



HONDA TECHMANUAL GX160



HONDA ENGINE RULES FOR 160 HONDA CLASS ONLY

First Issued: November 19, 1999
Updated: February 2020

QMA Technical Director

NOTES:

Only stock Honda GX160K1 HX2 and HX26* engine and gearbox will be used in this class. All parts will be stock Honda specifically made for the Honda GX160K1 HX2. U.S. # GCACK & GCAAK – Canada #GCABT

- A. **All 160 Honda engines must be updated to the new E2 Style piston and cylinder head.**
- B. Failure to update = DQ and **Minimum 6-month suspension**
- C. All stock Honda parts must be used and properly installed with the following exceptions:
- D. The following gaskets (list below) that are coming from Honda are tan and green will be legal to use.
 - Intake Gasket, Carb Gasket, Side Cover Gasket
- E. Governor system may be fully removed including the governor drive gear on the crank.
- F. Factory air cleaner must be removed. Any approved air filter may be attached to the outside of air filter adapter.
- G. Outer wear style or equivalent can be used over carburetor only with no adapter. We are using “outerwear” to define a style not brand name. The approved air filter adapter may be run with or without an air filter. Any air filter may be used with adapter as long as there are no devices inside the air filter or adapter except the anti-collapse spring that comes with air filter. There must be a hose from valve cover that must go into a suitable catch can.
- H. Recoil starter must be removed. Pull cup may be cut down for washer. Must use original cup.
- I. Choke butterfly & shaft must be removed. Hole may be filled only with silicone. Old shaft may be cut down.
- J. Oil level switch may be fully removed from crankcase and the hole plugged.
- K. Gearbox may be rotated to any desired position.

TECH PROCEDURE

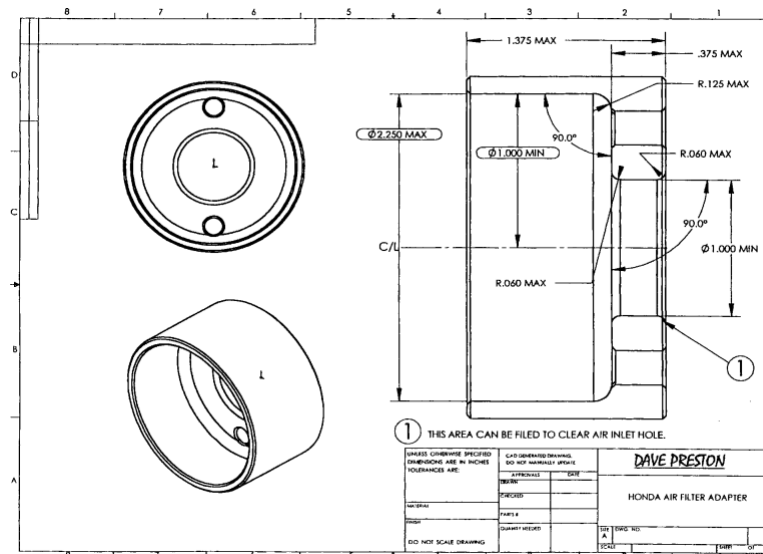
Exhaust system:

- A. All of the exhaust gasses that engine produces must pass thru the muffler. The Honda muffler shall be removed and discarded. The factory supplied flange may be cut off and used to fabricate a new exhaust pipe. An aftermarket flange may be utilized, 0.27” maximum thickness. The transition from the “D” shape to the round ID of the pipe may be blended. There shall not be any steps or tapers from the flange to the pipe coupling that the muffler screws into. However, the same diameter tubing may be butt welded together to form the desired path and length of the exhaust pipe. The pipe shall be between 20.0” and 26.0” ± 0.06 ” long including the $\frac{3}{4}$ ” pipe coupling to attach the Briggs and Stratton 294599 or aftermarket equivalent muffler. If the flange is attached to the pipe at an angle the mid-point shall be the point for measuring. This dimension shall be checked with a small diameter (approx. $\frac{1}{2}$ ” diameter) flexible hose averaging the long and short measurement. Off-On ignition switch may be removed, and hole covered. (any material; no welding)
- B. All pin measuring gauges are plus tolerance.
- C. Exhaust oxygen sensor or temperature sensor attached to any part of Honda exhaust system is illegal.
- D. Cryogenics of any Honda part is illegal.
- E. Note: Taking parts out of service reference to “Wear Limits” in Engine Block Internal section.
- F. DQ Only – Not suspension for: Exhaust, Air Filter Adapter, Spark Plug or valve seal, silicone or any type of sealer or epoxy in unapproved areas (approved areas are choke shaft hole and governor shaft hole) or more than one exhaust gasket.
- G. Machining or adjusting to obtain maximum or minimum specifications is an accepted practice.

Air Filter:

Any QMA approved air filter may be attached to the outside of air filter adapter. The stock Honda air filter gasket may be used. Outer wear style or equivalent can be used over carburetor only with no adapter. We are using “outerwear” to define a style not brandname). The approved air filter adapter may be run with or without an air filter. Any air filter may be used with adapter as long as there are no device(s) used inside the air filter or adapter that will alter the airflow into the carburetor; however, the anti-deformation spring that is supplied with the foam filters may be used.

