



Plant/Task/Layout:	Unique Code:	
Trencher series	Trencher Bigfoot V2	
Description:	The Digger trencher is a high performance attachment fitted with a Digger planetary gearbox, that is designed for trenching. The trenchers covered in this risk assessment include ; Bigfoot, Bigfoot XD, Bigfoot XD/ HF, Hydrive, Hydrive XD	
Department:	Location/Project:	Area:
Admin QLD	Head Office	Trenches
Process:	Risk Assessment Completed By:	Risk Assessment Date:
Plant & Equipment	Ryan Bowen	26/09/2019
Documents:		

Hazards with Added Risks

Item	Risk Description	Initial Risk	Control(s)	Reviewer	Review Date	Residual Risk
Abnormal Situation						
Could any foreseeable abnormal conditions, misuse or fluctuations in operation conditions create potential hazards? (State nature of hazards)	Potential for chain to snap in extreme circumstances if the operator was to misuse the trencher outside of the plants capabilities	9 (Medium) 36.00%	Administration: Owner / operators to follow all safe operator instructions specified in the manual and not work outside of the manufacturers recommendations	Steven McGuinness	25/09/2023	6 (Low) 24.00%
Could any foreseeable abnormal conditions, misuse or fluctuations in operation conditions create potential hazards? (State nature of hazards)	Potential for chain to snap in extreme circumstances if the operator was to misuse the trencher outside of the plants capabilities	9 (Medium) 36.00%	Operator manual explains how to achieve correct chain tension and how to adjust chain and boom length if the chain becomes loose or too tight	Anthony Wieckmann	23/09/2023	6 (Low) 24.00%
			Operator manual describes ideal chain speed and how to set the (shaft, chain and hydraulic) speeds to ensure optimum performance and how to reduce wear and tear	Anthony Wieckmann	23/09/2023	
Condition						
Is a hazard likely due to the age and condition of the plant?	Potential of hazards relating to the age of the plant and the condition of the wear parts if not treated as per manufacturers recommendations or if not serviced regularly	13 (Medium) 52.00%	Operator manual identifies when replacement parts (teeth) should be replaced and what to look for in worn parts. It describes different types of digging conditions and how they wear.	Anthony Wieckmann	23/09/2023	9 (Medium) 36.00%
			Detailed maintenance requirements identified in the operator manual (Section 9) describes how to seals, oil change schedules, sprocket replacement, hydraulic hose connection, boom adjustment and chain fitting and adjustment	Anthony Wieckmann	23/09/2023	
Crushing/Trapping						
<i>Can anyone be crushed/trapped due to</i>						
Uncontrolled/unexpected movement of plant/load?	Persons could become trapped or crushed by machine if uncontrolled movement of plant and load or if standing too close to moving parts when being operated	14 (Medium) 56.00%	Dependant on host machine - but operator has control of the trencher chain movement when digging and can stop movement to the chain by shutting off hydraulic oil flow which would stop chain moving if people came into work zone	Anthony Wieckmann	23/09/2023	9 (Medium) 36.00%
			Labels or decals are located on the trencher to remind operators to keep bystanders away from work zones	Anthony Wieckmann	23/09/2023	
			Operator manual describes safe distance for bystanders - All bystanders should be kept a minimum of 20 feet (6 meters) away from the working area of the drive.	Anthony Wieckmann	23/09/2023	
Lack of capacity to slow, stop or immobilise plant?	Bystanders or operator could become trapped and not be in a position to slow, stop or immobilize the plant if they leave the operation cab/ operation platform or control location of the trencher to fix or remove debris from moving parts	18 (High) 72.00%	Operator manual states that operators shall only operate from the operators station, and before exiting the machine, lower the attachment to the ground, apply the parking brakes, turn off the prime mover's engine, and remove the key.	Anthony Wieckmann	23/09/2023	10 (Medium) 40.00%



The plant tipping or rolling over?	Persons could become crushed or trapped due to trencher tipping over if not attached to plant when being/ loaded or not in use on plant and equipment	13 (Medium) 52.00%	Use extra care when loading or unloading the machine onto a trailer or truck.	Anthony Wieckmann	23/09/2023	6 (Low) 24.00%
			Disconnect hydraulic couplers during transportation.	Anthony Wieckmann	23/09/2023	
			Operator manual recommends attachments are well secured when being moved or in transit and furthermore prior to moving, storing, loading/unloading or parking it is suggested that the attachment is strapped/secured to a pallet or enclosed in a suitable container to minimise any movement or loss of the load during such activity.	Anthony Wieckmann	23/09/2023	
			Verify that all tie down accessories (chains, slings, ropes, shackles and etc.) are capable of maintaining attachment stability during transporting and are attached in such a way to prevent unintended disengagement or shifting of the unit	Anthony Wieckmann	23/09/2023	
			Before performing maintenance, lower the attachment to the ground, apply the parking brakes, turn off the engine, and remove the key	Anthony Wieckmann	23/09/2023	

