BK65
Drill Sharpener
Operator's Manual

REV DOC 8/20/97

SAFETY INSTRUCTIONS FOR DAREX BK65 SERIES DRILL SHARPENERS

:AUTION: For Your Own Safety Read Instructions Manual Before)perating Grinder.

)SE WHEELS MARKED AT OR OVER RPM OF 3450.

.LWAYS USE GUARDS AND EYE SHIELDS. DO NOT OVER TIGHTEN VHEEL NUT. USE ONLY PARTS FURNISHED WITH THIS GRINDER.

Jways disconnect grinder from the power supply while motor is being onnected or reconnected.

NSTALLATION
heck grinder nameplate to make certain the rating is correct for the ower supply, voltage and frequency.

Aount grinder on solid bench. It may be used without bolting down for ght work. For heavy work it should be bolted down to the mounting rface. If mounted on pedestal, bolt grinder securely to pedestal and olt pedestal to floor.

ll attachment plugs and any receptacles shall be replaced with devices ated for the voltage for which the motor is reconnected .

fter making connections, make sure they are secured and properly nsulated.

When starting a grinder for the first time or after installing a replacement heel, it is most important that the operator stand aside for at least one inute.

his is the correct practice since vitreous and similar type grinding heels can explode if they have received minor cracks from shipping.

)PERATION
heck that switch is in OFF position and that wheels rotate freely. Insert lug into receptacle and turn on switch. Grinder should come up to peed smoothly and without vibration .

MAINTENANCE:
he ball bearings used are lubricated for life and do not require addi- onal lubrication.

Vipe off and dispose of grinding particles to prevent accumulation.

afety Instructions
.. GROUNDING INSTRUCTIONS
. All grounded, cord-connected tools:

n the event of a malfunction or breakdown, grounding provides a path f least resistance for electric current to reduce the risk of electric shock. his tool is equipped with an electric cord having an equipment-ground- ng conductor and a grounding plug. The plug must be plugged into a natching outlet that is properly installed and grounded in accordance vith all local codes and ordinances.

)o not modify the plug provided -- if it will not fit the outlet, have the roper outlet installed by a qualified electrician .

mproper connection of the equipment-grounding conductor can result n a risk of electric shock. The conductor with insulation, having an uter surface that is green with or without yellow stripes, is the equip- nent-grounding conductor. If repair or replacement of the electric cord r plug is necessary, do not connect the equipment-grounding conduc- or to a live terminal.

Check with a qualified electrician or serviceman if the grounding nstructions are not completely understood, or if in doubt as to whether ne tool is properly grounded.

Jse only 3-wire extension cords that have 3-prong grounding plugs and -pole receptacles that accept the tool's plug.

epair or replace damaged or worn cord immediately.

2. Grounded, cord-connected tools intended for use on a supply circuit having a nominal rating less than 150 volts:

This tool is intended for use on a circuit that has an outlet that looks like the one illustrated in Figure A. The tool has a grounding plug that looks like the plug illustrated in Figure A. A temporary adapter, which looks like the adapter illustrated in Figures B and C, may be used (except in (Canada) to connect this plug to a 2-pole receptacle as shown in Figure B, if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet can be installed by a qualified electrician. The green-colored rigid ear, lug, etc. extending from the adapter must be connected to a permanent ground such as a property grounded outlet box.

3. Grounded, cord-connected tools intended for use on a supply circuit having a nominal rating between 115-250 volts, inclusive:

B. FOR ALL TOOLS

1. KEEP GUARDS IN PLACE and in working order.

2. REMOVE ADJUSTING KEYS AND WRENCHES. Form habit of check- ing to see that keys and adjusting wrenches are removed from tool before turning it on.

3. KEEP WORK AREA CLEAN. Cluttered areas and benches invite acci- dents.

4. DON'T USE IN DANGEROUS ENVIRONMENT. Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.

5. KEEP CHILDREN AND VISITORS AWAY. Remove starter keys and turn off master switches.

6. PADLOCK EQUIPMENT or work area when not in use.

7. DON'T FORCE TOOL. It will do the job better and safer at the rate for which it was designed.

B. USE RIGHT TOOL. Don t force tool or attachment to do a job it was not designed for.

9. WEAR PROPER APPAREL. No loose clothing, neckties, rings, bracelets, or other jewelry to get caught in moving parts. Non-slip footwear is recommended. Wear protective hair covering to contain long hair.

10 ALWAYS USE SAFETY GLASSES. Also use face or dust mask if cutting operation is dusty. Everyday eyeglasses only have impact resistance lens- es: they are NOT safety glasses.

11 SECURE WORK. Use clamps or a vise to hold work when practical. It's safer than using your hand and it frees both hands to operate tool.

12. DON' T OVERREACH. Keep proper footing and balance at all times.

13 MAINTAIN TOOLS WITH CARE. Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

14. DISCONNECT TOOLS before servicing: when changing accessories such as blades, bits, cutters, etc.

15. AVOID ACCIDENTAL STARTING. Make sure switch is in OFF posi- tion before plugging in.

16. USE RECOMMENDED ACCESSORIES. Consult the owners manual for recommended accessories. The use of improper accessories may cause hazards.
17. NEVER STAND ON TOOL. Serious injury could occur if the tool is tipped or if the cutting tool is accidentally contacted .

18. CHECK DAMAGED PARTS. Before further use of the tool, a guard or other part that is damaged should be carefully checked to assure that it will operate properly and perform in its intended function -- check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.

19. NEVER LEAVE TOOL RUNNING UNATTENDED. Turn power off.

1. Always unplug the grinder from its power source before attempting to adjust, repair, or replace anything on the machine.
2. Always wear eye protection. Never turn on the grinder without wheel guards attached properly, and always stand to the side of the wheel when the grinder is first turned on.

US DEPARTMENT OF LABOR
Form Approved Occupational Safety and Health Administration OMB No. 44-R1367

MATERIAL SAFETY DATA SHEET
Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURE'S NAME: Darex Corporation
EMERGENCY PHONE NO: (541) 488-2224
ADDRESS: 220 East Hersey Street, Ashland, Oregon 97520
CHEMICAL NAME & SYNONYMS: Diazon-Electroplated Diamond/CBN Products, Diamond (uncoated), man-made Diamond, RVG, MBG, MBS Product Families, Standard Series and 300 Series Diamond Micron Powder
TRADE NAME & SYNONYMS: Electroplated CBN Wheels, Electroplated Diamond Wheels
CHEMICAL FAMILY: Abrasive/Any Grade FORMULA: N/A

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, &SOLVENTS %:	TLV (UNITS)		TLV (UNITS)
Pigments	-------	Base Metals	-------
Catalyst	-------	Alloys	-------
Vehicle	-------	Metallic Coatings	-------
Solvents	-------	Filler Metal	-------
Additives	-------	Plus Coating/Core Flux	-------
Others	-------	Others	-------

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS OR GASES — TLV (UNITS)

NAIF

SECTION III - PHYSICAL DATA

BOILING POINT (F) NAIF SPECIFIC GRAVITY (H20 = 1) NAIF
VAPOR PRESSURE
VAPOR DENSITY (AIR = 1): NAIF PERCENT VOLATILE NAIF
BY VOLUME (%): NAIF
SOLUBILITY IN WATER: NAIF EVAPORAT'N RATE =1 NAIF
APPEARANCE AND ODOR: Clear, White To Yellow To Dark Crystals Silver Color

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED FLAMMABLE LIMITS LEL UEL
NAIF ----- ----

EXTINGUISHING MEDIA: Water
SPECIAL FIRE FIGHTING PROCEDURES: None
UNUSUAL FIRE AND EXPLOSION HAZARDS: None

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE EFFECTS OF OVEREXPOSURE

INHALATION: If dust generated, it could contain nickel, inhaling can cause respiratory disease. Dust can result from grinding ingestion. NAIF

SKIN: Prolonged contact with nickel may cause dermatitis, more frequently at high temperature & humidity. Wash skin with water, seek medical attention if needed.

