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## Information for Bobcat E Series Excavators

# RISK ASSESSMENT



## **APPLICABILITY**

The following Risk Assessment information is applicable to the following models of Bobcat excavators:

- E10
- E17
- E20
- E25
- E26
- E32
- E35
- E42
- E45
- E50
- E55
- E60
- E62
- E63
- E80
- E85

## **RISK INFORMATION**

Consistent with the requirements of the Australian nationally harmonised Work Health and Safety Act 2011 and the Work Health and Safety Regulation 2011, an assessment of risk has been conducted by the manufacturer and used to produce the manuals and instructions which are supplied with a new machine.

You are directed to read and understand the Operations & Maintenance Manuals, as well as any other documentation provided, which show the risks presented by this machine.

## RISK ASSESSMENT – Bobcat Excavator

Subject: Bobcat Excavator, M Series

	HAZARD	RISK	LEVEL	CONTROL
1	Overload excavator causing tip over	Strike injury	Med-High	Rating plate checked by Licensed Operator re: O&M Manual
2	Excavator too large for required work	Property damage		Always size the project up before commencement of work
3	Excavator too small for required work	Machine damage – operator frustration	Low	Always size the project up before commencement of work
4	Bystanders impacted by broom arm/bucket	Impact injury – serious	Med-High	Bystanders to be kept well clear at all times. Motion alarm, mirrors and beacon light fitted
5	Work too close to other machines – machine clashes	Strike injury to operator	Med-High	Ensure adequate clearance between equipment
6	Work on soft/unstable ground – tip over	Strike injury to operator	High	Ensure ground is prepared properly, stable and able to support excavator, before commencement
7	“Climbing” the excavator and tip over	Strike injury to operator	Med-High	Do not “climb” steep or unstable inclines
8	Tip over due to travelling on gradients incorrectly	Tip over causing operator strike injury	Med-High	Follow proper procedures for travelling on slope re: O&M Manual
9	Tip over due to turn on gradients unsafely	Tip over causing operator strike injury	Med-High	Do not turn on an incline re: O&M Manual
10	Pull machine over	Strike injury to operator	Medium	Always set up on stable ground, do not exceed the lift capacity of the excavator
11	Operator fall off when accessing cabin	Fall / strike injury	Medium	Always use 3 points of contact. Park machine square to appropriately use the access steps
12	Fall of machine when checking oil	Fall / strike injury	Med-High	Tread plate installed. Always use 3 points of contact when accessing
13	Boom left in air- fall onto operator/bystander	Impact injury	Low	Load lock blocks installed to prevent boom drop
14	Bucket teeth penetrate operator cabin when crowd bucket	Operator impaled	Low	Always use genuine attachments
15	Bystander runover	Crush injury or death	High	Bystanders to be kept well clear at all times. Motion alarm, mirror and beacon fitted
16	Engine cover falls on operator/maintenance when check oil	Strike injury	Medium	Ensure engine cover is latched open correctly
17	Bystander/maintenance caught in closing cylinder	Hand crush injury	Medium	Keep well clear when machine in operation

