

This class is intended to be run without any blueprinting done to the engine. All parts are to be original parts furnished by Briggs.

- All parts to remain stock. To be compared against known stock parts.
- Spark plug type is optional.
- Gasoline only, NO additives allowed. Tank repair use of Briggs part #224009 or 555220 is allowed.
- NO blueprinting allowed. Oversize pistons allowed. Raptor 3 piston is allowed in all classes.
- Aftermarket dipper allowed. Same as stock classes.
- Timing is allowed. Flywheel screen must be run as supplied by the factory. NO additional holes, enlarging holes,
- Valve lash is NON-tech.
- Jet size is NON-tech.
- Use of air filter and filter adapter. Same as stock class.
- Any replacement bolts or fasteners may be used for attachment of carburetor, exhaust manifold, and between carburetor and fuel tank.
- Throttle bell crank may be altered to hook up the throttle cable. Top arm on butterfly shaft may be shortened or bent to adjust opening of the butterfly.
- Throttle shaft - NO cutting.
- Butterfly - CAN'T touch.
- Butterfly screw - MINIMUM length .322"
- Air horn - CAN'T touch.
- Metering holes - CAN'T touch.
- Carburetor bore - CAN'T touch.
- Short pickup tube - MAXIMUM hole size .066"
- Head gasket - MINIMUM thickness of .043"
- Head - NO machining.
- Piston pop up - MAXIMUM across the wrist pin .005" - No Decking
- Bore - MAXIMUM .035" over.
- Stroke - MINIMUM 2.4270" - MAXIMUM 2.4470"
- Crankshaft - MINIMUM journal diameter .990"
- Crankshaft - MINIMUM diameter after clearancing for bearing .775"
- Intake seat - seat angle 30 - inside diameter MINIMUM 1.004"
- Intake seat - MINIMUM seat thickness .199" - MAXIMUM .205"
- Exhaust seat - seat angle 45 - inside diameter MINIMUM .880"
- Exhaust seat MINIMUM seat thickness .199" - MAXIMUM .205"
- Intake valve degree face 30 - MINIMUM diameter 1.15"
- Intake valve - .035" on the edge of the valve (NO knife edging allowed)
- Exhaust valve degree face 45 - MINIMUM diameter .990"
- Intake spring may use exhaust springs.
- Exhaust spring MINIMUM wire size .088"
MAXIMUM length 1.500" - MINIMUM length 1.300"

- Flywheel unaltered. MINIMUM 6 lbs 4 oz
- Piston - MINIMUM length 1.869" - MAXIMUM ring land width .084"
Top of piston to top of wrist pin MINIMUM .937"
- Rings - MINIMUM width top two rings .105" - Oil ring MINIMUM width .085"
Oil ring groove MINIMUM .083"
- Wrist pin - Inside MAXIMUM .290" - Outside diameter MAXIMUM .490"
- Connecting rod - MINIMUM 3.1283" - MAXIMUM 3.1333"
- Cam - MUST use box stock cam. NO altering. Or 89-7 EXP Dyno after market. Only 89-7 EXP model.
- Lifter - Box stock
- Raptor III piston rings - Top of piston to top of wrist pin MINIMUM length .937"
MINIMUM piston length 1.671"
Two top rings land width .0603" - .0612"
Oil ring land width .1020" - .1032"
- Raptor III top two rings - MINIMUM width .090" - Thickness .058" +/- .005"
- Raptor III oil ring - MINIMUM width .070" - Thickness .100" +/- .005"
- Raptor III wrist pin - Inside MAXIMUM .290" - Outside diameter MAXIMUM .49"

Cam Profile

Exhaust

Intake

37	BBDC	33	BBDC	.050	6	BTDC	1	TDC
20	BBDC	16	BBDC	.100	10	ATDC	15	ATDC
1	BBDC	3	ABDC	.150	29	ATDC	34	ATDC
23	ABDC	31	ABDC	.200	55	ATDC	61	ATDC

Max Lift .230

Max Lift .230

74	BTDC	66	BTDC	.200	41	BBDC	33	BBDC
47	BTDC	41	BTDC	.150	13	BBDC	7	BBDC
27	BTDC	22	BTDC	.100	6	ABDC	11	ABDC
9	BTDC	5	BTDC	.050	23	ABDC	29	ABDC

EASY SPIN start .019-.014 MUST NOT fall below .014
MUST start after 45 and can move .001 in either direction
MUST have 35 duration