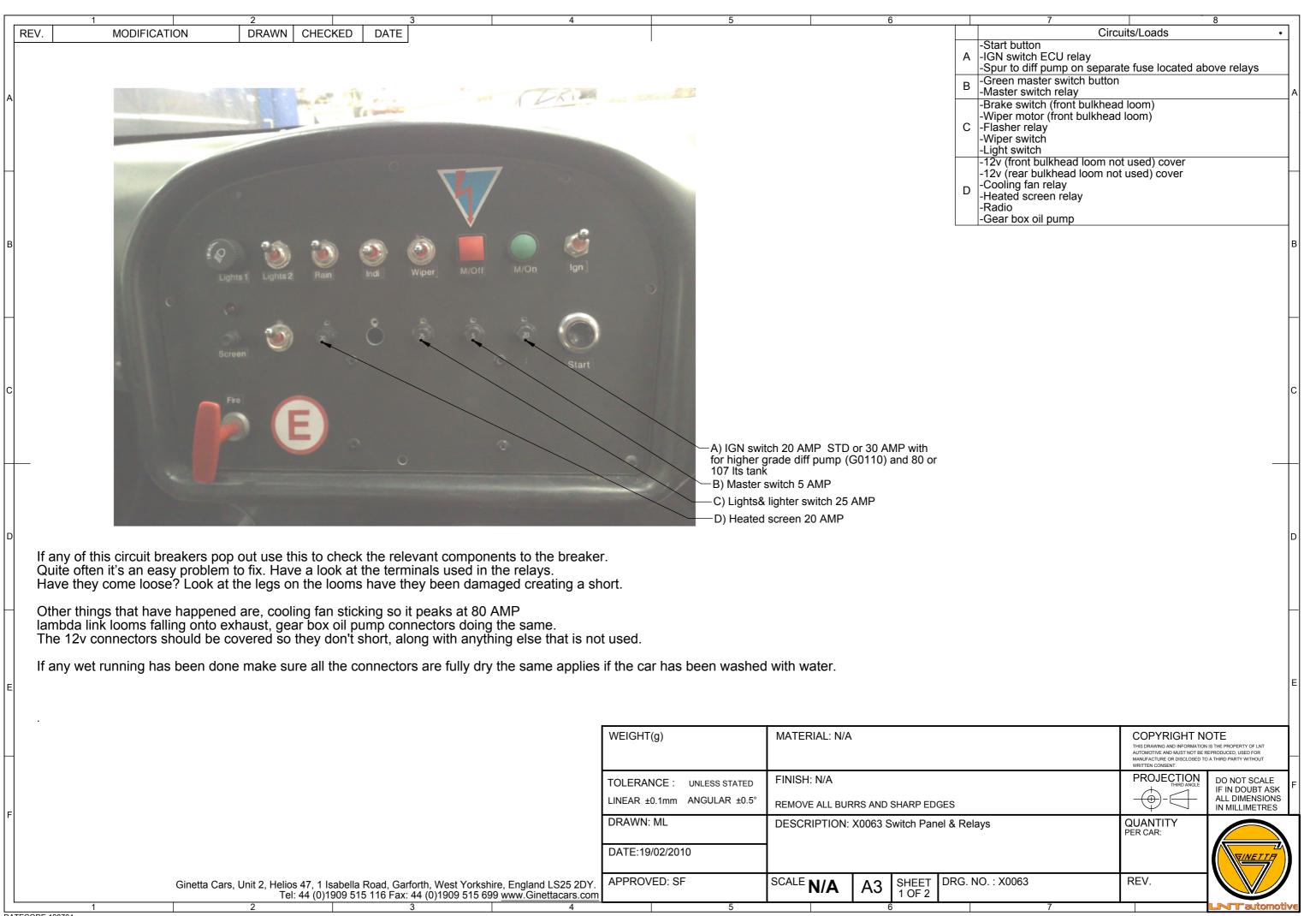


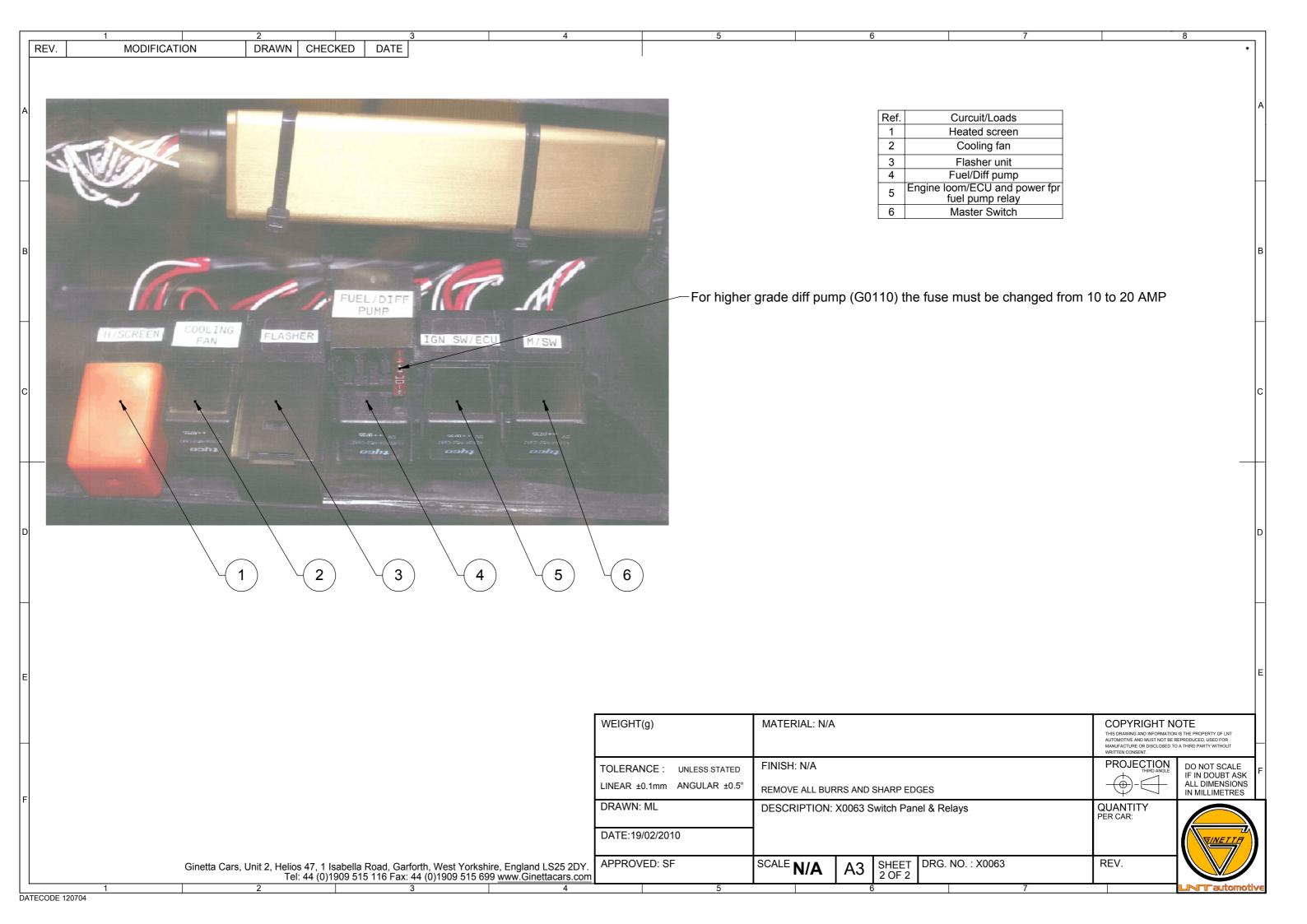


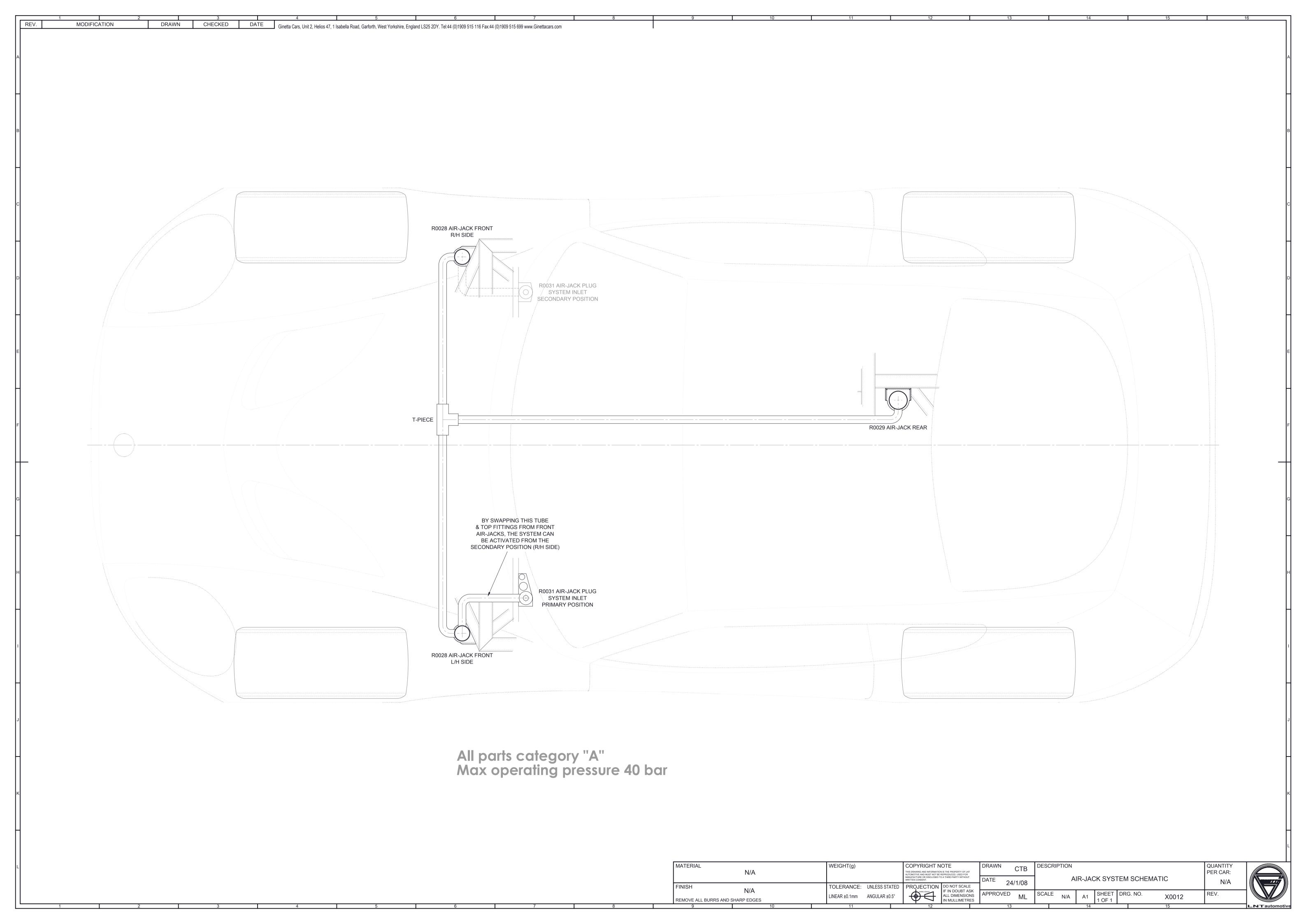


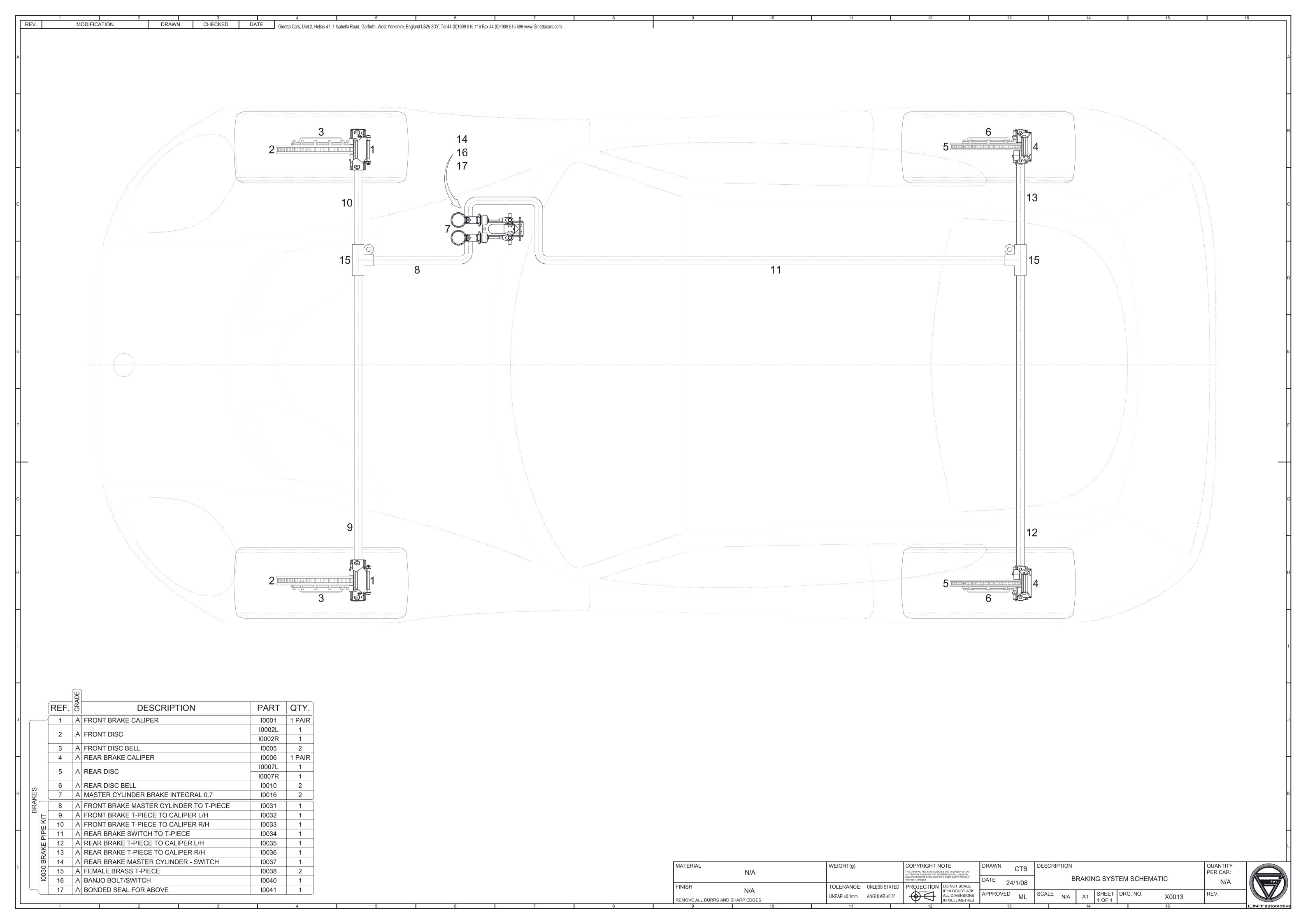


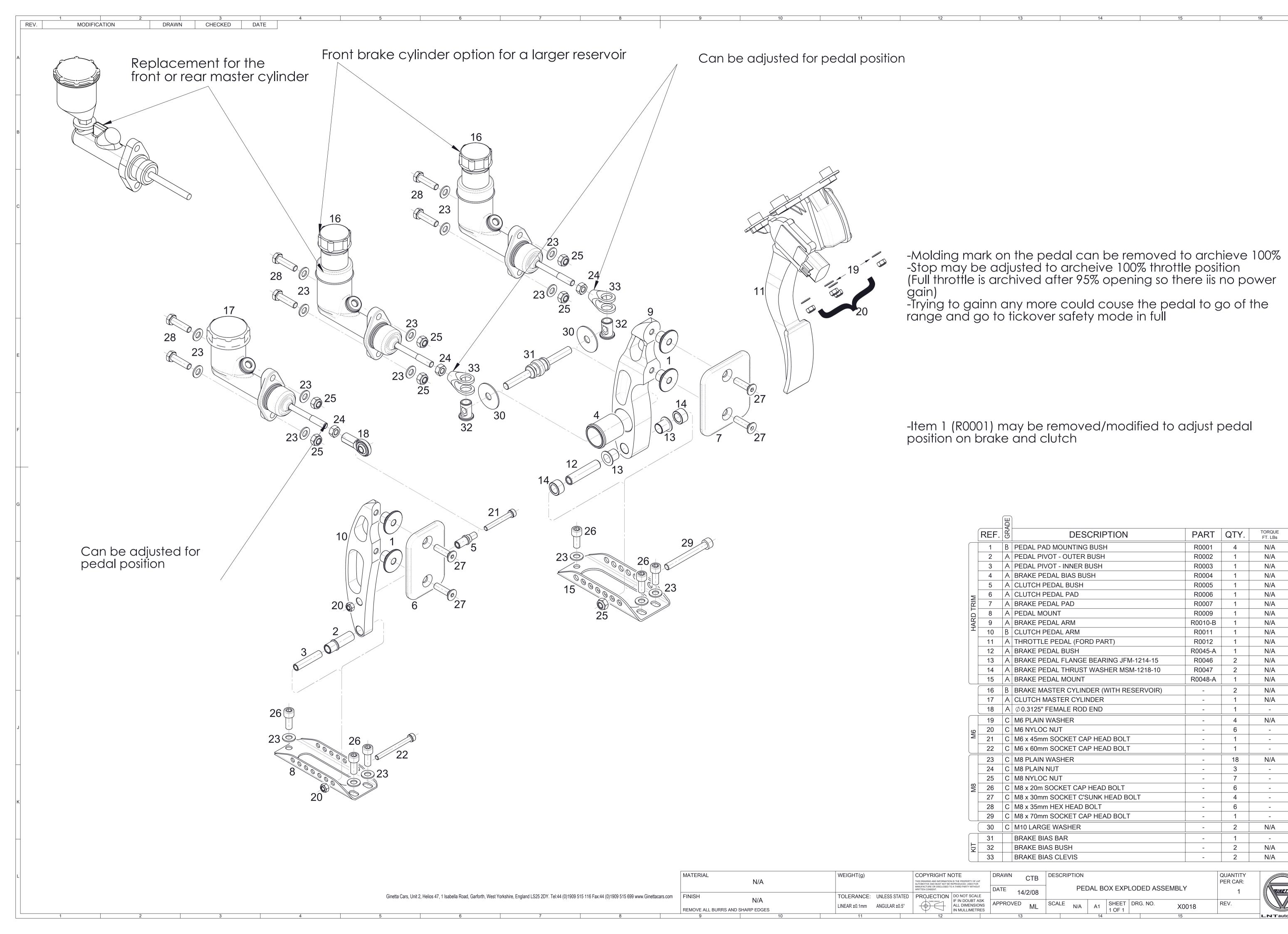












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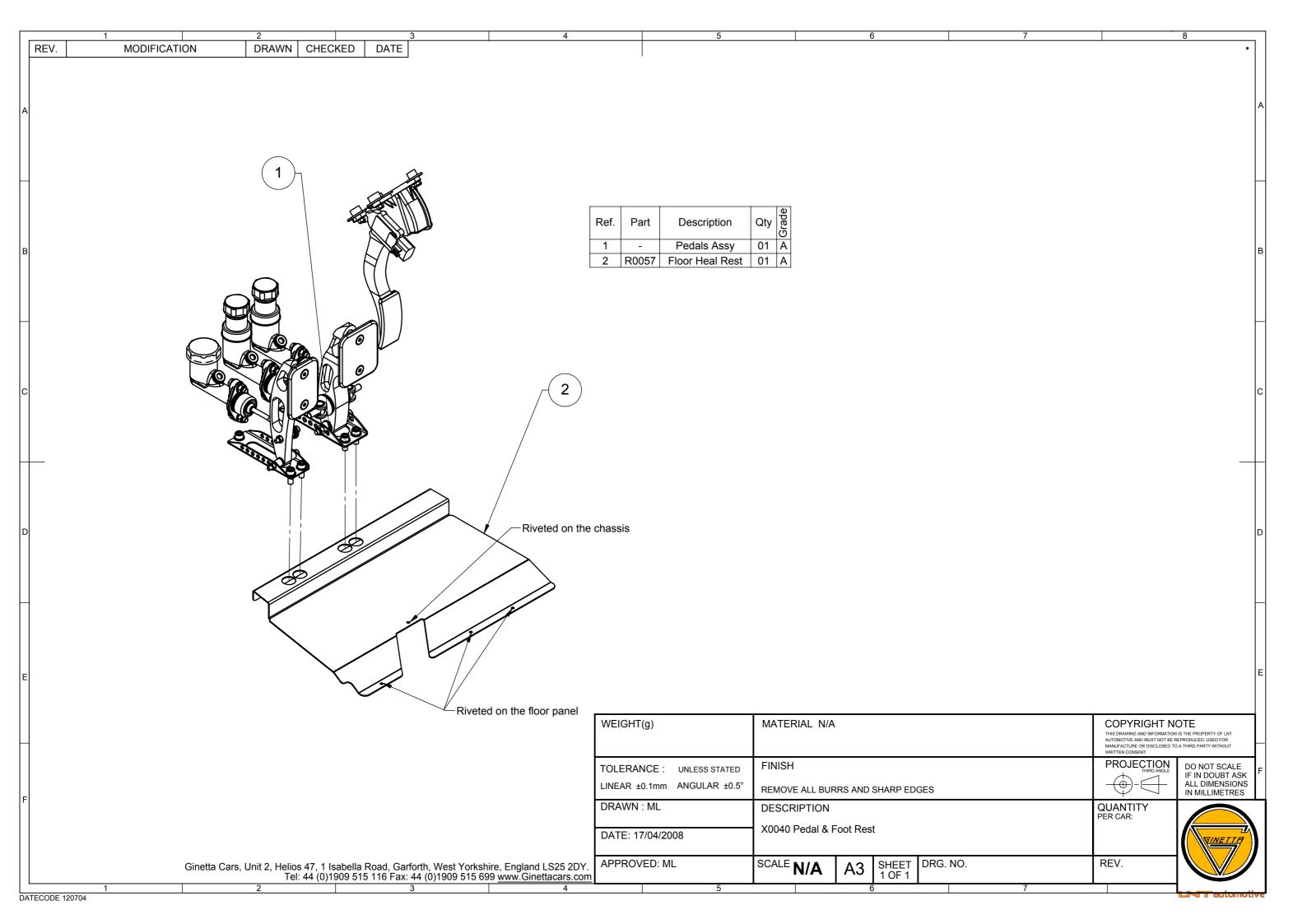
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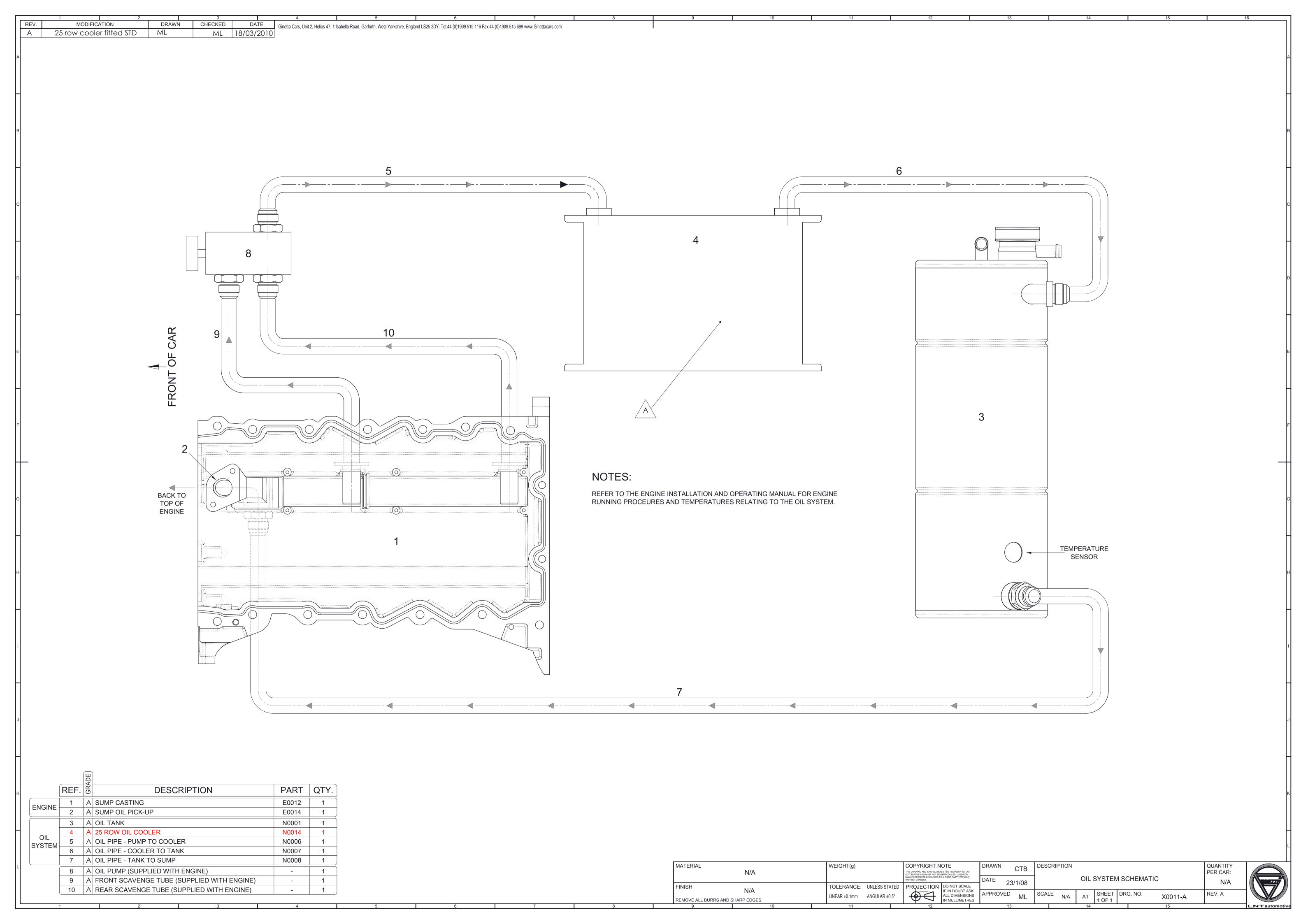
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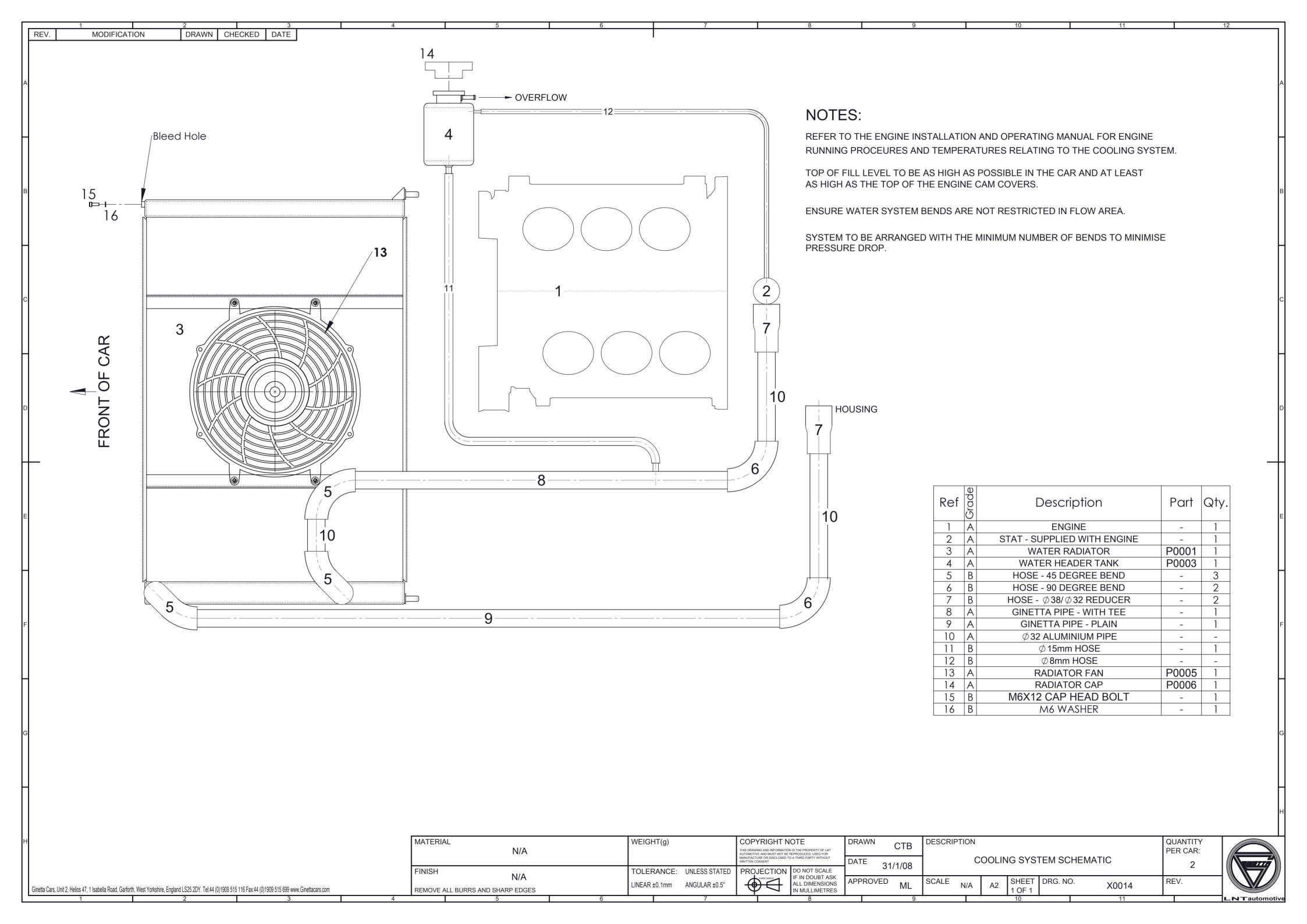
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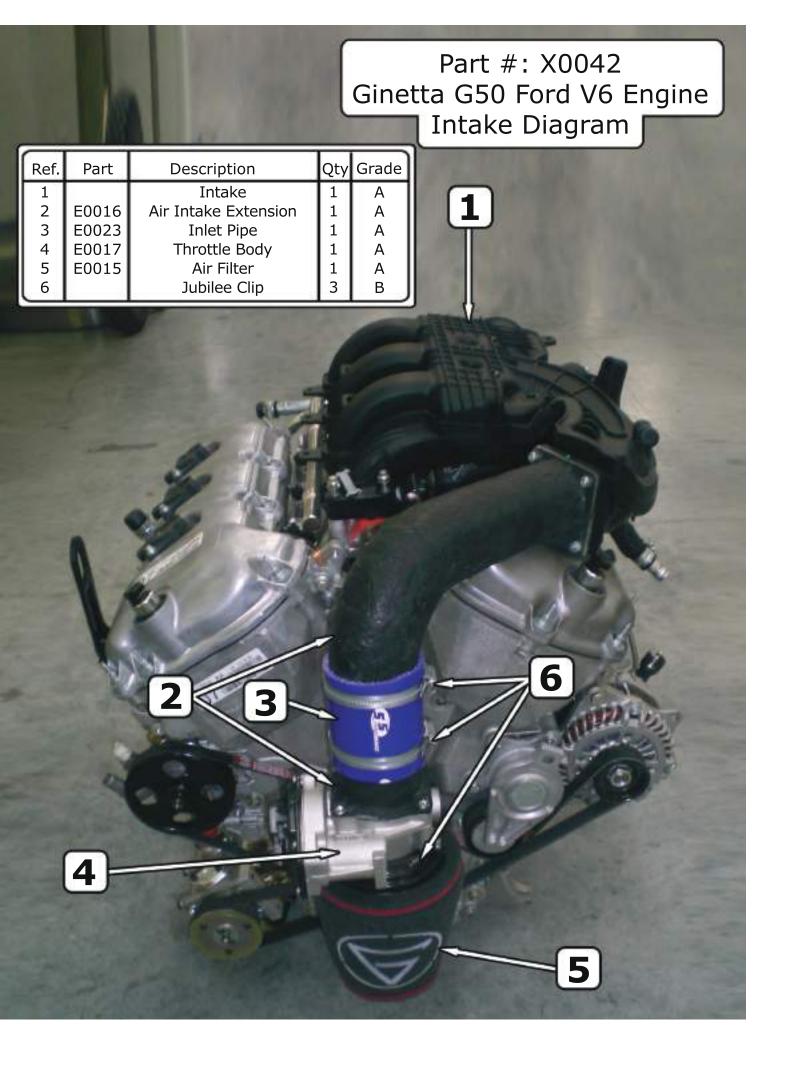
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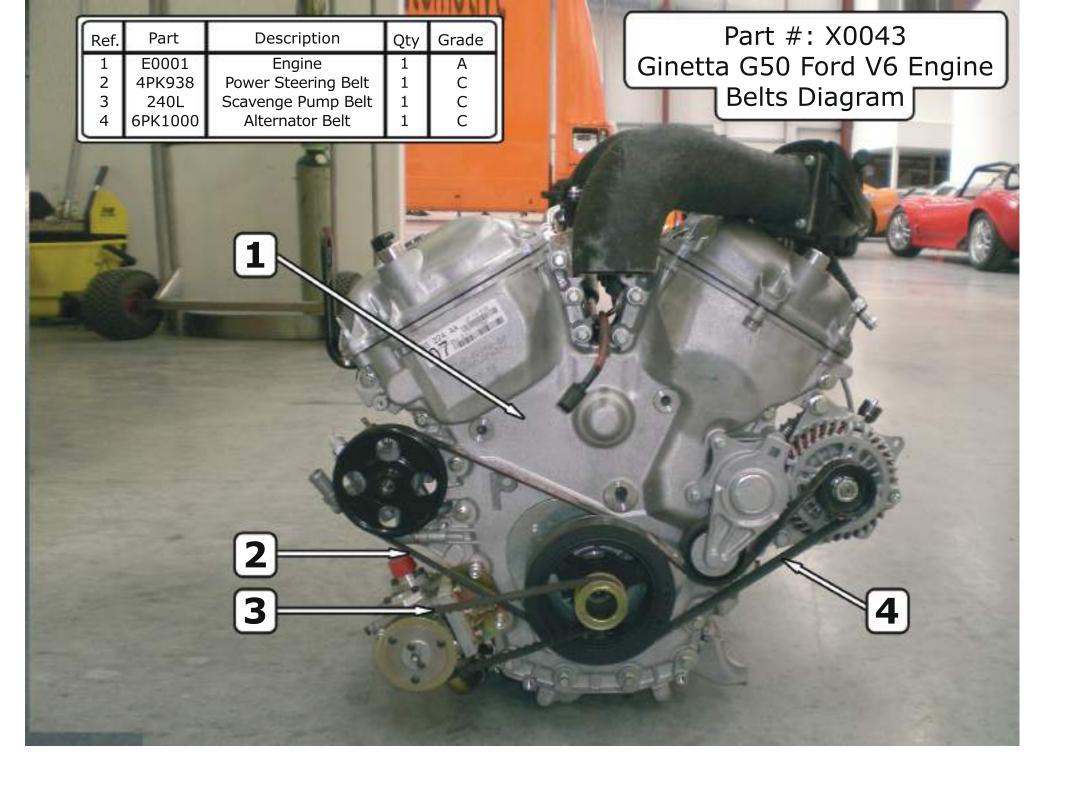
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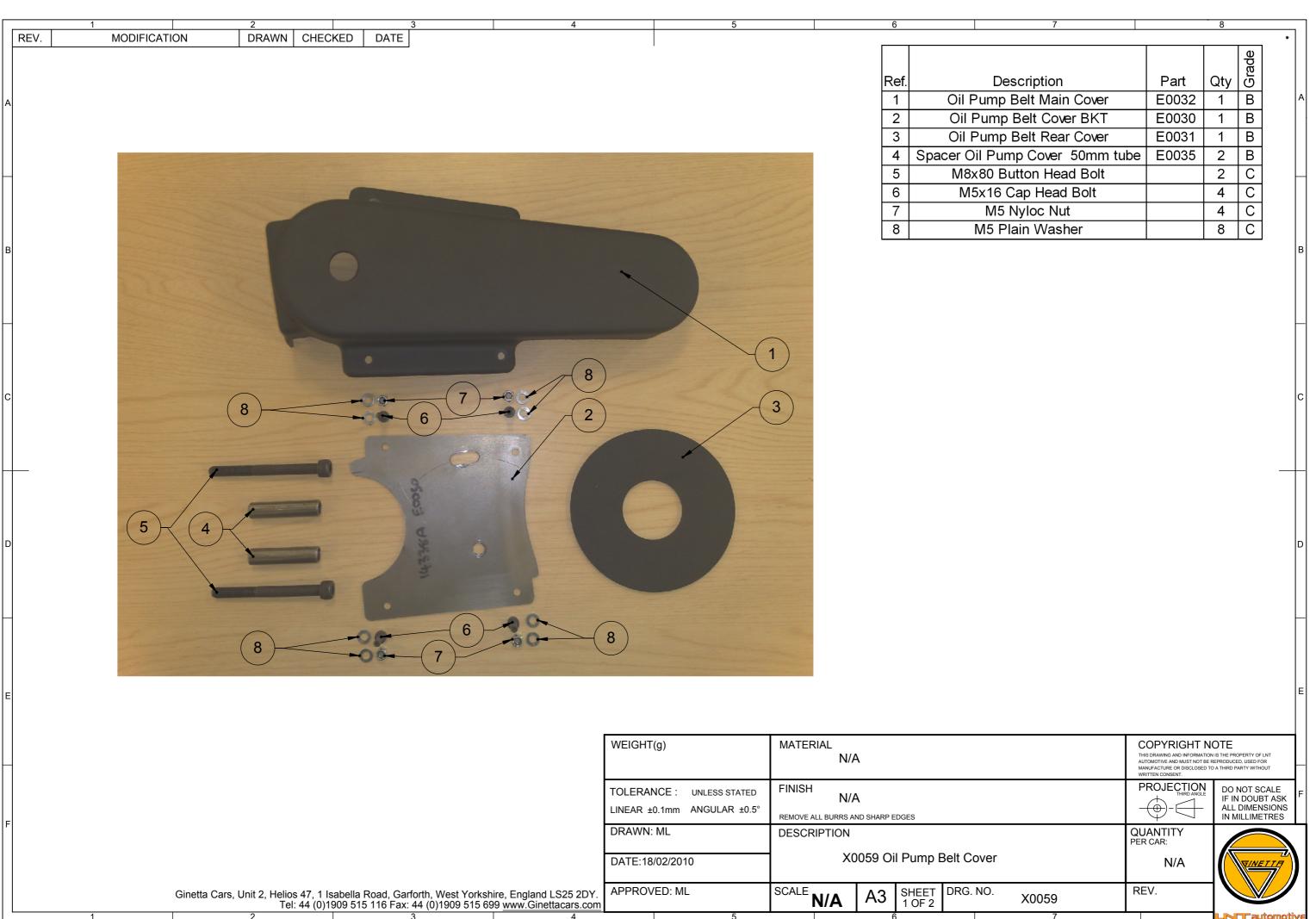












DRAWN CHECKED REV. MODIFICATION DATE



