

**2019年CTCC中国房车锦标赛**

**超级杯车型注册表-副表3发动机注册表**

**2019 China Touring Car Championship**

**HOMOLOGATION FORM FOR MODLE IN SUPER CUP-ENGINE**

**车型注册号码/HOMOLOGATION NUMBER**

|  |
| --- |
| CTCC-XXX-1901-YYY-ZZZ-A |

**发动机注册号码/ENGINE HOMOLOGATION NUMBER**

|  |
| --- |
| CTCCES-XXX-1901-YYY-ZZZ-A |

**注册人/APPLICANT**

|  |
| --- |
| XXX |

**注册有效期/ HOMOLOGATION VAILD**

|  |
| --- |
| 2019年 |

**审核人/AUDIT SIGNATURE**

|  |  |  |
| --- | --- | --- |
| 姓名签字 | 姓名签字 | 姓名签字 |

Part 1. 原型发动机信息/ORIGINAL ENGINE INFORMATION

**1.** 一般项目/ GENERAL

**1.1.** 制造商/ MANUFACTURER

|  |
| --- |
| 填写/Description |

**1.2.** 商品名称-型号和类型/ COMMERCIAL NAME(S)-MODEL AND TYPE

|  |
| --- |
| 填写/Description |

**1.3.** 气缸容积/ CYLINDER CAPACITY

|  |  |  |
| --- | --- | --- |
| a) 气缸容积/ Cylinder capacity | 填写/Description | cm³ |
| b) 修正气缸容积/ Corrected cylinder capacity | 填写/Description×填写/Description=填写/Description | cm³ |

**1.4.** 单个燃烧室最小容积/ MINIMUM VOLUME OF A COMBUSTION CHAMBER

|  |
| --- |
| 填写/Description cm³ |

**1.5** 压缩比/ COMPRESSION RATIO (IN RELATION WITH THE UNIT)

|  |
| --- |
| 最大/Max.填写/Description :1 |

**2.** 缸体/ CYLINDER BLOCK

**2.1.** 曲轴轴承座直径/DIAMETER OF CRANKSHAFT BEARINGS

|  |
| --- |
|  填写/Description +0/-0.1mm |

**2.2.** 缸体最小高度/ MIN. HEIGHT OF THE CYLINDER BLOCK

|  |  |  |
| --- | --- | --- |
| a) 安装油底壳平面到缸垫平面之间Between sump and head gasket planes | 填写/Description | mm |
| b) 曲轴中心线到缸垫平面之间Between crankshaft centreline and head gasket plane | 填写/Description | mm |

I2-1）高度测量/Height measurement

|  |
| --- |
| 添加图纸Drawing |

**2.3.** 缸套/ SLEEVES

|  |  |
| --- | --- |
| a) 材质/Material | 填写/Description |

P2-1）拆下的缸套/ Sleeve dismounted

|  |
| --- |
| 添加照片Photo |

**3.** 活塞/ PISTON

|  |  |
| --- | --- |
| a）材质/Material | 填写/Description |
| b）活塞环数量/Number of rings | 填写/Description |
| b1）活塞环厚度/Thickness of rings |  填写/Description ±0.1mm |
| c）最小重量/Min. weight | 填写/Description g | 带活塞环、销、卡子、轴承With pin, bearing, clips and rings |
| d）活塞销中心线到活塞顶的距离Distance from gudgeon pin center line to top of piston crown |  填写/Description ±0.1mm |
| e）位于上止点时活塞顶部到缸垫平面的距离Distance from gudgeon pin center line to top of piston crown | 填写/Description ±0.15/-0.3mm+上面/above，-下面/below |
| f）活塞槽体积（顶部）Piston groove volume (top) |  填写/Description ±0.5cm³ |
| g) 活塞冷却系统/ Piston cooling system | 有/Yes单项勾选/Single choice | 无/No单项勾选/Single choice |

P3-1）活塞，从顶部3/4角度看 P3-2）活塞，从底部3/4角度看

Piston from 3/4 top Piston from 3/4 bottom

|  |  |
| --- | --- |
| 添加照片Photo | 添加照片Photo |

I3-1）活塞销

Piston pin

|  |
| --- |
| 添加图纸Drawing |

**4.** 曲轴/ CRANKSHAFT

|  |  |
| --- | --- |
| a) 曲拐轴最大直径/ Maximum diameter of crank pins |  填写/Description mm |
| b）材质/Material | 填写/Description |
| c）制造工艺/Manufacturing process | 铸造/Cast 单项勾选/Single choice |
| 锻造/Forged 单项勾选/Single choice |
| 原材料加工/Machined from raw 单项勾选/Single choice |
| d）轴承直径/Diameter of bearings |  填写/Description +0/-0.1 mm |
| e）轴承盖材质/Bearing caps material | 填写/Description |
| f）裸曲轴的最小重量Min. weight of bare crankshaft | 填写/Description g |
| g）曲柄直径/Diameter of crank pins |  填写/Description +0/-0.1 mm |

