**Guarding of Power Take-Offs (PTOs) in an Agricultural Setting**

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[Name of Farm]

**Disclaimer:** The following Guarding of PTOs written program is provided only as a template guide to assist employers and employees in complying with the requirements of 29 CFR 1928.57 . It is not intended to supersede the requirements of the standard. An employer should review the standard for particular requirements which are applicable to their individual situation and make adjustments to this program that are specific to their business. An employer will need to add information relevant to their particular facilities in order to develop an effective, comprehensive program.

**GUARDING OF POWER TAKE-OFFS WRITTEN PROGRAM**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[Name of Farm]

**I. PURPOSE**

This program will help to reduce the incidence of entanglements with power take-off (PTO) shafts on farm field and farmstead equipment which are not property guarded. The purpose of this written Guarding of Power Take-offs program is to ensure that employers and employees know about how to protect themselves from equipment entanglement injuries. The program ensures that:

A. All equipment with PTOs on the farm are properly guarded and labeled.

B. Maintenance of PTOs is performed under clear protocols for injury prevention.

C. Employees are trained in what constitutes proper PTO guarding and maintenance protocols.

D. Identifies by job title who has the responsibility for maintaining the program, updating equipment inventory inspections, conduct training, etc.

**Note:** This written program will be available to all employees for review upon their request and will be located in the following area:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[Location]

**II. AUTHORITY AND REFERENCE**

Occupational Safety and Health Administration (OSHA) 29 CFR 1928.57 **(Link to OSHA webpage** [29 CFR 1928.57](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10958))

**III. DEFINITIONS**

29 CFR 1928.57(a)(5) includes the following definitions.

"Farm field equipment" means tractors or implements, including self-propelled implements, or any combination thereof used in agricultural operations.

"Farmstead equipment" means agricultural equipment normally used in a stationary manner. This includes, but is not limited to, materials handling equipment and accessories for such equipment whether or not the equipment is an integral part of a building.

"Ground driven components" are components which are powered by the turning motion of a wheel as the equipment travels over the ground.

A "guard" or "shield" is a barrier designed to protect against employee contact with a hazard created by a moving machinery part.

"Power take-off shafts" are the shafts and knuckles between the tractor, or other power source, and the first gear set, pulley, sprocket, or other components on power take-off shaft driven equipment.

**IV. APPLICATION**

This program applies to the use of any PTO which is known to be present in the workplace in such a manner that employees may be exposed under normal conditions of use or in a foreseeable emergency.

**V. RESPONSIBILITY FOR COMPLIANCE**

A. The administration of this program will be the responsibility of

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

(person/position designated)

The administrative responsibilities of this individual/position will include:

1. Identification of the employees to be included in the Guarding of PTOs program.

2. Inspection and maintenance of all PTO guarding on farm equipment maintained to the original manufacturers’ standards.

3. Coordination and supervision of employee training.

4. Coordination and supervision of the farm's “Guarding of PTOs” program.

6. Coordination and supervision of required recordkeeping.

7. Periodic evaluation of the overall program.

B. Employees are responsible for following all safe work practices and using proper precautions required by the guidelines in this program.

**VI. METHODS OF GUARDING**

A. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(person/position designated)

is responsible for inspecting and evaluating compliance of all PTO guarding of equipment located on the farm. He/she will protect employees from coming into contact with hazards created by moving machinery parts through the installation and use of a guard or shield. **(Link to OSHA webpage** [**1928.57(a)(7)**](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10958) **)**

1. Guard or Shield: Where guards are required, they shall be designed and located to protect against inadvertent contact with the hazard being guarded.

B. The responsible person will inspect PTO guarding to be sure it meets the following standards:

1. All power take-off shafts, including rear, mid- or side-mounted shafts, shall be guarded either by a master shield or by other protective guarding.

2. Master shields will have sufficient strength to prevent deformation of the shield when a 250 pound operator mounts or dismounts the tractor using the shield as a step.

