

**WINCHES  
AUSTRALIA**  
Quality Winch Solutions

## WINCH SAFETY GUIDE

Revision: 1.2



**QUALITY  
WINCH SOLUTIONS**



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**Revision History**

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# Preface

This document is intended for any staff that have a role in operating or maintaining a winch system from HES Winches Australia. It provides the foundations and guidelines to ensure safety for operators or maintenance personnel.

This guide accompanies your winch Operations and Maintenance Manual, which provides details on how to safely operate and maintain the winch. Do not attempt to operate the machinery without first having read and understood the Operations and Maintenance Manual. If you do not have access to this user documentation, please contact HES Winches Australia to obtain a copy.

For further information please contact HES Winches Australia using the contact details provided on the previous page.

## CHAPTER 1 | Safety Overview

Read and follow **all** operating and safety instructions contained in this guide as well as the Operations and Maintenance Manual. Also observe any safety decals fitted to the equipment.

Always ensure that the risk of any task is assessed by using of the Job Safety & Environmental analysis (JSEA) sheet and the Risk Assessment Worksheet located in the appendices at the back of this guide.

If you are unable to identify hazards or do not understand the process for use of the RISK MATRIX, stop the job and consult a qualified Occupational Health and Safety consultant.



### WARNING

This symbol has been used throughout this manual and on the equipment to highlight important safety information. Ensure you read and understand the information before embarking on any related task.

## Safety Decals

Your machine may carry some or all of the safety decals listed in the following table. Please ensure you understand the warning and associated risk.

Decal	Meaning
 	<p><b>Personal Protective Equipment (PPE)</b> These symbols refer to compulsory PPE that must be worn when operating the machine.</p>
 	
	<p><b>WARNING ROTATING PARTS</b> This symbol is used to illustrate a risk of being dragged into the machine. Ensure that body parts stay clear of rotating components.</p>

## Task Safety Process

Always evaluate the risk factors before starting any work that involves winches. Use a blank copy of the Job Safety and Environmental Impact Analysis in Appendix 1 to assist in planning your tasks and the Risk Assessment Worksheet in Appendix 2 to help measure the severity of risk and plan appropriate mitigation strategies to avoid risk exposure.

### Plan Your Task

- List the activities required to undertake the task. Use a copy of the JSEA to assist with this process.
- Use the Task Planning Chart (see Figure 1) as a guide to developing a process for safe operation.
- Ensure that the safety processes are understood and communicated to all personnel involved with the work task.

### Identify the Risks

- Why, when, how what can risk occur?

### Assess the Risks

- Use the Risk Matrix as a guide to measure the severity of the risk.

### Implement Controls

- Consider how risks can be mitigated by implementing controls such as:
  - Safe work practices and procedures
  - Using appropriate equipment or specific people that have experience.
  - Establishing barriers, or setting up safety mechanisms such as guards.
  - Wearing the correct PPE for the task.

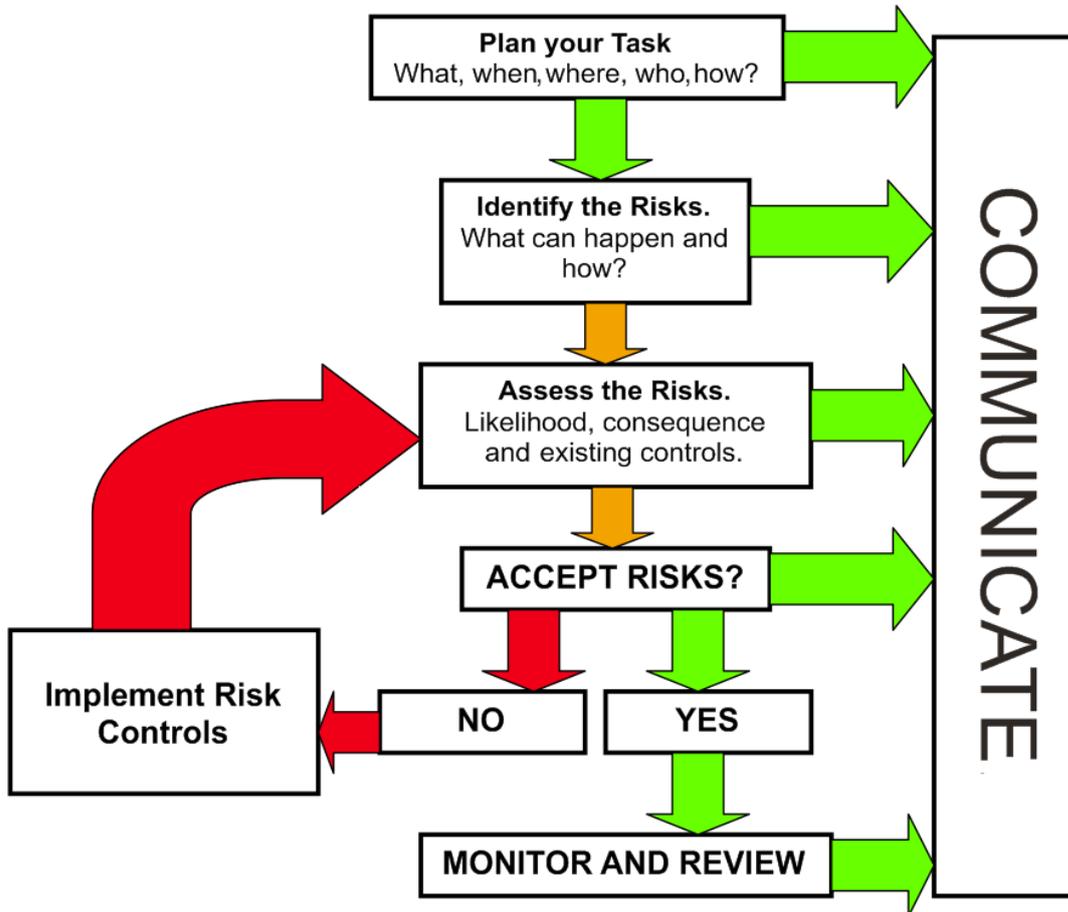
### Are the Risks acceptable?