EYES: DUST MAY IRRITATE EYES
WASH WITH LARGEAMOUNTS OF WATER
SEEK MEDICAL ATTENTION IF NEEDED

OTHERS: GRINDING MAY CREATE ELEVATED
NOISE LEVELS WHICH MAY EFFECT HEARING
EMERGENCY AND FIRST AID PROCEDURES
OBTAIN MEDICAL ASSISTANCE

SECTION VI - REACTIVITY DATA

STABILITY UNSTABLE CONDITIONS TO AVOID
STABLE X

INCOMPATIBILITY (Materials to avoid)
NAIF
HAZARDOUS COMPOSITIONS PRODUCTS
NAIF
HAZARDOUS POLYMERIZATION
WILL NOT OCCUR
CONDITIONS TO BE AVOIDED
CONTACT WITH STRONG ACIDS/CAUSTICS
SECTION VII - SPILL OR LEAK PROCEDURES
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLE.
Normal clean up procedure
WASTE DISPOSAL METHOD
Standard landfill methods

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)
Respiratory protection as needed see OSHA 29 CFR 1910.134

VENTILATION LOCAL EXHAUST SPECIA
Recommended see OSHA 29 CFR 1910.94

PROTECTIVE GLOVES EYE PROTECTION
As desired by user Recommended see OSHA 29 CFR 11910.215

OTHER PROTECTIVE EQUIPMENT
NAIF

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
NAIF
OTHER PRECAUTIONS
NONE

PAGE (1) FORM OSHA-

BK65 DRILL SHARPENERS OPERATORS' GUIDE

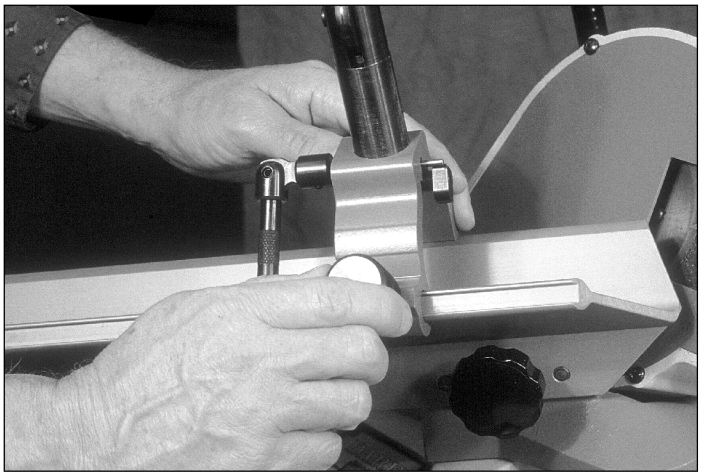
MACHINE SET-UP:

A. To install cradle, locate pins to holes in swing casting for either 118º or 135º point angle. (see indicators on left side of cradle).

Fig. A

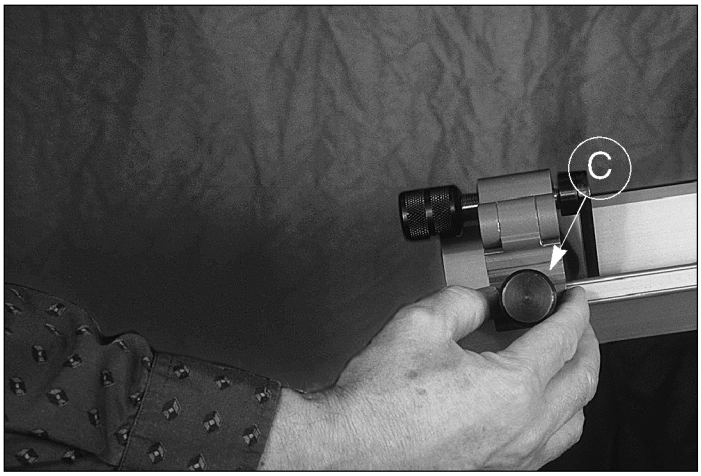
B. Slide the drill clamp assembly on cradle to within 4 to 5 inches of the pivot end of the cradle.

Fig. B



C. Slide drill stop onto cradle approximately 1" from end.

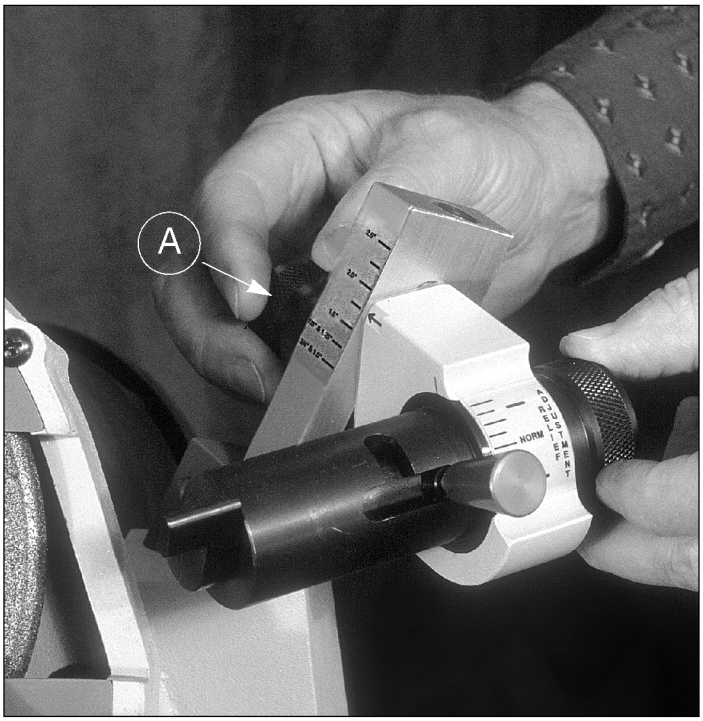
Fig. C



SETTING THE BK65 DRILL GRINDING MACHINE TO GRIND A DRILL POINT.

