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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 |

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|----|---|--|----------|--|
| 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 | 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 | 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 | 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 | Never lift people – excavator not designed to lift / lower people |
| 23 | Noise – hearing damage | Permanent hearing damage | Low | Machine low noise, especially in cabin |
| 24 | Vibration | Vibration injury to operator | Low | Padded suspension seat fitted. Machine operated stationary. Controls pilot oil controlled |
| 25 | Fire occurs – operator has impeded egress | Burns to operator | Low | 2 exits, one in different direction to engine compartment |
| 26 | Operating environment temperature very hot | Operator dehydration / fatigue | Low | Cabin fitted with air conditioning |
| 27 | Operating in dusty environment | Operator lung damage | Low | Fully enclosed cabin with filtered air conditioning |
| 28 | Exhaust pipe exposed | Burn leg | Med-High | Use caution around exhaust pipe. Some guarding provided by engine cover |
| 29 | Control system fails | Machine uncontrolled – strike injury to op | Low | Turn key off immediately |
| 30 | Radiator fan spinning | Hand caught in radiator – tear injury | Low | Fan guarded |
| 31 | Object falls onto cabin | Operator impact injury | Medium | Cabin not designed to withstand falling loads |
| 32 | Unauthorised starting / operation of machine | Death to operator or bystander | Medium | Locks fitted, key start fitted, password start capable |
| 33 | Operator not qualified or authorised | Death to operator or bystander | 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 | 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 | 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 | 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 | Excavator not designed for restricted workspaces |
| 38 | Battery fluid reservoir leak | Corrosive – burns | 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 | Work lights provided on all excavators |

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| 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

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

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