P4-1）从曲轴前3/4角度看 P4-2）从曲轴后3/4角度看

Crankshaft from 3/4 front Crankshaft from 3/4 rear

|  |  |
| --- | --- |
| 添加照片Photo | 添加照片Photo |

**5.** 气缸盖/ CYLINDER HEAD

|  |  |
| --- | --- |
| a）最小高度/Min. height | 填写/Description mm |
| b）测量位置/Where measured | 填写/Description mm |

**6.** 气缸垫/ CYLINDER GASKET

|  |  |
| --- | --- |
| 压紧的气缸垫厚度Thickness of tightened cylinderhead gasket |  填写/Description ±0.2mm |

**7.** 凸轮轴/ CAMSHAFT

|  |  |
| --- | --- |
| a）轴承直径/Diameter of bearings | 填写/Description ±0.1mm |
| b）凸轮尺寸Cam dimensions | A=B= | 进气/Intake | 排气/Exhaust |  |
| 填写/Description ±0.1 mm | 填写/Description ±0.1 mm |
| 填写/Description ±0.1 mm | 填写/Description ±0.1 mm |
| A和B的公差值必须与表内数值相符The tolerances must be used with the same sign for A and B |

**8.** 正时/ TIMING

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| a）理论间隙Theoretical clearance | 进气/Intake | 填写/Description mm | 排气/Exhaust | 填写/Description mm |
| b）凸轮升程/毫米（卸载凸轮轴）Cam lift in mm(dismounted camshaft) | 填写/Description ±0.2mm |
| c）最大气门升程Max. valve lift | 进气/Intake | 排气/Exhaust | 包括8.a)项理论间隙with clearance according to Art.8.a) |
| 填写/Description ±0.2 mm | 填写/Description ±0.2 mm |

**9.** 进气/INTAKE

|  |  |
| --- | --- |
| a）每阀弹簧数量/ Number of springs per valve | 填写/Description |
| b）弹簧最大高度/ Max. length of the spring |  填写/Description mm |
| b1）测量负载/Load of measurement |  填写/Description N |
| c）弹簧外径/ External diameter of springs |  填写/Description ±0.2mm |
| d）弹簧圈数/Number of rings | 填写/Description |
| e）弹簧钢丝直径/ Diameter of spring wire |  填写/Description ±0.1mm |
| f）弹簧最大自由高度/Max. free length of springs |  填写/Description mm |

**10.** 排气/EXHAUST

|  |  |
| --- | --- |
| a）每阀弹簧数量/ Number of springs per valve | 填写/Description |
| b）弹簧最大高度/ Max. length of the spring |  填写/Description mm |
| b1）测量负载/Thickness of rings |  填写/Description N |
| c）弹簧外径/ External diameter of springs |  填写/Description ±0.2mm |
| d）弹簧圈数/Number of rings | 填写/Description |
| e）弹簧钢丝直径/ Diameter of spring wire |  填写/Description ±0.1mm |
| f）弹簧最大自由高度/Max. free length of springs |  填写/Description mm |
| g）从歧管到第一消声器间排气管直径Diameter of pipe between manifold and first silencer |  填写/Description mm ±5%  |

**11.** 污染控制系统/ ANTI-POLLUTION SYSTEM

|  |  |
| --- | --- |
| 描述/ Description | 填写/Description |

**12.** 点火系统/ IGNITION SYSTEM

|  |  |  |  |
| --- | --- | --- | --- |
| a）类型/ Type | 填写/Description | b）线圈数量/ Nb. of coils | 填写/Description |

**13.** 冷却系统/ COOLING SYSTEM

|  |  |
| --- | --- |
| 容积/ Capacity |  填写/Description 升/ litres |

**14.** 冷却风扇/ COOLING FAN

|  |  |
| --- | --- |
| a）数量/ Number | 填写/Description |
| b）风扇直径/ Diameter of the screw |  填写/Description mm |
| c）风扇材料/ Material of the screw |  填写/Description  |
| d）叶片数量/ Number of blades |  填写/Description |
| e）驱动类型/ Type of drive | 填写/Description |
| f）自动切断/ Automatic cut off | 是/Yes单项勾选/Single choice | 否/No单项勾选/Single choice |

