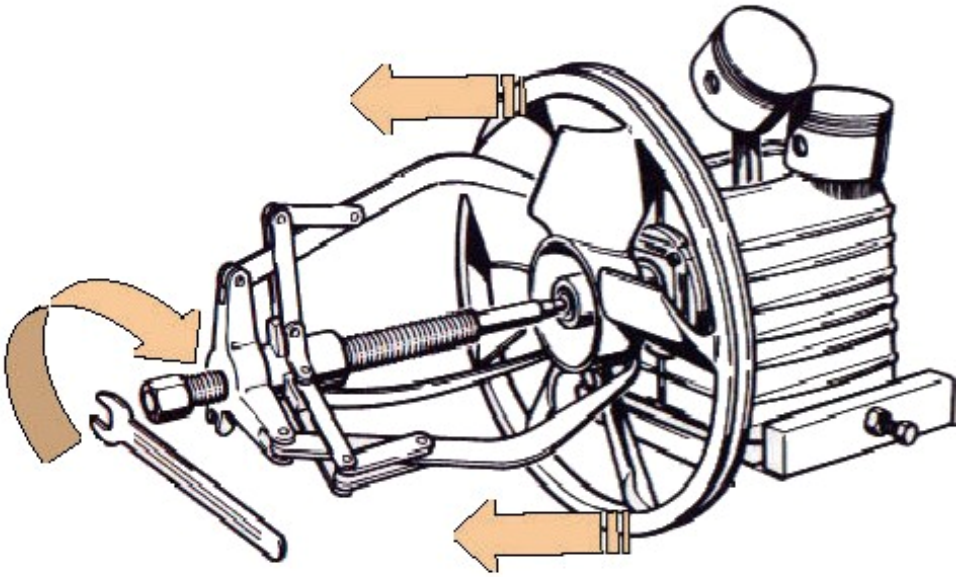
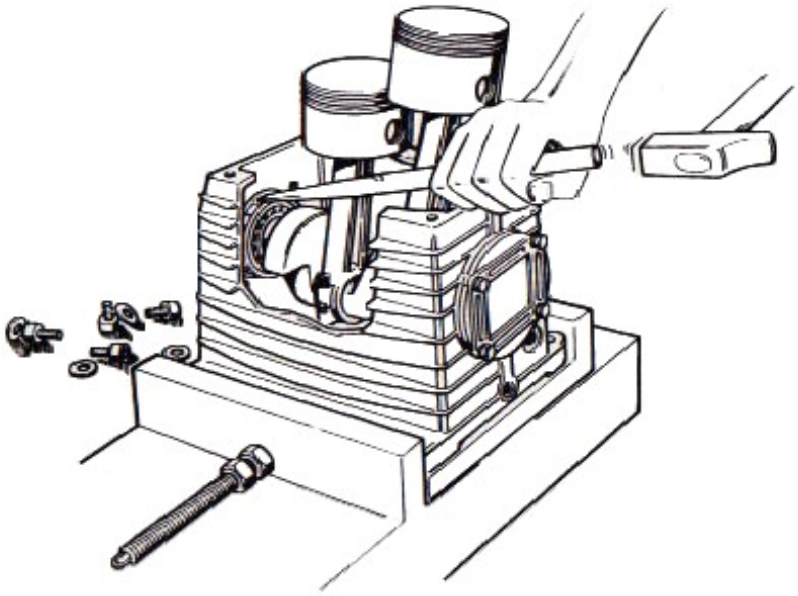
Model #	Factory Settings	P.U.T. (O PSI to top factory setting)	Recovery Time (time between factory setting)	RPM (Hi-Low Engine)	AMP Draw (max before stopping or unloading)
5715K17	100-135	1:30	:25	X	17.1
5520K17	100-135	2:51	:43	X	18.1
6820K17	100-135	1:14	:18	X	22.0
3095K18	100-135	:58	:09	X	16.0
3230K24CS	130-150	:47	:12	X	17.9
4230K28CS	120-150	:45	:10	X	20.0
5230K30CS	120-150	:26	:05	X	28.0
4090HK17	105-135	1:04	:15	3000-2150	X
4090HK17/20	105-135	2:12	:30	3000-2150	X
6590HK18	105-135	:58	:13	3000-2150	X
6590HK18/20	105-135	1:50	:26	3000-2150	X
1040HK18	105-135	:48	:12	3000-1900	X
7722HK28	120-150	:35	:07	3200-1960	X
7722HK28/20	120-150	1:35	:17	3200-1960	X
8422HK30	120-150	:26	:06	3122-1916	X
8230HK30	120-150	1:09	:13	3122-1916	X

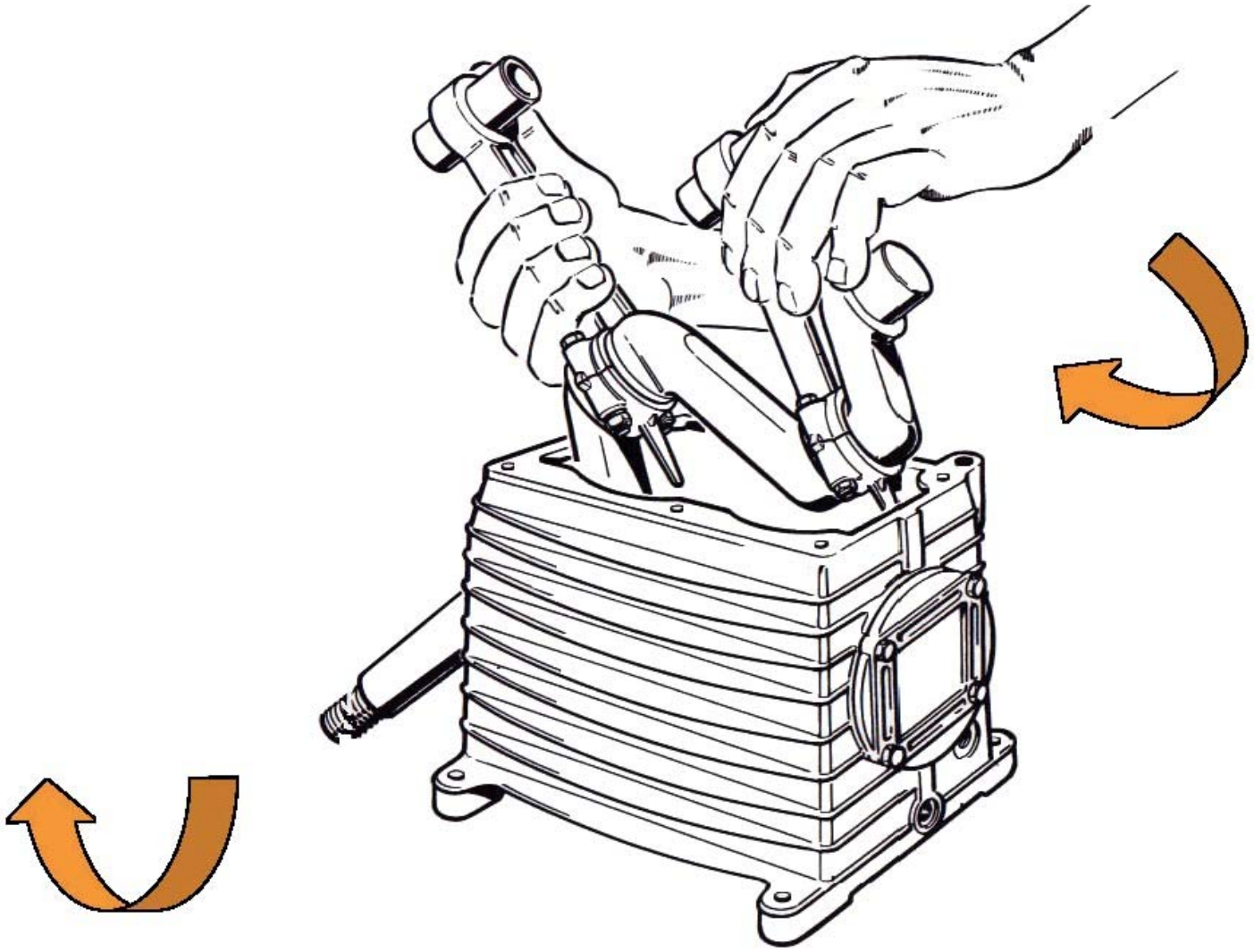
NOTE: Threaded end of crankshaft has a left-hand thread. Remove nut by turning clockwise.



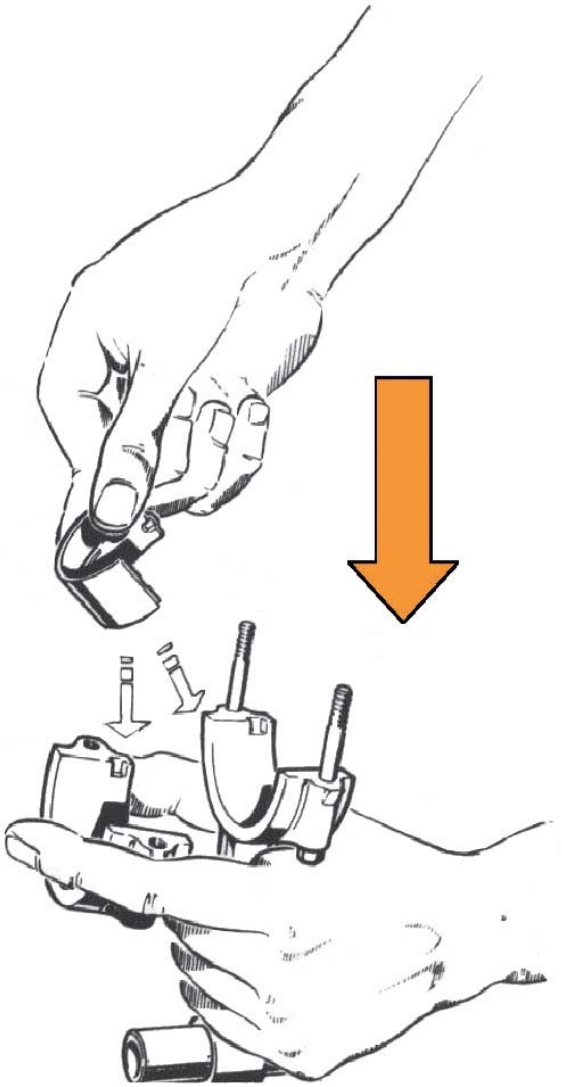
Use two or three prong wheel puller to remove flywheel. Apply a small amount of oil between puller and crankshaft.