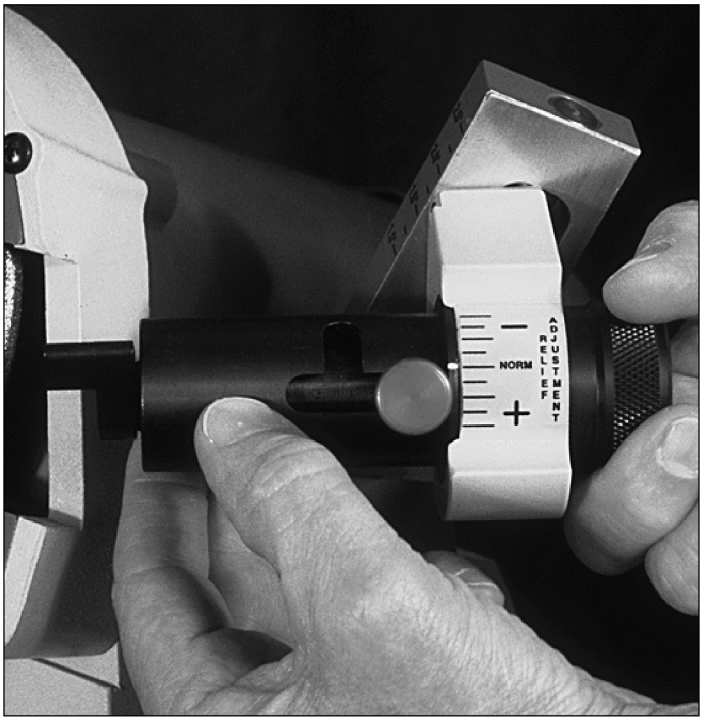
1. Set alignment to the size of drill to be sharpened by loosening the knurled knob (A), slide the fixture up or down to set the arrow with the appropriate mark on the decal to the drill size. Then tighten the knob.

Fig. 1



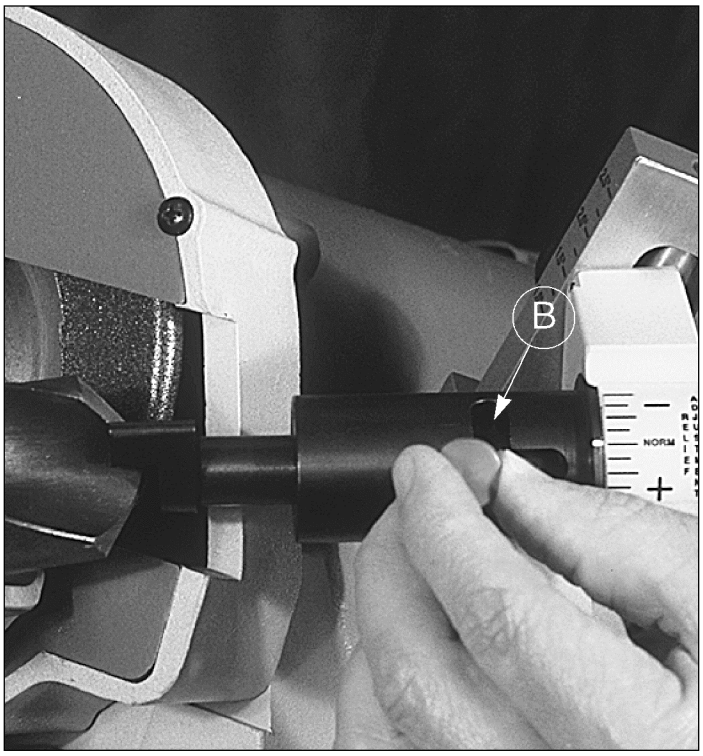
2. Changing relief on the drill may be done as follows: Loosen the Drill Relief Knob, and rotate the alignment body to either plus or minus depending upon which you wish, more or less relief. Moving the alignment body one line will change the relief approximately 4 degrees on 1 1/4 drill. The relief change will lessen as the drill size increases.

Fig. 2



3. Extend alignment plunger all the way toward the drill point and lock by pushing in on Pin "B".

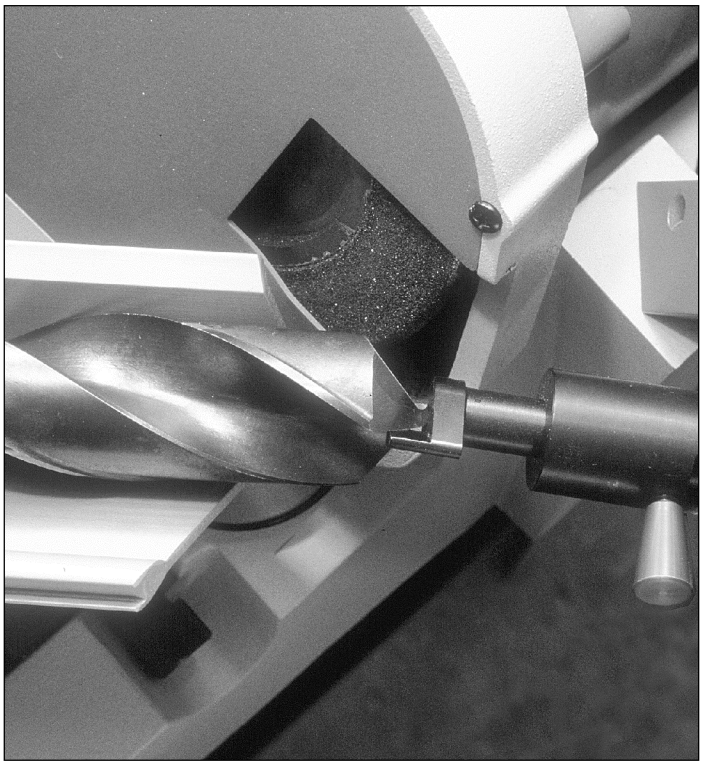
Fig. 3



4. Insert the drill to be sharpened into the cradle. Push all the way until the tip touches the alignment pawl. Rotate the drill so the cutting lip is flat against the pawl ear.

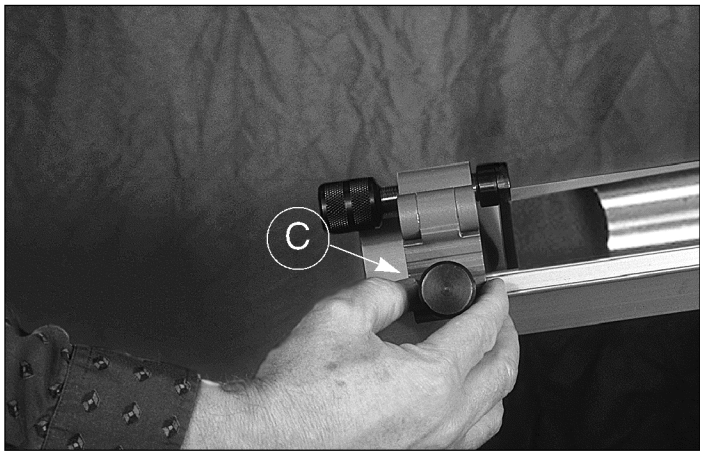
NOTE:
To sharpen drills under 1" in size, or Morse taper drills that have the taper larger that the drill itself shims are supplied to accommodate this situation, See page 8 under "SHIMS".