**15.** 润滑系统/ LUBRICATION SYSTEM

|  |  |
| --- | --- |
| a）总容积/ Total Capacity |  填写/Description 升/ litres |
| b）机油散热器/ Oil cooler(s) | 有/Yes单项勾选/Single choice | 无/No单项勾选/Single choice |
| b1）数量/ Number | 填写/Description |
| c）散热器位置/ Location of the coolers | 填写/Description |
| d）散热器类型/ Type of the coolers | 填写/Description |

|  |
| --- |
| 补充信息/ COMPLEMENTARY INFORMATION |
|  |

Part 2. 发动机延伸注册信息/EXTENSION ENGINE INFORMATION

**1.** 一般项目/ GENERAL

**1.1.** 气缸容积/ CYLINDER CAPACITY

|  |  |  |
| --- | --- | --- |
| a) 单缸/ Unitary | 填写/Description | cm³ |
| b) 总容积/ Total | 填写/Description | cm³ |
| c) 最大允许总容积/ Max. total allowed | 填写/Description | cm³ |

**1.2.** 压缩比/ COMPRESSION RATIO(IN RELATION WITH THE UNIT)

|  |
| --- |
| 最大/Max.填写/Description :1 |

**1.3.** 缸径/ BORE

|  |
| --- |
| 填写/Description +0/-0.1mm |

**1.4.** 冲程/ STROKE

|  |
| --- |
| 填写/Description +0/-0.1mm |

P1-1）从侧面看拆下的发动机 - 左 P1-2）从侧面看拆下的发动机 - 右

Dismounted engine Dismounted engine

- seen from the lift side - seen from the right side

|  |  |
| --- | --- |
| 添加照片Photo | 添加照片Photo |

P1-3）拆下的气门室盖 - 外侧 P1-4）拆下的气门室盖 - 内侧

Dismounted cylinder head cover Dismounted cylinder head cover

- outer side - inner side

|  |  |
| --- | --- |
| 添加照片Photo | 添加照片Photo |

P1-5）发动机，安装在机舱内

Engine in its compartment

|  |
| --- |
| 添加照片Photo |

**2.** 缸体/ CYLINDER BLOCK

**2.1.** 缸体/ CYLINDER BLOCK

|  |  |
| --- | --- |
| a) 材质/ Material | 填写/Description |
| b) 最小重量Min. weight | 填写/Description g | 没有曲轴轴承盖、轴承盖固定螺栓、缸筒和油底壳Without crankshaft bearings caps, without fixing studs of bearing caps, of cylinder head and of oil sump |

P2-1）裸缸体从上面看 P2-2）裸缸体从下面看

Bare cylinder block seen form above Bare cylinder block seen form underneath

|  |  |
| --- | --- |
| 添加照片Photo | 添加照片Photo |

P2-3）裸缸体从右侧看 P2-4）裸缸体从左侧看

Bare cylinder block seen form right side Bare cylinder block seen form lift side

|  |  |
| --- | --- |
| 添加照片Photo | 添加照片Photo |

P2-5）从正时侧看到的裸缸体 P2-6）从飞轮侧看到的裸缸体

Bare cylinder block seen form timing side Bare cylinder block seen form flywheel side

|  |  |
| --- | --- |
| 添加照片Photo | 添加照片Photo |

P2-7）曲轴轴承盖 P2-8）发动机缸体油底导油装置

Crankshaft bearing caps Oil deflector on engine block

|  |  |
| --- | --- |
| 添加照片Photo | 添加照片Photo |

**2.2.** 缸体最小高度/ MIN. HEIGHT OF THE CYLINDER BLOCK

|  |  |  |
| --- | --- | --- |
| a) 安装油底壳平面到缸垫平面之间Between sump and head gasket planes | 填写/Description | mm |
| b) 曲轴中心线到缸垫平面之间Between crankshaft centreline and head gasket plane | 填写/Description | mm |

I2-1）高度测量/Height measurement

|  |
| --- |
| 添加图纸Drawing |

**2.3.** 缸套/ SLEEVES

|  |  |  |
| --- | --- | --- |
| a) 加套缸体/Sleeved cylinder block | 是/Yes单项勾选/Single choice | 否/No单项勾选/Single choice |
| b) 材质/Material | 填写/Description |
| b) 类型/Type | 湿式/Wet单项勾选/Single choice | 干式/Dry单项勾选/Single choice |

