



KOR-IT®



Operating Instructions

Ground Models: EK-401-G8; EK-401-G17E; EK-416-G17E; EK-616-G17E

Elevated Models: EK1608-G8; EK1616-G17; EK1716-G17; EK1716-AG17

Please read this manual thoroughly for optimal results! If you follow the instructions your Kor-IT core drill will give you long, trouble-free service and you will obtain maximum drilling footage at lowest cost per foot. Drilling masonry with diamond bits is not a difficult task when following these instructions.

- A. Setting up your machine
- B. Leveling
- C. Stabilizing
- D. Connect to a water supply
- E. Attaching a Kor-It core bit

A. Setting up your machine

1. First lubricate your columns. Two zerk fittings are provided for this operation. Moly E.P. - 2 lithium grease or equivalent is recommended.
2. The gasoline motor is shipped with oil (10W30) and a little gasoline in its reservoirs. All motors are tested prior to shipping
 - a. Temperatures above 32° F use SAE 30 weight oil.
 - b. Temperatures below 32° F use SAE 5W30 weight oil.
 - c. 17.5 HP reservoir capacity is 42-44 Oz. (1.24 -1.30 liters).
 - d. 6.75 or 8.75 HP reservoir capacity is 18-20 Oz. (.54 - .59 liters)
 - e. **IMPORTANT!!! DO NOT USE SAE 10W40 OIL**
3. The spark plug is pre-gapped and is installed by the manufacture.
4. Use fresh, clean, unleaded regular (87 octane) gasoline.

B. Leveling Ground Models: EK-401-G8; EK-401-G17E; EK-416-G17E; EK-616-G17E

1. Leveling screws are located at the four corners of the base.
2. Turn leveling screws raising the machine until the wheels clear the floor and the base is level.
3. Make sure that the machine is resting on all four screws and does not move.
4. Lock leveling screws in position by tightening the jam nuts against the base.

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! NOTE: For drilling on softer materials, such as asphalt, the leveling screws may be removed from the base and re-inserted upside down. Then place the head of the leveling screw down, providing a larger area of contact with the supporting surface.

B. Leveling elevated models: EK1608-G8; EK1616-G17; EK1716-G17; EK1716-AG17

1. Pull swing arm out to center or all the way out to passenger side of vehicle then place the top screw jack on the back of unit. L
2. Level your machine by placing side screw jacks on the sides of the drill unit.
3. With the drill unit in position mount core barrel.
4. Using the jacks level the machine and make sure to check using the leveler provided. If you are using the slide feature on the large hitch make sure to lock down the 4-post hand screw to keep the unit locked in position.

C. Stabilizing the machine

Stability may be obtained by **weighting the base**. For drilling holes greater than 10" (254 mm) deep place weights such as sand bags on the base.

Hold drill firmly in place when drilling. This prevents possible shifting of the base which results in excessive wear of the bit and possible jamming in the hole being drilled.

D. Connect to a water supply

IMPORTANT!!! Water must always be flowing when drilling in order to create slurry and cool the diamond segments. Dry applications require bits specifically designed for dry drilling.

1. Connect the water hub on the drill to a water source by using a garden hose. Moderate water pressure is required, and a regular water tap will generally supply enough volume at a satisfactory pressure. Water can be supplied by a drum or portable tank.
2. Use the flow valve located on the water hub to control the flow of water. Adjust the valve so enough water is flowing. You want the slurry to have the consistency of a milk shake (not too thin and not too thick). If too much water or not enough water is used the segments on the core bit could glaze over and stop grinding which could result in the loss of segments. If segments glaze over run the bit in a cinderblock which can be purchased at any hardware store. We recommend stepping stones as they are light weight and easily transported. Not enough water will cause the segments to heat up and break off as the segments are brazed on with silver solder.

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E. Attach a Kor-IT Diamond Core Bit

Tools which are helpful in attaching the diamond bit are the KOR-IT 1 3/8" wrench and a large crescent wrench. Diamond bits 1/2" to 1-1/2" in diameter are threaded with a 5/8-11 male x 1 1/4-7 female thread and are attached to the main shaft of the drilling machine by means of a thread coupler, KOR-IT part DP4400008, which screws into the main shaft of the machine. Diamond bits 1 3/4" to 24" in diameter are threaded 1 1/4 x 7 thread for direct connection to the drill shaft.

CLOSED HEAD BITS connect the bits directly to the drill 1 1/4-7 main shaft or extension shaft

OPEN HEAD BITS use expanding adapter sets, 2 beveled plates and 1 split expanding ring, to attach diamond bits 2" (51 mm) to 6.5" (165 mm) to the main shaft of the drill.

1. Place the unthreaded expander plate on the shaft first, with the beveled portion down, then the expanding ring, and then the threaded expander plate with the beveled portion up. The beveled edges must face each other in order to expand the split ring outward against the inside of the bit barrel.
2. Using the 1 3/8" wrench hold the drive shaft while threading the expander plate by hand. Continue turning until the expanding ring is snugly held between the plates with almost the same diameter, allowing the barrel to go over the assembly.
3. Slip the bit barrel over the expander set. Hold the shaft, using the K-911 chuck wrench and turn the barrel by hand to drive the lower threaded expander plate up onto the split ring until a tight fit is obtained. **MAKE CERTAIN** that the top of the bit is flush against the shoulder of the upper expander plate and then hand tighten as securely as possible.
4. Tighten the expander assembly by turning the barrel with a strap wrench, KOR-IT K-912, before drilling.

