Homologation No:

**06/ENG/23**

# Kart Engine Homologation

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| **Category** | **CADET** |
| **Manufacturer** | Honda |
| **Model** | GX200 (sealed) |
| **Valid From** | 01 January 2023 |

This Homologation Form reproduces descriptions, illustrations and dimensions of the engine at the point of homologation. This document may be supplemented by official amendment. This document must be read in conjunction with the appropriate Class Regulations.


Photo of drive side of engine

Photo of opposite side of engine

**Signature and stamp of Motorsport UK**

Date: **01 January 2023**

Signed by: **Joe Hickerton**

Position: **Technical Manager**


Photo of rear of engine

Photo of front of engine

Photo of top of engine

## List of appendices

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Last updated: 01 January 2023

# Technical information

| 1. Main features | | |
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| **Item** | | **Tolerance / remarks** |
| Crankshaft Stroke | 54.15mm | Maximum |
| Cylinder Bore | 68.15mm | Maximum |
| Cylinder Head Height | 72.45mm | Minimum |
| Deck Height | 135.10mm | Minimum |
| Carburettor Bore | 14.56mm | Maximum |
| Cylinder Head Port (Inlet) | 27.65mm | Maximum |
| Cylinder Head Port (Exhaust) | 26.85mm | Maximum |

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| **2. General.** | **2.1** | All engines will be logged on an online database. |
| | **2.2** | The engine must be presented at scrutineering with the official class seal intact. |
| | **2.3** | The engine must at all times be raced in standard form as supplied. Filing, grinding, polishing, surface treating, machining or lightening of any components is forbidden. |
| | **2.4** | All parts used in or on the engine must be as supplied and of Honda origin. |

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| **3. Exhaust.** | **3.1** | Must be standard and unmodified as supplied. |
| | **3.2** | The heat shield is an integral part of the exhaust and must always be in place and unmodified. |
| | **3.3** | Up to two gaskets may be used to ensure a seal against the exhaust port. |

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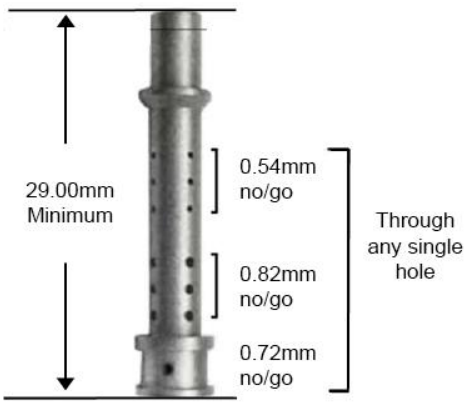
| **4. Carburettor.** | **4.1** | Bore diameter: 14.56mm maximum |
| | **4.2** | Overall length: 54.0 ± 0.1mm (manifold face to airbox face) |
| | **4.3** | Main jet: Size **75** must be used. |
| | **4.4** | Emulsion tube part number **16166-Z4M-922** must be used, dimensions as per diagram.   |

