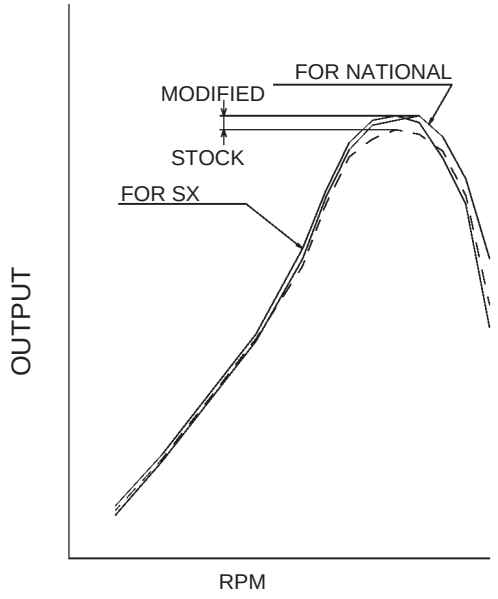
RACE TUNING INFORMATION

Subject

The following modifications increase midrange and high speed power, making the vehicle more competitive for the experienced racer.



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.

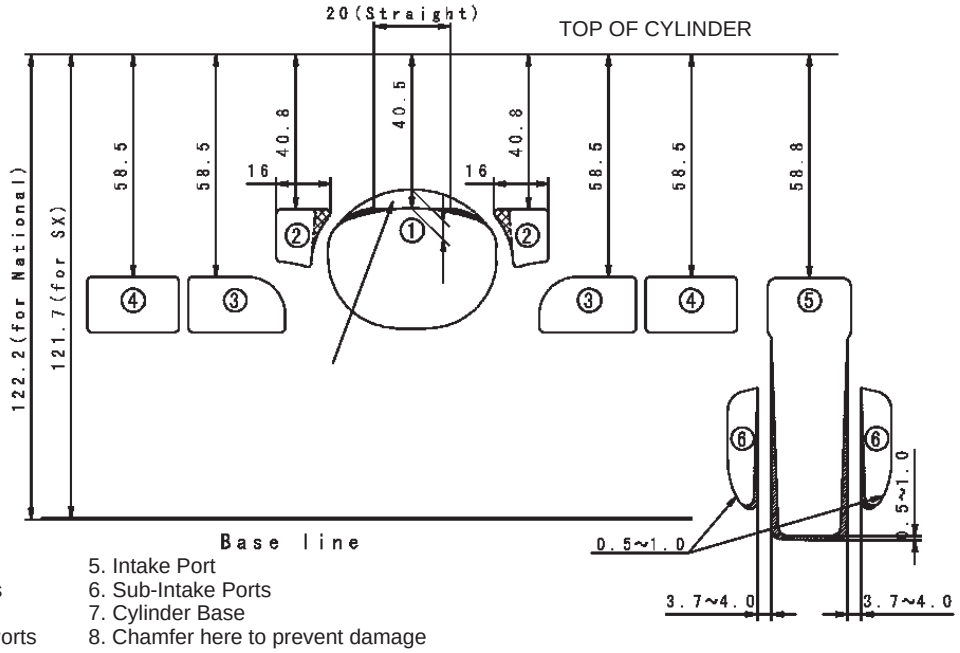
Modification Procedures for SX Version

Cylinder:

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

- Grind and smooth the shaded areas in the intake, exhaust and scavenging ports as shown.
- Polish the surfaces of the exhaust and intake passages, especially near the ports into the cylinder with emery cloth to allow smoother gas flow.

Cylinder Ports



1. Exhaust Port
2. Sub-Exhaust Ports
3. Scavenging Ports
4. Sub-Scavenging Ports
5. Intake Port
6. Sub-Intake Ports
7. Cylinder Base
8. Chamfer here to prevent damage

SERVICE

- Measure the levels of the ports and grind the tops of the ports to match the measurements shown.

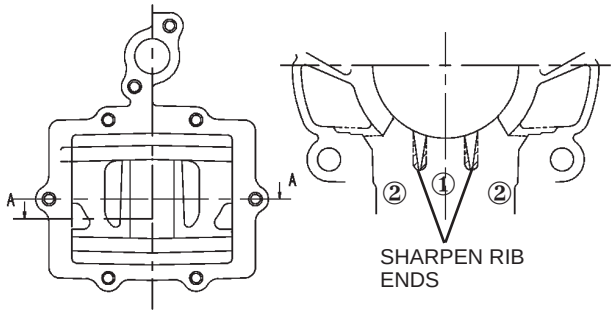
CAUTION

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.

- Grind the shaded area in the intake, sub-intake passages.

