

To Be Performed Every Six Months Following System Installation:

For a detailed description of this procedure, see Section 6 of your EZ-SCREEN Point Instruction Manual.

Perform this checkout procedure as part of System installation (after the System has been interfaced to the guarded machine as described in Section 3.7), or whenever changes are made to the System (either a new configuration of the EZ-SCREEN System or changes to the machine). Semi-Annual checkouts must be performed by a Qualified Person (as defined by OSHA and in the Safety Glossary of the manual). A copy of the checkout results should be kept on or near the machine: see OSHA 1910.217(e)(1).

To prepare the System for this checkout, set the System configuration as it will be during machine operation.

4 The Qualified Person must:

- 1) **n** Examine the guarded machine to verify that it is of a type and design compatible with the EZ-SCREEN Point System. See page 2 of the Instruction Manual for a list of misapplications.
- 2) **n** **Verify that the minimum separation distance** from the closest hazard point of the guarded machine to the beam is not less than the calculated distance, determined in Section 3.3.2 of the Instruction Manual and indicated here: _____.
- 3) **n** **Verify that:**
 - **Access to any dangerous parts of the guarded machine** is not possible from any direction not protected by the EZ-SCREEN Point System, hard guarding, or supplemental safeguarding, and
 - **It is not possible for a person to stand** between the EZ-SCREEN beam and the dangerous parts of the machine, or
 - **Supplemental safeguarding and hard guarding**, as described by the appropriate safety standards, are in place and functioning properly in any space (between the Guard System and any hazard) which is large enough to allow a person to stand undetected.
- 4) **n** **Verify that:**
 - **The Reset switch is mounted outside the guarded area**, out of reach of anyone inside the guarded area and
 - **The key or other means of preventing inadvertent use is in place.**
- 5) **n** **Examine the electrical wiring connections** between the EZ-SCREEN System OSSD outputs and the guarded machine's control elements to verify that the wiring meets the requirements stated in Section 3.7.
- 6) **n** **Inspect the area near the beam** (including work pieces and the guarded machine) for reflective surfaces. (Reflective surfaces may cause the light to reflect around a person in the beam, preventing the person from being detected and not stopping the machine motion.) Eliminate reflective surfaces as possible by relocating them, painting, masking or roughening them. Remaining problem reflections will become apparent during step 10.
- 7) **n** **Apply power to the EZ-SCREEN System. Ensure that power to the guarded machine is OFF.** Remove all obstructions from the beam. If the System is configured for Latch mode, the receiver Reset indicator will be double-flashing. Perform a manual reset (close the Reset switch for 1/4 to 2 seconds, then open the switch). Verify that the Reset indicator is ON steady.
- 8) **n** Observe the receiver 7-segment display to verify that the system is set to the desired operating mode (Trip Output - “-”; Latch - “L”).
Observe the status indicators on the receiver to determine beam status:
A blocked condition is indicated by the Status indicator steady Red, and the Beam Status indicator steady Red.
A clear condition is indicated by the Beam Status indicator steady Green. (Beam Status indicator will flicker Green if excess gain is marginal.)
A latch condition is indicated by the receiver Status indicator steady Red. Beam Status indicator may be Red, Green, or flashing Green, depending on the status of the beam. In Latch mode, the outputs come back ON *only when the beam is clear and after a manual reset.*
A lockout condition is indicated by the Status indicator single-flashing Red, and the Reset indicator OFF.
- 9) **n** **If in a clear condition, go to step 10. If in a lockout condition, refer to Section 5.** A blocked condition indicates that the beam is misaligned or interrupted. To correct this situation:
 - a) **Check carefully for any obstruction** in the path of the beam.
 - b) **Check for contamination.** Clean the emitter and receiver windows as required (see Section 5.4 of the manual).
 - c) **If the beam is completely clear of obstructions**, realign the emitter and receiver, as described in Section 3.6 of the manual.

If the system is in a latch condition, perform a manual reset.

- 10) **n** Once the System Status indicator and Beam Status indicator is steady Green, **perform the trip test** (described in Section 6.2 and on the Daily Checkout card) to verify proper system



WARNING . . . If Trip Test Indicates a Problem

If the EZ-SCREEN System does not respond properly to the trip test, do not attempt to use the System. If this occurs, the System cannot be relied upon to stop dangerous machine motion when a person or object enters the beam. **Serious bodily injury or death could result.**

operation and to detect possible reflection problems.

- 11) **n** **Apply power to the guarded machine and verify that the machine does not start up.** Block the beam and verify that it is not possible for the guarded machine to be put into motion



WARNING . . . Before Applying Power to the Machine

Verify that the guarded area is clear of personnel and unwanted materials (such as tools) before applying power to the guarded machine. **Failure to do so could result in serious bodily injury or death.**

while the beam is blocked.

- 12) **n** **Initiate machine motion of the guarded machine** and, while it is moving, use the supplied test piece to block one of the beam. Do not attempt to insert the test piece into the dangerous parts of the machine. Upon blocking the beam, the dangerous parts of the machine should come to a stop with no apparent delay. Upon removal of the test piece from the beam, verify that **the machine does not automatically restart**, and that the initiation devices must be engaged to restart the machine.
- 13) **n** **Remove electrical power to the EZ-SCREEN System.** All OSSD outputs should immediately turn OFF, and should not be capable of turning ON until power is re-applied and, if in Latch Output mode, a manual reset is performed (Trip Output mode

requires no manual reset).

- 14) **n** **Test the machine stopping response time**, using an instrument designed for that purpose, to verify that it is the same or less than the overall system response time specified by the machine manufacturer. (Banner's Applications Engineering Department can recommend a suitable instrument.)

Do not continue operation until the entire checkout procedure is complete and all problems are corrected.

- 15) **n** **If any decrease in machine braking ability has occurred**, make the necessary clutch/brake repairs, readjust separation distance (Ds) appropriately, record the new Ds calculation on the Daily Checkout Procedure card and/or in Section 6.4 of the manual, and re-perform the Daily Checkout procedure.
- 16) **n** **Examine and test the machine primary control elements** (MPCEs) and any intermediary controls (such as interface modules) to verify that they are functioning correctly and are not in need of maintenance or replacement.
- 17) **n** **Inspect the guarded machine to verify that no other mechanical or structural problems could prevent the machine from stopping** or assuming an otherwise safe condition when signalled to do so by the EZ-SCREEN System.
- 18) **n** **Examine and inspect the machine controls and connections to the EZ-SCREEN System** to verify that no modifications have been made which adversely affect the System.

Do not continue operation until the entire checkout



procedure is complete and all problems are corrected. WARNING . . . Do Not Use Machine Until System Is Working Properly

If all of these checks cannot be verified, do not attempt to use the EZ-SCREEN System/guarded machine until the defect or problem has been corrected (see Section 5 of the manual). **Attempts to use the guarded machine under such conditions could result in serious bodily injury or death.**