

KAWASAKI H1 ENGINE TUNING.

Do you want to get some REAL POWER out of your H1 yet still maintain a wide POWER BAND, 6---9750 R.P.M. Well here are the details, Port Timings and C/R are typical except for the Transfer's which are a bit radical, it is this but mainly the Expansion Chamber which are responsible for a wide power band, the pipe will suppress max' H.P. (by approx' 3-5 E.H.P.). over that of a pure road race design, but will start to work even before the ports do and will allow the engine to Rev' past peak H.P. (Approx' 75 E.H.P.) at 9250 R.P.M. This combination makes the engine

R E A L L Y T R A C T A B L E . . .

C/R. 13.5 : 1

FORMULA TO FIND C.C.V.

$$C.C.V. = \left(\frac{TT/D \text{ squared} \times 58.8 \text{ mm}}{4000} \right) \times (13.5 - 1) = (13-14 \text{ cc})$$

SQUISH CLEARANCE = 1 mm

SQUISH AREA = 50 % OF HEAD AREA.

CARRURETTOR 34 - 35 mm.

IGNITION TIMING 23° BTDC.

To obtain the inlet duration specified you will need to remove about 3 mm. off the inlet side of skirt, but do check with degree disc first. It goes without saying that you should match base transfer's / crankcase opening's to gaskets. Incidentally you can use this pipe with STD porting if you extend the center section by 55mm.

ROAD RACING IN 1987.

Ever thought of going road racing ? well the FORGOTTEN ERA RACING CLUB was specially form in 1986 to cater for Post Classic motorcycles.

2-STROKE'S 1968 to 1976.

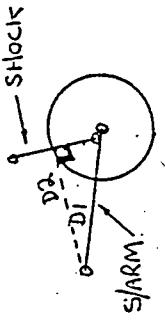
INC' AIR-COOLED YAMAHA'S -SUZUKI'S & KAWASAKI etc.

4-STROKE'S 1971 to 1976.

LIMITED to 750cc INC' TRIDENT'S- DUCATI - CB750 etc. About 60% of the field are production based the rest being Factory Ince type, mainly TR 250 - 500 - 750 SUZUKI'S, YUK YUK. According to the club secretary MICK NEWTON, KAWASAKI'S are severely lacking in numbers, I will be campaigning by SPONDON - Hi-R. for the first time. So come on, lets get out there this season and WHOOP THEM ? Their are 8 - Meeting's fixed, with another 2-being planned. For more details contact myself but preferably MICK NEWTON at 171, MOORLAND RD, WITNEY, OXON, OX8 5LH Tel: 0993-76290.

WHEEL FREQUENCY'S & SPRING RATES ?

If you ever wanted to find the right spring rate for your bike here is the Formula. Set bike on scale with rider aboard note weight of rear wheel, then subtract weight of s/arm, half-shock's & r/wheel (approx' 30lbs) this is known as the sprung weight SW Next work out the motion ratio, MR.



D2 SQUARED = MR.

EXAMPLE

425 = 0.85 X 0.85 = 0.7225 MR

This means that if you had a 2 X 80lbs/in sq = 160lbs/in sq springs the wheel rate WR would equal:

160 X 0.7225 = 115.6lbs/in sq WR

Spring rates are chosen by MATERIAL WHEEL FREQUENCY'S measured in units of CYCLES PER MINUTE CPM, for sports motor-cycles we need a figure of 100-125 CPM

CPM = 107.8 $\sqrt{\frac{\text{WHEEL RATE WR (lbs/in)}}{\text{SPRUNG WEIGHT WR (lbs)}}$

EXAMPLE:

107.8 $\sqrt{\frac{115.6}{350}} = (107.8 \times 0.574) = 108 \text{ CPM}$

2 X 100lbs/in springs put through the same equation = 120 CPM Remember the wheels need to stay in contact with the road and follow all the irregularities to enable the POWER to get to the ground, not to mention ROAD HOLDING & HANDLING, so DON'T ruin all the above calculations by excess PRE-LOAD, set preload to provide 1 inch sag with rider normally seated. Their's know point having 3 inches of travel if it isn't used.

For good handling & road holding you need relatively soft springs and heavy dampening. If your still having handling problems it may well be damper fade, once this has been eliminated and all of the points listed below have been checked you should have one fine handling machine.