- (1) Air cleaner adapter will be maximum ID 2.250” and a maximum of 1.375” long in length, flange thickness 0.375” max. flange ID 1.000” minimum hole size straight walled, flat bottomed and parallel with carburetor using existing air cleaner mount holes.



- 2) Any type throttle linkage may be utilized. Carburetor will be unaltered with the exception of the black plastic piece on upper end of throttle shaft. This is the only part in the carburetor that can be altered.
 - a. Material may not be added to throttle stop area of black plastic piece or carb body.
 - b. Rear mounting brackets for Honda fuel tank may be removed.
 - c. The starter cup that is behind the flywheel retaining nut can be cut away to leave only the flat washer back piece that retains cooling fan.
 - d. The keyed end of the ring gear shaft may be shortened, drilled and tapped or machined for snap ring.
 - e. All threaded holes may be Heli-Coiled but are not allowed to be relocated.
 - f. Honing and deglazing of the bore is allowed.
 - g. Lapping the valves is allowed.
- 3) **Blocking Air Flow:** No device may be used that will/or appear that it may impede airflow into the engine cooling system. This may require that the engine be run at a speed above idle by the tech personnel at the scale after the car has qualified or raced.

CARBURETOR

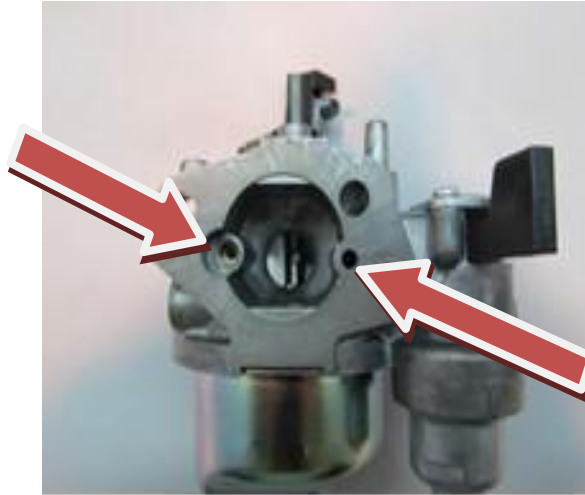
Remove Carburetor:

Check for any alterations or worn parts that would allow additional air into engine: holes, slots, perforations, spacers, loose bolts, warped flanges etc.



- Gasket thickness: 0.025" maximum.
- Insulator gasket thickness: 0.025" maximum

- A.** Carburetor identification number: BE 65 B Thailand BE 65 Q, UT-2 160 carb BE54D with Main Nozzle 16166-ZH8-W50 may be used
- B.** Check carburetor for alterations. Upper choke shaft hole may be sealed with silicone type sealer.
- C.** Carburetor Bore: Intake end: maximum diameter 0.951" ref. Throttle end: maximum diameter 0.710.
- D.** Carburetor venturi bore: 0523- no/go. This measurement is best made with a no go gauge but may be made using a telescoping gauge as a no go.
- E.** Main jet and main nozzle: (MUST BE TIGHT)



- F.** Main nozzle will be checked with a No/Go Gauge (0.424") If gauge goes over dump tube carb is illegal. This is best measured using a 0.452" rod type gauge with a 0.424" flat area to be used as a go gauge.



- Air vent holes on the side of the main nozzle must not be plugged.
 - Main nozzle must not be fastened into the carburetor body by anything other than the main jet. It must not be epoxied or positioned by any other means.
- G.** The butterfly screw, the butterfly, and the throttle shaft must not be removed from the carburetor. Any evidence of tampering will be a disqualification and suspension.
- H.** Decimal equivalents of numbered size drills chart on page 19

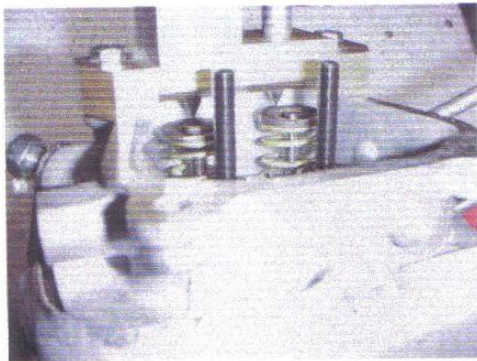
Must be stock Honda GX160 Dump Tube. NO ALTERATIONS

GX 200 CARBURETORS ON HEAVY 160 ONLY

- A. Check for any alterations or worn parts that would allow additional air into engine: holes, slots, perforations, spacers, loose bolts, warped flanges etc.
- B. Carb insulator (see above for standard 160 carb)
- C. Carburetor identification number: BE 64 Y Only
- D. Check carburetor for alterations. Upper choke shaft hole may be sealed with silicone type sealer.
- E. Carburetor Bore: Intake end: maximum diameter 0.951" ref. Throttle end: maximum diameter 0.748
- F. Carburetor venturi bore: 05715 – go 0.5745 nogo. This measurement is best made with a no go gauge but may
- G. be made using a telescoping gauge as a no go.
- H. Main nozzle will be checked with a No/Go Gauge (0.449") If gauge goes over dump tube – carb is illegal. This is best measured using a 0.452" rod type gauge with a 0.449" flat area to be used as a go gauge.

