



SAFE OPERATING PROCEDURES FOR THE VERMEER RANGE OF HYDROSTATIC PEDESTRIAN TRENCHERS

Revised Document

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THE INTRODUCTION

VERMEER'S RESPONSIBILITIES:

Australia incorporates a wide range of Occupational Health & Safety laws and regulations aimed directly at a wide range of parties associated with the selling, hiring and operation of plant.

Vermeer Australia, acting as the seller, supplier or hiring agent of the plant has a number of very specific responsibilities under these OHS laws and regulations.

In fully meeting our responsibilities, Vermeer Australia has developed this document in order to assist you (and your employees) to operate the Vermeer pedestrian trencher in the safest possible manner.

During the plant purchasing or handover stage Vermeer Australia will provide you with the following documentation:

- Operator's Manual dedicated to the pedestrian trencher operations
- Plant Hazard & Risk Assessment dedicated to the pedestrian trencher operations
- Operator Safety Instruction & Handover Sign Off
- Safe Operating Procedures specific to the pedestrian trencher operations

Furthermore, this document takes into account the fact that the Vermeer pedestrian trencher may be required to be operated in areas where either the general public or other individuals who are not connected with the plant's operations in any way may be present.

THESE FACTORS SIGNIFICANTLY INCREASE THE RISK OF INJURY TO PERSONS AS THE GENERAL PUBLIC OR PERSONS NOT CONNECTED WITH THE PLANT OPERATIONS HAVE NO TRAINING WHATSOEVER !

Vermeer Australia promotes the safe operation of its products and fully supports the objectives of all Australian Occupational Health & Safety laws and regulations pertaining to the safe use of plant in Australia.

PLANT OPERATOR(S) RESPONSIBILITIES:

As the user of this plant, you also have significant responsibilities under Australian Occupational Health & Safety laws and regulations.

You must, at all times when setting up the work site, during the plant's operations and when packing-up the work site ensure that you have applied all of the recommended safety control strategies designed to minimise the risk of injury to all persons connected with the operation of the plant and the general public who may be in close proximity to the plant due to the working environment.

Additionally, during the plant purchasing or handover stage Vermeer Australia will have provided you with the following documentation:

- Operator's Manual dedicated to the pedestrian trencher operations
- Plant Hazard & Risk Assessment dedicated to the pedestrian trencher operations
- Operator Safety Instruction & Handover Sign Off
- Safe Operating Procedures specific to the pedestrian trencher operations

IT IS IMPERATIVE THAT YOU READ, UNDERSTAND AND APPLY ALL RECOMMENDATIONS CONTAINED IN THESE DOCUMENTS

Plant operators and assistants must display a high level of competency before commencing any operations with the plant.

This is a NON-NEGOTIABLE requirement.

Your failure to apply these recommendations will render you (and possibly your employees) liable to significant penalties which constitute very heavy monetary based fines and possible criminal prosecution. Furthermore, you may also be liable to civil litigation due to a potential public liability claim.

It is also worth noting the fact that many statutory authorities / organisations and contracting organisations will require you to have the above information on hand at all times before you can commence work.

This is due to the fact that these organisations are also aware of their legal Occupational Health & Safety obligations.

THE SAFE OPERATING PROCEDURES

The following Safe Operating Procedures (SOP) for the Vermeer Hydrostatic Pedestrian Trenchers has been purposely designed using a systematic process throughout the entire operational stages.

The objective for the use of such a process reduces the potential for operator oversights when arriving at the work site, performing actual trenching operations and at the cessation of operations when the plant and work site is being packed up.

Prior to beginning the wide range of trenching operations, it is imperative that ALL users of the plant have read (and understood) the Plant Hazard & Risk Assessment document pertaining to their particular Vermeer Hydrostatic Pedestrian Trencher.

It is also highly recommended that all plant operators complete a Job Safety Analysis (JSA) worksheet and / or Safe Work Method Statement (SWMS) worksheet prior to commencing operations.