3. Guards shall be free from burrs, sharp edges, and sharp corners, and shall be securely fastened to the equipment or building.

4. Power take-off driven equipment shall be guarded to protect against employee contact with positively driven rotating members of the power drive system. Where power take-off driven equipment is of a design requiring removal of the tractor master shield, the equipment shall also include protection from that portion of the tractor power take-off shaft which protrudes from the tractor.

5. Signs or warning labels shall be placed at prominent locations on tractors and power take-off driven equipment specifying that power drive system safety shields must be kept in place.

6. The mesh or nip-points of all power driven gears, belts, chains, sheaves, pulleys, sprockets, and idlers shall be guarded.

7. All revolving shafts, including projections such as bolts, keys, or set screws, shall be guarded, except smooth shaft ends protruding less than one-half the outside diameter of the shaft and its locking means.

8. Ground driven components shall be guarded in the same manor if any employee may be exposed to them while the drives are in motion.

9. Signs or labels shall be placed at prominent locations on power take-off driven equipment specifying that power drive system safety shields must be kept in place.

C. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(person/position designated)

is responsible for conducting annual inspections of PTO guarding and to include new information regarding standards as it is received. If new PTO driven equipment is identified on the farm,

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(person/position designated)

shall inspect the guarding and make appropriate changes to meet the standards.

**VII. OPERATION INSTRUCTIONS**

At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee in the safe operation and servicing of all covered equipment with which he is or will be involved, including at least the following safe operating practices:

A. Keep all guards in place when the machine is in operation;

B. Permit no riders on farm field equipment other than persons required for instruction or assistance in machine operation;

C. Stop engine, disconnect the power source, and wait for all machine movement to stop before servicing, adjusting, cleaning, or unclogging the equipment, except where the machine must be running to be properly serviced or maintained, in which case the employer shall instruct employees as to all steps and procedures which are necessary to safely service or maintain the equipment;

D. Make sure everyone is clear of machinery before starting the engine, engaging power, or operating the machine;

**VIII. SERVICING AND MAINTENANCE PROTOCOLS**

A. Whenever a moving machinery part presents a hazard during servicing or maintenance, the engine shall be stopped, the power source disconnected, and all machine movement stopped before servicing or maintenance is performed, except where the employer can establish that:

1. The equipment must be running to be properly serviced or maintained;

2. The equipment cannot be serviced or maintained while a guard or guards otherwise required by this standard are in place; and

3. The servicing or maintenance can be safely performed.

B. Access to moving parts. Guards, shields, and access doors shall be in place when the equipment is in operation. Where removal of a guard or access door will expose an employee to any component which continues to rotate after the power is disengaged, the employer shall provide, in the immediate area, the following:

1. A readily visible or audible warning of rotation; and

2. A safety sign warning the employee to “Look and listen for evidence of rotation”; and

3. Not remove the guard or access door until all components have stopped.

**IX. EMPLOYEE TRAINING**

A. Prior to starting work with PTO driven equipment on the farm, each employee will attend an Operating Instruction Training Session where they will receive information on the following topics:

1. Keep all guards in place when the machine is in operation;

2. Permit no riders on farm field equipment other than persons required for instruction or assistance in machine operation;

3. Stop engine, disconnect the power source, and wait for all machine movement to stop before servicing, adjusting, cleaning, or unclogging the equipment, except where the machine must be running to be properly serviced or maintained, in which case the employer shall instruct employees as to all steps and procedures which are necessary to safely service or maintain the equipment;

4. Make sure everyone is clear of machinery before starting the engine, engaging power, or operating the machine.

All training will be presented to employees in a manner that employees receiving it are capable of understanding (visual and oral presentations). Training presentations will be delivered in the primary language and at the appropriate literacy levels of the workers. During, and at the end of training, an assessment will be made to see that employees understood the training.

B. Upon completion of the training program, each employee will sign a form documenting that he/she has received the training. (See Form #2)

C. Whenever a new employee is transferred or hired, he/she shall be provided training regarding the guarding and operation of PTO driven equipment if it will be part of their assignment. The training session will be conducted by

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(person/position designated)

before the start of his/her employment. This must be done prior to employee’s initial work with any PTO driven equipment.

D. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(person/position designated)

will conduct training on the specific hazards of the job and the appropriate personal protective equipment and safety precautions and procedures.

E. Refresher training will be done by

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(person/position designated)

Refresher training can be delivered for the following circumstances; when job duties change, after an incident, or close call or when supervisor inspections reveal improper procedure. Refresher training will follow the procedures outlined in IX (A-D).

**X. INFORMATION TO CONTRACTORS**

A. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(person/position designated)

is responsible for providing outside contractors with any and all information regarding PTO guarding and potential hazards.

**XI. PERSONNEL POLICIES**

When an employee is not following safety and health rules regarding working with PTO driven equipment, disciplinary action will be taken.

**LIST OF SAMPLE FORMS**

**Form 1** PTO EQUIPMENT OPERATION ANNUAL PROGRAM SUMMARY

**Form 2** EMPLOYEE PTO DRIVEN EQUIPMENT OPERATION TRAINING RECORD

**Form 3**  GUARDING OF PTOs CHECKLIST

Form #1 **PTO EQUIPMENT OPERATION ANNUAL PROGRAM SUMMARY**

**Training**

|  |  |  |
| --- | --- | --- |
|  | **Number of Training**  **Courses Presented** | **Number of Employees Trained** |
| **New-employee training** |  |  |
| **Machine-specific training** |  |  |
| **New-equipment training** |  |  |
| **Other training** |  |  |
| **Total courses/employees** |  |  |

**PTO Equipment**

|  |  |  |
| --- | --- | --- |
|  | **Number of PTO Drive Machines** | **Guard Type** |
| **Previous Total** |  |  |
| **New This Year** |  |  |
| **Revised Total** |  |  |

**The following activities have been completed:**

\_\_\_\_\_ Written program is up to date.

\_\_\_\_\_ Servicing and maintenance protocols are up to date.

\_\_\_\_\_ All training is up to date.

\_\_\_\_\_ All PTOs are properly guarded

**If any of the above activities are not complete, explain:**

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Completed By: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Form #2 **EMPLOYEE PTO DRIVEN EQUIPMENT OPERATION TRAINING RECORD**

The following employee(s) have completed training in PTO Equipment Operation. Each trained employee is now knowledgeable in all 5 different training topics covered in the Safe Operation and Servicing of PTO Driven Equipment.

1. Keep all guards in place when the machine is in operation.

2. Permit no riders on farm field equipment other than persons required for instruction or assistance in machine operation.

3. Stop engine, disconnect the power source, and wait for all machine movement to stop before servicing, adjusting, cleaning, or unclogging the equipment.

4. Servicing operating machine must be done following specific safety procedures for that machine.

5. Make sure everyone is clear of machinery before starting the engine, engaging power, or operating the machine.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Employee's Name** | **Employee's Signature** | **Date of Training** | **Trainer** | **Trainer's Signature** |
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Form 3 **GUARDING OF PTOs CHECKLIST**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **PTO Checklist** | **Yes** | **No** | **N/A** | **Comments** | **Date Completed** |
| 1 | Has annual training for all affected employees been conducted in accordance with 1928.57(a)(6) Operating Instructions? |  |  |  |  |  |
| 2 | Are all PTO components properly shielded with working PTO shields? |  |  |  |  |  |
| 3 | Are warning labels in place on tractors and PTO equipment specifying that shields must be kept in place? |  |  |  |  |  |
| 4 | Are all PTO master shields for tractors and implements in place and in good condition? |  |  |  |  |  |
| 5 | Is the engine stopped and PTO disconnected and moving parts completely stopped prior to servicing, adjusting, cleaning, or unclogging equipment? |  |  |  |  |  |
| 6 | Are warning decals clean and readable? |  |  |  |  |  |
| 7 | Are moving parts free of accumulations of crop materials? |  |  |  |  |  |