ENGINE COOLING SHROUDS

- A. All pieces of the stock engine-cooling shroud must be properly installed.
- B. There must be no addition or subtraction of any material from the shrouding except for the covering of the switch hole. (Any material). Starter cup may be altered to be used as washer retainer for the cooling fan.
- C. Shrouds can be repainted to either the stock Honda Red or Black no other colors allowed
 - 1. Remove engine-cooling shrouds. Remove valve cover.
 - 2. Zero dial indicator after exhaust bump. (0.050) ref.
 - 3. Maximum valve lift will be checked from the top of valve spring retainer. Valves may be adjusted to zero clearance or shims may be installed to create zero clearance. This may dictate making special shims, as it is difficult to insert feeler gauge blades so as not to interfere with indicator contracts on retainer.
 - Valve lift:
 - Intake: 0.245 Maximum
 - Exhaust: 0.255 Maximum



CYLINDER HEAD, HEAD GASKET, VALVES, SPRINGS

Remove cylinder head.

Head gasket thickness: 0.040" minimum thickness of inner rim
Combustion chamber cc: 17.2 cc. Ref. with stock spark plug
Head gasket thickness UT-2, UT-3: 0.008" minimum.

Remove valves:

- :
- A. Both intake and exhaust must have stock Honda retainers. Exhaust valve only can have lash cap and corresponding retainer.
 - B. Valve oil seals may be used.

VALVE SPRINGS

Valve springs will be stock Honda springs and will not be altered in any way.

160 Spring

- A. Wire diameter: 0.071" Maximum
- B. Outside diameter of spring: 0.790" Maximum
- C. Number of total coils: 5.3
- D. Spring pressure: 11 LBS max. at 0.812"
- E. Stacked length will be: 0.394" Maximum



140 Spring

- A. Wire diameter: 0.079" Maximum
- B. Outside diameter of spring: 0.808" Maximum
- C. Number of total coils: 7
- D. Spring pressure: 16 LBS max. at 0.812"
- E. Stacked length will be: 0.524" Maximum

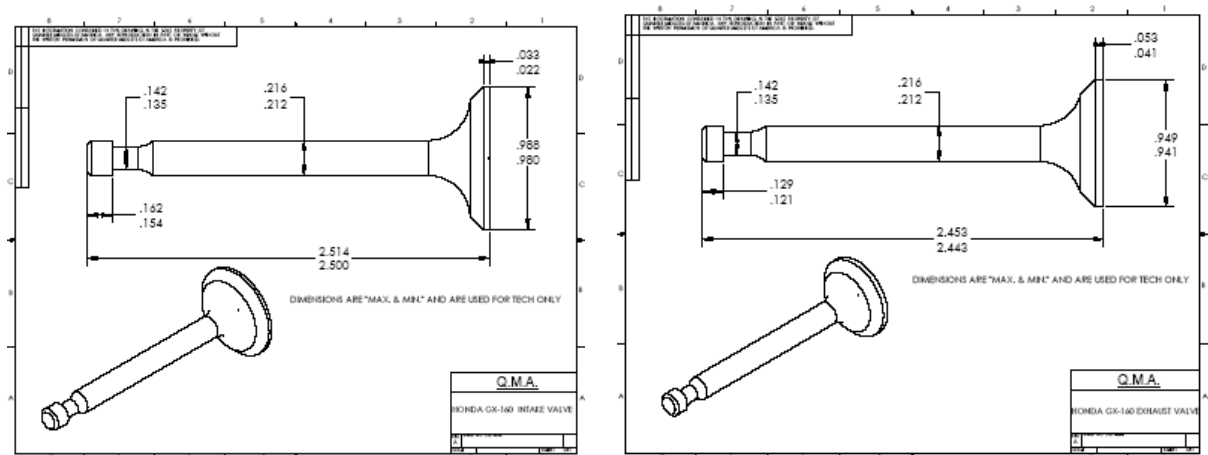


ROCKER ARMS – PUSH RODS – STUDS

Rocker arms will be stock Honda and will not be altered in any way. Rocker arm studs will be stock Honda. They or their mounting position may not be altered in any manner. No heli-coiling of mounting holes. No bending of studs. Push rods will be stock Honda and will not be altered in any way. Push rod length will be 5.279" max.

VALVES

- A. Check valves for dimensions and weight. Valve seating surface must be factory ground to a single angle only, 45 degrees. There will be no other angles ground on any part of valve. Valves must not be polished, lightened or altered in any way.
- B. Valve weight:
 - 1. Intake 22 grams minimum
 - 2. Exhaust 22 grams minimum
- C. Drawing of valve dimensions (Intake Valve followed by Exhaust Valve)



HEAD

Cylinder head will be in "as cast" condition and there must be no addition of metal or any other substance to the inside or outside of the cylinder head. This include no type of machining or grinding to increase compression or airflow. No milling, angle milling etc. or any alteration that could increase valve spring pressure. Note: Do not use abrasive material in cleaning head and cylinder deck that will alter factory finish. For Thailand produced cylinder heads casting numbers ATA-3, ATA-6, TK1-10, TKI-11 other numbers to follow. Short Radius must be sharp edged. Minor imperfections may be present on corner between cast port and machined bowl area (short radius) The intent of this description is to prohibit any attempt to alter the cylinder head ports as received from the manufacturer. See cylinder head photos.