-Fit item2

- -Item 3 must be glued onto pulley
- -Tighten crank pulley to 75 ft.lb with loctite 243





- Fit retaining ring to the pump pulley



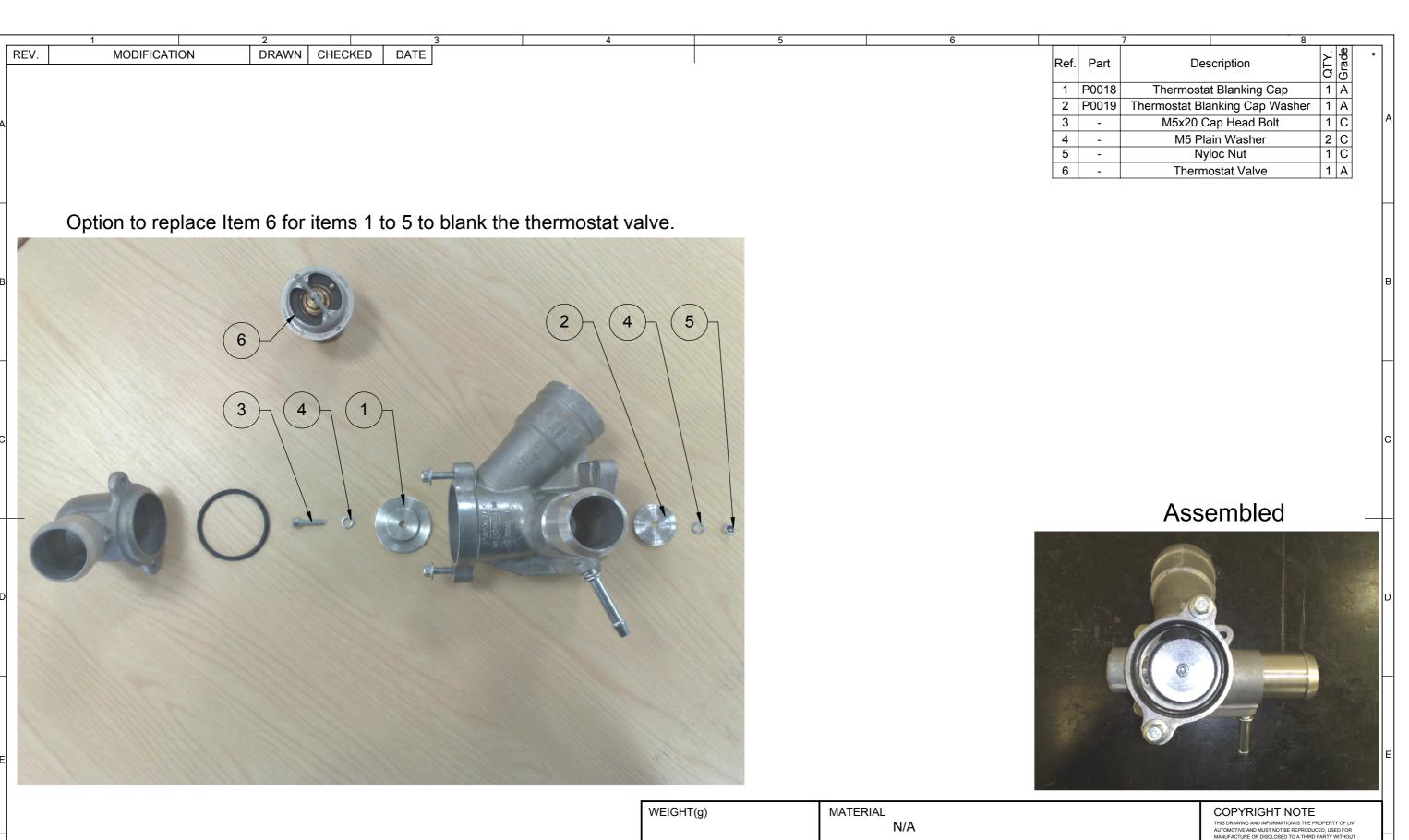
- Fit item 1

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	WEIGHT(g)	MATERIAL N/A				COPYRIGHT NOTE THIS DRAWING AND INFORMATION IS THE PROPERTY OF LNT AUTOMOTIVE AND MUST NOT BE REPRODUCED, USED FOR MANUFACTURE OR DISCLOSED TO A THIRD PARTY WITHOUT WRITTEN CONSENT.		
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	DRAWN: ML DATE:18/02/2010	DESCRIPTION X0059 Oil Pump Belt Cover				QUANTITY PER CAR: N/A	WINEITH 1	
Y. om	APPROVED: ML	SCALE N/A A3 SHEET DRG. NO			X0059	REV.		
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Ginetta Cars, Unit 2, Helios 47, 1 Isabella Road, Garforth, West Yorkshire, England LS25 2DY.

