

FLOATING AND TOWING PROCEDURE MANUAL

AUTHORISATION

AUTHORISING OFFICER'S SIGNATURE	
NAME	
POSITION	

AMENDMENTS

ISSUE	PAGE	DATE	DETAILS

HOW TO USE THIS DOCUMENT

This document is the primary instructional guide for Floating and Towing activities. It is the detailed reference on the latest operational requirements and procedures and forms the basis of all training materials.

Each section in the manual is broken down as follows:

- Key Elements – Lists the main summary points from that section.
- Purpose and Scope – Describes the function of that section and what it covers.
- Roles and Responsibilities – Lists who does what, and who they report to.
- Operational Requirements – Details what is required for individuals undertaking tasks associated with the procedure manual.
- Procedures – Describes the who, what, how, when and where of tasks associated with this procedure manual. Each step in the process is listed alongside associated hazards and controls. These procedures are based on the results of risk assessments, developed in consultation with specialists in the field.
- Supporting Documentation – Collates any forms, drawings or other attachments that support information and procedures in the section.
- References – Lists any internal and external documentation referenced in the section.

“Important” and “Caution” boxes are used throughout the document.



Important

Indicates critical information that requires extra attention



Caution

Highlights hazards and areas of higher risk

The Appendices section at the back of the document contains the risk assessments used as the basis of the procedures. This ensures the latest risk assessments are always accessible for future review.

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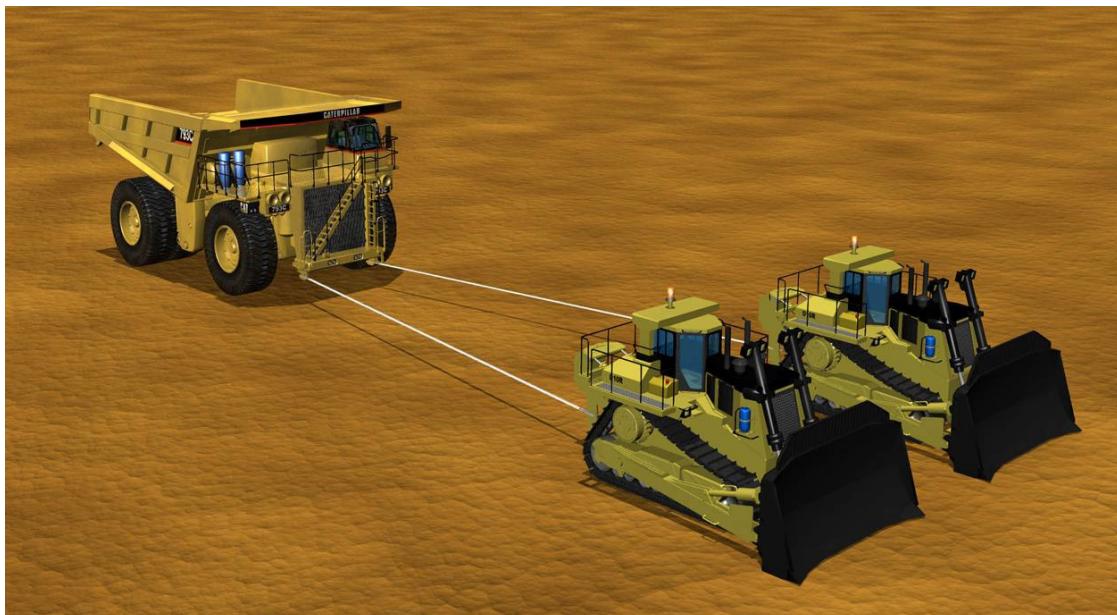
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1. TOWING DISABLED OR STRANDED MOBILE EQUIPMENT USING A TOW STROP

KEY ELEMENTS

This area can be used in a number of ways:

- List key points from the main text of the section
- List the training objectives of the section. This also acts as a section summary



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1.1 PURPOSE AND SCOPE

This section outlines the safe and efficient towing of disabled or stranded surface mobile equipment (SME) using a tow strop.

