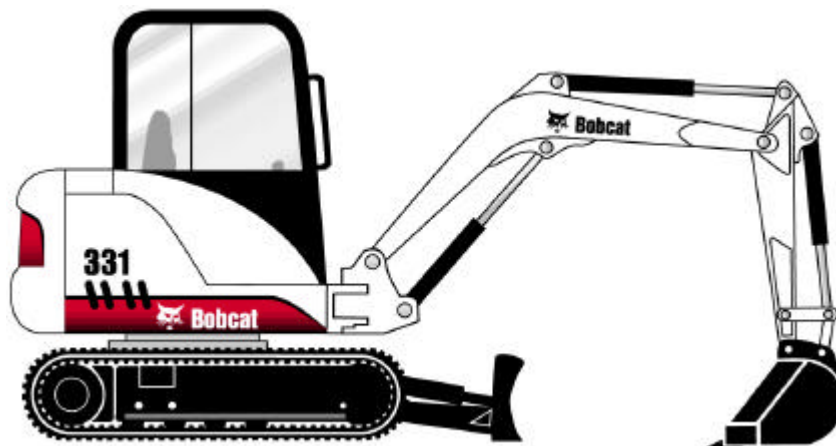


RISK ASSESSMENT

For

Bobcat Excavator

Models 322 – 341, (Series D & G)



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APPLICABILITY

The following Risk Assessment document is applicable to the following models of Bobcat Excavators:

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325D, 325G
328D, 328G
331D, 331G
334D, 334G
337D, 337G
341D, 341G

STANDARDS REFERENCED

The following Standards, Acts and Regulations were referenced in the preparation of this Risk Assessment.

- NOHSC: 1010 (1994) - National Standard for Plant
- OHS Act 2000
- OHS Regulation 2001
- AS2359.6 (1995) – Powered Industrial Trucks – Safety Code
- AS4360 (1999) – Risk Management
- ISO/WD 3691-1 (1999) – Industrial Trucks – Safety Requirements and Verification
- EN1459 (1999) – Safety of Industrial Trucks

Hazard Identification	Risk Assessment	Control of Risk
<p><i>a Suitability for the particular task</i></p> <p>The Bobcat Excavator is suitable for a wide variety of tasks in the earth moving, construction and associated tasks. The Bobcat Excavator design is well suited for operation in confined workplaces where operation reach and manoeuvrability are important.</p> <p>The Bobcat Excavator tasks are varied and many approved attachments are available for particular tasks.</p> <p>The varying work sites can present many hazards including roll over, tipping and falling objects</p>	<p>Risks are low due to safety features designed into the Bobcat Excavator and when operated correctly by a trained and certified driver.</p> <p>Risk can be high, causing both injury and death to operator or bystander, if the Excavator is operated contrary to the safety instructions provided, careful assessment of the workplace has not been carried out and unapproved attachments are used.</p> <p>Serious risk to bystanders is possible when the Excavator is working in congested areas</p>	<p>The Excavator is equipped with a canopy / cabin, which conforms to International Standards for ROPS and TOPS protection for the operator.</p> <p>A seat belt, and emergency exit is provided.</p> <p>A plastic Operator's Handbook is fastened within the operator compartment, containing brief, essential instructions and warnings for safe operation. The Operator Handbook refers to the need to read, and understand the detailed instructions and warnings within the Operation and Maintenance Manual, which is provided on delivery of the Bobcat Excavator Instructions warn the operator to keep bystanders and pedestrians well clear of the work area and to operate in a responsible manner</p>
<p><i>b Actual and intended use in the work place;</i></p> <p>The Bobcat Excavator is a compact multipurpose machine, with the capability of being configured for a variety of different tasks via the application of an appropriate approved attachment.</p> <p>Refer to 'a' above, and 'q'</p>	<p>Refer to 'a' above, and 'q'.</p>	<p>Refer to 'a' above, and 'q'.</p>

