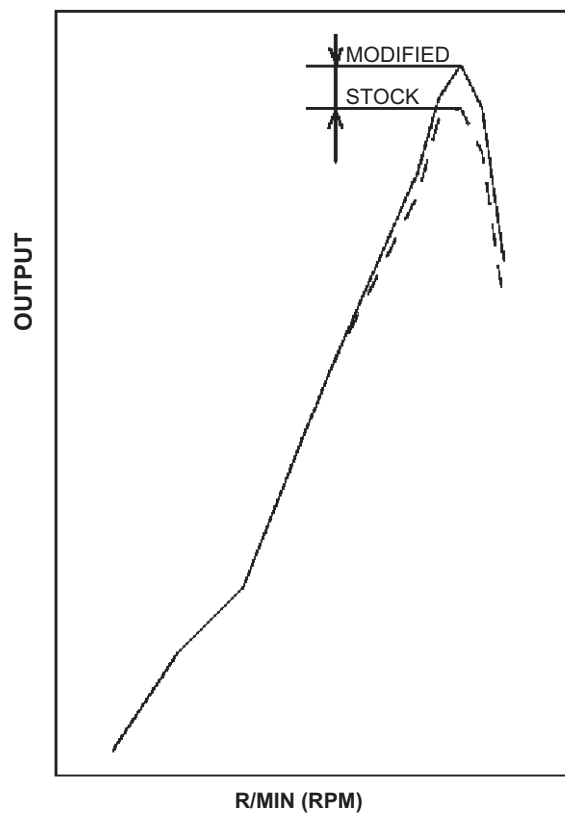


RACE TUNING INFORMATION

Subject

The following modifications increase and extend the power range, making the vehicle more competitive for the experienced racer.



Modification Procedures

Cylinder:

The following modifications increase midrange and high speed power while retaining low speed power.

- Grind and smooth the dotted areas in the intake, exhaust, scavenging ports, and other passages as shown on the following page.
- Measure the heights of the ports and grind the tops of the ports to match the measurements in the figure on the following page.
- When machining the cylinder wall, be careful not to remove over 0.2 mm.
- Do not polish the exhaust valve bores. If there is electro fusion residue stuck in the bore however, remove it. Special care must be taken not to over-machine when polishing the exhaust bridge as well as the remaining surfaces of the exhaust ports in the cylinder bore.

CAUTION

Maintain the original shape of the ports, and chamfer the sharp edges to prevent ring damage.

Removing more material than specified may result in a loss of power.