Fig. 4



5. Slide drill stop toward drill until stop plate is against drill shank and tighten lock knob "C".

Fig. 5



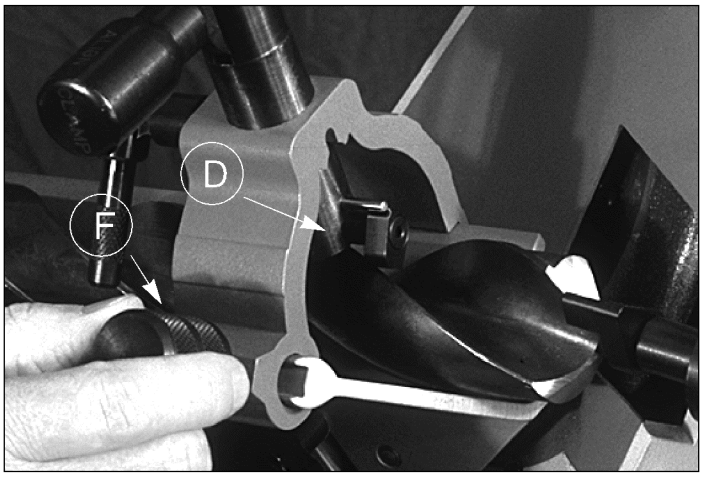
Keep your BK65 Drill Sharpener clean and properly maintained. Frequently empty the magnetic grit tray on the left side of the sharpener. Or insert a vacuum hose into the port provided.

6. Move drill clamp handle to right for the align position. Loosen the drill clamp shaft knob and lower shaft down until it contacts the drill.

Fig. 6

7. Loosen drill clamp lock knob (F), slide the clamp to the flute nearest to the drill shank, making sure that the dog rests at the edge of the flute (D).

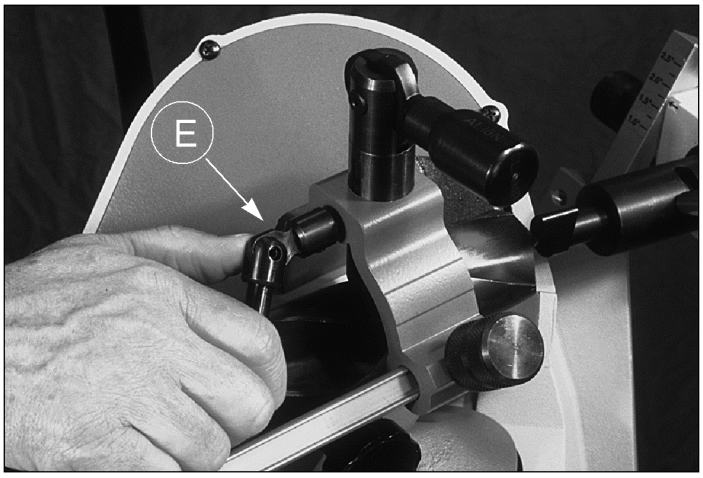
Fig. 7



8. Tighten the clamp lock knob, (F).

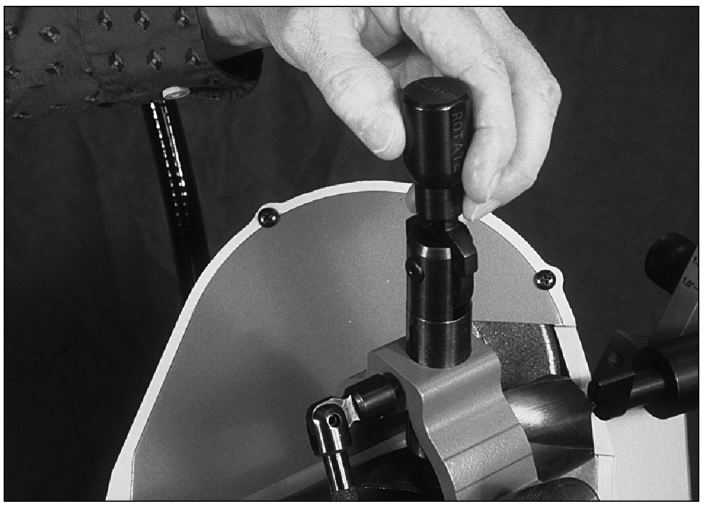
9. Tighten drill clamp shaft knob, (E).

Fig. 8



10. Secure drill by moving the drill clamp handle to the straight up position. Disengage the alignment lock pin by pulling it out and moving the plunger away from the drill. Turn the motor on.

Fig. 9

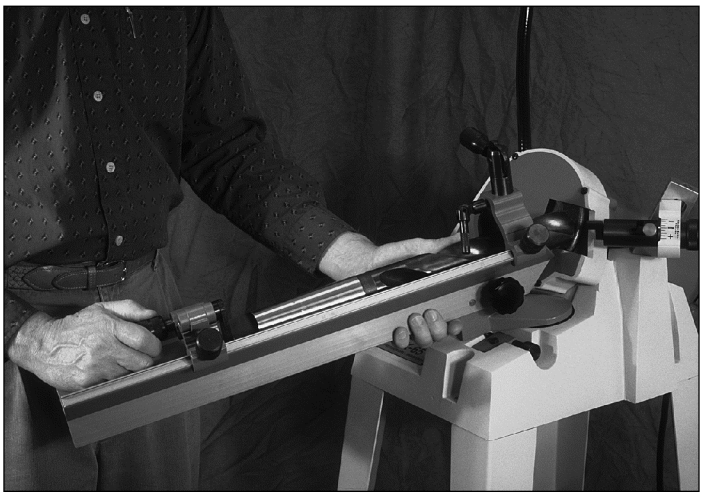


11.GRINDING THE DRILL:

Hold the drill bit cradle with the right hand and slowly move it to the right, (at this point it should not touch the wheel), now pivot it back to the left. Move the drill clamp handle to the "Disengage" position. Turn the feed knob approximately 1/4 turn clockwise, now move the drill clamp handle to the "Clamp" position. Swing the cradle to the right again, which will move the drill tip into the wheel to grind it. Swing left and right until the grinding process is complete on one side. Repeat the feed process if you need to take more material off.

NOTE: Do not feed the drill bit too much on the initial grinding. Because the feed knob positions the drill bit for "both sides" of the drill point, over feeding on the first side may cause over grinding on the opposite side. The unwanted result may be extreme heat buildup or drill point burning on the second side of the drill point.