P2-9）拆下的缸套/ Sleeve dismounted

|  |
| --- |
| 添加照片Photo |

**3.** 活塞连杆组/ PISTON AND CONNECTING ROD

**3.1.** 活塞/ PISTON

|  |  |
| --- | --- |
| a）材质/Material | 填写/Description |
| b）活塞环数量/Number of rings | 填写/Description |
| b1）活塞环厚度/Thickness of rings |  填写/Description +0.1/-0.05mm |
| c）最小重量/Min. weight | 填写/Description g | 带活塞环、销、卡子、轴承With pin, bearing, clips and rings |
| d）最低压缩高度Min. compression height |  填写/Description mm |

P3-1）活塞，从顶部3/4角度看 P3-2）活塞，从底部3/4角度看

Piston from 3/4 top Piston from 3/4 bottom

|  |  |
| --- | --- |
| 添加照片Photo | 添加照片Photo |

I3-1）活塞 - 设计图/ Piston - Drawing

|  |
| --- |
| 添加图纸Drawing |

P3-3）活塞环/ Piston rings

|  |
| --- |
| 添加照片Photo  |

I3-2）活塞销 I3-3）最低压缩高度

Piston pin Min. compression height

|  |  |
| --- | --- |
| 添加图纸Drawing | 添加图纸Drawing |

**3.2.** 连杆/ CONNECTING ROD

|  |  |
| --- | --- |
| a）材质/Material | 填写/Description |
| b）大端类型/Big end type | 填写/Description |
| c）大端内径（无轴瓦）Interior diameter of the big end (without shell bearings) | 填写/Description +0.1/-0 mm |
| d）轴间长度/Length between axes | 填写/Description ±0.1 mm |
| e）最小重量/Min. weight |  填写/Description g |

P3-4）连杆，从大端侧3/4角度看 P3-5）连杆，从小端侧3/4角度看

Connecting rod from ¾ on big end side Connecting rod from ¾ on small end side

|  |  |
| --- | --- |
| 添加照片Photo | 添加照片Photo |

**4.** 曲轴飞轮组/ CRANKSHAFT AND FLYWHEEL

**4.1.** 曲轴/ CRANKSHAFT

|  |  |
| --- | --- |
| a）是否使用原厂曲轴？/Use original crankshaft?注/Note：* 仅在排量不能满足的情况下可以申请使用改装曲轴 / Application of using of modified crankshaft only allowed when capacity cannot be achieved
* 如使用原厂曲轴则无需填写下面内容 / Below information not needed if using original crankshaft
 | 填写/Description |
| a1) 申请文件编号/Document code of application | 填写/Description |
| a2) 生产类型/Type of manufacture | 填写/Description |
| b）材质/Material | 填写/Description |

|  |  |
| --- | --- |
| c）制造工艺/Manufacturing process | 铸造/Cast 单项勾选/Single choice |
| 锻造/Forged 单项勾选/Single choice |
| 原材料加工/Machined from raw 单项勾选/Single choice |
| d）轴承直径/Diameter of bearings |  填写/Description +0/-0.1 mm |
| e）轴承盖材质/Bearing caps material | 填写/Description |
| f）裸曲轴的最小重量Min. weight of bare crankshaft | 填写/Description g |
| g）曲柄直径/Diameter of crank pins |  填写/Description +0/-0.1 mm |

P4-1）从曲轴前3/4角度看 P4-2）从曲轴后3/4角度看

Crankshaft from 3/4 front Crankshaft from 3/4 rear

|  |  |
| --- | --- |
| 添加照片Photo | 添加照片Photo |

**4.2.** 飞轮/ FLYWHEEL

|  |  |
| --- | --- |
| a）材质/Material | 填写/Description |
| b）最小重量/Min. weight | 填写/Description g | 带固定螺丝和启动环With fixings and starter ring |
| c）启动环外径External diameter of the starter ring | 填写/Description ±3 mm |
| d）启动环齿数Number of teeth of the starter ring | 填写/Description |
| e）启动环厚度Thickness of the starter ring | 填写/Description ±1mm |

P4-3）从飞轮前3/4角度看 P4-4）从飞轮后3/4角度看

Flywheel from 3/4 front Flywheel from 3/4 rear

|  |  |
| --- | --- |
| 添加照片Photo | 添加照片Photo |

**5.** 气缸盖/ CYLINDER HEAD

|  |  |
| --- | --- |
| a）材质/Material | 填写/Description |
| b）最小高度/Min. height | 填写/Description mm |
| c）测量位置/Where measured | 填写/Description mm |
| d）进气门和缸垫平面之间的角度Angle between intake valve and cylinder head gasket plane | 填写/Description deg ±30’ |
| e）排气阀和缸垫平面之间的角度Angle between exhaust valve and cylinder head gasket plane | 填写/Description deg ±30’ |
| f）单个燃烧室最小容积Min. volume of a combustion chamber | 填写/Description cm³ |
| g）最小重量/Min. weight | 填写/Description g | 带凸轮轴轴承盖，轴承盖螺栓，缸盖罩，歧管With camshaft bearings caps, fixing studs of bearing caps, of cylinder head cover, of manifolds |