SET UP (PREPARATION) STAGE:

- All persons involved in trenching operations with the plant to complete a 'site-specific' Job Safety Analysis (JSA) worksheet and / or Safe Work Method Statement (SWMS) upon arrival at the site and following a site inspection.
- Completed JSA / SWMS to be understood by all persons involved with trenching operations with the plant and signed off by all persons acknowledging risk control strategies to be applied and complied with.
- As with any plant, the operator (and their designated assistants) must be correctly trained in the safe use / operation of the trencher which they will be required to operate.

THERE IS NO NEGOTIATION CONCERNING THIS REQUIREMENT!

- Before any unloading operations with the pedestrian trencher can commence, plan where the most appropriate location is in order to perform the unloading operation of the plant from its transportation trailer!

Consideration towards any overhead structures must be taken into consideration as part of this assessment process.

- Upon completion of the assessment process (and prior to the commencement of trenching operations) when unloading the pedestrian trencher from its trailer ensure that the operator is in full

control of the plant when guiding the plant down the ramp in order to access the area where the trenching operations are to begin.

At this stage it is important to ensure that the operator maintains a clear view of the area both in front of the plant and behind them at all times. This requirement is particularly important due to the fact that the operator may be required to reverse the pedestrian trencher down the ramp from the trailer.

- It must be noted that wherever possible the pedestrian trencher should be transported in a manner which enables the operator to lower the pedestrian trencher down the ramp **without** having to walk in a backwards manner.

THIS RECOMMENDATION MUST BE CONSIDERED

- Prior to unloading the pedestrian trencher from the transporting trailer ensure that the attached ramp is securely positioned and effectively attached to the transporting trailer in order to avoid a fall and / or uncontrolled roll-over of the pedestrian trencher (which also includes the plant's operator).
- **Important Information Concerning the Vermeer RTX200:**

In the event where the pedestrian trencher is a Vermeer RTX200, the **RED COLOURED** pin-track antirotation device (that is stored and fitted to the lower left-hand track assembly) will need to be removed before the trencher can be unloaded from the transporting trailer.

This operation will require the plant operator to carefully remove the **RED COLOURED** pin-track antirotation device from the designated locking hole (which locks the left-hand-side track drive gear) and return it to its dedicated **RED COLOURED** holder and re-fit the "R" clip in order to secure the **RED COLOURED** pin-track antirotation device from removing itself from the **RED COLOURED** holder during trenching operations.

Upon the completion of this operation, the trencher can be removed from the transporting trailer.

- Throughout the unloading operations of the pedestrian trencher from the transport trailer to the ground it is imperative to ensure that the rotating components (the trencher cutting chain and auger) remain locked in a static state.

THERE IS NO NEGOTIATION CONCERNING THIS REQUIREMENT!

- It must be noted at this stage that the Vermeer Pedestrian Trencher may also incorporate a backfill blade as an accessory item.

When fitting (and removing) this accessory it is imperative that a full and detailed understanding of the correct fitting (and removal) practices are both understood and applied at all times. This requirement also extends to understanding the correct operation and use of the accessory back-fill blade.

Failure to comply with this requirement can lead to possible detachment and / or malfunction of the accessory attachment resulting in serious injury to either the operator or their assistant(s).

(All fitting and removing operations must comply with the manufacturer's written instructions at all times. In the event where a fault and / or damage has been identified with the accessory attachment the operator must contact the nearest Vermeer Australia branch for specialist advice).

- Following the site inspection, position the plant in the most convenient location taking note of any surface obstructions and hazards.

These factors can influence where you position the plant!

- In the event where the trenching operations are to be performed in a public area it is important to isolate the area where all of the equipment is positioned. It is important to include the actual work area where the work group is moving about as this area will present certain hazards to the general public.

Isolation controls can include, but are not limited to, taping the exclusion area with the aid of high visibility tape, marking the area with high visibility witches' hats and placing warning signage at strategic locations where the activities are being performed.