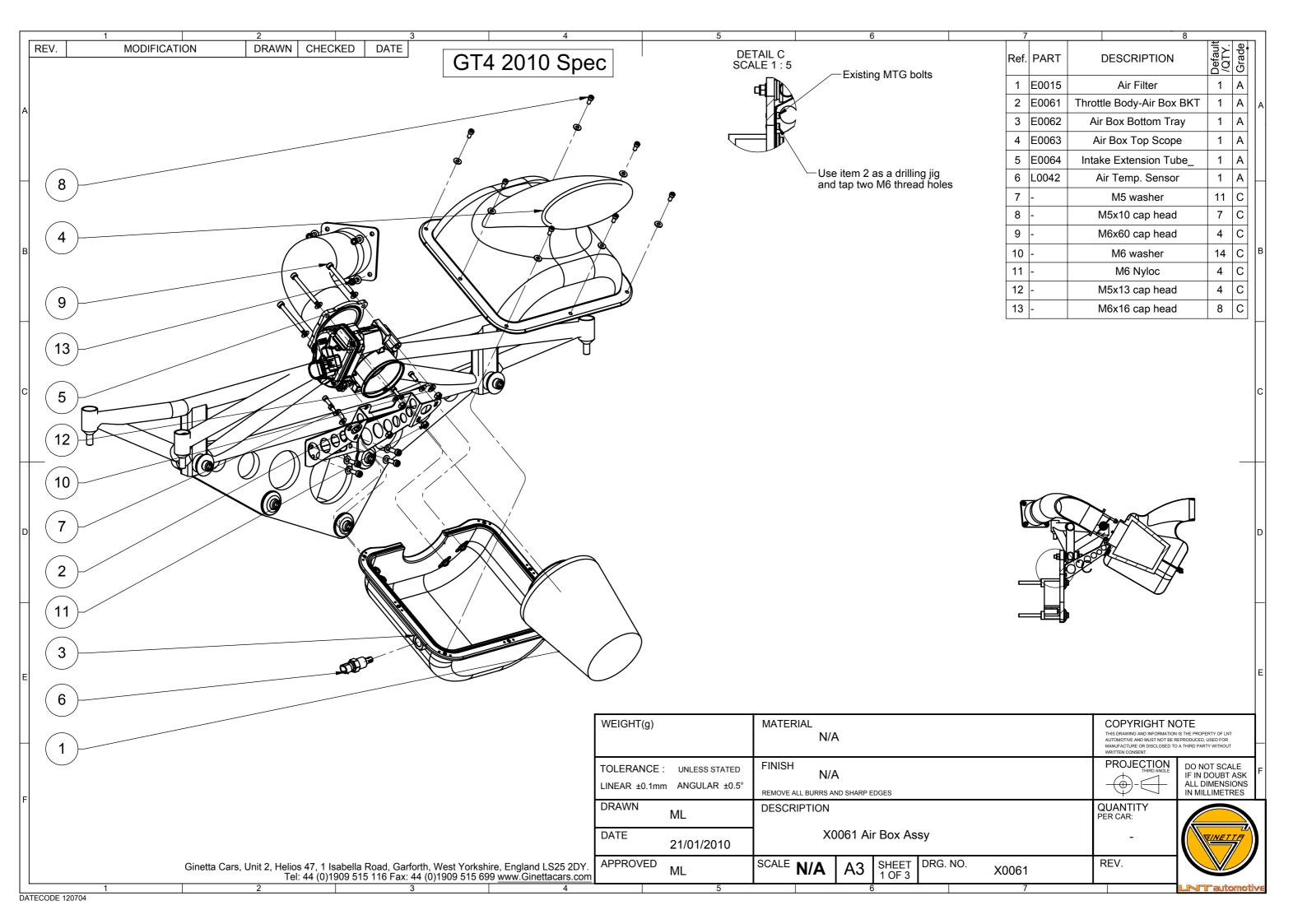
Tel: 44 (0)1909 515 116 Fax: 44 (0)1909 515 699 www.Ginettacars.com

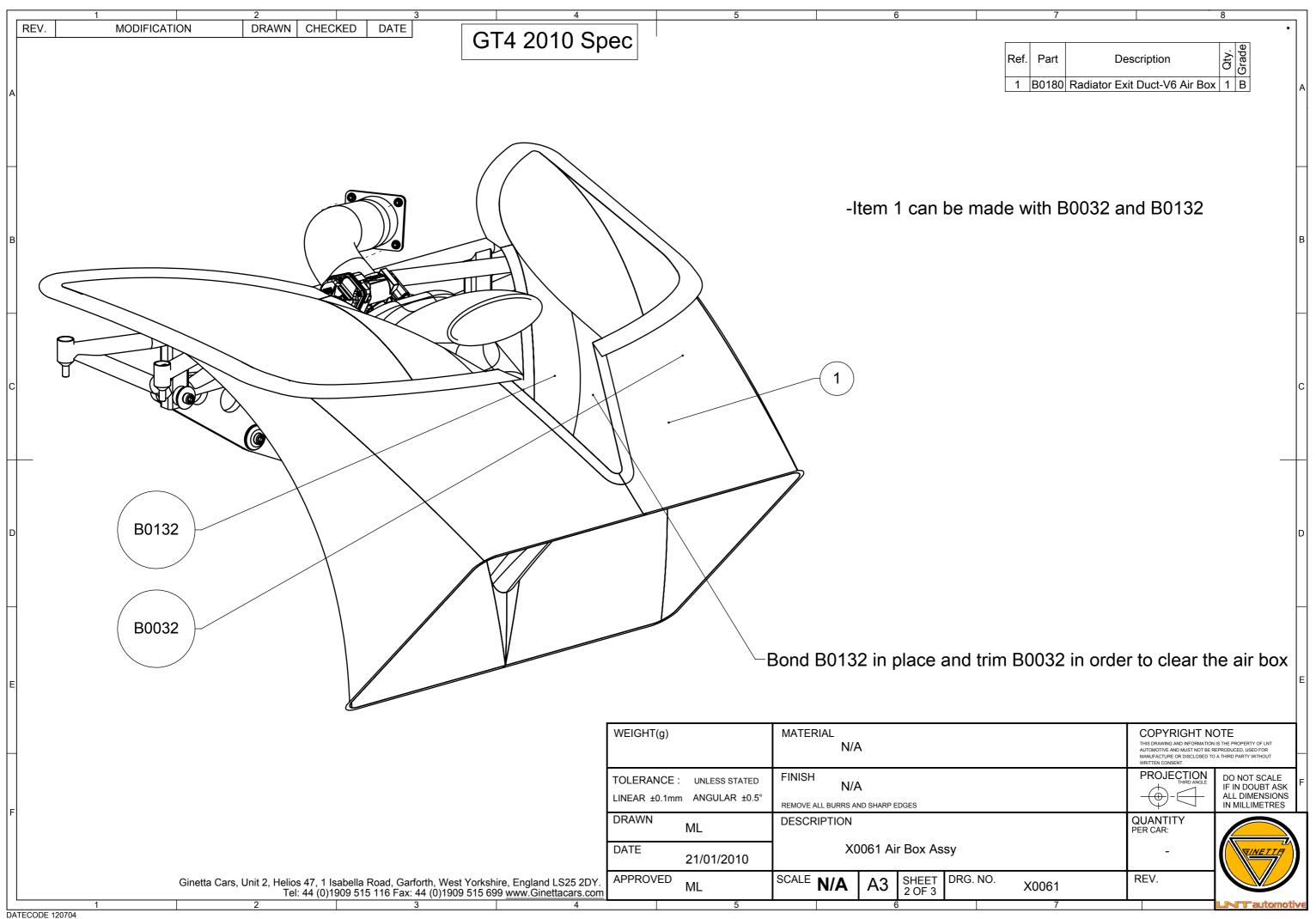
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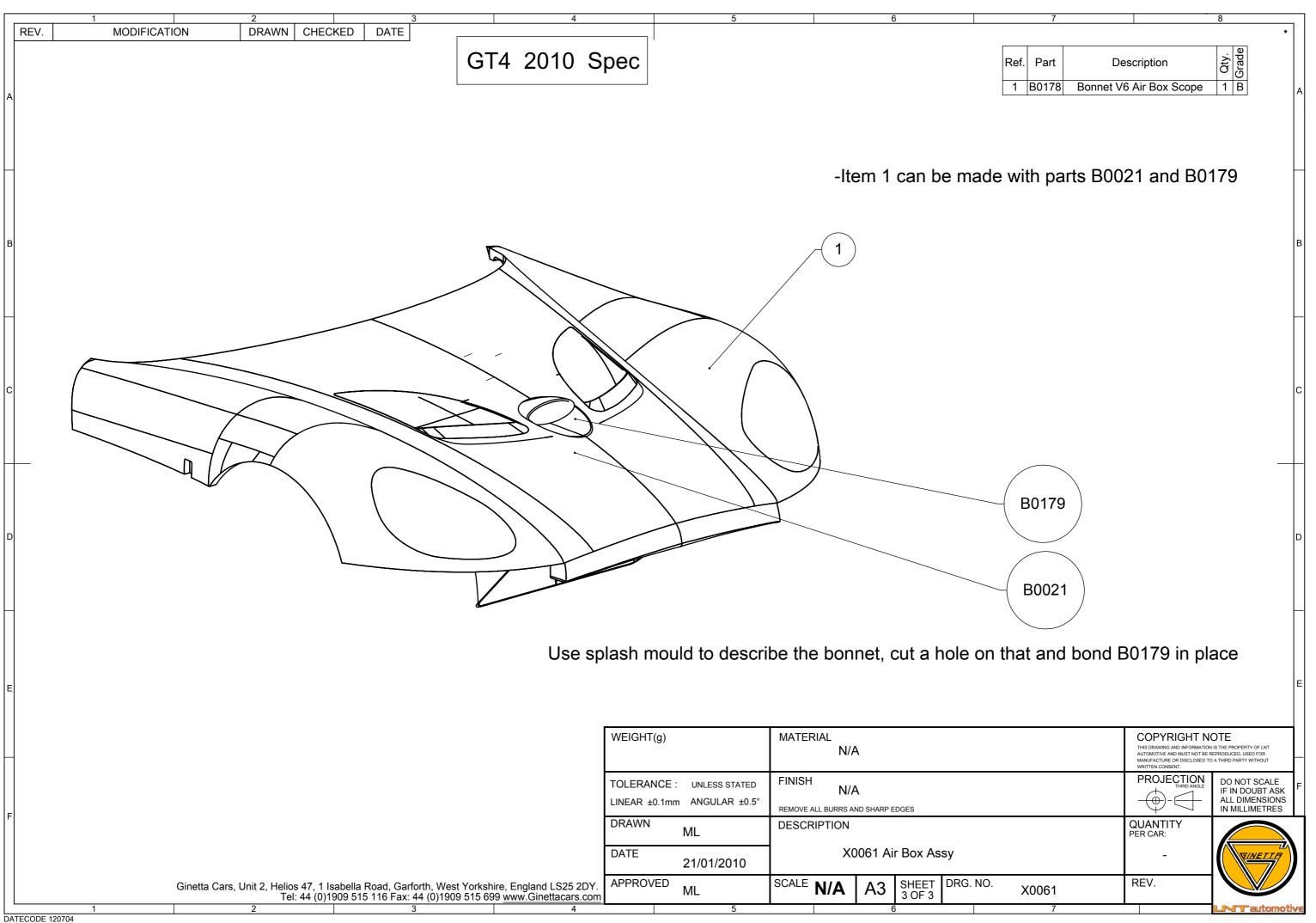


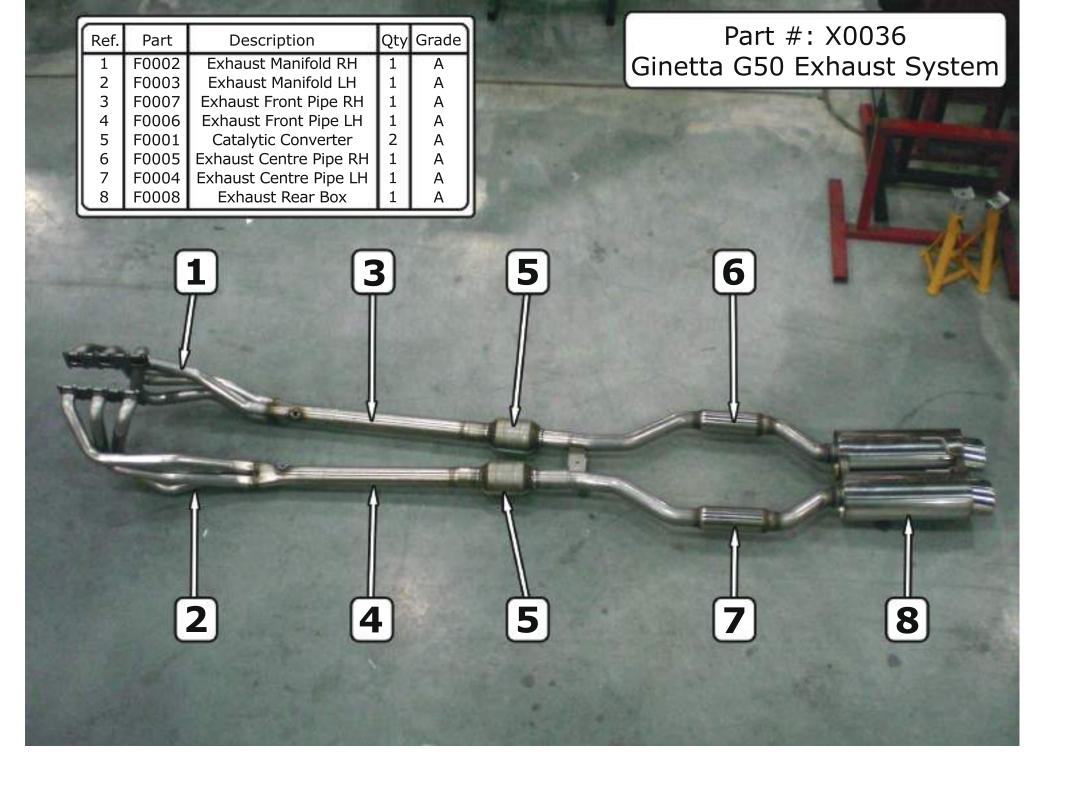
DO NOT SCALE
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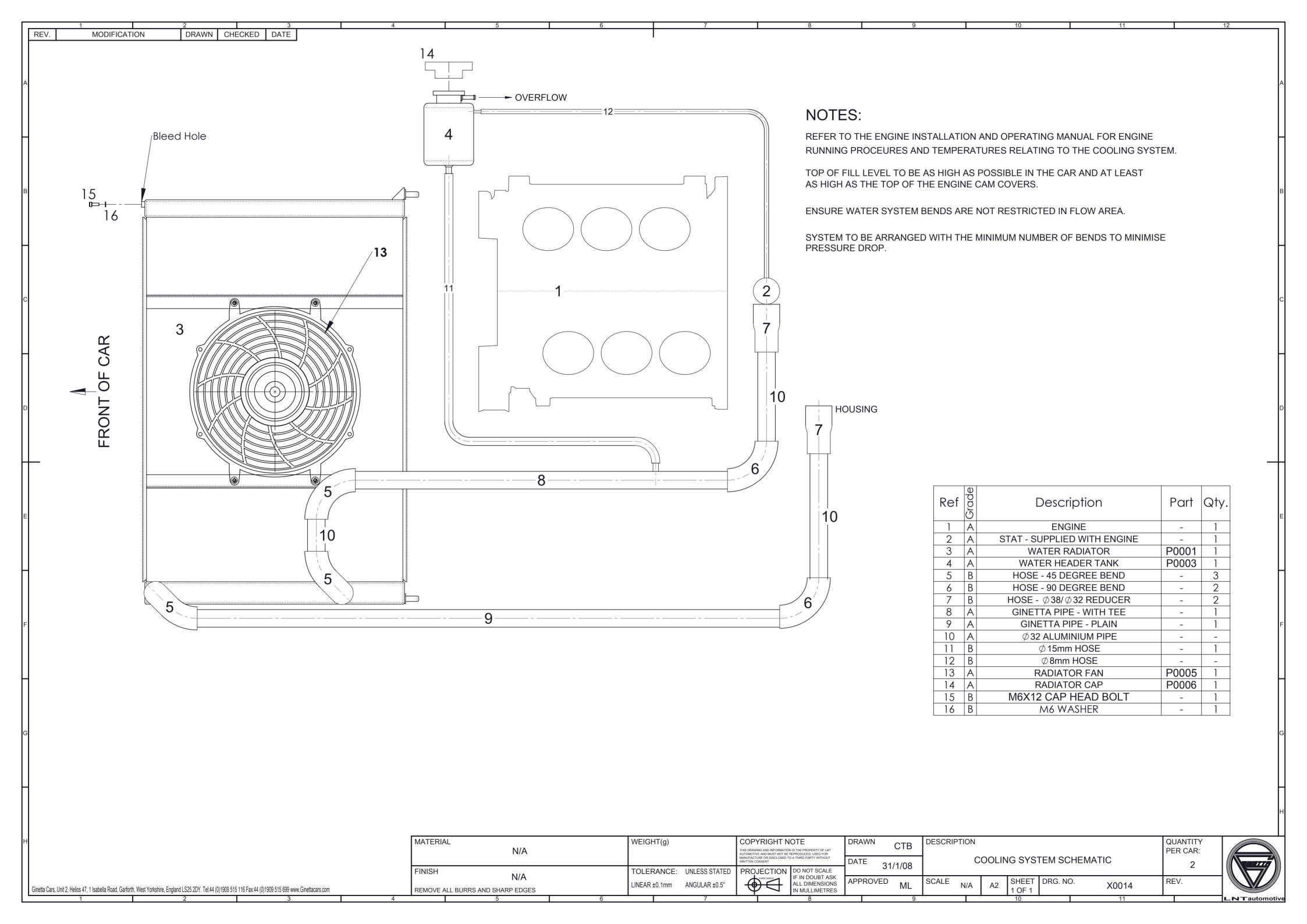
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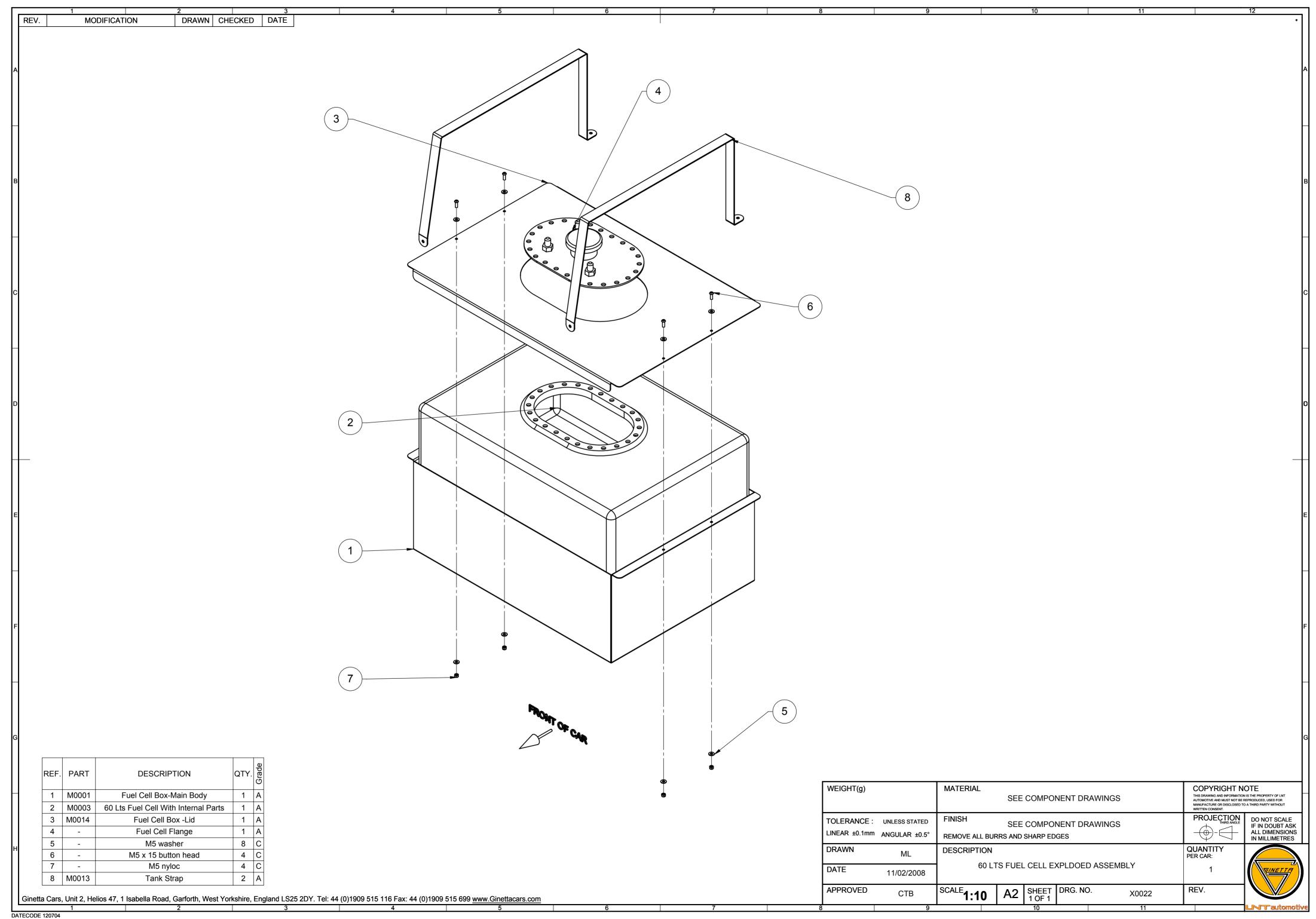


