

## 2020 Class Rules & Regulations: CADET HONDA

**Quote:** "Unless it states that you can do it... Then you cannot!"



**CH1** Competitors in the Cadet Class must be 8 years old and can continue to compete up to the 31<sup>st</sup> December of the calendar year in which their 13<sup>th</sup> Birthday falls. Any approved drivers that were under 8 years and raced with us in 2019, are approved to race in 2020. Any new driver of 7 years of age will be required to be approved by the Youngstarz Training Club.

**A driver cannot revert back if moved up to a different class.**

**All new drivers joining the club** will be classed as a novice and will start from the back of the grid during a minimum of 3 to a potential maximum of 6 race meetings.

Any driver who produces a **full MSA** Licence at signing on/scrutineering or a novice licence with 6 signatures. If proven and agreed by RLK that a non MSA driver has raced at another circuit, then one race meeting under Novice plates will apply. However, once signed off by the Race Director, any experienced drivers are permitted to start at the back of the grid providing their request has been noted with the circuit before signing on the race day, they will be classed as a non-novice and excluded from the novice trophy.

In addition to the above, you cannot race unless you have the following:

- Been to Youngstarz Training Club based at RLK and been approved by a Youngstarz instructor to race in Club 2000 with the exception of the minimum age restriction where the driver can be 7 years old.
- Attended by appointment a driver assessment session at RLK to take part in Timed Laps and a Flag Test which will then need to be approved by RLK.
- Holds an A.R.K.S. Licence or Holds a Novice MSA Licence. Licences must be shown first at "Signing- On" then in the second instance at "Scrutineering" on your first race meeting.
- If you hold a **FULL MSA** Licence the above does not apply, but a Full Licence must be shown first at "Signing on" then in the second instance at "Scrutineering" on your first Race in Club 2000 with the exception to the minimum age restriction rule.
- An original **Birth Certificate** is required for RLK to copy and keep on file for ALL Cadets for our health and safety policy.
- The Race Director makes all the above decisions which are final.

### HONDA CADETS – PRO / CLUBMAN EXPLAINED

- In 2017 we introduced a pro/clubman category within the Honda Cadets. Everyone will continue to race together as normal and there will only be one Honda Cadet championship.

**CH2 Chassis** – These must remain as standard in ALL respects and may only be subject to approved modifications by the Scrutineers for health and safety. Only one chassis can be submitted to the meeting on race day.

**CH3 Seat** – Free. Additional bolt on seat stays/mountings are permitted to a maximum of one per side, position is free. Bolt fixings must be used at each end of the seat stays.

**CH3a** Transponder - An AMB160 Transponder must be fitted to the rear of the seat 25cm from the ground +/- 5cm by means of the correct bracket.

### **CH4 Bodywork and Bumpers**

All cadet karts must be fitted with bumpers and bodywork providing front, rear and side protection, as detailed in the regulations below and in Drawing Number 6 in Section U of the MSA Competitors and Officials Yearbook. CSAI homologated Minikart bodywork may also be used, with the exception of the Rear Protection System. An MSA-registered Rear Protection System may be used in lieu of a rear bumper (1.3.7), an up-to-date list of MSA-registered RPS can be found at [www.msauk.org/karttech](http://www.msauk.org/karttech). The bumper must cover at least 50% of

each rear wheel/tyre at all times. The front nose cone must have a flat front. Any modifications to this rule will be subject to the Race Director's approval.

### **Front Bumper**

Must comply with U17.2.1-17.2.3 and the following:

- Have the four attachment points welded to the chassis-frame. For 2011 and later homologated chassis, these points must be as homologated.
- The lower bar must be constructed from magnetic steel tubing with minimum outside diameter of 18mm and a minimum wall thickness of 1.4mm and comprise a D-shape extension to the chassis frame. It must be a minimum width of 250mm, and be 80mm  $\pm$  30mm above the ground with the kart in dry configuration.
- The upper bar must be constructed from magnetic steel tubing with minimum outside diameter of 15mm and a minimum wall thickness of 1.4mm. It must be a minimum width of 300mm, and be 200mm  $\pm$  50mm above the ground with the kart in dry configuration.
- No part of the lower or upper bar may be modified from original manufacture. Filing, grinding or any additional material in the area of the front fairing mounting kit attachment is prohibited. This includes any device preventing the free movement of the front fairing being pushed back.

### **Rear Bumper**

Must comply with U17.8.4-17.8.8, and the following:

- Consist of two horizontal tubes. The upper having outer extension forming a closed loop, with two link tubes to the chassis anchorage points (as per Drawing 5, Diagram 2 in Appendix 1 of Section U) at least 450mm apart at any point. The radius of the outer extensions is free but it should not be less than 2.5 times the tube outside diameter.
- Have the upper bar and outer loops constructed from magnetic steel tubing with a minimum outside diameter of 18mm and a minimum wall thickness of 1.4mm.
- Have the lower bar constructed from magnetic steel tubing with a minimum outside diameter of 15mm and a minimum wall thickness of 1.4mm.
- Have the upper tube and uppermost extension element 225mm  $\pm$  25mm above the ground in dry configuration.
- Have the lower tube connected between the two uprights and a maximum height of 100mm above the ground in dry configuration and a minimum height level with the centreline of the chassis rail.
- Have the fixings secured at all times. The contact area of the fixing must not protrude inside the rear of the chassis rail by more than 100mm.

### **Side Bumpers**

The side bumpers must:

- Comprise a minimum of a single tube constructed from magnetic steel tubing with minimum outside diameter of 18mm and a minimum wall thickness of 1.4mm (minimum diameter of 20mm recommended).
- Be securely attached to chassis by a minimum of two points on each side of the chassis.
- Allow for the attachment of the mandatory side pods.
- For pre-2011 homologated chassis, where parallel side bumper mounting points are used, have these points a minimum of 375mm apart (measured at the centres). For 2011 and later homologated chassis, these points must be as homologated.
- Side bumpers must be compatible with existing bodywork and include side support.

### **Side Pods**

Must comply with U17.10 and the following:

- Include on the outer side a vertical surface with a minimum height of 70mm and a minimum length of 250mm located immediately above the ground clearance.
- Not include holes or cuttings except those necessary for their attachment and those in the inside and top plastic face for fitments (maximum M8 diameter). A hole may also be drilled for starter access, even if not in use.
- Not cover any part of the driver seated in their normal driving position.
- Not be designed to hold back water, gravel or any other substance.

- Have a clearance of between 25mm and 60mm above the ground in dry configuration (see back page for detailed drawing).

### **Front Fairing**

Must comply with the following:

- Have a width of 850mm ± 150mm.
- Have a front overhang of 530mm maximum.
- Have a clearance of between 25mm and 60mm above the ground in dry configuration (see back page for detailed drawing).
- Comprise on its front face a centrally located vertical surface minimum 250mm x 70mm.

### **Front Fairing Blocks**

The CIK-homologated detachable front fairing mounting kit (CIK drawing see back page) must be used with effect from 1<sup>st</sup> April 2018. Where the CIK-homologated detachable front fairing mounting kit is mandatory, it must at all times be fitted and maintained in the correct position see drawing on back page. It is not permitted to reposition a front fairing except by stopping in the repairs area (where such a facility is provided) and this may not be done after passing the chequered flag.

The open ended CSAI homologated front fairings will not be permitted.

### **Front (Nassau) Panel**

Must comply with U17.6.1, 17.6.2, 17.6.4, 17.6.5, and the following:

- Have a maximum width of 300mm.
- Be fixed behind the front bumper and must not protrude past the front face of the front fairing.

