

4.

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1.0 Persons Affected

This Standard Operating Procedure (SOP) affects all Transmission & Distribution Business Unit (TDBU) employees who operate a Digger Derrick, Boom Truck (Crane), Aerial Device or Material Handling Aerial Device (MHAD).

2.0 Purpose

This SOP provides a standard for performing a pre-operational equipment inspection on a Digger Derrick, Boom Truck, Aerial Device or MHAD prior to operation.

OH&S Regulation 155 (1)(2) states that a visual inspection of any powered mobile equipment is required prior to use.

The purpose of this procedure is:

- To establish a standard for performing a pre-operational equipment check within the Transmission and Distribution Business Unit (TDBU)
- To provide a detailed job aid to employees who perform this procedure within the course of their job

3.0 Rationale

This SOP will support the safety of our personnel by ensuring that the equipment being inspected is in safe working order prior to putting the equipment in to service.

This SOP requires that work performed by TDBU employees satisfies all applicable policies and regulations.

4.0 Scope

In-the-Scope of the Procedure

- The procedure includes the following:
 - Prepare for pre-operational equipment checks
 - Perform visual pre-operational equipment checks
 - Prepare for operational equipment checks
 - Perform operational equipment checks
 - Complete inspection process

Out-of-the-Scope of the Procedure

- The procedure does not include the following:
 - Mobile Equipment - Perform Pre-Trip Chassis Inspection SOP
 - Mobile Equipment - Perform Pre-Trip Air Inspection SOP

5.0 Policies and Regulatory Requirements

This SOP is a result of the following:

Policies:

Regulatory Requirement(s)

Saskatchewan Occupational Health and Safety Regulations, 1996

- Part XI: Power Mobile Equipment
 - Section 155: Visual inspection
 - Section 156: Inspection and Maintenance
 - Section 205: Operating Procedures
 - Section 215: Log book
 - Section 216: Inspections

The Highways and Transportation Act, 1997

Other

Industry Standards

- Canadian Standards Association
 - C225-00 Vehicle Mounted Aerial Devices
 - Z150-11 Safety Code on Mobile Cranes

Manufacturer's Specifications

SaskPower Safety Rulebook, Revision 2.0 Apr. 1st/2013

- Section 500: General
- Section 603: Powered Mobile Equipment

6.0 Roles, Responsibilities and Prerequisites

In-the-Scope of the Procedure Role(s)	Quantity Required	Responsibilities	Prerequisites
Operator	1	1. Inspect equipment as per guidelines established in the following procedure.	1. An employee must be a competent operator or to be under the supervision of a competent operator.
In-Scope Supervisor	1	1. Ensure corrective action is taken with identified recorded defect(s) following the pre-operational equipment checks.	1. An employee who is in an in-scope supervisory position over an Operator performing a pre-operational equipment check.

7.0 Tools and Equipment

Tools and Equipment and Quantity Required:

- Digger Derrick, Boom Truck, Aerial Device, or MHAD
- Pre-Operational Equipment Inspection Checklist
- Unit Log Book/Operator's Manual

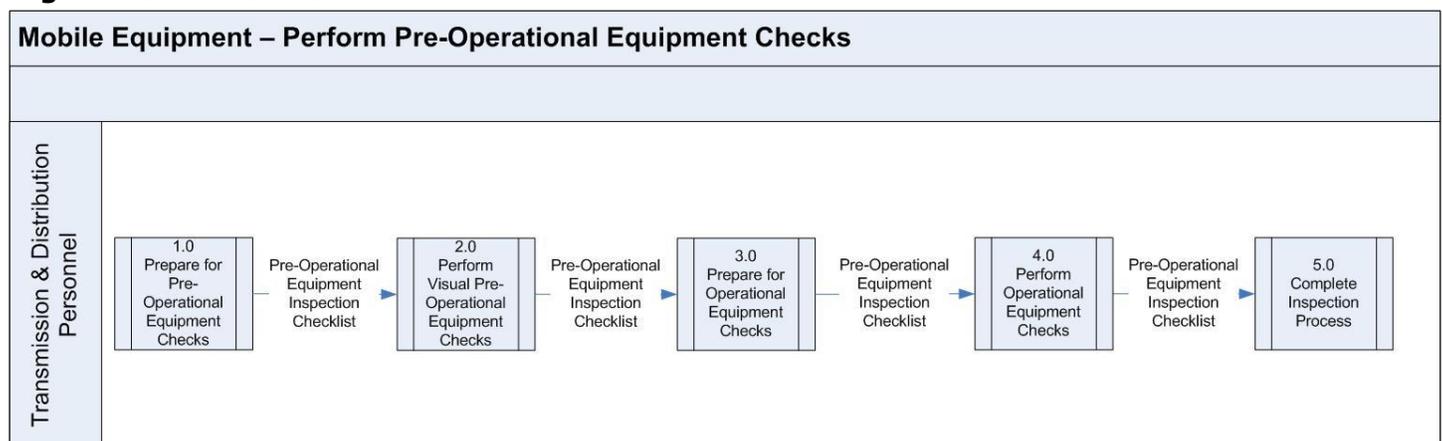
8.0 Planning and Preparation Checklist

Items to Check Before Starting the Procedure:

