CAPTIVE BOLT GUNS & ELECTRICAL STUNNERS

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Overview

There are several manufacturers of captive bolt tools – this presentation is intended to provide guidance in regards to safety, cleaning, maintenance and testing procedures for all types of stunners. It is recommended that all users of captive bolt tools read and understand the specific manufacturers operators manual for their specific stunner equipment.
CAPTIVE BOLT GUN STYLES

- IN LINE
  - PENETRATING BOLT
  - NON PENETRATING (CONCUSSION)

- PISTOL STYLE
  - PENETRATING BOLT
  - NON PENETRATING (CONCUSSION)

- LONG HANDLE
  - CONTACT FIRE
  - PENETRATING BOLT
AUTO RESET vs MANUAL RESET

- Auto Bolt Reset
  - Retracts Bolt
  - Less penetration
  - Multiple sleeves/washers

- Manual Bolt Reset
  - More penetration
  - Bolt may stick
PRIMARY FAILURES

- Carbon Buildup
- Over-Oiling
- Spring Weakening (if Present)
- Dull Penetrating bolt
- Buffer Failure and Weakening of Retaining Washers
- Bolt retention system not functioning properly
- Wet power loads
- Overuse – heat stress
- Lack of proper training

- Cleaning and Maintenance are Key
IN LINE

PRODUCT CHARACTERISTICS

• AUTO BOLT RESET
• MANUAL BOLT RESET
• 2 PIECE CONSTRUCTION
• EXTERNAL SAFETY
• REGULAR LENGTH AND LONG BARREL

PRIMARY USE

• SLAUGHTER FACILITIES – PRIMARY & SECONDARY
• SOME ON FARM
SAFE HANDLING – IN LINE

- READ THE OPERATORS MANUAL
- HAND OFF IN TWO PIECES
- STORE IT BROKEN DOWN
- USE MANUAL SAFETY IF AVAILABLE
- HANDS AWAY FROM END OF BARREL
- NEVER LEAVE IT LOADED
- USE PROPER POWER LOADS FOR APPLICATION
MAINTENANCE – IN LINE
If you shoot it clean it!

- Gun cleaning solvent (no WD 40)
- Oil usage
- Cleaning brushes
- Proper tools
- Barrel and breech
- Bolt retention system
- Bolt & buffers
- Breech cap
- Record keeping
PISTOL STYLE

- .25 and .22 Caliber
- Automatic bolt retraction

Primary use
- Slaughter facilities
- On farm
SAFE HANDLING – PISTOL STYLE

- Read the operators manual
- Hands away from barrel
- Never leave it loaded
- Remington rolling block safety
- One hand operation
- Use proper power loads for application
MAINTENANCE – PISTOL STYLE
If you shoot it clean it!

- Gun cleaning solvent (no WD40)
- Oil Usage
- Cleaning brushes
- Muzzle
- Barrel
  - Undercut cleaner
  - Breech cleaner
- Bolt & recuperator sleeves
- Record Keeping
LONG HANDLE

Contact Fire Stunners
- .25 Caliber
- Automatic Bolt Retraction
- Penetrating Bolt Only
- Contact Fire
- Two Piece Construction

Primary Uses
- Large Plant
- Small Plant
SAFE HANDLING – LONG HANDLE

- Read the operators manual
- Hands away from barrel
- Never leave it loaded
- Rotate to fire only when ready to use
- Store broken down
- Uses proper power loads for application
MAINTENANCE – LONG HANDLE
If you shoot it clean it!

- Gun cleaning solvent (no WD40)
- Cleaning brushes
- Muzzle
- Barrel
  - Undercut cleaner
  - Breech cleaner
- Bolt & recuperator sleeves/buffers
- Record Keeping
POWER LOADS

- Use Proper power loads for application
- Storage
  - Long Term
    - Clean
    - Dry
    - Climate Controlled
    - First in First out
    - Lot number recorded
    - Don’t carry in pockets
  - Daily use
    - Keep dry
    - Small quantities
    - Container
MAINTENANCE AREA
ALL CAPTIVE BOLT TOOLS

› Tools
  • Wrench’s
  • Hammer
  • Punches (properly sized)
  • Pick
  • Specific stunner tools (undercut & breech cleaner)

› Spare parts inventory

› Bench Vise

› Cleaning supplies
  • Stunner cleaning solvent
  • Shop towels
  • Green scratch pads
Suggested information
- Date & Time of test
- Tool number
- Serial #
- Power load used
- Service Technician ID
- Bolt Speed
- Download to any spreadsheet
OPERATOR SAFETY EQUIPMENT

- Knocker Vest
  - Chest Protection
  - Groin Protection
- Ear Protection
- Eye Protection
ELECTRIC HOG STUNNERS
ELECTRIC STUNNING
Control Box

- Installed in clean & dry environment
- Easily accessible
  - Maintenance
  - Setting changes
- Installed on dedicated electrical circuit
- Back up system
CHECK LIST

- Verification of system performance
  - Verify voltage
  - Verify amperage
  - Stunner settings confirmed
    - Amperage – voltage – frequencies – stun time
  - Verify infeed line voltage to Control Box
    - Idle
    - Operating

- Inspect all connections
  - Is there water in the outlet or plug?
  - Loose or frayed wires?
SPARE PARTS

- Maintain a critical parts inventory
  - Control Cards
  - Display Cards
  - Transformers
  - Fuses

- Regular PM schedule
  - Replace Contactors – at least once per year
  - Replace male/female plugs – Weekly? Monthly?
  - Wiring from panel to restrainer/stunning area
STUNNER WANDS

- Use properly designed wand
  - Hog restraint required?
  - Wand extensions needed?
- Clean and maintain daily
  - Clean wand tips – volume dictates how often
  - Check wiring
  - Verify switch operation – replace if necessary
- Storage
  - Warm – dry environment
  - Drying cabinet is ideal
OPERATOR SAFETY

- Personal Protection
  - Gloves
  - Boots
  - Safety chaps or Apron

- Stunning area
  - Cover all metal
  - Animal restraint
  - Rubber mat on floor
  - Emergency shut off?
Create daily maintenance log sheet
  • Include control unit and wands
Make sure Stun Tracker software is operational (if available)
  • Print daily stunner log for file
QUESTIONS?

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Thank you!