- A. Measure from surface of head to lowest machined area in the bowl of the port. This dimension will be:
 - Intake: 1.062 - 1.170" maximum
 - Exhaust: 1.103 - 1.122" maximum
- B. Thickness of head. This will be measured from valve cover surface to head gasket surface at the side at a position in line with upper intake & exhaust flange bolt.
 - Maximum 2.917"
 - Minimum 2.911" Thailand heads 2.904"

INTAKE AND EXHAUST PORTS

- A. Ports will be "as cast" and in factory machined condition and there must be no addition or subtraction of metal or any other substance to the inside or outside of the cylinder head.
- B. No alterations of any kind to be made to the intake or exhaust port.
- C. This includes any grinding, polishing, etching, sand blasting or glass beading to interior surface.
- D. Valve seats must be a stock single 45-degree angle. Multi angle valve seats are not permitted. Valve seats must not be replaced.
- E. Intake and Exhaust ports at valve:
 - Intake: maximum 0.915" minimum 0.900"
 - Exhaust: maximum 0.869" minimum 0.858"
- F. Use of 5/16 studs are allowed to repair the factory exhaust studs. No altering of hole location

ENGINE BLOCK

This engine block must be "as cast" condition. There must be no addition or subtraction of metal or any other substance to the inside or outside of the cylinder block, crankcase cover, crankshaft, rod, piston, pin, rings, flywheel or coil with the following exceptions below. Still needs to meet other requirements listed in manual.

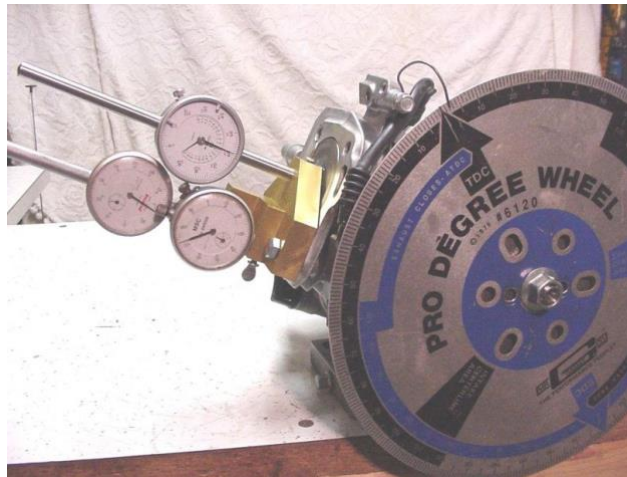
- A. Removal of rear gas tanks brackets is permitted.
- B. Removal of governor. Governor system may be partially removed with the exception of the steel gear on the crankshaft. This gear must remain intact. Governor arm and shaft may be removed, tied forward or altered to accommodate throttle linkage or return springs.
- C. Addition of brackets, fittings etc. to accommodate throttle linkage, tachometer, temperature gauge is allowed.
 - Check bore: 2.682" maximum

NOTE: All measurements taken at top of bore or very bottom of bore.

- A. **"Wear Limits/Parts Out of Service"** QMA reserves the right to confiscate 160 Honda engine parts deemed illegal or at QMA maximum wear limits. **EXAMPLE:** Cylinder Bore will be 2.681 Max. All measurements taken at top of bore or very bottom of bore parallel to crank, 90 degrees from crank. Any cylinder block that has one measurement over QMA maximum wear limits will be taken out of service. If no measurements exceed QMA maximum wear limits the part of block will not be confiscated. Handler has the right to have confiscated parts returned to them but will be rendered unusable
 - Check stroke: 1.778 maximum to 1.758" minimum
- B. Measure amount that piston is up or down from block surface at T.D.C. This will be measured at edge or highest part of piston, not in center or relieved area.
- C. This dimension will be: 0.000" Maximum **-NO PISTON POP UP**
- D. Install degree wheel on flywheel. Install pointer in order to read degrees. Locate accurate T.D.C. This should be done with a positive stop type fixture and not established with indicator alone.

CAMSHAFT

- A. Cam will be checked with indicator reading off the top end of tappets, which will provide zero clearance. The inverted radius of the top of the tappet presents some problem to get accurate readings and to prevent binding of indicator stem. Indicator holder and positions are very critical in this operation
- B. Zero indicator on base circle of cam. Be sure that compression release does not affect zeroing exhaust indicator. Zero dial indicator after exhaust bump (0.050) ref.
- C. Turning engine in normal rotation, clockwise facing flywheel, take reading at specified opening. Readings must fall between specified degrees on the following chart.