Entire crankshaft/connecting rod/piston assembly can be removed from crankcase after bearings with carriers are extracted from crankshaft. Remove flywheel side carrier first.

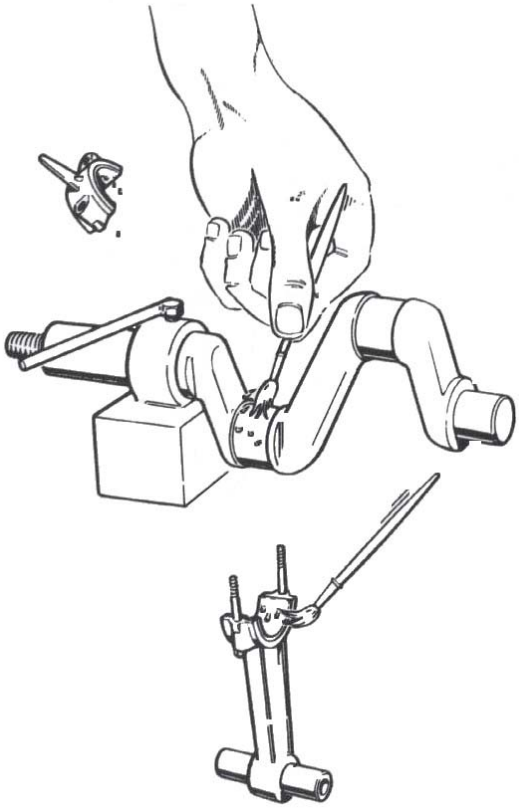


Entire assembly can be removed or replaced as shown in the above drawing. When reassembling, flywheel side is always opposite breather/oil fill plug.

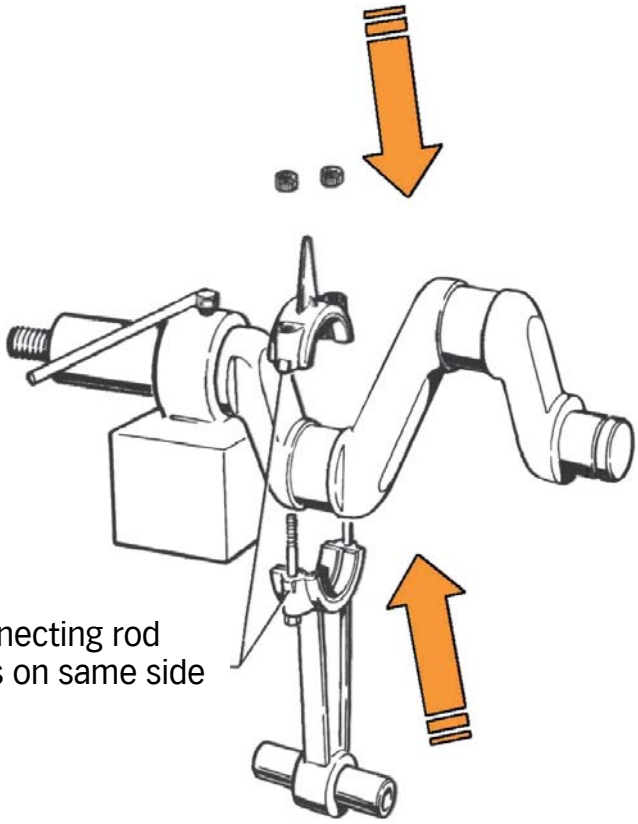


When installing new bearing shells, make sure notches in shell and connecting rod line up. Make sure shells are snug and flush.

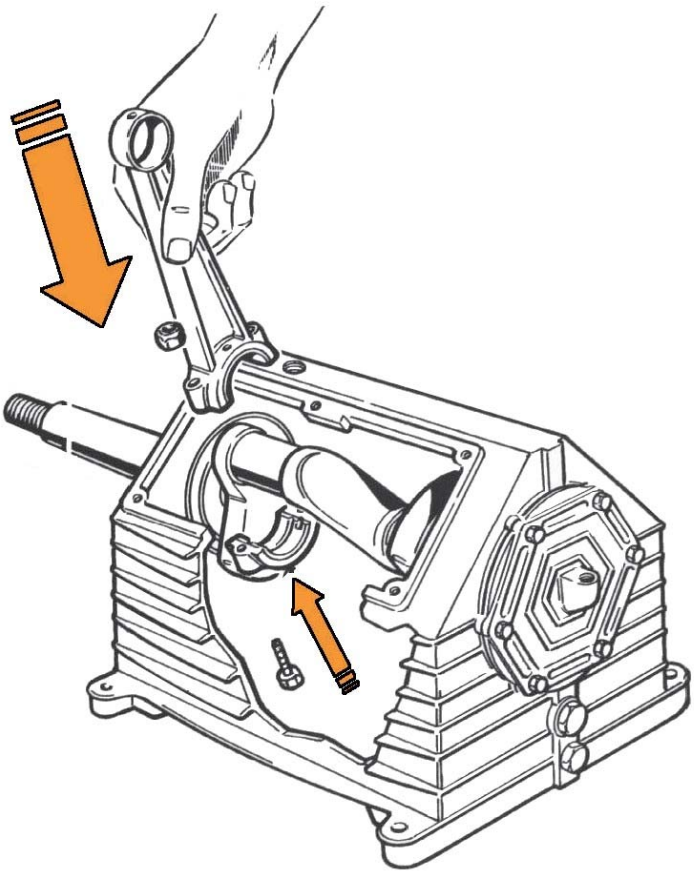
Apply generous amount of oil on crankshaft journals and bearing shells prior to reassembling.



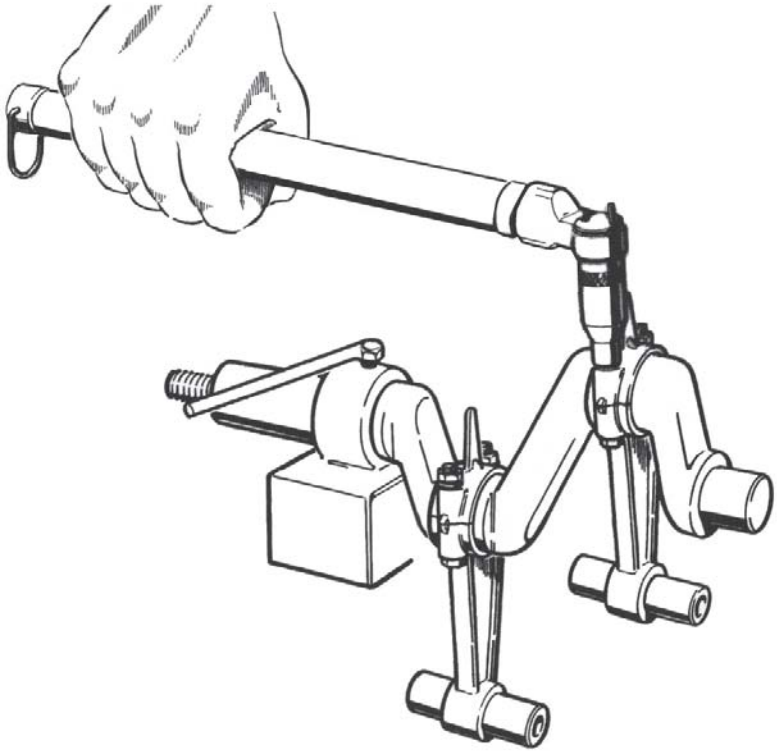
Bottom and top half of connecting rod have distinct markings which have to be matched together.



Position connecting rod with squares on same side



Before torquing connecting rod bolts, refer to table A to determine which direction oil hole on rod should be facing



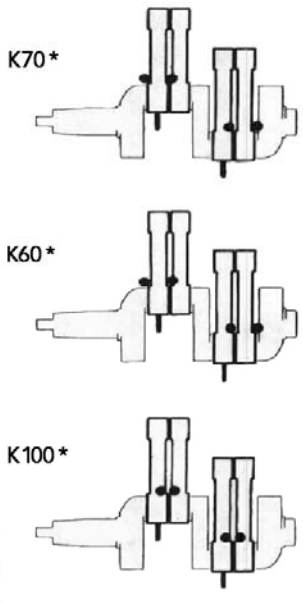
After making sure oil holes are in correct position, tighten connecting rod bolts with torque wrench. Light hammer blows may be necessary to correctly seat bearing shells. Retorque nuts if shells need to be seated.

NOTE: Connecting rod must be able to rotate freely.