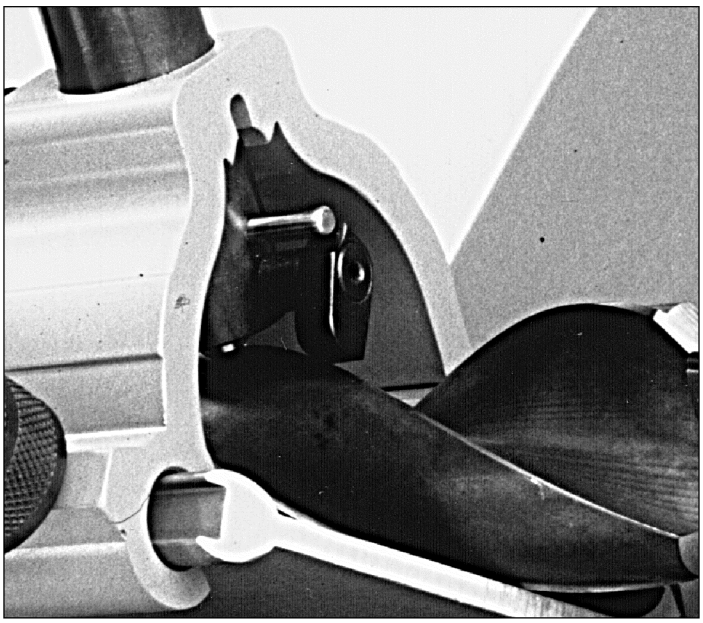
Fig. 10



12. Pull cradle all the way to the left until it locks in the ball detent. Move drill clamp handle to the rotate position to loosen the drill in the cradle.

Rotate the drill clockwise until the flute alignment dog falls into the opposite flute, then rotate it the opposite direction until dog is touching the edge of the flute. See fig below.

Fig. 11

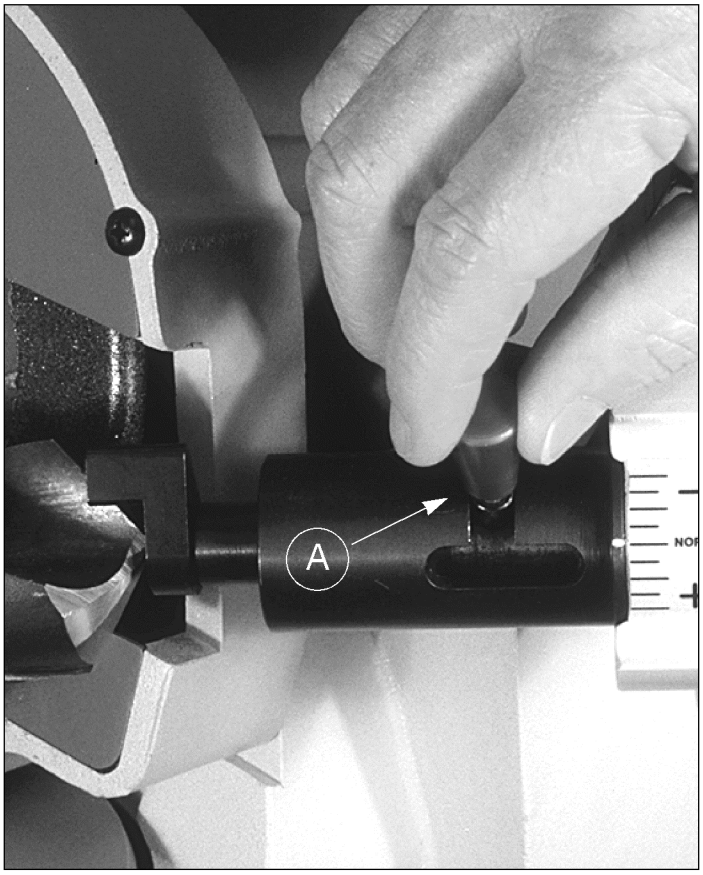


13. Move the drill clamp handle to the vertical position to secure the drill. Grasp the cradle and swing it to the right slowly, then back and forth until grind is complete. (Note: Do not feed drill on this second grind.) The drill point is now sharpened.

THINNING THE WEB

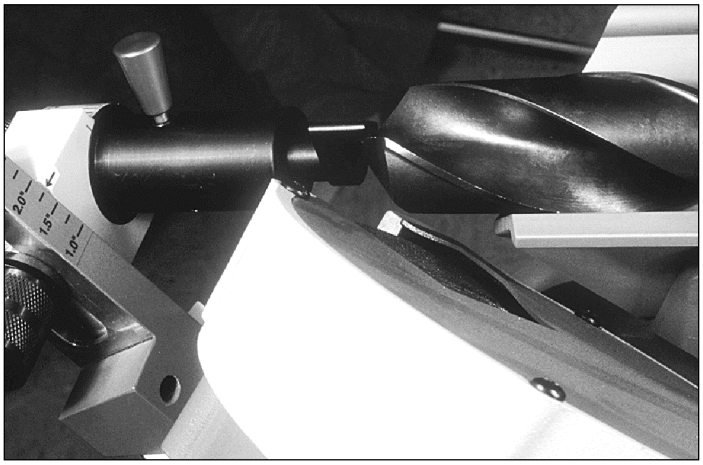
1. Move the drill clamp handle to the rotate position, unlocking the drill. Loosen the clamp lock knob, (see F, previous page), move the drill clamp assembly toward the point of the drill about 1 inch. Move the alignment pawl pin to the web thin position and push it in to lock, "A".

Fig. 1



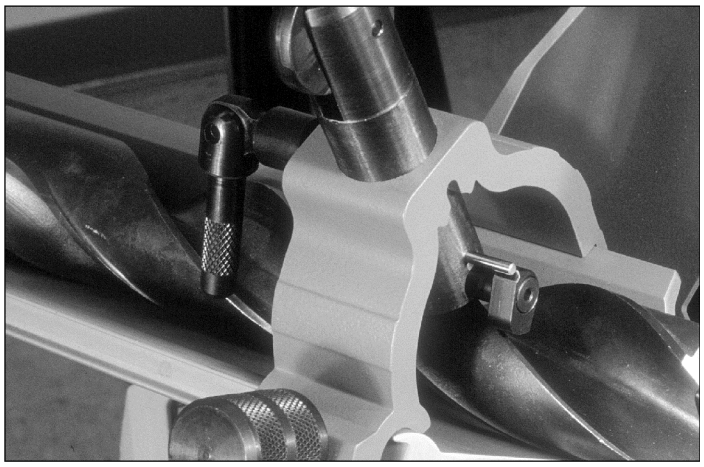
2. Rotate the drill so the cutting lip touches the pawl ear. Loosen the feed lock knob and slide the drill stop plate up to and against the shank of the drill, tighten the feed lock knob. (See Fig. 5, page 5).