CAMSHAFT PROFILE LIMITS

IN TAKE			EXHAUST		
Degrees			Degrees		
0.050"	10.5 to 14	ATDC	0.050"	207 to 210.5	BTDC
0.100"	26.5 to 30	ATDC	0.100"	190 to 193.5	BTDC
0.150"	45 to 48.5	ATDC	0.150	170.5 to 174.5	BTDC
0.180 Split"			0.180 Split"		
0.200"	71 to 76	ATDC	0.200"	144 to 148	BTDC
Max lift .227"	Peak 104 – 107	ATDC	Max lift .229"	Peak 107.5 - 110.5	BTDC
0.200	136 to 141	ATDC	0.200	70.5 to 73.5	BTDC
0.180 Split"			0.180 Split"		
0.150"	162.5 to 167	ATDC	0.150"	44.5 to 47.5	BTDC
0.100"	180.5 to 185	ATDC	0.100"	26 to 29.5	BTDC
0.050"	197.5 to 201	ATDC	0.050"	9 to 12.5	BTDC

Check max lift at intake and exhaust

FLYWHEEL, FAN AND IGNITION SYSTEM

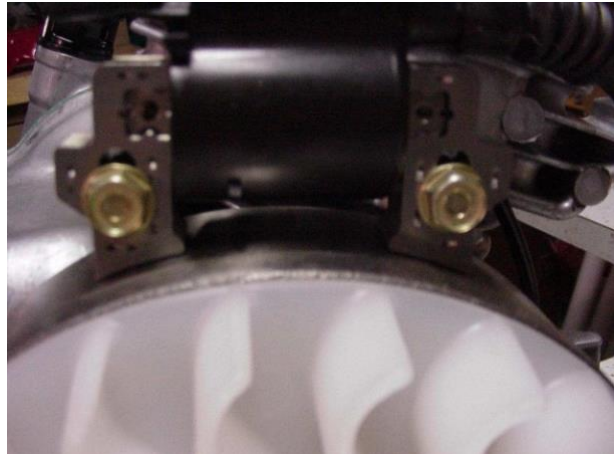
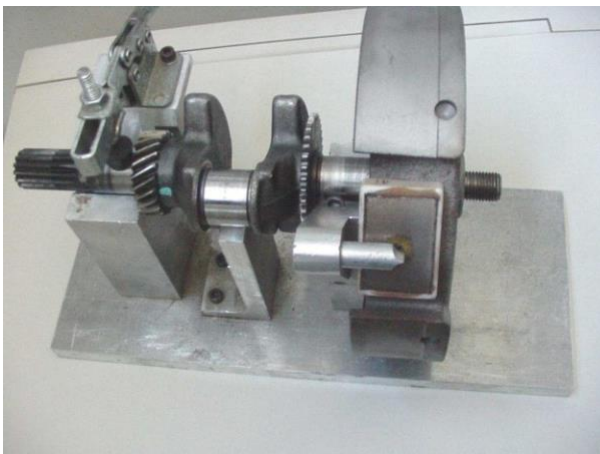
Caution should be used when removing flywheel. Do not hit with hammer or other heavy objects. Service manual show flywheel to be removed with commercially available 6" puller. Another method is inertia type knocker that threads onto crankshaft end.

The transistorized magneto ignition is fixed at 25 degrees BTDC and may not be altered in any way. Firing must not exceed 0.104 "or 26 degrees BTDC.

Quick check: Turning flywheel clockwise-if the leading edge of the depression of flywheel rim where the magnet is mounted is not still under the right-hand coil leg at 0.115" BTDC, it is probably illegal and should be checked further. If timing needs to be checked further see page 19.



- A. Flywheel keyway or its position must not be altered.
- B. Key may not be deleted or altered in any way.
- C. Magnet and its position may not be altered in any way.
- D. Magnet retaining screw may not be altered in any way. Screw may not be replaced with larger or smaller screw. No heli-coiling of mounting hole.



- E. Ignition coil or its position, other than air gap, may not be altered in any way. Coil mounting bolts must be stock and cannot be altered in any way to advance or retard timing. Coil attaching bolts will be stock 6mm cap screw 1-1/16" long. There can be no more than 3/8" of unthreaded portion of bolt that does not measure 0.230" diameter. This restricts movement of coil to a position that could make ignition timing illegal. If a coil support mount becomes stripped, it is permissible to heli-coil. However, only one leg may be repaired, if both legs are heli-coiled, the crankcase becomes illegal.
- F. All nylon blades on the cooling fan must be intact



- G. No metal may be added or removed from the flywheel.
 - Flywheel weight will be: 2300grams minimum
- H. A stock Honda spark plug cap, (wire end and resistor), must be used.
- I. Any automotive type spark plug with 3/4" reach maximum is allowed. Tapered seat plugs are not allowed. *Race DQ only.*
- J. No plug-indexing washers allowed.
- K. If temperature sensor is used under spark plug, factory washer must be removed.

GEAR BOX AND RING GEAR

- A. Gear box may not be altered in any way. May be rotated to desired position.
- B. Ring gear may not be altered in any way with the exception of the keyed end of shaft that may be shortened, drilled and taped or machined for snap ring groove. No other machining, drilling, grinding etc. to ring gear. Keyway may be cut deeper.
- C. Ring gear may not be altered in any way including polishing or use of any compound or abrasive on gear shaft where bearings ride.
- D. Two gaskets maximum between gear box halves.



CRANKCASE COVER

Remove crankcase cover.

- A. Cover must be “as cast” and in factory machined condition and there must be no addition or subtraction of metal or any other substance to crankcase cover.
- B. Crankcase cover gasket must be stock Honda. Only one gasket may be installed with a maximum thickness of 0.025”

Critical dimensions are - thrust face of camshaft holder and position of crank bearing. Place a straight edge over crank bearing and cam boss thrust face. These surfaces should be level. Maximum tolerance will be + 0.005”. There will be no alterations to crankcase cover. This includes any alteration to crank bearing and camshaft holder position and height in an attempt to alter valve timing.