Cutting, Stabbing, Striking, Puncturing, Abrasion and Tearing

Can anyone be cut, stabbed or punctured due to

Contact with sharp or flying objects?	Operators or bystanders could come into contact with flying or sharp objects during operation especially if use in using high hydraulic flow to move the trencher blade	13 (Medium) 52.00%	Administration: Do not allow Site workers to climb or ride on Trencher at any time, including while stationary, in operation or being moved.	Steven McGuinness	07/10/2023	6 (Low) 24.00%
			Administration: All bystanders should be kept a minimum of 20 feet (6 meters) away from the working area of the drive	Steven McGuinness	07/10/2023	
Contact with moving parts during testing, inspection, operation, maintenance, cleaning or repair?	Operators could be cut, stabbed or punctured by sharp objects on the trencher chain during testing, inspection, maintenance, cleaning or repair	13 (Medium) 52.00%	Never adjust a relief valve for pressure higher than recommended by the machine's manufacturer	Steven McGuinness	07/10/2023	9 (Medium) 36.00%
			Before performing maintenance, lower the attachment to the ground, apply the parking brakes, turn off the engine, and remove the key.	Steven McGuinness	07/10/2023	
			The trencher must be stopped before making adjustments to the attachment	Steven McGuinness	07/10/2023	
			Spoil augers shall be cleaned only when the rotating mechanism is in neutral and the spoil auger stopped; a long-handled shovel shall be used to move cuttings from the auger. Materials heavier than 10kgs must be moved mechanically or by using at least two people.	Steven McGuinness	07/10/2023	

Electricity

Can anyone be injured by electrical shock or burnt due to

Working in close proximity to electrical conductors?	Operators could receive electrical shock or be burnt if working close to live electrical conductors or if they come into contact with live electrical cables when digging.	18 (High) 72.00%	Observe overhead electrical and other utility lines. Be sure equipment will clear them. When digging, call DIAL BEFORE YOU DIG ON 1100 (in Australia), or your local UTILITIES location service provider for location of buried utility lines, gas, water, and sewer, as well as any other hazard you may encounter.	Steven McGuinness	07/09/2023	9 (Medium) 36.00%
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Entanglement

Can anyone's hair, clothing, gloves, cleaning brushes, tools, rags or other materials become entangled with moving parts of the plant or materials?	Anyones hair, clothing gloves, cleaning items could become entangled with moving parts when cleaning debris out of the Trenchers moving parts (trencher chain or spoil auger)	18 (High) 72.00%	Spoil augers shall be cleaned only when the rotating mechanism is in neutral and the spoil auger stopped; a long-handled shovel shall be used to move cuttings from the auger. Materials heavier than 10kgs must be moved mechanically or by using at least two people.	Steven McGuinness	07/10/2023	14 (Medium) 56.00%
Can other items become entangled in moving parts of the plant? (air hoses, power cables)	Hydraulic hoses not issued by manufacturer could become tangled in moving parts if the hydraulic hoses are too long and not product specific	18 (High) 72.00%	Make certain that all parts meet the specifications for this product when installing or replacing hydraulic hoses or fittings	Steven McGuinness	07/10/2023	14 (Medium) 56.00%
			Before connecting or disconnecting hydraulic hoses, read your machine or power unit's operator's manual for detailed instructions on connecting and disconnecting hydraulic attachments.	Steven McGuinness	07/10/2023	
			Flow and pressure gauges, fittings, and hoses must have a continuous operating pressure rating of at least 25% higher than highest pressures of the system	Steven McGuinness	07/10/2023	



