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| Company Name: | Equipment/Job Identification: Front-end Loader Operator Type of Equipment: Front-End Loader |
| Mine Name: | Make: Cat Model: 980G |
| Date of Analysis: | Year: Use: Load, carry, stockpile |

Pre-assessment:

Pre-requisites:

Example materials that could be used to conduct Front-end Loader Job Training are as follows:

- This Job Training Outline
- Videos
 - Front-end Loader Safety (MSHA)
 - Stockpiling Safety (MSHA)
 - Berms and Haul roads (MSHA)
 - Silica Control in Equipment Cabs (NIOSH)
- Printed Materials
 - Company Policy
 - MSHA Regulations and Policy
 - OSHA Regulations and Policy
 - Operator's manual
 - Accident Reports (as applicable)

Duty 1: Pre-Operational Inspection

The instructor will describe the machine, the manufacturer, the model, and its purpose. Instructor will discuss the importance of a daily self-assessment for work, communication with prior shift, and required PPE.

Learner will describe the machine, manufacture, model and purpose. Learner will also be able to explain the importance of each pre-shift activity.

Shift Preparation

| Job Steps | Importance Narrative (Consider Safety, Production, Maintenance) | Importance Ranking 1 Important 2 Very Imp. 3 Critical | Satisfactory or Needs Work | Procedure/Risk Resolution Notes/Comments |
|--|--|--|---|---|
| Employee assessment | | | | |
| Communication between shifts | | | | |
| Equipment Status (In-Service/Out-of-Service) | | | | |
| Personal Protective Equipment | | | | |

Walkaround

The instructor will explain and demonstrate a walk around inspection of the end loader. This will include what and how to make checks, and the most common type of problems encountered.

The learner will conduct a walk around inspection of the loader in the presence of the instructor, point out and explain components to be checked and any necessary information about the check.

| Job Steps | Importance Narrative (Consider Safety, Production, Maintenance) | Importance Ranking 1 Important 2 Very Imp. 3 Critical | Satisfactory/ Needs Work | Procedure/Risk Resolution Notes/Comments |
|--|--|---|-------------------------------------|---|
| Begin at right-rear corner <ul style="list-style-type: none"> • Turn master switch "OFF" • Check under machine for leaks • Check coolant level • Check engine oil level | | | | |
| Continue to left-rear corner <ul style="list-style-type: none"> • Check radiator • Check left-rear tire/wheel/lugs/lock ring | | | | |
| Continue to left center of machine <ul style="list-style-type: none"> • Check transmission site gauge • Visual check of hydraulic lines/steering cylinders • Check ladders/grab irons • Visual check of fuel tank • Check auto system lube lines or grease appropriate fittings | | | | |
| Continue to left-front of machine <ul style="list-style-type: none"> • Check under machine for leaks • Check left-front tire/wheel/lugs/lockring • Check bucket pins/linkage/hydraulic cylinders and lines/auto lube system lines or grease appropriate fittings • Check bucket wear items | | | | |

| Job Steps | Importance Narrative (Consider Safety, Production, Maintenance) | Importance Ranking 1 Important 2 Very Imp. 3 Critical | Satisfactory/ Needs Work | Procedure/Risk Resolution Notes/Comments |
|---|---|---|-----------------------------|---|
| Continue to right-front of machine <ul style="list-style-type: none"> • Check right-front tire/wheel/lugs/locking • Check bucket pins/linkage/hydraulic cylinders and lines/auto lube system lines or grease appropriate fittings • Check bucket wear items | | | | |
| Continue to right-center of machine <ul style="list-style-type: none"> • Check hydraulic oil level (sight gauge) • Check hydraulic lines/steering cylinders • Check ladders/grab irons • Check hydraulic fluid fill cap • Check auto lube system storage tank or grease appropriate fittings <ul style="list-style-type: none"> • Must climb ladder to check | | | | |
| Continue to right-rear of machine <ul style="list-style-type: none"> • Check right-rear tire/wheel/lugs/locking ring • Turn master switch "ON" | | | | |

Outside Cab Inspection

The instructor will explain and demonstrate the method of mounting and dismounting the loader; he will also demonstrate and explain body positioning and the use of seat belts in the cab of the loader.