Intake Port Ribs



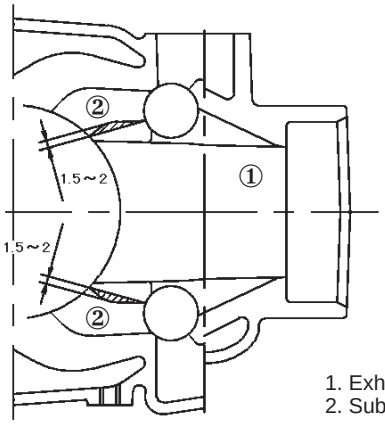
1. Intake Port
2. Sub-Intake Ports

- Smooth the stepped sections in the sub-exhaust ports so that they are flush with the KIPS valves when fully opened. This allows exhaust gases to flow more smoothly.

NOTE:

o *Check that the valves open fully with the rod installed in the cylinder.*

Exhaust Port and Sub-Exhaust Ports

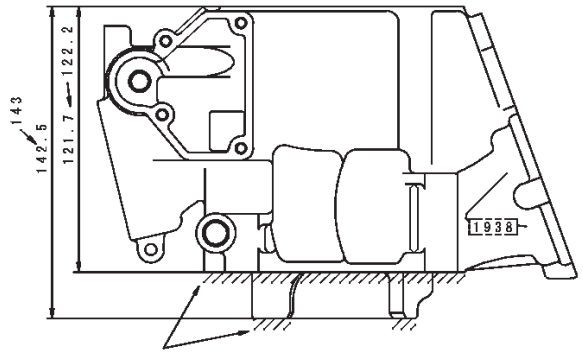


1. Exhaust Port
2. Sub-Exhaust Ports

- Shorten the cylinder height by removing 0.5 mm from the base surface and skirt (Fig. 5).

o *The resulting surface finish must be as smooth as the original to insure that the base gasket will not leak.*

Cylinder Cutting

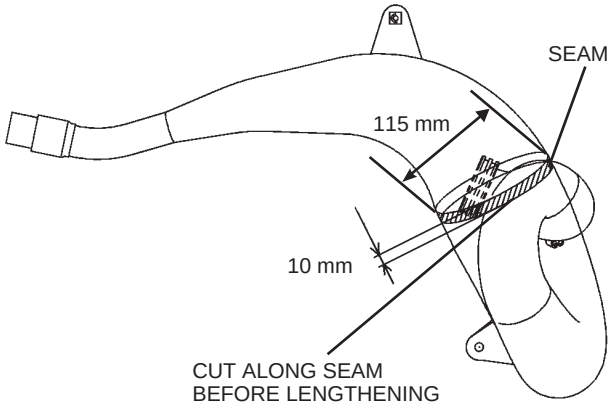


CUT THESE SURFACES

Exhaust Pipe:

This modification improves low speed power.

- Lengthen the pipe by 10 mm from the length of the original pipe.
- Remove the fuel tank and the carburetor so that the pipe may be welded back together on the motorcycle for the snug fit.



NOTE:

o *It may be necessary to reposition the muffler bracket.*

o *Before final welding, fit the pipe on the motorcycle and tack weld the pipe joint.*

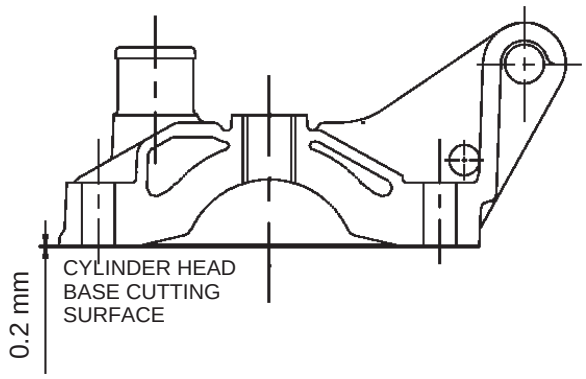
Modifications, Outdoor Version

- Make only the port modifications as the SX version mentioned above.
- Do not shorten the cylinder height or lengthen the exhaust pipe for outdoor racing.

Cylinder Head:

- Cut the cylinder head base by 0.2 mm to increase the compression ratios.

Cylinder Head



Recommended Combination

The following table shows the best combination of engine modifications for race versions.

Race	Cylinder Head	Head Gasket	Cylinder
SX and Technical Courses	Stock (11001-1425)	11004-1241 (Thickness: 0.46 mm)	① All Portings
			② Shortening Cylinder Height by 0.5mm
National and GP Courses	Modified (Head Surface: 0.2 mm cut)	11004-1240 (Thickness: 0.26 mm)	① All Portings

Race Versions	Magneto Rotor	Igniter	Cylinder Compression
SX and Technical Courses	Select either one.	Select optional one (21119-1593)	9.5
National and GP Courses	Select either one.	Select optional one (21119-1593)	9.2

General Tuning Information

The following tuning information is recommended for all racing conditions.

Flywheel Magneto Rotor (Optional Parts):

- Four (4) types of rotors are available. These can be installed to change the inertia moment. Select one according to the race conditions.

Table of Inertia Moment

Part Number	Inertia Moment (kg -cm²)	Riding Conditions
21007-1382	4.5	Increase throttle response
21007-1383	4.9 (STD)	↑
21007-1384	5.5	↓
21007-1385	5.9	Increase rear wheel traction

Igniter:

- Replace the igniter with the optional one to obtain higher speed.