1.2 ROLES AND RESPONSIBILITIES

Position	Key Responsibilities	Reports To
Mobile Equipment Operator	<ul style="list-style-type: none">▪ Plan and prepare the safe and timely towing of disabled or stranded mobile equipment using a tow strop▪ Conduct appropriate pre-start safety checks on all towing equipment▪ Work cooperatively with fitters when towing disabled or stranded mobile equipment using a tow strop▪ Appropriately respond to incidents and accidents	Supervisor

1.3 OPERATIONAL REQUIREMENTS

If a disabled SME is in a position where it cannot be towed by a tow truck, or pushed out by a track dozer, it may be dragged out using a tow strop.

1.3.1 Towing Disabled or Stranded Mobile Equipment with a Tow Strop

If SME becomes disabled, bogged or stranded and unable to be driven out, it is usually either towed by a tow truck (disabled haul trucks) or pushed out by a track dozer (stranded or bogged SME). Occasionally this will not be possible, for example if there is a lack of space behind the stranded mobile equipment. In these situations, the equipment should be to be towed out by one or two track dozers connected by a tow strop.



Important

Haul trucks may only be towed, they must not be pushed by SME.



Important

Two track dozers must be used when towing disabled or stranded haul trucks from the front towing points.

1.3.2 Preparing for Towing

Complete a JHA to ensure all possible hazards are identified and controlled before towing disabled or stranded SME.

Consider the size, weight and position of the equipment to be towed as well as any obstructions that may need to be removed.

Where equipment is bogged, it may be necessary to dig out around the wheels first to minimise potential damage to the equipment as it is pulled free.

Track dozers are the preferred equipment to use when towing stranded equipment due to their:

- Low speed gearing
- High traction
- Good vision
- High torque
- Low centre of gravity

When towing disabled or SME (other than haul trucks) it may be necessary to:

- Use more than one track dozer simultaneously
- Connect another track dozer to the rear of the mobile equipment to assist in braking and eliminate the risk of the towed equipment rolling out of control when towing downhill

Maintenance personnel should inspect the brakes and check for any mechanical faults of the disabled or stranded mobile equipment that could make towing unsafe.



Important

Maintenance personnel will need to prepare tracked equipment before towing.

All towing equipment including strops, shackles and slings are to be load rated and checked by qualified Rigging Department personnel before use and checked again after use.



Caution

Chains are not used to tow disabled or stranded mobile equipment because there is a risk they could break and cause injury.



Important

Heavy duty nylon tow straps are used to tow disabled SME.



Important

When towing a haul truck, the heavy duty nylon tow strap must have a minimum 300 tonne capacity breaking strain.



Figure 1. Examples of heavy duty tow straps

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Towing equipment connections must be checked by qualified Cranes and Rigging Department personnel before use. A health and safety representative must confirm that all tasks related to the tow are set up correctly and all control measures have been implemented before any tow can commence.

**Important**

Towing connections can be made to stabilise mobile equipment prior to checks by a rigger only if equipment or personnel are at risk of damage or injury.

1.3.3 Towing Connections

Correctly connect the tow strop to their tow points. The correct configuration depends on the equipment to be towed, as well as whether the connections are to be made at the front or the rear.

Where SME fitted with two towing points is to be towed by a single track dozer, use two tow strops of equal length set up in a V shape running from each of the tow points on the equipment to the ripper on the track dozer. Failure to set up the tow strops in a V configuration will damage the equipment.

Where two track dozers will tow equipment fitted with two tow points, (e.g. haul trucks), a tow strop must be connected from each tow point to the ripper of a track dozer.