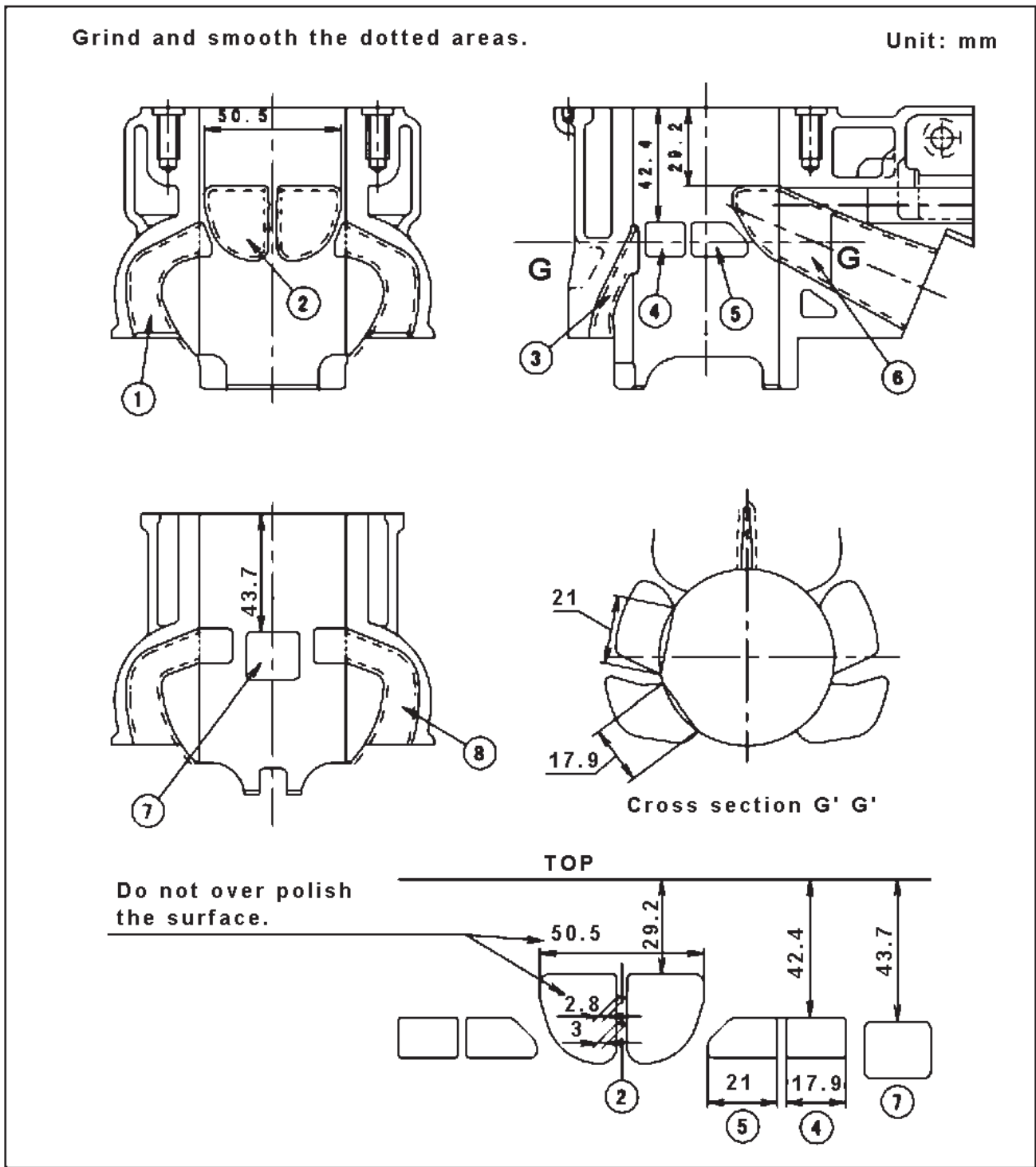
CAUTION

Kawasaki cannot accept any responsibility for the results of the modifications described in this bulletin.

Whenever the power output of an engine is increased, the reliability and durability of the engine decrease. This is especially true of competition engines, which are highly stressed even in stock form.

For best results, engine modifications should be made by an experienced engine tuner.

Cylinder Ports and Passages



- 1. Main Scavenging Passage
- 2. Exhaust Port
- 3. Number 3 Scavenging Passage
- 4. Sub-scavenging Port

- 5. Main Scavenging Port
- 6. Exhaust Passage
- 7. Number 3 Scavenging Port
- 8. Sub-scavenging Passage

Exhaust Advancer Assembly

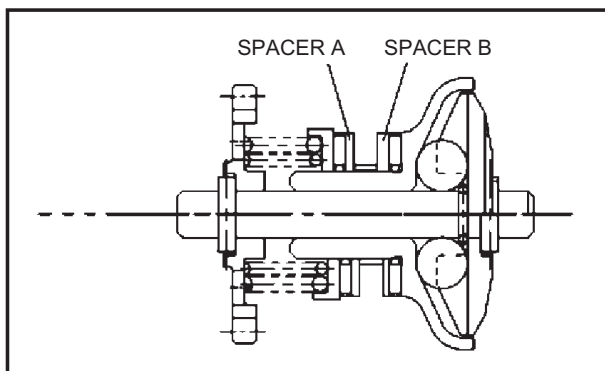
Spacers are used in two different locations on the exhaust advancer assembly to properly adjust exhaust valve timing.

