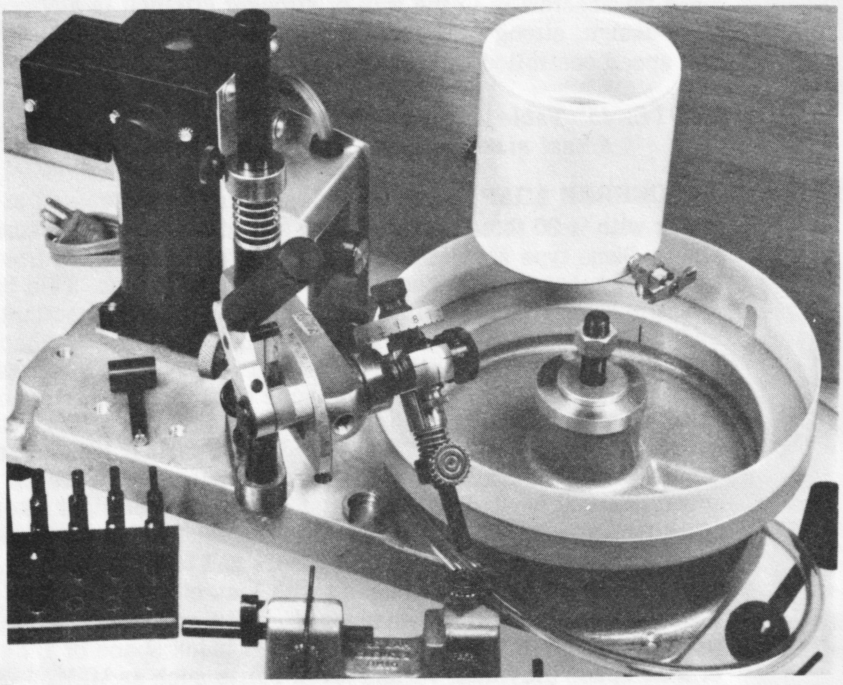
LEE VARIABLE SPEED FACET UNITS WITH NEW MODEL *Gravity Feed - Constant Stop* OK FACET HEAD

LIST No. A5-82

CONTINUOUS DUTY MOTORS

Constant Torque 115 VAC 50/60 H.
ELECTRONIC SPEED CONTROLS

BASIC FACET UNIT R6VK with optional MOFFATT 24" LAMP. Aluminum inner reflector keeps outside cool; flexible arm adjusts to full height as required. COOLANT TANK of tough PVC plastic with ¼" cylindrical wall, 12 pt. ball handle "spinner" socket wrench, dop set, transfer block with aligning gage, hex keys, brass tipped extra screw for chuck and zero gage (not visible in photo) included. Universal motor maximum speed of 5000 RPM is reduced to 1125 by belt drive and variable 0 to 720 by electronic speed control.

