



PERFORMANCE BULLETIN

U. S. SUZUKI TECHNICAL SERVICE

SUBJECT: Road Racing/ Flat Track X6

T20/TC250

Affected Models: _____

Effective Engine No.: _____

Reference: _____

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Bulletin No. August 9, 1969

Date _____

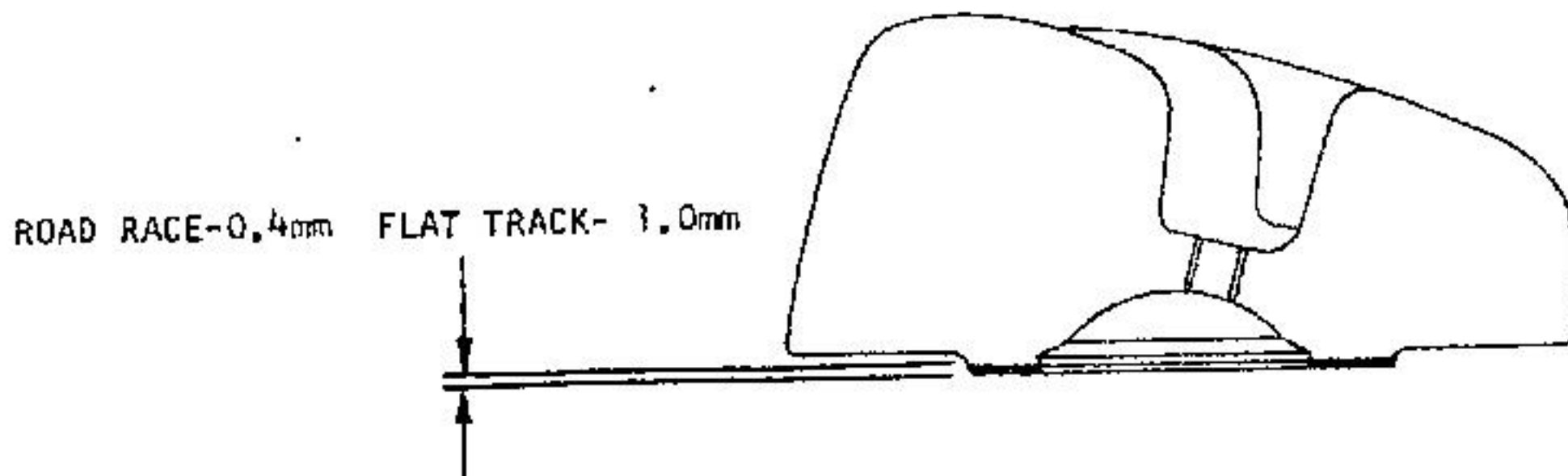
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The X6 engine can be modified to increase maximum power and RPM for road racing and flat track competition.

NOTE: These changes will also decrease low-RPM torque; the engine will not be usable below 4,000 RPM.

CAUTION: Don't allow the engine to rev over 11,000 RPM or you may have crankshaft trouble.

1. CYLINDER HEAD. Mill the cylinder head to increase the compression ratio. For road racing, take off 0.4mm (0.016"). For flat track, remove 1.0mm (0.040").



COMBUSTION CHAMBER VOLUME WITH B-77HC PLUG INSTALLED.

