iEcho - BK3 Instruction Manual

- iECHO BK3 2517 staff handbook

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Graphic Warehouse staff training and daily reference

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1 Start here

Use this handbook alongside practical training on our cutter. It explains how to prepare a job, choose the required process, check the first piece, look after the machine and report faults. The numbered sections can be used independently as everyday reference pages.

Before independent operation. The machine lead must confirm the equipment register, demonstrate the actual controls and approve the local procedures. The workflow and record templates in this handbook are proposed shop practice. They are not a substitute for the operating instructions that apply to the machine as installed.

Machine identity and local setup

Item	Record or status
Machine	IECHO BK3-2517, as identified for this training book.
Nominal cutting area	2,500 × 1,700 mm in the BK3 manual. Usable job margins must be checked locally. [S1]
Serial number and year	Record from the machine nameplate.
Installed tools and software	Complete the register in section 9 before use.
DRT and 1.5 kW router	Under consideration; installation and availability are not confirmed.

Find the right section

- 2 Safe working and daily checks — prepare the machine and recognise when to stop.
- 3 Job and file preparation — check the specification, paths, scale and material.
- 4 Tools and materials — understand each cutting process.
- 5 Running the job — approve a first piece and control the production run.
- 6 Quality and troubleshooting — make useful checks and escalate faults.
- 7 Cleaning and maintenance — routine care and the engineering boundary.
- 8 Training and competence — supervised practice and sign-off.
- 9 Records and site setup — reusable fields for repeatable work.
- 10 Manufacturer reference library — manuals, technical support and source links.

2 Safe working and daily checks

Complete training for the actual equipment and task before operating independently. IECHO identifies operator training, tool condition and functioning safety devices as part of reliable machine operation. A failed safety device requires the machine to be taken out of use until repaired. [S7, S9]

Know these controls before starting

- The normal start, pause and stop controls, and what each one does.
- The emergency stopping controls and the safe place to stand when the machine moves.
- The locally approved isolation procedure for electrical, pneumatic and other stored energy.
- Who may reset a fault, change a tool, adjust a setting or release the machine after a stoppage.

Your trainer must demonstrate these on the installed machine. An emergency stop is not the same as isolation for hands-on work. Tool changes, cleaning and intervention require the safe procedure approved for the task; a stopped head can still be hazardous.

Before each shift or first job

Check the accessible tool holders, felt and working area for damage, debris or loose parts. Look for damaged exposed cables or hoses and report concerns. Confirm that the indicated air supply and material-holding setup match the verified local requirements. During the demonstrated start-up routine, remain outside the travel area and listen for unusual noise or movement. These checks adapt IECHO’s general flatbed-care guidance to an operator role. [S7]

- Read the previous shift’s handover and check for unresolved faults or restrictions.
- Confirm the work area is clear and the required tools, materials and job information are available.
- Use the clothing, hair restraint and protective equipment specified by the local task assessment.
- Keep hands, loose objects and other people outside the moving head and gantry area.
- Never hold material by hand during cutting to compensate for poor hold-down.

Stop and seek help

If there is immediate danger or unexpected movement, use the emergency stopping control identified in training and keep everyone clear. Report the event and prevent an unauthorised restart. For a routine defect, use the normal stopping procedure before inspection. Resolve the cause, follow the approved restart checks and repeat the first-piece check before production resumes.

Do not bypass a safety device or repeatedly reset an unexplained alarm. Broken tools, collision damage, unreliable holding or abnormal machine movement need the responsible person’s assessment before further use.

3 Job and file preparation

This is a proposed local workflow. Confirm the actual software, accepted file formats and approval responsibilities during commissioning and training.

Match the job to the material

Start with the job specification and latest approved artwork. Confirm the job number, revision, finished dimensions, quantity, material product and thickness, printed side, orientation and finishing requirements. Resolve differences between the artwork, job ticket and supplied material before preparing the cutting file. For printed work, confirm that the print and cutting paths belong to the same artwork revision.

Keep a traceable working file

Keep the approved source file unchanged and create an identifiable working copy. Include the job number and revision in the filename. Retain the export alongside its source and record the software used. Check the units and at least one known dimension after import; a plausible screen preview does not establish correct scale.

Inspect the geometry and operations

- Look for duplicate paths, unwanted objects, open contours and missing shapes.
- Confirm that small details are suitable for the intended material and tool.
- Keep through-cut, kiss-cut, crease, V-groove and routing operations distinguishable.
- Assign operations using the verified local method. Colours or layers from another cutter may not have the same meaning here.
- Check the layout against the real sheet or roll, usable cutting area, agreed margins and material direction.