PISTON – WRIST PIN AND PISTON RINGS

Remove rod and piston – triangle or dot on top of piston must point toward push rods - piston, wrist pin and rings must be absolutely stock and not altered in any manner.

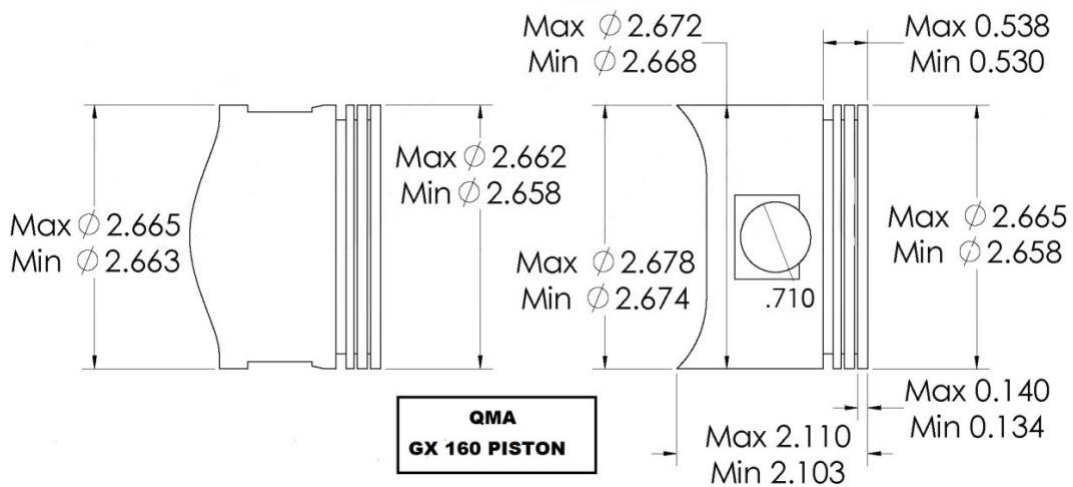
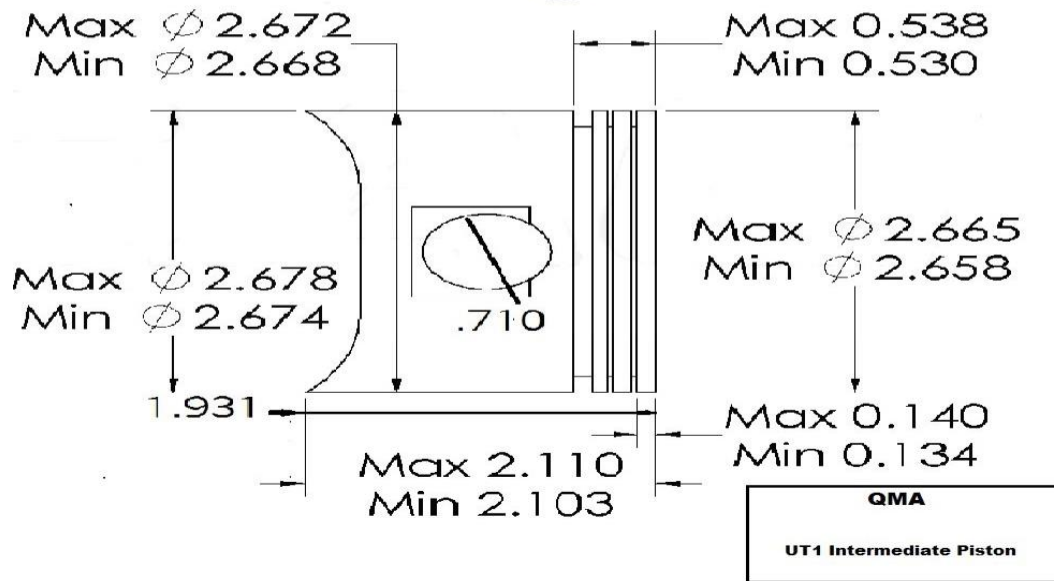


PISTON NOTES

Piston will be stock Honda standard size and will not be altered in any way.

- A. Oversized pistons must not be used. New UT1 intermediate # 13101-Z4M-0002 will be allowed. (See Drawing below)
- B. All three piston rings must be used and installed properly.
 - 1. Top ring: Chrome compression ring installed with “N” Thailand rings marked R on rail up. No expander Under ring
 - 2. Middle ring: Oil scraper ring installed with “N” or R on rail up. No expander under ring.
 - 2. Bottom ring: Three (3) piece oil rings are allowed. Check oil ring expander for alterations that will alter ring tension (cutting ends of expander ect.)
- C. Piston may not be knurled, grooved or coated
- D. Total Piston weight: With rings, pin, and clips 200 grams minimum
- E. Minimum total combined weight: 359 Grams = (Piston, rings, complete rod w/ bolts wristpins & retainers.)
- F. See drawing for dimensions

Specs on new UT1 Intermediate Piston



RINGS

- A. Must be stock Honda rings with stock size and configuration.
- B. No decreasing of ring tension by heating, machining or any other means.
- C. Ring thickness:
- | | Tier III | |
|--------------|---|-------------|
| Compression: | 0.056" min. | 0.036" min. |
| Scraper: | 0.056" min. | 0.036" min. |
| Oil Ring: | 3 piece oil ring = 0.095 min. 1 piece oil ring = 0.097 min. | |

WRIST PIN

Stock Honda wrist pin and retainer



OD: Minimum	0.708" Maximum 0.709"
Length: Minimum	2.120" Maximum 2.128"
ID:	0.556" ref. +/-
Weight:	40 grams minimum

CONNECTING ROD

Stock Honda rod with no alterations.