P5-1）从顶部看裸气缸盖（凸轮轴侧） P5-2）从底部看裸气缸盖（燃烧室侧）

Bare cylinder head seen from top Bare cylinder head seen from underneath

 (camshaft side) (chamber side)

|  |  |
| --- | --- |
| 添加照片Photo | 添加照片Photo |

P5-3）从进气侧看裸气缸盖 P5-4）从排气侧看裸气缸盖

Bare cylinder head seen from intake side Bare cylinder head seen from exhaust side

|  |  |
| --- | --- |
| 添加照片Photo | 添加照片Photo |

P5-5）从正时侧看裸气缸盖 P5-6）从飞轮侧看裸气缸盖

Bare cylinder head seen from timing side Bare cylinder head seen from flywheel side

|  |  |
| --- | --- |
| 添加照片Photo | 添加照片Photo |

P5-7）燃烧室 I5-1）气缸垫

Combustion chamber Cylinder gasket - Drawing

|  |  |
| --- | --- |
| 添加照片Photo | 添加图纸Drawing |

进气/ INTAKE

|  |
| --- |
| 气缸盖端口图纸-对尺寸的公差: ±1%Drawings of cylinder head ports - tolerances on dimensions : ±1% |

I5-2）气缸盖，歧管侧/ Cylinder head, manifold side

|  |
| --- |
| 添加图纸Drawing |

排气/ EXHAUST

|  |
| --- |
| 气缸盖端口图纸-对尺寸的公差: ±1%Drawings of cylinder head ports - tolerances on dimensions : ±1% |

I5-3）气缸盖，歧管侧/ Cylinder head, manifold side

|  |
| --- |
| 添加图纸Drawing |

**6.** 燃油泵（高压油泵）/ FUEL PUMP (HIGH PRESSURE)

仅适用于直喷发动机/Only applicable to GDI engine

|  |
| --- |
| a）HP（高压油泵）泵凸轮升程，单位毫米，精度0.1HP pump cam lift in mm, accuracy 0.1注：旋转角度为对应凸轮轴转角，其0度为第一缸压缩上止点位置，延曲轴旋转方向转动并记录升程Note: Rotation angle refers to cam angle, 0deg is Cylinder1 compression TDC. Rotation is in same direction as crankshaft. |
| 旋转角度（度）Rotation angle (degrees) | 升程/ Lift in mm(±0.05 mm) | 旋转角度（度）Rotation angle (degrees) | 升程/ Lift in mm(±0.05 mm) |
| 0 | 填写/Description |  |
| 10 | 填写/Description | 190 | 填写/Description |
| 20 | 填写/Description | 200 | 填写/Description |
| 30 | 填写/Description | 210 | 填写/Description |
| 40 | 填写/Description | 220 | 填写/Description |
| 50 | 填写/Description | 230 | 填写/Description |
| 60 | 填写/Description | 240 | 填写/Description |
| 70 | 填写/Description | 250 | 填写/Description |
| 80 | 填写/Description | 260 | 填写/Description |
| 90 | 填写/Description | 270 | 填写/Description |
| 100 | 填写/Description | 280 | 填写/Description |
| 110 | 填写/Description | 290 | 填写/Description |
| 120 | 填写/Description | 300 | 填写/Description |
| 130 | 填写/Description | 310 | 填写/Description |
| 140 | 填写/Description | 320 | 填写/Description |
| 150 | 填写/Description | 330 | 填写/Description |
| 160 | 填写/Description | 340 | 填写/Description |
| 170 | 填写/Description | 350 | 填写/Description |
| 180 | 填写/Description | 360 | 填写/Description |