Standard: 14.85cc Road Race - 13.93cc Flat Track - 12.55cc

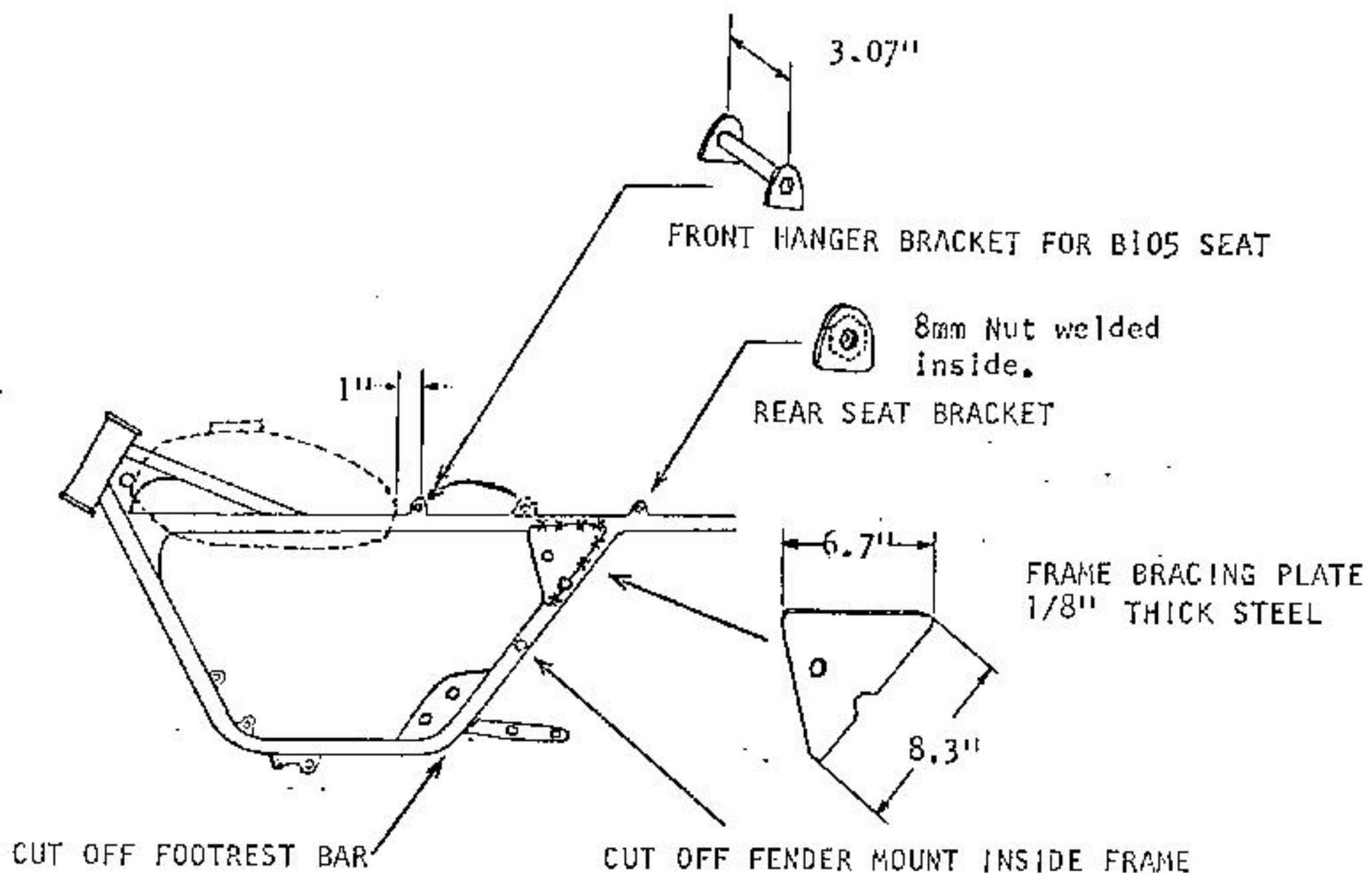
NOTE: Each 0.1mm (.040") milled from cylinder head will decrease cylinder head volume by 0.23cc.

ROAD RACING. IF gasolines with 100+ octanes are used, more metal can be removed from the cylinder head for higher compression.

We suggest making head gaskets out of 0.5mm (0.020") thick copper sheet for the higher compression heads. Make sure the gasket doesn't overhang in the combustion chamber or it will cause preignition.