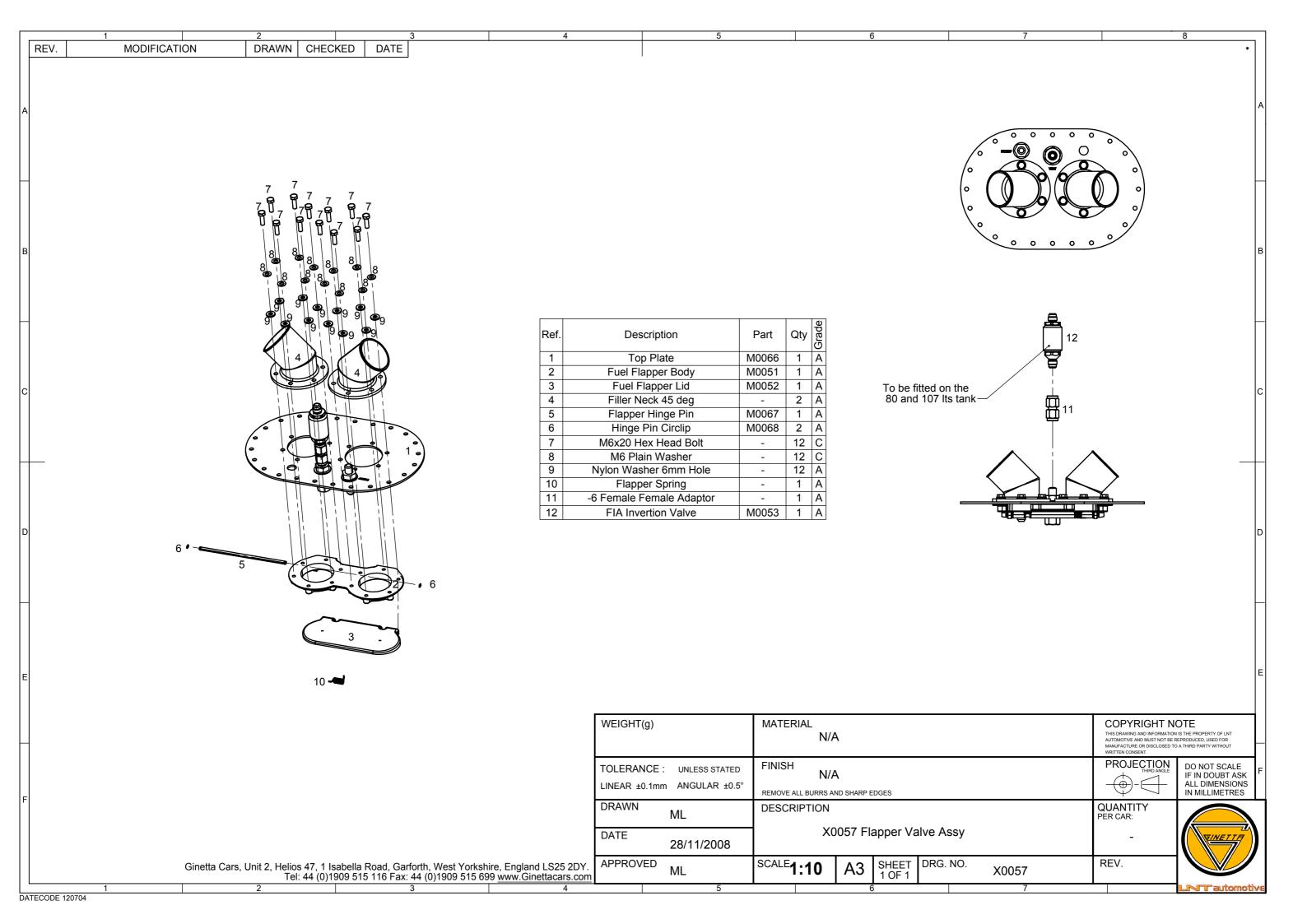


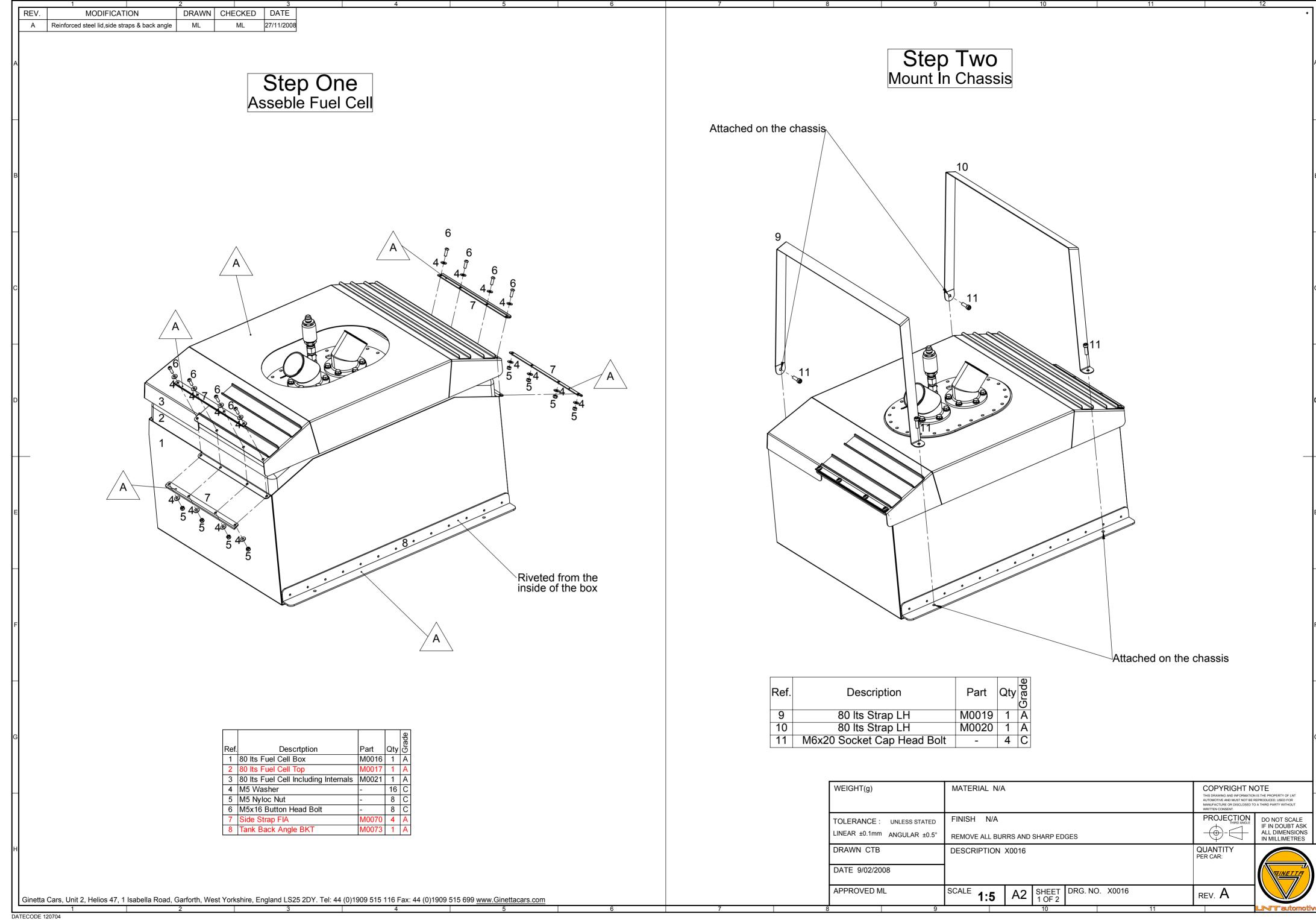


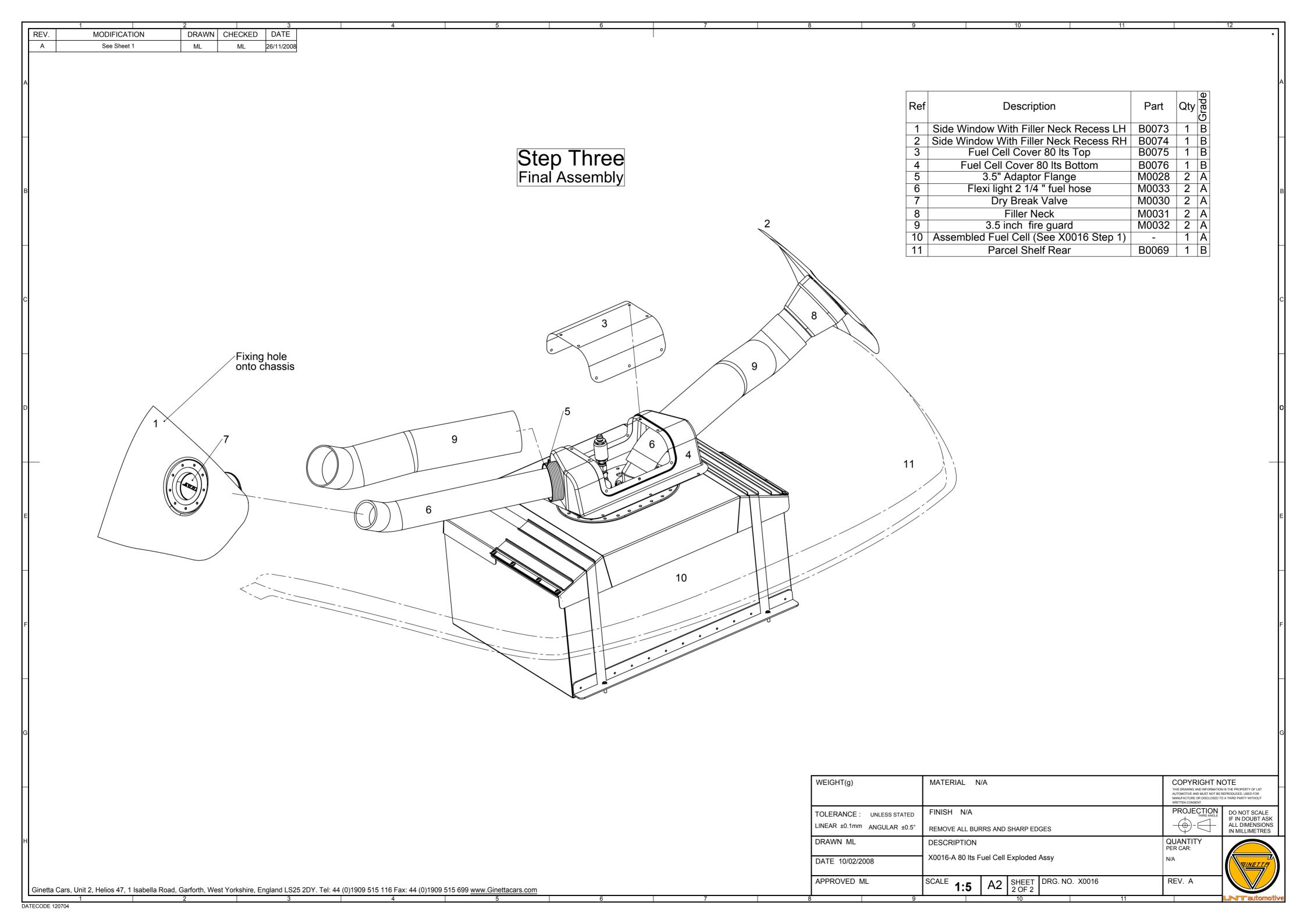


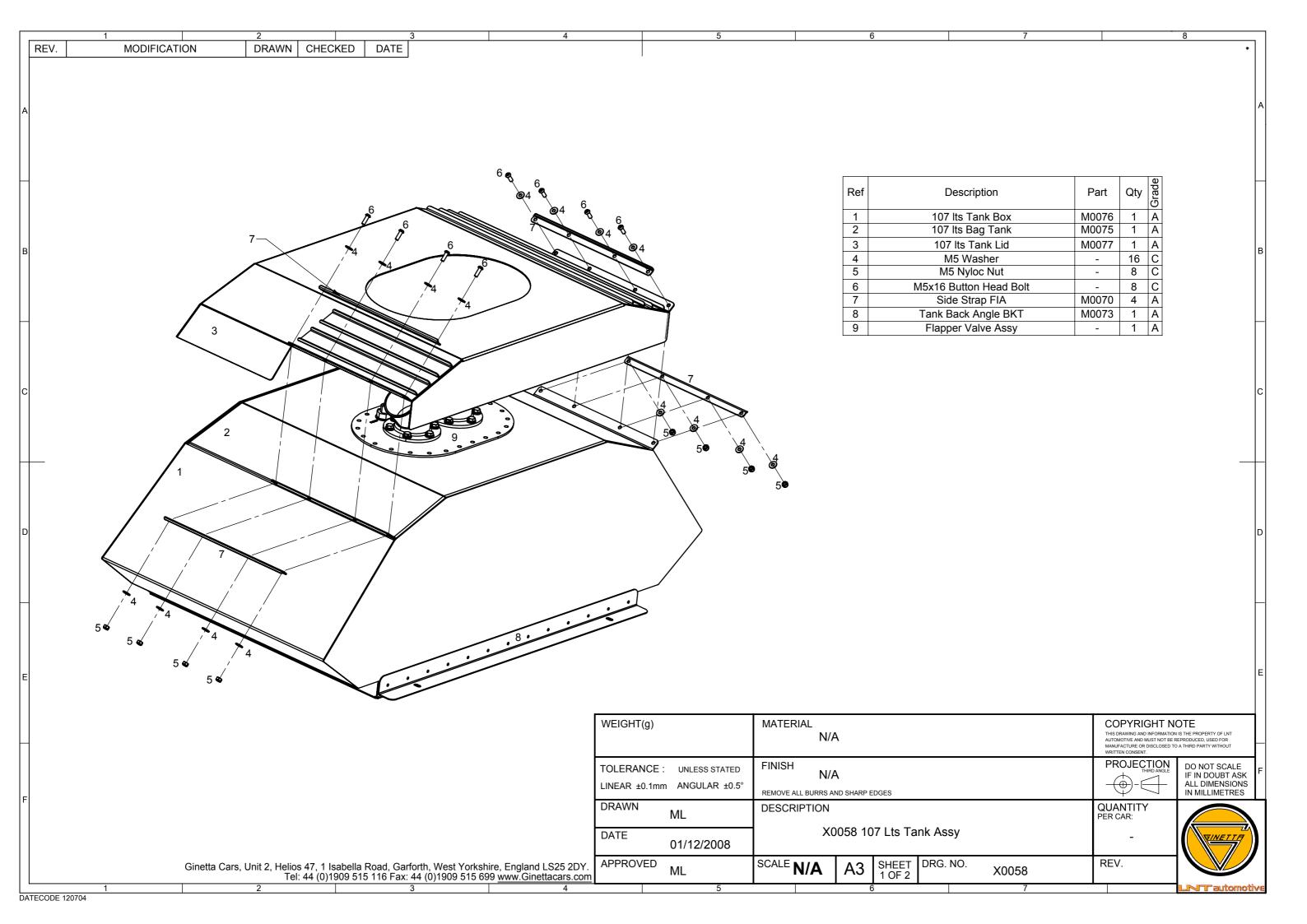


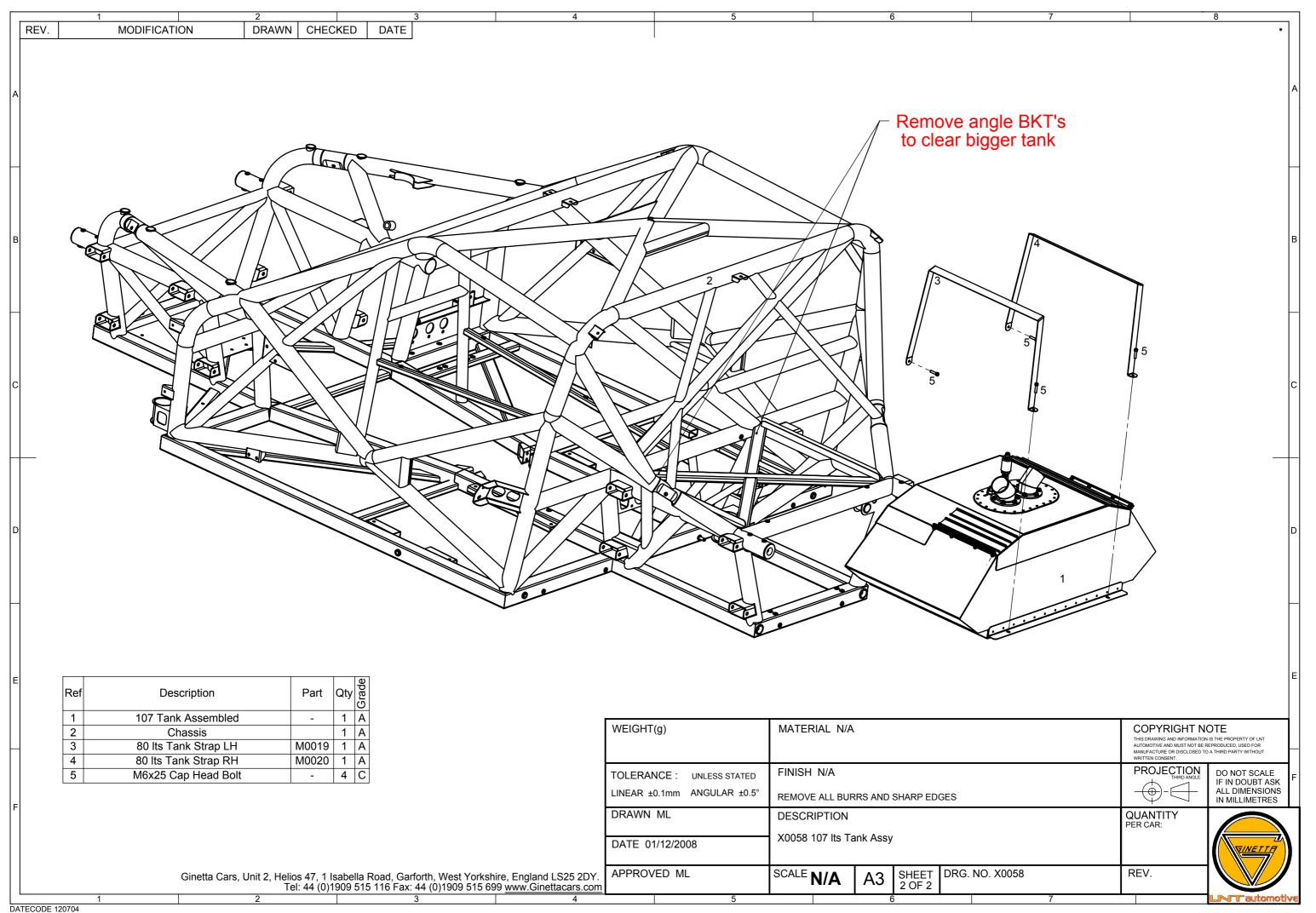


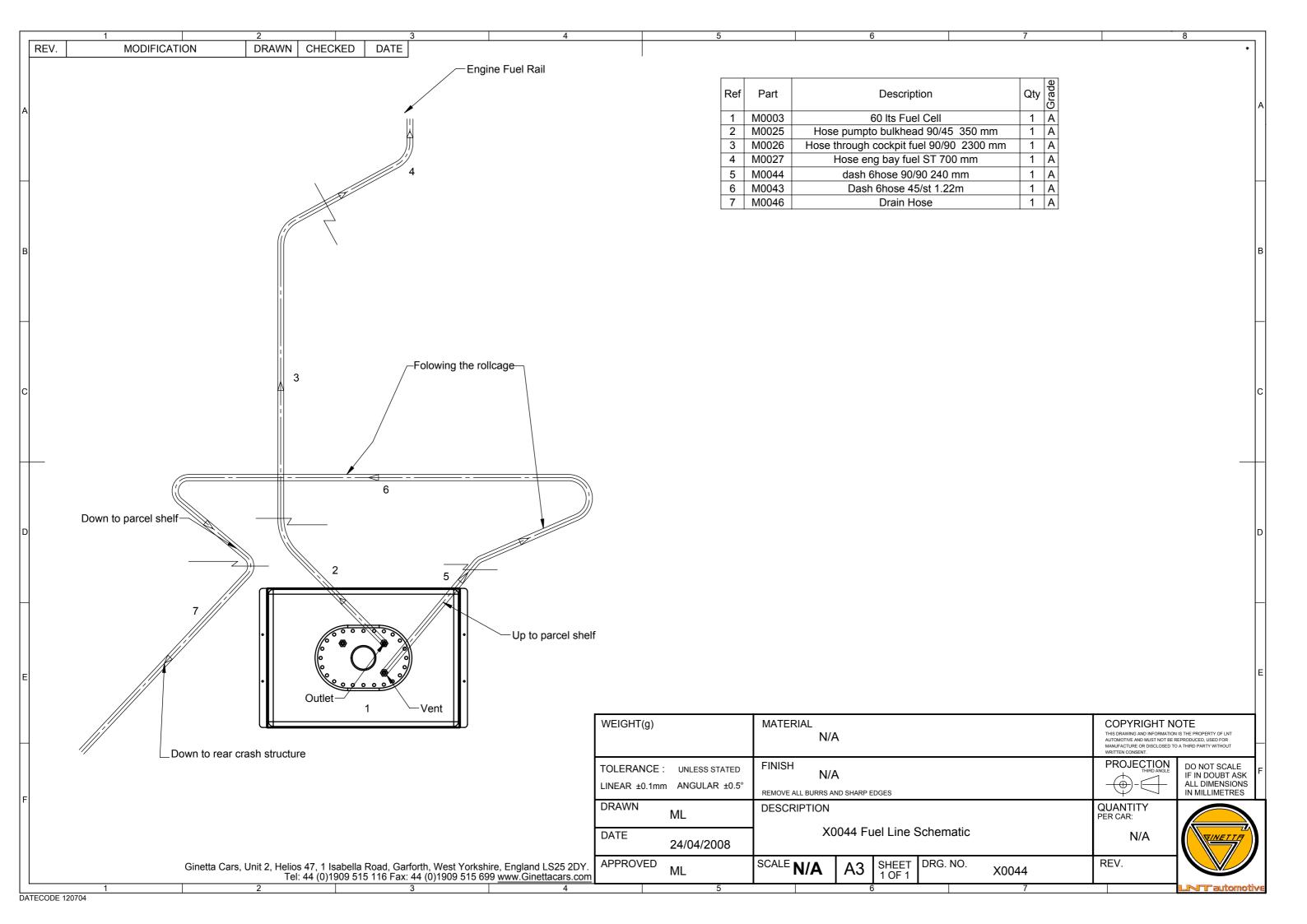


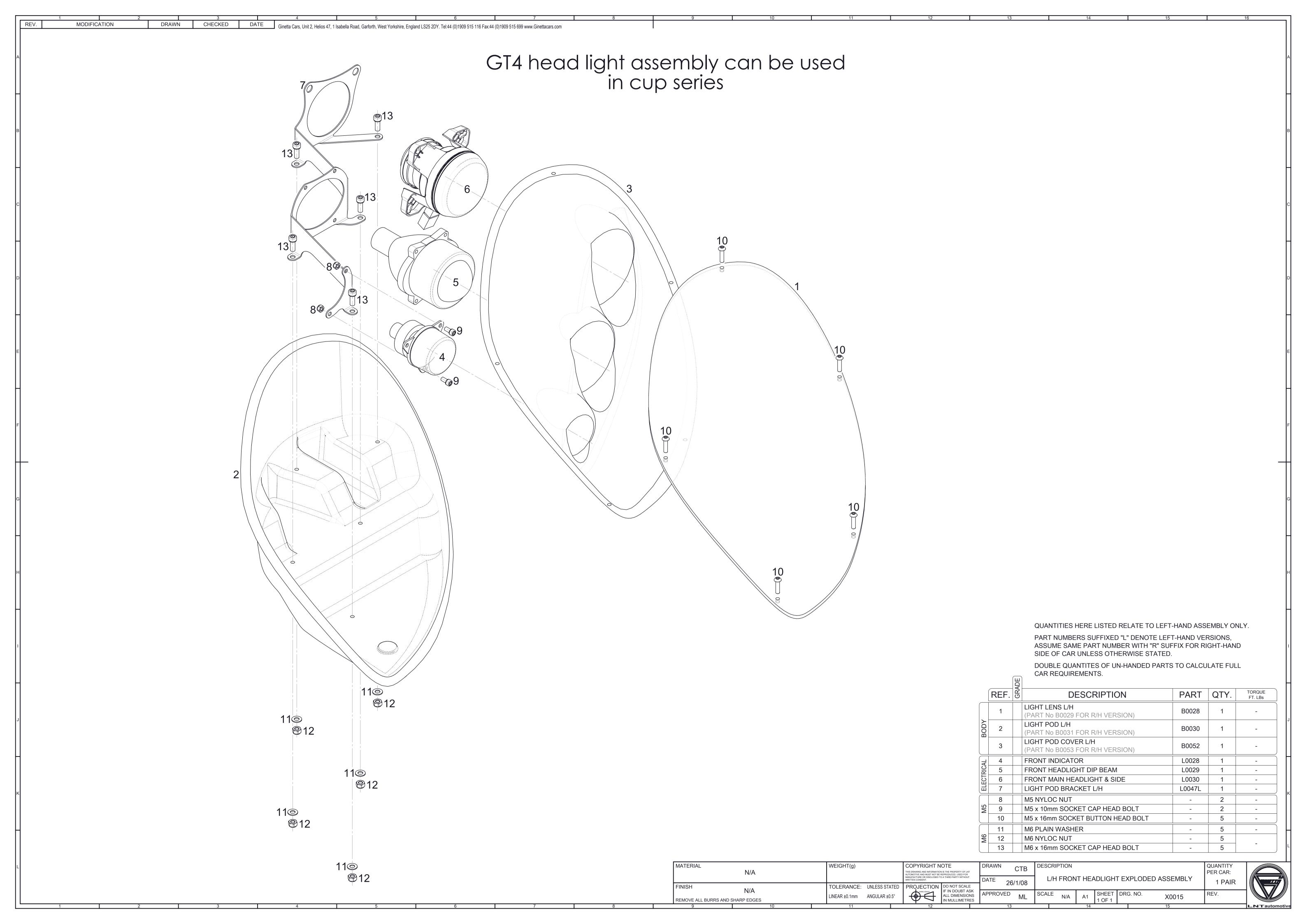


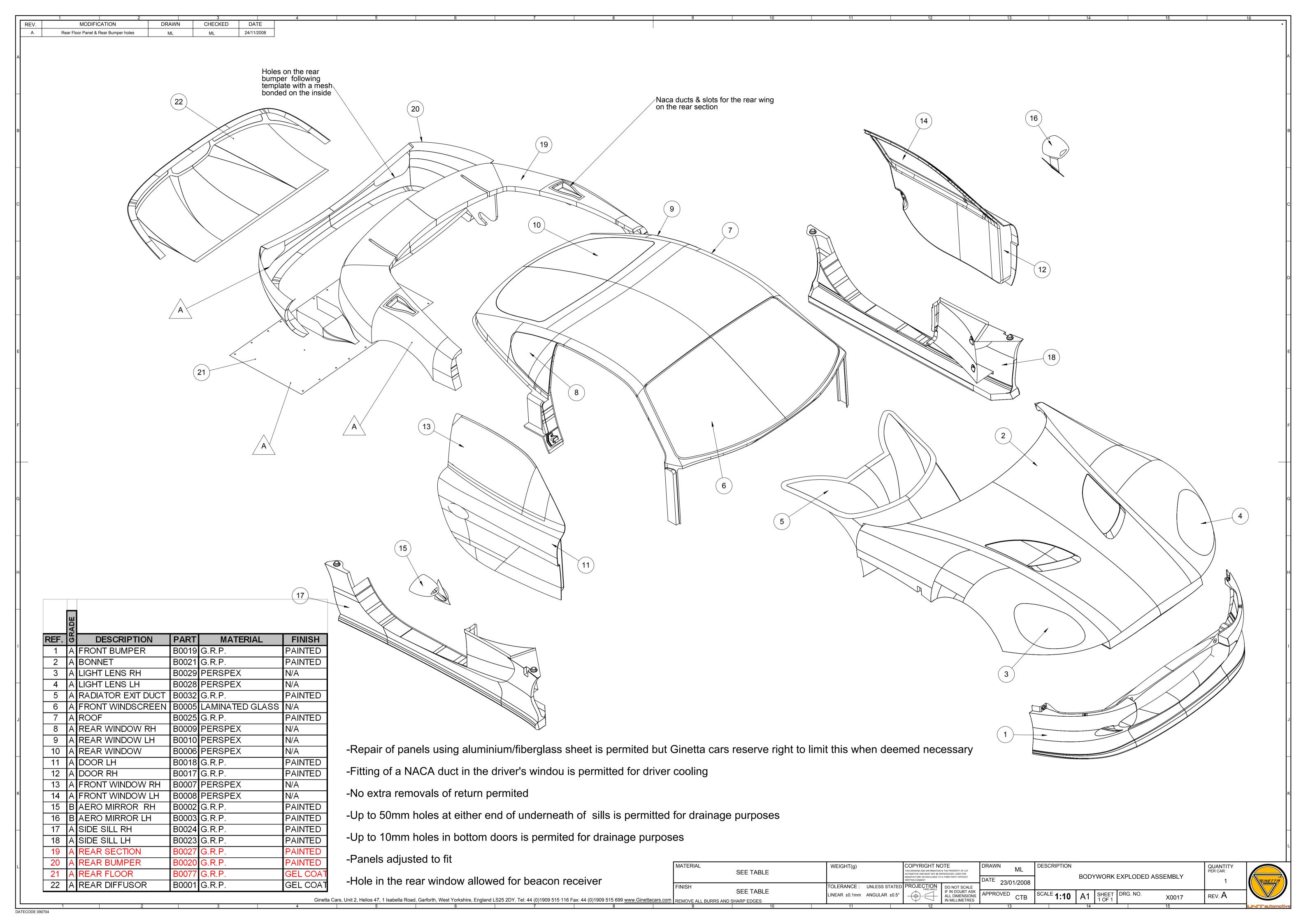


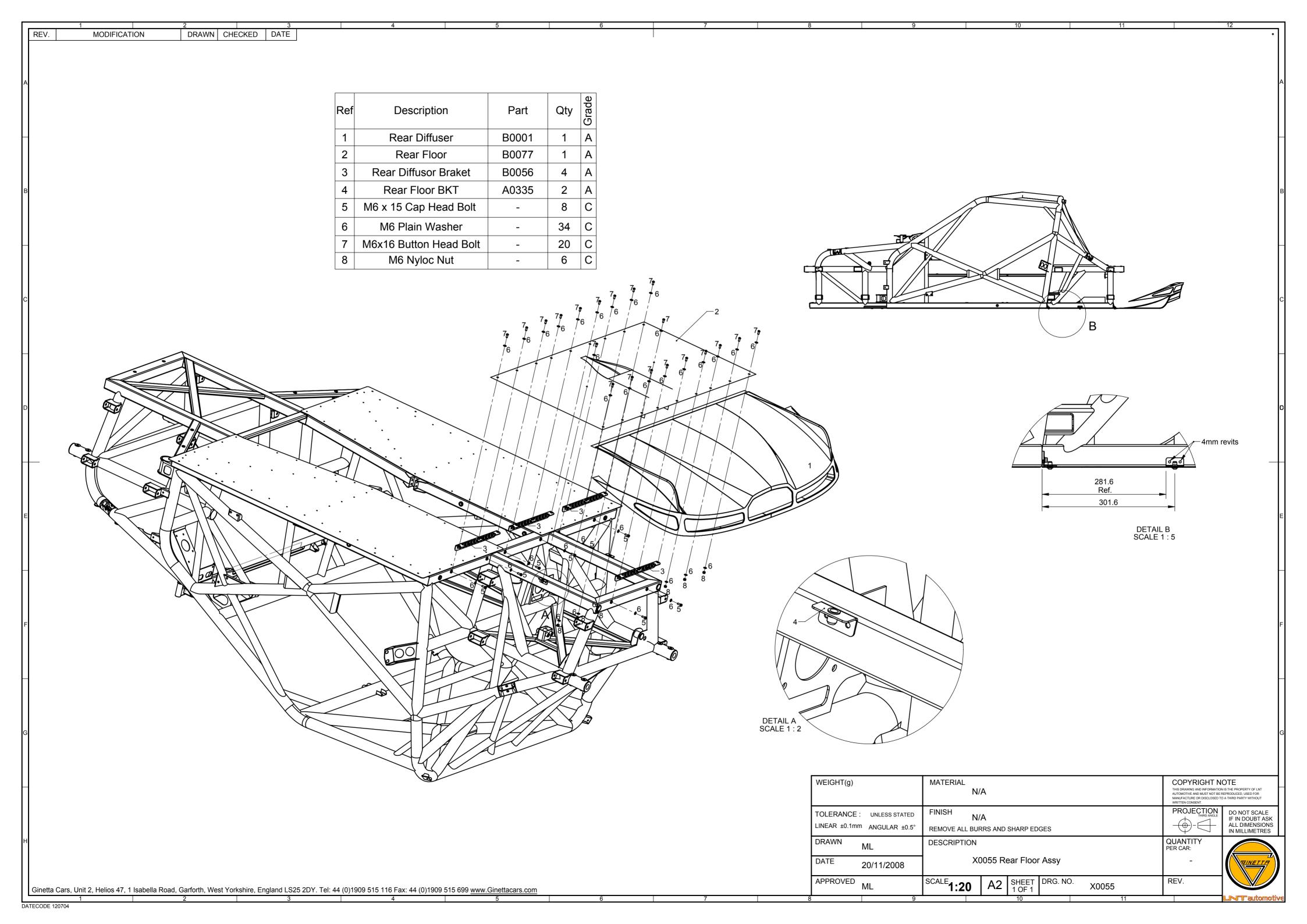


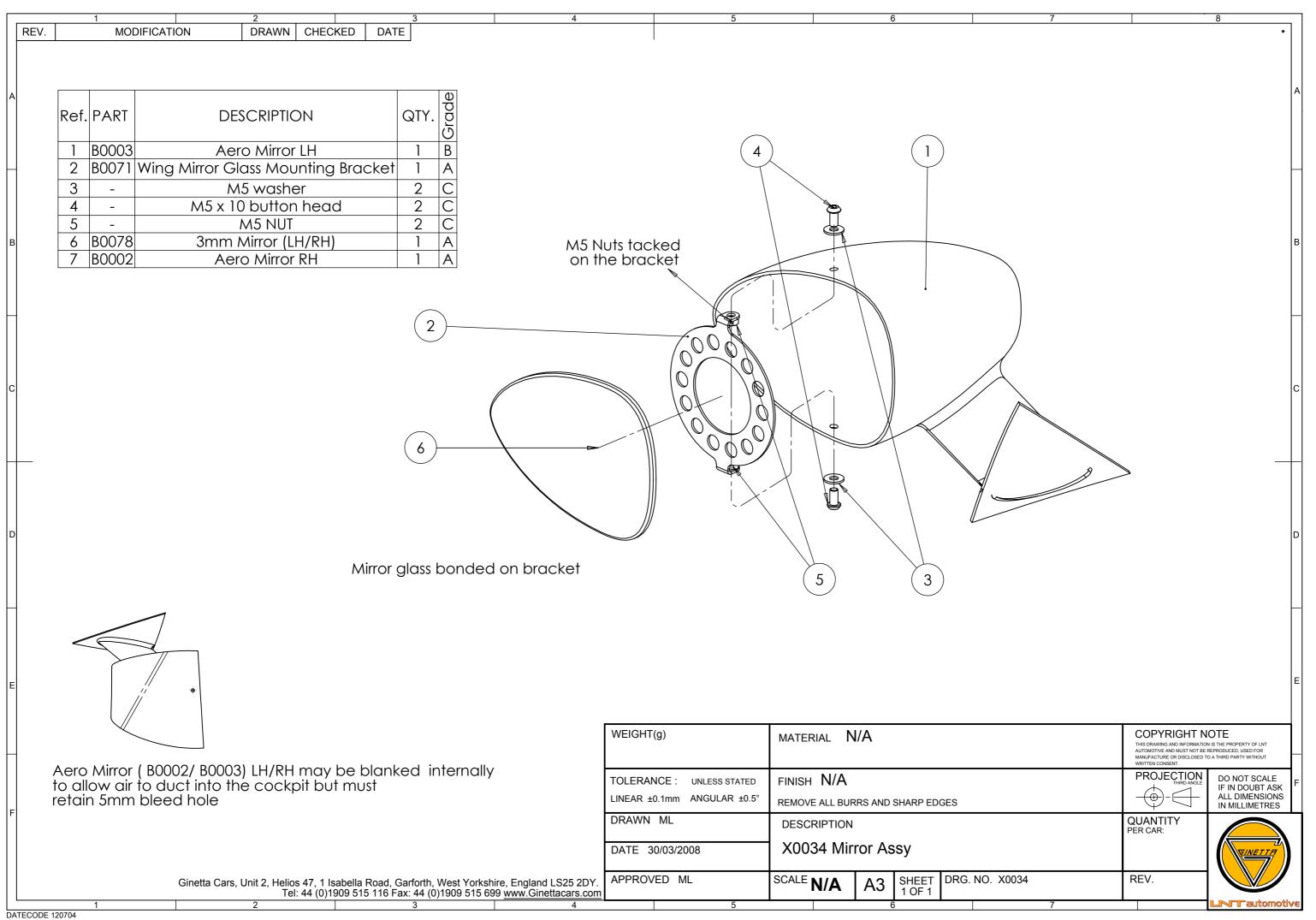


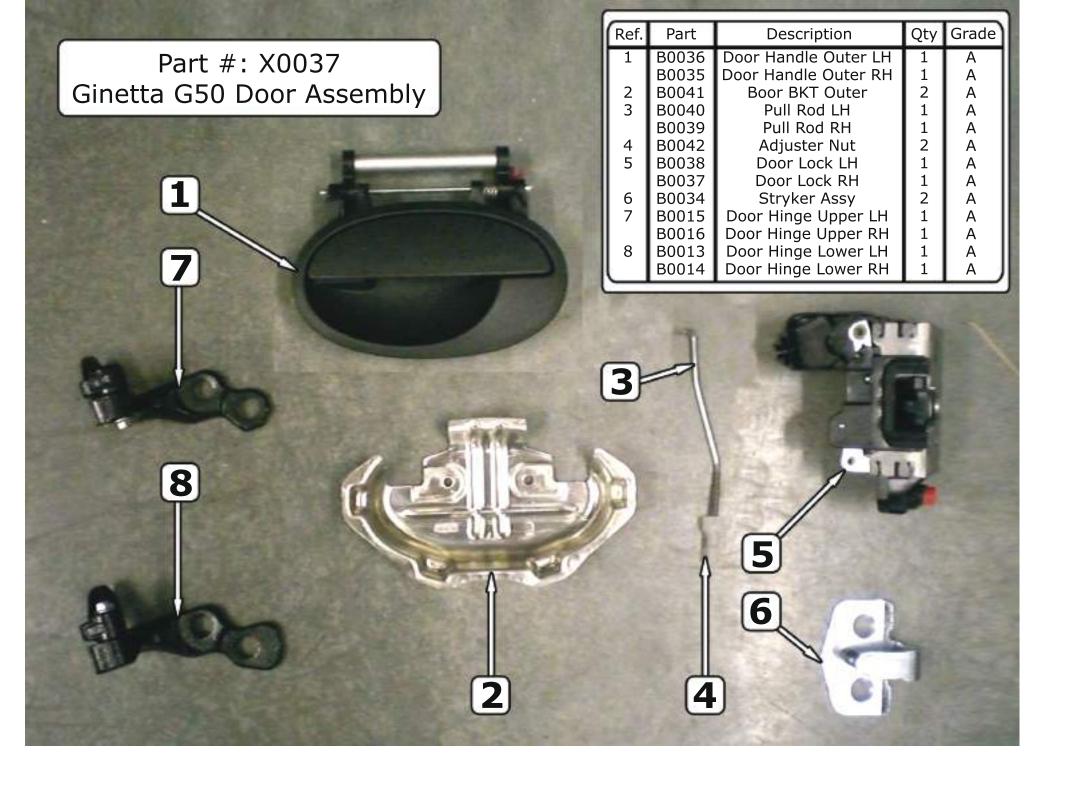


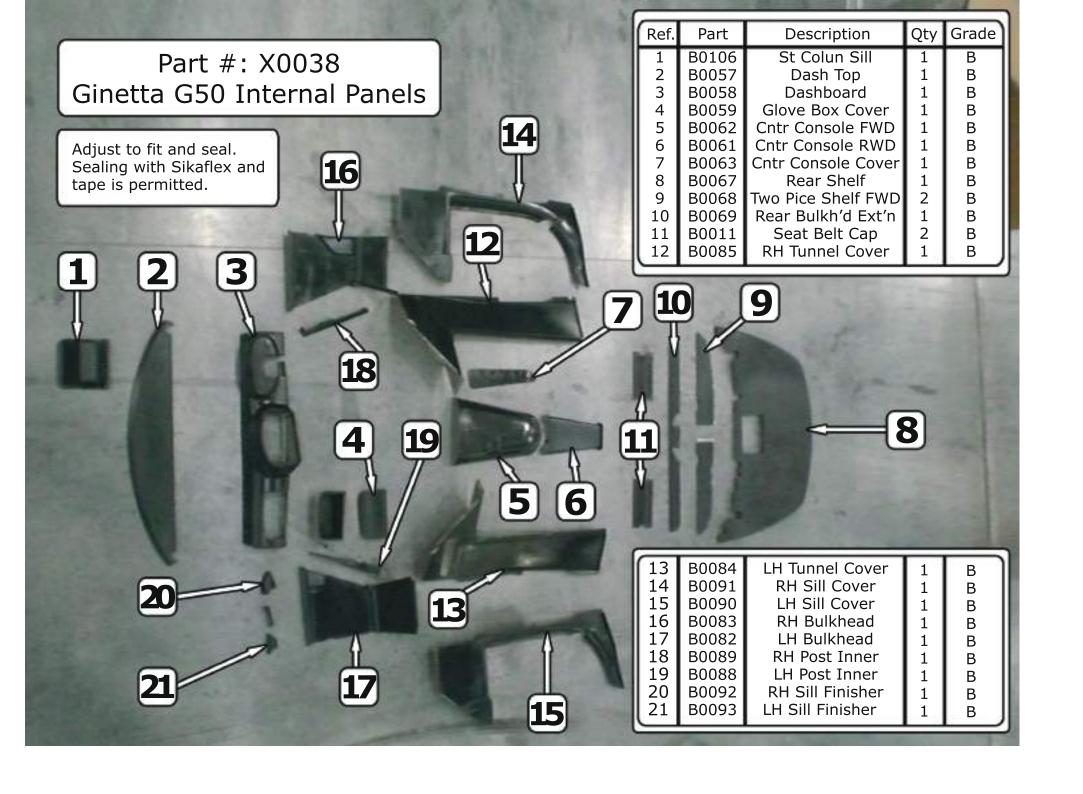


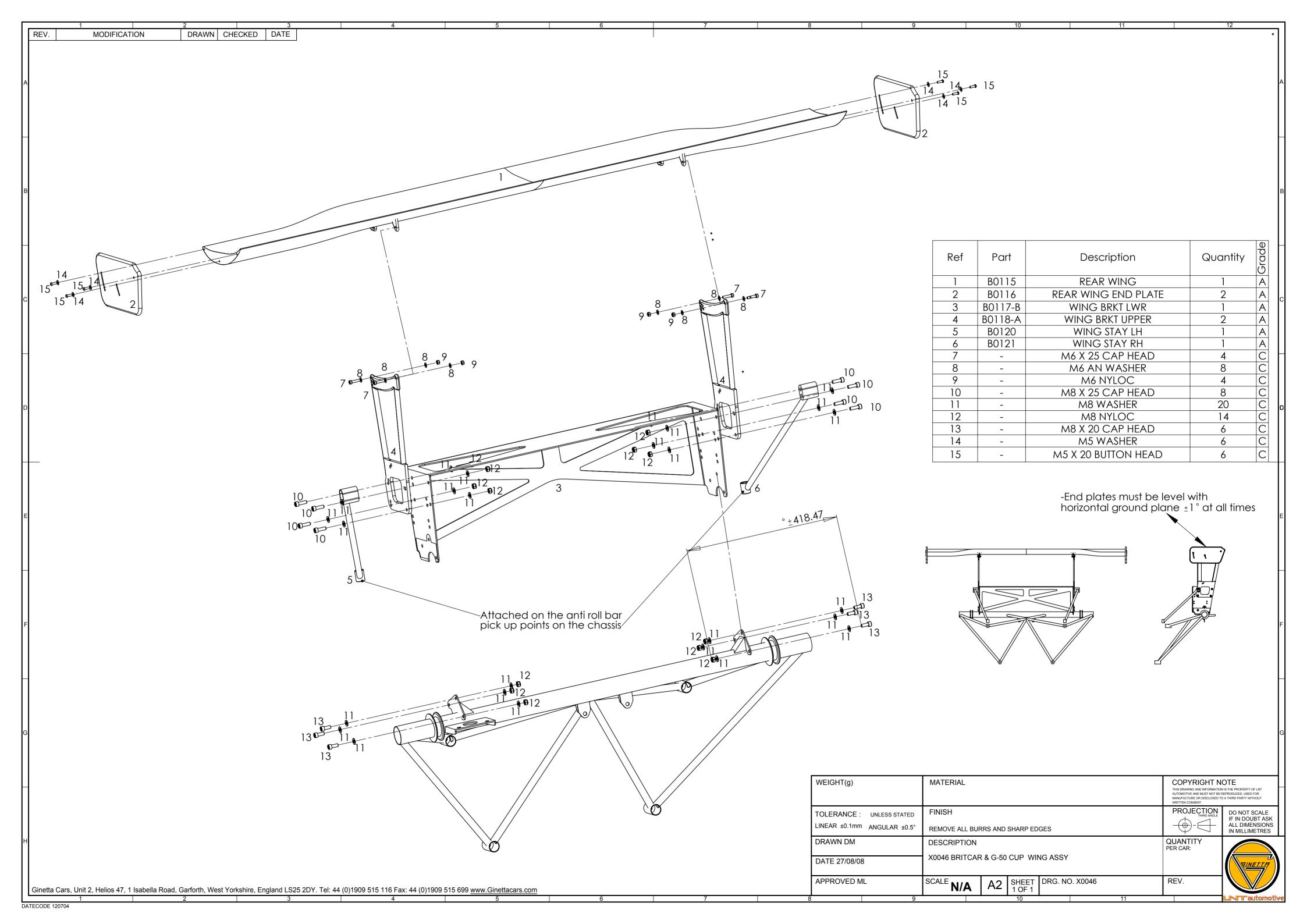


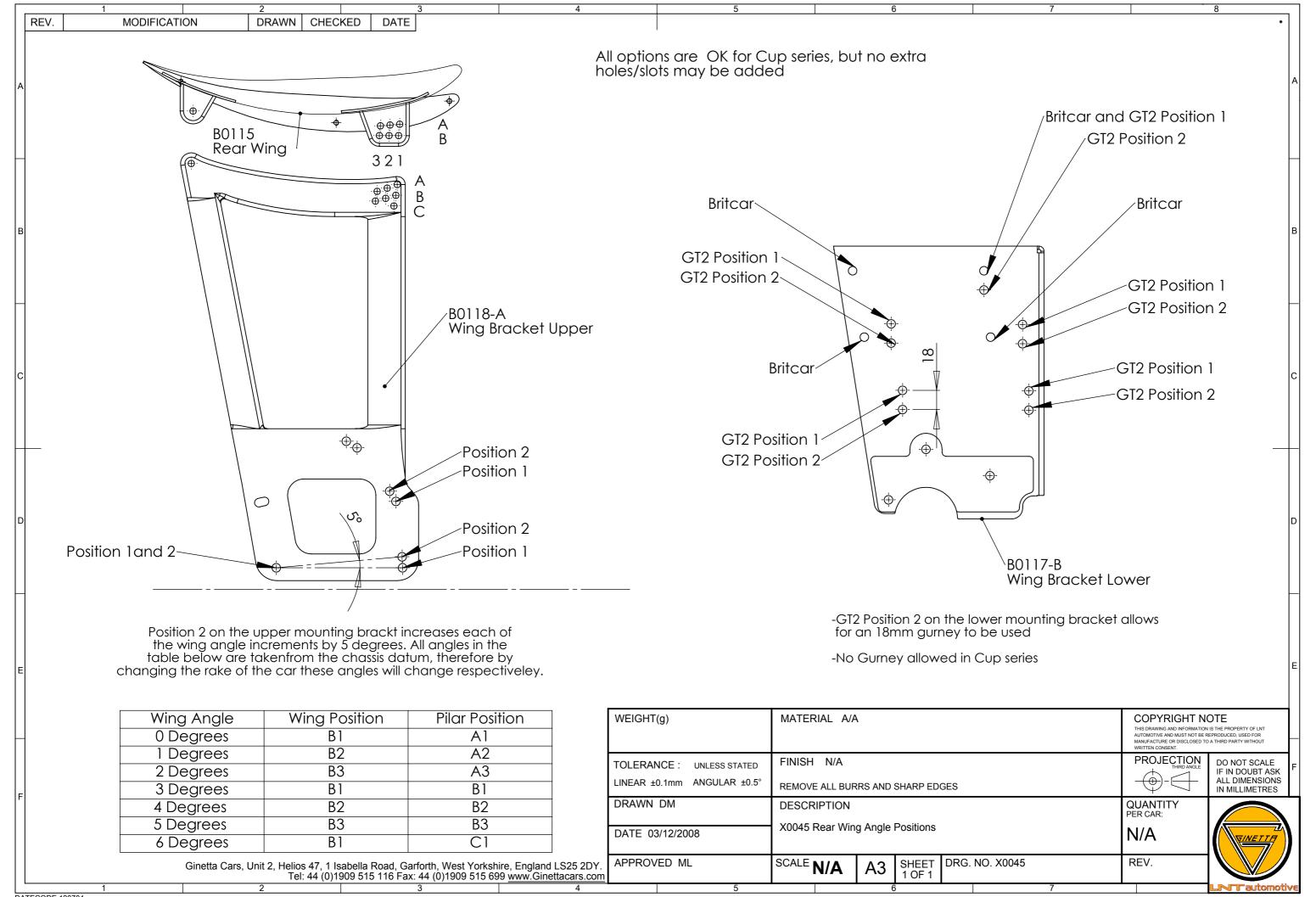


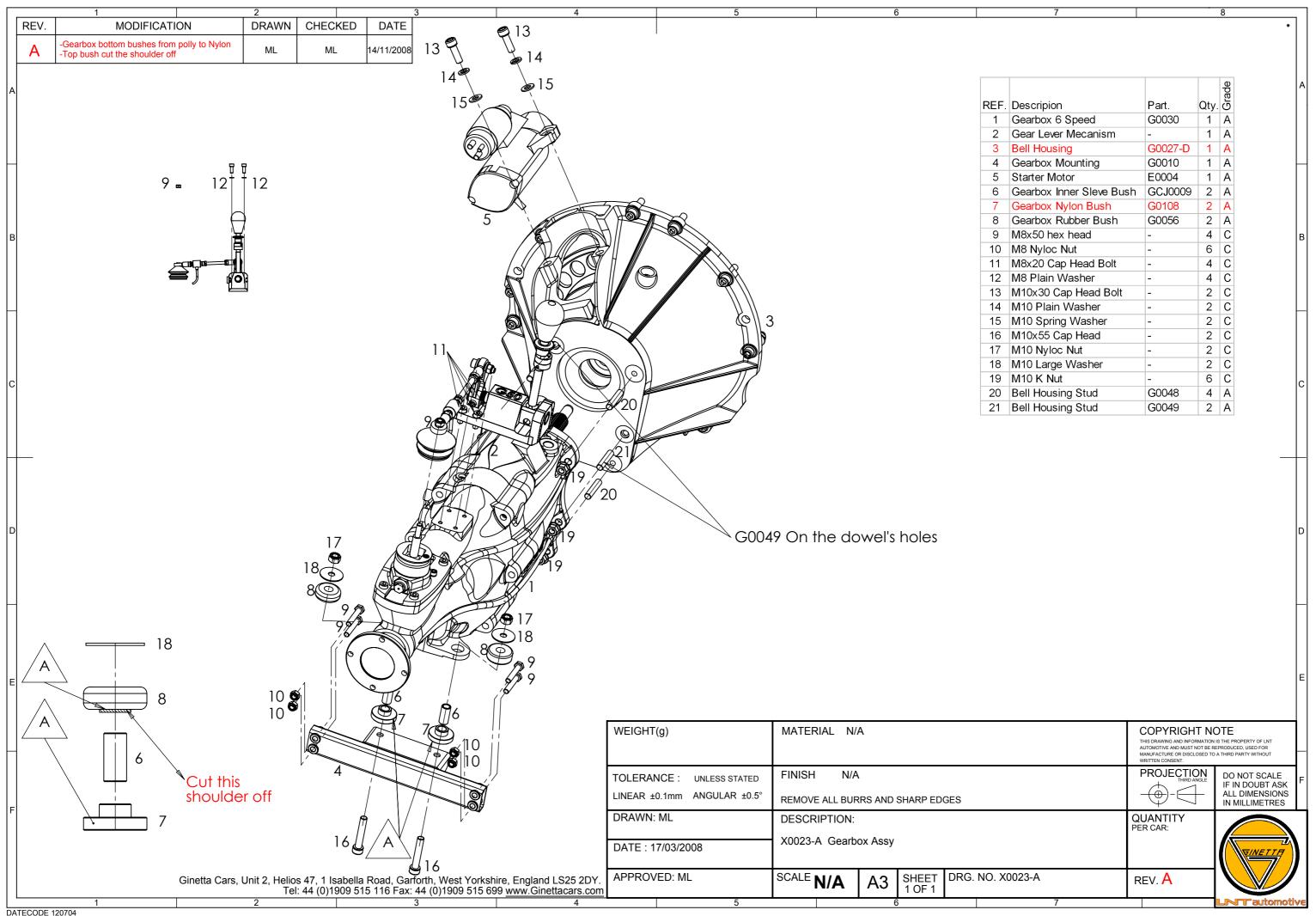


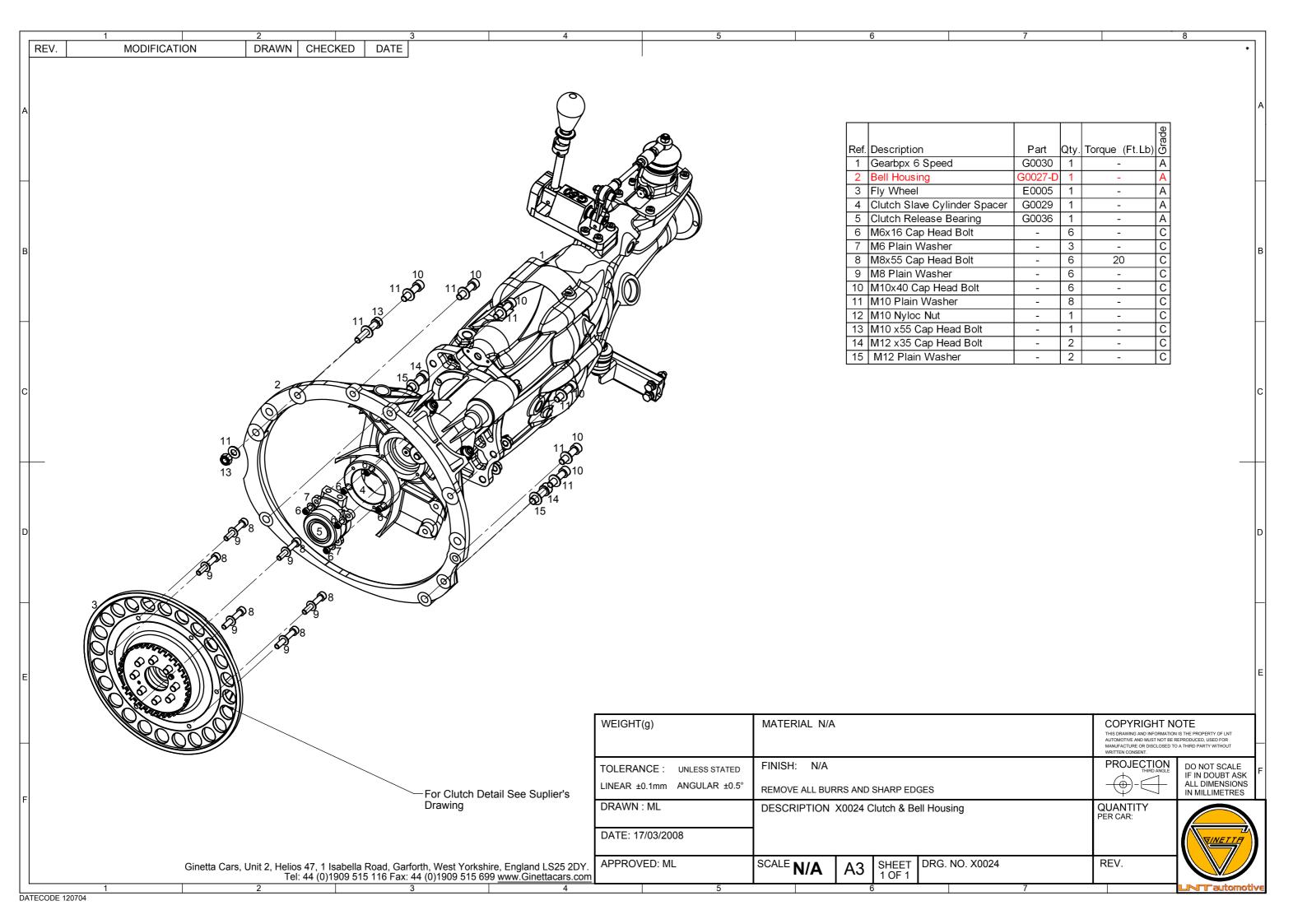


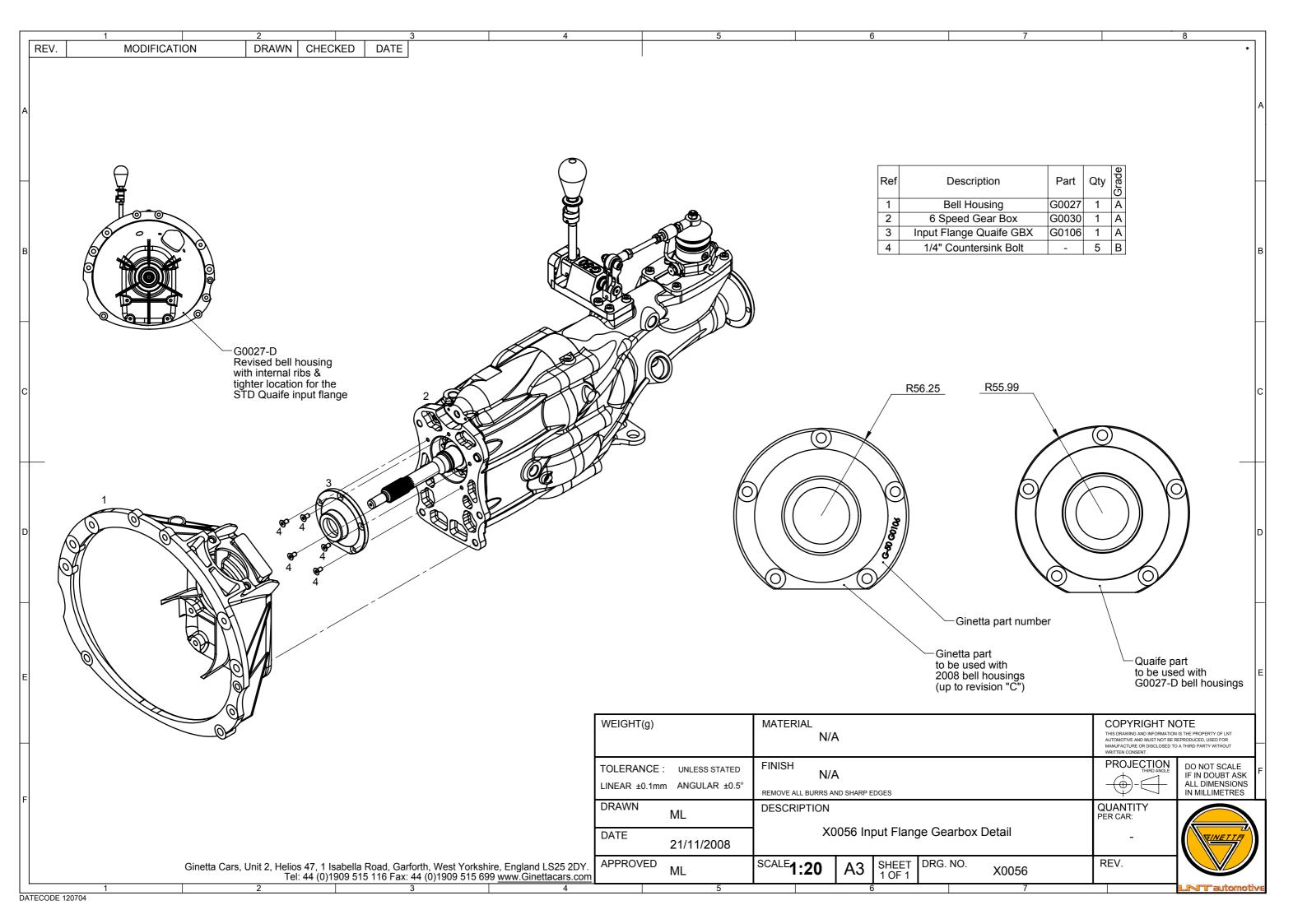


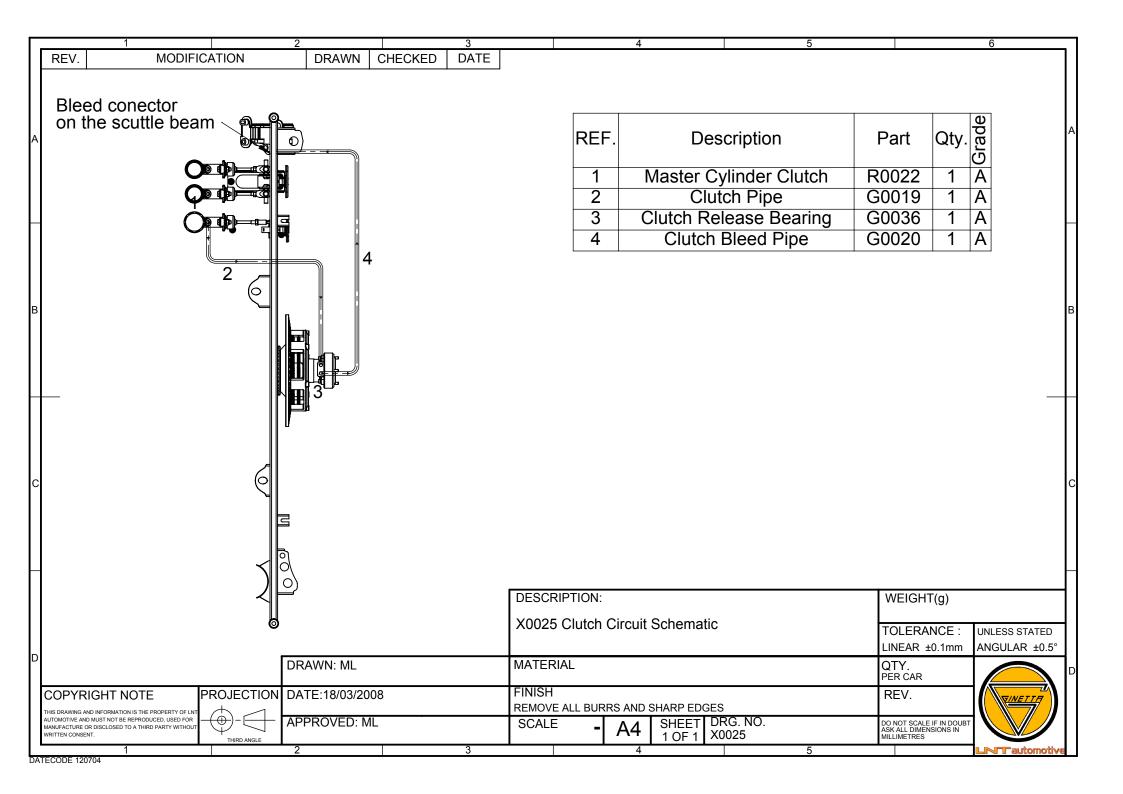


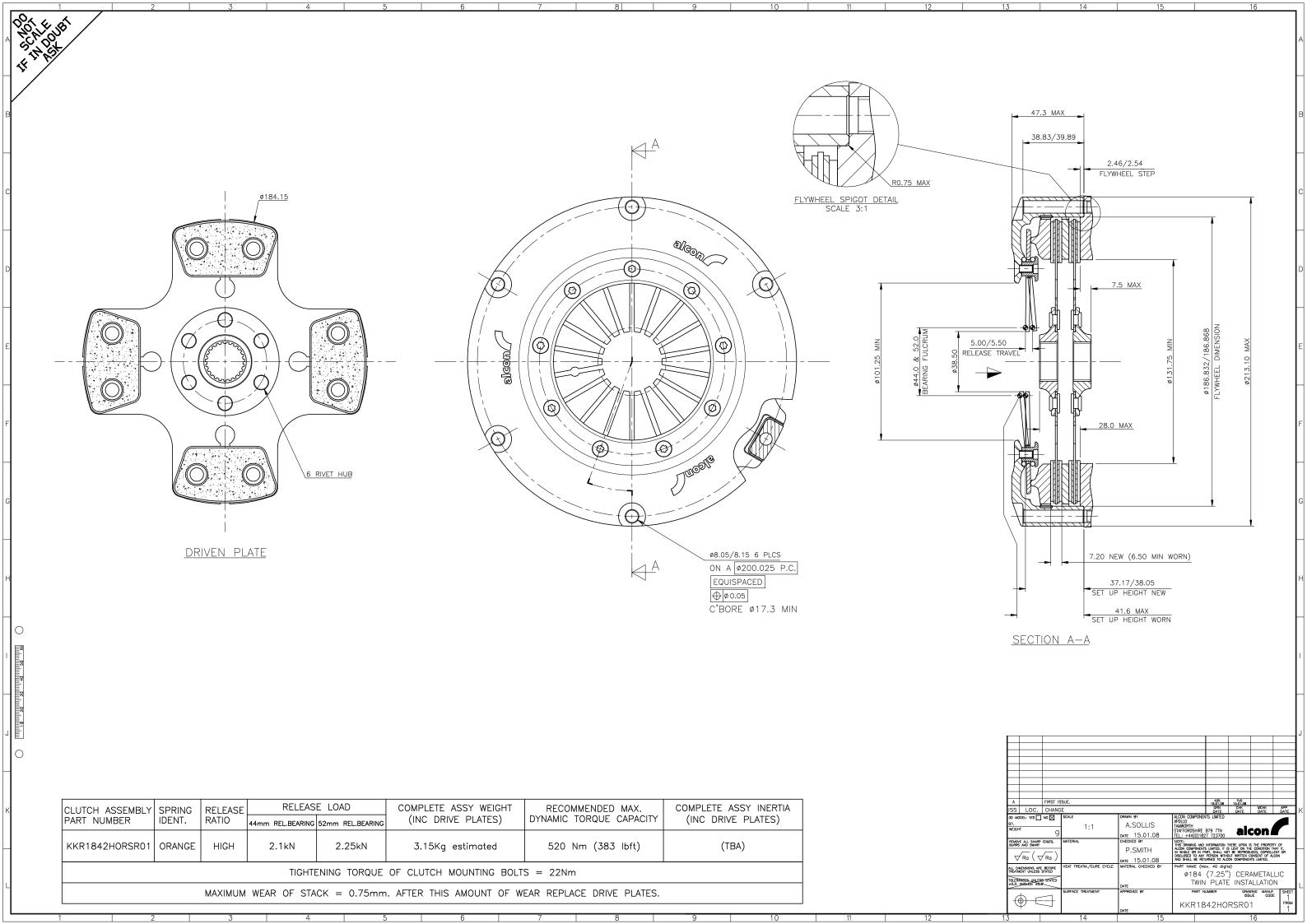


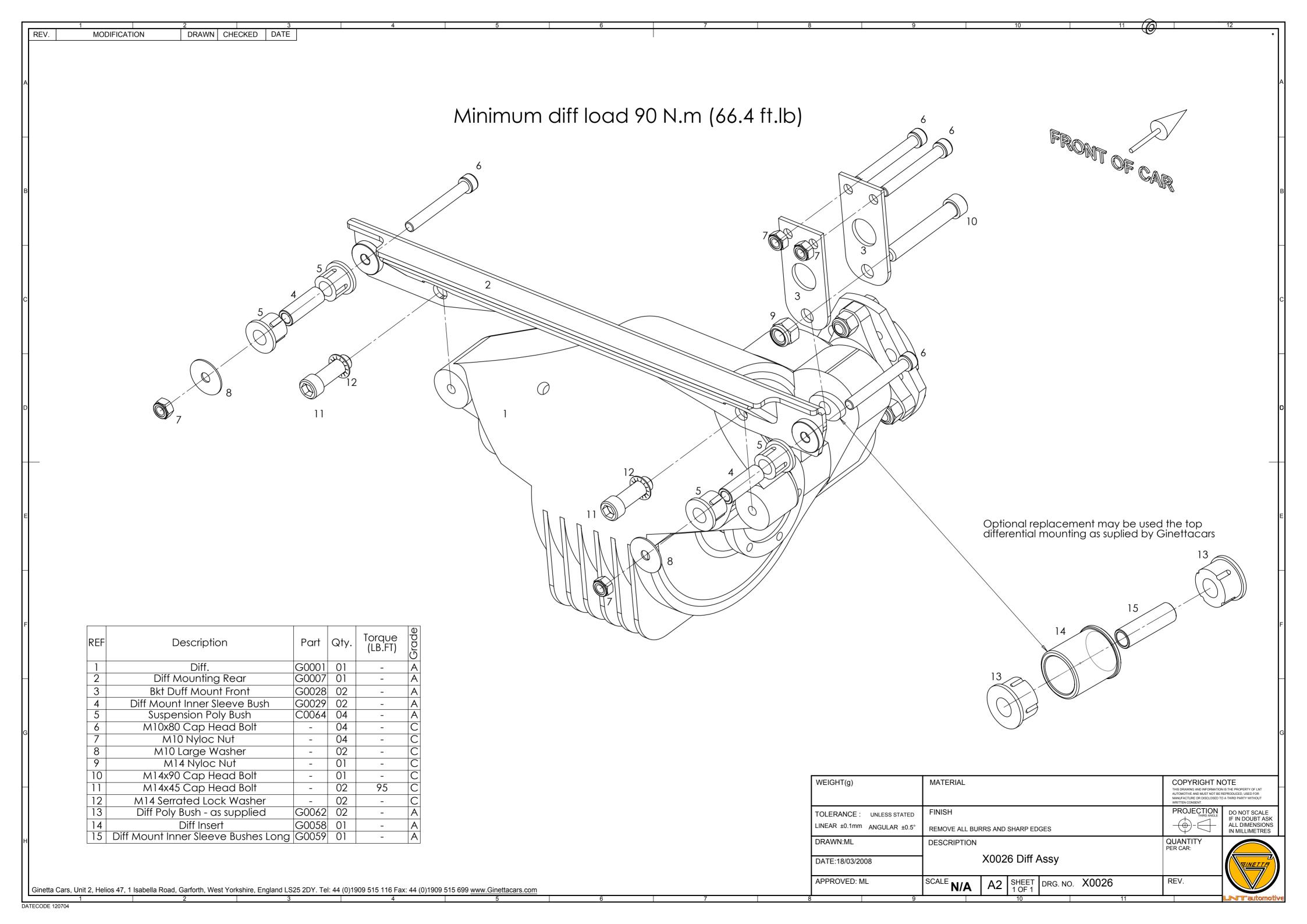


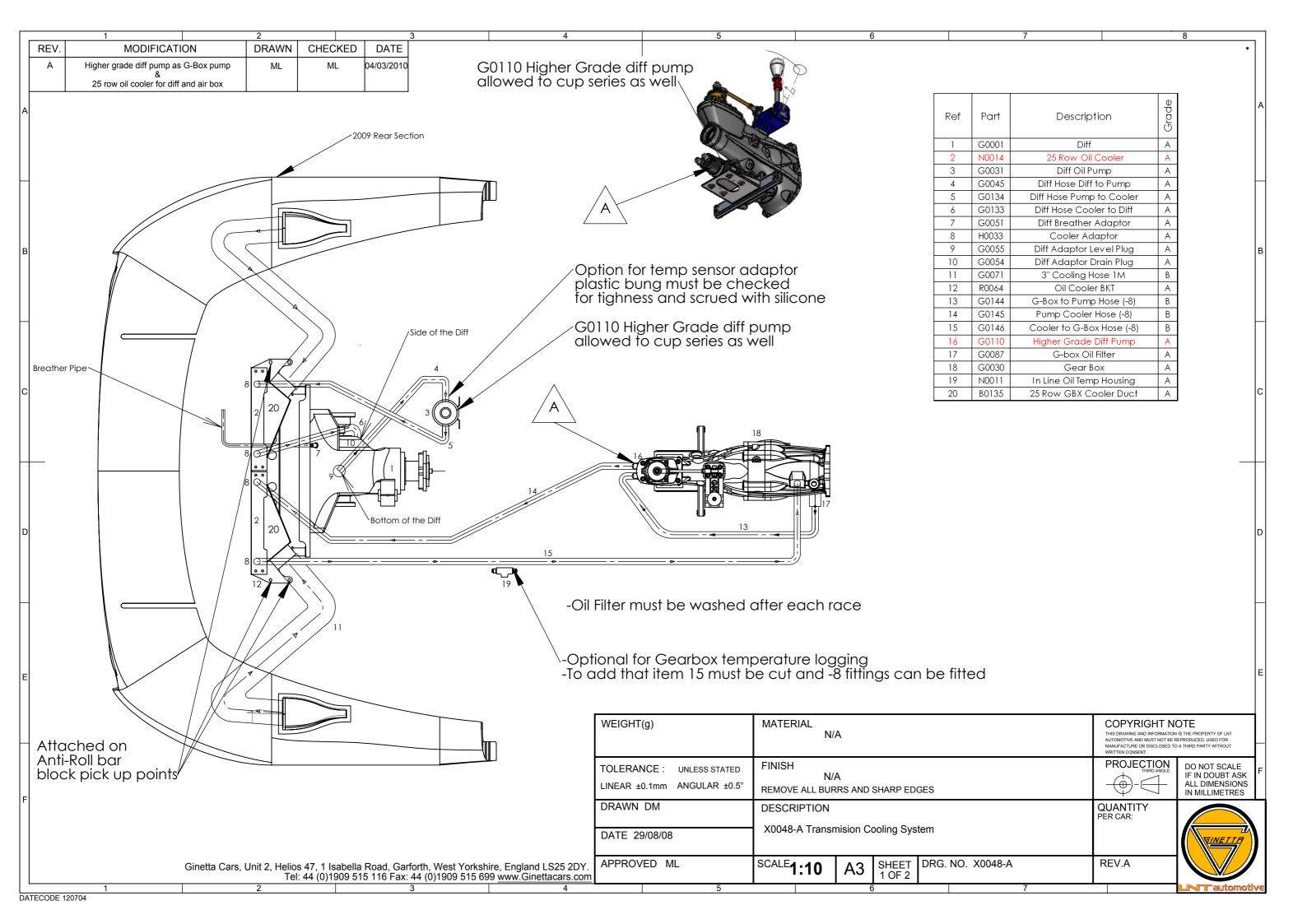


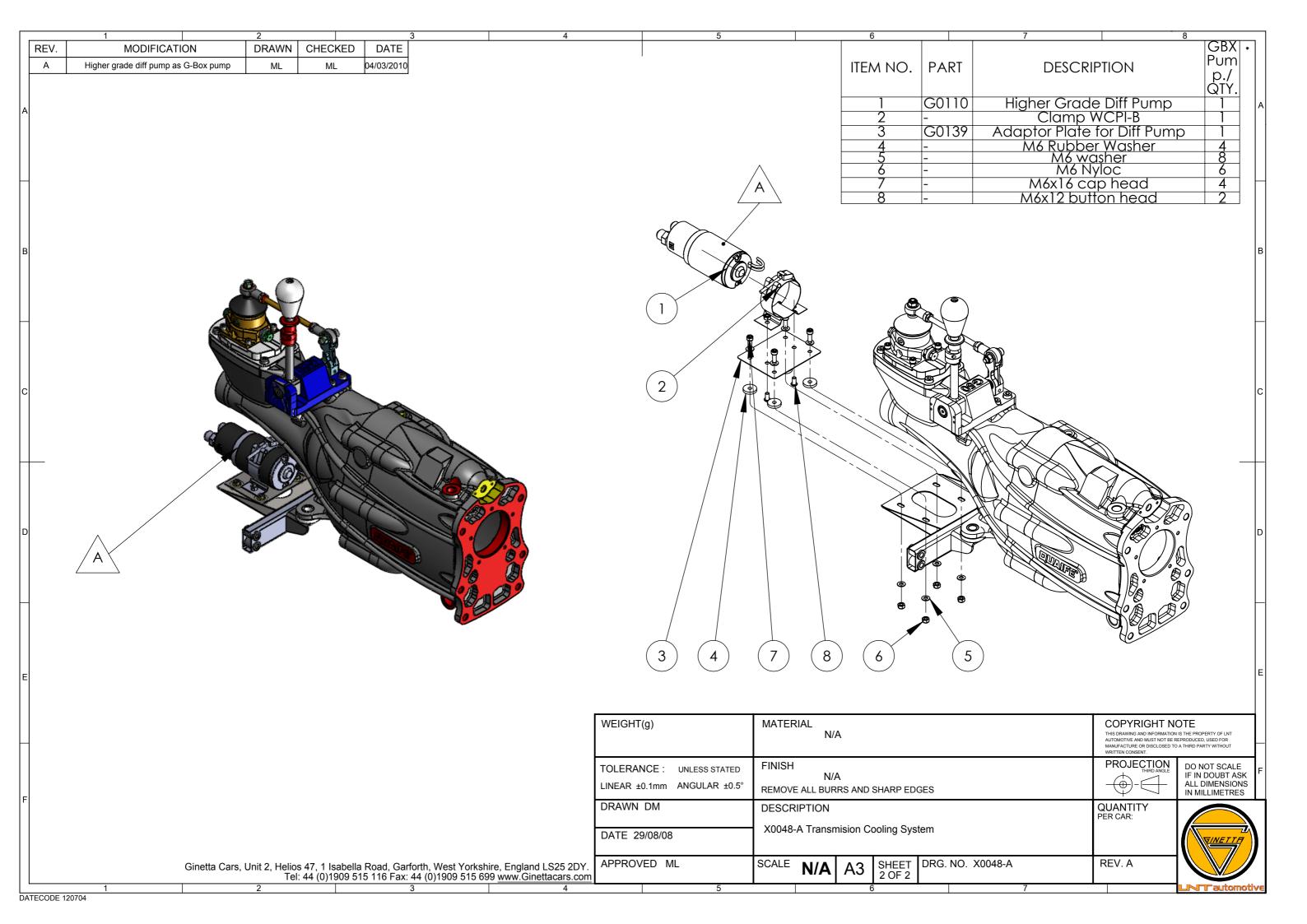


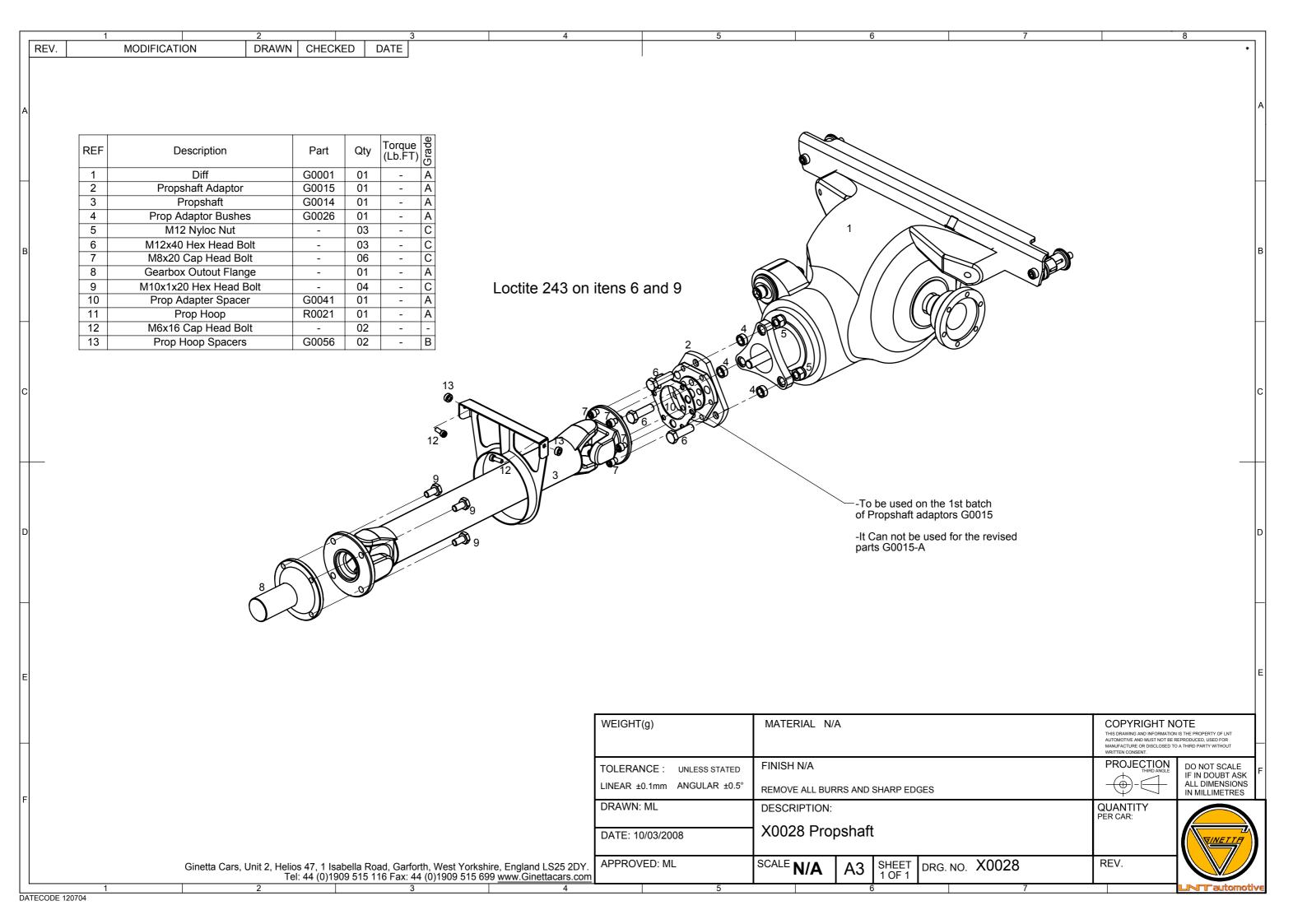


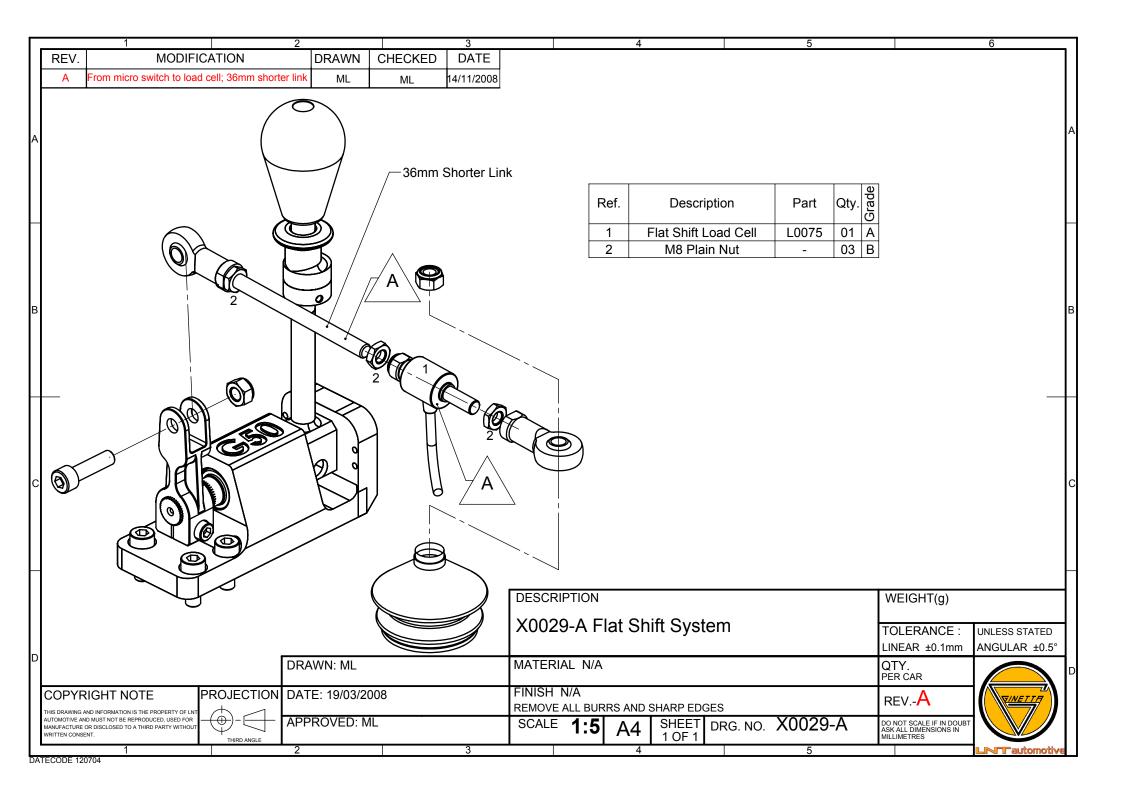


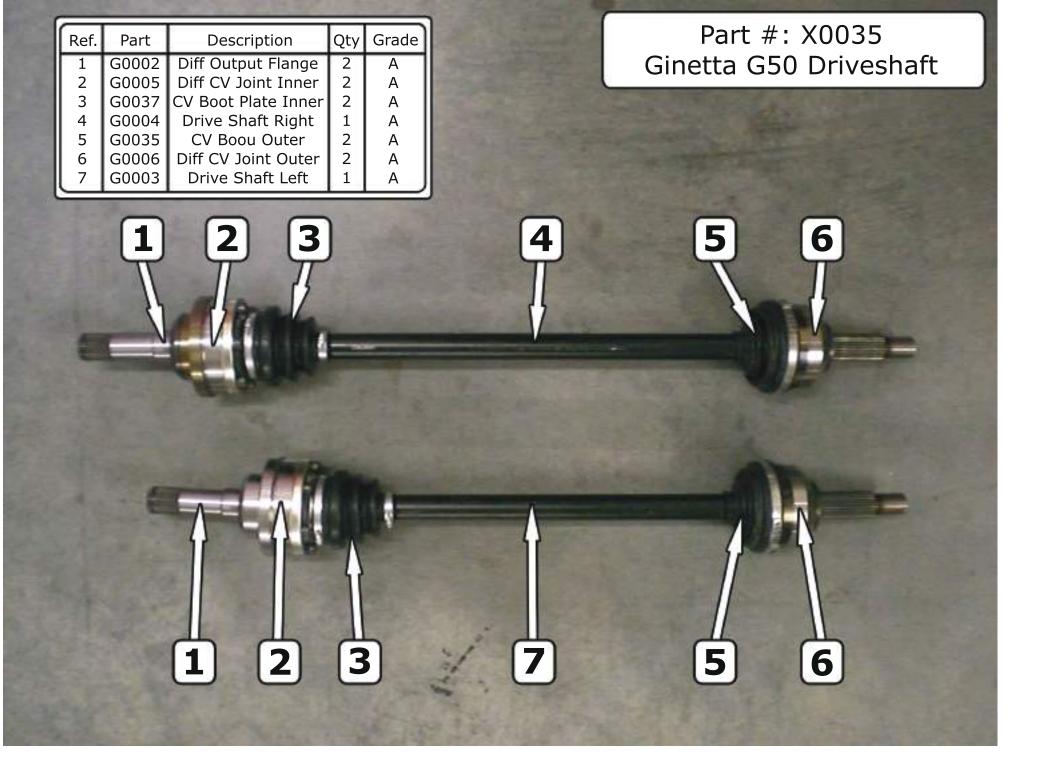


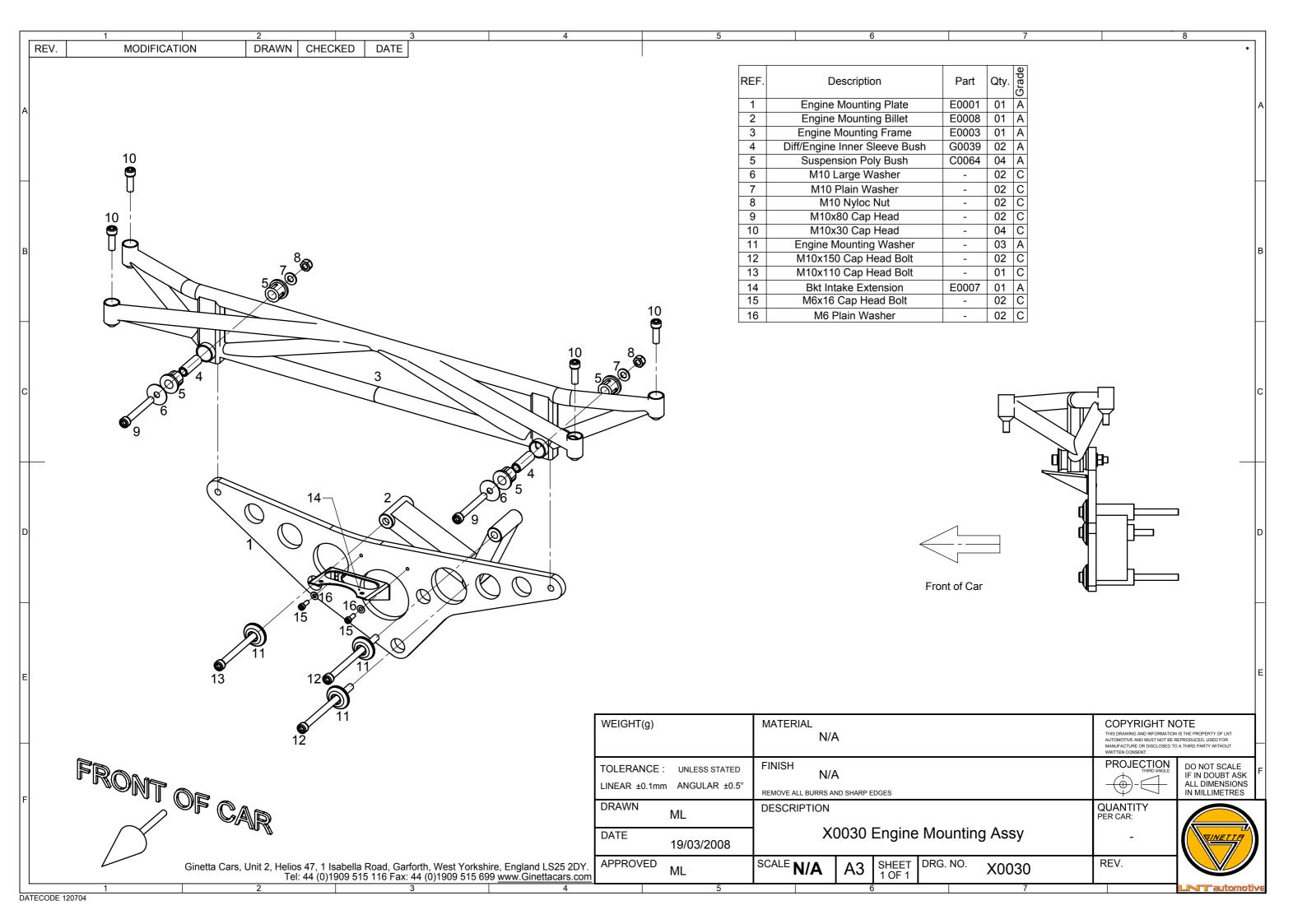