Friction						
Can anyone be burnt due to contact with moving parts, materials or surfaces of the plant?	Operators could get burnt by the trencher blades after extended use	13 (Medium) 52.00%	Operators to wear appropriate PPE controls when operating the loader and when using the trencher	Steven McGuinness	07/10/2023	6 (Low) 24.00%
Guarding and Emergency Stops						
Are all moving parts guarded? (i.e. Rotating collars, spindles, shafts, chains, belts, nip points etc)	Not all moving parts are guard on the trencher blade and the spoil auger as they are required to move when digging	13 (Medium) 52.00%	Spoil augers shall be cleaned only when the rotating mechanism is in neutral and the spoil auger stopped; a long-handled shovel shall be used to move cuttings from the auger. Materials heavier than 10kgs must be moved mechanically or by using at least two people.	Steven McGuinness	07/10/2023	6 (Low) 24.00%
Lighting						
Is lighting adequate for normal operation, cleaning and maintenance?	Potential hazard due to low visibility of the working area and surroundings.	8 (Medium) 32.00%	Ensure working during daylight hours or provide with adequate artificial lighting.		01/02/2026	3 (Low) 12.00%
Manual Handling						
Does the task involve sudden jerky, rapid or unexpected movements?	Depending on the host machine, operators could receive sudden jerky movements or unexpectant movements due to the type of the terrain being dug to make the trench	13 (Medium) 52.00%	The required chain speed will be dependent on the type of soil and the condition thereof being trenched, harder substances will require higher torques and thus lower speeds. Softer soils on the other hand can be trenched at higher speeds.	Steven McGuinness	07/10/2023	6 (Low) 24.00%
			Raise the Trencher so it is horizontal to the ground, with the bottom of the auger at approx 200mm off the ground, start the rotation of the chain. Ensure the chain is rotating freely before increasing RPM -you can work out optimum operation of trencher	Steven McGuinness	07/09/2023	
			Operator can change speed of the chain cutting the ground which can reduce rotation - this will reduce jerky movements	Steven McGuinness	07/10/2023	
Noise						
<i>Can anyone using the plant, or in the vicinity of the plant suffer injury due to</i>						
Exposure to noise levels exceeding the maximum daily dose level? (85 dB(A) per 8hr day)	Depending on the host machine, noise levels might exceed 85dB(A) at the working station. Noise might hinder communication and prevent operators and adjacent workers from hearing warning signals.	8 (Medium) 32.00%	Keep a minimum of 6 meters (20 ft) clear around the working area. Ensure that the operator have clear visibility of the working area and surroundings.		01/02/2026	6 (Low) 24.00%
			Use of adequate PPE		01/02/2026	
Other						
<i>Can anyone be injured or suffer ill-health from exposure to</i>						
Dusts?	Potential for trencher to create dust if digging in dry conditions or areas where dust could become and issue	13 (Medium) 52.00%	It is recommended to use dust suppression, dust collection and if necessary personal protective equipment during the operation of any attachment that may cause high levels of dust. Water spray is ideal if a mechanical process is not achievable	Anthony Wieckmann	23/09/2023	9 (Medium) 36.00%
PPE						
Is PPE required to operate this item?	Operators could be injured if not wearing appropriate PPE when operating the trencher	9 (Medium) 36.00%	Loose fitting clothing, long hair, jewellery and equipment which might become entangled in moving equipment are prohibited while working near the Trencher.	Steven McGuinness	07/10/2023	6 (Low) 24.00%
			Operators, helpers, and other personnel working near Trencher must wear steel-toe safety shoes, safety glasses, and hard hats (recommended) as a minimum. Hearing protection, respirators, and personnel protective clothing will be specified in the site-specific Health and Safety Plan	Steven McGuinness	07/10/2023	
Pressurised Content						
Can anyone come into contact with fluids or gas under high pressure, due to plant failure or misuse of the plant?	Operators could come into contact with hot fluids under pressure when changing or removing/ replacing hydraulic hoses or coupler's during and after operation	13 (Medium) 52.00%	Always wear safety goggles or glasses when inspecting equipment	Steven McGuinness	07/10/2023	9 (Medium) 36.00%



Shearing					
Can anyone's body parts be sheared between two parts of plant, or between a part of the plant and a work piece or structure?	Operators could become injured (sheared body parts between plant or structure) if not following specified operator instructions	13 (Medium) 52.00%	Operate only from the operator's station. Never place any part of your body into the mounting plate, frame, hitch or loader holes. A slight movement of the power unit and this product could cause serious injury	Steven McGuinness	07/10/2023
				9 (Medium) 36.00%	
				Steven McGuinness	07/10/2023
Slips/Trips/Falls					
<i>Can anyone using the plant, or in the vicinity of the plant, slip, trip or fall due to</i>					
Uneven or slippery surfaces?	Operators or bystanders could slip trip of fall into a dug trench or on the spoil dug from the trench.	9 (Medium) 36.00%	A trench that is left for prolonged periods of time must be capped and flagged so it is clearly identified on the work site.	Steven McGuinness	07/10/2023
				6 (Low) 24.00%	
Systems of Work					
Are operating procedures provided?	Operator knowledge of the plant required to ensure digging correctly	5 (Low) 20.00%	Trencher operator manual explains how to operate trencher, set speed, and perform maintenance	Steven McGuinness	07/10/2023
				3 (Low) 12.00%	