Part Number	Description	Riding Conditions
21119-1573	Igniter (Stock)	--
21119-1593	Igniter (Option)	Increase High Speed

Spark Plug:

- Use the recommended racing spark plug.

Spark Plug	Part Number
R6385-9P (NGK)	92070-1236

CAUTION

Use a racing fuel with Research Octane Number (RON) 105 or higher, to help prevent abnormal combustion caused by the increased compression pressure from this modification.

Optional Carburetor Jet Needle and Throttle Valve Cutaway

The optional carburetor jets for the '01 KX250-L3 are listed on the last page of this bulletin.

Warranty Information

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

Carburetor Jetting and Optional Parts

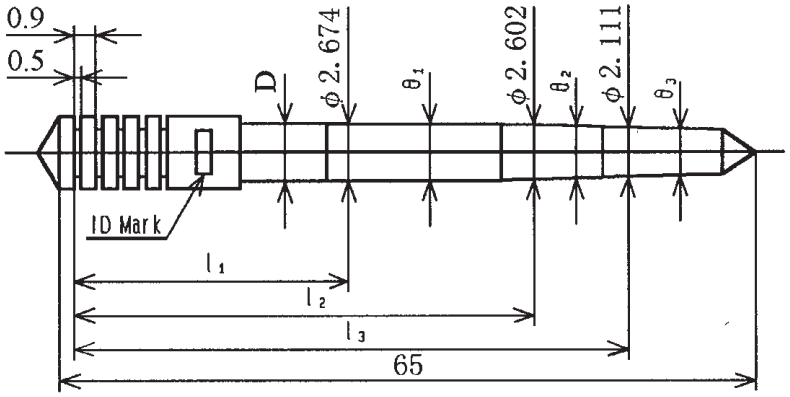
'01 KX250-L3

1) Base Jetting

Markets	Carb Body Type	MJ	PWJ	JN	CA	SJ	AS	NJ			BP P	POP	BP	PO	ID Mark
								Height	Choke Height	Well Dia					
*EU and Australian Model	PWK38S	#160	#48	NAFF-3	#8.0 (2.5X1.0)	#52	1½	0mm	7.45 (With Slit)	φ 3.6	5.0	10.5	φ 0.8	φ 0.7 φ 0.7	G648A
**US and Canadian Model	PWK38S	#160	#48	NAFF-2	#8.0 (2.5X1.0)	#52	1½	0mm	7.45 (With Slit)	φ 3.6	5.0	10.5	φ 0.8	φ 0.7 φ 0.7	G597A

NB: The upper mark is applied to the EU and Australian models, while the lower is applied to the US and Canadian models.

2) JN Optional Parts



P/No.	ID Mark	D	l_1	l_2	l_3	θ_1	θ_2	θ_3	A/F Condition
16187-1154	NALD	φ 2.685	27.15	30.95	46.95	0°45'58	1°34'40"	3°0'0"	Richer
16187-1155	E	φ 2.695	27.15	30.95	46.95	0°45'58	1°34'40"	3°0'0"	
16187-1156	F	φ 2.705	27.15	30.95	46.95	0°45'58	1°34'40"	3°0'0"	STD (Clip position 3rd)
16187-1157	G	φ 2.715	27.15	30.95	46.95	0°45'58	1°34'40"	3°0'0"	
16187-1158	H	φ 2.725	27.15	30.95	46.95	0°45'58	1°34'40"	3°0'0"	Leaner
16187-1159	NAFD	φ 2.685	27.60	31.40	47.40	0°45'58	1°34'40"	3°0'0"	Richer
16187-1160	E	φ 2.695	27.60	31.40	47.40	0°45'58	1°34'40"	3°0'0"	
*16187-1161	F	φ 2.705	27.60	31.40	47.40	0°45'58	1°34'40"	3°0'0"	STD (Clip Position 2nd)
**									STD (Clip Position 3rd)
16187-1162	G	φ 2.715	27.60	31.40	47.40	0°45'58	1°34'40"	3°0'0"	
16187-1163	H	φ 2.725	27.60	31.40	47.40	0°45'58	1°34'40"	3°0'0"	Leaner

NAL is richer than NAF (0.5 Clip Position).

NOTE

* **Applicable for EU and Australian Models.**

** **Applicable for US and Canadian Models.**

3) CA Optional Parts

P/No.	Number	Remark
16025-1217	#8 (2.5X1.5)	STD
16025-1215	#6 (2.5X1.5)	Option
16025-1216	#7 (2.5X1.5)	Option

4) PWJ Optional Parts

P/No.	Number	Remark
16159-1059	#42	Option
16159-1060	#45	Option
16159-1058	#48	STD
16159-1053	#50	Option
16159-1055	#52	Option

NOTES

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

POP is the Pilot Outlet Pitch: the distance in mm from the center of the main nozzle to the center of the Pilot Outlet.

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.