

# 712 CLONE CLASS BUILDER PREPARED ENGINE

## 712.1 CLUTCH:

Open dry clutch

## 712.2 MUFFLER:

Must be an RLV 91 L type with 0.1285" maximum holes. No aftermarket coatings of any type are allowed. (See Section 710.14 for additional specifications.)

## 712.3 CYLINDER HEAD:

Machining of gasket surface allowed. Valve seats may have two or three angles: Two angle seats have a 30° top and a 45° valve face. Three angle valve seats have angles of 30° at the top, 45° at the valve face and 60° at the base. Inside diameter of valve seat must be stock. Intake seat - 0.897" maximum. Exhaust seat - 0.862" maximum. Valve seats must appear stock and be in stock position. All four stock head bolts must be in place. *Head gasket must be stock configuration. Gasket must be steel; copper or aluminum not allowed. Minimum head gasket thickness 0.008".* One or two head gaskets are allowed. Cylinder head guide plate for pushrods must remain stock. No other alterations to the stock head are allowed. Combustion Chamber Volume: 25.0cc minimum with piston at TDC checked with head on engine and using LAD tool.

## 712.4 BORE:

Stock bore is 2.685" and may be over bored to 2.718". Stroke is 2.123", plus 0.010" or minus 0.005".

## 712.5 CONNECTING ROD:

Connecting Rod: Stock rods are allowed. After-market rods are allowed. Billet aluminum rods, with or without bearing inserts allowed. No titanium rods allowed. Rod length is non-tech.

## 712.6 CARBURETOR:

Stock Huayi or Rui\*ing only. All stock carb gaskets and insulators must be present. Choke bore must be as cast. Venturi: 0.615" No-Go. Rear carb bore: 0.751" No-Go. Air filter adapter is 1.375" maximum length. No air rams. Pulse-type fuel pump is mandatory. Fuel pump must be pulsed from the valve cover. \*Any other way to pulse must be approved by the WKA Tech Official for that weekend. Choke assembly may be removed. Jets and emulsion tube are non-tech. Throttle shaft, screw, washer, and butterfly must be stock and must be present. Stock intake runner gasket configuration only. No other alterations are permitted.

## 712.7 BLOCK:

Stock block, as cast and produced with no alterations or modifications other than those specifically permitted. Block head matting surface may be machined, however, no piston pop out is allowed. All bolt bosses in block may be drilled and tapped for repairs or other uses. Additional side cover gaskets as required for crankshaft thrust adjustment are permitted. All parts associated with the governor and the low oil sensor may be removed, plugging any associated holes.

## 712.8 VALVE TRAIN:

Stock valve-train only in stock configuration, except any single valve springs and retainer, with or without shims are allowed. No additional support for rocker arm studs permitted. Valve must be one angle only, 45°. No polishing, lightening, or knife edging allowed. Valve length is non-tech. Outside face of valve head may not be below the combustion chamber floor (i.e., don't sink the valves). Valve cover may be drilled for fuel pump pulse fitting, otherwise, it must remain unaltered. Valve cover gasket is non-tech.

## 712.9: CRANKSHAFT:

Stock factory crankshaft only with stock factory timing gear in factory location. No modifications to crankshaft allowed. Aftermarket steel main bearings of non-self aligning type, with or without seal are allowed. No ceramic bearings. Crankshaft journal diameter is 1.180, 1.168 minimum.

## 712.10 IGNITION SYSTEM:

Ignition timing is non-tech. Stock ignition module only. No modifications of any type allowed. Sparkplug connector must be stock as from factory.

## 712.11: FLYWHEEL:

The following flywheels are the only approved flywheels: (1) ARC Model 6619, (2) PVL, (3) Raceseng REV WHEEL - FINNED - S1, all at a minimum weight of 3 pounds 2 ounces. The Speed Karts Steel Billet S1 flywheel is also approved at a minimum weight of 5 pounds, 3 ounces. The stock flywheel is no longer approved and may not be used. No machining or alterations of any kind are allowed. The flywheel may be run with or without a key. A flat washer or spacer may be used between flywheel and nut. Stock pull starter or handheld electric starter may be used.

## 712.12 PISTON:

Must be stock dished piston with no modifications. Rings must appear stock and all 3 rings must be installed.

## 712.13 DECK HEIGHT:

No pop-ups allowed.

## 712.14 CAMSHAFT:

BP 216 cam. Maximum lift at pushrod is 0.246". Profile check taken at pushrod must match, plus or minus 2\* to spec cam. Maximum lift of 0.257" to be checked at valve spring retainer with zero lash. Compression release must remain on the cam.

### 712.14.1 BP CAM DEGREE PROFILE CHECKS AT PUSH ROD:

	LIFT	INTAKE	EXHAUST
OPEN	0.020"	71° BTDC	50.5° BBDC
	0.050"	2° BTDC	35° BBDC
	0.200"	60° ATDC	21° ABDC

<b>MAXIMUM LIFT</b>	0.246"		
<b>CLOSE</b>	0.200"	24.5° BBDC	62° BTDC
	0.050"	36.5° ABDC	2° BTDC
	0.020"	51.5° ABDC	13° ATDC

**712.14.2 OPTIONAL CAM:**

\*CL-1 Cam can also be used. Camshaft must meet these checks. Maximum running lift on exhaust is 0.242" taken on valve spring retainer with zero lash. Maximum running lift on intake is 0.238" taken on valve spring retainer with zero lash.

**712.14.3 CAMSHAFT REQUIREMENTS:**

Duration check taken off push rod for Intake and Exhaust lobes. Intake duration of 218.5 degrees at 0.050" lift/85.5 degrees at 0.200" lift. Exhaust duration of 221.5 degrees at 0.050" lift/96.5 degrees at 0.200" lift. (All checks will allow +2 degrees for wear and gauge variances.)