Fig. 2



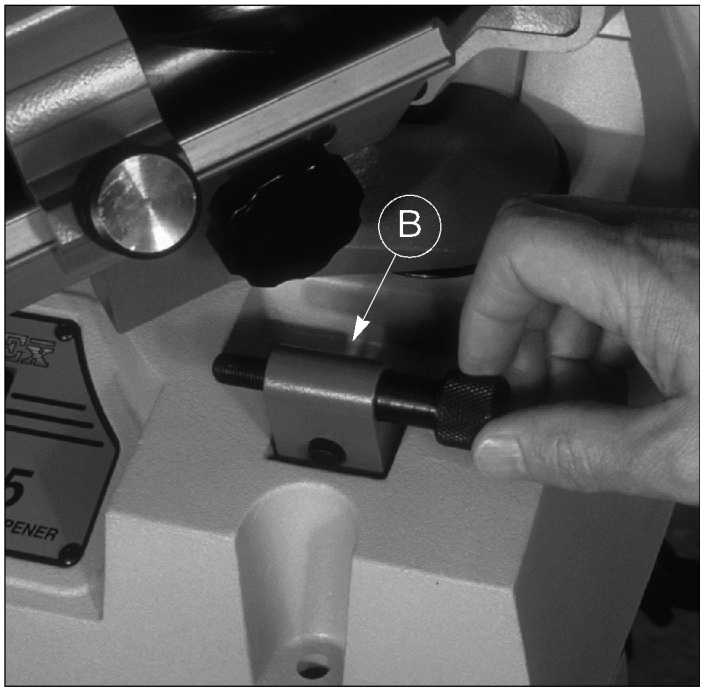
3. Slide the drill clamp toward the drill shank until the flute alignment dog touches the land of the drill, then tighten drill clamp knob.

Fig. 3



4. Rotate drill clamp handle to the vertical position to lock drill down. Pull alignment pin out and move pawl away from drill tip. Lift web thin stop (B) up and toward you, and turn adjustment knob clockwise enough to prevent the drill from touching the wheel. Turn machine on.

Fig. 4



Always wear safety glasses when sharpening drills with the BK65 or any open wheel cutting tool sharpener or grinder.

THINNING THE WEB CONT.

5. Carefully and slowly pull cradle to the right, watching drill point. Now turn web thin knob "Counter Clockwise" until drill begins to grind on wheel and thin the web. (See "Web Thinning Procedures"). Continue turning knob and removing material, making sure to back away periodically to let drill cool. Remove material of an amount to approximately 1/2 of the web thin amount or less. When finished, move cradle to the left until it stops and is held by the ball detent.

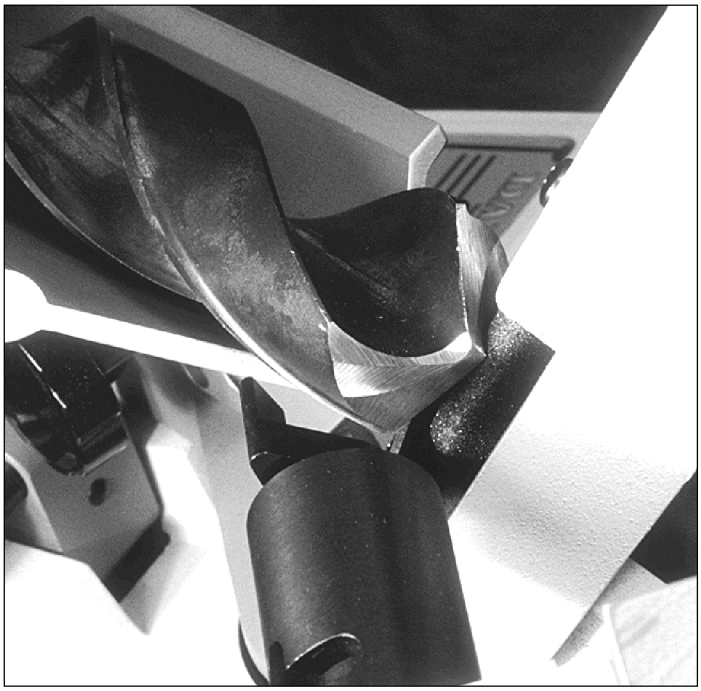
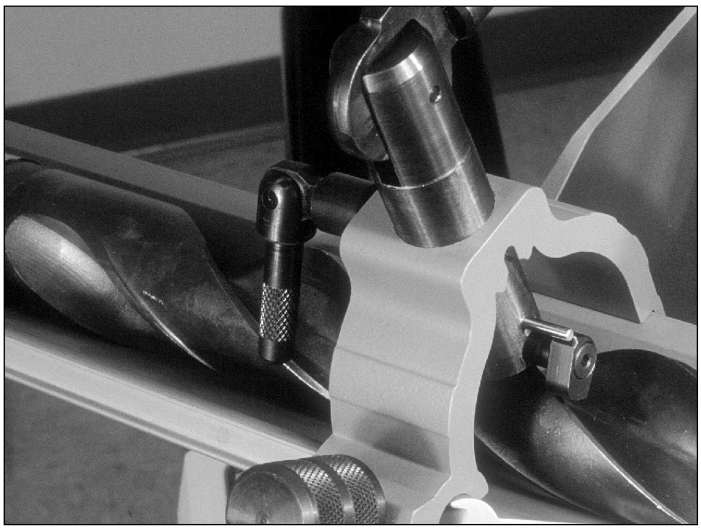


Fig. 5

6. Move Drill Clamp Handle to the rotate position to loosen drill. Rotate drill 180º until the flute alignment dog falls into the opposite flute, then rotate it in the opposite direction until the dog is touching the edge of the flute. (Fig 6.) Move Drill Clamp Handle to the vertical position to lock drill down. Slowly move cradle to the right again, carefully grinding the other side of the drill tip. (Note: Do not adjust the web thin stop knob.) Remove material until the cradle is stopped by the web thin stop screw. You have now completed the web thin.

Fig. 6



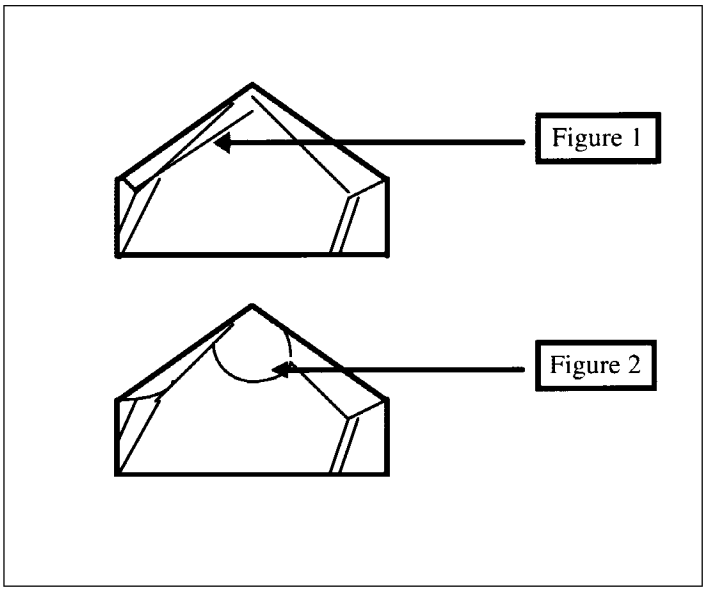
7. Turn machine off. Rotate drill clamp handle to align position to loosen drill. Flip drill stop up and out of cradle. Pull drill out from the back end of the cradle.