**Torsion Bars.** Karts homologated with rear torsion bars must be raced with the bars in place and locked at all times. Front and side torsion bars are not permitted.

**CH5 Eligibility.** The complete chassis in its homologated form, with accessories and equipment as homologated and the engine as supplied by the manufacturer (or importer where applicable) are the only combination which will be allowed to race. The registered manufacturer may apply for changes to accessories, such as brakes, on the grounds of safety. Such changes will only be acceptable with the written approval of Karting UK.

**CH6 Kart engines** may only be started in an area designated by the organisers, which shall include the live area of the circuit. When starting an engine, the driver must be seated correctly in the seat with all four wheels of the kart on the ground. Exceptionally non-centrifugal-clutch classes may start their engines, in the same designated area, with the kart positioned on a trolley in a position that will not endanger others.

**Engine: Honda** 'GX160UT1 QHQ4', 'GX160UT2-QHQ4' or 'GX160RT2-QHG4' designation is to be fitted.

**T2 Engine only:** must run with a performance restrictor. Insertion of a 16mm inlet restrictor between the carburetor and insulator.

**T1 Engine:** can run without a 16mm restrictor.

See class specific regulations below.

**Engine Modifications:** The use of a single in-line fuel filter is permitted.

**Performance Restrictions:** Karting UK reserves the right at any time to vary any performance restriction in any Cadet Class.

**Transmission:** Direct from the engine to the axle via a single length of chain. All methods of chain oiling and greasing while the kart is in motion are forbidden. A guard must be fitted covering the transmission in compliance with Motorsport UK Yearbook regulations (see U18.8.4 and U18.8.5).

### **Engine Modifications: None allowed**

All engines must remain as standard or with a M.S.A. Seal. All engines should run to MSUK standard of Gold Book 2019 and modifications by RLK.

It is NOT permitted to use any GX TUNING engine in any HONDA class. CLUB 2000 will not accept the use of any engine that is produced, maintained or advertised by GX TUNING.

**Only Two Engines and One Chassis** can be submitted for the race meeting. Engine numbers are to be noted on the Scrutineer card. Race engine 1 and spare engine as 2. During the meeting, the organisers will permit the engine to be changed. The Honda Engine Regulations are as per the Gold Kart Race Year Book 2019 with exception to T1 restrictor rule. Any engine submitted on the scrutineering card will be subject to a scrutineer's inspection at any time during or after racing.

#### **CH7 Axle**

A solid, magnetic parallel bar of 25mm diameter. Split quick release bearing mountings are not permitted. Must be fitted with circlips on the ends of the axle.  
Hollow axles will be permitted from 2020, with minimum 4.5mm wall thickness.

#### **Steering**

All karts must have the steering column mounted in such a way that even if the bottom-retaining bolt is removed it cannot pull free from the lower bearing.

#### **CH8 Brakes**

Karting UK/MSA homologated Cadet brake system. Mechanical or hydraulic operation, solid disc, operating on the rear axle only. Interruptions on the friction surface (drilling, slots etc.) are permitted on homologated systems only and must be specified on the homologation form.  
Radially vented discs are not permitted. The brake linkage must be duplicated.  
All classes must have a secondary braking cable/rod fitted.

#### **CH8a Disc Protectors**

Any efficient rear brake disc protective pad (Teflon, Nylon, Delrin, Carbon Fibre, Kelvar or Rilsan) is mandatory in all categories if the brake disc protrudes below, or is level with, the main chassis tube nearest to the ground. This protection must be placed laterally in relation to the disc in the longitudinal axis of the chassis or under the disc. It must be located within 120mm of the centreline of the brake disc. Regulations as per the Gold Book 2019.

#### **CH9 Wheels**

Wheels may be of two piece or mono aluminium construction, i.e. spun aluminium, diecast aluminium or sandcast aluminium. Hubs may be separate or integral. In accordance with U16.8.6, any hub with an overall length (excluding wheel studs) of less than 60mm must not overhang the ends of the rear axle, measurement to be taken from the wheel-to-hub mating surface.

#### **Chain**

All classes must have a chain guard fitted.

#### **CH10 Tyres**

**Only one set of slick tyres** can be used per race meeting and only three sets can be used per championship; these may be marked at Scrutineering. The Race Director must approve the use of a replacement tyre. There must be no re-cutting of tyres. Before the start of each race wet tyres must measure a minimum of a 2mm tread.

Dry – 'Dunlop SL3-MSUK' (or SL2 up to the end of April) Front 10 x 3.6 x 5, Rear 11 x 5 x 5. Barcoded.

Wet – 'Dunlop KT3' Front 10 x 3.6 x 5, Rear 11 x 4.5 x 5. Barcoded.

**BAR CODES TO BE ADDED TO THE SCRUTINEERING CARD.**

Non-members must use worn tyres after January.

Any Driver seen warming tyres up on the dummy grid may be put to the back of the race grid for Health and Safety. Repeat offenders will be asked to report to the Race Director and may be excluded from the heat/final and/or have their points deducted from their Championship score.

#### **CH11 General**

The practice of lifting karts on the dummy grid or start line while the engine is running is prohibited.

#### **CH12 Weight**

Minimum driver weight is 27kg. Driver & kart minimum weight is 103kg.

Weights will be as per the scales on the day. **All Drivers found to be underweight will be disqualified from the heat/final.** If any Driver is found to be under weight for the second time in the meeting, they will be asked to report to the Race Director.

**CH13 For Classes that include a minimum driver weight** only mandatory items of Personal Protective Equipment (PPE), as required by 13/01/13 are to be included when the Driver is weighed.

**CH14 Exhaust**

No non-sealed exhaust can be run. All engines will run DEPHC1600 exhausts plus mandatory heat guard. The exhaust must be leashed/tethered as per technical regulation No. 2016/4 July 2016 or, new for 2020, a new lighter exhaust from DEP will be an option.

**CH15 Fuel**

It is not permitted to have any additives or lubricant in the fuel. It is no longer mandatory for a non-return valve to be fitted on the fuel tank breather pipe.

**Oil**

Only approved single type oil can be used from February 2020.

**CH16** Club 2000 reserve the right to strip and check any engine before or after any heat or final. All drivers will be responsible for stripping of any engine in front of the technical observer. Club 2000 will not be held responsible for any rebuilding costs. Any driver found to have modified their engine will be asked to report to the Race Director. They may be excluded from the Championship subject to the Race Director's decision and/or have points deducted from their Championship score. The Honda Engine Regulations is as per the Gold Kart Race Year Book 2019 or any modifications approved by RLK.

**IMPORTANT:**

**CH17 Kart Safety**

No one piece of LEAD will weigh more than 4kg and must be fixed with two mechanical fixings. Two pieces mounted on top of each other will be classed as one and must then be fixed with four mechanical fixings, two in each.

**CH18 Noise Restriction**

All karts are restricted to 105 DB.

**CH19 Scrutineering**

All karts must be presented to the Scrutineers ready to race, including wheels and tyres fitted.

**CH20 All Drivers** must report to Scrutineering wearing their race suit, gloves and racing boots, ensuring that the ankles are protected and the whole foot is covered, (non-race footwear may be allowed) for inspection. The Race Director/Scrutineer's decision to allow them to be used is final.

**CH21 Sprockets** – Free.

**CH22 Number Plates**

Honda = Yellow Plate/Red Number

Honda Novice Plate = Black Plate/White Number

**CH23.a Race Number**

Once you have chosen your number and it has been confirmed by Club 2000 then this must be kept for the current year's racing. Only in certain circumstances will a change be allowed at the Administrator's discretion.