NOTE:

- o On 2002 models up to engine serial No. KX125LE021454, Spacer B was a 2.0mm shim. This is shown in the following table.
- o For engine numbers KX125LE021455 and after, Spacer B is 1.0mm.

Spacer Assembly

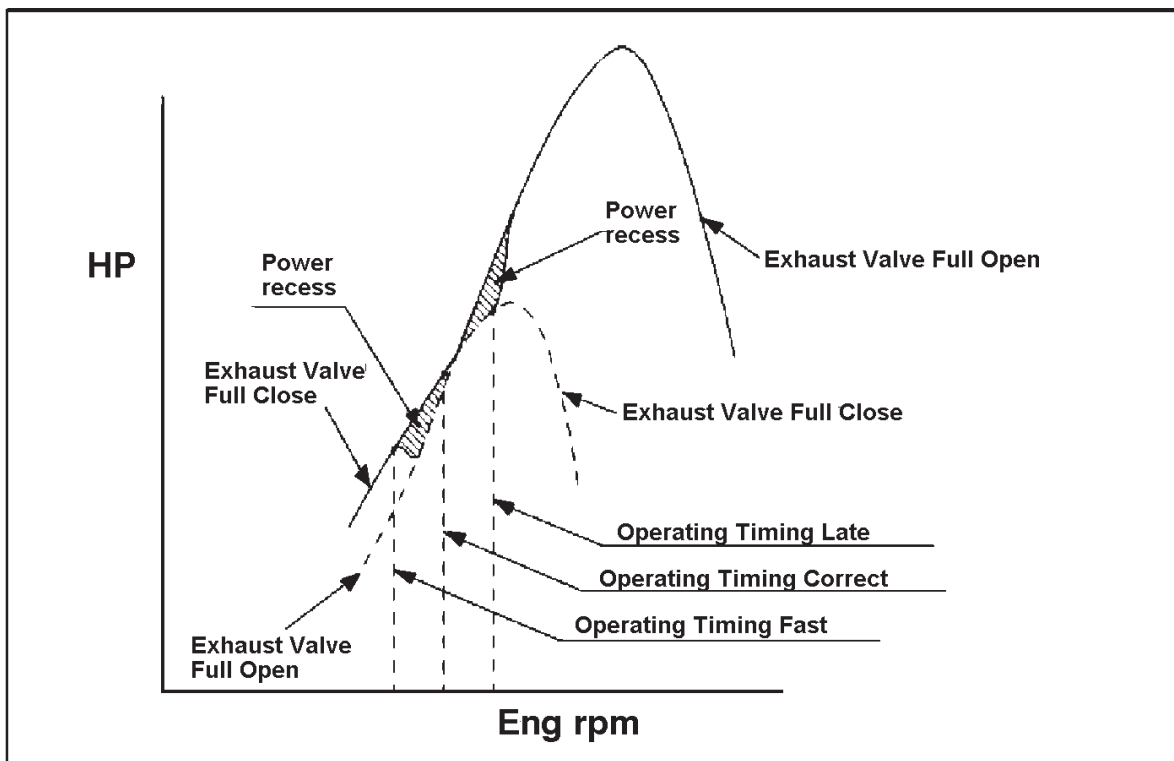
	Up to KX125LE021454	KX125LE021455 and after
Spacer A		
Part Number	92026-1590	92026-1590
Thickness	1.5mm (0.06 in.)	1.5mm (0.06 in.)
Spacer B		
Part Number	92026-1501	92026-1238
Thickness	2.0mm (0.08 in.)	1.0mm (0.04 in.)



If the power feels somewhat “flat” at the middle rpm range [around 8,500 r/min (rpm)], or low rpm range [below 6,000 r/min (rpm)], the exhaust valves are not functioning at the optimum timing.

Exhaust valve timing can be adjusted by changing spacer A or B. Use the chart to help determine what spacer(s) should be used to optimize exhaust valve timing.

Engine Performance Curve



NOTE:

- o When the power recess happens in the middle rpm range:
Exhaust valve opening timing is retarded so it needs to be advanced (open sooner).
- o When the power recess happens in the low rpm range:
Exhaust valve opening timing is advanced so it needs to be retarded (open later).