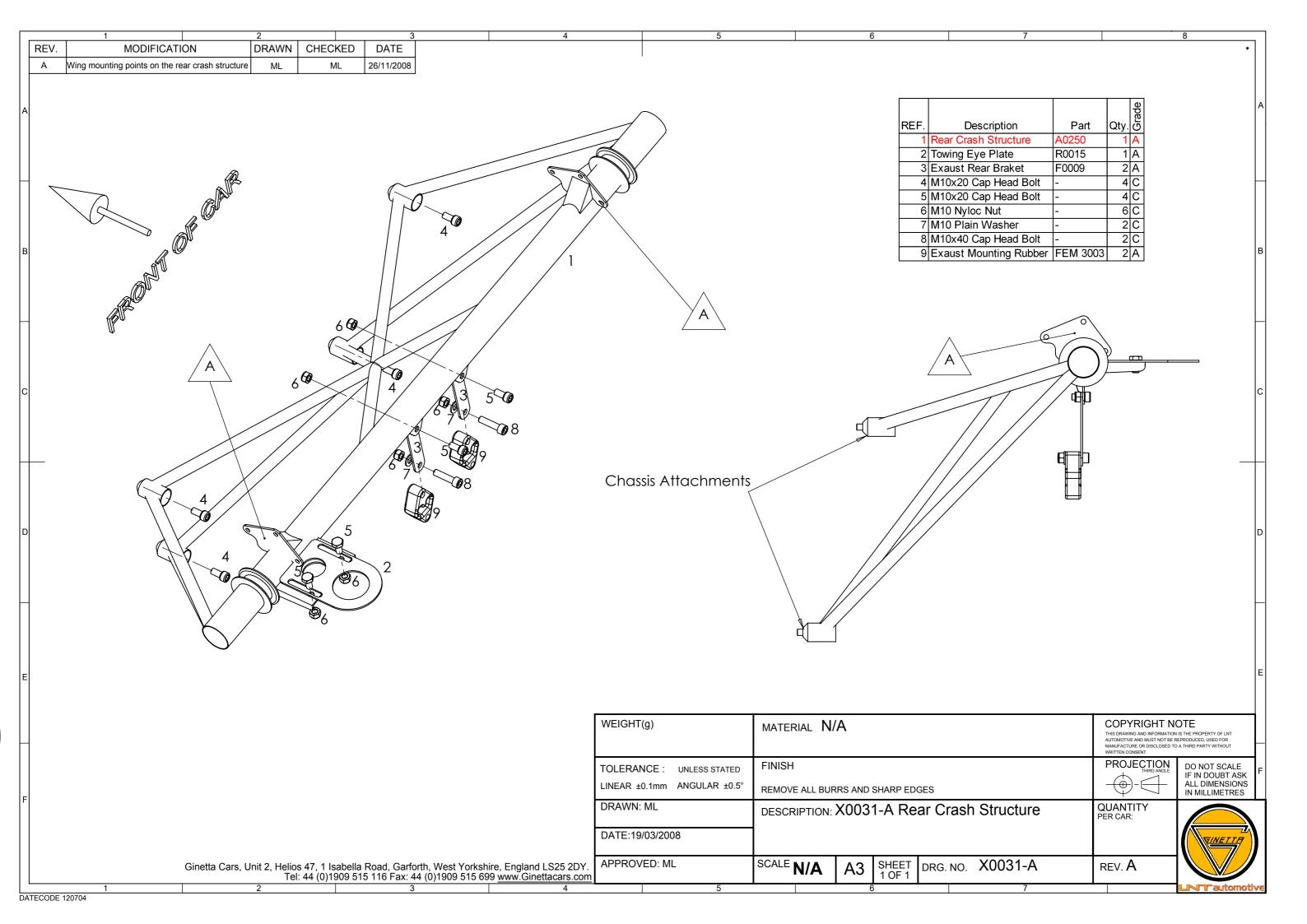


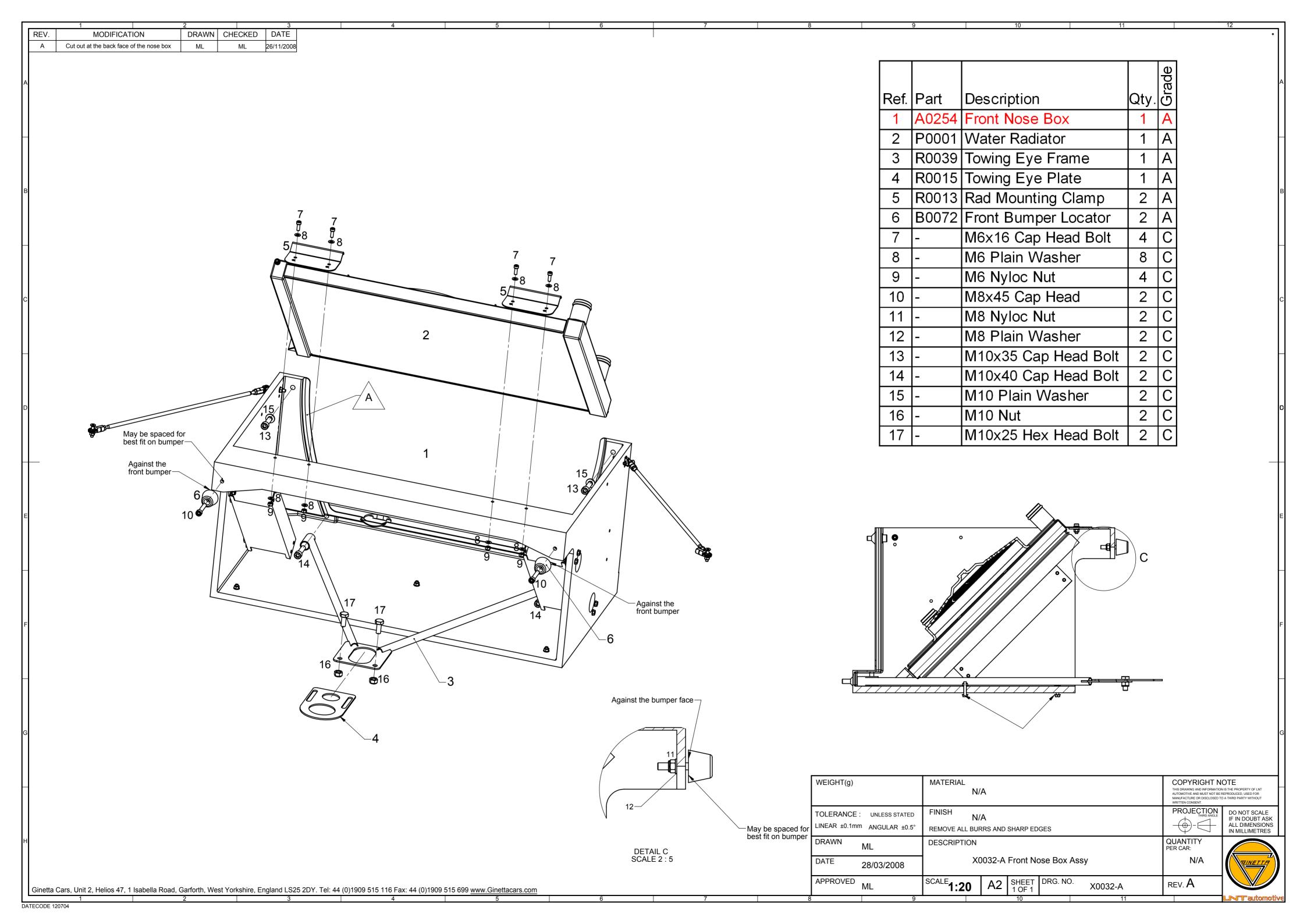


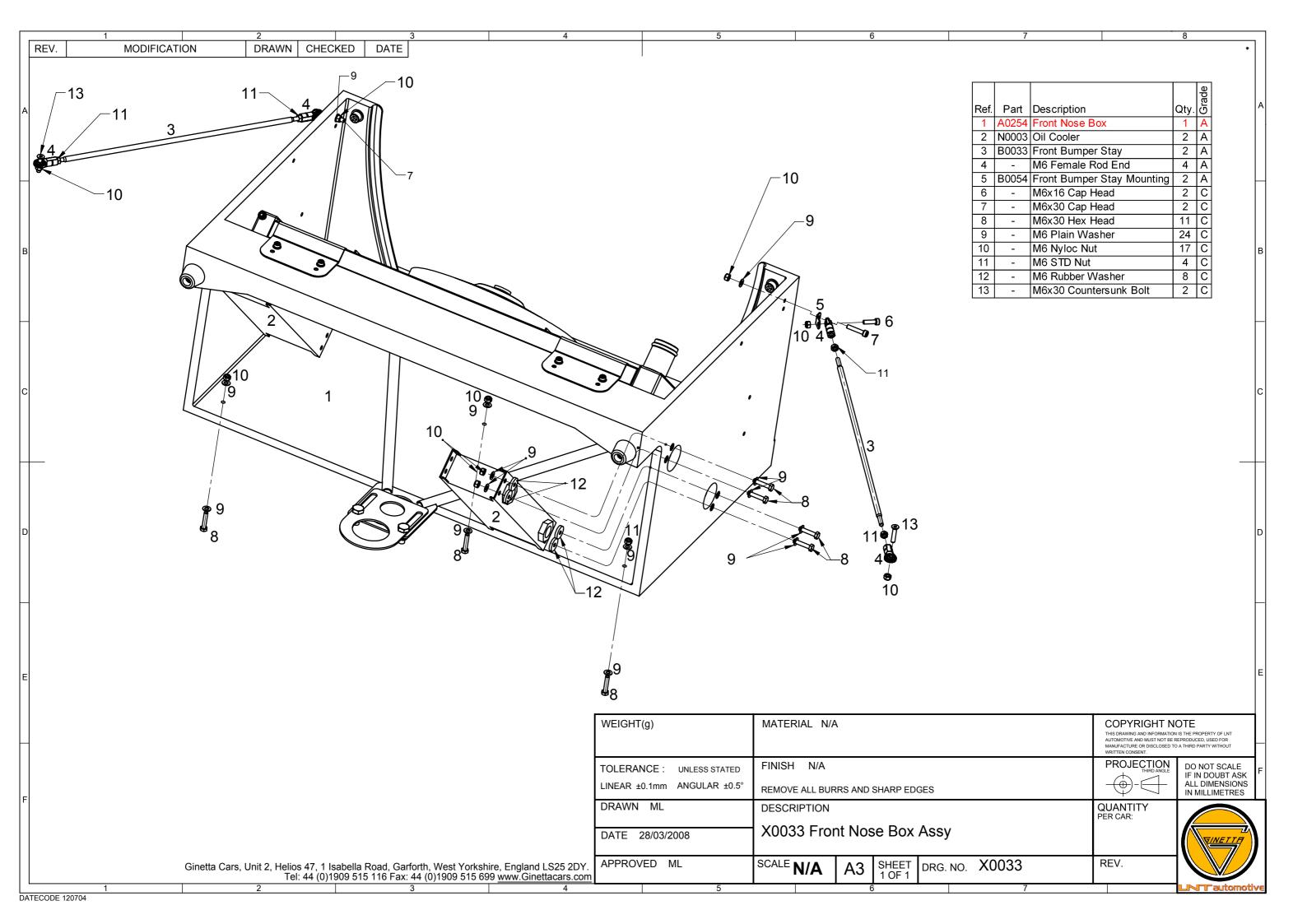


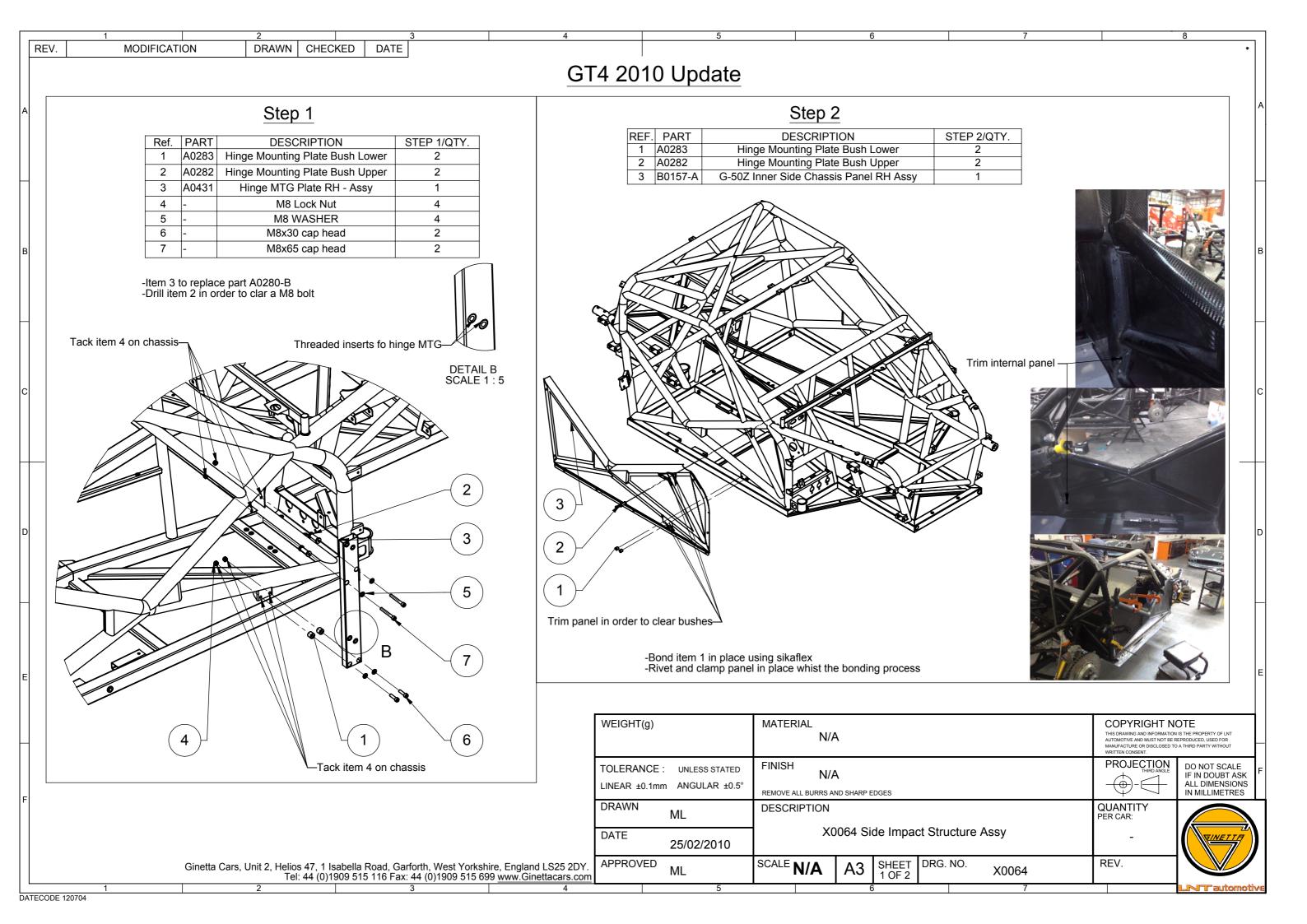


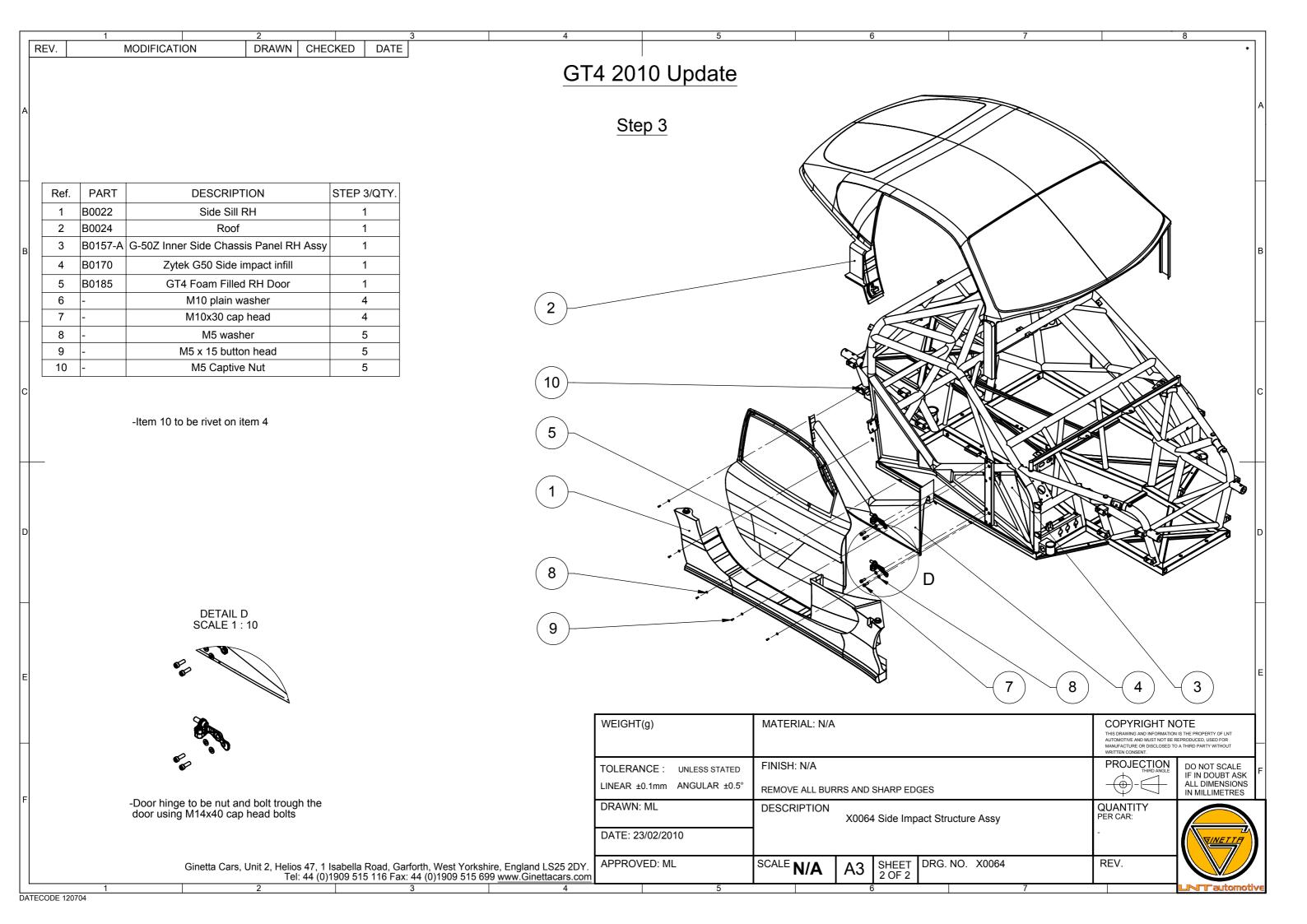
















MSA REF. NO:



DATE VALID FROM

ROLL OVER PROTECTION SYSTEM CERTIFICATE

(Please complete in BLOCK CAPITALS)

MANUFACTURE	RS DETAILS				
MANUFACTURE	e Levesia Versas 4	LAKSLITO. T.,, GARFOR	nc., Lees	, 45.25	207
					V3117541
		50 FAX			
E-MAIL . CROS	siries@go	nette cars	.com		
YSTEM DETAIL	s				
565111111111111111111111111111111111111	Main rollbar	Longitudinal strut	Diagonal strut	Front rollbar	Optional Bar
Material	SAE 4/30	SM. 4130	COS CHSSEL	5AE 913W	SOF-4130
External diameter	50-1° mm	50 8 mm	50. ₽ mm	50-8 mm	50-P
Wall thickness	2:03 mm	2-03 mm	7-6 mm	2:03 mm	2-03 mm
Elastic limit	62-d daN/mm²	€Z € daN/mm²	36 daN/mm²	62 d daN/mm²	€£ ₫° daN/mm²
Tensile strength	75 6 daN/mm²	75 6 daN/mm²	6/-6 daN/mm²	7J & daN/mm²	75-6 daN/mm²
CAR/S FOR WH	ICH ROPS IS D	DESIGNED			-11
MAKE CHUT	TM	FIA	HOMOLOGATION	NO(s):	7/1
MODEL(s): LT	50			14777	+ 0.000
1112		*******		(10.10)	
CAR WEIGHT:	1000	(kg)		1	11000