**CH24 Rules**

These rules apply to Members and Non-Members. In the interest of Club 2000 and fair competition where all rules are subject to change.

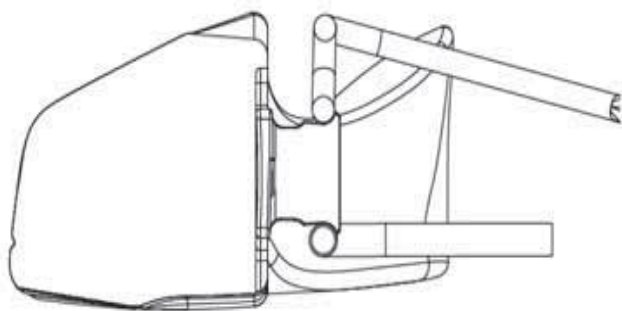
**CH25 All other regulations**

For this class are as per the Gold Book 2020 or any modification approved by RLK.

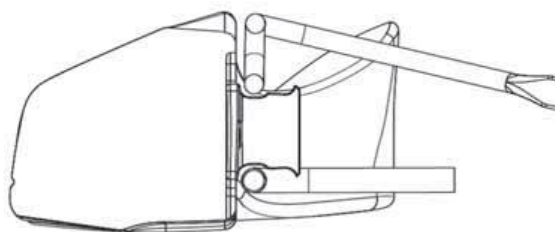
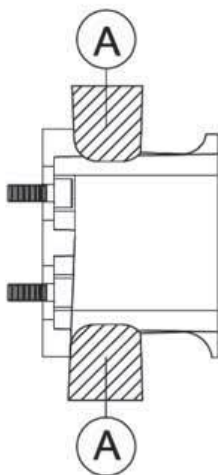
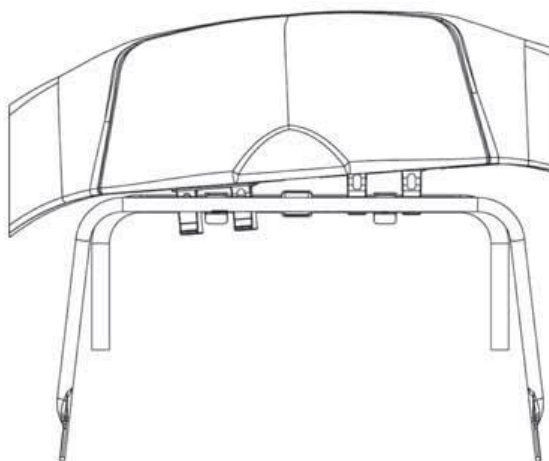
The 2020 Gold book may be used for any additional amendments throughout the current racing year.

**Fair competition for the future of CLUB 2000.**

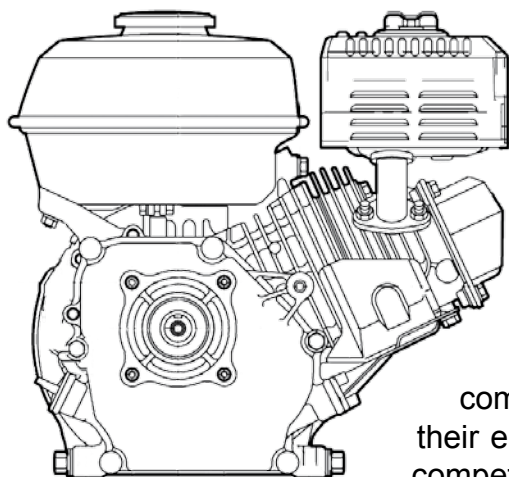
Correct position



Unacceptable position – if any part of the front bumper tubes is in an area marked 'A'



# Honda GX 160 Technical Regulations



## 1. GENERAL

The scrutineer will pay special attention to ensure that the finish of all components match those of the standard unit and reserves the right to compare any part from competitors' engines directly with a standard part as supplied by Honda (UK). Unless competitors have gone out of their way to source alternative parts, their engines should automatically comply with this rule. Furthermore, competitors should note that the term "standard" refers not only to the components used but also to the number used, their position and

function and the manner in which the engines are assembled. Please remember that save for the changes specifically mentioned in these regulations the engines must be completely standard and unmodified, and that all components will remain in place unless this document specifically states that they are allowed to be removed. No specific coating procedures are allowed on any internal or external surface of the engine. The fasteners on the engines may be drilled for the purposes of lock wiring or sealing, as can drain and filling plugs. Replacement of external fasteners with non-Honda fasteners is only permitted when the replacement fastener improves safety or when the standard Honda fastener is not readily available. A thread recovery procedure is acceptable providing that the system and replacement fixing used are of no different size or pitch to the original and therefore offer no mechanical advantage over the original fixing, or alter the position of the original fixing. Use of thread lock and bearing lock compounds permitted. Engine measurements must be taken with the engine in a "just-raced" condition, i.e. with no removal of carbon residue or in any other way altered from the condition in which it was last used.

## 2. DEFINITIONS

### 2a. The standard, unmodified component

This means that the component has not had its substance altered in any way. It has had no material removed from it or added to it (except as noted in these regulations). It will be of the same, original material. Where appropriate, it should have the manufacturer's original manufacturing process or machining marks on it. It is the component defined as being applicable to the particular engine type. If it does not say you can do it, you cannot do it.

### 2b. Engine types

GX160UT2 QHQ4, GX160UH2 QHQ4 and GX160RT2-QHG4 engines (T2) Also later Euro 5 engines numbered from 4000000.\* All of these engine types are eligible (when supplied through HME-L European Engine Centre), with exceptions as notified in the following document.

These regulations relate specifically to the T2 engine, references to all previous engine types have been withdrawn. Previous engine types are subject to the regulations V11a of May 2016.

### 2c. Legality limit

In general terms, and where not clarified or qualified elsewhere in this document, the legal limit for eligibility purposes shall be deemed to be the service limit as specified by Honda in the most up-to-date Honda Service manual for the particular engine. (<http://www.honda-engines-eu.com/en/welcome.html>)

\* On some later engine types, the numbers are laser-etched rather than stamped



## COMPONENT BY COMPONENT

### 3. The fuel tank

It is strongly urged that the engine's integral fuel tank be removed. If this is done then the engine must be fitted with a suitable cover. A standard centrally-mounted fuel tank should then be used unmodified, and this tank and its mounting must be in accordance with manufacturer's instructions. The capacity of this tank must not exceed 7.5 litres, when used for endurance events. Ballast may be added to the tank in order to maintain the maximum capacity. In this instance the kart may be fitted with a pulsed fuel pump(s), which will take a vacuum feed from either the governor rod hole or one drilled in the inlet manifold, tapped to accept a vacuum fitting. Fuel pipes must take a direct route to the carburettor and be safely secured. An extra loop of fuel pipe may be used as a return feed to the tank. One in-line fuel filter of nominal capacity per engine may be fitted, the dimensions of which do not exceed circumference of 10cms and a length (excluding stubs) of 5cms.

### 4. Exhaust

For Honda Cadet the mandatory permitted exhausts are either the DEP001 or DEP002 units only. Its use should include the DEP-supplied tether secured to the flange mounting stud. When using this exhaust it is recommended that a captive nut type of fixing be used to secure the exhaust.



The use of the additional support bracket and vibration washer is not mandatory but is advised, and non-use of this bracket will invalidate any manufacturer's warranty. No attempt should be made to alter the appearance of the exhaust unit, it must have the same textures and manufacturing marks on it as originally supplied. The flange plate must be a minimum

of 4.5mm at all points. The heat shield is an integral part of the exhaust and must be in place at all times. With this exhaust only, sealant may be used with a single gasket, or alternatively two gaskets without sealant.