WEB THINNING PROCEDURES

The twist drill is designed in such a way that the web thickness increases toward the shank. In grinding drills it is sometimes necessary to thin the drill web. This is done in order to obtain improved centering and lowering drilling thrust. The chisel edge carries approximately 60 to 70% to the total thrust in drilling. Consequently, it is very beneficial to thin the web after the drill has been repeatedly sharpened. The illustrations below show a couple web thinning styles. However, the BK65 will normally thin the web as shown in Fig. 1. If you wish to thin the web to appear as in Fig. 2, merely rotate the cutting lip approximately 1/16" to 1/8" away from the alignment pawl ear.

For drilling steel, the point should be thinned so that the web is about 10% the drill's diameter. When drilling light alloy metals and brass alloys, the amount should be 12 - 14% the drill's diameter.

Fig. 1-2



SHIMS: SMALL DRILLS & MORSE TAPER DRILLS

Shims have been included with the BK-65 to accommodate drills under 1" down to 3/4" in size. Also, for Morse taper drills that the taper portion is larger than the drill itself. How to use the shims: For drills between 3/4" and one inch sizes, insert the longest shim between the drill and the cradle. For short drills use the short shim. Make sure the shim does not protrude beyond the area of the drill that is to be sharpened, so as not to grind the shim. Align the drill as described on page 4 & 5. Set to the appropriate mark for the drill size to be sharpened. Note the dual marks on the decal. For example the mark for the drill of 3/4" size will be on the same line as the 1" mark. The procedures for the alignment and grinding will stay the same as shown in the manual.

Make sure the shim is directly underneath the clamping handle, under the drill, so as to firmly hold the drill solid. The key to setting the size range of the drill on the alignment is - if in swinging the cradle around to grind the drill and it is noticed that the drill hits the wheel prior to feeding it, then the size setting needs to be set a fractional amount lower than the setting that it was on. Then realign the drill.

SHARPENING CORE DRILLS

Set cradle perpendicular to wheel, pointing straight out and away from machine.

FOUR FLUTE

Lay drill into cradle, position one cutting lip straight down, making sure drill is approximately 1/16" away from wheel.

Move drill stop toward drill until stop plate touches drill shank and tighten lock knob "c" page 5.

Pull the cradle all the way to the left until it locks in the ball detent. Make sure drill clamp handle is in the rotate position.

Extend the alignment plunger all the way toward the drill point and lock. Rotate drill so cutting lip is against the pawl ear.

Loosen drill clamp tightening knob, slide the clamp to the flute nearest to the drill shank, making sure that the dog rests at the edge of the flute.

Tighten the drill clamp shaft knob.

Secure the drill by moving the "drill clamp handle" to the vertical position.

Disengage the alignment lock pin by pulling it out and moving it away from the drill point.

THREE FLUTE DRILL

Set cradle pointing straight out from machine perpendicular to wheel.

Position drill almost touching wheel, but not quite.

Now set drill stop plate against shank of drill and tighten.

Loosen alignment relief knob and set red mark on line marked on fixture and tighten lock knob.

Pull relief setting plunger pin out and extend plunger toward drill tip and lock.

Rotate drill cutting lip until it touches the pawl ear.

Loosen drill clamp knob and slide clamp toward drill point until dog is resting on the flute edge, then tighten drill clamp knob.

Rotate "drill clamp handle" to straight up position to secure drill.

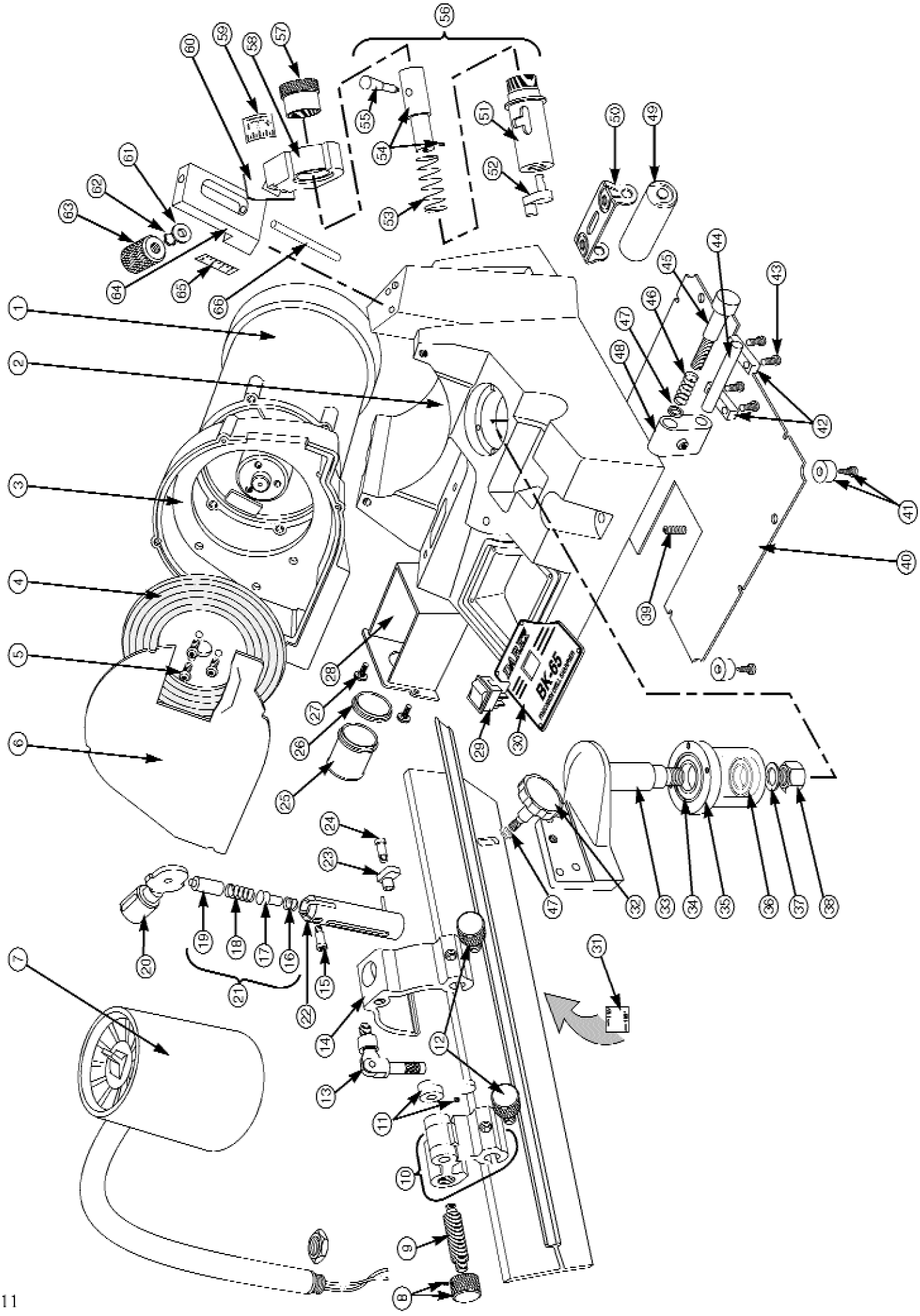
Pull relief setting plunger out & move pawl away from drill tip.

