

## 24H Ladders

The Safe-Away® Cat 24H Grader Access System has been specifically designed to provide safe and convenient access for operators and maintenance personnel accessing the 24H grader.

Hydraulically operated, the 24H Ladder folds neatly within the frame when the grader is in use. Incorporated into the ladder design is a special mounting frame for fitting directly to the 24H.



# Safety & Efficiency

The **Safe-Away® 24H Ladder** has been specifically designed to suit the Caterpillar 24H Grader and provides:

- 62° ladder for access and egress while carrying tools and other items.
- Steps of regulation size.
- Fixed handrail system for three points of contact.
- A simple robust hydraulic actuator to raise the ladder above the ground when the machine is operational.
- Park Brake Interlock Kit providing additional protection by ensuring the ladder is raised automatically when the park brake is released. (Note: not applicable with Momentary operation configuration).

## Innovation

The **Safe-Away® 2009 Series Access Control System** manages all ladder operations.

It provides:

- Simple downloading of day to day logged data to a USB.
- Sequential reports on all events with time and date stamps:
  - Raising and lowering,
  - Fault indications.
- Operational history data logs
- Diagnostics and error reporting accessed directly from the Incab control digital display.

### Access Control System Features

- Incab control panel with a digital touch pad display showing:
  - Access system status; UP, DOWN and IN MOTION.
  - Detailed fault indication with audible alarm and system event log.
  - 3,000 point event data log with download using a USB key connection to the side of the in cab control panel.
- View downloaded log files as summary and/or full log data in Microsoft® Excel using the supplied SLA to XLS file converter.



The **Safe-Away® 2009 Series Power Pack** is driven by the Access Control System. The hydraulic Power Pack is neatly mounted vertically on the side of the Access System. It includes:

- Harnesses and Leads.
- Battery Circuit Breaker Kit.
- A Reservoir Heater ensuring the viscosity of the oil is maintained to raise and lower the ladder in cold climates.

	A	B	C	D
2	Log Index	Event Label	Event Code	Date
3	1	Ladder Down	254	01/09/2000 11:31:47 PM
4	2	System Voltage Below 18V	18	02/09/2000 12:15:21 AM
5	3	Ladder Up	255	02/09/2000 12:20:20 AM
6	4	Ladder Down	254	02/09/2000 01:38:05 AM
7	5	Ladder Up	255	02/09/2000 01:40:34 AM
8	6	Ladder Down	254	02/09/2000 04:38:29 AM
9	7	Ladder Up	255	02/09/2000 05:21:04 AM
10	8	Ladder Down	254	02/09/2000 06:37:10 AM
11	9	System Voltage Below 18V	18	02/09/2000 06:42:51 AM
12	10	Ladder Up	255	02/09/2000 07:19:39 AM
13	11	System Voltage < 18V During Movement	17	02/09/2000 07:19:46 AM
14	12	Ladder Down	254	02/09/2000 08:00:52 AM
15	13	System Voltage Below 18V	18	02/09/2000 08:01:40 AM
16	14	Ladder Up	255	02/09/2000 08:08:12 AM
17	15	Ladder Down	254	02/09/2000 08:22:30 AM
18	16	System Voltage Below 18V	18	02/09/2000 08:24:54 AM
19	17	System Voltage Below 18V	18	02/09/2000 12:24:06 PM



# Designed to suit your fleet

This **Safe-Away® 24H Ladder** retraction mechanism consists of linkage arms, which when powered by a hydraulic cylinder, enables the lower ladder to fold up upon the upper ladder section.

The 24H Ladder has the following features:

- Ladder assembly and handrails
- Hydraulic cylinder actuator assembly
- Mounting brackets specially designed to fit the 24H grader
- Another safety addition is the door safety switch which is connected to the cab door to ensure the ladder doesn't operate when the door is opened.



Cat 24H Ladder shown above in the retracted position. This picture shows you the specialised mounting brackets.

The image left shows the Cat 24H Ladder in the extended position. From this side you can clearly see the silver cabinet containing the vertical Safe-Away® 2009 Series Power Pack and the optional Boarding Light.

## Optional extras

### 1. Additional Raise and Lower Control Panel Kit



A remotely mounted control panel designed to enable the raise and lower operation from outside of the vehicle's cab, or at a position accessible from ground level. Encased in a protective aluminium case.



### 2. Hydraulic Emergency Down Kit

A lever operated three-way ball valve and mounting bracket provides a fail safe emergency down function.

### 3. Boarding Light and Audible Alarm Kits



The boarding light (left) and audible alarm (below) are activated by pressing the up or down directional switch. The light will stay on for an adjustable/preset period.



### 4. Inhibit Kit

A relay with connecting harness for customer only installation of



machine inhibit functions independent of the standard Safe-Away® in-built ladder safety functions.

### 5. Momentary Operation

Safe-Away® Access Systems can be supplied with momentary operation.