For Honda Senior, the standard exhaust must be used but a unit modified and sealed by an *Agent* may also be used. In this case, the unit will bear a seal applied by an *Agent* and it is the competitor's responsibility to ensure this seal is in place at all times. At any time the modified unit on the engine can be exchanged with one held by the scrutineer, who will then send the competitor's exhaust back to an *Agent* for inspection. If this unit is found to have been tampered with in any way, then the competitor will be penalised retrospectively. No other repair or modification is allowed. Exhaust, Part No 18310-ZH7-V90 or 18310-Z4M-010 can also be used, and modified as above.

The *Agents* currently are: Focus Racing (0178 737 6655) and 7Kart (0192 083 1000)

The heat shield should be in place at all times. Where the original fixings have failed, they can be replaced with a rivet-type thread repair, which can alternatively be welded, in original position.

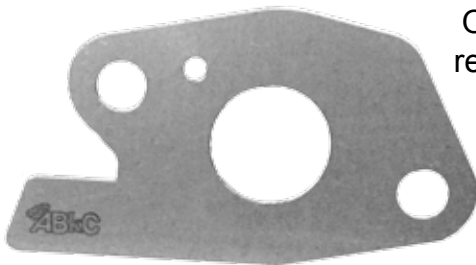


On the DEP units, all welds should be clearly visible, undamaged, not violated or interrupted. Outer weld penetration should also be visible. The ABkC identification tag should be complete, undamaged and in place across the end cap seam weld. On the DEP 002 unit, sides must be parallel with an overall diameter of  $63.5 \pm 0.15\text{mm}$



## 5. Carburettor

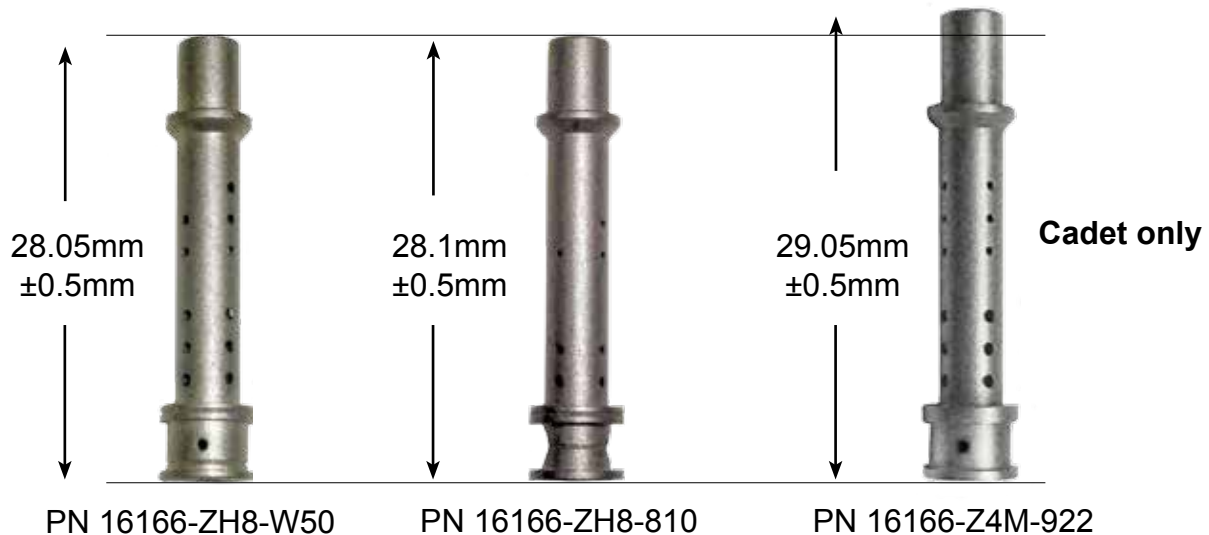
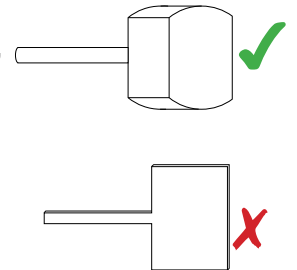
The T2 carburettor must be standard and unmodified. The E2 carb can be used on all variants of the engine. Overall length (manifold face to airbox face) is 53.9mm min and the bore go / no go gauge is 13.2mm / 13.3mm (see note 1). Pilot jet size marked 35 and not exceeding 0.35mm only, the mixture screw tang can be removed (see drawing 1 in Appendix 1). When used as a Cadet or Junior engine, only the official ABkC restrictor plate (which may be de burred) must be fitted between the carburettor and insulator with a gasket on either side and have an opening of no more than 16mm diameter. This size may be altered during the year (see notes page 8). A 2mm hole may be drilled in the tag on the restrictor for the purpose of affixing an official seal. This restrictor is not permitted in Senior engines.



Official ABkC restrictor plate

### Note 1

In some carbs the bore is cast, (and in others machined), and therefore can be a little out of true. If measuring this bore, it is safest to use a semi circular gauge, rather than a flat plate gauge.



## 6. Permitted main jets

size 65 (PN 99101-ZK7-0650)      size 68 (PN 99101-ZK7-0680)  
size 70 (PN 99101-ZK7-0700)      size 72 (PN 99101-ZK7-0720)  
(jets may be brass or silver in colour)

It is permitted to drill or ream these jets to improve their accuracy.

For **Cadet**, emulsion tube must be part number 16166-Z4M-922 **only**, all the above tubes can be used for Junior or Senior engines. The throttle-actuating arm can be modified to accept an actuating rod onto the throttle butterfly, and a method of mounting a throttle actuating cable. Further a method of mounting a throttle return spring only.

## 7. Carburettor air box

Must be standard and unmodified. One hole is permitted to be drilled in Cadet airbox **only** to facilitate fixture of breather bottle (see section 11). The additional silencer, part number 17235-ZE1-831 may be used.

## 8. Air filter

The original air filter, if used, can have it's paper and or foam element removed. Alternatively it can be omitted completely or be substituted for another filter. In any and every case, the plastic outer cover must remain as standard, unmodified and securely fixed in its original position.

## 9. Spark plugs

Must be standard and unmodified (and with its original sealing gasket washer in place) from the following list only, no other can be used. Electrode gap measurement is free. However, the electrode should still conform in shape and relative position to an original item by way of comparison. The standard Honda resistor spark plug cap must be used where a non-resistor spark plug is used, otherwise plug cap is free.

### Permitted spark plugs

NGK	BPR6ES	BP6ES	BP5ES	BPR5ES
Nippondenso	W20EP-U	W20EPR-U	W16EP-U	W16EPR-U

## 10. Bodywork / ducting

All of the engine bodywork and ducting must be standard and unmodified except for the drilling of a small hole to accept one end of a throttle return spring or security fixing. The pull-cord mechanism must be standard and unmodified, although the pull-cord starter may be rotated on its standard mounting holes. The on/off switch must be fitted and be capable of stopping the engine when operated as intended. A shroud may be attached to the casing to protect the switch, if required. All or any of the bodywork / ducting can be painted or chromed.

## 11. Rocker cover

Rocker cover must be standard and unmodified, although it may be painted or chromed. Its valve must be present and in working order. The breather pipe must be in position and intact, of suitable length, it must be securely fixed in both the rocker cover and the outlet of the airbox, and have no perforations or leakage points. For Cadet only, this pipe must be interrupted and fed into a breather bottle as shown, which must have a 4mm hole in its upper surface.