Another highly effective control strategy will include the provision of a spotter who will be charged with applying a vigilant awareness of approaching persons where the plant operations are being performed.

An effective isolation zone of ten (10) metres around the total work site (including the plant) constitutes a 'good rule of thumb' approach.

- Particular attention will need to be applied with respect to the control of spoil that is ejected as a result of the trenching operations.
- Ensure that all rubber curtains (where fitted) meet and comply with the manufacturing standards as set by the plant's manufacturer. The rubber curtains (where fitted) are designed to provide the plant operator (and their assistant) with protection against any flying stone or rock that may be ejected from either the plant's trencher cutting chain and auger assemblies.

In the event where the rubber curtain(s) are damaged in any way, the plant must be returned to a safe and serviceable condition by an authorised Vermeer Service Technician before any further trenching operations can commence.

- Prior to the operation of the pedestrian trencher, it is imperative to ensure that it operates and performs in accordance with the manufacturer's operating specifications at all times.

It is imperative that the pedestrian trencher's cutting assembly including chain and boom (including crumber), rotating auger and back-fill blade (where fitted) remains structurally sound at all times.

Additionally, all cutters that are attached to the cutting chain must be securely tightened and in a sharp and undamaged condition at all times.

Furthermore, all operator controls must remain in a condition (and perform) in accordance with the manufacturer's design and operating specifications before the pedestrian trencher can be used.

In the event where concerns are held regarding either the condition of the pedestrian trencher and / or the manner in which it operates contact your Vermeer Australia service centre before using the pedestrian trencher.

- Awareness as to the potential for underground electrical cables and utilities will also need to be given. Where possible obtain a utility site plan in the event where you suspect that underground electrical cables and other utilities may exist.

All plant operators will need to devise an effective strategy to ensure that no contact is made with underground cables and other utilities should these exist. Also contact your local 'Dial Before You Dig' authority if doubts exist.

- Consideration as to the surrounding terrain will also need to be applied. Consider 'marking out' or highlighting areas where holes or depressions exist in order to mitigate the potential for persons to either slip, trip or fall when around the plant.
- All persons involved with the trenching operations will need to be provided with and wear the necessary personal protective equipment (PPE). It is important to ensure that this equipment is in a good serviceable condition and correctly fitted.

PPE will include eye protection, hearing protection, gloves, safety shoes / boots and clothing that is not loose around the body.

OPERATING STAGE:

- Following commencement of start-up and warm up procedures as per the recommended Vermeer Operator's Manual instructions for the pedestrian trencher, ensure that all emergency shutdown activation systems are fully operational.

(In the event where one (or more) of these emergency-stop systems are found to be defective they must be repaired prior to the operation of the plant).

- During trenching operations check to ensure that no excessive build-up of spoil impedes your ability to operate the plant safely.

In the event where spoil does build up, remove the spoil prior to resuming trenching operations.

It is important to maintain a clean area during plant operations as best as possible in order to minimise the potential for a trip and fall hazard to develop.

- In the event where the pedestrian trencher is fitted with an accessory back-fill blade ensure that no body parts are placed in close proximity to the back-fill blade when lowering / raising it due to the hydraulic forces that are applied as part of its operation.
- Ensure that the terrain where the plant is being used is both firm and stable in order to prevent the possibility of the pedestrian trencher either tipping and / or rolling over.

Additional care will also need to be applied when traversing and / or operating the plant on ground surfaces that incorporate a steep incline, since the possibility for the trencher to either tip and / or roll over presents as a significant possibility.

- **Important Information Concerning the Vermeer RTX200:**

In the event where the Vermeer RTX200 is required to be parked on a ground surface that incorporates a moderate to steep incline with the engine in either a shutdown or operational state, it is imperative that the **RED COLOURED** pin-track antirotation device is applied to the plant's left-hand-side track drive gear.

This operation will require the plant operator to carefully remove the "R" clip from the **RED COLOURED** holder (which is positioned at the lower left-hand track assembly), thereby enabling the release of the **RED COLOURED** pin-track antirotation device from its **RED COLOURED** holder.