<p>c Environmental condition and terrain in which the Bobcat Excavator is used. Darkness causing poor visibility, sloping ground, wet and soft or muddy surface can lead to roll over or tipping. Work areas containing explosive gases, flammable materials, poor ventilation, underground cables or pipes, prohibited work areas, and overhead electrical wires are to be avoided</p>	<p>Refer to 'a' above</p>	<p>Refer to 'a' above. Excavator is equipped with front work lights; ROPS /TOPS provides good visibility in poor light conditions. Motion alarms can be fitted for confined work areas. Operator Handbook and Manual provide instruction on how to work on sloping ground. The operator must comply with safety stipulations, if necessary by special instructions adapted to the local conditions of use. Handbook and Manual provide instruction on dangerous work areas. An exhaust spark arrester is fitted.</p>
<p>d Foreseeable abnormal situations, misuse and fluctuation of operating condition. Varying degrees of above can cause accidents.</p>	<p>Very high risk, possibly leading to injury or death to operator and others.</p>	<p>Refer to 'a' above. It is essential that the operator be trained, be certified, experienced in the operation of the Bobcat Excavator and comply with the constructor's instruction concerning the use, maintenance, repair, assembly and transport in the Operators Manual, before attempting abnormal or difficult tasks</p>
<p>e Potential for injury due to entanglement, crushing, trapping, cutting, stabbing, puncturing shearing, abrasion, tearing and stretching. The above hazards are present if the Bobcat Excavator is operated or worked on, contrary to instructions within the Operators Manual, or in an unsafe manner, Hazards are present in the changing of attachments and care must be taken in entering and leaving the machine.</p>	<p>Very low risk when operated correctly. Very high risk, potential of serious injury, possibly death if used contrary to instructions, Exiting the cabin with the engine running or the attachment raised, or attempt maintenance in this position, or not following instructions in Operators Manual such</p>	<p>Operation and maintenance must be carried out only in accordance with the Operation and Maintenance Manual, which contains many warnings and instruction on how to avoid most hazards. Warning and instruction decals of a pictorial design are fitted to the Bobcat Excavator</p>

<p>f Generation of hazardous conditions, due to pressurised content, electricity, noise, radiation friction, vibration, fire, explosion, temperature moisture, vapour, gases, dust, ice, hot or cold parts. Hazards are present with regard to most of the above.</p>	<p>The risk level is very low when instruction within the Operation and Maintenance Manual is followed. The safety devices must not be disengaged during operation and should be checked before each shift.</p>	<p>Instruction is provided for operation and preventative maintenance including hazards regarding pressurised fuel, hydraulic oil and hot radiator water, noise, electricity, fire, explosion, temperature, exhaust gases, dust and hot parts together with warnings and warning decals. An exhaust spark arrester is fitted. The seat belt must always be fitted snugly, wear protective clothing during operation. Avoid wearing rings, scarves or open jackets. For certain works, it may be necessary to wear protective eyewear, hearing protection, safety boots, hard hats and protective gloves.</p>
<p>g Failure of the Bobcat Excavator resulting in the loss of load, unintended ejection of work pieces, explosion fragmentation or collapse of parts. The above are not considered hazardous</p>	<p>Low</p>	<p>Operator handbook and Manual warns the operator to operate the machine within the rated operation load as set on the attached decal and within the operation manual. Be alert at all times.</p>
<p>h Capability of the Bobcat Excavator to lift and move people, equipment and materials The Bobcat Excavator is design for excavation of materials, material handling and loading.</p>	<p>Safe to carry out operations as set out in the operation and maintenance manual</p>	<p>Control is through education and instruction. Refer to operation Manual and decals on the machine. Load charts are secured in the operator's cabin and must be adhered to reduce the risk of tipping the machine.</p>
<p>i Control systems, including guarding and communication systems. No apparent hazards</p>	<p>No risk identified</p>	<p>-----</p>
<p>J Potential for falling objects and the plant to roll over The danger of the above is present</p>	<p>High Risk with improper operation Very low risk when operated correctly.</p>	<p>Refer to 'a' above Drivers cab structure meets International Standards for ROPS and TOP'S. A FOP'S kit is available and can be fitted if necessary. The</p>