## 12. Valve Gear

The valve rocker studs must be standard and unmodified. The valve spring used must offer no mechanical advantage over a standard QHG4 spring (PN 14751-ZH8-940) i.e. a force of 8 kg will compress the spring to less than 18.5mm overall length. Valve rockers, cam followers and pushrods must be standard and unmodified.

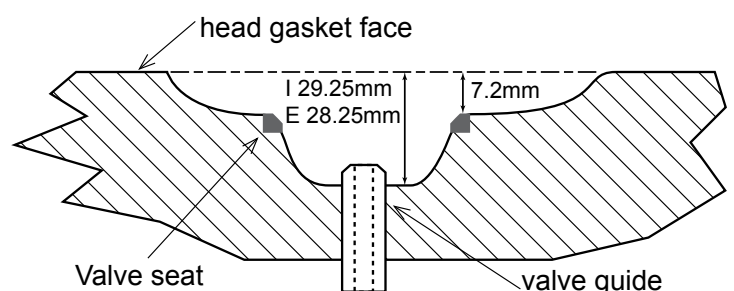
## 13. Valves

Valves will be standard and unmodified. Valve-seat grinding and cutting is allowed, to the single standard profile only (45°) but with one cut above and/or below this standard profile as restorative cuts allowed, a maximum of three angles in total. Valve seat must be 7.2mm or lower, measured from the cylinder head face. A go/no-go gauge will be introduced to check this dimension for compliance.

## 14. Cylinder head

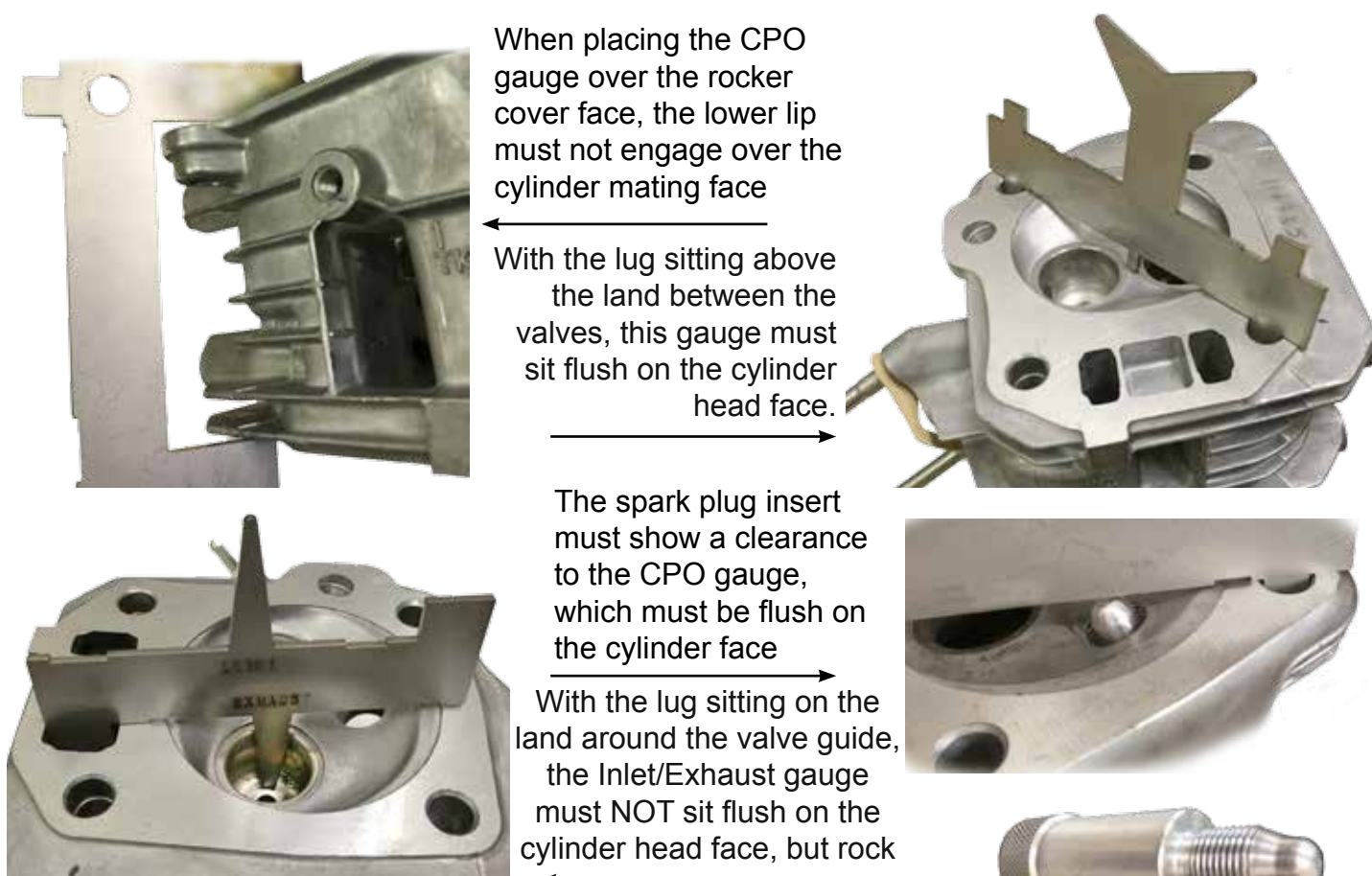
Will be standard and unmodified with a minimum measurement of 73.80mm from the rocker cover gasket face to the cylinder head gasket face. The ABkC CPO gauge can be used to check this. Ports must be standard and unmodified, the standard de-burring marks and sharp edges should always be present. A maximum

measurement of 29.25mm (inlet) and 28.25mm (exhaust) must be present between the cylinder head gasket face and the land surrounding the valve guide. The ABkC Inlet/Exhaust gauge can be used to check this. The ABkC Head gauge is used to check the distance between the cylinder head face and the land between the valves, which must be a minimum of 6.6mm. The ABkC spark plug insert must be used to check plug depth. A standard volume check can be carried out,





in which case you would expect to read a minimum of 21.2cc. If this value is not obtained then a full inspection would be needed using the gauges and measuring methods to decide the eligibility of the engine. The head gasket face may be machined, but the cylinder head must at all times comply with all of the gauges and dimensions.