Remember to return the “R” clip into the **RED COLOURED** holder in order to prevent its loss!

The **RED COLOURED** pin-track antirotation device will then need to be inserted into the designated hole, thereby ensuring that the left-hand-side track drive gear is locked.

This operation will ensure that the trencher will remain in a stationary and secure position whilst on an incline.

In order to commence trenching operations, the trencher’s engine must be re-started in the first instance if it had been previously shutdown.

Following the restarting of the trencher’s engine, the plant operator will need to carefully remove the **RED COLOURED** pin-track antirotation device from its designated locking hole and return it to its dedicated **RED COLOURED** holder and re-fit the “R” clip in order to secure the **RED COLOURED** pin-track antirotation device from removing itself from the **RED COLOURED** holder during trenching operations.

It is imperative to ensure that when the operator is performing this operation with respect to the removal and / or re-fitting of the **RED COLOURED** pin-track antirotation device that they are very well aware of their actions at ALL times. Do not attempt this operation unless you are correctly trained to do so.

Placing hands in close proximity to the Vermeer RTX200’s track drive assembly without undue care and attention can result in significant injury to both the operator and possibly other individuals (designated assistants) who may be in close proximity to the plant.

- Particular care must also be applied by the pedestrian trencher’s operator due to the fact that they are required to walk in a backwards manner during trenching operations. Therefore, the aid of an observer who is standing at a safe distance from the pedestrian trencher’s operator can advise of any potential ground hazards in the event where they are present.

This option may not necessarily be available however it will enhance the standard of safety for the pedestrian trencher’s operator.

- Throughout the trenching operations it is imperative to ensure that the pedestrian trencher continues to operate in accordance with the manufacturer’s operating standards at all times. In the event where a fault concerning the operation of the pedestrian trencher occurs trenching must cease immediately and the plant returned to Vermeer Australia for the required repairs.
- Throughout the trenching operations it is important to ensure that the entire work site remains a NO GO ZONE for any members of the

general public or observers. Continue to exercise vigilance by ensuring that all barriers remain in place and that the spotter continues to re-direct both human and vehicle traffic from the immediate work site.

- Under no circumstances must the operator of the pedestrian trencher (or any assistants) stand near the plant when it is performing its trenching operations.

Only the plant operator must operate the plant when it is in use or when moving about.

All other observers / assistants must stand at least ten (10) metres away from the pedestrian trencher during trenching operations.

UNDER NO CIRCUMSTANCES MUST ANY INDIVIDUAL BE PERMITTED TO STAND ON ANY ELEVATED SECTION OF THE PLANT WHEN THE PLANT IS MOVING!

- Due to the potential for excessive vibration to be transmitted to the pedestrian trencher's operator (when performing trenching operations) it is important that the operator takes regular rest breaks when using the plant.

Should the operator choose not to take regular rest breaks the potential for a 'vibration induced injury' to occur is high including the potential for ongoing diminished control of the plant.

PACK UP STAGE:

- Upon completion of the trenching operations shut down the plant as per the recommended Vermeer Hydrostatic Pedestrian Trencher Operator's Manual instructions.
- Ensure that all spoil has been thoroughly removed from the worksite and that the worksite has been restored to a safe and orderly standard with no obstructions or remaining hazards.
- Before any loading operations with the plant can commence, plan where the most appropriate location is in order to perform the loading operation of the plant onto its transportation trailer!

Consideration towards any overhead structures must be taken into consideration as part of this assessment process.

- Prior to loading the pedestrian trencher onto the transporting trailer ensure that the attached ramp is securely positioned and effectively attached to the transporting trailer in order to avoid a fall and / or uncontrolled roll-over of the pedestrian trencher (which also includes the plant's operator).

- When loading the pedestrian trencher onto the trailer ensure that the operator is in full control of the plant when guiding the plant up the ramp in order to access the flat floor surface of the trailer.