TAB. A

MODEL	CONROD ORIENTATION	TIGHTENING TORQUE (inches/lbs.)
K8		121.5
K11		121.5
K12	Conrod cast in a single piece	
K17		121.5
K18		121.5
K22		121.5
K28		121.5
K30		173.6
K35		173.6
K50		217.0
K60*		217.0
K70*		199.7
K100*		199.7

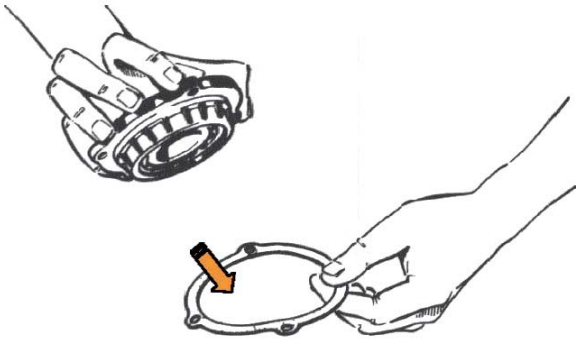
hole on flywheel side
hole on vent side
hole on flywheel side
hole on vent side

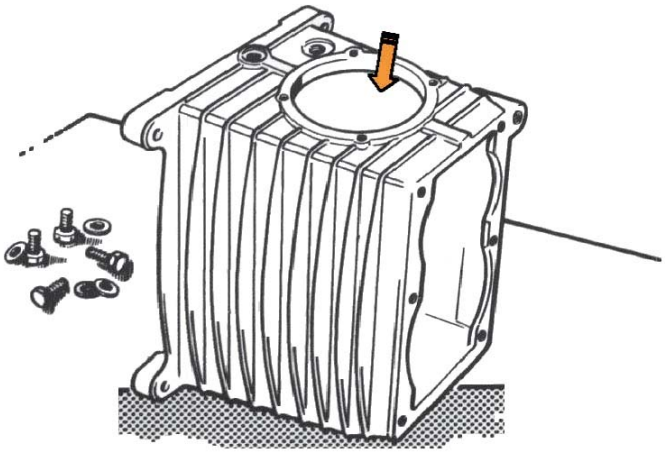


*Fit the connecting rods onto the crankshaft after placing the latter into its crankcase. Once you have completed the tightening process, screw the oil dippers into connecting rods and secure with Loctite®.

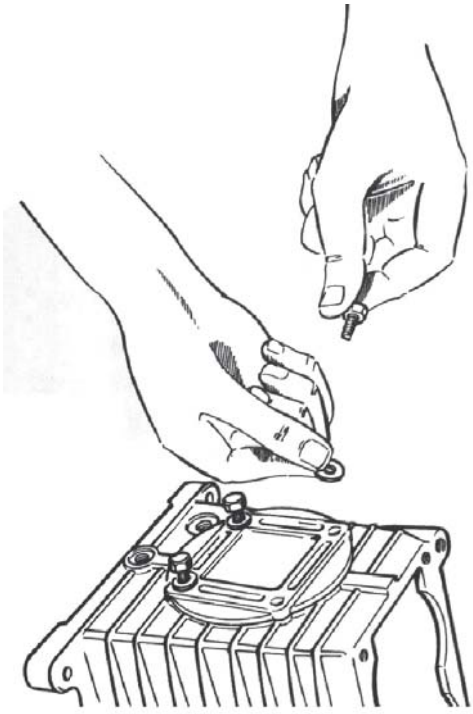
ASSEMBLING THE CRANKCASE AND PLACING THE CRANKSHAFT

Prior to reinstalling the crankshaft assembly, place bearing carrier with bearing onto crankcase. Start with breather/oil plug side.

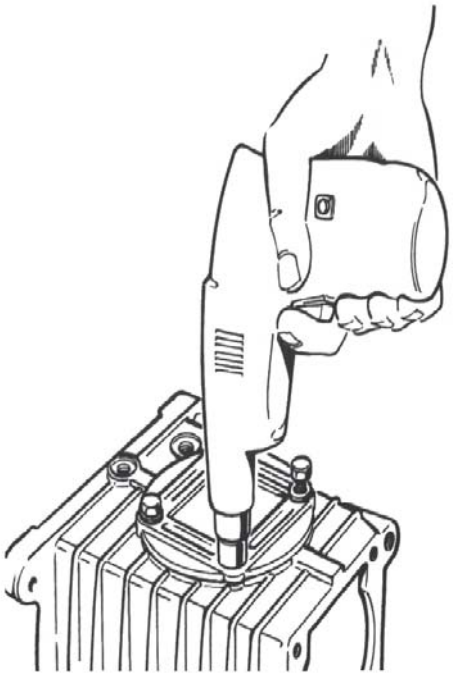


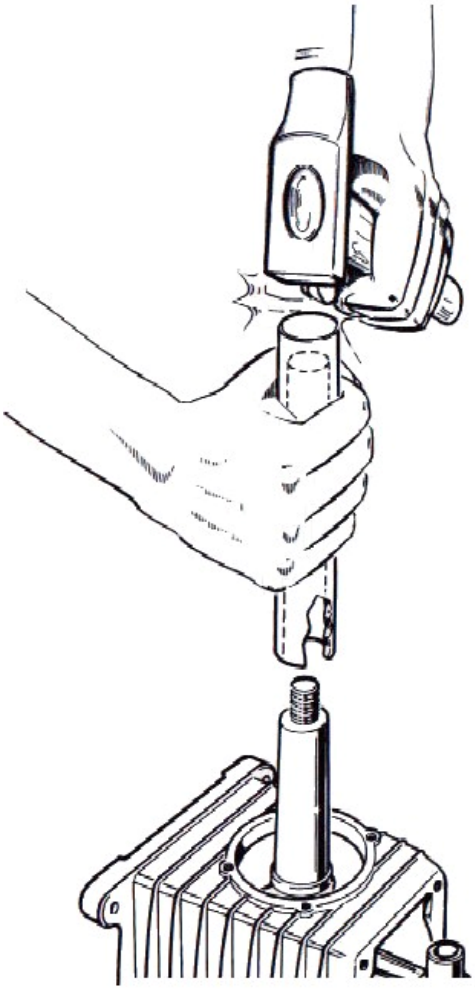


Bearing carrier bolts are shorter than cylinder bolts.



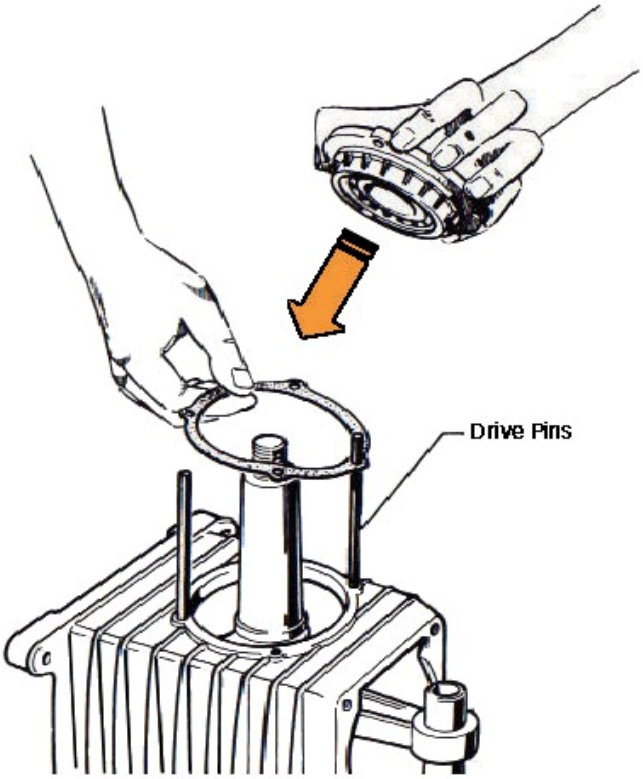
Tighten, but do not over-torque

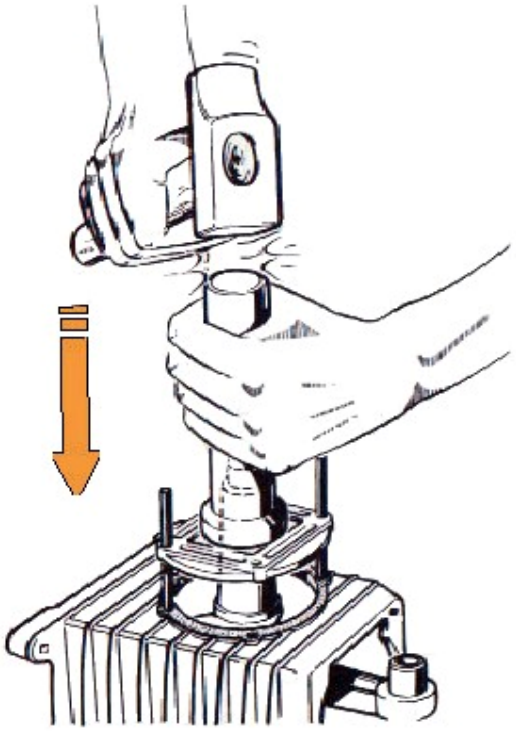




Lightly tap crankshaft assembly into breather side bearing carrier.