- Completed Mobile Equipment - Perform Pre-Trip Chassis Inspections SOP
- Completed Mobile Equipment - Perform Pre-Trip Air Inspection SOP
- Applicable Personal Protective Equipment (PPE) is available and in good condition

9.0 Procedure

High Level Flowchart



The Procedure

This Standard Operating Procedure (SOP) should be performed in conjunction with the Mobile Equipment - Pre-Trip Chassis Inspection SOP where practical.

This procedure must be performed prior to operation by a competent person at the beginning of each work shift or every 24hrs thereafter or often as it is necessary to ensure that it is capable of safe operation. A written record of the inspection shall be completed and kept available to the operator.

1.0 Prepare for Pre-Operational Equipment Checks

1.1 Prepare for Pre-Operational Equipment Checks

- 1.1.1 The Operator shall access the "Pre-Operational Equipment Inspection Checklist" Component and the Operator's Manual.

2.0 Perform Visual Pre-Operational Equipment Checks

2.1 Check Hydraulics

CAUTION: Be aware of the danger due to hydraulic high pressure skin injection injuries.

2.1.1 The Operator shall check and record the condition of the following items listed in Section A: Hydraulics in the Pre-Operational Equipment Inspection Checklist.

- *Hydraulic reservoir is at a sufficient level between the high and low marks with all cylinders retracted (stowed position)*
- *Cylinders and hydraulic system are free of seepage or leaks*
- *Breather Cap is not damaged or plugged with debris*

2.2 Check Components

2.2.1 The Operator shall check and record the condition of the following items listed in Section A: Components in the Pre-Operational Equipment Inspection Checklist.

Note: Refer to Operator's Manual for additional information

- *The rotation bearing bolts, the rotation drive gear, and all other critical fasteners for securement*
- *All critical welds for cracks*
- *Around all pivot points for cracks and wear*
- *Remove boom cover and check that all boom(s) are free of cracks, any visible damage and pins are secure*
- *Work platform(s) are secure and in good working condition*
- *Bucket liners are in good condition*
- *Outrigger pads are available and in good condition*
- *Wheel chocks are available and in good condition*
- *Outriggers are fully retracted (not drifting downwards) and are not leaking*
- *Auger is stowed properly in the auger stow bracket and the Kelly Bar auger bolt is properly secured*
- *All boom(s) are properly secured*
- *Auger teeth, the auger flighting and auger rope are in good condition*
- *Operator control, safety, limits of approach decals, and load charts are available and legible*
- *All angle indicators are functional and legible*

2.3 Check Certifications

2.3.1 The Operator shall check and record the presence of the following certificates and their validity in Section A: Certifications in the Pre-Operational Equipment Inspection Checklist.

- *Valid structural certification sticker (Digger Derrick or Boom Truck/Crane-Certification required every 1800 hours or 24 months whichever ever occurs first)*
- *Valid SaskPower High Voltage Electrical Certification Sticker for boom and/or jib assembly (Certification required every 12 months)*

2.4 Check Lifting Apparatus

2.4.1 The Operator shall check and record the condition of the following items listed in Section A: Lifting Apparatus in the Pre-Operational Equipment Inspection Checklist.

- *Winch line (synthetic rope/wire rope) are in good working condition*
- *Winch line (synthetic rope/wire rope) eyes are in good working condition*
- *All synthetic ropes have a thimble in the eye*
- *All load hooks that have safety latches are operational*
- *All S hooks are not modified and are the correct size for the wire rope*
- *All sheaves are the correct size for the synthetic rope/wire rope being used*
- *The shackle is the minimum size required (1 inch) for synthetic ropes*

2.5 Is There Any Recorded Defect(s) with the Visual Inspection?

2.5.1 The Operator shall determine if there is any defect(s) recorded within Section A of the Pre-Operational Equipment Inspection Checklist.

- *Yes, (Defect(s) Recorded), proceed to step 5.2 Contact In-Scope Supervisor*
- *No, (No, Defect(s) Recorded), proceed to step 3.1 Check Controls and Monitoring Systems*

Note: If any defect(s) are recorded during the visual inspection, proceeding further may cause harm to personnel or further equipment damage.