It is important to ensure that during all loading operations that any individual assisting with this operation is standing at a sufficiently safe distance from the pedestrian trencher (and the transportation trailer) in the event where the pedestrian trencher was to roll off the transportation trailer.

Particular care must be applied at this stage as the plant will begin to become elevated.

At this stage it is important to ensure that the operator maintains clear and effective vision at all times in order to view the area at both the front and rear of the plant at all times.

Furthermore, full awareness must be applied at all times for the possible existence of overhead structures when loading the pedestrian trencher onto the transport trailer.

- It must be noted that wherever possible the pedestrian trencher should be transported in a manner which enables the operator to either elevate and / or lower the pedestrian trencher up or down the ramp **without** having to walk in a backwards manner.

THIS RECOMMENDATION MUST BE CONSIDERED

- Throughout the loading operations of the pedestrian trencher from the ground surface onto the transport trailer it is imperative to ensure that the rotating components (the trencher cutting chain and auger) remain in a locked static state.

THERE IS NO NEGOTIATION CONCERNING THIS REQUIREMENT!

- **Important Information Concerning the Vermeer RTX200:**

In order to ensure against the movement of the Vermeer RTX200, it is important that the plant is securely and effectively locked whilst it remains on the transporting trailer and during all transportation operations.

In order to achieve this requirement, the plant operator will need to carefully remove the “R” clip from the **RED COLOURED** holder (which is positioned at the lower left-hand track assembly), thereby enabling the release of the **RED COLOURED** pin-track antirotation device from its **RED COLOURED** holder.

Remember to return the “R” clip into the **RED COLOURED** holder in order to prevent its loss!

The **RED COLOURED** pin-track antirotation device will then need to be inserted into the designated hole, thereby ensuring that the left-hand-side track drive gear is locked.

- Upon successfully loading the pedestrian trencher onto its transportation trailer ensure that it is safely and effectively secured with the use of appropriate chains and / or tie-downs to ensure against its movement whilst on public roadways.

ADDITIONAL CONSIDERATIONS:

- The Vermeer range of Hydrostatic Pedestrian Trenchers are engineered and manufactured to the highest possible standards in order to perform exceptional service and safe operation over the sustained life span of the plant.

In order to ensure continued performance, safe operation and reliability of the Vermeer range of Hydrostatic Pedestrian Trenchers it is imperative that the plant is fully maintained in accordance with the manufacturer's instructions at all times.

In the event where questions are raised concerning the performance and subsequent operation of the plant or where the plant has been damaged in any way.....you must report these details to your Vermeer Service Department without fail.

- Under no circumstances must any person remove any guard that is designed to protect an individual from any moving parts whilst the pedestrian trencher is in operation or with the engine is operating.
- Under no circumstances must the plant be used with any guard(s) removed that are designed to cover any exposed rotating equipment.
- In the event where guards are required to be removed for either inspection and / or maintenance purposes this task must only be performed by an authorised Vermeer Service Technician.
- All decals as fitted to the pedestrian trencher advising of safety warnings must not be removed. They must be replaced if in a damaged or worn state.
- The plant, including the back-fill blade accessory (where fitted) is hydraulically powered. This accessory attachment incorporates advanced performance capabilities that incorporates the potential for a severe crush, shearing and / or striking injury in the event where an individual places any body part(s) in close proximity to the fitted back-fill blade accessory when the plant is in operation.

Therefore, under NO circumstances must any person place any body part(s) within the range of movement of the hydraulically powered attachments as fitted to the pedestrian trencher when the petrol engine is in operation.

All maintenance and / or repairs required to either the plant and / or it's attachment(s) must be performed by an authorised and trained individual without compromise.

Operating plant that is not correctly maintained and / or damaged in any way what so ever constitutes an unsafe work practice and can result in a serious injury to the operator(s) including any assistants.

Furthermore, this practice can constitute a violation to the relevant Australian Occupational Health & Safety Laws and Regulations.