Check registration and release the file

Where registration is required, confirm that the print and file contain the matching marks or reference features expected by the installed system. Preserve the relationship between the artwork and cutting paths. Escalate missing or unsuitable marks before the production run.

Identify the required installed tool, blade or bit and approved material recipe. If the equipment or settings have not been verified, refer the job for a controlled trial. Save the prepared file and its revision so the operator can establish exactly which version to run.

Release check. Correct job and revision; correct scale; correct material; complete paths; correct operations; matching registration; approved tool and recipe.

4 Tools and materials

Use the installed-tool register to establish which processes are available. These descriptions explain tool families; they do not confirm that a particular head is fitted or compatible with our machine. Select the verified tool, blade and material recipe together.

Tool or process	Purpose and typical use
UCT or tangent knife	Conventional knife cutting for suitable thin sheet materials, including selected films and plastics. [S3]
EOT electric oscillating tool	A reciprocating blade for suitable soft or medium-density materials, such as corrugated or sandwich board, thick card and selected leather. [S4]
DRT driven rotary tool	A powered circular blade for textiles. Rotation reduces pulling on woven material and helps separate individual threads. [S6]
KCT kiss-cut tool	Separates the face material of suitable adhesive films while retaining the backing liner. [S3]
CTT creasing tool	Forms fold lines with a wheel in suitable corrugated or carton material. The wheel and setup must suit the board. [S5]
V-cut tool	Forms an angled groove or bevel for folded board and three-dimensional work. [S6]
Router or milling module	Uses a rotating bit for suitable rigid substrates, such as acrylic, aluminium composite and MDF. Holding, extraction and tooling must match the verified process. [S1, S4]

Keep tool identities separate

DRT and PRT are different IECHO tool families. Do not use the names interchangeably or assume their parts and settings are interchangeable. The rotary mechanism description above is supported by an IECHO BK4 tooling brochure; that brochure does not establish compatibility with this BK3. [S6]

The DRT and the 1.5 kW router discussed for this machine remain unconfirmed additions. Staff must check the register before accepting jobs that require them.

Approve the result before production

After a material, blade, tool or recipe change, produce an approved test piece. Check clean separation for through-cuts; easy weeding and an intact liner for kiss-cuts; a satisfactory sample fold for creases; and the required groove and assembled angle for V-cut work. For textiles, inspect for uncut threads and stretching. Record the successful setup for repeat work.

Treat catalogue maximum speeds and thicknesses as product descriptions. Production settings must come from a verified recipe for the actual material, tool and machine.

5 Running the job

Use this workflow with the locally verified start-up, setup, stopping and shutdown procedures. The exact control sequence must be demonstrated on the installed machine.

Prepare the machine and job

Match the prepared file to the job ticket and material at the machine. Confirm the selected operations, installed tools and approved recipe. Complete the daily checks. Follow the trained procedure for loading material, establishing the working origin or registration and confirming

material holding. Establish who is operating the machine and ensure nearby staff know when cutting will begin.

Produce and inspect the first piece

Make a test piece or first item using the approved setup method. Remain clear of the working area while the machine moves. If material shifts, a tool behaves unexpectedly or the cut differs from the intended operation, stop. Follow the safe intervention procedure before inspecting a tool or correcting the setup.

- Measure the finished dimensions against the job specification.
- Check orientation, cut-to-print alignment and all internal details.
- Inspect edges for tearing, loose fibres, distortion or unacceptable marks.
- For kiss-cut work, test weeding and check the backing liner.
- For creasing or V-grooving, make a sample fold or assembly.
- Look for unintended damage to the cutting surface and report it.

Record the outcome and obtain the locally required release before continuing. Retain an identified sample, photograph or measurement record where it will support later checks. If settings change, produce and assess a new sample before accepting further output.

Control the run

Compare output with the accepted first piece at the intervals agreed for the job and after relevant changes, such as a new material batch or replacement blade. Keep questionable pieces separate from accepted output and identify their status. Record repeated defects instead of making successive undocumented adjustments.

Finish and hand over

Reconcile the finished quantity and identify any outstanding work. Save the final file revision and verified recipe reference. Use the approved shutdown procedure, then complete the permitted cleaning tasks. Leave a clear handover describing the machine’s condition, work in progress, changed settings and unresolved faults.