manual men	6502 -	Bur. 17.	, EURORDO O	CAU PUR	

THIS CERTIFICATE BECOMES INVALID IF THE STRUCTURE IS MODIFIED IN ANY WAY FROM THE DESIGN SHOWN HEREIN

THIS CERTIFICATE IS ONLY VALID IF FULLY COMPLETED, APPROVED BY THE MSA AND PRINTED ON MSA SECURITY PAPER

Msarops - 12 May 2004



DECLARATION BY DESIGNER for ROPS not complying with FIA/MSA basic designs I declare that the roll over protection system described herein has been *: (a) Jested under my personal supervision (b) shown by stress calculations carried out under my personal supervision to meet the strength requirements specified in current FIA/MSA regulations. In addition I declare that all details of the ROPS design including joints, mountings and attachments are in conformity with these regulations. (*Delete as appropriate) DATE: 14 hr Dec 2007 SIGNATURE. PROFESSIONAL QUALIFICATIONS: Acceptable signatories must be Corporate Members of the Royal Aeronautical Society, Institution of Civil, Mechanical or Structure Engineers, or their equivalent, or FIA accredited laboratory. DECLARATION BY MANUFACTURER. Licertify that the ROPS described herein complies with FIA/MSA criteria, in particular with regard to its mountings, joints, connections and stress resistances.

