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1.0 Persons Affected

This Standard Operating Procedure (SOP) affects all Transmission & Distribution Services employees and contractors who operate, or assist in the operation of, Material Handling Aerial Device (MHAD).

2.0 Purpose

This SOP provides the standard for making a lift with a MHAD.

The purpose of this procedure is:

- To establish a standard for making a lift within the Transmission and Distribution Services
- To provide a detailed job process for employees and contractors who perform this procedure within the course of their job

3.0 Rationale

This SOP will support the safety of our personnel by ensuring safe working methods are consistently used for making a lift with a MHAD. This SOP will also ensure optimal use of equipment for the purpose of minimizing wear and tear.

This SOP requires that work performed by Transmission and Distribution Services employees and contractors satisfies all applicable policies and regulations.

4.0 Scope

In-the-Scope of the Procedure

The procedure includes the following:

- Set up equipment
- Perform a dry run
- Make a lift
- Complete post operations

Out-of-the-Scope of the Procedure

The procedure does not include the following:

- Rigging of the load
- Pre-Operational Equipment Checks - Perform Equipment Checks SOP
- Digger Derrick or Boom Truck - Make a Lift - SGL Winch Line SOP
- TRNSP Compliance - Secure Loads SOP

5.0 Policies and Regulatory Requirements

This SOP is a result of the following:

Policies:

- SaskPower Hazard Control Policy

Regulatory Requirement(s)

Saskatchewan Occupational Health and Safety Regulations, 1996

- Part XI: Powered Mobile Equipment
 - Section 155: Visual Inspection
 - Section 156: Inspection and Maintenance
 - Section 164: Dangerous Movements
- Part XII: Scaffolds, Aerial Devices, Elevating Work Platforms and Temporary Supporting Structures
 - Section 192: Aerial Devices and Elevating Work Platforms
- Part XIII: Hoists, Cranes and Lifting Devices
 - Section 203: Load Ratings
 - Section 206(3): Rated Loads
 - Section 208: Determining Weight of Load
 - Section 210(1)(4): Designated Signaler
- Part XIV: Rigging
- Part XXX: Additional Protection for Electrical Workers;
 - Section 465(2): Proximity to exposed energized high voltage Electrical Conductors
- Table 22: Minimum Distances from Exposed Energized High Voltage Electrical Conductors

Other

Industry Standards

- Canadian Standards Association
 - C225-00 Vehicle Mounted Aerial Devices

Manufacturer’s Specifications

SaskPower Procedures

- SaskPower Bonding and Grounding Procedures
- SaskPower Limits of Approach
- SaskPower Standard Protection Code

SaskPower Safety Rulebook

6.0 Roles, Responsibilities and Prerequisites

In-the-Scope of the Procedure	Quantity Required	Responsibilities	Prerequisites

Role(s)			
Operator	1	1. Operate the equipment as per guidelines established in the following procedure.	1. As per OH&S regulations, an employee must be a competent aerial device operator or to be under the supervision of a competent operator.
Operator Assistant(s)	1 or more	1. Assist the Operator in making a lift with a MHAD. 2. Designated signaler, as required.	1. Under the supervision of a competent aerial device operator.

7.0 Tools and Equipment

Tools and Equipment and Quantity Required:

- Material Handling Aerial Device (MHAD)
- Load to be lifted
- Aerial Device/MHAD Capacity Chart
- Full body safety harness
- Descent device
- Rigging and associated fittings
- Ground lead
- Ground electrode
- Material Handling Aerial Device Operating Manual
- Construction Standards Manual
- IPT's Crane and Rigging Handbook