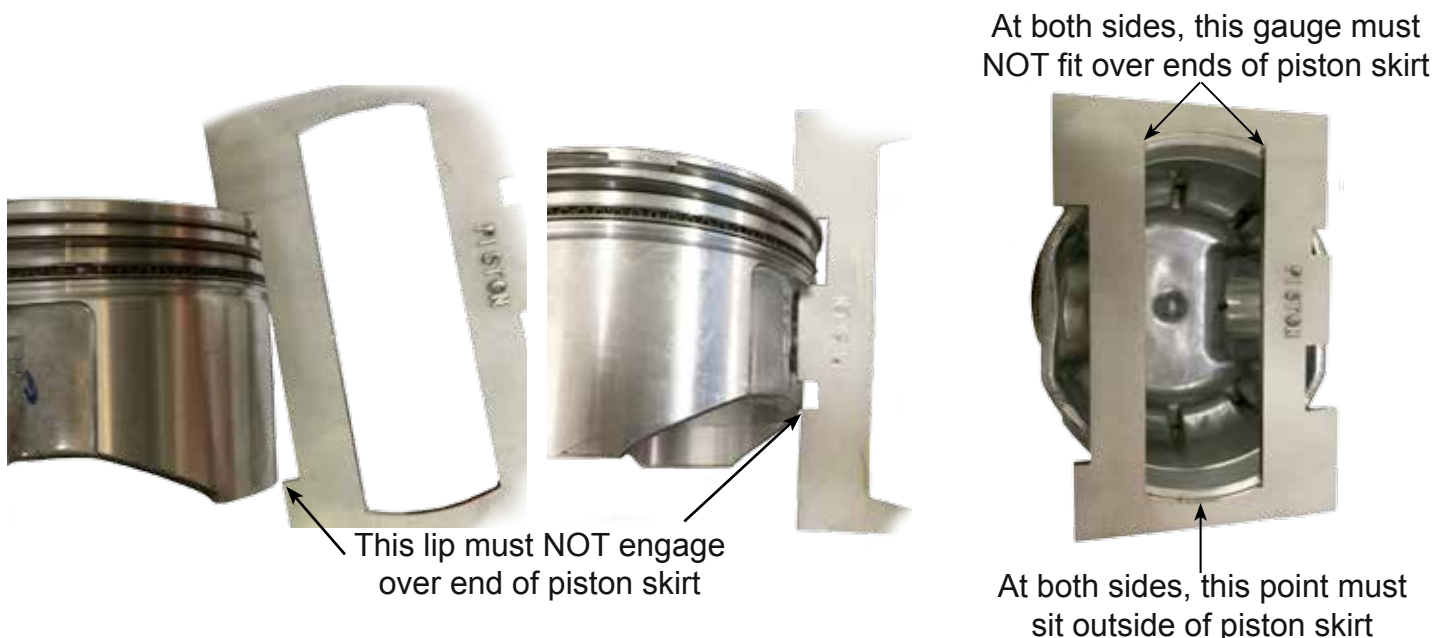


#### 15. Head gasket

Must be standard and unmodified and will at all times have a minimum thickness at all points of minimum 0.20mm.

#### 16. Piston

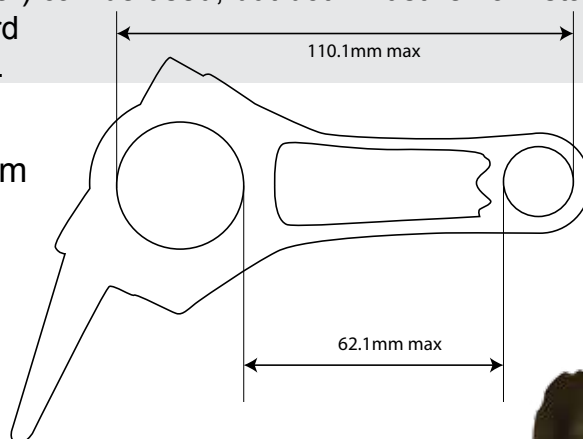
Piston rings will be standard and unmodified. Only standard size rings, (marked 1R, R, T, 1T, NT, 1N/T or N on top ring) can be used. The rings must always be free in their grooves and function as designed. All dimensions on the piston must comply with the ABkC piston gauge.



### 17. Connecting Rod

The standard connecting rod or alternatively the billet rod part number HC100 (numerically and sequentially marked by the supplier) can be used, but both must remain standard and unmodified. Billet rod must use standard original shells only, part number #6394.

Connecting rod maximum dimensions



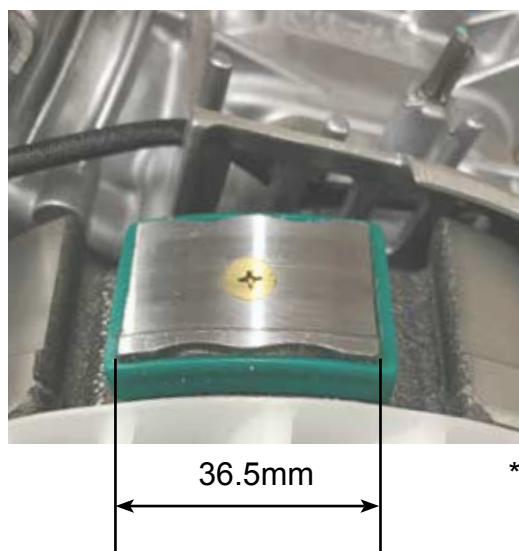
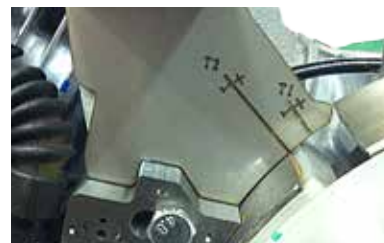
### 18. Crankshaft

The governor gear on the T2 crankshaft can be removed. The position of the cam gear wheel is free. The standard key must be used, but may be modified in accordance with item 19. In all instances, the final stroke must not exceed 45.15mm. This measurement should be taken after the crankshaft has been rotated two complete revolutions in a forward direction. In this instance no pressure may be applied to the piston. The bridge tool can be used to determine deck height and stroke. Crankshaft bearing journal adjustment is permitted, to a minimum of 24.95mm.



### 19. Flywheel

The flywheel must be standard and unmodified and have a weight of between 2.2 - 2.5 kgs. The key may be reduced in width or otherwise modified, but not omitted. The ignition timing must be set/checked in the following manner. Remove spark plug and rotate engine in its forward direction of travel a minimum of two complete crankshaft revolutions, before inserting the ABkC - marked piston stop in the spark plug hole. Rotate the engine against its natural travel direction until the piston meets the stop. Zero your digital rotary meter (or any suitable protractor). Rotate the engine forward until it meets the piston stop once more. Note that reading. Subtract that reading from 360 and bisect the remainder. Release the piston stop and continue to advance the flywheel in the forward direction by that amount. At this point, measure the ignition timing, using the correct ABkC-marked template tool in place (type 1 shown). The edge of the magnet must not intrude into the split marking the go (✓) and no-go (✗) area of the template (for the particular engine type). If in doubt, a 0.2mm feeler gauge inserted into the split should have its edge resting on the magnet mounting. If it rests on the magnet, it is non-compliant. If using the bridge tool, set your piston stop depth to 25mm from the deck face. In this instance no pressure may be applied to the piston. The standard and unmodified fan must be used, with all fins in place. The flywheel magnet can be reduced to a minimum chord dimension of 36.5mm. A go/no-go gauge will be introduced to check this dimension for compliance.

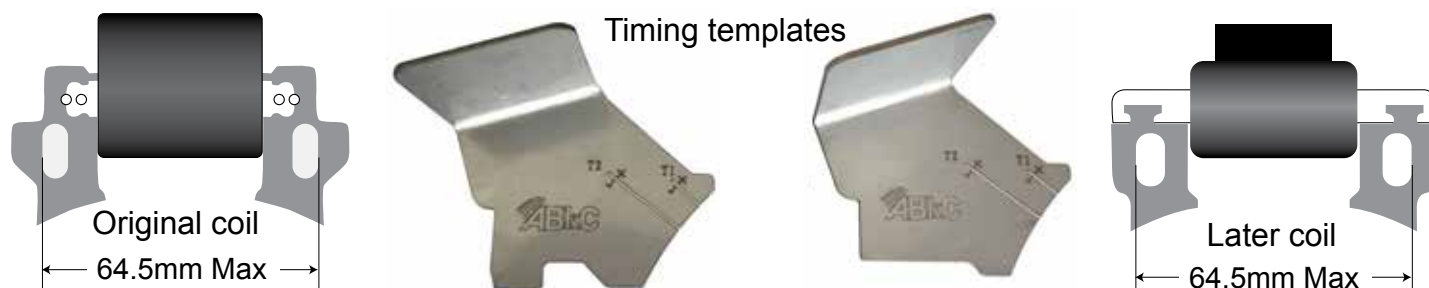


The edge of the magnet must not intrude into the split marking the go (✓) and no-go (✗) area of the template (for the particular engine type). If in doubt, a 0.2mm feeler gauge inserted into the split should have its edge resting on the magnet mounting. If it rests on the magnet, it is non-compliant. If using the bridge tool, set your piston stop depth to 25mm from the deck face. In this instance no pressure may be applied to the piston. The standard and unmodified fan must be used, with all fins in place. The flywheel magnet can be reduced to a minimum chord dimension of 36.5mm. A go/no-go gauge will be introduced to check this dimension for compliance.