The MSA accepts that this document has been completed in accordance with the prevailing regulations.

MOTOR SPORTS ASSOCIATION
UNITED KINGDOM

John Symes
Technical & Risk Control Manager

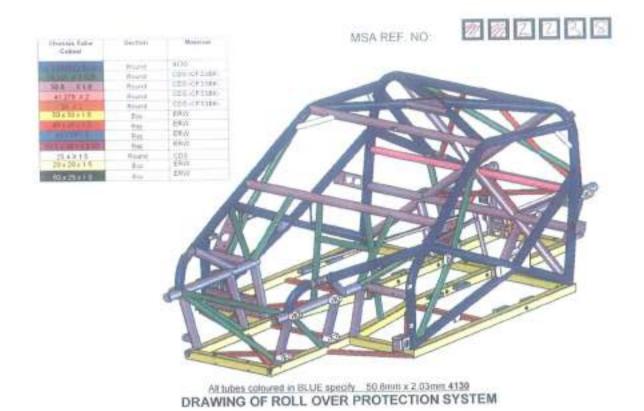
Technical Executive

MSA STAMP

NOTES:

STATUS:

- THIS CERTIFICATE BECOMES INVALID IF THE STRUCTURE IS MODIFIED IN ANY WAY FROM THE DESIGN SHOWN HEREIN
- THIS CERTIFICATE IS ONLY VALID IF FULLY COMPLETED, APPROVED BY THE MSA AND PRINTED ON MSA SECURITY PAPER

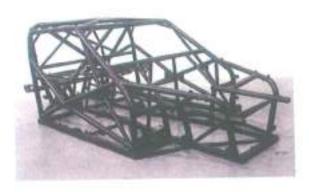




PHOTOGRAPH OR DRAWING OF IDENTITY PLATE



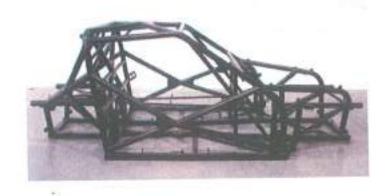






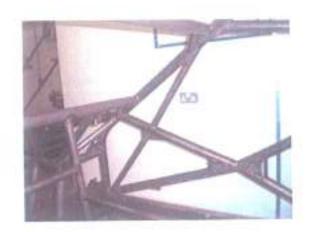






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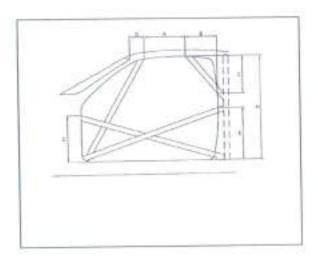












Door	Aperture	Reinforcements-		
Dimer	nsions.			
Dimensi	on (Please inser	t where applicable)		
A =		(min 300mm)		
8 =		(max 250mm)		
C =		(max 300mm)		
D=		(max 100mm)		
€ =		(max 1/2 height H)		

Additional Information Page