Figure 2. Haul truck front towing connections

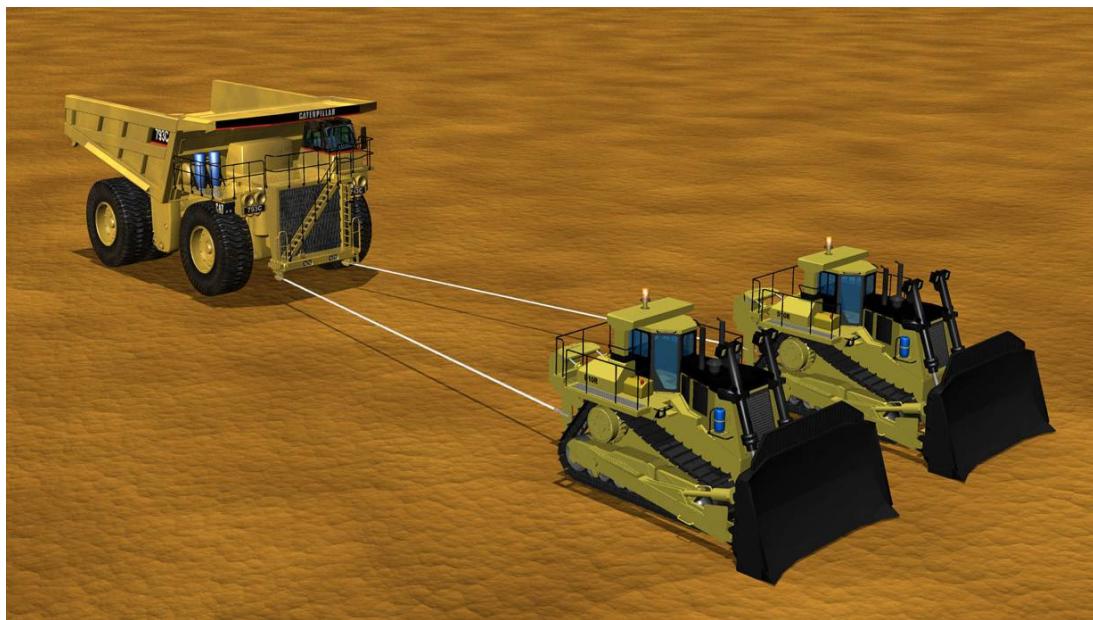


Figure 3. Two track dozers towing a haul truck from the front tow points

Where equipment is fitted with a single tow point (e.g. at the rear of a haul truck), the disabled equipment may be towed using either a single tow strap connected to one track dozer, or two tow straps connected to two track dozers. The overall weight and position as well as how stuck or disabled the equipment is will determine whether one or two track dozers are required.