P6-1）燃油泵 – 拆下状态 P6-2）燃油泵 – 在安装位置

Fuel pump(s) - dismounted Fuel pump(s) - in its location

|  |  |
| --- | --- |
| 添加照片Photo | 添加照片Photo |

**7.** 燃油喷射 - 电子产品/ FUEL FEED BY INJECTION - ELECTRONICS

|  |  |
| --- | --- |
| a）ECU注册于官方套件/ECU registered in official kit | 直接/Direct |
| b）喷油器位置/Injectors position | 缸盖/Cylinder head |
| c）发动机控制系统传感器列表/ List of engine control system sensors |
| C1 | 填写/Description | C15 | 填写/Description |
| C2 | 填写/Description | C16 | 填写/Description |
| C3 | 填写/Description | C17 | 填写/Description |
| C4 | 填写/Description | C18 | 填写/Description |
| C5 | 填写/Description | C19 | 填写/Description |
| C6 | 填写/Description | C20 | 填写/Description |
| C7 | 填写/Description | C21 | 填写/Description |
| C8 | 填写/Description | C22 | 填写/Description |
| C9 | 填写/Description | C23 | 填写/Description |
| C10 | 填写/Description | C24 | 填写/Description |
| C11 | 填写/Description | C25 | 填写/Description |
| C12 | 填写/Description | C26 | 填写/Description |
| C13 | 填写/Description | C27 | 填写/Description |
| C14 | 填写/Description | C28 | 填写/Description |
| d）发动机控制系统执行器列表/ List of engine control system actuators |
| A1 | 填写/Description | A7 | 填写/Description |
| A2 | 填写/Description | A8 | 填写/Description |
| A3 | 填写/Description | A9 | 填写/Description |
| A4 | 填写/Description | A10 | 填写/Description |
| A5 | 填写/Description | A11 | 填写/Description |
| A6 | 填写/Description | A12 | 填写/Description |

P7-1）喷射系统/Injection system

|  |  |  |  |
| --- | --- | --- | --- |
| 添加照片PhotoC1 | 添加照片PhotoC2 | 添加照片PhotoC3 | 添加照片PhotoC4 |
| 添加照片PhotoC5 | 添加照片PhotoC6 | 添加照片PhotoC7 | 添加照片PhotoC8 |
| 添加照片PhotoC9 | 添加照片PhotoC10 | 添加照片PhotoC11 | 添加照片PhotoC12 |
| 添加照片PhotoC13 | 添加照片PhotoC14 | 添加照片PhotoC15 | 添加照片PhotoC16 |
| 添加照片PhotoC17 | 添加照片PhotoC18 | 添加照片PhotoC19 | 添加照片PhotoC20 |
| 添加照片PhotoC21 | 添加照片PhotoC22 | 添加照片PhotoC23 | 添加照片PhotoC24 |
| 添加照片PhotoC25 | 添加照片PhotoC26 | 添加照片PhotoC27 | 添加照片PhotoC28 |

|  |  |  |  |
| --- | --- | --- | --- |
| 添加照片PhotoA1 | 添加照片PhotoA2 | 添加照片PhotoA3 | 添加照片PhotoA4 |
| 添加照片PhotoA5 | 添加照片PhotoA6 | 添加照片PhotoA7 | 添加照片PhotoA8 |
| 添加照片PhotoA9 | 添加照片PhotoA10 | 添加照片PhotoA11 | 添加照片PhotoA12 |

I7-1）传感器和执行器位置/ LOCATION OF SENSORS AND ACTUATORS

|  |
| --- |
| 添加图纸Drawing |

**8.** 凸轮轴/ CAMSHAFT

|  |  |
| --- | --- |
| a）驱动方式/Drive system | 填写/Description |
| b）轴承直径/Diameter of bearings | 填写/Description ±0.1mm |
| c）凸轮尺寸Cam dimensions | A=B= | 进气/Intake | 排气/Exhaust |  |
| 填写/Description ±0.1 mm | 填写/Description ±0.1 mm |
| 填写/Description ±0.1 mm | 填写/Description ±0.1 mm |
| A和B的公差值必须与表内数值相符The tolerances must be used with the same sign for A and B |
| d）最小重量/Min. weight | 填写/Description kg | 填写/Description kg |