Reason for Amendment

Date:

MSA Signature & Stamp:



FÉDÉRATION INTERNATIONALE DE L'AUTOMOBILE

DOSSIER DE CERTIFICATION POUR STRUCTURES DE SECURITE CERTIFICATION DOSSIER FOR SAFETY STRUCTURES

CONSTRUCTEUR DE LA VOITURE CAR MANUFACTURER GINETTA CARS LTD Helios 47 Leeds UK

TYPE DE VOITURE CAR TYPE

G50 (LS25 2DY)

DATE DE FABRICATION DU 1" EXEMPLAIRE DATE OF MANUFACTURE OF THE 1" UNIT

12 2007



NUMERO DE DOSSIER DOSSIER NUMBER TAMPON ET SIGNATURE STAMP AND SIGNATURE

DATE

ST-08-0A

Fédération Internationale Automobile
Chemin de 58 Consult 2
CH-T2 SACVE 15
Tet: 4 22 544 44 00
Fax Sport 41 22 544 44 50

04/12/2009

STRUCTURE ABSORBANTE FRONTALE FRONTAL ABSORBING STRUCTURE

NUMERO D'APPROBATION APPROVAL NUMBER

ST-CB-08-0A

ESSAI DE CHOC / CRASH TEST

(conformément à l'article 258A-16 de l'Annexe J / in accordance with article 258A-16 of Appendix J)

EFFECTUE PAR	DATE	DELEGUE TECHNIQUE FIA	MASSE/VITESSE
CARRIED OUT BY		FIA TECHNICAL DELEGATE	MASS/VELOCITY
TRL Old Wokingham Road Crowthorne Berkshire RG45 6AU UK	04.06.2008	J. CROOK	1050 kg / 14 m.s ⁻¹

Ginetta G-50 GT4 Homologation number

Nat-GT4-009