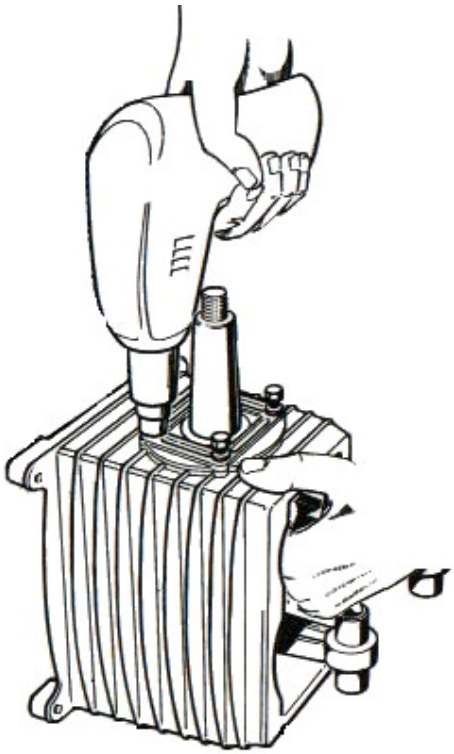
Guide pins may be used to reassemble flywheel side bearing carrier with roller bearing.





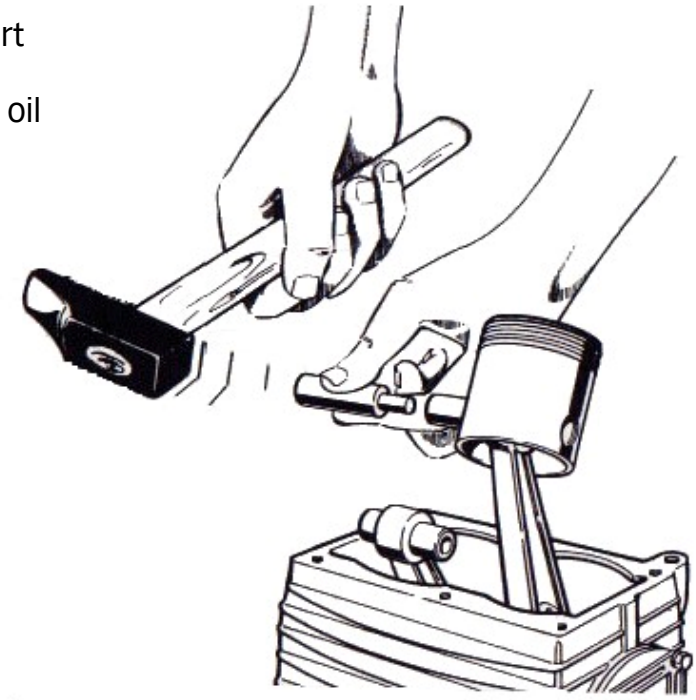
TIGHTENING TORQUE (Inches/lbs.)	
K8	130
K11	130
K12	130
K17	130
K18	130
K24	130
K28	130
K30	130
K35	130
K50	165
K60	165
K70	165
K100	165

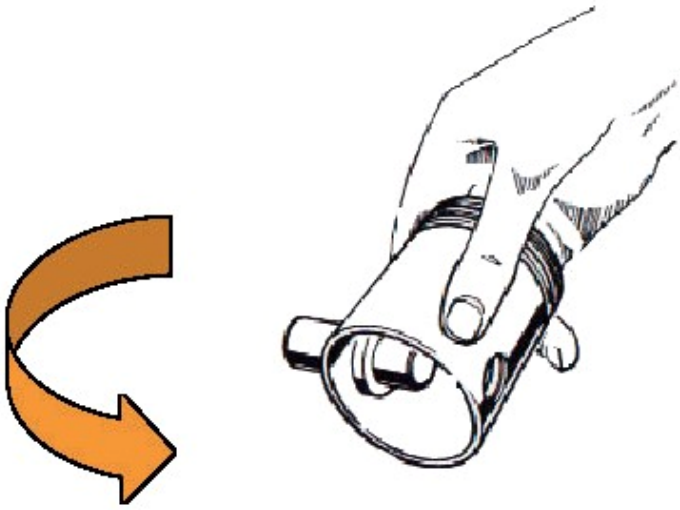
Lightly tap flywheel side bearing carrier onto crankcase



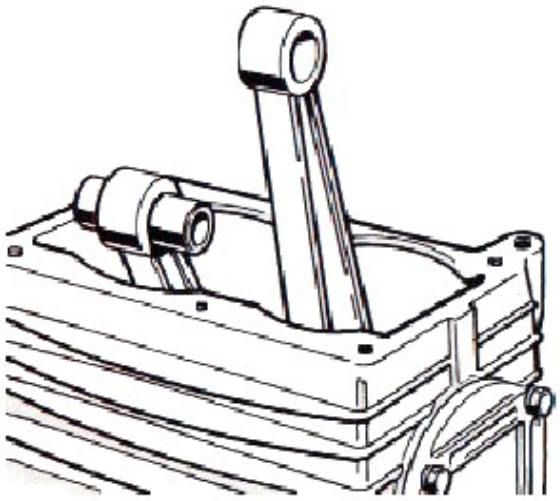
Tighten bolts to above torque specifications.

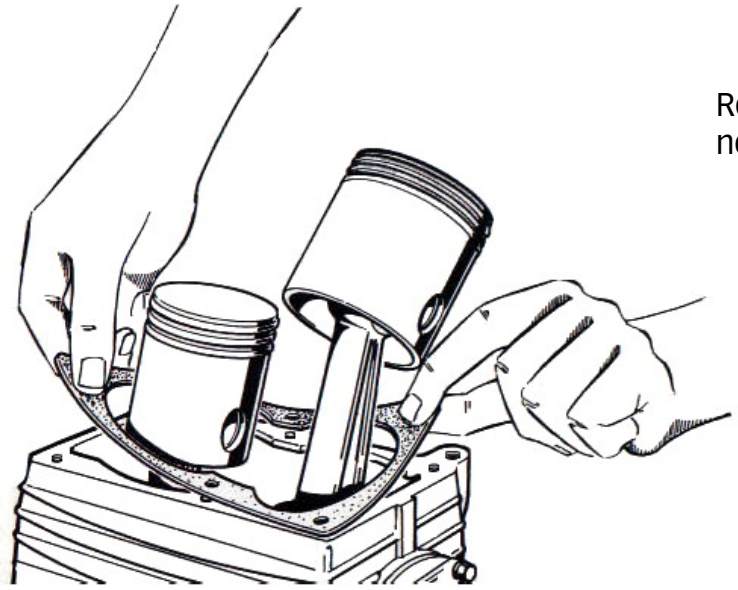
If pistons need to be replaced, start with piston pin fitted partially into piston. Use a generous amount of oil between piston and pin.



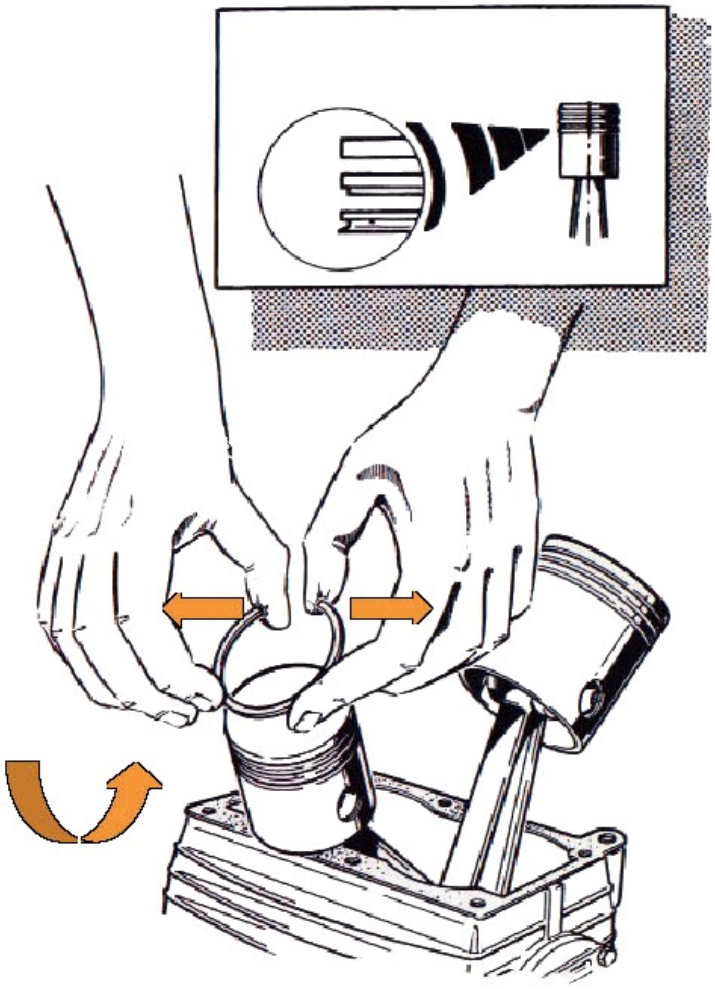


Use center punch to drive piston pin into place. Make sure snap ring is installed on opposite side.