! NOTE: The bit must be flush against this shoulder to ensure the bit running true. If the bit does not run true, re-seat it and check again for alignment. Do not drill until the bit runs true. A true running bit assures maximum bit life and lowest drilling cost.

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Now that your machine is lubricated, leveled, stabilized, connected to a water supply, and a core bit properly attached you are ready for operation!

Operating Instructions

1. Position your KOR-IT drilling machine **securely and firmly** at the location of the hole to be drilled. Be sure to follow our leveling and stabilizing procedures above.
2. Attach the diamond bit properly following the bit attachment procedures above.
3. ALWAYS TURN ON THE WATER **BEFORE** BEGINNING TO DRILL.
4. With the motor running, lower the carriage of the machine carefully until the bit is in contact with the materials to be drilled. **IMPORTANT!!!! The weight of the carriage and bit is sufficient to start your core.** Light pressure with the palm of your hand is enough to feed the core bit to depth. Do not apply too much weight on the hand wheel. Applying too much feed on the hand wheel will result in lifting and bit jamming which results in damage to the bit and or extension shafts and main shaft.
5. If chattering occurs reduce RPM and let machine settle. When chattering ceases resume RPM and back off out of the hole and check to ensure that the bit is properly aligned on the main shaft and is running true.
6. Upon completing the hole, withdraw the bit while the machine is still running. When the core bit is about to come out of the cut reduce RPM so that the bit doesn't bounce around and knock a segment off. Then turn off machine and water.
7. If the core was not deep enough and you have to re-cut the core start at a low rpm. Bring the core bit to .5" above the cut and slowly feed into the cut. Once the segments are in the cut increase RPM to normal cutting RPM and feed down to where you left off.
8. After drilling use the 1 3/8" open end wrench, to remove the bit from the drill. A pipe wrench will damage the bit barrel and the extension shafts if applicable. On elevated units the oilite bushing on the stabilizer will become worn and need to be replaced or it will let the extension shaft wobble and won't run true.
9. Place a large crescent wrench on the core bit hub and the open end 1 3/8" wrench on the main shaft or extension shaft to loosen the bit barrel.

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10. When a new bit must be used to complete a partially drilled hole, re-drill the entire hole depth. The new bit will have a wider cutting edge than the worn bit. (Refer to VIII D. for feeding into core)
11. A bumping action while drilling the hole indicates the core has broken. Immediately back the bit out of the hole. After the bit is clear of the hole, shut off the power and water, and remove the broken core. To continue drilling with a broken core inside the barrel may seriously damage the bit.
12. If for any reason the bit jams in the hole, shut off the power at once. Then disconnect the bit from the drill spindle before attempting to free the bit from the hole. Do NOT attempt to free the bit from a hole while still attached to the drilling machine.
13. Do not drop the bit or hit it against anything hard. The matrix in which the diamonds are set can be damaged by an accidental blow.

Gasoline Engine Care

For operation and care of gasoline engines, please refer to the engine manufacturer's manual which accompany drill. **IMPORTANT!!! Remove the starter key when not in use. If the key is left in the ON position it will drain the battery. Batteries can be damaged if drained of energy and will need to be replaced if this occurs.**

Removal of cores from bit

Generally, the core will drop out of the bit, but if it does not, remove the bit from the drill spindle.

1. For open head bits, push the core out through the rear of the bit.
2. For closed head bits, lightly tap the bit barrel to remove the core or push the core through the bit with a rubber mallet.
3. Any bit purchased from Kor-it can have 1" holes drilled into the top of the core bit (must be requested at time of purchase) so the core can be gently tapped out with a pry bar through the holes on the top of core bit and not damage the core bit.

NOTE: Do NOT pry cores out of the front on the bit. This will result in damage to the roundness of bit and will need to be replaced.

Removal of the cores from hole

If the core remains in the hole that has just been drilled, drive a wedge in one side to snap the core loose at its base. Remove the core by slipping a loop made from a piece of heavy wire into the hole around the core.

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Waste Water Removal

If necessary, remove waste water from the hole location. Waste water can be contained by use of the Kor-IT slurry slurp sizes 5" and 10". PSS-3050 for 5" and PSS-3010 for 10". The can be connected to any wet/dry shop vac. Kor-It also has available for purchase a gas-powered vacuum (KKV-55) and an electric vacuum (KKV-55E)

**! NOTE: Kor-IT technicians
available toll free
(888)-727-4560
for field assistance.**

KOR-IT Limited Lifetime Warranty

Please refer to our complete warranty policy following this manual. All KOR-IT manufactured parts are warranted against defects in material and workmanship when the KOR-IT Warranty Card has been completed and returned to the factory by the user within 10 days of purchase of the drilling machine. Third party products, including but not limited to, motors, power supplies, adaptors, water tanks, trailers, and other system components using or interacting with this Product are not covered by this warranty.

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