Grind as you would a normal drill.

Rotate to each flute as for a normal drill.

If you are unable to correct any problem, please contact Darex Corporation for further assistance: 1-800-547-0222

Notes


BK-65

BK65 Parts List

# ON DWG	PART #	DESCRIPTION	PRICE
1	SA07050MA	115V MOTOR/HUB ASSEMBLY	$240.00
1	SA07052MA	230V MOTOR/HUB ASSEMBLY	$260.00
2	PP07000CF	BK BASE CASTING	$250.00
3	PP07020CF	MOTOR WHEEL GUARD CASTING	$89.00
• 4	PP07060GF	BK WHEEL - PLATED 60 GRIT CBN (STANDARD)	$239.00
4	PP07064GF	BK WHEEL - PLATED 80 GRIT DIAMOND	$239.00
4	PP07062GF	BK WHEEL - PLATED 40 GRIT CBN	$319.00
• 5	SA07058FA	BK WHEEL MTG SCREWS (3pcs) 1/4x20x3/4 BHCS	$3.00
6	SA07055SA	WHEEL GUARD COVER W/SCREWS	$18.00
7	PP05868EF	M5/E90/BK65 LAMP (MOFFAT)	$29.00
8	SA07106TA	LOCK KNOB W/SET SCREW	$9.00
9	PP07196TF	DRILL STOP FEED SCREW	$12.00
10	SA07192XA	DRILL STOP EXTRUSION ASSMBLY	$29.00
• 11	SA07198BA	DRILL STOP PLATE ASSEMBLY	$12.00
• 12	SA07108TA	LOCK KNOB/SCREW ASSEMBLY	$8.00
• 13	SA07158TA	CLAMP PIN HANDLE ASSEMBLY	$29.00
14	PP07160XF	DRILL CLAMP EXTRUSION	$24.00
15	PP02072FF	1/4X1/2 SHLDR 10-24X1/4 SOCKET SHOULDER BOLT	$2.00
16	PP07176RF	CLAMP PIN RETRACT SPRING	$5.00
17	PP07174TF	CLAMP PIN	$10.00
18	PP07172RF	PLUNGER SPRING	$5.00
19	PP07170TF	PLUNGER	$10.00
20	PP07166TF	DRILL CLAMP CAM	$28.00
21	SA07174TA	CLAMP PIN/PLUNGER/SPRING SET	$32.00
22	SA07164TA	DRILL CLAMP SHAFT W/PIN	$24.00
• 23	PP07180TF	FLUTE ALIGNMENT DOG	$9.00
• 24	PP02072FF	1/4X1/2 SHLDR 10-24X1/4 SOCKET SHOULDER BOLT	$2.00
25	PP02175TF	GRIT TRAY VACUUM TUBE	$5.00
26	PP02176PF	DOME PLUG 1.375 BLK	$1.00
27	SA02174PA	GRIT TRAY SCREW & KNOB (2)	$3.00
28	SA07072SA	BK GRIT TRAY W/LINER	$36.00
29	PP02166EF	115V SWITCH SERIES 50	$8.00
29	PP02167EF	230V SWITCH SERIES 50	$8.00
30	PP07026DF	BK SWITCH PLATE	$18.00
31	PP07156DF	POINT ANGLE DECAL	$3.00
32	SA07154TA	CRADLE LOCK SCREW/KNOB	$8.00
33	SA07010CA	SWING CASTING W/ARBOR	$35.00
34	PP07009LF	1"ID X 2"OD X 3/8" DOUBLE SEALED BEARING	$8.00
35	PP07006TF	BEARING HOUSING	$28.00
36	PP07008LF	3/4"ID X 1 3/4" OD X 1/2"WIDE DBL SEALED BEARING	$6.00
37	PP07016FF	SAE 5/8 F/W 3/32 THICK	$1.00
38	PP07018FF	5/8-18 HEX RETAINING NUT	$1.00
39	PP07004FF	BALL AND SPRING PLUNGER	$8.00
40	SA07056EA	ELECTRICAL COVER PLATE W/SCREWS	$22.00
41	SA08664PA	BASE RUBBER FEET W/SCREWS (4)	$10.00
42	PP03918BF	P.S. ARBOR RETAINING PLT	$3.00
43	PP08632FF	10-32X3/8 BHCS	$1.00
44	PP07042BF	PIVOT SHAFT	$8.00
45	PP07044TF	STOP SCREW	$12.00
46	PP07046FF	STOP SCREW SPRING	$7.00
47	PP07048RF	3/8 STAINLESS STEEL F/W	$1.00
48	SA07040BA	PIVOT ARM W/STOP	$12.00
• 49	SA07051MA	115V CAPACITOR W/CAP	$10.00
49	SA07053MA	230V CAPACITOR W/CAP	$12.00
50	PP07049MF	230V CAPACITOR CLAMP	$5.00
50	PP07057MF	115V CAPACITOR CLAMP	$5.00
51	PP07122TF	ALIGNMENT BODY	$36.00
• 52	PP07134BF	ALIGNMENT PAWL	$18.00
53	PP02028RF	TIMING SHAFT SPRING	$4.00
54	SA07126TA	ALIGNMENT SHAFT W/SET SCREW	$18.00
55	SA07128TA	INDEX PIN/KNOB/SLEEVE	$14.00
• 56	SA07105BA	ALIGN HOUSING/SHAFT ASSEMBLY	$95.00
57	PP07124TF	DRILL ADVANCE KNOB	$10.00
58	PP07100BF	ALIGNMENT HOUSING	$24.00
59	PP07140DF	BK RELIEF DECAL	$3.00
60	PP07120SF	NYLON SLIDE PLATE	$6.00
61	PP07112TF	DELRIN SLIDE WASHER	$1.00
62	PP02066RF	3 WAVE OVERLAP SPRING	$2.00
63	PP07101TF	ALIGNMENT HOUSING LOCK KNOB	$9.00
64	SA07100BA	ALIGN BRACKET W/SET SCREW	$24.00
65	PP07136DF	INCH HEIGHT DECAL	$8.00
65	PP07138DF	METRIC HEIGHT DECAL	$3.00
66	PP07113TF	ALIGNMENT HOUSING SHAFT	$8.00
Not Shown	PP07146XF	4" CRADLE SHIM EXTRUSION	$3.00
Not Shown	PP07148XF	6" CRADLE SHIM EXTRUSION	$4.00
Not Shown	SA07150XA	DRILL CRADLE ASSEMBLY	$89.00
Not Shown	SA07152XA	SHORT DRILL CRADLE	$99.00
Not Shown	SA07140SA	BK STAND ASSEMBLY	$149.00

• Suggested Dealer Stock Parts