		machine must not be operated without the cabin /canopy or with a damaged cabin/canopy.
<p>k Suitability of materials for the plant</p> <p>No apparent hazards, provided proper inspection and maintenance instructions are followed</p>	Low risk	Refer to Operation and Maintenance Manual, & inspections for any cracks, damaged components and worn pins etc.
<p>l Suitability of all accessories</p> <p>There are many accessories approved for use with the Bobcat Excavator. Hazards may exist, dependant on how they are used</p>	Can vary from possibility of high risk causing injury or death to almost nil, dependant on whether used incorrectly or according to the respective Operator Manual	Control is made by guarding where possible, decals fixed to the accessory, and Operators Manual, which contain instruction on proper use of the approved attachment or accessory, with appropriate warnings.
<p>m Ergonomic needs relating to installation and use.</p> <p>The cabin meets international ergonomic standards Hazards exist if the operator is suffering from drugs, alcohol, in poor health, has disabilities or is not alert. Cabin / canopy seating and controls are well suited for those who have reasonable strength and fitness.</p>	Risk is low for those operators of normal physique, health and strength. Disabilities may be aggravated due to unavoidable jolting when working in rough ground conditions.	Manuals provided advise operator to check seating position is comfortable with respect to controls and to ensure that all safety instructions are understood and followed. The machine must not be operated from outside the cabin. Use steps and surfaces provided for climbing into and exiting the cabin
<p>n Carrying out the work without the Excavator.</p> <p>No hazard provided the substitute equipment is safe etc for the task.</p>	Low risk provided the replacement equipment is safe and operated safely	Instructions for safe operation of the alternate equipment must be studied and operated correctly.
<p>o Location in the workplace and the impact on workplace design and layout.</p> <p>No hazards exist provided item 'c' is noted. Care must be taken to remove bystanders and other mobile equipment from the immediate workplace,</p>	Risk is low when conditions as 'c' are not present. Refer to the operation and maintenance manual.	Refer to control as in 'c' above Manuals warn operator to keep bystanders clear and to stop working if the persons do not leave the danger zone And ensure that there is a safe distance from fixed structures. Ensure a safe working distance from electrical hazards as set out in the operation and maintenance manual.

<p>p Suitability and stability of the plant and supports. Hazards exist in very poor workplaces, especially if ground surface is soft or severely sloping</p>	<p>Risk can be high if work site is slopping dangerously, travelling too fast, to close to edges of crevasses, pits, tips and embankments. Instructions in Manual must be followed,</p>	<p>The Bobcat Excavator meets International stability and are suitable for the normal working loads and operating surfaces. Instructions in Manual must be followed.</p>
<p>q Presence of persons and other plant in the vicinity Collisions with persons and plant is possible</p>	<p>Risk is low when operator is reasonably alert.</p>	<p>Motion alarm and rotating beacon are an option. Instructions spell out need for operator to be alert and not to operate excavator and attachments near bystanders especially when inexperienced or learning. A horn is also fitted Design of cabin /canopy provides good visibility.</p>
<p>r Potential for inadvertent movement or operation of the plant Hazards do not exist when the instructions are followed.</p>	<p>No risk when instructions are followed.</p>	<p>Instructions in the manuals advise on correct gripping of control lever. Instructions also cover requirements of operator before leaving the excavator.</p>
<p>s Systems of work associated with the plant. Not aware of hazards</p>	<p>-----</p>	<p>The operator requires understanding and conforming to operation maintenance manual instruction.</p>
<p>t Access and egress. No hazards when instructions are followed. Hazard exist due to slipping or falling if care is not used, and instructions are not follow when entering or leaving cabin</p>	<p>Low risk when instructions are followed</p>	<p>Instructions in Handbook and Manual also include photo and decal. Machine is fitted with grab handles on each side of cabin. Warning not to jump. Appropriate safety boots and clothing should be worn.</p>
<p>u Competency of operators Hazards are extreme if the operator is not certified, has not been trained in the use of the excavator, are not fit, or are under the influence of alcohol or drugs.</p>	<p>Risk is low if the operator has been trained and is certified, however the operator must be fit, have studied the manuals and have some familiarisation with the excavator.</p>	<p>Certified operators require the additional instructions, which are comprehensively covered in the Operator's Handbook and Operation and Maintenance Manual. Operators are warned that they need to be fit, not have any disabilities that may adversely effect their competent working of the Bobcat Excavator or be aggravated by the movement of the excavator especially</p>

		<p>when operating in construction or rough conditions. Operator must be familiar with the rated load of the Bobcat Excavator, the capacity of attachments being used, and the weight of the material being handled. Refer to 'm'.</p>
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