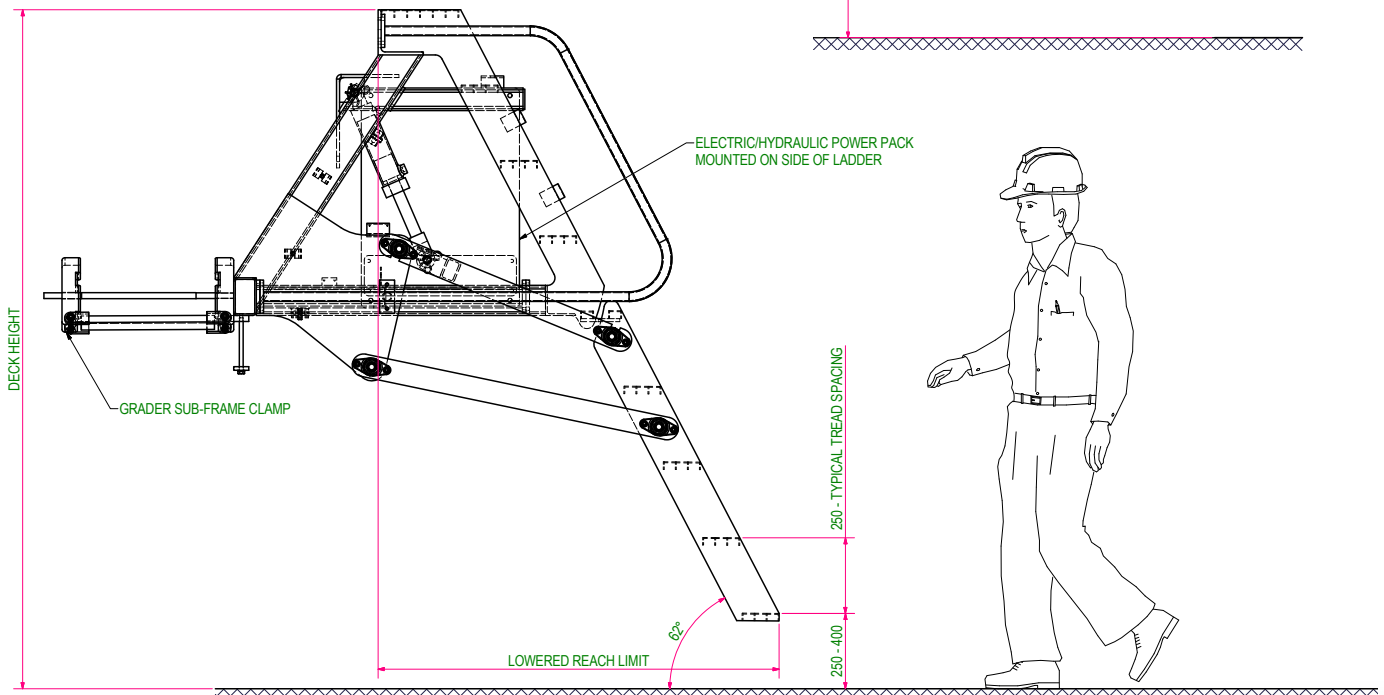
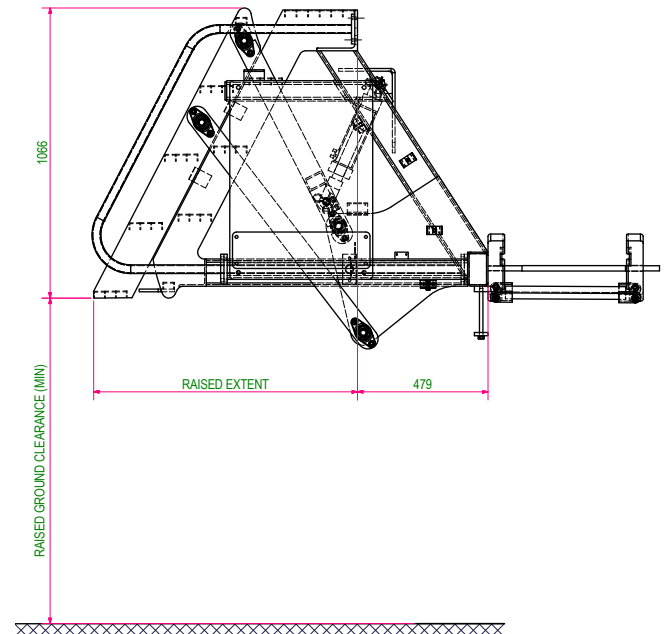
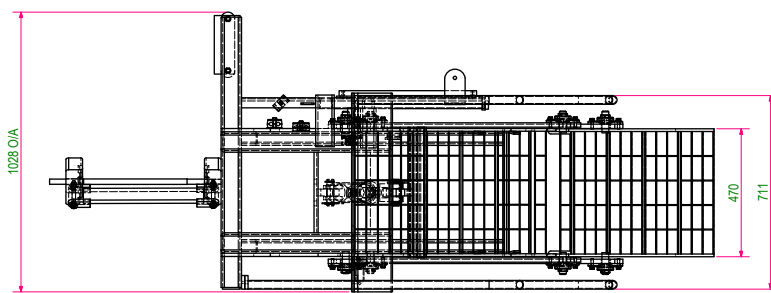
## Specifications

This Safe-Away® 24H has been designed and manufactured to comply where practicably possible with the relevant sections of the following standards:-

SAE J185\_200305    ISO 2867:2011    ANSI Z535.4-2007    ANSI A14.2-2007    AS 3868-1991    AS1657-2013

### 24H Dimensions

Steps	Deck Height Maximum	Lowered Reach Limit	Raised Ground Clearance Minimum	Raised Extremity
9	94.6in 2404mm	52.4in 1331mm	47.0in 1195mm	38.1in 969mm



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