- A. Connecting rod big end size: 1.176 " minimum - 1.184" maximum
- B. Pin end bore is: .710" ref.
- C. Length from bottom of pin bore to top of big end bore will be:
2.3755" maximum 2.3580" minimum
- D. Rod weight with bolts: 140 grams
- E. No oil grooves on bearing surface of either end.

CRANKSHAFT

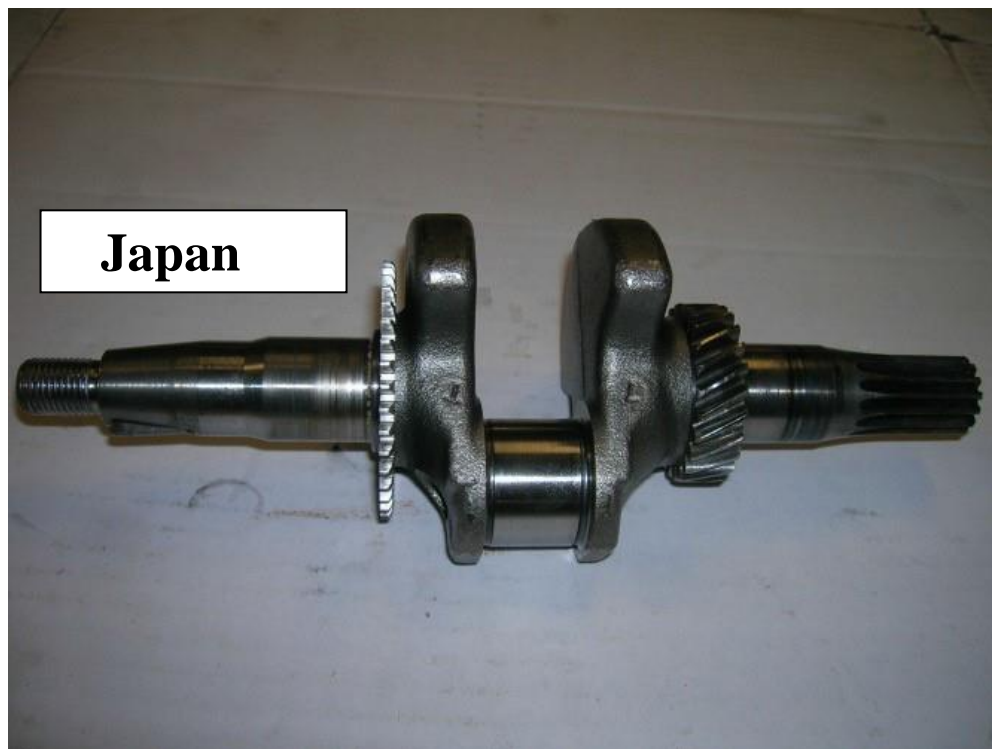
Stock Honda crankshaft with no alterations.

Notes:

- A.** No removal or addition of any metal from or to the crankshaft is allowed.
- B.** No balancing of the crank is allowed.
- C.** No oil grooving is allowed on the crank journal.
- D.** Governor drive gear cannot be removed.
- E.** Crankshaft drive gear should not be removed. This gear is installed by Honda to any accuracy of $\pm \frac{1}{2}$ degree. If this gear is not installed to this degree of accuracy, engine may not be legal when camshaft is checked by the procedure under engine block.
- F.** Keyway location must not be altered in any manner.
- G.** Measure thrust to crank gear side = 3.340 Min.
- H.** Factory heat treating markings must be present on gearbox end of crankshaft and must be evident on all non-contact areas. The only cleaning method allowed is on the flywheel side of crankshaft for the purpose of removing calcium, rust etc. from the exposed end of the crankshaft. This is permitted only from the seal groove out to the end of the thread of the crankshaft where the flywheel bolts on. Only a wire wheel may be used in the cleaning process. The use of Scotch Brite, sandpaper or any other compounds or abrasives is illegal. No material may be added or removed from crankshaft. Crankshaft main journal at flywheel and gearbox ends may not be altered in any way. Thailand crankshafts have no heat treat marks.

NOTE: Refer to photo of crank color





CAMSHAFT

Camshaft must be stock Honda with no alteration of any kind.

- A. There will be no additions to or subtractions from any part of the camshaft.
- B. Compression release will remain intact and unaltered.
- C. Lobe center angle will not be altered by any means.
- D. Lobe profile will not be altered in any way.