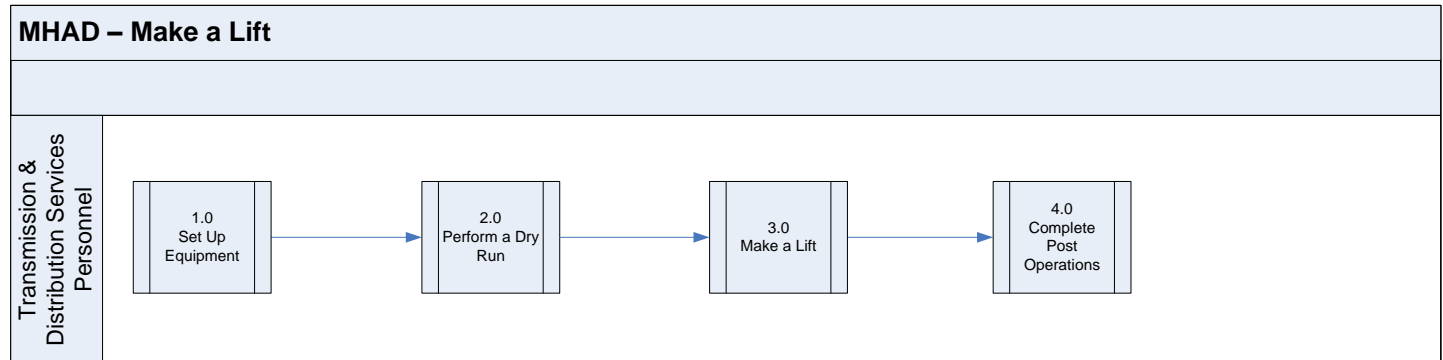
8.0 Planning and Preparation Checklist

Things to Check Before Starting the Procedure:

- Completed Hazard and Risk Assessment and Job Plan
- Completed Fleet Services' Aerial Daily Inspection Checklist
- Completed TRNSP Compliance - Perform Pre-Trip Chassis Inspections SOP
- Completed TRNSP Compliance - Perform Pre-Trip Air Inspections SOP
- Completed Pre-Equipment Checks - Perform Equipment Checks SOP
- Aerial Device/MHAD Capacity Chart(s)
- Applicable Personal Protective Equipment (PPE) is available and in good condition

9.0 Procedure

High Level Flowchart



The Procedure

This Standard Operating Procedure covers the method of making a lift with a MHAD.

Replacement winch lines must meet or exceed the Original Equipment Manufacturer (OEM) rating.

Note: Contact Fleet Services or winch line supplier for Safe Working Load (SWL) Limit of winch line.

1.0 Set Up Equipment

1.1 Set Up MHAD

1.1.1 The Operator shall position the MHAD as outlined within the job plan.

- *Ensure the area is clear*
- *Apply parking brake*
- *Engage Power Take Off (PTO) as per manufacturer's specifications*

1.1.2 The Operator and Operator Assistant(s) shall extend all outriggers.

- *As per manufacturer's specifications*
- *Ensure the area is clear*
- *Lay out outrigger pads as specified for the MHAD*

Note: The use of outrigger pads is **mandatory** at all times.

- *Ensure outriggers are fully visible while extending*
- *Dig out surface area as required if outriggers cannot be fully extended*
- *Block the outriggers as required to stabilize the MHAD*

1.1.3 The Operator shall level the MHAD.

- *As per manufacturer's specifications*

Note: MHAD's must be within the 5 degree tipping angle.

1.1.4 The Operator and Operator Assistant(s) shall inspect the winch line as per manufacturer's specifications.

- 1.1.5 The Operator shall ground the MHAD if identified within the Hazard and Risk Assessment.

2.0 Perform a Dry Run

Performing a dry run identifies where the load is to be lifted from and where it is to be placed. This establishes the range of motion required by the boom(s) to confirm that the capacity is not exceeded without the load attached. Performing the Dry Run can ensure the stability of the unit.

Note: A Dry Run is not required if the known weight is less than the minimum capacity of the Capacity Chart(s), however this does not ensure the stability of the unit.

2.1 Confirm Range of Motion

- 2.1.1 The Operator shall confirm the allowable capacity of the equipment at any stage during the lift.

- *Take note of the angles of the boom(s) and the horizontal load radius at the key positions*
- *Refer to the Aerial Device/MHAD Capacity Chart(s)*
- *Check the weight of the load and ensure it does not exceed the allowable capacity*

Note: It may be possible to increase equipment capacity by re-positioning the MHAD closer to the load.

