



5TH CATEGORY - HISTORIC RACING  
**GROUP N**  
 APPROVED VEHICLE SPECIFICATION

This form details the approved specifications of individual vehicle models in the 5th Category Historic car group. To be issued with an Historic Log Book, cars need to comply with these specifications, the physical appearance shown in the illustrations and the general historic rules as detailed in the current Motorsport Australia Manual.

<b>Make of Car:</b>	Holden Torana	<b>Model:</b>	LC GTR-XU1
<b>Period of Original Manufacture:</b>	8/1970 – 11/1971		
<b>Motorsport Australia Historic Group:</b>	Nc		
<b>Date of Issue of this Document:</b>	September 2021		



Refer to Motorsport Australia Manual of Motor Sport, Vehicle Eligibility, Historic Touring Cars, General Requirements & Nc Regulations for permitted modifications.

***Update Log***

June 2018	Ian Moodie Cylinder Head permitted

## SECTION 1 - CHASSIS

### 1.1. CHASSIS

<b>Description:</b>	Unitary construction		
<b>Period of Manufacture:</b>	1/1972 – 1973		
<b>Manufacturer:</b>	Holden		
<b>Chassis Number From:</b>	LJ00001S*		
<b>VIN:</b>	82911CH100001		
<b>Chassis Number location:</b>	Passenger side Inner front guard		
<b>Material:</b>	Steel		
<b>Comments</b>	VIN - 82911 prefix indicates that it is a GTR, J is for LJ and H1 is the plant code then it is the sequence number.		

### 1.2. FRONT SUSPENSION

<b>Description:</b>	Double wishbone		
<b>Spring Medium:</b>	Coil		
<b>Damper Type:</b>	Telescopic	<b>Adjustable:</b>	No
<b>Anti-sway bar:</b>	Fitted	<b>Adjustable:</b>	No
<b>Suspension adjustable:</b>	Yes	<b>Method:</b>	Caster, camber and toe
<b>Comments:</b>	Refer to Appendix A		

### 1.3. REAR SUSPENSION

<b>Description:</b>	Live axle with trailing arms		
<b>Spring Medium:</b>	Coil		
<b>Damper Type:</b>	Telescopic	<b>Adjustable:</b>	No
<b>Anti-sway bar:</b>	No	<b>Adjustable:</b>	N/A
<b>Suspension adjustable:</b>	No	<b>Method:</b>	N/A
<b>Comments:</b>	Refer to Appendix A		

### 1.4. STEERING

<b>Type:</b>	Rack and pinion	<b>Make:</b>	GMH
<b>Comments</b>	None		

### 1.5. BRAKES

	Front	Rear
<b>Type:</b>	Disc, solid	Drum
<b>Dimensions:</b>	254 mm x 15 mm	228 mm diameter
<b>Material of drum/disc:</b>	Cast iron	Cast iron
<b>No. cylinders/pots per wheel:</b>	Two	One
<b>Actuation:</b>	Hydraulic	Hydraulic
<b>Caliper make:</b>	Girlock	
<b>Caliper type:</b>	Split	
<b>Material:</b>	Cast iron	
<b>Master cylinder make:</b>	PBR	
<b>Type:</b>	Tandem	
<b>Adjustable bias:</b>	No	
<b>Servo Fitted:</b>	Yes	
<b>Comments:</b>	None	

## SECTION 2 - ENGINE

### 2.1. ENGINE

<b>Make:</b>	GMH		
<b>Model:</b>	Red 186		
<b>No. cylinders:</b>	Six	<b>Configuration:</b>	In-line
<b>Cylinder Block-material:</b>	Cast iron	<b>Two/Four Stroke:</b>	Four
<b>Bore - Original:</b>	92.07 mm	<b>Max allowed:</b>	93.57 mm
<b>Stroke - original:</b>	76.20 mm	<b>Max allowed:</b>	76.20 mm
<b>Capacity - original:</b>	3044 cc	<b>Max allowed:</b>	3144 cc
<b>Identifying marks:</b>	The engine number is on the engine boss, right hand side of the engine. It consists of a model identification number followed by a serial number that started at 1001 & ran consecutively regardless of the engine size. The pre Bathurst 1971 engines were stamped with a number that was prefixed with either 186X or 3100X i.e. 186X1001. The Bathurst 1971 XU1's were prefixed by CK & suffixed by an X i.e. CK1001X.		
<b>Cooling method:</b>	Liquid		
<b>Comments:</b>	None		

### 2.2. CYLINDER HEAD

<b>Make:</b>	GMH		
<b>No. of valves/cylinder:</b>	Two	<b>Inlet:</b> One	<b>Exhaust:</b> One
<b>No. of ports total:</b>	Nine	<b>Inlet:</b> Three	<b>Exhaust:</b> Six
<b>No. of camshafts:</b>	One	<b>Location:</b> Block	<b>Drive:</b> Gear
<b>Valve actuation:</b>	Pushrod and rocker		
<b>Spark plugs/cylinder:</b>	One		
<b>Identifying marks:</b>	N/A		
<b>Comments:</b>	The head fitted to the LC is a 161cu inch with larger valves & stronger springs. Any Holden 9 port rounded shoulder cylinder head may be used. The Ian Moodie XU1 Cylinder Head casting No 2815843 is allowed. See Appendix A.		