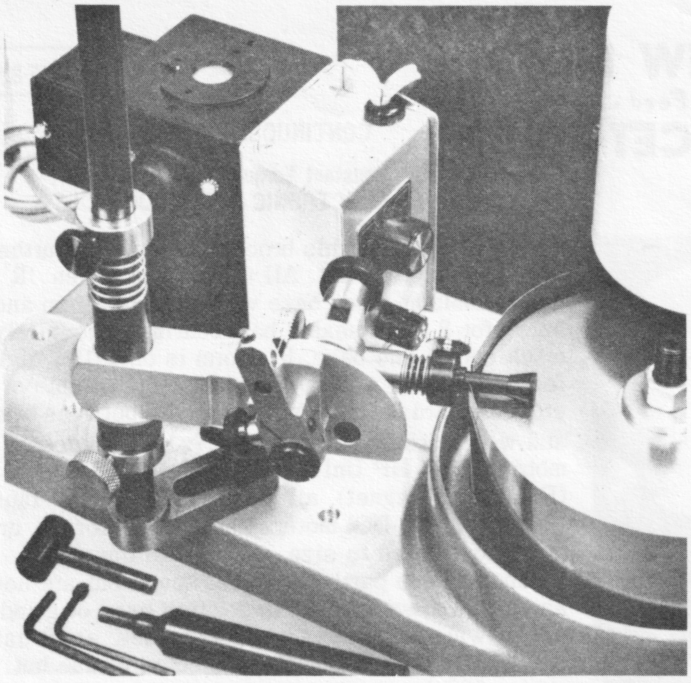


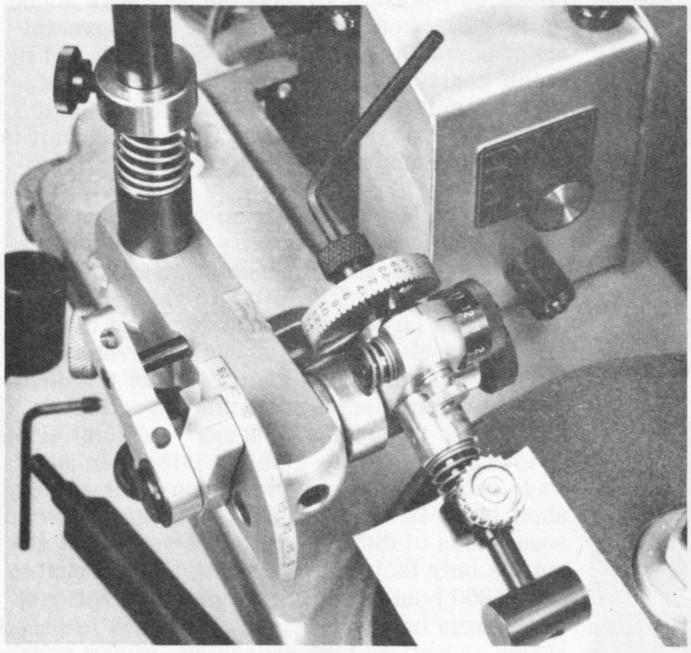
BASIC FACET UNIT R8LK. 8" SPLASH GUARD consists of aluminum adapter which slips into base casting and flexible plastic strip. Note notch which just admits dop when plastic strip is inverted for grinding gem edges. Motor is 1/8 HP permanent magnet with full load RPM of 1800 reduced 0 to 1350 by speed control and belt drive; also available in 1/18 HP. Note gravity handle combined with firm stop and precision parts to assure duplication of first cut mechanically, without the variations inherent with manual reflexes or actions.

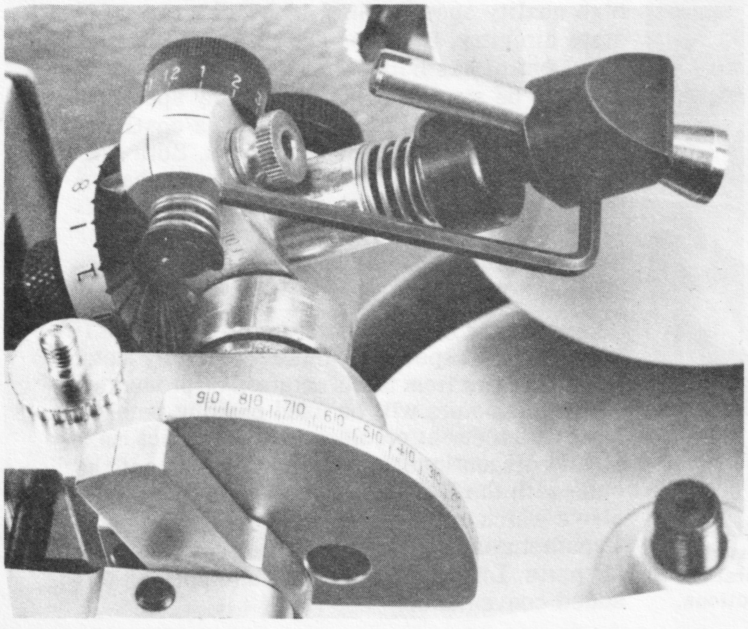
FACET UNITS in this brochure described further in attached price list. All utilize our series 'R' cast aluminum alloy base with mast platform and bores for 2 large sealed ball bearings accurately machined in one base. Platform is only 1¾" high for comfortable working level on bench, table or etc. Standard V- belt drive confined between base and work surface. Cast base 7½x16". Choice of 3 motors, 1/15 HP Universal, 1/18 or 1/8 HP PM (Permanent Magnet), all suitable for 6 or 8" laps. Universal (AC-DC) motors have higher torque or HP as compared to size, weight and cost than PM motors due partly to higher speed but are not as quiet and smooth running; often used on grinders, sewing machines, jewelers lathes, etc Brush life average stated by mfr. 300 hours of use but recent 66% brush size increase may have added to this. Electronic speed control for universal motor operates from 115V AC, 50-60 Hz. and is a self contained unit which can be unclipped from lap unit to operate other small universal motors such as drills, mixers, etc. Facet unit in upper photo has universal motor and control.

