KOR-IT®

Operating Instructions

Hydraulic Ground Models: EK201-HR12; EK201-HR24; EK201-HR36; EK201-HR48

Bucket Mounted Models: EK700-HR12; EK201-HR24; EK201-HR36; EK201-HR48

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. Connect to a water supply
C. Attaching a Kor-It core bit

A. Setting up your machine

1. The EK201 system is supplied with a flow control and over-pressure system.
2. First connect the hydraulic hoses from the flow control to the power source.

> ! **NOTE: The pressure and return tank lines must be connected to the power source.**

3. Position your machine securely and firmly at the location of the hole to be drilled.
4. The base may be secured to the surface with anchor bolts.
5. When the drill application drilling vertically, anchoring the EK201 can be accomplished using a “red head” anchor bolt (or equivalent).
6. When drilling into a wall, or ceiling, we recommend using anchor bolt or setting tool.
7. **EK700 models: SEE ADDENDUM A FOR SET UP INSTRUCTIONS**

B. Connect to a water supply

> ! **NOTE: 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 valve 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.

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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 to thin and not to 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.

C. 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 ½" 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 ¼-7 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.

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Now that your machine is set up and 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.
2. Attach the diamond bit properly following the bit attachment procedures above.

   ! **NOTE:** ALWAYS TURN ON THE WATER **BEFORE** BEGINNING TO DRILL.

3. With the motor running, lower the carriage of the machine carefully until the bit is in contact with the materials to be drilled. 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. Appling to 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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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9. 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)

10. 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.

11. 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.

12. 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. This can also cause damage to the tube and it will become unusable when not round.

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.

Waste Water Removal

If necessary, remove waste water from the hole location. Waste water can be contained by us 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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Addendum A

Bucket Mounted Models: EK700-HR12; EK201-HR24; EK201-HR36; EK201-HR48

1. Make sure the bucket is securely attached to the skid steer unit with the clamps fully locked.

> ! **NOTE:** Attachment locks vary. Check the owners-manual of your specific skid steer to be sure you have attached the bucket properly.

2. Attach hoses from the auxiliary port of your skid steer to the flow control.

> ! **NOTE:** Hoses not included as skid steer systems vary from manufacturers. Find a local hydraulic supply in your area for more information.

3. A 12-Volt water pump is supplied with your EK700 drill. You will need to have it attached to your skid steer's 12-volt system with a harness.

> ! **NOTE:** Harness not included as skid steer systems vary from manufacturers.

4. Bring the skid steer unit to a mild to low idle so you can run the hydraulics.
5. Make sure the flow control on the unit is set to zero before starting.
6. Check and make sure the spindle of the unit is spinning clockwise if you were looking down on the machine. If looking from the front it will be turning to the left.

> ! **NOTE:** If you try and core in the opposite direction, the core bit will come loose and dislodge from the unit and cause damage to the machine and pillow block.

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7. Once you have verified the direction of the spindle place a 3/4" piece of the provided tach meter tape on the spindle. This is in the bag that holds the tach meter.
8. Bring the skid steer to desired idle for coring.

> ! **NOTE:** Not all skid steers run the same you will have to find where your skid steer runs the best.

9. Look at the rpm chart for the core bits and start opening the flow control to match the rpm.

> ! **NOTE:** Core drill should be a couple of RPMs above the recommended speed as this will not be under load.

10. Close the flow control or turn the skid steer off. This will stop the spindle from spinning. You can now raise the roller carriage up and attach the core bit to the spindle.

> ! **NOTE:** Make sure that the bit is secured to the spindle. If the core bit is not attached securely and you start the spindle at the recommend rpm and then stop the unit the core bit will keep spinning and unscrew from the spindle which can cause injury and damage to the core bit and machine.

11. Once you have the core bit securely attached to the spindle it is time to level the unit. Place a magnetic torpedo level on top of bit and adjust the leveling feet so that you are level to the ground.
12. Once level bring the core bit to about 1 inch above the surface to be cored. Turn the water on

You are now ready to start coring.

Refer to page 1 - water flow

Refer to page 3 - operating instructions

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