3.0 Prepare for Operational Equipment Checks

3.1 Check Controls and Monitoring Systems

3.1.1 The Operator shall prepare the unit for operational equipment checks and record the condition of the following items in Section A: Controls and Monitoring Systems in the Pre-Operational Equipment Inspection Checklist.

- *Complete visual inspection of the surrounding area to ensure that no worker or equipment is endangered by the start up of the equipment*

- *Check that all operator controls are free from binding*
- *Check that the High voltage monitoring system is functioning properly (Aerial/MHAD for class A and B Units)*
- *Anti Two Block and the Load Moment Indicating Safety Device are in good working condition (Cranes over 9 tonnes)*
- *Outrigger and boom stow warning devices are in good working condition*
- *Load block/multi-part block is functioning properly (Digger Derrick and Cranes)*

4.0 Perform Operational Equipment Checks

4.1 Check Outrigger Holding Valves

4.1.1 The Operator shall inspect and record the condition of the outrigger holding valves in Section A: Outrigger Holding Valves in the Pre-Operational Equipment Inspection Checklist.

- *Lower the outriggers until a portion of the unit's weight is on the outriggers pads*

Note: It is not necessary to have the wheels off the ground during the inspection process.

- *Divert hydraulic power from the outriggers by shutting off the engine, disengaging Power Take Off (PTO), or moving the selector valve to "Mainframe" position*
- *Hold the outrigger control in the "Up" position for approximately 15-20 seconds*
- *Observe if there is any upward movement from the outrigger*

Note: If movement is observed, the holding valve is not functioning properly; an In-Scope Supervisor must be contacted before the unit is used.

4.2 Is There Outrigger Holding Valve Defect(s) Recorded?

4.2.1 The Operator shall determine if there is any defect(s) found within the Outrigger Holding Valves check.

- *Yes, (Defect(s) Recorded) proceed to step 5.2 Contact In-Scope Supervisor*
- *No, (No, Defect(s) Recorded) proceed to step 4.3 Are the Boom(s) Extension or Articulating?*

Note: If any defect(s) are recorded during the inspection, proceeding further may cause harm to personnel or further equipment damage.

4.3 Are the Boom(s) Extension or Articulating?

4.3.1 The Operator shall determine if the boom(s) that are to be inspected are extension or articulating boom(s).

- *Extension, proceed to step 4.4 Check Extension Boom(s) Holding Valves*

- *Articulating, proceed to step 4.5 Check Articulating Boom(s) Holding Valves*

4.4 Check Extension Boom(s) Holding Valves

4.4.1 The Operator shall inspect and record the condition of the extension boom(s) and the holding valves in Section A: Boom(s) Holding Valve in the Pre-Operational Equipment Inspection Checklist.

- *Ensure area is clear*
- *Unlatch boom tie-down assembly*
- *Raise boom to approximately a 45 degree angle*
- *Extend extension(s) approximately 2 feet*
- *Divert hydraulic power from the boom(s) by shutting off the engine, disengaging Power Take Off (PTO), or moving the selector valve to "outrigger" position*
- *Hold the main boom lever in the "Down" position for 15-20 seconds, observe if there is movement*
- *Hold in the "Retract" position for 15-20 seconds, observe if there is movement*

Note: If movement is observed, the holding valve is not functioning properly; a Supervisor must be contacted before the unit is used.

Note: If any of the above boom configurations differs from the above refer to the Operator's Manual.

4.4.2 The Operator shall fully extend boom(s) and lower to ensure there are no defects in the boom(s) assemblies.

- *Proceed to step 5.1 Is There Any Recorded Defect(s)?*

4.5 Check Articulating Boom(s) Holding Valves

4.5.1 The Operator shall inspect and record the condition of the articulating holding valves in Section A: Boom(s) Holding Valve in the Pre-Operational Equipment Inspection Checklist.

- *Ensure the area is clear*
- *Unlatch boom tie-down assembly*
- *Raise the upper boom approximately 3 feet out of the boom rest*
- *Raise the lower boom approximately 2 feet off of the boom rest*
- *Unfold the upper boom until it is close to the over centre position*
- *Divert hydraulic power from the boom(s) by shutting off the engine, disengaging Power Take Off (PTO) or moving the selector valve to "lower" position*
- *Hold the upper boom lever in the "unfold position" for approximately 15-20 seconds, observe if there is movement*

- *Hold the lower boom lever in the "Down" position for approximately 15-20 seconds, observe if there is movement*
- *Raise the upper boom to a 90 degree angle in relation to the lower boom*
- *Raise the lower boom close to it's maximum position in relation to the unit*
- *Divert hydraulic power from the boom(s) by shutting off the engine, disengaging Power Take Off (PTO) or moving the selector valve to "lower" position*
- *Hold the lower boom lever in the "Up" position for approximately 15-20 seconds, observe if there is movement*
- *Hold the upper boom lever in the "Fold" position for approximately 15-20 seconds, observe if there is movement*

Note: If any of the above boom configurations differs from the above refer to the Operator's Manual.