Hazards Deemed Not Applicable

Item
Entanglement
<ul style="list-style-type: none"> Other factors
Crushing/Trapping
<i>Can anyone be crushed/trapped due to</i>
<ul style="list-style-type: none"> Material falling off the plant?
<ul style="list-style-type: none"> Parts of the plant collapsing?
<ul style="list-style-type: none"> Contact with moving parts during testing, inspection, operation, maintenance, cleaning or repair?
<ul style="list-style-type: none"> Being thrown off or under the plant?
<ul style="list-style-type: none"> Other?
<ul style="list-style-type: none"> Being trapped between the plant and other structures?



Cutting, Stabbing, Striking, Puncturing, Abrasion and Tearing

Can anyone be cut, stabbed or punctured due to

- Work pieces being ejected?
- The mobility of the plant?
- Uncontrolled or unexpected movement of the plant?
- Other?

Electricity

Can anyone be injured by electrical shock or burnt due to

- Live electrical conductors?
- Overload of electrical circuits?
- Damaged or poorly maintained electrical leads, cables or switches?
- Water near electrical equipment?
- Lack of isolation procedures?
- Other?

Noise

Can anyone using the plant, or in the vicinity of the plant suffer injury due to

- Excursions above 140 dB(A)?

Radiation



- Can anyone using the plant, or in the vicinity of the plant suffer injury or illness due to exposure to radiation? (Consider all types of radiation, X-rays, Gamma rays, Microwaves, UV, IR, Lasers)

Vibration

- Can anyone be injured or suffer ill health from exposure to vibration?

Fire and Explosion

- Can anyone be injured by fire?
- Can anyone be injured by explosion of gases, vapours, liquids, dusts or other substances?

Temperature

- Can anyone come into contact with objects at high or low temperatures?
- Other?

Suffocation

- Can anyone be suffocated due to lack of oxygen, or Atmospheric contamination?

PPE

- Is appropriate PPE signage displayed on this item?
- Other?

Slips/Trips/Falls

Can anyone using the plant, or in the vicinity of the plant, slip, trip or fall due to

- Poor housekeeping, eg. swarf or spillage in the vicinity?

Ergonomics

Can anyone be injured due to

- Poorly designed seating?



- Repetitive body movement?

- Constrained body posture or movement or maintaining the same posture for prolonged periods?

- Other?

Manual Handling

- Do the actions and postures involve reaching upwards or handling loads above shoulder height?

- Do the actions and postures involve holding loads away from the body?

- Do the actions and postures involve twisting the back, neck or upper body?

- Do the actions and postures involve sideways bending or loading handling on one side?

- Does the task involve long carrying distances?

- Are the forces and loads handled bulky, large or awkward?

- Are the loads handled difficult or uncomfortable to grasp or hold?

- Are the loads handled unstable, unbalanced or unpredictable?

- Does the task require strenuous pushing or pulling?

Guarding and Emergency Stops

- Are emergency stops clearly marked and operational?

Location

- Does the plant impact on the surrounding workplace and Create potential hazards? (Consider potential impact on the design and layout of the workplace)



- Is the location of the plant appropriate? (Consider potential affects due to the environmental conditions and terrain)

- Other?

Abnormal Situation

- Are there any Intermittent conditions which causes an employee to take out of the ordinary action?

- Other?

Systems of Work

- Could work systems/processes associated with the plant create potential hazards? (list hazards)

- Have adequate arrangements been made for safe access and egress from the plant?

- Are operator controls located appropriately and clearly labelled?

Other

Can anyone be injured or suffer ill-health from exposure to

- Chemicals?

- Toxic gasses or vapours?

- Fumes?

- Oils?

- Other?

Falls from Heights



Can anyone fall from a height due to

- Lack of proper work platforms, stairs or ladders?
- Lack of guardrails or other suitable edge protection?
- Unprotected holes, penetrations or gaps?
- Poor floor or walking surfaces, such as the lack of a slip-resistant surface?
- Steep walking surfaces?
- Collapse of the supporting structure?
- Other?