CAMSHAFT SPECIFICATIONS

INTAKE EXHAUST

Heel to Heel	. 0.865" - 0.869"	Heel to Heel	0.866" - 0.870"
Heel to Peak	1.079" - 1.093"	Heel to Peak	1.081"- 1.095"
Length - thrust flange to thrust flange: 3.135" minimum		3.142" maximum	

Cam bearings are 0.547" - 0.551" and unaltered (UNDER .547 MINIMUM TO BE TAKEN OUT OF SERVICE NO DQ)

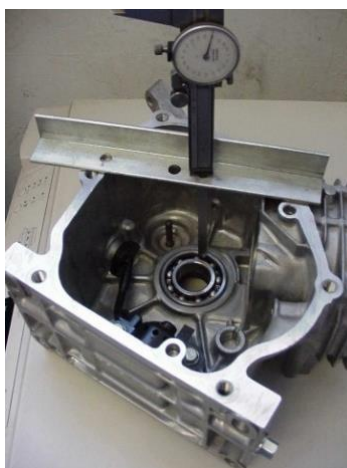
TAPPETS

- A. Tappets must be stock Honda with no alterations.
- B. Base diameter:
0.910" minimum no maximum spec
- C. Stem diameter:
0.312" minimum
- D. Base thickness:
0.073" minimum 0.090" maximum
- E. Length:
1.180" minimum 1.220" maximum
- F. Weight:
16 grams minimum

ENGINE BLOCK INTERNAL

The engine block must be in an "as cast" condition and there must be no addition or subtraction of metal or any other substance to the inside or outside of the block.

- A. Cylinder bore will be 2.682" maximum.
- 1. **"Wear Limits/Parts Out of Service"** QMA reserves the right to confiscate 160 Honda engine parts deemed illegal or at QMA maximum wear limits. EXAMPLE: Cylinder Bore will be 2.682 Max. All measurements taken at top of bore or very bottom of bore parallel to crank, 90 degrees from crank. Any cylinder block that has one measurement over QMA maximum wear limits will be taken out of service. If no measurements exceed QMA maximum wear limits the part of block will not be confiscated. Handler has the right to have confiscated parts returned to them but will be rendered unusable. Handler has the right to have confiscated parts returned to them but will be rendered unusable.
- B. Cylinder bore will not be bored oversize.
- C. Cylinder bore will not be re-sleeved.
- D. Cylinder bore position will not be moved or tipped in any manner.
- E. Cylinder block deck will not be resurfaced by any means. There will be no polishing, sandblasting or glass beading to any interior surface.
- F. Deck height:
5.123" minimum 5.127" maximum
- G. Machined surface of block down to thrust face of cam boss:
3.220" minimum 3.235" maximum
- H. Machined surface of block down to bearing face:
3.416" minimum 3.435" maximum



PROCEDURE FOR CHECKING TIMING

- A. With degree wheel or indicator located at 0 degrees or TDC., mark both the flywheel and some fixed point (such as right-hand side of aluminum block casting right above flywheel) with aligning marks. Turn the flywheel clockwise and stop at 26 degrees BTDC or 0.103" - 0.104" BTDC on your indicator. Make another mark on the block casting that aligns with your mark on the flywheel.
- B. Remove dial indicator so it will not be damaged by engine rotation.
- C. Install timing light to a battery, if not self-powered, and clamp inductive pickup to spark plug wire. Wire should be hooked to standard spark plug gapped to 0.025". Using a drill, with an extension that is cut off or turned to fit drill, place socket on flywheel nut and rotate engine in clockwise direction.
- D. Fire the timing light and observe. If the reference mark on the flywheel is between the two marks on block casting that are TDC and 0.104 "or 26 degrees BTDC, the timing is legal. If mark is not between marks on block casting when rotating, the engine will be disqualified.

Tech officials have the right to tech any or all cars in any class at their discretion. Tech Officials follow the same chain of command as all officers of QMA – as follows: Local – Regional – National I.E. Regional tech officials can tech at any event at their region and National Tech Officials can tech at any event in QMA. National Tech Director is final authority on all tech issues.

DECIMAL EQUIVALENTS F NUMBER SIZE DRILLS

Size in		Size in		Size in		Size in	
No.	Decimals	No.	Decimals	No.	Decimals	No.	Decimals
1	.2280	21	.1590	41	.0960	61	.0390
2	.2210	22	.1570	42	.0935	62	.0380
3	.2130	23	.1540	43	.0890	63	.0370
4	.2090	24	.1520	44	.0860	64	.0360
5	.2055	25	.1495	45	.0820	65	.0350
6	.2040	26	.1470	46	.0810	66	.0330
7	.2010	27	.1440	47	.0785	67	.0320
8	.1990	28	.1405	48	.0760	68	.0310
9	.1960	29	.1360	49	.0730	69	.0292
10	.1935	30	.1285	50	.0700	70	.0280
11	.1910	31	.1200	51	.0670	71	.0260
12	.1890	32	.1160	52	.0635	72	.0250
13	.1850	33	.1130	53	.0595	73	.0240
14	.1820	34	.1110	54	.0550	74	.0225
15	.1800	35	.1100	55	.0520	75	.0210
16	.1770	36	.1065	56	.0465	76	.0200
17	.1730	37	.1040	57	.0430	77	.0180
18	.1695	38	.1015	58	.0420	78	.0160
19	.1660	39	.0995	59	.0410	79	.0145
20	.1610	40	.0980	60	.0400	80	.0135