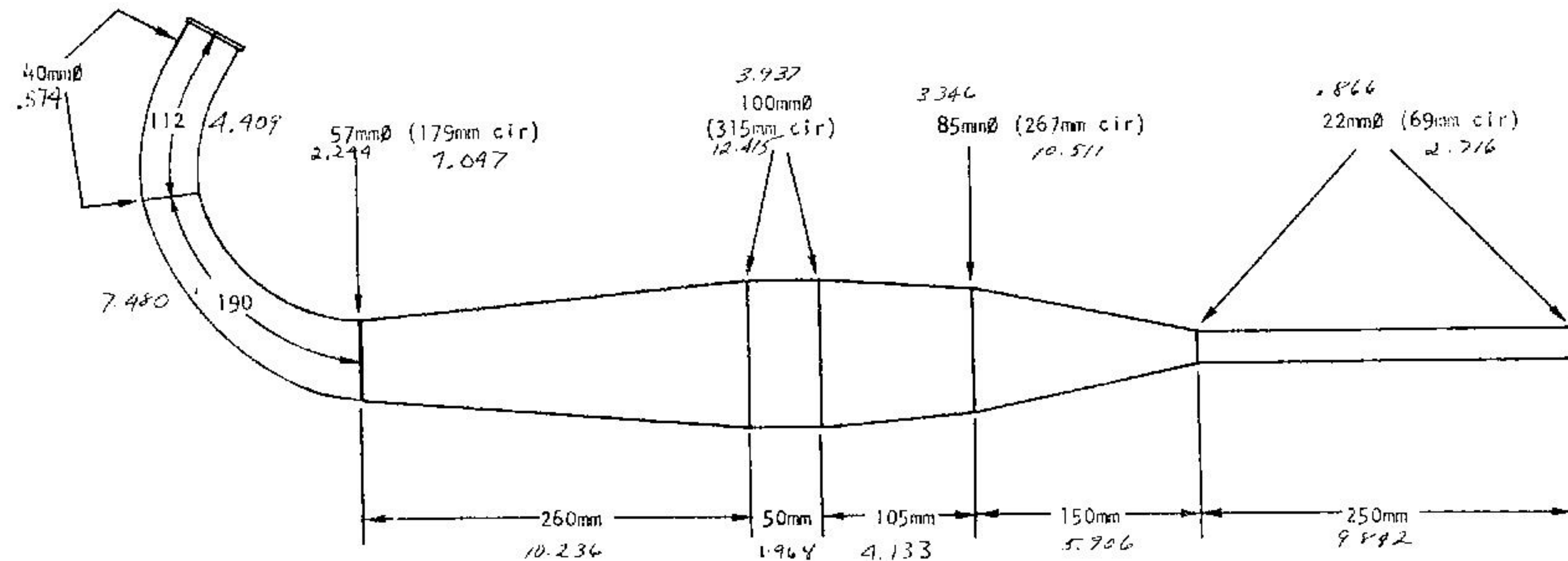


1. In order to increase the strength of the frame, a bracing plate must be welded as illustrated below. The thickness of the plate shall be 1/8 inch.



2. Seat mounting must be modified as shown.
3. Rear fender mounts on the frame may be chopped off by $\frac{1}{2}$ inch so that the recommended bigger tire may be mounted.
4. Recommended Oil - Racing engines of this type should be lubricated with a castor-base oil. The oil should be mixed with the gas at 1:15 for the first two hours of operation and 1:20 thereafter. Castor oil must also be used in the oil tank when castor oil is mixed with the gas. Castor and mineral base oils are not compatible. We recommend the following oil brands: Castrol R30, Blendzall Green Label, Don Francisco's Two Snapper, Shell Super M.
5. Ignition Timing - Same as standard - 3.62mm or 27° BTDC.