The learner will demonstrate mounting/dismounting.

| Job Steps | Importance Narrative (Consider Safety, Production, Maintenance) | Importance Ranking 1 Important 2 Very Imp. 3 Critical | Satisfactory or Needs Work | Procedure/Risk Resolution Notes/Comments |
|---------------------------|--|--|---|---|
| Mount machine | | | | |
| Check fire extinguisher | | | | |
| Check handrails | | | | |
| Check/Clean Glass/Mirrors | | | | |
| | | | | |

Inside Cab Inspection

The instructor will demonstrate and explain body positioning and the use of seat belts in the cab of the loader. The instructor will explain and demonstrate all controls of the loader. He will also describe the function of all gauges, lights, and warnings necessary on the loader. The learner will demonstrate to the instructor with the loader not running how all controls work. He will also explain all gauges and lights in the machine. He will need to be fluent on the identification of the international labeling used on the machine.

| Job Steps | Importance Narrative (Consider Safety, Production, Maintenance) | Importance Ranking 1 Important 2 Very Imp. 3 Critical | Satisfactory or Needs Work | Procedure/Risk Resolution Notes/Comments |
|--|--|--|----------------------------|--|
| Secure any loose items | | | | |
| Housekeeping | | | | |
| Adjust seat/check seat belt/fasten seat belt | | | | |
| Key off – Check that all controls are set properly <ul style="list-style-type: none"> • Transmission • Park brake applied • Hydraulic controls locked out | | | | |
| Key on – Check gauges | | | | |
| Check communications (CB) | | | | |
| Sound Audible Warning | | | | |
| Start Engine | | | | |
| Monitor gauges | | | | |
| Check service brakes | | | | |
| Check steering | | | | |
| Check park brakes on ramp | | | | |
| Check lights | | | | |
| Check back-up alarm /strobe | | | | |
| Cycle hydraulics | | | | |
| Complete Preshift Safety Checklist | | | | |
| Go to work | | | | |

Duty 2: On-Shift Operation

The instructor will demonstrate and explain the various activities of the loader, starting with moving the machine around on a flat area making starts and stops to ensure the trainee can get the machine stopped. As the learner becomes familiar with the loaders basic operating functions, the more complex functions can be demonstrated and added as this outline suggests.

Control Familiarization

Learner will demonstrate how to operate controls on the front-end loader. The learner will explain the technical aspects of the job duties as they are demonstrated.

The learner will demonstrate each activity to the instructor after a period of practice.

| Job Steps | Importance Narrative (Consider Safety, Production, Maintenance) | Importance Ranking 1 Important 2Very Imp. 3 Critical | Satisfactory or Needs Work | Procedure/Risk Resolution Notes/Comments |
|---|--|---|-----------------------------------|---|
| Command Control Steering | | | | |
| Hydraulic Controls • Lift/Tilt Bucket Controls • Kick-out Switches • Ride Control Switch | | | | |
| Transmission Operations | | | | |
| Foot Pedal Controls | | | | |
| All Hand Controls | | | | |

Maintain Communications

| Job Steps | Importance Narrative (Consider Safety, Production, Maintenance) | Importance Ranking 1 Important 2Very Imp. 3 Critical | Satisfactory or Needs Work | Procedure/Risk Resolution Notes/Comments |
|------------------|--|---|-----------------------------------|---|
| | | | | |

| Job Steps | Importance Narrative (Consider Safety, Production, Maintenance) | Importance Ranking 1 Important 2 Very Imp. 3 Critical | Satisfactory or Needs Work | Procedure/Risk Resolution Notes/Comments |
|------------------|--|--|-----------------------------------|---|
| Eye contact | | | | |
| Signals | | | | |
| Hazard Reporting | | | | |

Demonstrate Blind Spots

The instructor will physically demonstrate blind spots and explain the importance of communication with other persons on the site. The learner will describe blind spots and explain the importance of communication at the site

| Job Steps | Importance Narrative (Consider Safety, Production, Maintenance) | Importance Ranking 1 Important 2 Very Imp. 3 Critical | Satisfactory or Needs Work | Procedure/Risk Resolution Notes/Comments |
|-------------------------|--|--|-----------------------------------|---|
| Directly Behind Machine | | | | |
| Right-Rear Corner | | | | |
| Left-Rear Corner | | | | |
| Right-front of Machine | | | | |

