Komet K-88 Specifications

Engine .................................. Komet - mfg. by Sesim; Milan, Italy
Model .................................. K-88
Type .................................. Horizontal single cylinder, two stroke/cycle air cooled engine. Loop scavenged, rotary disc valve induction
Rated Horsepower .......................... 15 @ 8200 rpm
Maximum Torque .......................... 6 ft. lbs. @ 7800 rpm
Bore .................................. 1.98" (50.8 mm)
Stroke .................................. 1.91" (48.5 mm)
Piston Displacement ......................... 5.99 C.I. (98.25 cc)
Compression Ratio ......................... 10.5:1 (computed on effective stroke)
Exhaust Port Duration ...................... 158° (79° from B.D.C. to closure)
Transfer Port Duration ..................... 120° (60° from B.D.C. to closure)
Boost Port Duration ...................... 117° (58° 30’ from B.D.C. to closure)
Inlet Duration .......................... 195° (port opening to full closure)
Exhaust Port Opens ..... 101° (1.303” or 33.09 mm) after T.D.C. +/- 0.020”
Transfer Port Opens ..... 120° (1.523” or 38.07 mm)
Boost Port Opens ..... 124°30’ (1.611” or 40.92 mm) after T.D.C. +/- 0.020”
Blow Down Time ..... 19° (+/-1°)
Disc Valve Opens ..... 50° after B.D.C. (+/-1°)
Disc Valve Opening ..... 142° (+/-1°)
Inlet Port Opening ..... 50° (+/-1°)
Lubrication System ..... Oil mist (fuel/oil mixture)
Recommended Fuel Mixture ..... 12:1
Recommended Fuel Lubricant ..... SAE 30W 2-cycle oil
Recommended Fuel Lubricant ..... Premium grade gasoline
Combustion Chamber Volume ..... 9cc (+/-1cc)

CARBURETOR

Type ..... Double diaphragm Tillotson instrument with butterfly throttle control
Model ..... HL227
Main Jet Needle Orifice ..... #52 drill (.0635”)
Idle Jet Needle Orifice ..... #65 drill (.035”)
Venturi Diameter ..... 7/8” (22.2 mm)
Throttle Bore Diameter ..... 1” (25.4 mm)
Venturi Discharge Nozzle Outlet ..... .003” Sq. In.
Inlet Orifice - High Speed Circuit ..... #44 drill (.086”)
Inlet Orifice - Low Speed Circuit ..... #60 drill (.040”)
Low Speed Primary Bypass Port ..... #70 drill (.028”)
Low Speed Secondary Bypass Port ..... #60 drill (.040”)
Idle Circuit Air Bleed ..... #65 drill (.035”)
Inlet Seat Orifice Diameter ..... 3/32” (.094”)
Inlet Valve Control Arm Adjustment. Flush with floor of body casting (+-.010”)

Initial Settings
High Speed Needle ..... 1 1/4 turns from closed
Low Speed Needle ..... 1 1/4 turns from closed

Special Service Note! Inlet passage in venturi discharge nozzle must match with inlet passage in body casting.

Carburetor Pressure Test ..... 6 lbs. for 3 minutes. Maximum permissible leak-down 1 lb.
MAGNETO

Type ........................................ 6 volt Pagani-CEV flywheel magneto
with external (energy transfer) ignition coil

Model ........................................ 6076

Ignition Primary Coil:
Rated Output ................................ 5.2 volts @ 2600 rpm
............................................... 8.3 volts @ 8000 rpm

Coil Resistance ................................ .2 ohms

Coil Core Clearance (air gap) ....... .010” to .012” (.25mm to .3mm)

Ignition Coil:
Primary Resistance .......................... .8 ohms
Secondary Resistance .................... 4800 ohms

Coil Power Test ............................... Steady fire over
............................................... 6mm 3 pt. gap @ 500 rpm
............................................... 8mm 3 pt. gap @ 3000 rpm

Cranking Voltage Check .................... Steady fire over
............................................... 5mm gap (use Wico test plug part #S-14821)

Low Tension Wiring Connection ......... Black wire to coil
............................................... gray wire to ground

Recommended Spark Plug(s) ............. Auto-Lite
............................................... AG 701 (break in)
............................................... AG 603 (hot)
............................................... AG 403 (normal)
............................................... AG 203 (cold)

Spark Plug Reach .......................... 3/4”

Electrode Gap .............................. .024” to .027” (.3mm to .4mm)
(Note! Do not reset side pin electrode plug
gaps as pin may work loose and ruin cylinder head)

Flywheel Magnets .......................... 4-pole, permanent type - riveted
into flywheel

Contact Breaker Point Gap ............... .012” to .015” (.3mm to .4mm)

Contact Breaker Point Spring Tension .... 35 oz. minimum
(measured at center of contact point with Sunnen spring gage)

Condenser Capacitance .................. .23 to .27 Mf. (+/-10%)

Firing Point (ignition timing) ........... 23° 30” (.096” or 2.4mm)
............................................... B.T.D.C.