**9.** 正时/ TIMING

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| a）理论间隙Theoretical clearance | 进气/Intake | 填写/Description mm | 排气/Exhaust | 填写/Description mm |
| b）凸轮升程/毫米（卸载凸轮轴）Cam lift in mm (dismounted camshaft) | 填写/Description ±0.2mm |
| c）最大气门升程Max. valve lift | 进气/Intake | 排气/Exhaust | 包括9.a)项理论间隙with clearance according to Art.8.a) |
| 填写/Description ±0.2 mm | 填写/Description ±0.2 mm |
| 进气/INTAKE |
| 旋转角度（度）Rotation angle (degrees) | 升程/ Lift in mm(±0.05 mm) | 旋转角度（度）Rotation angle (degrees) | 升程/ Lift in mm(±0.05 mm) |
| 0 | 填写/Description |  |
| -5 | 填写/Description | +5 | 填写/Description |
| -10 | 填写/Description | +10 | 填写/Description |
| -15 | 填写/Description | +15 | 填写/Description |
| -30 | 填写/Description | +30 | 填写/Description |
| -45 | 填写/Description | +45 | 填写/Description |
| -60 | 填写/Description | +60 | 填写/Description |
| -75 | 填写/Description | +75 | 填写/Description |
| -90 | 填写/Description | +90 | 填写/Description |
| -105 | 填写/Description | +105 | 填写/Description |
| -120 | 填写/Description | +120 | 填写/Description |
| -135 | 填写/Description | +135 | 填写/Description |
| -150 | 填写/Description | +150 | 填写/Description |
| -165 | 填写/Description | +165 | 填写/Description |
| -180 | 填写/Description | +180 | 填写/Description |
| 整个测量过程中最多允许±2度的偏转A shift of ± 2 degrees of the whole measurement is accepted |
| 排气/EXHAUST |
| 旋转角度（度）Rotation angle (degrees) | 升程/ Lift in mm(±0.05 mm) | 旋转角度（度）Rotation angle (degrees) | 升程/ Lift in mm(±0.05 mm) |
| 0 | 填写/Description |  |
| -5 | 填写/Description | +5 | 填写/Description |
| -10 | 填写/Description | +10 | 填写/Description |
| -15 | 填写/Description | +15 | 填写/Description |
| -30 | 填写/Description | +30 | 填写/Description |
| -45 | 填写/Description | +45 | 填写/Description |
| -60 | 填写/Description | +60 | 填写/Description |
| -75 | 填写/Description | +75 | 填写/Description |
| -90 | 填写/Description | +90 | 填写/Description |
| -105 | 填写/Description | +105 | 填写/Description |
| -120 | 填写/Description | +120 | 填写/Description |
| -135 | 填写/Description | +135 | 填写/Description |
| -150 | 填写/Description | +150 | 填写/Description |
| -165 | 填写/Description | +165 | 填写/Description |
| -180 | 填写/Description | +180 | 填写/Description |
| 整个测量过程中最多允许±2度的偏转A shift of ± 2 degrees of the whole measurement is accepted |

P9-1）凸轮轴 – 拆下状态 I9-1）副车架 – 特征尺寸

Camshaft - dismounted Camshaft - Typical dimensions

|  |  |
| --- | --- |
| 添加照片Photo | 绘图和尺寸Drawing with dimensions |

P9-2）摇臂 – 拆下状态 I9-2）摇臂 – 特征尺寸

Rocker arm - dismounted Rocker arm - Typical dimensions

|  |  |
| --- | --- |
| 添加照片Photo | 绘图和尺寸Drawing with dimensions |

P9-3）挺杆 – 拆下状态 I9-3）挺杆 – 特征尺寸

Tappet - dismounted Tappet - Typical dimensions

|  |  |
| --- | --- |
| 添加照片Photo | 绘图和尺寸Drawing with dimensions |

P9-4）正时皮带或链条 – 拆下状态 I9-3）正时皮带或链条 – 明确说明

Timing belt or chain - dismounted Timing belt or chain - Specify

|  |  |
| --- | --- |
| 添加照片Photo | 齿节/齿数/长/宽Pitch/Nb. of teeth/Length/Width |

**10.** 进气/ INTAKE

|  |  |
| --- | --- |
| a）歧管材质/Material of manifold | 填写/Description |
| b）歧管元件数量/ Number of manifold elements | 填写/Description |
| b1）歧管的内部容积/ Internal volume of manifold | 填写/Description ±0.1dm³ |
| b2）歧管的最小重量/Min. weight of manifold | 填写/Description g |
| b3）进气管节流阀尺寸/ Dimensions of the intake pipe at the throttle valve | 填写/Description ±0.25mm |
| c）阀头的最大直径/ Max. diameter of the valve head | 填写/Description ±0.25mm |
| c1）阀头的角度/ Angle of valve head | 填写/Description deg±30min |
| d）阀杆在导管内部分的直径/ Diameter of valve stem in guide | 填写/Description +0/-0.2mm |
| e）阀门长度/ Valve length | 填写/Description ±1.5mm |

P10-1）进气歧管 – 拆下状态 P10-2）进气歧管 – 拆下状态

Intake manifold - dismounted Intake manifold - dismounted

|  |  |
| --- | --- |
| 添加照片Photo | 添加照片Photo |

P10-3）进气歧管 – 拆下状态 P10-4）进气歧管 – 拆下状态

Throttle unit - dismounted Throttle unit - dismounted

|  |  |
| --- | --- |
| 添加照片Photo | 添加照片Photo |

P10-5）泄压阀 – 拆下状态 P10-6）进气歧管 – 歧管上安装位置

Pressure relief valve - dismounted Pressure relief valve – Mounted on manifold

|  |  |
| --- | --- |
| 添加照片Photo | 添加照片Photo |

I10-1）节气门的剖面图 – 拆下状态

Section drawing of the throttle-unit

|  |
| --- |
| 绘图和尺寸Drawing with dimensions |

进气/ INTAKE

|  |
| --- |
| 歧管的端口图纸 - 尺寸公差： ±1％Drawings of manifold ports - tolerances on dimensions : ±1% |