Demonstrate Machine Movement by Instructor

| Job Steps | Importance Narrative (Consider Safety, Production, Maintenance) | Importance Ranking 1 Important 2 Very Imp. 3 Critical | Satisfactory or Needs Work | Procedure/Risk Resolution Notes/Comments |
|---|--|--|-----------------------------------|---|
| Articulation <ul style="list-style-type: none"> • Release Parking Brake • Maintain Bucket Contact with Ground • Explain Pinch-points and Steering • Explain Steering Lock and Purpose | | | | |

| Job Steps | Importance Narrative (Consider Safety, Production, Maintenance) | Importance Ranking 1 Important 2 Very Imp. 3 Critical | Satisfactory or Needs Work | Procedure/Risk Resolution Notes/Comments |
|---|--|--|-----------------------------------|---|
| Forward and reverse movement <ul style="list-style-type: none"> • Explain Auto-Shift • Explain IBS Brake System (left pedal) | | | | |
| Trainee's Practice <ul style="list-style-type: none"> • Articulate Loader • Move forward and reverse and articulate • Raise/lower bucket • Check all indicator gauges • Proper shut-down procedures • Provide feedback/demo | | | | |
| Loader Techniques by Instructor <ul style="list-style-type: none"> • Bucket Loading Techniques • Pick-and-carry Techniques • Truck Loading Techniques • Hopper Loading Techniques | | | | |
| Trainee's Practice <ul style="list-style-type: none"> • Bucket Loading Techniques • Pick-and-carry Techniques • Truck Loading Techniques • Hopper Loading Techniques | | 3 | | |

Field Practice

| Job Steps | Importance Narrative (Consider Safety, Production, Maintenance) | Importance Ranking 1 Important 2 Very Imp. 3 Critical | Satisfactory or Needs Work | Procedure/Risk Resolution Notes/Comments |
|--|--|---|-----------------------------------|---|
| Check gauges/indicators | | | | |
| Maintain Safe Speed for Ground Conditions <ul style="list-style-type: none"> • Grade • Weather • Road • Visibility • Traffic | | | | |
| Check for Road Hazards | | | | |
| Check for Highwall /Bank Hazards <ul style="list-style-type: none"> • Check berms • Check overhanging/loose material • Check for work overhead | | | | |
| Practice Defensive Driving <ul style="list-style-type: none"> • Awareness for Other Vehicles • Scan Ahead • Know/Remember Blind spots | | | | |
| Traveling on a Grade <ul style="list-style-type: none"> • Yield to Loaded Truck | | | | |
| Monitor Gauges | | | | |
| Clean Windshield as necessary | | | | |
| Use Signals | | | | |
| Count Loads/Scale | | | | |
| Accelerate Smoothly | | | | |
| Obey Traffic Signs | | | | |
| Fueling Equipment | | | | |
| Wear Seatbelts | | | | |

Duty 3: Post-Operational Inspection

The instructor will demonstrate end of shift activities, and reporting procedures if problems have developed with the loader or the site during the shift. He will also introduce the learner to the on-coming operator and encourage a few minutes of conversation at shift change.

The learner will demonstrate and explain post operation activities, including completion of any record required. .

Park Equipment

| Job Steps | Importance Narrative (Consider Safety, Production, Maintenance) | Importance Ranking 1 Important 2Very Imp. 3 Critical | Satisfactory or Needs Work | Procedure/Risk Resolution Notes/Comments |
|------------------|--|--|---|---|
|------------------|--|--|---|---|

| Job Steps | Importance Narrative (Consider Safety, Production, Maintenance) | Importance Ranking 1 Important 2 Very Imp. 3 Critical | Satisfactory or Needs Work | Procedure/Risk Resolution Notes/Comments |
|--|--|--|----------------------------|--|
| Set park brake | | | | |
| Lower bucket to ground | | | | |
| Place controls in neutral condition and lock-out | | | | |
| Idle Down/Cool Down Engine | | | | |
| Observe gauges/Indicators | | | | |
| Stop Engine/Turn Off Lights | | | | |

