Zephyr-EXL *Operation* 1/2

Complies with the requirement of The Protection of Animals at the Time of Killing (Amendment) (England) Regulations 2022 (Legislation.gov.uk) for piglets under 10 kg and kids under 4kg.

1. *Operator & bystander safety is your 1st priority! Wear safety glasses and always point the Zephyr in a safe direction.*

2. *Zephyr Components & Specifications*

Energy = 28 Joules
Bolt Velocity = 27 m/s
Device Mass = 1.1 kg

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Zephyr-EXL *Operation 2/2*

3. Engage Zephyr Safeties:

3.1 Insert SAFETY PIN thru the ADAPTER to block bolt travel.

3.2 Turn SAFETY LEVER "up" towards operator to disengage trigger.

4. Connect Zephyr to Air Compressor Set at 125-130psi

Minimum compressor rating
4 CFM @ 90psi

For Example: Metabo HPT "THE TANK" Pancake Air Compressor, 200 PSI, 6 Gallon (EC914S)

(Recommended, not included)

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Zephyr-EXL *Legislation* 1/1

Complies with the requirement of The Protection of Animals at the Time of Killing (Amendment) (England) Regulations 2022 (Legislation.gov.uk) for piglets under 10 kg and kids under 4kg.

1. Specific requirements for non-penetrating captive bolt use. A non-penetrative captive bolt device can be used for slaughter, depopulation and other situations for killing piglet, within certain specified parameters:

1.1 Species: Piglets of less than 10 kg of live weight. Refer to page 5.
Species: Kids of less than 4 kg of live weight. Refer to page 6.

1.2 Parameters: The device must deliver a minimum kinetic energy of 27.7 Joules. Refer to page 1.

1.3 Monitor Efficacy: Confirm the physical signs of insensibility (no rhythmic breathing, no corneal reflex, and no response to nose prick) & death.

1.4 Recommended Maintenance: To ensure consistent device minimum kinetic energy. Refer to pages 7.

2. General requirements of legislation for non-penetrating captive bolt use.

2.1 Piglets of less than 10 kg of live weight. Minimum kinetic energy 27.7 Joules.

2.2 Kids of less than 4 kg of live weight. Minimum kinetic energy 27.8 Joules.

2.3 The non-penetrative captive bolt device remains a permitted method for simple stunning for cattle, sheep and goats (ruminants) under 10kg live weight, as well as poultry, rabbits and hares. It can be used for slaughter, depopulation and other situations of poultry, rabbits, hares and lambs of less than 10kg live weight and kids of less than 10kg live weight and slaughter only for other ruminants.

2.4 The operator must apply the device in the proper position and use the correct strength of cartridge or other propellant in accordance with the manufacturer's instructions to produce an effective stun or kill, as appropriate.

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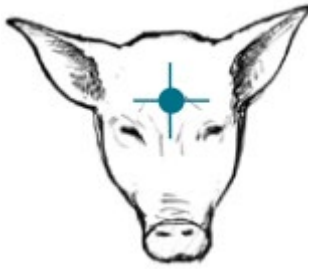
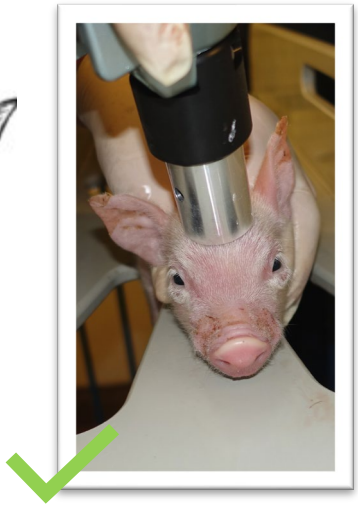
Zephyr-EXL *Targeting* 1/1

1. ***Disengage Zephyr Safety measures:***
   - ***1.1 Remove SAFETY PIN and store it as shown (page 1).***
   - ***1.2 Turn SAFETY LEVER "down" to firing position.***
   - ***1.3 Point the Zephyr in a safe direction (down) and squeeze the trigger 2X to confirm proper operation.***

2. ***Targeting:***
   - ***2.1 Support the piglet's head against a solid surface. Use Bock Industries piglet restraint if available.***
   - ***2.2 Locate target: Top center of head, between eyes & ears.***





3. ***Firing Sequence:***
   - ***3.1 In one motion: Press the ADAPTER firmly on target and immediately squeeze trigger.***
   - ***3.2*** **Confirm physical signs of insensibility (*no rhythmic breathing, no corneal reflex, and no response to nose prick*) & death.**

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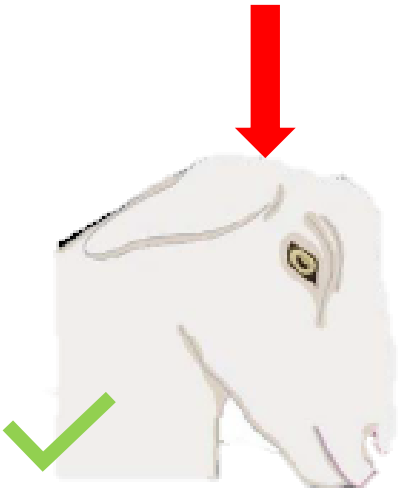
Zephyr-EXL *Targeting* 1/1

1. ***Disengage Zephyr Safety measures:***
   - ***1.1 Remove SAFETY PIN and store it as shown (page 1).***
   - ***1.2 Turn SAFETY LEVER "down" to firing position.***
   - ***1.3 Point the Zephyr in a safe direction (down) and squeeze the trigger 2X to confirm proper operation.***

2. ***Targeting:***
   The shooting position for a kid: At the back of the head, on the midline, with the chin tucked into the neck.