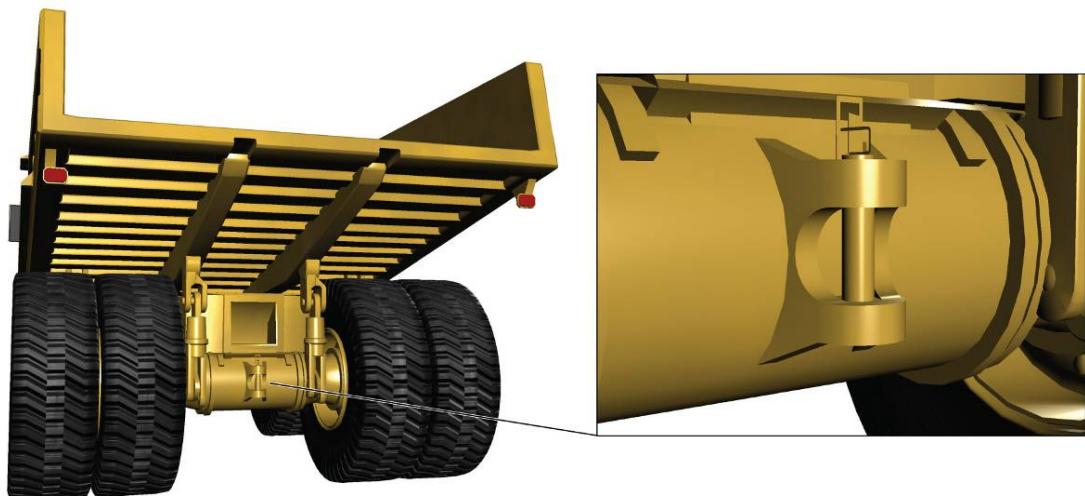


Figure 4. Haul truck rear towing connection

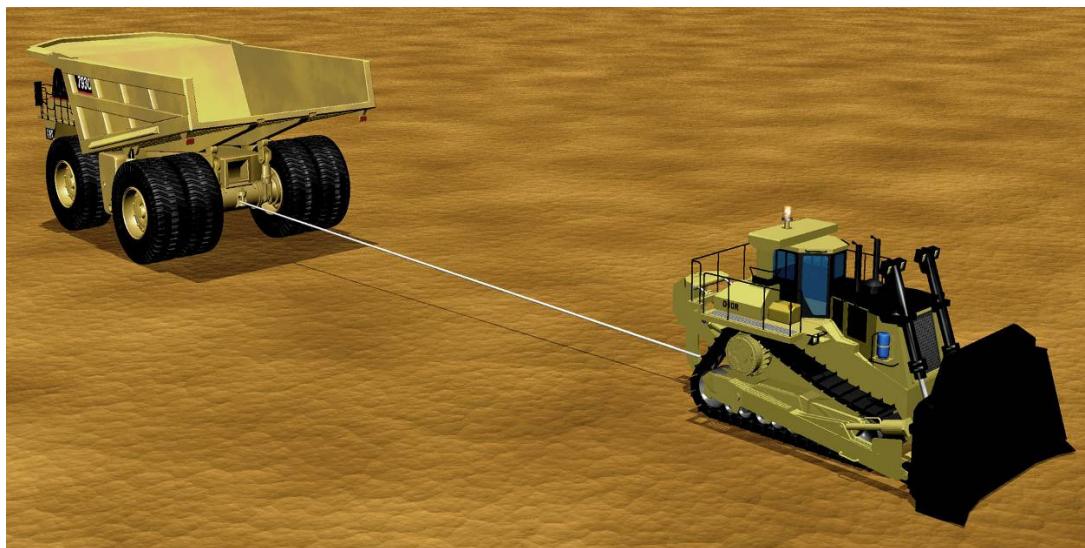


Figure 5. Track dozer towing a haul truck from the rear tow point

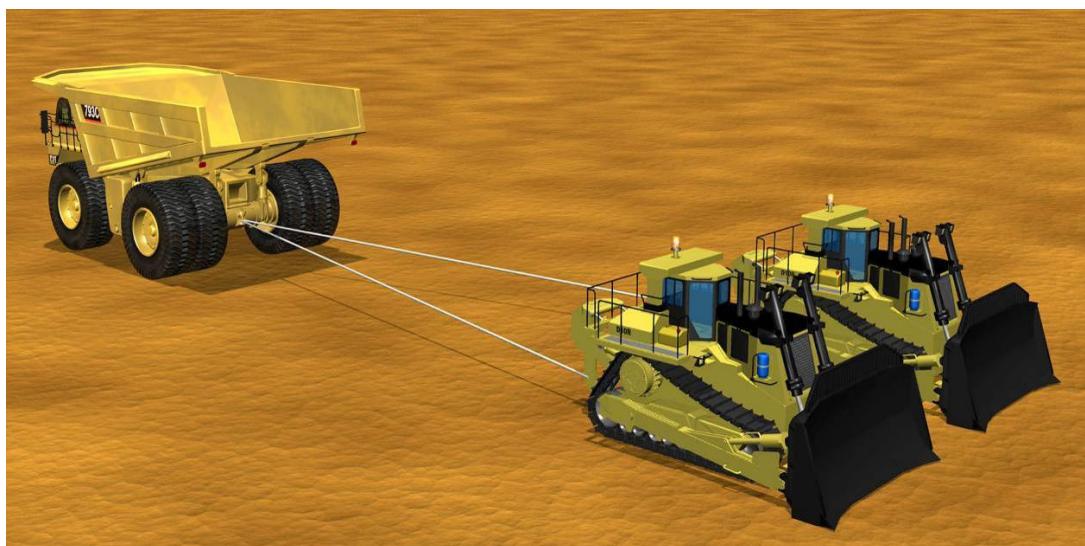


Figure 6. Two track dozers towing a haul truck from the rear tow point

1.3.4 Towing Requirements

Track dozers should pull straight forwards to reduce the risk of damaging the towing connections and equipment. If towing at an angle cannot be avoided, the angle must not exceed 15° from straight ahead since moving beyond this angle will damage the equipment and may lead to one of the tow straps breaking.



Important

Towing equipment must move gradually and steadily to minimise the risk of damaging the stranded or disabled equipment.

Haul trucks should be towed from the front whenever possible. If a haul truck must be towed using the rear tow point, the following elements must be met:

- Ground over which the haul truck will be towed is level and clear of debris
- Haul truck engine, braking and steering systems are operable
- Haul truck is not loaded
- An operator is in the haul truck cab to control the steering and brakes
- It is towed only as far as required to position the haul truck to be connected for towing from the front

Caution

A heavy blanket must be draped over the tow strop once it is connected to eliminate the risk of the tow strop breaking and springing back causing injury.