\*NOTE. The magnet base might vary in colour from that illustrated

## 20. Ignition coil

The ignition coil (including ignition lead) will be the standard and unmodified unit. Either original or later type coil can be used. The coil mounting bolts must be standard and unmodified and use the original mounting positions (see also section 23 concerning welded repair).



## 21. Camshaft

The standard and unmodified camshaft must be used, the service limit is 27.45mm for both lobes. The cam is easily inspected using the ABkC cam inspection tool, which will not fit any other cam type. All three segments of the cam check gauge must fit symmetrically and the alignment marks be within range of guide marks.

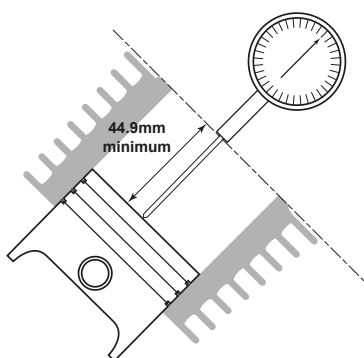


## 22. Push rods

The push rods must be the standard and unmodified units. Pushrod length  $133.6\text{mm} \pm 0.5\text{mm}$ .

## 23. Crankcase

The crankcase can only be modified by the removal of the governor mechanism and in all other respects must be standard and unmodified. If completely removed, the hole in the crankcase must be sealed to prevent oil leakage (unless a suitable pulse take-off is used in its place). The crankcase bearings and seals must be standard and unmodified. The bore must be standard only, service limit 68.165mm at all points of the bore. No sleeving or surface material change to the cylinder bore is allowed but honing is permitted. The cylinder mating face may be machined to achieve a minimum deck height of 44.9mm (read between the cylinder mating face and the cast face of the piston, in line with the piston pin, with the piston at BDC. It is permitted to push down on the piston, centrally, before taking this measurement). The ABkC block tool may be used to check this dimension. Welded repairs are allowed to the engine mounting area at the crankcase base and additionally to the ignition coil mounting posts, provided that this does not change the position or thread size of the post. No other welded repairs are permitted. It is permitted to introduce a magnet into the crankcase area, by fixation into either the sump drain plug or oil filler plug. Manufactured items that follow this pattern are included.



With the piston at BDC, the ABkC Block tool must sit flush on the deck face and be in line with the piston pin



Using the CPO gauge to zero a caliper prior to its use for deck height measurements. Stroke also measured with this bridge



#### 24. Crankcase side cover

Must be standard and unmodified and positioned with both dowels, standard and unmodified, in place.

#### 25. Gaskets

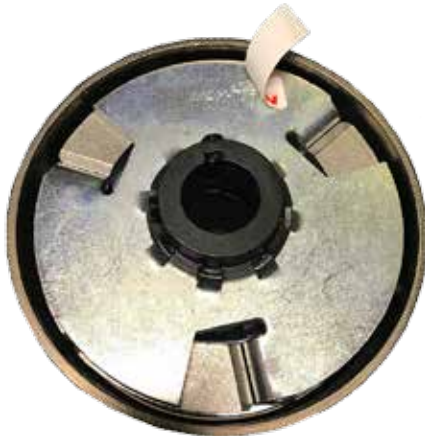
All gaskets must be standard and unmodified. Where there is any doubt about the eligibility or suitability of a particular gasket it should be compared with a new item from the manufacturer.

#### 26. Clutch

**Cadets** must only use the Magnum clutch, with white springs and heavy shoes. Other classes must use a dry, air-cooled centrifugal clutch of Magnum, Maxtorque or Quantum manufacture only to transmit the drive, only the types illustrated below are eligible. In all instances the clutch should be in standard form (as supplied), be incapable of adjustment in position and have a maximum engagement speed of no more than 2,500 rpm engine speed. Only metal to metal contact is allowed, no use of friction materials. For clarification, shoe and drum type clutches only are permitted, plate clutches are not allowed.



Magnum ✓



Maxtorque ✓



Maxtorque ✓



Quantum ✓



Example of plate-type clutch ✗

## 27. Sealing

Engine preparers may use an authorised seal. This will only be used to determine that the engine is still in the original condition as it left the preparer, and will have no validity in scrutineering terms. If removed during scrutineering, it can be replaced (at owners request), with a standard MSUK seal. It is a matter between the preparer and owner whether they wish to have an authorised seal replenished.

## 28. Scrutineering

To keep the class as economic as possible, the cost of an engine rebuild following a scrutineering inspection will be no more than £100.00, (plus any parts, carriage and VAT).

Where a component, following any inspection or examination, is no longer serviceable or is rendered unusable, the cost of a replacement of that component will be limited to the manufacturer's inclusive recommended retail price for that component. This will also hold true for any transit or insurance value.

The ABkC may introduce new check tools or inspection methods at any time during the year in order to maintain the integrity of these regulations. Any new regulation will come into force one month after the publication of updated regulations, subject to MSUK approval.

A master set of dimensionally accurate gauges are held by the ABkC for verification purposes.

Where specified, officially sanctioned and nominated Honda gauges and measurement devices should always be used when checking engine measurements. In the case of any doubt or dispute, only these specified and approved items must be used and the results taken as definitive and final.

Samples can be taken at any point during an event to investigate the presence of any combustion-enhancing additive to the lubricant or fuel, all of which are not permitted in this class.

*From 1st January to 31st March engines conforming to Honda GX160 Technical Regulations Version 14A will be accepted, only at club meetings (defined as Karting Yearbook App 4 B14), thereafter only engines conforming to the current version are acceptable.*