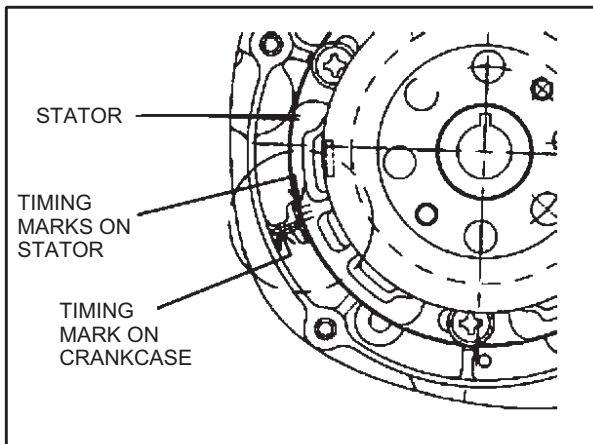
	Spacer A		Spacer B		Valve Opening Timing [change in r/min (rpm)]
	Part Number	Thickness mm (in.)	Part Number	Thickness mm (in.)	
Standard →	92026-1590	1.5 (0.06)	92026-1501	2.0 (0.08)	0
Up to KX125LE021454	92026-1238	1.0 (0.04)	92026-1501	2.0 (0.08)	-250
	92026-1590	1.5 (0.06)	92026-1590	1.5 (0.06)	-500
	92026-1238	1.0 (0.04)	92026-1590	1.5 (0.06)	-750
	92026-1590	1.5 (0.06)	92026-1238	1.0 (0.04)	-1,000
	92026-1238	1.0 (0.04)	92026-1238	1.0 (0.04)	-1,250

	Spacer A		Spacer B		Valve Opening Timing [change in r/min (rpm)]
	Part Number	Thickness mm (in.)	Part Number	Thickness mm (in.)	
Standard →	92026-1590	1.5 (0.06)	92026-1238	1.0 (0.04)	0
KX125LE021455 and after	92026-1238	1.0 (0.04)	92026-1238	1.0 (0.04)	-250
	92026-1238	1.0 (0.04)	92026-1590	1.5 (0.06)	+250
	92026-1590	1.5 (0.06)	92026-1590	1.5 (0.06)	+500
	92026-1238	1.0 (0.04)	92026-1501	2.0 (0.08)	+750
	92026-1590	1.5 (0.06)	92026-1501	2.0 (0.08)	+1,000

Ignition Timing

Stock	BTDC 10.3° / 10,900 r/min (rpm)
Modified	BTDC 12.3° / 10,900 r/min (rpm)

- Modify the ignition timing by turning the stator 2 degrees clockwise (advance).
- o There are three timing marks on the stator in 2 degrees interval; the stock machine uses the center of the marks. Shifting one mark changes the ignition timing by 2 degrees.



Flywheel Magneto Rotor (Optional Parts)

Five (5) rotors are available. The standard flywheel can be substituted with one of those in the chart to better suit track conditions.

Select one of them according to the table.

Table of Inertia Moment

Part Number	Inertia Moment (kg-cm ²)	Riding Conditions
21007-1407	3.8	Increase throttle response ↑↓ Increase rear wheel traction
21007-1387	4.5	
21007-1388	4.9	
21007-1389	5.5	
21007-1390	5.9	
21007-1386	4.0	STD

Spark Plug

- Use the following racing spark plug.

Spark Plug	Part Number
R6385-9P (NGK)	92070-1236
BR8EIX (NGK)	92070-1270
BR10EIX (NGK)	92070-1272

NOTE:

- o *Use a racing fuel with Research Octane Number (RON) 105 or higher, to help prevent abnormal combustion caused by advanced ignition timing.*

CAUTION

Use of leaded fuel is illegal in some countries, states, or territories. Check local regulations before using leaded fuel.