Permanent Magnet Motors cost considerably more in proportion to capacity than universal motors which could influence some manufacturers to use small weak PM motors to save on costs resulting in facet units which may tend to stall unless low ultimate laps speeds and very light pressures are used in faceting. HP or torque can be misleading since a small high speed motor may appear to equal a much more substantial one of lower speed while actually inferior in many ways such as uneven performance, overheating, short brush life, etc. Sizes and weights provide some clues of differences in PM motors but are not the only factors to consider. Our PM motors have 5000 hour brush life which is exceptional since some have under 1000. Operation is smooth at low as well as high speeds due in part to the high quality speed control with full wave solid state circuitry, 2 silicon controlled rectifiers, etc. Control has built in surge protection allow-motor to be started or stopped at any speed set without risk of burning out control, a costly extra not usually included in others. Both PM motors ½" shaft diameter, 3 1/8" body, ball bearings, externally replaceable brushes, etc. 1/18 HP 6½" overall lgth. 5½ lbs. net weight, 31 in. oz. full load torque. 1/8 HP 8½" lgth., 8½ lbs. net, 70 inch oz. full load torque.

Some brands of PM motors are made only to fill lot orders and specifications received by motor manufacturers from manufacturers of products in which the motors will be used causing potential parts replacement problems if the product maker should discontinue such motor. This is not the case with the **Dayton** brand motors described above which are a standard stock product of the manufacturer who has a customer service dept. for parts. LEE stocks brushes and springs for added convenience.







– R6M LAP UNIT (1/18 HP PM Motor) & **OK FACET HEAD.** Stainless steel 6″ guard adjusts to smaller size and opening for grinding gem edge. Prevents excessive spray, avoids concentrated wear at edge of lap by reaching well beyond. Index head lowered to 90° by inverting; this ability allows shorter design mounted lower on mast to improve total rigidity. Free wheeling spacer, included but not visible in photo allows free rotation. Knurled collar on mast raises or lowers .001″ per click (approx. 1/40 or .025mm) of rotation. Spring and collar provide downfeed pressure. Narrow slotted brass foot of mast will not sieze or gall with aluminum platform when sliding adjustments are made, adjusts very close to lap or at distance to align contact area of gem with respect to surface motion of lap. *Relative surface motion can be very important and may be beyond or under very limited control in units with a fixed mast or pivot position or if adjustment is only in a straight line.* Reverse motion for polishing problem facets of certain gems is available by swinging to appropriate area on lap (reversal of motor not necessary). *We advise against reverse operations at least unless considerable experience has been acquired and great care used since gem may tend to be caught by lap with various damage or injury possible.* 4 tapped holes in platform extend positioning of mast without weakening base as from a through slot or increasing height as by a T slot. Zero gauge, hex keys with brass tipped set screw for chuck and gravity feed handle in photo included with OK Facet Head.

– ZERO GAUGE has keyed 5/16″ shank like dops and aligns keyed chuck to lap surface with index plate and index splitter in zero positions. Paper on lap surface prevents wear on gauge at point of contact. Hex key in index clutch loosens screw for infinite rotary adjustment and tightens without disturbing index or splitter settings; completely remove screw to change index plates. This precise alignment assures alignment of crown and pavilion facets when gem is transferred from one dop to other in new transfer block by aligning keyways with gauge furnished with same. Large thumbscrew of chuck is alloy which will not gouge dops, enables very rapid replacement of dops or can be replaced by included brass tipped socket set screw in instances when thumbscrew is in the way or stronger gripping is advised. Note design, strong construction of motor control unit: ON/OFF and speed controlled by same knob, fuse holder below same.

NOTE: 45° Table Adapter (lower photo) is an optional extra. Actual size about 25% larger than illustrated.

45 DEGREE ADAPTER for polishing gem tables secured in chuck with ¼-20 thread brass tipped set screw to replace thumb screw. Same type screw secures dop in adapter machined from one solid piece steel accuracy stock including shank. This is example when rigidity and accuracy are particularly important and no doubt that one piece construction, 5/16″ shank & chuck larger screw, etc. are much stronger and less subject to errors from accumulated machining tolerances than flimsy adapters of aluminum or plastic with ¼″ shank inserted or held by tiny set-screw. Note 1/8″ hex key; far more durable than 1/16″ key of some. Note 32 index, optional in place of 64; main facets for round brilliant numbered 1 to 8, star facets have straight lines identified as 1½, 2½, etc. while 16 intermediate index grooves not marked are for girdle or break facets and identified as 1¼, 1¾, 2¼. etc.for very fast indexing with less chance of errors than from higher numbered indexes. Note 12 splitter divisions each of which rotates chuck 1/12 of a 64 index space or 1/24 of a 32 space providing various even splits such as ¼, ½, 1/3 etc. of regular index spaces to multiply abilities many times.

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