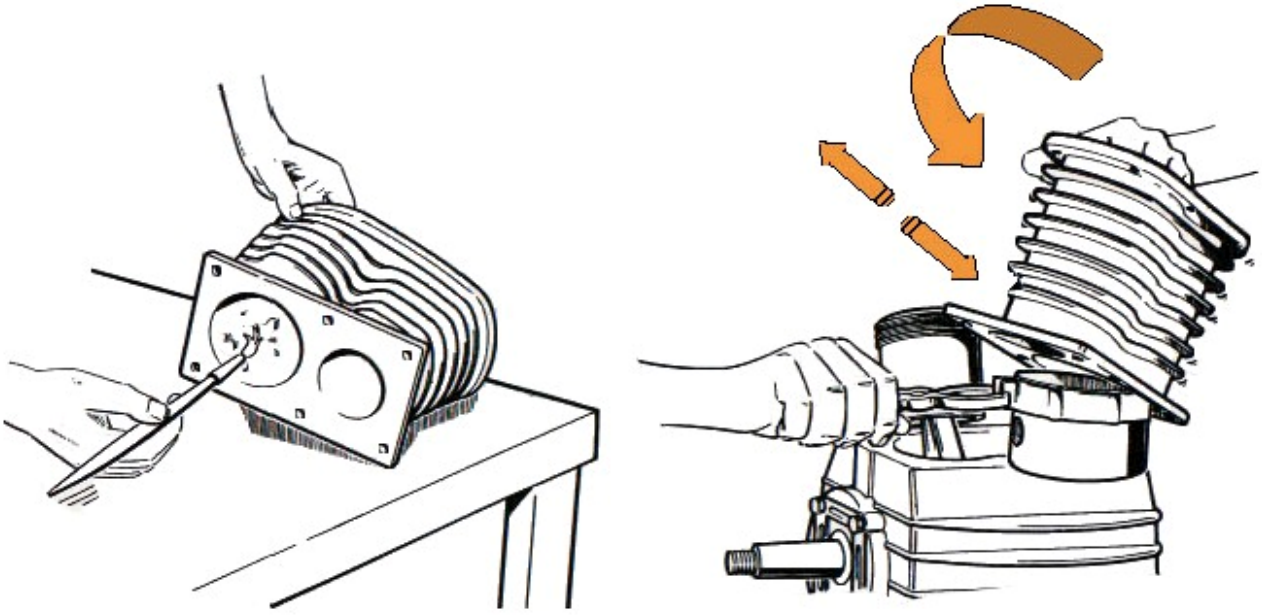


Replace cylinder gasket if necessary.

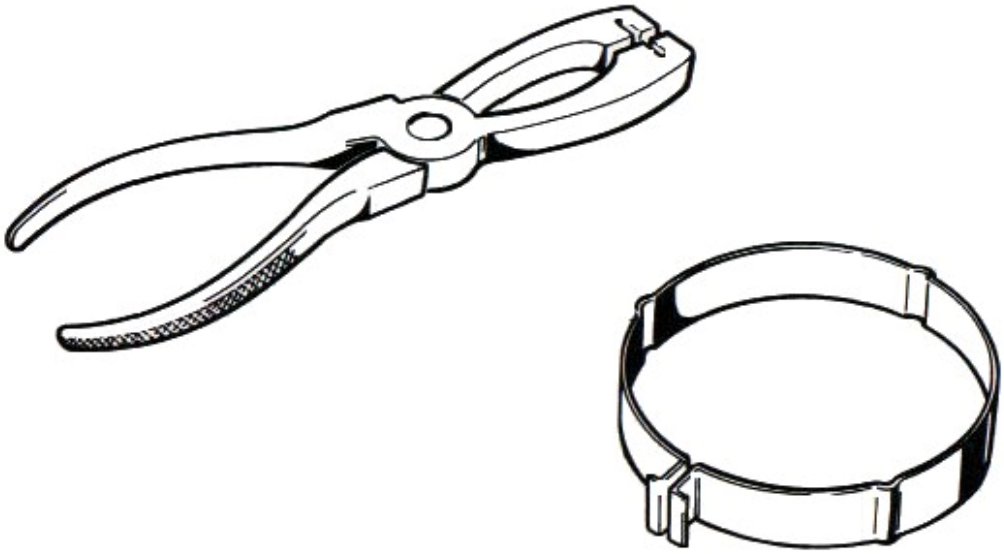


Fit rings by hand. Also make sure end gaps are staggered to prevent oil from pumping past rings.

WARNING: “KTop” mark on ring faces upward.

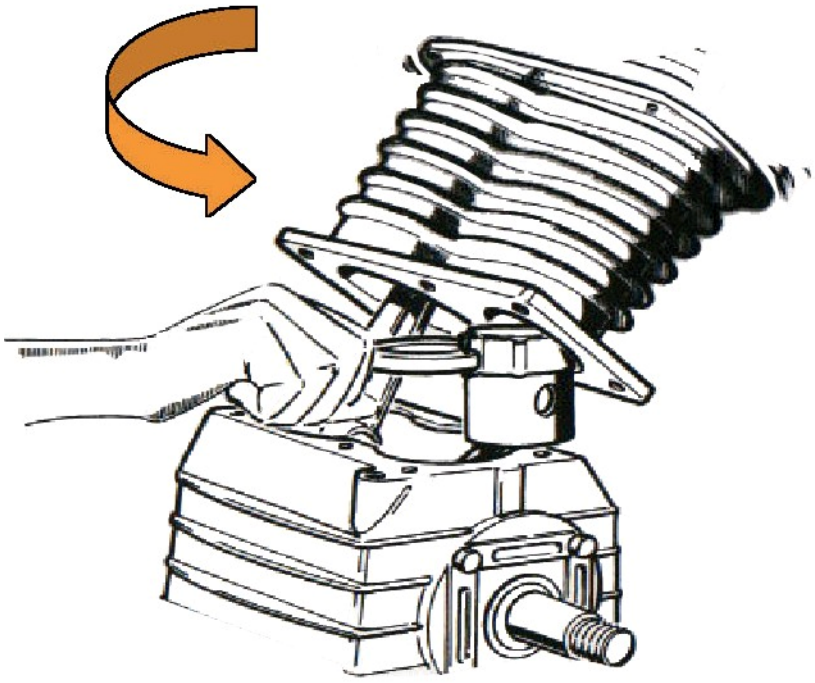


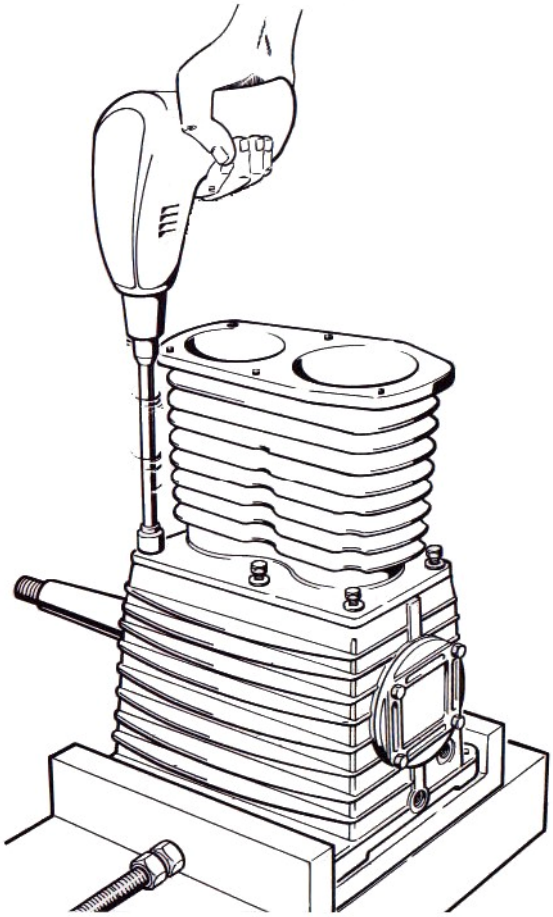
Oil the inner side of cylinders and rings before reassembling.



A special pliers with steel band may be used to fit the cylinder onto the pistons.

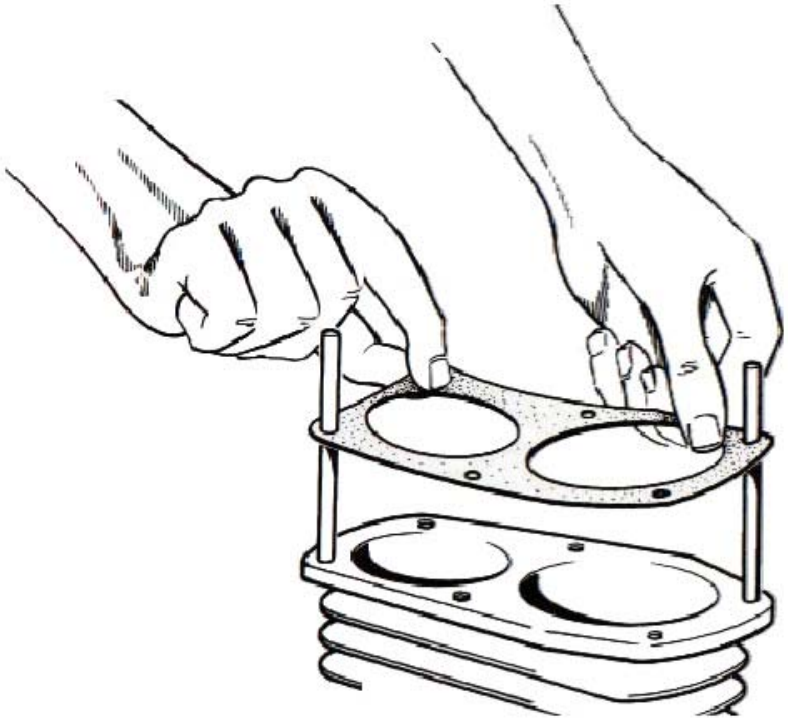
Install cylinder with “0101” stamping located on same side that it was disassembled from.