EXPANSION CHAMBER FOR X6 ROAD RACER OR FLAT TRACKER. BUILD FROM 22 GAUGE COLD ROLLED STEEL

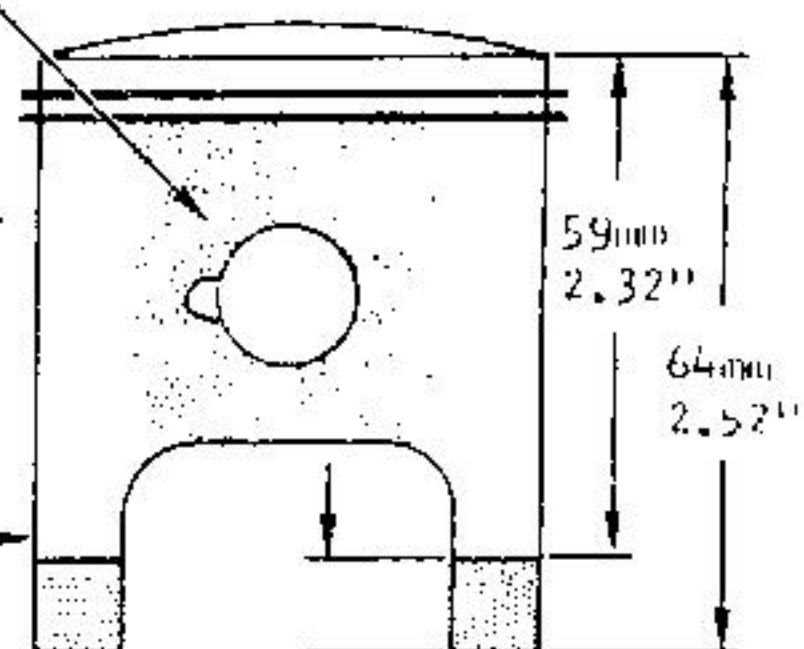


2. **CYLINDER.** Perform the following changes with a high speed grinder. Refer to the preceding page for illustration.
 - A. Raise the top edge of the exhaust port by 4mm (0.16") to speed up blowdown.
 - B. Lower the bottom edge of the exhaust port by 2mm (0.080") to enlarge exhaust port area. Square the bottom edge of the exhaust port.
 - C. Chamfer all sharp port edges for ring life.
 - D. Open up the intake port and insulator block on the outside to match new carburetor size.
 - E. Polish all port walls for smoother flow, but don't change the shape of the transfer ports.
 - F. Match the transfer ports in the cylinder to the transfer channels in the top of the crankcase.
3. **EXPANSION CHAMBERS.** Build the expansion chambers from 22 gauge cold rolled steel. See illustration on preceding page.
4. **PISTONS.** Use Wiseco Pistons. These are available from Steen's, Inc. or Wiseco Piston Co., 30200 Lakeland Blvd., Wickliffe, Ohio 44092. These are available in standard bore, and .010", .020", .030", .040", .050", and .080" oversizes. Retail list is \$10.95 per piston with rings. These pistons use .024" thin steel chromed rings.

REMOVE 0.005" FROM EACH SIDE OF PISTON; TOTAL REDUCTION IN MINOR DIA. (SIDE-TO-SIDE) SHOULD BE 0.010".

PISTON CLEARANCE -
0.0030-0.0035"

RING END GAP -
0.065-0.075"



CUT 5mm (0.20") OFF PISTON SKIRT TO ADVANCE INTAKE PORT TIMING.

5. **IGNITION.** Ignition Timing is 3.12mm BTDC or 25° BTDC.
6. **CARBURETORS.** Use the 26mm Ø TC250 MX Kit carburetors, which are now available separately.

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>RETAIL</u>	<u>REMARKS</u>
13201-17310	Right Carburetor 26mm	\$21.08	#130 Main Jet
13202-17310	Left Carburetor 26mm	\$21.08	4F6 Jet Needle D-D Needle Jet Plastic Floats

Changes for road racing and flat track:

- Install N6 needle jet from STD X6 carburetor.
- Install #170 main jets (Part #09491-34002, \$.68) and then lean out the jetting until the engine cleans out.
- Clip 4DH5 jet needle in 2nd notch from top. This jet needle can be taken out of the standard X6 24mm carburetor.
- Set air screw at 1½ turns out.
- You may wish to install the brass floats out of the STD X6 carburetor. Use the STD float bowl for temporary change.

CARBURETOR SPECIFICATIONS FOR ROAD RACING

Needle Jet: N6 with 8mm P.C. (STD X6)

Air Jet: 0.8mm Ø

Cutaway: #2.5 (STD X6)

Pilot Jet: #35 J.I.S. (STD X6)

Jet Needle: 4DH5 (STD X6)

Float Valve Seat: 2.0mm Ø (STD X6)

OPTIONAL MAIN JETS

<u>SIZE</u>	<u>TYPE</u>	<u>PART NUMBER</u>	<u>RETAIL</u>
#150	Long Hex	00082-31146	\$.61
#160	Long Hex	00082-31151	\$.61
#170	Long Hex	09491-34002	\$.65
#180	Long Hex	09491-36003	\$.65

7. SPARK PLUGS. Use NGK racing plugs with $\frac{1}{2}$ " reach.

For flat track - use B10HN or B11HN.

For road racing - use B9HN or B10HN.

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>REMARKS</u>	<u>RETAIL</u>
09482-00015	B8HN Spark Plug	Hot-warm up	\$2.75
09482-00018	B9HN Spark Plug	Warm	\$2.75
09482-00019	B10HN Spark Plug	Cool	\$2.75
09482-00020	B11HN Spark Plug	Cold	\$2.75

8. LUBRICATION. There are two methods of lubrication to use, depending on the type of competition intended.

Tight course or short track; use standard oiling system with full throttle control on oil pump. This prevents loading-up on corners.

High speed course; use 20:1 gas/oil mixture in the fuel tank. Lock the oil pump in the idle position to provide oil to the outside crank main bearings.

We recommend the following oil brands: Castrol R30, Blendzall Green Label, Don Francisco's Two-Snapper, and Shell Super M.