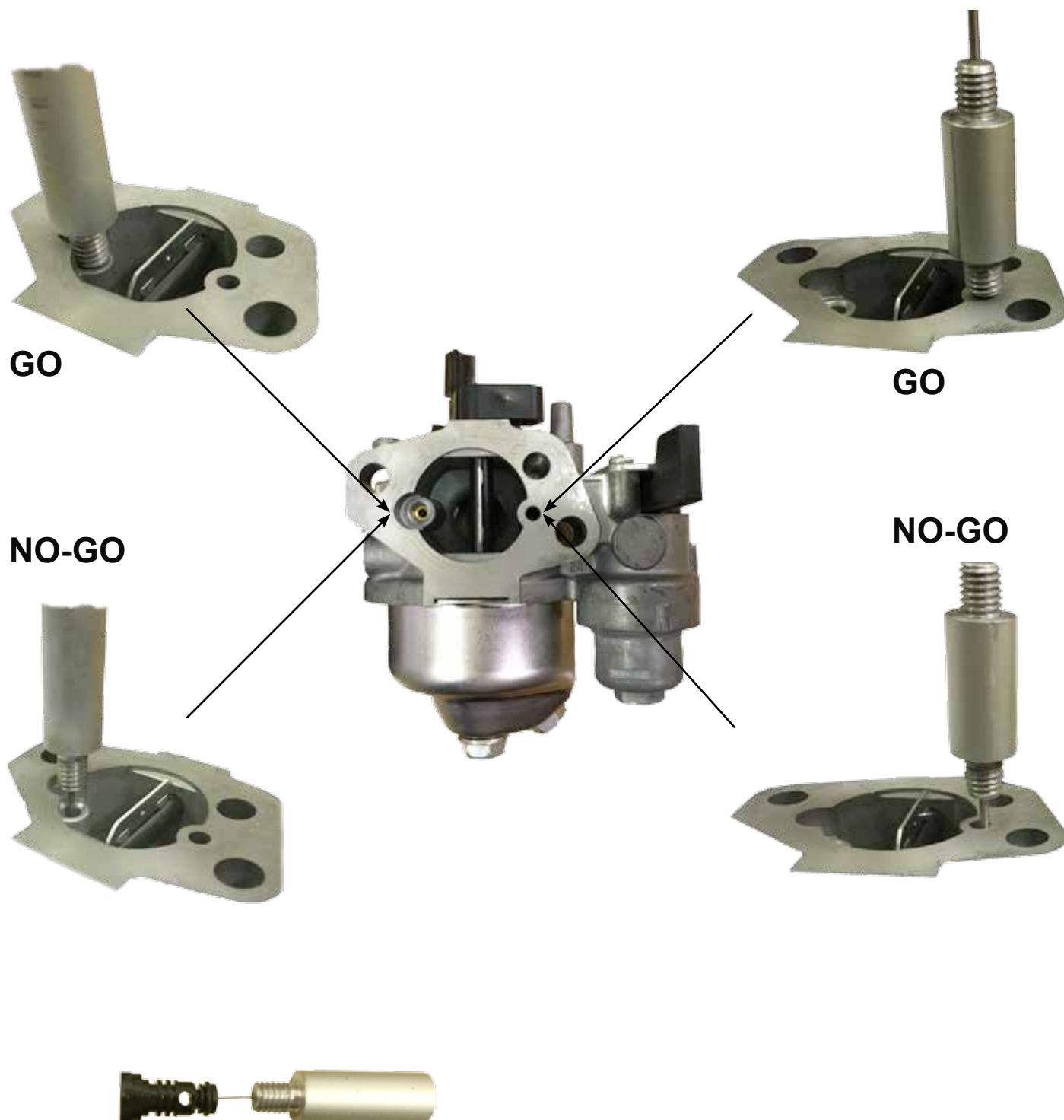
*The ABkC reserves the right to make amendments at any time during the year in order to adjust the performance of this engine type. Any new regulation will come into force one month after the publication of updated regulations, subject to Motorsport UK approval.*

## NOTES

Users of earlier engine types are strongly recommended to read these regulations alongside a copy of the Honda Technical Regulations version 11a May 2016.



## Appendix 1

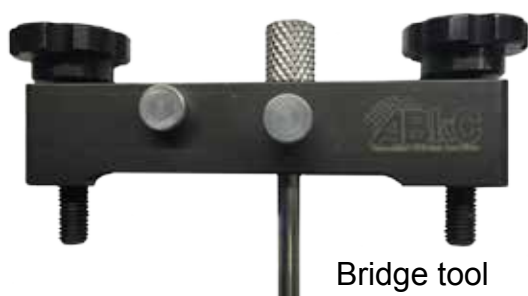


Gauge	Go Dia	Go Length	No-go Dia	No-go Length
brass jet	0.96	19.00	1.20	12.00
airway	1.20	28.00	1.50	28.00
Pilot	0.20	10.00	0.36	10.00

n.b. the pictures of the prototype gauges used here might vary with the appearance of the production items. However their dimensions and function will be the same

## Appendix 2

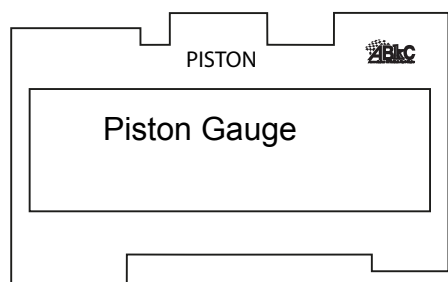
### MotorsportUK/ABkC approved tools



Bridge tool



Template tools

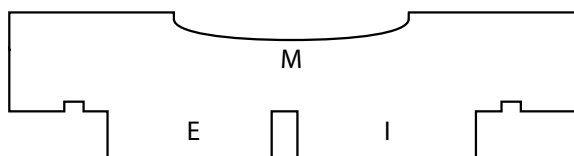


Piston Gauge



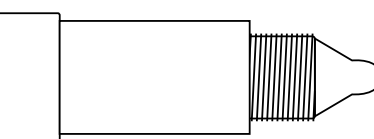
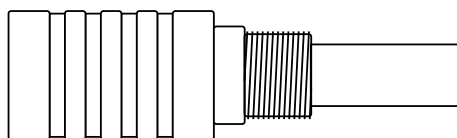
Cam inspection tool

Valve seat & magnet gauge



Location tool

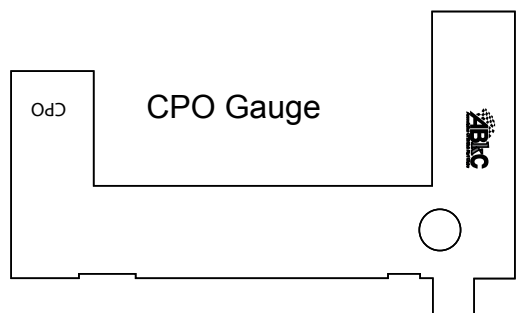
Piston stop



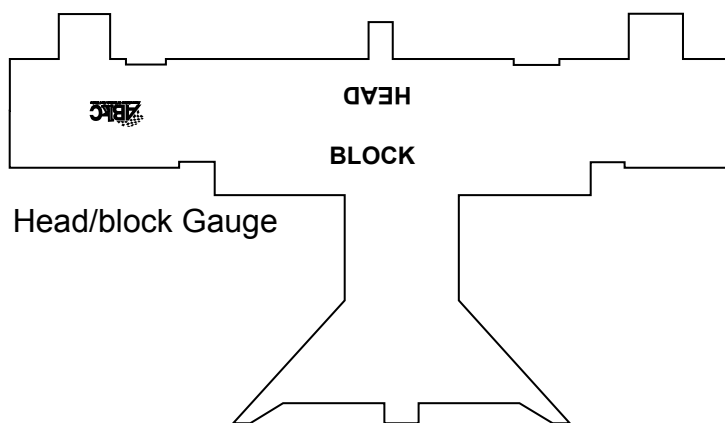
Spark plug insert



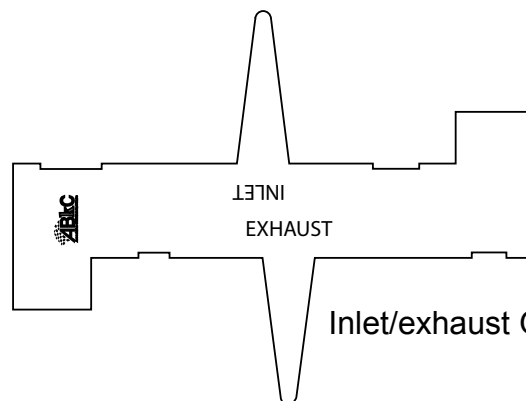
Digital angle gauge



CPO Gauge



Head/block Gauge



Inlet/exhaust Gauge

***All tools available at [www.kartstore.uk](http://www.kartstore.uk)***