- If **NO** – formulate controls to mitigate the risk and re-assess the task.
- If **YES** – Organise the task, maintain controls, communicate instructions clearly, monitor and review progress.

### Monitor and Review

- Work methodically, check on progress, and communicate.
- Continually monitor the situation by reaffirming:
  - Is the plan being followed?
  - Are controls adequate?
  - Is further assessment required?
  - Have conditions changed?If yes, then stop the task and review the plan.

Figure 1. Task planning chart



## How to Assess Risk

- 1) Use the Risk Assessment Matrix to determine the likelihood of a hazard occurring.
- 2) Determine the severity of the consequence.
- 3) Determine the "Action Required" by referring to the Risk Assessment Result table.

Table 1. Risk Assessment Matrix

Risk Score Calculator	Consequence				
	1 Insignificant	2 Minor	3 Moderate	4 Major	5 Extreme
5 Almost certain	H11	H16	E20	E23	E25
4 Likely	M7	H12	H17	E21	E24
3 Moderate	L4	M8	H13	E18	E22
2 Unlikely	L2	L5	M9	H14	E19
1 Rare	L1	L3	M6	H10	H15

Likelihood Table		Consequence Table		
Ratings	Definitions	Ratings	Definitions	
			Injury	Economic
5 Almost certain	Likely to occur again in next month	5 Extreme	Death/permanent disability	>\$100,000
4 Likely	Similar incident could occur in next six months	4 Major	Lost Time	\$20,000-\$100,000
3 Moderate	Similar incident could occur in next 1 year	3 Moderate	Medical Treatment	\$1000-\$20,000
2 Unlikely	Similar incident could occur in next 5 years	2 Minor	First Aid	<\$1000
1 Rare	Similar incident is unlikely to occur again	1 Insignificant	No Injury	Superficial

Table 2. Risk Assessment Result

<b>E</b>	<b>Extreme Risk; Immediate action required</b>
<b>H</b>	<b>High Risk; Senior management attention needed</b>
<b>M</b>	<b>Moderate Risk; Management responsibility must be specified</b>
<b>L</b>	<b>Low Risk; Manage the routine procedures</b>

## Job safety and Environment Impact

- 1) Use the Job Safety and Environment Impact Analysis to confirm all environment factors have been considered.
- 2) Determine the severity of the consequence.
- 3) Determine the "Action Required" by referring to the Risk Assessment Result table.

## CHAPTER 2 | Winch Preparation

Following delivery of the winch, some basic checks should be conducted to ensure the system can be prepared for safe operation.

### Post-Delivery Inspection

The winch needs to be inspected for any evidence of damage that may have resulted during transport or shipment before it is declared ready for use.

**Note:** If the Operation and Maintenance Manual for the winch has not been received, immediately contact HES Winches Australia to obtain a copy. Do not inspect, operate or perform maintenance on the winch without having read both the Winch Safety Guide and the Operation and Maintenance Manual.

### General Checks before Use

#### Winch:

- Inspect the winch for any visible damage.
- Inspect all operator controls and ensure they are functional (i.e. levers move as intended, are not bent or missing).
- Inspect all areas for evidence of hydraulic oil or other fluid leaks.

#### Power Packs:

- Check the hydraulic fluid is within operating limits as marked on the Sight Gauge.
- Check the engine oil level is within operating limits as marked on the Dip Stick.
- Visually inspect all components.
- Check operational levers (if fitted) for correct function.