Ignition Advance or Retard ............. Movable stator plate

CRANKCASE PRESSURE TEST

Starting Pressure .......................... 10 lbs.

length of test .............................. 5 minutes

max. allowable leakdown ................ 1 lb.
CRANKSHAFT CLEARANCES & ALIGNMENT

Crankshaft Endplay ....... .002" to .006" (.05 mm to .15 mm)
Endplay Adjustment .......... By shim
Shims Available ........ .004", .008", .012" (.1mm, .2mm, .3mm)

Needle Bearing Clearances
Wrist Pin to Connecting Rod .... .0005" (.013 mm)
Crankpin to Connecting Rod ..... .0005" (.013 mm)

Service Note! . . . . Wrist and crank pin needle bearing assemblies are available in three different needle roller diameters to facilitate clearing...

EXHAUST SYSTEM DATA
Exhaust length (as measured along centerline from header flange to tip of muffler)
Monza A (flat ended muffler) .... 31 ½" (+/- ½")
Monza B (bullet ended muffler) .... 30 ½" (+/- ½")
Can Type Muffler (header length only) 12" (+/- ½")

To:
Increase Low End Power . Add ½ to 1" to header length
Increase Top End Power . Remove ½ to 1" from header length
PISTON & CYLINDER MEASUREMENTS

Piston to Cylinder Clearance . . . .0015" to .003" (.04mm to .075mm)

Service Note! ... Measure piston at bottom of skirt at a right angle to wrist pin bore. On engines with minimum clearance (.0015") an extensive break-in period is required. For short break-in time set clearance at .0025"

Piston Ring End Gap Clearance . .007" to .025" (.17mm to .65 mm)

Piston Ring to Ring Land Clearance . .001" to .003" (.03 mm to .1mm)

Piston Pin to Piston Fit ... Thumb push at room temperature

Maximum Allowable Cylinder Wear (taper) ... .0015"

Piston Diameter (new std. piston) ... 1.96" (+/- .0005")

(see service note above)

Maximum Allowable Wear ... .002" (see service note above)

Oversize Pistons Available ... 50.9mm, 51mm, 51.1 mm, 51.2 mm

Compression Pressure .................. 100 to 160 lbs.

Service Note! ... Komet engines running in excess of 160 lbs. compression pressure risk severe detonation problems.

IGNITION TIMING CHART

figures expressed in degrees, millimeters and thousands

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\begin{align*}
20° &- 1.745 \text{ mm} - 0.069' \\
21° &- 1.921 \text{ mm} - 0.076'' \\
22° &- 2.104 \text{ mm} - 0.083'' \\
23° &- 2.297 \text{ mm} - 0.091'' \\
24° &- 2.498 \text{ mm} - 0.102'' \\
25° &- 2.798 \text{ mm} - 0.110'' \\
26° &- 2.919 \text{ mm} - 0.115'' \\
27° &- 3.142 \text{ mm} - 0.124'' \\
28° &- 3.373 \text{ mm} - 0.133'' \\
29° &- 3.610 \text{ mm} - 0.142'' \\
30° &- 3.850 \text{ mm} - 0.152''
\end{align*}
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\{ Normal Timing range }
TORQUE SETTINGS

8 mm Cylinder Head Nuts ........ 150 in. lbs. (1.70 Kg. m.)
8 mm Engine Base Nuts ........ 150 in. lbs. (1.70 Kg. m.)
6x18 mm Rotary Valve Cover Allen Screws . 60 in. lbs. (.67 Kg. m.)
6x45 mm Rotary Valve Cover Allen Screws . 60 in. lbs. (.67 Kg. m.)
6x55 mm Crankcase Allen Screws ........ 60 in. lbs. (.67 Kg. m.)
Flywheel nut (or clutch adapter shaft) . . 490 in. lbs. (5.70 Kg. m.)
Sprocket nut .................................. 490 in. lbs. (5.70 Kg.m.)
6x18mm Exhaust Header Allen Screw .... 60 in. lbs. (.67 Kg.m.)
Spark Plug ................................. 300 in. lbs. (3.5 Kg. m.)

OPTIONAL RACING PARTS

10° ROTARY VALVE DISC DRIVERS

Std. disc driver

10° disc driver

MAGNUM ROTARY VALVE

Std. valve

Magnum valve

Note - Magnum valve opens 6° more on trailing edge only