Optional Carburetor Jet Needle and Throttle Valve Cutaway

The optional carburetor jets for the 2002 KX125-L4 are listed on the last pages of this bulletin.

Warranty Information

This bulletin is racing support information only, not warranty authorization.

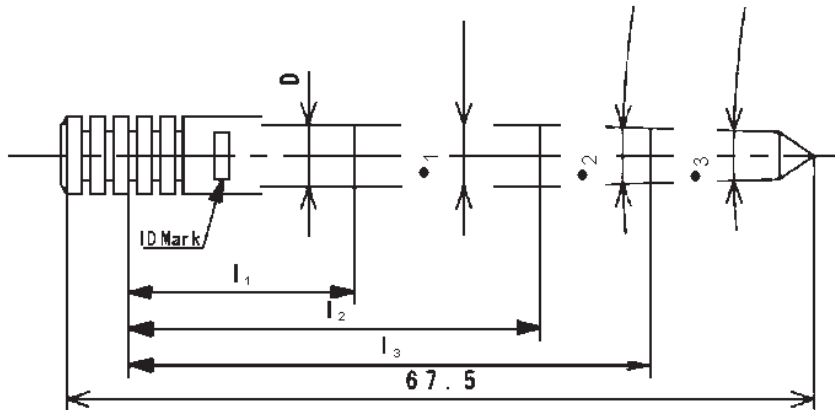
Carburetor Jetting and Optional Parts

'02 KX125-L4

1) Base Jetting

Markets	Carb Body Type	MJ	PJ	JN	CA	AS	NJ	BPP	BP	PO	ID Mark
All	TMX38	#350	#45	6BEK1-69-3	5.5	1 1/2	S-4	2.5	•0.9	• 0.6	G668A

2) JN Optional Parts



P/No.	ID Mark	D	l ₁	l ₂	l ₃	• ₁	• ₂	• ₃	A/F Condition
16187-1212	6BEK1-67	•2.67	24.89	28.00	37.50	0°30'	1°15'	2°45'	Richer
16187-1213	68	•2.68	23.75	28.00	37.50	0°30'	1°15'	2°45'	STD (Clip position 3 rd)
16187-1214	69	•2.69	22.60	28.00	37.50	0°30'	1°15'	2°45'	
16187-1215	70	•2.70	21.45	28.00	37.50	0°30'	1°15'	2°45'	
16187-1216	71	•2.71	20.31	28.00	37.50	0°30'	1°15'	2°45'	
16187-1217	6BEK2-67	•2.67	24.39	27.50	37.00	0°30'	1°15'	2°45'	Richer
16187-1218	68	•2.68	23.25	27.50	37.00	0°30'	1°15'	2°45'	Leaner
16187-1219	69	•2.69	22.10	27.50	37.00	0°30'	1°15'	2°45'	
16187-1220	70	•2.70	20.95	27.50	37.00	0°30'	1°15'	2°45'	
16187-1221	71	•2.71	19.81	27.50	37.00	0°30'	1°15'	2°45'	

6BEK2 is richer than 6BEK1 (0.5 Clip Position)

3) CA Optional Parts

P/No.	Number	Remark
16025-1228	# 5.0	OP
16025-1229	# 5.5	STD
16025-1230	# 6.0	OP

4) PJ Optional Parts

P/No.	Number	Remark
92064-1216	# 40	OP
92064-1217	# 42.5	OP
92064-1218	# 45	STD
92064-1227	# 47.5	OP
92064-1220	# 50	OP

5) MJ Optional Parts

P/No.	Number	Remark
92063-048	# 330	OP
92063-049	# 340	OP
92063-050	# 350	STD
92063-032	# 360	OP
92063-035	# 370	OP
92063-035	# 400	OP

NOTES

BPP is the Bypass Pitch : the distance in mm from the center of the main nozzle to the center of the Bypass hole.

BP is the Bypass : the size of the hole in mm.

PO is the Pilot Outlet : the size is in mm. The upper number is the size of the hole into the carburetor throat in mm. The lower number is the size of the hole into the fuel passage.