I10-2）歧管，缸盖侧 / Manifold, cylinder head side

|  |
| --- |
| 添加图纸Drawing |

I10-3）歧管，进气口横截面/ Manifold cross section

|  |
| --- |
| 添加图纸Drawing定义按照 FIA J-251-2.3.4DEFINITION PER FIA J-251-2.3.4 |

**11.** 排气/ EXHAUST

|  |  |
| --- | --- |
| a）歧管材质/Material of manifold | 填写/Description |
| b）歧管元件数量/ Number of manifold elements | 填写/Description |
| c）歧管出口的内部尺寸/ Internal volume of manifold | 填写/Description ±0.2mm±2.0mm如果是原装未加工if raw and not fabricated |
| c1）管的最小厚度/Min. thickness of tubes | 填写/Description mm |
| d）阀门的最大直径/ Max. diameter of the valve | 填写/Description mm |
| d1）阀头的角度/ Angle of valve head | 填写/Description deg±30min |
| e）阀杆在导管内部分的直径/ Diameter of valve stem in guide | 填写/Description +0/-0.2mm |
| e）阀门长度/ Valve length | 填写/Description ±1.5mm |

P11-1）进气歧管 – 拆下状态 P11-2）进气歧管 – 拆下状态

Exhaust manifold - dismounted Exhaust manifold - dismounted

|  |  |
| --- | --- |
| 添加照片Photo | 添加照片Photo |

排气/ EXHAUST

|  |
| --- |
| 歧管的端口图纸 - 尺寸公差： ±1％Drawings of manifold ports - tolerances on dimensions : ±1% |

I11-1）歧管，缸盖侧 / Manifold, cylinder head side

|  |
| --- |
| 添加图纸Drawing |

**12.** 冷却系统/ COOLING SYSTEM

|  |  |
| --- | --- |
| a）水泵的类型和来源/Type and origin of the water pump | 填写/Description |

P12-1）水泵 – 拆下状态 P12-2）水泵安装在发动机上的位置

Water pump - dismounted Water pump Mounted on engine

|  |  |
| --- | --- |
| 添加照片Photo | 添加照片Photo |

P12-3）水泵的叶轮 I5-1）水泵的叶轮 - 设计图

 Turbine wheel of water pump Turbine wheel of water pump - Drawing

|  |  |
| --- | --- |
| 添加照片Photo | 绘图和尺寸Drawing with dimensions |

**13.** 润滑系统/ LUBRICATION SYSTEM

|  |  |
| --- | --- |
| a）油底壳材质/ Material of oil sump | 填写/Description |
| b）油底壳容量/ Capacity of oil sump | 填写/Description ±0.5 liter |

P13-1）油底壳 – 拆下状态 P13-2）油底壳 – 拆下状态

Oil sump - dismounted Oil sump - dismounted

|  |  |
| --- | --- |
| 添加照片Photo | 添加照片Photo |

P13-3）机油泵 – 拆下状态 P13-4）机油泵 – 拆下状态

Oil pump - dismounted Oil pump - dismounted

|  |  |
| --- | --- |
| 添加照片Photo | 添加照片Photo |

P13-5）机油泵 – 拆下状态

Oil pump - Mounted in its location

|  |
| --- |
| 添加照片Photo |

**14.** 涡轮增压器和配套冷却器/ TURBOCHARGING SYSTEM

|  |
| --- |
| a）涡轮增压器注册于官方指定产品注册表中/ Turbocharger registered in official parts form |
| b）压力调节类型Type of pressure adjustment | 旁通/Pass单项勾选/Single choice | 泄压/Relief valve单项勾选/Single choice | 其他/Other单项勾选/Single choice |
| b1）压力调节类型Type of pressure adjustment | 如其他/If other填写/Description |

P14-1）调节涡轮压力的设备 – 拆下状态 P14-1）调节涡轮压力的设备 – 在安装位置

Device regulating turbocharger pressure Device regulating turbocharger pressure

- dismounted - Mounted in its location

|  |  |
| --- | --- |
| 添加照片Photo | 添加照片Photo |

I14-1）调节涡轮压力的设备 / Device regulating turbocharger pressure

|  |
| --- |
| 添加图纸Drawing |