3. ***Firing Sequence:***
   - ***3.1 In one motion: Press the ADAPTER firmly on target and immediately squeeze trigger.***
   - ***3.2*** **Confirm physical signs of insensibility (*no rhythmic breathing, no corneal reflex, and no response to nose prick*) & death.**

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Zephyr-EXL Maintenance 1/2

1. ***Daily Cleaning and Maintenance:***
   - ***1.1 Remove air line from Zephyr.***
   - ***1.2 Unscrew ADAPTER to expose BOLT.***
   - ***1.3 Descend BOLT by grasping or shaking downward.***
   - ***1.4 Clean and disinfect exposed BOLT and ADAPTER with Lysol® / Dettol®. Disinfectant wipes as available.***
   - ***1.5 Reassemble ADAPTER and confirm BOLT moves freely in ADAPTER. BOLT should be able to be shaken down. Dried matter on the inside of the ADAPTER will block BOLT during firing and may damage Zephyr.***
   - ***1.6 Add 2 drops of air tool oil into the air hose connector on the Zephyr.***
   - ***1.7 Connect to air line and dry fire 5x to distribute the oil.***
   - ***1.8 Disconnect from air line and turn SAFETY LEVER "up" to engage safety.***
   - ***1.9 Return Zephyr to case and store in a secure location.***

We recommend standard air tool oil be added directly into the air hose connector on the Zephyr daily.

During depopulation, clean and add air tool oil after every 500 shots.

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Zephyr-EXL Maintenance 2/2

2. Cleaning for Biosecurity

2.1 PREPARATION FOR CLEANING

i. Obtain Lysol concentrate and mix into solution per label for virus decontamination.
(Lysol/Dettol kills 99.9% viruses and bacteria.)
ii. Use the Lysol/Dettol solution at a tepid temperature to facilitate removal of bio-solid material remaining on the Zephyr.
iii. Obtain Lysol/Dettol spray product.
iv. Obtain sufficient cotton "t-shirt" cloth wipers.
v. Obtain ½" diameter bristle-type bottle brushes.
vi. Obtain beaker approximately 4" diameter and 5" tall to soak wash nose piece.
vii. Perform steps below in a temperature-controlled room if possible.

2.2 CLEANING THE ANIMAL CONTACT AREA OF THE ZEPHYR

Cleaning to maintain smooth and free movement of the bolt is essential to maintain design bolt velocity. Contaminated bolts will adhere to the guide bushing and cause a reduction in bolt velocity. Bolt velocity is a key parameter in producing a quality stun.

•Proceed as follows:

i. Remove pneumatic connection from Zephyr so that the Zephyr is not accidentally fired. ***(It is impossible to fire the Zephyr without a pneumatic connection.)***
ii. Remove Safety Pin from Subject Adapter and store Safety Pin where shown near pneumatic hose connection.
iii. For heavy contamination, first soak Adapter and Guide assembled on Zephyr frame. Initially loosen biomaterials by immersing the animal contacting "nose section" of the Zephyr in a suitable beaker filled four inches (4") deep with tepid Lysol/Dettol solution for a period of 5 minutes, to aid in separation of the Guide from the Subject Adapter.
iv. Remove Adapter completely from Guide by turning anti-clockwise; approximately 1 inch travel until separation.
v. Fully descend and expose the bolt by grasping the bolt end.
vi. Inspect Bolt Head for wear or cracking. Replace the Bolt Head if any cracks are visible.
vii. Clean around and behind the descended bolt with a small round/pointed bristle bottle brush to further loosen bio-solids.
viii. Repeat steps "vii" until all visible material is removed, and the interior and exterior of the Guide, Adapter and Bolt are visibly free of contamination. Use scouring pads (Scotch Brite®) as needed.
ix. Reattach the Adapter to the Guide by turning fully clock-wise, hand tight only.
x. Wipe dry the exterior of the Zephyr, including the nose section with spray Lysol/Dettol until all visible bio-solid materials are removed.
xi. Add two (2) drops of pneumatic tool oil into pneumatic connection on the Zephyr.
xii. Dry fire Zephyr 5 times to force pneumatic tool oil into the Zephyr to displace any internal water or cleaning fluids.

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Zephyr-EXL *Service* 1/1

Bolt End Replacement

1. **Review "how-to" video from USB drive or website on-line.**
   http://www.bock-industries.com/zephyr-bolt-replacement.html
2. **Refer to page 1 for component names and locations.**
3. **Disconnect Zephyr from air line.**
4. **Remove ADAPTER from GUIDE by turning anti-clockwise.**
5. **Grasp exposed BOLT END and fully descend.**
6. **Adjust special round-stock gripping vise-grip pliers to firmly hold PISTON without damage.**
7. **Remove damaged polymer BOLT HEAD from PISTON by turning anti-clockwise.**
8. **Remove stainless washer and retain for reuse.**
9. **Remove rubber washer and discard.**
10. **Remove any remaining debris from PISTON threads.**
11. **Press new rubber washer over and beyond threads onto PISTON. The rubber washer should not be touching the threads.**
12. **Replace stainless washer over threads fully, until contacting the PISTON shoulder.**
13. **Apply Loctite® 234 to the PISTON threads.**
14. ***HAND TIGHTEN BOLT HEAD!!!*** **Screw new BOLT HEAD clockwise on PISTON threads being careful not to cross-thread. Stop tightening when BOLT HEAD contacts stainless washer, then tighten 1/8 turn more. Do not strip the threads! Remove vise-grip pliers from PISTON and replace the ADAPTER.**

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