Caution

All ground personnel must remain at least 50m clear of the area during towing to eliminate the risk of injury should the tow strop snap or the shackles come free from their attachments.

Two-way radio communication must be maintained between the Supervisor, all equipment operators and ground personnel. Ground personnel should notify the Supervisor if they notice the strop starting to break or the track dozer moving forwards while the disabled or stranded SME fails to move. The Supervisor must then stop the move to allow Cranes and Rigging personnel to check the connections and / or tow strop.

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1.4 PROCEDURES

1.4.1 Towing Equipment with a Tow Strap

Purpose This procedure covers the safe and efficient towing of equipment using a tow stop.

Scope This procedure applies to towing any equipment on site

Procedure

No.	Step	Hazards	Guidance Notes
1.	Plan the job, complete a Take 5 and perform a JHA (if required)	<ul style="list-style-type: none"> ▪ Financial - Lost time: due to poor planning. ▪ Human - Failure to control hazards: by not correctly identifying them. 	<ul style="list-style-type: none"> ▪ Complete a Take 5 for each new task so all risks are identified and managed ▪ Account for major hazards for this task including ladders (three point contact) and heat stress
2.	Gather and check equipment	<ul style="list-style-type: none"> ▪ Human - Failure to control hazards: by not checking equipment for damage ▪ Financial - Lost time: by not gathering all equipment required leading to lost time 	<ul style="list-style-type: none"> ▪ Gather and inspect all equipment before starting the task. Do not use damaged equipment and report it to the Supervisor. ▪ Failing to gather all appropriate equipment before commencing can lead to lost time
3.	Notify Operation Supervisors of intended tow	<ul style="list-style-type: none"> ▪ Human - Poor communication: Supervisor is not informed of the intended tow 	<ul style="list-style-type: none"> ▪ Supervisor must be informed of the tow before it begins. Provide all relevant details including what is to be towed and who is towing it
4.	Clear the intended towing route of obstructions	<ul style="list-style-type: none"> ▪ Lost Time - Poor communication: leading to the tow not being able to travel the intended route ▪ Mechanical - Impact: due to the area not being adequately cleared of all obstacles ▪ Mechanical - Entanglement: of towed equipment and power lines 	<ul style="list-style-type: none"> ▪ Check for the positioning of windrows, signs, overhead powerlines and other potential obstructions and arrange to remove or alter them where required ▪ If the equipment being towed may come within 3m of overhead power lines an Electrical Line Access permit will be required

No.	Step	Hazards	Guidance Notes
5.	Position the dozer(s)	<ul style="list-style-type: none"> ▪ Mechanical - Impact: due to poor manoeuvring of the dozers ▪ Mechanical - Entanglement: of strop lines 	<ul style="list-style-type: none"> ▪ Position the dozers into the best position to start towing. Check the surrounds and ensure there is a clear path in front of the dozers ▪ Be careful when moving the dozers that they do not come into contact and the area is clear of personnel and machinery around them
6.	Attached the tow strop	<ul style="list-style-type: none"> ▪ Ergonomic - Manual Handling: injury sustained while connecting the tow strop ▪ Mechanical - Pinch Point: hand injury while attaching the tow strop 	<ul style="list-style-type: none"> ▪ Handling the strop can be difficult because of its size and weight. Use good manual handling techniques and a team lift as required ▪ Be aware of pinch points when joining the tow strop to the attachment point and wear gloves when performing the task
7.	<i>Continue adding steps until end of procedure.</i>		

1.5 SUPPORTING DOCUMENTATION

Place forms and other reference document that support the section information here.

1.6 REFERENCES

Any statutory or company specific documents referenced in the section are listed here.

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2. APPENDICES

2.1 RISK ASSESSMENTS

2.1.1 Towing with a tow strap

Date:

Team:

Step	Hazard	Unwanted event (Incident)	Initial Risk (No Controls)			Existing Controls	Residual Risk		
			Consequence	Likelihood	Risk		Consequence	Likelihood	Risk
<i>Place completed risk assessment here</i>					High				Low