6 Quality and troubleshooting

Stop the job before investigating. Preserve the exact alarm message, failed sample and file revision. The table is a proposed operator triage process; it does not authorise electrical work, calibration or mechanical repair.

Symptom	Operator check after making safe	Escalation point
Material moves or holding is weak	Compare the holding setup with the approved recipe. Check for visible obstruction or an obvious setup mismatch.	Holding remains unreliable, or a hose, pump or vacuum component needs attention.
Incomplete or rough cut	Confirm material product, thickness, tool, blade reference and saved recipe. Inspect the sample and accessible tool condition.	The approved setup still fails; a tool is damaged; or correction requires calibration.
Wrong size or cut-to-print position	Compare the file revision, units, known dimensions and registration setup with the job.	The fault repeats, varies across the table or suggests a machine accuracy problem.
Poor crease or V-groove	Check the intended operation, board orientation and approved tool recipe. Retain a folded sample.	The correct setup still produces an unacceptable fold or damages the face.
Alarm or failed file transfer	Record the full message and action immediately before it. Check only the normal controls covered in training.	Fault persists, electrical protection has operated, or the next step involves a cabinet, drive or wiring.
Unexpected movement, impact or unusual noise	Stop and keep clear. Record where it happened and the direction of movement.	Always refer to the responsible person before further production.

What to include in a fault report

State the machine, date and time, job/file revision, material and thickness, tool, exact alarm and observed symptom. Include a sample or photograph where useful, the checks already completed and any recent change. Record who was notified and whether the machine is stopped, isolated or awaiting a service visit.

Service boundary

Leave cabinets, fuses, wiring, drive parameters, firmware, geometry and calibration to authorised maintenance or service staff. IECHO publishes separate BK3 technical documents for tool-rotation faults, axis noise, uncontrolled motion and adjustments. A repair PDF is a reference for the appropriate person, not permission for an operator to perform the repair. [S2]

Persistent registration or feeding faults may need specialist diagnosis. IECHO’s BK3-2517 service case describes engineer investigation, software work, training and test cutting. Do not assume a similar symptom has the same cause on our machine. [S10]

7 Cleaning and maintenance

Operator care after work

Follow the approved shutdown and isolation procedure before hands-on cleaning. Remove accessible debris using the site-approved method and leave the bed, felt and surrounding floor clear. Keep cleaning liquids away from controls and electrical connections. Report damaged felt joints, loose parts or debris in an inaccessible drive area.

Use only the cleaning products, lubricants and access methods specified for this machine. Do not introduce a lubricant or cleaning technique based on a generic online article. IECHO’s general care guidance refers maintenance frequency back to the applicable instruction manual and cautions against damp or corrosive contamination. [S8]

Manufacturer reference schedule

The maintenance lead must validate and allocate these BK3 manual tasks for the installed machine. The calendar does not authorise operators to open equipment or perform repairs. [S1]

Frequency	Reference task
Daily	Cleaning and condition checks.
Weekly	Vacuum-pump intake cleaning.

Frequency	Reference task
Monthly	Felt-joint attention.
Quarterly	General machine maintenance.
Annually	Overall condition inspection.

Record each completed task, the person responsible, defects found and follow-up action. Where service is overdue or a defect affects operation, ask the machine lead to determine the machine’s status before use.

Moving and recommissioning the machine

Plan a move with the responsible engineer. Operators may help identify tools, jobs and accessories; selecting lifting points, disconnecting services, dismantling the gantry and adjusting geometry belong to the relocation plan. IECHO documents engineer-led installation and relocation of a BK3-2517, but the case study is not a lifting instruction. [S11]

After a move, obtain a recorded release following the agreed installation checks, safety checks and representative test cuts. Record restrictions and demonstrate changed controls to operators before restarting production.

IECHO’s BK3 table-level document concerns the cutting-bed surface relative to the head. It is a specialist adjustment reference, not a complete machine lifting or floor-levelling procedure. [S12]

8 Training and competence

The machine lead should appoint the people who may train operators, assess competence and authorise independent work. Record competence by activity and tool; experience on a knife-cutting job does not establish competence in routing or every other process.

Training sequence

- Identify the machine, installed tools, permitted materials and local operating restrictions.
- Demonstrate the controls, working area, stopping arrangements and approved isolation procedure.
- Show the pre-start checks, file verification, loading, registration and holding method.
- Demonstrate tool setup only within the trainee’s authorised role.
- Produce a first piece and assess the result against the job specification.
- Let the trainee complete a suitable job under supervision.
- Assess their response to faults, shutdown and handover requirements.