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| | **4.5** | Pilot jet sizes marked with either **38** or **40** must be used and must be unmodified. The rubber O-ring must be present. |
| **5. Restrictor.** | **5.1** | The controlled restrictor plate must be fitted between the carburettor and insulator with a gasket on either side as supplied. |
| | **5.2** | De-burring of the inside diameter of the restrictor, perpendicular to its face, to a maximum of 15mm is permitted. There must be no chamfering visible and any process must not alter the standard profile of the opening. |
| **6. Air Filter.** | **6.1** | The original air filter can have its paper element removed.<br>The plastic outer cover must remain as standard, unmodified and securely fixed in its original position. |
| **7. Spark Plug.** | **7.1** | Permitted spark plugs: **NGK BRP6ES** or **BP6ES** |
| | **7.2** | Spark plug must be standard and unmodified, with its original sealing gasket washer in place.<br>Electrode gap measurement is free. |
| | **7.3** | When using **NGK BP6ES** the spark plug cap must be original Honda item and the resistor must be in place.<br>When using **NGK BPR6ES** the spark plug cap is free and the resistor must be in place. |
| **8. Bodywork and Ducting.** | **8.1** | All the engine bodywork and ducting must be standard and unmodified. |
| | **8.2** | The pull-cord mechanism must be standard and unmodified, except that the pull cord may be rotated on its standard mounting holes. |
| | **8.3** | The on/off switch must be fitted and be capable of stopping the engine.<br>A shroud may be attached to protect the switch from accidental triggering on track. |
| **9. Rocker Cover.** | **9.1** | The rocker cover must be standard and unmodified.<br>Its valve must be present and in working order. |
| | **9.2** | The breather pipe must be in position and of original length.<br>It must be securely fixed in both the rocker cover and the outlet of the airbox and have no perforations or leakage points. |
| **10. Valve Gear.** | **10.1** | The valve rocker studs must be standard and unmodified. |
| | **10.2** | The valve spring used must be a standard spring (part number **HN14751-ZH8-940**).<br>A force of 8kg must compress the spring to a maximum 18.50mm overall length. |
| | **10.3** | Rocker arms, cam followers and pushrods must be standard and unmodified. |
| **11. Valves and Valve Seats.** | **11.1** | Standard size valves must be used, part numbers: Inlet **HN14711-Z4V-900** and Exhaust **HN14721-Z4V-900**. |

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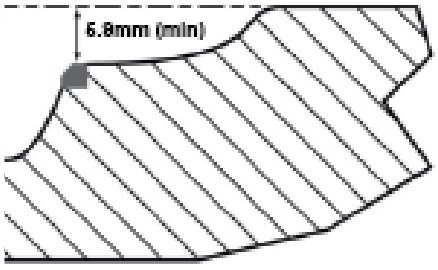
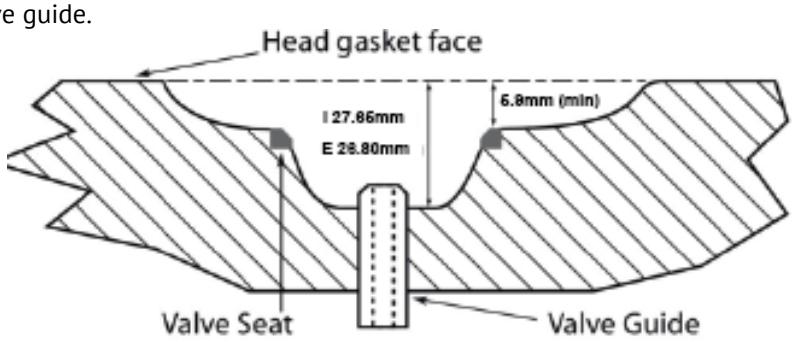
| | **11.2** | Valves may be reground, but only a single angle of 45°. |
| | **11.3** | Valve height, measured from the cylinder head face to the valve face:<br>Inlet: Min. 4.90mm<br>Max. 5.40mm<br>Exhaust: Min. 4.40mm<br>Max. 5.40mm |
| | **11.4** | Valve seat cutting is allowed, a maximum of three angles in total.<br>The seating face however must be 45°. |
| | **11.5** | Valve seats must not be replaced. |
| | **11.6** | Valve seat height, measured from the cylinder face to the valve seat:<br>Inlet: Min. 5.90mm<br>Max. 6.30mm<br>Exhaust: Min. 5.90mm<br>Max. 6.30mm<br>  |
| **12. Cylinder Head.** | **12.1** | Minimum measurement of 72.45mm (to be measured at room temperature) from the rocker cover gasket face to the cylinder head gasket face. |
| | **12.2** | Ports must be standard and unmodified, the standard de-burring marks and sharp edges must always be present. |
| | **12.3** | A maximum measurement of 27.65mm (inlet) and 26.80mm (exhaust) must be present between the cylinder head gasket face and the land surrounding the valve guide.<br>  |
| | **12.4** | Spark plug hole face surface must remain standard and un-modified. |
| | **12.5** | A single cylinder head gasket (part number **HN12251-ZL0-003**) must be used and be unmodified with a minimum thickness at all points of 0.20mm. |
| **13. Piston.** | **13.1** | Piston rings must be standard and unmodified. Part number **HN13010-ZL0-003** marked **A**, **1R**, **R**, **T**, **1T**, **NT**, **1N/T**, **1R**, **RC** or **N** on top ring can be used. Filing of the ends is not permitted. |
| | **13.2** | Piston height: Minimum 49.00mm (bottom of skirt to crown) |
| | **13.3** | Piston dish height: Minimum 1.40mm |