2.2 Does the Load Exceed MHAD Capacity Charts(s)?

- 2.2.1 The Operator shall determine if the load that is to be lifted exceeds MHAD Capacity Chart(s), as a larger piece of equipment is needed to make the lift safely such as a Boom Truck, Digger Derrick or Crane.

- *Yes, (Exceeds MHAD Capacity Chart(s)), proceed to step 4.1 Perform Post Operational Duties*
- *No, (Does not exceed MHAD Capacity Chart(s)), proceed to step 3.1 Prepare to Make a Lift*

Note: Do not attempt to make the lift if no combination of the MHAD and boom(s) position can lift the load safely.

3.0 Make a Lift

3.1 Prepare to Make a Lift

- 3.1.1 The Operator shall position the boom(s).

- *Ensure the area is clear*

- 3.1.2 The Operator shall lower the winch line to the load.

- 3.1.3 The Operator and/or Operator Assistant(s) shall safely rig the load.

- *Refer to IPT's Crane and Rigging Handbook*

3.2 Make a Lift

Note: Tagline(s) should be used to control the load when a risk is identified to the assistant(s) within the Hazard and Risk Assessment.

3.2.1 The Operator shall lift the load.

- *Ensure the area is clear*
- *Slowly raise the load a few inches, and hold momentarily to ensure the winch brake will hold the load*

3.2.2 The Operator shall slowly move the load to the desired location.

- *Ensure the area is clear*

3.2.3 The Operator Assistant(s) shall guide the load by hand or by a tagline(s), as required.

3.2.4 The Operator and the Operator Assistant(s) shall unhook the winch line, as required.

3.2.5 The Operator shall retract the winch line.

- *Ensure the area is clear*
- *Ensure the winch line is rolling up on the drum level*

4.0 Complete Post Operations

4.1 Perform Post Operational Duties

4.1.1 The Operator shall place the boom(s) in the boom rest.

- *Ensure the area is clear*

4.1.2 The Operator shall retract all boom extensions, as required.

4.1.3 The Operator Assistant(s) shall secure the boom(s) in the boom rest.

- *Using the proper tie-down points as per manufacturer's specifications*

4.1.4 The Operator shall retract outriggers.

- *Ensure the area is clear*

4.1.5 The Operator shall disengage Power Take Off (PTO) as per manufacturer's specifications.

4.1.6 The Operator shall release parking brake.

4.1.7 End of Procedure.

10.0 Acronyms, Definitions and Symbols

Acronyms and Abbreviations

MHAD - Material Handling Aerial Device

OEM - Original Equipment Manufacturer

PTO - Power Take Off

SOP - Standard Operating Procedure

SWL - Safe Working Load

TRNSP - Transportation

Definitions

Aerial Device:

Any device, extensible, articulating, or both, that is primarily designed and used to position personnel. The device may also be used to handle material, if designed and equipped for that purpose.

Blocking:

The act of building up materials to stabilize outrigger pads, refer to IPT's Crane and Rigging Handbook.

Competent Operator (OH&S Regulation 192 (5) (a)(b):

(a) A worker who operates an aerial device or elevating work platform is trained to operate the device or platform safely; and

(b) The training includes the manufacturer's instructions and recommendations, the load limitations, the proper use of all controls and any limitations on the surfaces on which the device or platform is designed to be used.

Designated Signaller:

A worker designated pursuant to Occupational Health & Safety Regulations clause 132(1)(a) to give signals.

Pre:

(Prefix) before, earlier

Post:

(Prefix) after, later

Material Handling Aerial Device (MHAD):

Is an Aerial Device equipped with a winch, jib, and lifting attachments

Range of Motion:

Is the pick up and drop off points of the load

Safe Working Load:

The "safe working load" (SWL) of a line is the load that can be applied without causing any kind of damage to the line.

Tagline:

A rope used to control the rotation and motion of the load.

Symbols

N/A

11.0 SOP Components

N/A

12.0 SOP Owner

SOP Owner
Operations Supervisor

13.0 References

N/A