18	Maintenance staff in engine bay when machine started		Dismemberment		High	Ensure appropriate tag-out system used when accessing machine	
19	Hose splits and spray hot oil		Burns to operator	Low	Low	Operator protected by cabin and/or "burst bags" from spray. Never check for leaks with hands	
20	Drop items being carried – onto bystander		Strike injury to bystander	Med-High	Med-High	Bystanders to kept well clear at all times. Motion alarm mirrors and beacon fitted.	
21	Drop items being carried – onto operator cabin		Strike injury to operator	Medium	Medium	Cabin fitted with safety glass at front and sides. Do not lift over cabin	
22	Lift / lower people in bucket – fall out		Fall injury	High	High	Never lift people – excavator not designed to lift / lower people	
23	Noise – hearing damage		Permanent hearing damage	Low	Low	Machine low noise, especially in cabin	
24	Vibration		Vibration injury to operator	Low	Low	Padded suspension seat fitted. Machine operated stationary. Controls pilot oil controlled	
25	Fire occurs – operator has impeded egress		Burns to operator	Low	Low	2 exits, one in different direction to engine compartment	
26	Operating environment temperature very hot		Operator dehydration / fatigue	Low	Low	Cabin fitted with air conditioning	
27	Operating in dusty environment		Operator lung damage	Low	Low	Fully enclosed cabin with filtered air conditioning	
28	Exhaust pipe exposed		Burn leg	Med-High	Med-High	Use caution around exhaust pipe. Some guarding provided by engine cover	
29	Control system fails		Machine uncontrolled – strike injury to op	Low	Low	Turn key off immediately	
30	Radiator fan spinning		Hand caught in radiator – tear injury	Low	Low	Fan guarded	
31	Object falls onto cabin		Operator impact injury	Medium	Medium	Cabin not designed to withstand falling loads	
32	Unauthorised starting / operation of machine		Death to operator or bystander	Medium	Medium	Locks fitted, key start fitted, password start capable	
33	Operator not qualified or authorised		Death to operator or bystander	Med-High	Med-High	Operator must be authorised to operate. May require license by state Statutory body eg Workcover	
34	Poor work method / practices		Operator or bystander death	Medium	Medium	OHS Acts require all operators to be trained in correct practices	
35	Untrained in operation and safe work procedures		Operator or bystander death or injury	High	High	All operators of this excavator require excavator license – otherwise breach of OHS Act	
36	Build-up of explosive gas when recharging batteries		Explosion – loss of life	High	High	Charging MUST ALWAYS be in a clear and well-ventilated area to reduce the build-up of Hydrogen gas	
37	Build up of exhaust gases in restricted workspace operation		Death to operator or bystander	High	High	Excavator not designed for restricted workspaces	
38	Battery fluid reservoir leak		Corrosive – burns	Low	Low	Conduct daily inspection re: O&M Manual. Stand machine down if batteries are leaking at all	
39	Inadequate lighting causing impact with bystander		Bystander crush injury	Low	Low	Work lights provided on all excavators	

40	Rain causing slippery operating conditions	Slip off forklift when exiting	Low	Foot step has non slip – tread
41	Smoking whilst recharging / change batteries	Fire / explosion burns to Operator	Medium	Do not recharge batteries while smoking or when near open flame or sparks
42	Slabbing of counterweight	Overload excavator, load loss, injure bystander	Low	Unauthorised modification of counterweight is not permitted
43	Cabin structure failure	Operator crush / strike injury	Medium	Workplace Hazard Analysis – Machine should not be operated in such conditions
44	Petrochemicals used for lubrication	Poisoning of skin (maintenance stuff)	Low	Materials Safety Data Sheets available
45	Non – spark proof design used in explosive zones	Operator and bystander death	Low	Machine is not designed for such purposes
46	Grab incorrect lever-load loss	Load loss – strike injury to bystander	Medium	Levers ergonomically designed. Bystanders should not be close by when loading & unloading
47	Inadvertently operate wrong lever-load loss	Load loss – strike injury to bystander	Medium	Operator is required to be aware of the correct operation of the excavator
48	Inadvertently accelerate – injury to bystander	Bystander crush injury	Medium	Pedal layout ergonomically designed, also spring return (ie remove foot)
49	Poor maintenance on excavator	Failure of structure – death	Med-High	Ensure correct maintenance is undertaken and recorded
50	Safety decals missing	Staff not aware of dangers – injury	Medium	Ensure maintenance staff replace and missing or unreadable safety decals
51	Impact high voltage service lines (above or below)	Electrocution	High	Dial 1100 Before You Dig – always ensure adequate clearance in work area
52	Leave open windows unsecured	Window moves in operation and impact op	Medium	Latch window correctly
53	Maintenance staff open cylinder without bleeding pressure	Cylinder retract, oil spray, possible crush	Medium	Always use appropriate maintenance practices – Refer to Operator and Maintenance Manuals
54	Adjust tracks tensioner incorrectly	Crush injury	Medium	Always use appropriate maintenance practices – Refer to Operator and Maintenance Manuals
55	Open radiator cap when hot	Burns	Med-High	Always use appropriate maintenance practices – Refer to Operator and Maintenance Manuals
56	Stand on engine hood	Slip and fall off excavator – fall injury	Med-High	Never stand on engine hood
57	Stand near swing area	Impacted on swinging	Medium	Bystanders to be kept well clear at all times. Beacon light fitted
58	Operate machine with guards missing	Tear injury	Medium	Never operate excavator with guard not in place
59	Operate machine when using mobile phone/MPE3 etc	Impact by stander, roll machine – impact injury	High	Never operate excavator while distracted
60	Under or overcut in operation	Machine falls or major impact	Medium	NEVER under or over cut

### Hierarchy of Control

1. Elimination
2. Substitution
3. Isolation
4. Engineering Control
5. Administrative Control
6. PPE

Risk scores listed as HIGH need action taken to minimise the risk