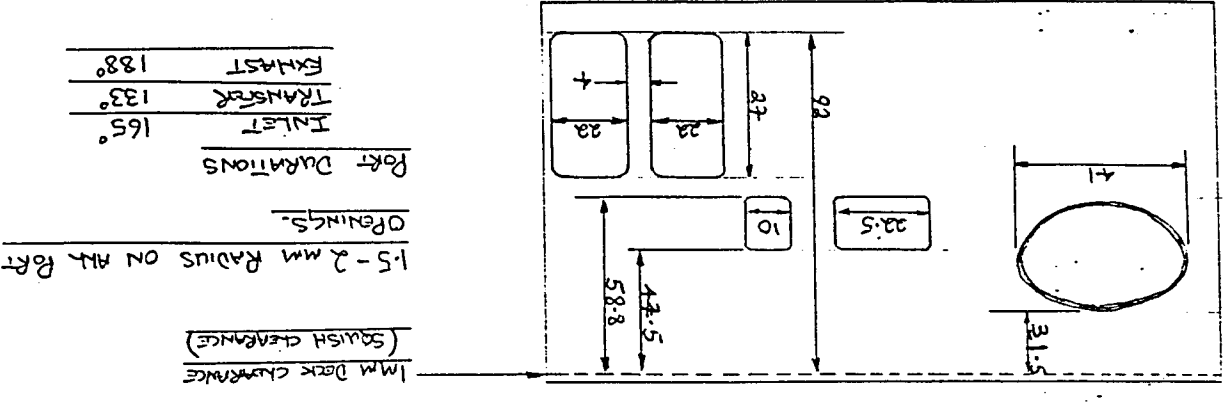
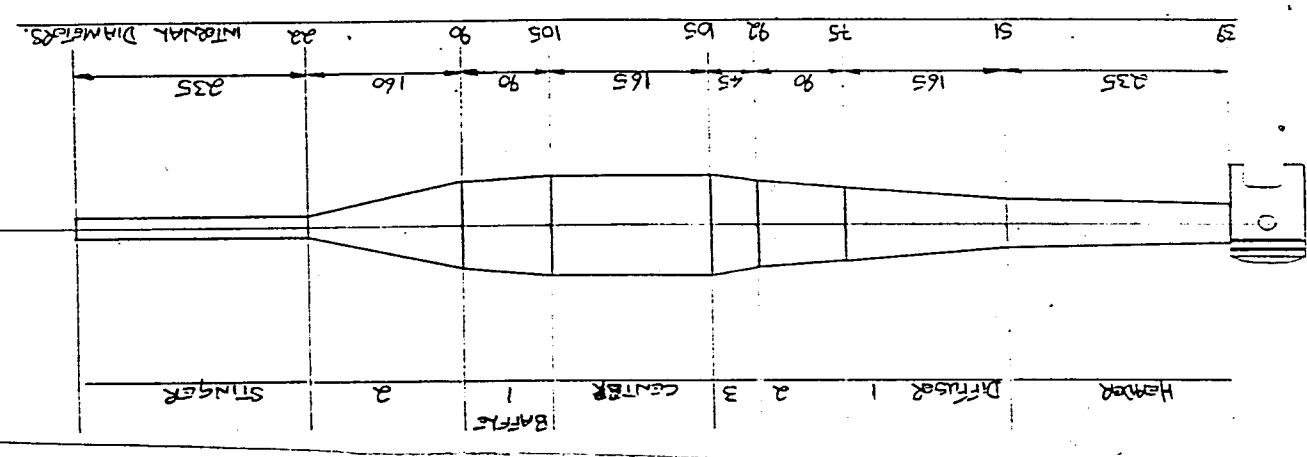
- 1) Rim width/tyre combination:
Easy way to check, if your using say 7 130/80 width tyre it should measure 130mm +/- 5mm across max width, a larger difference will indicate a mismatch.

RIM SIZE I/D	TYRE SIZE'S
2.5in	110, 120, 130 mm
2.75in	120, 130, 140 mm
3.0in	130, 140
3.5in	130, 140, 150 mm
4.0in	140, 150, 160 mm

- 2) Fork's springs & oil
The chances are that the fork's have had no attention other than oil & seal change, so strip them, check stansions for straightness & pitting, spring length, replace all worn bushes, seals, circlips. Degrease, lube all parts & assemble, re-fill with BEL-HAY SAE.10-15 wt, too manu' spec' initially when experimenting with oil levels adj' by 10cc graduations.

- 3) Bearing's, bushes, spindles & bolts;
Spindles: Clearance between bearings and spindles 0.04 - 0.12mm (0.002"-0.005")
Bearings: wheel bearings should have no axial/radial play and should feel smooth in rotation, steering head, taper roller type, dis-assemble, clean, grease off outer race's and inspect, they should appear light grey in colour, any pitting/flaking, replace, re-pack with Grease (castrol LM) re-assemble, steering head nut should be tighten whilst rotating bar's left/right until resistance is felt, then back nut off one flat, repeat if necessary until their's no detectable play at wheel spindle end, and free rotation at bars.
Check wheels are centralised within frame/forks, if out by more than +/- 0.5mm (0.020") machine new spacer's to bring wheels within tolerance.

Finally slacken front spindle and 4-yoke bolts and pump forks up/down, torque spindle, equalise stansions in top yoke, torque bottom yoke then top yoke.



PORT DURATIONS	INLET	TRANSFER	EXHAUST
	165°	133°	188°