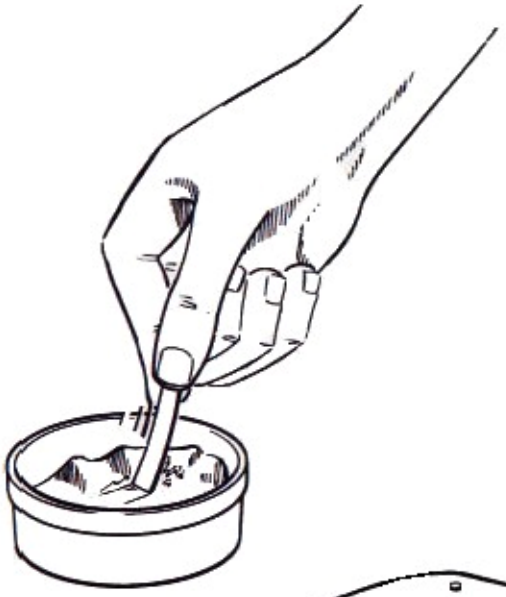


Tighten cylinder bolts and torque to specified settings.

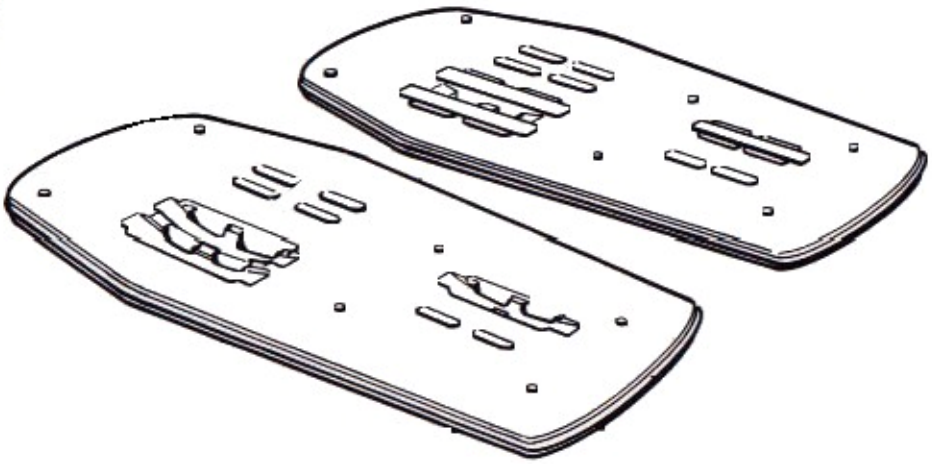
CYLINDER TORQUE SPECS (Inches/lbs.)	
K8	130
K11	182
K12	182
K17	182
K18	182
K24	182
K28	330
K30	330
K35	330
K50	521
K60	330
K70	330
K100	521

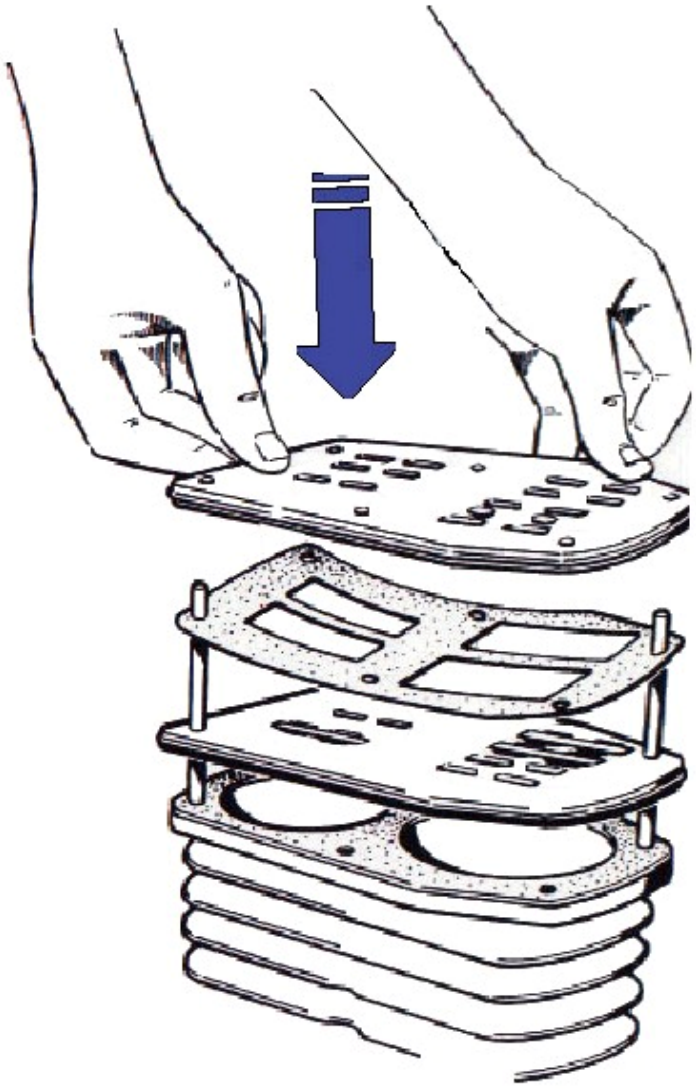


Guide pins may be used to fit gaskets and valve plates.



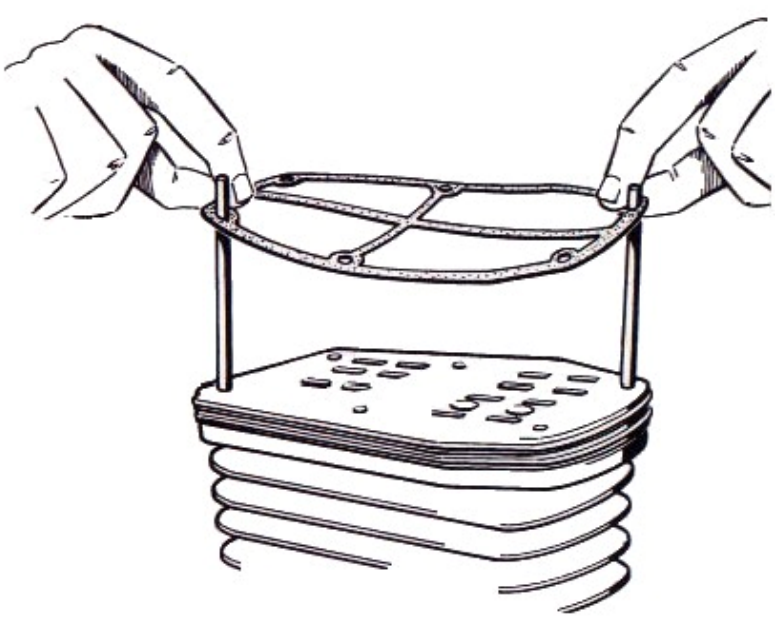
Use small amount of petroleum jelly to hold valve (centered) into half moon grooves in valve plates.

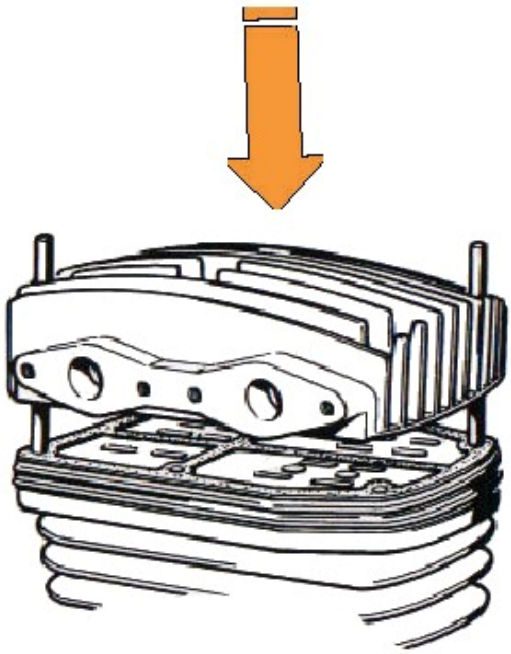




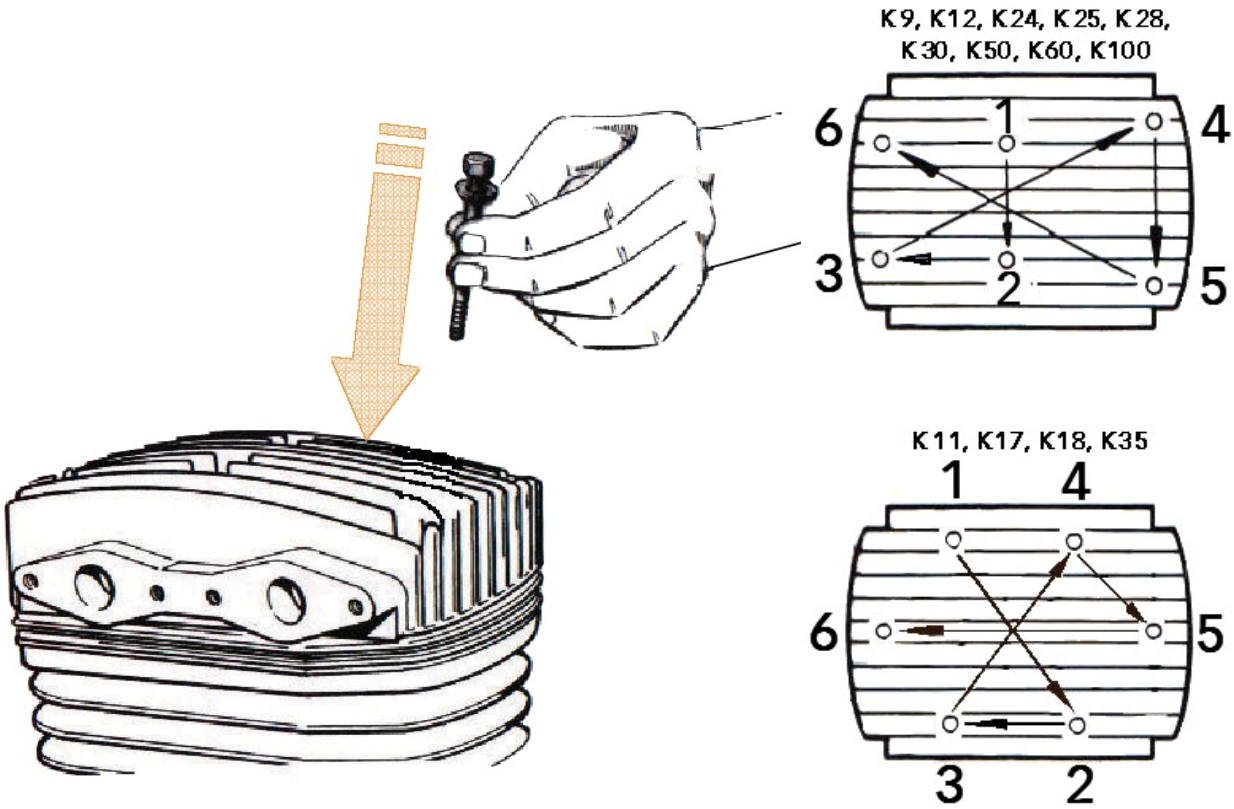
Top plate is positioned opposite bottom plate. Single set of holes line up above double set of holes.