- *Proceed to step 5.1 Is There Any Recorded Defect(s)?*

Note: If movement is observed, the holding valve is not functioning properly; a Supervisor must be contacted before the unit is used.

5.0 Complete Inspection Process

5.1 Is There Any Recorded Defect(s)?

5.1.1 The Operator shall confirm from Section A of the Pre-Operational Equipment Inspection Checklist if there is any recorded defect(s) and summarize within Section B of the Pre-Operational Equipment Inspection Checklist.

- *Yes, (Defect(s) Recorded), proceed to step 5.2 Contact In-Scope Supervisor*
- *No, (No Defect(s) Recorded), proceed to step 5.4 Record Inspection Results*

5.2 Contact In-Scope Supervisor

5.2.1 The Operator shall contact their In-Scope Supervisor to report any defect(s) that was identified as a result of the pre-operational equipment inspection.

5.3 Determine Corrective Action

5.3.1 The In-Scope Supervisor shall seek direction from Fleet Services regarding any defect(s) that was identified as a result of the pre-operational equipment inspection.

- *Refer to any Fleet Services directives or documentation*
- *Contact your Fleet Services Representative, as required*

5.3.2 The In-Scope Supervisor shall communicate direction(s) to Operator and notify the Out-of-Scope Supervisor.

5.4 Record Inspection Results

5.4.1 The Operator shall complete the applicable sections within Section B of the Pre-Operational Inspection Checklist.

- *Ensure all direction for corrective action has been recorded*
- *Ensure all relevant information has been recorded*
- *Sign and date*

5.4.2 The Operator shall record all defect(s) and repair(s) within the Log Book

5.5 Have the Operational Equipment Checks Been Completed?

5.5.1 The Operator shall determine if the operational equipment checks have been completed.

- *No, proceed to 5.6 Check Outriggers or Boom(s)?*
- *Yes, proceed to 5.7 File Pre-Operational Equipment Inspection Checklist*

5.6 Check Outriggers or Boom(s)?

5.6.1 The Operator shall determine if the outriggers or the boom(s) holding valves require operational inspection.

- *Outriggers, proceed to step 3.1 Check Controls and Monitoring Systems*
- *Boom(s), proceed to step 4.3 Are the Boom(s) Extension or Articulating?*

5.7 File Pre-Operational Equipment Inspection Checklist

5.7.1 The Operator shall file the completed Pre-Operational Inspection Checklist.

- *File in Log book for no more than 20 Calendar days and then submit to Out-of-Scope Supervisor*
- *Keep 3 previous inspections in Log book at all times*

Note: Pre-Operational Equipment Inspection Checklists shall be kept on file by the Operator's Out-of-Scope Supervisor for 6 months.

5.7.2 End of Procedure

10.0 Acronyms, Definitions and Symbols

Acronyms and Abbreviations

OH&S - Occupational Health and Safety

PTO - Power Take-off

SOP - Standard Operating Procedure

TDBU - Transmission and Distribution Business Unit

Definitions

Competent

Means possessing knowledge, experience and training to perform a specific duty

Defect

Anything that will make the unit unsafe to operate

Platform

The personnel-carrying component of an aerial device, such as a bucket, basket, stand, or equivalent

Work Shift

A period of time which represents normal work hours (i.e. 8am - 5pm) however this period could apply to extended regular work hours to include overtime or call out time within the 24h

Symbols

N/A

11.0 SOP Components

The following is a list of components for this SOP which can be accessed through the SOP System:

SOP Component Name	SOP Component Type	SOP Component Description	Location of SOP Component
Pre-Operational Equipment Inspection Checklist	Checklist	Provides a detailed checklist of the items on Digger Derrick, Boom Truck, Aerial Device or MHAD (Material Handling Aerial Device) equipment that require inspection prior to use by T&D Employees and Contractors	SOP Online – SOP Bundle: Mobile Equipment - Perform Pre-Operational Equipment Checks
Perform Pre-Operational Equipment Checks Flow Chart	Flowchart	The high level and mid-level flowchart for the procedure.	SOP Online – SOP Bundle: Mobile Equipment - Perform Pre-Operational Equipment Checks

12.0 SOP Owner

SOP Owner

Supervisor, Fleet Services

13.0 References

References	Location of Resource