Dismount Machine

| Job Steps | Importance Narrative (Consider Safety, Production, Maintenance) | Importance Ranking 1 Important 2 Very Imp. 3 Critical | Satisfactory or Needs Work | Procedure/Risk Resolution Notes/Comments |
|---|--|---|-----------------------------------|---|
| Clean Out Cab • Wet Wipe or vacuum cab | | | | |
| Observe Ground Conditions | | | | |
| Check Ladder/Grab Irons | | | | |
| Face Ladder | | | | |
| Maintain 3-point contact | | | | |
| Final walk-around/Turn off master switch | | | | |

Communications Changes

| Job Steps | Importance Narrative (Consider Safety, Production, Maintenance) | Importance Ranking 1 Important 2 Very Imp. 3 Critical | Satisfactory or Needs Work | Procedure/Risk Resolution Notes/Comments |
|------------------|--|---|-----------------------------------|---|
| End-Loader | | | | |
| Mine | | | | |

Duty 4: Emergency Procedures/Abnormal Occurrences/Non-Routine Procedures

The instructor will demonstrate and/or explain the emergency procedures needed to recover from an emergency situation (after the learner has had the time to develop the necessary operating skills). These skills may be needed infrequently or never, but the consequences of not knowing how to respond could be catastrophic.

The learner will safely demonstrate and/or explain to the instructor the emergency procedures needed to recover from an emergency situation (after the learner feels comfortable with necessary operating skills).

Fire

| Job Steps | Importance Narrative (Consider Safety, Production, Maintenance) | Importance Ranking 1 Important 2 Very Imp. 3 Critical | Satisfactory or Needs Work | Procedure/Risk Resolution Notes/Comments |
|---|--|--|----------------------------|--|
| Stop Machine/Exit Immediately | | | | |
| Turn key "OFF"/Master Switch, if possible | | | | |
| Notify supervision | | | | |

Medical

| Job Steps | Importance Narrative (Consider Safety, Production, Maintenance) | Importance Ranking 1 Important 2 Very Imp. 3 Critical | Satisfactory or Needs Work | Procedure/Risk Resolution Notes/Comments |
|--|--|--|----------------------------|--|
| Injury/Illness • Report to Supervisor | | | | |

Critical Manfunctions

| Job Steps | Importance Narrative (Consider Safety, Production, Maintenance) | Importance Ranking 1 Important 2Very Imp. 3 Critical | Satisfactory or Needs Work | Procedure/Risk Resolution Notes/Comments |
|-------------------------|--|---|-----------------------------------|---|
| Engine Stall/Power Loss | | | | |
| React to Panel Lights | | | | |
| Tire Failure | | | | |
| Brake Failure | | | | |
| Steering Failure | | | | |
| Hydraulic Failure | | | | |
| Electrical Failure | | | | |

Sudden Loss of Visibility

| Job Steps | Importance Narrative (Consider Safety, Production, Maintenance) | Importance Ranking 1 Important 2Very Imp. 3 Critical | Satisfactory or Needs Work | Procedure/Risk Resolution Notes/Comments |
|--------------------|--|---|-----------------------------------|---|
| Loss of visibility | | | | |
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Loss of Control

| Job Steps | Importance Narrative (Consider Safety, Production, Maintenance) | Importance Ranking 1 Important 2Very Imp. 3 Critical | Satisfactory or Needs Work | Procedure/Risk Resolution Notes/Comments |
|------------------|--|---|-----------------------------------|---|
| Skidding | | | | |

| Job Steps | Importance Narrative (Consider Safety, Production, Maintenance) | Importance Ranking 1 Important 2Very Imp. 3 Critical | Satisfactory or Needs Work | Procedure/Risk Resolution Notes/Comments |
|------------------|--|---|-----------------------------------|---|
| Submersion | | | | |
| Roll Over | | | | |
| Ground Failure | | | | |

Contact with Power Lines

| Job Steps | Importance Narrative (Consider Safety, Production, Maintenance) | Importance Ranking 1 Important 2Very Imp. 3 Critical | Satisfactory or Needs Work | Procedure/Risk Resolution Notes/Comments |
|------------------|--|---|-----------------------------------|---|
| Overhead | | | | |
| Underground | | | | |

Other Vehicle out of Control

| Job Steps | Importance Narrative (Consider Safety, Production, Maintenance) | Importance Ranking 1 Important 2Very Imp. 3 Critical | Satisfactory or Needs Work | Procedure/Risk Resolution Notes/Comments |
|------------------------------|--|---|-----------------------------------|---|
| Other Vehicle out of Control | | | | |
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