NOTE: The valve plates of two stage pumps can be assembled in one position only. However, the valve plates of single stage pumps can be assembled to allow the intake or discharge side in the position desired. Simply rotate the head and entire valve plate assembly 180° to achieve desired direction.



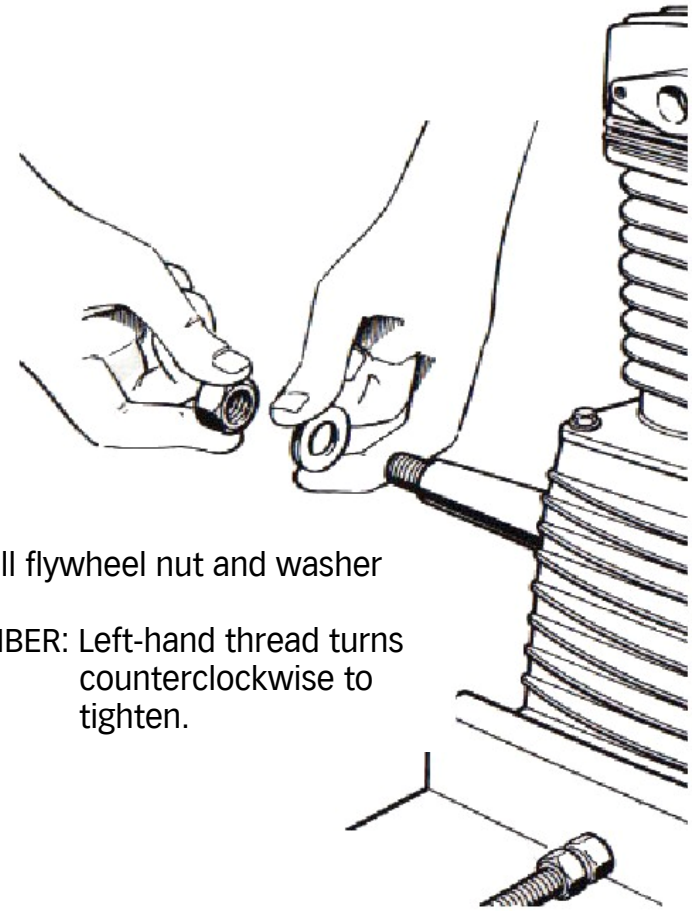


Intake side of head is positioned over single set of holes in valve plate.



Tighten head bolts. First hand-tight then torque in a criss-cross sequence as shown.

SCREWS/HEAD Tightening Torque (Inches/lbs.)	
K8	148
K11	243
K12	243
K17	243
K18	243
K24	243
K28	347
K30	347
K35	347
K50	694
K60	347
K70	347
K100	694



Reinstall flywheel nut and washer

REMEMBER: Left-hand thread turns counterclockwise to tighten.

CLEAN THE OIL BREATHER:

Wash the breather/oil fill cap at regular intervals with kerosene or similar solvents to ensure that oil will flow back through the recovery inlet.

CHANGING THE FILTER CARTRIDGE:

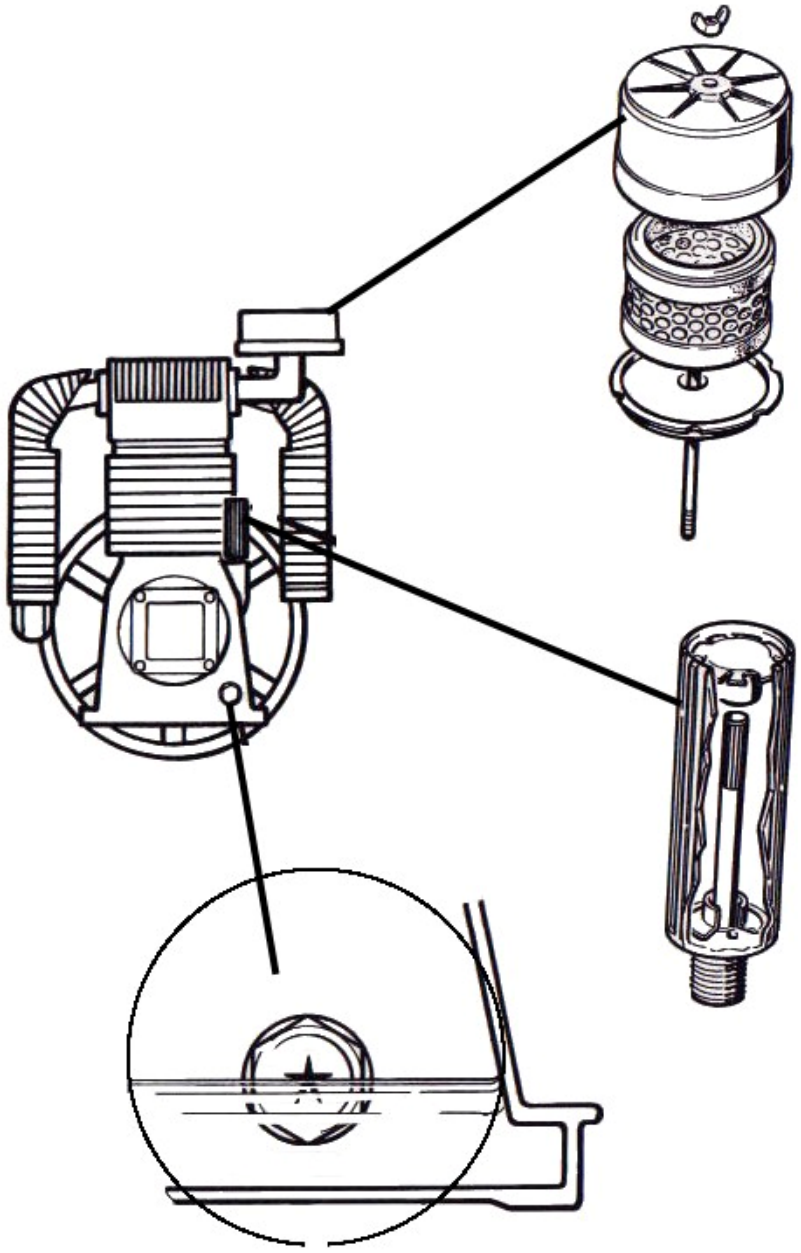
Change the filter cartridge after 200 hours of work in standard working conditions.

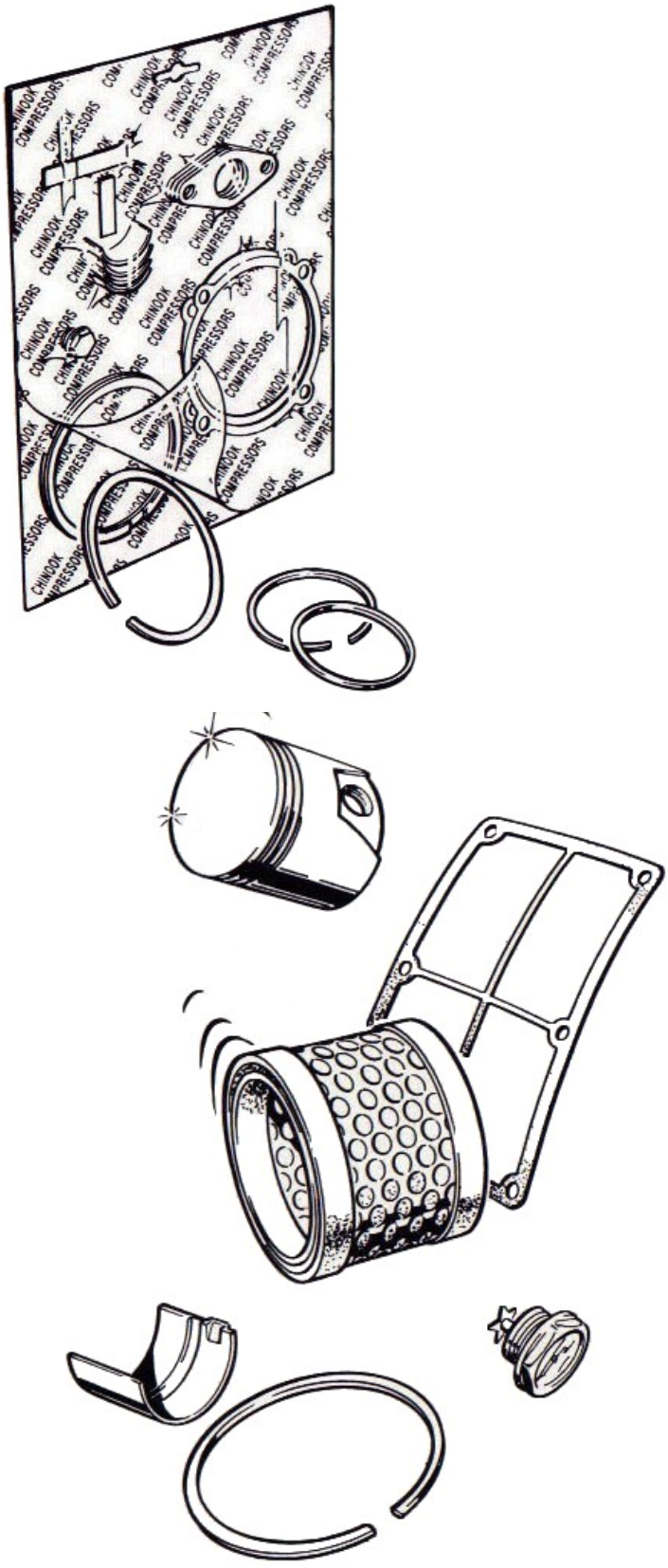
CHECKING THE OIL LEVEL:

The oil level must be 3/4 to the top of the oil sight gauge. Too much oil may cause oil to flow out of the oil breather or past the rings. Not enough oil will result in insufficient lubrication to the internal components. Change oil every 100-200 working hours.

TEMPERATURE	NON-DETERGENT (Straight Weight)
55° or more	30
32-55°	20
32° or below	10

OIL CAPACITY (Ounces)	
K8	12
K11	17
K12	17
K17	34
K18	34
K24	61
K25	61
K28	61
K30	47
K35	47
K50	59
K60	98
K70	98
K100	127




CHINOOK COMPRESSORS

TROUBLESHOOTING GUIDE

1) Reduced efficiency of compressor pump

a) Run pump-up time and compare against factory specification. If pump-up time is within factory specifications, unit is working to its capacity.

b) Failure of valve strips, blown gaskets or foreign material in valve plate assembly. Disassemble head group and replace broken or damaged parts. Reassemble following factory specifications.

2) Excessive oil consumption

a) Too much oil in crankcase: Drain to proper level. Oil level should be 3/4 full to the top of the sight gauge.

b) Obstructed air intake element: Clean or replace.

c) Clogged or dirty crankcase breather: Clean or replace.

d) Incorrect type or weight of oil: If machine is new, monitor consumption until end of break-in period (approximately 50 hours). Detergent oil (engine oil) will foam and pass rings. See owner's manual for recommended type of oil.

e) Scored cylinder wall (deep vertical scratches): Disassemble and clean piston/valve plate components. Lightly hone cylinder and install new rings. For glazed cylinder wall, follow same procedure. Replace valves and necessary gaskets.

f) Worn, stuck or broken rings: Remove pistons, clean piston components and install new set of rings.

g) Blown head gaskets or obstructed valve seats: Replace broken pieces. Inspect cylinder for scoring/glazing.

h) Always clean discharge tube and make sure check valve is sealing properly when pump is passing excessive oil.

3) Pump noisy or knocking

a) Loose or misaligned belts: Tighten, realign or replace. Refer to pulley/belt section of owner's manual.

b) Loose motor/engine pulley: Inspect pulley bore and key. Clean shaft and reinstall with a small amount of Loctite®.

c) Worn connecting rod bearing inserts: Disassemble head, remove cylinder, inspect and replace necessary components according to service manual. Crankshaft journals should be

polished with fine emery cloth. If crankshaft journals are excessively worn, replace crankshaft.

4) Motor/engine problems

a) Inspect tank check valve to make sure tank pressure is not leaking back against head.

b) Remove belt and rotate pump flywheel by hand. If pump turns hard or is seized, repair or replace pump.

c) If problem is identified in motor or engine, send to manufacturer's nearest authorized service center. Include proper documentation if warranty is requested.

5) Determining warrantable failures

a) Warranty covers defects in material and/or workmanship for a period of one year from date of sale or 18 months from date of manufacture, whichever comes first. Most warrantable failures should manifest within the first 100-200 hours of operation. Proof of purchase is required for failures of compressors with serial numbers beyond one year of manufacture (Serial Number 09020001 is read: first unit produced (09020001) in February (09020001) 2009 (09020001). Defective parts must accompany warranty claims.

b) Failures due to operator error are not warrantable. Operator is responsible for the following:

A. Operating machine in a level position.

(1) Operation in an unlevel position can be positively identified by scoring or discoloration to one entire side of the pump. Discoloration to the dipper end of one connecting rod occurs without sufficient lubrication, while the other connecting rod looks like new. Same side connecting rod insert and crankshaft journal will deteriorate. Piston/cylinder above burnt rod will exhibit scoring (vertical scratches that can be felt with the fingernail). Finally, piston pin will discolor.

(2) Contact ROLAIR's service department with any questions during the inspection of failed components.

B. Operation with correct type of oil.

(1) Multi-grade engine oil will foam and pass rings leaving carbon deposits.

(2) Cylinder walls will glaze when incorrect type of oil is used.

C. Maintaining proper oil level.

(1) Low oil operation results in scoring and or discoloration to entire lower end. Both bearing shells will deteriorate. Journals will begin to wear and piston and cylinder wall will show scoring.

(2) Contact ROLAIR's service department with any questions during the inspection of failed components.

D. Maintaining clean air intake elements.

(1) Dirt accumulated in valve plate seats will reduce pumping efficiency, may score cylinder walls and allow excessive oil consumption.

(2) Blown head gaskets caused by overheating of pump due to the intake of foreign material will not be covered under warranty.

E. Supplying electric motors with proper voltage.

(1) Always suggest longer air hose rather than extension cords.

(2) Generators make poor power sources for electric compressors because most are not large enough to supply the 3-4 times running voltage needed to start motor.

F. Operating gas-powered unit at factory-set RPMs.

(1) ROLAIR gas powered units are factory-set well below the maximum speed of each engine. Contact ROLAIR with model number to obtain specific settings.

(2) Running wide open will allow valves in pump to float and pump oil. This can also cause vibration-related failures to belt guard, saddle and/or tank welds.

G. Operation with vibration pads (feet intact).

(1) Operating without pads will cause vibration-related failures to belt guard, saddle and/or tank welds.

(2) Feet should be examined and replaced if worn during every service call or job.

H. Operation in a dry environment and proper storage.

(1) Water damage (rust) can occur from operation during high humidity conditions after pump cools down and is idle for extended periods.

I. If a second opinion is requested, the customer should be billed for a replacement pump until ROLAIR factory's service department examines failure (usually 1-2 weeks maximum). The service center/distributor will be given credit for the difference between cost of new pump and cost of repair to original if failure is determined to be non-warrantable. **PLEASE CALL ROLAIR FOR A RETURN GOODS AUTHORIZATION NUMBER BEFORE RETURNING ANY GOODS!**

PERFORMANCE DATA

		K8	K11	K17	K18	K24	K30	K50	K60	K100
Flywheel	mm.	260 al.	260 al.	320 ci.	320 ci.	385 al.	385 ci.	550 ci.	550 ci.	550 ci.
Weight Flywheel	lbs.	2.2	7.2	8.7	8.7	7.4	17.0	36.3	36.3	36.3
Torque Specs:										
Cylinder Head Bolts	ft./lbs.	12.30	20.25	20.25	20.25	20.25	28.95	57.86	28.93	57.86
Cylinder Bolts	ft./lbs.	-	15.20	15.20	15.20	15.20	27.50	43.40	27.49	43.40
Bearing Carrier Bolts	ft./lbs.	10.85	10.85	10.85	10.85	10.85	10.85	13.74	13.74	13.74
Connecting Rod Bolts (tolerance 5%)	ft./lbs.	10.13	10.13	10.13	10.13	10.13	14.50	15.19	15.19	15.19
Crankshaft Connecting Rod Seat	mm.	+0.020 +0.015 28	+0.020 +0.015 28	+0.020 +0.015 28	+0.020 +0.015 28	+0.020 +0.015 28	+0.025 +0.020 30	+0.005 +0 40	+0.005 +0 28	+0.05? +0.03? 55
Crankshaft Bearing Housing	mm.	+0.015 +0.005 25	+0.015 +0.005 25	+0.015 +0.005 25	+0.015 +0.005 25	+0.015 +0.005 25	+0.015 +0.005 30	+0.015 +0.005 65	+0.015 +0.005 65	+0.01? +0.00? 55
Cylinder Bore	mm.	+0.025 +0.020 64	+0.025 +0.020 53	+0.025 +0.020 64	+0.030 +0.025 70	+0.035 +0.030 90 +0.025 +0.020 50	+0.035 +0.030 105 +0.025 +0.020 52	+0.040 +0.035 120 +0.025 +0.020 60	+0.035 +0.030 105 +0.025 +0.020 52	+0.04? +0.03? 120 +0.02? +0.02? 60
Piston Pins	mm.	+0 +0.005 15	+0 +0.005 15	+0 +0.005 15	+0 +0.005 15	+0 +0.005 18	+0 +0.005 18	+0 +0.005 25	+0 +0.005 18	+0 +0.005 25

To change kg meters to foot pounds, multiply by 7.233.

To change kg meters to inch pounds, multiply by 86.8.