Practical assessment

Ask the trainee to explain their tool and material selection, confirm the file revision and scale, identify the intended operations and demonstrate the first-piece checks. They should recognise when to stop, what they may safely check and when to seek assistance.

Include examples of material movement, incomplete cuts and unexpected machine behaviour as discussion or safely simulated training scenarios. Do not create a hazardous machine condition to test a response.

Record the outcome

Record the trainee and assessor, date, machine, process or tool assessed, evidence of supervised practice, outcome and any restrictions. Set a review point when equipment, software or working methods change. A tool being considered for purchase must remain pending in the training record until it is installed, commissioned and covered by practical training.

Who to contact

Machine lead: _____

Authorised trainer: _____

Maintenance or service contact: _____

Fault reporting route and location of records: _____

These fields must be completed locally before this handbook is released as the operating reference.

9 Records and site setup

Use consistent records so the next operator can repeat an accepted result and understand the machine’s status. The templates below are proposed fields; use the business’s agreed job and maintenance record system.

Installed equipment register

For each tool, record its name, identifiable photograph or part reference, module or head position, blade or bit references, permitted materials, approved recipe references and training requirements. Record the machine serial number, year, software names and versions, and the location of configuration backups.

Initial status. The installed tool inventory and software versions require verification. Keep DRT and the proposed 1.5 kW router marked as not confirmed installed until the register is updated.

Approved material recipe

Recipe ID and revision: _____ Approved by and date: _____

Material product and supplier: _____

Thickness, finish and material direction: _____

Tool, blade or bit reference: _____

Verified settings file and revision: _____

Holding and registration method: _____

Test sample reference and acceptance criteria: _____

Record actual verified settings in the controlled recipe. Keep superseded versions identifiable and repeat a sample check after a change.

Production and fault records

Production record. Job number; file revision; material and batch; recipe revision; operator; first-piece result and approval; accepted quantity; waste or rejected quantity; adjustments; handover.

Fault record. Date/time; job; tool; exact message; symptom; sample/photo; checks completed; person notified; machine status; service action; release-to-production decision.

Complete the local operating instructions

- Photograph and label the actual start, pause, stop and emergency controls.
- Add the demonstrated start-up, shutdown, isolation and safe tool-change sequences.
- Record verified software steps for job import, operation assignment, origin and registration.
- Identify approved cleaning methods, maintenance task owners and service contacts.
- Record the person and date authorising this handbook for operational use.

10 Manufacturer reference library

The links below are primary IECHO references. Match the model, module and document revision to the equipment before using a technical procedure. Numbers in square brackets identify the source supporting the nearby manufacturer-specific information.

BK3 manual page guide

Topic	Printed page	PDF viewer page
Tool modules	3	5
Installation	7–18	9–20
Operating preparation	19	21
Maintenance	20	22
Troubleshooting	21	23
Safety	22	24

Page numbers above refer to the linked 24-page BK3 manual. [S1]

[S1] BK3 User Manual — Machine reference, installation, care and troubleshooting.

[S2] BK3 technical support and document index — Model-specific manuals and technical documents.

[S3] IECHO vinyl application and tools — UCT and KCT functions.

[S4] IECHO plastics application and tools — EOT and milling process descriptions; modern tool specifications are not legacy-router settings.

[S5] IECHO corrugated board application — Creasing-tool purpose.

[S6] IECHO BK4 tooling brochure — General DRT, PRT and V-cut mechanisms only; not BK3 compatibility.

[S7] IECHO flatbed cutter care guidance — Training and accessible condition checks.

[S8] IECHO PVC cutting machine care guidance — General cleaning and maintenance principles.

[S9] IECHO cutting machine maintenance measures — Tool condition, safety-device faults and staff training.

[S10] BK3 vision scanning service case in Korea — Example of specialist diagnosis and test cutting.

[S11] BK3 installation and relocation in Spain — Example of an engineer-managed move.

[S12] BK3 table level adjustment reference — Specialist bed-surface adjustment document.

Manufacturer support

IECHO after-sales email: services@iechosoft.com, published on the BK3 service portal. Include the machine serial number, exact tool identity, fault description and supporting photographs when requesting help. [S2]

Confirm the authorised local service route with the machine lead before arranging work or ordering parts.