### 2.3. LUBRICATION

<b>Method:</b>	Wet sump	<b>Oil tank location:</b>	N/A
<b>Dry sump pump type:</b>	N/A	<b>Location:</b>	N/A
<b>Oil cooler standard:</b>	No	<b>Location:</b>	N/A
<b>Comments:</b>	None		

### 2.4. IGNITION SYSTEM

<b>Type:</b>	Points, distributor & coil
<b>Make:</b>	Delco Remy
<b>Comments</b>	Breakerless electronic ignition permitted

### 2.5. FUEL SYSTEM

<b>Carburettor Make:</b>	Zenith Stromberg	<b>Model:</b>	150 CD
<b>Carburettor Number:</b>	Three		
<b>Size:</b>	1.75 inch		
<b>Fuel injection Make:</b>	N/A	<b>Type:</b>	N/A
<b>Supercharged:</b>	No	<b>Type:</b>	N/A
<b>Comments:</b>	None		

### SECTION 3 - TRANSMISSION

#### 3.1. CLUTCH

<b>Make:</b>	GMH
<b>Type:</b>	Diaphragm
<b>Diameter:</b>	219 mm
<b>No. of Plates:</b>	One
<b>Actuation:</b>	Mechanical
<b>Comments:</b>	None

#### 3.2. TRANSMISSION

<b>Type:</b>	Synchromesh
<b>Make:</b>	GMH M20 or Opel
<b>Gearbox location:</b>	Behind engine
<b>No. forward speeds:</b>	Four
<b>Gearchange type and location:</b>	H pattern floor mounted
<b>Case material:</b>	Cast iron
<b>Identifying marks:</b>	N/A
<b>Comments:</b>	Pre Bathurst 1971 XU1's were fitted with the 'Opel' gearbox as fitted to the 186S Holden Kingswood etc. The stronger M20 box was fitted for Bathurst 1971.

#### 3.3. FINAL DRIVE

<b>Make:</b>	GMH	<b>Model:</b>	N/A
<b>Type:</b>	N/A		
<b>Ratios:</b>	Various		
<b>Differential type:</b>	Free/Open		
<b>Comments:</b>	None		

#### 3.4. TRANSMISSION SHAFTS (EXPOSED)

<b>Number:</b>	One
<b>Location:</b>	Gearbox to final drive
<b>Description:</b>	Open tail shaft with twin uni joints
<b>Comments:</b>	None

#### 3.5. WHEELS & TYRES

<b>Wheel type - Original:</b>	Pressed disc	<b>Material - Original:</b>	Steel
<b>Wheel type - Allowed:</b>	Alloy (period style)	<b>Material - Allowed:</b>	Alloy (period style)
<b>Fixture method:</b>	Studs	<b>No. studs:</b>	Five
<b>Wheel dia. &amp; rim width</b>	<b>FRONT</b>		<b>REAR</b>
<b>Original:</b>	5.5" x 13"		5.5" x 13"
<b>Allowed</b>	7" x 13"		7" x 13"
<b>Tyre Section:</b>			
<b>Allowed:</b>	Refer approved tyre list.		
<b>Aspect ratio - minimum:</b>	60% minimum aspect ratio.		
<b>Comments:</b>	None		

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## SECTION 4 GENERAL

### 4.1. FUEL SYSTEM

<b>Tank Location:</b>	Boot	<b>Capacity:</b>	77 litres
<b>Fuel pump, type:</b>	Mechanical, engine block	<b>Make:</b>	AC
<b>Comments:</b>	Two Torana lower fuel tank sections were welded together to achieve this capacity. An alternate filler mounted through the Gauge hole should be strongly recommended as fuel surge under acceleration produces leakage through the standard filler.		

### 4.2. ELECTRICAL SYSTEM

<b>Voltage:</b>	12	<b>Alternator fitted:</b>	Alternator
<b>Battery Location:</b>	Engine compartment		
<b>Comments:</b>	None		

### 4.3. BODYWORK

<b>Type:</b>	Closed touring	<b>Material:</b>	Steel
<b>No. of seats:</b>	Four	<b>No. doors:</b>	Two
<b>Comments:</b>	See Appendix B.		

### 4.4. DIMENSIONS

<b>Track - Front:</b>	1331 mm	<b>Rear:</b>	1300 mm
<b>Wheelbase:</b>	2540 mm	<b>Overall length:</b>	4386 mm
<b>Dry weight:</b>	1031 kg		
<b>Comments:</b>			

### 4.5. SAFETY EQUIPMENT

Refer applicable Group Regulations
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## **Appendix A**

### **Suspension**

#### **Front**

Spring height adjustment permitted.

#### **Rear**

Spring height adjustment permitted.

### **Alternate Cylinder Head**

#### **Ian Moodie Cylinder head**

- The Ian Moodie XU1 Cylinder Head casting No 2815843 is allowed.
- The cylinder head may be modified as permitted in the Group N regulations.
- The Ian Moodie Cylinder head requires the use of a MSD Soft Touch rev limiter Part No 8728 with a 7500 RPM limit. The limiter will be subject to testing at race meetings. The limiter will be located in an easily accessible position within the engine bay.

## **Appendix B**

- Metal front spoiler & Fibreglass rear spoiler.
- Three vents cut in the lower section of the front guards behind the wheel opening.
- Sports steering wheel.
- A plastic centre console around the gear stick.
- The door trims 'GTR' in chrome lettering.
- The dashboard featured full instrumentation.
- High back seats without headrests were fitted.