## CHAPTER 3 | Safe Operation

In order to ensure the safety of operators and others, it is important that the machine is used appropriately, that design limits are not exceeded and that all risks have been identified and the appropriate risk control measures implemented (as detailed in Chapter 1).

### Operating Safety Rules

To ensure the safe winch operation, the following basic Safety Rules must be understood and complied with at all times.

#### Before Commencing Work:

- Action the Daily Operator Checklist.

**Table 3. Daily Operator Checklist**

DAILY CHECKS	
Safety Guarding	Ensure that all safety guards or panels are in good condition and securely fastened.
Operator Controls	Ensure that the operational controls are all functioning as expected
Structure	Ensure that the winch frame and chassis is free from damage such as cracks or corrosion.
Bolts and Fasteners	Ensure that all fasteners (especially those for mounting the machine) are tight, that none are missing or damaged.
Fluids	Ensure that there are no fluid leaks and that all required lubrication has been carried out.

- Ensure all safety instructions are clearly understood and that the operators are familiar with the winch controls.
- Review the working site for hazards through the use of a Job Safety Analysis and Risk Assessment and implement the risk control measures.
- Ensure there are no unused ropes, cables, or obstructions around the working area.
- Be aware of vessel/vehicle movement.
- Ensure personnel are correctly positioned and know what their involvement and tasks are in relation to the job at hand.
- Ensure that ropes or cables to be used are correctly rated for the task, are not damaged or worn and where appropriate have the necessary test/examination certificates up to date.

**During operations:**

- Always wear approved, appropriate Personal Protective Equipment (PPE).
- Pay attention. Keep alert, and avoid being distracted whilst operating the Winch. Don't stand under a load, or in areas where overhead equipment may swing and cause serious injury.
- Keep body parts and clothing away from all moving parts as well as the rope.
- Never exceed the maximum load specified for the winch.
- Avoid sudden shock or movement of the winch under load and use a slow consistent speed.
- Remove the key and shut down the engine whenever the winch is to be left unattended.
- Secure any loose items, tools or equipment so that these will not become an operational hazard.
- Be aware of non-operating personnel in proximity to the equipment, as well as the winch cable or rope.
- Always ensure clear communication between the machine operator and other personnel involved with the task.



**WARNING:**

- Do not place feet or hands in proximity of rotating parts.
- Do not smoke (or approach the winch with a naked flame) whilst operating or refuelling.
- Do not leave the motor running whilst refuelling.
- Do not guide cable with hands or feet.
- Do not tie or secure yourself to any part of the winch or equipment.
- Do not touch fittings, friction parts or guards whilst operating.
- Do not remove safety decals.
- Do not remove safety guarding.

## Overheating

The Power Pack is a fully enclosed unit and under extreme conditions may overheat. If the unit is continuously operated under full load for a long period of time, the temperature may rise to an excessive level. Although the engine system includes temperature warnings, if temperature is noted to rise above 95°C, pause winch operations for approximately 10-15 minutes, but keep power pack running at lower revolutions until the temperature decreases or stabilises.

## CHAPTER 4 | Maintenance Safety

Always ensure that maintenance personnel are aware of the equipment and the dangers before attempting to service heavy equipment of this type. Appropriate precautions need to be taken even when the machine is switched off or isolated.

The following sections provide guidelines on how to ensure safety whilst servicing the winch equipment.

### General Safety Rules

Prior to conducting any work on the structure, the power pack or mechanical components of the winch:

- Ensure the machine has been powered down or isolated
- Wear the appropriate PPE
- Ensure that all loads under tension have been lowered and secured
- Ensure that the correct tools for the work are available
- Keep an extinguisher at hand in case of fire

### Hydraulic Systems Maintenance



#### WARNING

Hydraulic systems store fluid under extremely high pressure and represent a number of hazards. Only skilled maintenance personnel should conduct any hydraulic maintenance on the equipment.

- **Extreme burns can result from hot fluid. Always wear protective clothing.**
- **Bruises, cuts or abrasions can be caused from flailing hydraulic lines. DO NOT attempt to grab or take hold of lines whilst pressurised.**
- **Never check for leaks on pressurised lines with body parts. Pinhole leaks can cause injection of fluid into the skin and result in severe injury.**

If your winch system is fitted with accumulators, take extreme care during servicing. The accumulators are used to store very high pressure fluids. Even if the equipment has been shut down it may still be under pressure. To work on the system safely, relieve the pressure first.

Always relieve the hydraulic system pressure before any disassembly. Ensure the correct coupling of low- and high-pressure hydraulic components when swapping out components. Incorrect coupling of lines can result in ruptures that expose operators and personnel to a high risk of injury.

Pressure relief valves incorporated into the hydraulic system will avoid pressure build-ups during use. Keep these valves clean and test them periodically to ensure correct operation.

**An improperly maintained hydraulic system can lead to component failures. Safe hydraulic system performance requires general maintenance.**