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| **14. Connecting Rod.** | **14.1** | The standard connecting rod is to be used, part number **HN13200-Z0T-800**, which must remain standard and unmodified. |
| | **14.2** | Connecting rod centre to centre: 83.95mm ± 0.1mm |

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| **15. Crankshaft.** | **15.1** | Crankshaft part number **HN13310-ZL0-672** must be used. |
| | **15.2** | The governor gear on the crankshaft can be removed. |
| | **15.3** | The flywheel key may be removed or modified in accordance with article 16.2. |
| | **15.4** | Final crankshaft stroke: Maximum 54.15mm. |

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| **16. Flywheel.** | **16.1** | The flywheel must be standard and unmodified.<br>Weight must be between 2.2-2.5kg. |
| | **16.2** | Ignition timing is to be set using the following method:<br>- Remove spark plug and rotate engine in its forward direction of travel a minimum of two complete crankshaft revolutions, before inserting the controlled marked piston stop in the spark plug hole.<br>- Rotate the engine against its natural travel direction until the piston meets the stop.<br>- Zero your digital rotary meter. Rotate the engine forward until it meets the piston stop once more. Note that reading. Subtract that reading from 360 degrees and bisect the remainder.<br>- Release the piston stop and continue to advance the flywheel in the forward direction by that amount.<br>- At this point, measure the ignition timing, using the correct controlled marked template tool in place. |

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| **17. Ignition Coil.** | **17.1** | The ignition coil (including ignition lead) must be the standard unit and unmodified. |
| | **17.2** | The coil mounting bolts must be standard and unmodified and use only the original mounting positions. |

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| **18. Camshaft** | **18.1** | Part number **HN14100-ZL0-000** must be used and remain standard and unmodified. |
| | **18.2** | No regrinding of the cam profiles is permitted. |
| | **18.3** | The service limit is: Inlet: 27.45mm<br>Exhaust: 27.50mm. |

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| **19. Pushrods.** | **19.1** | The pushrods must be standard and unmodified units. |
| | **19.2** | Pushrod length: 133.9 ±0.5mm. |

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| **20. Crankcase.** | **20.1** | The crankcase bearings (part number **HN961006205000**) and seals (part number **HN91201-Z0T-801**) must be used and remain standard and unmodified. |

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| | **20.2** | It is permitted to introduce a magnet into the crankcase area, by fixation into either the sump drain plug or oil filler plug. |
| | **20.3** | The bore may be honed to the service limit of maximum 68.15mm.<br>No sleeving or surface coating of the standard bore material is permitted. |
| | **20.4** | Deck height: Minimum 135.10mm (read between the cylinder mating face and the centre line of the bearings). |
| | **20.5** | Crankcase side cover must be standard and unmodified. Both dowels must be in place and remain standard and unmodified.<br>Bearing and seal as per crankcase (see 19.1). |

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| **21. Gaskets.** | **21.1** | All gaskets must be standard and unmodified using genuine manufacturer parts. |

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| **22. Clutch.** | **22.1** | Magnum clutch, with white springs and heavy shoes, must be used. |
| | **22.2** | In all instances the clutch must be in standard form as supplied, be incapable of adjustment in position and have a maximum engagement speed of no more than 2,500rpm engine speed. |
| | **22.3** | Only metal to metal contact is allowed, no use of friction materials. |
| | **22.4** | Permitted size: 20 teeth. |